Pantheon Report

Generated at 2017-09-17 19:01:10 (UTC).

Data path: India Ethernet (*remote*) →AWS India 1 Ethernet (*local*).

Repeated the test of 15 congestion control schemes 10 times.

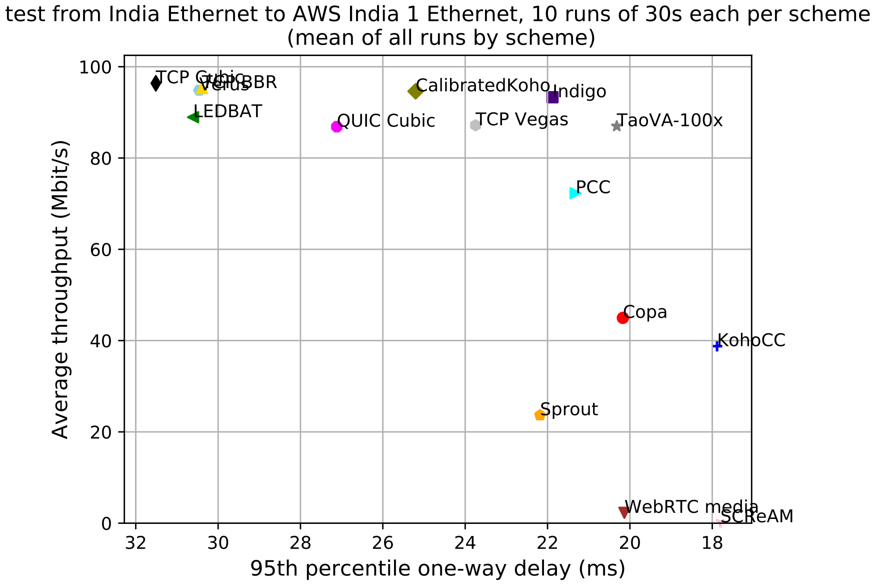
Each test lasted for 30 seconds running 1 flow.

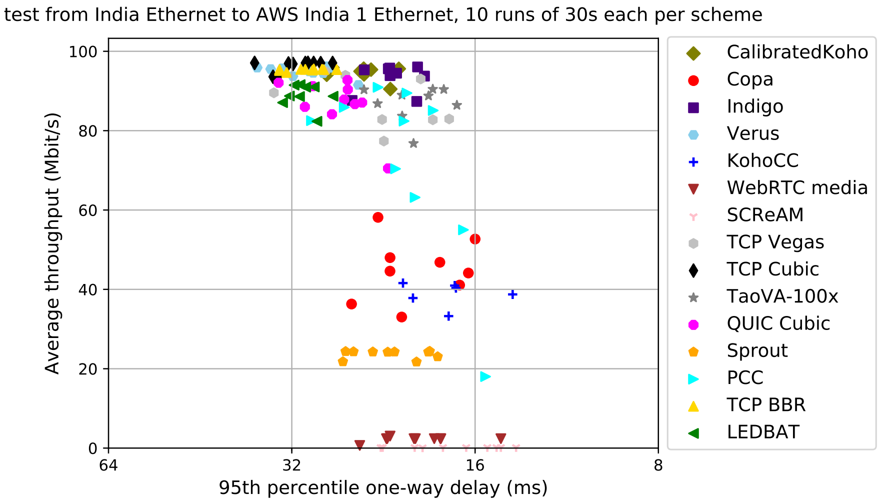
Increased UDP receive buffer to 16 MB (default) and 32 MB (max).

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

NTP offsets were measured against `nets.org.sg` and have been applied to correct the timestamps in logs.

```
Git summary:
branch: master @ 57453dc11f8da93a2e03eea75289fea01b816298
third_party/calibrated_koho @ 3cb73c0d1c0322cdfae446ea37a522e53227db50
 M datagrump/sender.cc
third_party/genericCC @ f7ca42f251bf49b432bb71de6d13fa903515c366
third_party/indigo @ b19f3730105f9aa95452552af924e3719b03cc55
third_party/koho_cc @ f0f2e693303aee82ea808e6928eac4f1083a6681
 M datagrump/sender.cc
third_party/libutp @ b3465b942e2826f2b179eaab4a906ce6bb7cf3cf
third_party/pantheon-tunnel @ baf443516dea3eeddeccaf9b916cc313273ca4f4
third_party/pcc @ 1afc958fa0d66d18b623c091a55fec872b4981e1
 M receiver/src/buffer.h
 M receiver/src/core.cpp
 M sender/src/buffer.h
 M sender/src/core.cpp
third_party/proto-quic @ 77961f1a82733a86b42f1bc8143ebc978f3cff42
third_party/scream @ c3370fd7bd17265a79aeb34e4016ad23f5965885
third_party/sourdough @ f1a14bffe749737437f61b1eaeeb30b267cde681
third_party/sprout @ 6f2efe6e088d91066a9f023df375eee2665089ce
 M src/examples/cellsim.cc
 M src/examples/sproutbt2.cc
 M src/network/sproutconn.cc
third_party/verus @ d4b447ea74c6c60a261149af2629562939f9a494
 M src/verus.hpp
 M tools/plot.py
third_party/webrtc @ a488197ddd041ace68a42849b2540ad834825f42
```


test from India Ethernet to AWS India 1 Ethernet, 10 runs of 30s each per scheme
(mean of all runs by scheme)
Average throughput (Mbit/s)
95th percentile one-way delay (ms)
100
80
60
40
20
0
32
30
28
26
24
22
20
18
TCP Cubic
TCP BBR
Verus
LEDBAT
QUIC Cubic
CalibratedKoho
Indigo
TCP Vegas
TaoVA-100x
PCC
Copa
KohoCC
Sprout
WebRTC media
SCReAM


test from India Ethernet to AWS India 1 Ethernet, 10 runs of 30s each per scheme
Average throughput (Mbit/s)
95th percentile one-way delay (ms)
100
80
60
40
20
0
64
32
16
8
CalibratedKoho
Copa
Indigo
Verus
KohoCC
WebRTC media
SCReAM
TCP Vegas
TCP Cubic
TaoVA-100x
QUIC Cubic
Sprout
PCC
TCP BBR
LEDBAT

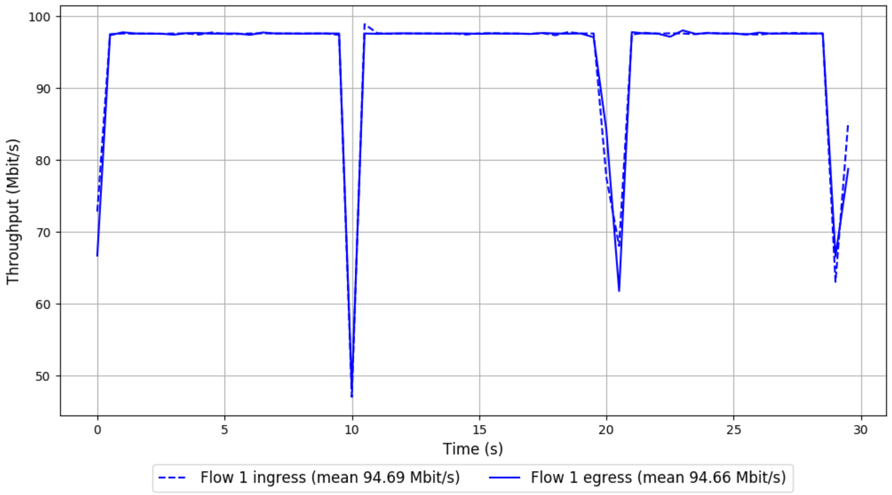
scheme	# runs	mean avg tput (Mbit/s) flow 1	mean 95th-%ile delay (ms) flow 1	mean loss rate (%) flow 1
TCP BBR	10	95.32	30.39	0.16
CalibratedKoho	10	94.61	25.20	0.15
Copa	9	44.98	20.17	0.14
TCP Cubic	10	96.37	31.51	0.21
Indigo	9	93.31	21.88	0.12
KohoCC	6	38.78	17.88	0.11
LEDBAT	9	88.94	30.61	0.17
PCC	10	72.29	21.32	0.16
QUIC Cubic	10	86.86	27.12	0.15
SCReAM	10	0.21	17.80	0.20
Sprout	10	23.65	22.18	0.13
TaoVA-100x	9	86.96	20.32	0.13
TCP Vegas	8	87.17	23.75	0.11
Verus	10	94.84	30.46	0.16
WebRTC media	10	2.27	20.13	0.20

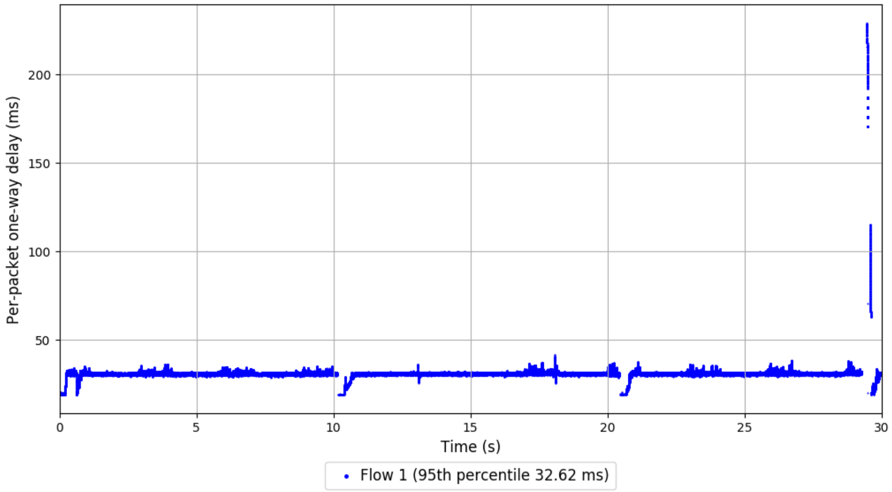
```
Run 1: Statistics of TCP BBR

Start at: 2017-09-17 09:24:23
End at: 2017-09-17 09:24:53
Local clock offset: 1.314 ms
Remote clock offset: -2.44 ms

# Below is generated by plot.py at 2017-09-17 18:42:23
# Datalink statistics
-- Total of 1 flow:
Average throughput: 94.66 Mbit/s
95th percentile per-packet one-way delay: 32.619 ms
Loss rate: 0.16%
-- Flow 1:
Average throughput: 94.66 Mbit/s
95th percentile per-packet one-way delay: 32.619 ms
Loss rate: 0.16%
```

Run 1: Report of TCP BBR — Data Link



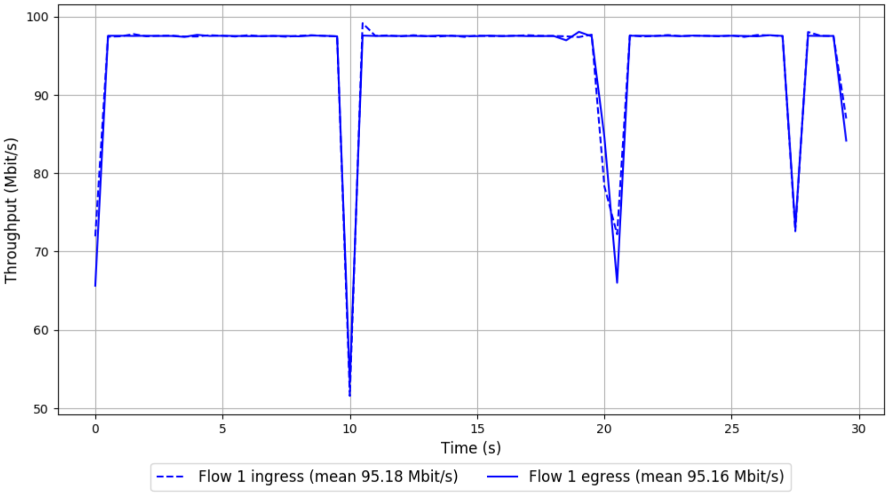


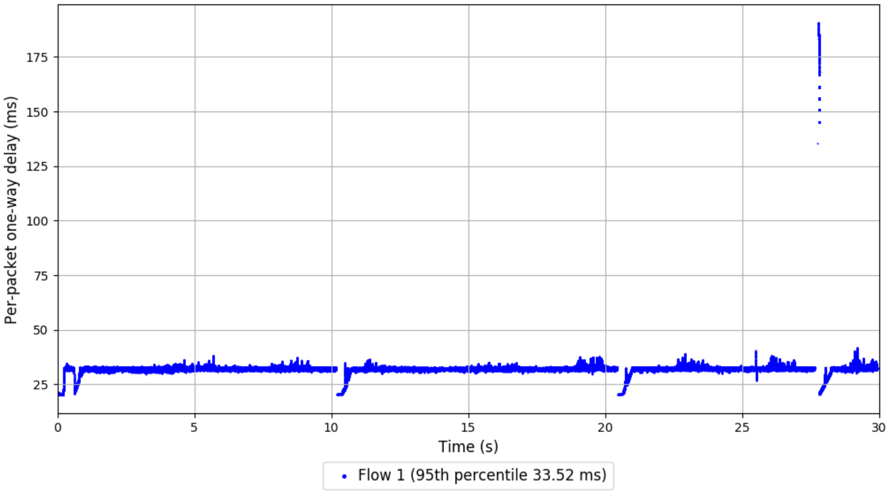
```
Run 2: Statistics of TCP BBR

Start at: 2017-09-17 09:46:19
End at: 2017-09-17 09:46:49
Local clock offset: 1.75 ms
Remote clock offset: -2.255 ms

# Below is generated by plot.py at 2017-09-17 18:42:23
# Datalink statistics
-- Total of 1 flow:
Average throughput: 95.16 Mbit/s
95th percentile per-packet one-way delay: 33.525 ms
Loss rate: 0.16%
-- Flow 1:
Average throughput: 95.16 Mbit/s
95th percentile per-packet one-way delay: 33.525 ms
Loss rate: 0.16%
```

Run 2: Report of TCP BBR — Data Link



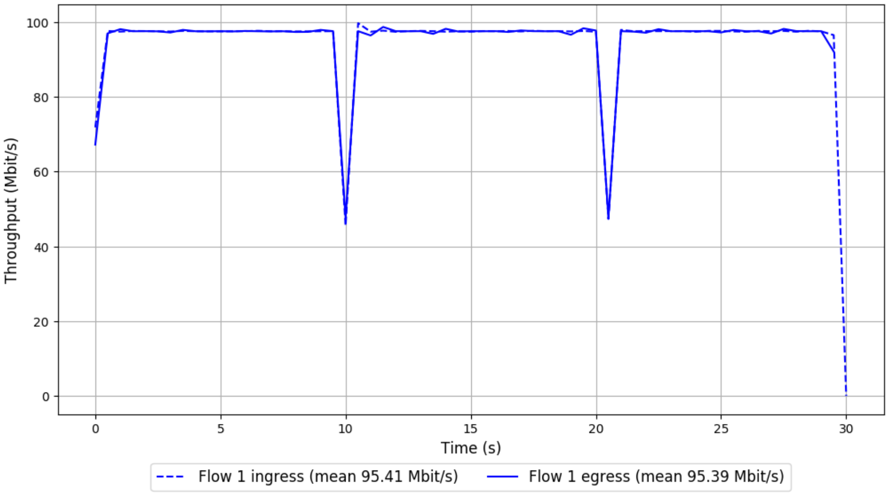


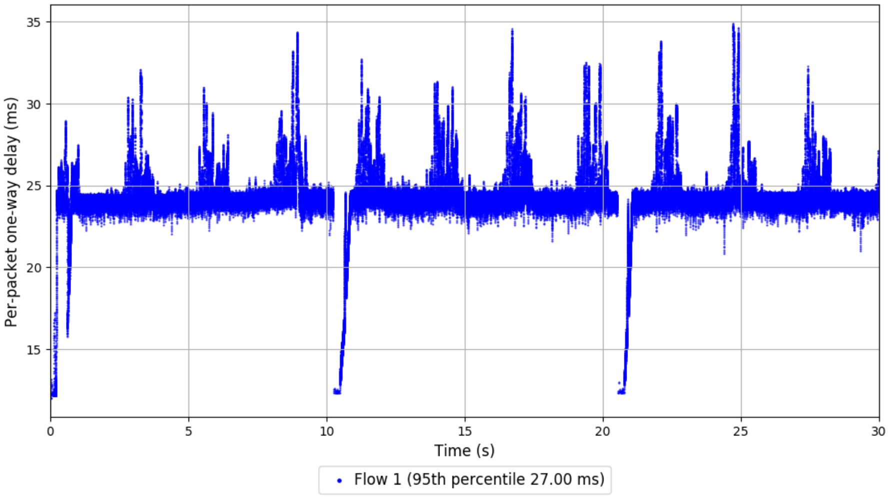
```
Run 3: Statistics of TCP BBR

Start at: 2017-09-17 10:09:21
End at: 2017-09-17 10:09:51
Local clock offset: -2.295 ms
Remote clock offset: 0.61 ms

# Below is generated by plot.py at 2017-09-17 18:42:26
# Datalink statistics
-- Total of 1 flow:
Average throughput: 95.39 Mbit/s
95th percentile per-packet one-way delay: 27.002 ms
Loss rate: 0.16%
-- Flow 1:
Average throughput: 95.39 Mbit/s
95th percentile per-packet one-way delay: 27.002 ms
Loss rate: 0.16%
```

Run 3: Report of TCP BBR — Data Link



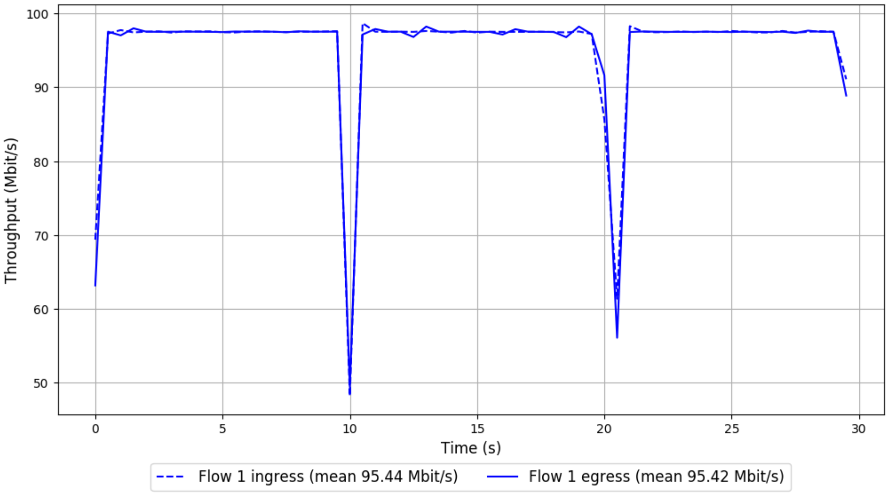


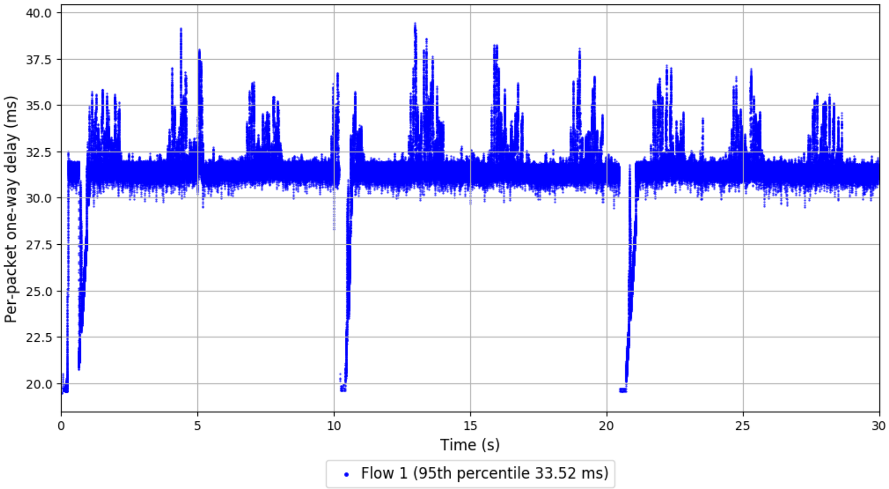
```
Run 4: Statistics of TCP BBR

Start at: 2017-09-17 10:32:18
End at: 2017-09-17 10:32:48
Local clock offset: 1.941 ms
Remote clock offset: -3.412 ms

# Below is generated by plot.py at 2017-09-17 18:42:26
# Datalink statistics
-- Total of 1 flow:
Average throughput: 95.42 Mbit/s
95th percentile per-packet one-way delay: 33.517 ms
Loss rate: 0.15%
-- Flow 1:
Average throughput: 95.42 Mbit/s
95th percentile per-packet one-way delay: 33.517 ms
Loss rate: 0.15%
```

Run 4: Report of TCP BBR — Data Link



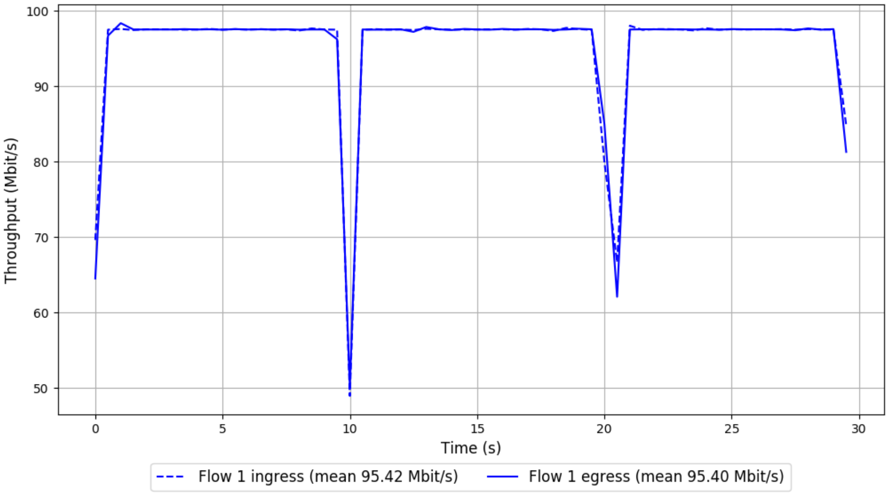


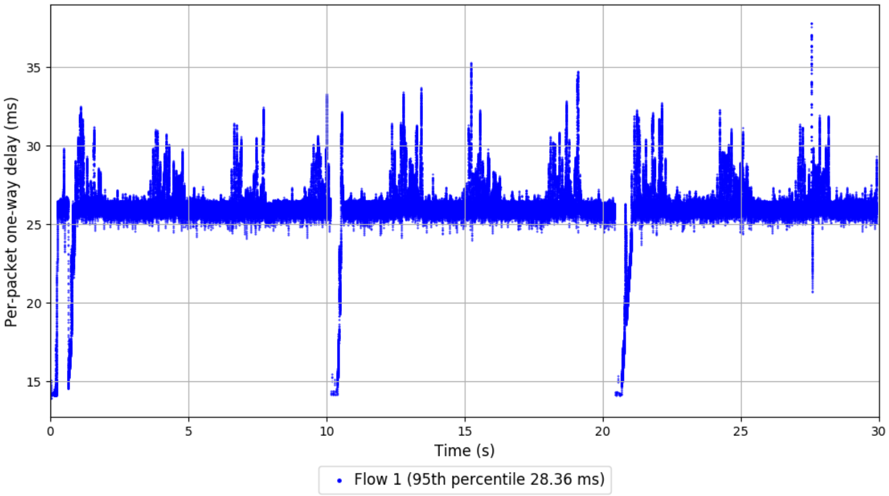
```
Run 5: Statistics of TCP BBR

Start at: 2017-09-17 10:55:22
End at: 2017-09-17 10:55:52
Local clock offset: -0.551 ms
Remote clock offset: -0.455 ms

# Below is generated by plot.py at 2017-09-17 18:42:26
# Datalink statistics
-- Total of 1 flow:
Average throughput: 95.40 Mbit/s
95th percentile per-packet one-way delay: 28.357 ms
Loss rate: 0.15%
-- Flow 1:
Average throughput: 95.40 Mbit/s
95th percentile per-packet one-way delay: 28.357 ms
Loss rate: 0.15%
```

Run 5: Report of TCP BBR — Data Link



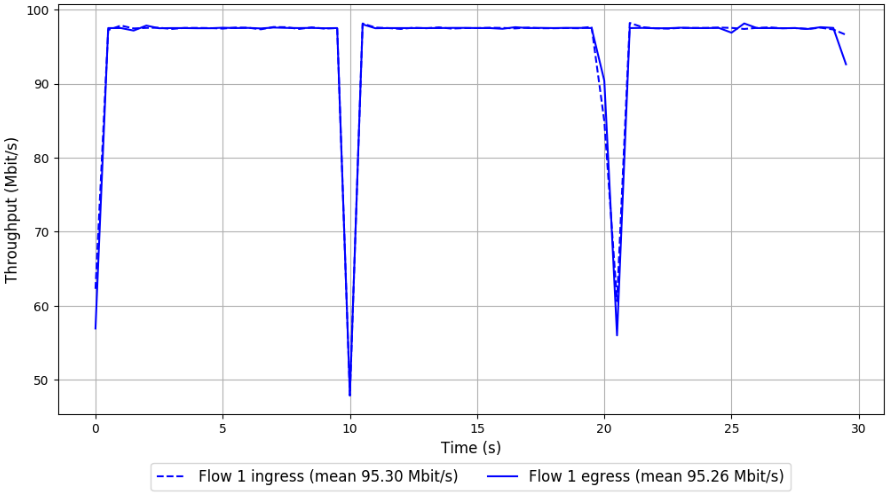


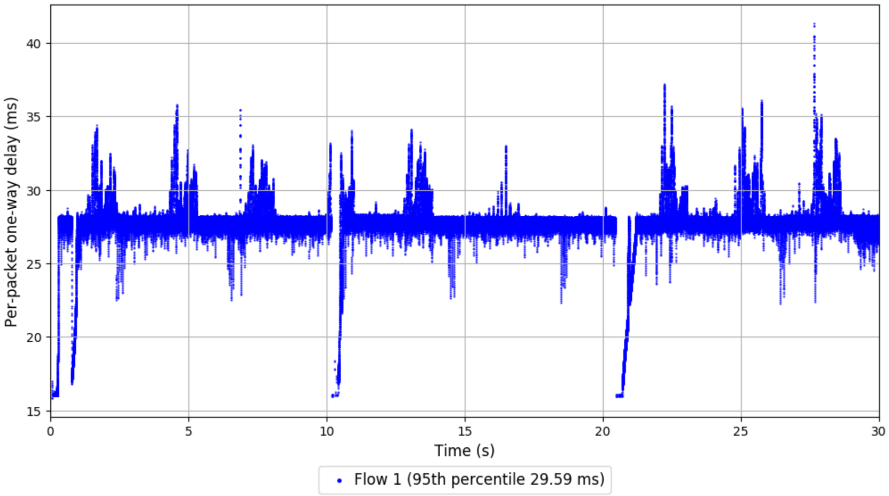
```
Run 6: Statistics of TCP BBR

Start at: 2017-09-17 11:18:12
End at: 2017-09-17 11:18:42
Local clock offset: 2.839 ms
Remote clock offset: -1.606 ms

# Below is generated by plot.py at 2017-09-17 18:42:26
# Datalink statistics
-- Total of 1 flow:
Average throughput: 95.26 Mbit/s
95th percentile per-packet one-way delay: 29.593 ms
Loss rate: 0.16%
-- Flow 1:
Average throughput: 95.26 Mbit/s
95th percentile per-packet one-way delay: 29.593 ms
Loss rate: 0.16%
```

Run 6: Report of TCP BBR — Data Link



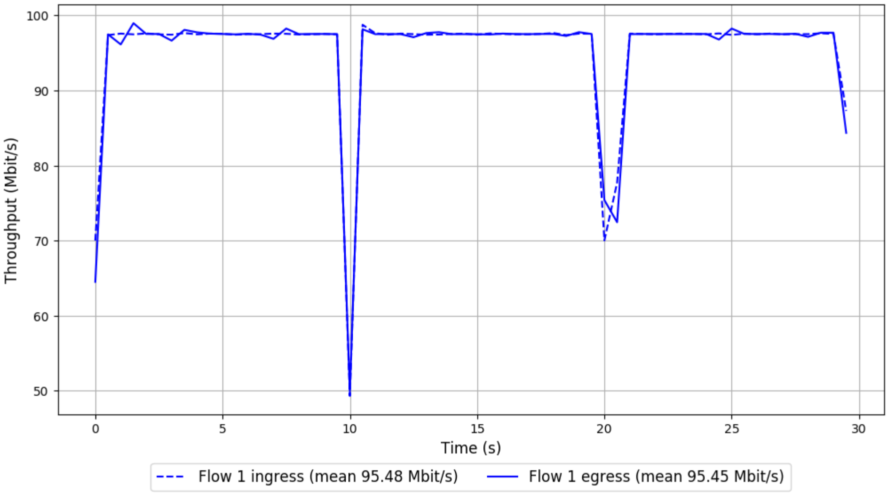


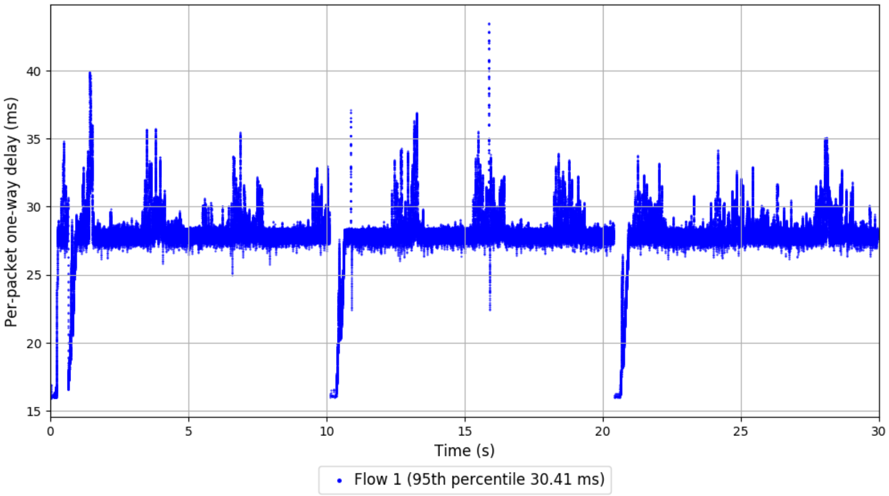
```
Run 7: Statistics of TCP BBR

Start at: 2017-09-17 11:41:11
End at: 2017-09-17 11:41:41
Local clock offset: 6.103 ms
Remote clock offset: -1.997 ms

# Below is generated by plot.py at 2017-09-17 18:42:26
# Datalink statistics
-- Total of 1 flow:
Average throughput: 95.45 Mbit/s
95th percentile per-packet one-way delay: 30.407 ms
Loss rate: 0.15%
-- Flow 1:
Average throughput: 95.45 Mbit/s
95th percentile per-packet one-way delay: 30.407 ms
Loss rate: 0.15%
```

Run 7: Report of TCP BBR — Data Link



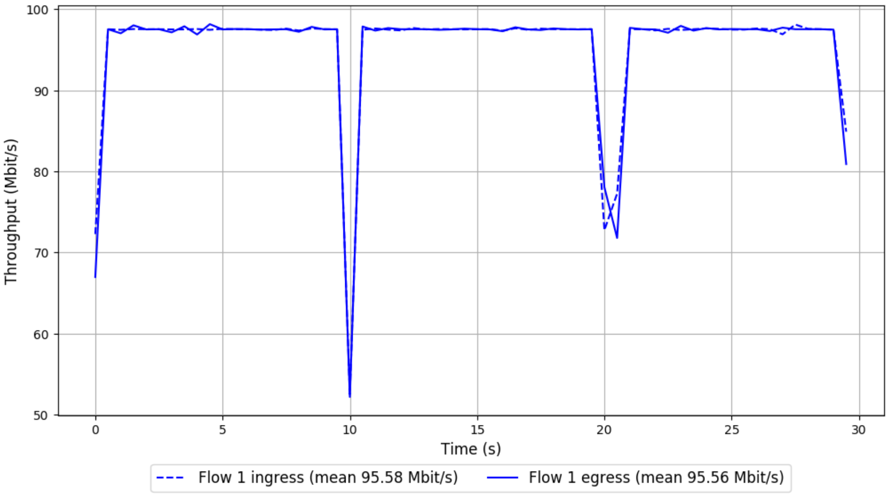


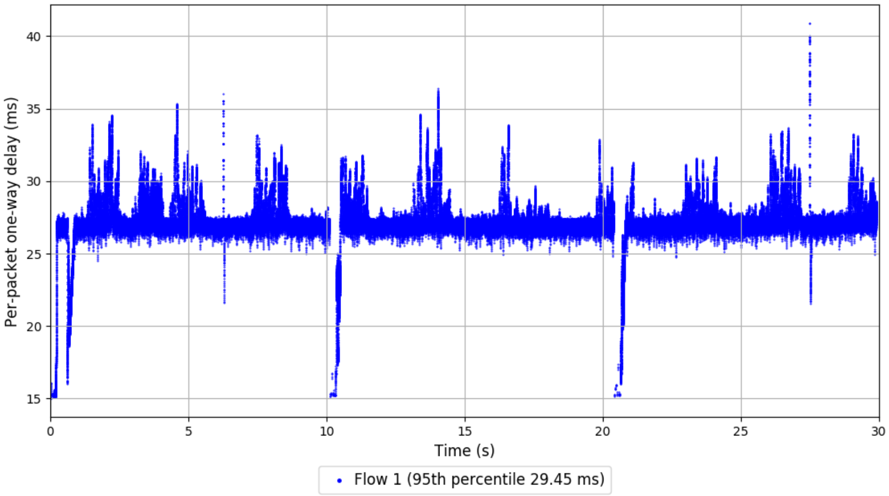
```
Run 8: Statistics of TCP BBR

Start at: 2017-09-17 12:05:20
End at: 2017-09-17 12:05:50
Local clock offset: 6.569 ms
Remote clock offset: -2.006 ms

# Below is generated by plot.py at 2017-09-17 18:42:26
# Datalink statistics
-- Total of 1 flow:
Average throughput: 95.56 Mbit/s
95th percentile per-packet one-way delay: 29.448 ms
Loss rate: 0.16%
-- Flow 1:
Average throughput: 95.56 Mbit/s
95th percentile per-packet one-way delay: 29.448 ms
Loss rate: 0.16%
```

Run 8: Report of TCP BBR — Data Link



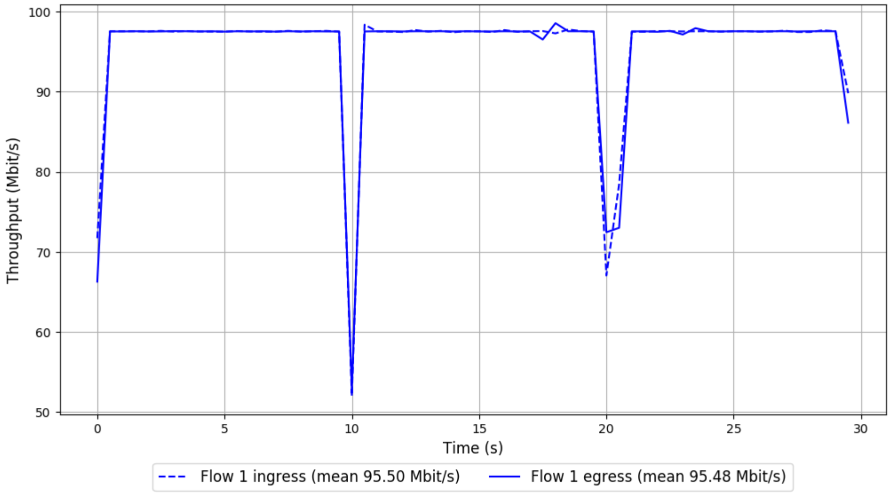


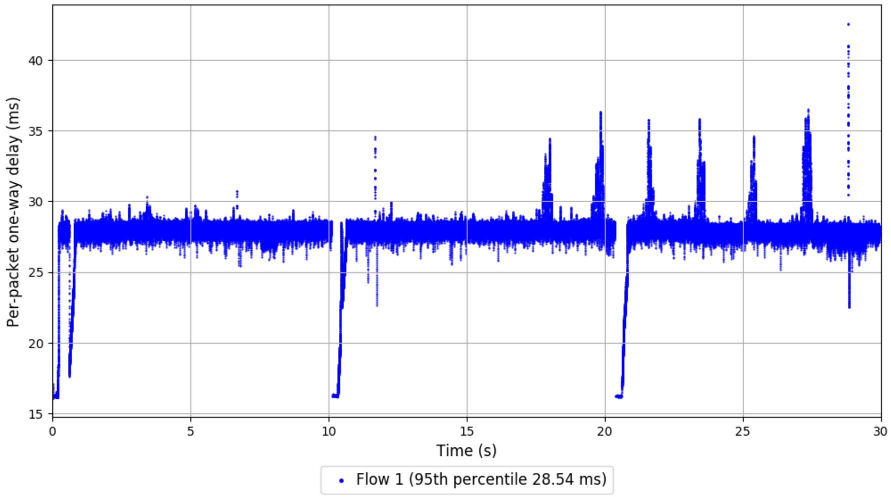
```
Run 9: Statistics of TCP BBR

Start at: 2017-09-17 12:38:22
End at: 2017-09-17 12:38:52
Local clock offset: 5.719 ms
Remote clock offset: -3.815 ms

# Below is generated by plot.py at 2017-09-17 18:43:49
# Datalink statistics
-- Total of 1 flow:
Average throughput: 95.48 Mbit/s
95th percentile per-packet one-way delay: 28.538 ms
Loss rate: 0.16%
-- Flow 1:
Average throughput: 95.48 Mbit/s
95th percentile per-packet one-way delay: 28.538 ms
Loss rate: 0.16%
```

Run 9: Report of TCP BBR — Data Link



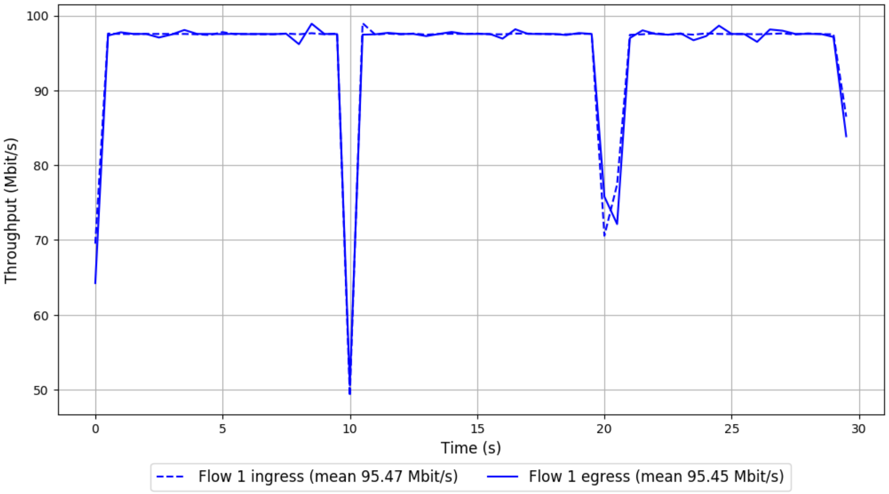


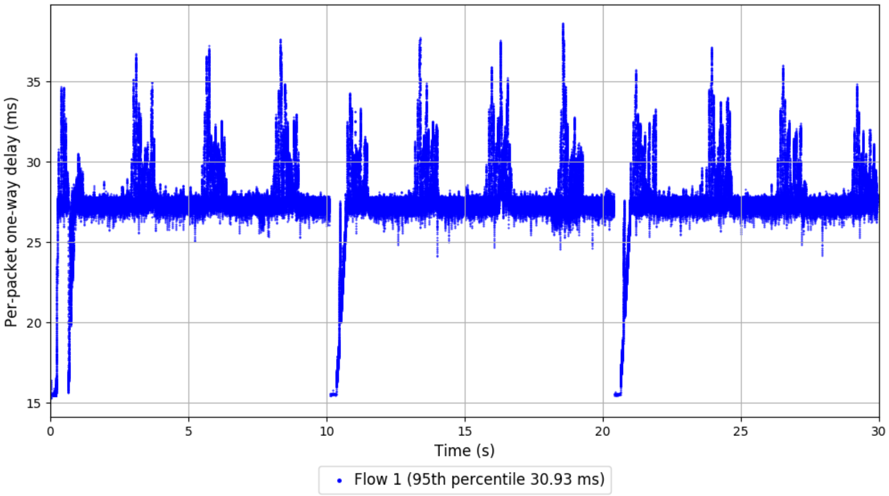
```
Run 10: Statistics of TCP BBR

Start at: 2017-09-17 13:00:41
End at: 2017-09-17 13:01:11
Local clock offset: 6.275 ms
Remote clock offset: -2.053 ms

# Below is generated by plot.py at 2017-09-17 18:43:50
# Datalink statistics
-- Total of 1 flow:
Average throughput: 95.45 Mbit/s
95th percentile per-packet one-way delay: 30.928 ms
Loss rate: 0.15%
-- Flow 1:
Average throughput: 95.45 Mbit/s
95th percentile per-packet one-way delay: 30.928 ms
Loss rate: 0.15%
```

Run 10: Report of TCP BBR — Data Link



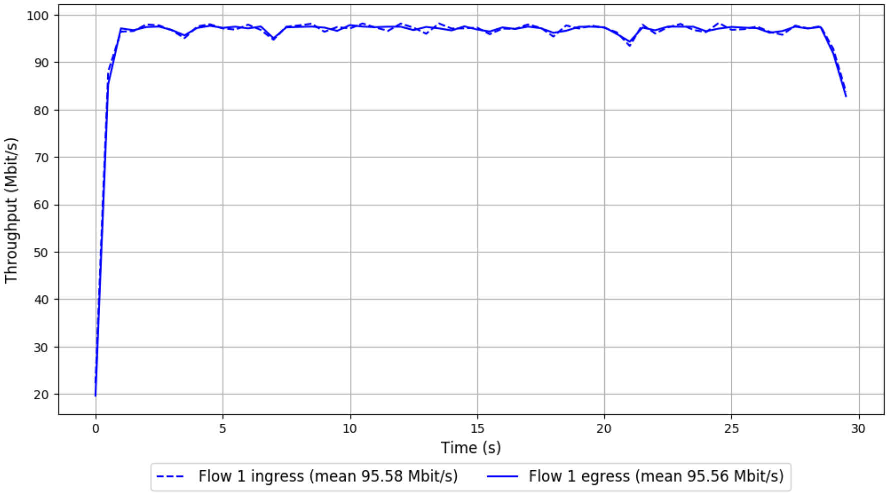


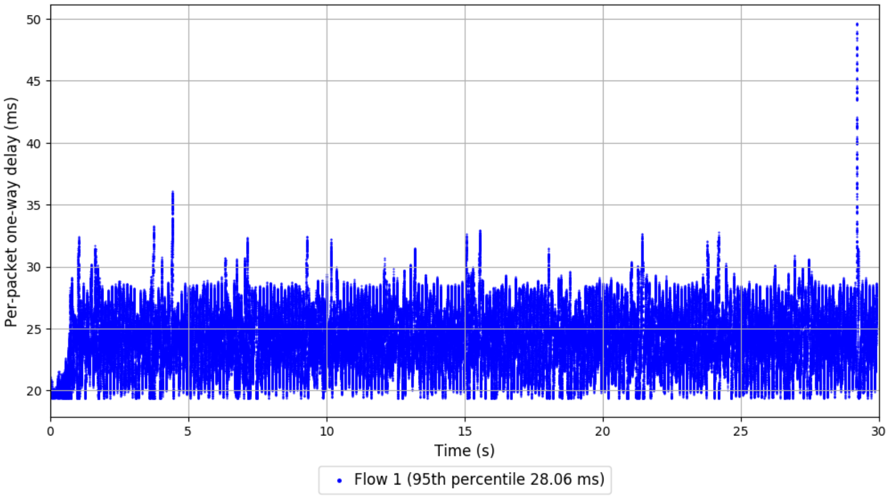
```
Run 1: Statistics of CalibratedKoho

Start at: 2017-09-17 09:27:56
End at: 2017-09-17 09:28:26
Local clock offset: 0.386 ms
Remote clock offset: -3.341 ms

# Below is generated by plot.py at 2017-09-17 18:43:51
# Datalink statistics
-- Total of 1 flow:
Average throughput: 95.56 Mbit/s
95th percentile per-packet one-way delay: 28.062 ms
Loss rate: 0.11%
-- Flow 1:
Average throughput: 95.56 Mbit/s
95th percentile per-packet one-way delay: 28.062 ms
Loss rate: 0.11%
```

Run 1: Report of CalibratedKoho — Data Link



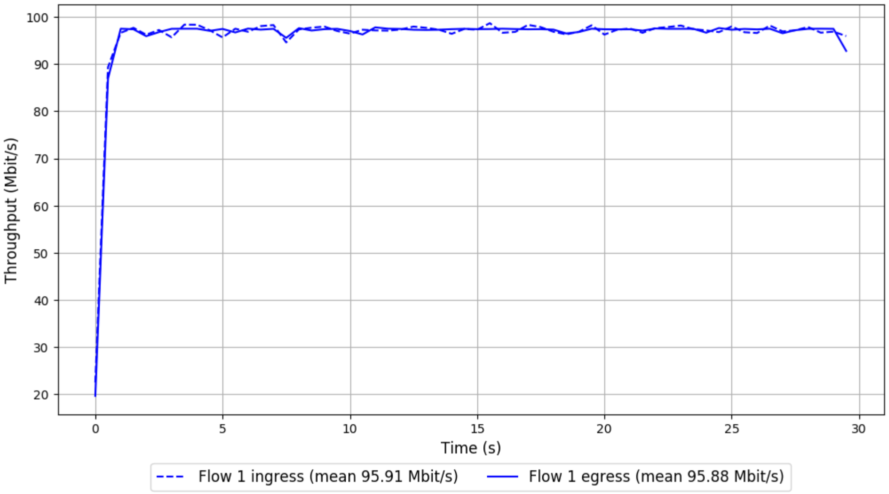


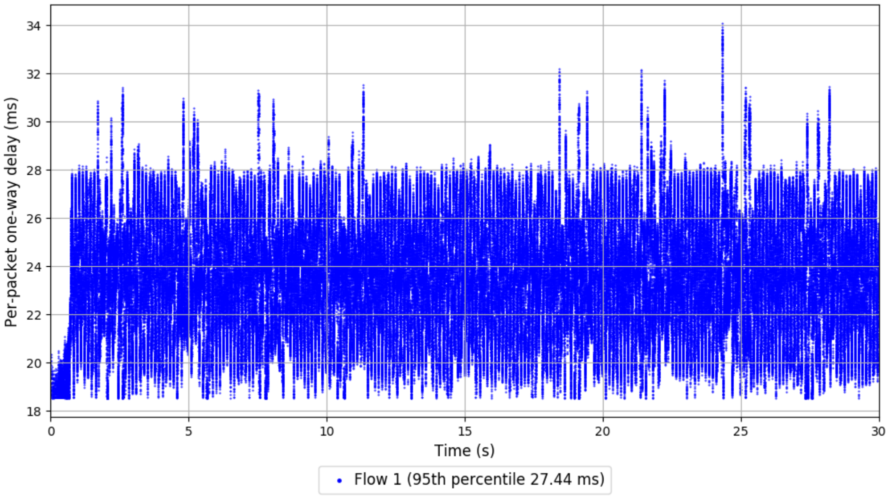
```
Run 2: Statistics of CalibratedKoho

Start at: 2017-09-17 09:49:27
End at: 2017-09-17 09:49:57
Local clock offset: 0.592 ms
Remote clock offset: -1.525 ms

# Below is generated by plot.py at 2017-09-17 18:43:53
# Datalink statistics
-- Total of 1 flow:
Average throughput: 95.88 Mbit/s
95th percentile per-packet one-way delay: 27.439 ms
Loss rate: 0.12%
-- Flow 1:
Average throughput: 95.88 Mbit/s
95th percentile per-packet one-way delay: 27.439 ms
Loss rate: 0.12%
```

Run 2: Report of CalibratedKoho — Data Link



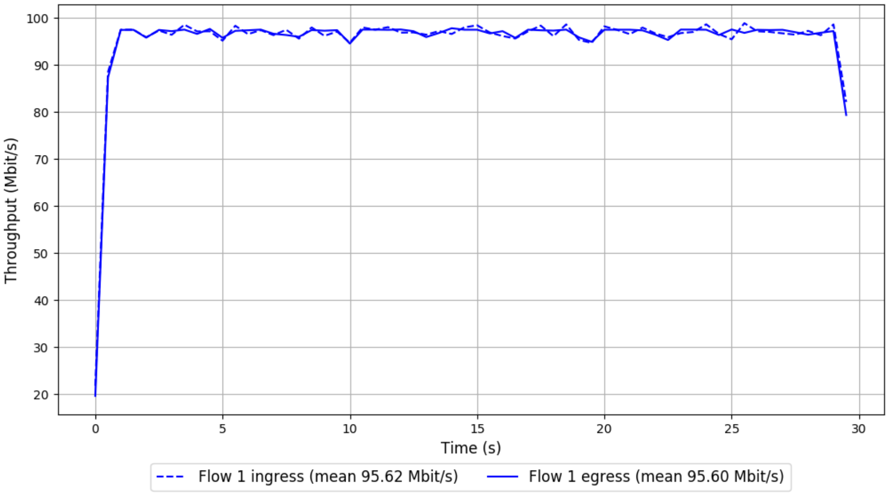


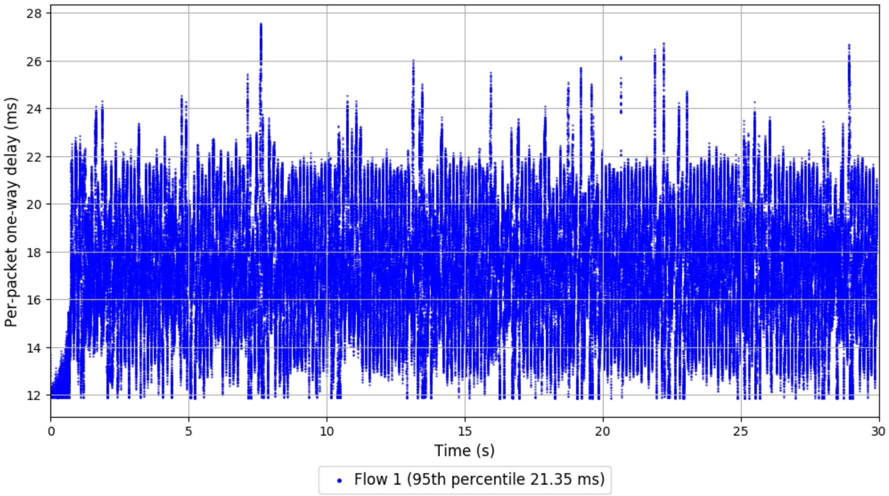
```
Run 3: Statistics of CalibratedKoho

Start at: 2017-09-17 10:12:48
End at: 2017-09-17 10:13:18
Local clock offset: -1.623 ms
Remote clock offset: 1.565 ms

# Below is generated by plot.py at 2017-09-17 18:43:53
# Datalink statistics
-- Total of 1 flow:
Average throughput: 95.60 Mbit/s
95th percentile per-packet one-way delay: 21.350 ms
Loss rate: 0.12%
-- Flow 1:
Average throughput: 95.60 Mbit/s
95th percentile per-packet one-way delay: 21.350 ms
Loss rate: 0.12%
```

Run 3: Report of CalibratedKoho — Data Link



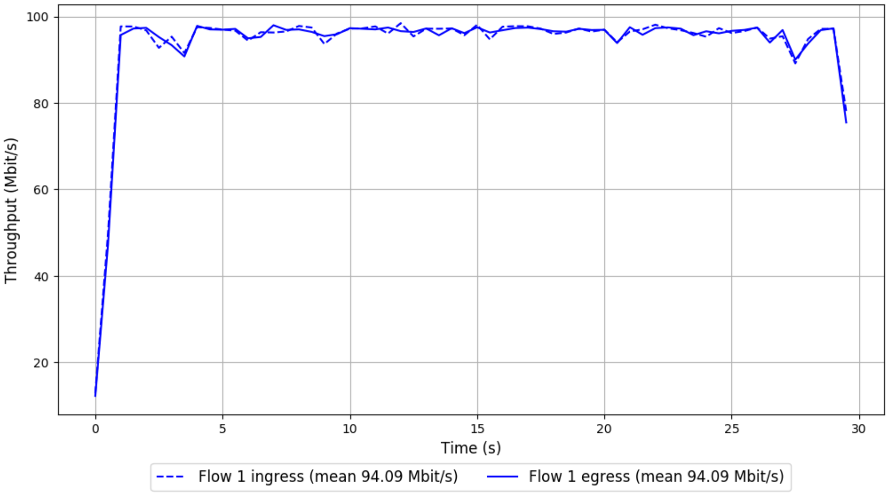


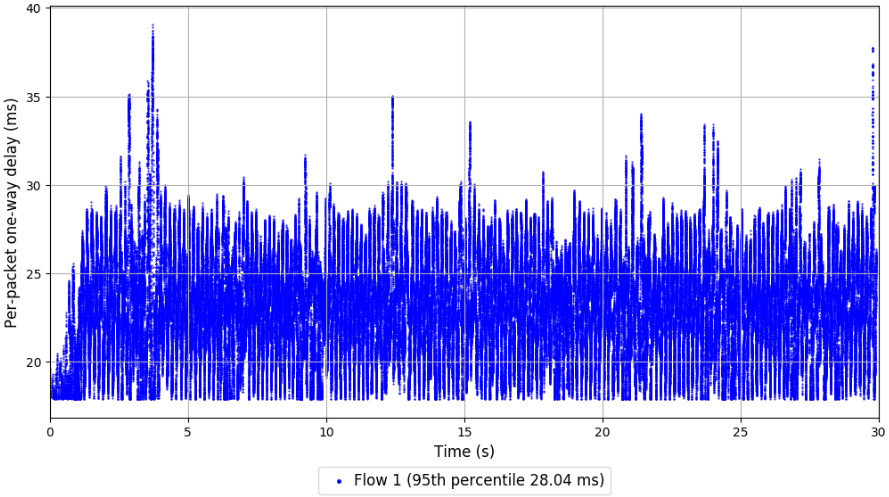
```
Run 4: Statistics of CalibratedKoho

Start at: 2017-09-17 10:35:46
End at: 2017-09-17 10:36:16
Local clock offset: -1.042 ms
Remote clock offset: -4.777 ms

# Below is generated by plot.py at 2017-09-17 18:43:53
# Datalink statistics
-- Total of 1 flow:
Average throughput: 94.09 Mbit/s
95th percentile per-packet one-way delay: 28.040 ms
Loss rate: 0.13%
-- Flow 1:
Average throughput: 94.09 Mbit/s
95th percentile per-packet one-way delay: 28.040 ms
Loss rate: 0.13%
```

Run 4: Report of CalibratedKoho — Data Link



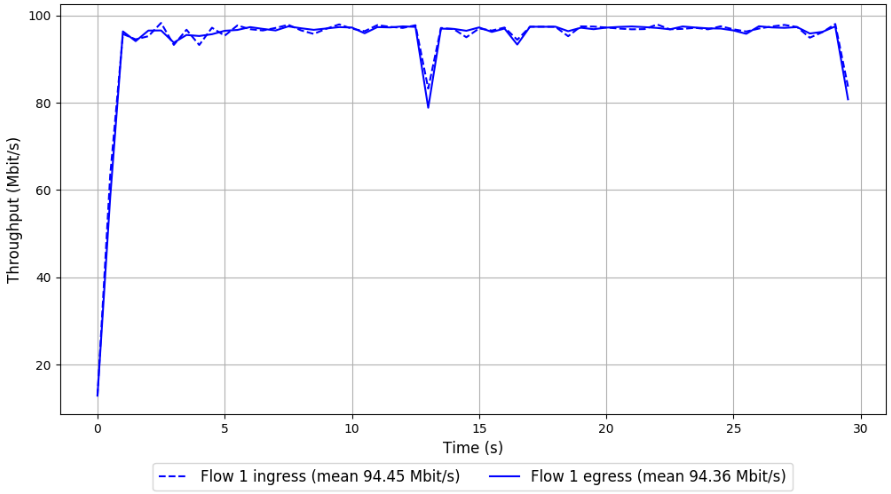


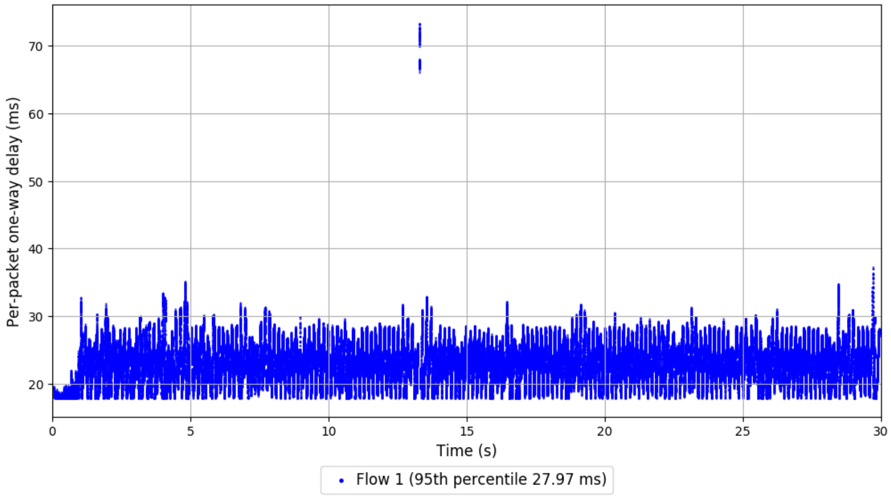
```
Run 5: Statistics of CalibratedKoho

Start at: 2017-09-17 10:58:40
End at: 2017-09-17 10:59:10
Local clock offset: 1.754 ms
Remote clock offset: -1.902 ms

# Below is generated by plot.py at 2017-09-17 18:43:53
# Datalink statistics
-- Total of 1 flow:
Average throughput: 94.36 Mbit/s
95th percentile per-packet one-way delay: 27.972 ms
Loss rate: 0.22%
-- Flow 1:
Average throughput: 94.36 Mbit/s
95th percentile per-packet one-way delay: 27.972 ms
Loss rate: 0.22%
```

Run 5: Report of CalibratedKoho — Data Link



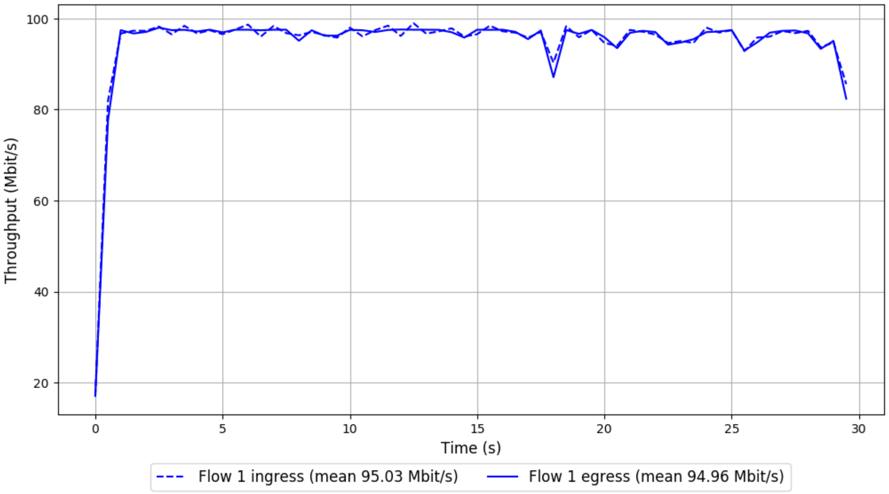


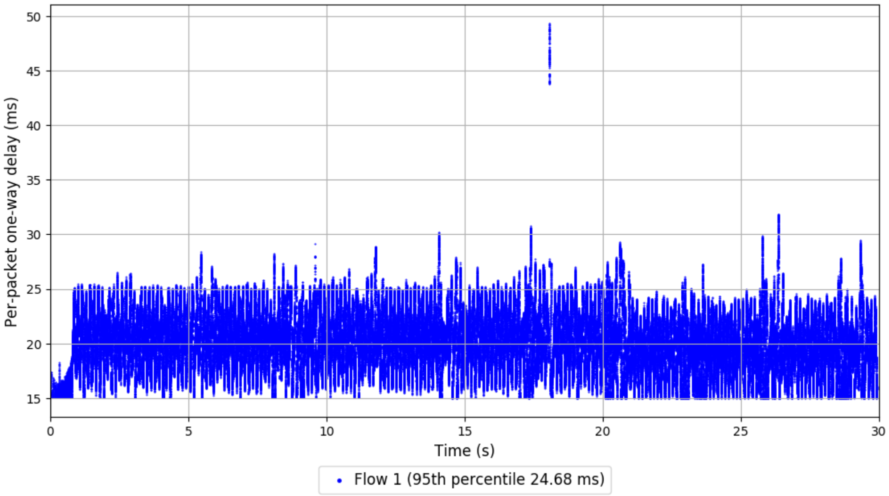
```
Run 6: Statistics of CalibratedKoho

Start at: 2017-09-17 11:21:29
End at: 2017-09-17 11:21:59
Local clock offset: 2.45 ms
Remote clock offset: -1.592 ms

# Below is generated by plot.py at 2017-09-17 18:43:53
# Datalink statistics
-- Total of 1 flow:
Average throughput: 94.96 Mbit/s
95th percentile per-packet one-way delay: 24.679 ms
Loss rate: 0.18%
-- Flow 1:
Average throughput: 94.96 Mbit/s
95th percentile per-packet one-way delay: 24.679 ms
Loss rate: 0.18%
```

Run 6: Report of CalibratedKoho — Data Link



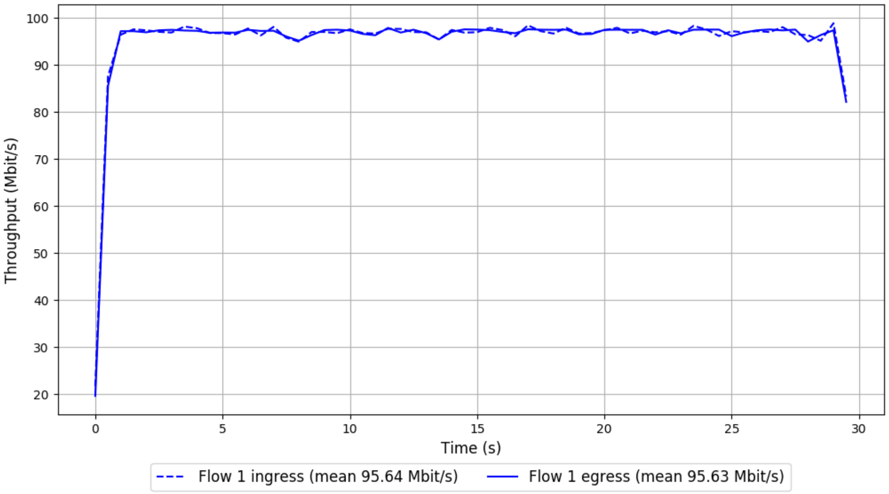


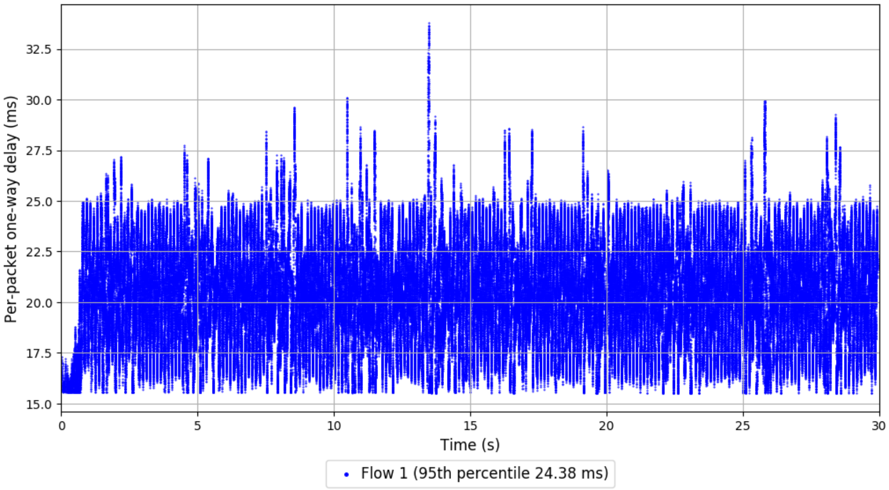
```
Run 7: Statistics of CalibratedKoho

Start at: 2017-09-17 11:44:33
End at: 2017-09-17 11:45:03
Local clock offset: 5.336 ms
Remote clock offset: -2.652 ms

# Below is generated by plot.py at 2017-09-17 18:45:15
# Datalink statistics
-- Total of 1 flow:
Average throughput: 95.63 Mbit/s
95th percentile per-packet one-way delay: 24.383 ms
Loss rate: 0.10%
-- Flow 1:
Average throughput: 95.63 Mbit/s
95th percentile per-packet one-way delay: 24.383 ms
Loss rate: 0.10%
```

Run 7: Report of CalibratedKoho — Data Link



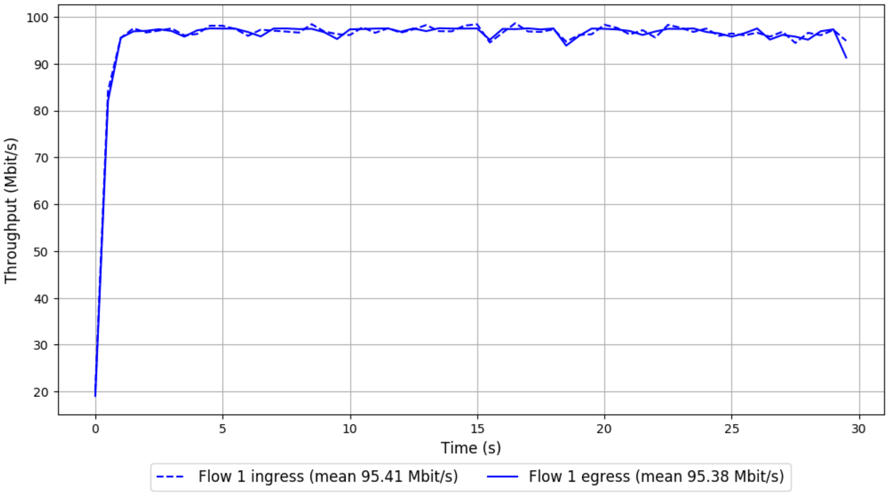


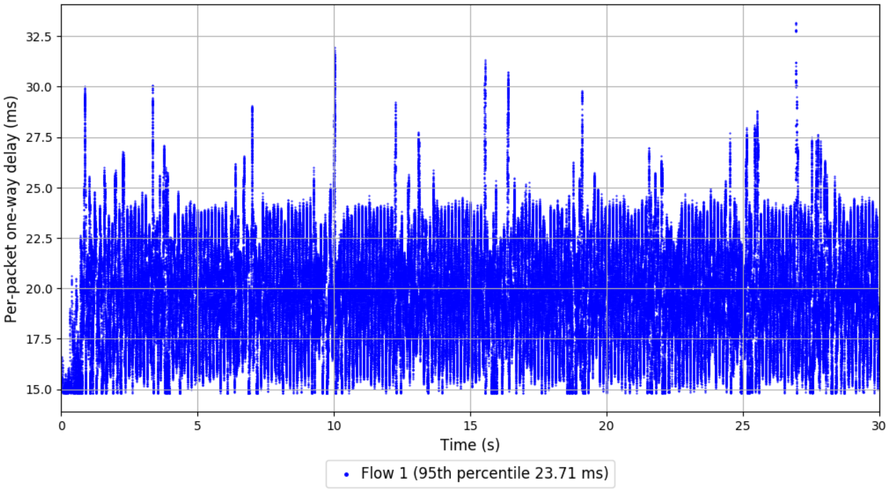
```
Run 8: Statistics of CalibratedKoho

Start at: 2017-09-17 12:09:16
End at: 2017-09-17 12:09:46
Local clock offset: 5.858 ms
Remote clock offset: -2.416 ms

# Below is generated by plot.py at 2017-09-17 18:45:16
# Datalink statistics
-- Total of 1 flow:
Average throughput: 95.38 Mbit/s
95th percentile per-packet one-way delay: 23.714 ms
Loss rate: 0.13%
-- Flow 1:
Average throughput: 95.38 Mbit/s
95th percentile per-packet one-way delay: 23.714 ms
Loss rate: 0.13%
```

Run 8: Report of CalibratedKoho — Data Link



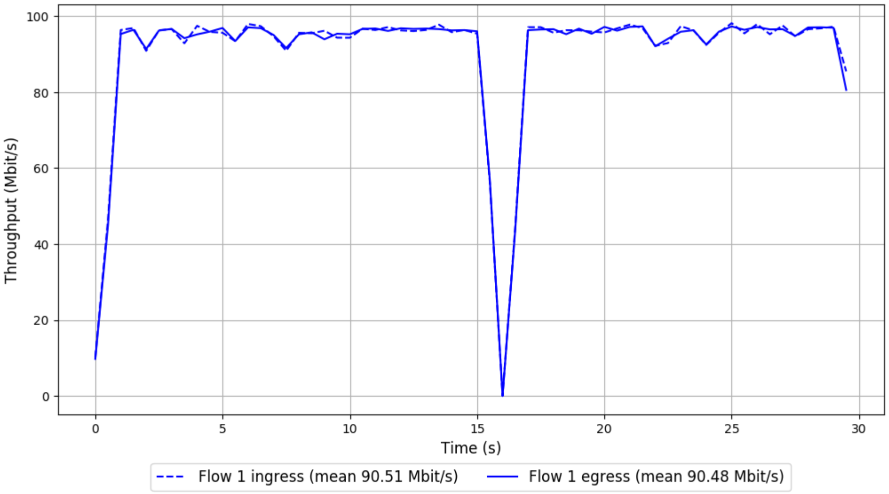


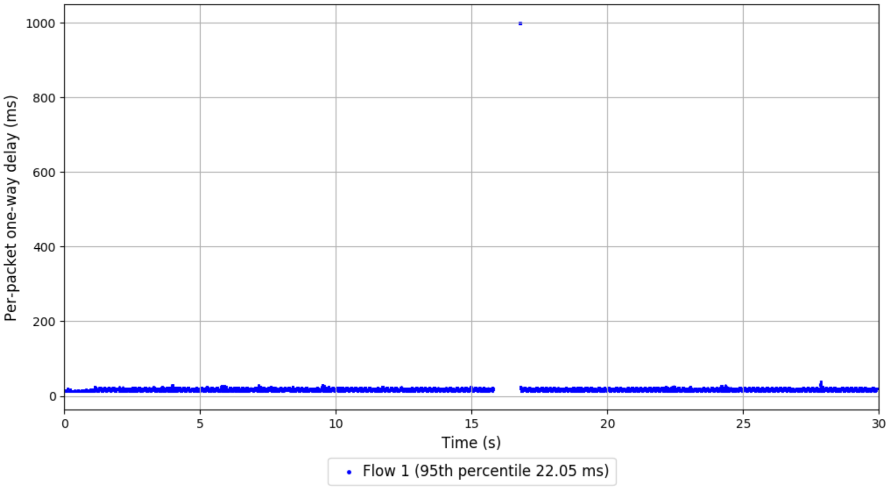
```
Run 9: Statistics of CalibratedKoho

Start at: 2017-09-17 12:41:07
End at: 2017-09-17 12:41:37
Local clock offset: 4.351 ms
Remote clock offset: -1.673 ms

# Below is generated by plot.py at 2017-09-17 18:45:16
# Datalink statistics
-- Total of 1 flow:
Average throughput: 90.48 Mbit/s
95th percentile per-packet one-way delay: 22.046 ms
Loss rate: 0.15%
-- Flow 1:
Average throughput: 90.48 Mbit/s
95th percentile per-packet one-way delay: 22.046 ms
Loss rate: 0.15%
```

Run 9: Report of CalibratedKoho — Data Link



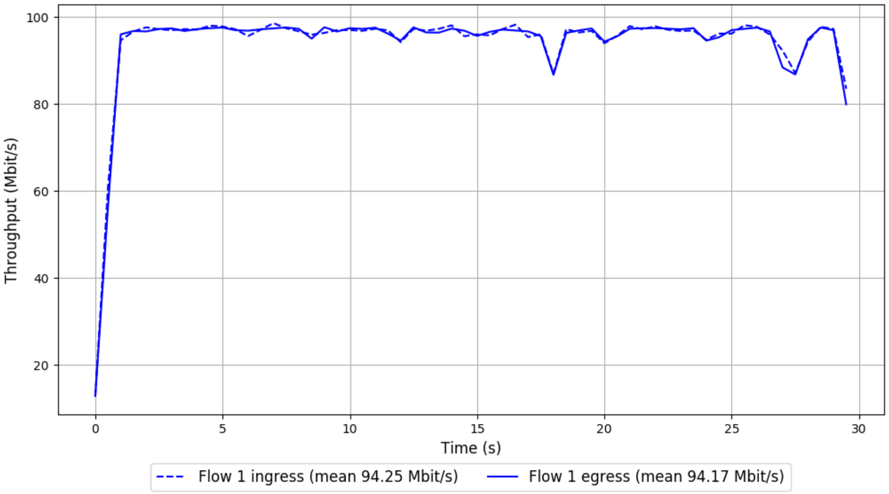


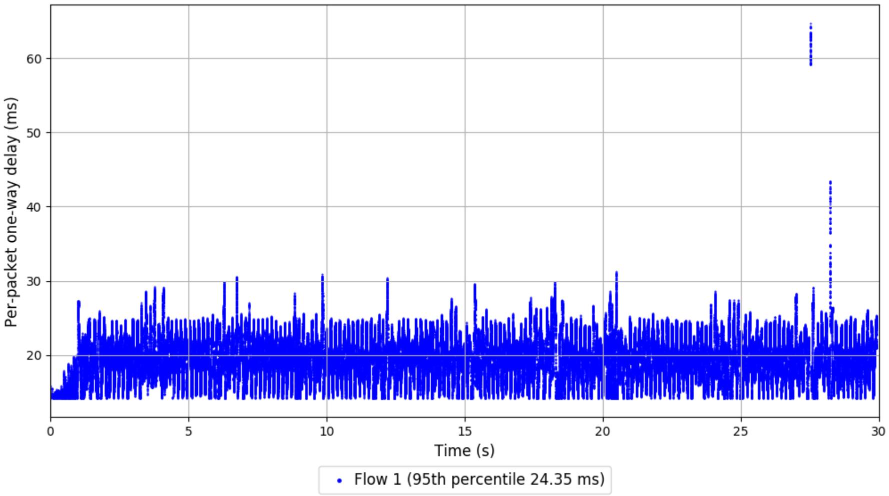
```
Run 10: Statistics of CalibratedKoho

Start at: 2017-09-17 13:04:20
End at: 2017-09-17 13:04:50
Local clock offset: 5.767 ms
Remote clock offset: -1.238 ms

# Below is generated by plot.py at 2017-09-17 18:45:16
# Datalink statistics
-- Total of 1 flow:
Average throughput: 94.17 Mbit/s
95th percentile per-packet one-way delay: 24.352 ms
Loss rate: 0.20%
-- Flow 1:
Average throughput: 94.17 Mbit/s
95th percentile per-packet one-way delay: 24.352 ms
Loss rate: 0.20%
```

Run 10: Report of CalibratedKoho — Data Link



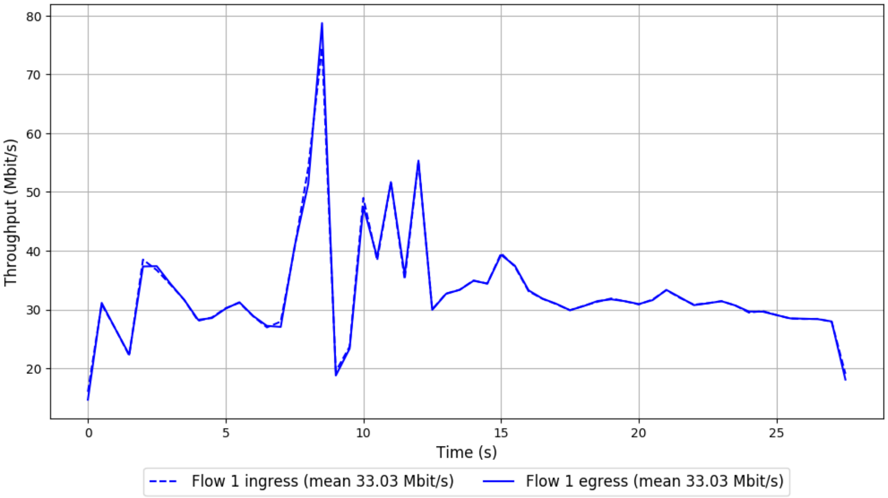


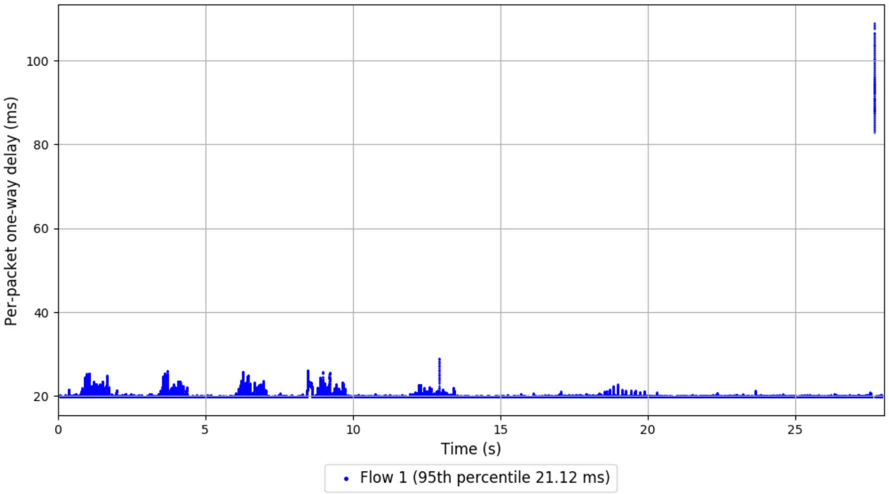
```
Run 1: Statistics of Copa

Start at: 2017-09-17 09:13:06
End at: 2017-09-17 09:13:36
Local clock offset: 1.375 ms
Remote clock offset: -3.634 ms

# Below is generated by plot.py at 2017-09-17 18:45:16
# Datalink statistics
-- Total of 1 flow:
Average throughput: 33.03 Mbit/s
95th percentile per-packet one-way delay: 21.118 ms
Loss rate: 0.11%
-- Flow 1:
Average throughput: 33.03 Mbit/s
95th percentile per-packet one-way delay: 21.118 ms
Loss rate: 0.11%
```

Run 1: Report of Copa — Data Link

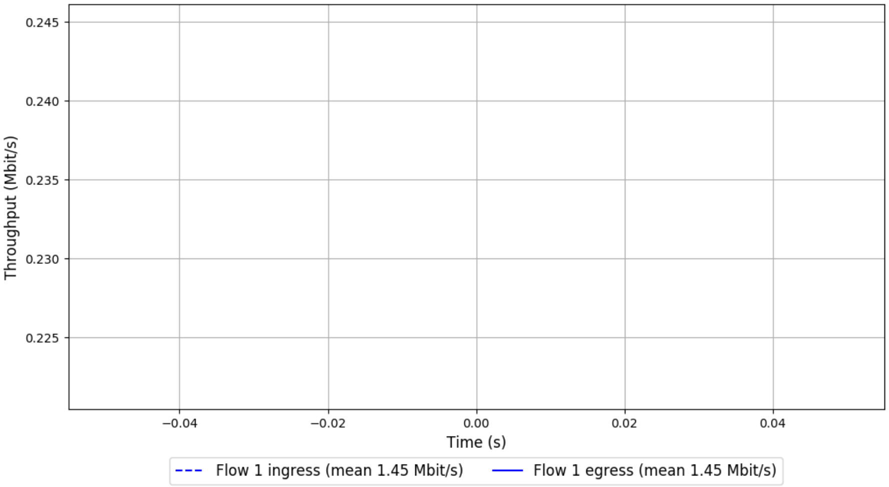


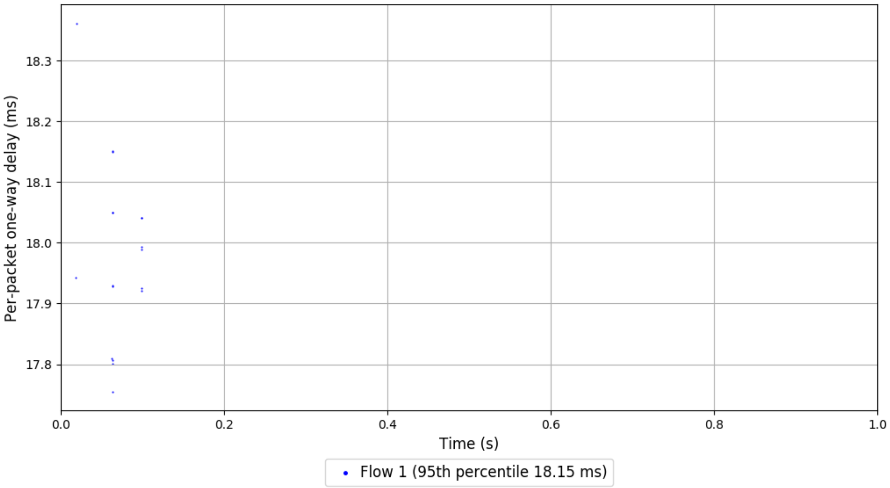


```
Run 2: Statistics of Copa

Start at: 2017-09-17 09:34:55
End at: 2017-09-17 09:35:25
Local clock offset: -1.149 ms
Remote clock offset: -3.071 ms
```

Run 2: Report of Copa — Data Link



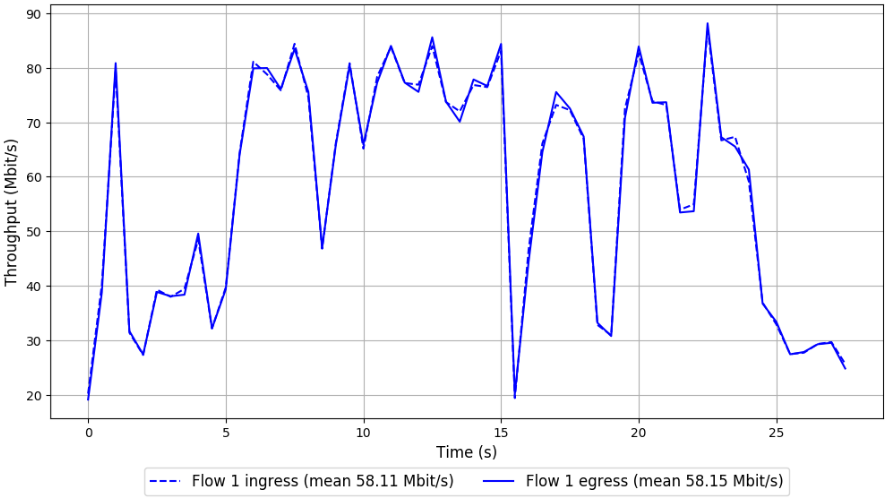


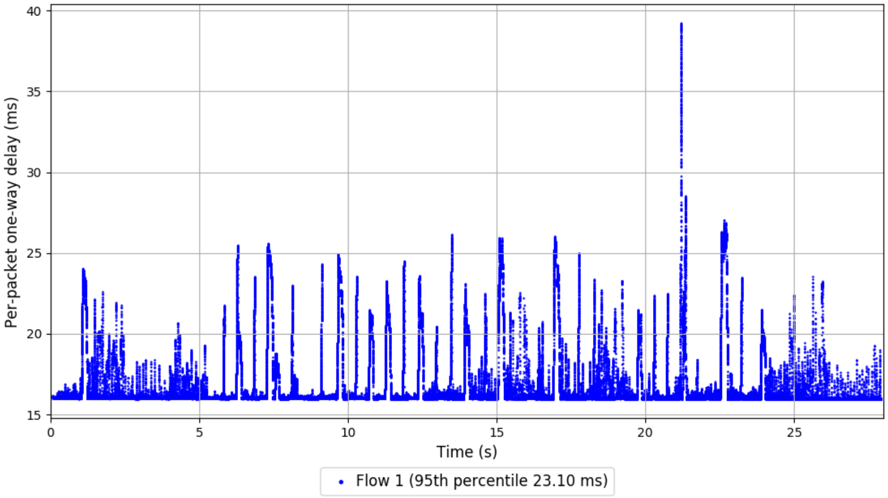
```
Run 3: Statistics of Copa

Start at: 2017-09-17 09:57:13
End at: 2017-09-17 09:57:43
Local clock offset: 0.662 ms
Remote clock offset: 0.62 ms

# Below is generated by plot.py at 2017-09-17 18:45:19
# Datalink statistics
-- Total of 1 flow:
Average throughput: 58.15 Mbit/s
95th percentile per-packet one-way delay: 23.097 ms
Loss rate: 0.06%
-- Flow 1:
Average throughput: 58.15 Mbit/s
95th percentile per-packet one-way delay: 23.097 ms
Loss rate: 0.06%
```

Run 3: Report of Copa — Data Link



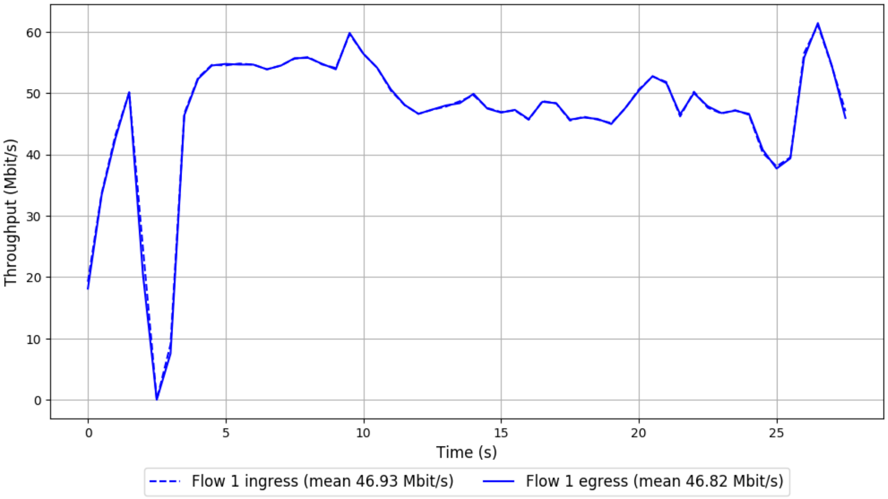


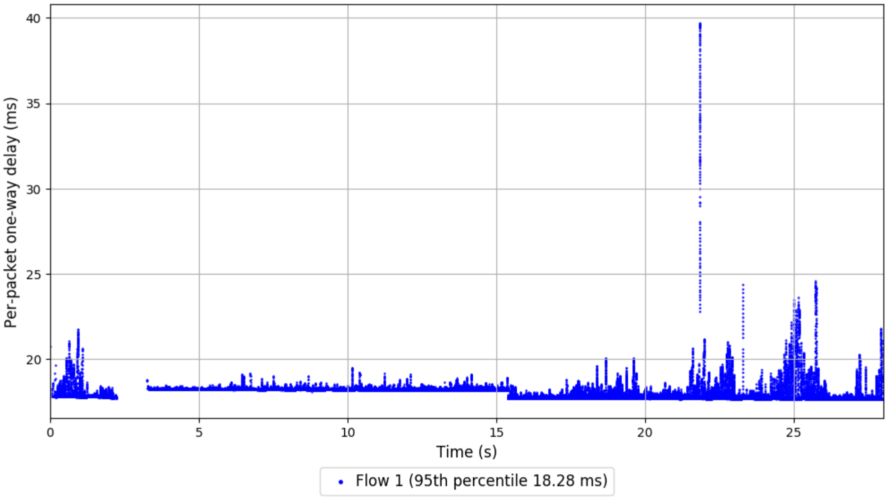
```
Run 4: Statistics of Copa

Start at: 2017-09-17 10:20:41
End at: 2017-09-17 10:21:11
Local clock offset: -1.342 ms
Remote clock offset: -4.535 ms

# Below is generated by plot.py at 2017-09-17 18:45:19
# Datalink statistics
-- Total of 1 flow:
Average throughput: 46.82 Mbit/s
95th percentile per-packet one-way delay: 18.280 ms
Loss rate: 0.34%
-- Flow 1:
Average throughput: 46.82 Mbit/s
95th percentile per-packet one-way delay: 18.280 ms
Loss rate: 0.34%
```

Run 4: Report of Copa — Data Link



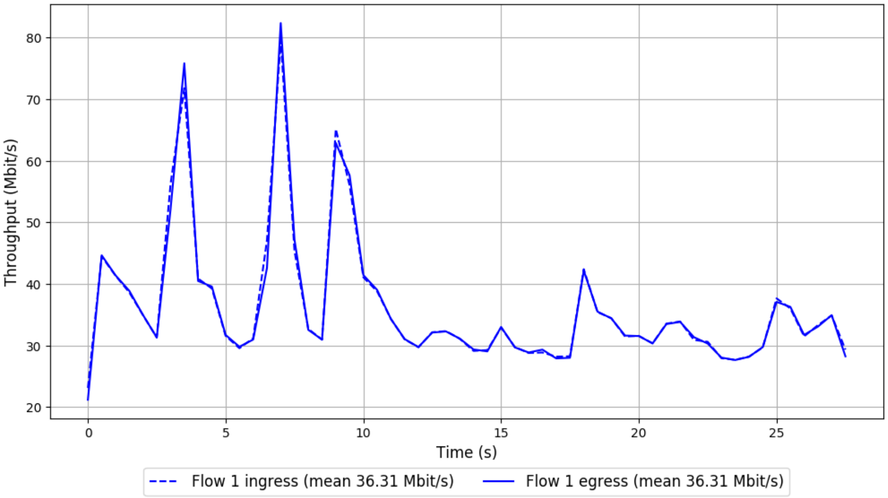


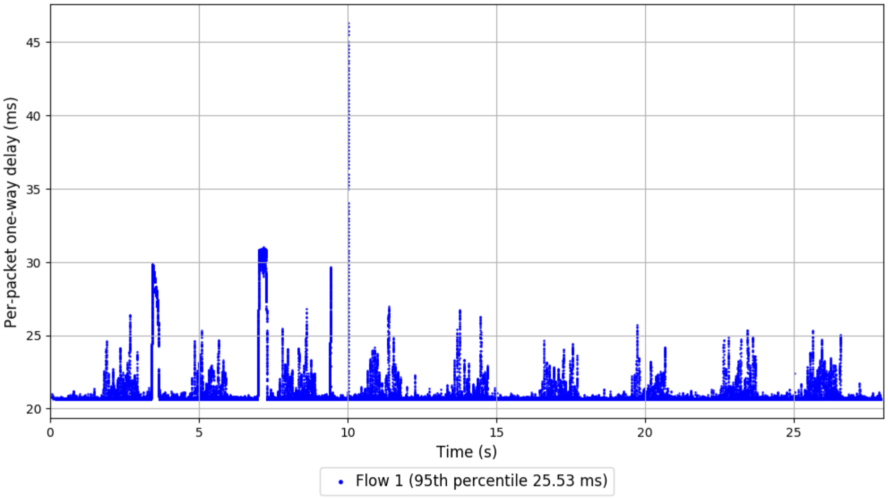
```
Run 5: Statistics of Copa

Start at: 2017-09-17 10:43:40
End at: 2017-09-17 10:44:10
Local clock offset: 2.111 ms
Remote clock offset: -4.396 ms

# Below is generated by plot.py at 2017-09-17 18:45:19
# Datalink statistics
-- Total of 1 flow:
Average throughput: 36.31 Mbit/s
95th percentile per-packet one-way delay: 25.528 ms
Loss rate: 0.13%
-- Flow 1:
Average throughput: 36.31 Mbit/s
95th percentile per-packet one-way delay: 25.528 ms
Loss rate: 0.13%
```

Run 5: Report of Copa — Data Link



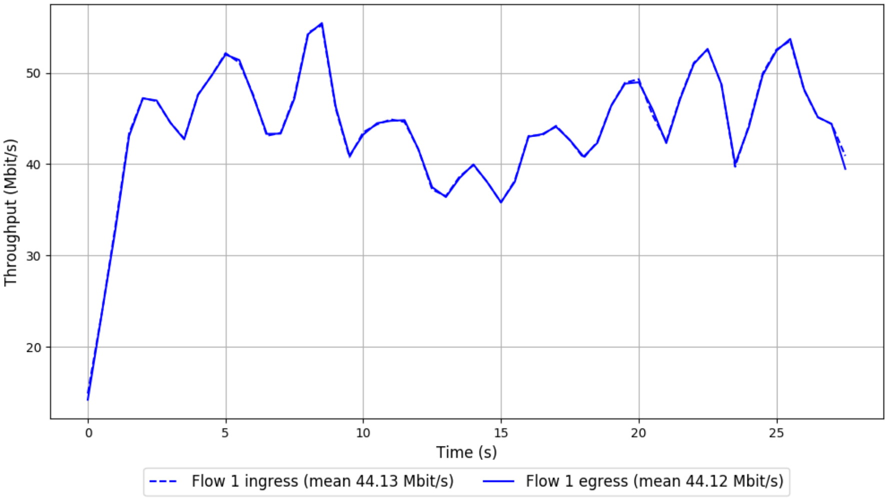


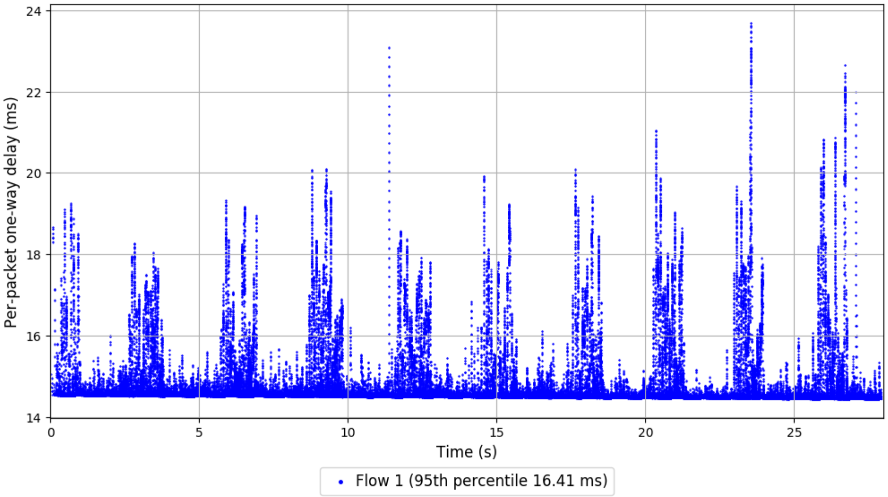
```
Run 6: Statistics of Copa

Start at: 2017-09-17 11:06:16
End at: 2017-09-17 11:06:46
Local clock offset: 0.573 ms
Remote clock offset: -0.253 ms

# Below is generated by plot.py at 2017-09-17 18:45:45
# Datalink statistics
-- Total of 1 flow:
Average throughput: 44.12 Mbit/s
95th percentile per-packet one-way delay: 16.411 ms
Loss rate: 0.11%
-- Flow 1:
Average throughput: 44.12 Mbit/s
95th percentile per-packet one-way delay: 16.411 ms
Loss rate: 0.11%
```

Run 6: Report of Copa — Data Link



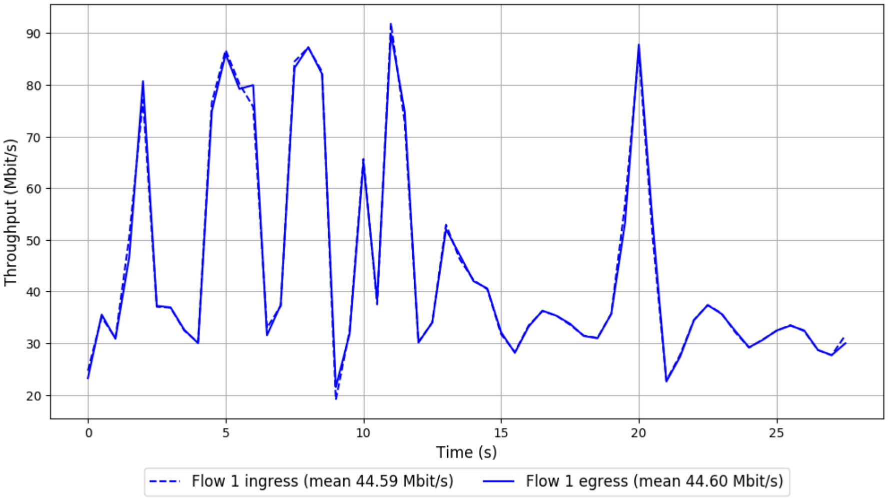


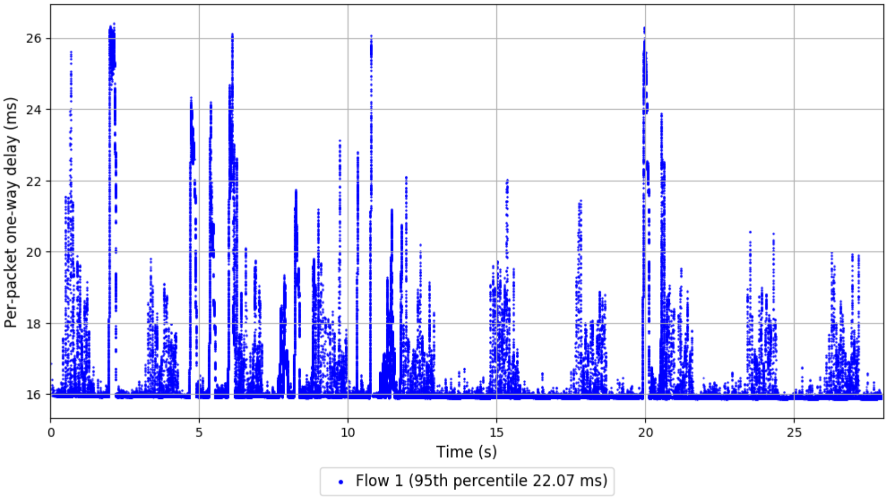
```
Run 7: Statistics of Copa

Start at: 2017-09-17 11:29:20
End at: 2017-09-17 11:29:50
Local clock offset: 4.828 ms
Remote clock offset: -1.706 ms

# Below is generated by plot.py at 2017-09-17 18:45:50
# Datalink statistics
-- Total of 1 flow:
Average throughput: 44.60 Mbit/s
95th percentile per-packet one-way delay: 22.074 ms
Loss rate: 0.10%
-- Flow 1:
Average throughput: 44.60 Mbit/s
95th percentile per-packet one-way delay: 22.074 ms
Loss rate: 0.10%
```

Run 7: Report of Copa — Data Link



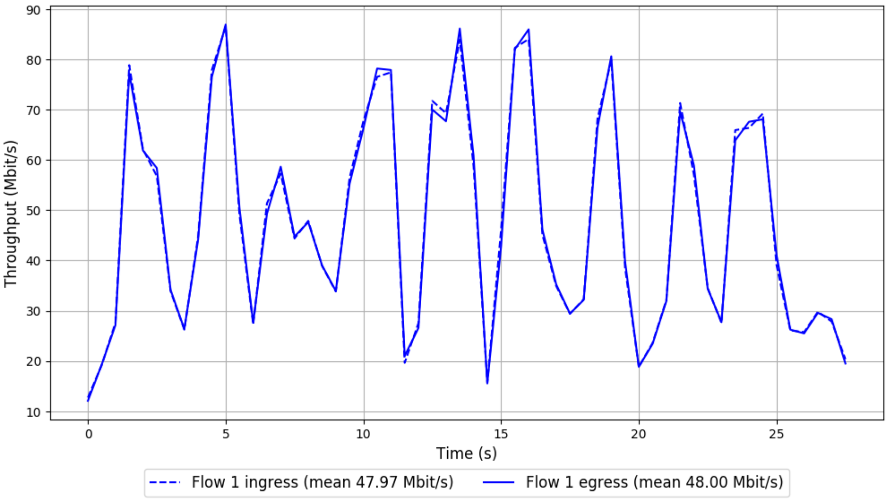


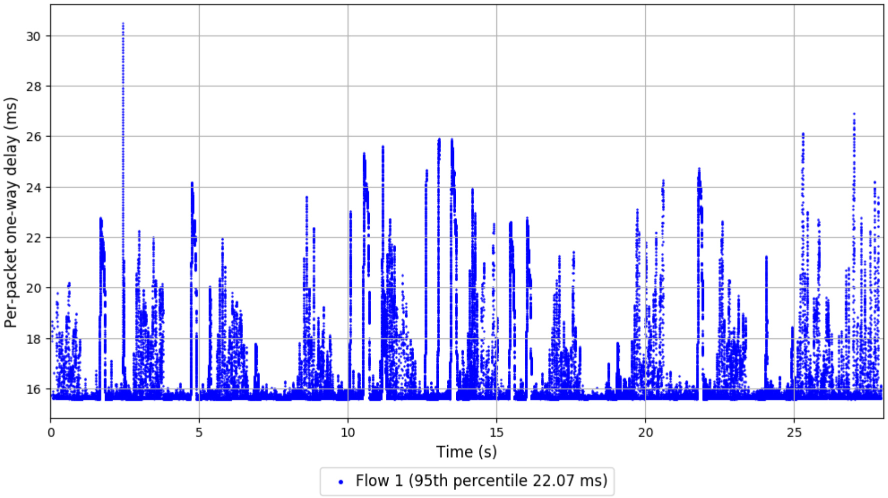
```
Run 8: Statistics of Copa

Start at: 2017-09-17 11:52:44
End at: 2017-09-17 11:53:14
Local clock offset: 6.888 ms
Remote clock offset: -1.891 ms

# Below is generated by plot.py at 2017-09-17 18:46:13
# Datalink statistics
-- Total of 1 flow:
Average throughput: 48.00 Mbit/s
95th percentile per-packet one-way delay: 22.069 ms
Loss rate: 0.06%
-- Flow 1:
Average throughput: 48.00 Mbit/s
95th percentile per-packet one-way delay: 22.069 ms
Loss rate: 0.06%
```

Run 8: Report of Copa — Data Link



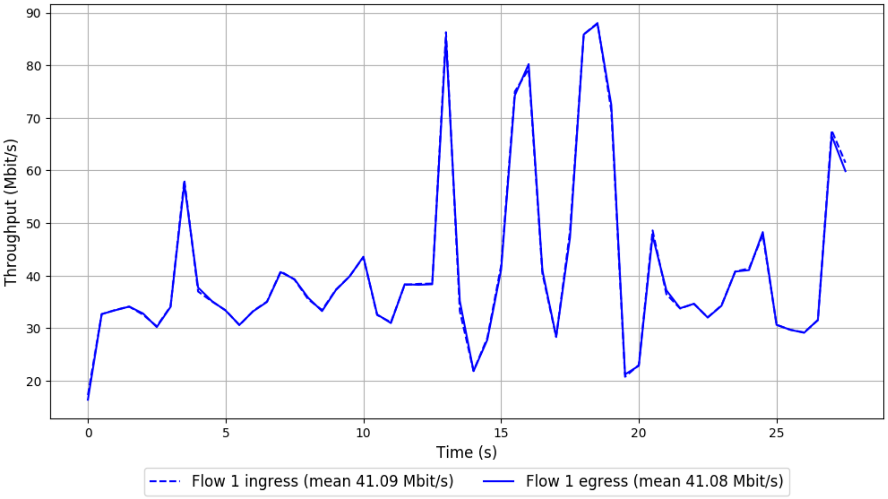


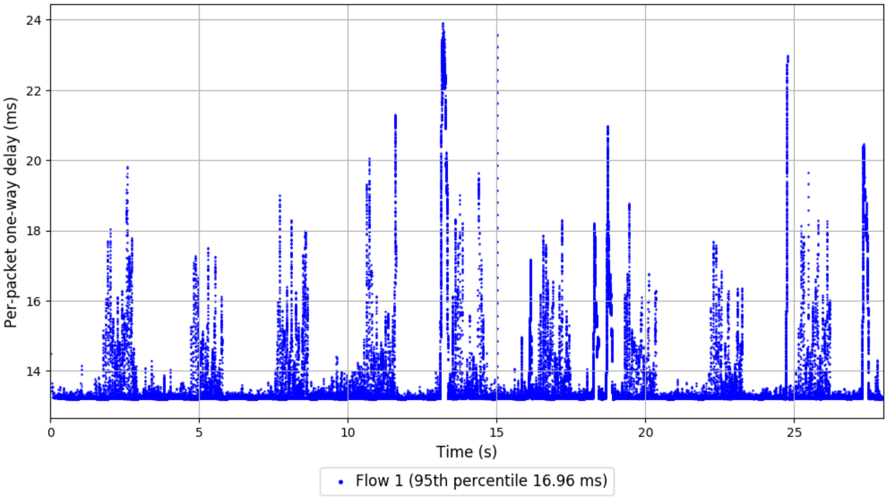
```
Run 9: Statistics of Copa

Start at: 2017-09-17 12:17:33
End at: 2017-09-17 12:18:03
Local clock offset: 5.366 ms
Remote clock offset: -1.191 ms

# Below is generated by plot.py at 2017-09-17 18:46:13
# Datalink statistics
-- Total of 1 flow:
Average throughput: 41.08 Mbit/s
95th percentile per-packet one-way delay: 16.963 ms
Loss rate: 0.15%
-- Flow 1:
Average throughput: 41.08 Mbit/s
95th percentile per-packet one-way delay: 16.963 ms
Loss rate: 0.15%
```

Run 9: Report of Copa — Data Link



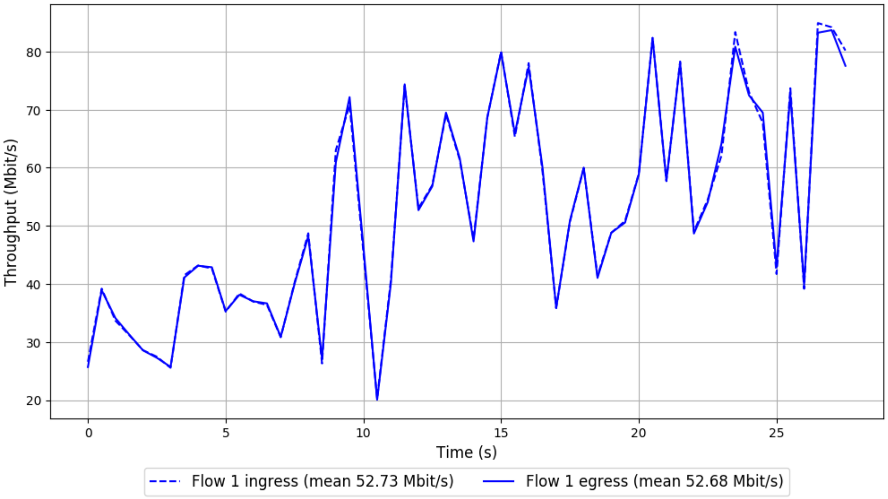


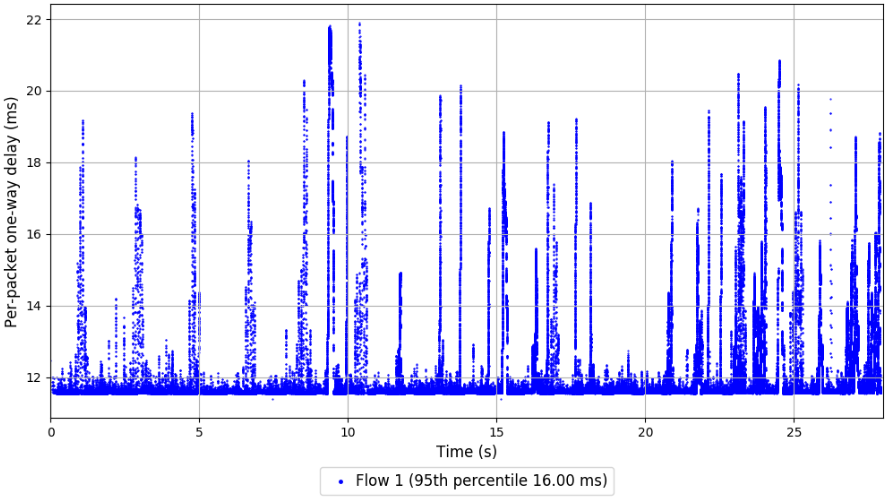
```
Run 10: Statistics of Copa

Start at: 2017-09-17 12:48:17
End at: 2017-09-17 12:48:47
Local clock offset: 3.23 ms
Remote clock offset: -1.461 ms

# Below is generated by plot.py at 2017-09-17 18:46:36
# Datalink statistics
-- Total of 1 flow:
Average throughput: 52.68 Mbit/s
95th percentile per-packet one-way delay: 15.997 ms
Loss rate: 0.19%
-- Flow 1:
Average throughput: 52.68 Mbit/s
95th percentile per-packet one-way delay: 15.997 ms
Loss rate: 0.19%
```

Run 10: Report of Copa — Data Link



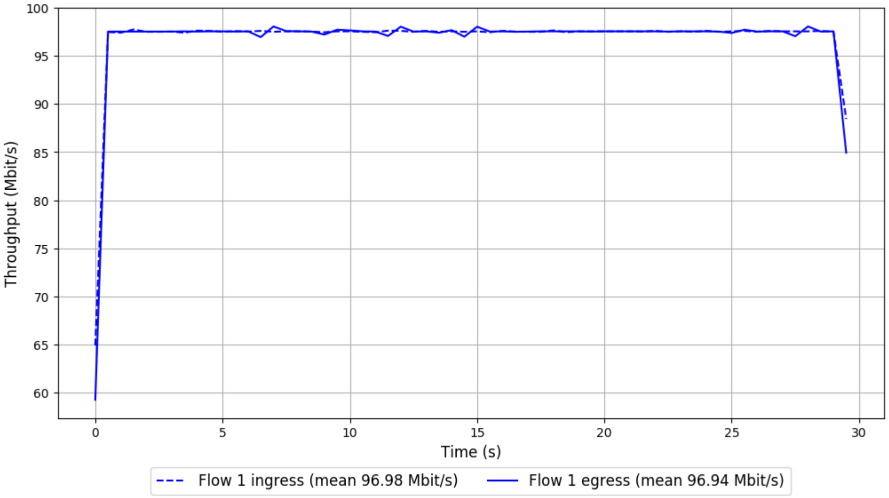


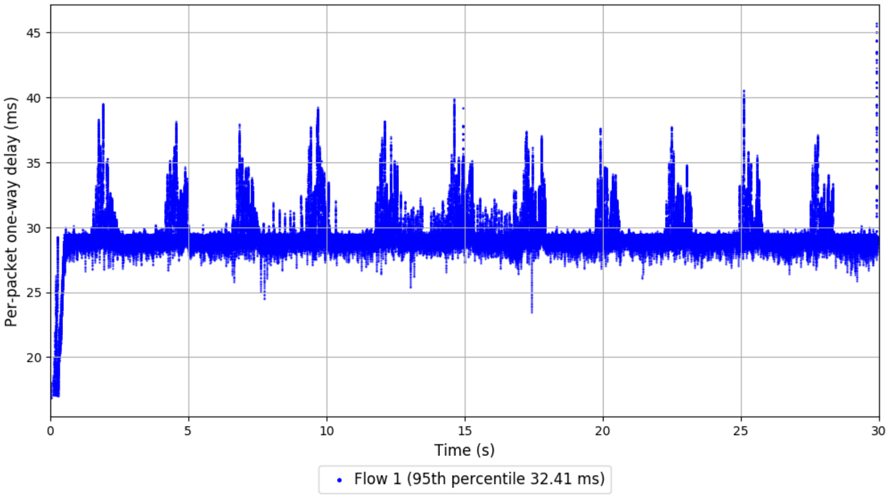
```
Run 1: Statistics of TCP Cubic

Start at: 2017-09-17 09:16:31
End at: 2017-09-17 09:17:01
Local clock offset: -1.574 ms
Remote clock offset: -3.553 ms

# Below is generated by plot.py at 2017-09-17 18:46:40
# Datalink statistics
-- Total of 1 flow:
Average throughput: 96.94 Mbit/s
95th percentile per-packet one-way delay: 32.408 ms
Loss rate: 0.16%
-- Flow 1:
Average throughput: 96.94 Mbit/s
95th percentile per-packet one-way delay: 32.408 ms
Loss rate: 0.16%
```

Run 1: Report of TCP Cubic — Data Link



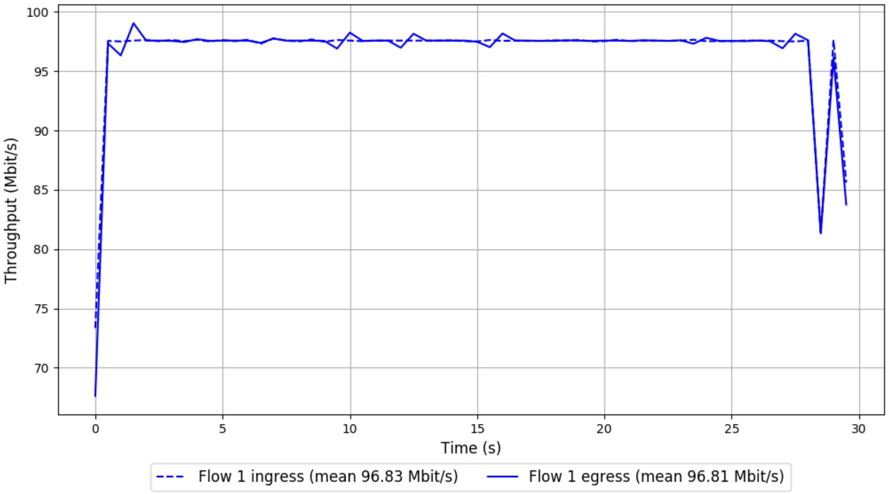


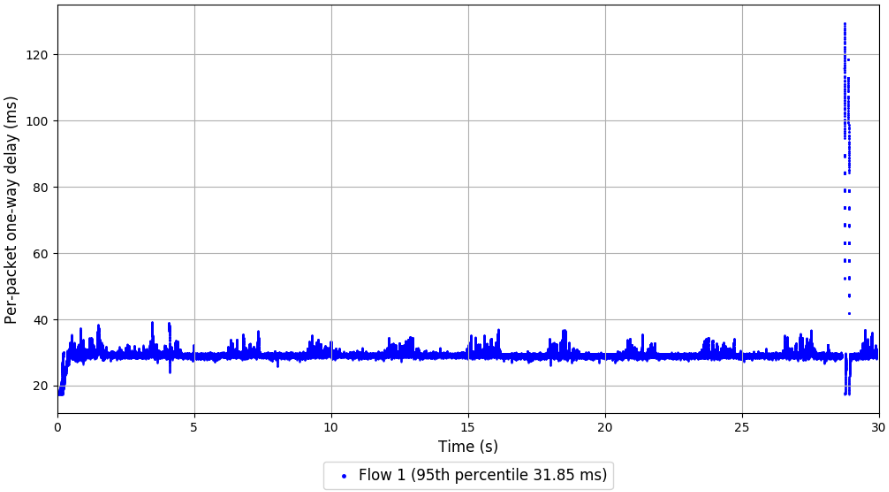
```
Run 2: Statistics of TCP Cubic

Start at: 2017-09-17 09:38:15
End at: 2017-09-17 09:38:45
Local clock offset: -1.459 ms
Remote clock offset: -2.969 ms

# Below is generated by plot.py at 2017-09-17 18:46:40
# Datalink statistics
-- Total of 1 flow:
Average throughput: 96.81 Mbit/s
95th percentile per-packet one-way delay: 31.850 ms
Loss rate: 0.15%
-- Flow 1:
Average throughput: 96.81 Mbit/s
95th percentile per-packet one-way delay: 31.850 ms
Loss rate: 0.15%
```

Run 2: Report of TCP Cubic — Data Link



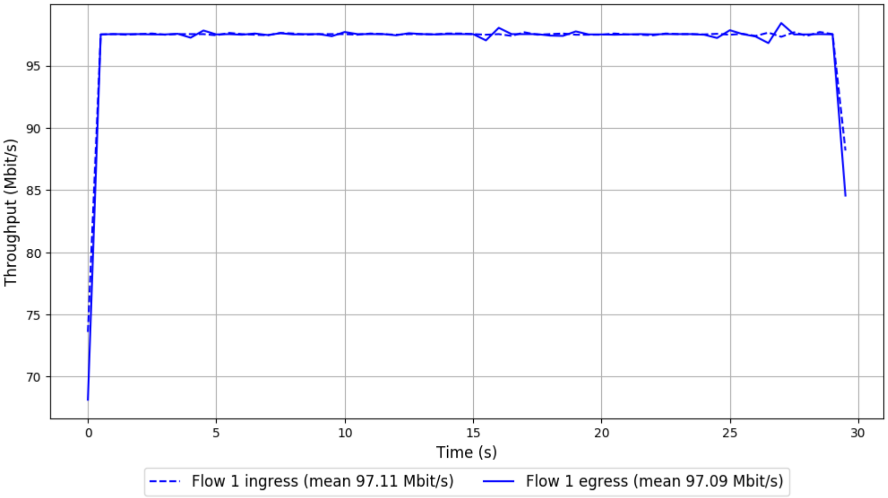


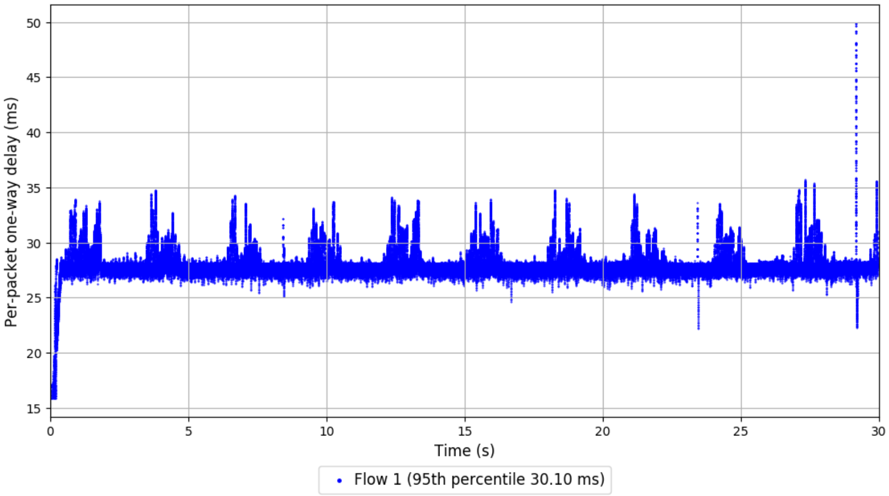
```
Run 3: Statistics of TCP Cubic

Start at: 2017-09-17 10:01:12
End at: 2017-09-17 10:01:42
Local clock offset: 0.369 ms
Remote clock offset: -0.014 ms

# Below is generated by plot.py at 2017-09-17 18:46:44
# Datalink statistics
-- Total of 1 flow:
Average throughput: 97.09 Mbit/s
95th percentile per-packet one-way delay: 30.102 ms
Loss rate: 0.16%
-- Flow 1:
Average throughput: 97.09 Mbit/s
95th percentile per-packet one-way delay: 30.102 ms
Loss rate: 0.16%
```

Run 3: Report of TCP Cubic — Data Link



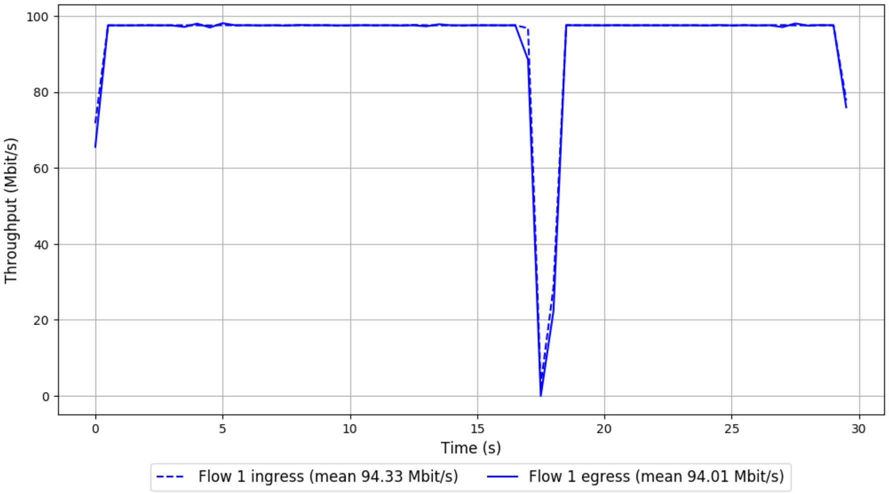


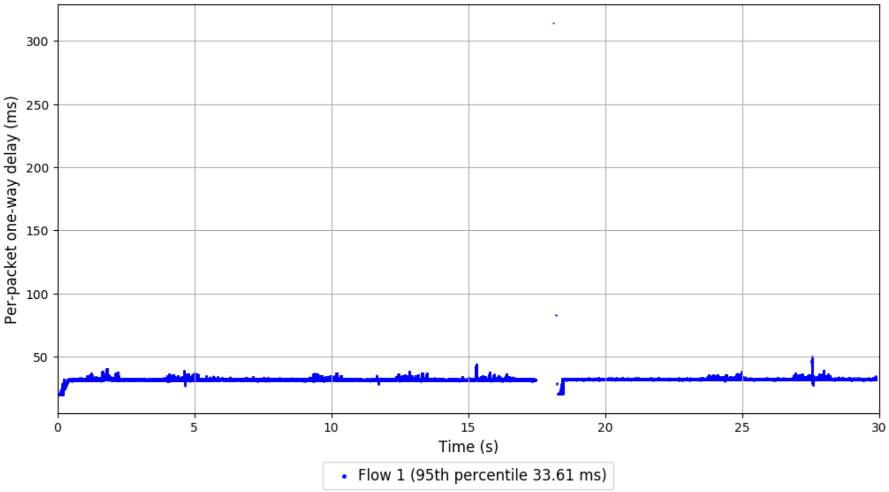
```
Run 4: Statistics of TCP Cubic

Start at: 2017-09-17 10:24:23
End at: 2017-09-17 10:24:53
Local clock offset: 0.733 ms
Remote clock offset: -5.085 ms

# Below is generated by plot.py at 2017-09-17 18:47:09
# Datalink statistics
-- Total of 1 flow:
Average throughput: 94.01 Mbit/s
95th percentile per-packet one-way delay: 33.610 ms
Loss rate: 0.45%
-- Flow 1:
Average throughput: 94.01 Mbit/s
95th percentile per-packet one-way delay: 33.610 ms
Loss rate: 0.45%
```

Run 4: Report of TCP Cubic — Data Link



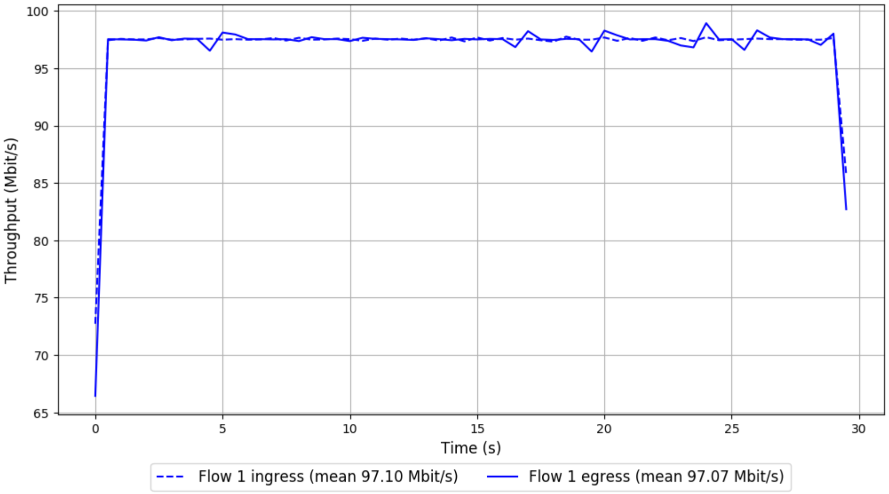


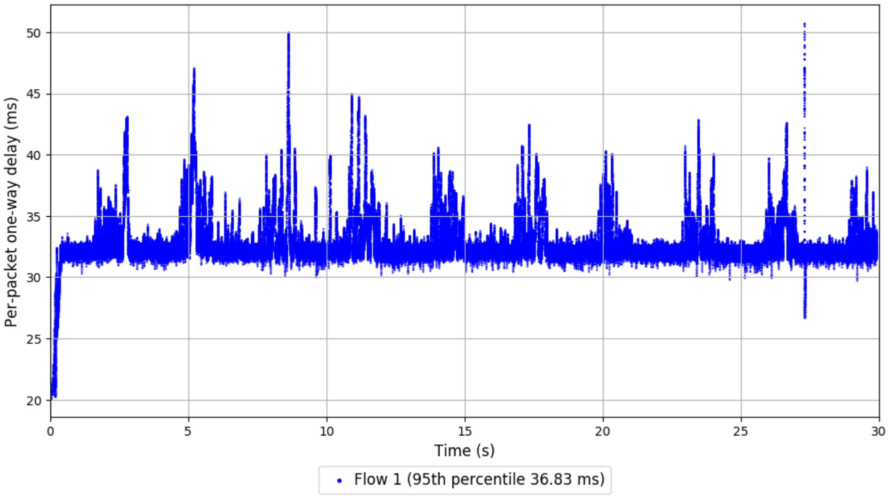
```
Run 5: Statistics of TCP Cubic

Start at: 2017-09-17 10:47:10
End at: 2017-09-17 10:47:40
Local clock offset: 1.204 ms
Remote clock offset: -4.846 ms

# Below is generated by plot.py at 2017-09-17 18:47:18
# Datalink statistics
-- Total of 1 flow:
Average throughput: 97.07 Mbit/s
95th percentile per-packet one-way delay: 36.832 ms
Loss rate: 0.16%
-- Flow 1:
Average throughput: 97.07 Mbit/s
95th percentile per-packet one-way delay: 36.832 ms
Loss rate: 0.16%
```

Run 5: Report of TCP Cubic — Data Link



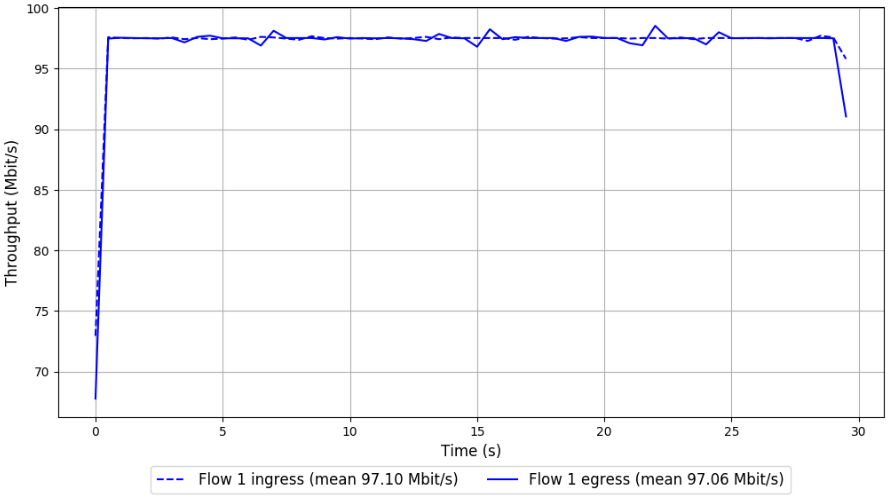


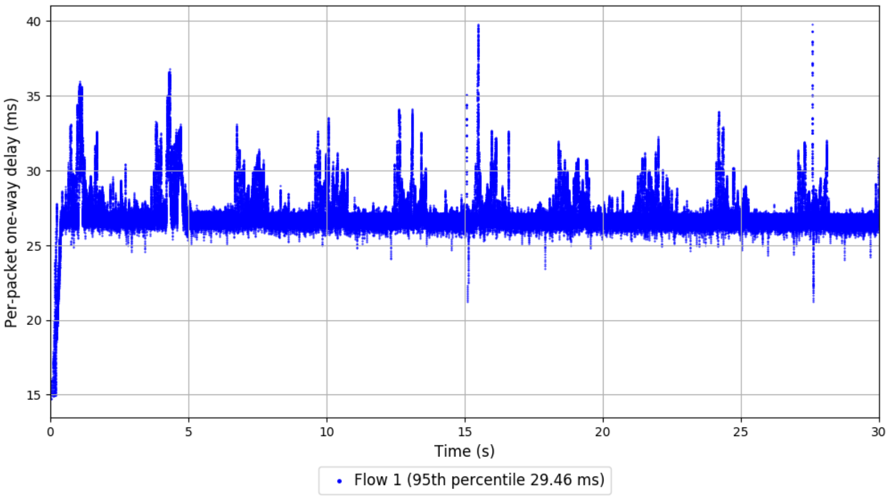
```
Run 6: Statistics of TCP Cubic

Start at: 2017-09-17 11:10:10
End at: 2017-09-17 11:10:40
Local clock offset: -0.05 ms
Remote clock offset: -1.99 ms

# Below is generated by plot.py at 2017-09-17 18:47:38
# Datalink statistics
-- Total of 1 flow:
Average throughput: 97.06 Mbit/s
95th percentile per-packet one-way delay: 29.462 ms
Loss rate: 0.17%
-- Flow 1:
Average throughput: 97.06 Mbit/s
95th percentile per-packet one-way delay: 29.462 ms
Loss rate: 0.17%
```

Run 6: Report of TCP Cubic — Data Link



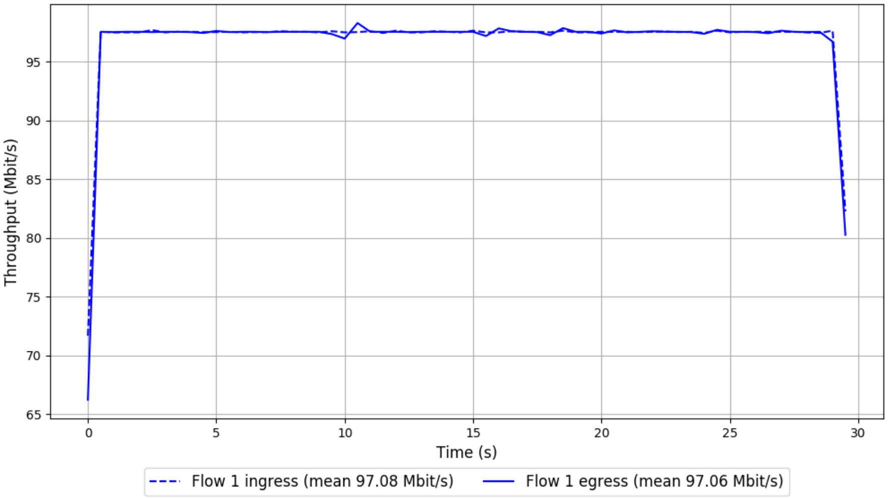


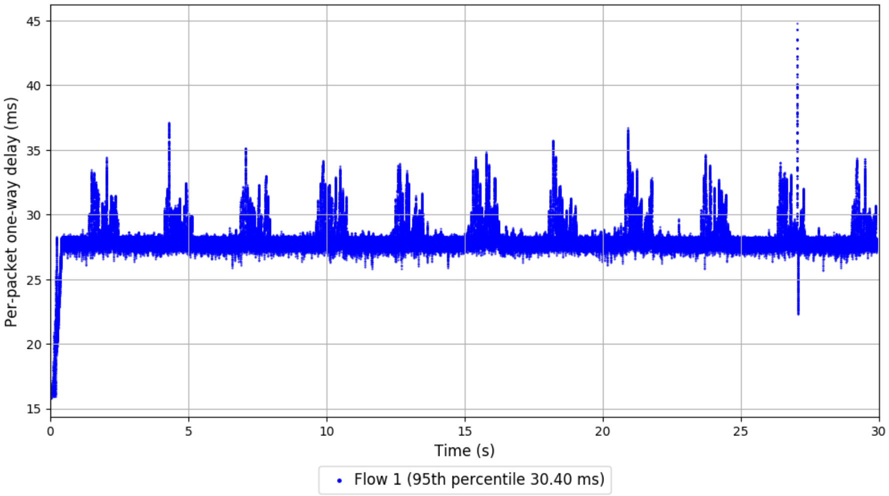
```
Run 7: Statistics of TCP Cubic

Start at: 2017-09-17 11:32:59
End at: 2017-09-17 11:33:29
Local clock offset: 5.832 ms
Remote clock offset: -1.21 ms

# Below is generated by plot.py at 2017-09-17 18:47:43
# Datalink statistics
-- Total of 1 flow:
Average throughput: 97.06 Mbit/s
95th percentile per-packet one-way delay: 30.404 ms
Loss rate: 0.14%
-- Flow 1:
Average throughput: 97.06 Mbit/s
95th percentile per-packet one-way delay: 30.404 ms
Loss rate: 0.14%
```

Run 7: Report of TCP Cubic — Data Link



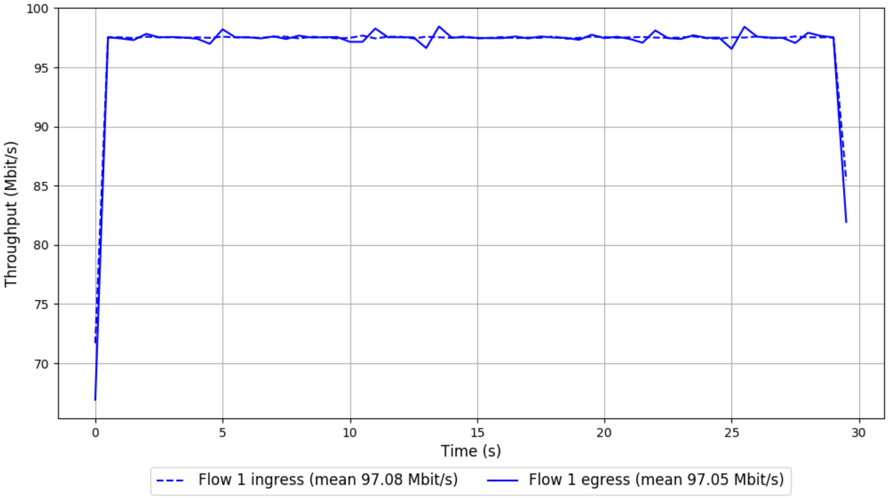


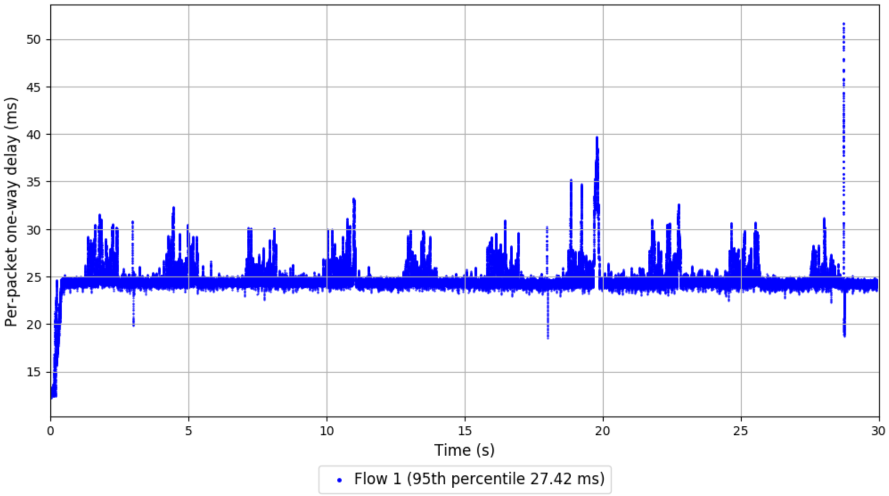
```
Run 8: Statistics of TCP Cubic

Start at: 2017-09-17 11:56:36
End at: 2017-09-17 11:57:06
Local clock offset: 4.364 ms
Remote clock offset: -1.132 ms

# Below is generated by plot.py at 2017-09-17 18:48:03
# Datalink statistics
-- Total of 1 flow:
Average throughput: 97.05 Mbit/s
95th percentile per-packet one-way delay: 27.423 ms
Loss rate: 0.14%
-- Flow 1:
Average throughput: 97.05 Mbit/s
95th percentile per-packet one-way delay: 27.423 ms
Loss rate: 0.14%
```

Run 8: Report of TCP Cubic — Data Link



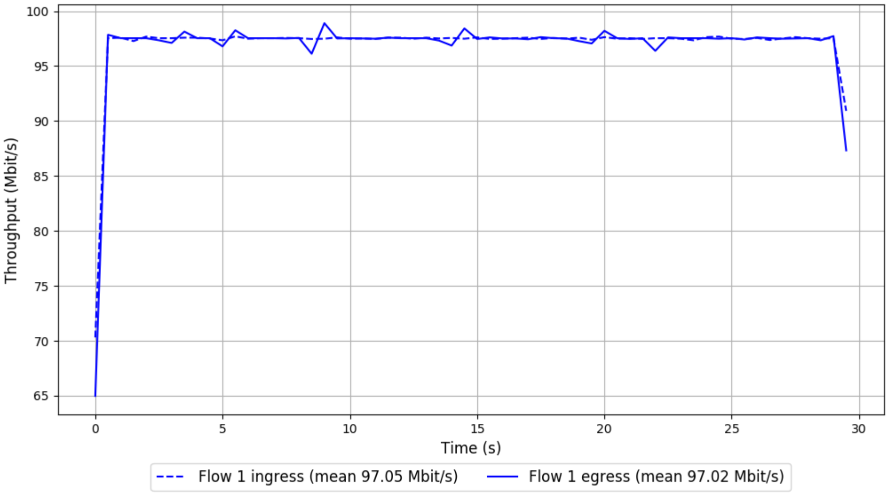


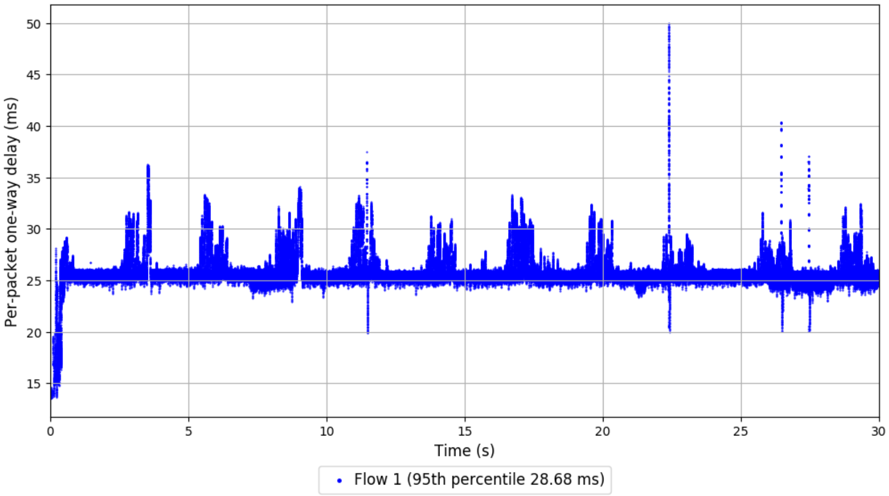
```
Run 9: Statistics of TCP Cubic

Start at: 2017-09-17 12:21:29
End at: 2017-09-17 12:21:59
Local clock offset: 4.721 ms
Remote clock offset: -2.231 ms

# Below is generated by plot.py at 2017-09-17 18:48:08
# Datalink statistics
-- Total of 1 flow:
Average throughput: 97.02 Mbit/s
95th percentile per-packet one-way delay: 28.685 ms
Loss rate: 0.16%
-- Flow 1:
Average throughput: 97.02 Mbit/s
95th percentile per-packet one-way delay: 28.685 ms
Loss rate: 0.16%
```

Run 9: Report of TCP Cubic — Data Link



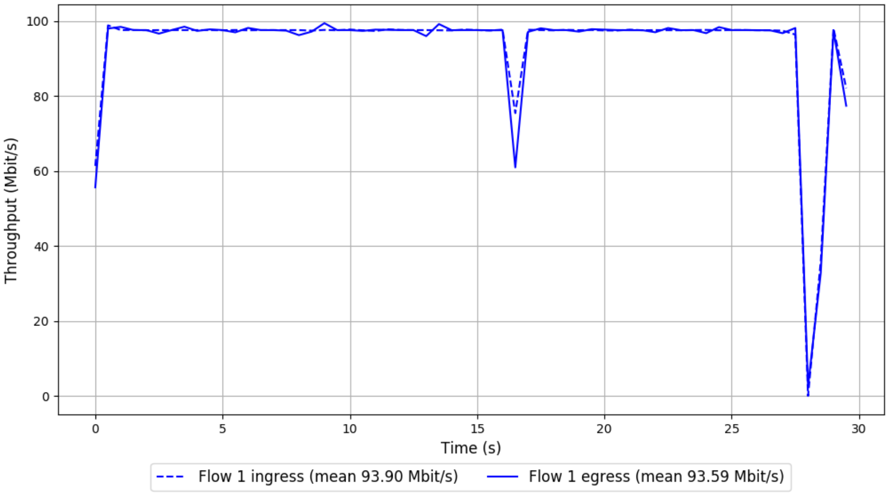


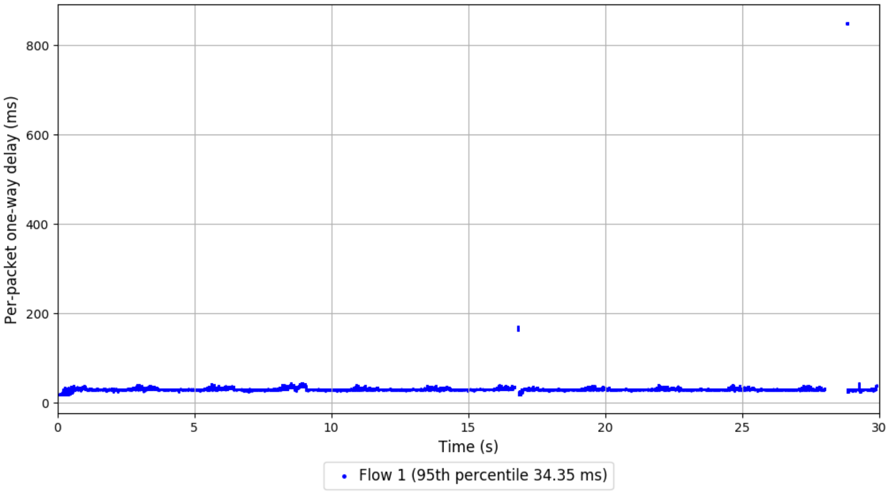
```
Run 10: Statistics of TCP Cubic

Start at: 2017-09-17 12:52:07
End at: 2017-09-17 12:52:37
Local clock offset: 7.495 ms
Remote clock offset: -2.691 ms

# Below is generated by plot.py at 2017-09-17 18:48:08
# Datalink statistics
-- Total of 1 flow:
Average throughput: 93.59 Mbit/s
95th percentile per-packet one-way delay: 34.351 ms
Loss rate: 0.45%
-- Flow 1:
Average throughput: 93.59 Mbit/s
95th percentile per-packet one-way delay: 34.351 ms
Loss rate: 0.45%
```

Run 10: Report of TCP Cubic — Data Link



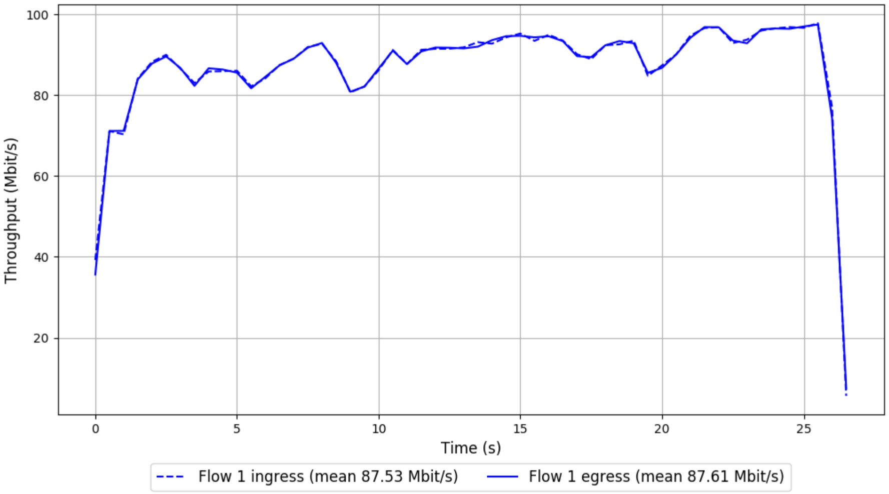


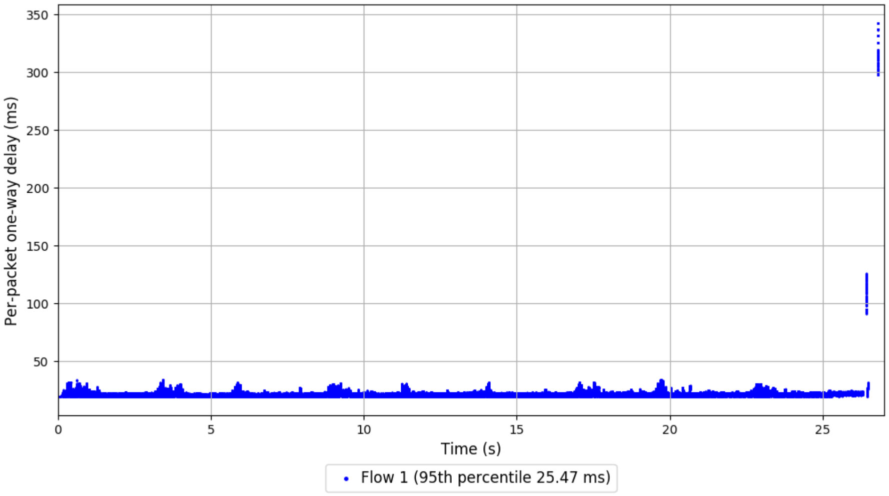
```
Run 1: Statistics of Indigo

Start at: 2017-09-17 09:33:32
End at: 2017-09-17 09:34:02
Local clock offset: 0.52 ms
Remote clock offset: -2.99 ms

# Below is generated by plot.py at 2017-09-17 18:48:08
# Datalink statistics
-- Total of 1 flow:
Average throughput: 87.61 Mbit/s
95th percentile per-packet one-way delay: 25.473 ms
Loss rate: 0.11%
-- Flow 1:
Average throughput: 87.61 Mbit/s
95th percentile per-packet one-way delay: 25.473 ms
Loss rate: 0.11%
```

Run 1: Report of Indigo — Data Link



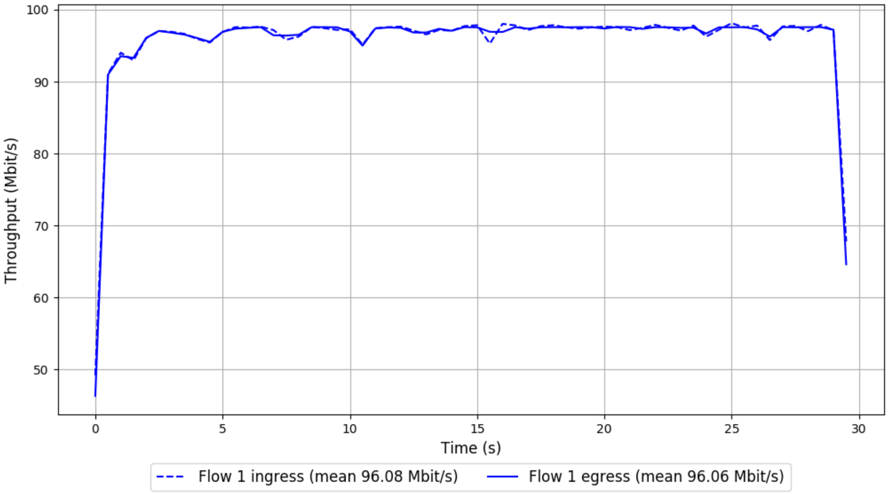


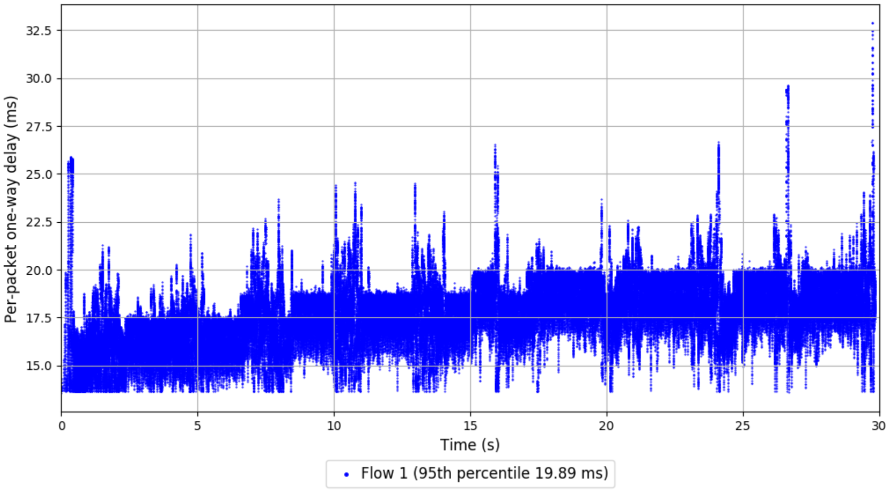
```
Run 2: Statistics of Indigo

Start at: 2017-09-17 09:55:27
End at: 2017-09-17 09:55:57
Local clock offset: -1.681 ms
Remote clock offset: 0.68 ms

# Below is generated by plot.py at 2017-09-17 18:48:35
# Datalink statistics
-- Total of 1 flow:
Average throughput: 96.06 Mbit/s
95th percentile per-packet one-way delay: 19.888 ms
Loss rate: 0.12%
-- Flow 1:
Average throughput: 96.06 Mbit/s
95th percentile per-packet one-way delay: 19.888 ms
Loss rate: 0.12%
```

Run 2: Report of Indigo — Data Link

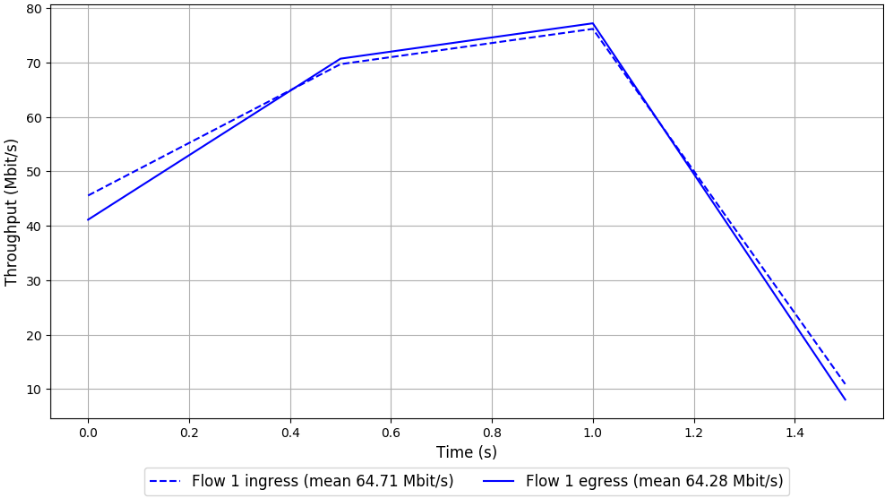


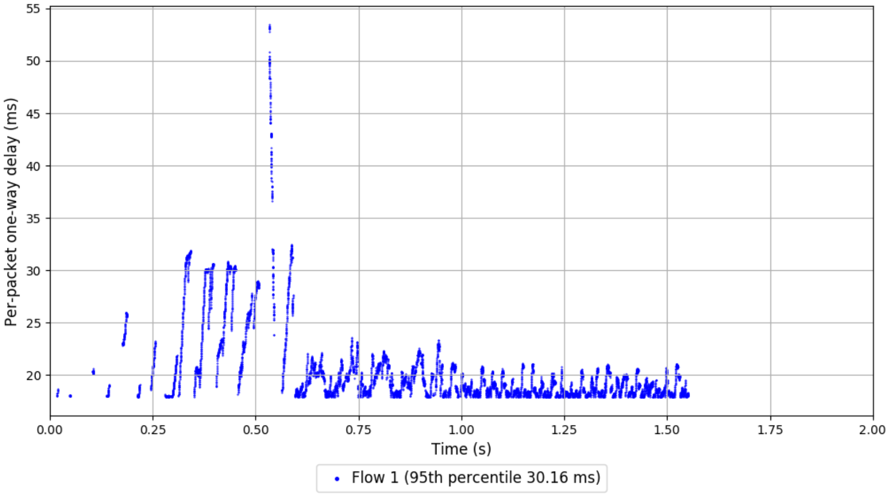


```
Run 3: Statistics of Indigo

Start at: 2017-09-17 10:19:33
End at: 2017-09-17 10:20:03
Local clock offset: -1.63 ms
Remote clock offset: -4.889 ms
```

Run 3: Report of Indigo — Data Link



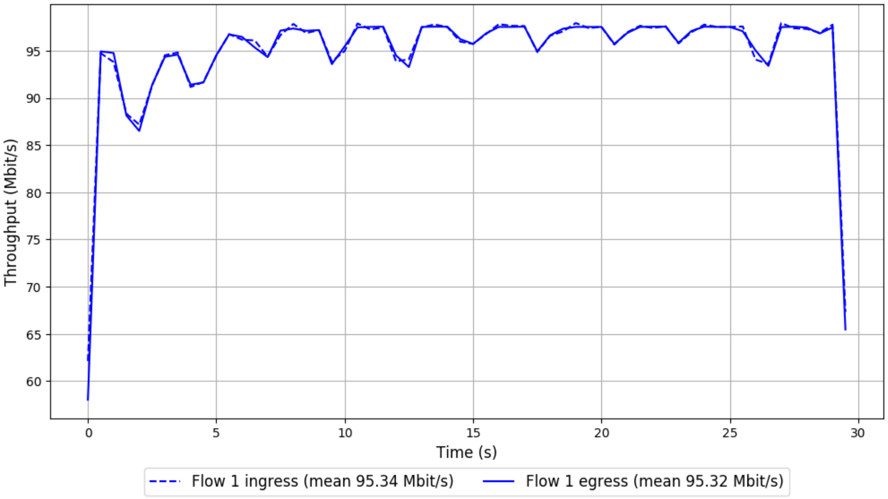


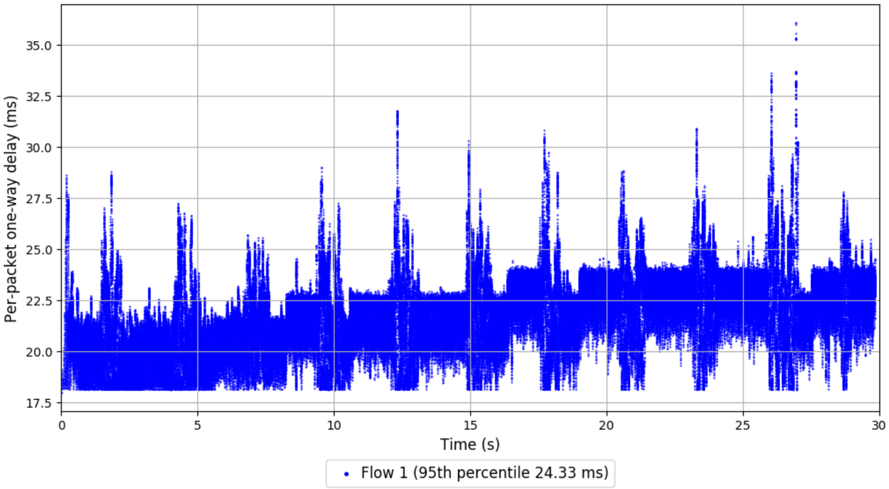
```
Run 4: Statistics of Indigo

Start at: 2017-09-17 10:41:57
End at: 2017-09-17 10:42:27
Local clock offset: 0.544 ms
Remote clock offset: -3.46 ms

# Below is generated by plot.py at 2017-09-17 18:48:49
# Datalink statistics
-- Total of 1 flow:
Average throughput: 95.32 Mbit/s
95th percentile per-packet one-way delay: 24.330 ms
Loss rate: 0.11%
-- Flow 1:
Average throughput: 95.32 Mbit/s
95th percentile per-packet one-way delay: 24.330 ms
Loss rate: 0.11%
```

Run 4: Report of Indigo — Data Link



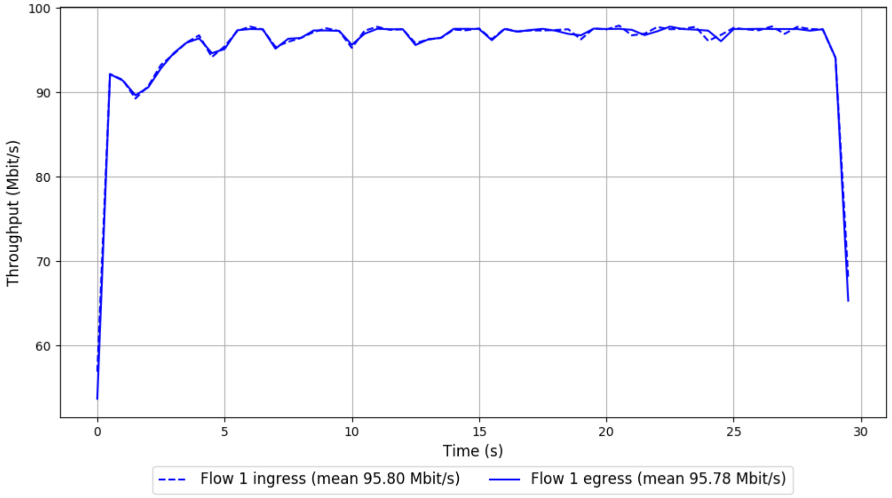


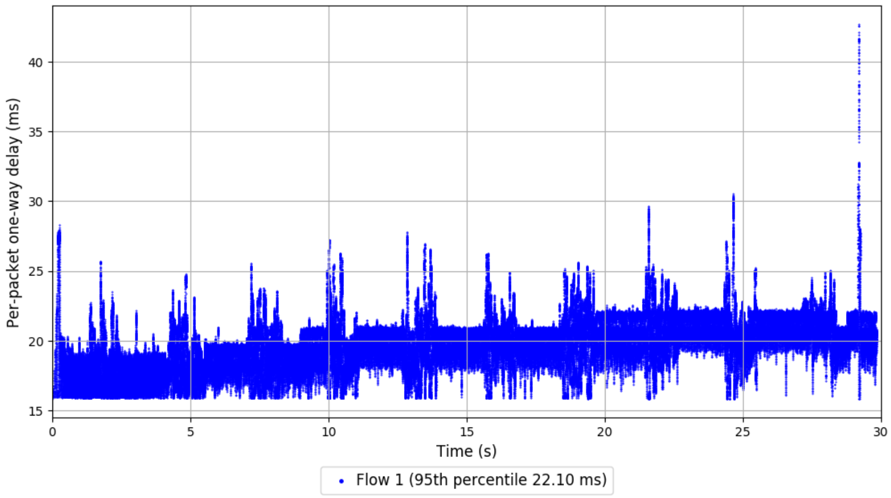
```
Run 5: Statistics of Indigo

Start at: 2017-09-17 11:04:29
End at: 2017-09-17 11:04:59
Local clock offset: 0.413 ms
Remote clock offset: -1.434 ms

# Below is generated by plot.py at 2017-09-17 18:49:07
# Datalink statistics
-- Total of 1 flow:
Average throughput: 95.78 Mbit/s
95th percentile per-packet one-way delay: 22.096 ms
Loss rate: 0.12%
-- Flow 1:
Average throughput: 95.78 Mbit/s
95th percentile per-packet one-way delay: 22.096 ms
Loss rate: 0.12%
```

Run 5: Report of Indigo — Data Link



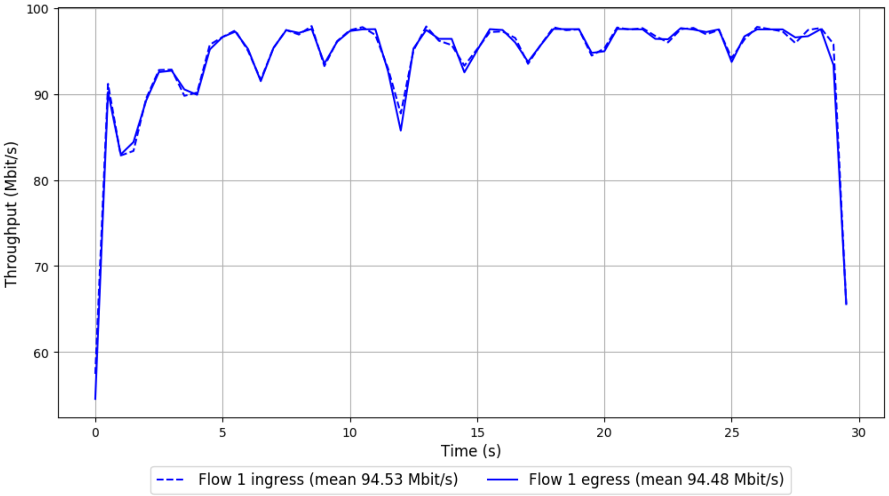


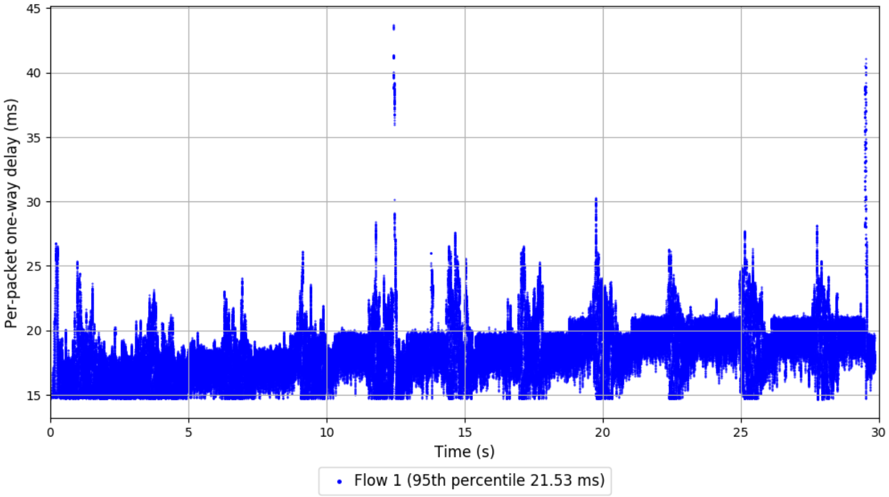
```
Run 6: Statistics of Indigo

Start at: 2017-09-17 11:27:49
End at: 2017-09-17 11:28:19
Local clock offset: 3.964 ms
Remote clock offset: -1.159 ms

# Below is generated by plot.py at 2017-09-17 18:49:10
# Datalink statistics
-- Total of 1 flow:
Average throughput: 94.48 Mbit/s
95th percentile per-packet one-way delay: 21.530 ms
Loss rate: 0.15%
-- Flow 1:
Average throughput: 94.48 Mbit/s
95th percentile per-packet one-way delay: 21.530 ms
Loss rate: 0.15%
```

Run 6: Report of Indigo — Data Link



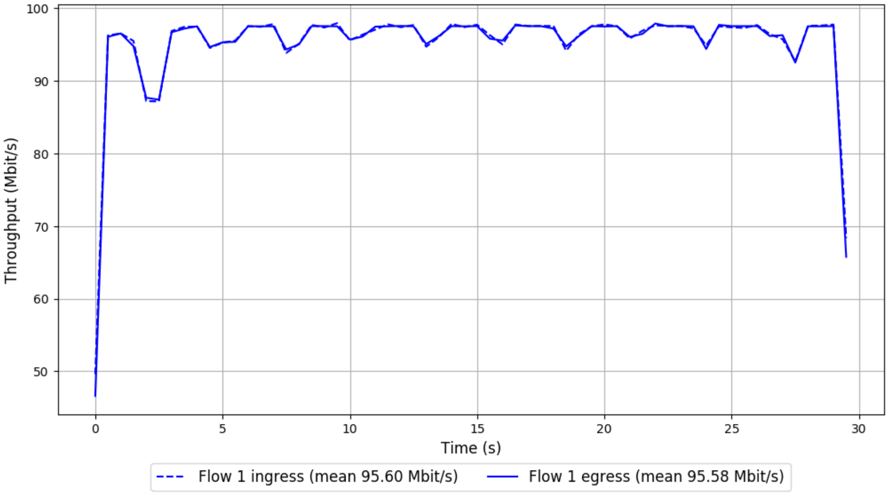


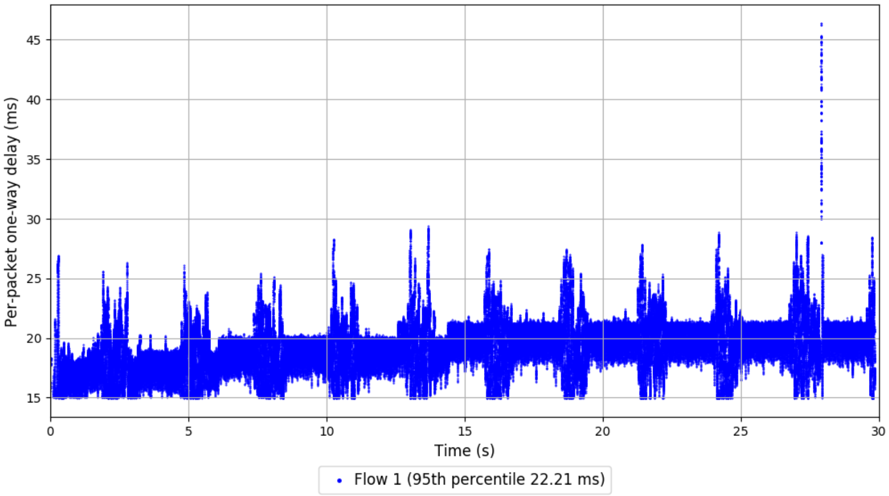
```
Run 7: Statistics of Indigo

Start at: 2017-09-17 11:50:49
End at: 2017-09-17 11:51:19
Local clock offset: 6.204 ms
Remote clock offset: -1.809 ms

# Below is generated by plot.py at 2017-09-17 18:49:30
# Datalink statistics
-- Total of 1 flow:
Average throughput: 95.58 Mbit/s
95th percentile per-packet one-way delay: 22.214 ms
Loss rate: 0.12%
-- Flow 1:
Average throughput: 95.58 Mbit/s
95th percentile per-packet one-way delay: 22.214 ms
Loss rate: 0.12%
```

Run 7: Report of Indigo — Data Link



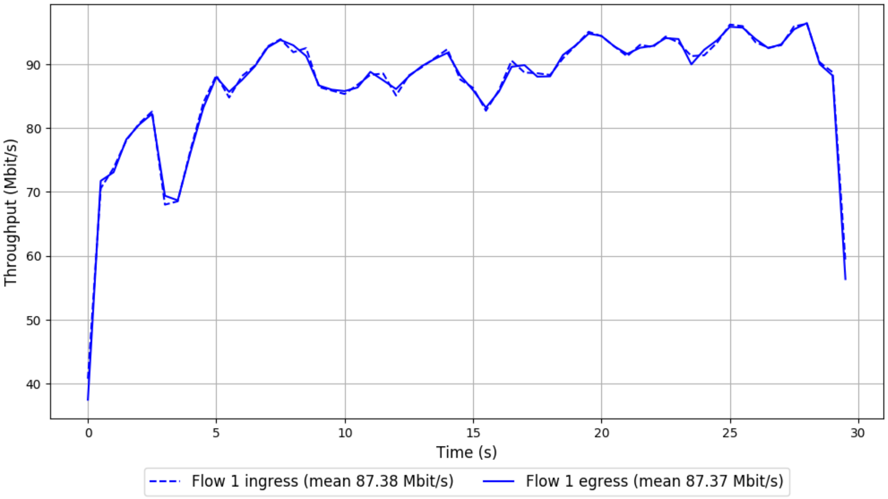


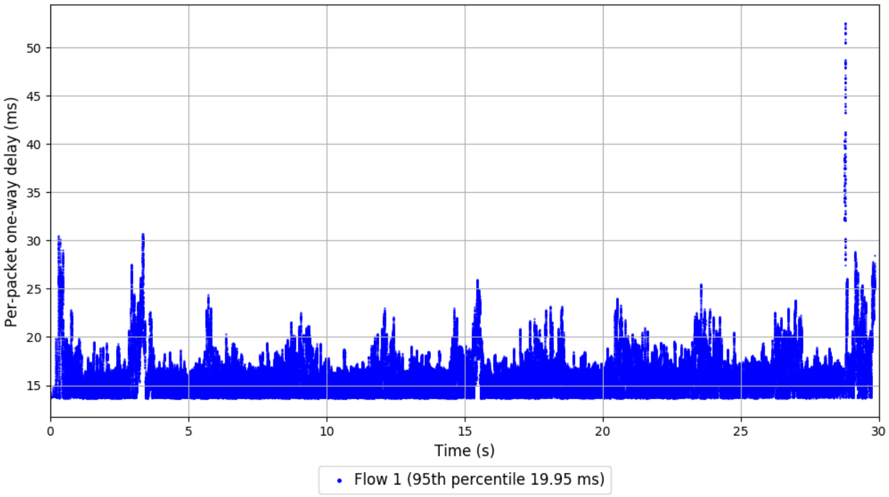
```
Run 8: Statistics of Indigo

Start at: 2017-09-17 12:15:44
End at: 2017-09-17 12:16:14
Local clock offset: 4.48 ms
Remote clock offset: -2.579 ms

# Below is generated by plot.py at 2017-09-17 18:49:30
# Datalink statistics
-- Total of 1 flow:
Average throughput: 87.37 Mbit/s
95th percentile per-packet one-way delay: 19.949 ms
Loss rate: 0.13%
-- Flow 1:
Average throughput: 87.37 Mbit/s
95th percentile per-packet one-way delay: 19.949 ms
Loss rate: 0.13%
```

Run 8: Report of Indigo — Data Link



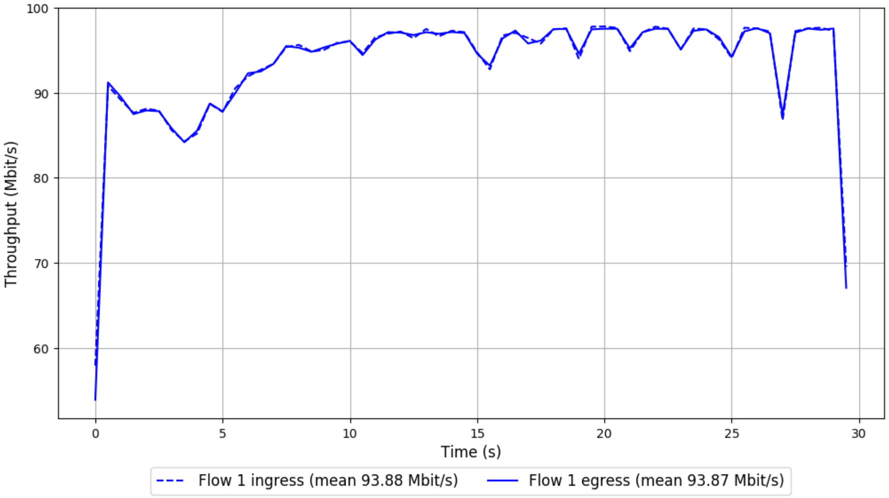


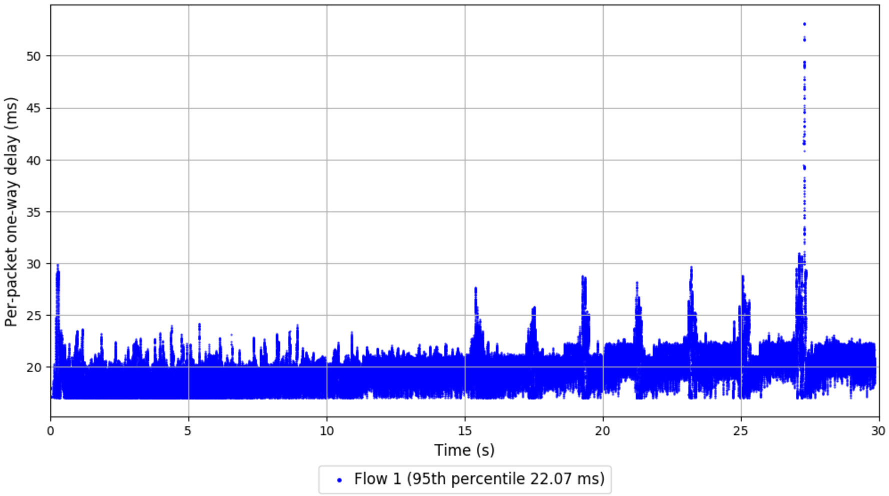
```
Run 9: Statistics of Indigo

Start at: 2017-09-17 12:46:51
End at: 2017-09-17 12:47:21
Local clock offset: 7.067 ms
Remote clock offset: -3.168 ms

# Below is generated by plot.py at 2017-09-17 18:49:36
# Datalink statistics
-- Total of 1 flow:
Average throughput: 93.87 Mbit/s
95th percentile per-packet one-way delay: 22.067 ms
Loss rate: 0.11%
-- Flow 1:
Average throughput: 93.87 Mbit/s
95th percentile per-packet one-way delay: 22.067 ms
Loss rate: 0.11%
```

Run 9: Report of Indigo — Data Link



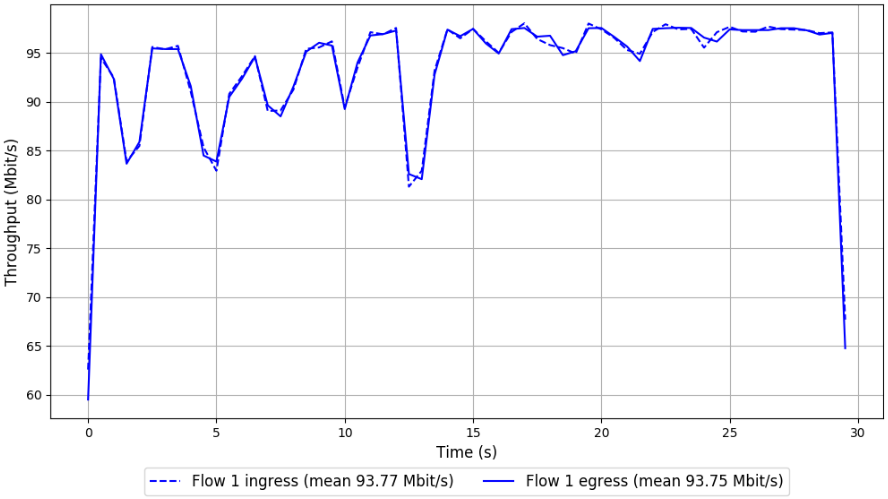


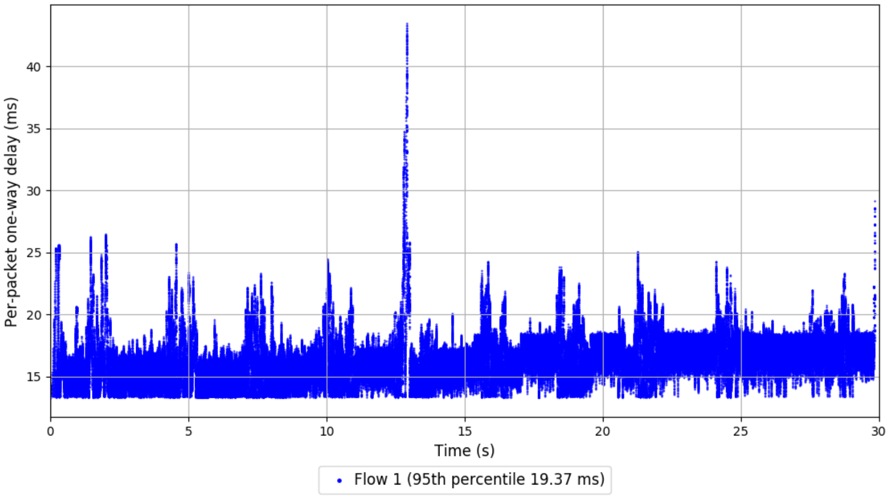
```
Run 10: Statistics of Indigo

Start at: 2017-09-17 13:10:35
End at: 2017-09-17 13:11:05
Local clock offset: 3.547 ms
Remote clock offset: -2.617 ms

# Below is generated by plot.py at 2017-09-17 18:49:38
# Datalink statistics
-- Total of 1 flow:
Average throughput: 93.75 Mbit/s
95th percentile per-packet one-way delay: 19.373 ms
Loss rate: 0.11%
-- Flow 1:
Average throughput: 93.75 Mbit/s
95th percentile per-packet one-way delay: 19.373 ms
Loss rate: 0.11%
```

Run 10: Report of Indigo — Data Link



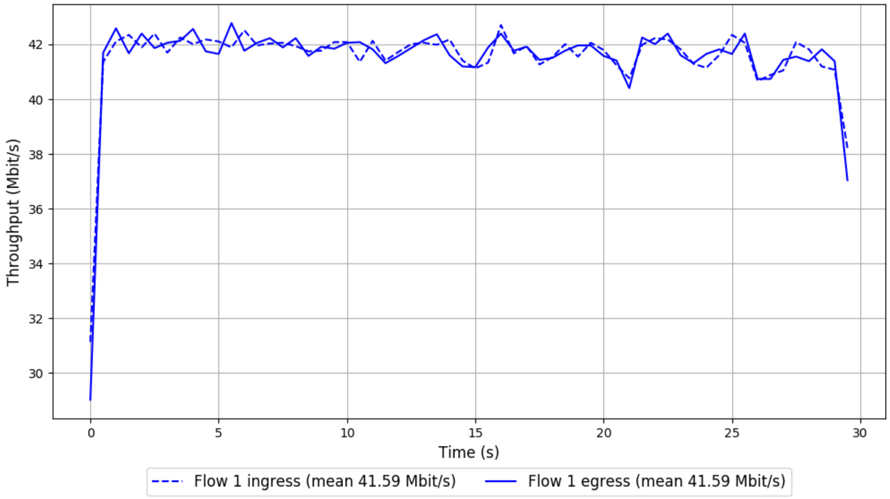


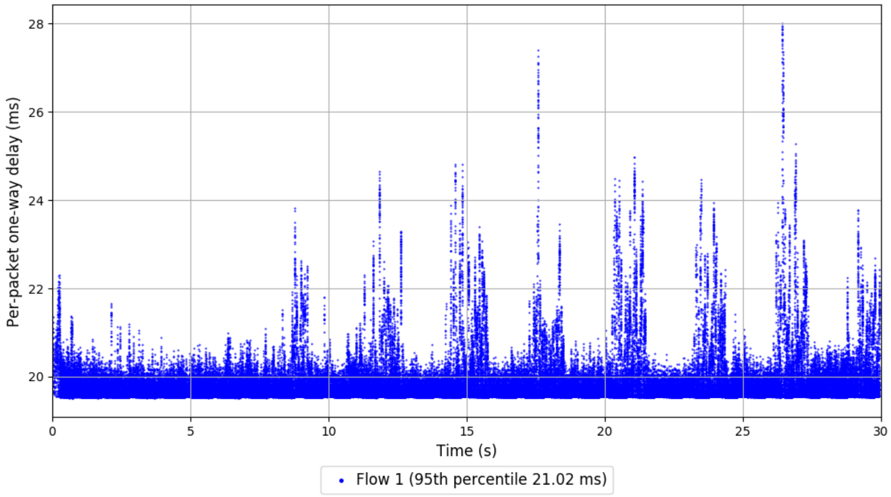
```
Run 1: Statistics of KohoCC

Start at: 2017-09-17 09:32:03
End at: 2017-09-17 09:32:33
Local clock offset: 0.303 ms
Remote clock offset: -3.491 ms

# Below is generated by plot.py at 2017-09-17 18:49:38
# Datalink statistics
-- Total of 1 flow:
Average throughput: 41.59 Mbit/s
95th percentile per-packet one-way delay: 21.015 ms
Loss rate: 0.10%
-- Flow 1:
Average throughput: 41.59 Mbit/s
95th percentile per-packet one-way delay: 21.015 ms
Loss rate: 0.10%
```

Run 1: Report of KohoCC — Data Link

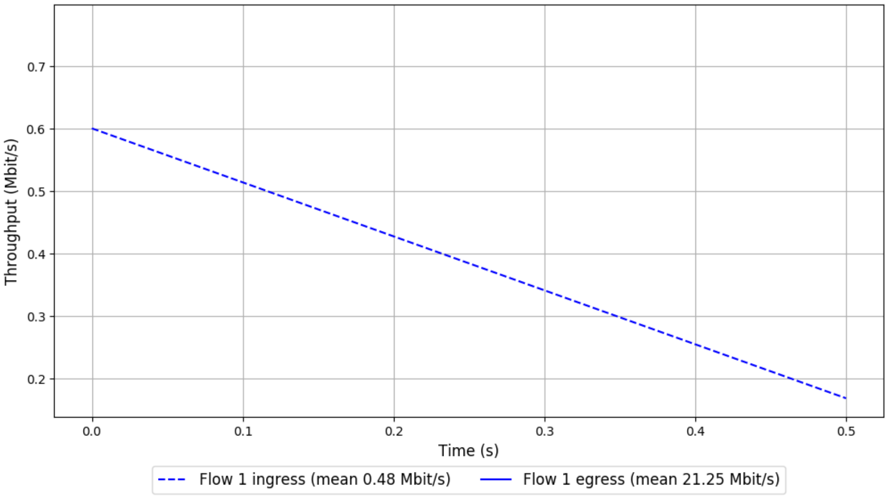


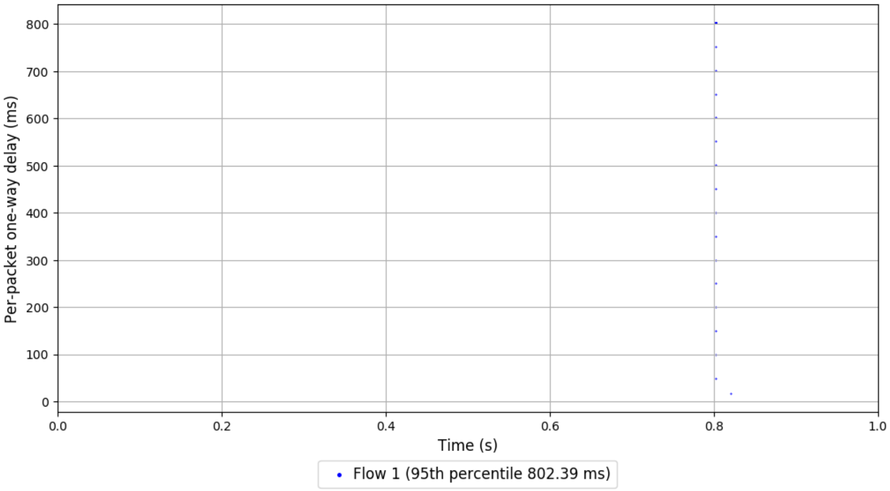


```
Run 2: Statistics of KohoCC

Start at: 2017-09-17 09:54:22
End at: 2017-09-17 09:54:52
Local clock offset: -2.604 ms
Remote clock offset: -3.148 ms
```

Run 2: Report of KohoCC — Data Link



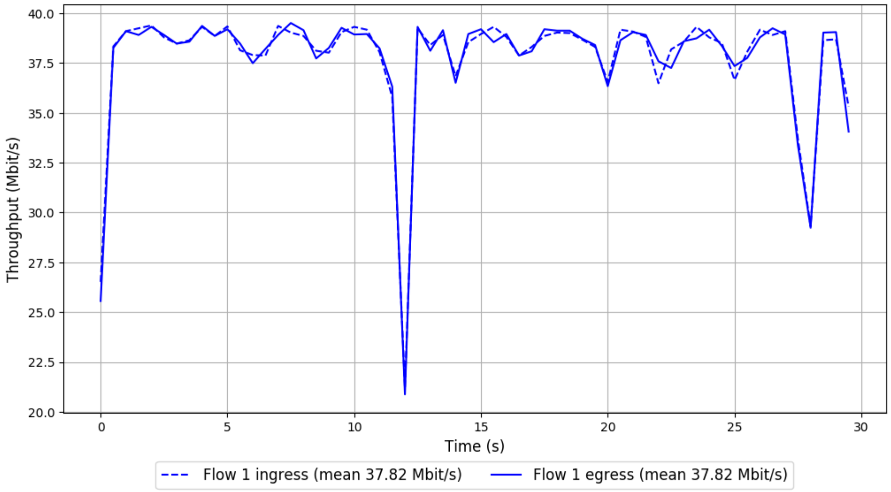


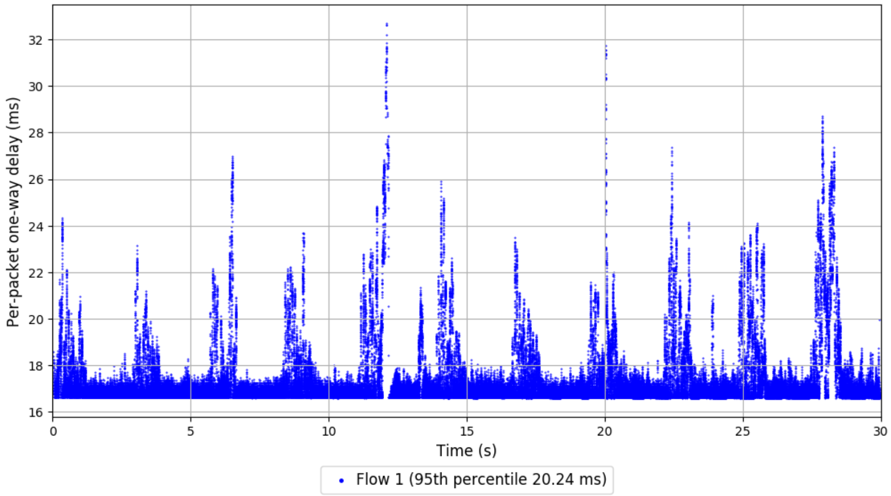
```
Run 3: Statistics of KohoCC

Start at: 2017-09-17 10:18:02
End at: 2017-09-17 10:18:32
Local clock offset: -1.78 ms
Remote clock offset: -3.592 ms

# Below is generated by plot.py at 2017-09-17 18:49:38
# Datalink statistics
-- Total of 1 flow:
Average throughput: 37.82 Mbit/s
95th percentile per-packet one-way delay: 20.237 ms
Loss rate: 0.10%
-- Flow 1:
Average throughput: 37.82 Mbit/s
95th percentile per-packet one-way delay: 20.237 ms
Loss rate: 0.10%
```

Run 3: Report of KohoCC — Data Link

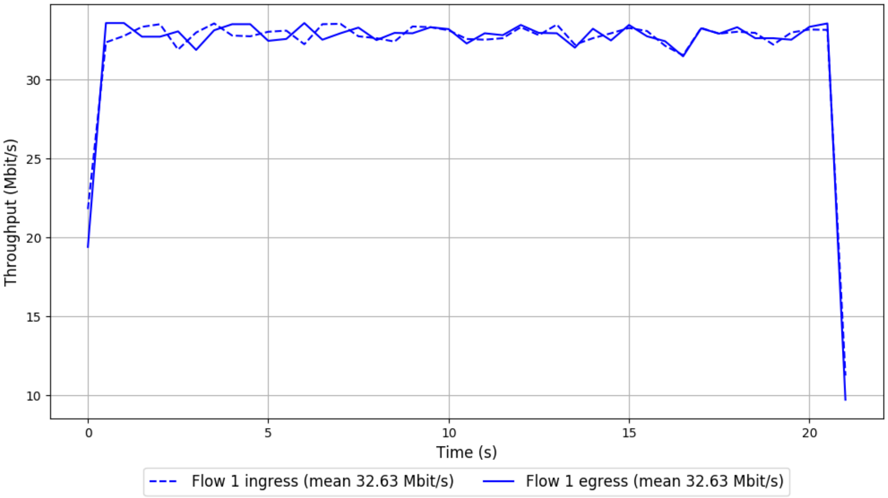


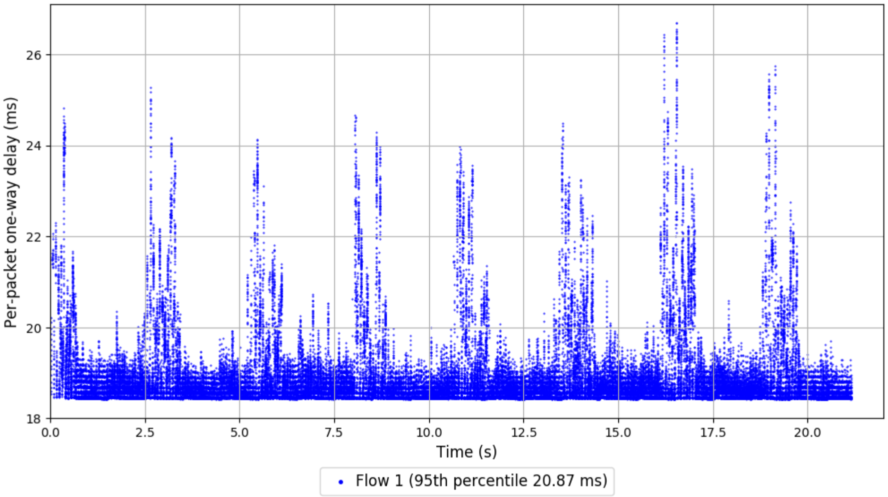


```
Run 4: Statistics of KohoCC

Start at: 2017-09-17 10:40:39
End at: 2017-09-17 10:41:09
Local clock offset: -0.507 ms
Remote clock offset: -4.792 ms
```

Run 4: Report of KohoCC — Data Link



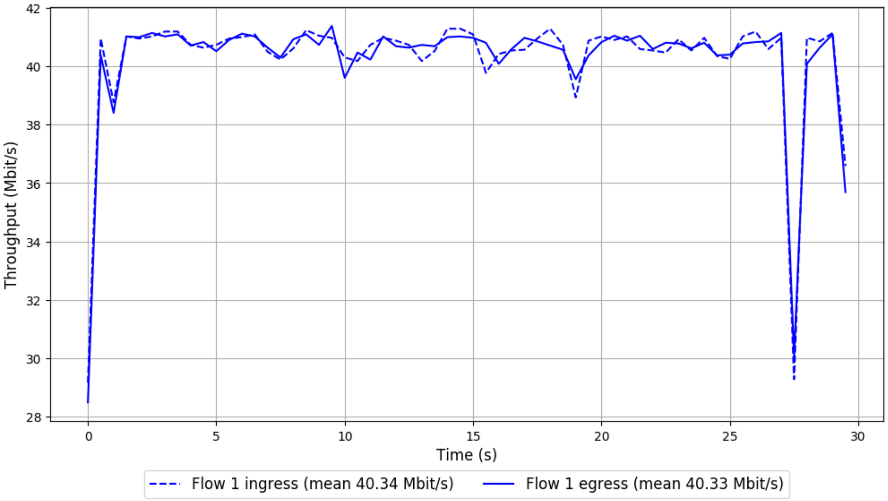


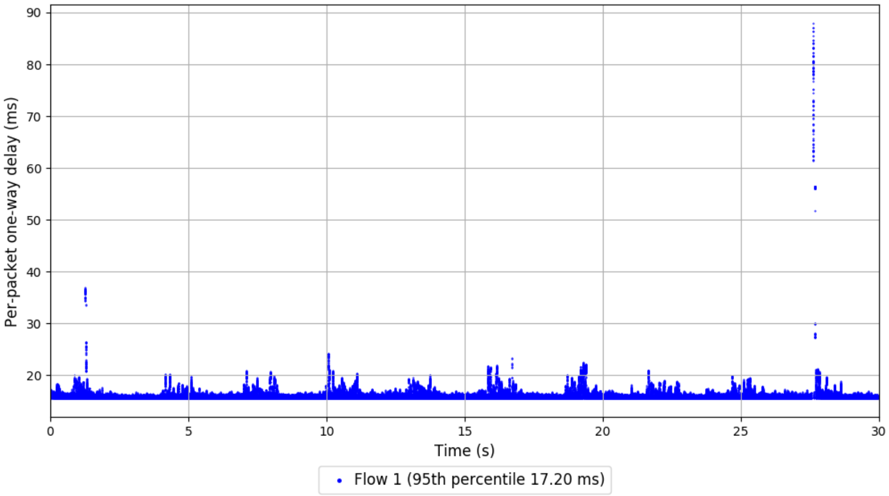
```
Run 5: Statistics of KohoCC

Start at: 2017-09-17 11:02:58
End at: 2017-09-17 11:03:28
Local clock offset: 0.961 ms
Remote clock offset: -0.432 ms

# Below is generated by plot.py at 2017-09-17 18:49:50
# Datalink statistics
-- Total of 1 flow:
Average throughput: 40.33 Mbit/s
95th percentile per-packet one-way delay: 17.202 ms
Loss rate: 0.12%
-- Flow 1:
Average throughput: 40.33 Mbit/s
95th percentile per-packet one-way delay: 17.202 ms
Loss rate: 0.12%
```

Run 5: Report of KohoCC — Data Link



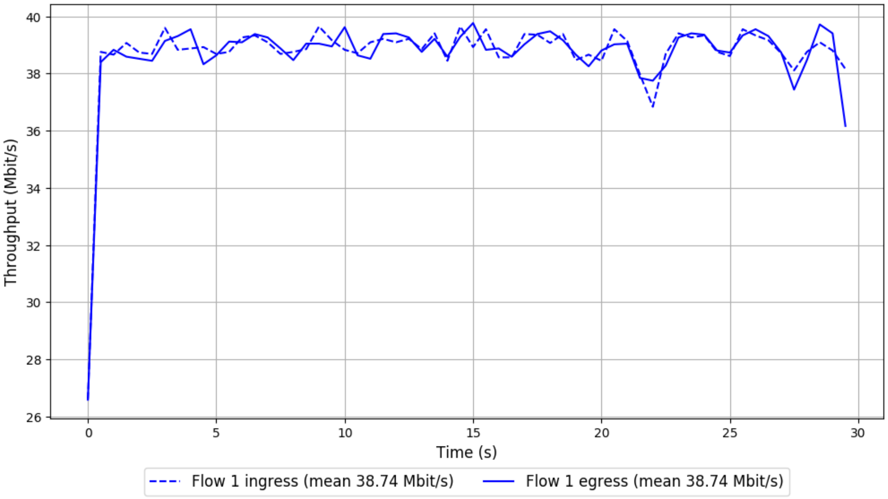


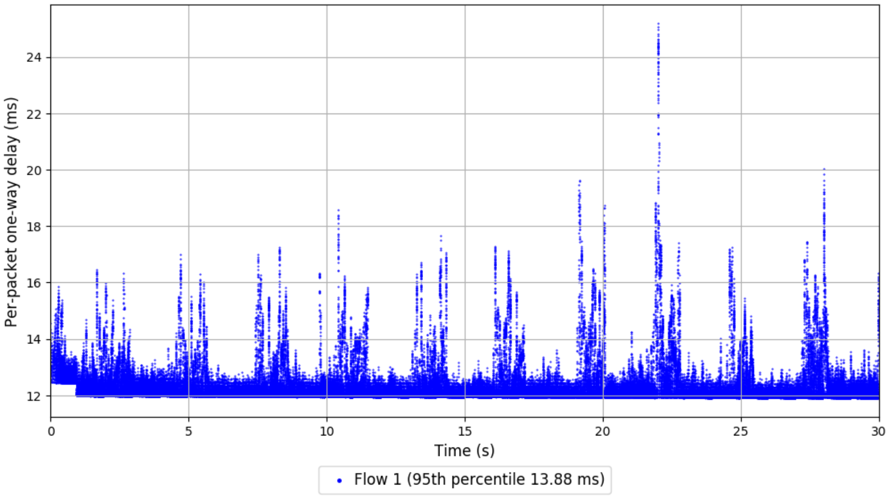
```
Run 6: Statistics of KohoCC

Start at: 2017-09-17 11:26:26
End at: 2017-09-17 11:26:56
Local clock offset: 1.168 ms
Remote clock offset: -0.993 ms

# Below is generated by plot.py at 2017-09-17 18:49:56
# Datalink statistics
-- Total of 1 flow:
Average throughput: 38.74 Mbit/s
95th percentile per-packet one-way delay: 13.881 ms
Loss rate: 0.10%
-- Flow 1:
Average throughput: 38.74 Mbit/s
95th percentile per-packet one-way delay: 13.881 ms
Loss rate: 0.10%
```

Run 6: Report of KohoCC — Data Link



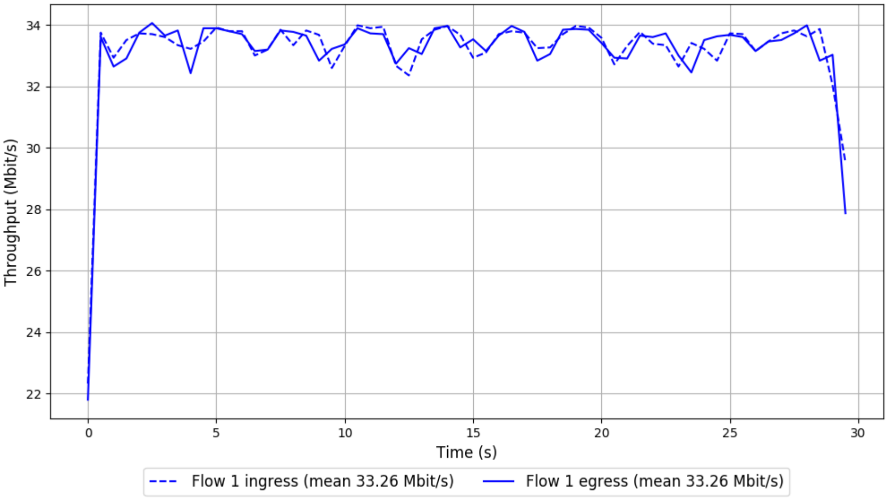


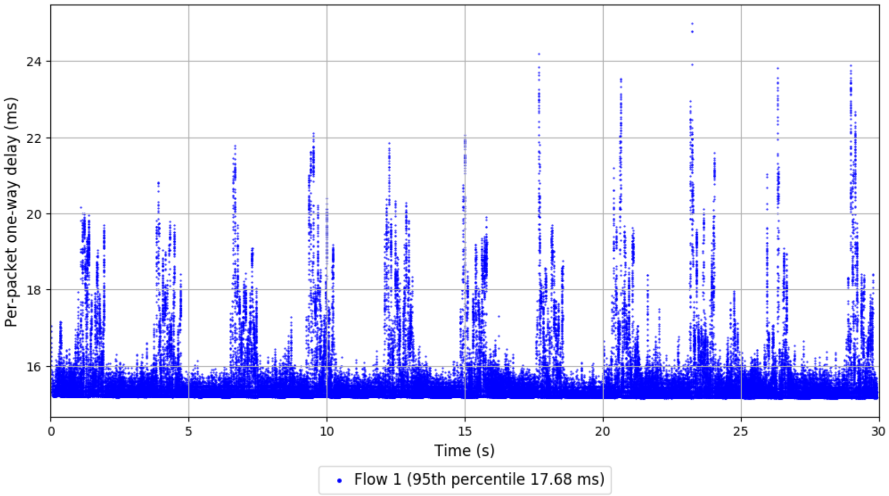
```
Run 7: Statistics of KohoCC

Start at: 2017-09-17 11:49:26
End at: 2017-09-17 11:49:56
Local clock offset: 5.797 ms
Remote clock offset: -2.322 ms

# Below is generated by plot.py at 2017-09-17 18:49:59
# Datalink statistics
-- Total of 1 flow:
Average throughput: 33.26 Mbit/s
95th percentile per-packet one-way delay: 17.682 ms
Loss rate: 0.12%
-- Flow 1:
Average throughput: 33.26 Mbit/s
95th percentile per-packet one-way delay: 17.682 ms
Loss rate: 0.12%
```

Run 7: Report of KohoCC — Data Link



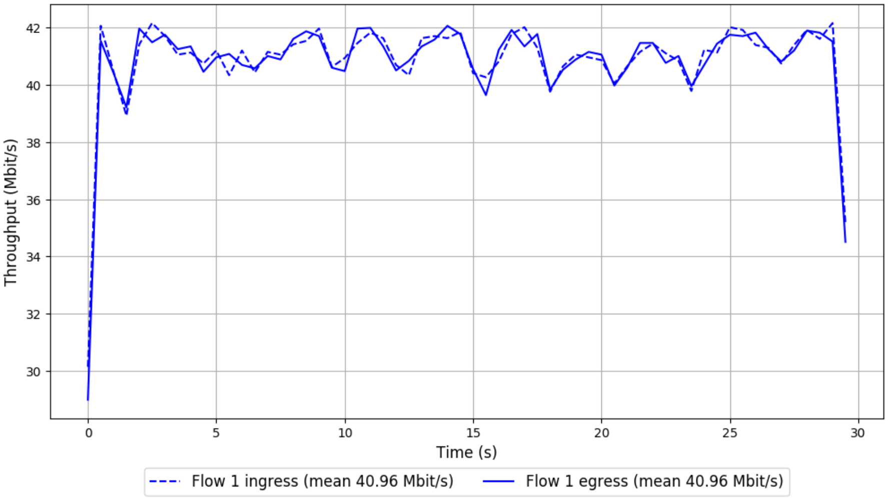


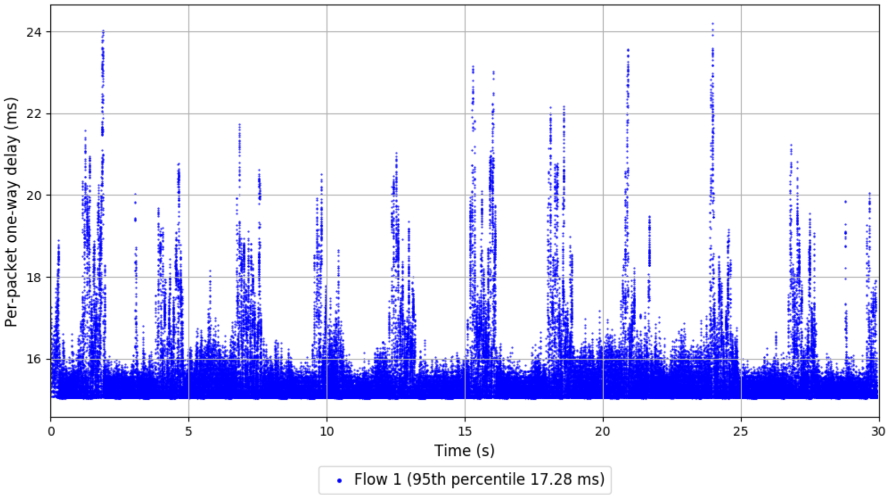
```
Run 8: Statistics of KohoCC

Start at: 2017-09-17 12:14:27
End at: 2017-09-17 12:14:57
Local clock offset: 6.379 ms
Remote clock offset: -2.033 ms

# Below is generated by plot.py at 2017-09-17 18:50:04
# Datalink statistics
-- Total of 1 flow:
Average throughput: 40.96 Mbit/s
95th percentile per-packet one-way delay: 17.283 ms
Loss rate: 0.10%
-- Flow 1:
Average throughput: 40.96 Mbit/s
95th percentile per-packet one-way delay: 17.283 ms
Loss rate: 0.10%
```

Run 8: Report of KohoCC — Data Link

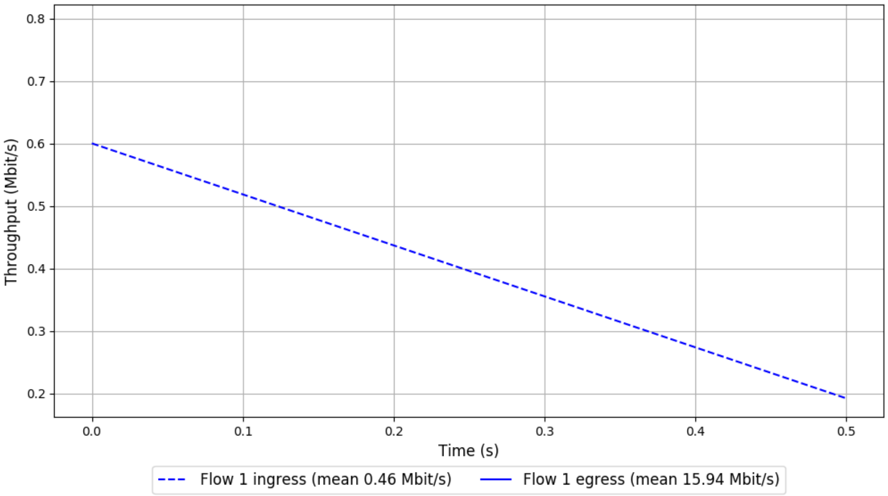


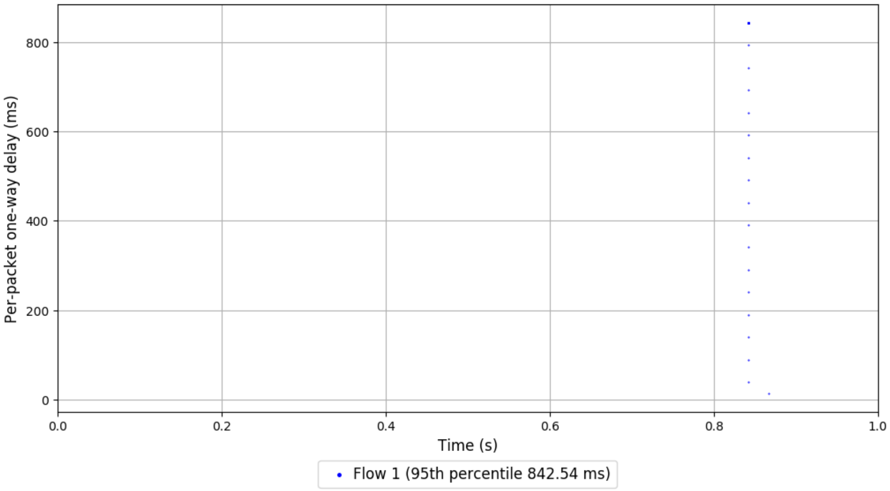


```
Run 9: Statistics of KohoCC

Start at: 2017-09-17 12:45:46
End at: 2017-09-17 12:46:16
Local clock offset: 3.937 ms
Remote clock offset: -3.102 ms
```

Run 9: Report of KohoCC — Data Link

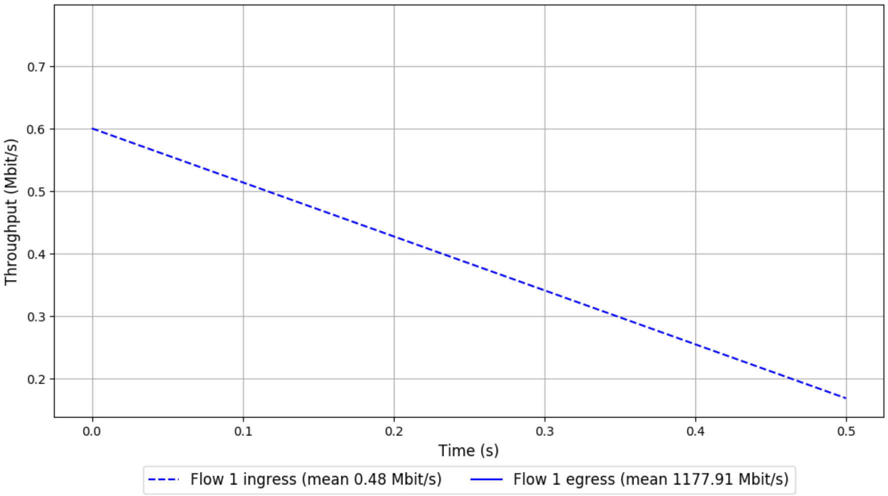


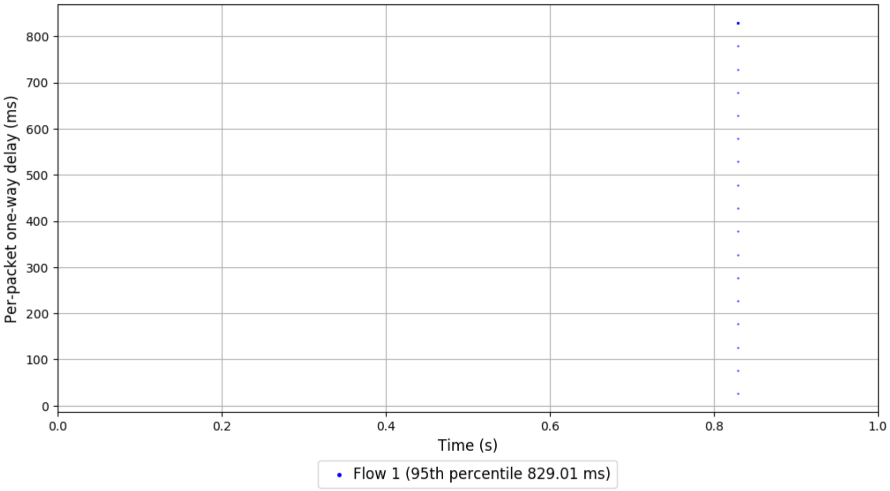


```
Run 10: Statistics of KohoCC

Start at: 2017-09-17 13:09:28
End at: 2017-09-17 13:09:58
Local clock offset: 3.907 ms
Remote clock offset: -2.123 ms
```

Run 10: Report of KohoCC — Data Link



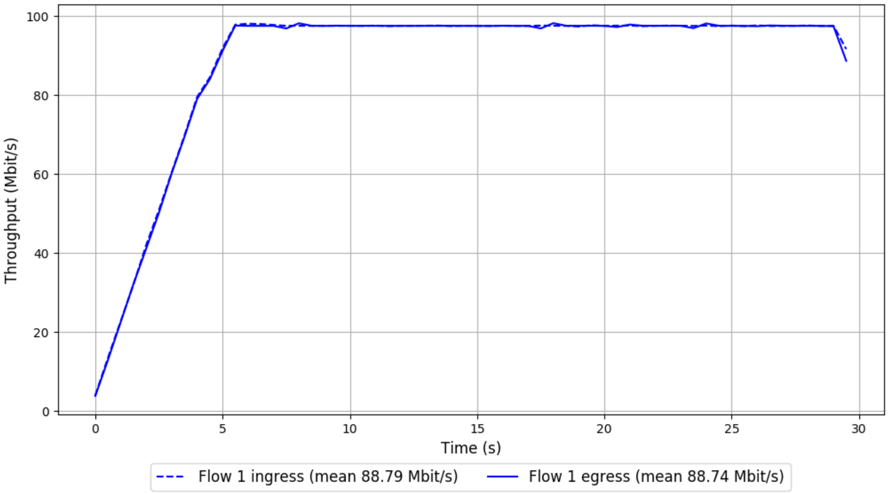


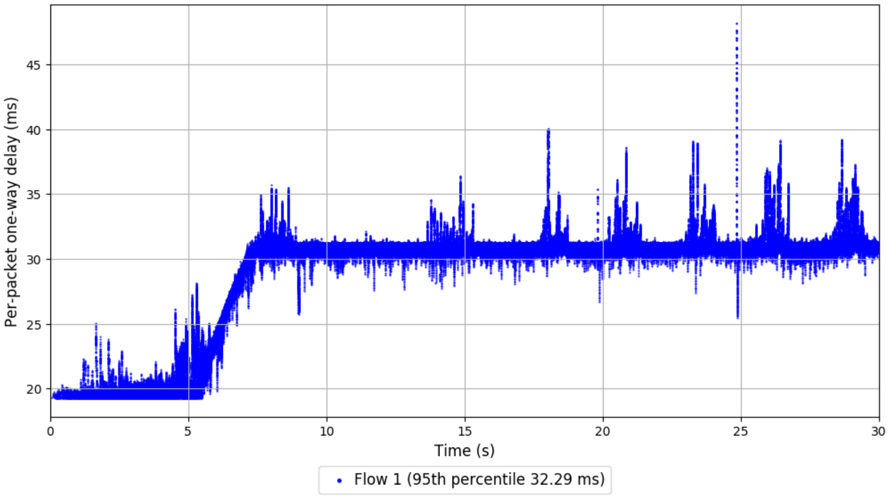
```
Run 1: Statistics of LEDBAT

Start at: 2017-09-17 09:19:05
End at: 2017-09-17 09:19:35
Local clock offset: 0.002 ms
Remote clock offset: -4.128 ms

# Below is generated by plot.py at 2017-09-17 18:50:51
# Datalink statistics
-- Total of 1 flow:
Average throughput: 88.74 Mbit/s
95th percentile per-packet one-way delay: 32.292 ms
Loss rate: 0.17%
-- Flow 1:
Average throughput: 88.74 Mbit/s
95th percentile per-packet one-way delay: 32.292 ms
Loss rate: 0.17%
```

Run 1: Report of LEDBAT — Data Link



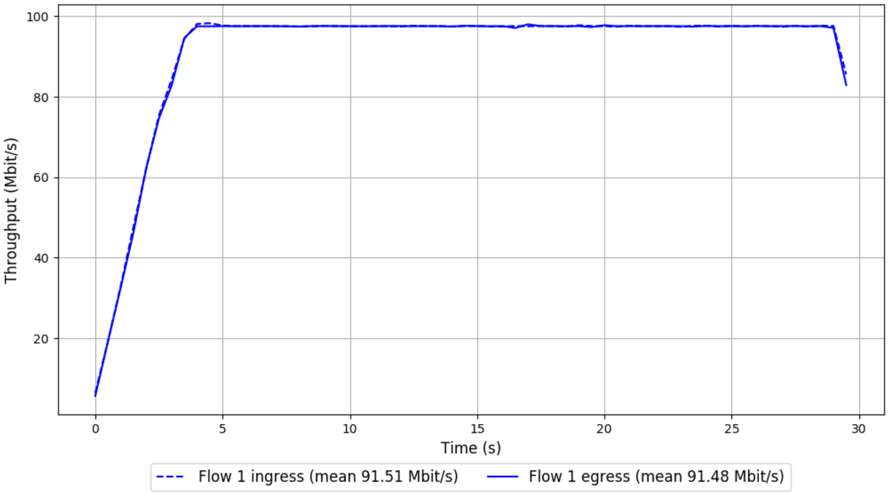


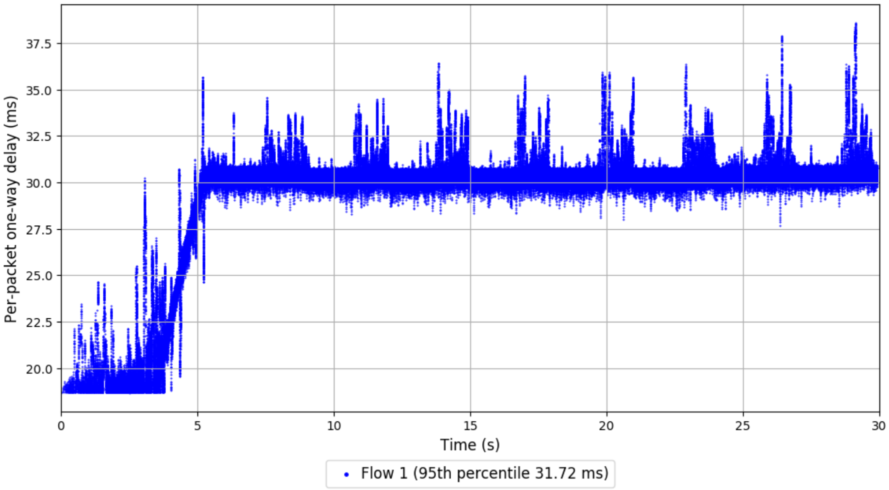
```
Run 2: Statistics of LEDBAT

Start at: 2017-09-17 09:41:13
End at: 2017-09-17 09:41:43
Local clock offset: 0.063 ms
Remote clock offset: -2.641 ms

# Below is generated by plot.py at 2017-09-17 18:50:57
# Datalink statistics
-- Total of 1 flow:
Average throughput: 91.48 Mbit/s
95th percentile per-packet one-way delay: 31.723 ms
Loss rate: 0.16%
-- Flow 1:
Average throughput: 91.48 Mbit/s
95th percentile per-packet one-way delay: 31.723 ms
Loss rate: 0.16%
```

Run 2: Report of LEDBAT — Data Link



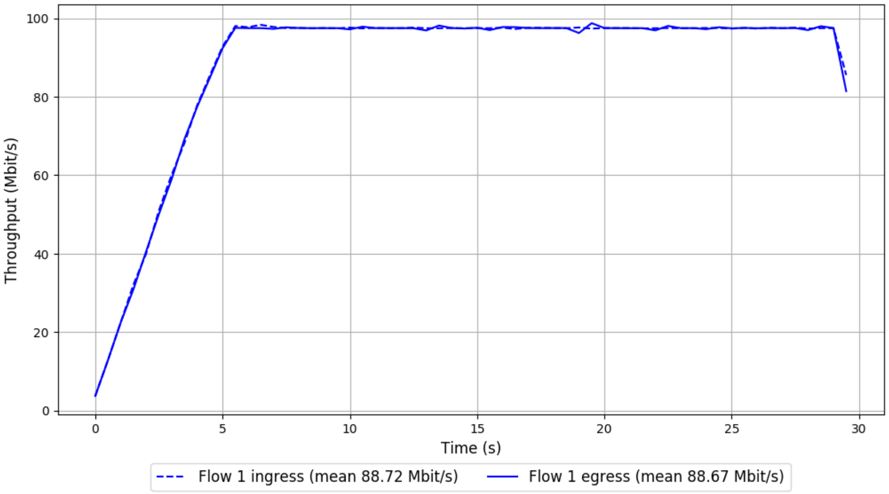


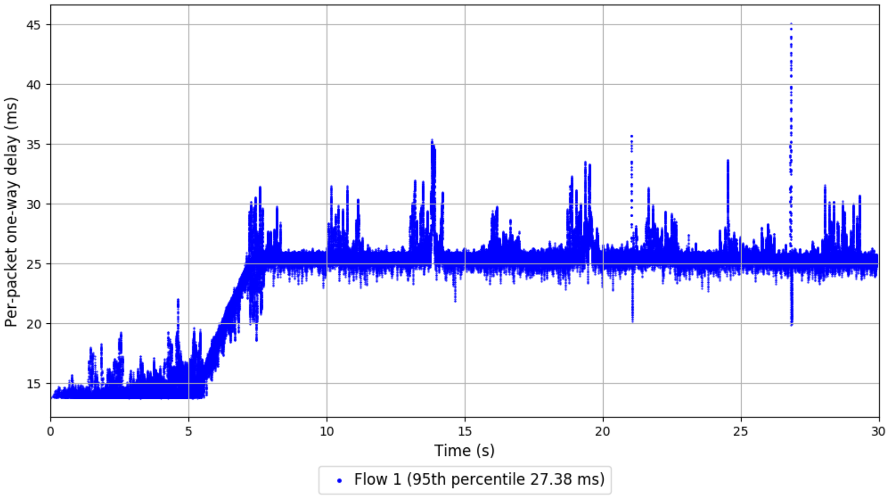
```
Run 3: Statistics of LEDBAT

Start at: 2017-09-17 10:03:47
End at: 2017-09-17 10:04:18
Local clock offset: -0.439 ms
Remote clock offset: 1.146 ms

# Below is generated by plot.py at 2017-09-17 18:50:57
# Datalink statistics
-- Total of 1 flow:
Average throughput: 88.67 Mbit/s
95th percentile per-packet one-way delay: 27.377 ms
Loss rate: 0.17%
-- Flow 1:
Average throughput: 88.67 Mbit/s
95th percentile per-packet one-way delay: 27.377 ms
Loss rate: 0.17%
```

Run 3: Report of LEDBAT — Data Link



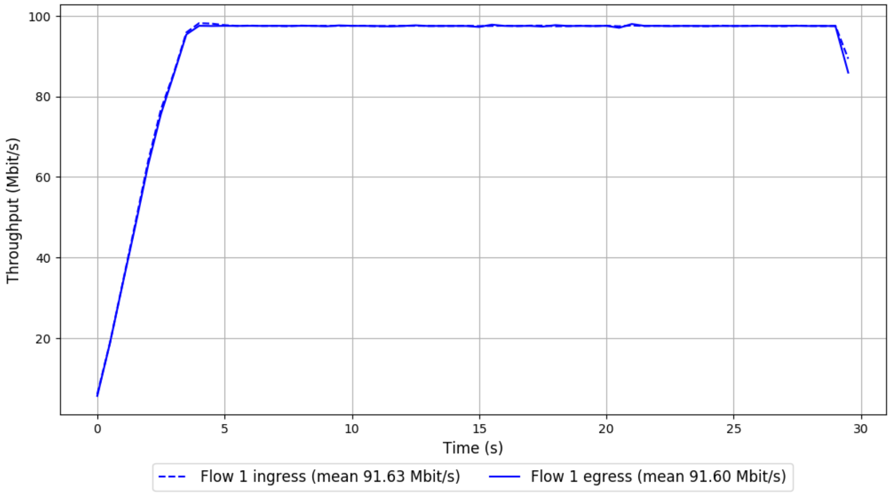


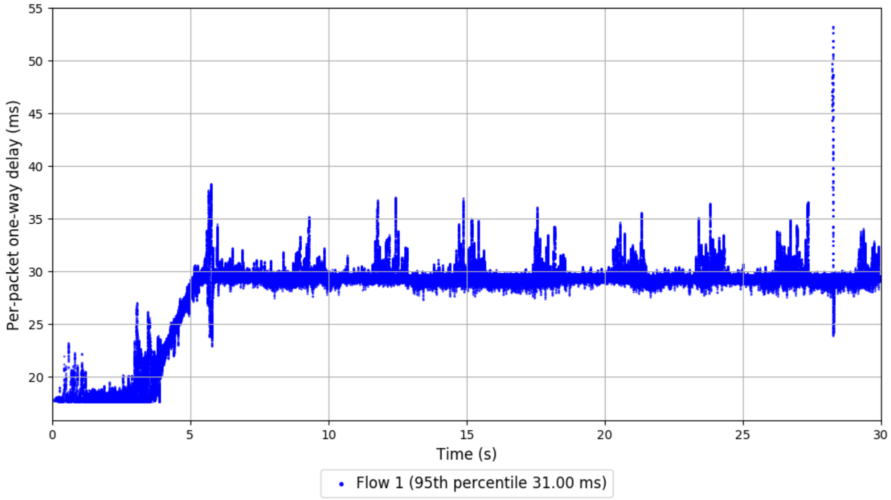
```
Run 4: Statistics of LEDBAT

Start at: 2017-09-17 10:27:12
End at: 2017-09-17 10:27:42
Local clock offset: -0.349 ms
Remote clock offset: -3.586 ms

# Below is generated by plot.py at 2017-09-17 18:51:03
# Datalink statistics
-- Total of 1 flow:
Average throughput: 91.60 Mbit/s
95th percentile per-packet one-way delay: 31.005 ms
Loss rate: 0.17%
-- Flow 1:
Average throughput: 91.60 Mbit/s
95th percentile per-packet one-way delay: 31.005 ms
Loss rate: 0.17%
```

Run 4: Report of LEDBAT — Data Link

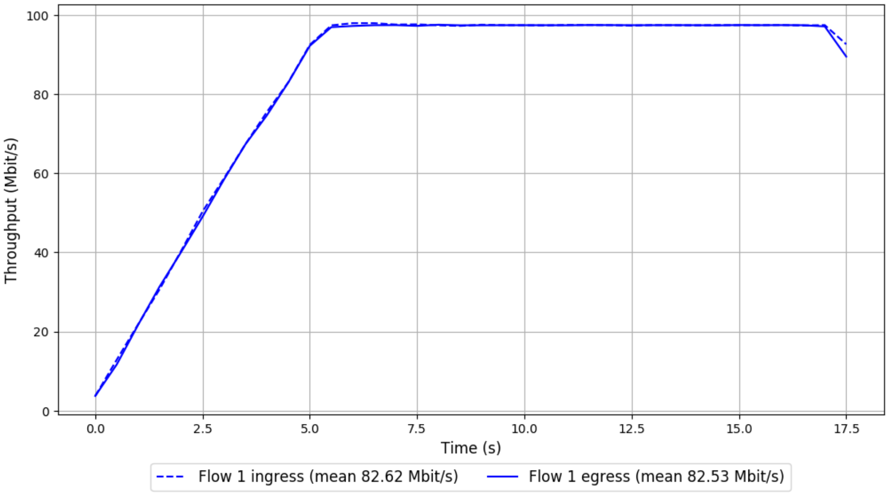


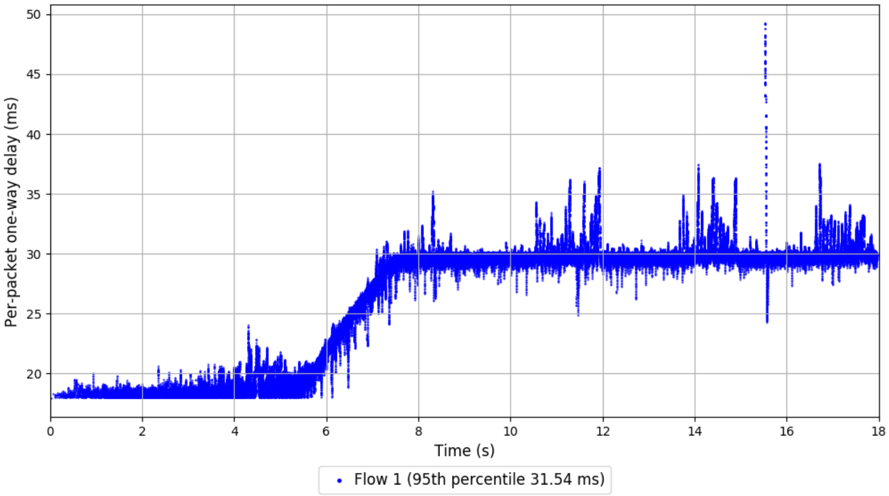


```
Run 5: Statistics of LEDBAT

Start at: 2017-09-17 10:49:59
End at: 2017-09-17 10:50:29
Local clock offset: -0.433 ms
Remote clock offset: -4.266 ms
```

Run 5: Report of LEDBAT — Data Link



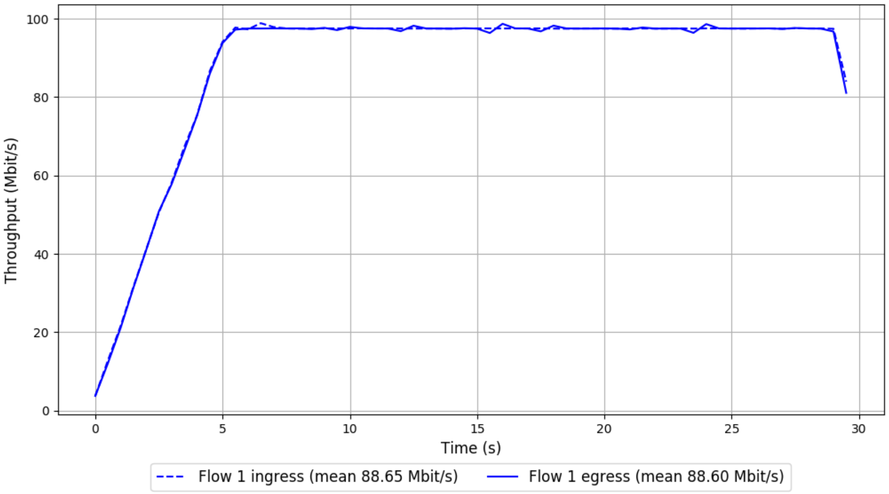


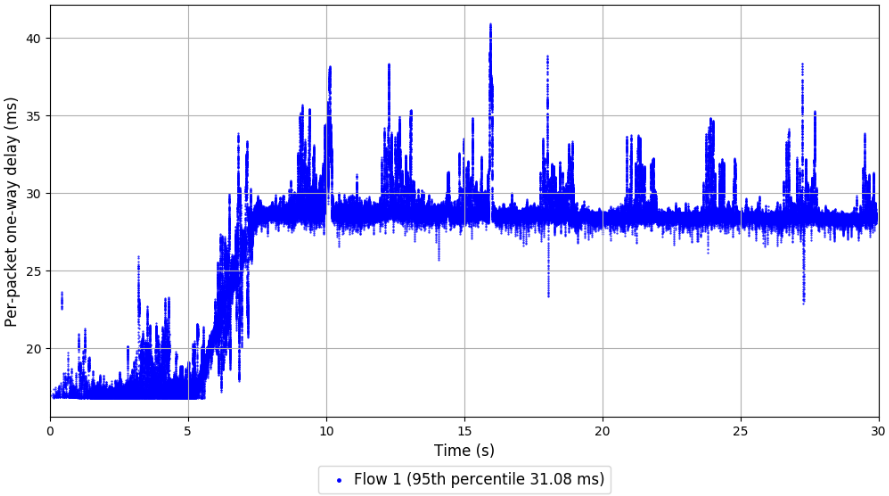
```
Run 6: Statistics of LEDBAT

Start at: 2017-09-17 11:13:05
End at: 2017-09-17 11:13:35
Local clock offset: 3.676 ms
Remote clock offset: -0.682 ms

# Below is generated by plot.py at 2017-09-17 18:51:18
# Datalink statistics
-- Total of 1 flow:
Average throughput: 88.60 Mbit/s
95th percentile per-packet one-way delay: 31.081 ms
Loss rate: 0.17%
-- Flow 1:
Average throughput: 88.60 Mbit/s
95th percentile per-packet one-way delay: 31.081 ms
Loss rate: 0.17%
```

Run 6: Report of LEDBAT — Data Link



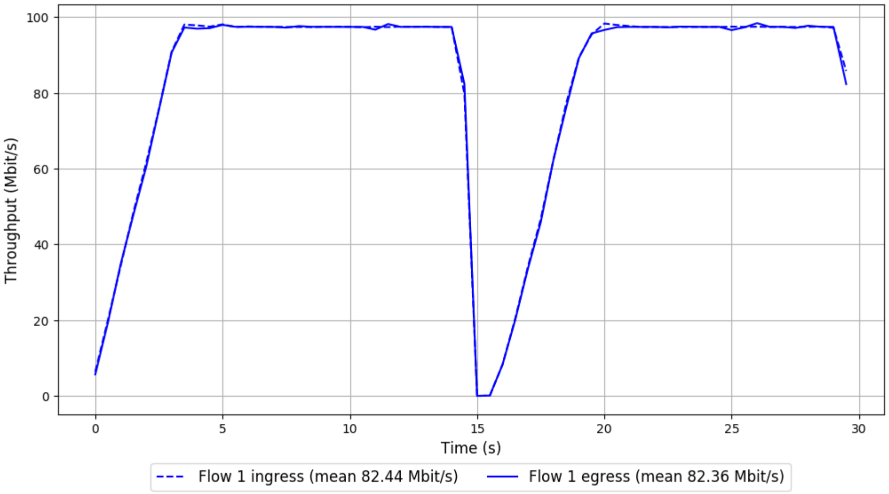


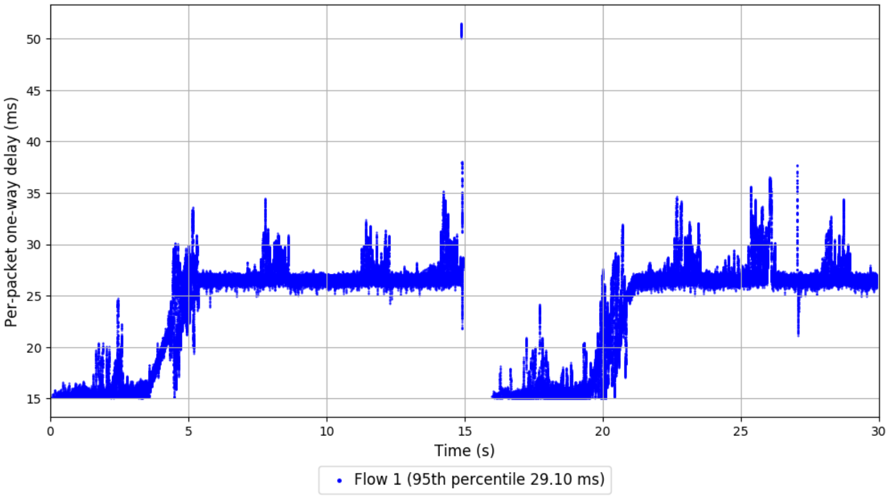
```
Run 7: Statistics of LEDBAT

Start at: 2017-09-17 11:35:53
End at: 2017-09-17 11:36:23
Local clock offset: 5.538 ms
Remote clock offset: -1.017 ms

# Below is generated by plot.py at 2017-09-17 18:51:18
# Datalink statistics
-- Total of 1 flow:
Average throughput: 82.36 Mbit/s
95th percentile per-packet one-way delay: 29.100 ms
Loss rate: 0.22%
-- Flow 1:
Average throughput: 82.36 Mbit/s
95th percentile per-packet one-way delay: 29.100 ms
Loss rate: 0.22%
```

Run 7: Report of LEDBAT — Data Link



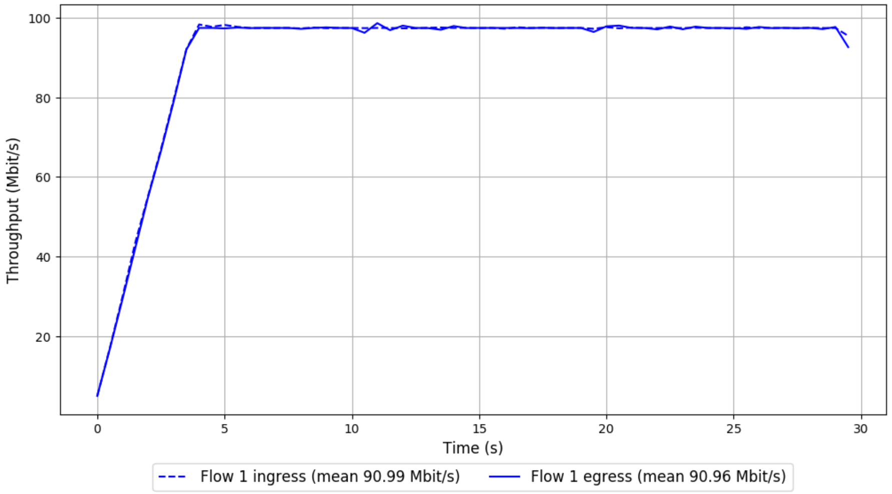


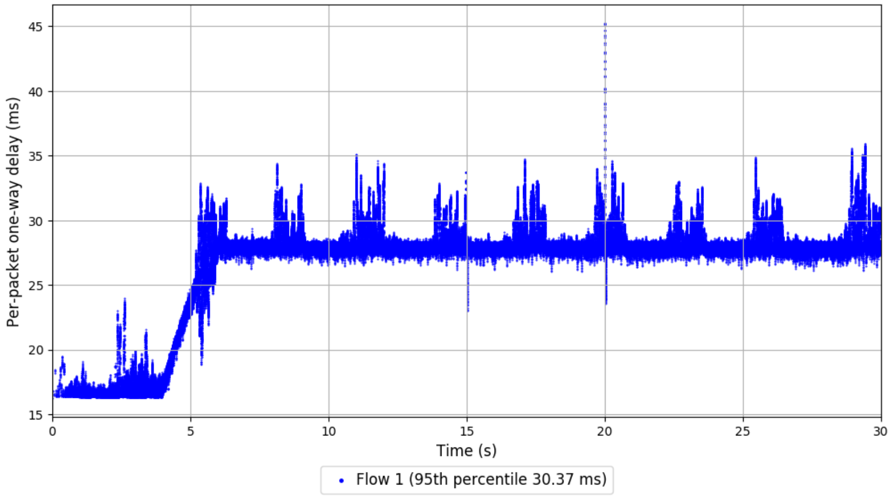
```
Run 8: Statistics of LEDBAT

Start at: 2017-09-17 11:59:39
End at: 2017-09-17 12:00:09
Local clock offset: 7.749 ms
Remote clock offset: -1.775 ms

# Below is generated by plot.py at 2017-09-17 18:51:26
# Datalink statistics
-- Total of 1 flow:
Average throughput: 90.96 Mbit/s
95th percentile per-packet one-way delay: 30.367 ms
Loss rate: 0.15%
-- Flow 1:
Average throughput: 90.96 Mbit/s
95th percentile per-packet one-way delay: 30.367 ms
Loss rate: 0.15%
```

Run 8: Report of LEDBAT — Data Link



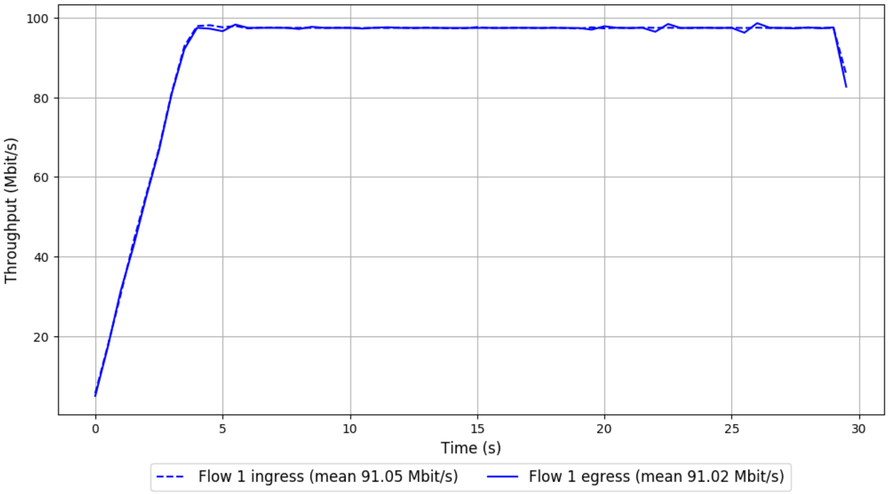


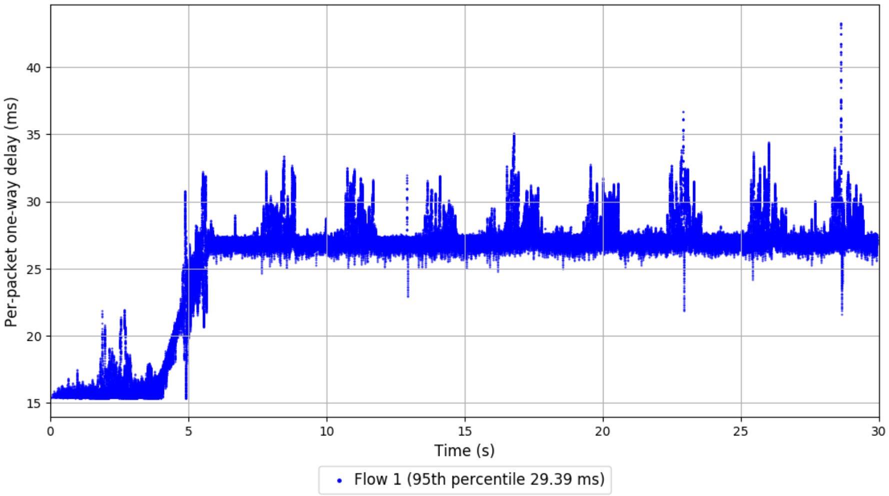
```
Run 9: Statistics of LEDBAT

Start at: 2017-09-17 12:24:17
End at: 2017-09-17 12:24:47
Local clock offset: 6.607 ms
Remote clock offset: -2.092 ms

# Below is generated by plot.py at 2017-09-17 18:51:58
# Datalink statistics
-- Total of 1 flow:
Average throughput: 91.02 Mbit/s
95th percentile per-packet one-way delay: 29.391 ms
Loss rate: 0.15%
-- Flow 1:
Average throughput: 91.02 Mbit/s
95th percentile per-packet one-way delay: 29.391 ms
Loss rate: 0.15%
```

Run 9: Report of LEDBAT — Data Link



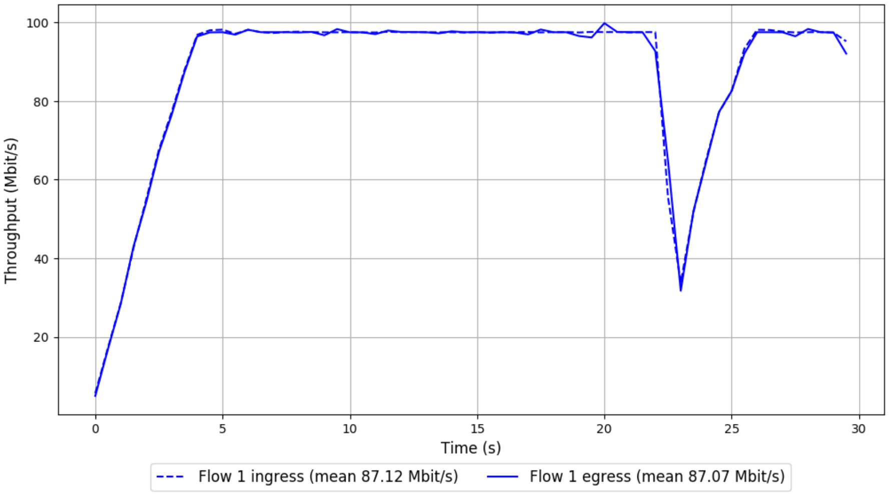


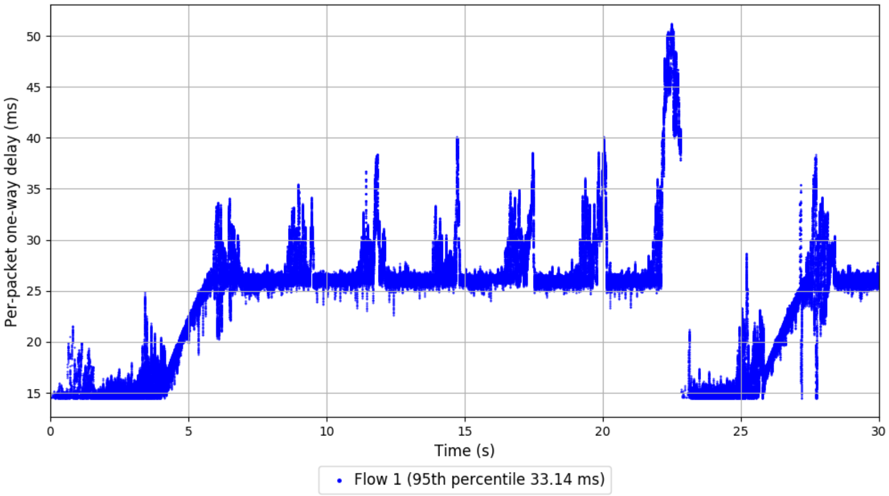
```
Run 10: Statistics of LEDBAT

Start at: 2017-09-17 12:55:08
End at: 2017-09-17 12:55:38
Local clock offset: 5.291 ms
Remote clock offset: -2.155 ms

# Below is generated by plot.py at 2017-09-17 18:52:14
# Datalink statistics
-- Total of 1 flow:
Average throughput: 87.07 Mbit/s
95th percentile per-packet one-way delay: 33.137 ms
Loss rate: 0.17%
-- Flow 1:
Average throughput: 87.07 Mbit/s
95th percentile per-packet one-way delay: 33.137 ms
Loss rate: 0.17%
```

Run 10: Report of LEDBAT — Data Link



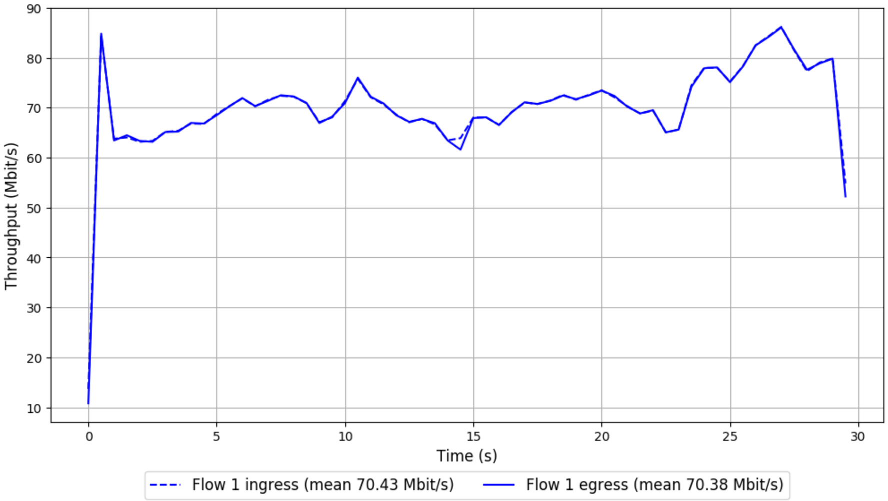


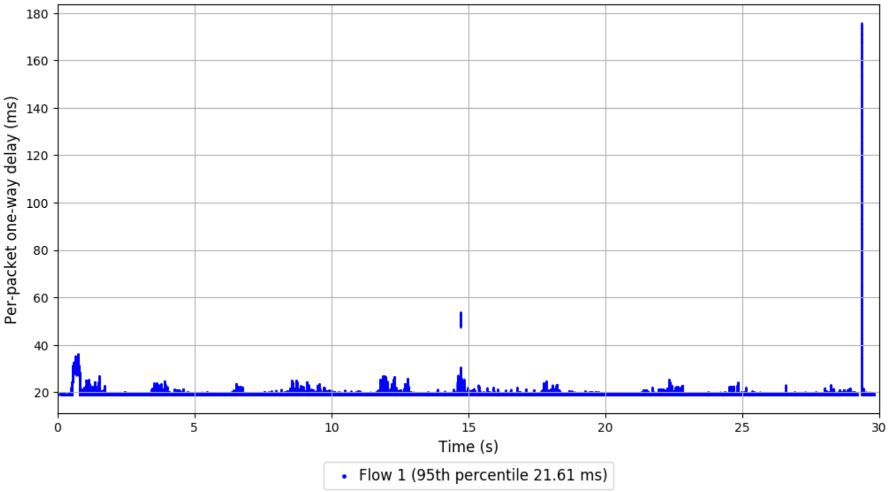
```
Run 1: Statistics of PCC

Start at: 2017-09-17 09:30:32
End at: 2017-09-17 09:31:03
Local clock offset: 0.152 ms
Remote clock offset: -3.255 ms

# Below is generated by plot.py at 2017-09-17 18:52:14
# Datalink statistics
-- Total of 1 flow:
Average throughput: 70.38 Mbit/s
95th percentile per-packet one-way delay: 21.613 ms
Loss rate: 0.19%
-- Flow 1:
Average throughput: 70.38 Mbit/s
95th percentile per-packet one-way delay: 21.613 ms
Loss rate: 0.19%
```

Run 1: Report of PCC — Data Link



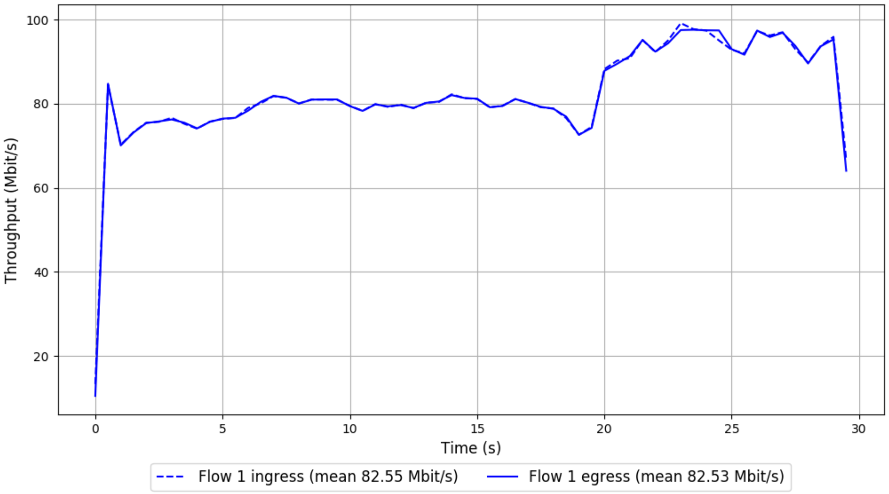


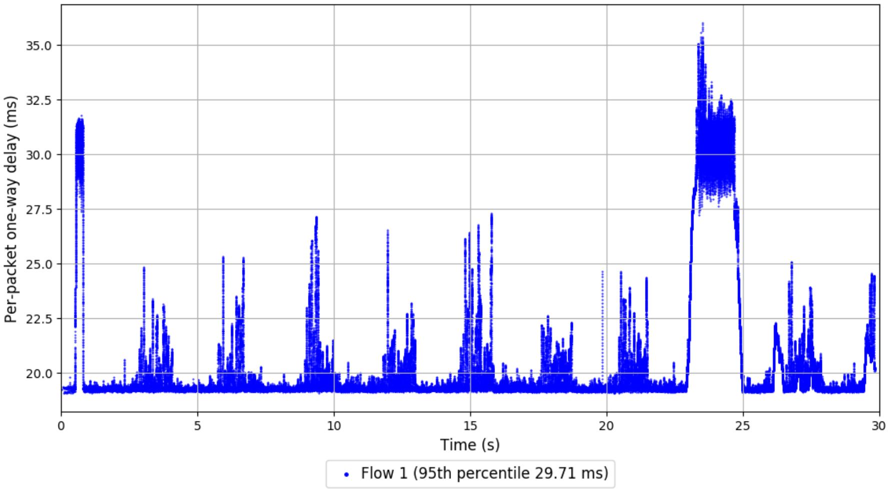
```
Run 2: Statistics of PCC

Start at: 2017-09-17 09:52:58
End at: 2017-09-17 09:53:28
Local clock offset: 1.189 ms
Remote clock offset: -1.914 ms

# Below is generated by plot.py at 2017-09-17 18:52:15
# Datalink statistics
-- Total of 1 flow:
Average throughput: 82.53 Mbit/s
95th percentile per-packet one-way delay: 29.706 ms
Loss rate: 0.14%
-- Flow 1:
Average throughput: 82.53 Mbit/s
95th percentile per-packet one-way delay: 29.706 ms
Loss rate: 0.14%
```

Run 2: Report of PCC — Data Link



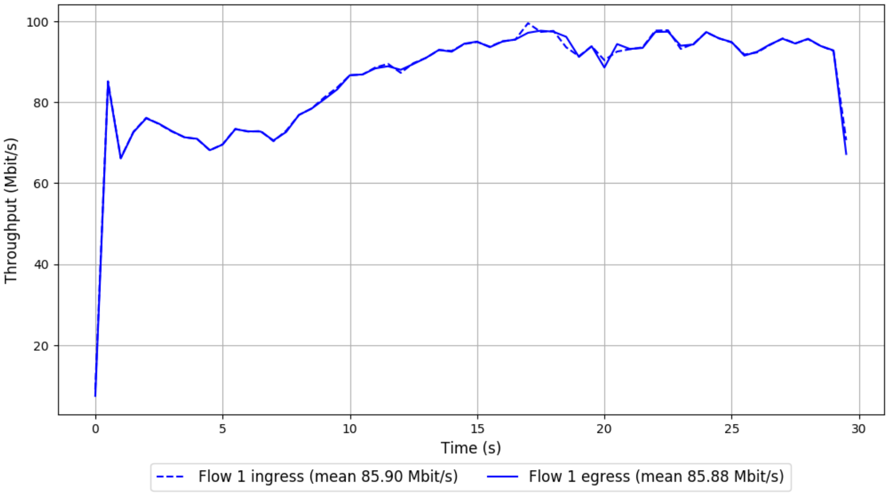


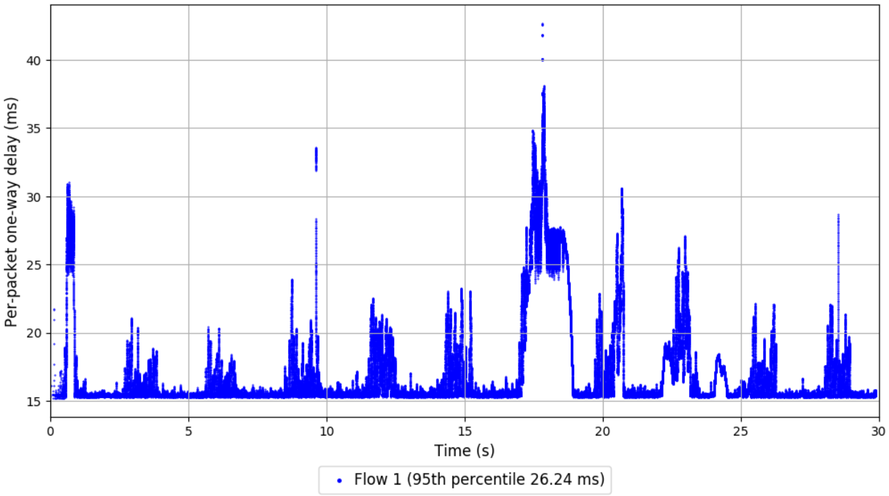
```
Run 3: Statistics of PCC

Start at: 2017-09-17 10:16:36
End at: 2017-09-17 10:17:06
Local clock offset: 0.34 ms
Remote clock offset: -0.188 ms

# Below is generated by plot.py at 2017-09-17 18:52:19
# Datalink statistics
-- Total of 1 flow:
Average throughput: 85.88 Mbit/s
95th percentile per-packet one-way delay: 26.240 ms
Loss rate: 0.13%
-- Flow 1:
Average throughput: 85.88 Mbit/s
95th percentile per-packet one-way delay: 26.240 ms
Loss rate: 0.13%
```

Run 3: Report of PCC — Data Link



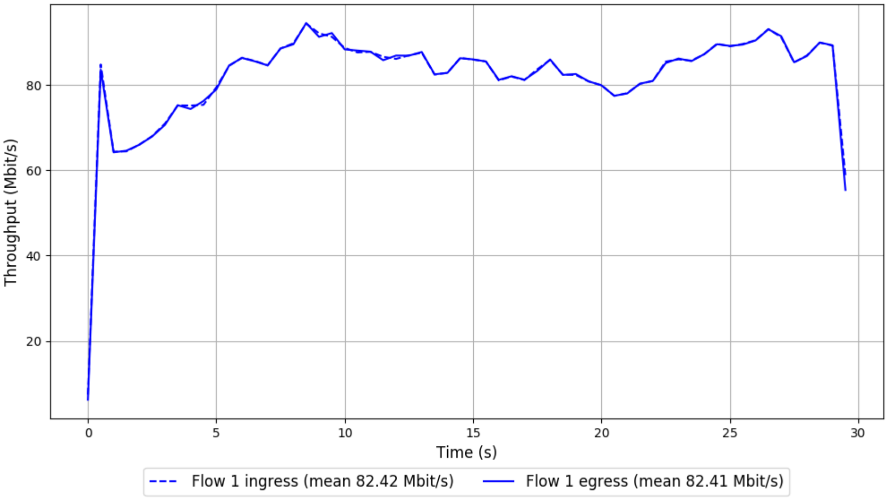


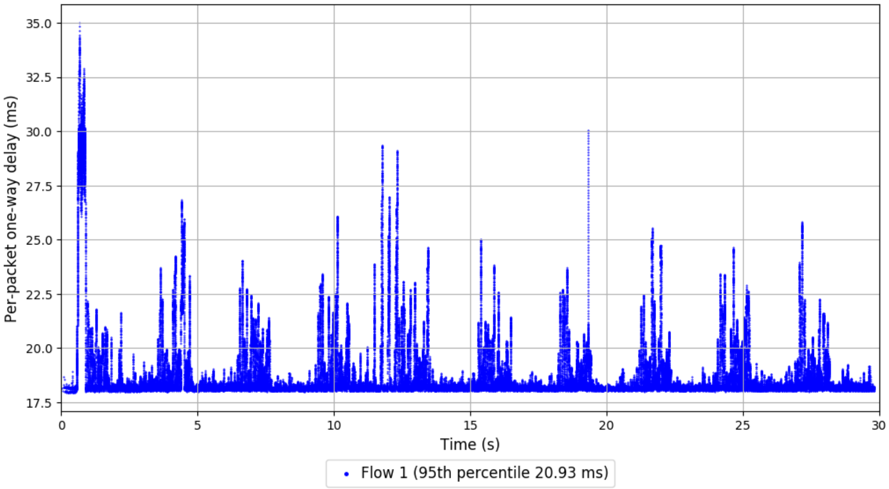
```
Run 4: Statistics of PCC

Start at: 2017-09-17 10:39:10
End at: 2017-09-17 10:39:40
Local clock offset: 0.699 ms
Remote clock offset: -3.276 ms

# Below is generated by plot.py at 2017-09-17 18:52:30
# Datalink statistics
-- Total of 1 flow:
Average throughput: 82.41 Mbit/s
95th percentile per-packet one-way delay: 20.928 ms
Loss rate: 0.13%
-- Flow 1:
Average throughput: 82.41 Mbit/s
95th percentile per-packet one-way delay: 20.928 ms
Loss rate: 0.13%
```

Run 4: Report of PCC — Data Link



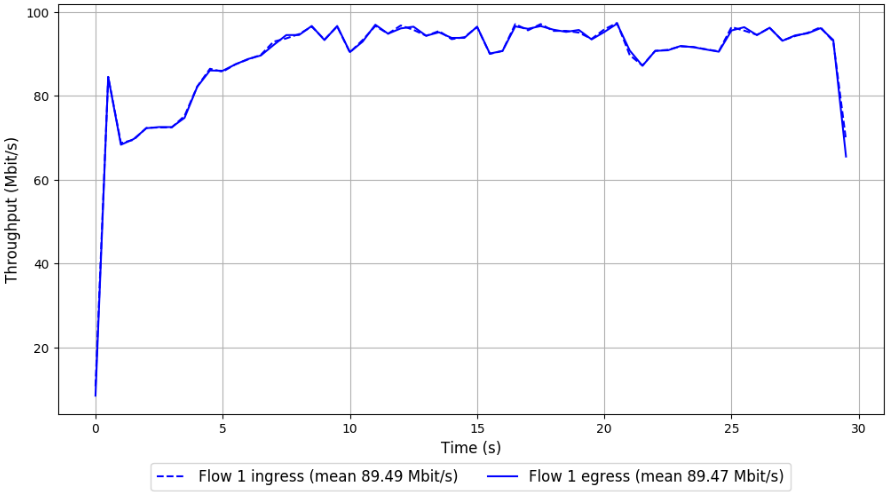


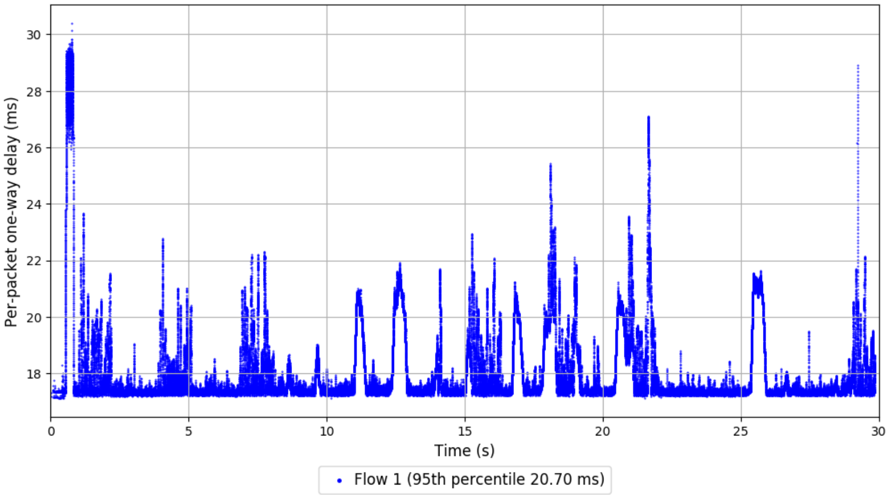
```
Run 5: Statistics of PCC

Start at: 2017-09-17 11:01:34
End at: 2017-09-17 11:02:04
Local clock offset: 1.699 ms
Remote clock offset: -1.433 ms

# Below is generated by plot.py at 2017-09-17 18:52:42
# Datalink statistics
-- Total of 1 flow:
Average throughput: 89.47 Mbit/s
95th percentile per-packet one-way delay: 20.699 ms
Loss rate: 0.13%
-- Flow 1:
Average throughput: 89.47 Mbit/s
95th percentile per-packet one-way delay: 20.699 ms
Loss rate: 0.13%
```

Run 5: Report of PCC — Data Link



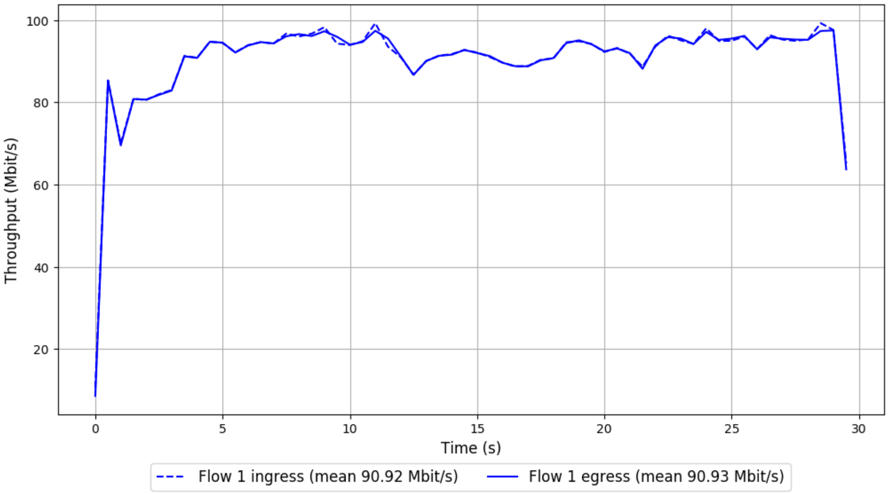


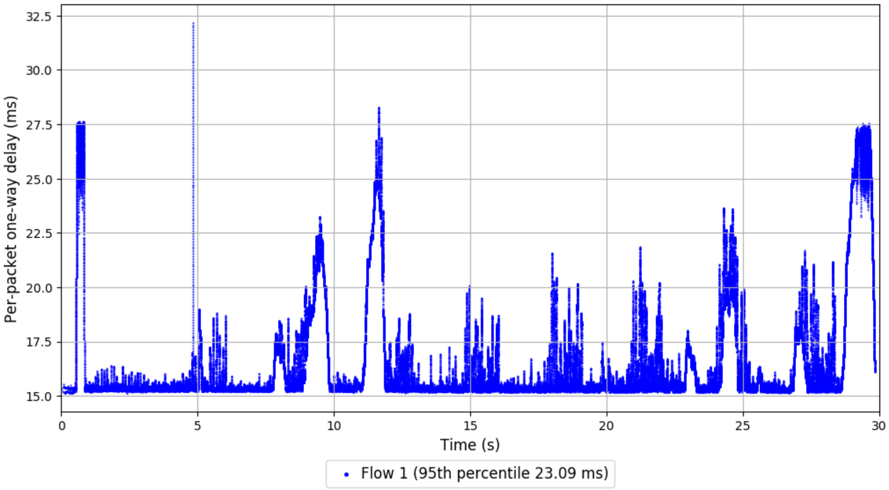
```
Run 6: Statistics of PCC

Start at: 2017-09-17 11:24:54
End at: 2017-09-17 11:25:24
Local clock offset: 1.599 ms
Remote clock offset: -3.217 ms

# Below is generated by plot.py at 2017-09-17 18:52:54
# Datalink statistics
-- Total of 1 flow:
Average throughput: 90.93 Mbit/s
95th percentile per-packet one-way delay: 23.090 ms
Loss rate: 0.12%
-- Flow 1:
Average throughput: 90.93 Mbit/s
95th percentile per-packet one-way delay: 23.090 ms
Loss rate: 0.12%
```

Run 6: Report of PCC — Data Link



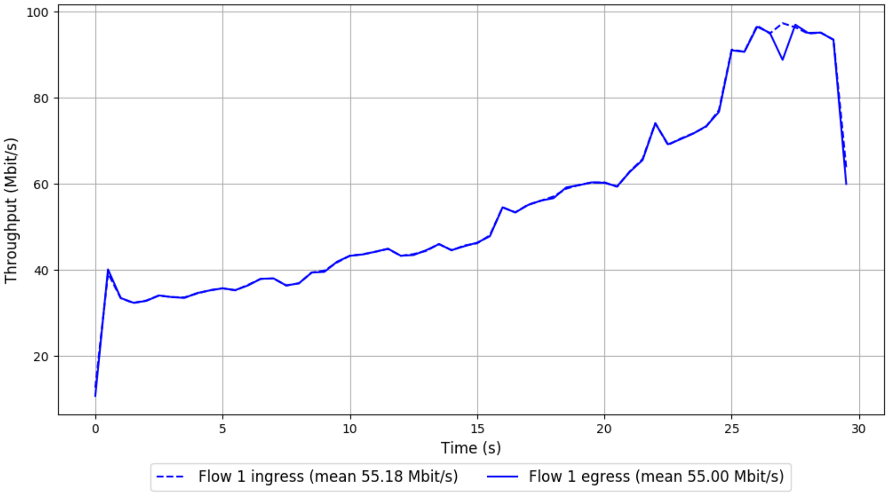


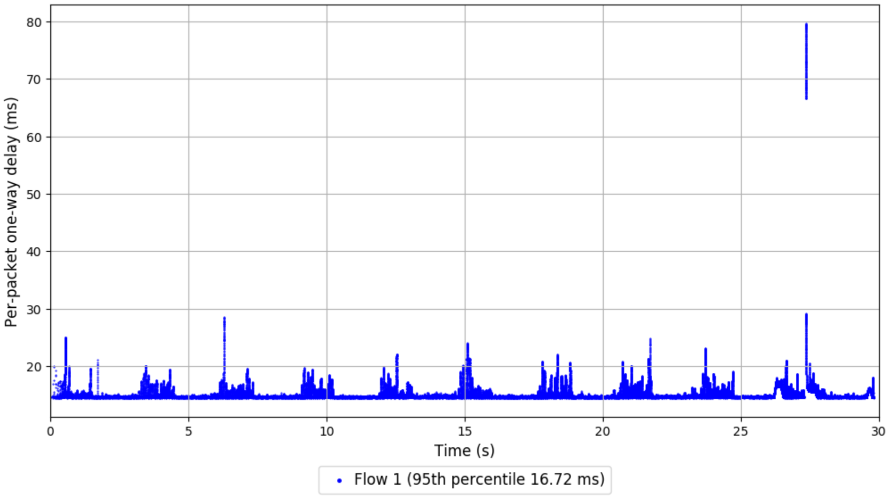
```
Run 7: Statistics of PCC

Start at: 2017-09-17 11:48:05
End at: 2017-09-17 11:48:35
Local clock offset: 5.595 ms
Remote clock offset: -1.833 ms

# Below is generated by plot.py at 2017-09-17 18:52:54
# Datalink statistics
-- Total of 1 flow:
Average throughput: 55.00 Mbit/s
95th percentile per-packet one-way delay: 16.720 ms
Loss rate: 0.44%
-- Flow 1:
Average throughput: 55.00 Mbit/s
95th percentile per-packet one-way delay: 16.720 ms
Loss rate: 0.44%
```

Run 7: Report of PCC — Data Link



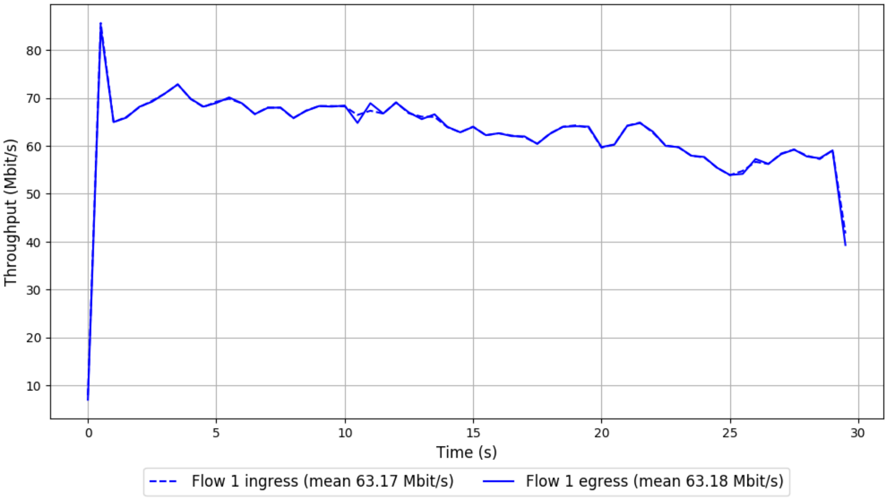


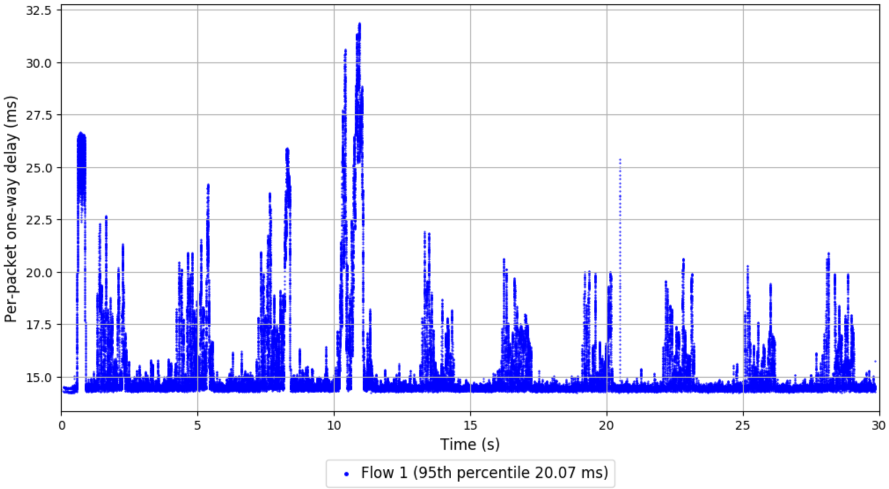
```
Run 8: Statistics of PCC

Start at: 2017-09-17 12:13:08
End at: 2017-09-17 12:13:38
Local clock offset: 6.029 ms
Remote clock offset: -1.795 ms

# Below is generated by plot.py at 2017-09-17 18:53:00
# Datalink statistics
-- Total of 1 flow:
Average throughput: 63.18 Mbit/s
95th percentile per-packet one-way delay: 20.072 ms
Loss rate: 0.11%
-- Flow 1:
Average throughput: 63.18 Mbit/s
95th percentile per-packet one-way delay: 20.072 ms
Loss rate: 0.11%
```

Run 8: Report of PCC — Data Link



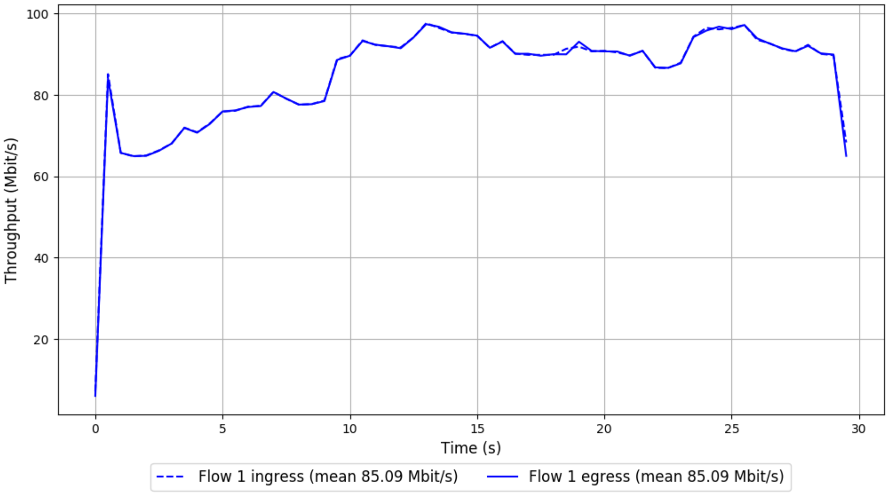


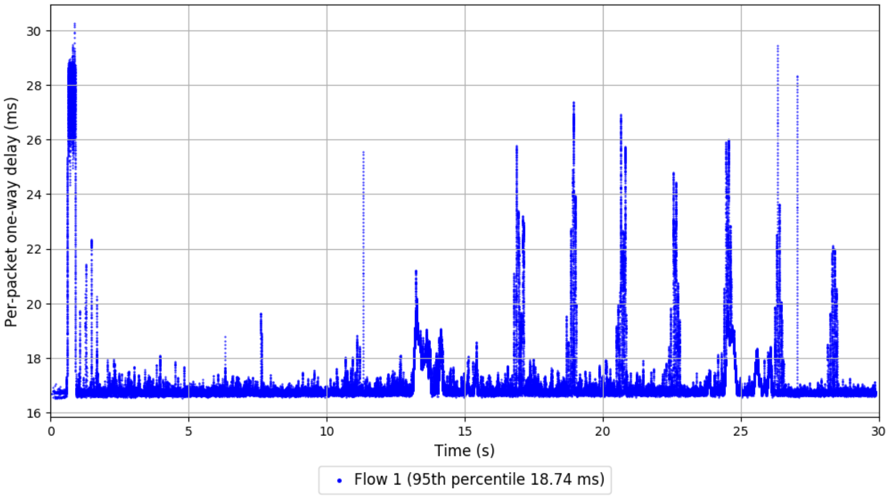
```
Run 9: Statistics of PCC

Start at: 2017-09-17 12:44:28
End at: 2017-09-17 12:44:58
Local clock offset: 6.817 ms
Remote clock offset: -3.144 ms

# Below is generated by plot.py at 2017-09-17 18:53:29
# Datalink statistics
-- Total of 1 flow:
Average throughput: 85.09 Mbit/s
95th percentile per-packet one-way delay: 18.743 ms
Loss rate: 0.12%
-- Flow 1:
Average throughput: 85.09 Mbit/s
95th percentile per-packet one-way delay: 18.743 ms
Loss rate: 0.12%
```

Run 9: Report of PCC — Data Link



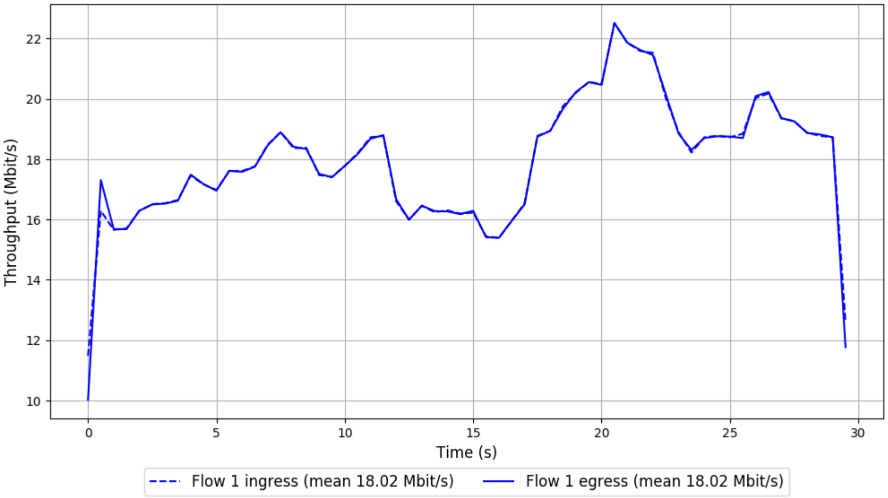


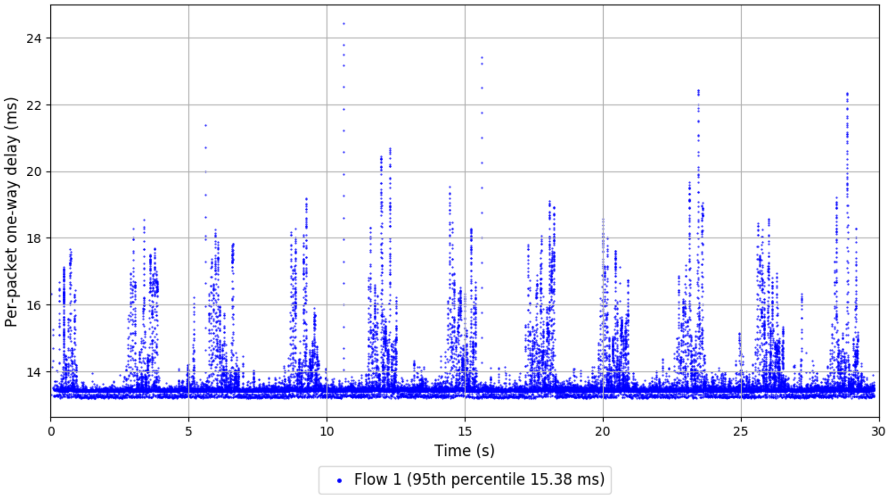
```
Run 10: Statistics of PCC

Start at: 2017-09-17 13:08:12
End at: 2017-09-17 13:08:42
Local clock offset: 3.265 ms
Remote clock offset: -3.002 ms

# Below is generated by plot.py at 2017-09-17 18:53:29
# Datalink statistics
-- Total of 1 flow:
Average throughput: 18.02 Mbit/s
95th percentile per-packet one-way delay: 15.376 ms
Loss rate: 0.12%
-- Flow 1:
Average throughput: 18.02 Mbit/s
95th percentile per-packet one-way delay: 15.376 ms
Loss rate: 0.12%
```

Run 10: Report of PCC — Data Link



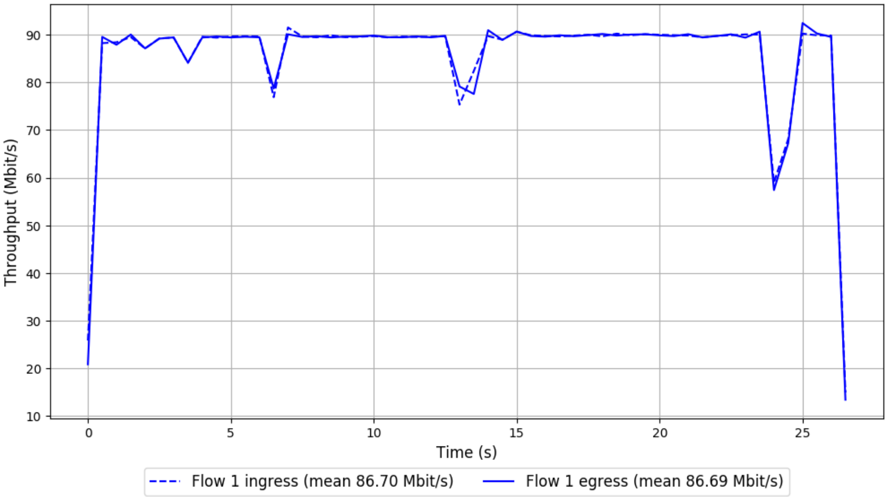


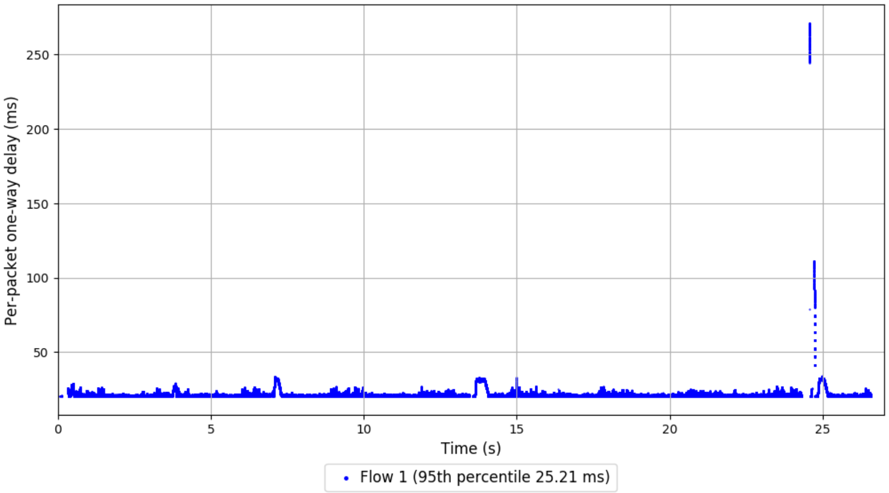
```
Run 1: Statistics of QUIC Cubic

Start at: 2017-09-17 09:22:31
End at: 2017-09-17 09:23:01
Local clock offset: 1.97 ms
Remote clock offset: -3.069 ms

# Below is generated by plot.py at 2017-09-17 18:53:34
# Datalink statistics
-- Total of 1 flow:
Average throughput: 86.69 Mbit/s
95th percentile per-packet one-way delay: 25.207 ms
Loss rate: 0.12%
-- Flow 1:
Average throughput: 86.69 Mbit/s
95th percentile per-packet one-way delay: 25.207 ms
Loss rate: 0.12%
```

Run 1: Report of QUIC Cubic — Data Link



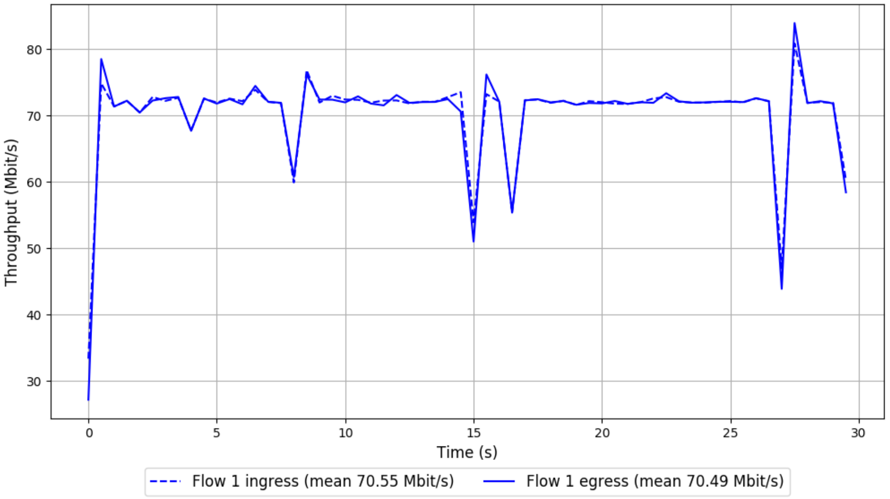


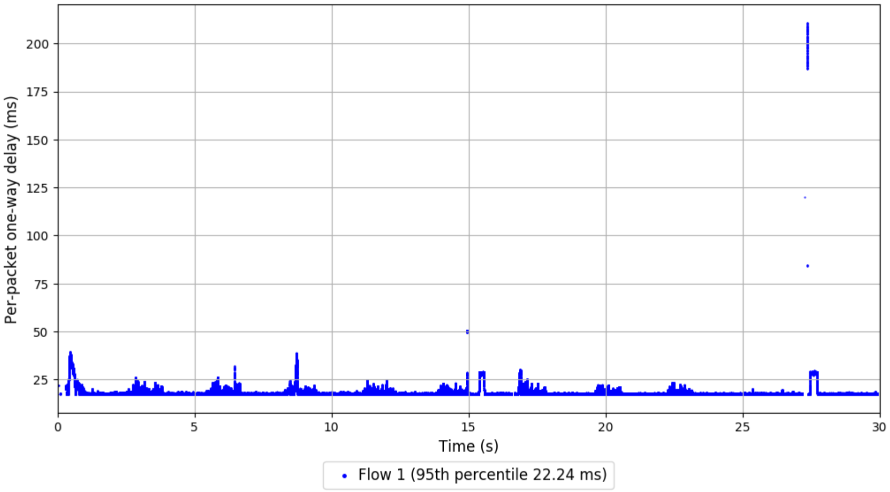
```
Run 2: Statistics of QUIC Cubic

Start at: 2017-09-17 09:44:57
End at: 2017-09-17 09:45:27
Local clock offset: 0.322 ms
Remote clock offset: -0.776 ms

# Below is generated by plot.py at 2017-09-17 18:53:37
# Datalink statistics
-- Total of 1 flow:
Average throughput: 70.49 Mbit/s
95th percentile per-packet one-way delay: 22.237 ms
Loss rate: 0.18%
-- Flow 1:
Average throughput: 70.49 Mbit/s
95th percentile per-packet one-way delay: 22.237 ms
Loss rate: 0.18%
```

Run 2: Report of QUIC Cubic — Data Link



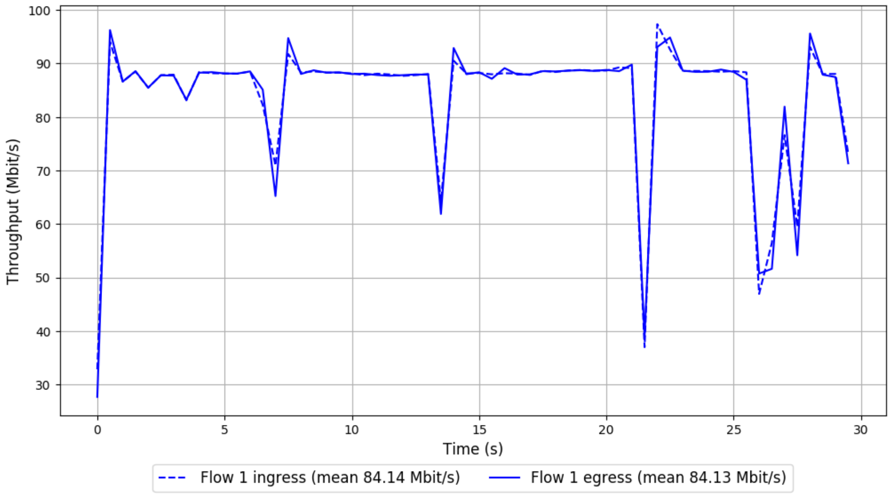


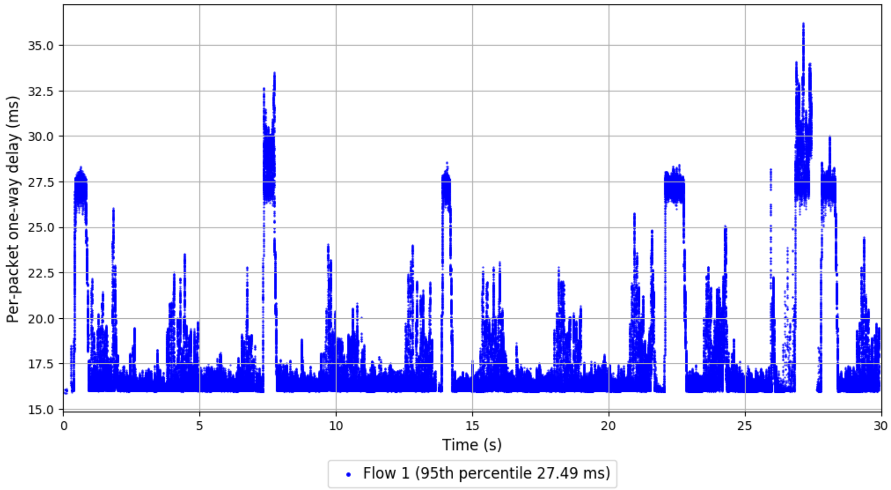
```
Run 3: Statistics of QUIC Cubic

Start at: 2017-09-17 10:07:48
End at: 2017-09-17 10:08:18
Local clock offset: 0.973 ms
Remote clock offset: 0.097 ms

# Below is generated by plot.py at 2017-09-17 18:53:50
# Datalink statistics
-- Total of 1 flow:
Average throughput: 84.13 Mbit/s
95th percentile per-packet one-way delay: 27.489 ms
Loss rate: 0.11%
-- Flow 1:
Average throughput: 84.13 Mbit/s
95th percentile per-packet one-way delay: 27.489 ms
Loss rate: 0.11%
```

Run 3: Report of QUIC Cubic — Data Link



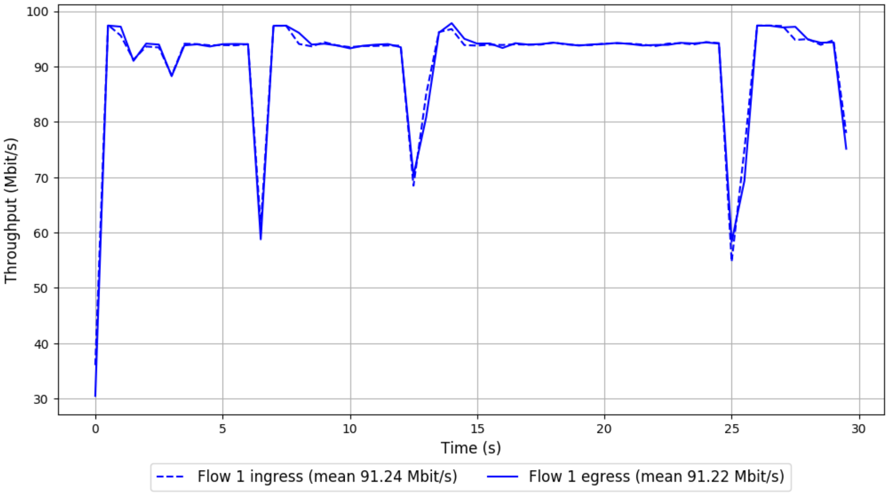


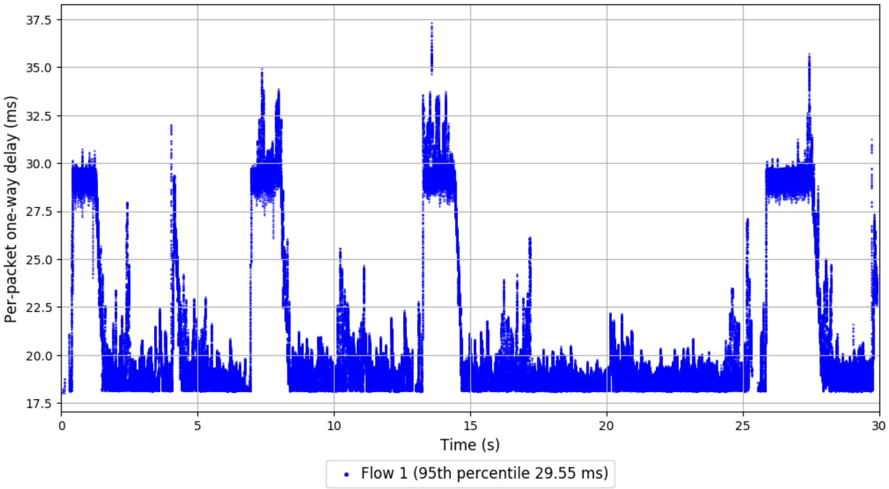
```
Run 4: Statistics of QUIC Cubic

Start at: 2017-09-17 10:30:37
End at: 2017-09-17 10:31:07
Local clock offset: -0.679 ms
Remote clock offset: -4.588 ms

# Below is generated by plot.py at 2017-09-17 18:54:16
# Datalink statistics
-- Total of 1 flow:
Average throughput: 91.22 Mbit/s
95th percentile per-packet one-way delay: 29.552 ms
Loss rate: 0.12%
-- Flow 1:
Average throughput: 91.22 Mbit/s
95th percentile per-packet one-way delay: 29.552 ms
Loss rate: 0.12%
```

Run 4: Report of QUIC Cubic — Data Link



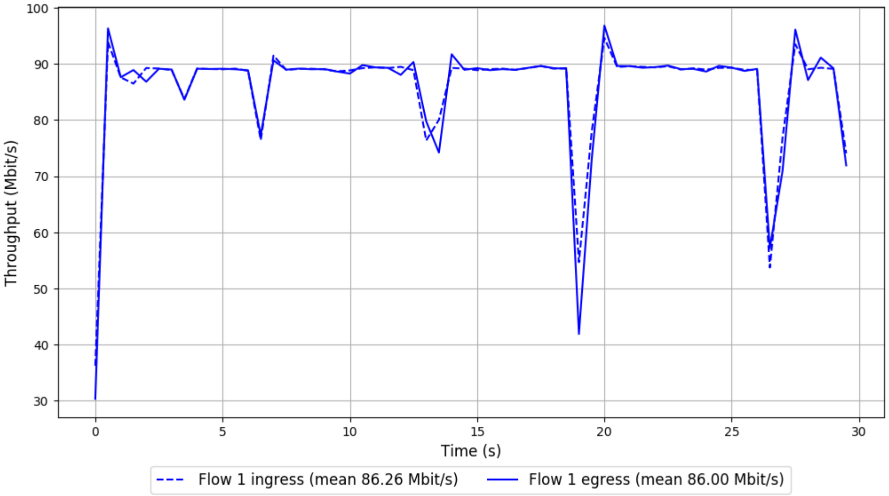


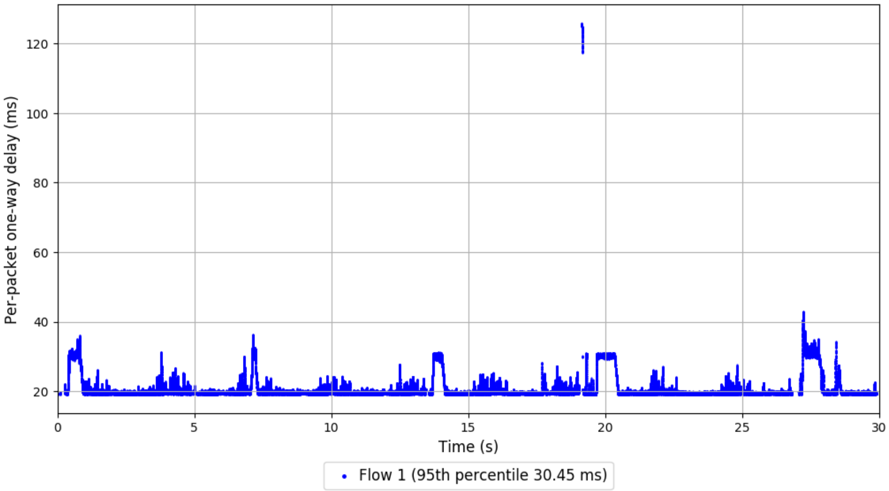
```
Run 5: Statistics of QUIC Cubic

Start at: 2017-09-17 10:53:38
End at: 2017-09-17 10:54:08
Local clock offset: 2.88 ms
Remote clock offset: -2.059 ms

# Below is generated by plot.py at 2017-09-17 18:54:20
# Datalink statistics
-- Total of 1 flow:
Average throughput: 86.00 Mbit/s
95th percentile per-packet one-way delay: 30.455 ms
Loss rate: 0.41%
-- Flow 1:
Average throughput: 86.00 Mbit/s
95th percentile per-packet one-way delay: 30.455 ms
Loss rate: 0.41%
```

Run 5: Report of QUIC Cubic — Data Link



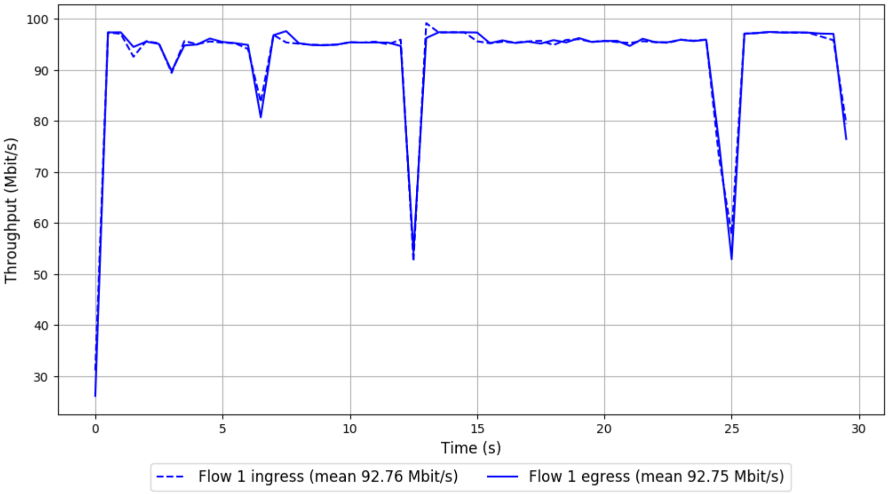


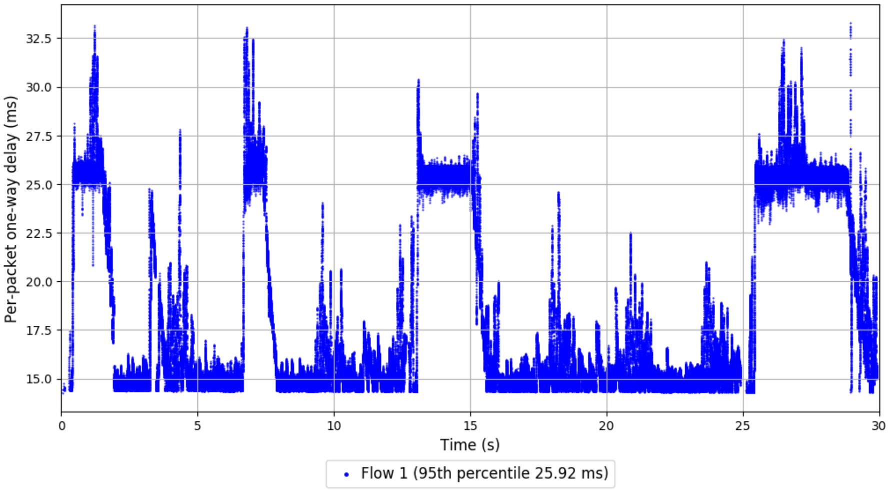
```
Run 6: Statistics of QUIC Cubic

Start at: 2017-09-17 11:16:39
End at: 2017-09-17 11:17:09
Local clock offset: 0.612 ms
Remote clock offset: -1.954 ms

# Below is generated by plot.py at 2017-09-17 18:54:27
# Datalink statistics
-- Total of 1 flow:
Average throughput: 92.75 Mbit/s
95th percentile per-packet one-way delay: 25.922 ms
Loss rate: 0.11%
-- Flow 1:
Average throughput: 92.75 Mbit/s
95th percentile per-packet one-way delay: 25.922 ms
Loss rate: 0.11%
```

Run 6: Report of QUIC Cubic — Data Link



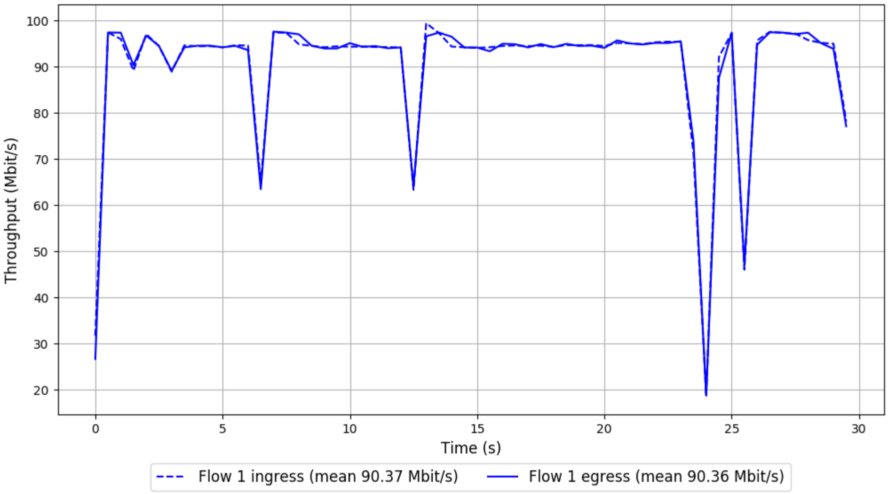


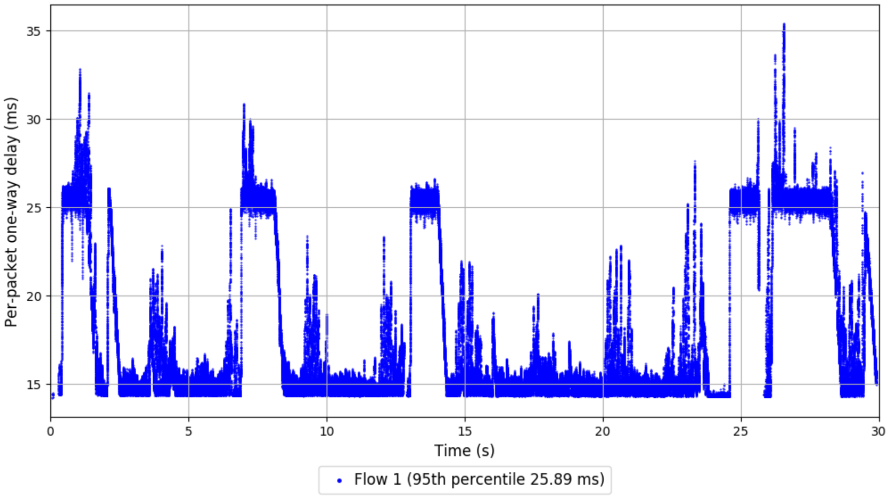
```
Run 7: Statistics of QUIC Cubic

Start at: 2017-09-17 11:39:36
End at: 2017-09-17 11:40:06
Local clock offset: 5.294 ms
Remote clock offset: -0.996 ms

# Below is generated by plot.py at 2017-09-17 18:54:33
# Datalink statistics
-- Total of 1 flow:
Average throughput: 90.36 Mbit/s
95th percentile per-packet one-way delay: 25.891 ms
Loss rate: 0.11%
-- Flow 1:
Average throughput: 90.36 Mbit/s
95th percentile per-packet one-way delay: 25.891 ms
Loss rate: 0.11%
```

Run 7: Report of QUIC Cubic — Data Link



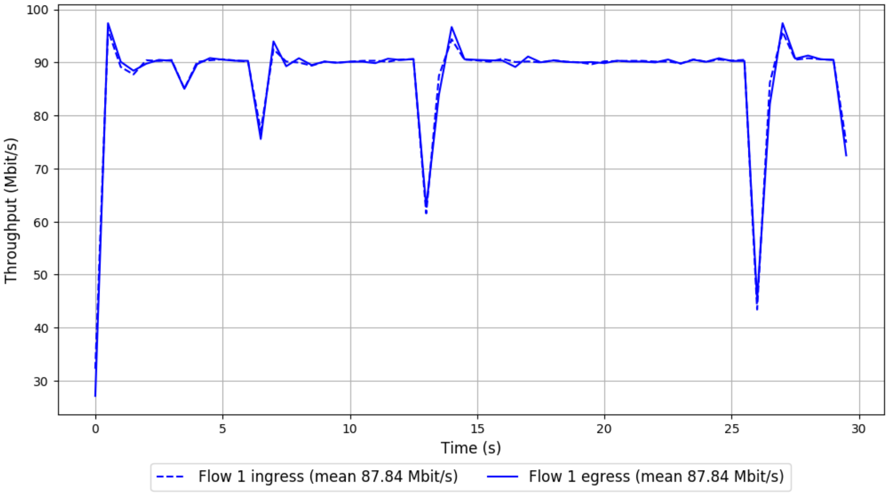


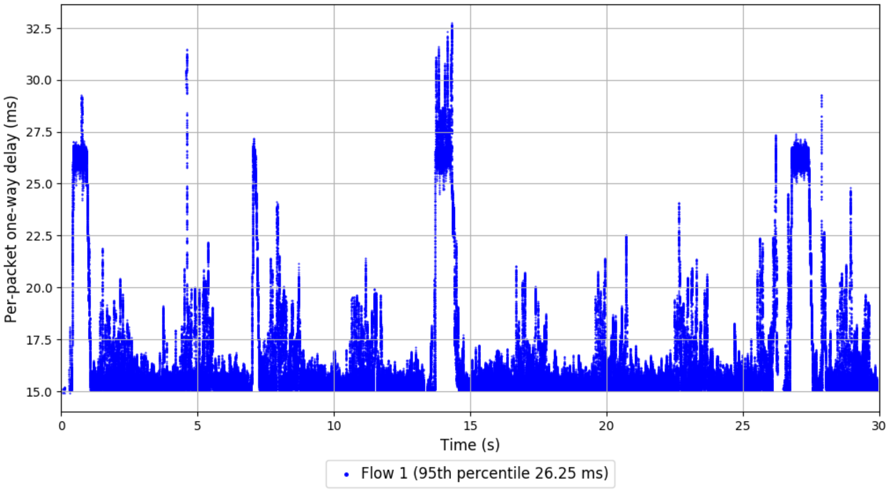
```
Run 8: Statistics of QUIC Cubic

Start at: 2017-09-17 12:03:42
End at: 2017-09-17 12:04:12
Local clock offset: 6.507 ms
Remote clock offset: -1.961 ms

# Below is generated by plot.py at 2017-09-17 18:55:10
# Datalink statistics
-- Total of 1 flow:
Average throughput: 87.84 Mbit/s
95th percentile per-packet one-way delay: 26.253 ms
Loss rate: 0.10%
-- Flow 1:
Average throughput: 87.84 Mbit/s
95th percentile per-packet one-way delay: 26.253 ms
Loss rate: 0.10%
```

Run 8: Report of QUIC Cubic — Data Link



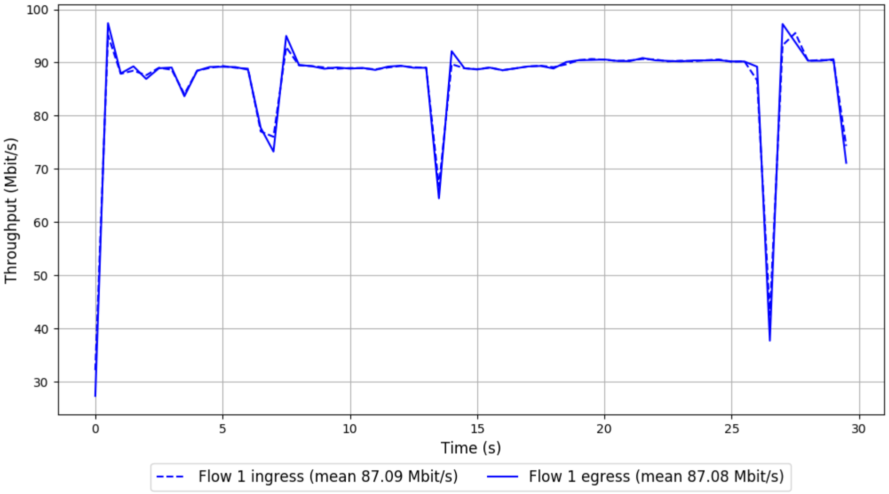


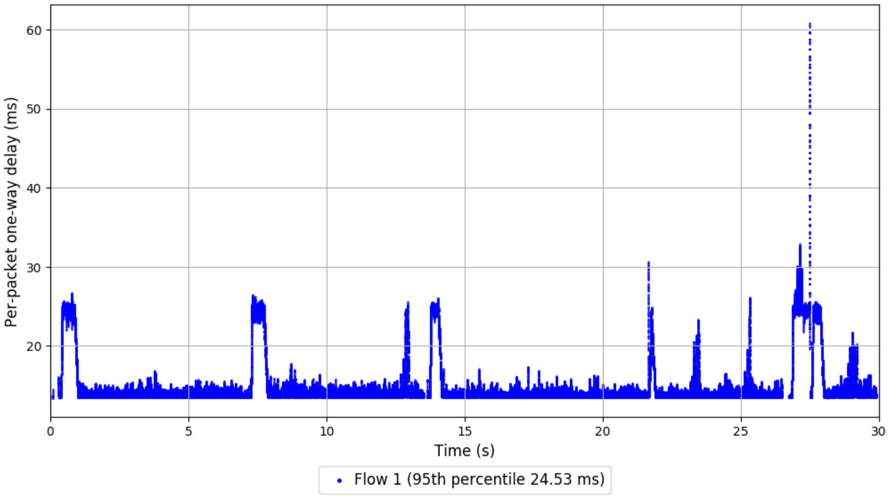
```
Run 9: Statistics of QUIC Cubic

Start at: 2017-09-17 12:37:01
End at: 2017-09-17 12:37:31
Local clock offset: 5.871 ms
Remote clock offset: -1.019 ms

# Below is generated by plot.py at 2017-09-17 18:55:11
# Datalink statistics
-- Total of 1 flow:
Average throughput: 87.08 Mbit/s
95th percentile per-packet one-way delay: 24.526 ms
Loss rate: 0.11%
-- Flow 1:
Average throughput: 87.08 Mbit/s
95th percentile per-packet one-way delay: 24.526 ms
Loss rate: 0.11%
```

Run 9: Report of QUIC Cubic — Data Link



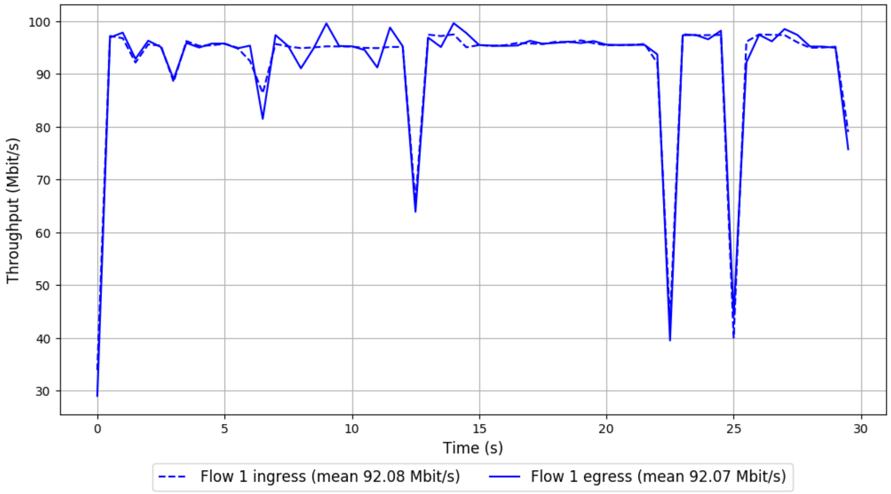


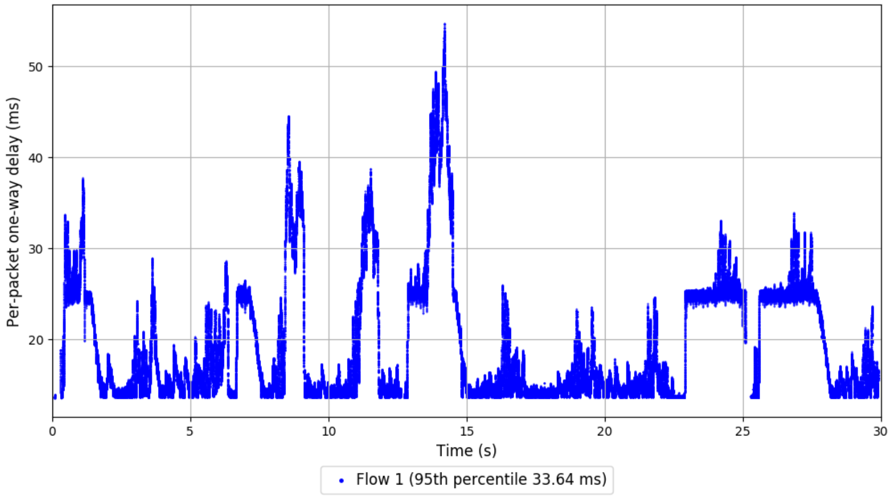
```
Run 10: Statistics of QUIC Cubic

Start at: 2017-09-17 12:59:05
End at: 2017-09-17 12:59:35
Local clock offset: 4.172 ms
Remote clock offset: -2.374 ms

# Below is generated by plot.py at 2017-09-17 18:55:20
# Datalink statistics
-- Total of 1 flow:
Average throughput: 92.07 Mbit/s
95th percentile per-packet one-way delay: 33.641 ms
Loss rate: 0.12%
-- Flow 1:
Average throughput: 92.07 Mbit/s
95th percentile per-packet one-way delay: 33.641 ms
Loss rate: 0.12%
```

Run 10: Report of QUIC Cubic — Data Link



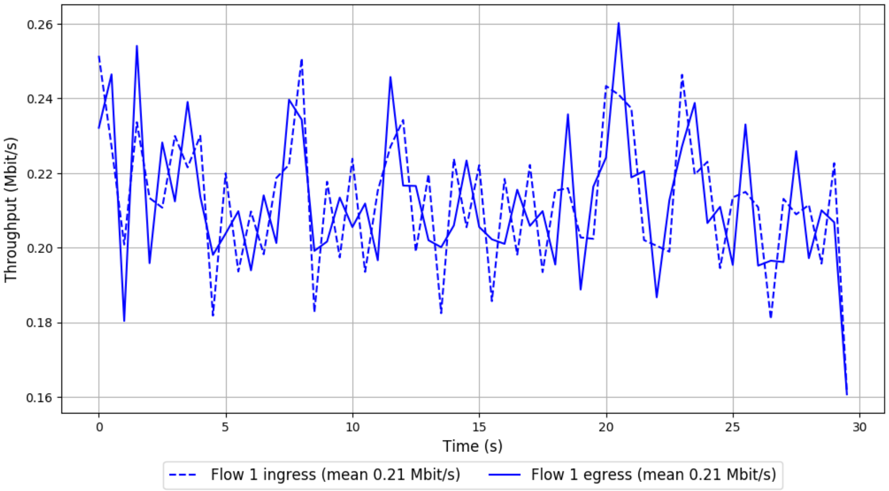


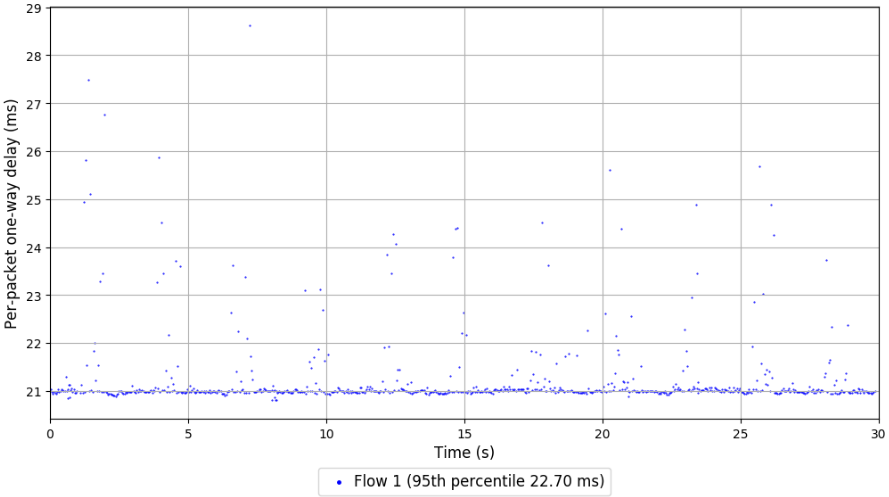
```
Run 1: Statistics of SCReAM

Start at: 2017-09-17 09:15:24
End at: 2017-09-17 09:15:54
Local clock offset: 1.302 ms
Remote clock offset: -4.66 ms

# Below is generated by plot.py at 2017-09-17 18:55:20
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 22.695 ms
Loss rate: 0.13%
-- Flow 1:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 22.695 ms
Loss rate: 0.13%
```

Run 1: Report of SCReAM — Data Link



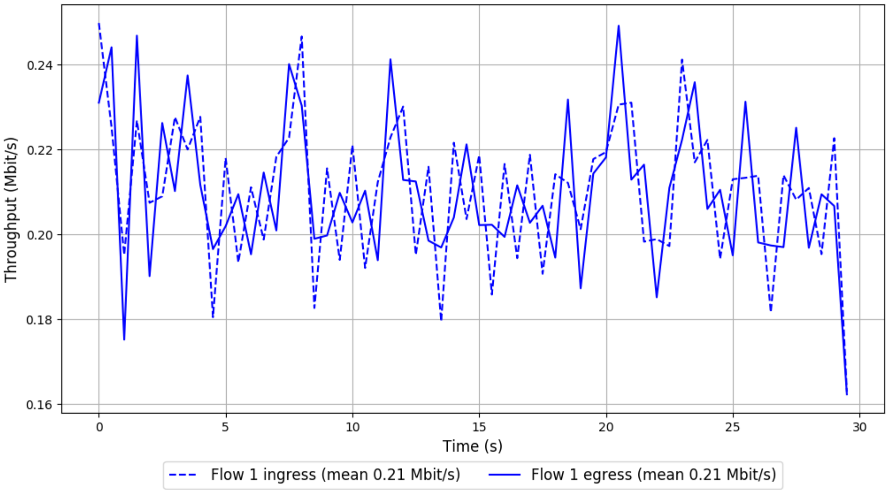


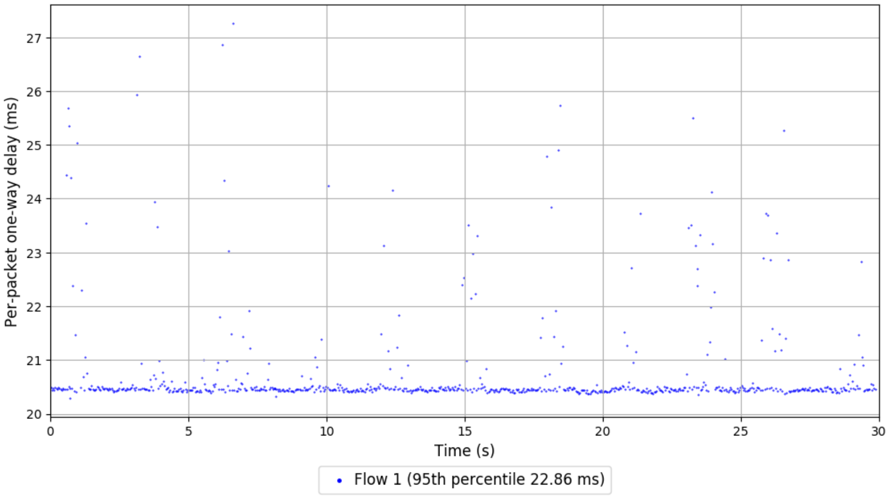
```
Run 2: Statistics of SCReAM

Start at: 2017-09-17 09:37:10
End at: 2017-09-17 09:37:40
Local clock offset: 1.602 ms
Remote clock offset: -3.066 ms

# Below is generated by plot.py at 2017-09-17 18:55:20
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 22.862 ms
Loss rate: 0.13%
-- Flow 1:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 22.862 ms
Loss rate: 0.13%
```

Run 2: Report of SCReAM — Data Link



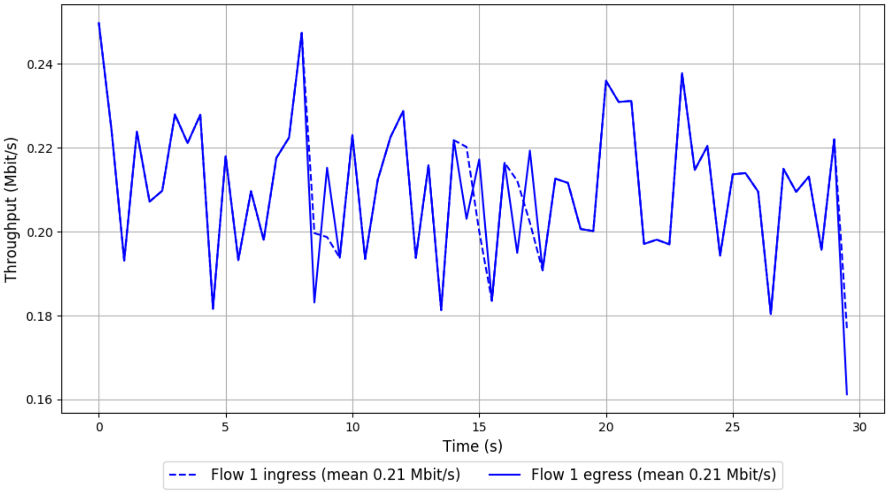


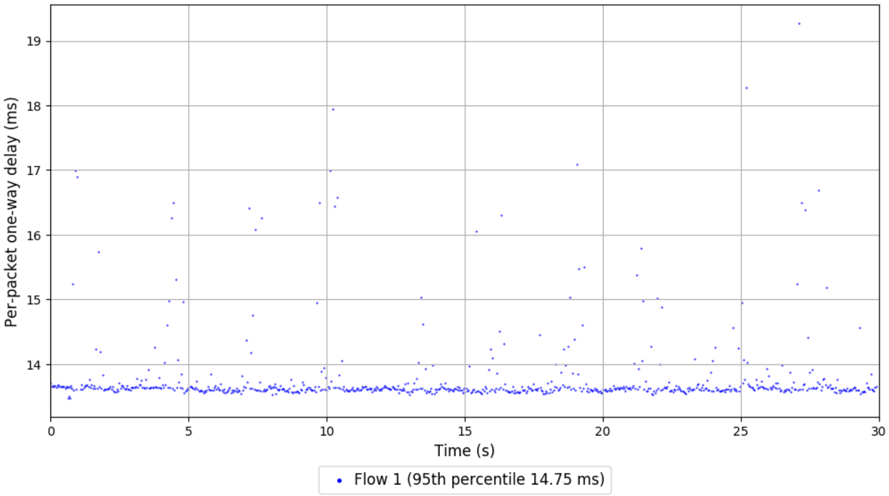
```
Run 3: Statistics of SCReAM

Start at: 2017-09-17 10:00:05
End at: 2017-09-17 10:00:35
Local clock offset: -1.99 ms
Remote clock offset: -0.024 ms

# Below is generated by plot.py at 2017-09-17 18:55:20
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 14.751 ms
Loss rate: 0.13%
-- Flow 1:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 14.751 ms
Loss rate: 0.13%
```

Run 3: Report of SCReAM — Data Link



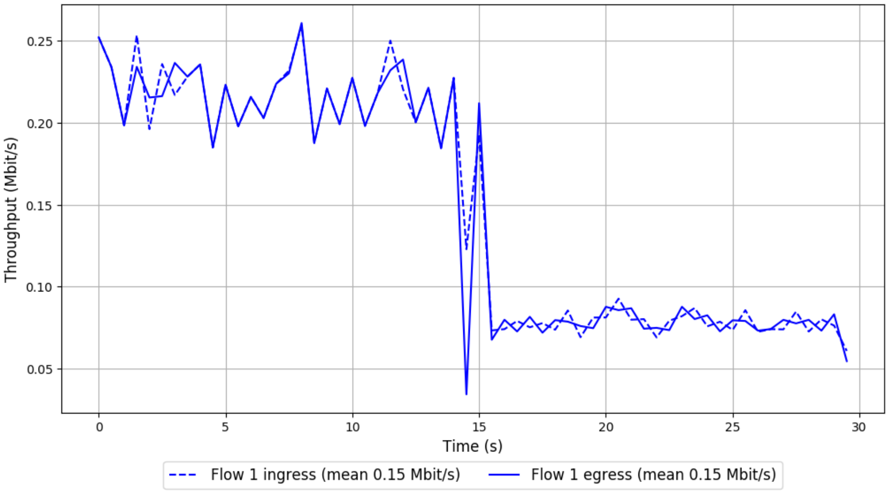


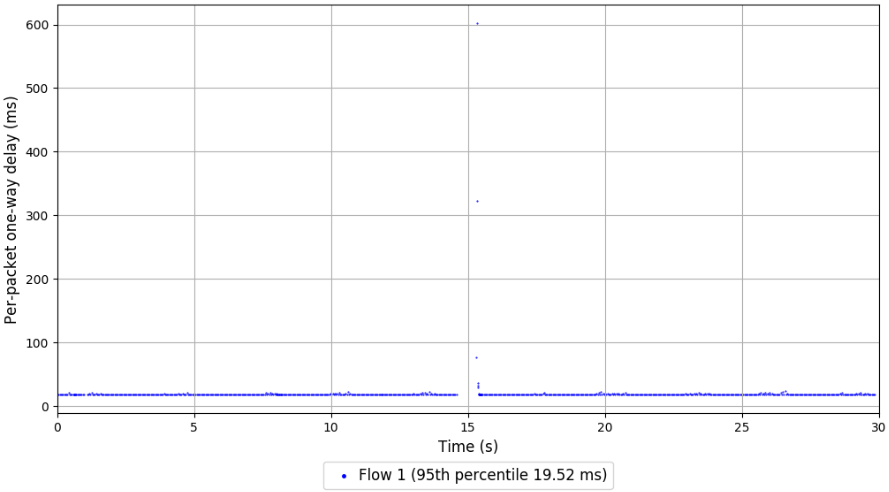
```
Run 4: Statistics of SCReAM

Start at: 2017-09-17 10:23:19
End at: 2017-09-17 10:23:49
Local clock offset: -0.787 ms
Remote clock offset: -4.398 ms

# Below is generated by plot.py at 2017-09-17 18:55:20
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.15 Mbit/s
95th percentile per-packet one-way delay: 19.515 ms
Loss rate: 0.85%
-- Flow 1:
Average throughput: 0.15 Mbit/s
95th percentile per-packet one-way delay: 19.515 ms
Loss rate: 0.85%
```

Run 4: Report of SCReAM — Data Link



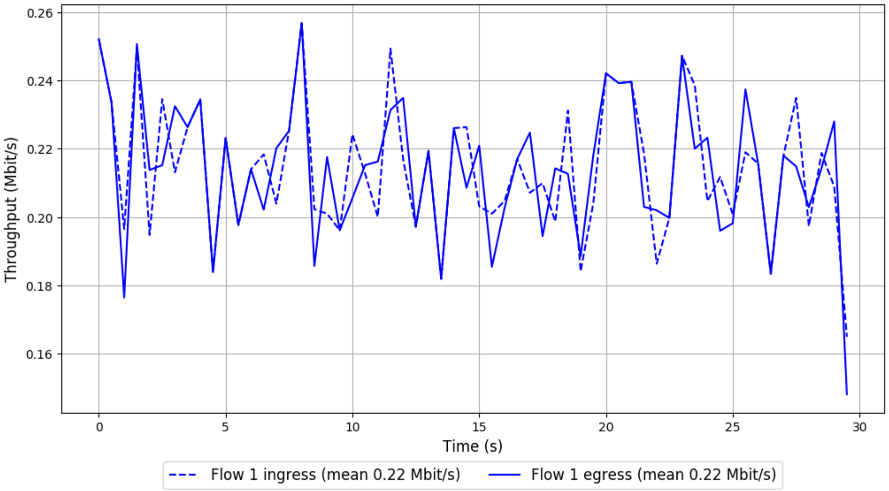


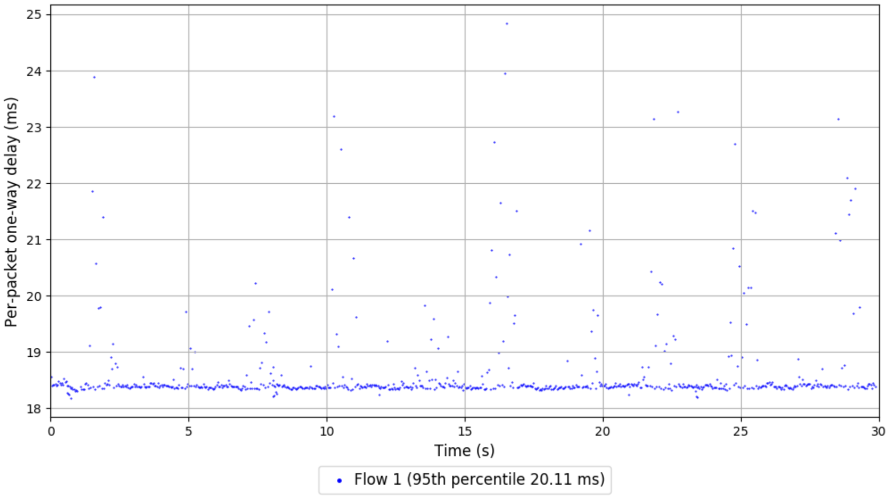
```
Run 5: Statistics of SCReAM

Start at: 2017-09-17 10:46:04
End at: 2017-09-17 10:46:34
Local clock offset: 1.085 ms
Remote clock offset: -3.09 ms

# Below is generated by plot.py at 2017-09-17 18:55:20
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 20.106 ms
Loss rate: 0.13%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 20.106 ms
Loss rate: 0.13%
```

Run 5: Report of SCReAM — Data Link



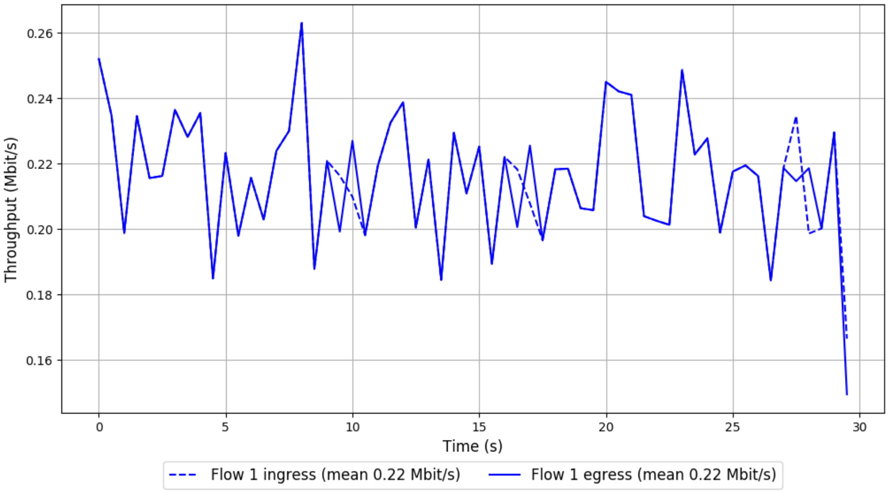


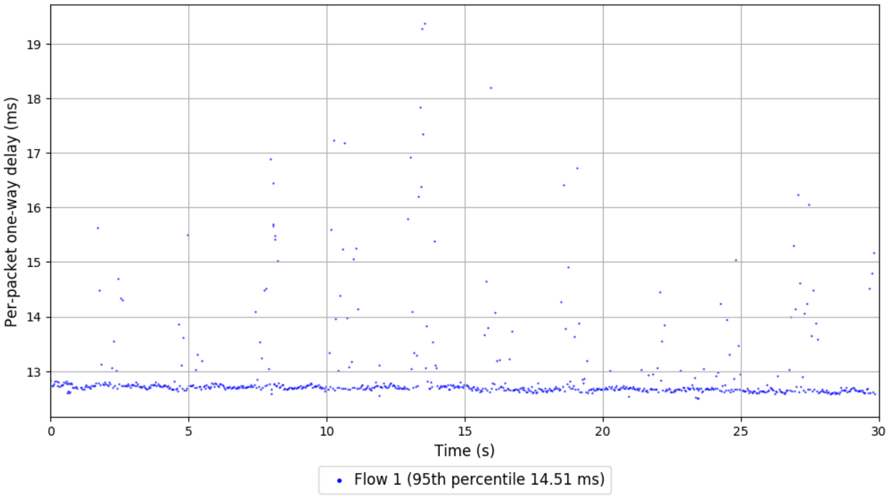
```
Run 6: Statistics of SCReAM

Start at: 2017-09-17 11:09:02
End at: 2017-09-17 11:09:32
Local clock offset: -0.95 ms
Remote clock offset: -0.455 ms

# Below is generated by plot.py at 2017-09-17 18:55:20
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 14.514 ms
Loss rate: 0.13%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 14.514 ms
Loss rate: 0.13%
```

Run 6: Report of SCReAM — Data Link



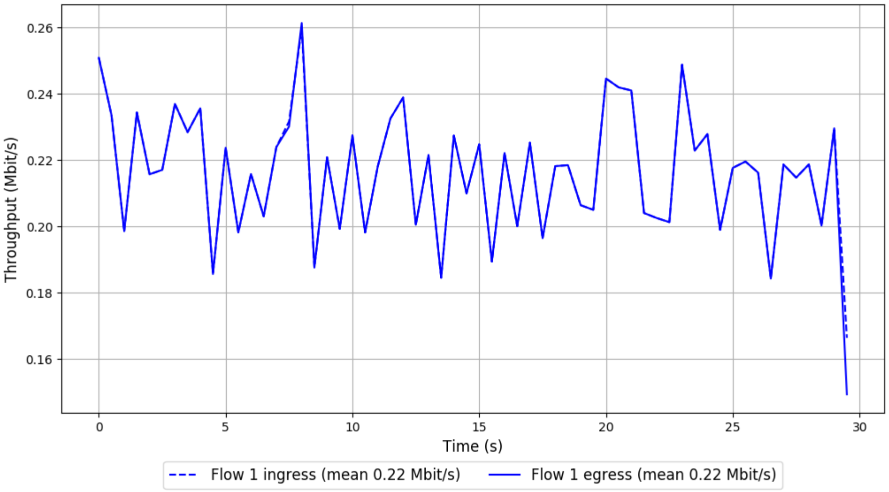


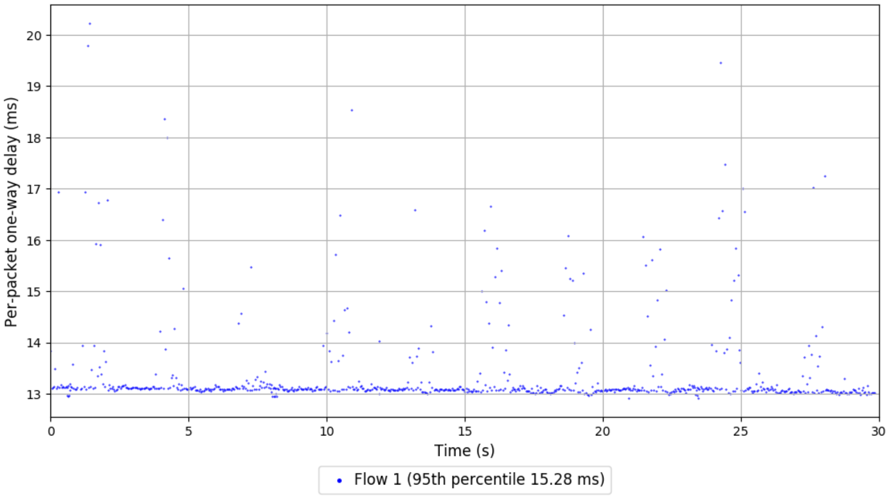
```
Run 7: Statistics of SCReAM

Start at: 2017-09-17 11:31:52
End at: 2017-09-17 11:32:22
Local clock offset: 2.758 ms
Remote clock offset: -1.272 ms

# Below is generated by plot.py at 2017-09-17 18:55:20
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 15.276 ms
Loss rate: 0.13%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 15.276 ms
Loss rate: 0.13%
```

Run 7: Report of SCReAM — Data Link



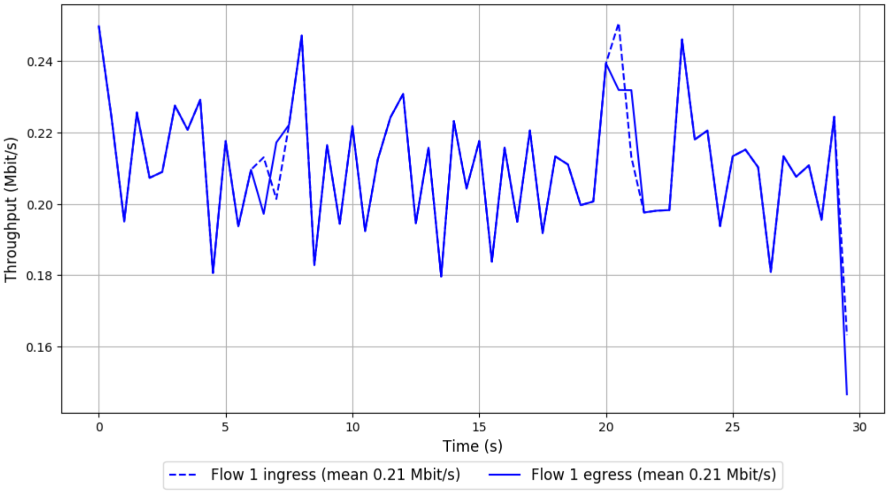


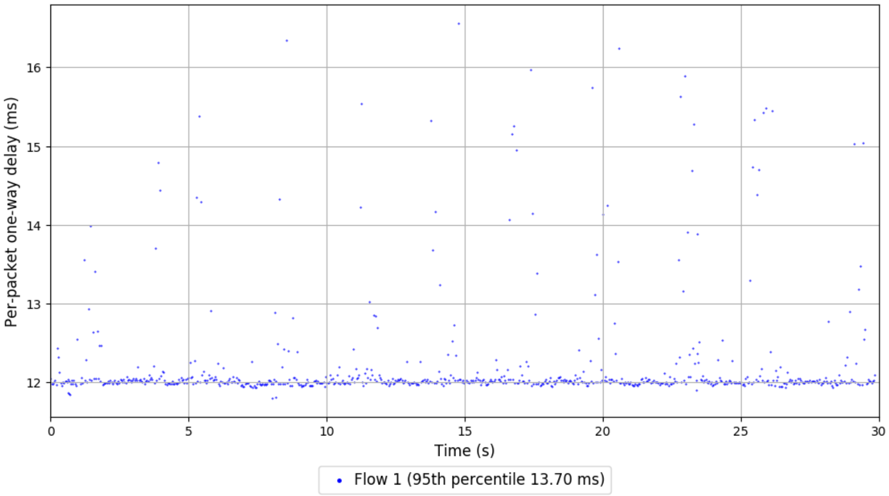
```
Run 8: Statistics of SCReAM

Start at: 2017-09-17 11:55:31
End at: 2017-09-17 11:56:01
Local clock offset: 3.757 ms
Remote clock offset: -1.348 ms

# Below is generated by plot.py at 2017-09-17 18:55:20
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 13.702 ms
Loss rate: 0.13%
-- Flow 1:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 13.702 ms
Loss rate: 0.13%
```

Run 8: Report of SCReAM — Data Link



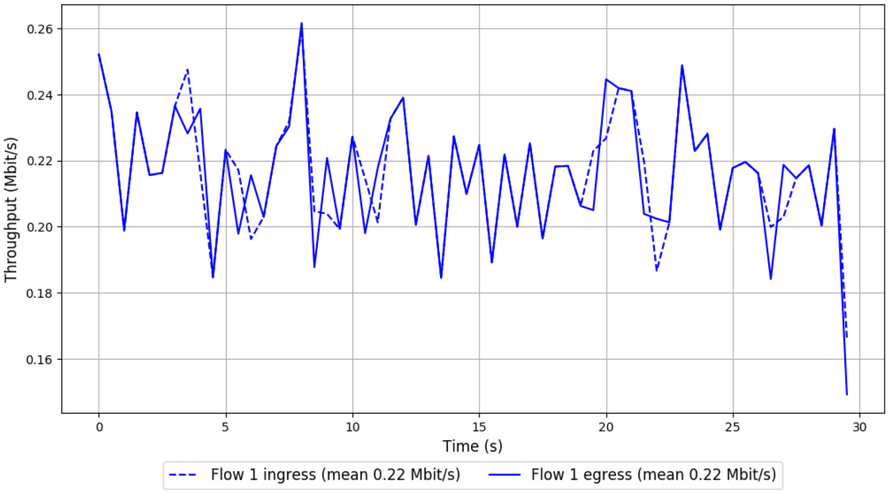


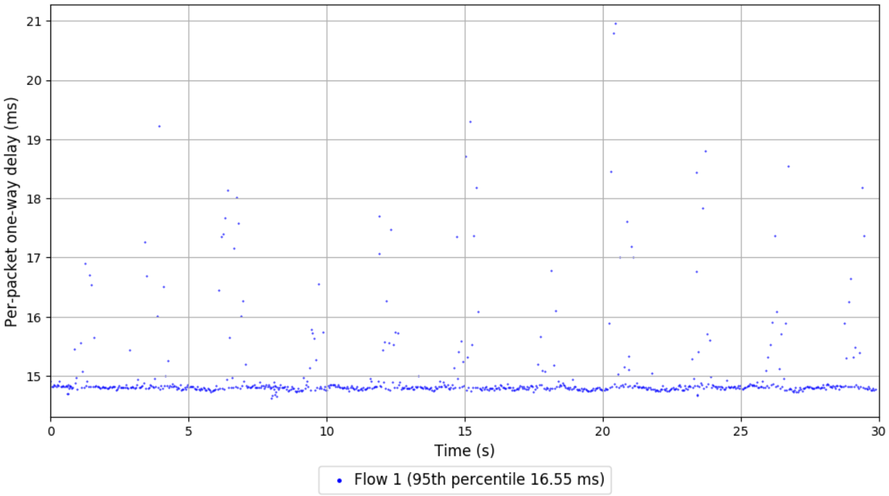
```
Run 9: Statistics of SCReAM

Start at: 2017-09-17 12:20:23
End at: 2017-09-17 12:20:54
Local clock offset: 6.775 ms
Remote clock offset: -1.299 ms

# Below is generated by plot.py at 2017-09-17 18:55:20
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 16.546 ms
Loss rate: 0.13%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 16.546 ms
Loss rate: 0.13%
```

Run 9: Report of SCReAM — Data Link



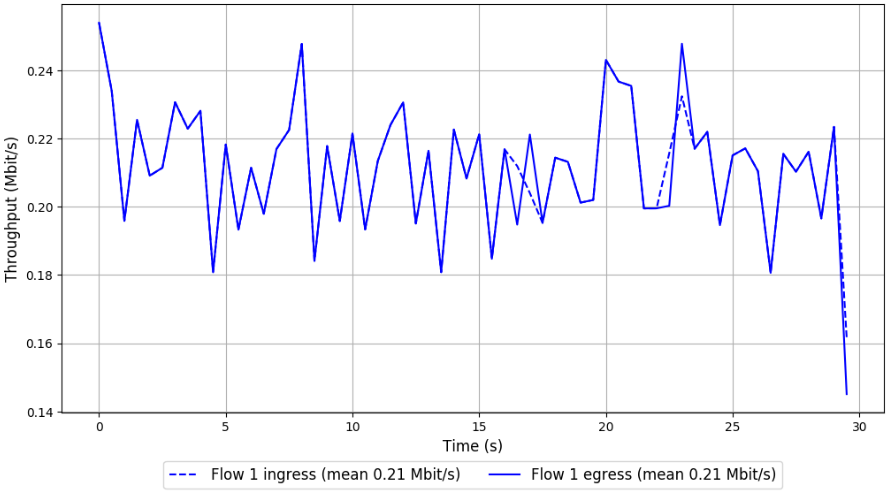


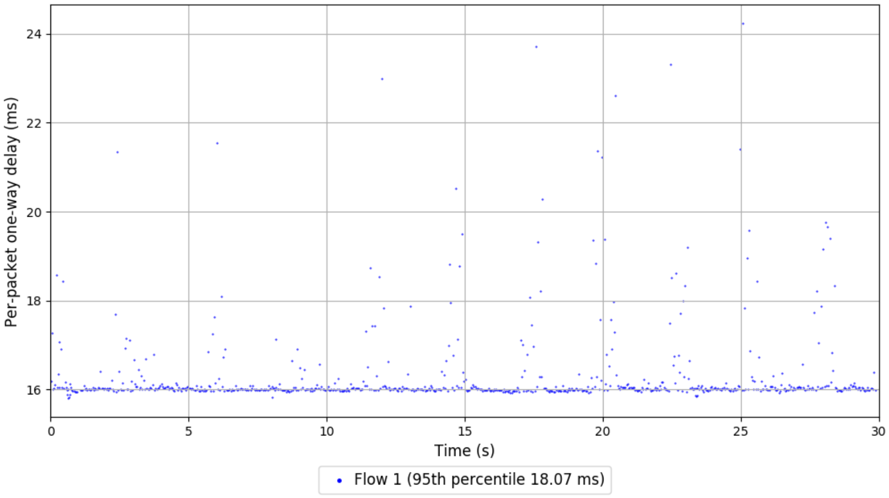
```
Run 10: Statistics of SCReAM

Start at: 2017-09-17 12:50:54
End at: 2017-09-17 12:51:24
Local clock offset: 6.333 ms
Remote clock offset: -2.694 ms

# Below is generated by plot.py at 2017-09-17 18:55:20
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 18.069 ms
Loss rate: 0.13%
-- Flow 1:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 18.069 ms
Loss rate: 0.13%
```

Run 10: Report of SCReAM — Data Link



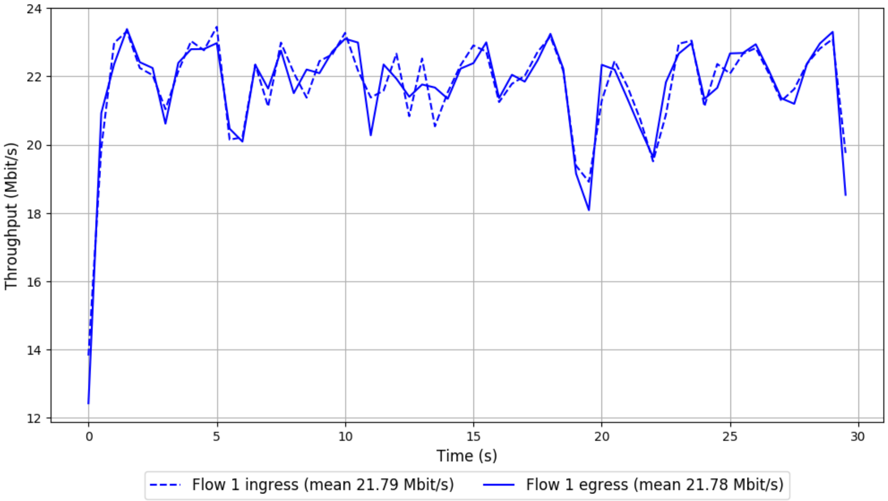


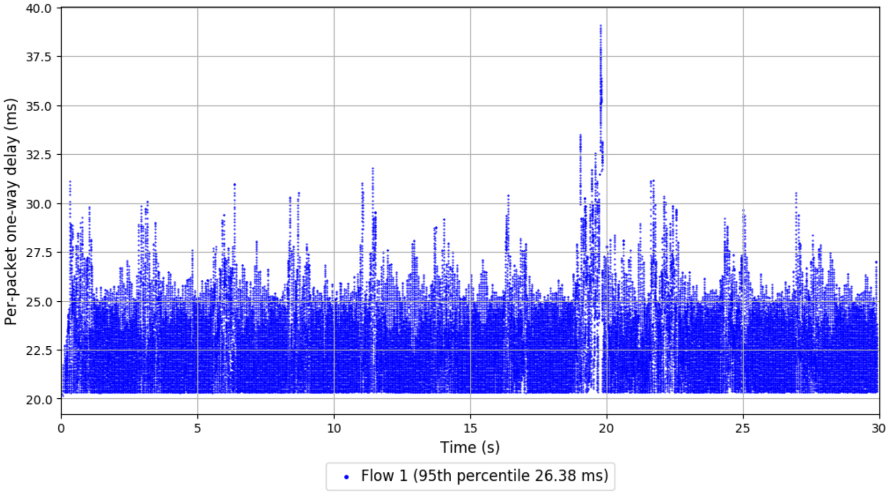
```
Run 1: Statistics of Sprout

Start at: 2017-09-17 09:17:58
End at: 2017-09-17 09:18:28
Local clock offset: 1.225 ms
Remote clock offset: -3.974 ms

# Below is generated by plot.py at 2017-09-17 18:55:20
# Datalink statistics
-- Total of 1 flow:
Average throughput: 21.78 Mbit/s
95th percentile per-packet one-way delay: 26.376 ms
Loss rate: 0.15%
-- Flow 1:
Average throughput: 21.78 Mbit/s
95th percentile per-packet one-way delay: 26.376 ms
Loss rate: 0.15%
```

Run 1: Report of Sprout — Data Link



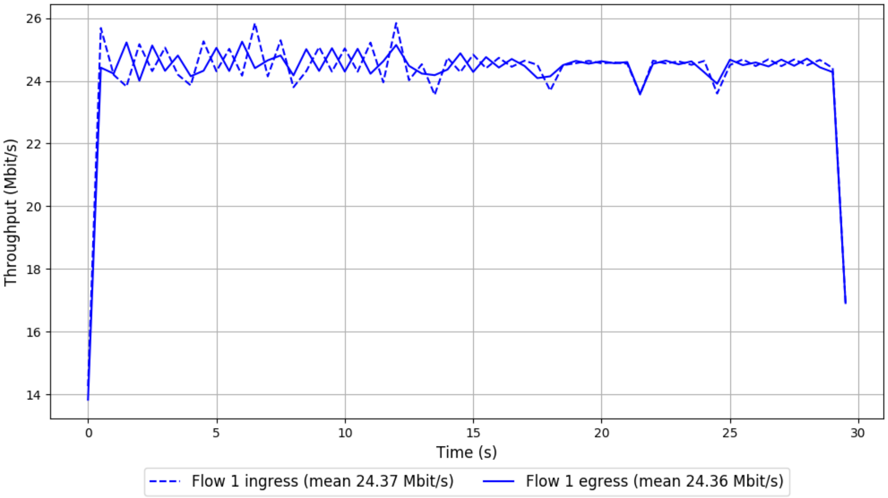


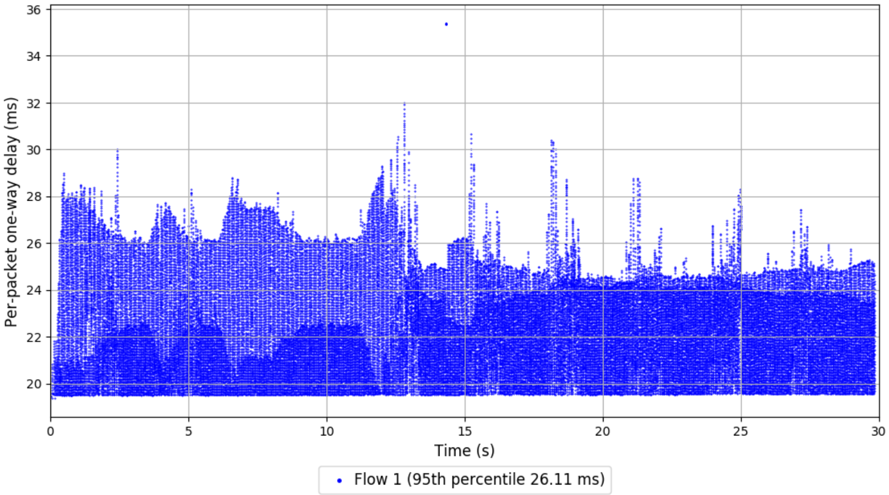
```
Run 2: Statistics of Sprout

Start at: 2017-09-17 09:40:02
End at: 2017-09-17 09:40:32
Local clock offset: 0.757 ms
Remote clock offset: -2.855 ms

# Below is generated by plot.py at 2017-09-17 18:55:20
# Datalink statistics
-- Total of 1 flow:
Average throughput: 24.36 Mbit/s
95th percentile per-packet one-way delay: 26.108 ms
Loss rate: 0.08%
-- Flow 1:
Average throughput: 24.36 Mbit/s
95th percentile per-packet one-way delay: 26.108 ms
Loss rate: 0.08%
```

Run 2: Report of Sprout — Data Link



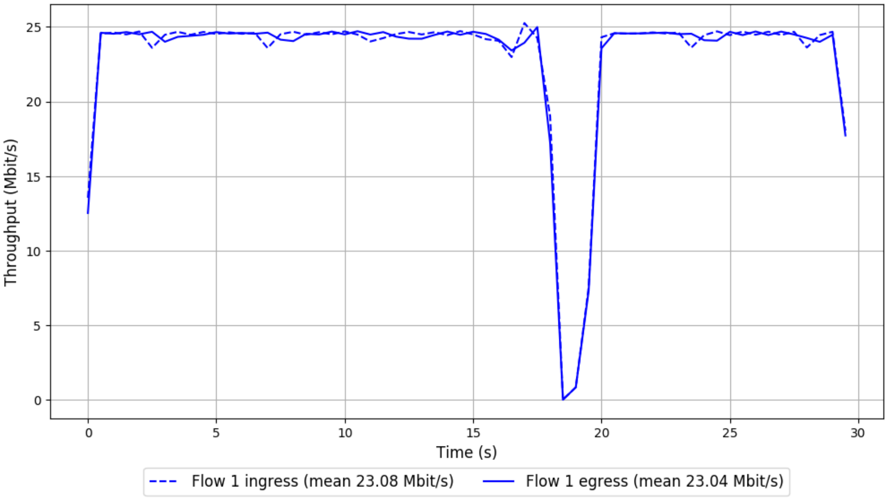


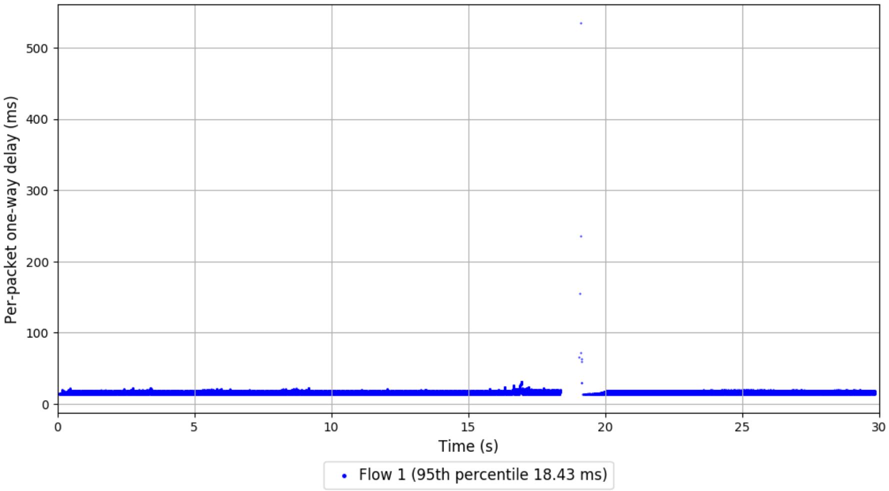
```
Run 3: Statistics of Sprout

Start at: 2017-09-17 10:02:37
End at: 2017-09-17 10:03:07
Local clock offset: -2.165 ms
Remote clock offset: 0.029 ms

# Below is generated by plot.py at 2017-09-17 18:55:20
# Datalink statistics
-- Total of 1 flow:
Average throughput: 23.04 Mbit/s
95th percentile per-packet one-way delay: 18.433 ms
Loss rate: 0.28%
-- Flow 1:
Average throughput: 23.04 Mbit/s
95th percentile per-packet one-way delay: 18.433 ms
Loss rate: 0.28%
```

Run 3: Report of Sprout — Data Link



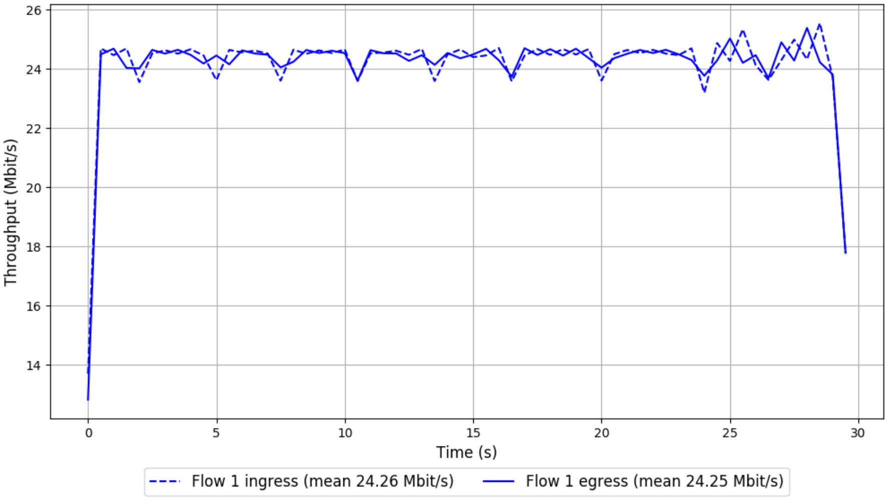


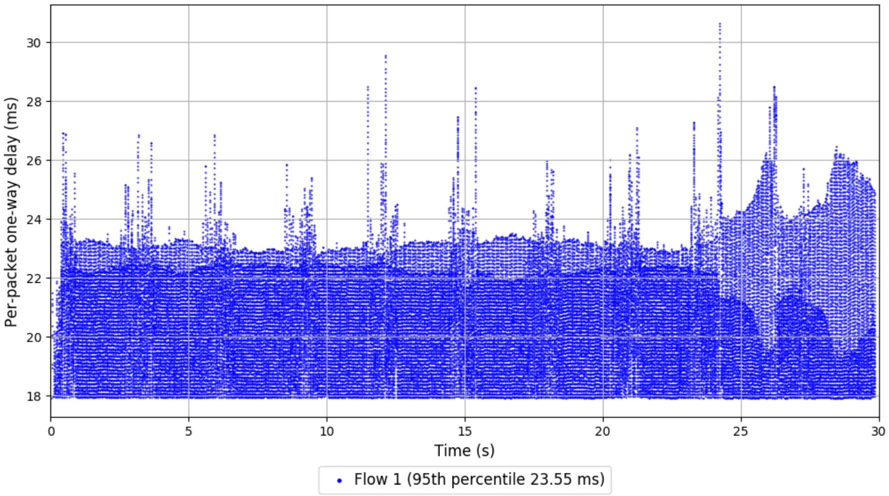
```
Run 4: Statistics of Sprout

Start at: 2017-09-17 10:25:52
End at: 2017-09-17 10:26:22
Local clock offset: -0.217 ms
Remote clock offset: -3.685 ms

# Below is generated by plot.py at 2017-09-17 18:55:20
# Datalink statistics
-- Total of 1 flow:
Average throughput: 24.25 Mbit/s
95th percentile per-packet one-way delay: 23.554 ms
Loss rate: 0.11%
-- Flow 1:
Average throughput: 24.25 Mbit/s
95th percentile per-packet one-way delay: 23.554 ms
Loss rate: 0.11%
```

Run 4: Report of Sprout — Data Link



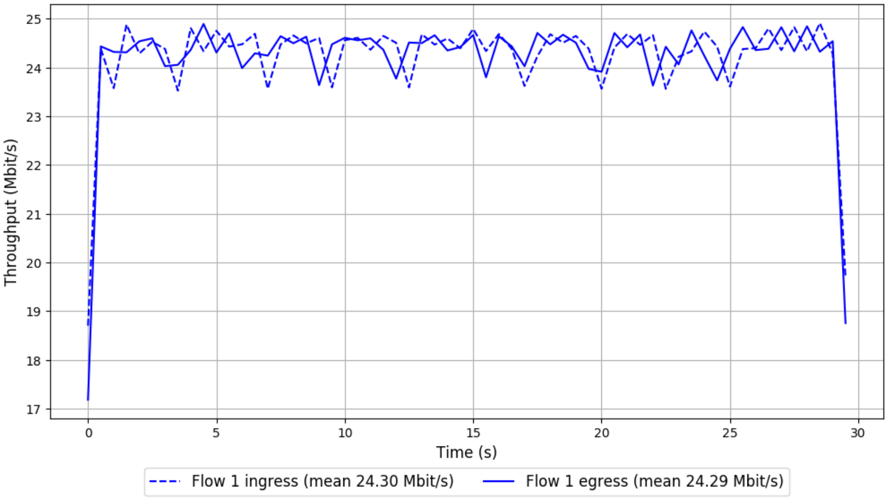


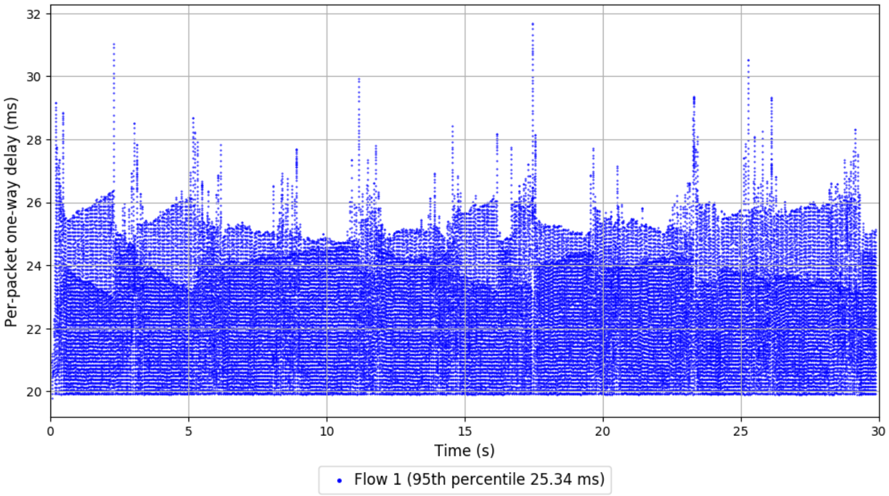
```
Run 5: Statistics of Sprout

Start at: 2017-09-17 10:48:42
End at: 2017-09-17 10:49:12
Local clock offset: 1.658 ms
Remote clock offset: -4.061 ms

# Below is generated by plot.py at 2017-09-17 18:55:20
# Datalink statistics
-- Total of 1 flow:
Average throughput: 24.29 Mbit/s
95th percentile per-packet one-way delay: 25.342 ms
Loss rate: 0.14%
-- Flow 1:
Average throughput: 24.29 Mbit/s
95th percentile per-packet one-way delay: 25.342 ms
Loss rate: 0.14%
```

Run 5: Report of Sprout — Data Link



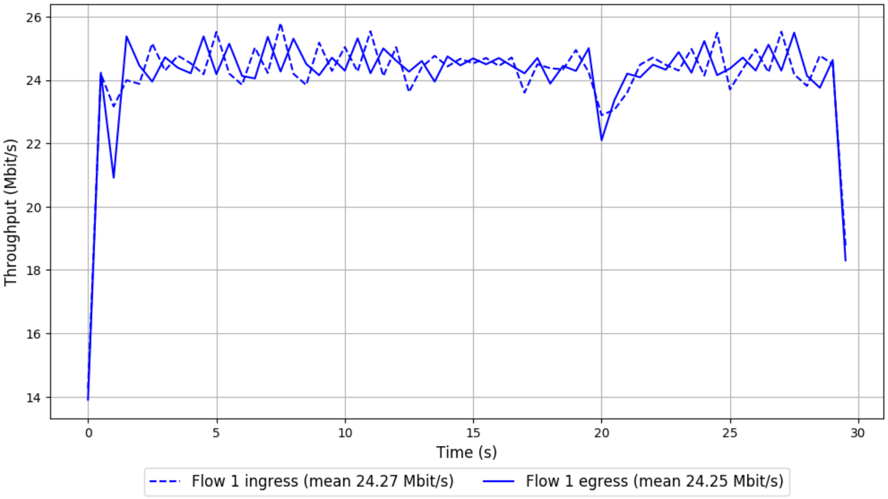


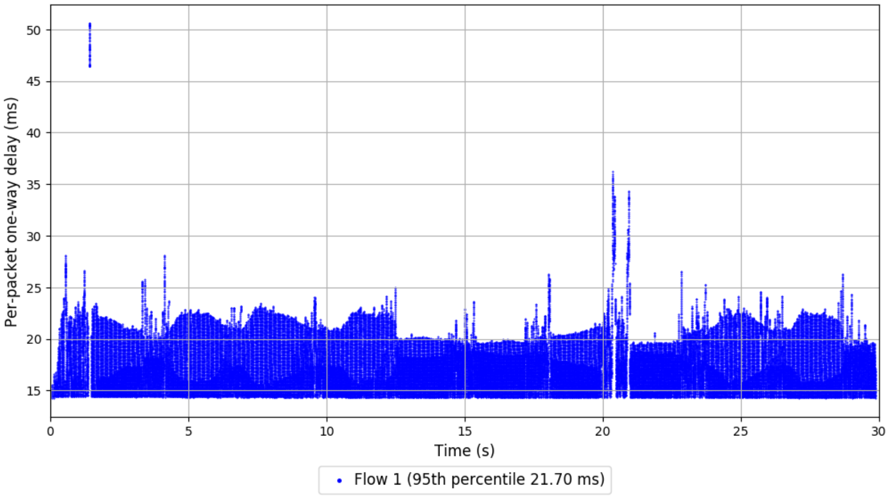
```
Run 6: Statistics of Sprout

Start at: 2017-09-17 11:11:53
End at: 2017-09-17 11:12:23
Local clock offset: 0.698 ms
Remote clock offset: -1.009 ms

# Below is generated by plot.py at 2017-09-17 18:55:20
# Datalink statistics
-- Total of 1 flow:
Average throughput: 24.25 Mbit/s
95th percentile per-packet one-way delay: 21.700 ms
Loss rate: 0.14%
-- Flow 1:
Average throughput: 24.25 Mbit/s
95th percentile per-packet one-way delay: 21.700 ms
Loss rate: 0.14%
```

Run 6: Report of Sprout — Data Link



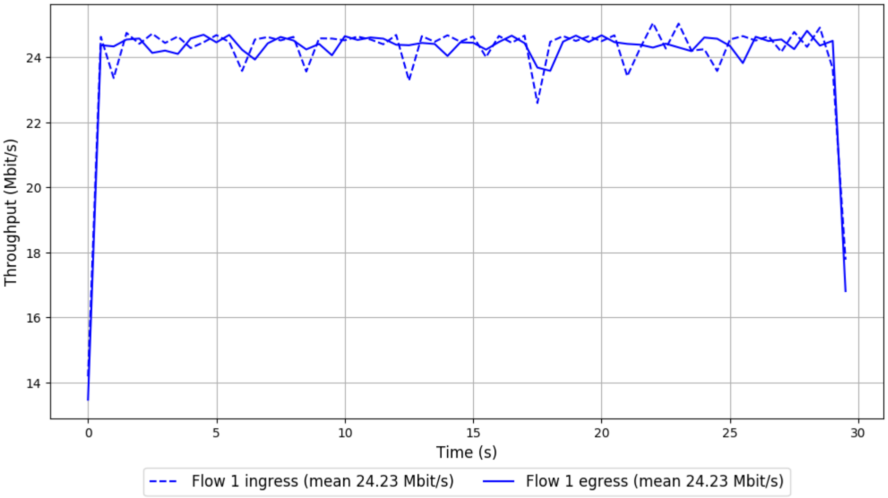


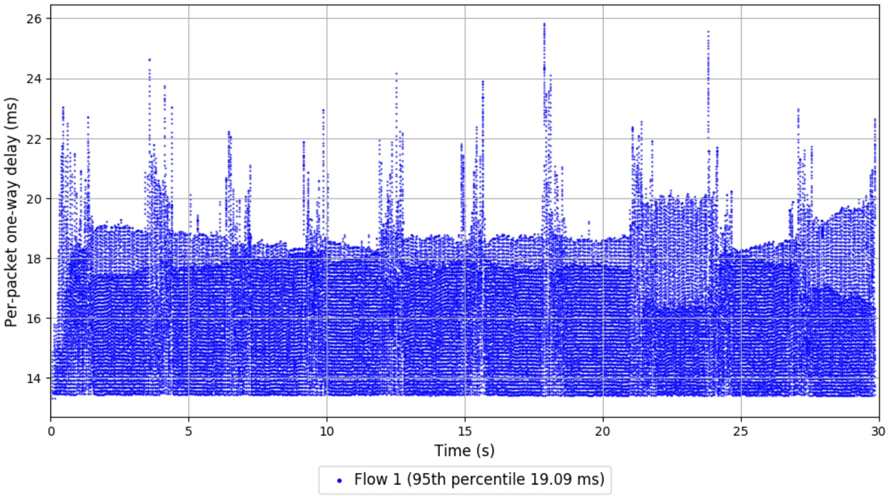
```
Run 7: Statistics of Sprout

Start at: 2017-09-17 11:34:40
End at: 2017-09-17 11:35:10
Local clock offset: 2.671 ms
Remote clock offset: -2.107 ms

# Below is generated by plot.py at 2017-09-17 18:55:21
# Datalink statistics
-- Total of 1 flow:
Average throughput: 24.23 Mbit/s
95th percentile per-packet one-way delay: 19.092 ms
Loss rate: 0.10%
-- Flow 1:
Average throughput: 24.23 Mbit/s
95th percentile per-packet one-way delay: 19.092 ms
Loss rate: 0.10%
```

Run 7: Report of Sprout — Data Link



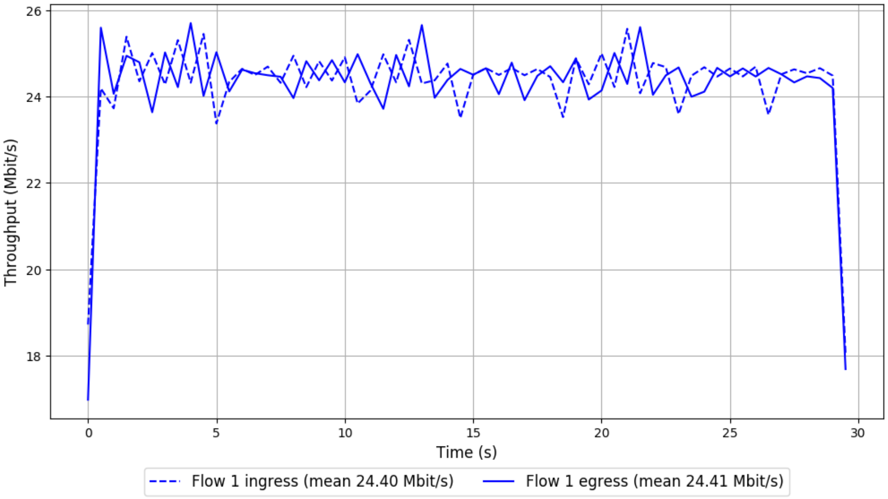


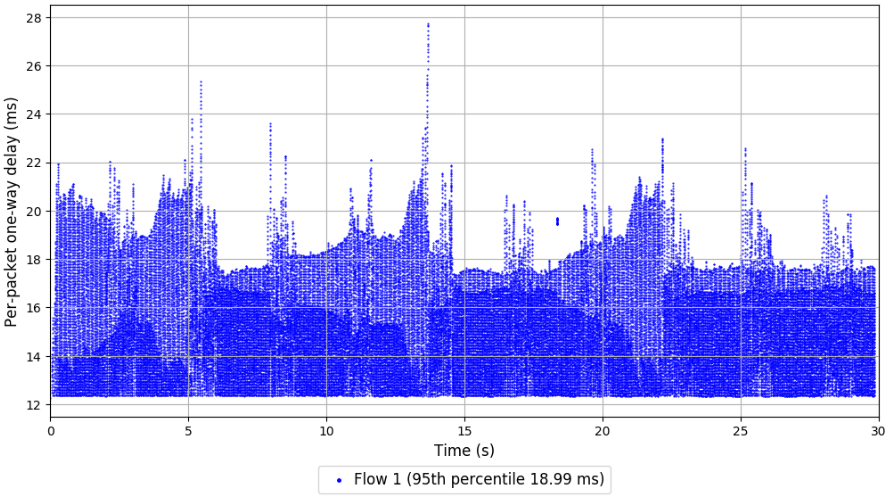
```
Run 8: Statistics of Sprout

Start at: 2017-09-17 11:58:23
End at: 2017-09-17 11:58:53
Local clock offset: 4.19 ms
Remote clock offset: -1.271 ms

# Below is generated by plot.py at 2017-09-17 18:55:21
# Datalink statistics
-- Total of 1 flow:
Average throughput: 24.41 Mbit/s
95th percentile per-packet one-way delay: 18.994 ms
Loss rate: 0.09%
-- Flow 1:
Average throughput: 24.41 Mbit/s
95th percentile per-packet one-way delay: 18.994 ms
Loss rate: 0.09%
```

Run 8: Report of Sprout — Data Link



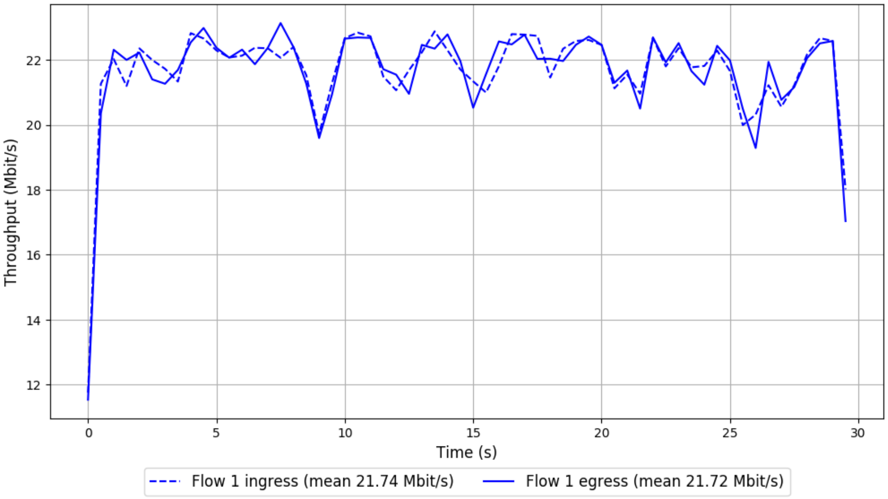


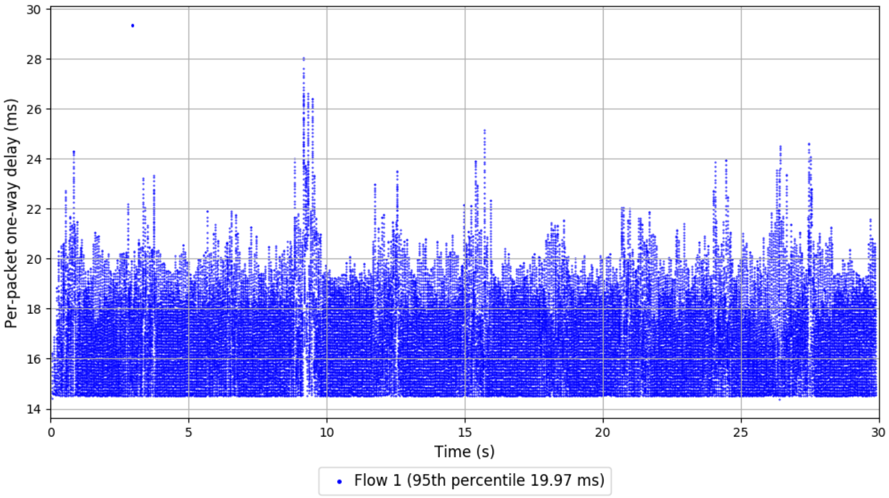
```
Run 9: Statistics of Sprout

Start at: 2017-09-17 12:23:05
End at: 2017-09-17 12:23:35
Local clock offset: 6.642 ms
Remote clock offset: -1.174 ms

# Below is generated by plot.py at 2017-09-17 18:55:21
# Datalink statistics
-- Total of 1 flow:
Average throughput: 21.72 Mbit/s
95th percentile per-packet one-way delay: 19.967 ms
Loss rate: 0.14%
-- Flow 1:
Average throughput: 21.72 Mbit/s
95th percentile per-packet one-way delay: 19.967 ms
Loss rate: 0.14%
```

Run 9: Report of Sprout — Data Link



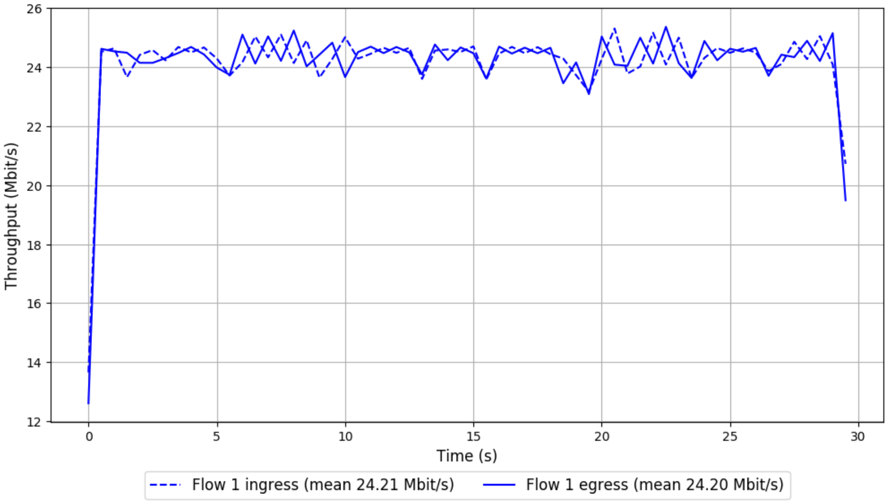


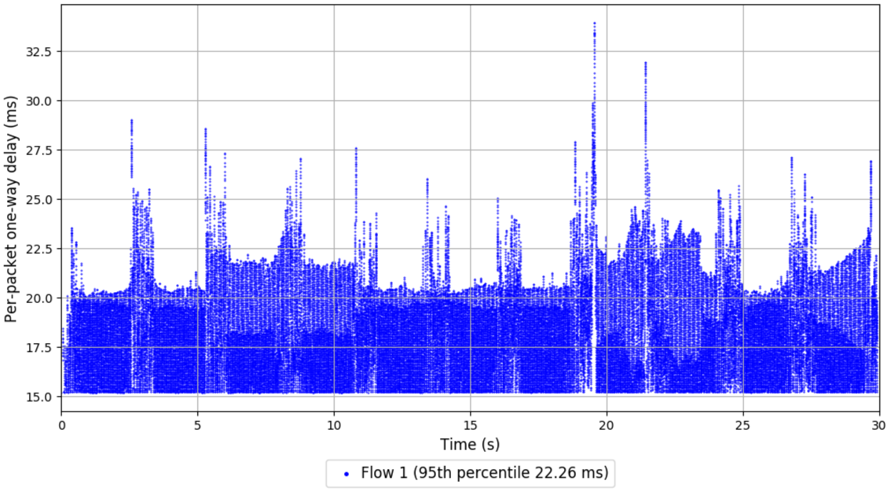
```
Run 10: Statistics of Sprout

Start at: 2017-09-17 12:53:53
End at: 2017-09-17 12:54:24
Local clock offset: 6.066 ms
Remote clock offset: -2.143 ms

# Below is generated by plot.py at 2017-09-17 18:55:21
# Datalink statistics
-- Total of 1 flow:
Average throughput: 24.20 Mbit/s
95th percentile per-packet one-way delay: 22.263 ms
Loss rate: 0.11%
-- Flow 1:
Average throughput: 24.20 Mbit/s
95th percentile per-packet one-way delay: 22.263 ms
Loss rate: 0.11%
```

Run 10: Report of Sprout — Data Link



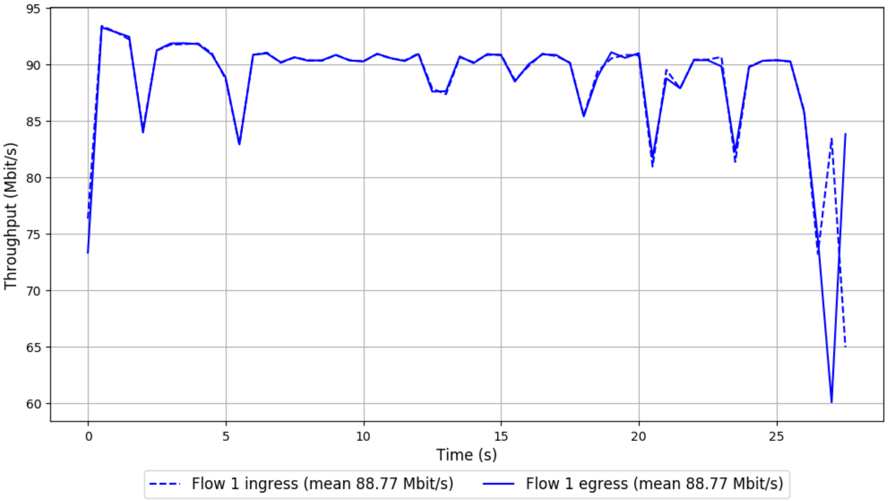


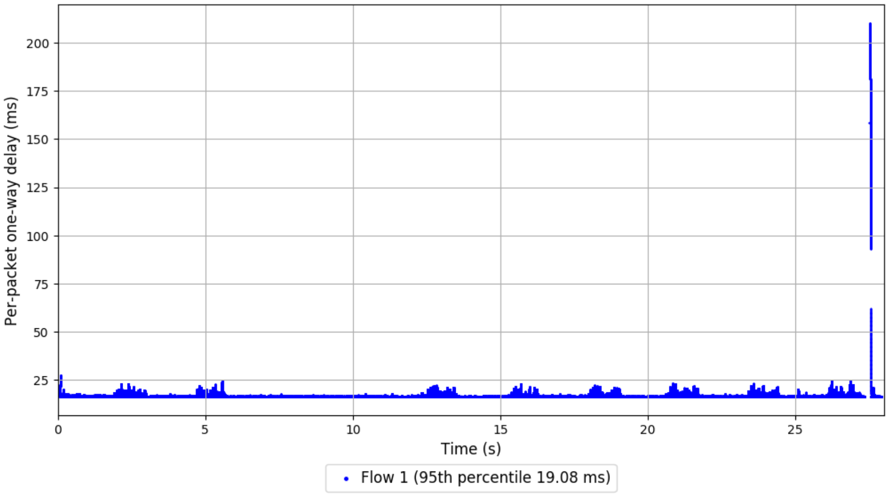
```
Run 1: Statistics of TaoVA-100x

Start at: 2017-09-17 09:20:40
End at: 2017-09-17 09:21:10
Local clock offset: -1.61 ms
Remote clock offset: -2.784 ms

# Below is generated by plot.py at 2017-09-17 18:57:20
# Datalink statistics
-- Total of 1 flow:
Average throughput: 88.77 Mbit/s
95th percentile per-packet one-way delay: 19.084 ms
Loss rate: 0.13%
-- Flow 1:
Average throughput: 88.77 Mbit/s
95th percentile per-packet one-way delay: 19.084 ms
Loss rate: 0.13%
```

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



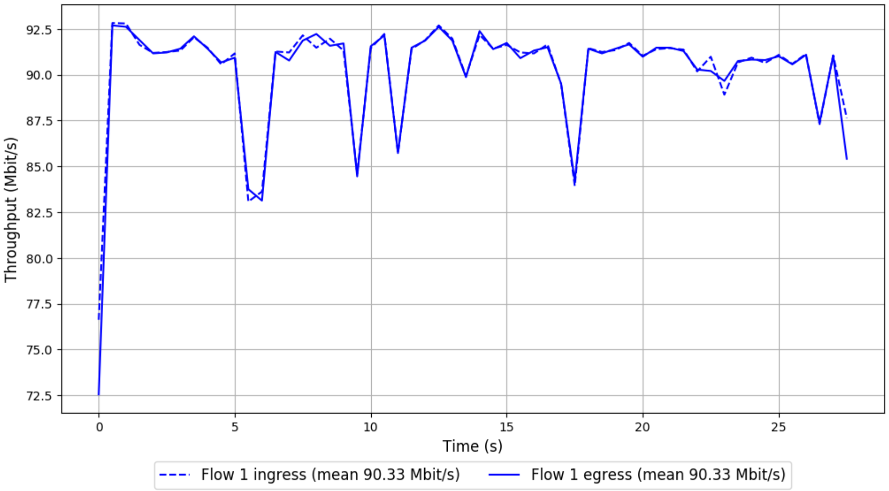


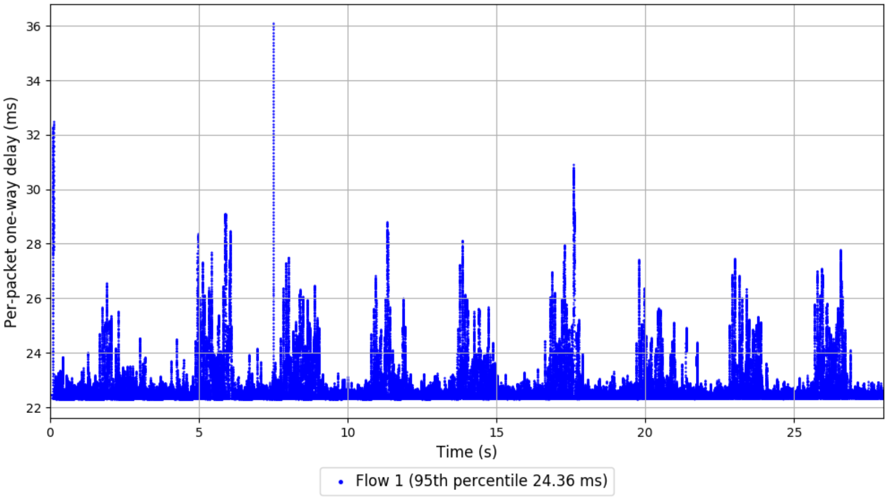
```
Run 2: Statistics of TaoVA-100x

Start at: 2017-09-17 09:42:51
End at: 2017-09-17 09:43:21
Local clock offset: -0.051 ms
Remote clock offset: -6.233 ms

# Below is generated by plot.py at 2017-09-17 18:57:26
# Datalink statistics
-- Total of 1 flow:
Average throughput: 90.33 Mbit/s
95th percentile per-packet one-way delay: 24.355 ms
Loss rate: 0.13%
-- Flow 1:
Average throughput: 90.33 Mbit/s
95th percentile per-packet one-way delay: 24.355 ms
Loss rate: 0.13%
```

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



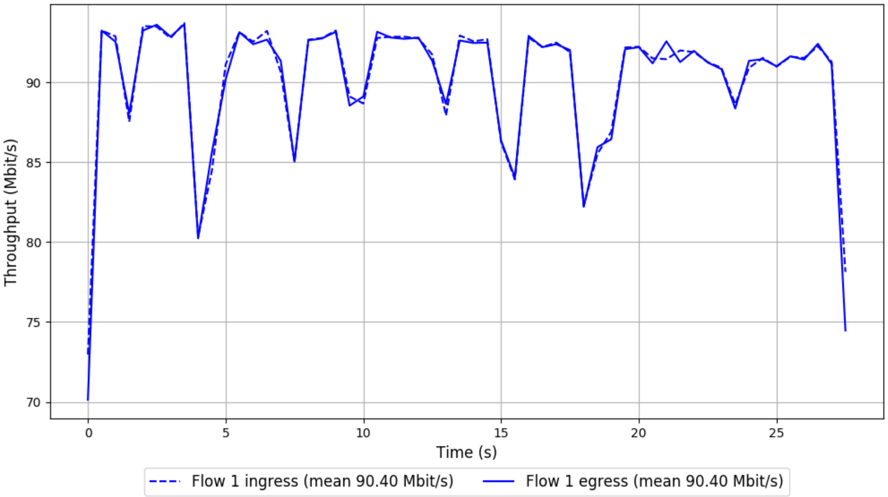


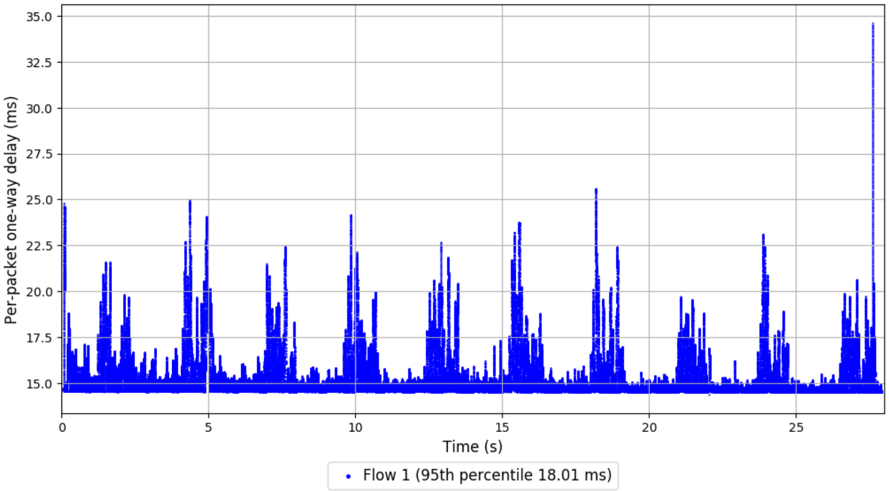
```
Run 3: Statistics of TaoVA-100x

Start at: 2017-09-17 10:05:48
End at: 2017-09-17 10:06:18
Local clock offset: 0.752 ms
Remote clock offset: 1.456 ms

# Below is generated by plot.py at 2017-09-17 18:57:29
# Datalink statistics
-- Total of 1 flow:
Average throughput: 90.40 Mbit/s
95th percentile per-packet one-way delay: 18.010 ms
Loss rate: 0.13%
-- Flow 1:
Average throughput: 90.40 Mbit/s
95th percentile per-packet one-way delay: 18.010 ms
Loss rate: 0.13%
```

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



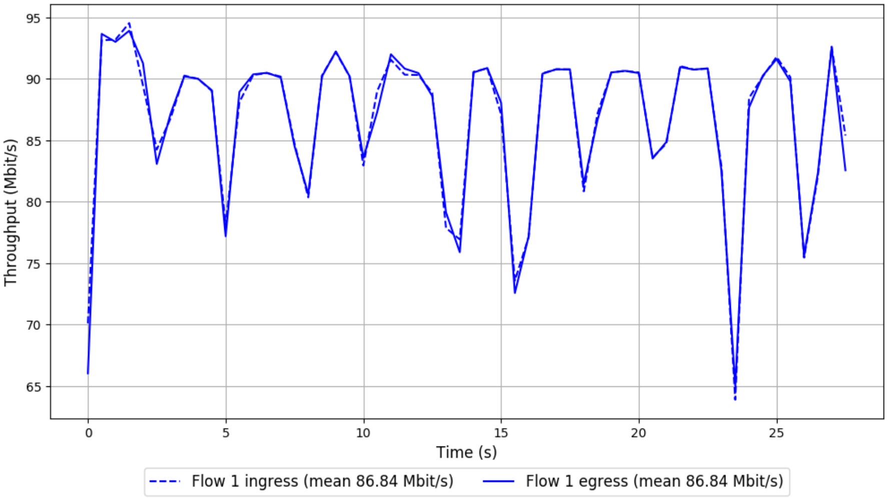


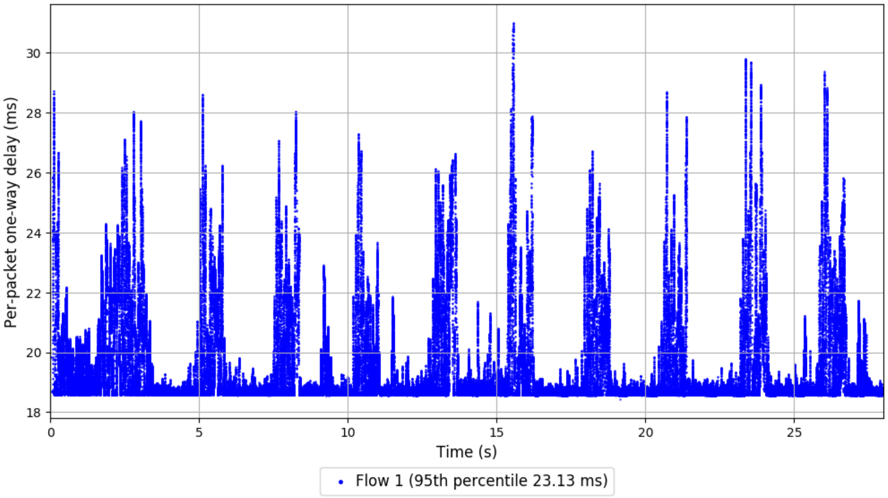
```
Run 4: Statistics of TaoVA-100x

Start at: 2017-09-17 10:28:59
End at: 2017-09-17 10:29:29
Local clock offset: 0.416 ms
Remote clock offset: -3.876 ms

# Below is generated by plot.py at 2017-09-17 18:57:29
# Datalink statistics
-- Total of 1 flow:
Average throughput: 86.84 Mbit/s
95th percentile per-packet one-way delay: 23.131 ms
Loss rate: 0.13%
-- Flow 1:
Average throughput: 86.84 Mbit/s
95th percentile per-packet one-way delay: 23.131 ms
Loss rate: 0.13%
```

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



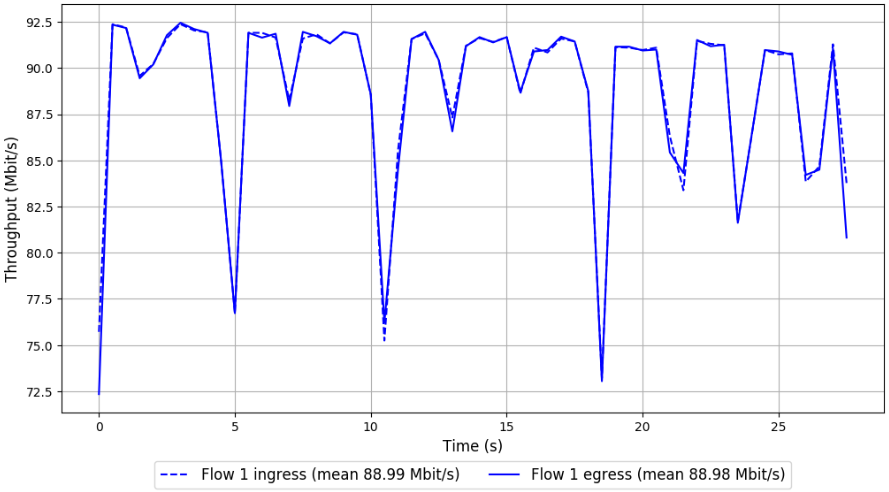


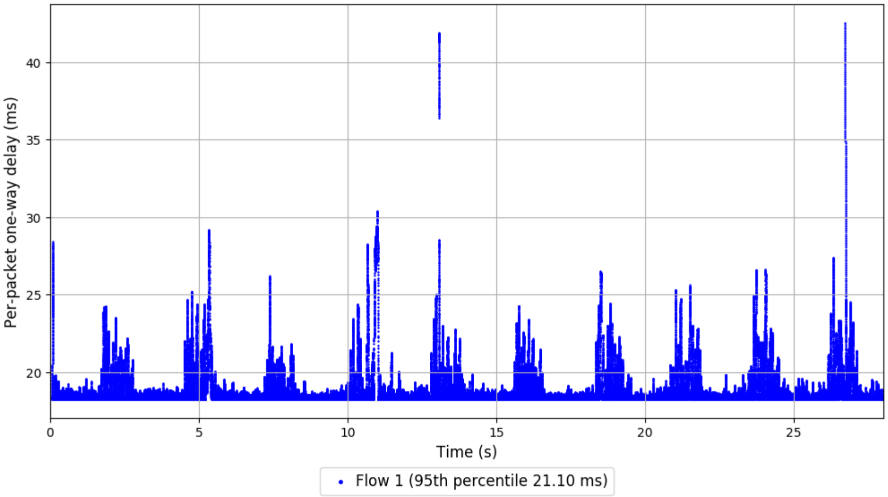
```
Run 5: Statistics of TaoVA-100x

Start at: 2017-09-17 10:51:30
End at: 2017-09-17 10:52:00
Local clock offset: 1.955 ms
Remote clock offset: -2.149 ms

# Below is generated by plot.py at 2017-09-17 18:57:29
# Datalink statistics
-- Total of 1 flow:
Average throughput: 88.98 Mbit/s
95th percentile per-packet one-way delay: 21.101 ms
Loss rate: 0.14%
-- Flow 1:
Average throughput: 88.98 Mbit/s
95th percentile per-packet one-way delay: 21.101 ms
Loss rate: 0.14%
```

Run 5: Report of TaoVA-100x — Data Link

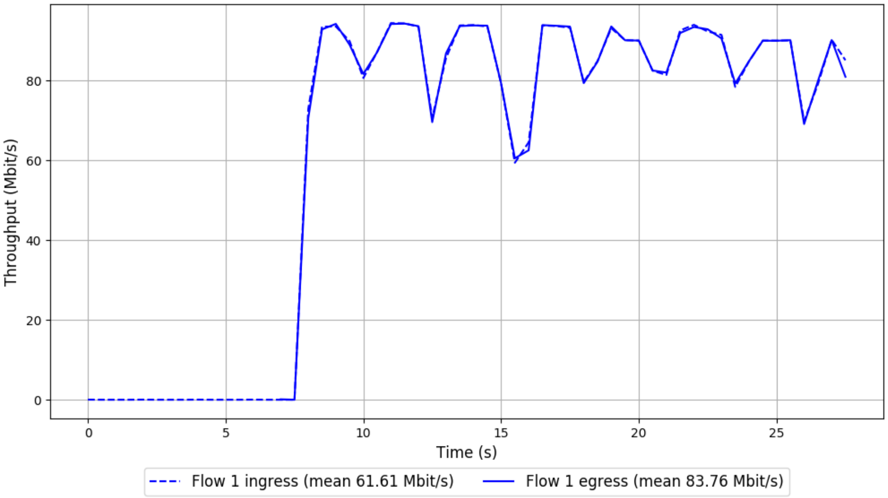


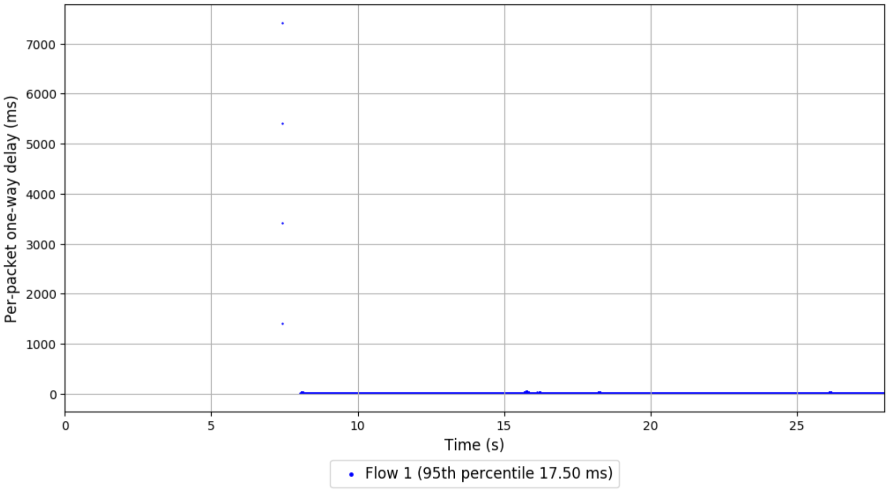


```
Run 6: Statistics of TaoVA-100x

Start at: 2017-09-17 11:14:57
End at: 2017-09-17 11:15:27
Local clock offset: -0.569 ms
Remote clock offset: -1.259 ms
```

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



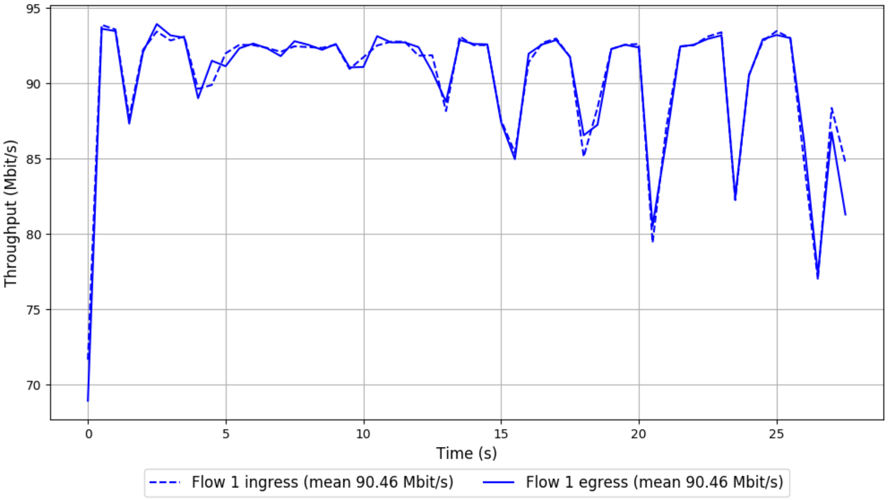


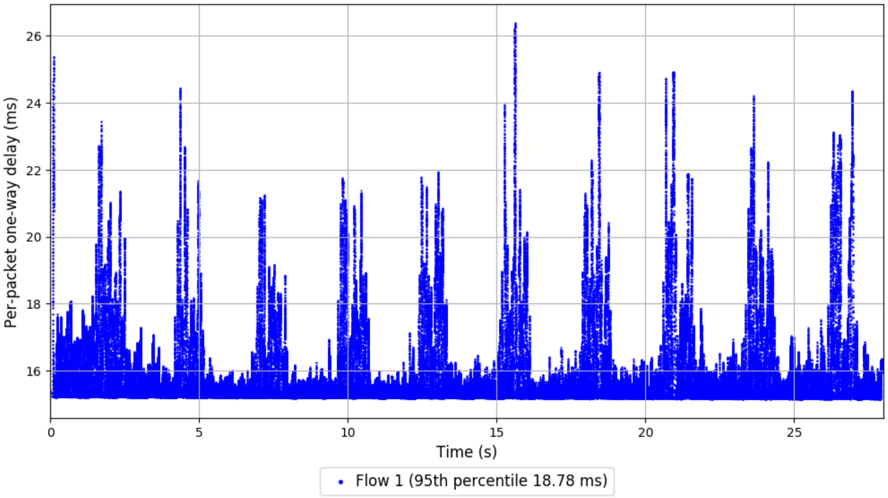
```
Run 7: Statistics of TaoVA-100x

Start at: 2017-09-17 11:37:32
End at: 2017-09-17 11:38:02
Local clock offset: 4.624 ms
Remote clock offset: -2.242 ms

# Below is generated by plot.py at 2017-09-17 18:57:37
# Datalink statistics
-- Total of 1 flow:
Average throughput: 90.46 Mbit/s
95th percentile per-packet one-way delay: 18.776 ms
Loss rate: 0.13%
-- Flow 1:
Average throughput: 90.46 Mbit/s
95th percentile per-packet one-way delay: 18.776 ms
Loss rate: 0.13%
```

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



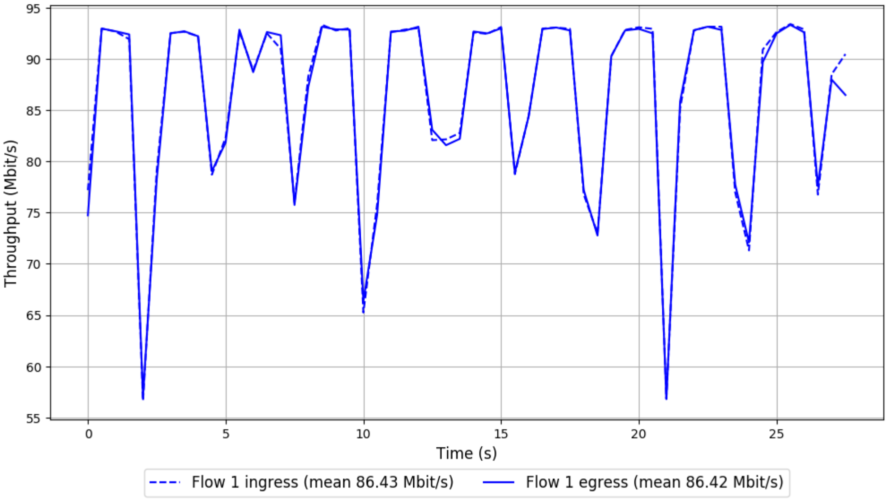


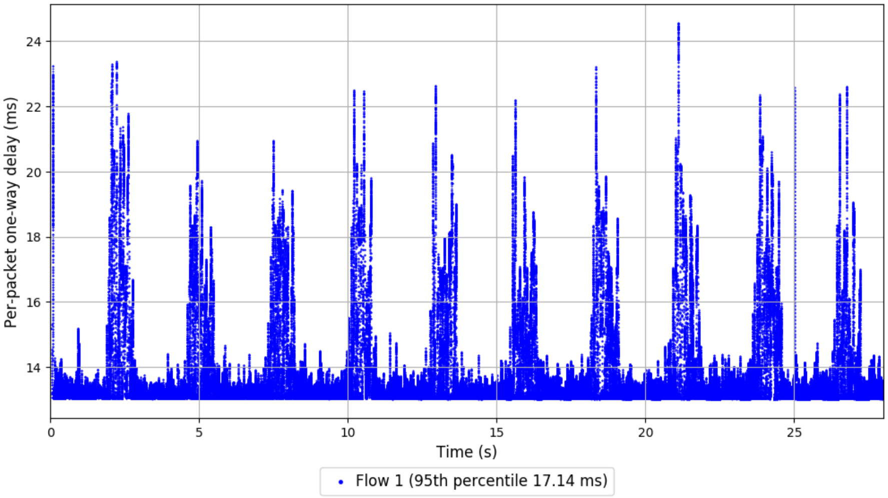
```
Run 8: Statistics of TaoVA-100x

Start at: 2017-09-17 12:01:36
End at: 2017-09-17 12:02:06
Local clock offset: 4.277 ms
Remote clock offset: -2.046 ms

# Below is generated by plot.py at 2017-09-17 18:57:37
# Datalink statistics
-- Total of 1 flow:
Average throughput: 86.42 Mbit/s
95th percentile per-packet one-way delay: 17.140 ms
Loss rate: 0.14%
-- Flow 1:
Average throughput: 86.42 Mbit/s
95th percentile per-packet one-way delay: 17.140 ms
Loss rate: 0.14%
```

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



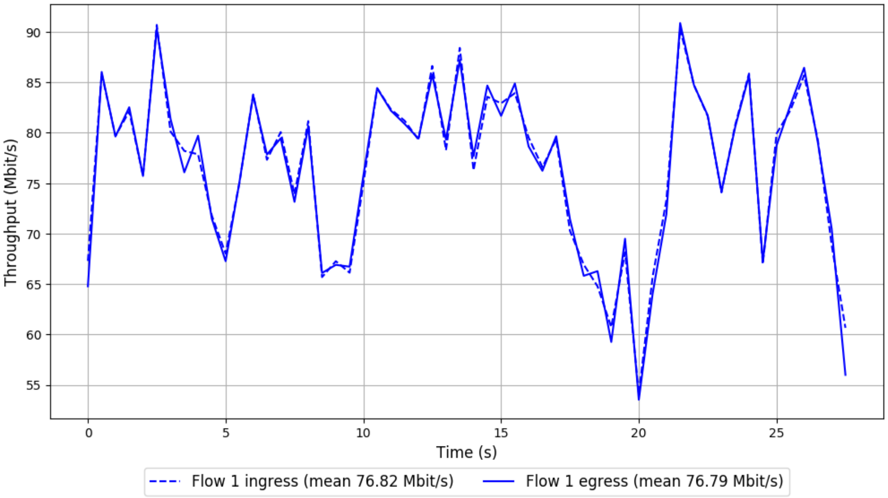


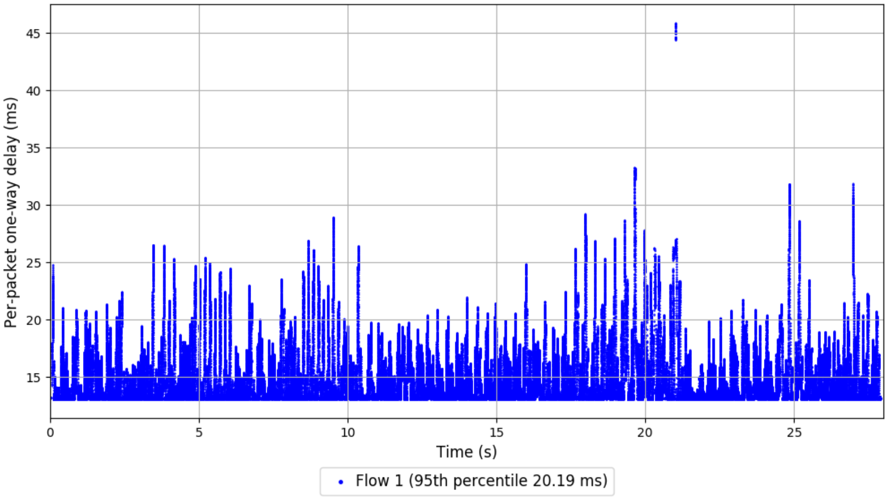
```
Run 9: Statistics of TaoVA-100x

Start at: 2017-09-17 12:34:21
End at: 2017-09-17 12:34:51
Local clock offset: 3.973 ms
Remote clock offset: -2.444 ms

# Below is generated by plot.py at 2017-09-17 18:58:48
# Datalink statistics
-- Total of 1 flow:
Average throughput: 76.79 Mbit/s
95th percentile per-packet one-way delay: 20.194 ms
Loss rate: 0.17%
-- Flow 1:
Average throughput: 76.79 Mbit/s
95th percentile per-packet one-way delay: 20.194 ms
Loss rate: 0.17%
```

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



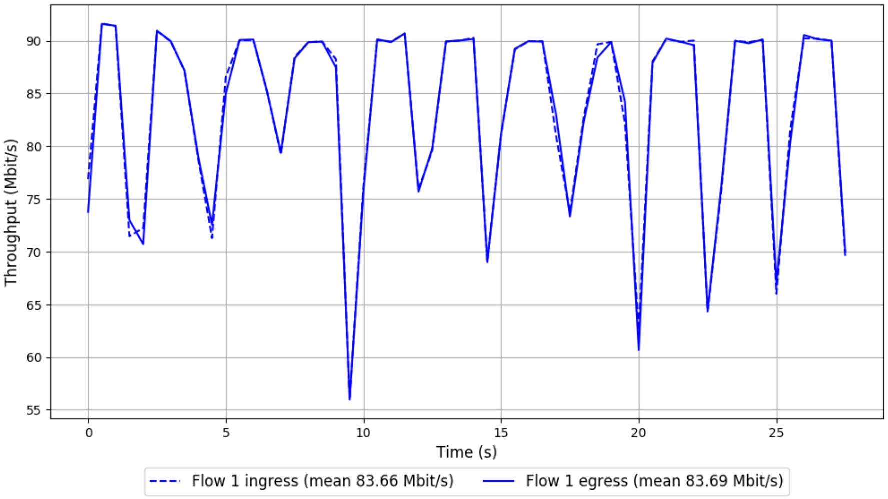


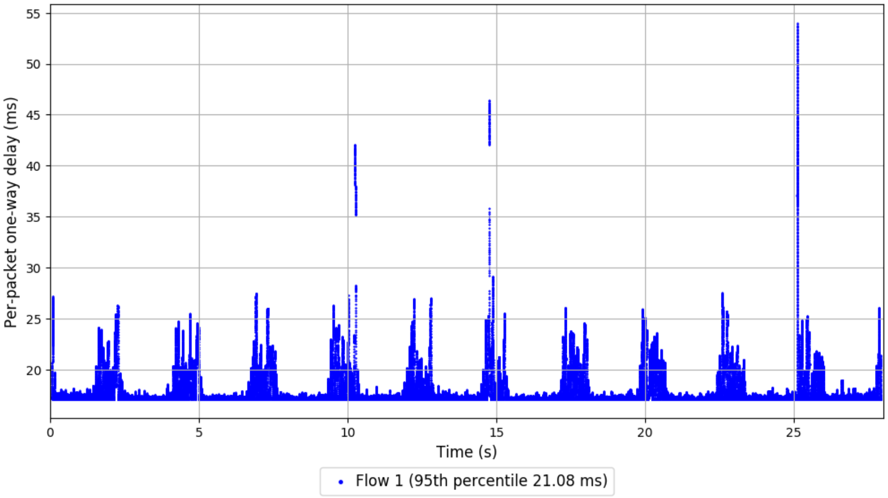
```
Run 10: Statistics of TaoVA-100x

Start at: 2017-09-17 12:57:06
End at: 2017-09-17 12:57:36
Local clock offset: 6.972 ms
Remote clock offset: -3.026 ms

# Below is generated by plot.py at 2017-09-17 18:59:21
# Datalink statistics
-- Total of 1 flow:
Average throughput: 83.69 Mbit/s
95th percentile per-packet one-way delay: 21.081 ms
Loss rate: 0.08%
-- Flow 1:
Average throughput: 83.69 Mbit/s
95th percentile per-packet one-way delay: 21.081 ms
Loss rate: 0.08%
```

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

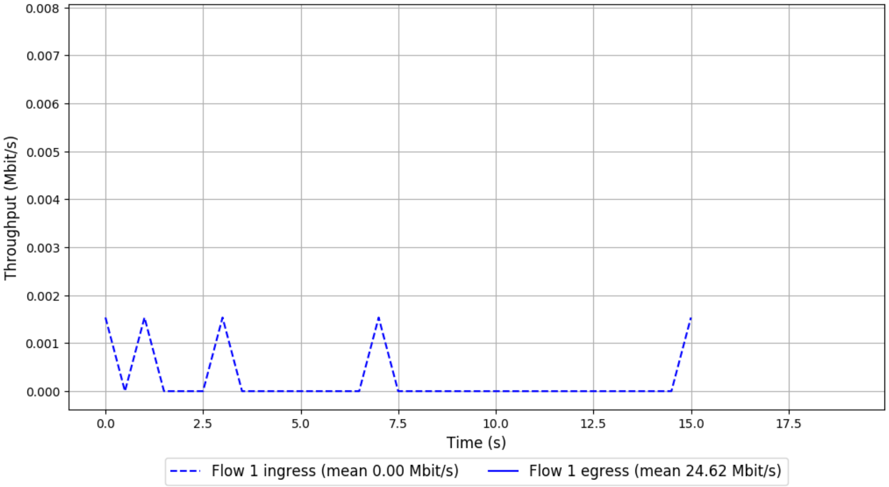


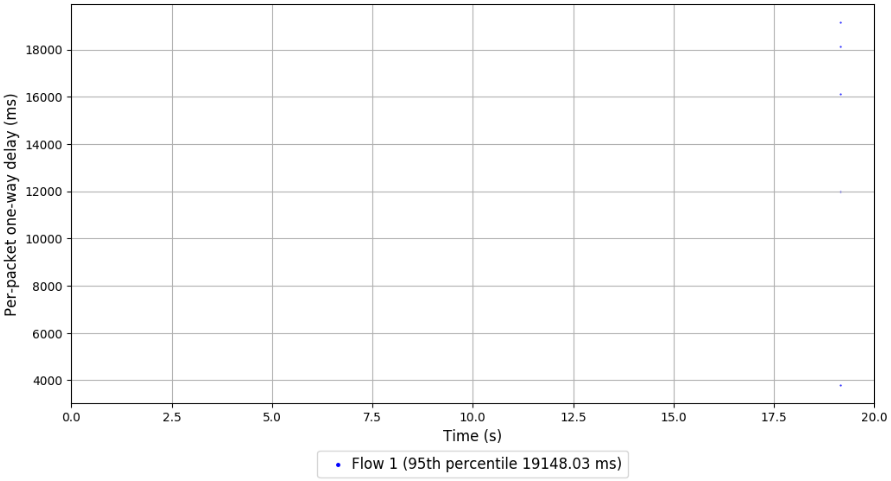


```
Run 1: Statistics of TCP Vegas

Start at: 2017-09-17 09:29:27
End at: 2017-09-17 09:29:57
Local clock offset: 0.992 ms
Remote clock offset: -3.03 ms
```

Run 1: Report of TCP Vegas — Data Link



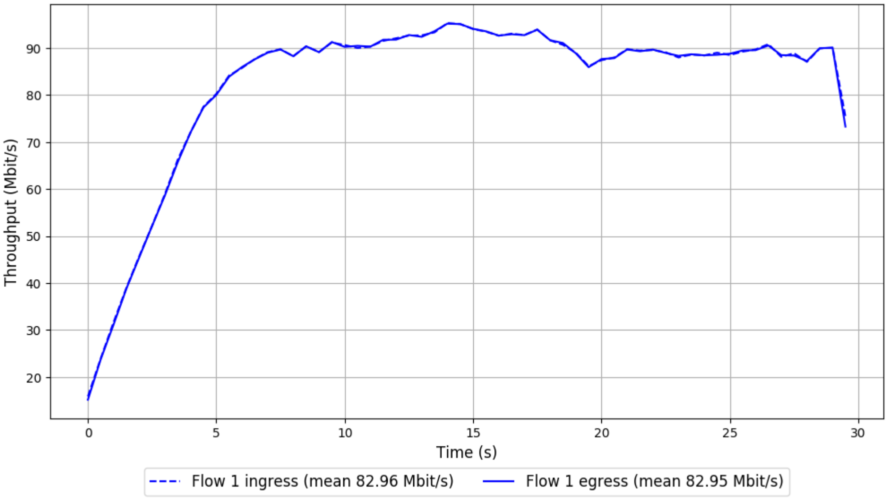


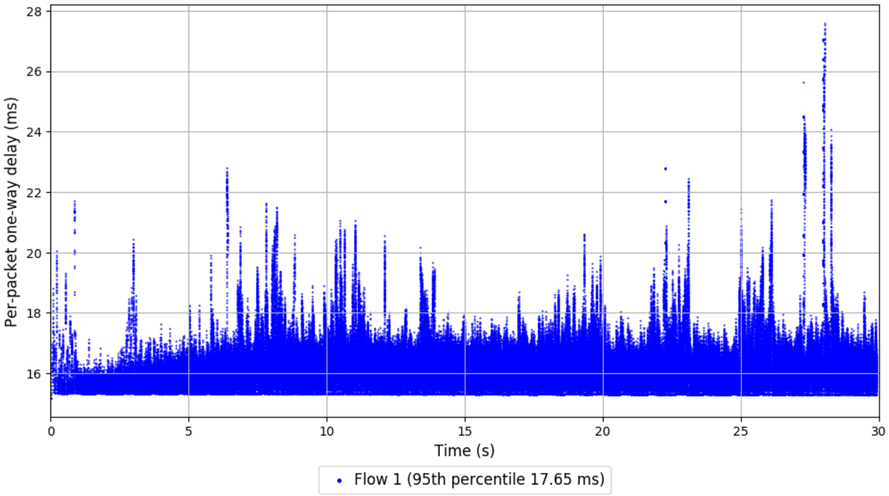
```
Run 2: Statistics of TCP Vegas

Start at: 2017-09-17 09:51:33
End at: 2017-09-17 09:52:03
Local clock offset: -2.61 ms
Remote clock offset: -1.69 ms

# Below is generated by plot.py at 2017-09-17 18:59:21
# Datalink statistics
-- Total of 1 flow:
Average throughput: 82.95 Mbit/s
95th percentile per-packet one-way delay: 17.647 ms
Loss rate: 0.11%
-- Flow 1:
Average throughput: 82.95 Mbit/s
95th percentile per-packet one-way delay: 17.647 ms
Loss rate: 0.11%
```

Run 2: Report of TCP Vegas — Data Link



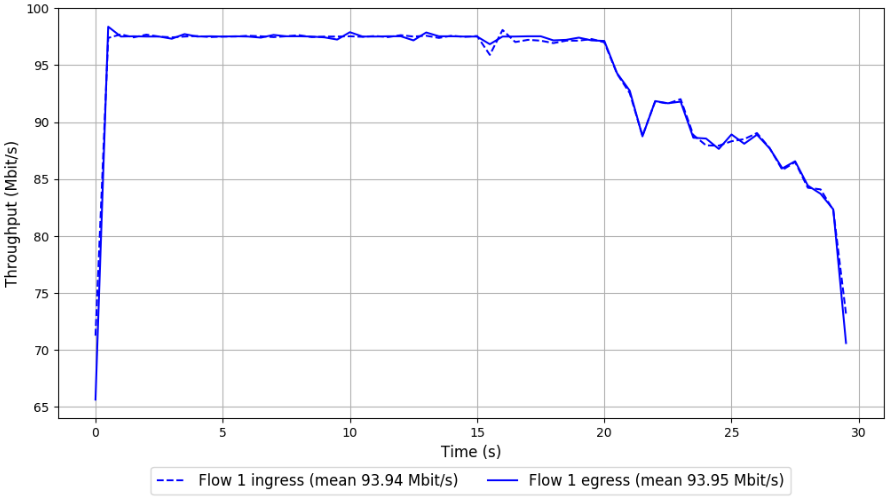


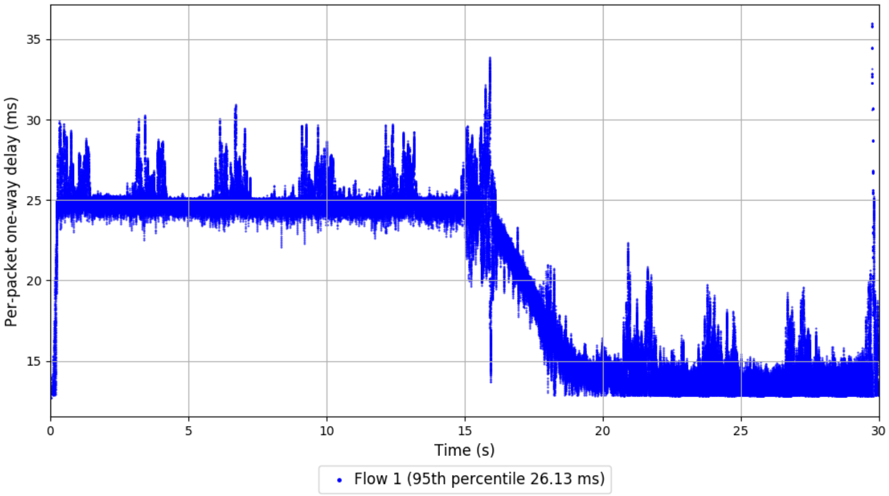
```
Run 3: Statistics of TCP Vegas

Start at: 2017-09-17 10:14:37
End at: 2017-09-17 10:15:07
Local clock offset: -1.365 ms
Remote clock offset: 0.747 ms

# Below is generated by plot.py at 2017-09-17 18:59:21
# Datalink statistics
-- Total of 1 flow:
Average throughput: 93.95 Mbit/s
95th percentile per-packet one-way delay: 26.130 ms
Loss rate: 0.09%
-- Flow 1:
Average throughput: 93.95 Mbit/s
95th percentile per-packet one-way delay: 26.130 ms
Loss rate: 0.09%
```

Run 3: Report of TCP Vegas — Data Link



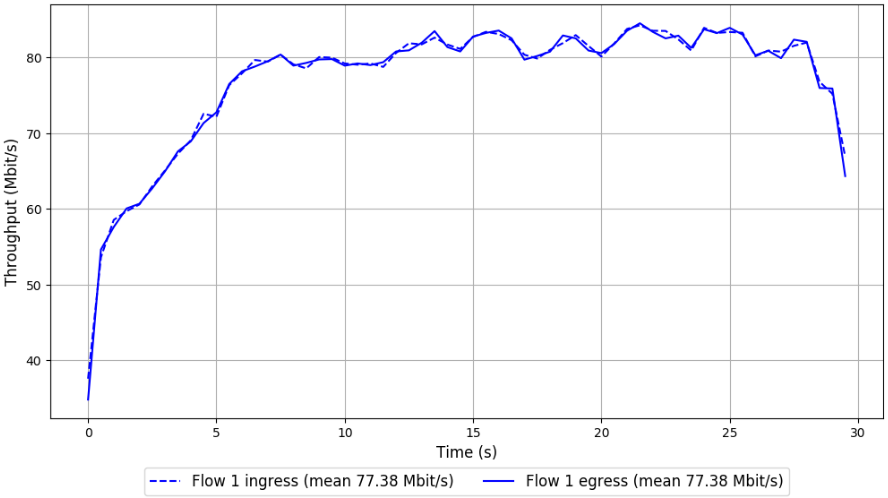


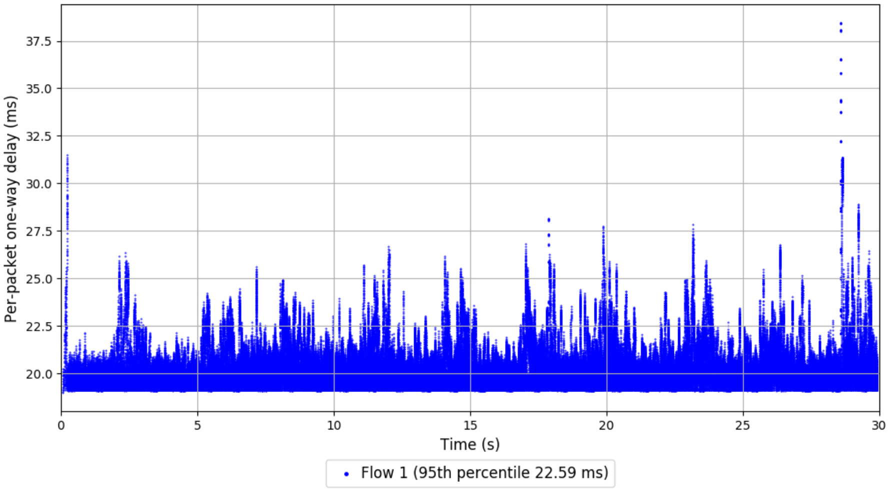
```
Run 4: Statistics of TCP Vegas

Start at: 2017-09-17 10:37:44
End at: 2017-09-17 10:38:15
Local clock offset: 0.848 ms
Remote clock offset: -4.095 ms

# Below is generated by plot.py at 2017-09-17 18:59:21
# Datalink statistics
-- Total of 1 flow:
Average throughput: 77.38 Mbit/s
95th percentile per-packet one-way delay: 22.590 ms
Loss rate: 0.12%
-- Flow 1:
Average throughput: 77.38 Mbit/s
95th percentile per-packet one-way delay: 22.590 ms
Loss rate: 0.12%
```

Run 4: Report of TCP Vegas — Data Link

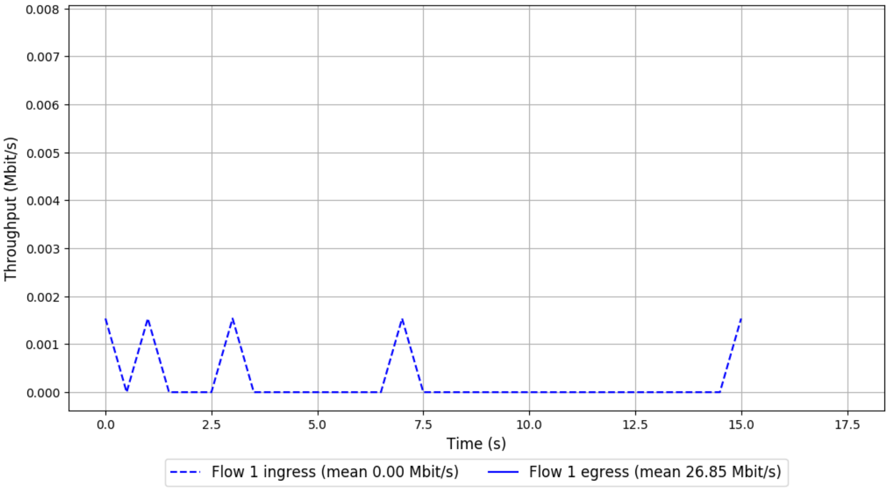


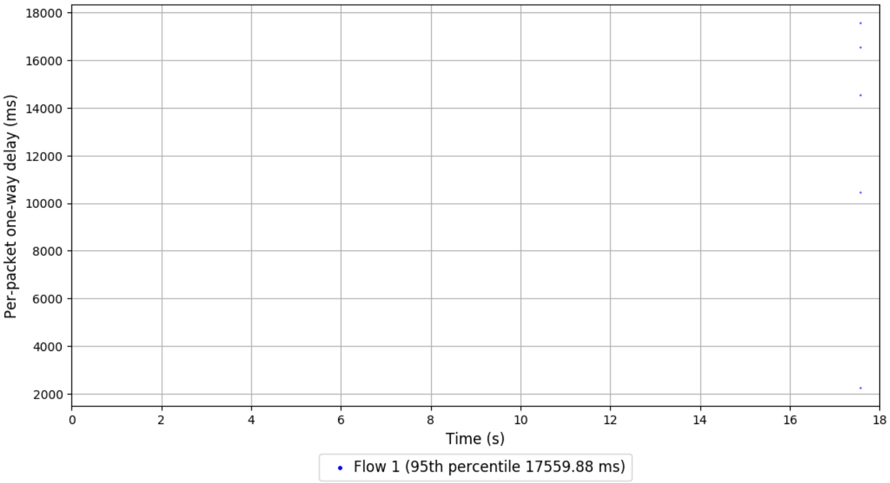


```
Run 5: Statistics of TCP Vegas

Start at: 2017-09-17 11:00:27
End at: 2017-09-17 11:00:57
Local clock offset: -2.395 ms
Remote clock offset: -1.213 ms
```

Run 5: Report of TCP Vegas — Data Link



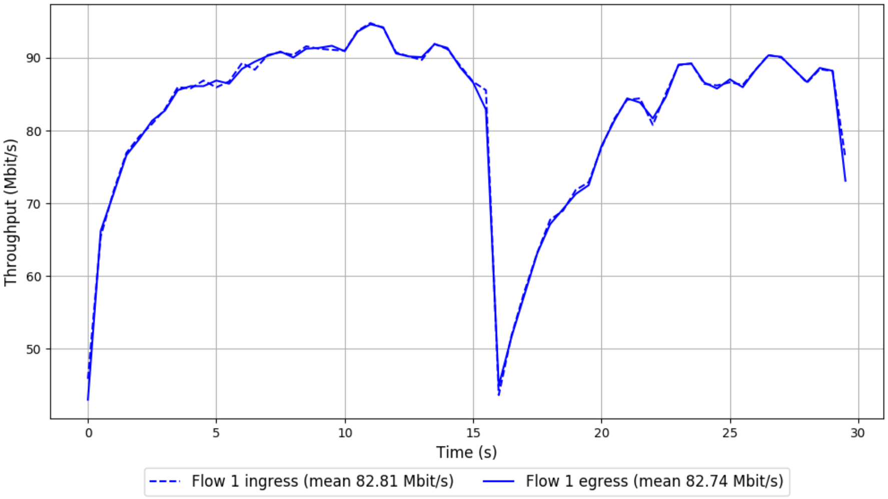


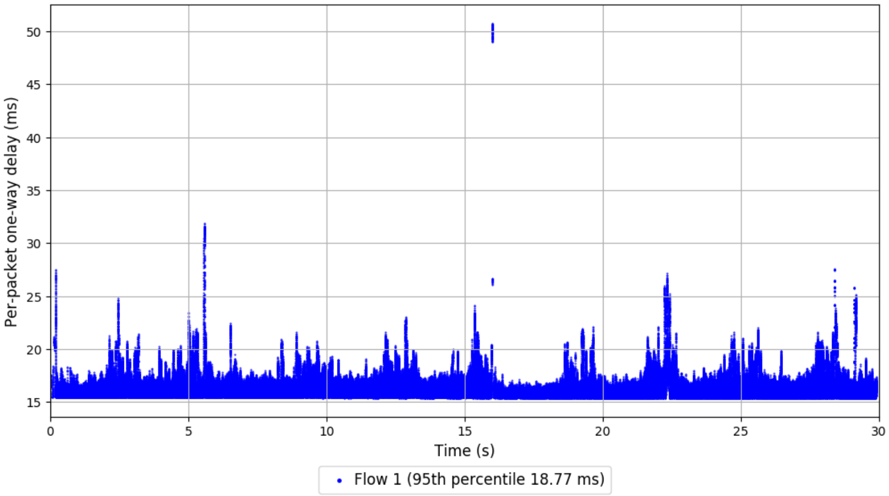
```
Run 6: Statistics of TCP Vegas

Start at: 2017-09-17 11:23:23
End at: 2017-09-17 11:23:53
Local clock offset: 4.046 ms
Remote clock offset: -0.659 ms

# Below is generated by plot.py at 2017-09-17 18:59:21
# Datalink statistics
-- Total of 1 flow:
Average throughput: 82.74 Mbit/s
95th percentile per-packet one-way delay: 18.774 ms
Loss rate: 0.19%
-- Flow 1:
Average throughput: 82.74 Mbit/s
95th percentile per-packet one-way delay: 18.774 ms
Loss rate: 0.19%
```

Run 6: Report of TCP Vegas — Data Link



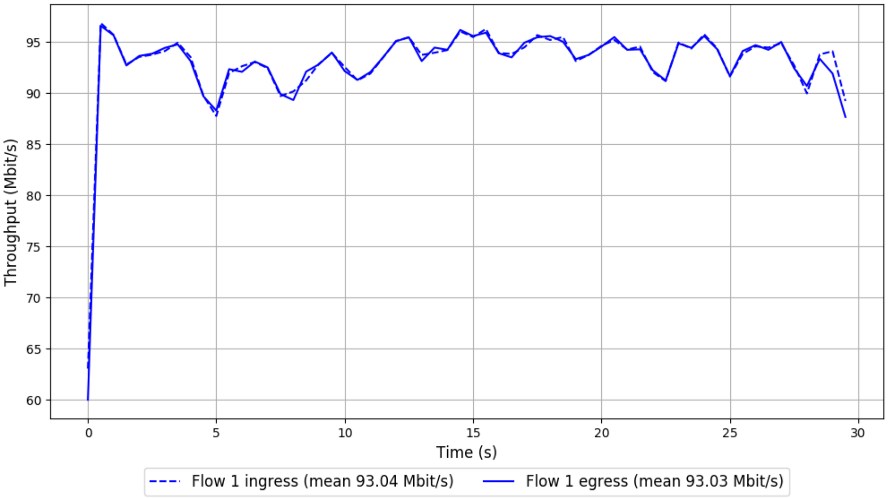


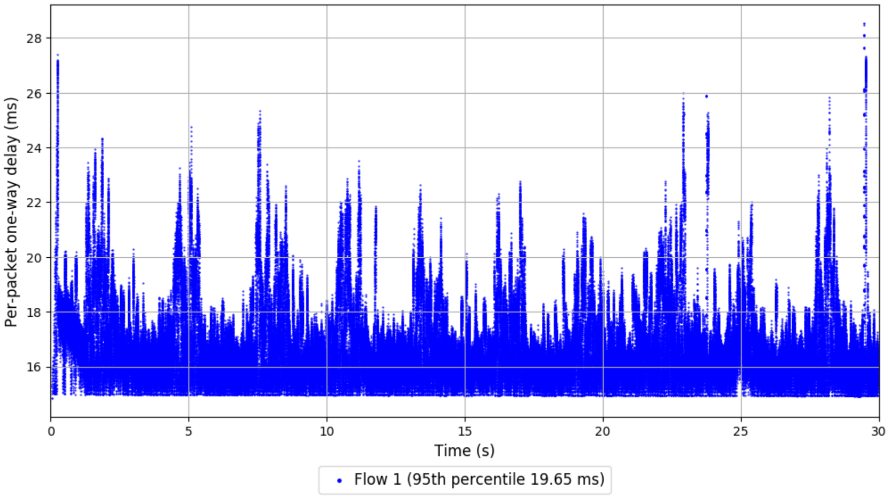
```
Run 7: Statistics of TCP Vegas

Start at: 2017-09-17 11:46:21
End at: 2017-09-17 11:46:51
Local clock offset: 5.854 ms
Remote clock offset: -1.752 ms

# Below is generated by plot.py at 2017-09-17 18:59:21
# Datalink statistics
-- Total of 1 flow:
Average throughput: 93.03 Mbit/s
95th percentile per-packet one-way delay: 19.651 ms
Loss rate: 0.12%
-- Flow 1:
Average throughput: 93.03 Mbit/s
95th percentile per-packet one-way delay: 19.651 ms
Loss rate: 0.12%
```

Run 7: Report of TCP Vegas — Data Link



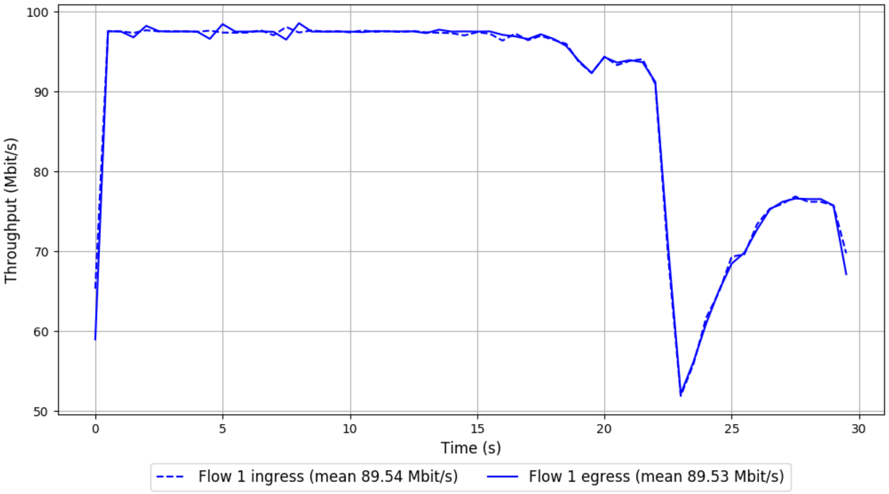


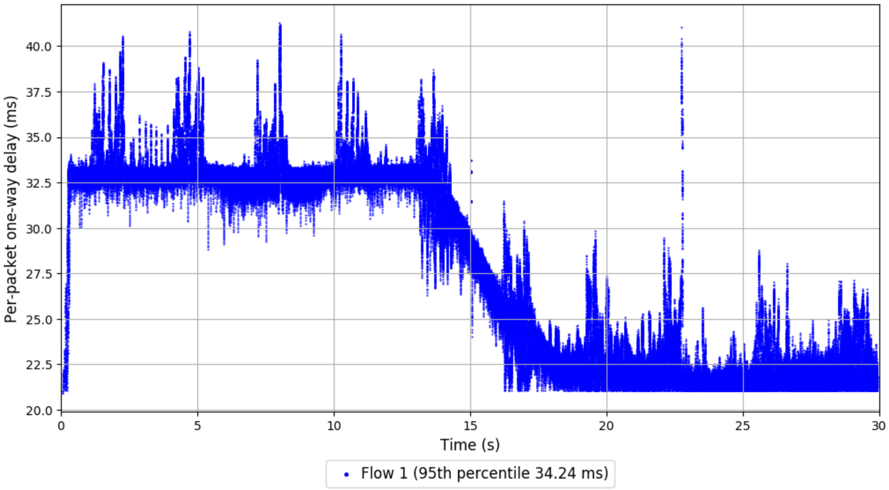
```
Run 8: Statistics of TCP Vegas

Start at: 2017-09-17 12:11:20
End at: 2017-09-17 12:11:50
Local clock offset: 6.641 ms
Remote clock offset: -7.855 ms

# Below is generated by plot.py at 2017-09-17 18:59:21
# Datalink statistics
-- Total of 1 flow:
Average throughput: 89.53 Mbit/s
95th percentile per-packet one-way delay: 34.243 ms
Loss rate: 0.12%
-- Flow 1:
Average throughput: 89.53 Mbit/s
95th percentile per-packet one-way delay: 34.243 ms
Loss rate: 0.12%
```

Run 8: Report of TCP Vegas — Data Link



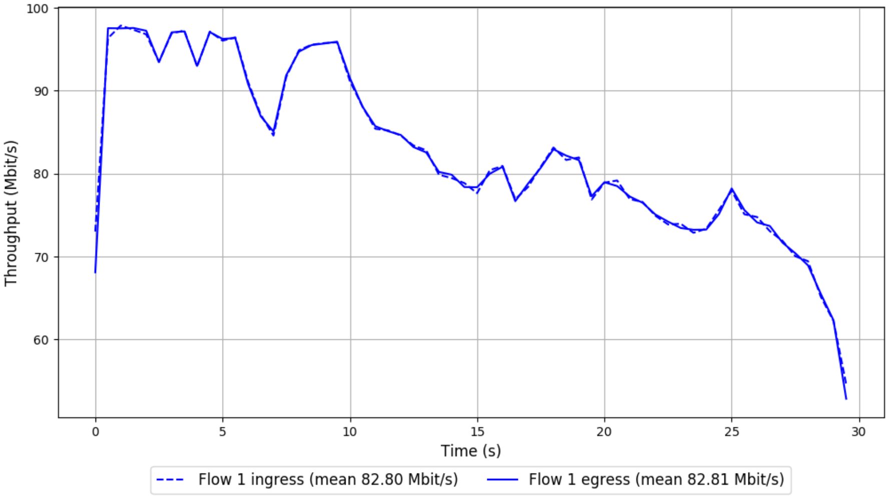


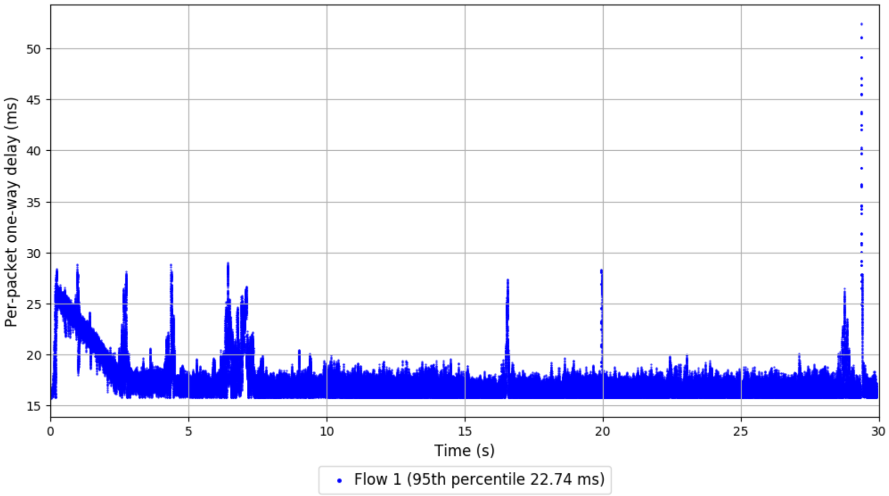
```
Run 9: Statistics of TCP Vegas

Start at: 2017-09-17 12:42:58
End at: 2017-09-17 12:43:28
Local clock offset: 6.18 ms
Remote clock offset: -2.933 ms

# Below is generated by plot.py at 2017-09-17 18:59:45
# Datalink statistics
-- Total of 1 flow:
Average throughput: 82.81 Mbit/s
95th percentile per-packet one-way delay: 22.742 ms
Loss rate: 0.08%
-- Flow 1:
Average throughput: 82.81 Mbit/s
95th percentile per-packet one-way delay: 22.742 ms
Loss rate: 0.08%
```

Run 9: Report of TCP Vegas — Data Link



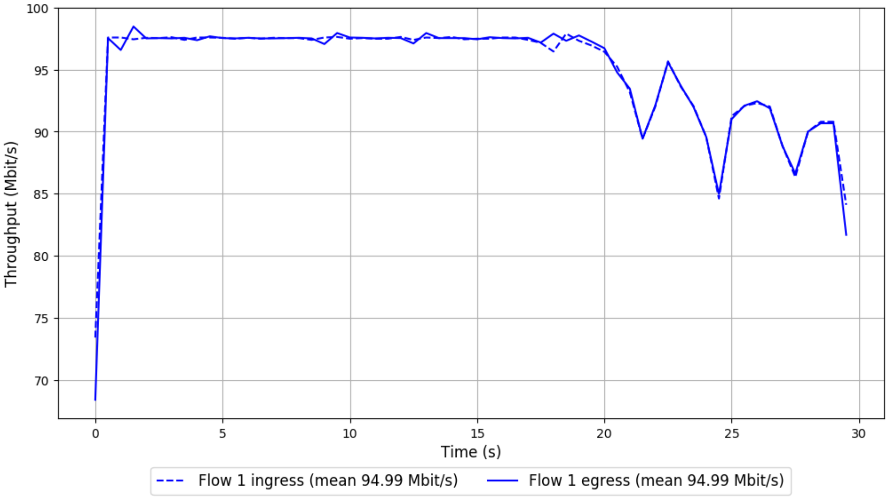


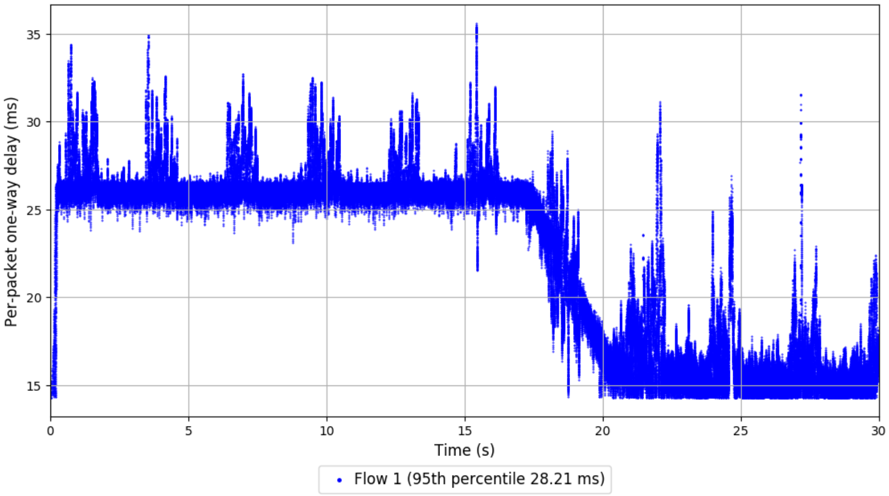
```
Run 10: Statistics of TCP Vegas

Start at: 2017-09-17 13:06:29
End at: 2017-09-17 13:06:59
Local clock offset: 4.339 ms
Remote clock offset: -2.787 ms

# Below is generated by plot.py at 2017-09-17 19:00:05
# Datalink statistics
-- Total of 1 flow:
Average throughput: 94.99 Mbit/s
95th percentile per-packet one-way delay: 28.207 ms
Loss rate: 0.09%
-- Flow 1:
Average throughput: 94.99 Mbit/s
95th percentile per-packet one-way delay: 28.207 ms
Loss rate: 0.09%
```

Run 10: Report of TCP Vegas — Data Link



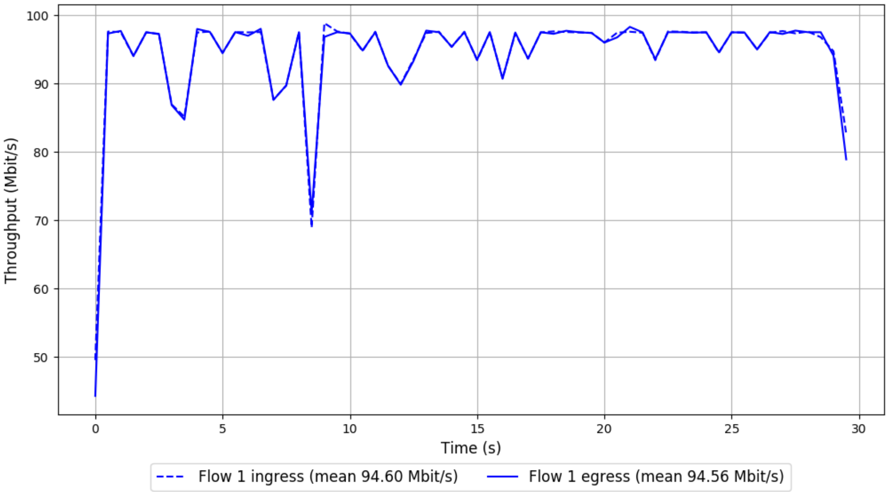


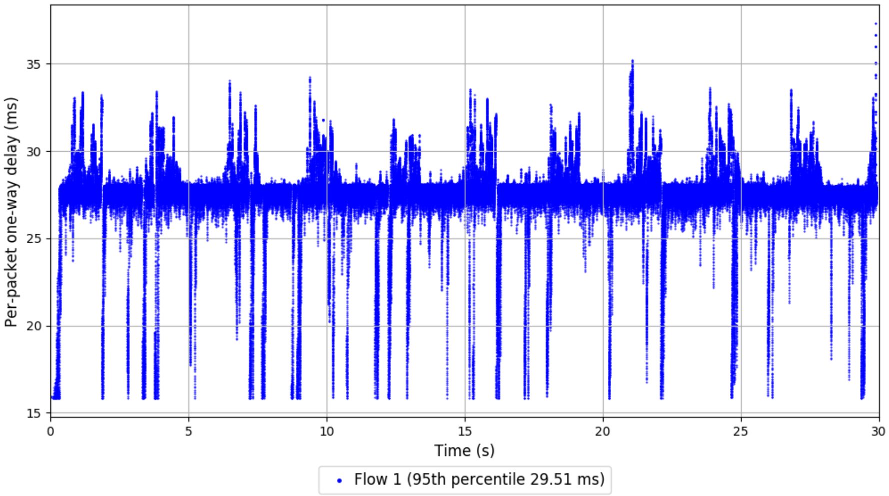
```
Run 1: Statistics of Verus

Start at: 2017-09-17 09:26:06
End at: 2017-09-17 09:26:36
Local clock offset: -1.763 ms
Remote clock offset: -2.031 ms

# Below is generated by plot.py at 2017-09-17 19:00:12
# Datalink statistics
-- Total of 1 flow:
Average throughput: 94.56 Mbit/s
95th percentile per-packet one-way delay: 29.506 ms
Loss rate: 0.16%
-- Flow 1:
Average throughput: 94.56 Mbit/s
95th percentile per-packet one-way delay: 29.506 ms
Loss rate: 0.16%
```

Run 1: Report of Verus — Data Link



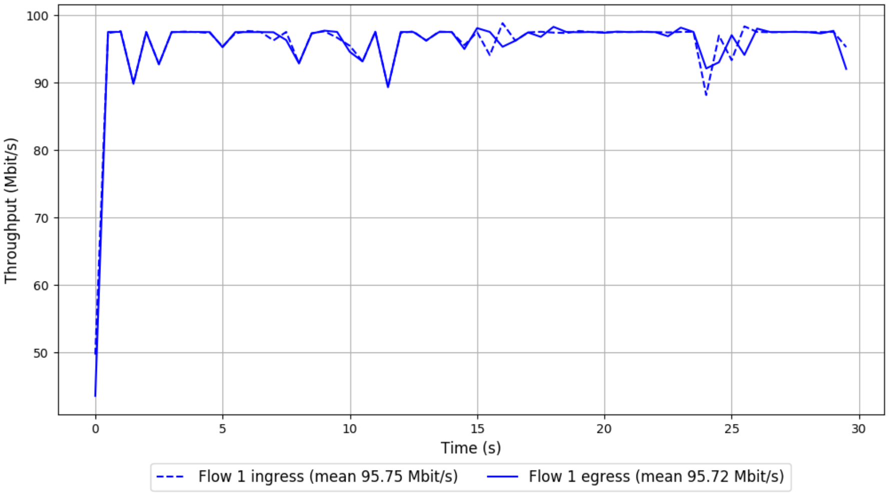


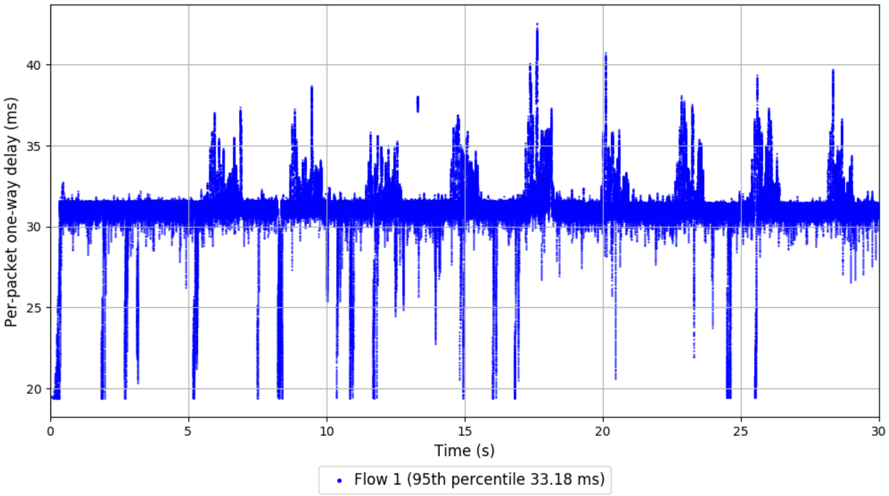
```
Run 2: Statistics of Verus

Start at: 2017-09-17 09:47:48
End at: 2017-09-17 09:48:19
Local clock offset: 1.914 ms
Remote clock offset: -1.122 ms

# Below is generated by plot.py at 2017-09-17 19:00:16
# Datalink statistics
-- Total of 1 flow:
Average throughput: 95.72 Mbit/s
95th percentile per-packet one-way delay: 33.181 ms
Loss rate: 0.16%
-- Flow 1:
Average throughput: 95.72 Mbit/s
95th percentile per-packet one-way delay: 33.181 ms
Loss rate: 0.16%
```

Run 2: Report of Verus — Data Link



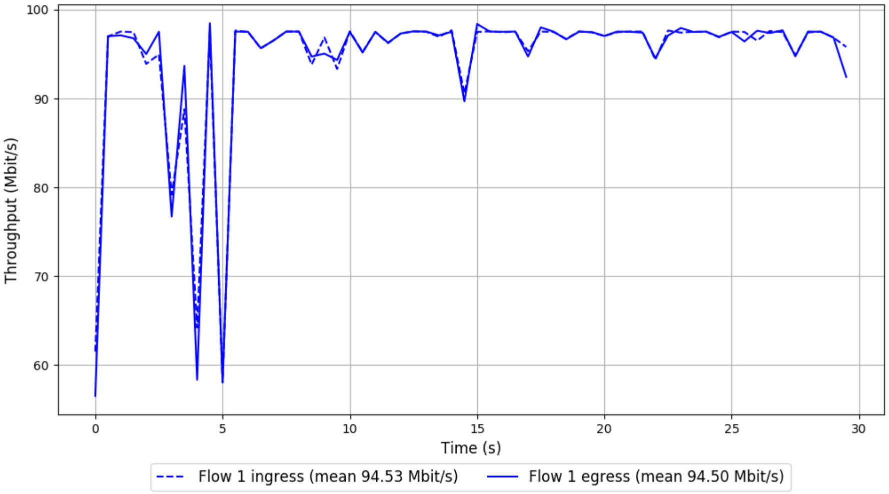


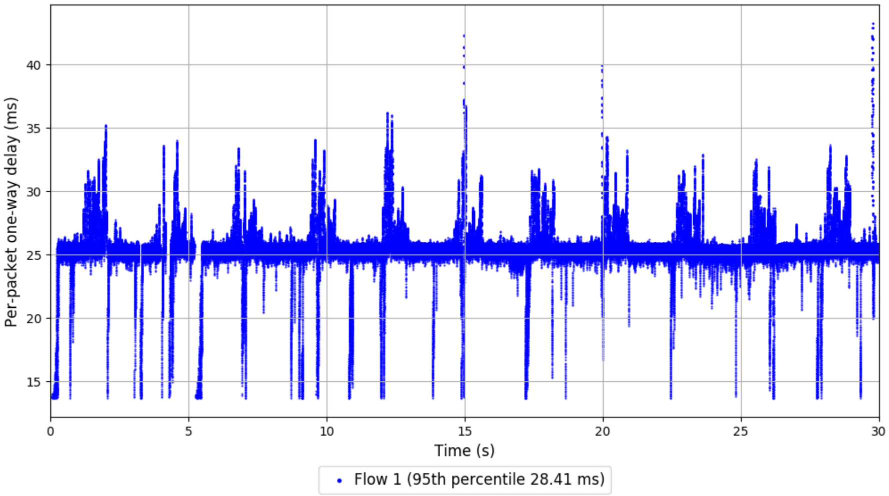
```
Run 3: Statistics of Verus

Start at: 2017-09-17 10:10:56
End at: 2017-09-17 10:11:26
Local clock offset: -0.406 ms
Remote clock offset: 1.073 ms

# Below is generated by plot.py at 2017-09-17 19:00:18
# Datalink statistics
-- Total of 1 flow:
Average throughput: 94.50 Mbit/s
95th percentile per-packet one-way delay: 28.412 ms
Loss rate: 0.15%
-- Flow 1:
Average throughput: 94.50 Mbit/s
95th percentile per-packet one-way delay: 28.412 ms
Loss rate: 0.15%
```

Run 3: Report of Verus — Data Link



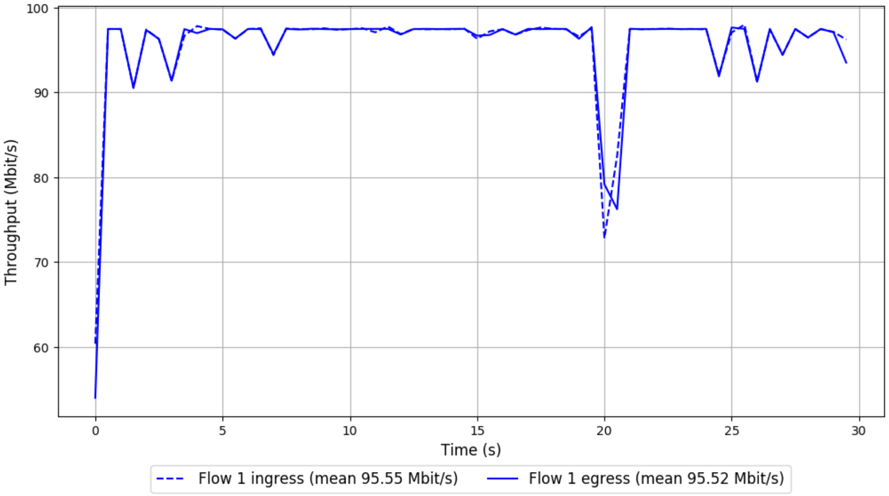


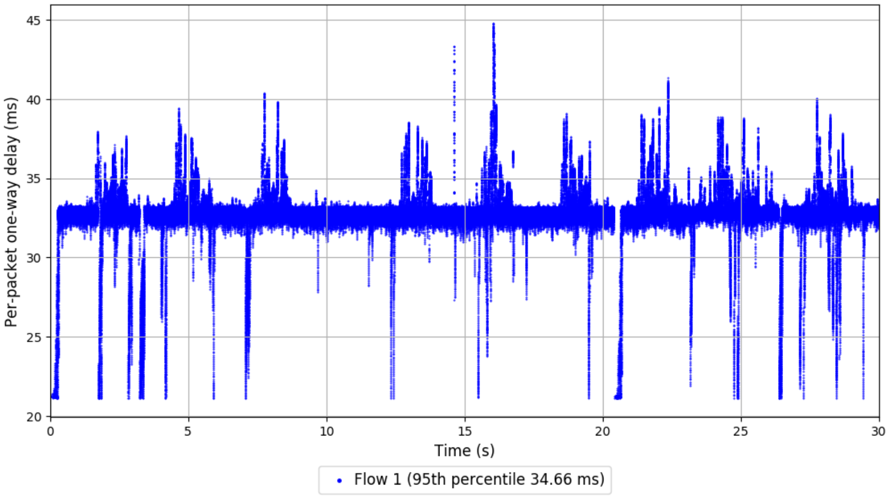
```
Run 4: Statistics of Verus

Start at: 2017-09-17 10:33:51
End at: 2017-09-17 10:34:21
Local clock offset: 2.083 ms
Remote clock offset: -4.86 ms

# Below is generated by plot.py at 2017-09-17 19:00:24
# Datalink statistics
-- Total of 1 flow:
Average throughput: 95.52 Mbit/s
95th percentile per-packet one-way delay: 34.664 ms
Loss rate: 0.16%
-- Flow 1:
Average throughput: 95.52 Mbit/s
95th percentile per-packet one-way delay: 34.664 ms
Loss rate: 0.16%
```

Run 4: Report of Verus — Data Link



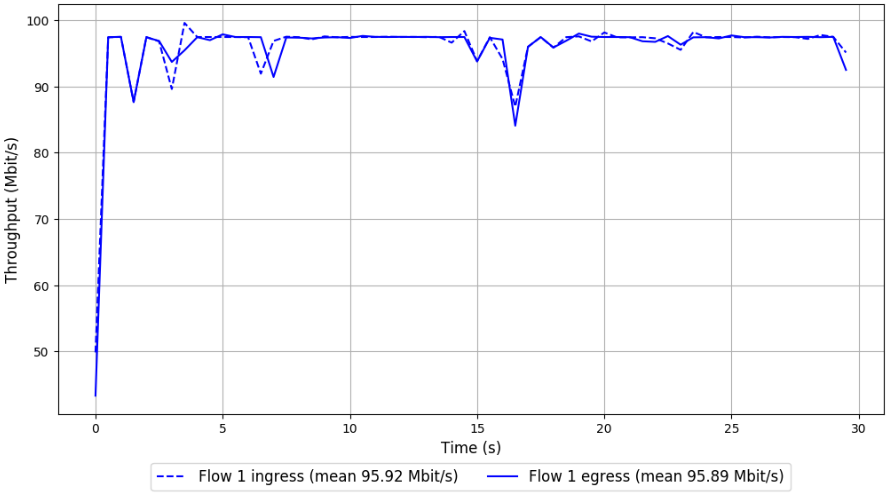


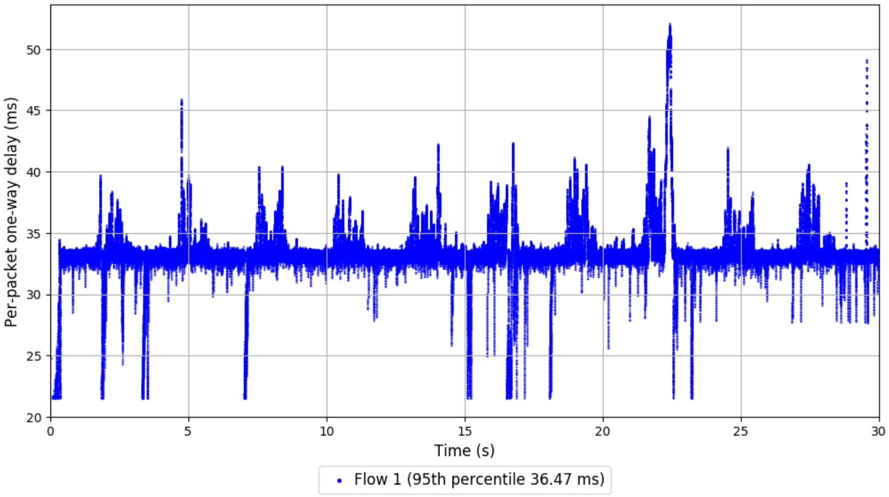
```
Run 5: Statistics of Verus

Start at: 2017-09-17 10:56:52
End at: 2017-09-17 10:57:22
Local clock offset: 2.513 ms
Remote clock offset: -4.814 ms

# Below is generated by plot.py at 2017-09-17 19:00:26
# Datalink statistics
-- Total of 1 flow:
Average throughput: 95.89 Mbit/s
95th percentile per-packet one-way delay: 36.472 ms
Loss rate: 0.17%
-- Flow 1:
Average throughput: 95.89 Mbit/s
95th percentile per-packet one-way delay: 36.472 ms
Loss rate: 0.17%
```

Run 5: Report of Verus — Data Link



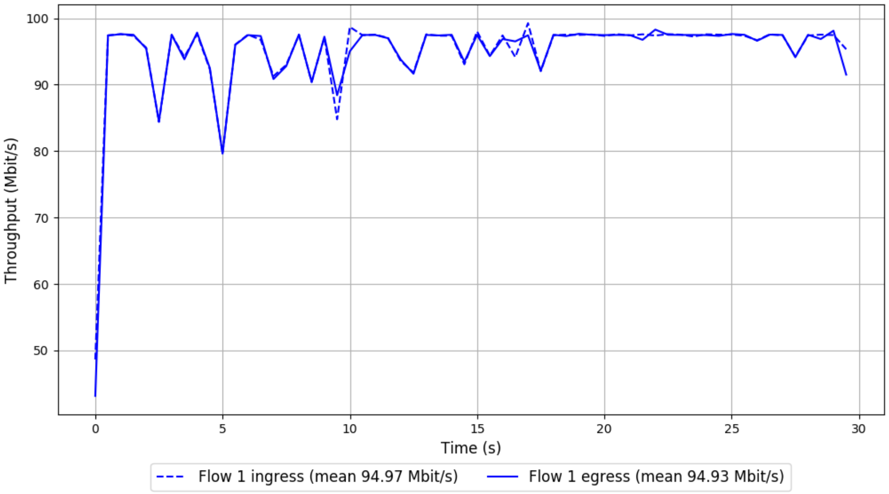


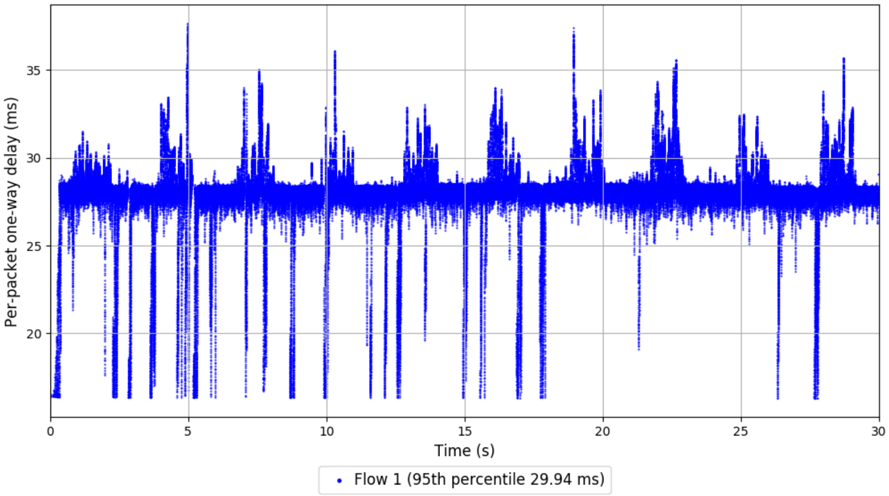
```
Run 6: Statistics of Verus

Start at: 2017-09-17 11:19:46
End at: 2017-09-17 11:20:16
Local clock offset: 4.158 ms
Remote clock offset: -0.91 ms

# Below is generated by plot.py at 2017-09-17 19:00:48
# Datalink statistics
-- Total of 1 flow:
Average throughput: 94.93 Mbit/s
95th percentile per-packet one-way delay: 29.944 ms
Loss rate: 0.16%
-- Flow 1:
Average throughput: 94.93 Mbit/s
95th percentile per-packet one-way delay: 29.944 ms
Loss rate: 0.16%
```

Run 6: Report of Verus — Data Link



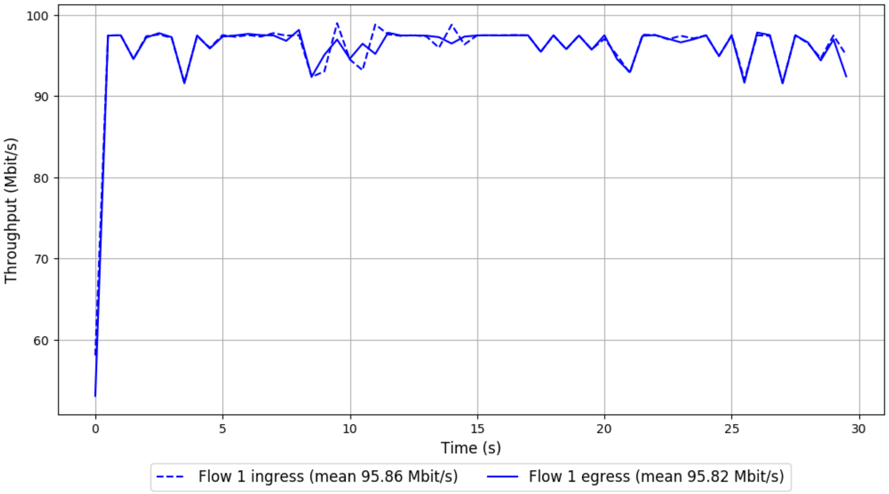


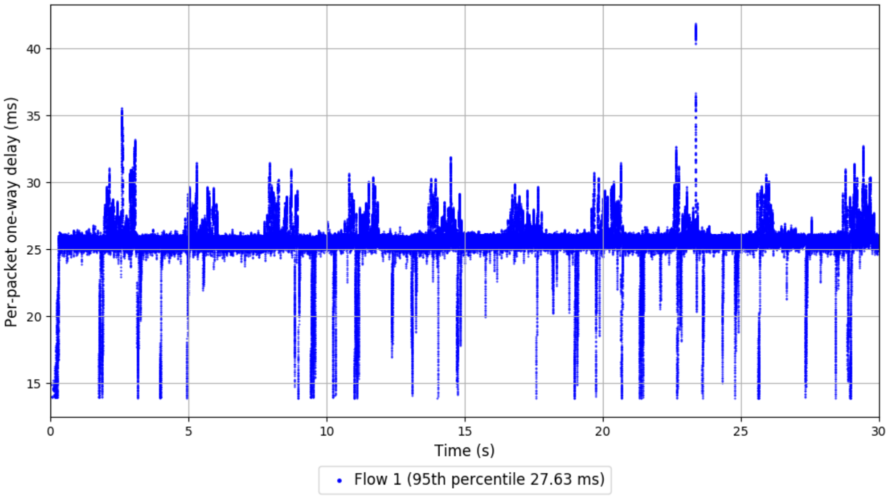
```
Run 7: Statistics of Verus

Start at: 2017-09-17 11:42:39
End at: 2017-09-17 11:43:09
Local clock offset: 4.8 ms
Remote clock offset: -1.39 ms

# Below is generated by plot.py at 2017-09-17 19:00:59
# Datalink statistics
-- Total of 1 flow:
Average throughput: 95.82 Mbit/s
95th percentile per-packet one-way delay: 27.633 ms
Loss rate: 0.16%
-- Flow 1:
Average throughput: 95.82 Mbit/s
95th percentile per-packet one-way delay: 27.633 ms
Loss rate: 0.16%
```

Run 7: Report of Verus — Data Link



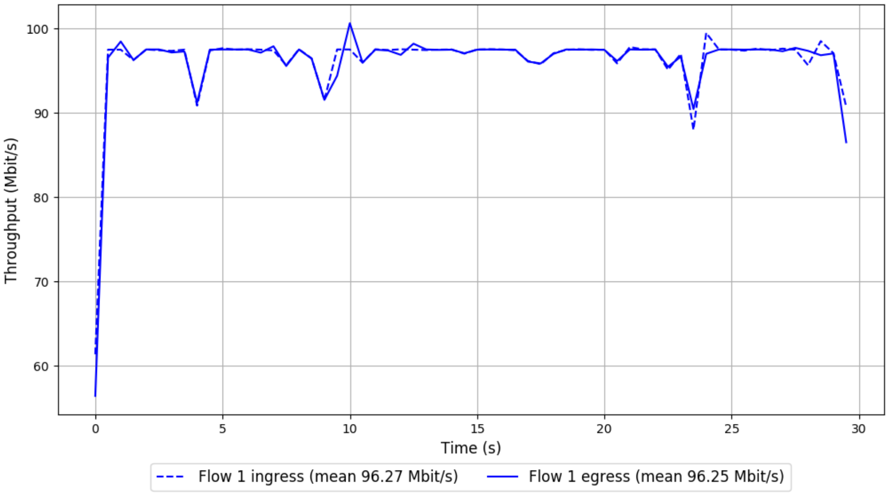


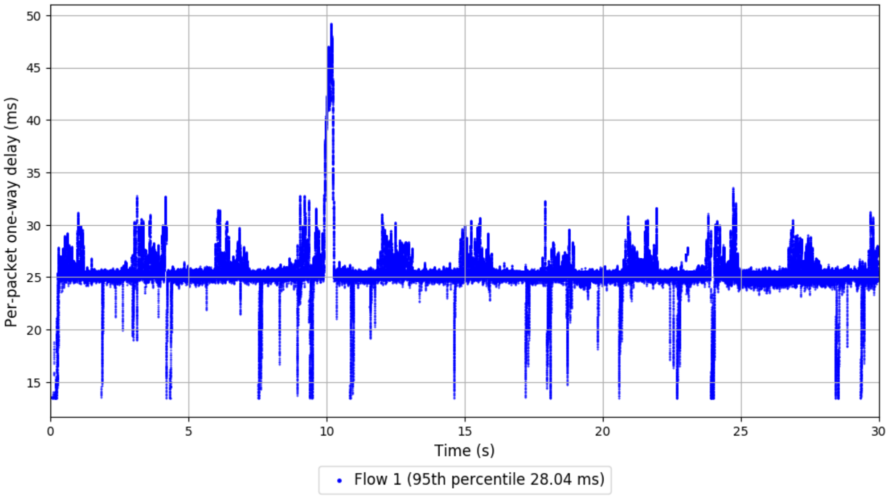
```
Run 8: Statistics of Verus

Start at: 2017-09-17 12:07:05
End at: 2017-09-17 12:07:35
Local clock offset: 4.93 ms
Remote clock offset: -1.986 ms

# Below is generated by plot.py at 2017-09-17 19:01:07
# Datalink statistics
-- Total of 1 flow:
Average throughput: 96.25 Mbit/s
95th percentile per-packet one-way delay: 28.037 ms
Loss rate: 0.16%
-- Flow 1:
Average throughput: 96.25 Mbit/s
95th percentile per-packet one-way delay: 28.037 ms
Loss rate: 0.16%
```

Run 8: Report of Verus — Data Link



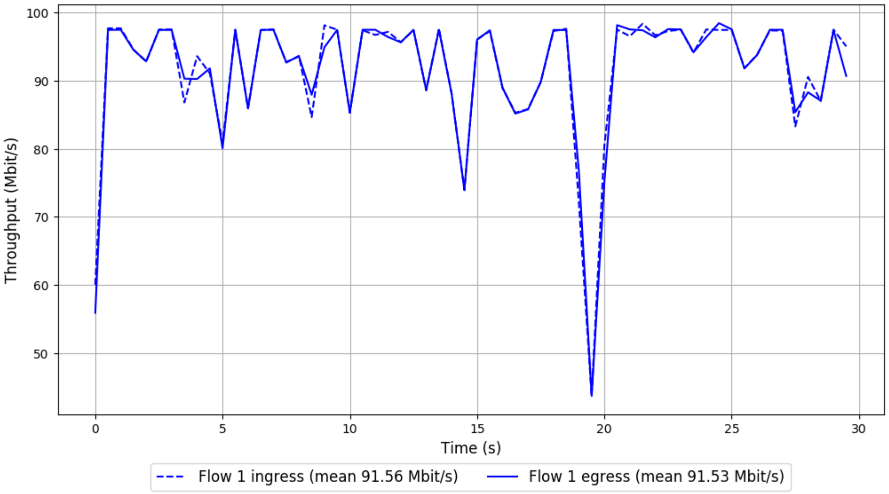


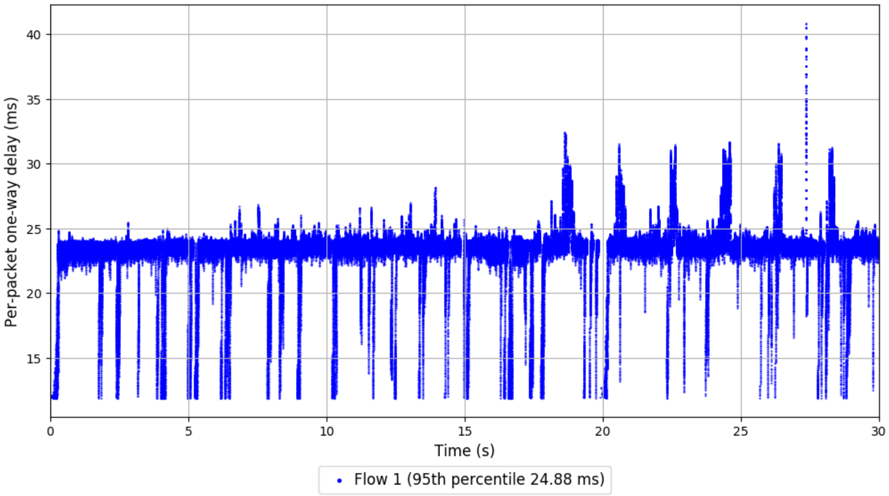
```
Run 9: Statistics of Verus

Start at: 2017-09-17 12:39:36
End at: 2017-09-17 12:40:06
Local clock offset: 3.577 ms
Remote clock offset: -1.679 ms

# Below is generated by plot.py at 2017-09-17 19:01:08
# Datalink statistics
-- Total of 1 flow:
Average throughput: 91.53 Mbit/s
95th percentile per-packet one-way delay: 24.876 ms
Loss rate: 0.16%
-- Flow 1:
Average throughput: 91.53 Mbit/s
95th percentile per-packet one-way delay: 24.876 ms
Loss rate: 0.16%
```

Run 9: Report of Verus — Data Link



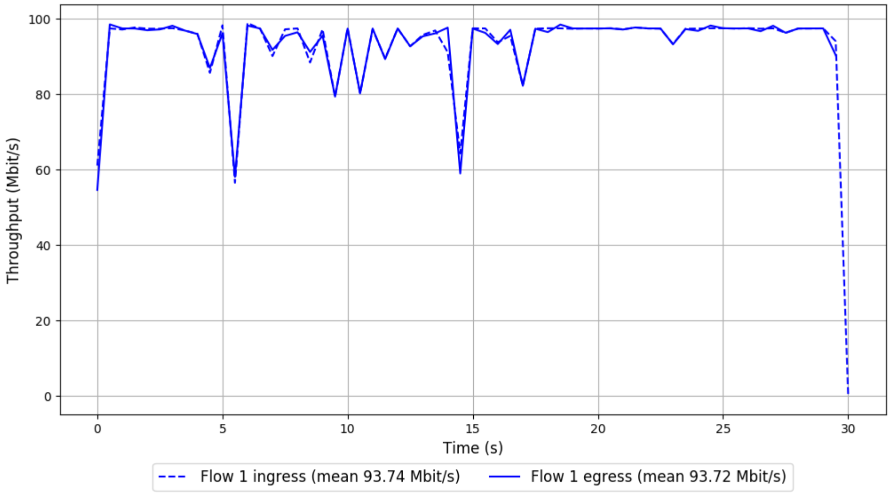


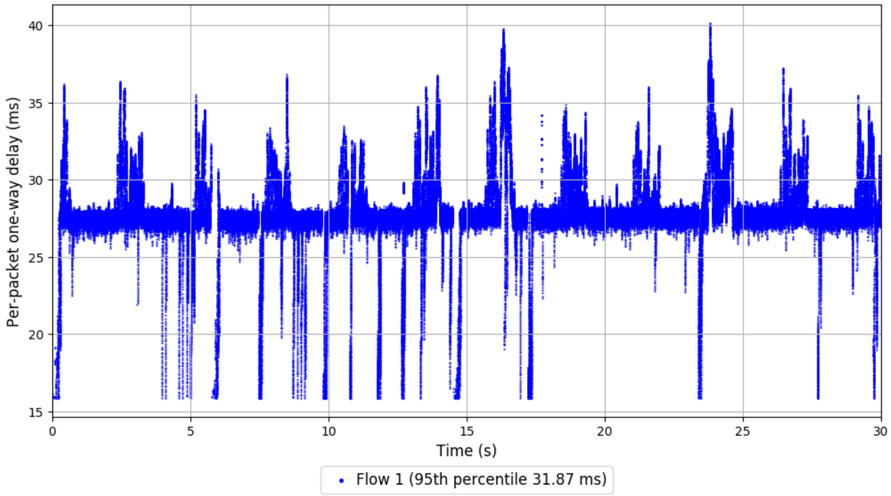
```
Run 10: Statistics of Verus

Start at: 2017-09-17 13:02:24
End at: 2017-09-17 13:02:54
Local clock offset: 6.538 ms
Remote clock offset: -2.198 ms

# Below is generated by plot.py at 2017-09-17 19:01:08
# Datalink statistics
-- Total of 1 flow:
Average throughput: 93.72 Mbit/s
95th percentile per-packet one-way delay: 31.867 ms
Loss rate: 0.16%
-- Flow 1:
Average throughput: 93.72 Mbit/s
95th percentile per-packet one-way delay: 31.867 ms
Loss rate: 0.16%
```

Run 10: Report of Verus — Data Link



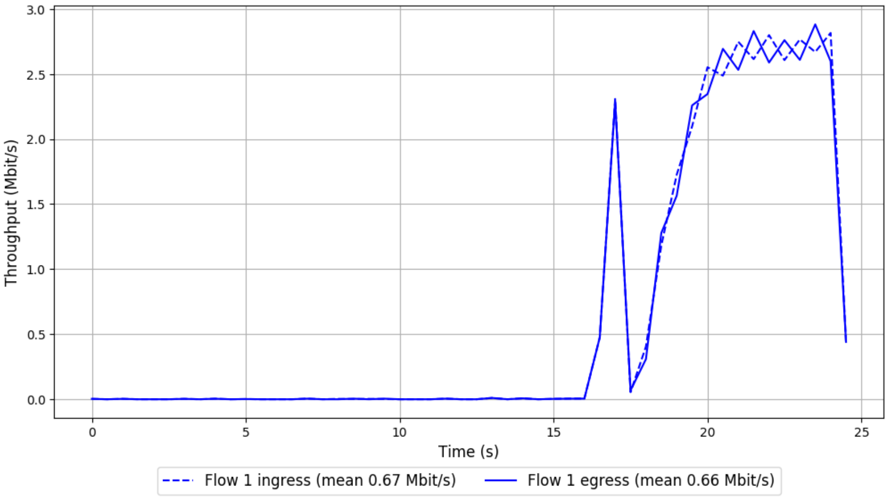


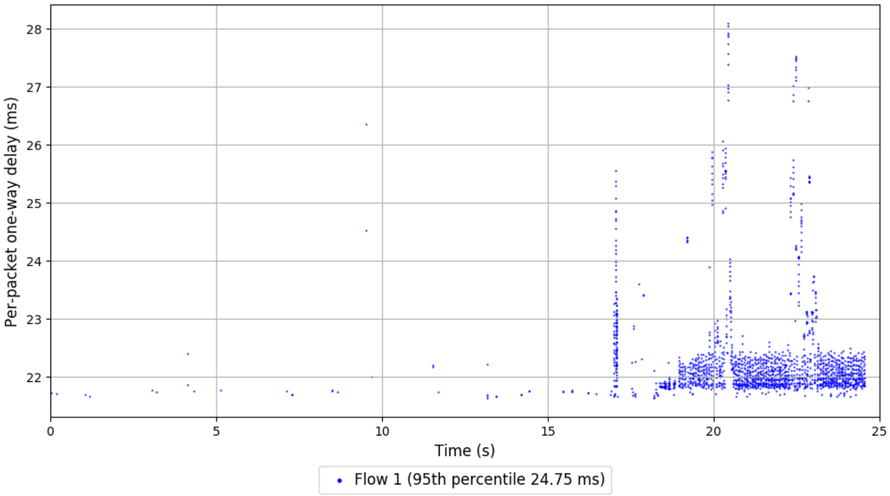
```
Run 1: Statistics of WebRTC media

Start at: 2017-09-17 09:14:18
End at: 2017-09-17 09:14:48
Local clock offset: 3.439 ms
Remote clock offset: -3.431 ms

# Below is generated by plot.py at 2017-09-17 19:01:08
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.66 Mbit/s
95th percentile per-packet one-way delay: 24.748 ms
Loss rate: 0.67%
-- Flow 1:
Average throughput: 0.66 Mbit/s
95th percentile per-packet one-way delay: 24.748 ms
Loss rate: 0.67%
```

Run 1: Report of WebRTC media — Data Link



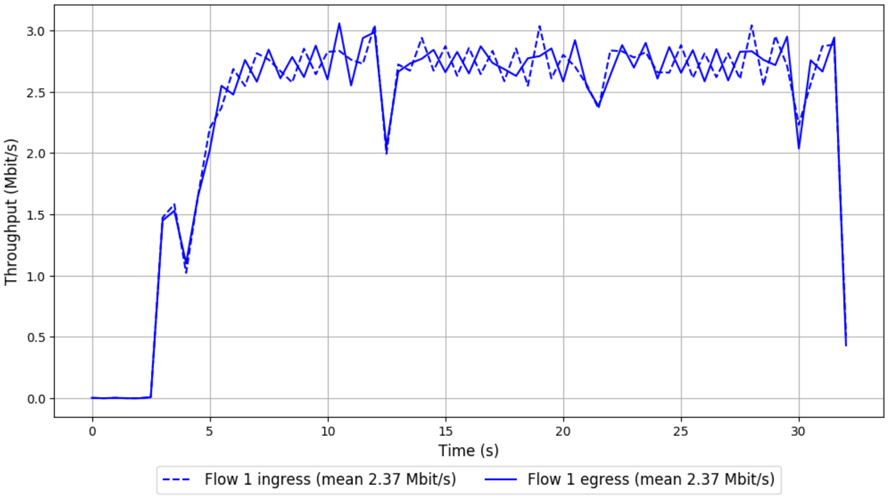


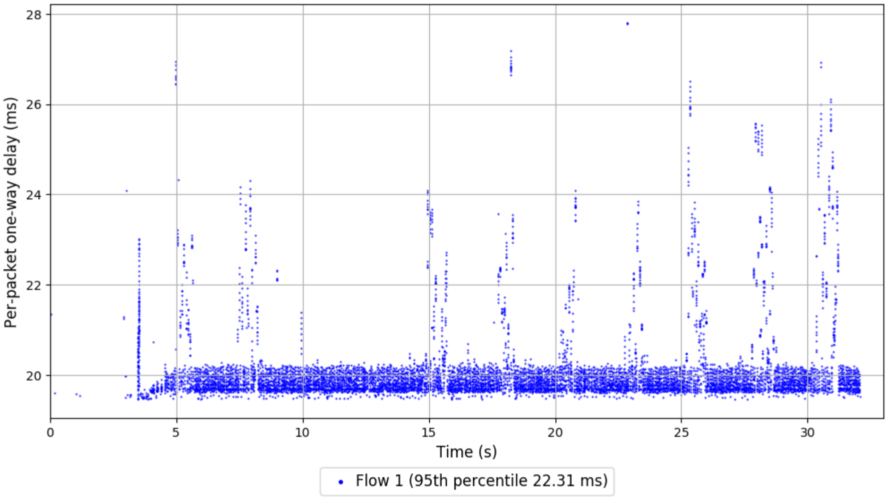
```
Run 2: Statistics of WebRTC media

Start at: 2017-09-17 09:36:00
End at: 2017-09-17 09:36:30
Local clock offset: 1.023 ms
Remote clock offset: -2.837 ms

# Below is generated by plot.py at 2017-09-17 19:01:08
# Datalink statistics
-- Total of 1 flow:
Average throughput: 2.37 Mbit/s
95th percentile per-packet one-way delay: 22.306 ms
Loss rate: 0.15%
-- Flow 1:
Average throughput: 2.37 Mbit/s
95th percentile per-packet one-way delay: 22.306 ms
Loss rate: 0.15%
```

Run 2: Report of WebRTC media — Data Link



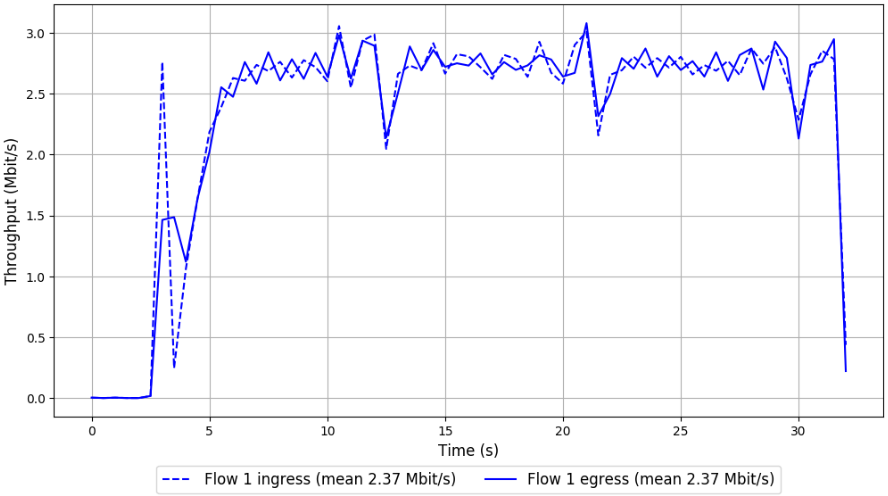


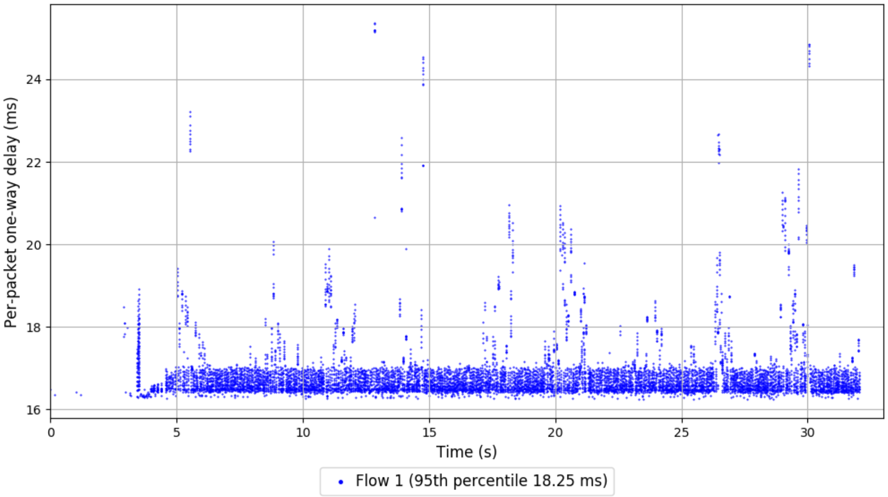
```
Run 3: Statistics of WebRTC media

Start at: 2017-09-17 09:58:55
End at: 2017-09-17 09:59:25
Local clock offset: 1.409 ms
Remote clock offset: 0.766 ms

# Below is generated by plot.py at 2017-09-17 19:01:08
# Datalink statistics
-- Total of 1 flow:
Average throughput: 2.37 Mbit/s
95th percentile per-packet one-way delay: 18.246 ms
Loss rate: 0.14%
-- Flow 1:
Average throughput: 2.37 Mbit/s
95th percentile per-packet one-way delay: 18.246 ms
Loss rate: 0.14%
```

Run 3: Report of WebRTC media — Data Link



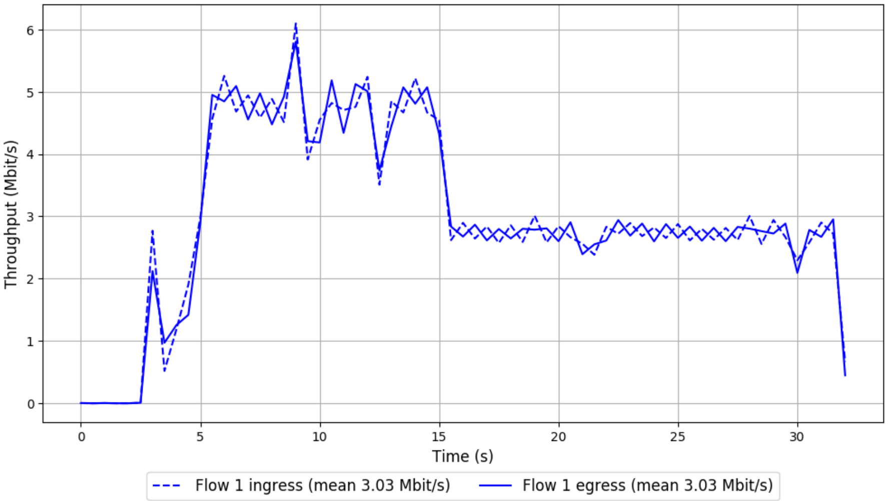


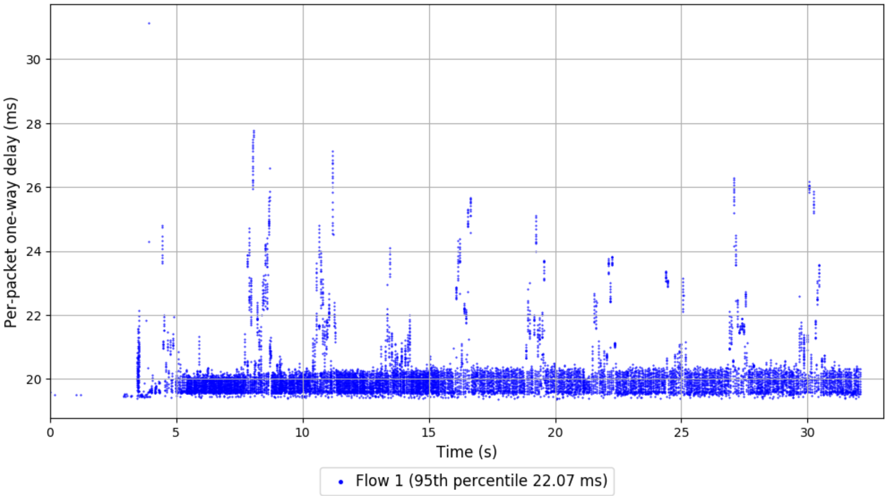
```
Run 4: Statistics of WebRTC media

Start at: 2017-09-17 10:22:10
End at: 2017-09-17 10:22:40
Local clock offset: 1.885 ms
Remote clock offset: -3.414 ms

# Below is generated by plot.py at 2017-09-17 19:01:08
# Datalink statistics
-- Total of 1 flow:
Average throughput: 3.03 Mbit/s
95th percentile per-packet one-way delay: 22.065 ms
Loss rate: 0.27%
-- Flow 1:
Average throughput: 3.03 Mbit/s
95th percentile per-packet one-way delay: 22.065 ms
Loss rate: 0.27%
```

Run 4: Report of WebRTC media — Data Link



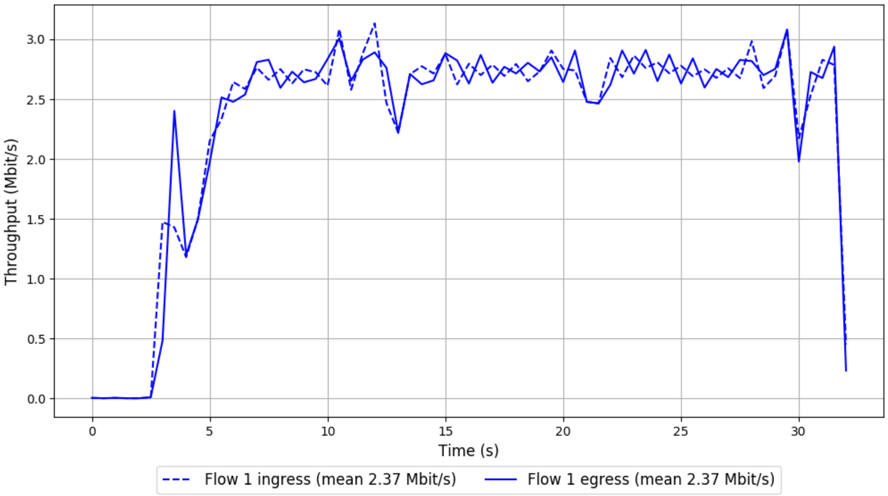


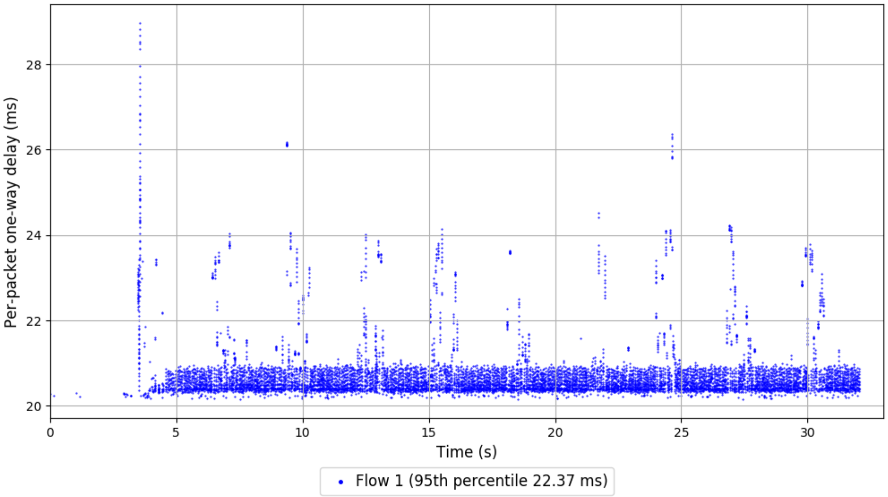
```
Run 5: Statistics of WebRTC media

Start at: 2017-09-17 10:44:58
End at: 2017-09-17 10:45:28
Local clock offset: 1.693 ms
Remote clock offset: -4.484 ms

# Below is generated by plot.py at 2017-09-17 19:01:08
# Datalink statistics
-- Total of 1 flow:
Average throughput: 2.37 Mbit/s
95th percentile per-packet one-way delay: 22.374 ms
Loss rate: 0.14%
-- Flow 1:
Average throughput: 2.37 Mbit/s
95th percentile per-packet one-way delay: 22.374 ms
Loss rate: 0.14%
```

Run 5: Report of WebRTC media — Data Link



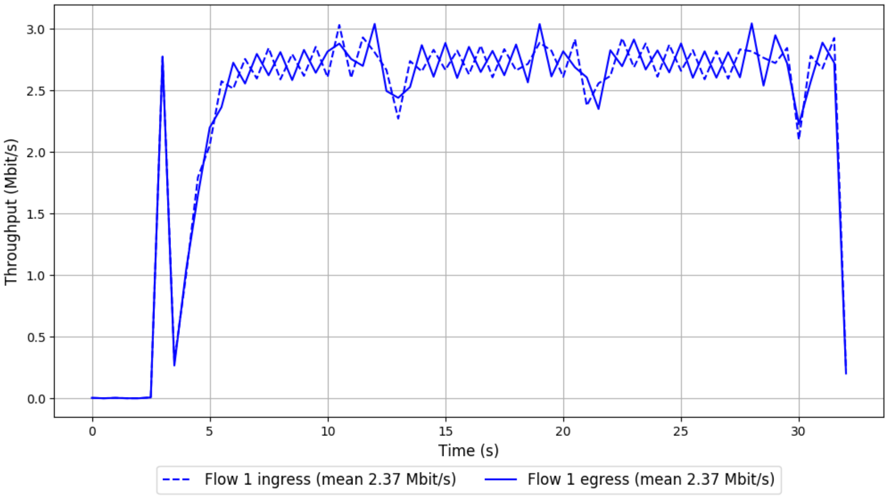


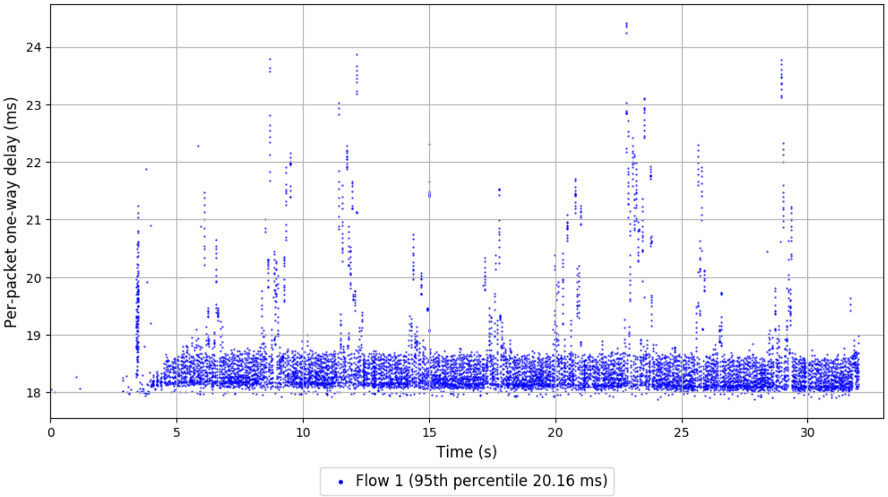
```
Run 6: Statistics of WebRTC media

Start at: 2017-09-17 11:07:53
End at: 2017-09-17 11:08:23
Local clock offset: 2.682 ms
Remote clock offset: -2.035 ms

# Below is generated by plot.py at 2017-09-17 19:01:08
# Datalink statistics
-- Total of 1 flow:
Average throughput: 2.37 Mbit/s
95th percentile per-packet one-way delay: 20.156 ms
Loss rate: 0.15%
-- Flow 1:
Average throughput: 2.37 Mbit/s
95th percentile per-packet one-way delay: 20.156 ms
Loss rate: 0.15%
```

Run 6: Report of WebRTC media — Data Link



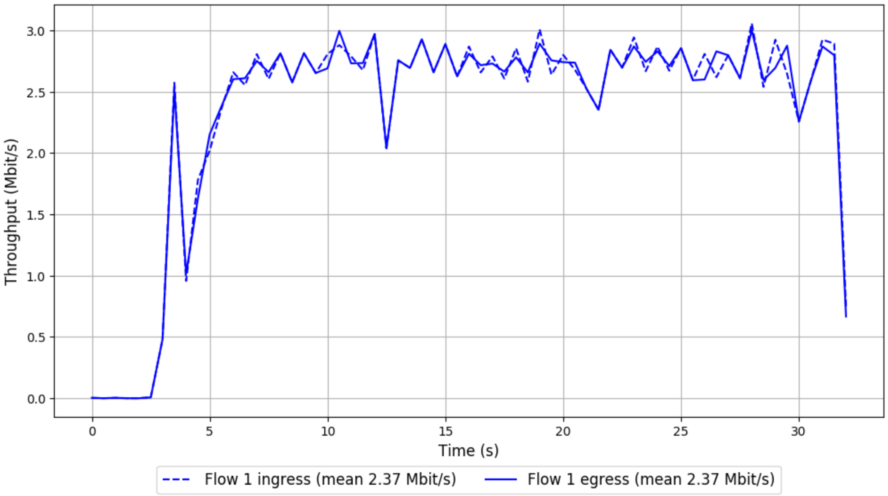


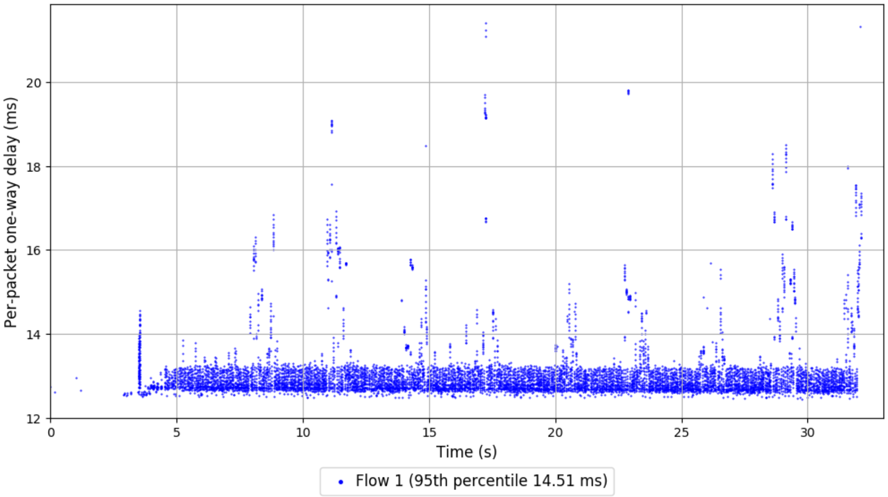
```
Run 7: Statistics of WebRTC media

Start at: 2017-09-17 11:30:45
End at: 2017-09-17 11:31:15
Local clock offset: 2.363 ms
Remote clock offset: -1.118 ms

# Below is generated by plot.py at 2017-09-17 19:01:08
# Datalink statistics
-- Total of 1 flow:
Average throughput: 2.37 Mbit/s
95th percentile per-packet one-way delay: 14.513 ms
Loss rate: 0.15%
-- Flow 1:
Average throughput: 2.37 Mbit/s
95th percentile per-packet one-way delay: 14.513 ms
Loss rate: 0.15%
```

Run 7: Report of WebRTC media — Data Link



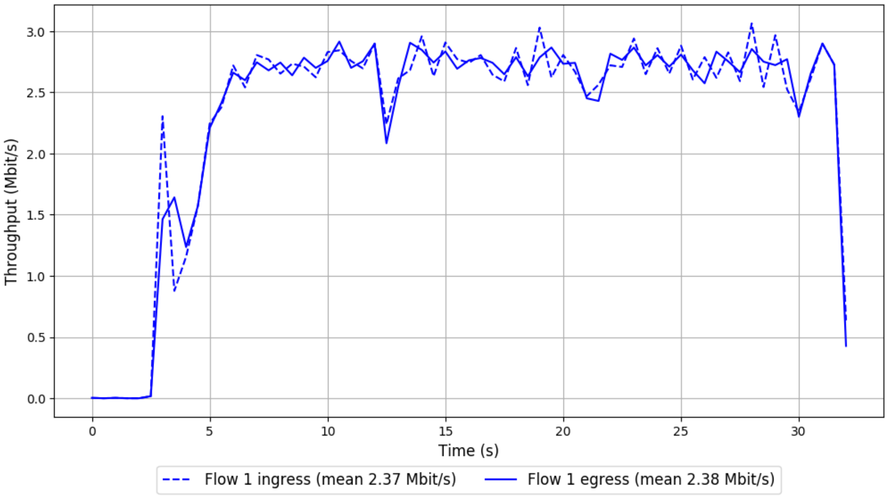


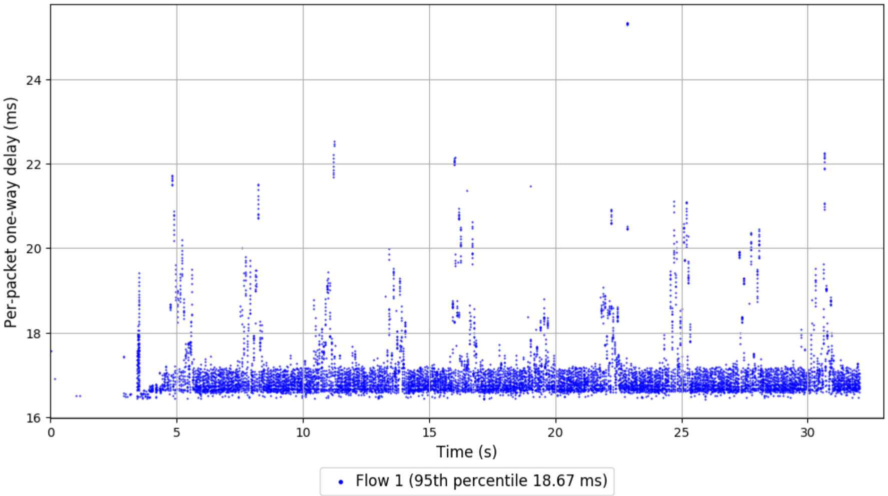
```
Run 8: Statistics of WebRTC media

Start at: 2017-09-17 11:54:22
End at: 2017-09-17 11:54:52
Local clock offset: 7.514 ms
Remote clock offset: -2.253 ms

# Below is generated by plot.py at 2017-09-17 19:01:08
# Datalink statistics
-- Total of 1 flow:
Average throughput: 2.38 Mbit/s
95th percentile per-packet one-way delay: 18.672 ms
Loss rate: 0.14%
-- Flow 1:
Average throughput: 2.38 Mbit/s
95th percentile per-packet one-way delay: 18.672 ms
Loss rate: 0.14%
```

Run 8: Report of WebRTC media — Data Link



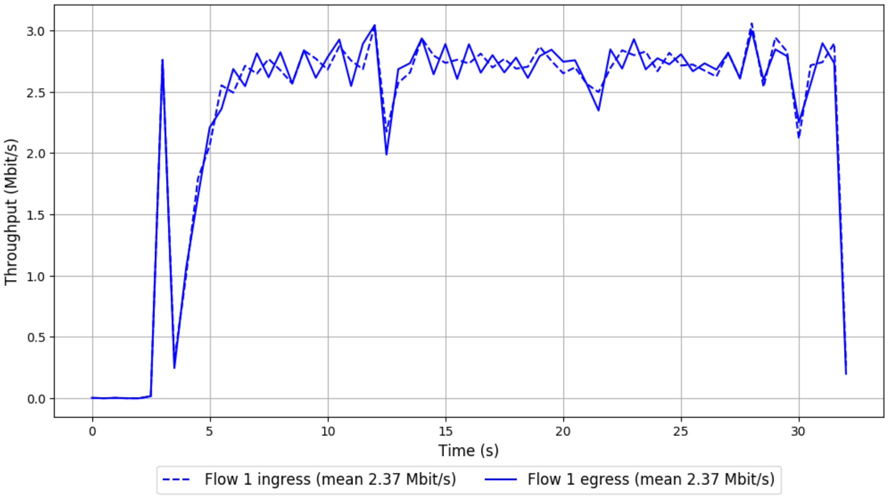


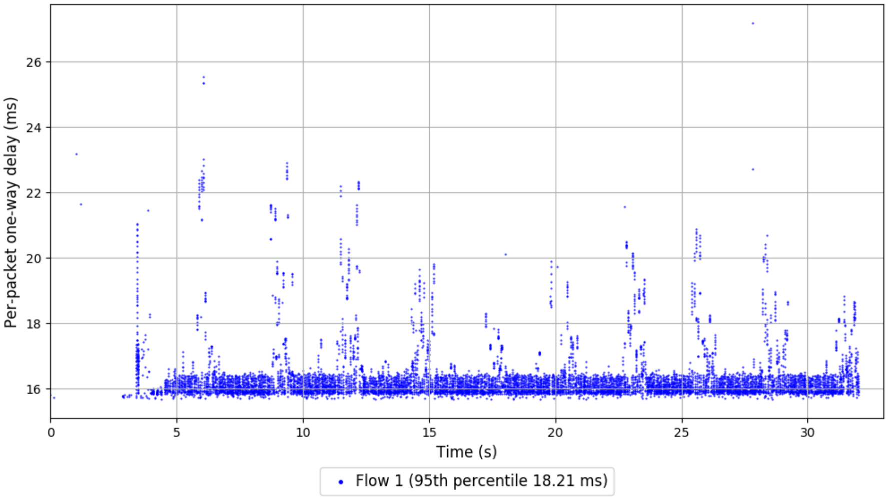
```
Run 9: Statistics of WebRTC media

Start at: 2017-09-17 12:19:16
End at: 2017-09-17 12:19:46
Local clock offset: 6.94 ms
Remote clock offset: -2.218 ms

# Below is generated by plot.py at 2017-09-17 19:01:08
# Datalink statistics
-- Total of 1 flow:
Average throughput: 2.37 Mbit/s
95th percentile per-packet one-way delay: 18.209 ms
Loss rate: 0.15%
-- Flow 1:
Average throughput: 2.37 Mbit/s
95th percentile per-packet one-way delay: 18.209 ms
Loss rate: 0.15%
```

Run 9: Report of WebRTC media — Data Link



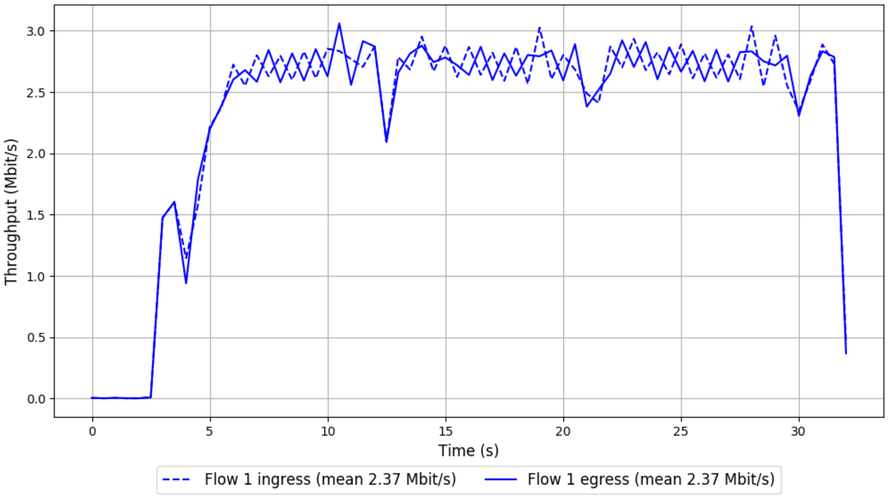


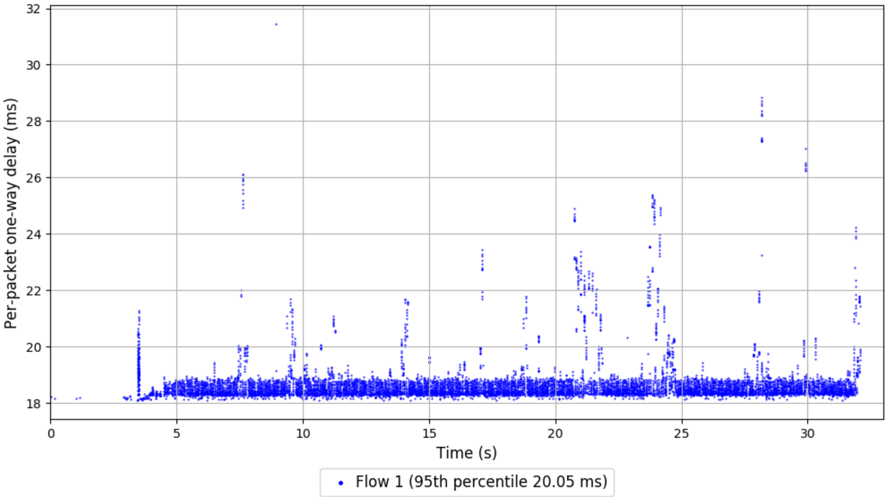
```
Run 10: Statistics of WebRTC media

Start at: 2017-09-17 12:49:47
End at: 2017-09-17 12:50:17
Local clock offset: 8.298 ms
Remote clock offset: -3.072 ms

# Below is generated by plot.py at 2017-09-17 19:01:08
# Datalink statistics
-- Total of 1 flow:
Average throughput: 2.37 Mbit/s
95th percentile per-packet one-way delay: 20.053 ms
Loss rate: 0.05%
-- Flow 1:
Average throughput: 2.37 Mbit/s
95th percentile per-packet one-way delay: 20.053 ms
Loss rate: 0.05%
```

Run 10: Report of WebRTC media — Data Link


Throughput (Mbit/s)
0.0
0.5
1.0
1.5
2.0
2.5
3.0
0
5
10
15
20
25
30
Time (s)
Flow 1 ingress (mean 2.37 Mbit/s)
Flow 1 egress (mean 2.37 Mbit/s)


Per-packet one-way delay (ms)
18
20
22
24
26
28
30
32
0
5
10
15
20
25
30
Time (s)
Flow 1 (95th percentile 20.05 ms)