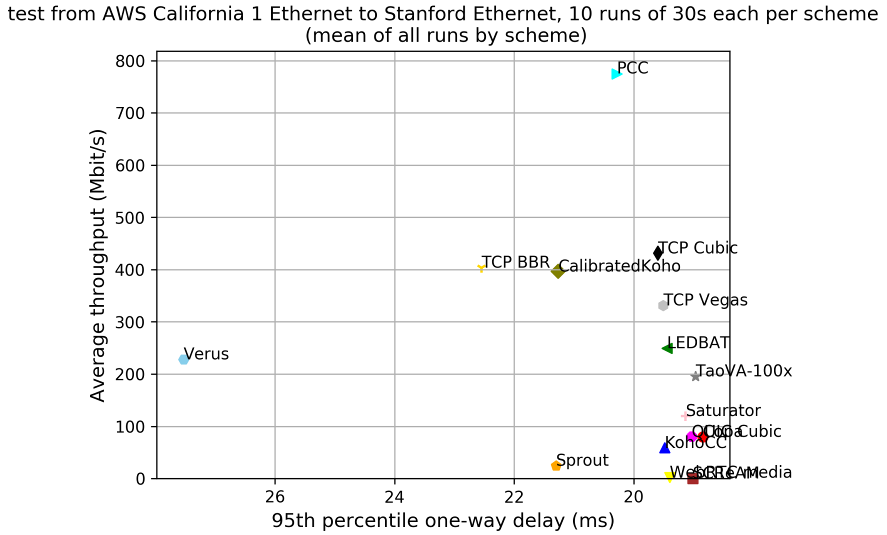
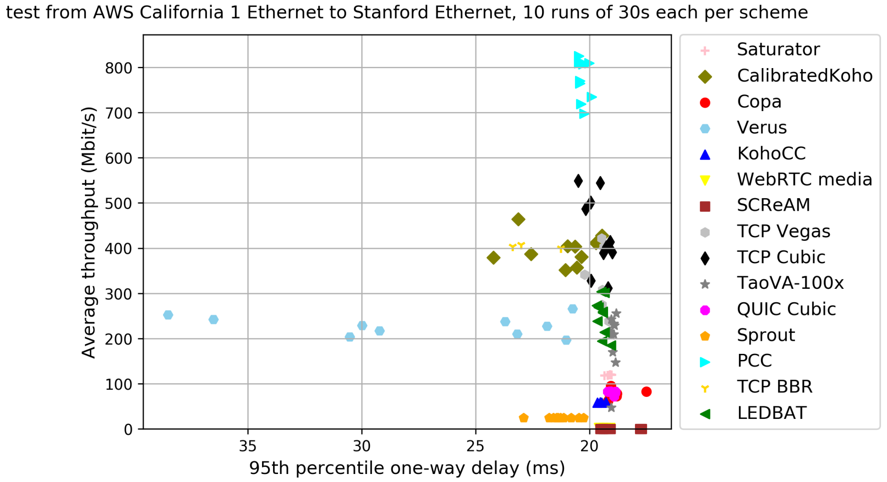
Pantheon Report

Generated at 2017-08-22 03:23:09 (UTC).
Data path: AWS California 1 Ethernet (*local*) →Stanford Ethernet (*remote*).
Repeated the test of 15 congestion control schemes 10 times.
Each test lasted for 30 seconds running 1 flow.
Increased UDP receive buffer to 16 MB (default) and 32 MB (max).
Tested BBR with qdisc of Fair Queuing (`fq`), and other schemes with the default Linux qdisc (`pfifo_fast`).
NTP offsets were measured against `time.stanford.edu` and have been applied to correct the timestamps in logs.

```
Git summary:
branch: master @ e43be7582298d552838afcf6382342bf187fbbd6
third_party/calibrated_koho @ 3cb73c0d1c0322cdfae446ea37a522e53227db50
 M datagrump/sender.cc
third_party/genericCC @ dae96123232f1bcb37725348fa2378691ce26725
third_party/koho_cc @ f0f2e693303aee82ea808e6928eac4f1083a6681
 M datagrump/sender.cc
third_party/libutp @ b3465b942e2826f2b179eaab4a906ce6bb7cf3cf
third_party/pantheon-stimuli @ fc73a85ca16c34366d1888dc8a0d0d88d4ebf2a7
third_party/pantheon-tunnel @ baf443516dea3eeddeccaf9b916cc313273ca4f4
 M scripts/merge-tunnel-logs
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 AWS California 1 Ethernet to Stanford Ethernet, 10 runs of 30s each per scheme
(mean of all runs by scheme)
Average throughput (Mbit/s)
95th percentile one-way delay (ms)
800
700
600
500
400
300
200
100
0
26
24
22
20
PCC
TCP Cubic
TCP BBR
CalibratedKoho
TCP Vegas
LEDBAT
Verus
TaoVA-100x
Saturator
QUIC Cubic
Copa
KohoCC
Sprout
WebRTC media
SCReAM


test from AWS California 1 Ethernet to Stanford Ethernet, 10 runs of 30s each per scheme
Average throughput (Mbit/s)
95th percentile one-way delay (ms)
800
700
600
500
400
300
200
100
0
35
30
25
20
Saturator
CalibratedKoho
Copa
Verus
KohoCC
WebRTC media
SCReAM
TCP Vegas
TCP Cubic
TaoVA-100x
QUIC Cubic
Sprout
PCC
TCP BBR
LEDBAT

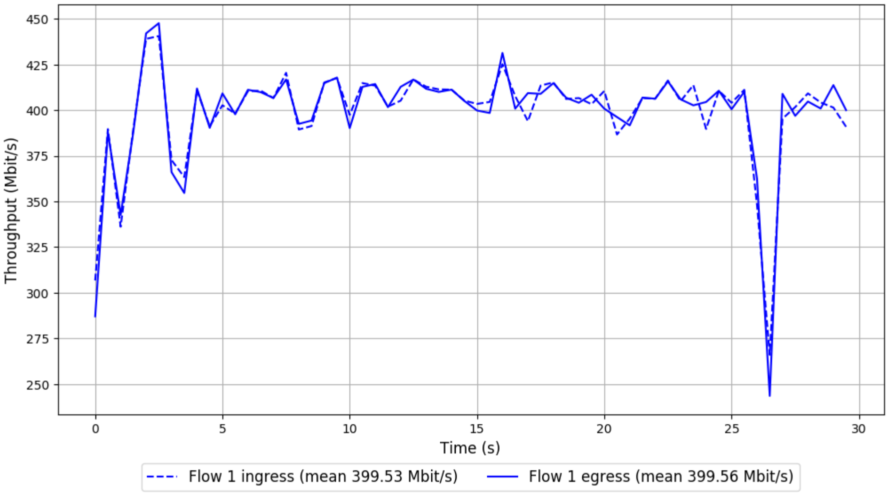
scheme	# runs	mean avg tput (Mbit/s) flow 1	mean 95th-%ile delay (ms) flow 1	mean loss rate (%) flow 1
TCP BBR	3	403.61	22.55	0.01
CalibratedKoho	10	396.84	21.26	0.03
Copa	10	79.64	18.85	0.00
TCP Cubic	10	431.71	19.60	0.00
KohoCC	4	58.86	19.48	0.00
LEDBAT	10	249.56	19.44	0.00
PCC	10	774.79	20.28	0.07
QUIC Cubic	7	80.55	19.03	0.00
Saturator	7	119.51	19.13	0.00
SCReAM	10	0.22	19.02	0.00
Sprout	10	24.75	21.30	0.00
TaoVA-100x	10	195.69	18.97	0.00
TCP Vegas	6	331.23	19.51	0.00
Verus	10	228.30	27.53	0.01
WebRTC media	10	2.35	19.40	0.00

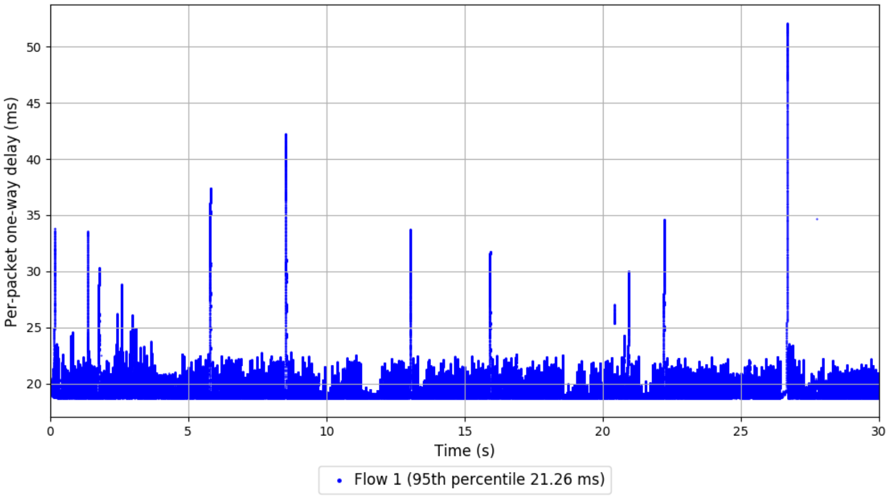
```
Run 1: Statistics of TCP BBR

Start at: 2017-08-21 21:26:01
End at: 2017-08-21 21:26:31
Local clock offset: 0.411 ms
Remote clock offset: -2.18 ms

# Below is generated by plot.py at 2017-08-22 02:49:02
# Datalink statistics
-- Total of 1 flow:
Average throughput: 399.56 Mbit/s
95th percentile per-packet one-way delay: 21.261 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 399.56 Mbit/s
95th percentile per-packet one-way delay: 21.261 ms
Loss rate: 0.01%
```

Run 1: Report of TCP BBR — Data Link



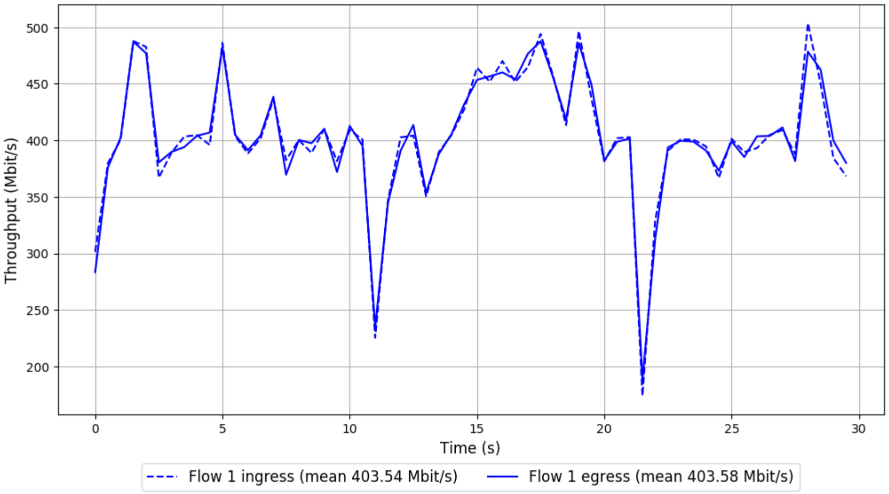


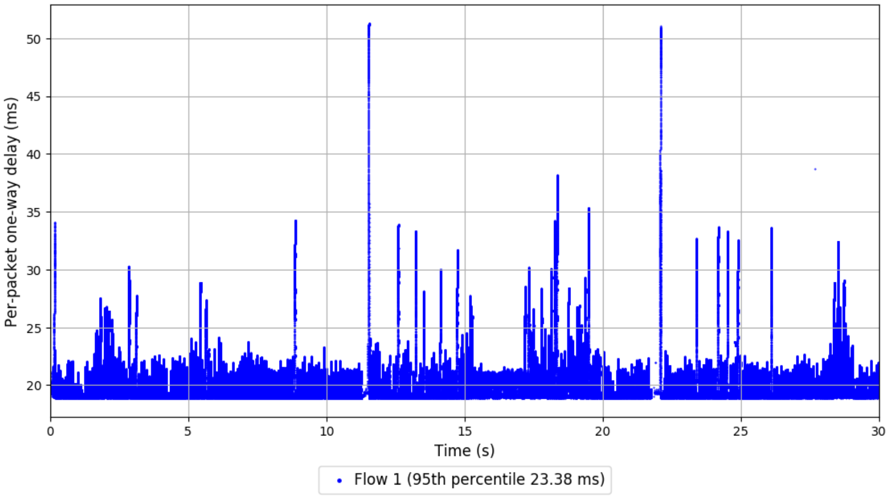
```
Run 2: Statistics of TCP BBR

Start at: 2017-08-21 21:46:07
End at: 2017-08-21 21:46:37
Local clock offset: 0.595 ms
Remote clock offset: -1.845 ms

# Below is generated by plot.py at 2017-08-22 02:49:05
# Datalink statistics
-- Total of 1 flow:
Average throughput: 403.58 Mbit/s
95th percentile per-packet one-way delay: 23.383 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 403.58 Mbit/s
95th percentile per-packet one-way delay: 23.383 ms
Loss rate: 0.01%
```

Run 2: Report of TCP BBR — Data Link

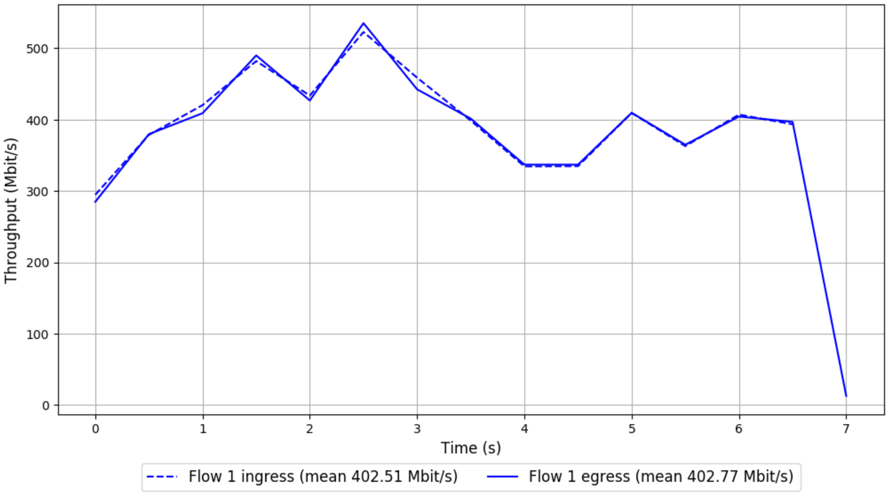


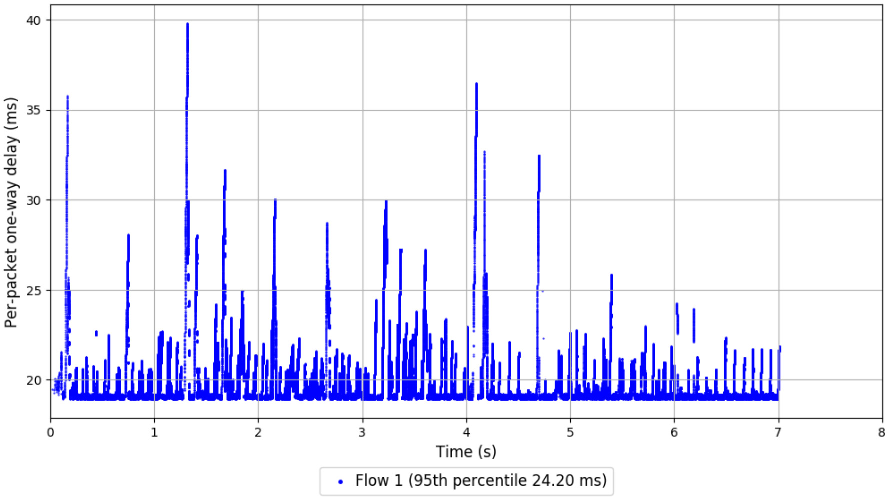


```
Run 3: Statistics of TCP BBR

Start at: 2017-08-21 22:06:28
End at: 2017-08-21 22:06:58
Local clock offset: 0.488 ms
Remote clock offset: -2.308 ms
```

Run 3: Report of TCP BBR — Data Link

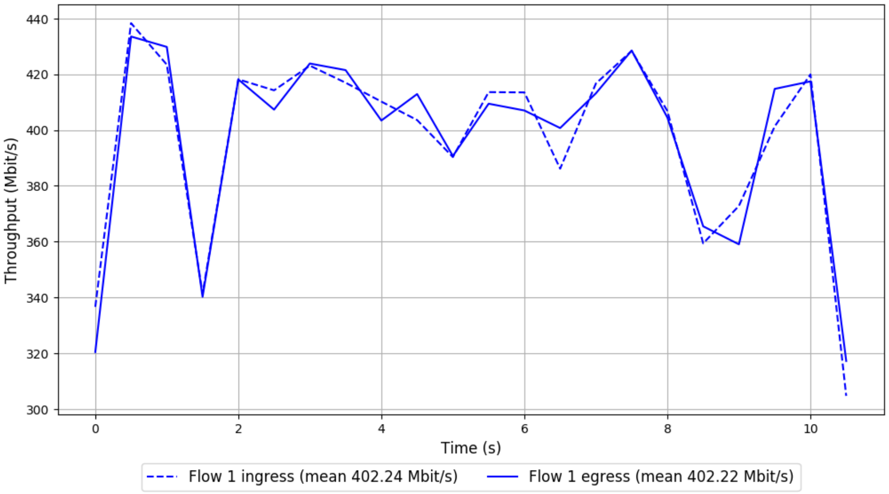


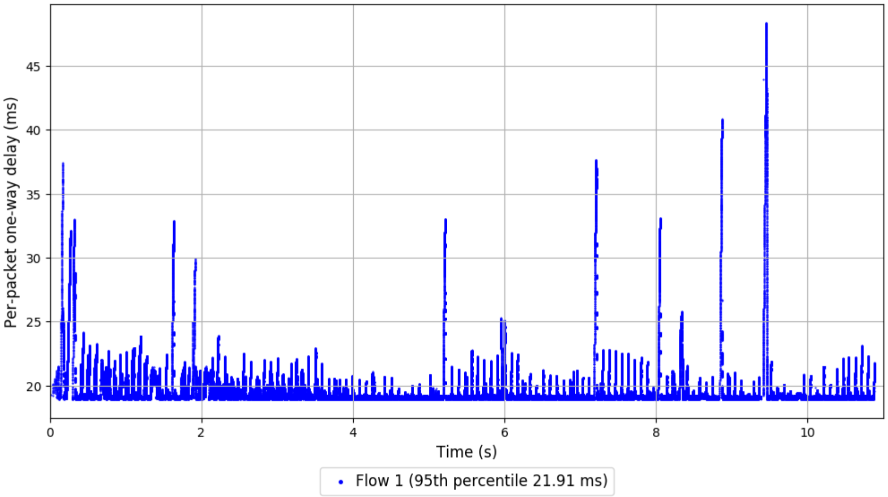


```
Run 4: Statistics of TCP BBR

Start at: 2017-08-21 22:26:40
End at: 2017-08-21 22:27:10
Local clock offset: 0.464 ms
Remote clock offset: -2.401 ms
```

Run 4: Report of TCP BBR — Data Link

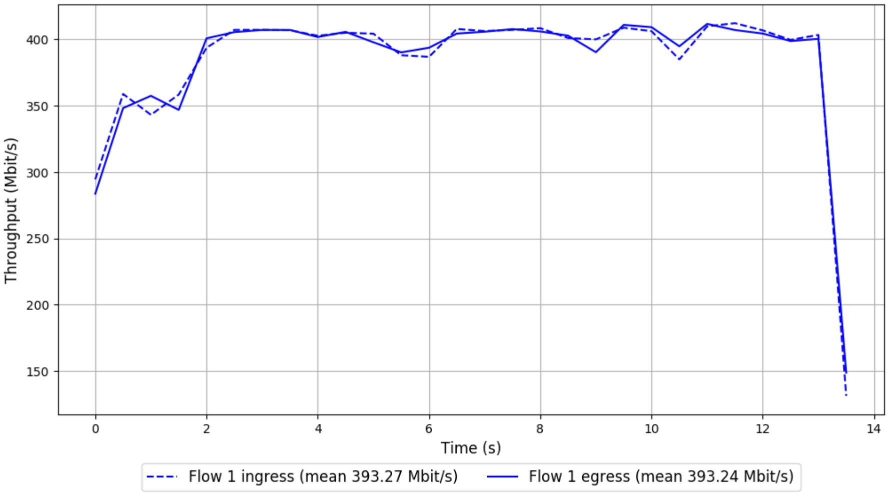


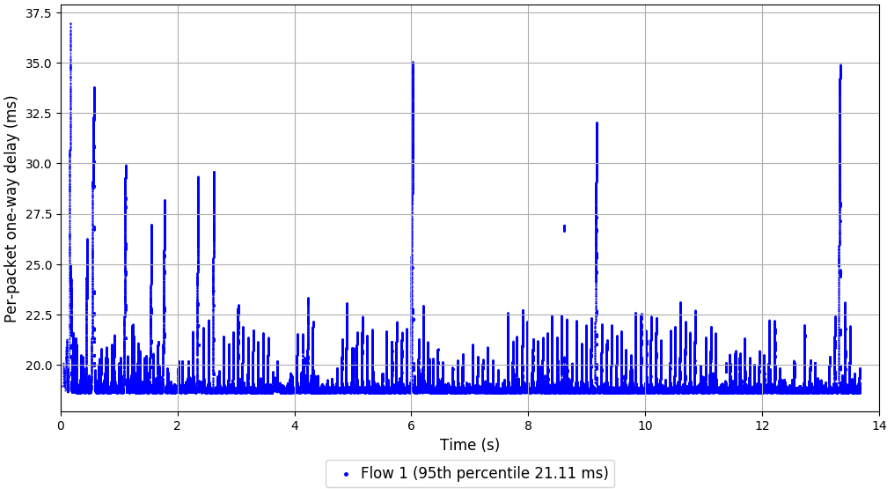


```
Run 5: Statistics of TCP BBR

Start at: 2017-08-21 22:47:05
End at: 2017-08-21 22:47:35
Local clock offset: 0.628 ms
Remote clock offset: -2.268 ms
```

Run 5: Report of TCP BBR — Data Link

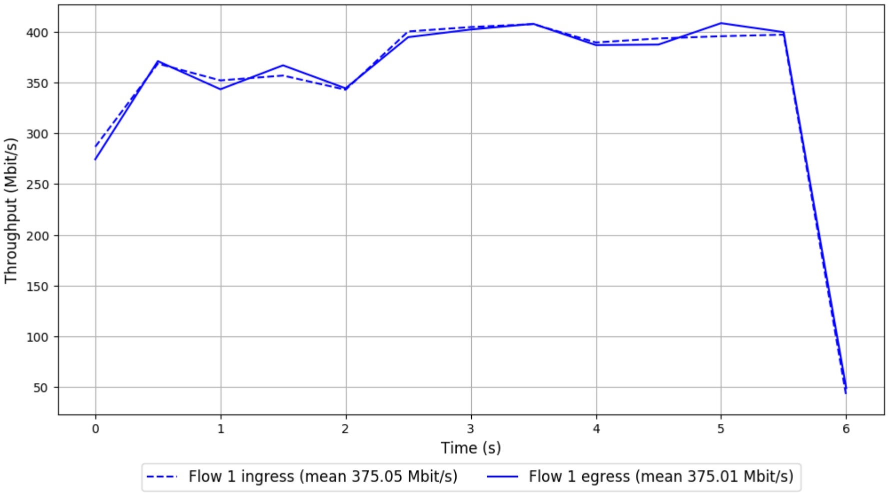


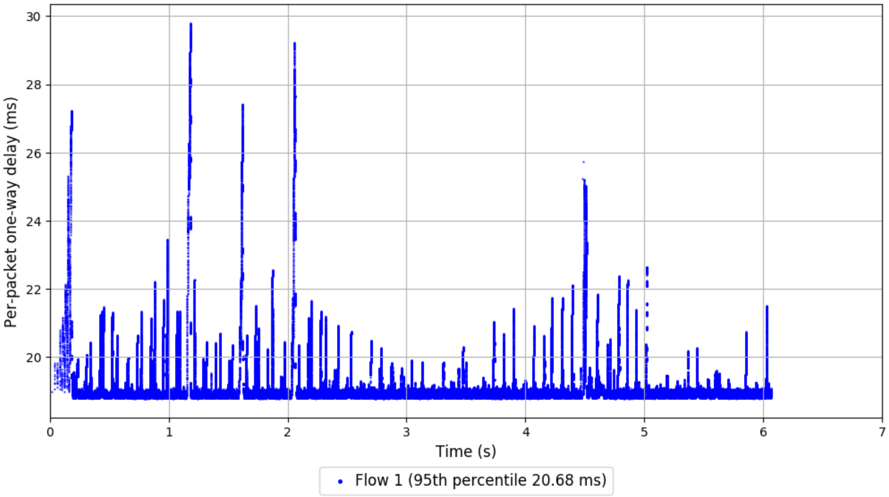


```
Run 6: Statistics of TCP BBR

Start at: 2017-08-21 23:07:20
End at: 2017-08-21 23:07:50
Local clock offset: 0.478 ms
Remote clock offset: -2.234 ms
```

Run 6: Report of TCP BBR — Data Link

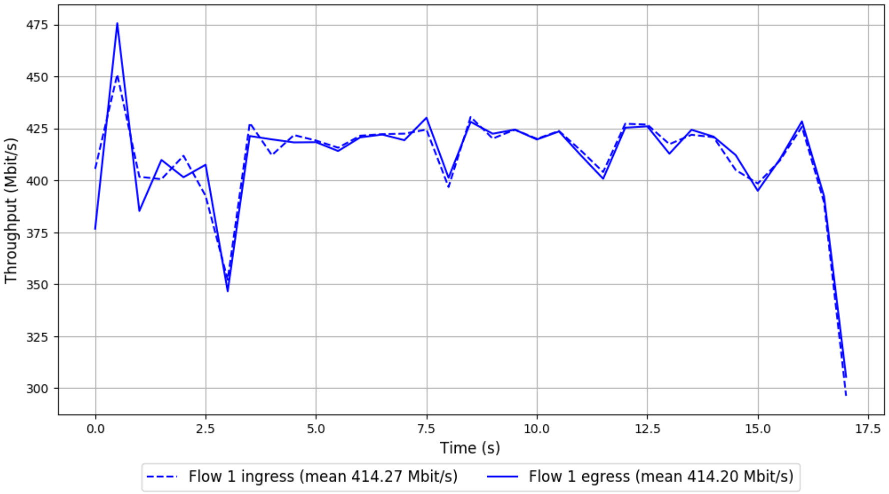


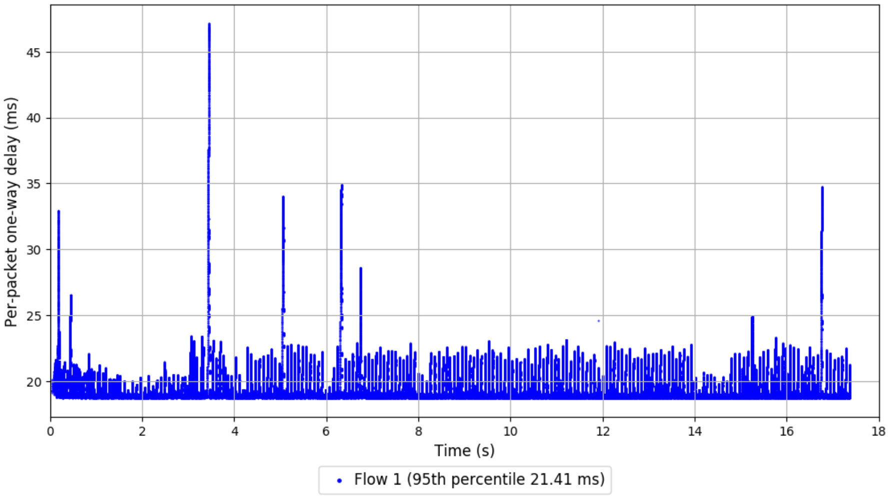


```
Run 7: Statistics of TCP BBR

Start at: 2017-08-21 23:27:24
End at: 2017-08-21 23:27:54
Local clock offset: 0.359 ms
Remote clock offset: -2.312 ms
```

Run 7: Report of TCP BBR — Data Link

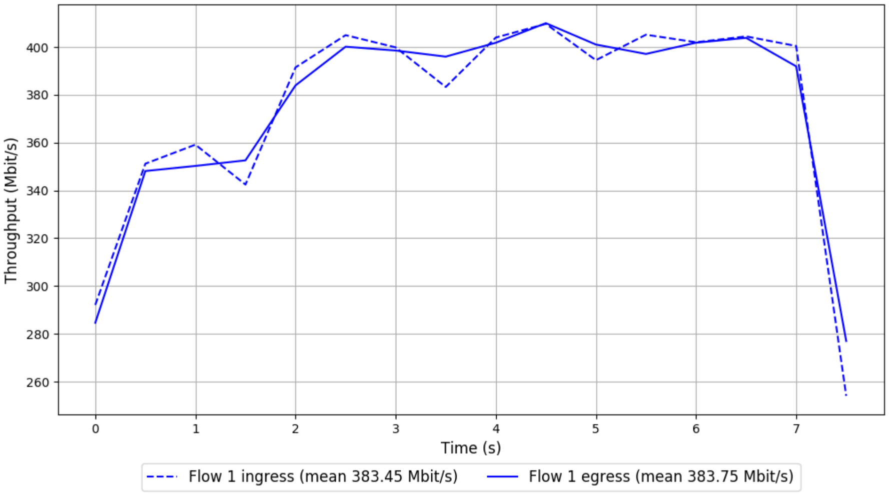


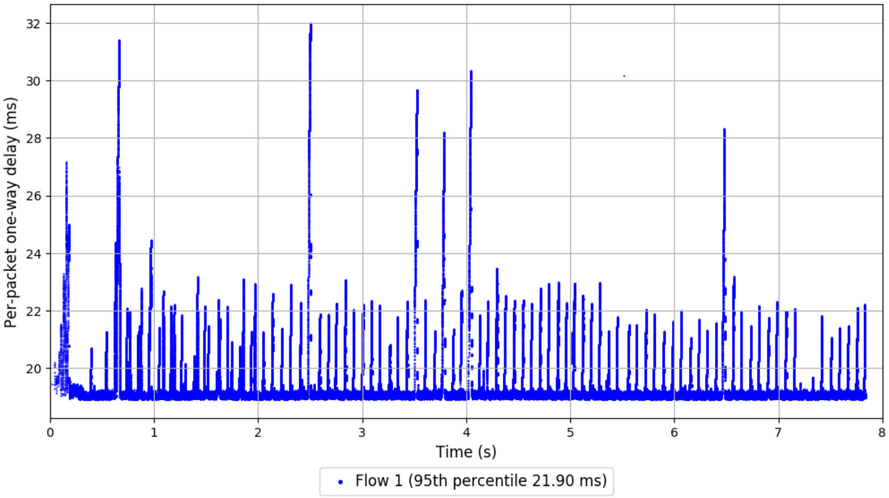


```
Run 8: Statistics of TCP BBR

Start at: 2017-08-21 23:47:18
End at: 2017-08-21 23:47:48
Local clock offset: 0.275 ms
Remote clock offset: -2.634 ms
```

Run 8: Report of TCP BBR — Data Link

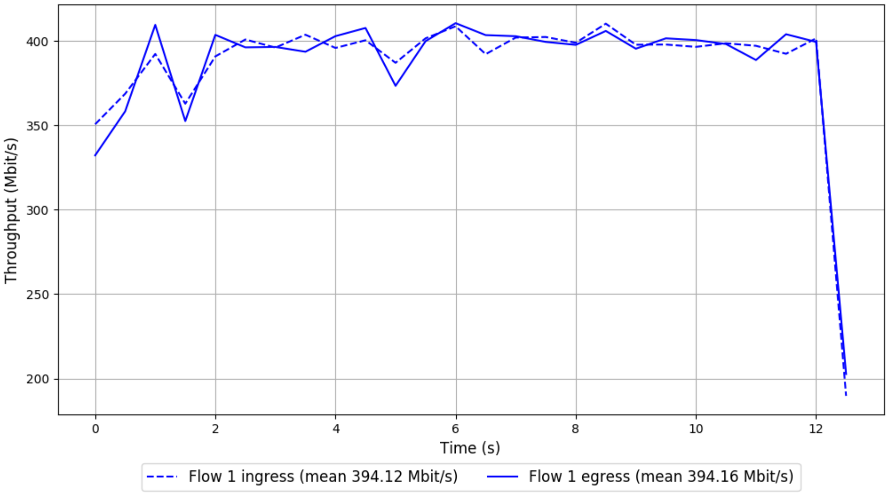


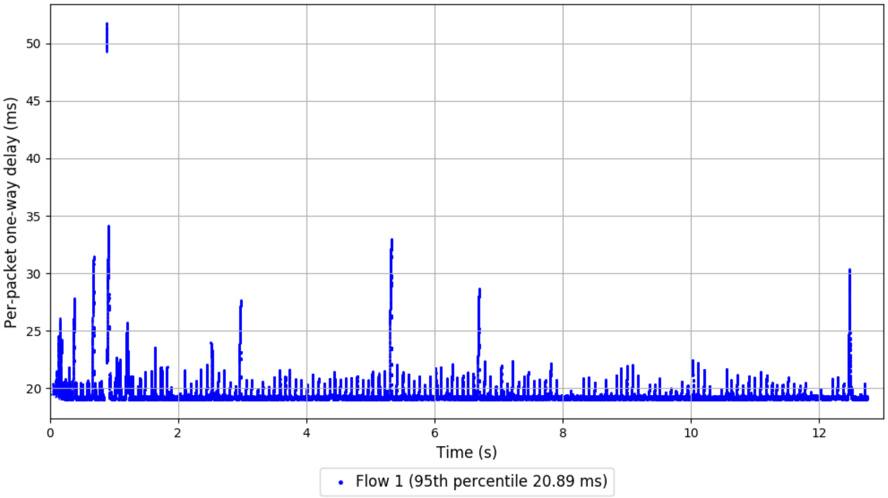


```
Run 9: Statistics of TCP BBR

Start at: 2017-08-22 00:07:17
End at: 2017-08-22 00:07:47
Local clock offset: 0.296 ms
Remote clock offset: -2.622 ms
```

Run 9: Report of TCP BBR — Data Link



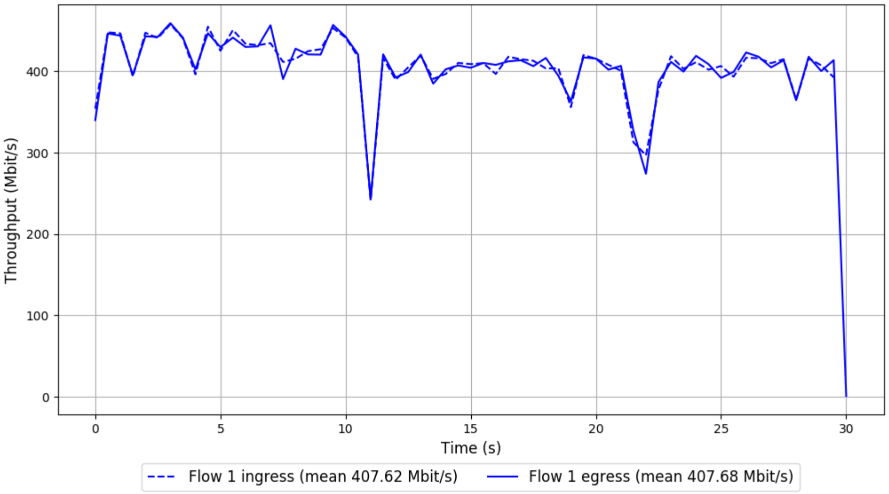


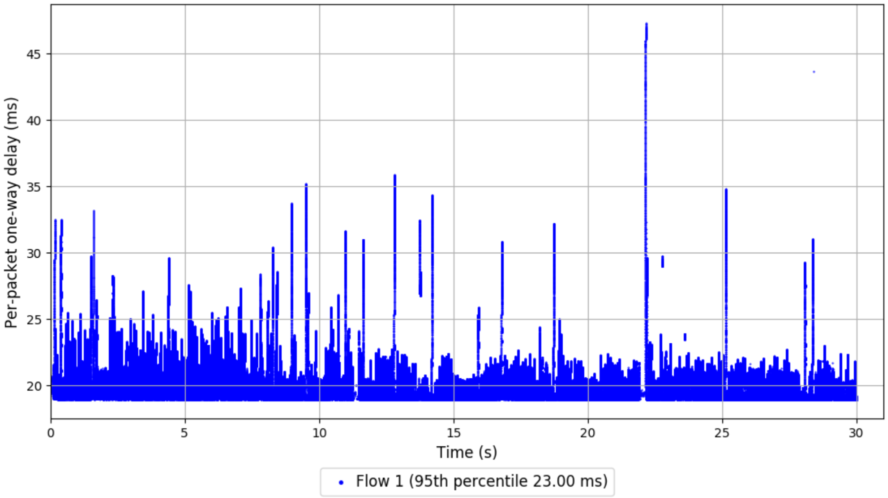
```
Run 10: Statistics of TCP BBR

Start at: 2017-08-22 00:27:45
End at: 2017-08-22 00:28:15
Local clock offset: 0.413 ms
Remote clock offset: -2.697 ms

# Below is generated by plot.py at 2017-08-22 02:50:56
# Datalink statistics
-- Total of 1 flow:
Average throughput: 407.68 Mbit/s
95th percentile per-packet one-way delay: 22.996 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 407.68 Mbit/s
95th percentile per-packet one-way delay: 22.996 ms
Loss rate: 0.01%
```

Run 10: Report of TCP BBR — Data Link



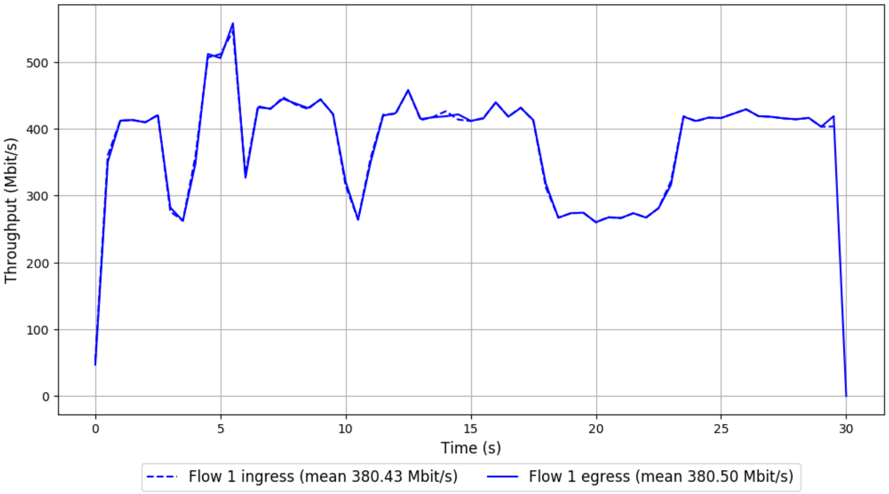


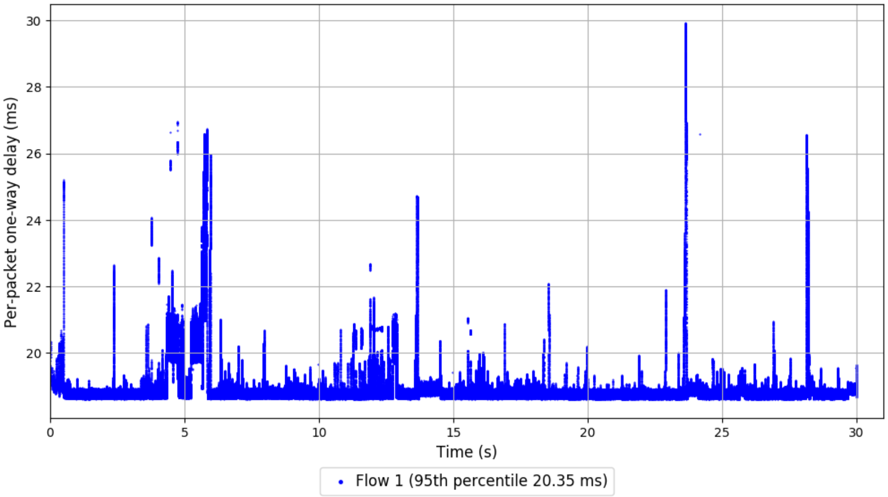
```
Run 1: Statistics of CalibratedKoho

Start at: 2017-08-21 21:29:57
End at: 2017-08-21 21:30:27
Local clock offset: 0.48 ms
Remote clock offset: -2.137 ms

# Below is generated by plot.py at 2017-08-22 02:51:00
# Datalink statistics
-- Total of 1 flow:
Average throughput: 380.50 Mbit/s
95th percentile per-packet one-way delay: 20.354 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 380.50 Mbit/s
95th percentile per-packet one-way delay: 20.354 ms
Loss rate: 0.00%
```

Run 1: Report of CalibratedKoho — Data Link



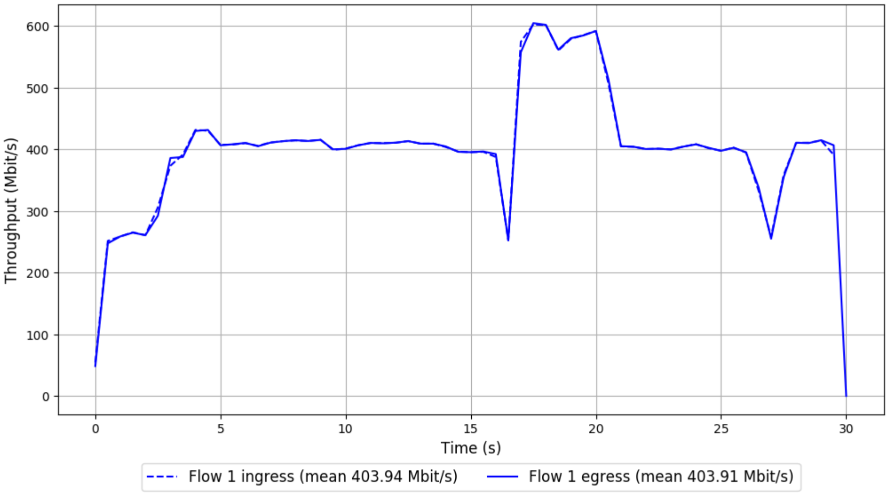


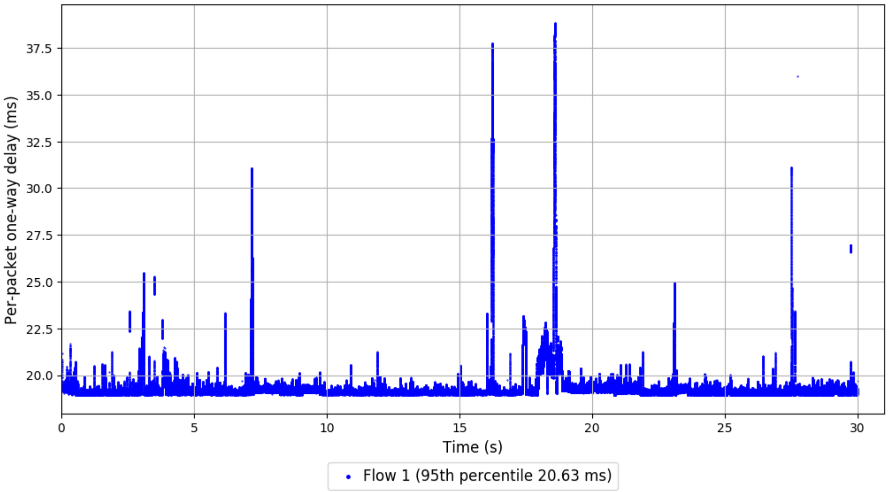
```
Run 2: Statistics of CalibratedKoho

Start at: 2017-08-21 21:50:04
End at: 2017-08-21 21:50:34
Local clock offset: 0.494 ms
Remote clock offset: -2.0 ms

# Below is generated by plot.py at 2017-08-22 02:51:48
# Datalink statistics
-- Total of 1 flow:
Average throughput: 403.91 Mbit/s
95th percentile per-packet one-way delay: 20.627 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 403.91 Mbit/s
95th percentile per-packet one-way delay: 20.627 ms
Loss rate: 0.01%
```

Run 2: Report of CalibratedKoho — Data Link



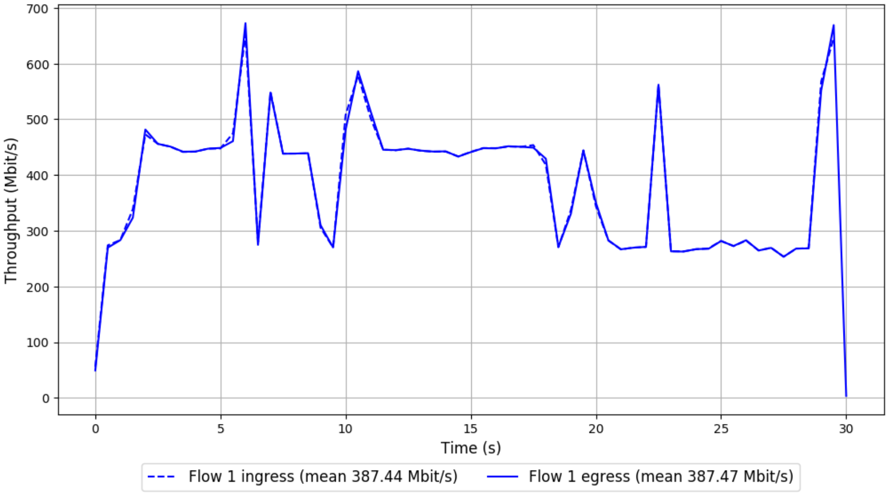


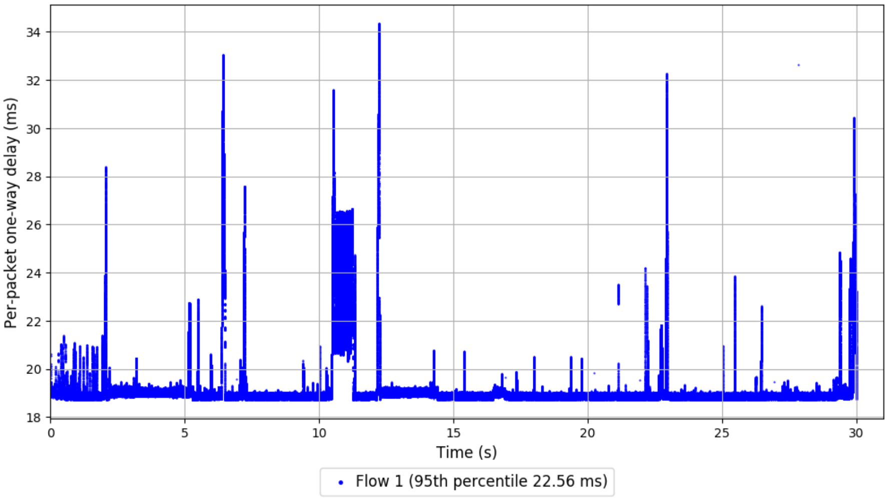
```
Run 3: Statistics of CalibratedKoho

Start at: 2017-08-21 22:10:19
End at: 2017-08-21 22:10:49
Local clock offset: 0.467 ms
Remote clock offset: -2.352 ms

# Below is generated by plot.py at 2017-08-22 02:51:49
# Datalink statistics
-- Total of 1 flow:
Average throughput: 387.47 Mbit/s
95th percentile per-packet one-way delay: 22.563 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 387.47 Mbit/s
95th percentile per-packet one-way delay: 22.563 ms
Loss rate: 0.01%
```

Run 3: Report of CalibratedKoho — Data Link



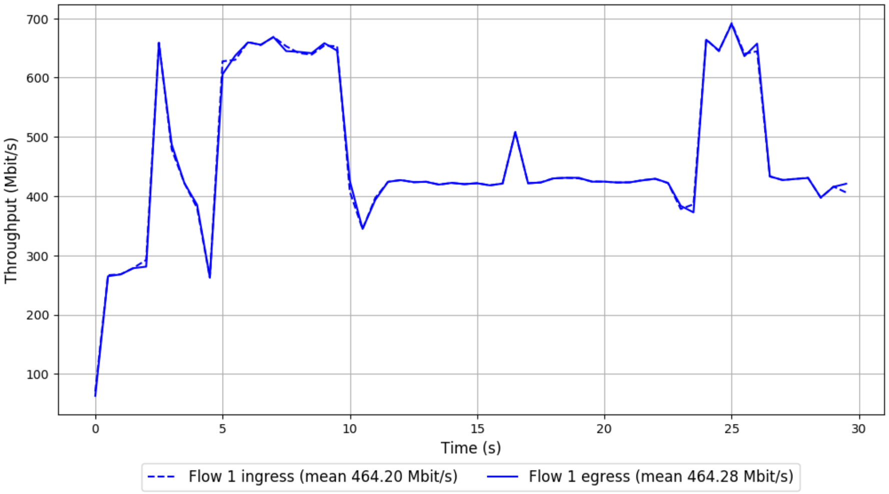


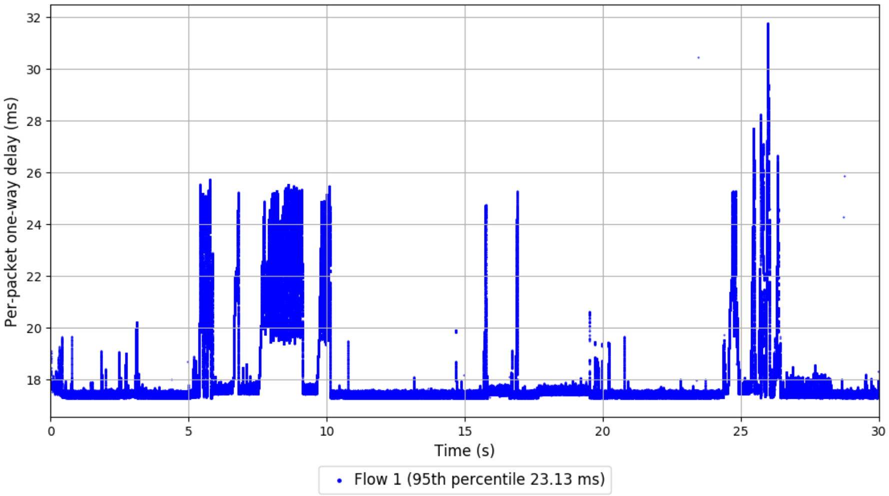
```
Run 4: Statistics of CalibratedKoho

Start at: 2017-08-21 22:30:35
End at: 2017-08-21 22:31:05
Local clock offset: 0.47 ms
Remote clock offset: -2.452 ms

# Below is generated by plot.py at 2017-08-22 02:52:45
# Datalink statistics
-- Total of 1 flow:
Average throughput: 464.28 Mbit/s
95th percentile per-packet one-way delay: 23.128 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 464.28 Mbit/s
95th percentile per-packet one-way delay: 23.128 ms
Loss rate: 0.00%
```

Run 4: Report of CalibratedKoho — Data Link



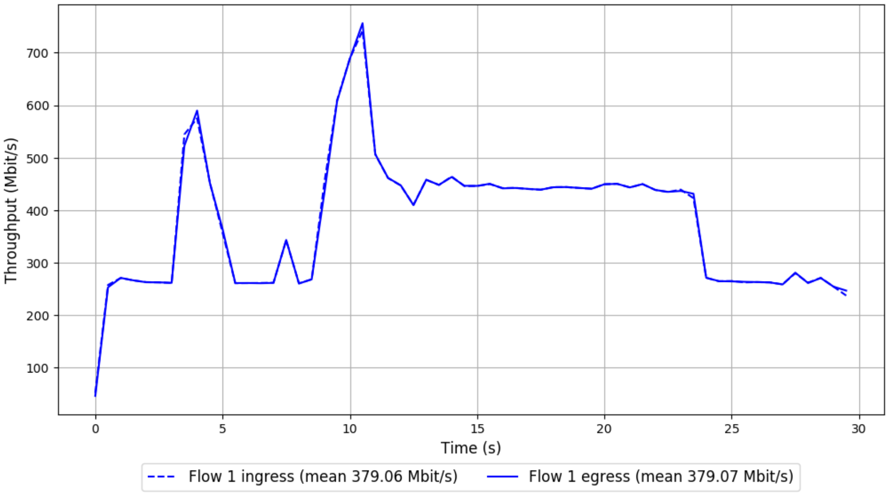


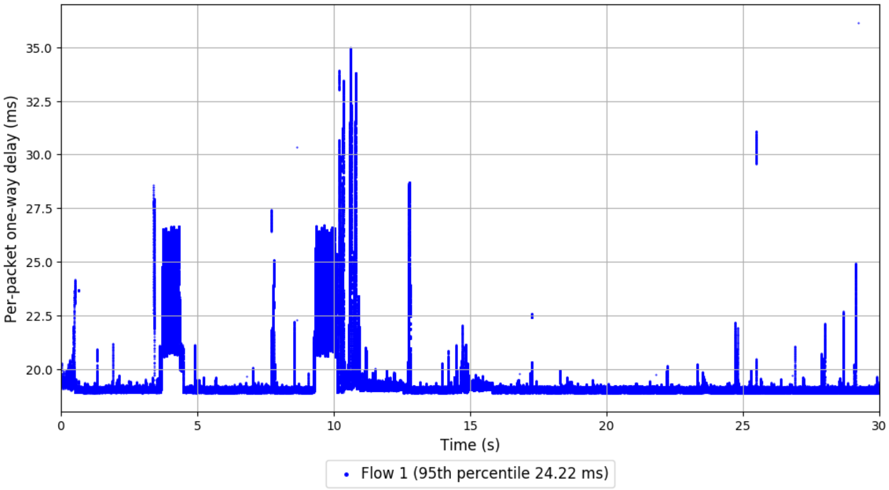
```
Run 5: Statistics of CalibratedKoho

Start at: 2017-08-21 22:51:06
End at: 2017-08-21 22:51:36
Local clock offset: 0.577 ms
Remote clock offset: -2.19 ms

# Below is generated by plot.py at 2017-08-22 02:52:45
# Datalink statistics
-- Total of 1 flow:
Average throughput: 379.07 Mbit/s
95th percentile per-packet one-way delay: 24.223 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 379.07 Mbit/s
95th percentile per-packet one-way delay: 24.223 ms
Loss rate: 0.00%
```

Run 5: Report of CalibratedKoho — Data Link



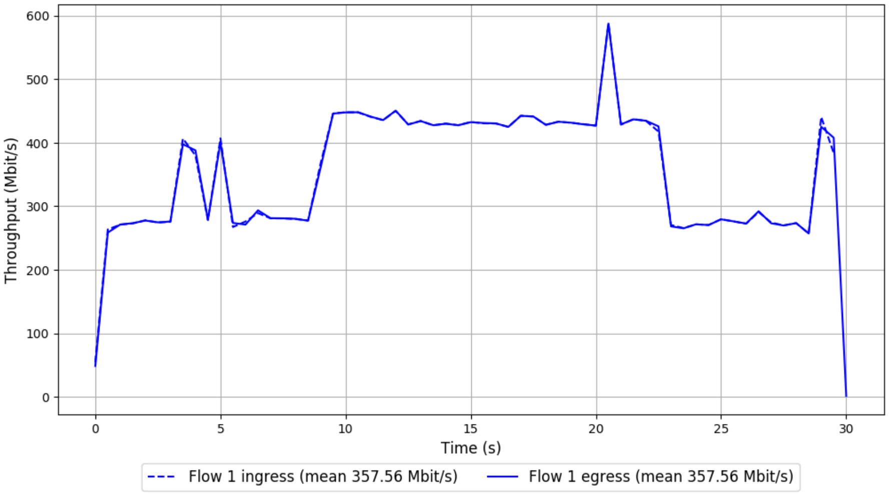


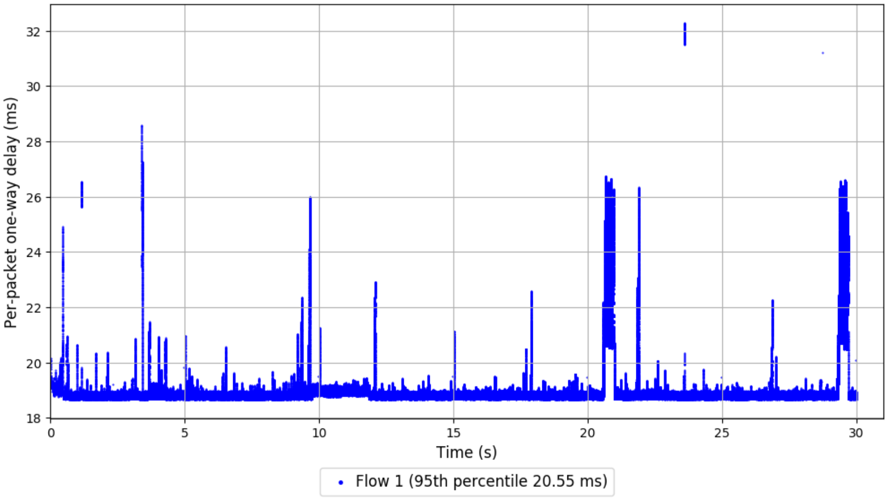
```
Run 6: Statistics of CalibratedKoho

Start at: 2017-08-21 23:11:07
End at: 2017-08-21 23:11:37
Local clock offset: 0.465 ms
Remote clock offset: -2.379 ms

# Below is generated by plot.py at 2017-08-22 02:53:15
# Datalink statistics
-- Total of 1 flow:
Average throughput: 357.56 Mbit/s
95th percentile per-packet one-way delay: 20.550 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 357.56 Mbit/s
95th percentile per-packet one-way delay: 20.550 ms
Loss rate: 0.00%
```

Run 6: Report of CalibratedKoho — Data Link



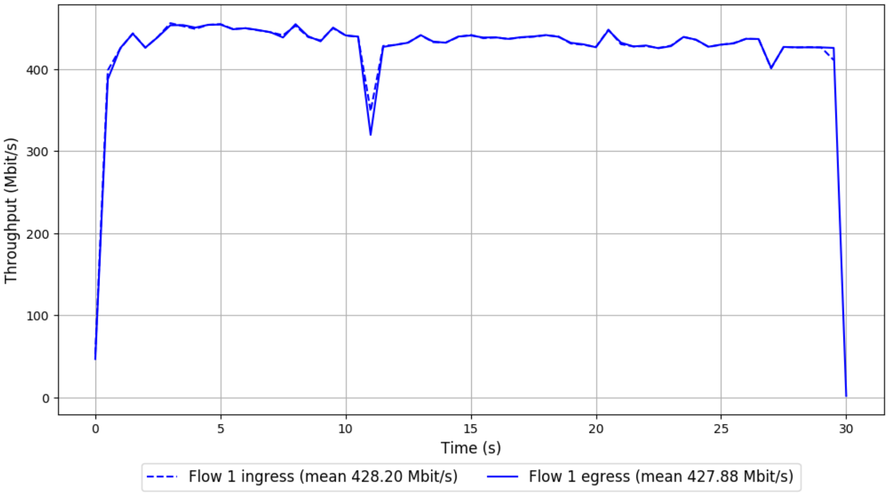


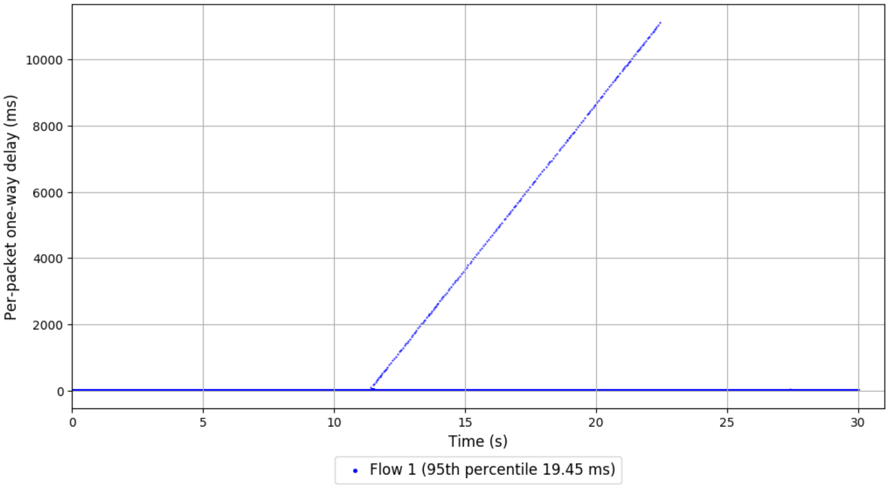
```
Run 7: Statistics of CalibratedKoho

Start at: 2017-08-21 23:31:10
End at: 2017-08-21 23:31:40
Local clock offset: 0.339 ms
Remote clock offset: -2.247 ms

# Below is generated by plot.py at 2017-08-22 02:53:37
# Datalink statistics
-- Total of 1 flow:
Average throughput: 427.88 Mbit/s
95th percentile per-packet one-way delay: 19.454 ms
Loss rate: 0.10%
-- Flow 1:
Average throughput: 427.88 Mbit/s
95th percentile per-packet one-way delay: 19.454 ms
Loss rate: 0.10%
```

Run 7: Report of CalibratedKoho — Data Link



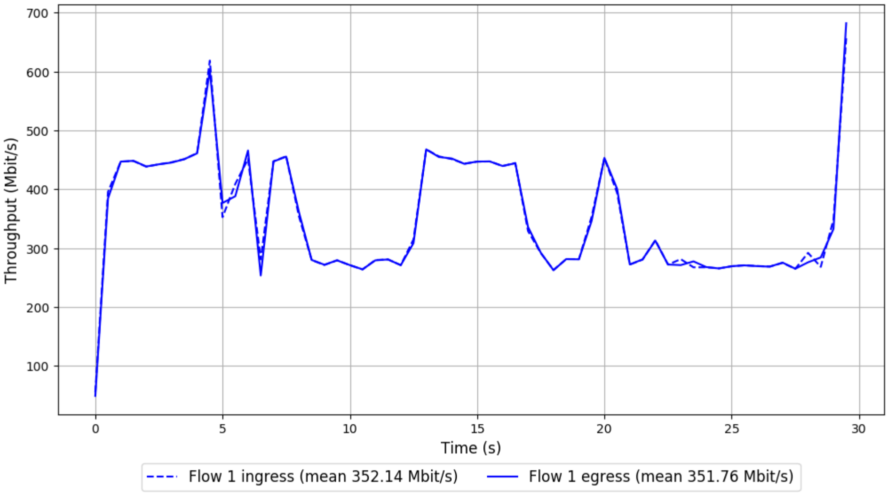


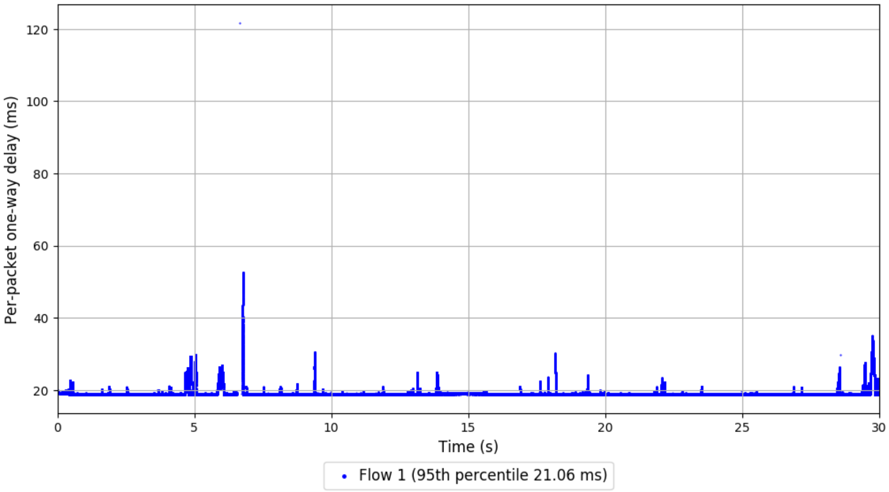
```
Run 8: Statistics of CalibratedKoho

Start at: 2017-08-21 23:51:08
End at: 2017-08-21 23:51:38
Local clock offset: 0.255 ms
Remote clock offset: -2.702 ms

# Below is generated by plot.py at 2017-08-22 02:54:01
# Datalink statistics
-- Total of 1 flow:
Average throughput: 351.76 Mbit/s
95th percentile per-packet one-way delay: 21.061 ms
Loss rate: 0.13%
-- Flow 1:
Average throughput: 351.76 Mbit/s
95th percentile per-packet one-way delay: 21.061 ms
Loss rate: 0.13%
```

Run 8: Report of CalibratedKoho — Data Link



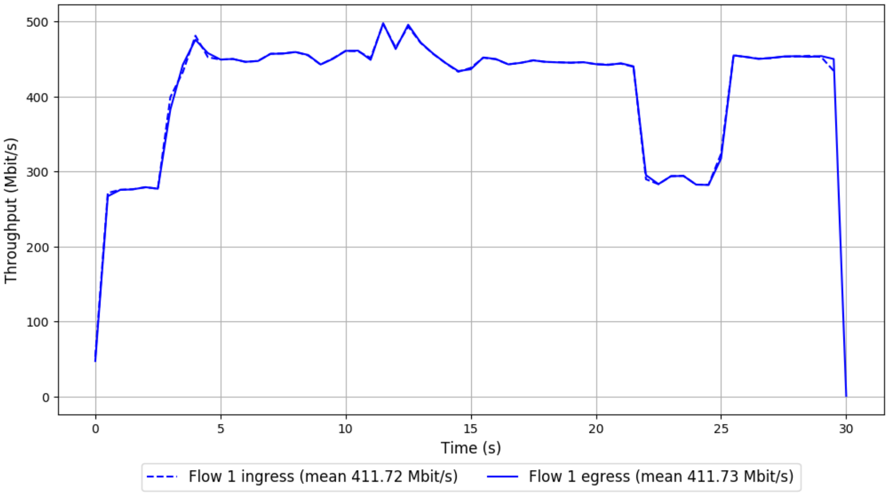


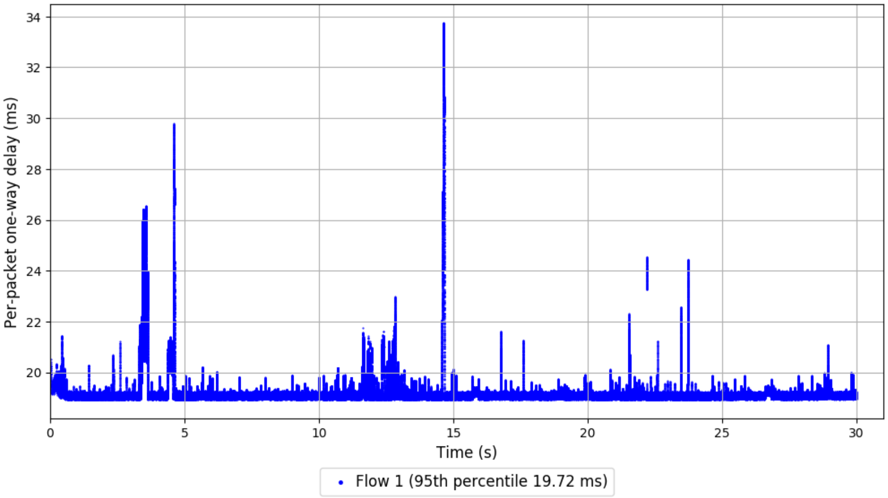
```
Run 9: Statistics of CalibratedKoho

Start at: 2017-08-22 00:11:17
End at: 2017-08-22 00:11:47
Local clock offset: 0.3 ms
Remote clock offset: -2.71 ms

# Below is generated by plot.py at 2017-08-22 02:54:27
# Datalink statistics
-- Total of 1 flow:
Average throughput: 411.73 Mbit/s
95th percentile per-packet one-way delay: 19.720 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 411.73 Mbit/s
95th percentile per-packet one-way delay: 19.720 ms
Loss rate: 0.00%
```

Run 9: Report of CalibratedKoho — Data Link



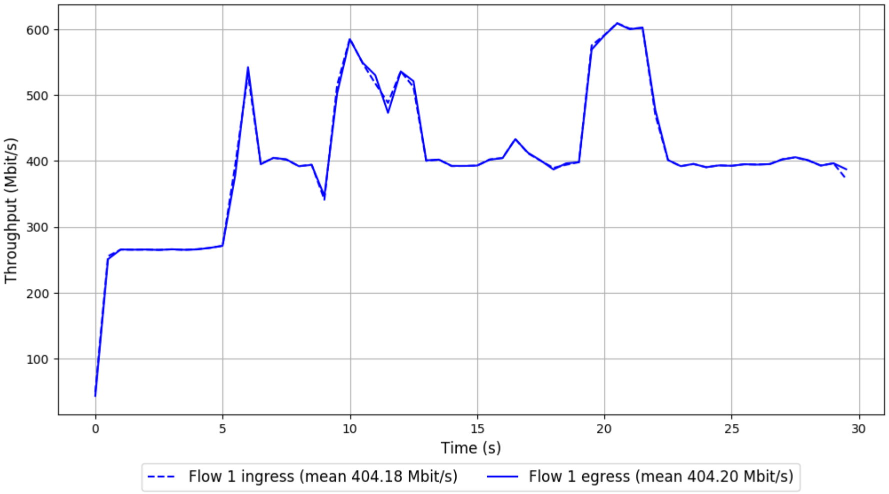


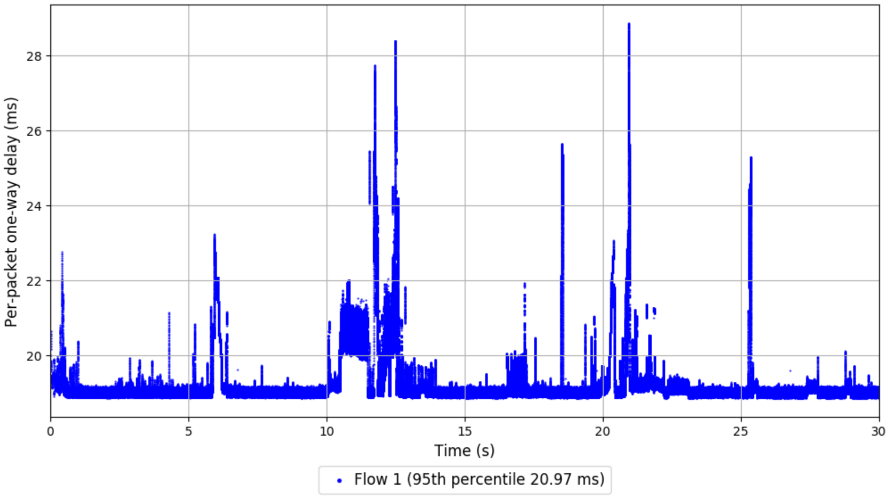
```
Run 10: Statistics of CalibratedKoho

Start at: 2017-08-22 00:31:49
End at: 2017-08-22 00:32:19
Local clock offset: 0.554 ms
Remote clock offset: -2.514 ms

# Below is generated by plot.py at 2017-08-22 02:54:55
# Datalink statistics
-- Total of 1 flow:
Average throughput: 404.20 Mbit/s
95th percentile per-packet one-way delay: 20.968 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 404.20 Mbit/s
95th percentile per-packet one-way delay: 20.968 ms
Loss rate: 0.00%
```

Run 10: Report of CalibratedKoho — Data Link



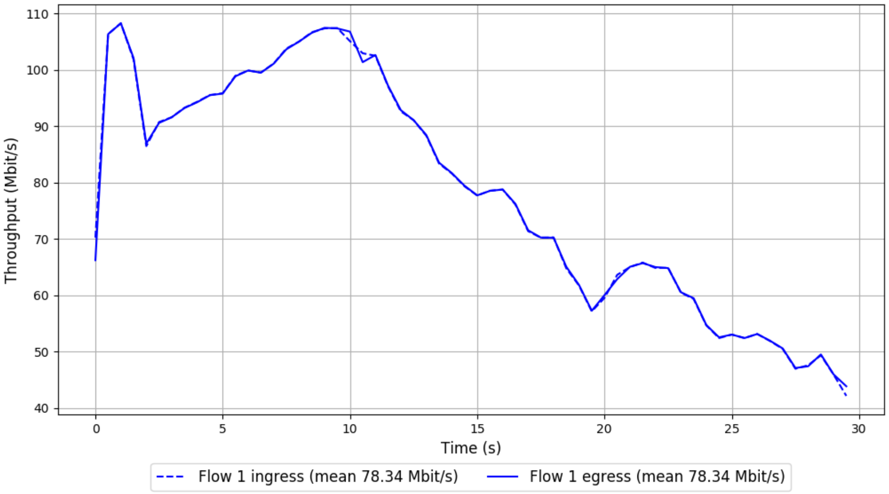


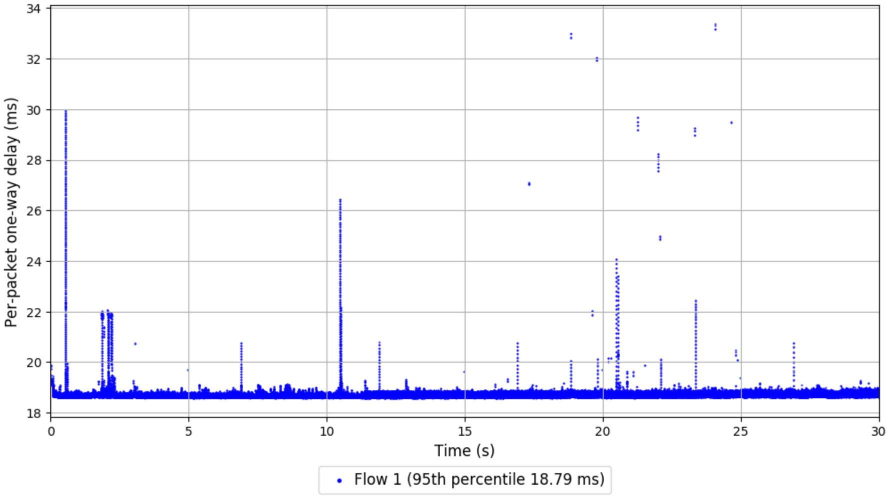
```
Run 1: Statistics of Copa

Start at: 2017-08-21 21:19:20
End at: 2017-08-21 21:19:50
Local clock offset: 0.5 ms
Remote clock offset: -2.073 ms

# Below is generated by plot.py at 2017-08-22 02:54:55
# Datalink statistics
-- Total of 1 flow:
Average throughput: 78.34 Mbit/s
95th percentile per-packet one-way delay: 18.790 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 78.34 Mbit/s
95th percentile per-packet one-way delay: 18.790 ms
Loss rate: 0.00%
```

Run 1: Report of Copa — Data Link



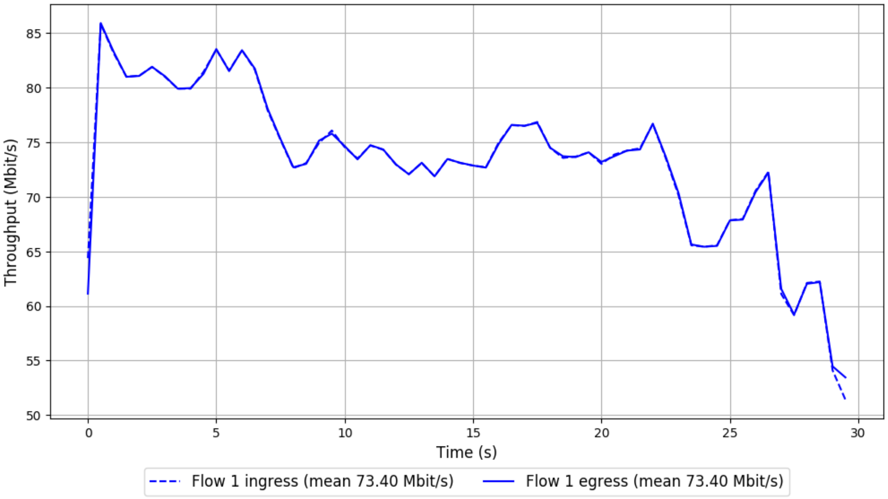


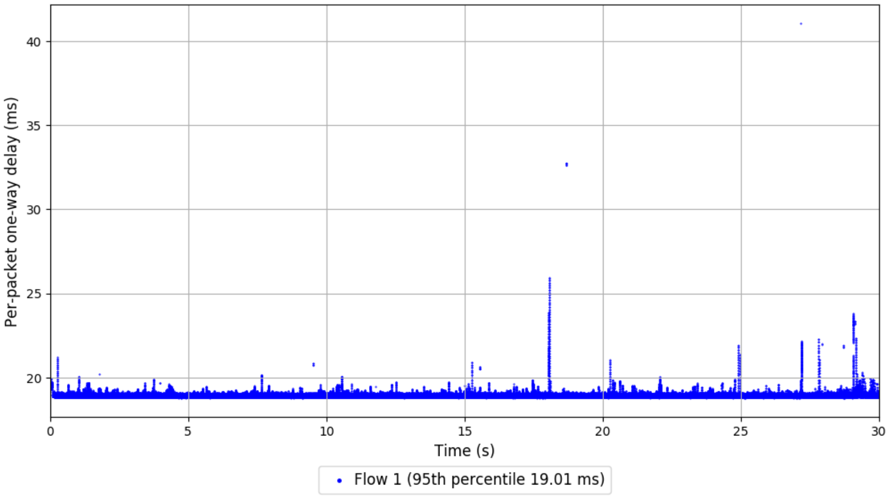
```
Run 2: Statistics of Copa

Start at: 2017-08-21 21:39:32
End at: 2017-08-21 21:40:02
Local clock offset: 0.553 ms
Remote clock offset: -1.95 ms

# Below is generated by plot.py at 2017-08-22 02:55:11
# Datalink statistics
-- Total of 1 flow:
Average throughput: 73.40 Mbit/s
95th percentile per-packet one-way delay: 19.008 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 73.40 Mbit/s
95th percentile per-packet one-way delay: 19.008 ms
Loss rate: 0.00%
```

Run 2: Report of Copa — Data Link



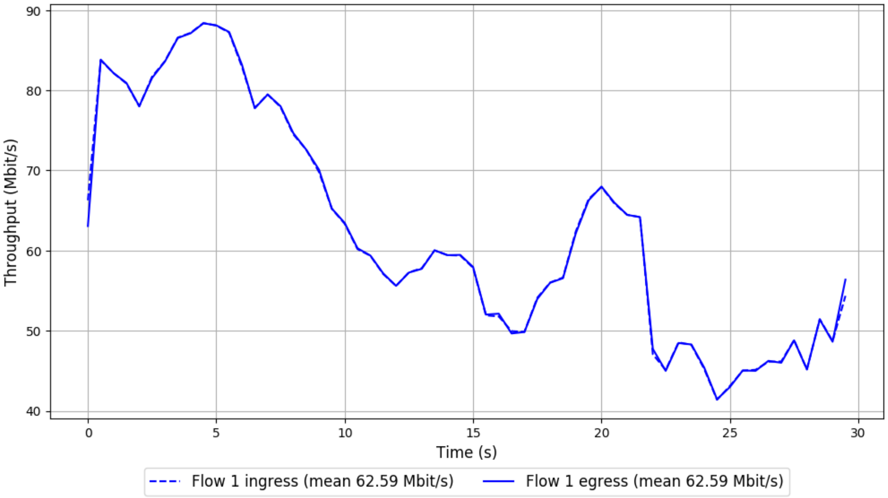


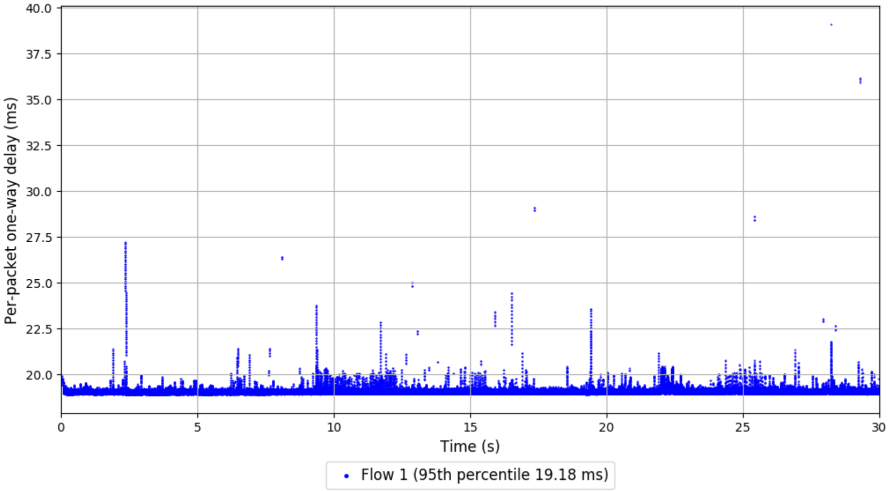
```
Run 3: Statistics of Copa

Start at: 2017-08-21 21:59:51
End at: 2017-08-21 22:00:21
Local clock offset: 0.586 ms
Remote clock offset: -2.115 ms

# Below is generated by plot.py at 2017-08-22 02:55:11
# Datalink statistics
-- Total of 1 flow:
Average throughput: 62.59 Mbit/s
95th percentile per-packet one-way delay: 19.182 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 62.59 Mbit/s
95th percentile per-packet one-way delay: 19.182 ms
Loss rate: 0.00%
```

Run 3: Report of Copa — Data Link



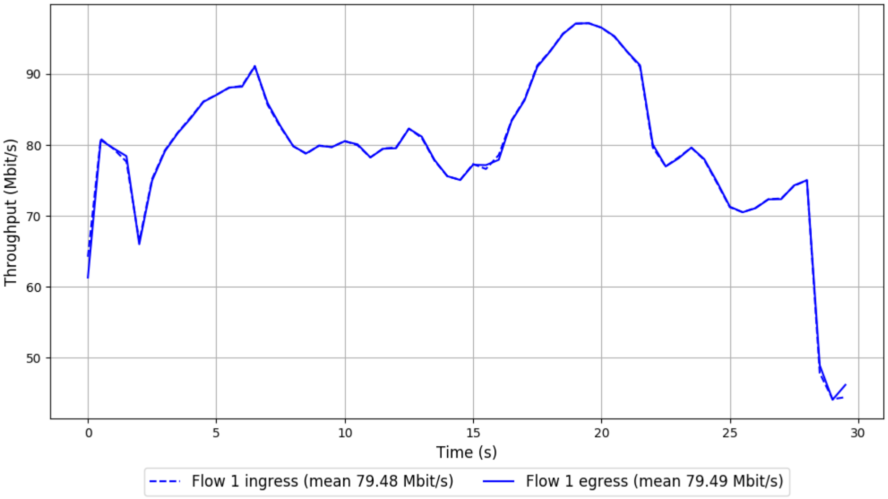


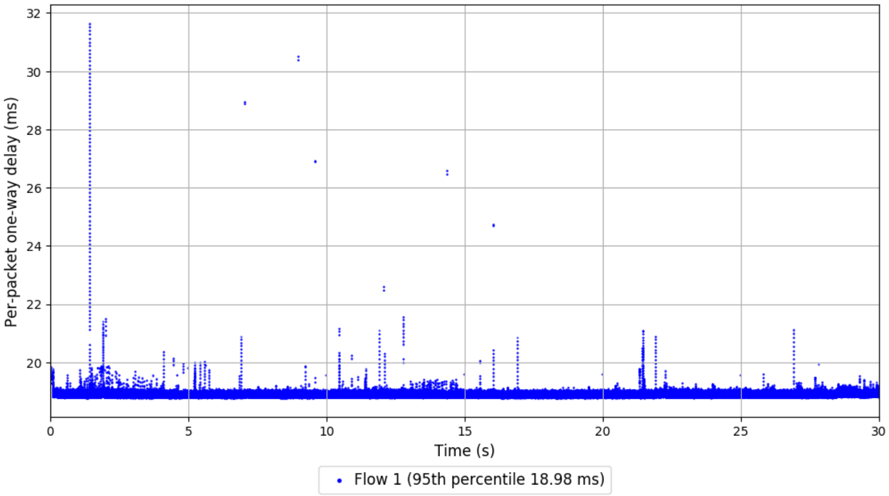
```
Run 4: Statistics of Copa

Start at: 2017-08-21 22:19:59
End at: 2017-08-21 22:20:29
Local clock offset: 0.462 ms
Remote clock offset: -2.229 ms

# Below is generated by plot.py at 2017-08-22 02:55:30
# Datalink statistics
-- Total of 1 flow:
Average throughput: 79.49 Mbit/s
95th percentile per-packet one-way delay: 18.980 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 79.49 Mbit/s
95th percentile per-packet one-way delay: 18.980 ms
Loss rate: 0.00%
```

Run 4: Report of Copa — Data Link



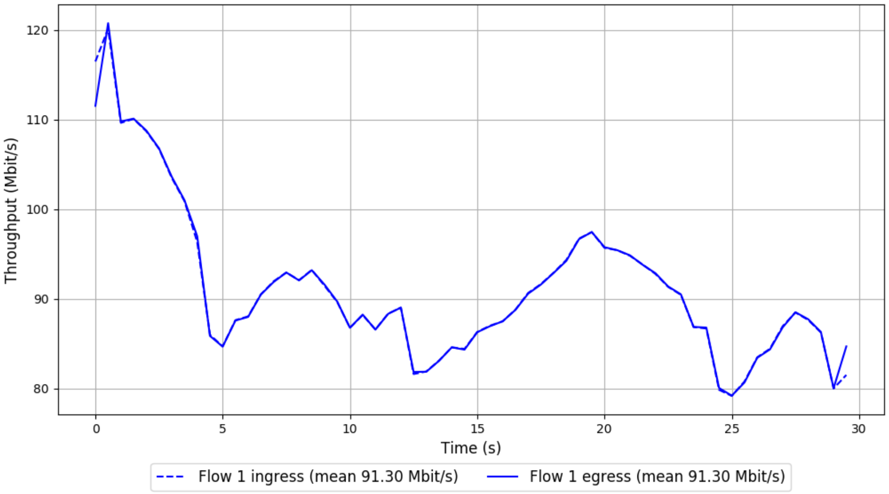


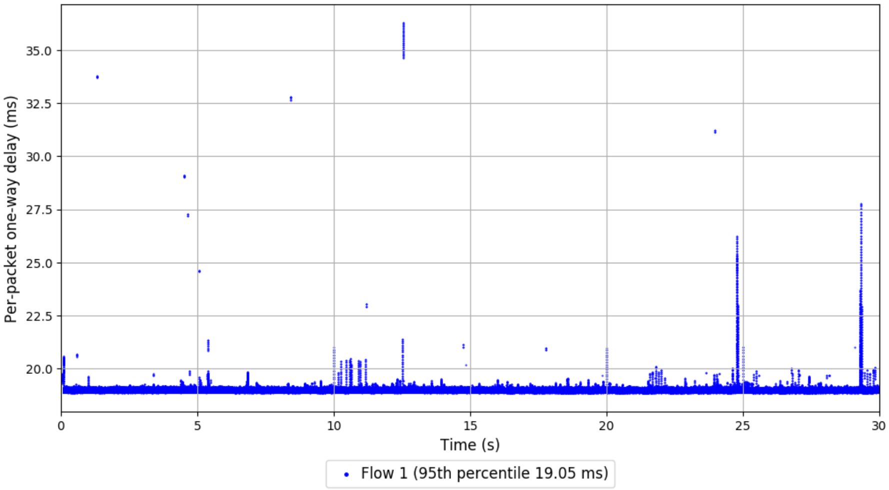
```
Run 5: Statistics of Copa

Start at: 2017-08-21 22:40:21
End at: 2017-08-21 22:40:52
Local clock offset: 0.619 ms
Remote clock offset: -2.396 ms

# Below is generated by plot.py at 2017-08-22 02:55:32
# Datalink statistics
-- Total of 1 flow:
Average throughput: 91.30 Mbit/s
95th percentile per-packet one-way delay: 19.054 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 91.30 Mbit/s
95th percentile per-packet one-way delay: 19.054 ms
Loss rate: 0.00%
```

Run 5: Report of Copa — Data Link



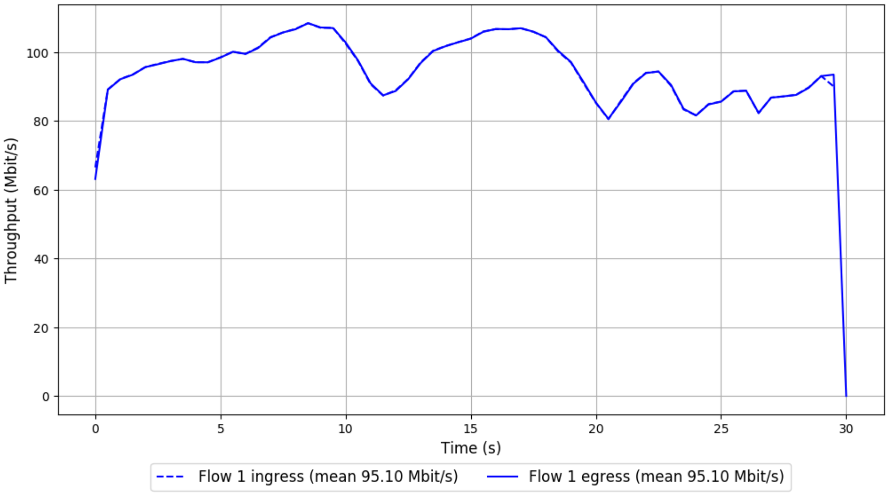


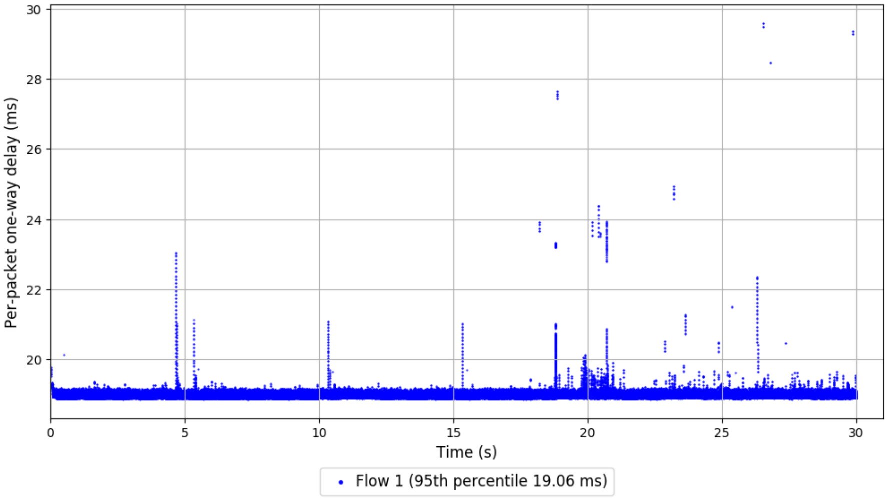
```
Run 6: Statistics of Copa

Start at: 2017-08-21 23:00:42
End at: 2017-08-21 23:01:12
Local clock offset: 0.532 ms
Remote clock offset: -2.188 ms

# Below is generated by plot.py at 2017-08-22 02:55:52
# Datalink statistics
-- Total of 1 flow:
Average throughput: 95.10 Mbit/s
95th percentile per-packet one-way delay: 19.062 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 95.10 Mbit/s
95th percentile per-packet one-way delay: 19.062 ms
Loss rate: 0.00%
```

Run 6: Report of Copa — Data Link



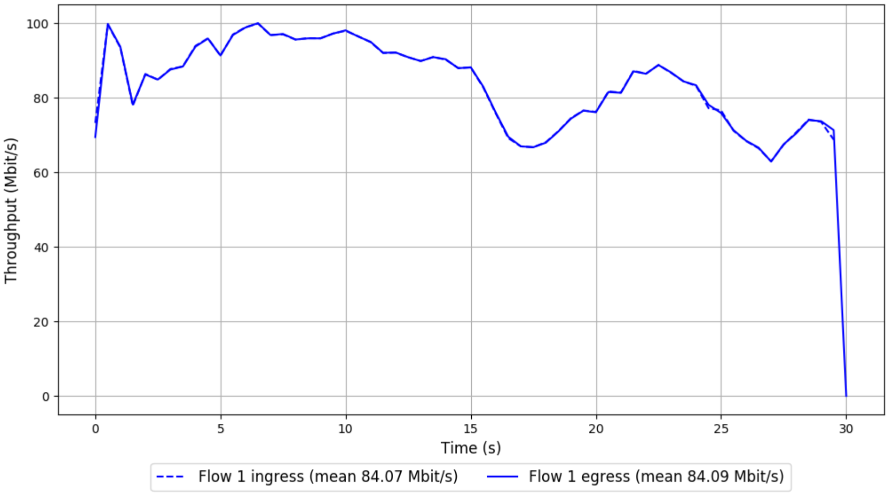


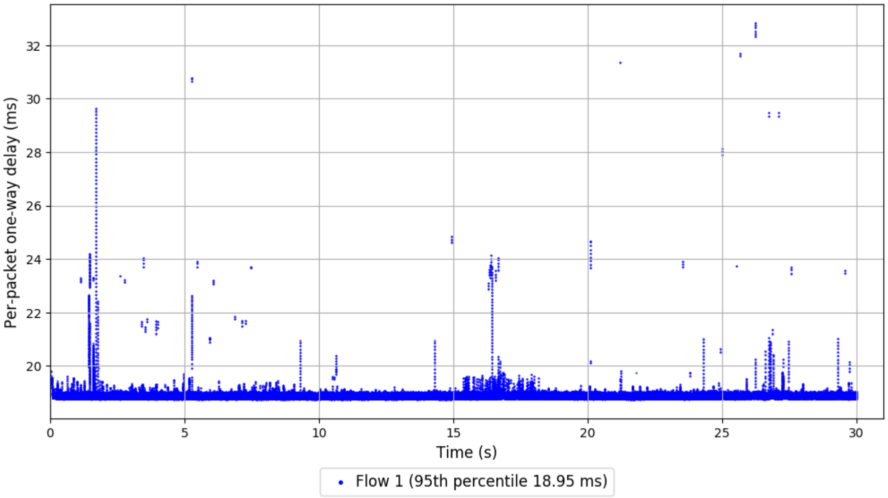
```
Run 7: Statistics of Copa

Start at: 2017-08-21 23:20:45
End at: 2017-08-21 23:21:15
Local clock offset: 0.386 ms
Remote clock offset: -2.424 ms

# Below is generated by plot.py at 2017-08-22 02:55:53
# Datalink statistics
-- Total of 1 flow:
Average throughput: 84.09 Mbit/s
95th percentile per-packet one-way delay: 18.950 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 84.09 Mbit/s
95th percentile per-packet one-way delay: 18.950 ms
Loss rate: 0.00%
```

Run 7: Report of Copa — Data Link



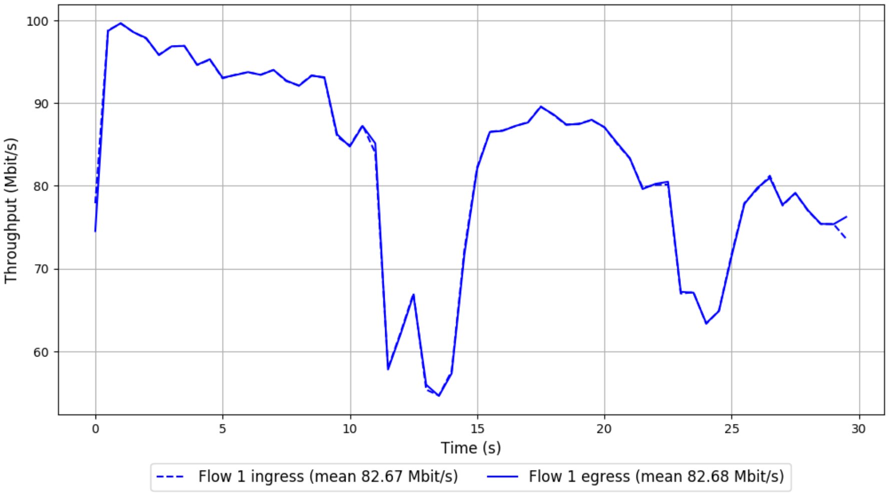


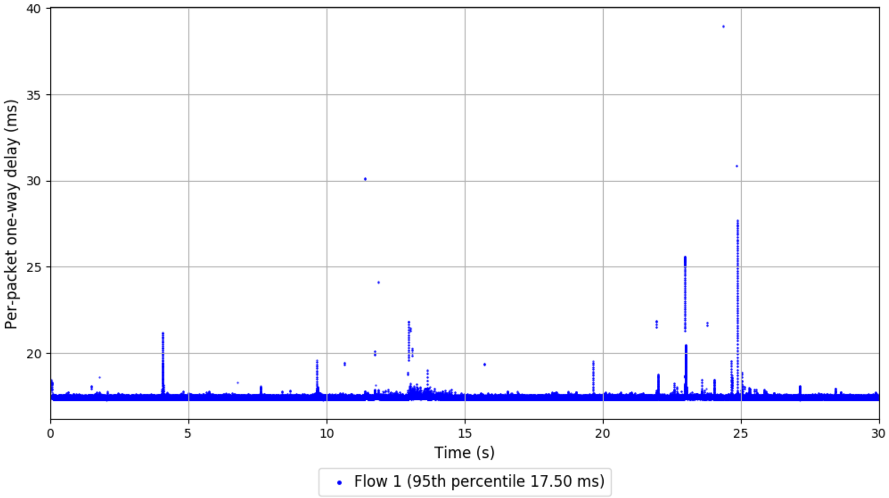
```
Run 8: Statistics of Copa

Start at: 2017-08-21 23:40:48
End at: 2017-08-21 23:41:18
Local clock offset: 0.282 ms
Remote clock offset: -2.503 ms

# Below is generated by plot.py at 2017-08-22 02:56:12
# Datalink statistics
-- Total of 1 flow:
Average throughput: 82.68 Mbit/s
95th percentile per-packet one-way delay: 17.500 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 82.68 Mbit/s
95th percentile per-packet one-way delay: 17.500 ms
Loss rate: 0.00%
```

Run 8: Report of Copa — Data Link



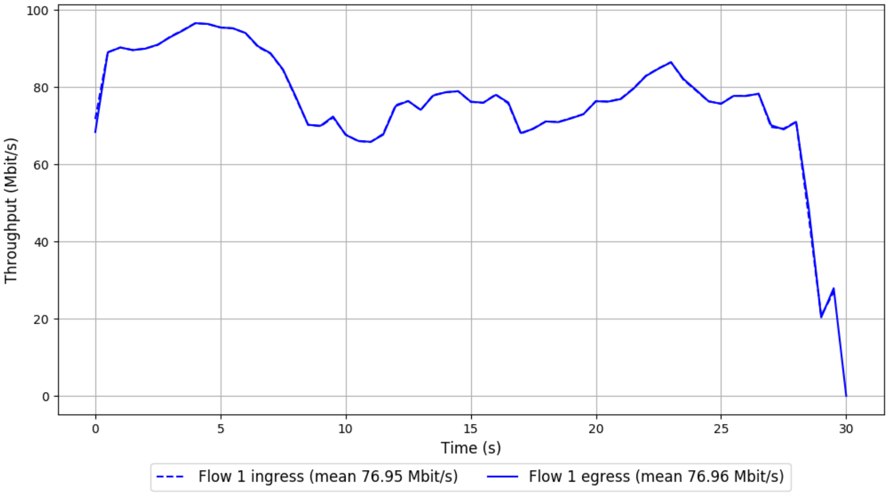


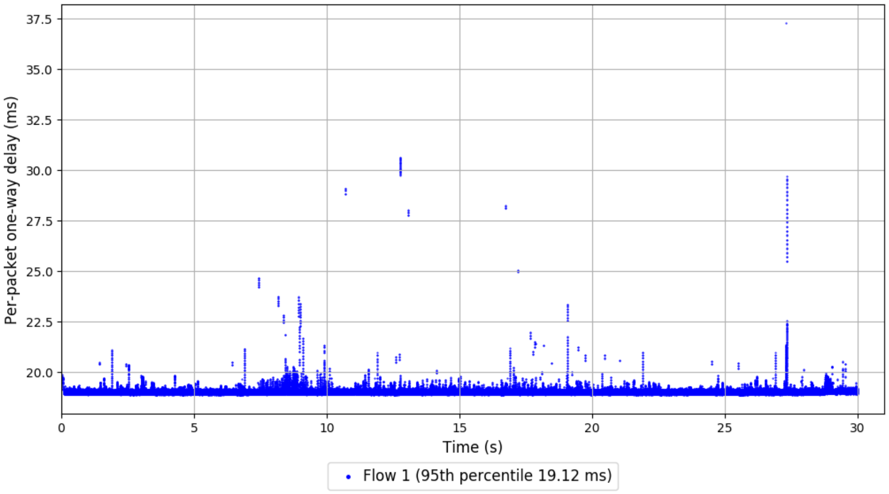
```
Run 9: Statistics of Copa

Start at: 2017-08-22 00:00:53
End at: 2017-08-22 00:01:23
Local clock offset: 0.256 ms
Remote clock offset: -2.637 ms

# Below is generated by plot.py at 2017-08-22 02:56:12
# Datalink statistics
-- Total of 1 flow:
Average throughput: 76.96 Mbit/s
95th percentile per-packet one-way delay: 19.117 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 76.96 Mbit/s
95th percentile per-packet one-way delay: 19.117 ms
Loss rate: 0.00%
```

Run 9: Report of Copa — Data Link



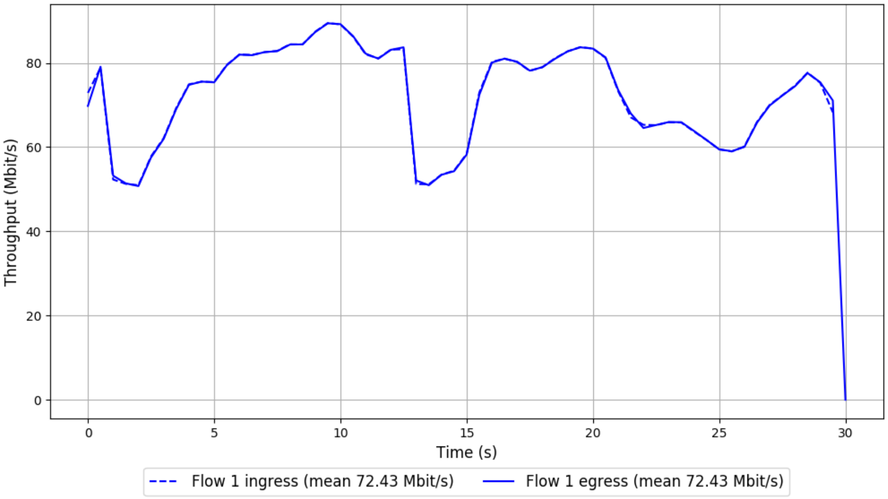


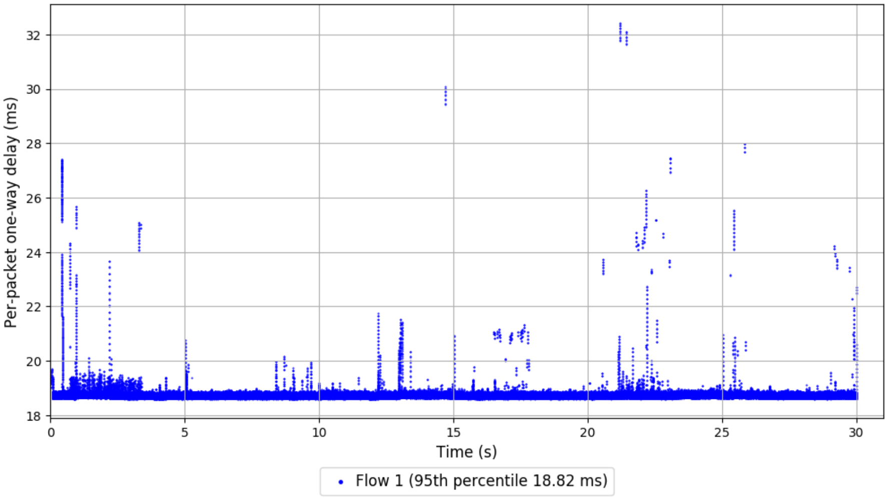
```
Run 10: Statistics of Copa

Start at: 2017-08-22 00:21:00
End at: 2017-08-22 00:21:30
Local clock offset: 0.463 ms
Remote clock offset: -2.804 ms

# Below is generated by plot.py at 2017-08-22 02:56:25
# Datalink statistics
-- Total of 1 flow:
Average throughput: 72.43 Mbit/s
95th percentile per-packet one-way delay: 18.816 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 72.43 Mbit/s
95th percentile per-packet one-way delay: 18.816 ms
Loss rate: 0.00%
```

Run 10: Report of Copa — Data Link



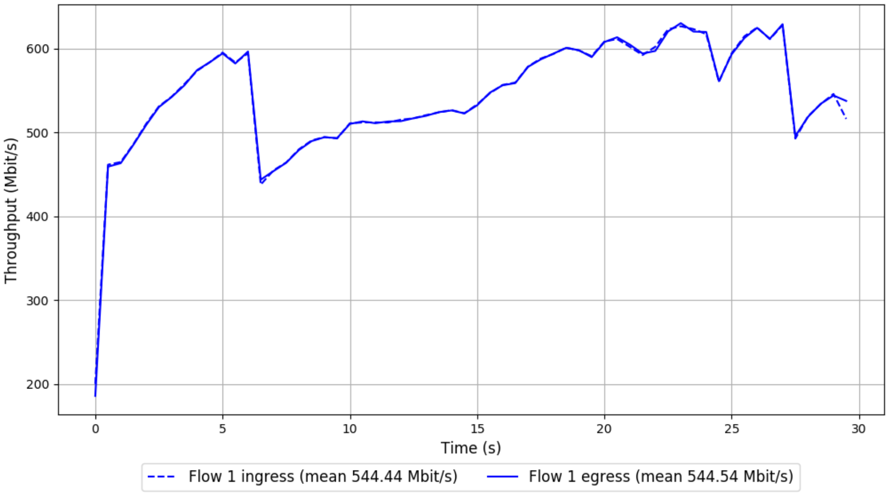


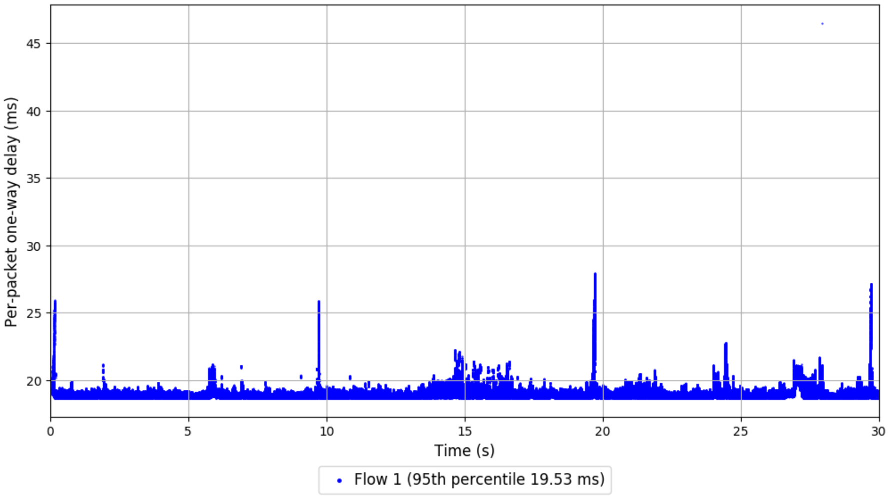
```
Run 1: Statistics of TCP Cubic

Start at: 2017-08-21 21:23:16
End at: 2017-08-21 21:23:46
Local clock offset: 0.433 ms
Remote clock offset: -2.138 ms

# Below is generated by plot.py at 2017-08-22 02:57:18
# Datalink statistics
-- Total of 1 flow:
Average throughput: 544.54 Mbit/s
95th percentile per-packet one-way delay: 19.531 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 544.54 Mbit/s
95th percentile per-packet one-way delay: 19.531 ms
Loss rate: 0.00%
```

Run 1: Report of TCP Cubic — Data Link



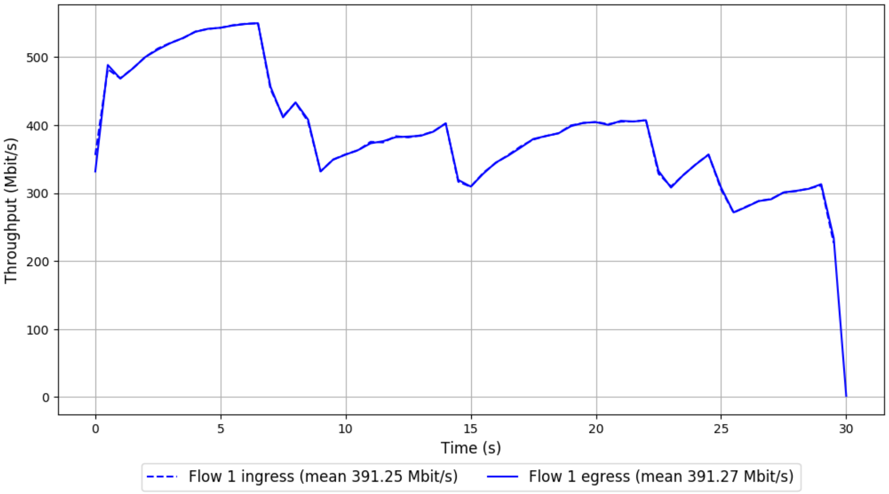


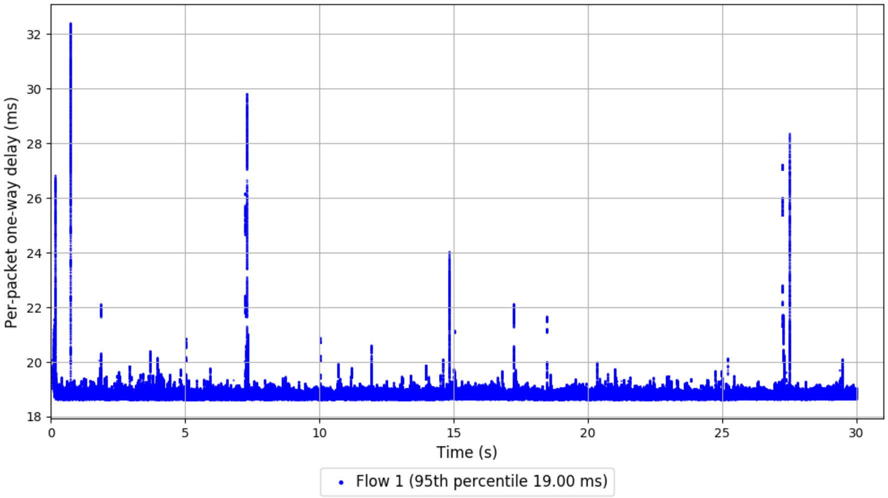
```
Run 2: Statistics of TCP Cubic

Start at: 2017-08-21 21:43:29
End at: 2017-08-21 21:43:59
Local clock offset: 0.579 ms
Remote clock offset: -1.85 ms

# Below is generated by plot.py at 2017-08-22 02:57:19
# Datalink statistics
-- Total of 1 flow:
Average throughput: 391.27 Mbit/s
95th percentile per-packet one-way delay: 19.002 ms
Loss rate: 0.02%
-- Flow 1:
Average throughput: 391.27 Mbit/s
95th percentile per-packet one-way delay: 19.002 ms
Loss rate: 0.02%
```

Run 2: Report of TCP Cubic — Data Link



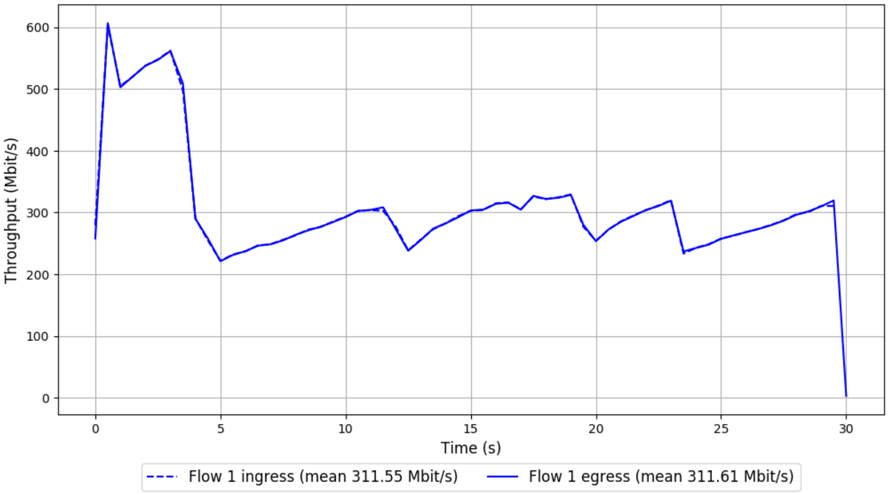


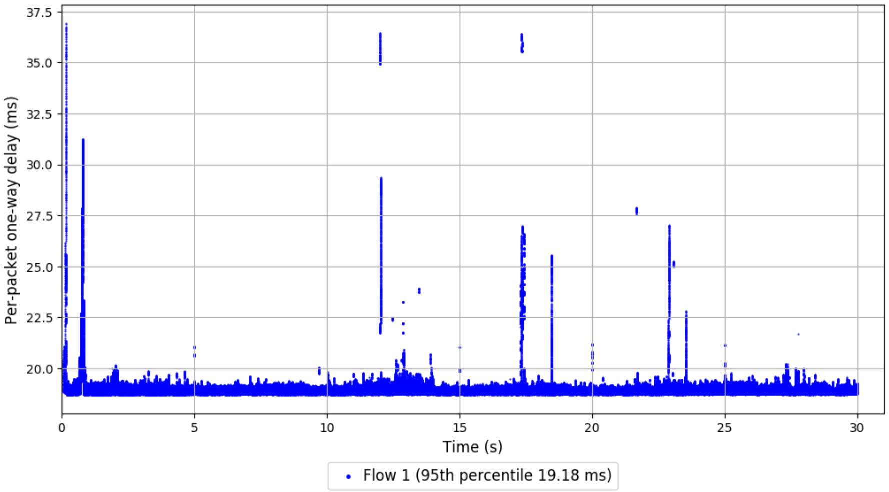
```
Run 3: Statistics of TCP Cubic

Start at: 2017-08-21 22:03:48
End at: 2017-08-21 22:04:18
Local clock offset: 0.508 ms
Remote clock offset: -2.247 ms

# Below is generated by plot.py at 2017-08-22 02:58:01
# Datalink statistics
-- Total of 1 flow:
Average throughput: 311.61 Mbit/s
95th percentile per-packet one-way delay: 19.182 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 311.61 Mbit/s
95th percentile per-packet one-way delay: 19.182 ms
Loss rate: 0.00%
```

Run 3: Report of TCP Cubic — Data Link



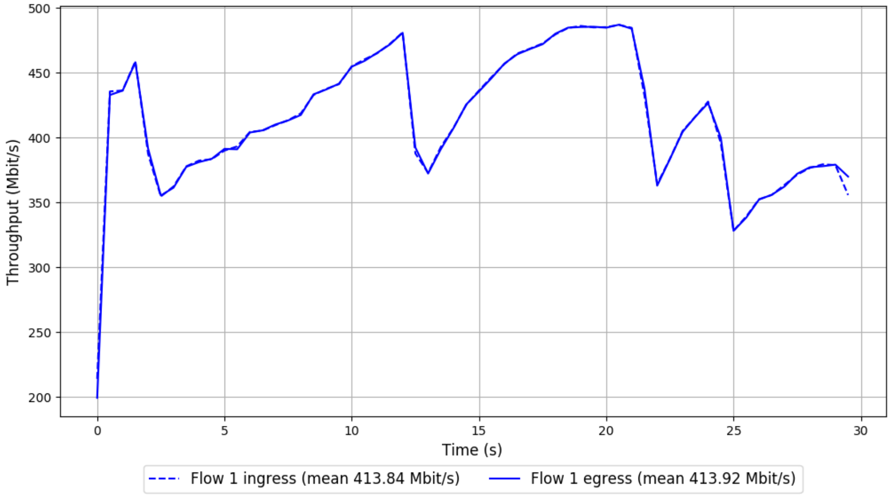


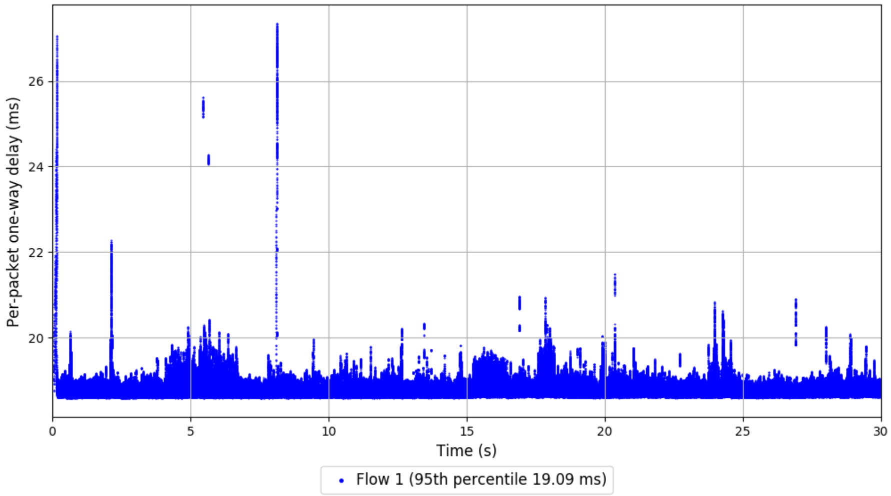
```
Run 4: Statistics of TCP Cubic

Start at: 2017-08-21 22:23:56
End at: 2017-08-21 22:24:26
Local clock offset: 0.55 ms
Remote clock offset: -2.374 ms

# Below is generated by plot.py at 2017-08-22 02:58:06
# Datalink statistics
-- Total of 1 flow:
Average throughput: 413.92 Mbit/s
95th percentile per-packet one-way delay: 19.095 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 413.92 Mbit/s
95th percentile per-packet one-way delay: 19.095 ms
Loss rate: 0.01%
```

Run 4: Report of TCP Cubic — Data Link



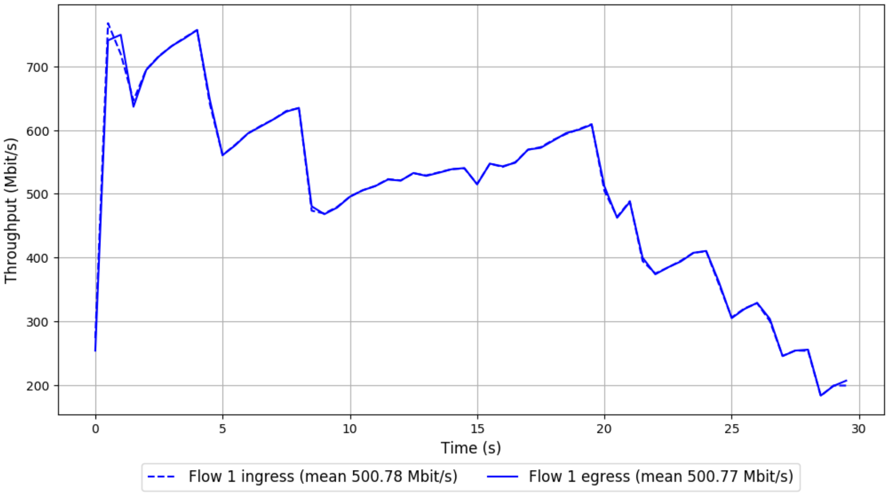


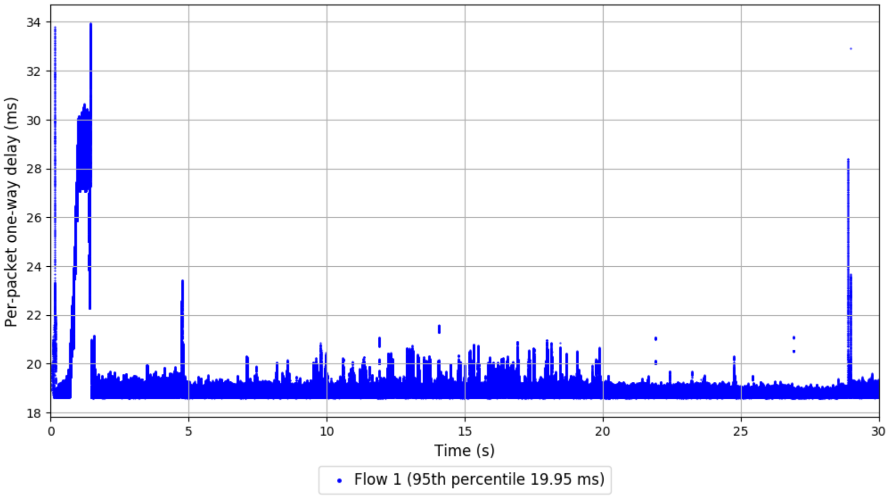
```
Run 5: Statistics of TCP Cubic

Start at: 2017-08-21 22:44:18
End at: 2017-08-21 22:44:48
Local clock offset: 0.64 ms
Remote clock offset: -2.357 ms

# Below is generated by plot.py at 2017-08-22 02:59:01
# Datalink statistics
-- Total of 1 flow:
Average throughput: 500.77 Mbit/s
95th percentile per-packet one-way delay: 19.951 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 500.77 Mbit/s
95th percentile per-packet one-way delay: 19.951 ms
Loss rate: 0.00%
```

Run 5: Report of TCP Cubic — Data Link



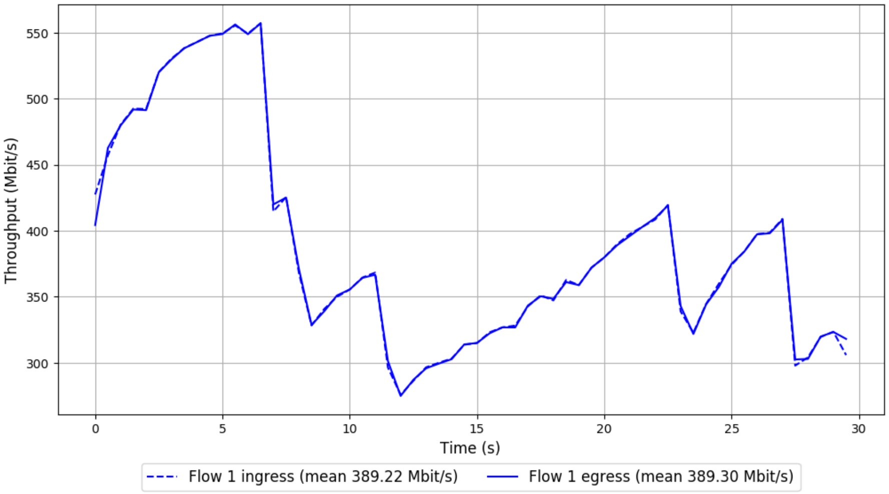


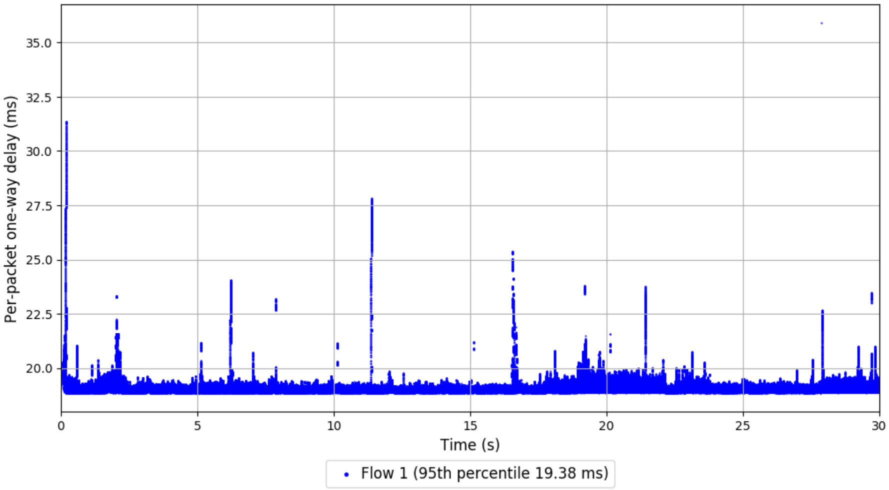
```
Run 6: Statistics of TCP Cubic

Start at: 2017-08-21 23:04:42
End at: 2017-08-21 23:05:12
Local clock offset: 0.588 ms
Remote clock offset: -2.243 ms

# Below is generated by plot.py at 2017-08-22 02:59:01
# Datalink statistics
-- Total of 1 flow:
Average throughput: 389.30 Mbit/s
95th percentile per-packet one-way delay: 19.380 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 389.30 Mbit/s
95th percentile per-packet one-way delay: 19.380 ms
Loss rate: 0.00%
```

Run 6: Report of TCP Cubic — Data Link



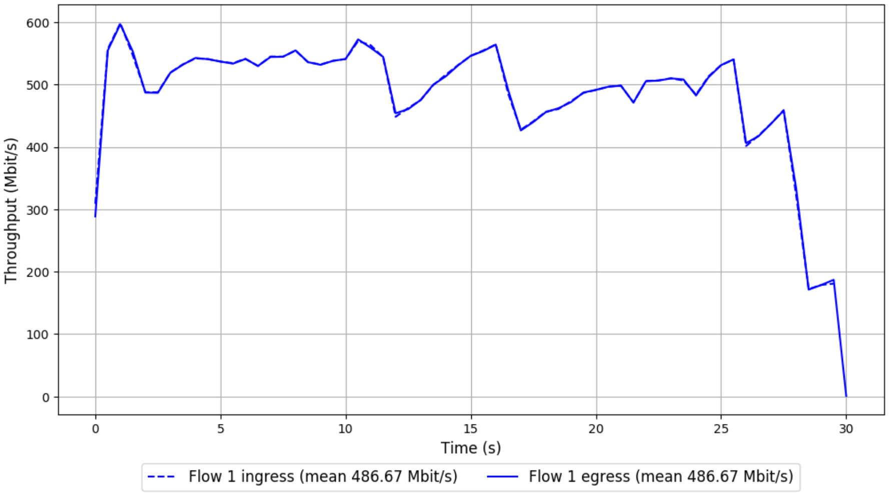


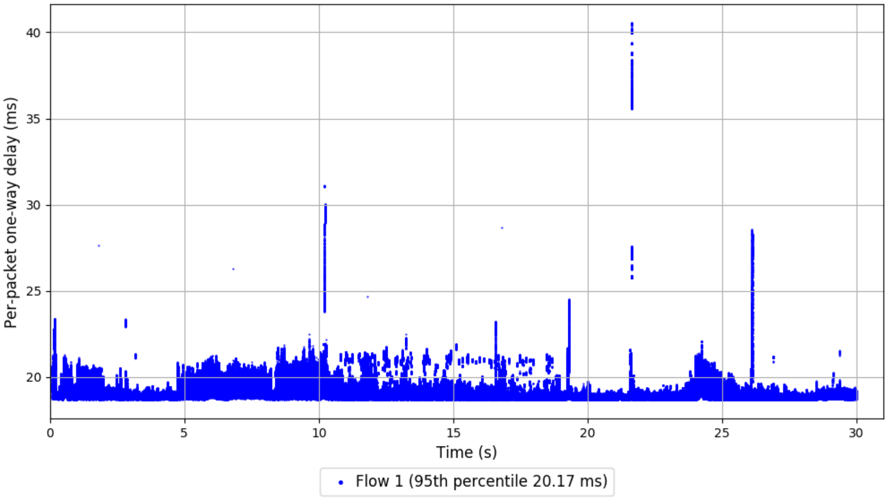
```
Run 7: Statistics of TCP Cubic

Start at: 2017-08-21 23:24:37
End at: 2017-08-21 23:25:07
Local clock offset: 0.35 ms
Remote clock offset: -2.426 ms

# Below is generated by plot.py at 2017-08-22 02:59:53
# Datalink statistics
-- Total of 1 flow:
Average throughput: 486.67 Mbit/s
95th percentile per-packet one-way delay: 20.173 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 486.67 Mbit/s
95th percentile per-packet one-way delay: 20.173 ms
Loss rate: 0.00%
```

Run 7: Report of TCP Cubic — Data Link



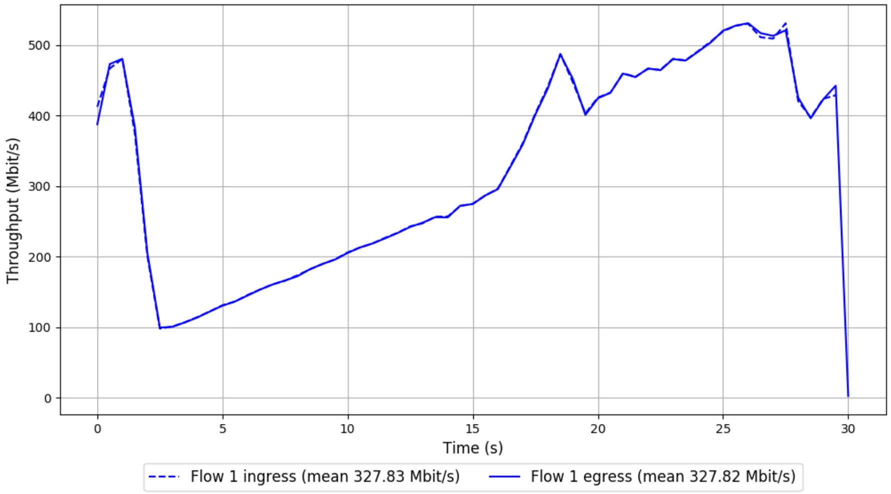


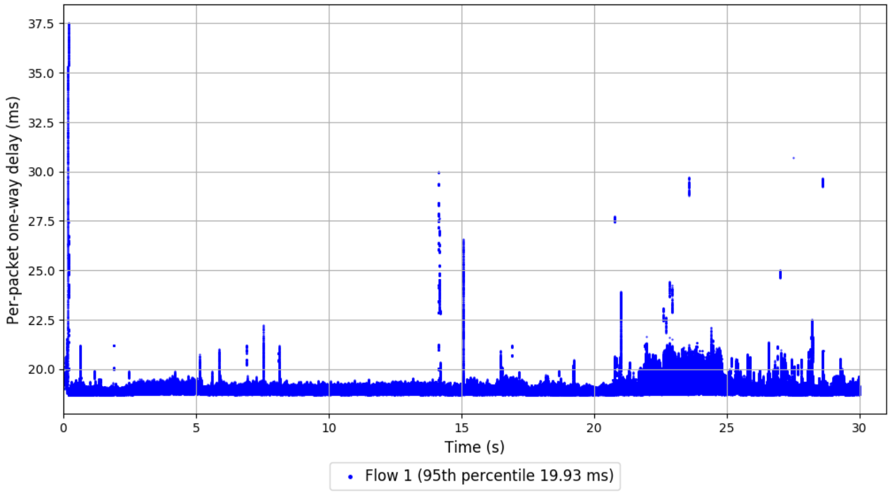
```
Run 8: Statistics of TCP Cubic

Start at: 2017-08-21 23:44:39
End at: 2017-08-21 23:45:09
Local clock offset: 0.284 ms
Remote clock offset: -2.596 ms

# Below is generated by plot.py at 2017-08-22 02:59:53
# Datalink statistics
-- Total of 1 flow:
Average throughput: 327.82 Mbit/s
95th percentile per-packet one-way delay: 19.934 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 327.82 Mbit/s
95th percentile per-packet one-way delay: 19.934 ms
Loss rate: 0.00%
```

Run 8: Report of TCP Cubic — Data Link



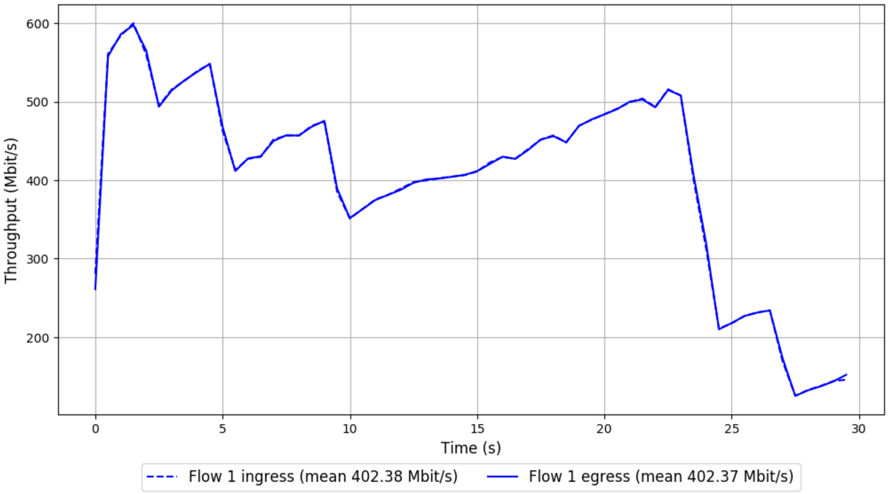


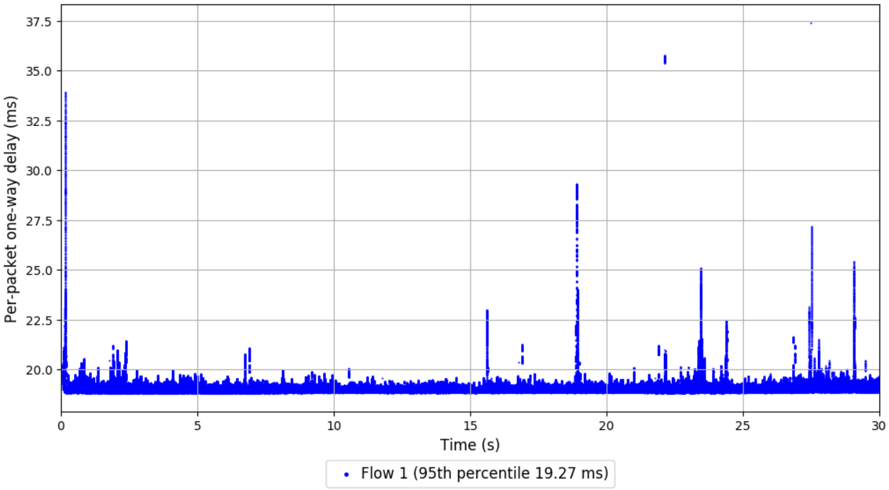
```
Run 9: Statistics of TCP Cubic

Start at: 2017-08-22 00:04:34
End at: 2017-08-22 00:05:04
Local clock offset: 0.384 ms
Remote clock offset: -2.616 ms

# Below is generated by plot.py at 2017-08-22 03:00:26
# Datalink statistics
-- Total of 1 flow:
Average throughput: 402.37 Mbit/s
95th percentile per-packet one-way delay: 19.266 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 402.37 Mbit/s
95th percentile per-packet one-way delay: 19.266 ms
Loss rate: 0.00%
```

Run 9: Report of TCP Cubic — Data Link



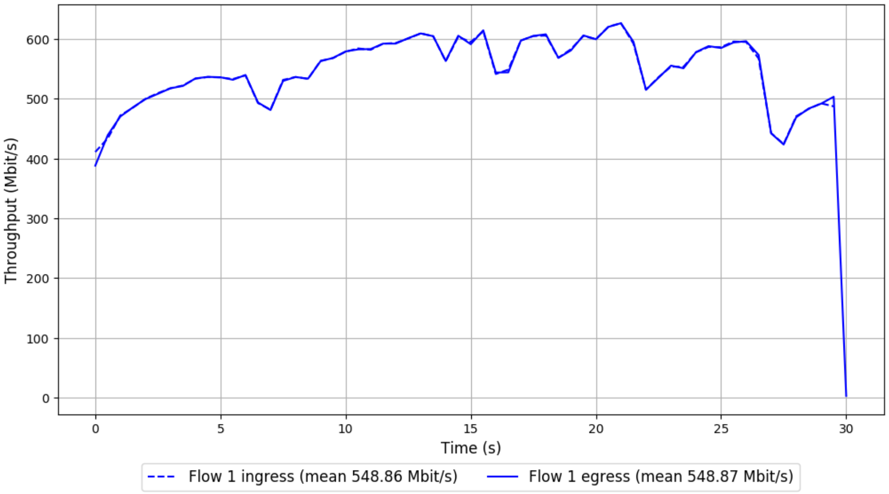


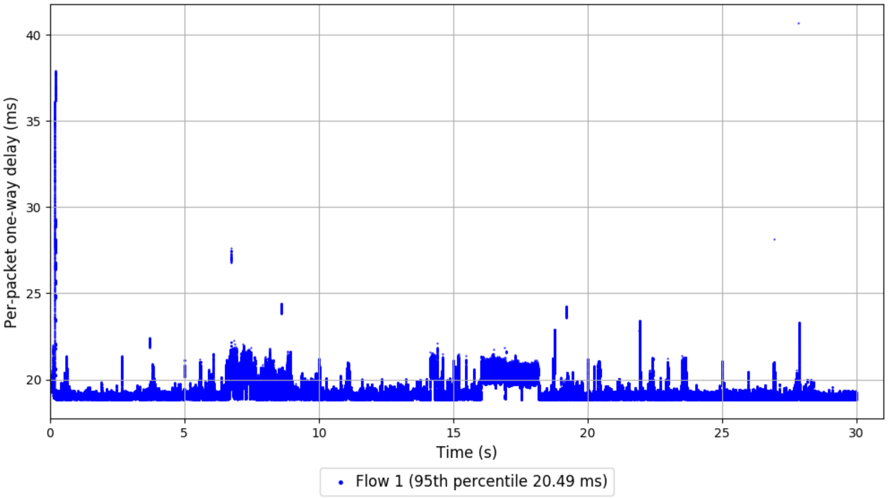
```
Run 10: Statistics of TCP Cubic

Start at: 2017-08-22 00:24:54
End at: 2017-08-22 00:25:24
Local clock offset: 0.5 ms
Remote clock offset: -2.773 ms

# Below is generated by plot.py at 2017-08-22 03:01:03
# Datalink statistics
-- Total of 1 flow:
Average throughput: 548.87 Mbit/s
95th percentile per-packet one-way delay: 20.487 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 548.87 Mbit/s
95th percentile per-packet one-way delay: 20.487 ms
Loss rate: 0.00%
```

Run 10: Report of TCP Cubic — Data Link

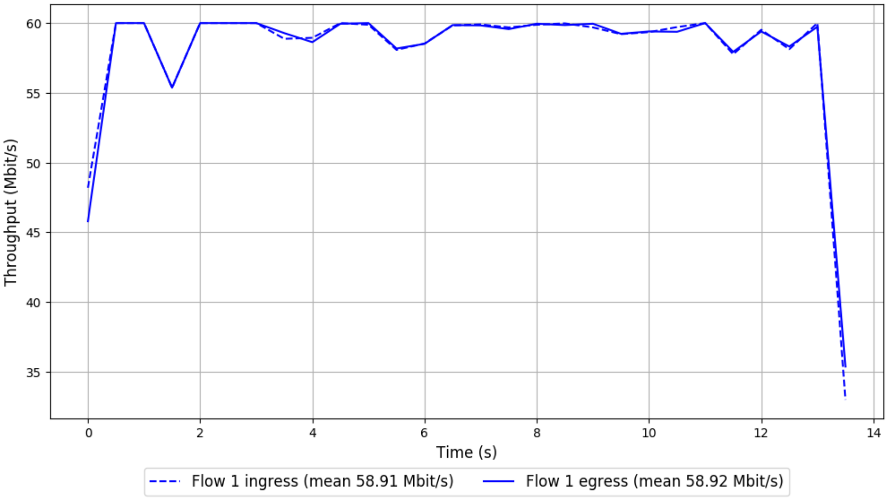


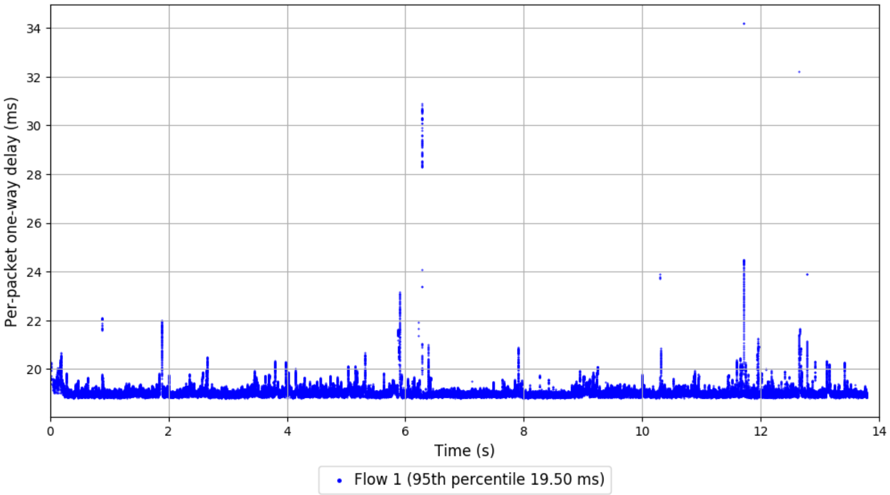


```
Run 1: Statistics of KohoCC

Start at: 2017-08-21 21:18:08
End at: 2017-08-21 21:18:38
Local clock offset: 0.401 ms
Remote clock offset: -1.985 ms
```

Run 1: Report of KohoCC — Data Link

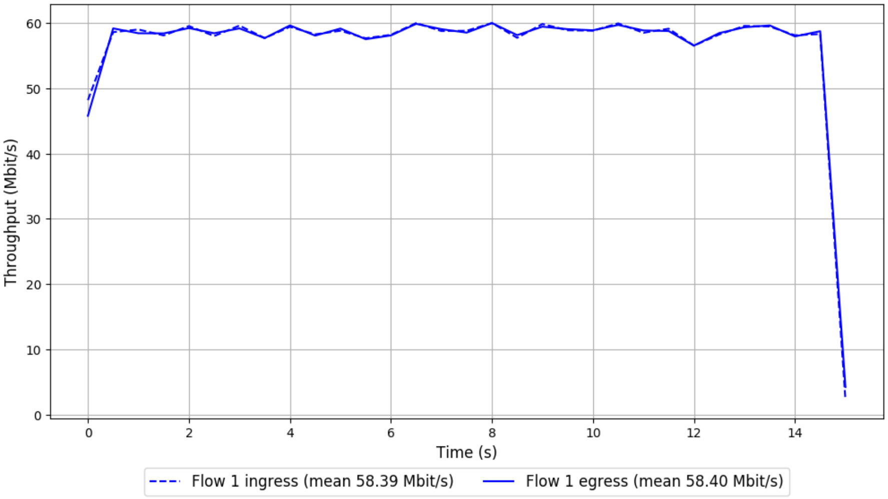


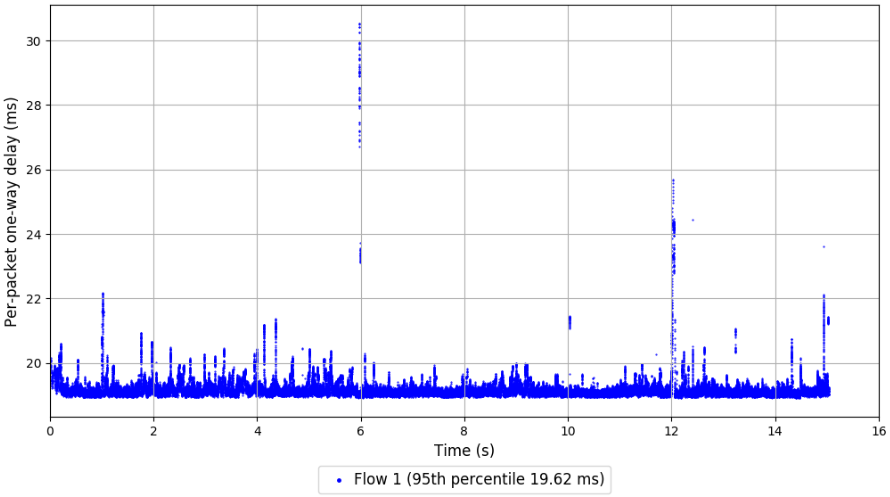


```
Run 2: Statistics of KohoCC

Start at: 2017-08-21 21:38:20
End at: 2017-08-21 21:38:50
Local clock offset: 0.471 ms
Remote clock offset: -1.973 ms
```

Run 2: Report of KohoCC — Data Link

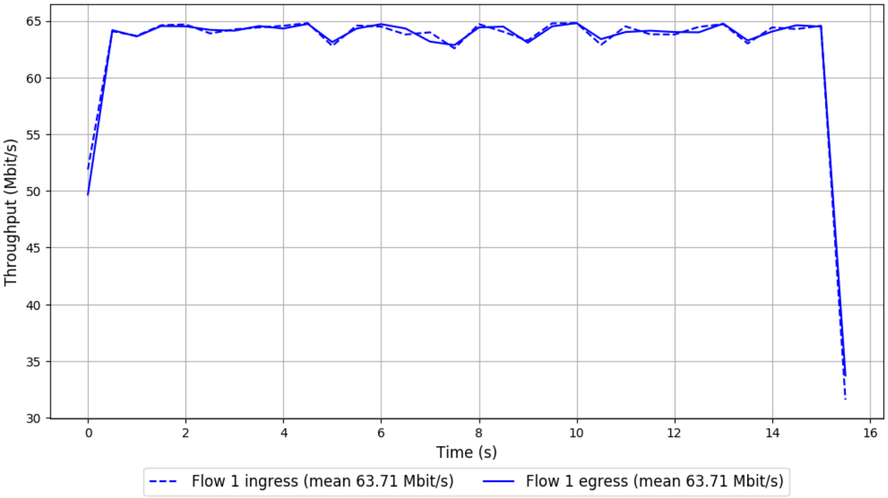


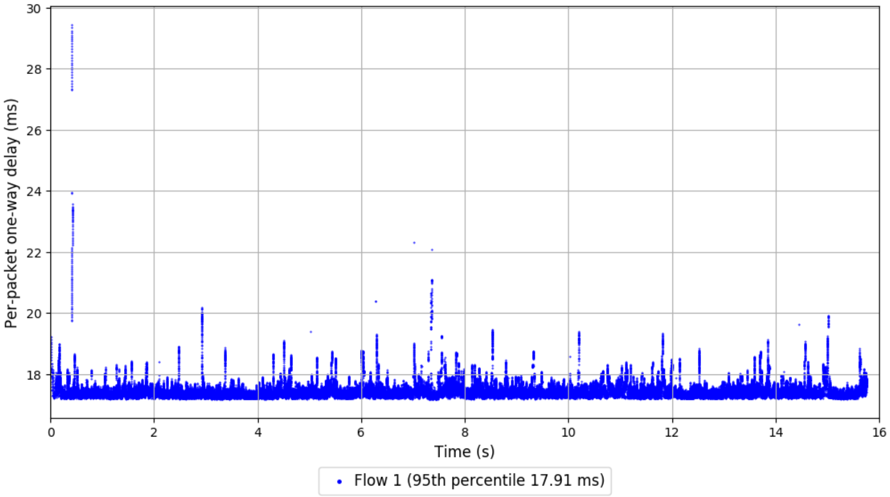


```
Run 3: Statistics of KohoCC

Start at: 2017-08-21 21:58:39
End at: 2017-08-21 21:59:09
Local clock offset: 0.591 ms
Remote clock offset: -2.183 ms
```

Run 3: Report of KohoCC — Data Link

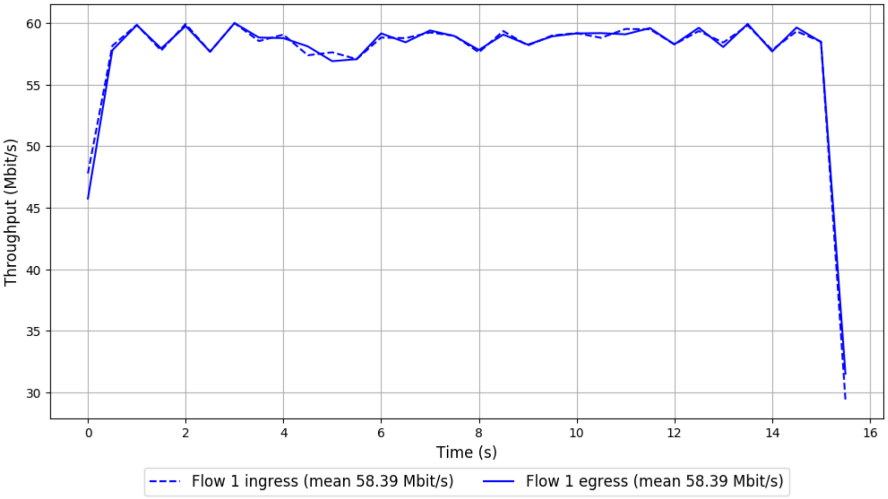


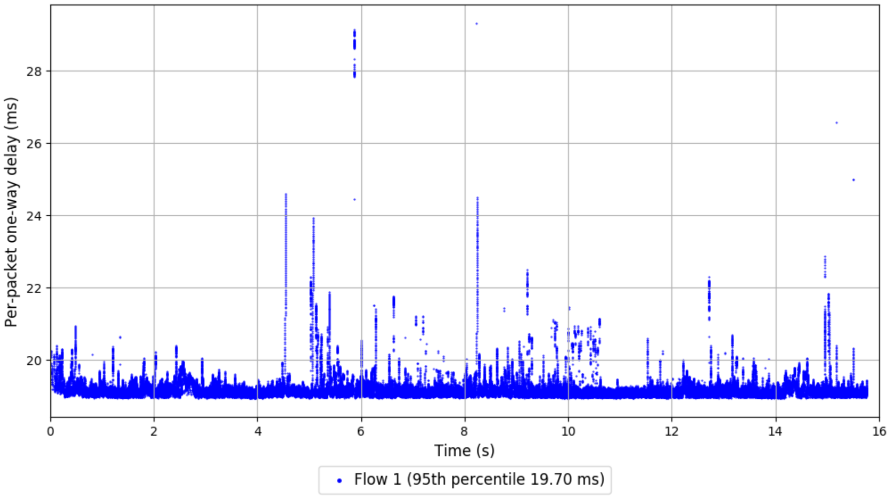


```
Run 4: Statistics of KohoCC

Start at: 2017-08-21 22:18:48
End at: 2017-08-21 22:19:18
Local clock offset: 0.452 ms
Remote clock offset: -2.297 ms
```

Run 4: Report of KohoCC — Data Link



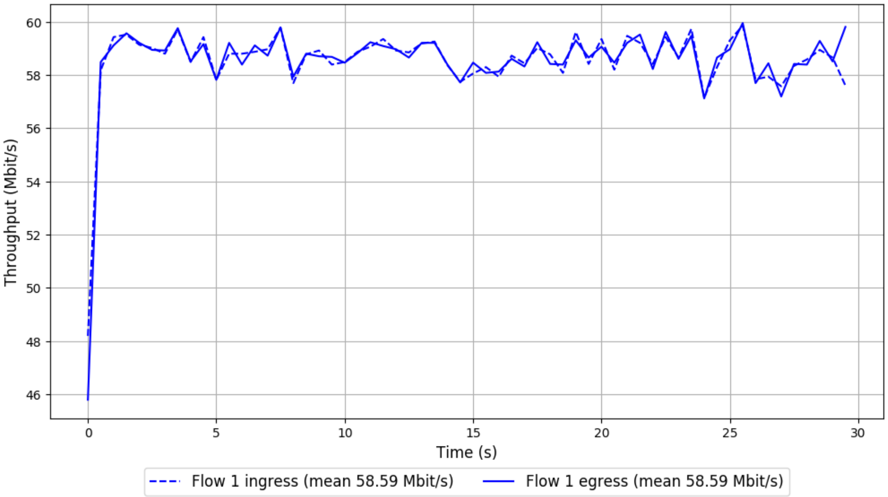


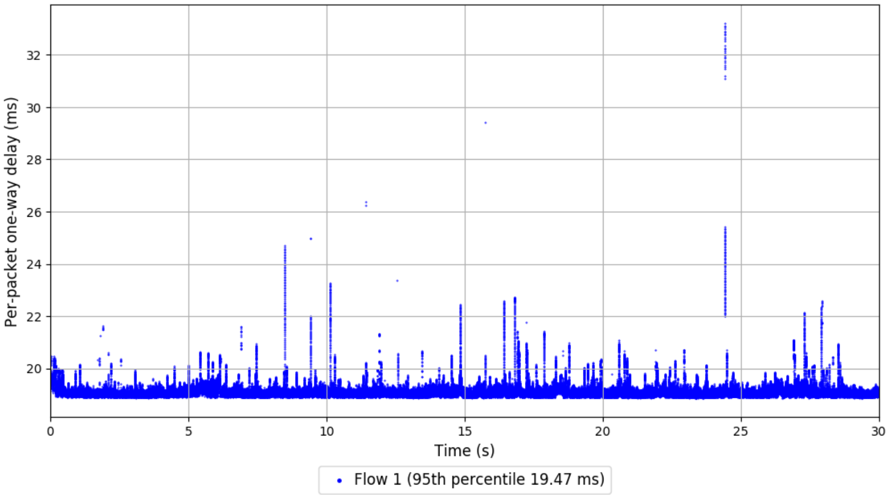
```
Run 5: Statistics of KohoCC

Start at: 2017-08-21 22:39:08
End at: 2017-08-21 22:39:38
Local clock offset: 0.612 ms
Remote clock offset: -2.449 ms

# Below is generated by plot.py at 2017-08-22 03:01:03
# Datalink statistics
-- Total of 1 flow:
Average throughput: 58.59 Mbit/s
95th percentile per-packet one-way delay: 19.469 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 58.59 Mbit/s
95th percentile per-packet one-way delay: 19.469 ms
Loss rate: 0.00%
```

Run 5: Report of KohoCC — Data Link

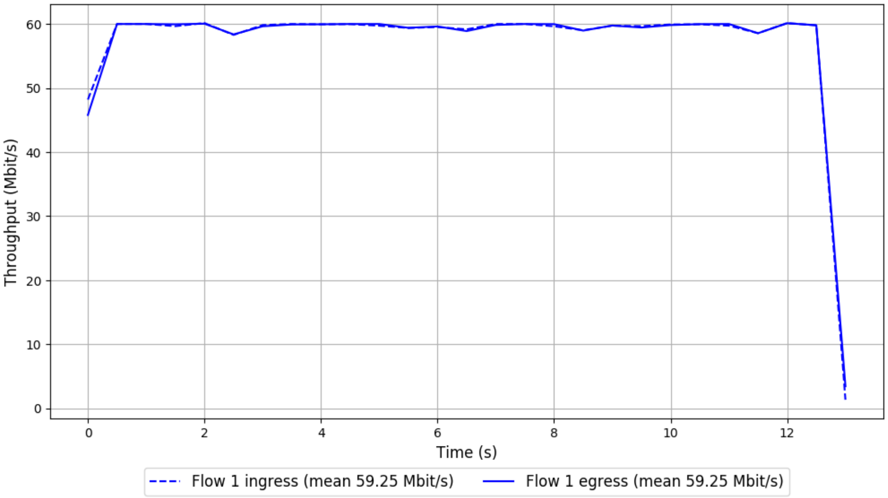


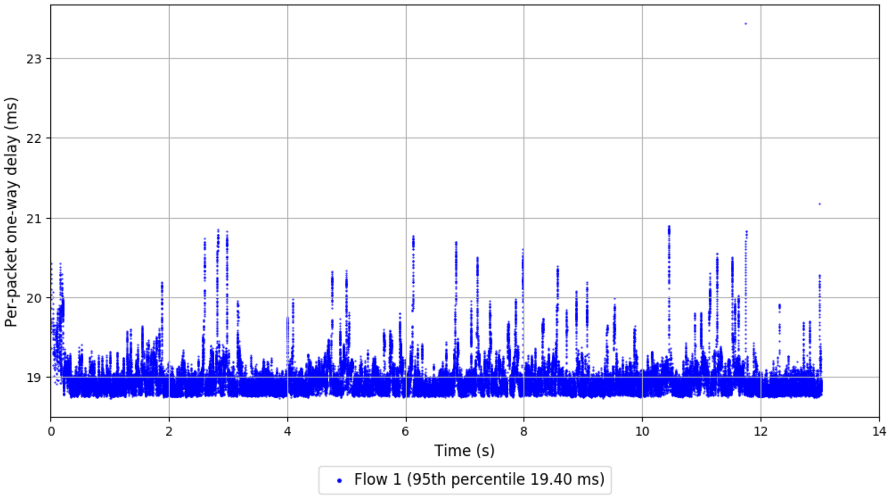


```
Run 6: Statistics of KohoCC

Start at: 2017-08-21 22:59:30
End at: 2017-08-21 23:00:00
Local clock offset: 0.535 ms
Remote clock offset: -2.119 ms
```

Run 6: Report of KohoCC — Data Link



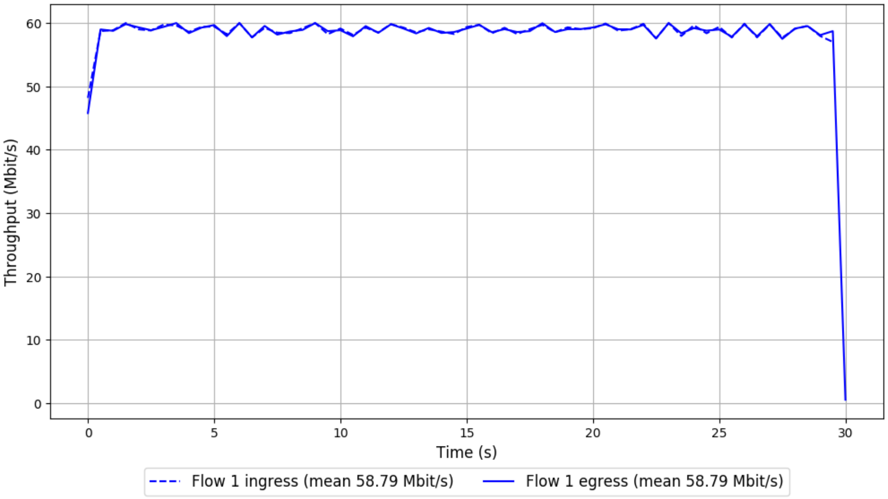


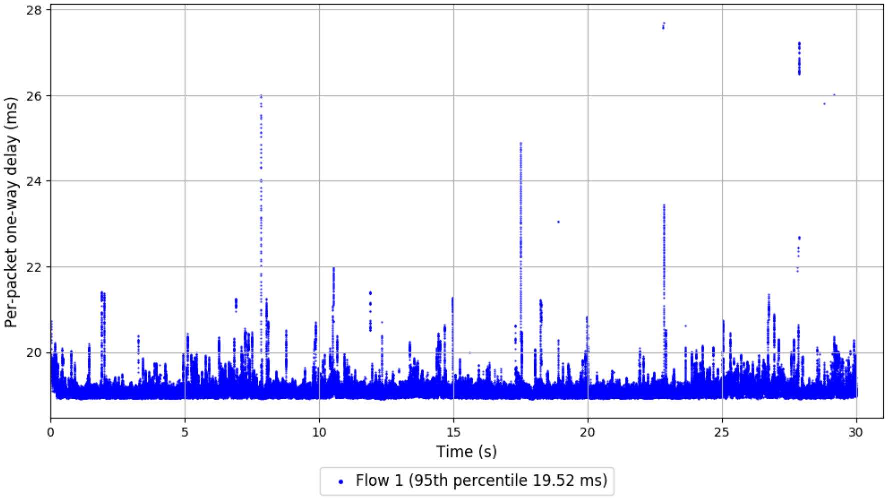
```
Run 7: Statistics of KohoCC

Start at: 2017-08-21 23:19:31
End at: 2017-08-21 23:20:01
Local clock offset: 0.486 ms
Remote clock offset: -2.398 ms

# Below is generated by plot.py at 2017-08-22 03:01:12
# Datalink statistics
-- Total of 1 flow:
Average throughput: 58.79 Mbit/s
95th percentile per-packet one-way delay: 19.525 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 58.79 Mbit/s
95th percentile per-packet one-way delay: 19.525 ms
Loss rate: 0.00%
```

Run 7: Report of KohoCC — Data Link



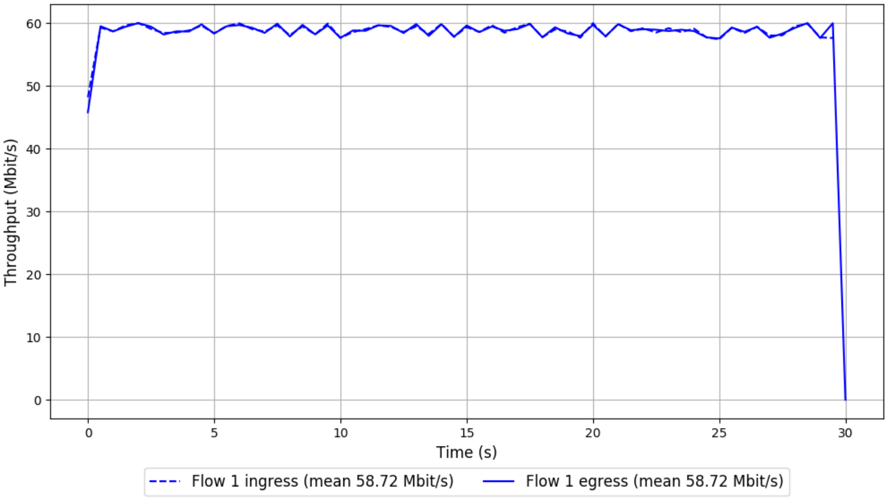


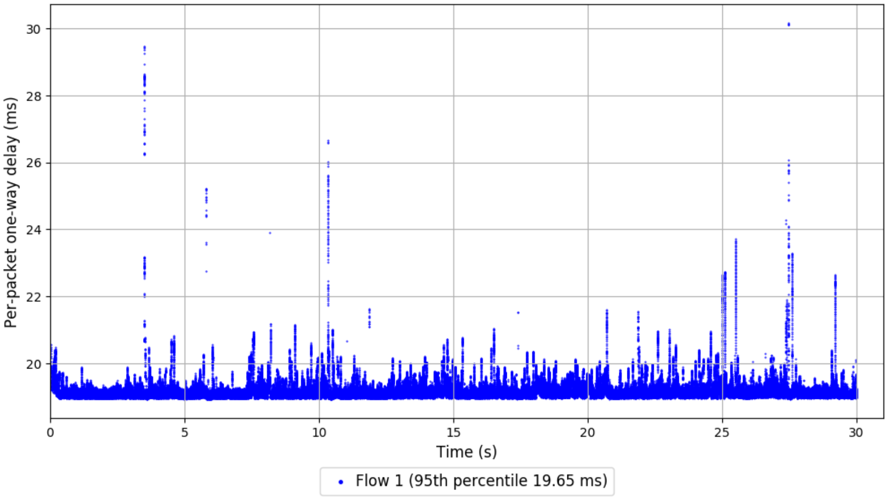
```
Run 8: Statistics of KohoCC

Start at: 2017-08-21 23:39:34
End at: 2017-08-21 23:40:04
Local clock offset: 0.282 ms
Remote clock offset: -2.5 ms

# Below is generated by plot.py at 2017-08-22 03:01:13
# Datalink statistics
-- Total of 1 flow:
Average throughput: 58.72 Mbit/s
95th percentile per-packet one-way delay: 19.650 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 58.72 Mbit/s
95th percentile per-packet one-way delay: 19.650 ms
Loss rate: 0.00%
```

Run 8: Report of KohoCC — Data Link



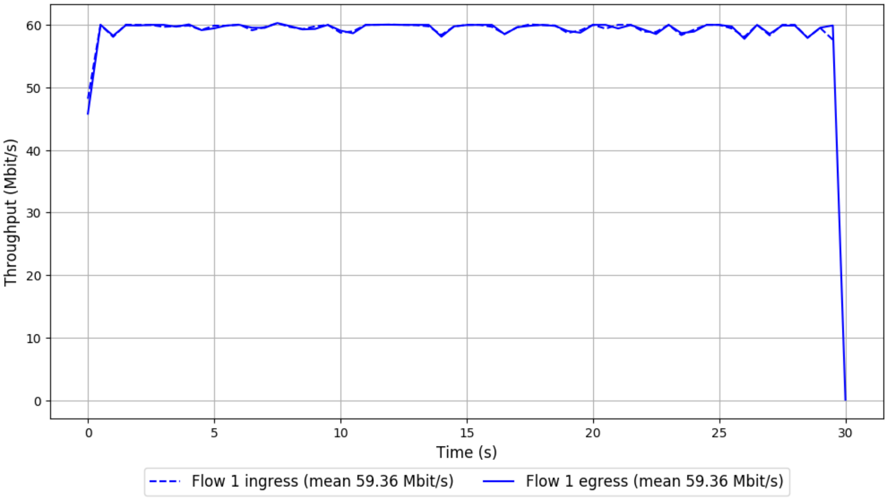


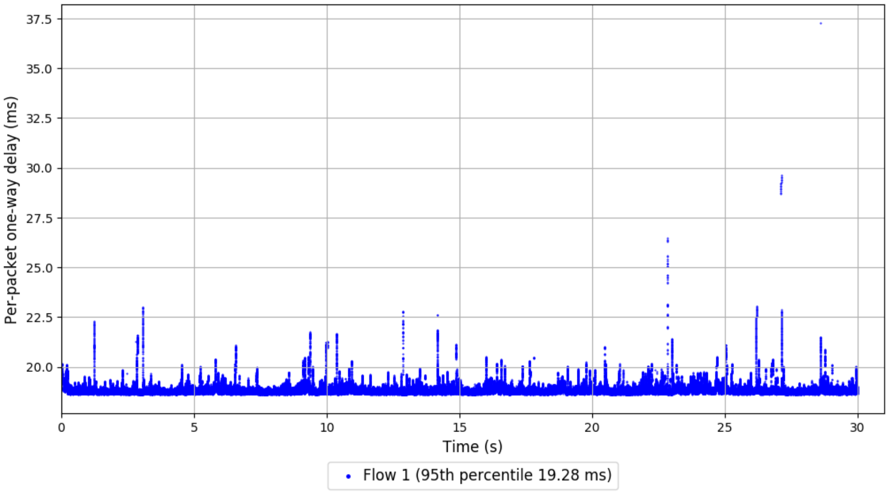
```
Run 9: Statistics of KohoCC

Start at: 2017-08-21 23:59:39
End at: 2017-08-22 00:00:09
Local clock offset: 0.37 ms
Remote clock offset: -2.653 ms

# Below is generated by plot.py at 2017-08-22 03:01:20
# Datalink statistics
-- Total of 1 flow:
Average throughput: 59.36 Mbit/s
95th percentile per-packet one-way delay: 19.283 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 59.36 Mbit/s
95th percentile per-packet one-way delay: 19.283 ms
Loss rate: 0.00%
```

Run 9: Report of KohoCC — Data Link

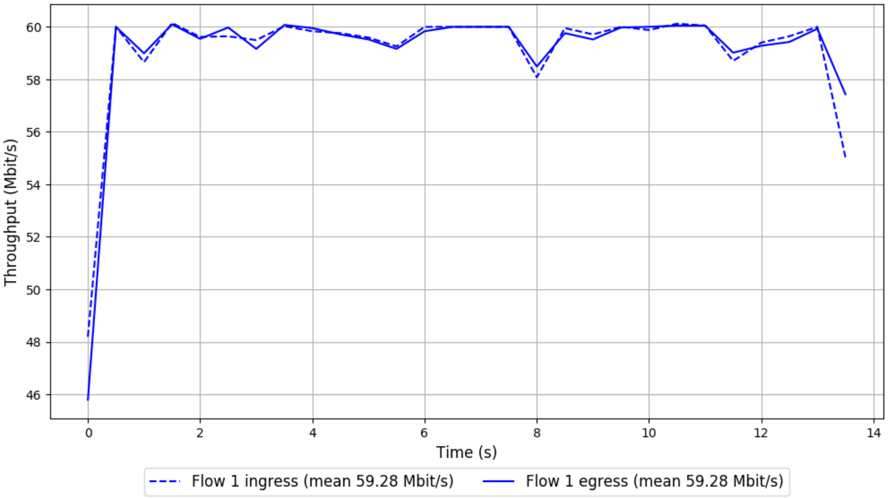


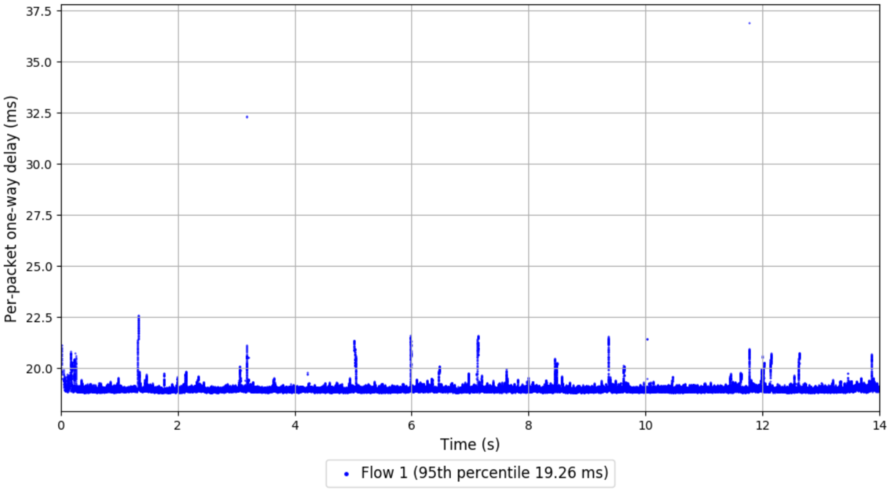


```
Run 10: Statistics of KohoCC

Start at: 2017-08-22 00:19:48
End at: 2017-08-22 00:20:18
Local clock offset: 0.368 ms
Remote clock offset: -2.728 ms
```

Run 10: Report of KohoCC — Data Link



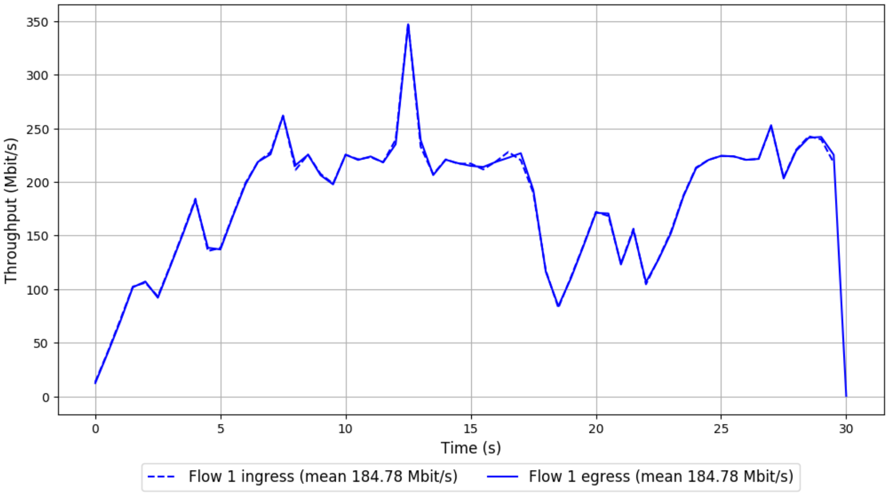


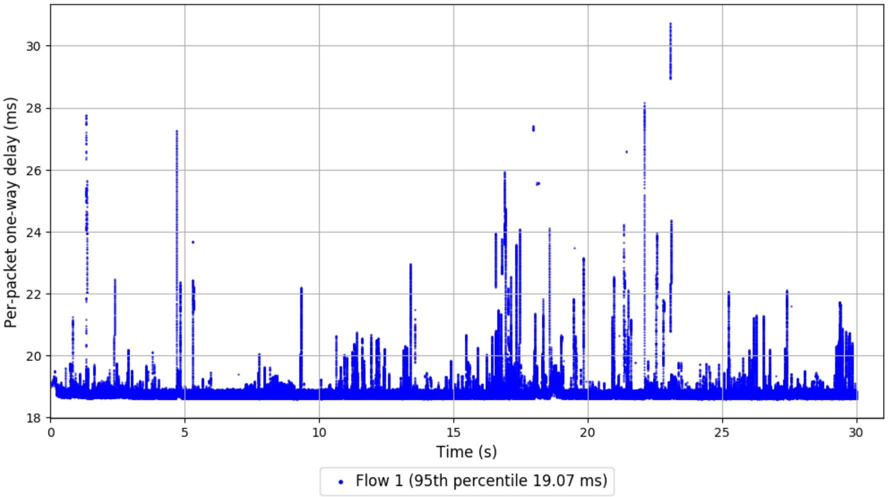
```
Run 1: Statistics of LEDBAT

Start at: 2017-08-21 21:32:44
End at: 2017-08-21 21:33:14
Local clock offset: 0.531 ms
Remote clock offset: -2.067 ms

# Below is generated by plot.py at 2017-08-22 03:01:36
# Datalink statistics
-- Total of 1 flow:
Average throughput: 184.78 Mbit/s
95th percentile per-packet one-way delay: 19.067 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 184.78 Mbit/s
95th percentile per-packet one-way delay: 19.067 ms
Loss rate: 0.00%
```

Run 1: Report of LEDBAT — Data Link



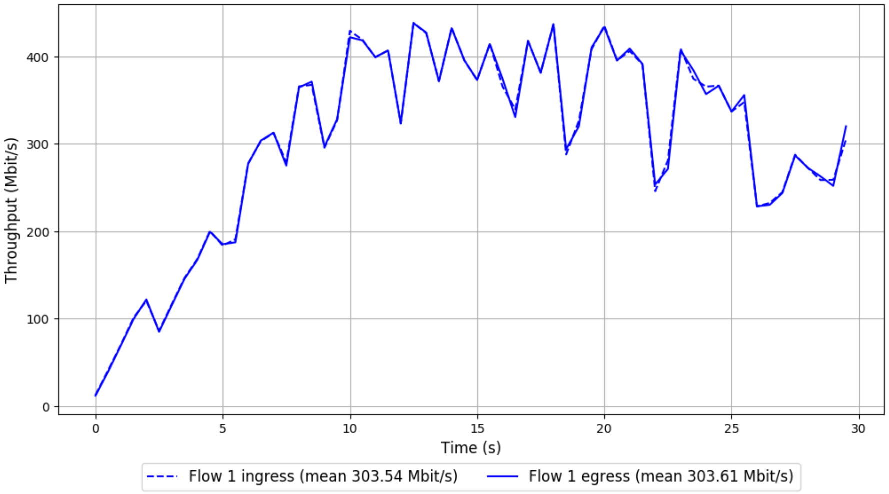


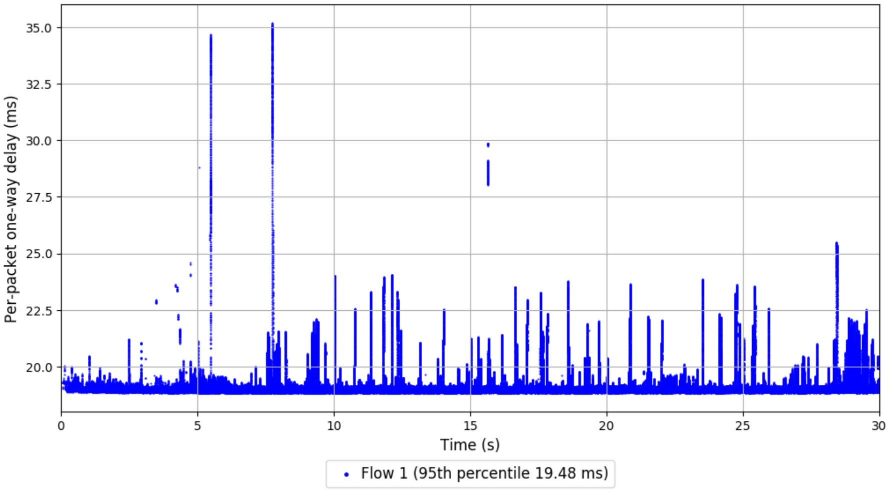
```
Run 2: Statistics of LEDBAT

Start at: 2017-08-21 21:52:57
End at: 2017-08-21 21:53:27
Local clock offset: 0.581 ms
Remote clock offset: -2.082 ms

# Below is generated by plot.py at 2017-08-22 03:01:54
# Datalink statistics
-- Total of 1 flow:
Average throughput: 303.61 Mbit/s
95th percentile per-packet one-way delay: 19.482 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 303.61 Mbit/s
95th percentile per-packet one-way delay: 19.482 ms
Loss rate: 0.00%
```

Run 2: Report of LEDBAT — Data Link



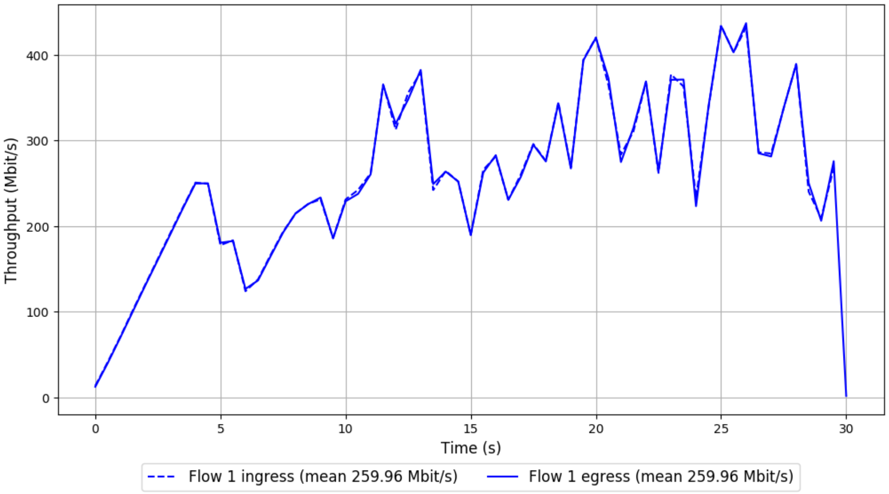


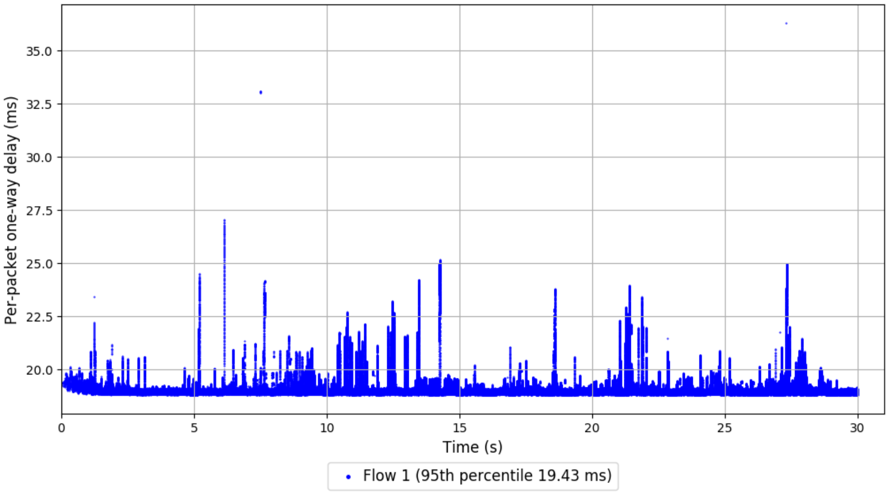
```
Run 3: Statistics of LEDBAT

Start at: 2017-08-21 22:13:10
End at: 2017-08-21 22:13:40
Local clock offset: 0.558 ms
Remote clock offset: -2.351 ms

# Below is generated by plot.py at 2017-08-22 03:02:10
# Datalink statistics
-- Total of 1 flow:
Average throughput: 259.96 Mbit/s
95th percentile per-packet one-way delay: 19.425 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 259.96 Mbit/s
95th percentile per-packet one-way delay: 19.425 ms
Loss rate: 0.00%
```

Run 3: Report of LEDBAT — Data Link



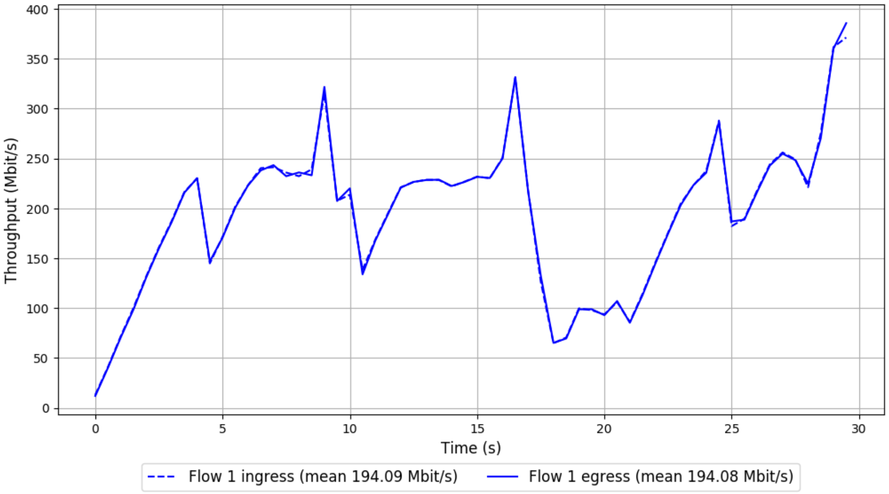


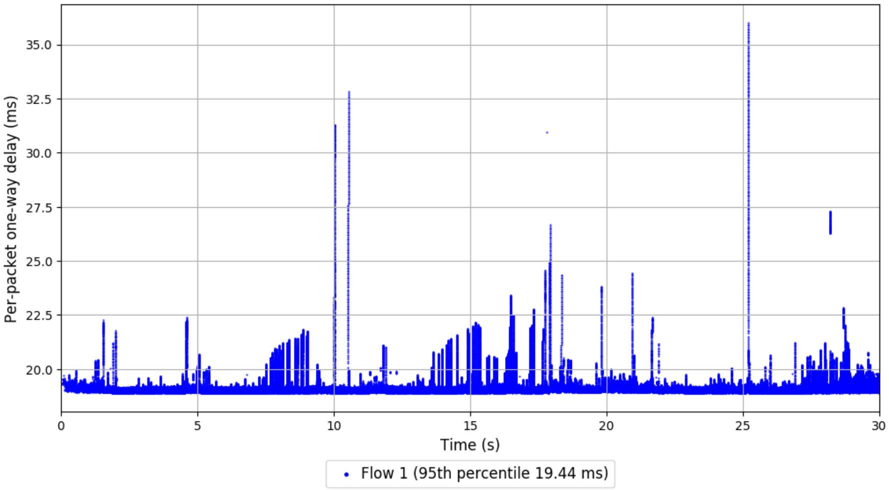
```
Run 4: Statistics of LEDBAT

Start at: 2017-08-21 22:33:32
End at: 2017-08-21 22:34:02
Local clock offset: 0.562 ms
Remote clock offset: -2.438 ms

# Below is generated by plot.py at 2017-08-22 03:02:21
# Datalink statistics
-- Total of 1 flow:
Average throughput: 194.08 Mbit/s
95th percentile per-packet one-way delay: 19.443 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 194.08 Mbit/s
95th percentile per-packet one-way delay: 19.443 ms
Loss rate: 0.01%
```

Run 4: Report of LEDBAT — Data Link



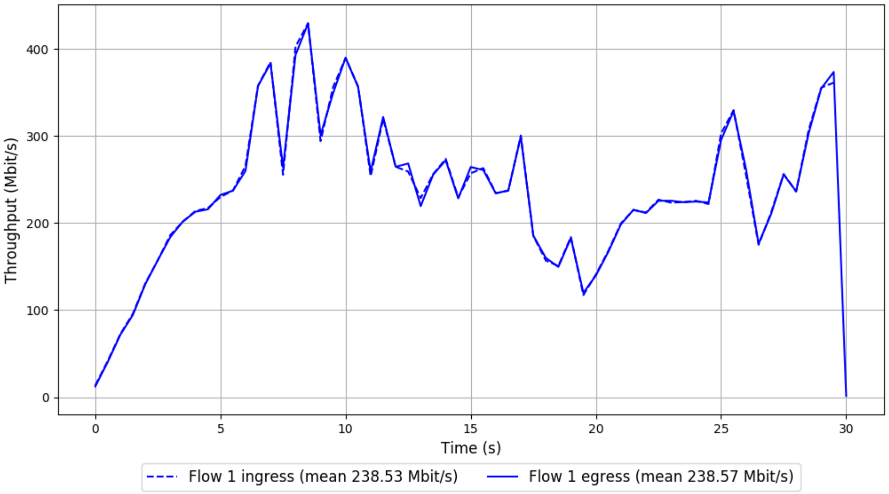


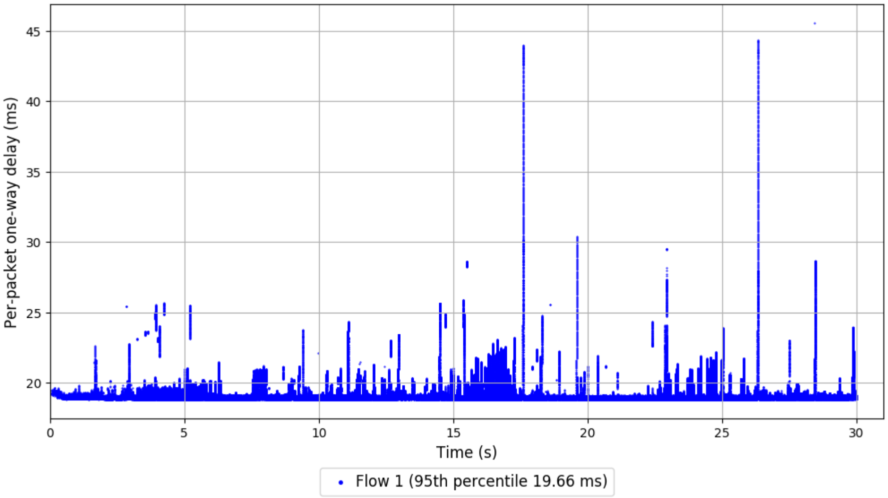
```
Run 5: Statistics of LEDBAT

Start at: 2017-08-21 22:53:58
End at: 2017-08-21 22:54:28
Local clock offset: 0.654 ms
Remote clock offset: -2.113 ms

# Below is generated by plot.py at 2017-08-22 03:02:39
# Datalink statistics
-- Total of 1 flow:
Average throughput: 238.57 Mbit/s
95th percentile per-packet one-way delay: 19.656 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 238.57 Mbit/s
95th percentile per-packet one-way delay: 19.656 ms
Loss rate: 0.00%
```

Run 5: Report of LEDBAT — Data Link



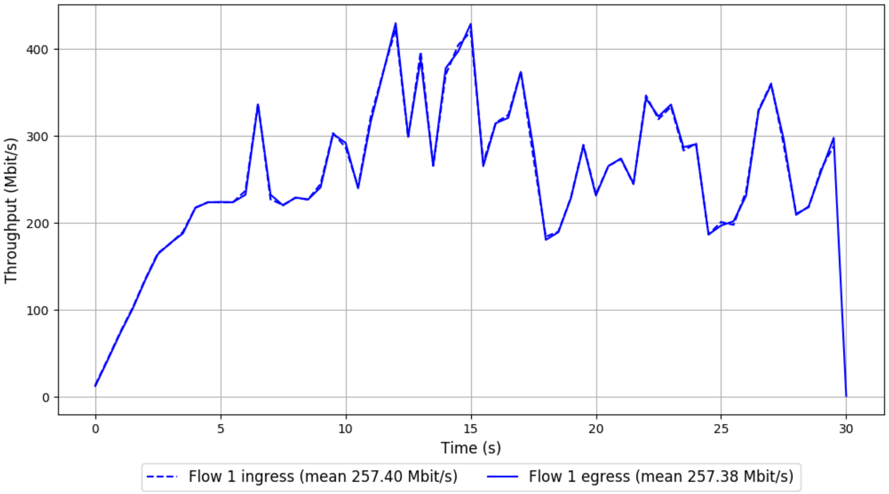


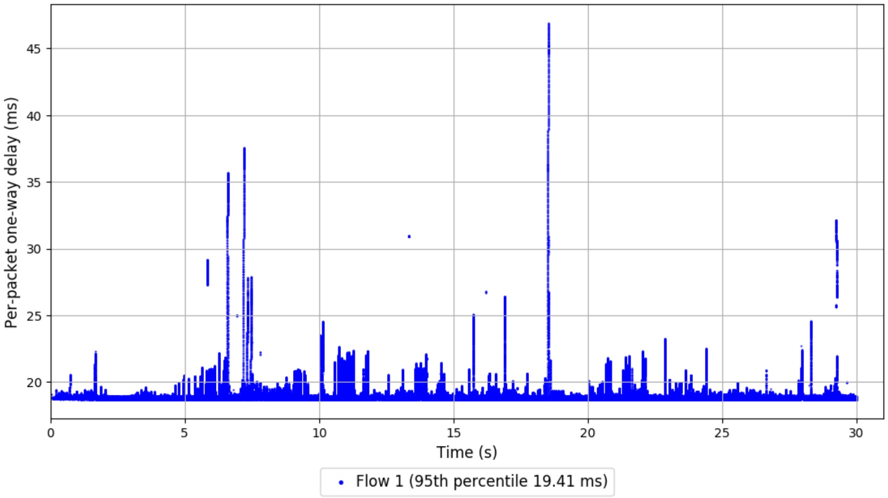
```
Run 6: Statistics of LEDBAT

Start at: 2017-08-21 23:13:54
End at: 2017-08-21 23:14:24
Local clock offset: 0.446 ms
Remote clock offset: -2.414 ms

# Below is generated by plot.py at 2017-08-22 03:02:53
# Datalink statistics
-- Total of 1 flow:
Average throughput: 257.38 Mbit/s
95th percentile per-packet one-way delay: 19.412 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 257.38 Mbit/s
95th percentile per-packet one-way delay: 19.412 ms
Loss rate: 0.01%
```

Run 6: Report of LEDBAT — Data Link



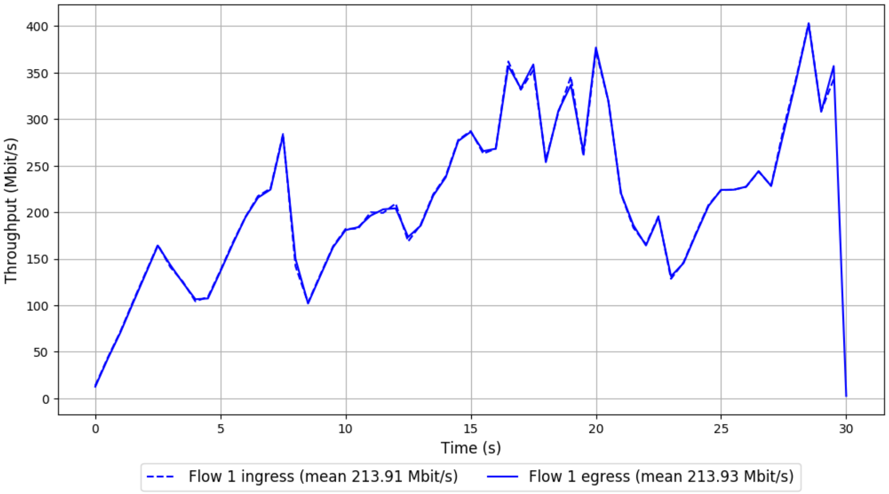


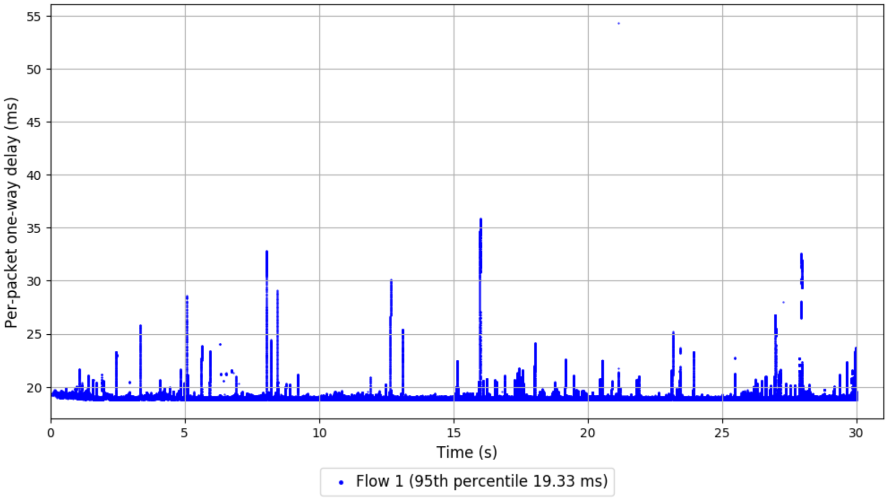
```
Run 7: Statistics of LEDBAT

Start at: 2017-08-21 23:34:02
End at: 2017-08-21 23:34:32
Local clock offset: 0.296 ms
Remote clock offset: -2.335 ms

# Below is generated by plot.py at 2017-08-22 03:03:07
# Datalink statistics
-- Total of 1 flow:
Average throughput: 213.93 Mbit/s
95th percentile per-packet one-way delay: 19.334 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 213.93 Mbit/s
95th percentile per-packet one-way delay: 19.334 ms
Loss rate: 0.00%
```

Run 7: Report of LEDBAT — Data Link



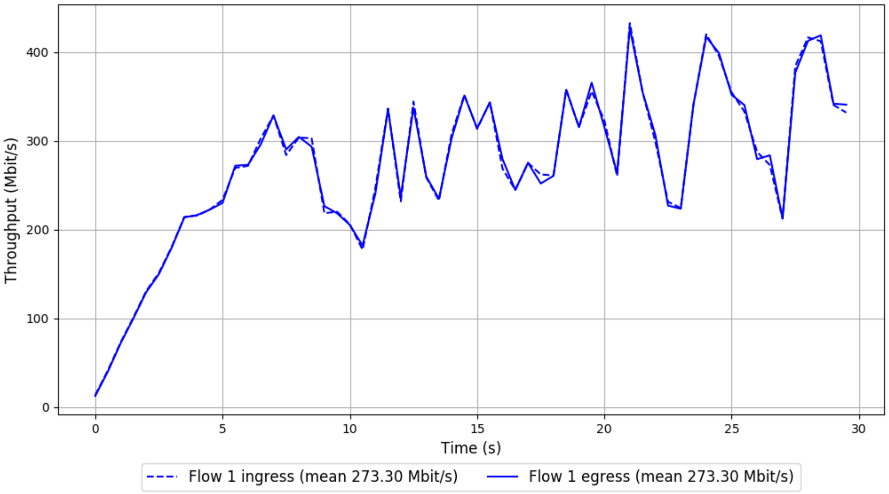


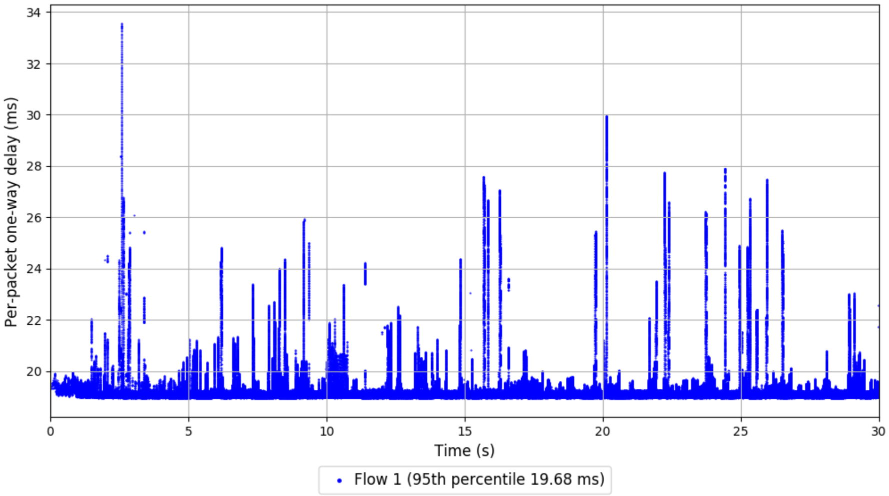
```
Run 8: Statistics of LEDBAT

Start at: 2017-08-21 23:53:58
End at: 2017-08-21 23:54:28
Local clock offset: 0.271 ms
Remote clock offset: -2.685 ms

# Below is generated by plot.py at 2017-08-22 03:03:26
# Datalink statistics
-- Total of 1 flow:
Average throughput: 273.30 Mbit/s
95th percentile per-packet one-way delay: 19.675 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 273.30 Mbit/s
95th percentile per-packet one-way delay: 19.675 ms
Loss rate: 0.00%
```

Run 8: Report of LEDBAT — Data Link



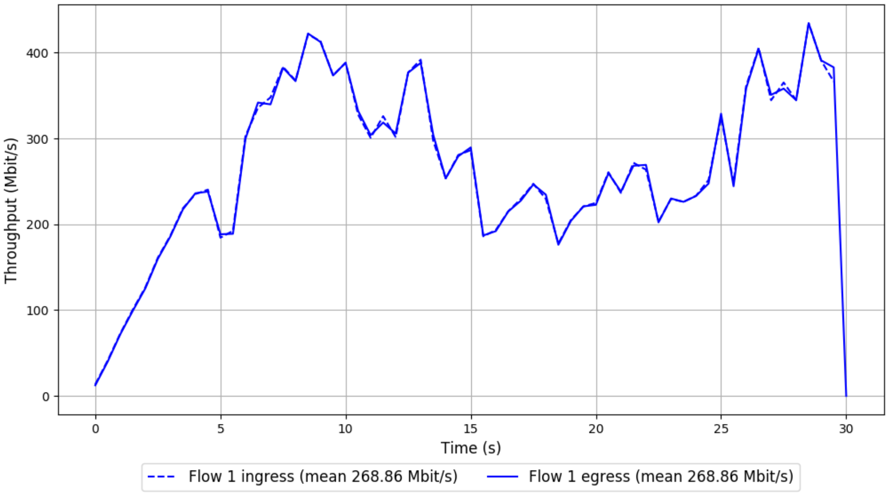


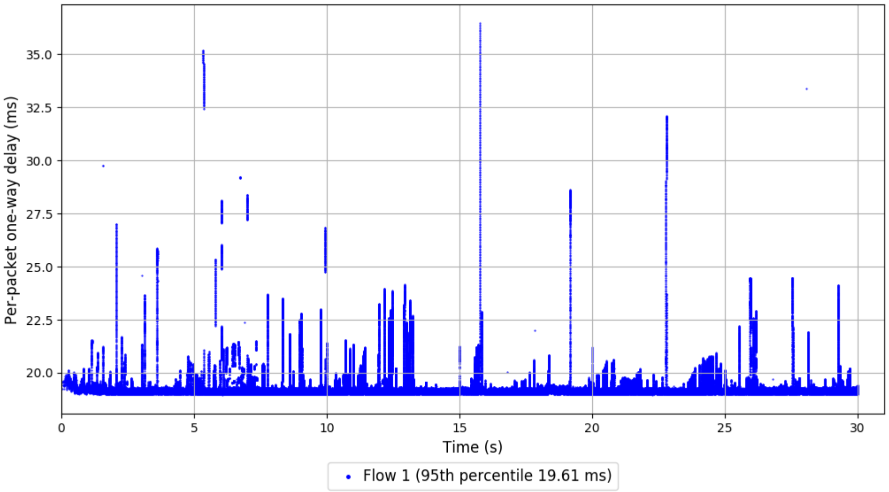
```
Run 9: Statistics of LEDBAT

Start at: 2017-08-22 00:14:10
End at: 2017-08-22 00:14:40
Local clock offset: 0.298 ms
Remote clock offset: -2.757 ms

# Below is generated by plot.py at 2017-08-22 03:03:42
# Datalink statistics
-- Total of 1 flow:
Average throughput: 268.86 Mbit/s
95th percentile per-packet one-way delay: 19.606 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 268.86 Mbit/s
95th percentile per-packet one-way delay: 19.606 ms
Loss rate: 0.00%
```

Run 9: Report of LEDBAT — Data Link



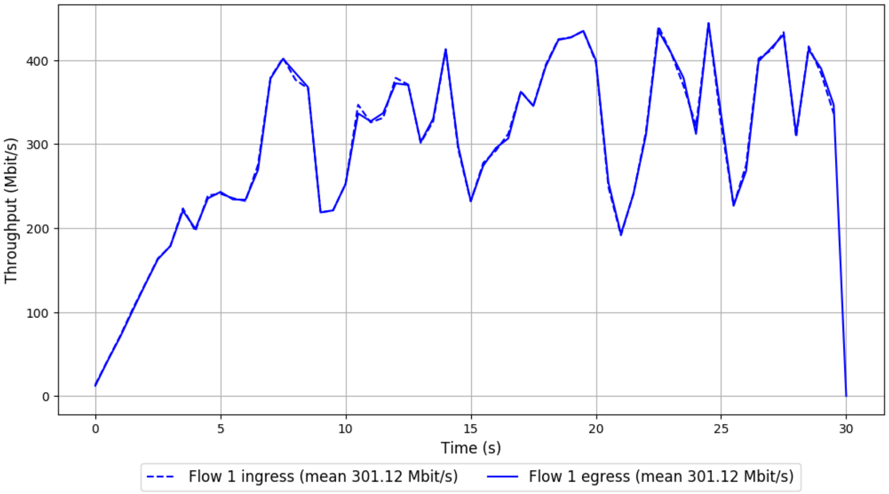


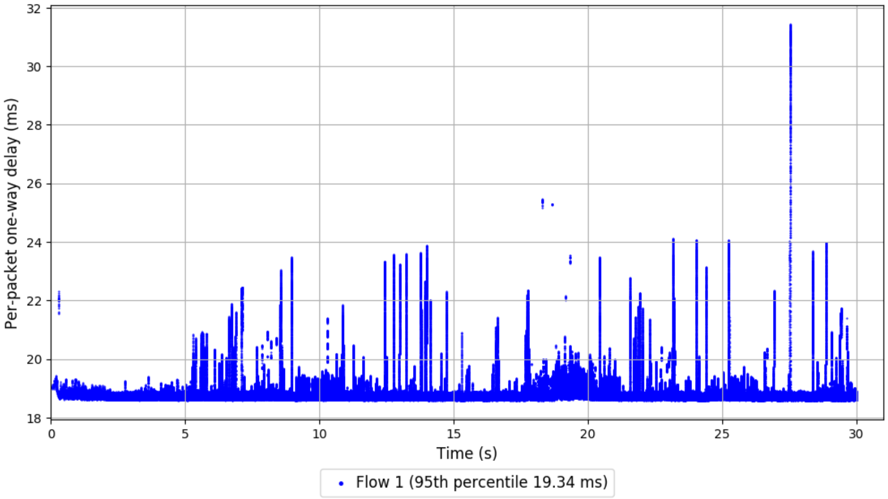
```
Run 10: Statistics of LEDBAT

Start at: 2017-08-22 00:34:42
End at: 2017-08-22 00:35:12
Local clock offset: 0.562 ms
Remote clock offset: -2.514 ms

# Below is generated by plot.py at 2017-08-22 03:04:04
# Datalink statistics
-- Total of 1 flow:
Average throughput: 301.12 Mbit/s
95th percentile per-packet one-way delay: 19.337 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 301.12 Mbit/s
95th percentile per-packet one-way delay: 19.337 ms
Loss rate: 0.00%
```

Run 10: Report of LEDBAT — Data Link



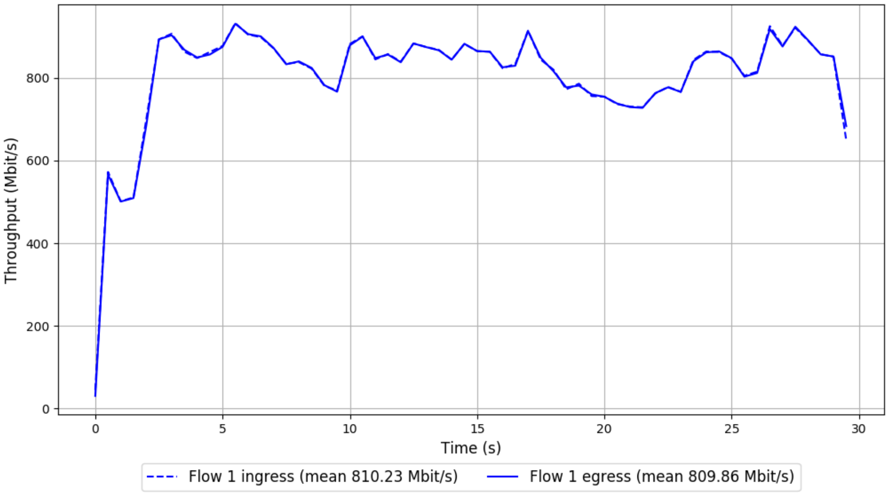


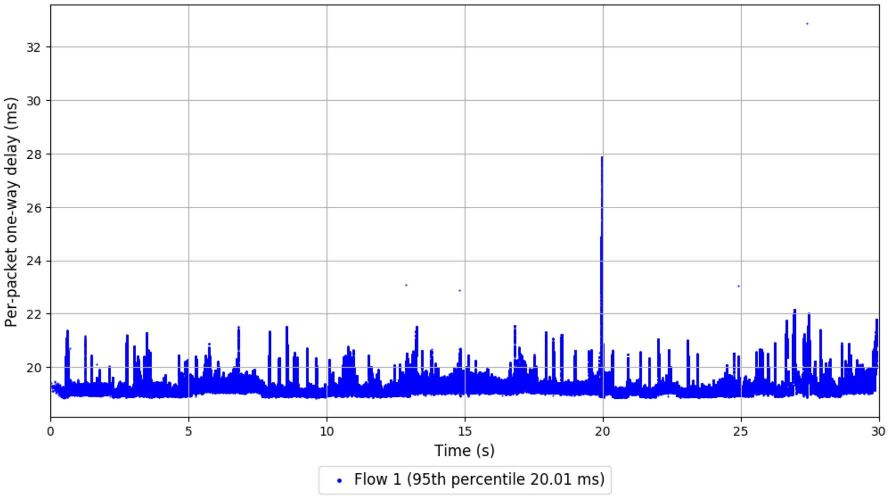
```
Run 1: Statistics of PCC

Start at: 2017-08-21 21:16:31
End at: 2017-08-21 21:17:01
Local clock offset: 0.499 ms
Remote clock offset: -2.029 ms

# Below is generated by plot.py at 2017-08-22 03:05:08
# Datalink statistics
-- Total of 1 flow:
Average throughput: 809.86 Mbit/s
95th percentile per-packet one-way delay: 20.009 ms
Loss rate: 0.05%
-- Flow 1:
Average throughput: 809.86 Mbit/s
95th percentile per-packet one-way delay: 20.009 ms
Loss rate: 0.05%
```

Run 1: Report of PCC — Data Link



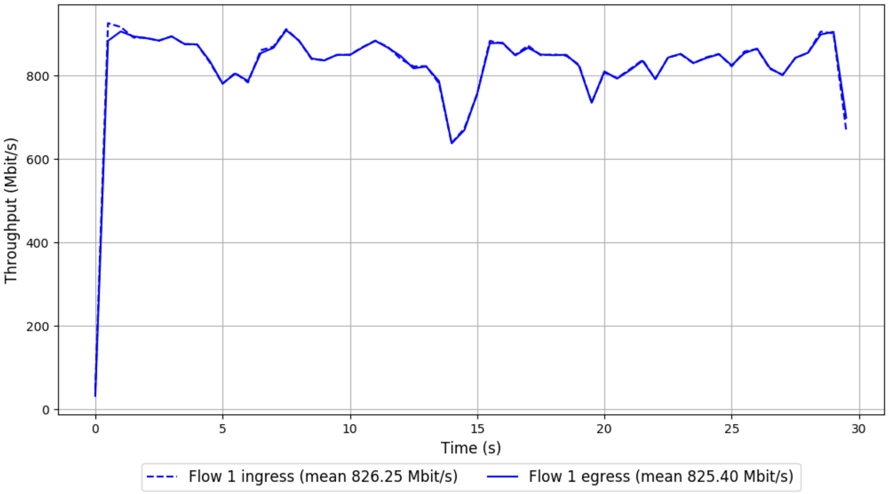


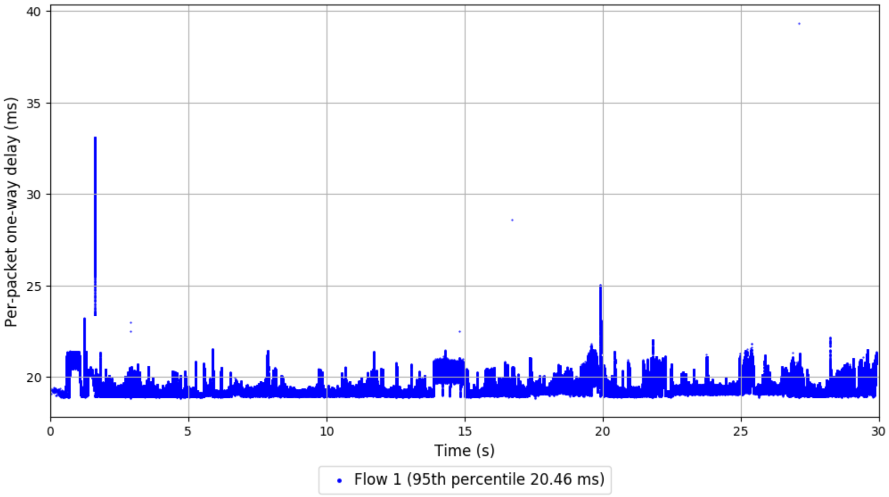
```
Run 2: Statistics of PCC

Start at: 2017-08-21 21:36:42
End at: 2017-08-21 21:37:12
Local clock offset: 0.482 ms
Remote clock offset: -2.008 ms

# Below is generated by plot.py at 2017-08-22 03:05:45
# Datalink statistics
-- Total of 1 flow:
Average throughput: 825.40 Mbit/s
95th percentile per-packet one-way delay: 20.462 ms
Loss rate: 0.12%
-- Flow 1:
Average throughput: 825.40 Mbit/s
95th percentile per-packet one-way delay: 20.462 ms
Loss rate: 0.12%
```

Run 2: Report of PCC — Data Link



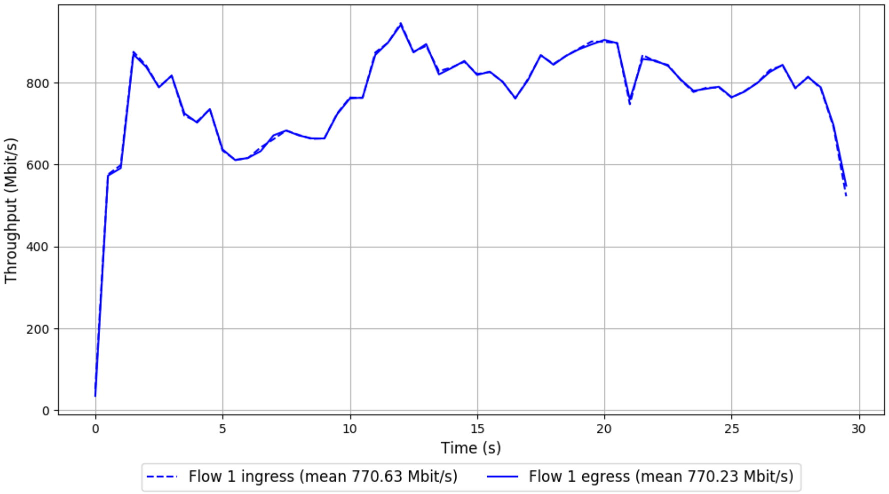


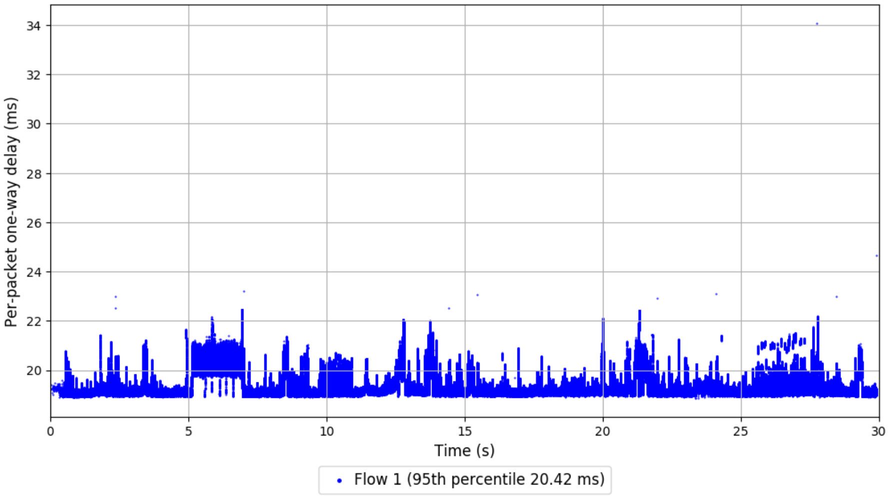
```
Run 3: Statistics of PCC

Start at: 2017-08-21 21:57:02
End at: 2017-08-21 21:57:32
Local clock offset: 0.497 ms
Remote clock offset: -2.147 ms

# Below is generated by plot.py at 2017-08-22 03:06:46
# Datalink statistics
-- Total of 1 flow:
Average throughput: 770.23 Mbit/s
95th percentile per-packet one-way delay: 20.417 ms
Loss rate: 0.05%
-- Flow 1:
Average throughput: 770.23 Mbit/s
95th percentile per-packet one-way delay: 20.417 ms
Loss rate: 0.05%
```

Run 3: Report of PCC — Data Link



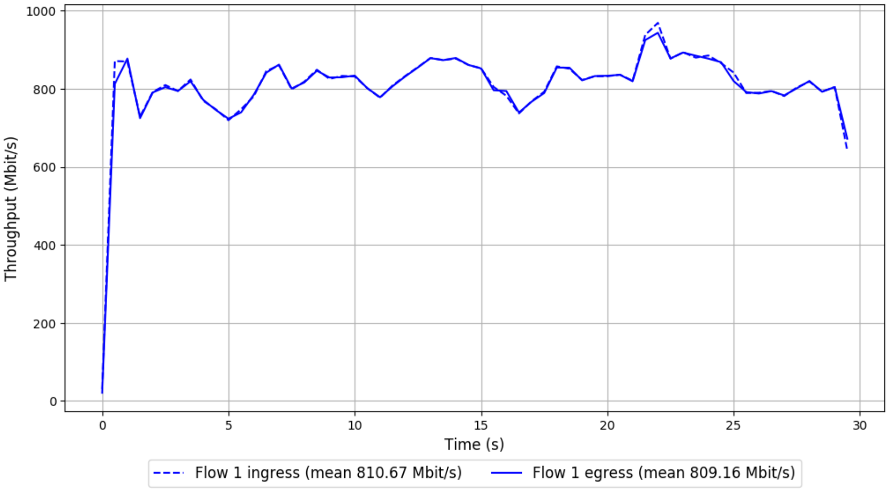


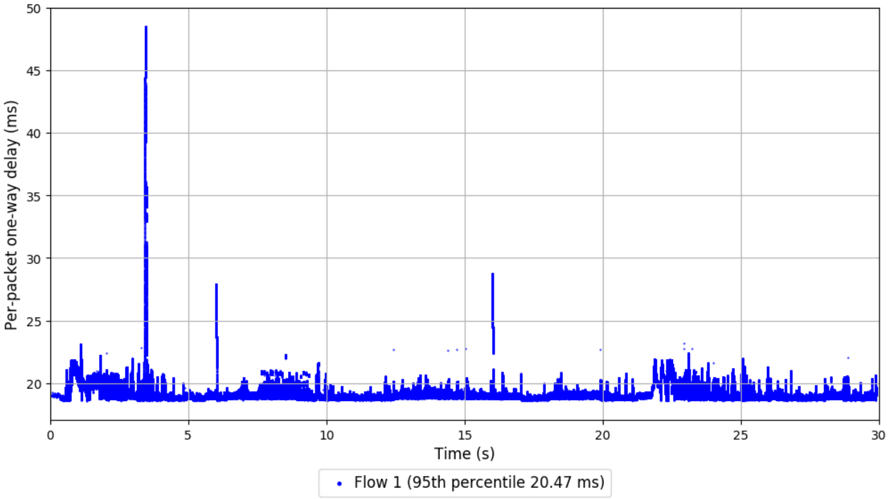
```
Run 4: Statistics of PCC

Start at: 2017-08-21 22:17:10
End at: 2017-08-21 22:17:40
Local clock offset: 0.559 ms
Remote clock offset: -2.239 ms

# Below is generated by plot.py at 2017-08-22 03:07:24
# Datalink statistics
-- Total of 1 flow:
Average throughput: 809.16 Mbit/s
95th percentile per-packet one-way delay: 20.469 ms
Loss rate: 0.23%
-- Flow 1:
Average throughput: 809.16 Mbit/s
95th percentile per-packet one-way delay: 20.469 ms
Loss rate: 0.23%
```

Run 4: Report of PCC — Data Link



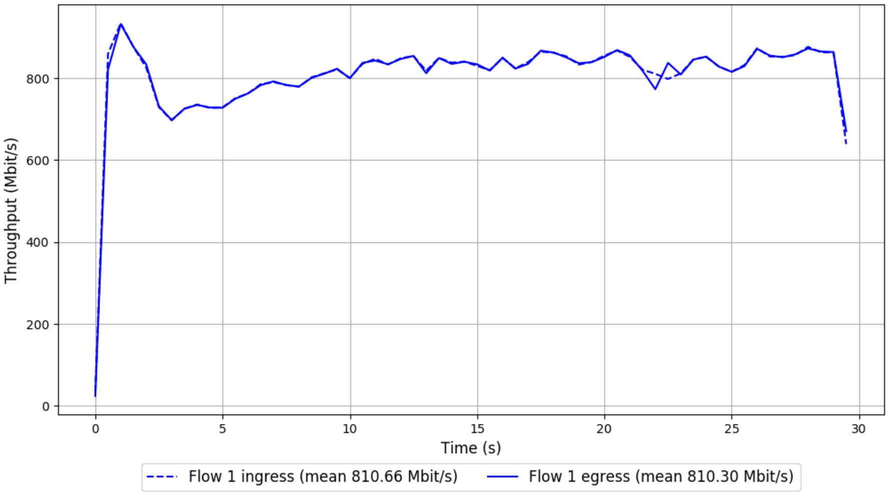


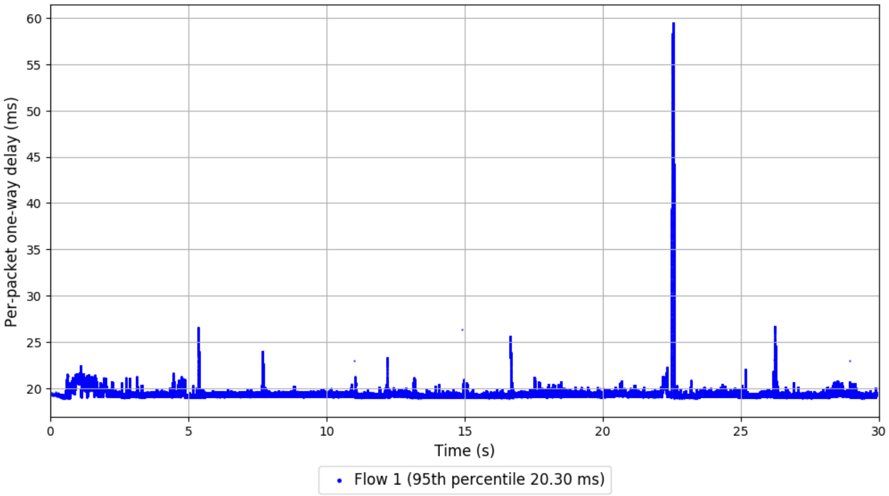
```
Run 5: Statistics of PCC

Start at: 2017-08-21 22:37:29
End at: 2017-08-21 22:38:00
Local clock offset: 0.588 ms
Remote clock offset: -2.424 ms

# Below is generated by plot.py at 2017-08-22 03:08:51
# Datalink statistics
-- Total of 1 flow:
Average throughput: 810.30 Mbit/s
95th percentile per-packet one-way delay: 20.300 ms
Loss rate: 0.06%
-- Flow 1:
Average throughput: 810.30 Mbit/s
95th percentile per-packet one-way delay: 20.300 ms
Loss rate: 0.06%
```

Run 5: Report of PCC — Data Link



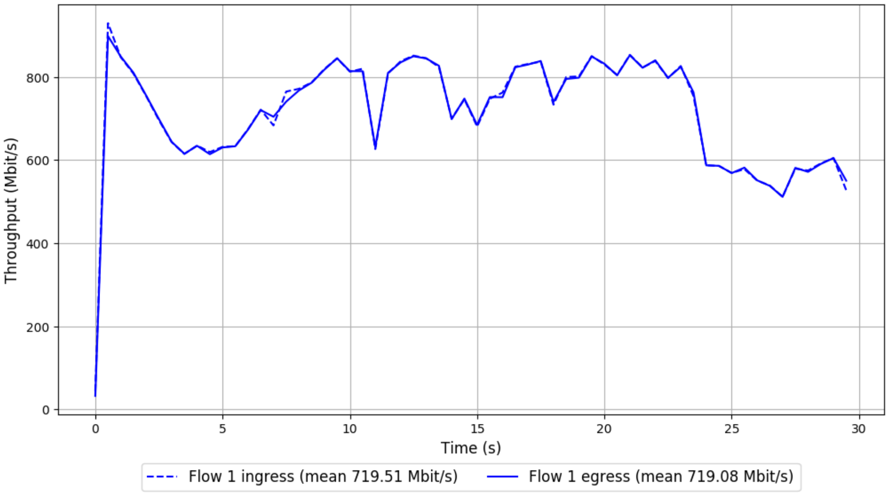


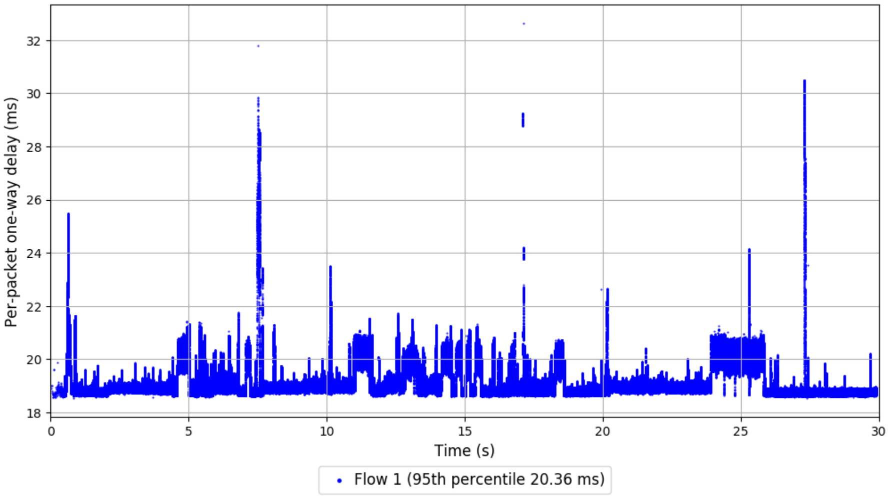
```
Run 6: Statistics of PCC

Start at: 2017-08-21 22:57:56
End at: 2017-08-21 22:58:26
Local clock offset: 0.626 ms
Remote clock offset: -2.146 ms

# Below is generated by plot.py at 2017-08-22 03:08:56
# Datalink statistics
-- Total of 1 flow:
Average throughput: 719.08 Mbit/s
95th percentile per-packet one-way delay: 20.364 ms
Loss rate: 0.06%
-- Flow 1:
Average throughput: 719.08 Mbit/s
95th percentile per-packet one-way delay: 20.364 ms
Loss rate: 0.06%
```

Run 6: Report of PCC — Data Link



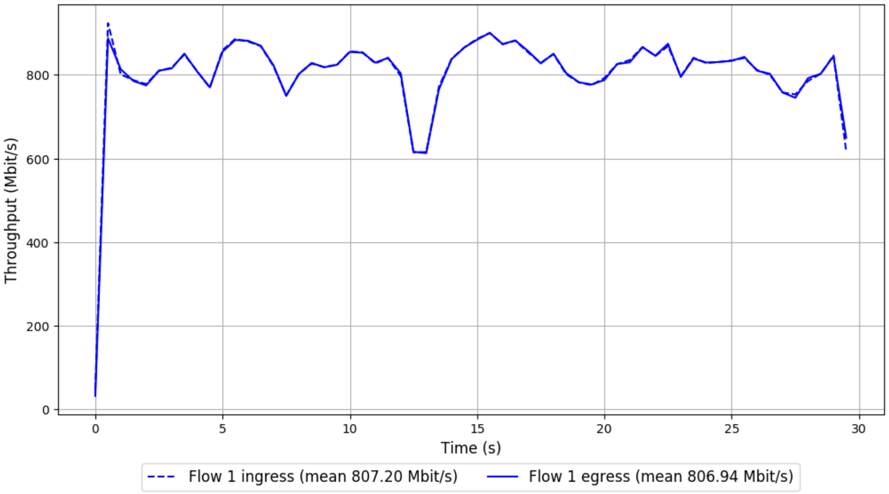


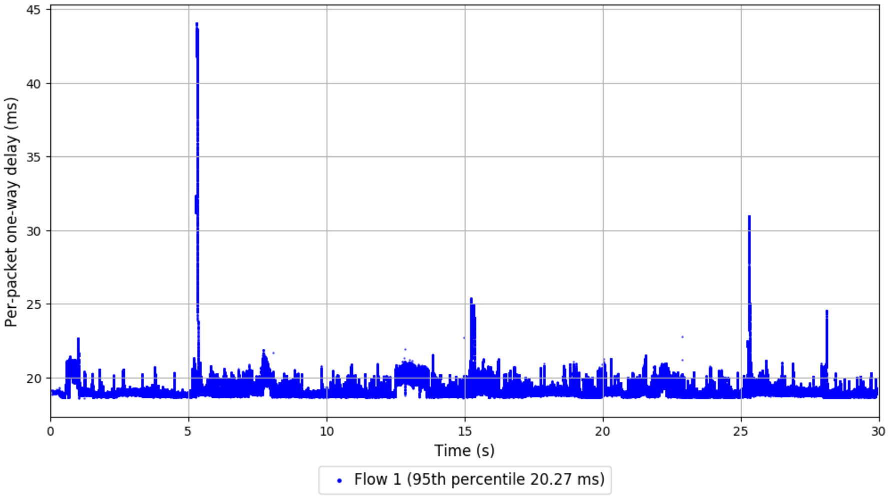
```
Run 7: Statistics of PCC

Start at: 2017-08-21 23:17:53
End at: 2017-08-21 23:18:24
Local clock offset: 0.504 ms
Remote clock offset: -2.403 ms

# Below is generated by plot.py at 2017-08-22 03:10:32
# Datalink statistics
-- Total of 1 flow:
Average throughput: 806.94 Mbit/s
95th percentile per-packet one-way delay: 20.269 ms
Loss rate: 0.03%
-- Flow 1:
Average throughput: 806.94 Mbit/s
95th percentile per-packet one-way delay: 20.269 ms
Loss rate: 0.03%
```

Run 7: Report of PCC — Data Link



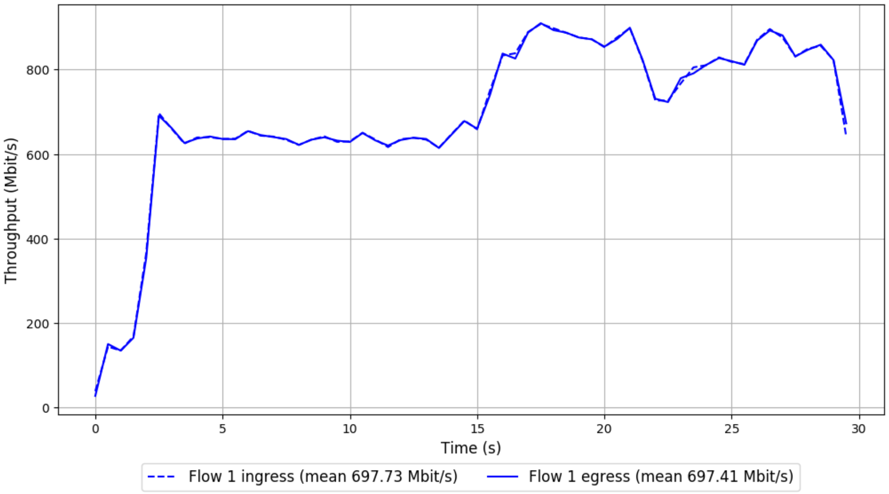


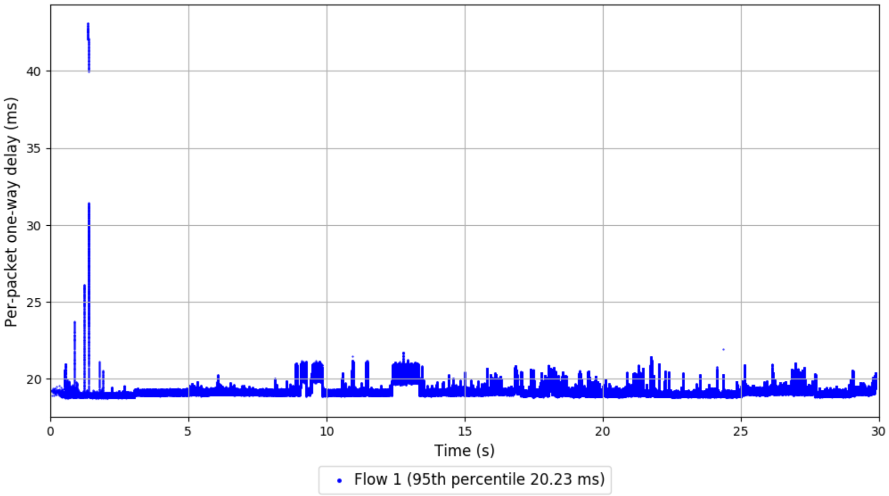
```
Run 8: Statistics of PCC

Start at: 2017-08-21 23:38:01
End at: 2017-08-21 23:38:31
Local clock offset: 0.412 ms
Remote clock offset: -2.461 ms

# Below is generated by plot.py at 2017-08-22 03:10:32
# Datalink statistics
-- Total of 1 flow:
Average throughput: 697.41 Mbit/s
95th percentile per-packet one-way delay: 20.229 ms
Loss rate: 0.04%
-- Flow 1:
Average throughput: 697.41 Mbit/s
95th percentile per-packet one-way delay: 20.229 ms
Loss rate: 0.04%
```

Run 8: Report of PCC — Data Link



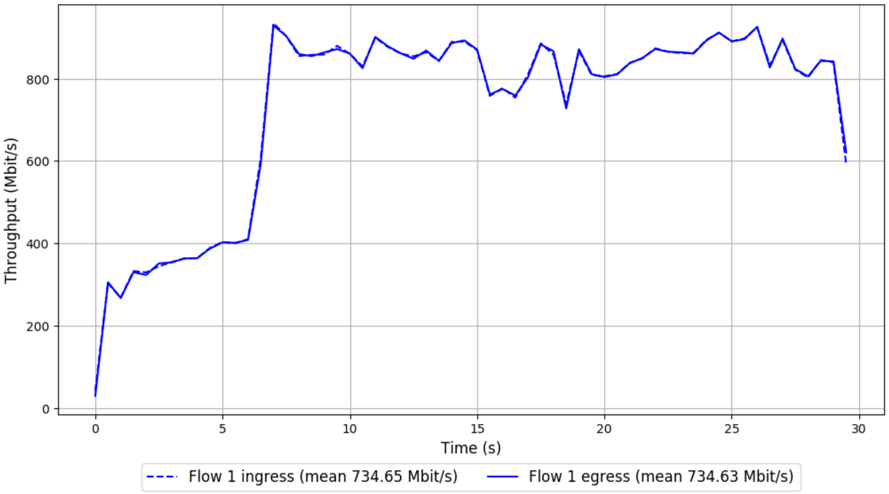


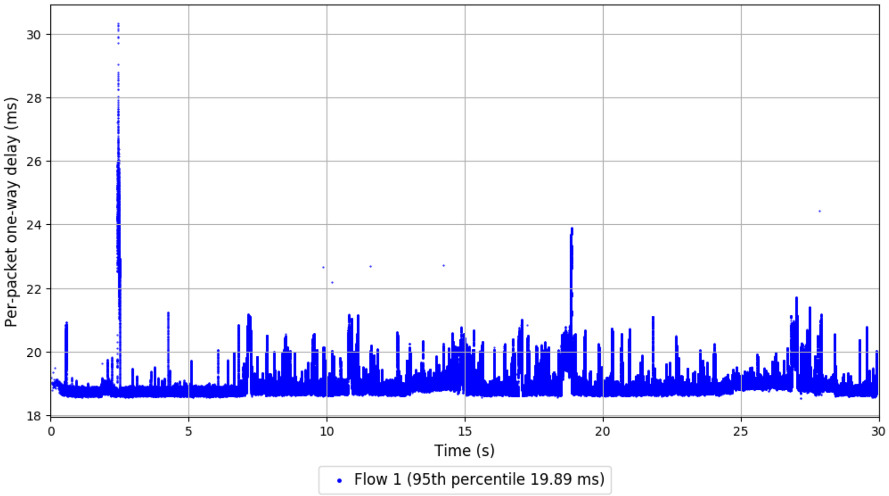
```
Run 9: Statistics of PCC

Start at: 2017-08-21 23:58:01
End at: 2017-08-21 23:58:31
Local clock offset: 0.334 ms
Remote clock offset: -2.725 ms

# Below is generated by plot.py at 2017-08-22 03:11:58
# Datalink statistics
-- Total of 1 flow:
Average throughput: 734.63 Mbit/s
95th percentile per-packet one-way delay: 19.894 ms
Loss rate: 0.02%
-- Flow 1:
Average throughput: 734.63 Mbit/s
95th percentile per-packet one-way delay: 19.894 ms
Loss rate: 0.02%
```

Run 9: Report of PCC — Data Link



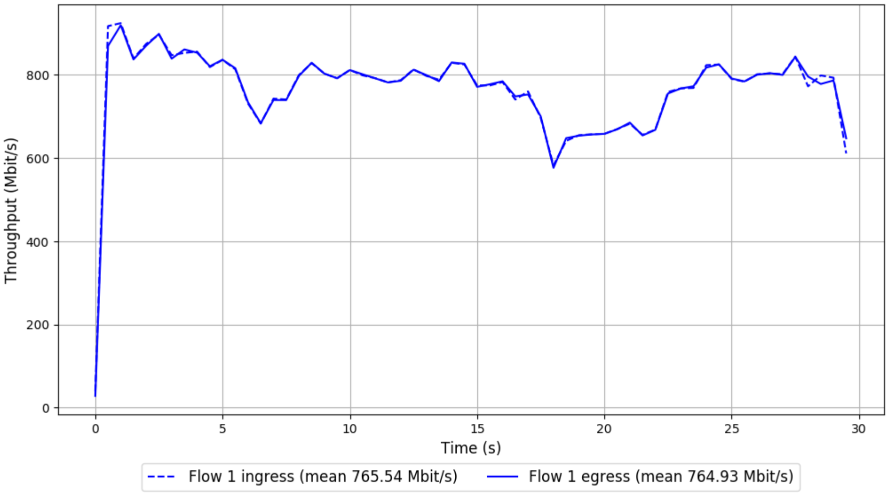


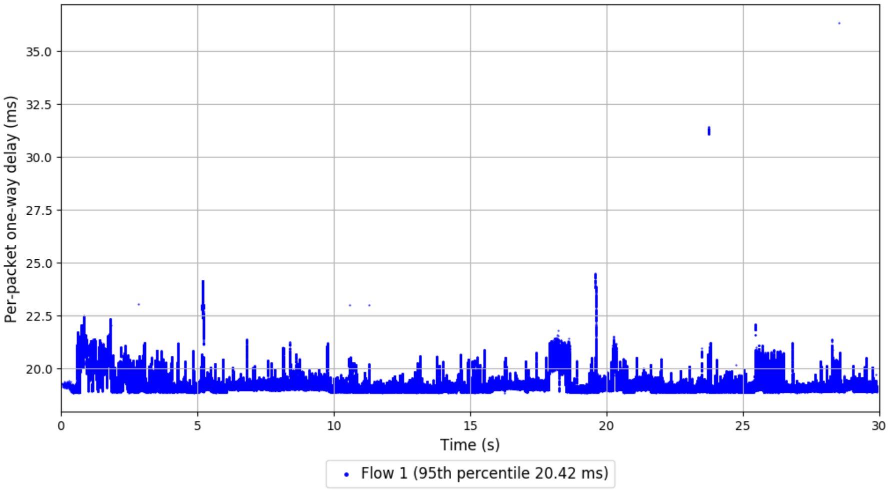
```
Run 10: Statistics of PCC

Start at: 2017-08-22 00:18:12
End at: 2017-08-22 00:18:42
Local clock offset: 0.443 ms
Remote clock offset: -2.777 ms

# Below is generated by plot.py at 2017-08-22 03:12:12
# Datalink statistics
-- Total of 1 flow:
Average throughput: 764.93 Mbit/s
95th percentile per-packet one-way delay: 20.420 ms
Loss rate: 0.08%
-- Flow 1:
Average throughput: 764.93 Mbit/s
95th percentile per-packet one-way delay: 20.420 ms
Loss rate: 0.08%
```

Run 10: Report of PCC — Data Link

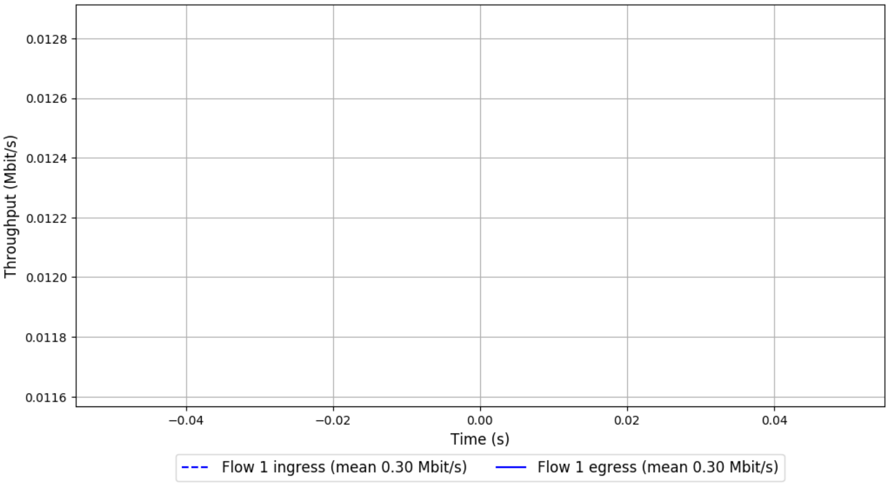


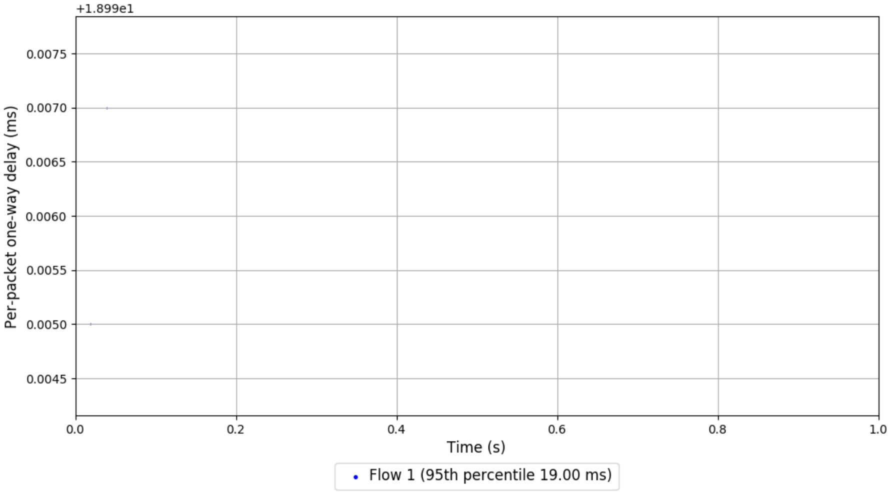


```
Run 1: Statistics of QUIC Cubic

Start at: 2017-08-21 21:24:52
End at: 2017-08-21 21:25:22
Local clock offset: 0.403 ms
Remote clock offset: -2.123 ms
```

Run 1: Report of QUIC Cubic — Data Link

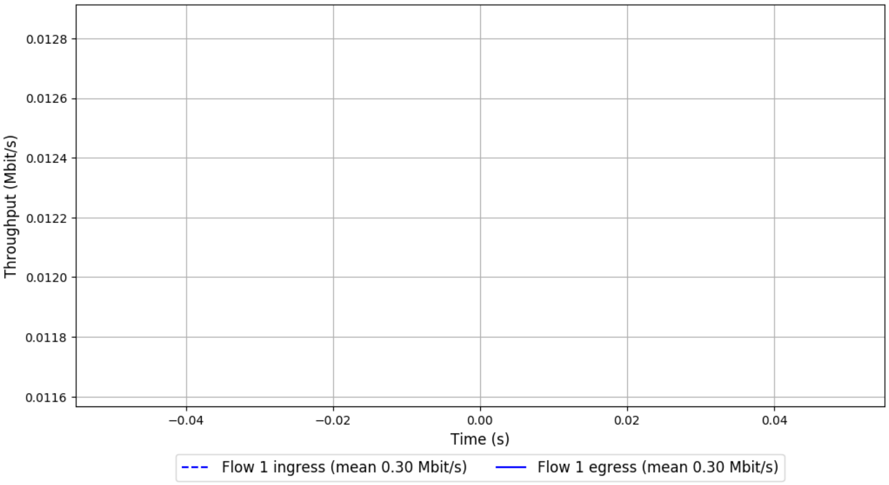


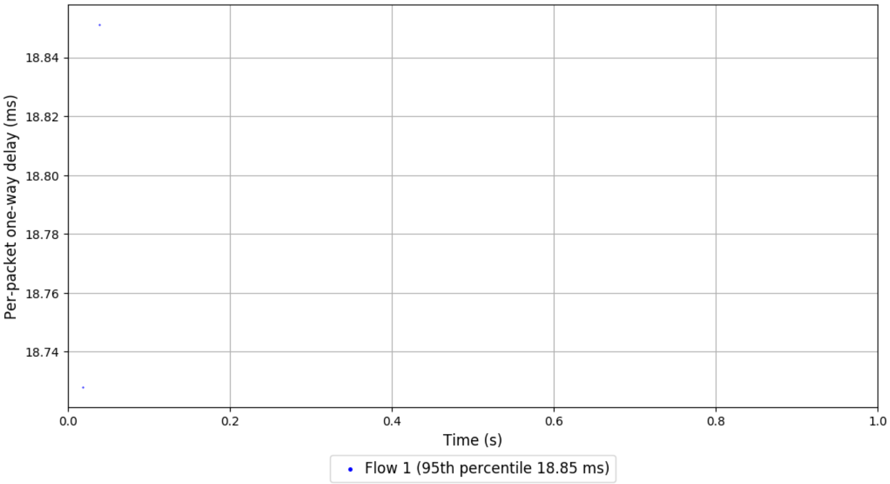


```
Run 2: Statistics of QUIC Cubic

Start at: 2017-08-21 21:44:57
End at: 2017-08-21 21:45:27
Local clock offset: 0.598 ms
Remote clock offset: -1.83 ms
```

Run 2: Report of QUIC Cubic — Data Link



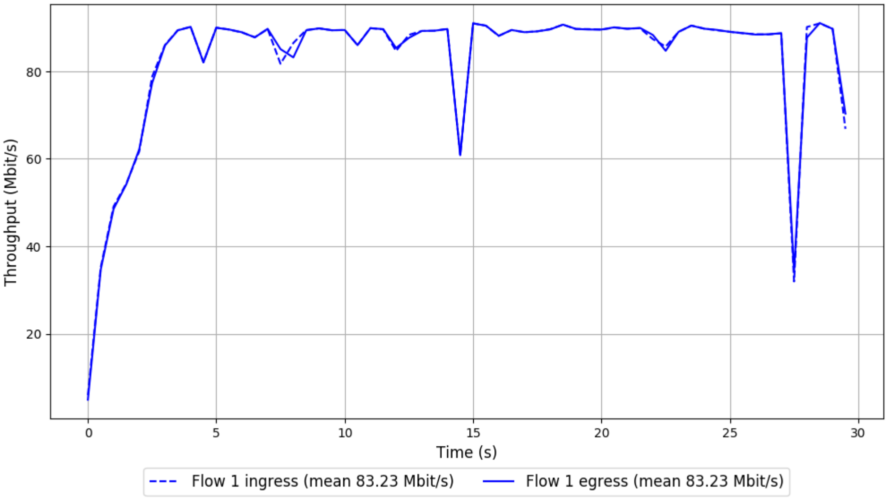


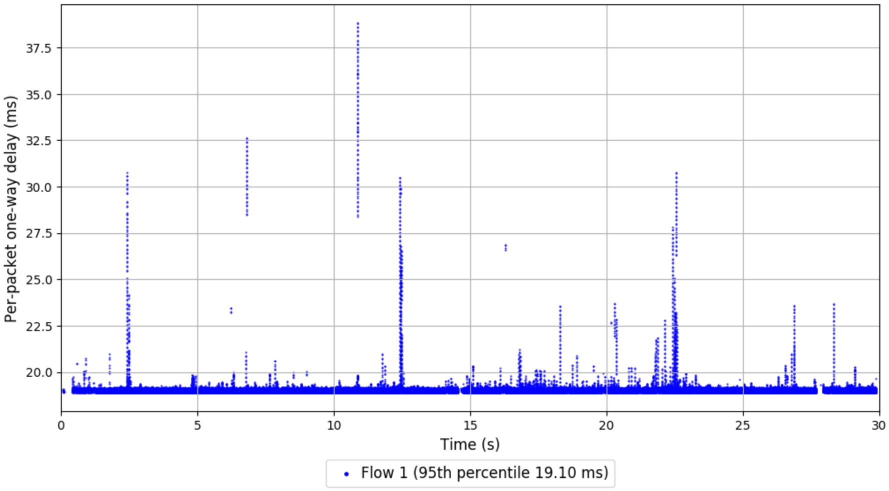
```
Run 3: Statistics of QUIC Cubic

Start at: 2017-08-21 22:05:13
End at: 2017-08-21 22:05:43
Local clock offset: 0.499 ms
Remote clock offset: -2.29 ms

# Below is generated by plot.py at 2017-08-22 03:12:12
# Datalink statistics
-- Total of 1 flow:
Average throughput: 83.23 Mbit/s
95th percentile per-packet one-way delay: 19.097 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 83.23 Mbit/s
95th percentile per-packet one-way delay: 19.097 ms
Loss rate: 0.00%
```

Run 3: Report of QUIC Cubic — Data Link



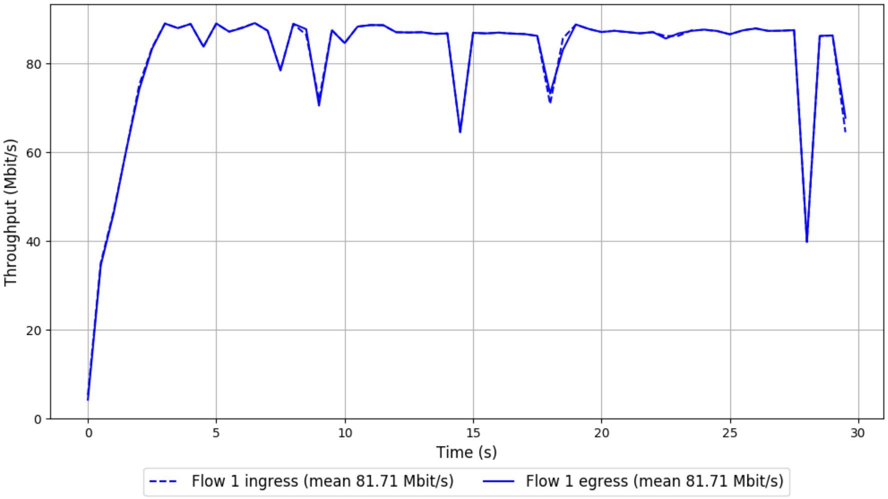


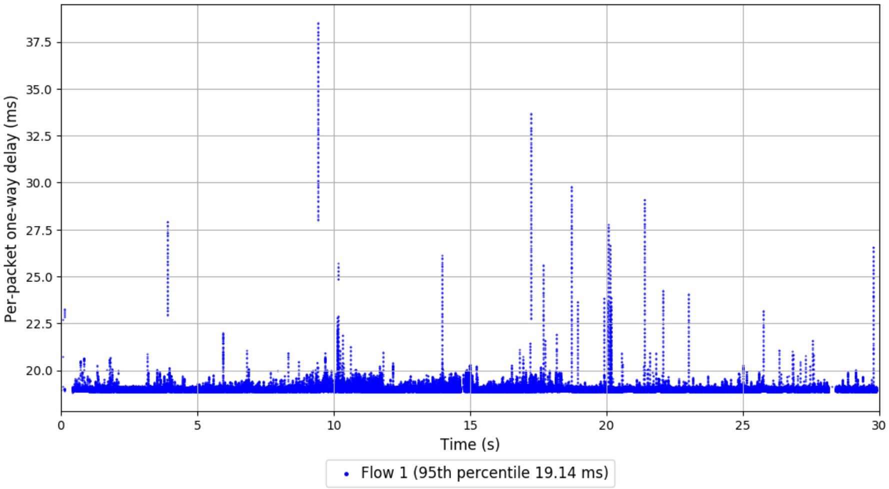
```
Run 4: Statistics of QUIC Cubic

Start at: 2017-08-21 22:25:26
End at: 2017-08-21 22:25:56
Local clock offset: 0.537 ms
Remote clock offset: -2.397 ms

# Below is generated by plot.py at 2017-08-22 03:12:19
# Datalink statistics
-- Total of 1 flow:
Average throughput: 81.71 Mbit/s
95th percentile per-packet one-way delay: 19.141 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 81.71 Mbit/s
95th percentile per-packet one-way delay: 19.141 ms
Loss rate: 0.00%
```

Run 4: Report of QUIC Cubic — Data Link



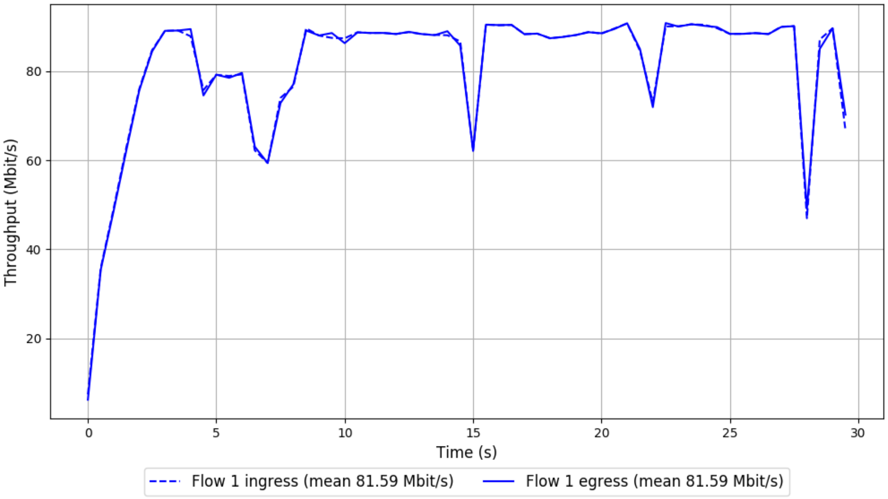


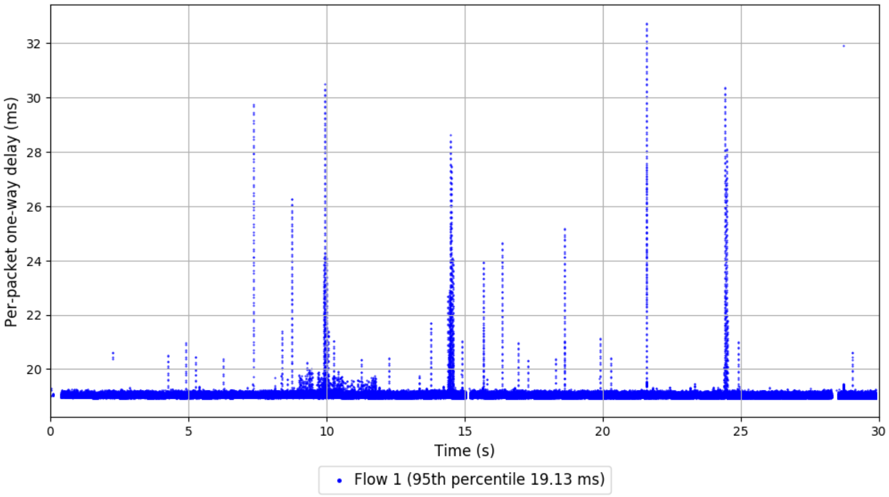
```
Run 5: Statistics of QUIC Cubic

Start at: 2017-08-21 22:45:51
End at: 2017-08-21 22:46:21
Local clock offset: 0.542 ms
Remote clock offset: -2.304 ms

# Below is generated by plot.py at 2017-08-22 03:12:24
# Datalink statistics
-- Total of 1 flow:
Average throughput: 81.59 Mbit/s
95th percentile per-packet one-way delay: 19.131 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 81.59 Mbit/s
95th percentile per-packet one-way delay: 19.131 ms
Loss rate: 0.00%
```

Run 5: Report of QUIC Cubic — Data Link

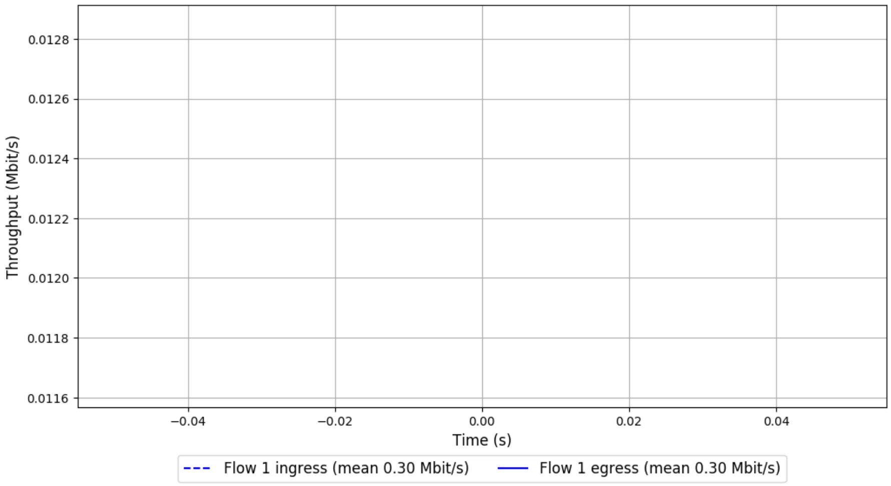


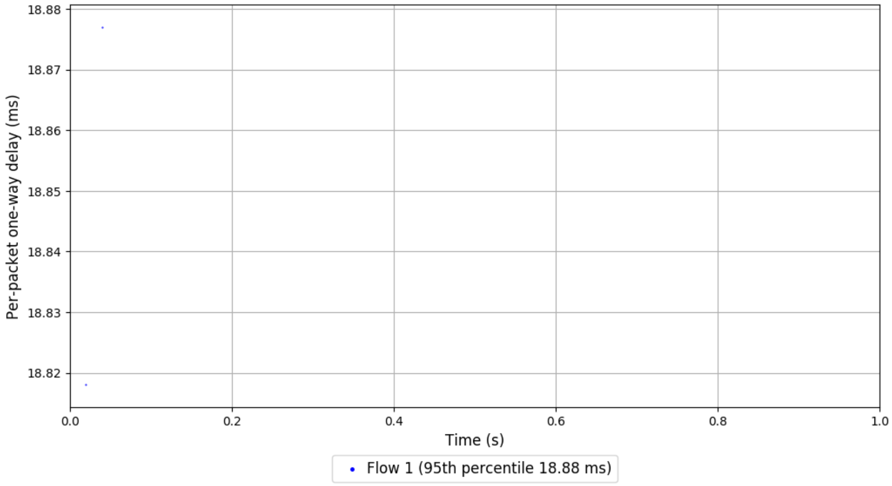


```
Run 6: Statistics of QUIC Cubic

Start at: 2017-08-21 23:06:10
End at: 2017-08-21 23:06:40
Local clock offset: 0.568 ms
Remote clock offset: -2.236 ms
```

Run 6: Report of QUIC Cubic — Data Link



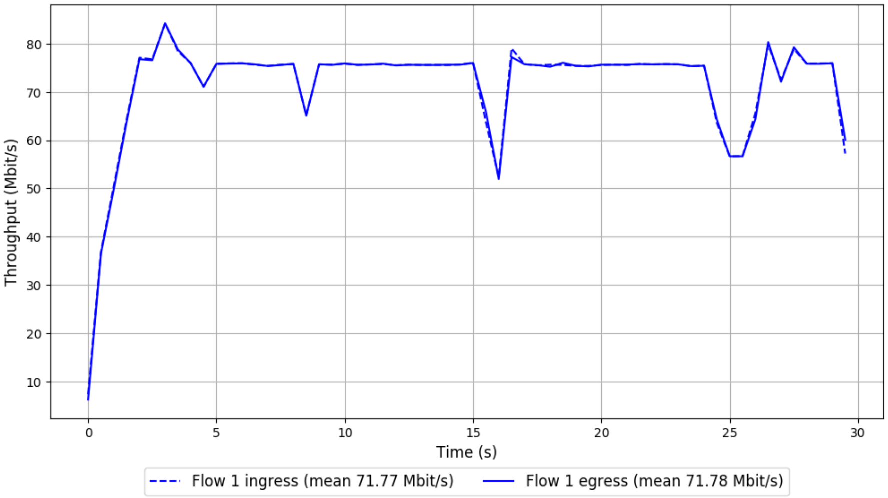


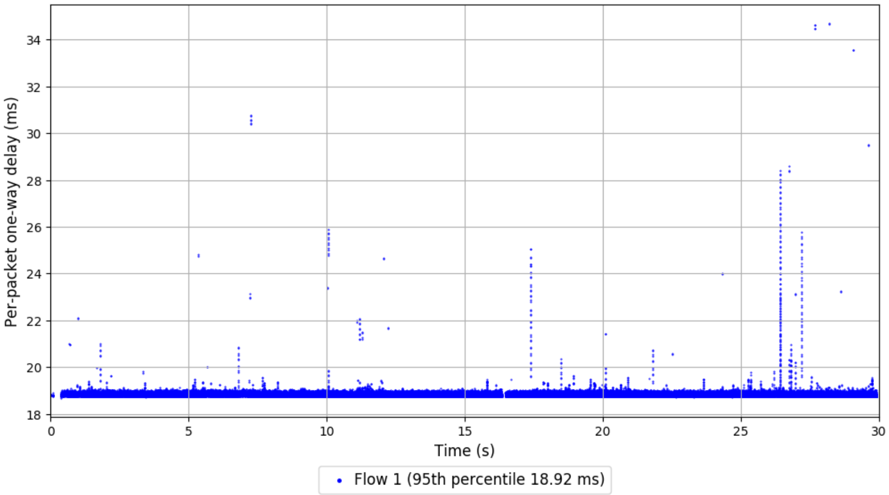
```
Run 7: Statistics of QUIC Cubic

Start at: 2017-08-21 23:26:10
End at: 2017-08-21 23:26:40
Local clock offset: 0.354 ms
Remote clock offset: -2.316 ms

# Below is generated by plot.py at 2017-08-22 03:12:30
# Datalink statistics
-- Total of 1 flow:
Average throughput: 71.78 Mbit/s
95th percentile per-packet one-way delay: 18.919 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 71.78 Mbit/s
95th percentile per-packet one-way delay: 18.919 ms
Loss rate: 0.00%
```

Run 7: Report of QUIC Cubic — Data Link



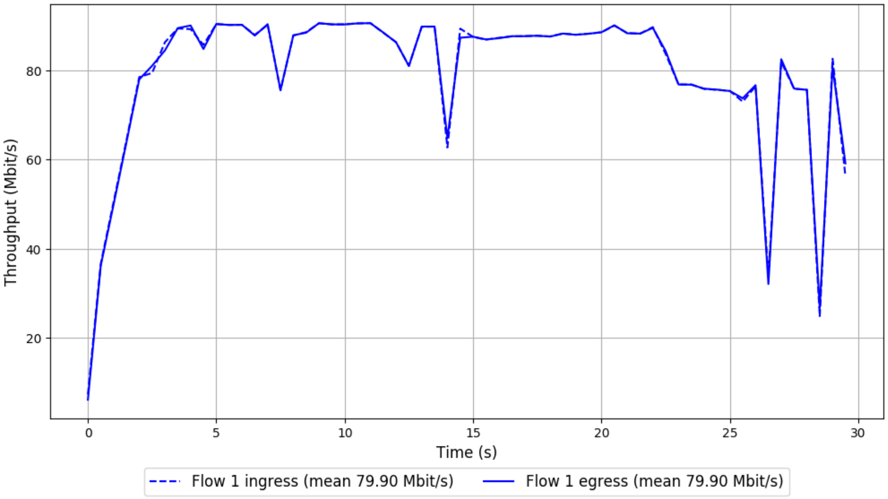


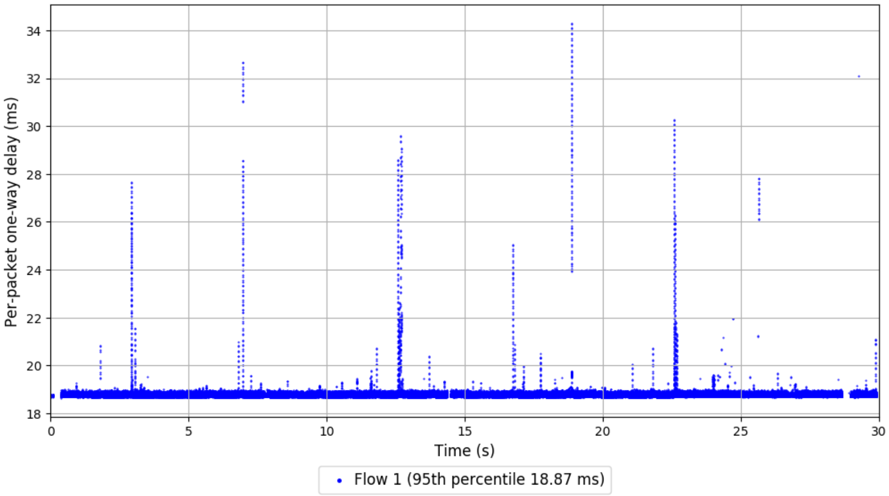
```
Run 8: Statistics of QUIC Cubic

Start at: 2017-08-21 23:46:04
End at: 2017-08-21 23:46:34
Local clock offset: 0.376 ms
Remote clock offset: -2.512 ms

# Below is generated by plot.py at 2017-08-22 03:12:35
# Datalink statistics
-- Total of 1 flow:
Average throughput: 79.90 Mbit/s
95th percentile per-packet one-way delay: 18.866 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 79.90 Mbit/s
95th percentile per-packet one-way delay: 18.866 ms
Loss rate: 0.00%
```

Run 8: Report of QUIC Cubic — Data Link



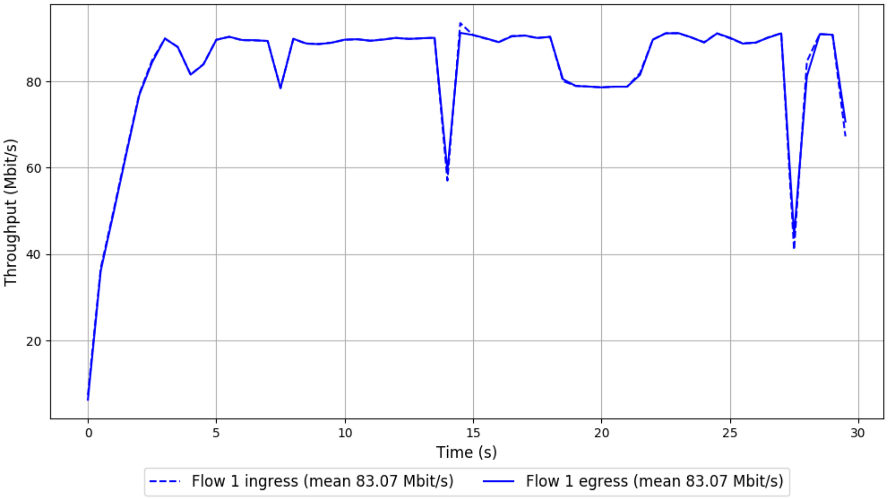


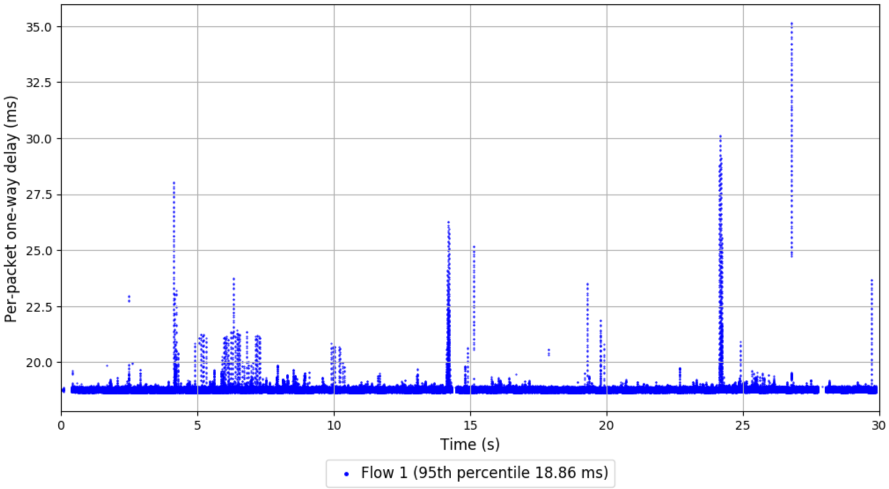
```
Run 9: Statistics of QUIC Cubic

Start at: 2017-08-22 00:06:03
End at: 2017-08-22 00:06:33
Local clock offset: 0.367 ms
Remote clock offset: -2.641 ms

# Below is generated by plot.py at 2017-08-22 03:12:45
# Datalink statistics
-- Total of 1 flow:
Average throughput: 83.07 Mbit/s
95th percentile per-packet one-way delay: 18.864 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 83.07 Mbit/s
95th percentile per-packet one-way delay: 18.864 ms
Loss rate: 0.00%
```

Run 9: Report of QUIC Cubic — Data Link



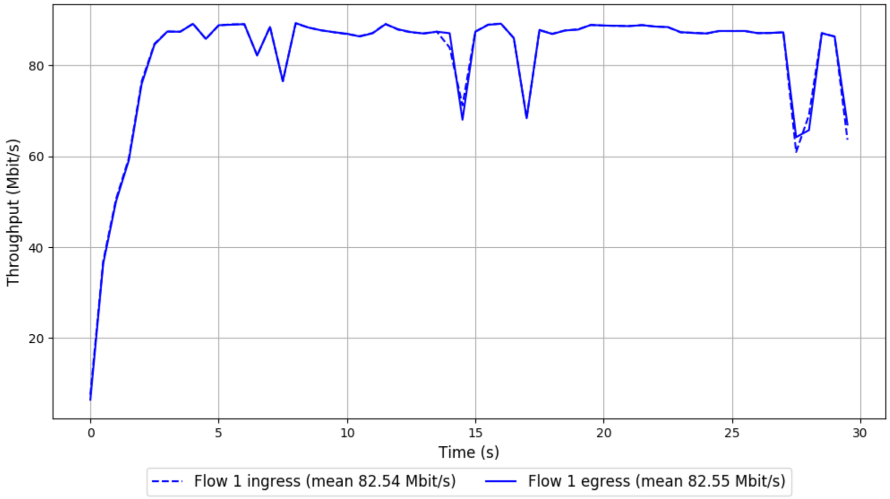


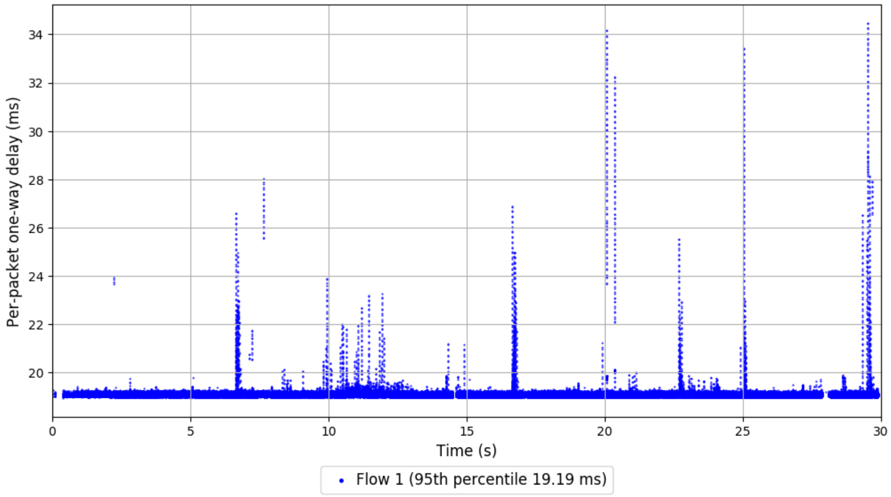
```
Run 10: Statistics of QUIC Cubic

Start at: 2017-08-22 00:26:30
End at: 2017-08-22 00:27:00
Local clock offset: 0.434 ms
Remote clock offset: -2.626 ms

# Below is generated by plot.py at 2017-08-22 03:12:46
# Datalink statistics
-- Total of 1 flow:
Average throughput: 82.55 Mbit/s
95th percentile per-packet one-way delay: 19.193 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 82.55 Mbit/s
95th percentile per-packet one-way delay: 19.193 ms
Loss rate: 0.00%
```

Run 10: Report of QUIC Cubic — Data Link

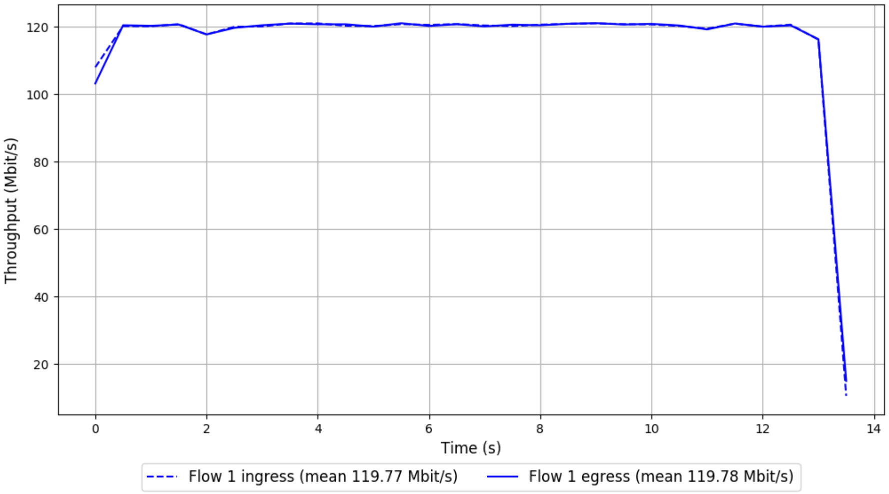


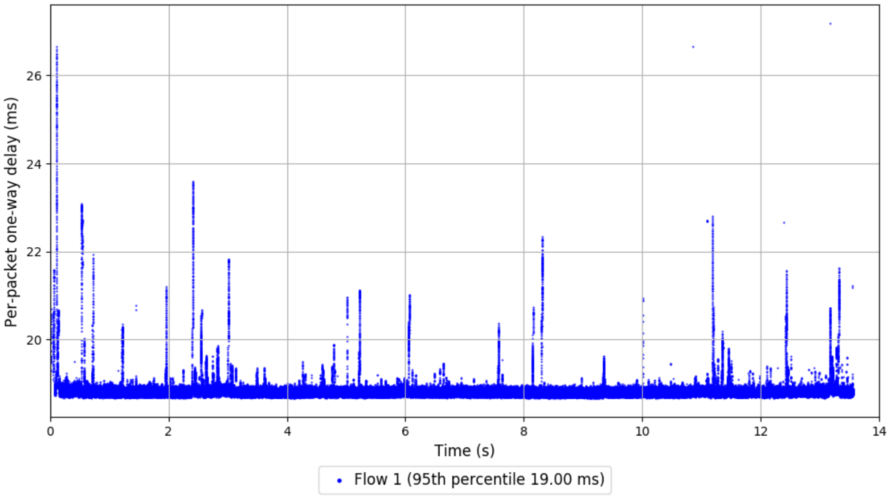


```
Run 1: Statistics of Saturator

Start at: 2017-08-21 21:31:31
End at: 2017-08-21 21:32:01
Local clock offset: 0.439 ms
Remote clock offset: -2.106 ms
```

Run 1: Report of Saturator — Data Link



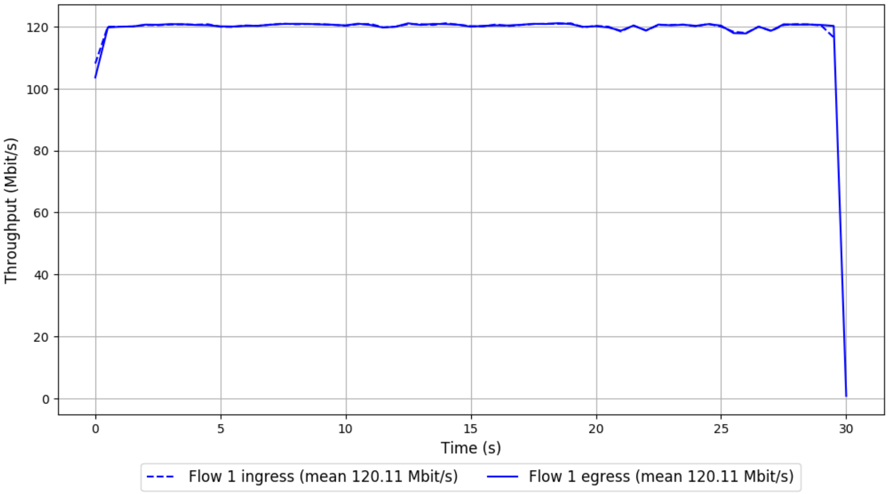


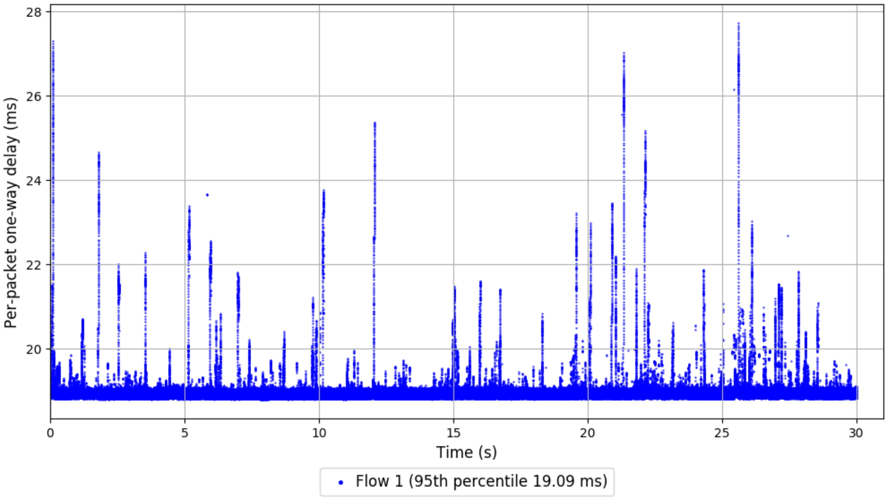
```
Run 2: Statistics of Saturator

Start at: 2017-08-21 21:51:39
End at: 2017-08-21 21:52:09
Local clock offset: 0.506 ms
Remote clock offset: -1.933 ms

# Below is generated by plot.py at 2017-08-22 03:12:59
# Datalink statistics
-- Total of 1 flow:
Average throughput: 120.11 Mbit/s
95th percentile per-packet one-way delay: 19.090 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 120.11 Mbit/s
95th percentile per-packet one-way delay: 19.090 ms
Loss rate: 0.00%
```

Run 2: Report of Saturator — Data Link



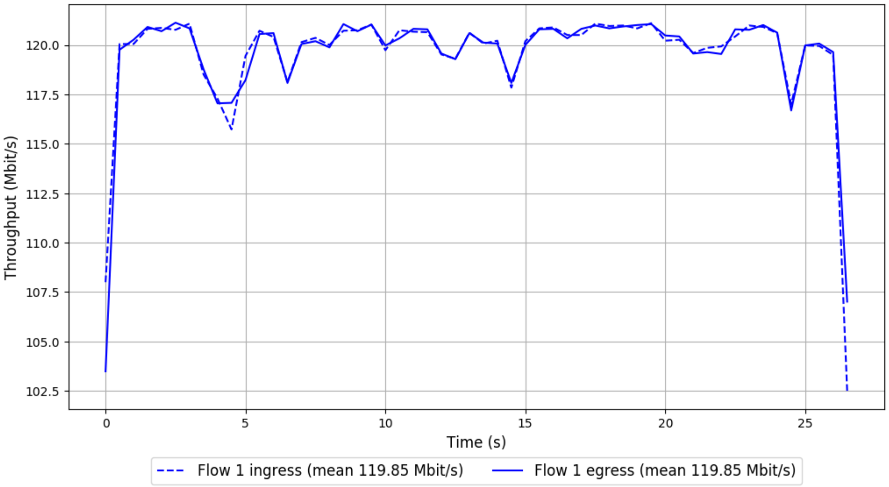


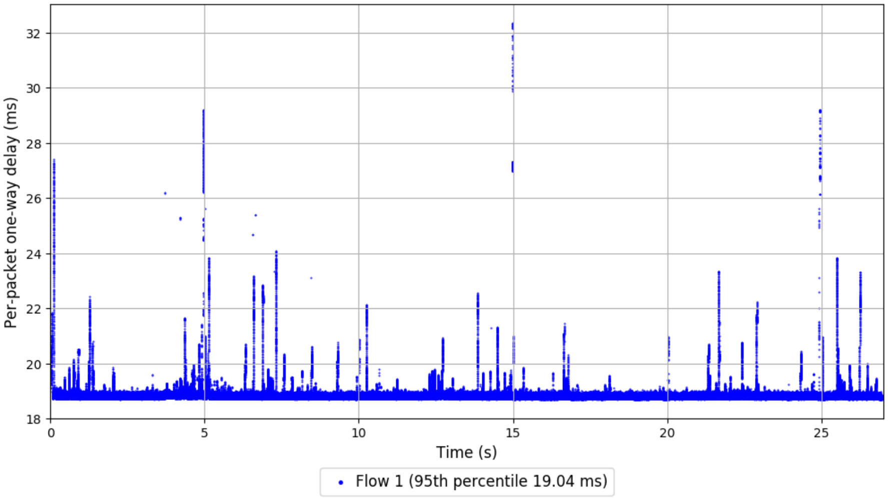
```
Run 3: Statistics of Saturator

Start at: 2017-08-21 22:11:53
End at: 2017-08-21 22:12:23
Local clock offset: 0.472 ms
Remote clock offset: -2.363 ms

# Below is generated by plot.py at 2017-08-22 03:13:05
# Datalink statistics
-- Total of 1 flow:
Average throughput: 119.85 Mbit/s
95th percentile per-packet one-way delay: 19.035 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 119.85 Mbit/s
95th percentile per-packet one-way delay: 19.035 ms
Loss rate: 0.00%
```

Run 3: Report of Saturator — Data Link



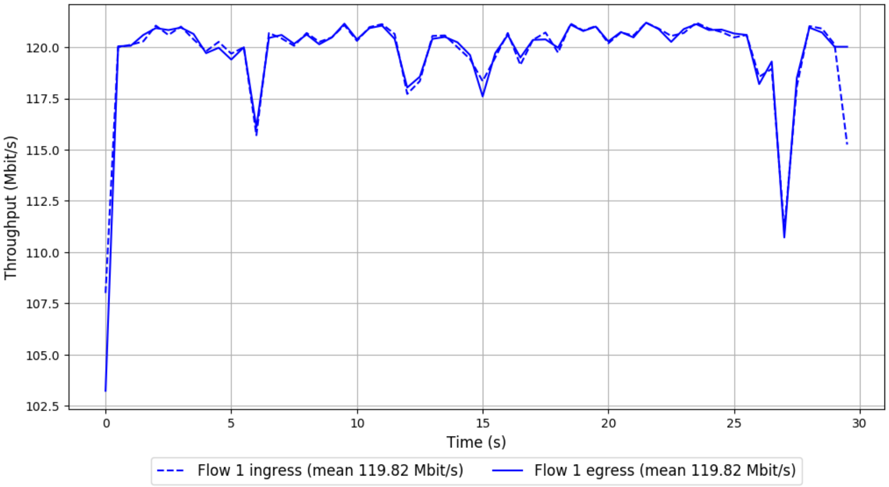


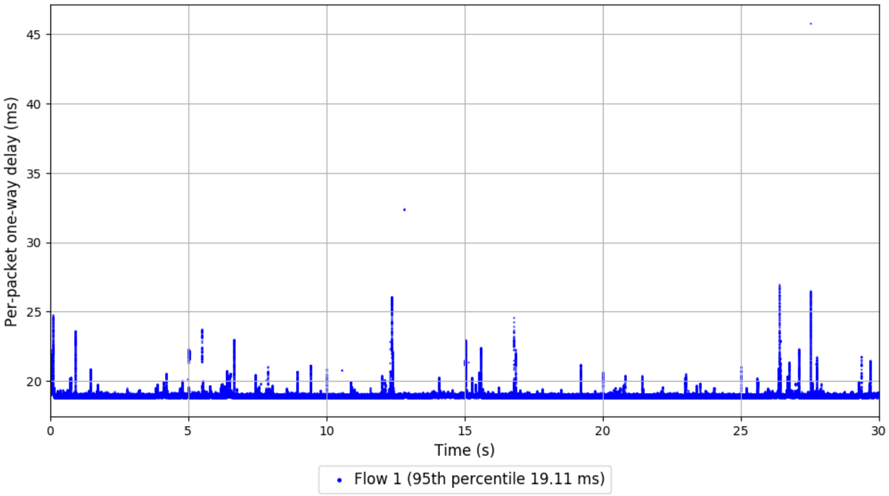
```
Run 4: Statistics of Saturator

Start at: 2017-08-21 22:32:14
End at: 2017-08-21 22:32:44
Local clock offset: 0.474 ms
Remote clock offset: -2.38 ms

# Below is generated by plot.py at 2017-08-22 03:13:14
# Datalink statistics
-- Total of 1 flow:
Average throughput: 119.82 Mbit/s
95th percentile per-packet one-way delay: 19.106 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 119.82 Mbit/s
95th percentile per-packet one-way delay: 19.106 ms
Loss rate: 0.00%
```

Run 4: Report of Saturator — Data Link



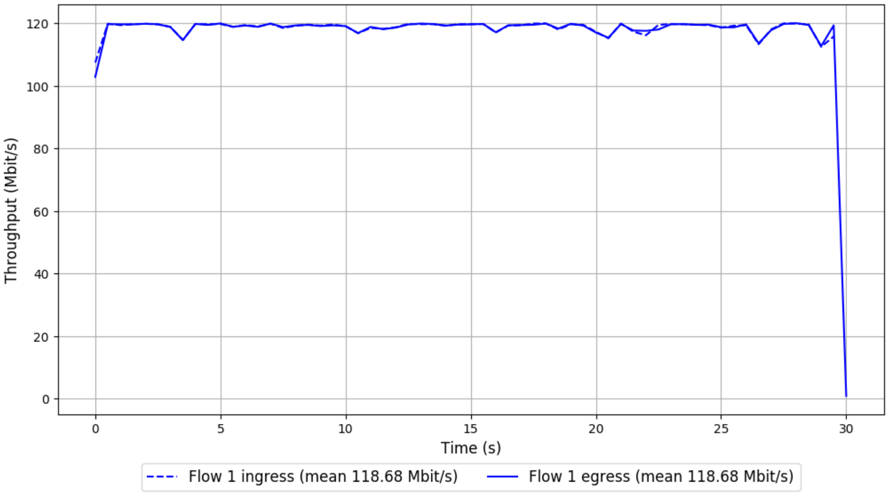


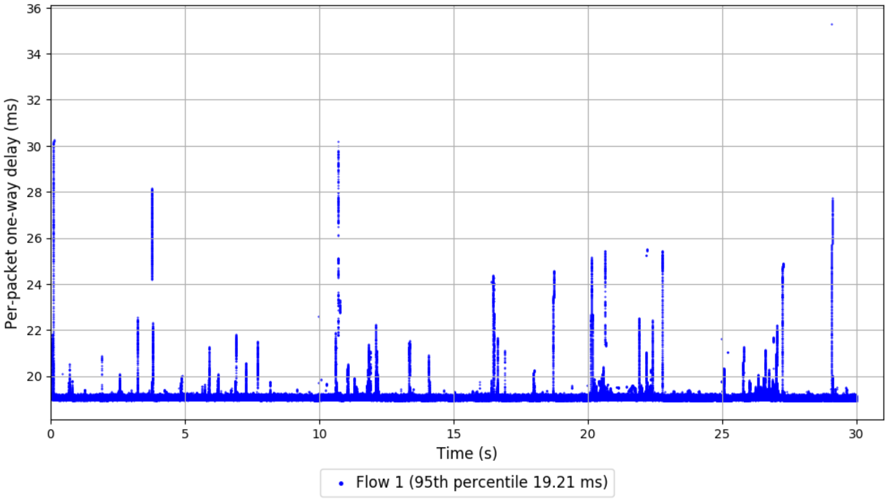
```
Run 5: Statistics of Saturator

Start at: 2017-08-21 22:52:40
End at: 2017-08-21 22:53:10
Local clock offset: 0.571 ms
Remote clock offset: -2.105 ms

# Below is generated by plot.py at 2017-08-22 03:13:20
# Datalink statistics
-- Total of 1 flow:
Average throughput: 118.68 Mbit/s
95th percentile per-packet one-way delay: 19.207 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 118.68 Mbit/s
95th percentile per-packet one-way delay: 19.207 ms
Loss rate: 0.00%
```

Run 5: Report of Saturator — Data Link

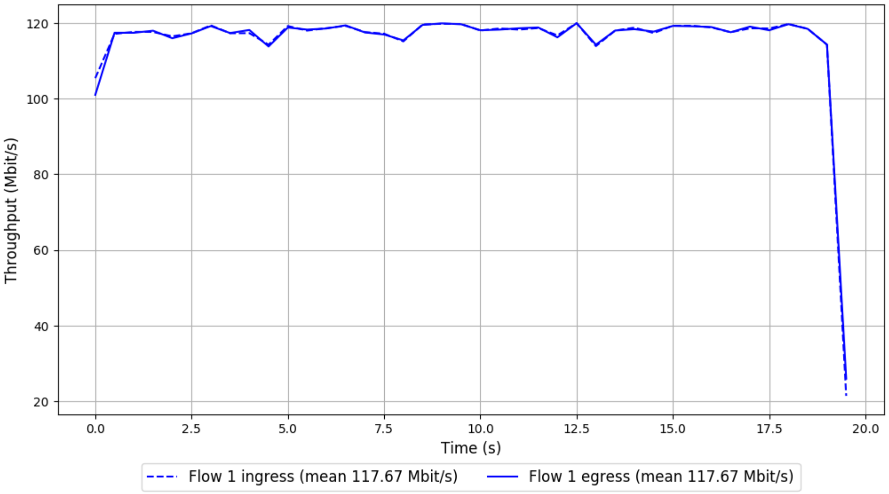


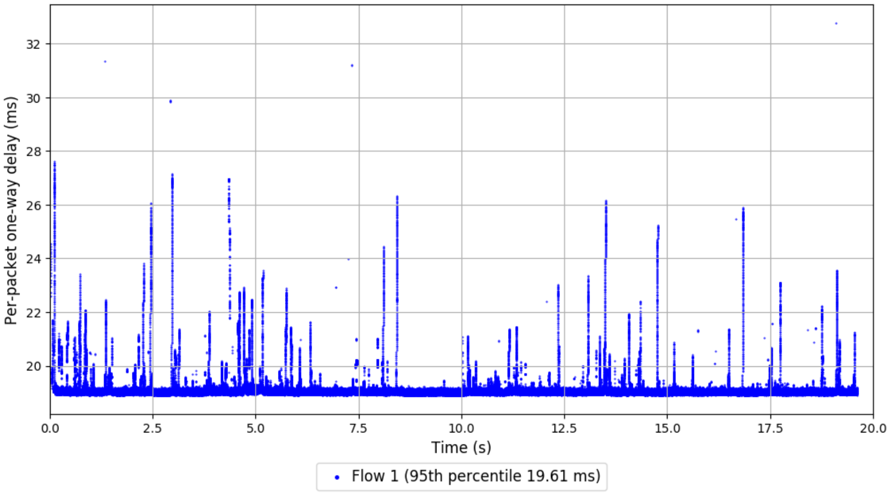


```
Run 6: Statistics of Saturator

Start at: 2017-08-21 23:12:39
End at: 2017-08-21 23:13:09
Local clock offset: 0.533 ms
Remote clock offset: -2.322 ms
```

Run 6: Report of Saturator — Data Link

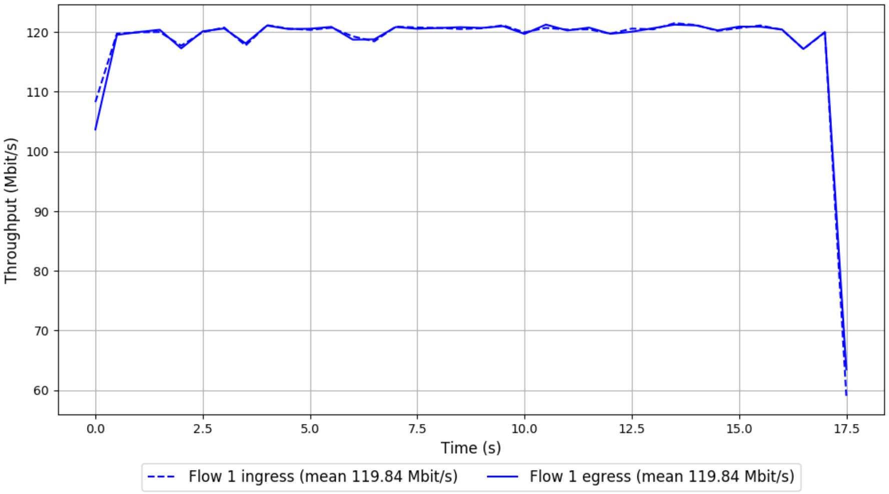


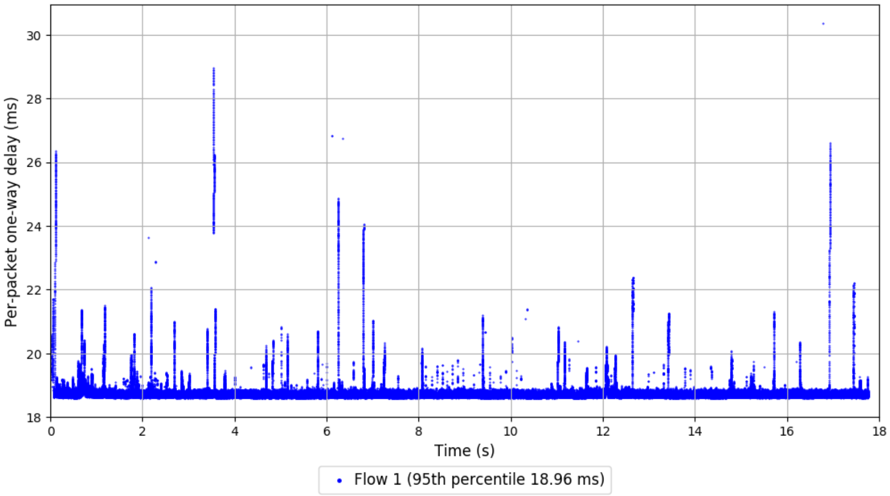


```
Run 7: Statistics of Saturator

Start at: 2017-08-21 23:32:48
End at: 2017-08-21 23:33:18
Local clock offset: 0.417 ms
Remote clock offset: -2.387 ms
```

Run 7: Report of Saturator — Data Link



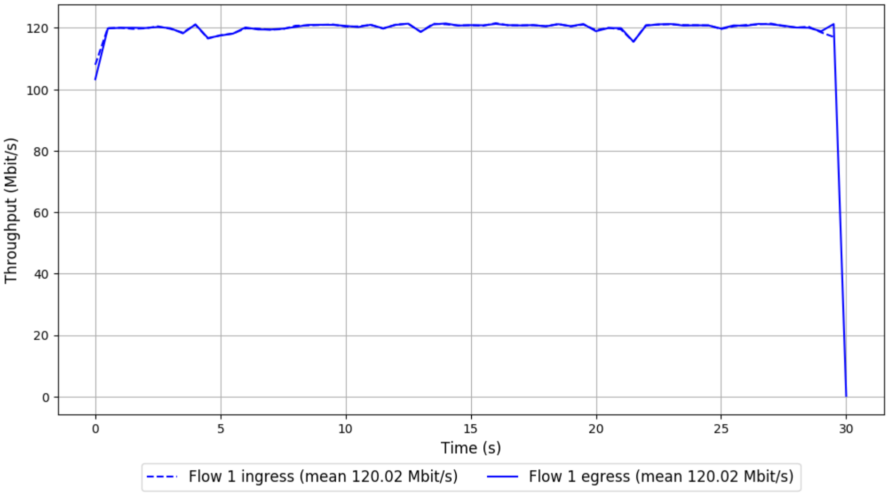


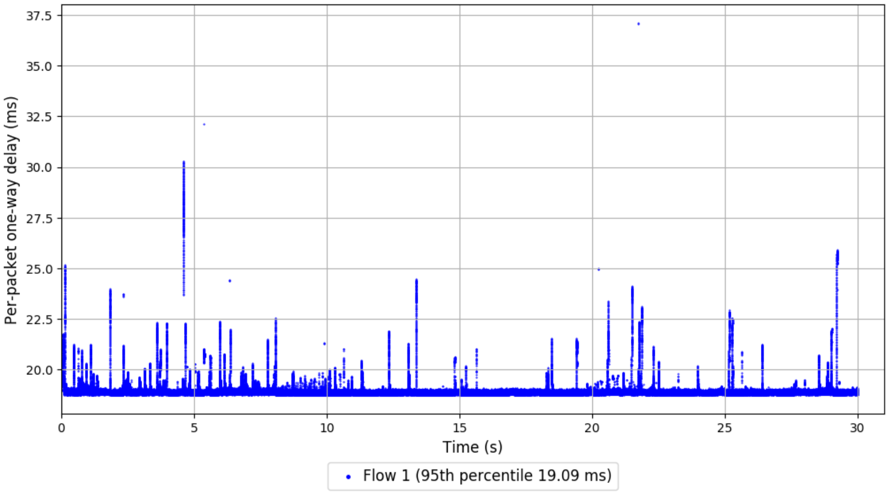
```
Run 8: Statistics of Saturator

Start at: 2017-08-21 23:52:40
End at: 2017-08-21 23:53:10
Local clock offset: 0.256 ms
Remote clock offset: -2.654 ms

# Below is generated by plot.py at 2017-08-22 03:13:44
# Datalink statistics
-- Total of 1 flow:
Average throughput: 120.02 Mbit/s
95th percentile per-packet one-way delay: 19.090 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 120.02 Mbit/s
95th percentile per-packet one-way delay: 19.090 ms
Loss rate: 0.00%
```

Run 8: Report of Saturator — Data Link



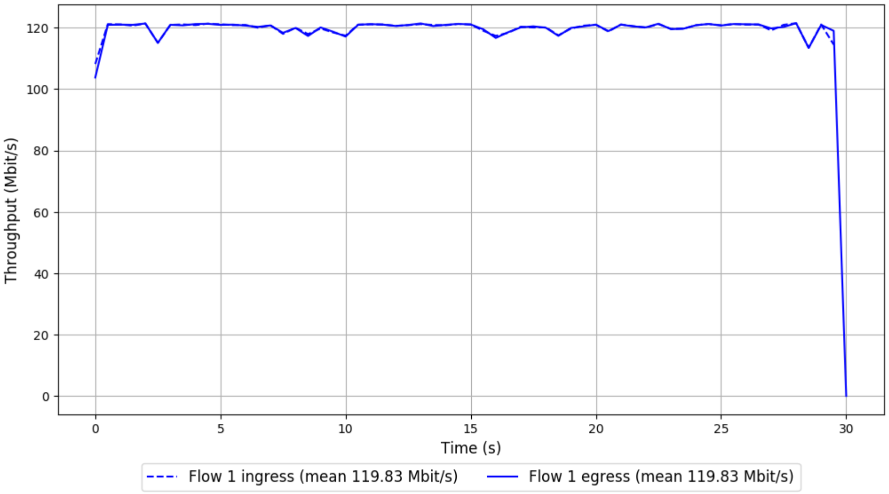


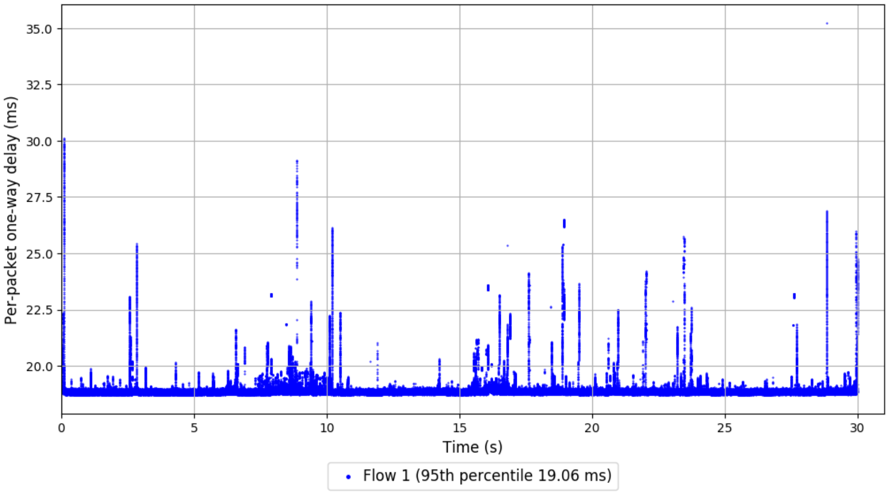
```
Run 9: Statistics of Saturator

Start at: 2017-08-22 00:12:53
End at: 2017-08-22 00:13:23
Local clock offset: 0.304 ms
Remote clock offset: -2.745 ms

# Below is generated by plot.py at 2017-08-22 03:13:46
# Datalink statistics
-- Total of 1 flow:
Average throughput: 119.83 Mbit/s
95th percentile per-packet one-way delay: 19.062 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 119.83 Mbit/s
95th percentile per-packet one-way delay: 19.062 ms
Loss rate: 0.00%
```

Run 9: Report of Saturator — Data Link



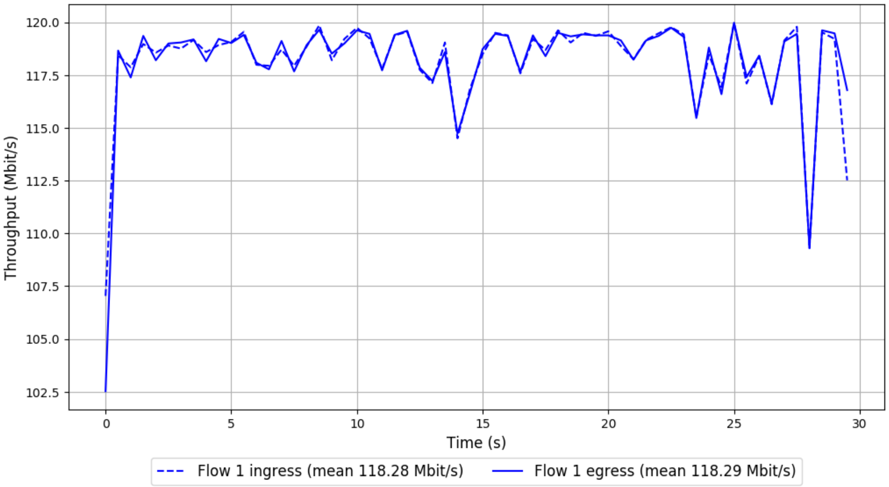


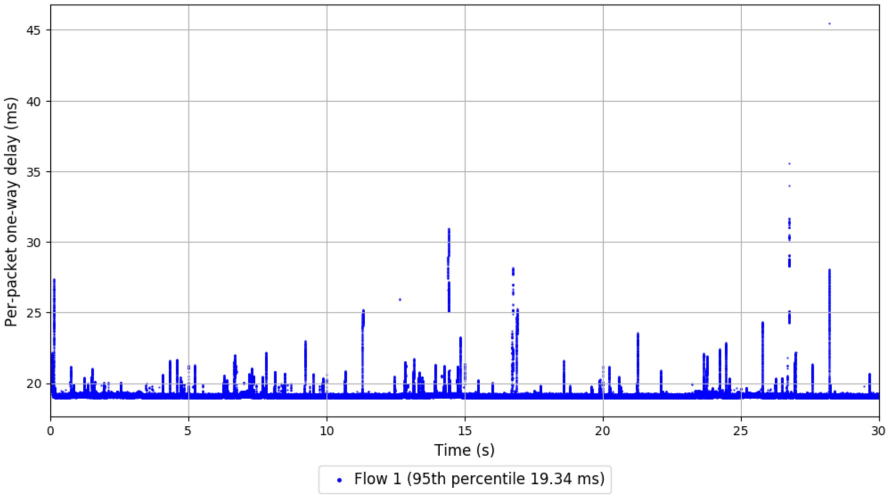
```
Run 10: Statistics of Saturator

Start at: 2017-08-22 00:33:25
End at: 2017-08-22 00:33:55
Local clock offset: 0.445 ms
Remote clock offset: -2.505 ms

# Below is generated by plot.py at 2017-08-22 03:14:02
# Datalink statistics
-- Total of 1 flow:
Average throughput: 118.29 Mbit/s
95th percentile per-packet one-way delay: 19.342 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 118.29 Mbit/s
95th percentile per-packet one-way delay: 19.342 ms
Loss rate: 0.00%
```

Run 10: Report of Saturator — Data Link



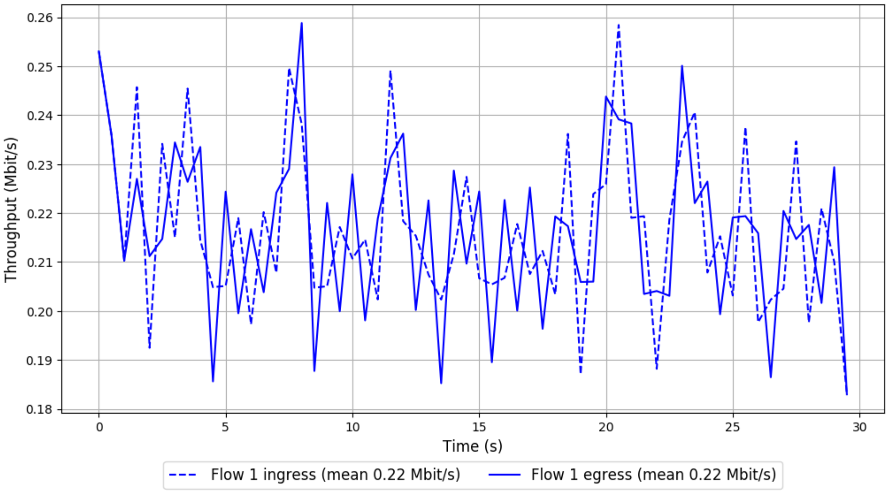


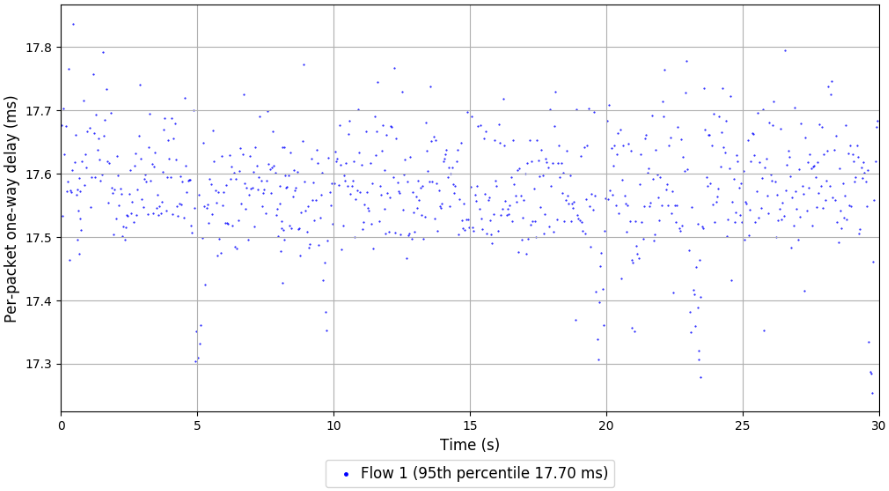
```
Run 1: Statistics of SCReAM

Start at: 2017-08-21 21:22:06
End at: 2017-08-21 21:22:36
Local clock offset: 0.513 ms
Remote clock offset: -2.132 ms

# Below is generated by plot.py at 2017-08-22 03:14:02
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 17.698 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 17.698 ms
Loss rate: 0.00%
```

Run 1: Report of SCReAM — Data Link



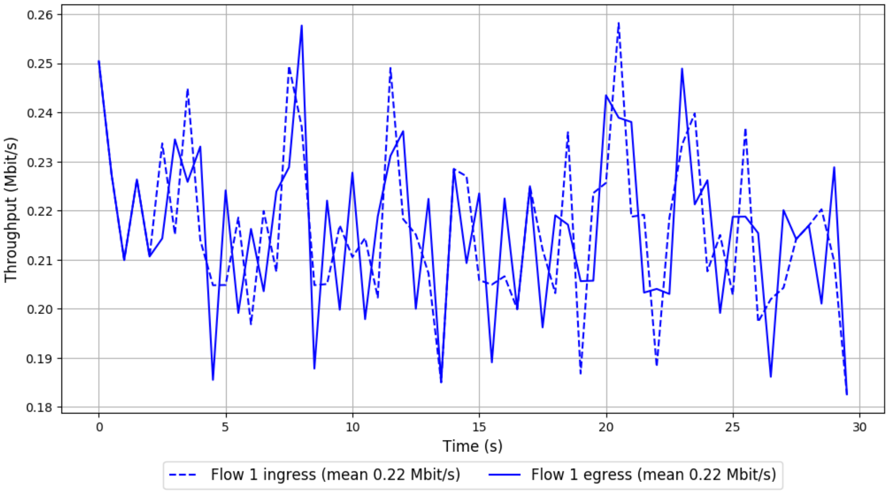


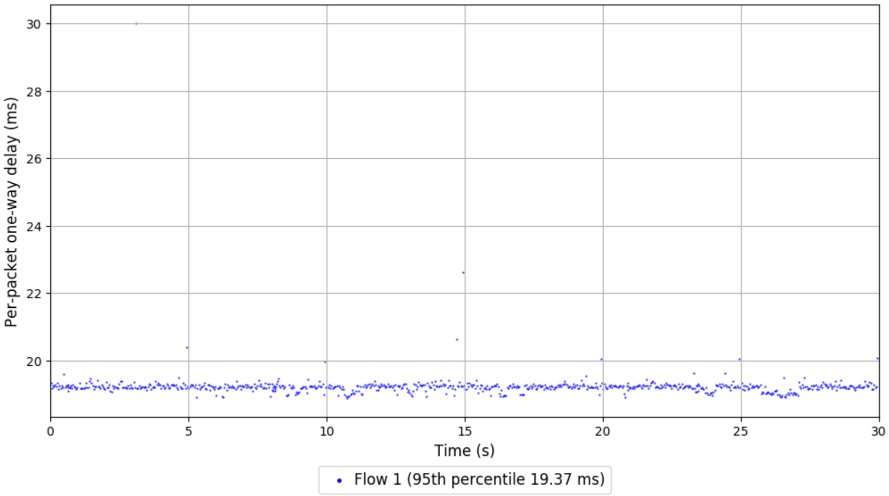
```
Run 2: Statistics of SCReAM

Start at: 2017-08-21 21:42:19
End at: 2017-08-21 21:42:49
Local clock offset: 0.575 ms
Remote clock offset: -1.884 ms

# Below is generated by plot.py at 2017-08-22 03:14:02
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 19.371 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 19.371 ms
Loss rate: 0.00%
```

Run 2: Report of SCReAM — Data Link



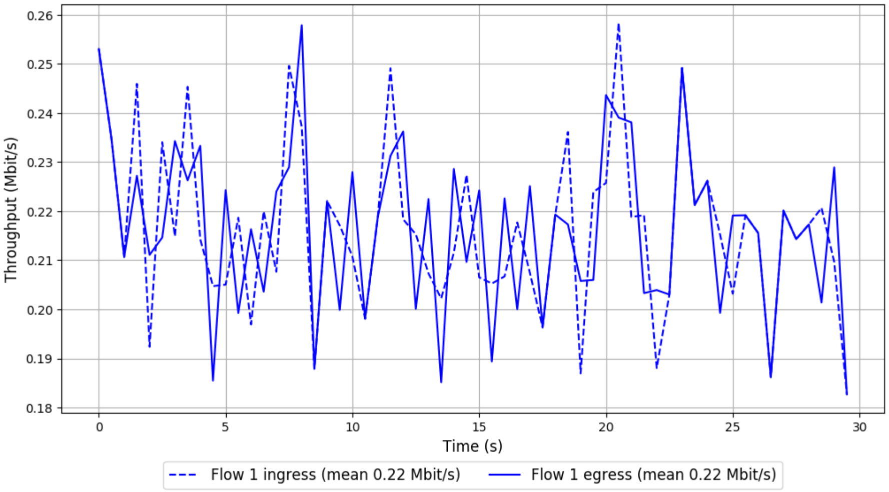


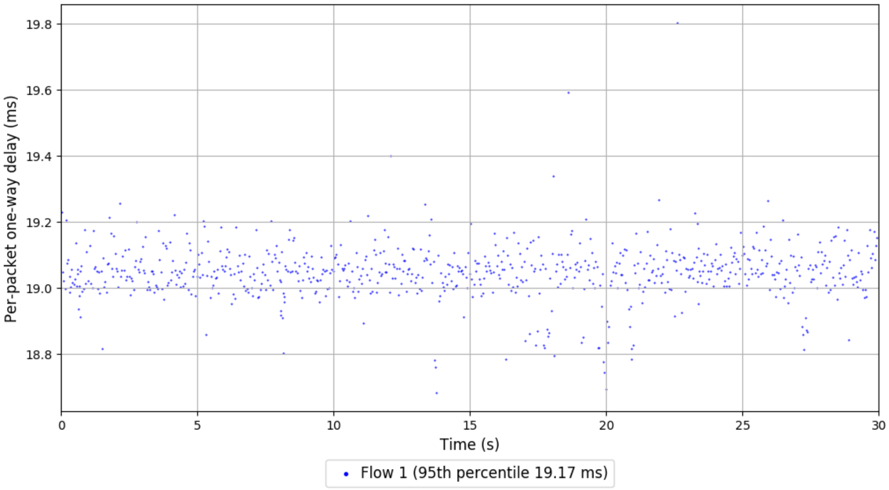
```
Run 3: Statistics of SCReAM

Start at: 2017-08-21 22:02:38
End at: 2017-08-21 22:03:08
Local clock offset: 0.569 ms
Remote clock offset: -2.235 ms

# Below is generated by plot.py at 2017-08-22 03:14:02
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 19.169 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 19.169 ms
Loss rate: 0.00%
```

Run 3: Report of SCReAM — Data Link



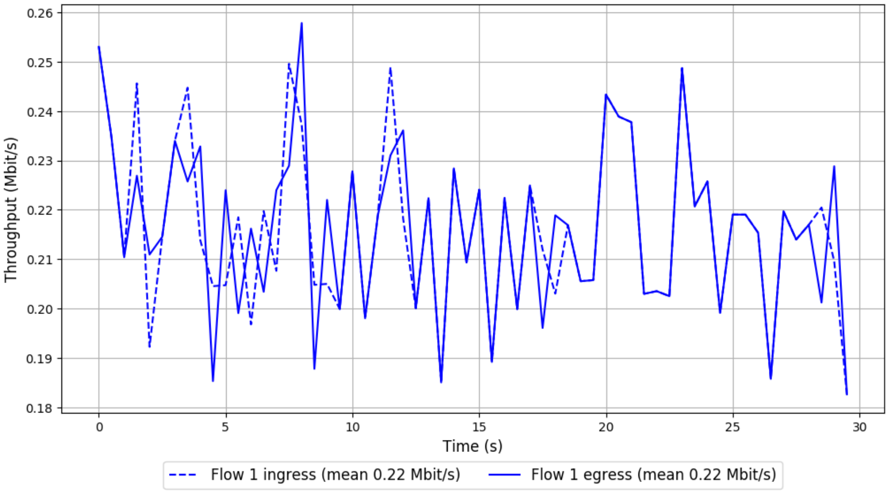


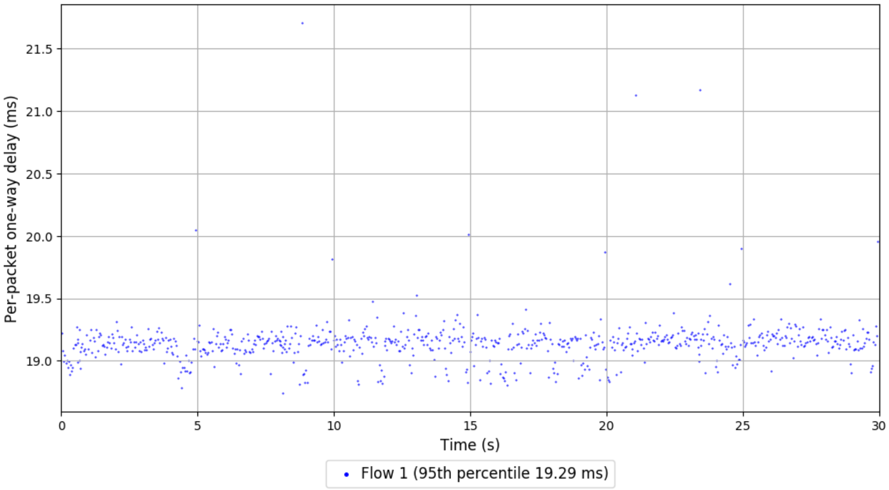
```
Run 4: Statistics of SCReAM

Start at: 2017-08-21 22:22:46
End at: 2017-08-21 22:23:16
Local clock offset: 0.546 ms
Remote clock offset: -2.255 ms

# Below is generated by plot.py at 2017-08-22 03:14:02
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 19.293 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 19.293 ms
Loss rate: 0.00%
```

Run 4: Report of SCReAM — Data Link



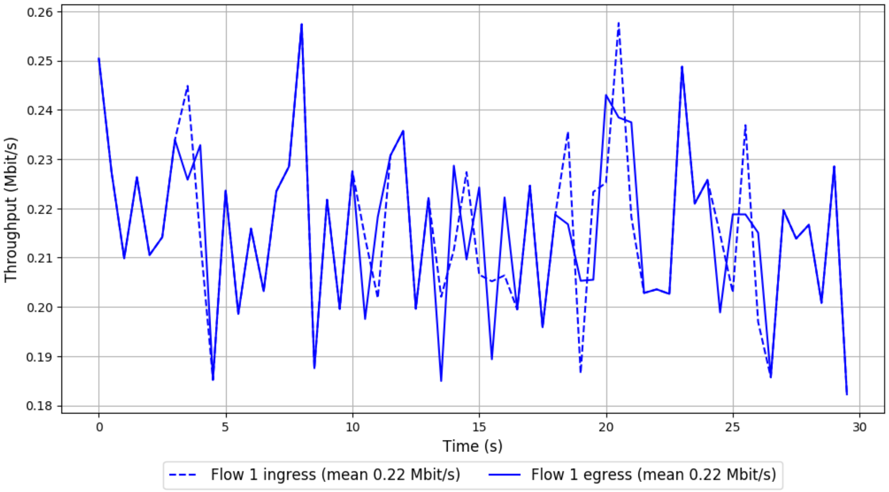


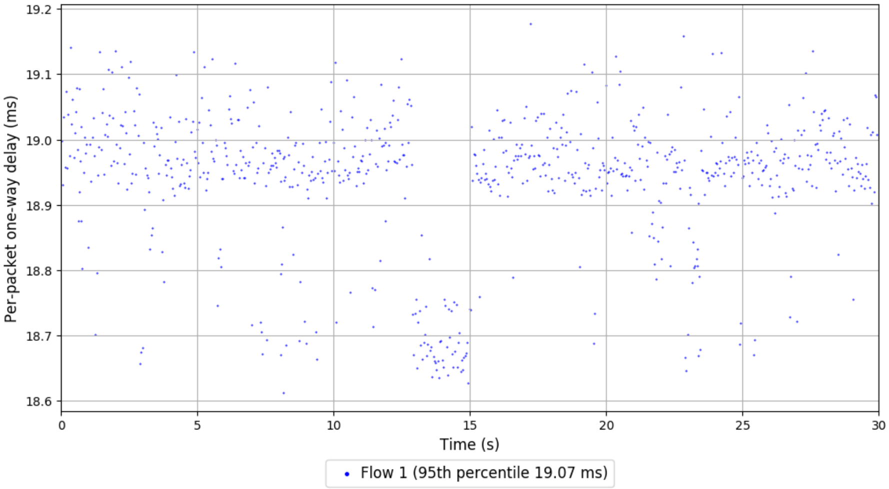
```
Run 5: Statistics of SCReAM

Start at: 2017-08-21 22:43:08
End at: 2017-08-21 22:43:38
Local clock offset: 0.644 ms
Remote clock offset: -2.371 ms

# Below is generated by plot.py at 2017-08-22 03:14:02
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 19.075 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 19.075 ms
Loss rate: 0.00%
```

Run 5: Report of SCReAM — Data Link



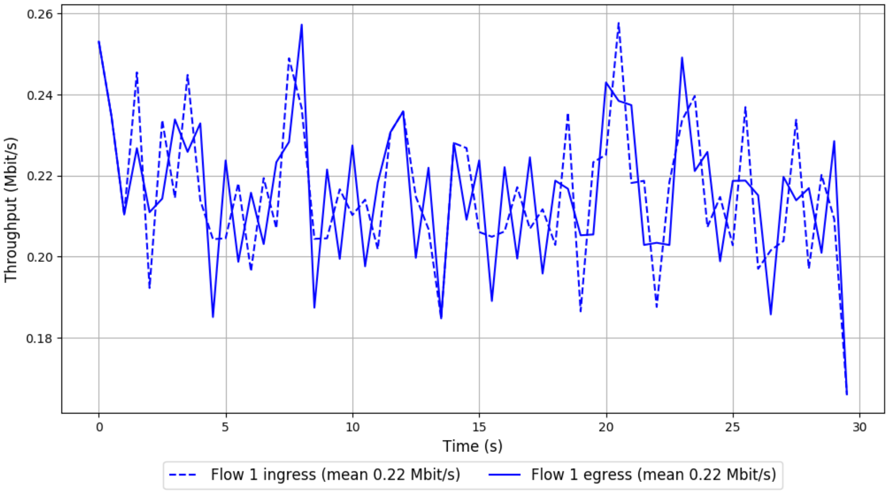


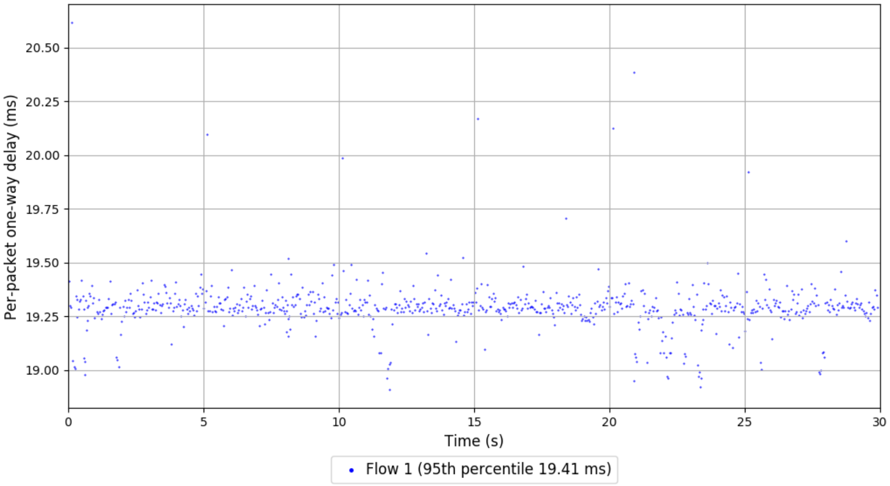
```
Run 6: Statistics of SCReAM

Start at: 2017-08-21 23:03:32
End at: 2017-08-21 23:04:02
Local clock offset: 0.517 ms
Remote clock offset: -2.251 ms

# Below is generated by plot.py at 2017-08-22 03:14:02
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 19.406 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 19.406 ms
Loss rate: 0.00%
```

Run 6: Report of SCReAM — Data Link



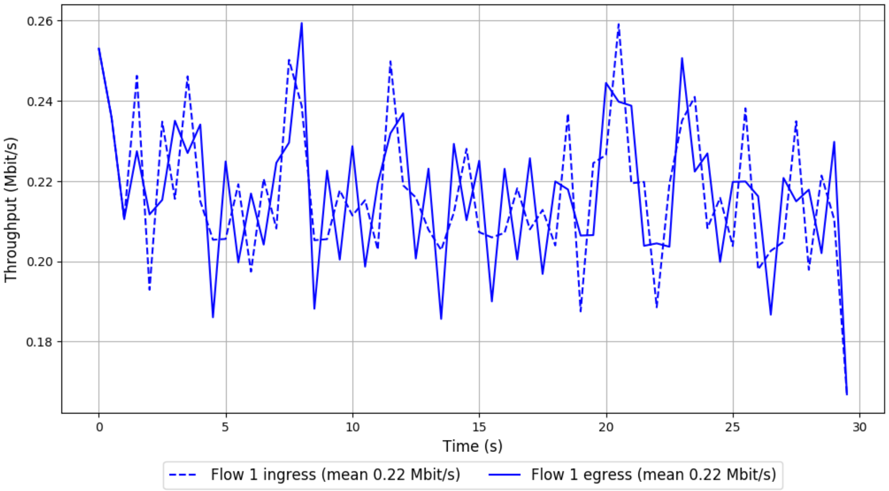


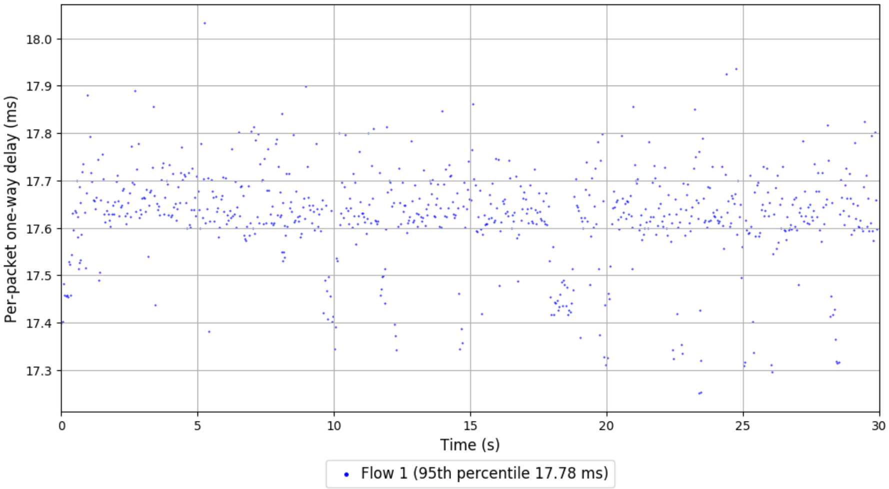
```
Run 7: Statistics of SCReAM

Start at: 2017-08-21 23:23:27
End at: 2017-08-21 23:23:57
Local clock offset: 0.383 ms
Remote clock offset: -2.465 ms

# Below is generated by plot.py at 2017-08-22 03:14:02
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 17.778 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 17.778 ms
Loss rate: 0.00%
```

Run 7: Report of SCReAM — Data Link



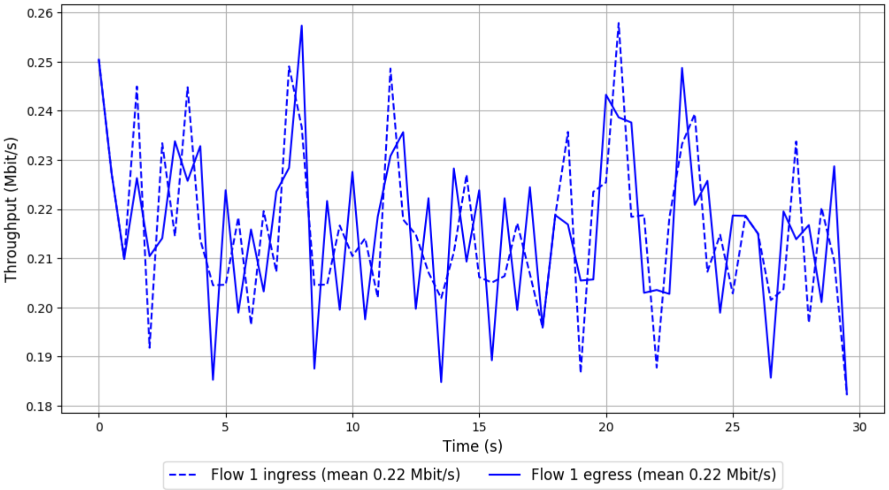


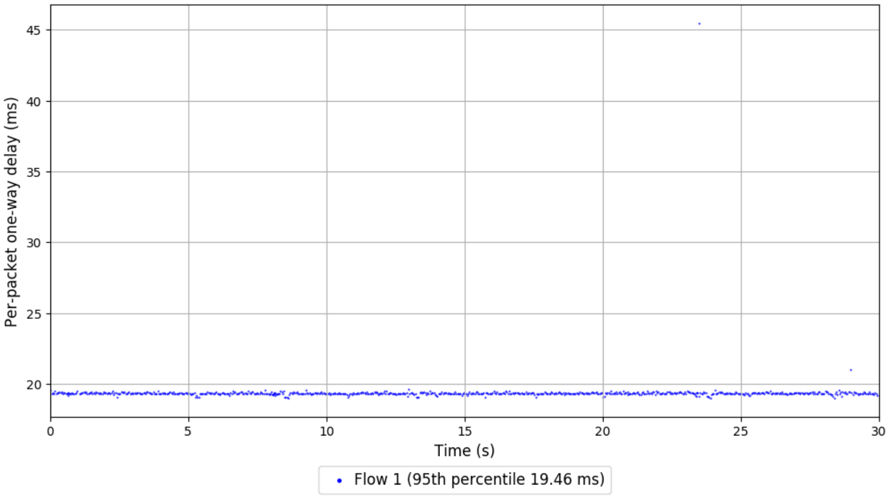
```
Run 8: Statistics of SCReAM

Start at: 2017-08-21 23:43:29
End at: 2017-08-21 23:43:59
Local clock offset: 0.239 ms
Remote clock offset: -2.568 ms

# Below is generated by plot.py at 2017-08-22 03:14:02
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 19.457 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 19.457 ms
Loss rate: 0.00%
```

Run 8: Report of SCReAM — Data Link



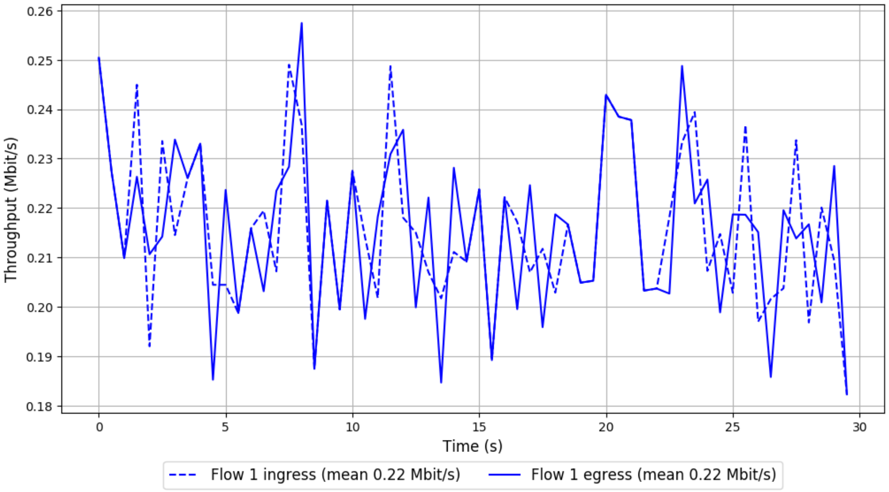


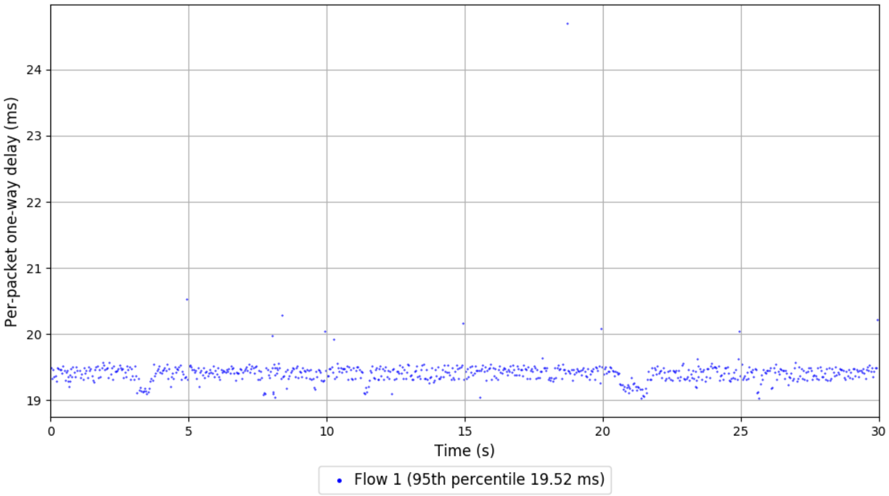
```
Run 9: Statistics of SCReAM

Start at: 2017-08-22 00:03:24
End at: 2017-08-22 00:03:54
Local clock offset: 0.26 ms
Remote clock offset: -2.603 ms

# Below is generated by plot.py at 2017-08-22 03:14:02
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 19.522 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 19.522 ms
Loss rate: 0.00%
```

Run 9: Report of SCReAM — Data Link



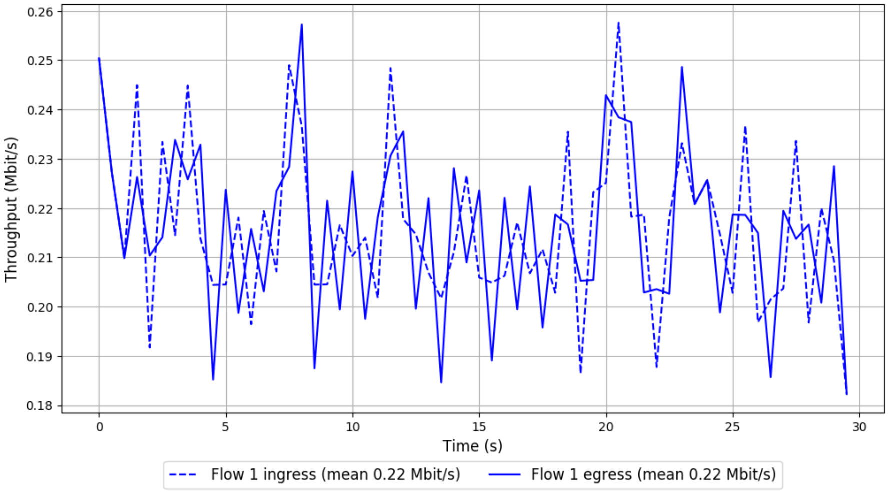


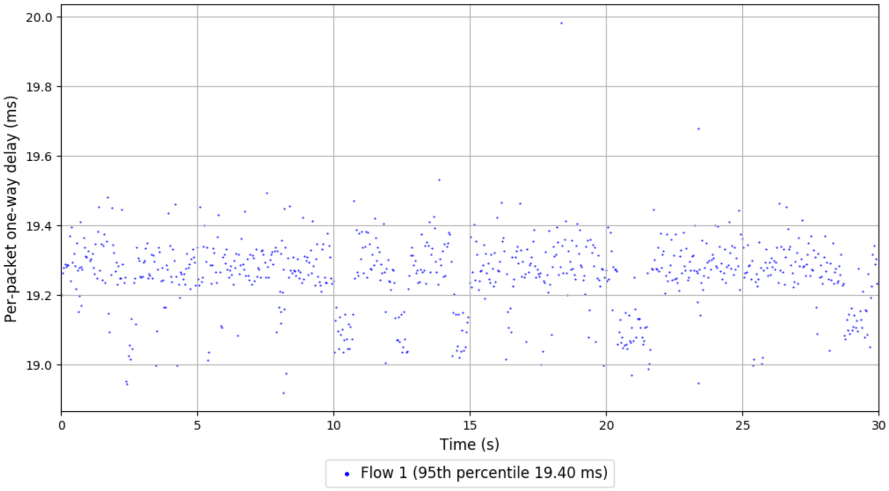
```
Run 10: Statistics of SCReAM

Start at: 2017-08-22 00:23:44
End at: 2017-08-22 00:24:14
Local clock offset: 0.48 ms
Remote clock offset: -2.736 ms

# Below is generated by plot.py at 2017-08-22 03:14:02
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 19.397 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 19.397 ms
Loss rate: 0.00%
```

Run 10: Report of SCReAM — Data Link



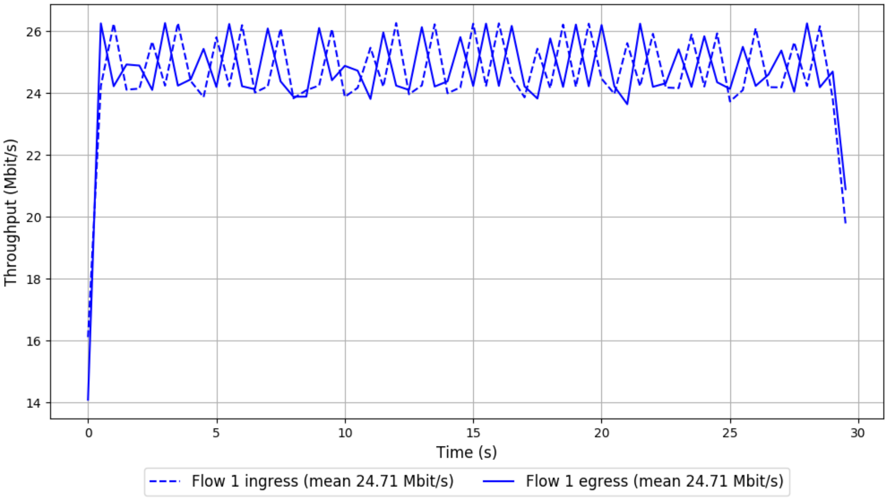


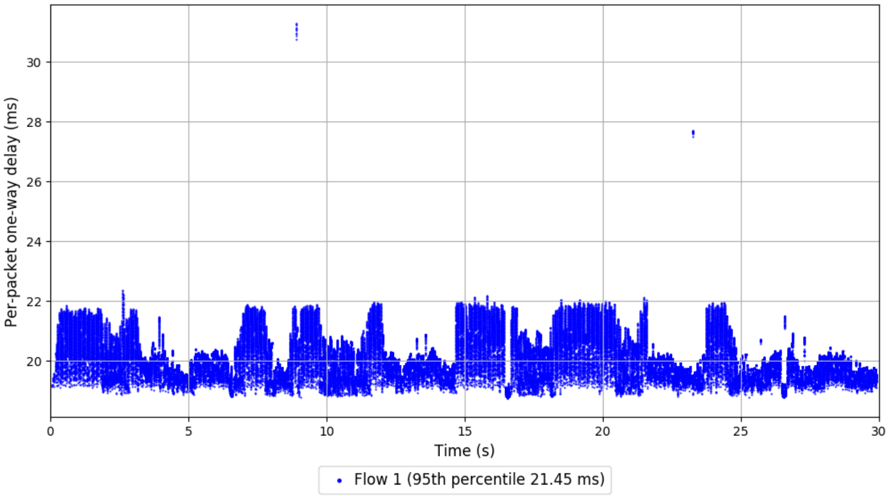
```
Run 1: Statistics of Sprout

Start at: 2017-08-21 21:27:34
End at: 2017-08-21 21:28:04
Local clock offset: 0.416 ms
Remote clock offset: -2.102 ms

# Below is generated by plot.py at 2017-08-22 03:14:02
# Datalink statistics
-- Total of 1 flow:
Average throughput: 24.71 Mbit/s
95th percentile per-packet one-way delay: 21.449 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 24.71 Mbit/s
95th percentile per-packet one-way delay: 21.449 ms
Loss rate: 0.00%
```

Run 1: Report of Sprout — Data Link



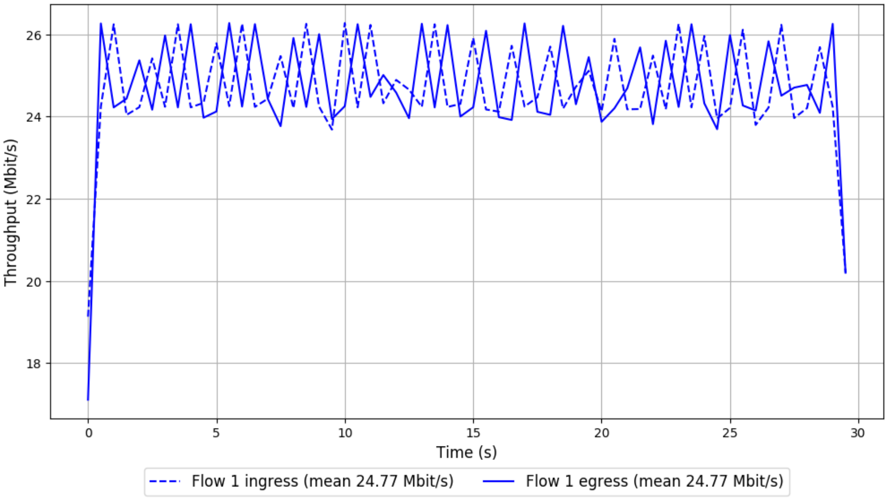


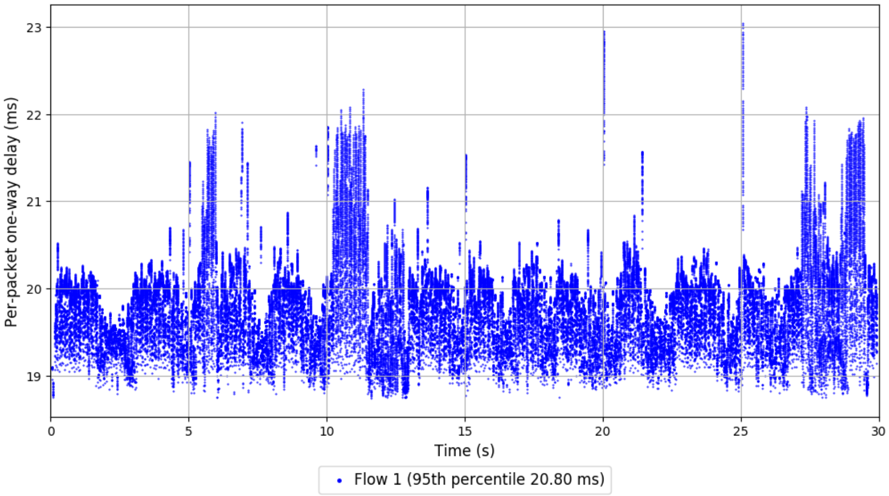
```
Run 2: Statistics of Sprout

Start at: 2017-08-21 21:47:40
End at: 2017-08-21 21:48:10
Local clock offset: 0.534 ms
Remote clock offset: -1.928 ms

# Below is generated by plot.py at 2017-08-22 03:14:02
# Datalink statistics
-- Total of 1 flow:
Average throughput: 24.77 Mbit/s
95th percentile per-packet one-way delay: 20.800 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 24.77 Mbit/s
95th percentile per-packet one-way delay: 20.800 ms
Loss rate: 0.01%
```

Run 2: Report of Sprout — Data Link



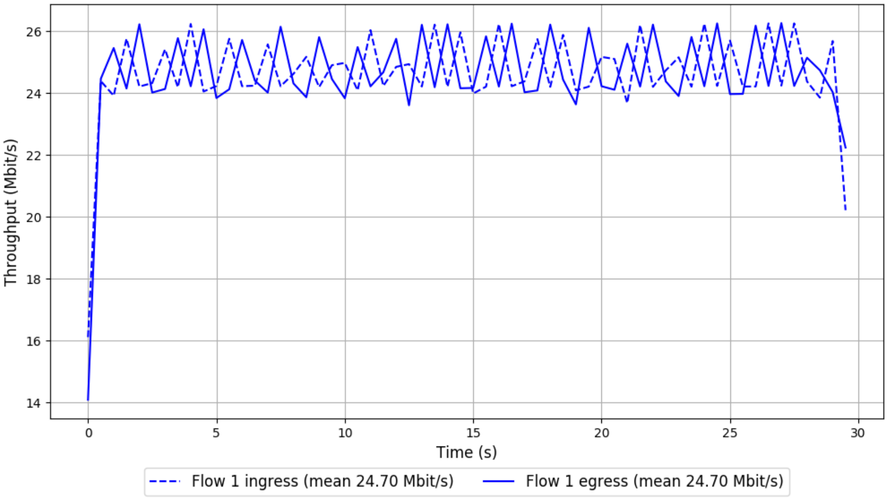


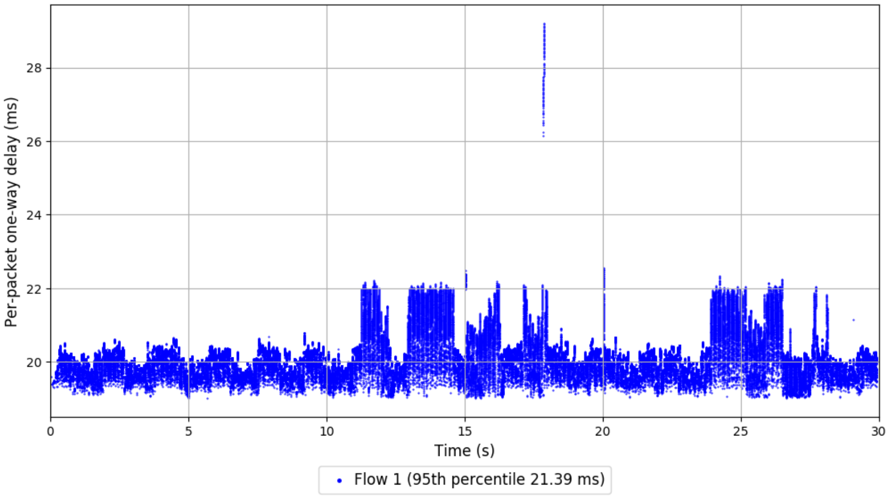
```
Run 3: Statistics of Sprout

Start at: 2017-08-21 22:07:43
End at: 2017-08-21 22:08:13
Local clock offset: 0.487 ms
Remote clock offset: -2.271 ms

# Below is generated by plot.py at 2017-08-22 03:14:06
# Datalink statistics
-- Total of 1 flow:
Average throughput: 24.70 Mbit/s
95th percentile per-packet one-way delay: 21.388 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 24.70 Mbit/s
95th percentile per-packet one-way delay: 21.388 ms
Loss rate: 0.00%
```

Run 3: Report of Sprout — Data Link



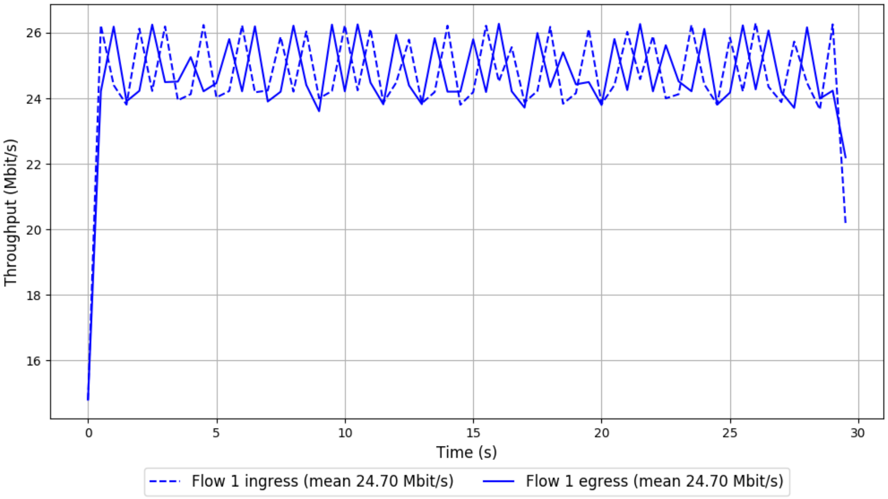


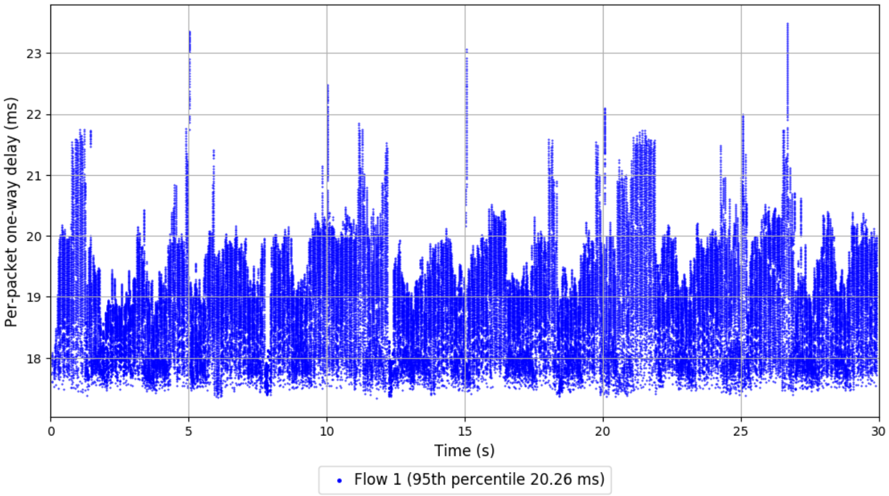
```
Run 4: Statistics of Sprout

Start at: 2017-08-21 22:27:58
End at: 2017-08-21 22:28:28
Local clock offset: 0.462 ms
Remote clock offset: -2.414 ms

# Below is generated by plot.py at 2017-08-22 03:14:07
# Datalink statistics
-- Total of 1 flow:
Average throughput: 24.70 Mbit/s
95th percentile per-packet one-way delay: 20.263 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 24.70 Mbit/s
95th percentile per-packet one-way delay: 20.263 ms
Loss rate: 0.00%
```

Run 4: Report of Sprout — Data Link



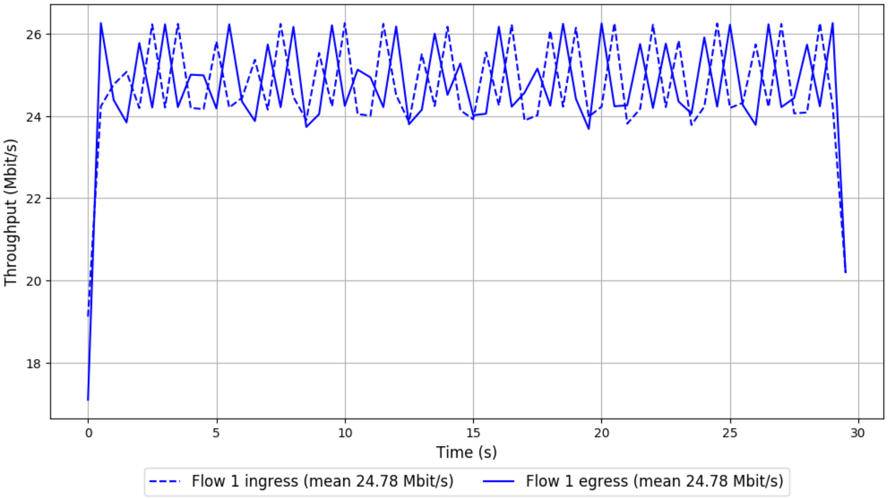


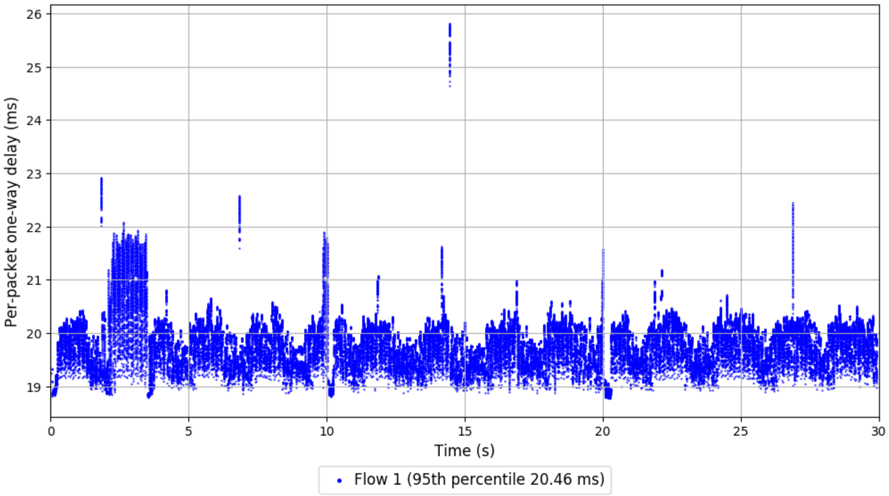
```
Run 5: Statistics of Sprout

Start at: 2017-08-21 22:48:26
End at: 2017-08-21 22:48:56
Local clock offset: 0.554 ms
Remote clock offset: -2.163 ms

# Below is generated by plot.py at 2017-08-22 03:14:11
# Datalink statistics
-- Total of 1 flow:
Average throughput: 24.78 Mbit/s
95th percentile per-packet one-way delay: 20.459 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 24.78 Mbit/s
95th percentile per-packet one-way delay: 20.459 ms
Loss rate: 0.00%
```

Run 5: Report of Sprout — Data Link



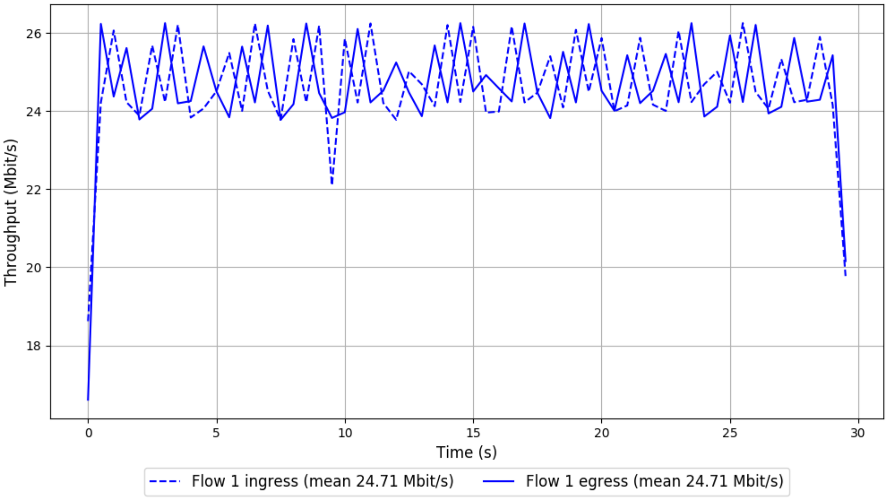


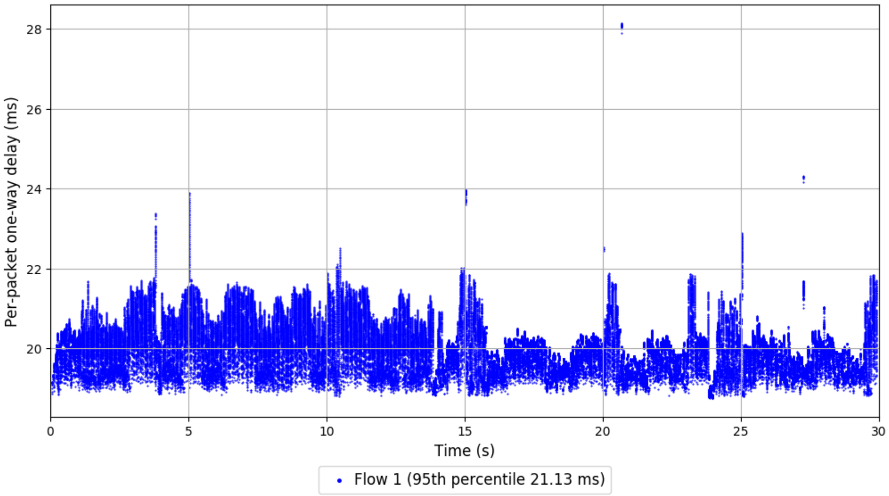
```
Run 6: Statistics of Sprout

Start at: 2017-08-21 23:08:35
End at: 2017-08-21 23:09:05
Local clock offset: 0.484 ms
Remote clock offset: -2.251 ms

# Below is generated by plot.py at 2017-08-22 03:14:11
# Datalink statistics
-- Total of 1 flow:
Average throughput: 24.71 Mbit/s
95th percentile per-packet one-way delay: 21.129 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 24.71 Mbit/s
95th percentile per-packet one-way delay: 21.129 ms
Loss rate: 0.00%
```

Run 6: Report of Sprout — Data Link



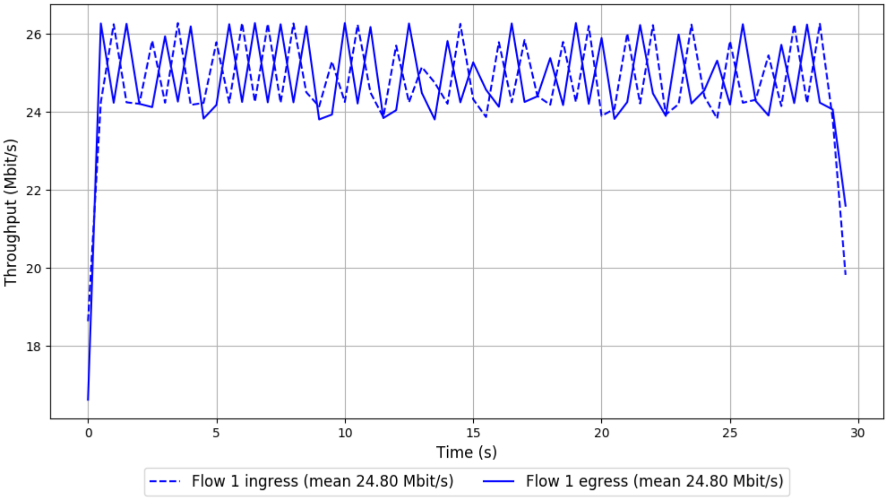


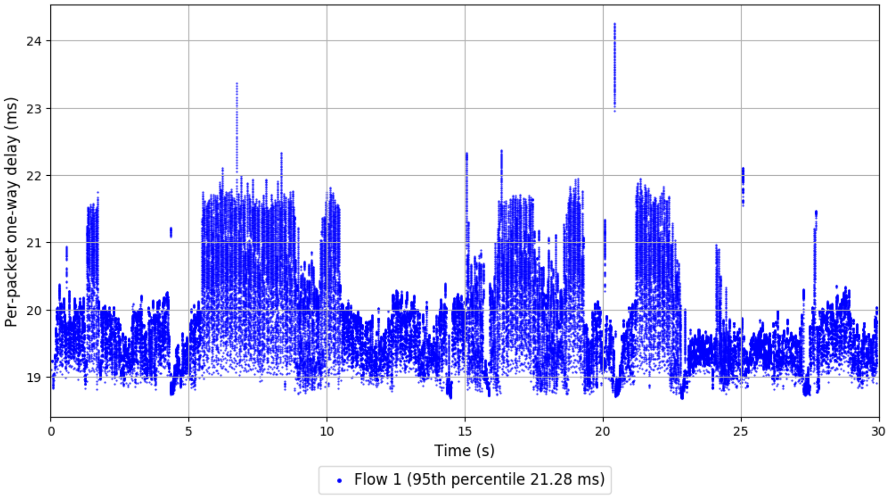
```
Run 7: Statistics of Sprout

Start at: 2017-08-21 23:28:47
End at: 2017-08-21 23:29:17
Local clock offset: 0.423 ms
Remote clock offset: -2.266 ms

# Below is generated by plot.py at 2017-08-22 03:14:15
# Datalink statistics
-- Total of 1 flow:
Average throughput: 24.80 Mbit/s
95th percentile per-packet one-way delay: 21.276 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 24.80 Mbit/s
95th percentile per-packet one-way delay: 21.276 ms
Loss rate: 0.00%
```

Run 7: Report of Sprout — Data Link



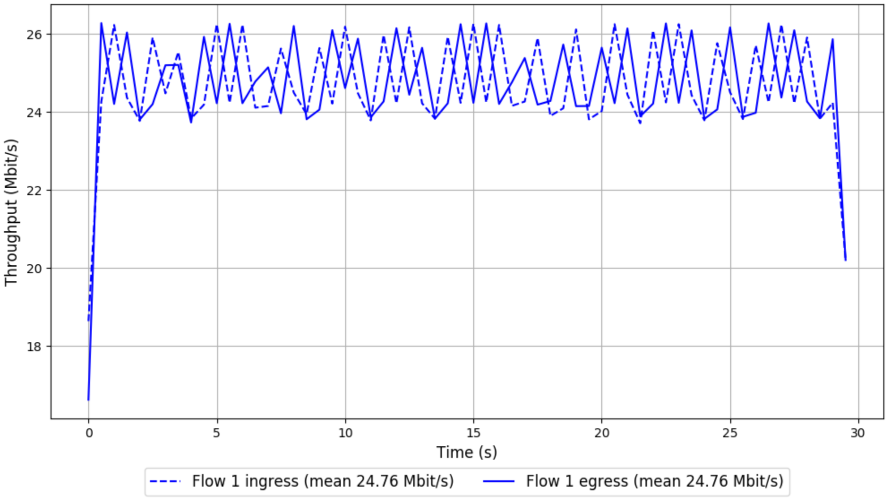


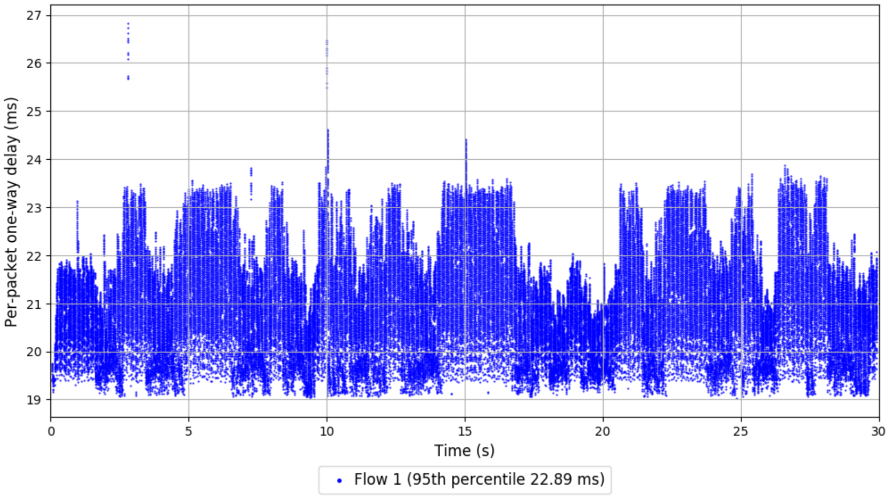
```
Run 8: Statistics of Sprout

Start at: 2017-08-21 23:48:34
End at: 2017-08-21 23:49:04
Local clock offset: 0.27 ms
Remote clock offset: -2.577 ms

# Below is generated by plot.py at 2017-08-22 03:14:15
# Datalink statistics
-- Total of 1 flow:
Average throughput: 24.76 Mbit/s
95th percentile per-packet one-way delay: 22.894 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 24.76 Mbit/s
95th percentile per-packet one-way delay: 22.894 ms
Loss rate: 0.00%
```

Run 8: Report of Sprout — Data Link



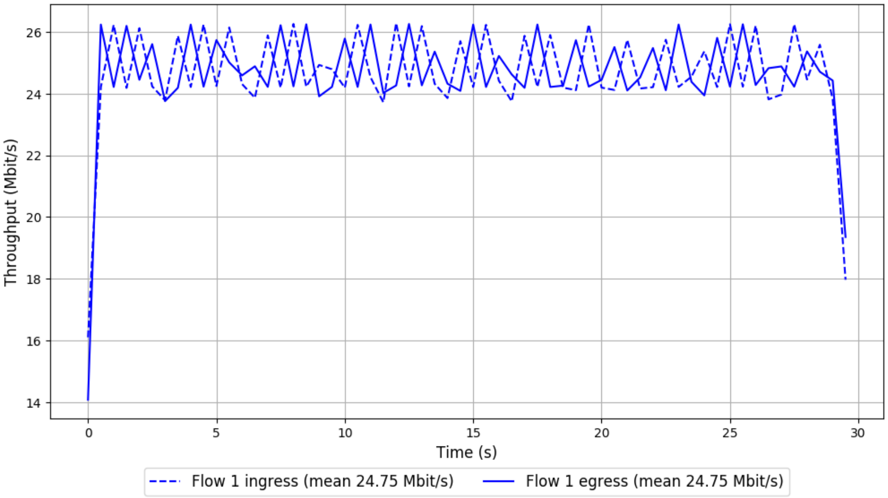


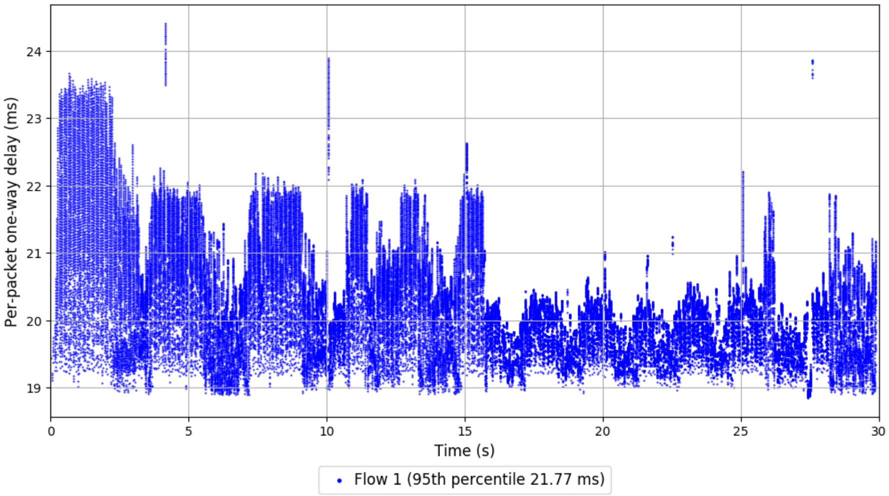
```
Run 9: Statistics of Sprout

Start at: 2017-08-22 00:08:37
End at: 2017-08-22 00:09:07
Local clock offset: 0.385 ms
Remote clock offset: -2.694 ms

# Below is generated by plot.py at 2017-08-22 03:14:19
# Datalink statistics
-- Total of 1 flow:
Average throughput: 24.75 Mbit/s
95th percentile per-packet one-way delay: 21.772 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 24.75 Mbit/s
95th percentile per-packet one-way delay: 21.772 ms
Loss rate: 0.00%
```

Run 9: Report of Sprout — Data Link



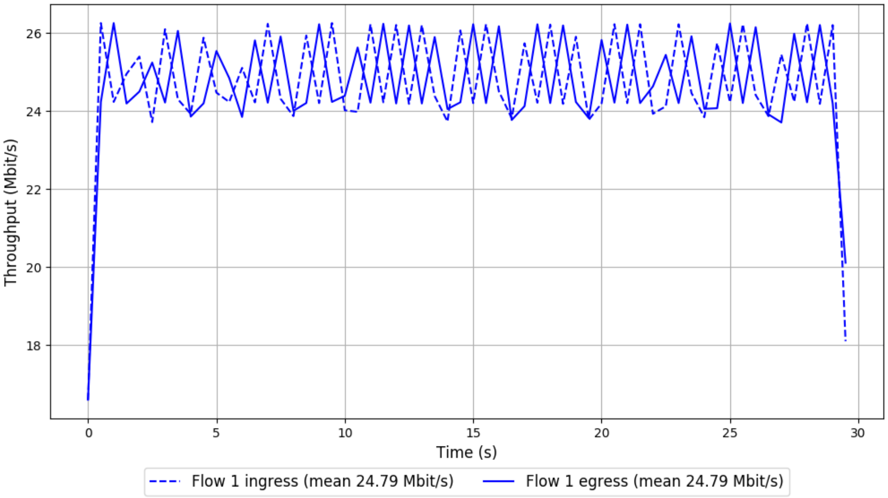


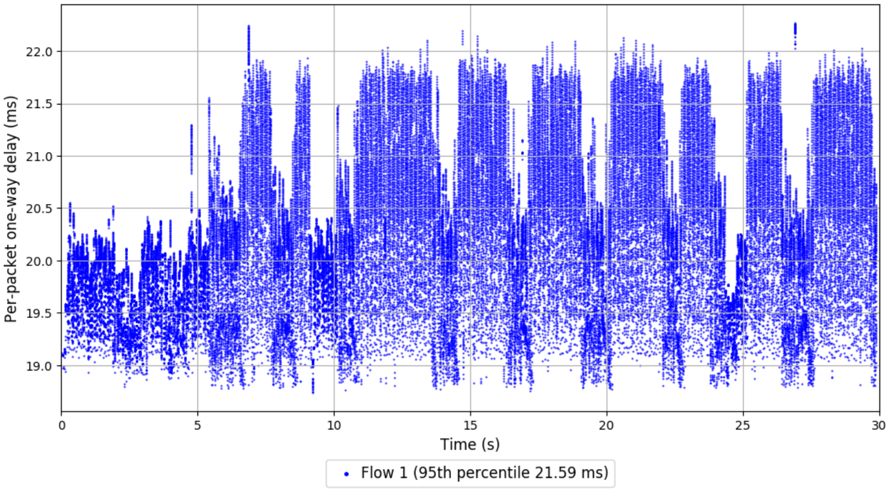
```
Run 10: Statistics of Sprout

Start at: 2017-08-22 00:29:18
End at: 2017-08-22 00:29:48
Local clock offset: 0.442 ms
Remote clock offset: -2.637 ms

# Below is generated by plot.py at 2017-08-22 03:14:20
# Datalink statistics
-- Total of 1 flow:
Average throughput: 24.79 Mbit/s
95th percentile per-packet one-way delay: 21.586 ms
Loss rate: 0.02%
-- Flow 1:
Average throughput: 24.79 Mbit/s
95th percentile per-packet one-way delay: 21.586 ms
Loss rate: 0.02%
```

Run 10: Report of Sprout — Data Link



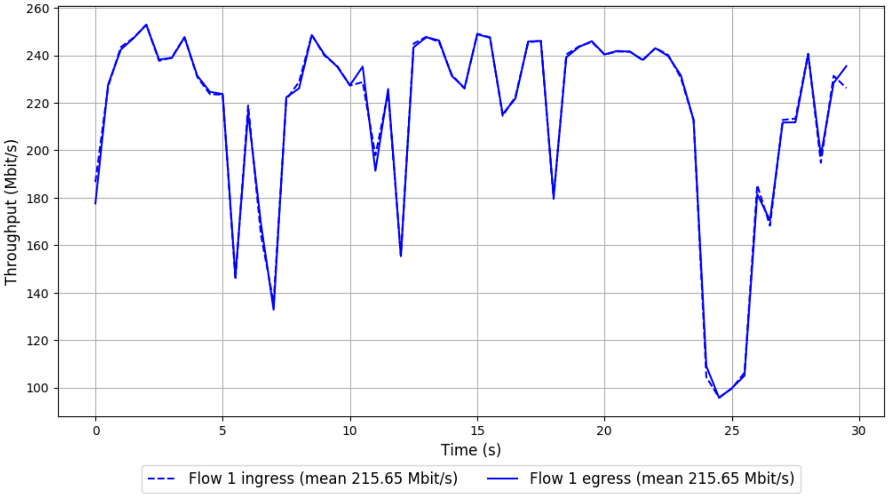


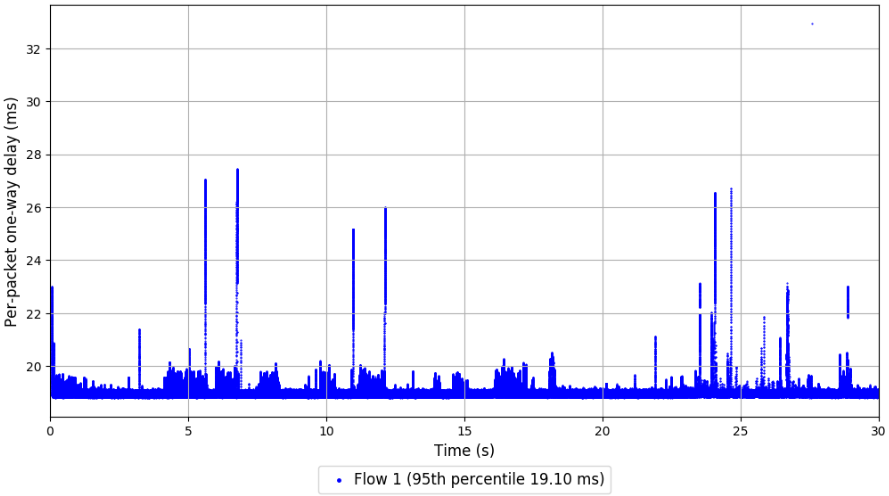
```
Run 1: Statistics of TaoVA-100x

Start at: 2017-08-21 21:20:37
End at: 2017-08-21 21:21:07
Local clock offset: 0.494 ms
Remote clock offset: -2.107 ms

# Below is generated by plot.py at 2017-08-22 03:15:08
# Datalink statistics
-- Total of 1 flow:
Average throughput: 215.65 Mbit/s
95th percentile per-packet one-way delay: 19.101 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 215.65 Mbit/s
95th percentile per-packet one-way delay: 19.101 ms
Loss rate: 0.00%
```

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



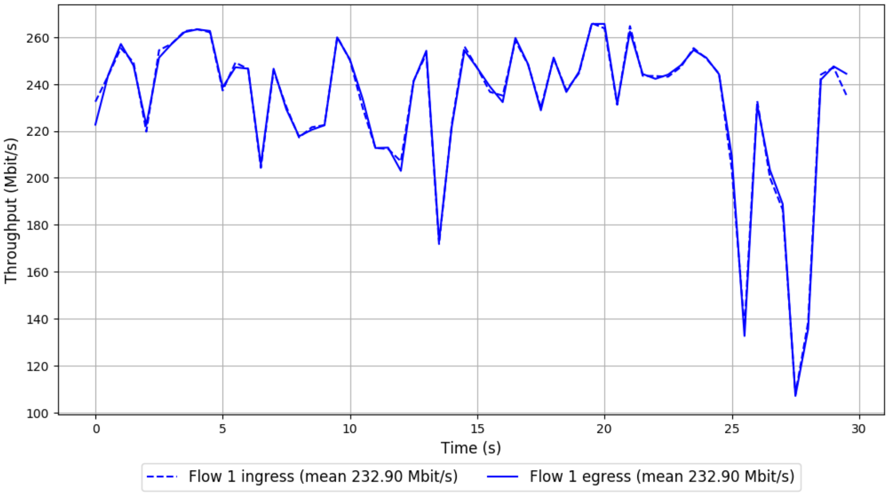


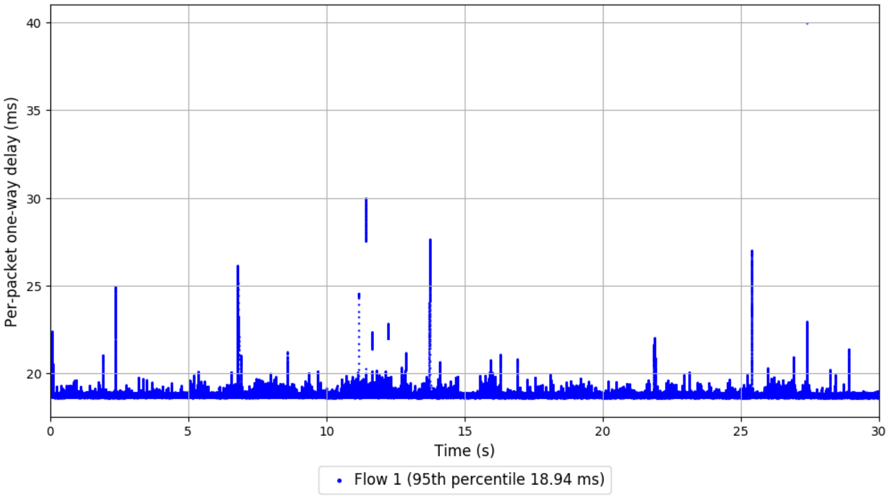
```
Run 2: Statistics of TaoVA-100x

Start at: 2017-08-21 21:40:48
End at: 2017-08-21 21:41:19
Local clock offset: 0.548 ms
Remote clock offset: -1.913 ms

# Below is generated by plot.py at 2017-08-22 03:15:12
# Datalink statistics
-- Total of 1 flow:
Average throughput: 232.90 Mbit/s
95th percentile per-packet one-way delay: 18.938 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 232.90 Mbit/s
95th percentile per-packet one-way delay: 18.938 ms
Loss rate: 0.00%
```

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



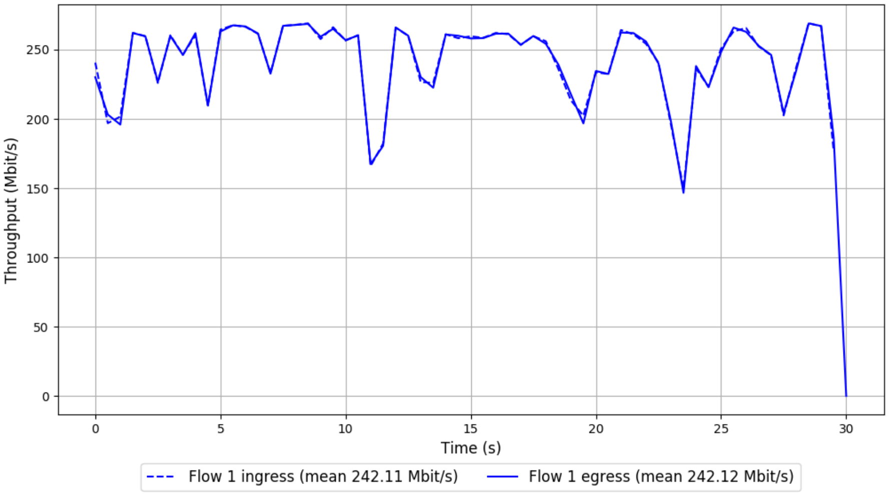


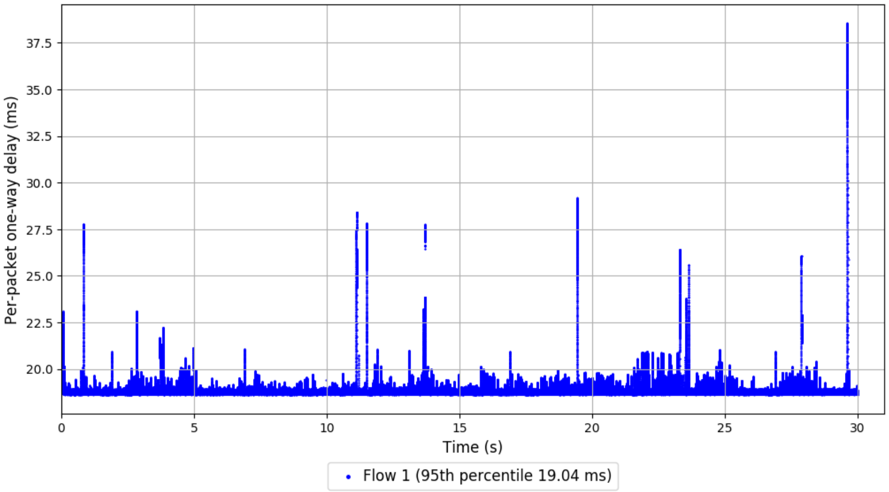
```
Run 3: Statistics of TaoVA-100x

Start at: 2017-08-21 22:01:07
End at: 2017-08-21 22:01:37
Local clock offset: 0.566 ms
Remote clock offset: -2.216 ms

# Below is generated by plot.py at 2017-08-22 03:16:05
# Datalink statistics
-- Total of 1 flow:
Average throughput: 242.12 Mbit/s
95th percentile per-packet one-way delay: 19.043 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 242.12 Mbit/s
95th percentile per-packet one-way delay: 19.043 ms
Loss rate: 0.00%
```

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



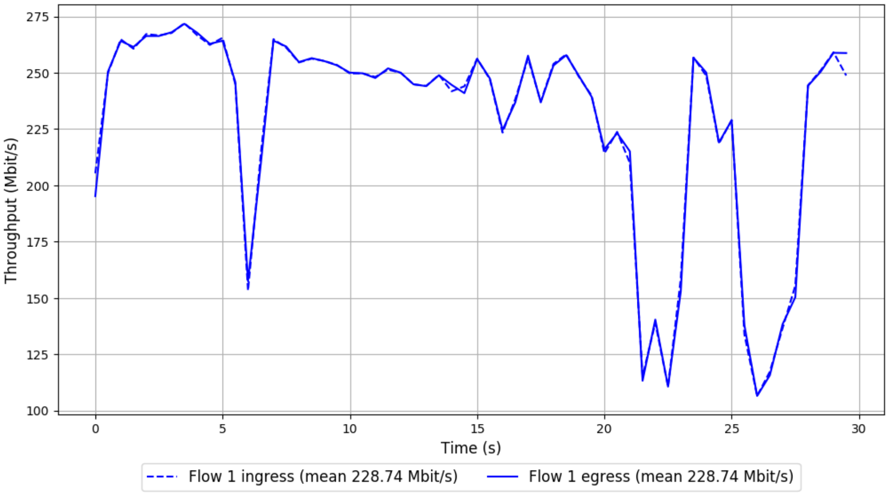


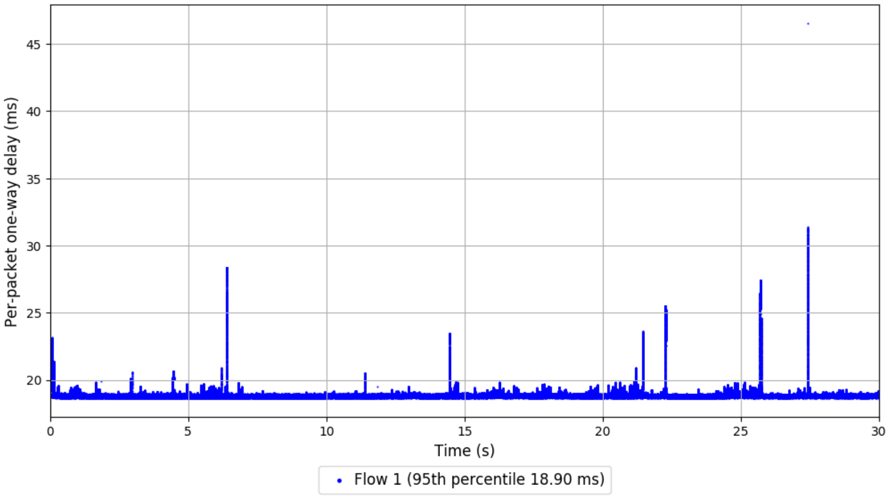
```
Run 4: Statistics of TaoVA-100x

Start at: 2017-08-21 22:21:16
End at: 2017-08-21 22:21:46
Local clock offset: 0.546 ms
Remote clock offset: -2.286 ms

# Below is generated by plot.py at 2017-08-22 03:16:05
# Datalink statistics
-- Total of 1 flow:
Average throughput: 228.74 Mbit/s
95th percentile per-packet one-way delay: 18.900 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 228.74 Mbit/s
95th percentile per-packet one-way delay: 18.900 ms
Loss rate: 0.00%
```

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



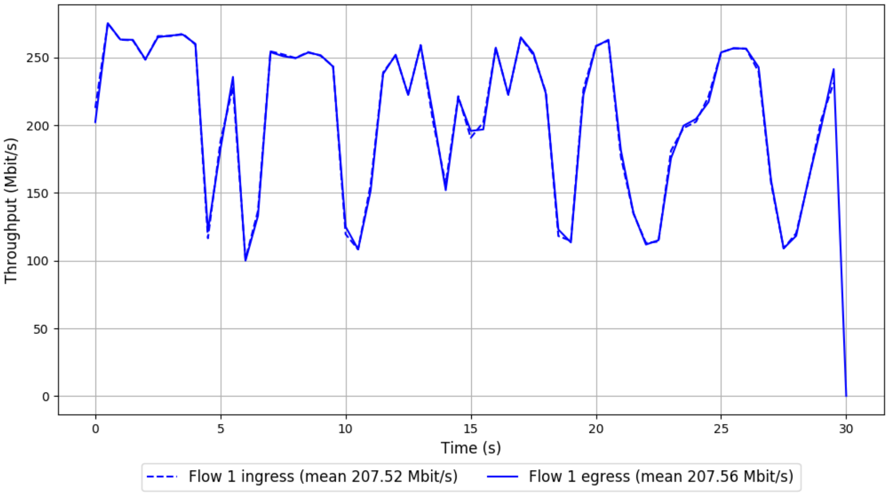


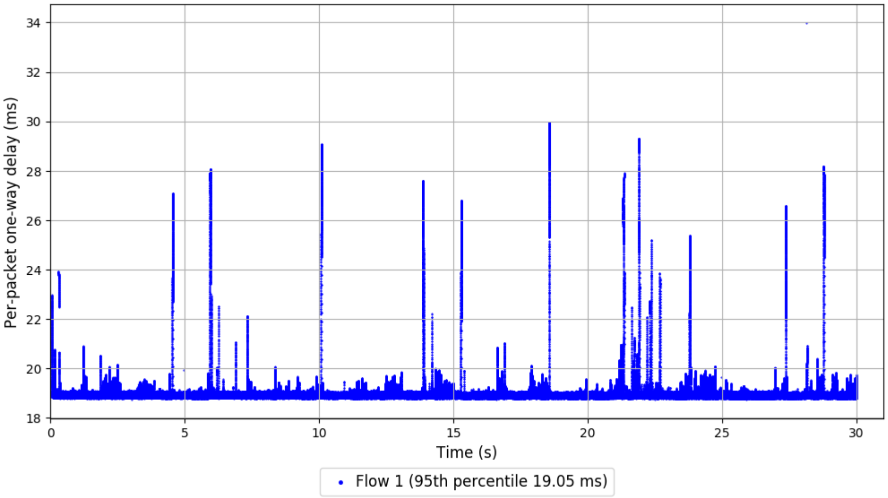
```
Run 5: Statistics of TaoVA-100x

Start at: 2017-08-21 22:41:40
End at: 2017-08-21 22:42:10
Local clock offset: 0.505 ms
Remote clock offset: -2.357 ms

# Below is generated by plot.py at 2017-08-22 03:16:40
# Datalink statistics
-- Total of 1 flow:
Average throughput: 207.56 Mbit/s
95th percentile per-packet one-way delay: 19.046 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 207.56 Mbit/s
95th percentile per-packet one-way delay: 19.046 ms
Loss rate: 0.00%
```

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



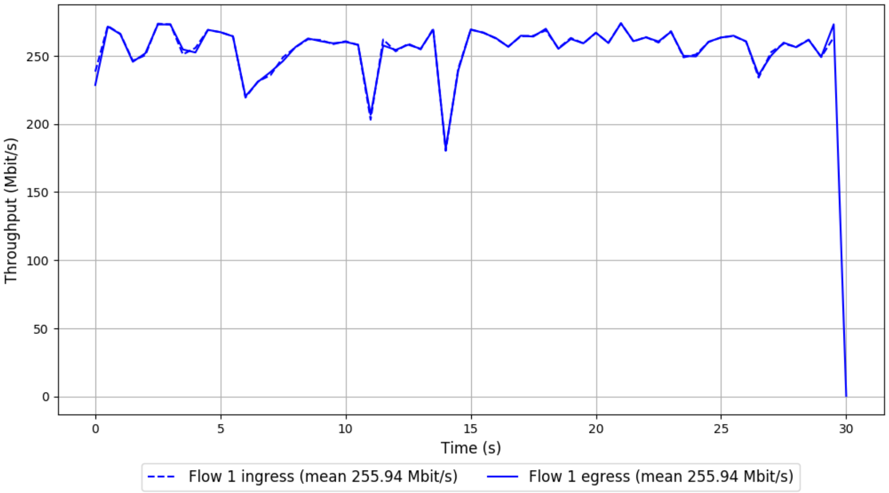


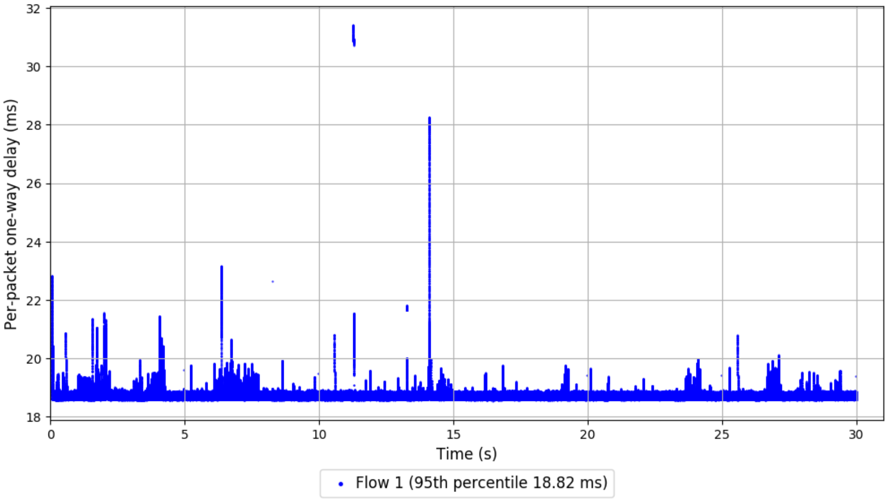
```
Run 6: Statistics of TaoVA-100x

Start at: 2017-08-21 23:02:00
End at: 2017-08-21 23:02:30
Local clock offset: 0.616 ms
Remote clock offset: -2.214 ms

# Below is generated by plot.py at 2017-08-22 03:17:02
# Datalink statistics
-- Total of 1 flow:
Average throughput: 255.94 Mbit/s
95th percentile per-packet one-way delay: 18.818 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 255.94 Mbit/s
95th percentile per-packet one-way delay: 18.818 ms
Loss rate: 0.00%
```

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



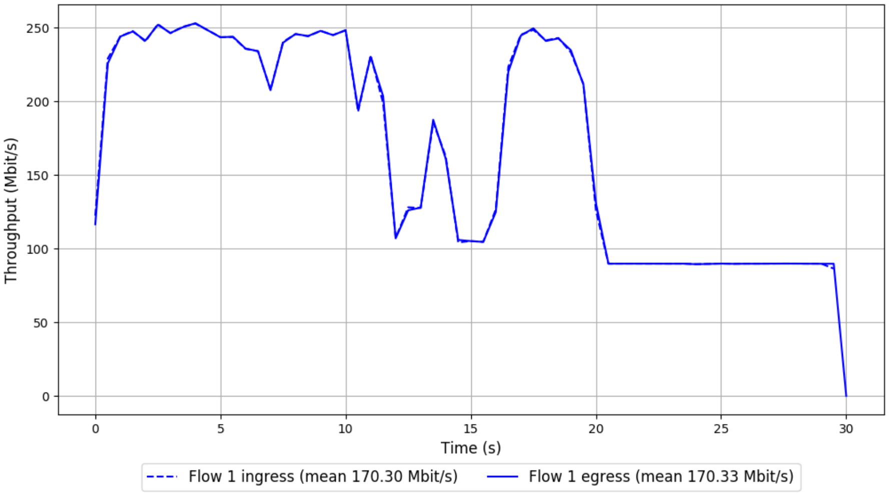


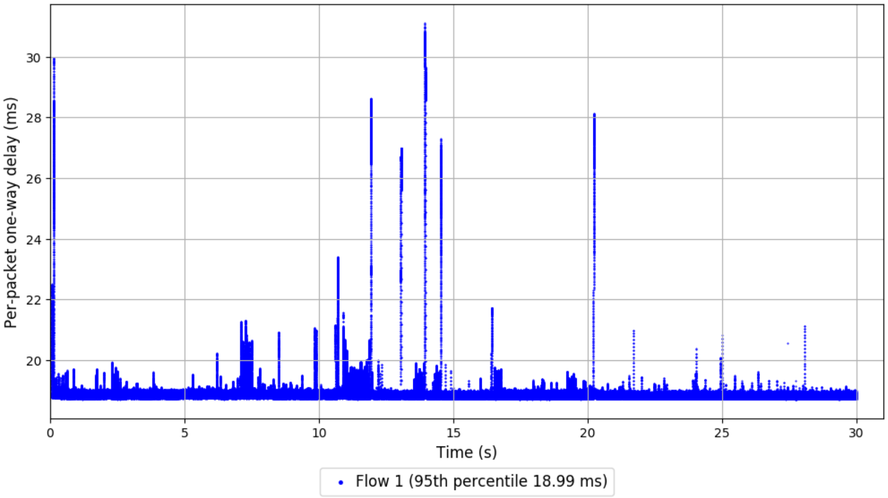
```
Run 7: Statistics of TaoVA-100x

Start at: 2017-08-21 23:22:02
End at: 2017-08-21 23:22:32
Local clock offset: 0.381 ms
Remote clock offset: -2.434 ms

# Below is generated by plot.py at 2017-08-22 03:17:24
# Datalink statistics
-- Total of 1 flow:
Average throughput: 170.33 Mbit/s
95th percentile per-packet one-way delay: 18.986 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 170.33 Mbit/s
95th percentile per-packet one-way delay: 18.986 ms
Loss rate: 0.00%
```

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



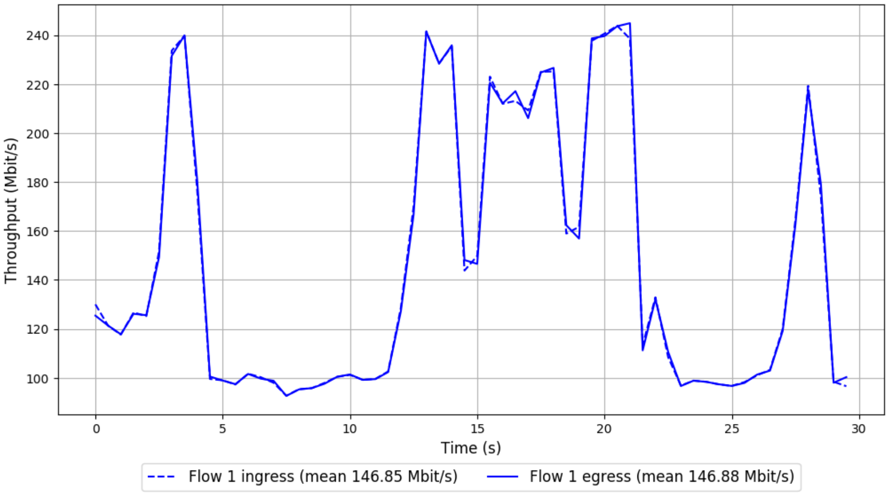


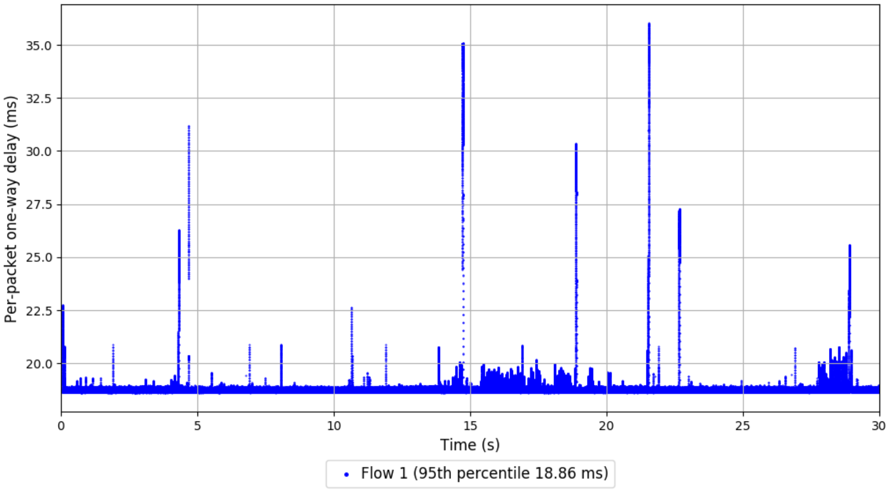
```
Run 8: Statistics of TaoVA-100x

Start at: 2017-08-21 23:42:05
End at: 2017-08-21 23:42:36
Local clock offset: 0.366 ms
Remote clock offset: -2.55 ms

# Below is generated by plot.py at 2017-08-22 03:17:41
# Datalink statistics
-- Total of 1 flow:
Average throughput: 146.88 Mbit/s
95th percentile per-packet one-way delay: 18.861 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 146.88 Mbit/s
95th percentile per-packet one-way delay: 18.861 ms
Loss rate: 0.00%
```

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



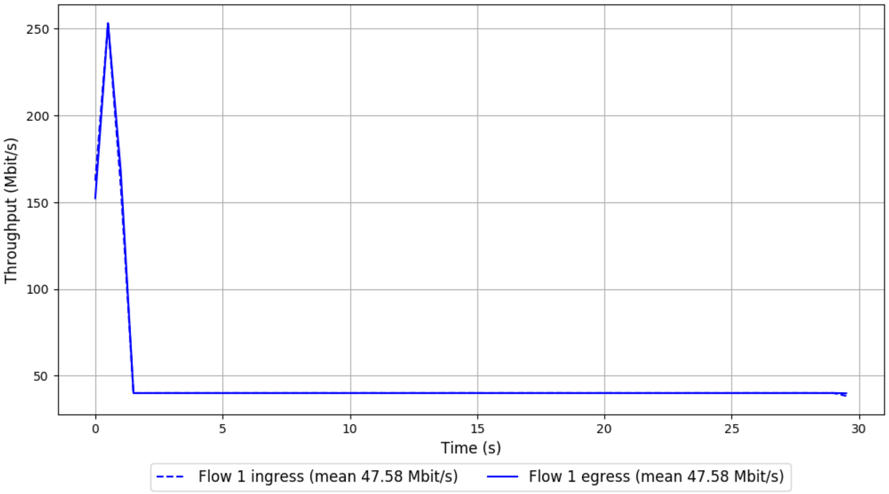


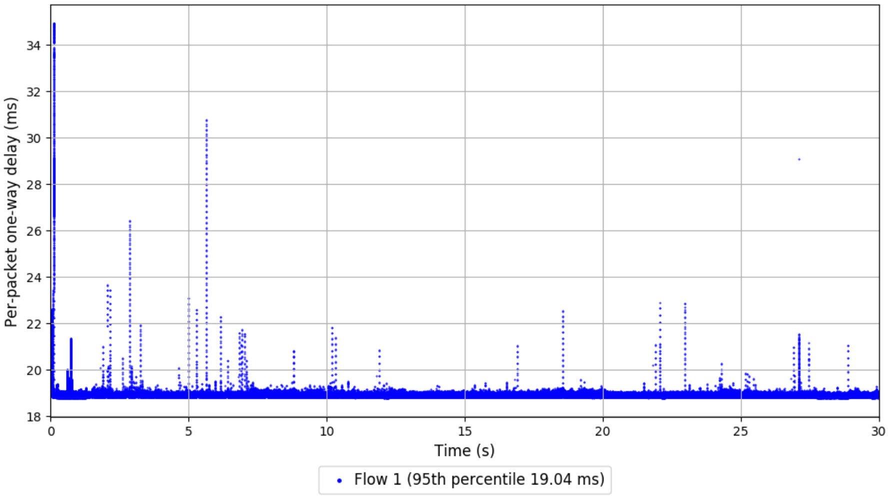
```
Run 9: Statistics of TaoVA-100x

Start at: 2017-08-22 00:02:10
End at: 2017-08-22 00:02:40
Local clock offset: 0.264 ms
Remote clock offset: -2.508 ms

# Below is generated by plot.py at 2017-08-22 03:17:41
# Datalink statistics
-- Total of 1 flow:
Average throughput: 47.58 Mbit/s
95th percentile per-packet one-way delay: 19.043 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 47.58 Mbit/s
95th percentile per-packet one-way delay: 19.043 ms
Loss rate: 0.00%
```

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



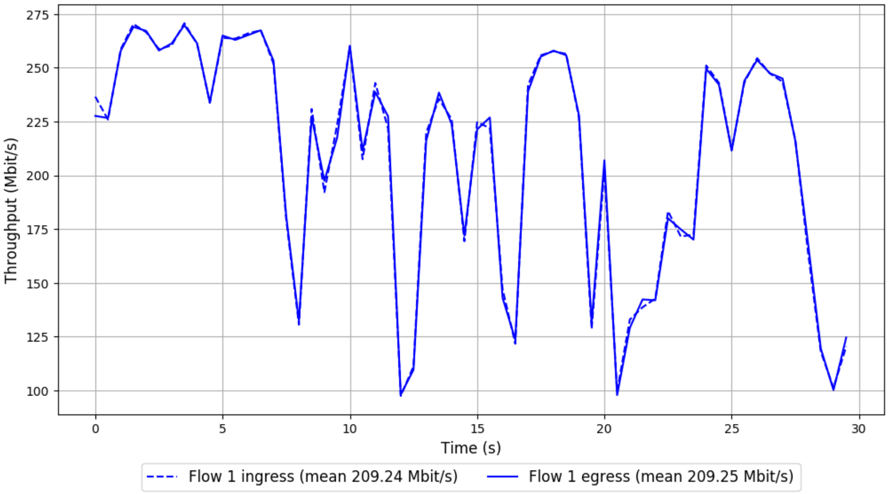


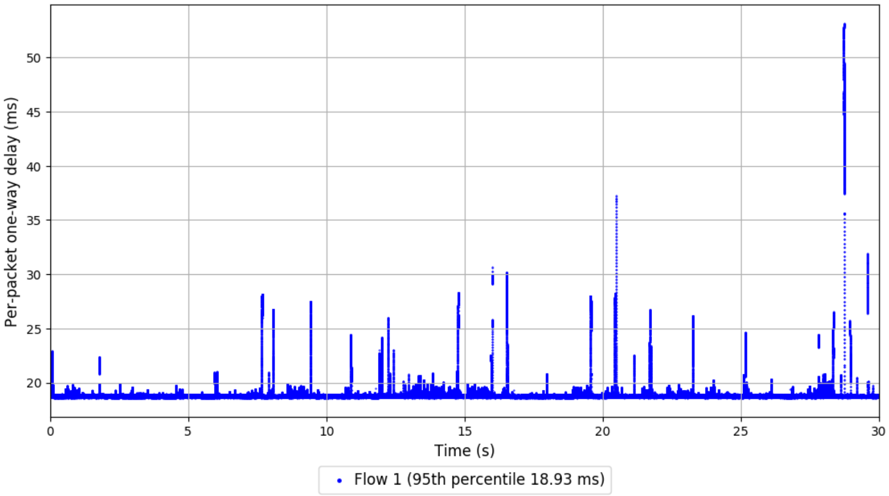
```
Run 10: Statistics of TaoVA-100x

Start at: 2017-08-22 00:22:16
End at: 2017-08-22 00:22:46
Local clock offset: 0.492 ms
Remote clock offset: -2.806 ms

# Below is generated by plot.py at 2017-08-22 03:18:29
# Datalink statistics
-- Total of 1 flow:
Average throughput: 209.25 Mbit/s
95th percentile per-packet one-way delay: 18.927 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 209.25 Mbit/s
95th percentile per-packet one-way delay: 18.927 ms
Loss rate: 0.00%
```

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

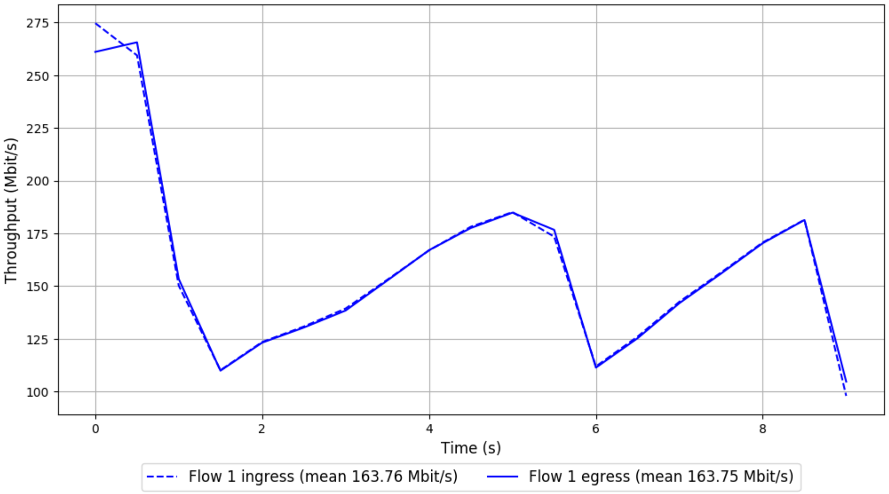


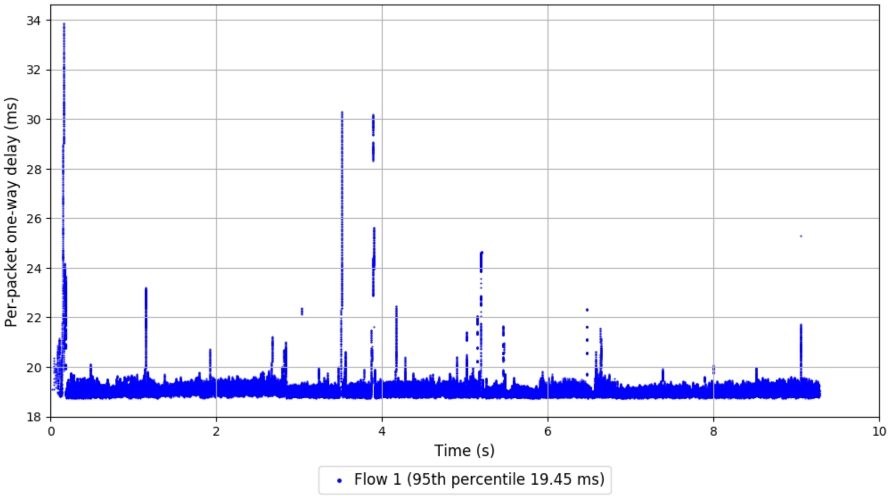


```
Run 1: Statistics of TCP Vegas

Start at: 2017-08-21 21:28:45
End at: 2017-08-21 21:29:15
Local clock offset: 0.431 ms
Remote clock offset: -2.086 ms
```

Run 1: Report of TCP Vegas — Data Link

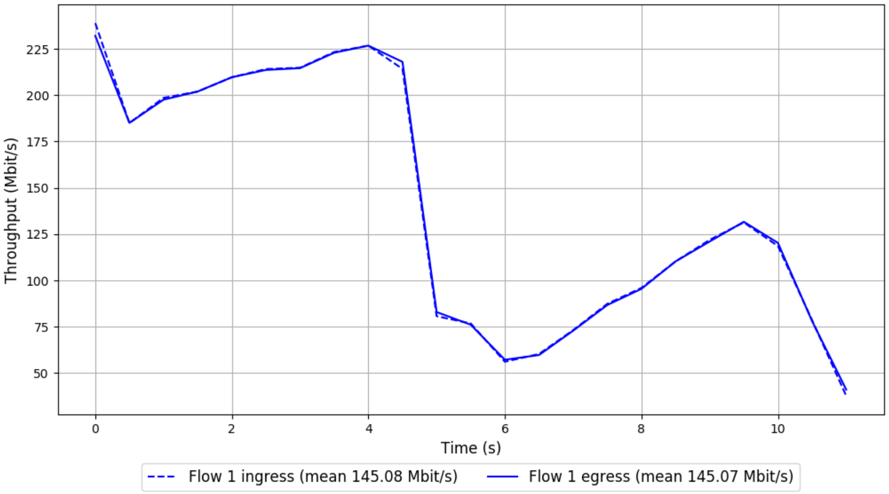


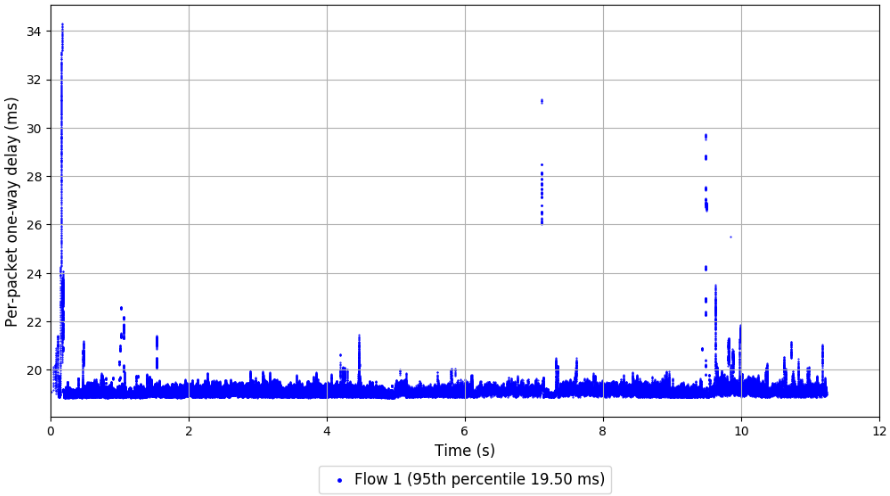


```
Run 2: Statistics of TCP Vegas

Start at: 2017-08-21 21:48:51
End at: 2017-08-21 21:49:21
Local clock offset: 0.573 ms
Remote clock offset: -1.991 ms
```

Run 2: Report of TCP Vegas — Data Link



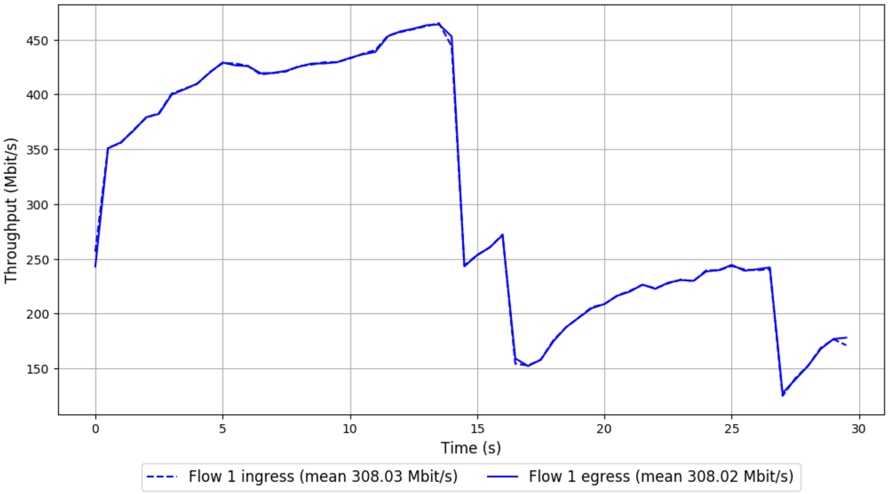


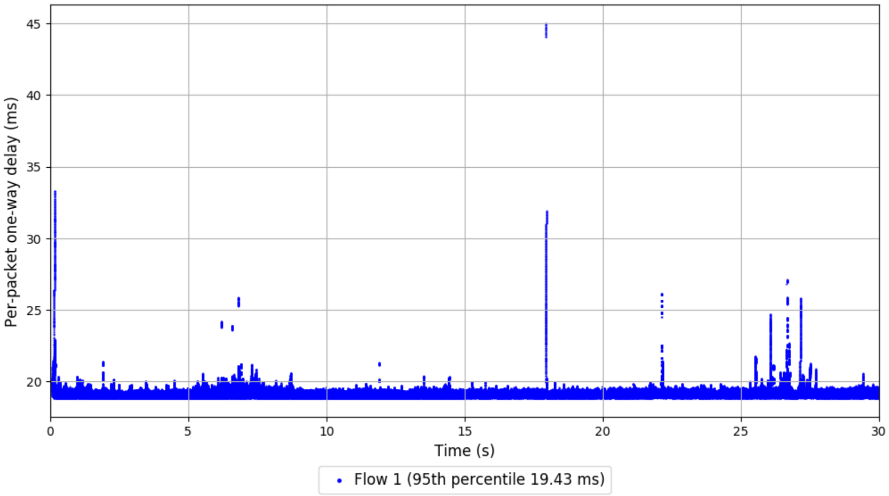
```
Run 3: Statistics of TCP Vegas

Start at: 2017-08-21 22:08:54
End at: 2017-08-21 22:09:24
Local clock offset: 0.577 ms
Remote clock offset: -2.328 ms

# Below is generated by plot.py at 2017-08-22 03:18:33
# Datalink statistics
-- Total of 1 flow:
Average throughput: 308.02 Mbit/s
95th percentile per-packet one-way delay: 19.428 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 308.02 Mbit/s
95th percentile per-packet one-way delay: 19.428 ms
Loss rate: 0.00%
```

Run 3: Report of TCP Vegas — Data Link



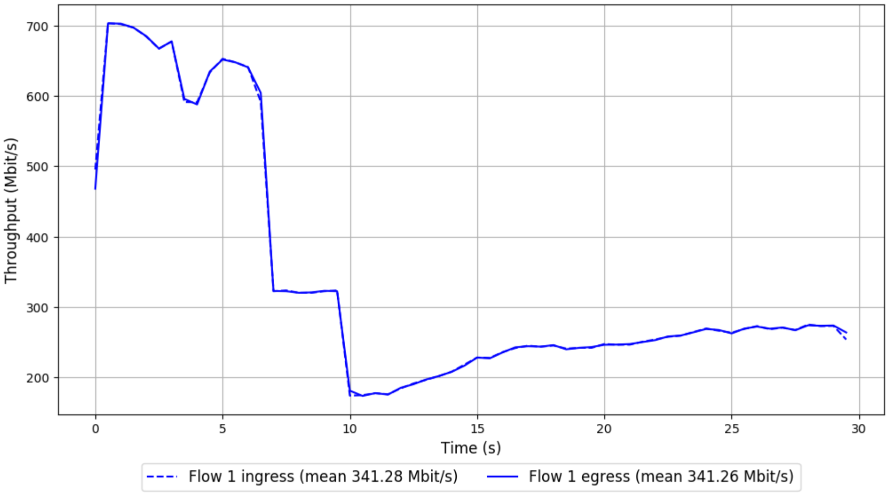


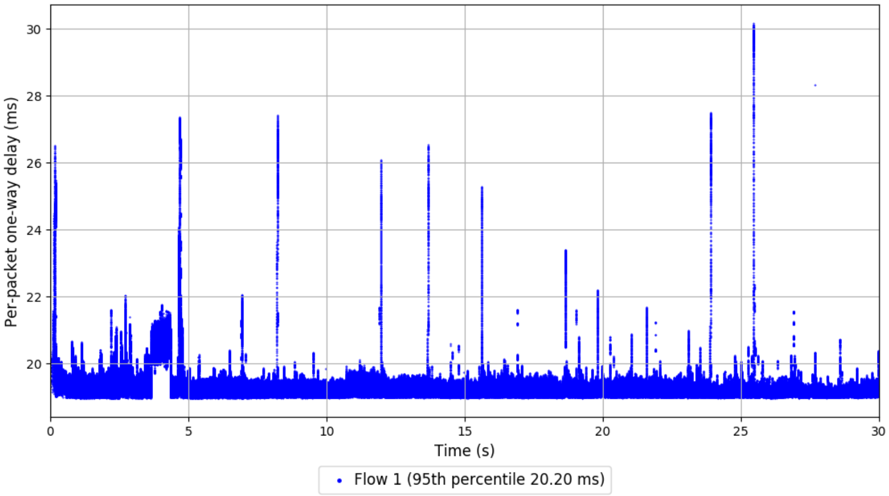
```
Run 4: Statistics of TCP Vegas

Start at: 2017-08-21 22:29:09
End at: 2017-08-21 22:29:39
Local clock offset: 0.484 ms
Remote clock offset: -2.398 ms

# Below is generated by plot.py at 2017-08-22 03:19:02
# Datalink statistics
-- Total of 1 flow:
Average throughput: 341.26 Mbit/s
95th percentile per-packet one-way delay: 20.205 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 341.26 Mbit/s
95th percentile per-packet one-way delay: 20.205 ms
Loss rate: 0.00%
```

Run 4: Report of TCP Vegas — Data Link



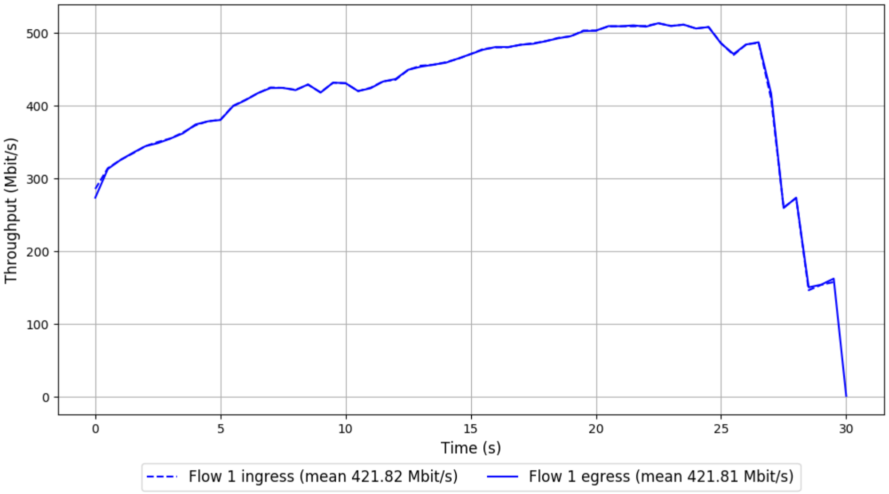


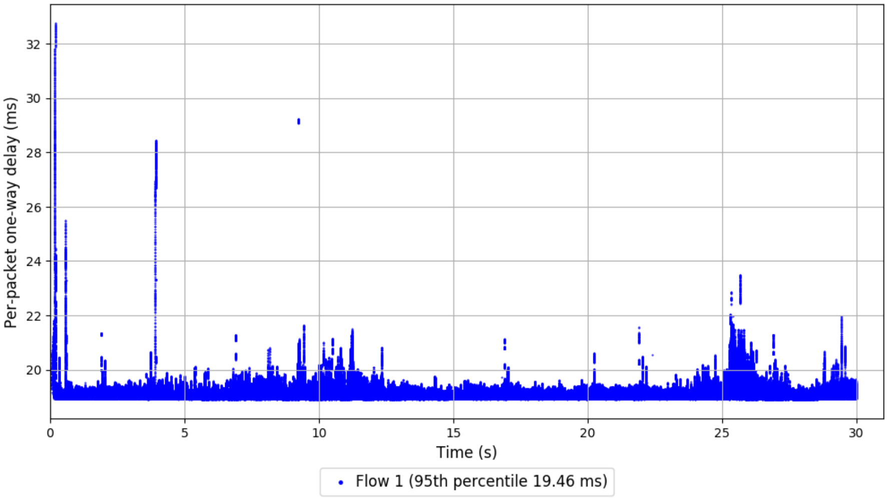
```
Run 5: Statistics of TCP Vegas

Start at: 2017-08-21 22:49:36
End at: 2017-08-21 22:50:06
Local clock offset: 0.558 ms
Remote clock offset: -2.228 ms

# Below is generated by plot.py at 2017-08-22 03:19:23
# Datalink statistics
-- Total of 1 flow:
Average throughput: 421.81 Mbit/s
95th percentile per-packet one-way delay: 19.460 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 421.81 Mbit/s
95th percentile per-packet one-way delay: 19.460 ms
Loss rate: 0.00%
```

Run 5: Report of TCP Vegas — Data Link



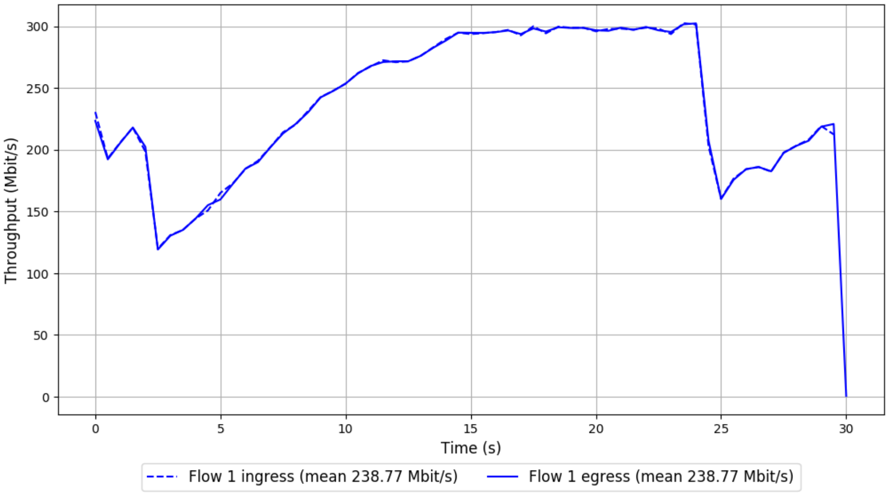


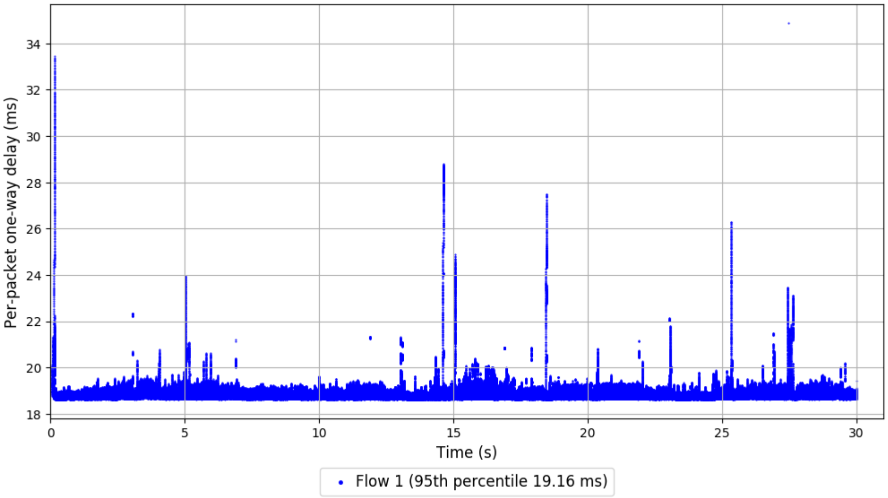
```
Run 6: Statistics of TCP Vegas

Start at: 2017-08-21 23:09:46
End at: 2017-08-21 23:10:16
Local clock offset: 0.561 ms
Remote clock offset: -2.345 ms

# Below is generated by plot.py at 2017-08-22 03:19:39
# Datalink statistics
-- Total of 1 flow:
Average throughput: 238.77 Mbit/s
95th percentile per-packet one-way delay: 19.158 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 238.77 Mbit/s
95th percentile per-packet one-way delay: 19.158 ms
Loss rate: 0.00%
```

Run 6: Report of TCP Vegas — Data Link

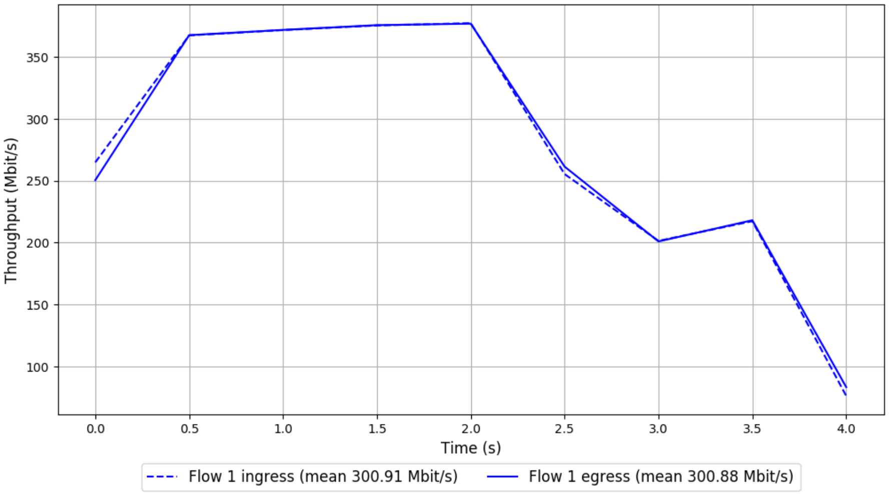


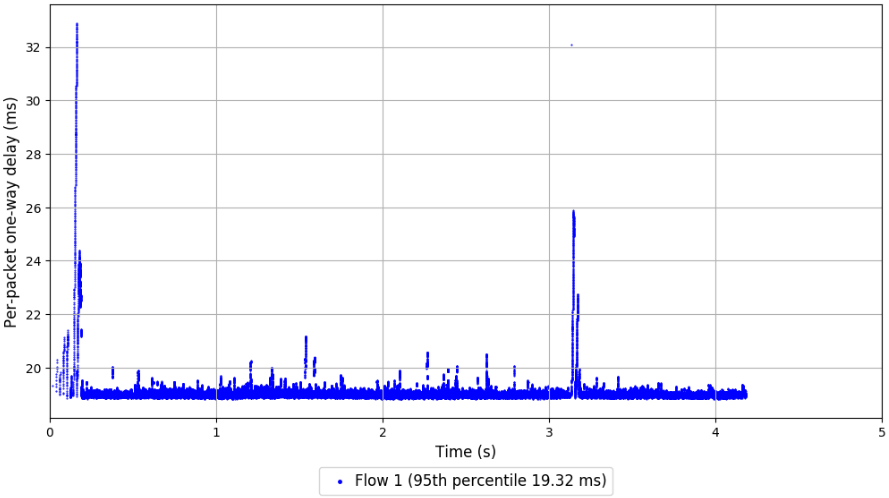


```
Run 7: Statistics of TCP Vegas

Start at: 2017-08-21 23:29:58
End at: 2017-08-21 23:30:28
Local clock offset: 0.42 ms
Remote clock offset: -2.324 ms
```

Run 7: Report of TCP Vegas — Data Link



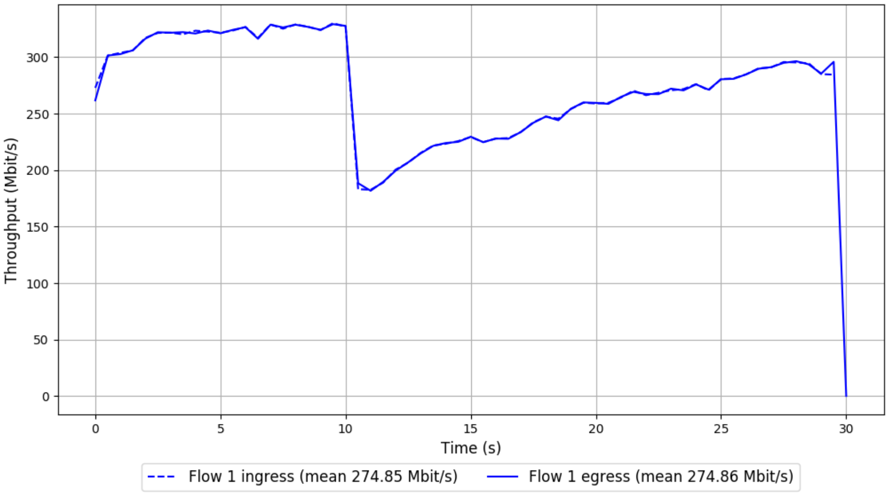


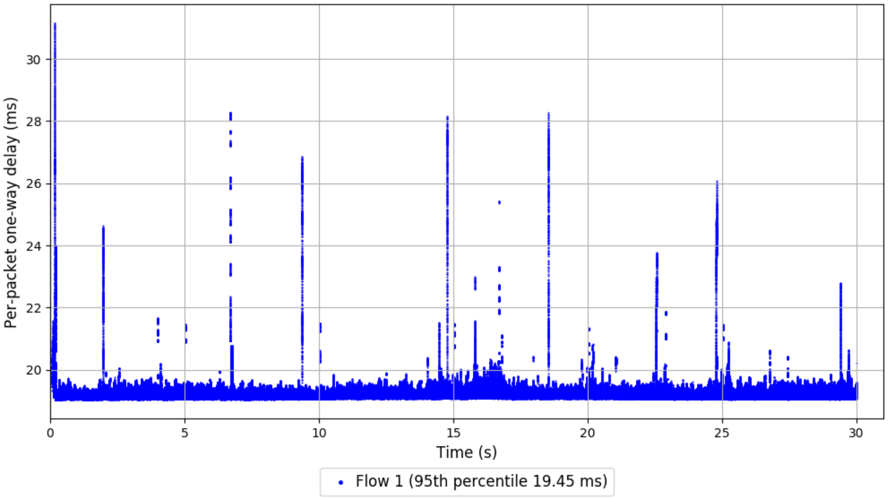
```
Run 8: Statistics of TCP Vegas

Start at: 2017-08-21 23:49:45
End at: 2017-08-21 23:50:15
Local clock offset: 0.257 ms
Remote clock offset: -2.557 ms

# Below is generated by plot.py at 2017-08-22 03:20:00
# Datalink statistics
-- Total of 1 flow:
Average throughput: 274.86 Mbit/s
95th percentile per-packet one-way delay: 19.453 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 274.86 Mbit/s
95th percentile per-packet one-way delay: 19.453 ms
Loss rate: 0.00%
```

Run 8: Report of TCP Vegas — Data Link



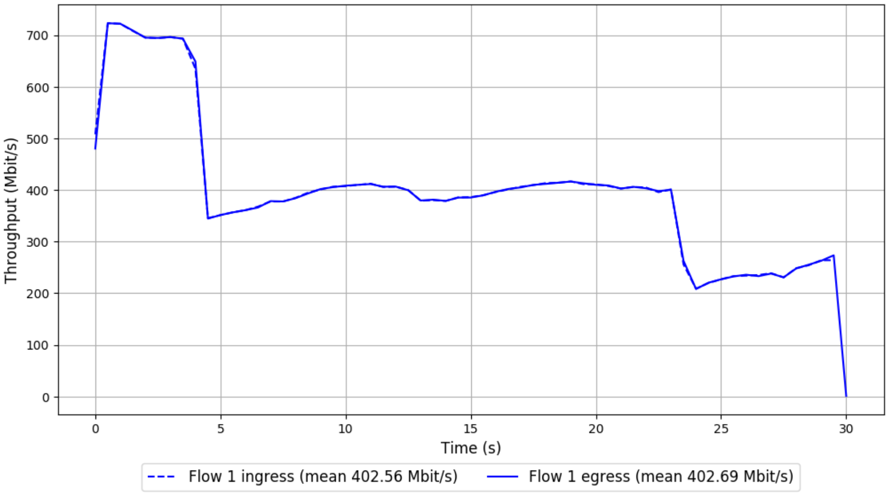


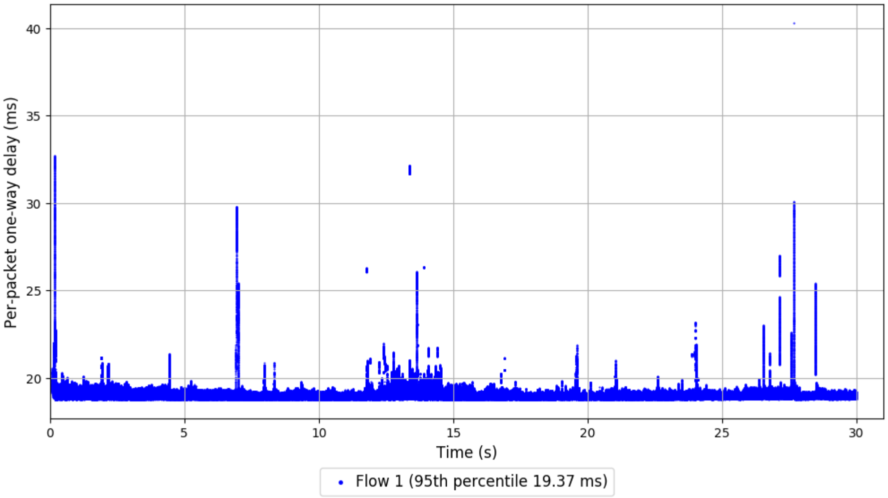
```
Run 9: Statistics of TCP Vegas

Start at: 2017-08-22 00:09:48
End at: 2017-08-22 00:10:18
Local clock offset: 0.336 ms
Remote clock offset: -2.603 ms

# Below is generated by plot.py at 2017-08-22 03:20:32
# Datalink statistics
-- Total of 1 flow:
Average throughput: 402.69 Mbit/s
95th percentile per-packet one-way delay: 19.368 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 402.69 Mbit/s
95th percentile per-packet one-way delay: 19.368 ms
Loss rate: 0.00%
```

Run 9: Report of TCP Vegas — Data Link

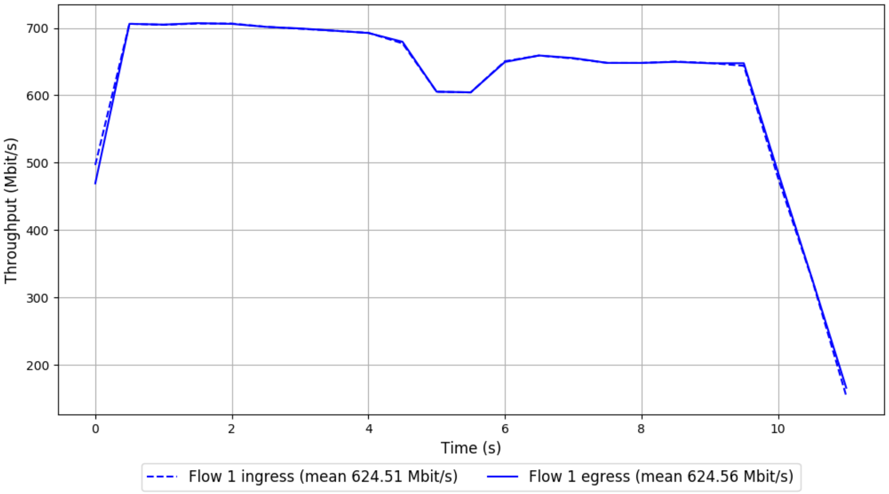


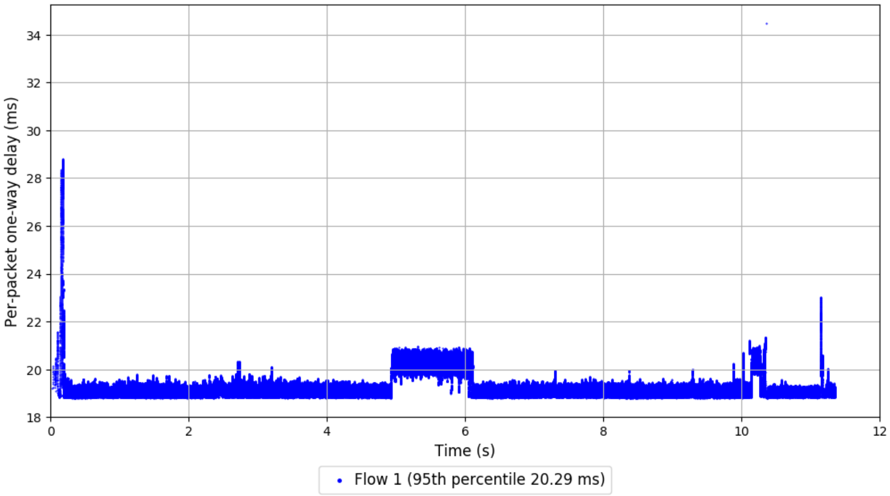


```
Run 10: Statistics of TCP Vegas

Start at: 2017-08-22 00:30:28
End at: 2017-08-22 00:30:59
Local clock offset: 0.41 ms
Remote clock offset: -2.552 ms
```

Run 10: Report of TCP Vegas — Data Link



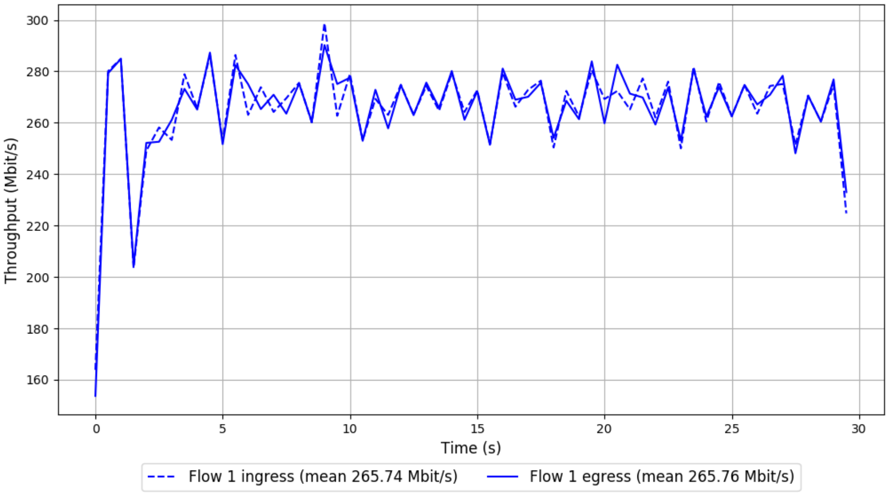


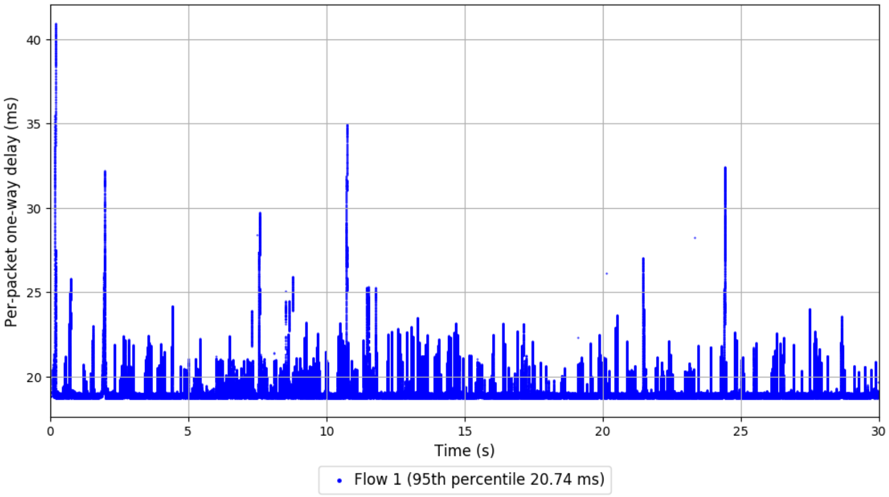
```
Run 1: Statistics of Verus

Start at: 2017-08-21 21:13:54
End at: 2017-08-21 21:14:24
Local clock offset: 0.443 ms
Remote clock offset: -1.94 ms

# Below is generated by plot.py at 2017-08-22 03:21:06
# Datalink statistics
-- Total of 1 flow:
Average throughput: 265.76 Mbit/s
95th percentile per-packet one-way delay: 20.742 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 265.76 Mbit/s
95th percentile per-packet one-way delay: 20.742 ms
Loss rate: 0.01%
```

Run 1: Report of Verus — Data Link



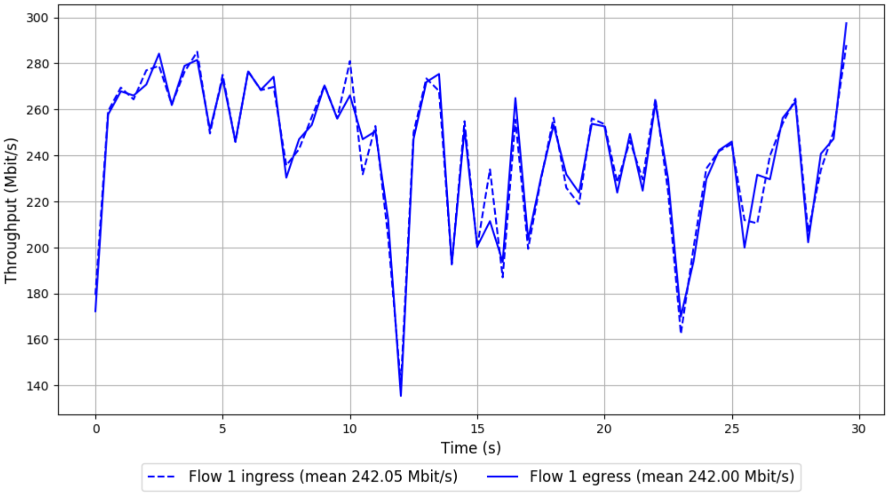


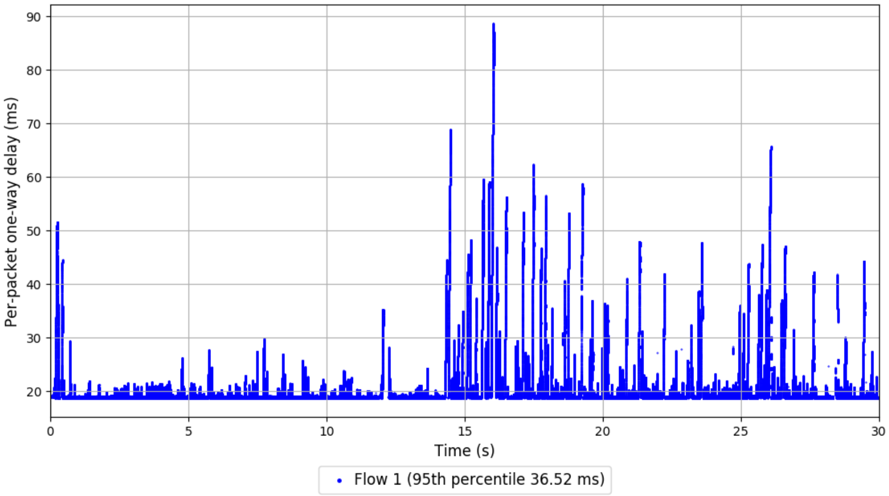
```
Run 2: Statistics of Verus

Start at: 2017-08-21 21:34:06
End at: 2017-08-21 21:34:36
Local clock offset: 0.537 ms
Remote clock offset: -1.982 ms

# Below is generated by plot.py at 2017-08-22 03:21:06
# Datalink statistics
-- Total of 1 flow:
Average throughput: 242.00 Mbit/s
95th percentile per-packet one-way delay: 36.520 ms
Loss rate: 0.02%
-- Flow 1:
Average throughput: 242.00 Mbit/s
95th percentile per-packet one-way delay: 36.520 ms
Loss rate: 0.02%
```

Run 2: Report of Verus — Data Link



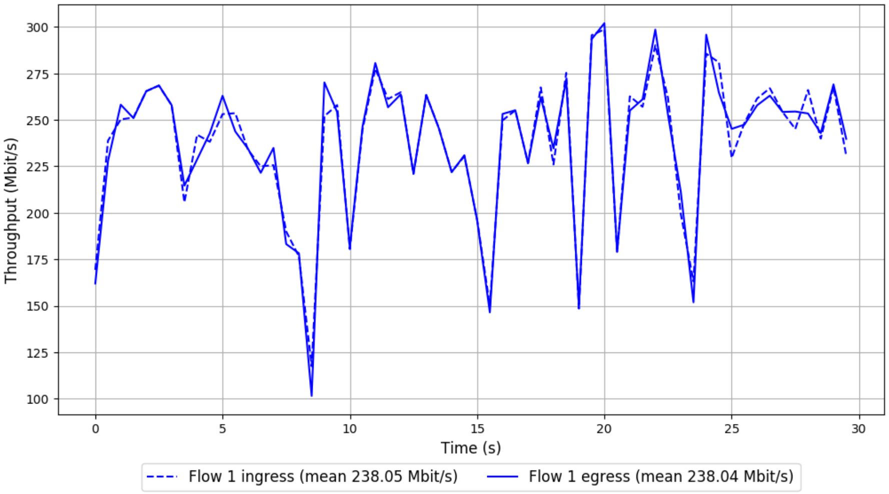


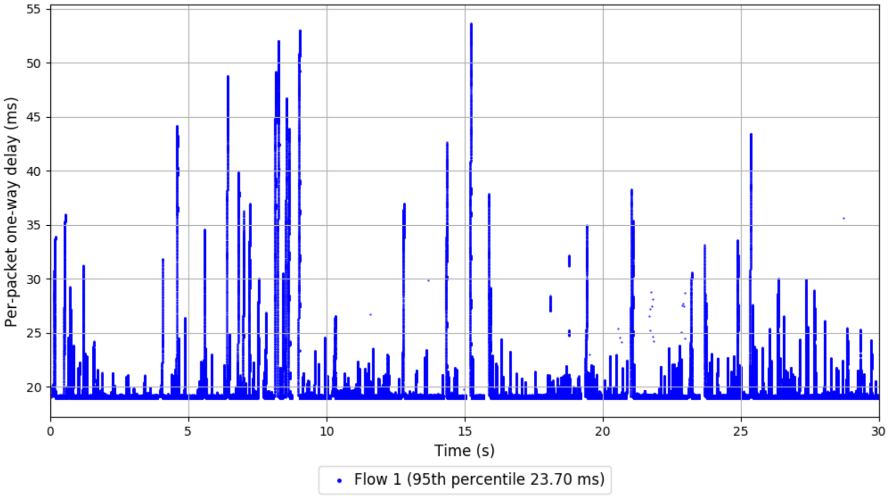
```
Run 3: Statistics of Verus

Start at: 2017-08-21 21:54:27
End at: 2017-08-21 21:54:57
Local clock offset: 0.489 ms
Remote clock offset: -2.088 ms

# Below is generated by plot.py at 2017-08-22 03:21:35
# Datalink statistics
-- Total of 1 flow:
Average throughput: 238.04 Mbit/s
95th percentile per-packet one-way delay: 23.705 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 238.04 Mbit/s
95th percentile per-packet one-way delay: 23.705 ms
Loss rate: 0.00%
```

Run 3: Report of Verus — Data Link



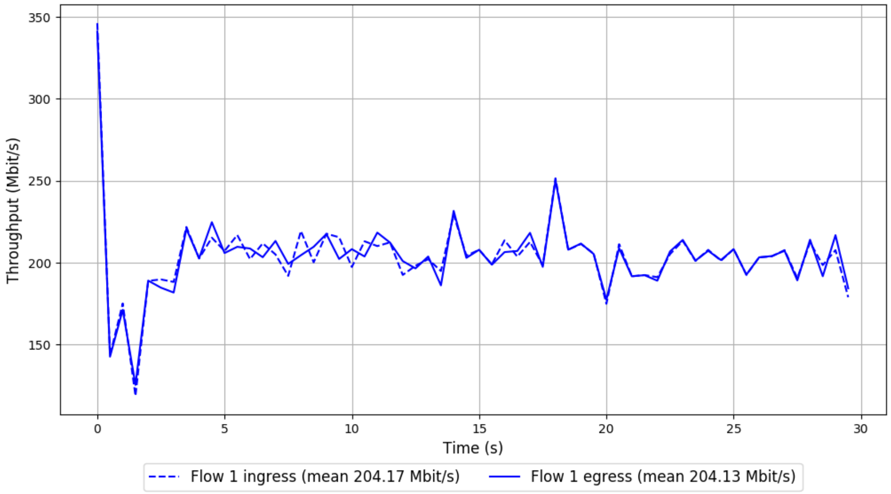


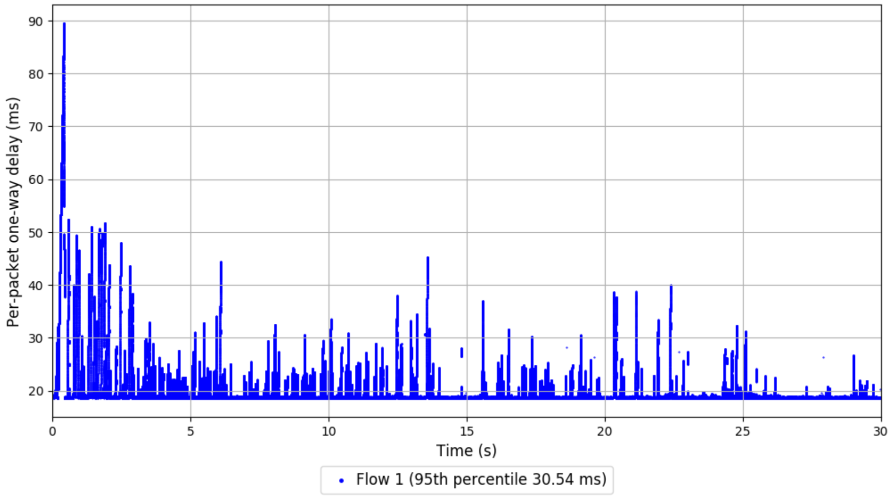
```
Run 4: Statistics of Verus

Start at: 2017-08-21 22:14:36
End at: 2017-08-21 22:15:06
Local clock offset: 0.566 ms
Remote clock offset: -2.354 ms

# Below is generated by plot.py at 2017-08-22 03:21:35
# Datalink statistics
-- Total of 1 flow:
Average throughput: 204.13 Mbit/s
95th percentile per-packet one-way delay: 30.535 ms
Loss rate: 0.02%
-- Flow 1:
Average throughput: 204.13 Mbit/s
95th percentile per-packet one-way delay: 30.535 ms
Loss rate: 0.02%
```

Run 4: Report of Verus — Data Link



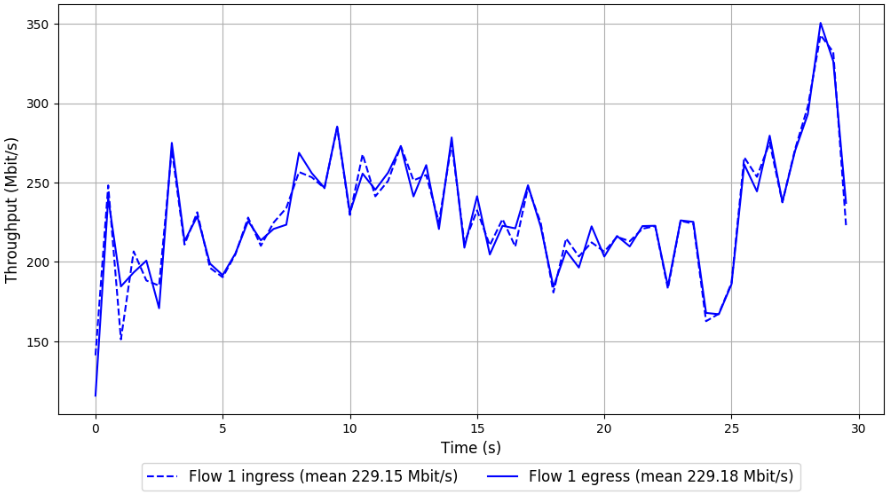


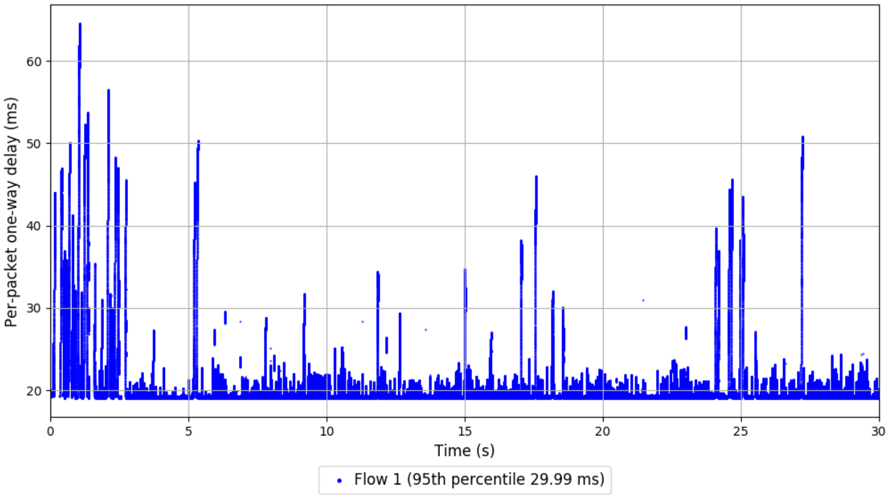
```
Run 5: Statistics of Verus

Start at: 2017-08-21 22:34:54
End at: 2017-08-21 22:35:24
Local clock offset: 0.484 ms
Remote clock offset: -2.455 ms

# Below is generated by plot.py at 2017-08-22 03:22:02
# Datalink statistics
-- Total of 1 flow:
Average throughput: 229.18 Mbit/s
95th percentile per-packet one-way delay: 29.991 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 229.18 Mbit/s
95th percentile per-packet one-way delay: 29.991 ms
Loss rate: 0.01%
```

Run 5: Report of Verus — Data Link



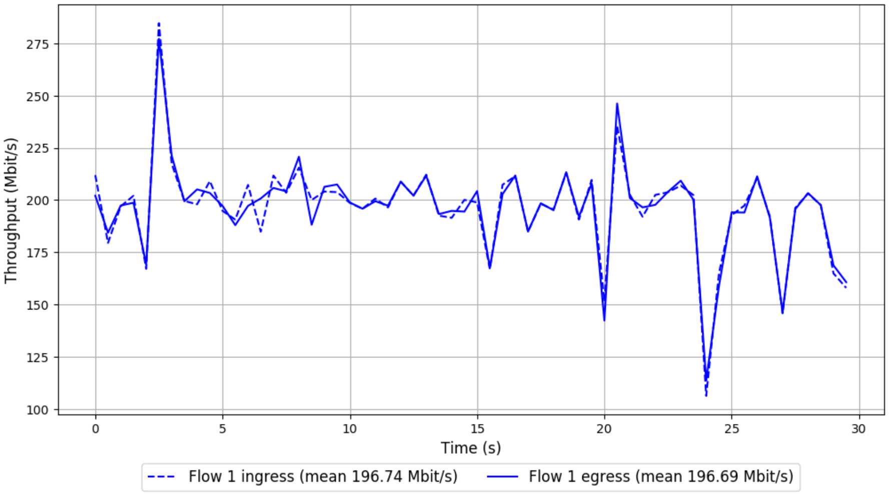


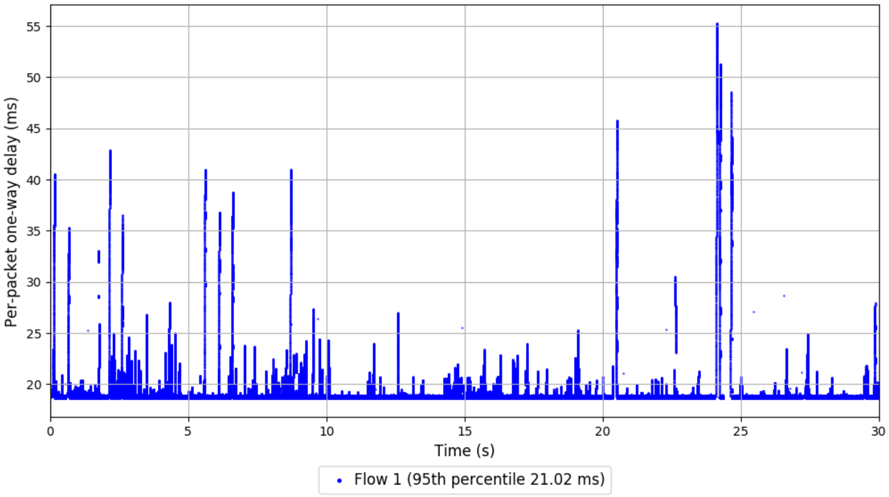
```
Run 6: Statistics of Verus

Start at: 2017-08-21 22:55:23
End at: 2017-08-21 22:55:53
Local clock offset: 0.652 ms
Remote clock offset: -2.065 ms

# Below is generated by plot.py at 2017-08-22 03:22:02
# Datalink statistics
-- Total of 1 flow:
Average throughput: 196.69 Mbit/s
95th percentile per-packet one-way delay: 21.022 ms
Loss rate: 0.02%
-- Flow 1:
Average throughput: 196.69 Mbit/s
95th percentile per-packet one-way delay: 21.022 ms
Loss rate: 0.02%
```

Run 6: Report of Verus — Data Link



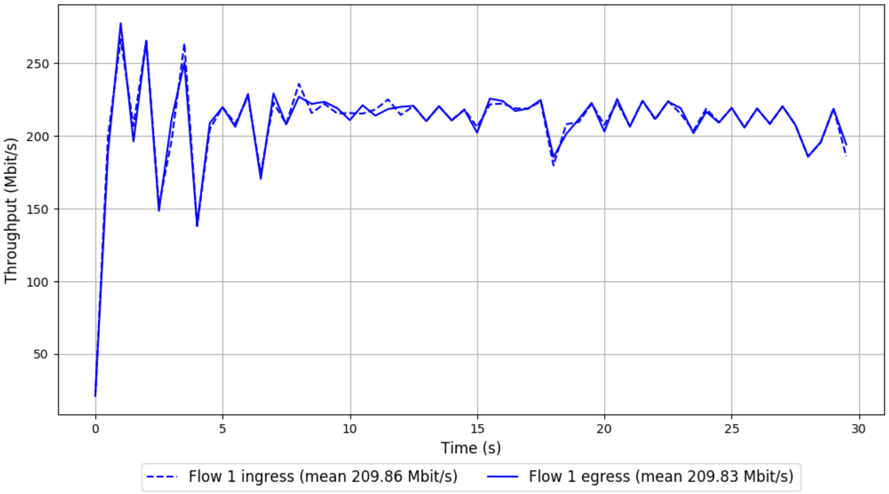


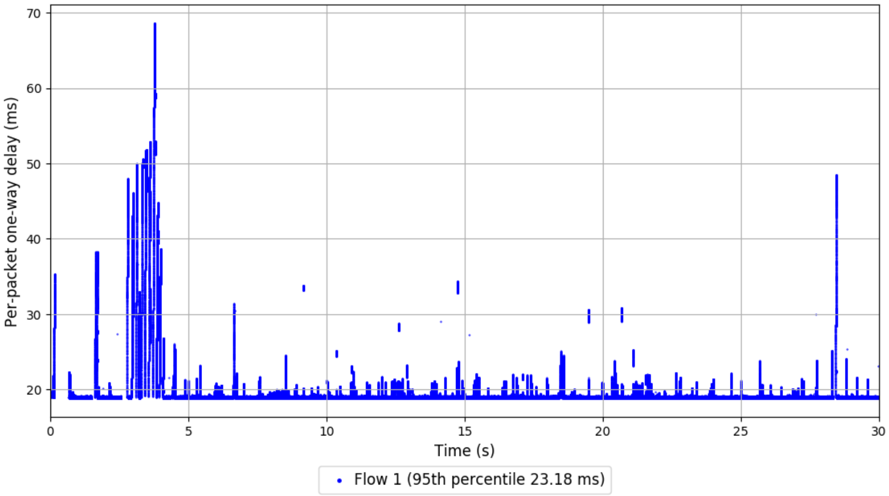
```
Run 7: Statistics of Verus

Start at: 2017-08-21 23:15:20
End at: 2017-08-21 23:15:50
Local clock offset: 0.523 ms
Remote clock offset: -2.417 ms

# Below is generated by plot.py at 2017-08-22 03:22:28
# Datalink statistics
-- Total of 1 flow:
Average throughput: 209.83 Mbit/s
95th percentile per-packet one-way delay: 23.177 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 209.83 Mbit/s
95th percentile per-packet one-way delay: 23.177 ms
Loss rate: 0.00%
```

Run 7: Report of Verus — Data Link



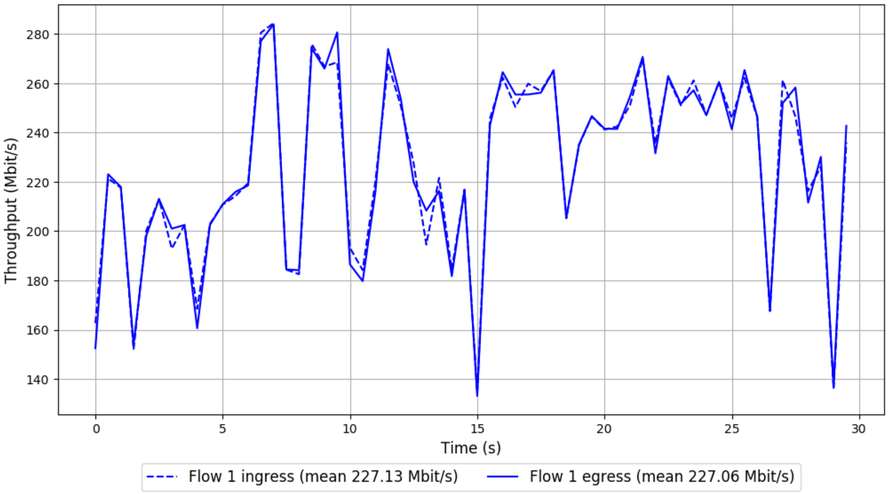


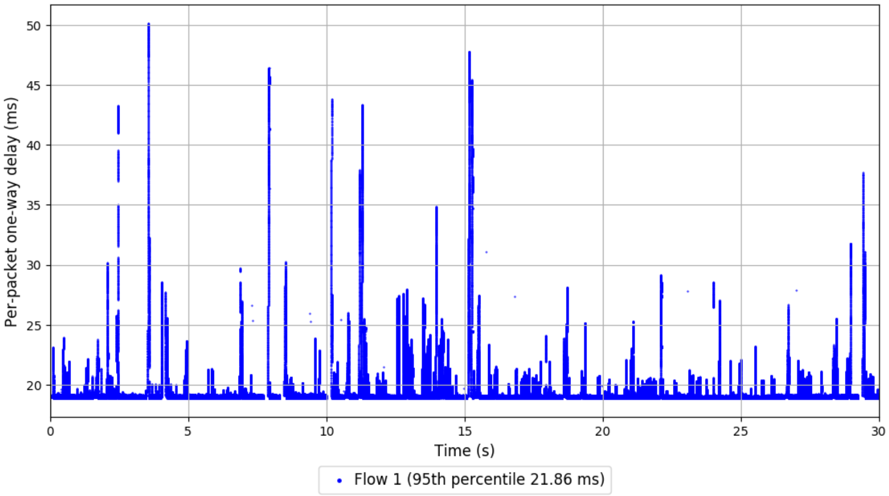
```
Run 8: Statistics of Verus

Start at: 2017-08-21 23:35:26
End at: 2017-08-21 23:35:56
Local clock offset: 0.311 ms
Remote clock offset: -2.445 ms

# Below is generated by plot.py at 2017-08-22 03:22:30
# Datalink statistics
-- Total of 1 flow:
Average throughput: 227.06 Mbit/s
95th percentile per-packet one-way delay: 21.861 ms
Loss rate: 0.03%
-- Flow 1:
Average throughput: 227.06 Mbit/s
95th percentile per-packet one-way delay: 21.861 ms
Loss rate: 0.03%
```

Run 8: Report of Verus — Data Link



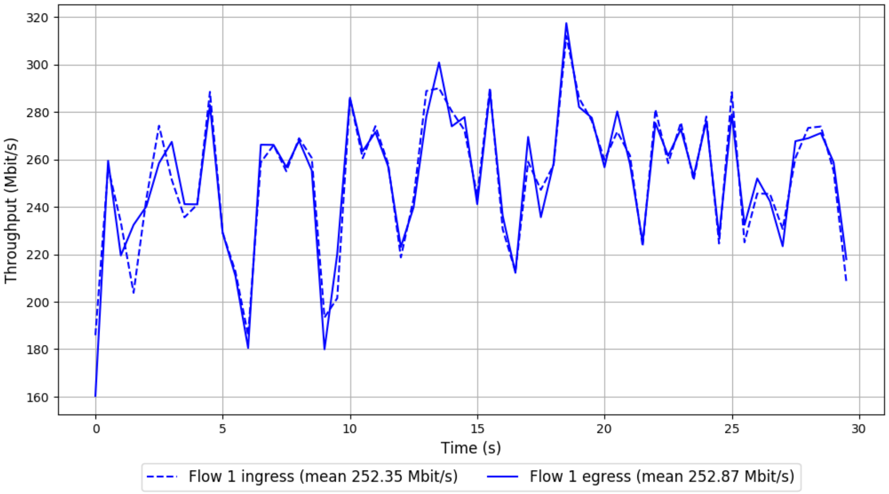


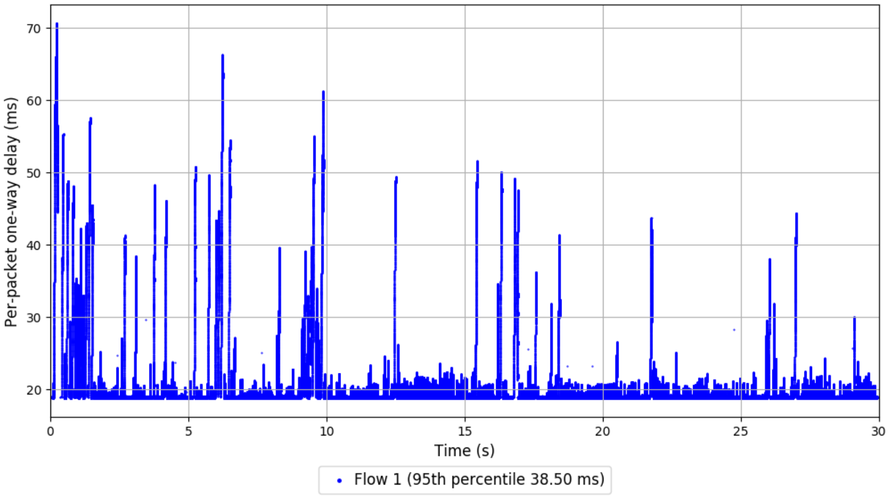
```
Run 9: Statistics of Verus

Start at: 2017-08-21 23:55:25
End at: 2017-08-21 23:55:55
Local clock offset: 0.25 ms
Remote clock offset: -2.644 ms

# Below is generated by plot.py at 2017-08-22 03:22:59
# Datalink statistics
-- Total of 1 flow:
Average throughput: 252.87 Mbit/s
95th percentile per-packet one-way delay: 38.501 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 252.87 Mbit/s
95th percentile per-packet one-way delay: 38.501 ms
Loss rate: 0.00%
```

Run 9: Report of Verus — Data Link



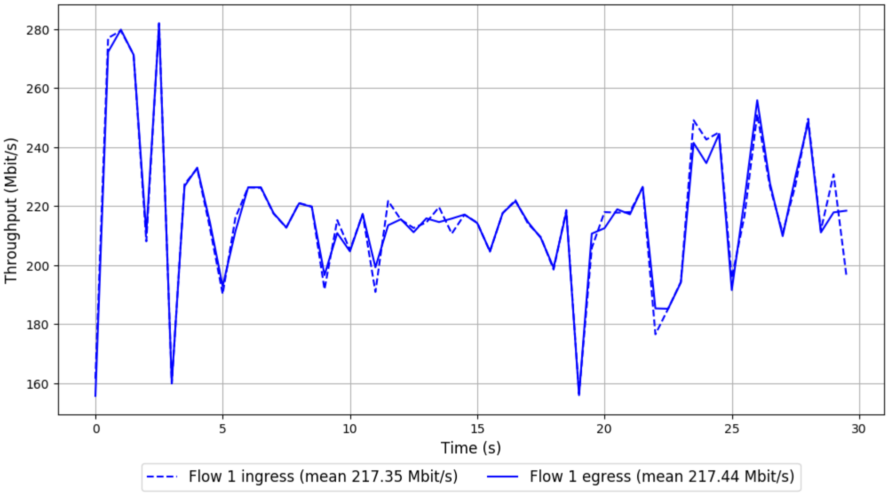


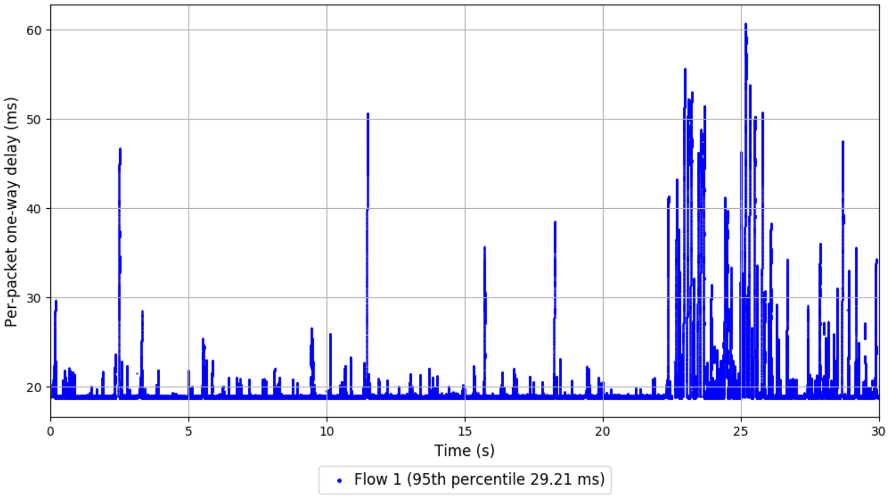
```
Run 10: Statistics of Verus

Start at: 2017-08-22 00:15:37
End at: 2017-08-22 00:16:07
Local clock offset: 0.339 ms
Remote clock offset: -2.769 ms

# Below is generated by plot.py at 2017-08-22 03:23:00
# Datalink statistics
-- Total of 1 flow:
Average throughput: 217.44 Mbit/s
95th percentile per-packet one-way delay: 29.213 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 217.44 Mbit/s
95th percentile per-packet one-way delay: 29.213 ms
Loss rate: 0.00%
```

Run 10: Report of Verus — Data Link



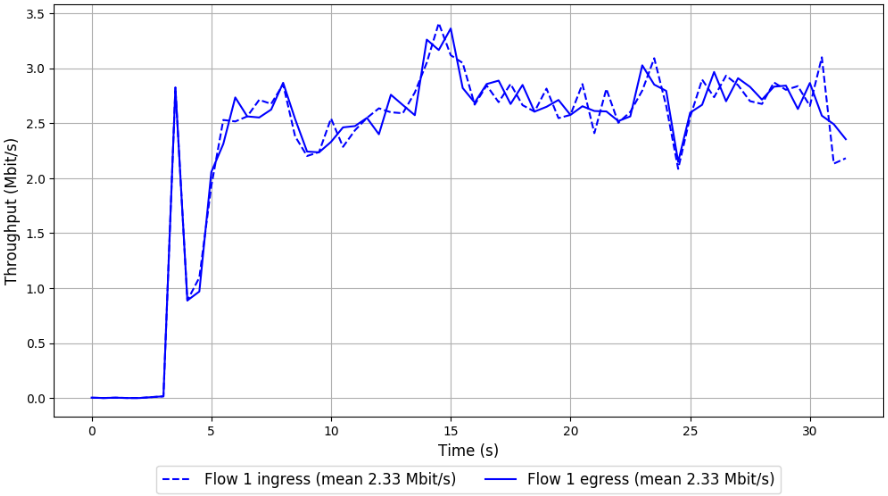


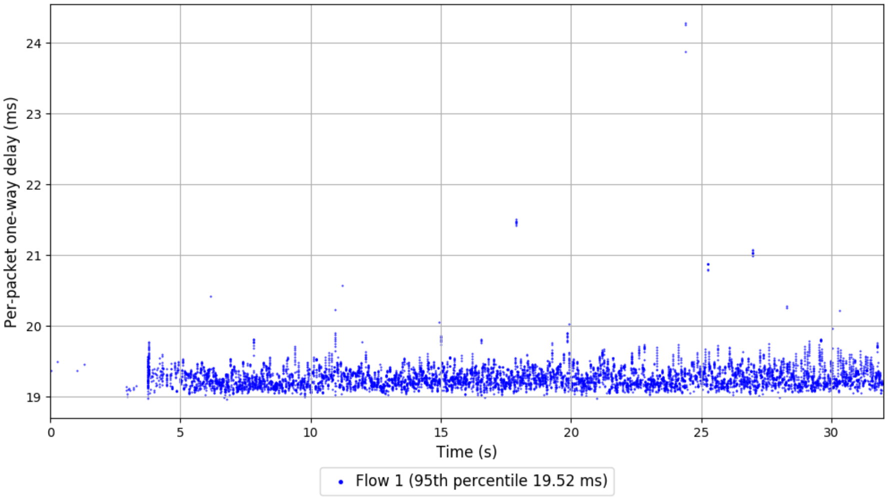
```
Run 1: Statistics of WebRTC media

Start at: 2017-08-21 21:15:21
End at: 2017-08-21 21:15:51
Local clock offset: 0.409 ms
Remote clock offset: -1.964 ms

# Below is generated by plot.py at 2017-08-22 03:23:01
# Datalink statistics
-- Total of 1 flow:
Average throughput: 2.33 Mbit/s
95th percentile per-packet one-way delay: 19.522 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 2.33 Mbit/s
95th percentile per-packet one-way delay: 19.522 ms
Loss rate: 0.00%
```

Run 1: Report of WebRTC media — Data Link



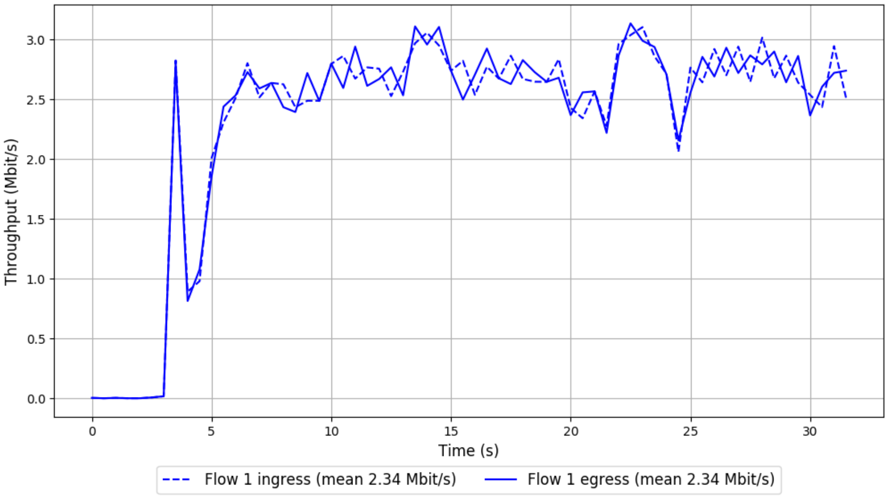


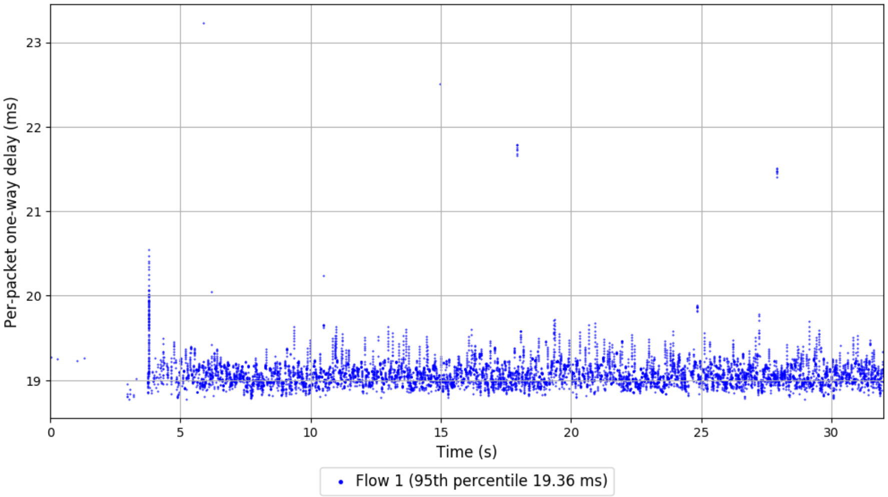
```
Run 2: Statistics of WebRTC media

Start at: 2017-08-21 21:35:32
End at: 2017-08-21 21:36:02
Local clock offset: 0.544 ms
Remote clock offset: -2.041 ms

# Below is generated by plot.py at 2017-08-22 03:23:01
# Datalink statistics
-- Total of 1 flow:
Average throughput: 2.34 Mbit/s
95th percentile per-packet one-way delay: 19.364 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 2.34 Mbit/s
95th percentile per-packet one-way delay: 19.364 ms
Loss rate: 0.00%
```

Run 2: Report of WebRTC media — Data Link



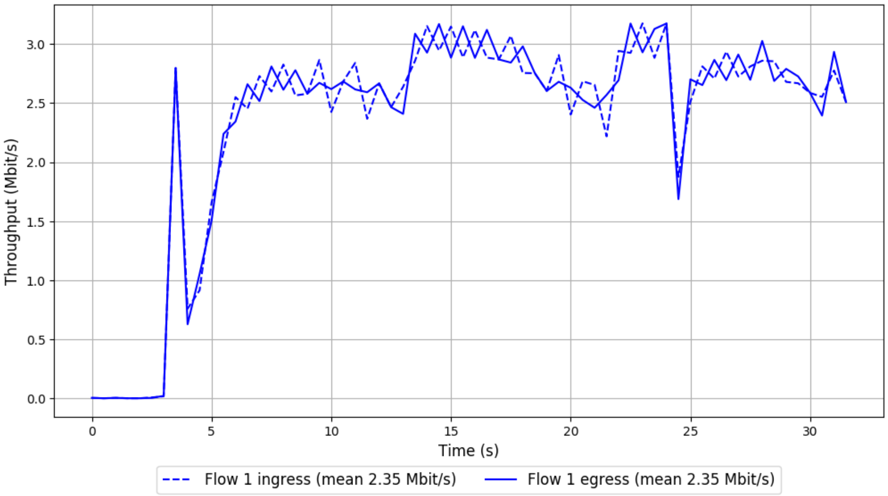


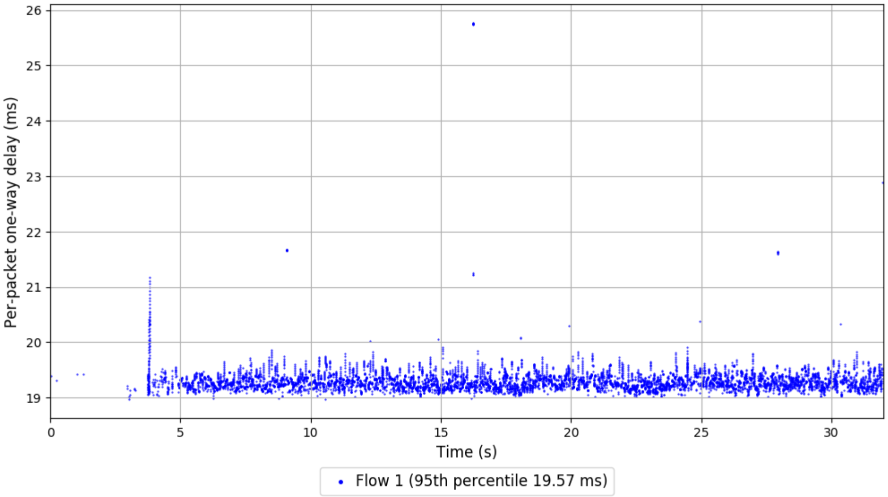
```
Run 3: Statistics of WebRTC media

Start at: 2017-08-21 21:55:51
End at: 2017-08-21 21:56:22
Local clock offset: 0.476 ms
Remote clock offset: -2.073 ms

# Below is generated by plot.py at 2017-08-22 03:23:02
# Datalink statistics
-- Total of 1 flow:
Average throughput: 2.35 Mbit/s
95th percentile per-packet one-way delay: 19.569 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 2.35 Mbit/s
95th percentile per-packet one-way delay: 19.569 ms
Loss rate: 0.00%
```

Run 3: Report of WebRTC media — Data Link



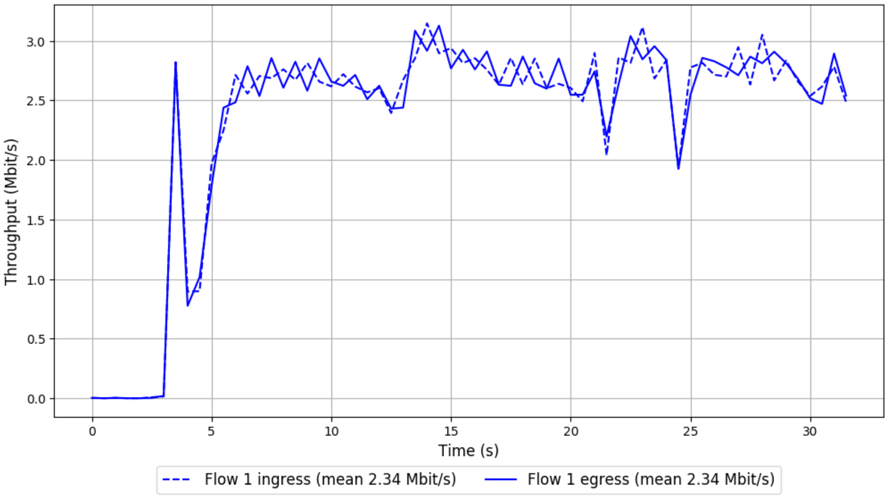


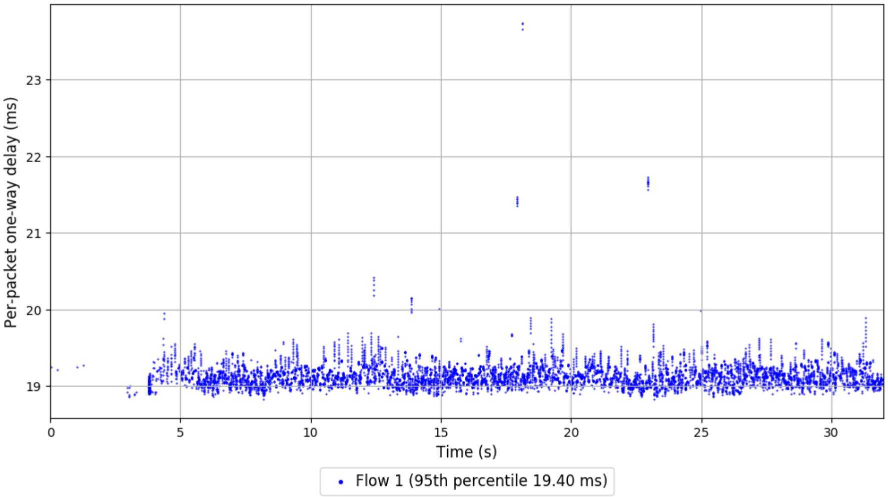
```
Run 4: Statistics of WebRTC media

Start at: 2017-08-21 22:16:00
End at: 2017-08-21 22:16:30
Local clock offset: 0.559 ms
Remote clock offset: -2.249 ms

# Below is generated by plot.py at 2017-08-22 03:23:03
# Datalink statistics
-- Total of 1 flow:
Average throughput: 2.34 Mbit/s
95th percentile per-packet one-way delay: 19.403 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 2.34 Mbit/s
95th percentile per-packet one-way delay: 19.403 ms
Loss rate: 0.00%
```

Run 4: Report of WebRTC media — Data Link



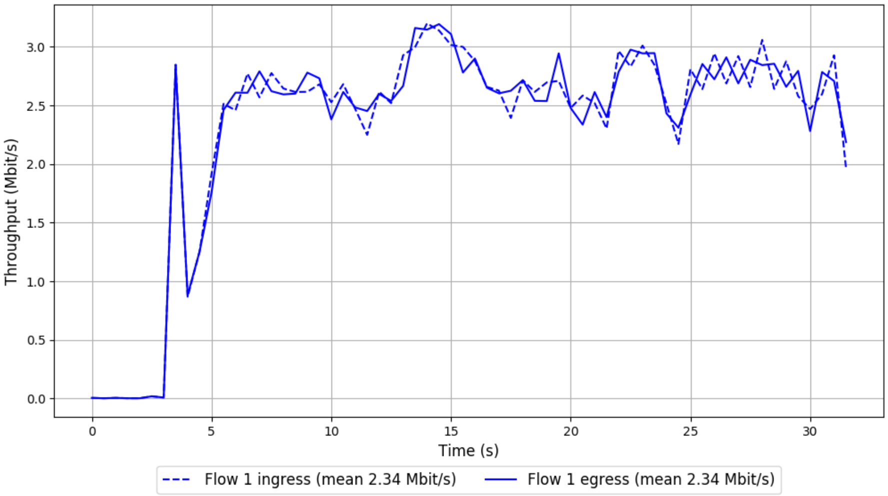


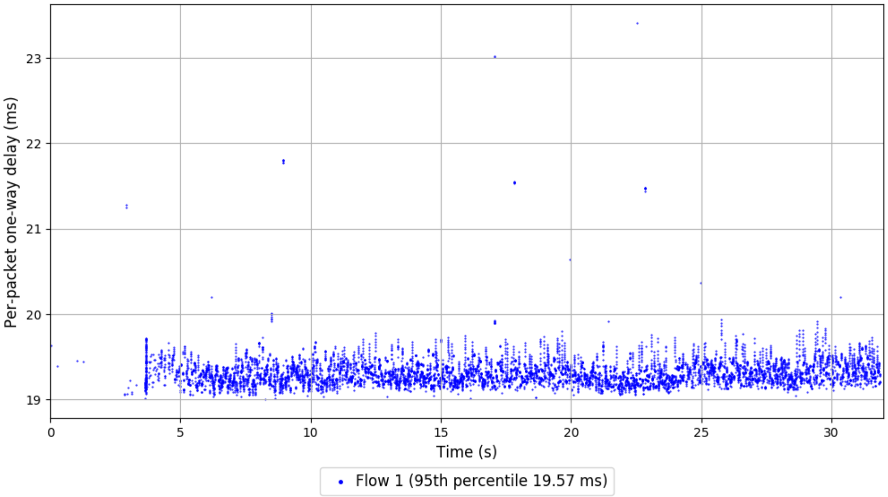
```
Run 5: Statistics of WebRTC media

Start at: 2017-08-21 22:36:19
End at: 2017-08-21 22:36:49
Local clock offset: 0.489 ms
Remote clock offset: -2.413 ms

# Below is generated by plot.py at 2017-08-22 03:23:03
# Datalink statistics
-- Total of 1 flow:
Average throughput: 2.34 Mbit/s
95th percentile per-packet one-way delay: 19.568 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 2.34 Mbit/s
95th percentile per-packet one-way delay: 19.568 ms
Loss rate: 0.00%
```

Run 5: Report of WebRTC media — Data Link



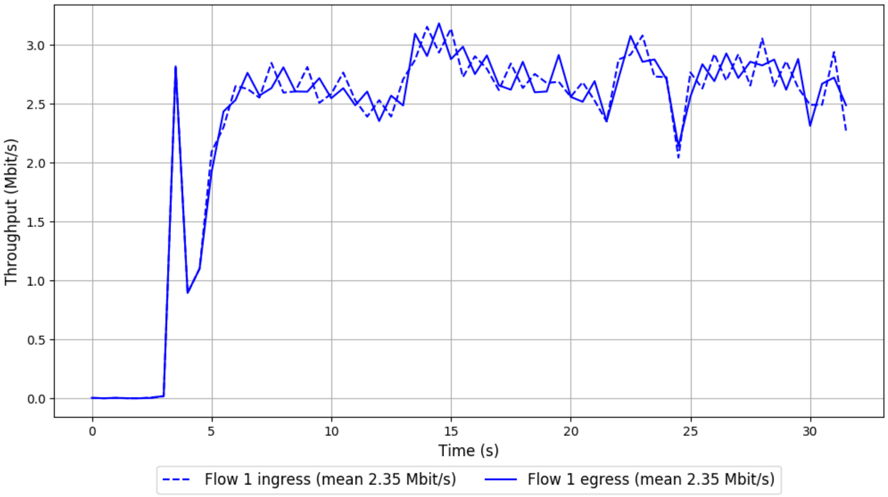


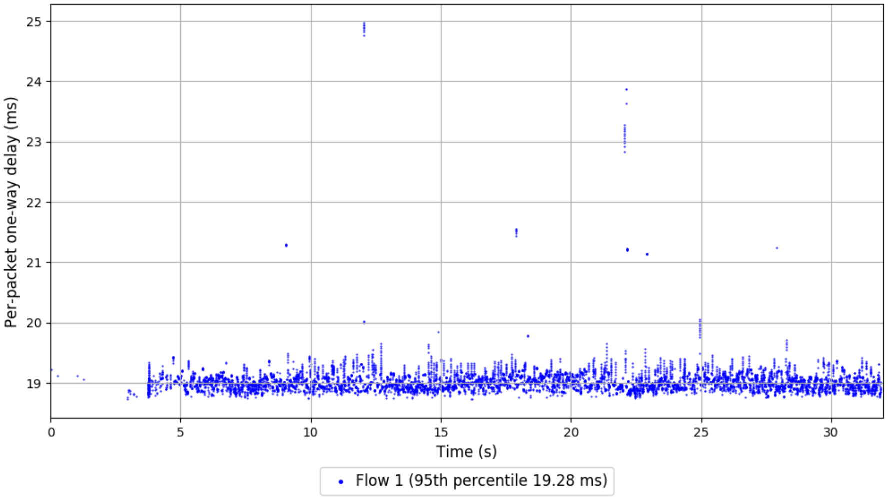
```
Run 6: Statistics of WebRTC media

Start at: 2017-08-21 22:56:46
End at: 2017-08-21 22:57:16
Local clock offset: 0.623 ms
Remote clock offset: -2.026 ms

# Below is generated by plot.py at 2017-08-22 03:23:05
# Datalink statistics
-- Total of 1 flow:
Average throughput: 2.35 Mbit/s
95th percentile per-packet one-way delay: 19.281 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 2.35 Mbit/s
95th percentile per-packet one-way delay: 19.281 ms
Loss rate: 0.00%
```

Run 6: Report of WebRTC media — Data Link



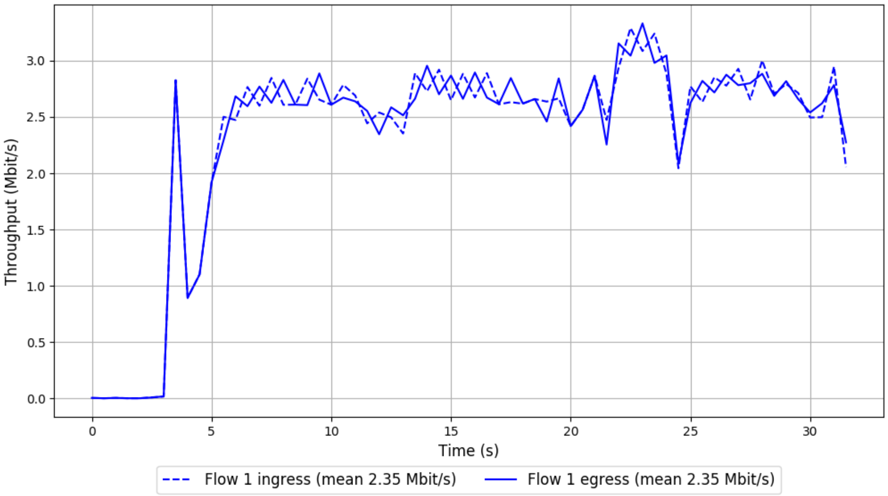


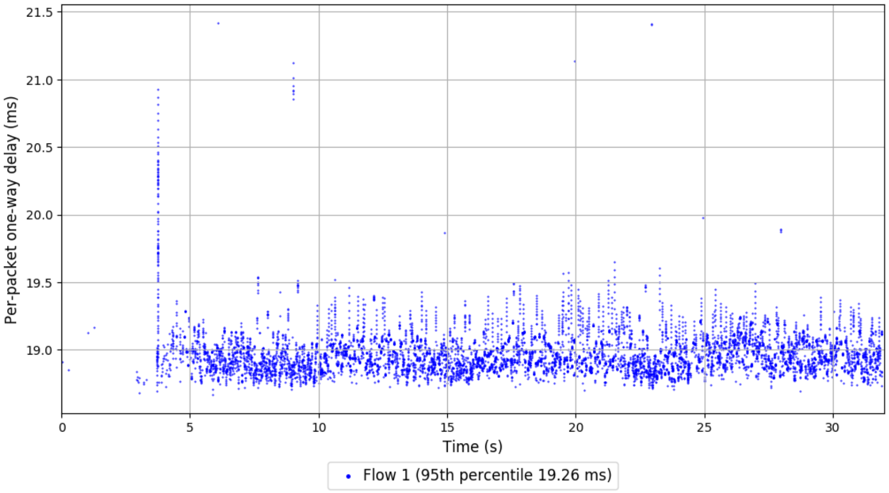
```
Run 7: Statistics of WebRTC media

Start at: 2017-08-21 23:16:43
End at: 2017-08-21 23:17:13
Local clock offset: 0.404 ms
Remote clock offset: -2.442 ms

# Below is generated by plot.py at 2017-08-22 03:23:05
# Datalink statistics
-- Total of 1 flow:
Average throughput: 2.35 Mbit/s
95th percentile per-packet one-way delay: 19.256 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 2.35 Mbit/s
95th percentile per-packet one-way delay: 19.256 ms
Loss rate: 0.00%
```

Run 7: Report of WebRTC media — Data Link



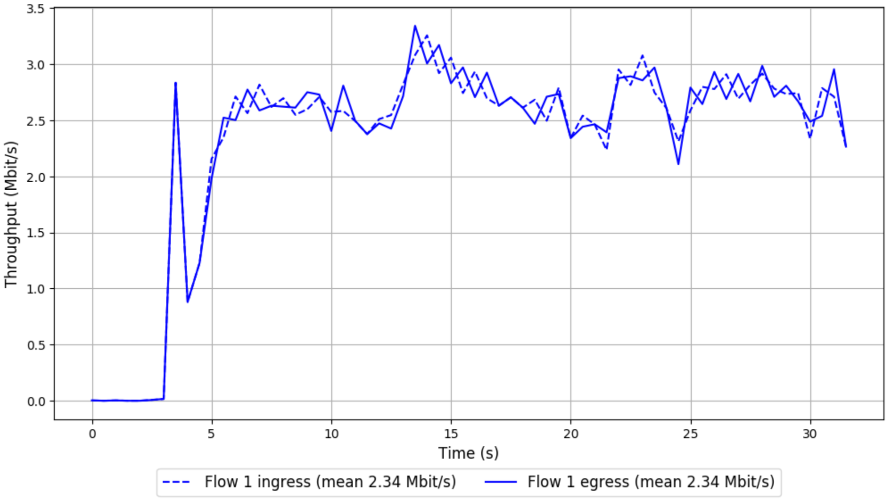


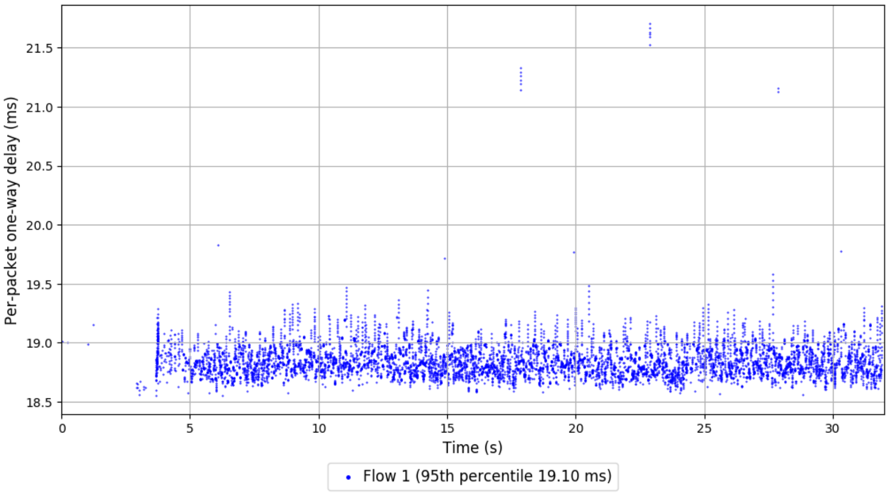
```
Run 8: Statistics of WebRTC media

Start at: 2017-08-21 23:36:50
End at: 2017-08-21 23:37:20
Local clock offset: 0.401 ms
Remote clock offset: -2.466 ms

# Below is generated by plot.py at 2017-08-22 03:23:06
# Datalink statistics
-- Total of 1 flow:
Average throughput: 2.34 Mbit/s
95th percentile per-packet one-way delay: 19.096 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 2.34 Mbit/s
95th percentile per-packet one-way delay: 19.096 ms
Loss rate: 0.00%
```

Run 8: Report of WebRTC media — Data Link



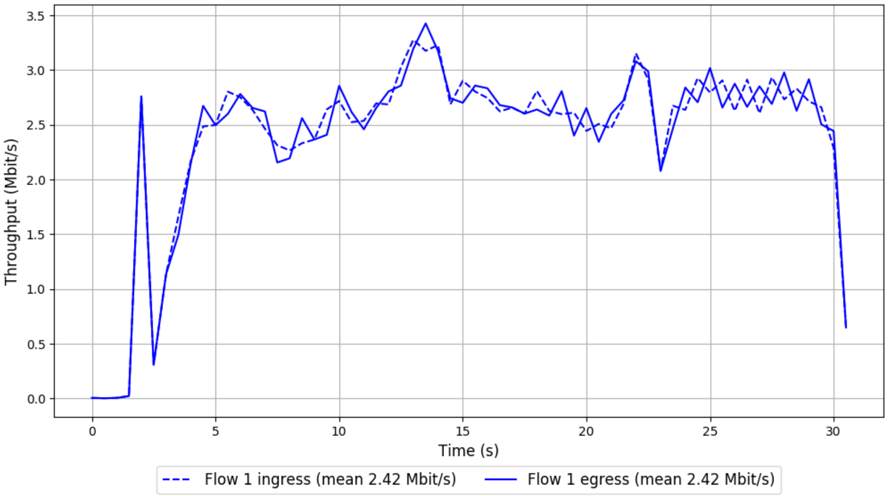


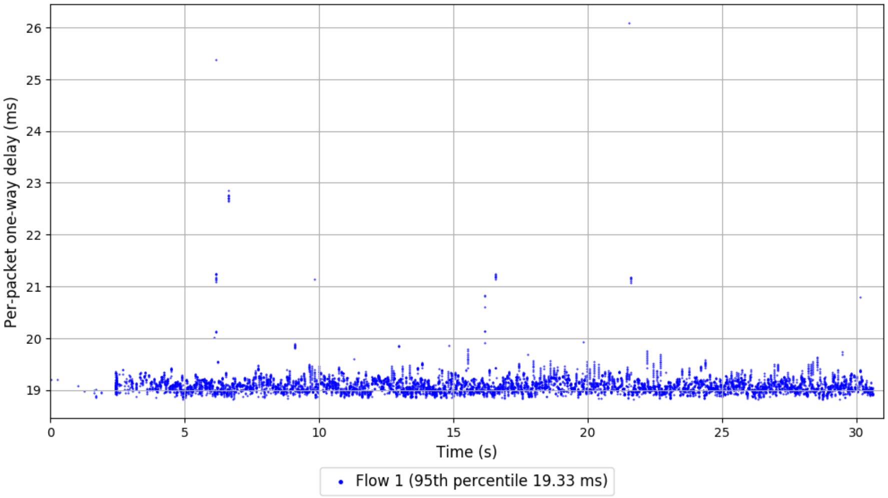
```
Run 9: Statistics of WebRTC media

Start at: 2017-08-21 23:56:51
End at: 2017-08-21 23:57:21
Local clock offset: 0.346 ms
Remote clock offset: -2.75 ms

# Below is generated by plot.py at 2017-08-22 03:23:06
# Datalink statistics
-- Total of 1 flow:
Average throughput: 2.42 Mbit/s
95th percentile per-packet one-way delay: 19.333 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 2.42 Mbit/s
95th percentile per-packet one-way delay: 19.333 ms
Loss rate: 0.00%
```

Run 9: Report of WebRTC media — Data Link



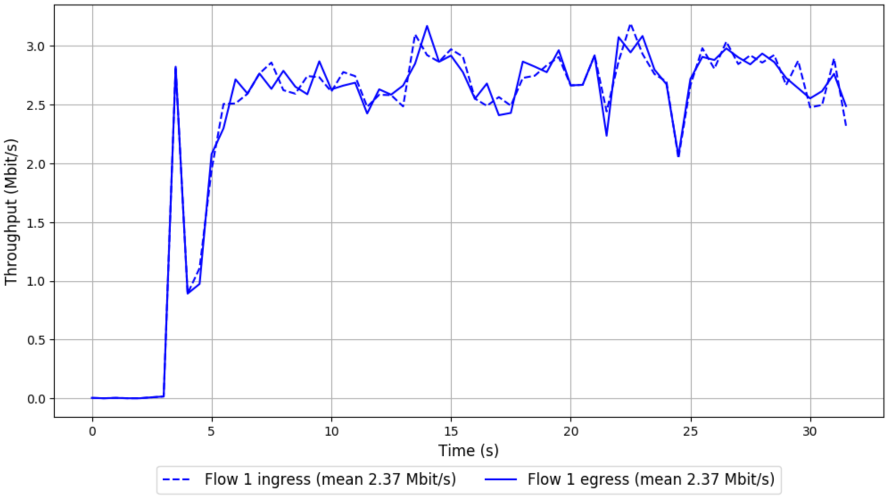


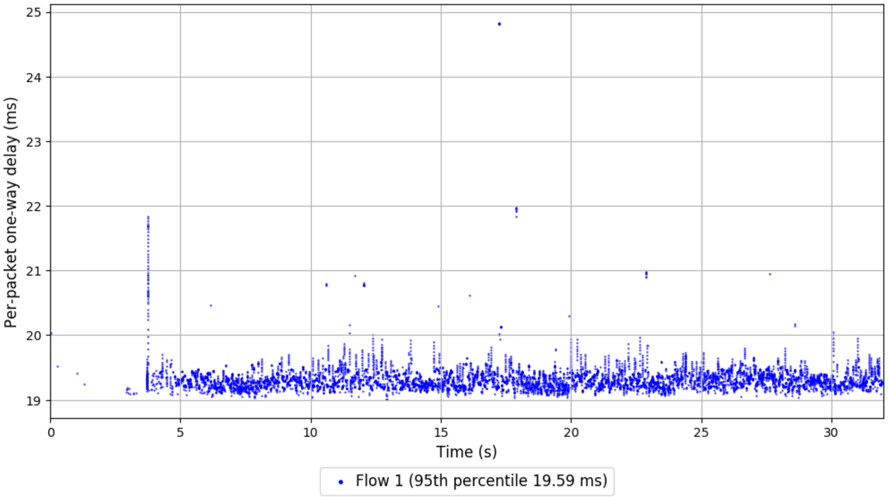
```
Run 10: Statistics of WebRTC media

Start at: 2017-08-22 00:17:02
End at: 2017-08-22 00:17:32
Local clock offset: 0.342 ms
Remote clock offset: -2.693 ms

# Below is generated by plot.py at 2017-08-22 03:23:07
# Datalink statistics
-- Total of 1 flow:
Average throughput: 2.37 Mbit/s
95th percentile per-packet one-way delay: 19.588 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 2.37 Mbit/s
95th percentile per-packet one-way delay: 19.588 ms
Loss rate: 0.00%
```

Run 10: Report of WebRTC media — Data Link


Throughput (Mbit/s)
3.0
2.5
2.0
1.5
1.0
0.5
0.0
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)
25
24
23
22
21
20
19
0
5
10
15
20
25
30
Time (s)
Flow 1 (95th percentile 19.59 ms)