Pantheon Report

Generated at 2017-10-11 08:48:57 (UTC).

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

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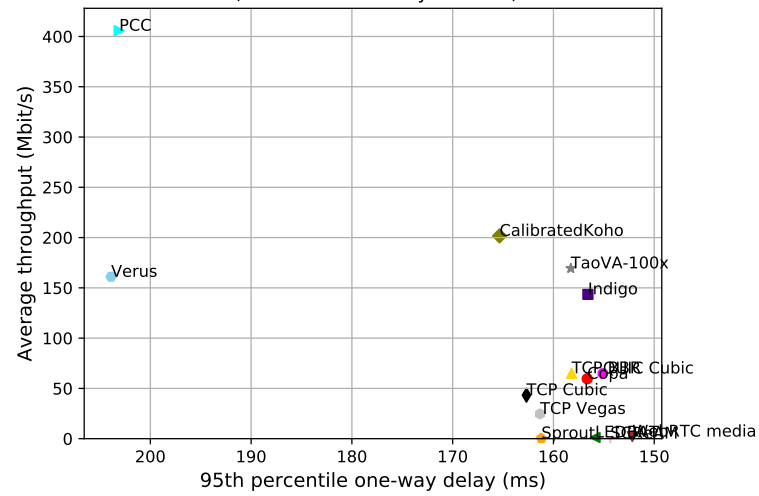
Each test lasted for 30 seconds running 1 flow.

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

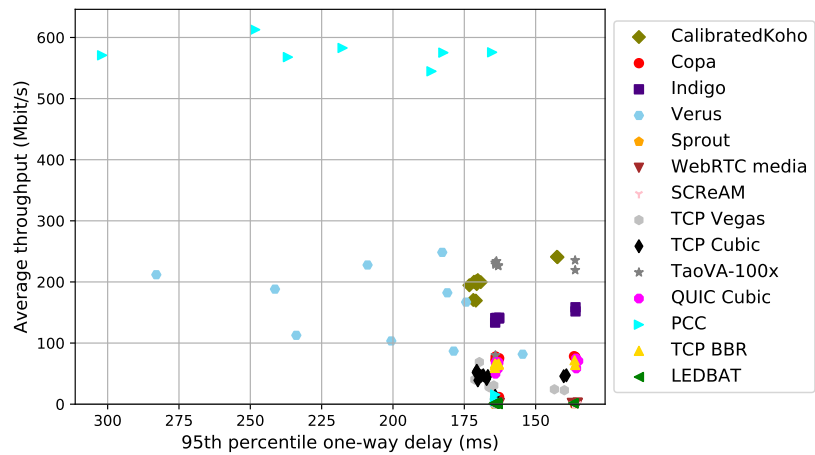Tested BBR with qdisc of Fair Queuing (`fq`), and other schemes with the default Linux qdisc (`pfifo_fast`).

```
Git summary:
branch: indigos @ 45998d6404be7c5106956530acb9cfc43bd06e7d
third_party/calibrated_koho @ 3cb73c0d1c0322cdfae446ea37a522e53227db50
 M datagrump/sender.cc
third_party/genericCC @ f7ca42f251bf49b432bb71de6d13fa903515c366
third_party/indigo @ b19f3730105f9aa95452552af924e3719b03cc55
third_party/indigo-cellular @ aee99e8eb842cb053f8c9a80e28cd256a930bbc2
third_party/indigo-no-calib @ 7224f2202e8a044d8306fa0b983ad84360c53d89
third_party/indigo-no-cwnd @ 3e58442c04028a11d7b02456e137604633ba2d6c
third_party/indigo-no-delivery-rate @ 57caa40858b964906edff4876d5a7e5bfff666c5
third_party/indigo-no-queuing-delay @ 03455460fd1a8ffbdad86fabb936fdca204b80db
third_party/indigo-no-send-rate @ b39dfa6b2c5f19cb7cd89626cb4f5bb81f9fecda
third_party/koho_cc @ f0f2e693303aee82ea808e6928eac4f1083a6681
 M datagrump/sender.cc
third_party/libutp @ b3465b942e2826f2b179eaab4a906ce6bb7cf3cf
third_party/pantheon-tunnel @ baf443516dea3eeddeccaf9b916cc313273ca4f4
third_party/pcc @ 1afc958fa0d66d18b623c091a55fec872b4981e1
 M receiver/src/buffer.h
 M receiver/src/core.cpp
 M sender/src/buffer.h
 M sender/src/core.cpp
third_party/proto-quic @ 77961f1a82733a86b42f1bc8143ebc978f3cff42
third_party/scream @ c3370fd7bd17265a79aeb34e4016ad23f5965885
third_party/sourdough @ f1a14bffe749737437f61b1eaeeb30b267cde681
third_party/sprout @ 6f2efe6e088d91066a9f023df375eee2665089ce
 M src/examples/cellsim.cc
 M src/examples/sproutbt2.cc
 M src/network/sproutconn.cc
third_party/verus @ d4b447ea74c6c60a261149af2629562939f9a494
 M src/verus.hpp
 M tools/plot.py
third_party/webrtc @ a488197ddd041ace68a42849b2540ad834825f42
```

test from GCE London Ethernet to GCE Sydney Ethernet, 10 runs of 30s each per scheme
(mean of all runs by scheme)

test from GCE London Ethernet to GCE Sydney 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	65.04	158.20	1.00
TCP Cubic	10	43.28	162.68	1.47
LEDBAT	10	1.18	155.87	1.61
PCC	10	405.71	203.10	2.85
QUIC Cubic	10	64.85	155.10	1.20
SCReAM	9	0.20	154.35	1.00
WebRTC media	10	2.10	152.17	1.10
Sprout	10	0.35	161.20	0.89
TaoVA-100x	10	169.39	158.28	1.04
TCP Vegas	10	24.63	161.33	0.89
Verus	10	161.02	203.90	1.96
Copa	8	59.61	156.65	1.36
CalibratedKoho	10	201.68	165.35	1.94
Indigo	8	143.56	156.58	1.09

```
Run 1: Statistics of TCP BBR

Start at: 2017-10-11 04:18:37
End at: 2017-10-11 04:19:07

# Below is generated by plot.py at 2017-10-11 08:18:45
# Datalink statistics
-- Total of 1 flow:
Average throughput: 71.90 Mbit/s
95th percentile per-packet one-way delay: 136.339 ms
Loss rate: 1.11%
-- Flow 1:
Average throughput: 71.90 Mbit/s
95th percentile per-packet one-way delay: 136.339 ms
Loss rate: 1.11%
```
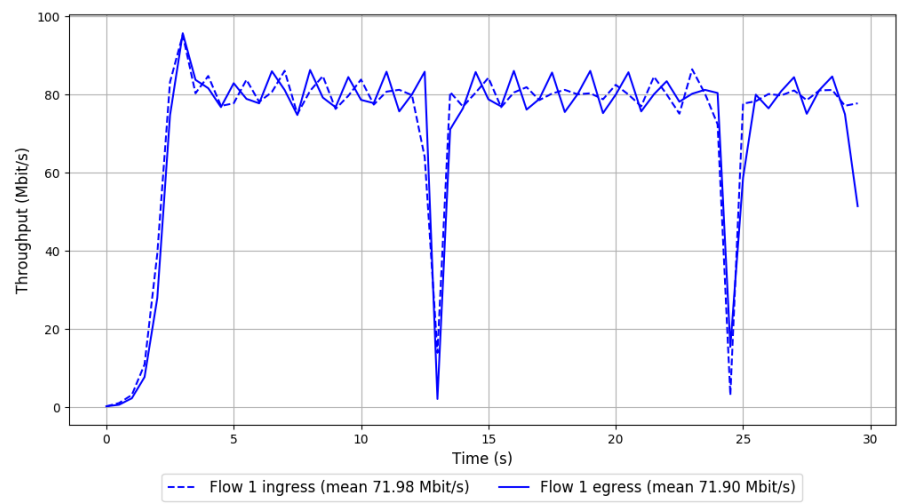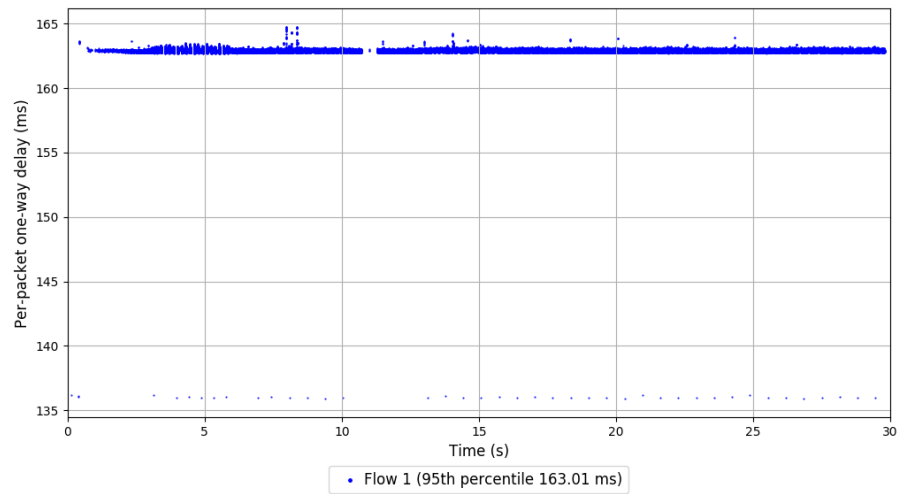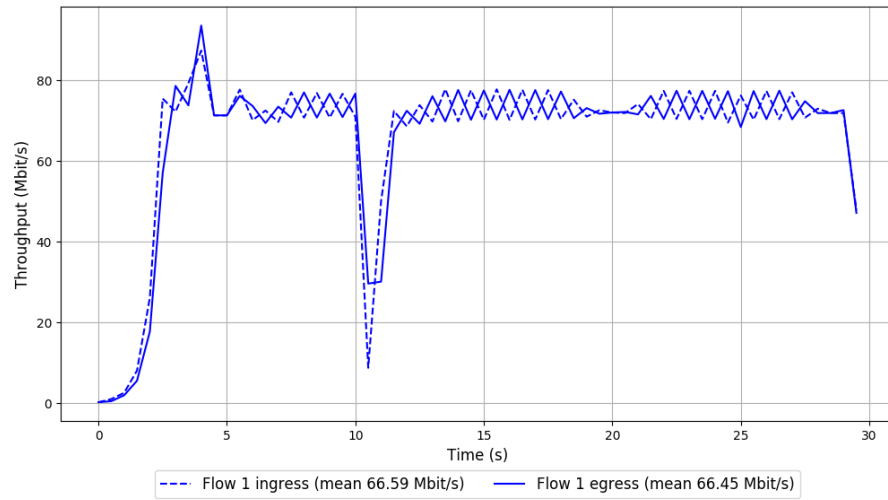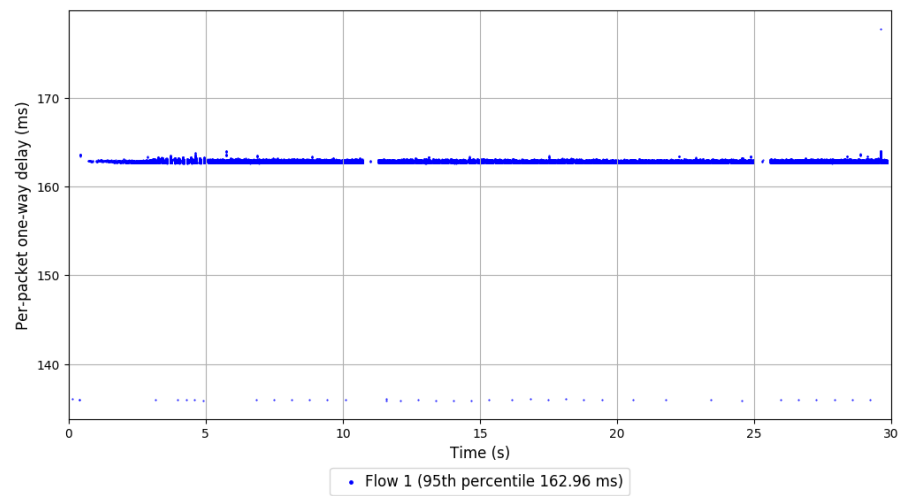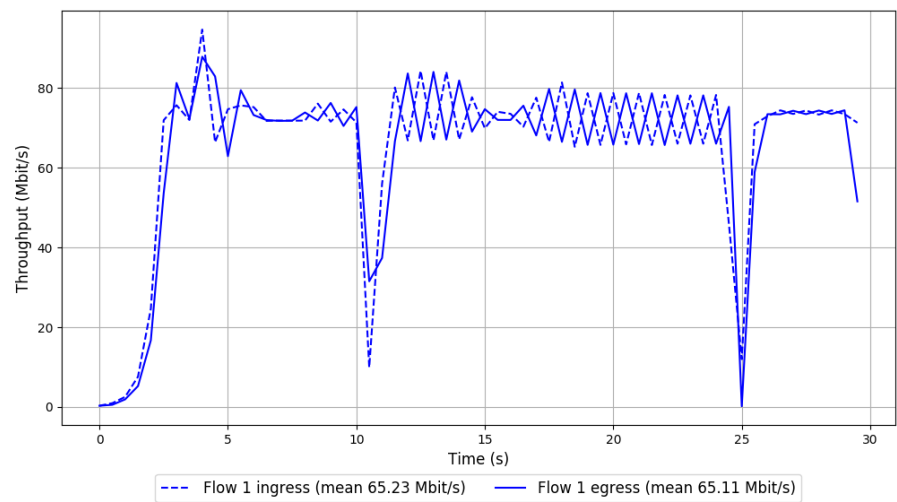
Run 1: Report of TCP BBR — Data Link

Flow 1 ingress (mean 71.98 Mbit/s) --- Flow 1 egress (mean 71.90 Mbit/s)

Flow 1 (95th percentile 136.34 ms)

```
Run 2: Statistics of TCP BBR

Start at: 2017-10-11 04:30:59
End at: 2017-10-11 04:31:29

# Below is generated by plot.py at 2017-10-11 08:18:45
# Datalink statistics
-- Total of 1 flow:
Average throughput: 66.45 Mbit/s
95th percentile per-packet one-way delay: 163.009 ms
Loss rate: 0.60%
-- Flow 1:
Average throughput: 66.45 Mbit/s
95th percentile per-packet one-way delay: 163.009 ms
Loss rate: 0.60%
```
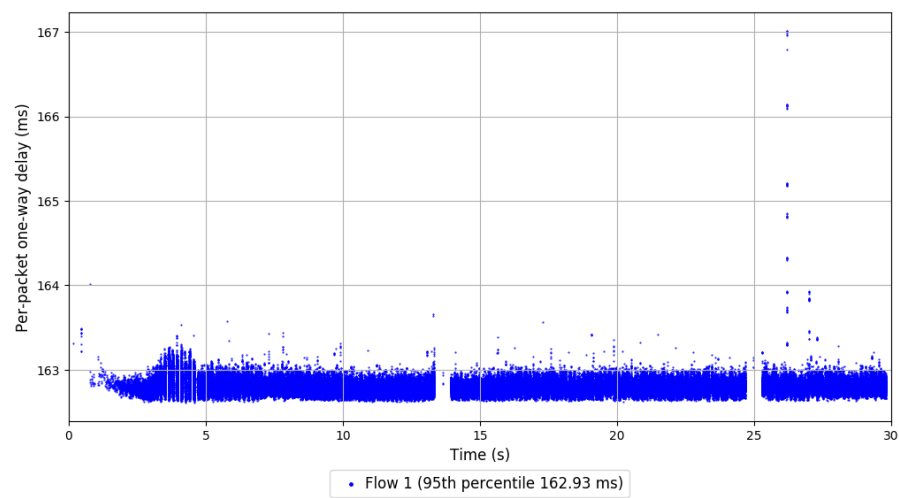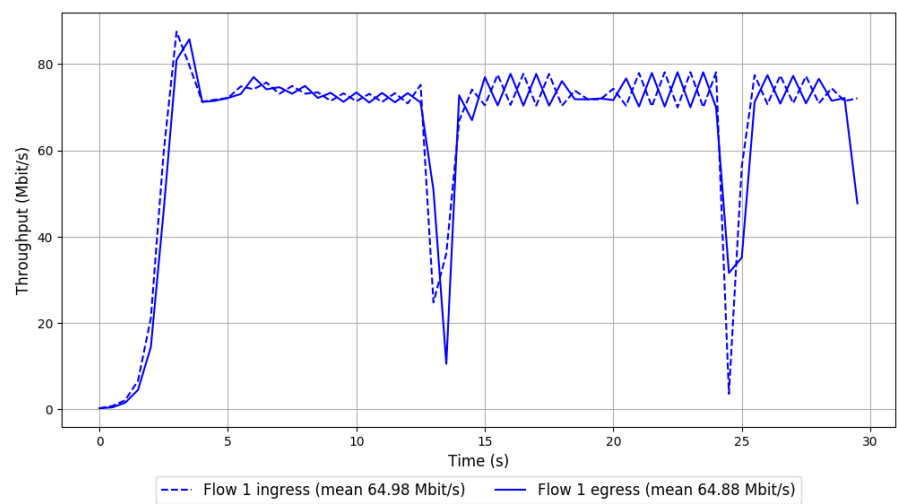
Run 2: Report of TCP BBR — Data Link

```
Run 3: Statistics of TCP BBR

Start at: 2017-10-11 04:43:18
End at: 2017-10-11 04:43:48

# Below is generated by plot.py at 2017-10-11 08:18:45
# Datalink statistics
-- Total of 1 flow:
Average throughput: 65.11 Mbit/s
95th percentile per-packet one-way delay: 162.960 ms
Loss rate: 1.10%
-- Flow 1:
Average throughput: 65.11 Mbit/s
95th percentile per-packet one-way delay: 162.960 ms
Loss rate: 1.10%
```
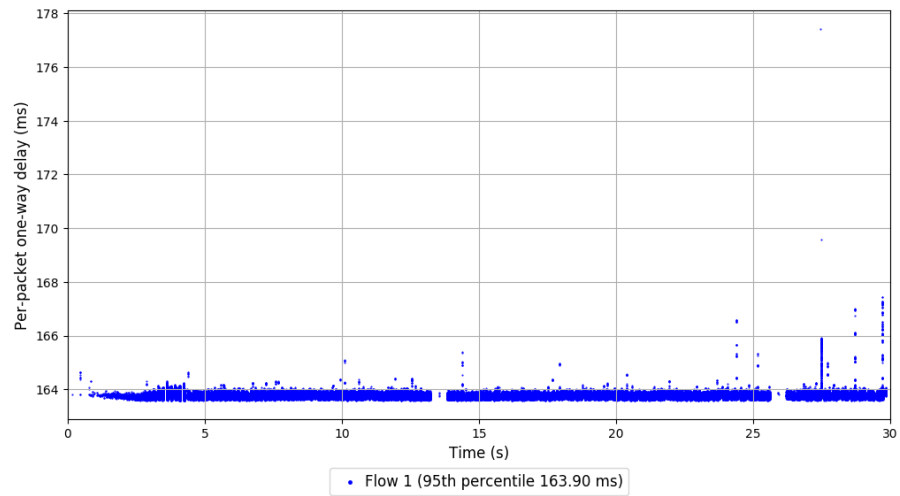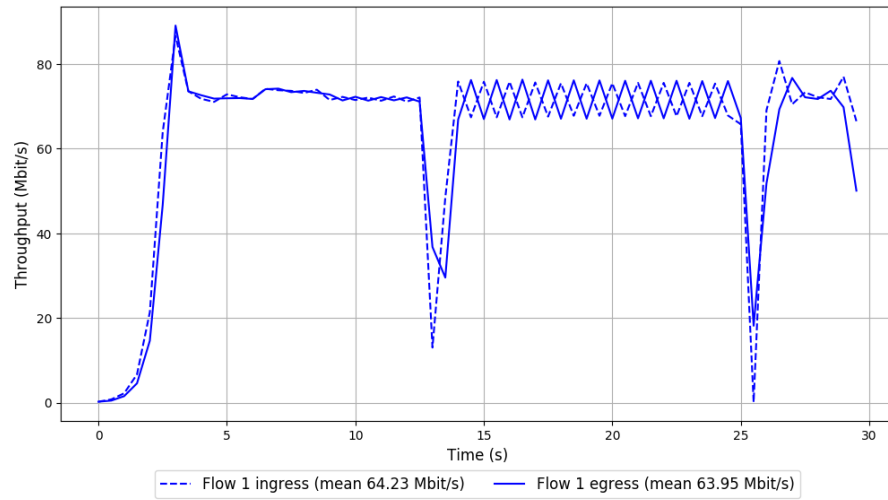
Run 3: Report of TCP BBR — Data Link

Flow 1 ingress (mean 65.23 Mbit/s) ---   Flow 1 egress (mean 65.11 Mbit/s) ——

Flow 1 (95th percentile 162.96 ms) •

9

```
Run 4: Statistics of TCP BBR

Start at: 2017-10-11 04:55:24
End at: 2017-10-11 04:55:54

# Below is generated by plot.py at 2017-10-11 08:18:45
# Datalink statistics
-- Total of 1 flow:
Average throughput: 64.88 Mbit/s
95th percentile per-packet one-way delay: 162.934 ms
Loss rate: 1.23%
-- Flow 1:
Average throughput: 64.88 Mbit/s
95th percentile per-packet one-way delay: 162.934 ms
Loss rate: 1.23%
```
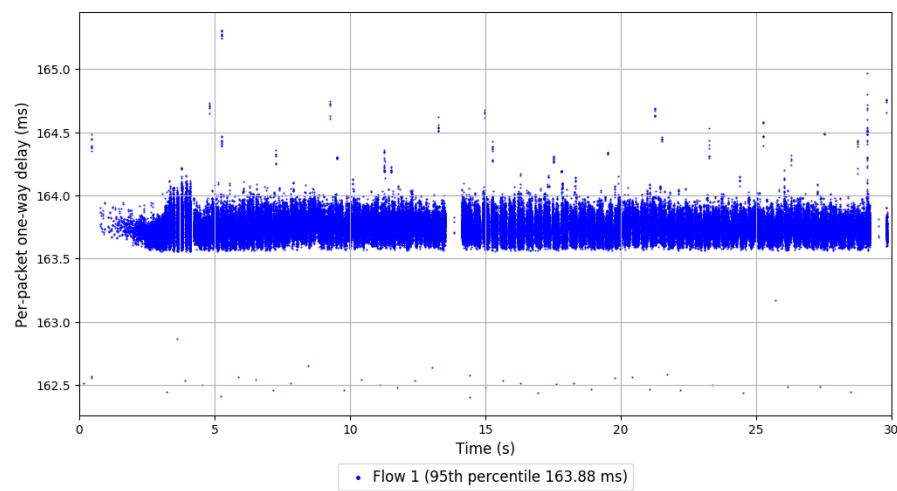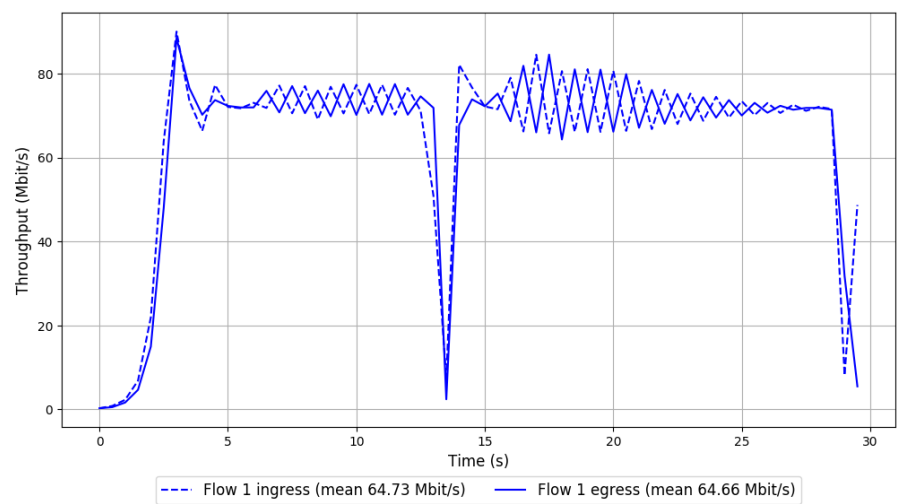
Run 4: Report of TCP BBR — Data Link

Flow 1 ingress (mean 64.98 Mbit/s) ----- Flow 1 egress (mean 64.88 Mbit/s)

• Flow 1 (95th percentile 162.93 ms)

```
Run 5: Statistics of TCP BBR

Start at: 2017-10-11 05:06:49
End at: 2017-10-11 05:07:19

# Below is generated by plot.py at 2017-10-11 08:18:45
# Datalink statistics
-- Total of 1 flow:
Average throughput: 63.95 Mbit/s
95th percentile per-packet one-way delay: 163.896 ms
Loss rate: 1.19%
-- Flow 1:
Average throughput: 63.95 Mbit/s
95th percentile per-packet one-way delay: 163.896 ms
Loss rate: 1.19%
```
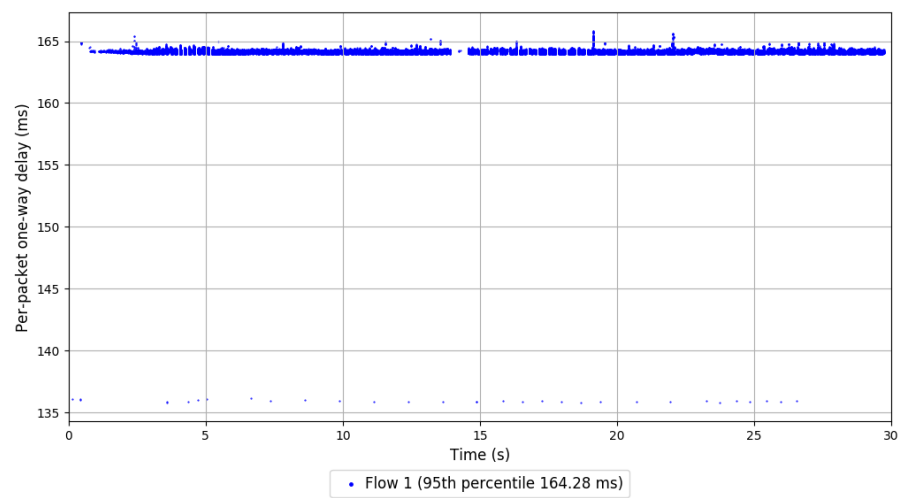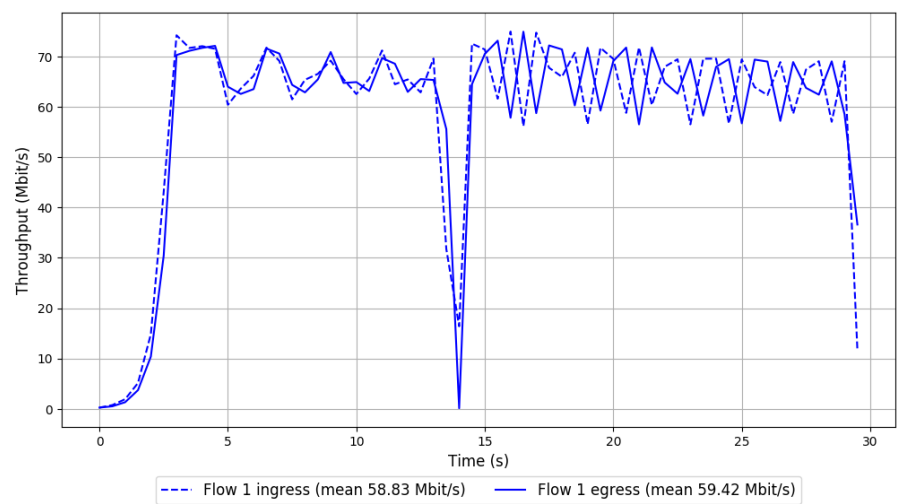
Run 5: Report of TCP BBR — Data Link

```
Run 6: Statistics of TCP BBR

Start at: 2017-10-11 05:18:20
End at: 2017-10-11 05:18:50

# Below is generated by plot.py at 2017-10-11 08:18:45
# Datalink statistics
-- Total of 1 flow:
Average throughput: 64.66 Mbit/s
95th percentile per-packet one-way delay: 163.883 ms
Loss rate: 1.12%
-- Flow 1:
Average throughput: 64.66 Mbit/s
95th percentile per-packet one-way delay: 163.883 ms
Loss rate: 1.12%
```
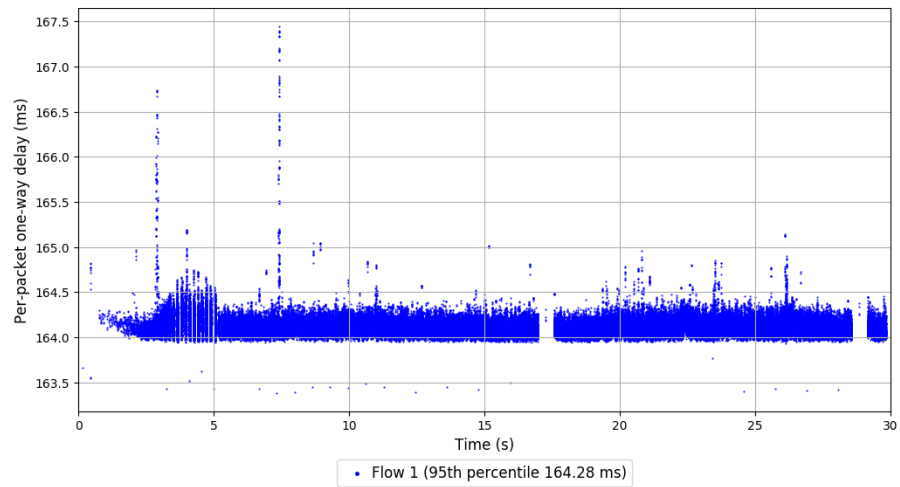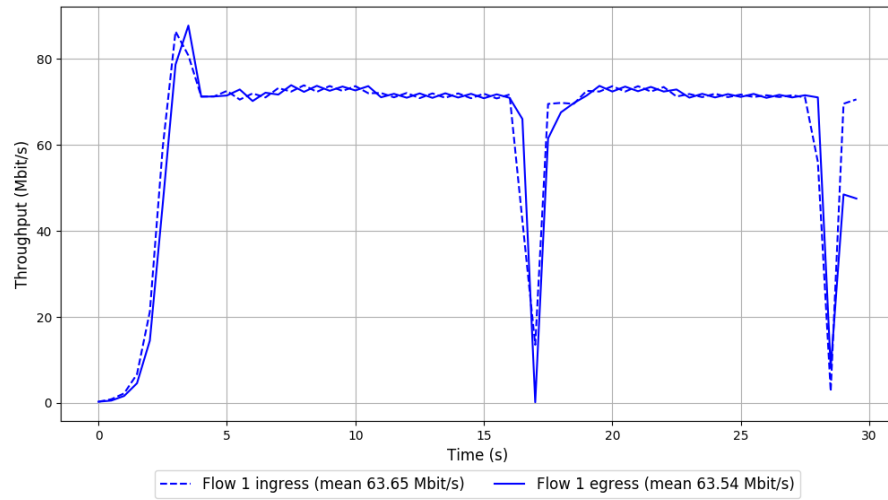
Run 6: Report of TCP BBR — Data Link

Flow 1 ingress (mean 64.73 Mbit/s)   Flow 1 egress (mean 64.66 Mbit/s)

Flow 1 (95th percentile 163.88 ms)

```
Run 7: Statistics of TCP BBR

Start at: 2017-10-11 05:30:22
End at: 2017-10-11 05:30:52

# Below is generated by plot.py at 2017-10-11 08:18:45
# Datalink statistics
-- Total of 1 flow:
Average throughput: 59.42 Mbit/s
95th percentile per-packet one-way delay: 164.275 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 59.42 Mbit/s
95th percentile per-packet one-way delay: 164.275 ms
Loss rate: 0.00%
```
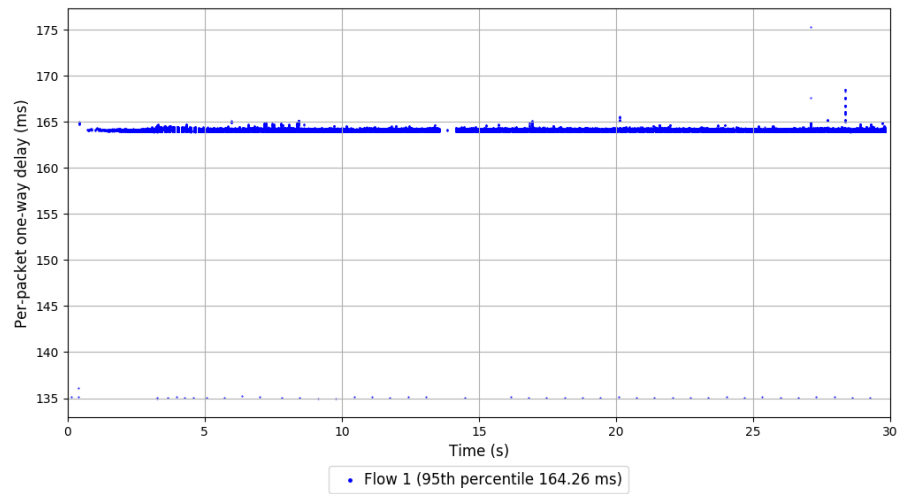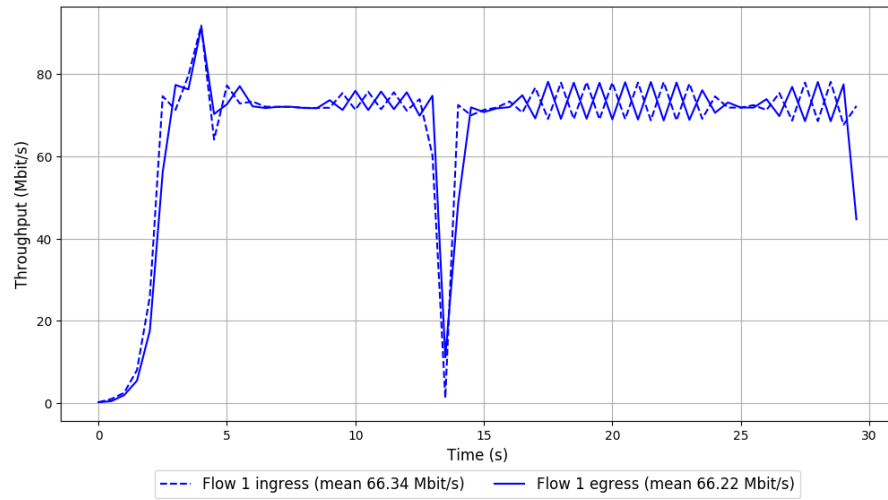
Run 7: Report of TCP BBR — Data Link

Flow 1 ingress (mean 58.83 Mbit/s)   Flow 1 egress (mean 59.42 Mbit/s)

Flow 1 (95th percentile 164.28 ms)

17

```
Run 8: Statistics of TCP BBR

Start at: 2017-10-11 05:41:24
End at: 2017-10-11 05:41:54

# Below is generated by plot.py at 2017-10-11 08:18:45
# Datalink statistics
-- Total of 1 flow:
Average throughput: 63.54 Mbit/s
95th percentile per-packet one-way delay: 164.276 ms
Loss rate: 1.22%
-- Flow 1:
Average throughput: 63.54 Mbit/s
95th percentile per-packet one-way delay: 164.276 ms
Loss rate: 1.22%
```
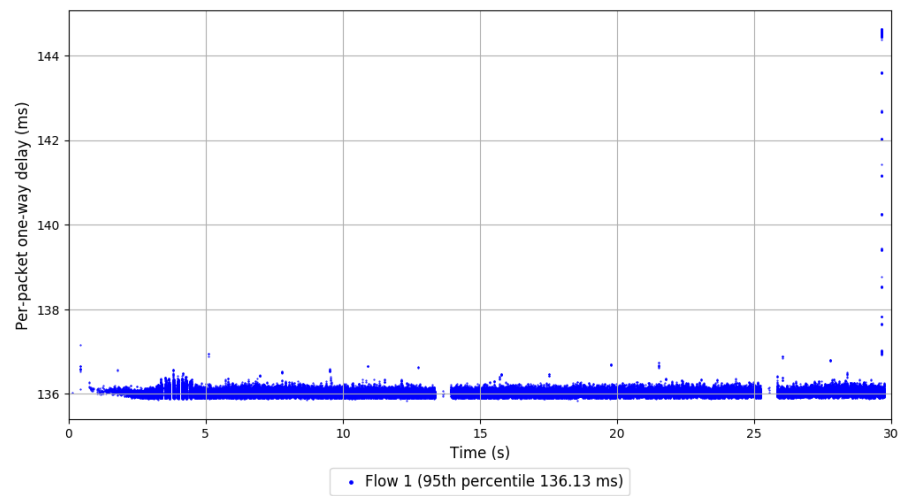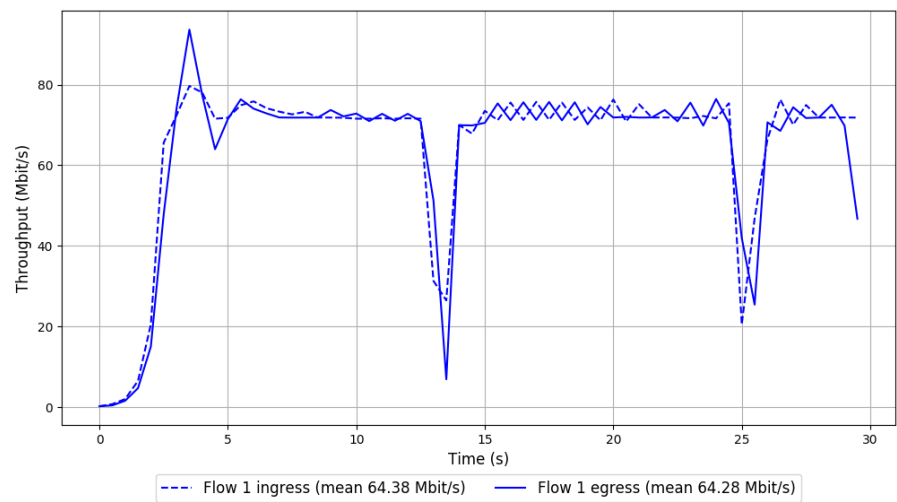
Run 8: Report of TCP BBR — Data Link

Flow 1 ingress (mean 63.65 Mbit/s)   Flow 1 egress (mean 63.54 Mbit/s)

Flow 1 (95th percentile 164.28 ms)

```
Run 9: Statistics of TCP BBR

Start at: 2017-10-11 05:53:07
End at: 2017-10-11 05:53:37

# Below is generated by plot.py at 2017-10-11 08:19:46
# Datalink statistics
-- Total of 1 flow:
Average throughput: 66.22 Mbit/s
95th percentile per-packet one-way delay: 164.258 ms
Loss rate: 1.17%
-- Flow 1:
Average throughput: 66.22 Mbit/s
95th percentile per-packet one-way delay: 164.258 ms
Loss rate: 1.17%
```
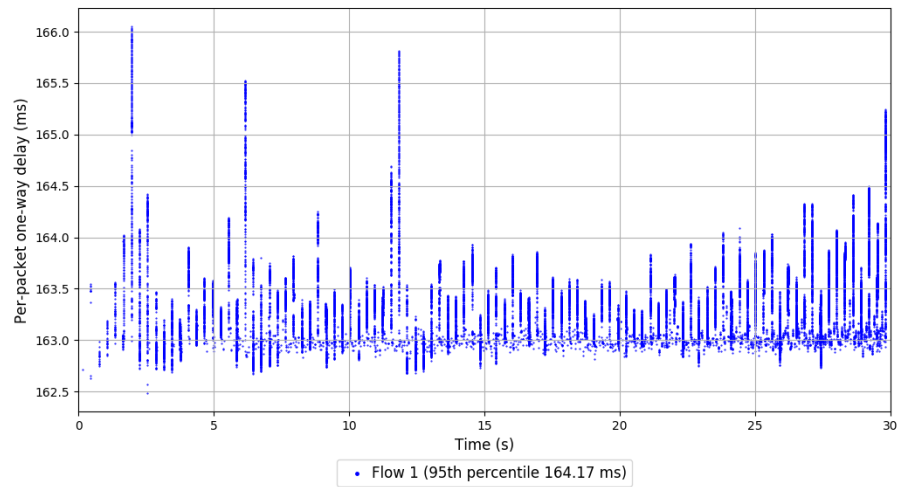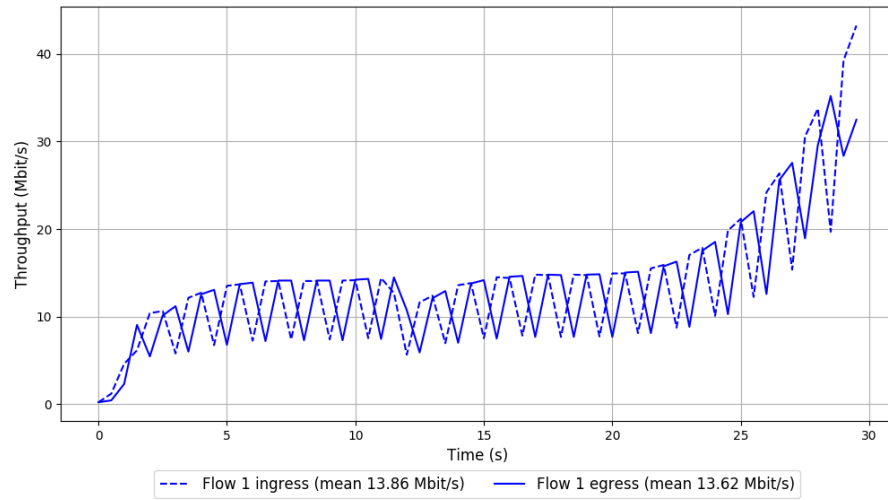
Run 9: Report of TCP BBR — Data Link

Flow 1 ingress (mean 66.34 Mbit/s) —— Flow 1 egress (mean 66.22 Mbit/s)

• Flow 1 (95th percentile 164.26 ms)

```
Run 10: Statistics of TCP BBR

Start at: 2017-10-11 06:04:50
End at: 2017-10-11 06:05:20

# Below is generated by plot.py at 2017-10-11 08:19:46
# Datalink statistics
-- Total of 1 flow:
Average throughput: 64.28 Mbit/s
95th percentile per-packet one-way delay: 136.134 ms
Loss rate: 1.24%
-- Flow 1:
Average throughput: 64.28 Mbit/s
95th percentile per-packet one-way delay: 136.134 ms
Loss rate: 1.24%
```
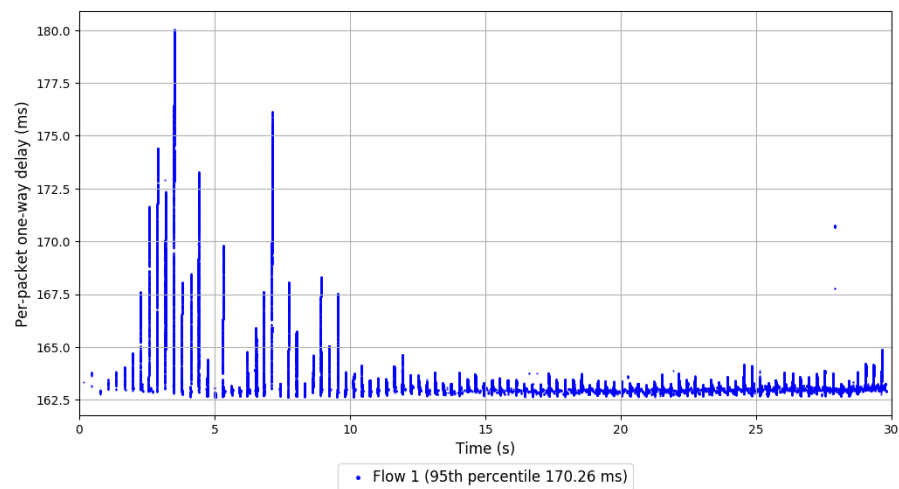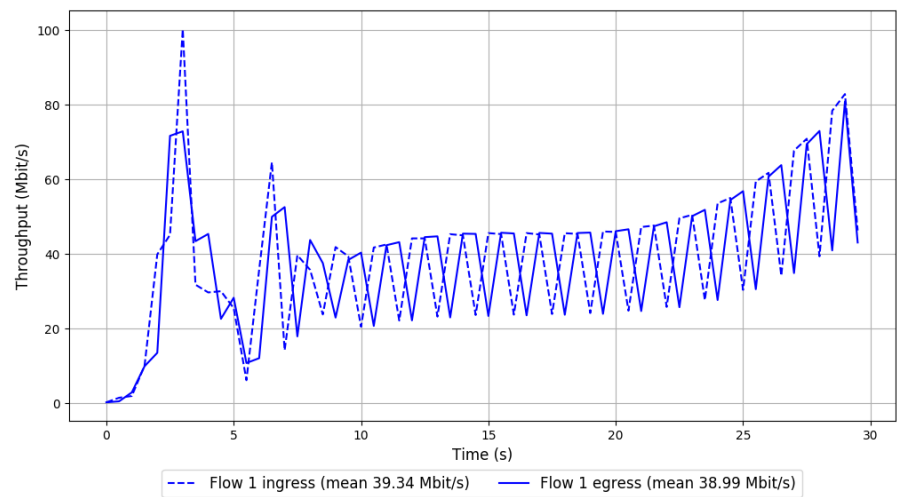
Run 10: Report of TCP BBR — Data Link

Flow 1 ingress (mean 64.38 Mbit/s)   Flow 1 egress (mean 64.28 Mbit/s)

• Flow 1 (95th percentile 136.13 ms)

23

```
Run 1: Statistics of TCP Cubic

Start at: 2017-10-11 04:29:10
End at: 2017-10-11 04:29:40

# Below is generated by plot.py at 2017-10-11 08:19:46
# Datalink statistics
-- Total of 1 flow:
Average throughput: 13.62 Mbit/s
95th percentile per-packet one-way delay: 164.172 ms
Loss rate: 2.77%
-- Flow 1:
Average throughput: 13.62 Mbit/s
95th percentile per-packet one-way delay: 164.172 ms
Loss rate: 2.77%
```
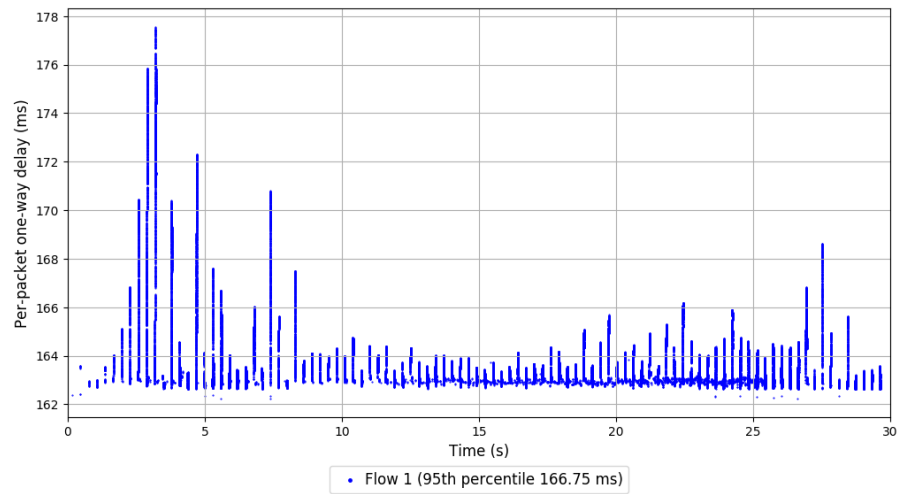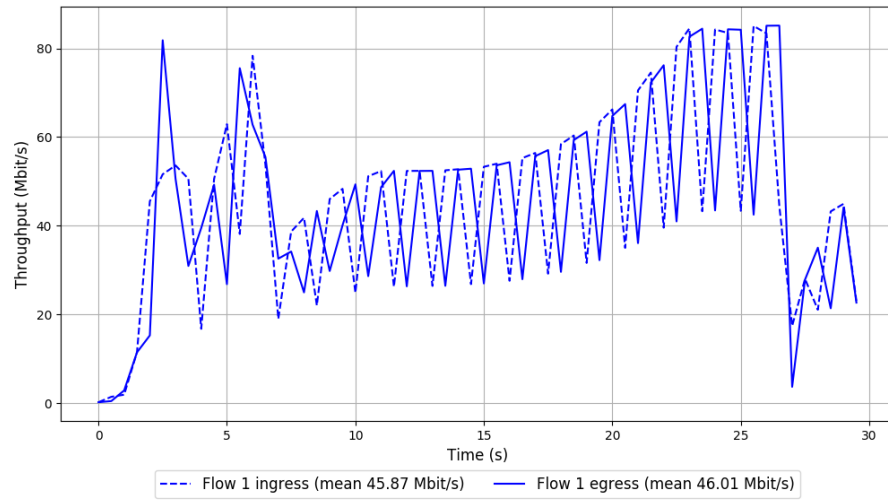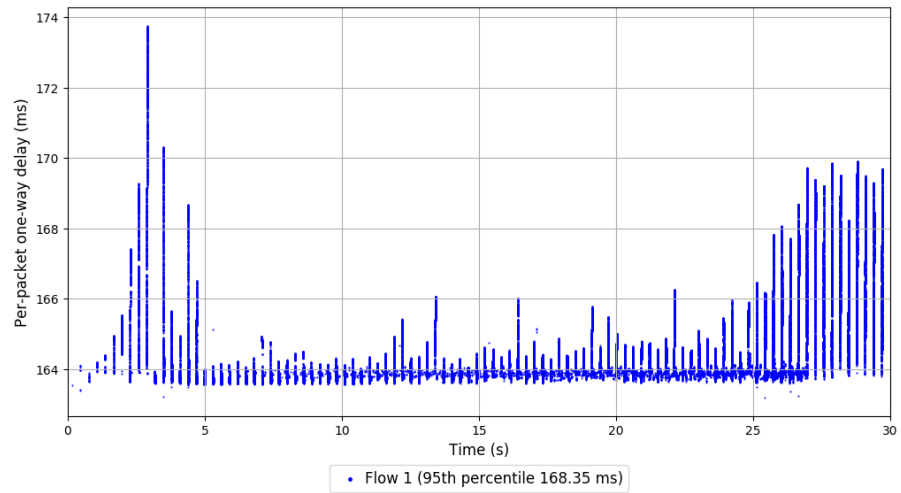
Run 1: Report of TCP Cubic — Data Link

```
Run 2: Statistics of TCP Cubic

Start at: 2017-10-11 04:41:19
End at: 2017-10-11 04:41:49

# Below is generated by plot.py at 2017-10-11 08:19:46
# Datalink statistics
-- Total of 1 flow:
Average throughput: 38.99 Mbit/s
95th percentile per-packet one-way delay: 170.265 ms
Loss rate: 1.88%
-- Flow 1:
Average throughput: 38.99 Mbit/s
95th percentile per-packet one-way delay: 170.265 ms
Loss rate: 1.88%
```
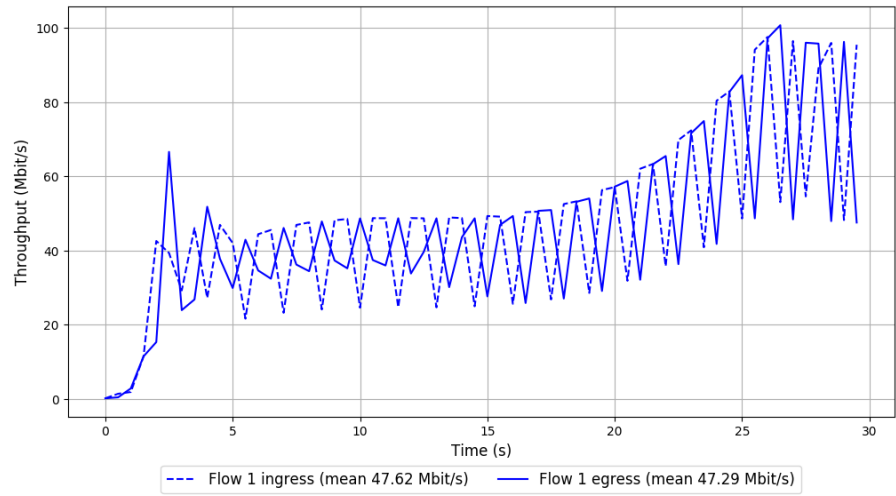
Run 2: Report of TCP Cubic — Data Link

```
Run 3: Statistics of TCP Cubic

Start at: 2017-10-11 04:53:37
End at: 2017-10-11 04:54:07

# Below is generated by plot.py at 2017-10-11 08:19:46
# Datalink statistics
-- Total of 1 flow:
Average throughput: 46.01 Mbit/s
95th percentile per-packet one-way delay: 166.745 ms
Loss rate: 0.85%
-- Flow 1:
Average throughput: 46.01 Mbit/s
95th percentile per-packet one-way delay: 166.745 ms
Loss rate: 0.85%
```
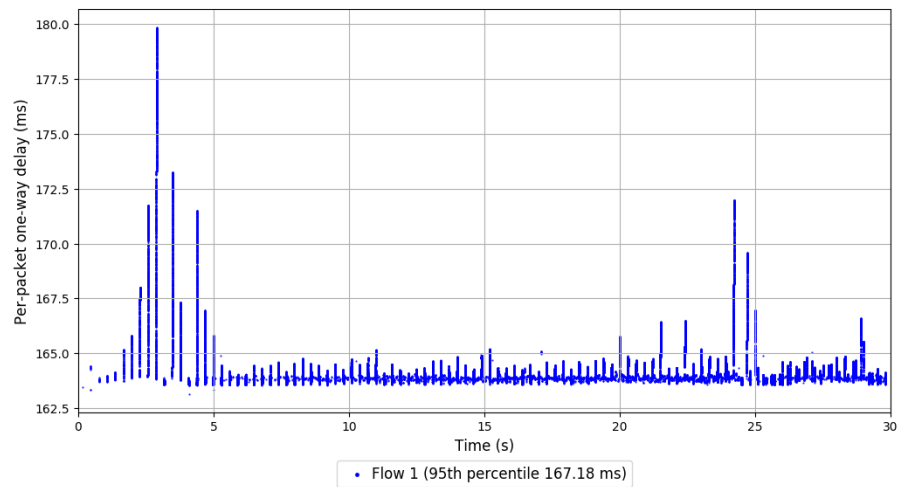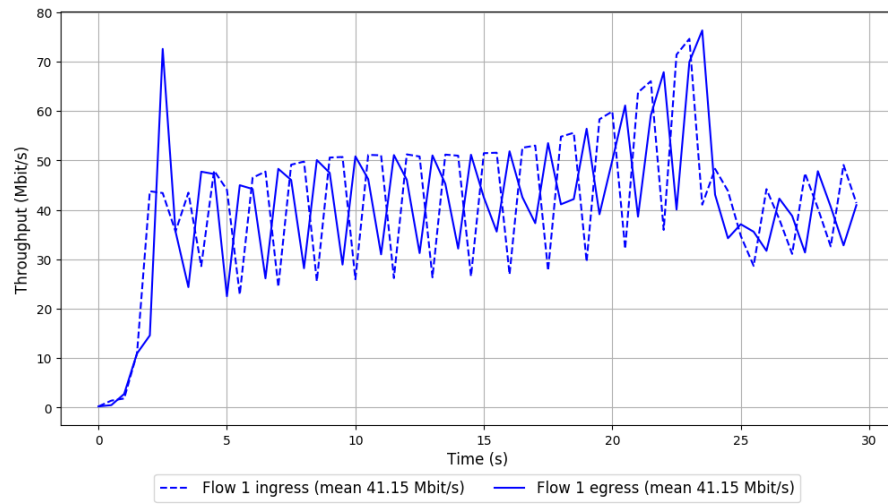
Run 3: Report of TCP Cubic — Data Link

Flow 1 ingress (mean 45.87 Mbit/s)   Flow 1 egress (mean 46.01 Mbit/s)

Flow 1 (95th percentile 166.75 ms)

```
Run 4: Statistics of TCP Cubic

Start at: 2017-10-11 05:05:09
End at: 2017-10-11 05:05:39

# Below is generated by plot.py at 2017-10-11 08:19:46
# Datalink statistics
-- Total of 1 flow:
Average throughput: 47.29 Mbit/s
95th percentile per-packet one-way delay: 168.351 ms
Loss rate: 1.68%
-- Flow 1:
Average throughput: 47.29 Mbit/s
95th percentile per-packet one-way delay: 168.351 ms
Loss rate: 1.68%
```
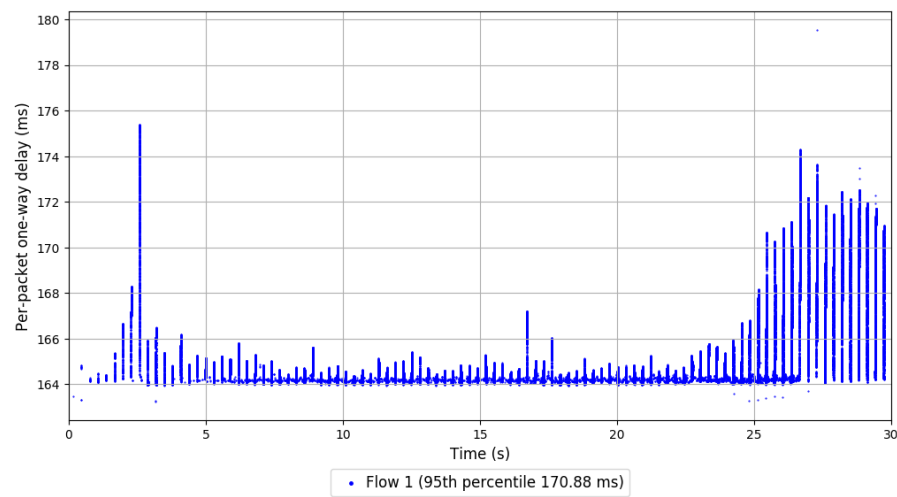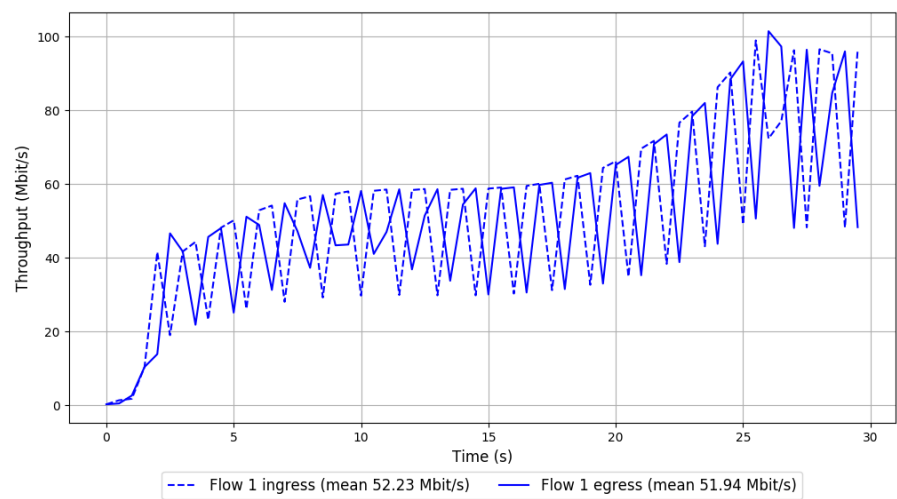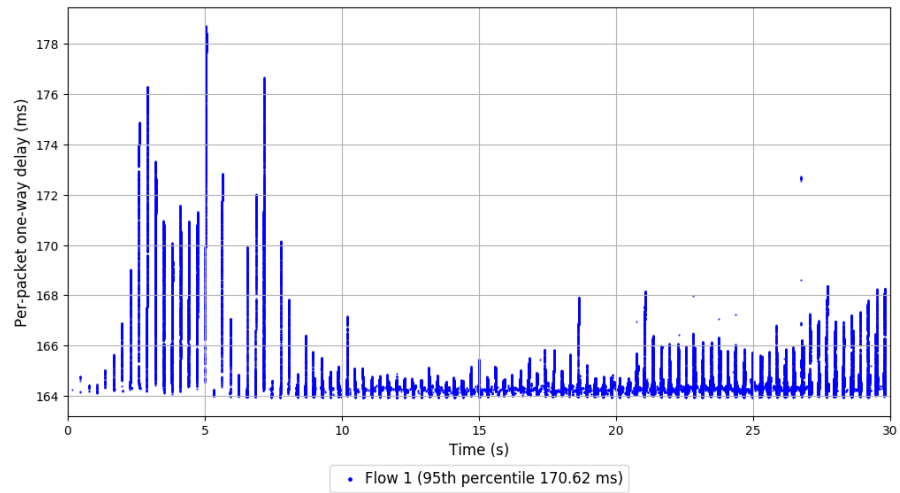
Run 4: Report of TCP Cubic — Data Link

Flow 1 ingress (mean 47.62 Mbit/s) Flow 1 egress (mean 47.29 Mbit/s)

Flow 1 (95th percentile 168.35 ms)

```
Run 5: Statistics of TCP Cubic

Start at: 2017-10-11 05:16:34
End at: 2017-10-11 05:17:04

# Below is generated by plot.py at 2017-10-11 08:19:47
# Datalink statistics
-- Total of 1 flow:
Average throughput: 41.15 Mbit/s
95th percentile per-packet one-way delay: 167.177 ms
Loss rate: 1.01%
-- Flow 1:
Average throughput: 41.15 Mbit/s
95th percentile per-packet one-way delay: 167.177 ms
Loss rate: 1.01%
```
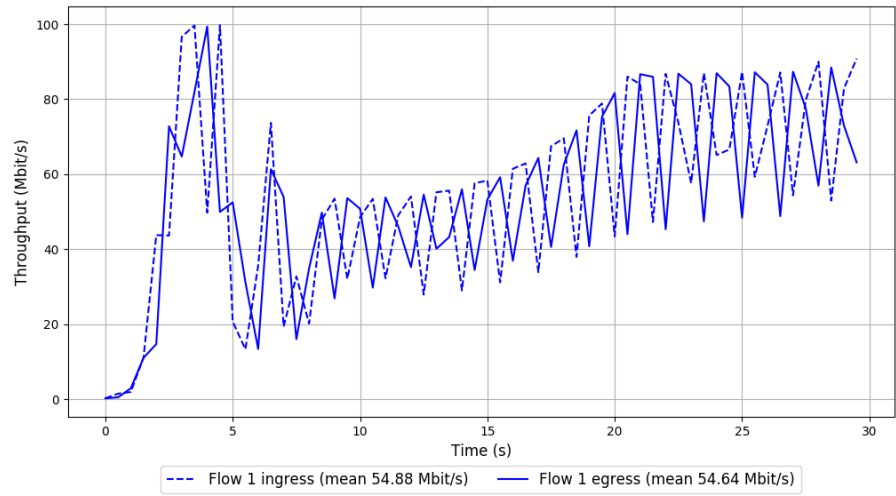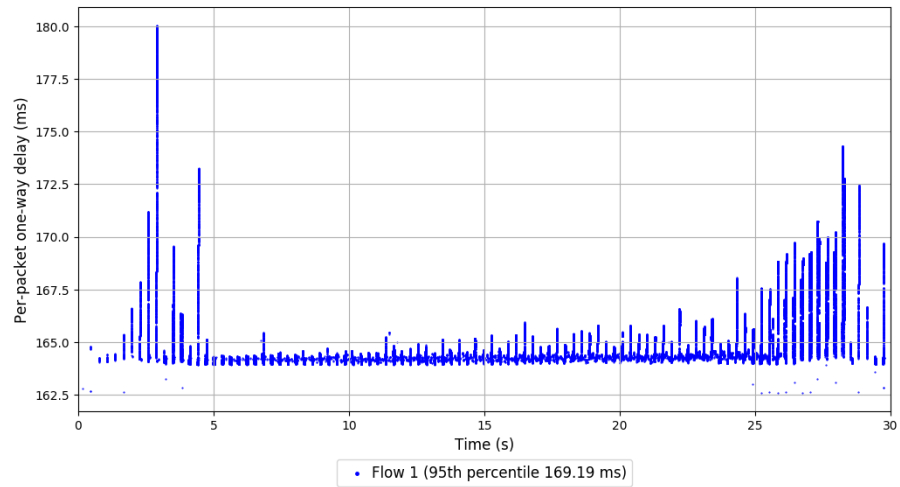
Run 5: Report of TCP Cubic — Data Link

```
Run 6: Statistics of TCP Cubic

Start at: 2017-10-11 05:28:35
End at: 2017-10-11 05:29:05

# Below is generated by plot.py at 2017-10-11 08:19:48
# Datalink statistics
-- Total of 1 flow:
Average throughput: 51.94 Mbit/s
95th percentile per-packet one-way delay: 170.879 ms
Loss rate: 1.54%
-- Flow 1:
Average throughput: 51.94 Mbit/s
95th percentile per-packet one-way delay: 170.879 ms
Loss rate: 1.54%
```
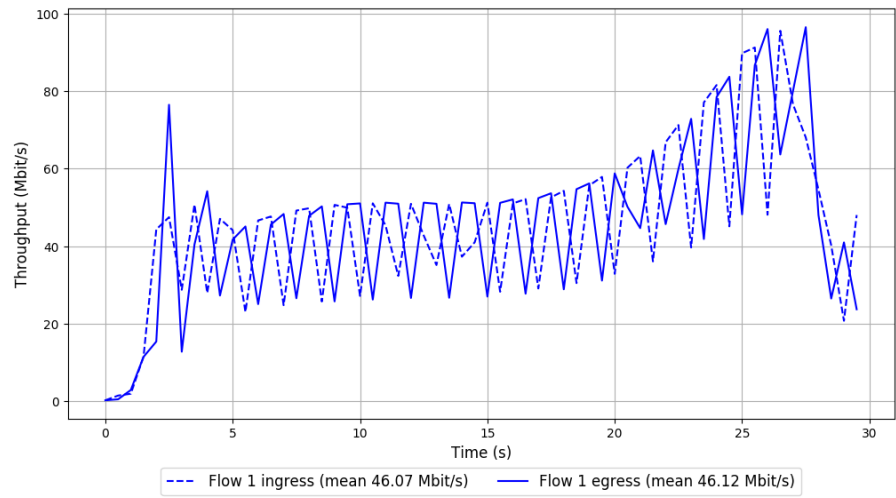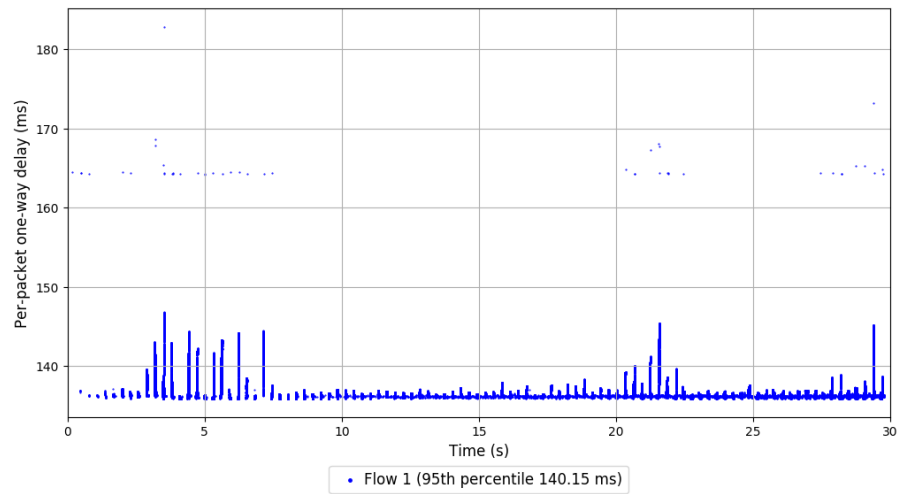
Run 6: Report of TCP Cubic — Data Link

Flow 1 ingress (mean 52.23 Mbit/s) —— Flow 1 egress (mean 51.94 Mbit/s)

• Flow 1 (95th percentile 170.88 ms)

```
Run 7: Statistics of TCP Cubic

Start at: 2017-10-11 05:39:43
End at: 2017-10-11 05:40:13

# Below is generated by plot.py at 2017-10-11 08:19:55
# Datalink statistics
-- Total of 1 flow:
Average throughput: 54.64 Mbit/s
95th percentile per-packet one-way delay: 170.621 ms
Loss rate: 1.44%
-- Flow 1:
Average throughput: 54.64 Mbit/s
95th percentile per-packet one-way delay: 170.621 ms
Loss rate: 1.44%
```
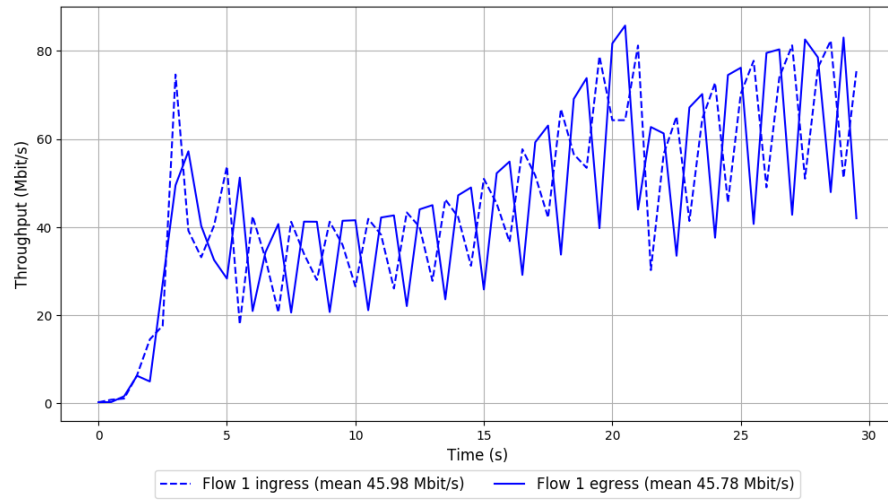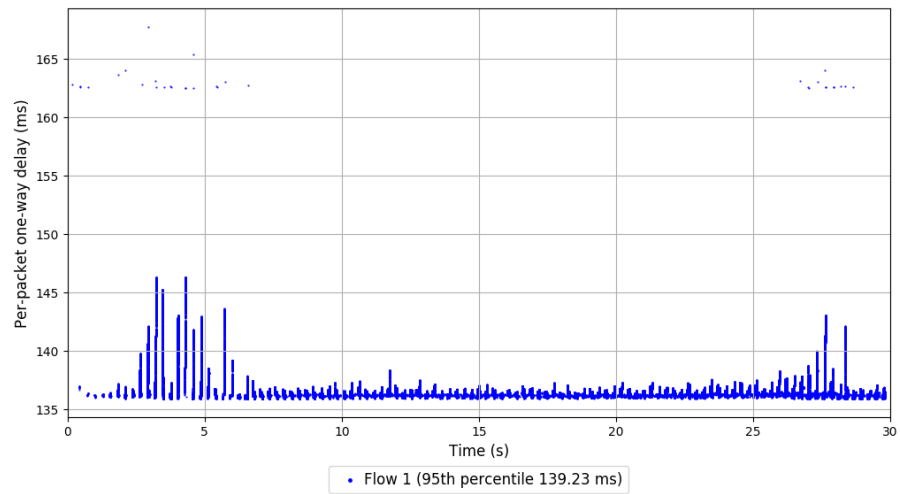
Run 7: Report of TCP Cubic — Data Link

```
Run 8: Statistics of TCP Cubic

Start at: 2017-10-11 05:51:26
End at: 2017-10-11 05:51:56


# Below is generated by plot.py at 2017-10-11 08:20:11
# Datalink statistics
-- Total of 1 flow:
Average throughput: 46.12 Mbit/s
95th percentile per-packet one-way delay: 169.186 ms
Loss rate: 0.89%
-- Flow 1:
Average throughput: 46.12 Mbit/s
95th percentile per-packet one-way delay: 169.186 ms
Loss rate: 0.89%
```
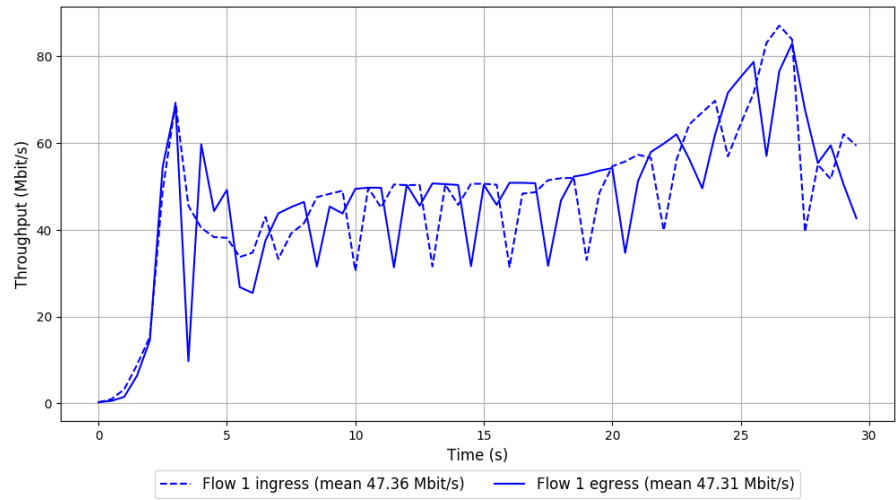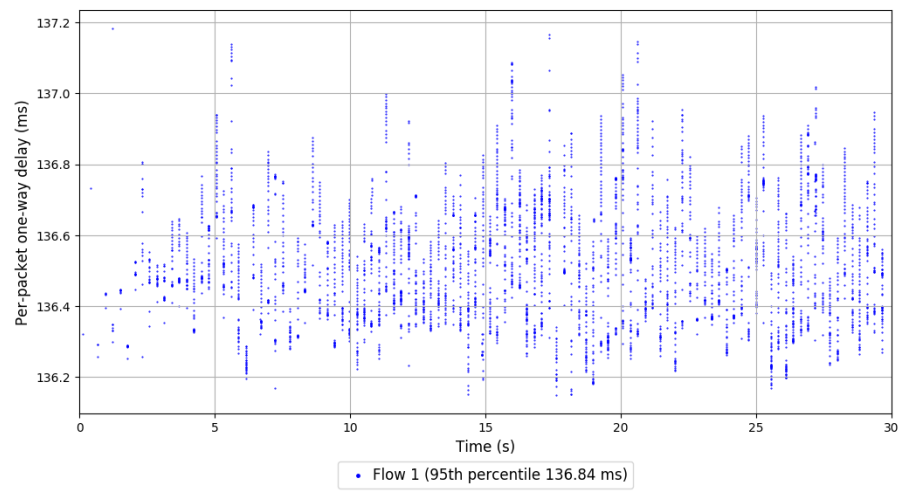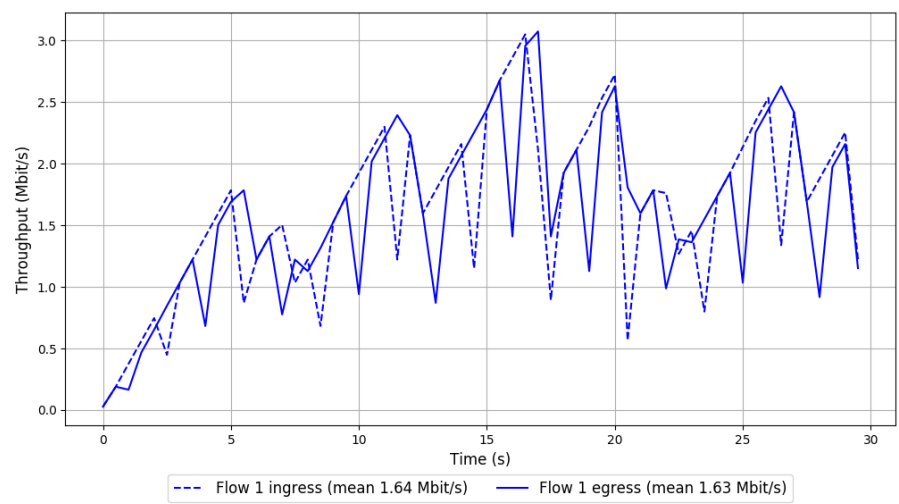
Run 8: Report of TCP Cubic — Data Link

```
Run 9: Statistics of TCP Cubic

Start at: 2017-10-11 06:03:09
End at: 2017-10-11 06:03:39

# Below is generated by plot.py at 2017-10-11 08:20:13
# Datalink statistics
-- Total of 1 flow:
Average throughput: 45.78 Mbit/s
95th percentile per-packet one-way delay: 140.152 ms
Loss rate: 1.52%
-- Flow 1:
Average throughput: 45.78 Mbit/s
95th percentile per-packet one-way delay: 140.152 ms
Loss rate: 1.52%
```
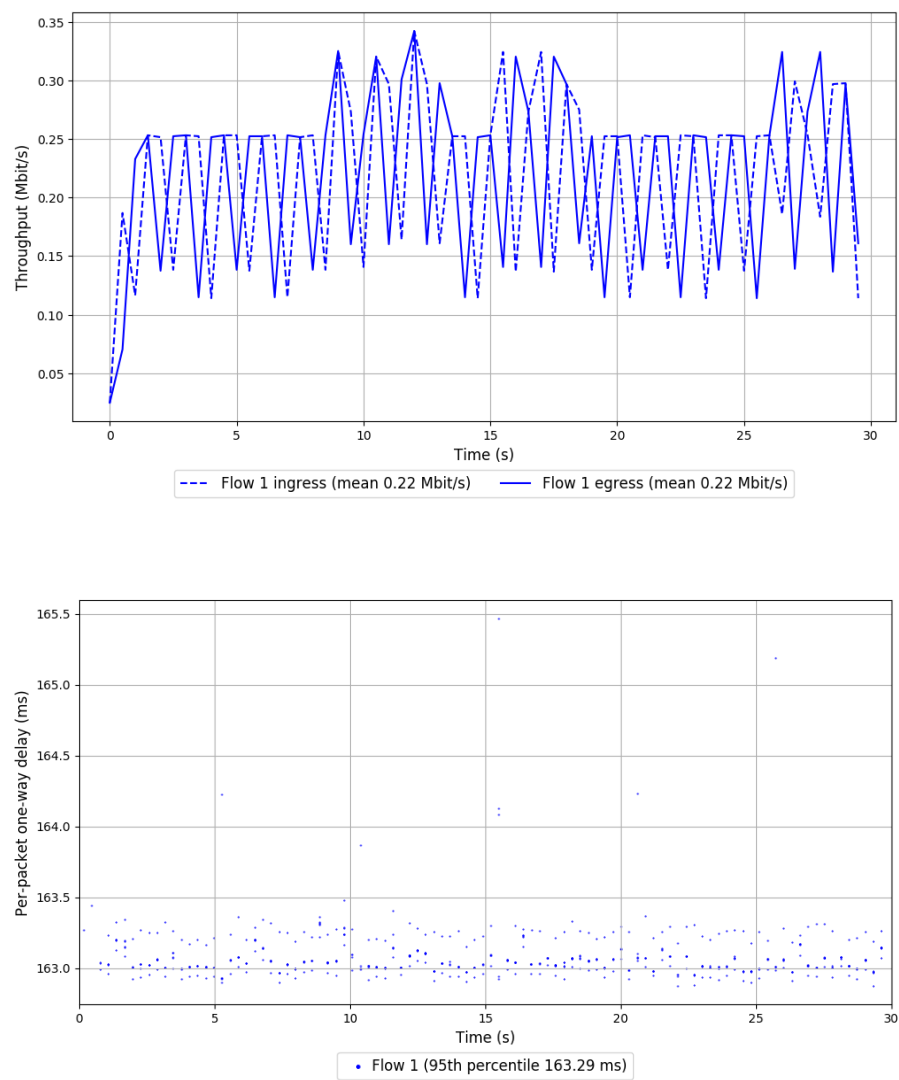
Run 9: Report of TCP Cubic — Data Link

```
Run 10: Statistics of TCP Cubic

Start at: 2017-10-11 06:15:12
End at: 2017-10-11 06:15:42

# Below is generated by plot.py at 2017-10-11 08:20:17
# Datalink statistics
-- Total of 1 flow:
Average throughput: 47.31 Mbit/s
95th percentile per-packet one-way delay: 139.227 ms
Loss rate: 1.09%
-- Flow 1:
Average throughput: 47.31 Mbit/s
95th percentile per-packet one-way delay: 139.227 ms
Loss rate: 1.09%
```
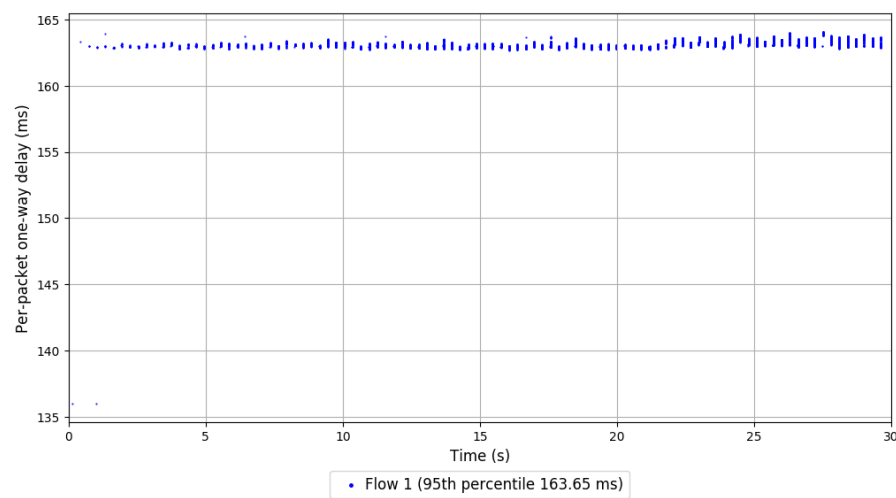
Run 10: Report of TCP Cubic — Data Link

Flow 1 ingress (mean 47.36 Mbit/s)   Flow 1 egress (mean 47.31 Mbit/s)

• Flow 1 (95th percentile 139.23 ms)

```
Run 1: Statistics of LEDBAT

Start at: 2017-10-11 04:20:59
End at: 2017-10-11 04:21:29

# Below is generated by plot.py at 2017-10-11 08:20:17
# Datalink statistics
-- Total of 1 flow:
Average throughput: 1.63 Mbit/s
95th percentile per-packet one-way delay: 136.845 ms
Loss rate: 1.47%
-- Flow 1:
Average throughput: 1.63 Mbit/s
95th percentile per-packet one-way delay: 136.845 ms
Loss rate: 1.47%
```
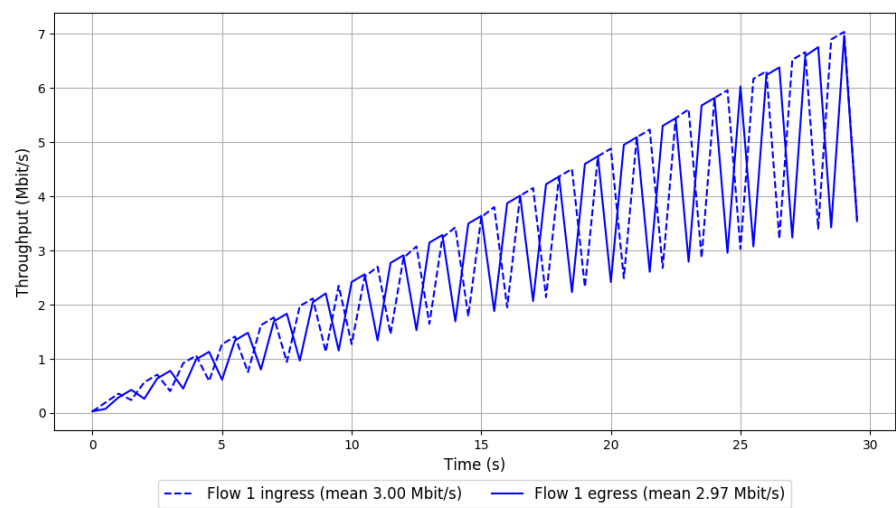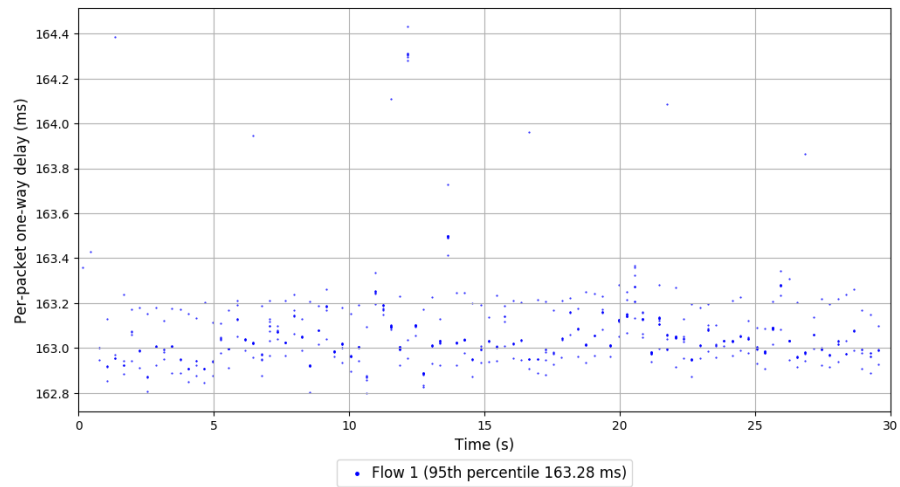
Run 1: Report of LEDBAT — Data Link

```
Run 2: Statistics of LEDBAT

Start at: 2017-10-11 04:33:21
End at: 2017-10-11 04:33:51

# Below is generated by plot.py at 2017-10-11 08:20:17
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 163.293 ms
Loss rate: 0.86%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 163.293 ms
Loss rate: 0.86%
```
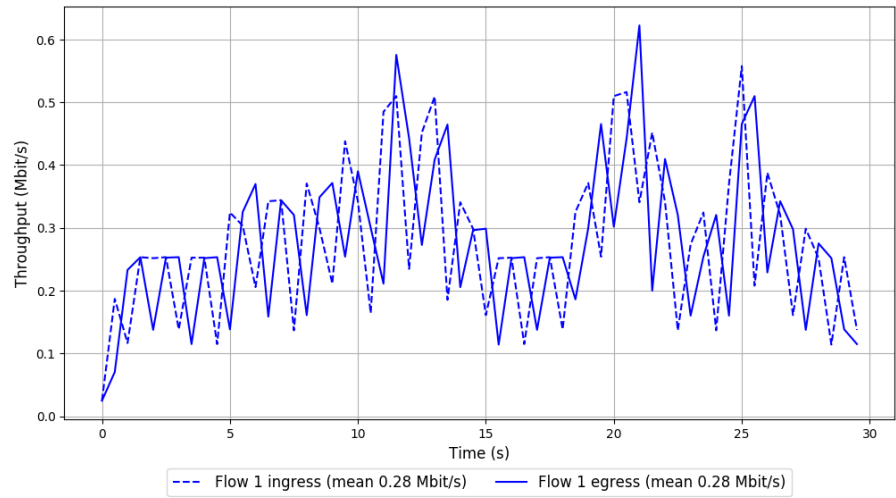
Run 2: Report of LEDBAT — Data Link

```
Run 3: Statistics of LEDBAT

Start at: 2017-10-11 04:45:38
End at: 2017-10-11 04:46:08

# Below is generated by plot.py at 2017-10-11 08:20:17
# Datalink statistics
-- Total of 1 flow:
Average throughput: 2.97 Mbit/s
95th percentile per-packet one-way delay: 163.653 ms
Loss rate: 2.00%
-- Flow 1:
Average throughput: 2.97 Mbit/s
95th percentile per-packet one-way delay: 163.653 ms
Loss rate: 2.00%
```
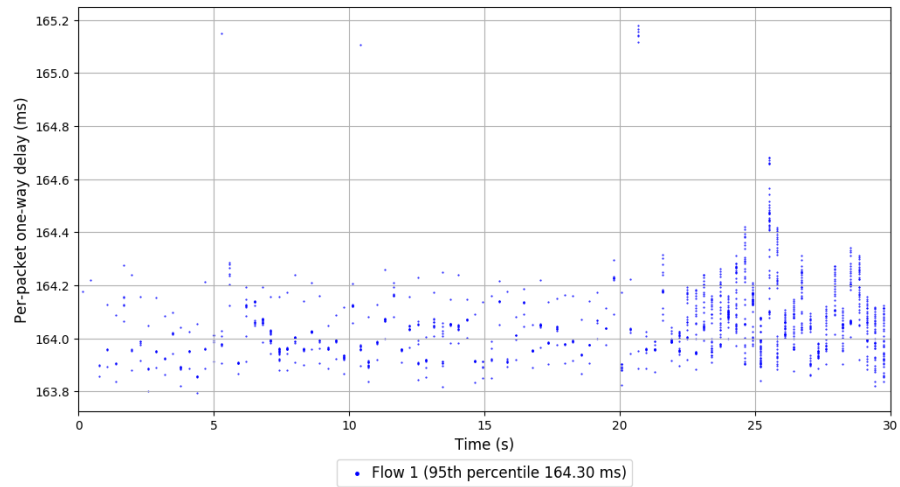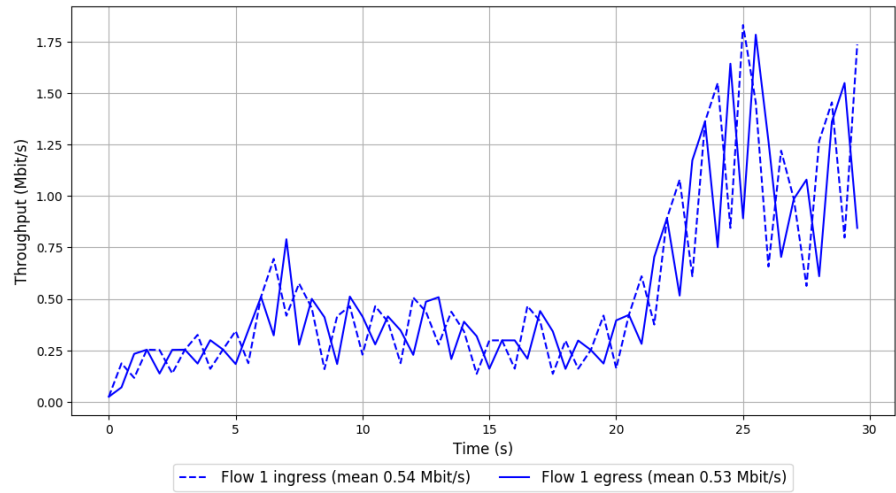
Run 3: Report of LEDBAT — Data Link

Flow 1 ingress (mean 3.00 Mbit/s) --- Flow 1 egress (mean 2.97 Mbit/s)

• Flow 1 (95th percentile 163.65 ms)

```
Run 4: Statistics of LEDBAT

Start at: 2017-10-11 04:57:43
End at: 2017-10-11 04:58:13

# Below is generated by plot.py at 2017-10-11 08:20:17
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.28 Mbit/s
95th percentile per-packet one-way delay: 163.281 ms
Loss rate: 0.82%
-- Flow 1:
Average throughput: 0.28 Mbit/s
95th percentile per-packet one-way delay: 163.281 ms
Loss rate: 0.82%
```
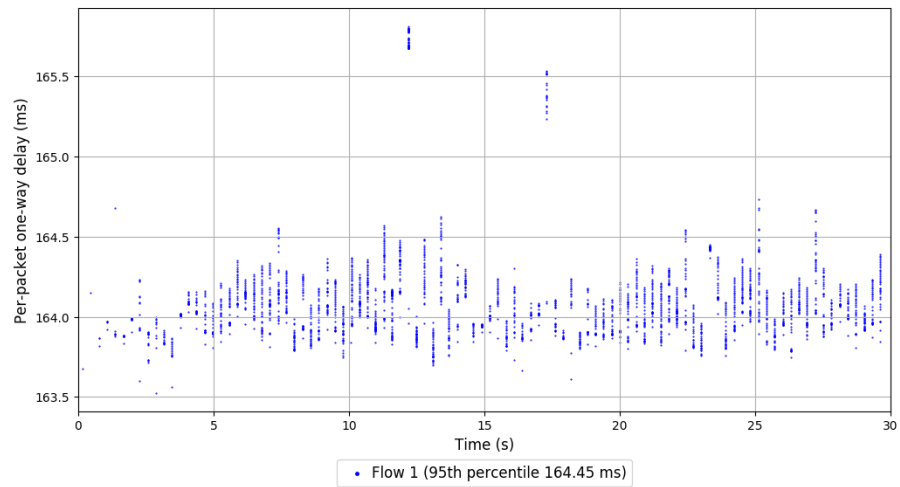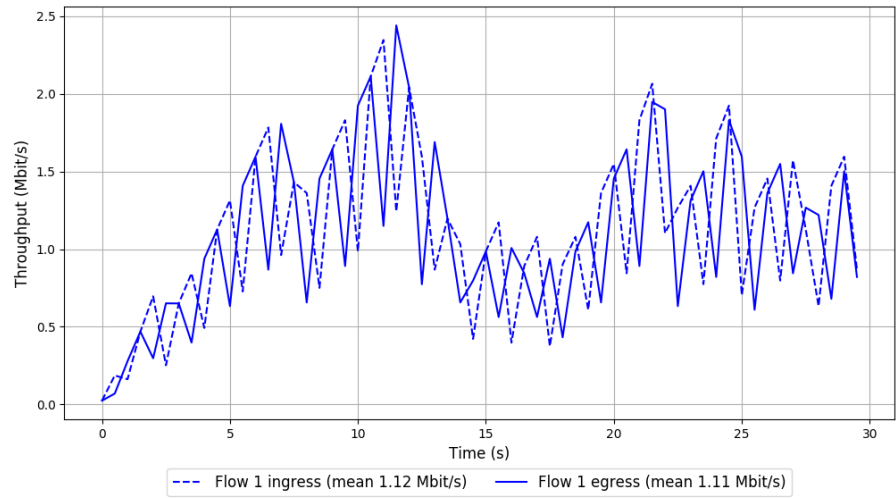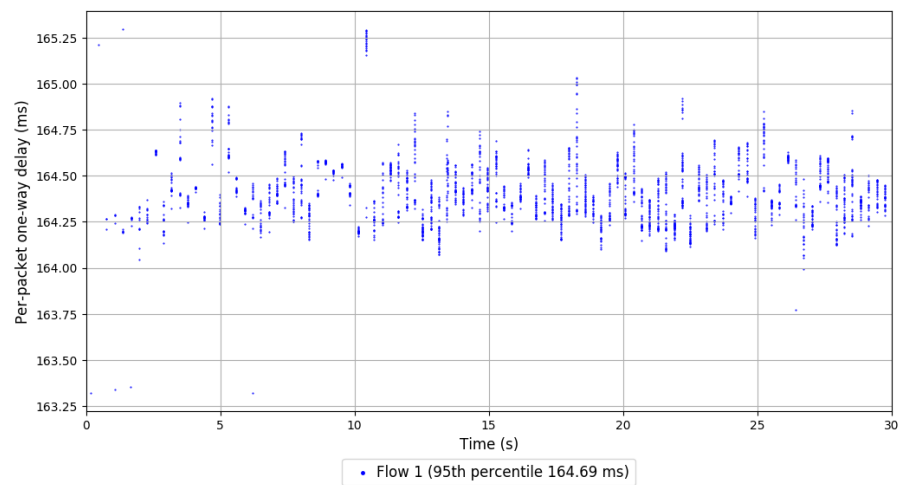
Run 4: Report of LEDBAT — Data Link

Flow 1 ingress (mean 0.28 Mbit/s) Flow 1 egress (mean 0.28 Mbit/s)

Flow 1 (95th percentile 163.28 ms)

```
Run 5: Statistics of LEDBAT

Start at: 2017-10-11 05:09:09
End at: 2017-10-11 05:09:39

# Below is generated by plot.py at 2017-10-11 08:20:17
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.53 Mbit/s
95th percentile per-packet one-way delay: 164.302 ms
Loss rate: 2.76%
-- Flow 1:
Average throughput: 0.53 Mbit/s
95th percentile per-packet one-way delay: 164.302 ms
Loss rate: 2.76%
```
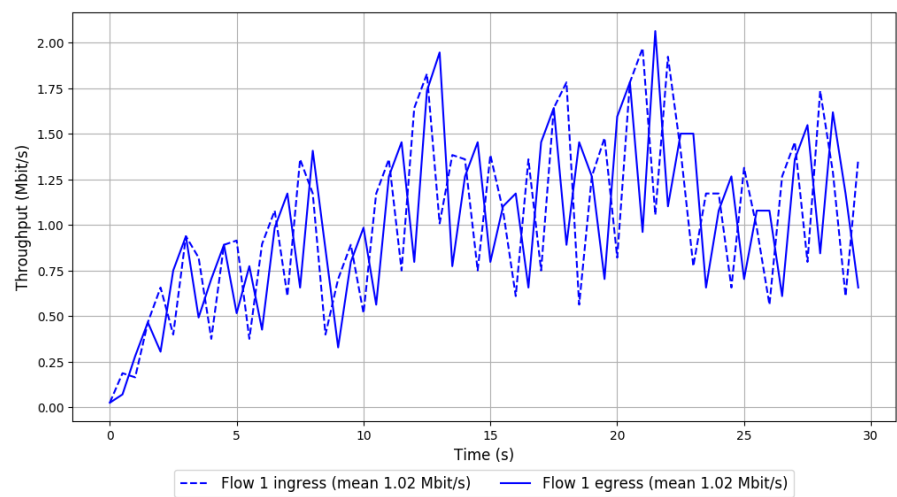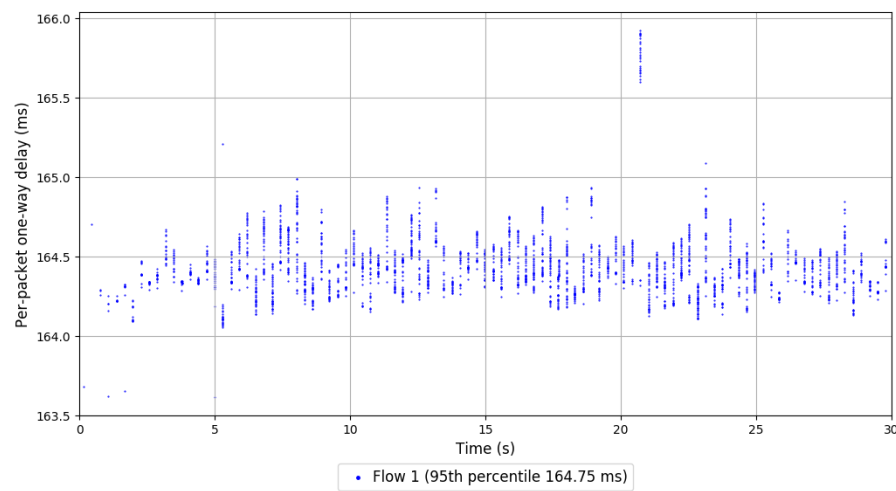
Run 5: Report of LEDBAT — Data Link

```
Run 6: Statistics of LEDBAT

Start at: 2017-10-11 05:20:39
End at: 2017-10-11 05:21:09

# Below is generated by plot.py at 2017-10-11 08:20:17
# Datalink statistics
-- Total of 1 flow:
Average throughput: 1.11 Mbit/s
95th percentile per-packet one-way delay: 164.447 ms
Loss rate: 1.93%
-- Flow 1:
Average throughput: 1.11 Mbit/s
95th percentile per-packet one-way delay: 164.447 ms
Loss rate: 1.93%
```
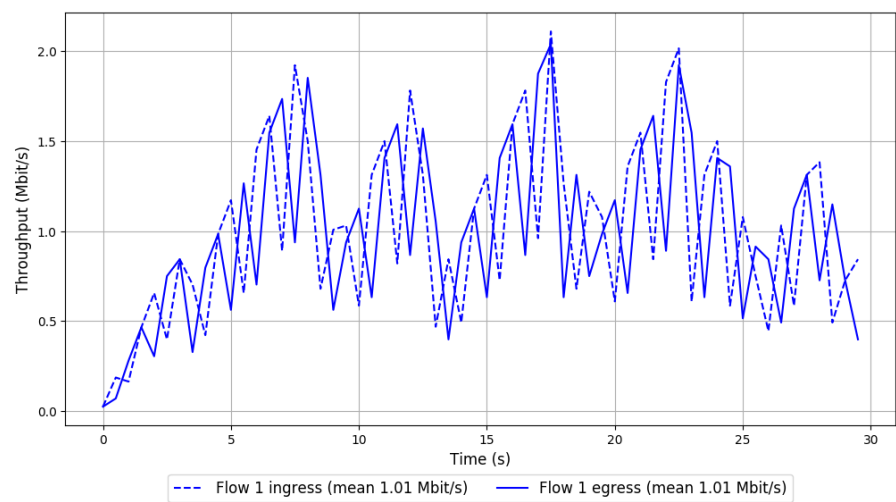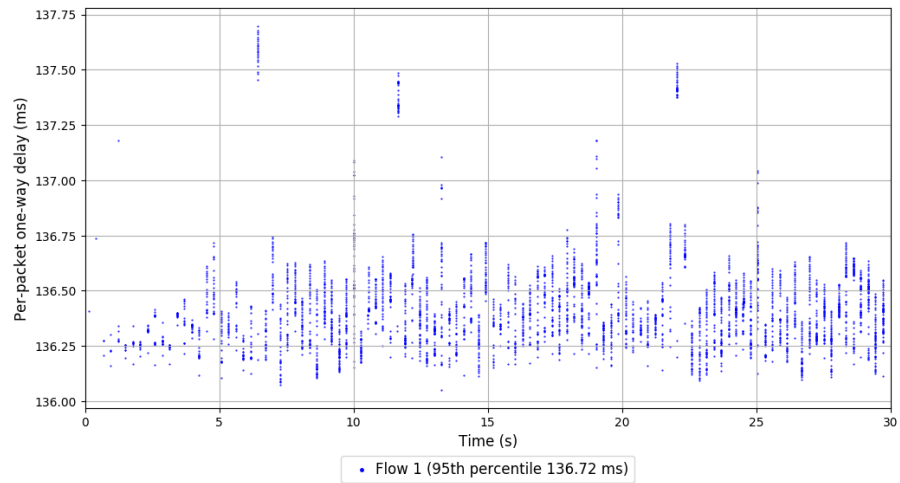
Run 6: Report of LEDBAT — Data Link

```
Run 7: Statistics of LEDBAT

Start at: 2017-10-11 05:32:39
End at: 2017-10-11 05:33:09

# Below is generated by plot.py at 2017-10-11 08:20:17
# Datalink statistics
-- Total of 1 flow:
Average throughput: 1.02 Mbit/s
95th percentile per-packet one-way delay: 164.695 ms
Loss rate: 1.15%
-- Flow 1:
Average throughput: 1.02 Mbit/s
95th percentile per-packet one-way delay: 164.695 ms
Loss rate: 1.15%
```
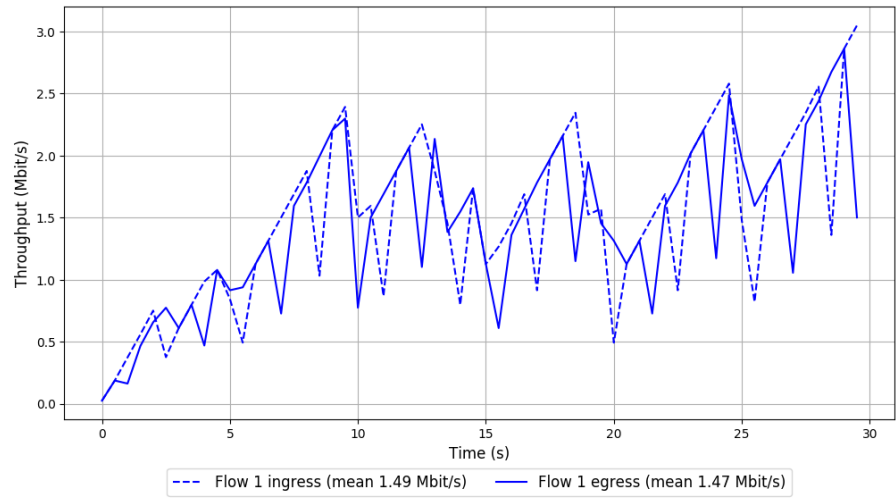
Run 7: Report of LEDBAT — Data Link

```
Run 8: Statistics of LEDBAT

Start at: 2017-10-11 05:43:45
End at: 2017-10-11 05:44:15

# Below is generated by plot.py at 2017-10-11 08:20:17
# Datalink statistics
-- Total of 1 flow:
Average throughput: 1.01 Mbit/s
95th percentile per-packet one-way delay: 164.752 ms
Loss rate: 1.12%
-- Flow 1:
Average throughput: 1.01 Mbit/s
95th percentile per-packet one-way delay: 164.752 ms
Loss rate: 1.12%
```
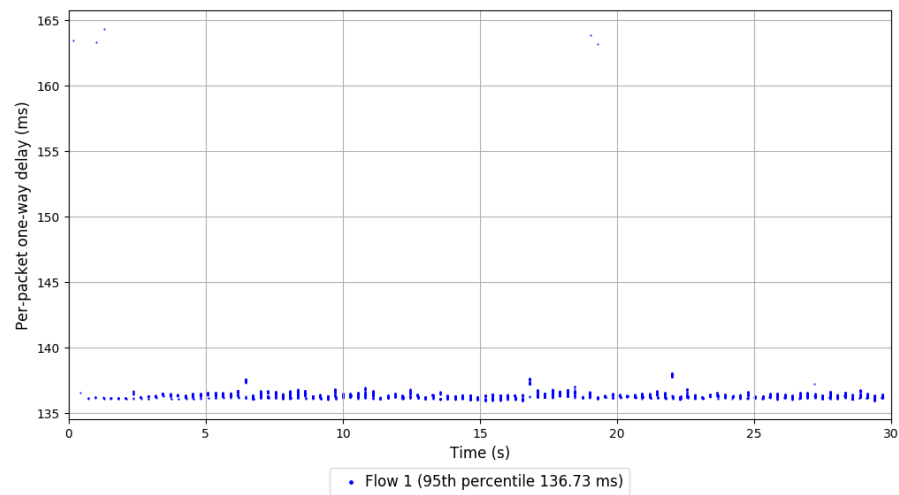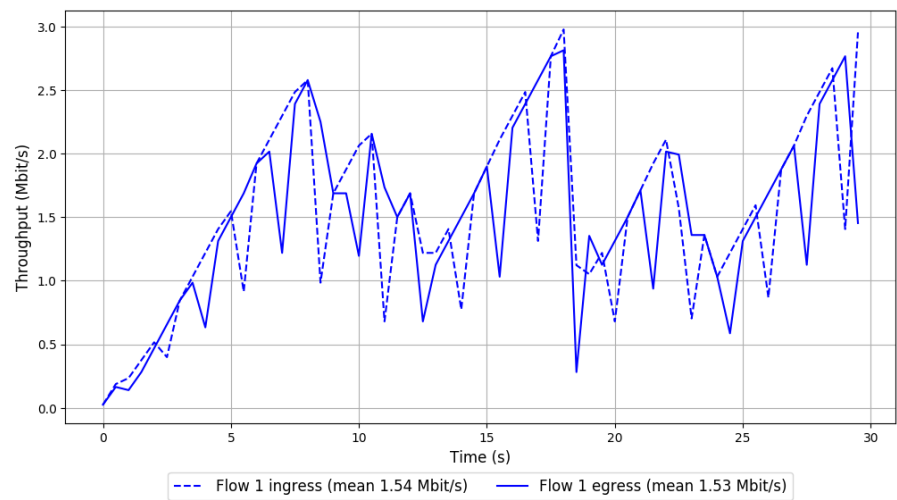
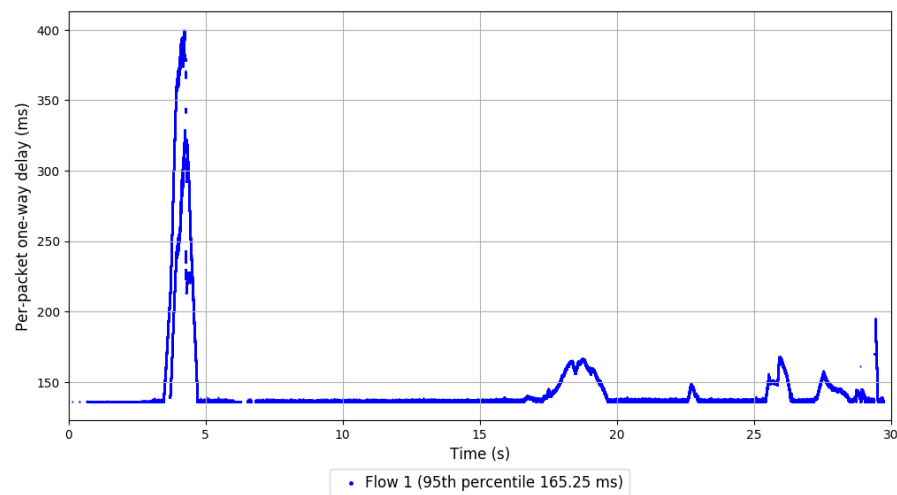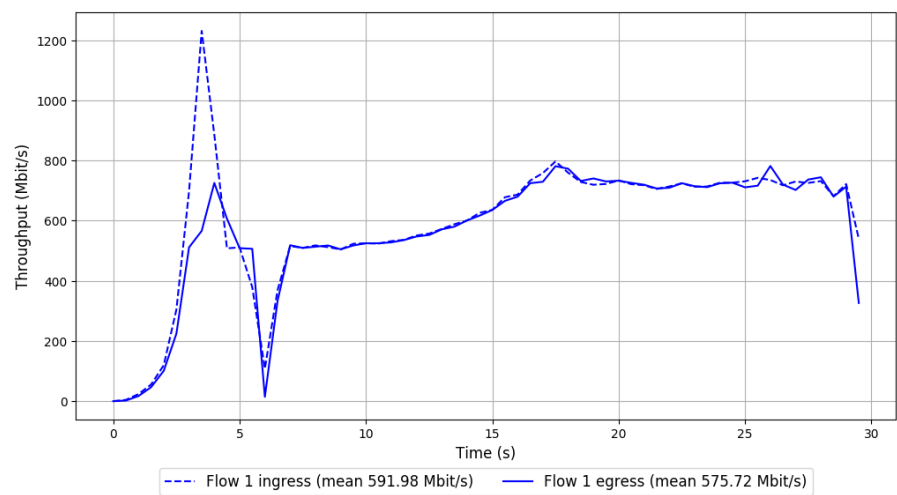# Run 8: Report of LEDBAT — Data Link

```
Run 9: Statistics of LEDBAT

Start at: 2017-10-11 05:55:30
End at: 2017-10-11 05:56:00

# Below is generated by plot.py at 2017-10-11 08:20:17
# Datalink statistics
-- Total of 1 flow:
Average throughput: 1.47 Mbit/s
95th percentile per-packet one-way delay: 136.721 ms
Loss rate: 2.22%
-- Flow 1:
Average throughput: 1.47 Mbit/s
95th percentile per-packet one-way delay: 136.721 ms
Loss rate: 2.22%
```

Run 9: Report of LEDBAT — Data Link

```
Run 10: Statistics of LEDBAT

Start at: 2017-10-11 06:07:12
End at: 2017-10-11 06:07:42

# Below is generated by plot.py at 2017-10-11 08:20:17
# Datalink statistics
-- Total of 1 flow:
Average throughput: 1.53 Mbit/s
95th percentile per-packet one-way delay: 136.733 ms
Loss rate: 1.82%
-- Flow 1:
Average throughput: 1.53 Mbit/s
95th percentile per-packet one-way delay: 136.733 ms
Loss rate: 1.82%
```
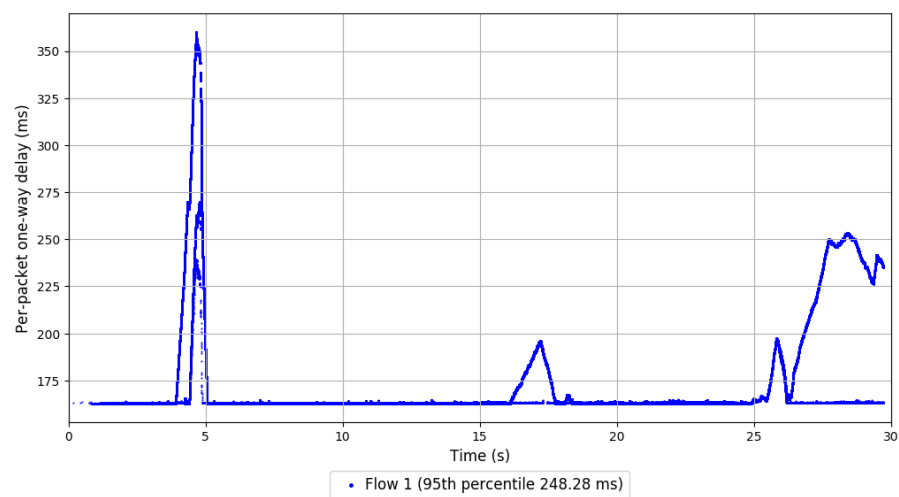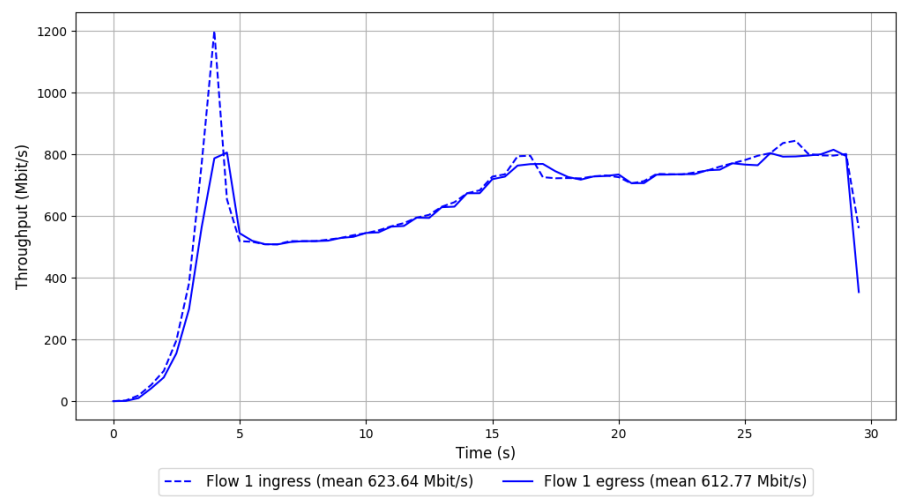
Run 10: Report of LEDBAT — Data Link

```
Run 1: Statistics of PCC

Start at: 2017-10-11 04:22:36
End at: 2017-10-11 04:23:06

# Below is generated by plot.py at 2017-10-11 08:29:21
# Datalink statistics
-- Total of 1 flow:
Average throughput: 575.72 Mbit/s
95th percentile per-packet one-way delay: 165.246 ms
Loss rate: 3.72%
-- Flow 1:
Average throughput: 575.72 Mbit/s
95th percentile per-packet one-way delay: 165.246 ms
Loss rate: 3.72%
```
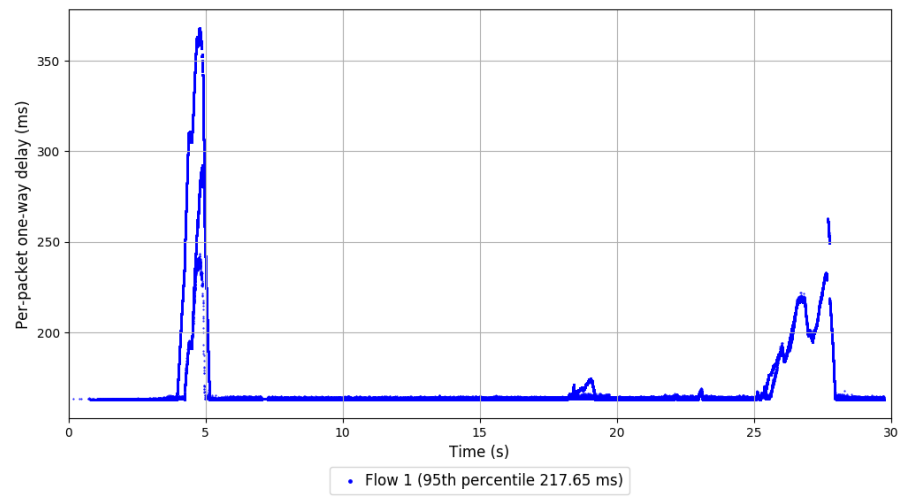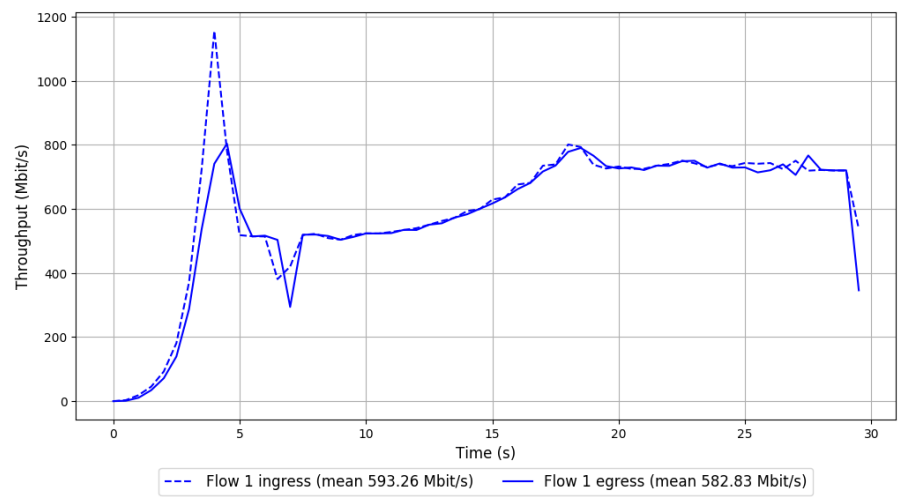
Run 1: Report of PCC — Data Link

```
Run 2: Statistics of PCC

Start at: 2017-10-11 04:34:50
End at: 2017-10-11 04:35:20

# Below is generated by plot.py at 2017-10-11 08:30:20
# Datalink statistics
-- Total of 1 flow:
Average throughput: 612.77 Mbit/s
95th percentile per-packet one-way delay: 248.283 ms
Loss rate: 2.77%
-- Flow 1:
Average throughput: 612.77 Mbit/s
95th percentile per-packet one-way delay: 248.283 ms
Loss rate: 2.77%
```
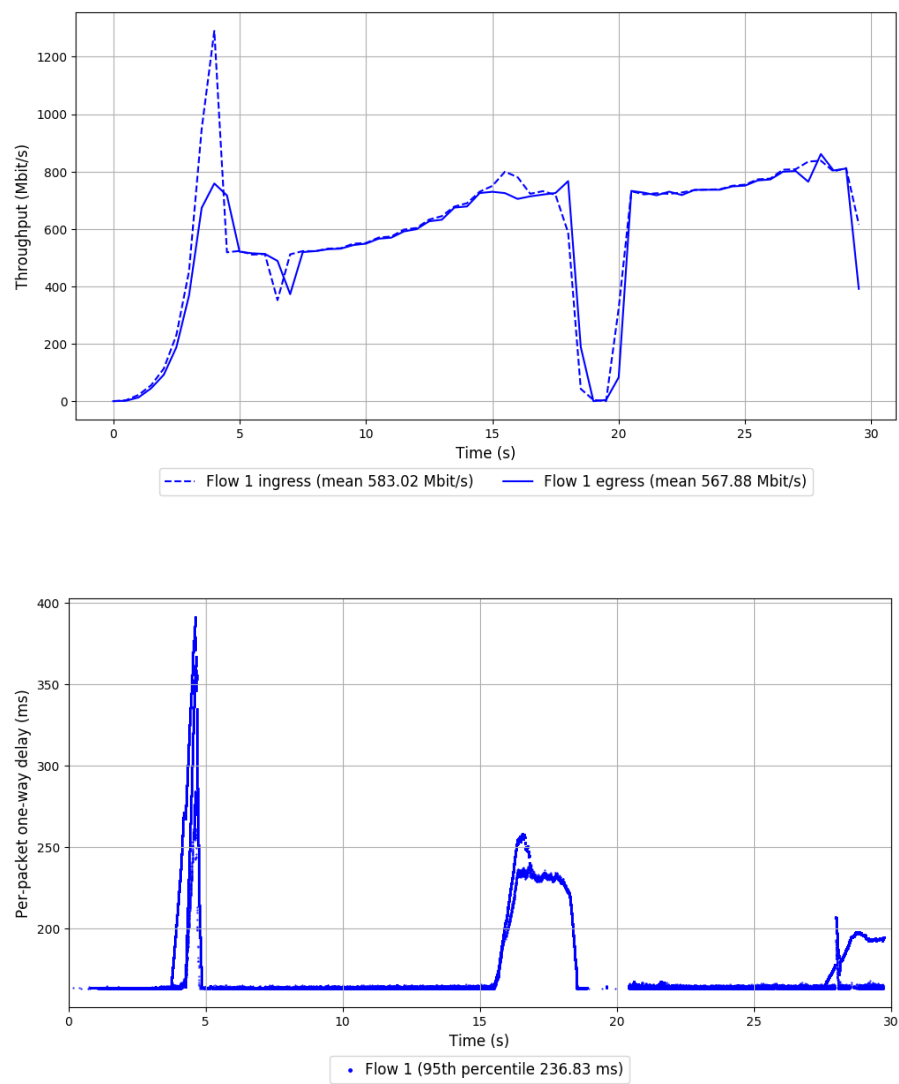
Run 2: Report of PCC — Data Link

```
Run 3: Statistics of PCC

Start at: 2017-10-11 04:47:13
End at: 2017-10-11 04:47:43

# Below is generated by plot.py at 2017-10-11 08:30:20
# Datalink statistics
-- Total of 1 flow:
Average throughput: 582.83 Mbit/s
95th percentile per-packet one-way delay: 217.654 ms
Loss rate: 2.75%
-- Flow 1:
Average throughput: 582.83 Mbit/s
95th percentile per-packet one-way delay: 217.654 ms
Loss rate: 2.75%
```
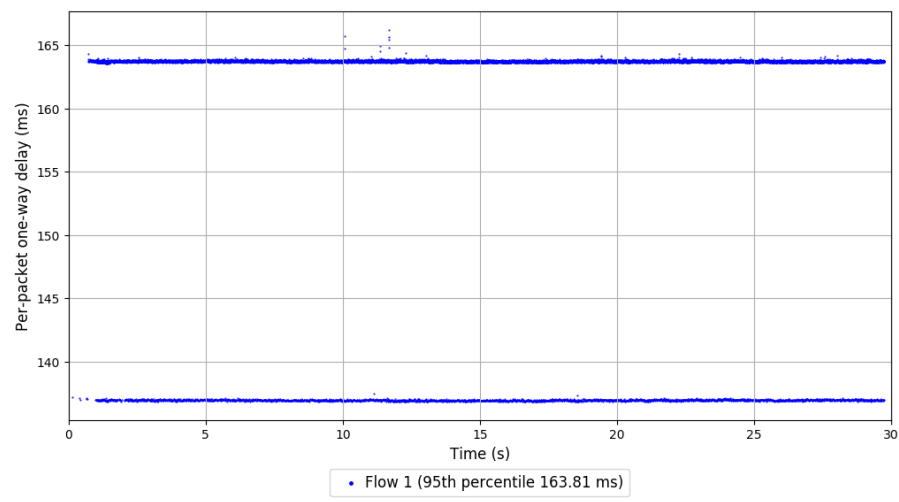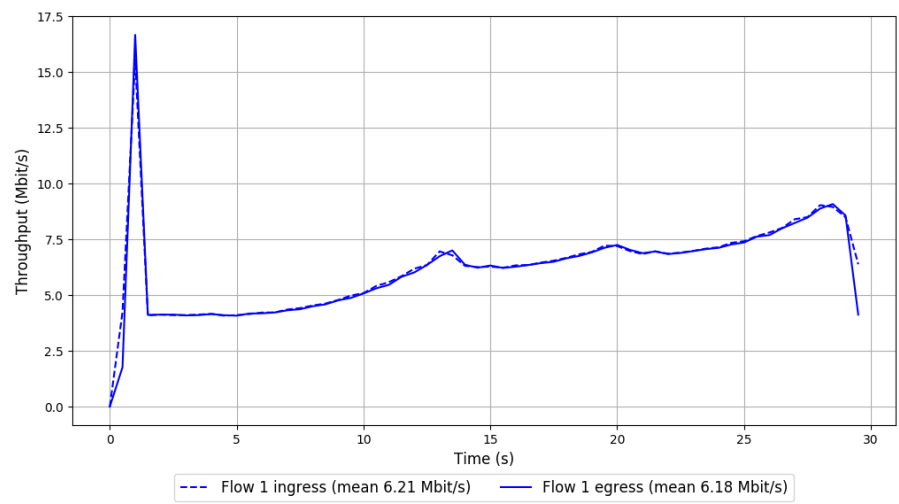
Run 3: Report of PCC — Data Link

```
Run 4: Statistics of PCC

Start at: 2017-10-11 04:59:18
End at: 2017-10-11 04:59:48

# Below is generated by plot.py at 2017-10-11 08:30:20
# Datalink statistics
-- Total of 1 flow:
Average throughput: 567.88 Mbit/s
95th percentile per-packet one-way delay: 236.826 ms
Loss rate: 3.58%
-- Flow 1:
Average throughput: 567.88 Mbit/s
95th percentile per-packet one-way delay: 236.826 ms
Loss rate: 3.58%
```
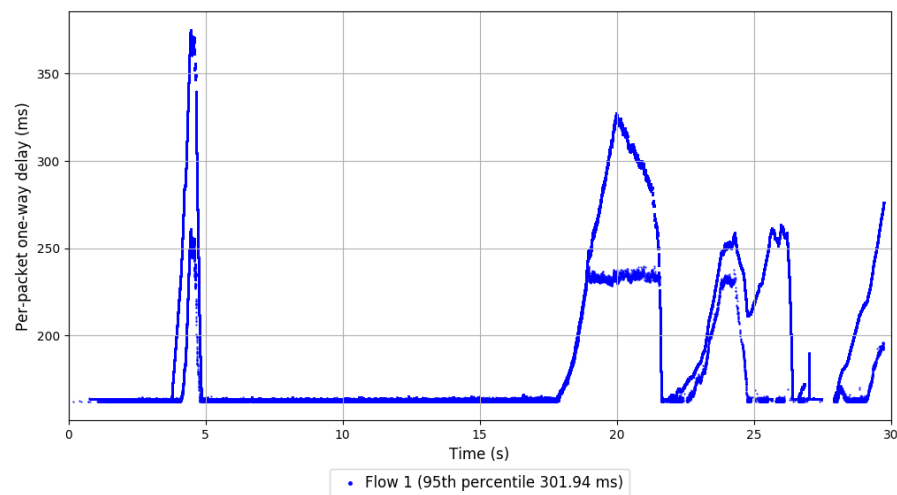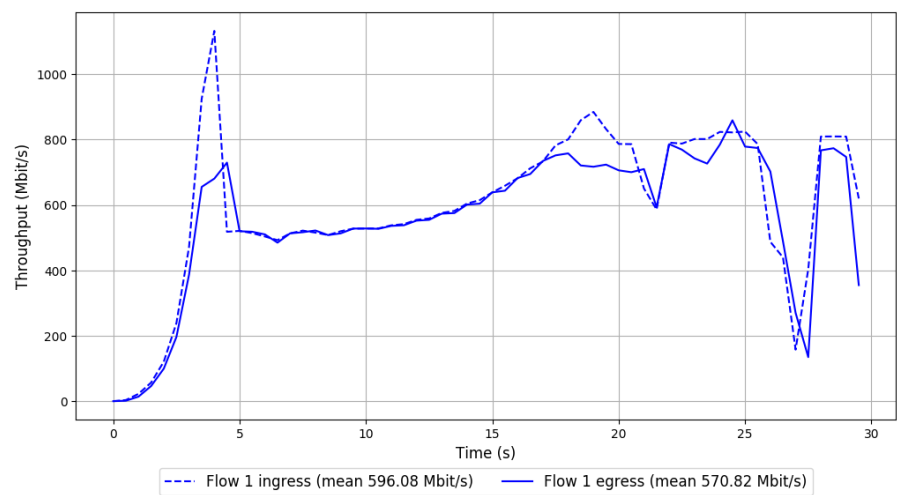
Run 4: Report of PCC — Data Link

71

```
Run 5: Statistics of PCC

Start at: 2017-10-11 05:10:37
End at: 2017-10-11 05:11:07

# Below is generated by plot.py at 2017-10-11 08:30:20
# Datalink statistics
-- Total of 1 flow:
Average throughput: 6.18 Mbit/s
95th percentile per-packet one-way delay: 163.811 ms
Loss rate: 1.35%
-- Flow 1:
Average throughput: 6.18 Mbit/s
95th percentile per-packet one-way delay: 163.811 ms
Loss rate: 1.35%
```
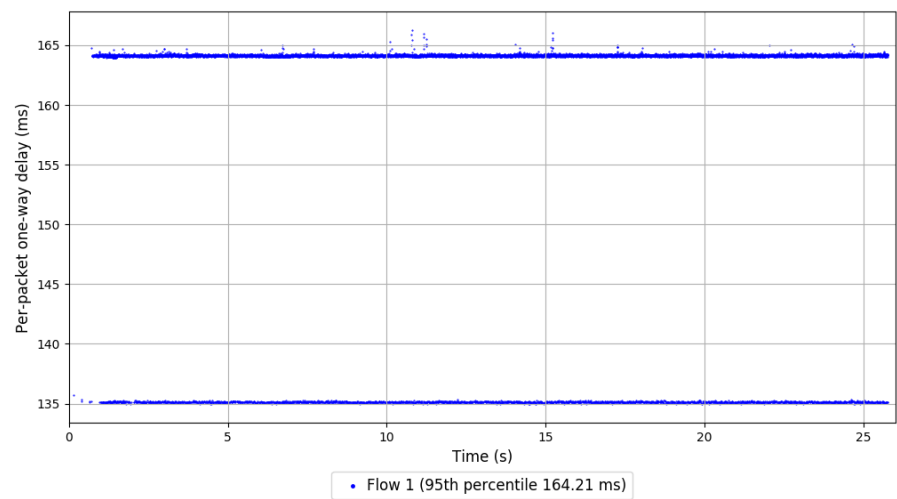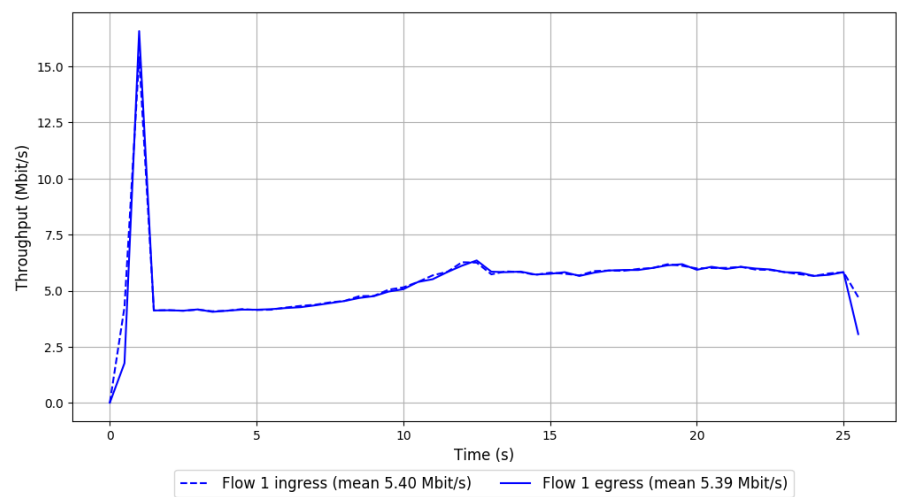
Run 5: Report of PCC — Data Link

73

```
Run 6: Statistics of PCC

Start at: 2017-10-11 05:22:14
End at: 2017-10-11 05:22:44


# Below is generated by plot.py at 2017-10-11 08:30:20
# Datalink statistics
-- Total of 1 flow:
Average throughput: 570.82 Mbit/s
95th percentile per-packet one-way delay: 301.936 ms
Loss rate: 5.20%
-- Flow 1:
Average throughput: 570.82 Mbit/s
95th percentile per-packet one-way delay: 301.936 ms
Loss rate: 5.20%
```
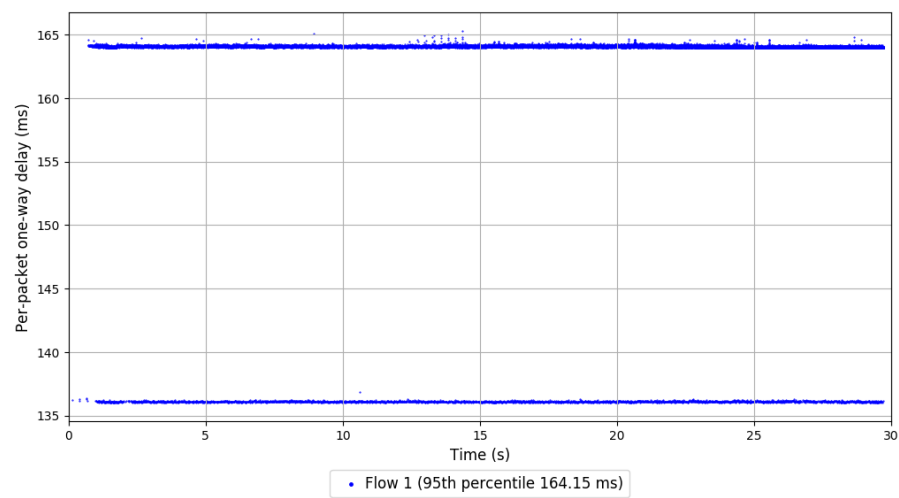
Run 6: Report of PCC — Data Link

```
Run 7: Statistics of PCC

Start at: 2017-10-11 05:34:05
End at: 2017-10-11 05:34:35

# Below is generated by plot.py at 2017-10-11 08:30:20
# Datalink statistics
-- Total of 1 flow:
Average throughput: 5.39 Mbit/s
95th percentile per-packet one-way delay: 164.209 ms
Loss rate: 1.27%
-- Flow 1:
Average throughput: 5.39 Mbit/s
95th percentile per-packet one-way delay: 164.209 ms
Loss rate: 1.27%
```
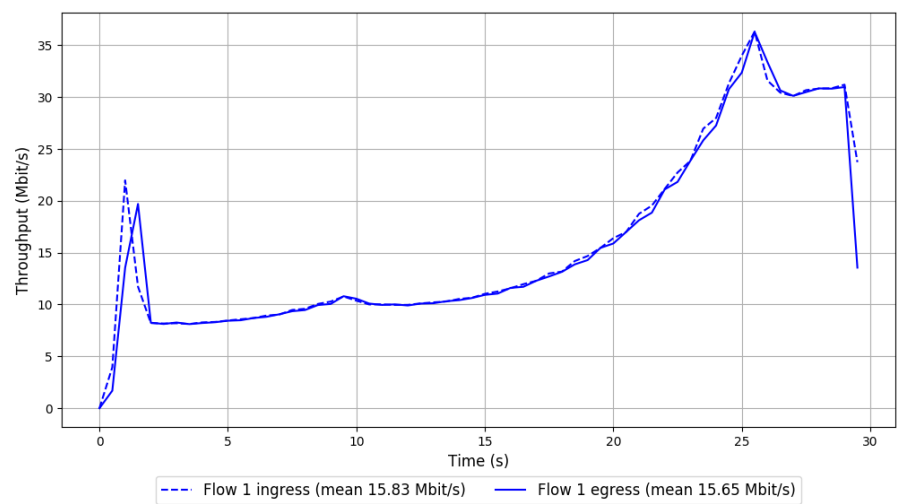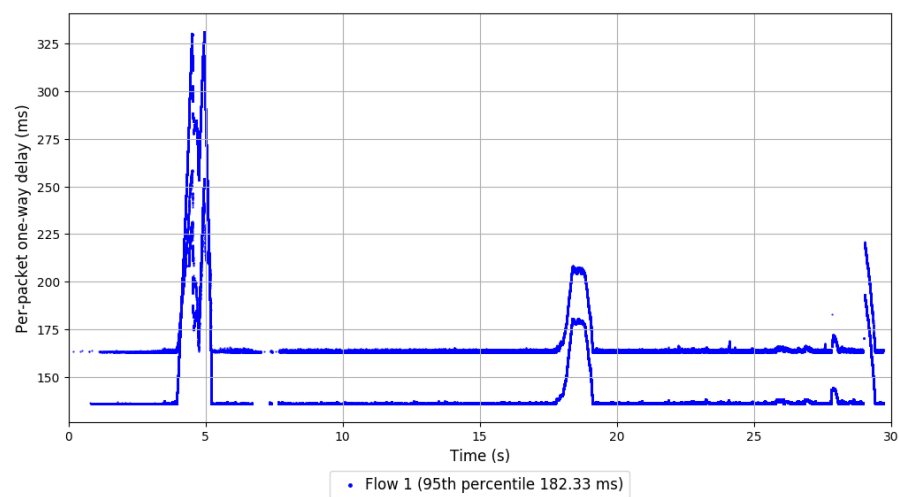
Run 7: Report of PCC — Data Link

```
Run 8: Statistics of PCC

Start at: 2017-10-11 05:45:22
End at: 2017-10-11 05:45:52

# Below is generated by plot.py at 2017-10-11 08:30:20
# Datalink statistics
-- Total of 1 flow:
Average throughput: 15.65 Mbit/s
95th percentile per-packet one-way delay: 164.152 ms
Loss rate: 2.16%
-- Flow 1:
Average throughput: 15.65 Mbit/s
95th percentile per-packet one-way delay: 164.152 ms
Loss rate: 2.16%
```
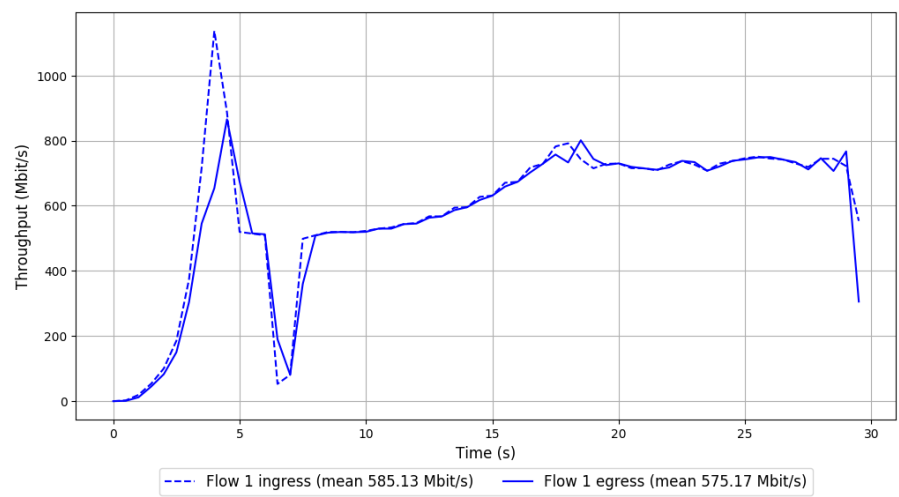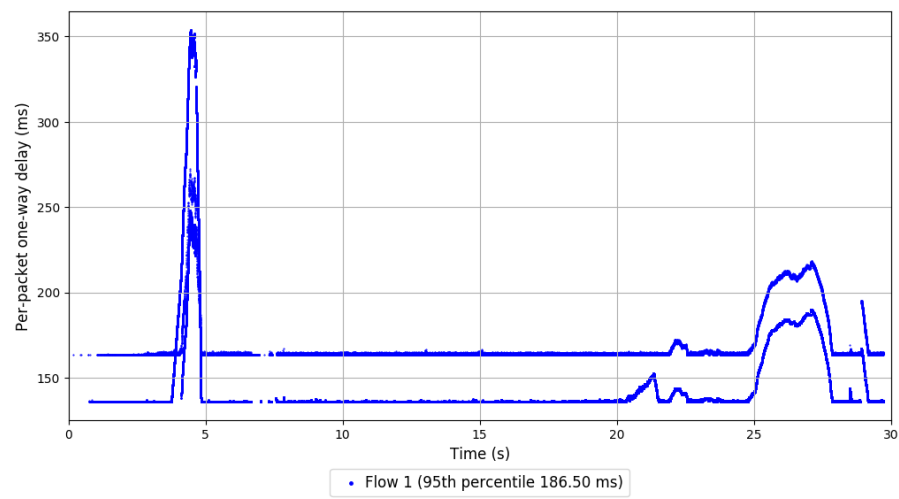
Run 8: Report of PCC — Data Link

Flow 1 ingress (mean 15.83 Mbit/s)   Flow 1 egress (mean 15.65 Mbit/s)

Flow 1 (95th percentile 164.15 ms)

```
Run 9: Statistics of PCC

Start at: 2017-10-11 05:56:57
End at: 2017-10-11 05:57:27

# Below is generated by plot.py at 2017-10-11 08:30:20
# Datalink statistics
-- Total of 1 flow:
Average throughput: 575.17 Mbit/s
95th percentile per-packet one-way delay: 182.334 ms
Loss rate: 2.77%
-- Flow 1:
Average throughput: 575.17 Mbit/s
95th percentile per-packet one-way delay: 182.334 ms
Loss rate: 2.77%
```
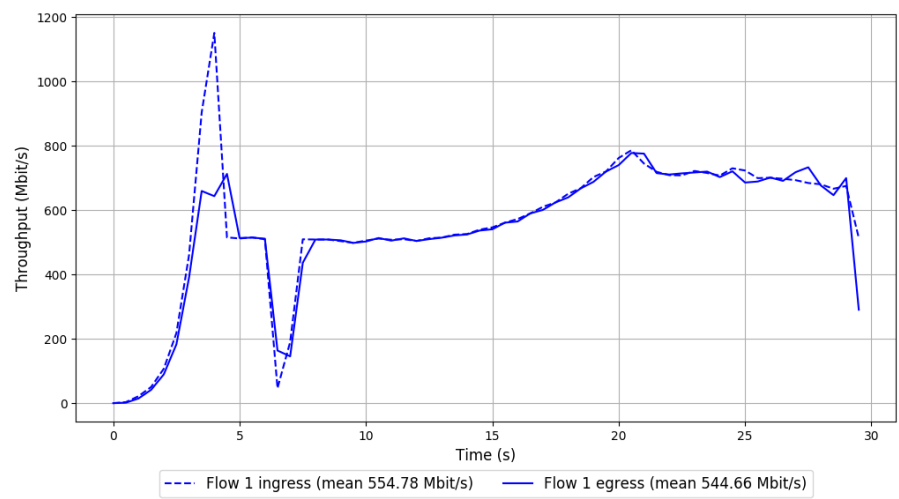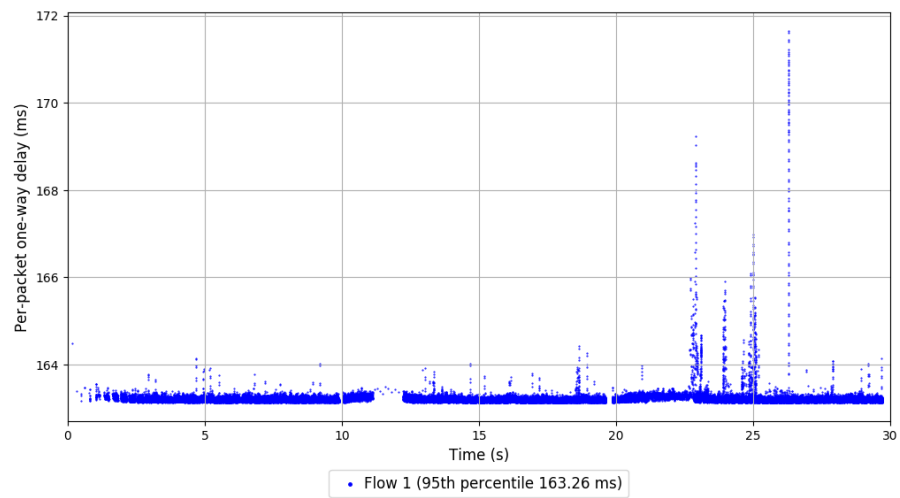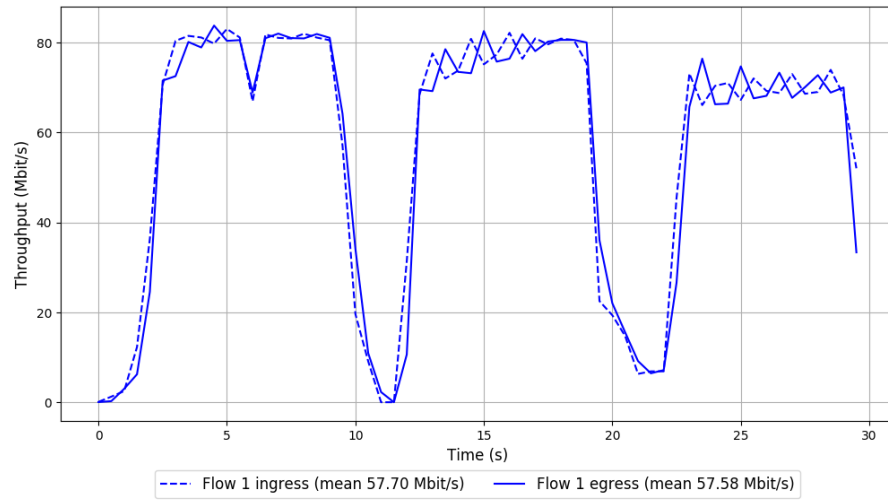
Run 9: Report of PCC — Data Link

Flow 1 ingress (mean 585.13 Mbit/s)   Flow 1 egress (mean 575.17 Mbit/s)

• Flow 1 (95th percentile 182.33 ms)

81

```
Run 10: Statistics of PCC

Start at: 2017-10-11 06:08:46
End at: 2017-10-11 06:09:16

# Below is generated by plot.py at 2017-10-11 08:30:20
# Datalink statistics
-- Total of 1 flow:
Average throughput: 544.66 Mbit/s
95th percentile per-packet one-way delay: 186.502 ms
Loss rate: 2.91%
-- Flow 1:
Average throughput: 544.66 Mbit/s
95th percentile per-packet one-way delay: 186.502 ms
Loss rate: 2.91%
```

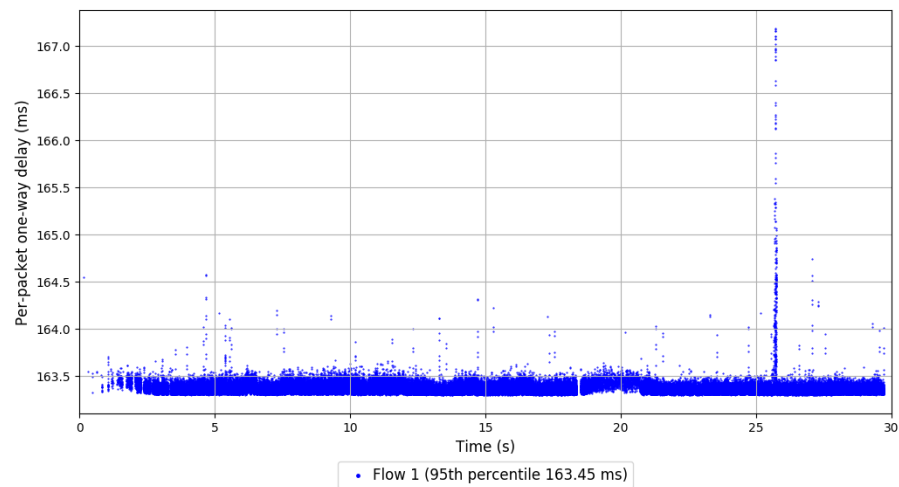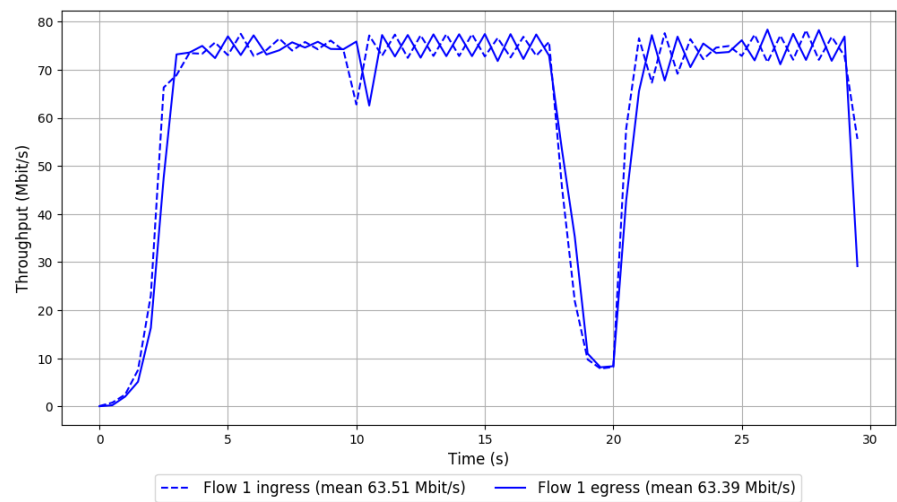Run 10: Report of PCC — Data Link

83

```
Run 1: Statistics of QUIC Cubic

Start at: 2017-10-11 04:20:10
End at: 2017-10-11 04:20:40

# Below is generated by plot.py at 2017-10-11 08:30:20
# Datalink statistics
-- Total of 1 flow:
Average throughput: 57.58 Mbit/s
95th percentile per-packet one-way delay: 163.263 ms
Loss rate: 1.23%
-- Flow 1:
Average throughput: 57.58 Mbit/s
95th percentile per-packet one-way delay: 163.263 ms
Loss rate: 1.23%
```
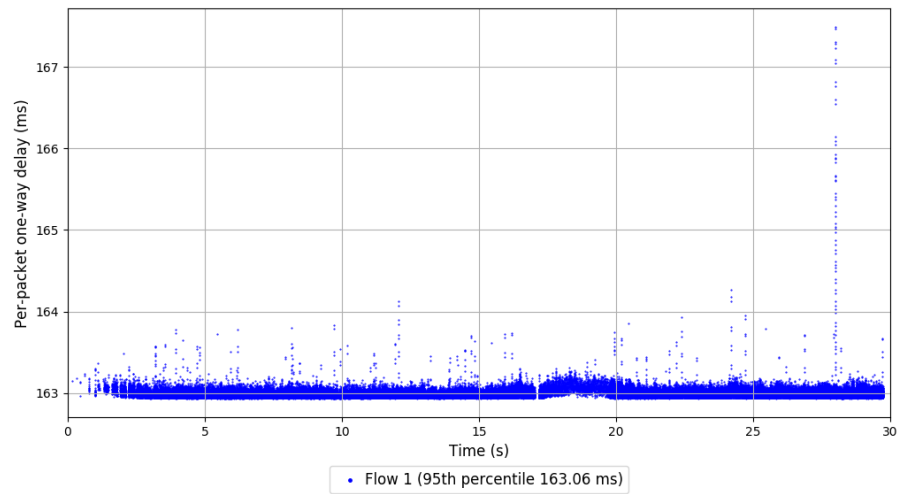
Run 1: Report of QUIC Cubic — Data Link

Flow 1 ingress (mean 57.70 Mbit/s) ----- Flow 1 egress (mean 57.58 Mbit/s)

• Flow 1 (95th percentile 163.26 ms)

```
Run 2: Statistics of QUIC Cubic

Start at: 2017-10-11 04:32:32
End at: 2017-10-11 04:33:02

# Below is generated by plot.py at 2017-10-11 08:30:20
# Datalink statistics
-- Total of 1 flow:
Average throughput: 63.39 Mbit/s
95th percentile per-packet one-way delay: 163.446 ms
Loss rate: 1.29%
-- Flow 1:
Average throughput: 63.39 Mbit/s
95th percentile per-packet one-way delay: 163.446 ms
Loss rate: 1.29%
```
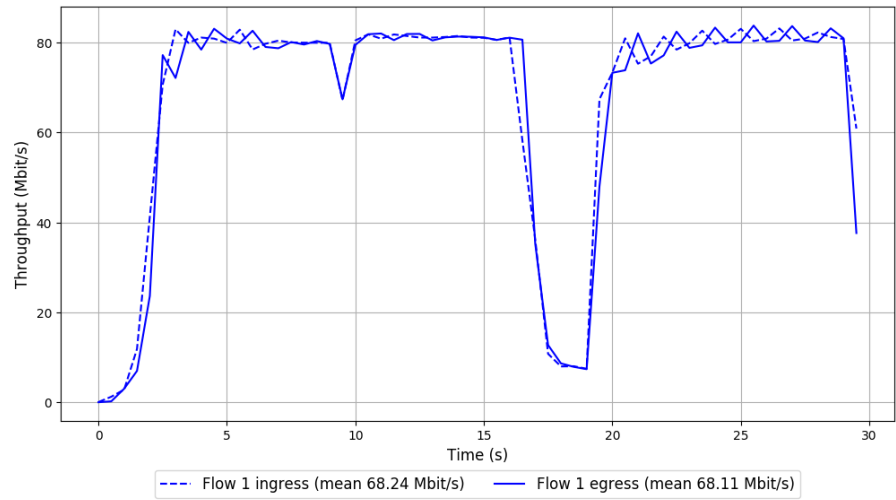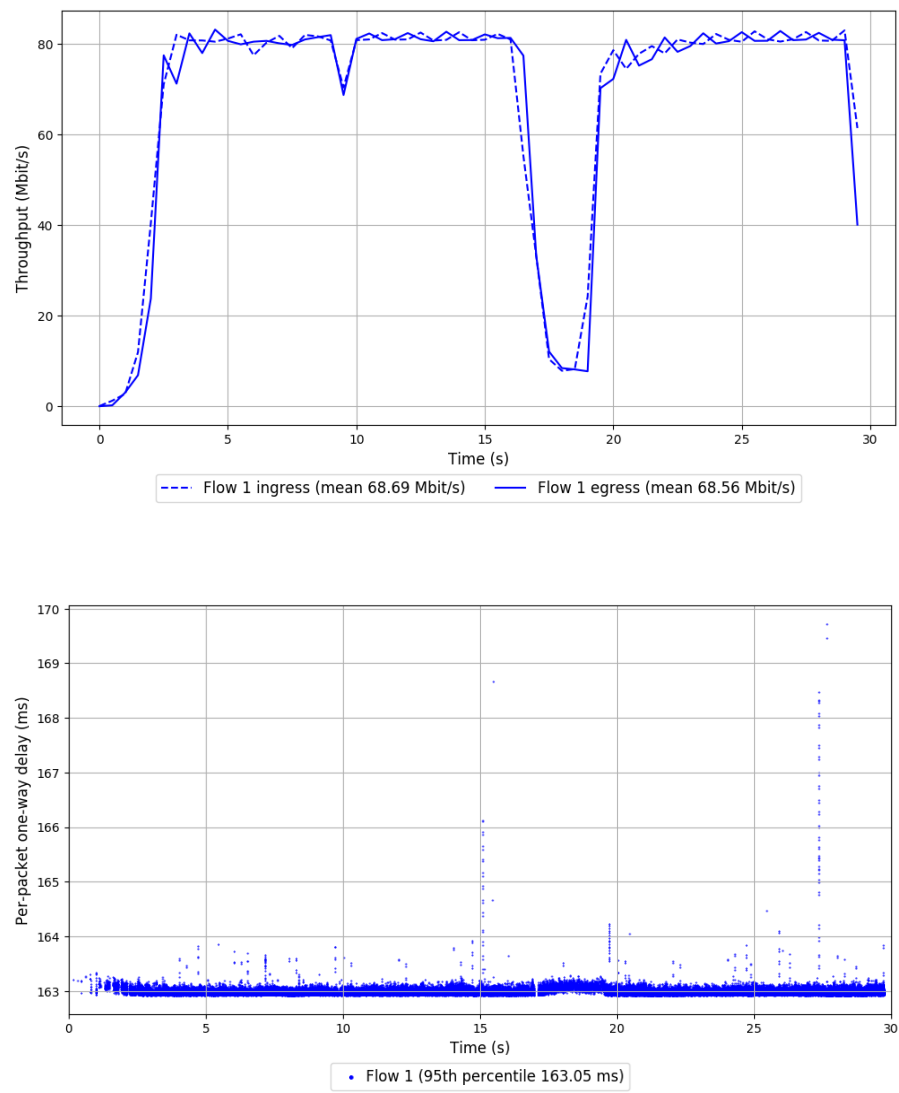
Run 2: Report of QUIC Cubic — Data Link

Flow 1 ingress (mean 63.51 Mbit/s)   Flow 1 egress (mean 63.39 Mbit/s)

Flow 1 (95th percentile 163.45 ms)

```
Run 3: Statistics of QUIC Cubic

Start at: 2017-10-11 04:44:49
End at: 2017-10-11 04:45:19

# Below is generated by plot.py at 2017-10-11 08:30:20
# Datalink statistics
-- Total of 1 flow:
Average throughput: 68.11 Mbit/s
95th percentile per-packet one-way delay: 163.055 ms
Loss rate: 1.20%
-- Flow 1:
Average throughput: 68.11 Mbit/s
95th percentile per-packet one-way delay: 163.055 ms
Loss rate: 1.20%
```
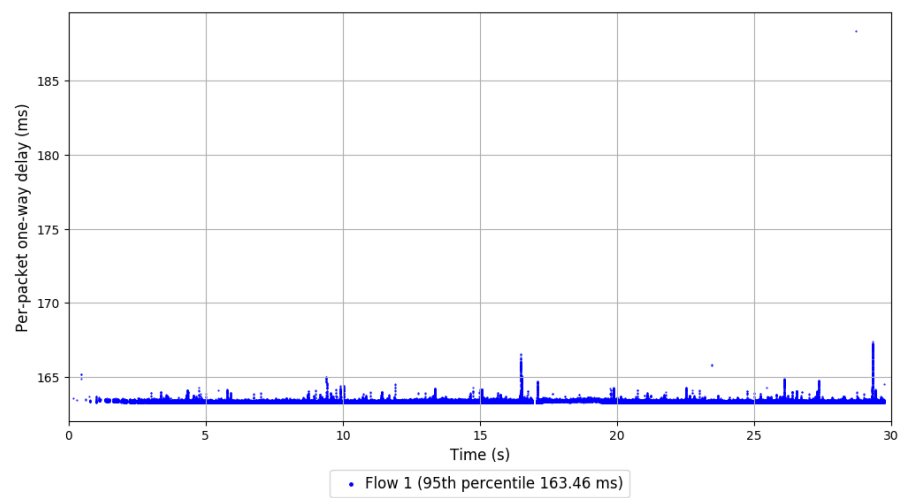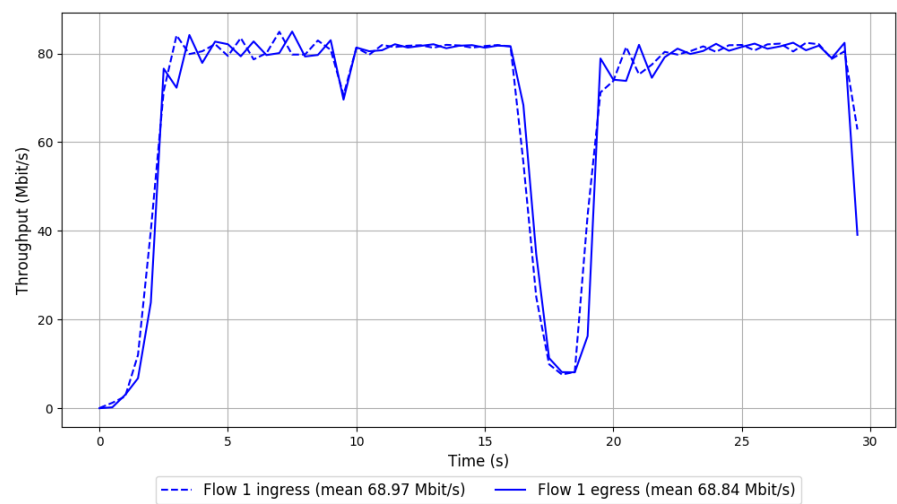
Run 3: Report of QUIC Cubic — Data Link

Flow 1 ingress (mean 68.24 Mbit/s) ----- Flow 1 egress (mean 68.11 Mbit/s)

Flow 1 (95th percentile 163.06 ms)

89

```
Run 4: Statistics of QUIC Cubic

Start at: 2017-10-11 04:56:55
End at: 2017-10-11 04:57:25

# Below is generated by plot.py at 2017-10-11 08:30:20
# Datalink statistics
-- Total of 1 flow:
Average throughput: 68.56 Mbit/s
95th percentile per-packet one-way delay: 163.051 ms
Loss rate: 1.19%
-- Flow 1:
Average throughput: 68.56 Mbit/s
95th percentile per-packet one-way delay: 163.051 ms
Loss rate: 1.19%
```
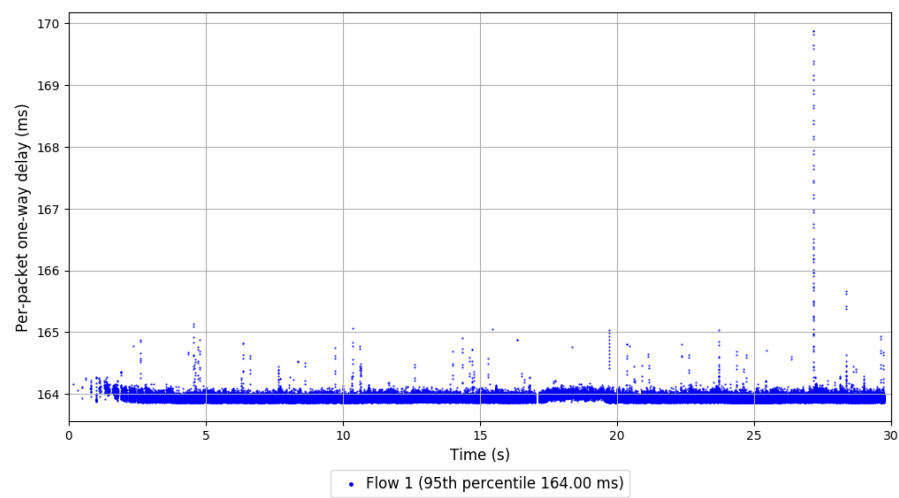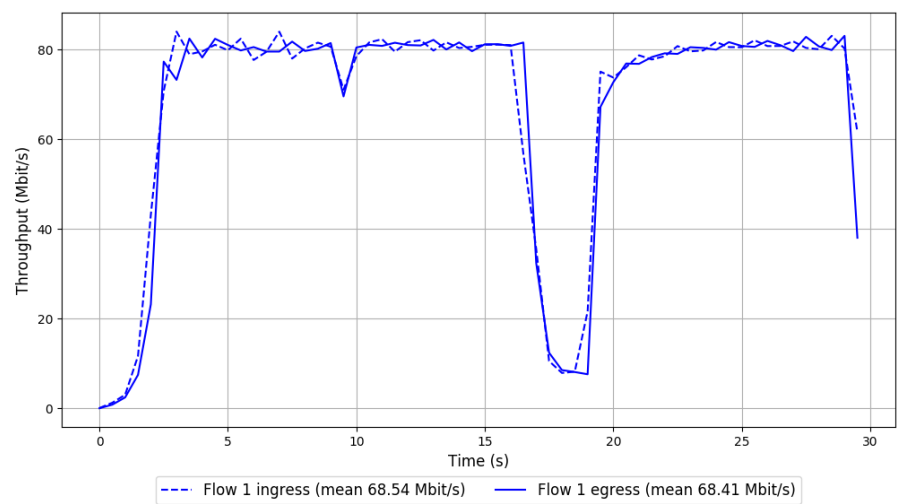
Run 4: Report of QUIC Cubic — Data Link

Flow 1 ingress (mean 68.69 Mbit/s) — — — Flow 1 egress (mean 68.56 Mbit/s)

• Flow 1 (95th percentile 163.05 ms)

```
Run 5: Statistics of QUIC Cubic

Start at: 2017-10-11 05:08:20
End at: 2017-10-11 05:08:50

# Below is generated by plot.py at 2017-10-11 08:30:20
# Datalink statistics
-- Total of 1 flow:
Average throughput: 68.84 Mbit/s
95th percentile per-packet one-way delay: 163.455 ms
Loss rate: 1.19%
-- Flow 1:
Average throughput: 68.84 Mbit/s
95th percentile per-packet one-way delay: 163.455 ms
Loss rate: 1.19%
```
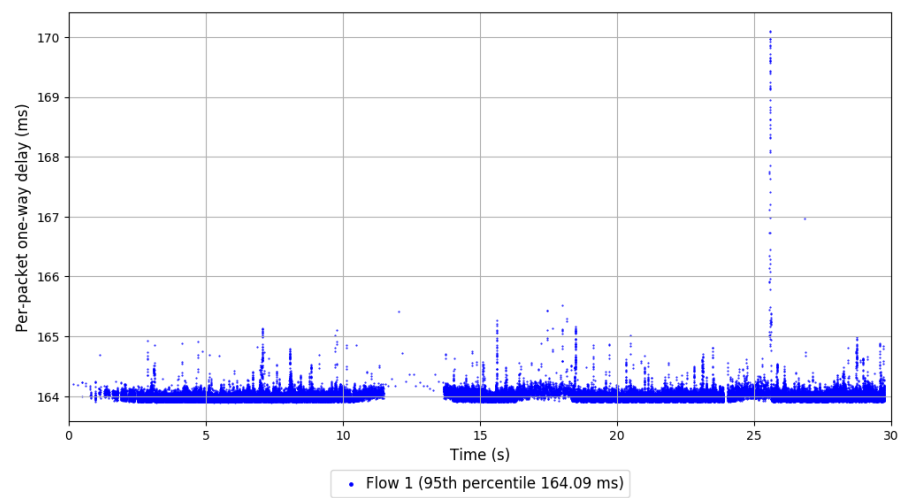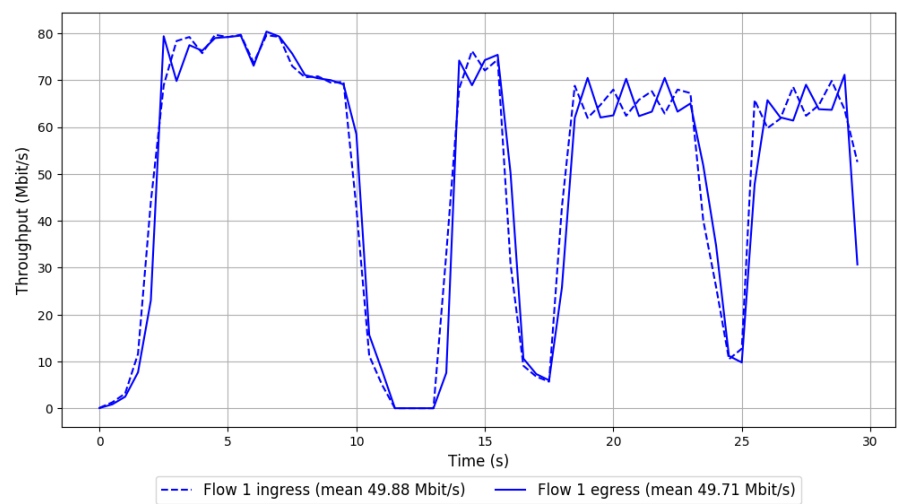
Run 5: Report of QUIC Cubic — Data Link

Flow 1 ingress (mean 68.97 Mbit/s)　　Flow 1 egress (mean 68.84 Mbit/s)

Flow 1 (95th percentile 163.46 ms)

```
Run 6: Statistics of QUIC Cubic

Start at: 2017-10-11 05:19:51
End at: 2017-10-11 05:20:21

# Below is generated by plot.py at 2017-10-11 08:30:20
# Datalink statistics
-- Total of 1 flow:
Average throughput: 68.41 Mbit/s
95th percentile per-packet one-way delay: 163.997 ms
Loss rate: 1.19%
-- Flow 1:
Average throughput: 68.41 Mbit/s
95th percentile per-packet one-way delay: 163.997 ms
Loss rate: 1.19%
```
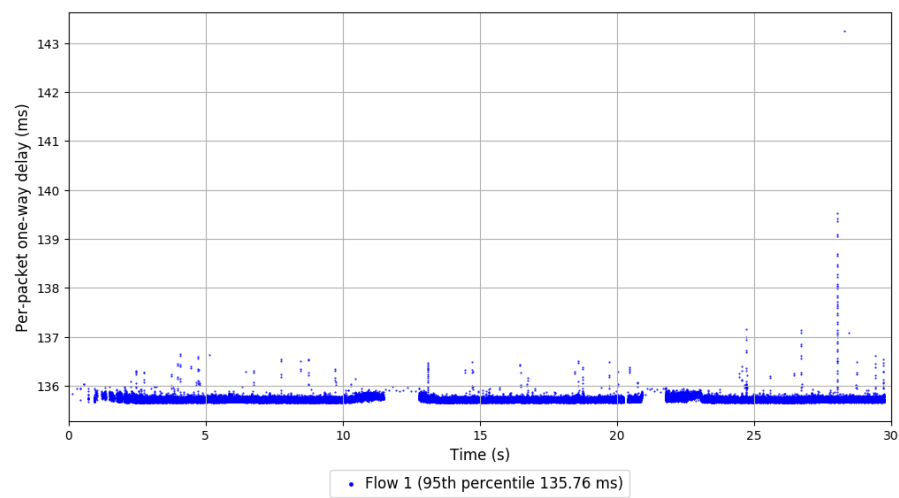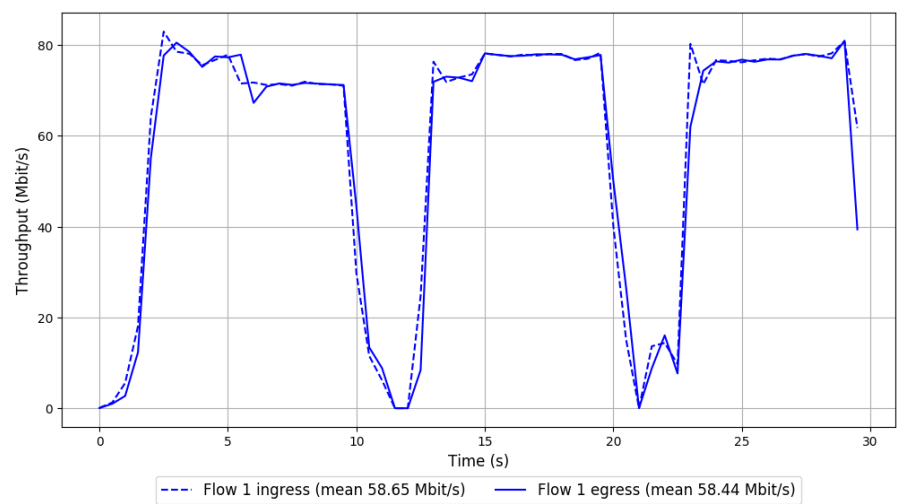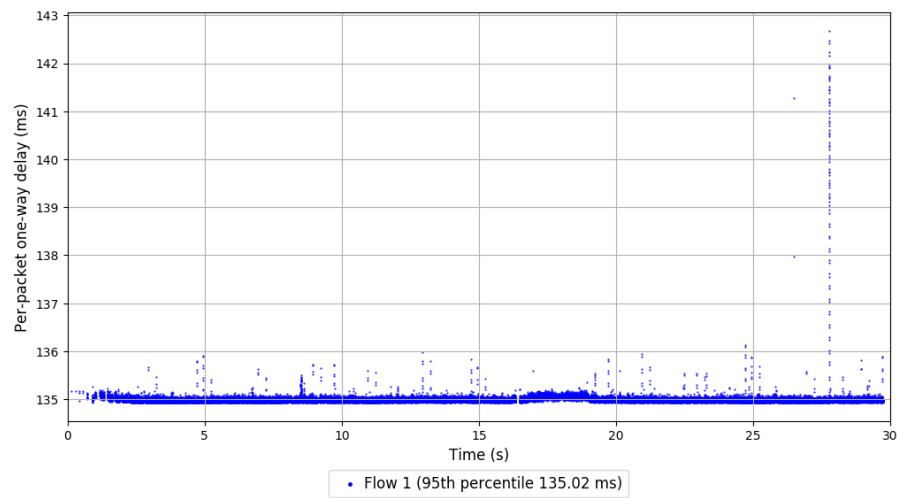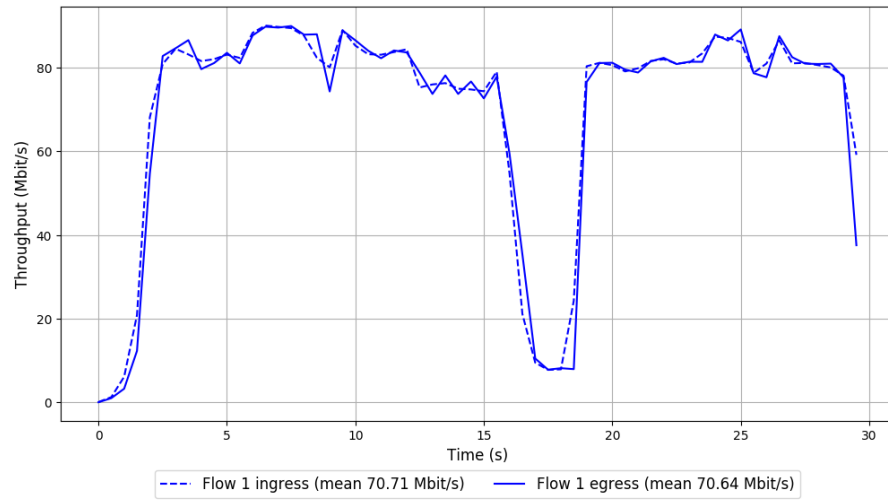
Run 6: Report of QUIC Cubic — Data Link

```
Run 7: Statistics of QUIC Cubic

Start at: 2017-10-11 05:31:52
End at: 2017-10-11 05:32:22

# Below is generated by plot.py at 2017-10-11 08:30:20
# Datalink statistics
-- Total of 1 flow:
Average throughput: 49.71 Mbit/s
95th percentile per-packet one-way delay: 164.089 ms
Loss rate: 1.35%
-- Flow 1:
Average throughput: 49.71 Mbit/s
95th percentile per-packet one-way delay: 164.089 ms
Loss rate: 1.35%
```

Run 7: Report of QUIC Cubic — Data Link

Flow 1 ingress (mean 49.88 Mbit/s) --- Flow 1 egress (mean 49.71 Mbit/s)

• Flow 1 (95th percentile 164.09 ms)

```
Run 8: Statistics of QUIC Cubic

Start at: 2017-10-11 05:42:56
End at: 2017-10-11 05:43:27

# Below is generated by plot.py at 2017-10-11 08:30:32
# Datalink statistics
-- Total of 1 flow:
Average throughput: 58.44 Mbit/s
95th percentile per-packet one-way delay: 135.760 ms
Loss rate: 1.26%
-- Flow 1:
Average throughput: 58.44 Mbit/s
95th percentile per-packet one-way delay: 135.760 ms
Loss rate: 1.26%
```
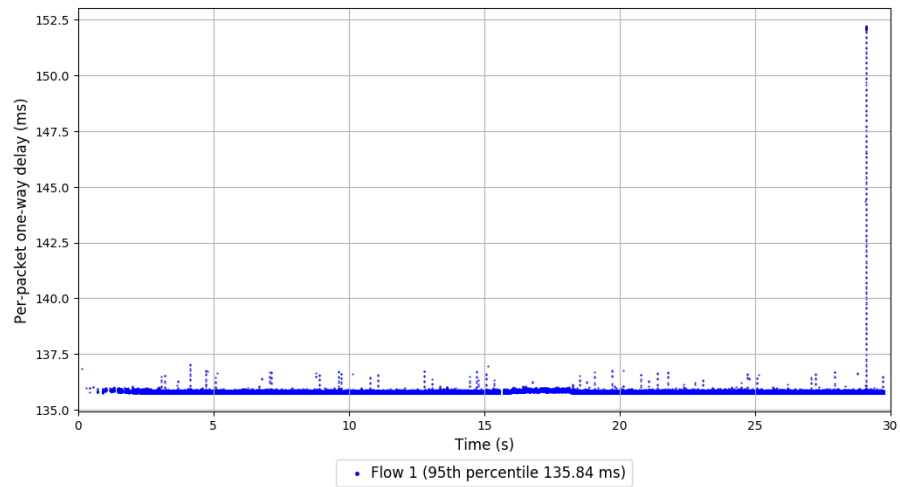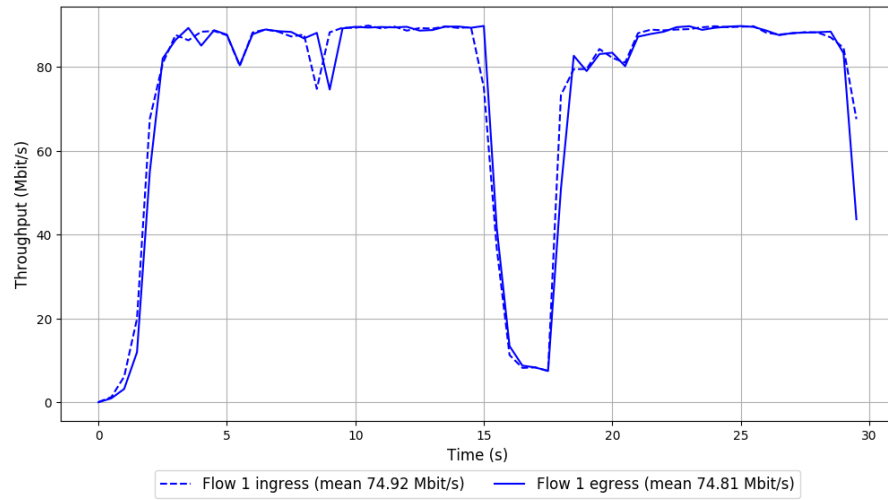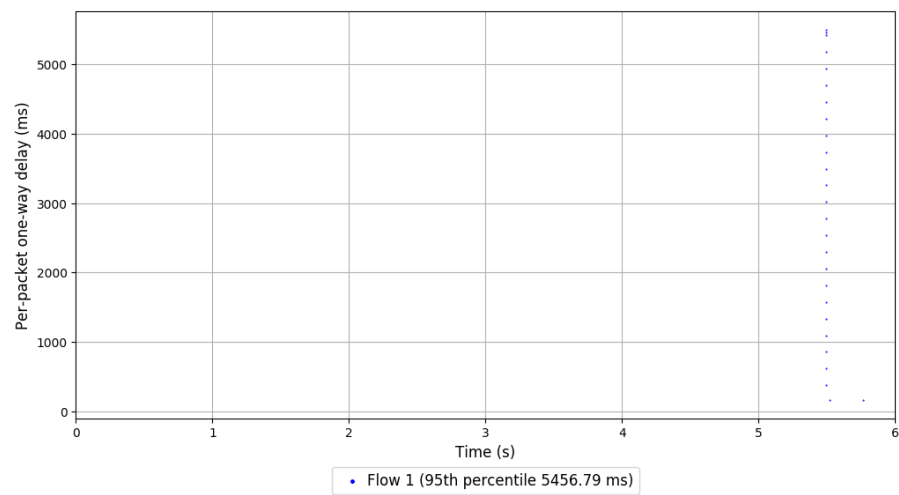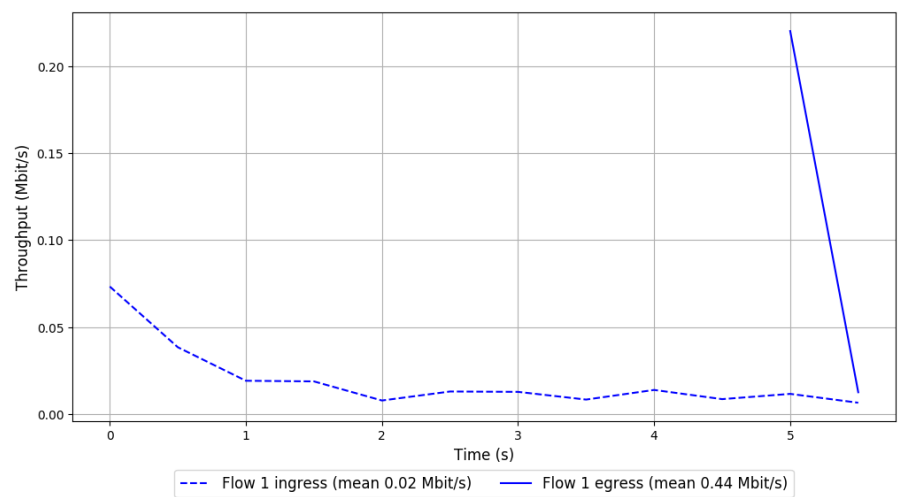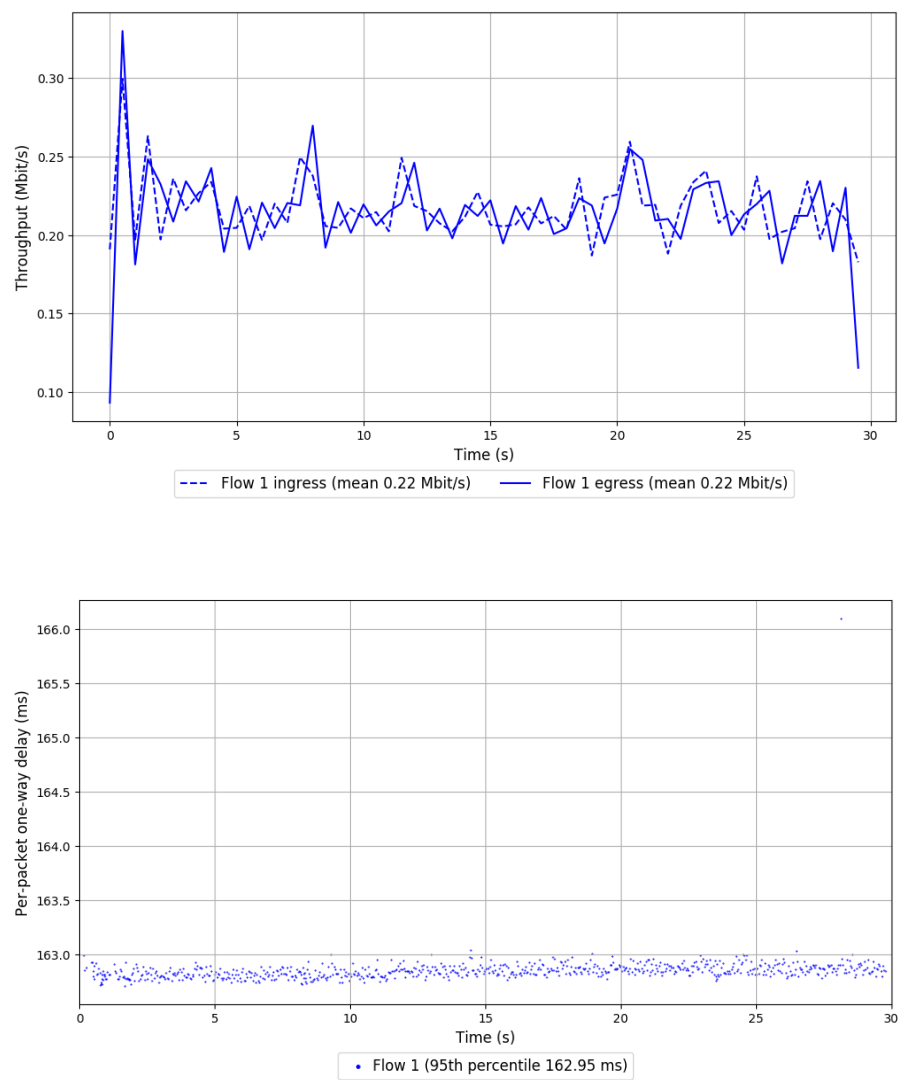
Run 8: Report of QUIC Cubic — Data Link

```
Run 9: Statistics of QUIC Cubic

Start at: 2017-10-11 05:54:40
End at: 2017-10-11 05:55:10

# Below is generated by plot.py at 2017-10-11 08:30:49
# Datalink statistics
-- Total of 1 flow:
Average throughput: 70.64 Mbit/s
95th percentile per-packet one-way delay: 135.017 ms
Loss rate: 1.01%
-- Flow 1:
Average throughput: 70.64 Mbit/s
95th percentile per-packet one-way delay: 135.017 ms
Loss rate: 1.01%
```

Run 9: Report of QUIC Cubic — Data Link

Flow 1 ingress (mean 70.71 Mbit/s) ----- Flow 1 egress (mean 70.64 Mbit/s) ———

• Flow 1 (95th percentile 135.02 ms)

```
Run 10: Statistics of QUIC Cubic

Start at: 2017-10-11 06:06:22
End at: 2017-10-11 06:06:52

# Below is generated by plot.py at 2017-10-11 08:30:58
# Datalink statistics
-- Total of 1 flow:
Average throughput: 74.81 Mbit/s
95th percentile per-packet one-way delay: 135.844 ms
Loss rate: 1.07%
-- Flow 1:
Average throughput: 74.81 Mbit/s
95th percentile per-packet one-way delay: 135.844 ms
Loss rate: 1.07%
```
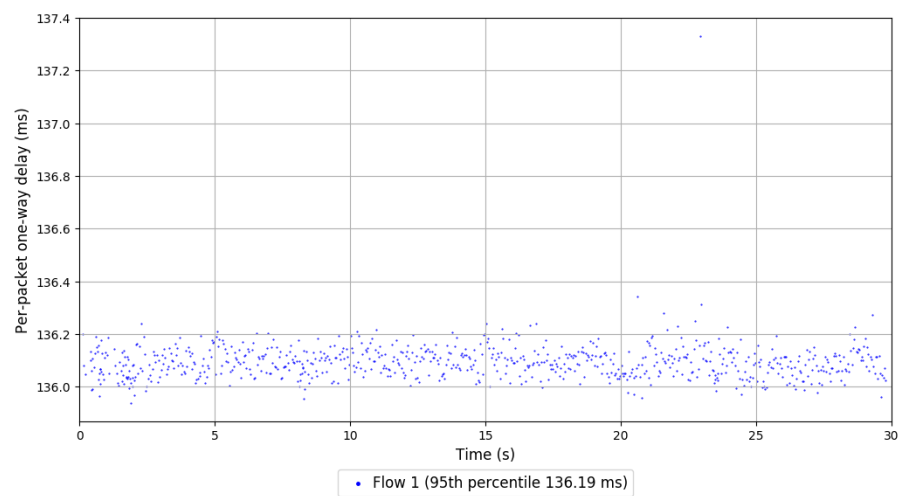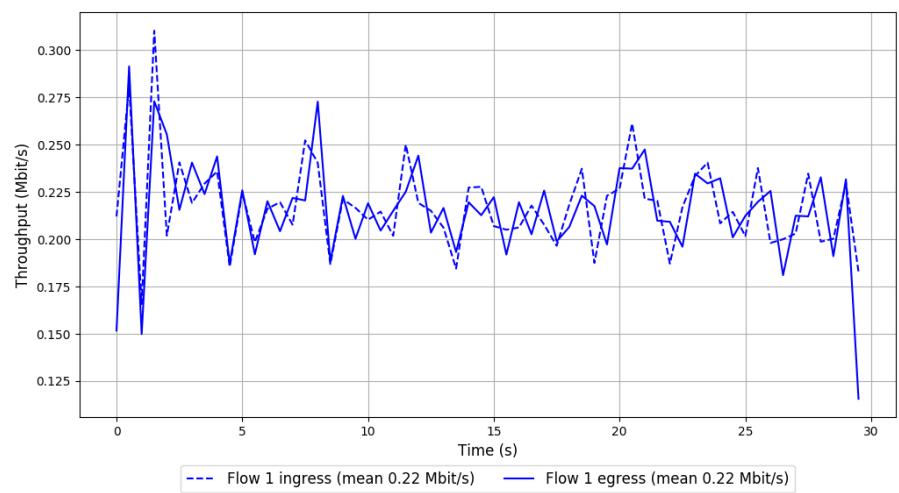
Run 10: Report of QUIC Cubic — Data Link

```
Run 1: Statistics of SCReAM

Start at: 2017-10-11 04:24:56
End at: 2017-10-11 04:25:26
```

Run 1: Report of SCReAM — Data Link

```
Run 2: Statistics of SCReAM

Start at: 2017-10-11 04:37:10
End at: 2017-10-11 04:37:40

# Below is generated by plot.py at 2017-10-11 08:30:58
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 162.949 ms
Loss rate: 1.03%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 162.949 ms
Loss rate: 1.03%
```
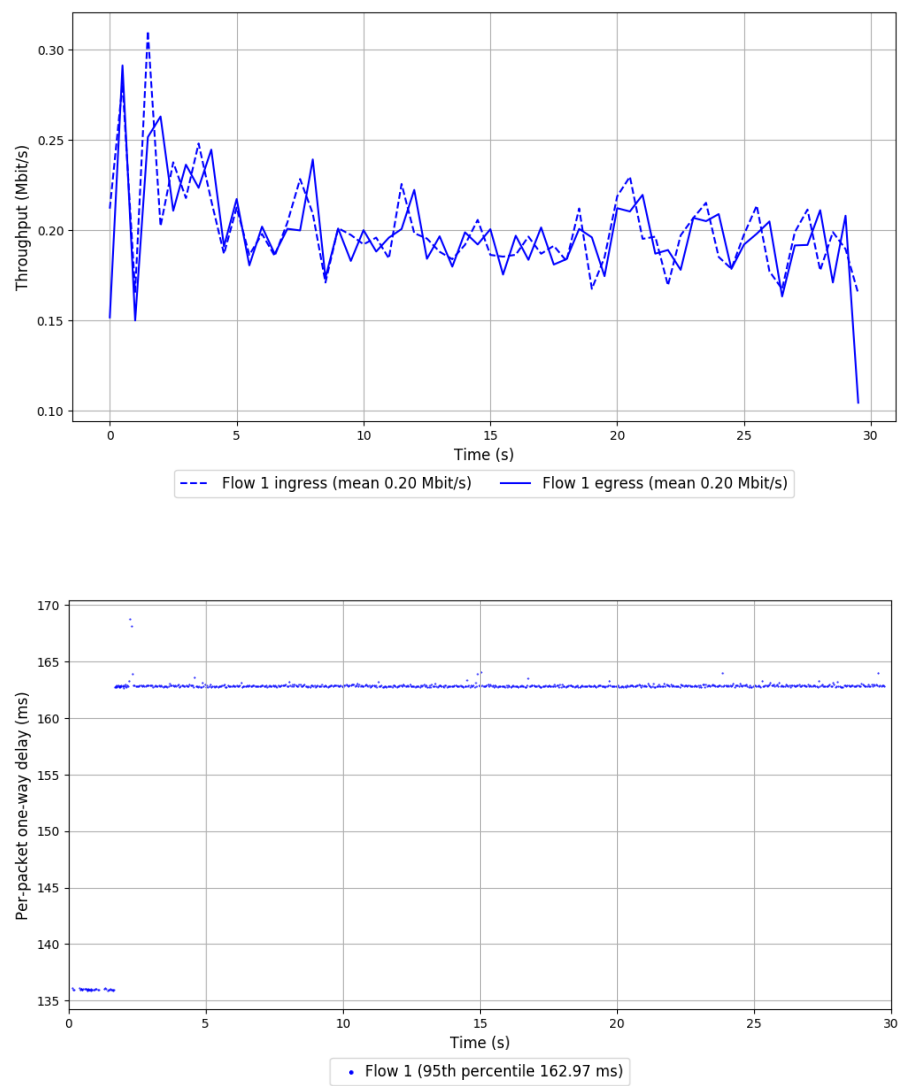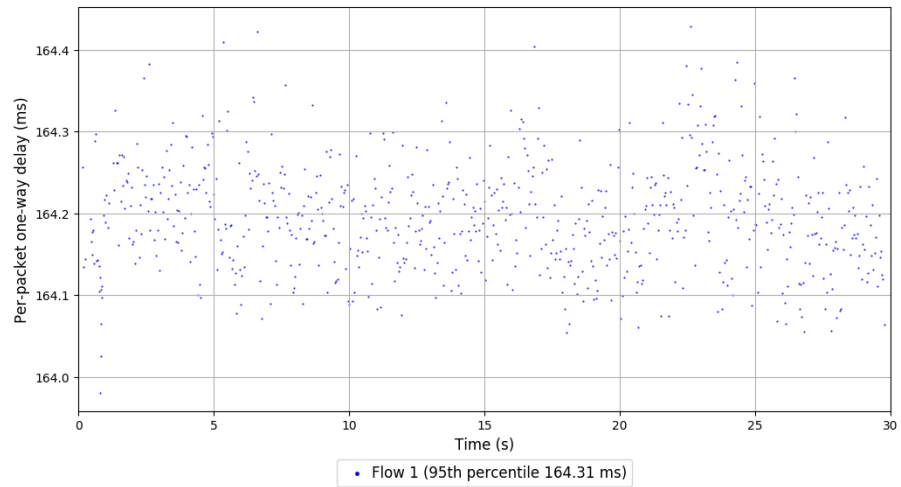
Run 2: Report of SCReAM — Data Link

```
Run 3: Statistics of SCReAM

Start at: 2017-10-11 04:49:29
End at: 2017-10-11 04:49:59

# Below is generated by plot.py at 2017-10-11 08:30:58
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 136.188 ms
Loss rate: 0.89%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 136.188 ms
Loss rate: 0.89%
```
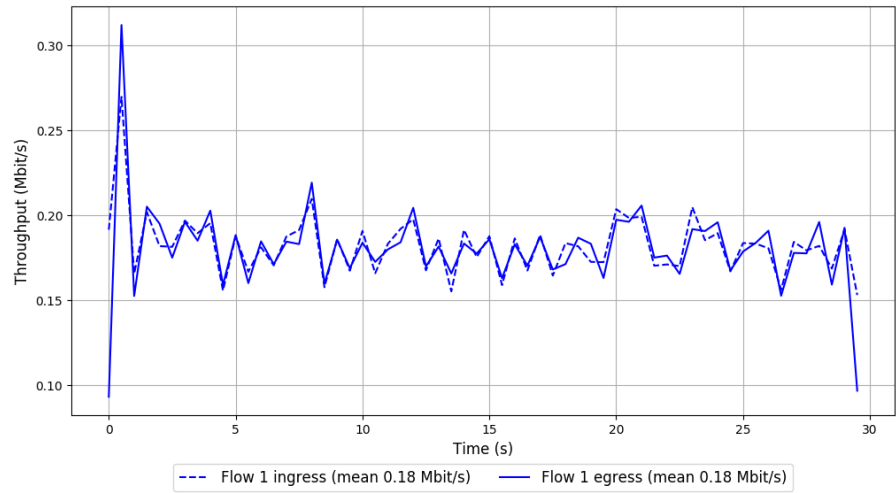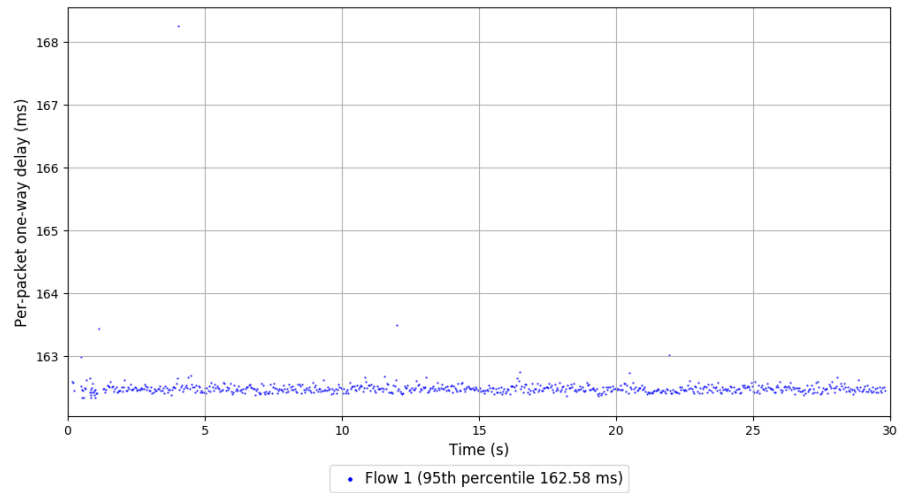
Run 3: Report of SCReAM — Data Link

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

Flow 1 (95th percentile 136.19 ms)

```
Run 4: Statistics of SCReAM

Start at: 2017-10-11 05:01:11
End at: 2017-10-11 05:01:41

# Below is generated by plot.py at 2017-10-11 08:30:58
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.20 Mbit/s
95th percentile per-packet one-way delay: 162.970 ms
Loss rate: 1.01%
-- Flow 1:
Average throughput: 0.20 Mbit/s
95th percentile per-packet one-way delay: 162.970 ms
Loss rate: 1.01%
```
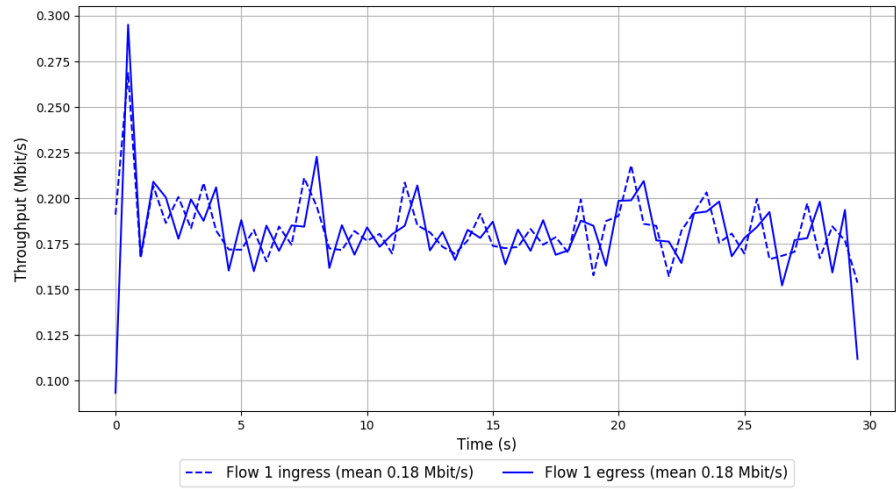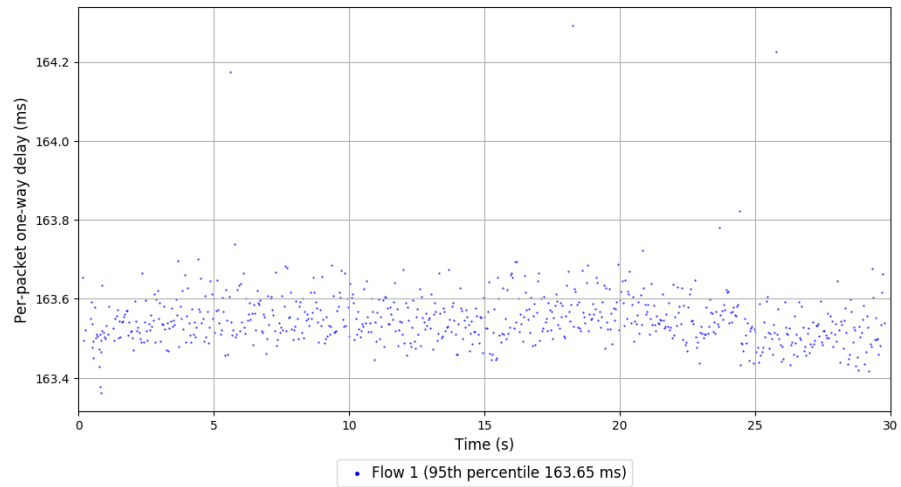
Run 4: Report of SCReAM — Data Link

```
Run 5: Statistics of SCReAM

Start at: 2017-10-11 05:12:28
End at: 2017-10-11 05:12:58

# Below is generated by plot.py at 2017-10-11 08:30:58
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.18 Mbit/s
95th percentile per-packet one-way delay: 164.311 ms
Loss rate: 1.03%
-- Flow 1:
Average throughput: 0.18 Mbit/s
95th percentile per-packet one-way delay: 164.311 ms
Loss rate: 1.03%
```
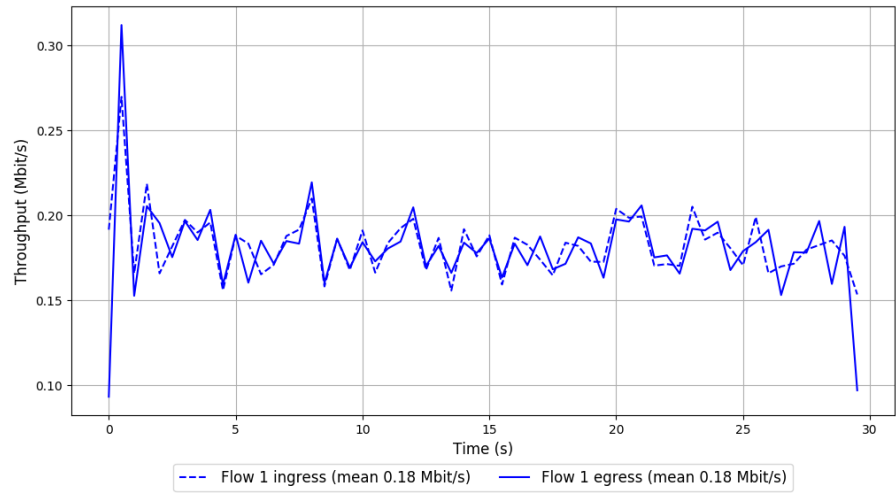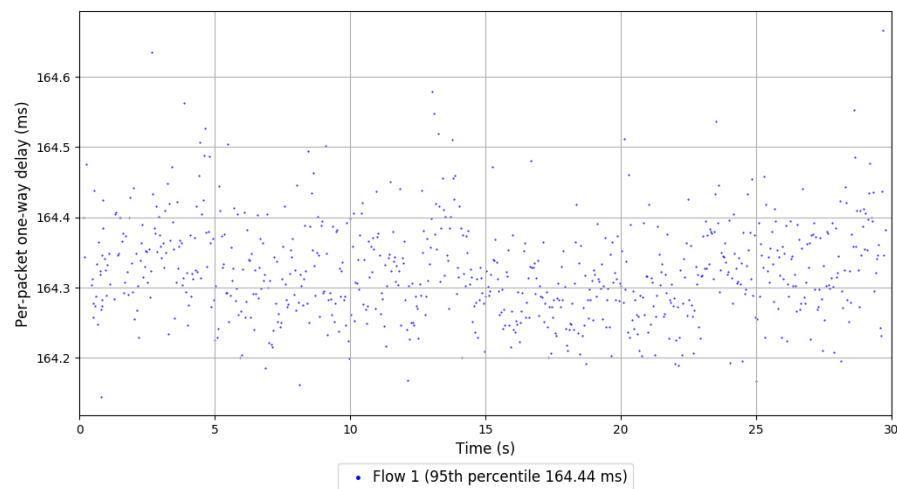
Run 5: Report of SCReAM — Data Link

Flow 1 ingress (mean 0.18 Mbit/s)   Flow 1 egress (mean 0.18 Mbit/s)

Flow 1 (95th percentile 164.31 ms)

```
Run 6: Statistics of SCReAM

Start at: 2017-10-11 05:24:31
End at: 2017-10-11 05:25:01


# Below is generated by plot.py at 2017-10-11 08:30:58
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.18 Mbit/s
95th percentile per-packet one-way delay: 162.582 ms
Loss rate: 0.89%
-- Flow 1:
Average throughput: 0.18 Mbit/s
95th percentile per-packet one-way delay: 162.582 ms
Loss rate: 0.89%
```
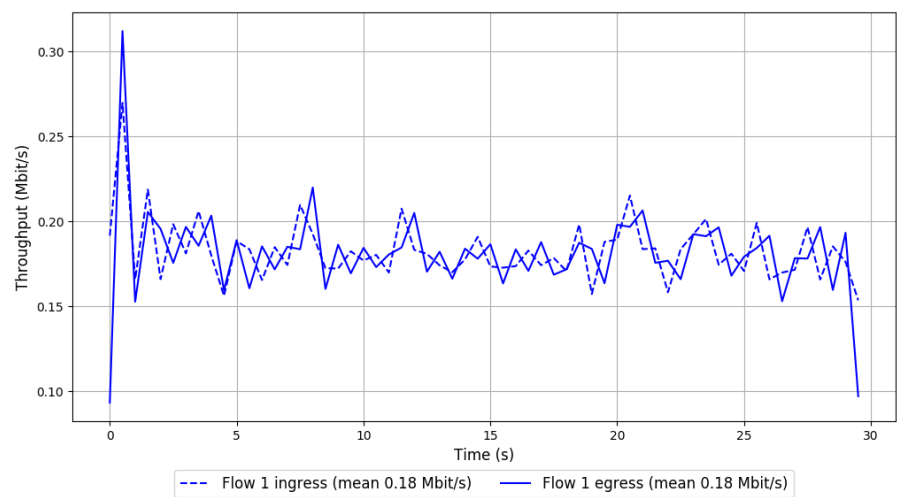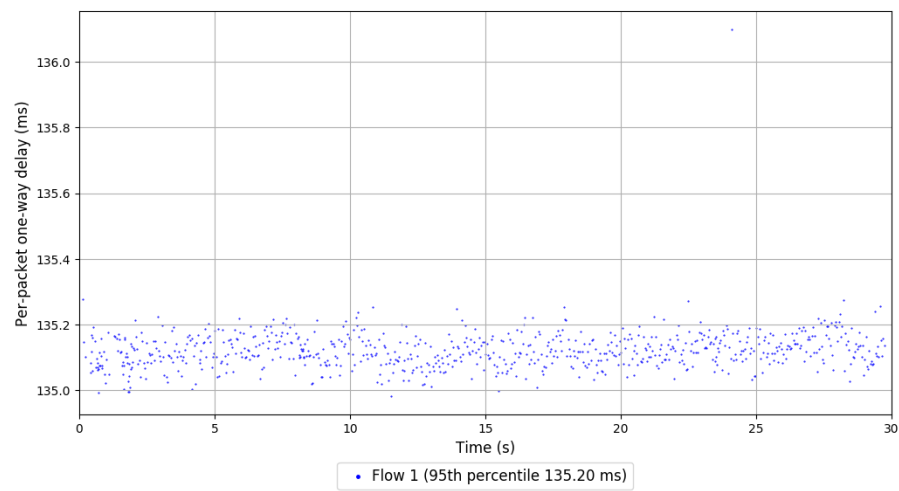
Run 6: Report of SCReAM — Data Link

```
Run 7: Statistics of SCReAM

Start at: 2017-10-11 05:35:41
End at: 2017-10-11 05:36:11

# Below is generated by plot.py at 2017-10-11 08:30:58
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.18 Mbit/s
95th percentile per-packet one-way delay: 163.654 ms
Loss rate: 1.03%
-- Flow 1:
Average throughput: 0.18 Mbit/s
95th percentile per-packet one-way delay: 163.654 ms
Loss rate: 1.03%
```
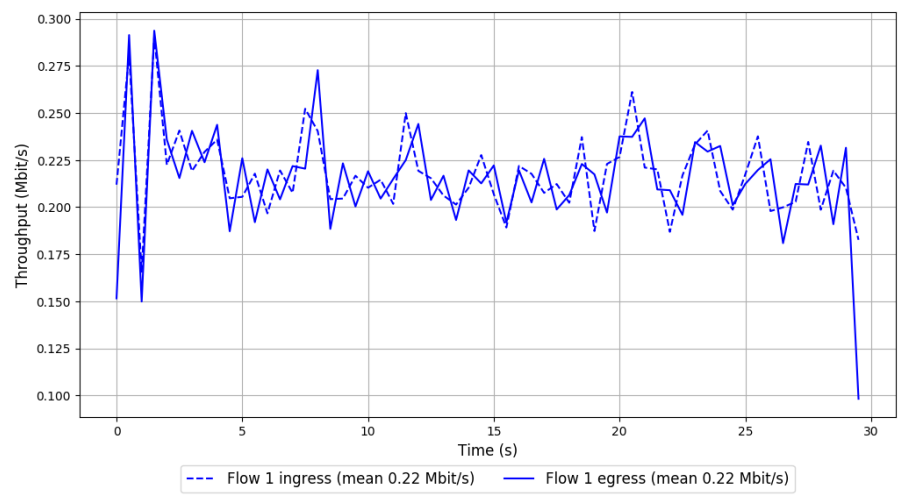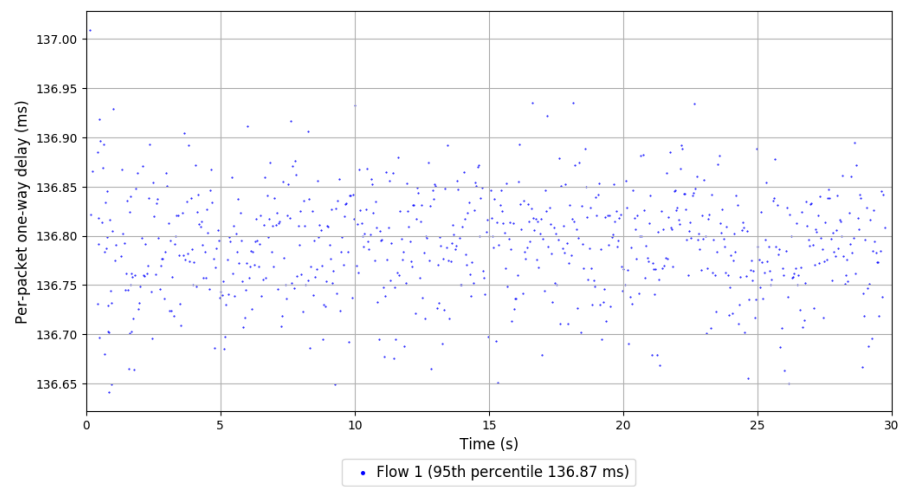
Run 7: Report of SCReAM — Data Link

Flow 1 ingress (mean 0.18 Mbit/s) Flow 1 egress (mean 0.18 Mbit/s)

Flow 1 (95th percentile 163.65 ms)

```
Run 8: Statistics of SCReAM

Start at: 2017-10-11 05:47:17
End at: 2017-10-11 05:47:47

# Below is generated by plot.py at 2017-10-11 08:30:58
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.18 Mbit/s
95th percentile per-packet one-way delay: 164.442 ms
Loss rate: 1.03%
-- Flow 1:
Average throughput: 0.18 Mbit/s
95th percentile per-packet one-way delay: 164.442 ms
Loss rate: 1.03%
```
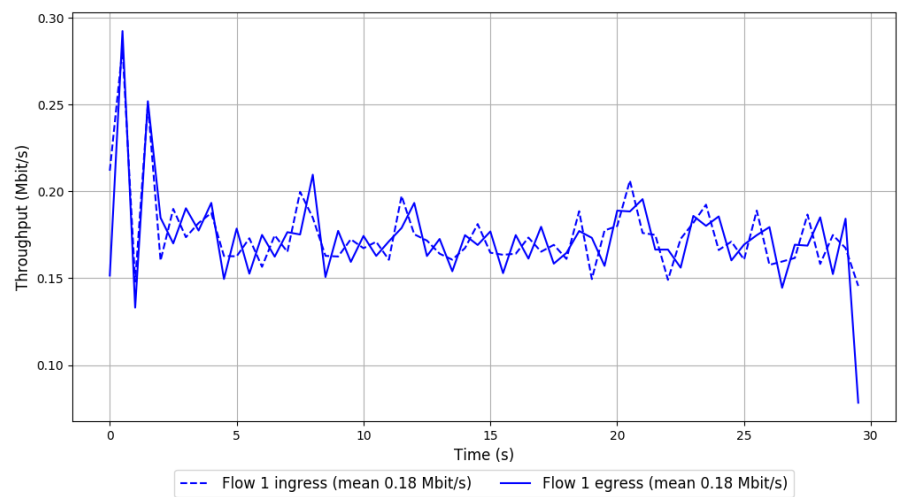
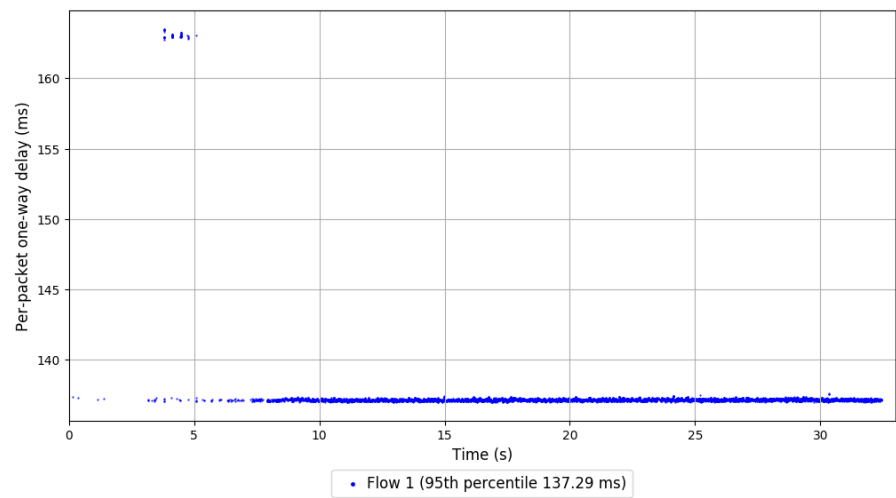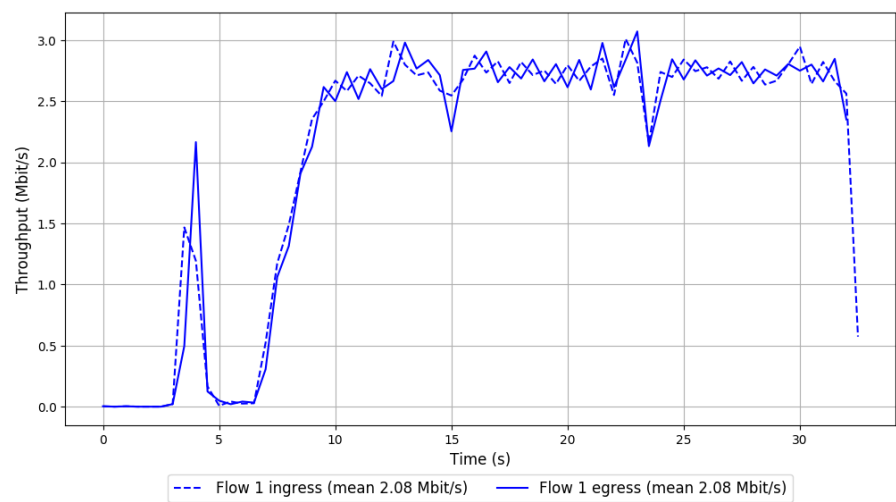# Run 8: Report of SCReAM — Data Link

```
Run 9: Statistics of SCReAM

Start at: 2017-10-11 05:58:53
End at: 2017-10-11 05:59:23

# Below is generated by plot.py at 2017-10-11 08:30:58
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 135.200 ms
Loss rate: 1.03%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 135.200 ms
Loss rate: 1.03%
```

Run 9: Report of SCReAM — Data Link

```
Run 10: Statistics of SCReAM

Start at: 2017-10-11 06:11:01
End at: 2017-10-11 06:11:31

# Below is generated by plot.py at 2017-10-11 08:30:58
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.18 Mbit/s
95th percentile per-packet one-way delay: 136.872 ms
Loss rate: 1.02%
-- Flow 1:
Average throughput: 0.18 Mbit/s
95th percentile per-packet one-way delay: 136.872 ms
Loss rate: 1.02%
```
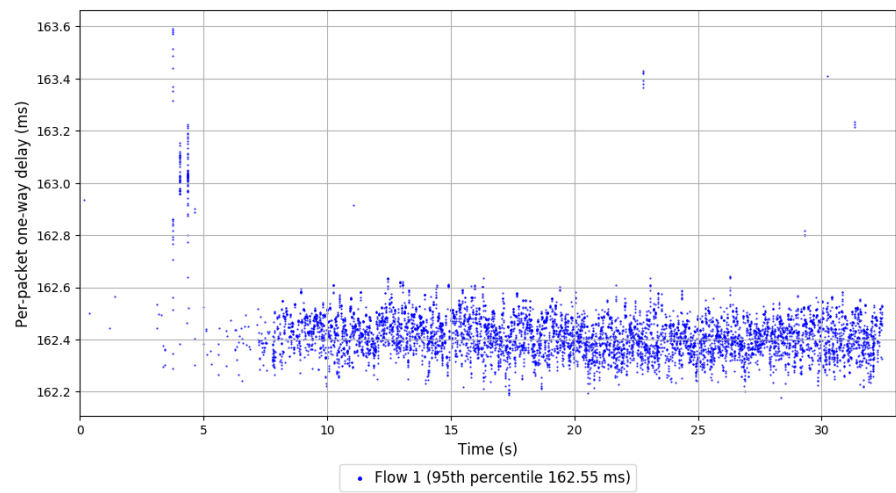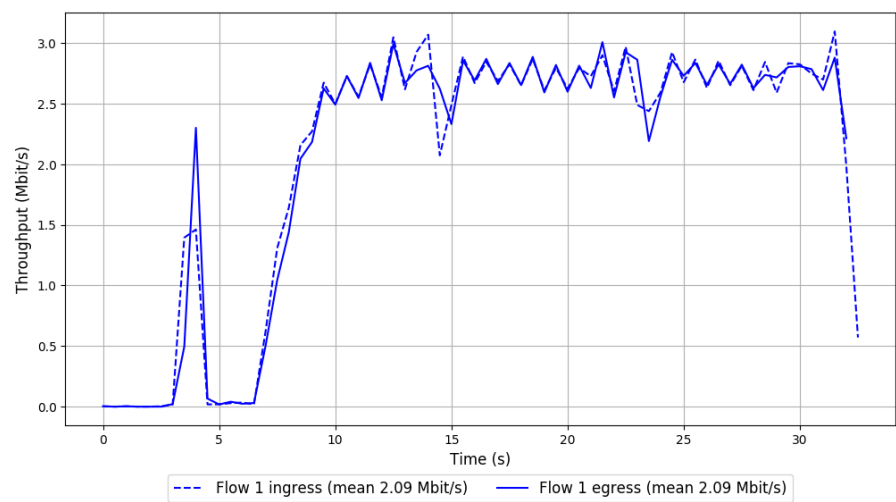
Run 10: Report of SCReAM — Data Link

```
Run 1: Statistics of WebRTC media

Start at: 2017-10-11 04:28:25
End at: 2017-10-11 04:28:55

# Below is generated by plot.py at 2017-10-11 08:30:58
# Datalink statistics
-- Total of 1 flow:
Average throughput: 2.08 Mbit/s
95th percentile per-packet one-way delay: 137.290 ms
Loss rate: 1.07%
-- Flow 1:
Average throughput: 2.08 Mbit/s
95th percentile per-packet one-way delay: 137.290 ms
Loss rate: 1.07%
```
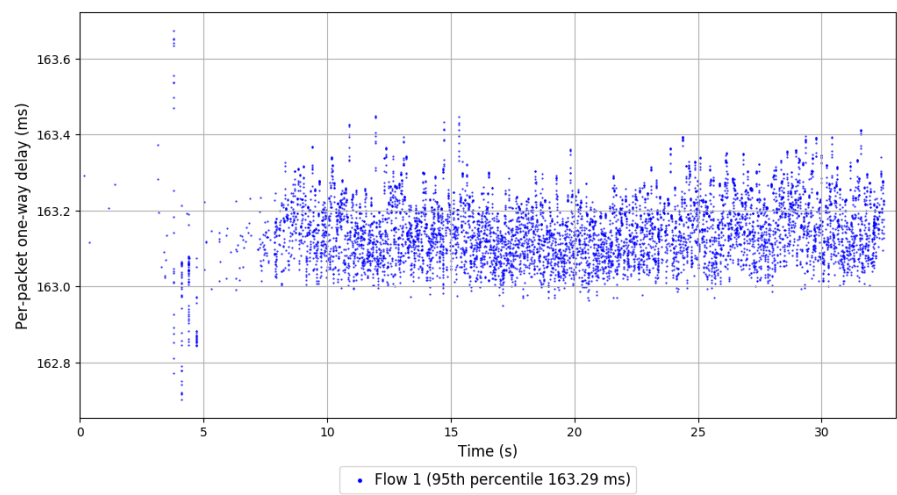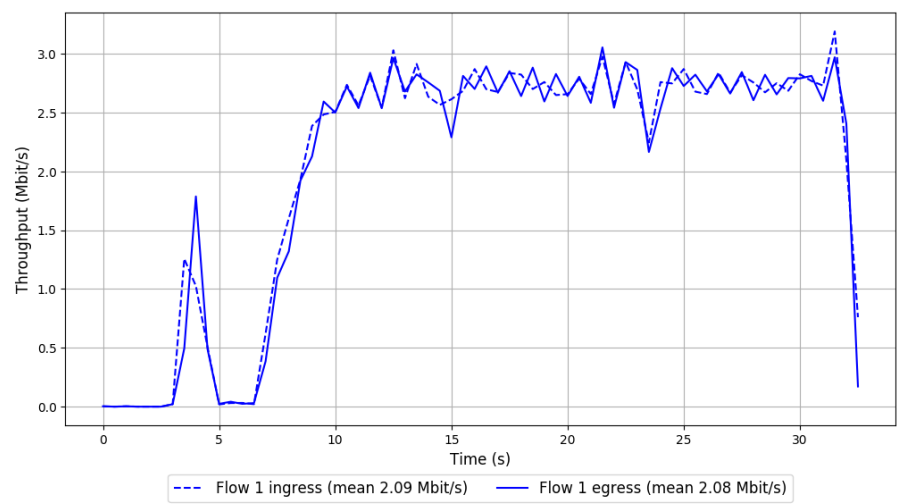
Run 1: Report of WebRTC media — Data Link

Flow 1 ingress (mean 2.08 Mbit/s) — Flow 1 egress (mean 2.08 Mbit/s)

Flow 1 (95th percentile 137.29 ms)

```
Run 2: Statistics of WebRTC media

Start at: 2017-10-11 04:40:35
End at: 2017-10-11 04:41:05

# Below is generated by plot.py at 2017-10-11 08:30:58
# Datalink statistics
-- Total of 1 flow:
Average throughput: 2.09 Mbit/s
95th percentile per-packet one-way delay: 162.547 ms
Loss rate: 1.09%
-- Flow 1:
Average throughput: 2.09 Mbit/s
95th percentile per-packet one-way delay: 162.547 ms
Loss rate: 1.09%
```
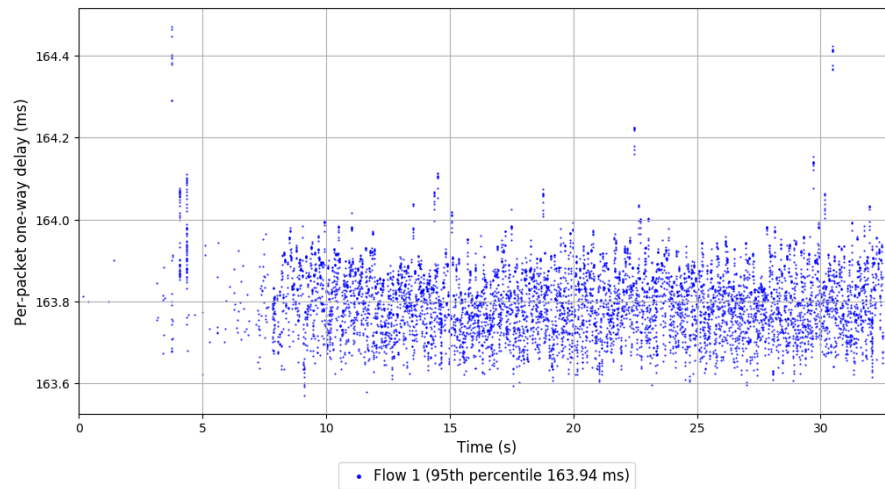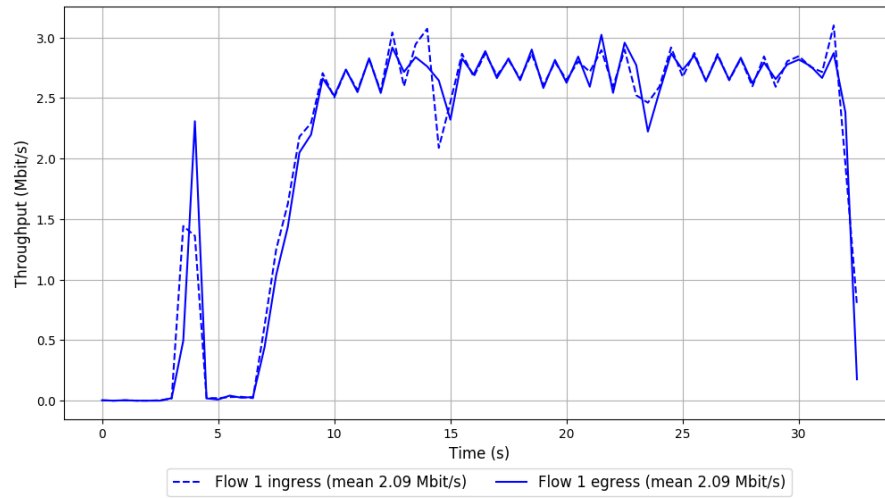
Run 2: Report of WebRTC media — Data Link

```
Run 3: Statistics of WebRTC media

Start at: 2017-10-11 04:52:53
End at: 2017-10-11 04:53:23


# Below is generated by plot.py at 2017-10-11 08:30:58
# Datalink statistics
-- Total of 1 flow:
Average throughput: 2.08 Mbit/s
95th percentile per-packet one-way delay: 163.295 ms
Loss rate: 1.08%
-- Flow 1:
Average throughput: 2.08 Mbit/s
95th percentile per-packet one-way delay: 163.295 ms
Loss rate: 1.08%
```
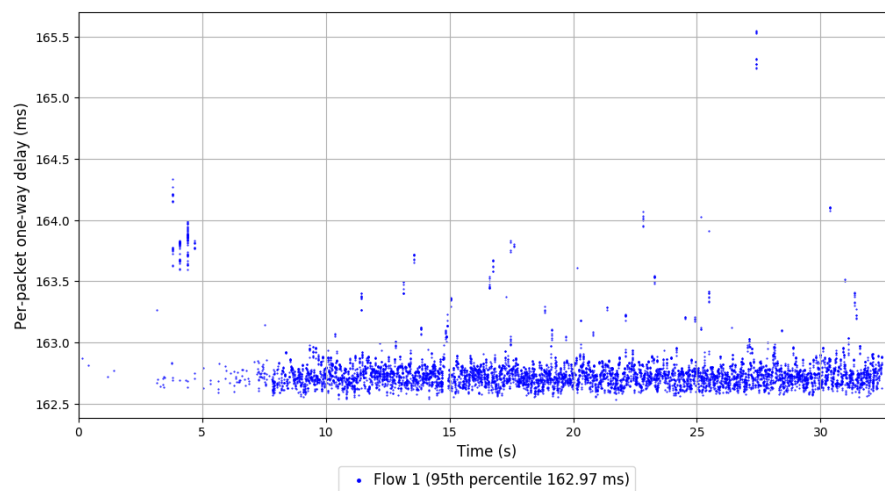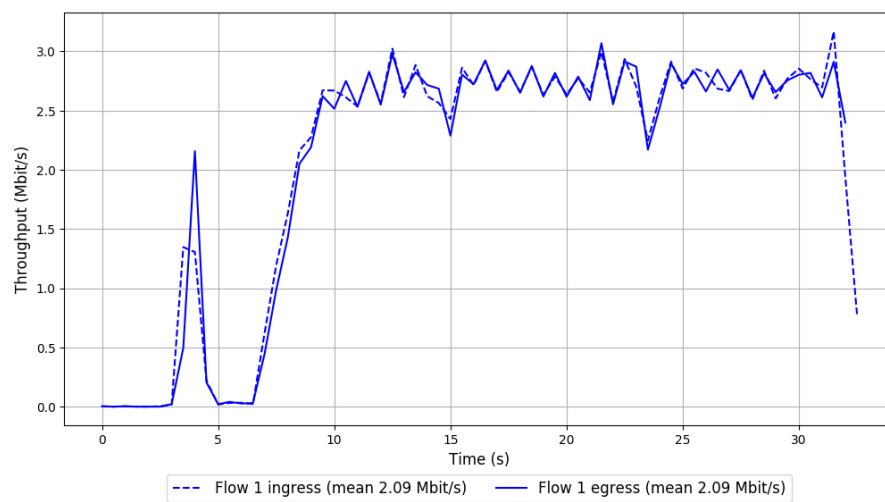
Run 3: Report of WebRTC media — Data Link

```
Run 4: Statistics of WebRTC media

Start at: 2017-10-11 05:04:25
End at: 2017-10-11 05:04:55

# Below is generated by plot.py at 2017-10-11 08:30:58
# Datalink statistics
-- Total of 1 flow:
Average throughput: 2.09 Mbit/s
95th percentile per-packet one-way delay: 163.938 ms
Loss rate: 0.99%
-- Flow 1:
Average throughput: 2.09 Mbit/s
95th percentile per-packet one-way delay: 163.938 ms
Loss rate: 0.99%
```
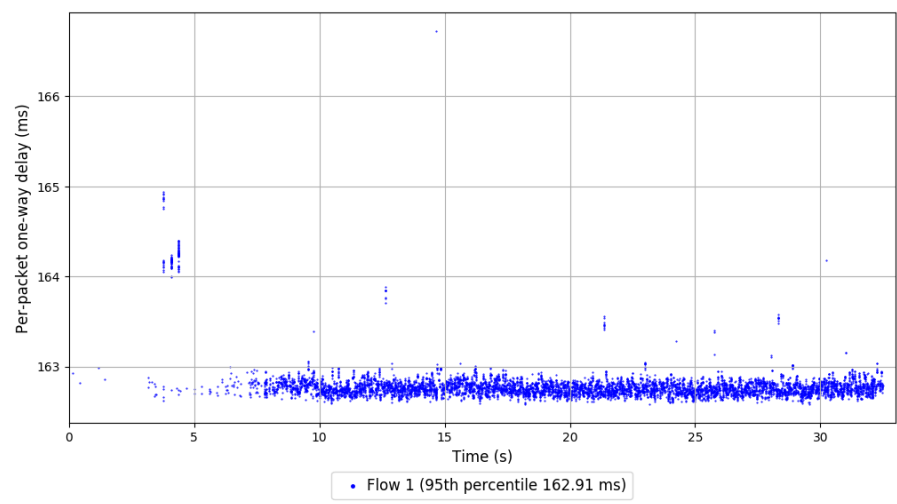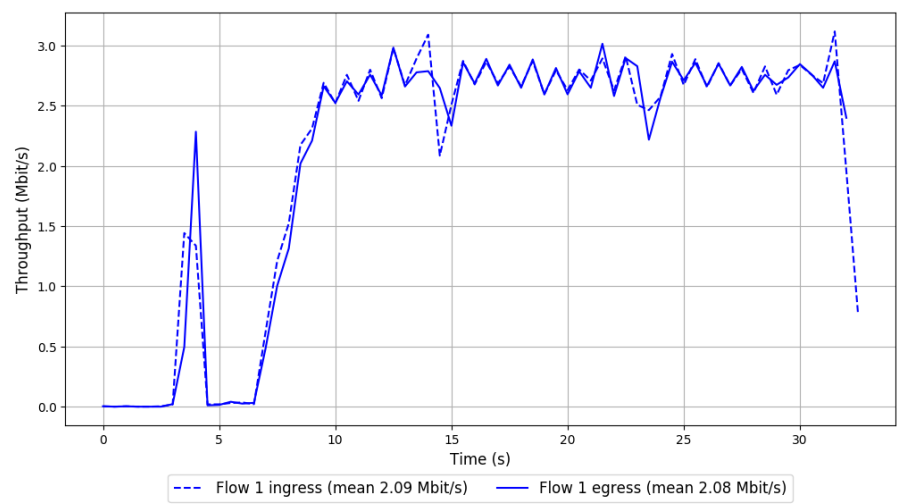
Run 4: Report of WebRTC media — Data Link

```
Run 5: Statistics of WebRTC media

Start at: 2017-10-11 05:15:51
End at: 2017-10-11 05:16:21


# Below is generated by plot.py at 2017-10-11 08:30:58
# Datalink statistics
-- Total of 1 flow:
Average throughput: 2.09 Mbit/s
95th percentile per-packet one-way delay: 162.966 ms
Loss rate: 1.10%
-- Flow 1:
Average throughput: 2.09 Mbit/s
95th percentile per-packet one-way delay: 162.966 ms
Loss rate: 1.10%
```
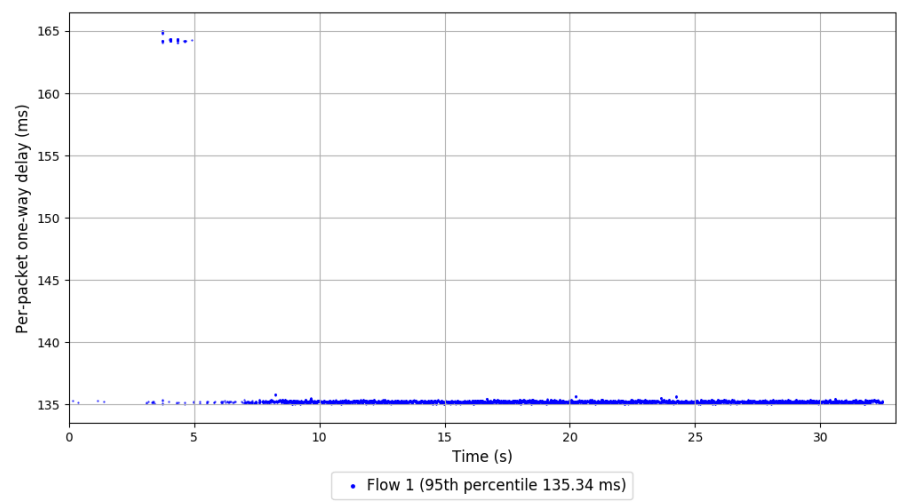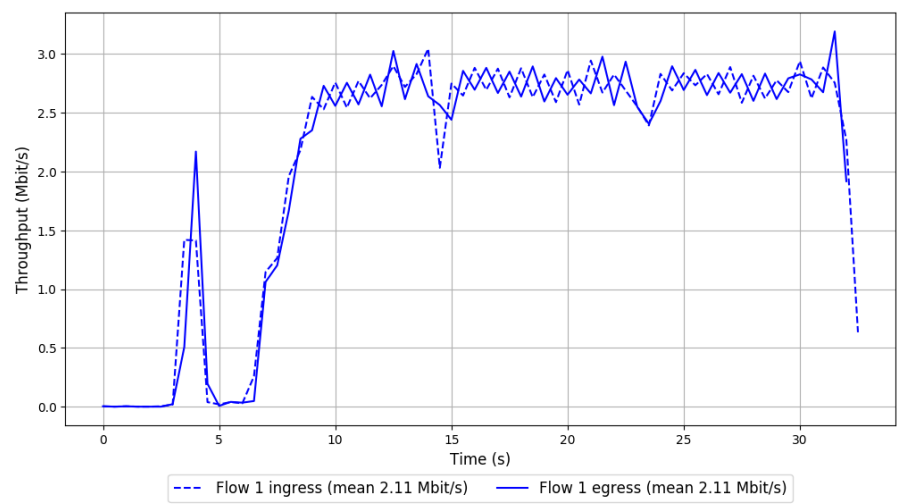
Run 5: Report of WebRTC media — Data Link

```
Run 6: Statistics of WebRTC media

Start at: 2017-10-11 05:27:51
End at: 2017-10-11 05:28:21

# Below is generated by plot.py at 2017-10-11 08:30:58
# Datalink statistics
-- Total of 1 flow:
Average throughput: 2.08 Mbit/s
95th percentile per-packet one-way delay: 162.910 ms
Loss rate: 1.11%
-- Flow 1:
Average throughput: 2.08 Mbit/s
95th percentile per-packet one-way delay: 162.910 ms
Loss rate: 1.11%
```
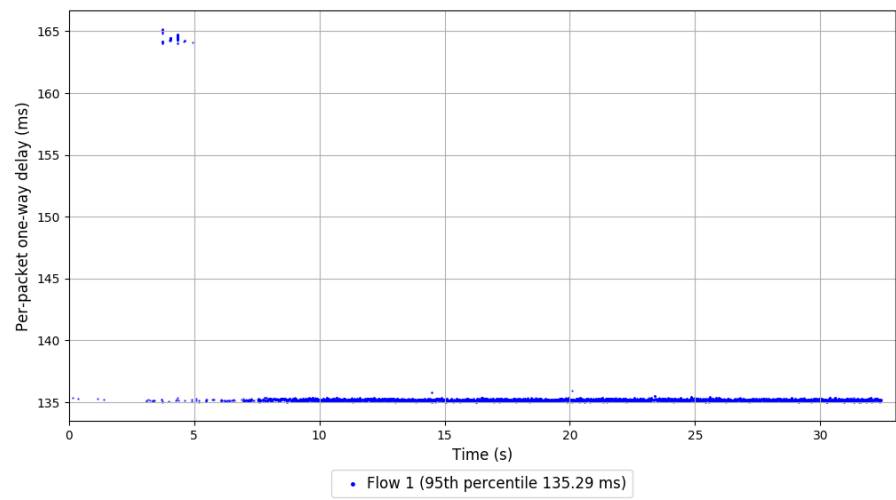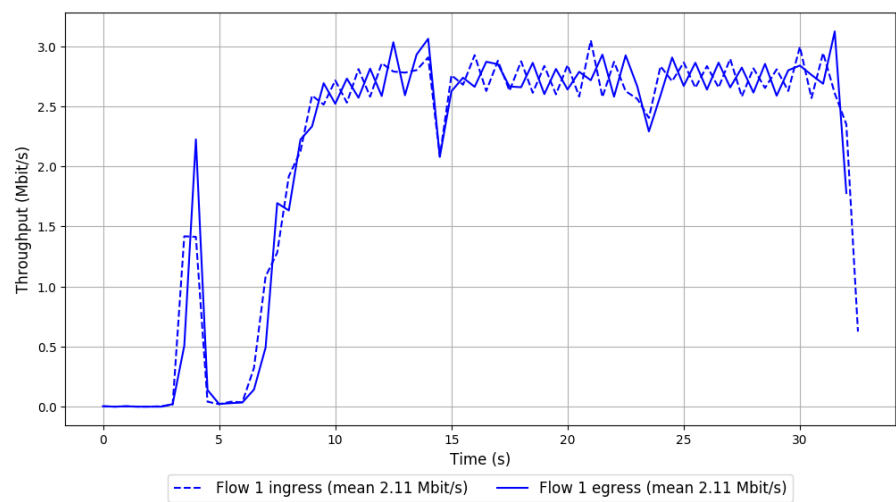
Run 6: Report of WebRTC media — Data Link

Flow 1 ingress (mean 2.09 Mbit/s)   Flow 1 egress (mean 2.08 Mbit/s)

Flow 1 (95th percentile 162.91 ms)

```
Run 7: Statistics of WebRTC media

Start at: 2017-10-11 05:38:59
End at: 2017-10-11 05:39:30

# Below is generated by plot.py at 2017-10-11 08:30:58
# Datalink statistics
-- Total of 1 flow:
Average throughput: 2.11 Mbit/s
95th percentile per-packet one-way delay: 135.339 ms
Loss rate: 1.02%
-- Flow 1:
Average throughput: 2.11 Mbit/s
95th percentile per-packet one-way delay: 135.339 ms
Loss rate: 1.02%
```
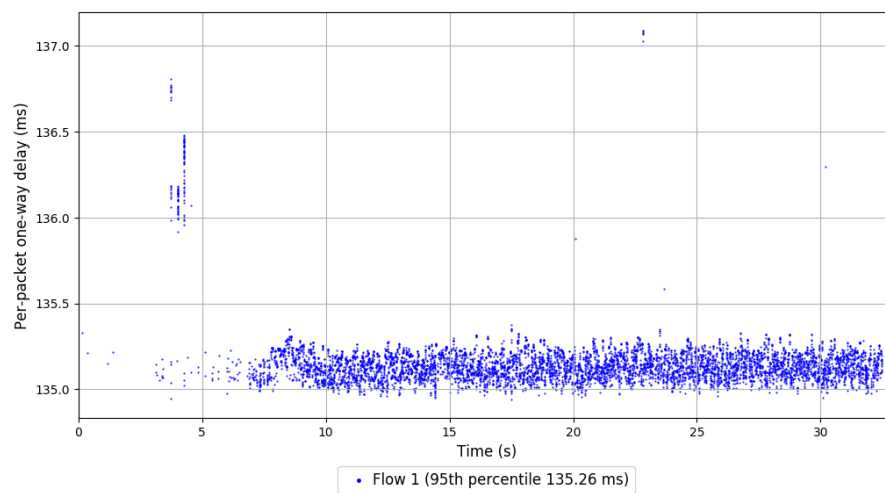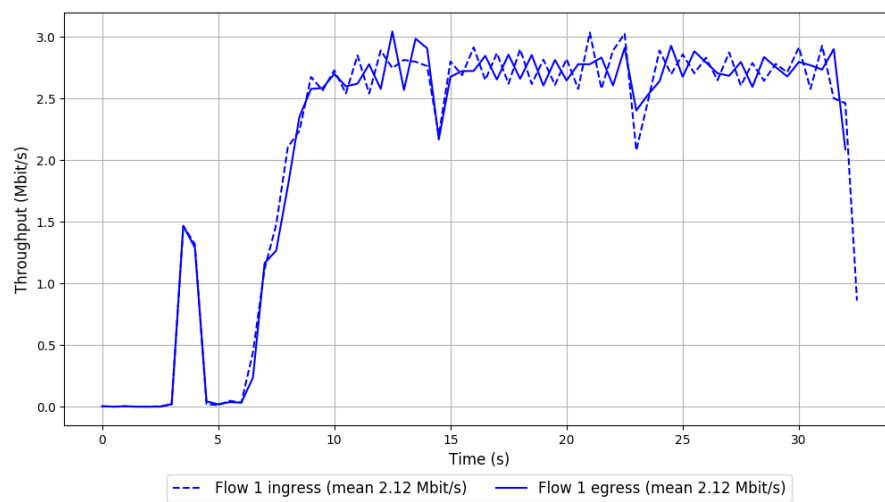
Run 7: Report of WebRTC media — Data Link

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

Flow 1 (95th percentile 135.34 ms)

```
Run 8: Statistics of WebRTC media

Start at: 2017-10-11 05:50:41
End at: 2017-10-11 05:51:12

# Below is generated by plot.py at 2017-10-11 08:30:58
# Datalink statistics
-- Total of 1 flow:
Average throughput: 2.11 Mbit/s
95th percentile per-packet one-way delay: 135.287 ms
Loss rate: 1.16%
-- Flow 1:
Average throughput: 2.11 Mbit/s
95th percentile per-packet one-way delay: 135.287 ms
Loss rate: 1.16%
```
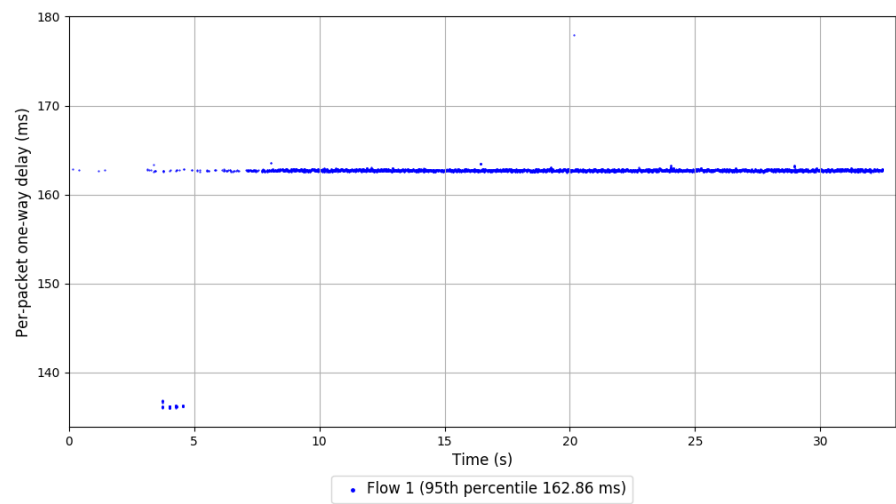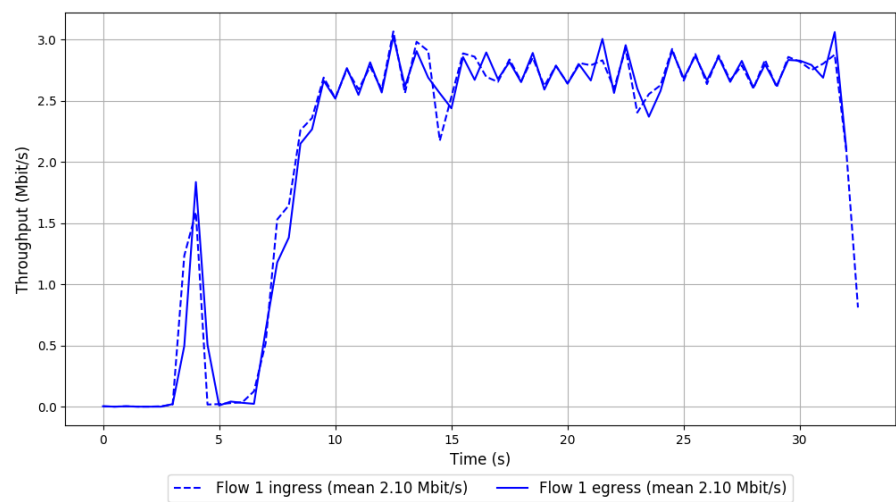
Run 8: Report of WebRTC media — Data Link

```
Run 9: Statistics of WebRTC media

Start at: 2017-10-11 06:02:24
End at: 2017-10-11 06:02:54

# Below is generated by plot.py at 2017-10-11 08:30:58
# Datalink statistics
-- Total of 1 flow:
Average throughput: 2.12 Mbit/s
95th percentile per-packet one-way delay: 135.264 ms
Loss rate: 1.22%
-- Flow 1:
Average throughput: 2.12 Mbit/s
95th percentile per-packet one-way delay: 135.264 ms
Loss rate: 1.22%
```
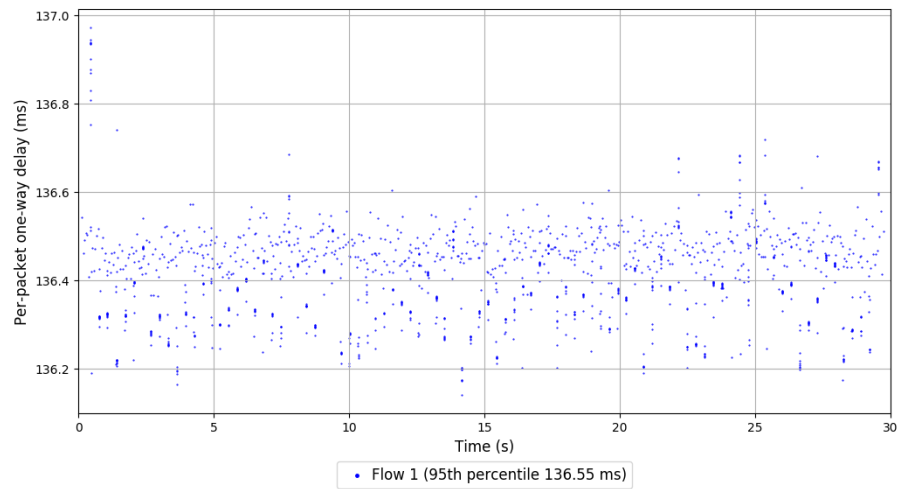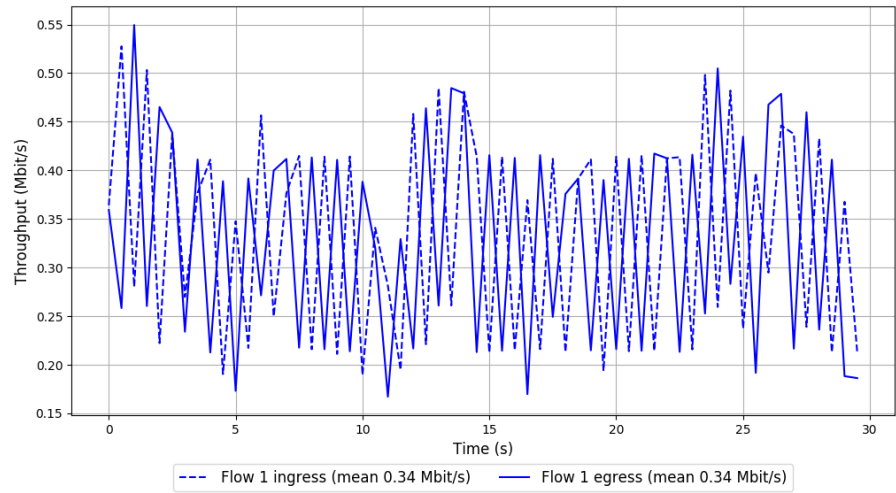
Run 9: Report of WebRTC media — Data Link

```
Run 10: Statistics of WebRTC media

Start at: 2017-10-11 06:14:28
End at: 2017-10-11 06:14:58

# Below is generated by plot.py at 2017-10-11 08:30:58
# Datalink statistics
-- Total of 1 flow:
Average throughput: 2.10 Mbit/s
95th percentile per-packet one-way delay: 162.861 ms
Loss rate: 1.15%
-- Flow 1:
Average throughput: 2.10 Mbit/s
95th percentile per-packet one-way delay: 162.861 ms
Loss rate: 1.15%
```
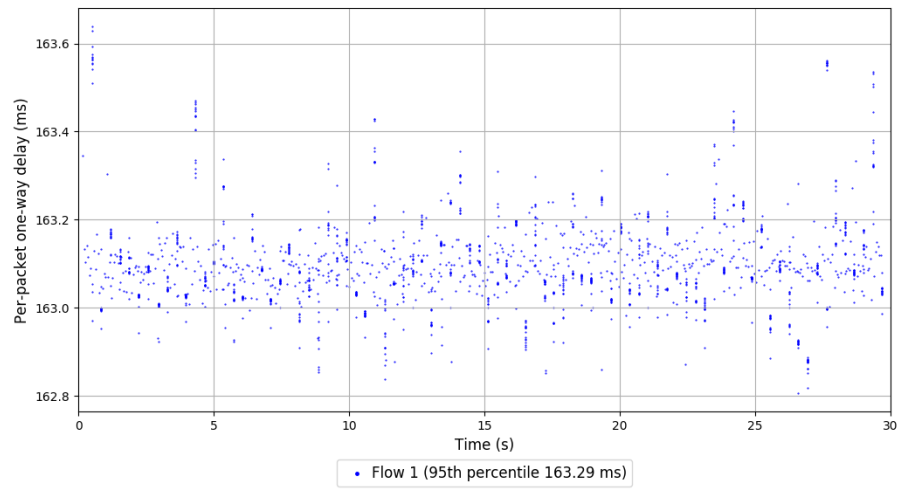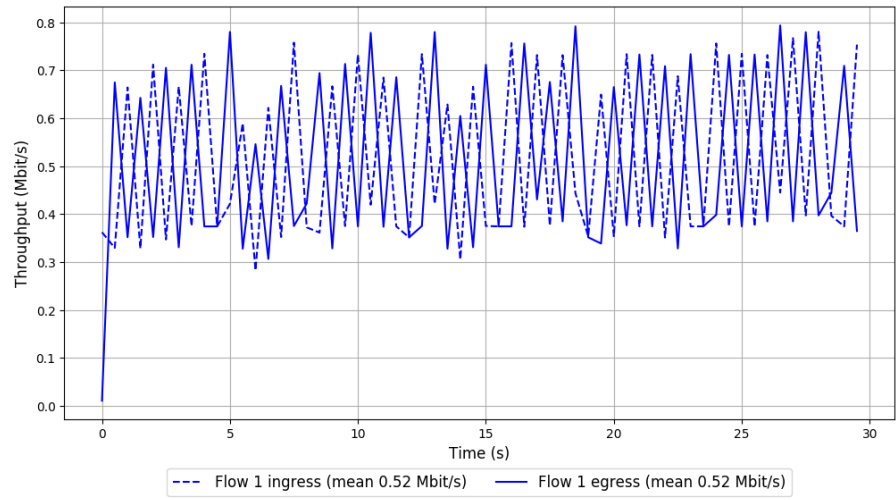
Run 10: Report of WebRTC media — Data Link

```
Run 1: Statistics of Sprout

Start at: 2017-10-11 04:19:26
End at: 2017-10-11 04:19:56

# Below is generated by plot.py at 2017-10-11 08:30:58
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.34 Mbit/s
95th percentile per-packet one-way delay: 136.552 ms
Loss rate: 1.04%
-- Flow 1:
Average throughput: 0.34 Mbit/s
95th percentile per-packet one-way delay: 136.552 ms
Loss rate: 1.04%
```
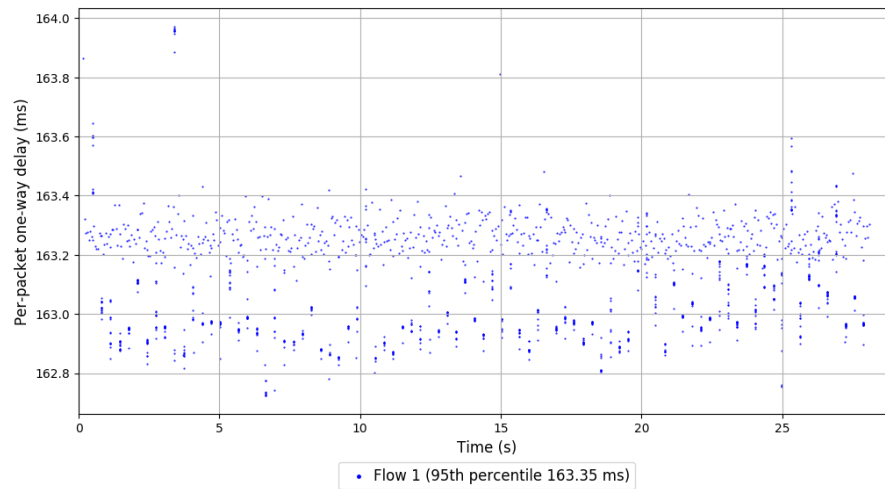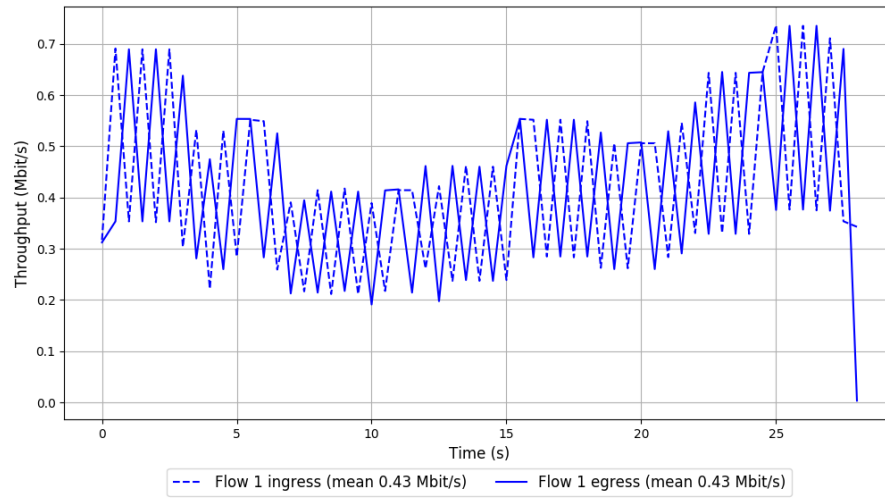
Run 1: Report of Sprout — Data Link

```
Run 2: Statistics of Sprout

Start at: 2017-10-11 04:31:48
End at: 2017-10-11 04:32:18


# Below is generated by plot.py at 2017-10-11 08:30:58
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.52 Mbit/s
95th percentile per-packet one-way delay: 163.289 ms
Loss rate: 1.27%
-- Flow 1:
Average throughput: 0.52 Mbit/s
95th percentile per-packet one-way delay: 163.289 ms
Loss rate: 1.27%
```
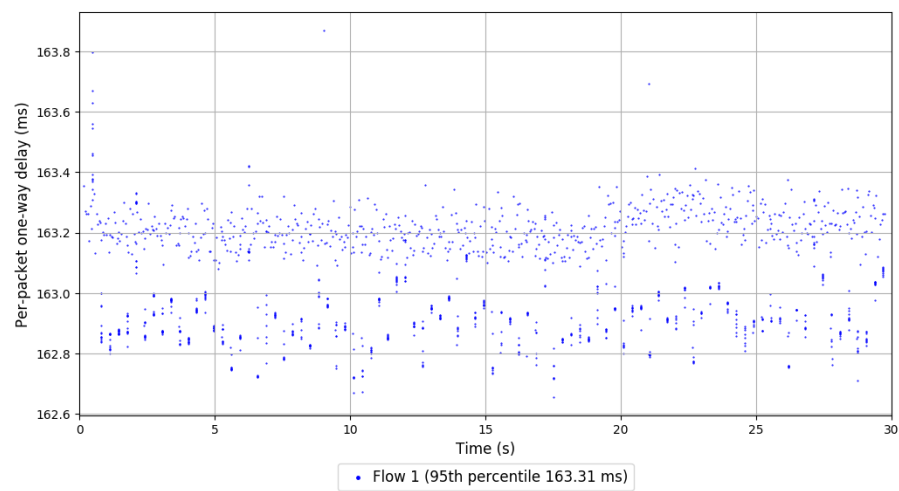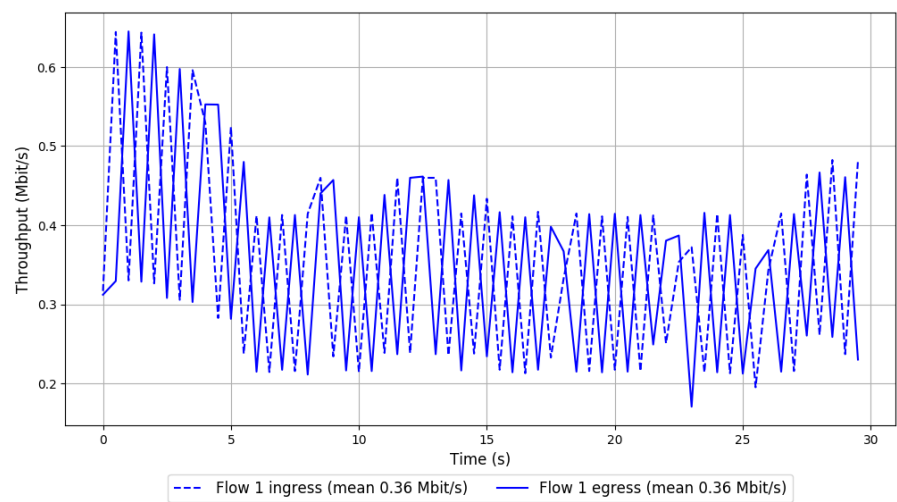
Run 2: Report of Sprout — Data Link

```
Run 3: Statistics of Sprout

Start at: 2017-10-11 04:44:06
End at: 2017-10-11 04:44:36


# Below is generated by plot.py at 2017-10-11 08:30:58
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.43 Mbit/s
95th percentile per-packet one-way delay: 163.353 ms
Loss rate: 1.43%
-- Flow 1:
Average throughput: 0.43 Mbit/s
95th percentile per-packet one-way delay: 163.353 ms
Loss rate: 1.43%
```
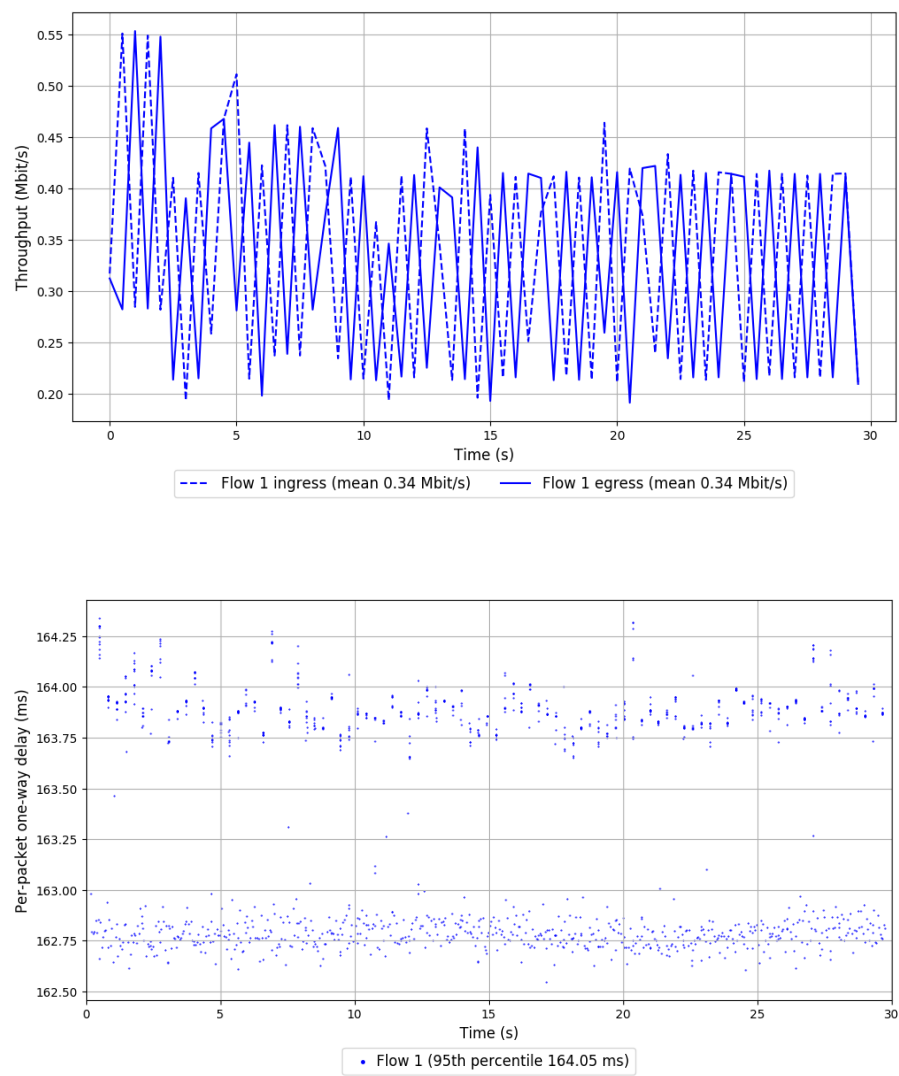
Run 3: Report of Sprout — Data Link

```
Run 4: Statistics of Sprout

Start at: 2017-10-11 04:56:12
End at: 2017-10-11 04:56:42

# Below is generated by plot.py at 2017-10-11 08:30:58
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.36 Mbit/s
95th percentile per-packet one-way delay: 163.310 ms
Loss rate: 1.20%
-- Flow 1:
Average throughput: 0.36 Mbit/s
95th percentile per-packet one-way delay: 163.310 ms
Loss rate: 1.20%
```
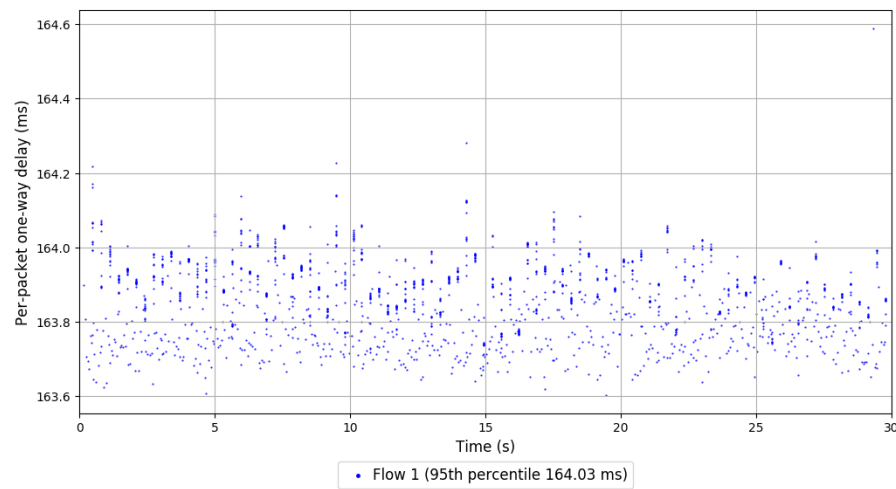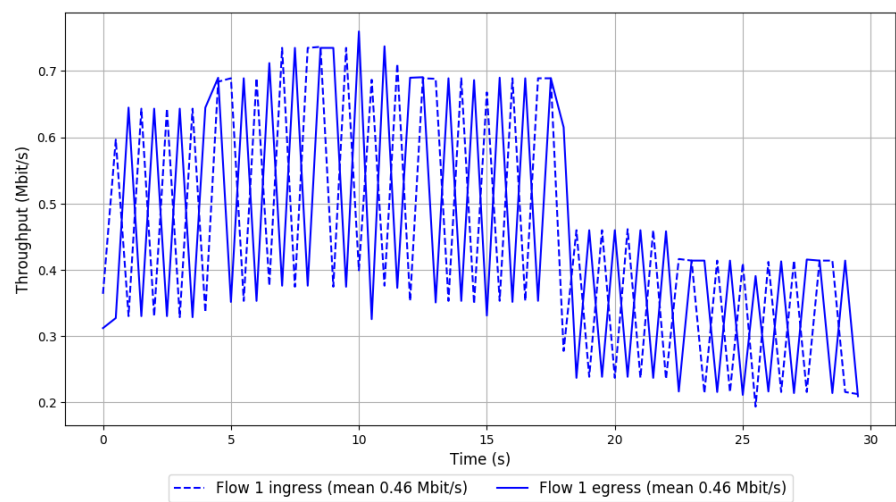
Run 4: Report of Sprout — Data Link

```
Run 5: Statistics of Sprout

Start at: 2017-10-11 05:07:37
End at: 2017-10-11 05:08:07

# Below is generated by plot.py at 2017-10-11 08:30:58
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.34 Mbit/s
95th percentile per-packet one-way delay: 164.049 ms
Loss rate: 1.03%
-- Flow 1:
Average throughput: 0.34 Mbit/s
95th percentile per-packet one-way delay: 164.049 ms
Loss rate: 1.03%
```
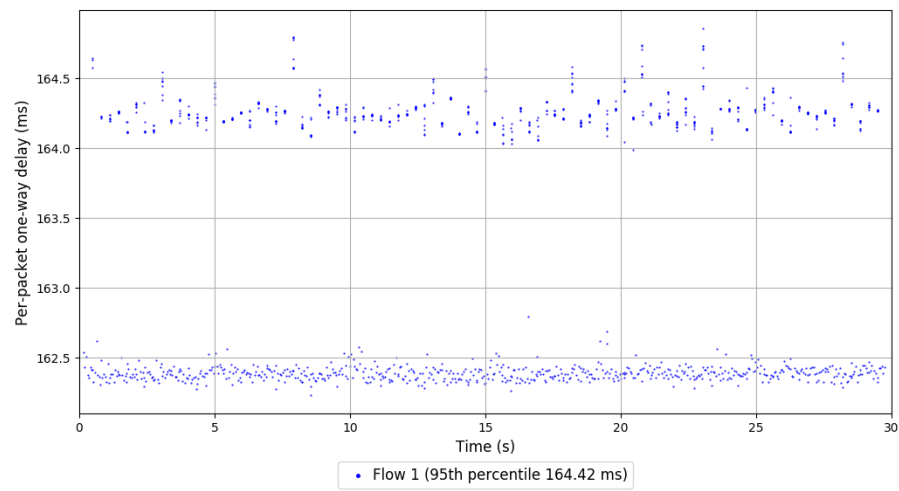
Run 5: Report of Sprout — Data Link

```
Run 6: Statistics of Sprout

Start at: 2017-10-11 05:19:08
End at: 2017-10-11 05:19:38


# Below is generated by plot.py at 2017-10-11 08:30:58
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.46 Mbit/s
95th percentile per-packet one-way delay: 164.025 ms
Loss rate: 0.04%
-- Flow 1:
Average throughput: 0.46 Mbit/s
95th percentile per-packet one-way delay: 164.025 ms
Loss rate: 0.04%
```
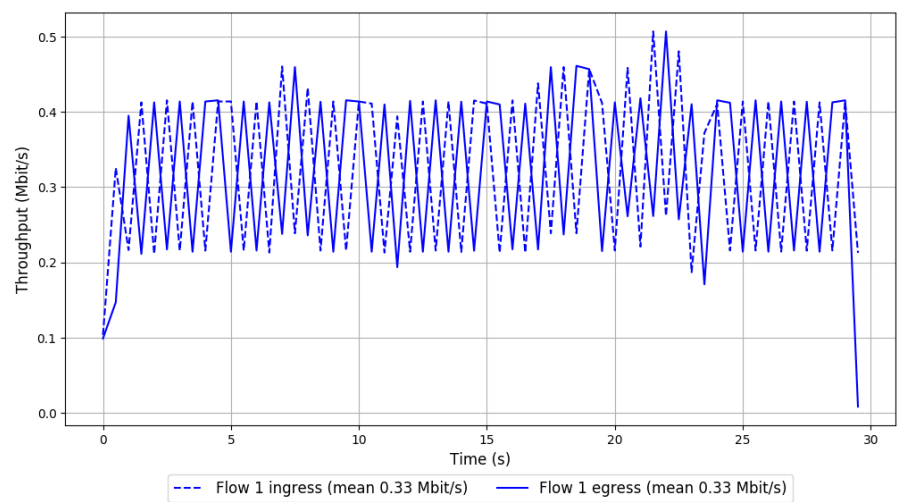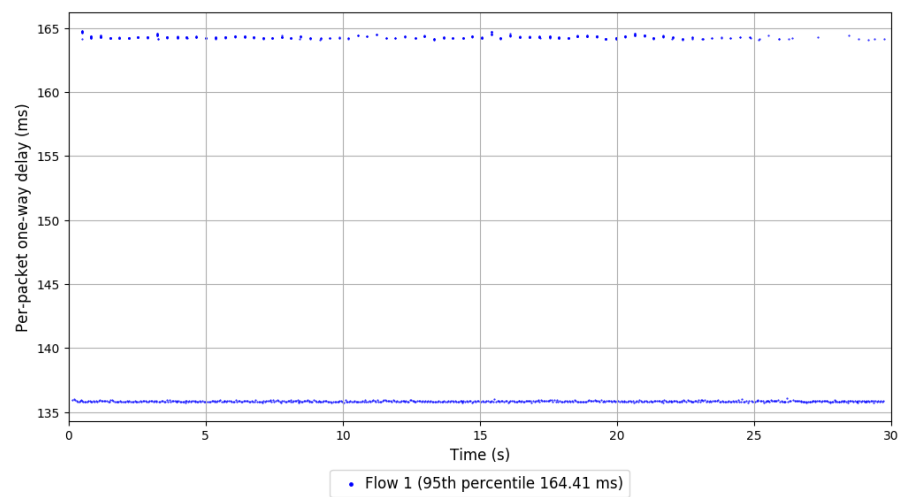
Run 6: Report of Sprout — Data Link

```
Run 7: Statistics of Sprout

Start at: 2017-10-11 05:31:09
End at: 2017-10-11 05:31:39


# Below is generated by plot.py at 2017-10-11 08:30:58
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.33 Mbit/s
95th percentile per-packet one-way delay: 164.419 ms
Loss rate: 1.08%
-- Flow 1:
Average throughput: 0.33 Mbit/s
95th percentile per-packet one-way delay: 164.419 ms
Loss rate: 1.08%
```
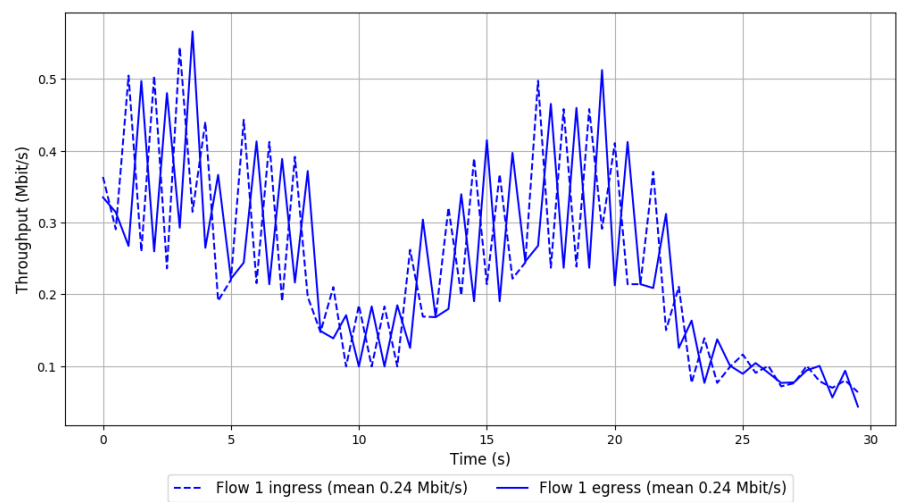
Run 7: Report of Sprout — Data Link

```
Run 8: Statistics of Sprout

Start at: 2017-10-11 05:42:13
End at: 2017-10-11 05:42:43


# Below is generated by plot.py at 2017-10-11 08:30:58
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.24 Mbit/s
95th percentile per-packet one-way delay: 164.413 ms
Loss rate: 0.17%
-- Flow 1:
Average throughput: 0.24 Mbit/s
95th percentile per-packet one-way delay: 164.413 ms
Loss rate: 0.17%
```
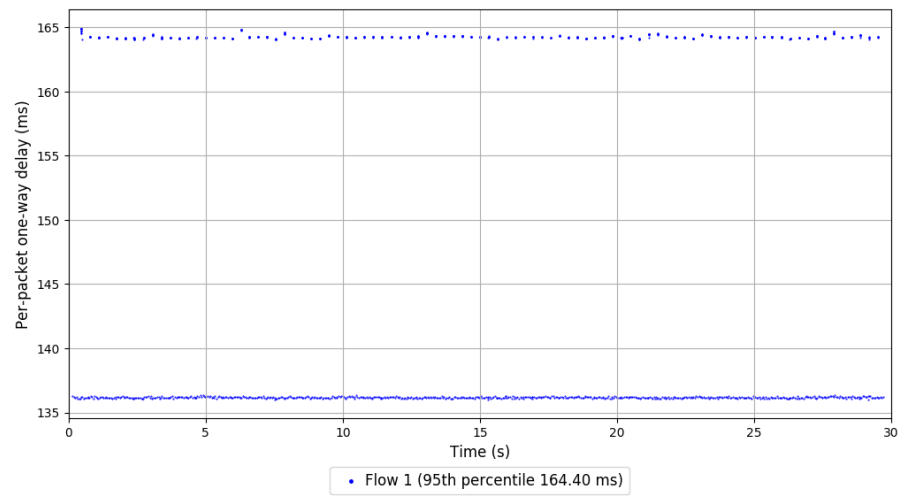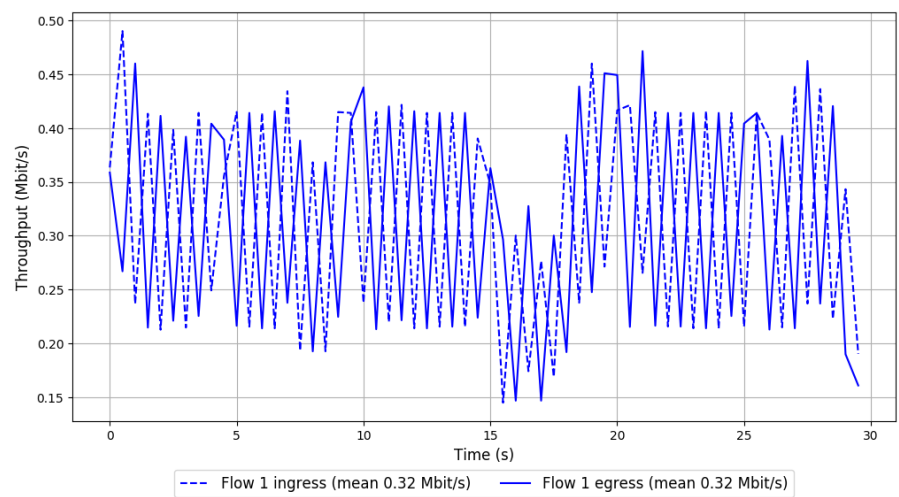
Run 8: Report of Sprout — Data Link

```
Run 9: Statistics of Sprout

Start at: 2017-10-11 05:53:56
End at: 2017-10-11 05:54:26

# Below is generated by plot.py at 2017-10-11 08:30:58
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.32 Mbit/s
95th percentile per-packet one-way delay: 164.397 ms
Loss rate: 0.98%
-- Flow 1:
Average throughput: 0.32 Mbit/s
95th percentile per-packet one-way delay: 164.397 ms
Loss rate: 0.98%
```
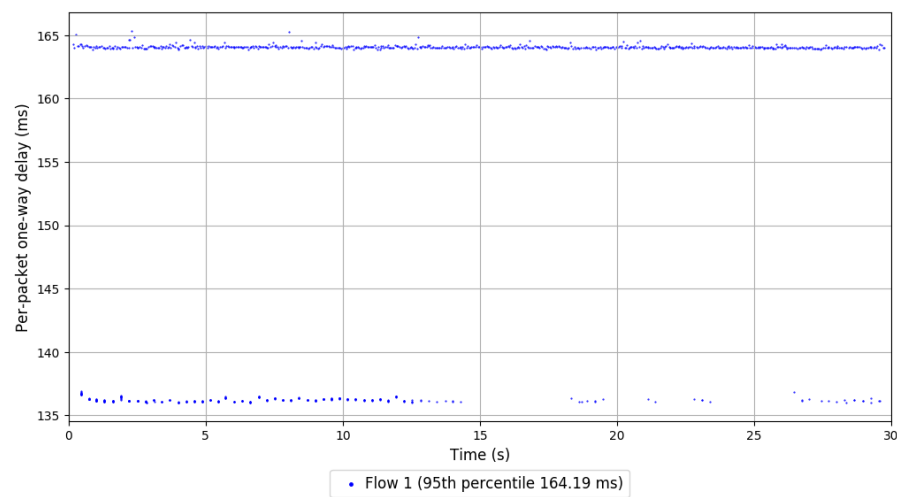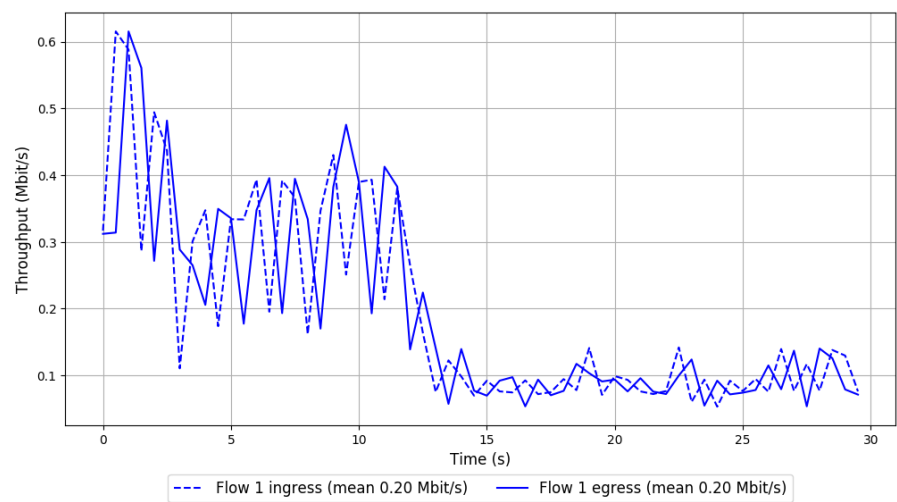
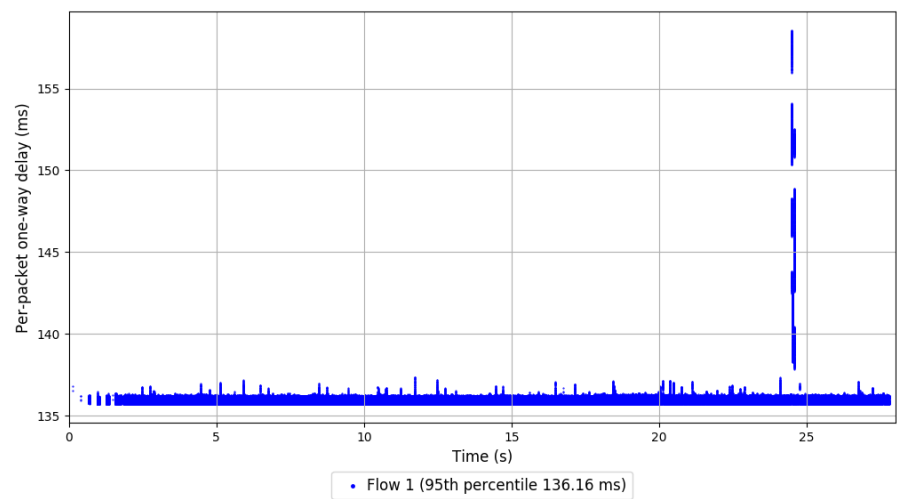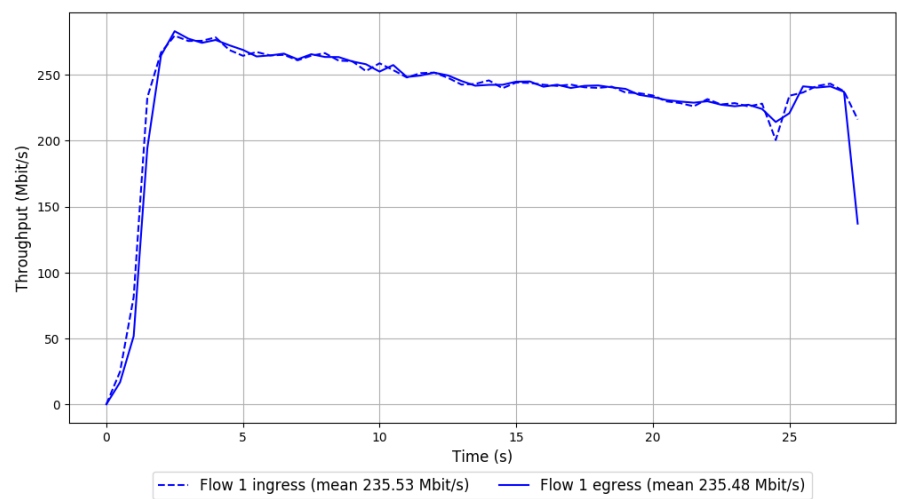## Run 9: Report of Sprout — Data Link

```
Run 10: Statistics of Sprout

Start at: 2017-10-11 06:05:38
End at: 2017-10-11 06:06:08

# Below is generated by plot.py at 2017-10-11 08:30:58
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.20 Mbit/s
95th percentile per-packet one-way delay: 164.186 ms
Loss rate: 0.62%
-- Flow 1:
Average throughput: 0.20 Mbit/s
95th percentile per-packet one-way delay: 164.186 ms
Loss rate: 0.62%
```

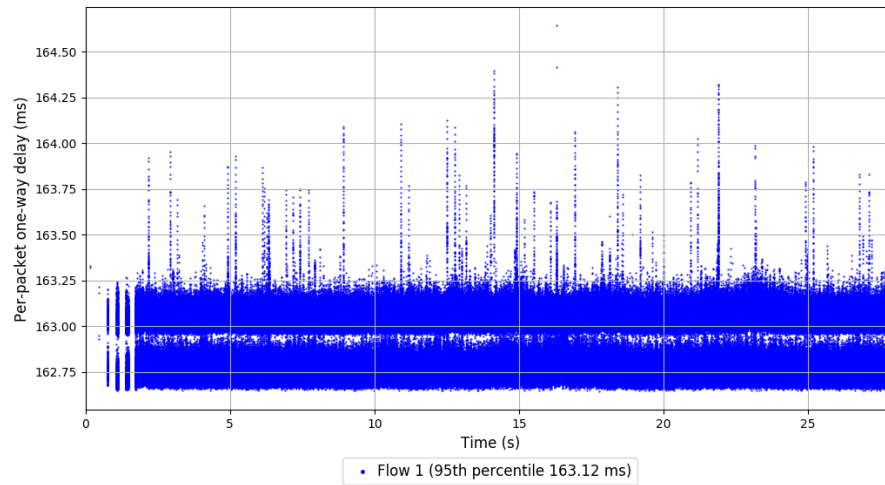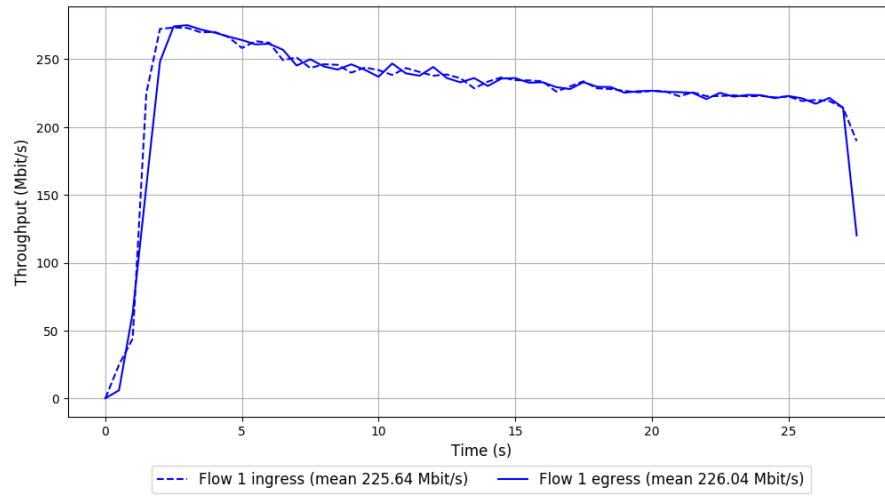## Run 10: Report of Sprout — Data Link

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

Start at: 2017-10-11 04:23:47
End at: 2017-10-11 04:24:17

# Below is generated by plot.py at 2017-10-11 08:36:49
# Datalink statistics
-- Total of 1 flow:
Average throughput: 235.48 Mbit/s
95th percentile per-packet one-way delay: 136.160 ms
Loss rate: 1.10%
-- Flow 1:
Average throughput: 235.48 Mbit/s
95th percentile per-packet one-way delay: 136.160 ms
Loss rate: 1.10%
```

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

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

Start at: 2017-10-11 04:36:02
End at: 2017-10-11 04:36:32

# Below is generated by plot.py at 2017-10-11 08:36:49
# Datalink statistics
-- Total of 1 flow:
Average throughput: 226.04 Mbit/s
95th percentile per-packet one-way delay: 163.124 ms
Loss rate: 1.11%
-- Flow 1:
Average throughput: 226.04 Mbit/s
95th percentile per-packet one-way delay: 163.124 ms
Loss rate: 1.11%
```
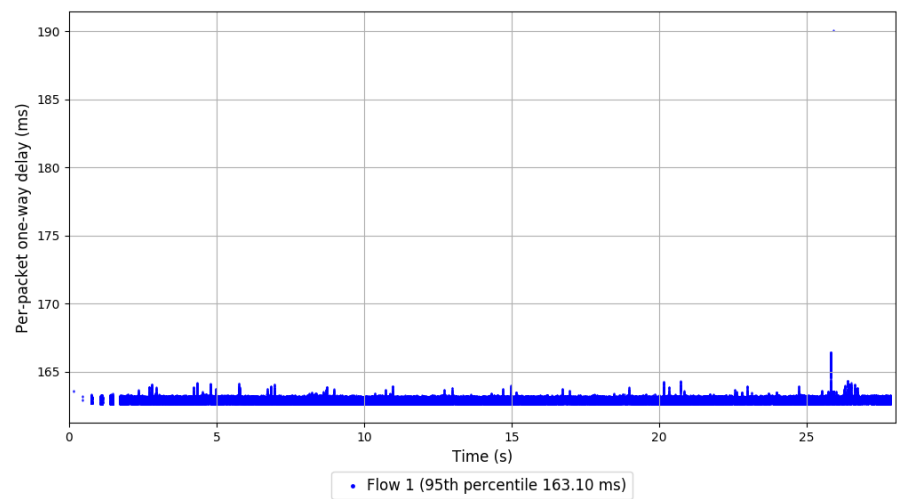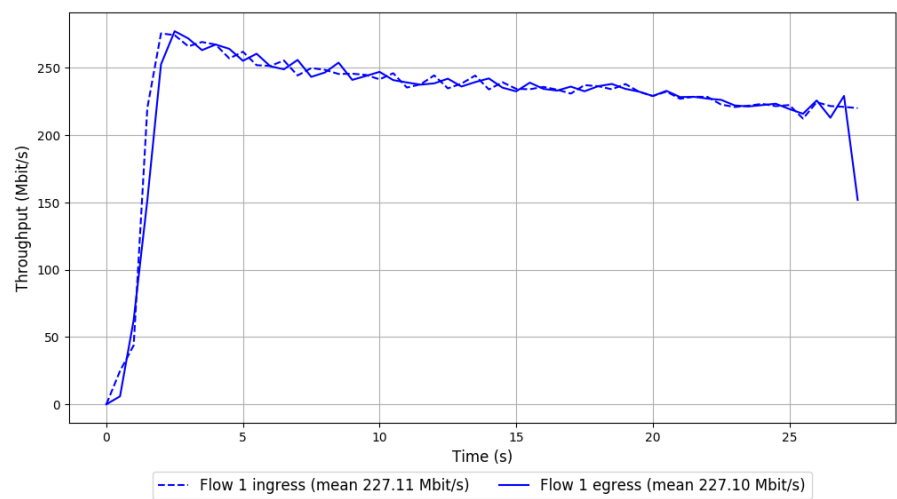
Run 2: Report of TaoVA-100x — Data Link

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

Start at: 2017-10-11 04:48:22
End at: 2017-10-11 04:48:52

# Below is generated by plot.py at 2017-10-11 08:36:49
# Datalink statistics
-- Total of 1 flow:
Average throughput: 227.10 Mbit/s
95th percentile per-packet one-way delay: 163.101 ms
Loss rate: 1.08%
-- Flow 1:
Average throughput: 227.10 Mbit/s
95th percentile per-packet one-way delay: 163.101 ms
Loss rate: 1.08%
```
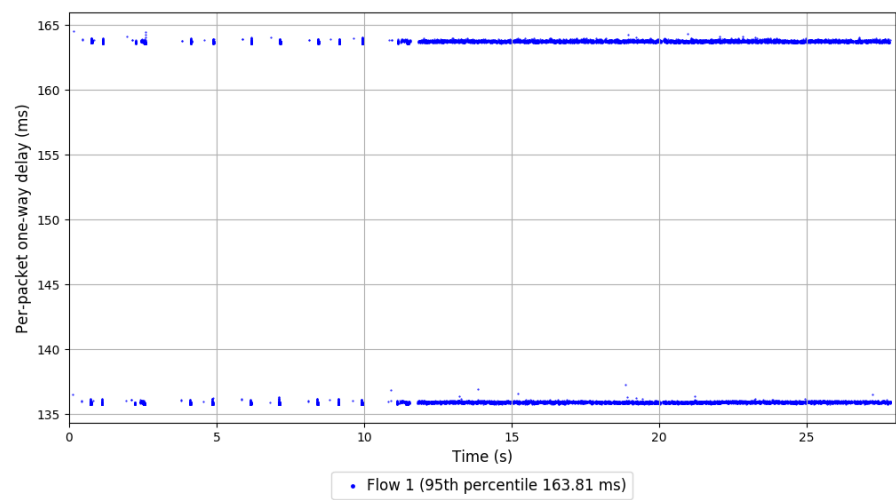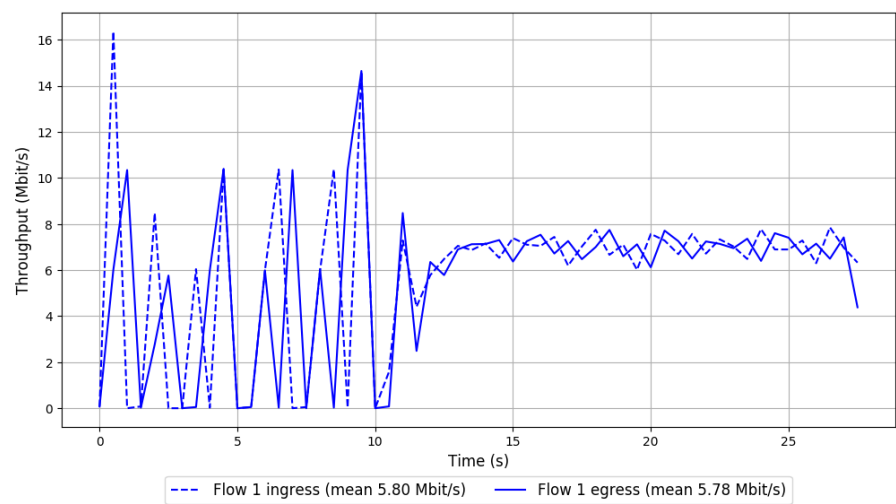
Run 3: Report of TaoVA-100x — Data Link

Flow 1 ingress (mean 227.11 Mbit/s) —— Flow 1 egress (mean 227.10 Mbit/s)

· Flow 1 (95th percentile 163.10 ms)

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

Start at: 2017-10-11 05:00:26
End at: 2017-10-11 05:00:56

# Below is generated by plot.py at 2017-10-11 08:36:49
# Datalink statistics
-- Total of 1 flow:
Average throughput: 5.78 Mbit/s
95th percentile per-packet one-way delay: 163.809 ms
Loss rate: 1.33%
-- Flow 1:
Average throughput: 5.78 Mbit/s
95th percentile per-packet one-way delay: 163.809 ms
Loss rate: 1.33%
```

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

Flow 1 ingress (mean 5.80 Mbit/s) Flow 1 egress (mean 5.78 Mbit/s)

• Flow 1 (95th percentile 163.81 ms)

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

Start at: 2017-10-11 05:11:21
End at: 2017-10-11 05:11:51

# Below is generated by plot.py at 2017-10-11 08:36:56
# Datalink statistics
-- Total of 1 flow:
Average throughput: 228.47 Mbit/s
95th percentile per-packet one-way delay: 164.056 ms
Loss rate: 1.12%
-- Flow 1:
Average throughput: 228.47 Mbit/s
95th percentile per-packet one-way delay: 164.056 ms
Loss rate: 1.12%
```
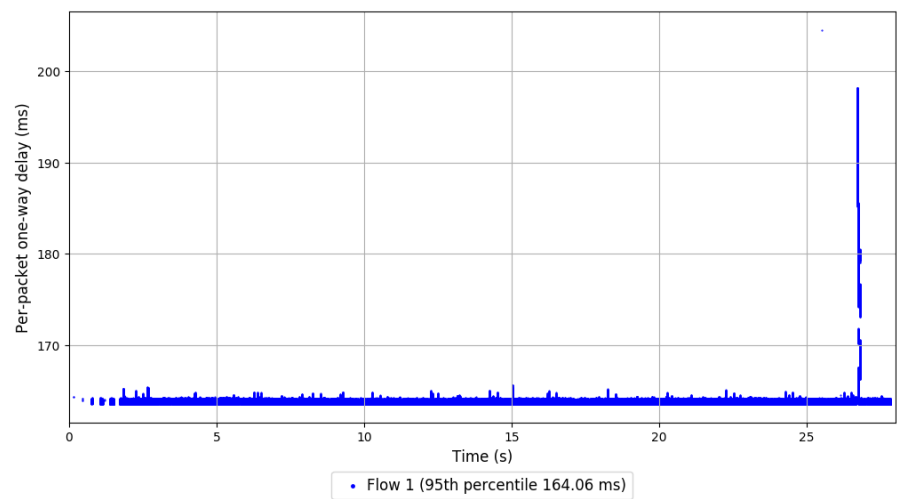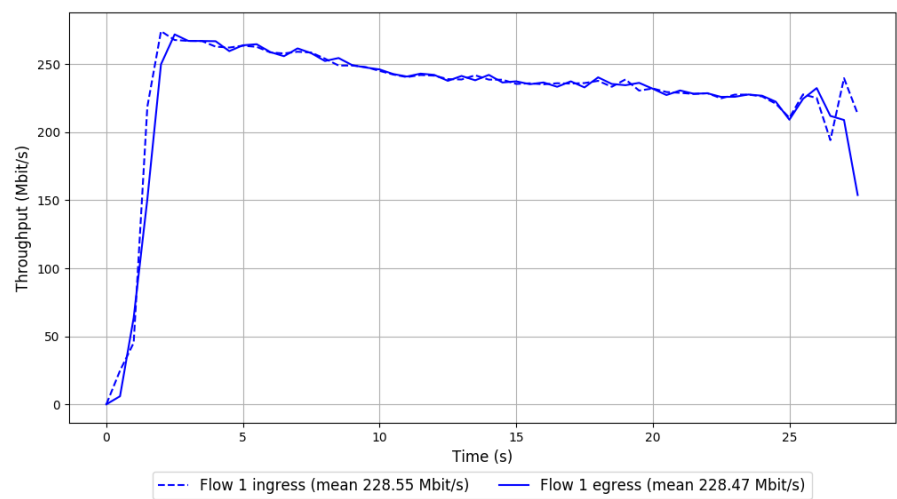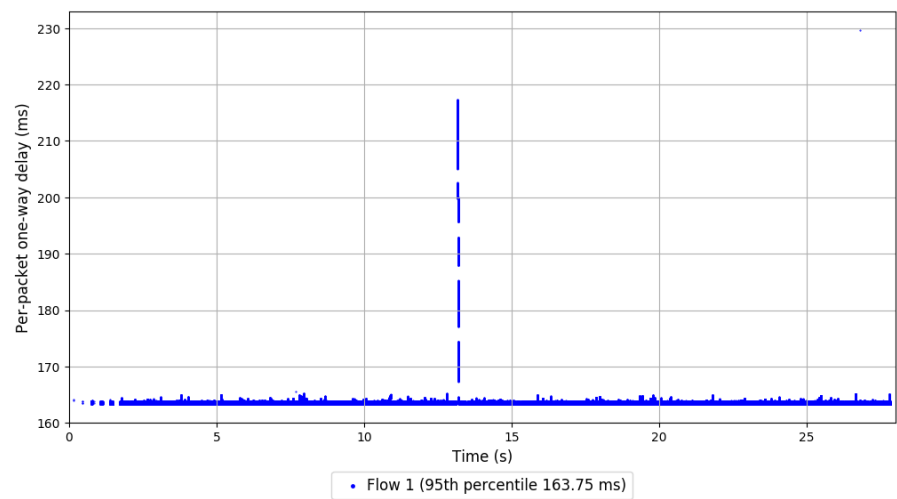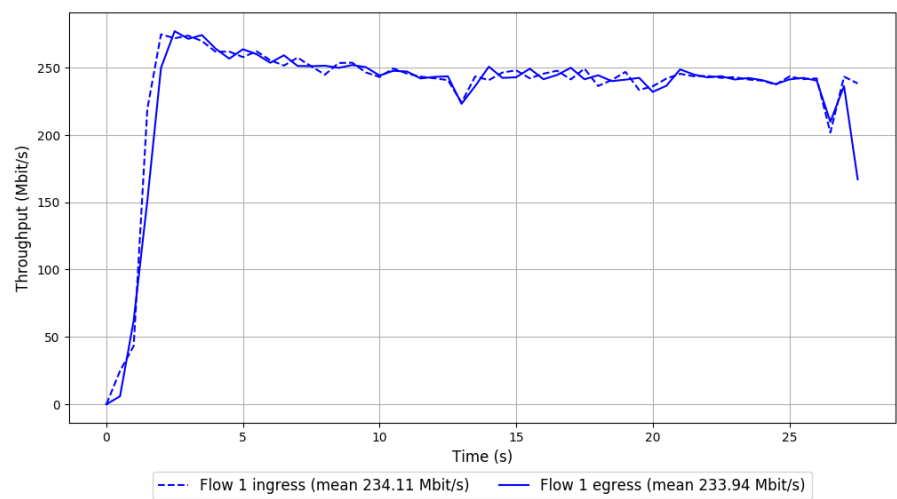
Run 5: Report of TaoVA-100x — Data Link

Flow 1 ingress (mean 228.55 Mbit/s) ---- Flow 1 egress (mean 228.47 Mbit/s)

Flow 1 (95th percentile 164.06 ms)

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

Start at: 2017-10-11 05:23:23
End at: 2017-10-11 05:23:53

# Below is generated by plot.py at 2017-10-11 08:37:12
# Datalink statistics
-- Total of 1 flow:
Average throughput: 233.94 Mbit/s
95th percentile per-packet one-way delay: 163.748 ms
Loss rate: 1.15%
-- Flow 1:
Average throughput: 233.94 Mbit/s
95th percentile per-packet one-way delay: 163.748 ms
Loss rate: 1.15%
```
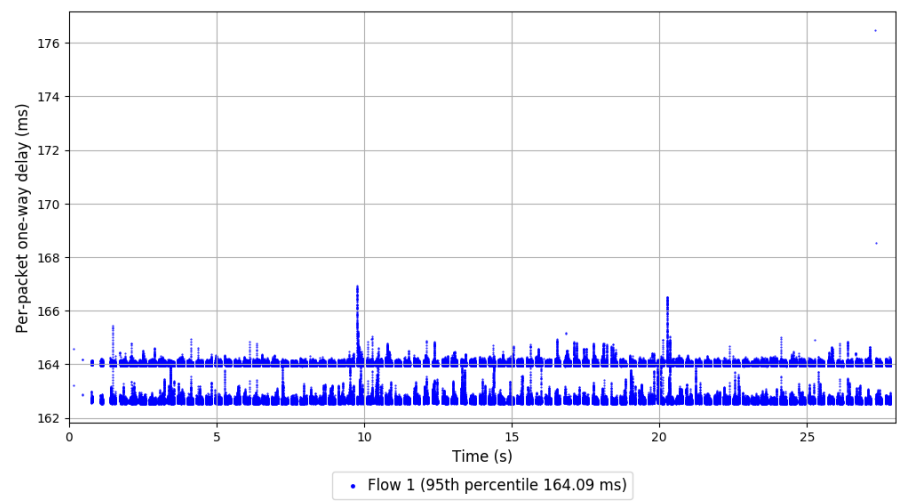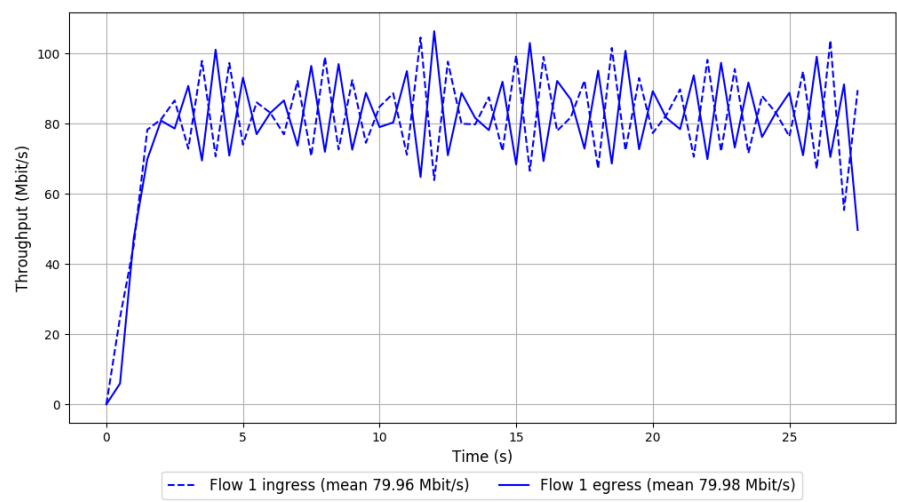
Run 6: Report of TaoVA-100x — Data Link

Flow 1 ingress (mean 234.11 Mbit/s) —— Flow 1 egress (mean 233.94 Mbit/s)

Flow 1 (95th percentile 163.75 ms)

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

Start at: 2017-10-11 05:34:49
End at: 2017-10-11 05:35:19


# Below is generated by plot.py at 2017-10-11 08:37:12
# Datalink statistics
-- Total of 1 flow:
Average throughput: 79.98 Mbit/s
95th percentile per-packet one-way delay: 164.091 ms
Loss rate: 1.05%
-- Flow 1:
Average throughput: 79.98 Mbit/s
95th percentile per-packet one-way delay: 164.091 ms
Loss rate: 1.05%
```
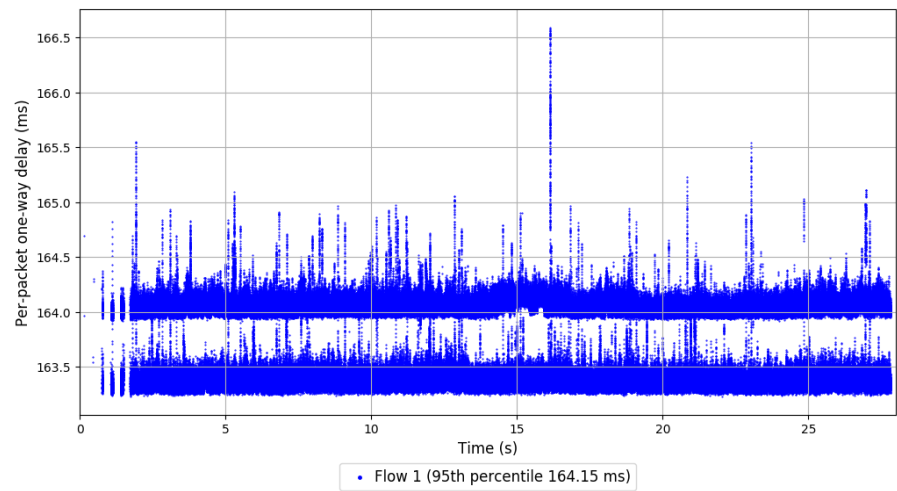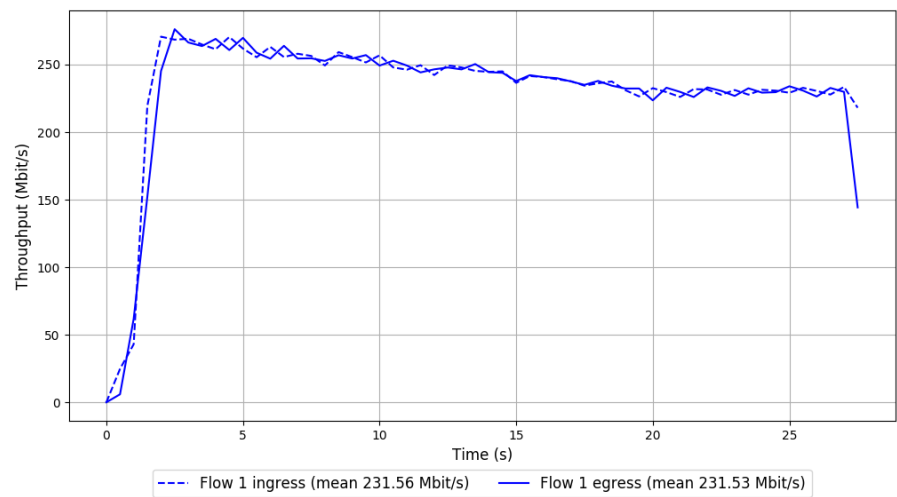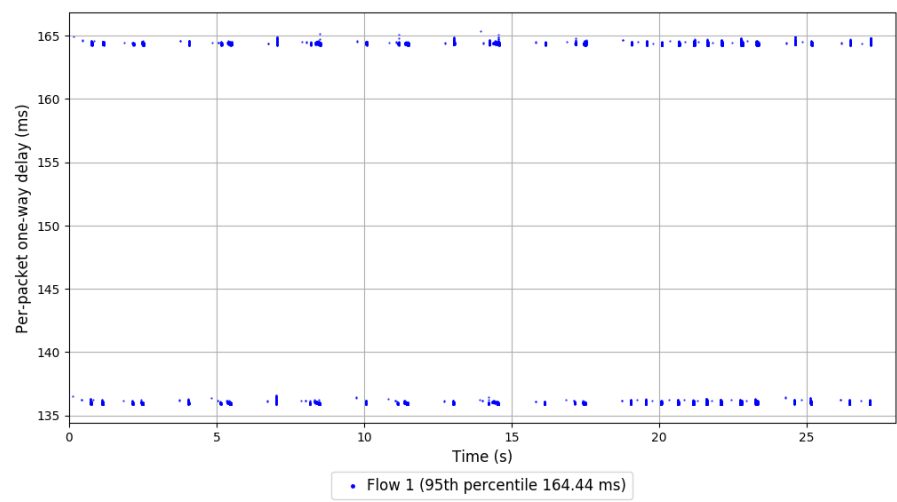
Run 7: Report of TaoVA-100x — Data Link

Flow 1 ingress (mean 79.96 Mbit/s)   Flow 1 egress (mean 79.98 Mbit/s)

• Flow 1 (95th percentile 164.09 ms)

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

Start at: 2017-10-11 05:46:08
End at: 2017-10-11 05:46:38

# Below is generated by plot.py at 2017-10-11 08:37:26
# Datalink statistics
-- Total of 1 flow:
Average throughput: 231.53 Mbit/s
95th percentile per-packet one-way delay: 164.145 ms
Loss rate: 1.17%
-- Flow 1:
Average throughput: 231.53 Mbit/s
95th percentile per-packet one-way delay: 164.145 ms
Loss rate: 1.17%
```
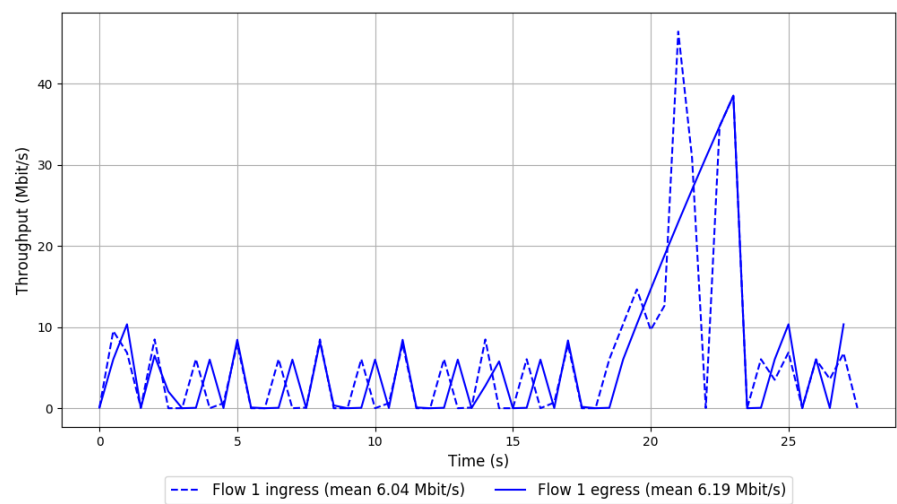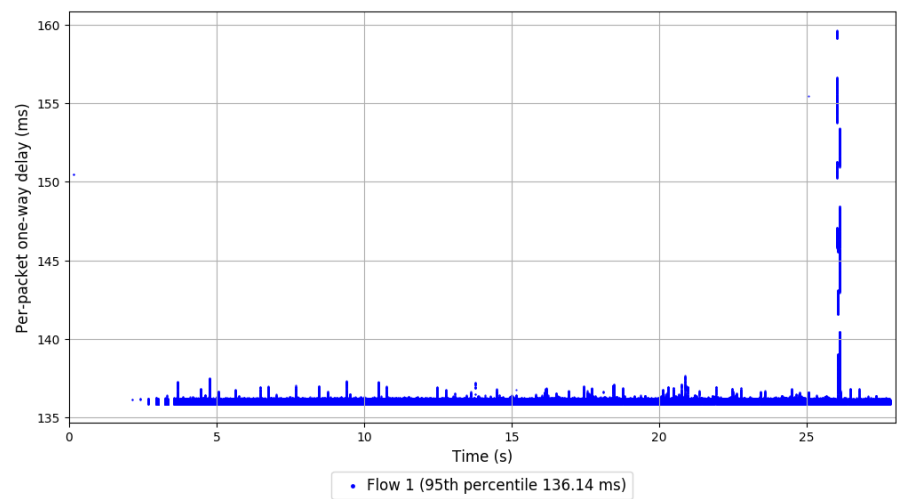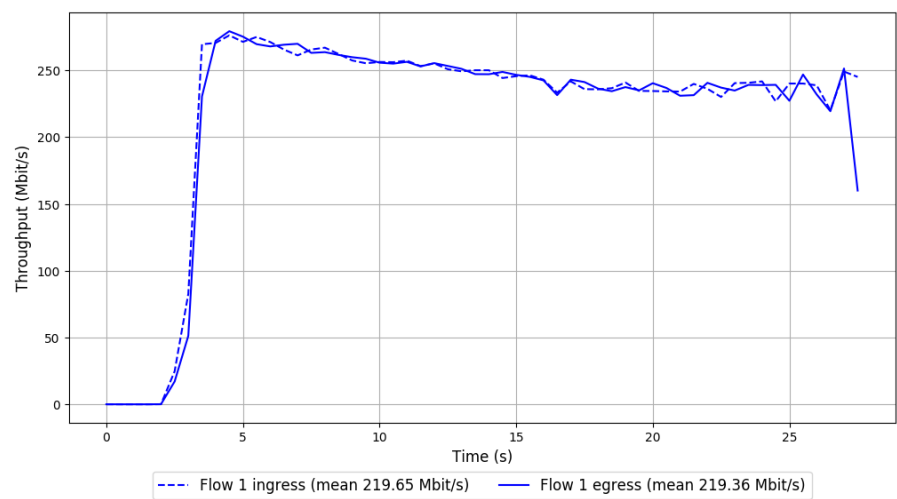
Run 8: Report of TaoVA-100x — Data Link

Flow 1 ingress (mean 231.56 Mbit/s) --- Flow 1 egress (mean 231.53 Mbit/s)

• Flow 1 (95th percentile 164.15 ms)

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

Start at: 2017-10-11 05:58:08
End at: 2017-10-11 05:58:38

# Below is generated by plot.py at 2017-10-11 08:37:26
# Datalink statistics
-- Total of 1 flow:
Average throughput: 6.19 Mbit/s
95th percentile per-packet one-way delay: 164.436 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 6.19 Mbit/s
95th percentile per-packet one-way delay: 164.436 ms
Loss rate: 0.01%
```
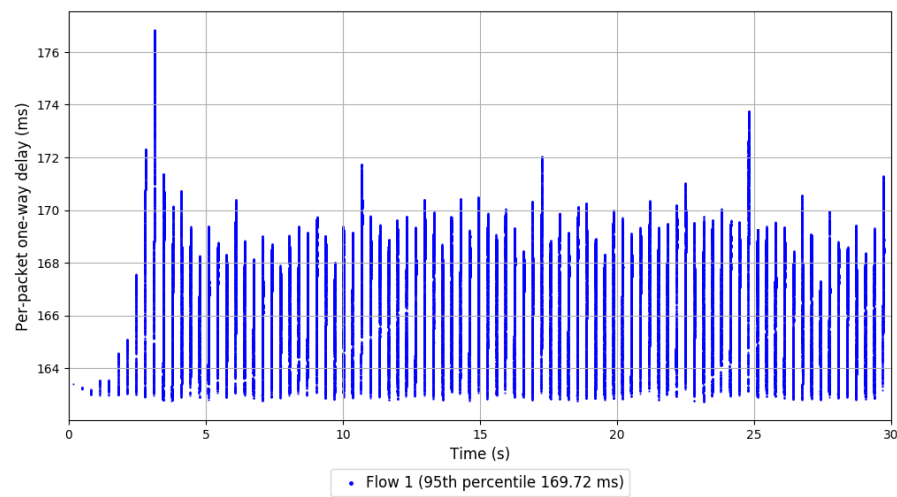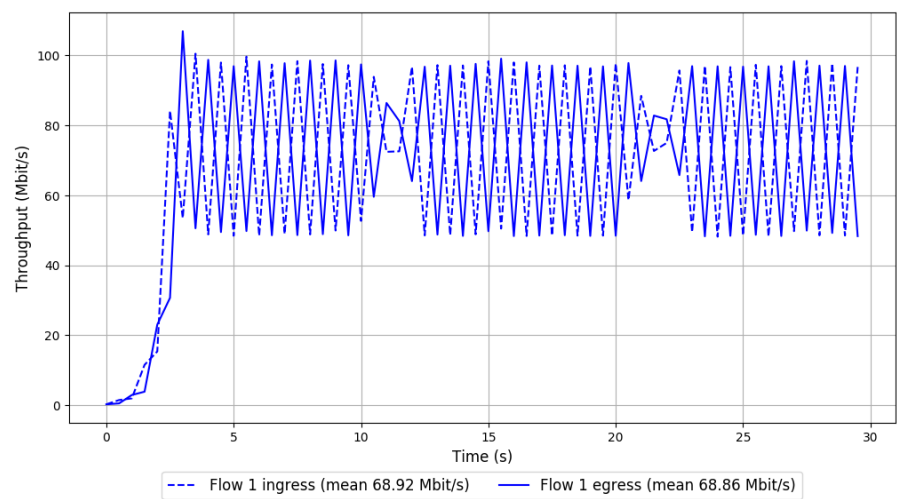
Run 9: Report of TaoVA-100x — Data Link

Flow 1 ingress (mean 6.04 Mbit/s)   Flow 1 egress (mean 6.19 Mbit/s)

Flow 1 (95th percentile 164.44 ms)

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

Start at: 2017-10-11 06:09:55
End at: 2017-10-11 06:10:25

# Below is generated by plot.py at 2017-10-11 08:37:31
# Datalink statistics
-- Total of 1 flow:
Average throughput: 219.36 Mbit/s
95th percentile per-packet one-way delay: 136.136 ms
Loss rate: 1.24%
-- Flow 1:
Average throughput: 219.36 Mbit/s
95th percentile per-packet one-way delay: 136.136 ms
Loss rate: 1.24%
```
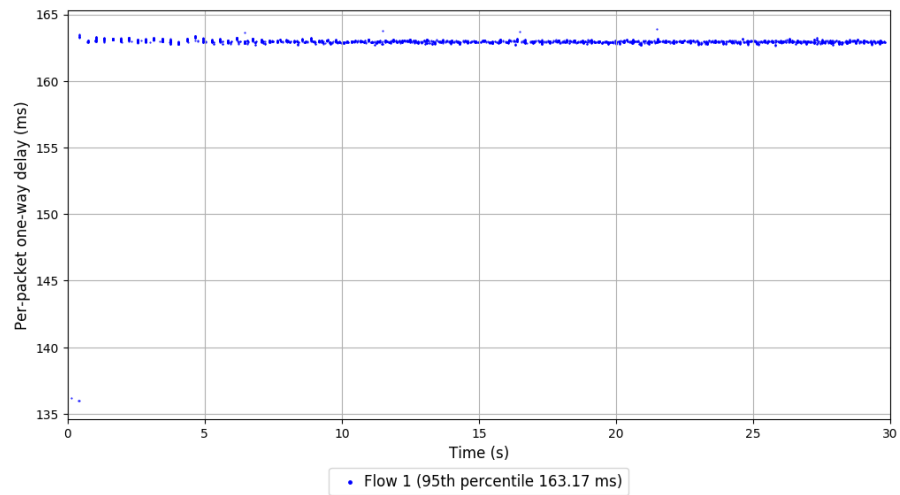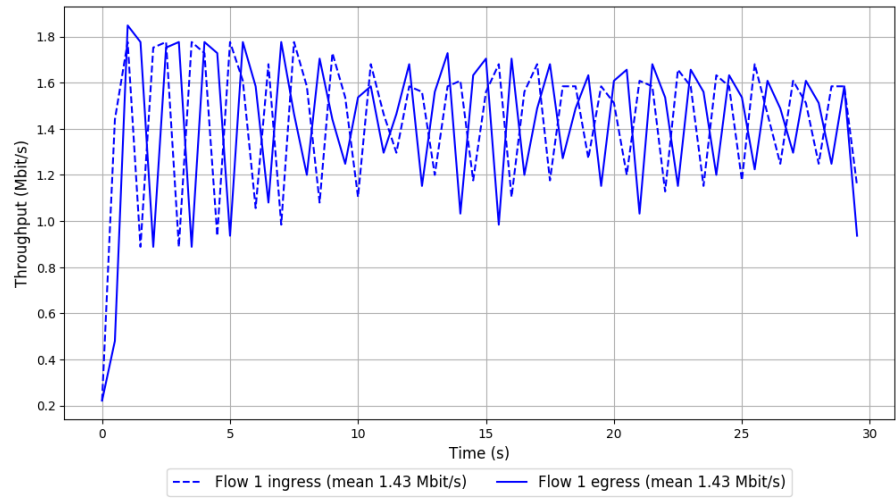
Run 10: Report of TaoVA-100x — Data Link

```
Run 1: Statistics of TCP Vegas

Start at: 2017-10-11 04:27:36
End at: 2017-10-11 04:28:06

# Below is generated by plot.py at 2017-10-11 08:37:31
# Datalink statistics
-- Total of 1 flow:
Average throughput: 68.86 Mbit/s
95th percentile per-packet one-way delay: 169.723 ms
Loss rate: 1.17%
-- Flow 1:
Average throughput: 68.86 Mbit/s
95th percentile per-packet one-way delay: 169.723 ms
Loss rate: 1.17%
```
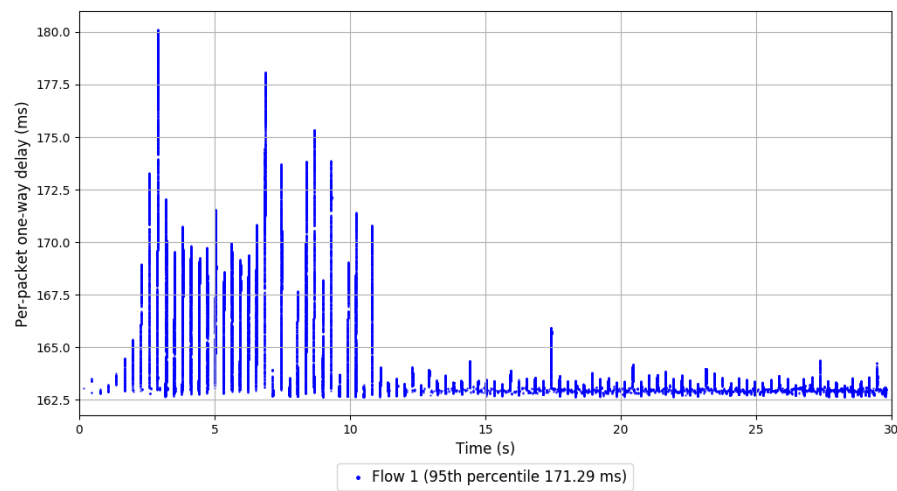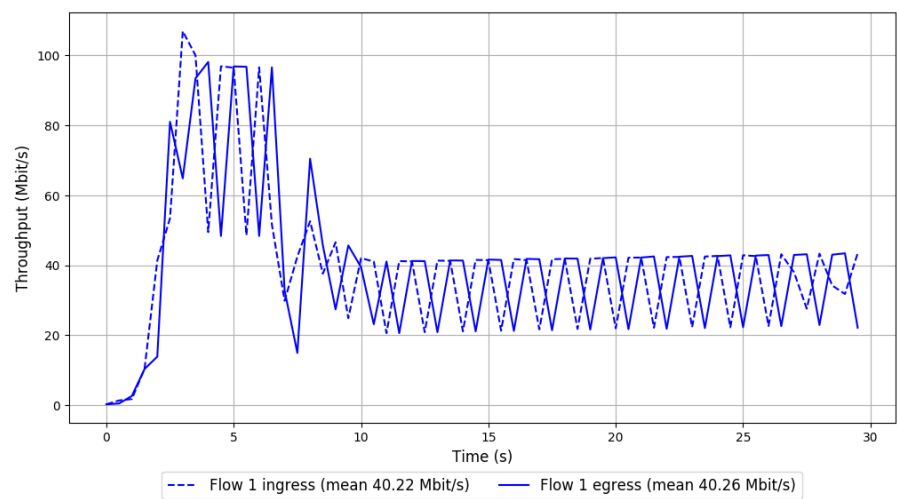
Run 1: Report of TCP Vegas — Data Link

```
Run 2: Statistics of TCP Vegas

Start at: 2017-10-11 04:39:51
End at: 2017-10-11 04:40:21

# Below is generated by plot.py at 2017-10-11 08:37:31
# Datalink statistics
-- Total of 1 flow:
Average throughput: 1.43 Mbit/s
95th percentile per-packet one-way delay: 163.169 ms
Loss rate: 1.01%
-- Flow 1:
Average throughput: 1.43 Mbit/s
95th percentile per-packet one-way delay: 163.169 ms
Loss rate: 1.01%
```
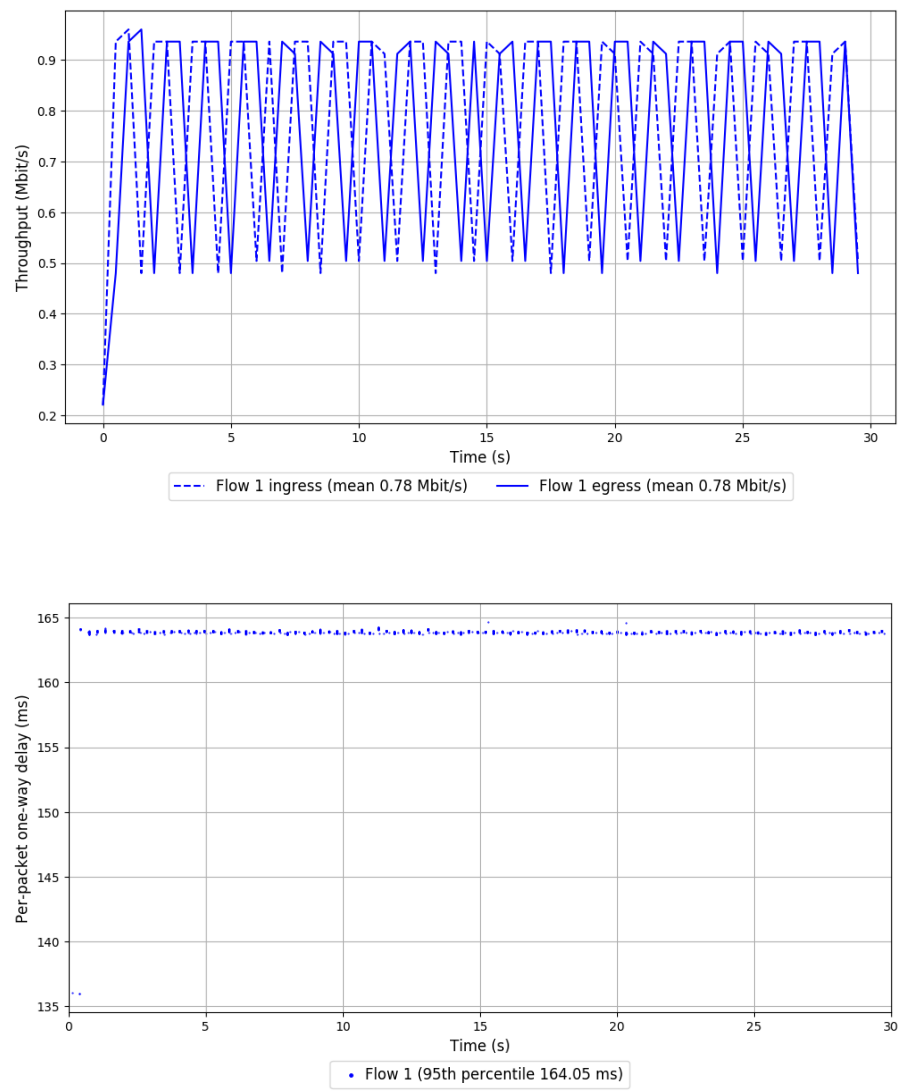
Run 2: Report of TCP Vegas — Data Link

```
Run 3: Statistics of TCP Vegas

Start at: 2017-10-11 04:52:07
End at: 2017-10-11 04:52:37

# Below is generated by plot.py at 2017-10-11 08:37:31
# Datalink statistics
-- Total of 1 flow:
Average throughput: 40.26 Mbit/s
95th percentile per-packet one-way delay: 171.289 ms
Loss rate: 0.93%
-- Flow 1:
Average throughput: 40.26 Mbit/s
95th percentile per-packet one-way delay: 171.289 ms
Loss rate: 0.93%
```
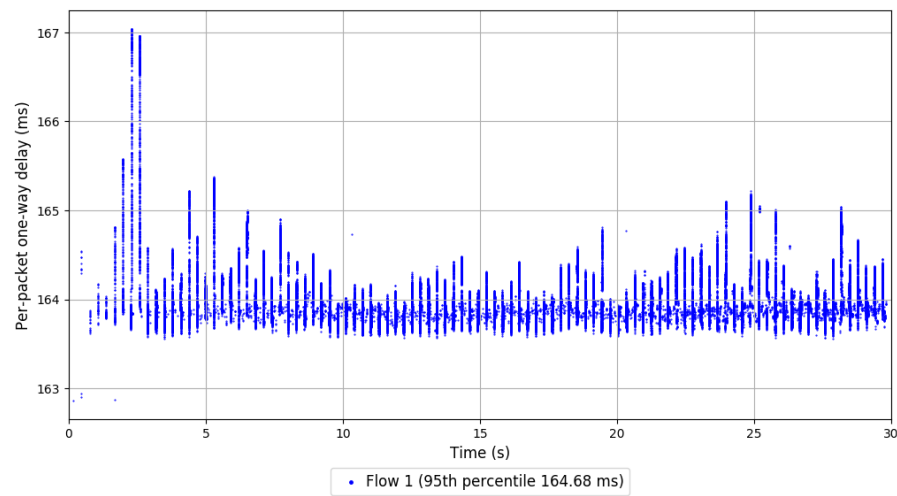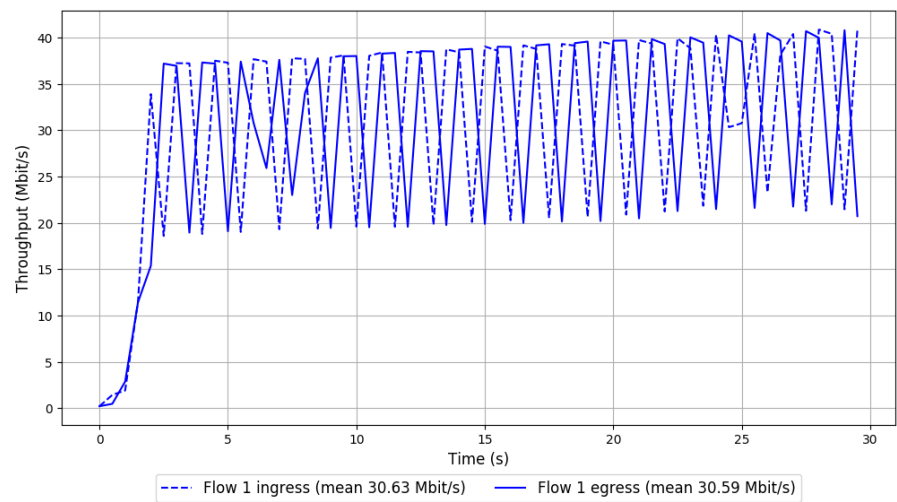
Run 3: Report of TCP Vegas — Data Link

Flow 1 ingress (mean 40.22 Mbit/s) — — — Flow 1 egress (mean 40.26 Mbit/s)

Flow 1 (95th percentile 171.29 ms)

```
Run 4: Statistics of TCP Vegas

Start at: 2017-10-11 05:03:42
End at: 2017-10-11 05:04:12

# Below is generated by plot.py at 2017-10-11 08:37:31
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.78 Mbit/s
95th percentile per-packet one-way delay: 164.053 ms
Loss rate: 1.03%
-- Flow 1:
Average throughput: 0.78 Mbit/s
95th percentile per-packet one-way delay: 164.053 ms
Loss rate: 1.03%
```
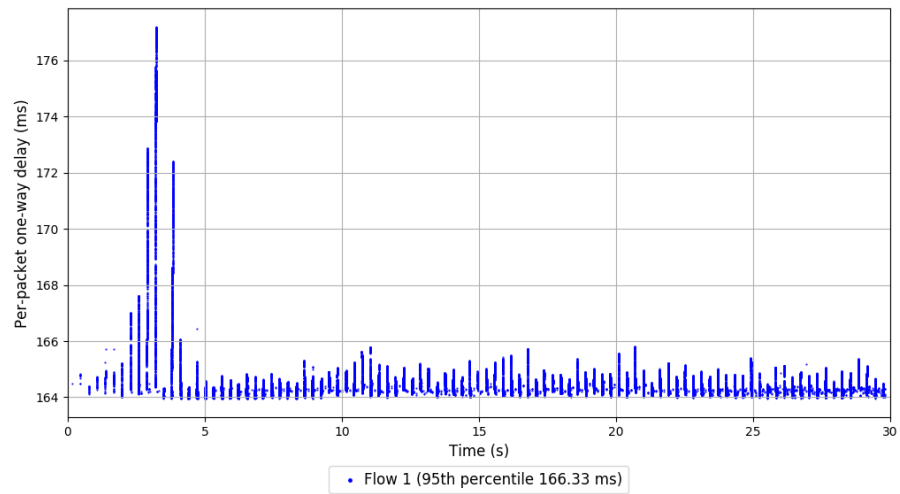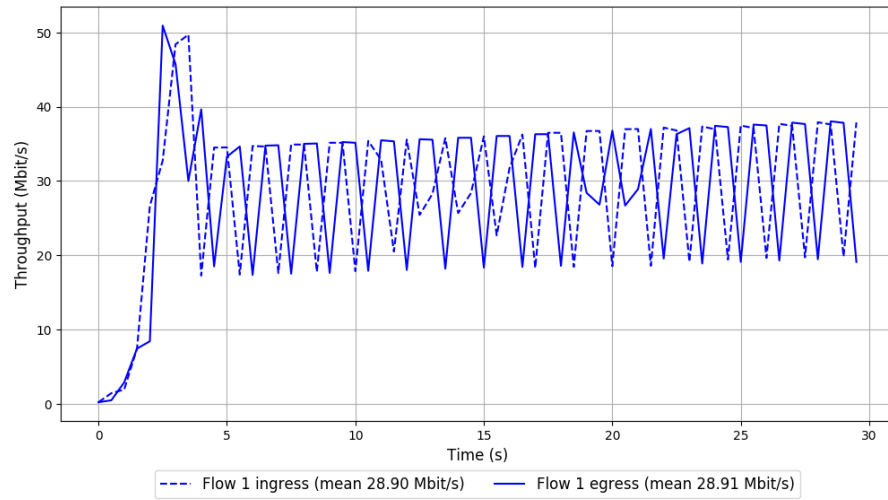
Run 4: Report of TCP Vegas — Data Link

Flow 1 ingress (mean 0.78 Mbit/s)   Flow 1 egress (mean 0.78 Mbit/s)

• Flow 1 (95th percentile 164.05 ms)

```
Run 5: Statistics of TCP Vegas

Start at: 2017-10-11 05:15:05
End at: 2017-10-11 05:15:35

# Below is generated by plot.py at 2017-10-11 08:37:31
# Datalink statistics
-- Total of 1 flow:
Average throughput: 30.59 Mbit/s
95th percentile per-packet one-way delay: 164.679 ms
Loss rate: 1.12%
-- Flow 1:
Average throughput: 30.59 Mbit/s
95th percentile per-packet one-way delay: 164.679 ms
Loss rate: 1.12%
```
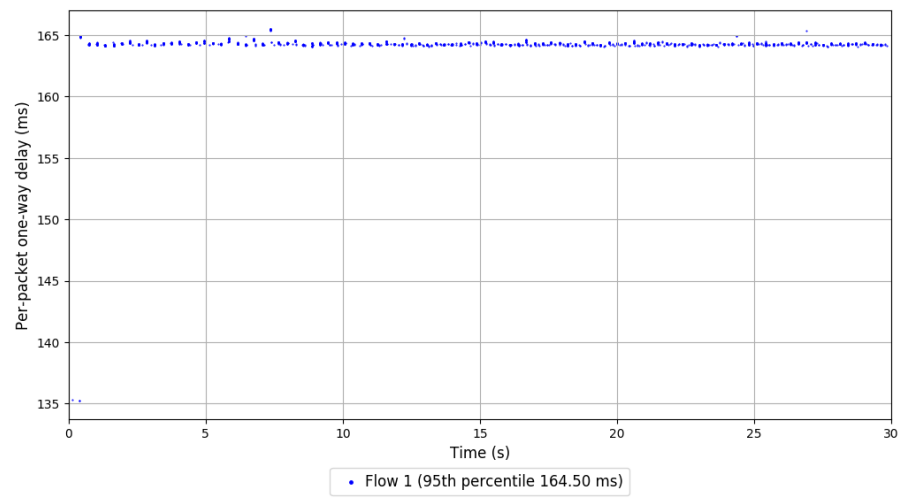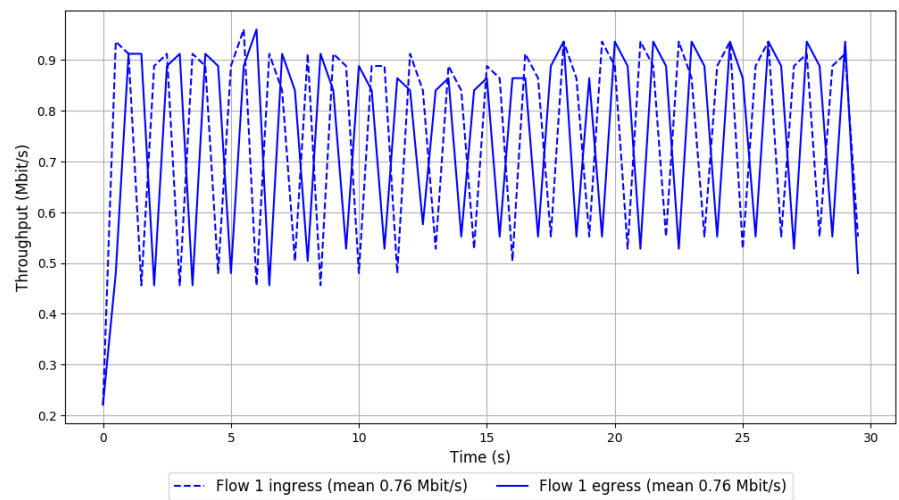
Run 5: Report of TCP Vegas — Data Link

Flow 1 ingress (mean 30.63 Mbit/s) —— Flow 1 egress (mean 30.59 Mbit/s)

• Flow 1 (95th percentile 164.68 ms)

```
Run 6: Statistics of TCP Vegas

Start at: 2017-10-11 05:27:05
End at: 2017-10-11 05:27:35

# Below is generated by plot.py at 2017-10-11 08:37:31
# Datalink statistics
-- Total of 1 flow:
Average throughput: 28.91 Mbit/s
95th percentile per-packet one-way delay: 166.332 ms
Loss rate: 1.11%
-- Flow 1:
Average throughput: 28.91 Mbit/s
95th percentile per-packet one-way delay: 166.332 ms
Loss rate: 1.11%
```
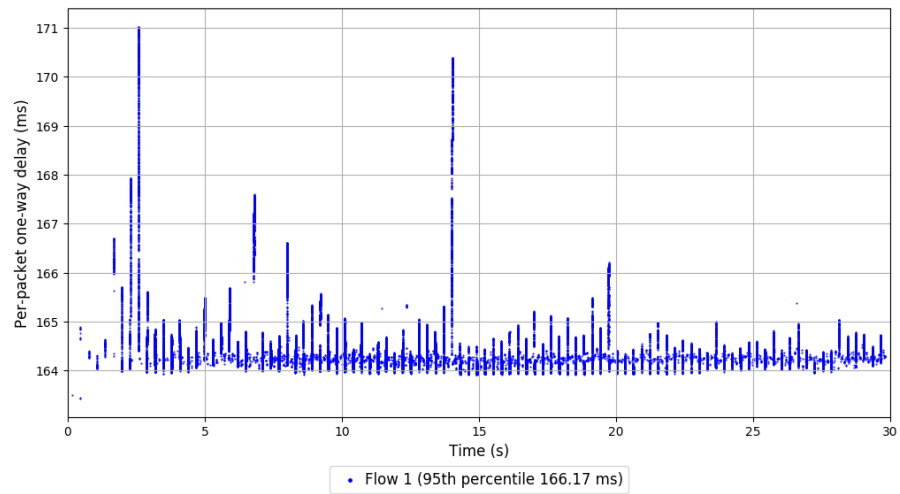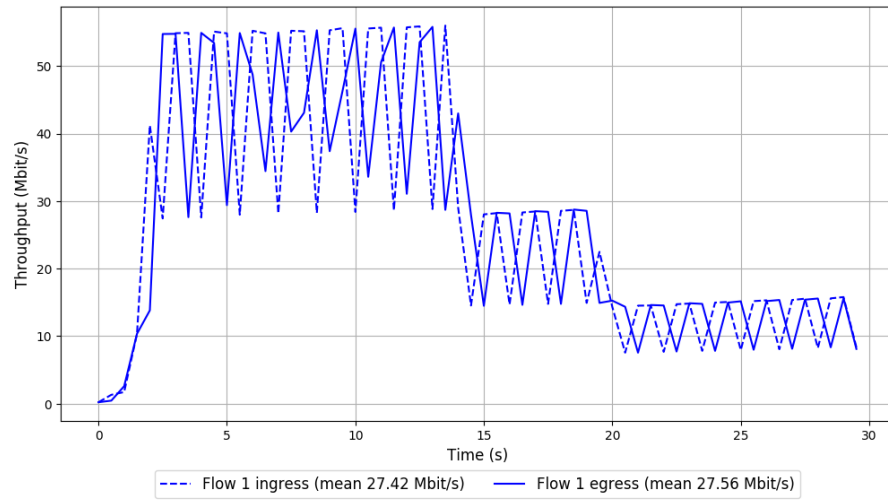
Run 6: Report of TCP Vegas — Data Link

```
Run 7: Statistics of TCP Vegas

Start at: 2017-10-11 05:38:16
End at: 2017-10-11 05:38:46

# Below is generated by plot.py at 2017-10-11 08:37:31
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.76 Mbit/s
95th percentile per-packet one-way delay: 164.500 ms
Loss rate: 1.00%
-- Flow 1:
Average throughput: 0.76 Mbit/s
95th percentile per-packet one-way delay: 164.500 ms
Loss rate: 1.00%
```
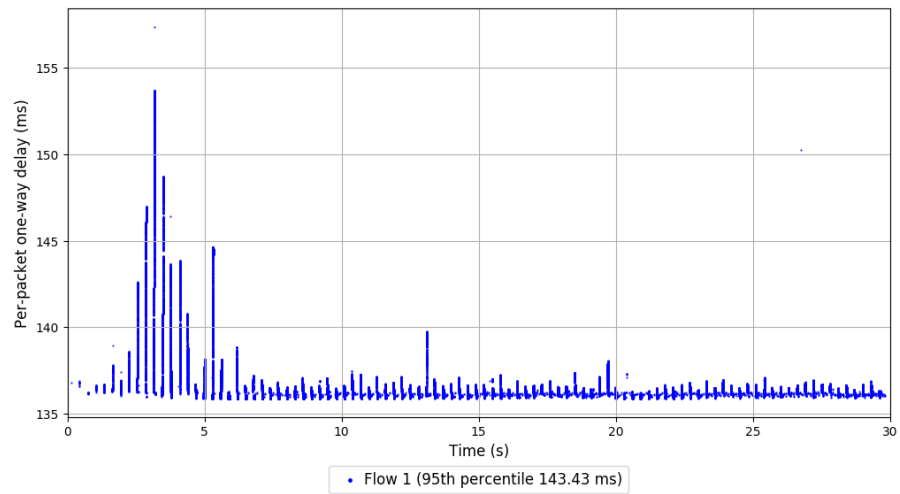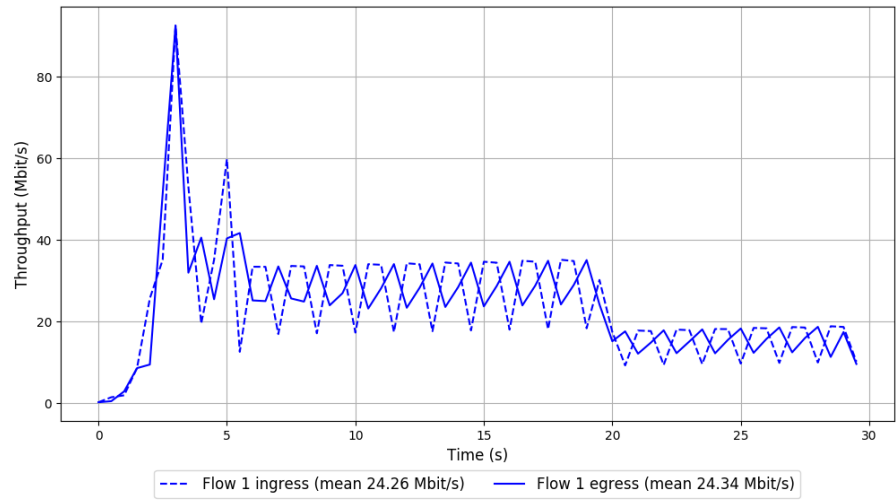
Run 7: Report of TCP Vegas — Data Link

Flow 1 ingress (mean 0.76 Mbit/s)   Flow 1 egress (mean 0.76 Mbit/s)

Flow 1 (95th percentile 164.50 ms)

```
Run 8: Statistics of TCP Vegas

Start at: 2017-10-11 05:49:55
End at: 2017-10-11 05:50:25

# Below is generated by plot.py at 2017-10-11 08:37:31
# Datalink statistics
-- Total of 1 flow:
Average throughput: 27.56 Mbit/s
95th percentile per-packet one-way delay: 166.171 ms
Loss rate: 0.50%
-- Flow 1:
Average throughput: 27.56 Mbit/s
95th percentile per-packet one-way delay: 166.171 ms
Loss rate: 0.50%
```
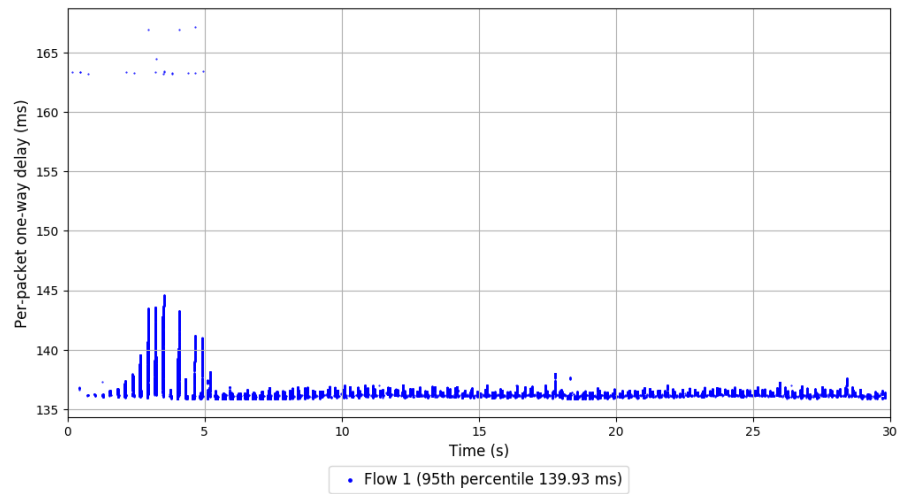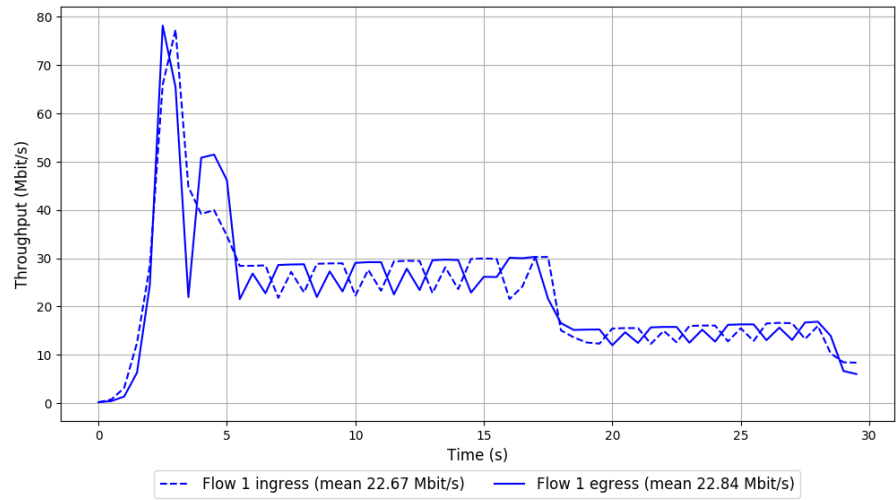
Run 8: Report of TCP Vegas — Data Link

```
Run 9: Statistics of TCP Vegas

Start at: 2017-10-11 06:01:38
End at: 2017-10-11 06:02:08

# Below is generated by plot.py at 2017-10-11 08:37:31
# Datalink statistics
-- Total of 1 flow:
Average throughput: 24.34 Mbit/s
95th percentile per-packet one-way delay: 143.429 ms
Loss rate: 0.67%
-- Flow 1:
Average throughput: 24.34 Mbit/s
95th percentile per-packet one-way delay: 143.429 ms
Loss rate: 0.67%
```
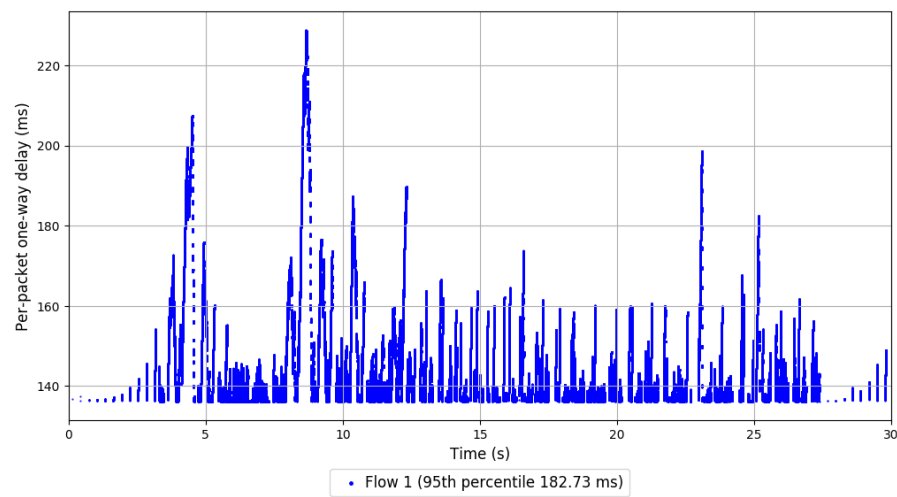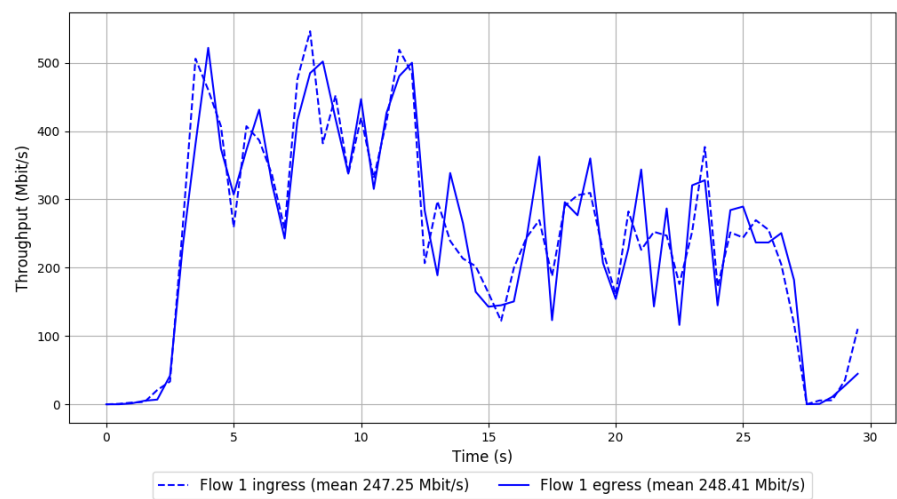
Run 9: Report of TCP Vegas — Data Link

Flow 1 ingress (mean 24.26 Mbit/s) --- Flow 1 egress (mean 24.34 Mbit/s)

Flow 1 (95th percentile 143.43 ms)

```
Run 10: Statistics of TCP Vegas

Start at: 2017-10-11 06:13:43
End at: 2017-10-11 06:14:13

# Below is generated by plot.py at 2017-10-11 08:37:31
# Datalink statistics
-- Total of 1 flow:
Average throughput: 22.84 Mbit/s
95th percentile per-packet one-way delay: 139.932 ms
Loss rate: 0.33%
-- Flow 1:
Average throughput: 22.84 Mbit/s
95th percentile per-packet one-way delay: 139.932 ms
Loss rate: 0.33%
```
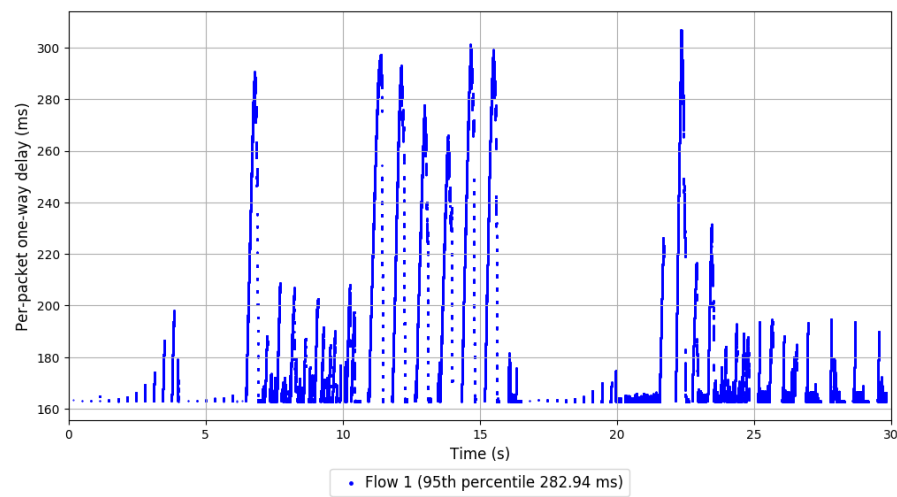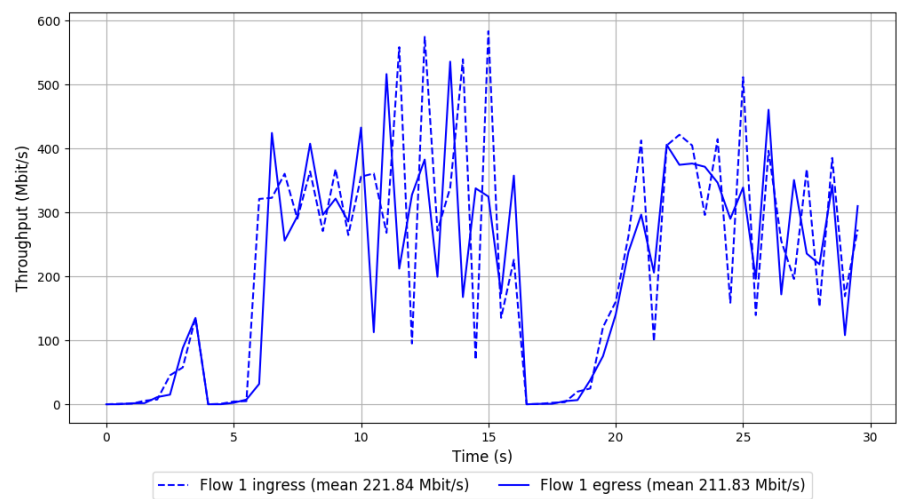
Run 10: Report of TCP Vegas — Data Link

Flow 1 ingress (mean 22.67 Mbit/s) --- Flow 1 egress (mean 22.84 Mbit/s)

Flow 1 (95th percentile 139.93 ms)

```
Run 1: Statistics of Verus

Start at: 2017-10-11 04:17:32
End at: 2017-10-11 04:18:02

# Below is generated by plot.py at 2017-10-11 08:40:49
# Datalink statistics
-- Total of 1 flow:
Average throughput: 248.41 Mbit/s
95th percentile per-packet one-way delay: 182.733 ms
Loss rate: 0.54%
-- Flow 1:
Average throughput: 248.41 Mbit/s
95th percentile per-packet one-way delay: 182.733 ms
Loss rate: 0.54%
```
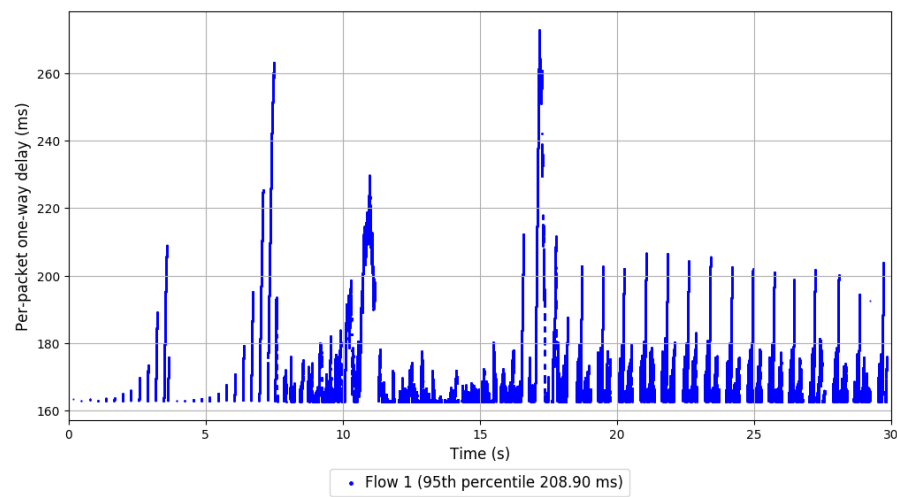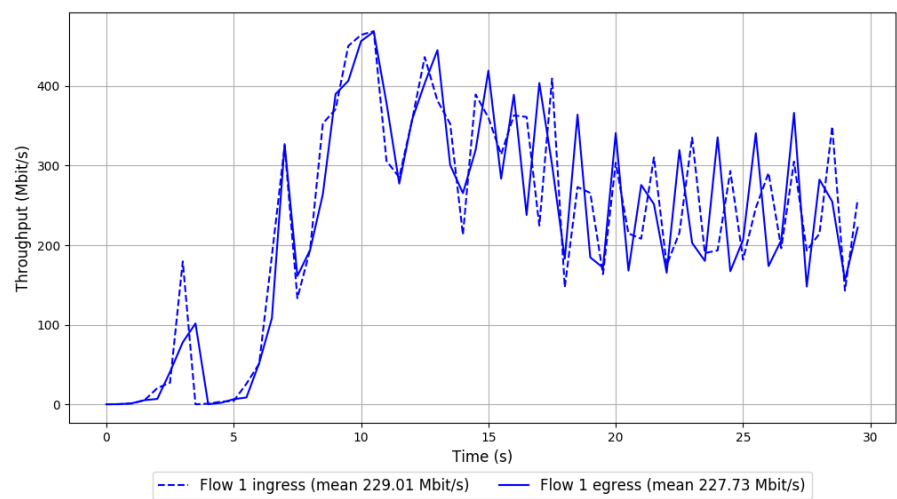
Run 1: Report of Verus — Data Link

Flow 1 ingress (mean 247.25 Mbit/s)   Flow 1 egress (mean 248.41 Mbit/s)

Flow 1 (95th percentile 182.73 ms)

```
Run 2: Statistics of Verus

Start at: 2017-10-11 04:29:56
End at: 2017-10-11 04:30:26

# Below is generated by plot.py at 2017-10-11 08:40:49
# Datalink statistics
-- Total of 1 flow:
Average throughput: 211.83 Mbit/s
95th percentile per-packet one-way delay: 282.944 ms
Loss rate: 5.19%
-- Flow 1:
Average throughput: 211.83 Mbit/s
95th percentile per-packet one-way delay: 282.944 ms
Loss rate: 5.19%
```
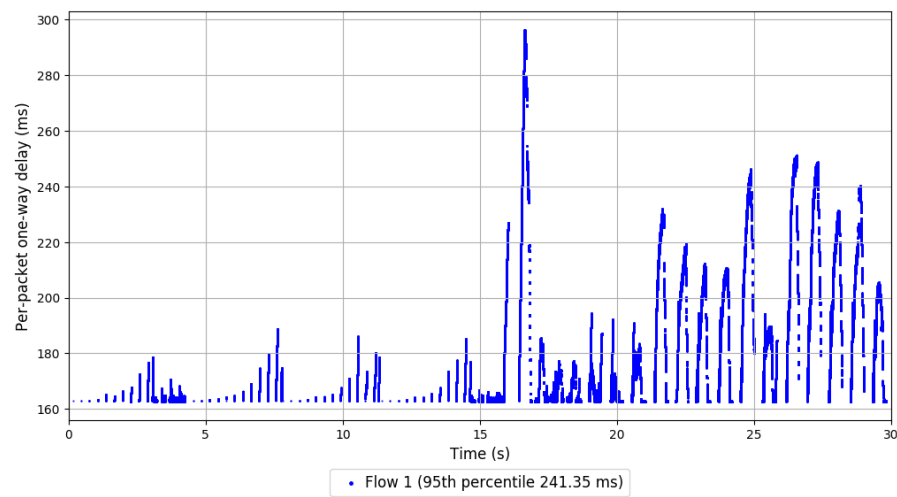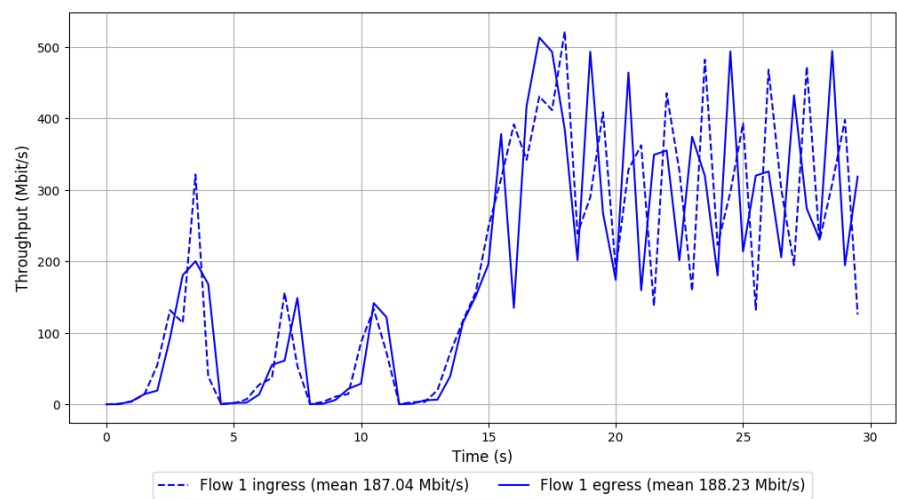
Run 2: Report of Verus — Data Link

```
Run 3: Statistics of Verus

Start at: 2017-10-11 04:42:07
End at: 2017-10-11 04:42:37

# Below is generated by plot.py at 2017-10-11 08:40:49
# Datalink statistics
-- Total of 1 flow:
Average throughput: 227.73 Mbit/s
95th percentile per-packet one-way delay: 208.904 ms
Loss rate: 1.15%
-- Flow 1:
Average throughput: 227.73 Mbit/s
95th percentile per-packet one-way delay: 208.904 ms
Loss rate: 1.15%
```
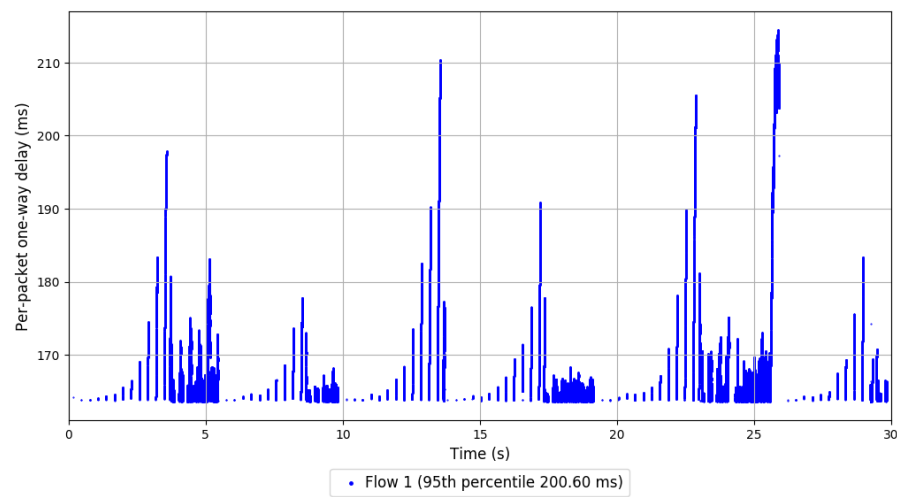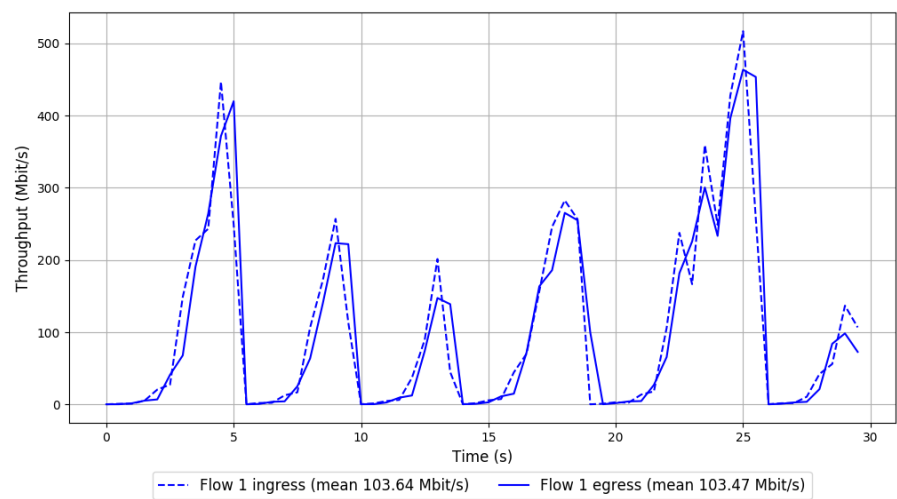
Run 3: Report of Verus — Data Link

```
Run 4: Statistics of Verus

Start at: 2017-10-11 04:54:25
End at: 2017-10-11 04:54:55

# Below is generated by plot.py at 2017-10-11 08:40:49
# Datalink statistics
-- Total of 1 flow:
Average throughput: 188.23 Mbit/s
95th percentile per-packet one-way delay: 241.349 ms
Loss rate: 0.46%
-- Flow 1:
Average throughput: 188.23 Mbit/s
95th percentile per-packet one-way delay: 241.349 ms
Loss rate: 0.46%
```
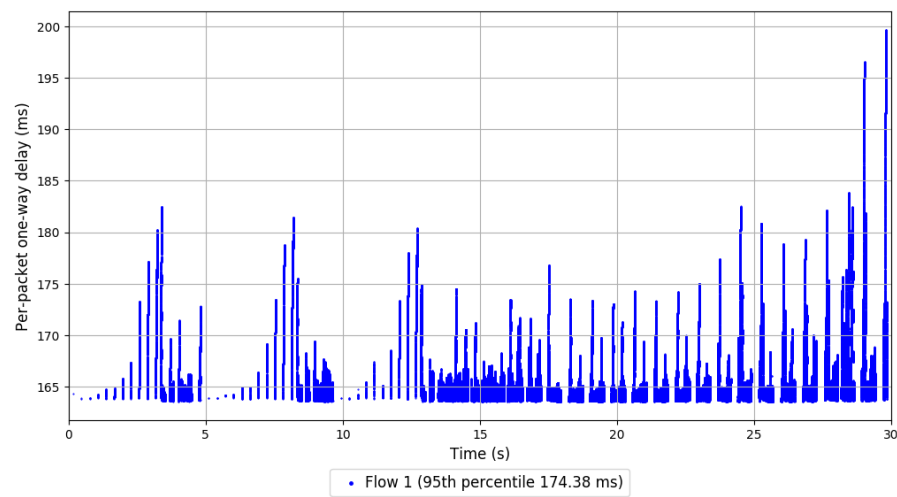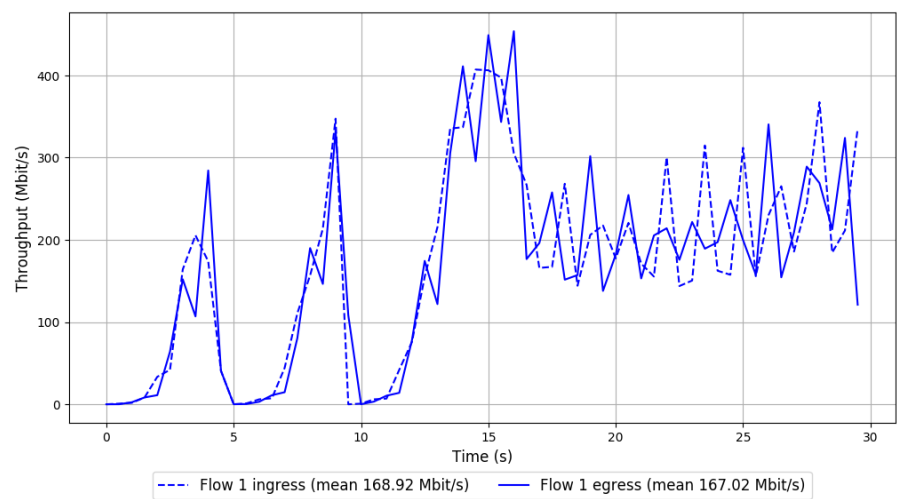
Run 4: Report of Verus — Data Link

```
Run 5: Statistics of Verus

Start at: 2017-10-11 05:05:56
End at: 2017-10-11 05:06:26

# Below is generated by plot.py at 2017-10-11 08:40:49
# Datalink statistics
-- Total of 1 flow:
Average throughput: 103.47 Mbit/s
95th percentile per-packet one-way delay: 200.596 ms
Loss rate: 1.17%
-- Flow 1:
Average throughput: 103.47 Mbit/s
95th percentile per-packet one-way delay: 200.596 ms
Loss rate: 1.17%
```
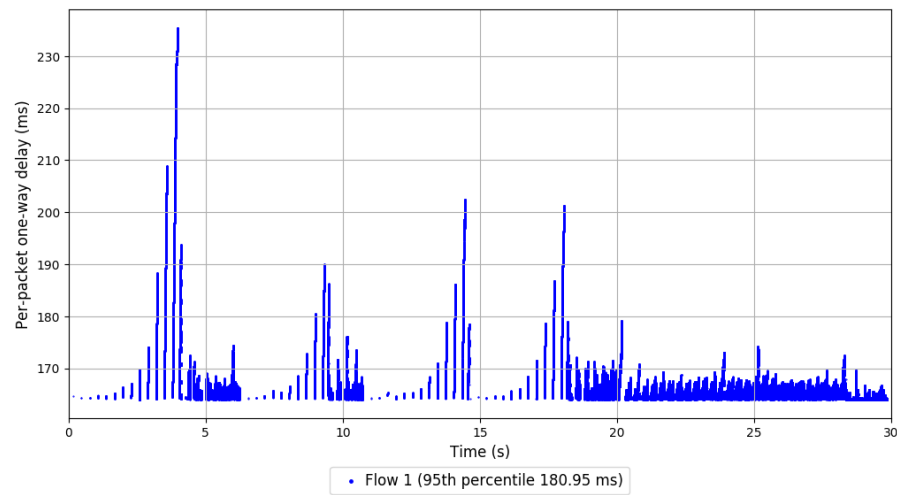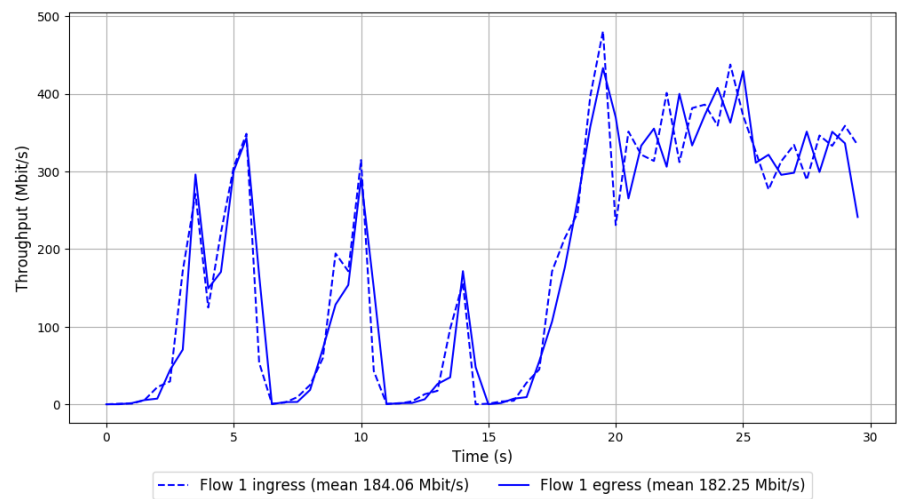
Run 5: Report of Verus — Data Link

Flow 1 ingress (mean 103.64 Mbit/s)   Flow 1 egress (mean 103.47 Mbit/s)

Flow 1 (95th percentile 200.60 ms)

```
Run 6: Statistics of Verus

Start at: 2017-10-11 05:17:22
End at: 2017-10-11 05:17:52

# Below is generated by plot.py at 2017-10-11 08:40:49
# Datalink statistics
-- Total of 1 flow:
Average throughput: 167.02 Mbit/s
95th percentile per-packet one-way delay: 174.375 ms
Loss rate: 2.12%
-- Flow 1:
Average throughput: 167.02 Mbit/s
95th percentile per-packet one-way delay: 174.375 ms
Loss rate: 2.12%
```
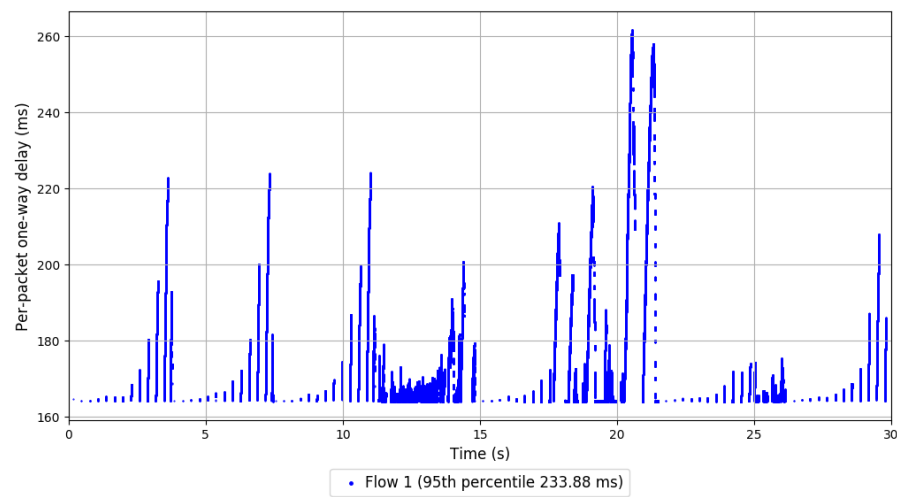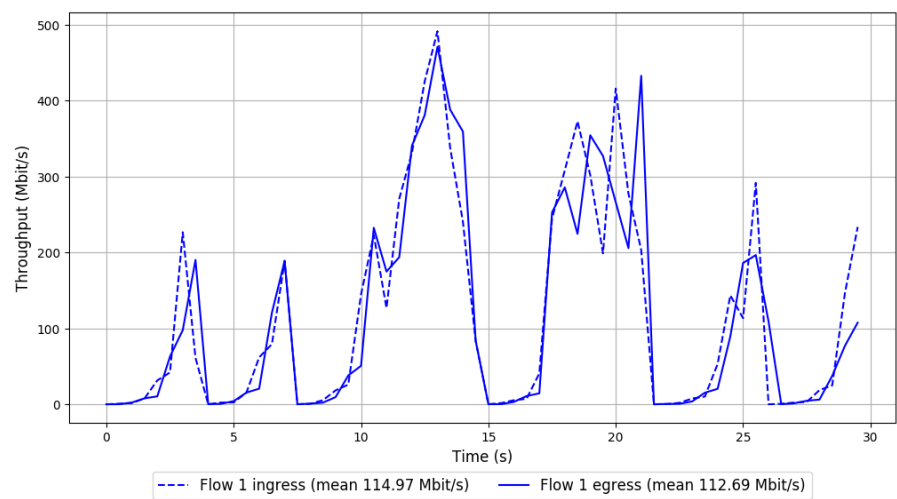
Run 6: Report of Verus — Data Link

```
Run 7: Statistics of Verus

Start at: 2017-10-11 05:29:22
End at: 2017-10-11 05:29:52


# Below is generated by plot.py at 2017-10-11 08:40:49
# Datalink statistics
-- Total of 1 flow:
Average throughput: 182.25 Mbit/s
95th percentile per-packet one-way delay: 180.950 ms
Loss rate: 1.98%
-- Flow 1:
Average throughput: 182.25 Mbit/s
95th percentile per-packet one-way delay: 180.950 ms
Loss rate: 1.98%
```
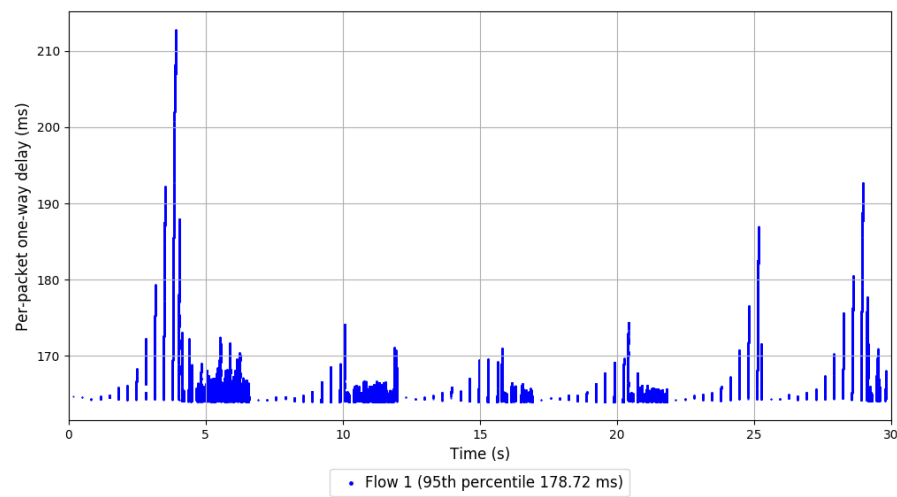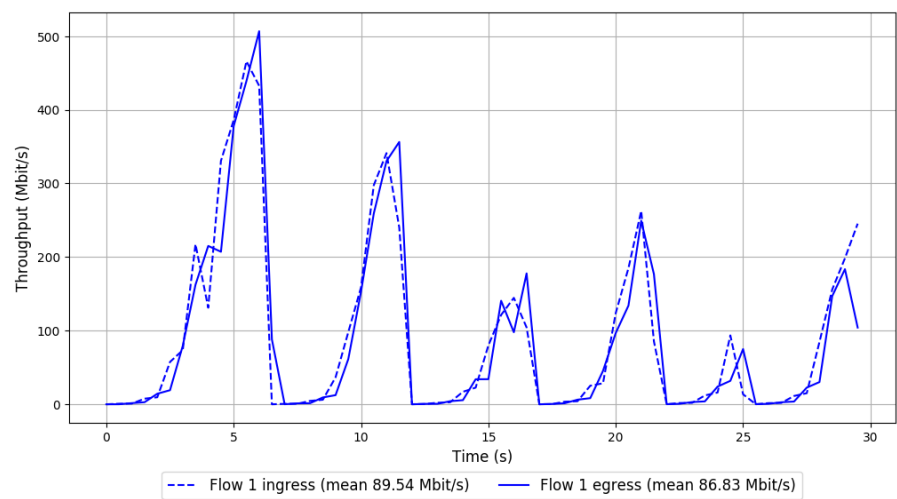
Run 7: Report of Verus — Data Link

```
Run 8: Statistics of Verus

Start at: 2017-10-11 05:40:31
End at: 2017-10-11 05:41:01

# Below is generated by plot.py at 2017-10-11 08:40:49
# Datalink statistics
-- Total of 1 flow:
Average throughput: 112.69 Mbit/s
95th percentile per-packet one-way delay: 233.876 ms
Loss rate: 2.84%
-- Flow 1:
Average throughput: 112.69 Mbit/s
95th percentile per-packet one-way delay: 233.876 ms
Loss rate: 2.84%
```
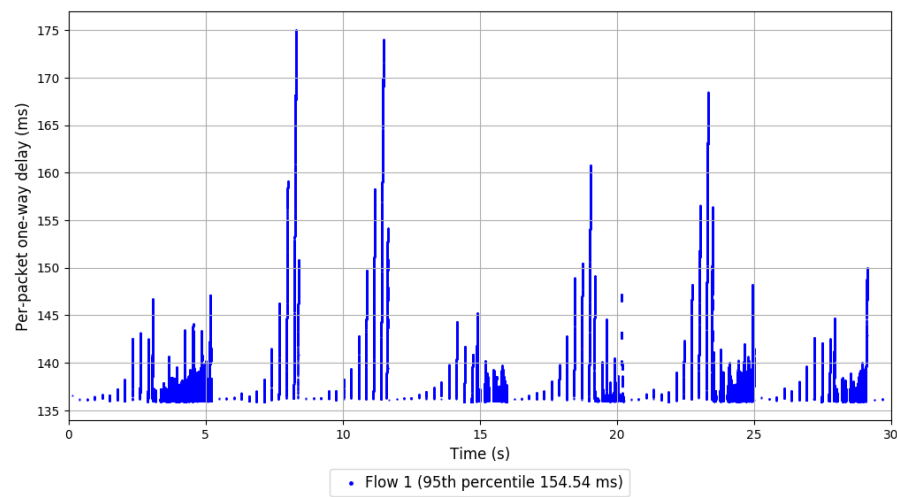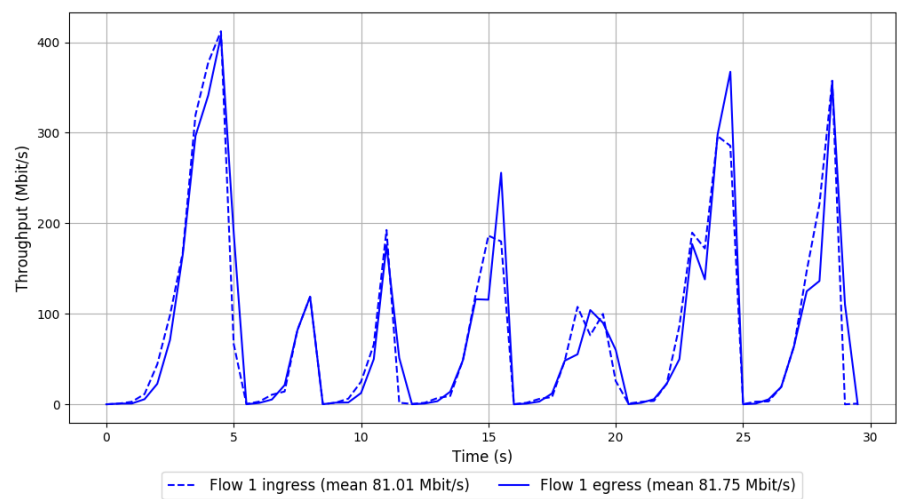
Run 8: Report of Verus — Data Link

Flow 1 ingress (mean 114.97 Mbit/s)   Flow 1 egress (mean 112.69 Mbit/s)

Flow 1 (95th percentile 233.88 ms)

```
Run 9: Statistics of Verus

Start at: 2017-10-11 05:52:15
End at: 2017-10-11 05:52:45

# Below is generated by plot.py at 2017-10-11 08:40:49
# Datalink statistics
-- Total of 1 flow:
Average throughput: 86.83 Mbit/s
95th percentile per-packet one-way delay: 178.723 ms
Loss rate: 4.09%
-- Flow 1:
Average throughput: 86.83 Mbit/s
95th percentile per-packet one-way delay: 178.723 ms
Loss rate: 4.09%
```
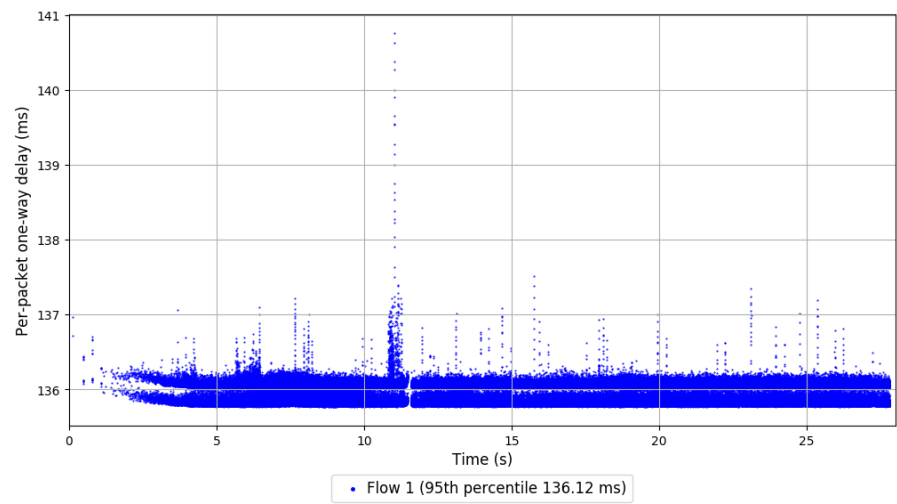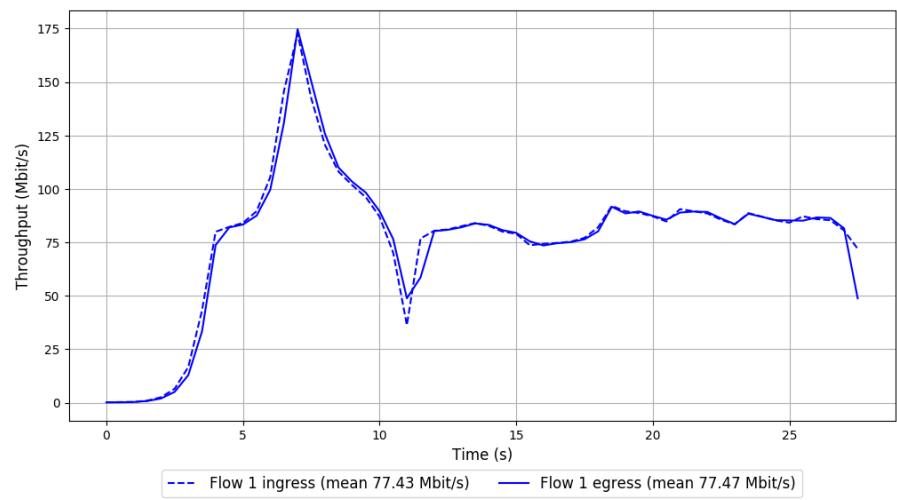
Run 9: Report of Verus — Data Link

221

```
Run 10: Statistics of Verus

Start at: 2017-10-11 06:03:57
End at: 2017-10-11 06:04:27

# Below is generated by plot.py at 2017-10-11 08:40:57
# Datalink statistics
-- Total of 1 flow:
Average throughput: 81.75 Mbit/s
95th percentile per-packet one-way delay: 154.545 ms
Loss rate: 0.02%
-- Flow 1:
Average throughput: 81.75 Mbit/s
95th percentile per-packet one-way delay: 154.545 ms
Loss rate: 0.02%
```
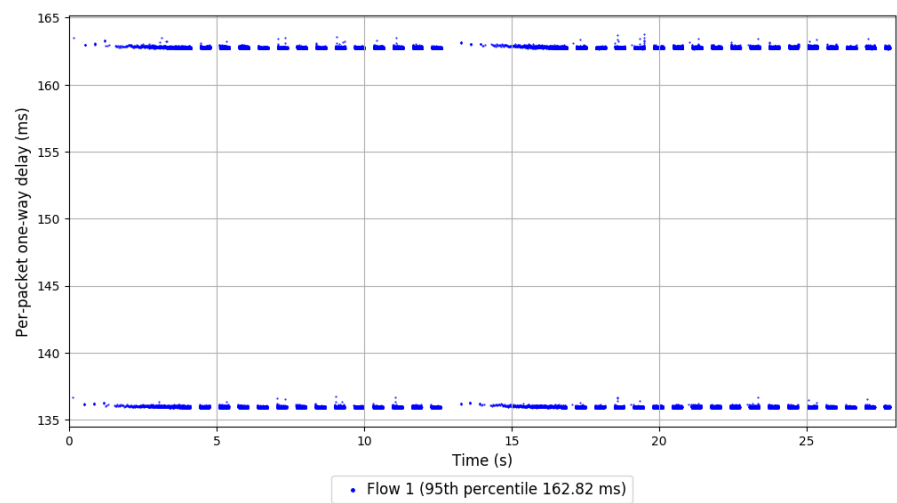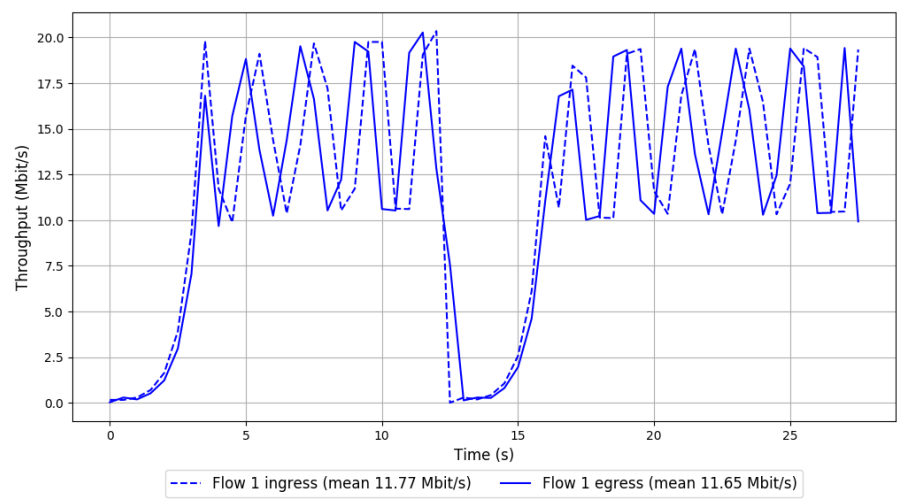
Run 10: Report of Verus — Data Link

```
Run 1: Statistics of Copa

Start at: 2017-10-11 04:21:43
End at: 2017-10-11 04:22:13

# Below is generated by plot.py at 2017-10-11 08:42:21
# Datalink statistics
-- Total of 1 flow:
Average throughput: 77.47 Mbit/s
95th percentile per-packet one-way delay: 136.120 ms
Loss rate: 1.03%
-- Flow 1:
Average throughput: 77.47 Mbit/s
95th percentile per-packet one-way delay: 136.120 ms
Loss rate: 1.03%
```
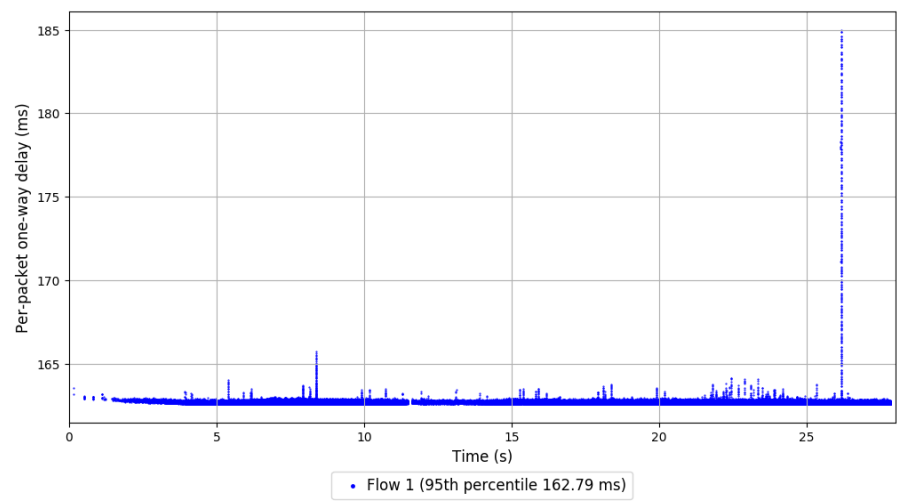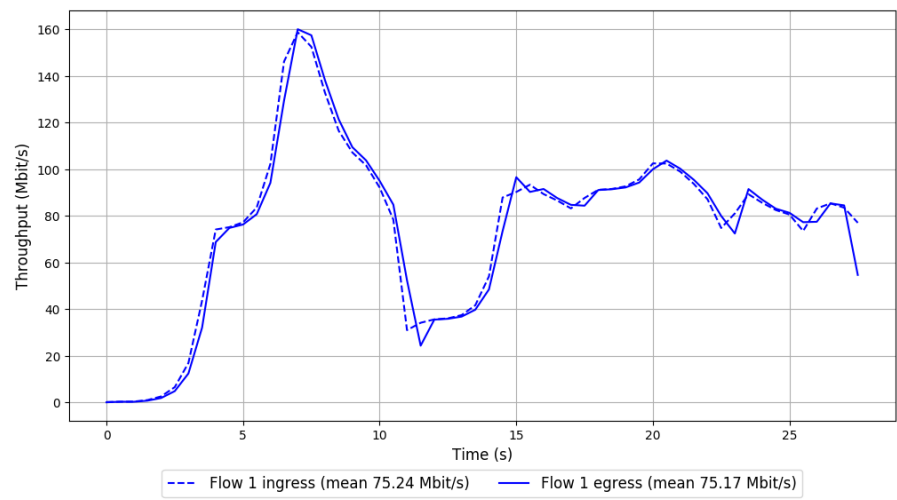
Run 1: Report of Copa — Data Link

```
Run 2: Statistics of Copa

Start at: 2017-10-11 04:34:04
End at: 2017-10-11 04:34:34

# Below is generated by plot.py at 2017-10-11 08:42:21
# Datalink statistics
-- Total of 1 flow:
Average throughput: 11.65 Mbit/s
95th percentile per-packet one-way delay: 162.824 ms
Loss rate: 1.54%
-- Flow 1:
Average throughput: 11.65 Mbit/s
95th percentile per-packet one-way delay: 162.824 ms
Loss rate: 1.54%
```
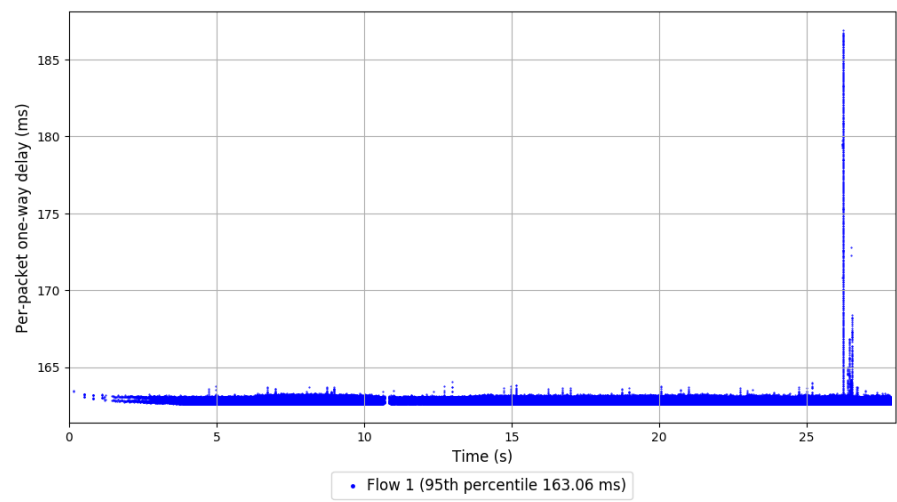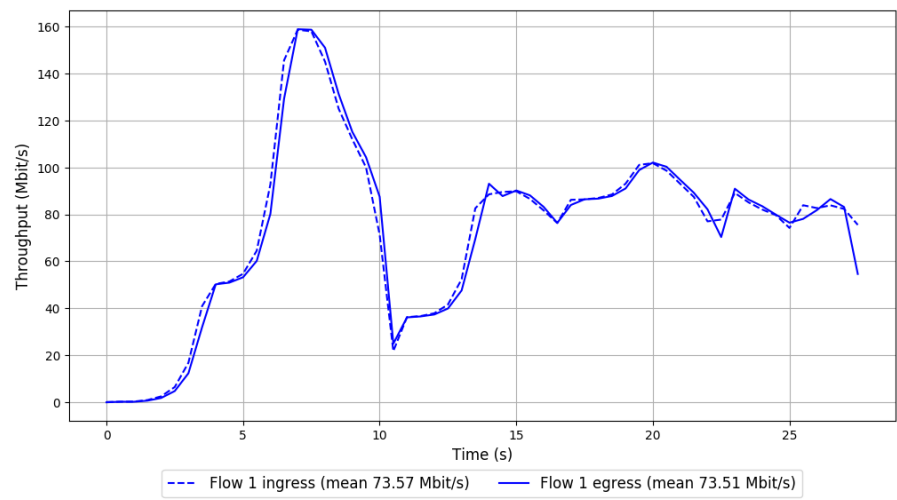
Run 2: Report of Copa — Data Link

```
Run 3: Statistics of Copa

Start at: 2017-10-11 04:46:21
End at: 2017-10-11 04:46:51

# Below is generated by plot.py at 2017-10-11 08:42:24
# Datalink statistics
-- Total of 1 flow:
Average throughput: 75.17 Mbit/s
95th percentile per-packet one-way delay: 162.791 ms
Loss rate: 1.17%
-- Flow 1:
Average throughput: 75.17 Mbit/s
95th percentile per-packet one-way delay: 162.791 ms
Loss rate: 1.17%
```
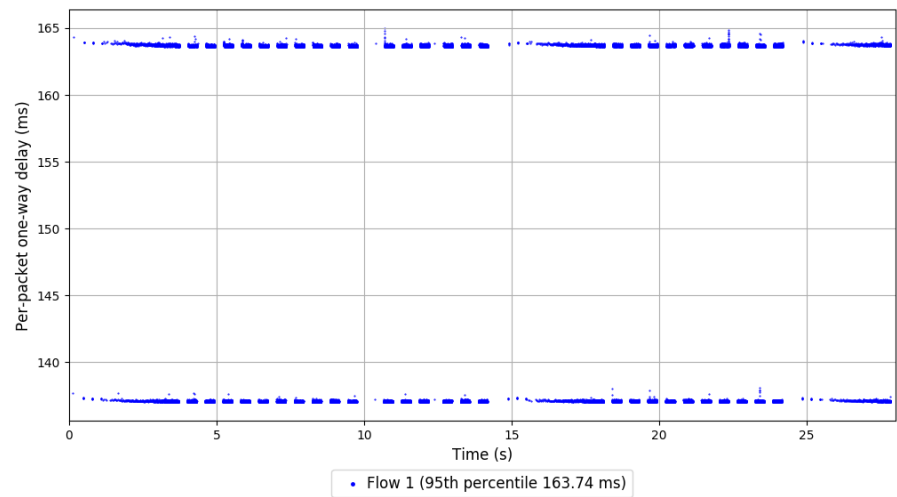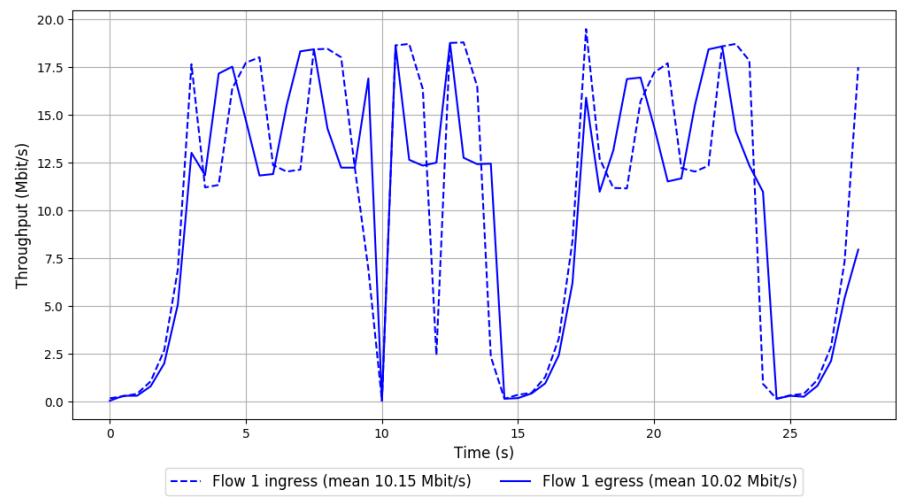
Run 3: Report of Copa — Data Link

Flow 1 ingress (mean 75.24 Mbit/s) — — — Flow 1 egress (mean 75.17 Mbit/s) ——

Flow 1 (95th percentile 162.79 ms)

```
Run 4: Statistics of Copa

Start at: 2017-10-11 04:58:26
End at: 2017-10-11 04:58:56

# Below is generated by plot.py at 2017-10-11 08:42:28
# Datalink statistics
-- Total of 1 flow:
Average throughput: 73.51 Mbit/s
95th percentile per-packet one-way delay: 163.058 ms
Loss rate: 1.15%
-- Flow 1:
Average throughput: 73.51 Mbit/s
95th percentile per-packet one-way delay: 163.058 ms
Loss rate: 1.15%
```
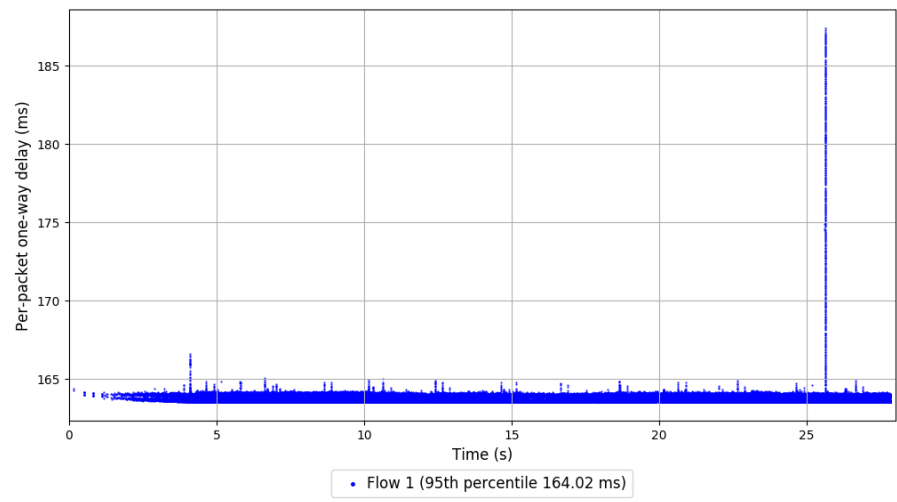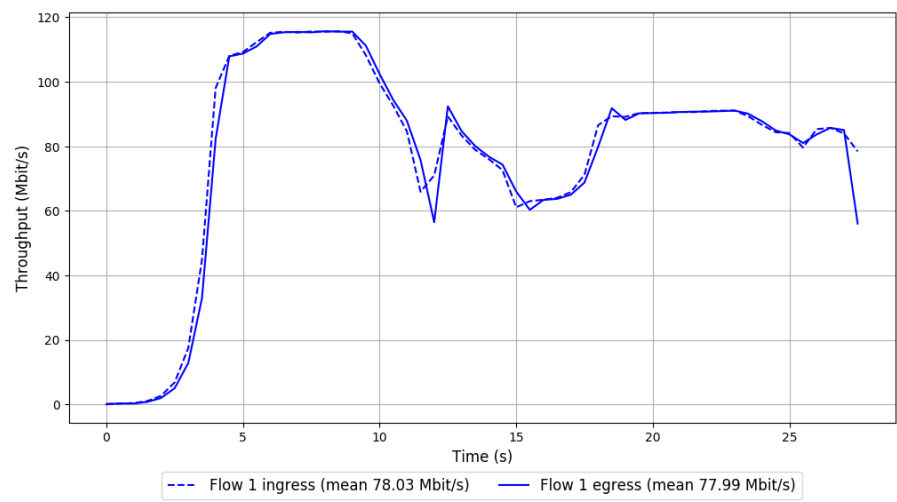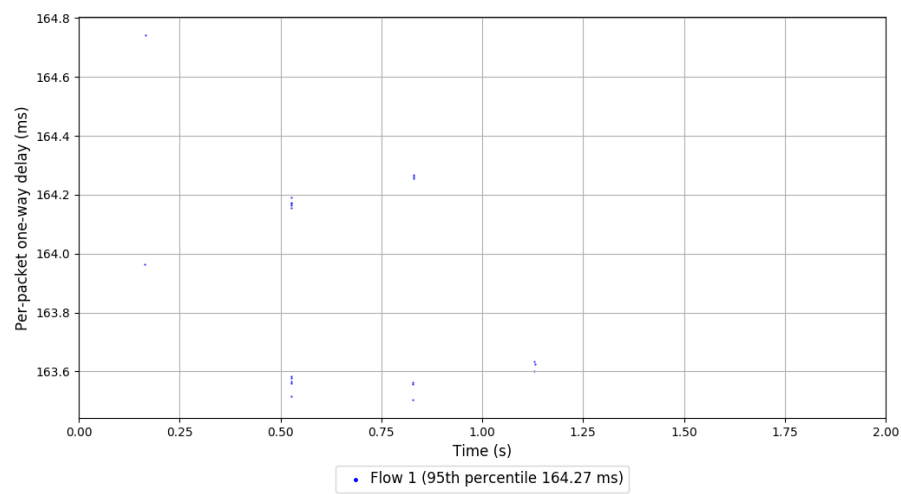
Run 4: Report of Copa — Data Link

Flow 1 ingress (mean 73.57 Mbit/s)　　Flow 1 egress (mean 73.51 Mbit/s)

Flow 1 (95th percentile 163.06 ms)

231

```
Run 5: Statistics of Copa

Start at: 2017-10-11 05:09:52
End at: 2017-10-11 05:10:22

# Below is generated by plot.py at 2017-10-11 08:42:28
# Datalink statistics
-- Total of 1 flow:
Average throughput: 10.02 Mbit/s
95th percentile per-packet one-way delay: 163.744 ms
Loss rate: 2.24%
-- Flow 1:
Average throughput: 10.02 Mbit/s
95th percentile per-packet one-way delay: 163.744 ms
Loss rate: 2.24%
```
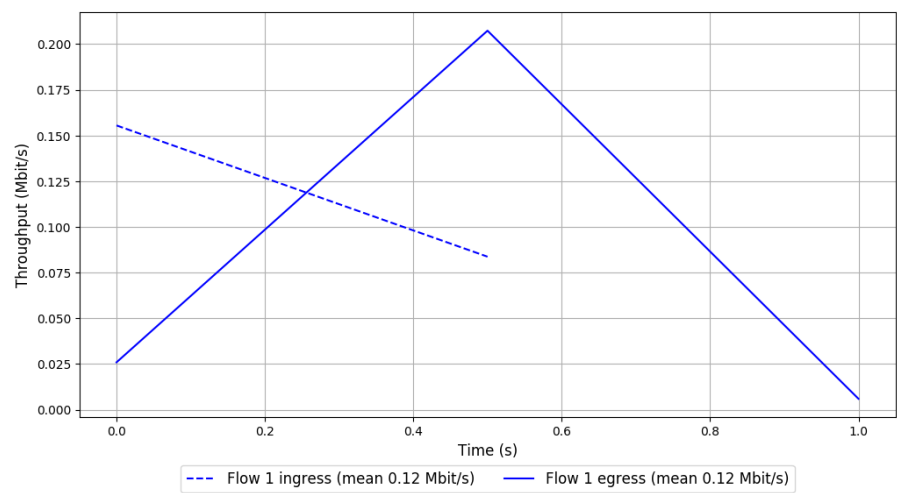
Run 5: Report of Copa — Data Link

233

Run 5: Report of Copa — Data Link

```
Run 6: Statistics of Copa

Start at: 2017-10-11 05:21:22
End at: 2017-10-11 05:21:52

# Below is generated by plot.py at 2017-10-11 08:42:44
# Datalink statistics
-- Total of 1 flow:
Average throughput: 77.99 Mbit/s
95th percentile per-packet one-way delay: 164.016 ms
Loss rate: 1.13%
-- Flow 1:
Average throughput: 77.99 Mbit/s
95th percentile per-packet one-way delay: 164.016 ms
Loss rate: 1.13%
```
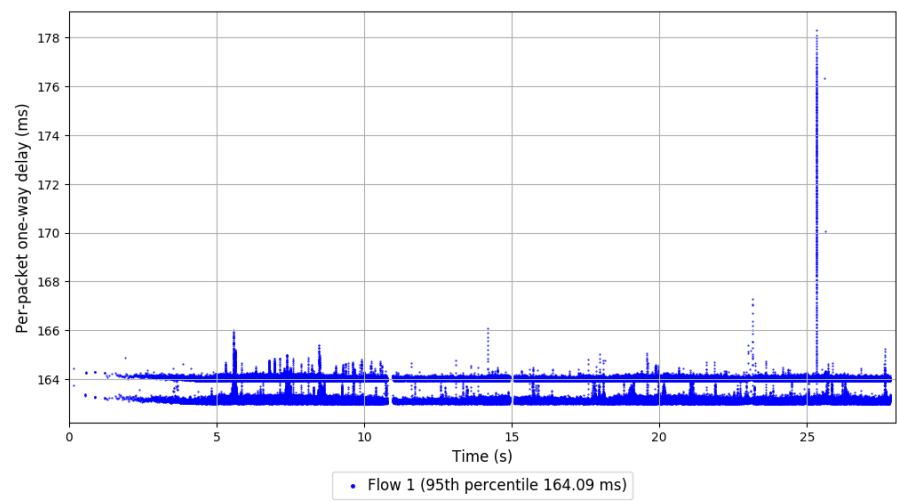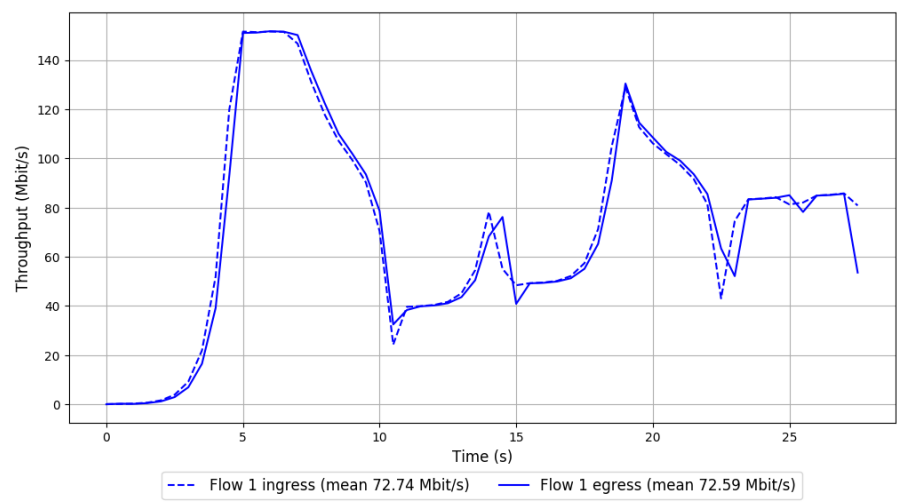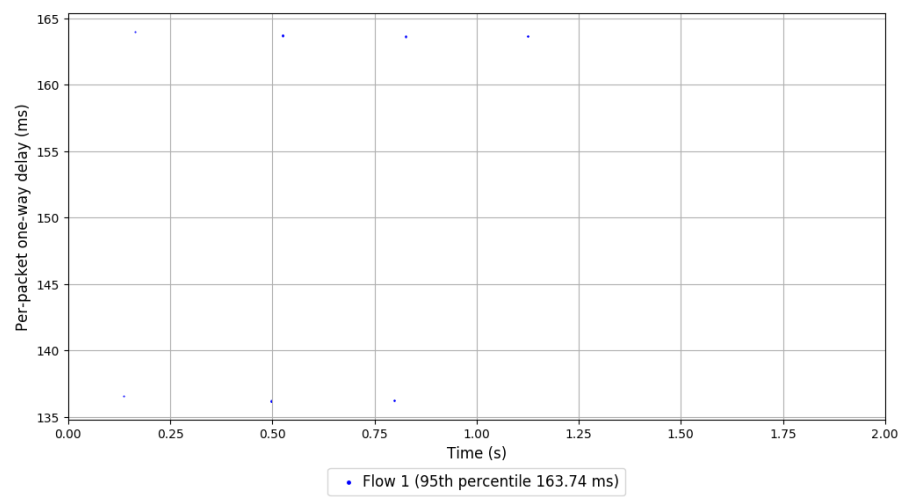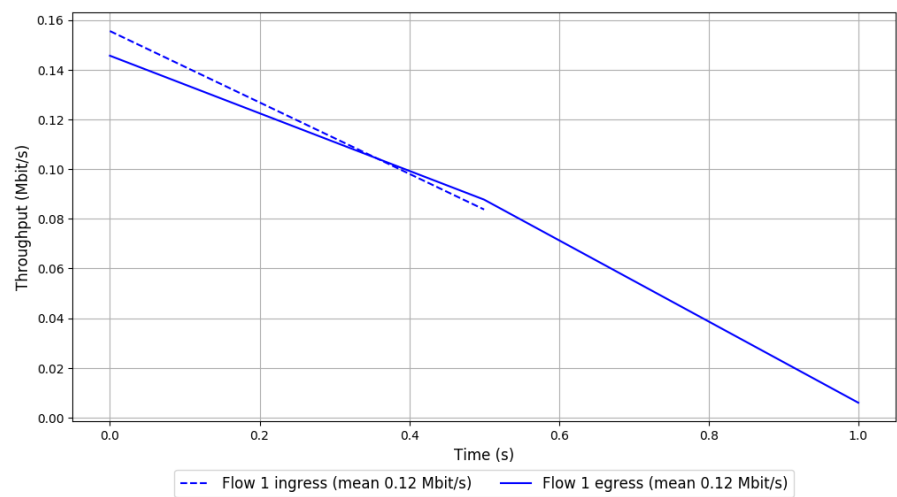
Run 6: Report of Copa — Data Link

Run 7: Statistics of Copa

Start at: 2017-10-11 05:33:22
End at: 2017-10-11 05:33:52

Run 7: Report of Copa — Data Link

```
Run 8: Statistics of Copa

Start at: 2017-10-11 05:44:29
End at: 2017-10-11 05:44:59

# Below is generated by plot.py at 2017-10-11 08:42:44
# Datalink statistics
-- Total of 1 flow:
Average throughput: 72.59 Mbit/s
95th percentile per-packet one-way delay: 164.087 ms
Loss rate: 1.36%
-- Flow 1:
Average throughput: 72.59 Mbit/s
95th percentile per-packet one-way delay: 164.087 ms
Loss rate: 1.36%
```

Run 8: Report of Copa — Data Link

Run 9: Statistics of Copa

Start at: 2017-10-11 05:56:14
End at: 2017-10-11 05:56:44

Run 9: Report of Copa — Data Link

```
Run 10: Statistics of Copa

Start at: 2017-10-11 06:07:55
End at: 2017-10-11 06:08:25

# Below is generated by plot.py at 2017-10-11 08:42:44
# Datalink statistics
-- Total of 1 flow:
Average throughput: 78.44 Mbit/s
95th percentile per-packet one-way delay: 136.551 ms
Loss rate: 1.24%
-- Flow 1:
Average throughput: 78.44 Mbit/s
95th percentile per-packet one-way delay: 136.551 ms
Loss rate: 1.24%
```
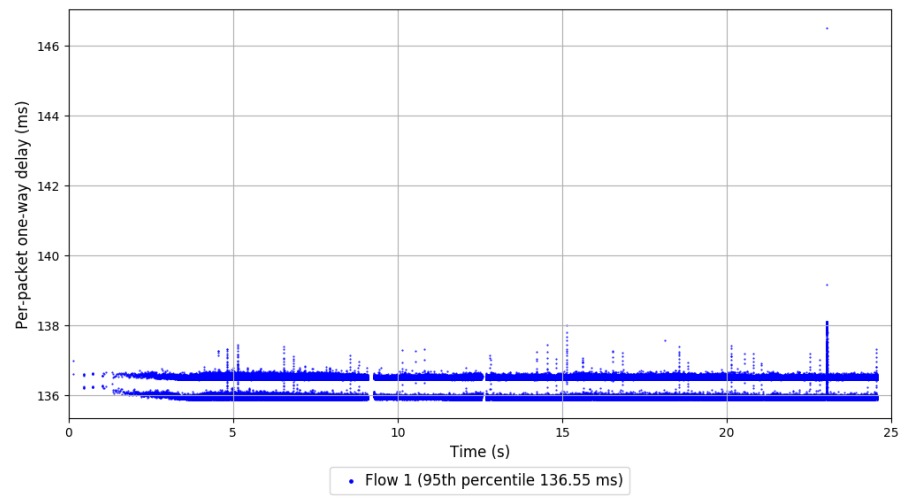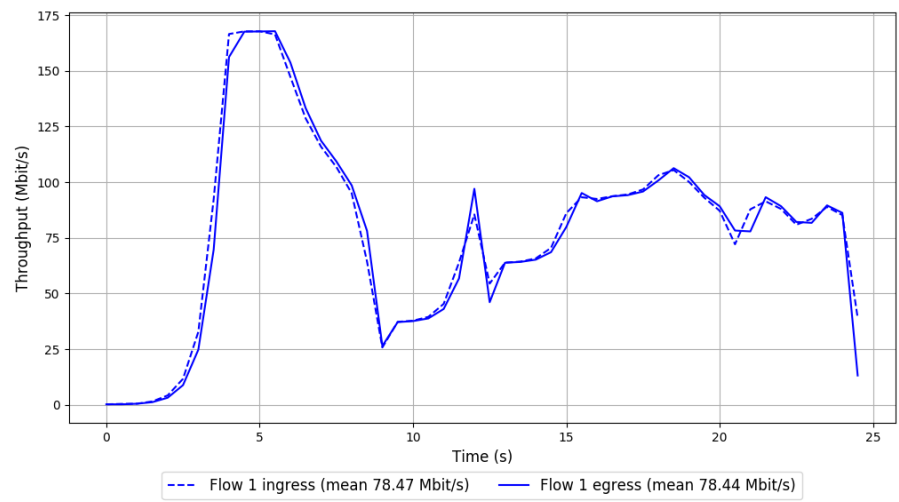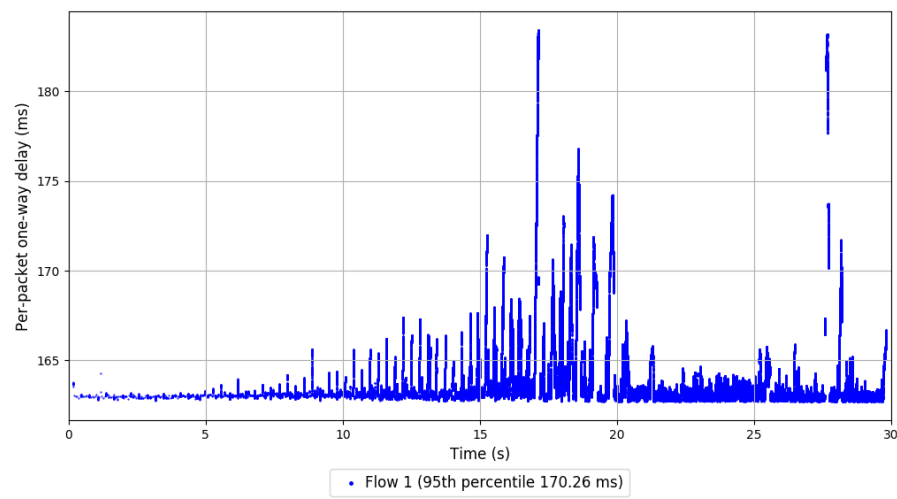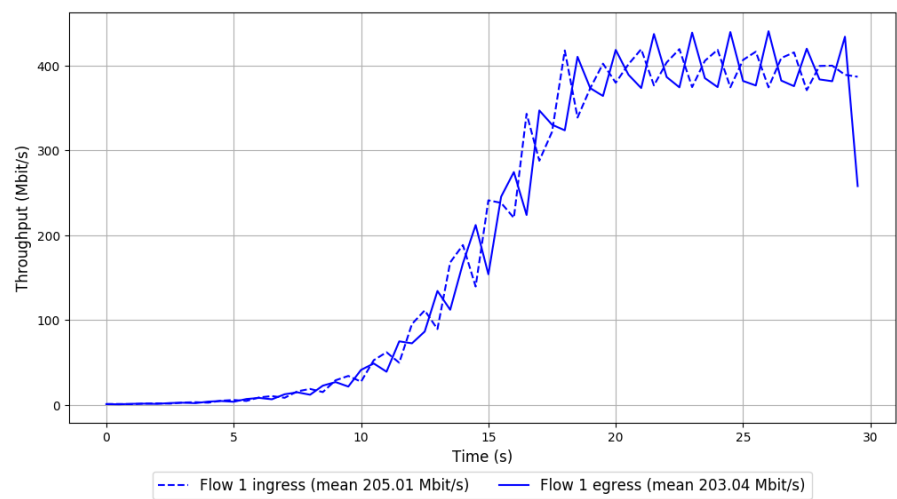
Run 10: Report of Copa — Data Link

```
Run 1: Statistics of CalibratedKoho

Start at: 2017-10-11 04:26:35
End at: 2017-10-11 04:27:05

# Below is generated by plot.py at 2017-10-11 08:44:02
# Datalink statistics
-- Total of 1 flow:
Average throughput: 203.04 Mbit/s
95th percentile per-packet one-way delay: 170.265 ms
Loss rate: 1.95%
-- Flow 1:
Average throughput: 203.04 Mbit/s
95th percentile per-packet one-way delay: 170.265 ms
Loss rate: 1.95%
```

Run 1: Report of CalibratedKoho — Data Link

```
Run 2: Statistics of CalibratedKoho

Start at: 2017-10-11 04:38:50
End at: 2017-10-11 04:39:20

# Below is generated by plot.py at 2017-10-11 08:44:25
# Datalink statistics
-- Total of 1 flow:
Average throughput: 201.12 Mbit/s
95th percentile per-packet one-way delay: 170.837 ms
Loss rate: 1.97%
-- Flow 1:
Average throughput: 201.12 Mbit/s
95th percentile per-packet one-way delay: 170.837 ms
Loss rate: 1.97%
```
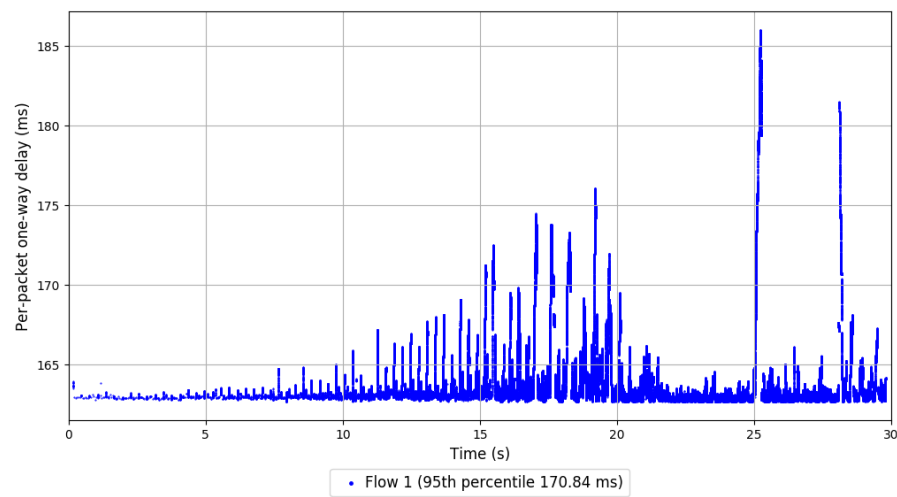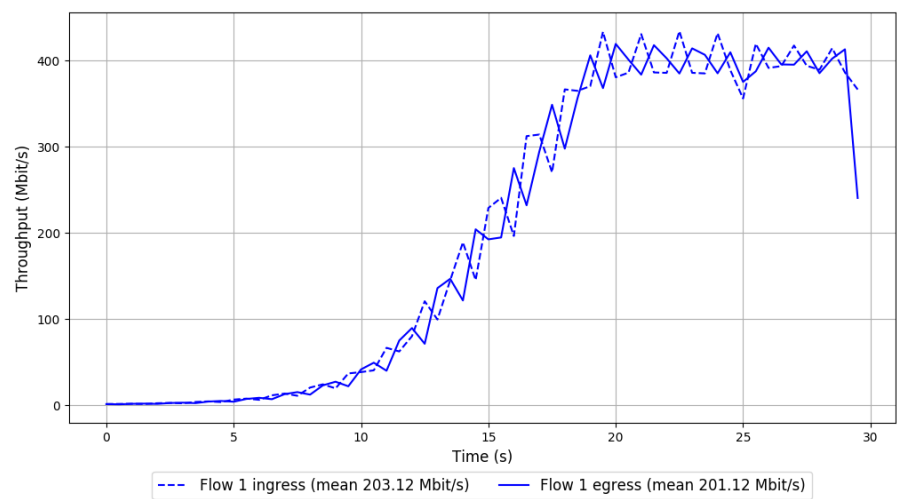
Run 2: Report of CalibratedKoho — Data Link

```
Run 3: Statistics of CalibratedKoho

Start at: 2017-10-11 04:51:07
End at: 2017-10-11 04:51:37

# Below is generated by plot.py at 2017-10-11 08:45:37
# Datalink statistics
-- Total of 1 flow:
Average throughput: 199.71 Mbit/s
95th percentile per-packet one-way delay: 169.238 ms
Loss rate: 1.98%
-- Flow 1:
Average throughput: 199.71 Mbit/s
95th percentile per-packet one-way delay: 169.238 ms
Loss rate: 1.98%
```
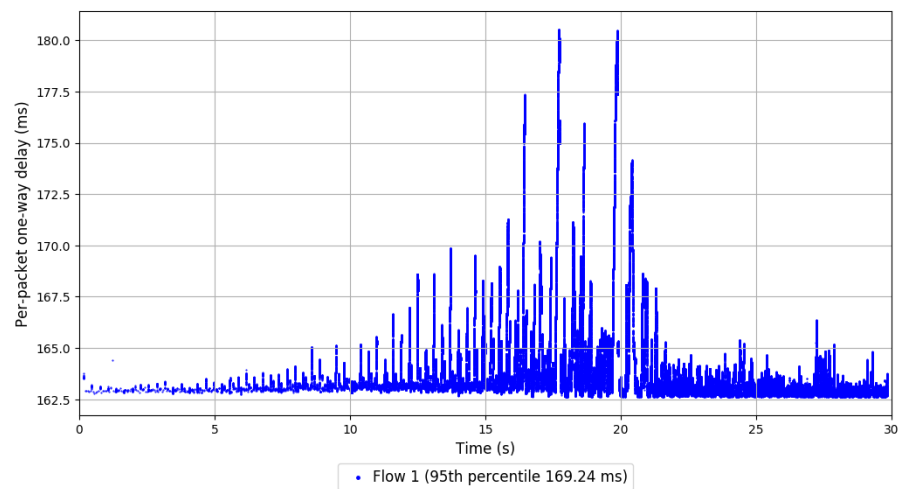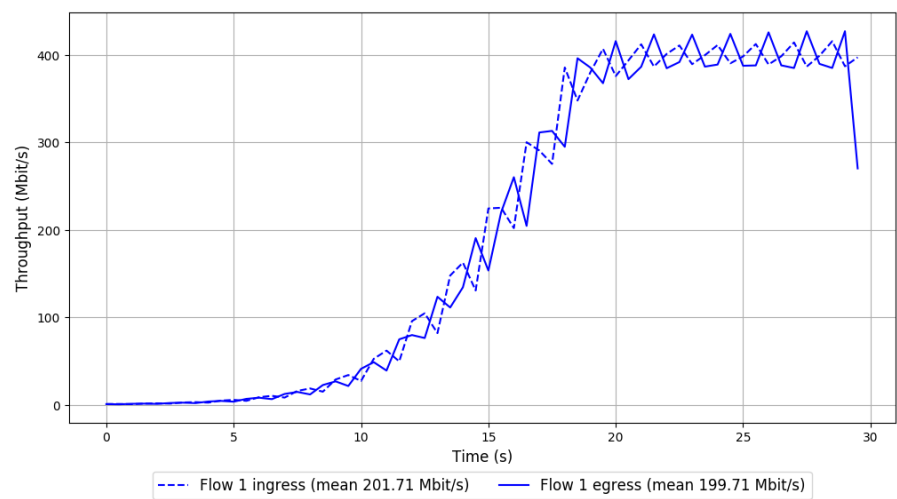
Run 3: Report of CalibratedKoho — Data Link

```
Run 4: Statistics of CalibratedKoho

Start at: 2017-10-11 05:02:43
End at: 2017-10-11 05:03:13

# Below is generated by plot.py at 2017-10-11 08:45:37
# Datalink statistics
-- Total of 1 flow:
Average throughput: 196.43 Mbit/s
95th percentile per-packet one-way delay: 170.654 ms
Loss rate: 2.02%
-- Flow 1:
Average throughput: 196.43 Mbit/s
95th percentile per-packet one-way delay: 170.654 ms
Loss rate: 2.02%
```
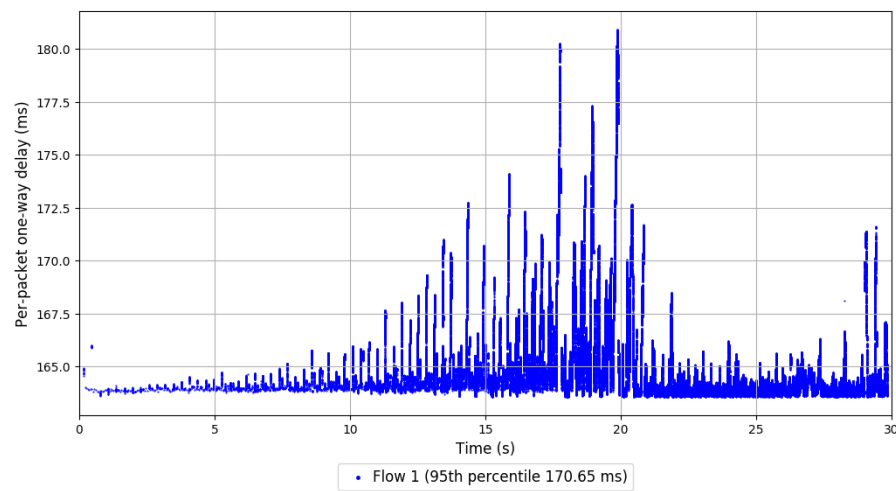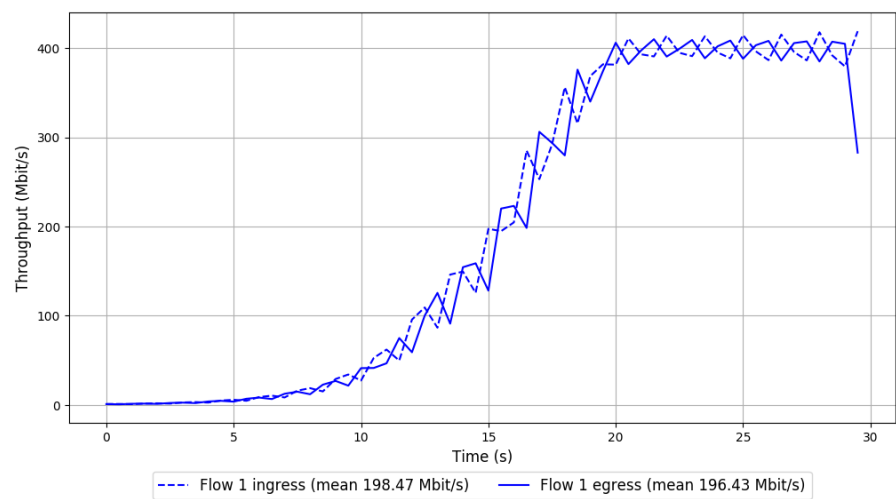
Run 4: Report of CalibratedKoho — Data Link

```
Run 5: Statistics of CalibratedKoho

Start at: 2017-10-11 05:14:06
End at: 2017-10-11 05:14:36

# Below is generated by plot.py at 2017-10-11 08:45:41
# Datalink statistics
-- Total of 1 flow:
Average throughput: 194.53 Mbit/s
95th percentile per-packet one-way delay: 173.220 ms
Loss rate: 2.04%
-- Flow 1:
Average throughput: 194.53 Mbit/s
95th percentile per-packet one-way delay: 173.220 ms
Loss rate: 2.04%
```
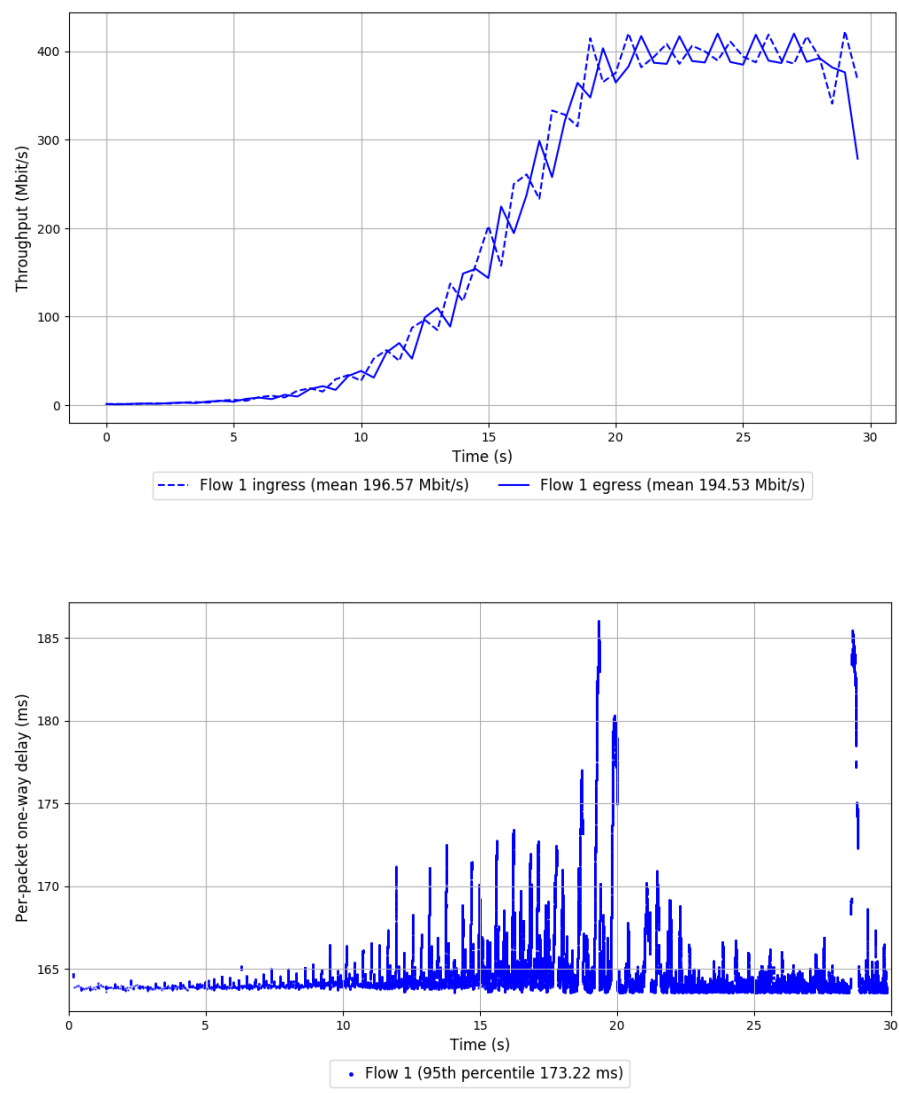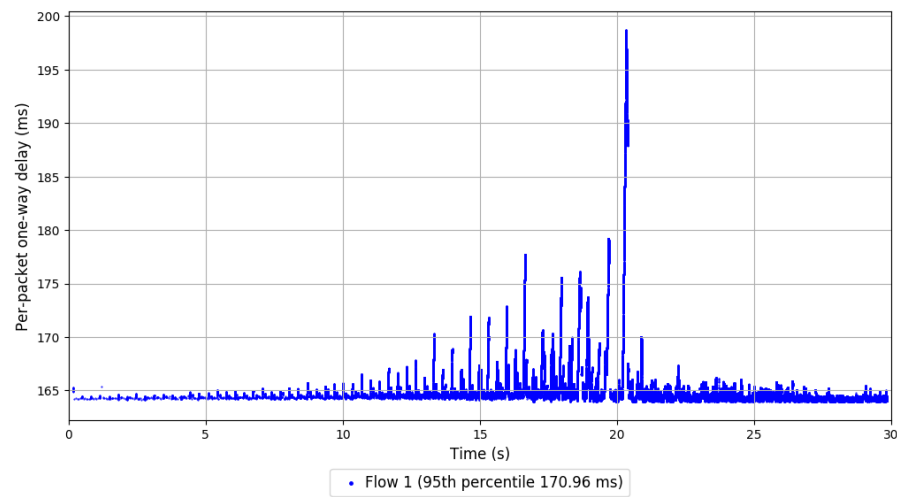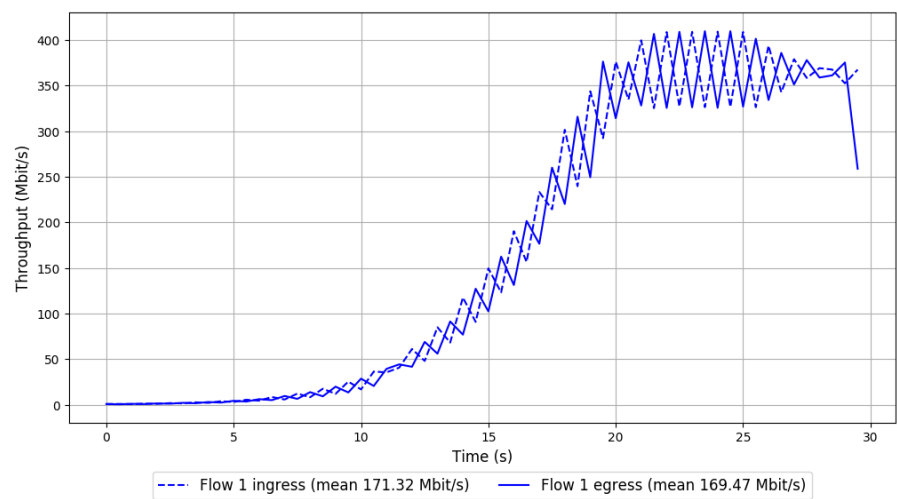
Run 5: Report of CalibratedKoho — Data Link

Flow 1 ingress (mean 196.57 Mbit/s)   Flow 1 egress (mean 194.53 Mbit/s)

• Flow 1 (95th percentile 173.22 ms)

Run 6: Statistics of CalibratedKoho

Start at: 2017-10-11 05:26:08
End at: 2017-10-11 05:26:38

Below is generated by plot.py at 2017-10-11 08:45:41
Datalink statistics
-- Total of 1 flow:
Average throughput: 169.47 Mbit/s
95th percentile per-packet one-way delay: 170.957 ms
Loss rate: 2.08%
-- Flow 1:
Average throughput: 169.47 Mbit/s
95th percentile per-packet one-way delay: 170.957 ms
Loss rate: 2.08%

Run 6: Report of CalibratedKoho — Data Link

```
Run 7: Statistics of CalibratedKoho

Start at: 2017-10-11 05:37:19
End at: 2017-10-11 05:37:49

# Below is generated by plot.py at 2017-10-11 08:45:41
# Datalink statistics
-- Total of 1 flow:
Average throughput: 170.56 Mbit/s
95th percentile per-packet one-way delay: 171.846 ms
Loss rate: 2.09%
-- Flow 1:
Average throughput: 170.56 Mbit/s
95th percentile per-packet one-way delay: 171.846 ms
Loss rate: 2.09%
```
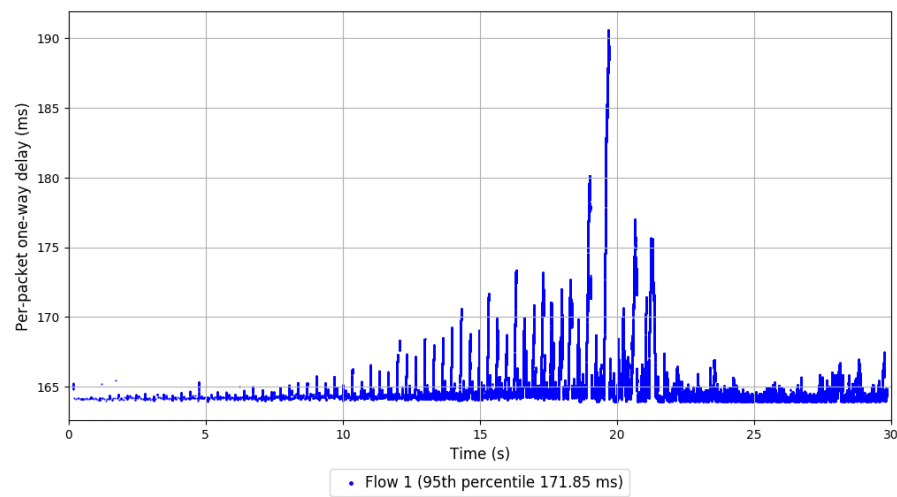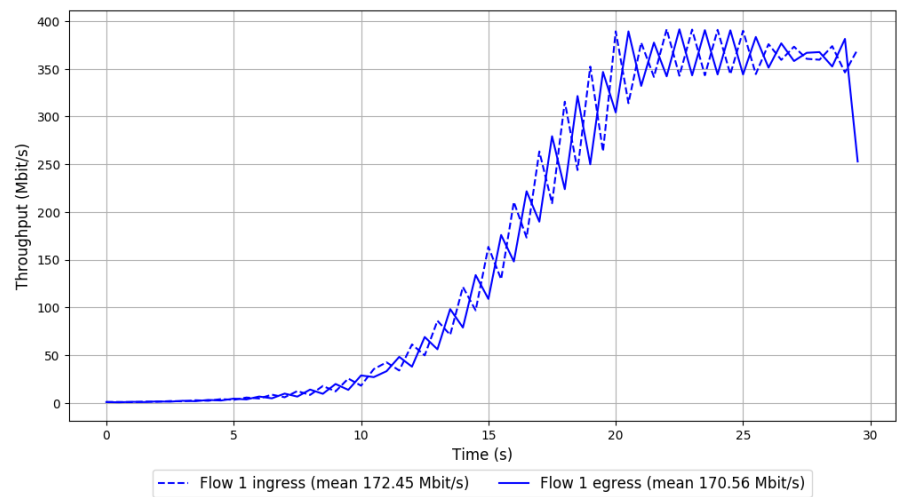
Run 7: Report of CalibratedKoho — Data Link

```
Run 8: Statistics of CalibratedKoho

Start at: 2017-10-11 05:48:54
End at: 2017-10-11 05:49:24


# Below is generated by plot.py at 2017-10-11 08:46:07
# Datalink statistics
-- Total of 1 flow:
Average throughput: 200.30 Mbit/s
95th percentile per-packet one-way delay: 171.614 ms
Loss rate: 1.98%
-- Flow 1:
Average throughput: 200.30 Mbit/s
95th percentile per-packet one-way delay: 171.614 ms
Loss rate: 1.98%
```
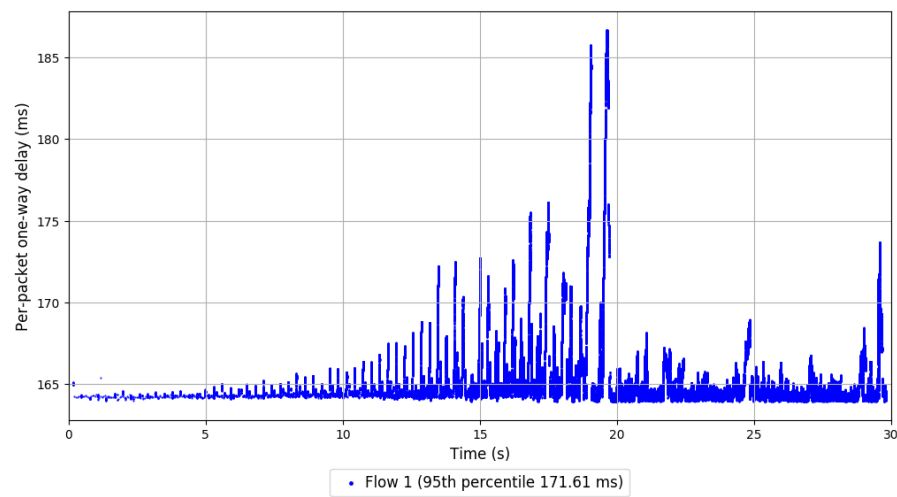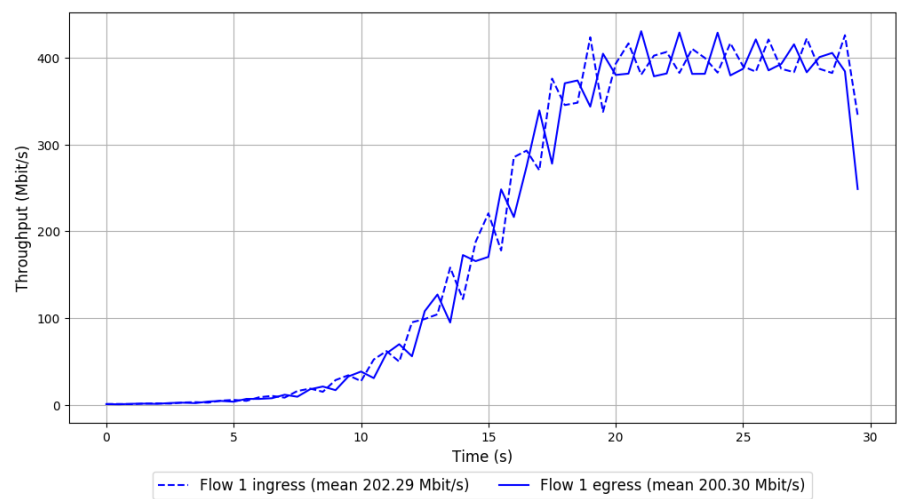
Run 8: Report of CalibratedKoho — Data Link

```
Run 9: Statistics of CalibratedKoho

Start at: 2017-10-11 06:00:34
End at: 2017-10-11 06:01:04

# Below is generated by plot.py at 2017-10-11 08:48:18
# Datalink statistics
-- Total of 1 flow:
Average throughput: 241.19 Mbit/s
95th percentile per-packet one-way delay: 142.538 ms
Loss rate: 1.65%
-- Flow 1:
Average throughput: 241.19 Mbit/s
95th percentile per-packet one-way delay: 142.538 ms
Loss rate: 1.65%
```
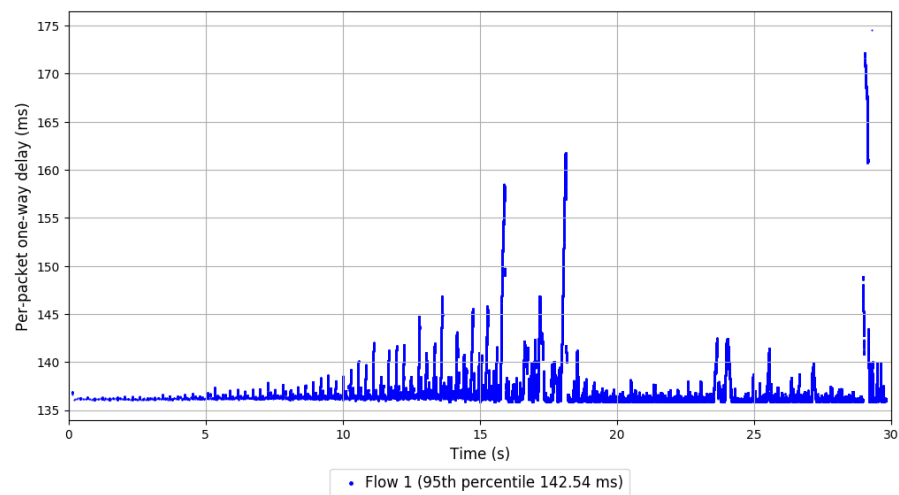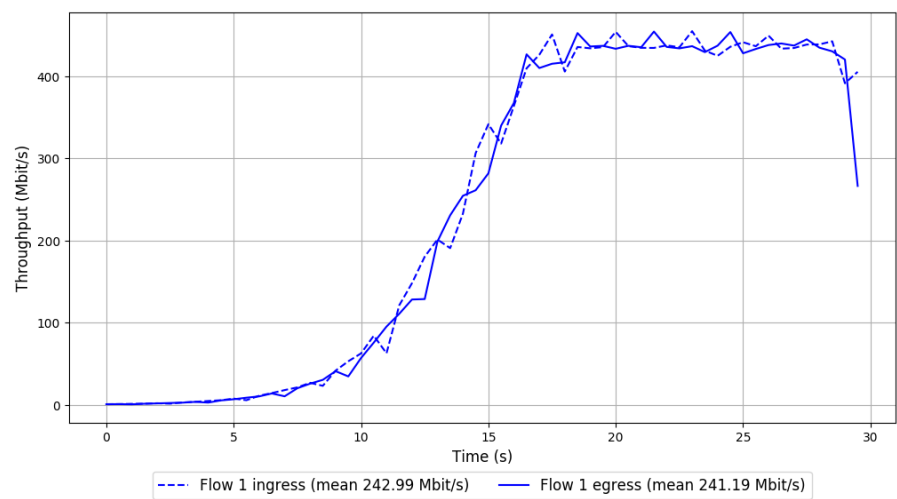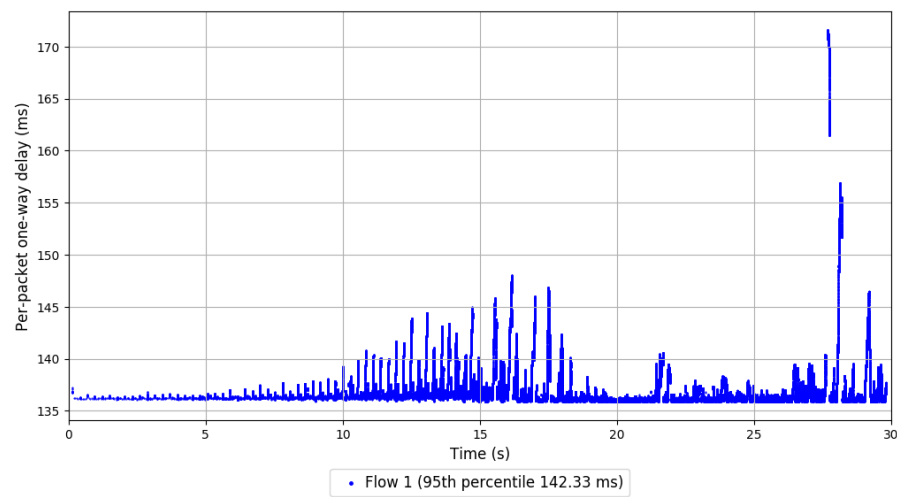
Run 9: Report of CalibratedKoho — Data Link

```
Run 10: Statistics of CalibratedKoho

Start at: 2017-10-11 06:12:40
End at: 2017-10-11 06:13:10


# Below is generated by plot.py at 2017-10-11 08:48:26
# Datalink statistics
-- Total of 1 flow:
Average throughput: 240.49 Mbit/s
95th percentile per-packet one-way delay: 142.333 ms
Loss rate: 1.65%
-- Flow 1:
Average throughput: 240.49 Mbit/s
95th percentile per-packet one-way delay: 142.333 ms
Loss rate: 1.65%
```
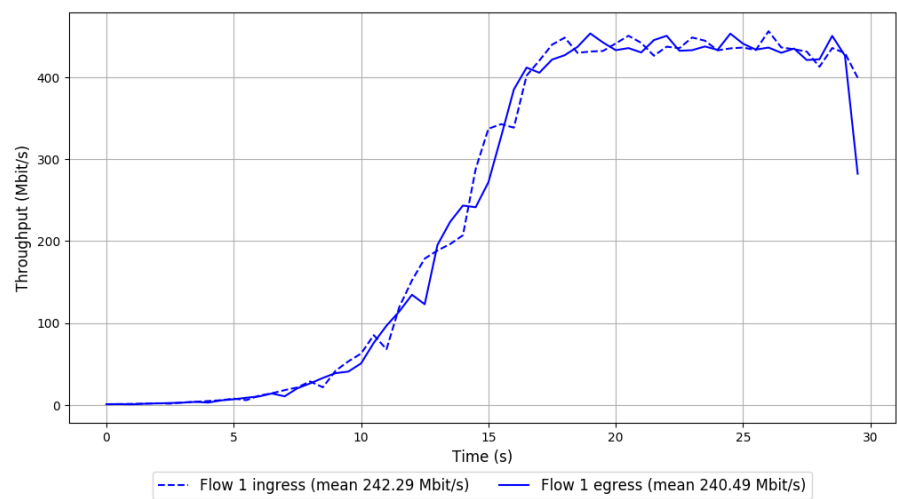
Run 10: Report of CalibratedKoho — Data Link

Flow 1 ingress (mean 242.29 Mbit/s) — Flow 1 egress (mean 240.49 Mbit/s)

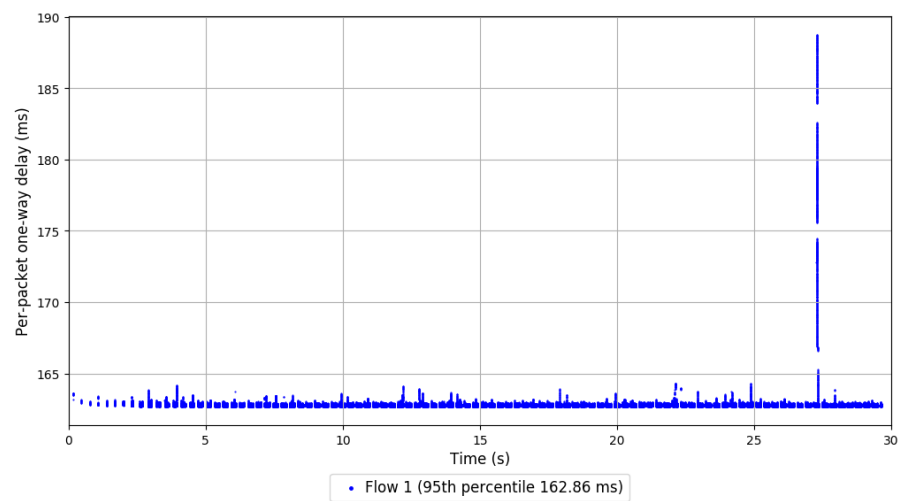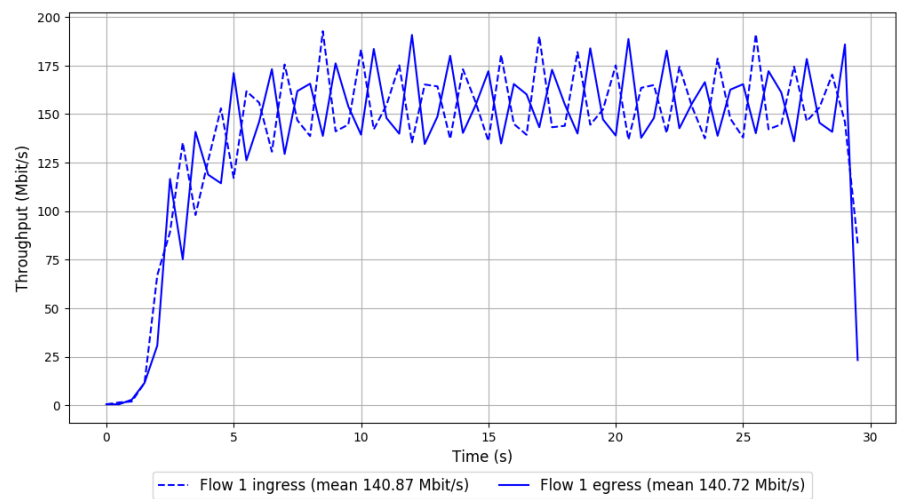• Flow 1 (95th percentile 142.33 ms)

```
Run 1: Statistics of Indigo

Start at: 2017-10-11 04:25:39
End at: 2017-10-11 04:26:09

# Below is generated by plot.py at 2017-10-11 08:48:26
# Datalink statistics
-- Total of 1 flow:
Average throughput: 140.72 Mbit/s
95th percentile per-packet one-way delay: 162.857 ms
Loss rate: 1.13%
-- Flow 1:
Average throughput: 140.72 Mbit/s
95th percentile per-packet one-way delay: 162.857 ms
Loss rate: 1.13%
```
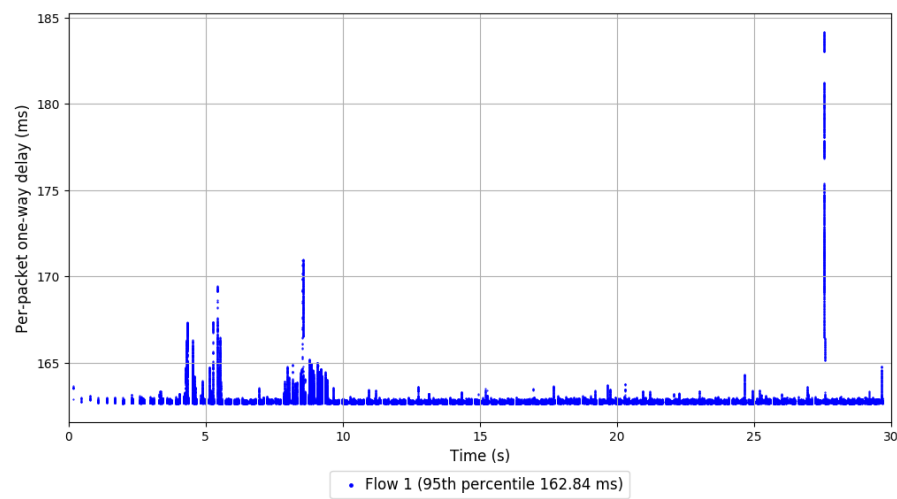
Run 1: Report of Indigo — Data Link

265

```
Run 2: Statistics of Indigo

Start at: 2017-10-11 04:37:54
End at: 2017-10-11 04:38:24

# Below is generated by plot.py at 2017-10-11 08:48:26
# Datalink statistics
-- Total of 1 flow:
Average throughput: 140.48 Mbit/s
95th percentile per-packet one-way delay: 162.837 ms
Loss rate: 1.12%
-- Flow 1:
Average throughput: 140.48 Mbit/s
95th percentile per-packet one-way delay: 162.837 ms
Loss rate: 1.12%
```
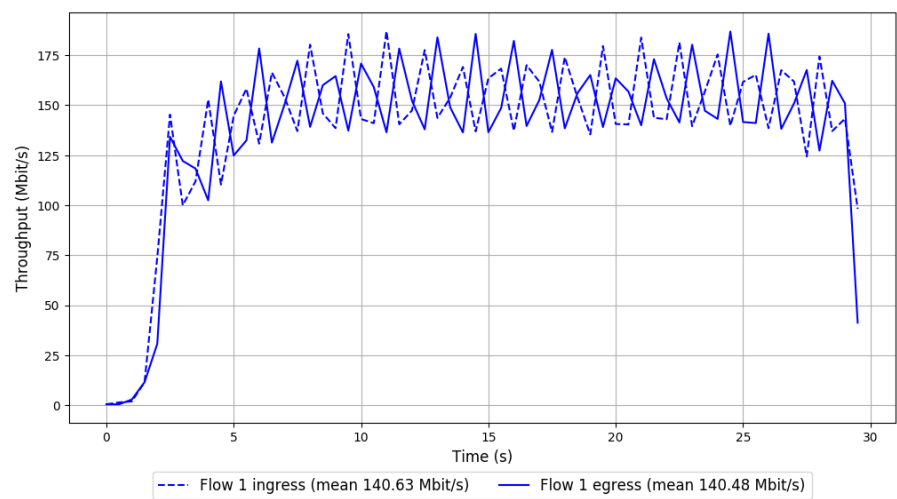
Run 2: Report of Indigo — Data Link

```
Run 3: Statistics of Indigo

Start at: 2017-10-11 04:50:12
End at: 2017-10-11 04:50:42

# Below is generated by plot.py at 2017-10-11 08:48:26
# Datalink statistics
-- Total of 1 flow:
Average throughput: 141.45 Mbit/s
95th percentile per-packet one-way delay: 162.804 ms
Loss rate: 1.13%
-- Flow 1:
Average throughput: 141.45 Mbit/s
95th percentile per-packet one-way delay: 162.804 ms
Loss rate: 1.13%
```
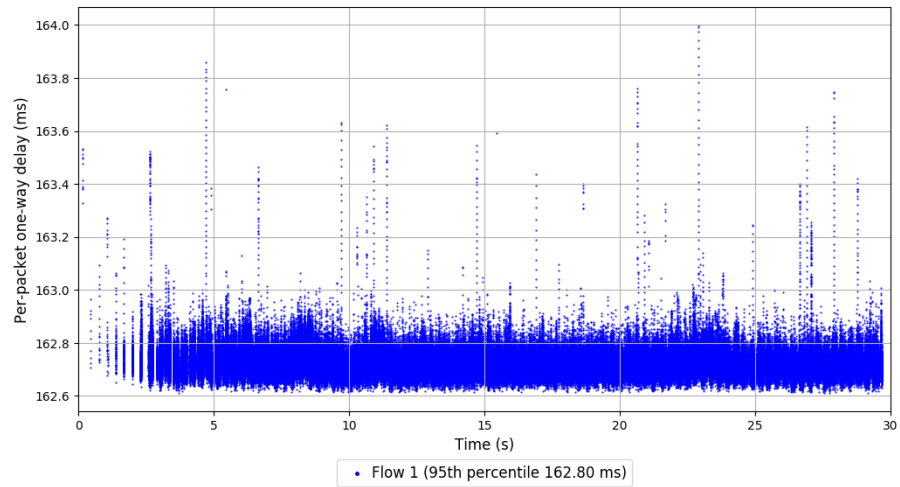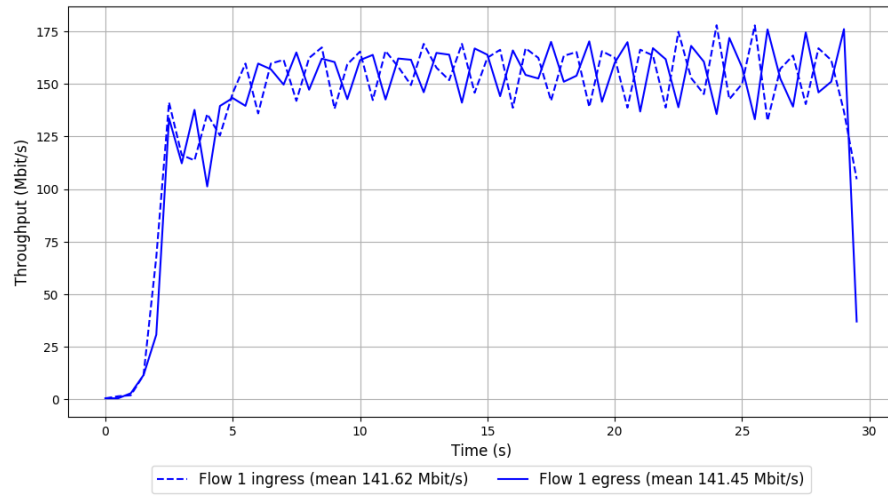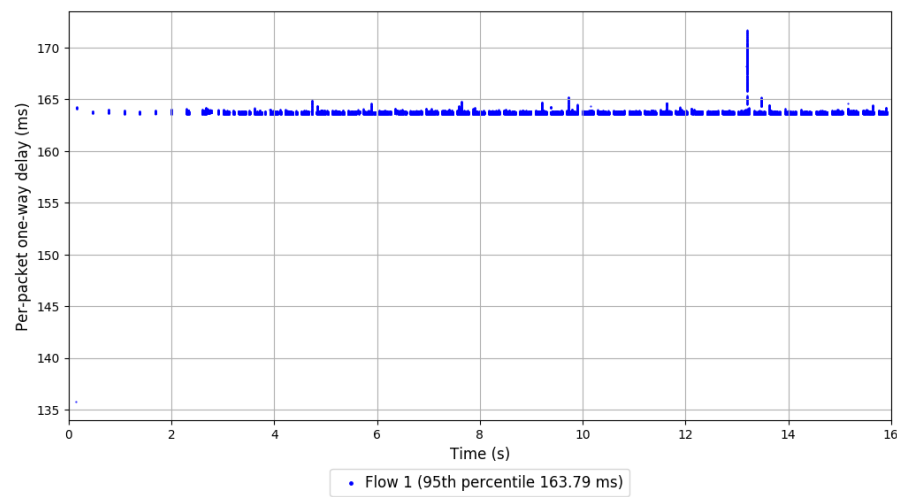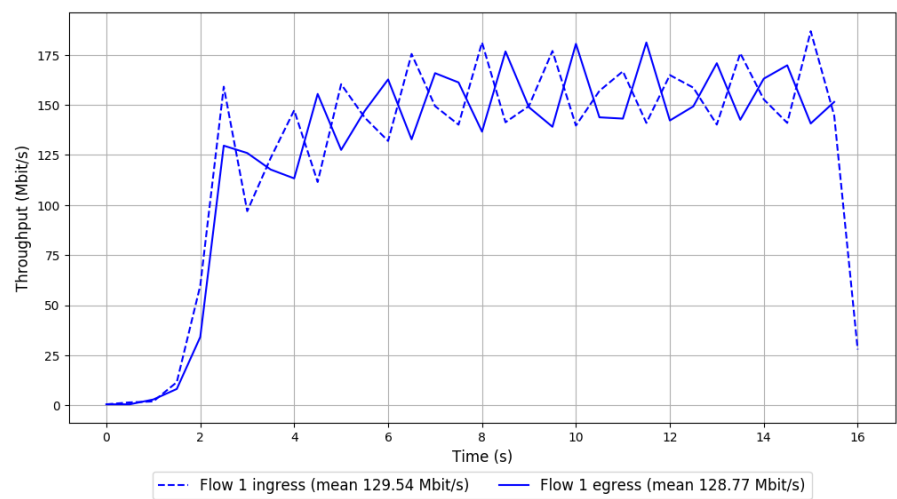
Run 3: Report of Indigo — Data Link

Run 4: Statistics of Indigo

Start at: 2017-10-11 05:01:54
End at: 2017-10-11 05:02:24

Run 4: Report of Indigo — Data Link

```
Run 5: Statistics of Indigo

Start at: 2017-10-11 05:13:11
End at: 2017-10-11 05:13:41


# Below is generated by plot.py at 2017-10-11 08:48:26
# Datalink statistics
-- Total of 1 flow:
Average throughput: 141.06 Mbit/s
95th percentile per-packet one-way delay: 163.763 ms
Loss rate: 1.12%
-- Flow 1:
Average throughput: 141.06 Mbit/s
95th percentile per-packet one-way delay: 163.763 ms
Loss rate: 1.12%
```
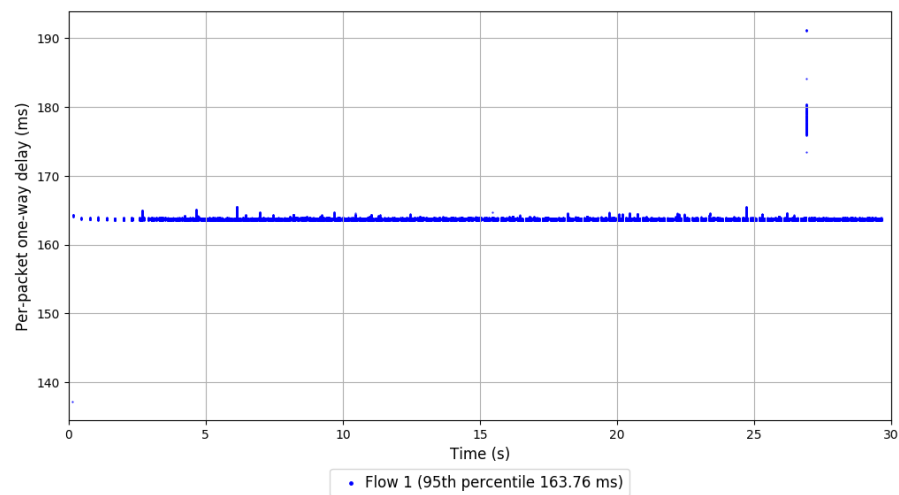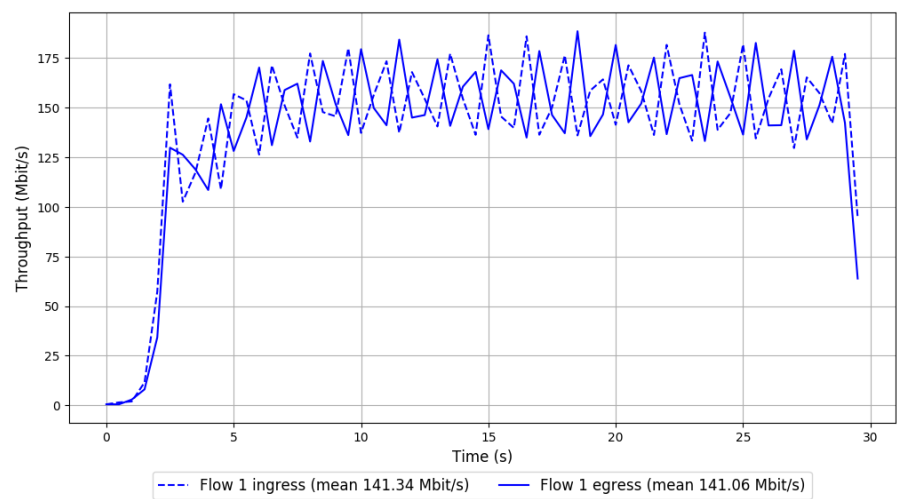
Run 5: Report of Indigo — Data Link

```
Run 6: Statistics of Indigo

Start at: 2017-10-11 05:25:14
End at: 2017-10-11 05:25:44

# Below is generated by plot.py at 2017-10-11 08:48:28
# Datalink statistics
-- Total of 1 flow:
Average throughput: 133.53 Mbit/s
95th percentile per-packet one-way delay: 164.184 ms
Loss rate: 1.03%
-- Flow 1:
Average throughput: 133.53 Mbit/s
95th percentile per-packet one-way delay: 164.184 ms
Loss rate: 1.03%
```
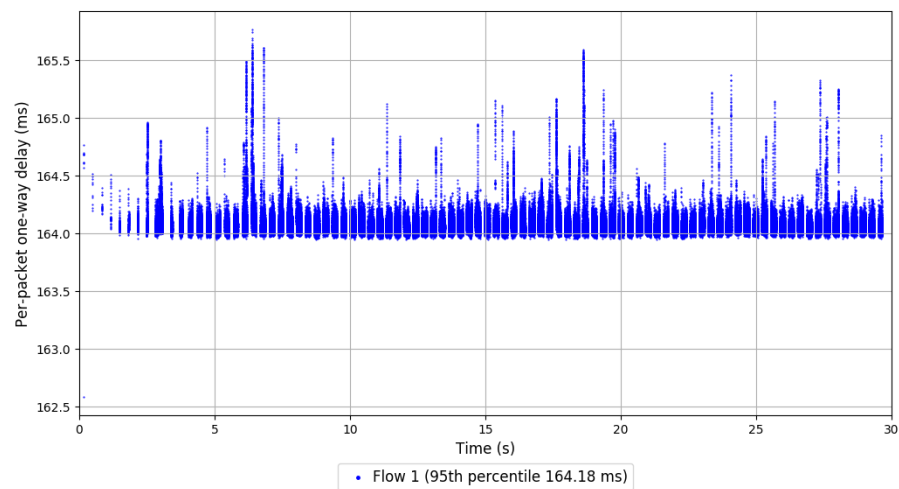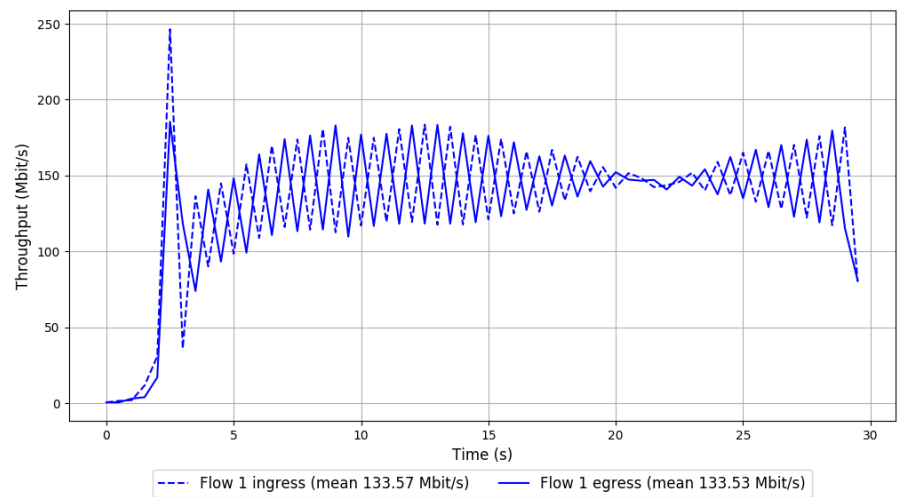
Run 6: Report of Indigo — Data Link

```
Run 7: Statistics of Indigo

Start at: 2017-10-11 05:36:24
End at: 2017-10-11 05:36:54


# Below is generated by plot.py at 2017-10-11 08:48:40
# Datalink statistics
-- Total of 1 flow:
Average throughput: 140.86 Mbit/s
95th percentile per-packet one-way delay: 164.145 ms
Loss rate: 1.14%
-- Flow 1:
Average throughput: 140.86 Mbit/s
95th percentile per-packet one-way delay: 164.145 ms
Loss rate: 1.14%
```
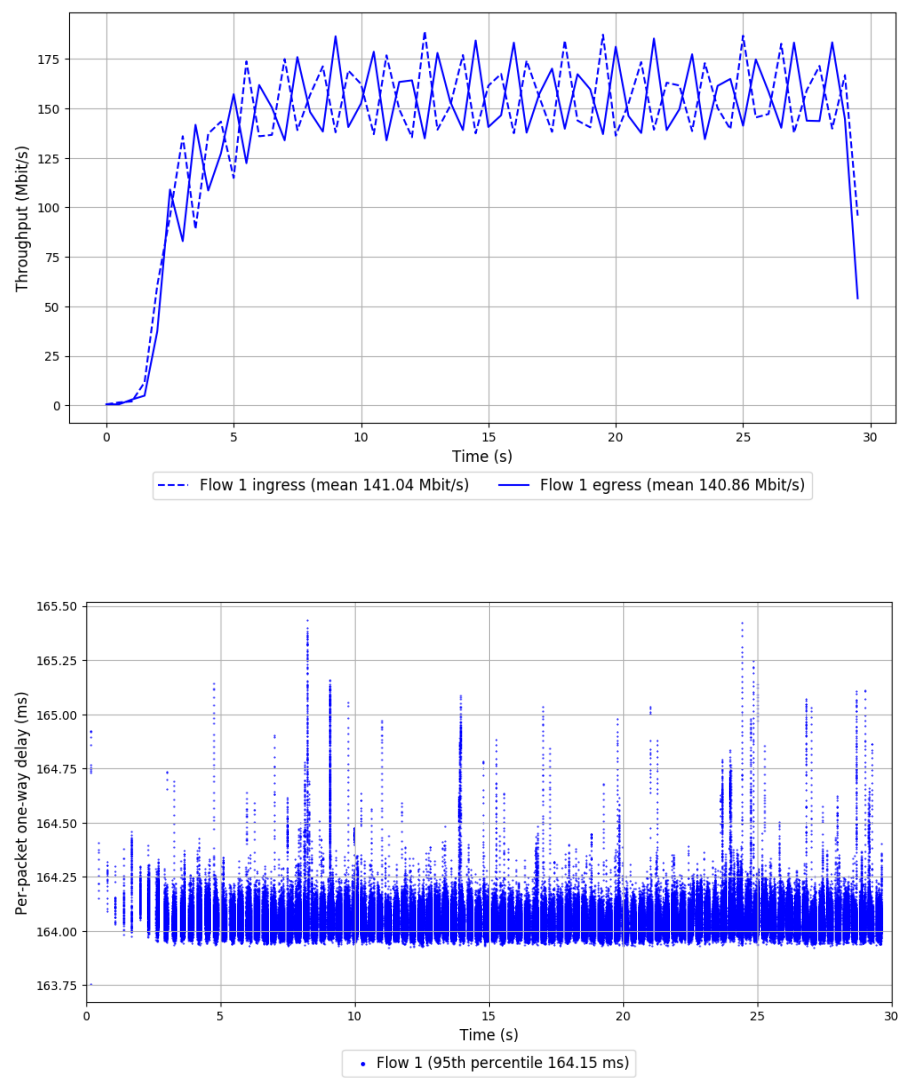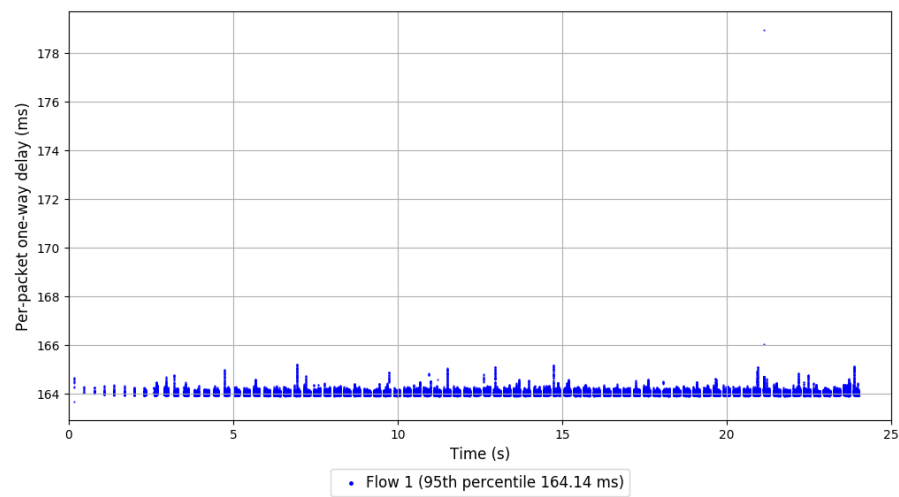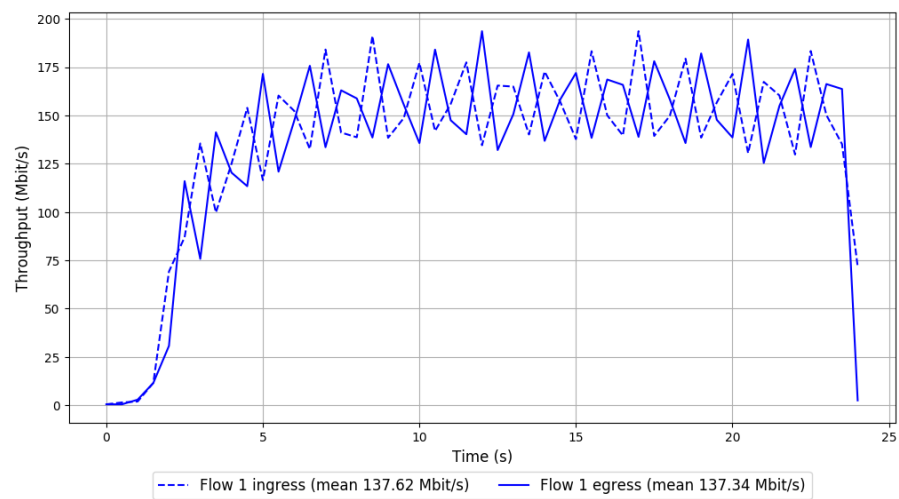
Run 7: Report of Indigo — Data Link

Run 8: Statistics of Indigo

Start at: 2017-10-11 05:48:00
End at: 2017-10-11 05:48:30

Run 8: Report of Indigo — Data Link

```
Run 9: Statistics of Indigo

Start at: 2017-10-11 05:59:37
End at: 2017-10-11 06:00:07

# Below is generated by plot.py at 2017-10-11 08:48:55
# Datalink statistics
-- Total of 1 flow:
Average throughput: 151.87 Mbit/s
95th percentile per-packet one-way delay: 136.024 ms
Loss rate: 1.02%
-- Flow 1:
Average throughput: 151.87 Mbit/s
95th percentile per-packet one-way delay: 136.024 ms
Loss rate: 1.02%
```
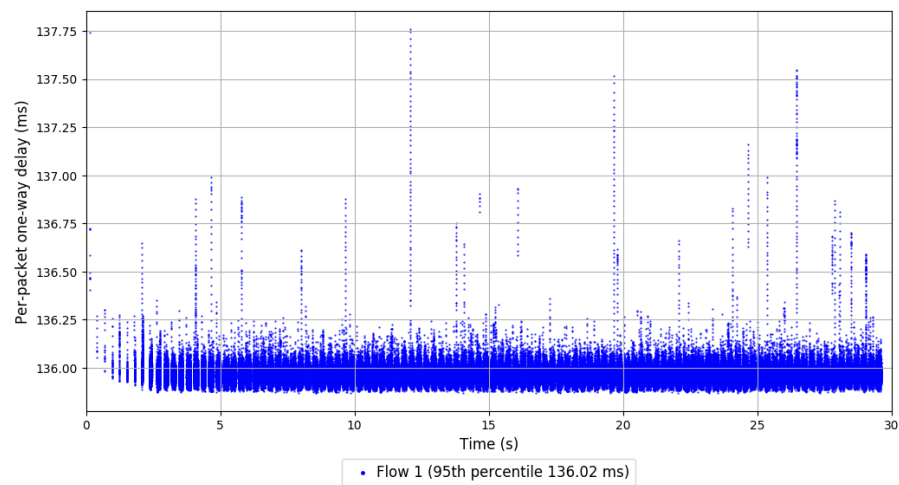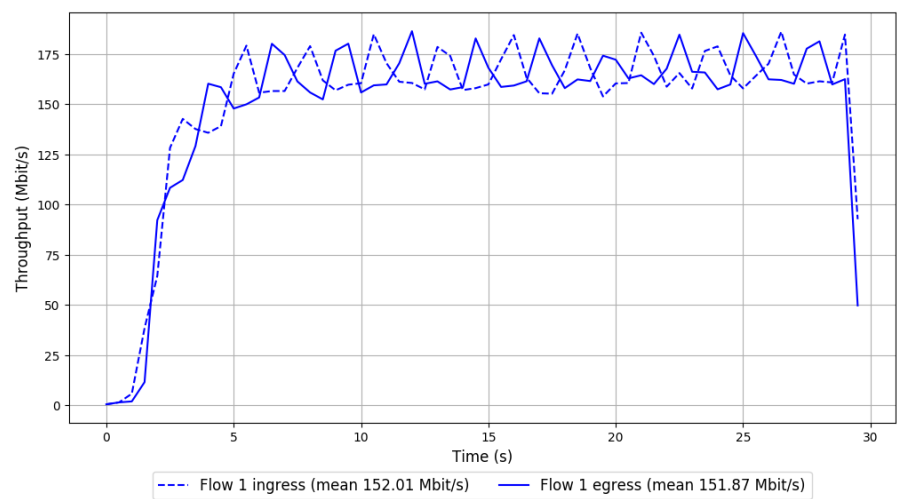
Run 9: Report of Indigo — Data Link

```
Run 10: Statistics of Indigo

Start at: 2017-10-11 06:11:44
End at: 2017-10-11 06:12:14

# Below is generated by plot.py at 2017-10-11 08:48:56
# Datalink statistics
-- Total of 1 flow:
Average throughput: 158.55 Mbit/s
95th percentile per-packet one-way delay: 136.025 ms
Loss rate: 1.00%
-- Flow 1:
Average throughput: 158.55 Mbit/s
95th percentile per-packet one-way delay: 136.025 ms
Loss rate: 1.00%
```

Run 10: Report of Indigo — Data Link