# Pantheon Report
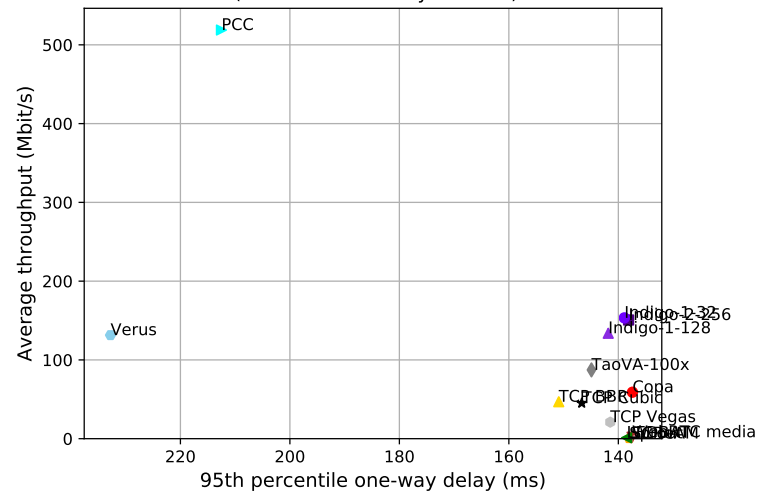
Generated at 2018-01-26 08:48:30 (UTC).

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

Repeated the test of 15 congestion control schemes 10 times.

Each test lasted for 30 seconds running 1 flow.

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

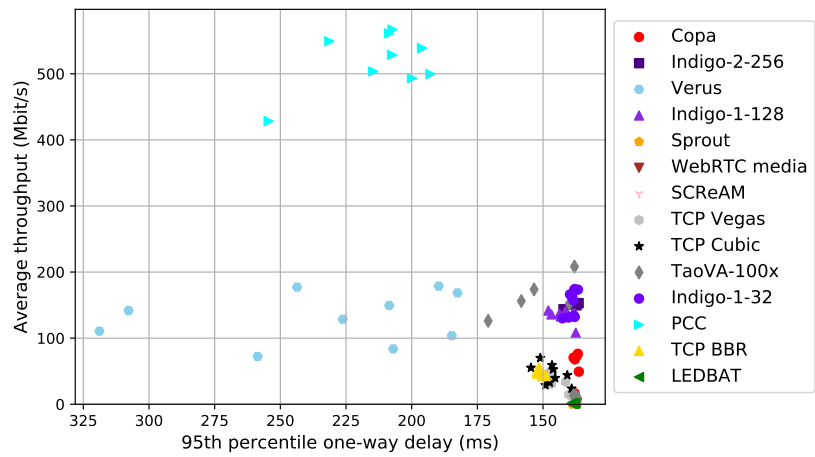Tested BBR with qdisc of Fair Queuing (`fq`), and other schemes with the default Linux qdisc (`pfifo_fast`).

```
Git summary:
branch: master @ f23294ec38436c9f802847d477a41b7343ec76e6
third_party/calibrated_koho @ 3cb73c0d1c0322cdfae446ea37a522e53227db50
 M datagrump/sender.cc
third_party/fillp @ ec9585325218d5048c4d4152fa42240af54c6e67
third_party/genericCC @ 80b516c448f795fd6e9675f7177b69c622f07da8
third_party/indigo @ a9b2060d39e4da2e8987e893e3eca2a6c7cd0ab9
third_party/indigo-1-layer-128-unit @ 3ae9e4ef4230db7484501f82ce8b377695f2f66d
third_party/indigo-1-layer-32-unit @ 2601c92e4aa9d58d38dc4dfe0ecdbf90c077e64d
third_party/indigo-1-layer-32-unit-no-calib @ 1f3a7f75b41135ed5b540c0fd3505939528e2a5f
third_party/indigo-no-calib @ 7224f2202e8a044d8306fa0b983ad84360c53d89
third_party/koho_cc @ f0f2e693303aee82ea808e6928eac4f1083a6681
 M datagrump/sender.cc
third_party/libutp @ b3465b942e2826f2b179eaab4a906ce6bb7cf3cf
third_party/pantheon-tunnel @ fb1053193c2861da659ba9013db26744ccfcf993
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/vivace @ 423cbca3e8ea1d599e7b5cf725835e8a2b6bfac6
third_party/webrtc @ a488197ddd041ace68a42849b2540ad834825f42
```

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



test from GCE Sydney Ethernet to GCE London 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 | 8 | 46.91 | 150.89 | 0.26 |
| TCP Cubic | 9 | 45.15 | 146.69 | 0.45 |
| LEDBAT | 10 | 1.15 | 138.49 | 0.28 |
| PCC | 9 | 518.80 | 212.50 | 2.71 |
| QUIC Cubic | 0 | N/A | N/A | N/A |
| SCReAM | 10 | 0.22 | 137.66 | 0.00 |
| WebRTC media | 9 | 1.89 | 137.49 | 0.01 |
| Sprout | 10 | 0.40 | 138.00 | 0.00 |
| TaoVA-100x | 10 | 87.31 | 144.91 | 0.00 |
| TCP Vegas | 10 | 21.01 | 141.48 | 0.65 |
| Verus | 10 | 131.46 | 232.78 | 2.23 |
| Copa | 6 | 59.01 | 137.42 | 0.00 |
| Indigo-2-256 | 10 | 150.67 | 138.13 | 0.08 |
| Indigo-1-32 | 10 | 153.37 | 138.91 | 0.09 |
| Indigo-1-128 | 10 | 133.88 | 141.84 | 0.08 |

```
Run 1: Statistics of TCP BBR

Start at: 2018-01-26 05:48:54
End at: 2018-01-26 05:49:24

# Below is generated by plot.py at 2018-01-26 08:19:42
# Datalink statistics
-- Total of 1 flow:
Average throughput: 42.68 Mbit/s
95th percentile per-packet one-way delay: 150.290 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 42.68 Mbit/s
95th percentile per-packet one-way delay: 150.290 ms
Loss rate: 0.01%
```
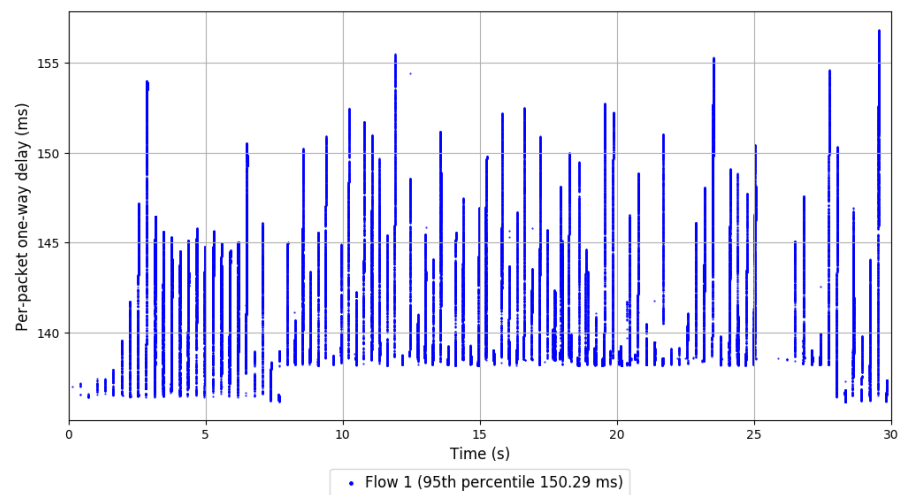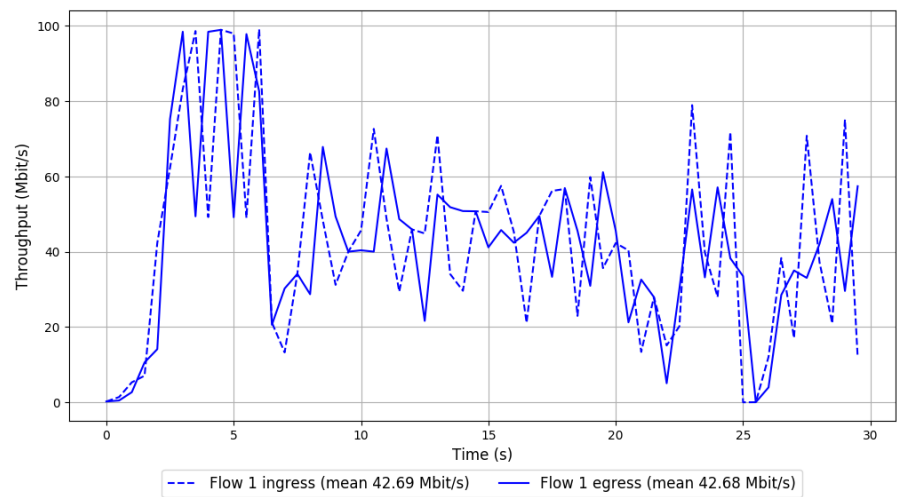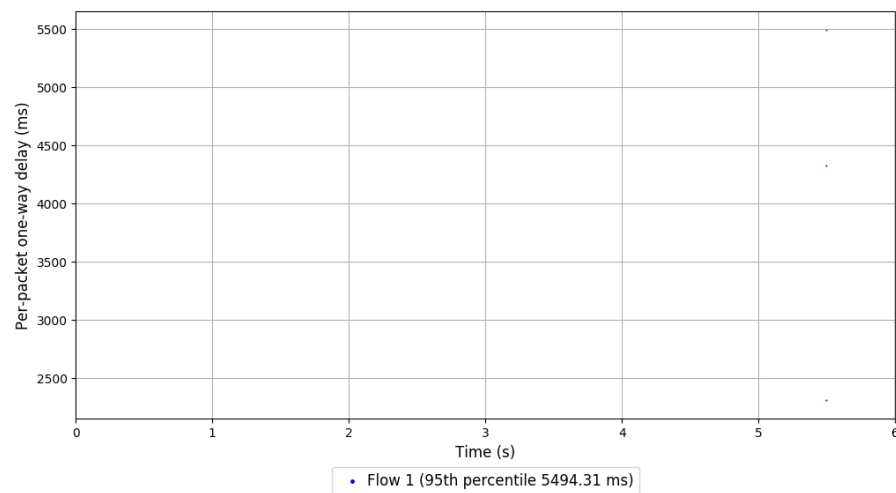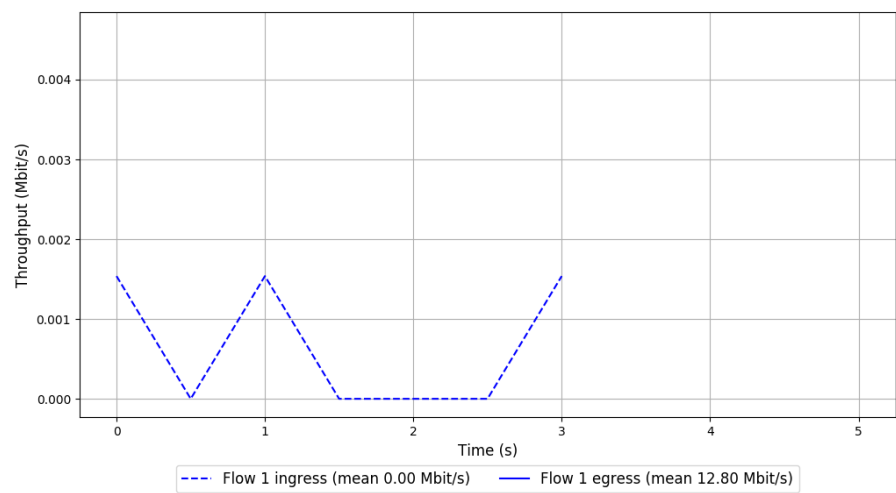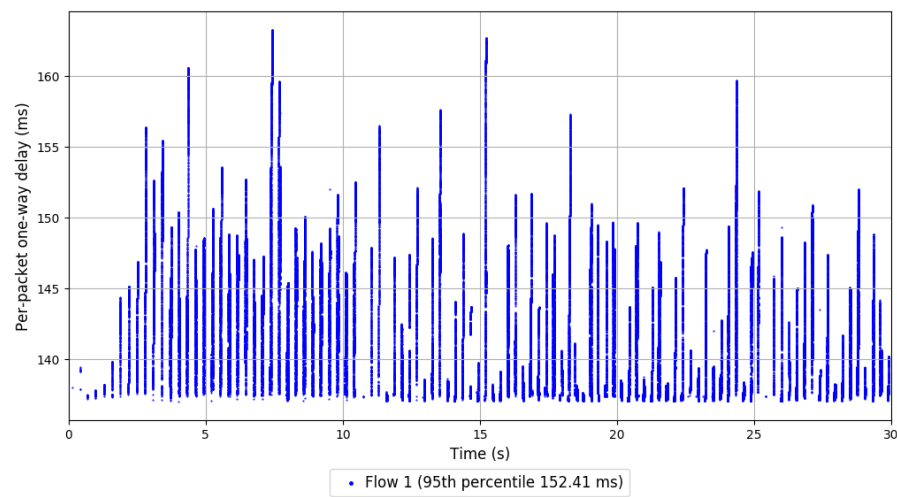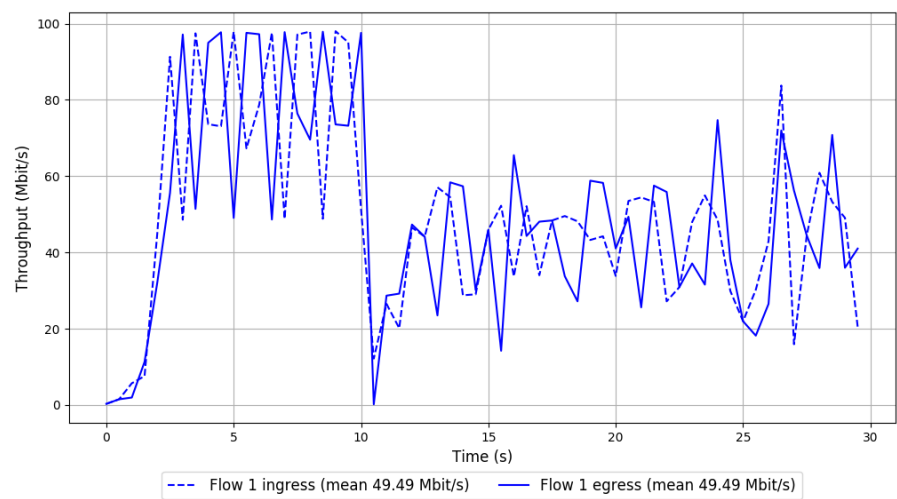
Run 1: Report of TCP BBR — Data Link

```
Run 2: Statistics of TCP BBR

Start at: 2018-01-26 06:02:05
End at: 2018-01-26 06:02:35
```

# Run 2: Report of TCP BBR — Data Link

```
Run 3: Statistics of TCP BBR

Start at: 2018-01-26 06:15:12
End at: 2018-01-26 06:15:42


# Below is generated by plot.py at 2018-01-26 08:19:49
# Datalink statistics
-- Total of 1 flow:
Average throughput: 49.49 Mbit/s
95th percentile per-packet one-way delay: 152.408 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 49.49 Mbit/s
95th percentile per-packet one-way delay: 152.408 ms
Loss rate: 0.00%
```
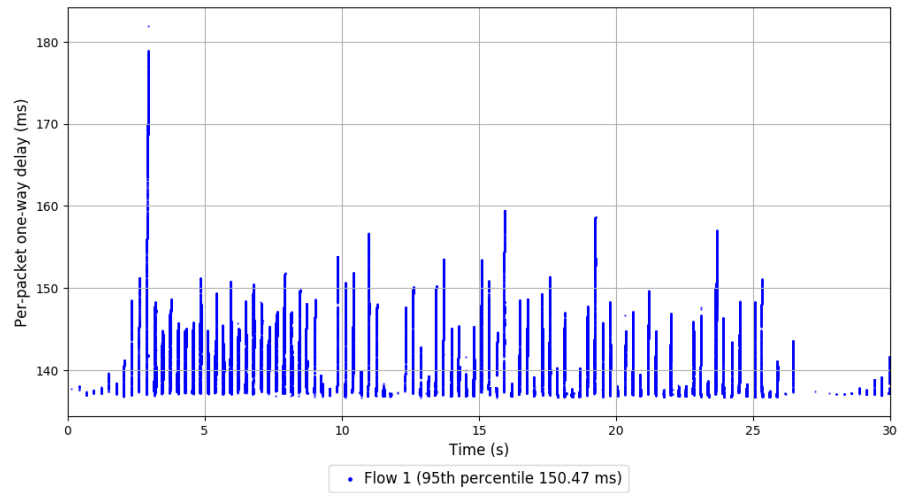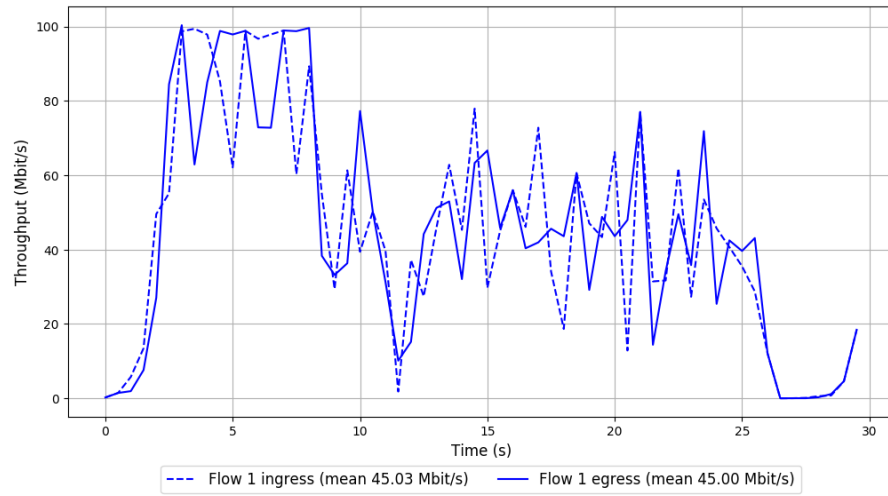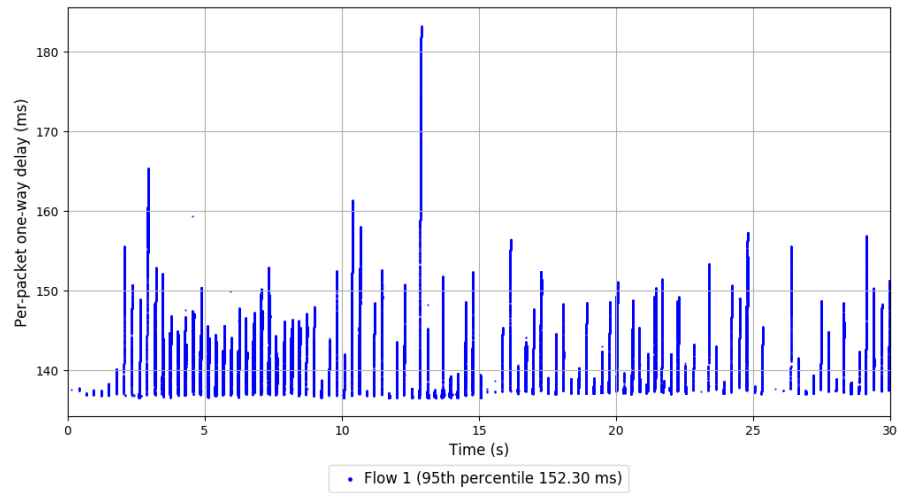
Run 3: Report of TCP BBR — Data Link

```
Run 4: Statistics of TCP BBR

Start at: 2018-01-26 06:28:15
End at: 2018-01-26 06:28:45

# Below is generated by plot.py at 2018-01-26 08:19:49
# Datalink statistics
-- Total of 1 flow:
Average throughput: 45.00 Mbit/s
95th percentile per-packet one-way delay: 150.467 ms
Loss rate: 0.06%
-- Flow 1:
Average throughput: 45.00 Mbit/s
95th percentile per-packet one-way delay: 150.467 ms
Loss rate: 0.06%
```

Run 4: Report of TCP BBR — Data Link

Run 5: Statistics of TCP BBR

Start at: 2018-01-26 06:40:37
End at: 2018-01-26 06:41:07

# Below is generated by plot.py at 2018-01-26 08:19:49
# Datalink statistics
-- Total of 1 flow:
Average throughput: 46.51 Mbit/s
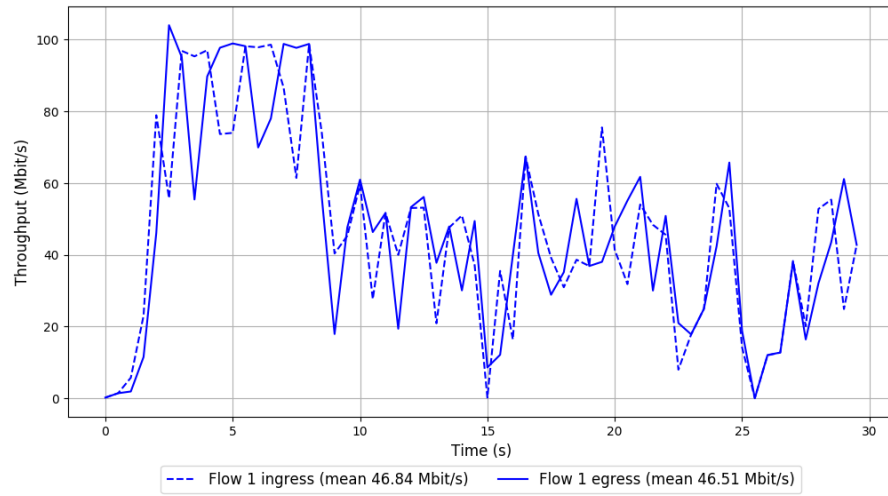95th percentile per-packet one-way delay: 152.302 ms
Loss rate: 0.66%
-- Flow 1:
Average throughput: 46.51 Mbit/s
95th percentile per-packet one-way delay: 152.302 ms
Loss rate: 0.66%

Run 5: Report of TCP BBR — Data Link



Flow 1 ingress (mean 46.84 Mbit/s)   Flow 1 egress (mean 46.51 Mbit/s)



• Flow 1 (95th percentile 152.30 ms)

```
Run 6: Statistics of TCP BBR

Start at: 2018-01-26 06:53:46
End at: 2018-01-26 06:54:16

# Below is generated by plot.py at 2018-01-26 08:19:49
# Datalink statistics
-- Total of 1 flow:
Average throughput: 42.73 Mbit/s
95th percentile per-packet one-way delay: 148.906 ms
Loss rate: 0.36%
-- Flow 1:
Average throughput: 42.73 Mbit/s
95th percentile per-packet one-way delay: 148.906 ms
Loss rate: 0.36%
```
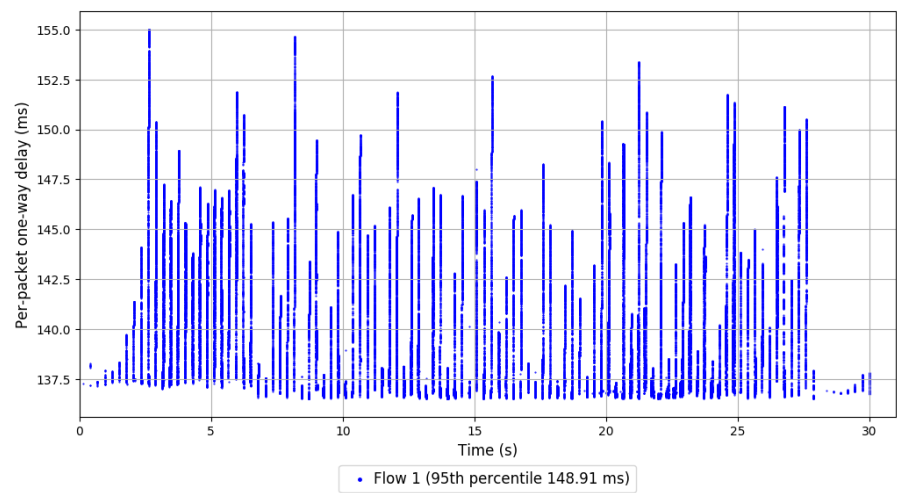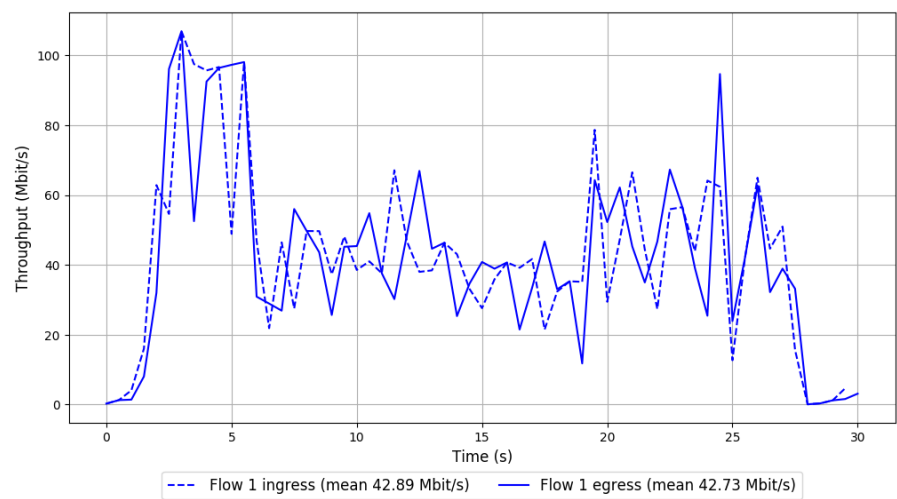
# Run 6: Report of TCP BBR — Data Link

```
Run 7: Statistics of TCP BBR

Start at: 2018-01-26 07:07:06
End at: 2018-01-26 07:07:36

# Below is generated by plot.py at 2018-01-26 08:19:49
# Datalink statistics
-- Total of 1 flow:
Average throughput: 44.15 Mbit/s
95th percentile per-packet one-way delay: 149.179 ms
Loss rate: 0.15%
-- Flow 1:
Average throughput: 44.15 Mbit/s
95th percentile per-packet one-way delay: 149.179 ms
Loss rate: 0.15%
```
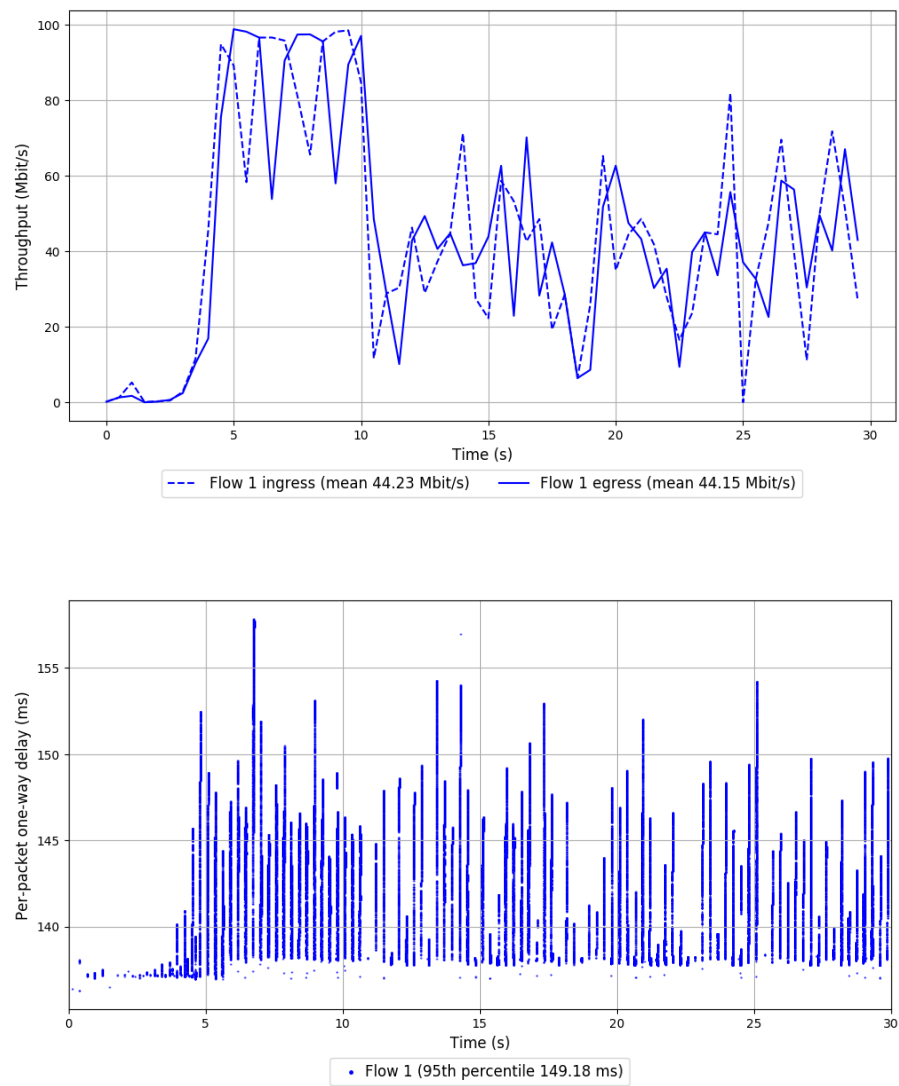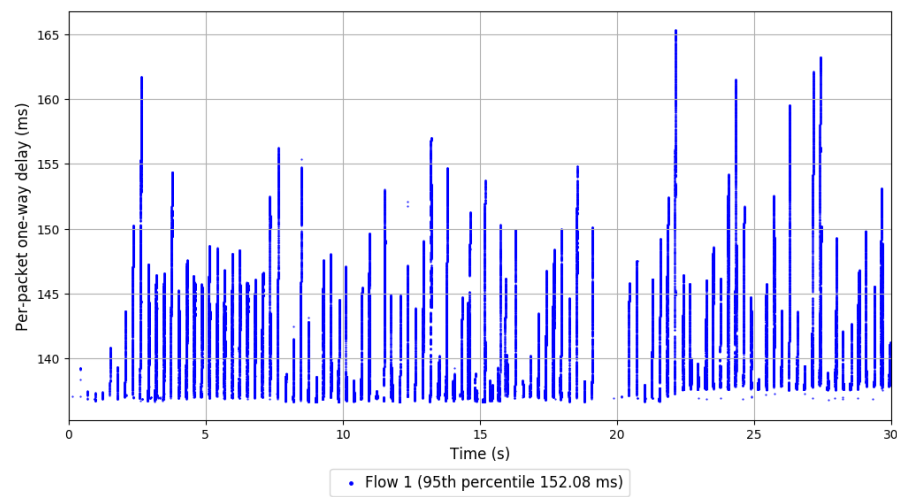
Run 7: Report of TCP BBR — Data Link

```
Run 8: Statistics of TCP BBR

Start at: 2018-01-26 07:20:00
End at: 2018-01-26 07:20:30

# Below is generated by plot.py at 2018-01-26 08:19:49
# Datalink statistics
-- Total of 1 flow:
Average throughput: 48.79 Mbit/s
95th percentile per-packet one-way delay: 152.076 ms
Loss rate: 0.71%
-- Flow 1:
Average throughput: 48.79 Mbit/s
95th percentile per-packet one-way delay: 152.076 ms
Loss rate: 0.71%
```
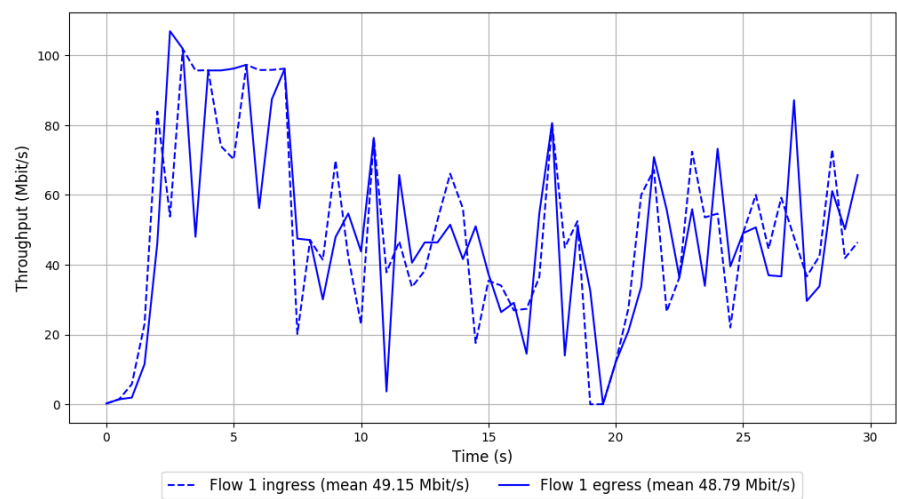
Run 8: Report of TCP BBR — Data Link



Flow 1 ingress (mean 49.15 Mbit/s)    Flow 1 egress (mean 48.79 Mbit/s)



Flow 1 (95th percentile 152.08 ms)

```
Run 9: Statistics of TCP BBR

Start at: 2018-01-26 07:32:55
End at: 2018-01-26 07:33:25

# Below is generated by plot.py at 2018-01-26 08:19:58
# Datalink statistics
-- Total of 1 flow:
Average throughput: 55.95 Mbit/s
95th percentile per-packet one-way delay: 151.464 ms
Loss rate: 0.13%
-- Flow 1:
Average throughput: 55.95 Mbit/s
95th percentile per-packet one-way delay: 151.464 ms
Loss rate: 0.13%
```
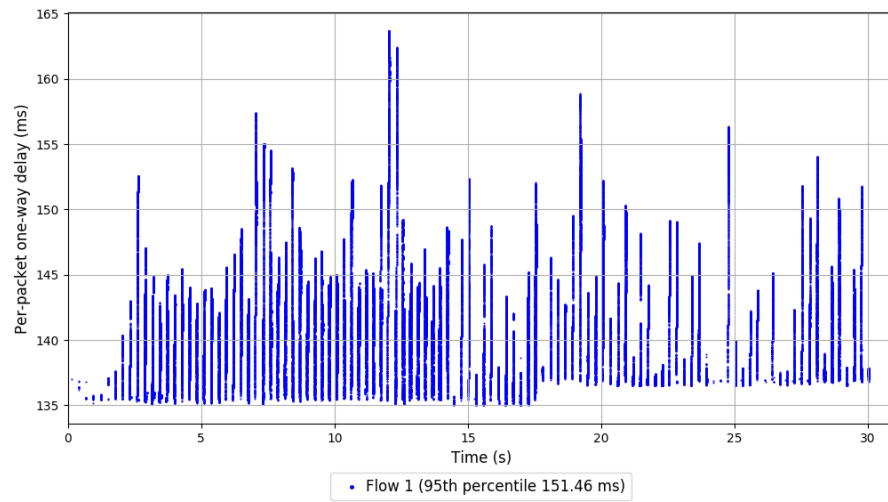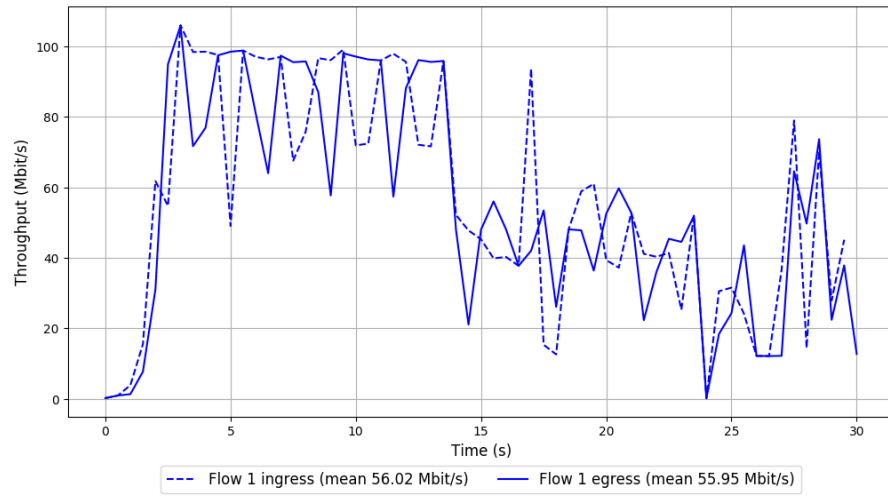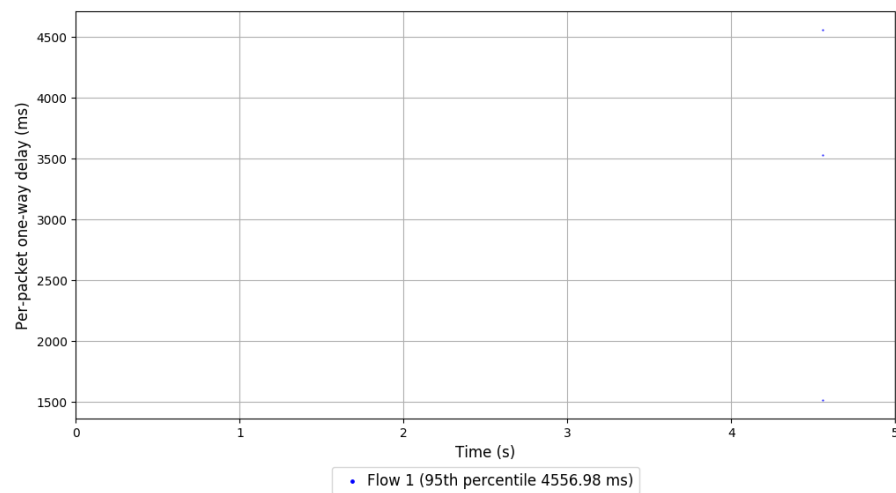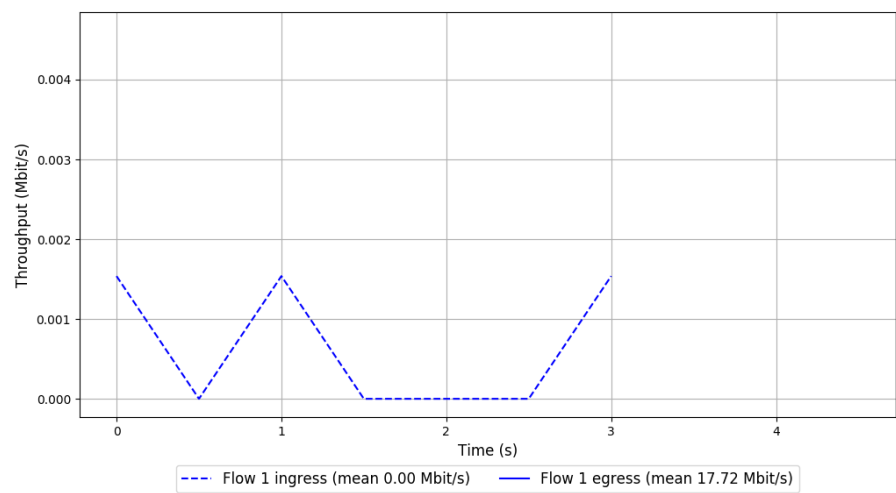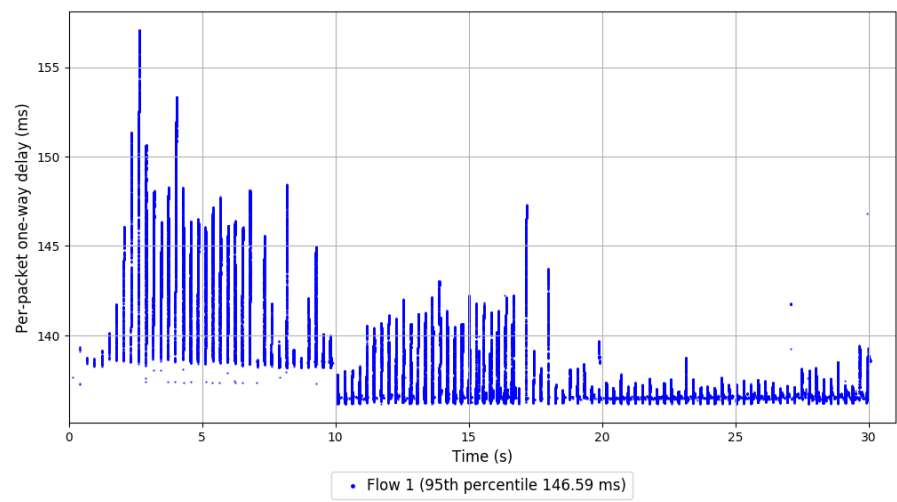
Run 9: Report of TCP BBR — Data Link

Run 10: Statistics of TCP BBR

Start at: 2018-01-26 07:45:58
End at: 2018-01-26 07:46:28

Run 10: Report of TCP BBR — Data Link

```
Run 1: Statistics of TCP Cubic

Start at: 2018-01-26 05:45:42
End at: 2018-01-26 05:46:12

# Below is generated by plot.py at 2018-01-26 08:20:49
# Datalink statistics
-- Total of 1 flow:
Average throughput: 59.15 Mbit/s
95th percentile per-packet one-way delay: 146.589 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 59.15 Mbit/s
95th percentile per-packet one-way delay: 146.589 ms
Loss rate: 0.00%
```
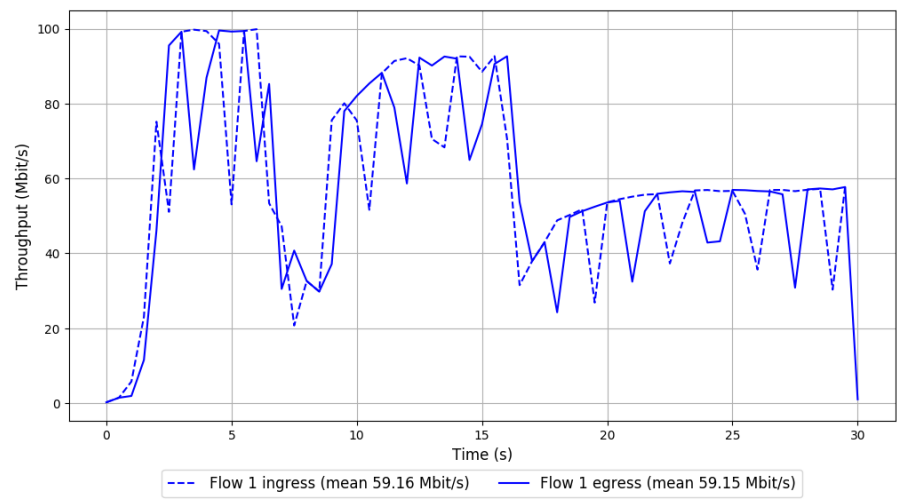
# Run 1: Report of TCP Cubic — Data Link



Flow 1 ingress (mean 59.16 Mbit/s)    Flow 1 egress (mean 59.15 Mbit/s)

Flow 1 (95th percentile 146.59 ms)

```
Run 2: Statistics of TCP Cubic

Start at: 2018-01-26 05:58:58
End at: 2018-01-26 05:59:28

# Below is generated by plot.py at 2018-01-26 08:20:49
# Datalink statistics
-- Total of 1 flow:
Average throughput: 32.85 Mbit/s
95th percentile per-packet one-way delay: 147.466 ms
Loss rate: 0.51%
-- Flow 1:
Average throughput: 32.85 Mbit/s
95th percentile per-packet one-way delay: 147.466 ms
Loss rate: 0.51%
```
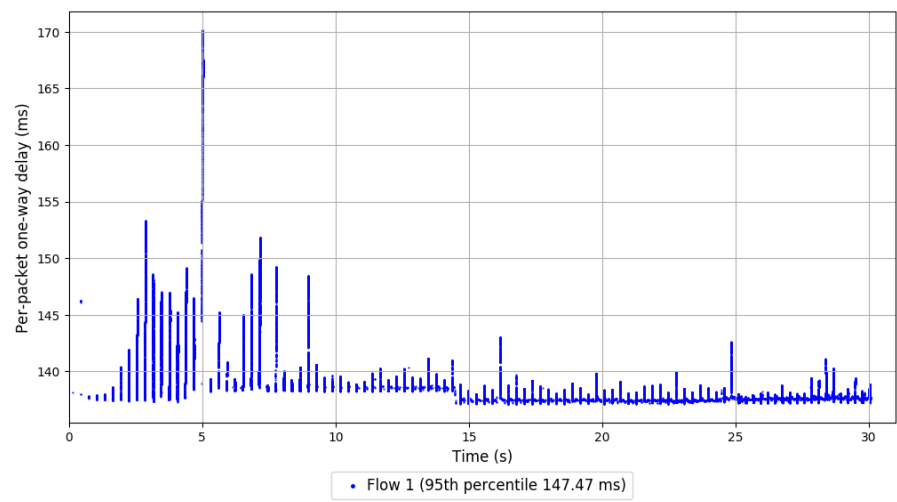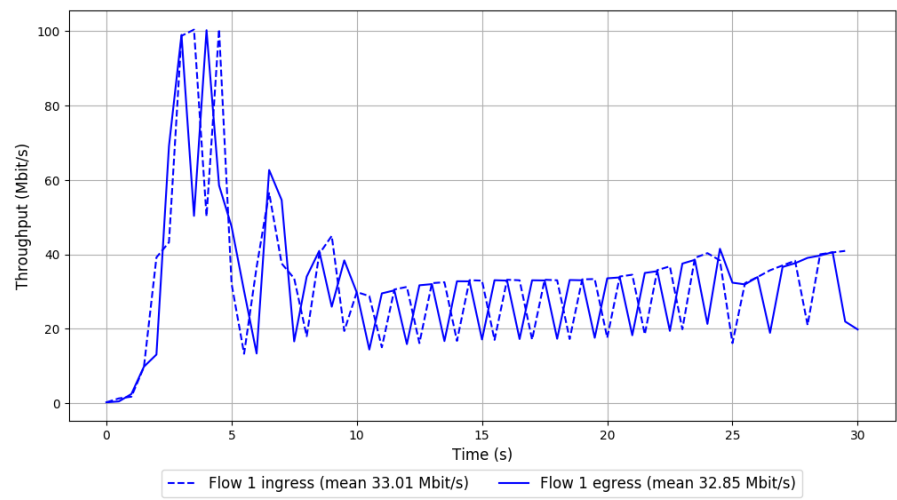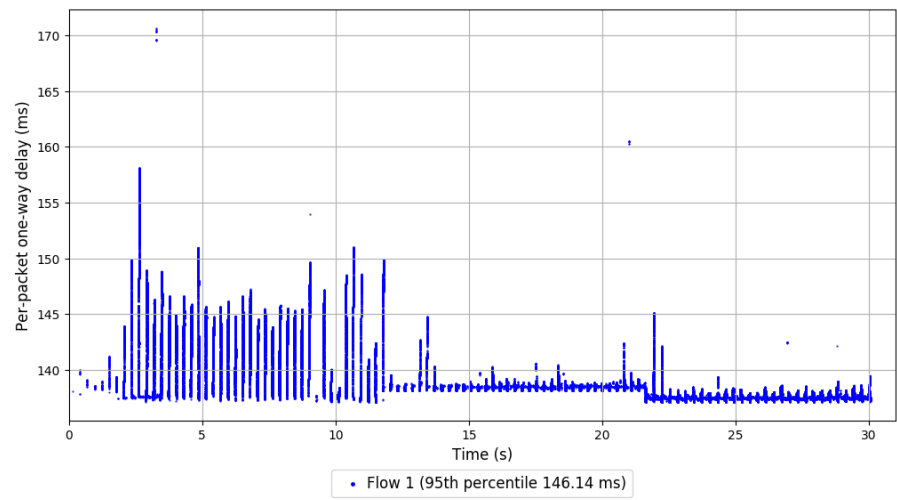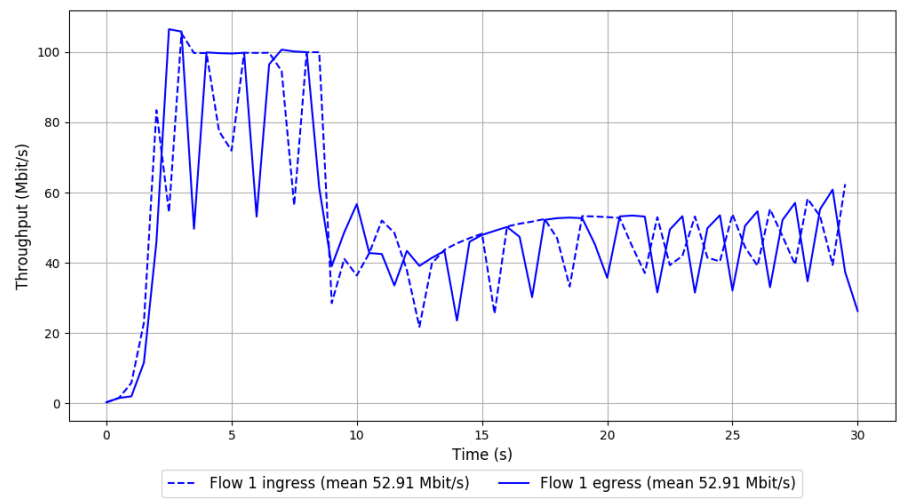
Run 2: Report of TCP Cubic — Data Link



Flow 1 ingress (mean 33.01 Mbit/s) --- Flow 1 egress (mean 32.85 Mbit/s)



Flow 1 (95th percentile 147.47 ms)

27

```
Run 3: Statistics of TCP Cubic

Start at: 2018-01-26 06:12:00
End at: 2018-01-26 06:12:31


# Below is generated by plot.py at 2018-01-26 08:20:49
# Datalink statistics
-- Total of 1 flow:
Average throughput: 52.91 Mbit/s
95th percentile per-packet one-way delay: 146.144 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 52.91 Mbit/s
95th percentile per-packet one-way delay: 146.144 ms
Loss rate: 0.01%
```
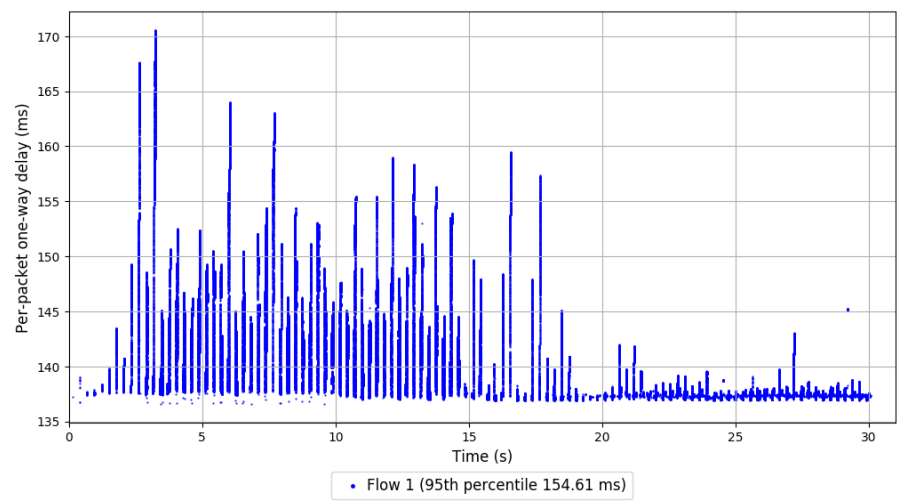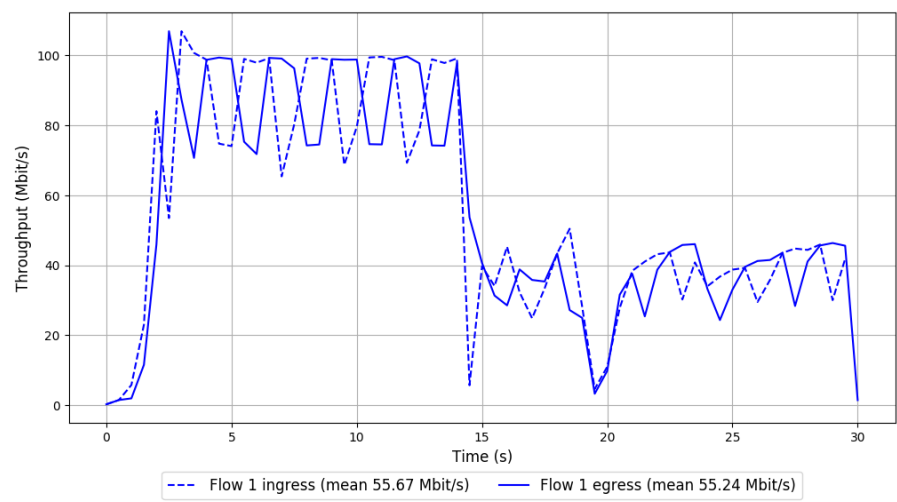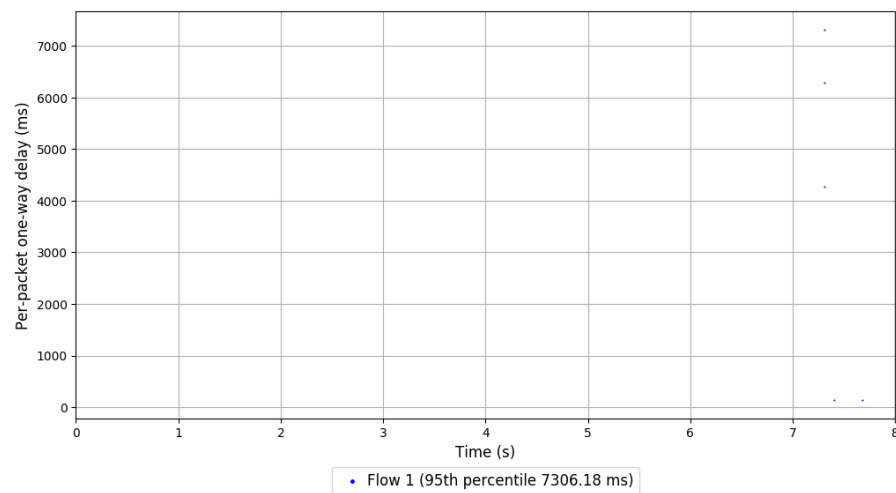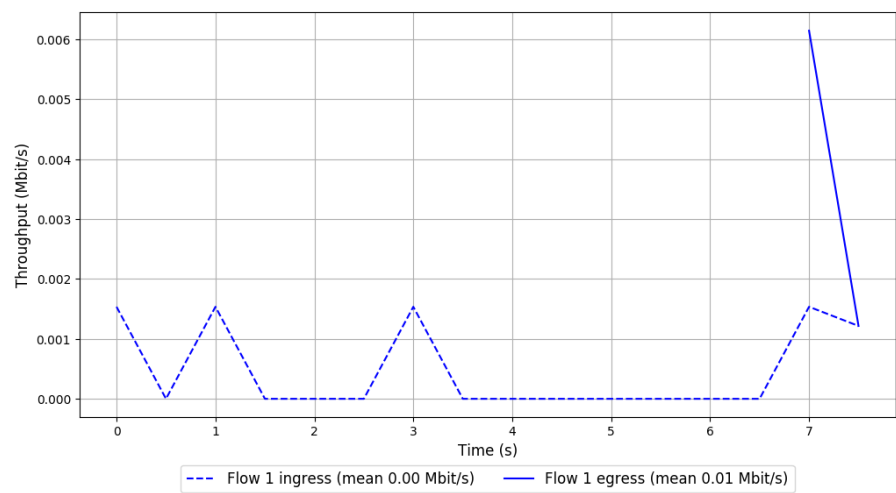
## Run 3: Report of TCP Cubic — Data Link



Flow 1 ingress (mean 52.91 Mbit/s) --- Flow 1 egress (mean 52.91 Mbit/s)



Flow 1 (95th percentile 146.14 ms)

```
Run 4: Statistics of TCP Cubic

Start at: 2018-01-26 06:25:12
End at: 2018-01-26 06:25:42

# Below is generated by plot.py at 2018-01-26 08:20:49
# Datalink statistics
-- Total of 1 flow:
Average throughput: 55.24 Mbit/s
95th percentile per-packet one-way delay: 154.606 ms
Loss rate: 0.77%
-- Flow 1:
Average throughput: 55.24 Mbit/s
95th percentile per-packet one-way delay: 154.606 ms
Loss rate: 0.77%
```
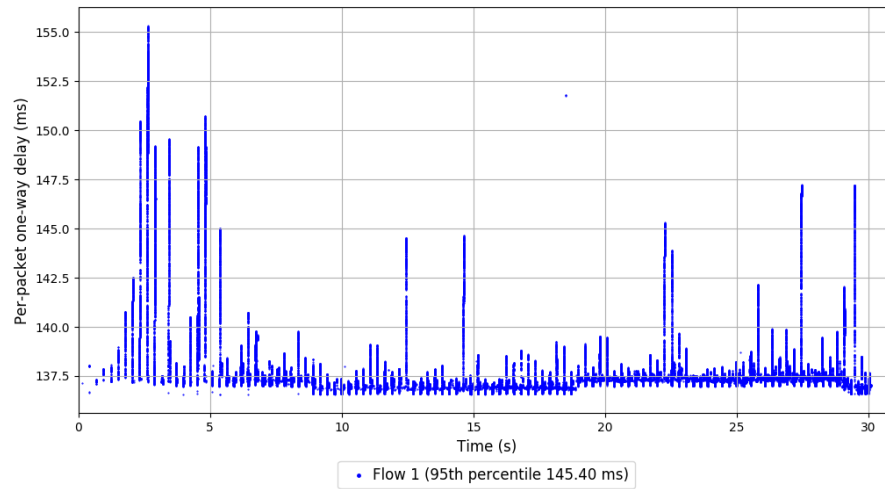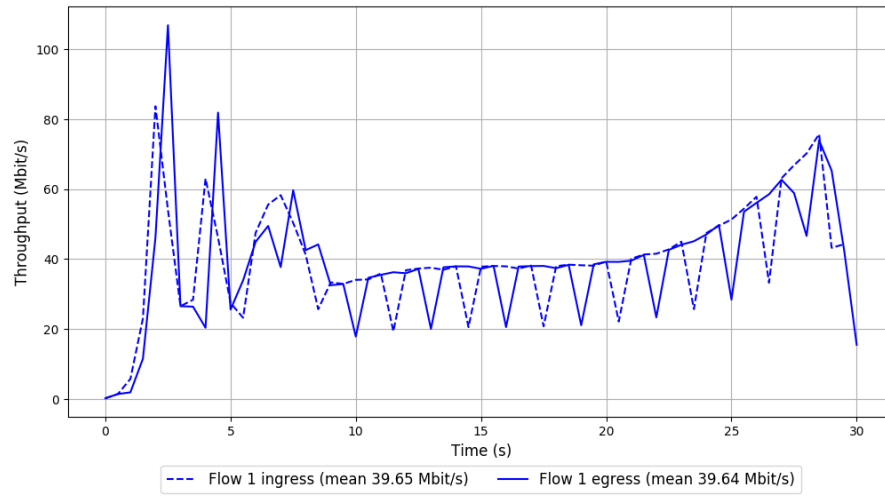
Run 4: Report of TCP Cubic — Data Link



Flow 1 ingress (mean 55.67 Mbit/s)    Flow 1 egress (mean 55.24 Mbit/s)



Flow 1 (95th percentile 154.61 ms)

Run 5: Statistics of TCP Cubic

Start at: 2018-01-26 06:37:33
End at: 2018-01-26 06:38:03

Run 5: Report of TCP Cubic — Data Link

```
Run 6: Statistics of TCP Cubic

Start at: 2018-01-26 06:50:43
End at: 2018-01-26 06:51:13

# Below is generated by plot.py at 2018-01-26 08:20:49
# Datalink statistics
-- Total of 1 flow:
Average throughput: 39.64 Mbit/s
95th percentile per-packet one-way delay: 145.399 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 39.64 Mbit/s
95th percentile per-packet one-way delay: 145.399 ms
Loss rate: 0.01%
```

Run 6: Report of TCP Cubic — Data Link

```
Run 7: Statistics of TCP Cubic

Start at: 2018-01-26 07:03:59
End at: 2018-01-26 07:04:29

# Below is generated by plot.py at 2018-01-26 08:20:49
# Datalink statistics
-- Total of 1 flow:
Average throughput: 44.00 Mbit/s
95th percentile per-packet one-way delay: 140.756 ms
Loss rate: 0.02%
-- Flow 1:
Average throughput: 44.00 Mbit/s
95th percentile per-packet one-way delay: 140.756 ms
Loss rate: 0.02%
```
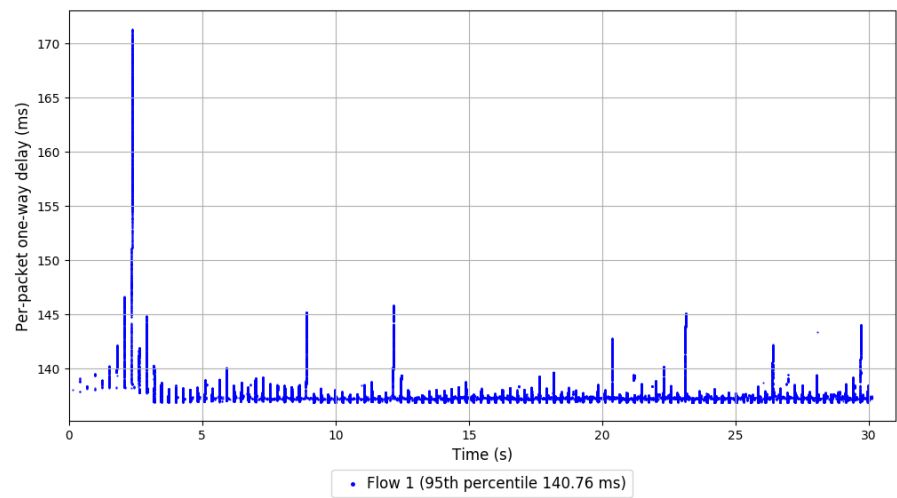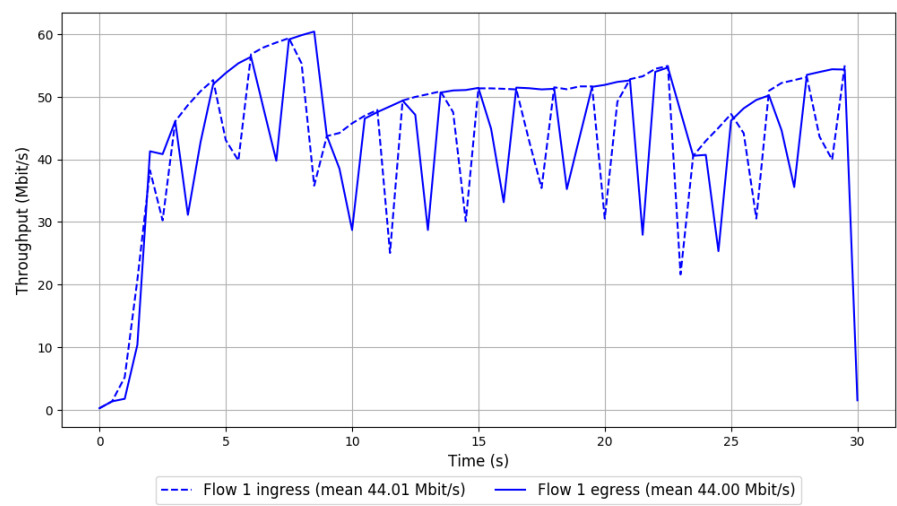
Run 7: Report of TCP Cubic — Data Link



Flow 1 ingress (mean 44.01 Mbit/s)    Flow 1 egress (mean 44.00 Mbit/s)



Flow 1 (95th percentile 140.76 ms)

```
Run 8: Statistics of TCP Cubic

Start at: 2018-01-26 07:16:58
End at: 2018-01-26 07:17:28

# Below is generated by plot.py at 2018-01-26 08:20:49
# Datalink statistics
-- Total of 1 flow:
Average throughput: 23.66 Mbit/s
95th percentile per-packet one-way delay: 139.115 ms
Loss rate: 1.65%
-- Flow 1:
Average throughput: 23.66 Mbit/s
95th percentile per-packet one-way delay: 139.115 ms
Loss rate: 1.65%
```
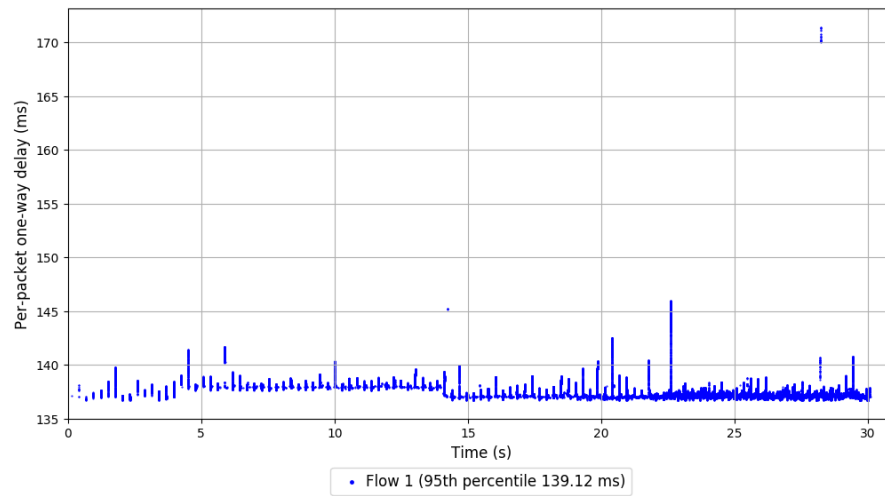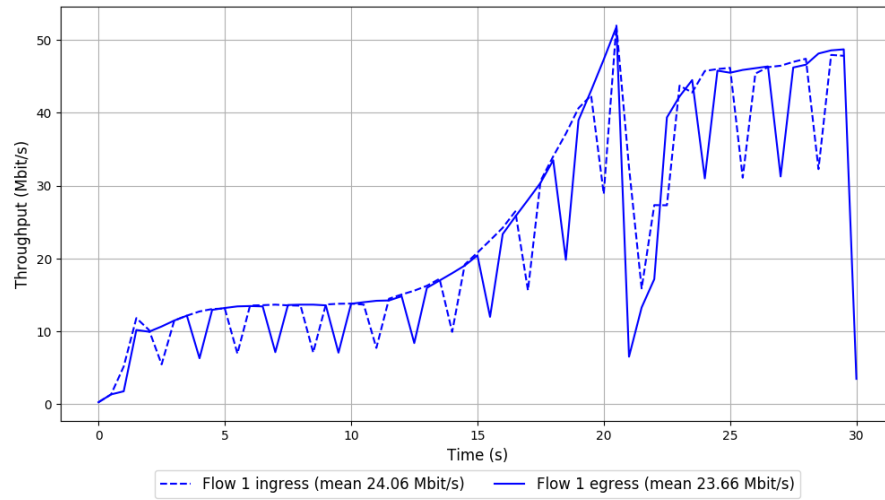
Run 8: Report of TCP Cubic — Data Link

```
Run 9: Statistics of TCP Cubic

Start at: 2018-01-26 07:29:52
End at: 2018-01-26 07:30:22

# Below is generated by plot.py at 2018-01-26 08:21:19
# Datalink statistics
-- Total of 1 flow:
Average throughput: 70.02 Mbit/s
95th percentile per-packet one-way delay: 151.042 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 70.02 Mbit/s
95th percentile per-packet one-way delay: 151.042 ms
Loss rate: 0.01%
```
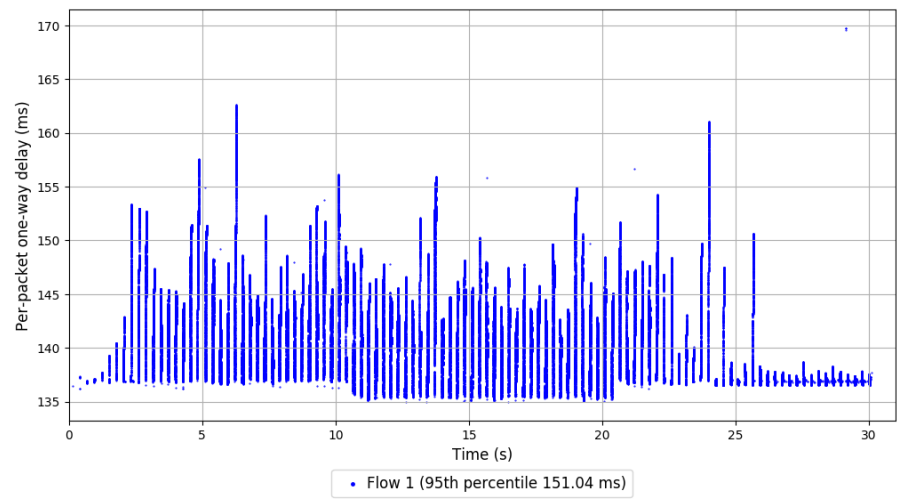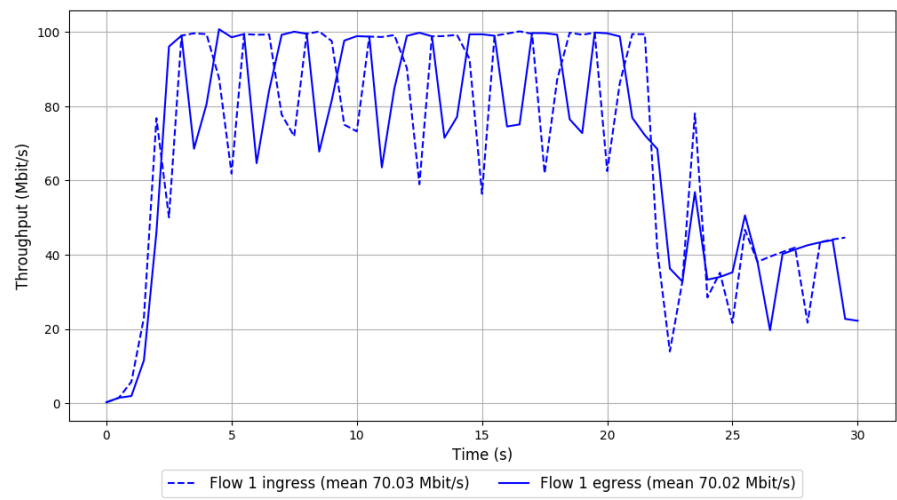
Run 9: Report of TCP Cubic — Data Link



Flow 1 ingress (mean 70.03 Mbit/s) — Flow 1 egress (mean 70.02 Mbit/s)



Flow 1 (95th percentile 151.04 ms)

```
Run 10: Statistics of TCP Cubic

Start at: 2018-01-26 07:42:49
End at: 2018-01-26 07:43:19


# Below is generated by plot.py at 2018-01-26 08:21:19
# Datalink statistics
-- Total of 1 flow:
Average throughput: 28.88 Mbit/s
95th percentile per-packet one-way delay: 149.084 ms
Loss rate: 1.11%
-- Flow 1:
Average throughput: 28.88 Mbit/s
95th percentile per-packet one-way delay: 149.084 ms
Loss rate: 1.11%
```
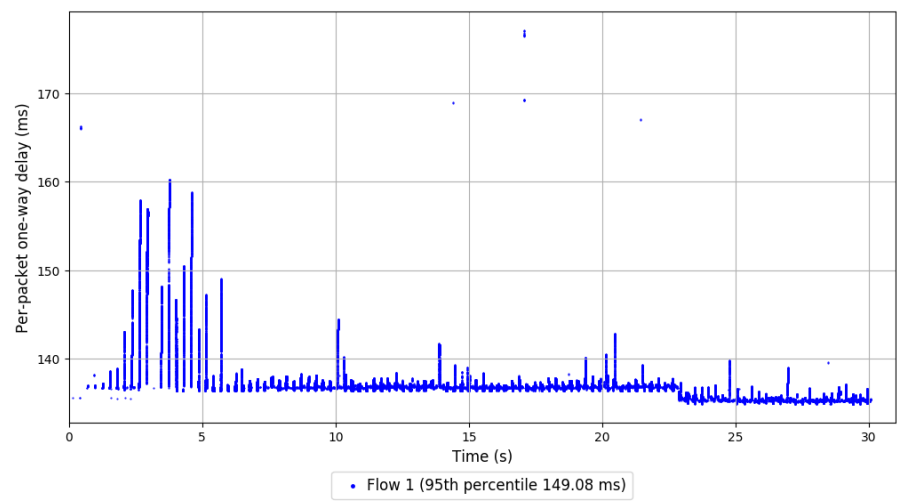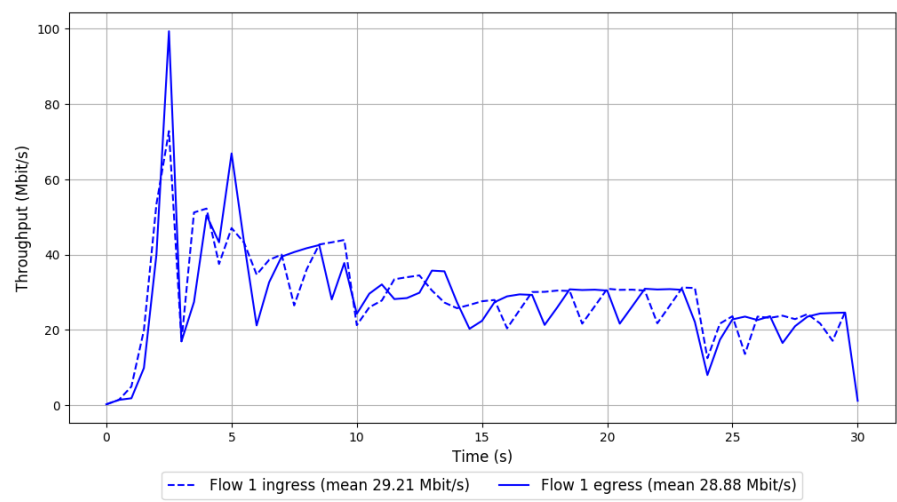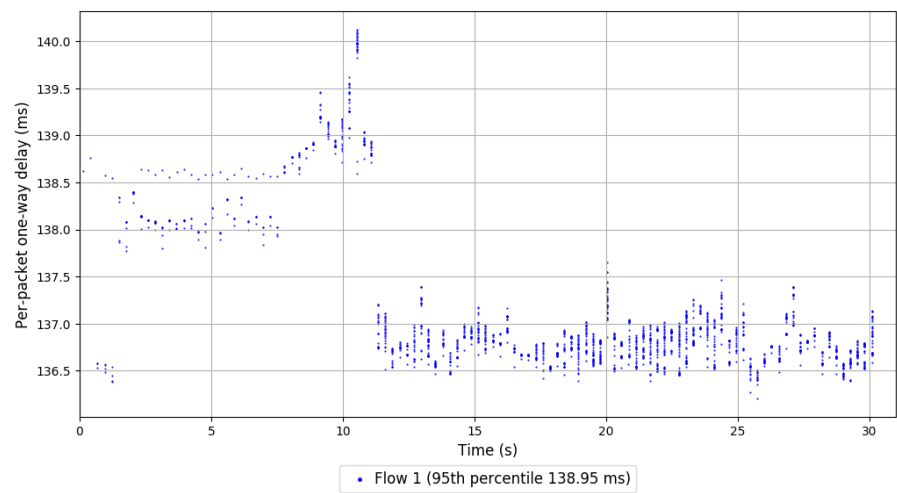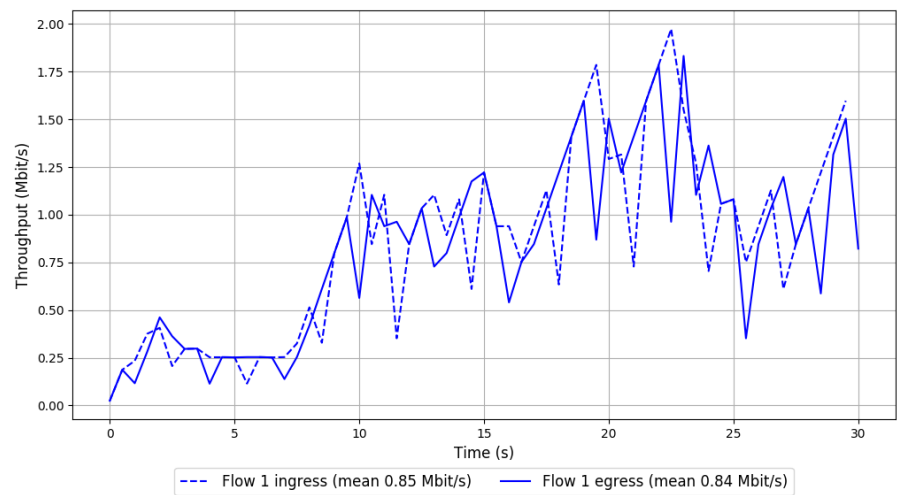
Run 10: Report of TCP Cubic — Data Link



Flow 1 ingress (mean 29.21 Mbit/s)    Flow 1 egress (mean 28.88 Mbit/s)



Flow 1 (95th percentile 149.08 ms)

```
Run 1: Statistics of LEDBAT

Start at: 2018-01-26 05:49:41
End at: 2018-01-26 05:50:11

# Below is generated by plot.py at 2018-01-26 08:21:19
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.84 Mbit/s
95th percentile per-packet one-way delay: 138.948 ms
Loss rate: 0.69%
-- Flow 1:
Average throughput: 0.84 Mbit/s
95th percentile per-packet one-way delay: 138.948 ms
Loss rate: 0.69%
```
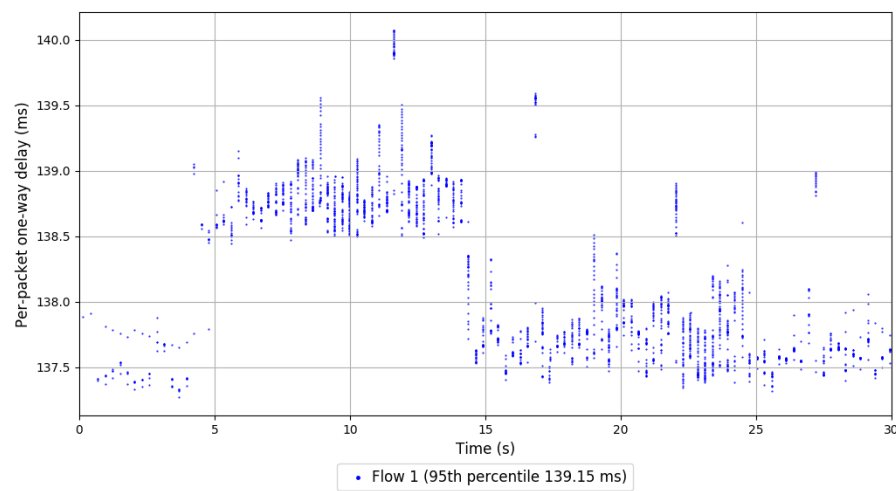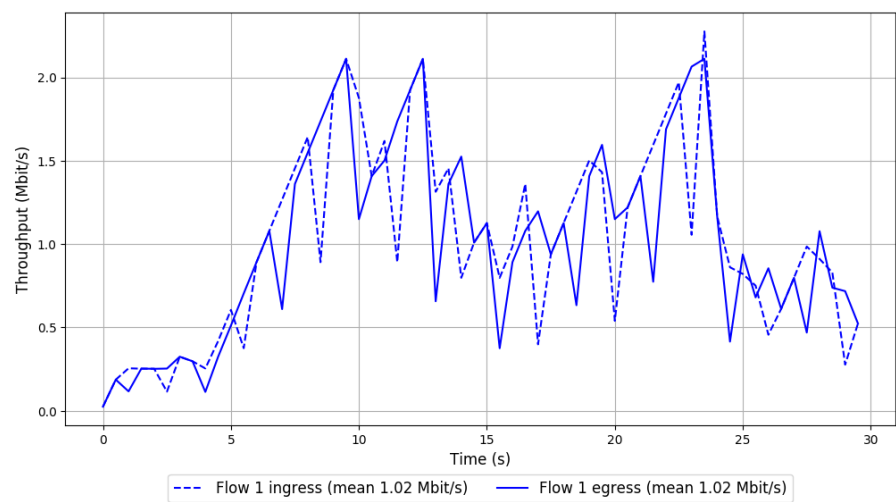
# Run 1: Report of LEDBAT — Data Link

```
Run 2: Statistics of LEDBAT

Start at: 2018-01-26 06:02:48
End at: 2018-01-26 06:03:18

# Below is generated by plot.py at 2018-01-26 08:21:19
# Datalink statistics
-- Total of 1 flow:
Average throughput: 1.02 Mbit/s
95th percentile per-packet one-way delay: 139.148 ms
Loss rate: 0.31%
-- Flow 1:
Average throughput: 1.02 Mbit/s
95th percentile per-packet one-way delay: 139.148 ms
Loss rate: 0.31%
```
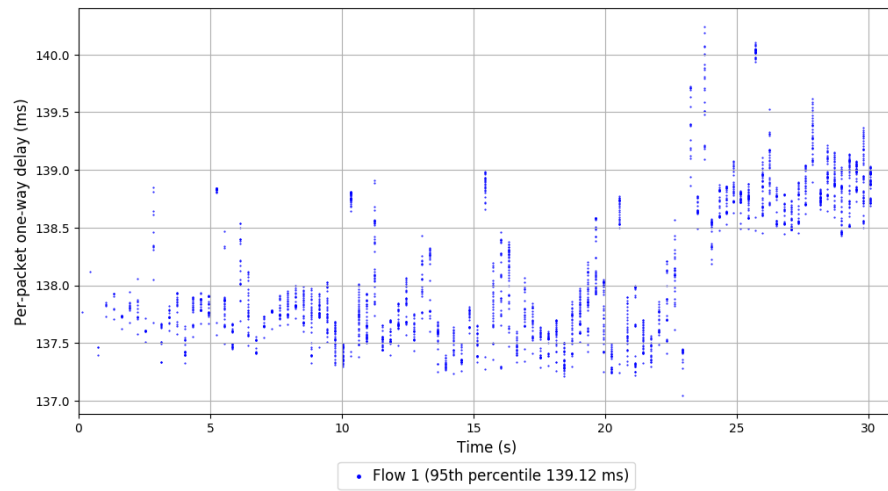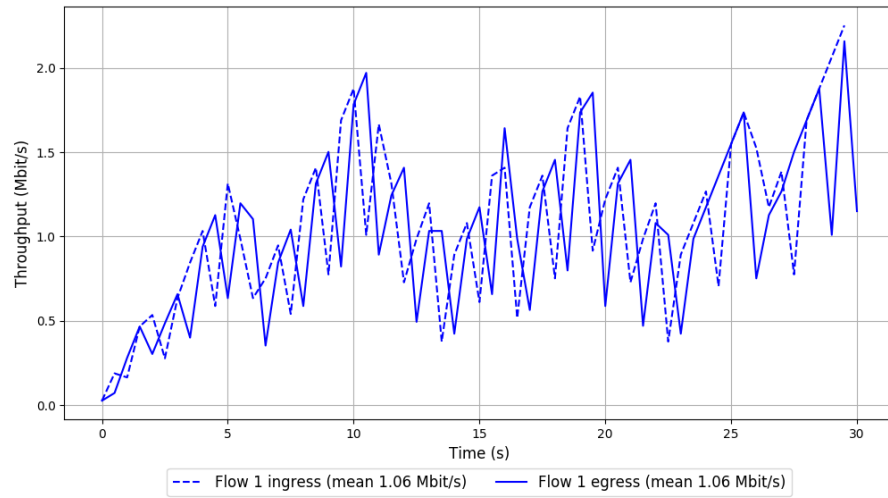
## Run 2: Report of LEDBAT — Data Link

```
Run 3: Statistics of LEDBAT

Start at: 2018-01-26 06:15:59
End at: 2018-01-26 06:16:29

# Below is generated by plot.py at 2018-01-26 08:21:19
# Datalink statistics
-- Total of 1 flow:
Average throughput: 1.06 Mbit/s
95th percentile per-packet one-way delay: 139.120 ms
Loss rate: 0.59%
-- Flow 1:
Average throughput: 1.06 Mbit/s
95th percentile per-packet one-way delay: 139.120 ms
Loss rate: 0.59%
```
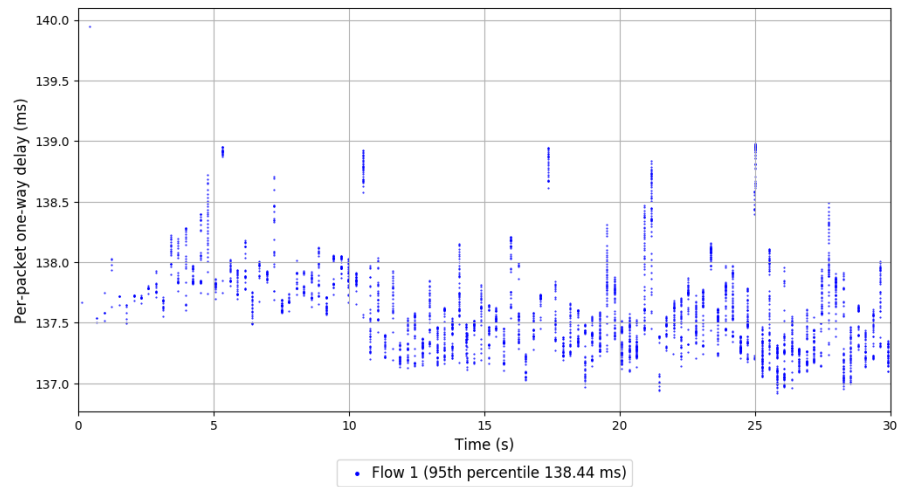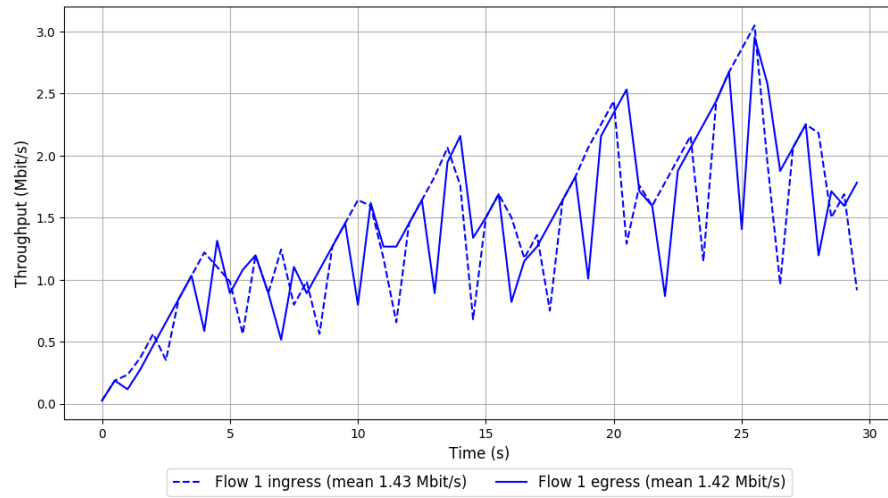
Run 3: Report of LEDBAT — Data Link



Flow 1 ingress (mean 1.06 Mbit/s) --- Flow 1 egress (mean 1.06 Mbit/s)



• Flow 1 (95th percentile 139.12 ms)

```
Run 4: Statistics of LEDBAT

Start at: 2018-01-26 06:29:01
End at: 2018-01-26 06:29:31

# Below is generated by plot.py at 2018-01-26 08:21:19
# Datalink statistics
-- Total of 1 flow:
Average throughput: 1.42 Mbit/s
95th percentile per-packet one-way delay: 138.443 ms
Loss rate: 0.30%
-- Flow 1:
Average throughput: 1.42 Mbit/s
95th percentile per-packet one-way delay: 138.443 ms
Loss rate: 0.30%
```
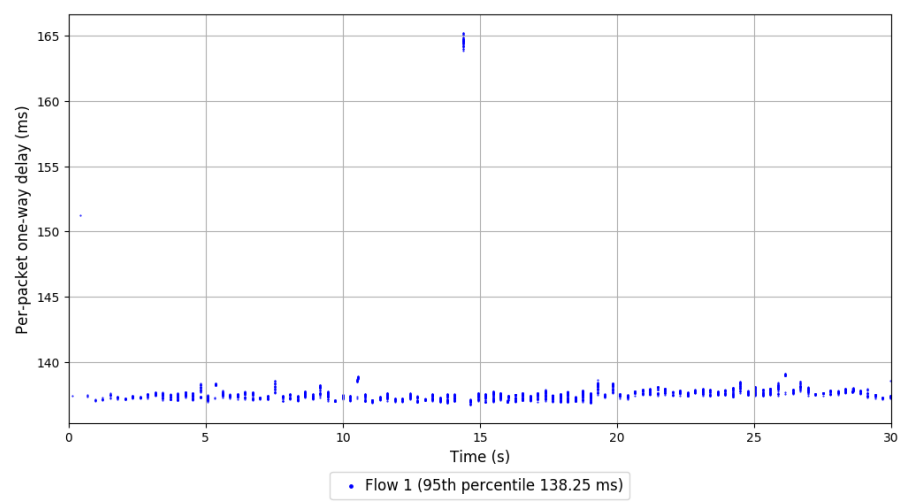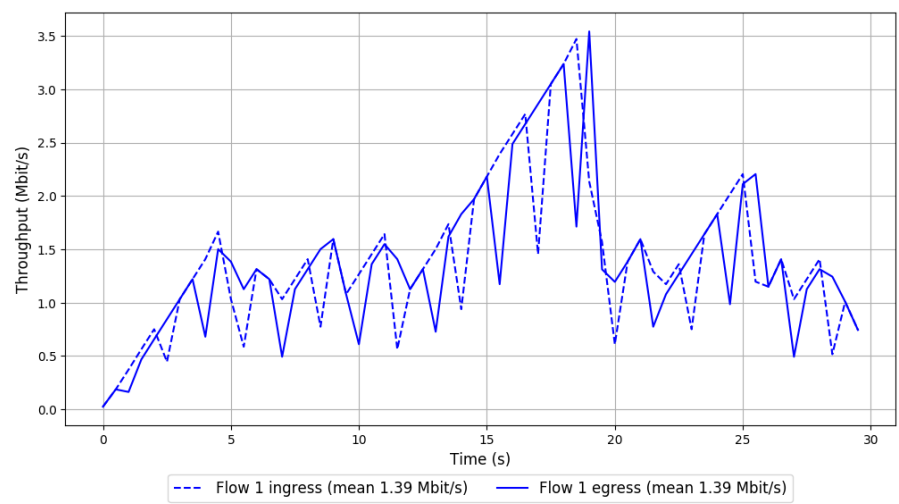
# Run 4: Report of LEDBAT — Data Link



Flow 1 ingress (mean 1.43 Mbit/s)   Flow 1 egress (mean 1.42 Mbit/s)



• Flow 1 (95th percentile 138.44 ms)

```
Run 5: Statistics of LEDBAT

Start at: 2018-01-26 06:41:23
End at: 2018-01-26 06:41:53

# Below is generated by plot.py at 2018-01-26 08:21:19
# Datalink statistics
-- Total of 1 flow:
Average throughput: 1.39 Mbit/s
95th percentile per-packet one-way delay: 138.251 ms
Loss rate: 0.17%
-- Flow 1:
Average throughput: 1.39 Mbit/s
95th percentile per-packet one-way delay: 138.251 ms
Loss rate: 0.17%
```
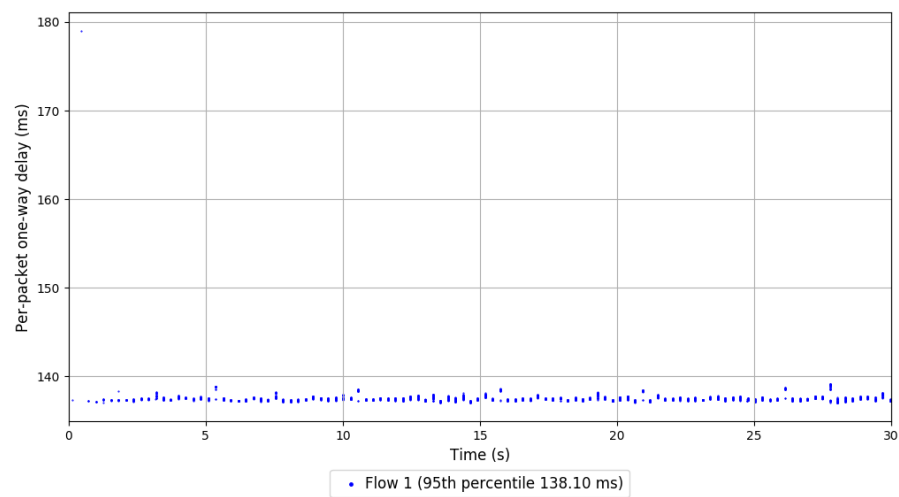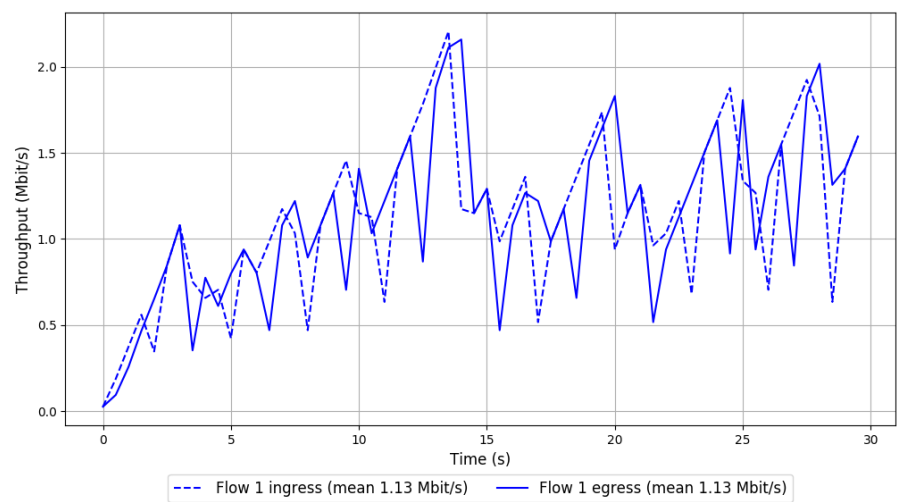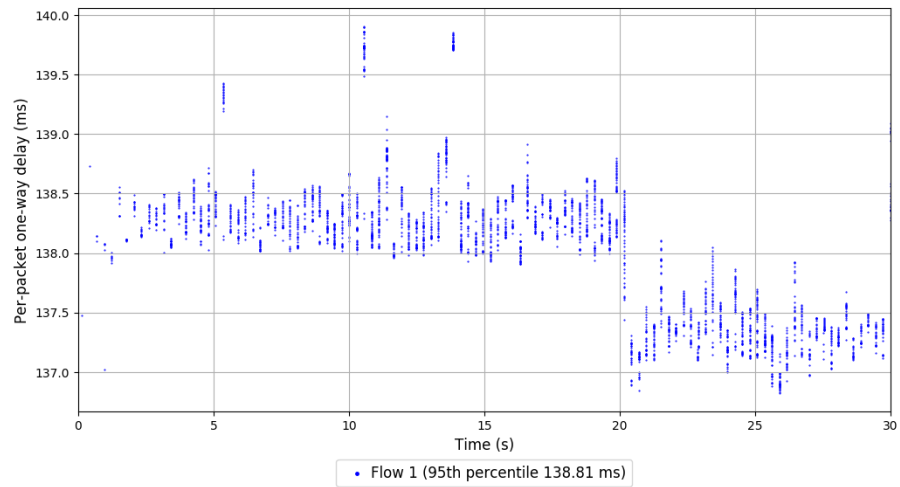
Run 5: Report of LEDBAT — Data Link



Flow 1 ingress (mean 1.39 Mbit/s)    Flow 1 egress (mean 1.39 Mbit/s)



• Flow 1 (95th percentile 138.25 ms)

```
Run 6: Statistics of LEDBAT

Start at: 2018-01-26 06:54:31
End at: 2018-01-26 06:55:01

# Below is generated by plot.py at 2018-01-26 08:21:19
# Datalink statistics
-- Total of 1 flow:
Average throughput: 1.13 Mbit/s
95th percentile per-packet one-way delay: 138.103 ms
Loss rate: 0.45%
-- Flow 1:
Average throughput: 1.13 Mbit/s
95th percentile per-packet one-way delay: 138.103 ms
Loss rate: 0.45%
```
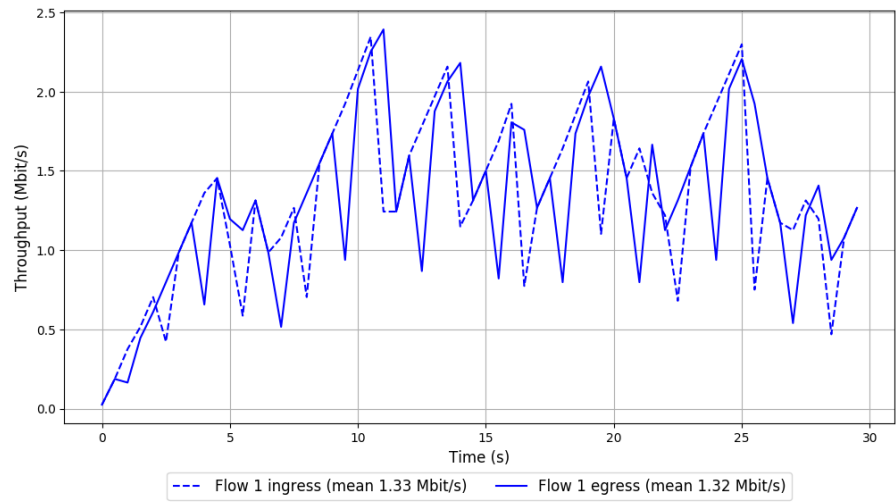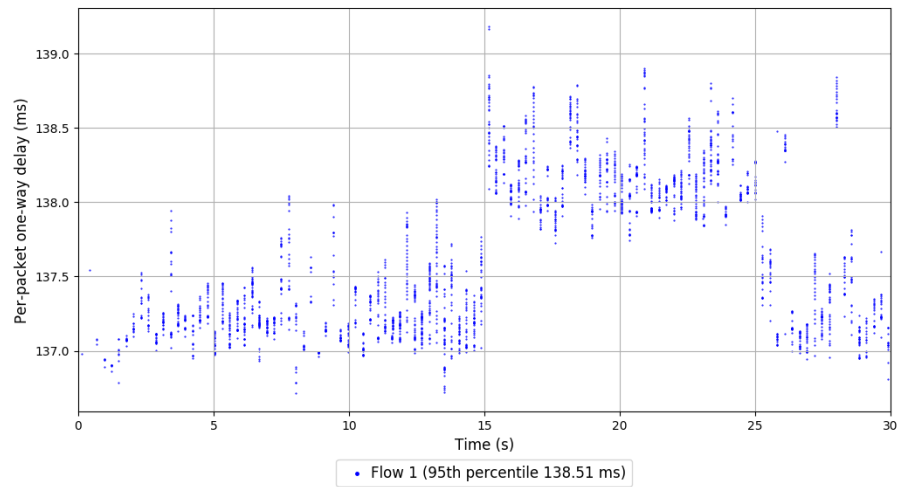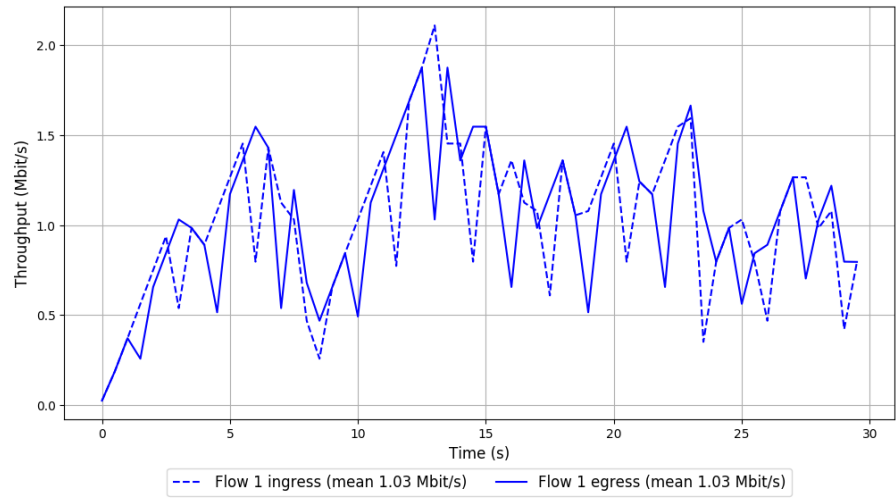
# Run 6: Report of LEDBAT — Data Link



Flow 1 ingress (mean 1.13 Mbit/s)    Flow 1 egress (mean 1.13 Mbit/s)



Flow 1 (95th percentile 138.10 ms)

```
Run 7: Statistics of LEDBAT

Start at: 2018-01-26 07:07:52
End at: 2018-01-26 07:08:22

# Below is generated by plot.py at 2018-01-26 08:21:19
# Datalink statistics
-- Total of 1 flow:
Average throughput: 1.32 Mbit/s
95th percentile per-packet one-way delay: 138.812 ms
Loss rate: 0.15%
-- Flow 1:
Average throughput: 1.32 Mbit/s
95th percentile per-packet one-way delay: 138.812 ms
Loss rate: 0.15%
```
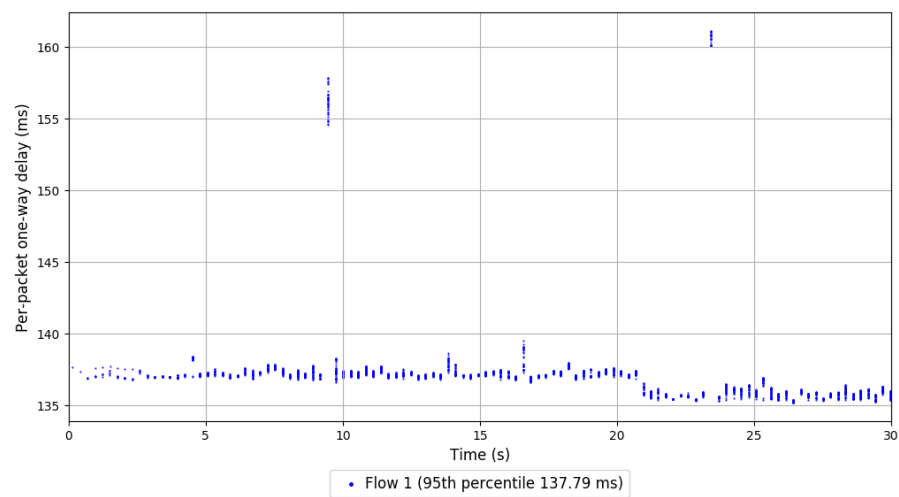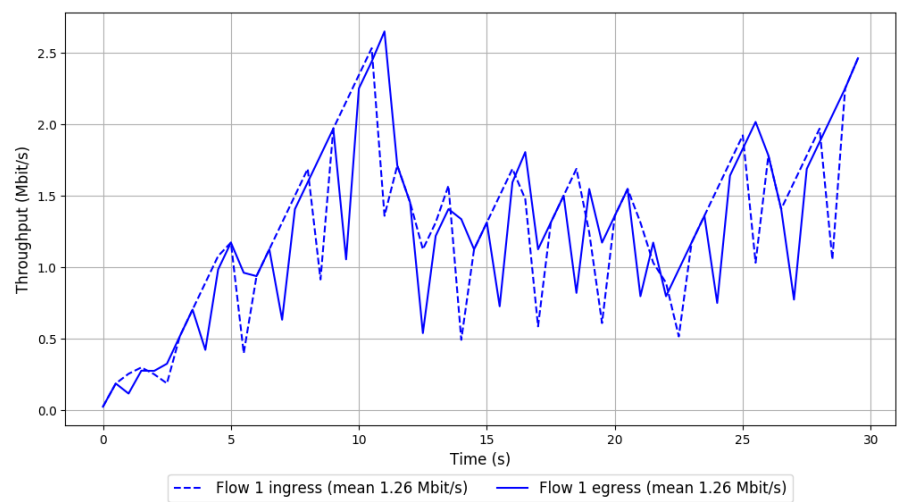
# Run 7: Report of LEDBAT — Data Link

```
Run 8: Statistics of LEDBAT

Start at: 2018-01-26 07:20:47
End at: 2018-01-26 07:21:17

# Below is generated by plot.py at 2018-01-26 08:21:19
# Datalink statistics
-- Total of 1 flow:
Average throughput: 1.03 Mbit/s
95th percentile per-packet one-way delay: 138.511 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 1.03 Mbit/s
95th percentile per-packet one-way delay: 138.511 ms
Loss rate: 0.00%
```
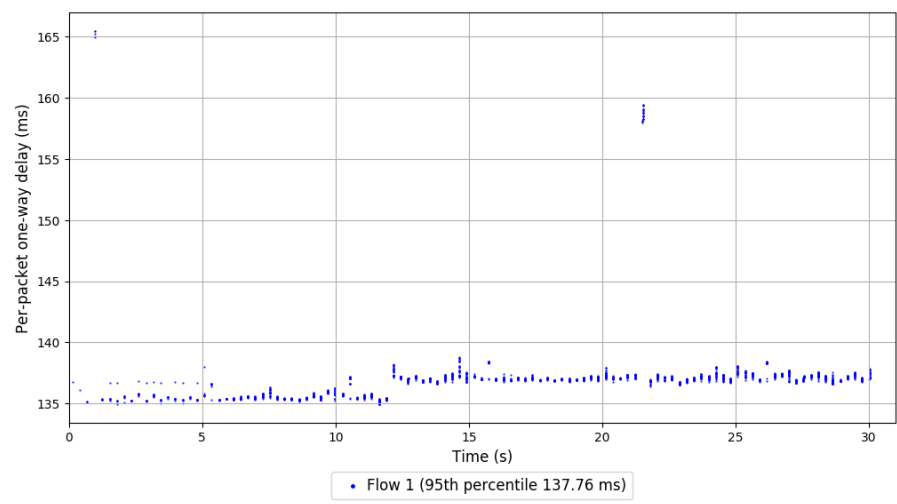
# Run 8: Report of LEDBAT — Data Link

```
Run 9: Statistics of LEDBAT

Start at: 2018-01-26 07:33:41
End at: 2018-01-26 07:34:11

# Below is generated by plot.py at 2018-01-26 08:21:19
# Datalink statistics
-- Total of 1 flow:
Average throughput: 1.26 Mbit/s
95th percentile per-packet one-way delay: 137.790 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 1.26 Mbit/s
95th percentile per-packet one-way delay: 137.790 ms
Loss rate: 0.00%
```
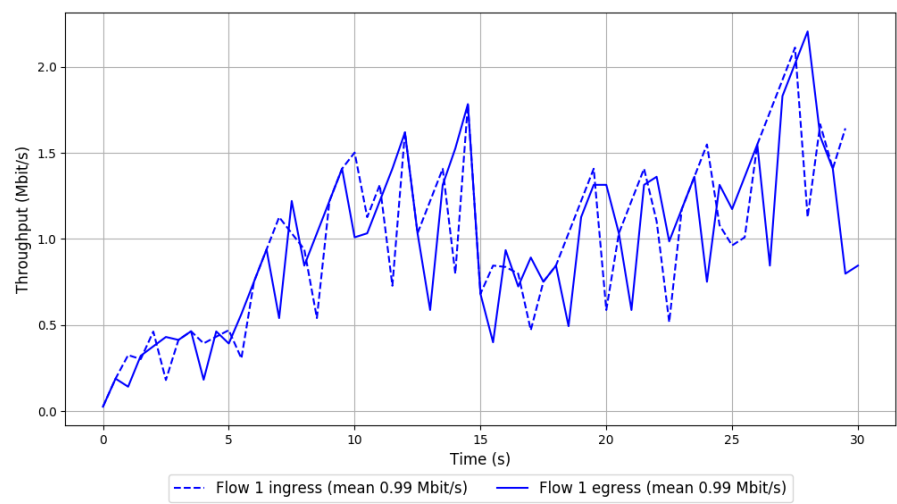
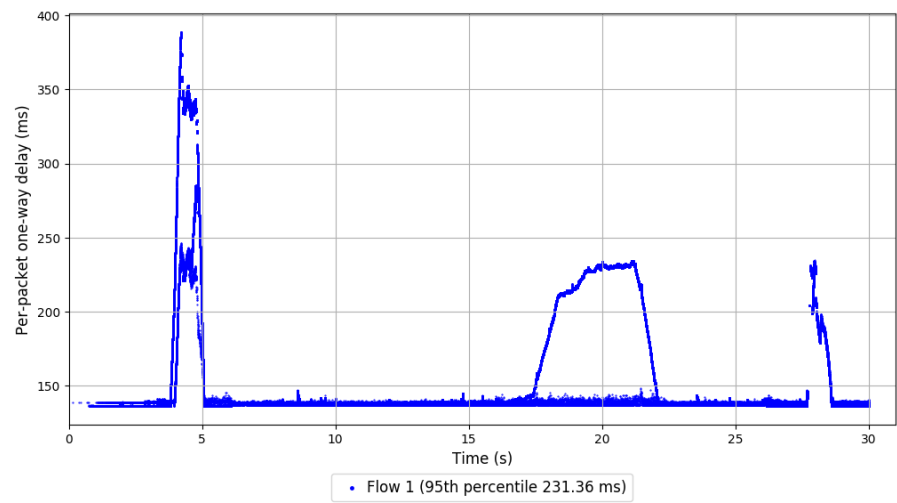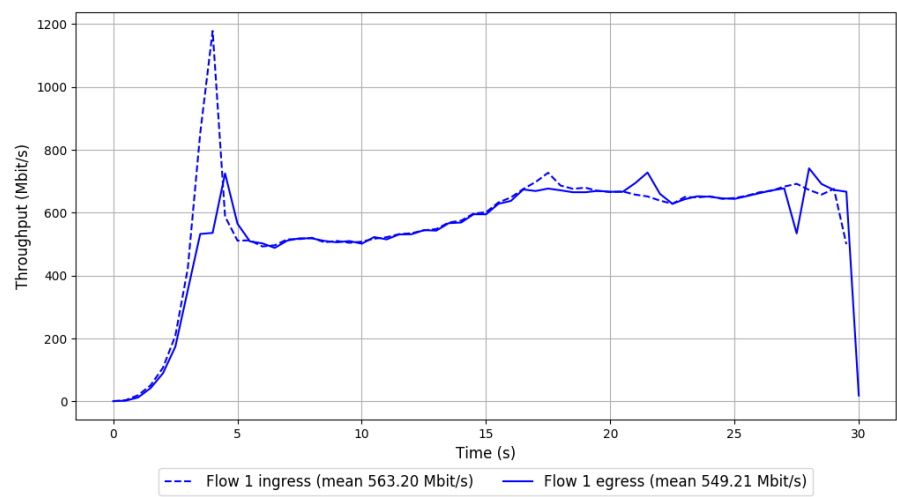Run 9: Report of LEDBAT — Data Link



Flow 1 ingress (mean 1.26 Mbit/s)    Flow 1 egress (mean 1.26 Mbit/s)



Flow 1 (95th percentile 137.79 ms)

```
Run 10: Statistics of LEDBAT

Start at: 2018-01-26 07:46:40
End at: 2018-01-26 07:47:10

# Below is generated by plot.py at 2018-01-26 08:21:19
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.99 Mbit/s
95th percentile per-packet one-way delay: 137.763 ms
Loss rate: 0.12%
-- Flow 1:
Average throughput: 0.99 Mbit/s
95th percentile per-packet one-way delay: 137.763 ms
Loss rate: 0.12%
```
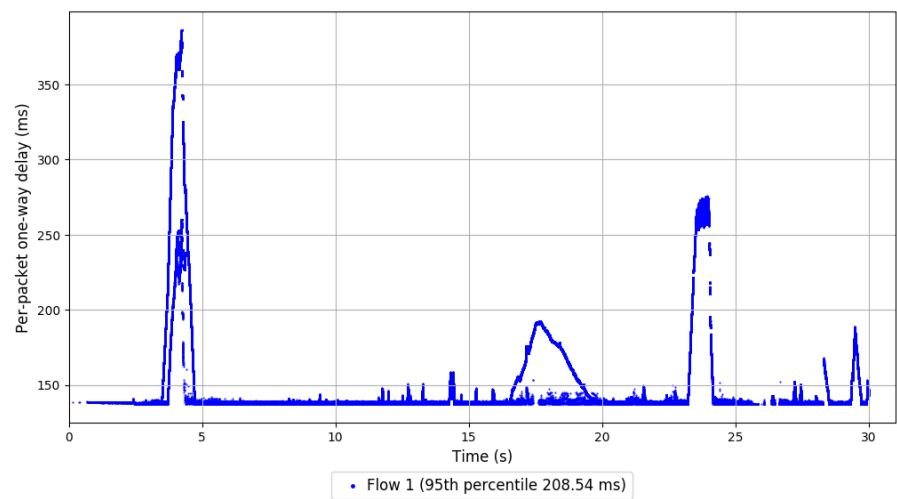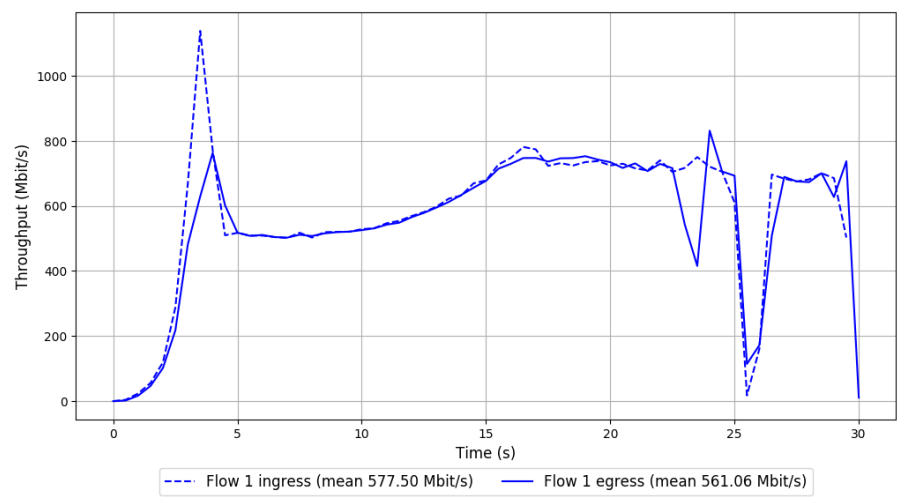
# Run 10: Report of LEDBAT — Data Link



Flow 1 ingress (mean 0.99 Mbit/s)    Flow 1 egress (mean 0.99 Mbit/s)



Flow 1 (95th percentile 137.76 ms)

```
Run 1: Statistics of PCC

Start at: 2018-01-26 05:41:56
End at: 2018-01-26 05:42:26

# Below is generated by plot.py at 2018-01-26 08:29:55
# Datalink statistics
-- Total of 1 flow:
Average throughput: 549.21 Mbit/s
95th percentile per-packet one-way delay: 231.357 ms
Loss rate: 2.49%
-- Flow 1:
Average throughput: 549.21 Mbit/s
95th percentile per-packet one-way delay: 231.357 ms
Loss rate: 2.49%
```
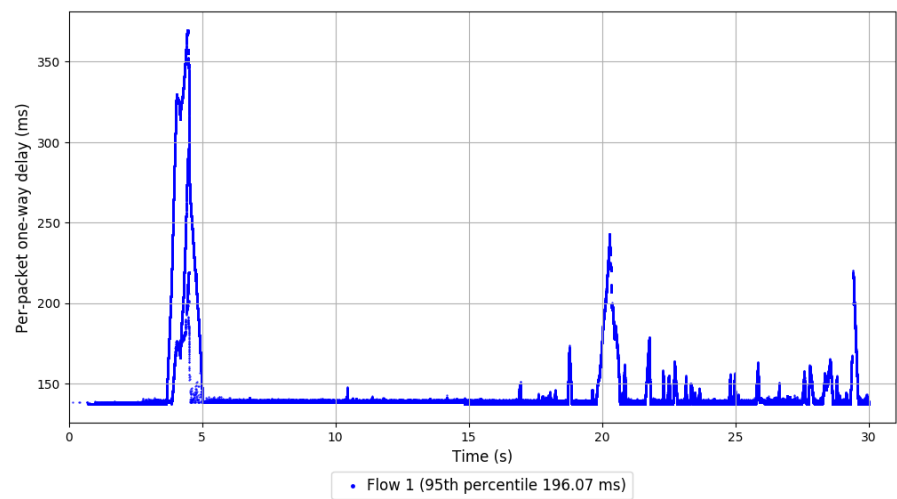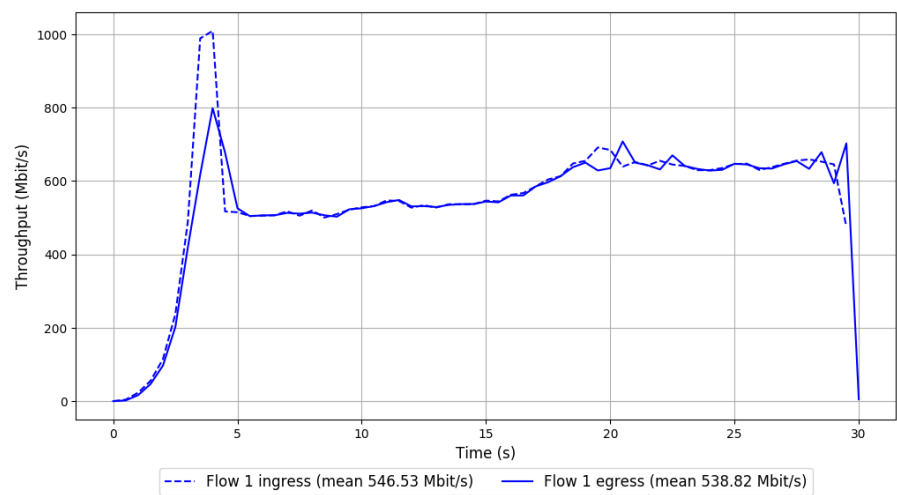
Run 1: Report of PCC — Data Link

```
Run 2: Statistics of PCC

Start at: 2018-01-26 05:55:19
End at: 2018-01-26 05:55:50

# Below is generated by plot.py at 2018-01-26 08:30:21
# Datalink statistics
-- Total of 1 flow:
Average throughput: 561.06 Mbit/s
95th percentile per-packet one-way delay: 208.543 ms
Loss rate: 2.85%
-- Flow 1:
Average throughput: 561.06 Mbit/s
95th percentile per-packet one-way delay: 208.543 ms
Loss rate: 2.85%
```
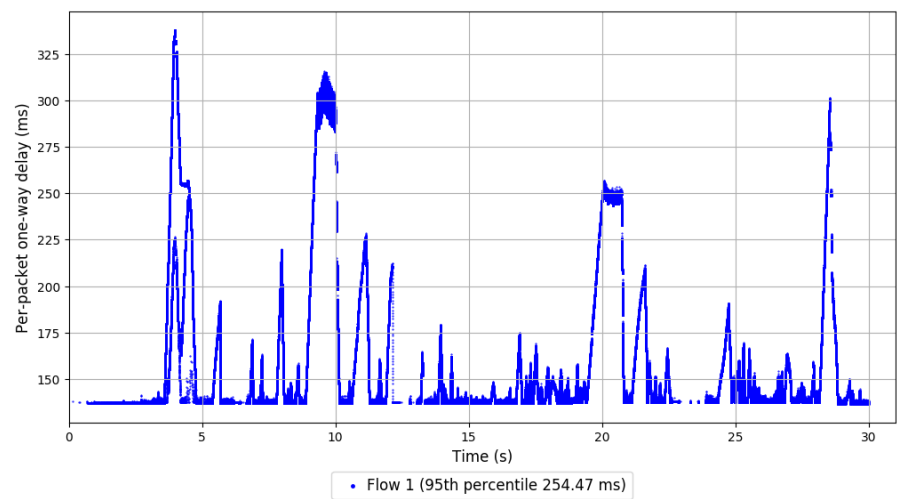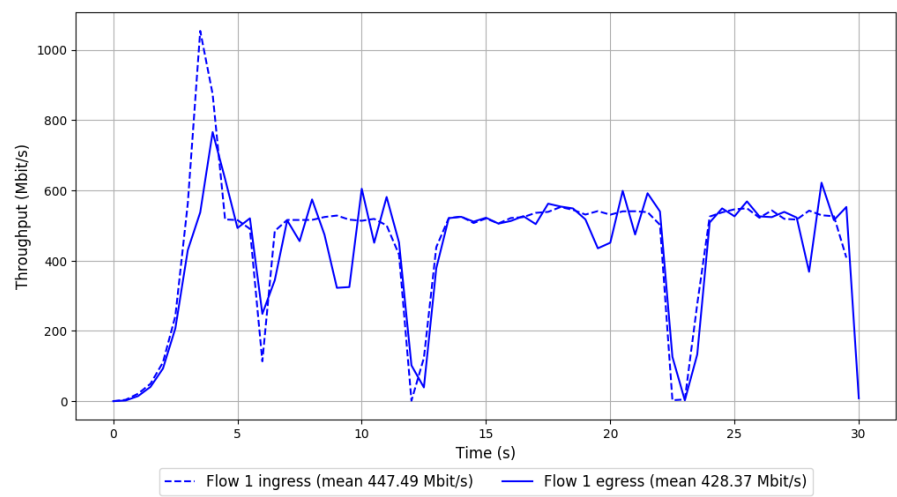
Run 2: Report of PCC — Data Link

```
Run 3: Statistics of PCC

Start at: 2018-01-26 06:08:27
End at: 2018-01-26 06:08:57

# Below is generated by plot.py at 2018-01-26 08:30:21
# Datalink statistics
-- Total of 1 flow:
Average throughput: 538.82 Mbit/s
95th percentile per-packet one-way delay: 196.068 ms
Loss rate: 1.41%
-- Flow 1:
Average throughput: 538.82 Mbit/s
95th percentile per-packet one-way delay: 196.068 ms
Loss rate: 1.41%
```
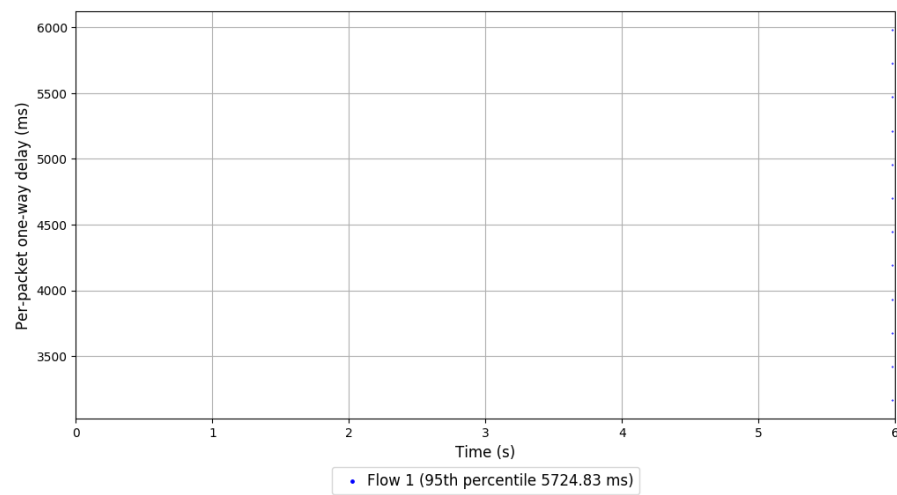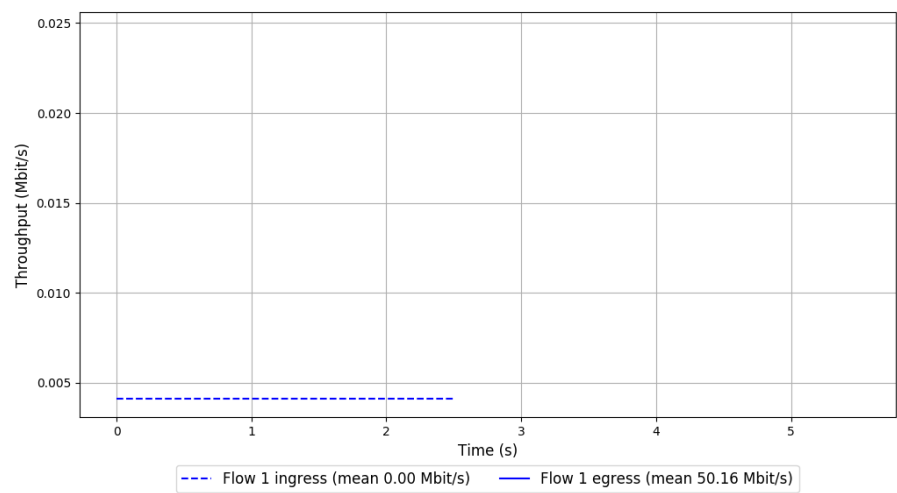
Run 3: Report of PCC — Data Link

```
Run 4: Statistics of PCC

Start at: 2018-01-26 06:21:33
End at: 2018-01-26 06:22:03

# Below is generated by plot.py at 2018-01-26 08:30:21
# Datalink statistics
-- Total of 1 flow:
Average throughput: 428.37 Mbit/s
95th percentile per-packet one-way delay: 254.471 ms
Loss rate: 4.27%
-- Flow 1:
Average throughput: 428.37 Mbit/s
95th percentile per-packet one-way delay: 254.471 ms
Loss rate: 4.27%
```
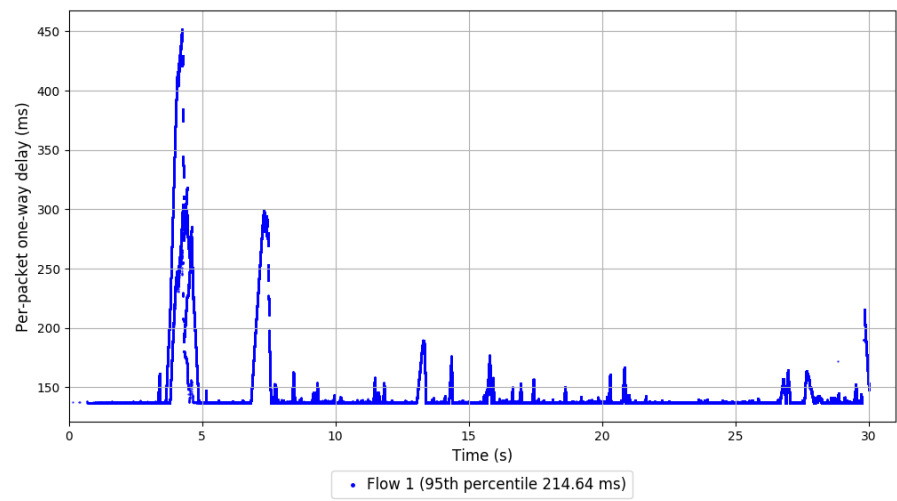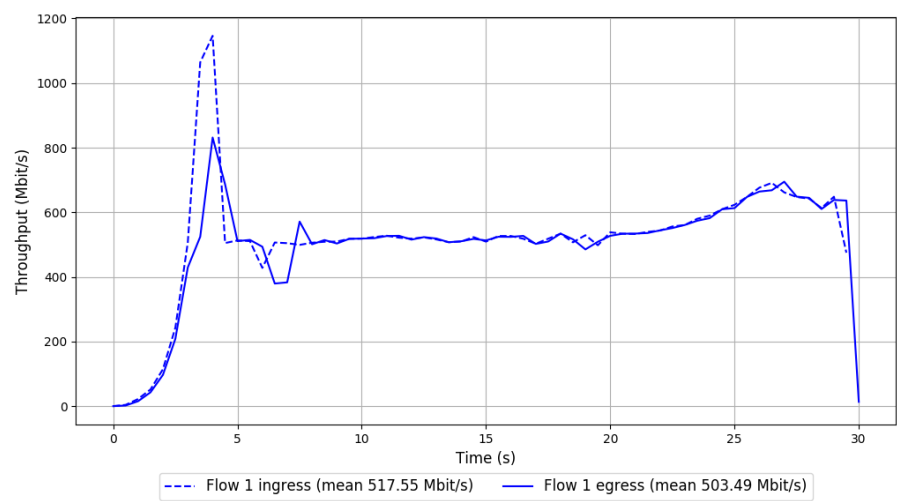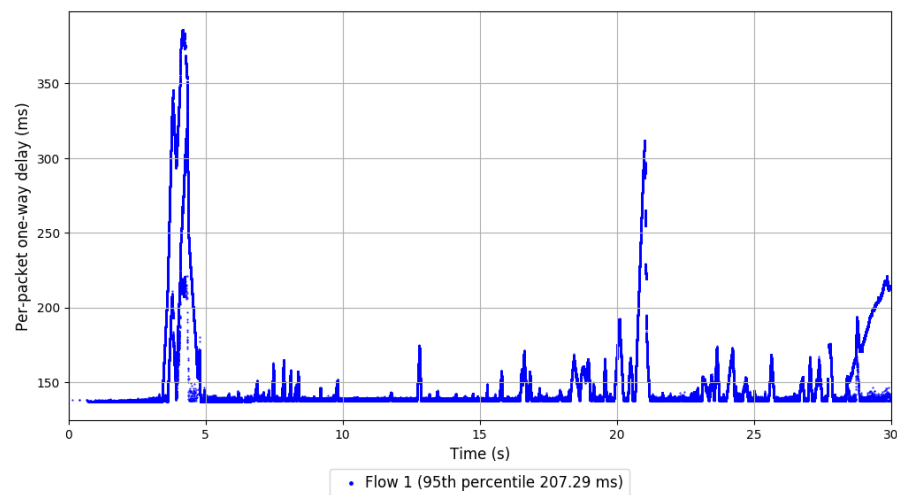
Run 4: Report of PCC — Data Link



Flow 1 ingress (mean 447.49 Mbit/s)          Flow 1 egress (mean 428.37 Mbit/s)



Flow 1 (95th percentile 254.47 ms)

Run 5: Statistics of PCC

Start at: 2018-01-26 06:34:32
End at: 2018-01-26 06:35:02

# Run 5: Report of PCC — Data Link



Flow 1 ingress (mean 0.00 Mbit/s)　　Flow 1 egress (mean 50.16 Mbit/s)



Flow 1 (95th percentile 5724.83 ms)

```
Run 6: Statistics of PCC

Start at: 2018-01-26 06:46:54
End at: 2018-01-26 06:47:24


# Below is generated by plot.py at 2018-01-26 08:30:21
# Datalink statistics
-- Total of 1 flow:
Average throughput: 503.49 Mbit/s
95th percentile per-packet one-way delay: 214.636 ms
Loss rate: 2.72%
-- Flow 1:
Average throughput: 503.49 Mbit/s
95th percentile per-packet one-way delay: 214.636 ms
Loss rate: 2.72%
```
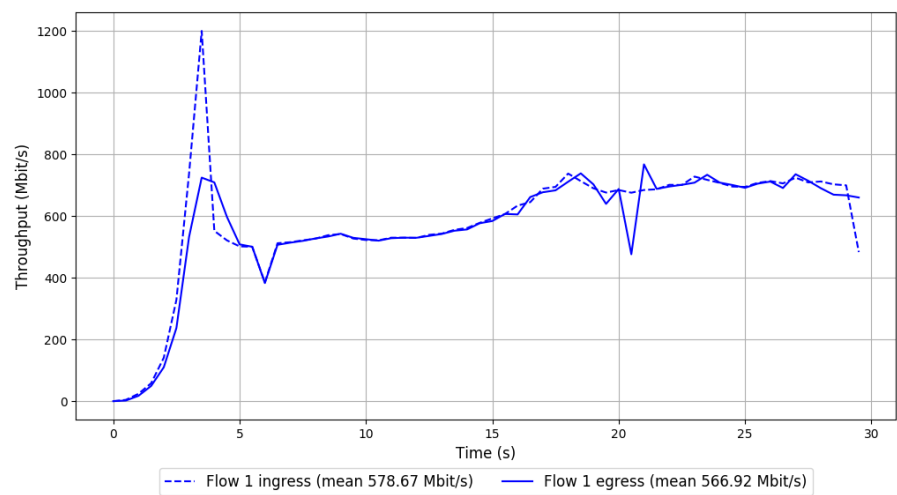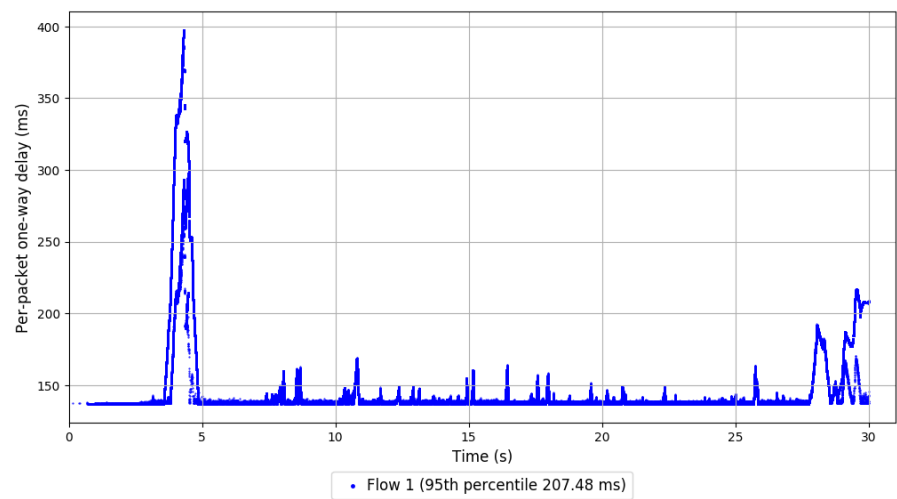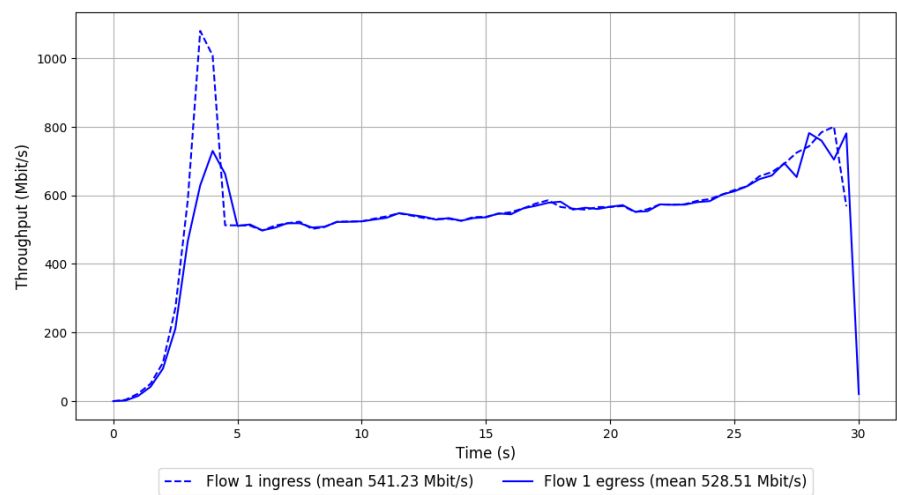
# Run 6: Report of PCC — Data Link



Flow 1 ingress (mean 517.55 Mbit/s)    Flow 1 egress (mean 503.49 Mbit/s)



Flow 1 (95th percentile 214.64 ms)

```
Run 7: Statistics of PCC

Start at: 2018-01-26 07:00:05
End at: 2018-01-26 07:00:35

# Below is generated by plot.py at 2018-01-26 08:30:47
# Datalink statistics
-- Total of 1 flow:
Average throughput: 566.92 Mbit/s
95th percentile per-packet one-way delay: 207.293 ms
Loss rate: 2.03%
-- Flow 1:
Average throughput: 566.92 Mbit/s
95th percentile per-packet one-way delay: 207.293 ms
Loss rate: 2.03%
```
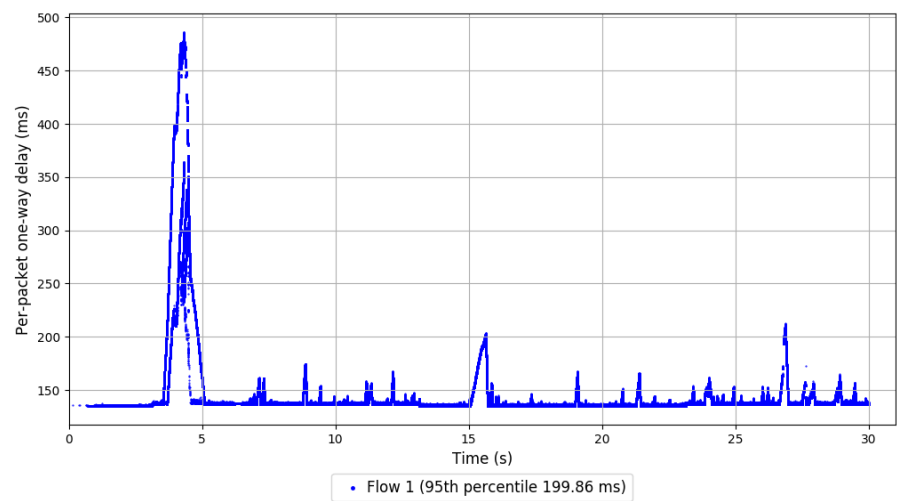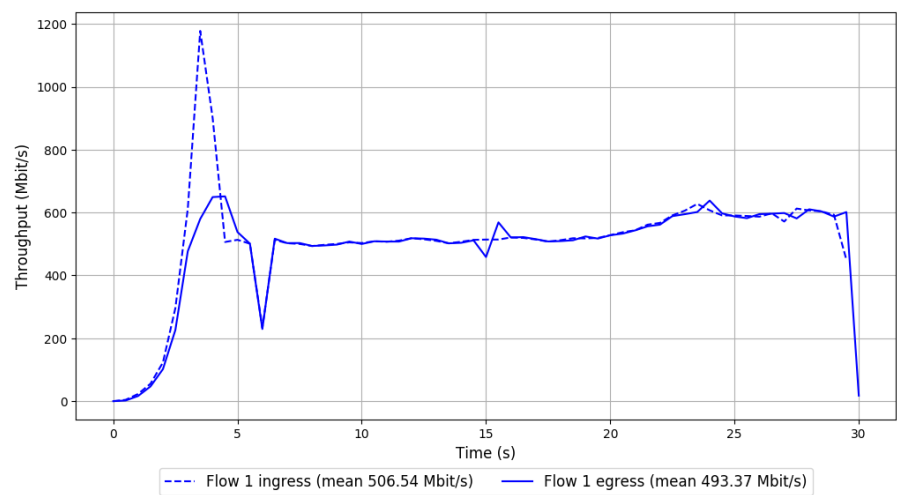
Run 7: Report of PCC — Data Link

```
Run 8: Statistics of PCC

Start at: 2018-01-26 07:13:26
End at: 2018-01-26 07:13:57

# Below is generated by plot.py at 2018-01-26 08:30:47
# Datalink statistics
-- Total of 1 flow:
Average throughput: 528.51 Mbit/s
95th percentile per-packet one-way delay: 207.477 ms
Loss rate: 2.35%
-- Flow 1:
Average throughput: 528.51 Mbit/s
95th percentile per-packet one-way delay: 207.477 ms
Loss rate: 2.35%
```
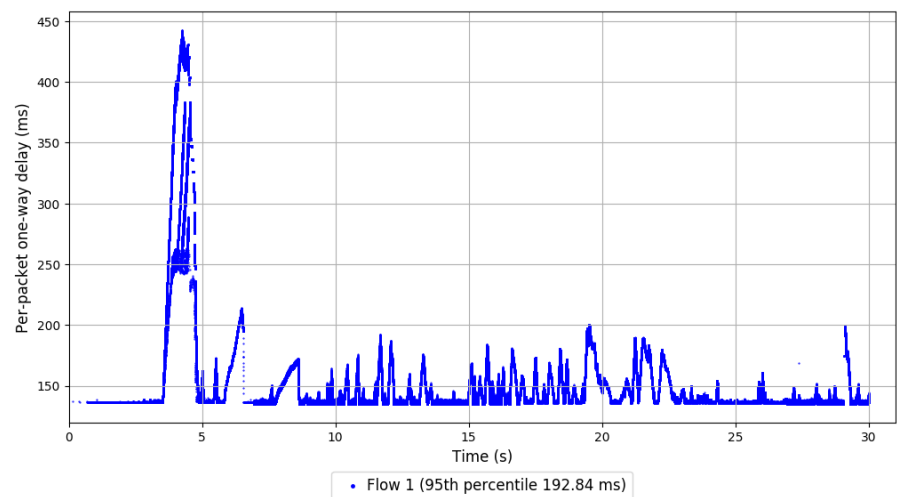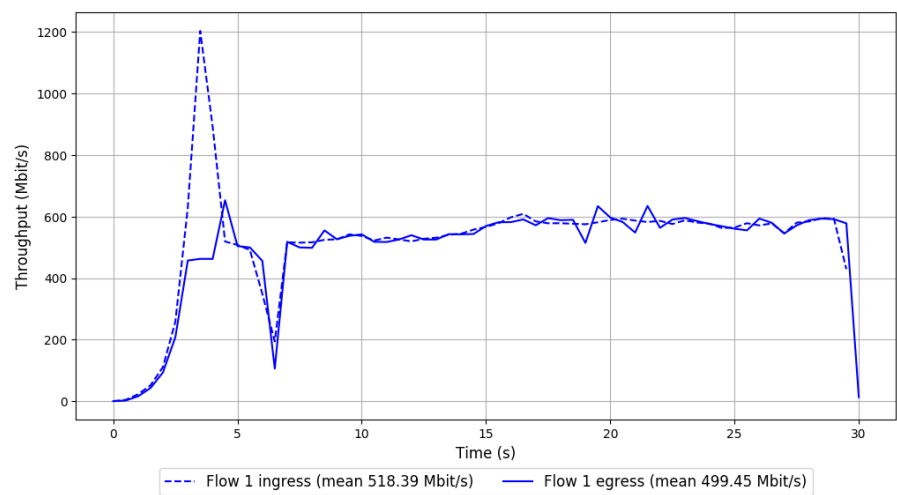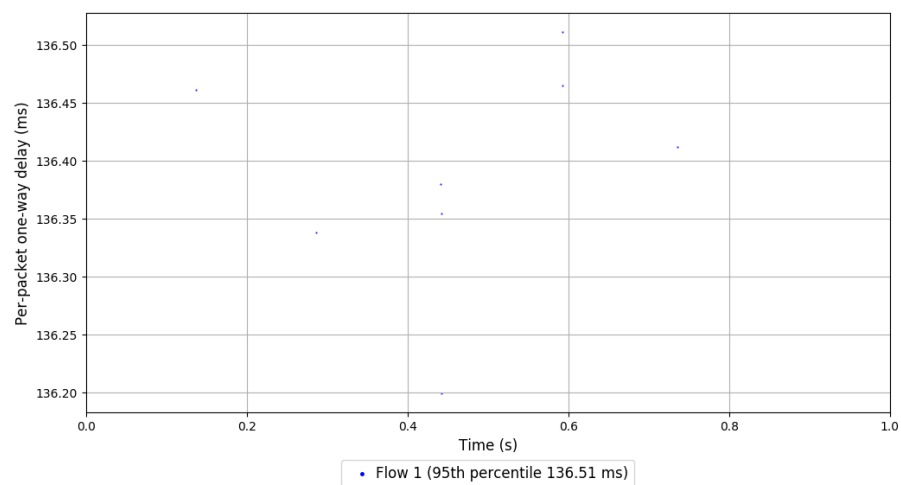
# Run 8: Report of PCC — Data Link



Flow 1 ingress (mean 541.23 Mbit/s)    Flow 1 egress (mean 528.51 Mbit/s)



Flow 1 (95th percentile 207.48 ms)

79

```
Run 9: Statistics of PCC

Start at: 2018-01-26 07:26:19
End at: 2018-01-26 07:26:49

# Below is generated by plot.py at 2018-01-26 08:30:47
# Datalink statistics
-- Total of 1 flow:
Average throughput: 493.37 Mbit/s
95th percentile per-packet one-way delay: 199.857 ms
Loss rate: 2.60%
-- Flow 1:
Average throughput: 493.37 Mbit/s
95th percentile per-packet one-way delay: 199.857 ms
Loss rate: 2.60%
```
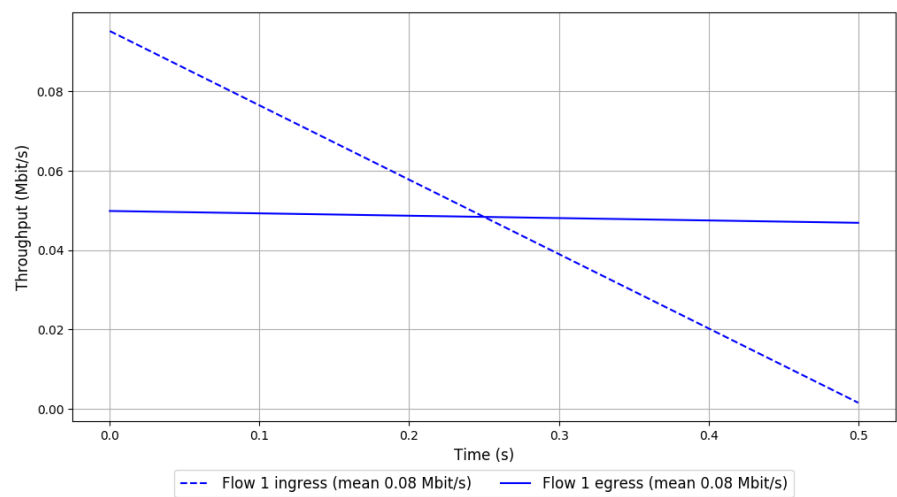
Run 9: Report of PCC — Data Link

```
Run 10: Statistics of PCC

Start at: 2018-01-26 07:39:15
End at: 2018-01-26 07:39:45


# Below is generated by plot.py at 2018-01-26 08:37:56
# Datalink statistics
-- Total of 1 flow:
Average throughput: 499.45 Mbit/s
95th percentile per-packet one-way delay: 192.838 ms
Loss rate: 3.66%
-- Flow 1:
Average throughput: 499.45 Mbit/s
95th percentile per-packet one-way delay: 192.838 ms
Loss rate: 3.66%
```

Run 10: Report of PCC — Data Link

Run 1: Statistics of QUIC Cubic

Start at: 2018-01-26 05:51:19
End at: 2018-01-26 05:51:49

Run 1: Report of QUIC Cubic — Data Link

Run 2: Statistics of QUIC Cubic

Start at: 2018-01-26 06:04:27
End at: 2018-01-26 06:04:57

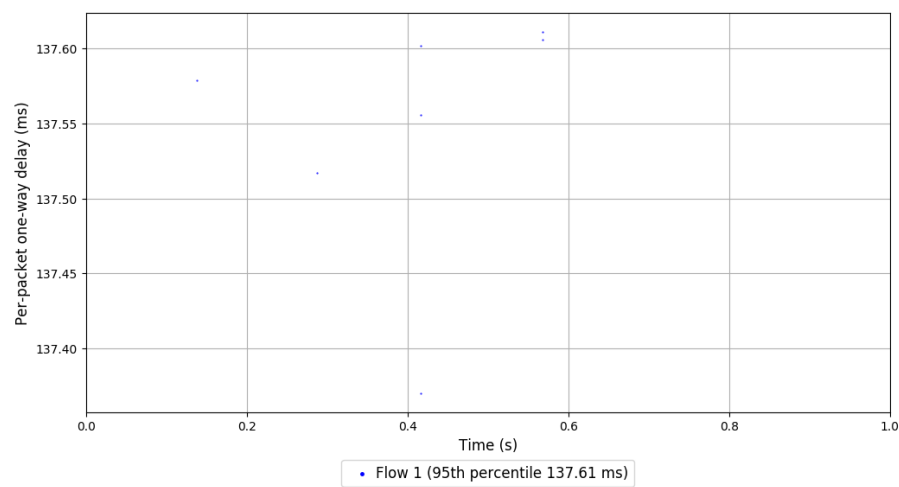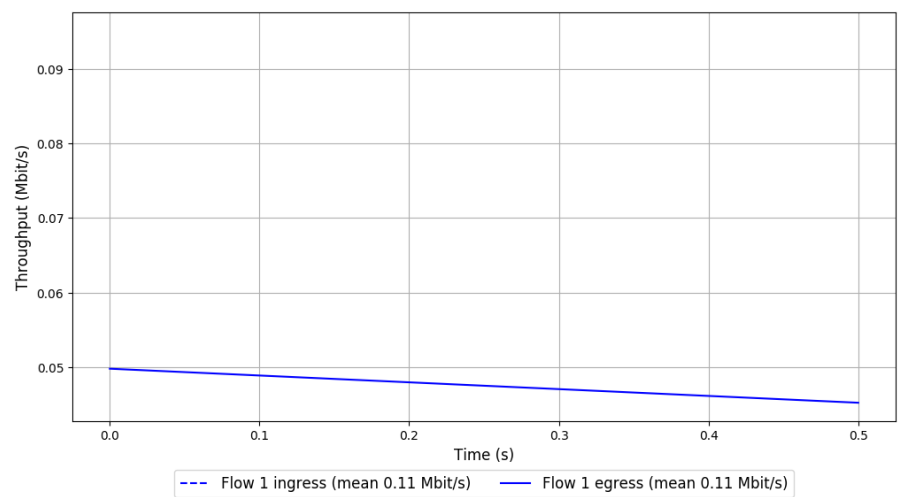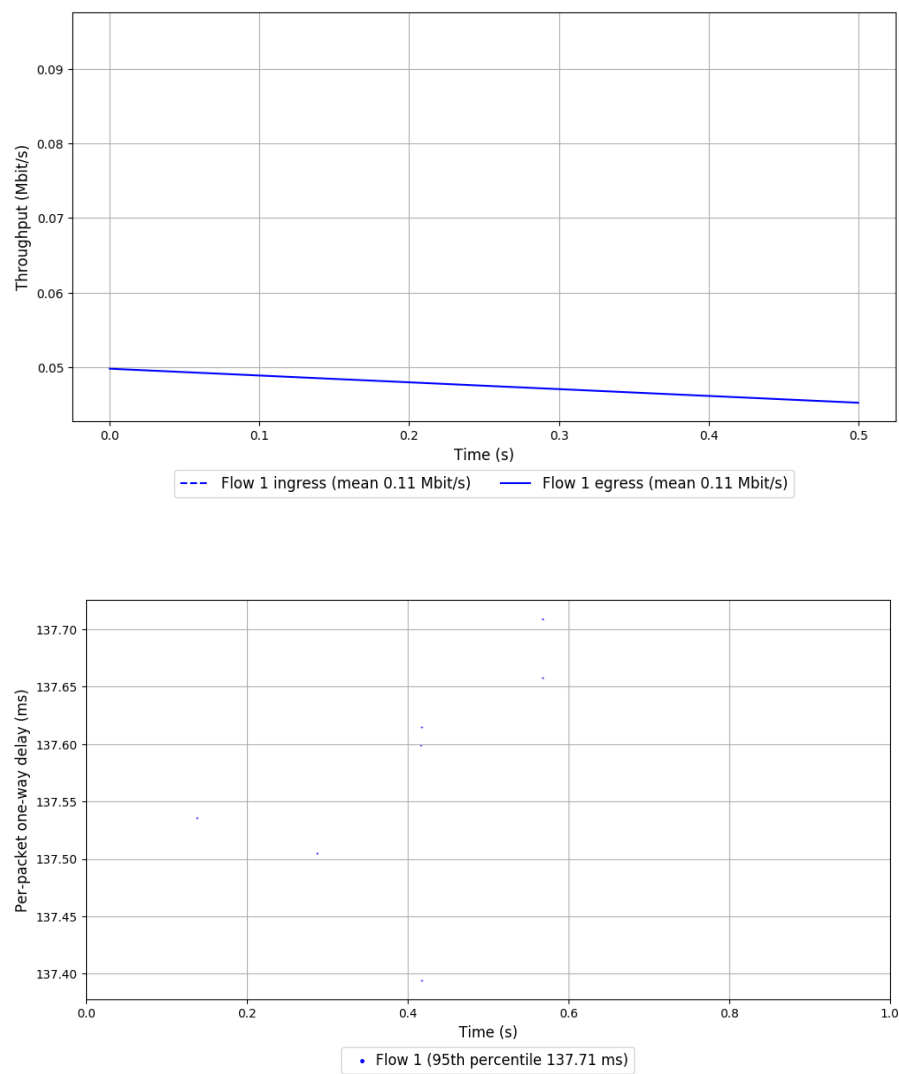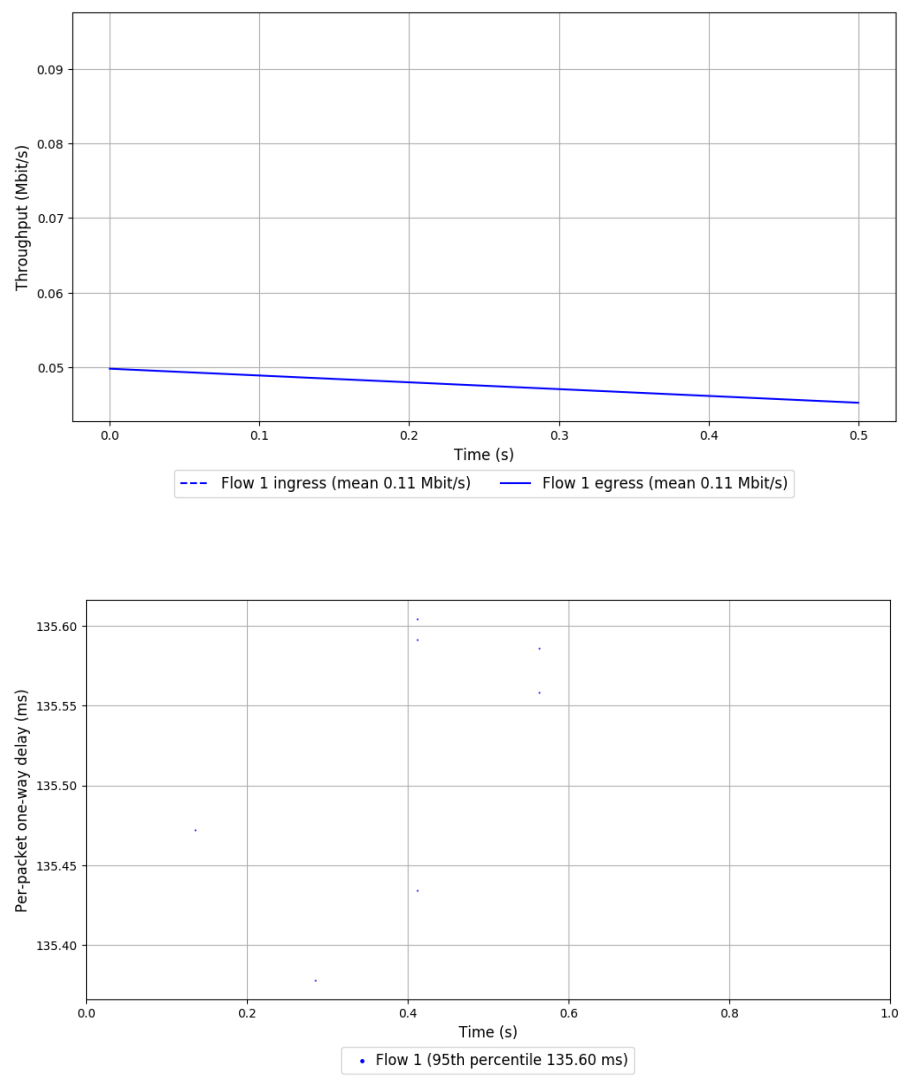# Run 2: Report of QUIC Cubic — Data Link



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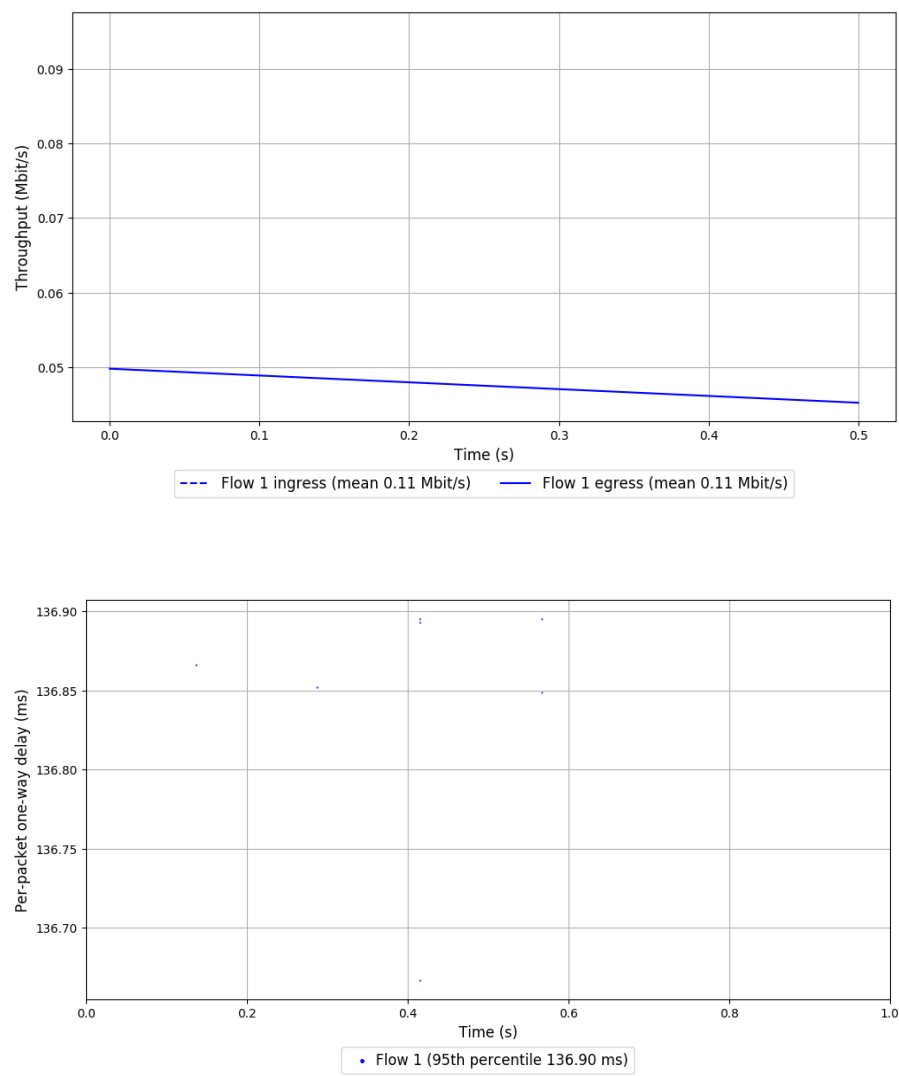

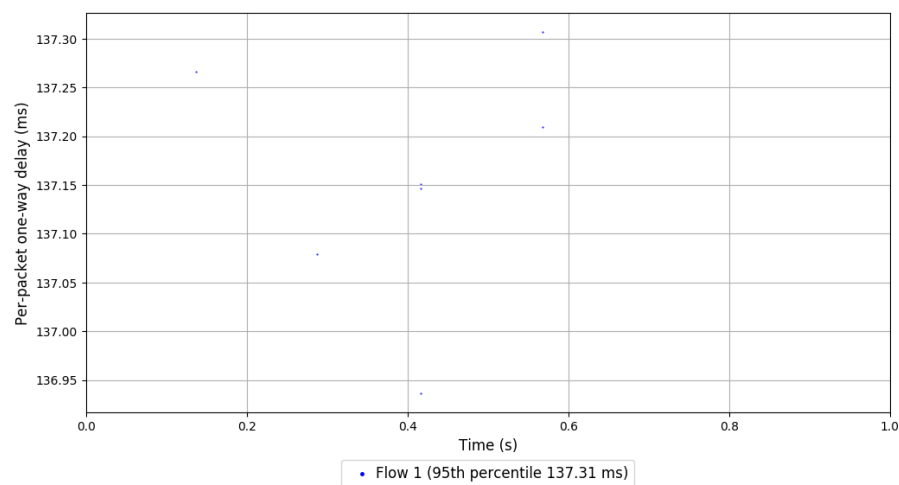
Flow 1 (95th percentile 137.41 ms)

Run 3: Statistics of QUIC Cubic

Start at: 2018-01-26 06:17:36
End at: 2018-01-26 06:18:06

Run 3: Report of QUIC Cubic — Data Link

Run 4: Statistics of QUIC Cubic

Start at: 2018-01-26 06:30:37
End at: 2018-01-26 06:31:07

## Run 4: Report of QUIC Cubic — Data Link



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



Flow 1 (95th percentile 137.71 ms)

Run 5: Statistics of QUIC Cubic

Start at: 2018-01-26 06:42:59
End at: 2018-01-26 06:43:29

Run 5: Report of QUIC Cubic — Data Link

Run 6: Statistics of QUIC Cubic

Start at: 2018-01-26 06:56:10
End at: 2018-01-26 06:56:40

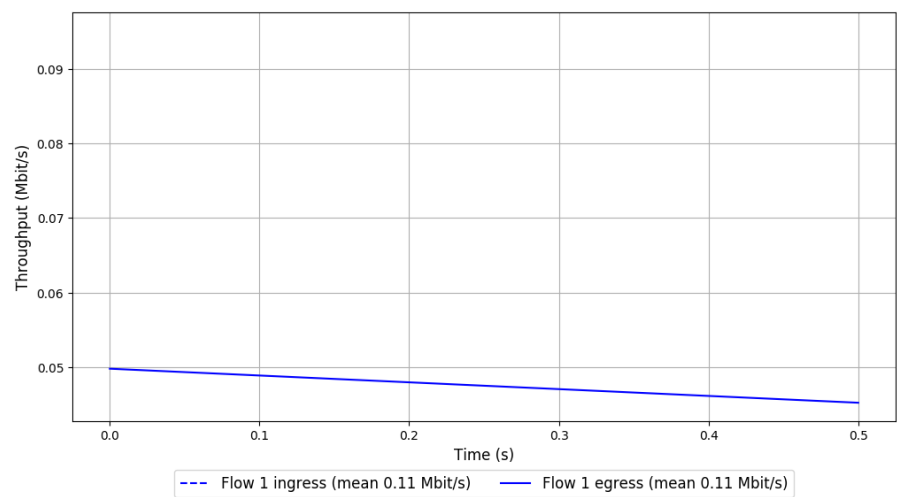Run 6: Report of QUIC Cubic — Data Link

Run 7: Statistics of QUIC Cubic

Start at: 2018-01-26 07:09:31
End at: 2018-01-26 07:10:01
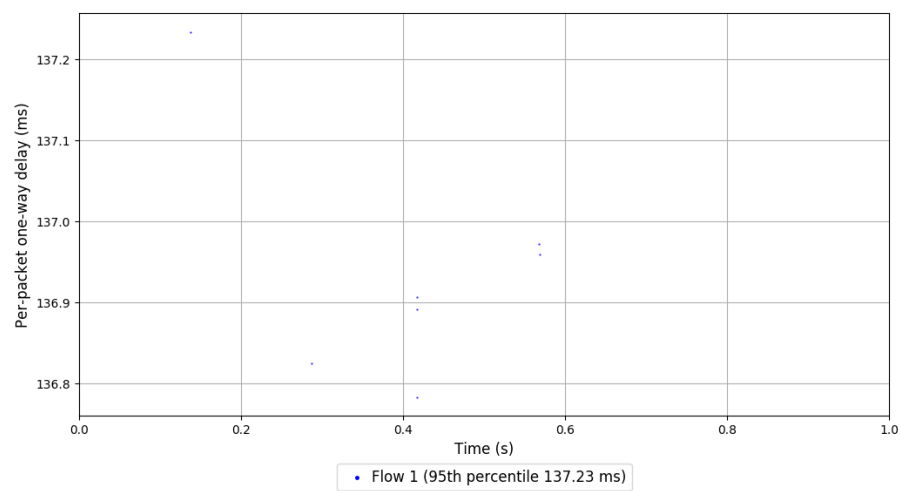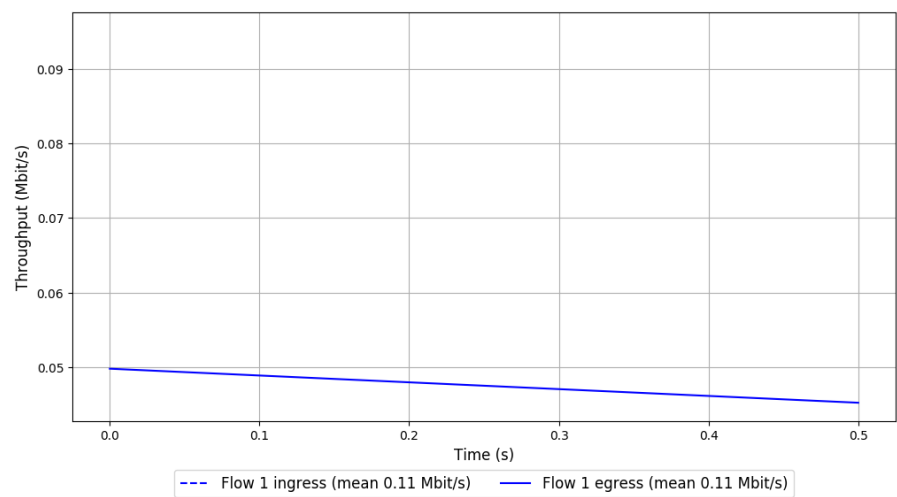
Run 7: Report of QUIC Cubic — Data Link



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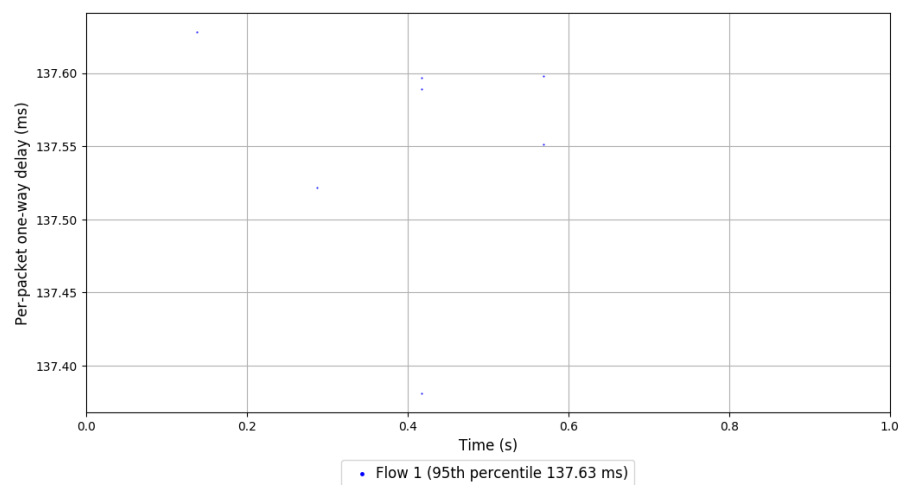


Flow 1 (95th percentile 137.31 ms)

Run 8: Statistics of QUIC Cubic

Start at: 2018-01-26 07:22:23
End at: 2018-01-26 07:22:53

Run 8: Report of QUIC Cubic — Data Link



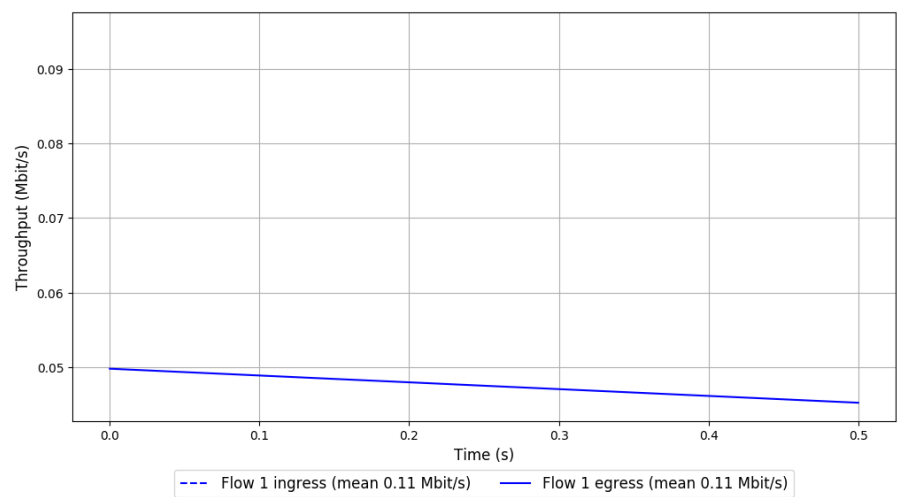Flow 1 ingress (mean 0.11 Mbit/s)  Flow 1 egress (mean 0.11 Mbit/s)



Flow 1 (95th percentile 137.23 ms)

Run 9: Statistics of QUIC Cubic

Start at: 2018-01-26 07:35:20
End at: 2018-01-26 07:35:50

## Run 9: Report of QUIC Cubic — Data Link



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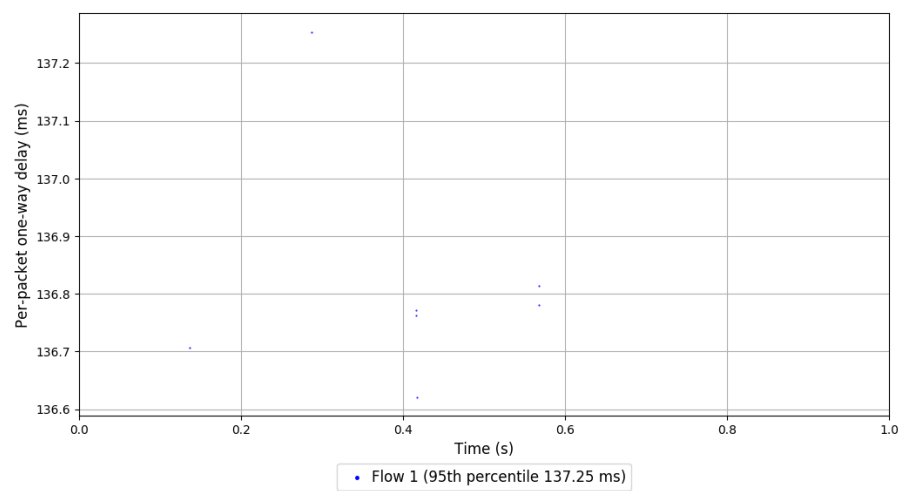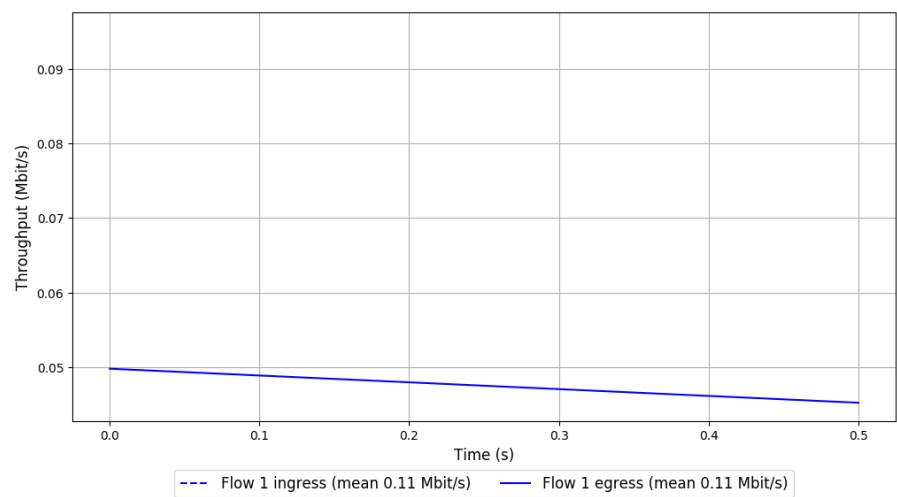


Flow 1 (95th percentile 137.63 ms)

101

Run 10: Statistics of QUIC Cubic

Start at: 2018-01-26 07:48:18
End at: 2018-01-26 07:48:48

## Run 10: Report of QUIC Cubic — Data Link



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



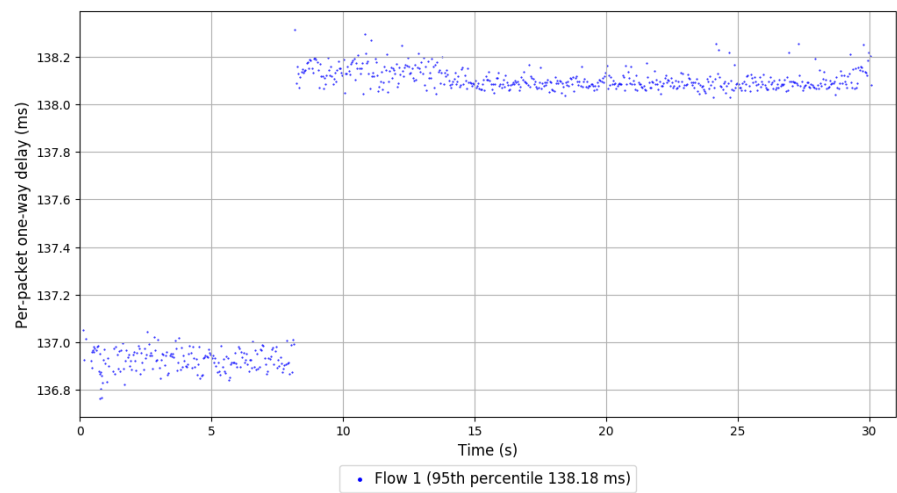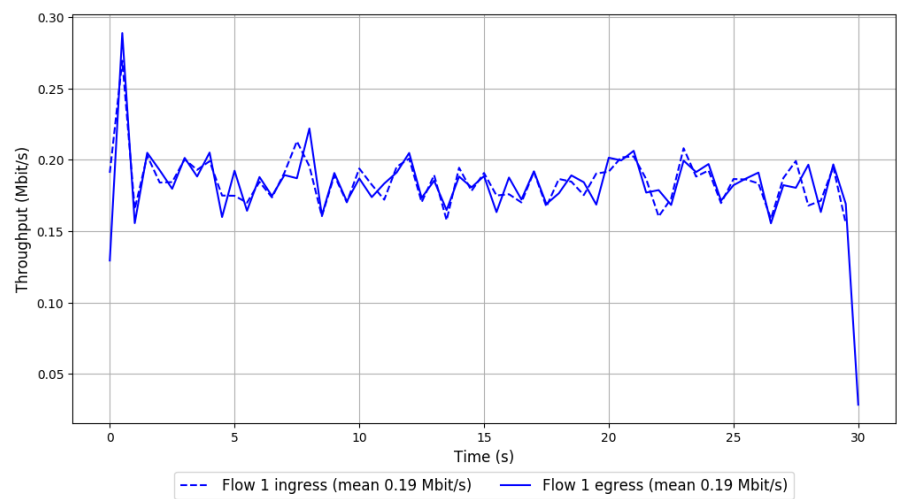Flow 1 (95th percentile 137.25 ms)

```
Run 1: Statistics of SCReAM

Start at: 2018-01-26 05:41:14
End at: 2018-01-26 05:41:44

# Below is generated by plot.py at 2018-01-26 08:37:56
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.19 Mbit/s
95th percentile per-packet one-way delay: 138.178 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.19 Mbit/s
95th percentile per-packet one-way delay: 138.178 ms
Loss rate: 0.00%
```

Run 1: Report of SCReAM — Data Link



Flow 1 ingress (mean 0.19 Mbit/s) ——— Flow 1 egress (mean 0.19 Mbit/s)



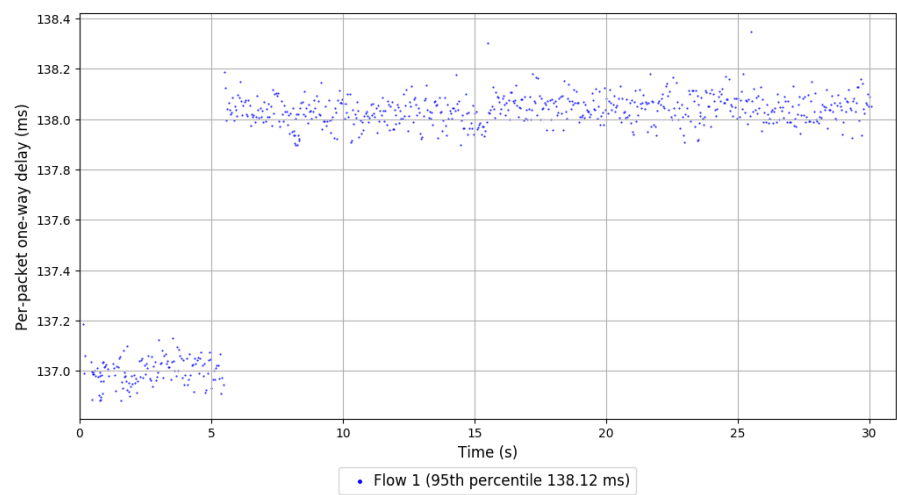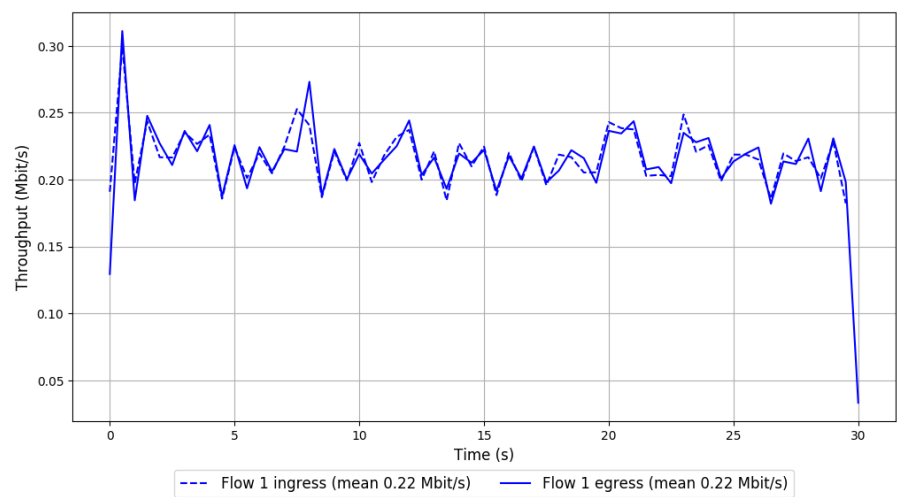· Flow 1 (95th percentile 138.18 ms)

```
Run 2: Statistics of SCReAM

Start at: 2018-01-26 05:54:37
End at: 2018-01-26 05:55:07

# Below is generated by plot.py at 2018-01-26 08:37:56
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 138.119 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 138.119 ms
Loss rate: 0.00%
```
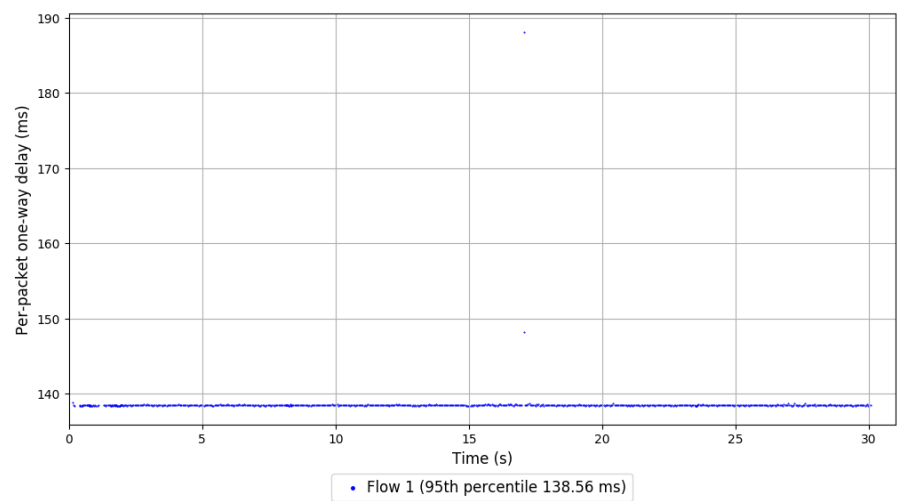
Run 2: Report of SCReAM — Data Link



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



Flow 1 (95th percentile 138.12 ms)

107

```
Run 3: Statistics of SCReAM

Start at: 2018-01-26 06:07:44
End at: 2018-01-26 06:08:14

# Below is generated by plot.py at 2018-01-26 08:37:56
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 138.560 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 138.560 ms
Loss rate: 0.00%
```
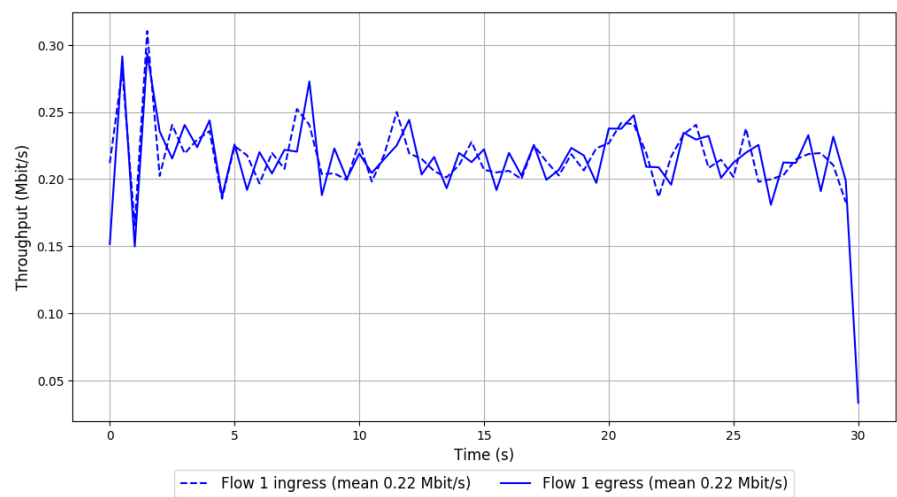
# Run 3: Report of SCReAM — Data Link



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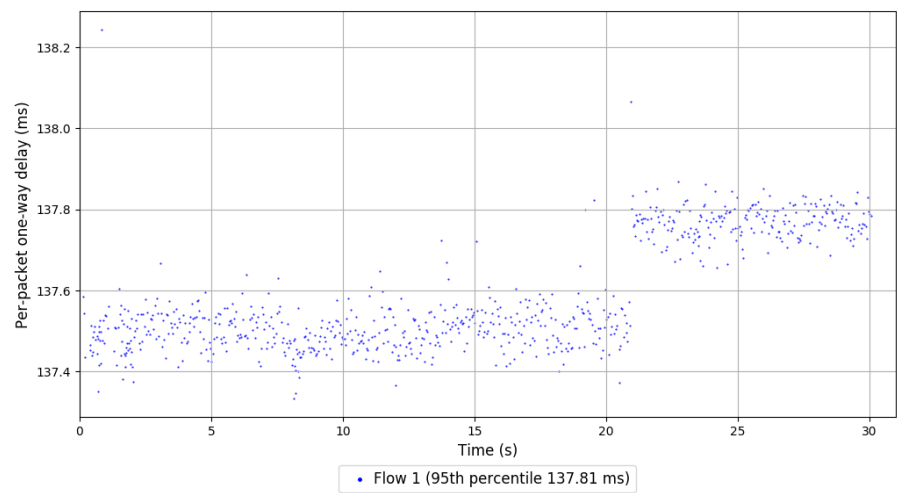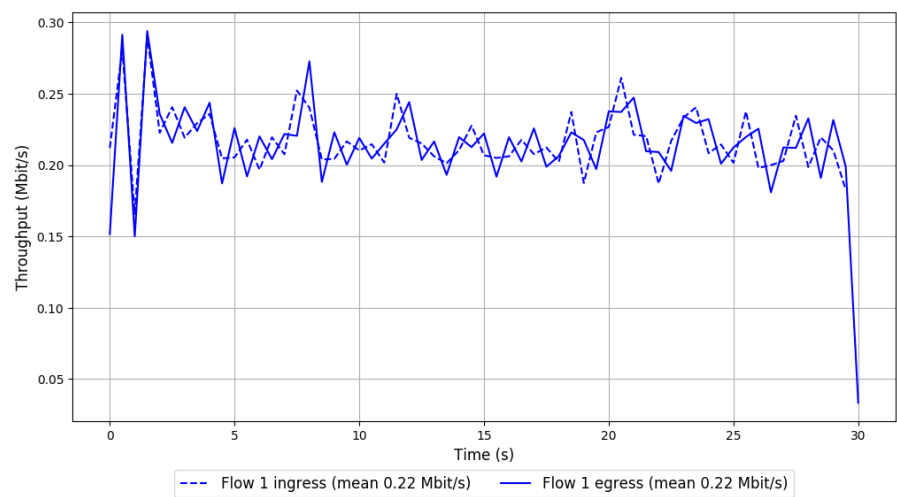


Flow 1 (95th percentile 138.56 ms)

```
Run 4: Statistics of SCReAM

Start at: 2018-01-26 06:20:51
End at: 2018-01-26 06:21:21

# Below is generated by plot.py at 2018-01-26 08:37:56
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 137.810 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 137.810 ms
Loss rate: 0.00%
```
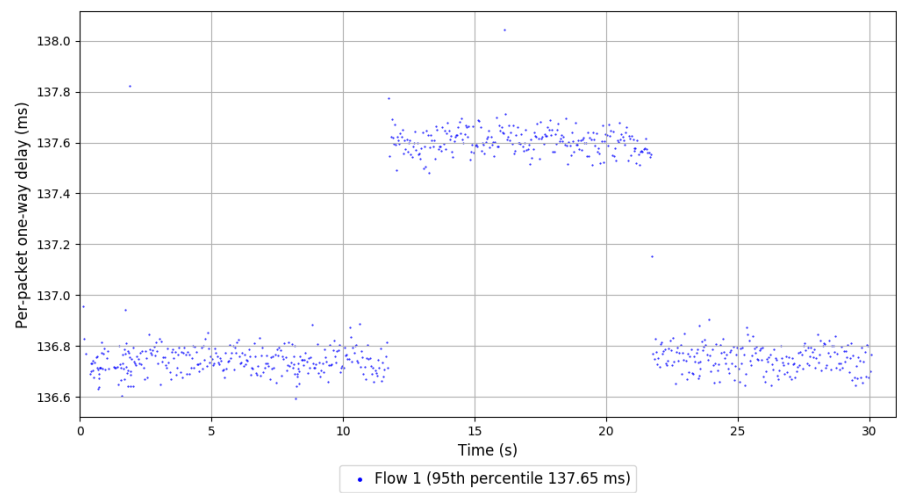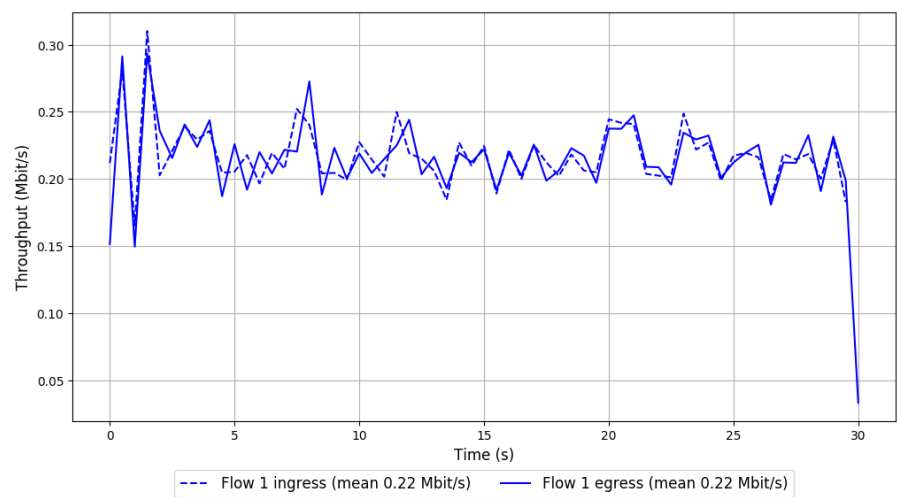
# Run 4: Report of SCReAM — Data Link



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



Flow 1 (95th percentile 137.81 ms)

```
Run 5: Statistics of SCReAM

Start at: 2018-01-26 06:33:50
End at: 2018-01-26 06:34:20

# Below is generated by plot.py at 2018-01-26 08:37:56
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 137.649 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 137.649 ms
Loss rate: 0.00%
```
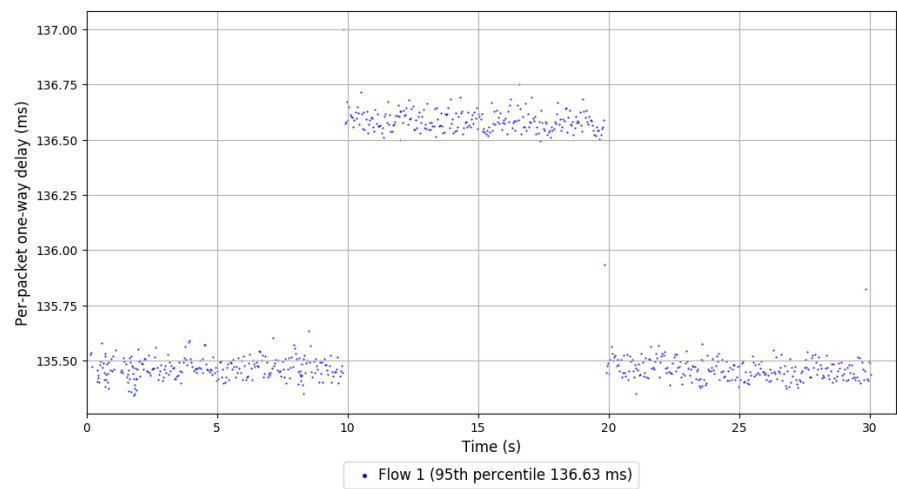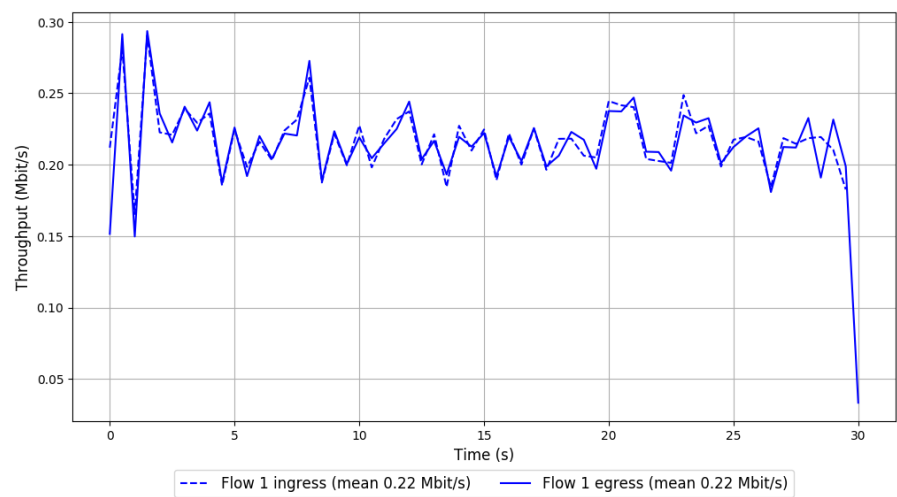
# Run 5: Report of SCReAM — Data Link



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



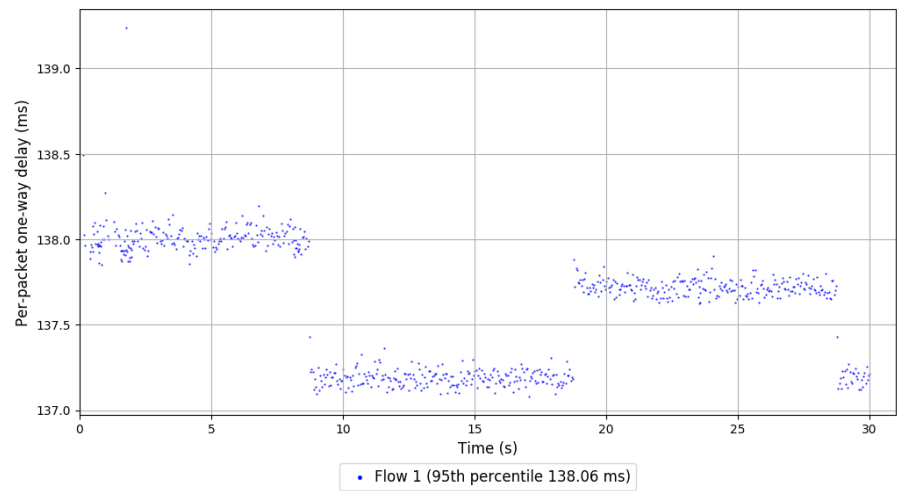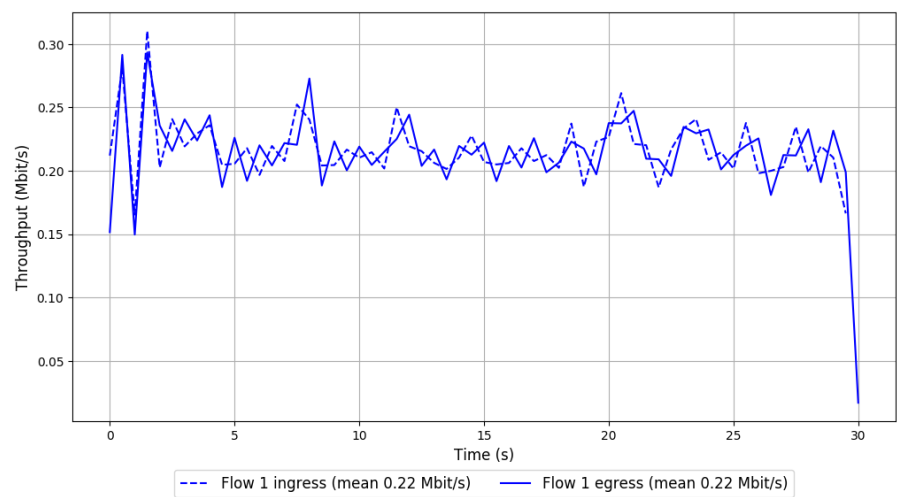Flow 1 (95th percentile 137.65 ms)

```
Run 6: Statistics of SCReAM

Start at: 2018-01-26 06:46:12
End at: 2018-01-26 06:46:42

# Below is generated by plot.py at 2018-01-26 08:37:56
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 136.631 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 136.631 ms
Loss rate: 0.00%
```

# Run 6: Report of SCReAM — Data Link

```
Run 7: Statistics of SCReAM

Start at: 2018-01-26 06:59:23
End at: 2018-01-26 06:59:53

# Below is generated by plot.py at 2018-01-26 08:37:56
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 138.062 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 138.062 ms
Loss rate: 0.00%
```
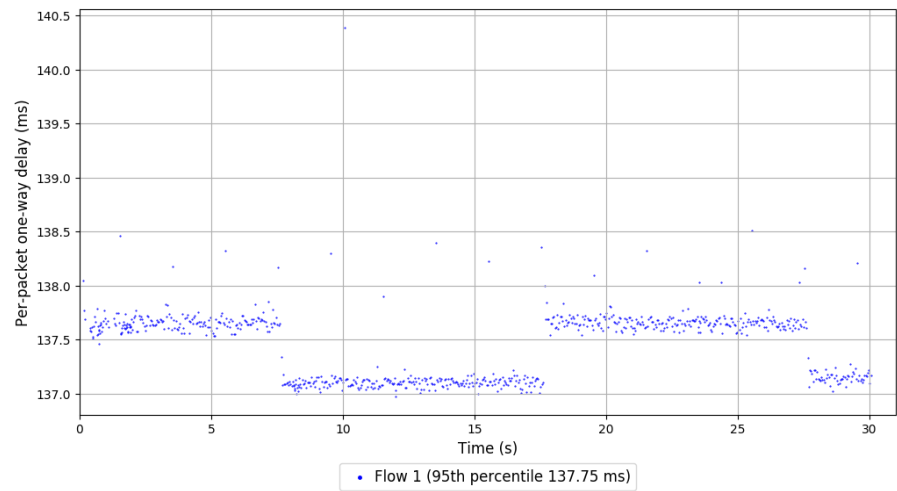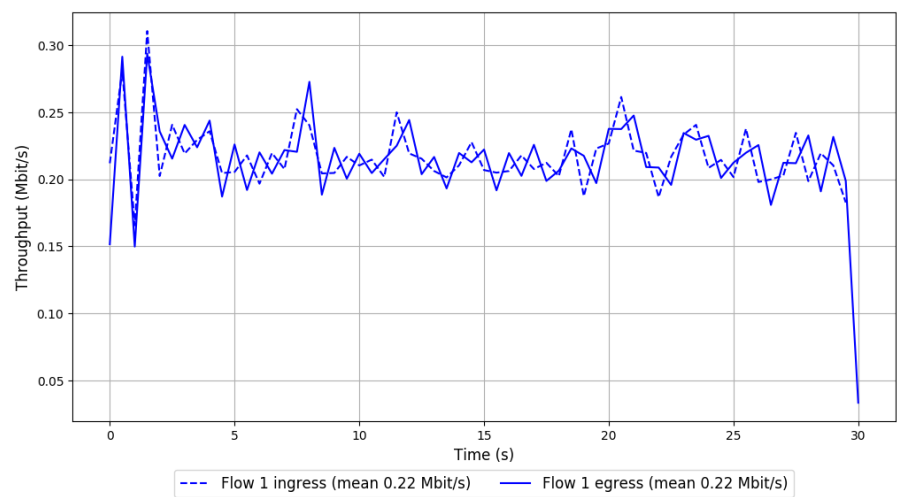
# Run 7: Report of SCReAM — Data Link



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



Flow 1 (95th percentile 138.06 ms)

117

```
Run 8: Statistics of SCReAM

Start at: 2018-01-26 07:12:44
End at: 2018-01-26 07:13:14


# Below is generated by plot.py at 2018-01-26 08:37:56
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 137.748 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 137.748 ms
Loss rate: 0.00%
```
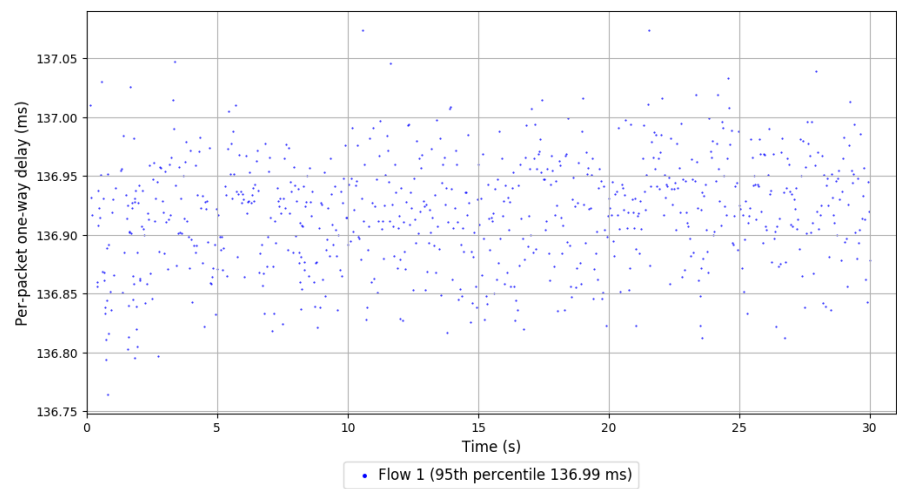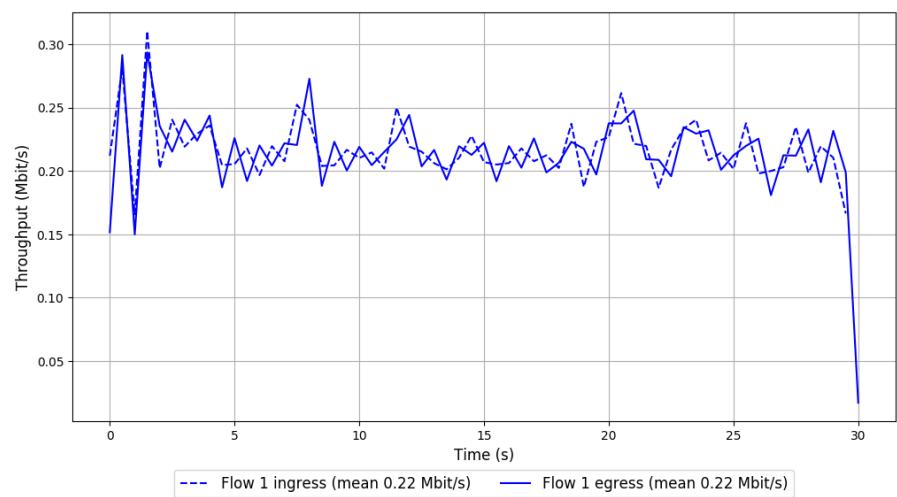
Run 8: Report of SCReAM — Data Link



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



Flow 1 (95th percentile 137.75 ms)

```
Run 9: Statistics of SCReAM

Start at: 2018-01-26 07:25:37
End at: 2018-01-26 07:26:07

# Below is generated by plot.py at 2018-01-26 08:37:56
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 136.991 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 136.991 ms
Loss rate: 0.00%
```
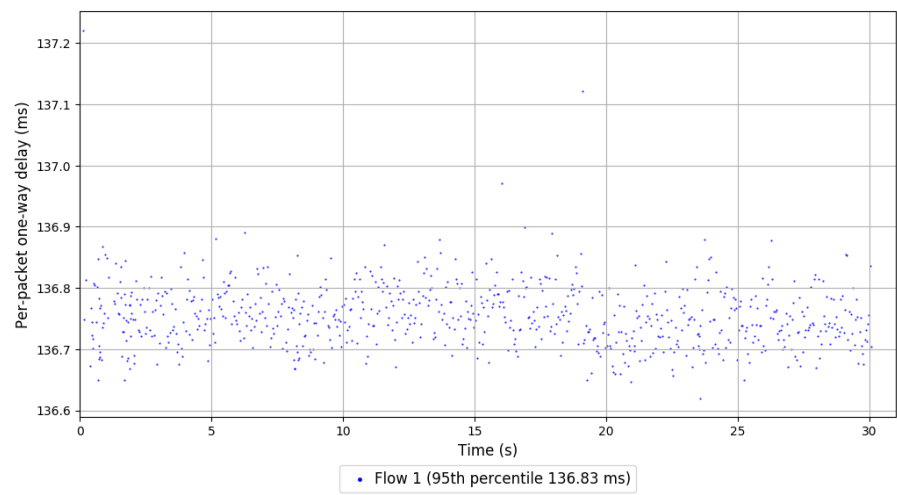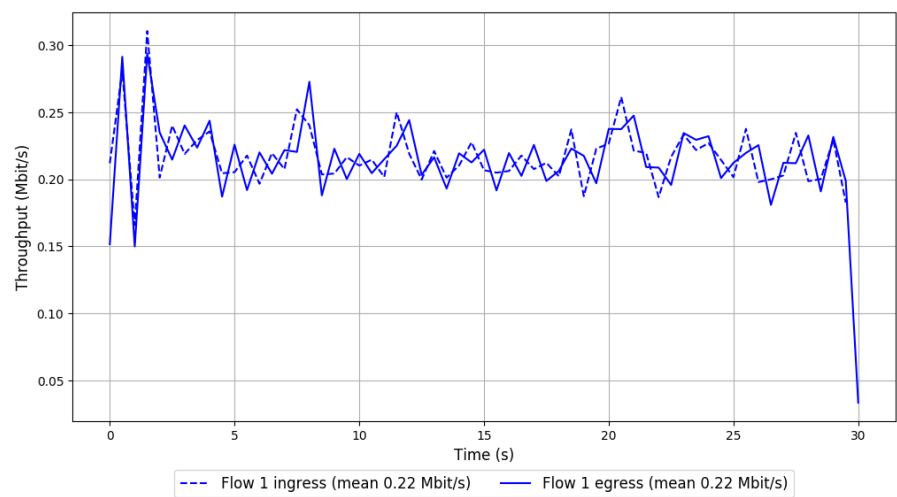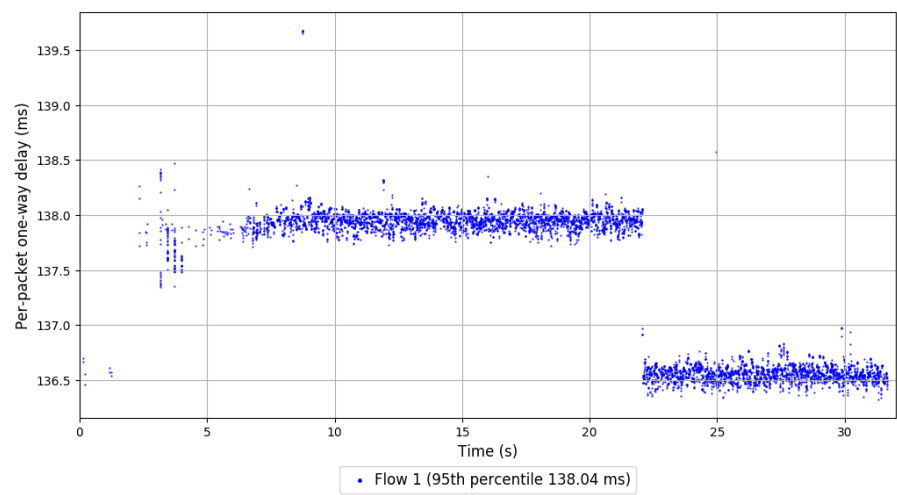
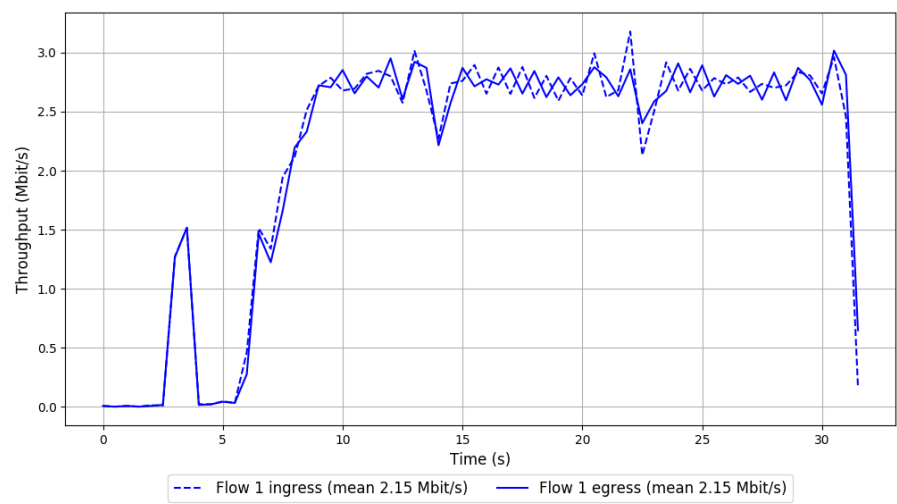# Run 9: Report of SCReAM — Data Link



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



Flow 1 (95th percentile 136.99 ms)

```
Run 10: Statistics of SCReAM

Start at: 2018-01-26 07:38:33
End at: 2018-01-26 07:39:03

# Below is generated by plot.py at 2018-01-26 08:37:56
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 136.834 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 136.834 ms
Loss rate: 0.00%
```
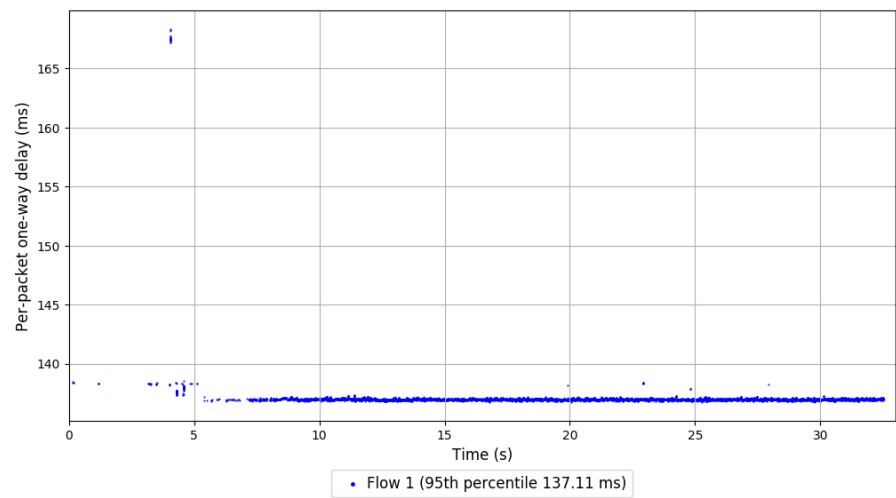
## Run 10: Report of SCReAM — Data Link



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



Flow 1 (95th percentile 136.83 ms)

```
Run 1: Statistics of WebRTC media

Start at: 2018-01-26 05:52:02
End at: 2018-01-26 05:52:32

# Below is generated by plot.py at 2018-01-26 08:37:56
# Datalink statistics
-- Total of 1 flow:
Average throughput: 2.15 Mbit/s
95th percentile per-packet one-way delay: 138.045 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 2.15 Mbit/s
95th percentile per-packet one-way delay: 138.045 ms
Loss rate: 0.00%
```
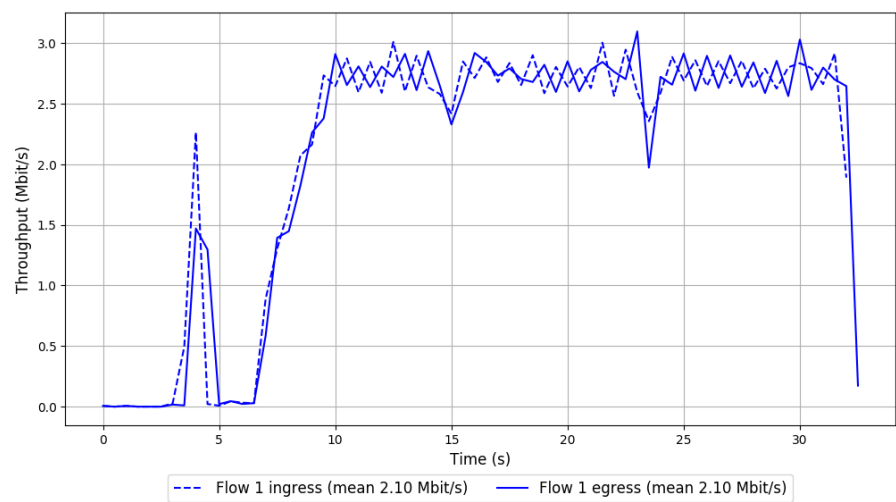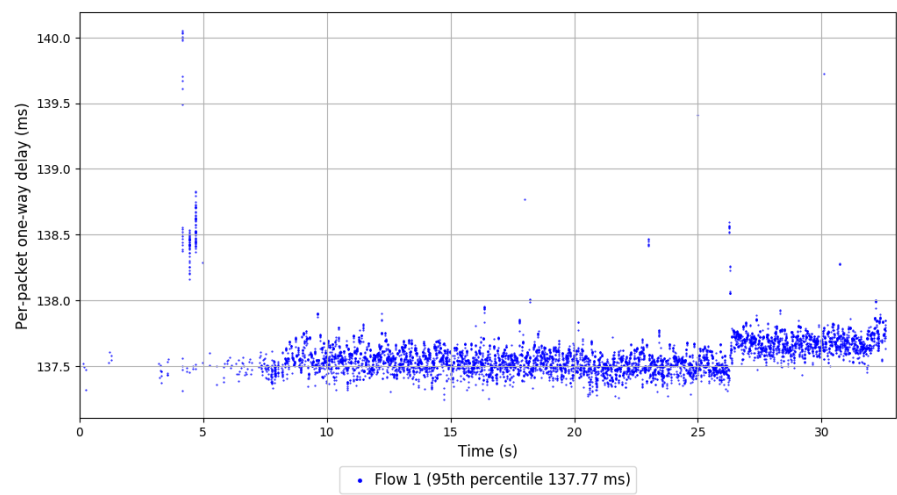
Run 1: Report of WebRTC media — Data Link

```
Run 2: Statistics of WebRTC media

Start at: 2018-01-26 06:05:09
End at: 2018-01-26 06:05:39

# Below is generated by plot.py at 2018-01-26 08:37:56
# Datalink statistics
-- Total of 1 flow:
Average throughput: 2.10 Mbit/s
95th percentile per-packet one-way delay: 137.110 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 2.10 Mbit/s
95th percentile per-packet one-way delay: 137.110 ms
Loss rate: 0.00%
```
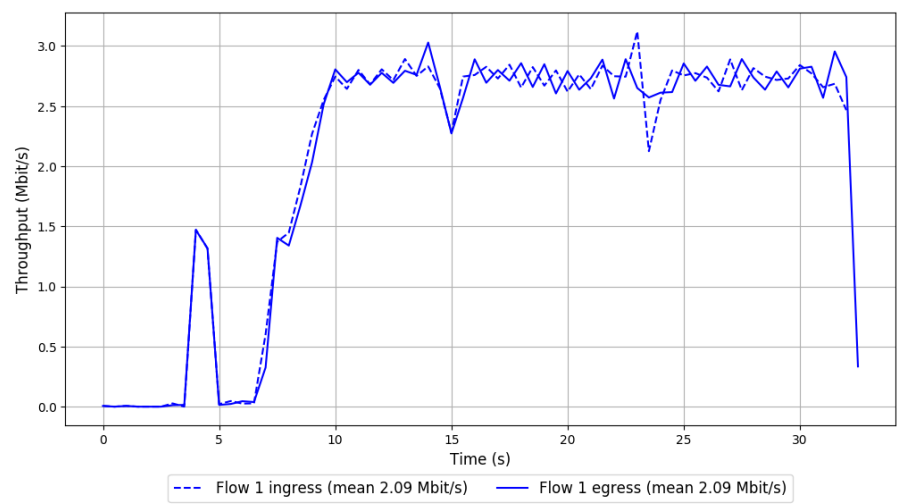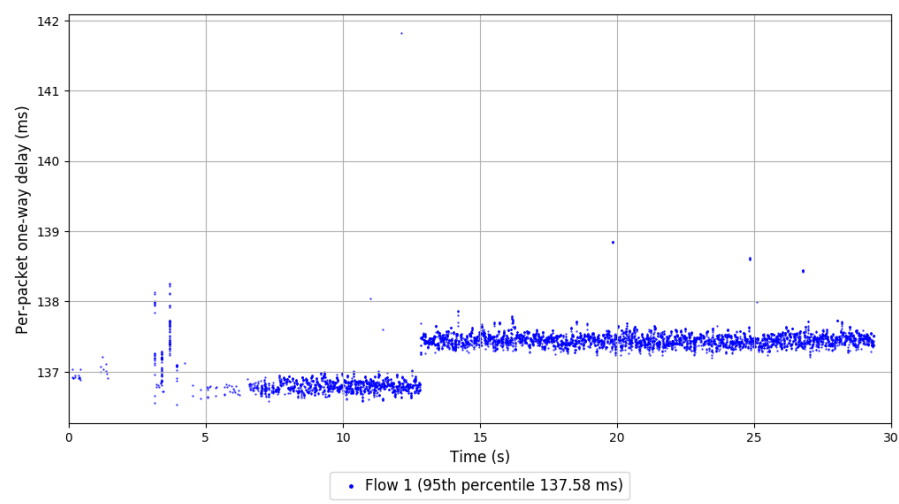
Run 2: Report of WebRTC media — Data Link

```
Run 3: Statistics of WebRTC media

Start at: 2018-01-26 06:18:18
End at: 2018-01-26 06:18:48

# Below is generated by plot.py at 2018-01-26 08:37:56
# Datalink statistics
-- Total of 1 flow:
Average throughput: 2.09 Mbit/s
95th percentile per-packet one-way delay: 137.773 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 2.09 Mbit/s
95th percentile per-packet one-way delay: 137.773 ms
Loss rate: 0.00%
```
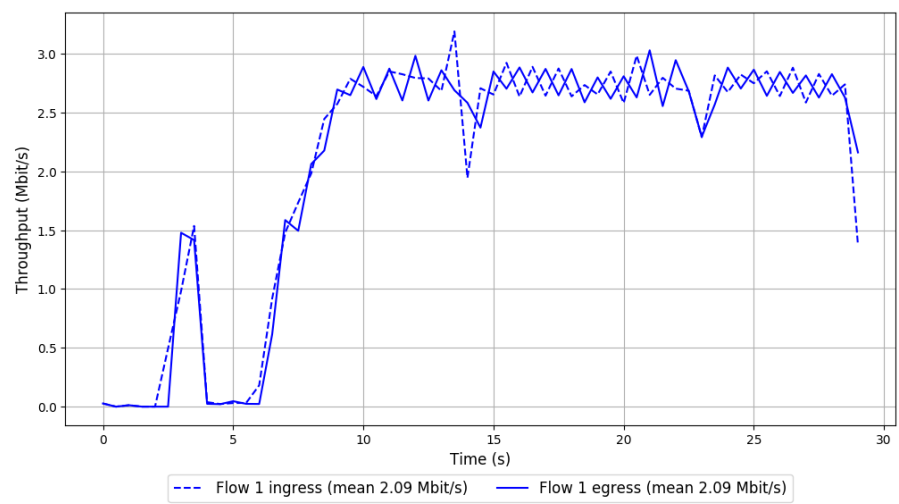
Run 3: Report of WebRTC media — Data Link

```
Run 4: Statistics of WebRTC media

Start at: 2018-01-26 06:31:19
End at: 2018-01-26 06:31:49

# Below is generated by plot.py at 2018-01-26 08:37:56
# Datalink statistics
-- Total of 1 flow:
Average throughput: 2.09 Mbit/s
95th percentile per-packet one-way delay: 137.580 ms
Loss rate: 0.10%
-- Flow 1:
Average throughput: 2.09 Mbit/s
95th percentile per-packet one-way delay: 137.580 ms
Loss rate: 0.10%
```
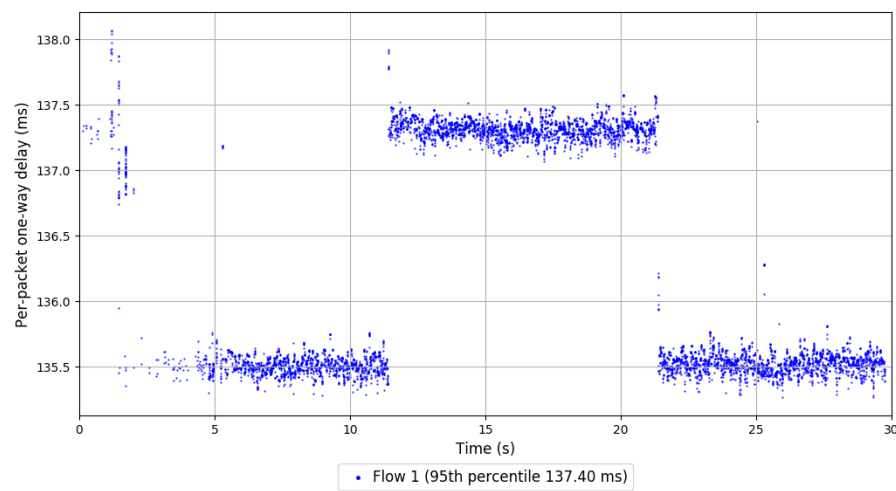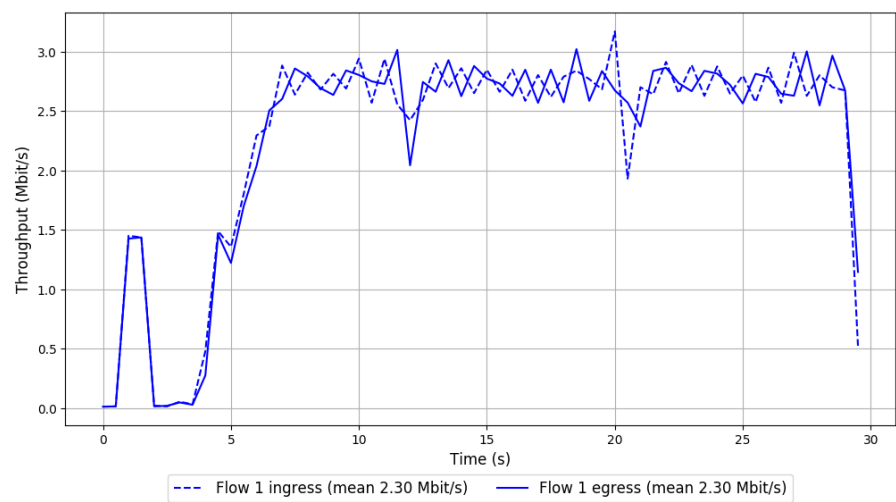
Run 4: Report of WebRTC media — Data Link

```
Run 5: Statistics of WebRTC media

Start at: 2018-01-26 06:43:40
End at: 2018-01-26 06:44:10

# Below is generated by plot.py at 2018-01-26 08:37:56
# Datalink statistics
-- Total of 1 flow:
Average throughput: 2.30 Mbit/s
95th percentile per-packet one-way delay: 137.399 ms
Loss rate: 0.02%
-- Flow 1:
Average throughput: 2.30 Mbit/s
95th percentile per-packet one-way delay: 137.399 ms
Loss rate: 0.02%
```
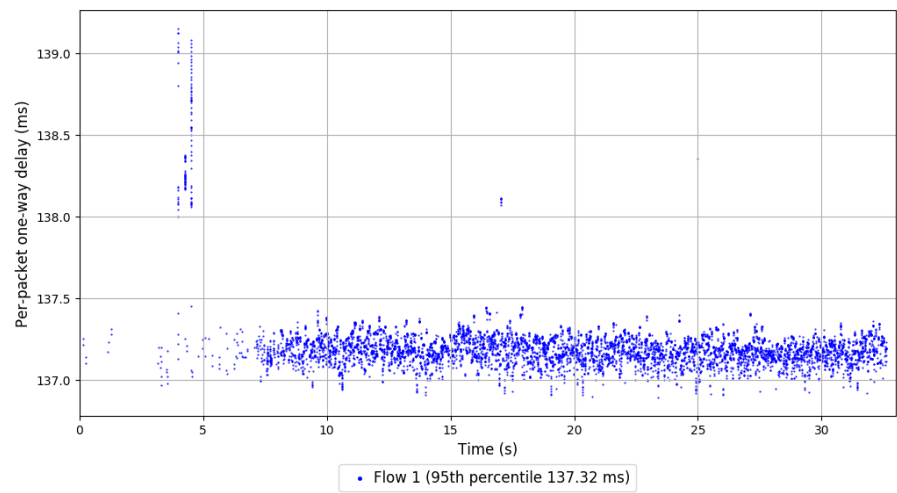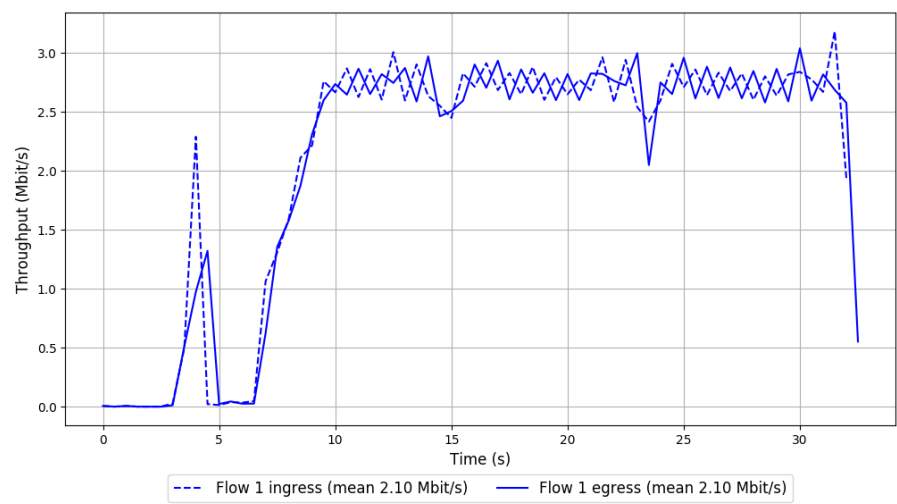
Run 5: Report of WebRTC media — Data Link

```
Run 6: Statistics of WebRTC media

Start at: 2018-01-26 06:56:51
End at: 2018-01-26 06:57:22

# Below is generated by plot.py at 2018-01-26 08:37:56
# Datalink statistics
-- Total of 1 flow:
Average throughput: 2.10 Mbit/s
95th percentile per-packet one-way delay: 137.322 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 2.10 Mbit/s
95th percentile per-packet one-way delay: 137.322 ms
Loss rate: 0.00%
```
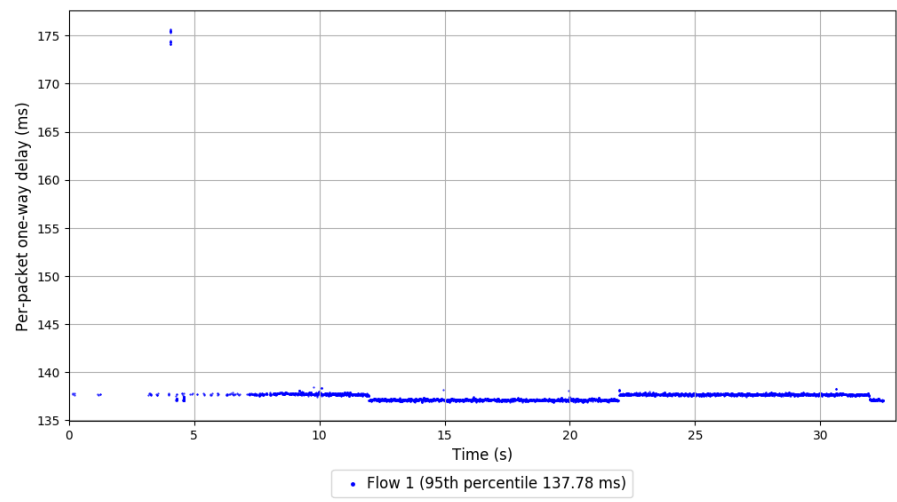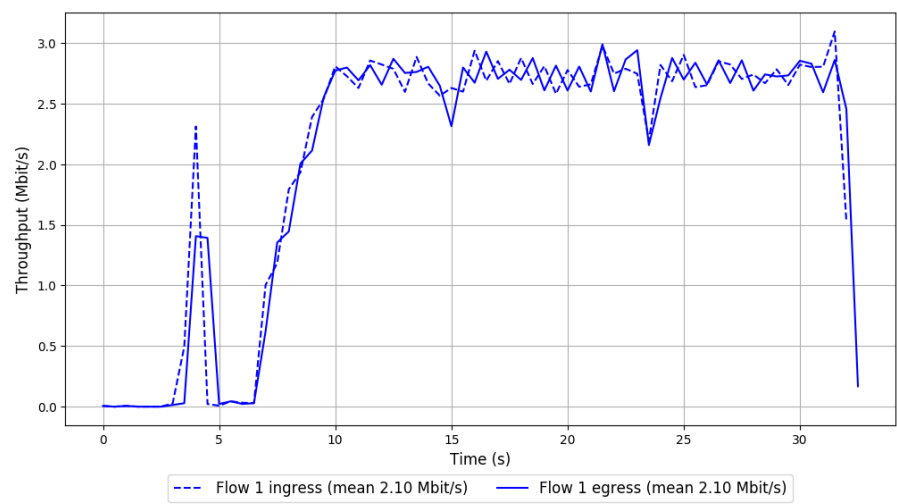
Run 6: Report of WebRTC media — Data Link

```
Run 7: Statistics of WebRTC media

Start at: 2018-01-26 07:10:13
End at: 2018-01-26 07:10:43

# Below is generated by plot.py at 2018-01-26 08:37:56
# Datalink statistics
-- Total of 1 flow:
Average throughput: 2.10 Mbit/s
95th percentile per-packet one-way delay: 137.778 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 2.10 Mbit/s
95th percentile per-packet one-way delay: 137.778 ms
Loss rate: 0.00%
```
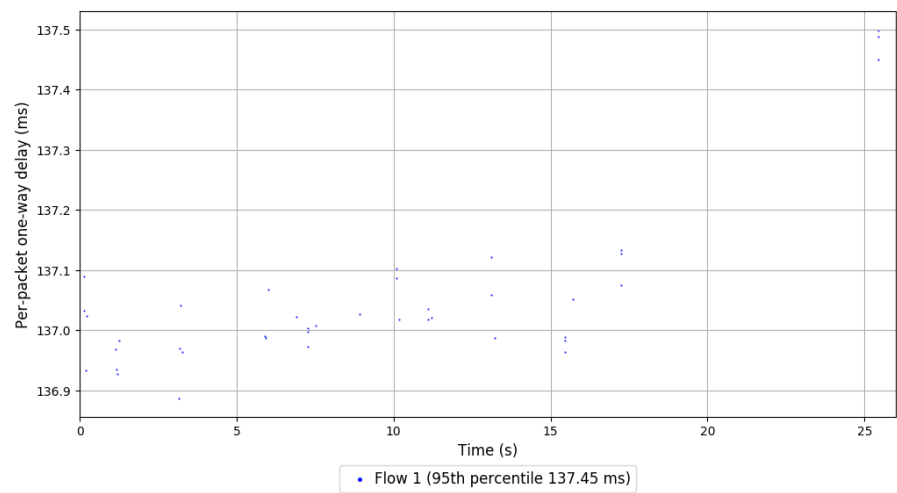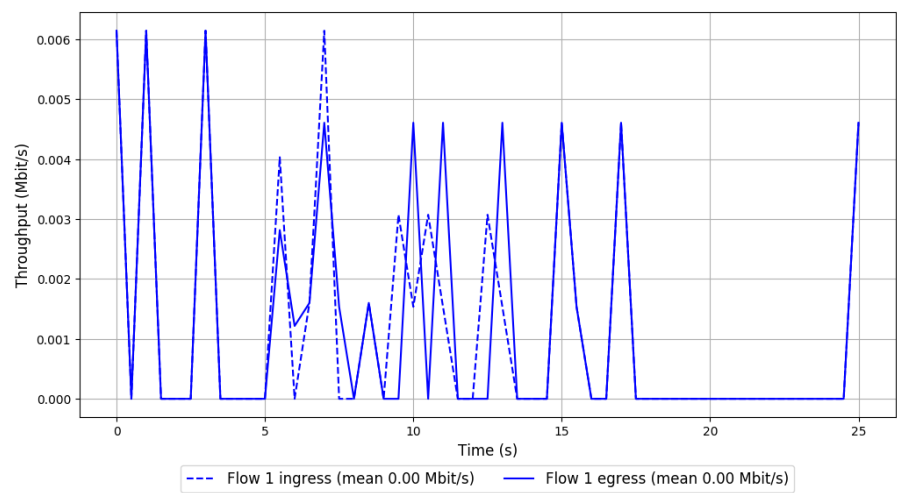
Run 7: Report of WebRTC media — Data Link

```
Run 8: Statistics of WebRTC media

Start at: 2018-01-26 07:23:05
End at: 2018-01-26 07:23:35

# Below is generated by plot.py at 2018-01-26 08:37:56
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 137.450 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 137.450 ms
Loss rate: 0.00%
```
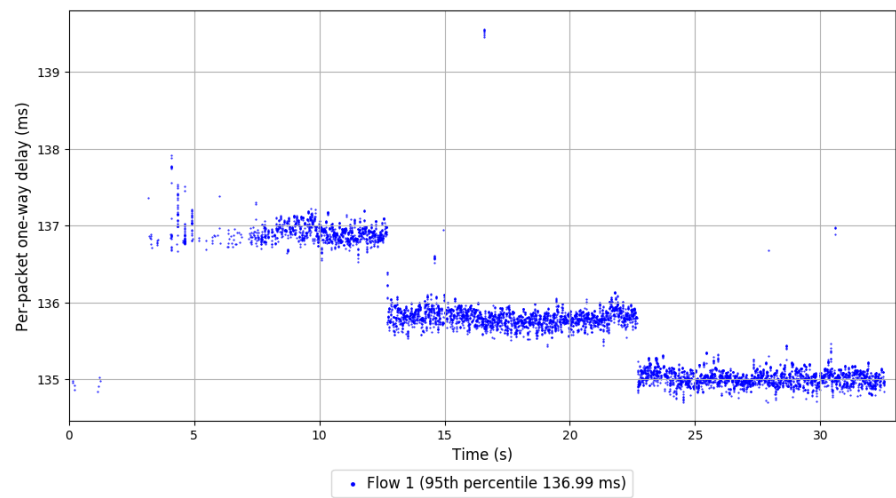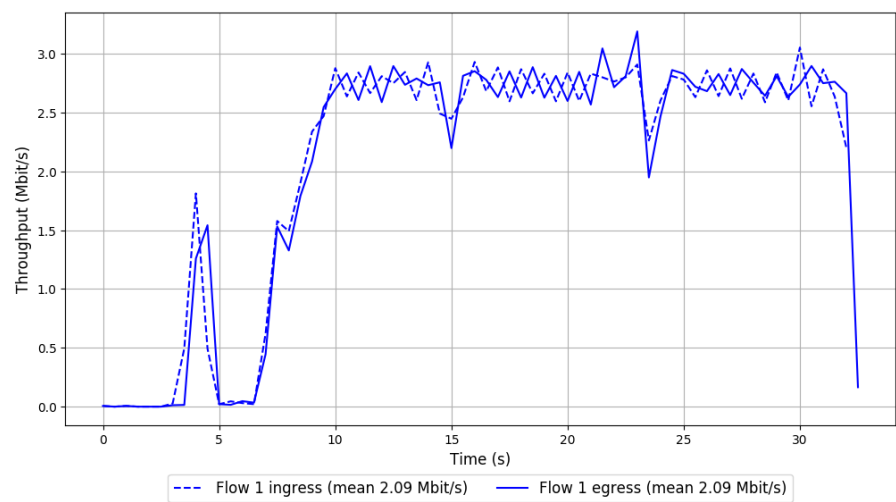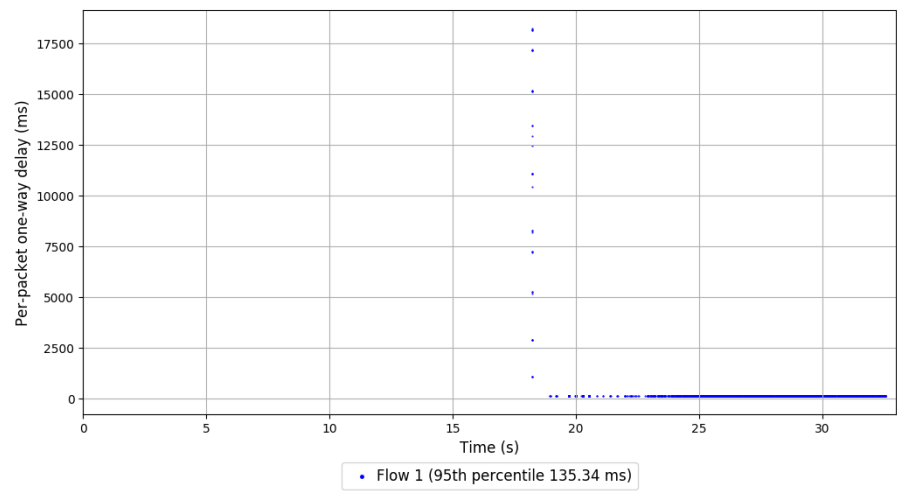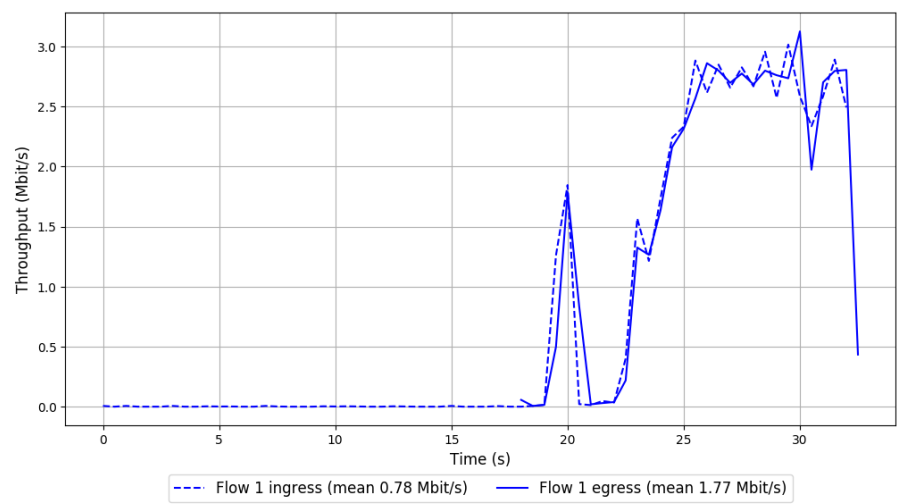
## Run 8: Report of WebRTC media — Data Link



Flow 1 ingress (mean 0.00 Mbit/s)   Flow 1 egress (mean 0.00 Mbit/s)



Flow 1 (95th percentile 137.45 ms)

```
Run 9: Statistics of WebRTC media

Start at: 2018-01-26 07:36:02
End at: 2018-01-26 07:36:32

# Below is generated by plot.py at 2018-01-26 08:37:56
# Datalink statistics
-- Total of 1 flow:
Average throughput: 2.09 Mbit/s
95th percentile per-packet one-way delay: 136.985 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 2.09 Mbit/s
95th percentile per-packet one-way delay: 136.985 ms
Loss rate: 0.00%
```

Run 9: Report of WebRTC media — Data Link

Run 10: Statistics of WebRTC media

Start at: 2018-01-26 07:49:00
End at: 2018-01-26 07:49:30

# Run 10: Report of WebRTC media — Data Link



Flow 1 ingress (mean 0.78 Mbit/s)    Flow 1 egress (mean 1.77 Mbit/s)
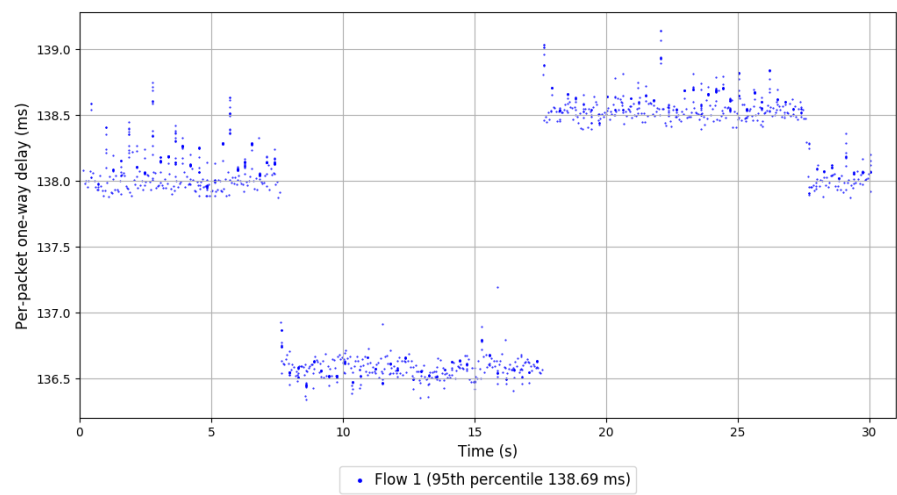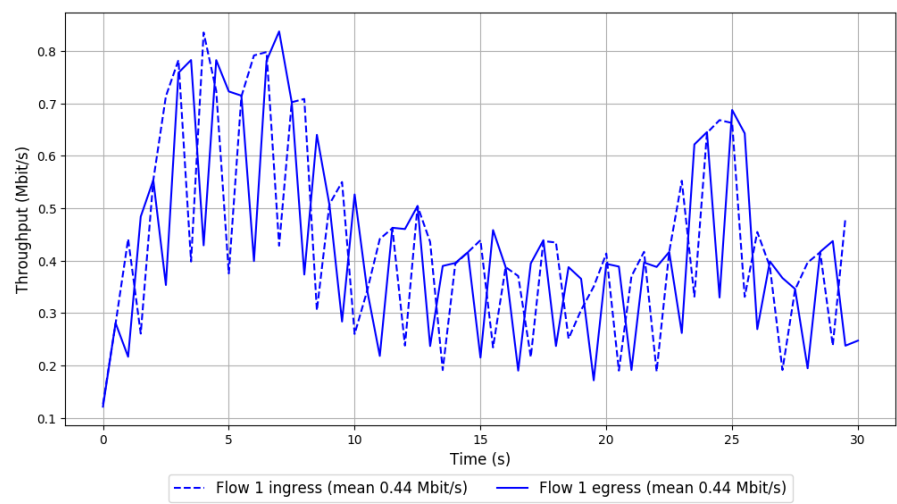


Flow 1 (95th percentile 135.34 ms)

```
Run 1: Statistics of Sprout

Start at: 2018-01-26 05:47:14
End at: 2018-01-26 05:47:44

# Below is generated by plot.py at 2018-01-26 08:37:56
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 138.690 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 138.690 ms
Loss rate: 0.00%
```
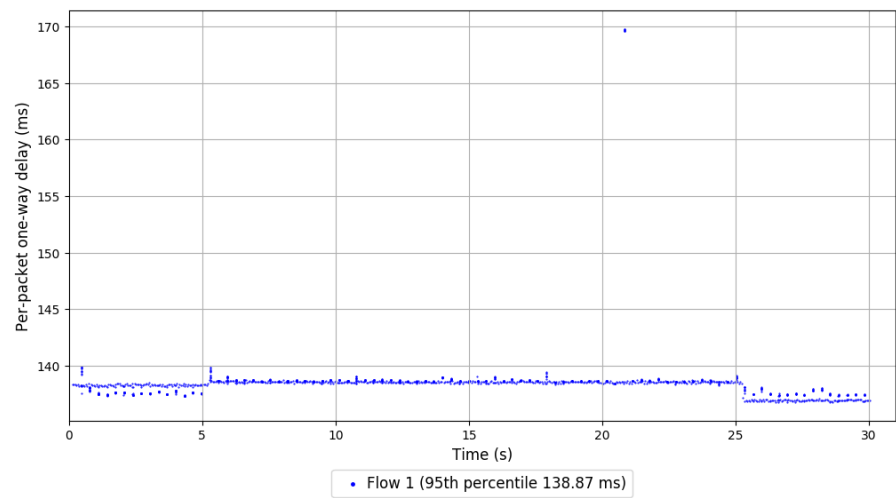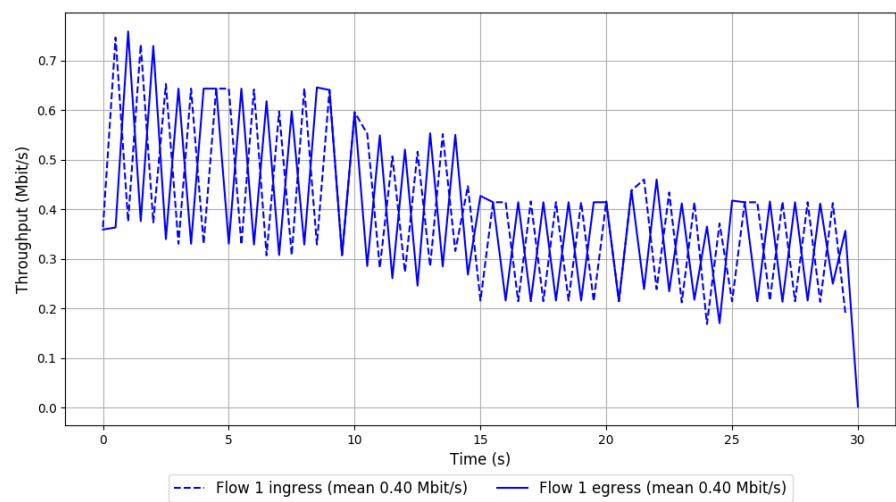
Run 1: Report of Sprout — Data Link



Flow 1 ingress (mean 0.44 Mbit/s)    Flow 1 egress (mean 0.44 Mbit/s)



Flow 1 (95th percentile 138.69 ms)

```
Run 2: Statistics of Sprout

Start at: 2018-01-26 06:00:27
End at: 2018-01-26 06:00:57

# Below is generated by plot.py at 2018-01-26 08:37:56
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.40 Mbit/s
95th percentile per-packet one-way delay: 138.868 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.40 Mbit/s
95th percentile per-packet one-way delay: 138.868 ms
Loss rate: 0.00%
```
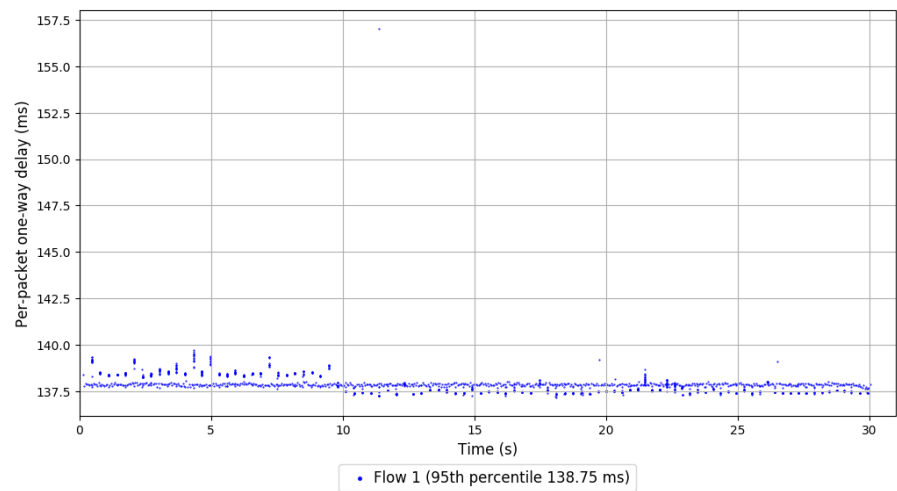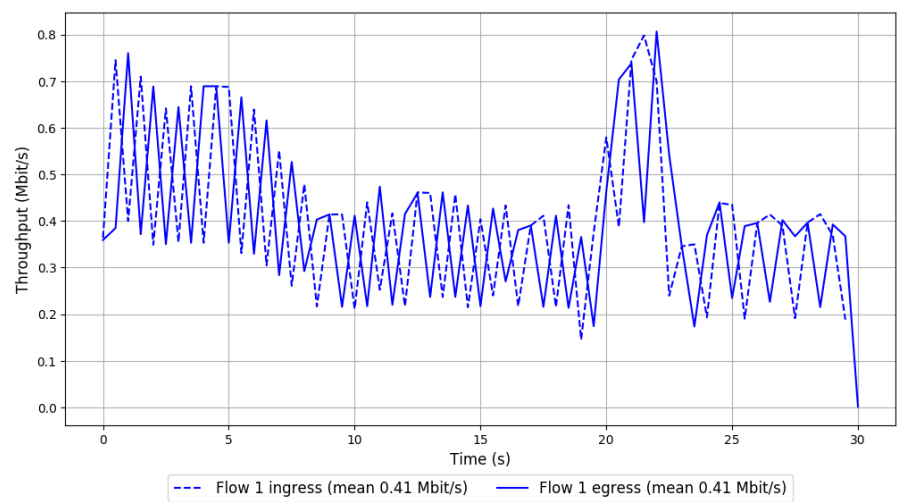
Run 2: Report of Sprout — Data Link

```
Run 3: Statistics of Sprout

Start at: 2018-01-26 06:13:32
End at: 2018-01-26 06:14:02

# Below is generated by plot.py at 2018-01-26 08:37:56
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.41 Mbit/s
95th percentile per-packet one-way delay: 138.753 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.41 Mbit/s
95th percentile per-packet one-way delay: 138.753 ms
Loss rate: 0.00%
```
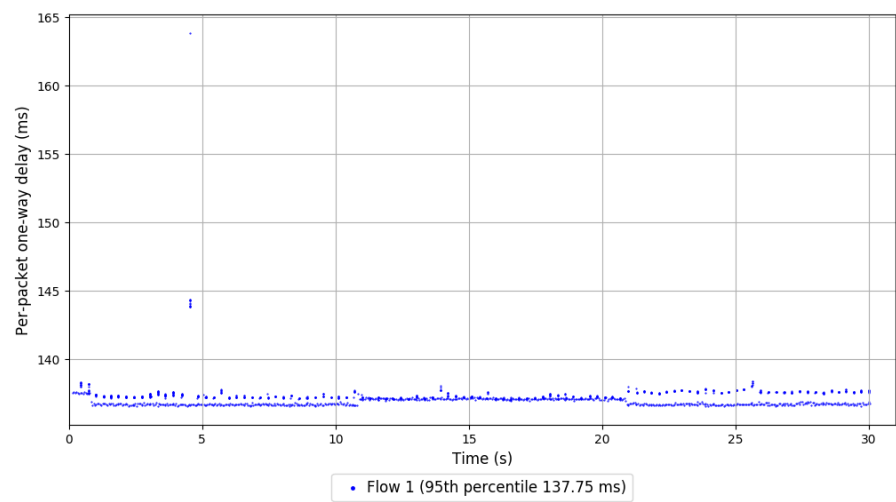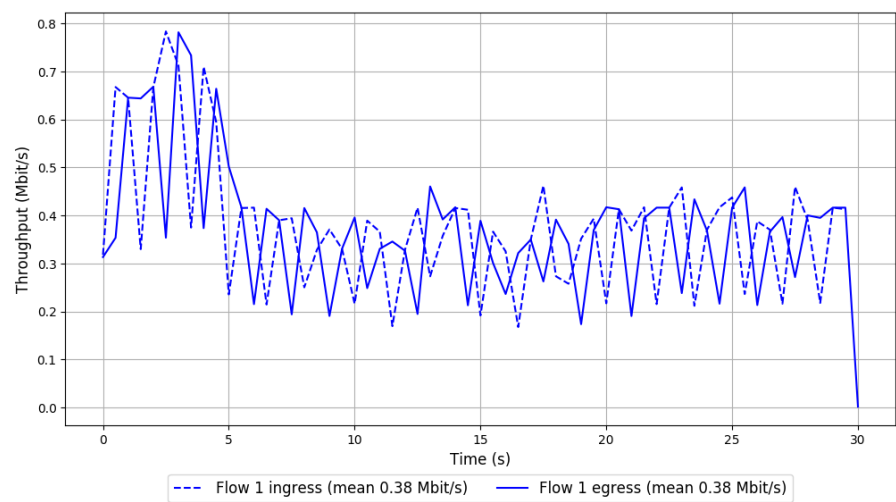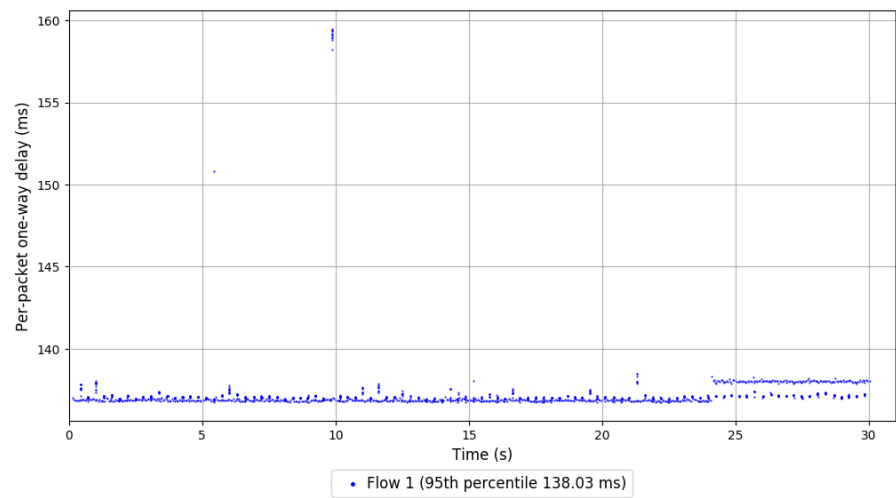
Run 3: Report of Sprout — Data Link



Flow 1 ingress (mean 0.41 Mbit/s) --- Flow 1 egress (mean 0.41 Mbit/s)



Flow 1 (95th percentile 138.75 ms)

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```
Run 4: Statistics of Sprout

Start at: 2018-01-26 06:26:41
End at: 2018-01-26 06:27:11


# Below is generated by plot.py at 2018-01-26 08:37:56
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.38 Mbit/s
95th percentile per-packet one-way delay: 137.745 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.38 Mbit/s
95th percentile per-packet one-way delay: 137.745 ms
Loss rate: 0.00%
```
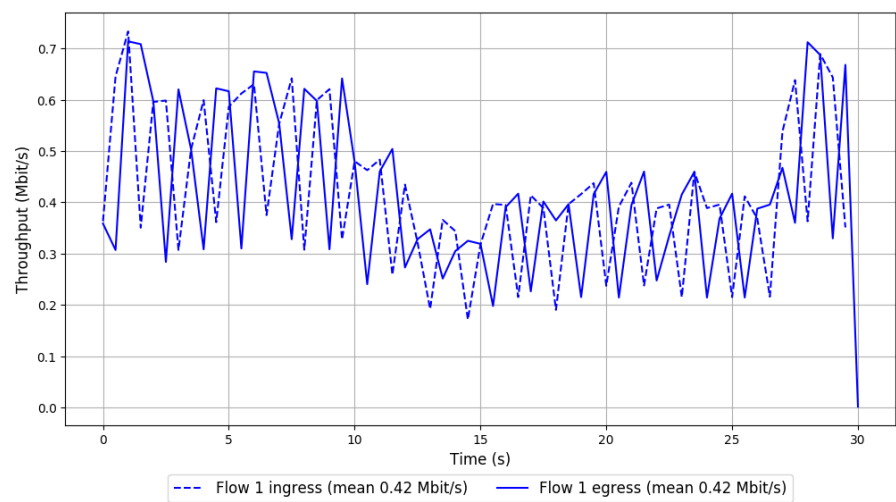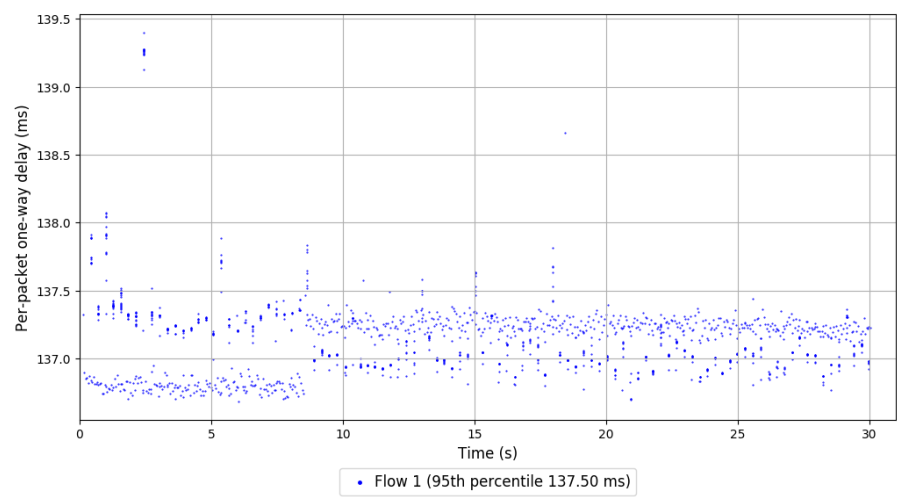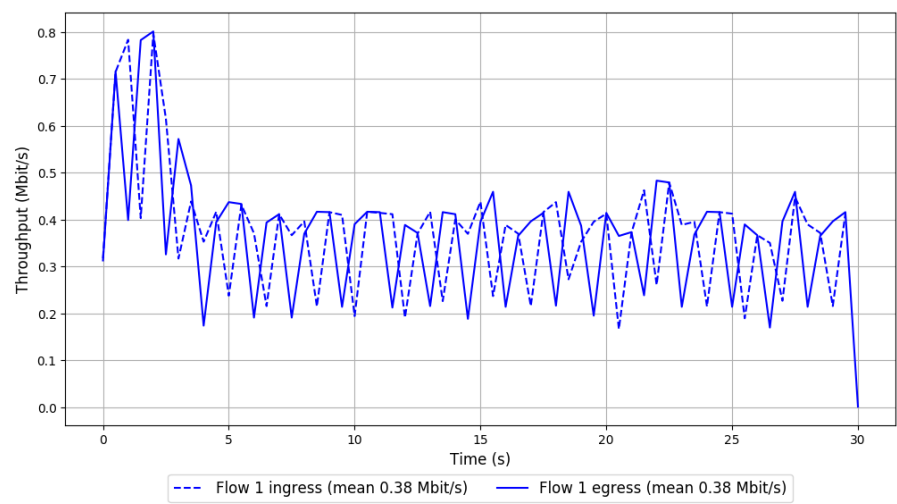
Run 4: Report of Sprout — Data Link

```
Run 5: Statistics of Sprout

Start at: 2018-01-26 06:38:58
End at: 2018-01-26 06:39:28

# Below is generated by plot.py at 2018-01-26 08:37:56
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.42 Mbit/s
95th percentile per-packet one-way delay: 138.033 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.42 Mbit/s
95th percentile per-packet one-way delay: 138.033 ms
Loss rate: 0.00%
```

## Run 5: Report of Sprout — Data Link

```
Run 6: Statistics of Sprout

Start at: 2018-01-26 06:52:14
End at: 2018-01-26 06:52:44

# Below is generated by plot.py at 2018-01-26 08:37:56
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.38 Mbit/s
95th percentile per-packet one-way delay: 137.499 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.38 Mbit/s
95th percentile per-packet one-way delay: 137.499 ms
Loss rate: 0.00%
```
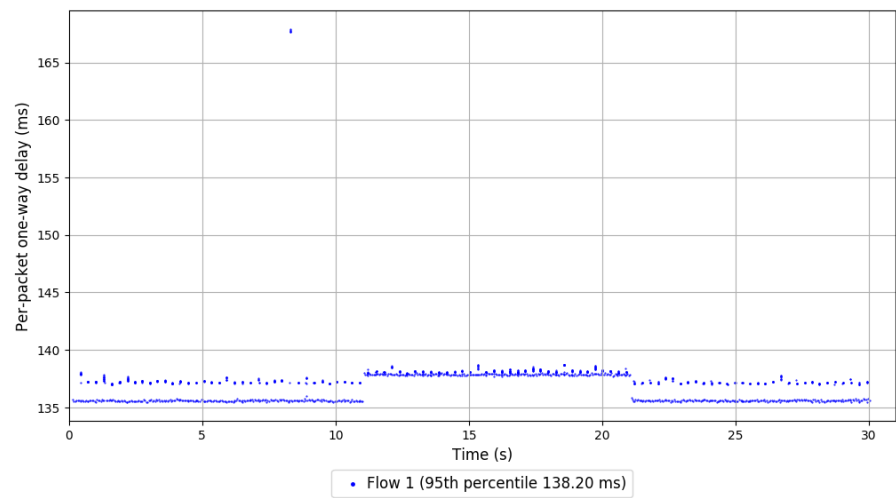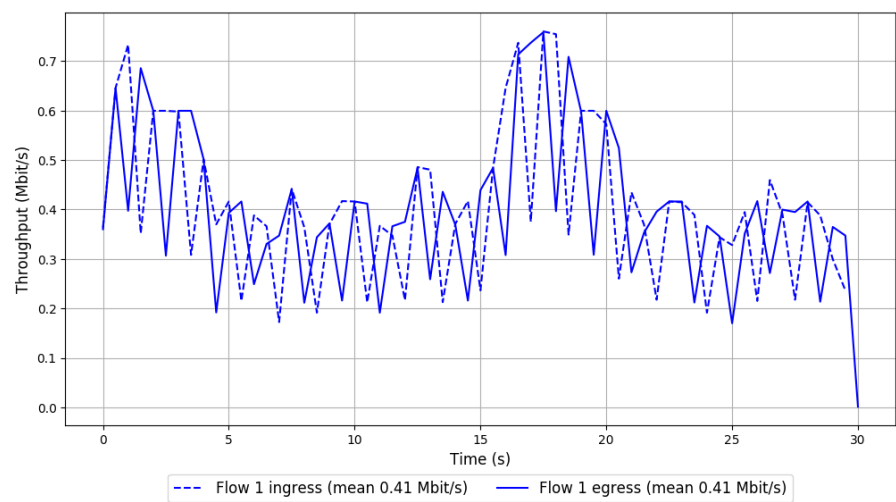
Run 6: Report of Sprout — Data Link

```
Run 7: Statistics of Sprout

Start at: 2018-01-26 07:05:31
End at: 2018-01-26 07:06:01


# Below is generated by plot.py at 2018-01-26 08:37:56
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.41 Mbit/s
95th percentile per-packet one-way delay: 138.197 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.41 Mbit/s
95th percentile per-packet one-way delay: 138.197 ms
Loss rate: 0.00%
```
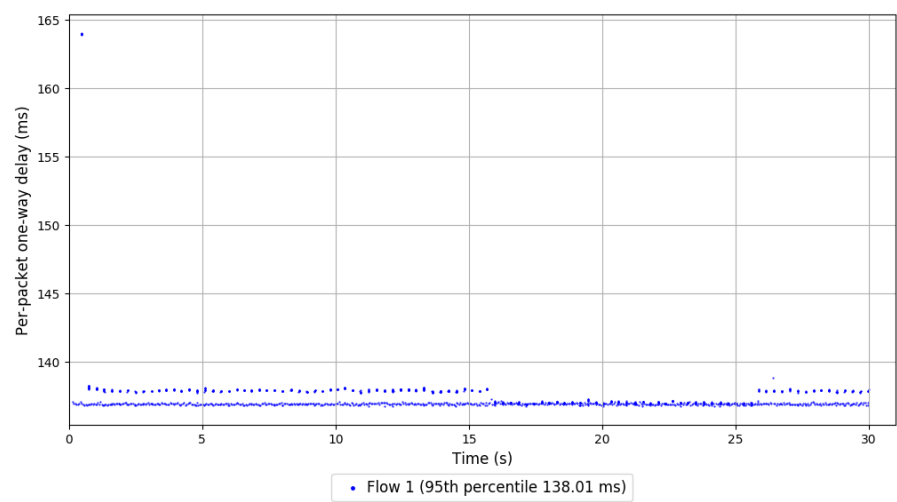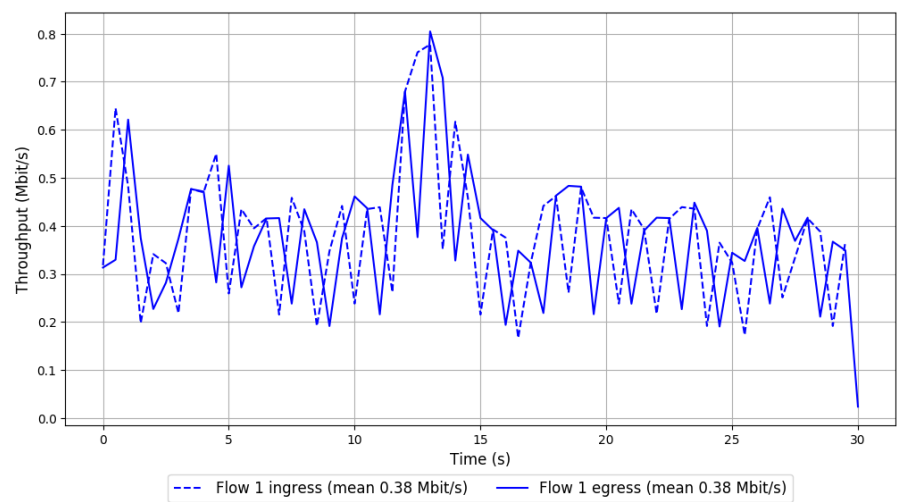
Run 7: Report of Sprout — Data Link





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```
Run 8: Statistics of Sprout

Start at: 2018-01-26 07:18:26
End at: 2018-01-26 07:18:56

# Below is generated by plot.py at 2018-01-26 08:37:56
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.38 Mbit/s
95th percentile per-packet one-way delay: 138.015 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.38 Mbit/s
95th percentile per-packet one-way delay: 138.015 ms
Loss rate: 0.00%
```
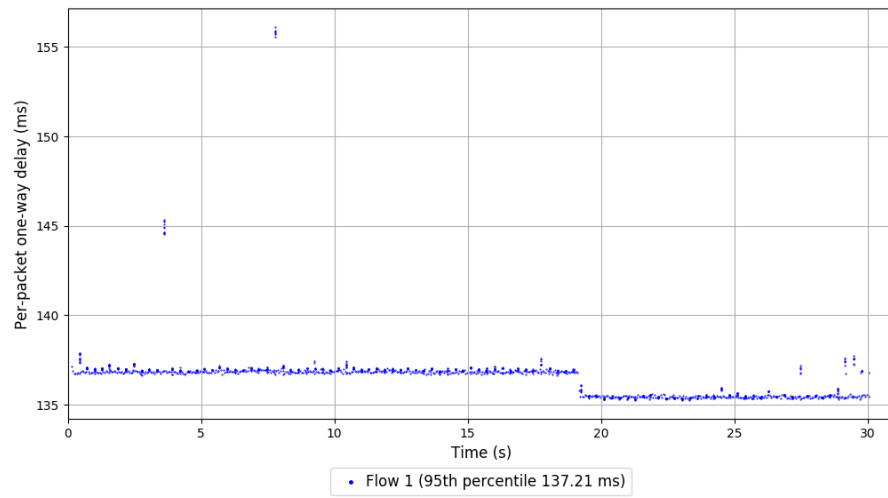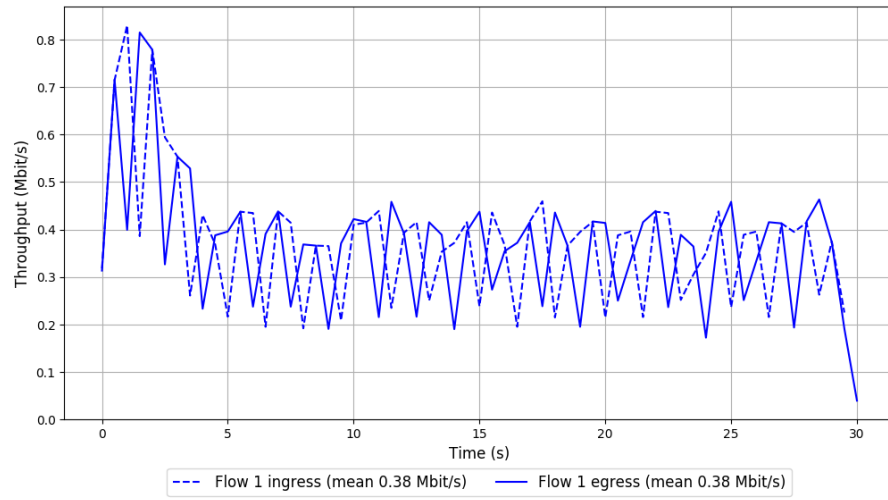
Run 8: Report of Sprout — Data Link





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```
Run 9: Statistics of Sprout

Start at: 2018-01-26 07:31:23
End at: 2018-01-26 07:31:53


# Below is generated by plot.py at 2018-01-26 08:37:56
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.38 Mbit/s
95th percentile per-packet one-way delay: 137.214 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.38 Mbit/s
95th percentile per-packet one-way delay: 137.214 ms
Loss rate: 0.00%
```
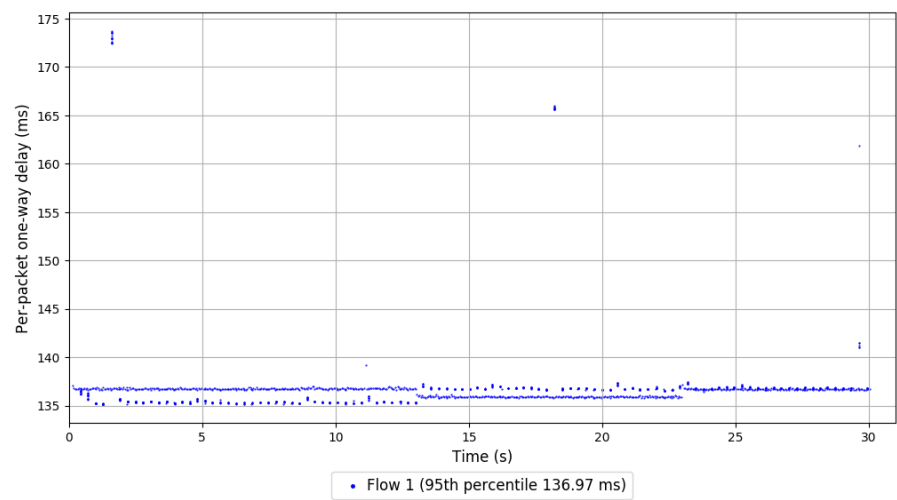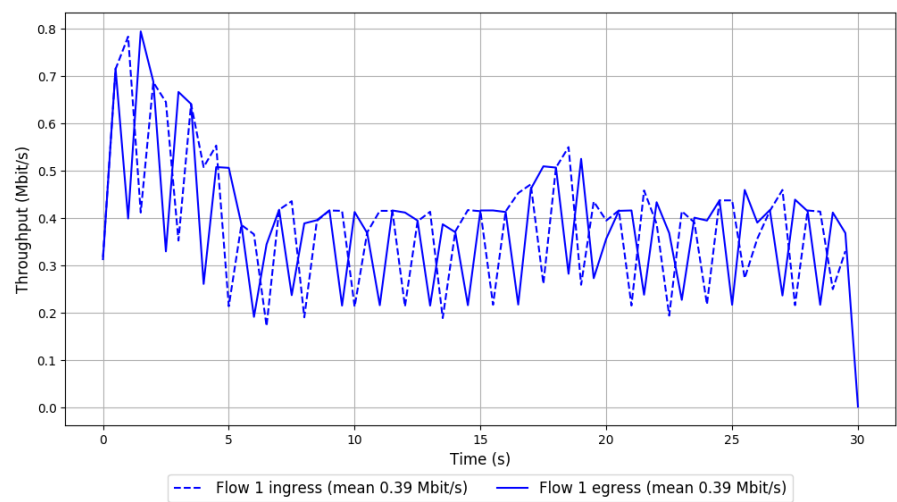
## Run 9: Report of Sprout — Data Link

```
Run 10: Statistics of Sprout

Start at: 2018-01-26 07:44:19
End at: 2018-01-26 07:44:49


# Below is generated by plot.py at 2018-01-26 08:37:56
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.39 Mbit/s
95th percentile per-packet one-way delay: 136.965 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.39 Mbit/s
95th percentile per-packet one-way delay: 136.965 ms
Loss rate: 0.00%
```
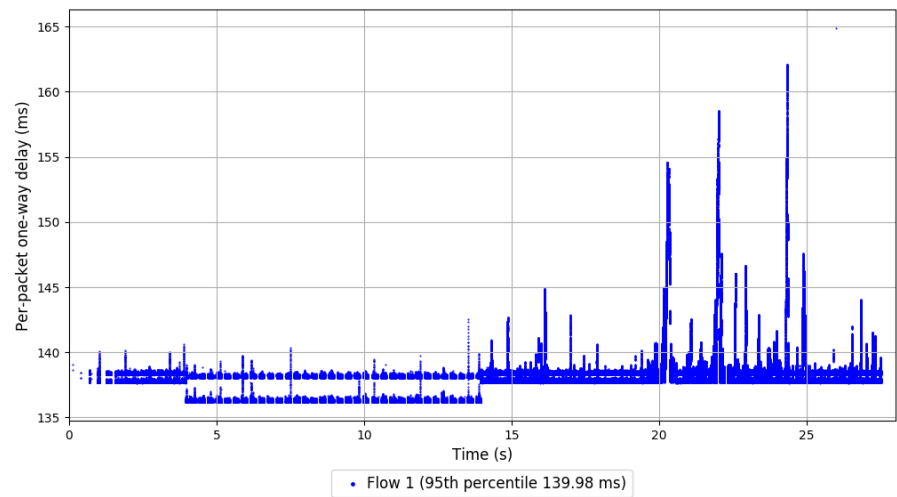
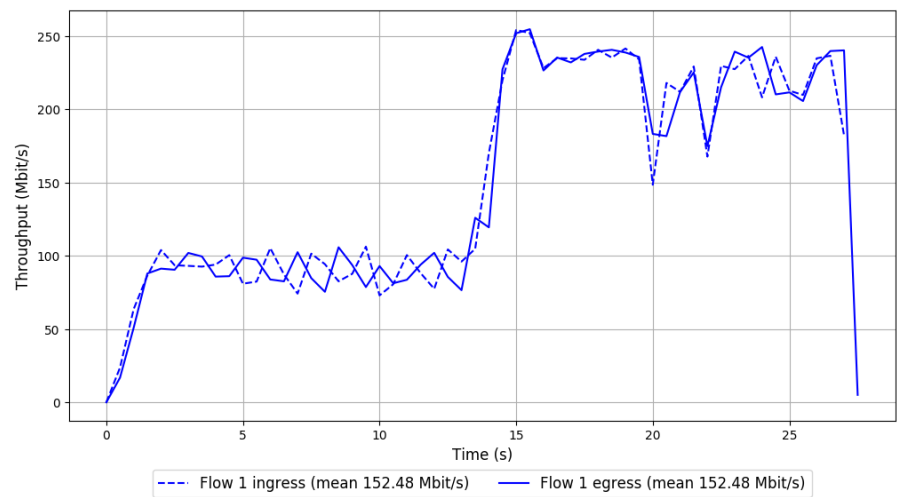Run 10: Report of Sprout — Data Link

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

Start at: 2018-01-26 05:43:56
End at: 2018-01-26 05:44:26

# Below is generated by plot.py at 2018-01-26 08:37:56
# Datalink statistics
-- Total of 1 flow:
Average throughput: 152.48 Mbit/s
95th percentile per-packet one-way delay: 139.983 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 152.48 Mbit/s
95th percentile per-packet one-way delay: 139.983 ms
Loss rate: 0.00%
```

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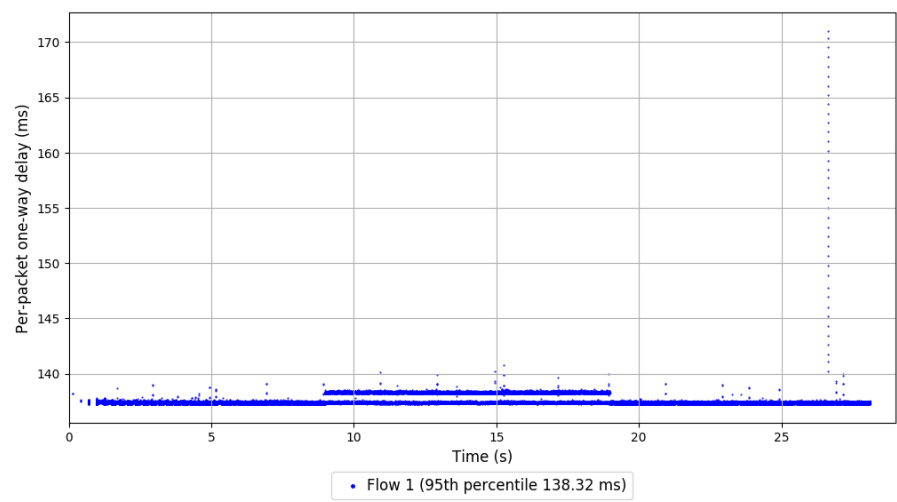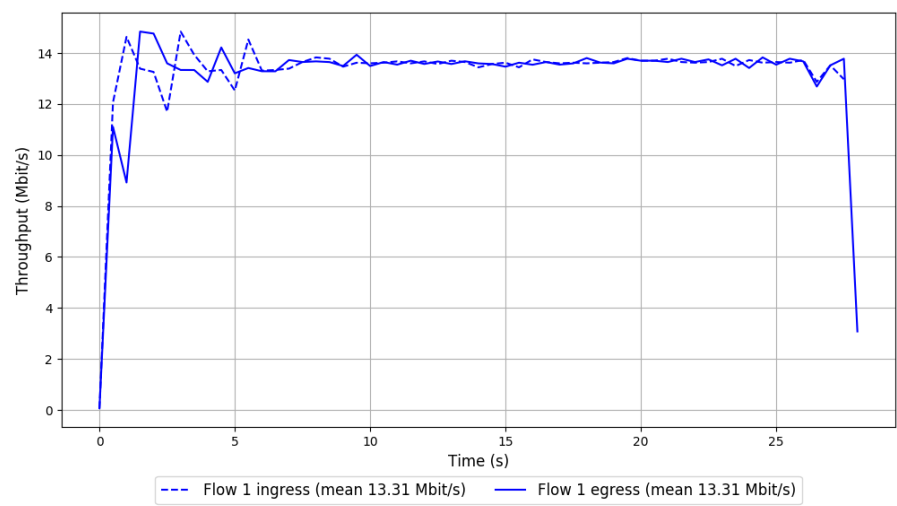




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```
Run 2: Statistics of TaoVA-100x

Start at: 2018-01-26 05:57:21
End at: 2018-01-26 05:57:51

# Below is generated by plot.py at 2018-01-26 08:37:56
# Datalink statistics
-- Total of 1 flow:
Average throughput: 13.31 Mbit/s
95th percentile per-packet one-way delay: 138.318 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 13.31 Mbit/s
95th percentile per-packet one-way delay: 138.318 ms
Loss rate: 0.00%
```
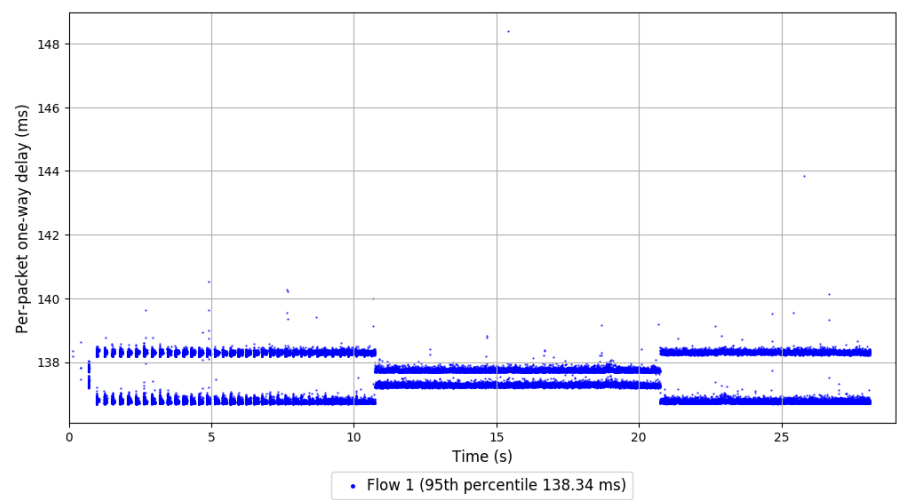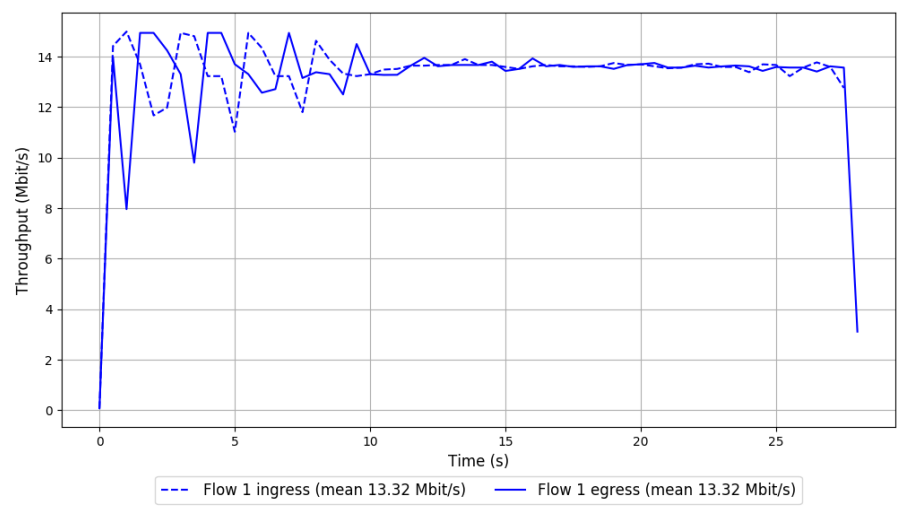
Run 2: Report of TaoVA-100x — Data Link



Flow 1 ingress (mean 13.31 Mbit/s)    Flow 1 egress (mean 13.31 Mbit/s)



Flow 1 (95th percentile 138.32 ms)

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

Start at: 2018-01-26 06:10:29
End at: 2018-01-26 06:10:59

# Below is generated by plot.py at 2018-01-26 08:37:56
# Datalink statistics
-- Total of 1 flow:
Average throughput: 13.32 Mbit/s
95th percentile per-packet one-way delay: 138.341 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 13.32 Mbit/s
95th percentile per-packet one-way delay: 138.341 ms
Loss rate: 0.00%
```
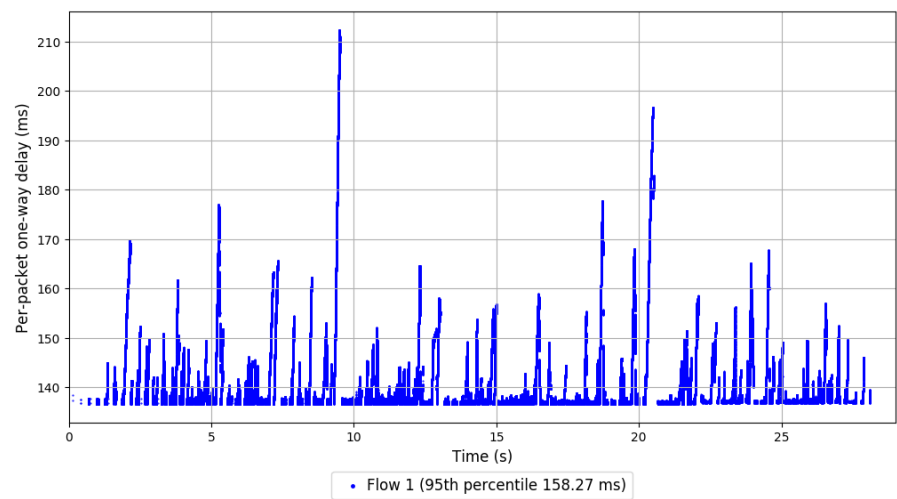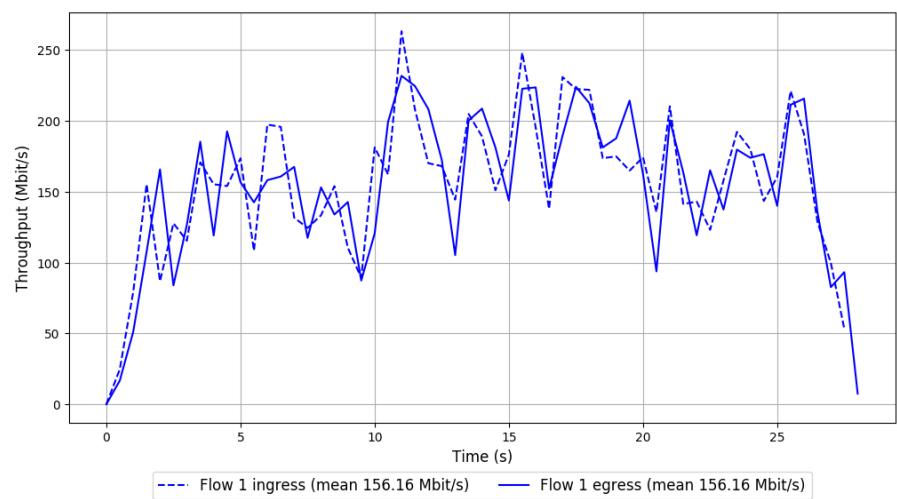
# Run 3: Report of TaoVA-100x — Data Link



Flow 1 ingress (mean 13.32 Mbit/s) --- Flow 1 egress (mean 13.32 Mbit/s)



Flow 1 (95th percentile 138.34 ms)

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

Start at: 2018-01-26 06:23:28
End at: 2018-01-26 06:23:58

# Below is generated by plot.py at 2018-01-26 08:37:56
# Datalink statistics
-- Total of 1 flow:
Average throughput: 156.16 Mbit/s
95th percentile per-packet one-way delay: 158.272 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 156.16 Mbit/s
95th percentile per-packet one-way delay: 158.272 ms
Loss rate: 0.00%
```
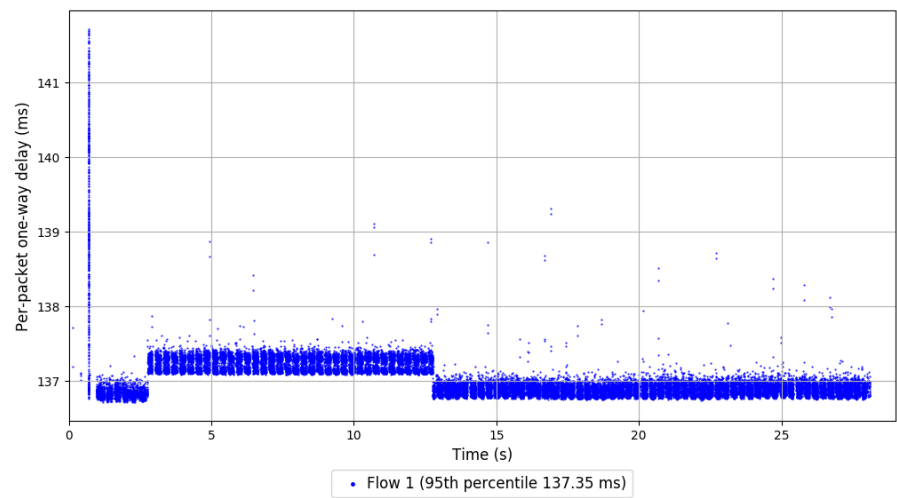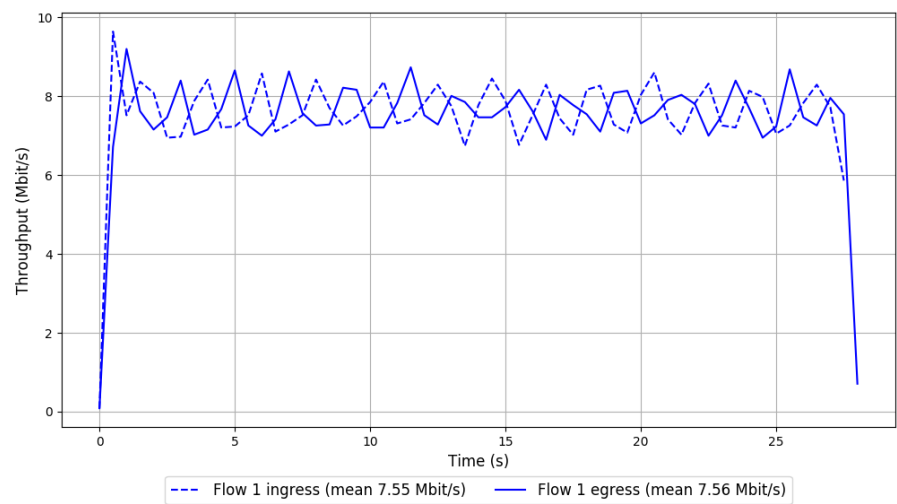
# Run 4: Report of TaoVA-100x — Data Link



Flow 1 ingress (mean 156.16 Mbit/s)    Flow 1 egress (mean 156.16 Mbit/s)



Flow 1 (95th percentile 158.27 ms)

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

Start at: 2018-01-26 06:36:07
End at: 2018-01-26 06:36:37

# Below is generated by plot.py at 2018-01-26 08:37:56
# Datalink statistics
-- Total of 1 flow:
Average throughput: 7.56 Mbit/s
95th percentile per-packet one-way delay: 137.354 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 7.56 Mbit/s
95th percentile per-packet one-way delay: 137.354 ms
Loss rate: 0.00%
```
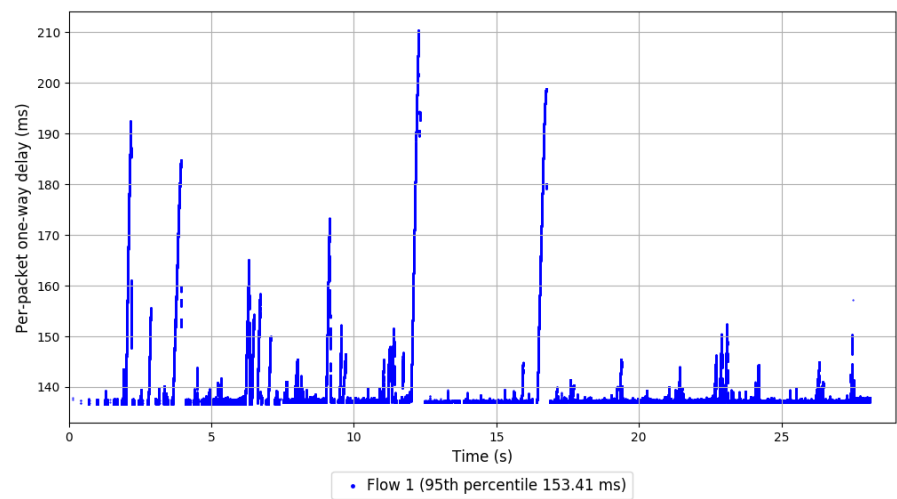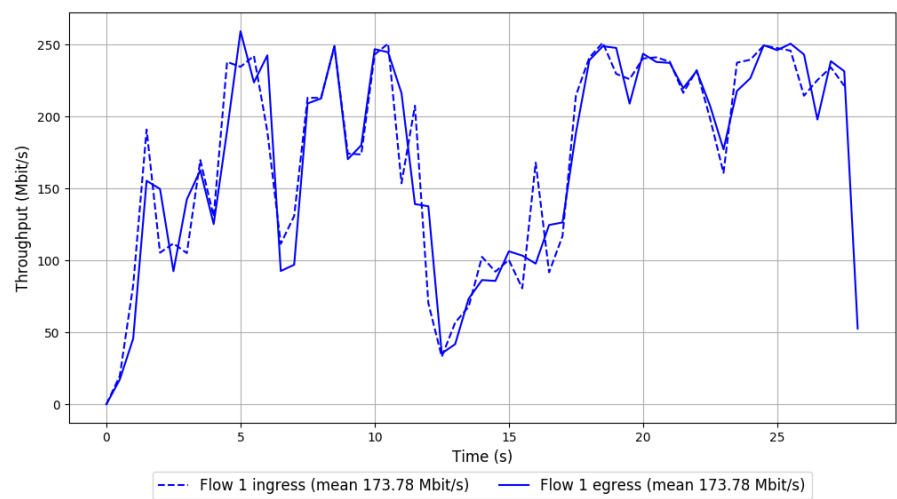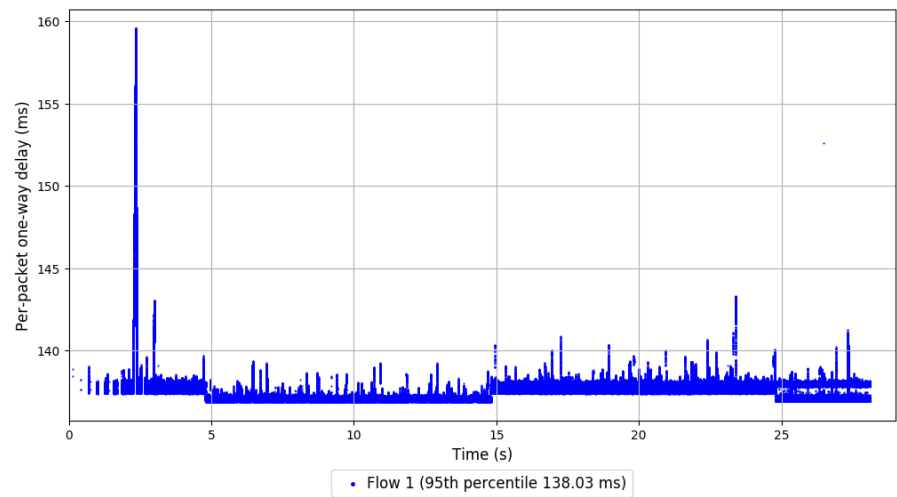
Run 5: Report of TaoVA-100x — Data Link





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

Start at: 2018-01-26 06:48:53
End at: 2018-01-26 06:49:23

# Below is generated by plot.py at 2018-01-26 08:37:56
# Datalink statistics
-- Total of 1 flow:
Average throughput: 173.78 Mbit/s
95th percentile per-packet one-way delay: 153.414 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 173.78 Mbit/s
95th percentile per-packet one-way delay: 153.414 ms
Loss rate: 0.00%
```

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

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

Start at: 2018-01-26 07:02:05
End at: 2018-01-26 07:02:35

# Below is generated by plot.py at 2018-01-26 08:37:56
# Datalink statistics
-- Total of 1 flow:
Average throughput: 208.25 Mbit/s
95th percentile per-packet one-way delay: 138.033 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 208.25 Mbit/s
95th percentile per-packet one-way delay: 138.033 ms
Loss rate: 0.00%
```
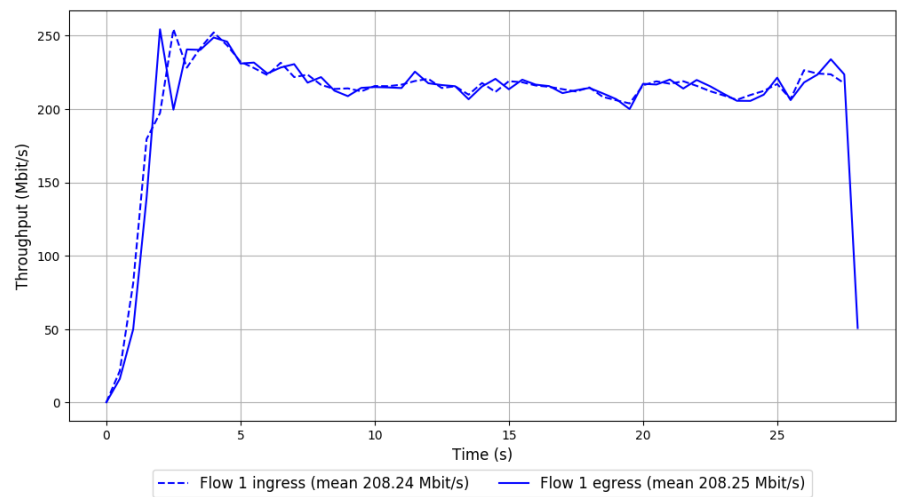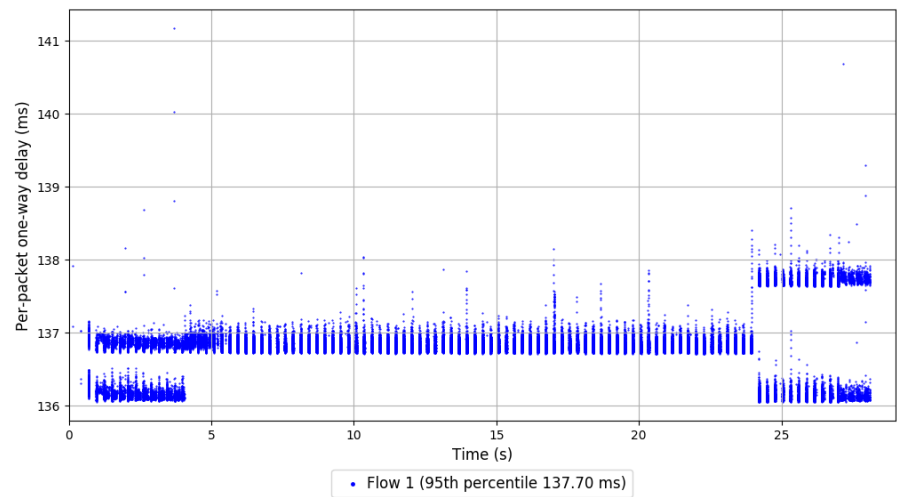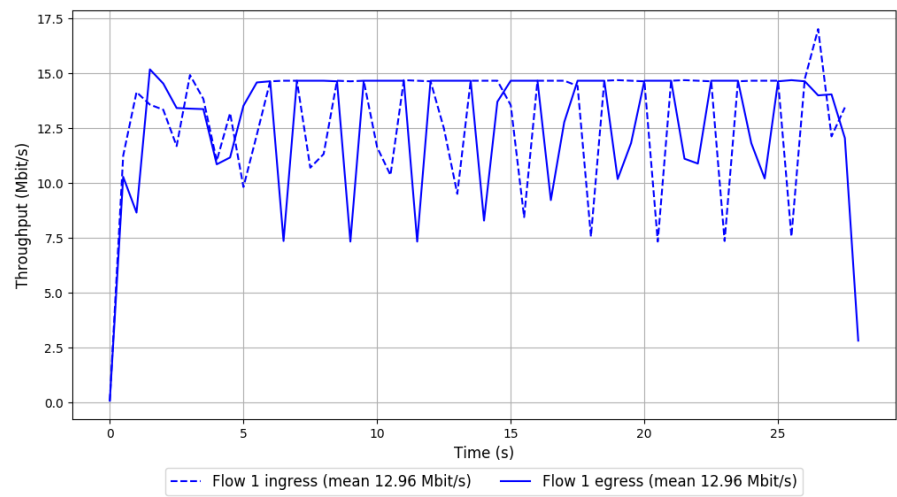
## Run 7: Report of TaoVA-100x — Data Link



Flow 1 ingress (mean 208.24 Mbit/s)    Flow 1 egress (mean 208.25 Mbit/s)



Flow 1 (95th percentile 138.03 ms)

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

Start at: 2018-01-26 07:15:26
End at: 2018-01-26 07:15:56

# Below is generated by plot.py at 2018-01-26 08:37:56
# Datalink statistics
-- Total of 1 flow:
Average throughput: 12.96 Mbit/s
95th percentile per-packet one-way delay: 137.700 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 12.96 Mbit/s
95th percentile per-packet one-way delay: 137.700 ms
Loss rate: 0.00%
```

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





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

Start at: 2018-01-26 07:28:17
End at: 2018-01-26 07:28:47

# Below is generated by plot.py at 2018-01-26 08:37:56
# Datalink statistics
-- Total of 1 flow:
Average throughput: 9.10 Mbit/s
95th percentile per-packet one-way delay: 136.797 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 9.10 Mbit/s
95th percentile per-packet one-way delay: 136.797 ms
Loss rate: 0.00%
```
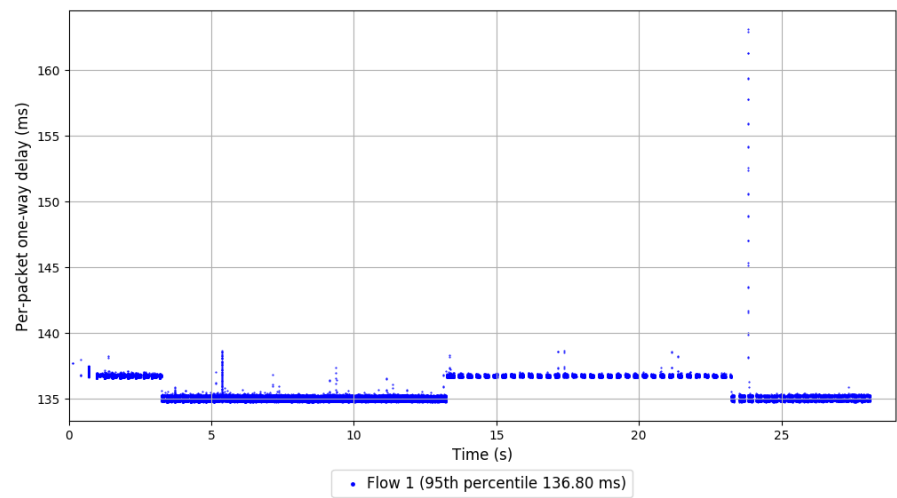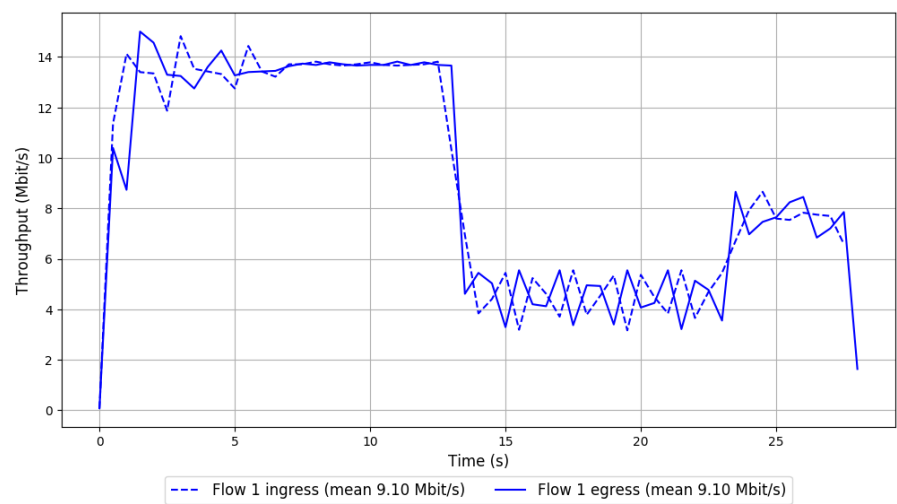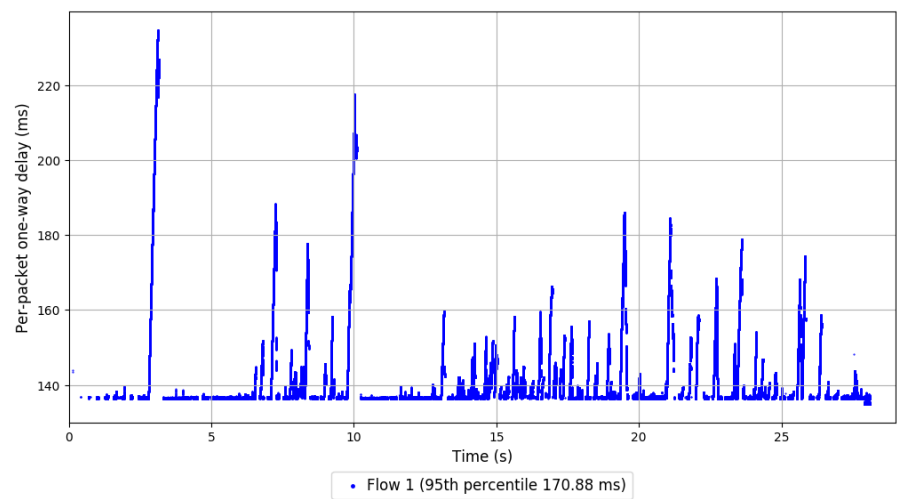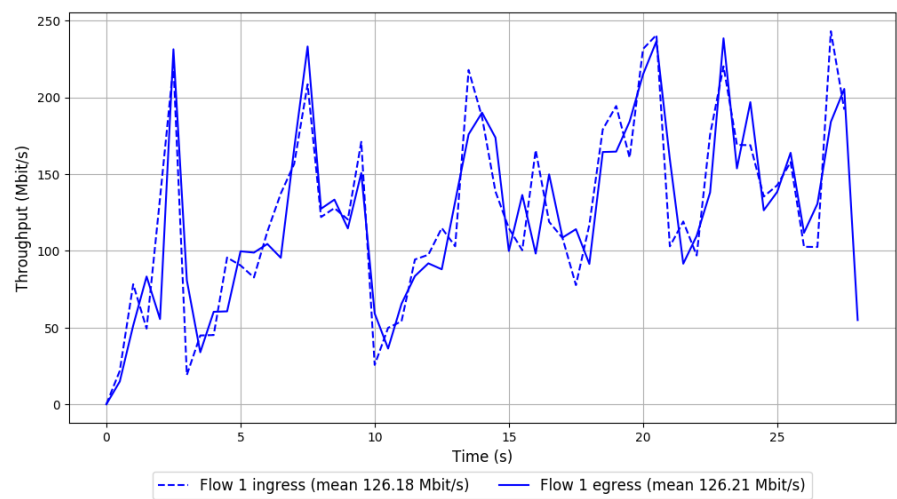
Run 9: Report of TaoVA-100x — Data Link

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

Start at: 2018-01-26 07:41:12
End at: 2018-01-26 07:41:42

# Below is generated by plot.py at 2018-01-26 08:37:56
# Datalink statistics
-- Total of 1 flow:
Average throughput: 126.21 Mbit/s
95th percentile per-packet one-way delay: 170.882 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 126.21 Mbit/s
95th percentile per-packet one-way delay: 170.882 ms
Loss rate: 0.00%
```
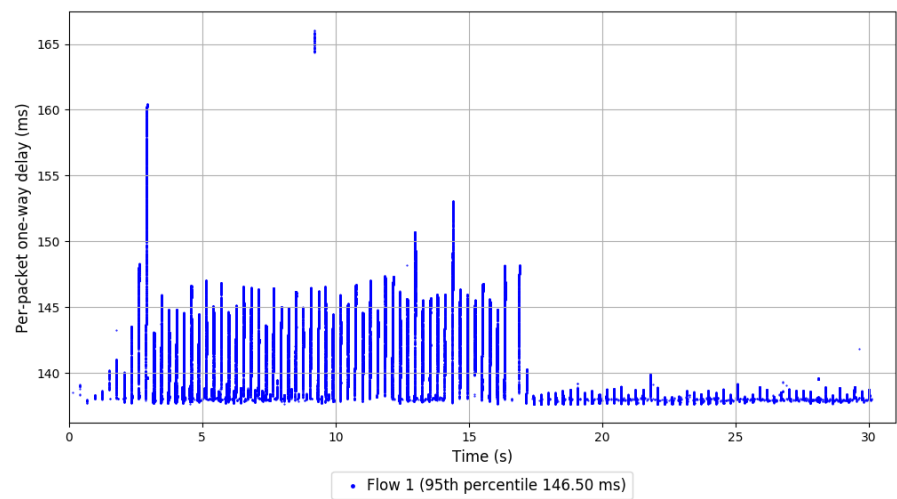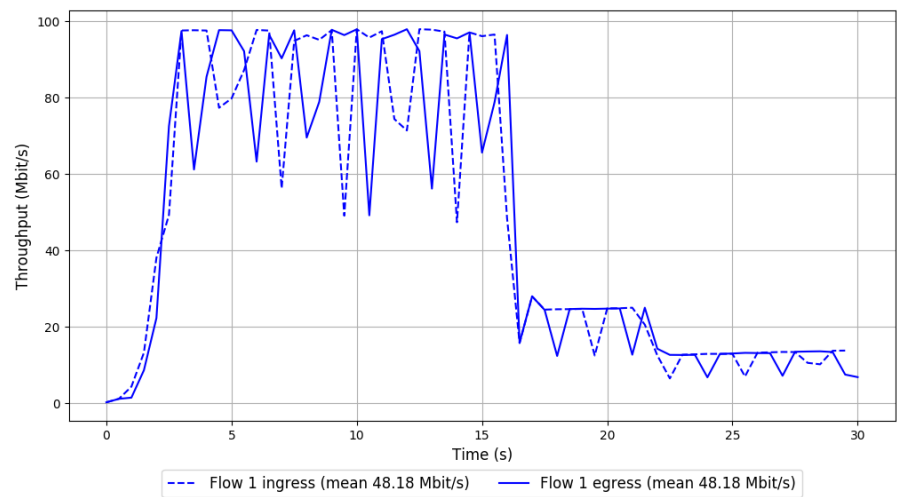
Run 10: Report of TaoVA-100x — Data Link



Flow 1 ingress (mean 126.18 Mbit/s) —— Flow 1 egress (mean 126.21 Mbit/s)



• Flow 1 (95th percentile 170.88 ms)

```
Run 1: Statistics of TCP Vegas

Start at: 2018-01-26 05:46:28
End at: 2018-01-26 05:46:59

# Below is generated by plot.py at 2018-01-26 08:37:56
# Datalink statistics
-- Total of 1 flow:
Average throughput: 48.18 Mbit/s
95th percentile per-packet one-way delay: 146.500 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 48.18 Mbit/s
95th percentile per-packet one-way delay: 146.500 ms
Loss rate: 0.01%
```

Run 1: Report of TCP Vegas — Data Link

```
Run 2: Statistics of TCP Vegas

Start at: 2018-01-26 05:59:44
End at: 2018-01-26 06:00:14

# Below is generated by plot.py at 2018-01-26 08:37:56
# Datalink statistics
-- Total of 1 flow:
Average throughput: 1.98 Mbit/s
95th percentile per-packet one-way delay: 138.214 ms
Loss rate: 0.20%
-- Flow 1:
Average throughput: 1.98 Mbit/s
95th percentile per-packet one-way delay: 138.214 ms
Loss rate: 0.20%
```
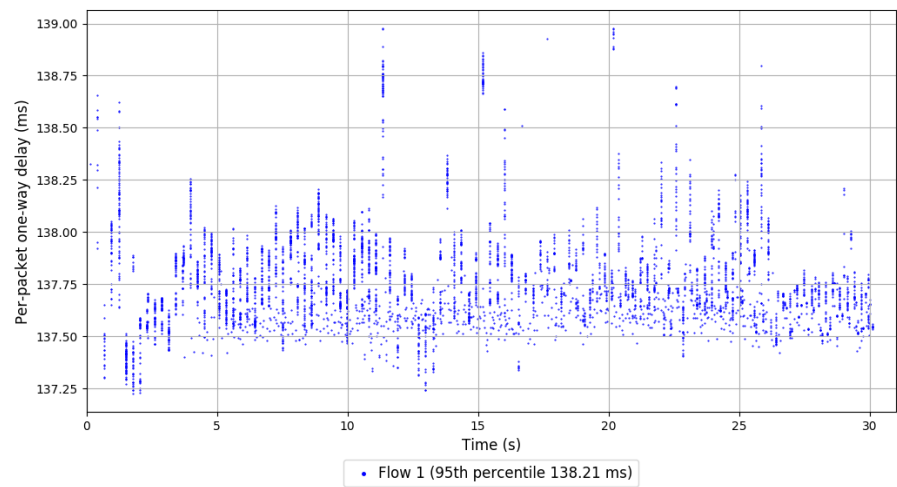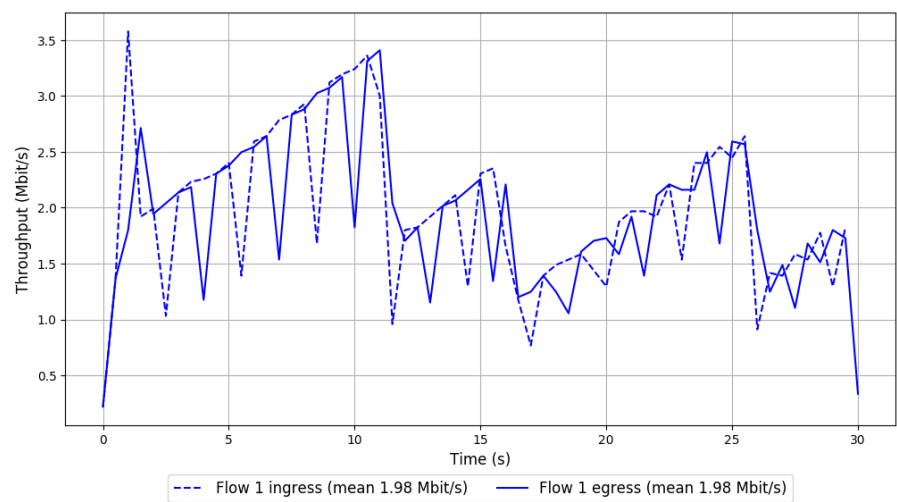
Run 2: Report of TCP Vegas — Data Link

```
Run 3: Statistics of TCP Vegas

Start at: 2018-01-26 06:12:48
End at: 2018-01-26 06:13:18

# Below is generated by plot.py at 2018-01-26 08:37:56
# Datalink statistics
-- Total of 1 flow:
Average throughput: 14.67 Mbit/s
95th percentile per-packet one-way delay: 140.177 ms
Loss rate: 0.64%
-- Flow 1:
Average throughput: 14.67 Mbit/s
95th percentile per-packet one-way delay: 140.177 ms
Loss rate: 0.64%
```
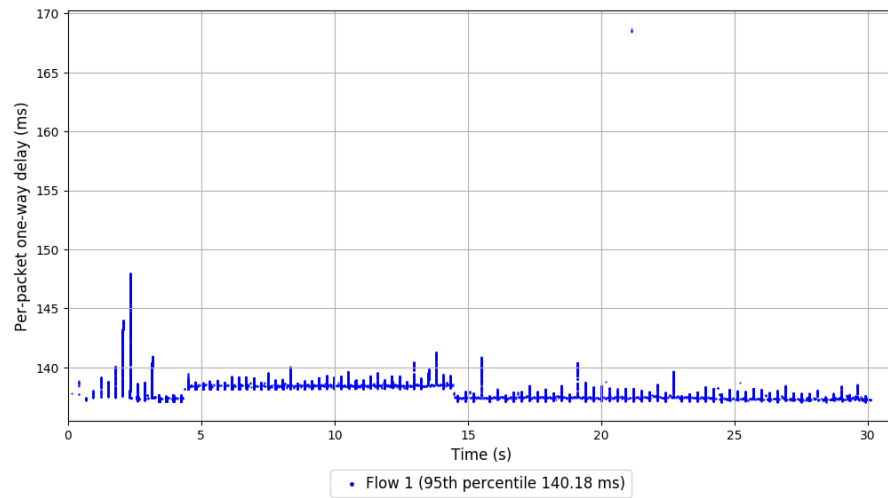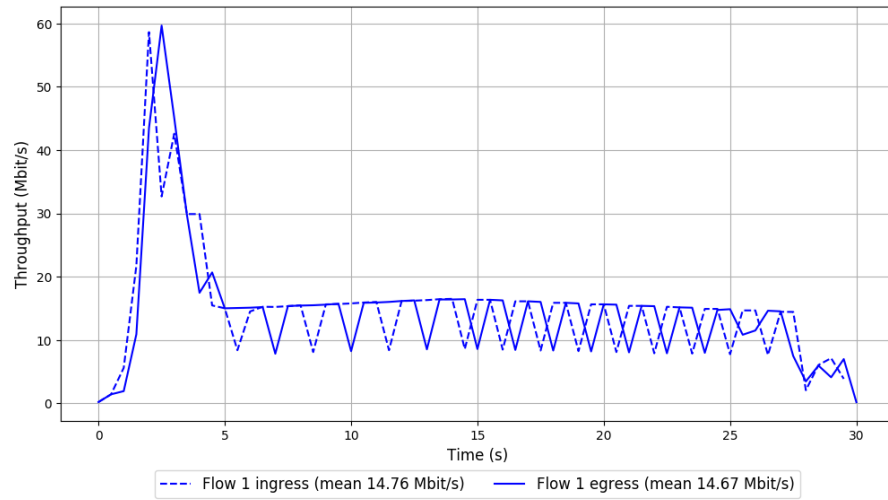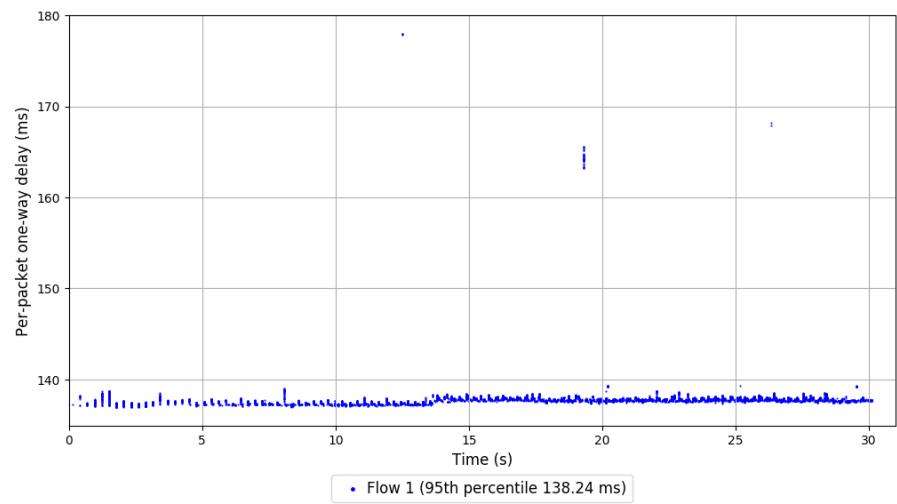
# Run 3: Report of TCP Vegas — Data Link



Flow 1 ingress (mean 14.76 Mbit/s)    Flow 1 egress (mean 14.67 Mbit/s)



Flow 1 (95th percentile 140.18 ms)

```
Run 4: Statistics of TCP Vegas

Start at: 2018-01-26 06:25:58
End at: 2018-01-26 06:26:28

# Below is generated by plot.py at 2018-01-26 08:37:56
# Datalink statistics
-- Total of 1 flow:
Average throughput: 3.02 Mbit/s
95th percentile per-packet one-way delay: 138.241 ms
Loss rate: 0.33%
-- Flow 1:
Average throughput: 3.02 Mbit/s
95th percentile per-packet one-way delay: 138.241 ms
Loss rate: 0.33%
```
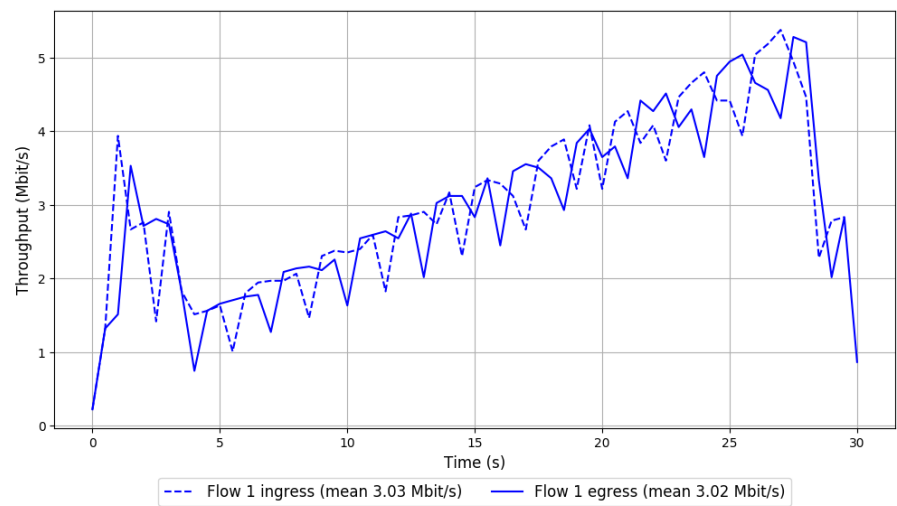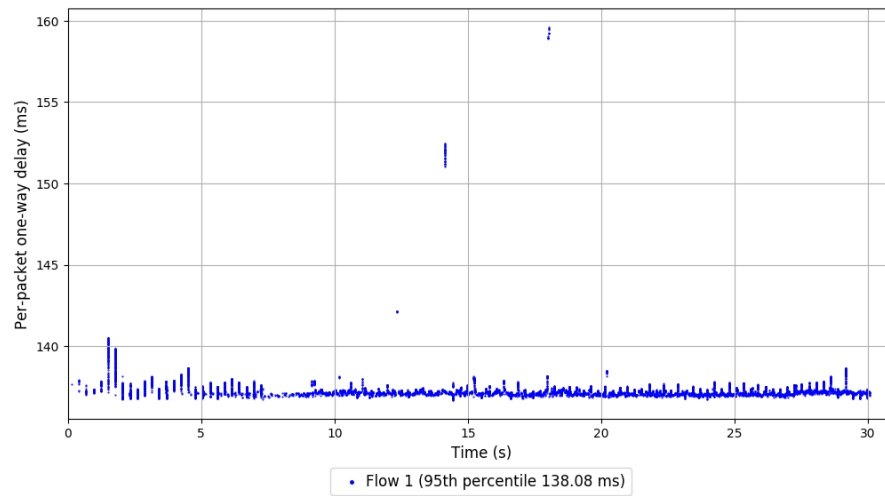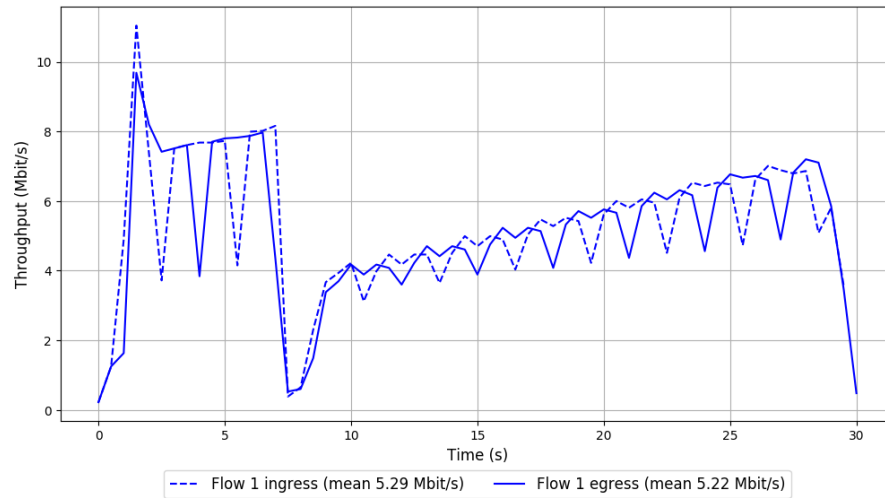
Run 4: Report of TCP Vegas — Data Link



Flow 1 ingress (mean 3.03 Mbit/s)    Flow 1 egress (mean 3.02 Mbit/s)



Flow 1 (95th percentile 138.24 ms)

```
Run 5: Statistics of TCP Vegas

Start at: 2018-01-26 06:38:15
End at: 2018-01-26 06:38:45

# Below is generated by plot.py at 2018-01-26 08:37:56
# Datalink statistics
-- Total of 1 flow:
Average throughput: 5.22 Mbit/s
95th percentile per-packet one-way delay: 138.084 ms
Loss rate: 1.27%
-- Flow 1:
Average throughput: 5.22 Mbit/s
95th percentile per-packet one-way delay: 138.084 ms
Loss rate: 1.27%
```
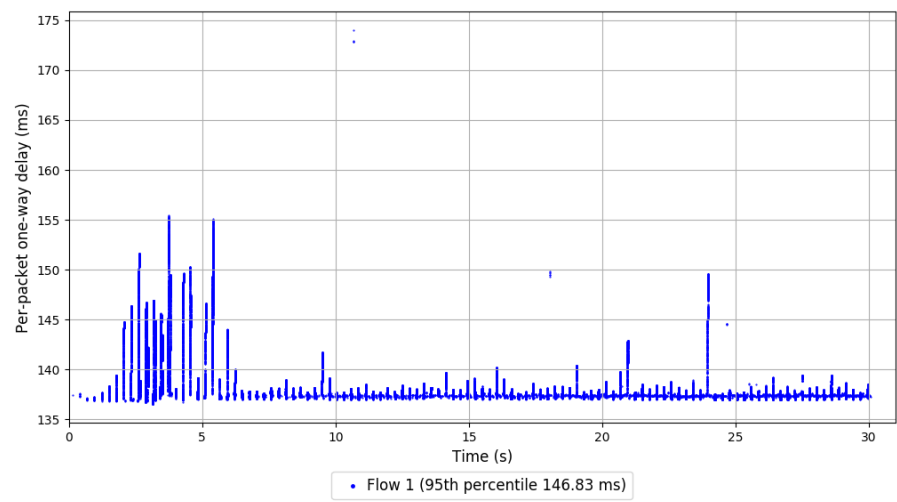
# Run 5: Report of TCP Vegas — Data Link



Flow 1 ingress (mean 5.29 Mbit/s)     Flow 1 egress (mean 5.22 Mbit/s)



Flow 1 (95th percentile 138.08 ms)

```
Run 6: Statistics of TCP Vegas

Start at: 2018-01-26 06:51:29
End at: 2018-01-26 06:51:59

# Below is generated by plot.py at 2018-01-26 08:37:56
# Datalink statistics
-- Total of 1 flow:
Average throughput: 30.72 Mbit/s
95th percentile per-packet one-way delay: 146.826 ms
Loss rate: 0.35%
-- Flow 1:
Average throughput: 30.72 Mbit/s
95th percentile per-packet one-way delay: 146.826 ms
Loss rate: 0.35%
```
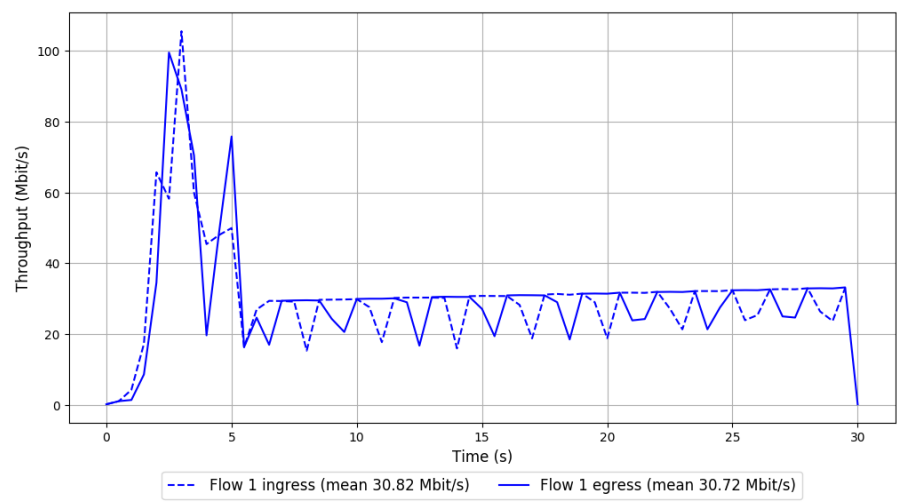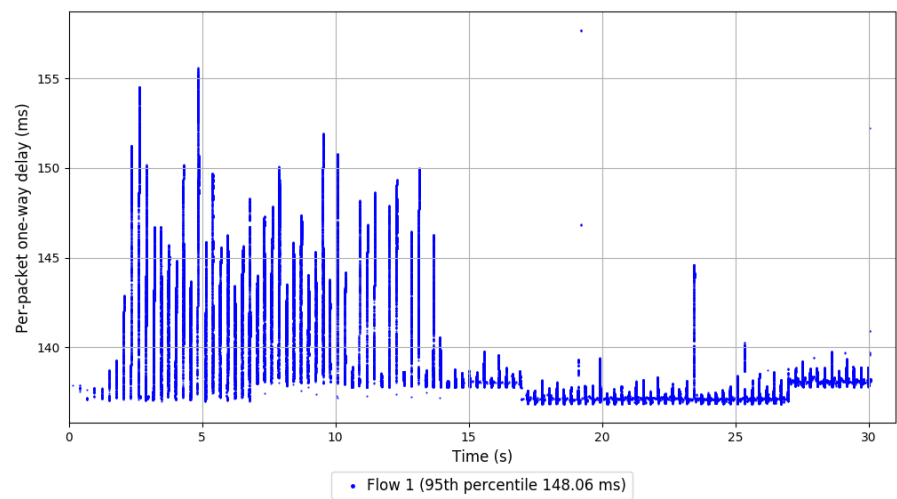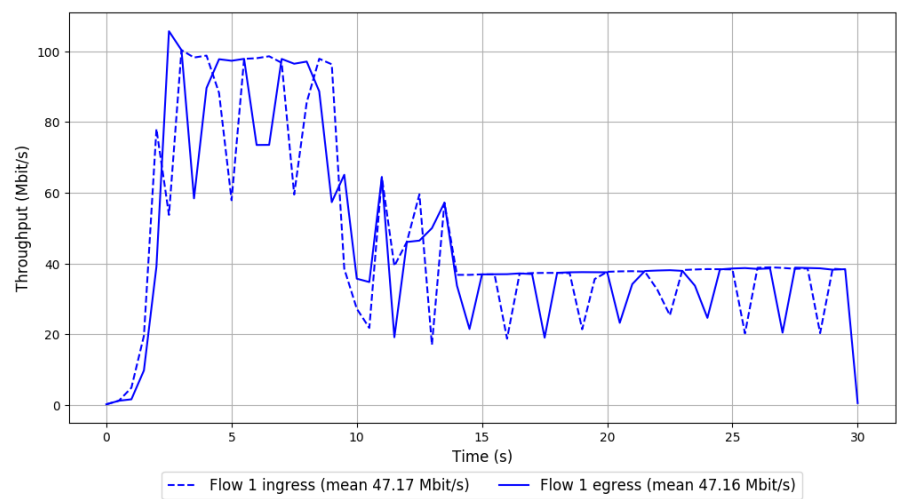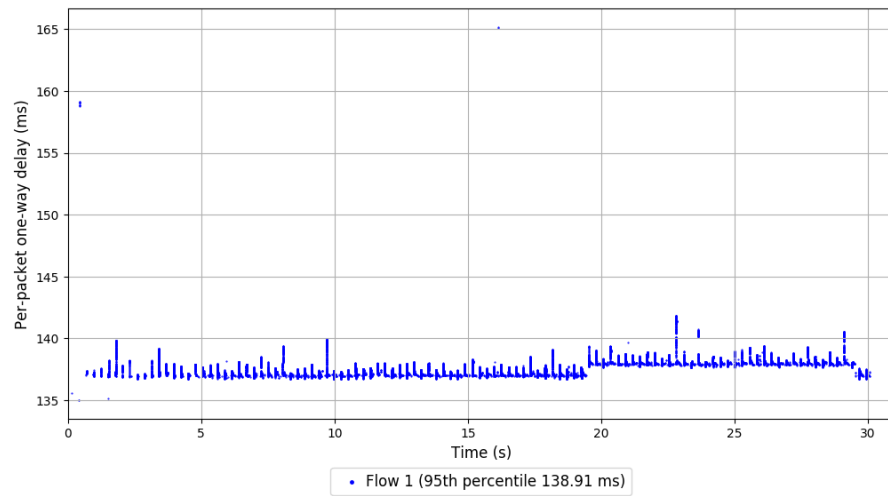
# Run 6: Report of TCP Vegas — Data Link



Flow 1 ingress (mean 30.82 Mbit/s)     Flow 1 egress (mean 30.72 Mbit/s)



Flow 1 (95th percentile 146.83 ms)

```
Run 7: Statistics of TCP Vegas

Start at: 2018-01-26 07:04:45
End at: 2018-01-26 07:05:15

# Below is generated by plot.py at 2018-01-26 08:37:56
# Datalink statistics
-- Total of 1 flow:
Average throughput: 47.16 Mbit/s
95th percentile per-packet one-way delay: 148.058 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 47.16 Mbit/s
95th percentile per-packet one-way delay: 148.058 ms
Loss rate: 0.01%
```
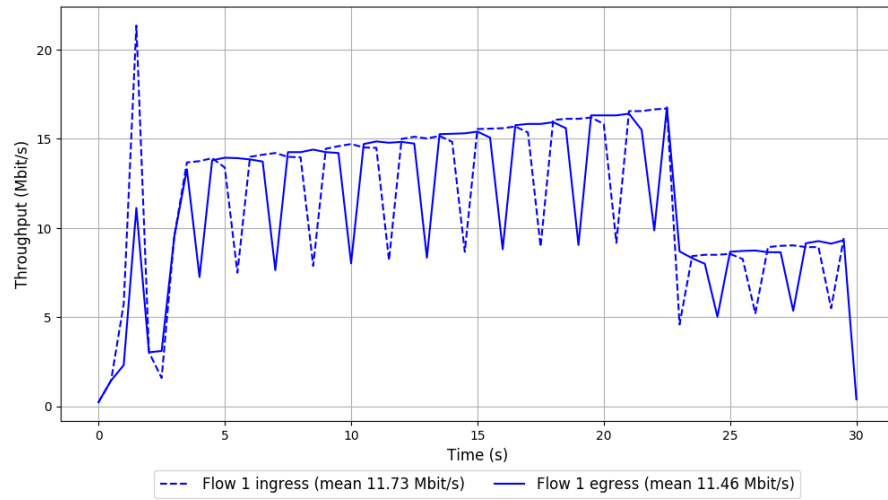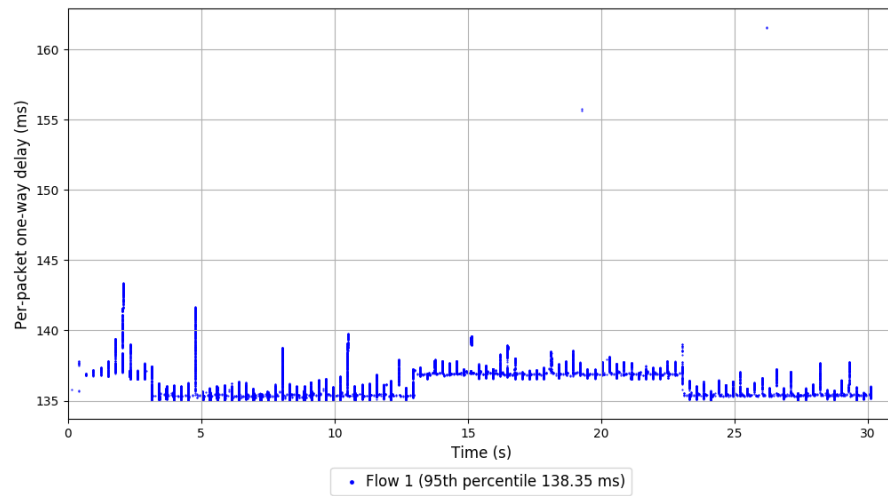
# Run 7: Report of TCP Vegas — Data Link



Flow 1 ingress (mean 47.17 Mbit/s)    Flow 1 egress (mean 47.16 Mbit/s)



Flow 1 (95th percentile 148.06 ms)

```
Run 8: Statistics of TCP Vegas

Start at: 2018-01-26 07:17:43
End at: 2018-01-26 07:18:13

# Below is generated by plot.py at 2018-01-26 08:37:56
# Datalink statistics
-- Total of 1 flow:
Average throughput: 11.46 Mbit/s
95th percentile per-packet one-way delay: 138.911 ms
Loss rate: 2.29%
-- Flow 1:
Average throughput: 11.46 Mbit/s
95th percentile per-packet one-way delay: 138.911 ms
Loss rate: 2.29%
```
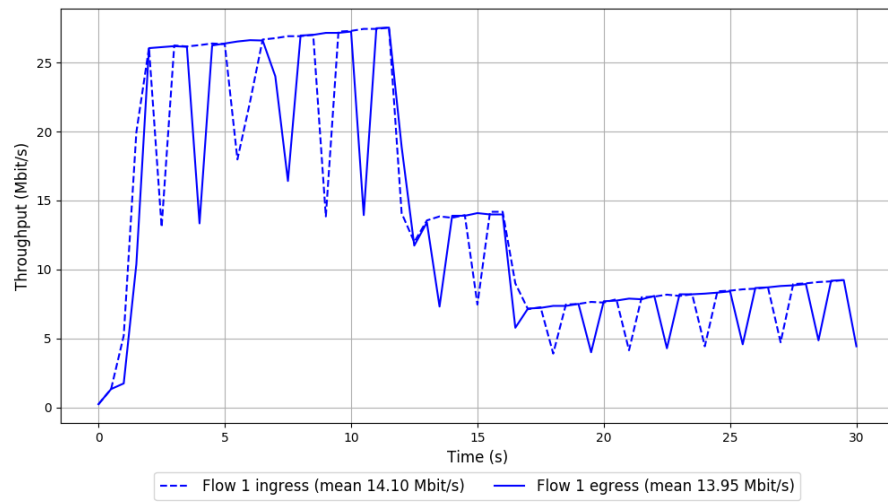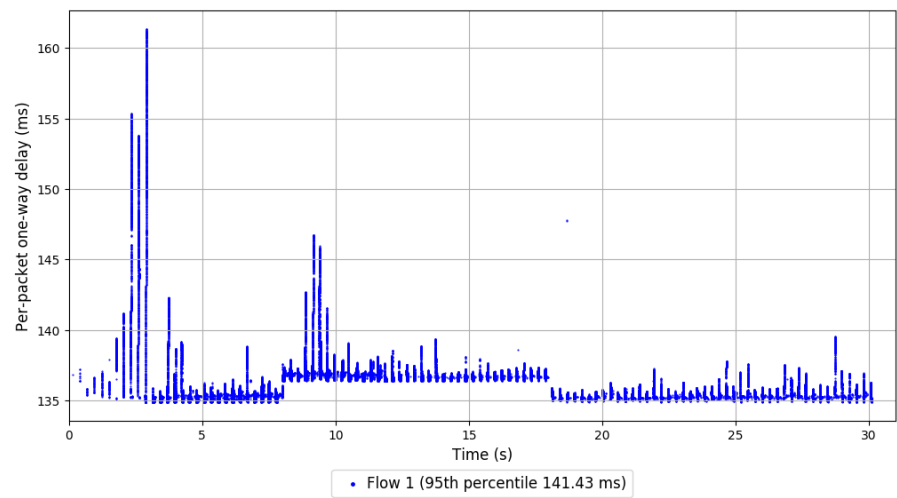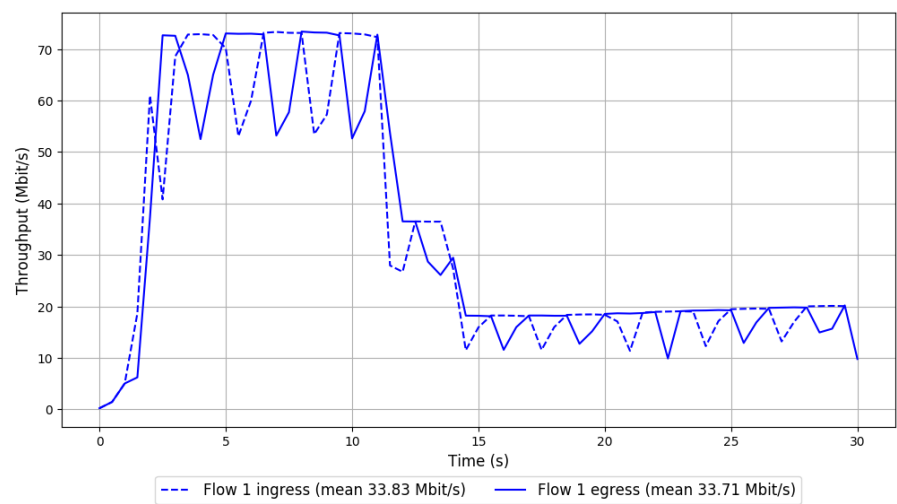
## Run 8: Report of TCP Vegas — Data Link

```
Run 9: Statistics of TCP Vegas

Start at: 2018-01-26 07:30:39
End at: 2018-01-26 07:31:09

# Below is generated by plot.py at 2018-01-26 08:37:56
# Datalink statistics
-- Total of 1 flow:
Average throughput: 13.95 Mbit/s
95th percentile per-packet one-way delay: 138.349 ms
Loss rate: 1.08%
-- Flow 1:
Average throughput: 13.95 Mbit/s
95th percentile per-packet one-way delay: 138.349 ms
Loss rate: 1.08%
```
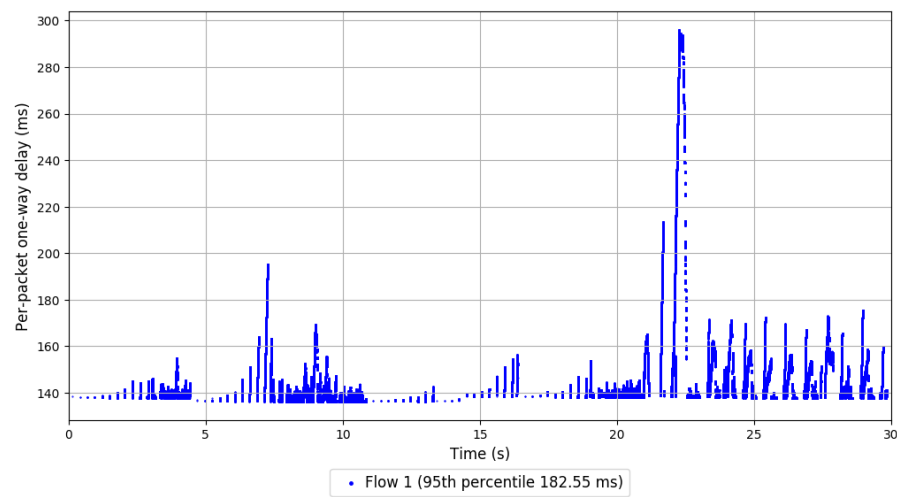
Run 9: Report of TCP Vegas — Data Link

```
Run 10: Statistics of TCP Vegas

Start at: 2018-01-26 07:43:34
End at: 2018-01-26 07:44:04

# Below is generated by plot.py at 2018-01-26 08:37:56
# Datalink statistics
-- Total of 1 flow:
Average throughput: 33.71 Mbit/s
95th percentile per-packet one-way delay: 141.429 ms
Loss rate: 0.35%
-- Flow 1:
Average throughput: 33.71 Mbit/s
95th percentile per-packet one-way delay: 141.429 ms
Loss rate: 0.35%
```
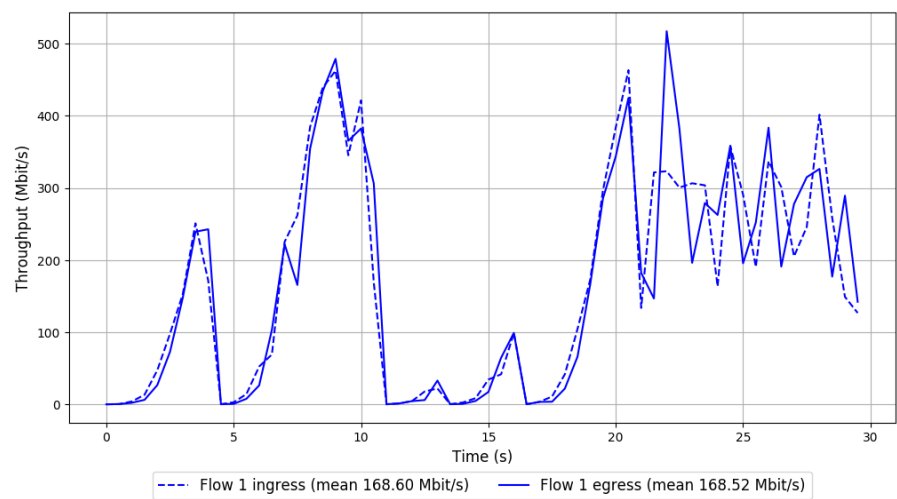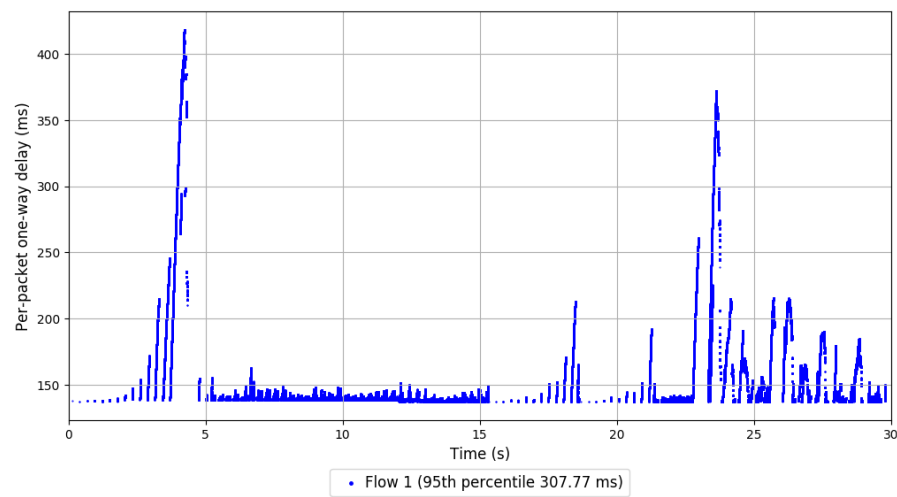
# Run 10: Report of TCP Vegas — Data Link



Flow 1 ingress (mean 33.83 Mbit/s)    Flow 1 egress (mean 33.71 Mbit/s)



Flow 1 (95th percentile 141.43 ms)

```
Run 1: Statistics of Verus

Start at: 2018-01-26 05:47:57
End at: 2018-01-26 05:48:27

# Below is generated by plot.py at 2018-01-26 08:37:56
# Datalink statistics
-- Total of 1 flow:
Average throughput: 168.52 Mbit/s
95th percentile per-packet one-way delay: 182.549 ms
Loss rate: 0.05%
-- Flow 1:
Average throughput: 168.52 Mbit/s
95th percentile per-packet one-way delay: 182.549 ms
Loss rate: 0.05%
```
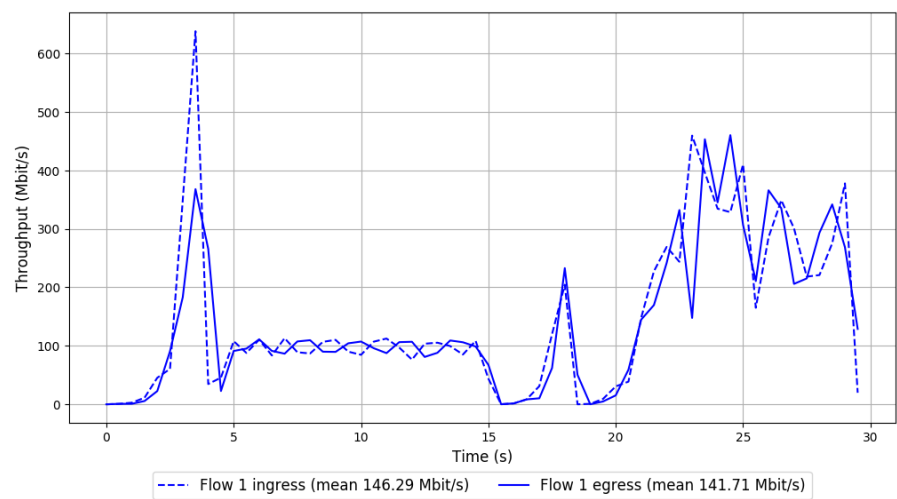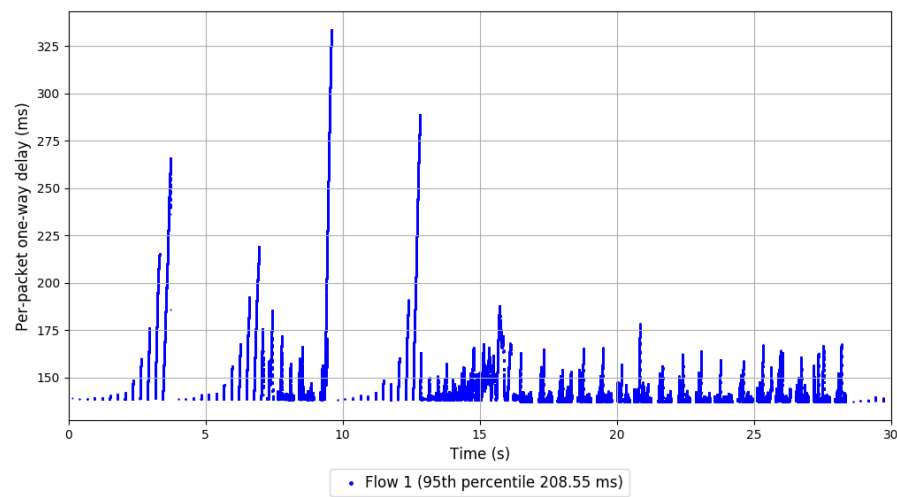
Run 1: Report of Verus — Data Link

```
Run 2: Statistics of Verus

Start at: 2018-01-26 06:01:10
End at: 2018-01-26 06:01:40

# Below is generated by plot.py at 2018-01-26 08:37:56
# Datalink statistics
-- Total of 1 flow:
Average throughput: 141.71 Mbit/s
95th percentile per-packet one-way delay: 307.767 ms
Loss rate: 3.10%
-- Flow 1:
Average throughput: 141.71 Mbit/s
95th percentile per-packet one-way delay: 307.767 ms
Loss rate: 3.10%
```
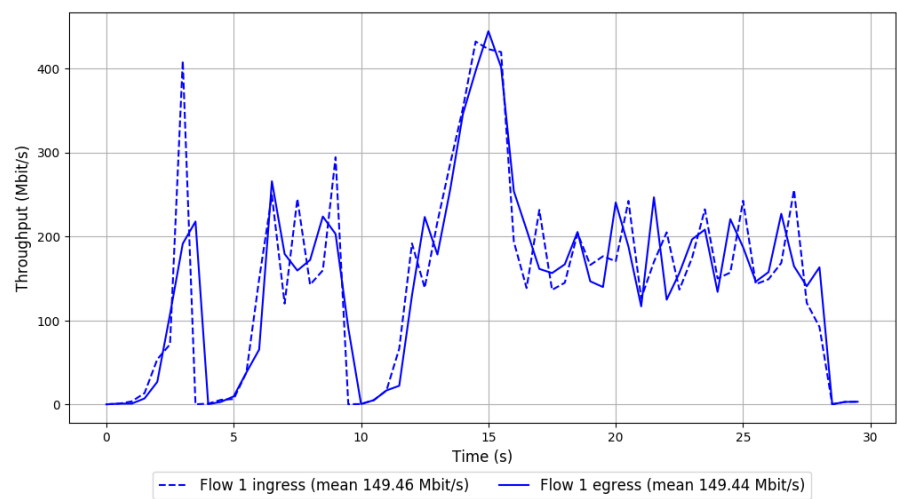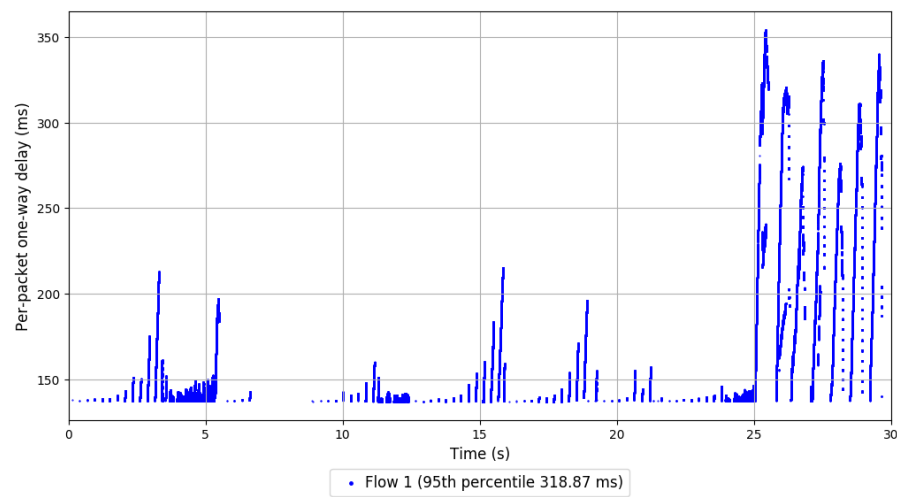
Run 2: Report of Verus — Data Link

```
Run 3: Statistics of Verus

Start at: 2018-01-26 06:14:15
End at: 2018-01-26 06:14:45

# Below is generated by plot.py at 2018-01-26 08:37:56
# Datalink statistics
-- Total of 1 flow:
Average throughput: 149.44 Mbit/s
95th percentile per-packet one-way delay: 208.551 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 149.44 Mbit/s
95th percentile per-packet one-way delay: 208.551 ms
Loss rate: 0.01%
```
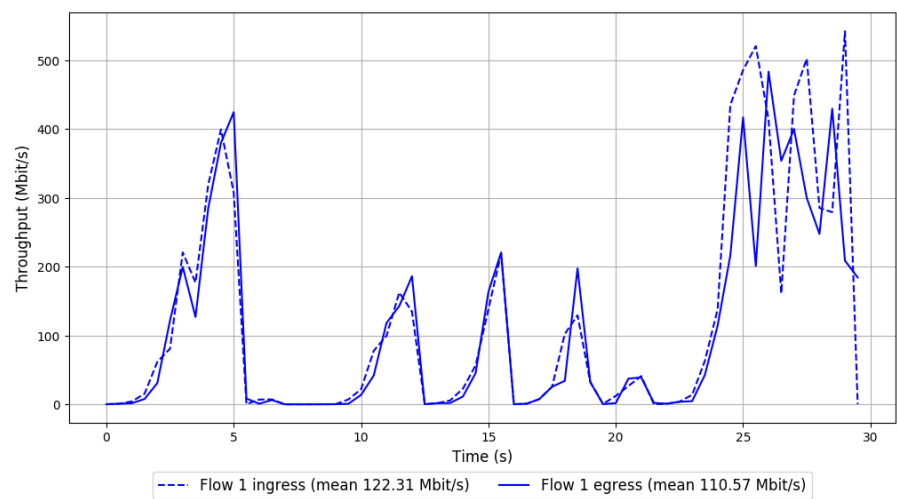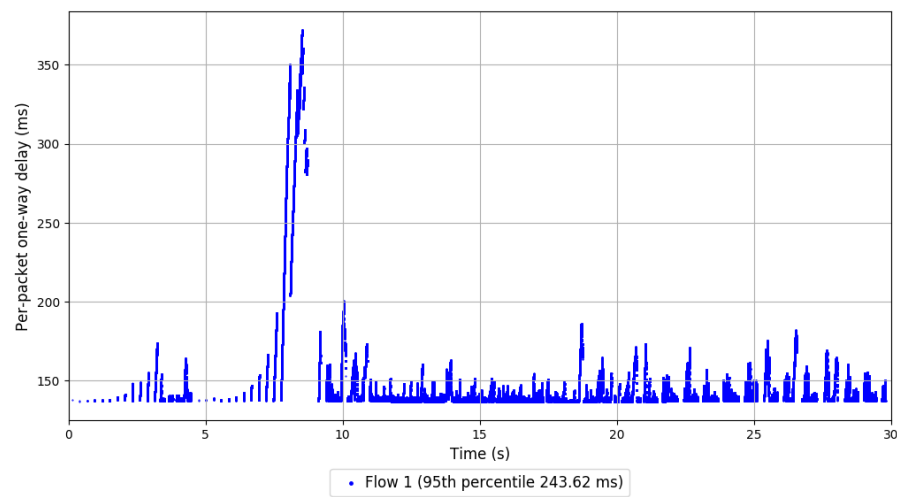
Run 3: Report of Verus — Data Link

```
Run 4: Statistics of Verus

Start at: 2018-01-26 06:27:23
End at: 2018-01-26 06:27:53

# Below is generated by plot.py at 2018-01-26 08:37:56
# Datalink statistics
-- Total of 1 flow:
Average throughput: 110.57 Mbit/s
95th percentile per-packet one-way delay: 318.871 ms
Loss rate: 9.60%
-- Flow 1:
Average throughput: 110.57 Mbit/s
95th percentile per-packet one-way delay: 318.871 ms
Loss rate: 9.60%
```
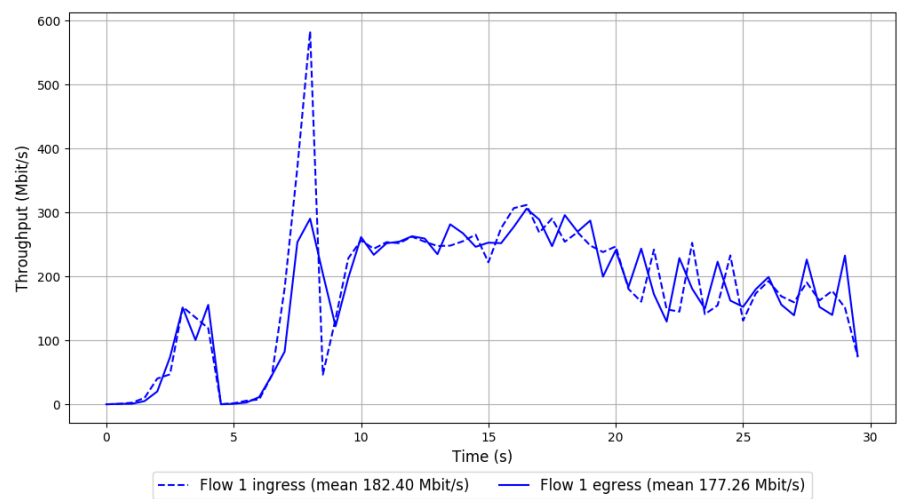
Run 4: Report of Verus — Data Link

```
Run 5: Statistics of Verus

Start at: 2018-01-26 06:39:40
End at: 2018-01-26 06:40:10

# Below is generated by plot.py at 2018-01-26 08:37:56
# Datalink statistics
-- Total of 1 flow:
Average throughput: 177.26 Mbit/s
95th percentile per-packet one-way delay: 243.621 ms
Loss rate: 2.82%
-- Flow 1:
Average throughput: 177.26 Mbit/s
95th percentile per-packet one-way delay: 243.621 ms
Loss rate: 2.82%
```
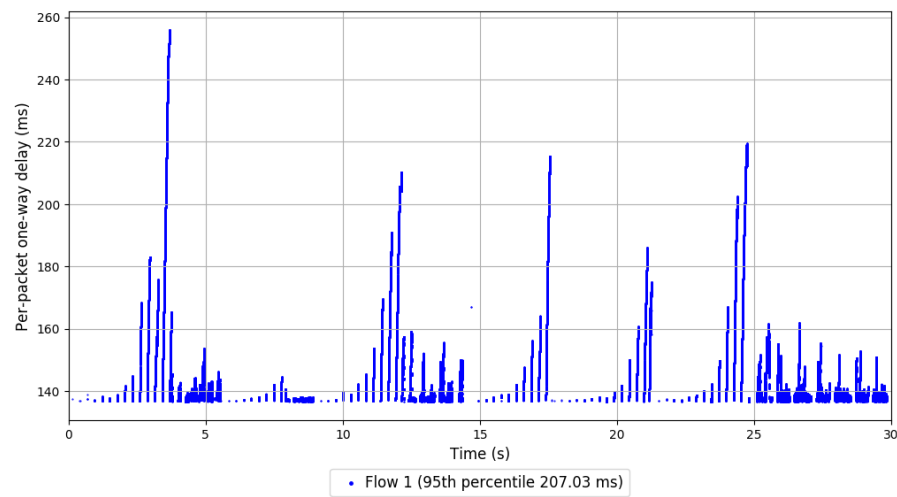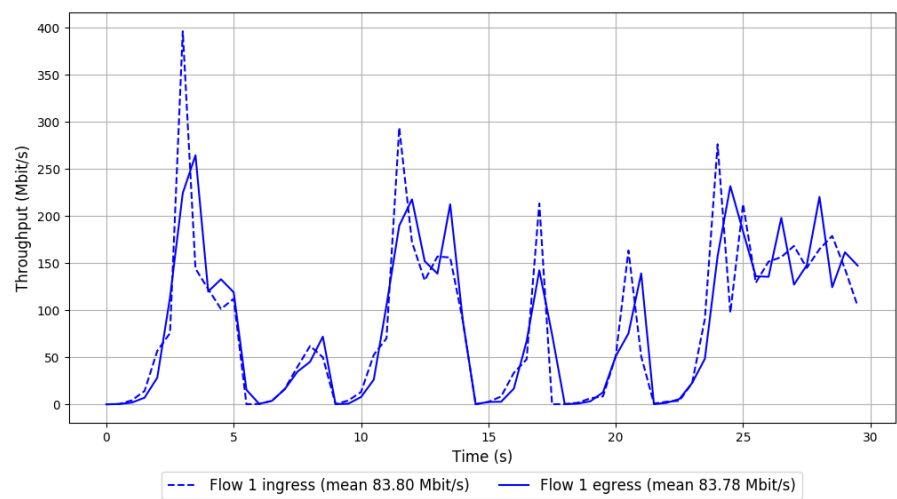
Run 5: Report of Verus — Data Link

```
Run 6: Statistics of Verus

Start at: 2018-01-26 06:52:56
End at: 2018-01-26 06:53:26

# Below is generated by plot.py at 2018-01-26 08:37:56
# Datalink statistics
-- Total of 1 flow:
Average throughput: 83.78 Mbit/s
95th percentile per-packet one-way delay: 207.028 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 83.78 Mbit/s
95th percentile per-packet one-way delay: 207.028 ms
Loss rate: 0.01%
```
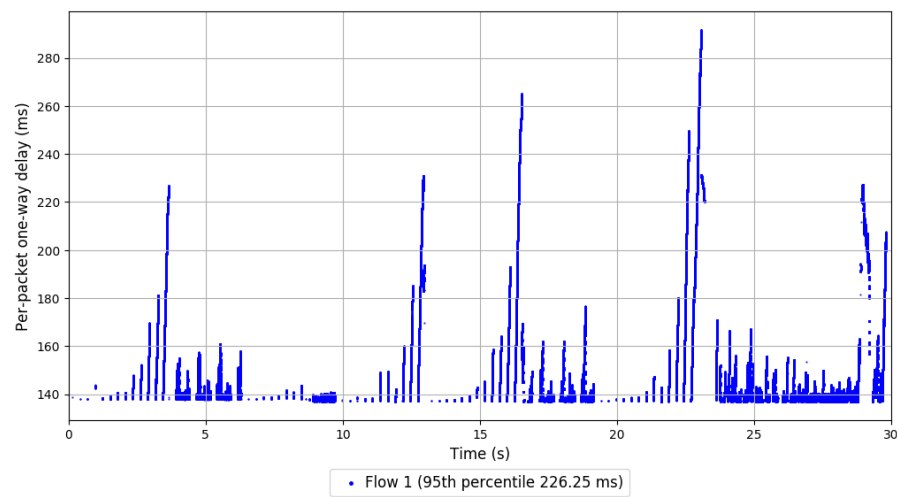
Run 6: Report of Verus — Data Link

```
Run 7: Statistics of Verus

Start at: 2018-01-26 07:06:13
End at: 2018-01-26 07:06:43

# Below is generated by plot.py at 2018-01-26 08:37:56
# Datalink statistics
-- Total of 1 flow:
Average throughput: 128.58 Mbit/s
95th percentile per-packet one-way delay: 226.251 ms
Loss rate: 0.91%
-- Flow 1:
Average throughput: 128.58 Mbit/s
95th percentile per-packet one-way delay: 226.251 ms
Loss rate: 0.91%
```
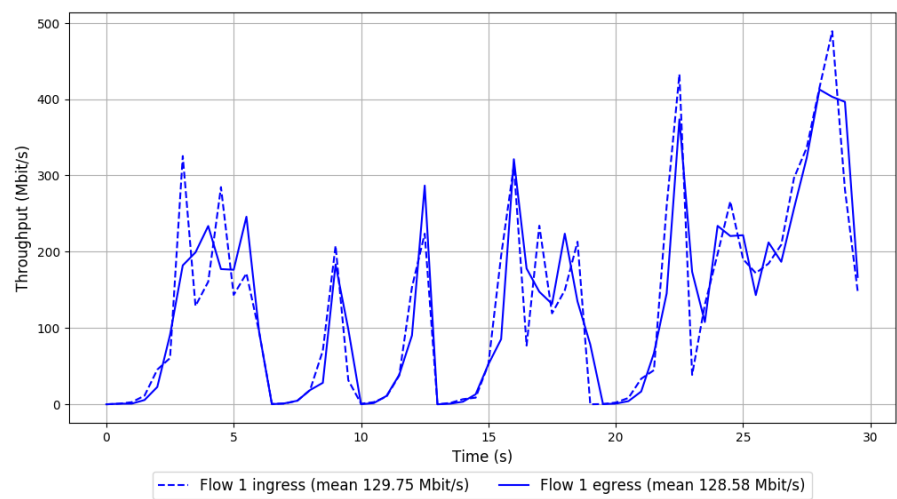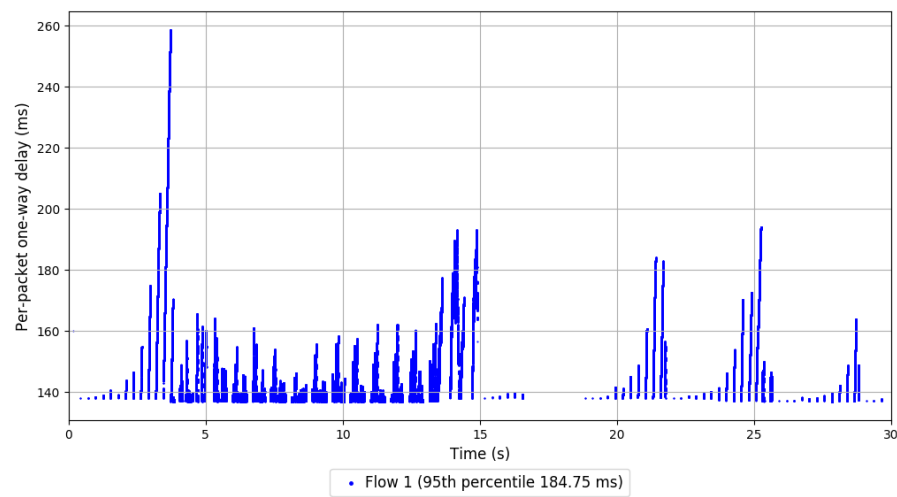
## Run 7: Report of Verus — Data Link

```
Run 8: Statistics of Verus

Start at: 2018-01-26 07:19:08
End at: 2018-01-26 07:19:38

# Below is generated by plot.py at 2018-01-26 08:37:56
# Datalink statistics
-- Total of 1 flow:
Average throughput: 103.77 Mbit/s
95th percentile per-packet one-way delay: 184.754 ms
Loss rate: 0.13%
-- Flow 1:
Average throughput: 103.77 Mbit/s
95th percentile per-packet one-way delay: 184.754 ms
Loss rate: 0.13%
```
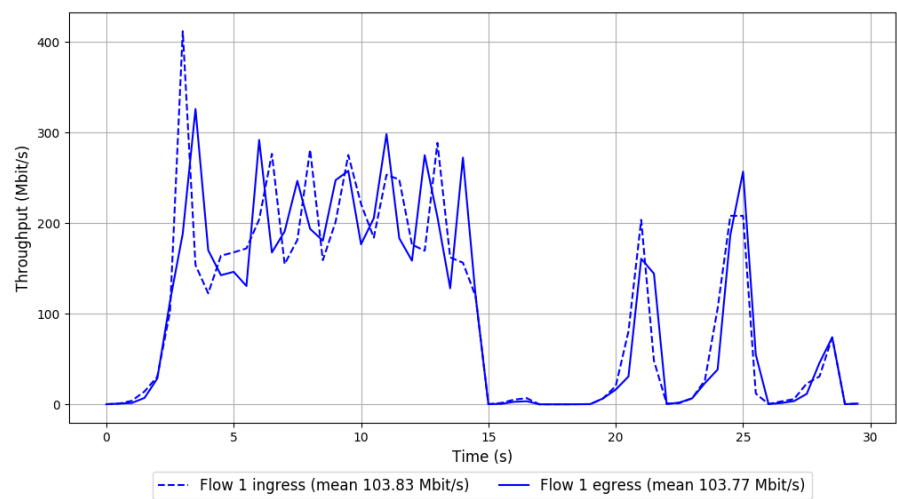
Run 8: Report of Verus — Data Link

```
Run 9: Statistics of Verus

Start at: 2018-01-26 07:32:05
End at: 2018-01-26 07:32:35

# Below is generated by plot.py at 2018-01-26 08:37:56
# Datalink statistics
-- Total of 1 flow:
Average throughput: 72.26 Mbit/s
95th percentile per-packet one-way delay: 258.637 ms
Loss rate: 5.65%
-- Flow 1:
Average throughput: 72.26 Mbit/s
95th percentile per-packet one-way delay: 258.637 ms
Loss rate: 5.65%
```
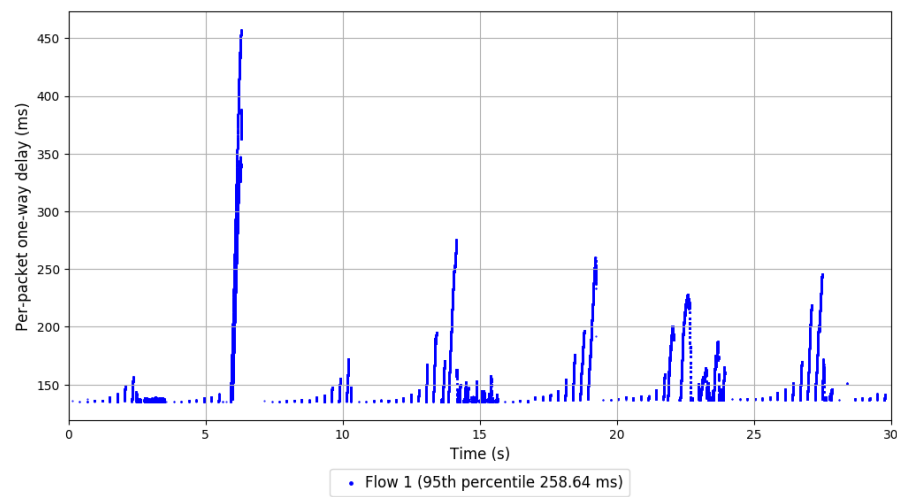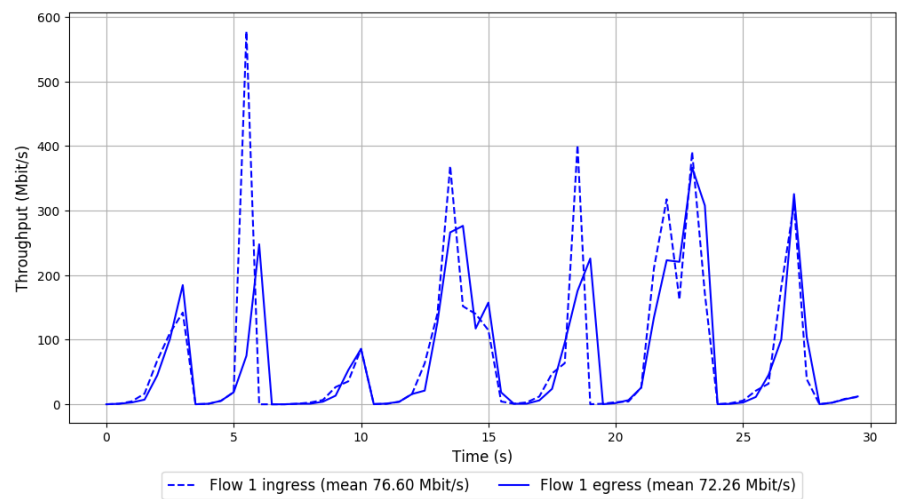
Run 9: Report of Verus — Data Link



Flow 1 ingress (mean 76.60 Mbit/s)  Flow 1 egress (mean 72.26 Mbit/s)



Flow 1 (95th percentile 258.64 ms)

```
Run 10: Statistics of Verus

Start at: 2018-01-26 07:45:01
End at: 2018-01-26 07:45:31

# Below is generated by plot.py at 2018-01-26 08:39:42
# Datalink statistics
-- Total of 1 flow:
Average throughput: 178.72 Mbit/s
95th percentile per-packet one-way delay: 189.723 ms
Loss rate: 0.03%
-- Flow 1:
Average throughput: 178.72 Mbit/s
95th percentile per-packet one-way delay: 189.723 ms
Loss rate: 0.03%
```
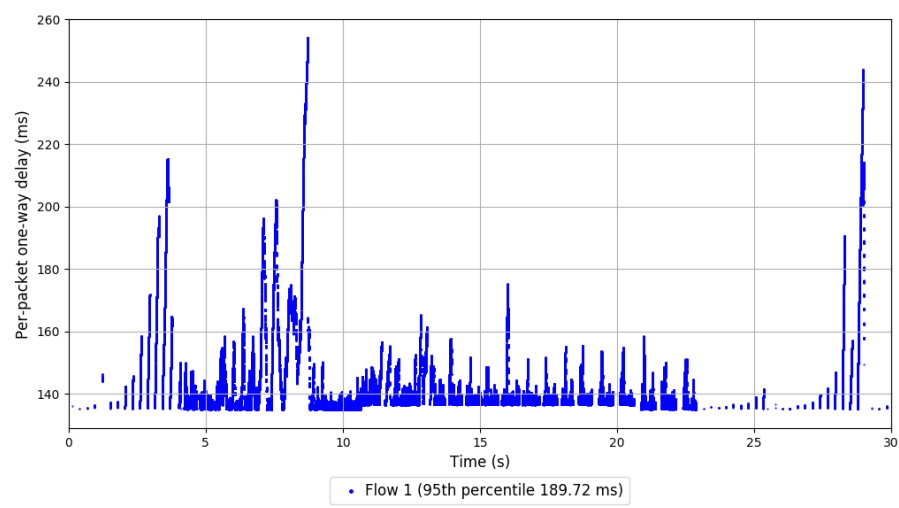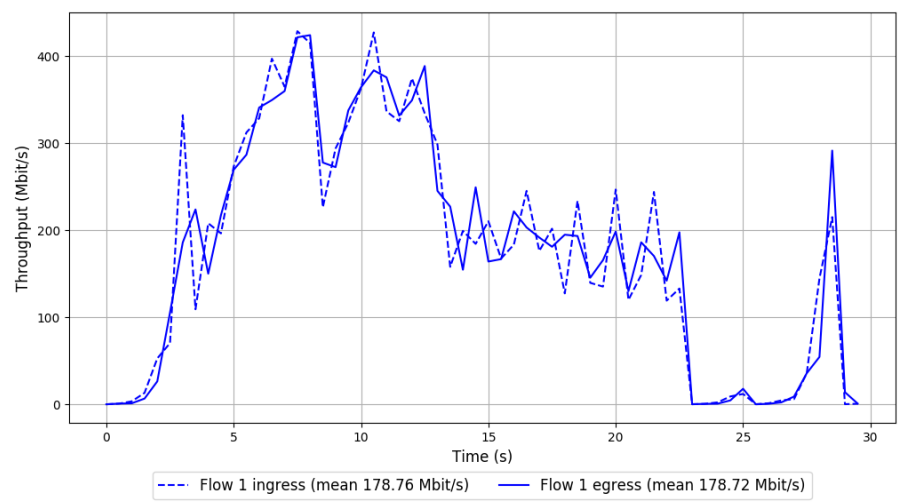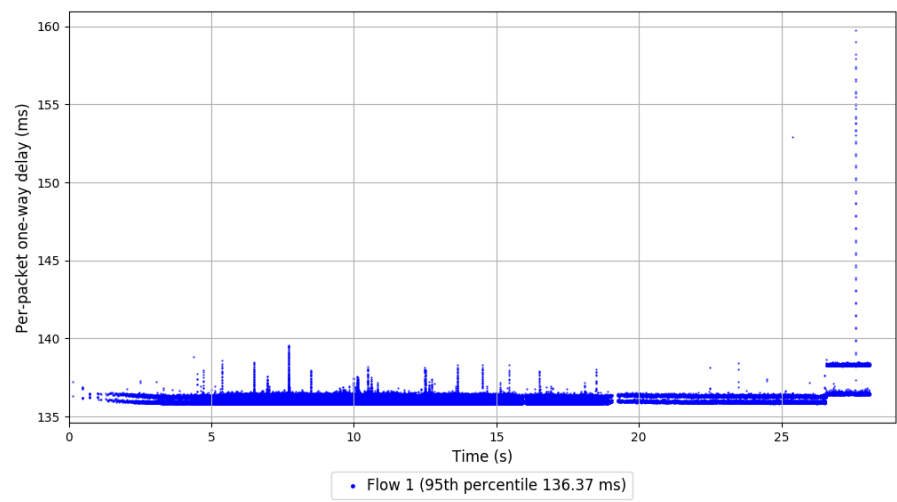
Run 10: Report of Verus — Data Link

```
Run 1: Statistics of Copa

Start at: 2018-01-26 05:44:53
End at: 2018-01-26 05:45:24

# Below is generated by plot.py at 2018-01-26 08:39:42
# Datalink statistics
-- Total of 1 flow:
Average throughput: 49.34 Mbit/s
95th percentile per-packet one-way delay: 136.367 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 49.34 Mbit/s
95th percentile per-packet one-way delay: 136.367 ms
Loss rate: 0.00%
```
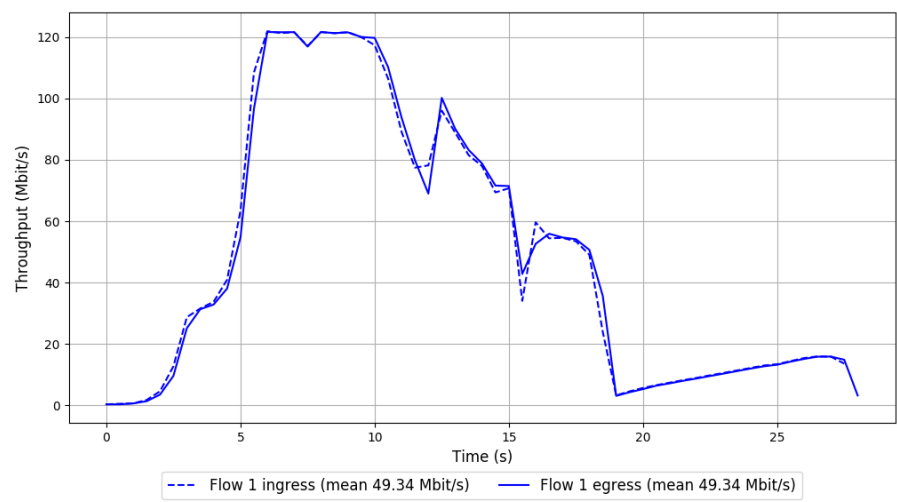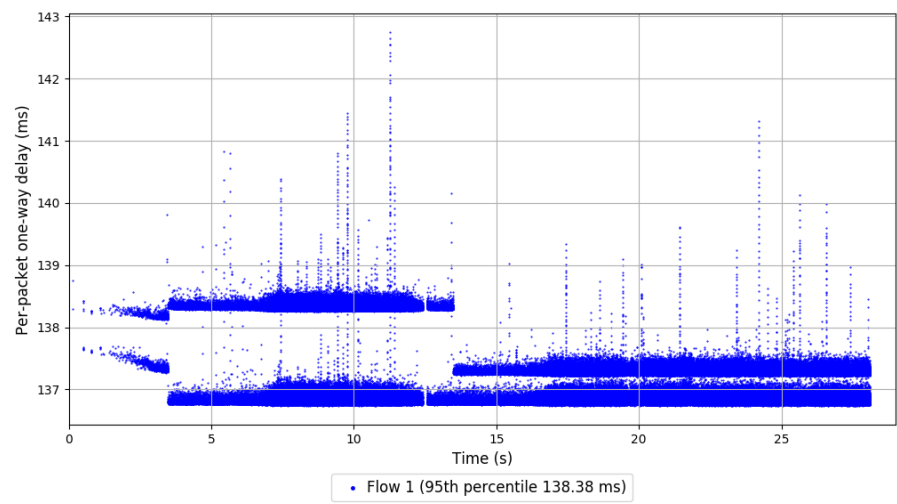
Run 1: Report of Copa — Data Link

```
Run 2: Statistics of Copa

Start at: 2018-01-26 05:58:07
End at: 2018-01-26 05:58:37

# Below is generated by plot.py at 2018-01-26 08:39:42
# Datalink statistics
-- Total of 1 flow:
Average throughput: 70.57 Mbit/s
95th percentile per-packet one-way delay: 138.382 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 70.57 Mbit/s
95th percentile per-packet one-way delay: 138.382 ms
Loss rate: 0.00%
```
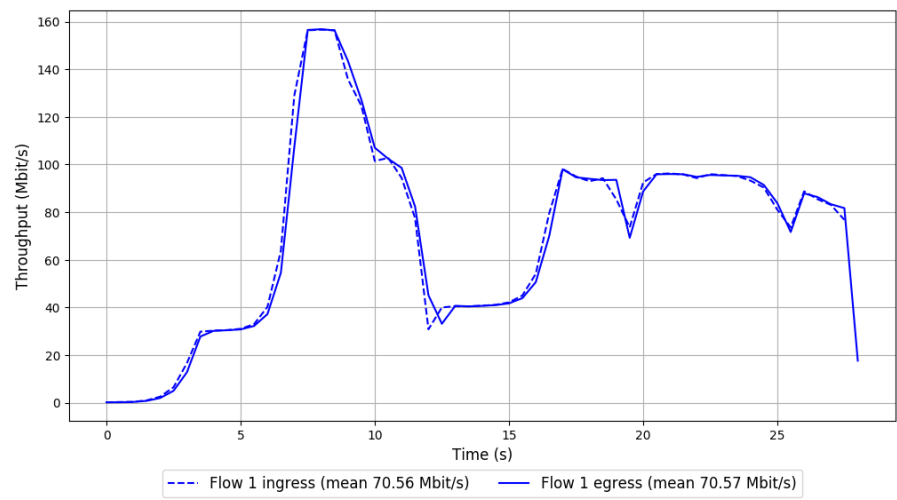
Run 2: Report of Copa — Data Link

```
Run 3: Statistics of Copa

Start at: 2018-01-26 06:11:15
End at: 2018-01-26 06:11:45

# Below is generated by plot.py at 2018-01-26 08:39:42
# Datalink statistics
-- Total of 1 flow:
Average throughput: 16.83 Mbit/s
95th percentile per-packet one-way delay: 138.001 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 16.83 Mbit/s
95th percentile per-packet one-way delay: 138.001 ms
Loss rate: 0.00%
```
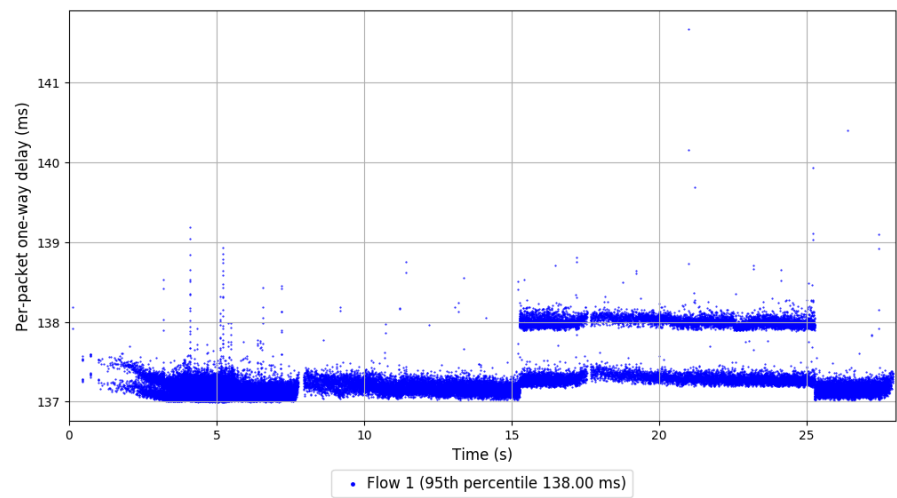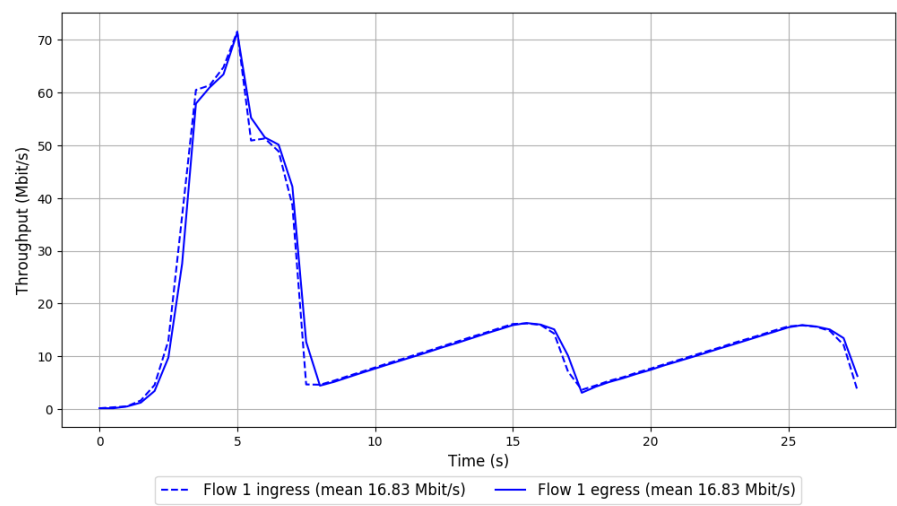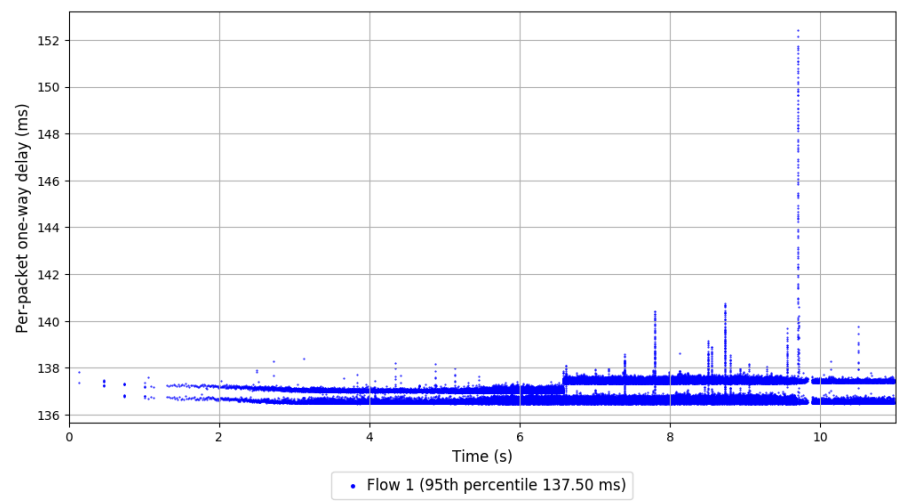
Run 3: Report of Copa — Data Link



Flow 1 ingress (mean 16.83 Mbit/s) --- Flow 1 egress (mean 16.83 Mbit/s)



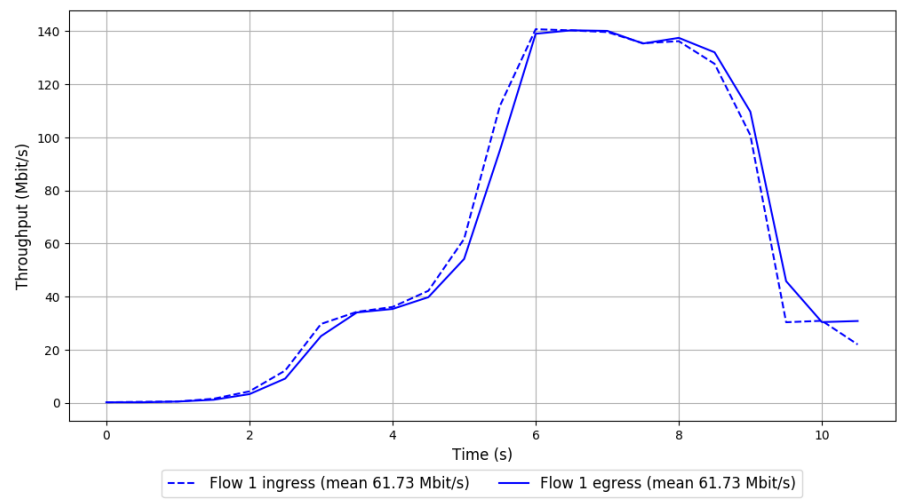• Flow 1 (95th percentile 138.00 ms)

Run 4: Statistics of Copa

Start at: 2018-01-26 06:24:26
End at: 2018-01-26 06:24:56

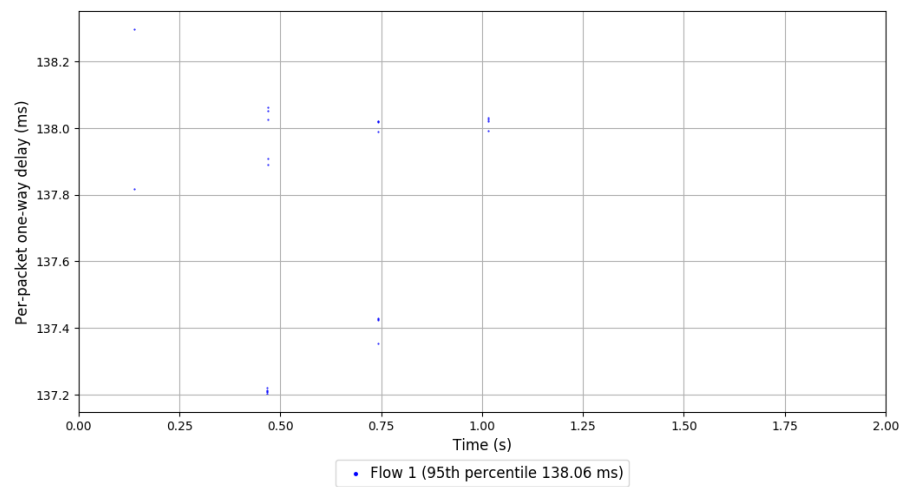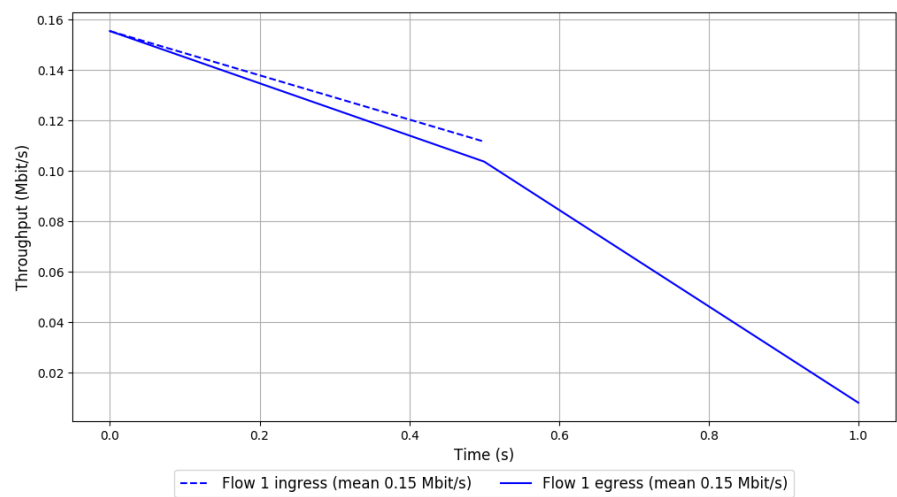Run 4: Report of Copa — Data Link

Run 5: Statistics of Copa

Start at: 2018-01-26 06:36:51
End at: 2018-01-26 06:37:21

Run 5: Report of Copa — Data Link

```
Run 6: Statistics of Copa

Start at: 2018-01-26 06:49:53
End at: 2018-01-26 06:50:23

# Below is generated by plot.py at 2018-01-26 08:39:54
# Datalink statistics
-- Total of 1 flow:
Average throughput: 73.05 Mbit/s
95th percentile per-packet one-way delay: 137.144 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 73.05 Mbit/s
95th percentile per-packet one-way delay: 137.144 ms
Loss rate: 0.00%
```
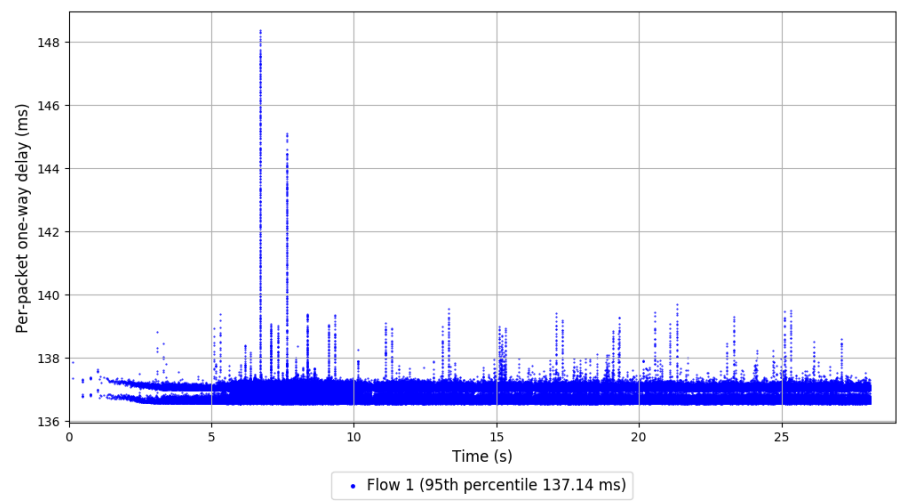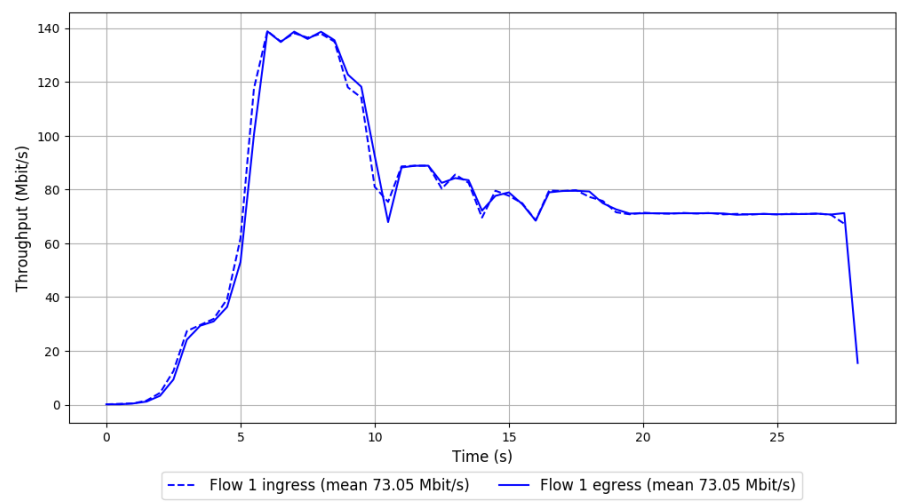
Run 6: Report of Copa — Data Link

```
Run 7: Statistics of Copa

Start at: 2018-01-26 07:03:09
End at: 2018-01-26 07:03:39

# Below is generated by plot.py at 2018-01-26 08:39:54
# Datalink statistics
-- Total of 1 flow:
Average throughput: 67.91 Mbit/s
95th percentile per-packet one-way delay: 137.894 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 67.91 Mbit/s
95th percentile per-packet one-way delay: 137.894 ms
Loss rate: 0.00%
```
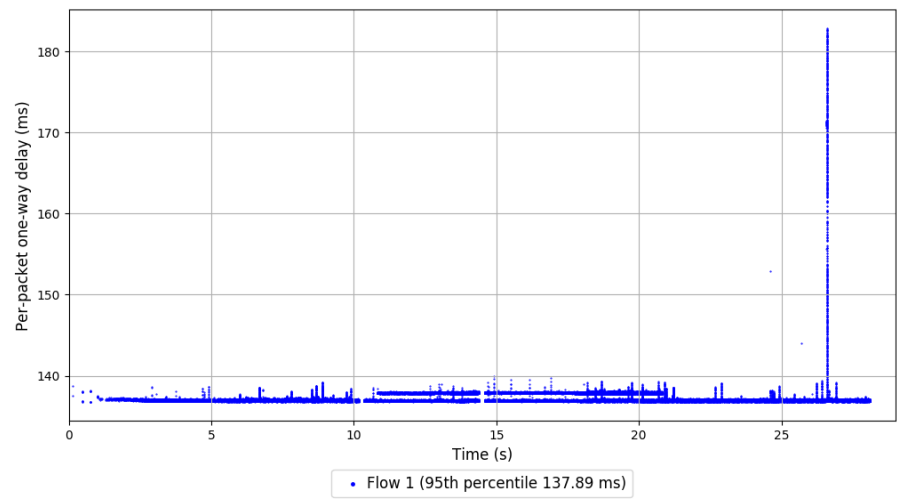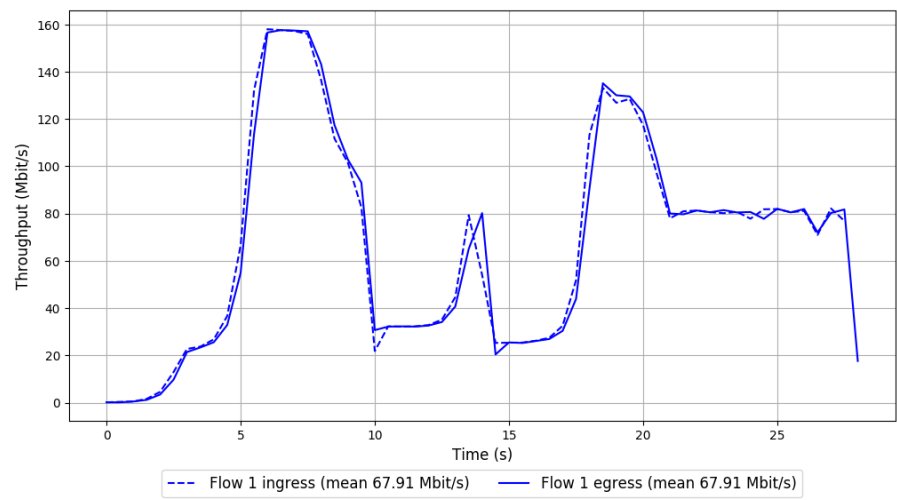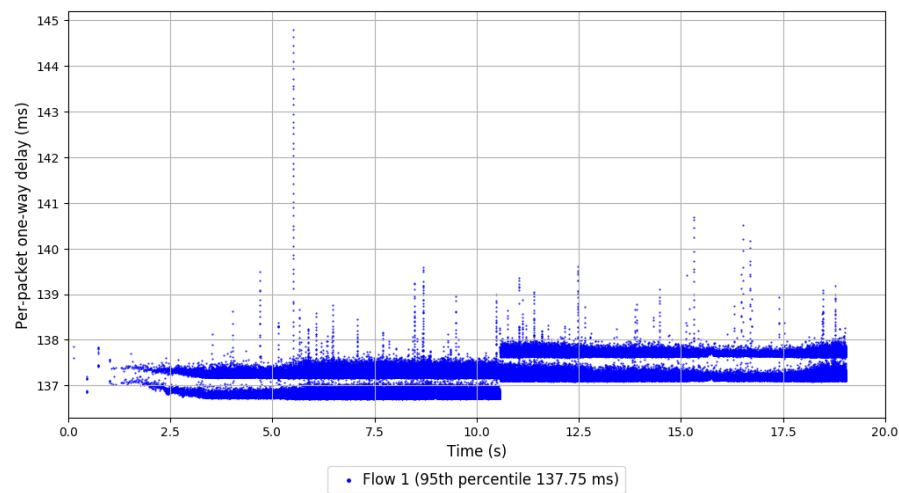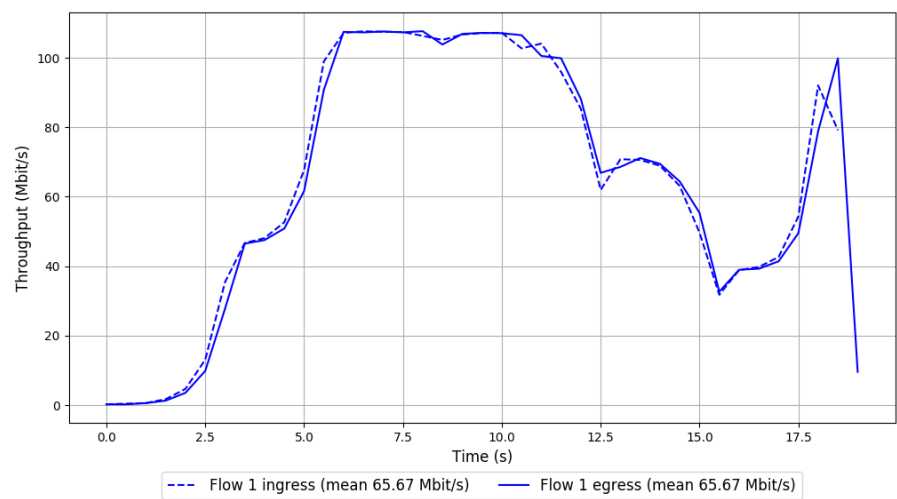
Run 7: Report of Copa — Data Link



Flow 1 ingress (mean 67.91 Mbit/s)     Flow 1 egress (mean 67.91 Mbit/s)



Flow 1 (95th percentile 137.89 ms)

```
Run 8: Statistics of Copa

Start at: 2018-01-26 07:16:10
End at: 2018-01-26 07:16:41
```

Run 8: Report of Copa — Data Link

```
Run 9: Statistics of Copa

Start at: 2018-01-26 07:29:01
End at: 2018-01-26 07:29:31


# Below is generated by plot.py at 2018-01-26 08:40:20
# Datalink statistics
-- Total of 1 flow:
Average throughput: 76.36 Mbit/s
95th percentile per-packet one-way delay: 136.746 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 76.36 Mbit/s
95th percentile per-packet one-way delay: 136.746 ms
Loss rate: 0.00%
```
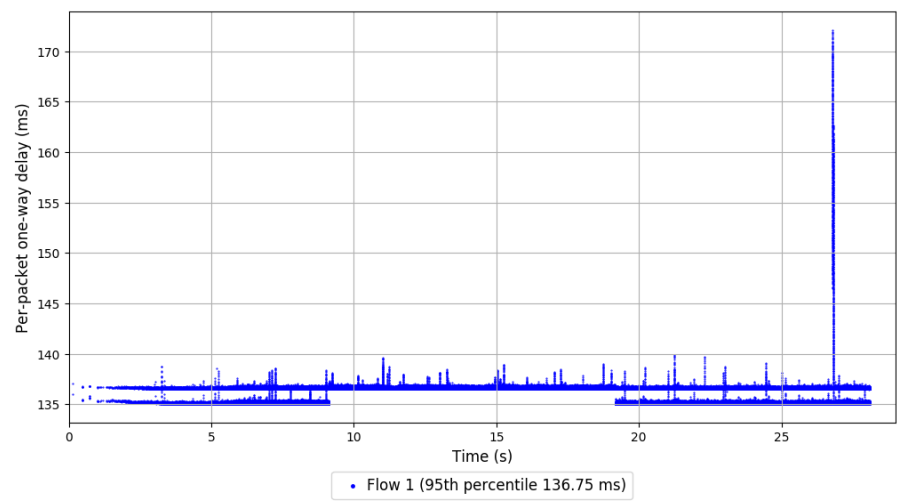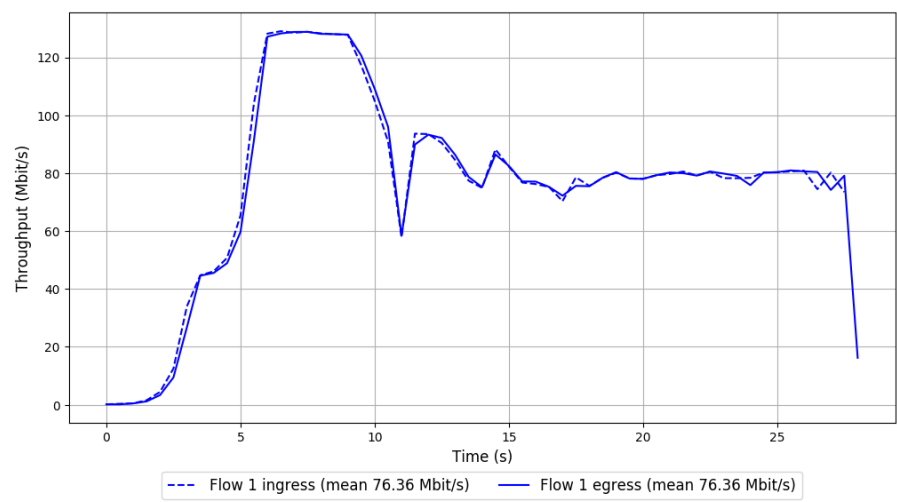
Run 9: Report of Copa — Data Link



Flow 1 ingress (mean 76.36 Mbit/s) — Flow 1 egress (mean 76.36 Mbit/s)



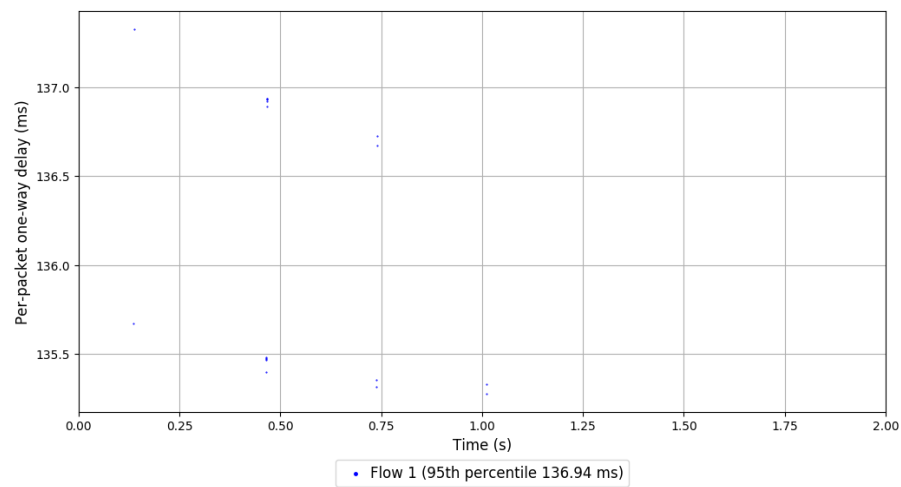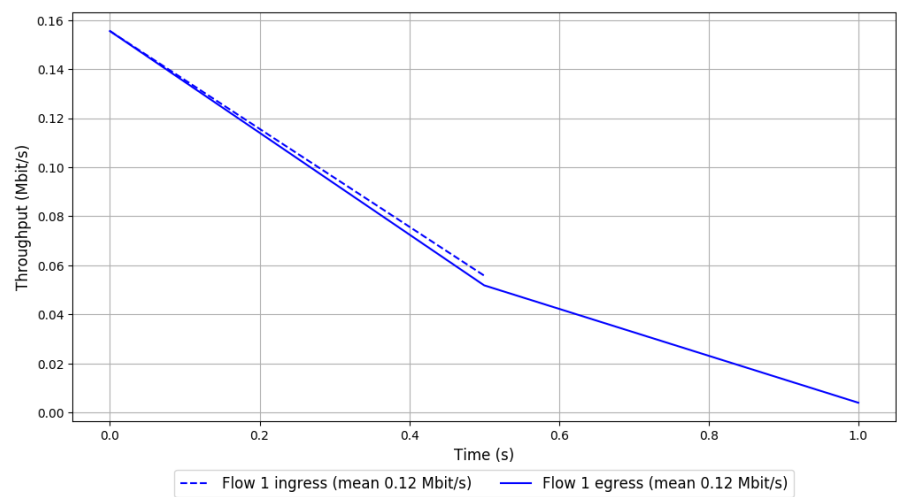• Flow 1 (95th percentile 136.75 ms)

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Run 10: Statistics of Copa

Start at: 2018-01-26 07:42:07
End at: 2018-01-26 07:42:38
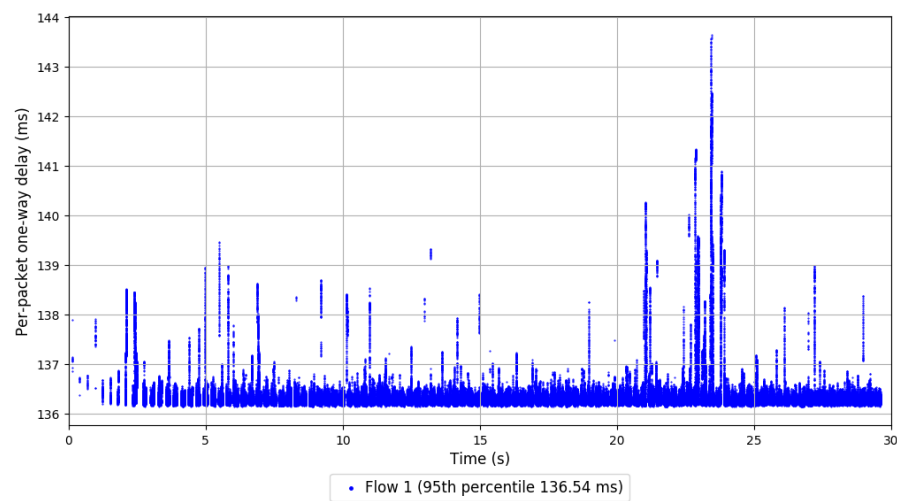
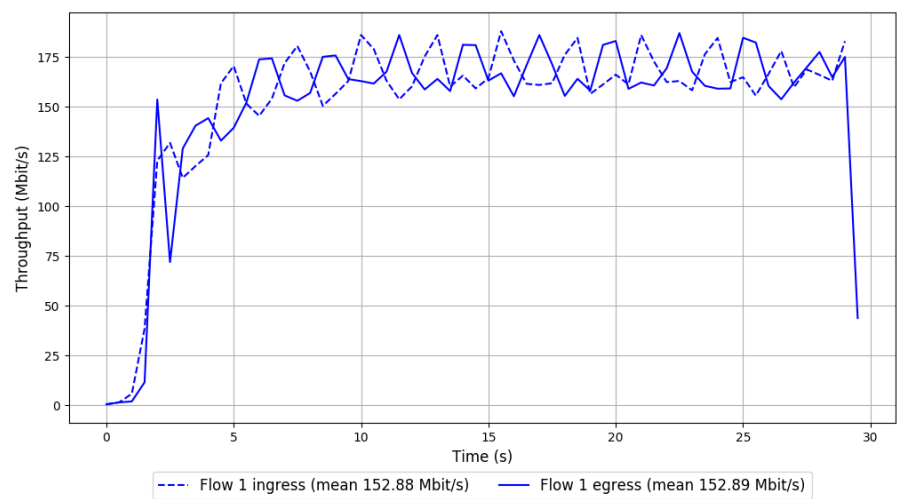## Run 10: Report of Copa — Data Link

```
Run 1: Statistics of Indigo-2-256

Start at: 2018-01-26 05:40:19
End at: 2018-01-26 05:40:49

# Below is generated by plot.py at 2018-01-26 08:41:04
# Datalink statistics
-- Total of 1 flow:
Average throughput: 152.89 Mbit/s
95th percentile per-packet one-way delay: 136.540 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 152.89 Mbit/s
95th percentile per-packet one-way delay: 136.540 ms
Loss rate: 0.00%
```

# Run 1: Report of Indigo-2-256 — Data Link

```
Run 2: Statistics of Indigo-2-256

Start at: 2018-01-26 05:53:41
End at: 2018-01-26 05:54:11

# Below is generated by plot.py at 2018-01-26 08:41:05
# Datalink statistics
-- Total of 1 flow:
Average throughput: 153.04 Mbit/s
95th percentile per-packet one-way delay: 136.510 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 153.04 Mbit/s
95th percentile per-packet one-way delay: 136.510 ms
Loss rate: 0.00%
```
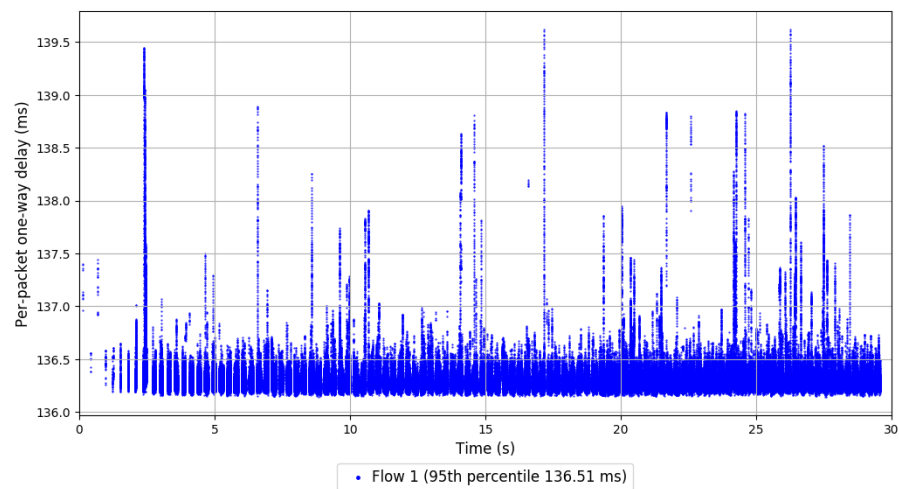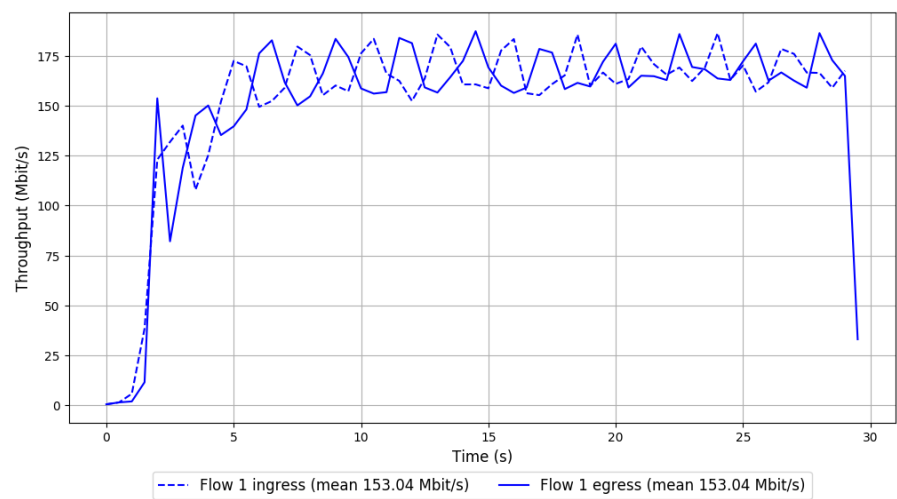
# Run 2: Report of Indigo-2-256 — Data Link

```
Run 3: Statistics of Indigo-2-256

Start at: 2018-01-26 06:06:49
End at: 2018-01-26 06:07:19

# Below is generated by plot.py at 2018-01-26 08:41:50
# Datalink statistics
-- Total of 1 flow:
Average throughput: 151.19 Mbit/s
95th percentile per-packet one-way delay: 138.497 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 151.19 Mbit/s
95th percentile per-packet one-way delay: 138.497 ms
Loss rate: 0.00%
```
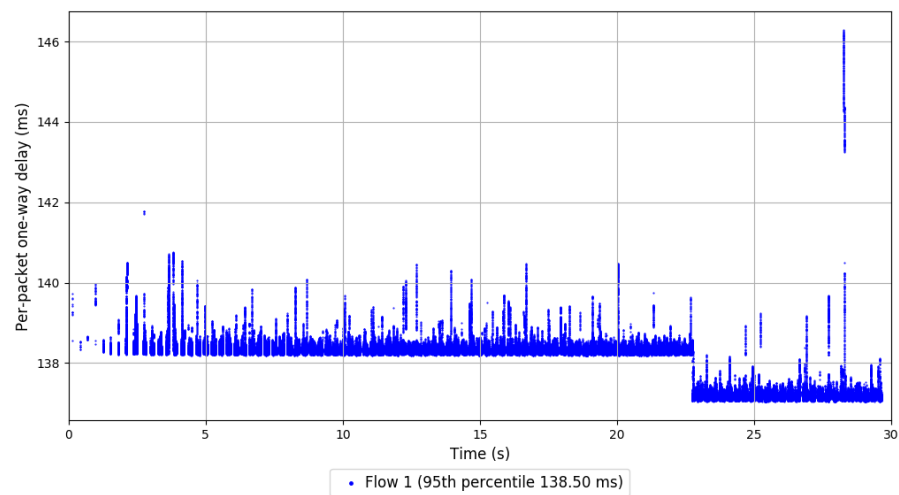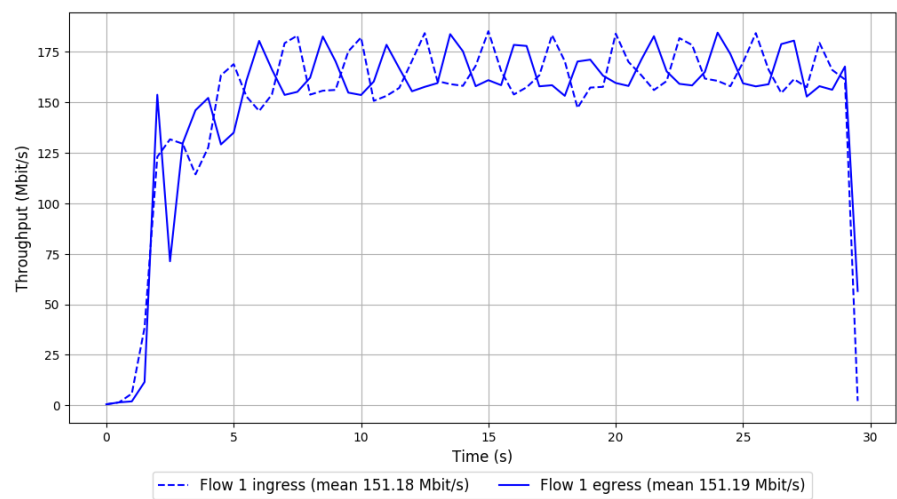
Run 3: Report of Indigo-2-256 — Data Link



Flow 1 ingress (mean 151.18 Mbit/s) ----  Flow 1 egress (mean 151.19 Mbit/s) ——



· Flow 1 (95th percentile 138.50 ms)

```
Run 4: Statistics of Indigo-2-256

Start at: 2018-01-26 06:19:57
End at: 2018-01-26 06:20:27

# Below is generated by plot.py at 2018-01-26 08:41:52
# Datalink statistics
-- Total of 1 flow:
Average throughput: 151.35 Mbit/s
95th percentile per-packet one-way delay: 138.527 ms
Loss rate: 0.11%
-- Flow 1:
Average throughput: 151.35 Mbit/s
95th percentile per-packet one-way delay: 138.527 ms
Loss rate: 0.11%
```
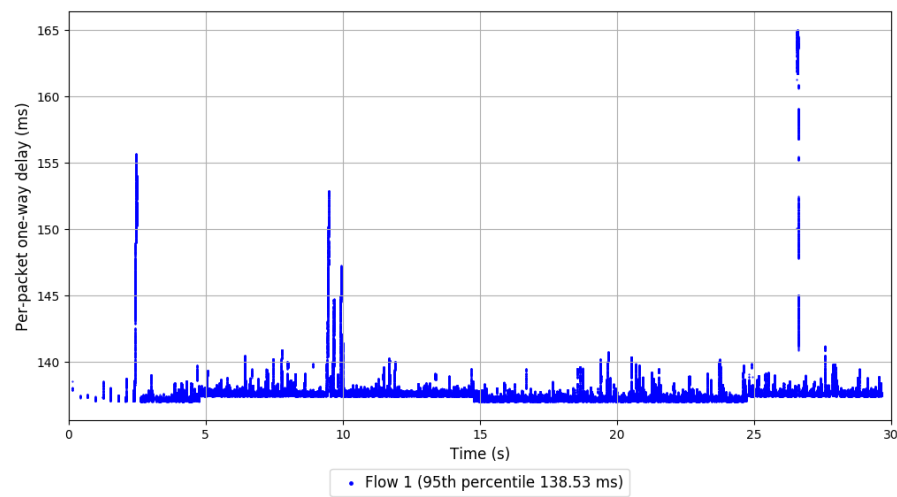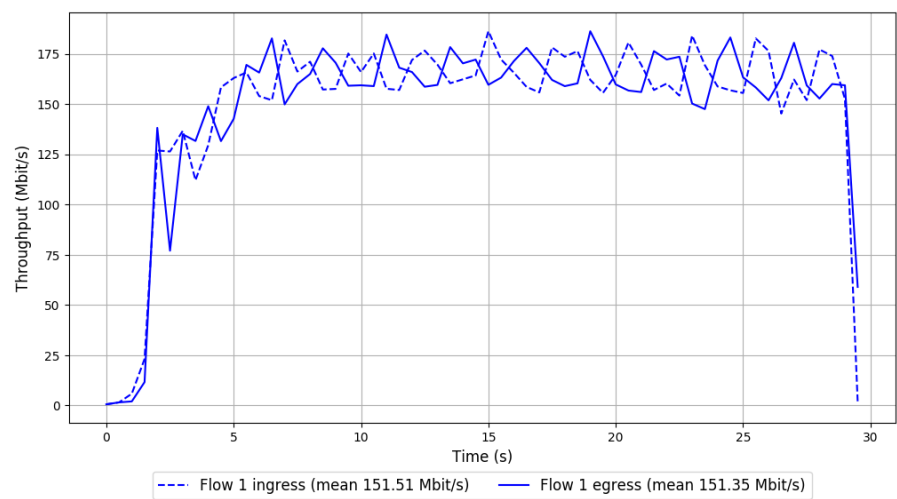
Run 4: Report of Indigo-2-256 — Data Link



Flow 1 ingress (mean 151.51 Mbit/s)    —— Flow 1 egress (mean 151.35 Mbit/s)



• Flow 1 (95th percentile 138.53 ms)

```
Run 5: Statistics of Indigo-2-256

Start at: 2018-01-26 06:32:56
End at: 2018-01-26 06:33:26

# Below is generated by plot.py at 2018-01-26 08:42:14
# Datalink statistics
-- Total of 1 flow:
Average throughput: 151.30 Mbit/s
95th percentile per-packet one-way delay: 137.894 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 151.30 Mbit/s
95th percentile per-packet one-way delay: 137.894 ms
Loss rate: 0.00%
```
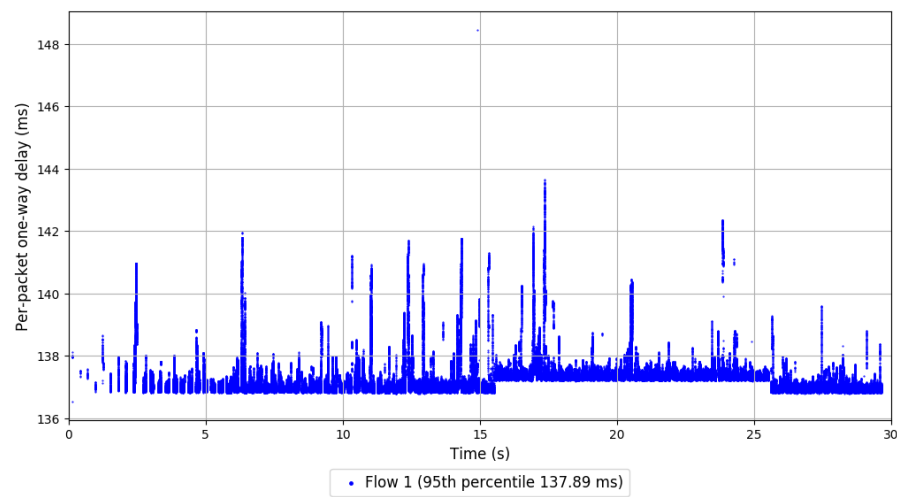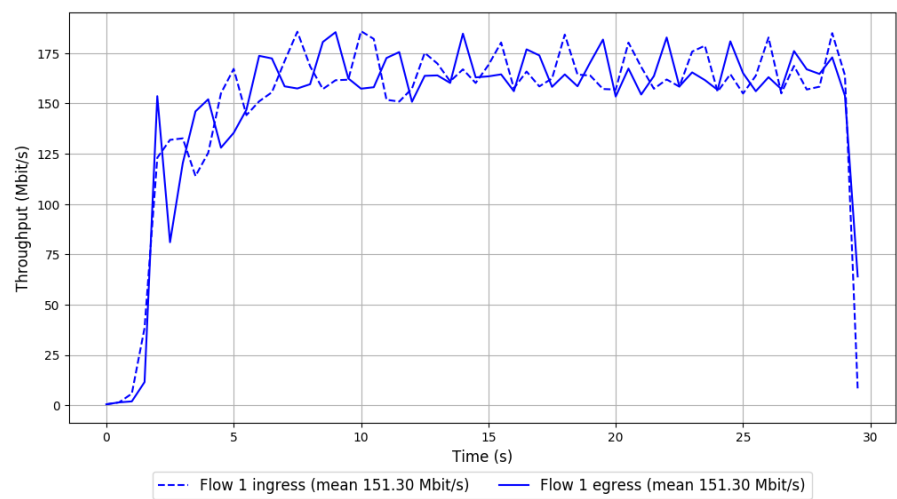
# Run 5: Report of Indigo-2-256 — Data Link

```
Run 6: Statistics of Indigo-2-256

Start at: 2018-01-26 06:45:18
End at: 2018-01-26 06:45:48

# Below is generated by plot.py at 2018-01-26 08:42:18
# Datalink statistics
-- Total of 1 flow:
Average throughput: 151.36 Mbit/s
95th percentile per-packet one-way delay: 137.633 ms
Loss rate: 0.18%
-- Flow 1:
Average throughput: 151.36 Mbit/s
95th percentile per-packet one-way delay: 137.633 ms
Loss rate: 0.18%
```
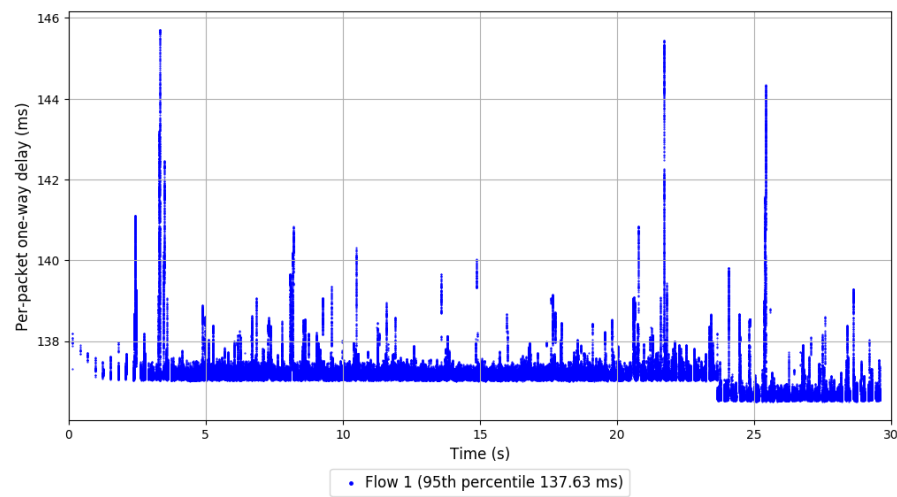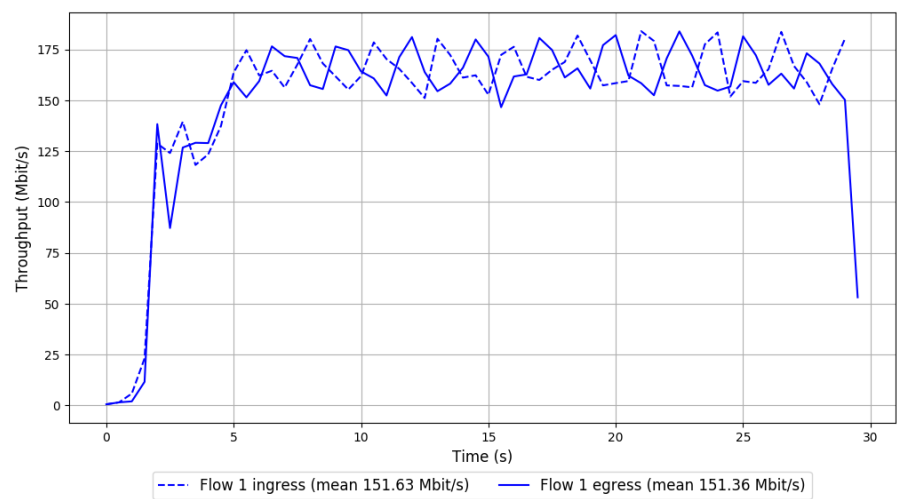
# Run 6: Report of Indigo-2-256 — Data Link

```
Run 7: Statistics of Indigo-2-256

Start at: 2018-01-26 06:58:29
End at: 2018-01-26 06:58:59

# Below is generated by plot.py at 2018-01-26 08:42:26
# Datalink statistics
-- Total of 1 flow:
Average throughput: 151.07 Mbit/s
95th percentile per-packet one-way delay: 138.137 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 151.07 Mbit/s
95th percentile per-packet one-way delay: 138.137 ms
Loss rate: 0.00%
```
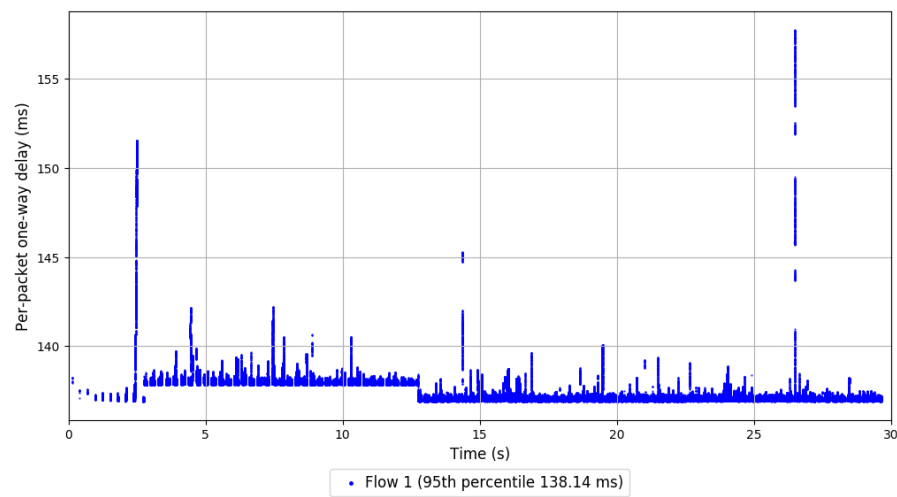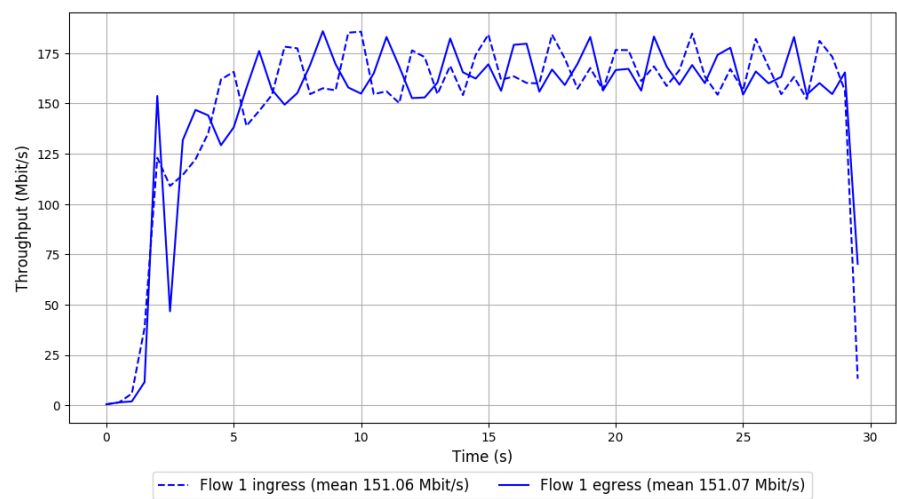
Run 7: Report of Indigo-2-256 — Data Link



Flow 1 ingress (mean 151.06 Mbit/s)    Flow 1 egress (mean 151.07 Mbit/s)



Flow 1 (95th percentile 138.14 ms)

```
Run 8: Statistics of Indigo-2-256

Start at: 2018-01-26 07:11:50
End at: 2018-01-26 07:12:20

# Below is generated by plot.py at 2018-01-26 08:42:55
# Datalink statistics
-- Total of 1 flow:
Average throughput: 151.00 Mbit/s
95th percentile per-packet one-way delay: 138.061 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 151.00 Mbit/s
95th percentile per-packet one-way delay: 138.061 ms
Loss rate: 0.00%
```
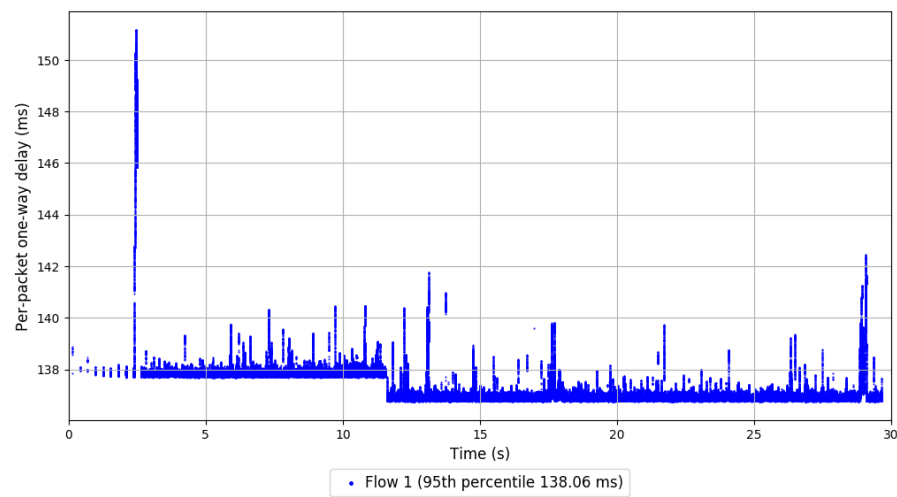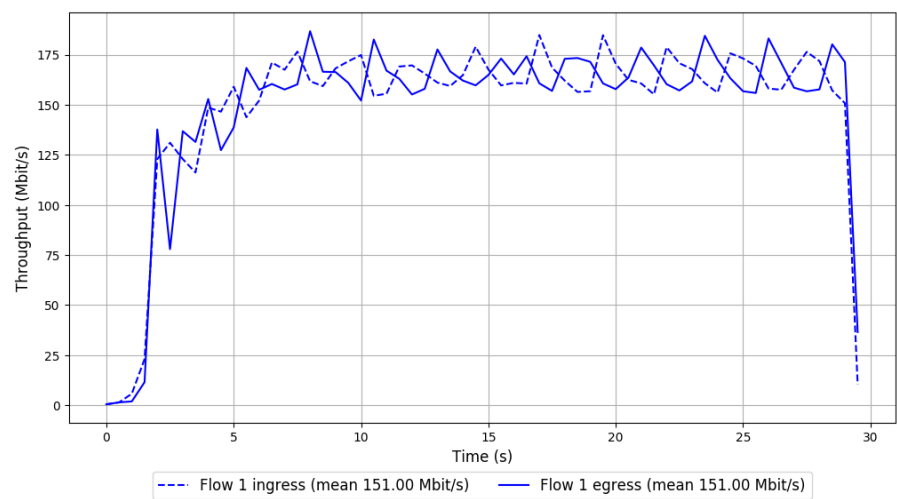
Run 8: Report of Indigo-2-256 — Data Link

```
Run 9: Statistics of Indigo-2-256

Start at: 2018-01-26 07:24:42
End at: 2018-01-26 07:25:12

# Below is generated by plot.py at 2018-01-26 08:43:31
# Datalink statistics
-- Total of 1 flow:
Average throughput: 149.63 Mbit/s
95th percentile per-packet one-way delay: 137.251 ms
Loss rate: 0.15%
-- Flow 1:
Average throughput: 149.63 Mbit/s
95th percentile per-packet one-way delay: 137.251 ms
Loss rate: 0.15%
```
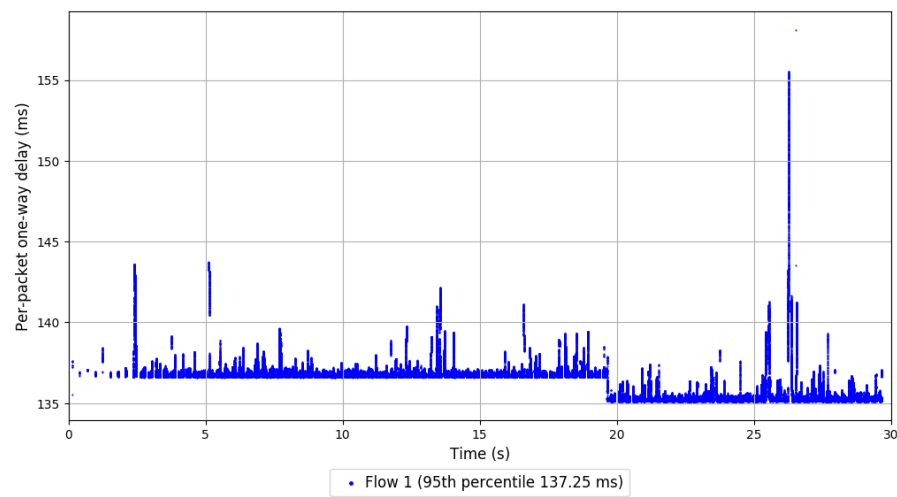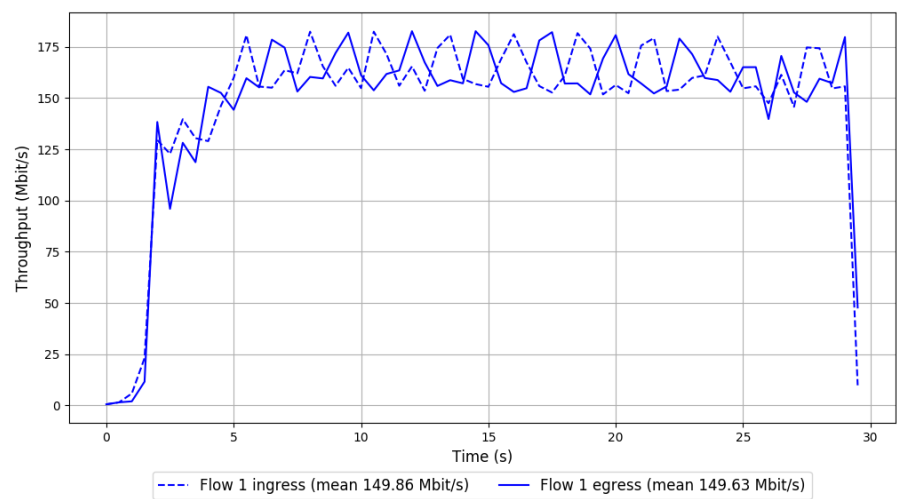
Run 9: Report of Indigo-2-256 — Data Link

```
Run 10: Statistics of Indigo-2-256

Start at: 2018-01-26 07:37:39
End at: 2018-01-26 07:38:09

# Below is generated by plot.py at 2018-01-26 08:43:31
# Datalink statistics
-- Total of 1 flow:
Average throughput: 143.84 Mbit/s
95th percentile per-packet one-way delay: 142.221 ms
Loss rate: 0.32%
-- Flow 1:
Average throughput: 143.84 Mbit/s
95th percentile per-packet one-way delay: 142.221 ms
Loss rate: 0.32%
```
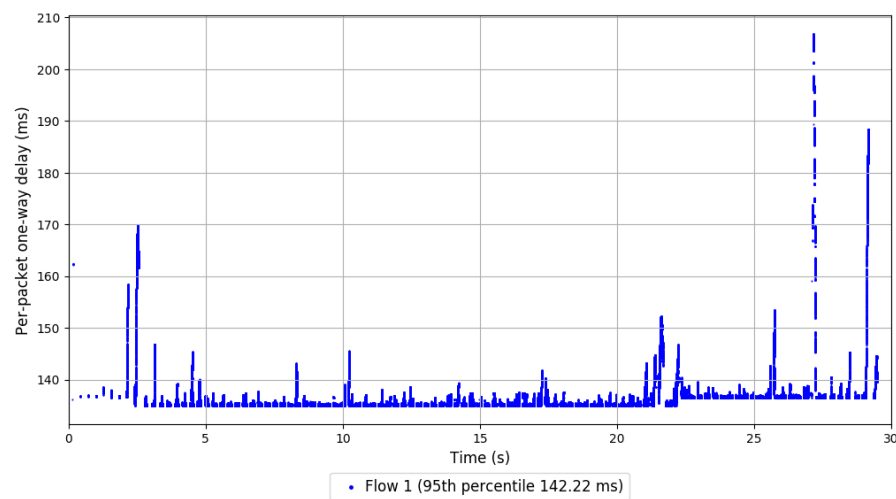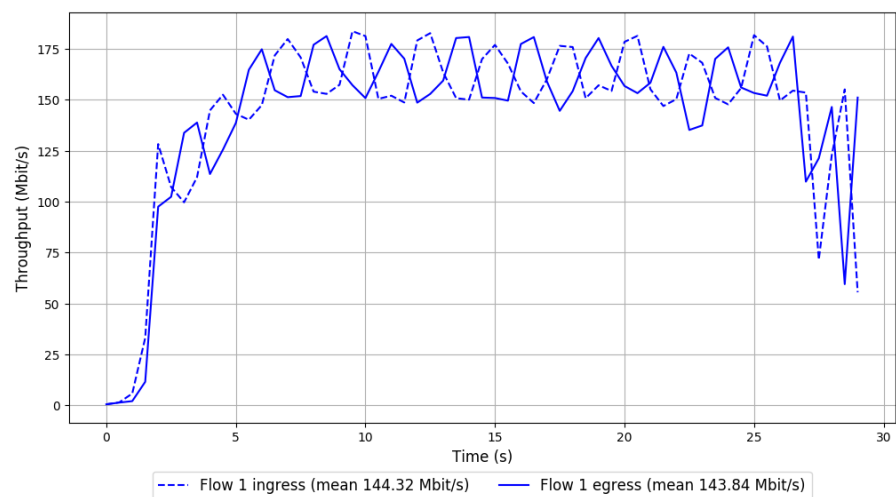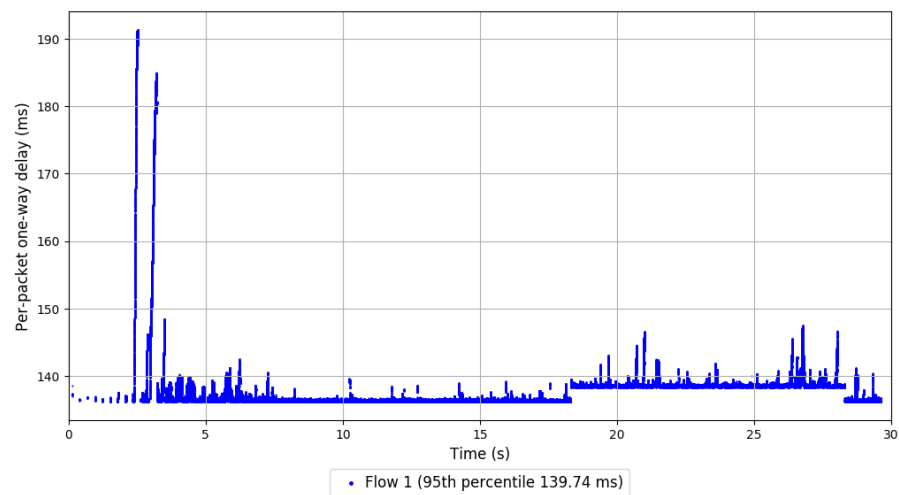
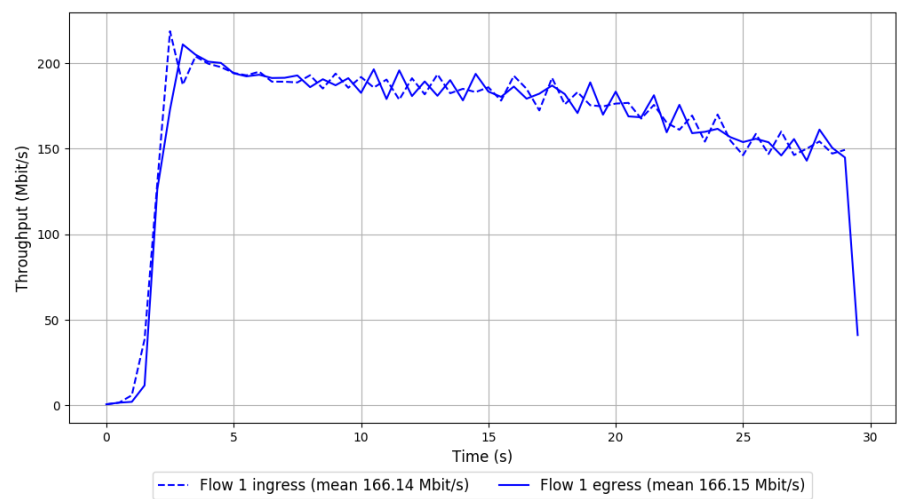Run 10: Report of Indigo-2-256 — Data Link

```
Run 1: Statistics of Indigo-1-32

Start at: 2018-01-26 05:50:23
End at: 2018-01-26 05:50:53

# Below is generated by plot.py at 2018-01-26 08:44:29
# Datalink statistics
-- Total of 1 flow:
Average throughput: 166.15 Mbit/s
95th percentile per-packet one-way delay: 139.737 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 166.15 Mbit/s
95th percentile per-packet one-way delay: 139.737 ms
Loss rate: 0.00%
```

Run 1: Report of Indigo-1-32 — Data Link

```
Run 2: Statistics of Indigo-1-32

Start at: 2018-01-26 06:03:31
End at: 2018-01-26 06:04:01

# Below is generated by plot.py at 2018-01-26 08:44:29
# Datalink statistics
-- Total of 1 flow:
Average throughput: 157.27 Mbit/s
95th percentile per-packet one-way delay: 138.485 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 157.27 Mbit/s
95th percentile per-packet one-way delay: 138.485 ms
Loss rate: 0.00%
```
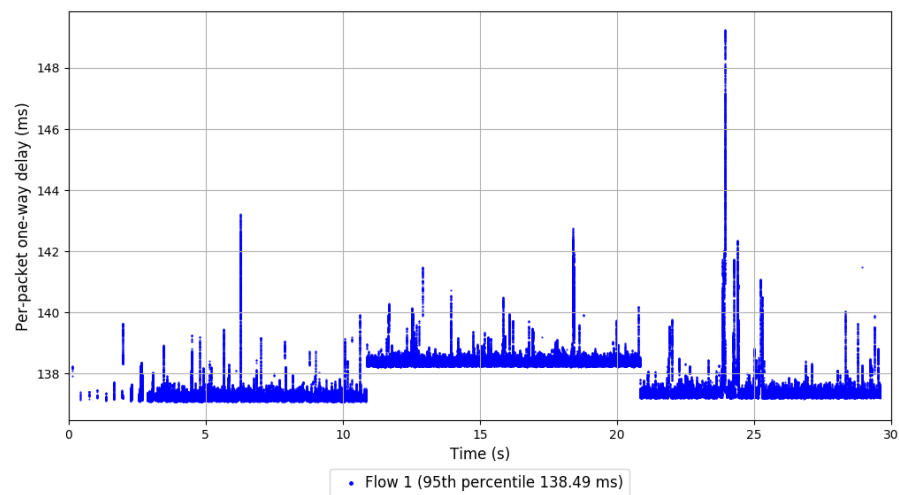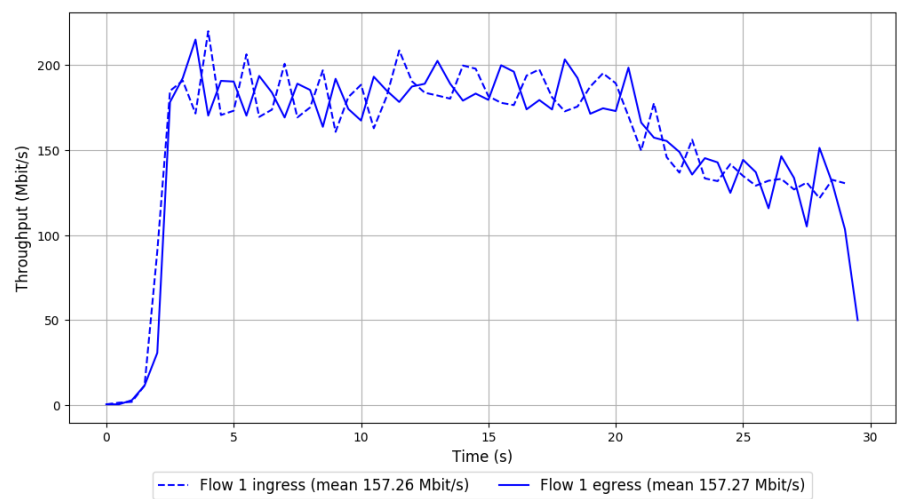
Run 2: Report of Indigo-1-32 — Data Link

```
Run 3: Statistics of Indigo-1-32

Start at: 2018-01-26 06:16:42
End at: 2018-01-26 06:17:12

# Below is generated by plot.py at 2018-01-26 08:44:29
# Datalink statistics
-- Total of 1 flow:
Average throughput: 131.22 Mbit/s
95th percentile per-packet one-way delay: 140.315 ms
Loss rate: 0.24%
-- Flow 1:
Average throughput: 131.22 Mbit/s
95th percentile per-packet one-way delay: 140.315 ms
Loss rate: 0.24%
```
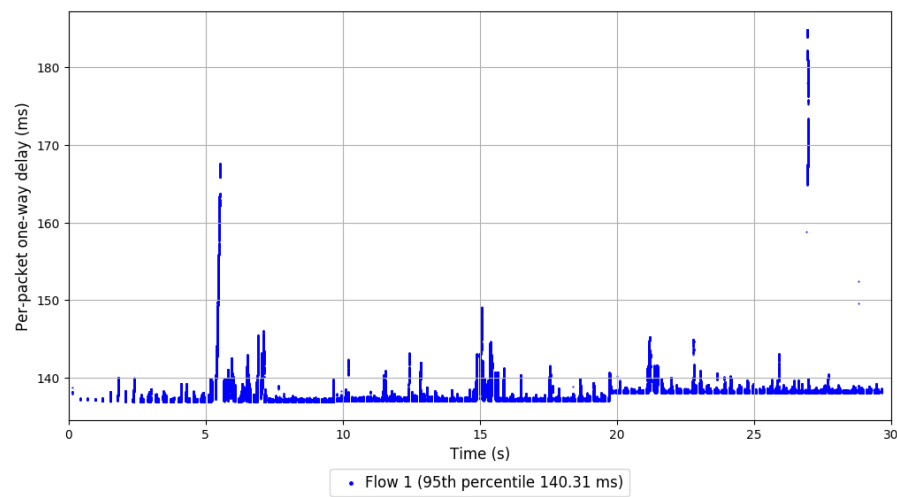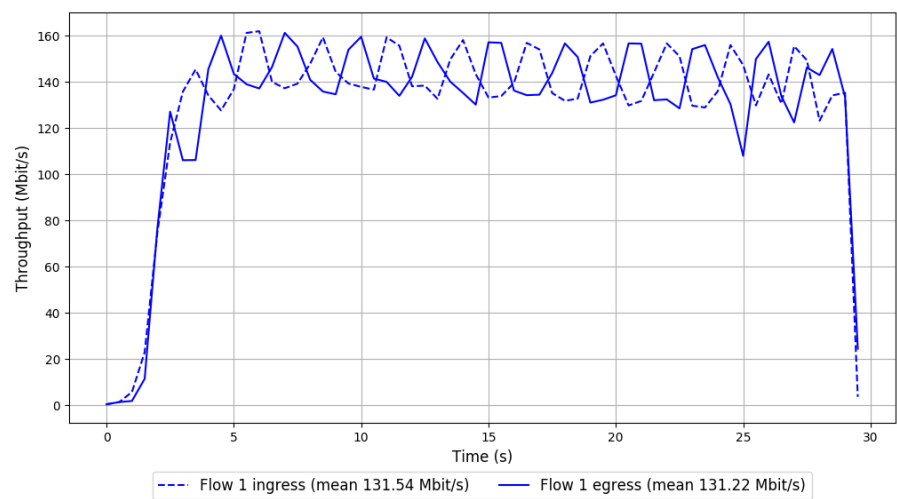
Run 3: Report of Indigo-1-32 — Data Link

```
Run 4: Statistics of Indigo-1-32

Start at: 2018-01-26 06:29:44
End at: 2018-01-26 06:30:14

# Below is generated by plot.py at 2018-01-26 08:44:29
# Datalink statistics
-- Total of 1 flow:
Average throughput: 130.03 Mbit/s
95th percentile per-packet one-way delay: 142.603 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 130.03 Mbit/s
95th percentile per-packet one-way delay: 142.603 ms
Loss rate: 0.00%
```
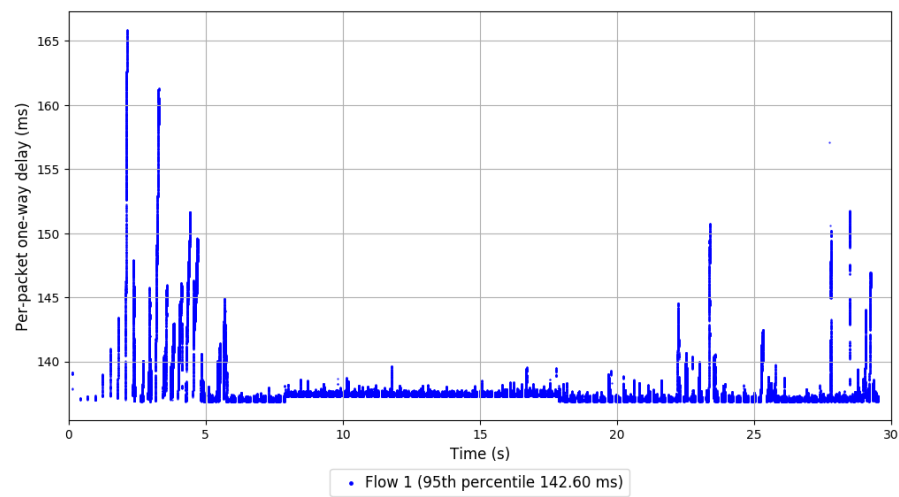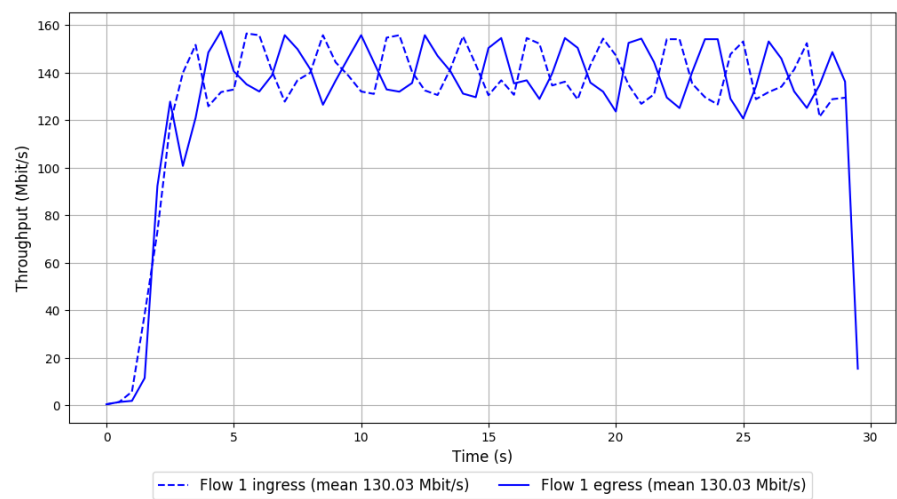
Run 4: Report of Indigo-1-32 — Data Link

```
Run 5: Statistics of Indigo-1-32

Start at: 2018-01-26 06:42:05
End at: 2018-01-26 06:42:35

# Below is generated by plot.py at 2018-01-26 08:44:37
# Datalink statistics
-- Total of 1 flow:
Average throughput: 132.15 Mbit/s
95th percentile per-packet one-way delay: 137.961 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 132.15 Mbit/s
95th percentile per-packet one-way delay: 137.961 ms
Loss rate: 0.00%
```
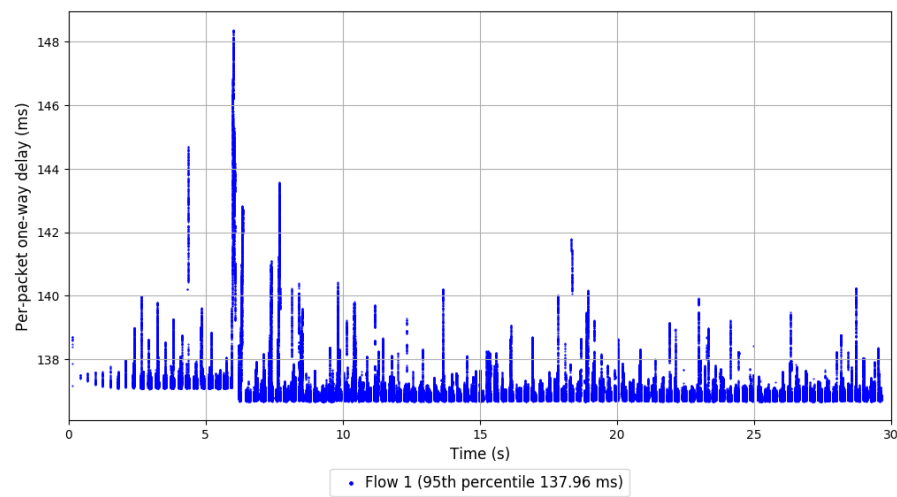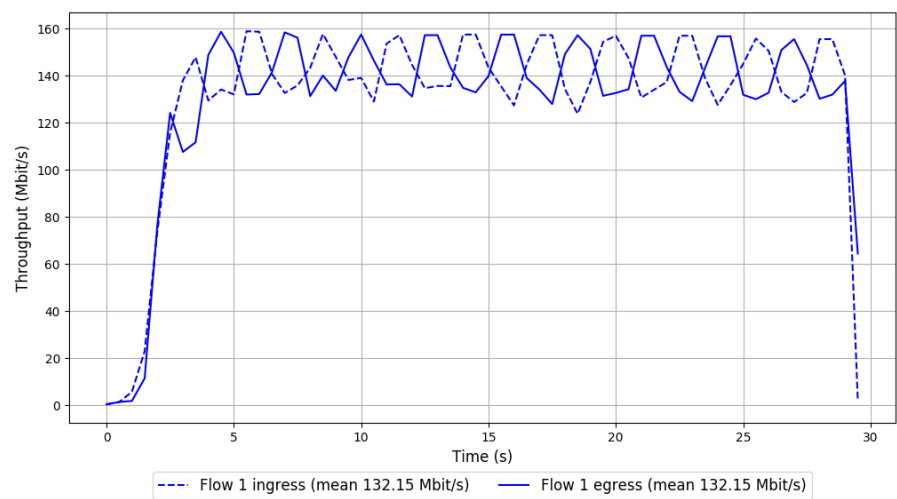
Run 5: Report of Indigo-1-32 — Data Link

```
Run 6: Statistics of Indigo-1-32

Start at: 2018-01-26 06:55:14
End at: 2018-01-26 06:55:44


# Below is generated by plot.py at 2018-01-26 08:45:47
# Datalink statistics
-- Total of 1 flow:
Average throughput: 171.96 Mbit/s
95th percentile per-packet one-way delay: 138.183 ms
Loss rate: 0.08%
-- Flow 1:
Average throughput: 171.96 Mbit/s
95th percentile per-packet one-way delay: 138.183 ms
Loss rate: 0.08%
```
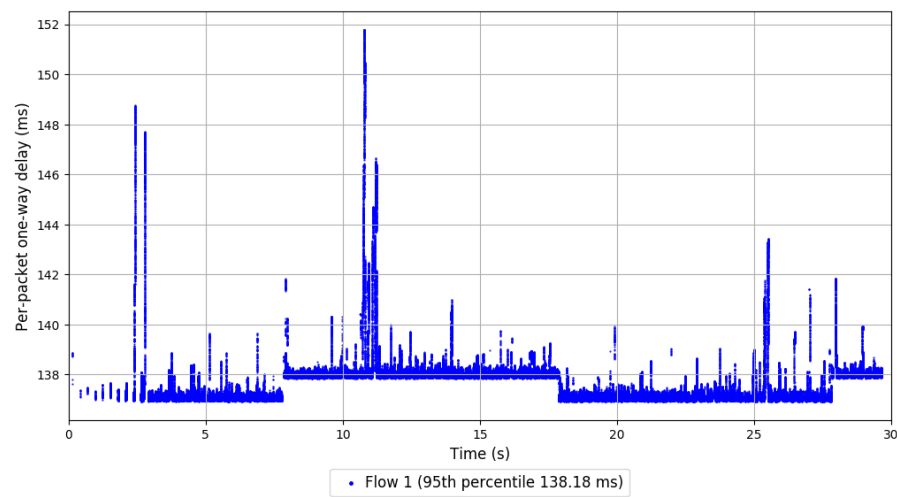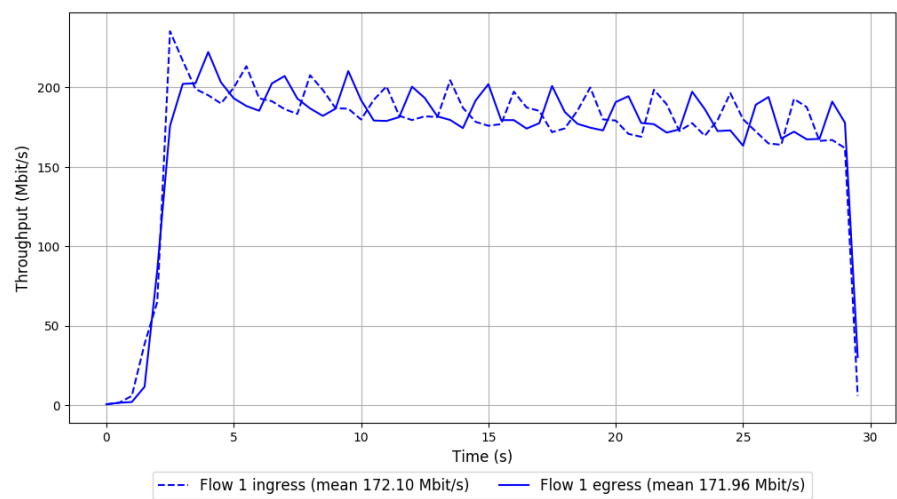
Run 6: Report of Indigo-1-32 — Data Link

```
Run 7: Statistics of Indigo-1-32

Start at: 2018-01-26 07:08:35
End at: 2018-01-26 07:09:05

# Below is generated by plot.py at 2018-01-26 08:46:34
# Datalink statistics
-- Total of 1 flow:
Average throughput: 174.26 Mbit/s
95th percentile per-packet one-way delay: 137.974 ms
Loss rate: 0.08%
-- Flow 1:
Average throughput: 174.26 Mbit/s
95th percentile per-packet one-way delay: 137.974 ms
Loss rate: 0.08%
```
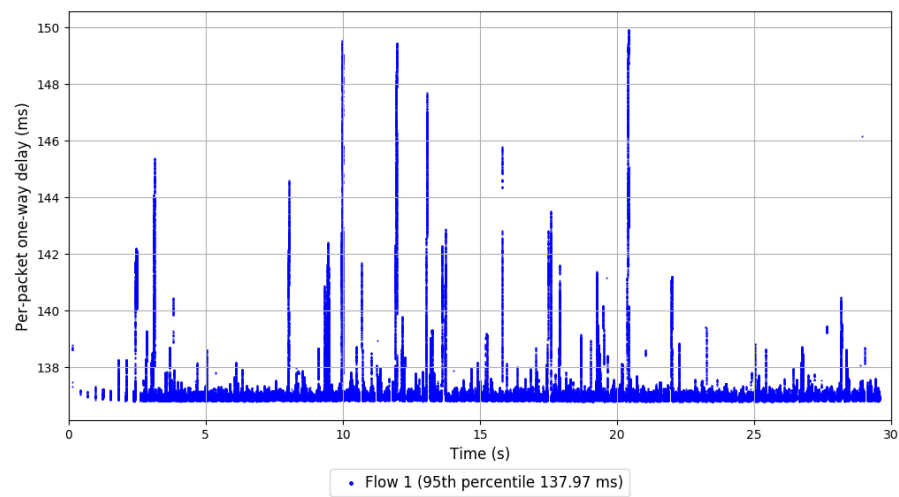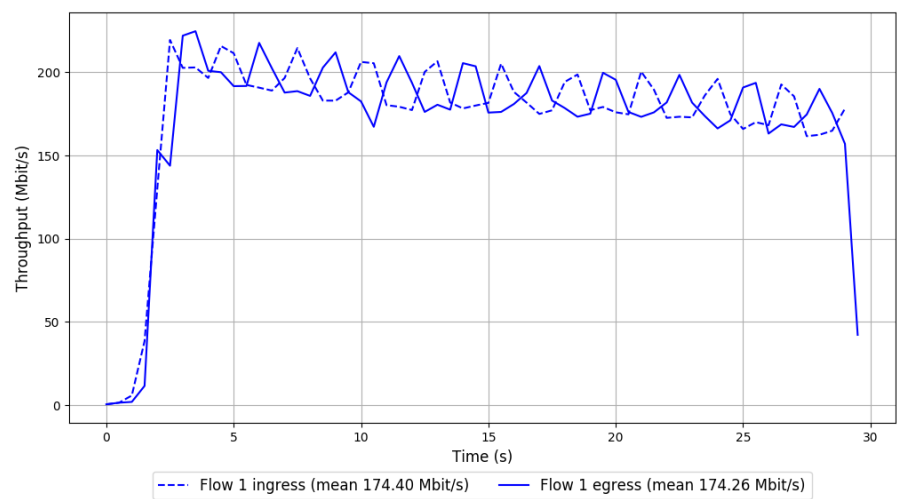
Run 7: Report of Indigo-1-32 — Data Link

```
Run 8: Statistics of Indigo-1-32

Start at: 2018-01-26 07:21:29
End at: 2018-01-26 07:21:59

# Below is generated by plot.py at 2018-01-26 08:46:34
# Datalink statistics
-- Total of 1 flow:
Average throughput: 133.63 Mbit/s
95th percentile per-packet one-way delay: 138.200 ms
Loss rate: 0.24%
-- Flow 1:
Average throughput: 133.63 Mbit/s
95th percentile per-packet one-way delay: 138.200 ms
Loss rate: 0.24%
```
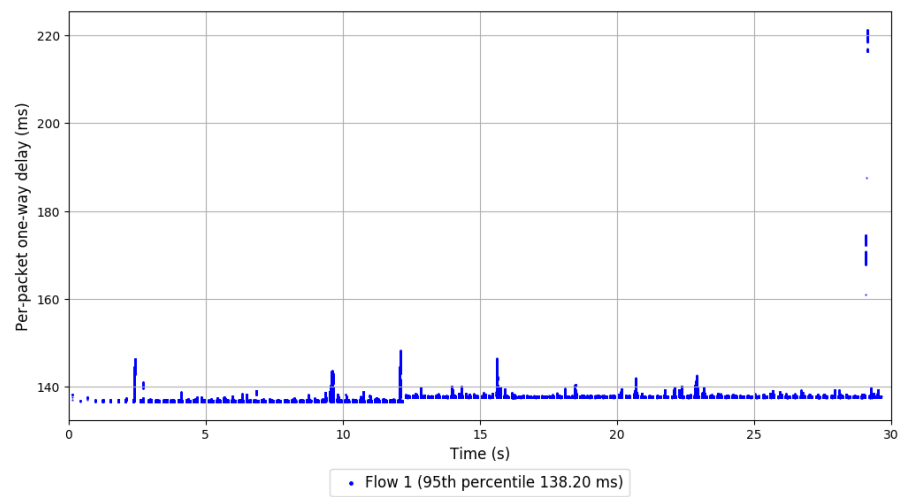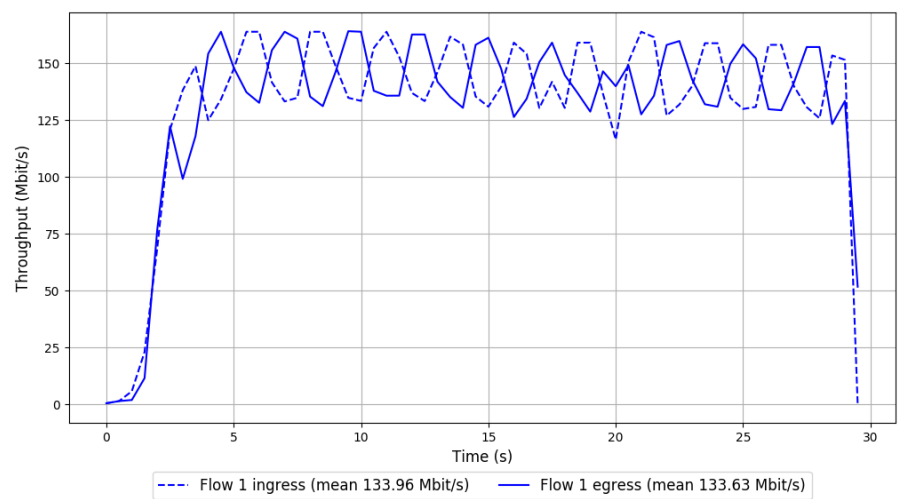
Run 8: Report of Indigo-1-32 — Data Link

```
Run 9: Statistics of Indigo-1-32

Start at: 2018-01-26 07:34:24
End at: 2018-01-26 07:34:54

# Below is generated by plot.py at 2018-01-26 08:47:09
# Datalink statistics
-- Total of 1 flow:
Average throughput: 173.43 Mbit/s
95th percentile per-packet one-way delay: 136.723 ms
Loss rate: 0.06%
-- Flow 1:
Average throughput: 173.43 Mbit/s
95th percentile per-packet one-way delay: 136.723 ms
Loss rate: 0.06%
```
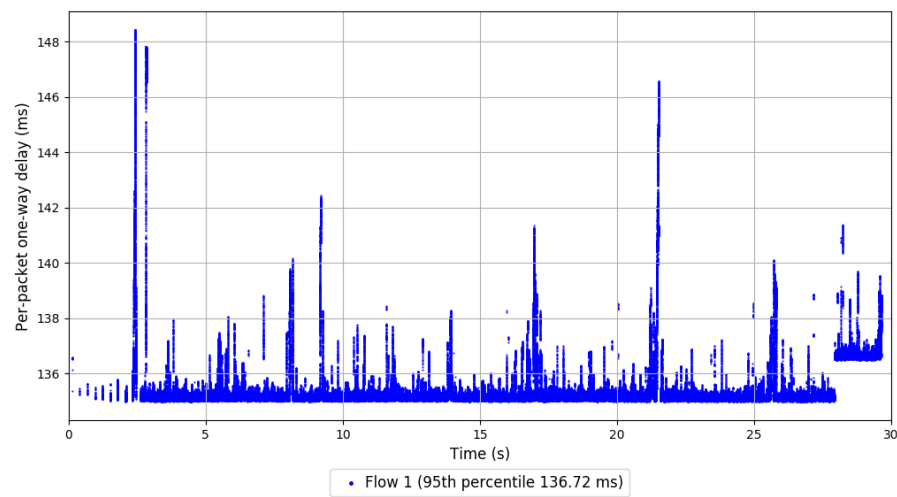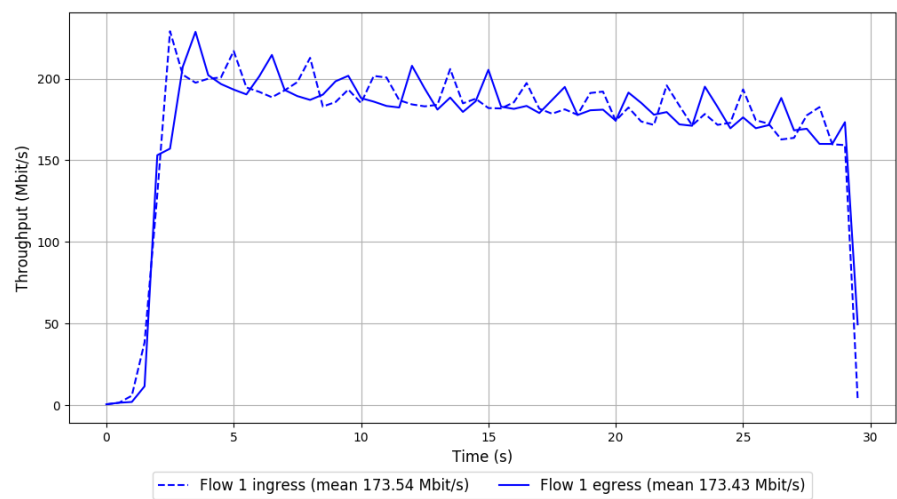
Run 9: Report of Indigo-1-32 — Data Link



Flow 1 ingress (mean 173.54 Mbit/s) ———— Flow 1 egress (mean 173.43 Mbit/s)



• Flow 1 (95th percentile 136.72 ms)

```
Run 10: Statistics of Indigo-1-32

Start at: 2018-01-26 07:47:23
End at: 2018-01-26 07:47:53

# Below is generated by plot.py at 2018-01-26 08:47:09
# Datalink statistics
-- Total of 1 flow:
Average throughput: 163.59 Mbit/s
95th percentile per-packet one-way delay: 138.883 ms
Loss rate: 0.16%
-- Flow 1:
Average throughput: 163.59 Mbit/s
95th percentile per-packet one-way delay: 138.883 ms
Loss rate: 0.16%
```
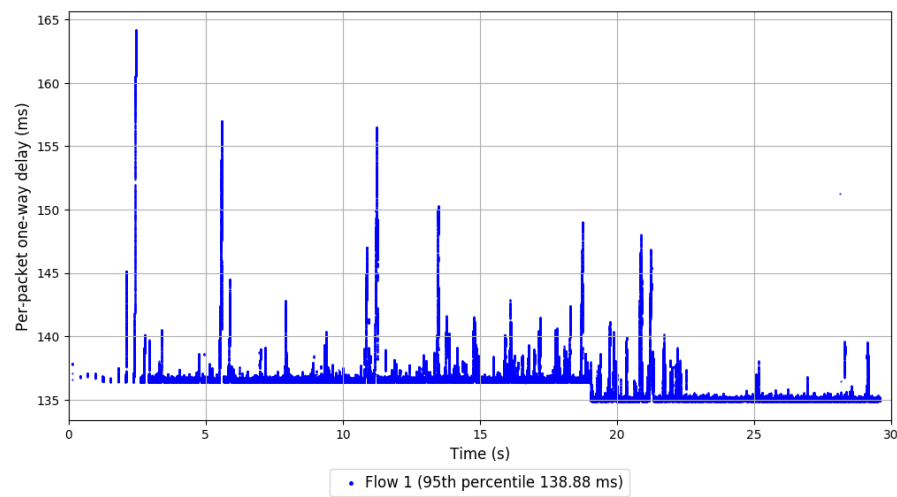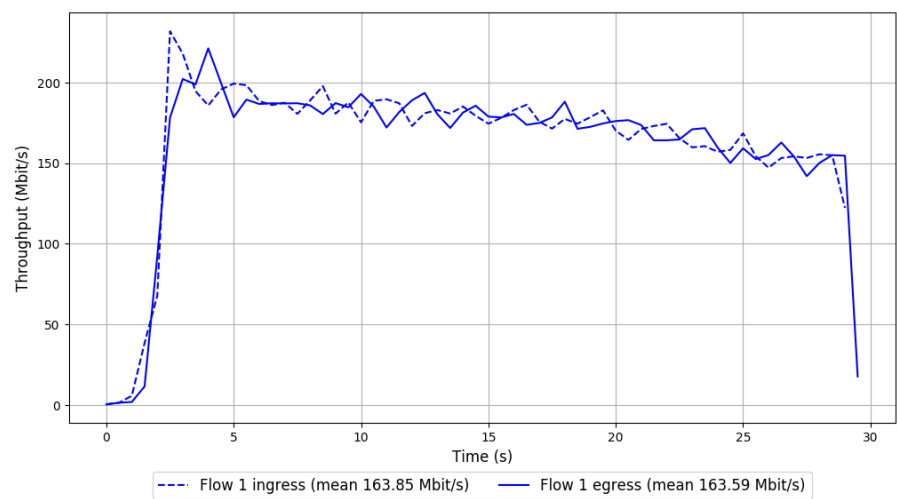
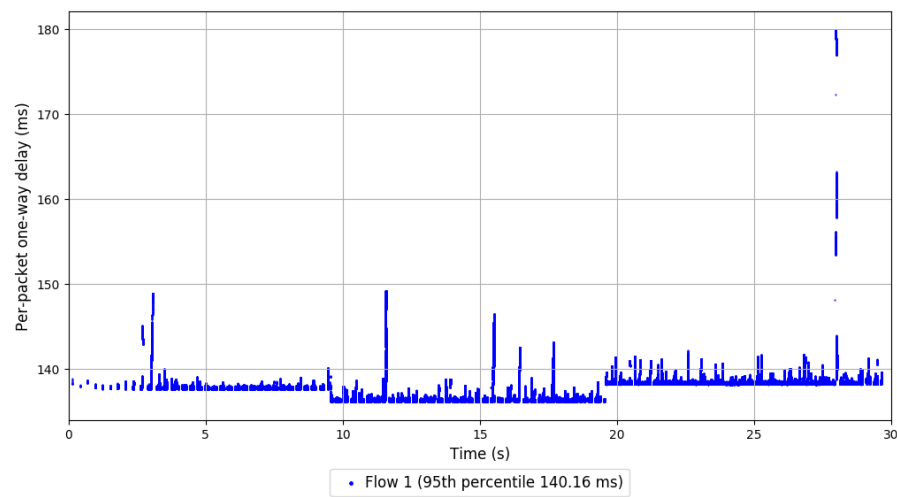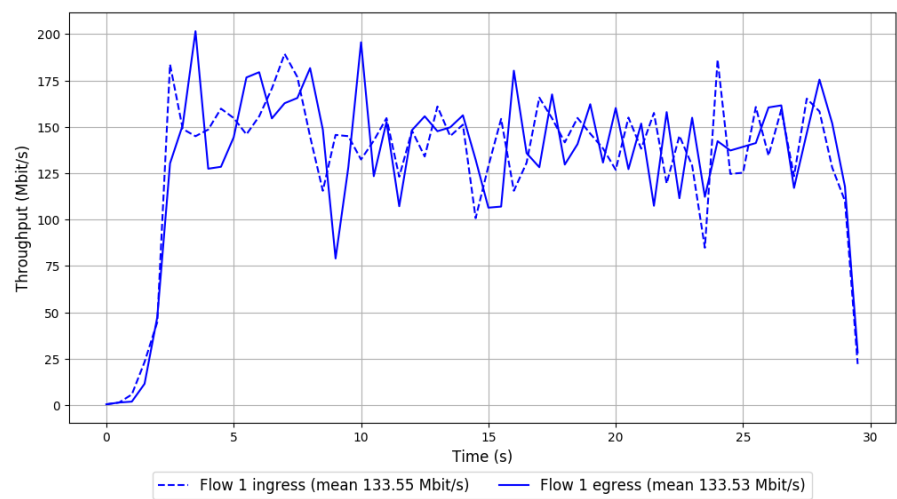## Run 10: Report of Indigo-1-32 — Data Link

```
Run 1: Statistics of Indigo-1-128

Start at: 2018-01-26 05:43:02
End at: 2018-01-26 05:43:32

# Below is generated by plot.py at 2018-01-26 08:47:09
# Datalink statistics
-- Total of 1 flow:
Average throughput: 133.53 Mbit/s
95th percentile per-packet one-way delay: 140.163 ms
Loss rate: 0.02%
-- Flow 1:
Average throughput: 133.53 Mbit/s
95th percentile per-packet one-way delay: 140.163 ms
Loss rate: 0.02%
```

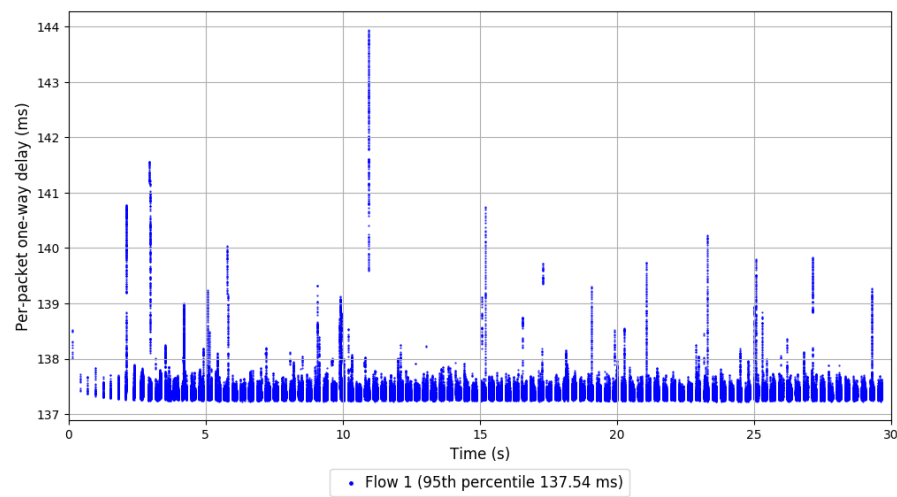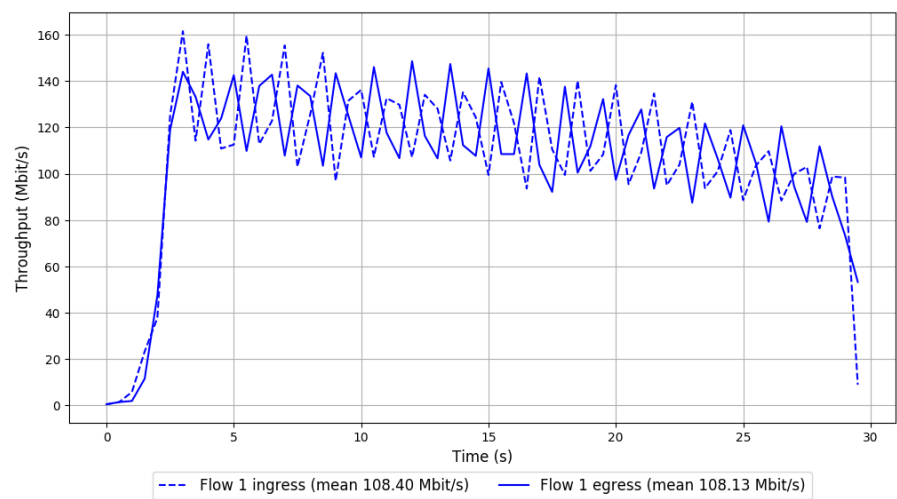# Run 1: Report of Indigo-1-128 — Data Link

```
Run 2: Statistics of Indigo-1-128

Start at: 2018-01-26 05:56:28
End at: 2018-01-26 05:56:59

# Below is generated by plot.py at 2018-01-26 08:47:09
# Datalink statistics
-- Total of 1 flow:
Average throughput: 108.13 Mbit/s
95th percentile per-packet one-way delay: 137.542 ms
Loss rate: 0.26%
-- Flow 1:
Average throughput: 108.13 Mbit/s
95th percentile per-packet one-way delay: 137.542 ms
Loss rate: 0.26%
```

# Run 2: Report of Indigo-1-128 — Data Link



Flow 1 ingress (mean 108.40 Mbit/s)    Flow 1 egress (mean 108.13 Mbit/s)



• Flow 1 (95th percentile 137.54 ms)

```
Run 3: Statistics of Indigo-1-128

Start at: 2018-01-26 06:09:35
End at: 2018-01-26 06:10:05

# Below is generated by plot.py at 2018-01-26 08:47:09
# Datalink statistics
-- Total of 1 flow:
Average throughput: 137.32 Mbit/s
95th percentile per-packet one-way delay: 137.801 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 137.32 Mbit/s
95th percentile per-packet one-way delay: 137.801 ms
Loss rate: 0.00%
```
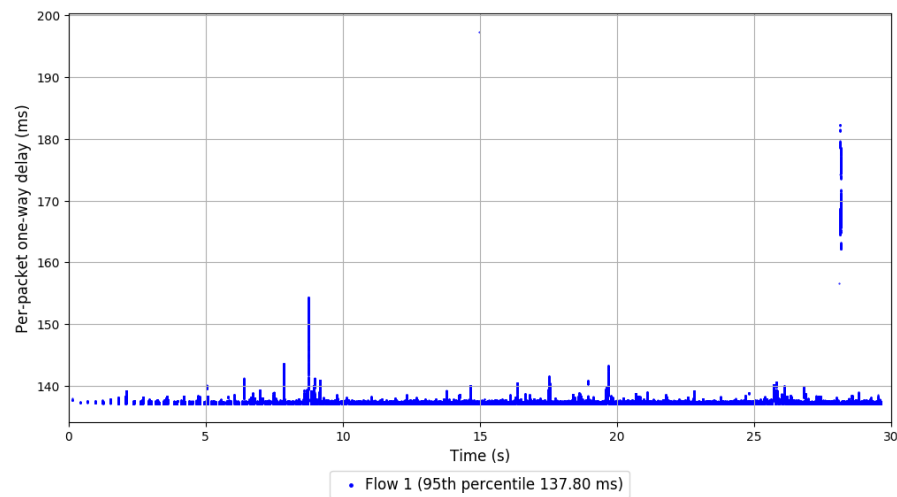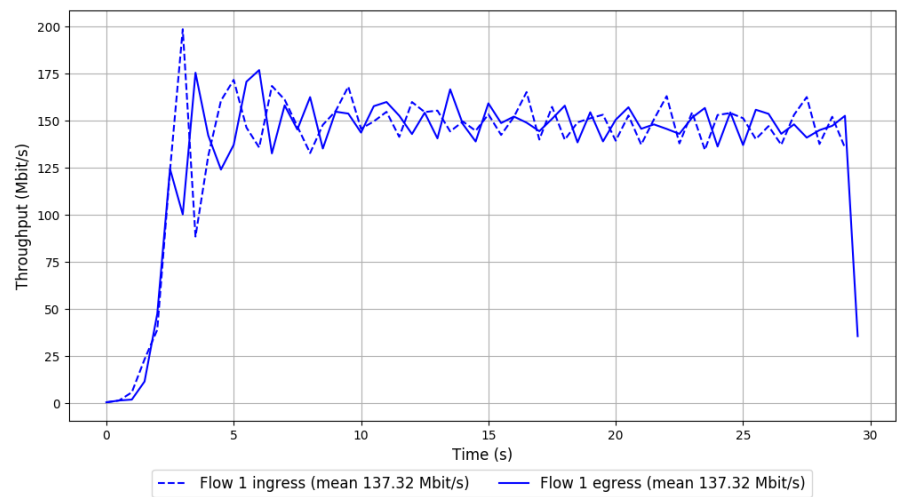
# Run 3: Report of Indigo-1-128 — Data Link

```
Run 4: Statistics of Indigo-1-128

Start at: 2018-01-26 06:22:35
End at: 2018-01-26 06:23:05

# Below is generated by plot.py at 2018-01-26 08:47:58
# Datalink statistics
-- Total of 1 flow:
Average throughput: 136.80 Mbit/s
95th percentile per-packet one-way delay: 143.785 ms
Loss rate: 0.19%
-- Flow 1:
Average throughput: 136.80 Mbit/s
95th percentile per-packet one-way delay: 143.785 ms
Loss rate: 0.19%
```
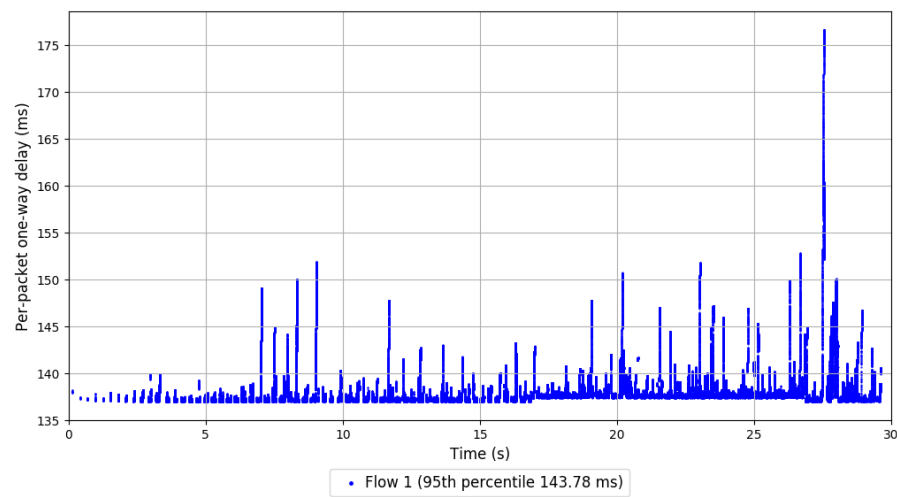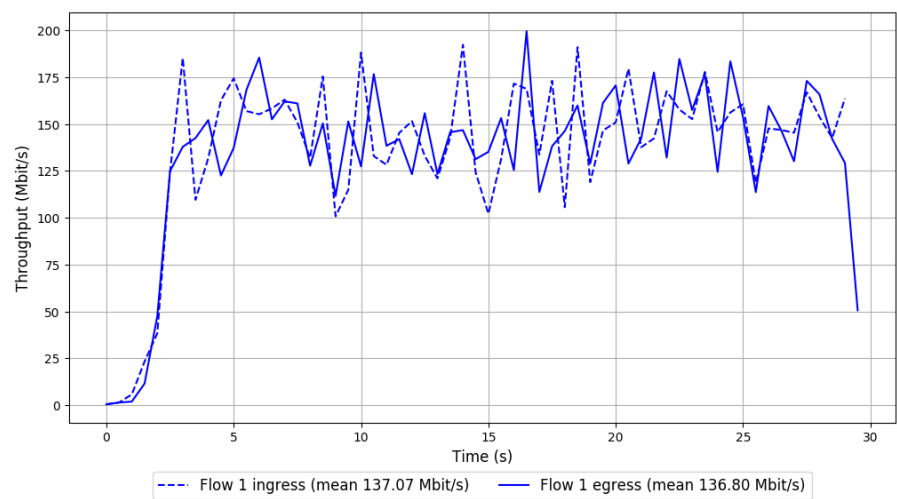
# Run 4: Report of Indigo-1-128 — Data Link

```
Run 5: Statistics of Indigo-1-128

Start at: 2018-01-26 06:35:14
End at: 2018-01-26 06:35:44

# Below is generated by plot.py at 2018-01-26 08:48:00
# Datalink statistics
-- Total of 1 flow:
Average throughput: 135.88 Mbit/s
95th percentile per-packet one-way delay: 146.810 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 135.88 Mbit/s
95th percentile per-packet one-way delay: 146.810 ms
Loss rate: 0.00%
```
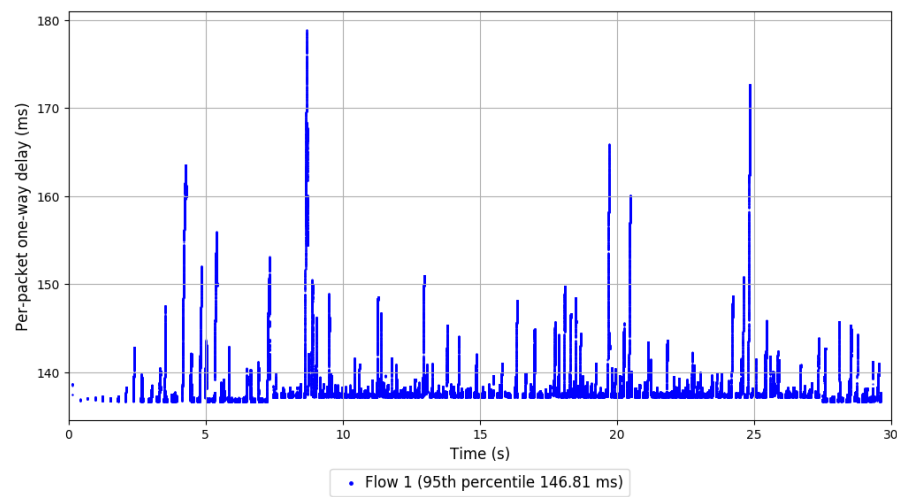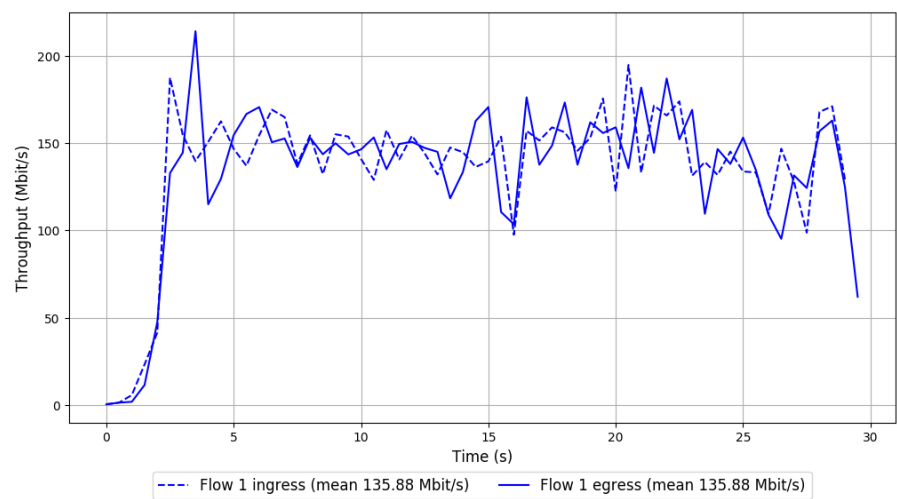
Run 5: Report of Indigo-1-128 — Data Link



Flow 1 ingress (mean 135.88 Mbit/s)     Flow 1 egress (mean 135.88 Mbit/s)



• Flow 1 (95th percentile 146.81 ms)

```
Run 6: Statistics of Indigo-1-128

Start at: 2018-01-26 06:47:59
End at: 2018-01-26 06:48:29

# Below is generated by plot.py at 2018-01-26 08:48:19
# Datalink statistics
-- Total of 1 flow:
Average throughput: 141.79 Mbit/s
95th percentile per-packet one-way delay: 147.983 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 141.79 Mbit/s
95th percentile per-packet one-way delay: 147.983 ms
Loss rate: 0.01%
```
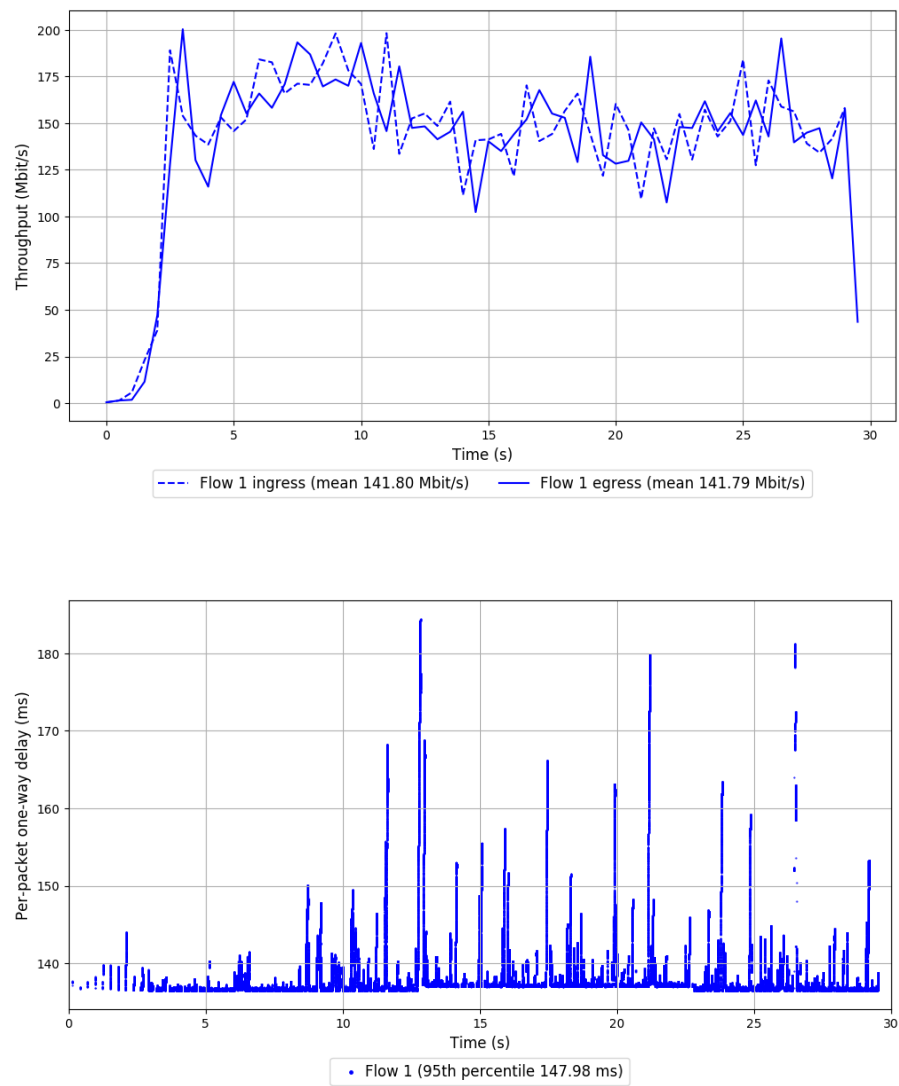
## Run 6: Report of Indigo-1-128 — Data Link

```
Run 7: Statistics of Indigo-1-128

Start at: 2018-01-26 07:01:12
End at: 2018-01-26 07:01:42

# Below is generated by plot.py at 2018-01-26 08:48:19
# Datalink statistics
-- Total of 1 flow:
Average throughput: 133.93 Mbit/s
95th percentile per-packet one-way delay: 141.080 ms
Loss rate: 0.02%
-- Flow 1:
Average throughput: 133.93 Mbit/s
95th percentile per-packet one-way delay: 141.080 ms
Loss rate: 0.02%
```
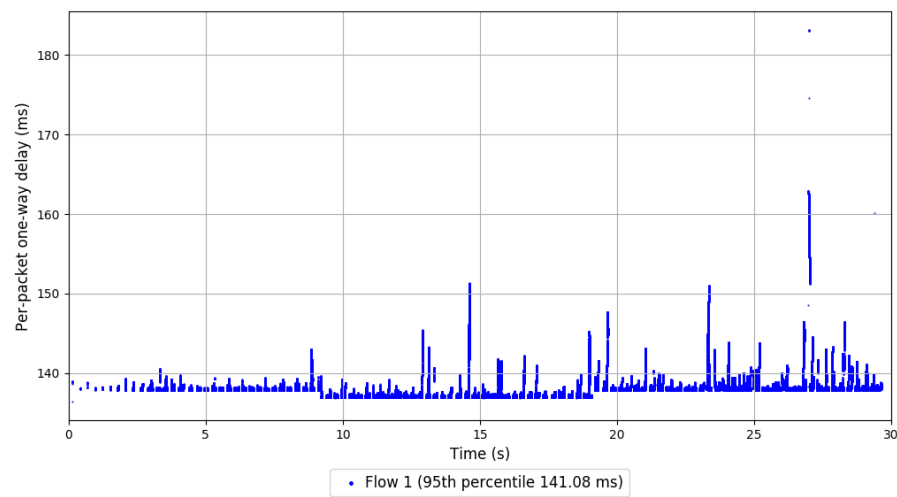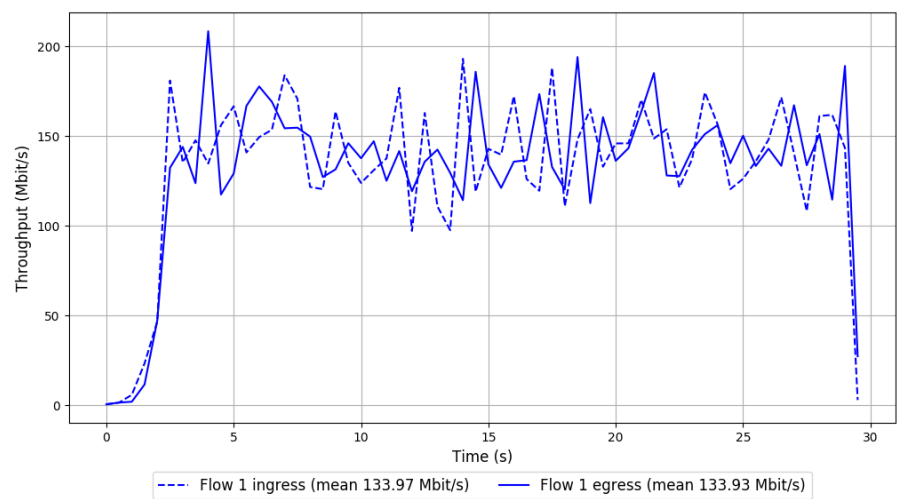
## Run 7: Report of Indigo-1-128 — Data Link

```
Run 8: Statistics of Indigo-1-128

Start at: 2018-01-26 07:14:32
End at: 2018-01-26 07:15:02

# Below is generated by plot.py at 2018-01-26 08:48:26
# Datalink statistics
-- Total of 1 flow:
Average throughput: 137.91 Mbit/s
95th percentile per-packet one-way delay: 138.615 ms
Loss rate: 0.18%
-- Flow 1:
Average throughput: 137.91 Mbit/s
95th percentile per-packet one-way delay: 138.615 ms
Loss rate: 0.18%
```
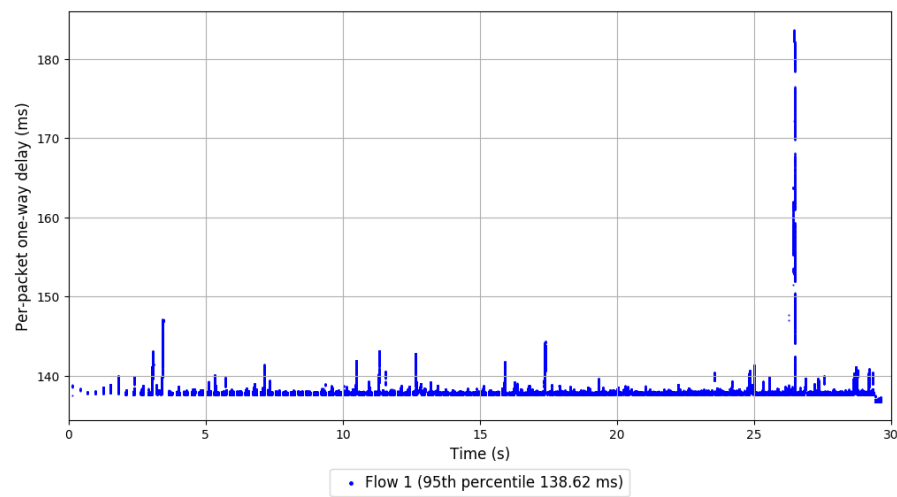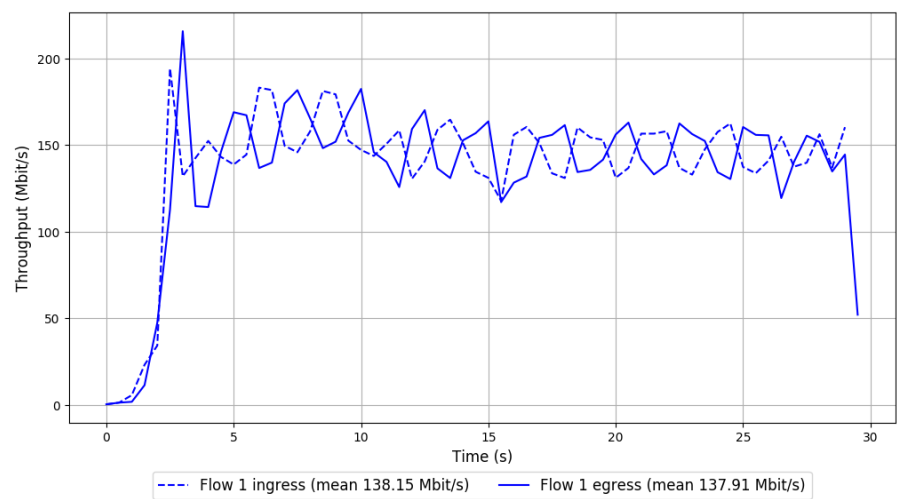
Run 8: Report of Indigo-1-128 — Data Link

```
Run 9: Statistics of Indigo-1-128

Start at: 2018-01-26 07:27:23
End at: 2018-01-26 07:27:53

# Below is generated by plot.py at 2018-01-26 08:48:28
# Datalink statistics
-- Total of 1 flow:
Average throughput: 140.70 Mbit/s
95th percentile per-packet one-way delay: 141.471 ms
Loss rate: 0.08%
-- Flow 1:
Average throughput: 140.70 Mbit/s
95th percentile per-packet one-way delay: 141.471 ms
Loss rate: 0.08%
```
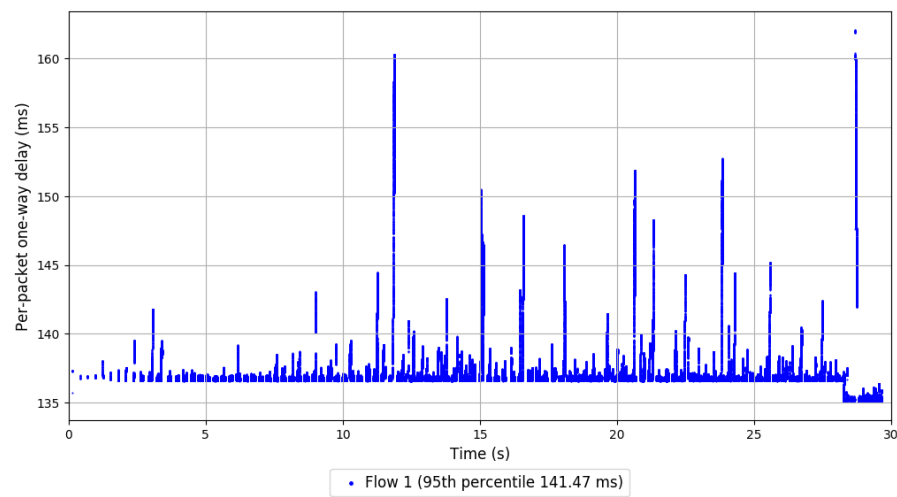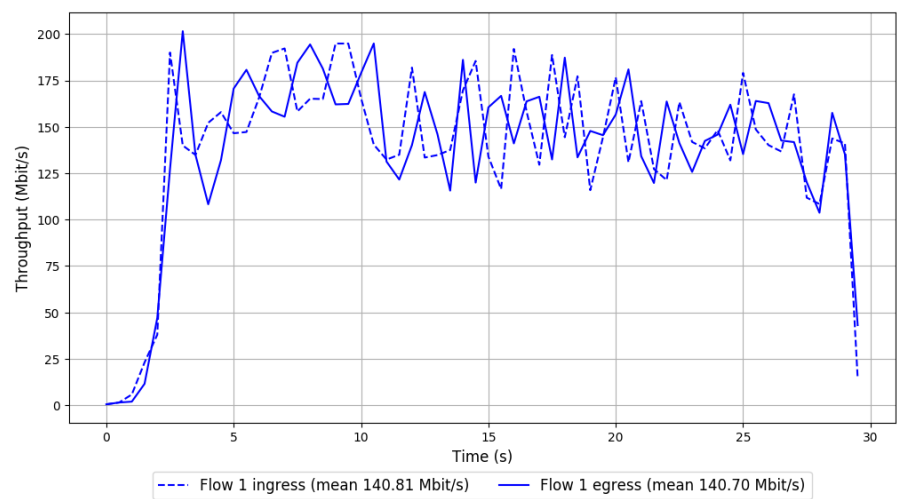
# Run 9: Report of Indigo-1-128 — Data Link

```
Run 10: Statistics of Indigo-1-128

Start at: 2018-01-26 07:40:19
End at: 2018-01-26 07:40:50

# Below is generated by plot.py at 2018-01-26 08:48:28
# Datalink statistics
-- Total of 1 flow:
Average throughput: 132.85 Mbit/s
95th percentile per-packet one-way delay: 143.176 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 132.85 Mbit/s
95th percentile per-packet one-way delay: 143.176 ms
Loss rate: 0.00%
```

## Run 10: Report of Indigo-1-128 — Data Link