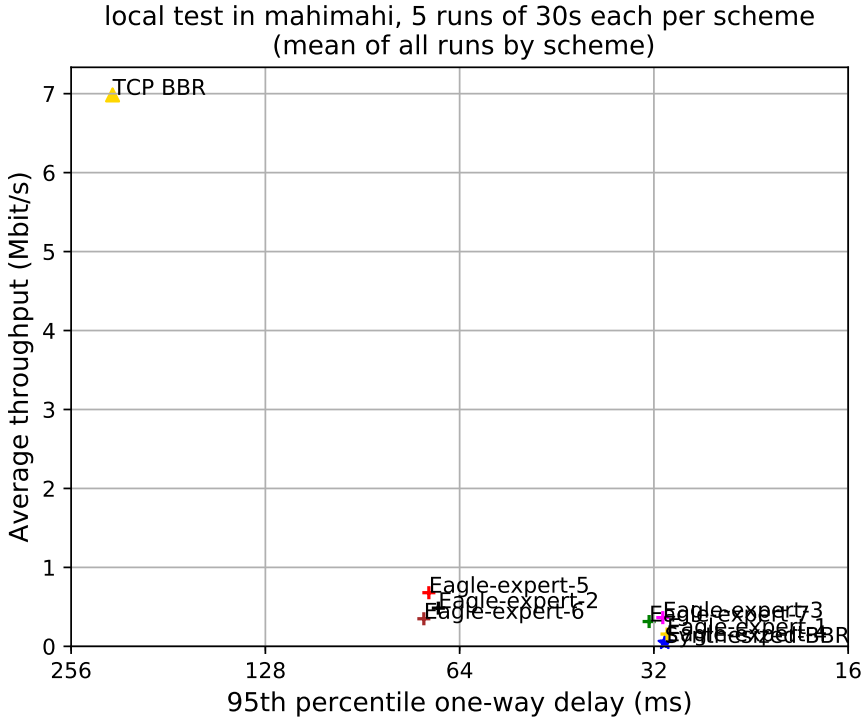
Pantheon Report

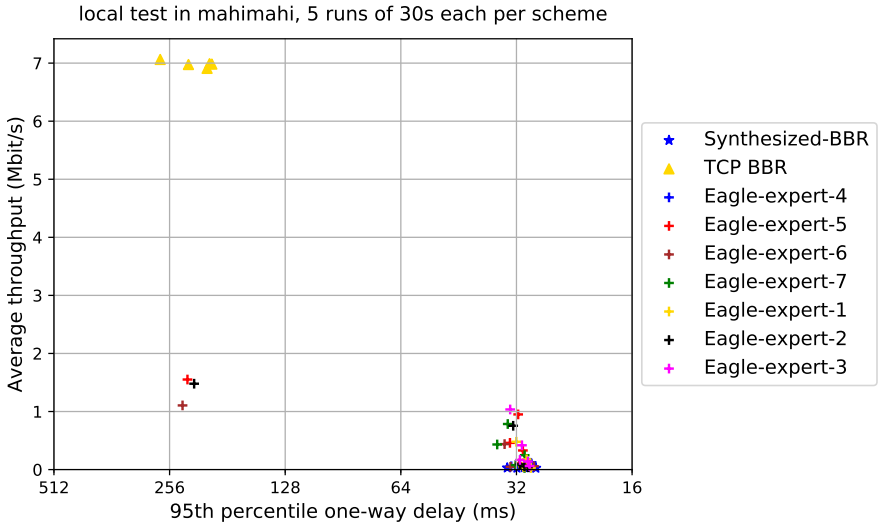
Generated at 2019-10-29 02:57:27 (UTC).
Tested in mahimahi: `mm-delay 20 mm-link Verizon-LTE-short.up Verizon-LTE-short.down`
Repeated the test of 9 congestion control schemes 5 times.
Each test lasted for 30 seconds running 1 flow.

```
System info:
Linux 4.15.0-65-generic
net.core.default_qdisc = fq
net.core.rmem_default = 212992
net.core.rmem_max = 212992
net.core.wmem_default = 212992
net.core.wmem_max = 212992
net.ipv4.tcp_rmem = 4096 87380 6291456
net.ipv4.tcp_wmem = 4096 16384 4194304
```

```
Git summary:
branch: master @ b54fc866b3140559c1fa1782d26fa636f7a43a8d
third_party/aurora @ f3e943d61015b39960854ba6391797e0c7984d74
third_party/aurora-model @ e292c316c23fb837255c4e142e40590d154bbe95
third_party/eagle-v1 @ c68d985e042be5c30704c0aee48c363861951a95
third_party/eagle-v2 @ c8a1737b3c84d7d49eada5b8785045d272a70120
third_party/eagle-v3 @ d5f1ab4416fa417052ddc65de5dbdbd20955d293
 M sender-receiver/sender-receiver/sender_receiver/envs/__pycache__/datagram_pb2.cpython-36.
 M sender-receiver/sender-receiver/sender_receiver/envs/__pycache__/helpers.cpython-36.pyc
 M sender-receiver/sender-receiver/sender_receiver/envs/__pycache__/mahimahi.cpython-36.pyc
 M sender-receiver/sender-receiver/sender_receiver/envs/__pycache__/project_root.cpython-36.
 M sender-receiver/sender-receiver/sender_receiver/envs/__pycache__/receiver.cpython-36.pyc
 M sender-receiver/sender-receiver/sender_receiver/envs/example-xentropy-random-switch.py
 M sender-receiver/sender-receiver/sender_receiver/envs/example-xentropy.py
 D sender-receiver/sender-receiver/sender_receiver/envs/model-xentropy/model-xentropy-2.pt
 D sender-receiver/sender-receiver/sender_receiver/envs/model-xentropy/model-xentropy-240ite
 M sender-receiver/sender-receiver/sender_receiver/envs/model-xentropy/model-xentropy.pt
 M sender-receiver/sender-receiver/sender_receiver/logs.txt
third_party/fillp @ d6da1459332fcee56963885d7eba17e6a32d4519
third_party/fillp-sheep @ 0e5bb722943babcd2b090d2c64fcd45e12e923f9
third_party/genericCC @ d0153f8e594aa89e93b032143cedbdfe58e562f4
third_party/indigo @ 2601c92e4aa9d58d38dc4dfe0ecdbf90c077e64d
third_party/libutp @ b3465b942e2826f2b179eaab4a906ce6bb7cf3cf
third_party/pantheon-tunnel @ f866d3f58d27afd942717625ee3a354cc2e802bd
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/pcc-experimental @ cd43e34e3f5f5613e8acd08fab92c4eb24f974ab
third_party/proto-quic @ 77961f1a82733a86b42f1bc8143ebc978f3cff42
third_party/scream-reproduce @ f099118d1421aa3131bf11ff1964974e1da3bdb2
 M src/ScreamClient
 M src/ScreamServer
third_party/sprout @ 366e35c6178b01e31d4a46ad18c74f9415f19a26
 M src/examples/cellsim.cc
 M src/examples/sproutbt2.cc
 M src/network/sproutconn.cc
third_party/synthesizedBBR @ d5f1ab4416fa417052ddc65de5dbdbd20955d293
 M sender-receiver/sender-receiver/sender_receiver/__pycache__/__init__.cpython-36.pyc
 M sender-receiver/sender-receiver/sender_receiver/envs/__pycache__/__init__.cpython-36.pyc
 M sender-receiver/sender-receiver/sender_receiver/envs/__pycache__/datagram_pb2.cpython-36.
 M sender-receiver/sender-receiver/sender_receiver/envs/__pycache__/helpers.cpython-36.pyc
 M sender-receiver/sender-receiver/sender_receiver/envs/__pycache__/mahimahi.cpython-36.pyc
 M sender-receiver/sender-receiver/sender_receiver/envs/__pycache__/project_root.cpython-36.
 M sender-receiver/sender-receiver/sender_receiver/envs/__pycache__/receiver.cpython-36.pyc
 M sender-receiver/sender-receiver/sender_receiver/envs/__pycache__/sender_receiver_env.cpyt
 M sender-receiver/sender-receiver/sender_receiver/envs/example-xentropy.py
 M sender-receiver/sender-receiver/sender_receiver/logs.txt
third_party/verus @ d4b447ea74c6c60a261149af2629562939f9a494
 M src/verus.hpp
 M tools/plot.py
third_party/vivace @ 2baf86211435ae071a32f96b7d8c504587f5d7f4
third_party/webrtc @ 3f0cc2a9061a41b6f9dde4735770d143a1fa2851
```


local test in mahimahi, 5 runs of 30s each per scheme
(mean of all runs by scheme)
TCP BBR
Eagle-expert-5
Eagle-expert-2
Eagle-expert-6
Average throughput (Mbit/s)
95th percentile one-way delay (ms)
256
128
64
32
16
0
1
2
3
4
5
6
7


local test in mahimahi, 5 runs of 30s each per scheme
Average throughput (Mbit/s)
95th percentile one-way delay (ms)
512
256
128
64
32
16
0
1
2
3
4
5
6
7
Synthesized-BBR
TCP BBR
Eagle-expert-4
Eagle-expert-5
Eagle-expert-6
Eagle-expert-7
Eagle-expert-1
Eagle-expert-2
Eagle-expert-3

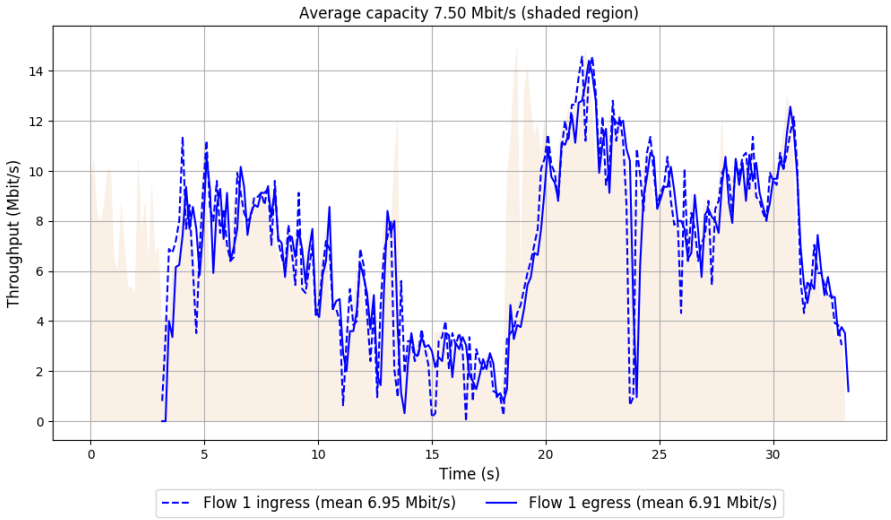
scheme	# runs	mean avg tput (Mbit/s) flow 1	mean 95th-%ile delay (ms) flow 1	mean loss rate (%) flow 1
TCP BBR	5	6.98	220.80	0.43
Eagle-expert-1	5	0.16	30.54	0.00
Eagle-expert-2	5	0.48	69.05	0.00
Eagle-expert-3	5	0.37	31.00	0.05
Eagle-expert-4	5	0.07	30.61	0.00
Eagle-expert-5	5	0.68	71.43	0.03
Eagle-expert-6	5	0.35	72.72	0.00
Eagle-expert-7	5	0.31	32.55	0.03
Synthesized-BBR	5	0.05	30.79	0.00

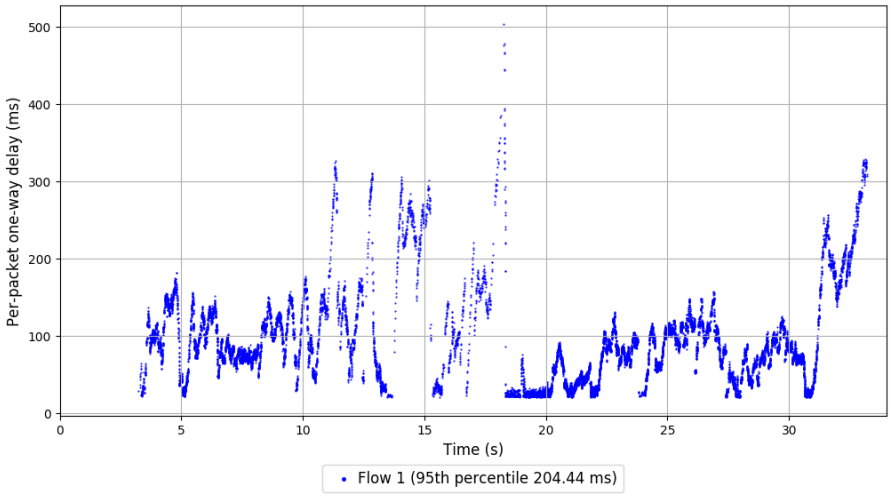
```
Run 1: Statistics of TCP BBR

Start at: 2019-10-29 02:30:12
End at: 2019-10-29 02:30:42

# Below is generated by plot.py at 2019-10-29 02:56:41
# Datalink statistics
-- Total of 1 flow:
Average capacity: 7.50 Mbit/s
Average throughput: 6.91 Mbit/s (92.1% utilization)
95th percentile per-packet one-way delay: 204.439 ms
Loss rate: 0.45%
-- Flow 1:
Average throughput: 6.91 Mbit/s
95th percentile per-packet one-way delay: 204.439 ms
Loss rate: 0.45%
```

Run 1: Report of TCP BBR — Data Link



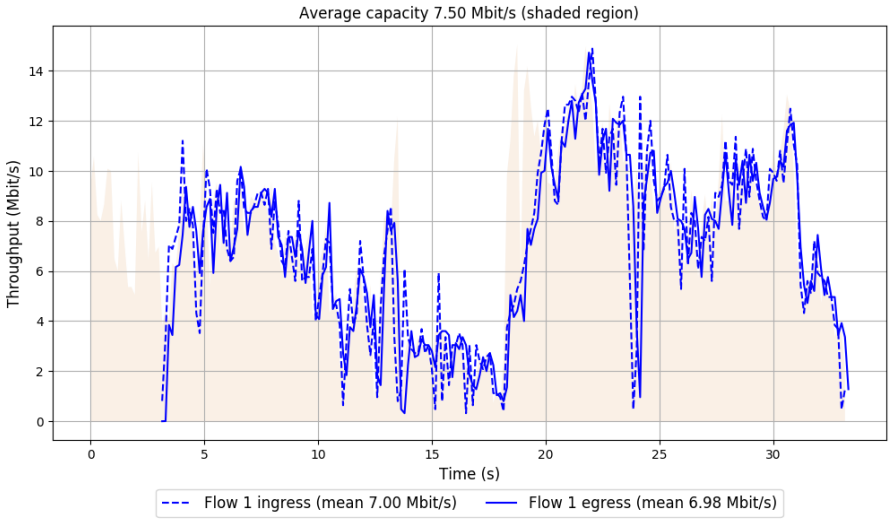


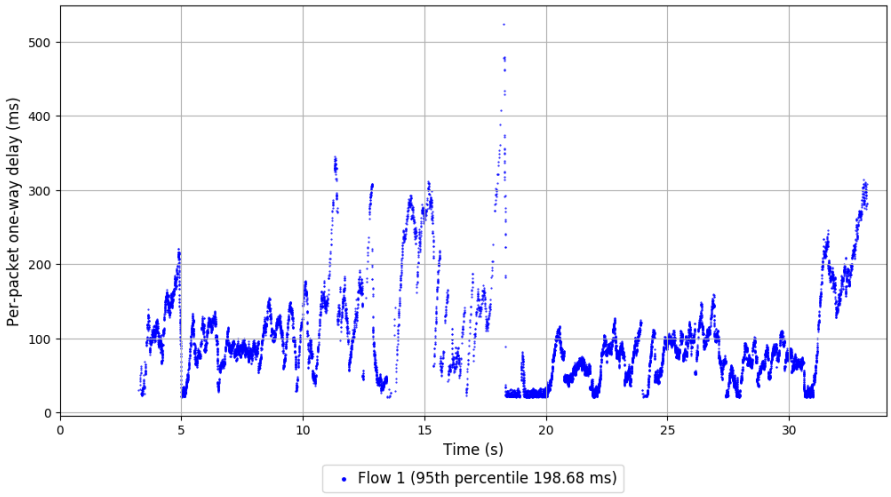
```
Run 2: Statistics of TCP BBR

Start at: 2019-10-29 02:35:18
End at: 2019-10-29 02:35:48

# Below is generated by plot.py at 2019-10-29 02:56:49
# Datalink statistics
-- Total of 1 flow:
Average capacity: 7.50 Mbit/s
Average throughput: 6.98 Mbit/s (93.1% utilization)
95th percentile per-packet one-way delay: 198.682 ms
Loss rate: 0.30%
-- Flow 1:
Average throughput: 6.98 Mbit/s
95th percentile per-packet one-way delay: 198.682 ms
Loss rate: 0.30%
```

Run 2: Report of TCP BBR — Data Link



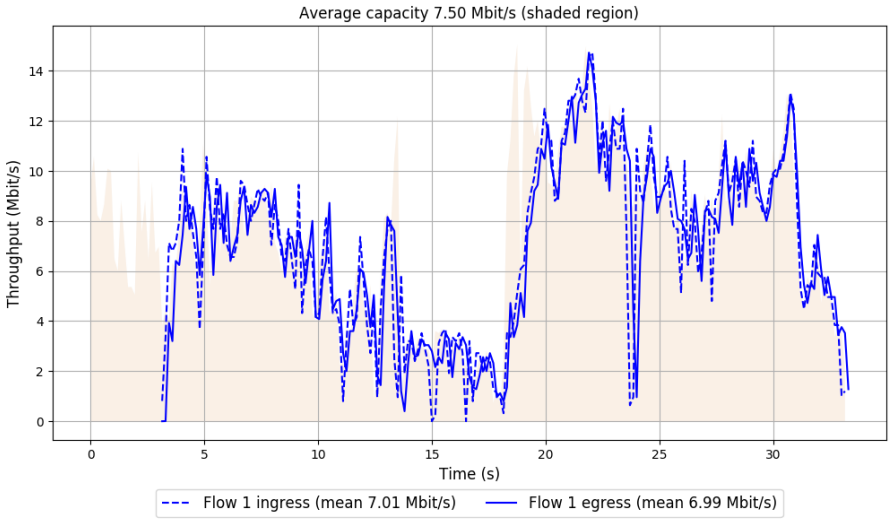


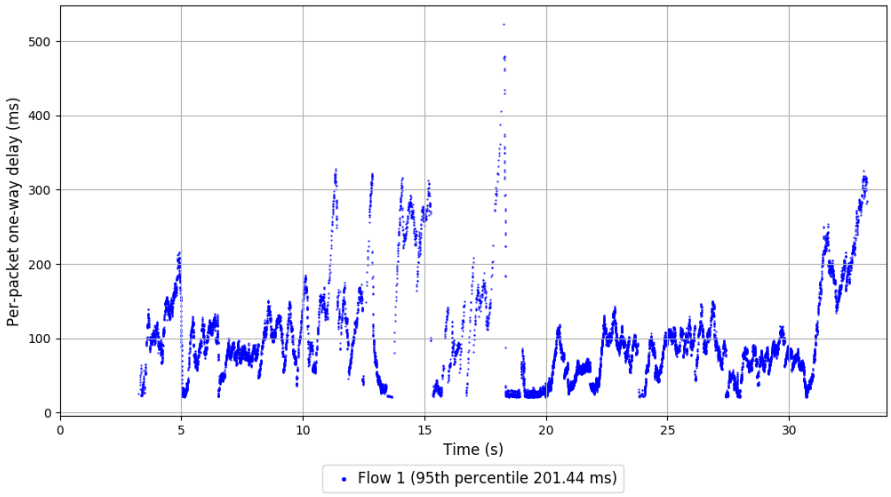
```
Run 3: Statistics of TCP BBR

Start at: 2019-10-29 02:40:25
End at: 2019-10-29 02:40:55

# Below is generated by plot.py at 2019-10-29 02:56:49
# Datalink statistics
-- Total of 1 flow:
Average capacity: 7.50 Mbit/s
Average throughput: 6.99 Mbit/s (93.2% utilization)
95th percentile per-packet one-way delay: 201.439 ms
Loss rate: 0.37%
-- Flow 1:
Average throughput: 6.99 Mbit/s
95th percentile per-packet one-way delay: 201.439 ms
Loss rate: 0.37%
```

Run 3: Report of TCP BBR — Data Link



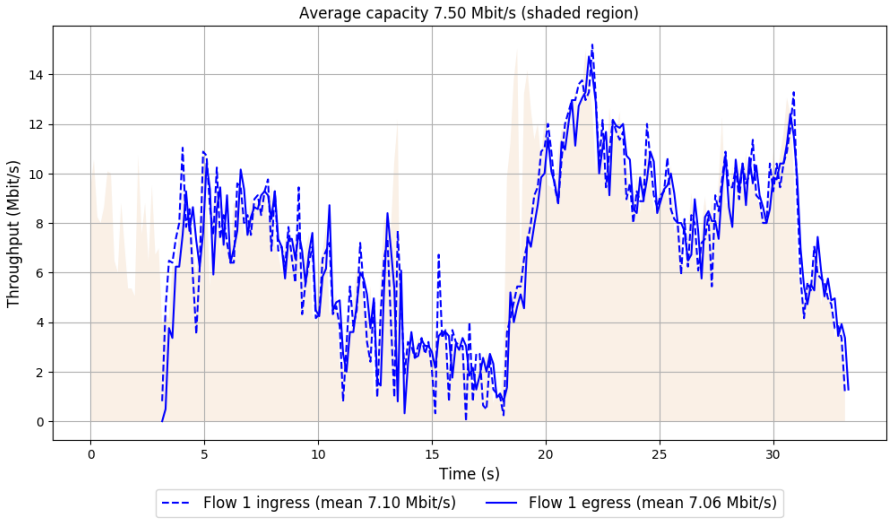


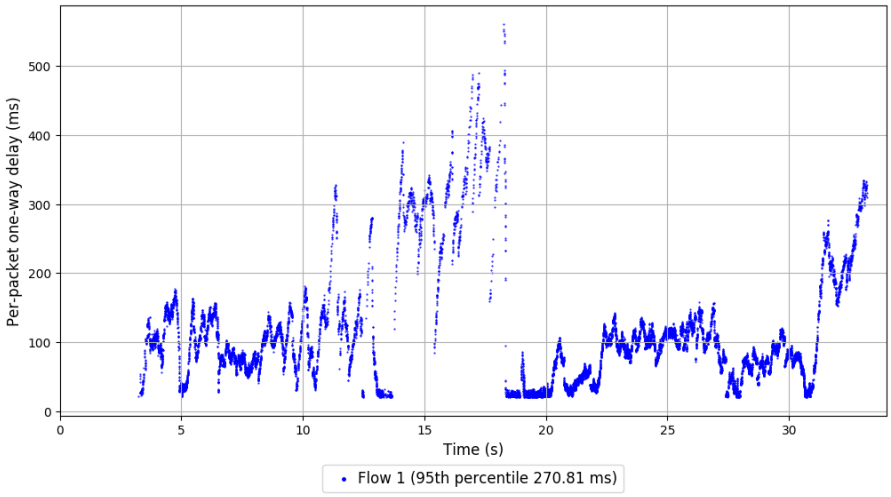
```
Run 4: Statistics of TCP BBR

Start at: 2019-10-29 02:45:31
End at: 2019-10-29 02:46:01

# Below is generated by plot.py at 2019-10-29 02:56:49
# Datalink statistics
-- Total of 1 flow:
Average capacity: 7.50 Mbit/s
Average throughput: 7.06 Mbit/s (94.1% utilization)
95th percentile per-packet one-way delay: 270.815 ms
Loss rate: 0.54%
-- Flow 1:
Average throughput: 7.06 Mbit/s
95th percentile per-packet one-way delay: 270.815 ms
Loss rate: 0.54%
```

Run 4: Report of TCP BBR — Data Link



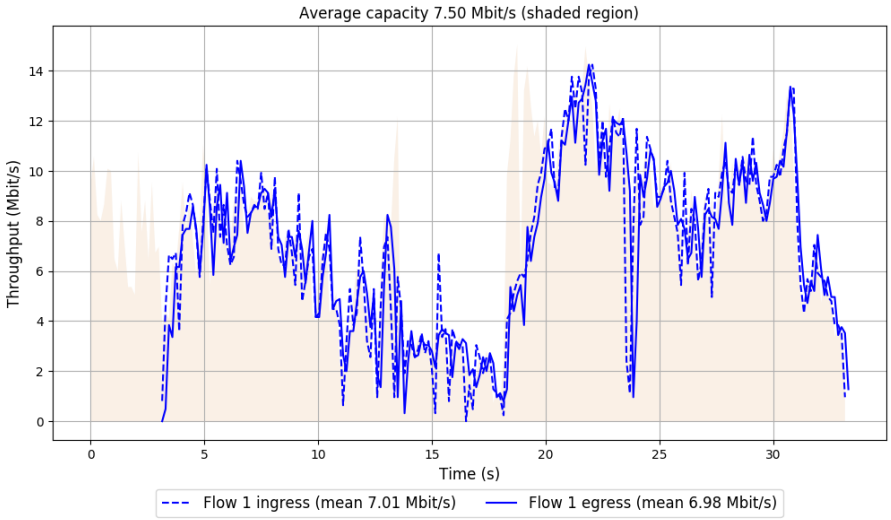


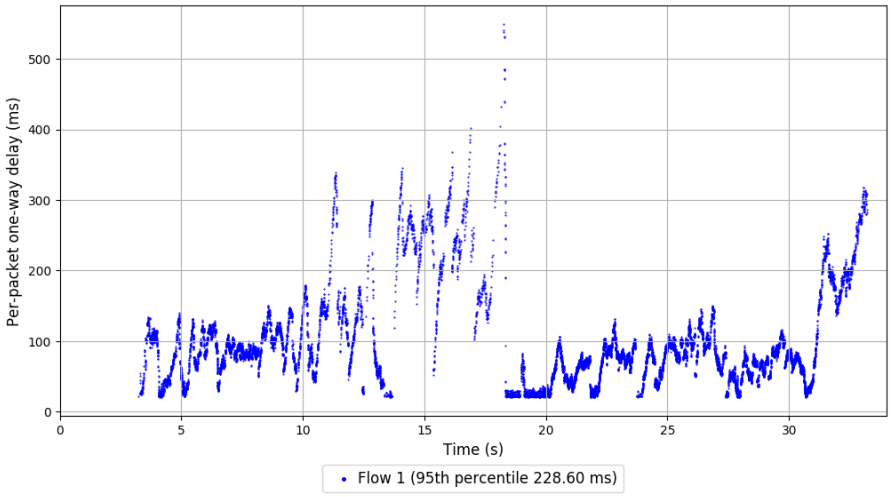
```
Run 5: Statistics of TCP BBR

Start at: 2019-10-29 02:50:38
End at: 2019-10-29 02:51:08

# Below is generated by plot.py at 2019-10-29 02:56:50
# Datalink statistics
-- Total of 1 flow:
Average capacity: 7.50 Mbit/s
Average throughput: 6.98 Mbit/s (93.0% utilization)
95th percentile per-packet one-way delay: 228.602 ms
Loss rate: 0.51%
-- Flow 1:
Average throughput: 6.98 Mbit/s
95th percentile per-packet one-way delay: 228.602 ms
Loss rate: 0.51%
```

Run 5: Report of TCP BBR — Data Link



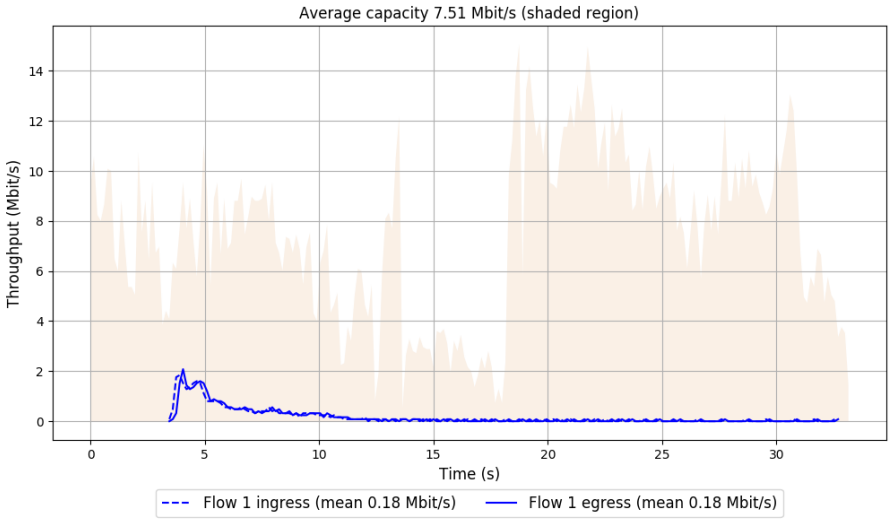


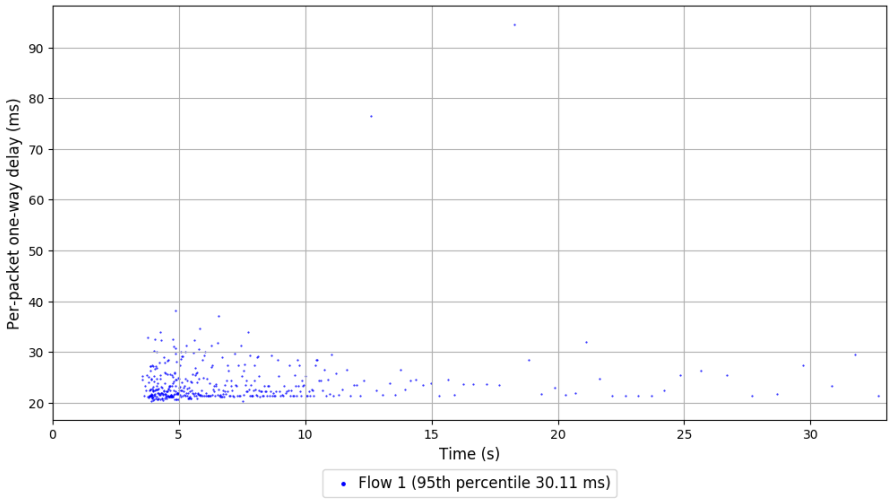
```
Run 1: Statistics of Eagle-expert-1

Start at: 2019-10-29 02:25:40
End at: 2019-10-29 02:26:10

# Below is generated by plot.py at 2019-10-29 02:56:50
# Datalink statistics
-- Total of 1 flow:
Average capacity: 7.51 Mbit/s
Average throughput: 0.18 Mbit/s (2.3% utilization)
95th percentile per-packet one-way delay: 30.111 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.18 Mbit/s
95th percentile per-packet one-way delay: 30.111 ms
Loss rate: 0.00%
```

Run 1: Report of Eagle-expert-1 — Data Link



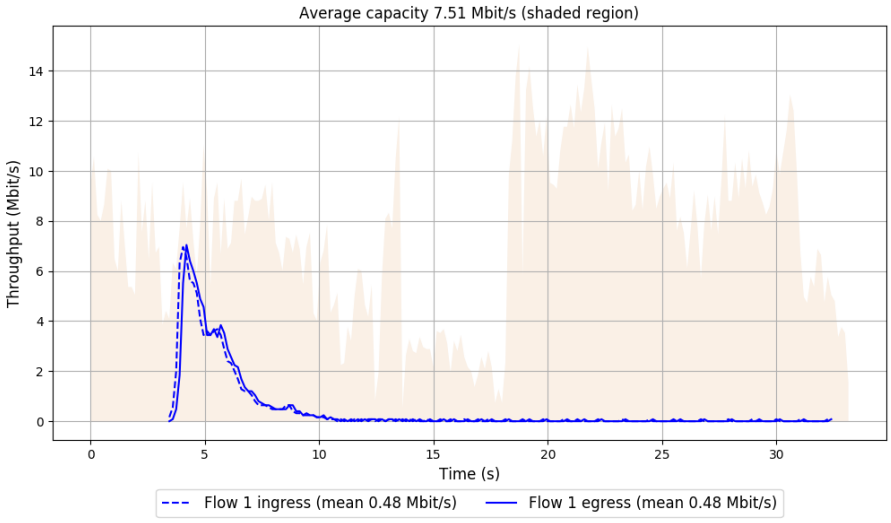


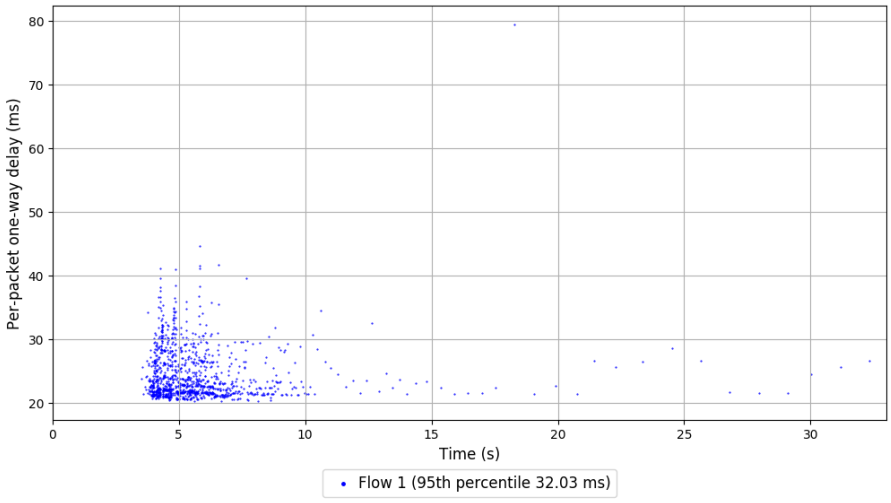
```
Run 2: Statistics of Eagle-expert-1

Start at: 2019-10-29 02:30:46
End at: 2019-10-29 02:31:16

# Below is generated by plot.py at 2019-10-29 02:56:50
# Datalink statistics
-- Total of 1 flow:
Average capacity: 7.51 Mbit/s
Average throughput: 0.48 Mbit/s (6.4% utilization)
95th percentile per-packet one-way delay: 32.031 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.48 Mbit/s
95th percentile per-packet one-way delay: 32.031 ms
Loss rate: 0.00%
```

Run 2: Report of Eagle-expert-1 — Data Link



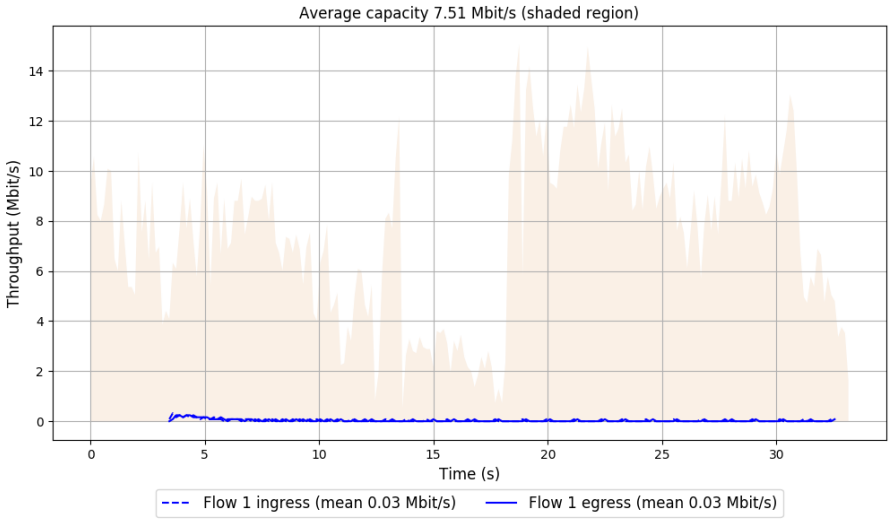


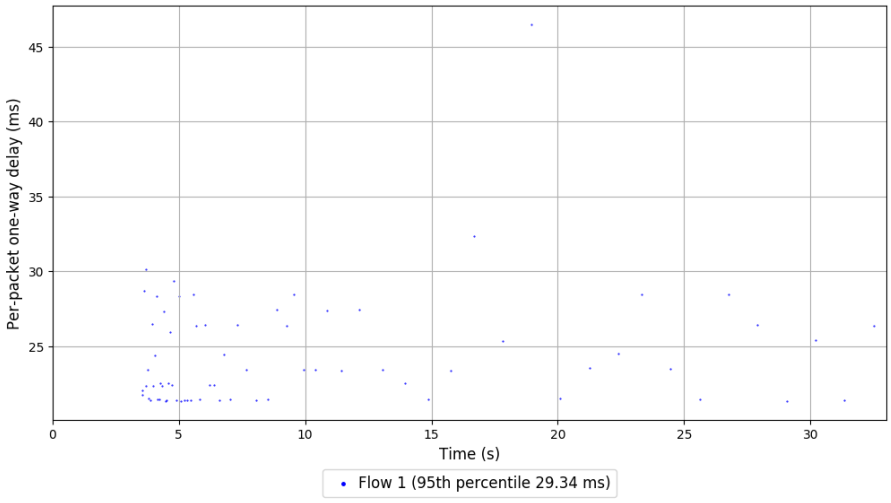
```
Run 3: Statistics of Eagle-expert-1

Start at: 2019-10-29 02:35:53
End at: 2019-10-29 02:36:23

# Below is generated by plot.py at 2019-10-29 02:56:50
# Datalink statistics
-- Total of 1 flow:
Average capacity: 7.51 Mbit/s
Average throughput: 0.03 Mbit/s (0.4% utilization)
95th percentile per-packet one-way delay: 29.337 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.03 Mbit/s
95th percentile per-packet one-way delay: 29.337 ms
Loss rate: 0.00%
```

Run 3: Report of Eagle-expert-1 — Data Link



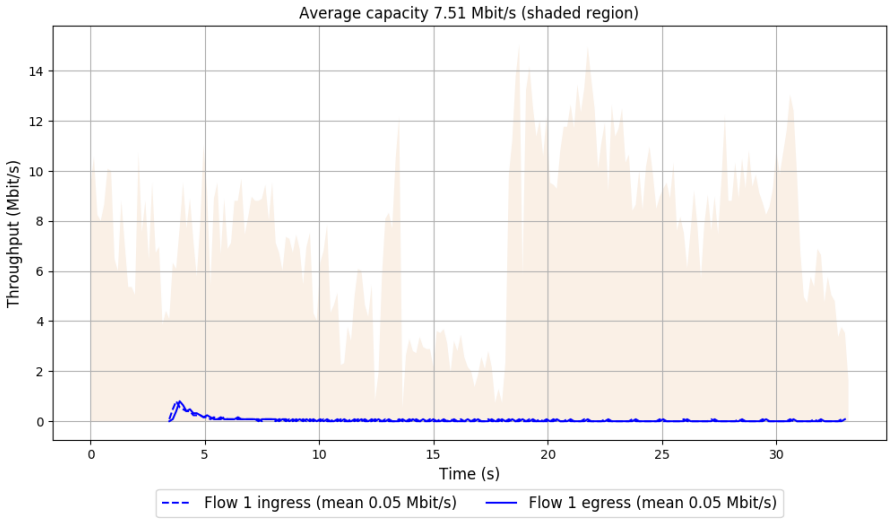


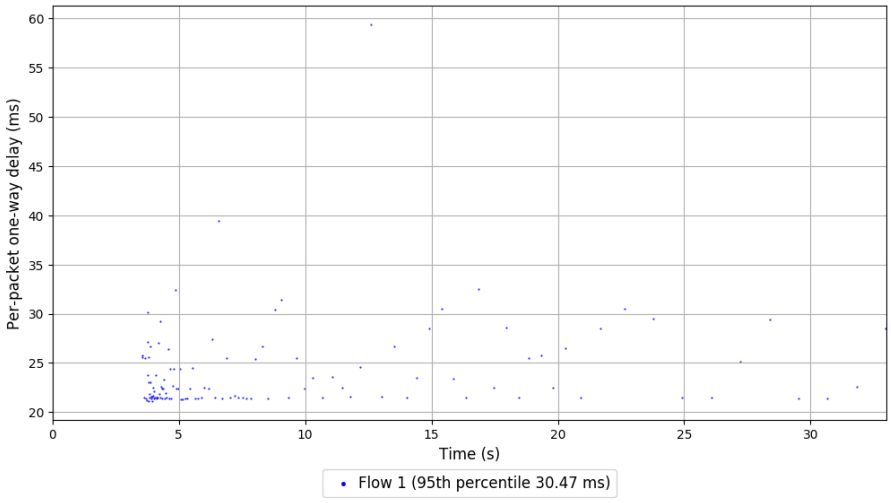
```
Run 4: Statistics of Eagle-expert-1

Start at: 2019-10-29 02:40:59
End at: 2019-10-29 02:41:29

# Below is generated by plot.py at 2019-10-29 02:56:51
# Datalink statistics
-- Total of 1 flow:
Average capacity: 7.51 Mbit/s
Average throughput: 0.05 Mbit/s (0.6% utilization)
95th percentile per-packet one-way delay: 30.469 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 30.469 ms
Loss rate: 0.00%
```

Run 4: Report of Eagle-expert-1 — Data Link



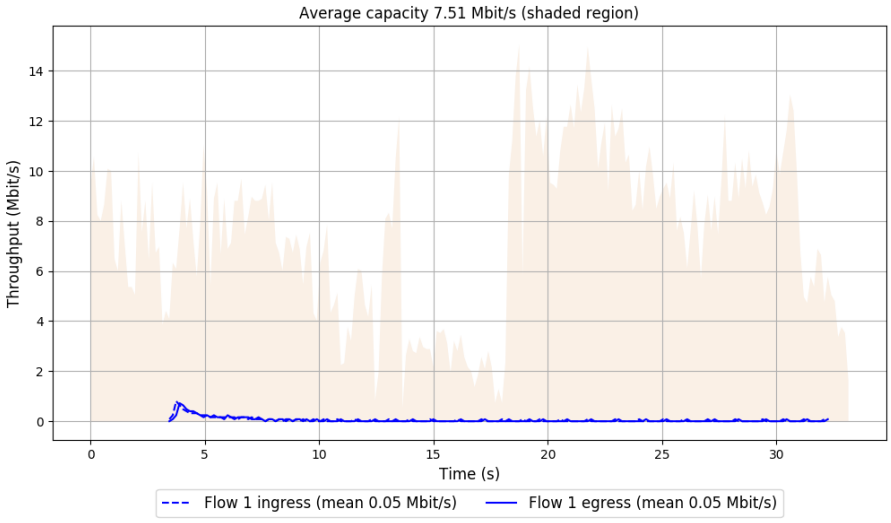


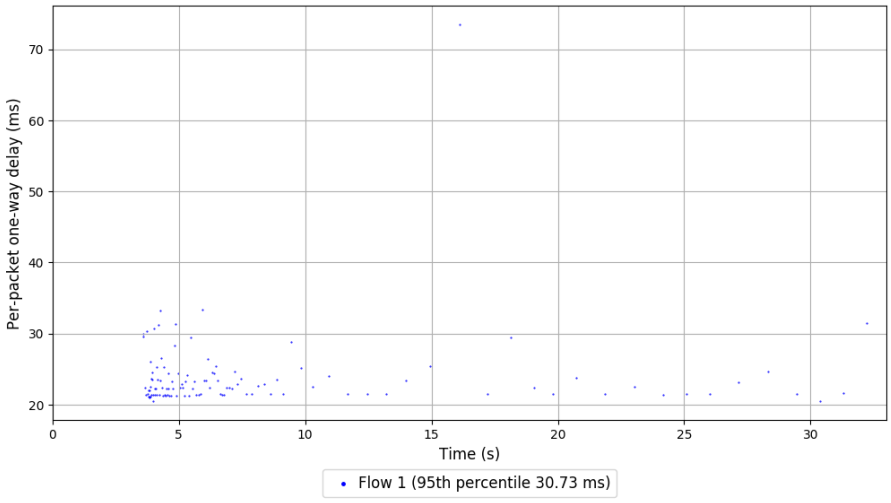
```
Run 5: Statistics of Eagle-expert-1

Start at: 2019-10-29 02:46:05
End at: 2019-10-29 02:46:35

# Below is generated by plot.py at 2019-10-29 02:56:52
# Datalink statistics
-- Total of 1 flow:
Average capacity: 7.51 Mbit/s
Average throughput: 0.05 Mbit/s (0.6% utilization)
95th percentile per-packet one-way delay: 30.728 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 30.728 ms
Loss rate: 0.00%
```

Run 5: Report of Eagle-expert-1 — Data Link



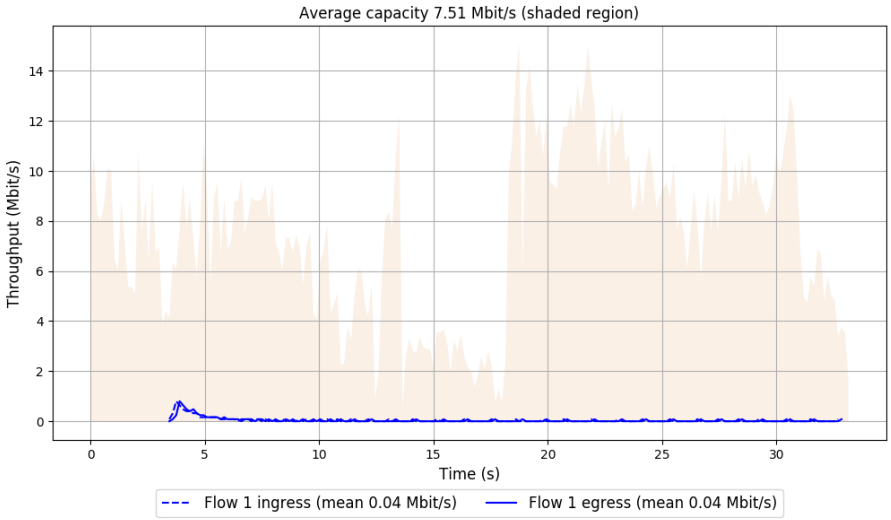


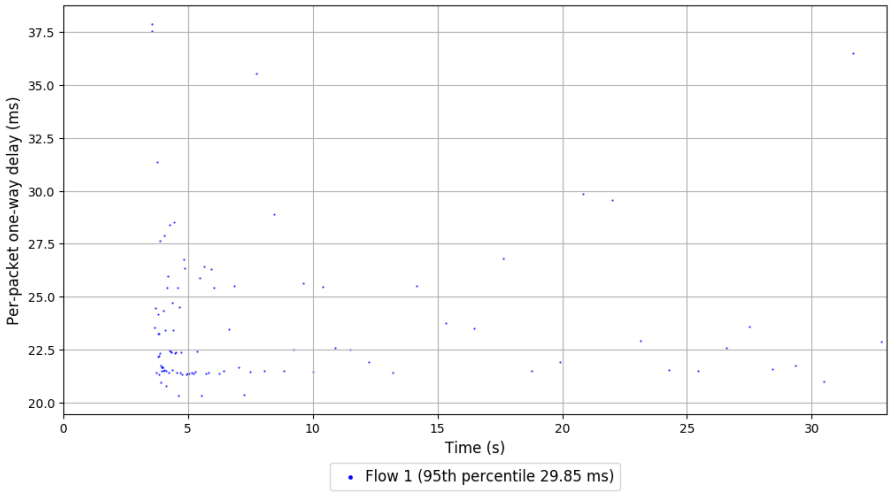
```
Run 1: Statistics of Eagle-expert-2

Start at: 2019-10-29 02:26:14
End at: 2019-10-29 02:26:44

# Below is generated by plot.py at 2019-10-29 02:56:52
# Datalink statistics
-- Total of 1 flow:
Average capacity: 7.51 Mbit/s
Average throughput: 0.04 Mbit/s (0.5% utilization)
95th percentile per-packet one-way delay: 29.854 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.04 Mbit/s
95th percentile per-packet one-way delay: 29.854 ms
Loss rate: 0.00%
```

Run 1: Report of Eagle-expert-2 — Data Link



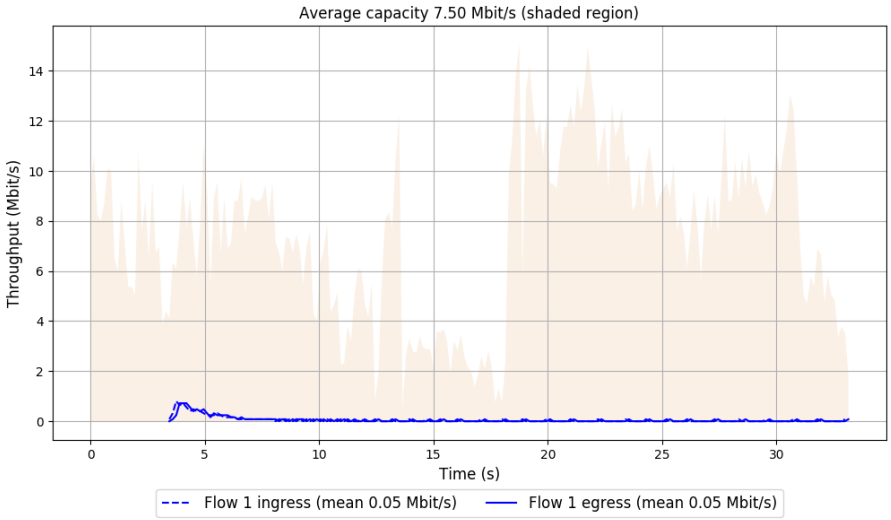


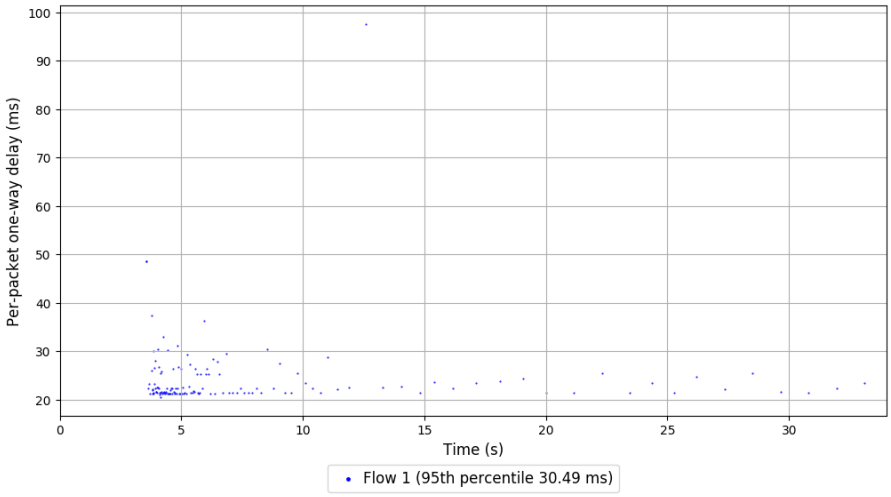
```
Run 2: Statistics of Eagle-expert-2

Start at: 2019-10-29 02:31:20
End at: 2019-10-29 02:31:50

# Below is generated by plot.py at 2019-10-29 02:56:53
# Datalink statistics
-- Total of 1 flow:
Average capacity: 7.50 Mbit/s
Average throughput: 0.05 Mbit/s (0.7% utilization)
95th percentile per-packet one-way delay: 30.493 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 30.493 ms
Loss rate: 0.00%
```

Run 2: Report of Eagle-expert-2 — Data Link



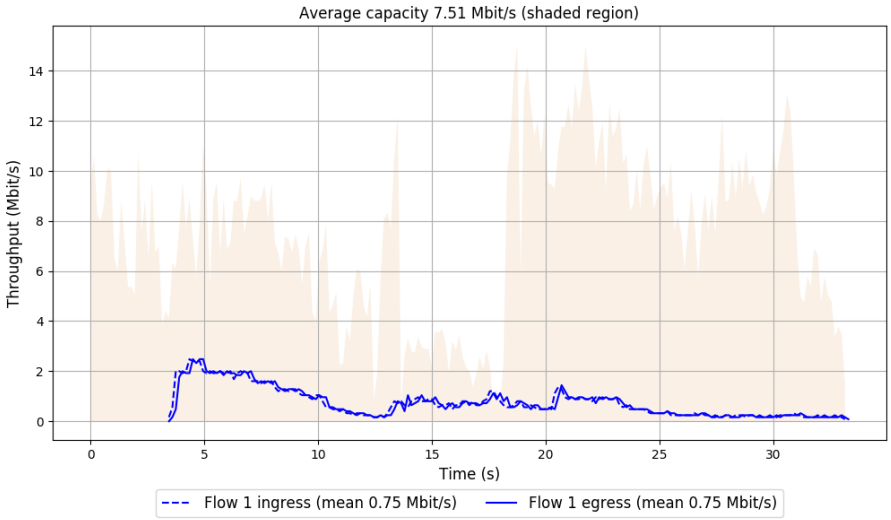


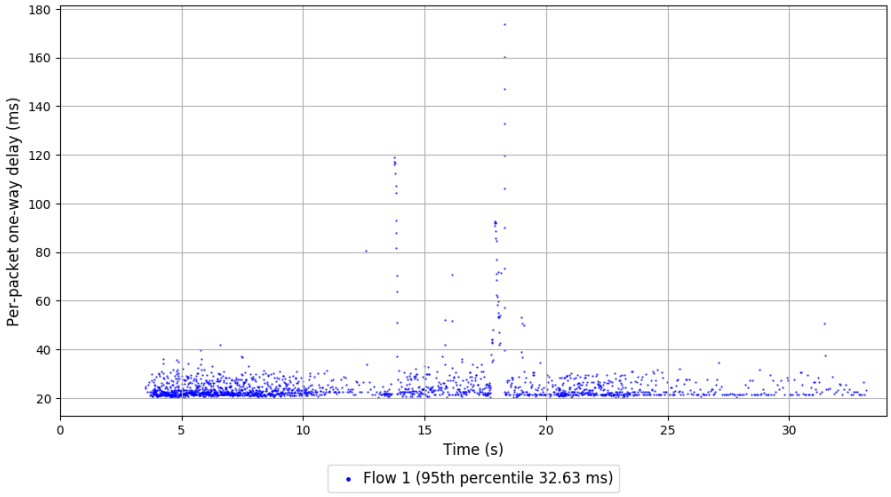
```
Run 3: Statistics of Eagle-expert-2

Start at: 2019-10-29 02:36:27
End at: 2019-10-29 02:36:57

# Below is generated by plot.py at 2019-10-29 02:56:54
# Datalink statistics
-- Total of 1 flow:
Average capacity: 7.51 Mbit/s
Average throughput: 0.75 Mbit/s (10.0% utilization)
95th percentile per-packet one-way delay: 32.634 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.75 Mbit/s
95th percentile per-packet one-way delay: 32.634 ms
Loss rate: 0.00%
```

Run 3: Report of Eagle-expert-2 — Data Link



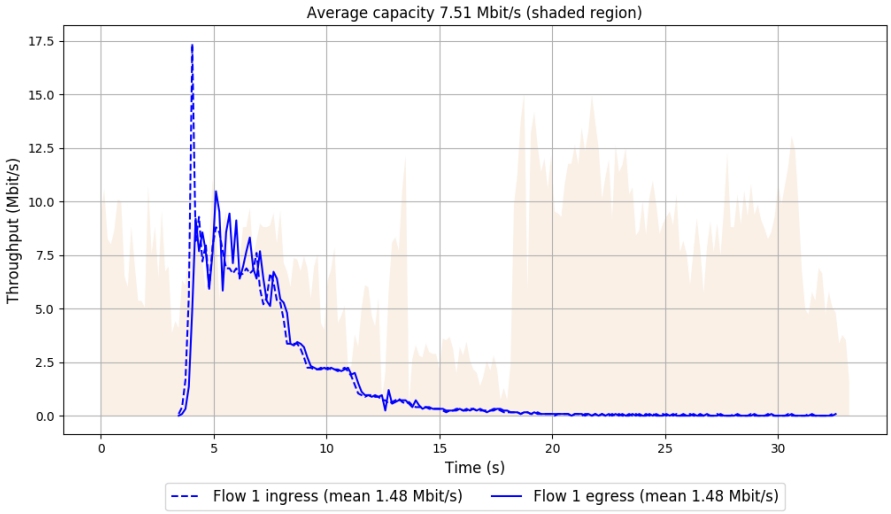


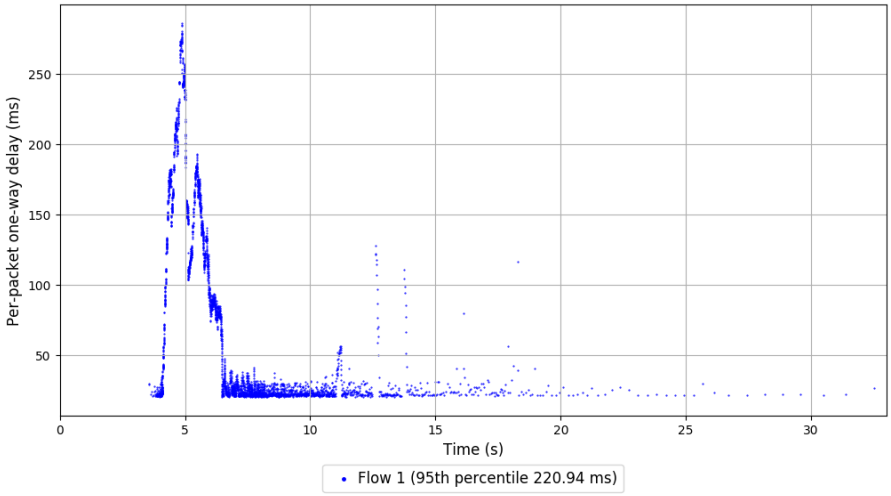
```
Run 4: Statistics of Eagle-expert-2

Start at: 2019-10-29 02:41:33
End at: 2019-10-29 02:42:03

# Below is generated by plot.py at 2019-10-29 02:56:57
# Datalink statistics
-- Total of 1 flow:
Average capacity: 7.51 Mbit/s
Average throughput: 1.48 Mbit/s (19.7% utilization)
95th percentile per-packet one-way delay: 220.945 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 1.48 Mbit/s
95th percentile per-packet one-way delay: 220.945 ms
Loss rate: 0.00%
```

Run 4: Report of Eagle-expert-2 — Data Link



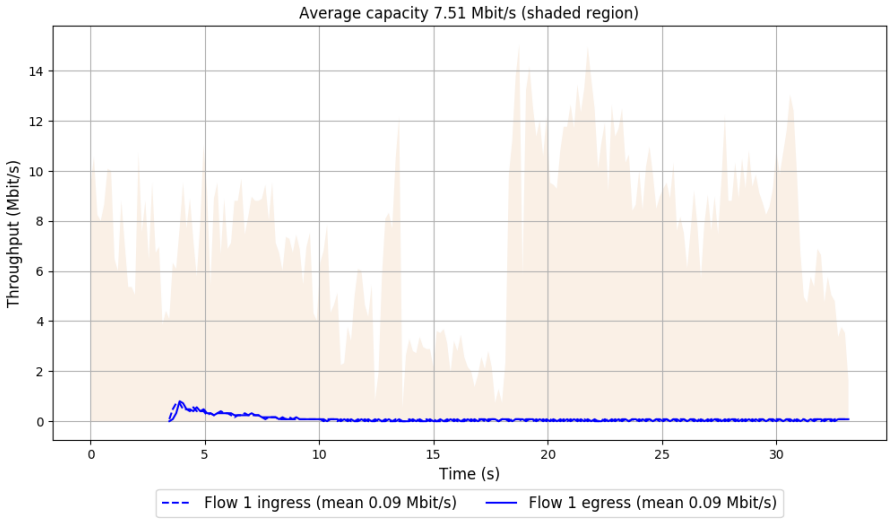


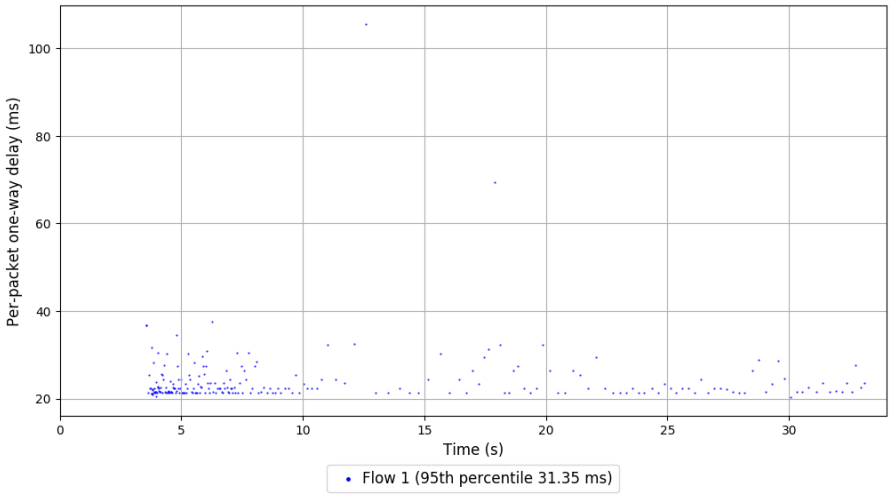
```
Run 5: Statistics of Eagle-expert-2

Start at: 2019-10-29 02:46:39
End at: 2019-10-29 02:47:09

# Below is generated by plot.py at 2019-10-29 02:56:57
# Datalink statistics
-- Total of 1 flow:
Average capacity: 7.51 Mbit/s
Average throughput: 0.09 Mbit/s (1.2% utilization)
95th percentile per-packet one-way delay: 31.347 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.09 Mbit/s
95th percentile per-packet one-way delay: 31.347 ms
Loss rate: 0.00%
```

Run 5: Report of Eagle-expert-2 — Data Link



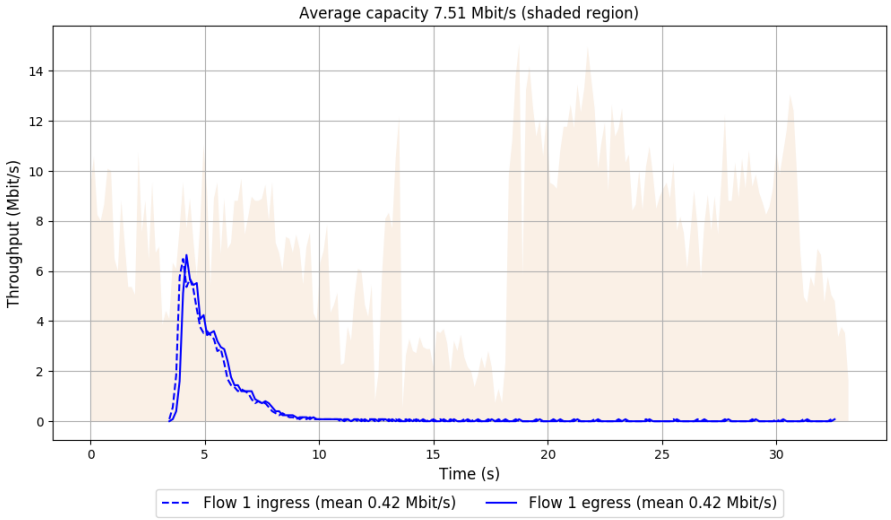


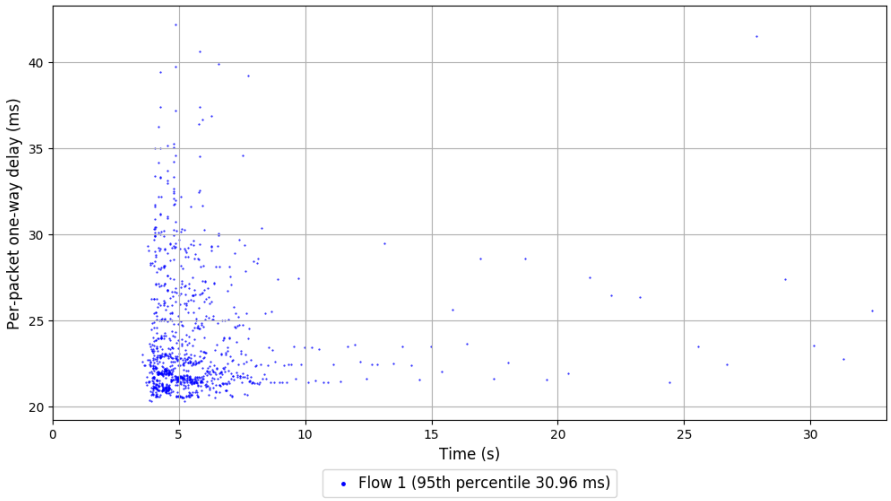
```
Run 1: Statistics of Eagle-expert-3

Start at: 2019-10-29 02:26:48
End at: 2019-10-29 02:27:18

# Below is generated by plot.py at 2019-10-29 02:56:57
# Datalink statistics
-- Total of 1 flow:
Average capacity: 7.51 Mbit/s
Average throughput: 0.42 Mbit/s (5.6% utilization)
95th percentile per-packet one-way delay: 30.965 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.42 Mbit/s
95th percentile per-packet one-way delay: 30.965 ms
Loss rate: 0.00%
```

Run 1: Report of Eagle-expert-3 — Data Link



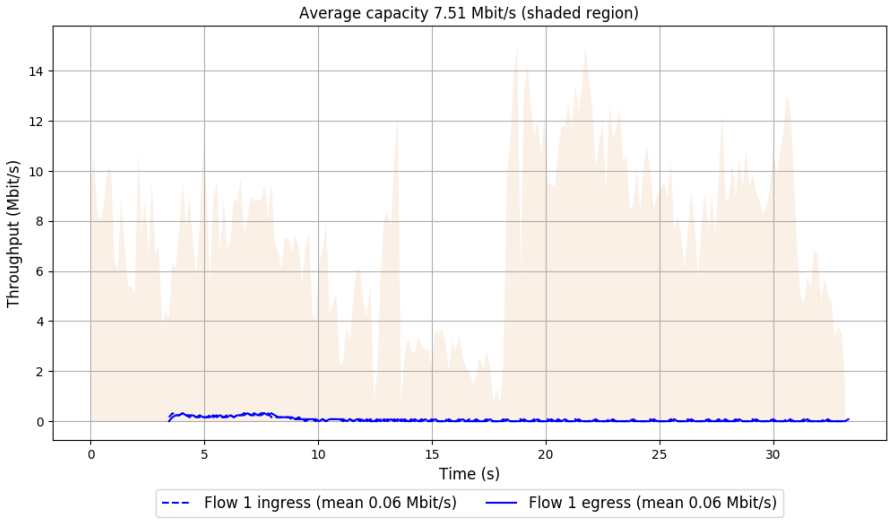


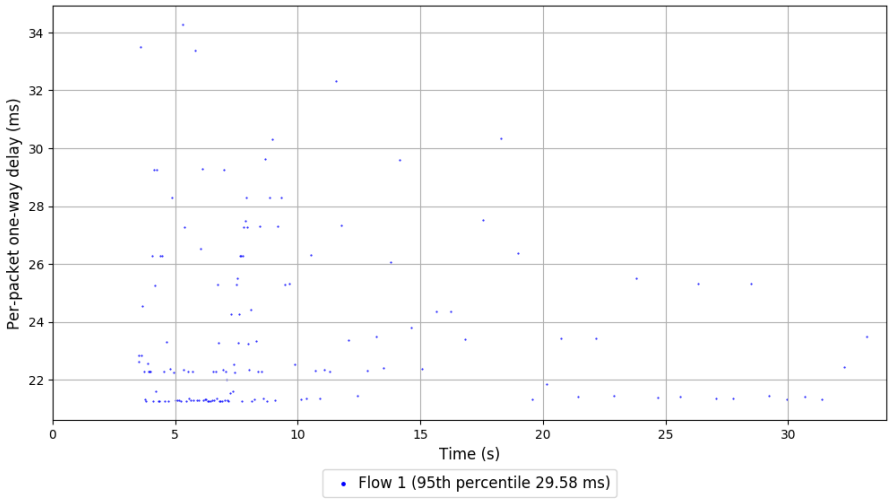
```
Run 2: Statistics of Eagle-expert-3

Start at: 2019-10-29 02:31:54
End at: 2019-10-29 02:32:24

# Below is generated by plot.py at 2019-10-29 02:56:59
# Datalink statistics
-- Total of 1 flow:
Average capacity: 7.51 Mbit/s
Average throughput: 0.06 Mbit/s (0.8% utilization)
95th percentile per-packet one-way delay: 29.582 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.06 Mbit/s
95th percentile per-packet one-way delay: 29.582 ms
Loss rate: 0.00%
```

Run 2: Report of Eagle-expert-3 — Data Link



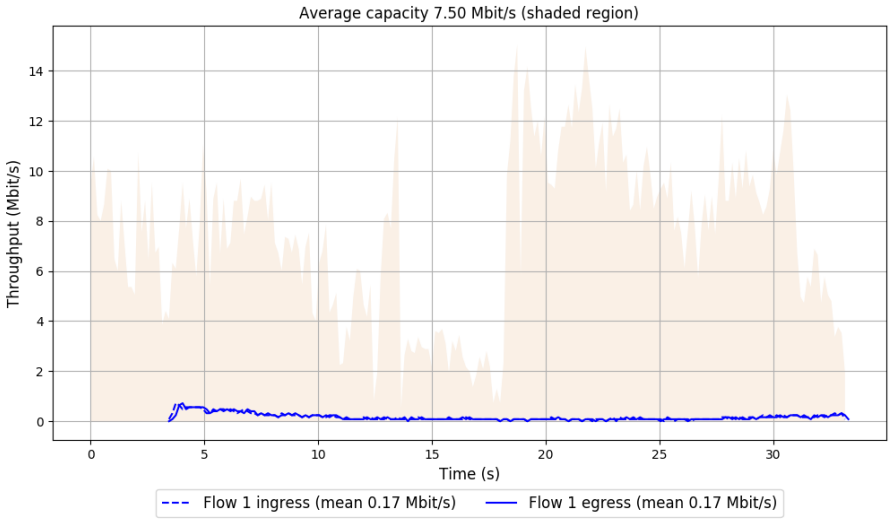


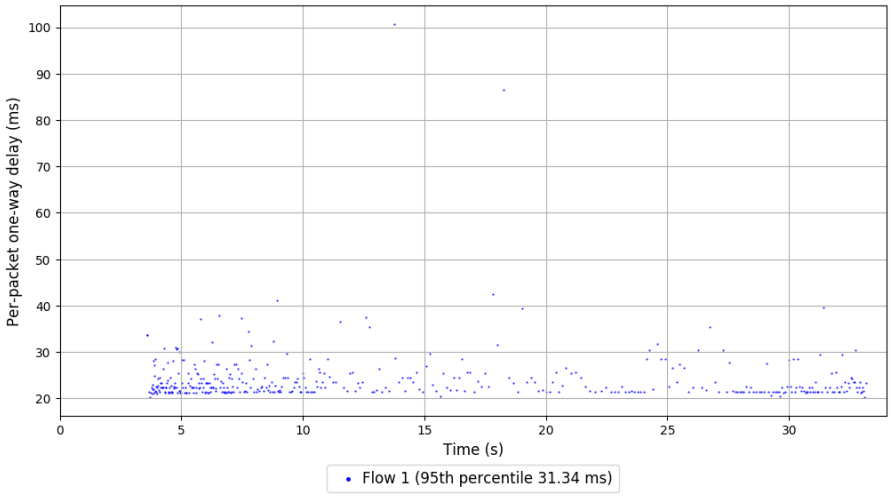
```
Run 3: Statistics of Eagle-expert-3

Start at: 2019-10-29 02:37:01
End at: 2019-10-29 02:37:31

# Below is generated by plot.py at 2019-10-29 02:56:59
# Datalink statistics
-- Total of 1 flow:
Average capacity: 7.50 Mbit/s
Average throughput: 0.17 Mbit/s (2.2% utilization)
95th percentile per-packet one-way delay: 31.341 ms
Loss rate: 0.24%
-- Flow 1:
Average throughput: 0.17 Mbit/s
95th percentile per-packet one-way delay: 31.341 ms
Loss rate: 0.24%
```

Run 3: Report of Eagle-expert-3 — Data Link



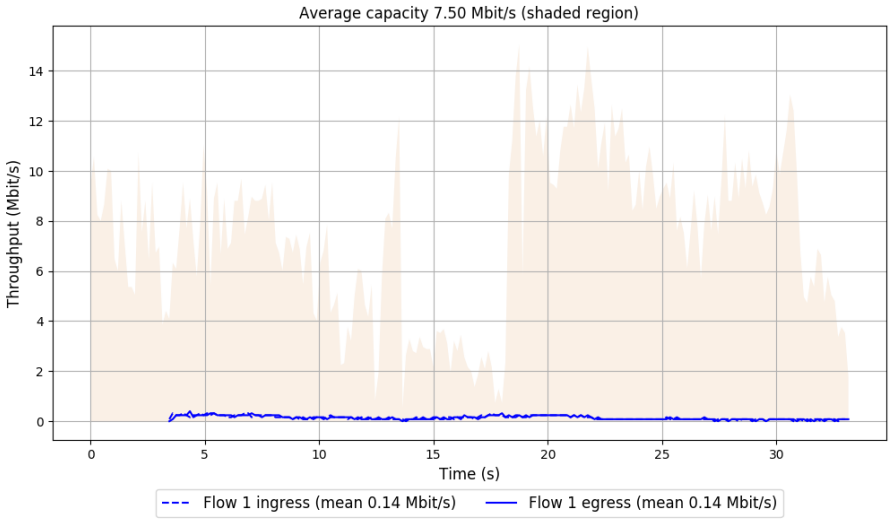


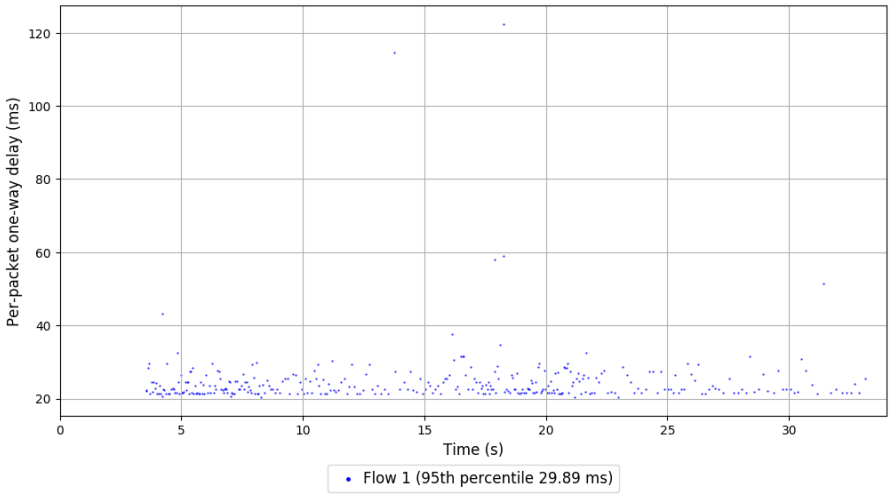
```
Run 4: Statistics of Eagle-expert-3

Start at: 2019-10-29 02:42:07
End at: 2019-10-29 02:42:37

# Below is generated by plot.py at 2019-10-29 02:57:01
# Datalink statistics
-- Total of 1 flow:
Average capacity: 7.50 Mbit/s
Average throughput: 0.14 Mbit/s (1.8% utilization)
95th percentile per-packet one-way delay: 29.887 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.14 Mbit/s
95th percentile per-packet one-way delay: 29.887 ms
Loss rate: 0.00%
```

Run 4: Report of Eagle-expert-3 — Data Link



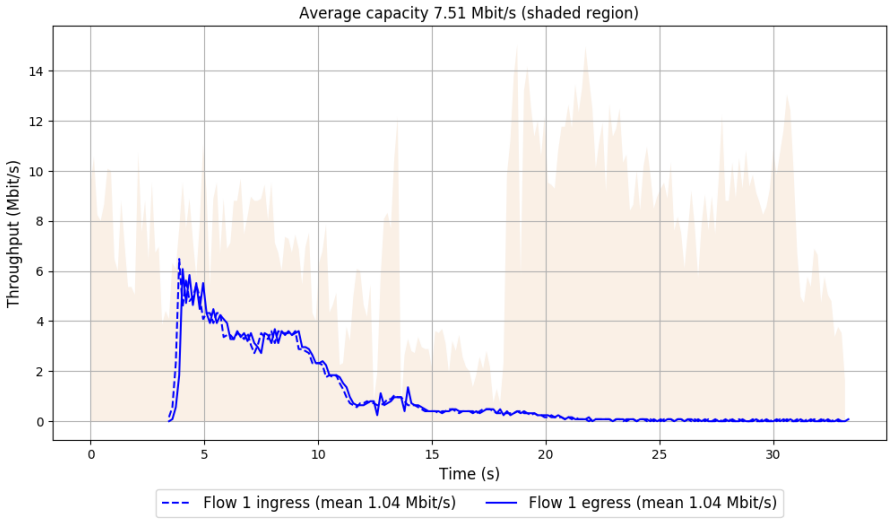


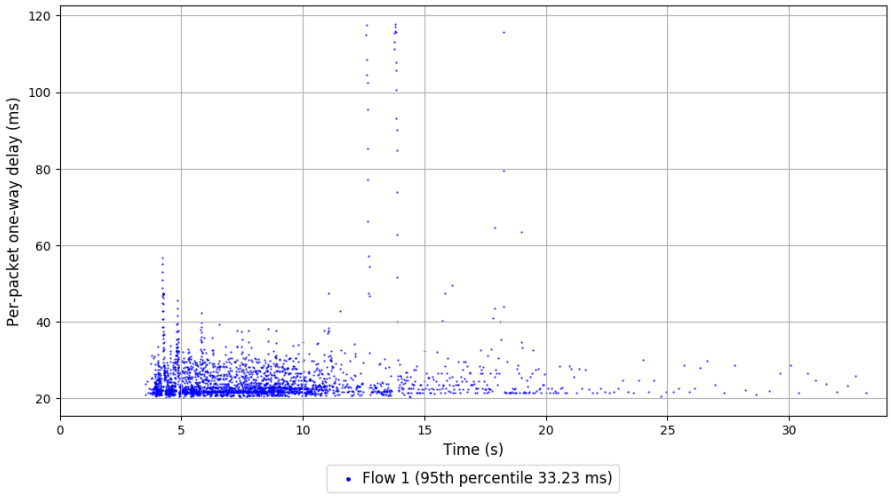
```
Run 5: Statistics of Eagle-expert-3

Start at: 2019-10-29 02:47:13
End at: 2019-10-29 02:47:43

# Below is generated by plot.py at 2019-10-29 02:57:01
# Datalink statistics
-- Total of 1 flow:
Average capacity: 7.51 Mbit/s
Average throughput: 1.04 Mbit/s (13.8% utilization)
95th percentile per-packet one-way delay: 33.230 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 1.04 Mbit/s
95th percentile per-packet one-way delay: 33.230 ms
Loss rate: 0.00%
```

Run 5: Report of Eagle-expert-3 — Data Link



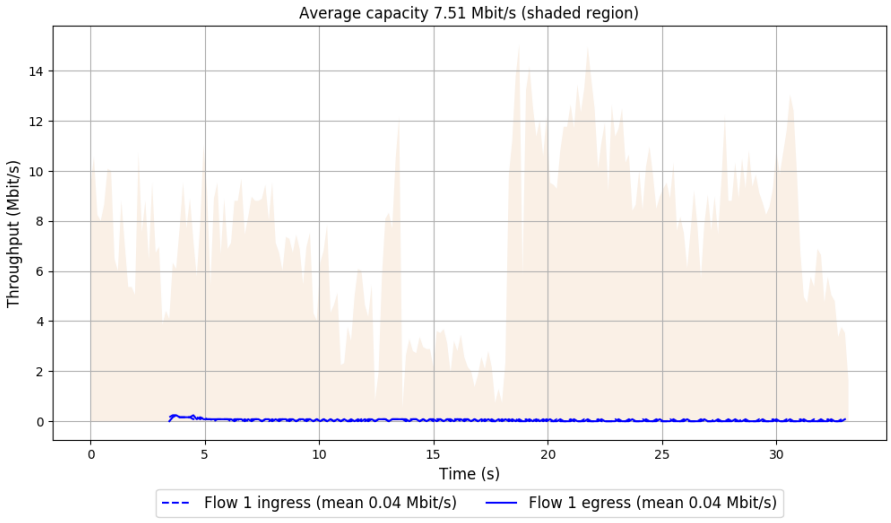


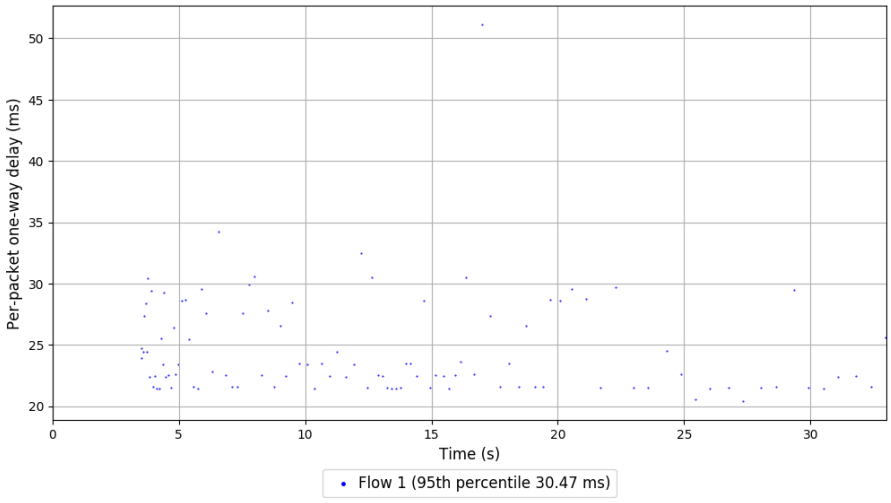
```
Run 1: Statistics of Eagle-expert-4

Start at: 2019-10-29 02:27:22
End at: 2019-10-29 02:27:52

# Below is generated by plot.py at 2019-10-29 02:57:03
# Datalink statistics
-- Total of 1 flow:
Average capacity: 7.51 Mbit/s
Average throughput: 0.04 Mbit/s (0.6% utilization)
95th percentile per-packet one-way delay: 30.468 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.04 Mbit/s
95th percentile per-packet one-way delay: 30.468 ms
Loss rate: 0.00%
```

Run 1: Report of Eagle-expert-4 — Data Link



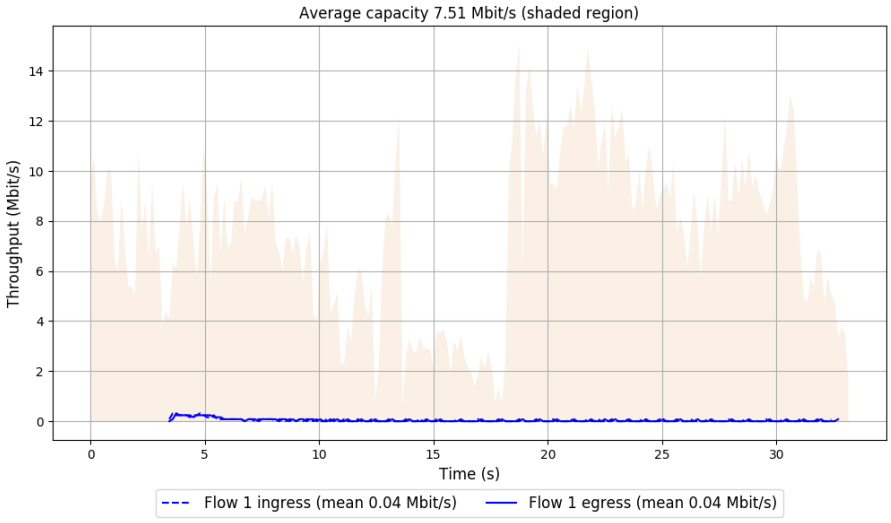


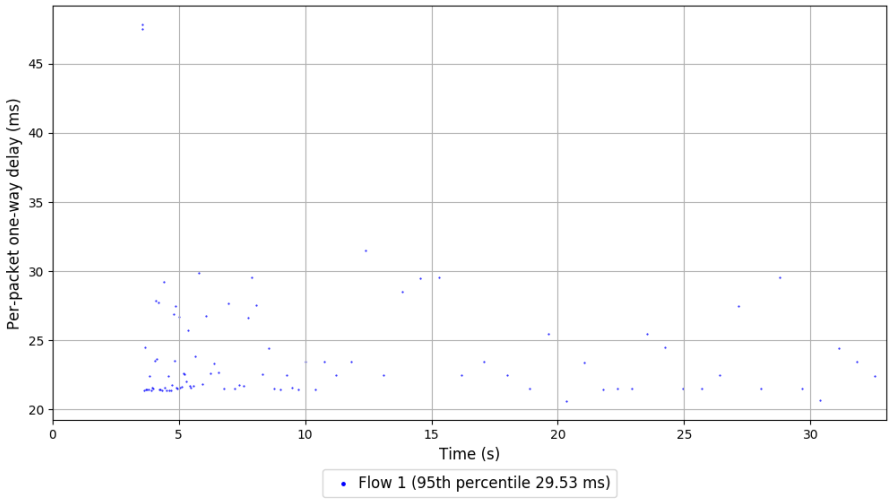
```
Run 2: Statistics of Eagle-expert-4

Start at: 2019-10-29 02:32:28
End at: 2019-10-29 02:32:58

# Below is generated by plot.py at 2019-10-29 02:57:05
# Datalink statistics
-- Total of 1 flow:
Average capacity: 7.51 Mbit/s
Average throughput: 0.04 Mbit/s (0.5% utilization)
95th percentile per-packet one-way delay: 29.530 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.04 Mbit/s
95th percentile per-packet one-way delay: 29.530 ms
Loss rate: 0.00%
```

Run 2: Report of Eagle-expert-4 — Data Link



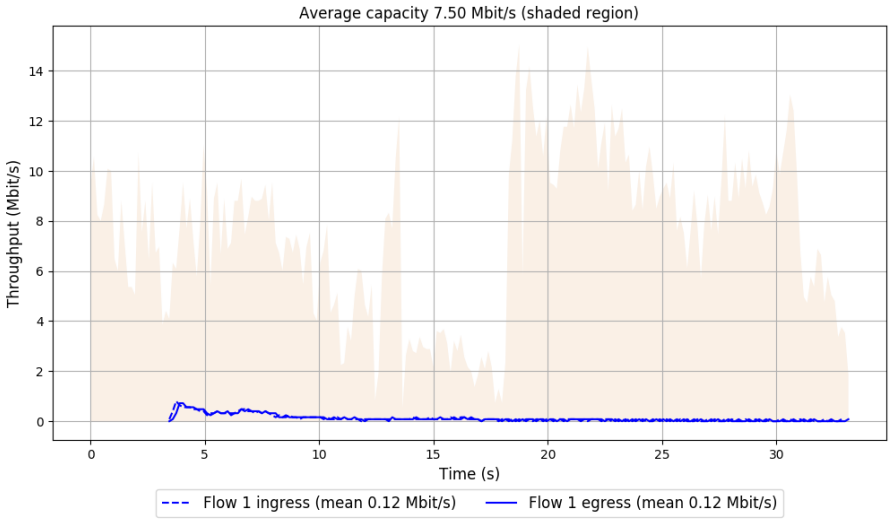


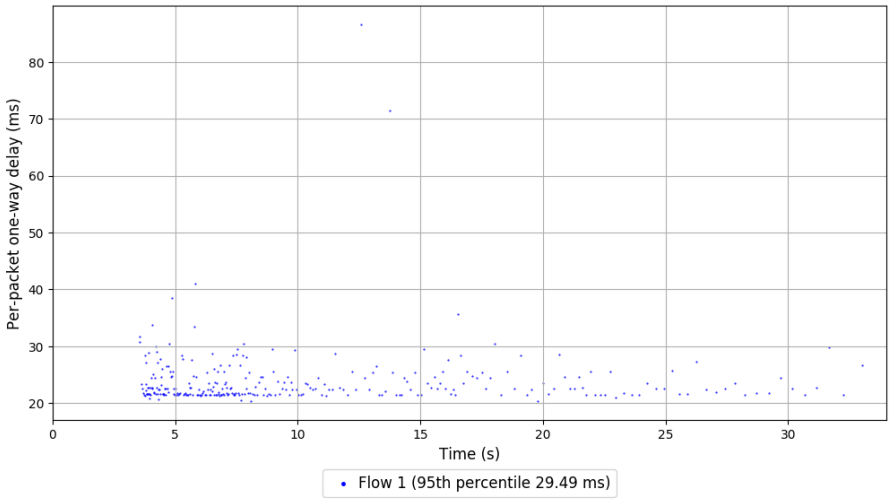
```
Run 3: Statistics of Eagle-expert-4

Start at: 2019-10-29 02:37:35
End at: 2019-10-29 02:38:05

# Below is generated by plot.py at 2019-10-29 02:57:05
# Datalink statistics
-- Total of 1 flow:
Average capacity: 7.50 Mbit/s
Average throughput: 0.12 Mbit/s (1.6% utilization)
95th percentile per-packet one-way delay: 29.486 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.12 Mbit/s
95th percentile per-packet one-way delay: 29.486 ms
Loss rate: 0.00%
```

Run 3: Report of Eagle-expert-4 — Data Link



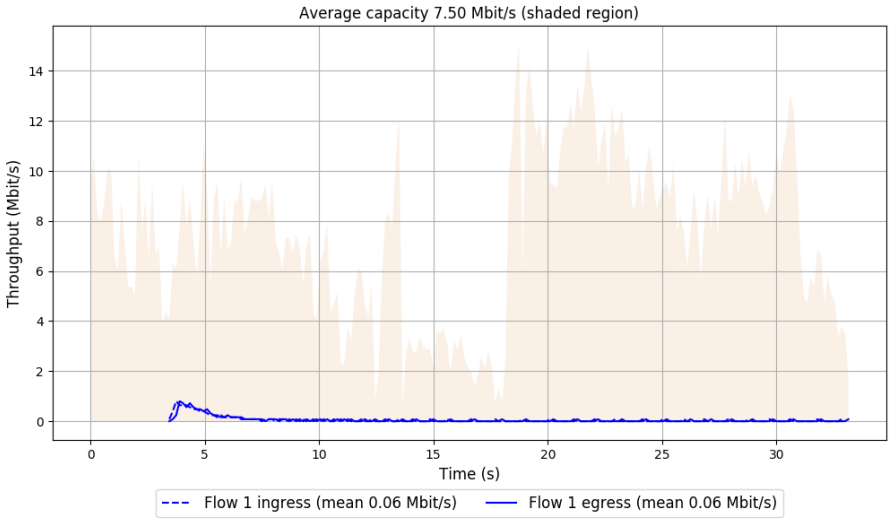


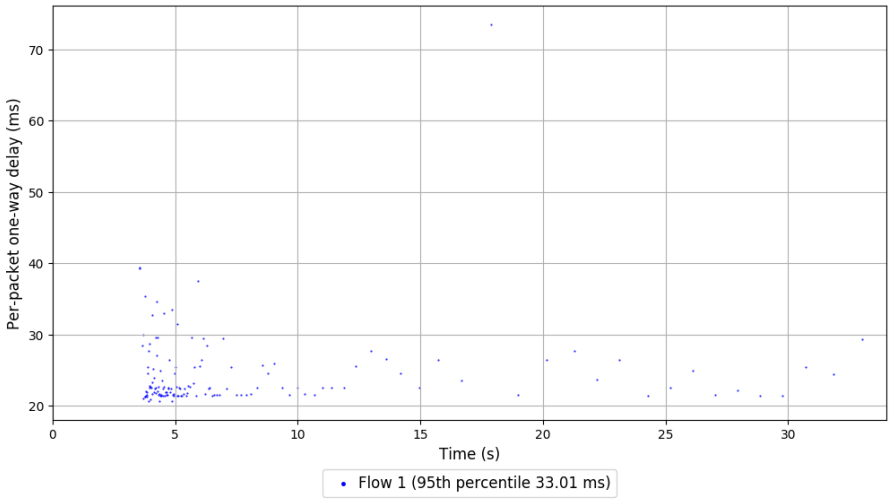
```
Run 4: Statistics of Eagle-expert-4

Start at: 2019-10-29 02:42:41
End at: 2019-10-29 02:43:11

# Below is generated by plot.py at 2019-10-29 02:57:05
# Datalink statistics
-- Total of 1 flow:
Average capacity: 7.50 Mbit/s
Average throughput: 0.06 Mbit/s (0.7% utilization)
95th percentile per-packet one-way delay: 33.011 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.06 Mbit/s
95th percentile per-packet one-way delay: 33.011 ms
Loss rate: 0.00%
```

Run 4: Report of Eagle-expert-4 — Data Link



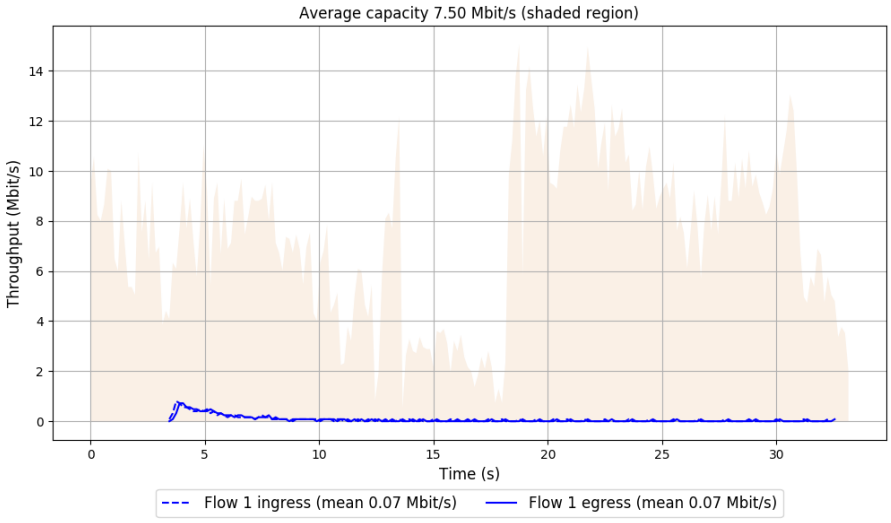


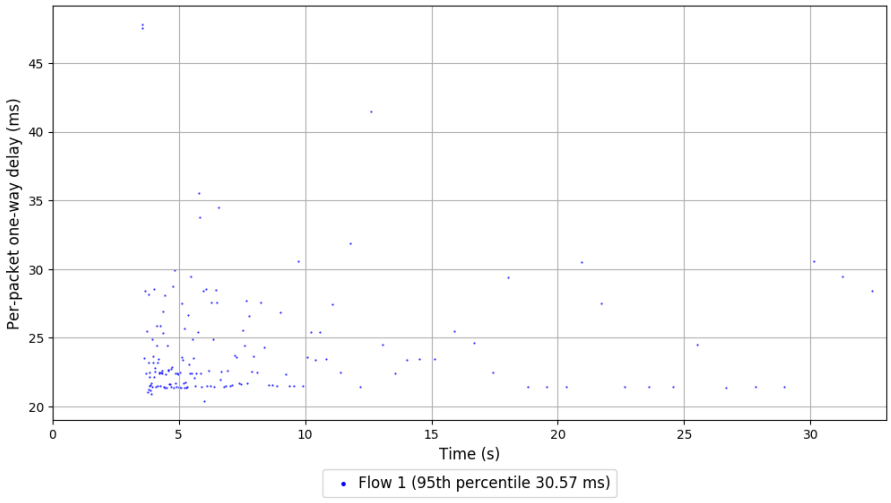
```
Run 5: Statistics of Eagle-expert-4

Start at: 2019-10-29 02:47:48
End at: 2019-10-29 02:48:18

# Below is generated by plot.py at 2019-10-29 02:57:06
# Datalink statistics
-- Total of 1 flow:
Average capacity: 7.50 Mbit/s
Average throughput: 0.07 Mbit/s (0.9% utilization)
95th percentile per-packet one-way delay: 30.571 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.07 Mbit/s
95th percentile per-packet one-way delay: 30.571 ms
Loss rate: 0.00%
```

Run 5: Report of Eagle-expert-4 — Data Link



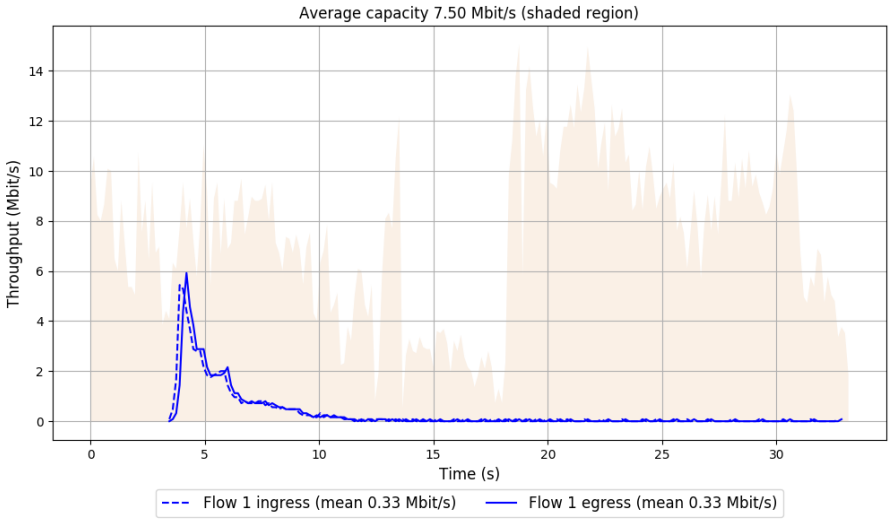


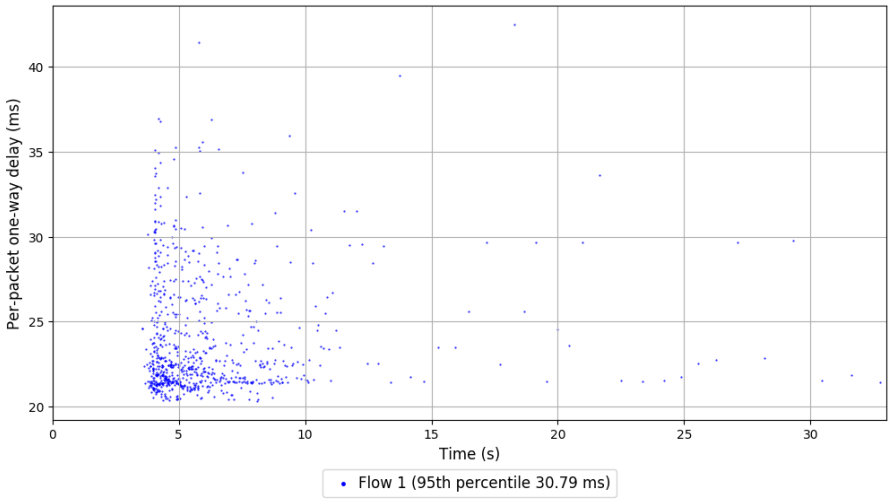
```
Run 1: Statistics of Eagle-expert-5

Start at: 2019-10-29 02:27:56
End at: 2019-10-29 02:28:26

# Below is generated by plot.py at 2019-10-29 02:57:09
# Datalink statistics
-- Total of 1 flow:
Average capacity: 7.50 Mbit/s
Average throughput: 0.33 Mbit/s (4.4% utilization)
95th percentile per-packet one-way delay: 30.790 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.33 Mbit/s
95th percentile per-packet one-way delay: 30.790 ms
Loss rate: 0.00%
```

Run 1: Report of Eagle-expert-5 — Data Link



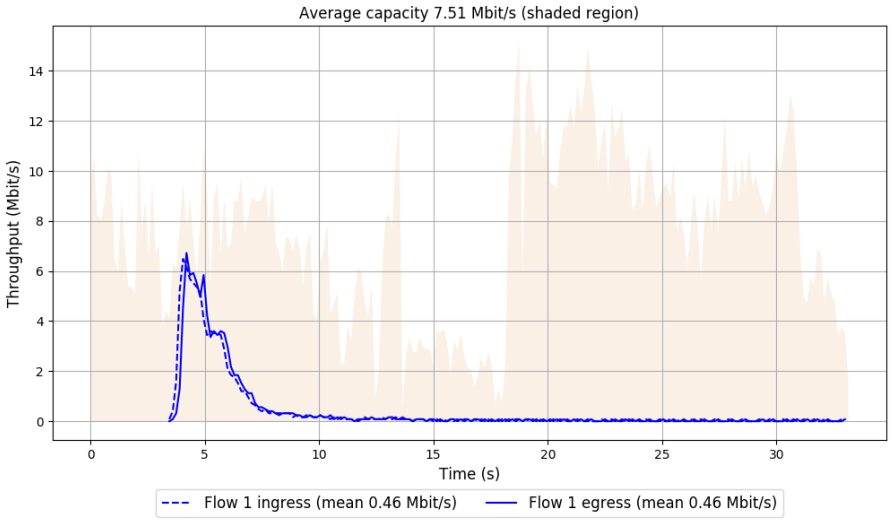


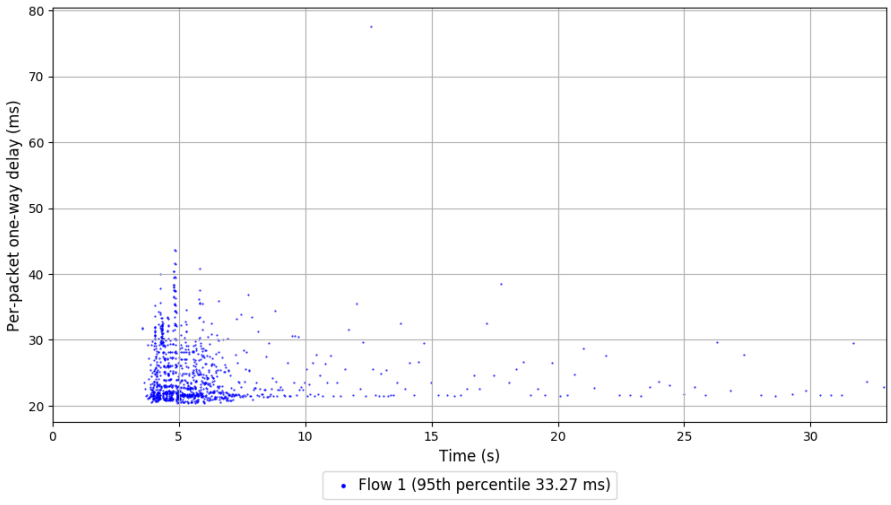
```
Run 2: Statistics of Eagle-expert-5

Start at: 2019-10-29 02:33:02
End at: 2019-10-29 02:33:32

# Below is generated by plot.py at 2019-10-29 02:57:09
# Datalink statistics
-- Total of 1 flow:
Average capacity: 7.51 Mbit/s
Average throughput: 0.46 Mbit/s (6.1% utilization)
95th percentile per-packet one-way delay: 33.273 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.46 Mbit/s
95th percentile per-packet one-way delay: 33.273 ms
Loss rate: 0.00%
```

Run 2: Report of Eagle-expert-5 — Data Link



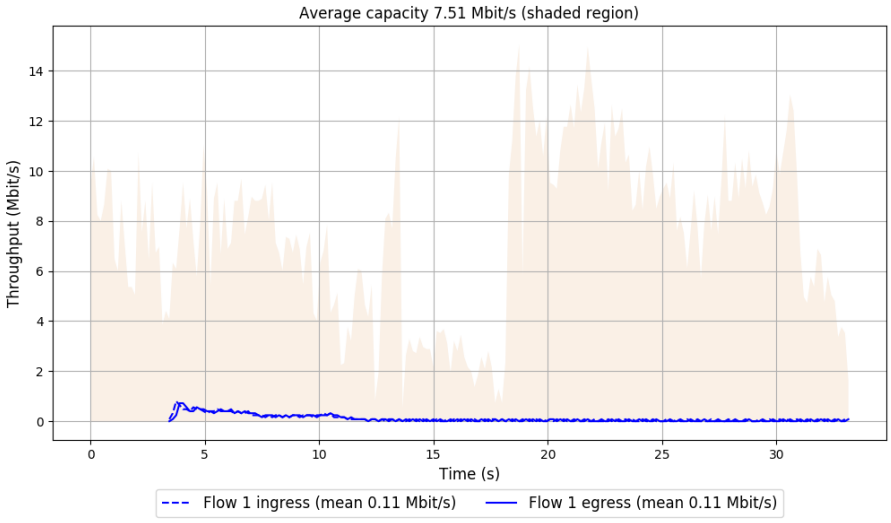


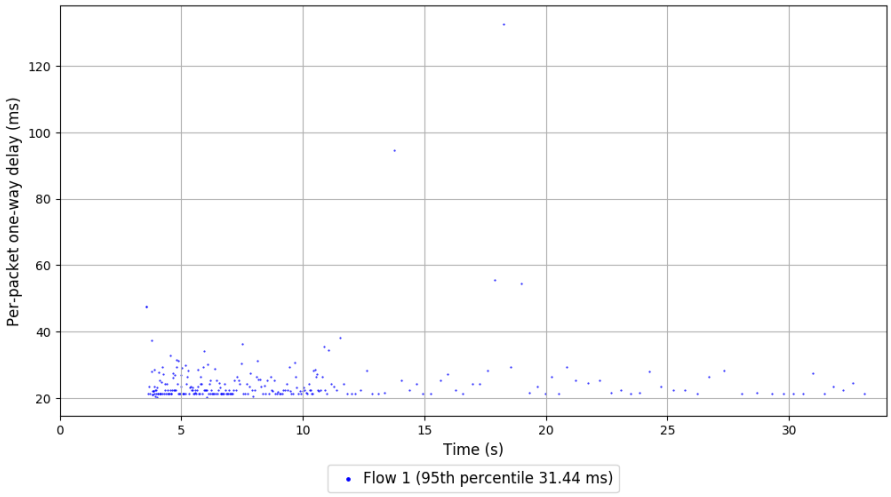
```
Run 3: Statistics of Eagle-expert-5

Start at: 2019-10-29 02:38:09
End at: 2019-10-29 02:38:39

# Below is generated by plot.py at 2019-10-29 02:57:09
# Datalink statistics
-- Total of 1 flow:
Average capacity: 7.51 Mbit/s
Average throughput: 0.11 Mbit/s (1.4% utilization)
95th percentile per-packet one-way delay: 31.437 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.11 Mbit/s
95th percentile per-packet one-way delay: 31.437 ms
Loss rate: 0.00%
```

Run 3: Report of Eagle-expert-5 — Data Link



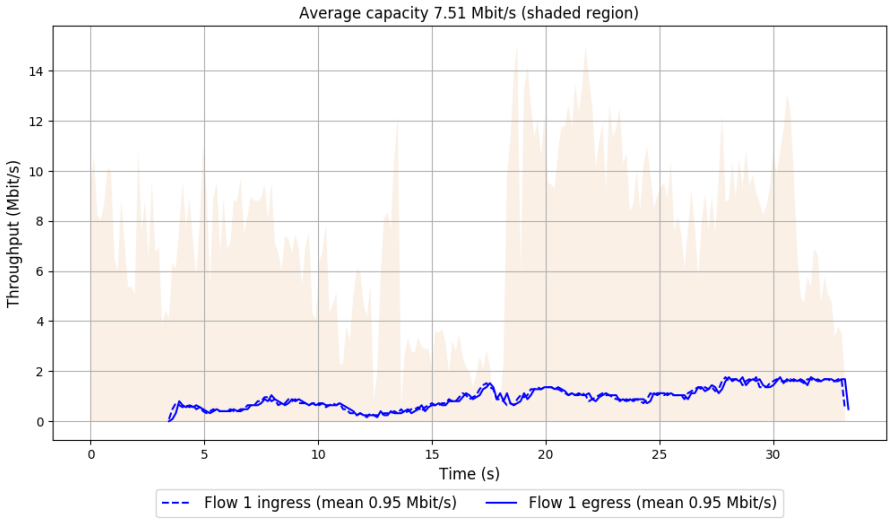


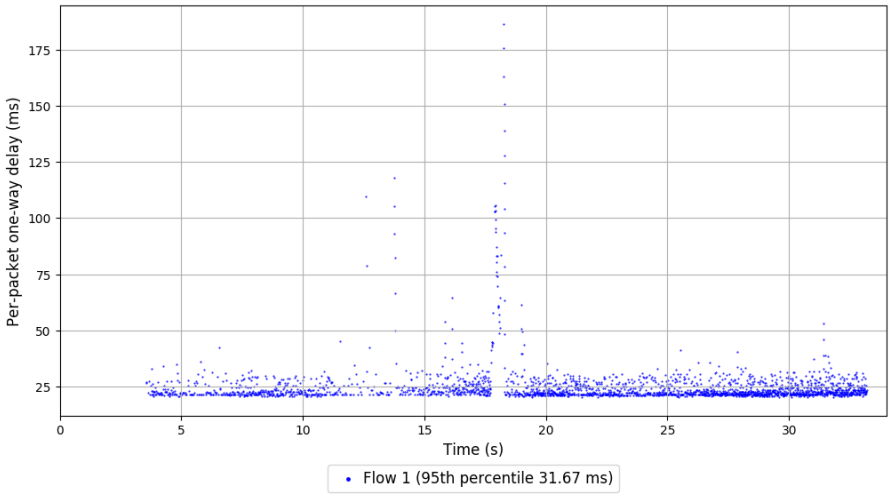
```
Run 4: Statistics of Eagle-expert-5

Start at: 2019-10-29 02:43:15
End at: 2019-10-29 02:43:45

# Below is generated by plot.py at 2019-10-29 02:57:10
# Datalink statistics
-- Total of 1 flow:
Average capacity: 7.51 Mbit/s
Average throughput: 0.95 Mbit/s (12.7% utilization)
95th percentile per-packet one-way delay: 31.674 ms
Loss rate: 0.13%
-- Flow 1:
Average throughput: 0.95 Mbit/s
95th percentile per-packet one-way delay: 31.674 ms
Loss rate: 0.13%
```

Run 4: Report of Eagle-expert-5 — Data Link



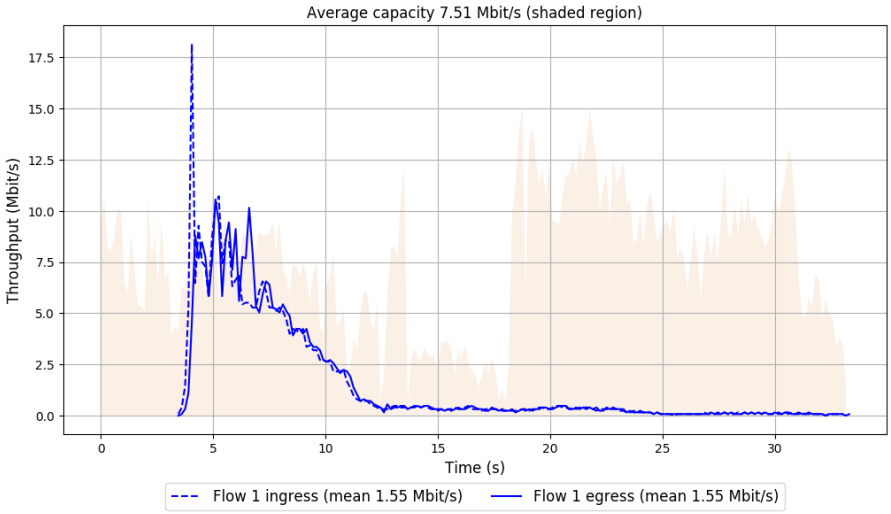


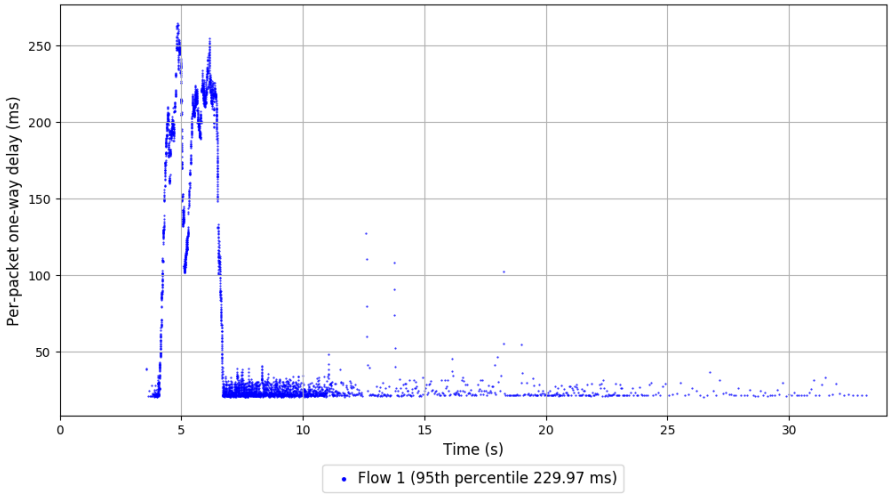
```
Run 5: Statistics of Eagle-expert-5

Start at: 2019-10-29 02:48:22
End at: 2019-10-29 02:48:52

# Below is generated by plot.py at 2019-10-29 02:57:14
# Datalink statistics
-- Total of 1 flow:
Average capacity: 7.51 Mbit/s
Average throughput: 1.55 Mbit/s (20.7% utilization)
95th percentile per-packet one-way delay: 229.975 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 1.55 Mbit/s
95th percentile per-packet one-way delay: 229.975 ms
Loss rate: 0.00%
```

Run 5: Report of Eagle-expert-5 — Data Link



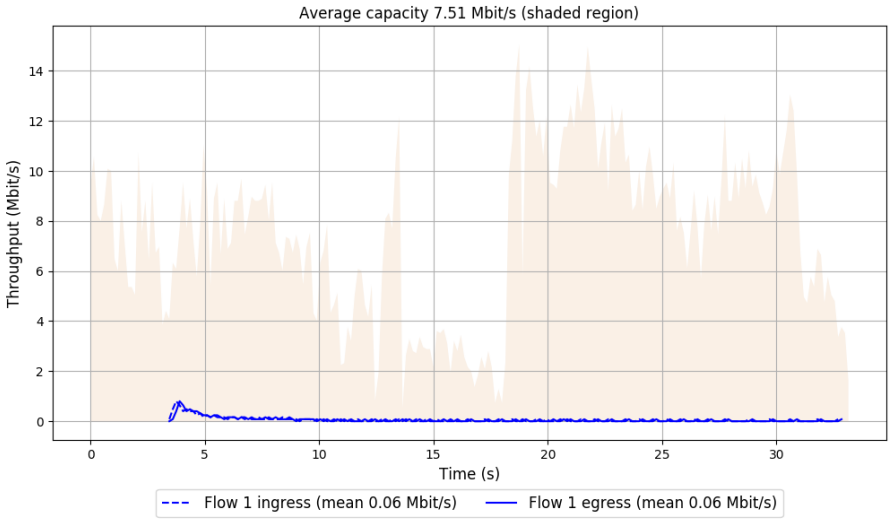


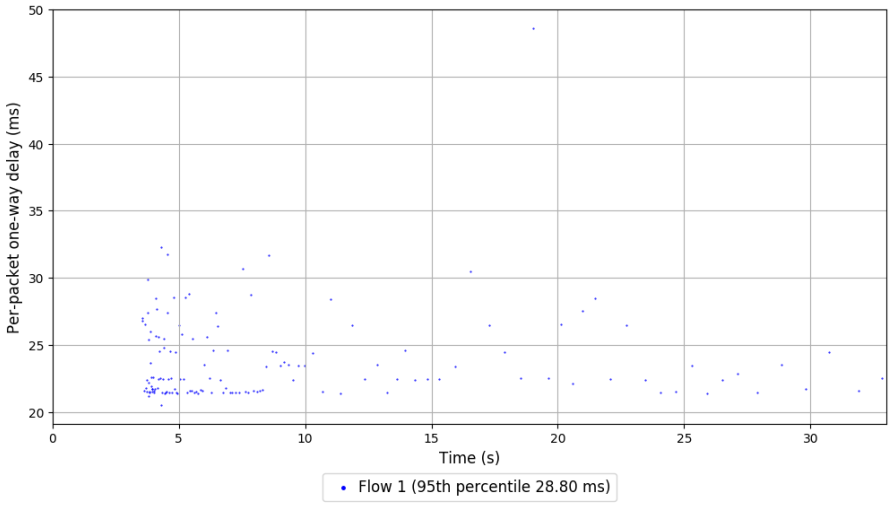
```
Run 1: Statistics of Eagle-expert-6

Start at: 2019-10-29 02:28:30
End at: 2019-10-29 02:29:00

# Below is generated by plot.py at 2019-10-29 02:57:14
# Datalink statistics
-- Total of 1 flow:
Average capacity: 7.51 Mbit/s
Average throughput: 0.06 Mbit/s (0.8% utilization)
95th percentile per-packet one-way delay: 28.803 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.06 Mbit/s
95th percentile per-packet one-way delay: 28.803 ms
Loss rate: 0.00%
```

Run 1: Report of Eagle-expert-6 — Data Link



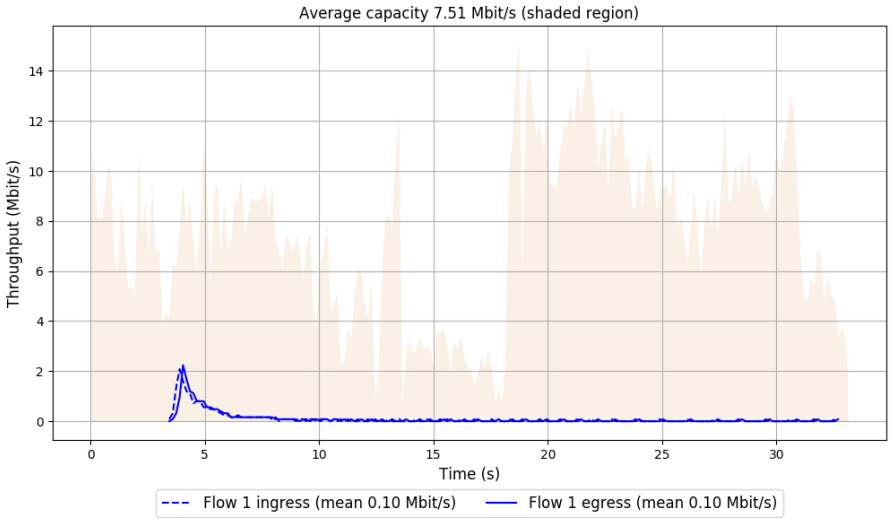


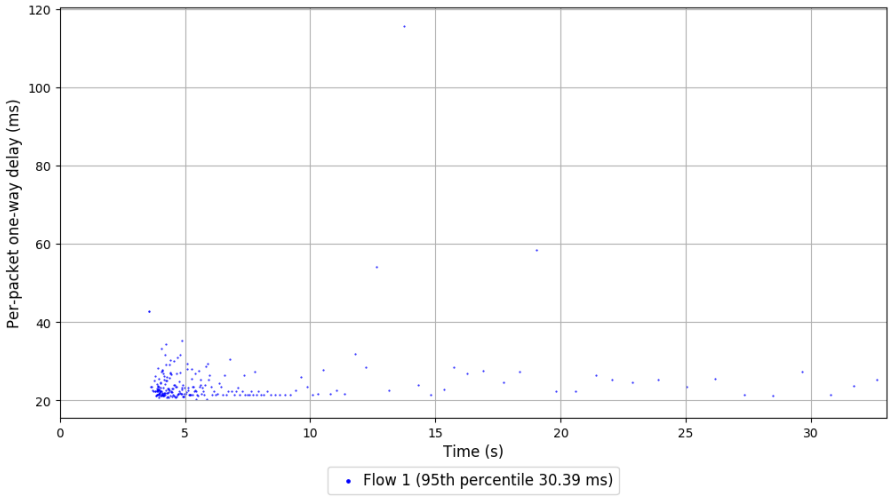
```
Run 2: Statistics of Eagle-expert-6

Start at: 2019-10-29 02:33:36
End at: 2019-10-29 02:34:06

# Below is generated by plot.py at 2019-10-29 02:57:14
# Datalink statistics
-- Total of 1 flow:
Average capacity: 7.51 Mbit/s
Average throughput: 0.10 Mbit/s (1.3% utilization)
95th percentile per-packet one-way delay: 30.393 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.10 Mbit/s
95th percentile per-packet one-way delay: 30.393 ms
Loss rate: 0.00%
```

Run 2: Report of Eagle-expert-6 — Data Link



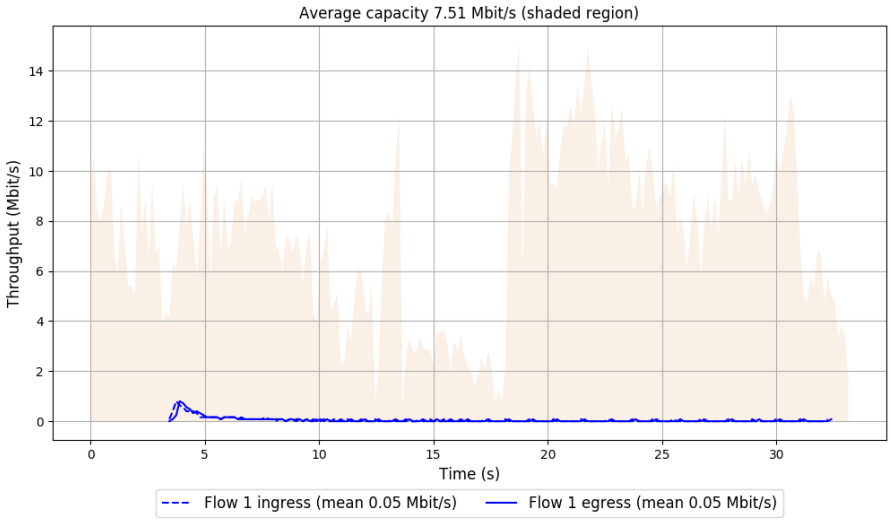


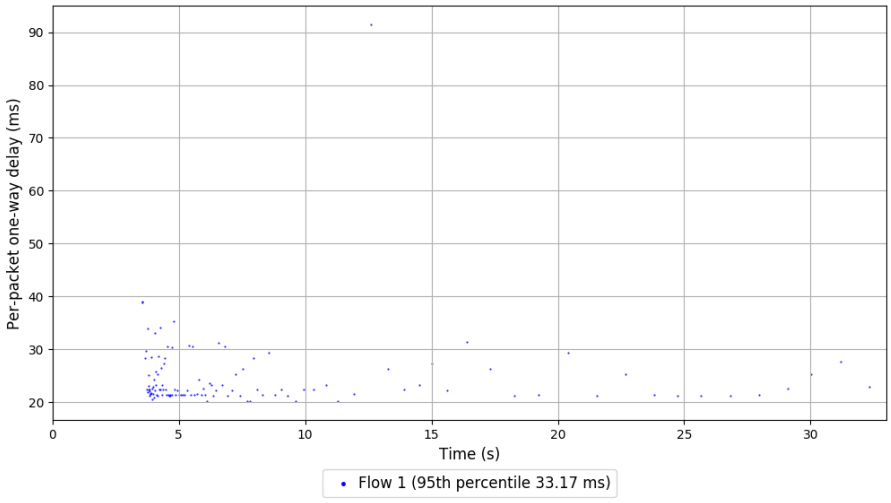
```
Run 3: Statistics of Eagle-expert-6

Start at: 2019-10-29 02:38:43
End at: 2019-10-29 02:39:13

# Below is generated by plot.py at 2019-10-29 02:57:14
# Datalink statistics
-- Total of 1 flow:
Average capacity: 7.51 Mbit/s
Average throughput: 0.05 Mbit/s (0.6% utilization)
95th percentile per-packet one-way delay: 33.171 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 33.171 ms
Loss rate: 0.00%
```

Run 3: Report of Eagle-expert-6 — Data Link



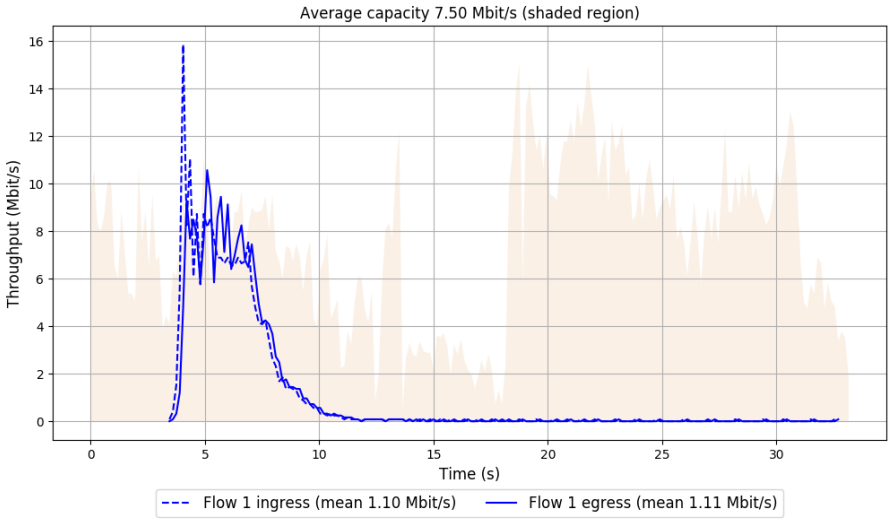


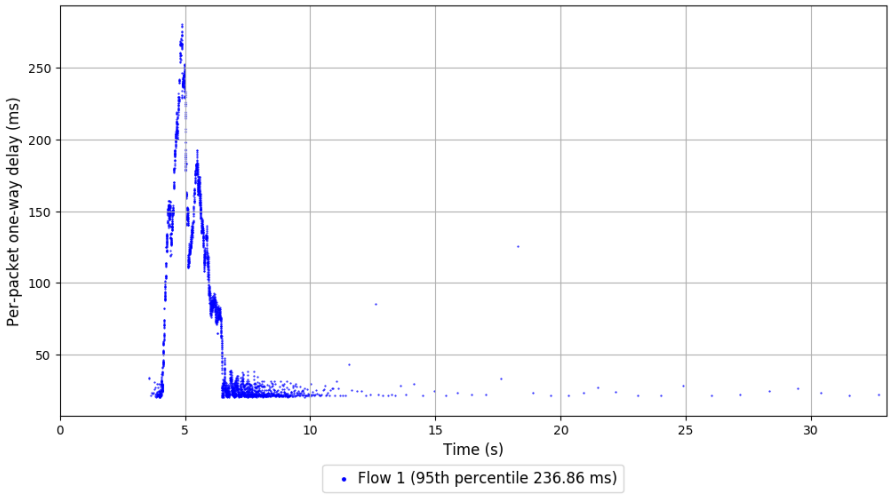
```
Run 4: Statistics of Eagle-expert-6

Start at: 2019-10-29 02:43:49
End at: 2019-10-29 02:44:19

# Below is generated by plot.py at 2019-10-29 02:57:15
# Datalink statistics
-- Total of 1 flow:
Average capacity: 7.50 Mbit/s
Average throughput: 1.11 Mbit/s (14.7% utilization)
95th percentile per-packet one-way delay: 236.861 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 1.11 Mbit/s
95th percentile per-packet one-way delay: 236.861 ms
Loss rate: 0.00%
```

Run 4: Report of Eagle-expert-6 — Data Link



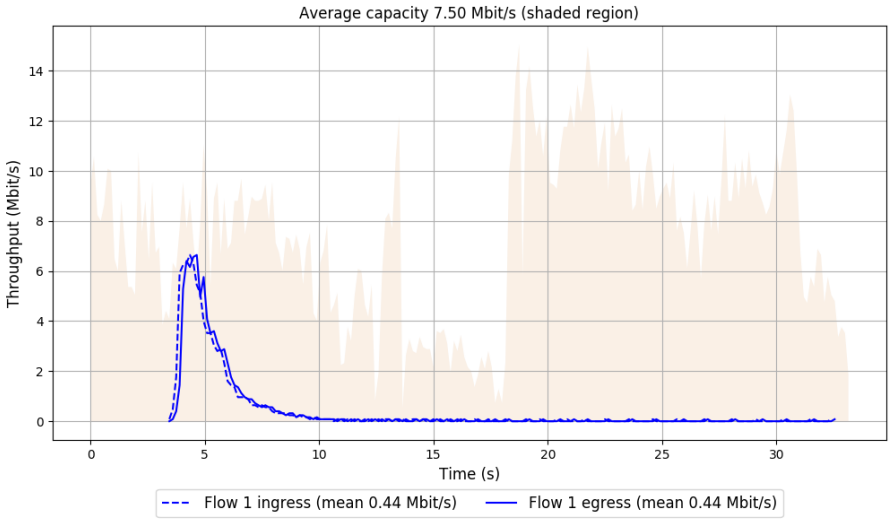


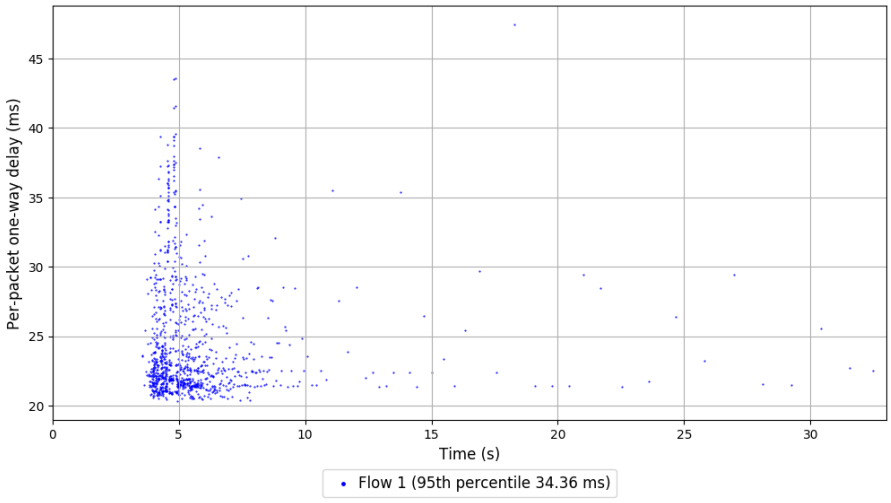
```
Run 5: Statistics of Eagle-expert-6

Start at: 2019-10-29 02:48:56
End at: 2019-10-29 02:49:26

# Below is generated by plot.py at 2019-10-29 02:57:16
# Datalink statistics
-- Total of 1 flow:
Average capacity: 7.50 Mbit/s
Average throughput: 0.44 Mbit/s (5.8% utilization)
95th percentile per-packet one-way delay: 34.360 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 34.360 ms
Loss rate: 0.00%
```

Run 5: Report of Eagle-expert-6 — Data Link



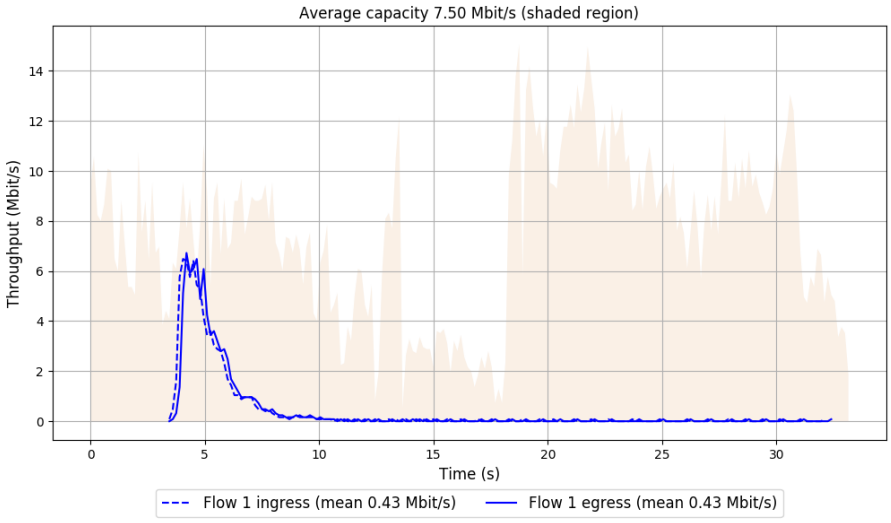


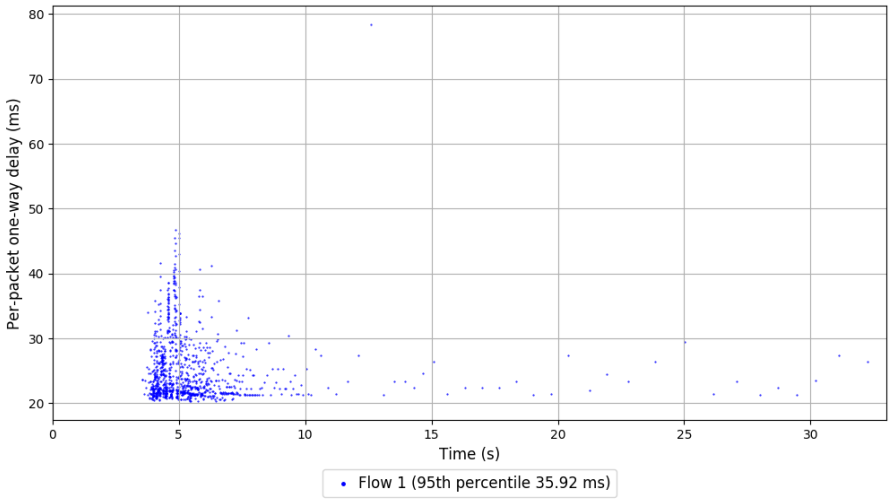
```
Run 1: Statistics of Eagle-expert-7

Start at: 2019-10-29 02:29:04
End at: 2019-10-29 02:29:34

# Below is generated by plot.py at 2019-10-29 02:57:17
# Datalink statistics
-- Total of 1 flow:
Average capacity: 7.50 Mbit/s
Average throughput: 0.43 Mbit/s (5.8% utilization)
95th percentile per-packet one-way delay: 35.919 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.43 Mbit/s
95th percentile per-packet one-way delay: 35.919 ms
Loss rate: 0.00%
```

Run 1: Report of Eagle-expert-7 — Data Link



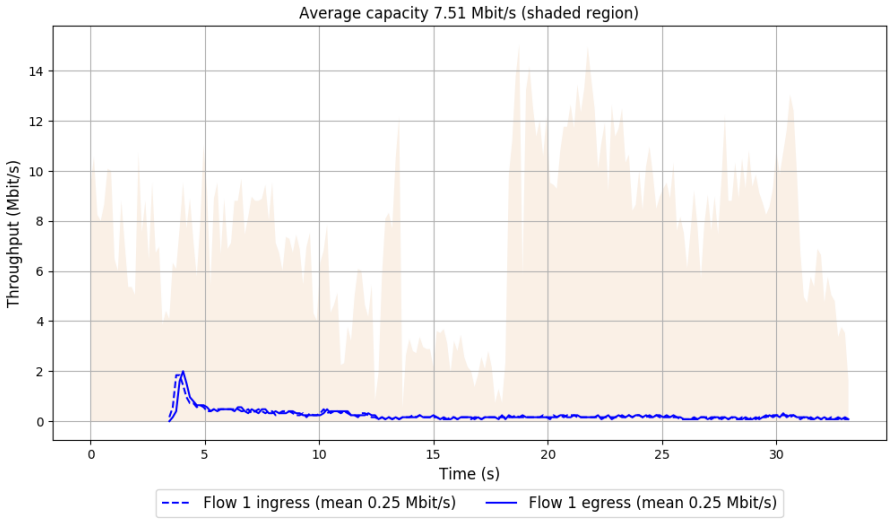


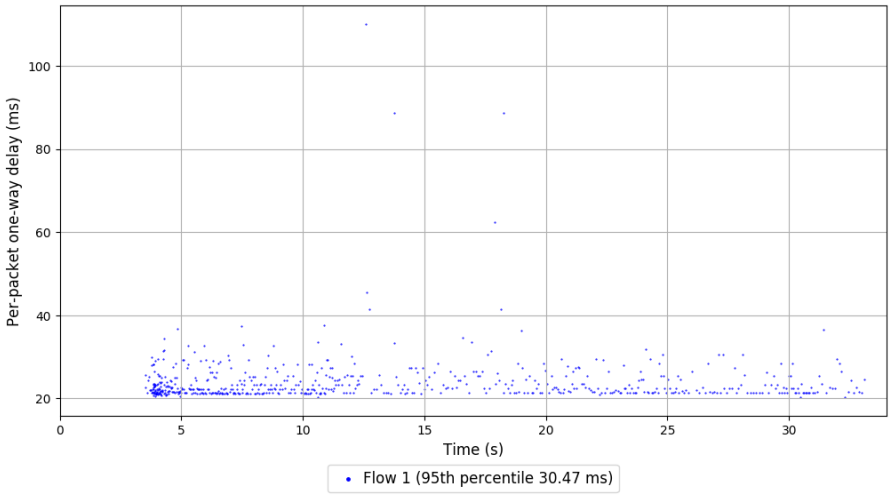
```
Run 2: Statistics of Eagle-expert-7

Start at: 2019-10-29 02:34:10
End at: 2019-10-29 02:34:40

# Below is generated by plot.py at 2019-10-29 02:57:19
# Datalink statistics
-- Total of 1 flow:
Average capacity: 7.51 Mbit/s
Average throughput: 0.25 Mbit/s (3.3% utilization)
95th percentile per-packet one-way delay: 30.469 ms
Loss rate: 0.16%
-- Flow 1:
Average throughput: 0.25 Mbit/s
95th percentile per-packet one-way delay: 30.469 ms
Loss rate: 0.16%
```

Run 2: Report of Eagle-expert-7 — Data Link



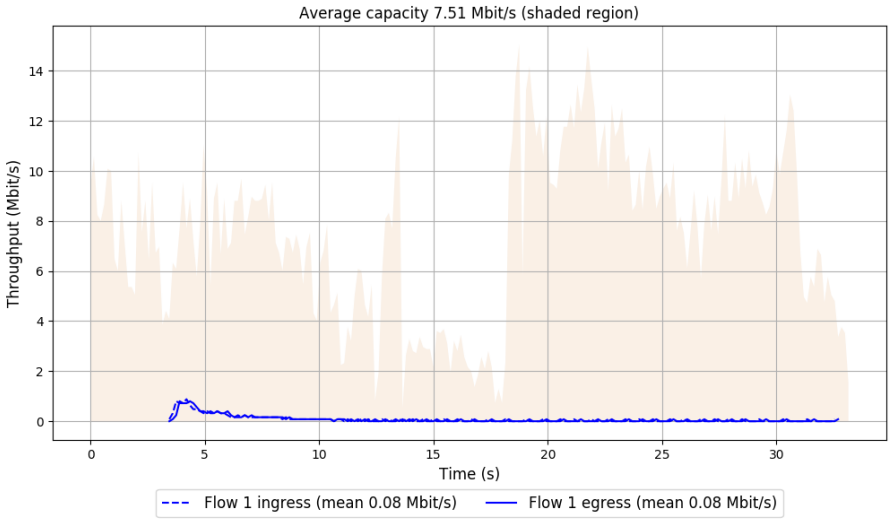


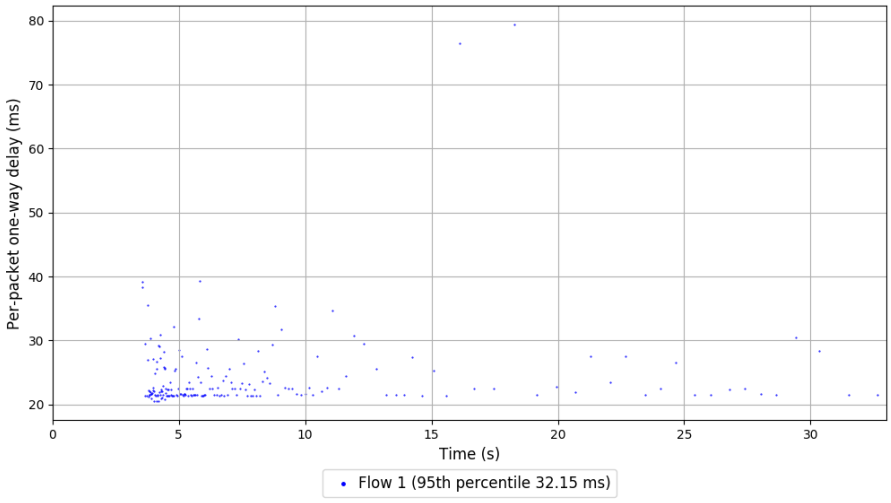
```
Run 3: Statistics of Eagle-expert-7

Start at: 2019-10-29 02:39:17
End at: 2019-10-29 02:39:47

# Below is generated by plot.py at 2019-10-29 02:57:20
# Datalink statistics
-- Total of 1 flow:
Average capacity: 7.51 Mbit/s
Average throughput: 0.08 Mbit/s (1.0% utilization)
95th percentile per-packet one-way delay: 32.153 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.08 Mbit/s
95th percentile per-packet one-way delay: 32.153 ms
Loss rate: 0.00%
```

Run 3: Report of Eagle-expert-7 — Data Link



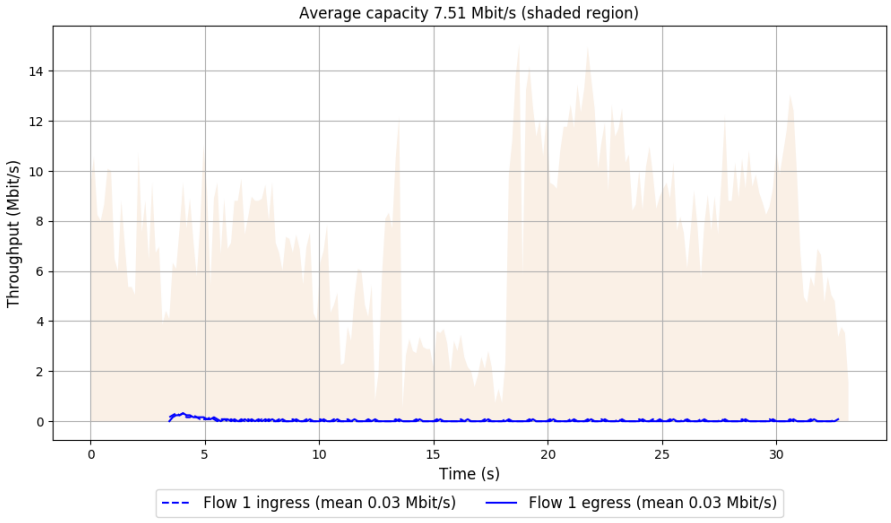


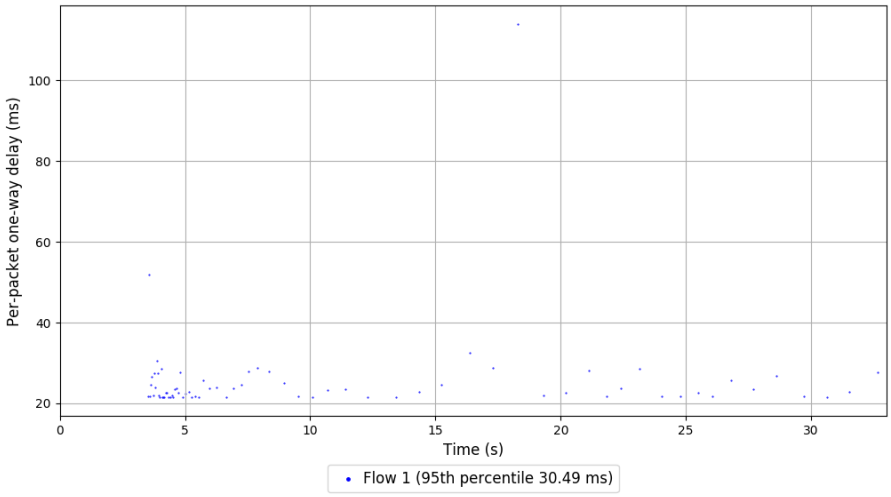
```
Run 4: Statistics of Eagle-expert-7

Start at: 2019-10-29 02:44:23
End at: 2019-10-29 02:44:53

# Below is generated by plot.py at 2019-10-29 02:57:20
# Datalink statistics
-- Total of 1 flow:
Average capacity: 7.51 Mbit/s
Average throughput: 0.03 Mbit/s (0.4% utilization)
95th percentile per-packet one-way delay: 30.491 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.03 Mbit/s
95th percentile per-packet one-way delay: 30.491 ms
Loss rate: 0.00%
```

Run 4: Report of Eagle-expert-7 — Data Link



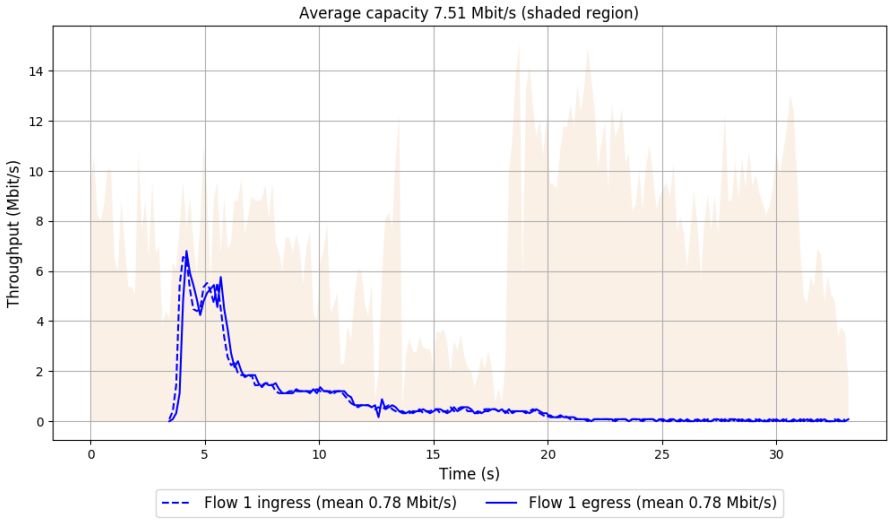


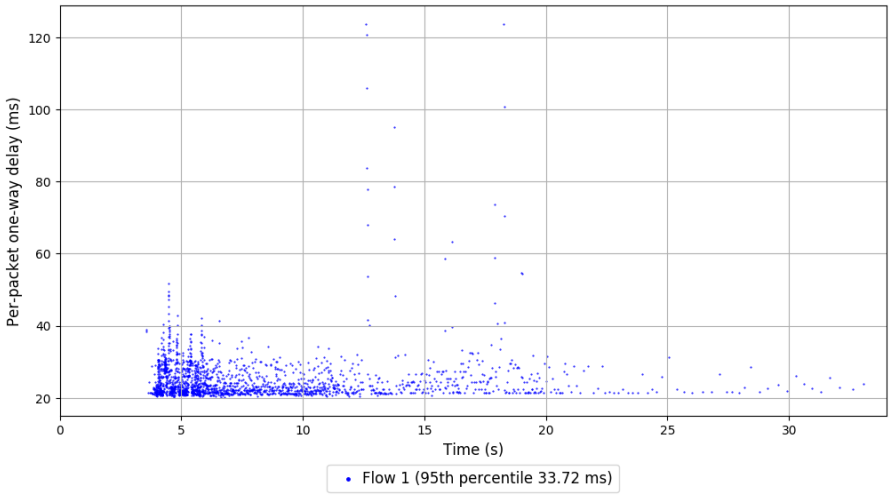
```
Run 5: Statistics of Eagle-expert-7

Start at: 2019-10-29 02:49:30
End at: 2019-10-29 02:50:00

# Below is generated by plot.py at 2019-10-29 02:57:21
# Datalink statistics
-- Total of 1 flow:
Average capacity: 7.51 Mbit/s
Average throughput: 0.78 Mbit/s (10.5% utilization)
95th percentile per-packet one-way delay: 33.715 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.78 Mbit/s
95th percentile per-packet one-way delay: 33.715 ms
Loss rate: 0.00%
```

Run 5: Report of Eagle-expert-7 — Data Link



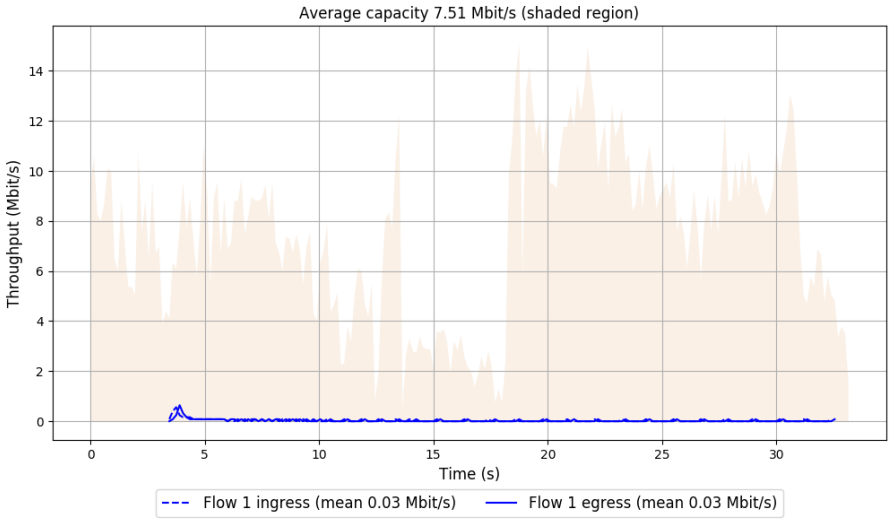


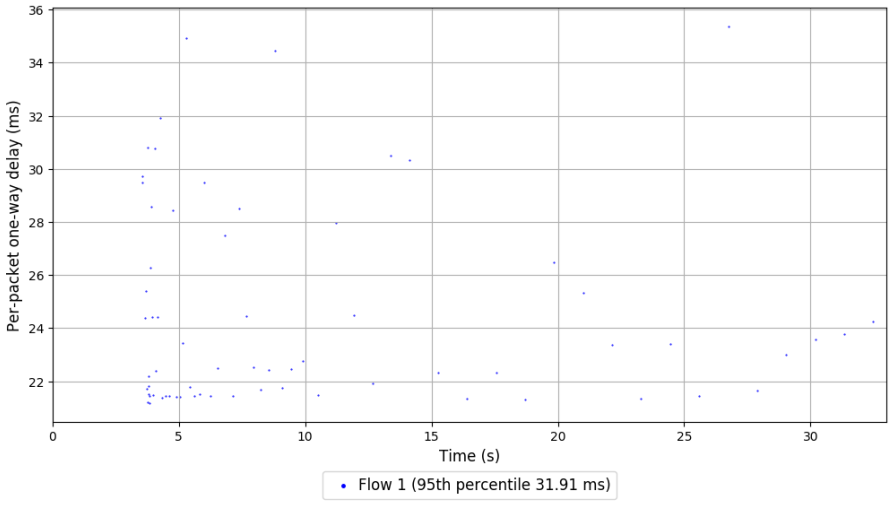
```
Run 1: Statistics of Synthesized-BBR

Start at: 2019-10-29 02:29:38
End at: 2019-10-29 02:30:08

# Below is generated by plot.py at 2019-10-29 02:57:23
# Datalink statistics
-- Total of 1 flow:
Average capacity: 7.51 Mbit/s
Average throughput: 0.03 Mbit/s (0.4% utilization)
95th percentile per-packet one-way delay: 31.909 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.03 Mbit/s
95th percentile per-packet one-way delay: 31.909 ms
Loss rate: 0.00%
```

Run 1: Report of Synthesized-BBR — Data Link



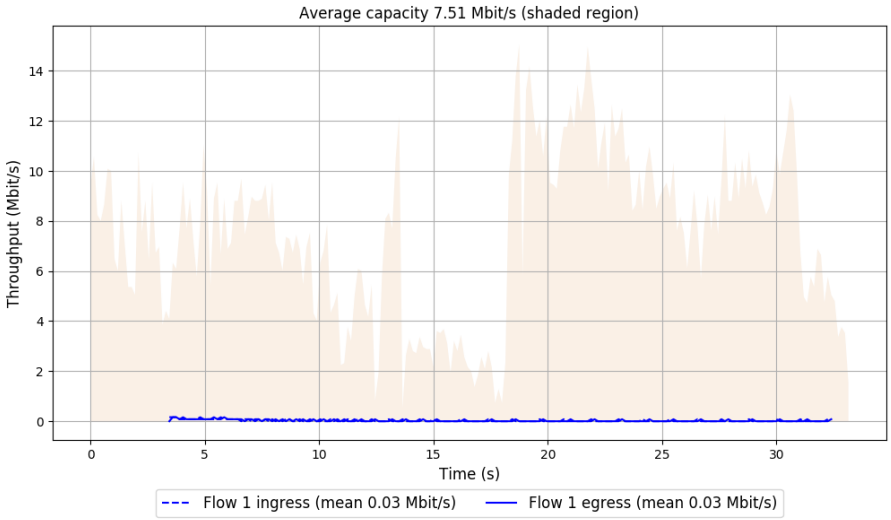


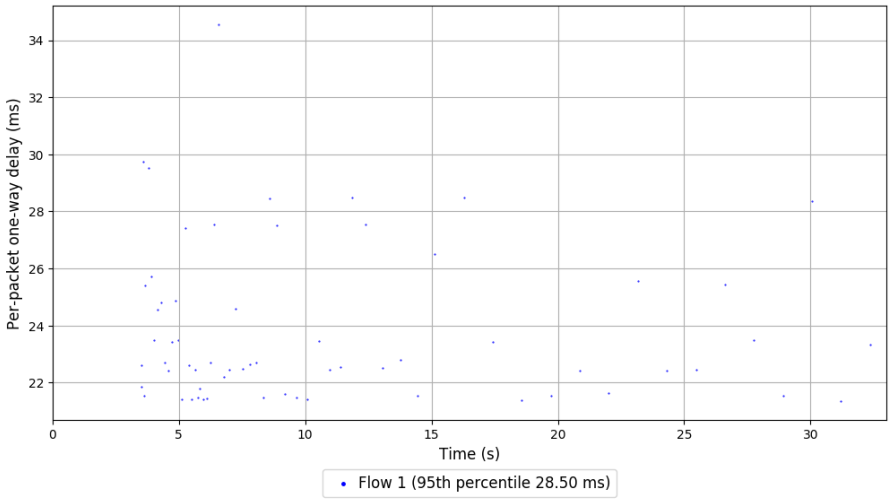
```
Run 2: Statistics of Synthesized-BBR

Start at: 2019-10-29 02:34:44
End at: 2019-10-29 02:35:14

# Below is generated by plot.py at 2019-10-29 02:57:24
# Datalink statistics
-- Total of 1 flow:
Average capacity: 7.51 Mbit/s
Average throughput: 0.03 Mbit/s (0.3% utilization)
95th percentile per-packet one-way delay: 28.495 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.03 Mbit/s
95th percentile per-packet one-way delay: 28.495 ms
Loss rate: 0.00%
```

Run 2: Report of Synthesized-BBR — Data Link



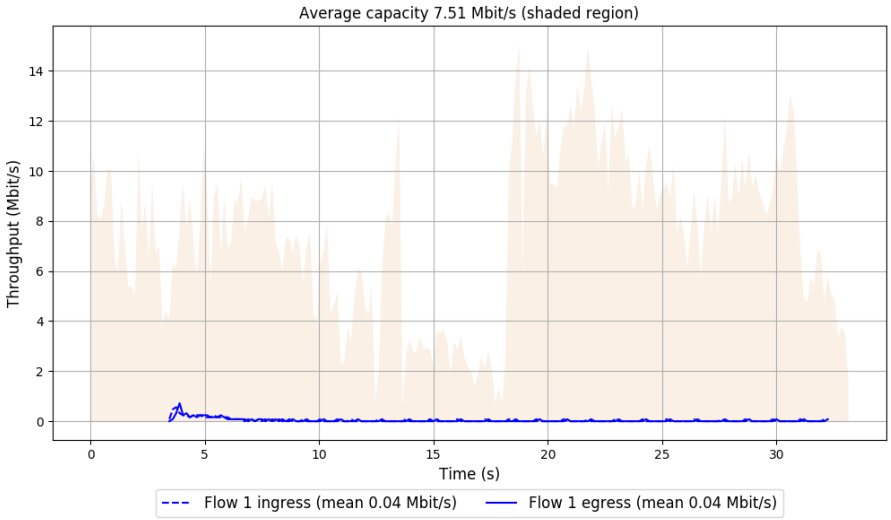


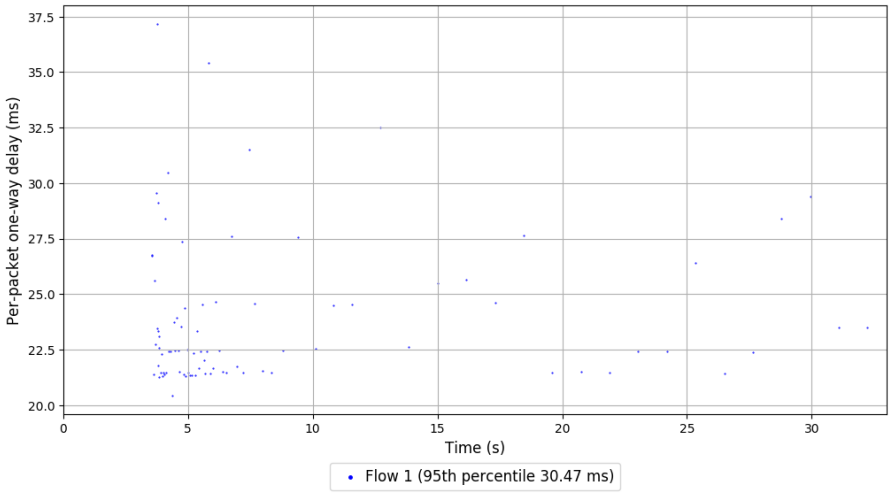
```
Run 3: Statistics of Synthesized-BBR

Start at: 2019-10-29 02:39:51
End at: 2019-10-29 02:40:21

# Below is generated by plot.py at 2019-10-29 02:57:24
# Datalink statistics
-- Total of 1 flow:
Average capacity: 7.51 Mbit/s
Average throughput: 0.04 Mbit/s (0.5% utilization)
95th percentile per-packet one-way delay: 30.474 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.04 Mbit/s
95th percentile per-packet one-way delay: 30.474 ms
Loss rate: 0.00%
```

Run 3: Report of Synthesized-BBR — Data Link



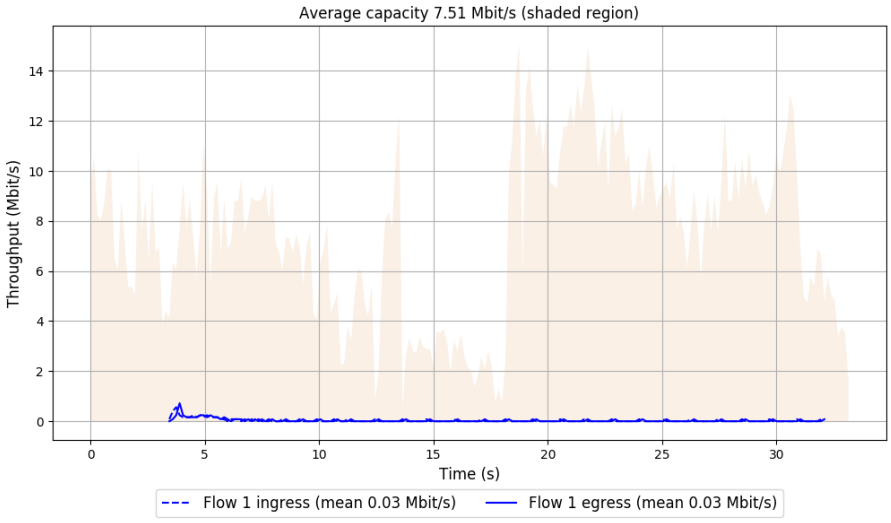


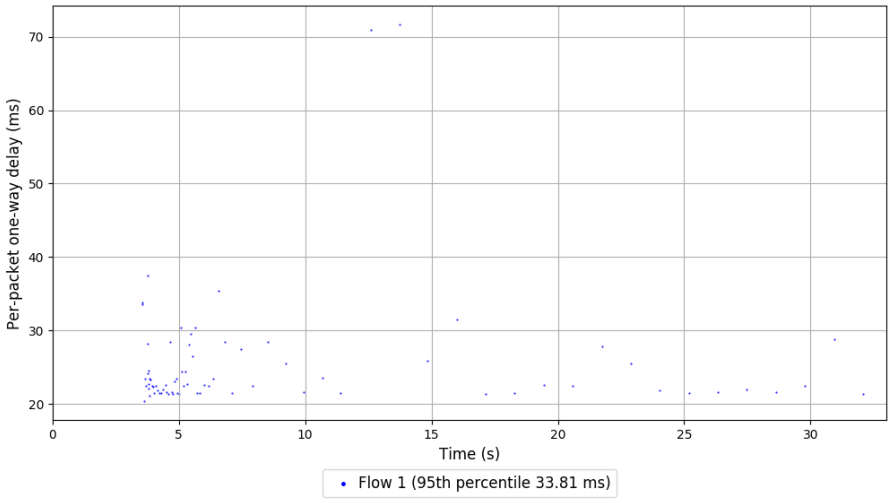
```
Run 4: Statistics of Synthesized-BBR

Start at: 2019-10-29 02:44:57
End at: 2019-10-29 02:45:27

# Below is generated by plot.py at 2019-10-29 02:57:24
# Datalink statistics
-- Total of 1 flow:
Average capacity: 7.51 Mbit/s
Average throughput: 0.03 Mbit/s (0.4% utilization)
95th percentile per-packet one-way delay: 33.813 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.03 Mbit/s
95th percentile per-packet one-way delay: 33.813 ms
Loss rate: 0.00%
```

Run 4: Report of Synthesized-BBR — Data Link





```
Run 5: Statistics of Synthesized-BBR

Start at: 2019-10-29 02:50:04
End at: 2019-10-29 02:50:34

# Below is generated by plot.py at 2019-10-29 02:57:25
# Datalink statistics
-- Total of 1 flow:
Average capacity: 7.51 Mbit/s
Average throughput: 0.10 Mbit/s (1.4% utilization)
95th percentile per-packet one-way delay: 29.250 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.10 Mbit/s
95th percentile per-packet one-way delay: 29.250 ms
Loss rate: 0.00%
```

Run 5: Report of Synthesized-BBR — Data Link