# Pantheon Report

Generated at 2018-01-09 11:38:38 (UTC).

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

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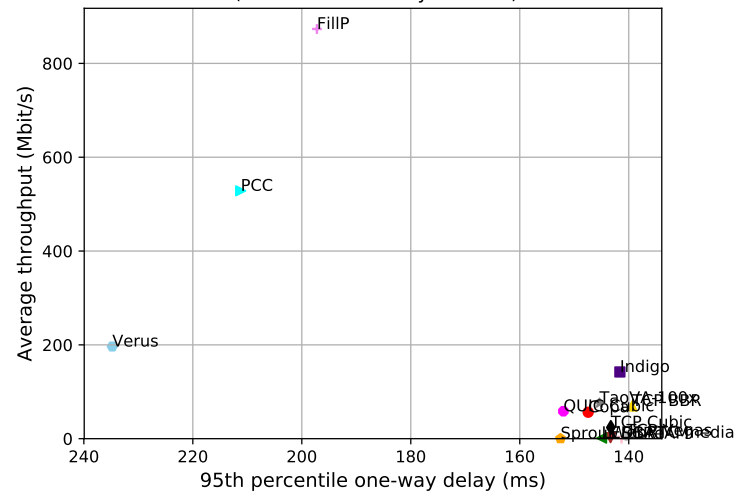
Each test lasted for 30 seconds running 1 flow.

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

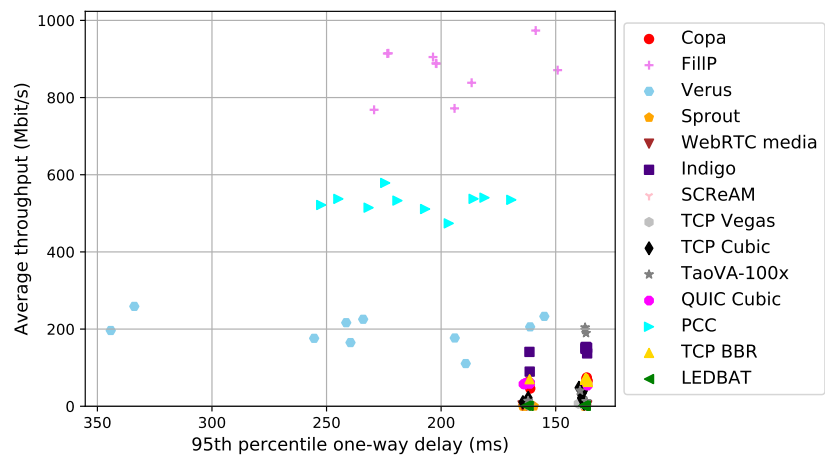Tested BBR with qdisc of Fair Queuing (`fq`), and other schemes with the default Linux qdisc (`pfifo_fast`).

```
Git summary:
branch: master @ 56d1792c316a5efca3f2d21342905405fedffb48
third_party/calibrated_koho @ 3cb73c0d1c0322cdfae446ea37a522e53227db50
 M datagrump/sender.cc
third_party/fillp @ ec9585325218d5048c4d4152fa42240af54c6e67
third_party/genericCC @ 80b516c448f795fd6e9675f7177b69c622f07da8
third_party/indigo @ b19f3730105f9aa95452552af924e3719b03cc55
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/webrtc @ a488197ddd041ace68a42849b2540ad834825f42
```

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



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

| scheme | # runs | mean avg tput (Mbit/s) flow 1 | mean 95th-%ile delay (ms) flow 1 | mean loss rate (%) flow 1 |
|---|---|---|---|---|
| TCP BBR | 9 | 69.67 | 139.39 | 1.29 |
| TCP Cubic | 10 | 23.82 | 143.29 | 2.56 |
| LEDBAT | 10 | 1.19 | 144.99 | 1.63 |
| PCC | 10 | 528.38 | 211.21 | 2.76 |
| QUIC Cubic | 10 | 58.54 | 151.99 | 1.19 |
| SCReAM | 10 | 0.21 | 141.34 | 0.93 |
| WebRTC media | 8 | 2.07 | 143.34 | 0.98 |
| Sprout | 10 | 0.31 | 152.52 | 1.12 |
| TaoVA-100x | 9 | 75.91 | 145.37 | 1.12 |
| TCP Vegas | 10 | 6.39 | 140.42 | 2.33 |
| Verus | 10 | 196.47 | 234.78 | 3.35 |
| Copa | 7 | 56.38 | 147.44 | 0.64 |
| FillP | 10 | 873.40 | 197.23 | 1.79 |
| Indigo | 10 | 142.26 | 141.63 | 1.07 |

```
Run 1: Statistics of TCP BBR

Start at: 2018-01-09 06:42:46
End at: 2018-01-09 06:43:16

# Below is generated by plot.py at 2018-01-09 10:56:51
# Datalink statistics
-- Total of 1 flow:
Average throughput: 68.52 Mbit/s
95th percentile per-packet one-way delay: 137.224 ms
Loss rate: 2.43%
-- Flow 1:
Average throughput: 68.52 Mbit/s
95th percentile per-packet one-way delay: 137.224 ms
Loss rate: 2.43%
```
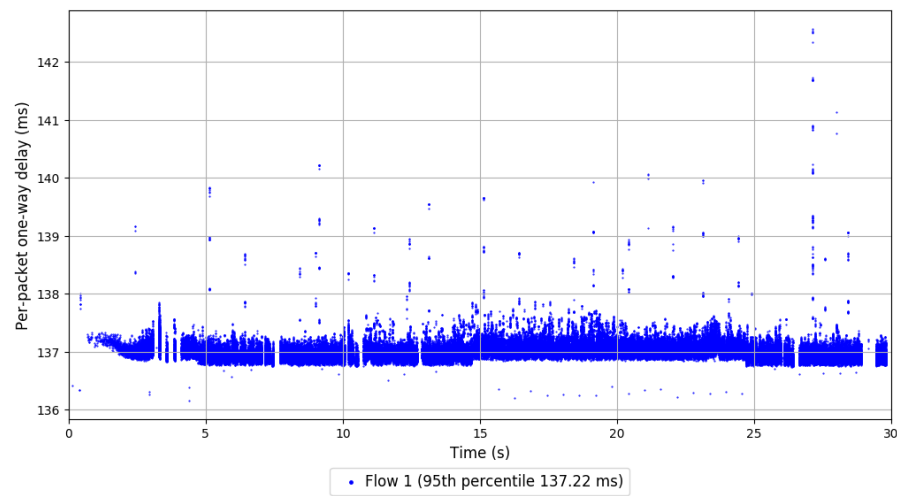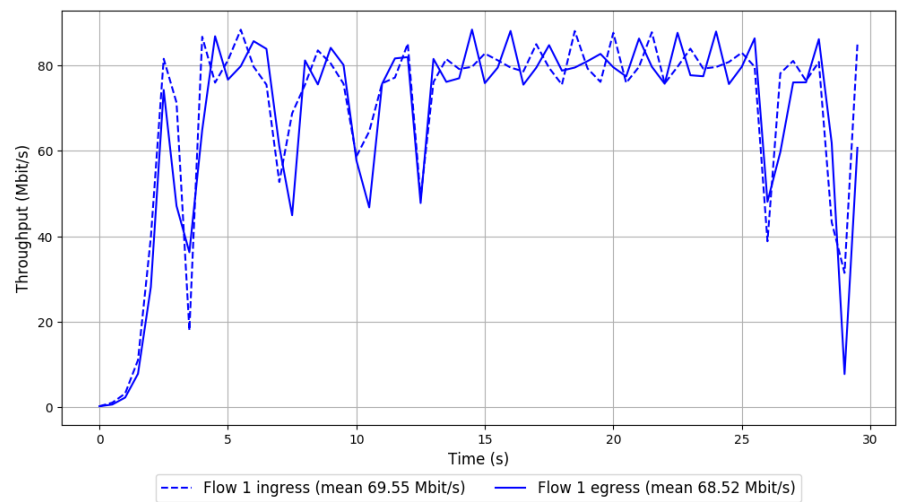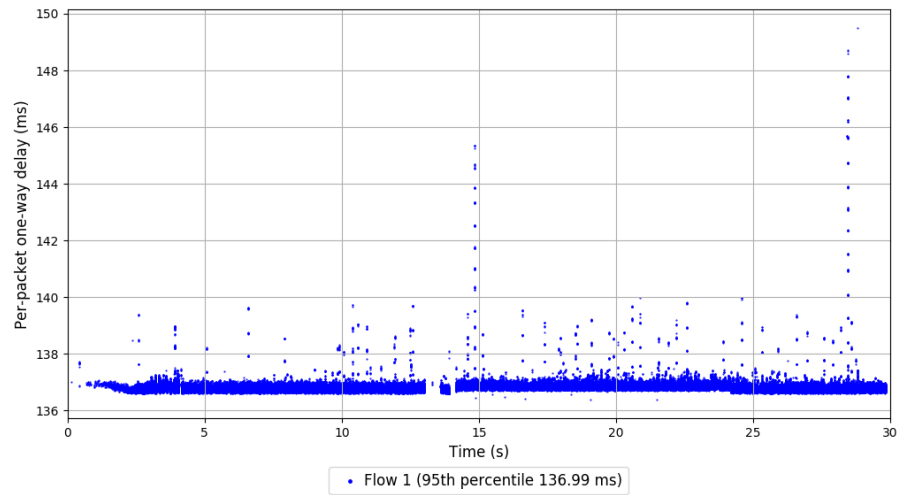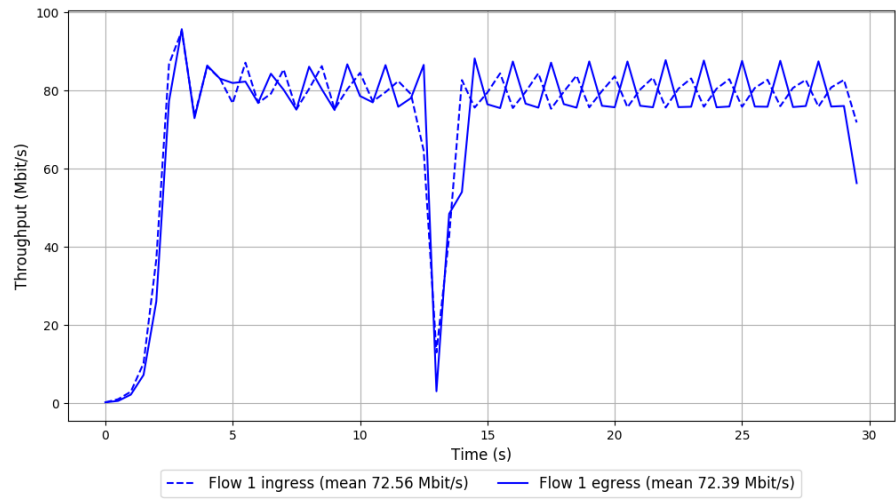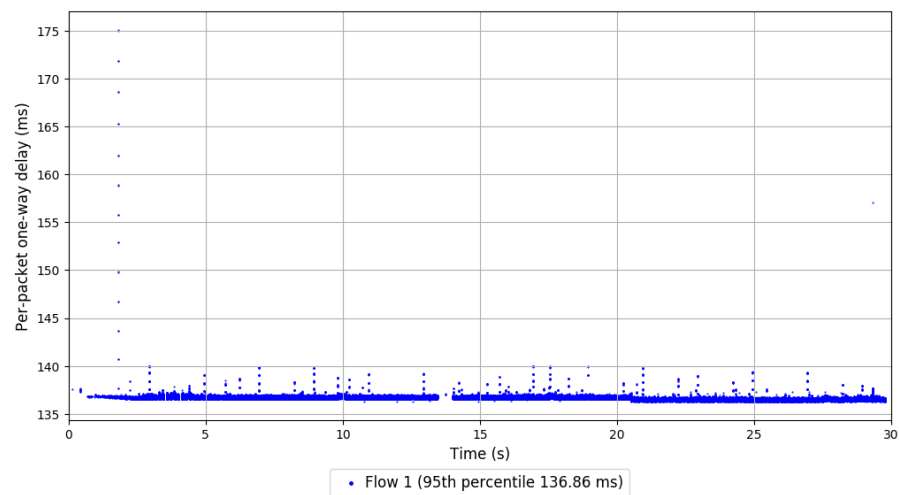
Run 1: Report of TCP BBR — Data Link



Flow 1 ingress (mean 69.55 Mbit/s)    Flow 1 egress (mean 68.52 Mbit/s)



• Flow 1 (95th percentile 137.22 ms)

```
Run 2: Statistics of TCP BBR

Start at: 2018-01-09 06:55:36
End at: 2018-01-09 06:56:06

# Below is generated by plot.py at 2018-01-09 10:56:54
# Datalink statistics
-- Total of 1 flow:
Average throughput: 72.39 Mbit/s
95th percentile per-packet one-way delay: 136.985 ms
Loss rate: 1.14%
-- Flow 1:
Average throughput: 72.39 Mbit/s
95th percentile per-packet one-way delay: 136.985 ms
Loss rate: 1.14%
```
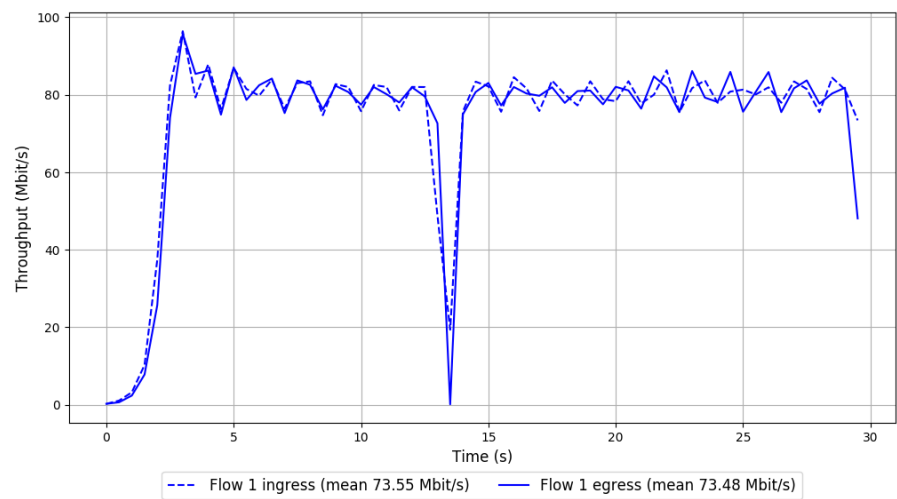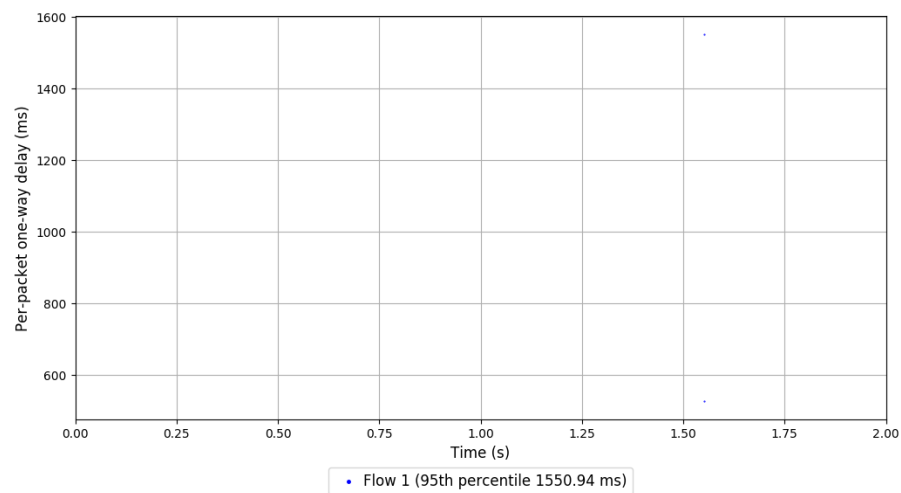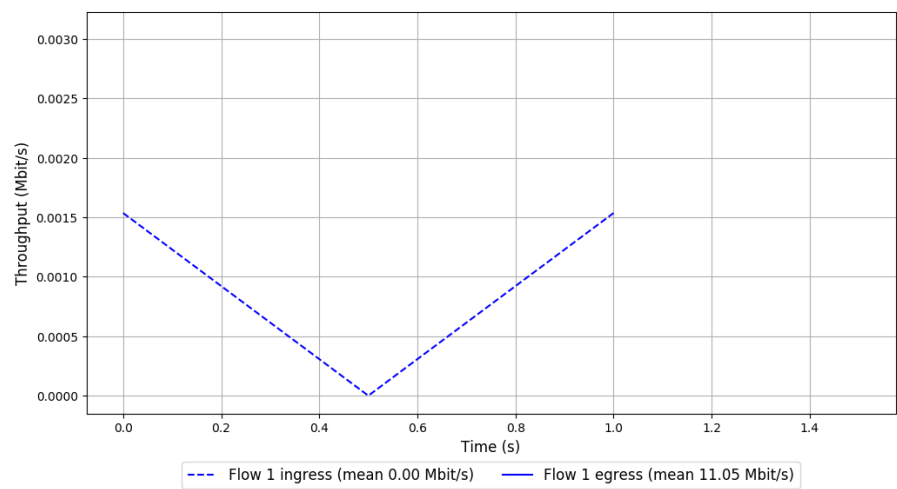
Run 2: Report of TCP BBR — Data Link



Flow 1 ingress (mean 72.56 Mbit/s)    Flow 1 egress (mean 72.39 Mbit/s)



Flow 1 (95th percentile 136.99 ms)

```
Run 3: Statistics of TCP BBR

Start at: 2018-01-09 07:08:20
End at: 2018-01-09 07:08:50

# Below is generated by plot.py at 2018-01-09 10:56:57
# Datalink statistics
-- Total of 1 flow:
Average throughput: 73.48 Mbit/s
95th percentile per-packet one-way delay: 136.863 ms
Loss rate: 1.09%
-- Flow 1:
Average throughput: 73.48 Mbit/s
95th percentile per-packet one-way delay: 136.863 ms
Loss rate: 1.09%
```
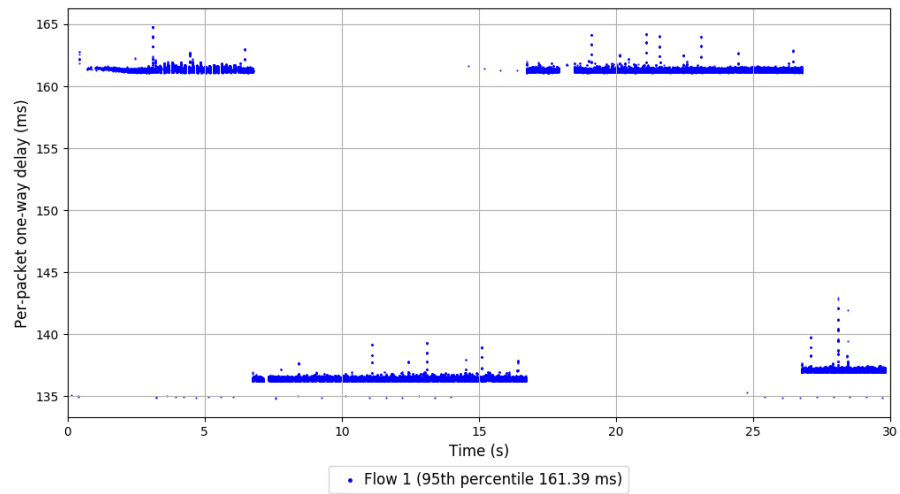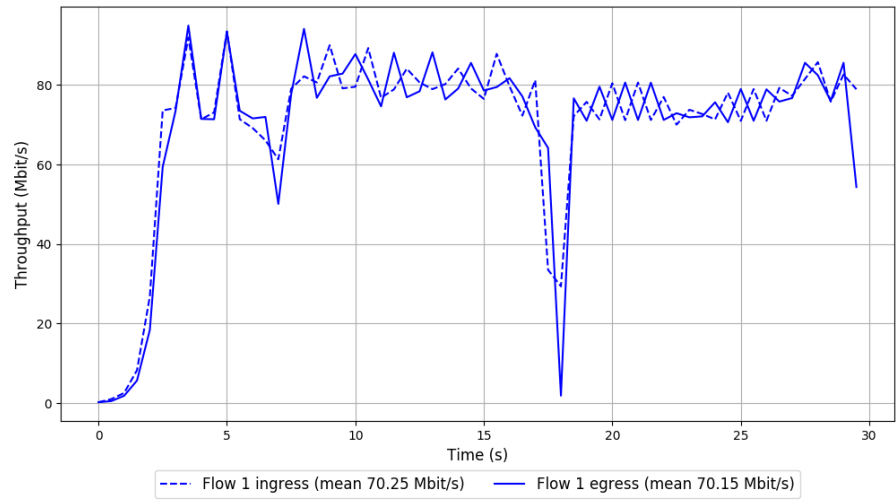
Run 3: Report of TCP BBR — Data Link



Flow 1 ingress (mean 73.55 Mbit/s) —— Flow 1 egress (mean 73.48 Mbit/s)



• Flow 1 (95th percentile 136.86 ms)

Run 4: Statistics of TCP BBR

Start at: 2018-01-09 07:21:09
End at: 2018-01-09 07:21:39

# Run 4: Report of TCP BBR — Data Link

```
Run 5: Statistics of TCP BBR

Start at: 2018-01-09 07:33:24
End at: 2018-01-09 07:33:54

# Below is generated by plot.py at 2018-01-09 10:56:57
# Datalink statistics
-- Total of 1 flow:
Average throughput: 70.15 Mbit/s
95th percentile per-packet one-way delay: 161.389 ms
Loss rate: 1.06%
-- Flow 1:
Average throughput: 70.15 Mbit/s
95th percentile per-packet one-way delay: 161.389 ms
Loss rate: 1.06%
```
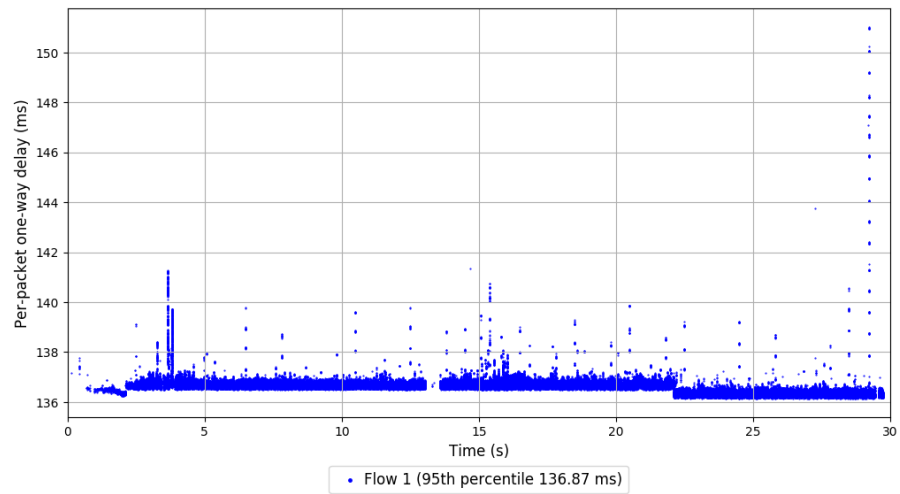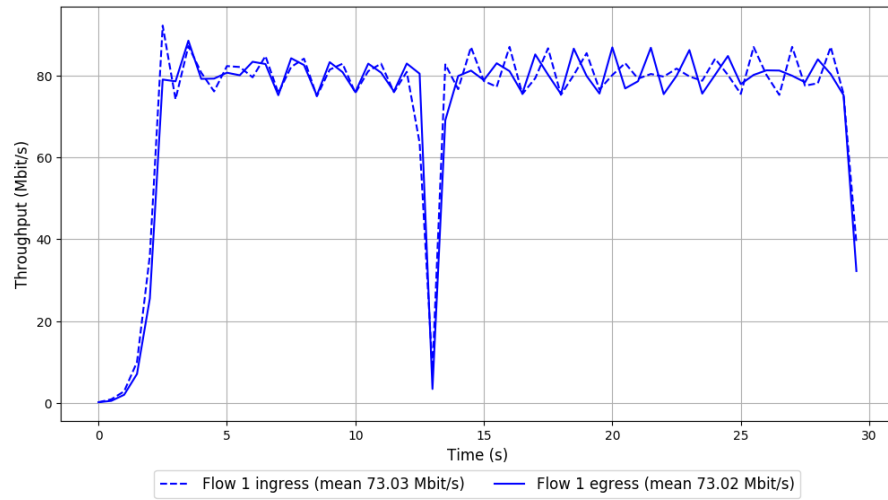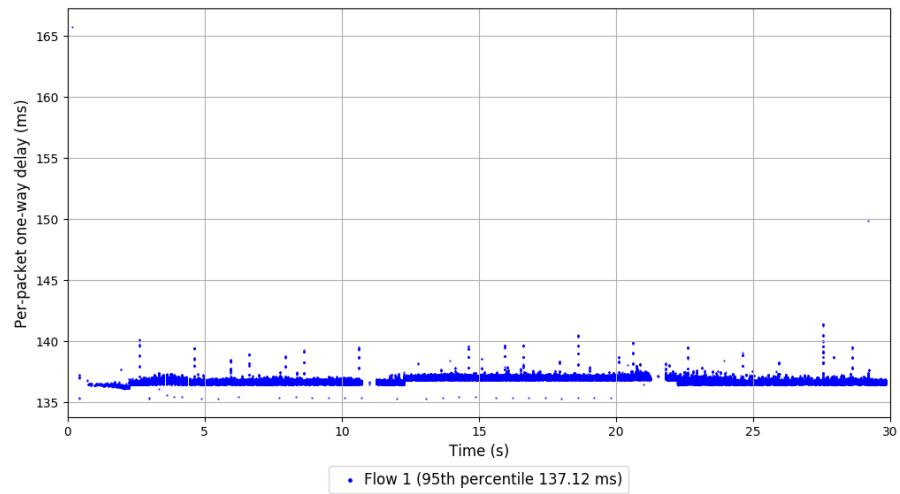
Run 5: Report of TCP BBR — Data Link



Flow 1 ingress (mean 70.25 Mbit/s) ----    Flow 1 egress (mean 70.15 Mbit/s) ——



Flow 1 (95th percentile 161.39 ms)

```
Run 6: Statistics of TCP BBR

Start at: 2018-01-09 07:45:58
End at: 2018-01-09 07:46:28

# Below is generated by plot.py at 2018-01-09 10:56:57
# Datalink statistics
-- Total of 1 flow:
Average throughput: 73.02 Mbit/s
95th percentile per-packet one-way delay: 136.872 ms
Loss rate: 0.73%
-- Flow 1:
Average throughput: 73.02 Mbit/s
95th percentile per-packet one-way delay: 136.872 ms
Loss rate: 0.73%
```
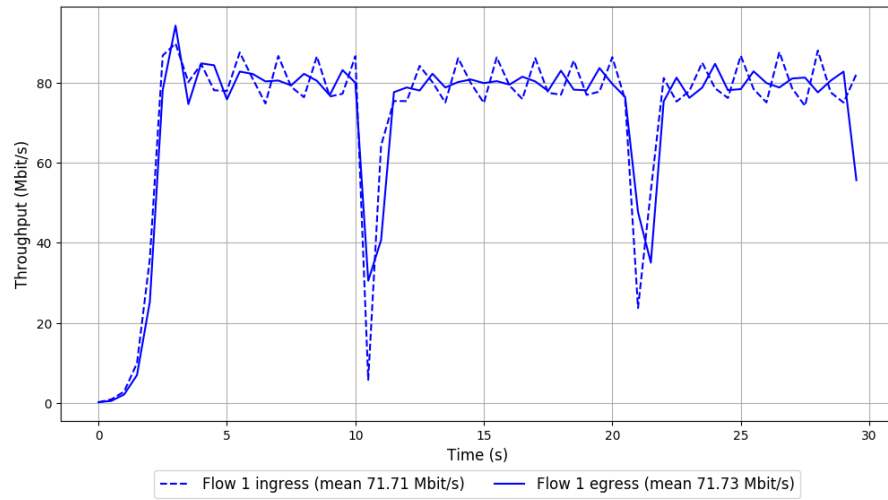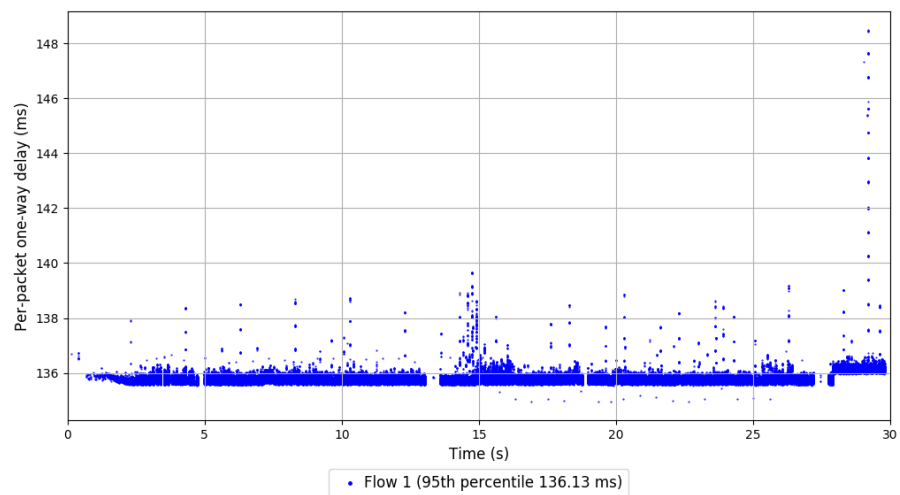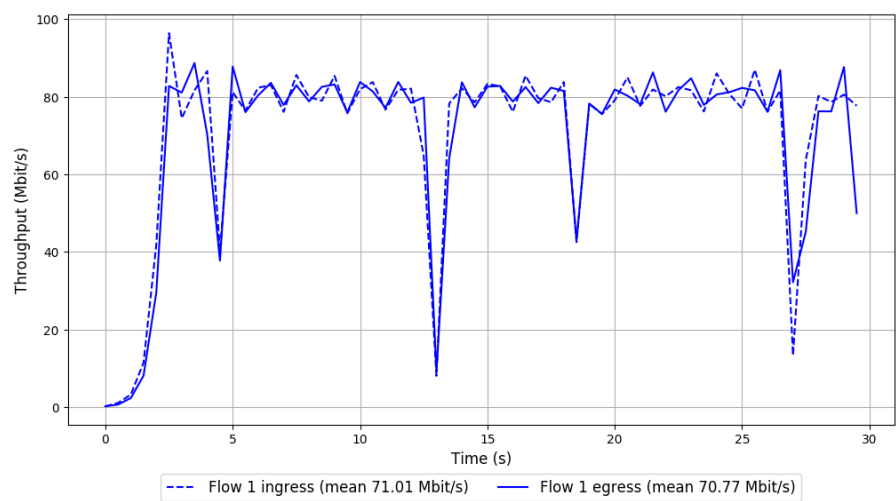
# Run 6: Report of TCP BBR — Data Link



Flow 1 ingress (mean 73.03 Mbit/s)    Flow 1 egress (mean 73.02 Mbit/s)



Flow 1 (95th percentile 136.87 ms)

```
Run 7: Statistics of TCP BBR

Start at: 2018-01-09 07:59:08
End at: 2018-01-09 07:59:38

# Below is generated by plot.py at 2018-01-09 10:56:57
# Datalink statistics
-- Total of 1 flow:
Average throughput: 71.73 Mbit/s
95th percentile per-packet one-way delay: 137.125 ms
Loss rate: 0.99%
-- Flow 1:
Average throughput: 71.73 Mbit/s
95th percentile per-packet one-way delay: 137.125 ms
Loss rate: 0.99%
```
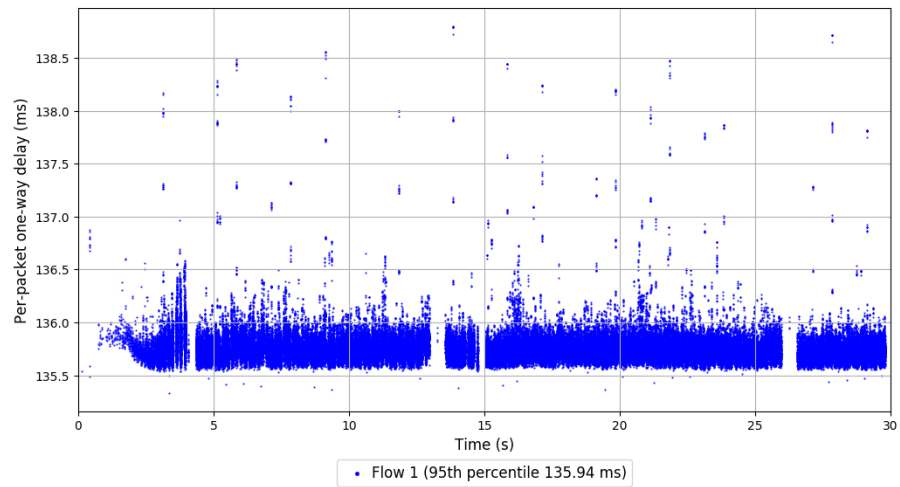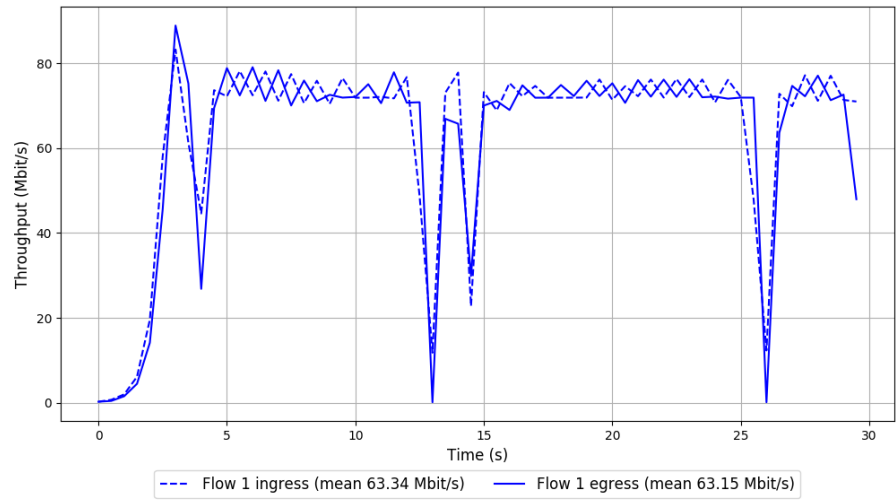
# Run 7: Report of TCP BBR — Data Link



Flow 1 ingress (mean 71.71 Mbit/s) --- Flow 1 egress (mean 71.73 Mbit/s)



Flow 1 (95th percentile 137.12 ms)

```
Run 8: Statistics of TCP BBR

Start at: 2018-01-09 08:11:53
End at: 2018-01-09 08:12:23

# Below is generated by plot.py at 2018-01-09 10:56:57
# Datalink statistics
-- Total of 1 flow:
Average throughput: 70.77 Mbit/s
95th percentile per-packet one-way delay: 136.127 ms
Loss rate: 1.29%
-- Flow 1:
Average throughput: 70.77 Mbit/s
95th percentile per-packet one-way delay: 136.127 ms
Loss rate: 1.29%
```
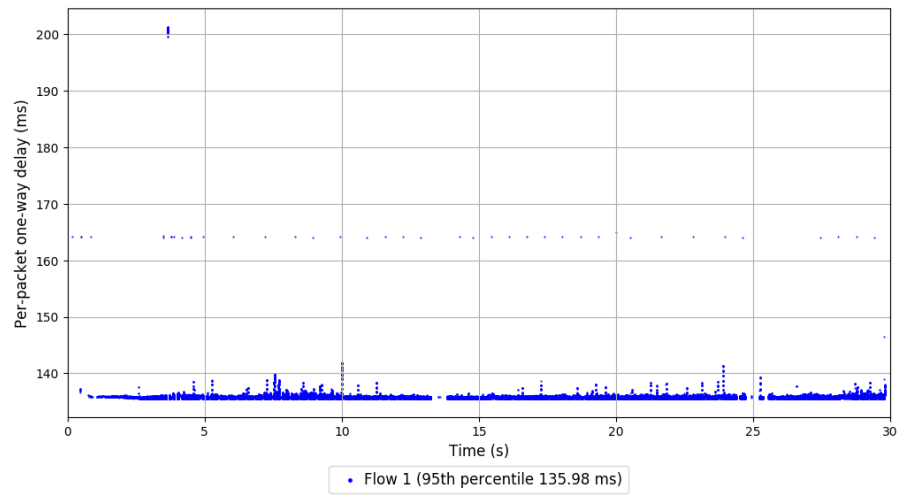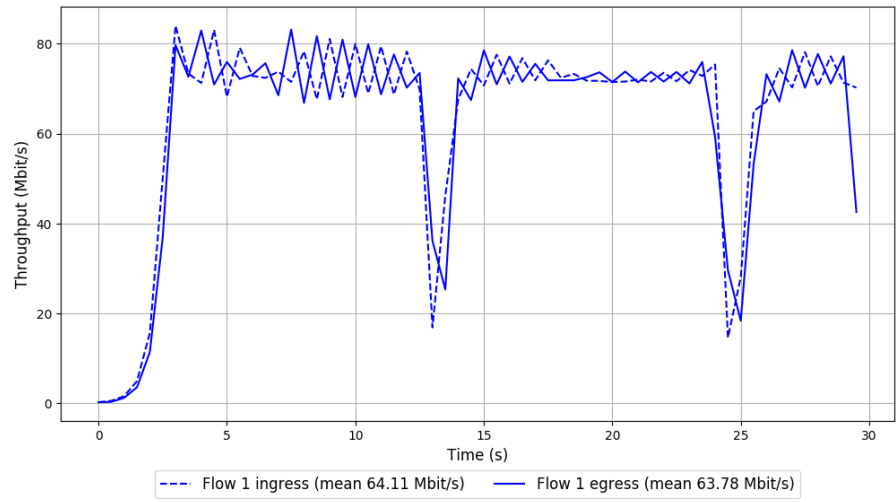
Run 8: Report of TCP BBR — Data Link



Flow 1 ingress (mean 71.01 Mbit/s) — — —     Flow 1 egress (mean 70.77 Mbit/s) ———



Flow 1 (95th percentile 136.13 ms)

```
Run 9: Statistics of TCP BBR

Start at: 2018-01-09 08:24:47
End at: 2018-01-09 08:25:17

# Below is generated by plot.py at 2018-01-09 10:56:57
# Datalink statistics
-- Total of 1 flow:
Average throughput: 63.15 Mbit/s
95th percentile per-packet one-way delay: 135.937 ms
Loss rate: 1.30%
-- Flow 1:
Average throughput: 63.15 Mbit/s
95th percentile per-packet one-way delay: 135.937 ms
Loss rate: 1.30%
```
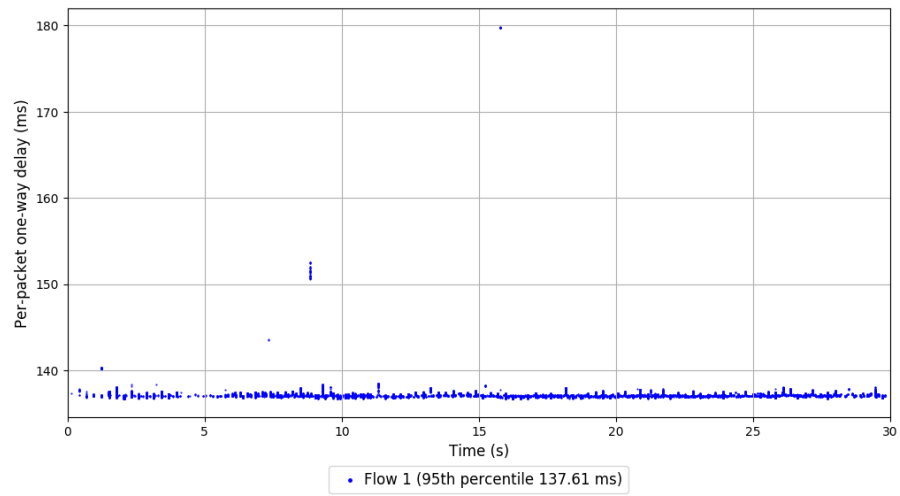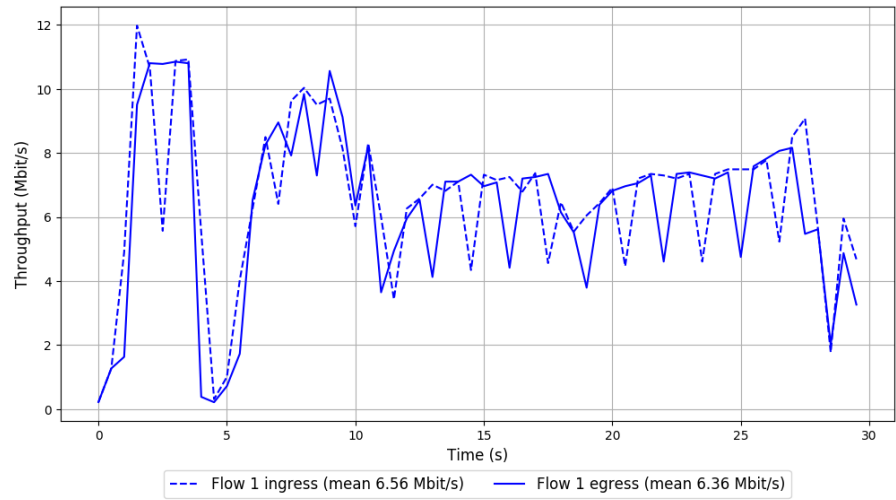
Run 9: Report of TCP BBR — Data Link

```
Run 10: Statistics of TCP BBR

Start at: 2018-01-09 08:38:02
End at: 2018-01-09 08:38:32

# Below is generated by plot.py at 2018-01-09 10:58:00
# Datalink statistics
-- Total of 1 flow:
Average throughput: 63.78 Mbit/s
95th percentile per-packet one-way delay: 135.982 ms
Loss rate: 1.60%
-- Flow 1:
Average throughput: 63.78 Mbit/s
95th percentile per-packet one-way delay: 135.982 ms
Loss rate: 1.60%
```
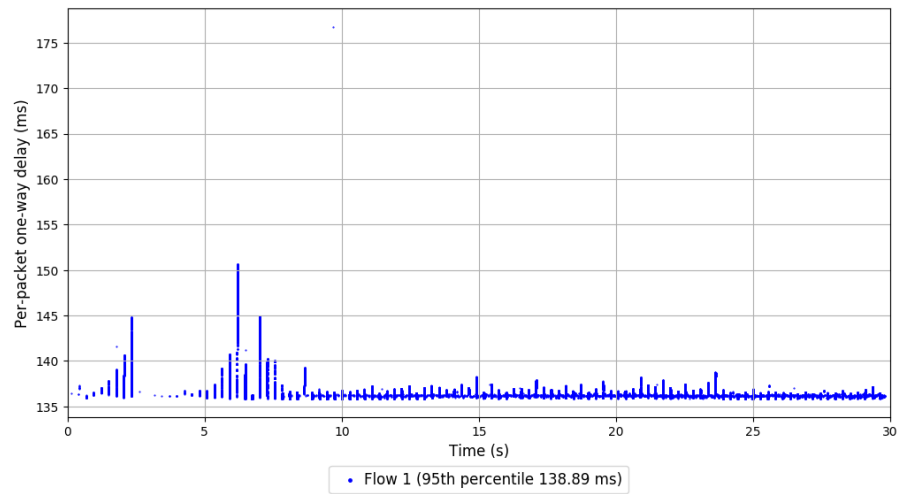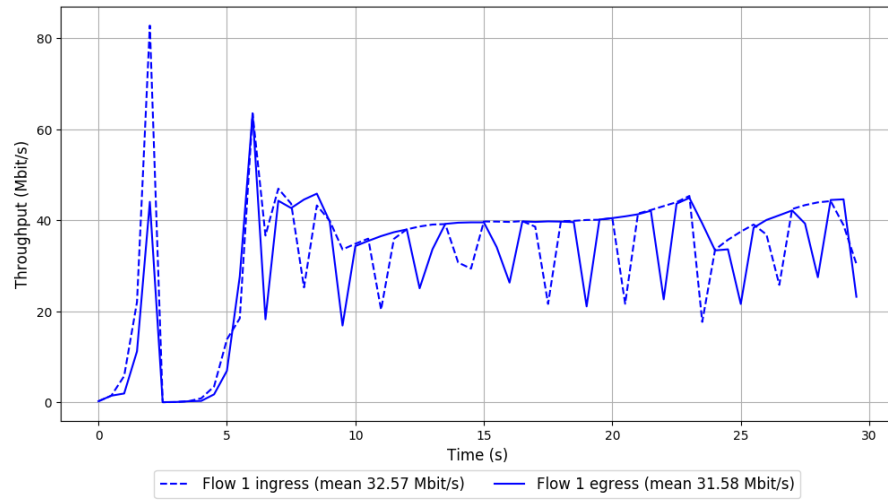
Run 10: Report of TCP BBR — Data Link



Flow 1 ingress (mean 64.11 Mbit/s)    Flow 1 egress (mean 63.78 Mbit/s)



Flow 1 (95th percentile 135.98 ms)

```
Run 1: Statistics of TCP Cubic

Start at: 2018-01-09 06:46:40
End at: 2018-01-09 06:47:10

# Below is generated by plot.py at 2018-01-09 10:58:00
# Datalink statistics
-- Total of 1 flow:
Average throughput: 6.36 Mbit/s
95th percentile per-packet one-way delay: 137.610 ms
Loss rate: 3.81%
-- Flow 1:
Average throughput: 6.36 Mbit/s
95th percentile per-packet one-way delay: 137.610 ms
Loss rate: 3.81%
```
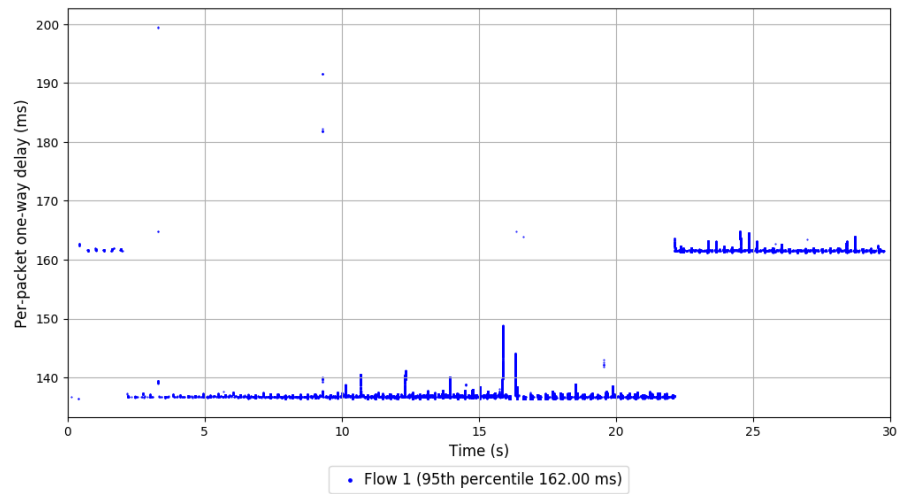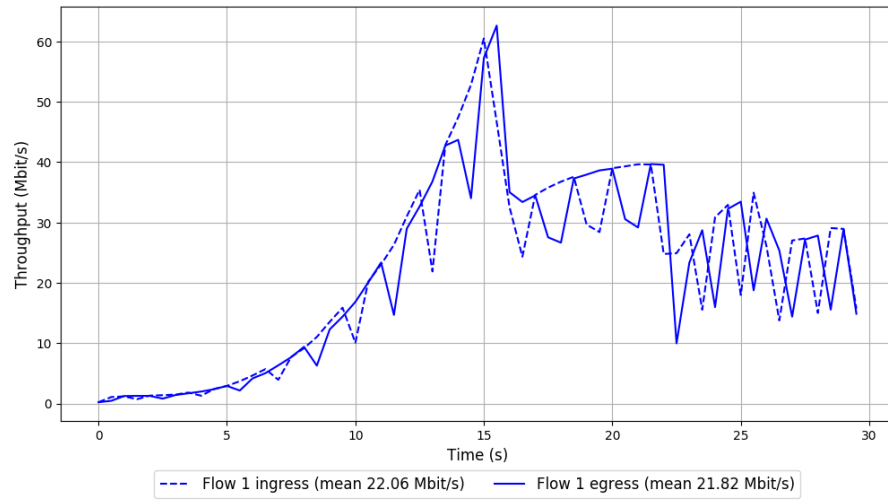
Run 1: Report of TCP Cubic — Data Link

```
Run 2: Statistics of TCP Cubic

Start at: 2018-01-09 06:59:27
End at: 2018-01-09 06:59:57

# Below is generated by plot.py at 2018-01-09 10:58:00
# Datalink statistics
-- Total of 1 flow:
Average throughput: 31.58 Mbit/s
95th percentile per-packet one-way delay: 138.890 ms
Loss rate: 3.92%
-- Flow 1:
Average throughput: 31.58 Mbit/s
95th percentile per-packet one-way delay: 138.890 ms
Loss rate: 3.92%
```
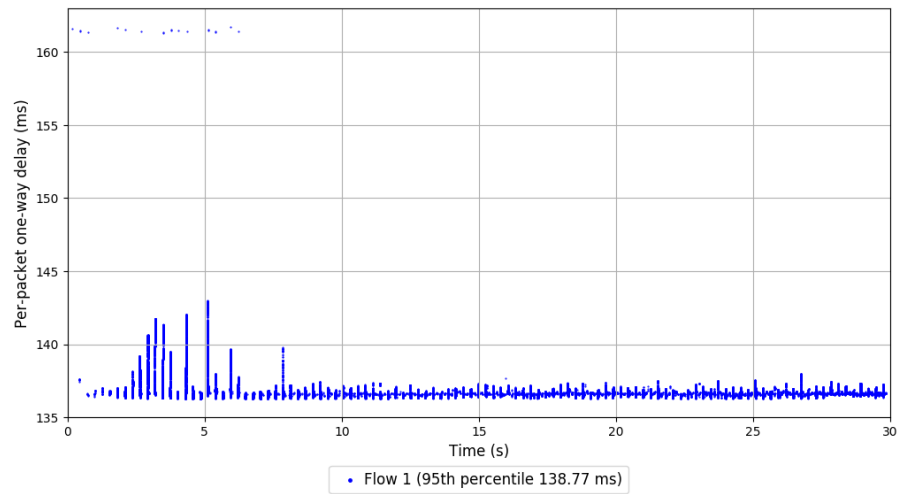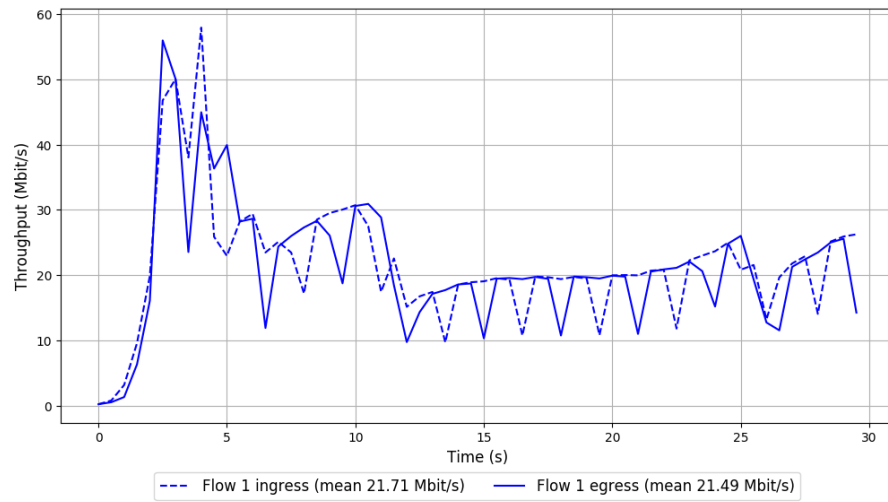
Run 2: Report of TCP Cubic — Data Link

```
Run 3: Statistics of TCP Cubic

Start at: 2018-01-09 07:12:18
End at: 2018-01-09 07:12:48

# Below is generated by plot.py at 2018-01-09 10:58:00
# Datalink statistics
-- Total of 1 flow:
Average throughput: 21.82 Mbit/s
95th percentile per-packet one-way delay: 162.002 ms
Loss rate: 1.98%
-- Flow 1:
Average throughput: 21.82 Mbit/s
95th percentile per-packet one-way delay: 162.002 ms
Loss rate: 1.98%
```
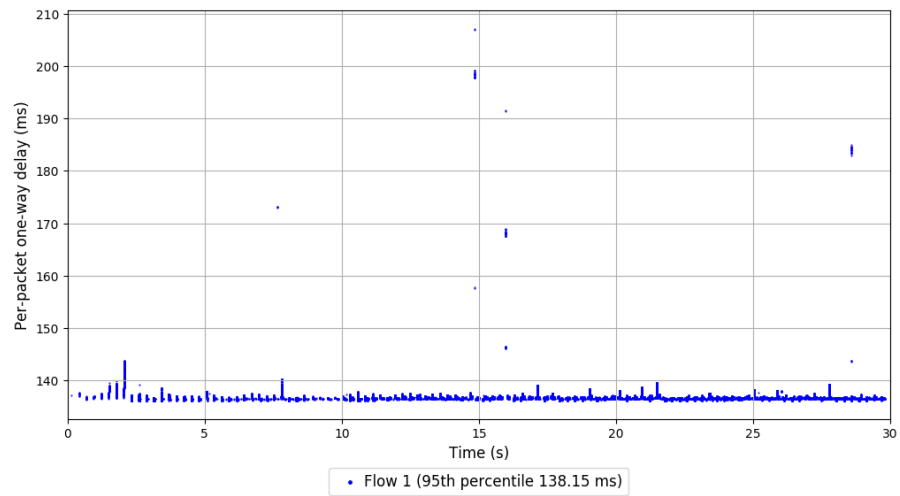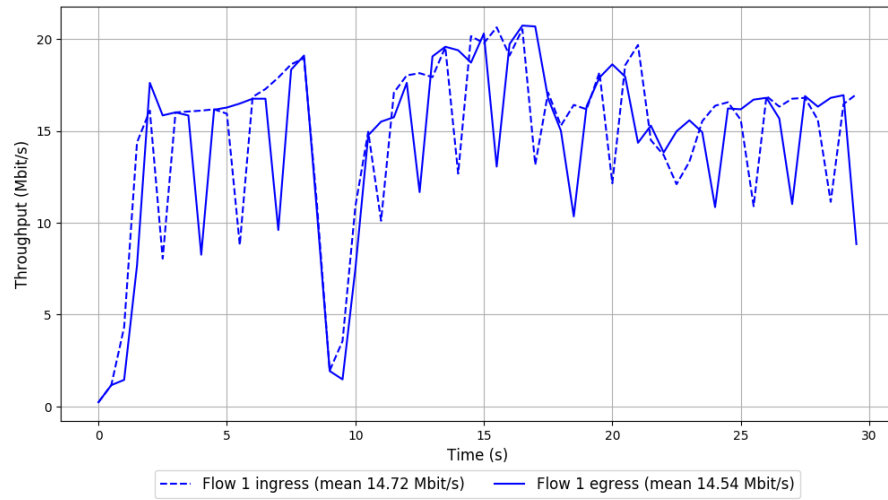
Run 3: Report of TCP Cubic — Data Link

```
Run 4: Statistics of TCP Cubic

Start at: 2018-01-09 07:24:51
End at: 2018-01-09 07:25:21

# Below is generated by plot.py at 2018-01-09 10:58:00
# Datalink statistics
-- Total of 1 flow:
Average throughput: 21.49 Mbit/s
95th percentile per-packet one-way delay: 138.766 ms
Loss rate: 1.99%
-- Flow 1:
Average throughput: 21.49 Mbit/s
95th percentile per-packet one-way delay: 138.766 ms
Loss rate: 1.99%
```
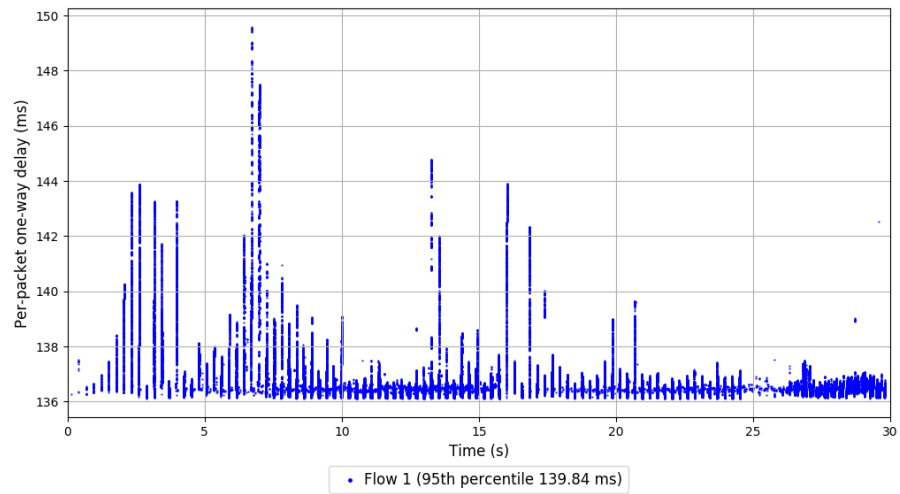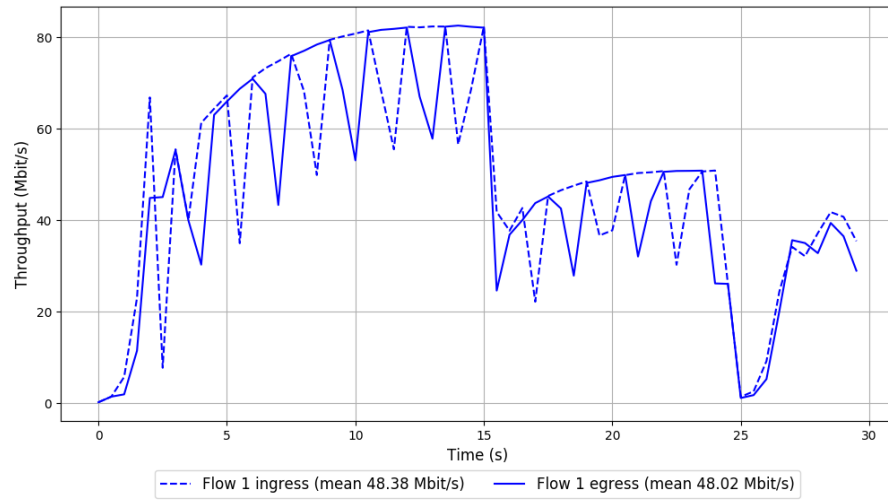
Run 4: Report of TCP Cubic — Data Link



Flow 1 ingress (mean 21.71 Mbit/s) --- Flow 1 egress (mean 21.49 Mbit/s)



Flow 1 (95th percentile 138.77 ms)

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```
Run 5: Statistics of TCP Cubic

Start at: 2018-01-09 07:37:17
End at: 2018-01-09 07:37:47

# Below is generated by plot.py at 2018-01-09 10:58:00
# Datalink statistics
-- Total of 1 flow:
Average throughput: 14.54 Mbit/s
95th percentile per-packet one-way delay: 138.154 ms
Loss rate: 2.11%
-- Flow 1:
Average throughput: 14.54 Mbit/s
95th percentile per-packet one-way delay: 138.154 ms
Loss rate: 2.11%
```
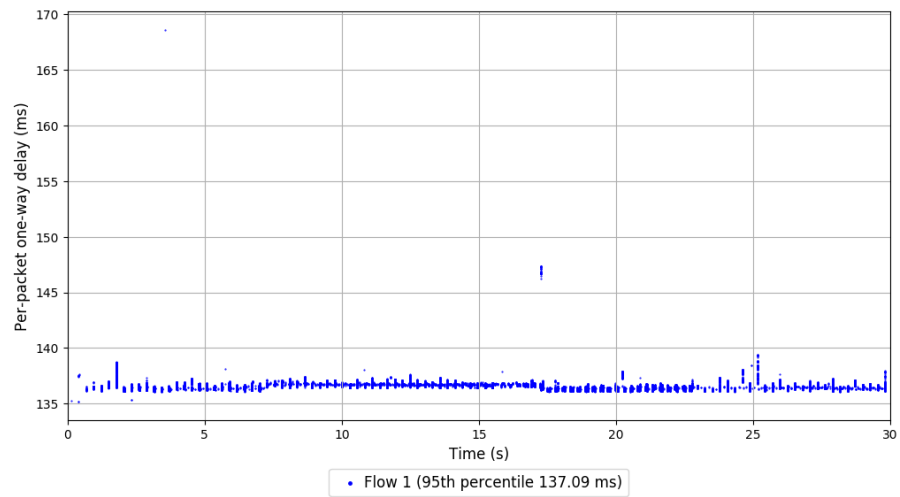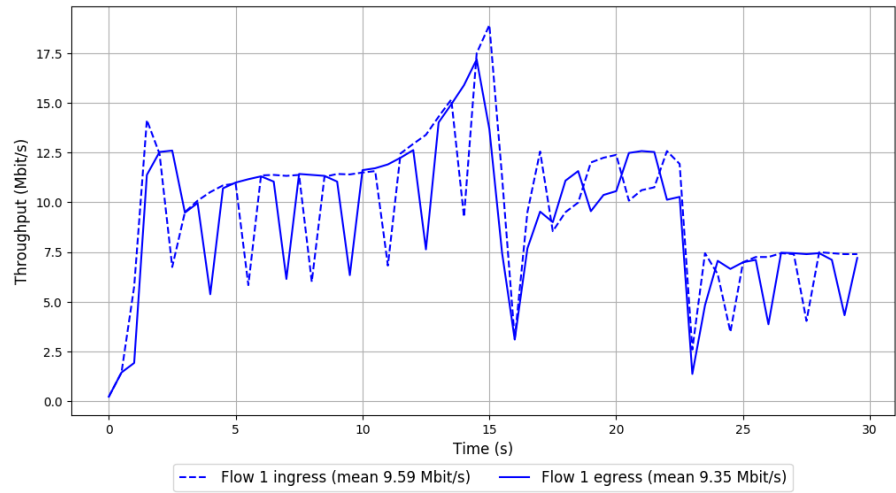
Run 5: Report of TCP Cubic — Data Link



Flow 1 ingress (mean 14.72 Mbit/s) ----- Flow 1 egress (mean 14.54 Mbit/s)



Flow 1 (95th percentile 138.15 ms)

```
Run 6: Statistics of TCP Cubic

Start at: 2018-01-09 07:49:57
End at: 2018-01-09 07:50:27

# Below is generated by plot.py at 2018-01-09 10:58:00
# Datalink statistics
-- Total of 1 flow:
Average throughput: 48.02 Mbit/s
95th percentile per-packet one-way delay: 139.841 ms
Loss rate: 1.65%
-- Flow 1:
Average throughput: 48.02 Mbit/s
95th percentile per-packet one-way delay: 139.841 ms
Loss rate: 1.65%
```
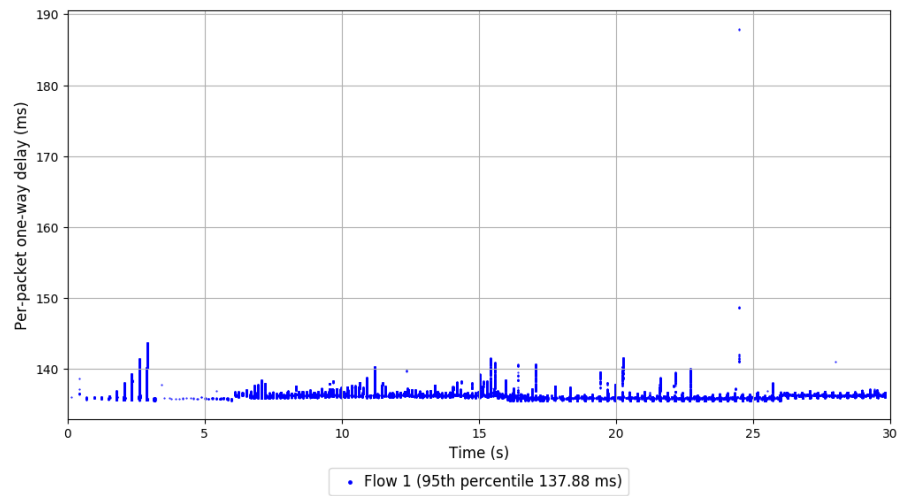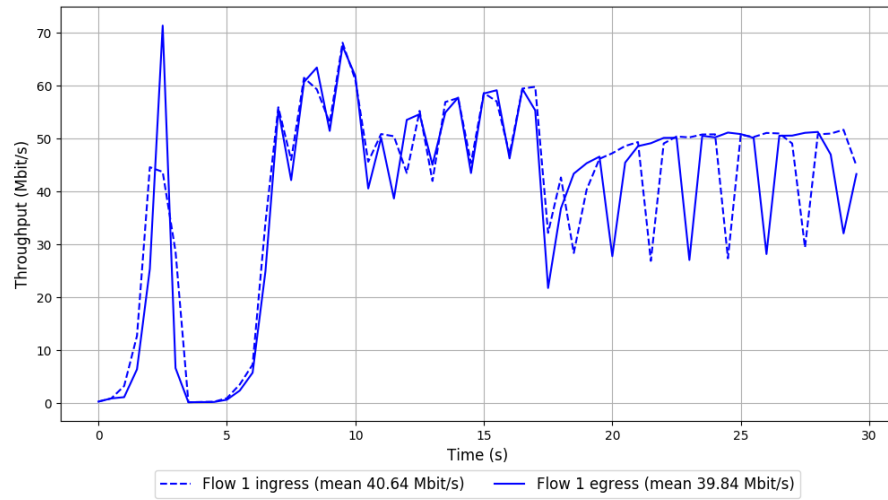
Run 6: Report of TCP Cubic — Data Link



Flow 1 ingress (mean 48.38 Mbit/s) — — — — Flow 1 egress (mean 48.02 Mbit/s) ———



Flow 1 (95th percentile 139.84 ms)

```
Run 7: Statistics of TCP Cubic

Start at: 2018-01-09 08:03:03
End at: 2018-01-09 08:03:33


# Below is generated by plot.py at 2018-01-09 10:58:00
# Datalink statistics
-- Total of 1 flow:
Average throughput: 9.35 Mbit/s
95th percentile per-packet one-way delay: 137.085 ms
Loss rate: 3.40%
-- Flow 1:
Average throughput: 9.35 Mbit/s
95th percentile per-packet one-way delay: 137.085 ms
Loss rate: 3.40%
```
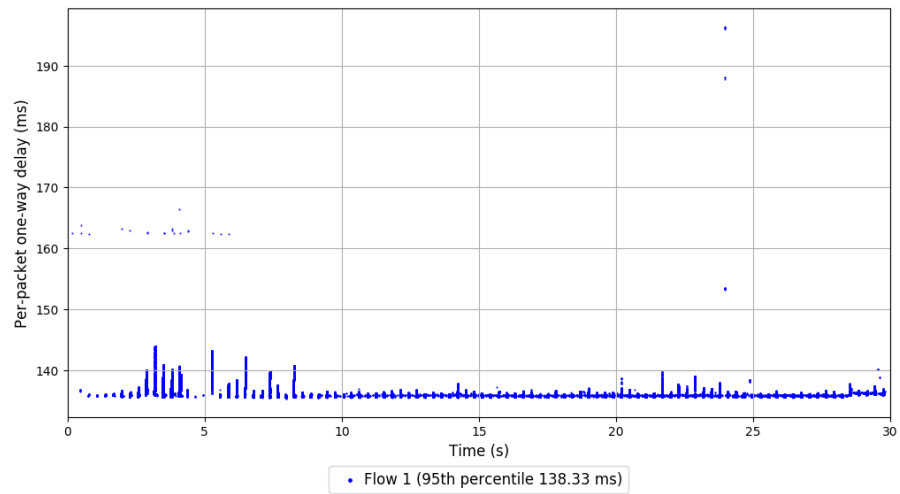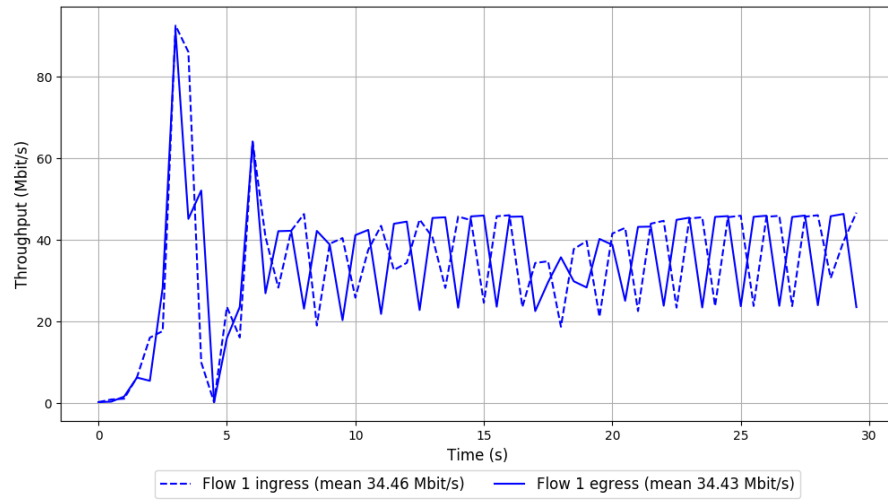
Run 7: Report of TCP Cubic — Data Link



Flow 1 ingress (mean 9.59 Mbit/s)    Flow 1 egress (mean 9.35 Mbit/s)



Flow 1 (95th percentile 137.09 ms)

```
Run 8: Statistics of TCP Cubic

Start at: 2018-01-09 08:15:44
End at: 2018-01-09 08:16:14

# Below is generated by plot.py at 2018-01-09 10:58:00
# Datalink statistics
-- Total of 1 flow:
Average throughput: 39.84 Mbit/s
95th percentile per-packet one-way delay: 137.880 ms
Loss rate: 2.88%
-- Flow 1:
Average throughput: 39.84 Mbit/s
95th percentile per-packet one-way delay: 137.880 ms
Loss rate: 2.88%
```
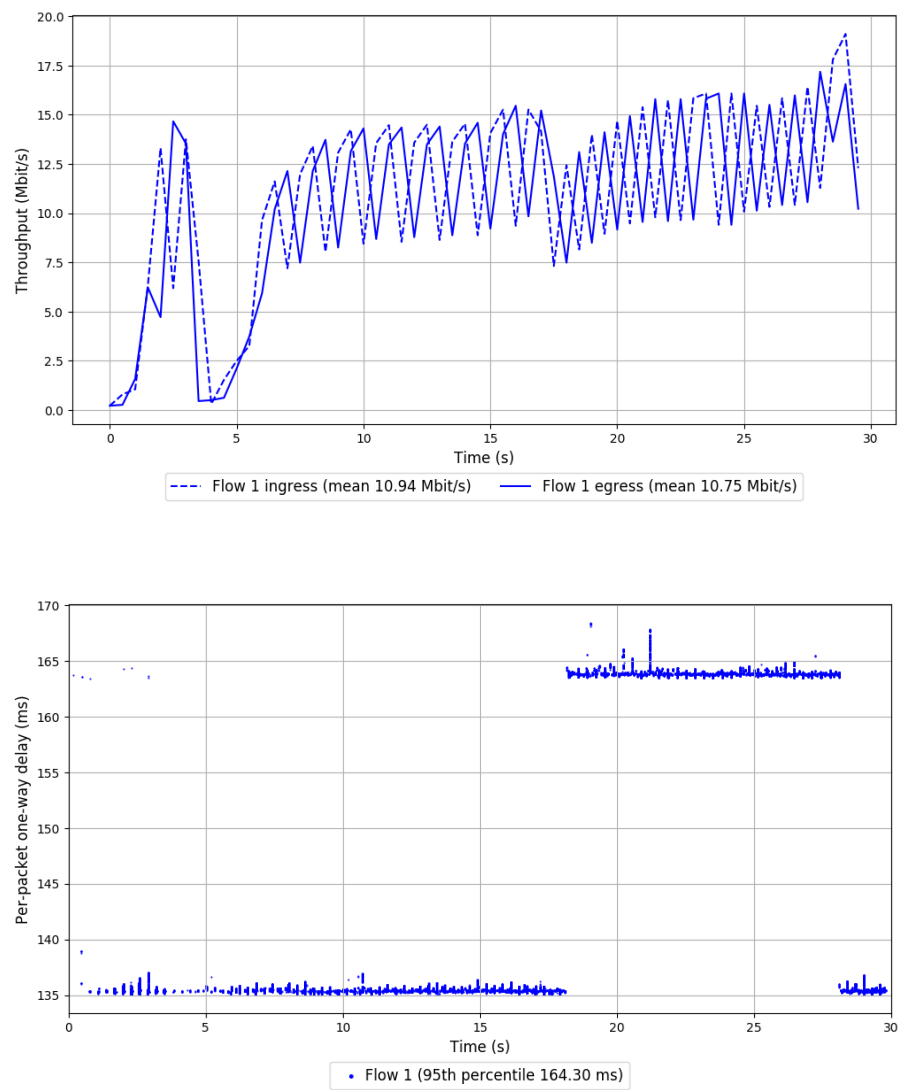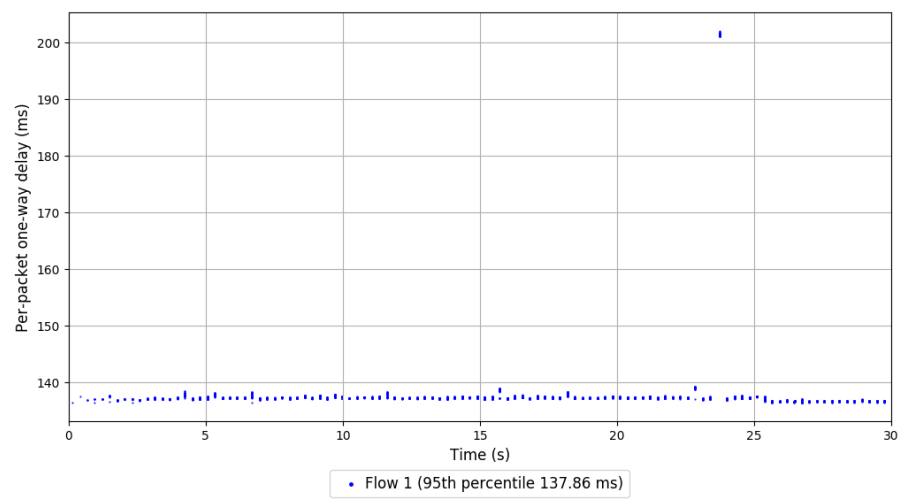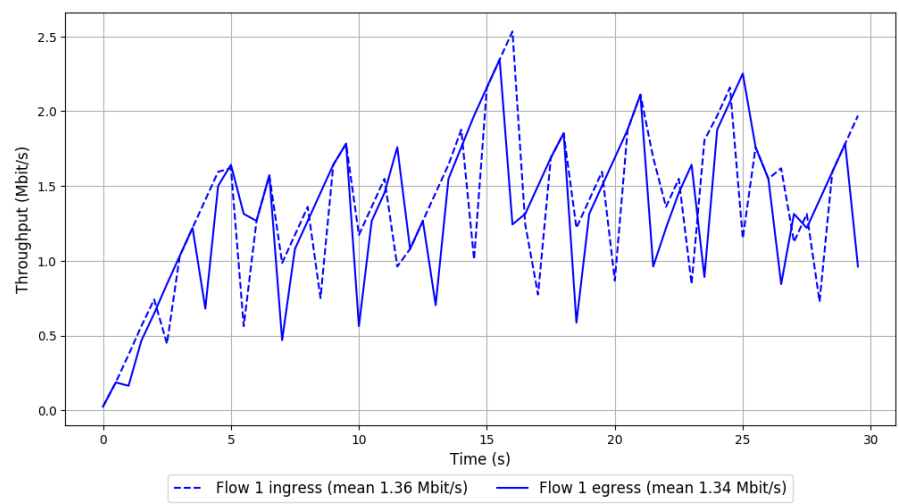
Run 8: Report of TCP Cubic — Data Link

```
Run 9: Statistics of TCP Cubic

Start at: 2018-01-09 08:28:42
End at: 2018-01-09 08:29:12


# Below is generated by plot.py at 2018-01-09 10:58:00
# Datalink statistics
-- Total of 1 flow:
Average throughput: 34.43 Mbit/s
95th percentile per-packet one-way delay: 138.327 ms
Loss rate: 1.17%
-- Flow 1:
Average throughput: 34.43 Mbit/s
95th percentile per-packet one-way delay: 138.327 ms
Loss rate: 1.17%
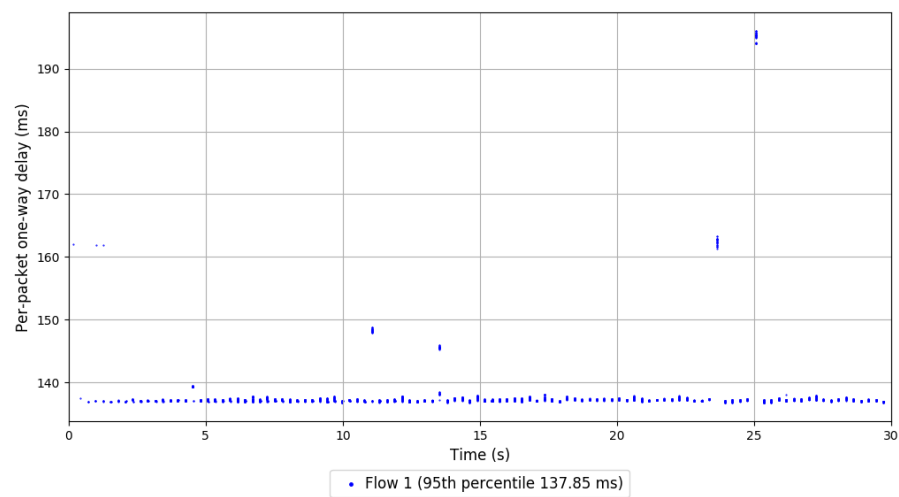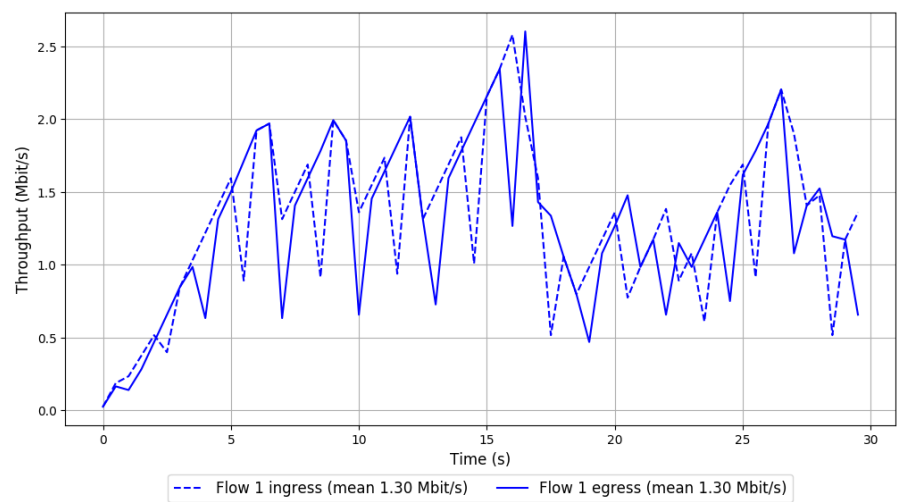```

Run 9: Report of TCP Cubic — Data Link

```
Run 10: Statistics of TCP Cubic

Start at: 2018-01-09 08:41:52
End at: 2018-01-09 08:42:22

# Below is generated by plot.py at 2018-01-09 10:58:00
# Datalink statistics
-- Total of 1 flow:
Average throughput: 10.75 Mbit/s
95th percentile per-packet one-way delay: 164.298 ms
Loss rate: 2.73%
-- Flow 1:
Average throughput: 10.75 Mbit/s
95th percentile per-packet one-way delay: 164.298 ms
Loss rate: 2.73%
```

Run 10: Report of TCP Cubic — Data Link

```
Run 1: Statistics of LEDBAT

Start at: 2018-01-09 06:36:35
End at: 2018-01-09 06:37:05

# Below is generated by plot.py at 2018-01-09 10:58:00
# Datalink statistics
-- Total of 1 flow:
Average throughput: 1.34 Mbit/s
95th percentile per-packet one-way delay: 137.856 ms
Loss rate: 2.11%
-- Flow 1:
Average throughput: 1.34 Mbit/s
95th percentile per-packet one-way delay: 137.856 ms
Loss rate: 2.11%
```
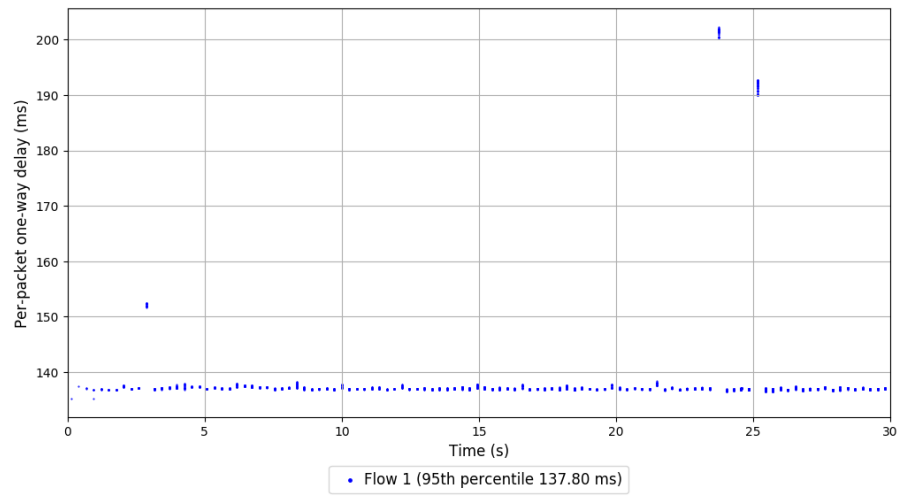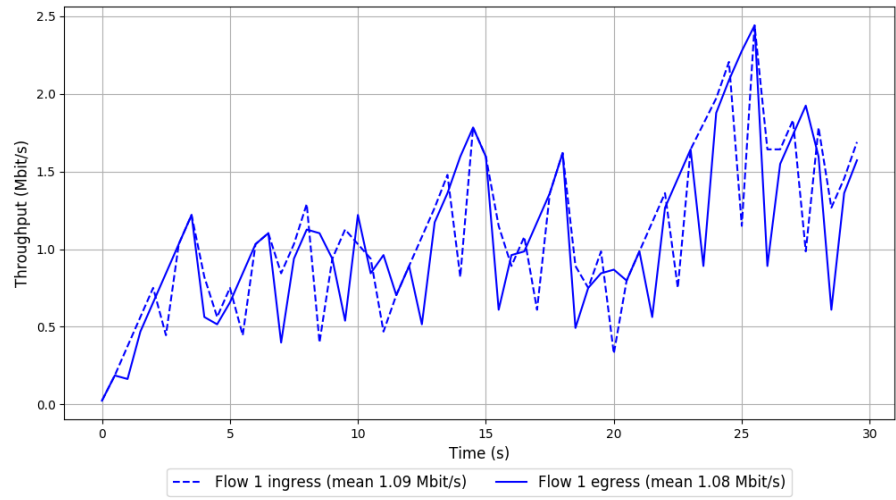
Run 1: Report of LEDBAT — Data Link

```
Run 2: Statistics of LEDBAT

Start at: 2018-01-09 06:49:32
End at: 2018-01-09 06:50:02

# Below is generated by plot.py at 2018-01-09 10:58:00
# Datalink statistics
-- Total of 1 flow:
Average throughput: 1.30 Mbit/s
95th percentile per-packet one-way delay: 137.849 ms
Loss rate: 1.11%
-- Flow 1:
Average throughput: 1.30 Mbit/s
95th percentile per-packet one-way delay: 137.849 ms
Loss rate: 1.11%
```
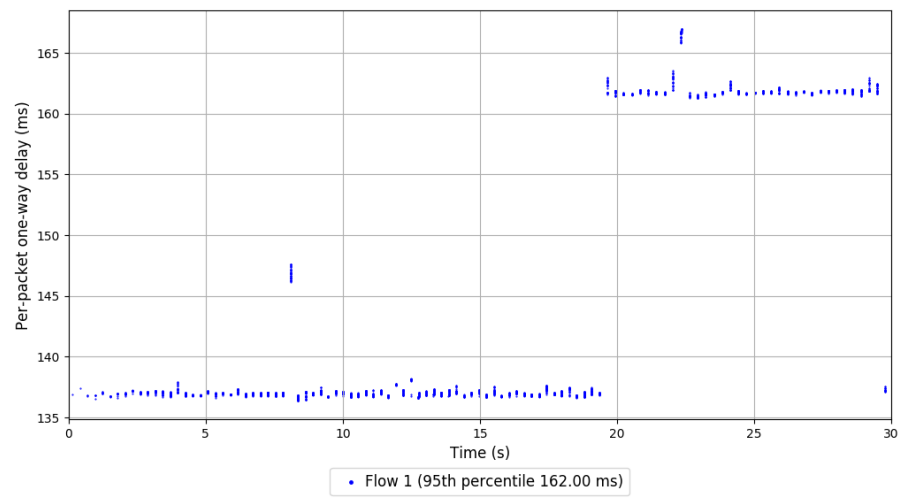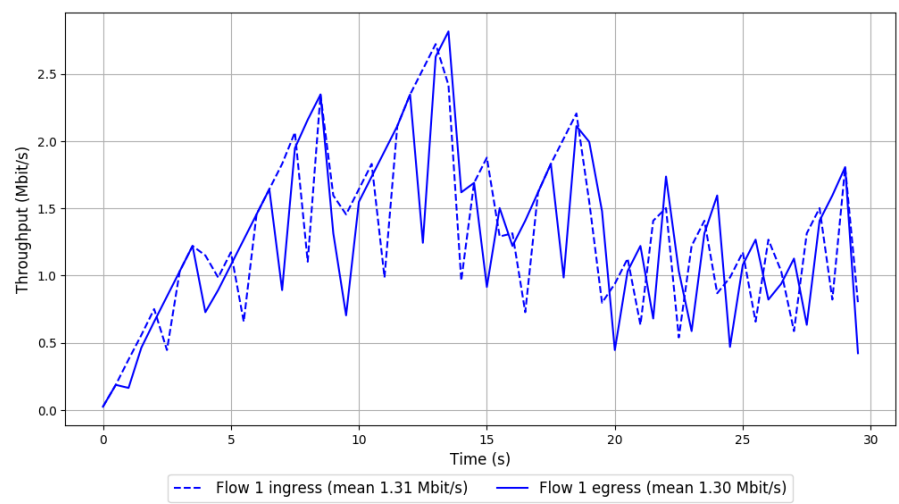
Run 2: Report of LEDBAT — Data Link

```
Run 3: Statistics of LEDBAT

Start at: 2018-01-09 07:02:22
End at: 2018-01-09 07:02:52

# Below is generated by plot.py at 2018-01-09 10:58:00
# Datalink statistics
-- Total of 1 flow:
Average throughput: 1.08 Mbit/s
95th percentile per-packet one-way delay: 137.803 ms
Loss rate: 1.62%
-- Flow 1:
Average throughput: 1.08 Mbit/s
95th percentile per-packet one-way delay: 137.803 ms
Loss rate: 1.62%
```
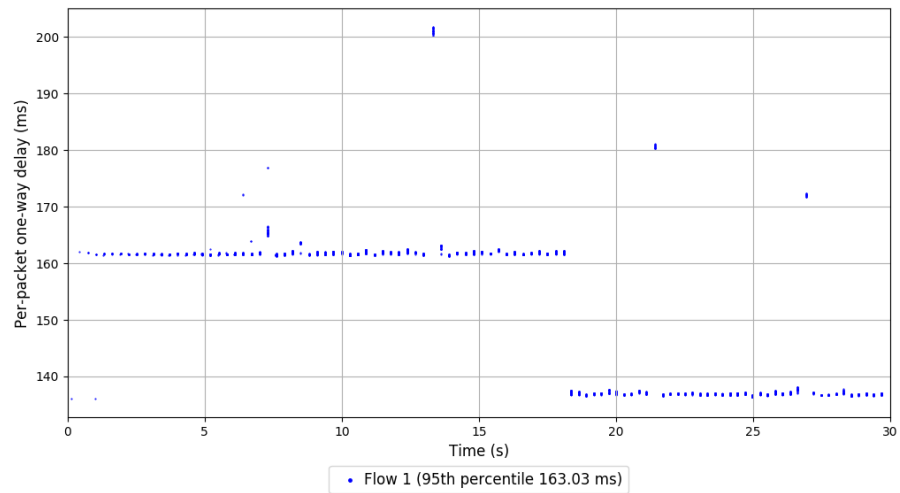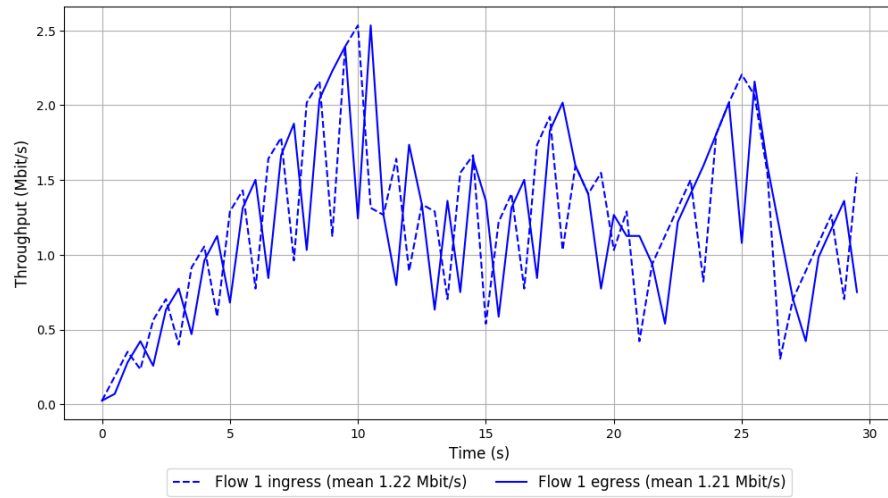
Run 3: Report of LEDBAT — Data Link

```
Run 4: Statistics of LEDBAT

Start at: 2018-01-09 07:15:21
End at: 2018-01-09 07:15:51

# Below is generated by plot.py at 2018-01-09 10:58:00
# Datalink statistics
-- Total of 1 flow:
Average throughput: 1.30 Mbit/s
95th percentile per-packet one-way delay: 162.005 ms
Loss rate: 1.47%
-- Flow 1:
Average throughput: 1.30 Mbit/s
95th percentile per-packet one-way delay: 162.005 ms
Loss rate: 1.47%
```
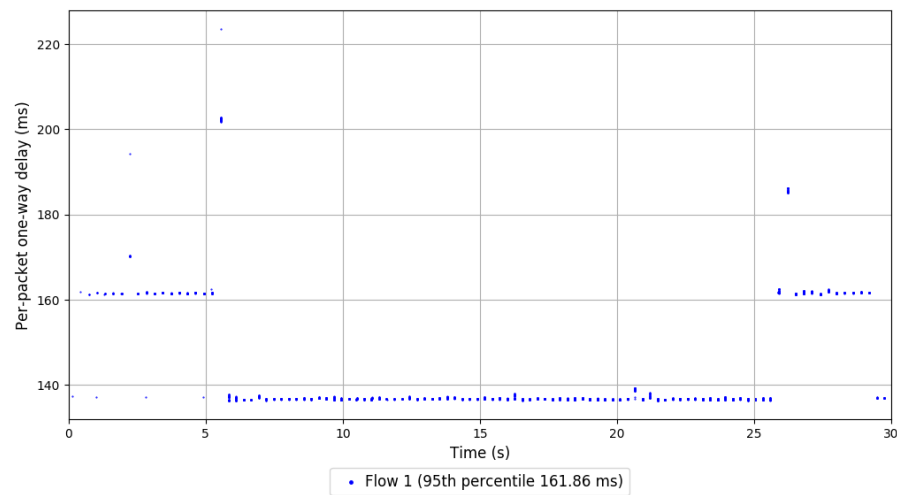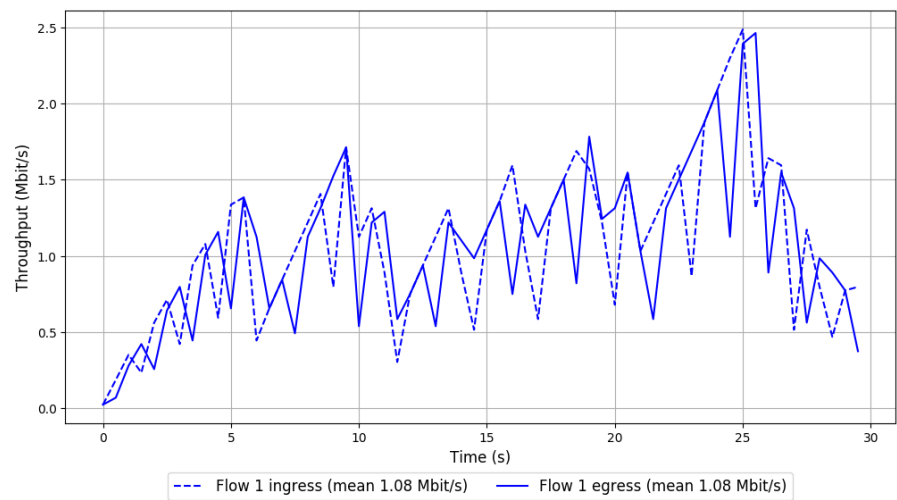
Run 4: Report of LEDBAT — Data Link

```
Run 5: Statistics of LEDBAT

Start at: 2018-01-09 07:27:52
End at: 2018-01-09 07:28:22

# Below is generated by plot.py at 2018-01-09 10:58:00
# Datalink statistics
-- Total of 1 flow:
Average throughput: 1.21 Mbit/s
95th percentile per-packet one-way delay: 163.027 ms
Loss rate: 1.39%
-- Flow 1:
Average throughput: 1.21 Mbit/s
95th percentile per-packet one-way delay: 163.027 ms
Loss rate: 1.39%
```
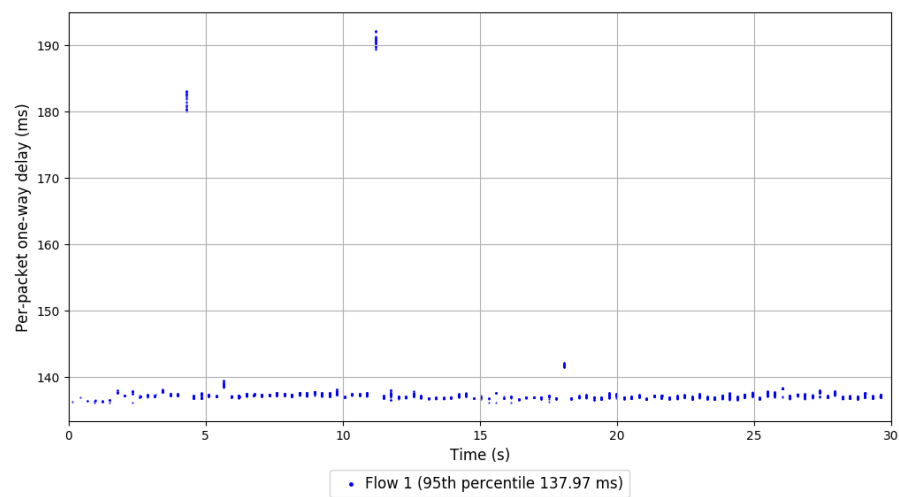
# Run 5: Report of LEDBAT — Data Link





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```
Run 6: Statistics of LEDBAT

Start at: 2018-01-09 07:40:15
End at: 2018-01-09 07:40:45

# Below is generated by plot.py at 2018-01-09 10:58:00
# Datalink statistics
-- Total of 1 flow:
Average throughput: 1.08 Mbit/s
95th percentile per-packet one-way delay: 161.859 ms
Loss rate: 0.84%
-- Flow 1:
Average throughput: 1.08 Mbit/s
95th percentile per-packet one-way delay: 161.859 ms
Loss rate: 0.84%
```
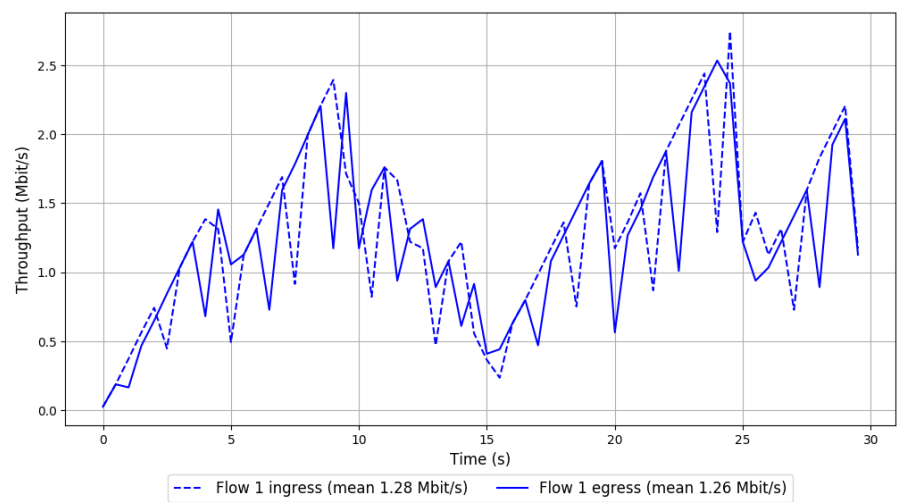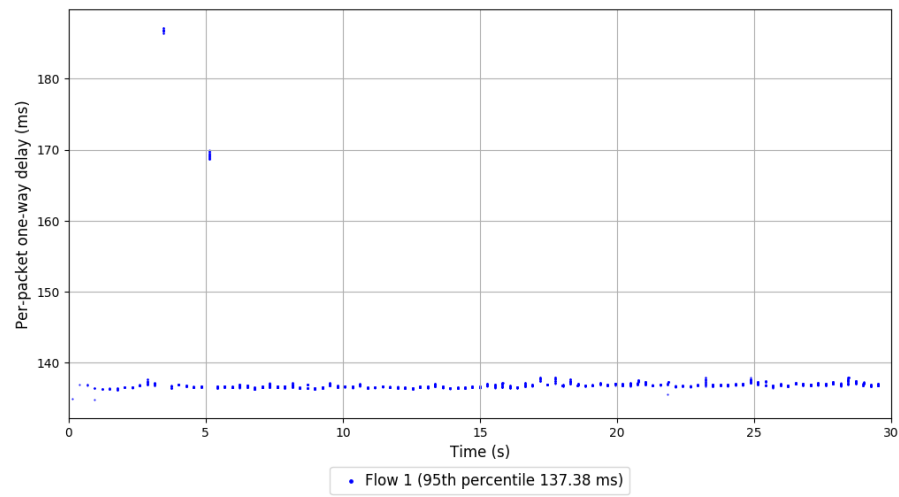
## Run 6: Report of LEDBAT — Data Link

```
Run 7: Statistics of LEDBAT

Start at: 2018-01-09 07:52:59
End at: 2018-01-09 07:53:29

# Below is generated by plot.py at 2018-01-09 10:58:00
# Datalink statistics
-- Total of 1 flow:
Average throughput: 1.26 Mbit/s
95th percentile per-packet one-way delay: 137.973 ms
Loss rate: 2.28%
-- Flow 1:
Average throughput: 1.26 Mbit/s
95th percentile per-packet one-way delay: 137.973 ms
Loss rate: 2.28%
```
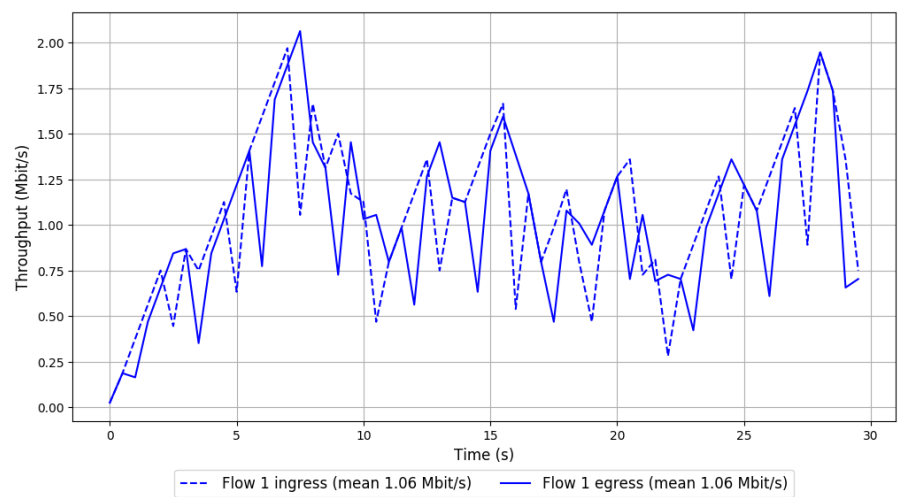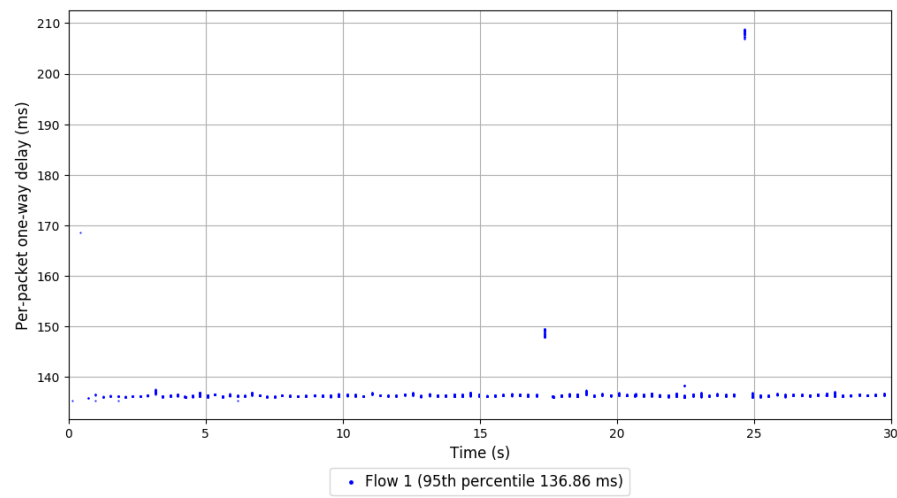
Run 7: Report of LEDBAT — Data Link



Flow 1 ingress (mean 1.28 Mbit/s)    Flow 1 egress (mean 1.26 Mbit/s)



Flow 1 (95th percentile 137.97 ms)

```
Run 8: Statistics of LEDBAT

Start at: 2018-01-09 08:06:03
End at: 2018-01-09 08:06:33

# Below is generated by plot.py at 2018-01-09 10:58:00
# Datalink statistics
-- Total of 1 flow:
Average throughput: 1.06 Mbit/s
95th percentile per-packet one-way delay: 137.375 ms
Loss rate: 1.53%
-- Flow 1:
Average throughput: 1.06 Mbit/s
95th percentile per-packet one-way delay: 137.375 ms
Loss rate: 1.53%
```
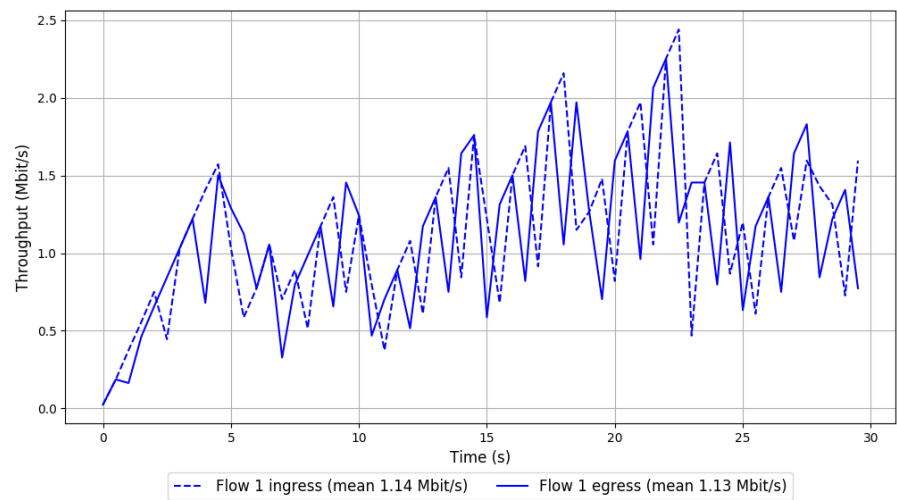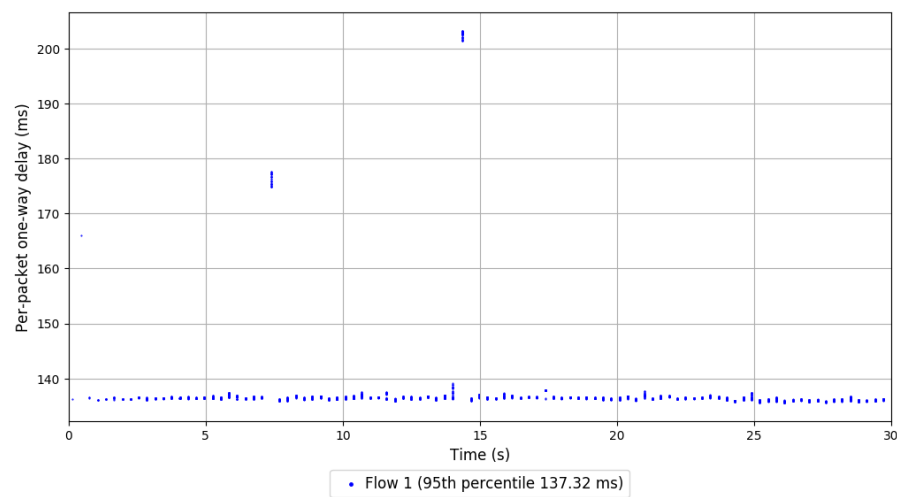
Run 8: Report of LEDBAT — Data Link

```
Run 9: Statistics of LEDBAT

Start at: 2018-01-09 08:18:40
End at: 2018-01-09 08:19:10

# Below is generated by plot.py at 2018-01-09 10:58:00
# Datalink statistics
-- Total of 1 flow:
Average throughput: 1.13 Mbit/s
95th percentile per-packet one-way delay: 136.861 ms
Loss rate: 2.00%
-- Flow 1:
Average throughput: 1.13 Mbit/s
95th percentile per-packet one-way delay: 136.861 ms
Loss rate: 2.00%
```
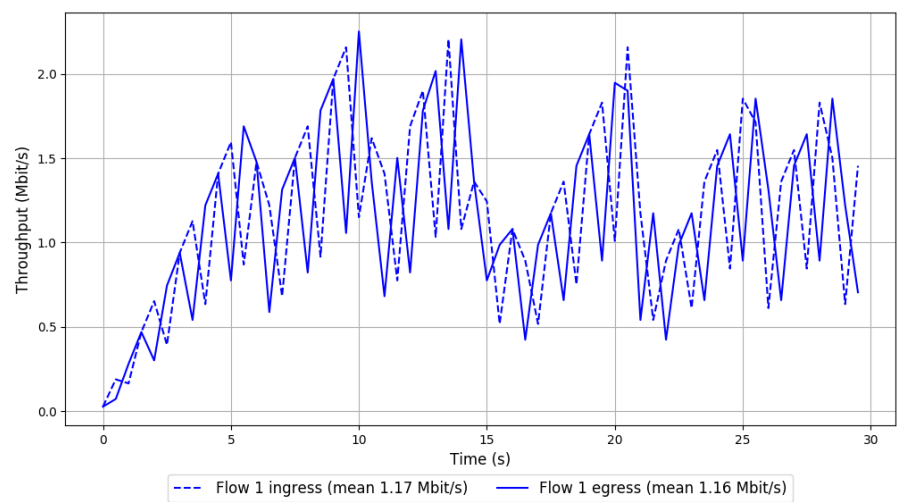
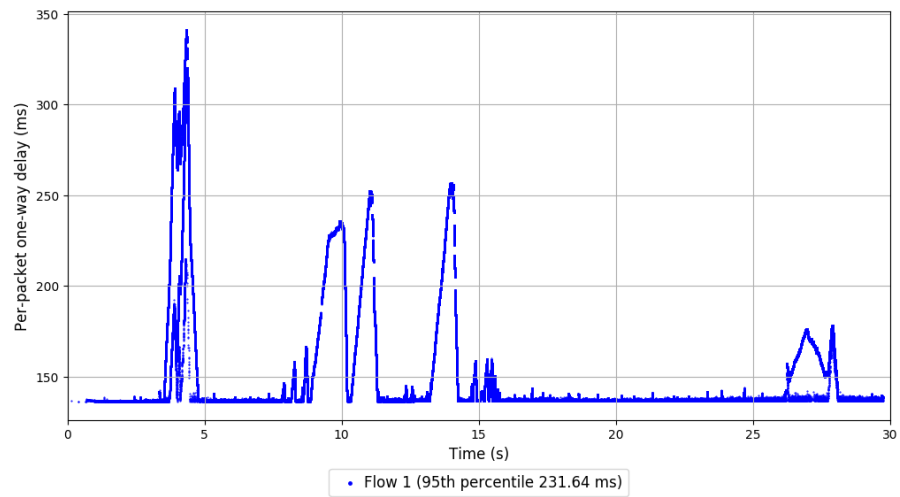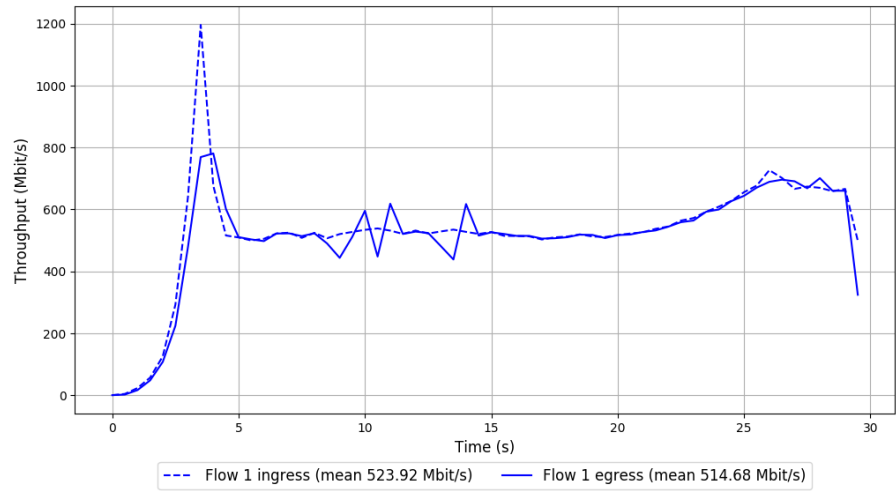Run 9: Report of LEDBAT — Data Link

```
Run 10: Statistics of LEDBAT

Start at: 2018-01-09 08:31:47
End at: 2018-01-09 08:32:17

# Below is generated by plot.py at 2018-01-09 10:58:00
# Datalink statistics
-- Total of 1 flow:
Average throughput: 1.16 Mbit/s
95th percentile per-packet one-way delay: 137.320 ms
Loss rate: 1.98%
-- Flow 1:
Average throughput: 1.16 Mbit/s
95th percentile per-packet one-way delay: 137.320 ms
Loss rate: 1.98%
```

# Run 10: Report of LEDBAT — Data Link

```
Run 1: Statistics of PCC

Start at: 2018-01-09 06:39:15
End at: 2018-01-09 06:39:45

# Below is generated by plot.py at 2018-01-09 11:05:41
# Datalink statistics
-- Total of 1 flow:
Average throughput: 514.68 Mbit/s
95th percentile per-packet one-way delay: 231.637 ms
Loss rate: 2.66%
-- Flow 1:
Average throughput: 514.68 Mbit/s
95th percentile per-packet one-way delay: 231.637 ms
Loss rate: 2.66%
```
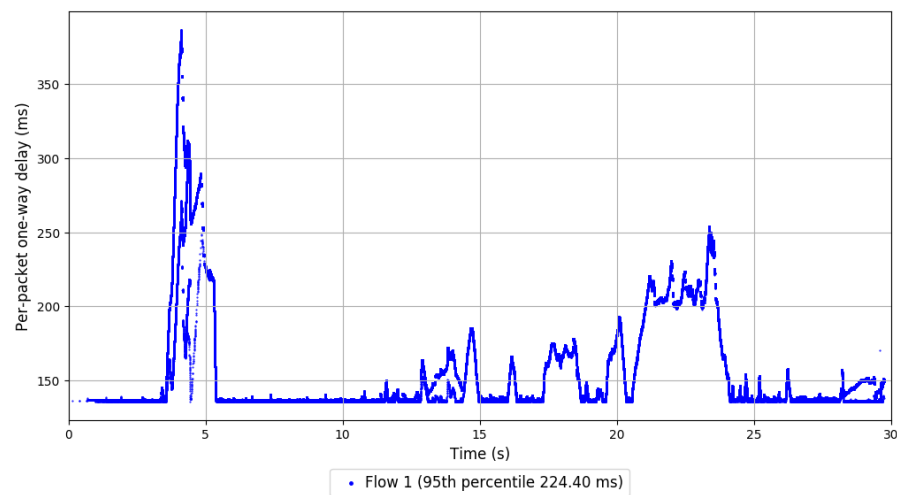
Run 1: Report of PCC — Data Link



Flow 1 ingress (mean 523.92 Mbit/s)     Flow 1 egress (mean 514.68 Mbit/s)



• Flow 1 (95th percentile 231.64 ms)

```
Run 2: Statistics of PCC

Start at: 2018-01-09 06:52:05
End at: 2018-01-09 06:52:35

# Below is generated by plot.py at 2018-01-09 11:06:44
# Datalink statistics
-- Total of 1 flow:
Average throughput: 578.79 Mbit/s
95th percentile per-packet one-way delay: 224.400 ms
Loss rate: 3.70%
-- Flow 1:
Average throughput: 578.79 Mbit/s
95th percentile per-packet one-way delay: 224.400 ms
Loss rate: 3.70%
```
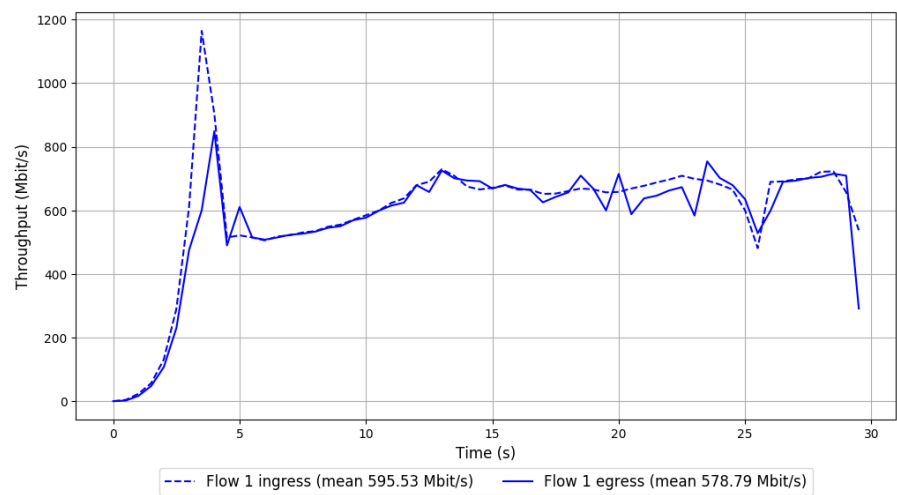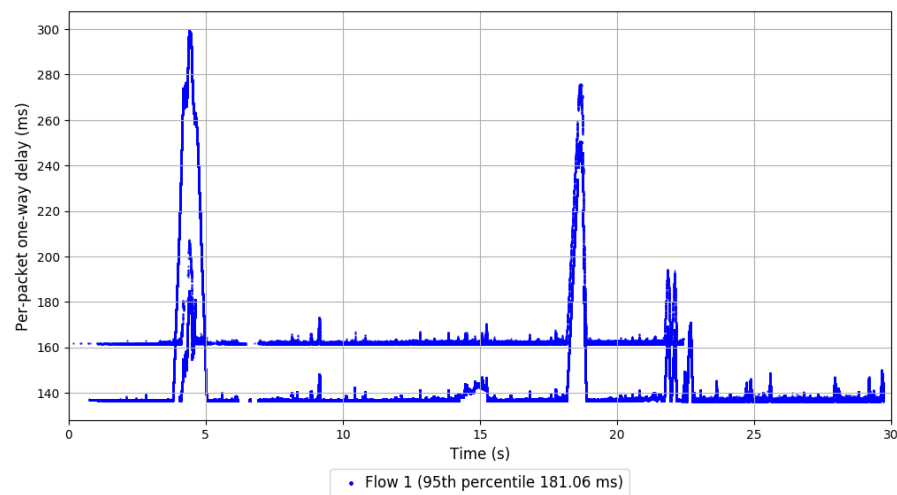
Run 2: Report of PCC — Data Link



Flow 1 ingress (mean 595.53 Mbit/s)　Flow 1 egress (mean 578.79 Mbit/s)



Flow 1 (95th percentile 224.40 ms)

```
Run 3: Statistics of PCC

Start at: 2018-01-09 07:04:48
End at: 2018-01-09 07:05:18


# Below is generated by plot.py at 2018-01-09 11:06:44
# Datalink statistics
-- Total of 1 flow:
Average throughput: 540.57 Mbit/s
95th percentile per-packet one-way delay: 181.060 ms
Loss rate: 2.43%
-- Flow 1:
Average throughput: 540.57 Mbit/s
95th percentile per-packet one-way delay: 181.060 ms
Loss rate: 2.43%
```
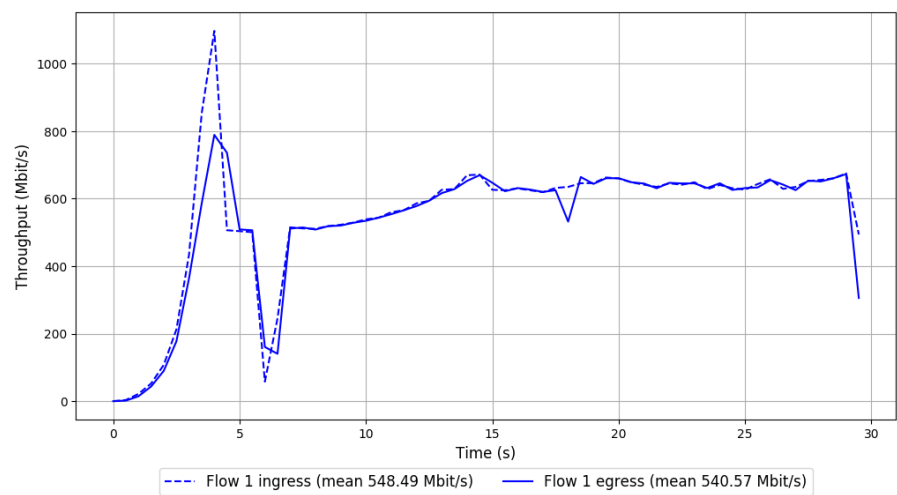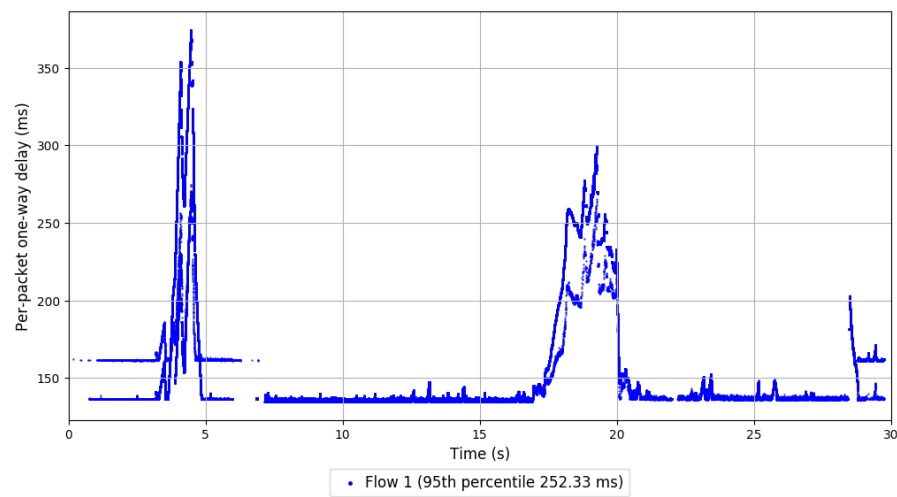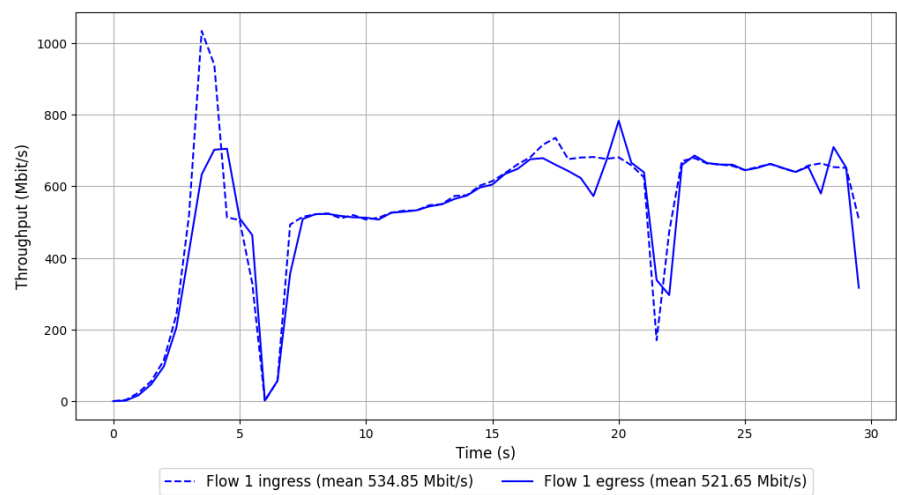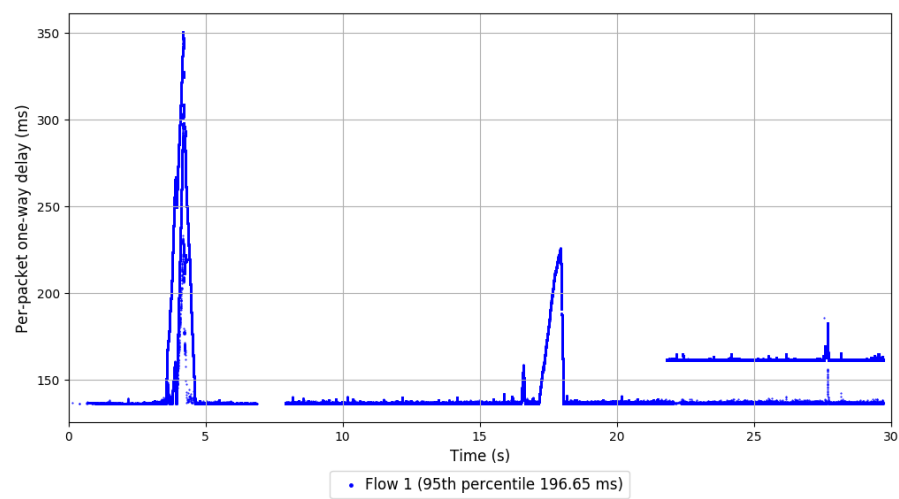
# Run 3: Report of PCC — Data Link

```
Run 4: Statistics of PCC

Start at: 2018-01-09 07:17:42
End at: 2018-01-09 07:18:12


# Below is generated by plot.py at 2018-01-09 11:06:44
# Datalink statistics
-- Total of 1 flow:
Average throughput: 521.65 Mbit/s
95th percentile per-packet one-way delay: 252.329 ms
Loss rate: 3.45%
-- Flow 1:
Average throughput: 521.65 Mbit/s
95th percentile per-packet one-way delay: 252.329 ms
Loss rate: 3.45%
```
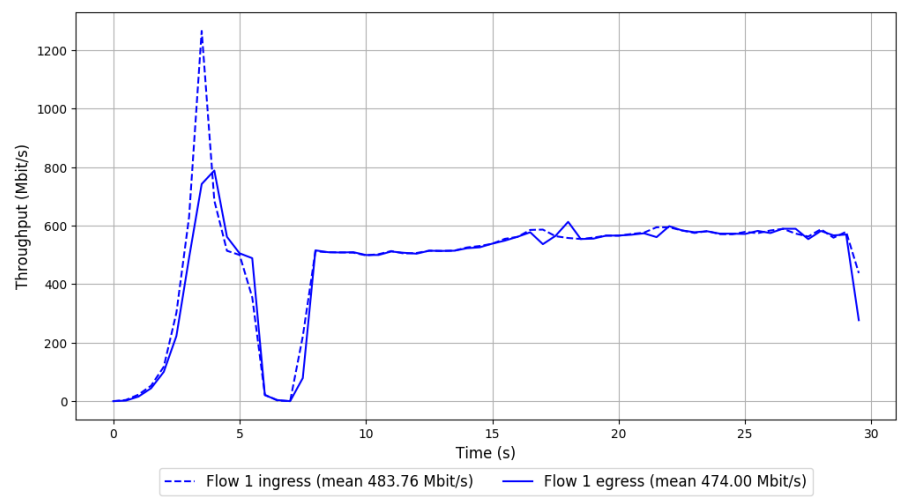
Run 4: Report of PCC — Data Link

```
Run 5: Statistics of PCC

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


# Below is generated by plot.py at 2018-01-09 11:06:44
# Datalink statistics
-- Total of 1 flow:
Average throughput: 474.00 Mbit/s
95th percentile per-packet one-way delay: 196.651 ms
Loss rate: 2.92%
-- Flow 1:
Average throughput: 474.00 Mbit/s
95th percentile per-packet one-way delay: 196.651 ms
Loss rate: 2.92%
```
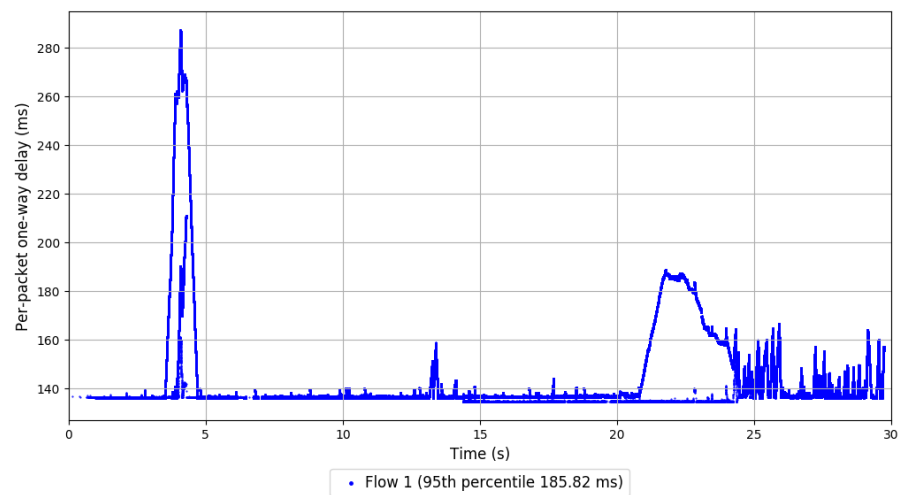
# Run 5: Report of PCC — Data Link





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```
Run 6: Statistics of PCC

Start at: 2018-01-09 07:42:36
End at: 2018-01-09 07:43:06

# Below is generated by plot.py at 2018-01-09 11:06:44
# Datalink statistics
-- Total of 1 flow:
Average throughput: 537.57 Mbit/s
95th percentile per-packet one-way delay: 185.816 ms
Loss rate: 2.11%
-- Flow 1:
Average throughput: 537.57 Mbit/s
95th percentile per-packet one-way delay: 185.816 ms
Loss rate: 2.11%
```
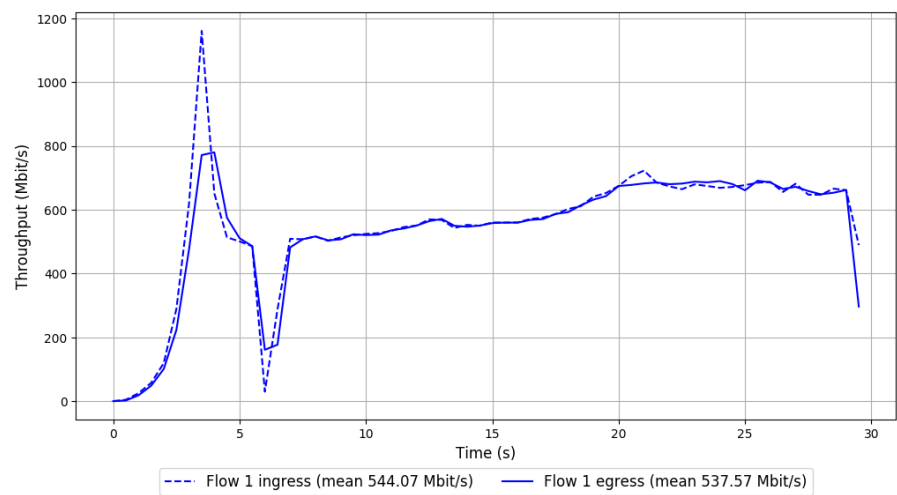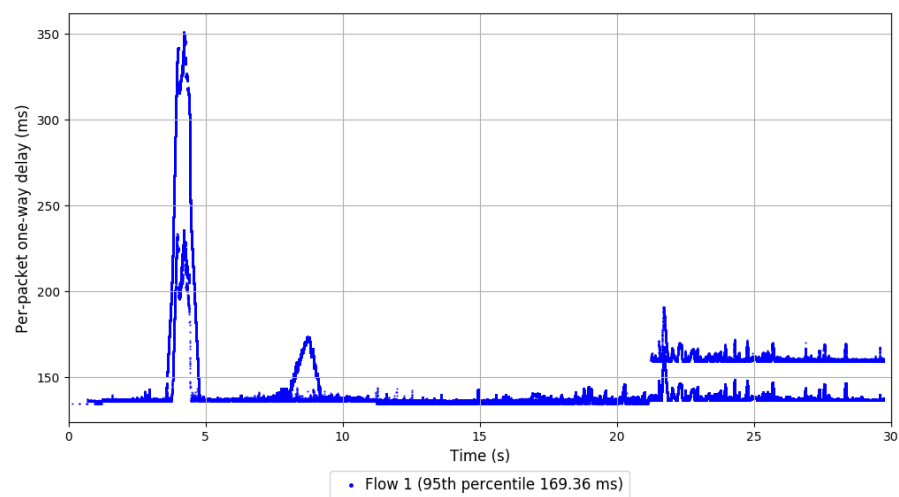
# Run 6: Report of PCC — Data Link

```
Run 7: Statistics of PCC

Start at: 2018-01-09 07:55:39
End at: 2018-01-09 07:56:09

# Below is generated by plot.py at 2018-01-09 11:06:44
# Datalink statistics
-- Total of 1 flow:
Average throughput: 534.97 Mbit/s
95th percentile per-packet one-way delay: 169.362 ms
Loss rate: 2.55%
-- Flow 1:
Average throughput: 534.97 Mbit/s
95th percentile per-packet one-way delay: 169.362 ms
Loss rate: 2.55%
```
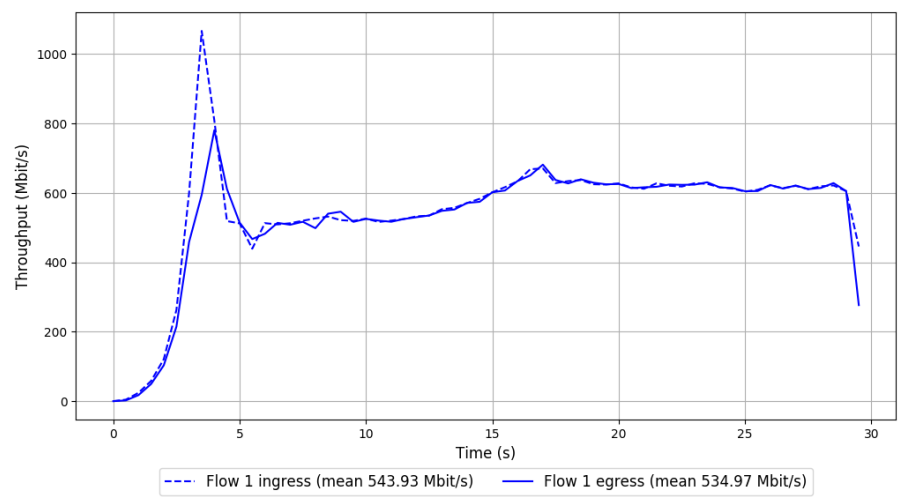
Run 7: Report of PCC — Data Link

```
Run 8: Statistics of PCC

Start at: 2018-01-09 08:08:27
End at: 2018-01-09 08:08:57


# Below is generated by plot.py at 2018-01-09 11:06:44
# Datalink statistics
-- Total of 1 flow:
Average throughput: 511.15 Mbit/s
95th percentile per-packet one-way delay: 206.982 ms
Loss rate: 1.96%
-- Flow 1:
Average throughput: 511.15 Mbit/s
95th percentile per-packet one-way delay: 206.982 ms
Loss rate: 1.96%
```
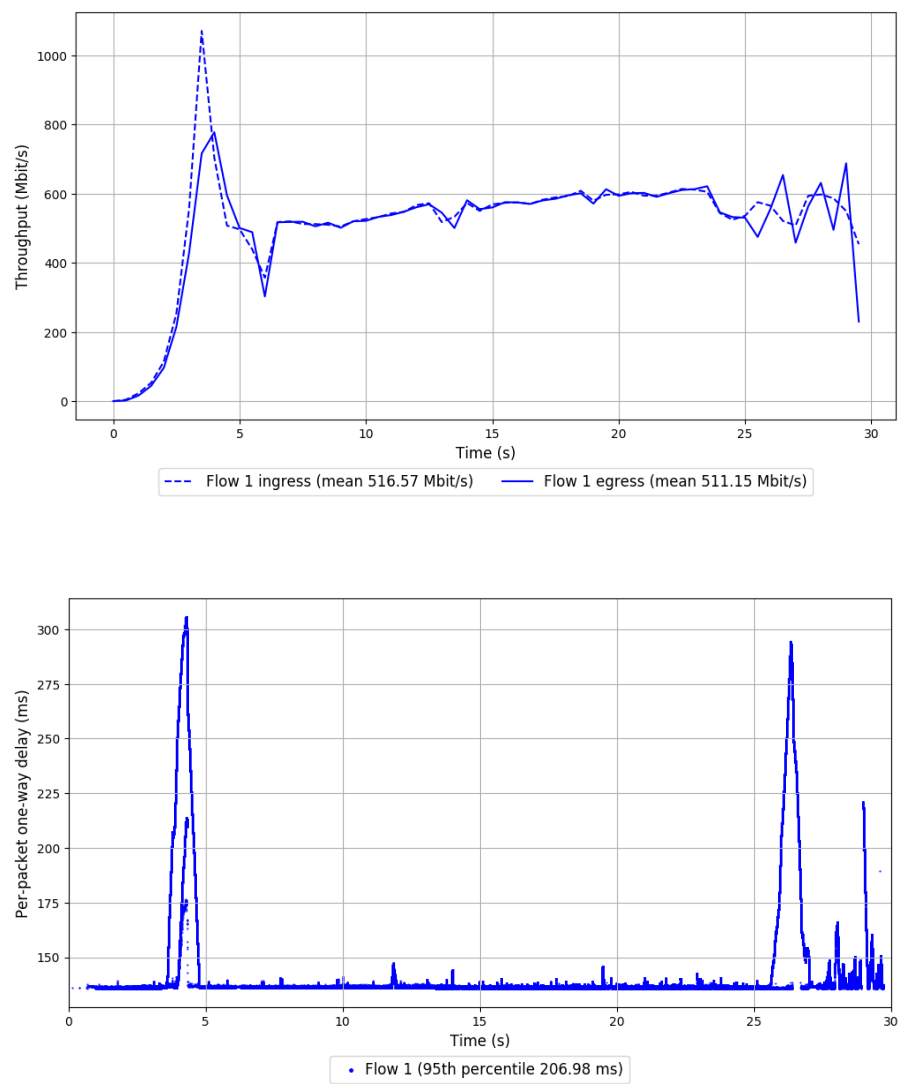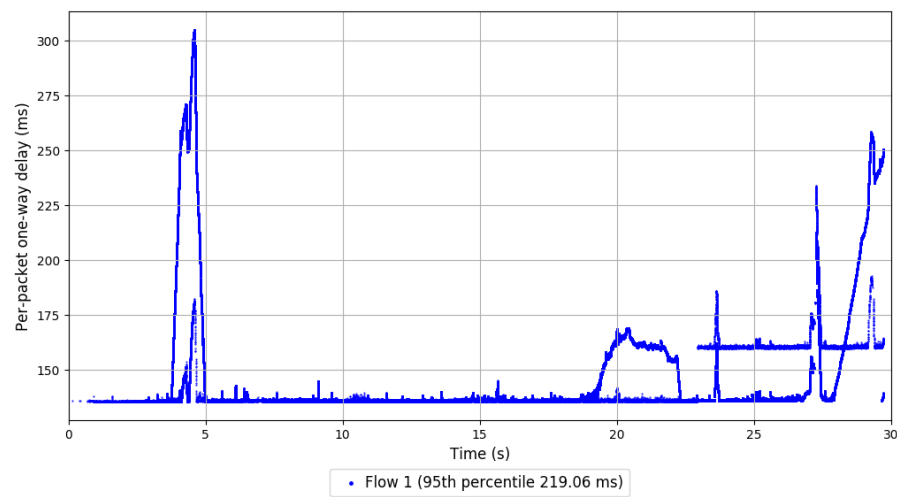
Run 8: Report of PCC — Data Link





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```
Run 9: Statistics of PCC

Start at: 2018-01-09 08:21:15
End at: 2018-01-09 08:21:45

# Below is generated by plot.py at 2018-01-09 11:14:19
# Datalink statistics
-- Total of 1 flow:
Average throughput: 532.96 Mbit/s
95th percentile per-packet one-way delay: 219.055 ms
Loss rate: 2.73%
-- Flow 1:
Average throughput: 532.96 Mbit/s
95th percentile per-packet one-way delay: 219.055 ms
Loss rate: 2.73%
```
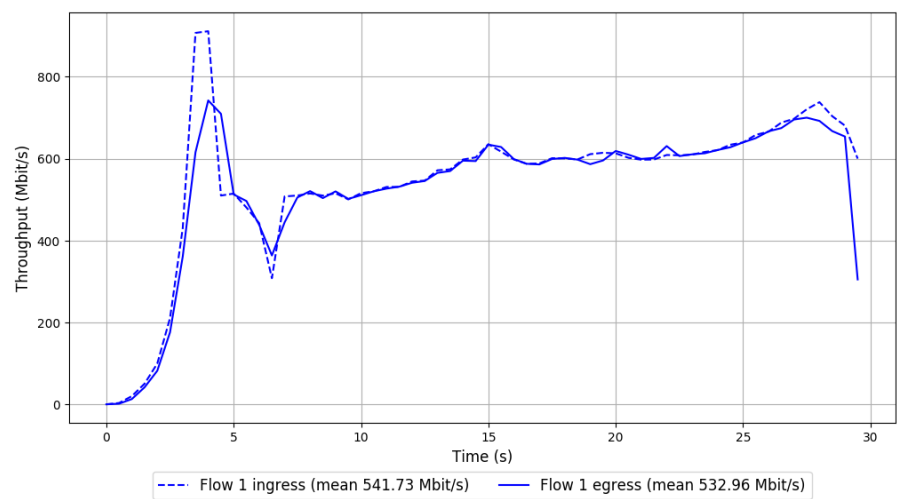
## Run 9: Report of PCC — Data Link



Flow 1 ingress (mean 541.73 Mbit/s)    Flow 1 egress (mean 532.96 Mbit/s)



Flow 1 (95th percentile 219.06 ms)

```
Run 10: Statistics of PCC

Start at: 2018-01-09 08:34:28
End at: 2018-01-09 08:34:58

# Below is generated by plot.py at 2018-01-09 11:14:37
# Datalink statistics
-- Total of 1 flow:
Average throughput: 537.46 Mbit/s
95th percentile per-packet one-way delay: 244.833 ms
Loss rate: 3.09%
-- Flow 1:
Average throughput: 537.46 Mbit/s
95th percentile per-packet one-way delay: 244.833 ms
Loss rate: 3.09%
```
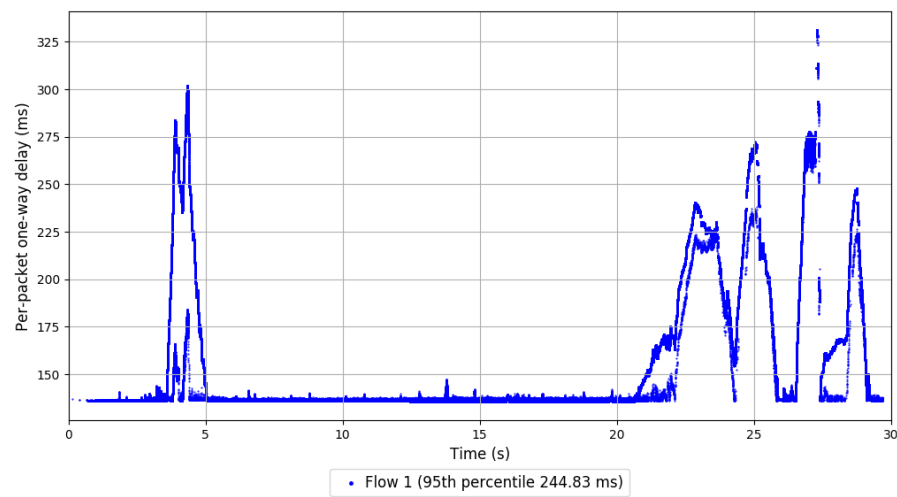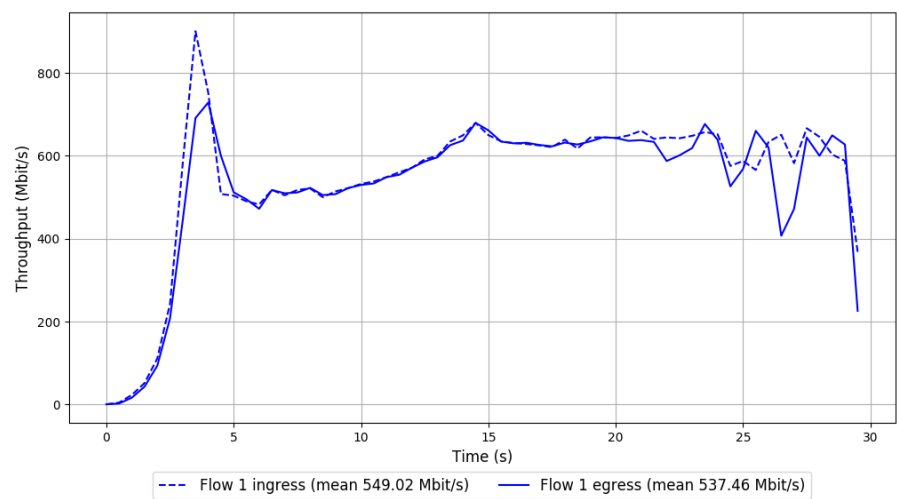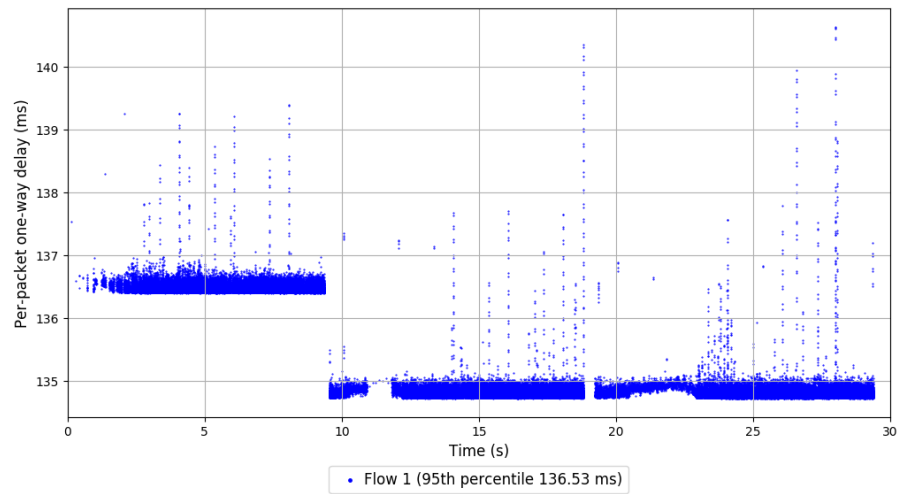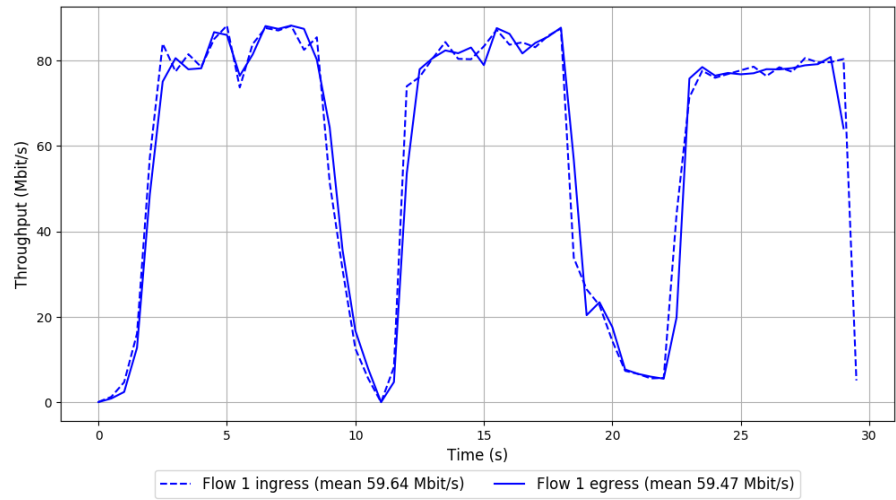
## Run 10: Report of PCC — Data Link

```
Run 1: Statistics of QUIC Cubic

Start at: 2018-01-09 06:41:58
End at: 2018-01-09 06:42:28

# Below is generated by plot.py at 2018-01-09 11:14:37
# Datalink statistics
-- Total of 1 flow:
Average throughput: 59.47 Mbit/s
95th percentile per-packet one-way delay: 136.529 ms
Loss rate: 1.20%
-- Flow 1:
Average throughput: 59.47 Mbit/s
95th percentile per-packet one-way delay: 136.529 ms
Loss rate: 1.20%
```
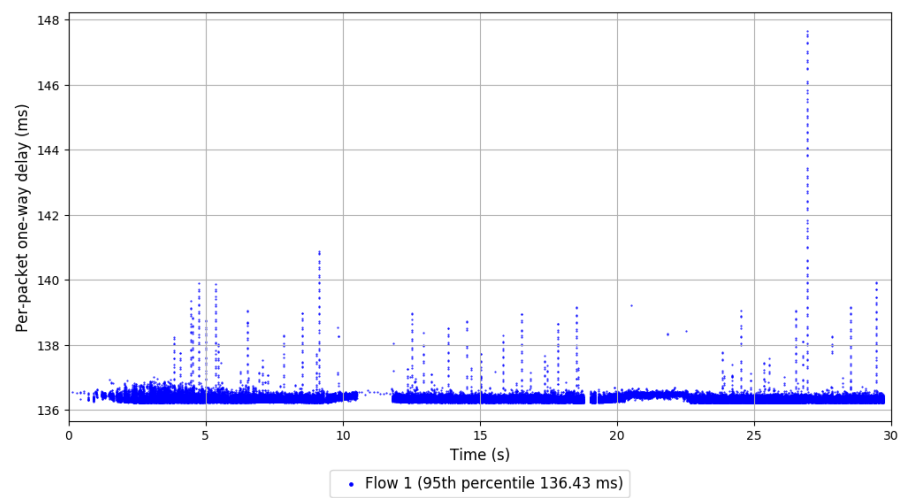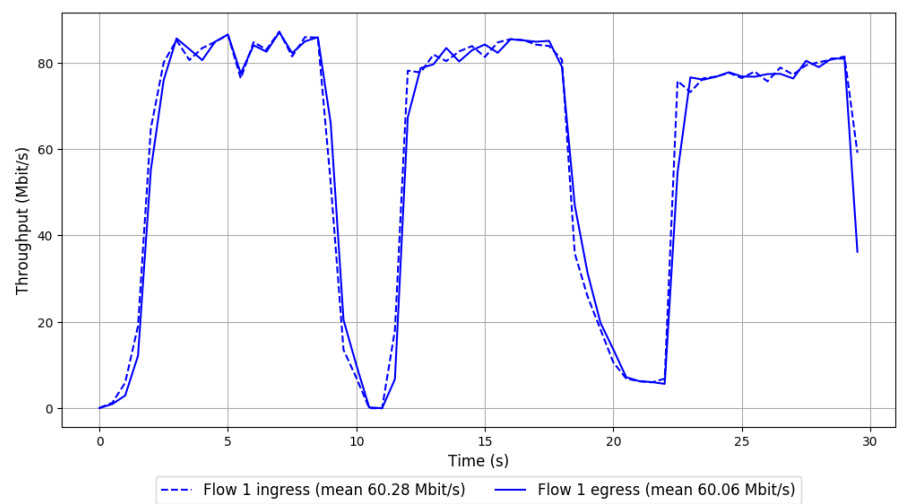
# Run 1: Report of QUIC Cubic — Data Link



Flow 1 ingress (mean 59.64 Mbit/s)　　Flow 1 egress (mean 59.47 Mbit/s)



Flow 1 (95th percentile 136.53 ms)

```
Run 2: Statistics of QUIC Cubic

Start at: 2018-01-09 06:54:48
End at: 2018-01-09 06:55:18

# Below is generated by plot.py at 2018-01-09 11:14:37
# Datalink statistics
-- Total of 1 flow:
Average throughput: 60.06 Mbit/s
95th percentile per-packet one-way delay: 136.425 ms
Loss rate: 1.27%
-- Flow 1:
Average throughput: 60.06 Mbit/s
95th percentile per-packet one-way delay: 136.425 ms
Loss rate: 1.27%
```
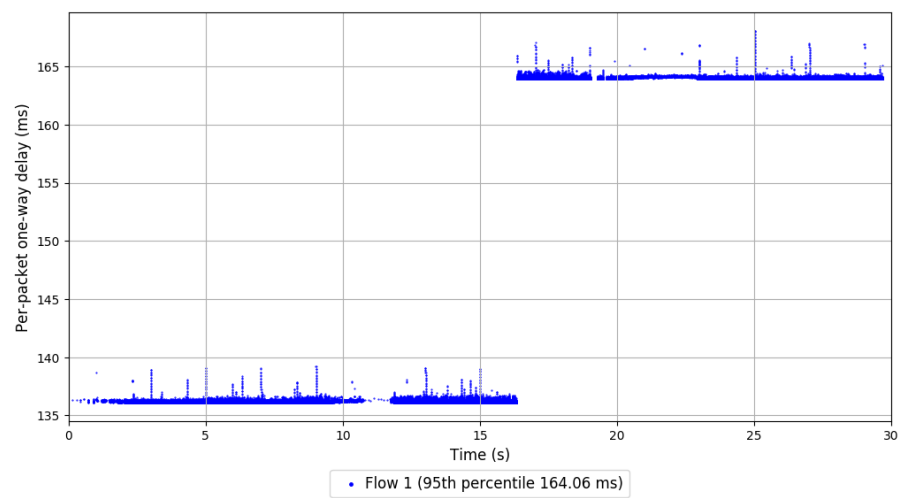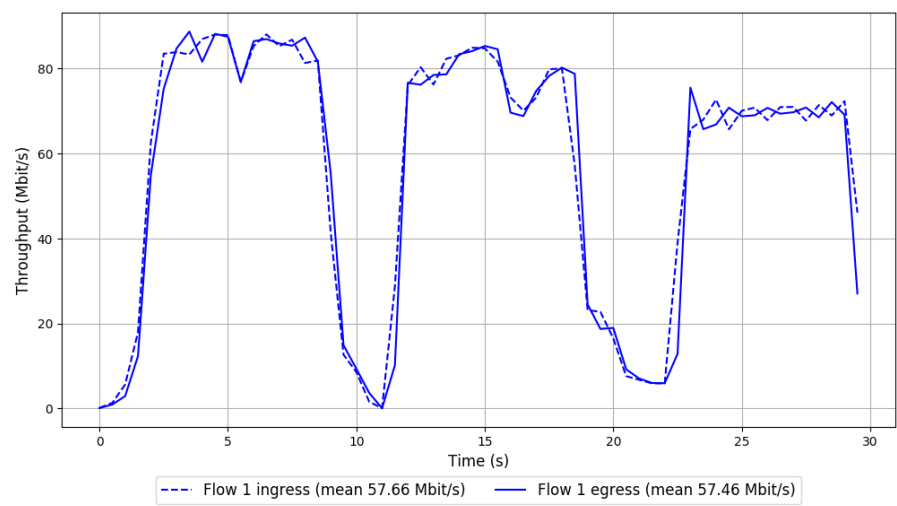
Run 2: Report of QUIC Cubic — Data Link



Flow 1 ingress (mean 60.28 Mbit/s)    Flow 1 egress (mean 60.06 Mbit/s)



Flow 1 (95th percentile 136.43 ms)

```
Run 3: Statistics of QUIC Cubic

Start at: 2018-01-09 07:07:32
End at: 2018-01-09 07:08:02

# Below is generated by plot.py at 2018-01-09 11:14:37
# Datalink statistics
-- Total of 1 flow:
Average throughput: 57.46 Mbit/s
95th percentile per-packet one-way delay: 164.061 ms
Loss rate: 1.26%
-- Flow 1:
Average throughput: 57.46 Mbit/s
95th percentile per-packet one-way delay: 164.061 ms
Loss rate: 1.26%
```
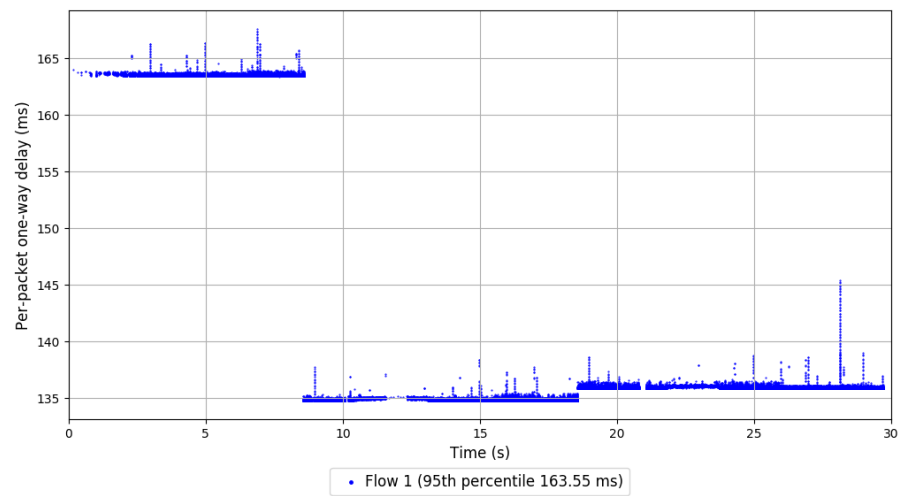
Run 3: Report of QUIC Cubic — Data Link

```
Run 4: Statistics of QUIC Cubic

Start at: 2018-01-09 07:20:22
End at: 2018-01-09 07:20:52

# Below is generated by plot.py at 2018-01-09 11:14:37
# Datalink statistics
-- Total of 1 flow:
Average throughput: 56.25 Mbit/s
95th percentile per-packet one-way delay: 163.546 ms
Loss rate: 1.24%
-- Flow 1:
Average throughput: 56.25 Mbit/s
95th percentile per-packet one-way delay: 163.546 ms
Loss rate: 1.24%
```
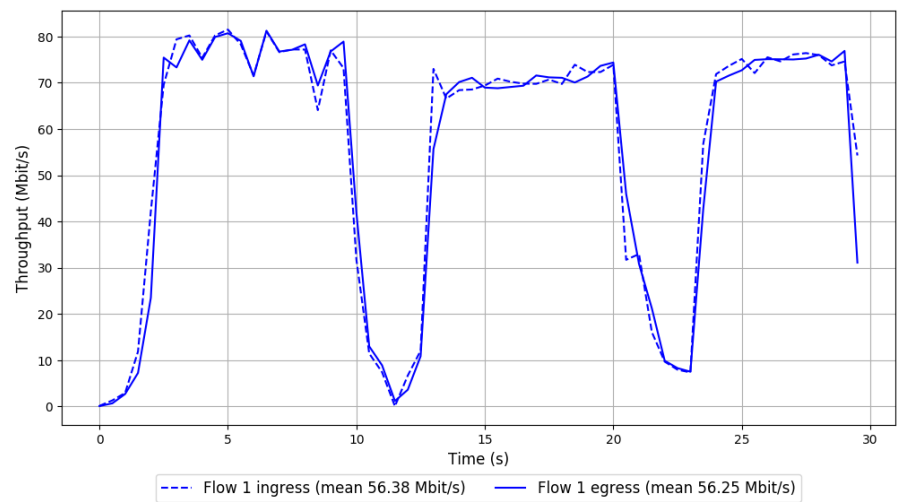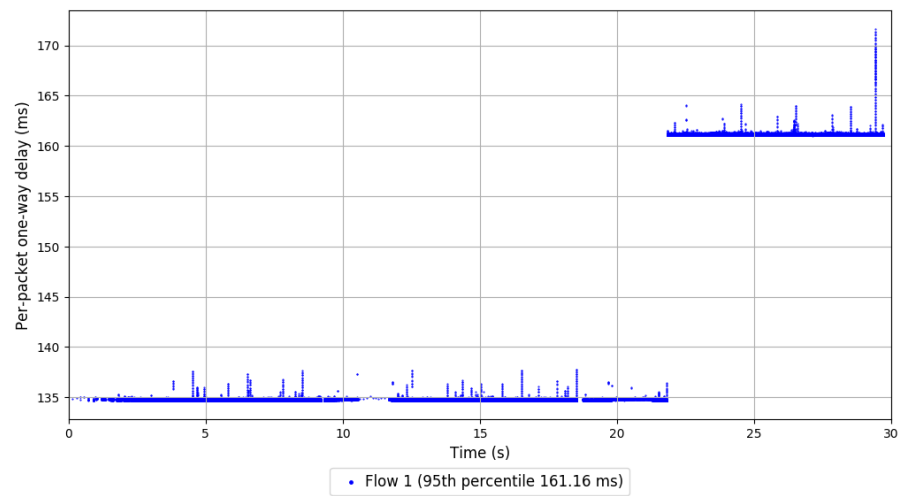
Run 4: Report of QUIC Cubic — Data Link

```
Run 5: Statistics of QUIC Cubic

Start at: 2018-01-09 07:32:36
End at: 2018-01-09 07:33:06

# Below is generated by plot.py at 2018-01-09 11:14:37
# Datalink statistics
-- Total of 1 flow:
Average throughput: 60.87 Mbit/s
95th percentile per-packet one-way delay: 161.157 ms
Loss rate: 1.15%
-- Flow 1:
Average throughput: 60.87 Mbit/s
95th percentile per-packet one-way delay: 161.157 ms
Loss rate: 1.15%
```
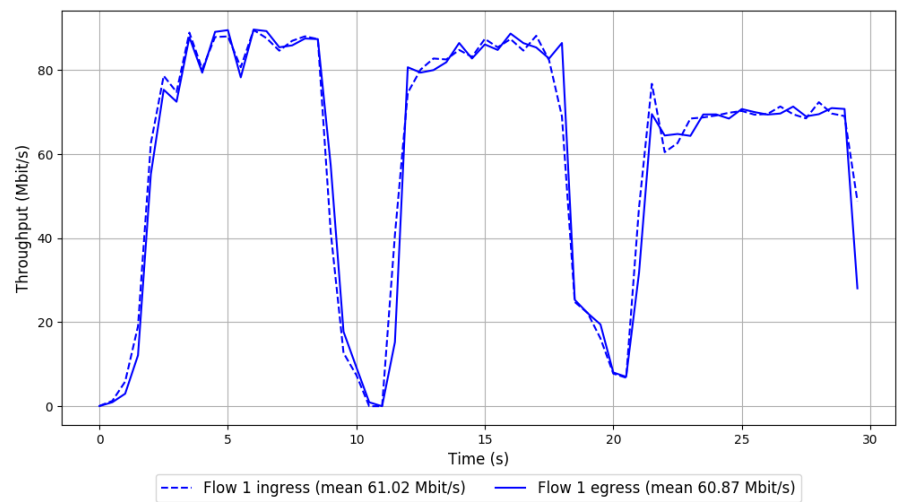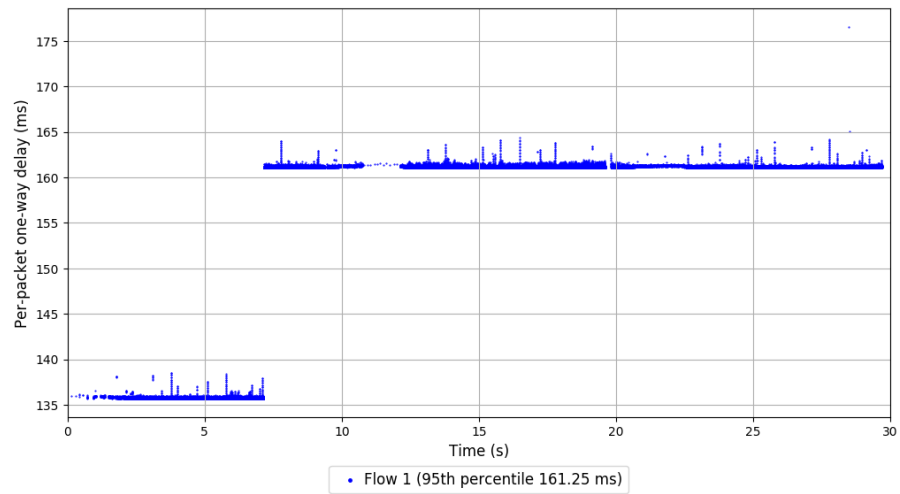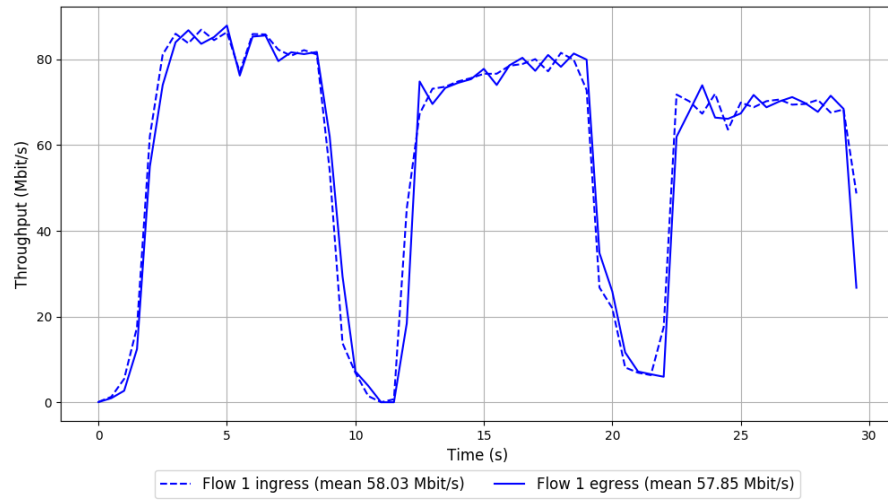
Run 5: Report of QUIC Cubic — Data Link



Flow 1 ingress (mean 61.02 Mbit/s) ----- Flow 1 egress (mean 60.87 Mbit/s) ——



• Flow 1 (95th percentile 161.16 ms)

```
Run 6: Statistics of QUIC Cubic

Start at: 2018-01-09 07:45:11
End at: 2018-01-09 07:45:41

# Below is generated by plot.py at 2018-01-09 11:14:37
# Datalink statistics
-- Total of 1 flow:
Average throughput: 57.85 Mbit/s
95th percentile per-packet one-way delay: 161.252 ms
Loss rate: 1.22%
-- Flow 1:
Average throughput: 57.85 Mbit/s
95th percentile per-packet one-way delay: 161.252 ms
Loss rate: 1.22%
```
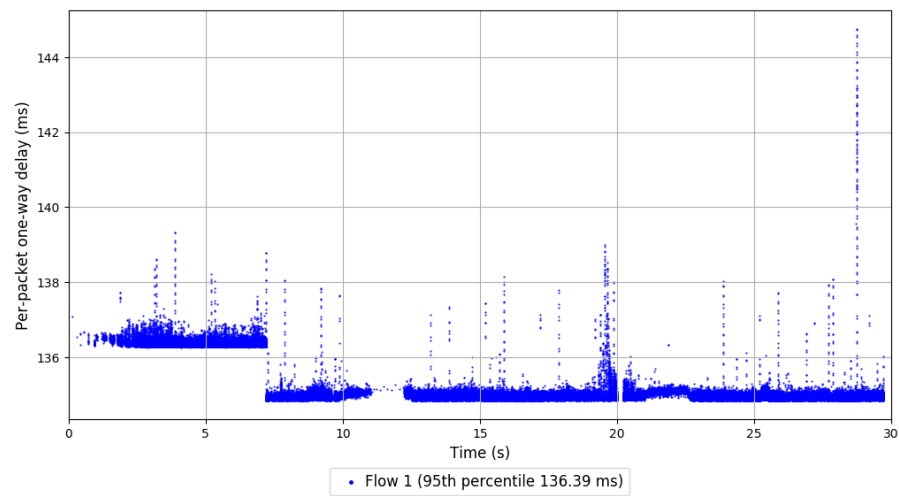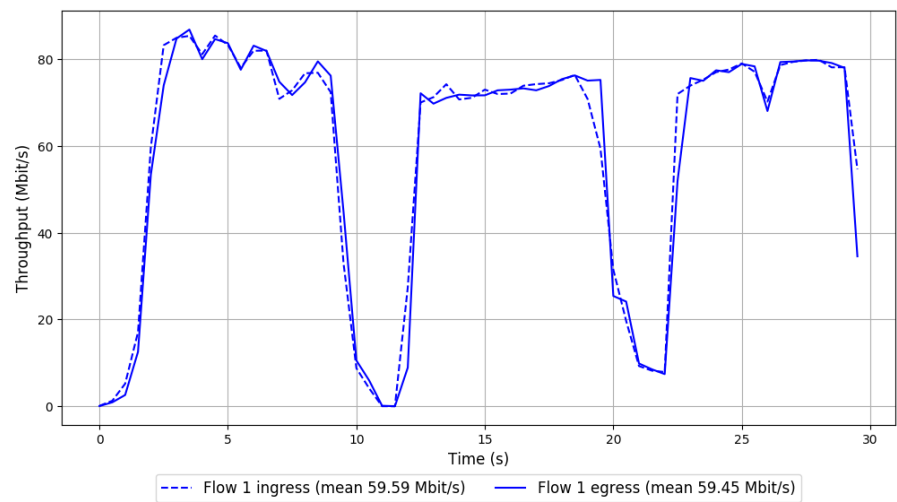
# Run 6: Report of QUIC Cubic — Data Link



Flow 1 ingress (mean 58.03 Mbit/s)    Flow 1 egress (mean 57.85 Mbit/s)



• Flow 1 (95th percentile 161.25 ms)

```
Run 7: Statistics of QUIC Cubic

Start at: 2018-01-09 07:58:21
End at: 2018-01-09 07:58:51

# Below is generated by plot.py at 2018-01-09 11:14:37
# Datalink statistics
-- Total of 1 flow:
Average throughput: 59.45 Mbit/s
95th percentile per-packet one-way delay: 136.393 ms
Loss rate: 1.15%
-- Flow 1:
Average throughput: 59.45 Mbit/s
95th percentile per-packet one-way delay: 136.393 ms
Loss rate: 1.15%
```
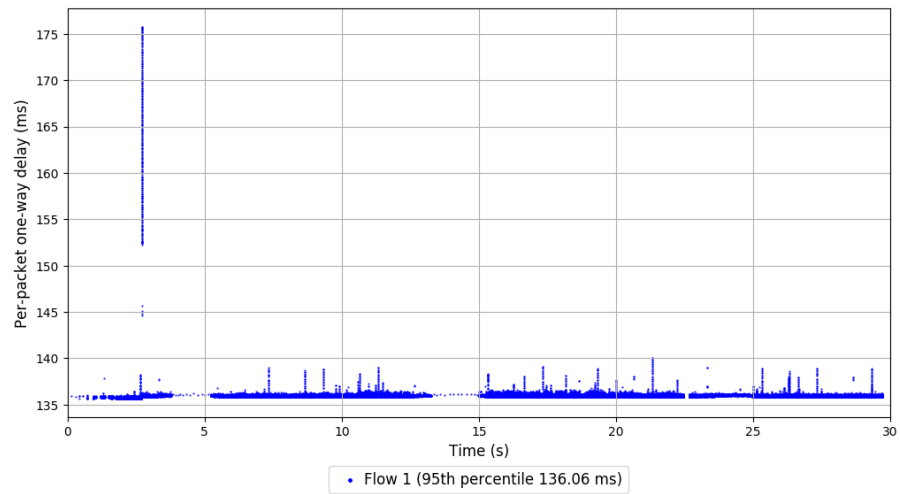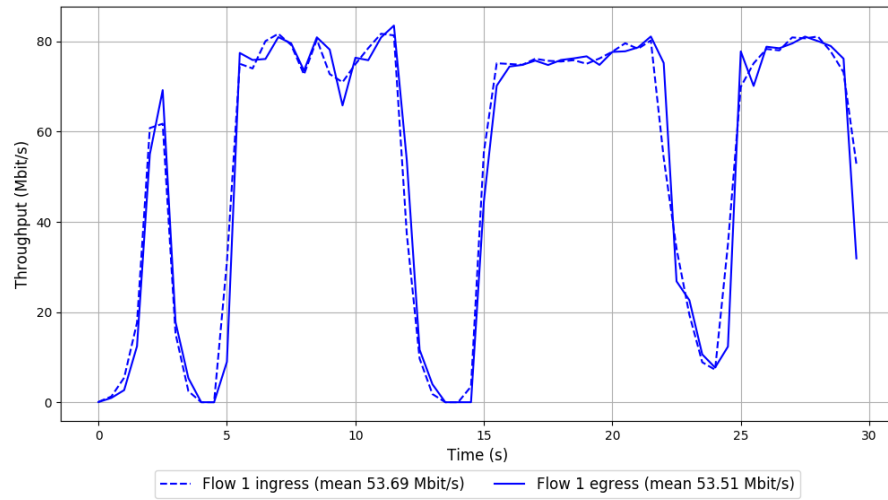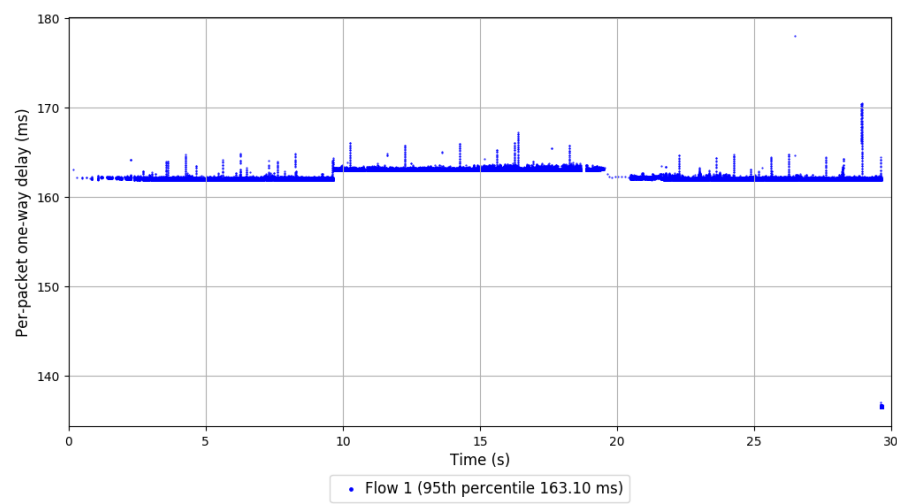
# Run 7: Report of QUIC Cubic — Data Link



Flow 1 ingress (mean 59.59 Mbit/s)     Flow 1 egress (mean 59.45 Mbit/s)



Flow 1 (95th percentile 136.39 ms)

```
Run 8: Statistics of QUIC Cubic

Start at: 2018-01-09 08:11:05
End at: 2018-01-09 08:11:35

# Below is generated by plot.py at 2018-01-09 11:14:37
# Datalink statistics
-- Total of 1 flow:
Average throughput: 53.51 Mbit/s
95th percentile per-packet one-way delay: 136.063 ms
Loss rate: 1.26%
-- Flow 1:
Average throughput: 53.51 Mbit/s
95th percentile per-packet one-way delay: 136.063 ms
Loss rate: 1.26%
```
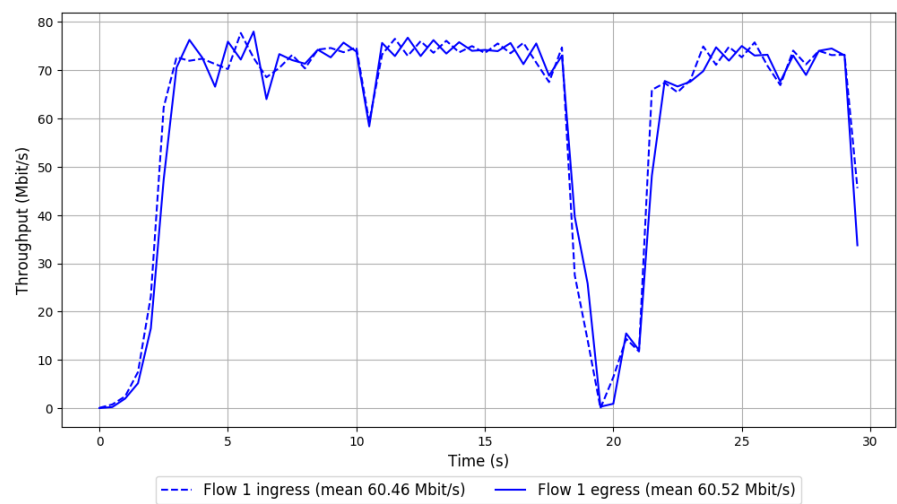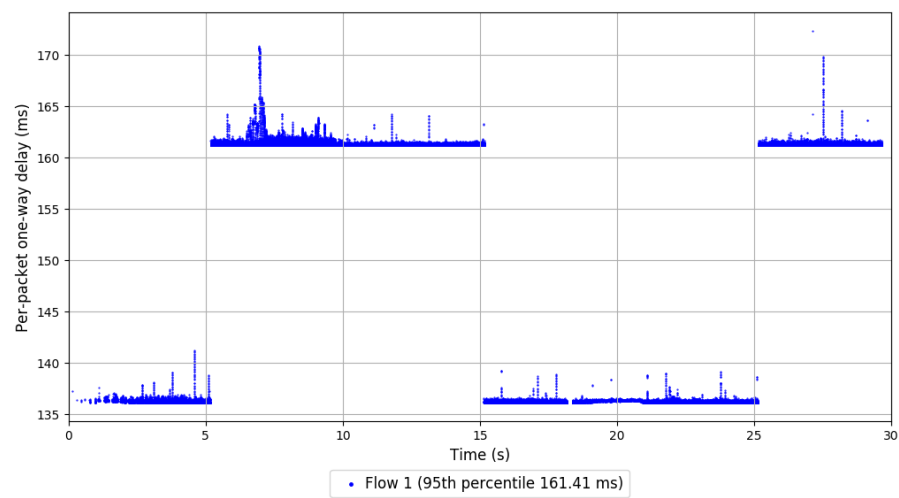
Run 8: Report of QUIC Cubic — Data Link



Flow 1 ingress (mean 53.69 Mbit/s) --- Flow 1 egress (mean 53.51 Mbit/s)



Flow 1 (95th percentile 136.06 ms)

```
Run 9: Statistics of QUIC Cubic

Start at: 2018-01-09 08:23:58
End at: 2018-01-09 08:24:28

# Below is generated by plot.py at 2018-01-09 11:14:37
# Datalink statistics
-- Total of 1 flow:
Average throughput: 60.52 Mbit/s
95th percentile per-packet one-way delay: 163.096 ms
Loss rate: 1.00%
-- Flow 1:
Average throughput: 60.52 Mbit/s
95th percentile per-packet one-way delay: 163.096 ms
Loss rate: 1.00%
```
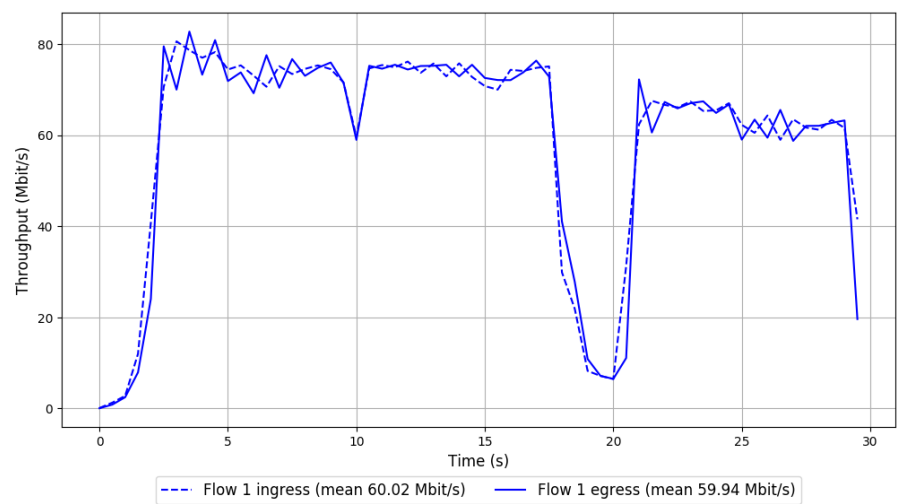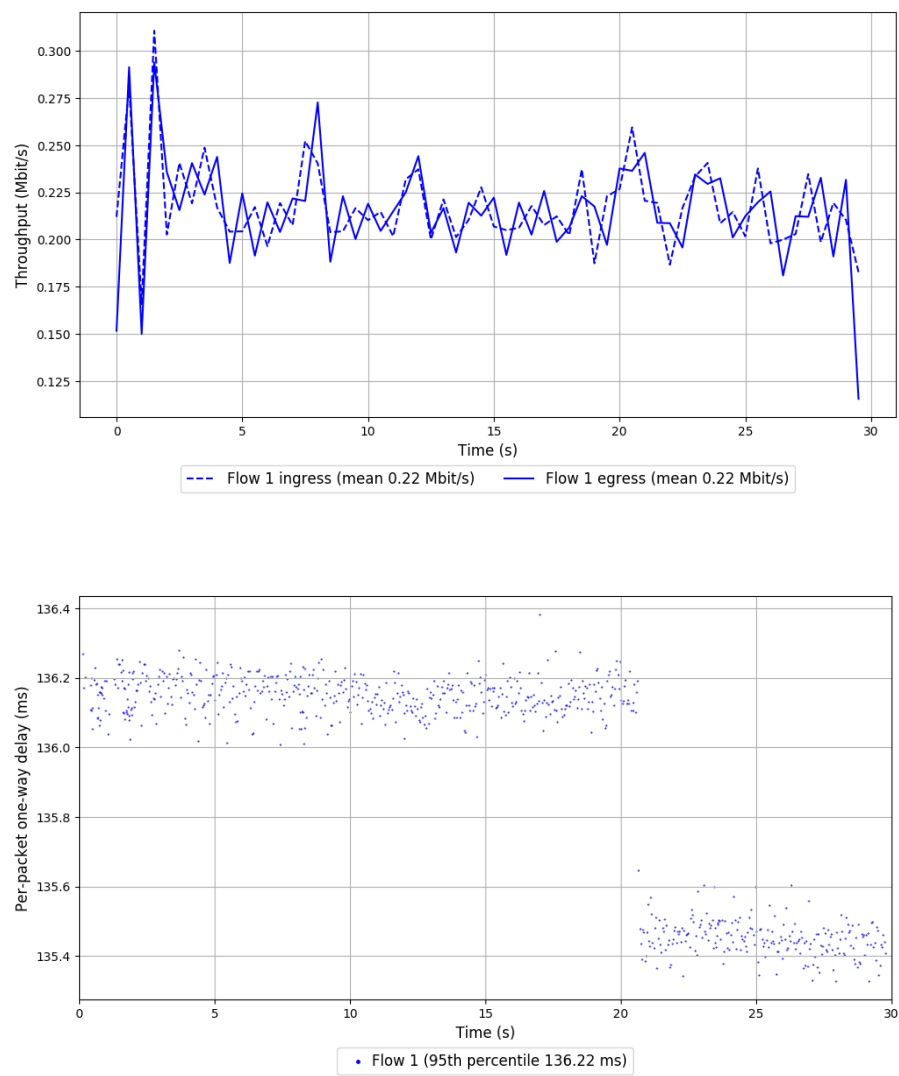
# Run 9: Report of QUIC Cubic — Data Link



Flow 1 ingress (mean 60.46 Mbit/s)  ——— Flow 1 egress (mean 60.52 Mbit/s)



• Flow 1 (95th percentile 163.10 ms)

```
Run 10: Statistics of QUIC Cubic

Start at: 2018-01-09 08:37:13
End at: 2018-01-09 08:37:43

# Below is generated by plot.py at 2018-01-09 11:14:37
# Datalink statistics
-- Total of 1 flow:
Average throughput: 59.94 Mbit/s
95th percentile per-packet one-way delay: 161.413 ms
Loss rate: 1.14%
-- Flow 1:
Average throughput: 59.94 Mbit/s
95th percentile per-packet one-way delay: 161.413 ms
Loss rate: 1.14%
```
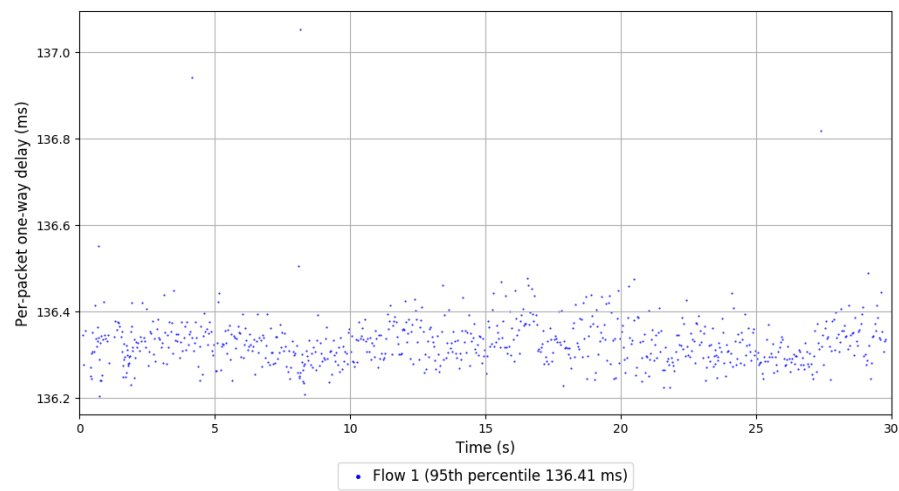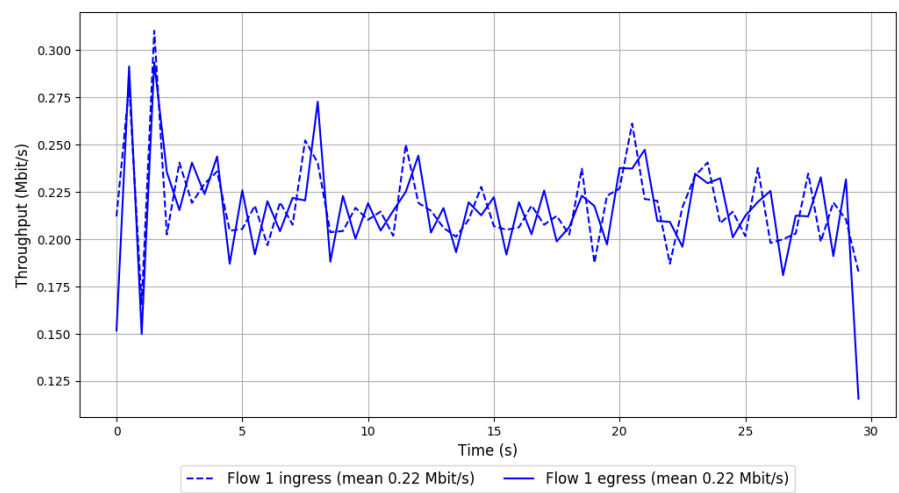
## Run 10: Report of QUIC Cubic — Data Link



Flow 1 ingress (mean 60.02 Mbit/s) — — — Flow 1 egress (mean 59.94 Mbit/s)



• Flow 1 (95th percentile 161.41 ms)

```
Run 1: Statistics of SCReAM

Start at: 2018-01-09 06:45:57
End at: 2018-01-09 06:46:27

# Below is generated by plot.py at 2018-01-09 11:14:37
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 136.223 ms
Loss rate: 0.89%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 136.223 ms
Loss rate: 0.89%
```
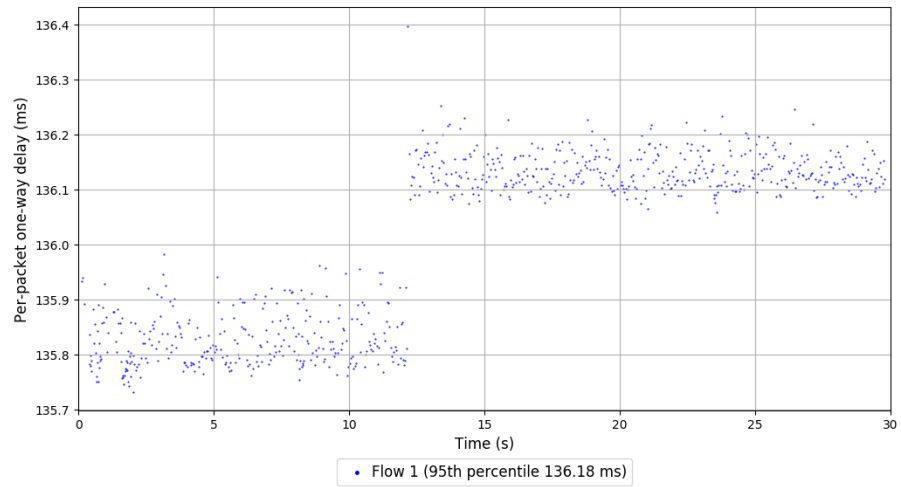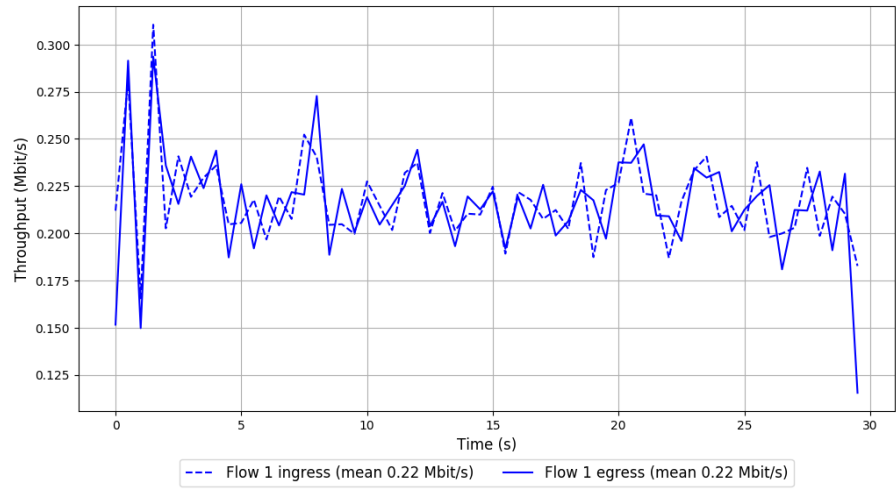
Run 1: Report of SCReAM — Data Link



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



Flow 1 (95th percentile 136.22 ms)

```
Run 2: Statistics of SCReAM

Start at: 2018-01-09 06:58:45
End at: 2018-01-09 06:59:15

# Below is generated by plot.py at 2018-01-09 11:14:37
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 136.415 ms
Loss rate: 0.89%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 136.415 ms
Loss rate: 0.89%
```
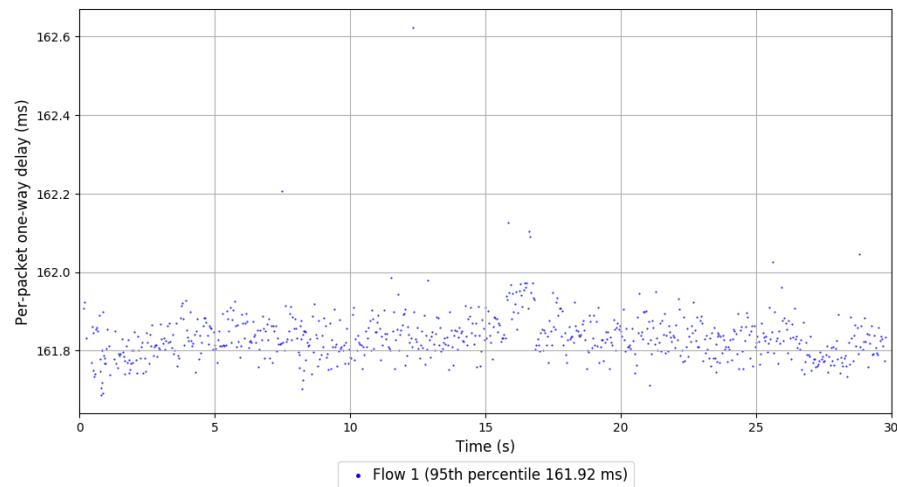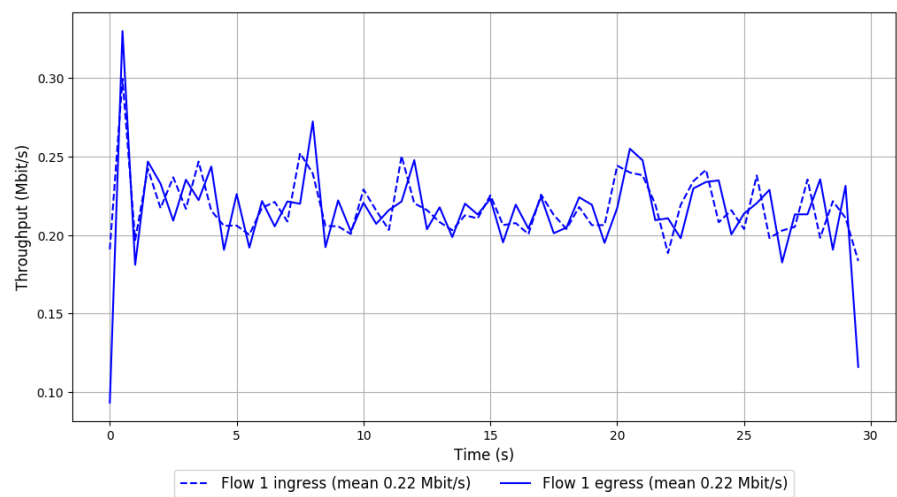
## Run 2: Report of SCReAM — Data Link



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



Flow 1 (95th percentile 136.41 ms)

```
Run 3: Statistics of SCReAM

Start at: 2018-01-09 07:11:36
End at: 2018-01-09 07:12:06

# Below is generated by plot.py at 2018-01-09 11:14:37
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 136.183 ms
Loss rate: 0.89%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 136.183 ms
Loss rate: 0.89%
```
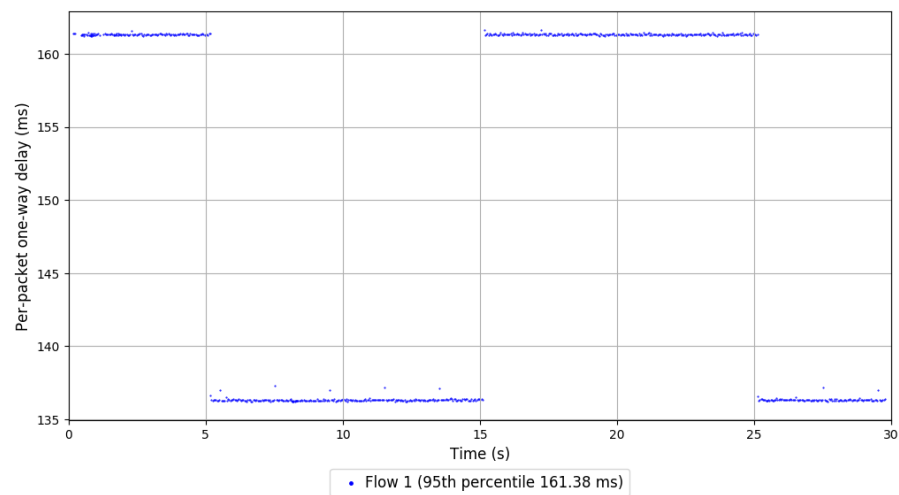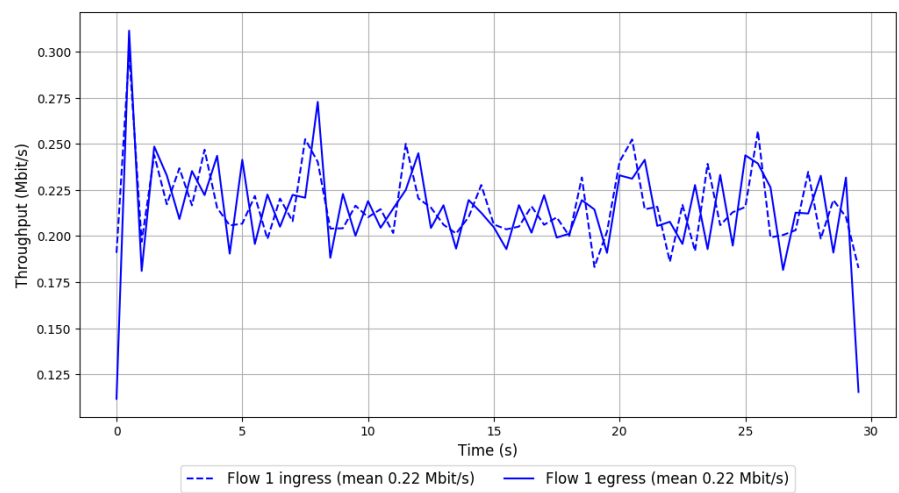
Run 3: Report of SCReAM — Data Link



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



Flow 1 (95th percentile 136.18 ms)

```
Run 4: Statistics of SCReAM

Start at: 2018-01-09 07:24:09
End at: 2018-01-09 07:24:39

# Below is generated by plot.py at 2018-01-09 11:14:37
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 161.923 ms
Loss rate: 1.03%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 161.923 ms
Loss rate: 1.03%
```
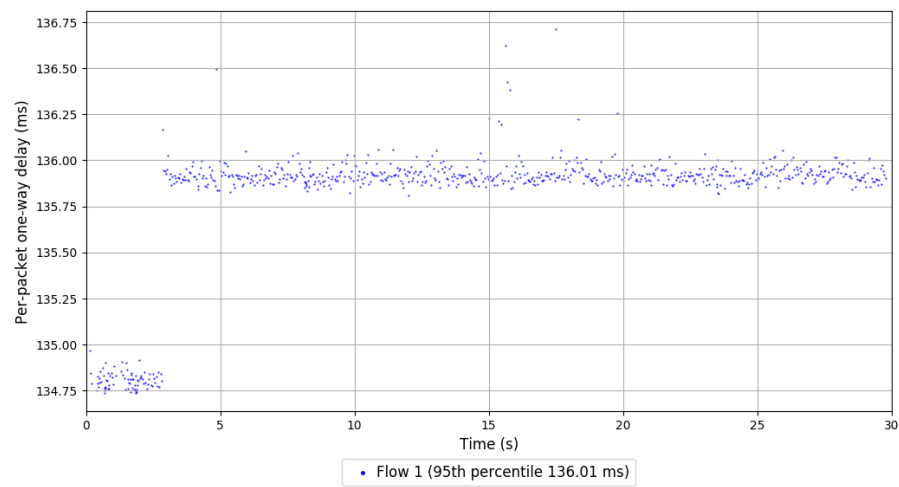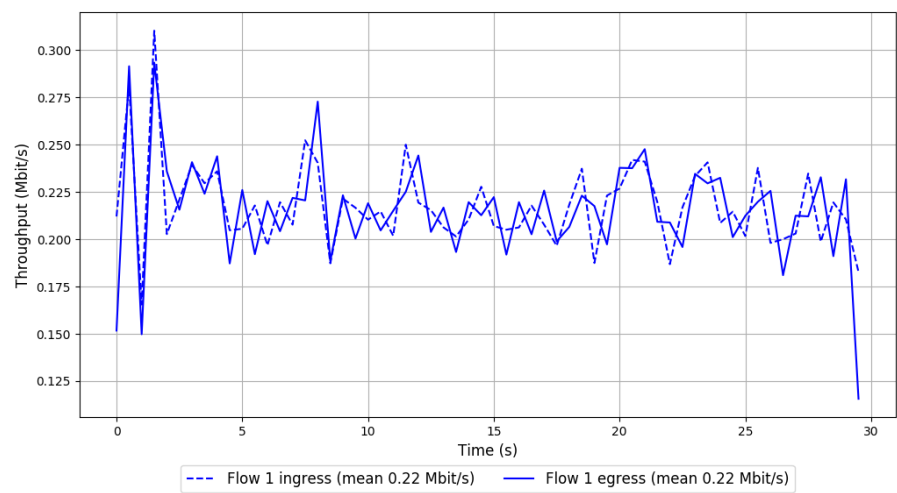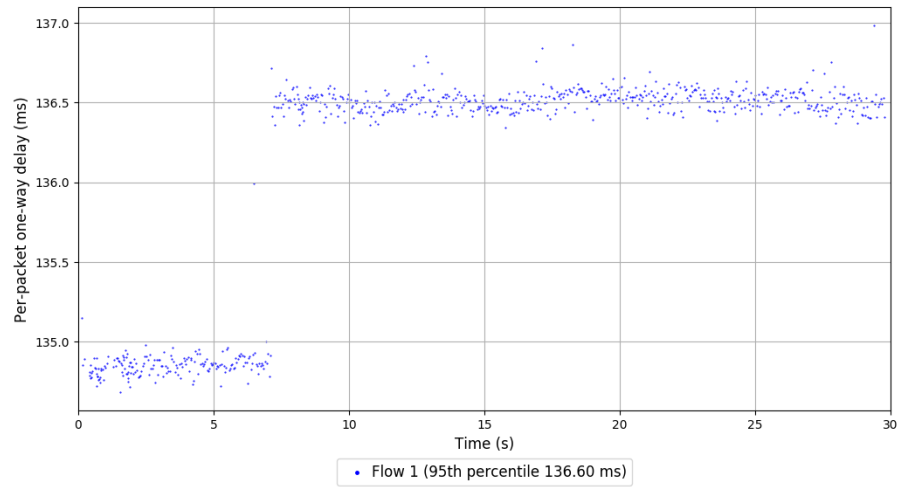
# Run 4: Report of SCReAM — Data Link

```
Run 5: Statistics of SCReAM

Start at: 2018-01-09 07:36:35
End at: 2018-01-09 07:37:05

# Below is generated by plot.py at 2018-01-09 11:14:37
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 161.377 ms
Loss rate: 0.90%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 161.377 ms
Loss rate: 0.90%
```
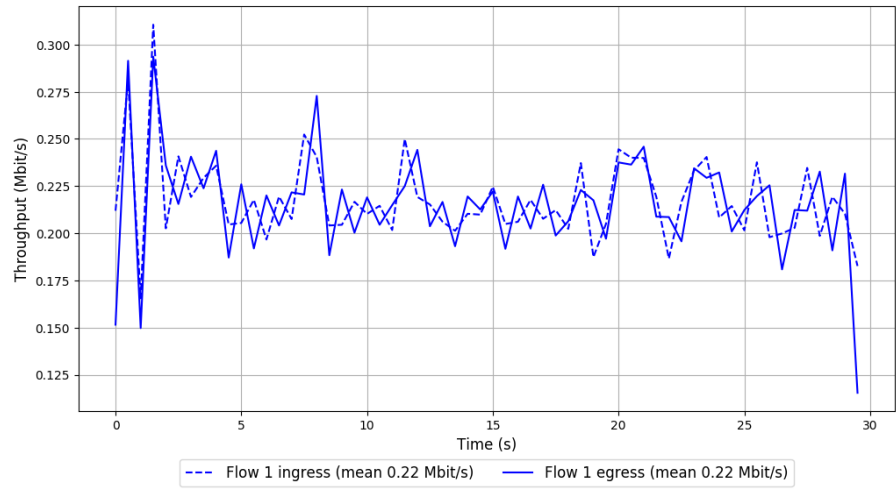
# Run 5: Report of SCReAM — Data Link



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



Flow 1 (95th percentile 161.38 ms)

```
Run 6: Statistics of SCReAM

Start at: 2018-01-09 07:49:15
End at: 2018-01-09 07:49:45


# Below is generated by plot.py at 2018-01-09 11:14:37
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 136.014 ms
Loss rate: 0.89%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 136.014 ms
Loss rate: 0.89%
```
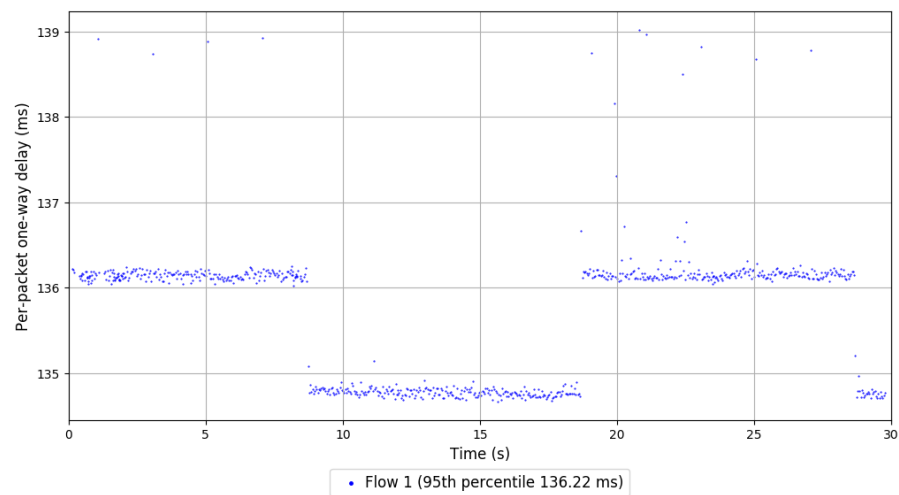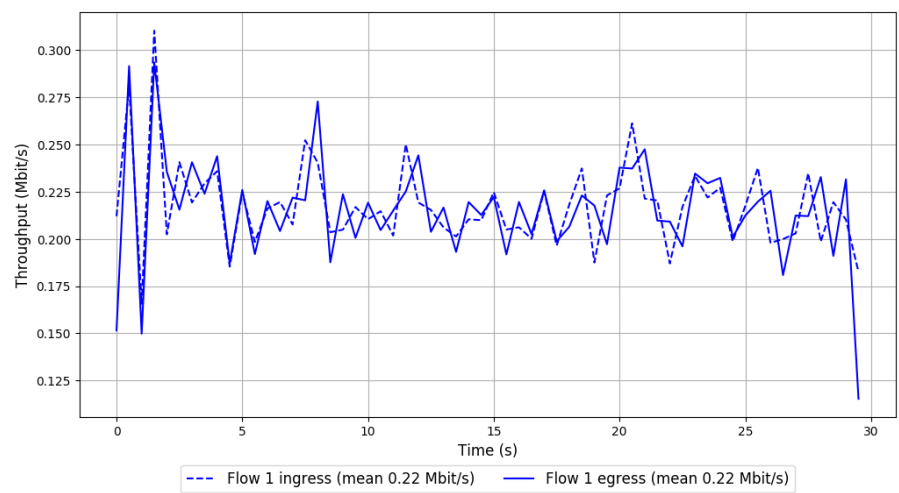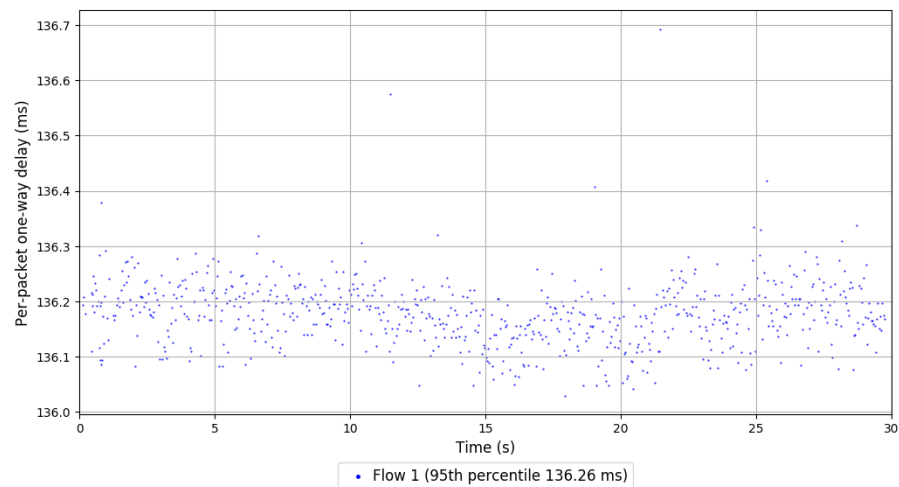
# Run 6: Report of SCReAM — Data Link

```
Run 7: Statistics of SCReAM

Start at: 2018-01-09 08:02:21
End at: 2018-01-09 08:02:51


# Below is generated by plot.py at 2018-01-09 11:14:37
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 136.597 ms
Loss rate: 0.89%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 136.597 ms
Loss rate: 0.89%
```
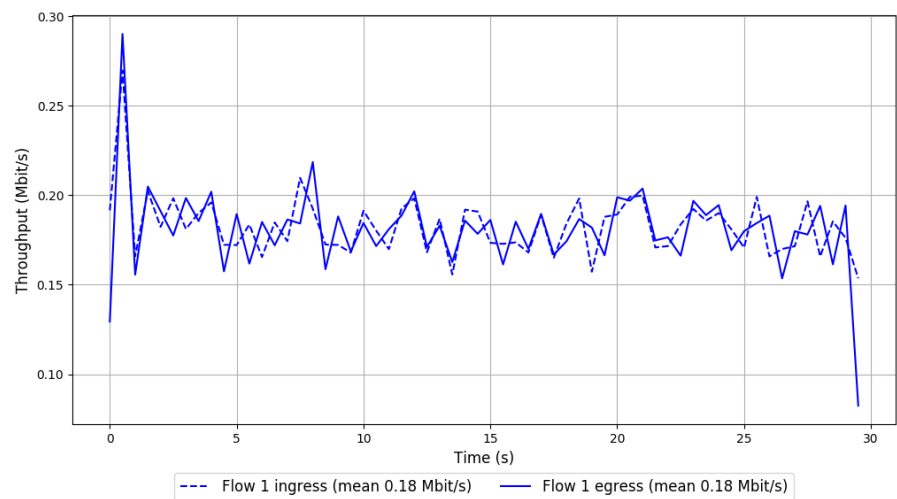
# Run 7: Report of SCReAM — Data Link

```
Run 8: Statistics of SCReAM

Start at: 2018-01-09 08:15:02
End at: 2018-01-09 08:15:32

# Below is generated by plot.py at 2018-01-09 11:14:37
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 136.225 ms
Loss rate: 0.89%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 136.225 ms
Loss rate: 0.89%
```
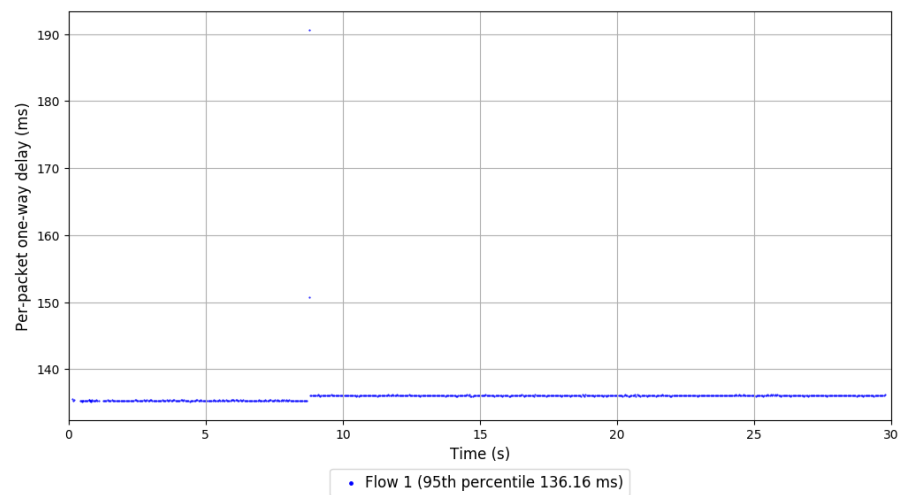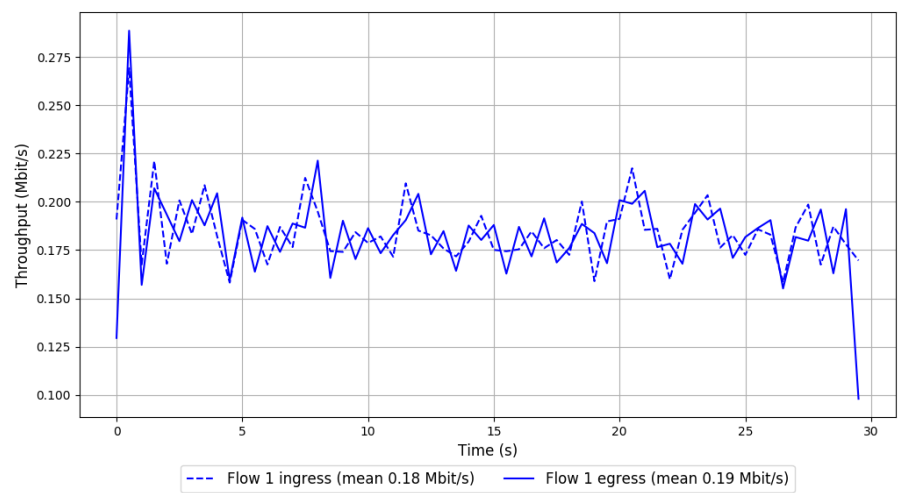
Run 8: Report of SCReAM — Data Link

```
Run 9: Statistics of SCReAM

Start at: 2018-01-09 08:27:59
End at: 2018-01-09 08:28:29

# Below is generated by plot.py at 2018-01-09 11:14:37
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.18 Mbit/s
95th percentile per-packet one-way delay: 136.263 ms
Loss rate: 1.03%
-- Flow 1:
Average throughput: 0.18 Mbit/s
95th percentile per-packet one-way delay: 136.263 ms
Loss rate: 1.03%
```
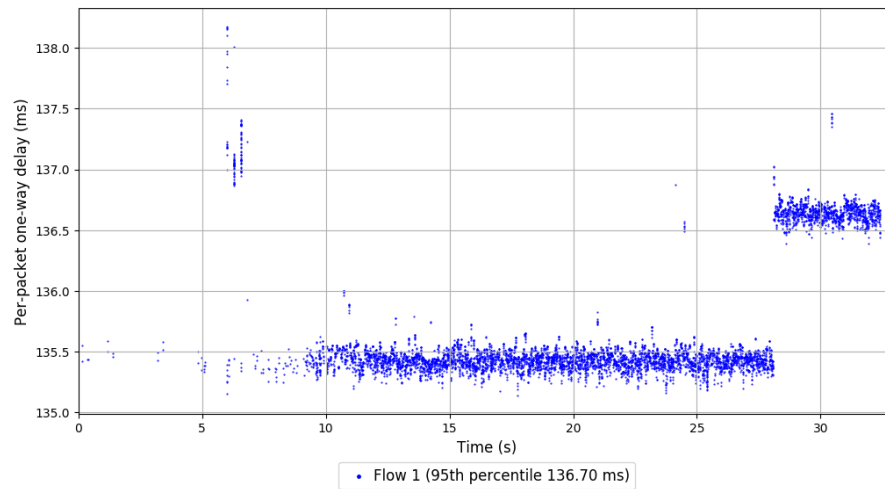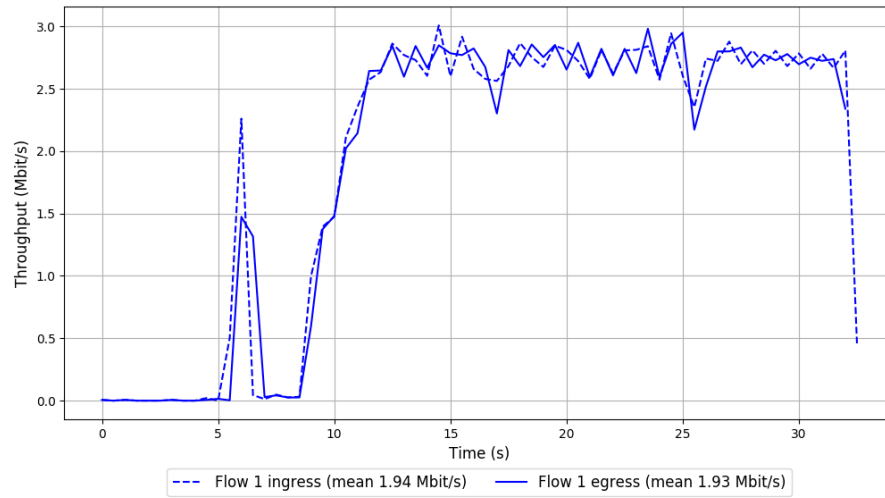
## Run 9: Report of SCReAM — Data Link

```
Run 10: Statistics of SCReAM

Start at: 2018-01-09 08:41:09
End at: 2018-01-09 08:41:39

# Below is generated by plot.py at 2018-01-09 11:14:37
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.19 Mbit/s
95th percentile per-packet one-way delay: 136.161 ms
Loss rate: 1.02%
-- Flow 1:
Average throughput: 0.19 Mbit/s
95th percentile per-packet one-way delay: 136.161 ms
Loss rate: 1.02%
```
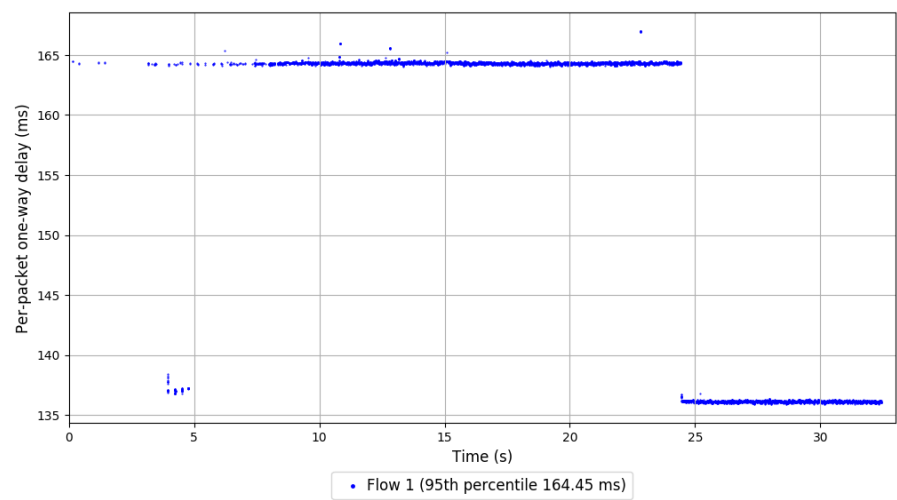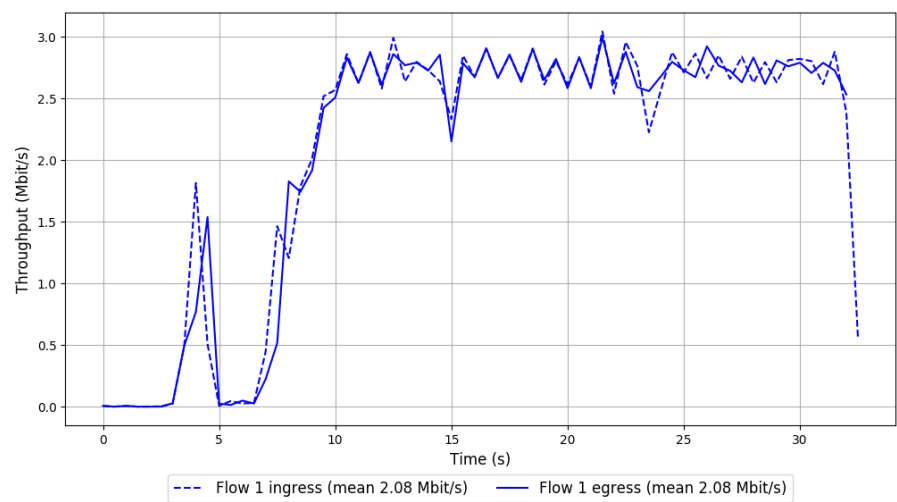
## Run 10: Report of SCReAM — Data Link



Flow 1 ingress (mean 0.18 Mbit/s) — Flow 1 egress (mean 0.19 Mbit/s)



Flow 1 (95th percentile 136.16 ms)

```
Run 1: Statistics of WebRTC media

Start at: 2018-01-09 06:35:53
End at: 2018-01-09 06:36:23

# Below is generated by plot.py at 2018-01-09 11:14:37
# Datalink statistics
-- Total of 1 flow:
Average throughput: 1.93 Mbit/s
95th percentile per-packet one-way delay: 136.703 ms
Loss rate: 1.29%
-- Flow 1:
Average throughput: 1.93 Mbit/s
95th percentile per-packet one-way delay: 136.703 ms
Loss rate: 1.29%
```
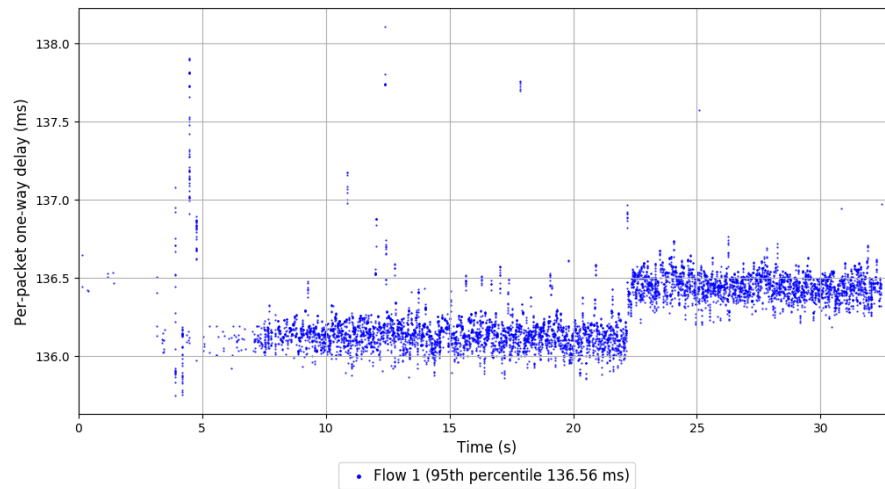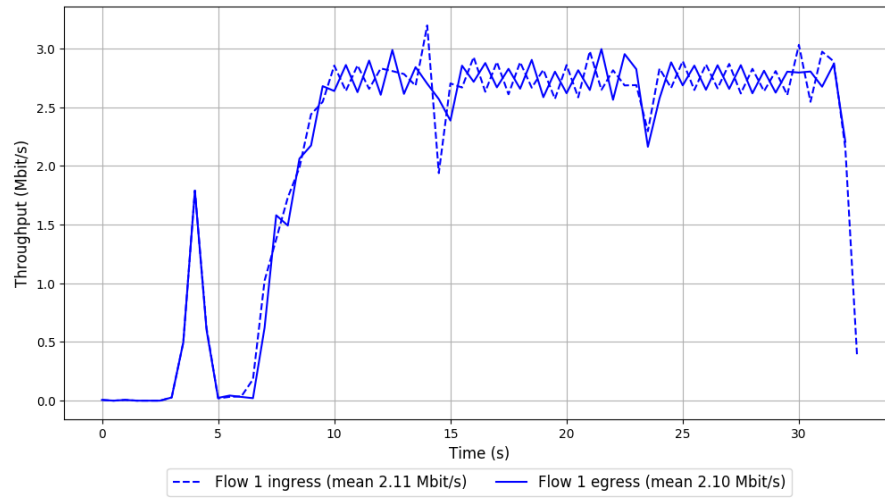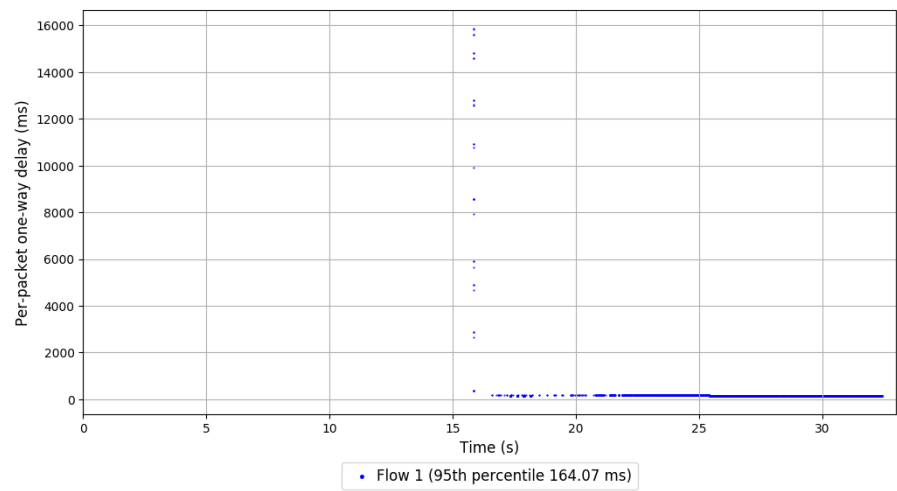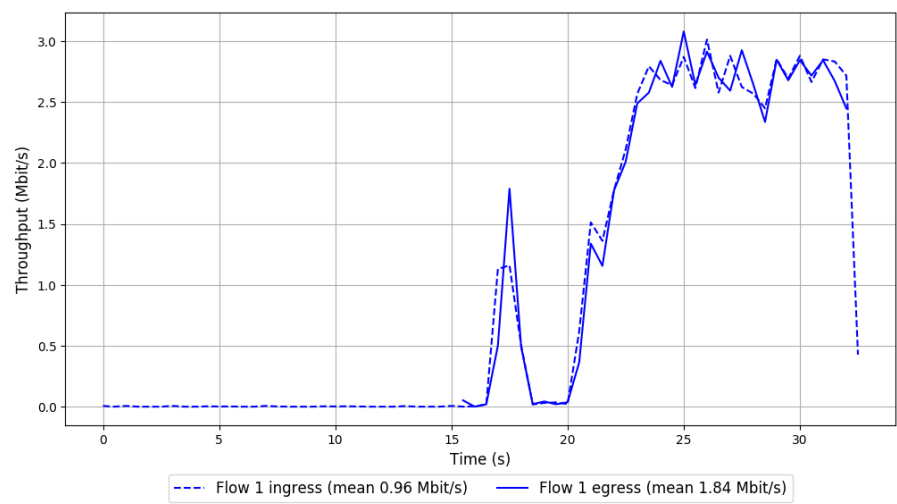
Run 1: Report of WebRTC media — Data Link

```
Run 2: Statistics of WebRTC media

Start at: 2018-01-09 06:48:49
End at: 2018-01-09 06:49:19


# Below is generated by plot.py at 2018-01-09 11:14:37
# Datalink statistics
-- Total of 1 flow:
Average throughput: 2.08 Mbit/s
95th percentile per-packet one-way delay: 164.447 ms
Loss rate: 0.91%
-- Flow 1:
Average throughput: 2.08 Mbit/s
95th percentile per-packet one-way delay: 164.447 ms
Loss rate: 0.91%
```

Run 2: Report of WebRTC media — Data Link

```
Run 3: Statistics of WebRTC media

Start at: 2018-01-09 07:01:39
End at: 2018-01-09 07:02:09

# Below is generated by plot.py at 2018-01-09 11:14:37
# Datalink statistics
-- Total of 1 flow:
Average throughput: 2.10 Mbit/s
95th percentile per-packet one-way delay: 136.559 ms
Loss rate: 0.95%
-- Flow 1:
Average throughput: 2.10 Mbit/s
95th percentile per-packet one-way delay: 136.559 ms
Loss rate: 0.95%
```
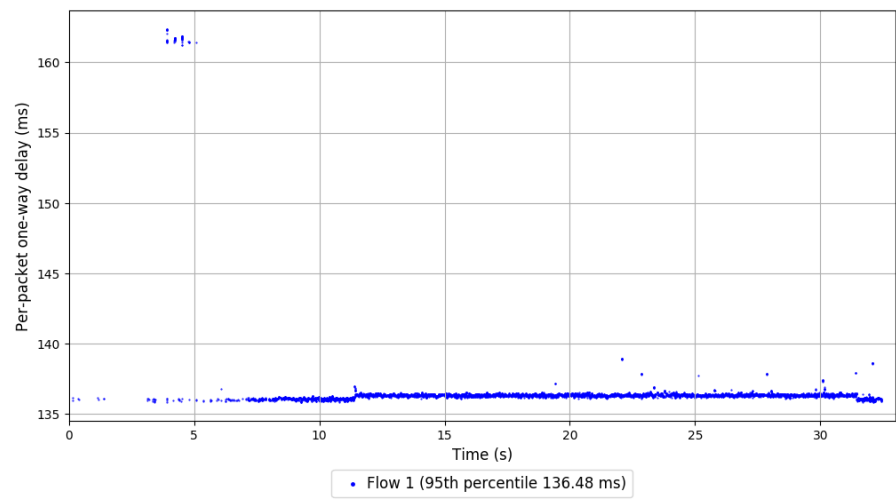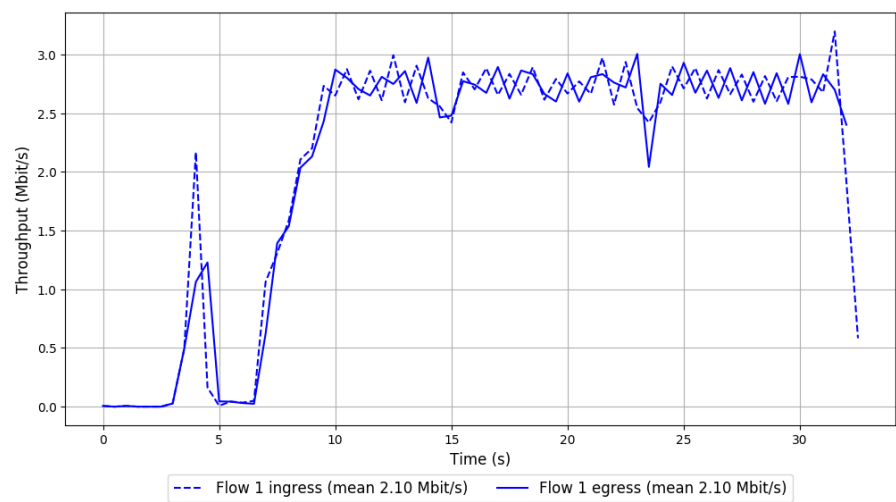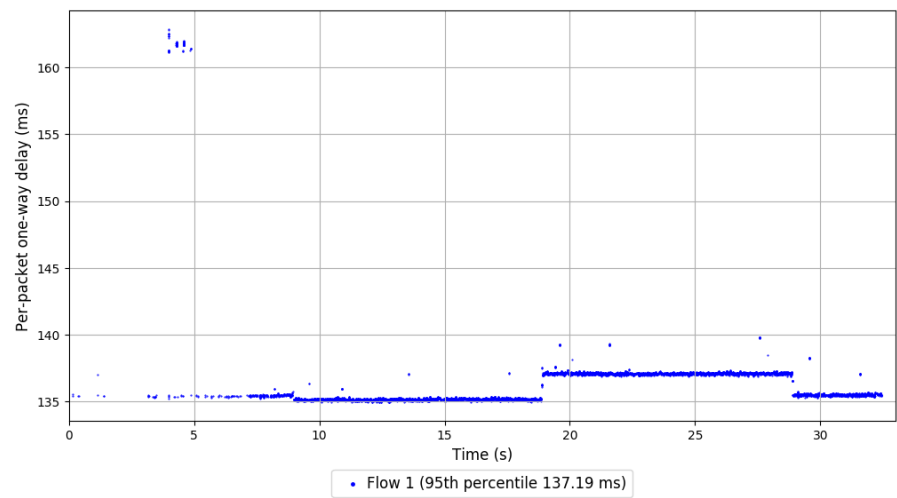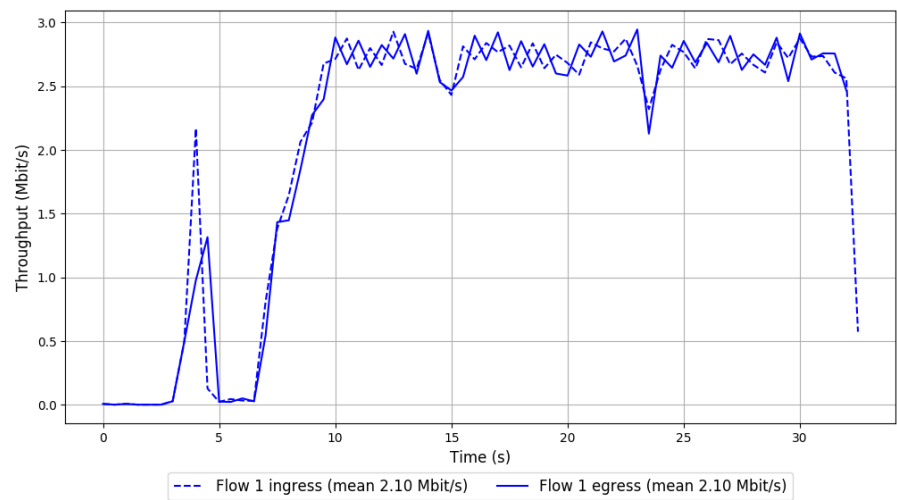
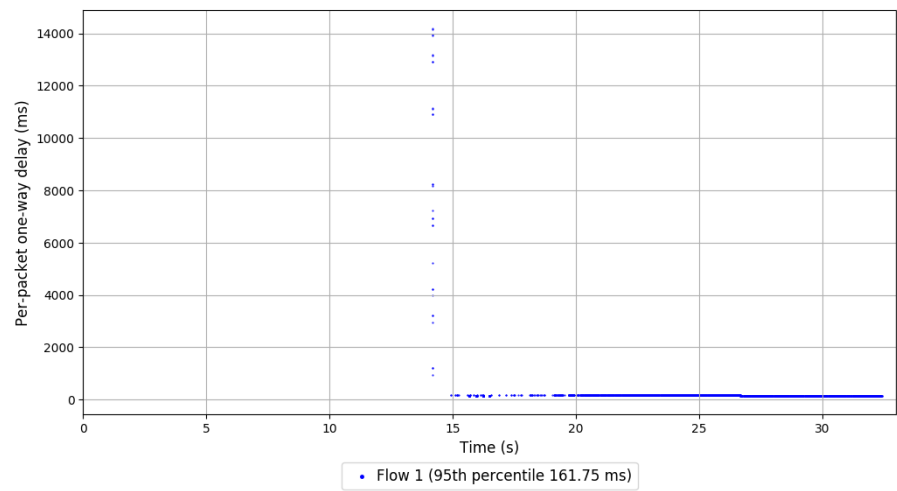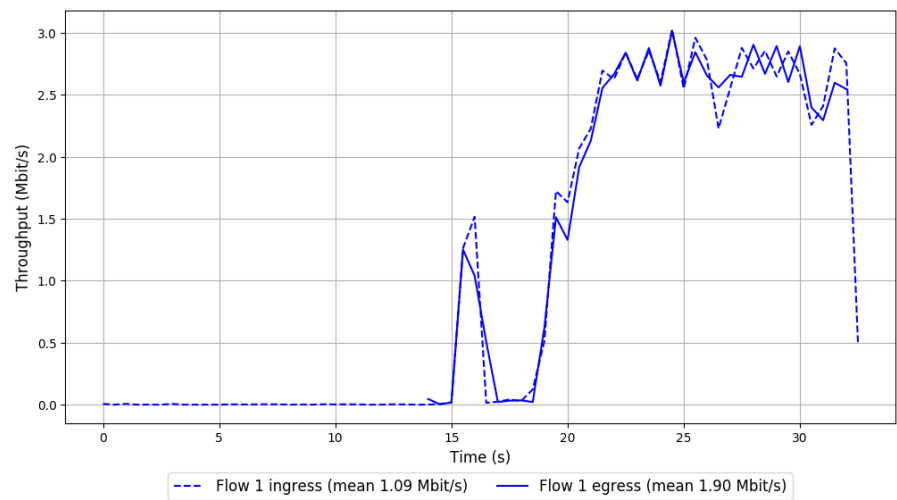Run 3: Report of WebRTC media — Data Link



Flow 1 ingress (mean 2.11 Mbit/s)     Flow 1 egress (mean 2.10 Mbit/s)



Flow 1 (95th percentile 136.56 ms)

Run 4: Statistics of WebRTC media

Start at: 2018-01-09 07:14:38
End at: 2018-01-09 07:15:08

## Run 4: Report of WebRTC media — Data Link



Flow 1 ingress (mean 0.96 Mbit/s)    Flow 1 egress (mean 1.84 Mbit/s)



Flow 1 (95th percentile 164.07 ms)

```
Run 5: Statistics of WebRTC media

Start at: 2018-01-09 07:27:09
End at: 2018-01-09 07:27:39

# Below is generated by plot.py at 2018-01-09 11:14:37
# Datalink statistics
-- Total of 1 flow:
Average throughput: 2.10 Mbit/s
95th percentile per-packet one-way delay: 136.479 ms
Loss rate: 0.95%
-- Flow 1:
Average throughput: 2.10 Mbit/s
95th percentile per-packet one-way delay: 136.479 ms
Loss rate: 0.95%
```

Run 5: Report of WebRTC media — Data Link



Flow 1 ingress (mean 2.10 Mbit/s)    Flow 1 egress (mean 2.10 Mbit/s)



Flow 1 (95th percentile 136.48 ms)

```
Run 6: Statistics of WebRTC media

Start at: 2018-01-09 07:39:32
End at: 2018-01-09 07:40:02

# Below is generated by plot.py at 2018-01-09 11:14:37
# Datalink statistics
-- Total of 1 flow:
Average throughput: 2.10 Mbit/s
95th percentile per-packet one-way delay: 137.186 ms
Loss rate: 0.93%
-- Flow 1:
Average throughput: 2.10 Mbit/s
95th percentile per-packet one-way delay: 137.186 ms
Loss rate: 0.93%
```
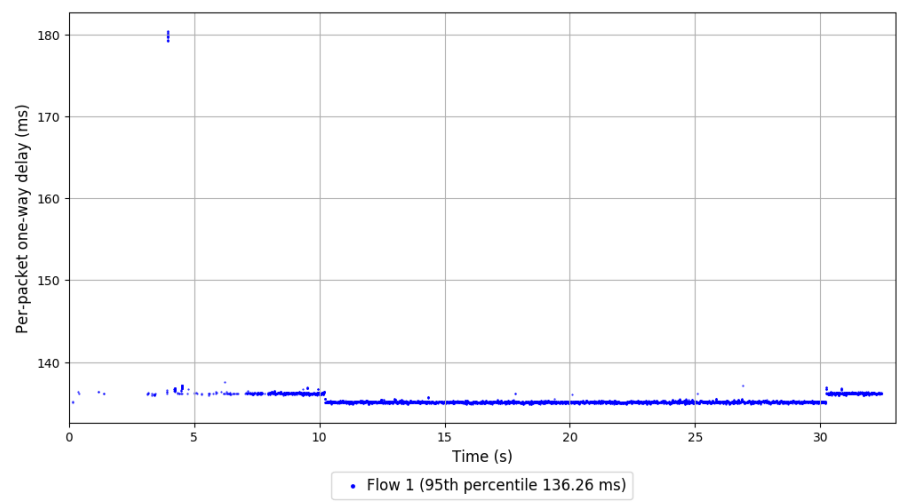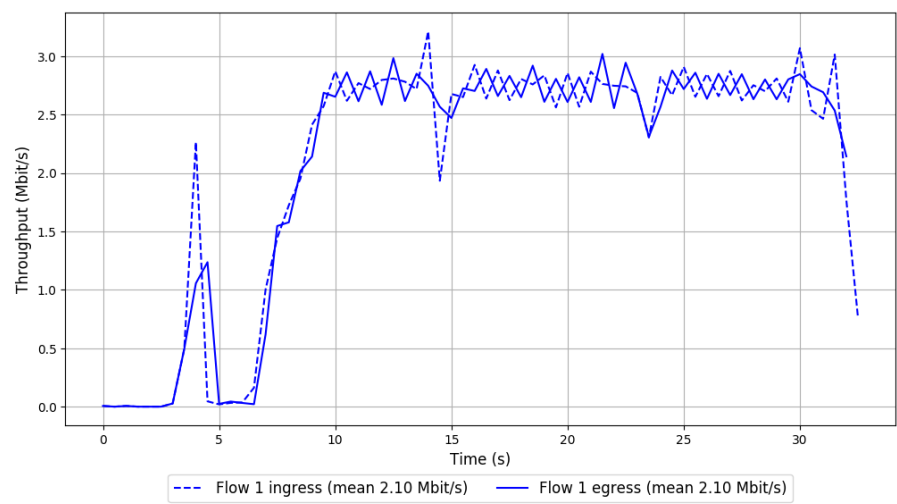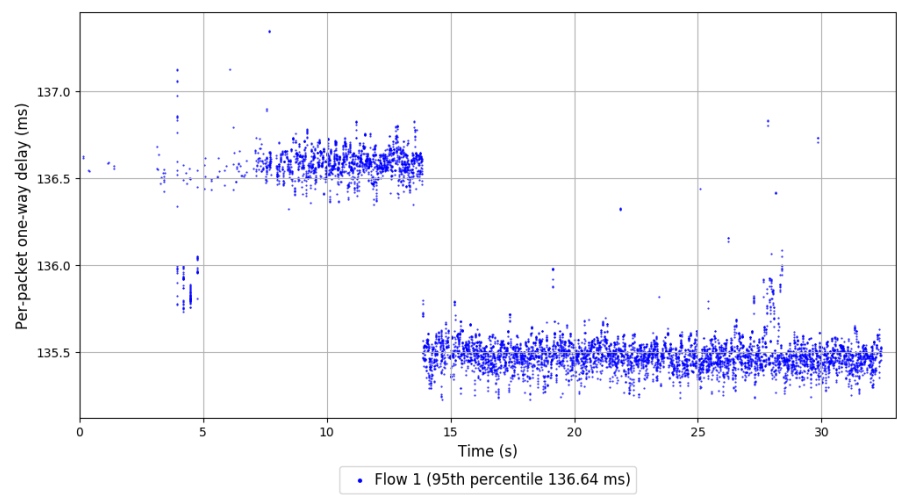
Run 6: Report of WebRTC media — Data Link

Run 7: Statistics of WebRTC media

Start at: 2018-01-09 07:52:16
End at: 2018-01-09 07:52:46

## Run 7: Report of WebRTC media — Data Link

```
Run 8: Statistics of WebRTC media

Start at: 2018-01-09 08:05:21
End at: 2018-01-09 08:05:51

# Below is generated by plot.py at 2018-01-09 11:14:37
# Datalink statistics
-- Total of 1 flow:
Average throughput: 2.10 Mbit/s
95th percentile per-packet one-way delay: 136.256 ms
Loss rate: 0.97%
-- Flow 1:
Average throughput: 2.10 Mbit/s
95th percentile per-packet one-way delay: 136.256 ms
Loss rate: 0.97%
```
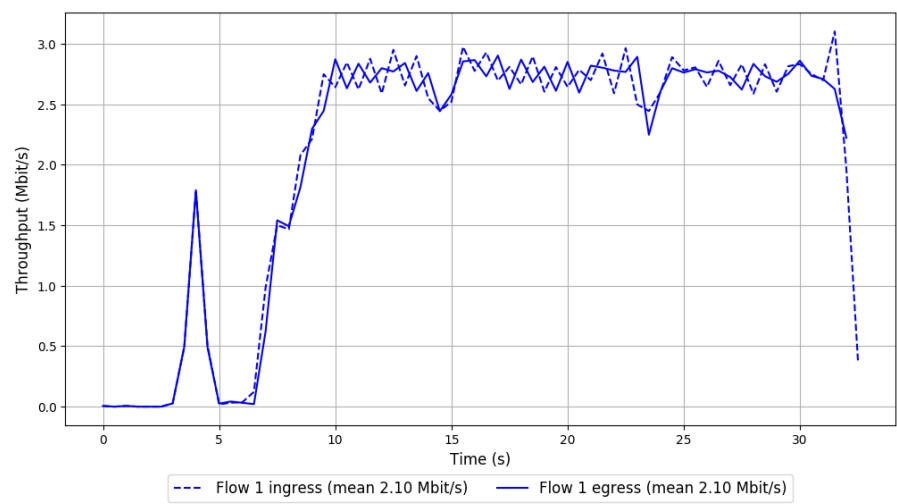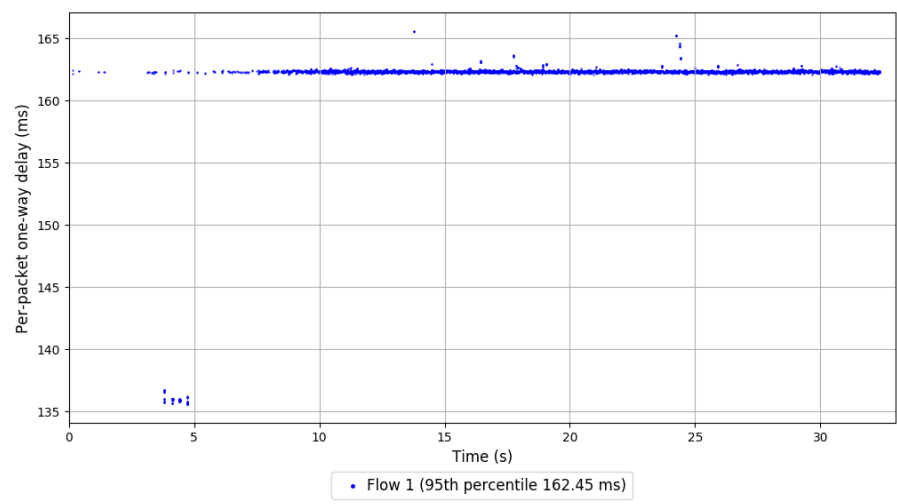
Run 8: Report of WebRTC media — Data Link

```
Run 9: Statistics of WebRTC media

Start at: 2018-01-09 08:17:57
End at: 2018-01-09 08:18:27

# Below is generated by plot.py at 2018-01-09 11:14:37
# Datalink statistics
-- Total of 1 flow:
Average throughput: 2.10 Mbit/s
95th percentile per-packet one-way delay: 136.644 ms
Loss rate: 0.94%
-- Flow 1:
Average throughput: 2.10 Mbit/s
95th percentile per-packet one-way delay: 136.644 ms
Loss rate: 0.94%
```
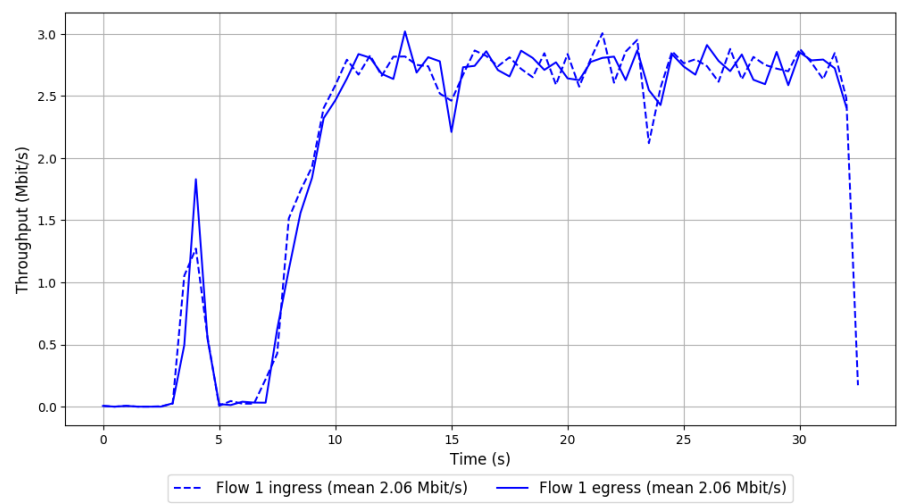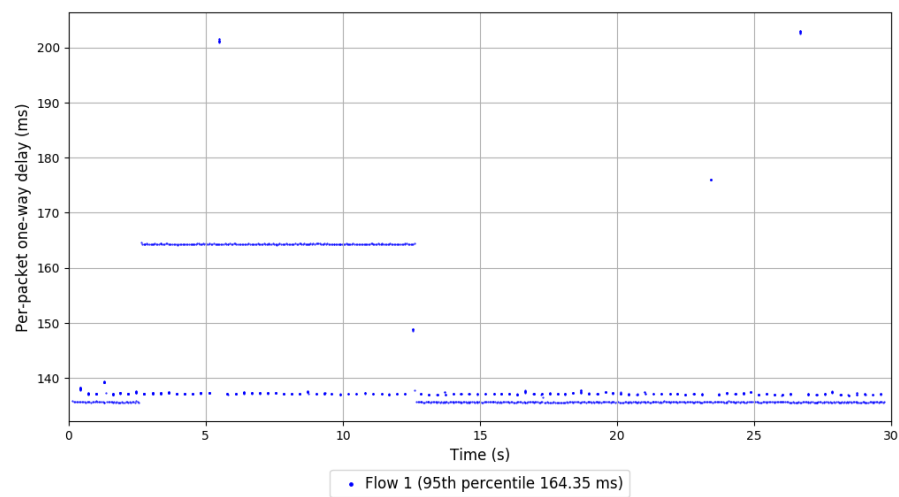
Run 9: Report of WebRTC media — Data Link



Flow 1 ingress (mean 2.10 Mbit/s)    Flow 1 egress (mean 2.10 Mbit/s)



Flow 1 (95th percentile 136.64 ms)

```
Run 10: Statistics of WebRTC media

Start at: 2018-01-09 08:31:03
End at: 2018-01-09 08:31:33


# Below is generated by plot.py at 2018-01-09 11:14:37
# Datalink statistics
-- Total of 1 flow:
Average throughput: 2.06 Mbit/s
95th percentile per-packet one-way delay: 162.448 ms
Loss rate: 0.92%
-- Flow 1:
Average throughput: 2.06 Mbit/s
95th percentile per-packet one-way delay: 162.448 ms
Loss rate: 0.92%
```
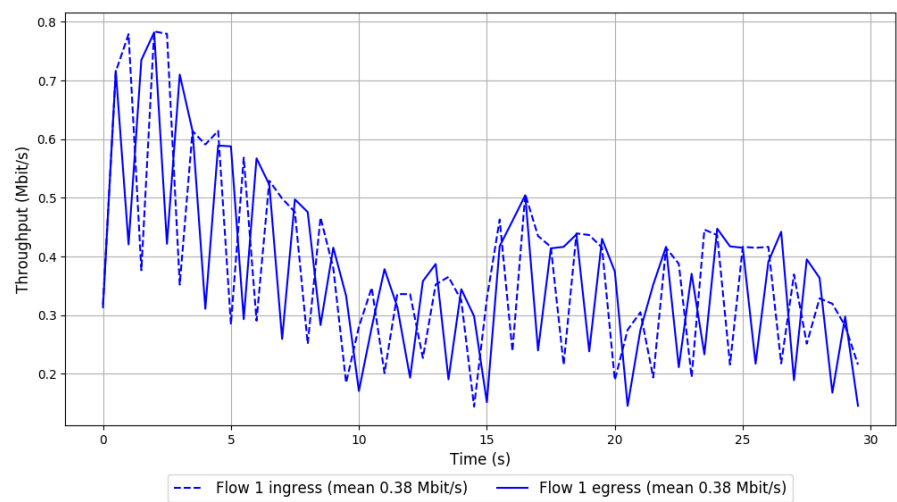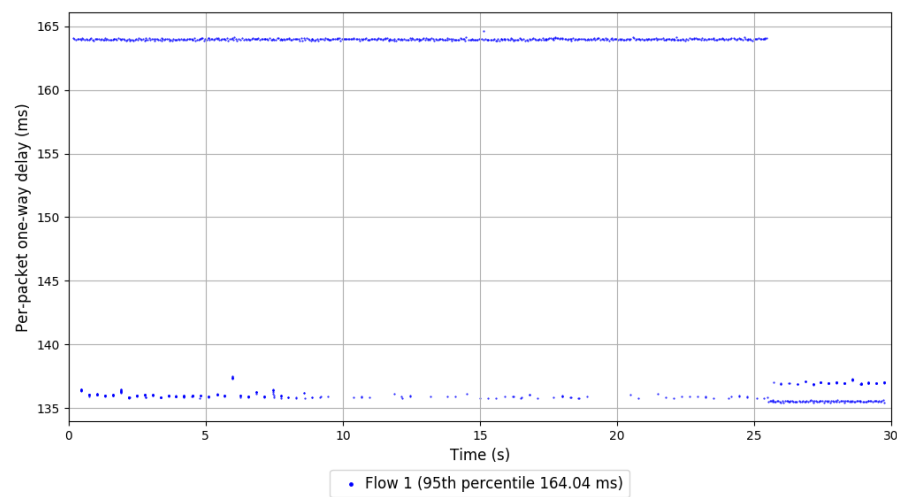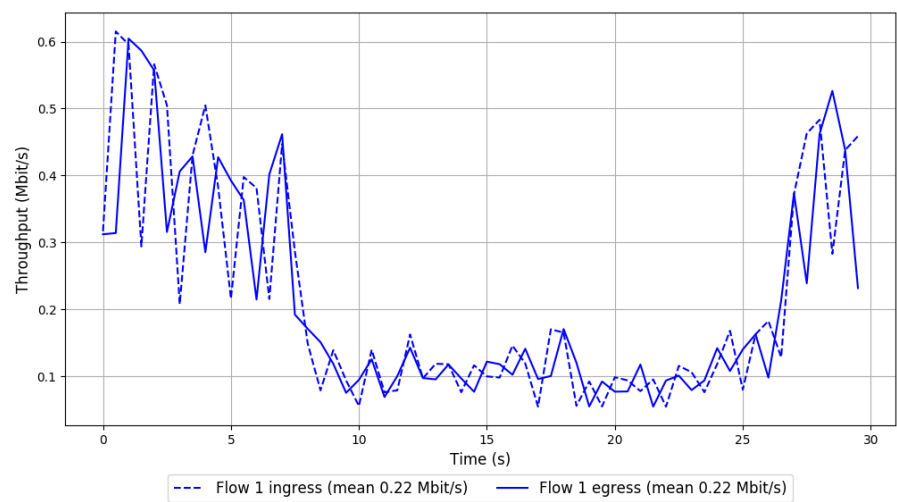
Run 10: Report of WebRTC media — Data Link

```
Run 1: Statistics of Sprout

Start at: 2018-01-09 06:48:05
End at: 2018-01-09 06:48:35

# Below is generated by plot.py at 2018-01-09 11:14:37
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.38 Mbit/s
95th percentile per-packet one-way delay: 164.349 ms
Loss rate: 0.92%
-- Flow 1:
Average throughput: 0.38 Mbit/s
95th percentile per-packet one-way delay: 164.349 ms
Loss rate: 0.92%
```
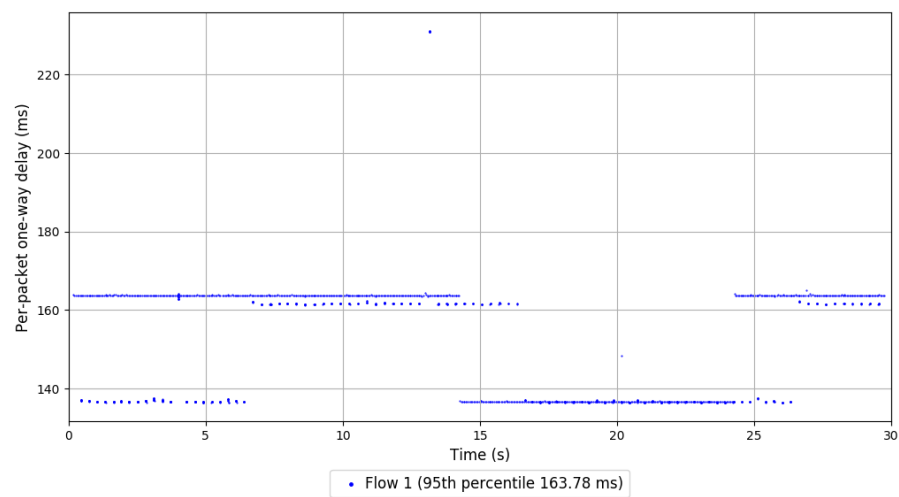
Run 1: Report of Sprout — Data Link

```
Run 2: Statistics of Sprout

Start at: 2018-01-09 07:00:55
End at: 2018-01-09 07:01:25

# Below is generated by plot.py at 2018-01-09 11:14:37
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 164.045 ms
Loss rate: 1.79%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 164.045 ms
Loss rate: 1.79%
```
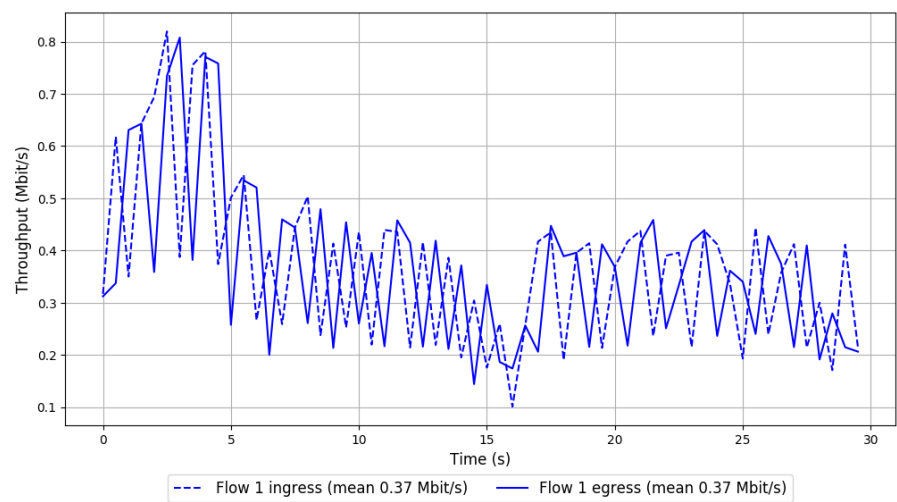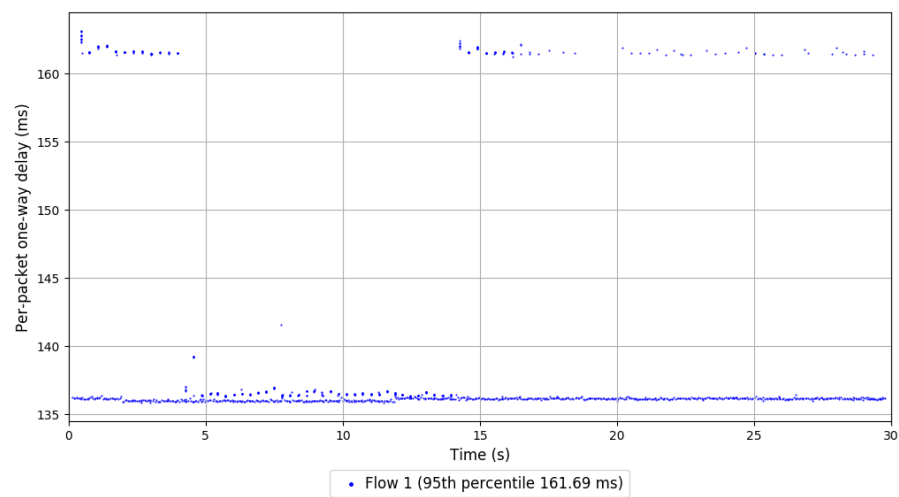
Run 2: Report of Sprout — Data Link

```
Run 3: Statistics of Sprout

Start at: 2018-01-09 07:13:54
End at: 2018-01-09 07:14:24

# Below is generated by plot.py at 2018-01-09 11:14:37
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.37 Mbit/s
95th percentile per-packet one-way delay: 163.781 ms
Loss rate: 0.95%
-- Flow 1:
Average throughput: 0.37 Mbit/s
95th percentile per-packet one-way delay: 163.781 ms
Loss rate: 0.95%
```
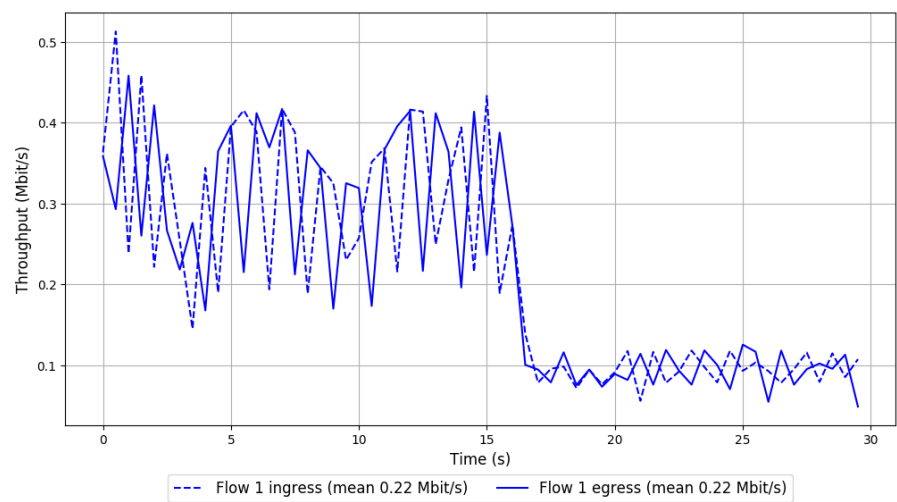
Run 3: Report of Sprout — Data Link

```
Run 4: Statistics of Sprout

Start at: 2018-01-09 07:26:26
End at: 2018-01-09 07:26:56

# Below is generated by plot.py at 2018-01-09 11:14:37
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 161.692 ms
Loss rate: 0.54%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 161.692 ms
Loss rate: 0.54%
```
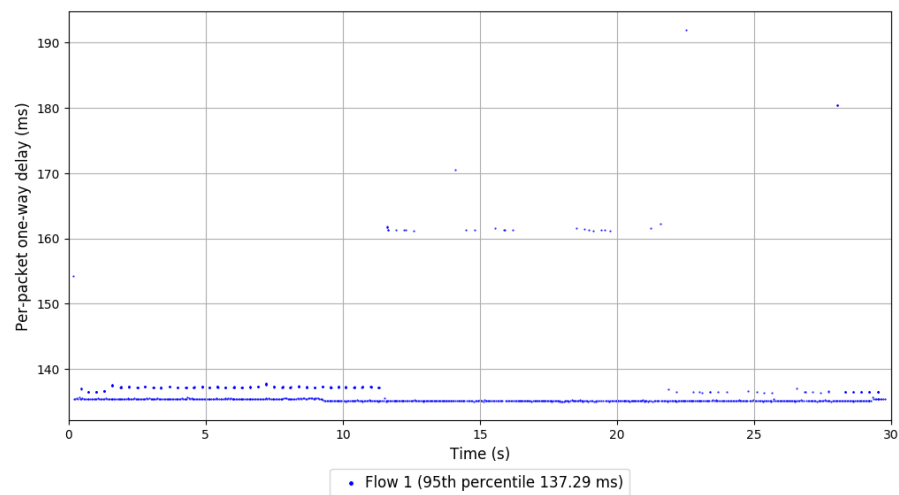
# Run 4: Report of Sprout — Data Link

```
Run 5: Statistics of Sprout

Start at: 2018-01-09 07:38:49
End at: 2018-01-09 07:39:19

# Below is generated by plot.py at 2018-01-09 11:14:37
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.19 Mbit/s
95th percentile per-packet one-way delay: 137.295 ms
Loss rate: 1.99%
-- Flow 1:
Average throughput: 0.19 Mbit/s
95th percentile per-packet one-way delay: 137.295 ms
Loss rate: 1.99%
```
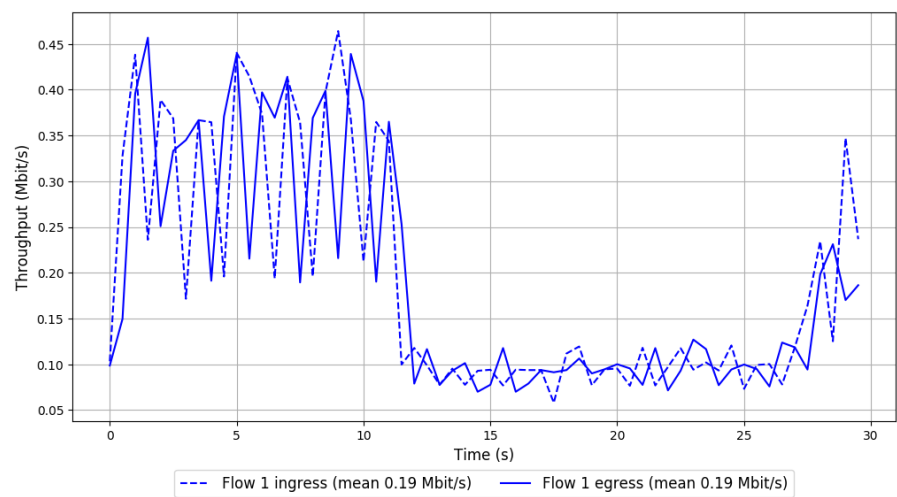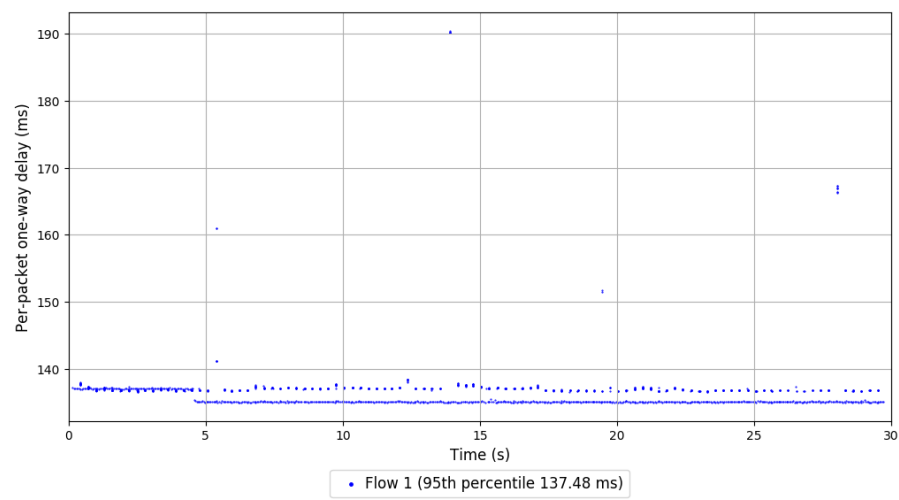
Run 5: Report of Sprout — Data Link

```
Run 6: Statistics of Sprout

Start at: 2018-01-09 07:51:34
End at: 2018-01-09 07:52:04

# Below is generated by plot.py at 2018-01-09 11:14:37
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.37 Mbit/s
95th percentile per-packet one-way delay: 137.483 ms
Loss rate: 0.74%
-- Flow 1:
Average throughput: 0.37 Mbit/s
95th percentile per-packet one-way delay: 137.483 ms
Loss rate: 0.74%
```
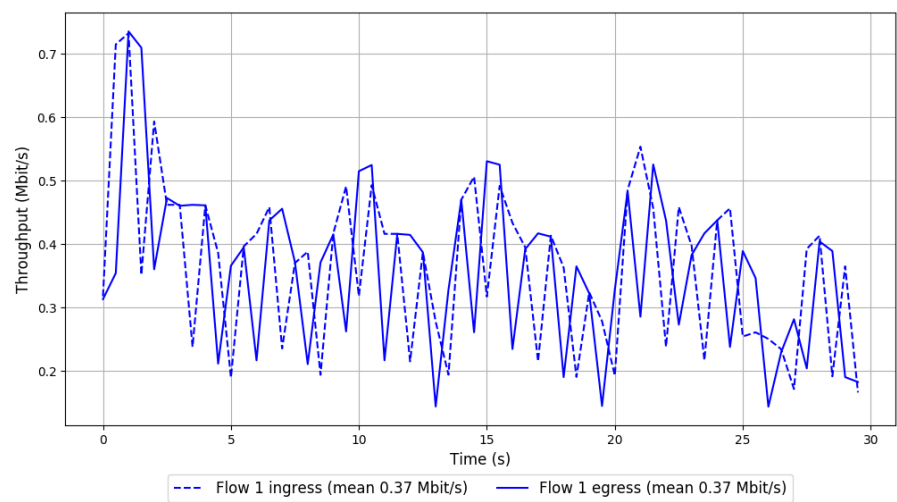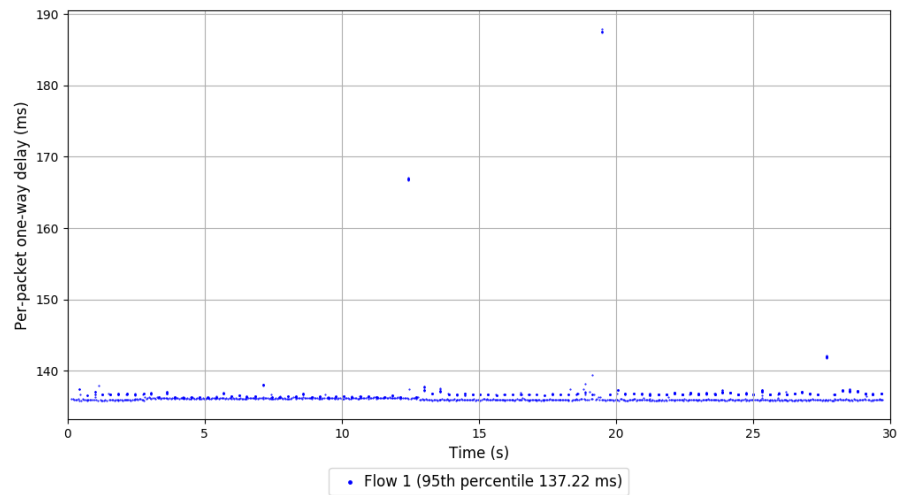
## Run 6: Report of Sprout — Data Link

```
Run 7: Statistics of Sprout

Start at: 2018-01-09 08:04:38
End at: 2018-01-09 08:05:08

# Below is generated by plot.py at 2018-01-09 11:14:37
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.41 Mbit/s
95th percentile per-packet one-way delay: 137.223 ms
Loss rate: 1.31%
-- Flow 1:
Average throughput: 0.41 Mbit/s
95th percentile per-packet one-way delay: 137.223 ms
Loss rate: 1.31%
```
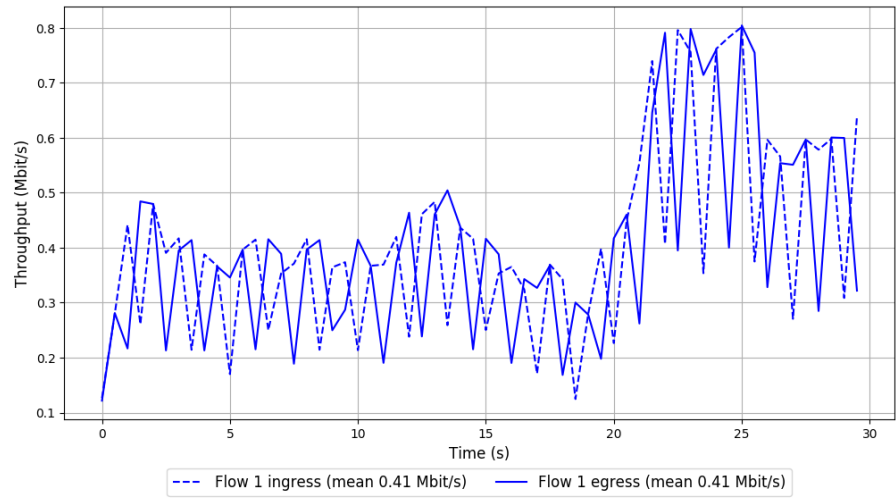
Run 7: Report of Sprout — Data Link

```
Run 8: Statistics of Sprout

Start at: 2018-01-09 08:17:13
End at: 2018-01-09 08:17:43

# Below is generated by plot.py at 2018-01-09 11:14:37
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.13 Mbit/s
95th percentile per-packet one-way delay: 159.518 ms
Loss rate: 1.57%
-- Flow 1:
Average throughput: 0.13 Mbit/s
95th percentile per-packet one-way delay: 159.518 ms
Loss rate: 1.57%
```
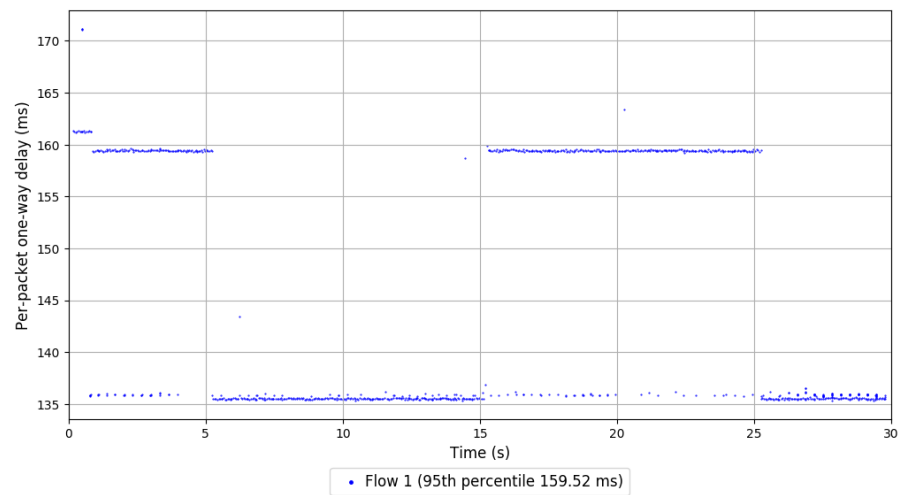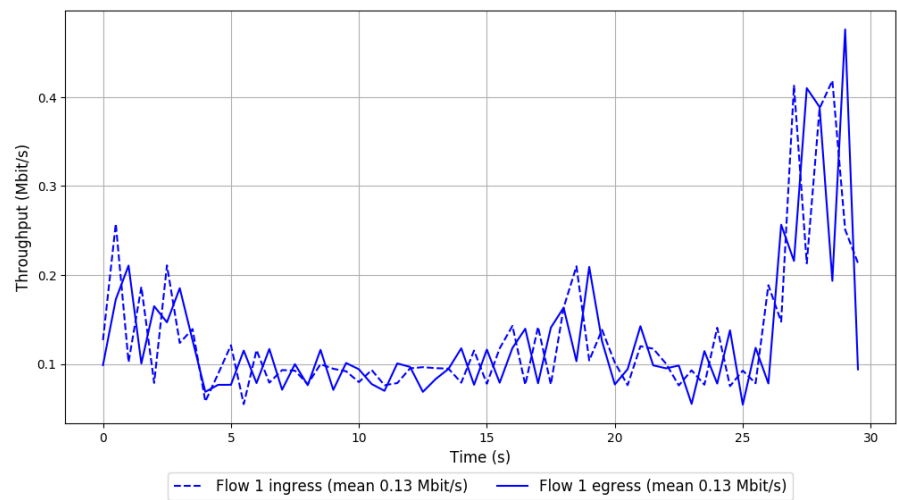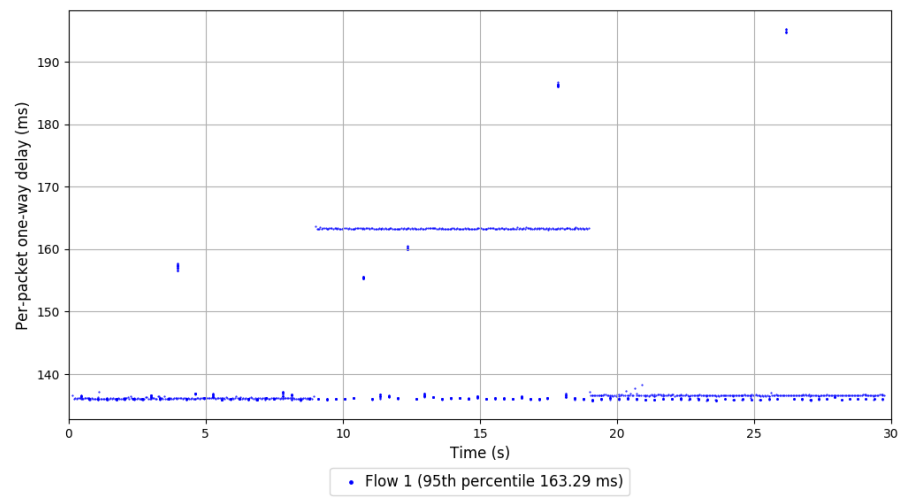
Run 8: Report of Sprout — Data Link



Flow 1 ingress (mean 0.13 Mbit/s) --- Flow 1 egress (mean 0.13 Mbit/s)



Flow 1 (95th percentile 159.52 ms)

```
Run 9: Statistics of Sprout

Start at: 2018-01-09 08:30:19
End at: 2018-01-09 08:30:49


# Below is generated by plot.py at 2018-01-09 11:14:37
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.50 Mbit/s
95th percentile per-packet one-way delay: 163.292 ms
Loss rate: 0.63%
-- Flow 1:
Average throughput: 0.50 Mbit/s
95th percentile per-packet one-way delay: 163.292 ms
Loss rate: 0.63%
```
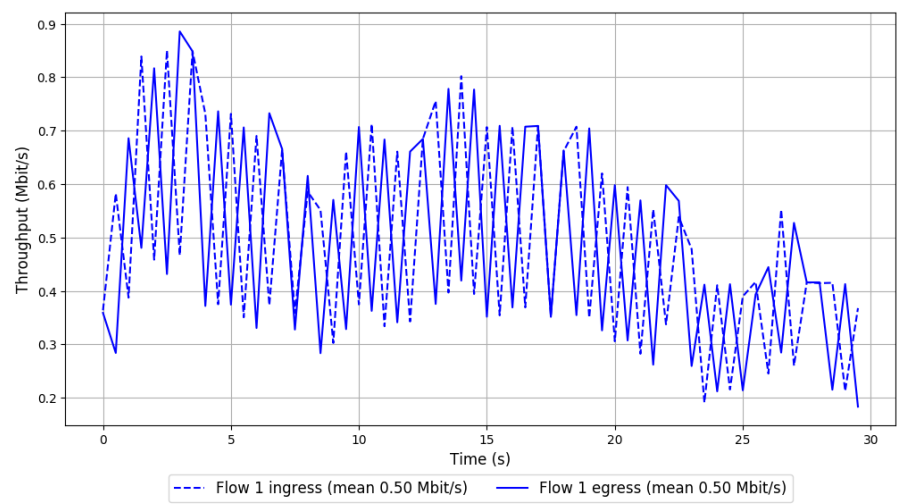
Run 9: Report of Sprout — Data Link

Run 10: Statistics of Sprout

Start at: 2018-01-09 08:43:20
End at: 2018-01-09 08:43:50

# Below is generated by plot.py at 2018-01-09 11:14:37
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.35 Mbit/s
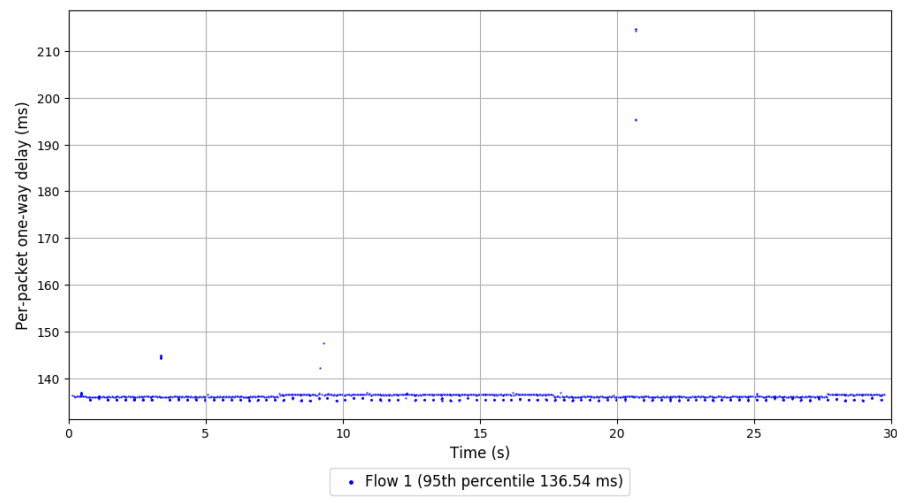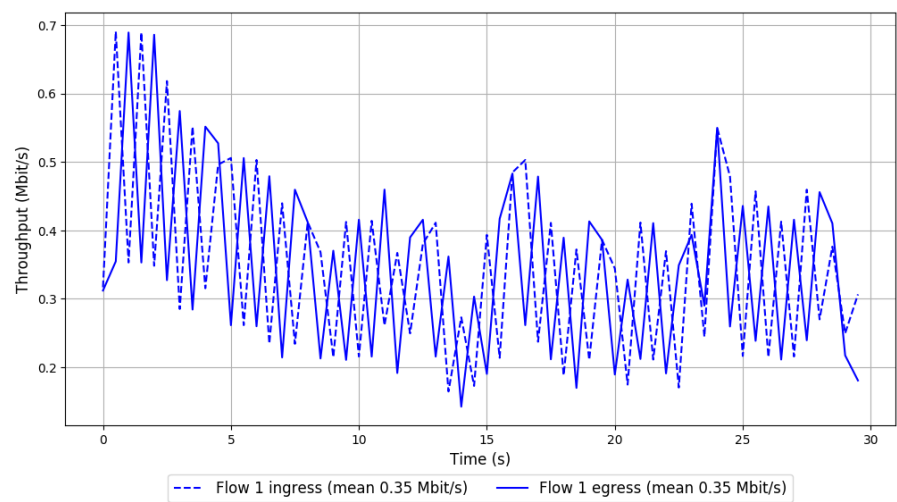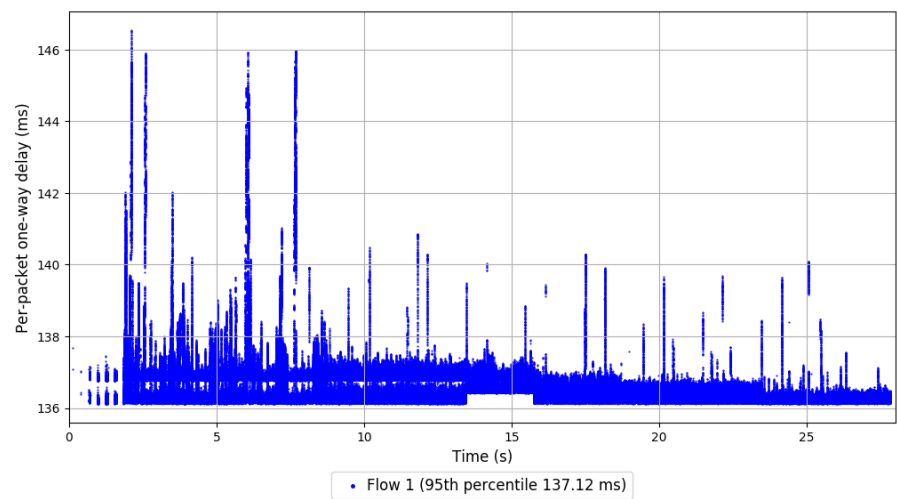95th percentile per-packet one-way delay: 136.543 ms
Loss rate: 0.77%
-- Flow 1:
Average throughput: 0.35 Mbit/s
95th percentile per-packet one-way delay: 136.543 ms
Loss rate: 0.77%

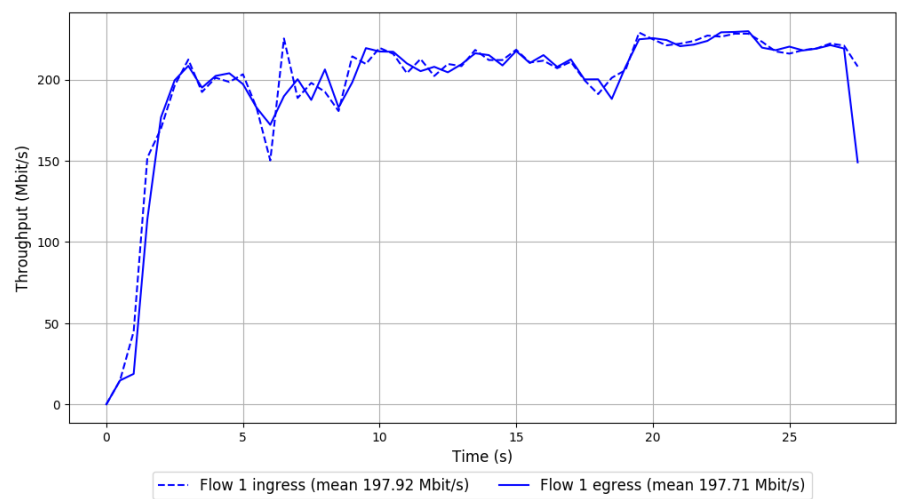Run 10: Report of Sprout — Data Link





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

Start at: 2018-01-09 06:38:13
End at: 2018-01-09 06:38:43

# Below is generated by plot.py at 2018-01-09 11:14:37
# Datalink statistics
-- Total of 1 flow:
Average throughput: 197.71 Mbit/s
95th percentile per-packet one-way delay: 137.122 ms
Loss rate: 1.08%
-- Flow 1:
Average throughput: 197.71 Mbit/s
95th percentile per-packet one-way delay: 137.122 ms
Loss rate: 1.08%
```
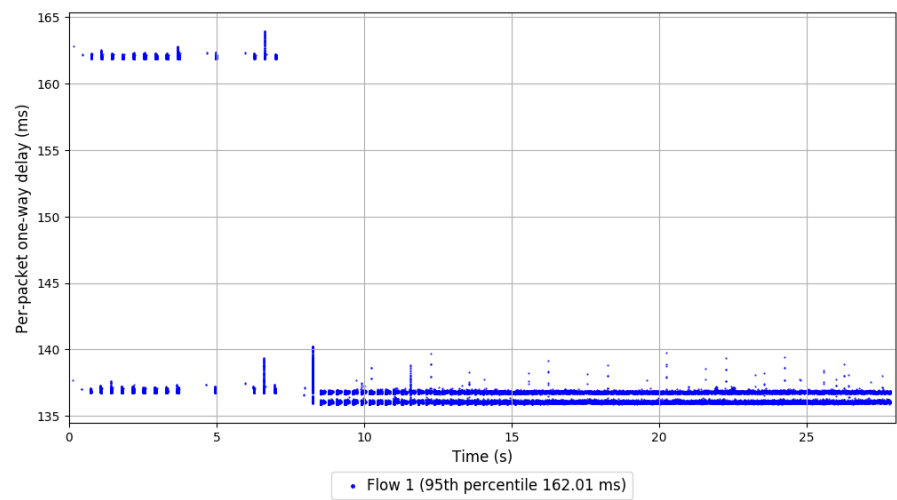
# Run 1: Report of TaoVA-100x — Data Link



Flow 1 ingress (mean 197.92 Mbit/s) --- Flow 1 egress (mean 197.71 Mbit/s)
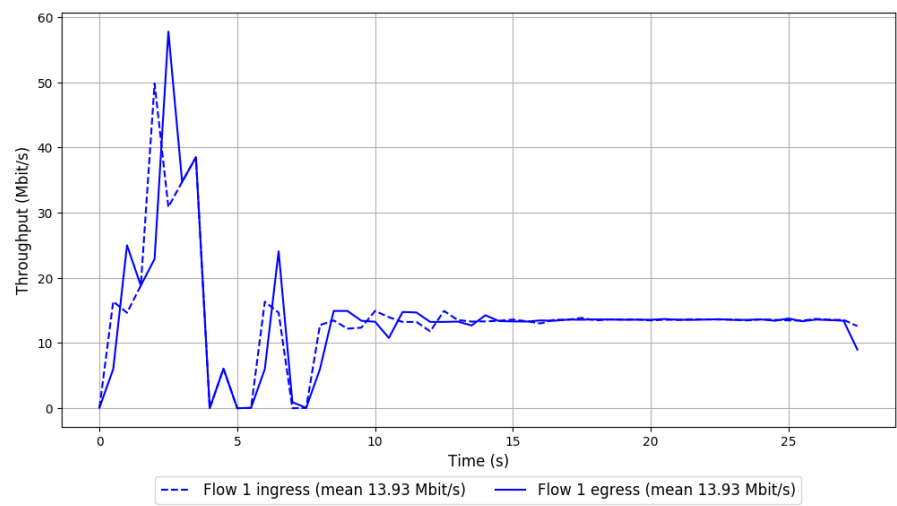


Flow 1 (95th percentile 137.12 ms)

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

Start at: 2018-01-09 06:51:21
End at: 2018-01-09 06:51:51

# Below is generated by plot.py at 2018-01-09 11:14:37
# Datalink statistics
-- Total of 1 flow:
Average throughput: 13.93 Mbit/s
95th percentile per-packet one-way delay: 162.014 ms
Loss rate: 0.96%
-- Flow 1:
Average throughput: 13.93 Mbit/s
95th percentile per-packet one-way delay: 162.014 ms
Loss rate: 0.96%
```
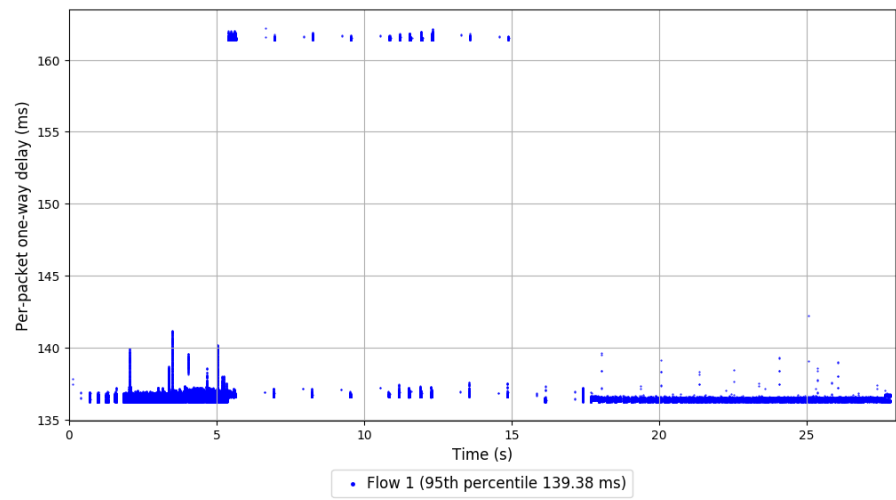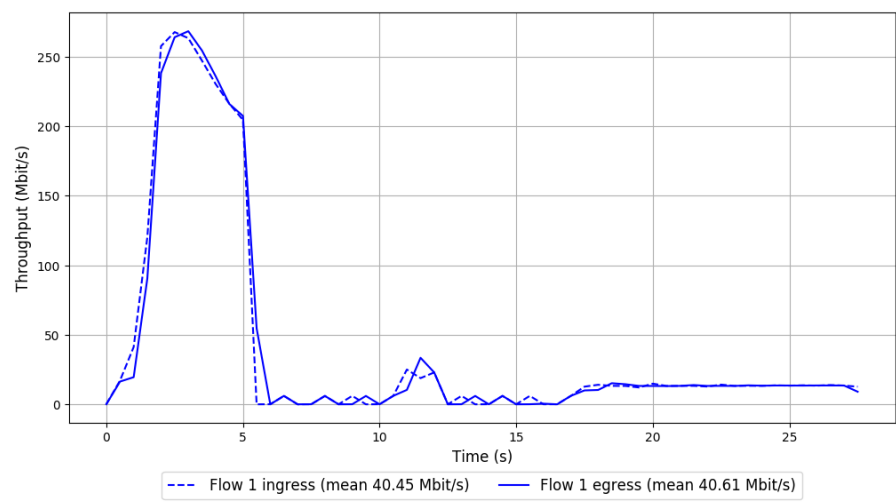
## Run 2: Report of TaoVA-100x — Data Link



Flow 1 ingress (mean 13.93 Mbit/s)     Flow 1 egress (mean 13.93 Mbit/s)



Flow 1 (95th percentile 162.01 ms)

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

Start at: 2018-01-09 07:04:01
End at: 2018-01-09 07:04:31

# Below is generated by plot.py at 2018-01-09 11:14:37
# Datalink statistics
-- Total of 1 flow:
Average throughput: 40.61 Mbit/s
95th percentile per-packet one-way delay: 139.380 ms
Loss rate: 0.58%
-- Flow 1:
Average throughput: 40.61 Mbit/s
95th percentile per-packet one-way delay: 139.380 ms
Loss rate: 0.58%
```

Run 3: Report of TaoVA-100x — Data Link



Flow 1 ingress (mean 40.45 Mbit/s)  ——— Flow 1 egress (mean 40.61 Mbit/s)



· Flow 1 (95th percentile 139.38 ms)

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

Start at: 2018-01-09 07:16:58
End at: 2018-01-09 07:17:28

# Below is generated by plot.py at 2018-01-09 11:14:37
# Datalink statistics
-- Total of 1 flow:
Average throughput: 5.28 Mbit/s
95th percentile per-packet one-way delay: 161.438 ms
Loss rate: 1.90%
-- Flow 1:
Average throughput: 5.28 Mbit/s
95th percentile per-packet one-way delay: 161.438 ms
Loss rate: 1.90%
```
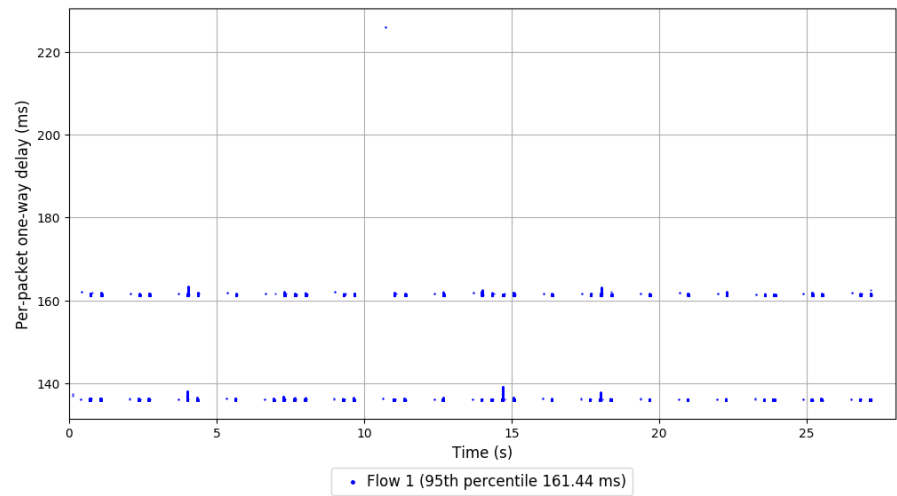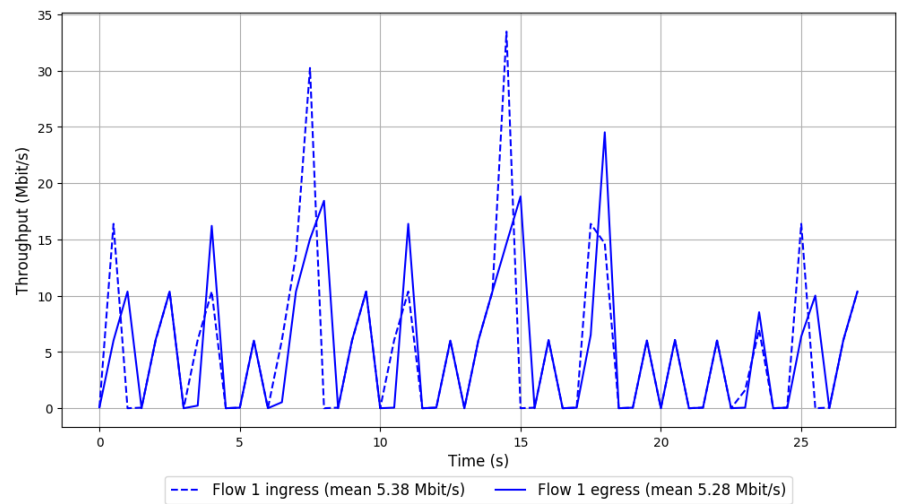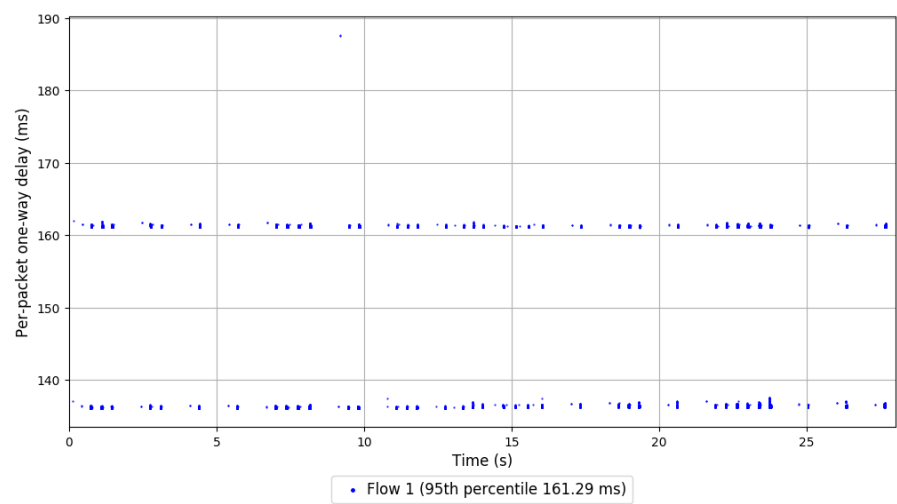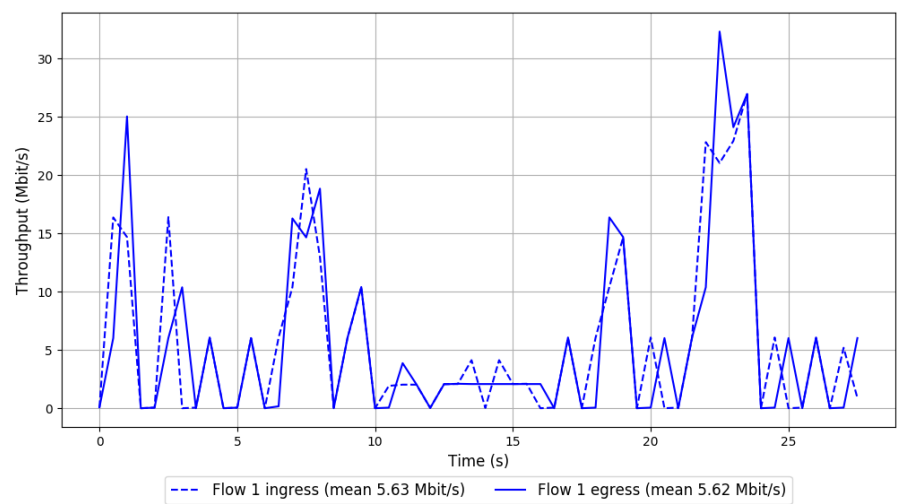
Run 4: Report of TaoVA-100x — Data Link

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

Start at: 2018-01-09 07:29:25
End at: 2018-01-09 07:29:55

# Below is generated by plot.py at 2018-01-09 11:14:37
# Datalink statistics
-- Total of 1 flow:
Average throughput: 5.62 Mbit/s
95th percentile per-packet one-way delay: 161.287 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 5.62 Mbit/s
95th percentile per-packet one-way delay: 161.287 ms
Loss rate: 0.00%
```
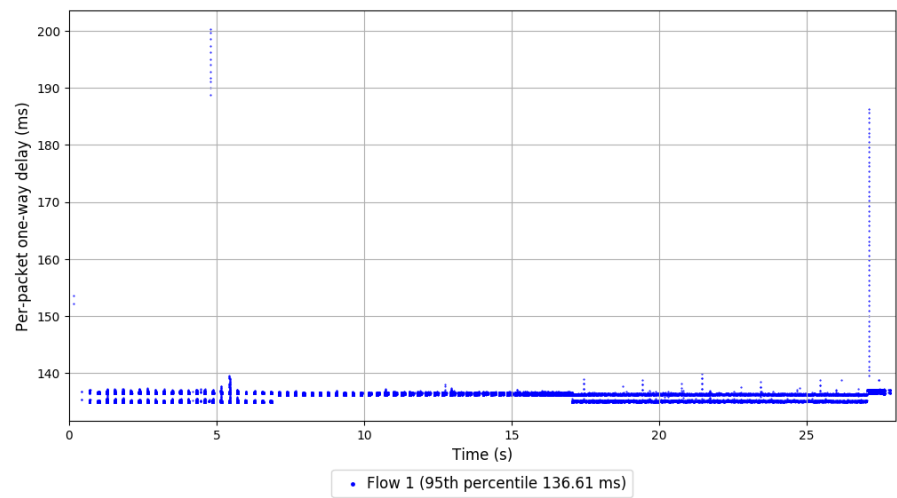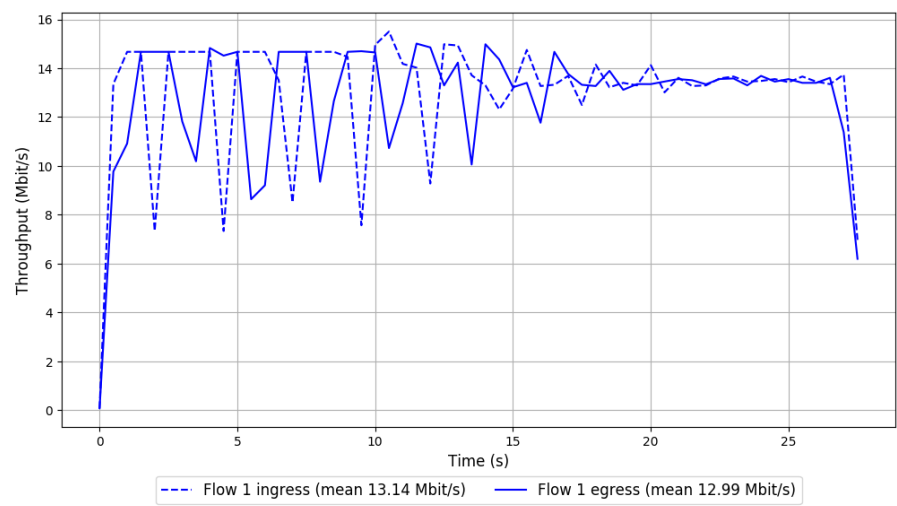
# Run 5: Report of TaoVA-100x — Data Link



Flow 1 ingress (mean 5.63 Mbit/s) --- Flow 1 egress (mean 5.62 Mbit/s)



- Flow 1 (95th percentile 161.29 ms)

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

Start at: 2018-01-09 07:41:51
End at: 2018-01-09 07:42:21

# Below is generated by plot.py at 2018-01-09 11:14:37
# Datalink statistics
-- Total of 1 flow:
Average throughput: 12.99 Mbit/s
95th percentile per-packet one-way delay: 136.613 ms
Loss rate: 1.49%
-- Flow 1:
Average throughput: 12.99 Mbit/s
95th percentile per-packet one-way delay: 136.613 ms
Loss rate: 1.49%
```
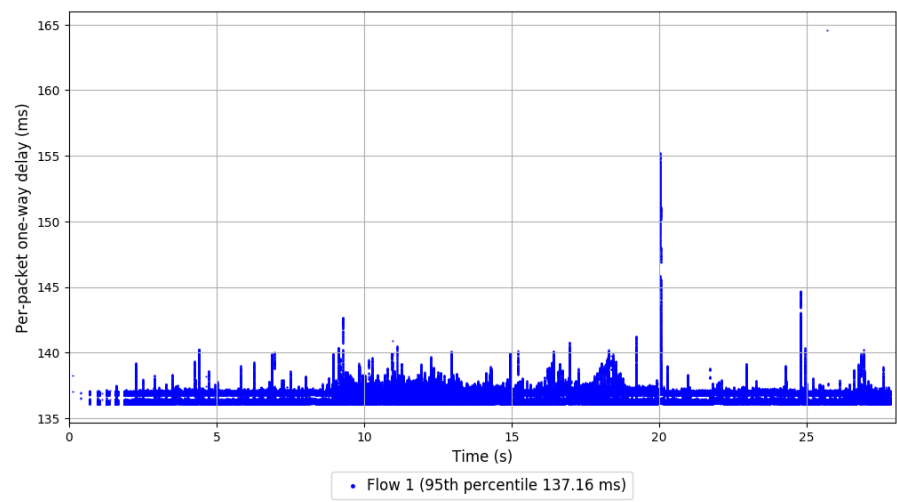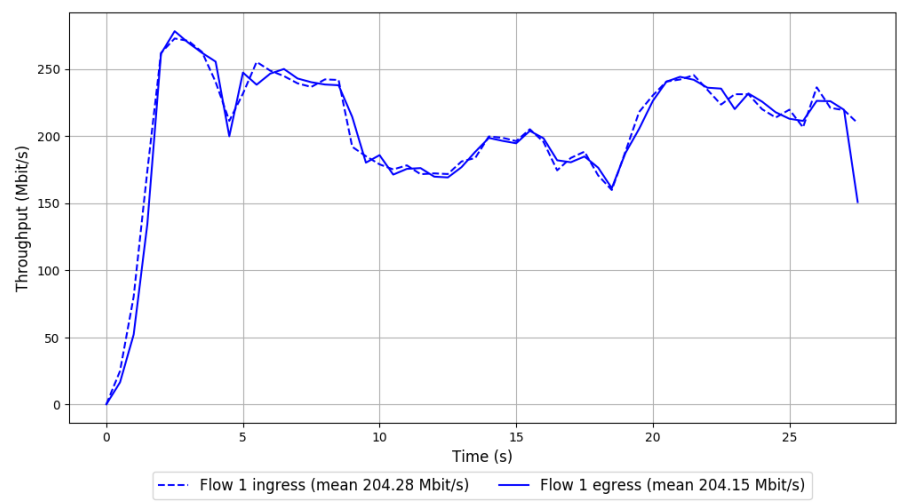
# Run 6: Report of TaoVA-100x — Data Link



Flow 1 ingress (mean 13.14 Mbit/s)  Flow 1 egress (mean 12.99 Mbit/s)



Flow 1 (95th percentile 136.61 ms)

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

Start at: 2018-01-09 07:54:36
End at: 2018-01-09 07:55:06

# Below is generated by plot.py at 2018-01-09 11:14:37
# Datalink statistics
-- Total of 1 flow:
Average throughput: 204.15 Mbit/s
95th percentile per-packet one-way delay: 137.157 ms
Loss rate: 1.04%
-- Flow 1:
Average throughput: 204.15 Mbit/s
95th percentile per-packet one-way delay: 137.157 ms
Loss rate: 1.04%
```
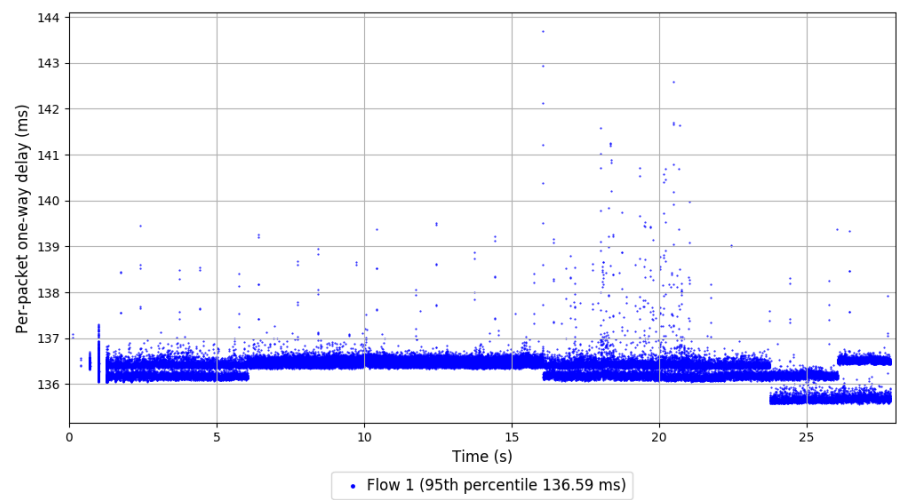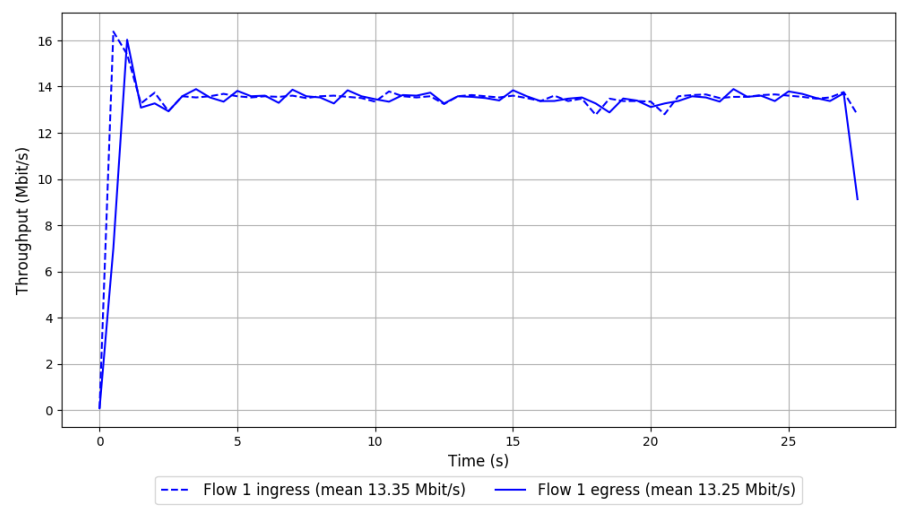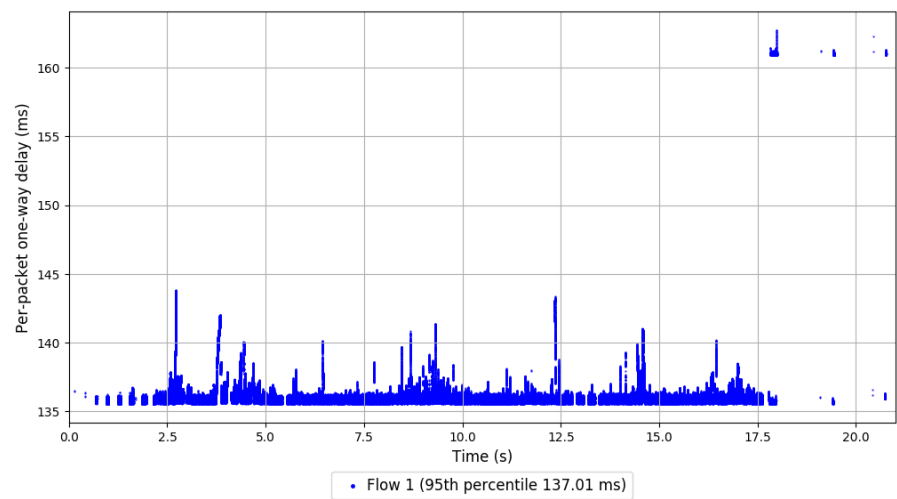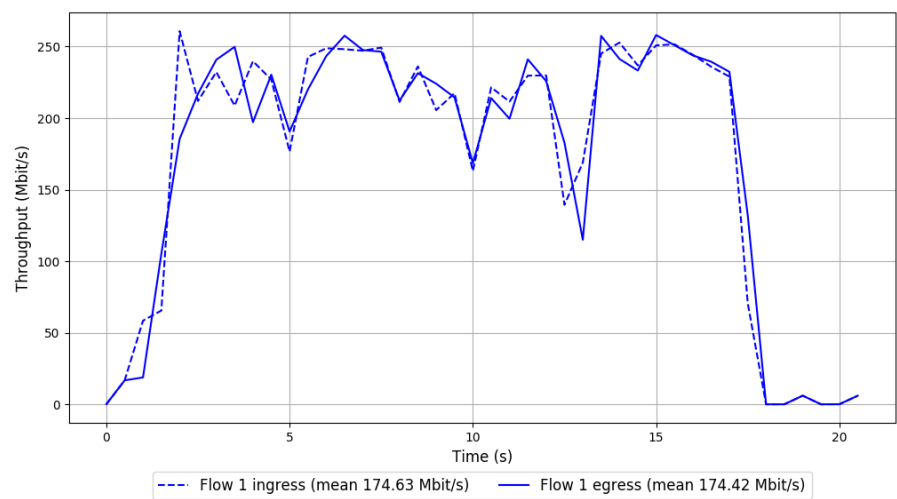
# Run 7: Report of TaoVA-100x — Data Link



Flow 1 ingress (mean 204.28 Mbit/s)    Flow 1 egress (mean 204.15 Mbit/s)
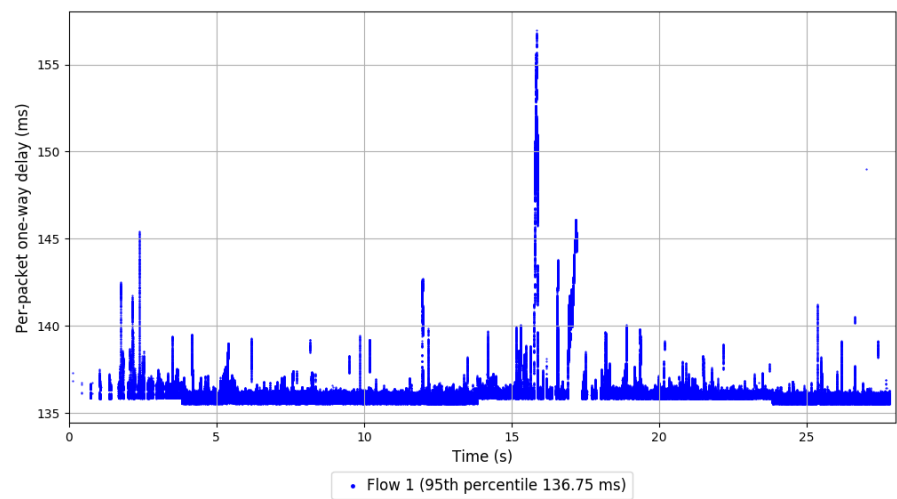


Flow 1 (95th percentile 137.16 ms)

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

Start at: 2018-01-09 08:07:42
End at: 2018-01-09 08:08:12


# Below is generated by plot.py at 2018-01-09 11:14:37
# Datalink statistics
-- Total of 1 flow:
Average throughput: 13.25 Mbit/s
95th percentile per-packet one-way delay: 136.588 ms
Loss rate: 1.73%
-- Flow 1:
Average throughput: 13.25 Mbit/s
95th percentile per-packet one-way delay: 136.588 ms
Loss rate: 1.73%
```

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

Run 9: Statistics of TaoVA-100x

Start at: 2018-01-09 08:20:18
End at: 2018-01-09 08:20:48

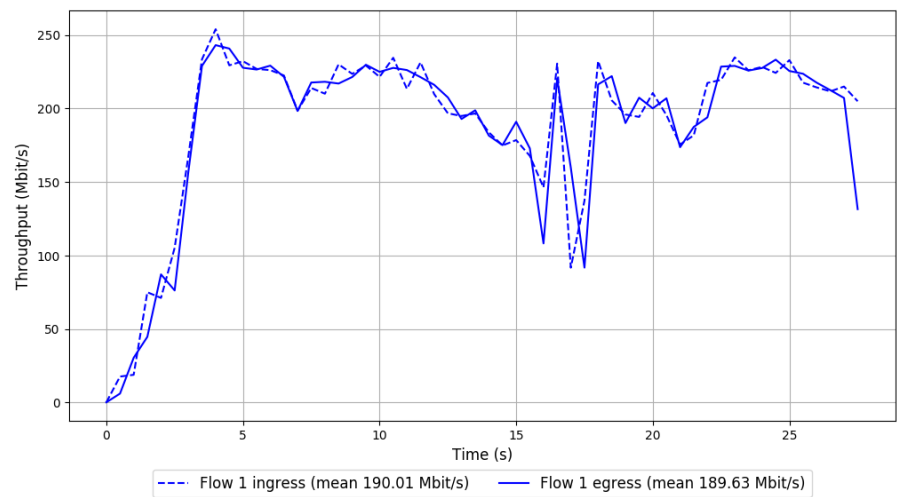Run 9: Report of TaoVA-100x — Data Link

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

Start at: 2018-01-09 08:33:25
End at: 2018-01-09 08:33:55

# Below is generated by plot.py at 2018-01-09 11:14:37
# Datalink statistics
-- Total of 1 flow:
Average throughput: 189.63 Mbit/s
95th percentile per-packet one-way delay: 136.754 ms
Loss rate: 1.27%
-- Flow 1:
Average throughput: 189.63 Mbit/s
95th percentile per-packet one-way delay: 136.754 ms
Loss rate: 1.27%
```
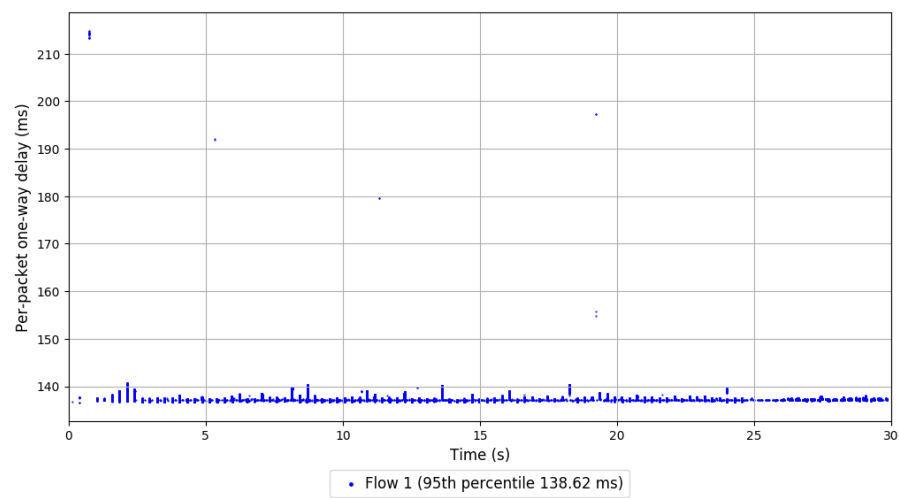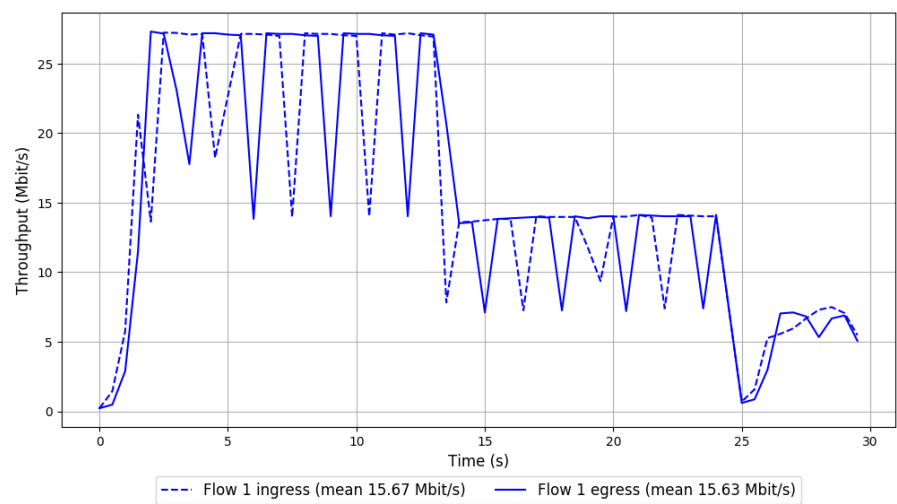
# Run 10: Report of TaoVA-100x — Data Link



Flow 1 ingress (mean 190.01 Mbit/s) —— Flow 1 egress (mean 189.63 Mbit/s)



• Flow 1 (95th percentile 136.75 ms)

```
Run 1: Statistics of TCP Vegas

Start at: 2018-01-09 06:41:14
End at: 2018-01-09 06:41:44

# Below is generated by plot.py at 2018-01-09 11:14:37
# Datalink statistics
-- Total of 1 flow:
Average throughput: 15.63 Mbit/s
95th percentile per-packet one-way delay: 138.619 ms
Loss rate: 1.14%
-- Flow 1:
Average throughput: 15.63 Mbit/s
95th percentile per-packet one-way delay: 138.619 ms
Loss rate: 1.14%
```
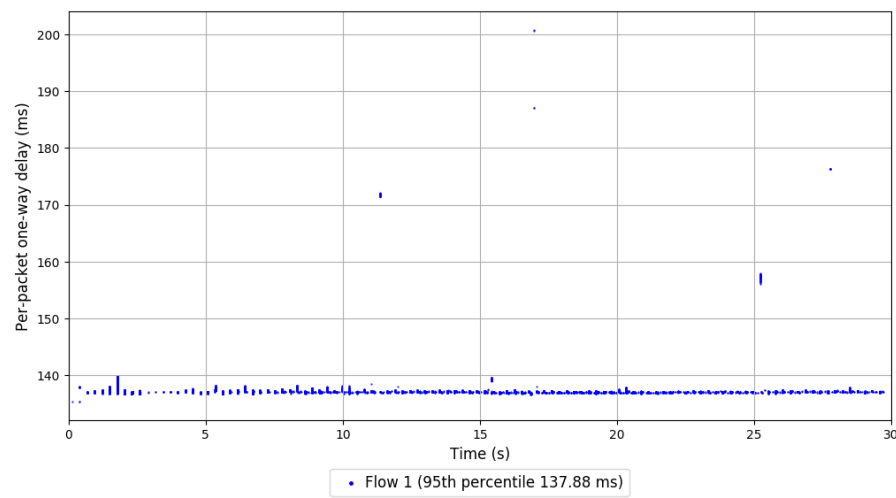
Run 1: Report of TCP Vegas — Data Link

```
Run 2: Statistics of TCP Vegas

Start at: 2018-01-09 06:54:05
End at: 2018-01-09 06:54:35

# Below is generated by plot.py at 2018-01-09 11:14:37
# Datalink statistics
-- Total of 1 flow:
Average throughput: 3.19 Mbit/s
95th percentile per-packet one-way delay: 137.885 ms
Loss rate: 4.72%
-- Flow 1:
Average throughput: 3.19 Mbit/s
95th percentile per-packet one-way delay: 137.885 ms
Loss rate: 4.72%
```
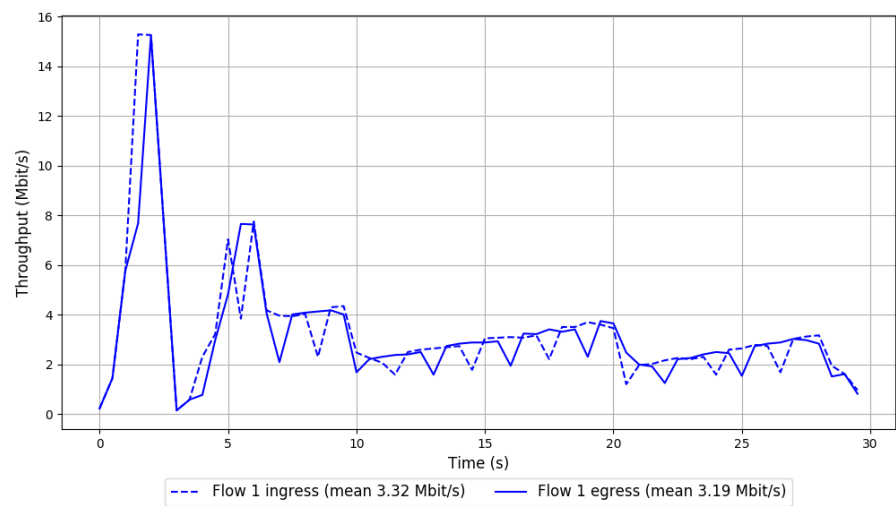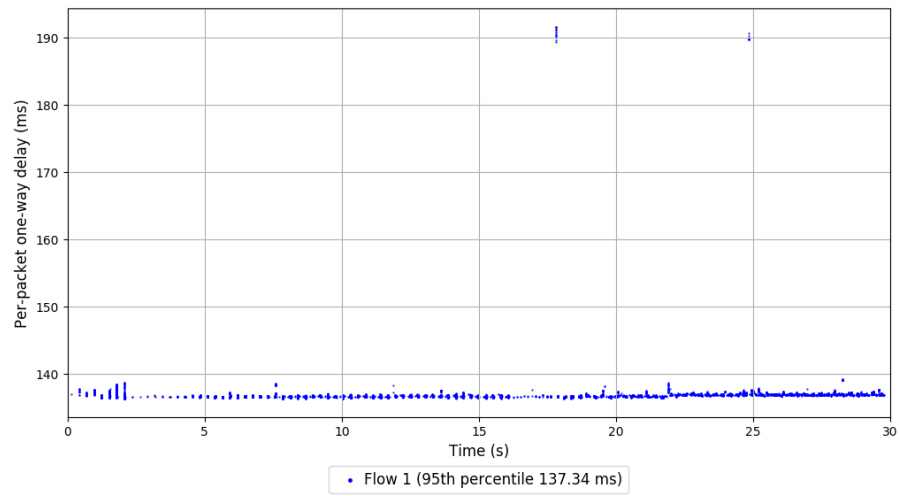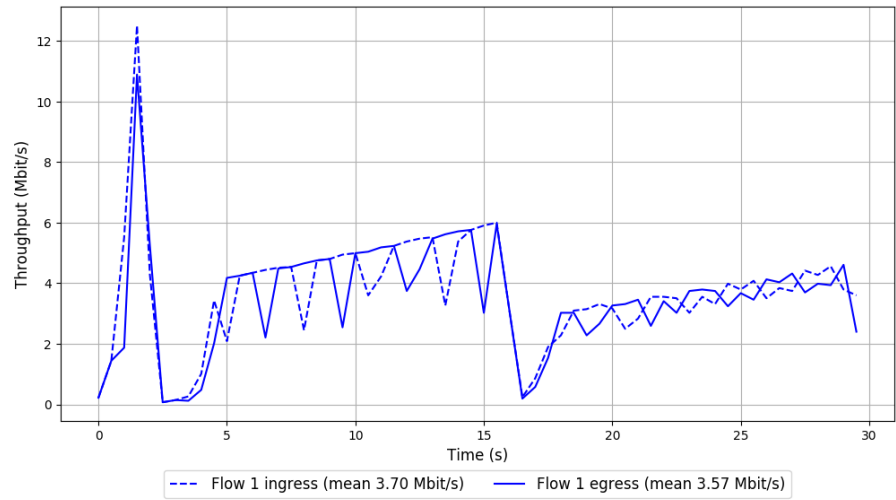
Run 2: Report of TCP Vegas — Data Link

```
Run 3: Statistics of TCP Vegas

Start at: 2018-01-09 07:06:49
End at: 2018-01-09 07:07:19


# Below is generated by plot.py at 2018-01-09 11:14:37
# Datalink statistics
-- Total of 1 flow:
Average throughput: 3.57 Mbit/s
95th percentile per-packet one-way delay: 137.335 ms
Loss rate: 4.33%
-- Flow 1:
Average throughput: 3.57 Mbit/s
95th percentile per-packet one-way delay: 137.335 ms
Loss rate: 4.33%
```

Run 3: Report of TCP Vegas — Data Link



Flow 1 ingress (mean 3.70 Mbit/s)     Flow 1 egress (mean 3.57 Mbit/s)



Flow 1 (95th percentile 137.34 ms)

```
Run 4: Statistics of TCP Vegas

Start at: 2018-01-09 07:19:39
End at: 2018-01-09 07:20:09

# Below is generated by plot.py at 2018-01-09 11:14:37
# Datalink statistics
-- Total of 1 flow:
Average throughput: 3.01 Mbit/s
95th percentile per-packet one-way delay: 136.904 ms
Loss rate: 1.01%
-- Flow 1:
Average throughput: 3.01 Mbit/s
95th percentile per-packet one-way delay: 136.904 ms
Loss rate: 1.01%
```
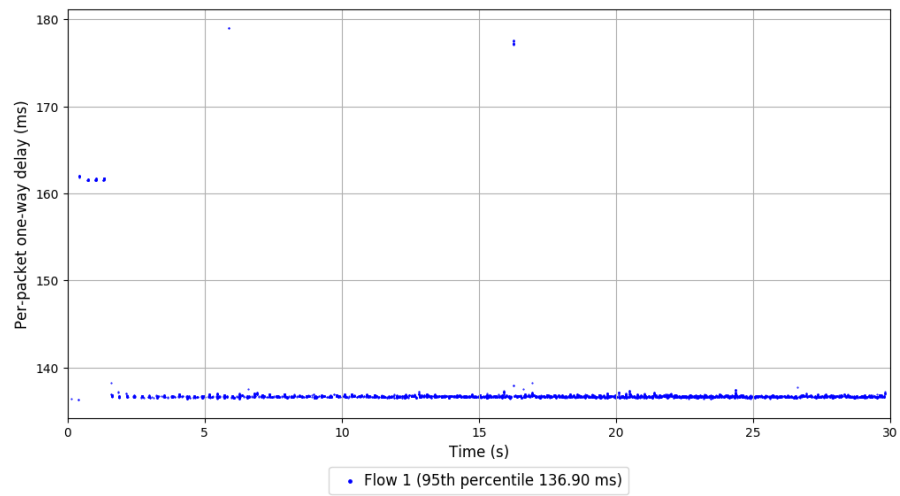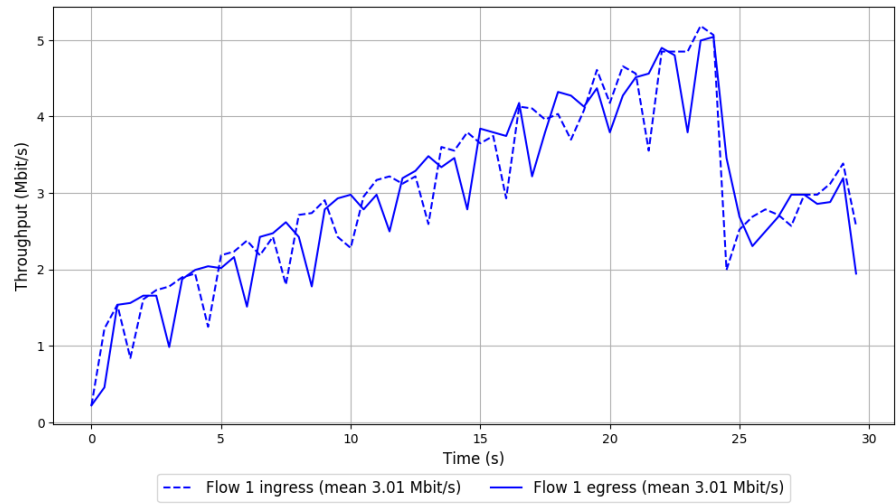
## Run 4: Report of TCP Vegas — Data Link

```
Run 5: Statistics of TCP Vegas

Start at: 2018-01-09 07:31:54
End at: 2018-01-09 07:32:24

# Below is generated by plot.py at 2018-01-09 11:14:37
# Datalink statistics
-- Total of 1 flow:
Average throughput: 1.30 Mbit/s
95th percentile per-packet one-way delay: 161.693 ms
Loss rate: 1.29%
-- Flow 1:
Average throughput: 1.30 Mbit/s
95th percentile per-packet one-way delay: 161.693 ms
Loss rate: 1.29%
```
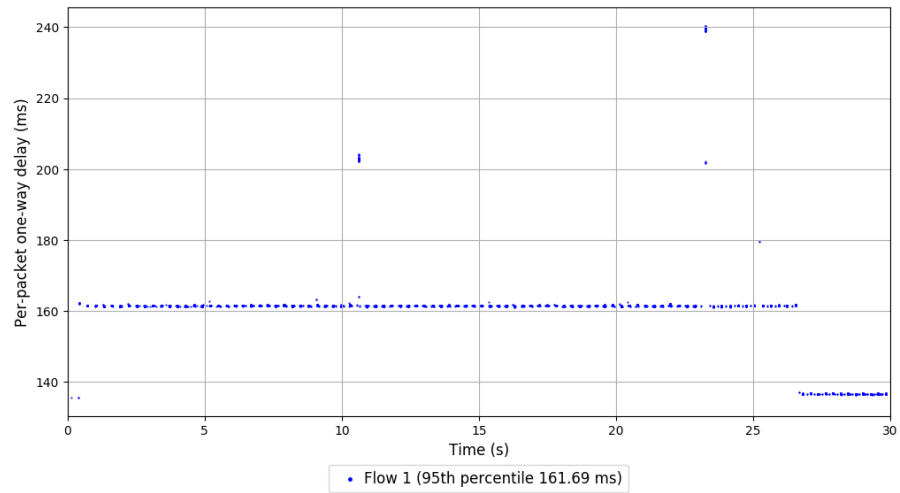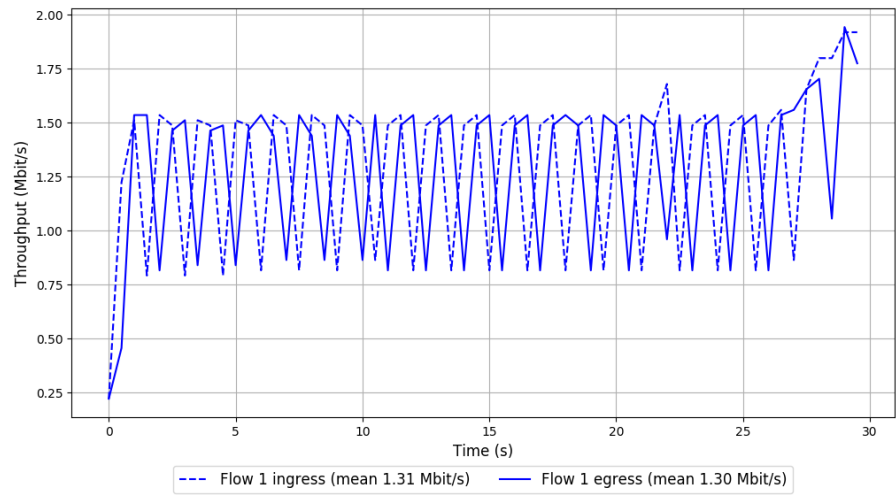
Run 5: Report of TCP Vegas — Data Link

```
Run 6: Statistics of TCP Vegas

Start at: 2018-01-09 07:44:28
End at: 2018-01-09 07:44:58

# Below is generated by plot.py at 2018-01-09 11:14:37
# Datalink statistics
-- Total of 1 flow:
Average throughput: 5.77 Mbit/s
95th percentile per-packet one-way delay: 138.203 ms
Loss rate: 3.24%
-- Flow 1:
Average throughput: 5.77 Mbit/s
95th percentile per-packet one-way delay: 138.203 ms
Loss rate: 3.24%
```
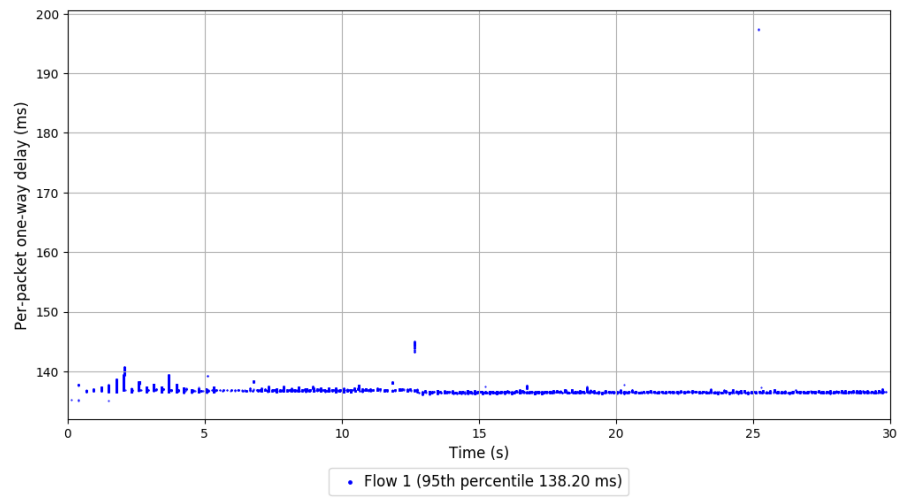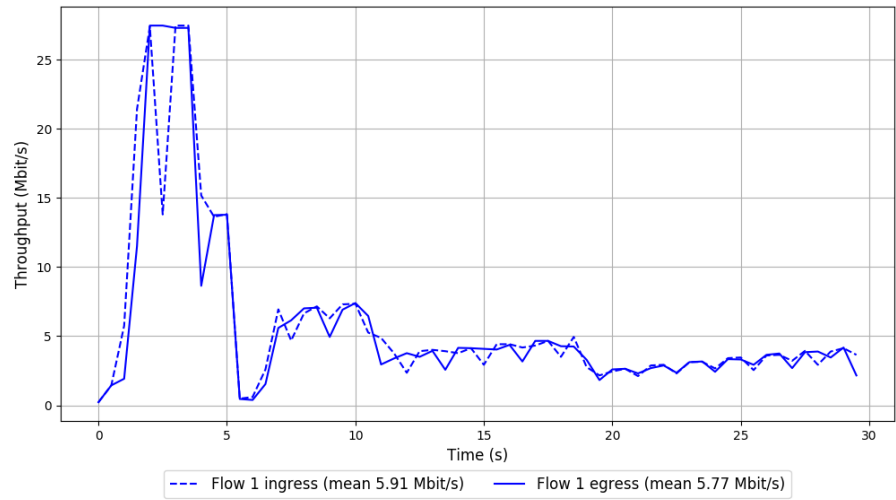
Run 6: Report of TCP Vegas — Data Link

```
Run 7: Statistics of TCP Vegas

Start at: 2018-01-09 07:57:37
End at: 2018-01-09 07:58:07

# Below is generated by plot.py at 2018-01-09 11:14:37
# Datalink statistics
-- Total of 1 flow:
Average throughput: 9.24 Mbit/s
95th percentile per-packet one-way delay: 138.877 ms
Loss rate: 0.65%
-- Flow 1:
Average throughput: 9.24 Mbit/s
95th percentile per-packet one-way delay: 138.877 ms
Loss rate: 0.65%
```
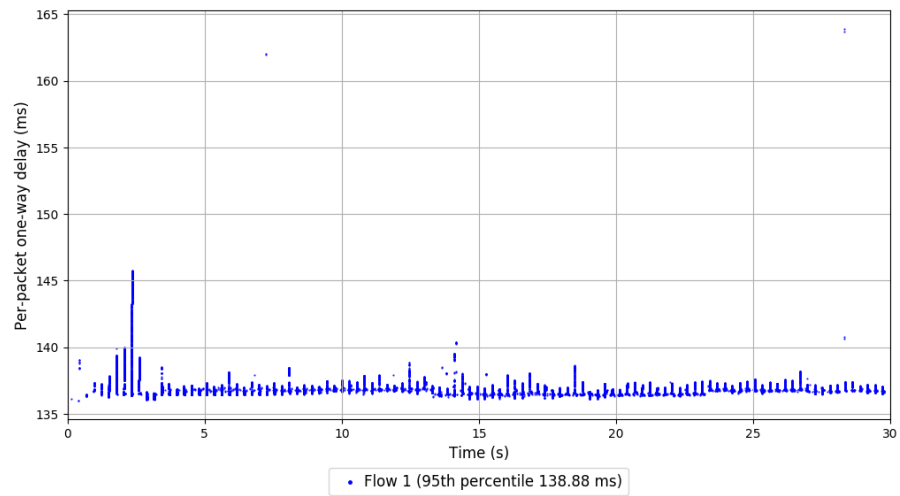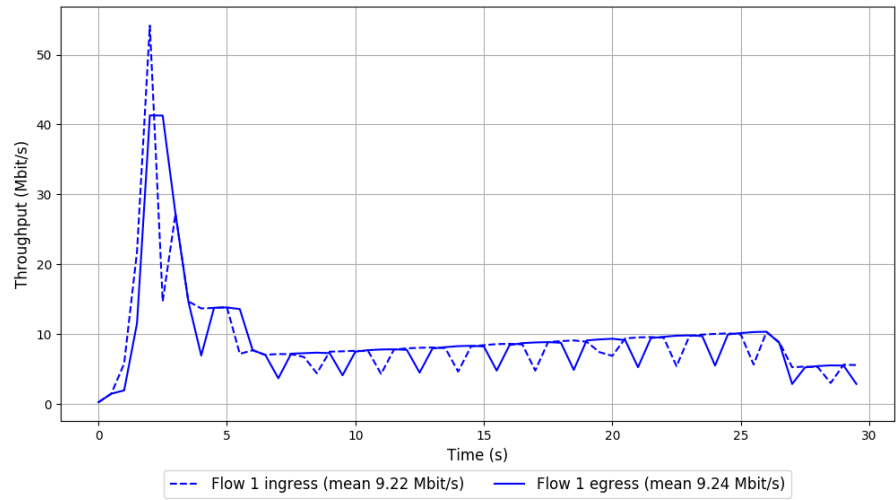
Run 7: Report of TCP Vegas — Data Link



Flow 1 ingress (mean 9.22 Mbit/s)    Flow 1 egress (mean 9.24 Mbit/s)



Flow 1 (95th percentile 138.88 ms)

```
Run 8: Statistics of TCP Vegas

Start at: 2018-01-09 08:10:21
End at: 2018-01-09 08:10:51

# Below is generated by plot.py at 2018-01-09 11:14:37
# Datalink statistics
-- Total of 1 flow:
Average throughput: 6.52 Mbit/s
95th percentile per-packet one-way delay: 140.112 ms
Loss rate: 3.62%
-- Flow 1:
Average throughput: 6.52 Mbit/s
95th percentile per-packet one-way delay: 140.112 ms
Loss rate: 3.62%
```
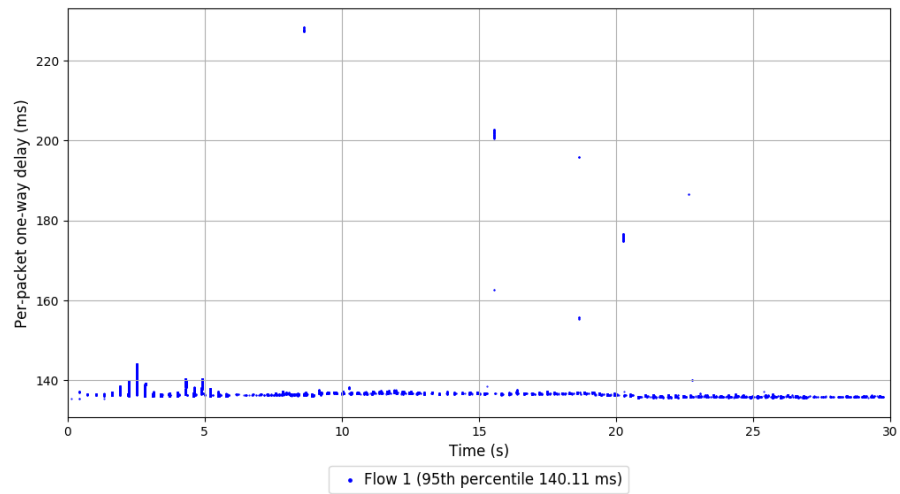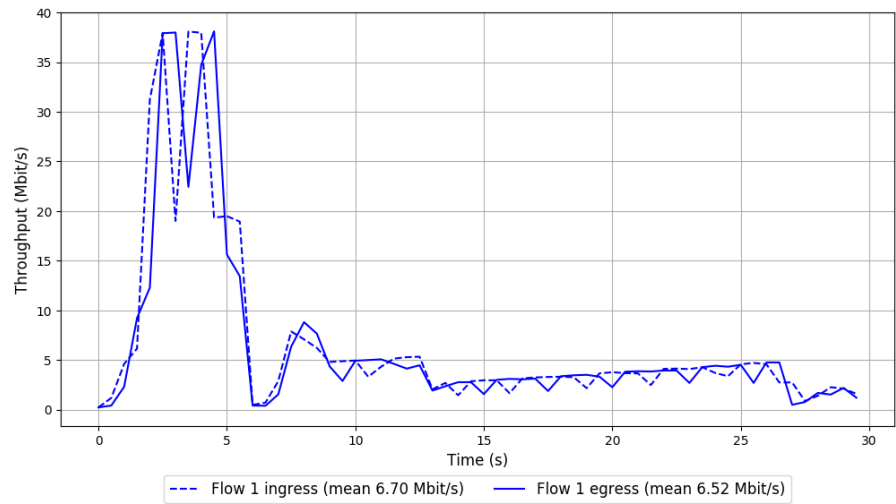
## Run 8: Report of TCP Vegas — Data Link

```
Run 9: Statistics of TCP Vegas

Start at: 2018-01-09 08:23:15
End at: 2018-01-09 08:23:45

# Below is generated by plot.py at 2018-01-09 11:14:37
# Datalink statistics
-- Total of 1 flow:
Average throughput: 3.12 Mbit/s
95th percentile per-packet one-way delay: 136.552 ms
Loss rate: 2.62%
-- Flow 1:
Average throughput: 3.12 Mbit/s
95th percentile per-packet one-way delay: 136.552 ms
Loss rate: 2.62%
```
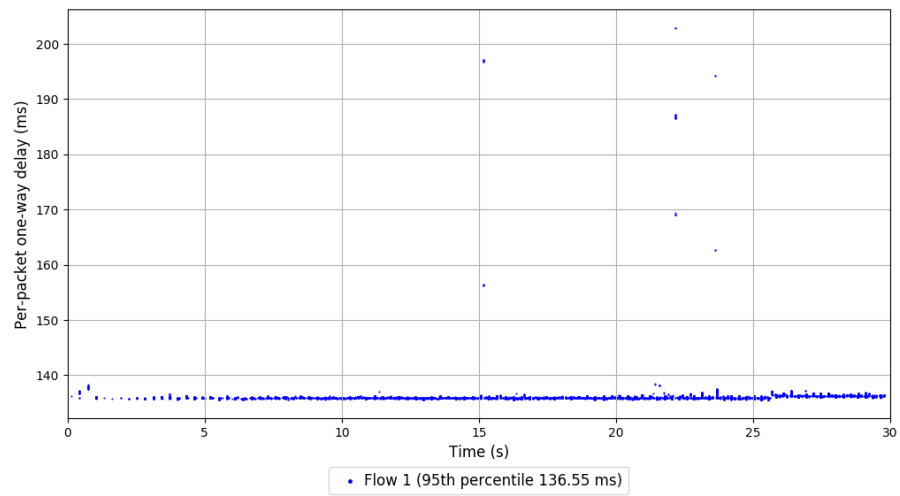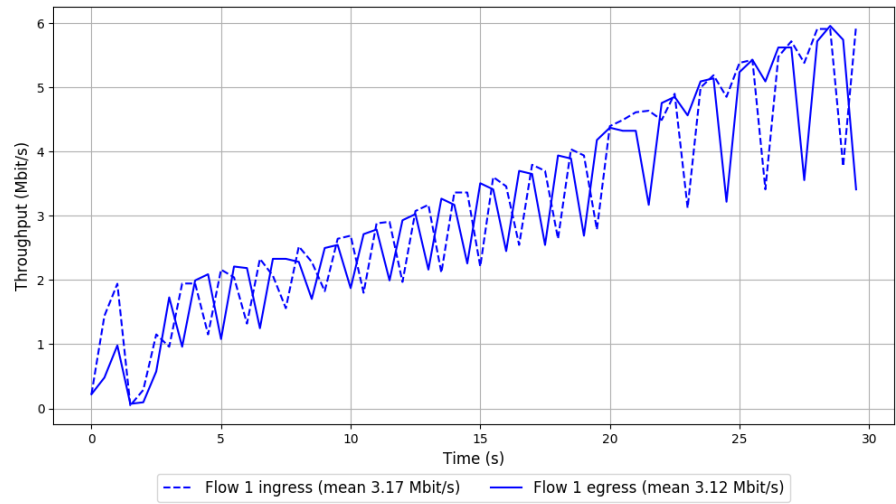
Run 9: Report of TCP Vegas — Data Link

```
Run 10: Statistics of TCP Vegas

Start at: 2018-01-09 08:36:28
End at: 2018-01-09 08:36:58

# Below is generated by plot.py at 2018-01-09 11:14:37
# Datalink statistics
-- Total of 1 flow:
Average throughput: 12.57 Mbit/s
95th percentile per-packet one-way delay: 138.051 ms
Loss rate: 0.67%
-- Flow 1:
Average throughput: 12.57 Mbit/s
95th percentile per-packet one-way delay: 138.051 ms
Loss rate: 0.67%
```
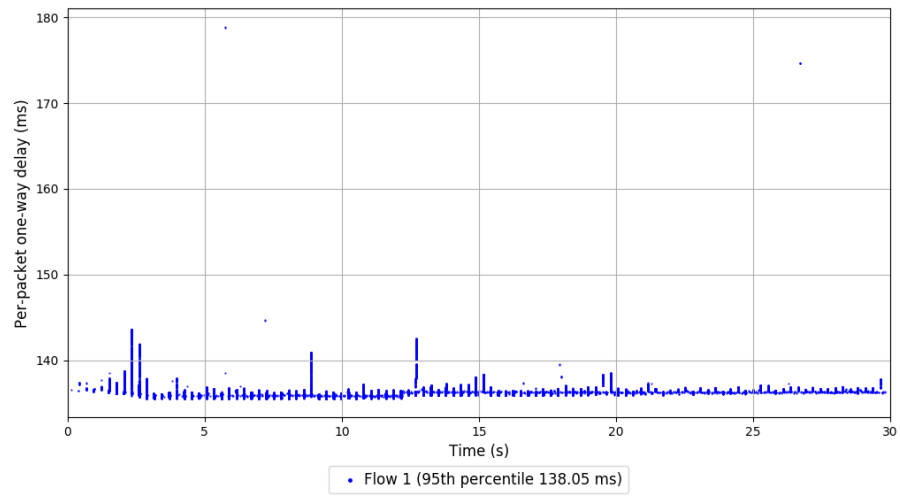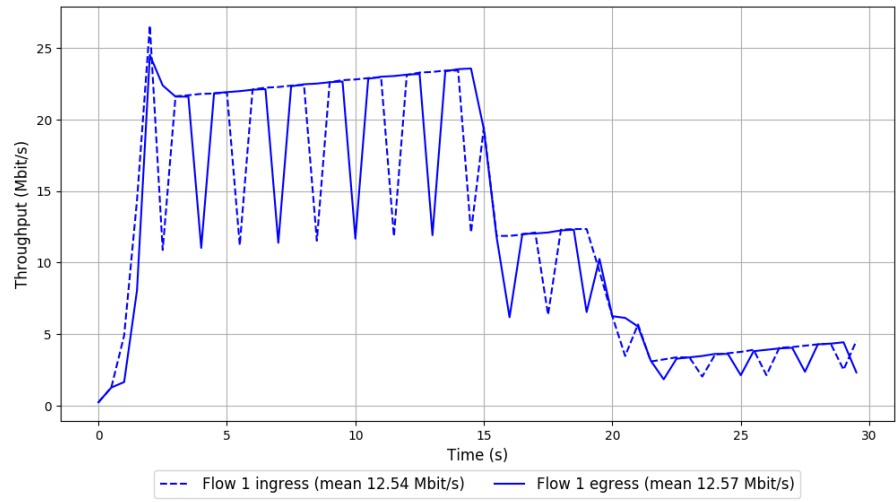
Run 10: Report of TCP Vegas — Data Link

```
Run 1: Statistics of Verus

Start at: 2018-01-09 06:44:58
End at: 2018-01-09 06:45:28

# Below is generated by plot.py at 2018-01-09 11:14:37
# Datalink statistics
-- Total of 1 flow:
Average throughput: 205.80 Mbit/s
95th percentile per-packet one-way delay: 161.151 ms
Loss rate: 2.50%
-- Flow 1:
Average throughput: 205.80 Mbit/s
95th percentile per-packet one-way delay: 161.151 ms
Loss rate: 2.50%
```
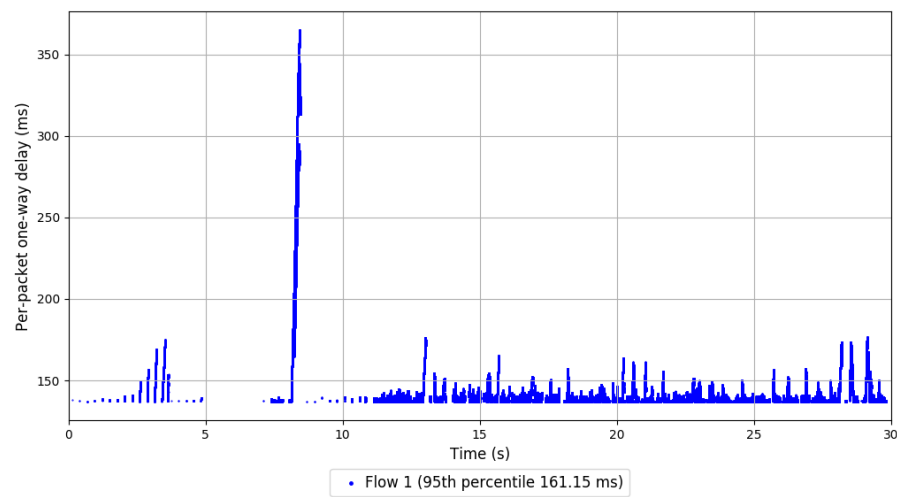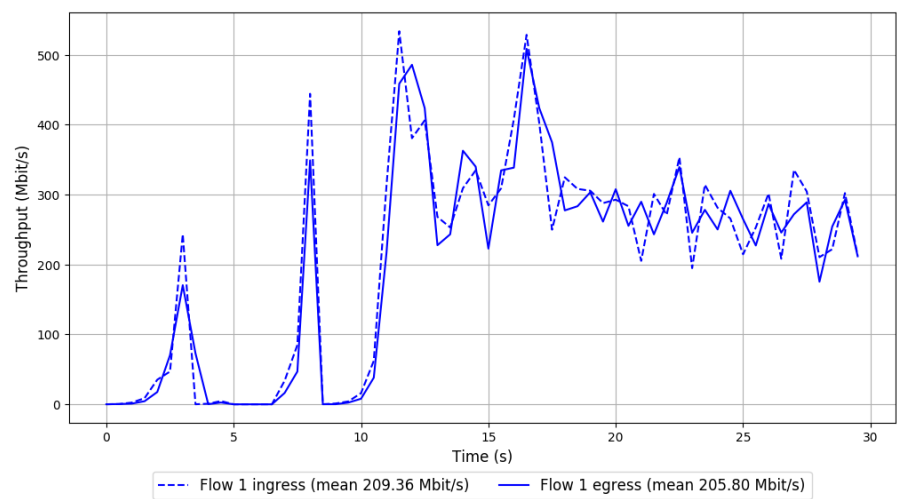
Run 1: Report of Verus — Data Link

```
Run 2: Statistics of Verus

Start at: 2018-01-09 06:57:48
End at: 2018-01-09 06:58:18

# Below is generated by plot.py at 2018-01-09 11:14:37
# Datalink statistics
-- Total of 1 flow:
Average throughput: 176.97 Mbit/s
95th percentile per-packet one-way delay: 194.044 ms
Loss rate: 2.71%
-- Flow 1:
Average throughput: 176.97 Mbit/s
95th percentile per-packet one-way delay: 194.044 ms
Loss rate: 2.71%
```
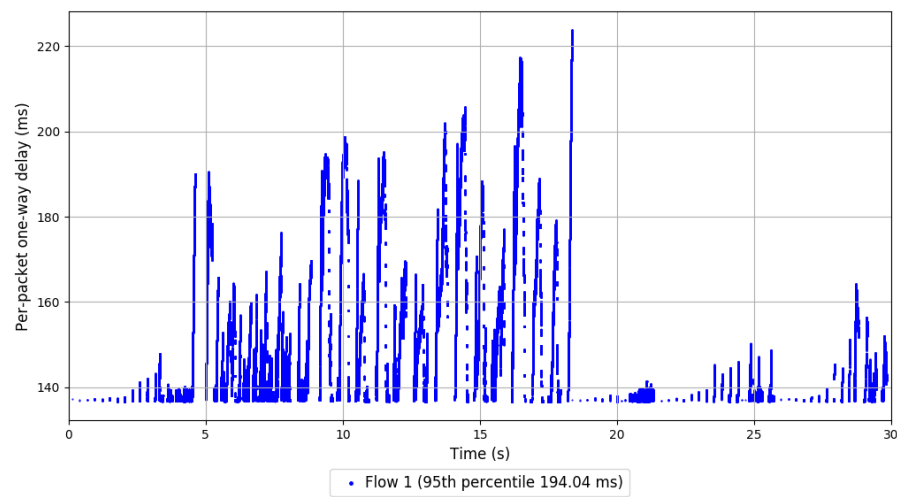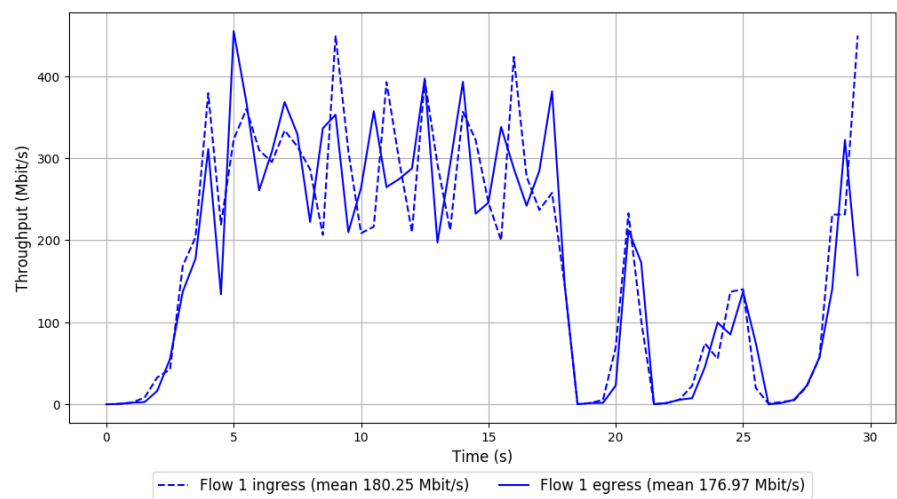
## Run 2: Report of Verus — Data Link

```
Run 3: Statistics of Verus

Start at: 2018-01-09 07:10:31
End at: 2018-01-09 07:11:01

# Below is generated by plot.py at 2018-01-09 11:16:50
# Datalink statistics
-- Total of 1 flow:
Average throughput: 258.84 Mbit/s
95th percentile per-packet one-way delay: 333.892 ms
Loss rate: 9.79%
-- Flow 1:
Average throughput: 258.84 Mbit/s
95th percentile per-packet one-way delay: 333.892 ms
Loss rate: 9.79%
```
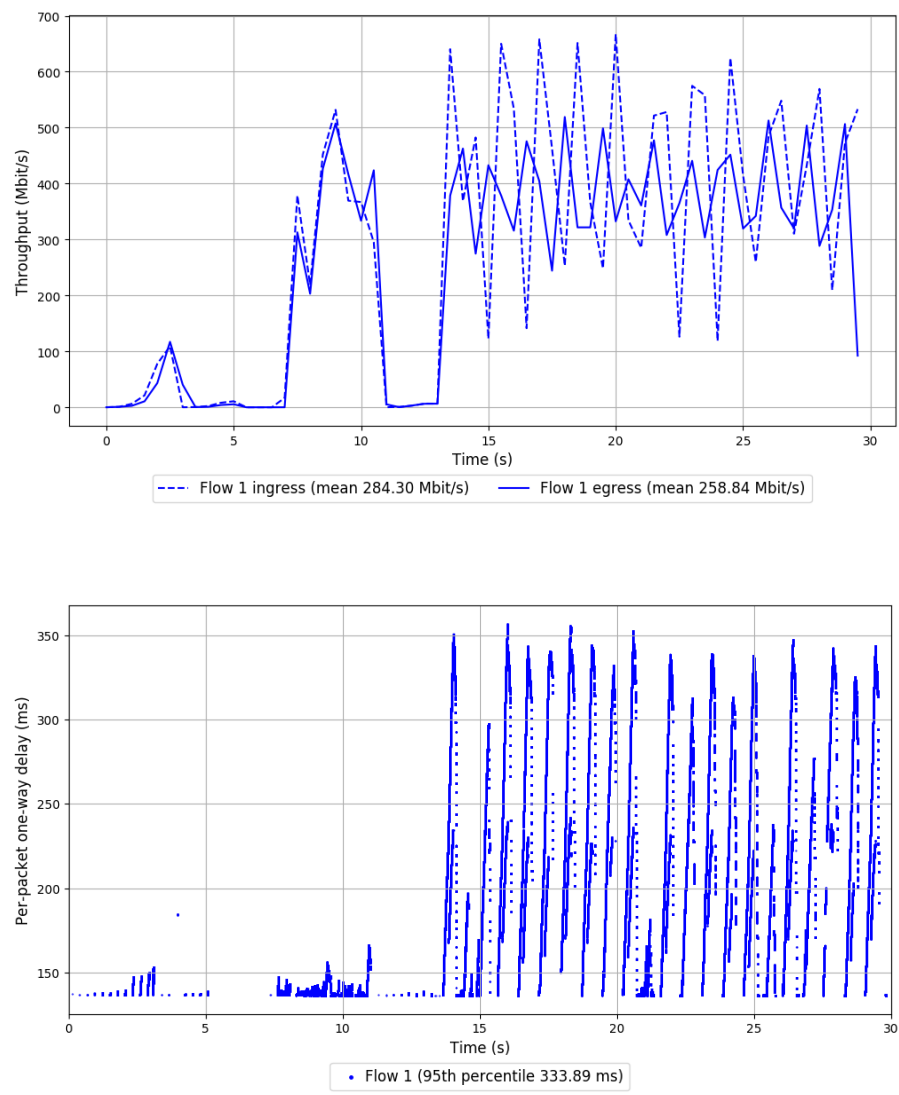
Run 3: Report of Verus — Data Link

```
Run 4: Statistics of Verus

Start at: 2018-01-09 07:23:17
End at: 2018-01-09 07:23:47


# Below is generated by plot.py at 2018-01-09 11:16:50
# Datalink statistics
-- Total of 1 flow:
Average throughput: 110.64 Mbit/s
95th percentile per-packet one-way delay: 189.247 ms
Loss rate: 1.38%
-- Flow 1:
Average throughput: 110.64 Mbit/s
95th percentile per-packet one-way delay: 189.247 ms
Loss rate: 1.38%
```
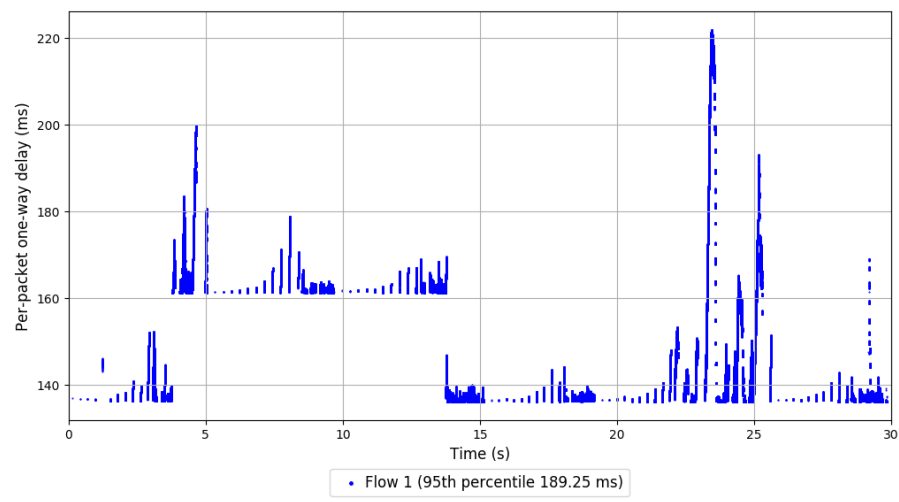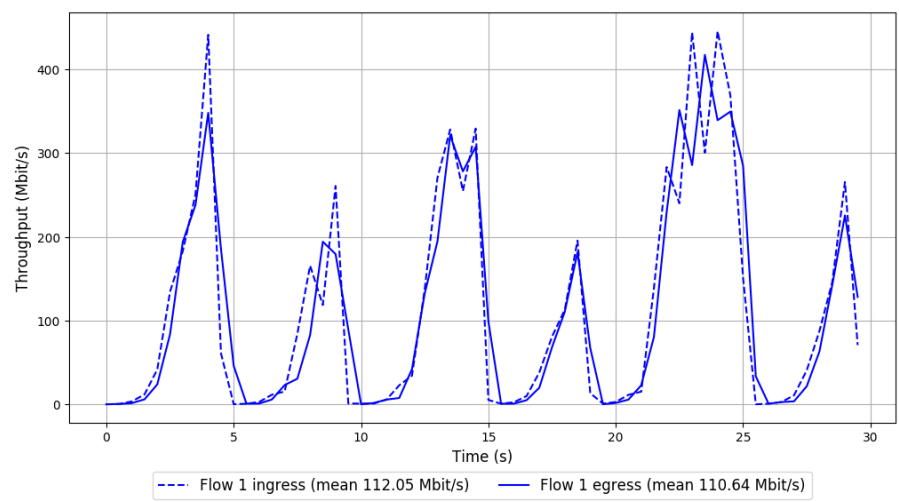
Run 4: Report of Verus — Data Link

```
Run 5: Statistics of Verus

Start at: 2018-01-09 07:35:37
End at: 2018-01-09 07:36:07

# Below is generated by plot.py at 2018-01-09 11:16:50
# Datalink statistics
-- Total of 1 flow:
Average throughput: 196.34 Mbit/s
95th percentile per-packet one-way delay: 344.173 ms
Loss rate: 4.27%
-- Flow 1:
Average throughput: 196.34 Mbit/s
95th percentile per-packet one-way delay: 344.173 ms
Loss rate: 4.27%
```
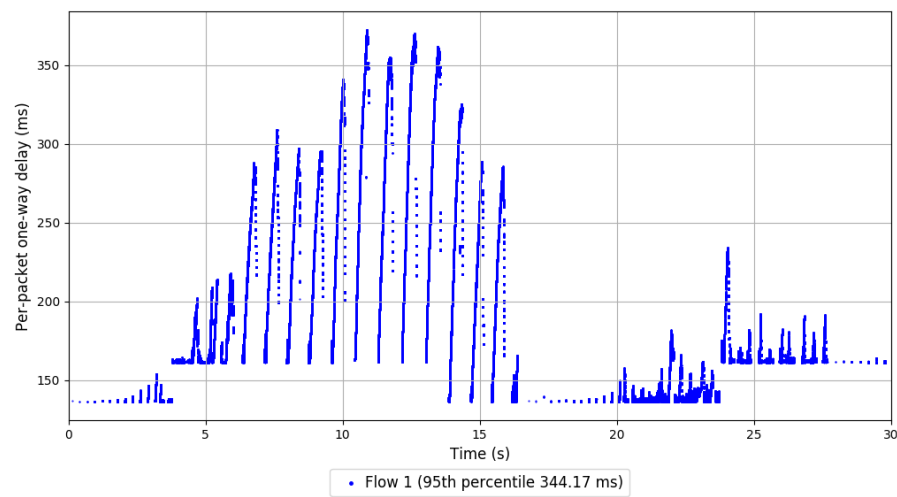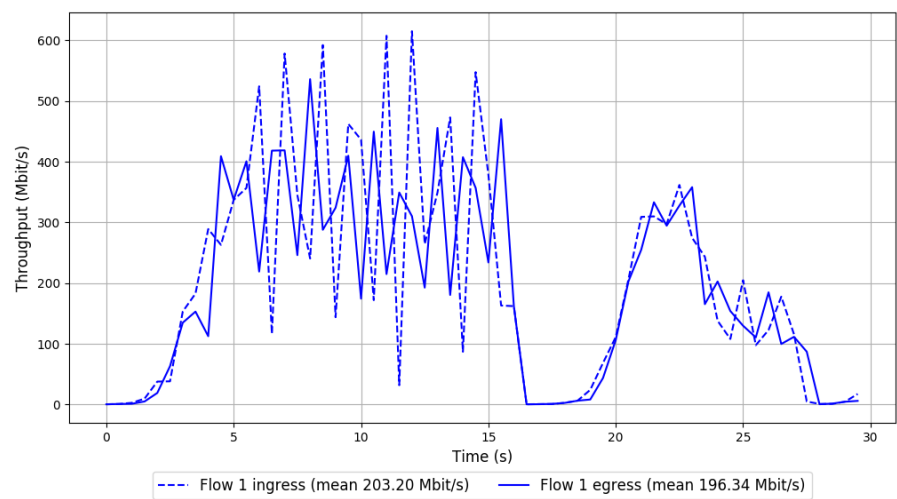
Run 5: Report of Verus — Data Link

```
Run 6: Statistics of Verus

Start at: 2018-01-09 07:48:14
End at: 2018-01-09 07:48:44

# Below is generated by plot.py at 2018-01-09 11:17:14
# Datalink statistics
-- Total of 1 flow:
Average throughput: 232.97 Mbit/s
95th percentile per-packet one-way delay: 154.953 ms
Loss rate: 1.37%
-- Flow 1:
Average throughput: 232.97 Mbit/s
95th percentile per-packet one-way delay: 154.953 ms
Loss rate: 1.37%
```
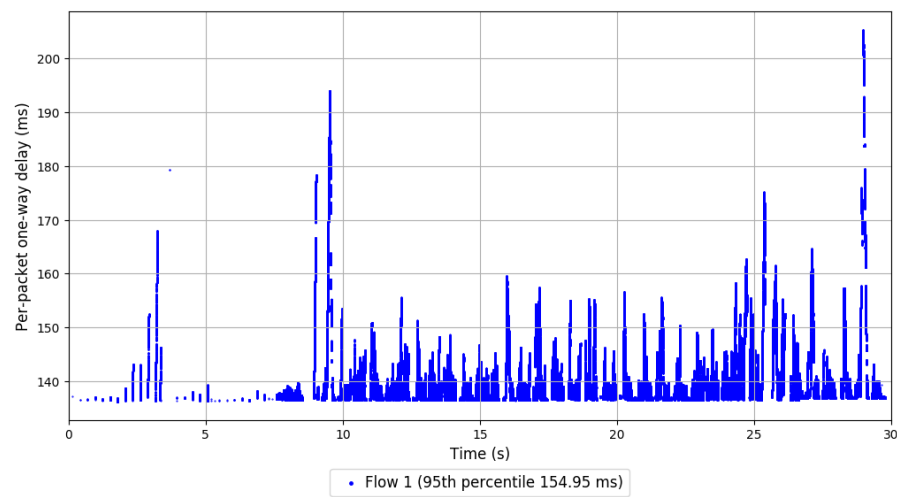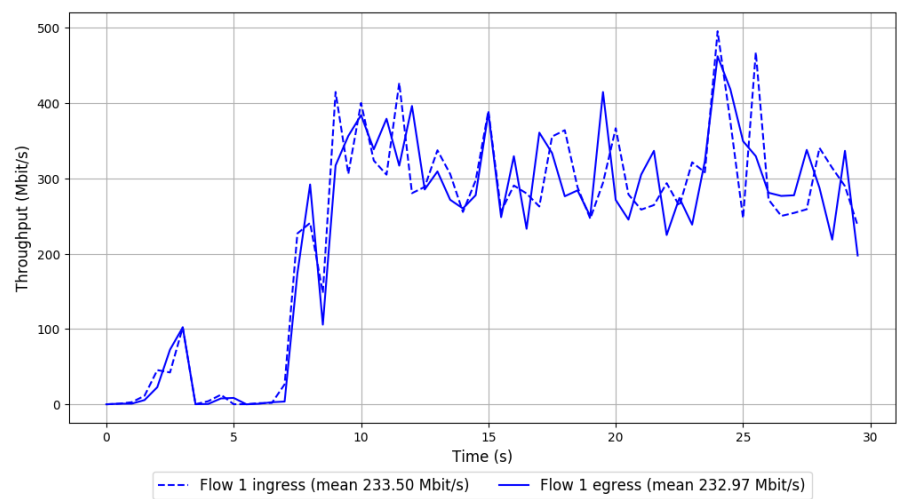
## Run 6: Report of Verus — Data Link

```
Run 7: Statistics of Verus

Start at: 2018-01-09 08:01:20
End at: 2018-01-09 08:01:50


# Below is generated by plot.py at 2018-01-09 11:17:30
# Datalink statistics
-- Total of 1 flow:
Average throughput: 216.57 Mbit/s
95th percentile per-packet one-way delay: 241.412 ms
Loss rate: 2.89%
-- Flow 1:
Average throughput: 216.57 Mbit/s
95th percentile per-packet one-way delay: 241.412 ms
Loss rate: 2.89%
```
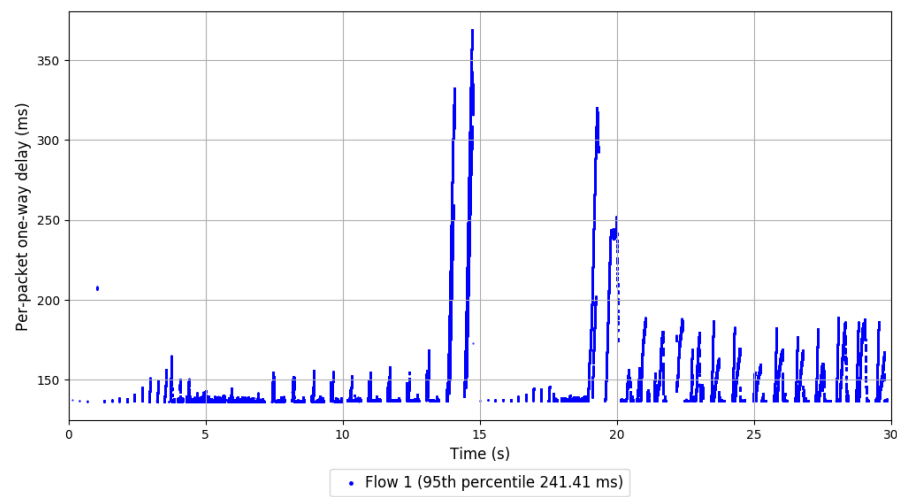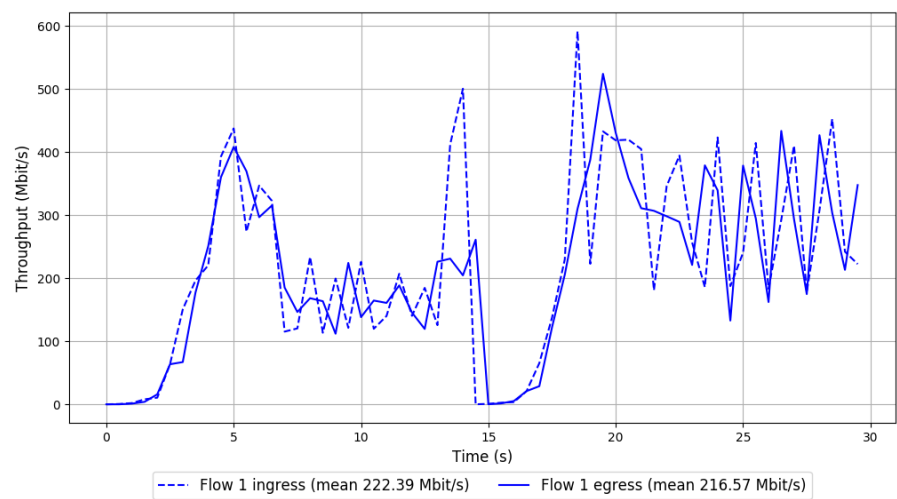
Run 7: Report of Verus — Data Link

```
Run 8: Statistics of Verus

Start at: 2018-01-09 08:14:05
End at: 2018-01-09 08:14:35

# Below is generated by plot.py at 2018-01-09 11:17:30
# Datalink statistics
-- Total of 1 flow:
Average throughput: 165.03 Mbit/s
95th percentile per-packet one-way delay: 239.549 ms
Loss rate: 1.59%
-- Flow 1:
Average throughput: 165.03 Mbit/s
95th percentile per-packet one-way delay: 239.549 ms
Loss rate: 1.59%
```
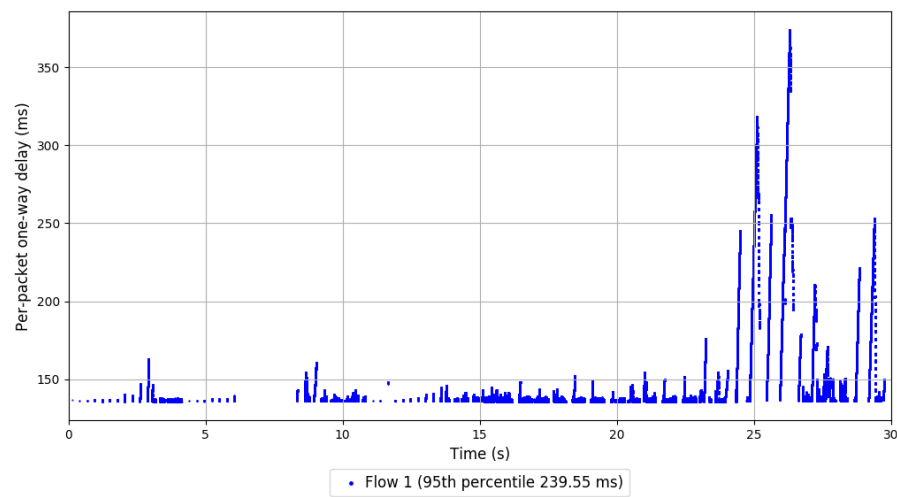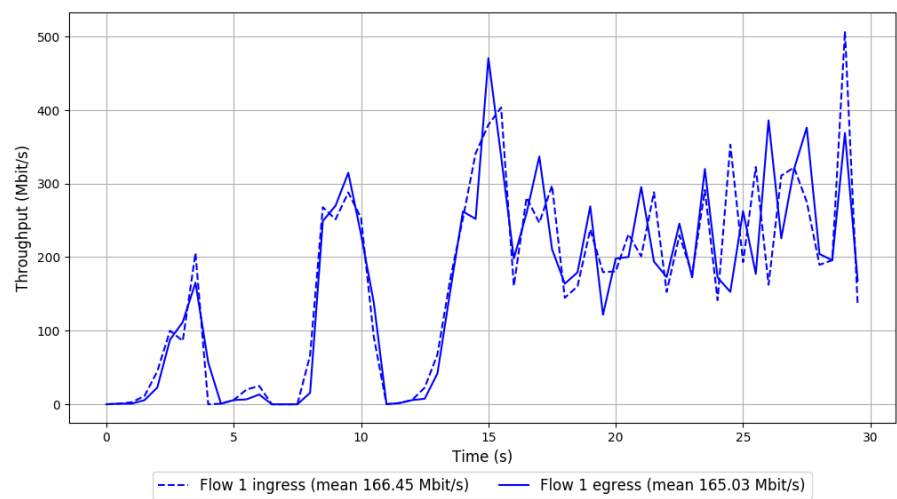
## Run 8: Report of Verus — Data Link



Flow 1 ingress (mean 166.45 Mbit/s) --- Flow 1 egress (mean 165.03 Mbit/s)



• Flow 1 (95th percentile 239.55 ms)

```
Run 9: Statistics of Verus

Start at: 2018-01-09 08:26:55
End at: 2018-01-09 08:27:25

# Below is generated by plot.py at 2018-01-09 11:18:06
# Datalink statistics
-- Total of 1 flow:
Average throughput: 225.45 Mbit/s
95th percentile per-packet one-way delay: 234.018 ms
Loss rate: 3.78%
-- Flow 1:
Average throughput: 225.45 Mbit/s
95th percentile per-packet one-way delay: 234.018 ms
Loss rate: 3.78%
```
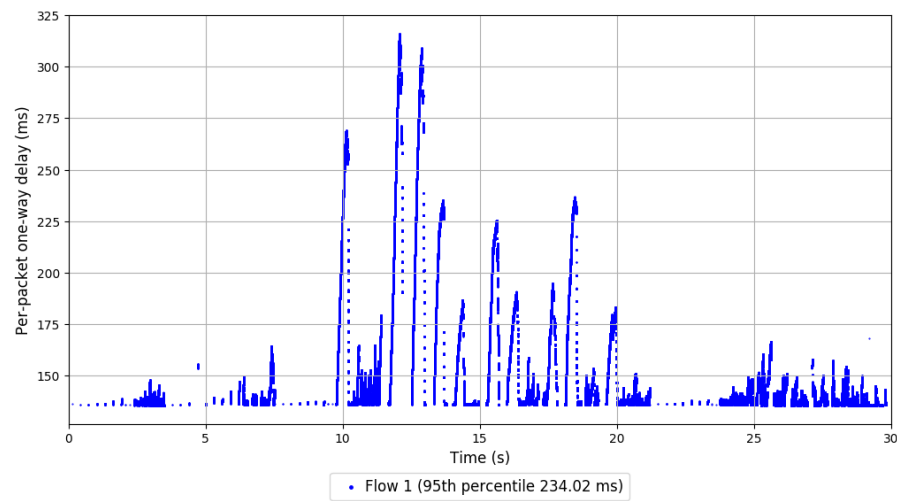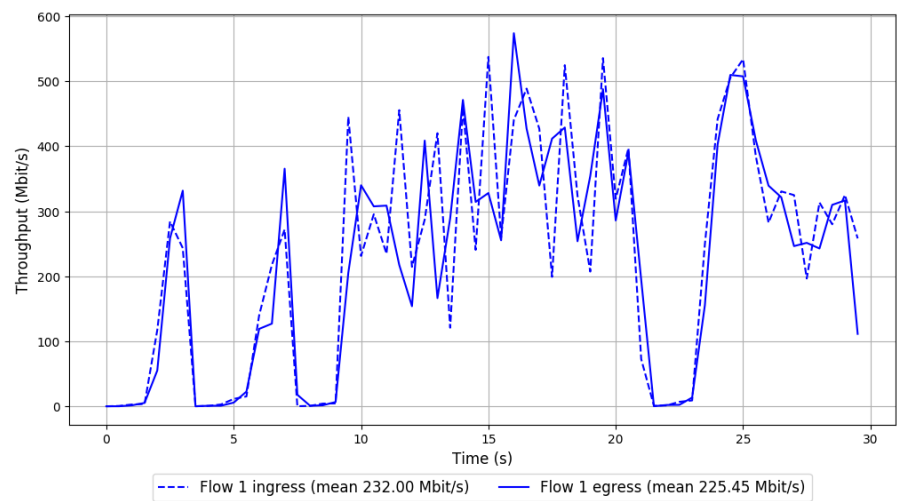
# Run 9: Report of Verus — Data Link





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```
Run 10: Statistics of Verus

Start at: 2018-01-09 08:40:11
End at: 2018-01-09 08:40:41

# Below is generated by plot.py at 2018-01-09 11:18:06
# Datalink statistics
-- Total of 1 flow:
Average throughput: 176.09 Mbit/s
95th percentile per-packet one-way delay: 255.406 ms
Loss rate: 3.21%
-- Flow 1:
Average throughput: 176.09 Mbit/s
95th percentile per-packet one-way delay: 255.406 ms
Loss rate: 3.21%
```
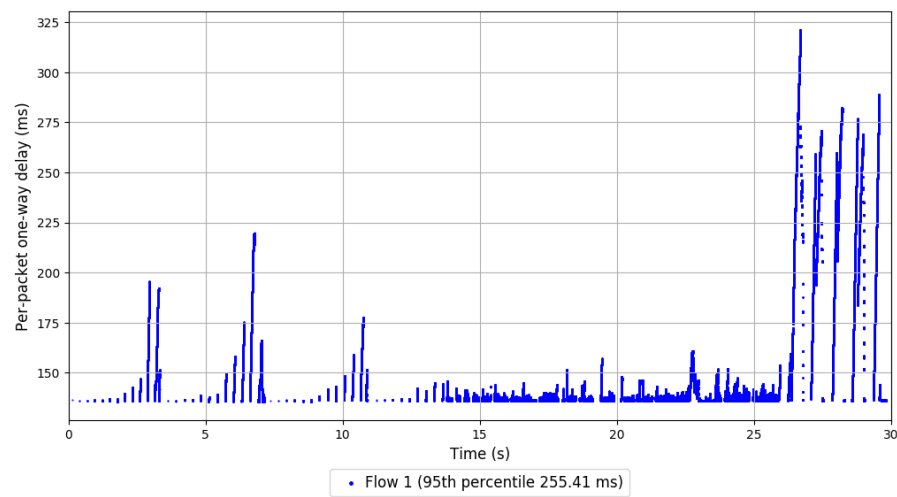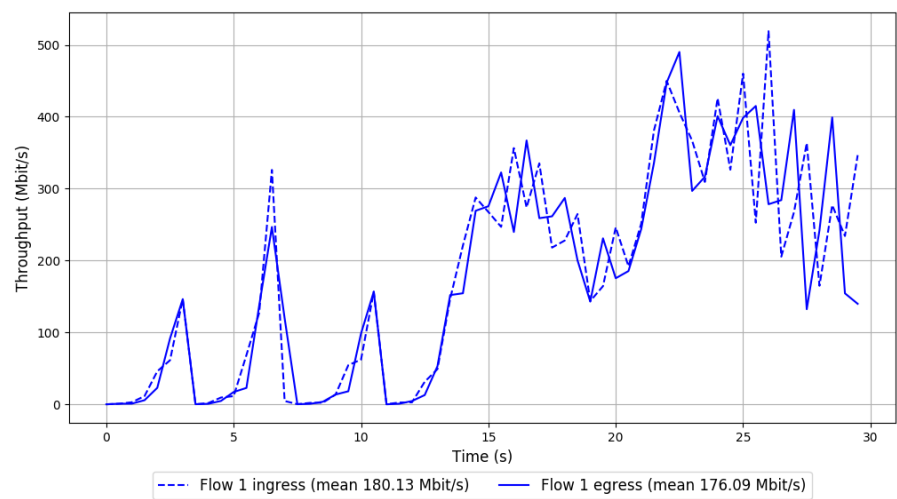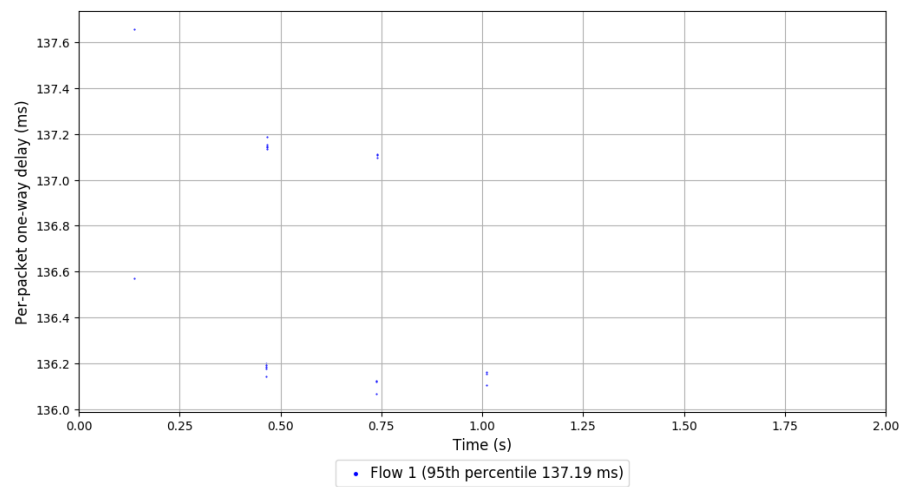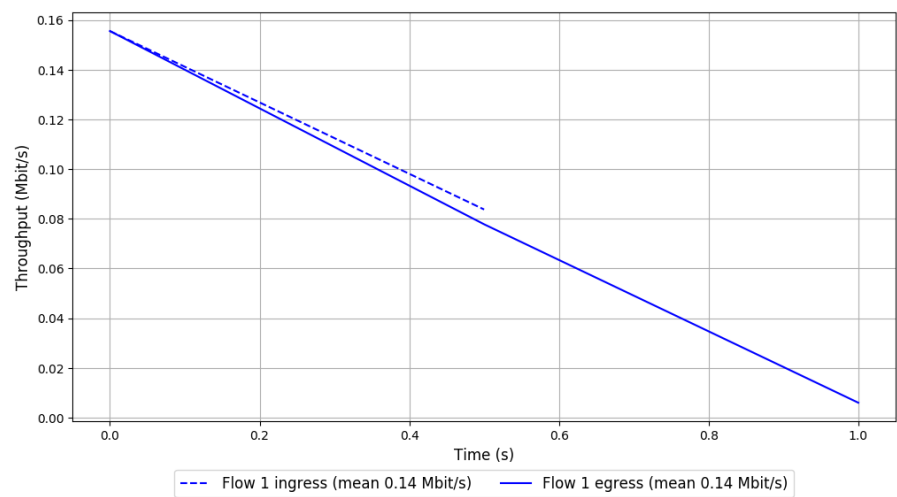
Run 10: Report of Verus — Data Link

```
Run 1: Statistics of Copa

Start at: 2018-01-09 06:47:23
End at: 2018-01-09 06:47:53
```

Run 1: Report of Copa — Data Link



Flow 1 ingress (mean 0.14 Mbit/s)    Flow 1 egress (mean 0.14 Mbit/s)



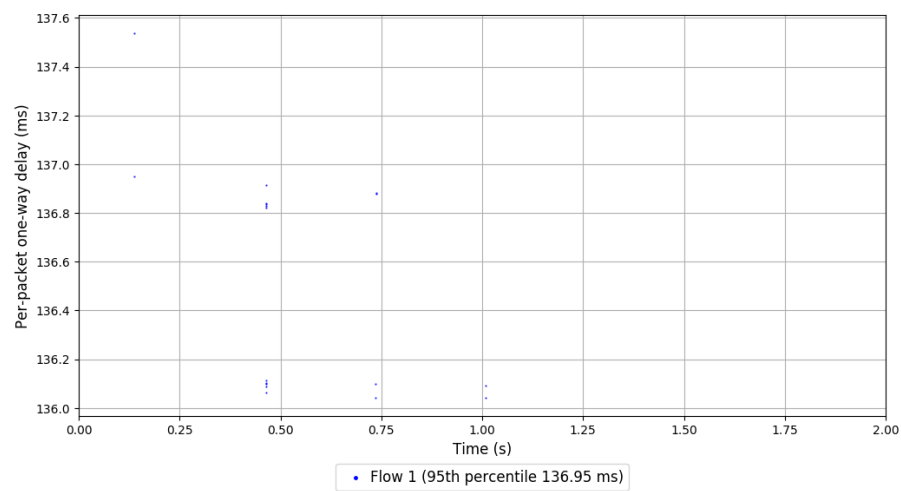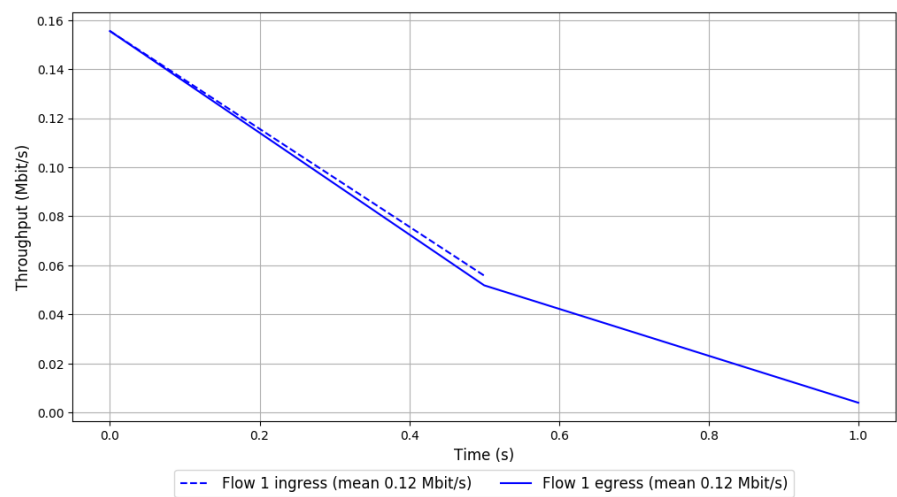Flow 1 (95th percentile 137.19 ms)

Run 2: Statistics of Copa

Start at: 2018-01-09 07:00:13
End at: 2018-01-09 07:00:43

## Run 2: Report of Copa — Data Link

```
Run 3: Statistics of Copa

Start at: 2018-01-09 07:13:04
End at: 2018-01-09 07:13:34

# Below is generated by plot.py at 2018-01-09 11:18:06
# Datalink statistics
-- Total of 1 flow:
Average throughput: 63.22 Mbit/s
95th percentile per-packet one-way delay: 161.855 ms
Loss rate: 1.04%
-- Flow 1:
Average throughput: 63.22 Mbit/s
95th percentile per-packet one-way delay: 161.855 ms
Loss rate: 1.04%
```
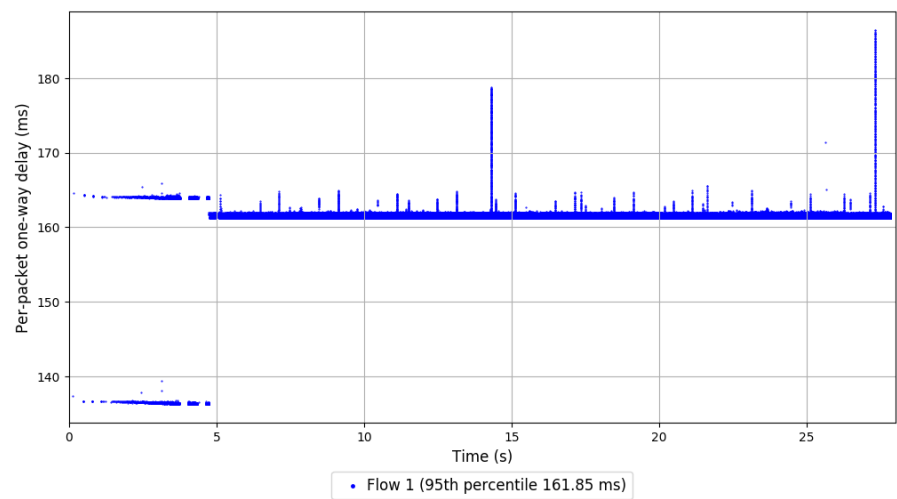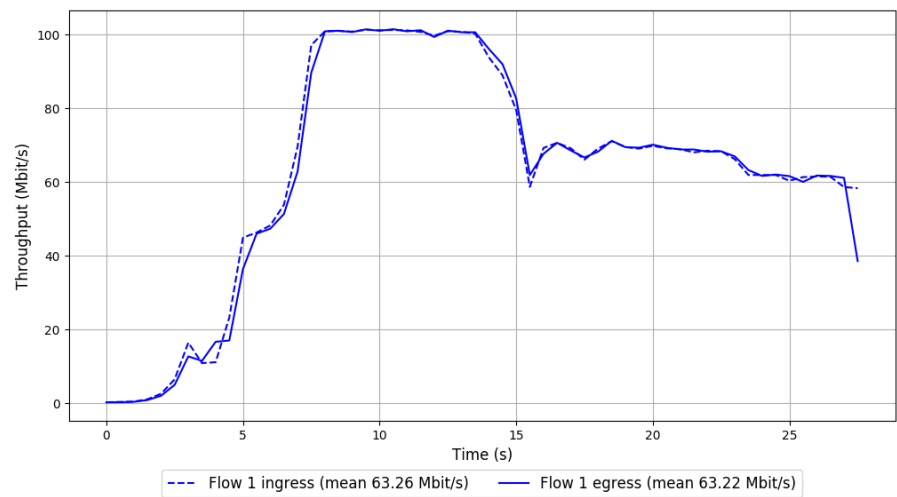
Run 3: Report of Copa — Data Link

```
Run 4: Statistics of Copa

Start at: 2018-01-09 07:25:35
End at: 2018-01-09 07:26:05

# Below is generated by plot.py at 2018-01-09 11:18:20
# Datalink statistics
-- Total of 1 flow:
Average throughput: 74.54 Mbit/s
95th percentile per-packet one-way delay: 136.439 ms
Loss rate: 1.06%
-- Flow 1:
Average throughput: 74.54 Mbit/s
95th percentile per-packet one-way delay: 136.439 ms
Loss rate: 1.06%
```
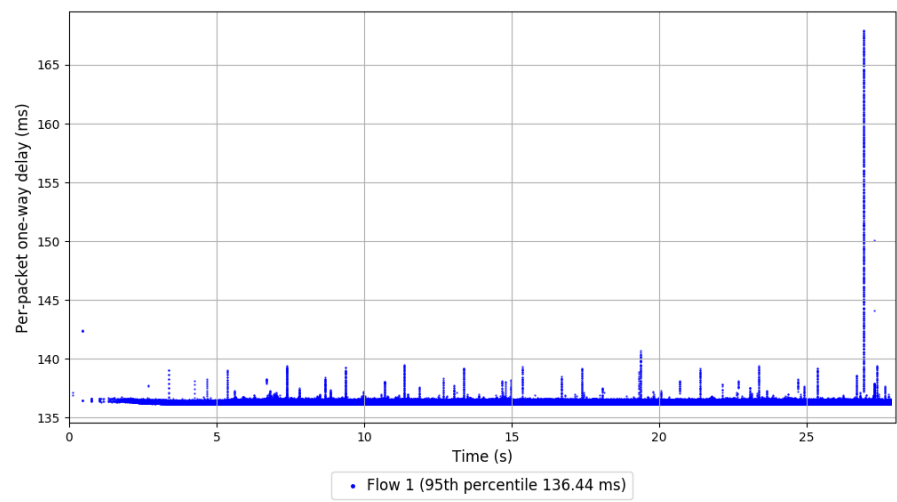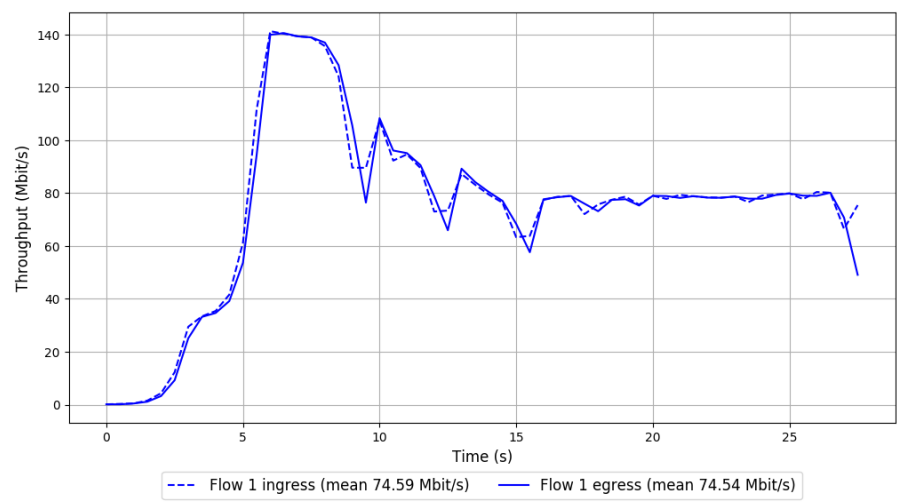
Run 4: Report of Copa — Data Link



Flow 1 ingress (mean 74.59 Mbit/s) — Flow 1 egress (mean 74.54 Mbit/s)



Flow 1 (95th percentile 136.44 ms)

```
Run 5: Statistics of Copa

Start at: 2018-01-09 07:38:02
End at: 2018-01-09 07:38:32


# Below is generated by plot.py at 2018-01-09 11:18:20
# Datalink statistics
-- Total of 1 flow:
Average throughput: 45.89 Mbit/s
95th percentile per-packet one-way delay: 161.105 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 45.89 Mbit/s
95th percentile per-packet one-way delay: 161.105 ms
Loss rate: 0.00%
```
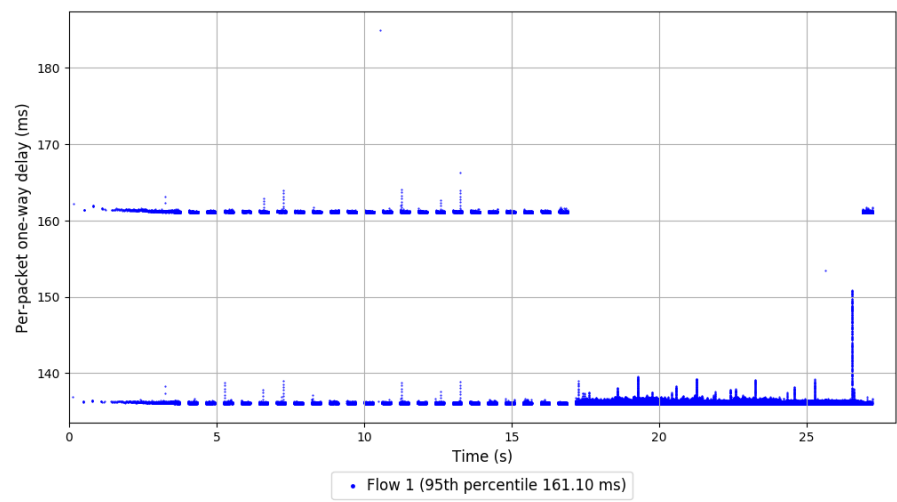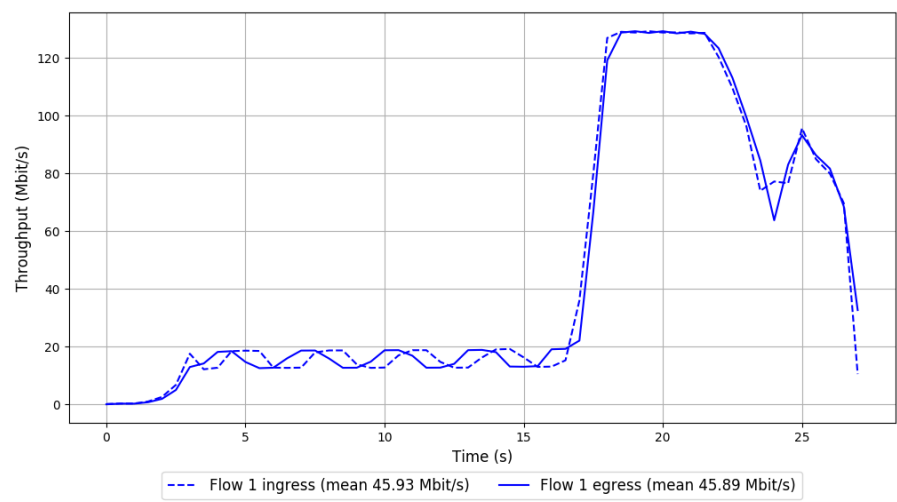
Run 5: Report of Copa — Data Link



Flow 1 ingress (mean 45.93 Mbit/s) --- Flow 1 egress (mean 45.89 Mbit/s)



Flow 1 (95th percentile 161.10 ms)

```
Run 6: Statistics of Copa

Start at: 2018-01-09 07:50:44
End at: 2018-01-09 07:51:14


# Below is generated by plot.py at 2018-01-09 11:18:32
# Datalink statistics
-- Total of 1 flow:
Average throughput: 67.77 Mbit/s
95th percentile per-packet one-way delay: 136.305 ms
Loss rate: 0.97%
-- Flow 1:
Average throughput: 67.77 Mbit/s
95th percentile per-packet one-way delay: 136.305 ms
Loss rate: 0.97%
```
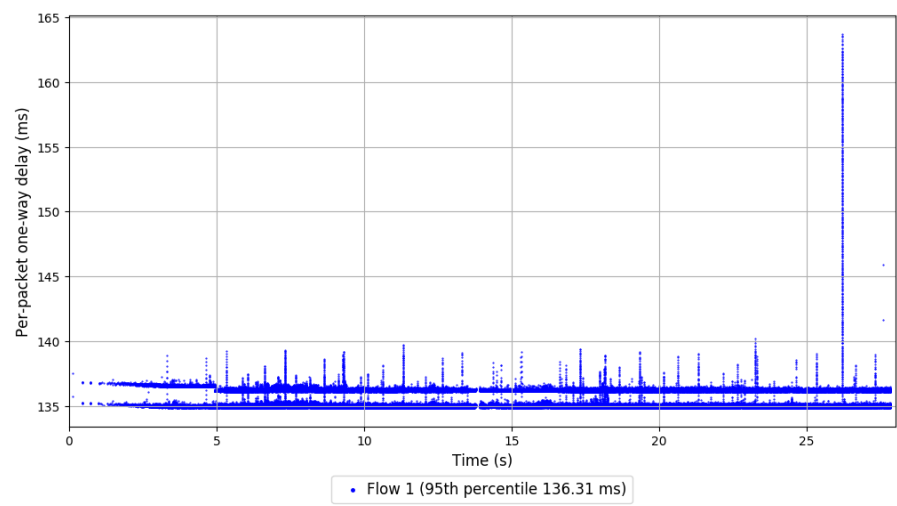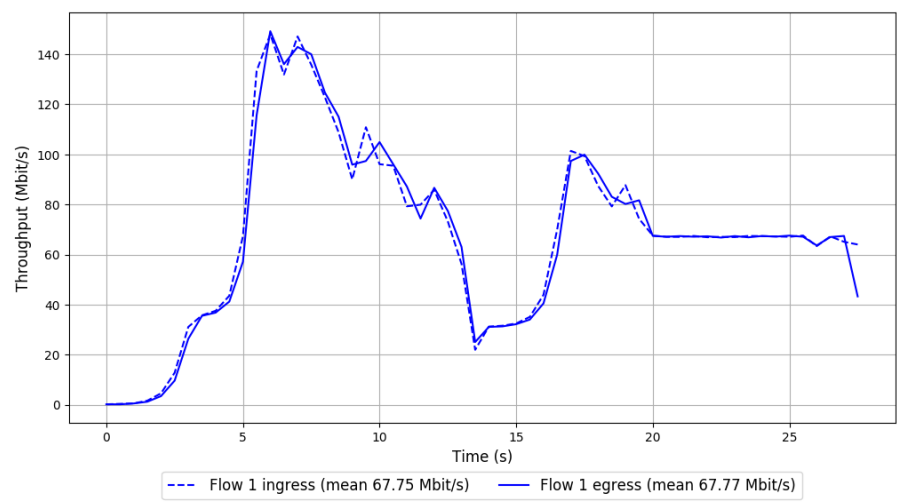
# Run 6: Report of Copa — Data Link

```
Run 7: Statistics of Copa

Start at: 2018-01-09 08:03:47
End at: 2018-01-09 08:04:17

# Below is generated by plot.py at 2018-01-09 11:18:43
# Datalink statistics
-- Total of 1 flow:
Average throughput: 71.73 Mbit/s
95th percentile per-packet one-way delay: 136.562 ms
Loss rate: 1.03%
-- Flow 1:
Average throughput: 71.73 Mbit/s
95th percentile per-packet one-way delay: 136.562 ms
Loss rate: 1.03%
```
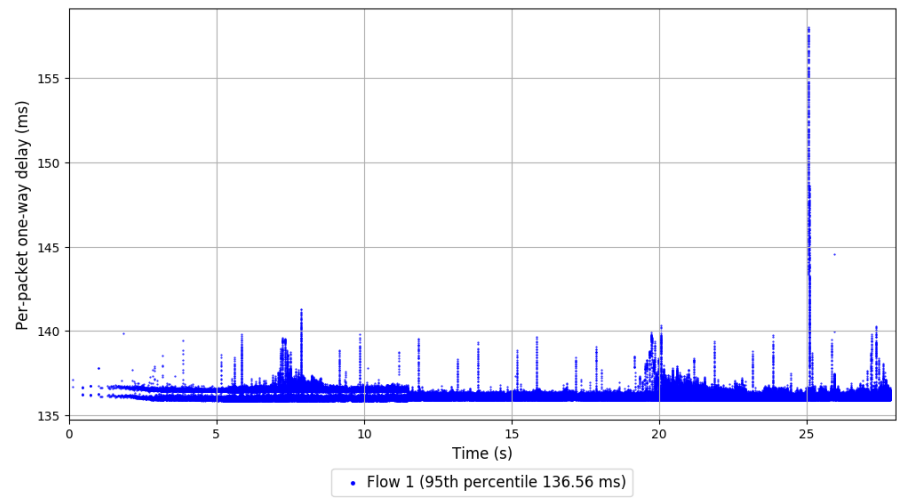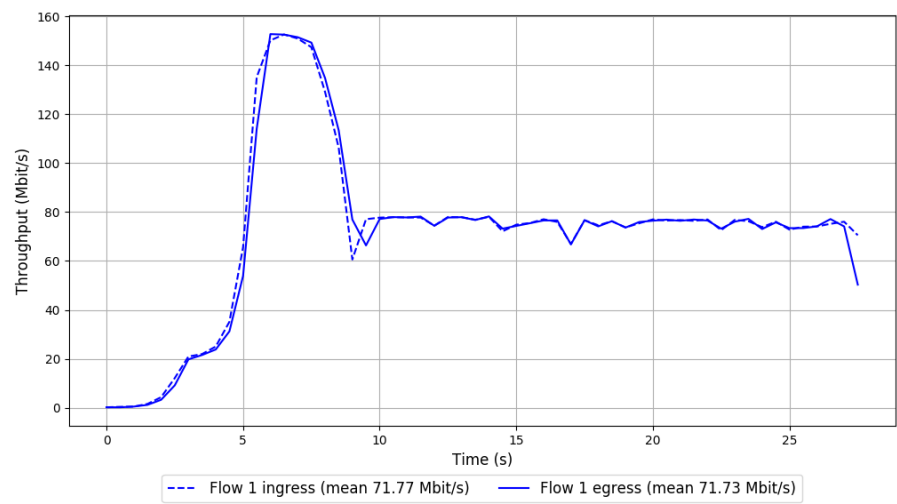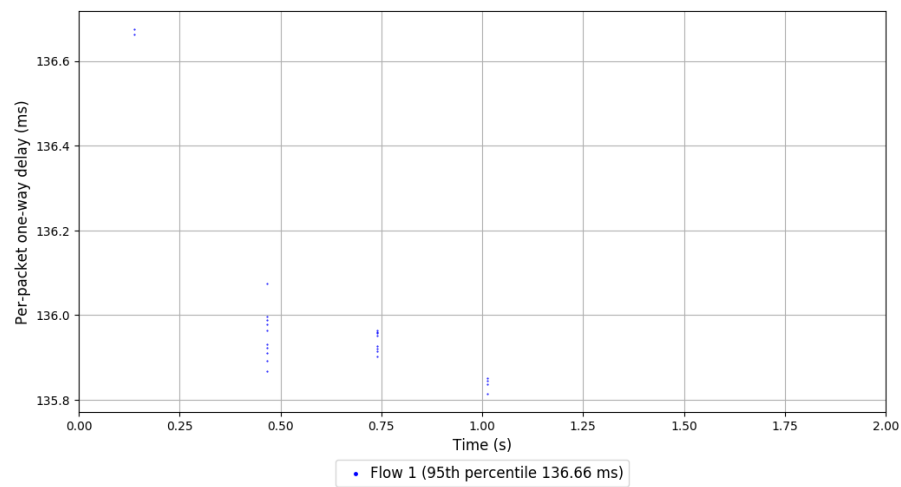
Run 7: Report of Copa — Data Link



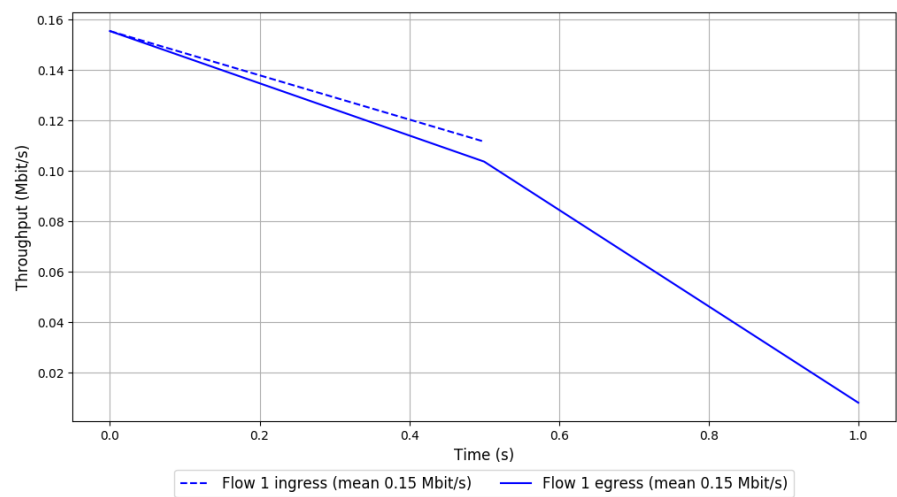Flow 1 ingress (mean 71.77 Mbit/s)    Flow 1 egress (mean 71.73 Mbit/s)



Flow 1 (95th percentile 136.56 ms)

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Run 8: Statistics of Copa

Start at: 2018-01-09 08:16:31
End at: 2018-01-09 08:17:01

Run 8: Report of Copa — Data Link



Flow 1 ingress (mean 0.15 Mbit/s) — — — Flow 1 egress (mean 0.15 Mbit/s)



Flow 1 (95th percentile 136.66 ms)

```
Run 9: Statistics of Copa

Start at: 2018-01-09 08:29:28
End at: 2018-01-09 08:29:58

# Below is generated by plot.py at 2018-01-09 11:18:59
# Datalink statistics
-- Total of 1 flow:
Average throughput: 65.75 Mbit/s
95th percentile per-packet one-way delay: 136.082 ms
Loss rate: 0.04%
-- Flow 1:
Average throughput: 65.75 Mbit/s
95th percentile per-packet one-way delay: 136.082 ms
Loss rate: 0.04%
```
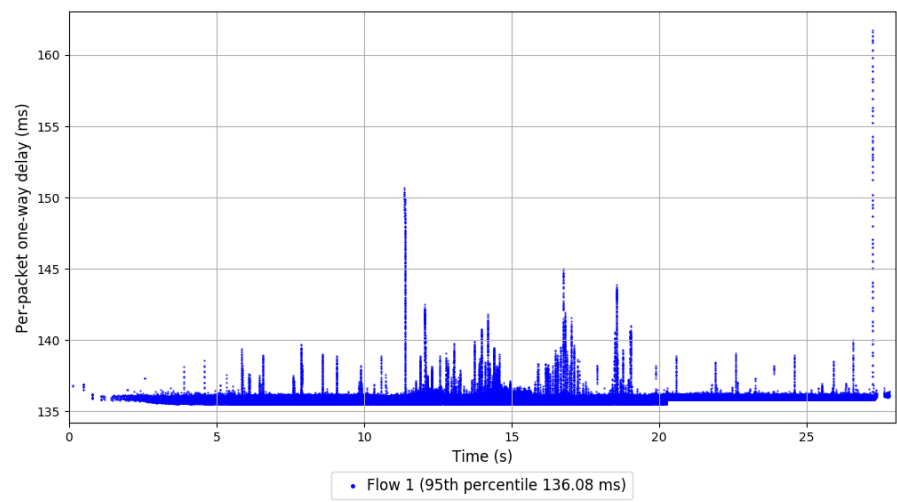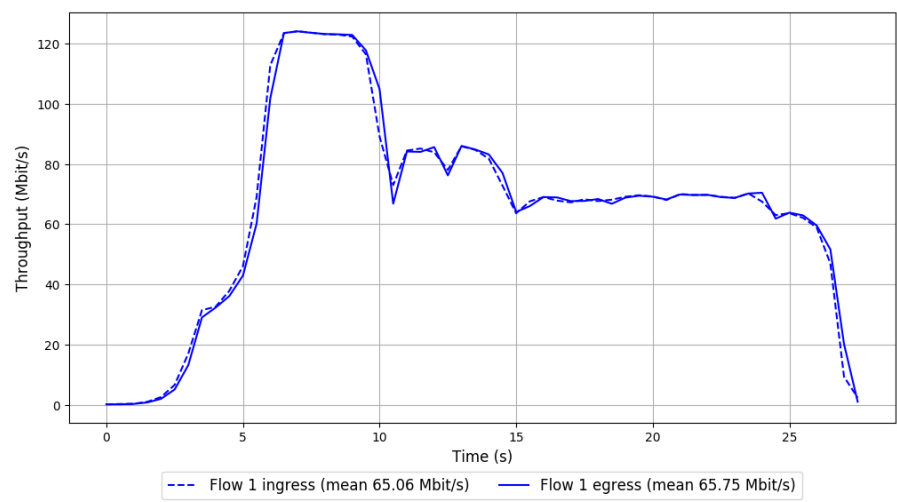
Run 9: Report of Copa — Data Link



Flow 1 ingress (mean 65.06 Mbit/s) — Flow 1 egress (mean 65.75 Mbit/s)



Flow 1 (95th percentile 136.08 ms)

```
Run 10: Statistics of Copa

Start at: 2018-01-09 08:42:37
End at: 2018-01-09 08:43:07

# Below is generated by plot.py at 2018-01-09 11:18:59
# Datalink statistics
-- Total of 1 flow:
Average throughput: 5.77 Mbit/s
95th percentile per-packet one-way delay: 163.761 ms
Loss rate: 0.31%
-- Flow 1:
Average throughput: 5.77 Mbit/s
95th percentile per-packet one-way delay: 163.761 ms
Loss rate: 0.31%
```
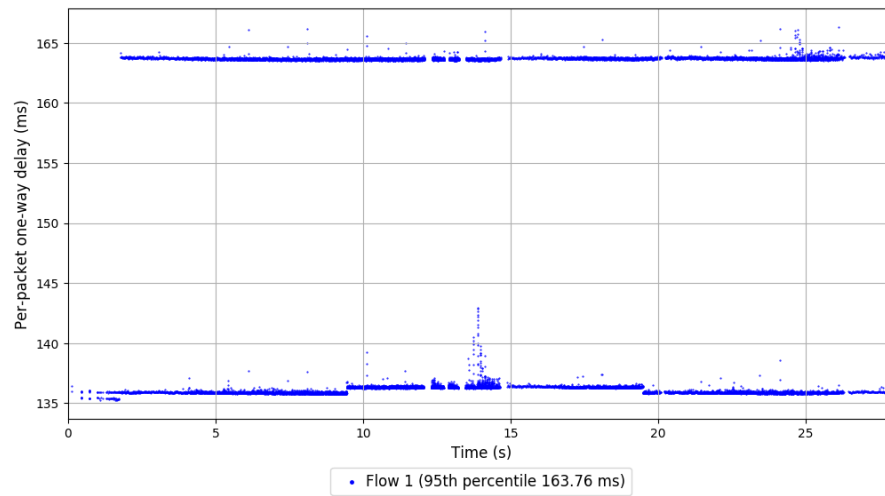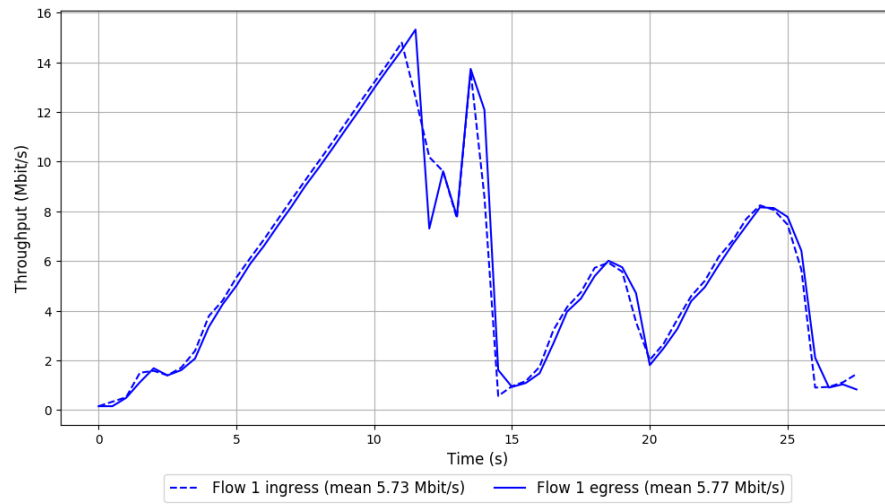
Run 10: Report of Copa — Data Link



Flow 1 ingress (mean 5.73 Mbit/s)    Flow 1 egress (mean 5.77 Mbit/s)



Flow 1 (95th percentile 163.76 ms)

```
Run 1: Statistics of FillP

Start at: 2018-01-09 06:43:34
End at: 2018-01-09 06:44:04

# Below is generated by plot.py at 2018-01-09 11:32:57
# Datalink statistics
-- Total of 1 flow:
Average throughput: 905.03 Mbit/s
95th percentile per-packet one-way delay: 203.539 ms
Loss rate: 2.77%
-- Flow 1:
Average throughput: 905.03 Mbit/s
95th percentile per-packet one-way delay: 203.539 ms
Loss rate: 2.77%
```
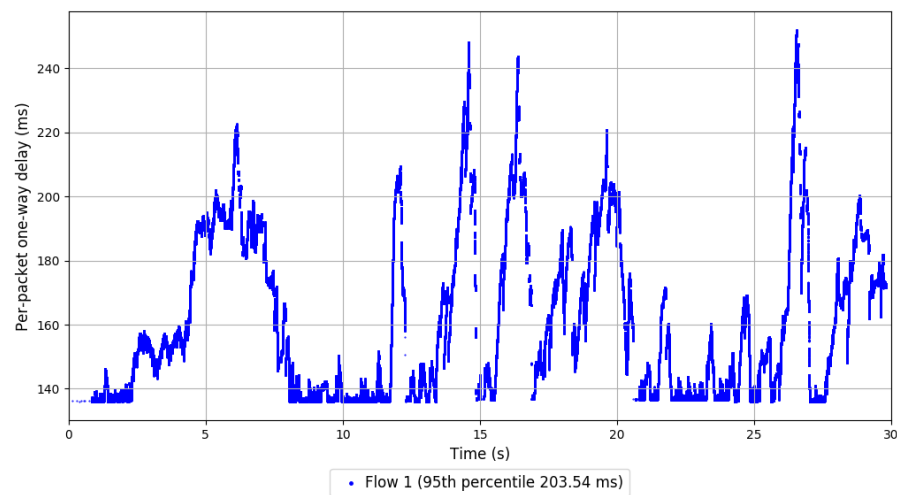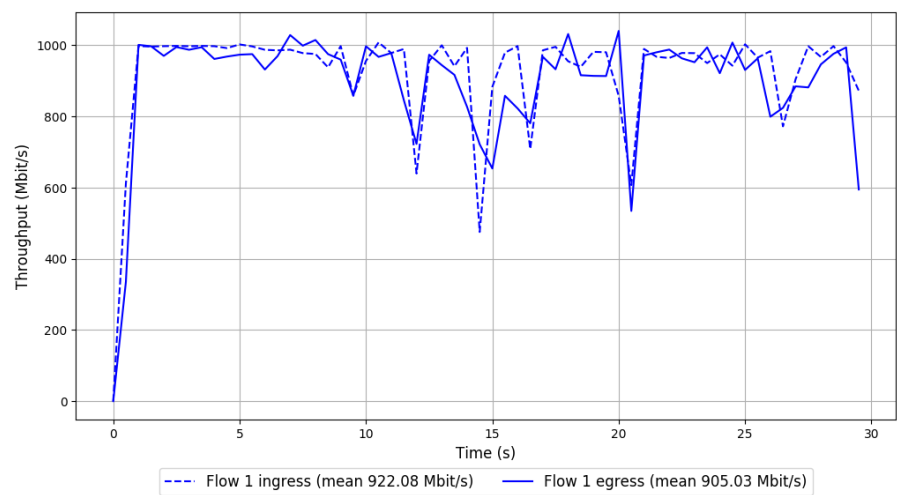
## Run 1: Report of FillP — Data Link



Flow 1 ingress (mean 922.08 Mbit/s)    Flow 1 egress (mean 905.03 Mbit/s)



Flow 1 (95th percentile 203.54 ms)

```
Run 2: Statistics of FillP

Start at: 2018-01-09 06:56:25
End at: 2018-01-09 06:56:55

# Below is generated by plot.py at 2018-01-09 11:32:57
# Datalink statistics
-- Total of 1 flow:
Average throughput: 888.66 Mbit/s
95th percentile per-packet one-way delay: 202.281 ms
Loss rate: 2.28%
-- Flow 1:
Average throughput: 888.66 Mbit/s
95th percentile per-packet one-way delay: 202.281 ms
Loss rate: 2.28%
```
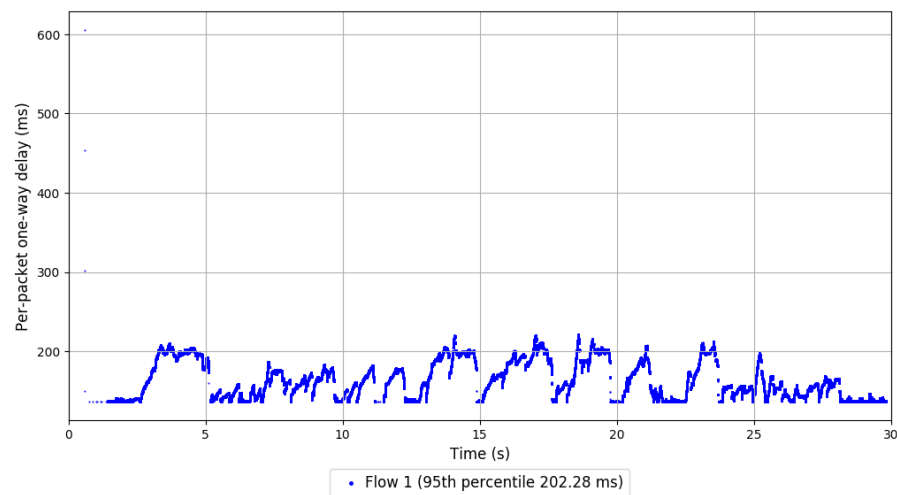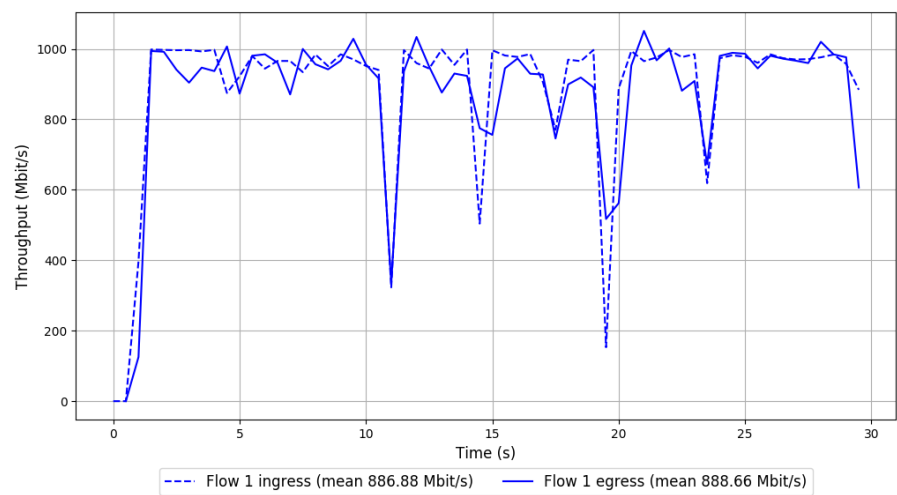
# Run 2: Report of FillP — Data Link



Flow 1 ingress (mean 886.88 Mbit/s) --- Flow 1 egress (mean 888.66 Mbit/s)



• Flow 1 (95th percentile 202.28 ms)

```
Run 3: Statistics of FillP

Start at: 2018-01-09 07:09:08
End at: 2018-01-09 07:09:38

# Below is generated by plot.py at 2018-01-09 11:32:57
# Datalink statistics
-- Total of 1 flow:
Average throughput: 838.37 Mbit/s
95th percentile per-packet one-way delay: 186.679 ms
Loss rate: 2.28%
-- Flow 1:
Average throughput: 838.37 Mbit/s
95th percentile per-packet one-way delay: 186.679 ms
Loss rate: 2.28%
```
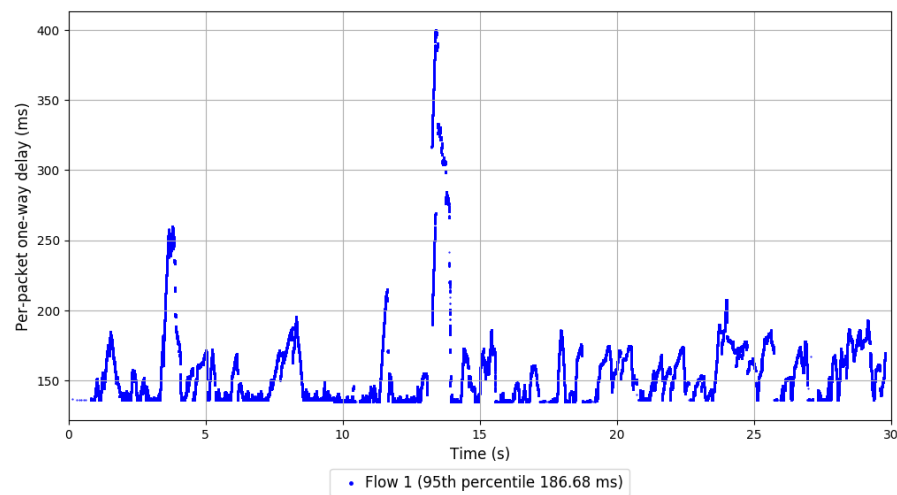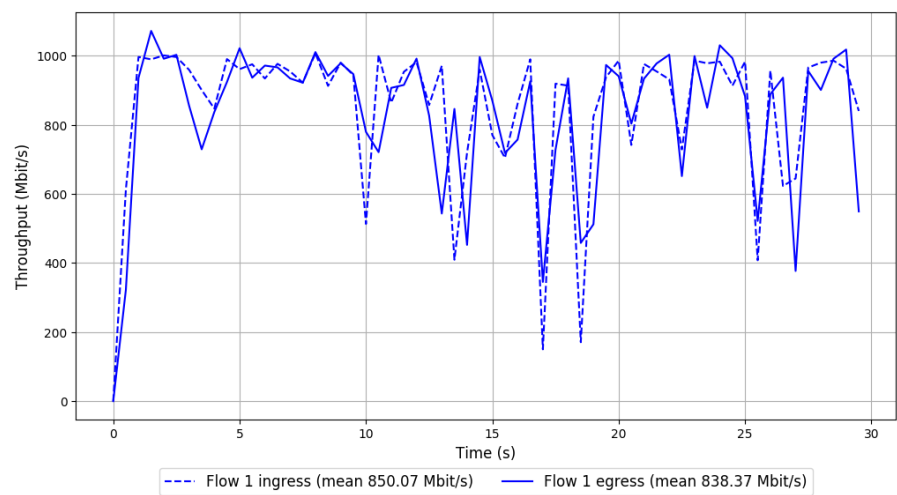
# Run 3: Report of FillP — Data Link

```
Run 4: Statistics of FillP

Start at: 2018-01-09 07:21:52
End at: 2018-01-09 07:22:22

# Below is generated by plot.py at 2018-01-09 11:33:28
# Datalink statistics
-- Total of 1 flow:
Average throughput: 914.77 Mbit/s
95th percentile per-packet one-way delay: 223.030 ms
Loss rate: 1.94%
-- Flow 1:
Average throughput: 914.77 Mbit/s
95th percentile per-packet one-way delay: 223.030 ms
Loss rate: 1.94%
```
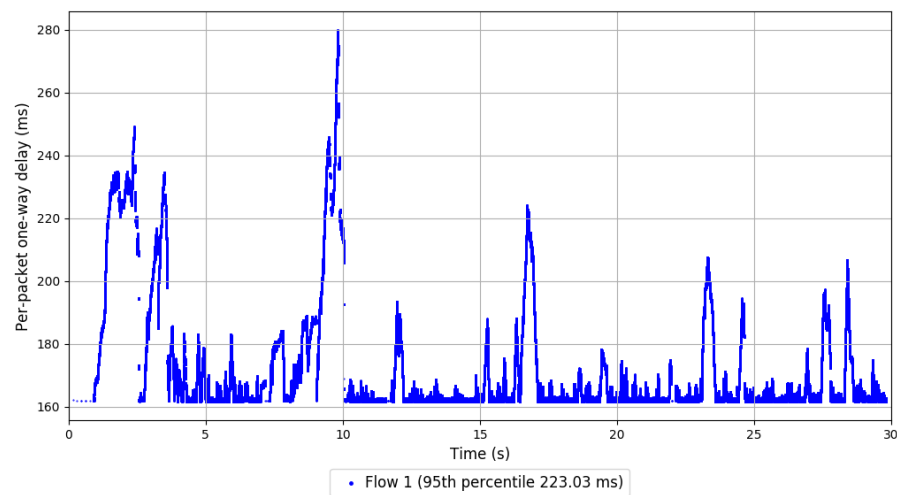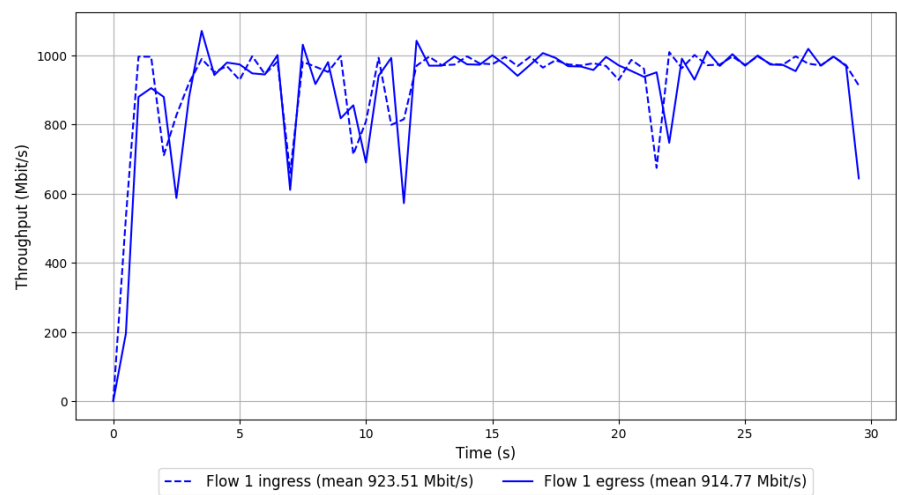
## Run 4: Report of FillP — Data Link



Flow 1 ingress (mean 923.51 Mbit/s)    Flow 1 egress (mean 914.77 Mbit/s)



• Flow 1 (95th percentile 223.03 ms)

```
Run 5: Statistics of FillP

Start at: 2018-01-09 07:34:12
End at: 2018-01-09 07:34:42

# Below is generated by plot.py at 2018-01-09 11:33:39
# Datalink statistics
-- Total of 1 flow:
Average throughput: 914.16 Mbit/s
95th percentile per-packet one-way delay: 223.479 ms
Loss rate: 1.90%
-- Flow 1:
Average throughput: 914.16 Mbit/s
95th percentile per-packet one-way delay: 223.479 ms
Loss rate: 1.90%
```
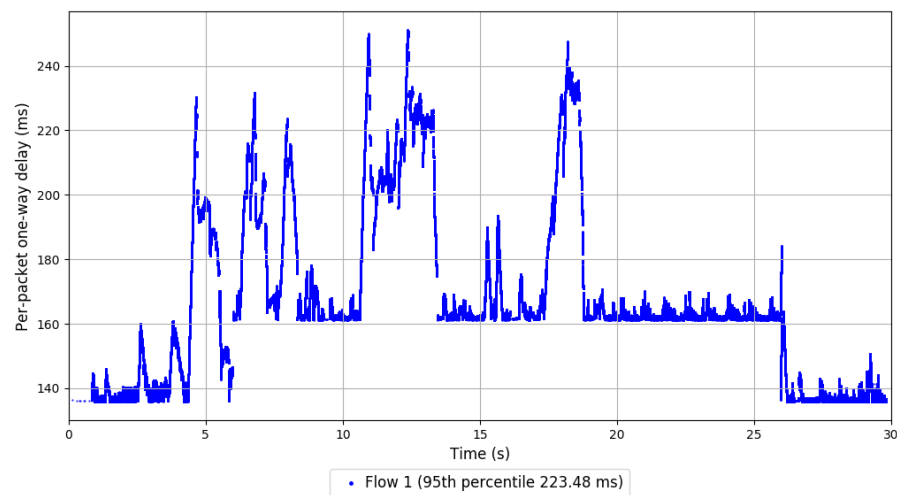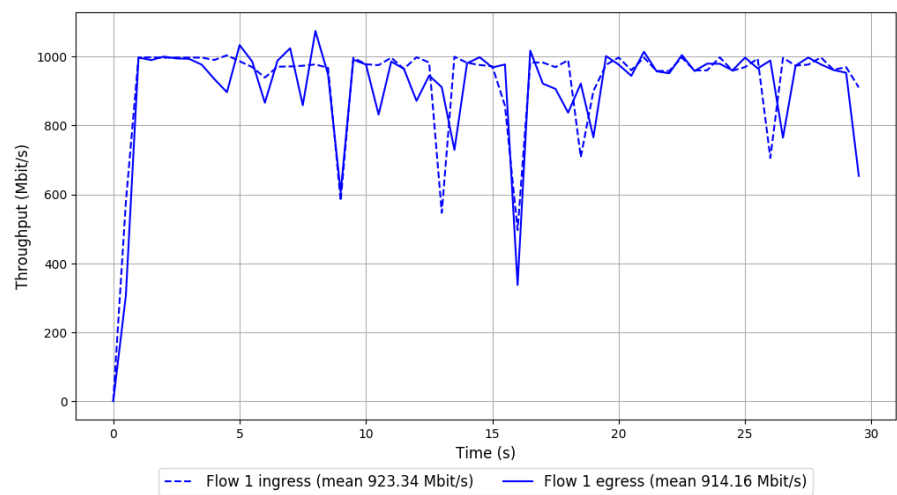
Run 5: Report of FillP — Data Link

```
Run 6: Statistics of FillP

Start at: 2018-01-09 07:46:47
End at: 2018-01-09 07:47:17

# Below is generated by plot.py at 2018-01-09 11:35:05
# Datalink statistics
-- Total of 1 flow:
Average throughput: 973.69 Mbit/s
95th percentile per-packet one-way delay: 158.717 ms
Loss rate: 0.93%
-- Flow 1:
Average throughput: 973.69 Mbit/s
95th percentile per-packet one-way delay: 158.717 ms
Loss rate: 0.93%
```
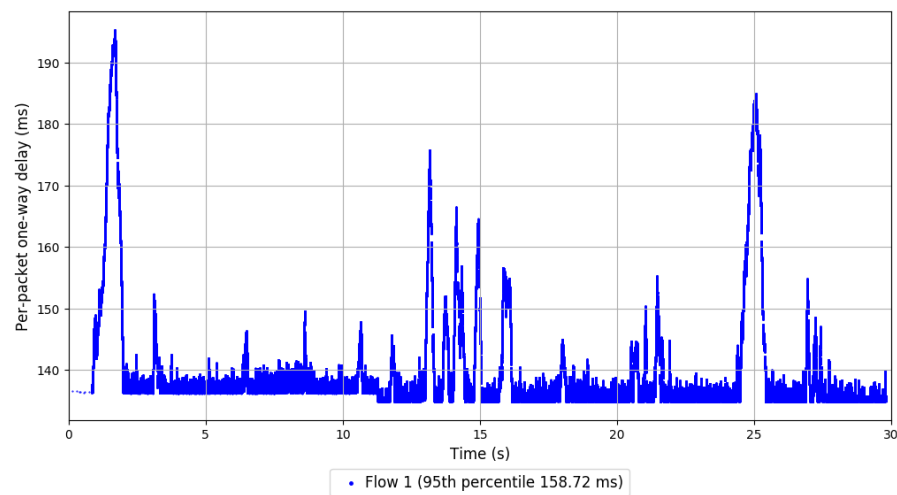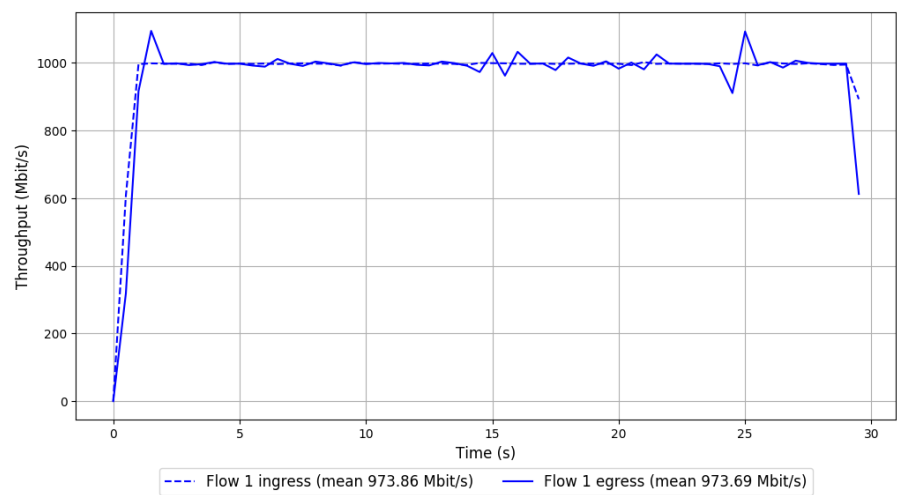
Run 6: Report of FillP — Data Link



Flow 1 ingress (mean 973.86 Mbit/s)　　Flow 1 egress (mean 973.69 Mbit/s)



• Flow 1 (95th percentile 158.72 ms)

```
Run 7: Statistics of FillP

Start at: 2018-01-09 07:59:57
End at: 2018-01-09 08:00:27

# Below is generated by plot.py at 2018-01-09 11:35:05
# Datalink statistics
-- Total of 1 flow:
Average throughput: 871.10 Mbit/s
95th percentile per-packet one-way delay: 149.145 ms
Loss rate: 1.10%
-- Flow 1:
Average throughput: 871.10 Mbit/s
95th percentile per-packet one-way delay: 149.145 ms
Loss rate: 1.10%
```
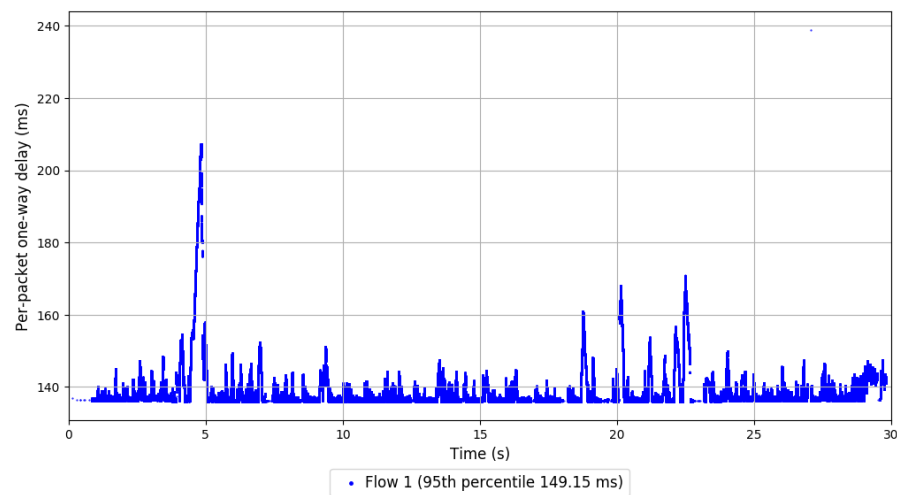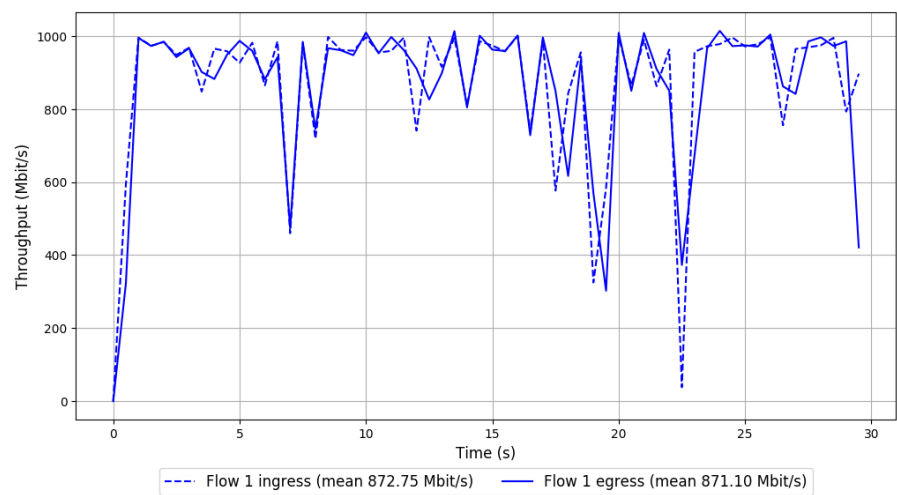
Run 7: Report of FillP — Data Link



Flow 1 ingress (mean 872.75 Mbit/s)    Flow 1 egress (mean 871.10 Mbit/s)



Flow 1 (95th percentile 149.15 ms)

```
Run 8: Statistics of FillP

Start at: 2018-01-09 08:12:41
End at: 2018-01-09 08:13:11


# Below is generated by plot.py at 2018-01-09 11:35:05
# Datalink statistics
-- Total of 1 flow:
Average throughput: 887.97 Mbit/s
95th percentile per-packet one-way delay: 202.031 ms
Loss rate: 1.32%
-- Flow 1:
Average throughput: 887.97 Mbit/s
95th percentile per-packet one-way delay: 202.031 ms
Loss rate: 1.32%
```
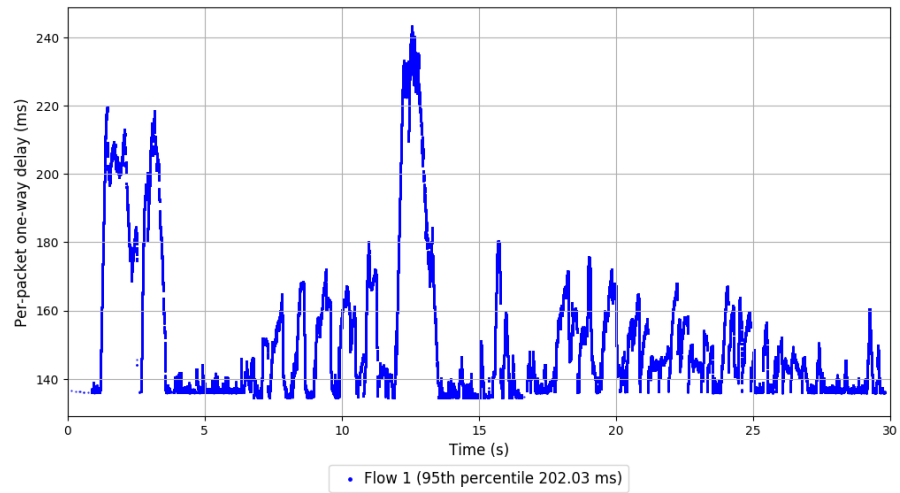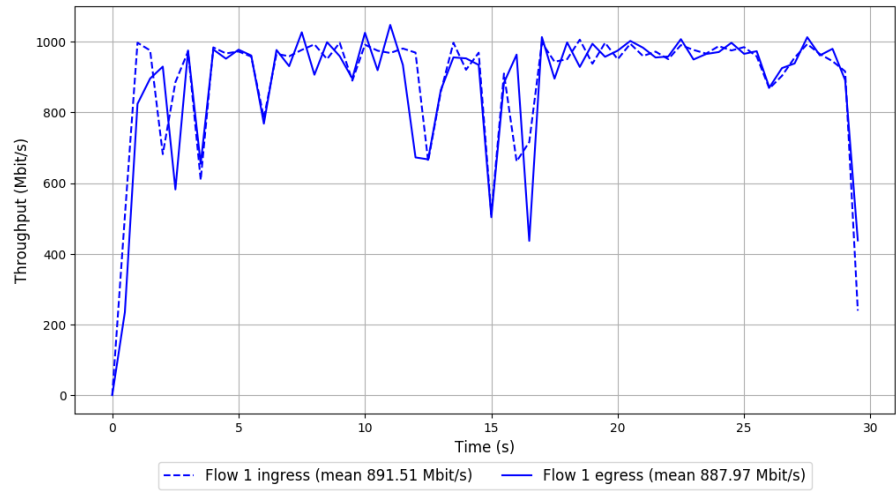
Run 8: Report of FillP — Data Link



Flow 1 ingress (mean 891.51 Mbit/s)   Flow 1 egress (mean 887.97 Mbit/s)



Flow 1 (95th percentile 202.03 ms)

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```
Run 9: Statistics of FillP

Start at: 2018-01-09 08:25:36
End at: 2018-01-09 08:26:06

# Below is generated by plot.py at 2018-01-09 11:38:33
# Datalink statistics
-- Total of 1 flow:
Average throughput: 771.97 Mbit/s
95th percentile per-packet one-way delay: 194.136 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 771.97 Mbit/s
95th percentile per-packet one-way delay: 194.136 ms
Loss rate: 0.01%
```
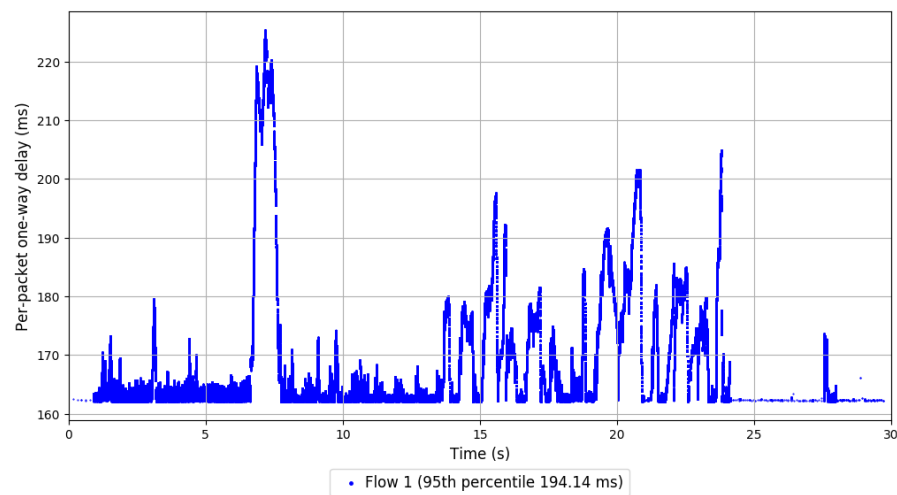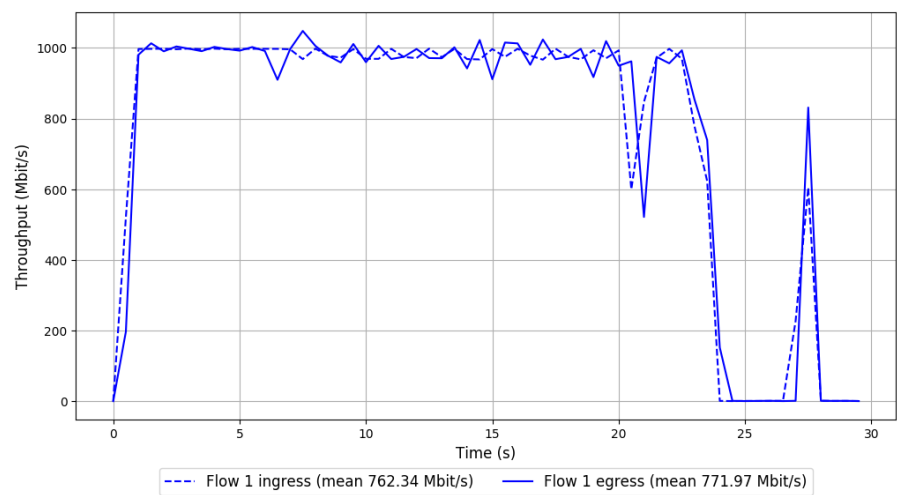
## Run 9: Report of FillP — Data Link



Flow 1 ingress (mean 762.34 Mbit/s)  —— Flow 1 egress (mean 771.97 Mbit/s)



• Flow 1 (95th percentile 194.14 ms)

```
Run 10: Statistics of FillP

Start at: 2018-01-09 08:38:51
End at: 2018-01-09 08:39:21

# Below is generated by plot.py at 2018-01-09 11:38:37
# Datalink statistics
-- Total of 1 flow:
Average throughput: 768.31 Mbit/s
95th percentile per-packet one-way delay: 229.250 ms
Loss rate: 3.40%
-- Flow 1:
Average throughput: 768.31 Mbit/s
95th percentile per-packet one-way delay: 229.250 ms
Loss rate: 3.40%
```
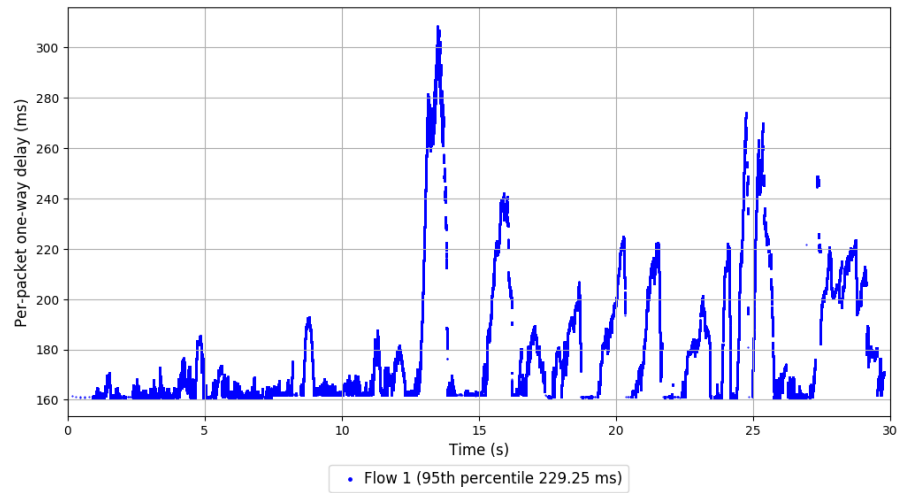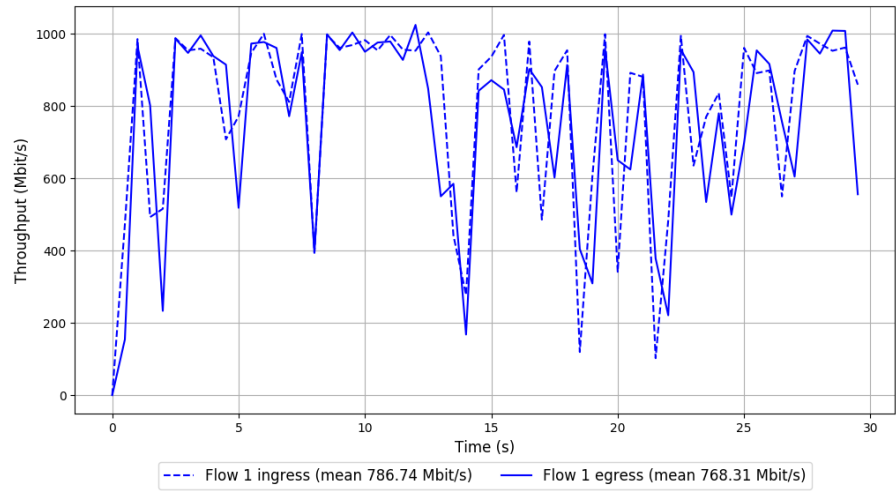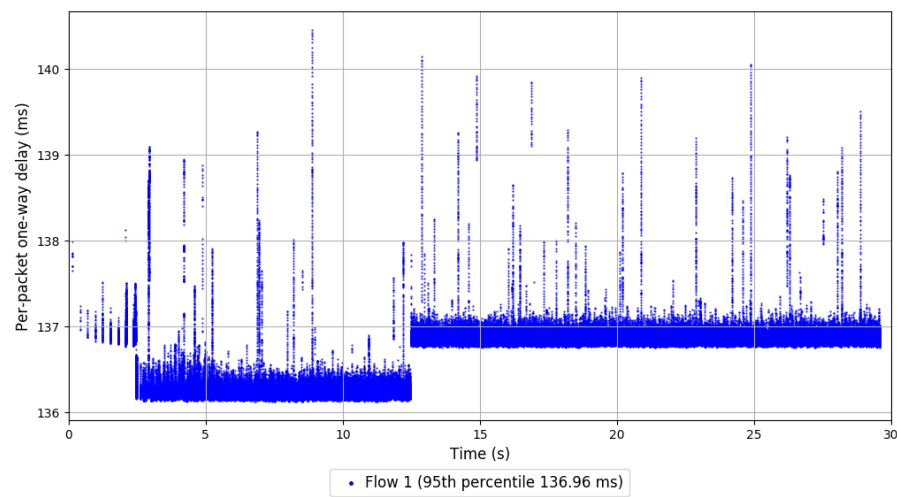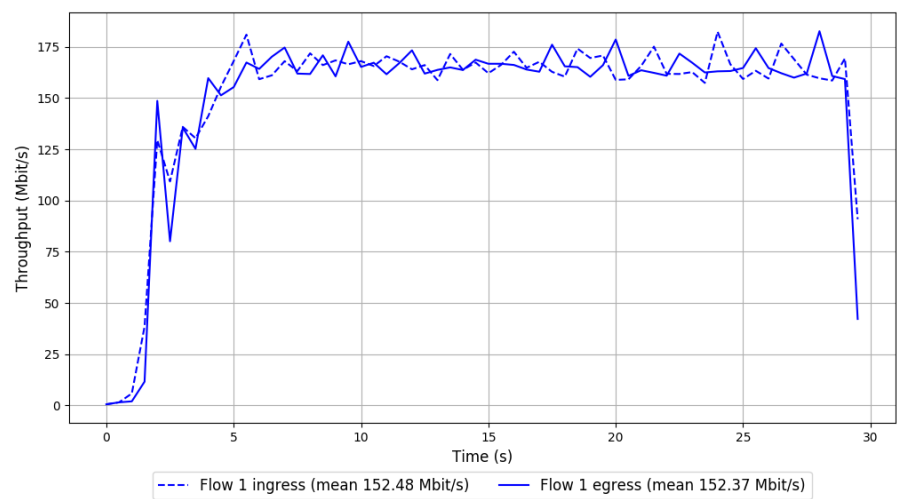
## Run 10: Report of FillP — Data Link

```
Run 1: Statistics of Indigo

Start at: 2018-01-09 06:37:18
End at: 2018-01-09 06:37:48

# Below is generated by plot.py at 2018-01-09 11:38:37
# Datalink statistics
-- Total of 1 flow:
Average throughput: 152.37 Mbit/s
95th percentile per-packet one-way delay: 136.957 ms
Loss rate: 1.00%
-- Flow 1:
Average throughput: 152.37 Mbit/s
95th percentile per-packet one-way delay: 136.957 ms
Loss rate: 1.00%
```

Run 1: Report of Indigo — Data Link

```
Run 2: Statistics of Indigo

Start at: 2018-01-09 06:50:16
End at: 2018-01-09 06:50:46

# Below is generated by plot.py at 2018-01-09 11:38:37
# Datalink statistics
-- Total of 1 flow:
Average throughput: 149.95 Mbit/s
95th percentile per-packet one-way delay: 136.928 ms
Loss rate: 1.36%
-- Flow 1:
Average throughput: 149.95 Mbit/s
95th percentile per-packet one-way delay: 136.928 ms
Loss rate: 1.36%
```
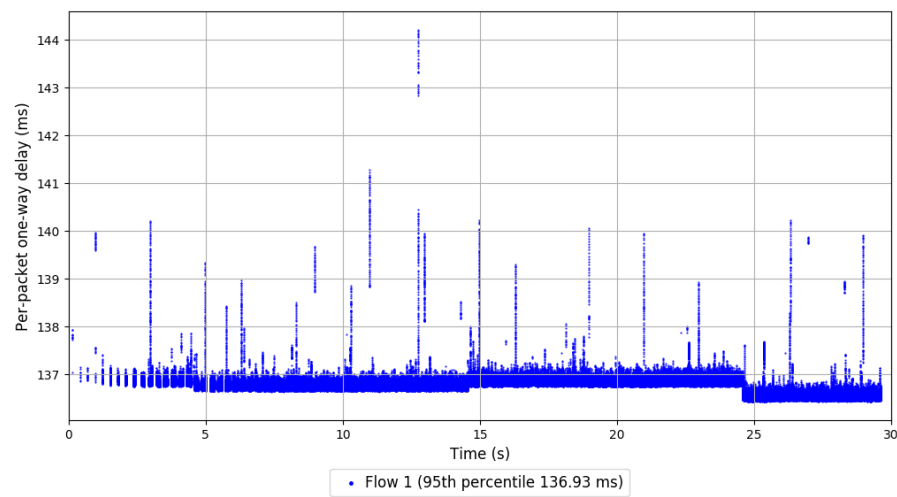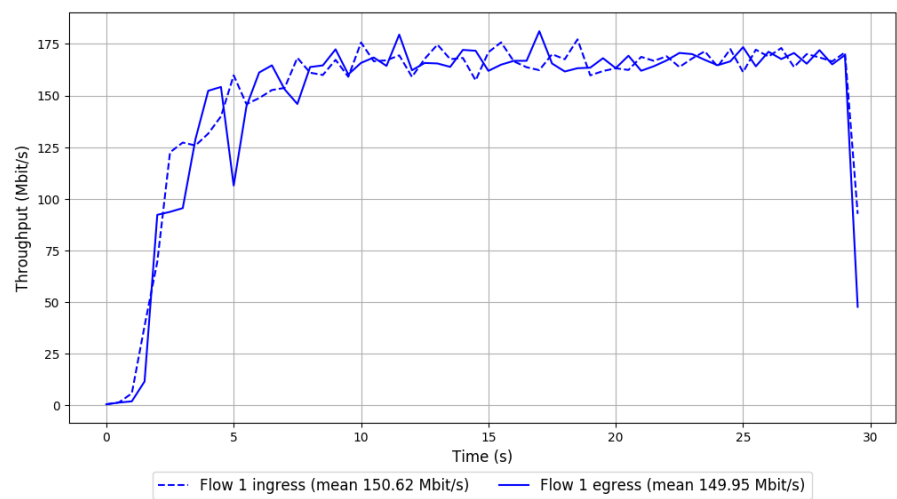
Run 2: Report of Indigo — Data Link

```
Run 3: Statistics of Indigo

Start at: 2018-01-09 07:03:05
End at: 2018-01-09 07:03:35

# Below is generated by plot.py at 2018-01-09 11:38:37
# Datalink statistics
-- Total of 1 flow:
Average throughput: 153.80 Mbit/s
95th percentile per-packet one-way delay: 136.781 ms
Loss rate: 1.01%
-- Flow 1:
Average throughput: 153.80 Mbit/s
95th percentile per-packet one-way delay: 136.781 ms
Loss rate: 1.01%
```
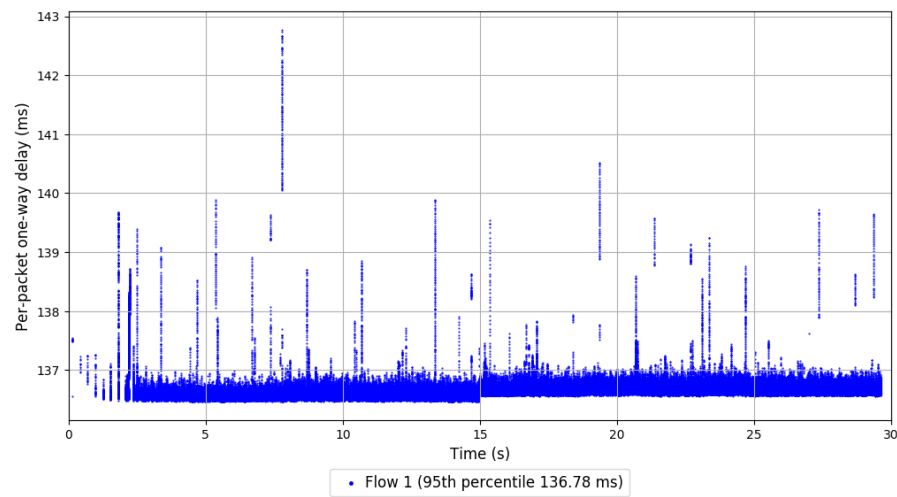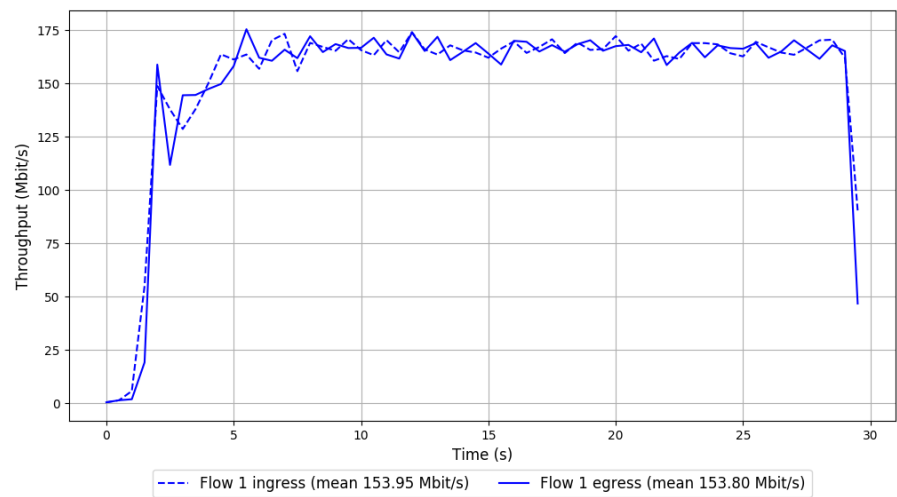
Run 3: Report of Indigo — Data Link

```
Run 4: Statistics of Indigo

Start at: 2018-01-09 07:16:04
End at: 2018-01-09 07:16:34

# Below is generated by plot.py at 2018-01-09 11:38:37
# Datalink statistics
-- Total of 1 flow:
Average throughput: 140.89 Mbit/s
95th percentile per-packet one-way delay: 161.454 ms
Loss rate: 0.65%
-- Flow 1:
Average throughput: 140.89 Mbit/s
95th percentile per-packet one-way delay: 161.454 ms
Loss rate: 0.65%
```
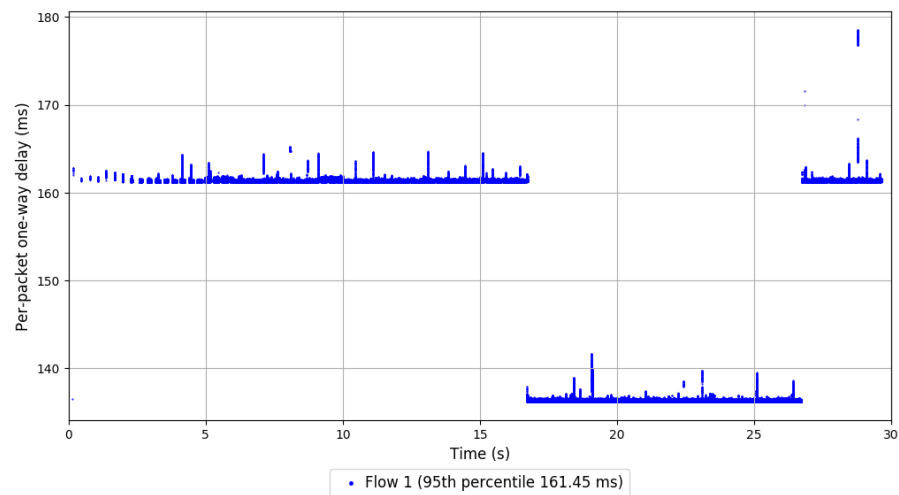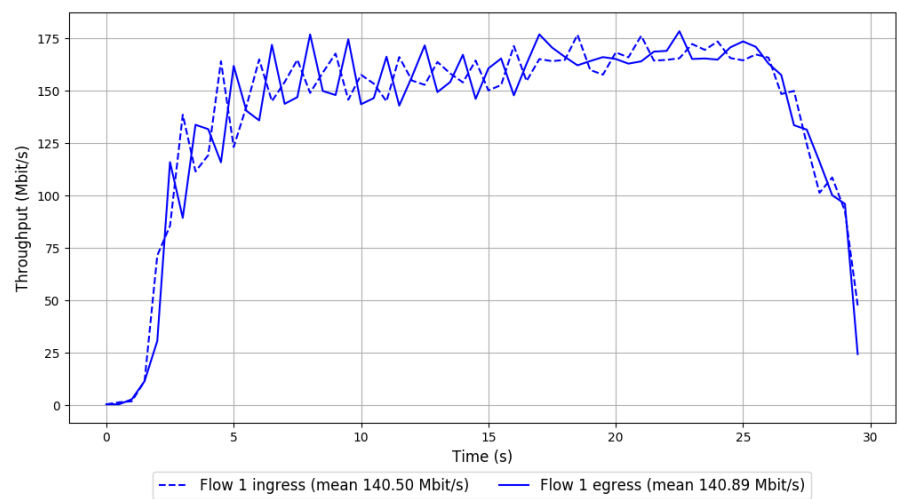
Run 4: Report of Indigo — Data Link

```
Run 5: Statistics of Indigo

Start at: 2018-01-09 07:28:35
End at: 2018-01-09 07:29:05

# Below is generated by plot.py at 2018-01-09 11:38:37
# Datalink statistics
-- Total of 1 flow:
Average throughput: 89.77 Mbit/s
95th percentile per-packet one-way delay: 161.343 ms
Loss rate: 1.21%
-- Flow 1:
Average throughput: 89.77 Mbit/s
95th percentile per-packet one-way delay: 161.343 ms
Loss rate: 1.21%
```
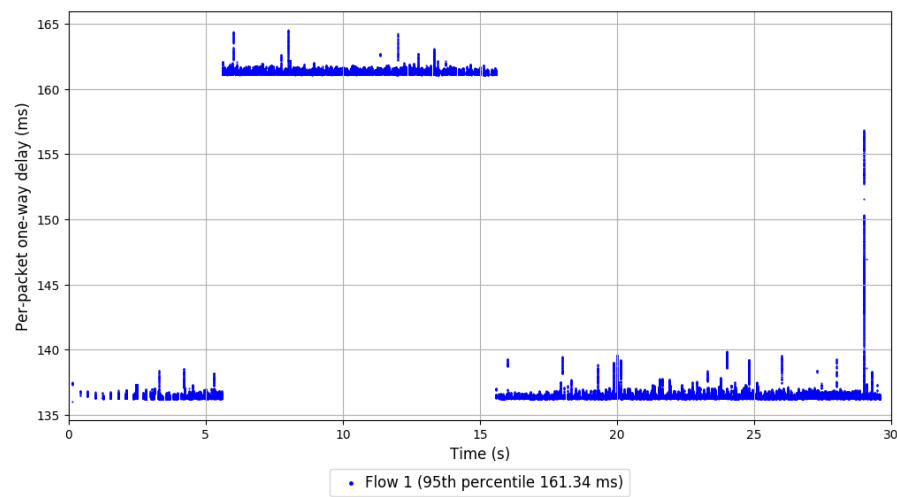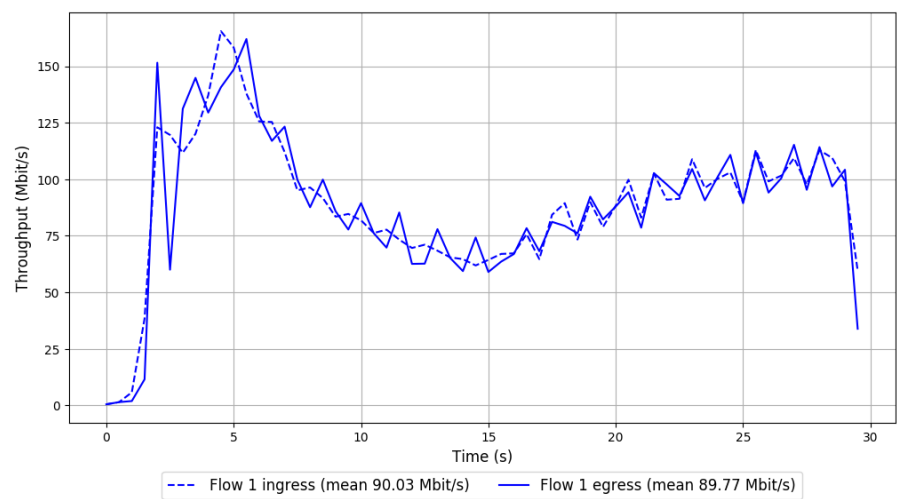
Run 5: Report of Indigo — Data Link

```
Run 6: Statistics of Indigo

Start at: 2018-01-09 07:40:57
End at: 2018-01-09 07:41:27


# Below is generated by plot.py at 2018-01-09 11:38:37
# Datalink statistics
-- Total of 1 flow:
Average throughput: 150.06 Mbit/s
95th percentile per-packet one-way delay: 136.692 ms
Loss rate: 1.22%
-- Flow 1:
Average throughput: 150.06 Mbit/s
95th percentile per-packet one-way delay: 136.692 ms
Loss rate: 1.22%
```
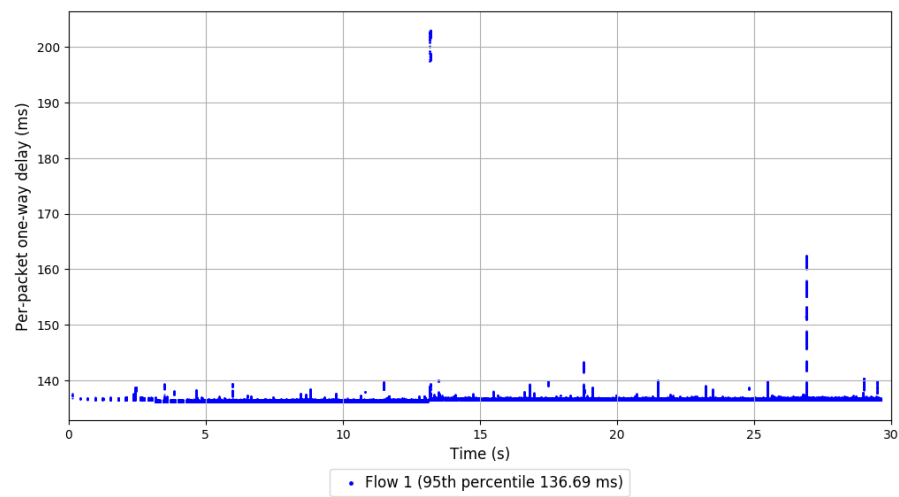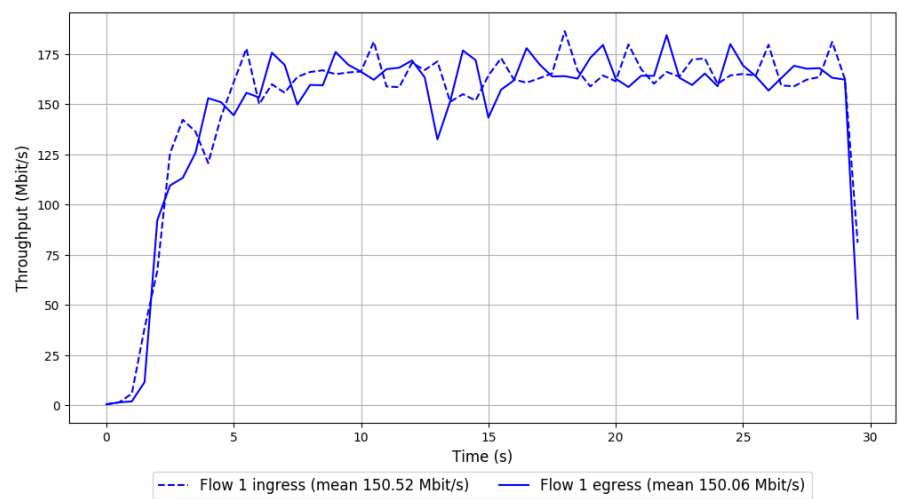
Run 6: Report of Indigo — Data Link

```
Run 7: Statistics of Indigo

Start at: 2018-01-09 07:53:41
End at: 2018-01-09 07:54:11

# Below is generated by plot.py at 2018-01-09 11:38:37
# Datalink statistics
-- Total of 1 flow:
Average throughput: 148.98 Mbit/s
95th percentile per-packet one-way delay: 136.949 ms
Loss rate: 1.06%
-- Flow 1:
Average throughput: 148.98 Mbit/s
95th percentile per-packet one-way delay: 136.949 ms
Loss rate: 1.06%
```
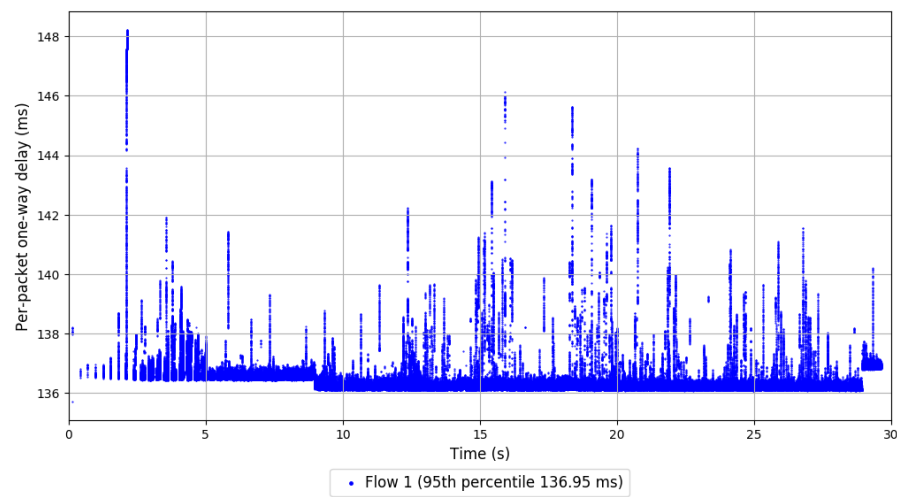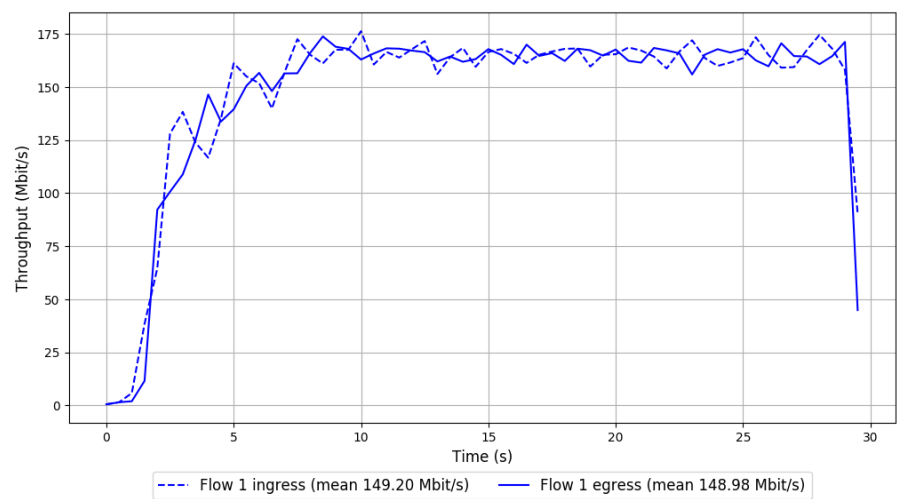
Run 7: Report of Indigo — Data Link

```
Run 8: Statistics of Indigo

Start at: 2018-01-09 08:06:46
End at: 2018-01-09 08:07:16


# Below is generated by plot.py at 2018-01-09 11:38:37
# Datalink statistics
-- Total of 1 flow:
Average throughput: 148.13 Mbit/s
95th percentile per-packet one-way delay: 136.593 ms
Loss rate: 1.00%
-- Flow 1:
Average throughput: 148.13 Mbit/s
95th percentile per-packet one-way delay: 136.593 ms
Loss rate: 1.00%
```
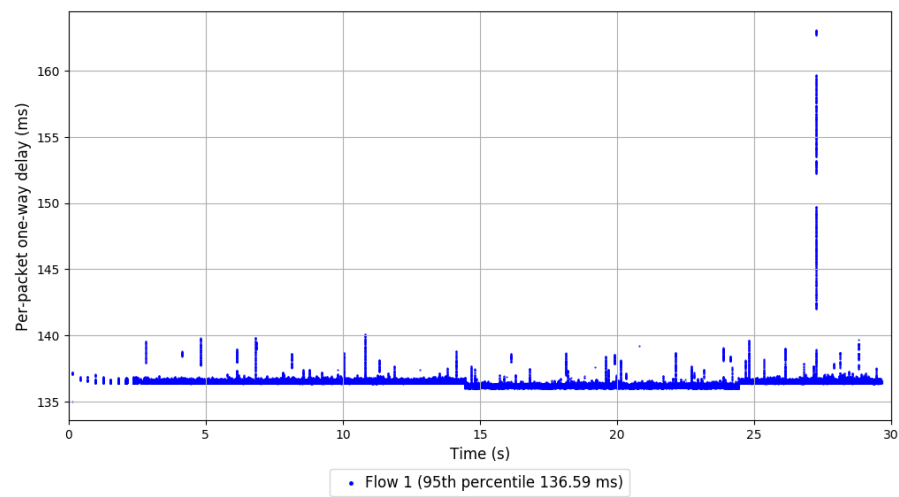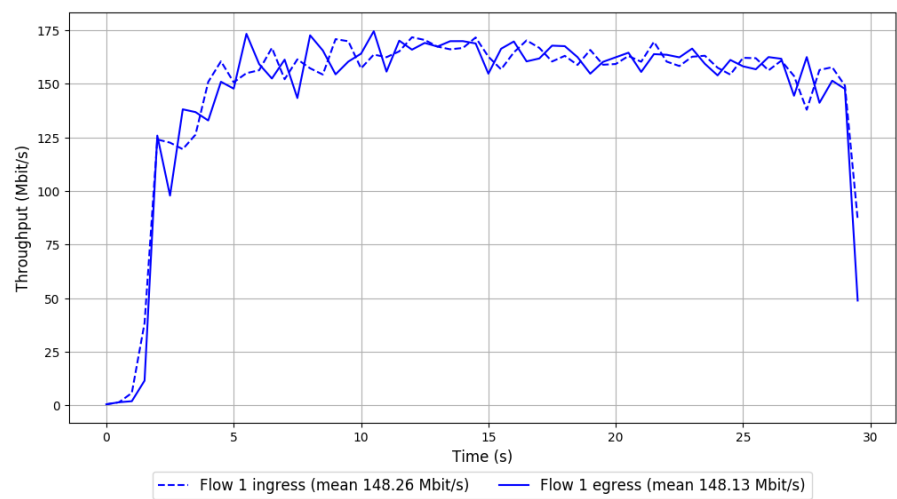
Run 8: Report of Indigo — Data Link

```
Run 9: Statistics of Indigo

Start at: 2018-01-09 08:19:23
End at: 2018-01-09 08:19:53

# Below is generated by plot.py at 2018-01-09 11:38:37
# Datalink statistics
-- Total of 1 flow:
Average throughput: 151.62 Mbit/s
95th percentile per-packet one-way delay: 136.289 ms
Loss rate: 1.06%
-- Flow 1:
Average throughput: 151.62 Mbit/s
95th percentile per-packet one-way delay: 136.289 ms
Loss rate: 1.06%
```
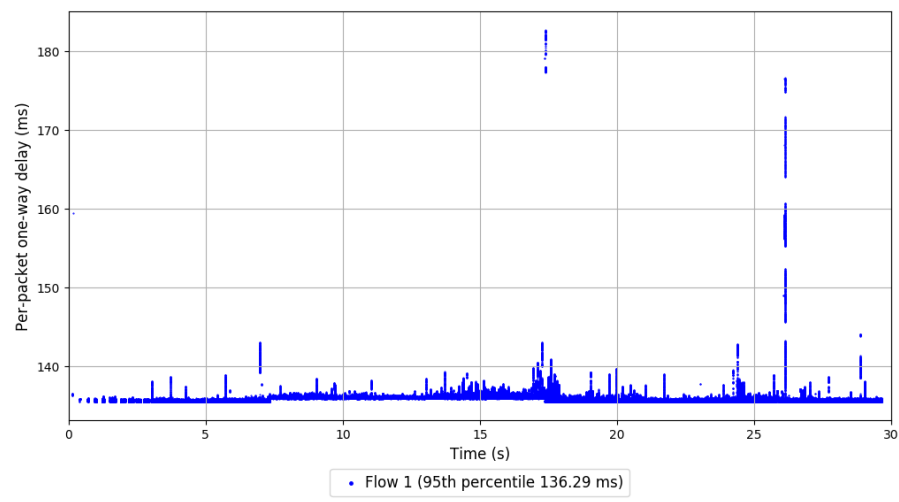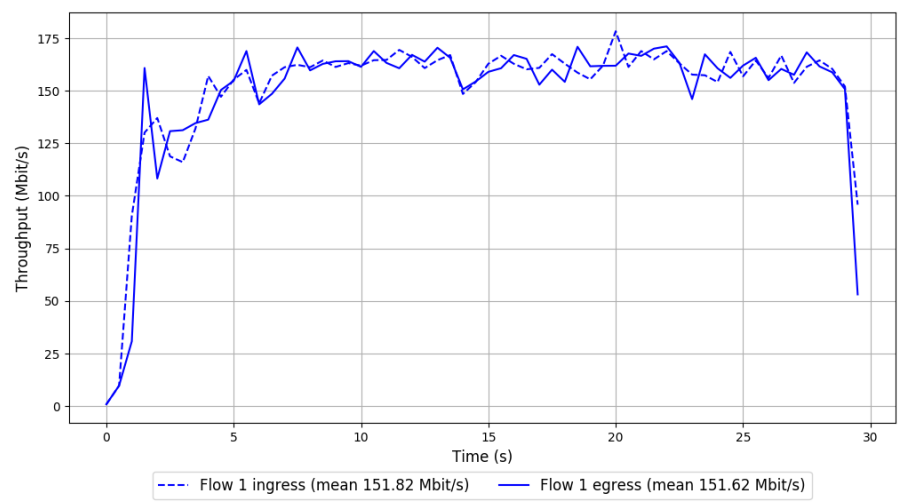
# Run 9: Report of Indigo — Data Link

```
Run 10: Statistics of Indigo

Start at: 2018-01-09 08:32:30
End at: 2018-01-09 08:33:00

# Below is generated by plot.py at 2018-01-09 11:38:37
# Datalink statistics
-- Total of 1 flow:
Average throughput: 137.01 Mbit/s
95th percentile per-packet one-way delay: 136.277 ms
Loss rate: 1.10%
-- Flow 1:
Average throughput: 137.01 Mbit/s
95th percentile per-packet one-way delay: 136.277 ms
Loss rate: 1.10%
```

Run 10: Report of Indigo — Data Link