Pantheon Report

Generated at 2019-11-24 00:11:10 (UTC).

Tested in mahimahi: `mm-delay 10 mm-link 60mbps.trace 60mbps.trace --uplink-queue=droptail --uplink-queue-args=packets=1 --downlink-queue=droptail --downlink-queue-args=packets=1`

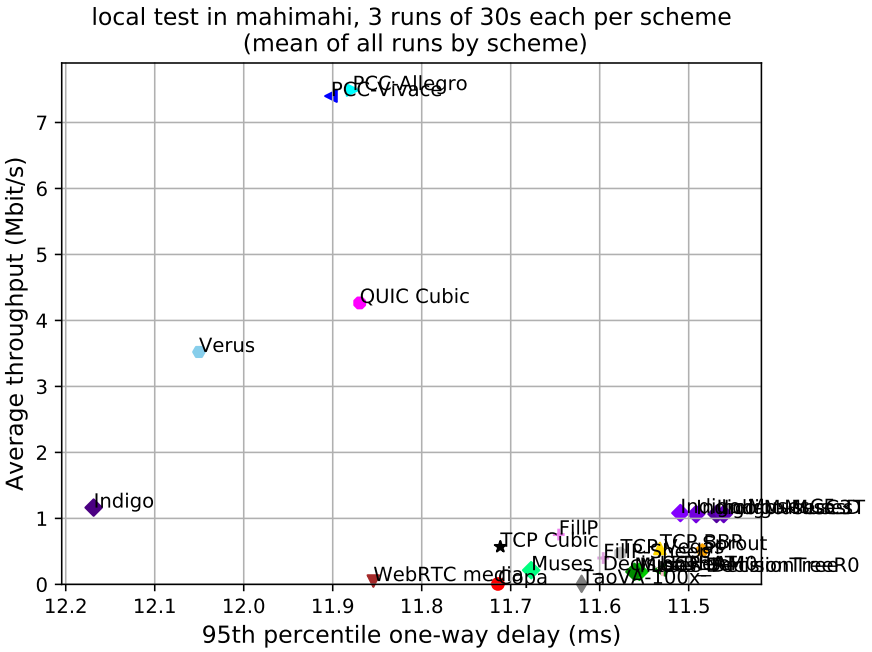
Repeated the test of 24 congestion control schemes 3 times.

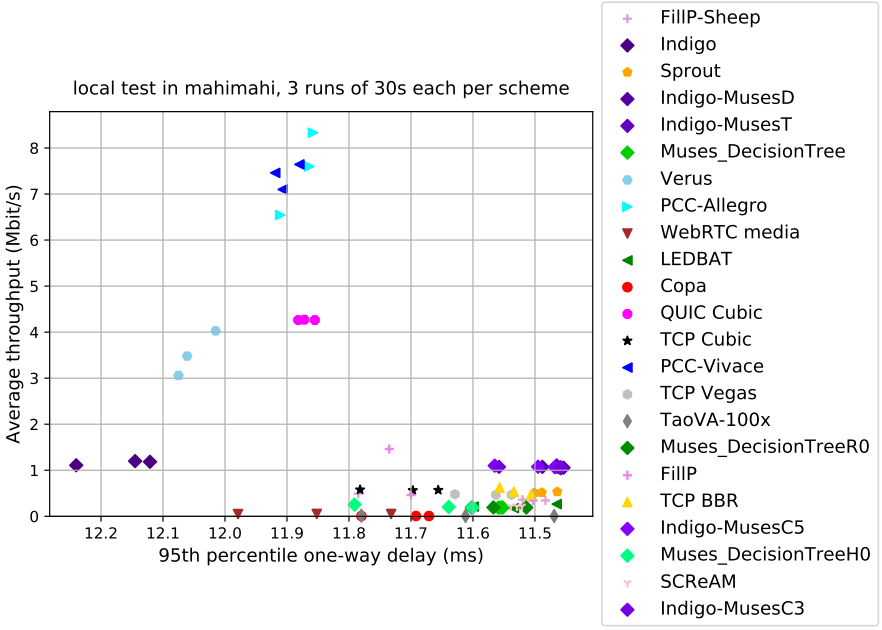
Each test lasted for 30 seconds running 1 flow.

```
System info:
Linux 4.15.0-1044-gcp
net.core.default_qdisc = fq
net.core.rmem_default = 16777216
net.core.rmem_max = 536870912
net.core.wmem_default = 16777216
net.core.wmem_max = 536870912
net.ipv4.tcp_rmem = 4096 16777216 536870912
net.ipv4.tcp_wmem = 4096 16777216 536870912
```

```
Git summary:
branch: muses @ de42328552b3776a75a932a94dfafd722537b0ec
third_party/fillp @ d6da1459332fcee56963885d7eba17e6a32d4519
third_party/fillp-sheep @ 0e5bb722943babcd2b090d2c64fcd45e12e923f9
third_party/genericCC @ d0153f8e594aa89e93b032143cedbdfe58e562f4
third_party/indigo @ 2601c92e4aa9d58d38dc4dfe0ecdbf90c077e64d
third_party/libutp @ b3465b942e2826f2b179eaab4a906ce6bb7cf3cf
third_party/muses @ 5ce721187ad823da20955337730c746486ca4966
third_party/muses_dtree @ 387225f7b5f61ddbe92d708a8869ffbb84eb3200
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/verus @ d4b447ea74c6c60a261149af2629562939f9a494
 M src/verus.hpp
 M tools/plot.py
```

```
third_party/vivace @ 2baf86211435ae071a32f96b7d8c504587f5d7f4
third_party/webrtc @ 3f0cc2a9061a41b6f9dde4735770d143a1fa2851
```


local test in mahimahi, 3 runs of 30s each per scheme
(mean of all runs by scheme)
PCC-Allegro
PCC-Vivace
QUIC Cubic
Verus
Indigo
FillP
TCP Cubic
WebRTC media
Copa
TaoVA-100x
Average throughput (Mbit/s)
95th percentile one-way delay (ms)


local test in mahimahi, 3 runs of 30s each per scheme
Average throughput (Mbit/s)
95th percentile one-way delay (ms)
FillP-Sheep
Indigo
Sprout
Indigo-MusesD
Indigo-MusesT
Muses_DecisionTree
Verus
PCC-Allegro
WebRTC media
LEDBAT
Copa
QUIC Cubic
TCP Cubic
PCC-Vivace
TCP Vegas
TaoVA-100x
Muses_DecisionTreeR0
FillP
TCP BBR
Indigo-MusesC5
Muses_DecisionTreeH0
SCReAM
Indigo-MusesC3

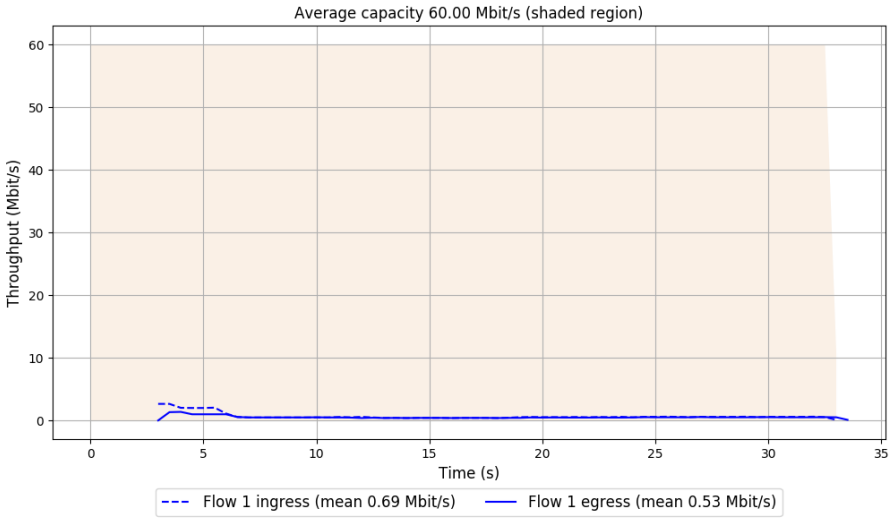
scheme	# runs	mean avg tput (Mbit/s) flow 1	mean 95th-%ile delay (ms) flow 1	mean loss rate (%) flow 1
TCP BBR	3	0.54	11.53	25.79
Copa	3	0.01	11.71	90.36
TCP Cubic	3	0.57	11.71	19.17
FillP	3	0.75	11.65	48.68
FillP-Sheep	3	0.40	11.60	36.81
Indigo	3	1.16	12.17	95.68
Indigo-MusesC3	3	1.07	11.49	20.01
Indigo-MusesC5	3	1.08	11.51	16.53
Indigo-MusesD	3	1.07	11.47	50.00
Indigo-MusesT	3	1.07	11.46	25.49
LEDBAT	3	0.22	11.53	50.02
Muses_DecisionTree	3	0.19	11.56	33.65
Muses_DecisionTreeH0	3	0.21	11.68	68.48
Muses_DecisionTreeR0	3	0.19	11.56	33.68
PCC-Allegro	3	7.49	11.88	3.44
PCC-Expr	0	N/A	N/A	N/A
QUIC Cubic	3	4.26	11.87	8.04
SCReAM	3	0.21	11.53	0.09
Sprout	3	0.52	11.48	5.06
TaoVA-100x	3	0.01	11.62	56.38
TCP Vegas	3	0.47	11.58	21.96
Verus	3	3.52	12.05	98.63
PCC-Vivace	3	7.40	11.90	1.46
WebRTC media	3	0.05	11.85	28.44

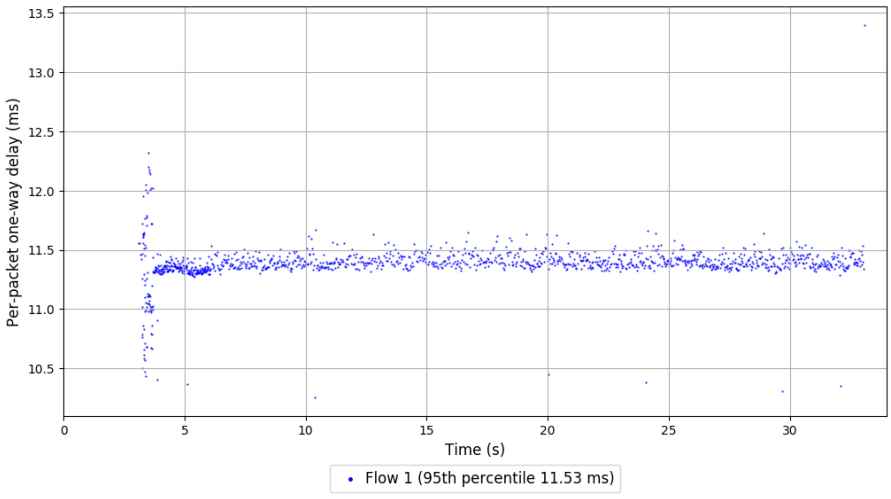
```
Run 1: Statistics of TCP BBR

Start at: 2019-11-23 23:27:14
End at: 2019-11-23 23:27:44

# Below is generated by plot.py at 2019-11-24 00:07:59
# Datalink statistics
-- Total of 1 flow:
Average capacity: 60.00 Mbit/s
Average throughput: 0.53 Mbit/s (0.9% utilization)
95th percentile per-packet one-way delay: 11.534 ms
Loss rate: 22.92%
-- Flow 1:
Average throughput: 0.53 Mbit/s
95th percentile per-packet one-way delay: 11.534 ms
Loss rate: 22.92%
```

Run 1: Report of TCP BBR — Data Link



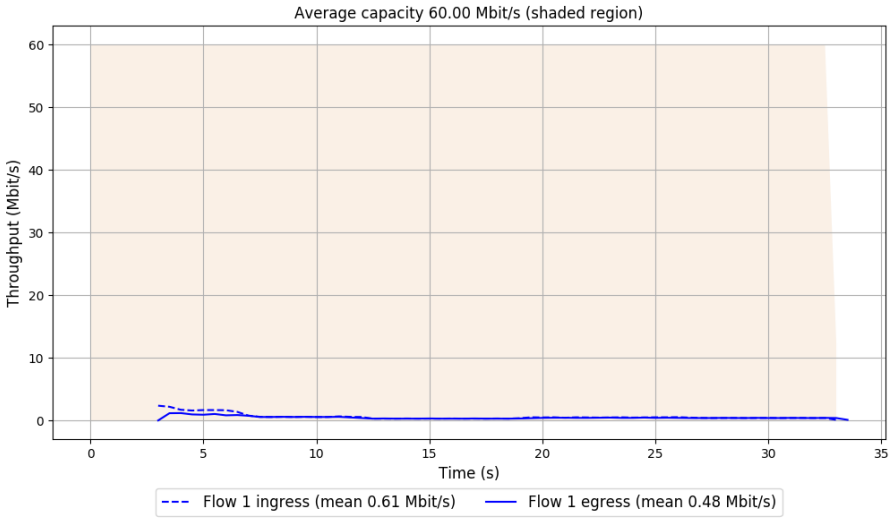


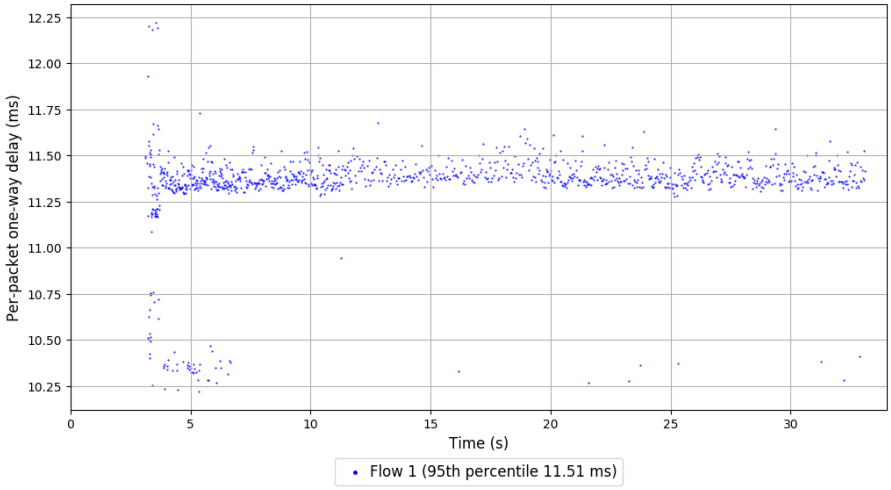
```
Run 2: Statistics of TCP BBR

Start at: 2019-11-23 23:41:40
End at: 2019-11-23 23:42:10

# Below is generated by plot.py at 2019-11-24 00:07:59
# Datalink statistics
-- Total of 1 flow:
Average capacity: 60.00 Mbit/s
Average throughput: 0.48 Mbit/s (0.8% utilization)
95th percentile per-packet one-way delay: 11.506 ms
Loss rate: 22.52%
-- Flow 1:
Average throughput: 0.48 Mbit/s
95th percentile per-packet one-way delay: 11.506 ms
Loss rate: 22.52%
```

Run 2: Report of TCP BBR — Data Link



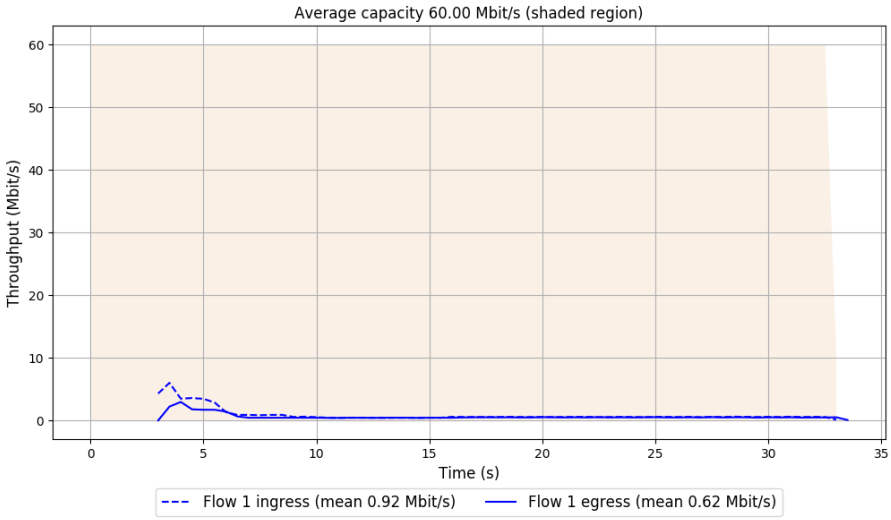


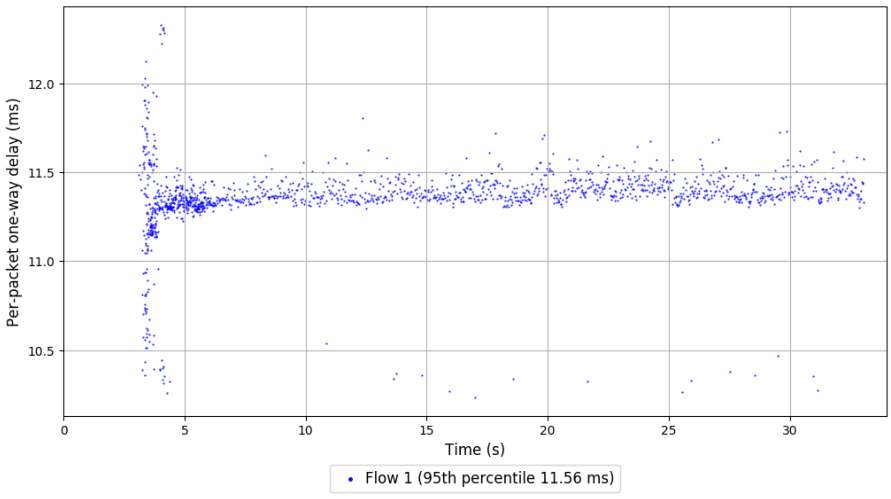
```
Run 3: Statistics of TCP BBR

Start at: 2019-11-23 23:56:02
End at: 2019-11-23 23:56:32

# Below is generated by plot.py at 2019-11-24 00:07:59
# Datalink statistics
-- Total of 1 flow:
Average capacity: 60.00 Mbit/s
Average throughput: 0.62 Mbit/s (1.0% utilization)
95th percentile per-packet one-way delay: 11.557 ms
Loss rate: 31.93%
-- Flow 1:
Average throughput: 0.62 Mbit/s
95th percentile per-packet one-way delay: 11.557 ms
Loss rate: 31.93%
```

Run 3: Report of TCP BBR — Data Link



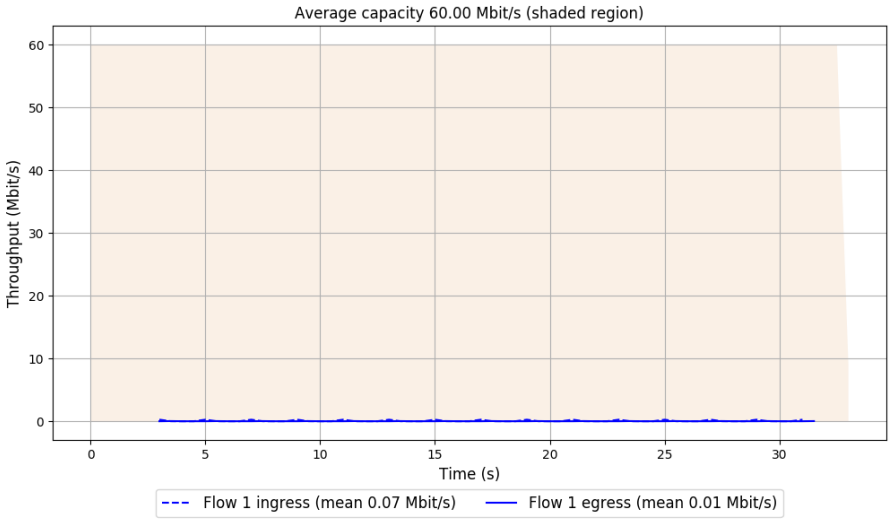


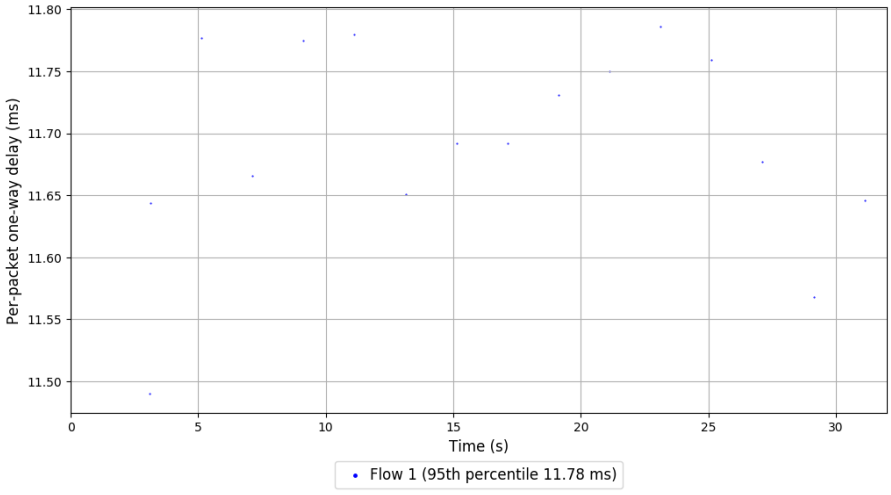
```
Run 1: Statistics of Copa

Start at: 2019-11-23 23:29:01
End at: 2019-11-23 23:29:31

# Below is generated by plot.py at 2019-11-24 00:07:59
# Datalink statistics
-- Total of 1 flow:
Average capacity: 60.00 Mbit/s
Average throughput: 0.01 Mbit/s (0.0% utilization)
95th percentile per-packet one-way delay: 11.780 ms
Loss rate: 90.36%
-- Flow 1:
Average throughput: 0.01 Mbit/s
95th percentile per-packet one-way delay: 11.780 ms
Loss rate: 90.36%
```

Run 1: Report of Copa — Data Link



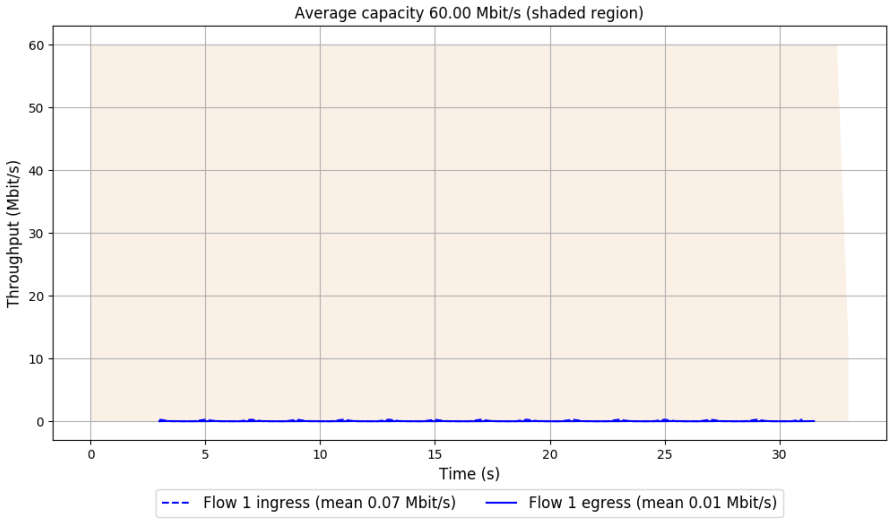


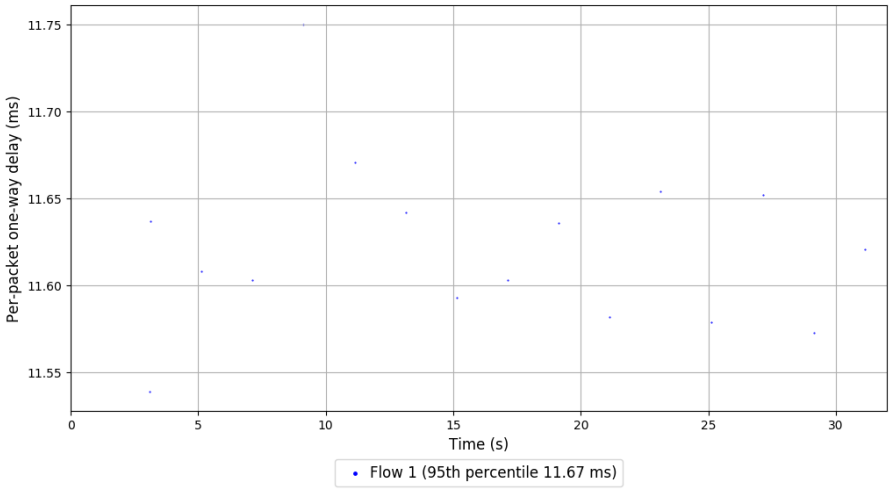
```
Run 2: Statistics of Copa

Start at: 2019-11-23 23:43:27
End at: 2019-11-23 23:43:57

# Below is generated by plot.py at 2019-11-24 00:07:59
# Datalink statistics
-- Total of 1 flow:
Average capacity: 60.00 Mbit/s
Average throughput: 0.01 Mbit/s (0.0% utilization)
95th percentile per-packet one-way delay: 11.671 ms
Loss rate: 90.36%
-- Flow 1:
Average throughput: 0.01 Mbit/s
95th percentile per-packet one-way delay: 11.671 ms
Loss rate: 90.36%
```

Run 2: Report of Copa — Data Link



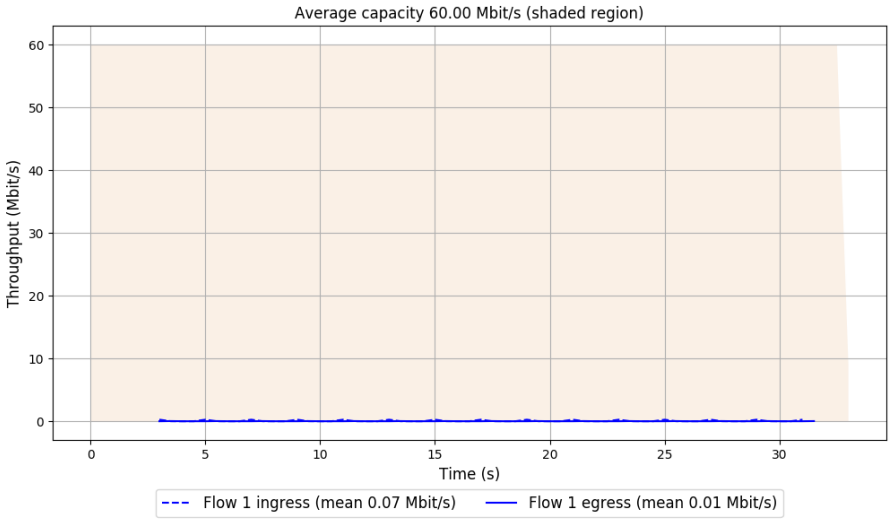


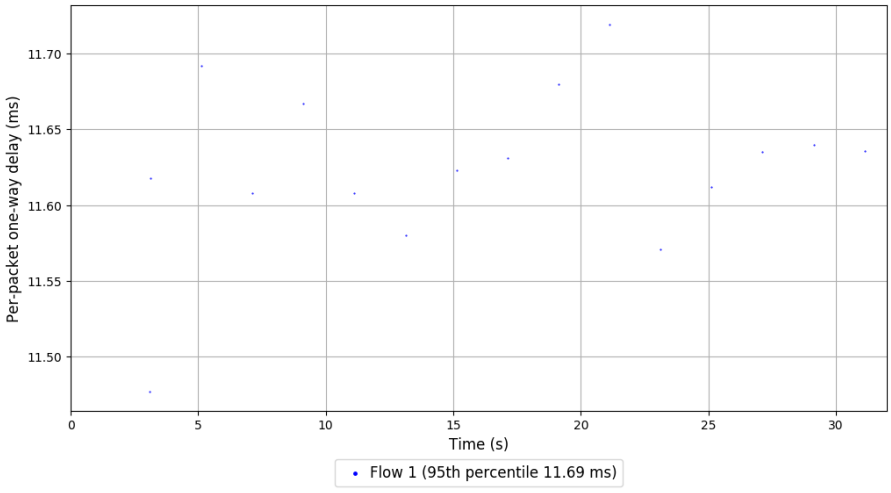
```
Run 3: Statistics of Copa

Start at: 2019-11-23 23:57:49
End at: 2019-11-23 23:58:19

# Below is generated by plot.py at 2019-11-24 00:07:59
# Datalink statistics
-- Total of 1 flow:
Average capacity: 60.00 Mbit/s
Average throughput: 0.01 Mbit/s (0.0% utilization)
95th percentile per-packet one-way delay: 11.692 ms
Loss rate: 90.36%
-- Flow 1:
Average throughput: 0.01 Mbit/s
95th percentile per-packet one-way delay: 11.692 ms
Loss rate: 90.36%
```

Run 3: Report of Copa — Data Link



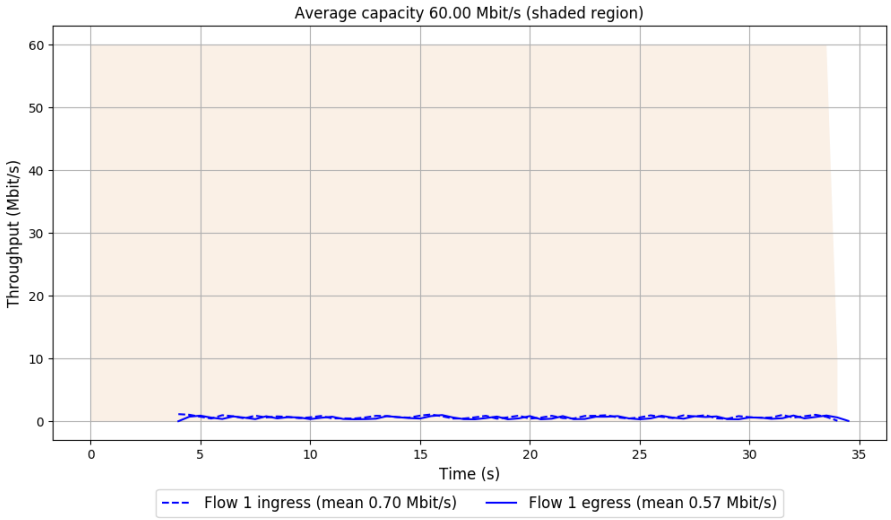


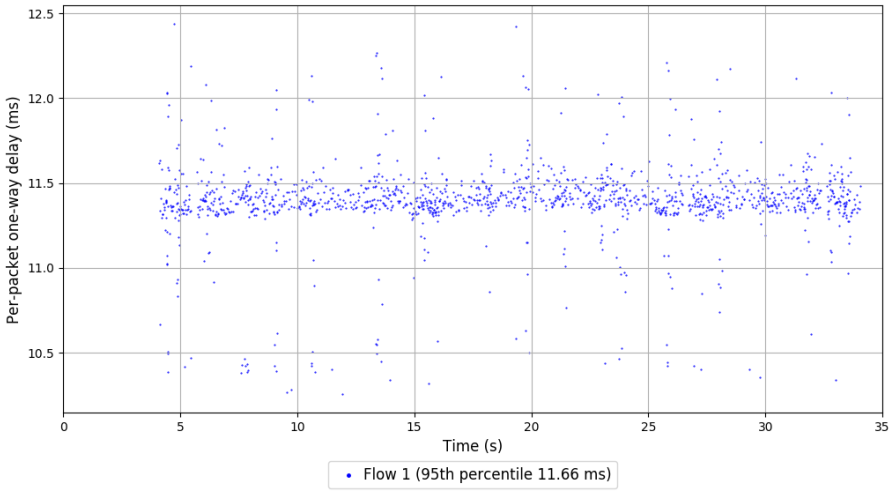
```
Run 1: Statistics of TCP Cubic

Start at: 2019-11-23 23:24:15
End at: 2019-11-23 23:24:45

# Below is generated by plot.py at 2019-11-24 00:07:59
# Datalink statistics
-- Total of 1 flow:
Average capacity: 60.00 Mbit/s
Average throughput: 0.57 Mbit/s (0.9% utilization)
95th percentile per-packet one-way delay: 11.656 ms
Loss rate: 18.43%
-- Flow 1:
Average throughput: 0.57 Mbit/s
95th percentile per-packet one-way delay: 11.656 ms
Loss rate: 18.43%
```

Run 1: Report of TCP Cubic — Data Link



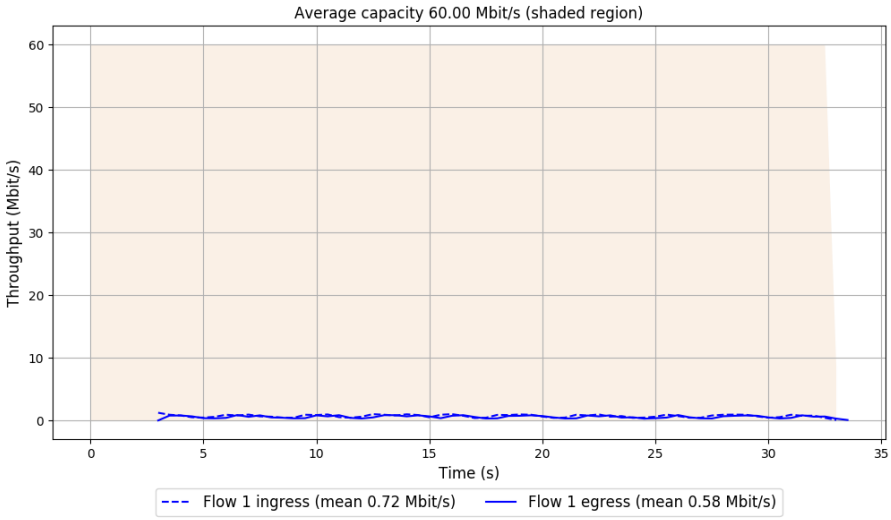


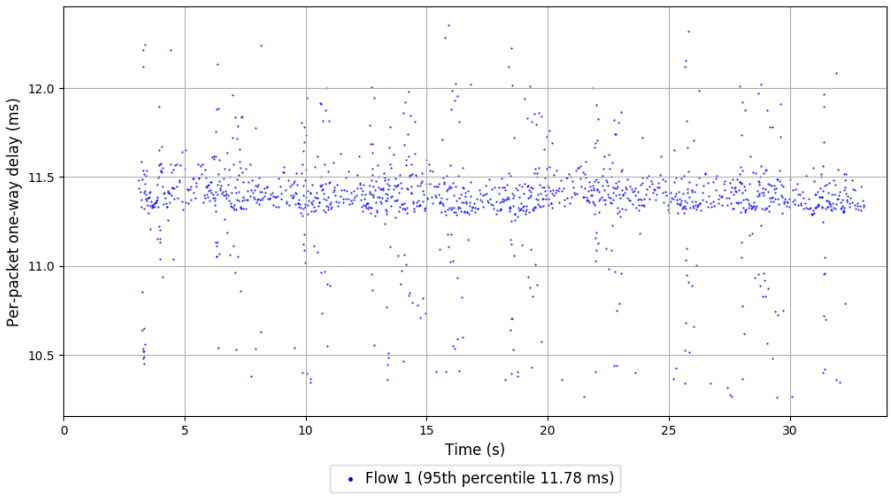
```
Run 2: Statistics of TCP Cubic

Start at: 2019-11-23 23:38:36
End at: 2019-11-23 23:39:06

# Below is generated by plot.py at 2019-11-24 00:07:59
# Datalink statistics
-- Total of 1 flow:
Average capacity: 60.00 Mbit/s
Average throughput: 0.58 Mbit/s (1.0% utilization)
95th percentile per-packet one-way delay: 11.782 ms
Loss rate: 19.84%
-- Flow 1:
Average throughput: 0.58 Mbit/s
95th percentile per-packet one-way delay: 11.782 ms
Loss rate: 19.84%
```

Run 2: Report of TCP Cubic — Data Link



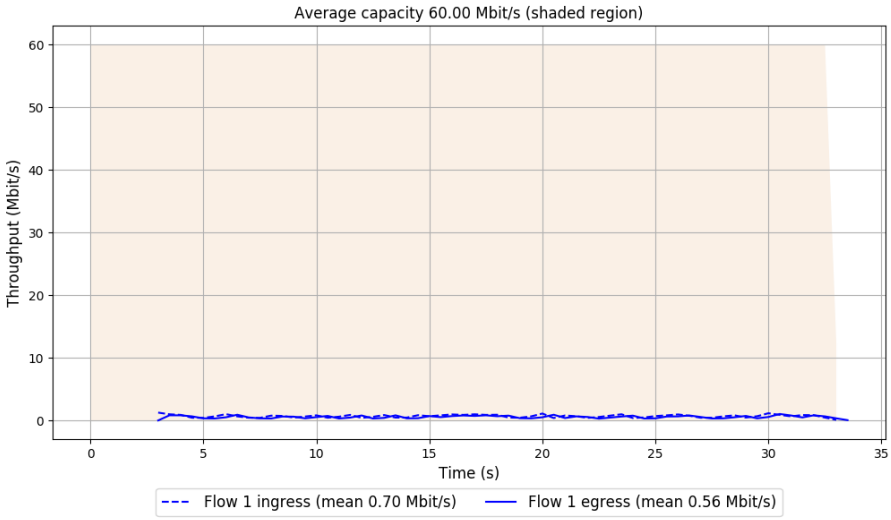


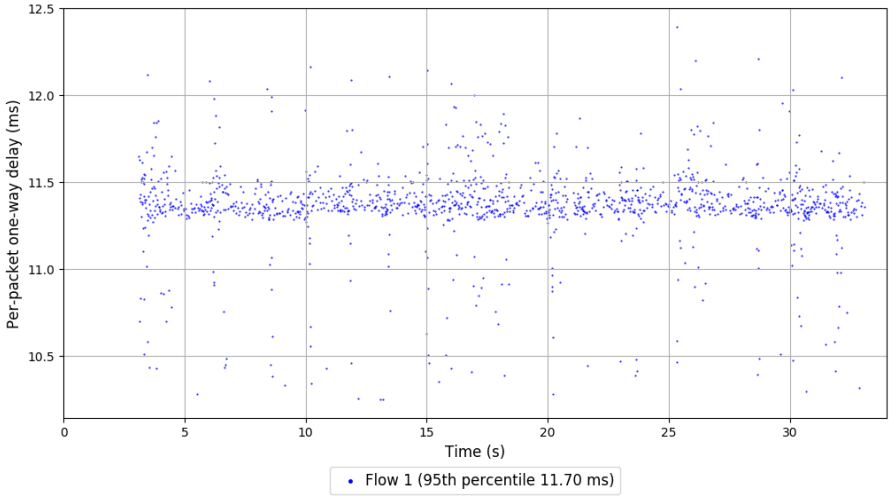
```
Run 3: Statistics of TCP Cubic

Start at: 2019-11-23 23:53:01
End at: 2019-11-23 23:53:31

# Below is generated by plot.py at 2019-11-24 00:08:12
# Datalink statistics
-- Total of 1 flow:
Average capacity: 60.00 Mbit/s
Average throughput: 0.56 Mbit/s (0.9% utilization)
95th percentile per-packet one-way delay: 11.697 ms
Loss rate: 19.23%
-- Flow 1:
Average throughput: 0.56 Mbit/s
95th percentile per-packet one-way delay: 11.697 ms
Loss rate: 19.23%
```

Run 3: Report of TCP Cubic — Data Link



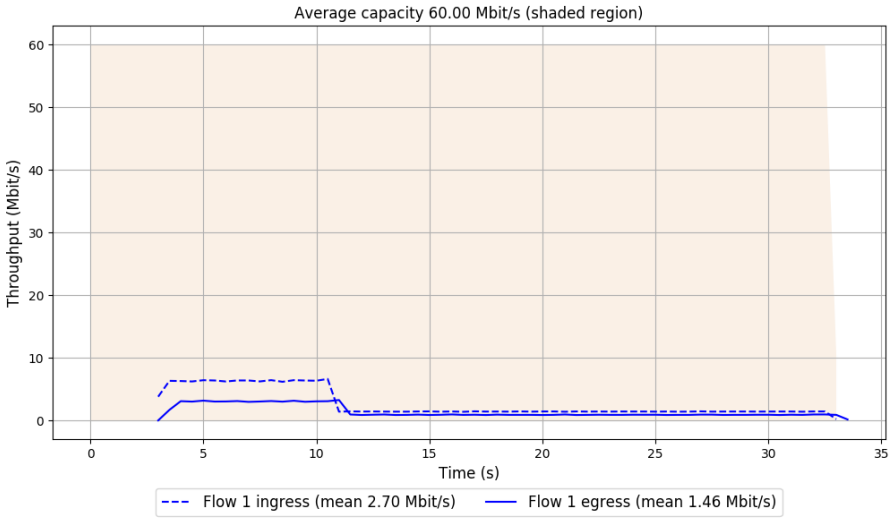


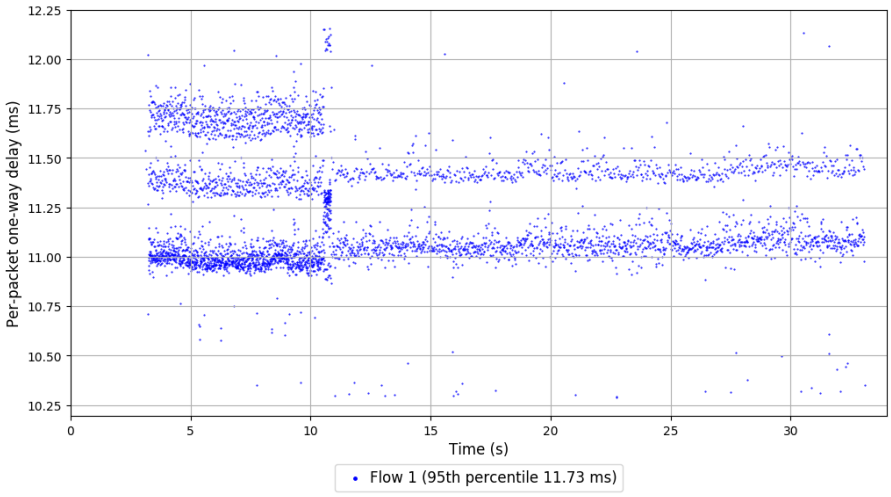
```
Run 1: Statistics of FillP

Start at: 2019-11-23 23:32:40
End at: 2019-11-23 23:33:10

# Below is generated by plot.py at 2019-11-24 00:08:17
# Datalink statistics
-- Total of 1 flow:
Average capacity: 60.00 Mbit/s
Average throughput: 1.46 Mbit/s (2.4% utilization)
95th percentile per-packet one-way delay: 11.735 ms
Loss rate: 45.84%
-- Flow 1:
Average throughput: 1.46 Mbit/s
95th percentile per-packet one-way delay: 11.735 ms
Loss rate: 45.84%
```

Run 1: Report of FillP — Data Link



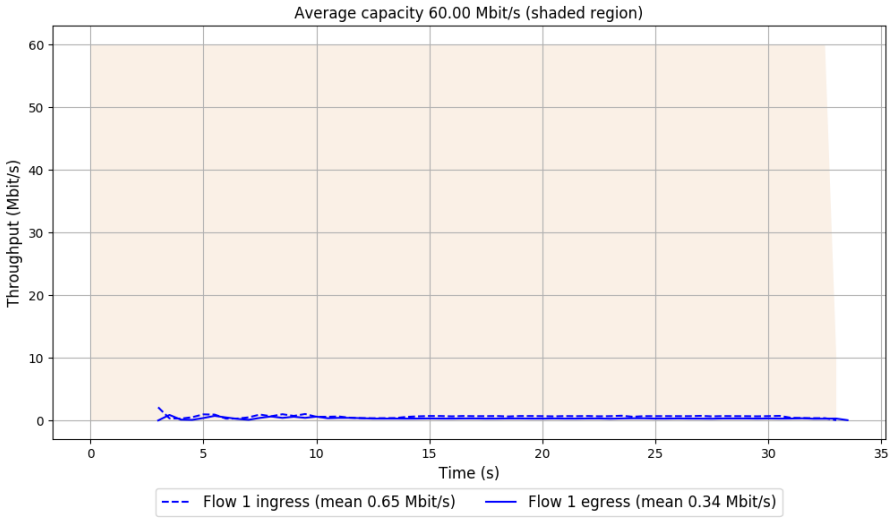


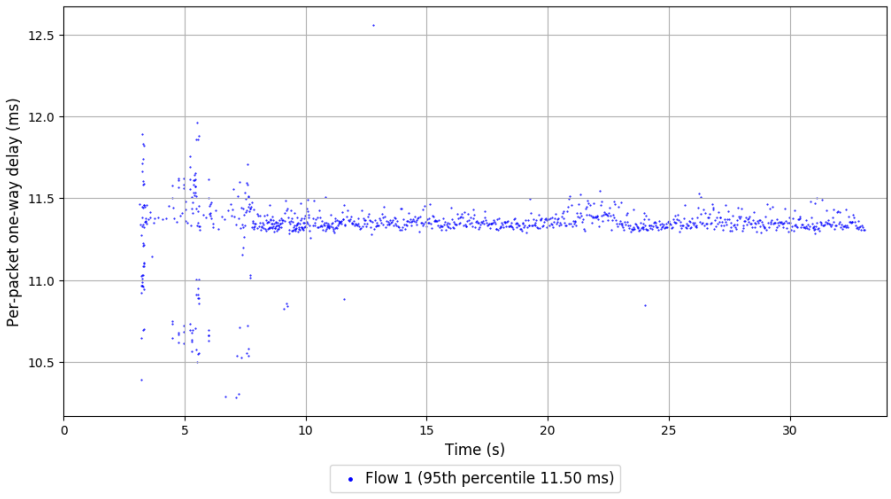
```
Run 2: Statistics of FillP

Start at: 2019-11-23 23:47:04
End at: 2019-11-23 23:47:34

# Below is generated by plot.py at 2019-11-24 00:08:17
# Datalink statistics
-- Total of 1 flow:
Average capacity: 60.00 Mbit/s
Average throughput: 0.34 Mbit/s (0.6% utilization)
95th percentile per-packet one-way delay: 11.503 ms
Loss rate: 47.44%
-- Flow 1:
Average throughput: 0.34 Mbit/s
95th percentile per-packet one-way delay: 11.503 ms
Loss rate: 47.44%
```

Run 2: Report of FillP — Data Link



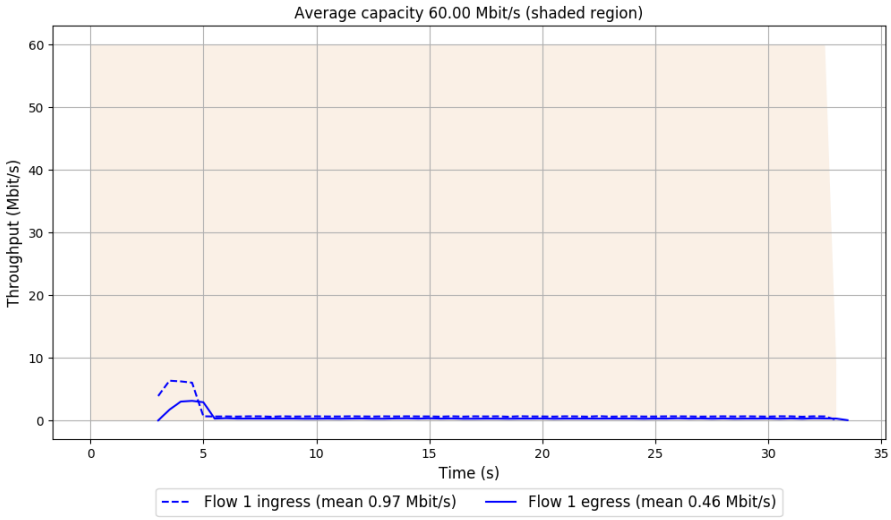


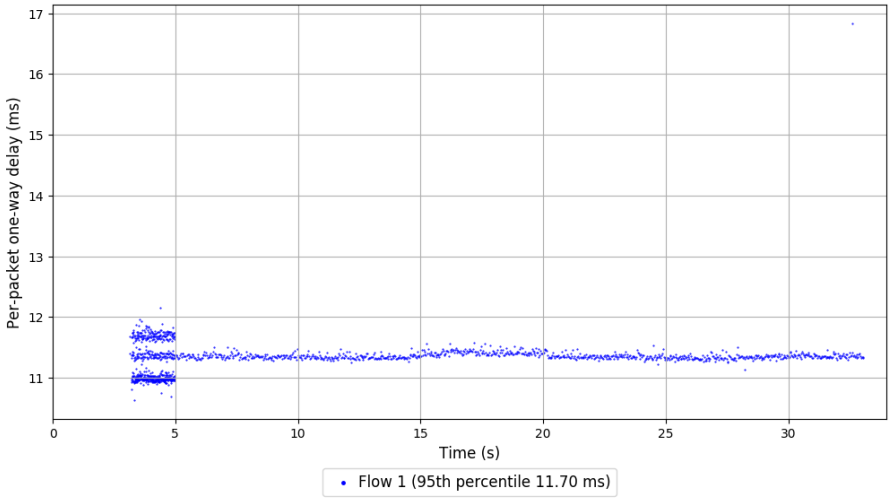
```
Run 3: Statistics of FillP

Start at: 2019-11-24 00:01:28
End at: 2019-11-24 00:01:58

# Below is generated by plot.py at 2019-11-24 00:08:17
# Datalink statistics
-- Total of 1 flow:
Average capacity: 60.00 Mbit/s
Average throughput: 0.46 Mbit/s (0.8% utilization)
95th percentile per-packet one-way delay: 11.700 ms
Loss rate: 52.76%
-- Flow 1:
Average throughput: 0.46 Mbit/s
95th percentile per-packet one-way delay: 11.700 ms
Loss rate: 52.76%
```

Run 3: Report of FillP — Data Link



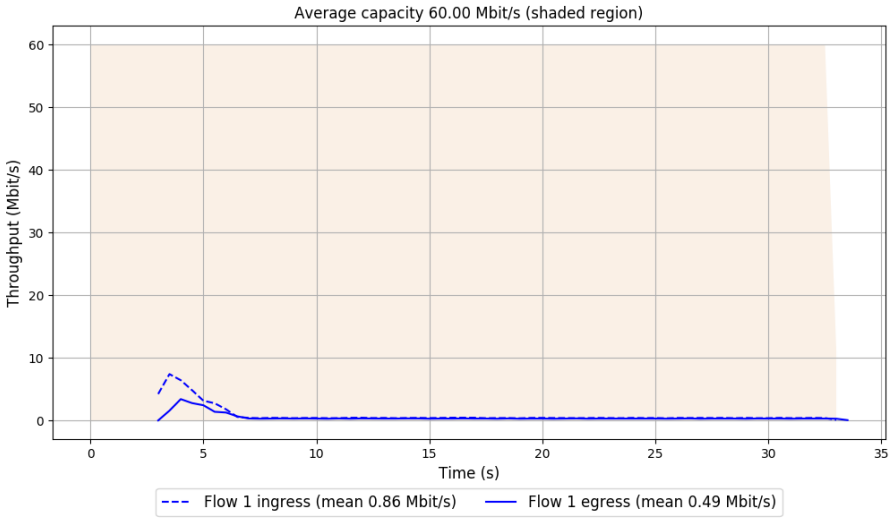


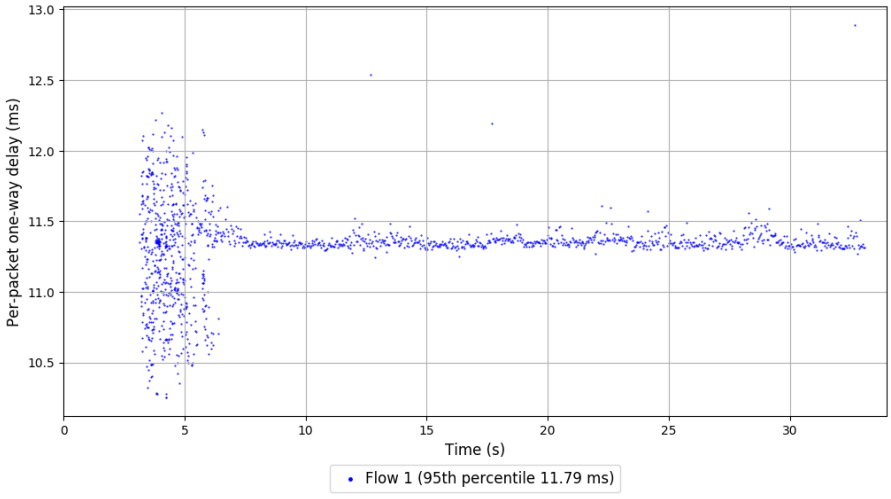
```
Run 1: Statistics of FillP-Sheep

Start at: 2019-11-23 23:35:02
End at: 2019-11-23 23:35:32

# Below is generated by plot.py at 2019-11-24 00:08:17
# Datalink statistics
-- Total of 1 flow:
Average capacity: 60.00 Mbit/s
Average throughput: 0.49 Mbit/s (0.8% utilization)
95th percentile per-packet one-way delay: 11.785 ms
Loss rate: 43.21%
-- Flow 1:
Average throughput: 0.49 Mbit/s
95th percentile per-packet one-way delay: 11.785 ms
Loss rate: 43.21%
```

Run 1: Report of FillP-Sheep — Data Link



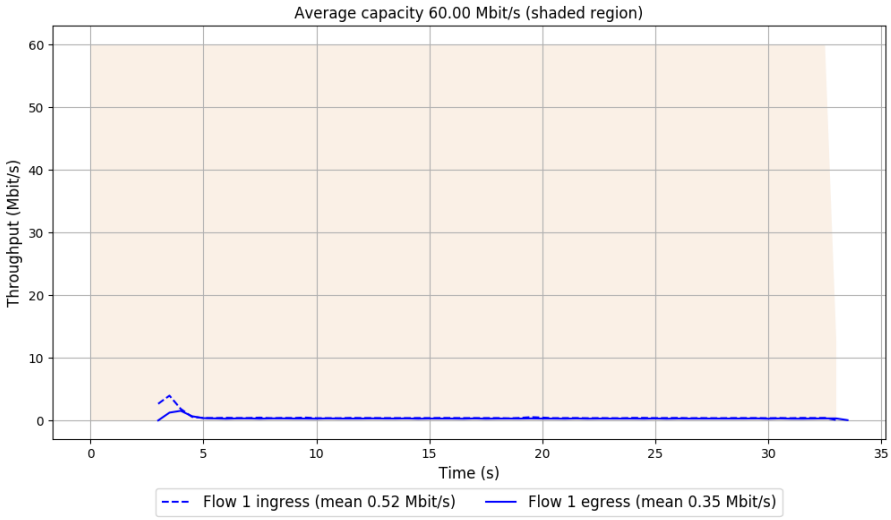


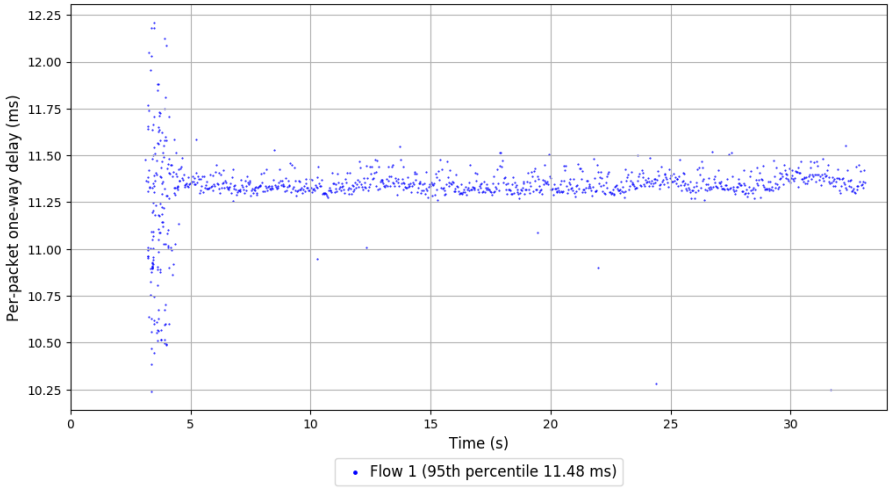
```
Run 2: Statistics of FillP-Sheep

Start at: 2019-11-23 23:49:27
End at: 2019-11-23 23:49:57

# Below is generated by plot.py at 2019-11-24 00:08:17
# Datalink statistics
-- Total of 1 flow:
Average capacity: 60.00 Mbit/s
Average throughput: 0.35 Mbit/s (0.6% utilization)
95th percentile per-packet one-way delay: 11.483 ms
Loss rate: 33.57%
-- Flow 1:
Average throughput: 0.35 Mbit/s
95th percentile per-packet one-way delay: 11.483 ms
Loss rate: 33.57%
```

Run 2: Report of FillP-Sheep — Data Link



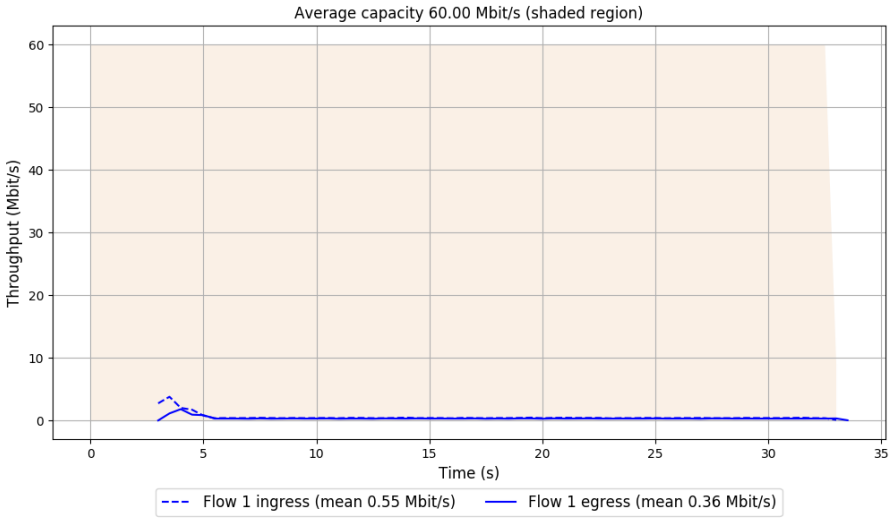


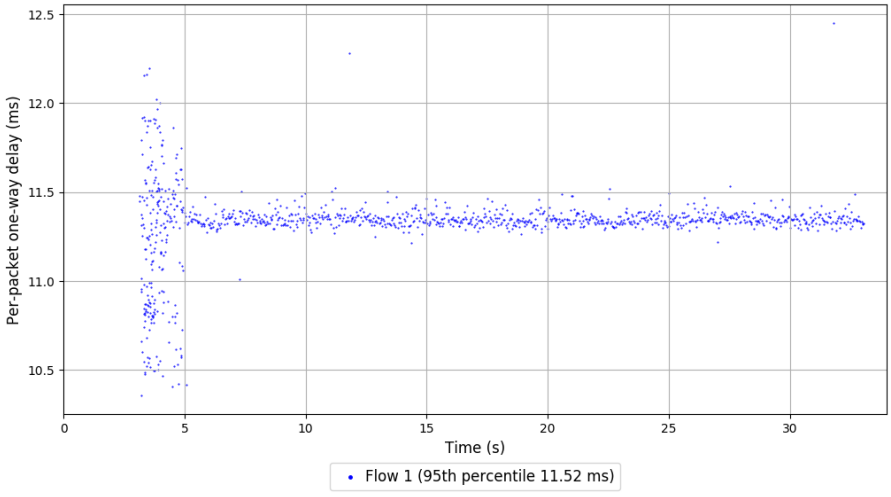
```
Run 3: Statistics of FillP-Sheep

Start at: 2019-11-24 00:03:51
End at: 2019-11-24 00:04:21

# Below is generated by plot.py at 2019-11-24 00:08:17
# Datalink statistics
-- Total of 1 flow:
Average capacity: 60.00 Mbit/s
Average throughput: 0.36 Mbit/s (0.6% utilization)
95th percentile per-packet one-way delay: 11.520 ms
Loss rate: 33.65%
-- Flow 1:
Average throughput: 0.36 Mbit/s
95th percentile per-packet one-way delay: 11.520 ms
Loss rate: 33.65%
```

Run 3: Report of FillP-Sheep — Data Link



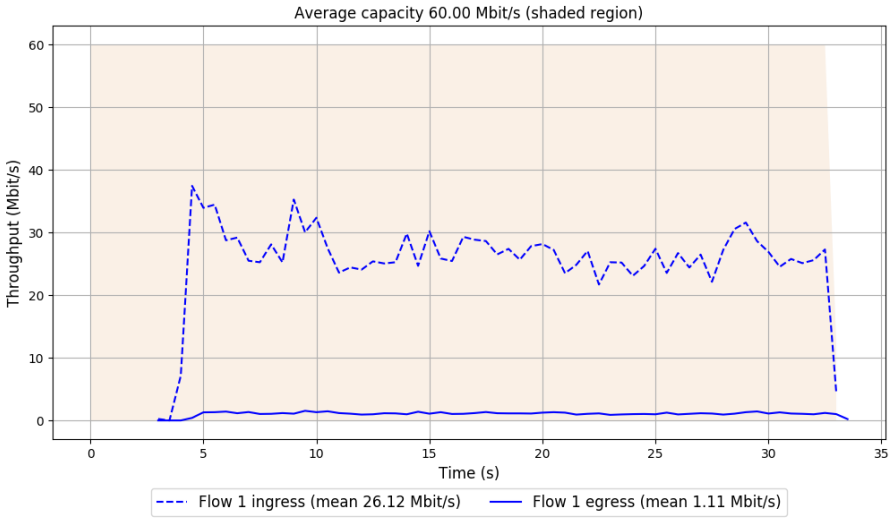


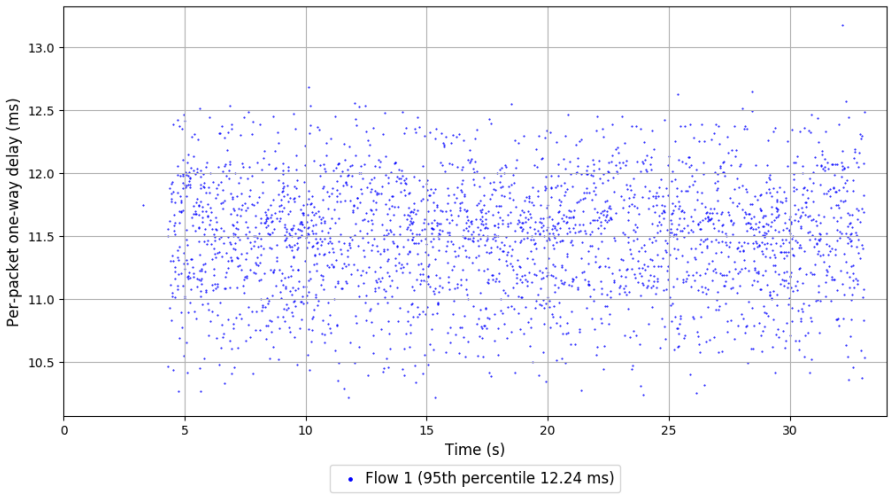
```
Run 1: Statistics of Indigo

Start at: 2019-11-23 23:38:00
End at: 2019-11-23 23:38:30

# Below is generated by plot.py at 2019-11-24 00:08:22
# Datalink statistics
-- Total of 1 flow:
Average capacity: 60.00 Mbit/s
Average throughput: 1.11 Mbit/s (1.8% utilization)
95th percentile per-packet one-way delay: 12.240 ms
Loss rate: 95.76%
-- Flow 1:
Average throughput: 1.11 Mbit/s
95th percentile per-packet one-way delay: 12.240 ms
Loss rate: 95.76%
```

Run 1: Report of Indigo — Data Link



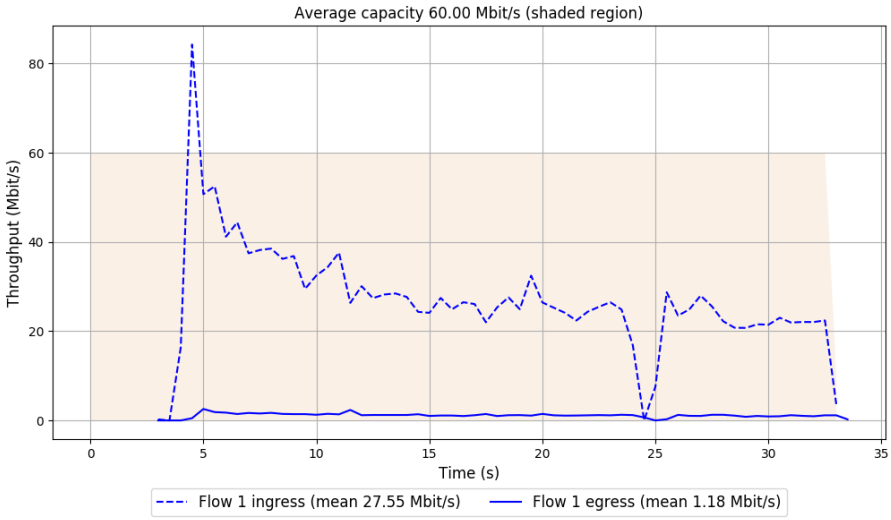


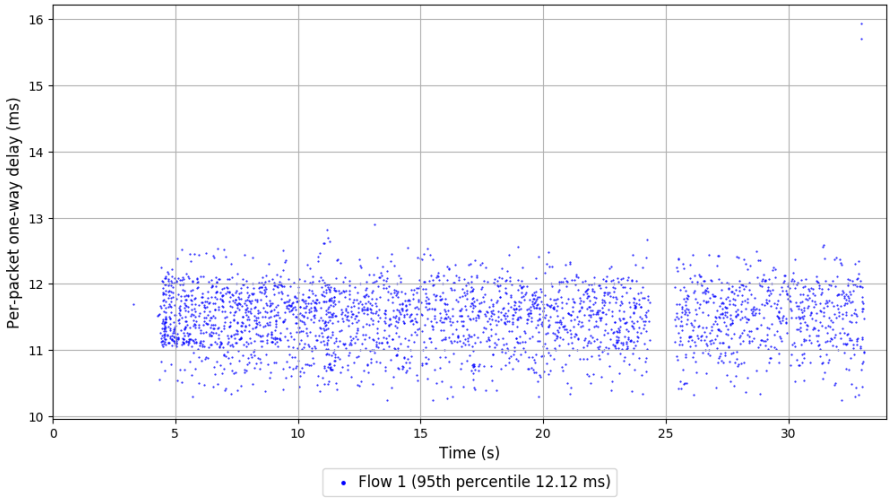
```
Run 2: Statistics of Indigo

Start at: 2019-11-23 23:52:25
End at: 2019-11-23 23:52:55

# Below is generated by plot.py at 2019-11-24 00:08:38
# Datalink statistics
-- Total of 1 flow:
Average capacity: 60.00 Mbit/s
Average throughput: 1.18 Mbit/s (2.0% utilization)
95th percentile per-packet one-way delay: 12.121 ms
Loss rate: 95.70%
-- Flow 1:
Average throughput: 1.18 Mbit/s
95th percentile per-packet one-way delay: 12.121 ms
Loss rate: 95.70%
```

Run 2: Report of Indigo — Data Link



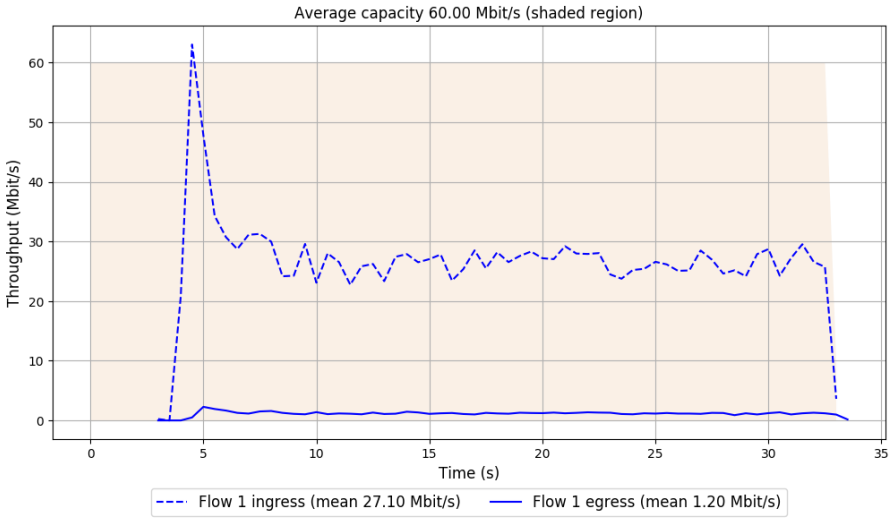


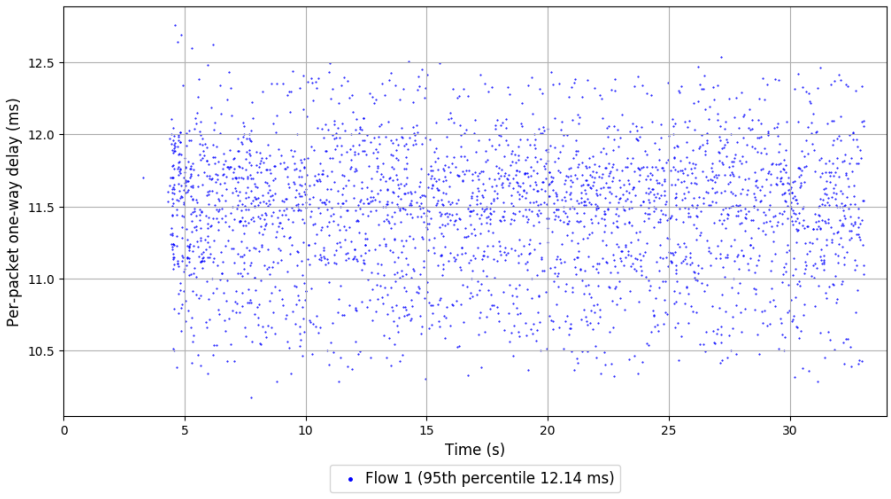
```
Run 3: Statistics of Indigo

Start at: 2019-11-24 00:06:50
End at: 2019-11-24 00:07:20

# Below is generated by plot.py at 2019-11-24 00:08:40
# Datalink statistics
-- Total of 1 flow:
Average capacity: 60.00 Mbit/s
Average throughput: 1.20 Mbit/s (2.0% utilization)
95th percentile per-packet one-way delay: 12.145 ms
Loss rate: 95.58%
-- Flow 1:
Average throughput: 1.20 Mbit/s
95th percentile per-packet one-way delay: 12.145 ms
Loss rate: 95.58%
```

Run 3: Report of Indigo — Data Link



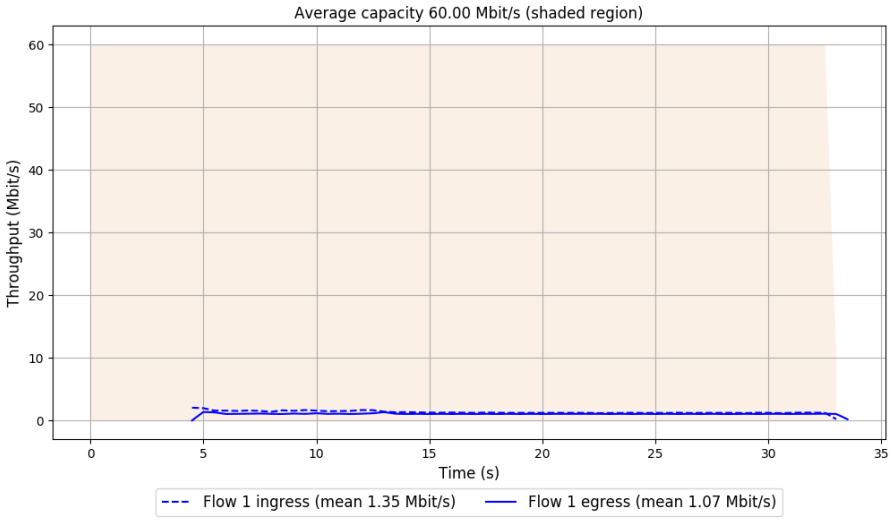


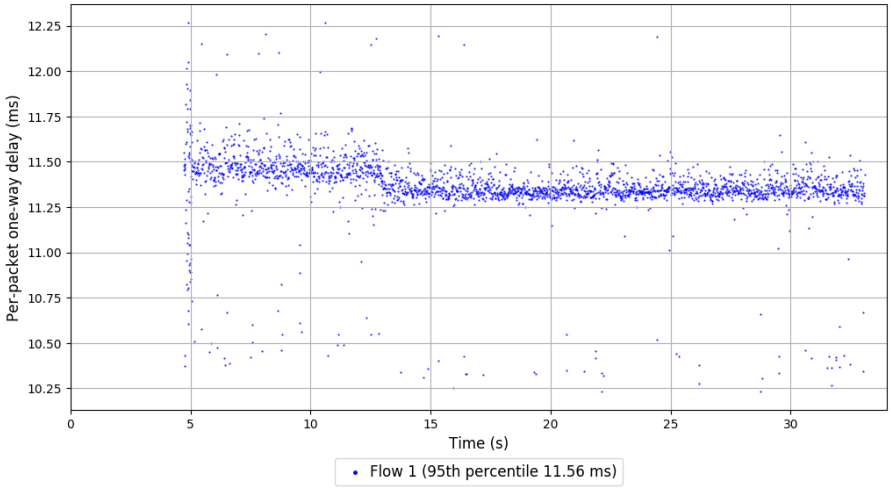
```
Run 1: Statistics of Indigo-MusesC3

Start at: 2019-11-23 23:34:26
End at: 2019-11-23 23:34:56

# Below is generated by plot.py at 2019-11-24 00:08:40
# Datalink statistics
-- Total of 1 flow:
Average capacity: 60.00 Mbit/s
Average throughput: 1.07 Mbit/s (1.8% utilization)
95th percentile per-packet one-way delay: 11.558 ms
Loss rate: 20.60%
-- Flow 1:
Average throughput: 1.07 Mbit/s
95th percentile per-packet one-way delay: 11.558 ms
Loss rate: 20.60%
```

Run 1: Report of Indigo-MusesC3 — Data Link



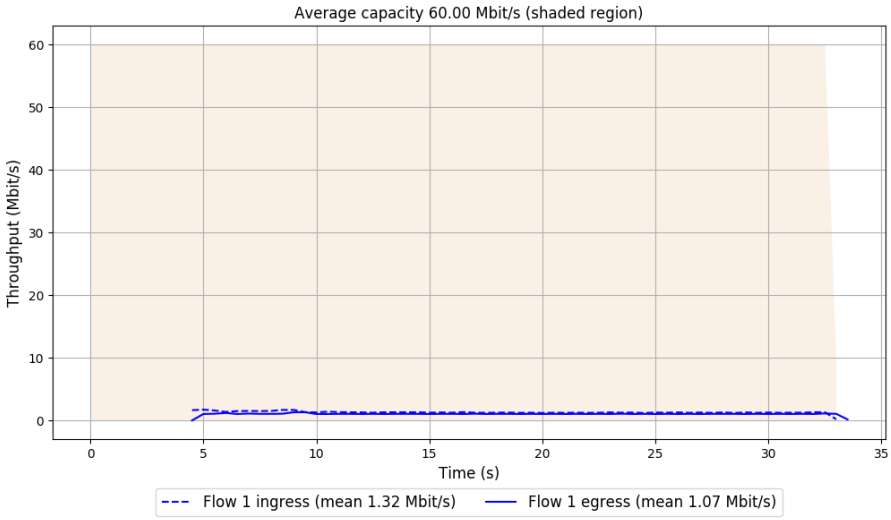


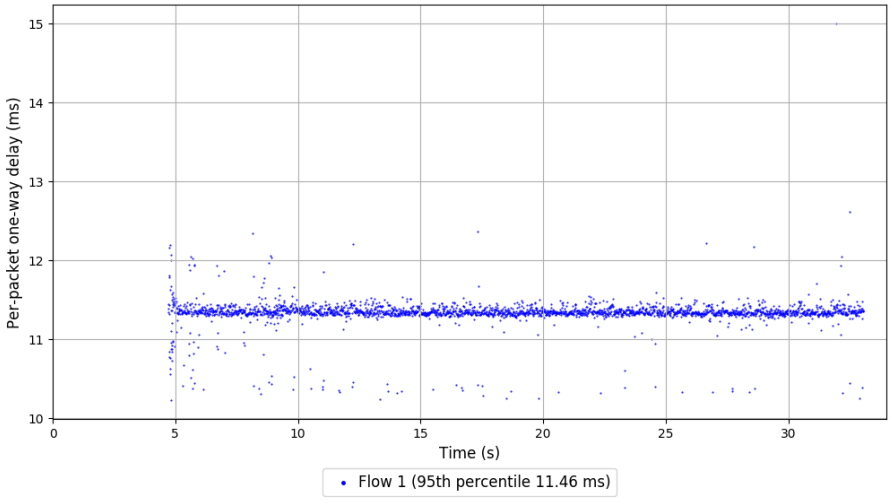
```
Run 2: Statistics of Indigo-MusesC3

Start at: 2019-11-23 23:48:51
End at: 2019-11-23 23:49:21

# Below is generated by plot.py at 2019-11-24 00:08:40
# Datalink statistics
-- Total of 1 flow:
Average capacity: 60.00 Mbit/s
Average throughput: 1.07 Mbit/s (1.8% utilization)
95th percentile per-packet one-way delay: 11.459 ms
Loss rate: 19.56%
-- Flow 1:
Average throughput: 1.07 Mbit/s
95th percentile per-packet one-way delay: 11.459 ms
Loss rate: 19.56%
```

Run 2: Report of Indigo-MusesC3 — Data Link



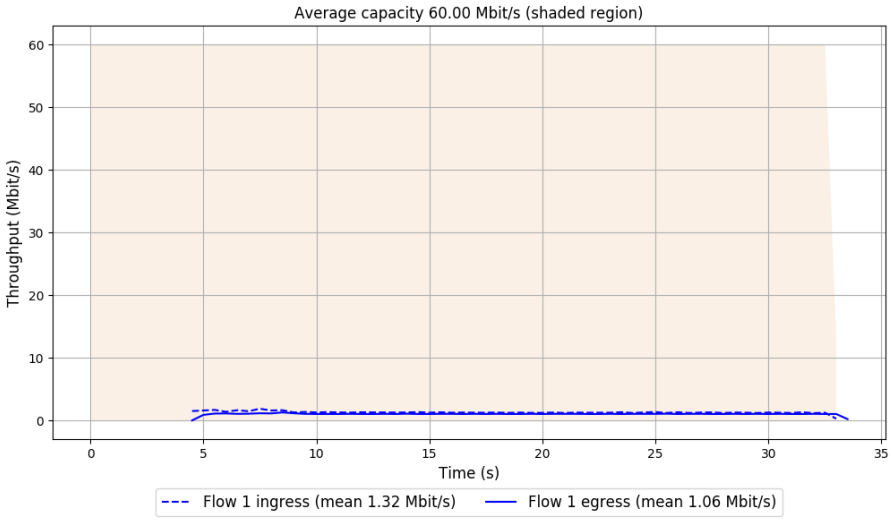


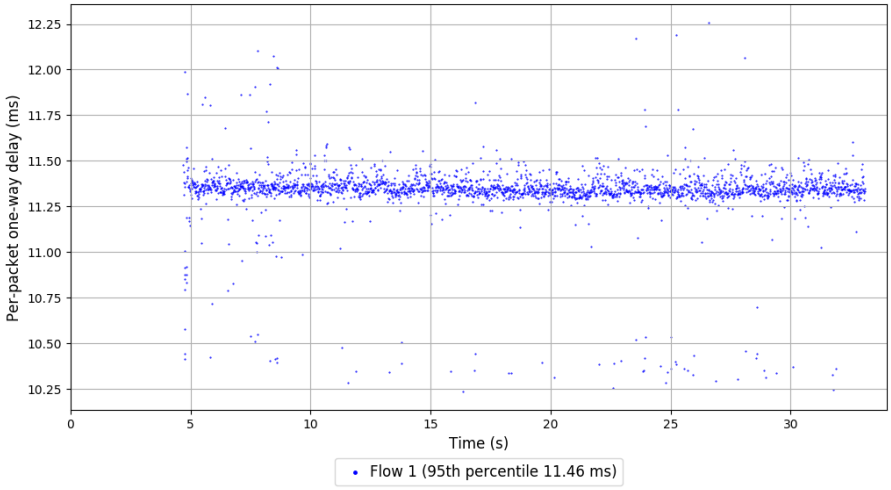
```
Run 3: Statistics of Indigo-MusesC3

Start at: 2019-11-24 00:03:15
End at: 2019-11-24 00:03:45

# Below is generated by plot.py at 2019-11-24 00:08:40
# Datalink statistics
-- Total of 1 flow:
Average capacity: 60.00 Mbit/s
Average throughput: 1.06 Mbit/s (1.8% utilization)
95th percentile per-packet one-way delay: 11.458 ms
Loss rate: 19.86%
-- Flow 1:
Average throughput: 1.06 Mbit/s
95th percentile per-packet one-way delay: 11.458 ms
Loss rate: 19.86%
```

Run 3: Report of Indigo-MusesC3 — Data Link



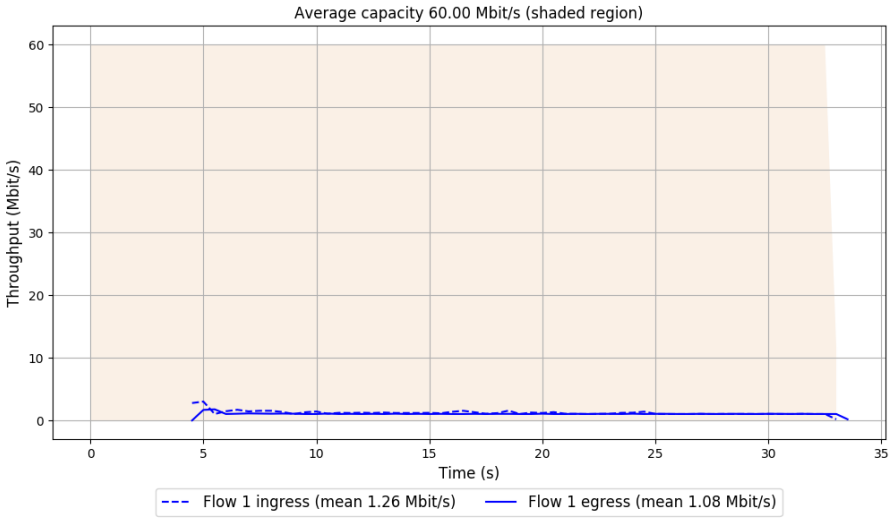


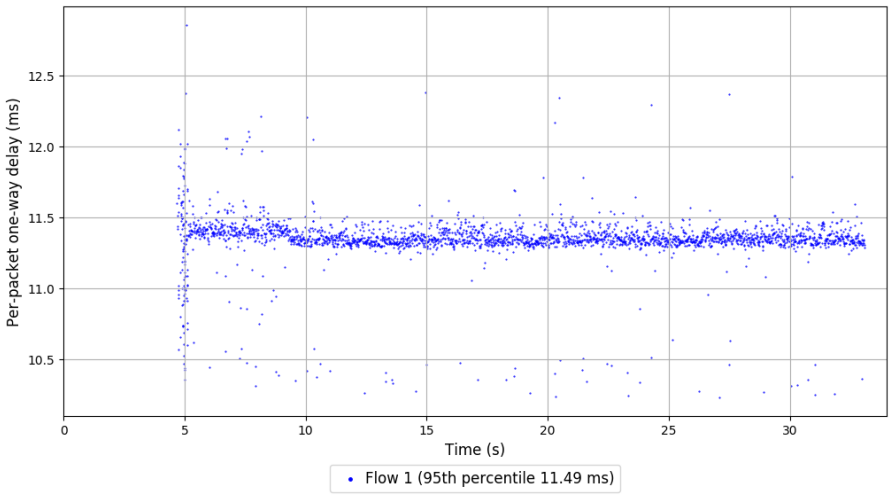
```
Run 1: Statistics of Indigo-MusesC5

Start at: 2019-11-23 23:26:01
End at: 2019-11-23 23:26:31

# Below is generated by plot.py at 2019-11-24 00:08:40
# Datalink statistics
-- Total of 1 flow:
Average capacity: 60.00 Mbit/s
Average throughput: 1.08 Mbit/s (1.8% utilization)
95th percentile per-packet one-way delay: 11.495 ms
Loss rate: 14.47%
-- Flow 1:
Average throughput: 1.08 Mbit/s
95th percentile per-packet one-way delay: 11.495 ms
Loss rate: 14.47%
```

Run 1: Report of Indigo-MusesC5 — Data Link



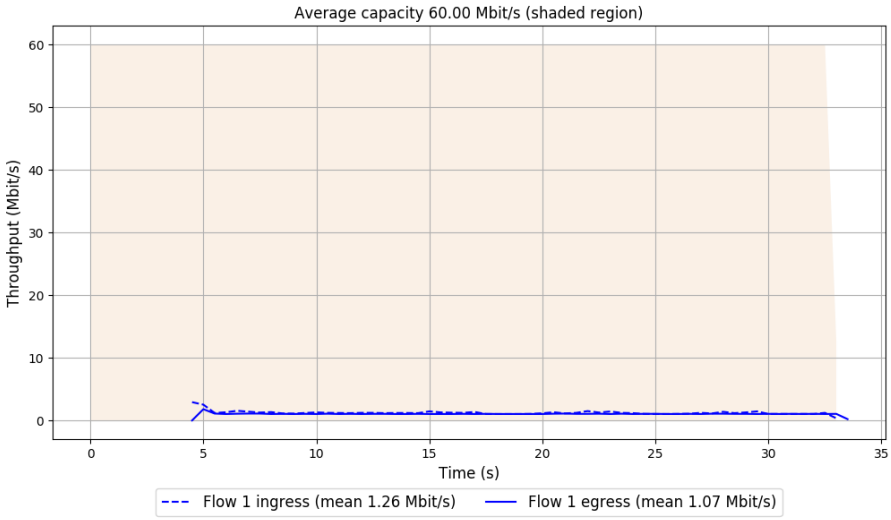


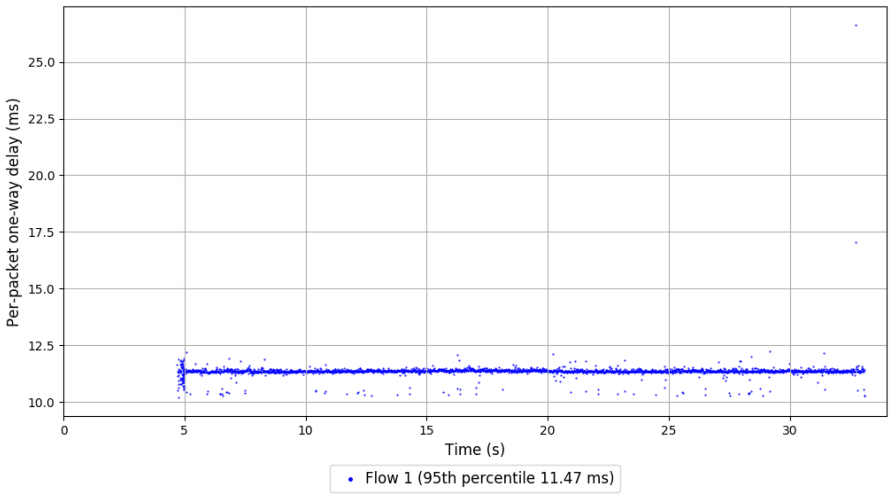
```
Run 2: Statistics of Indigo-MusesC5

Start at: 2019-11-23 23:40:23
End at: 2019-11-23 23:40:53

# Below is generated by plot.py at 2019-11-24 00:08:40
# Datalink statistics
-- Total of 1 flow:
Average capacity: 60.00 Mbit/s
Average throughput: 1.07 Mbit/s (1.8% utilization)
95th percentile per-packet one-way delay: 11.468 ms
Loss rate: 15.28%
-- Flow 1:
Average throughput: 1.07 Mbit/s
95th percentile per-packet one-way delay: 11.468 ms
Loss rate: 15.28%
```

Run 2: Report of Indigo-MusesC5 — Data Link



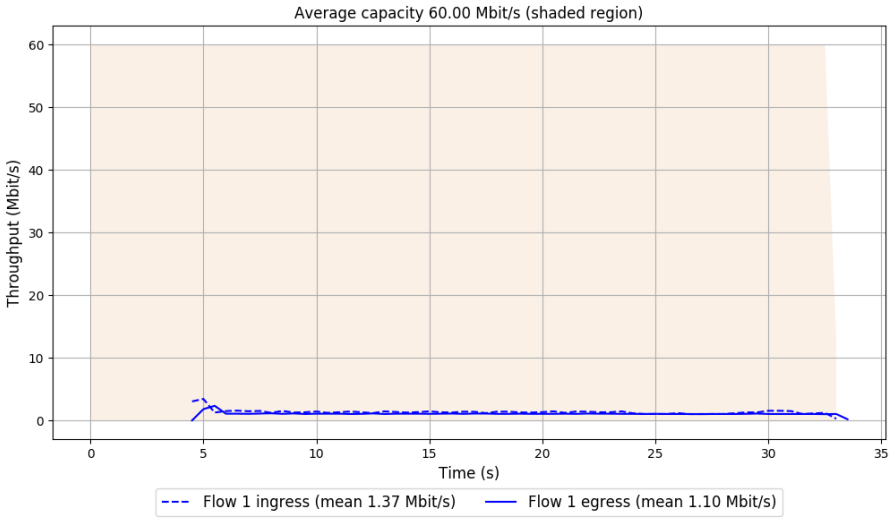


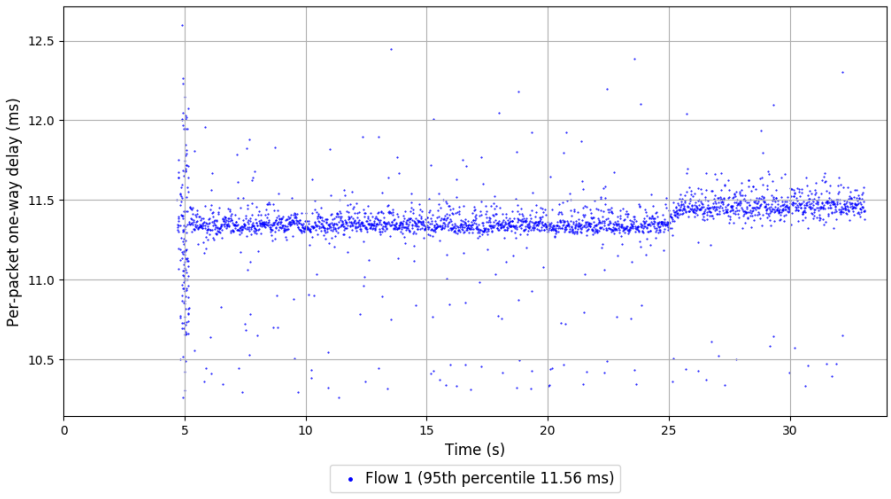
```
Run 3: Statistics of Indigo-MusesC5

Start at: 2019-11-23 23:54:48
End at: 2019-11-23 23:55:18

# Below is generated by plot.py at 2019-11-24 00:08:41
# Datalink statistics
-- Total of 1 flow:
Average capacity: 60.00 Mbit/s
Average throughput: 1.10 Mbit/s (1.8% utilization)
95th percentile per-packet one-way delay: 11.565 ms
Loss rate: 19.84%
-- Flow 1:
Average throughput: 1.10 Mbit/s
95th percentile per-packet one-way delay: 11.565 ms
Loss rate: 19.84%
```

Run 3: Report of Indigo-MusesC5 — Data Link



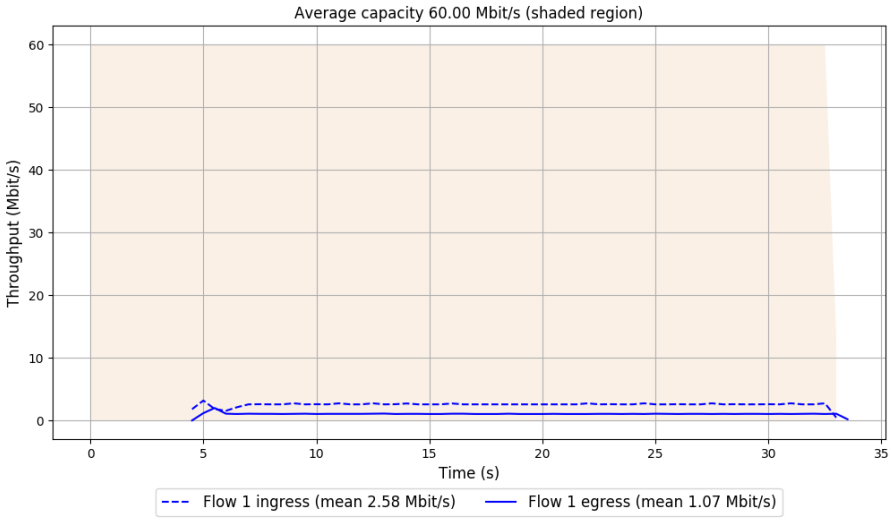


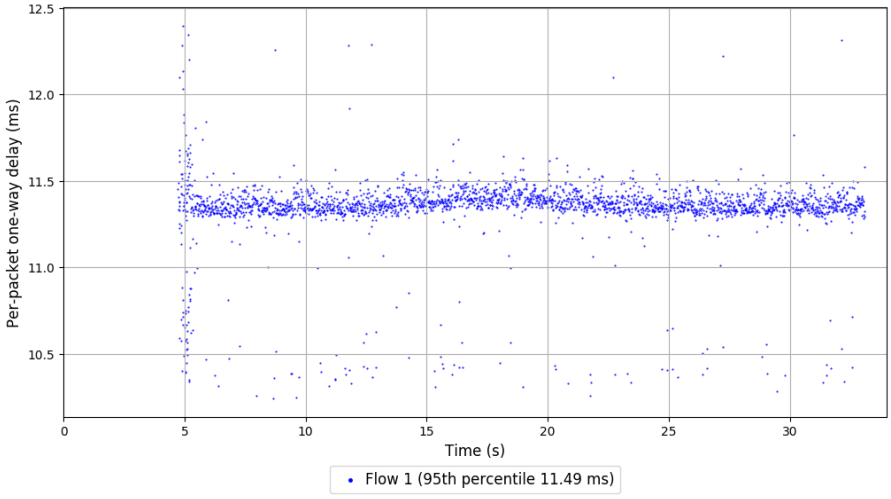
```
Run 1: Statistics of Indigo-MusesD

Start at: 2019-11-23 23:29:37
End at: 2019-11-23 23:30:07

# Below is generated by plot.py at 2019-11-24 00:08:53
# Datalink statistics
-- Total of 1 flow:
Average capacity: 60.00 Mbit/s
Average throughput: 1.07 Mbit/s (1.8% utilization)
95th percentile per-packet one-way delay: 11.488 ms
Loss rate: 58.37%
-- Flow 1:
Average throughput: 1.07 Mbit/s
95th percentile per-packet one-way delay: 11.488 ms
Loss rate: 58.37%
```

Run 1: Report of Indigo-MusesD — Data Link



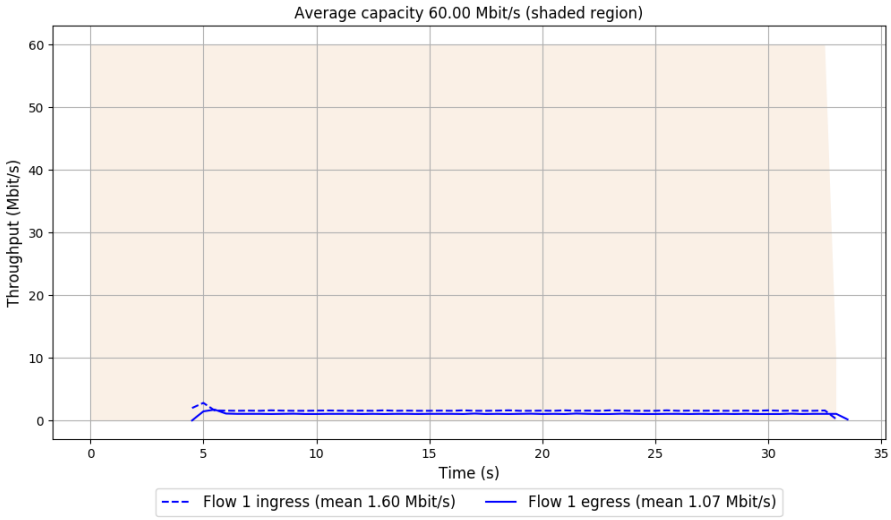


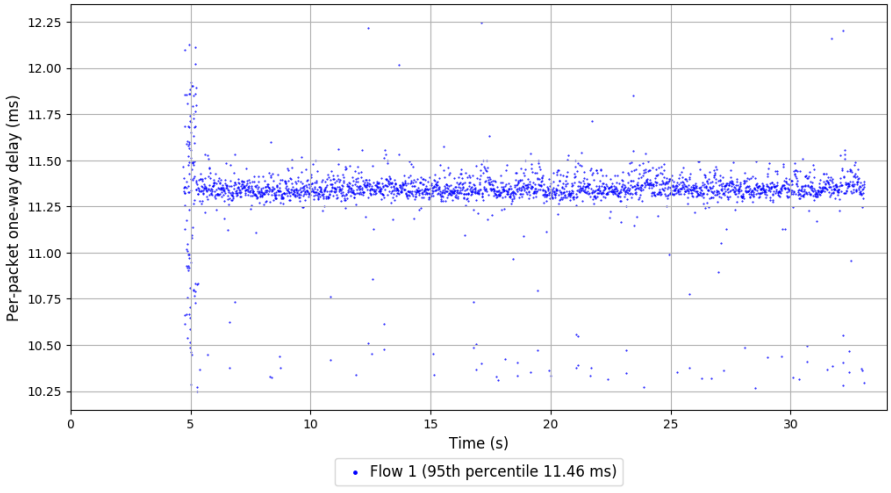
```
Run 2: Statistics of Indigo-MusesD

Start at: 2019-11-23 23:44:02
End at: 2019-11-23 23:44:32

# Below is generated by plot.py at 2019-11-24 00:08:53
# Datalink statistics
-- Total of 1 flow:
Average capacity: 60.00 Mbit/s
Average throughput: 1.07 Mbit/s (1.8% utilization)
95th percentile per-packet one-way delay: 11.464 ms
Loss rate: 33.01%
-- Flow 1:
Average throughput: 1.07 Mbit/s
95th percentile per-packet one-way delay: 11.464 ms
Loss rate: 33.01%
```

Run 2: Report of Indigo-MusesD — Data Link



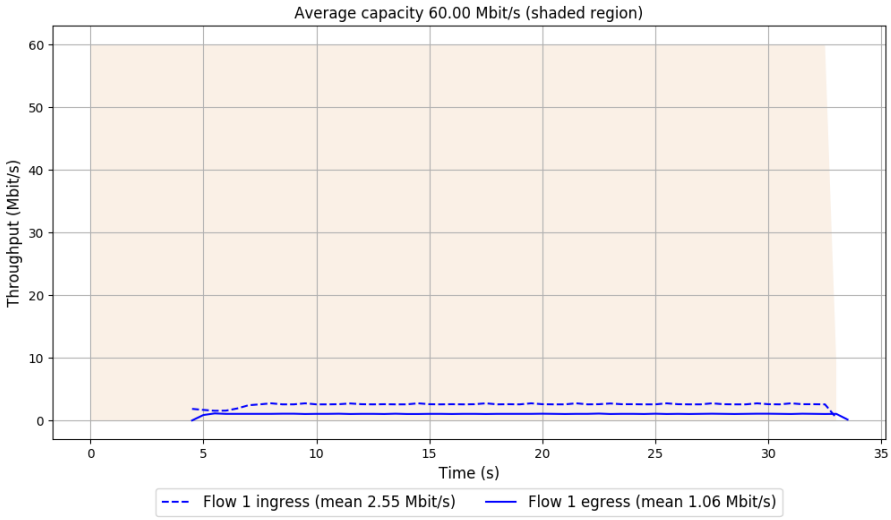


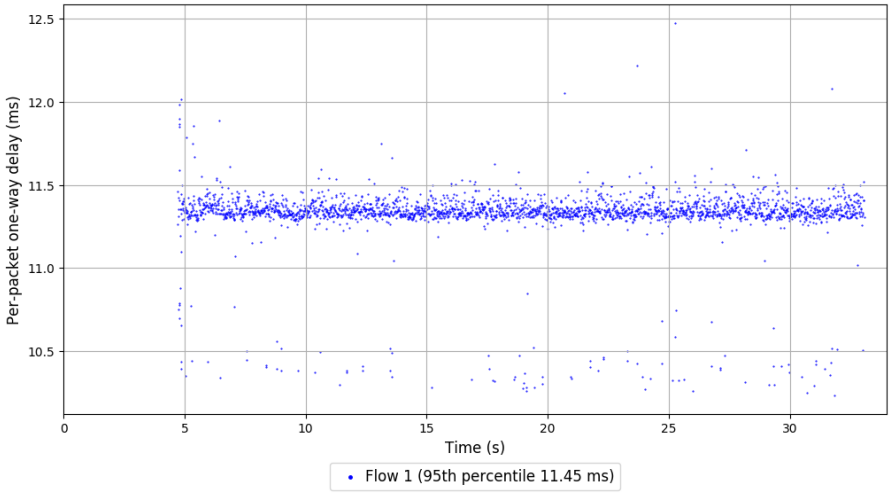
```
Run 3: Statistics of Indigo-MusesD

Start at: 2019-11-23 23:58:24
End at: 2019-11-23 23:58:54

# Below is generated by plot.py at 2019-11-24 00:08:54
# Datalink statistics
-- Total of 1 flow:
Average capacity: 60.00 Mbit/s
Average throughput: 1.06 Mbit/s (1.8% utilization)
95th percentile per-packet one-way delay: 11.454 ms
Loss rate: 58.63%
-- Flow 1:
Average throughput: 1.06 Mbit/s
95th percentile per-packet one-way delay: 11.454 ms
Loss rate: 58.63%
```

Run 3: Report of Indigo-MusesD — Data Link



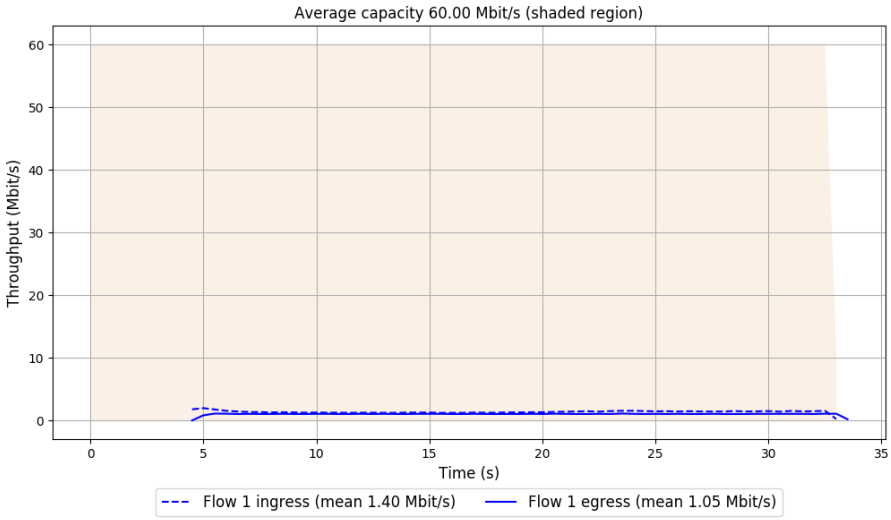


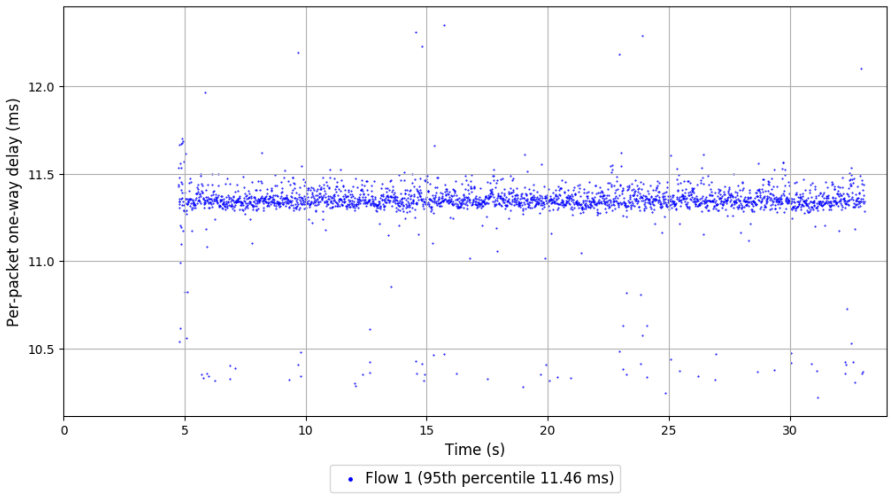
```
Run 1: Statistics of Indigo-MusesT

Start at: 2019-11-23 23:33:15
End at: 2019-11-23 23:33:45

# Below is generated by plot.py at 2019-11-24 00:08:54
# Datalink statistics
-- Total of 1 flow:
Average capacity: 60.00 Mbit/s
Average throughput: 1.05 Mbit/s (1.7% utilization)
95th percentile per-packet one-way delay: 11.458 ms
Loss rate: 24.96%
-- Flow 1:
Average throughput: 1.05 Mbit/s
95th percentile per-packet one-way delay: 11.458 ms
Loss rate: 24.96%
```

Run 1: Report of Indigo-MusesT — Data Link



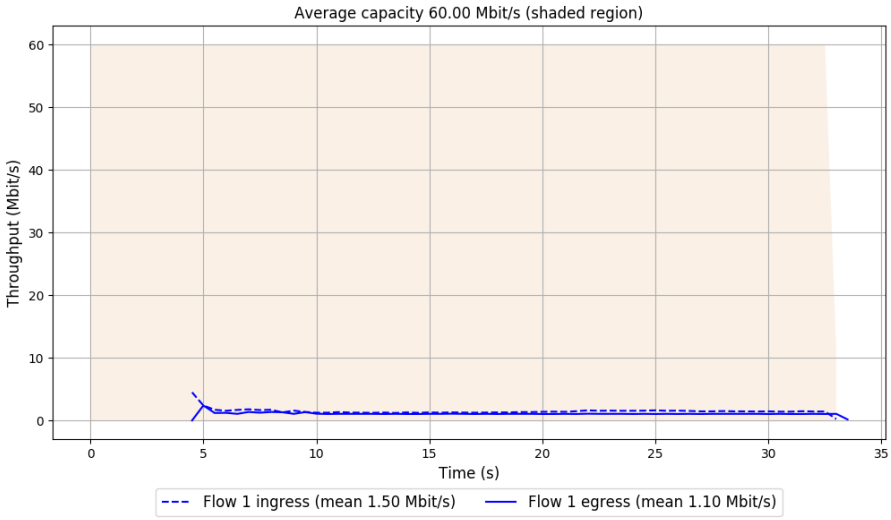


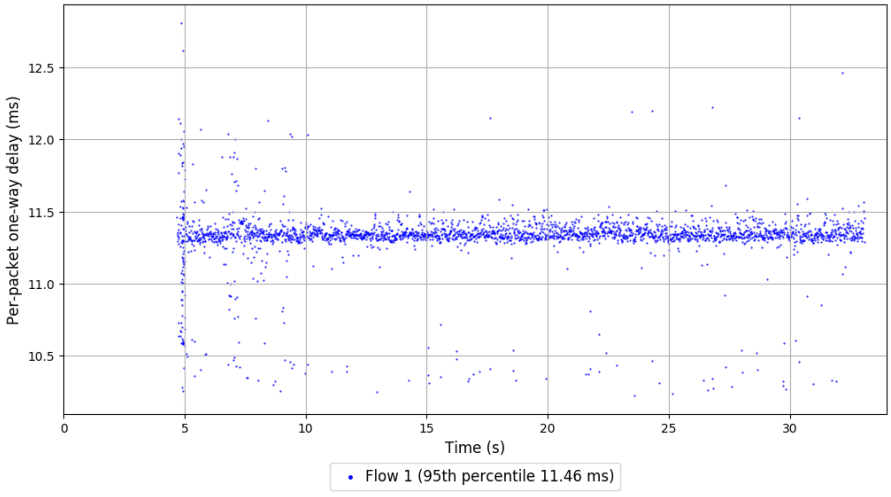
```
Run 2: Statistics of Indigo-MusesT

Start at: 2019-11-23 23:47:40
End at: 2019-11-23 23:48:10

# Below is generated by plot.py at 2019-11-24 00:08:54
# Datalink statistics
-- Total of 1 flow:
Average capacity: 60.00 Mbit/s
Average throughput: 1.10 Mbit/s (1.8% utilization)
95th percentile per-packet one-way delay: 11.465 ms
Loss rate: 26.36%
-- Flow 1:
Average throughput: 1.10 Mbit/s
95th percentile per-packet one-way delay: 11.465 ms
Loss rate: 26.36%
```

Run 2: Report of Indigo-MusesT — Data Link



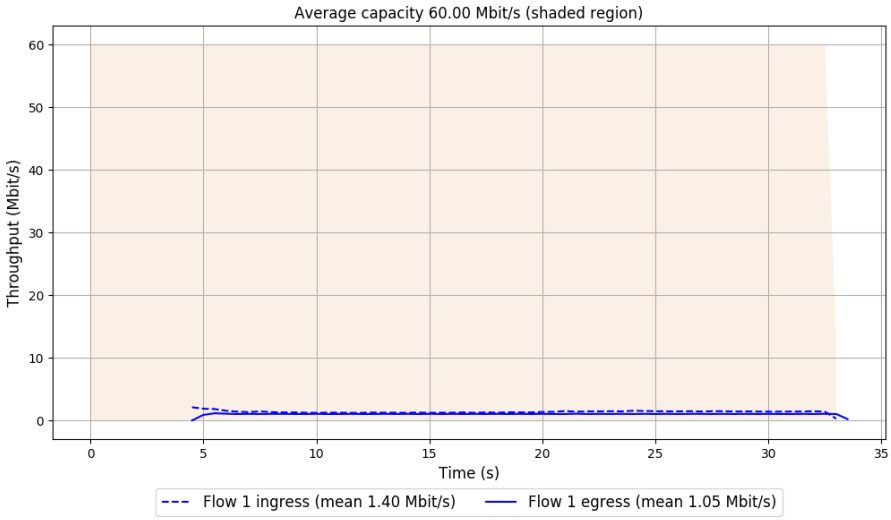


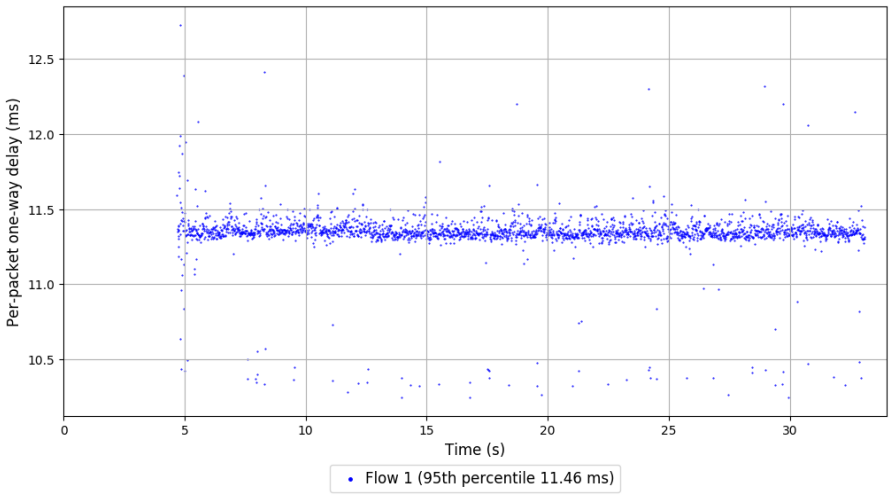
```
Run 3: Statistics of Indigo-MusesT

Start at: 2019-11-24 00:02:04
End at: 2019-11-24 00:02:34

# Below is generated by plot.py at 2019-11-24 00:08:57
# Datalink statistics
-- Total of 1 flow:
Average capacity: 60.00 Mbit/s
Average throughput: 1.05 Mbit/s (1.7% utilization)
95th percentile per-packet one-way delay: 11.459 ms
Loss rate: 25.15%
-- Flow 1:
Average throughput: 1.05 Mbit/s
95th percentile per-packet one-way delay: 11.459 ms
Loss rate: 25.15%
```

Run 3: Report of Indigo-MusesT — Data Link



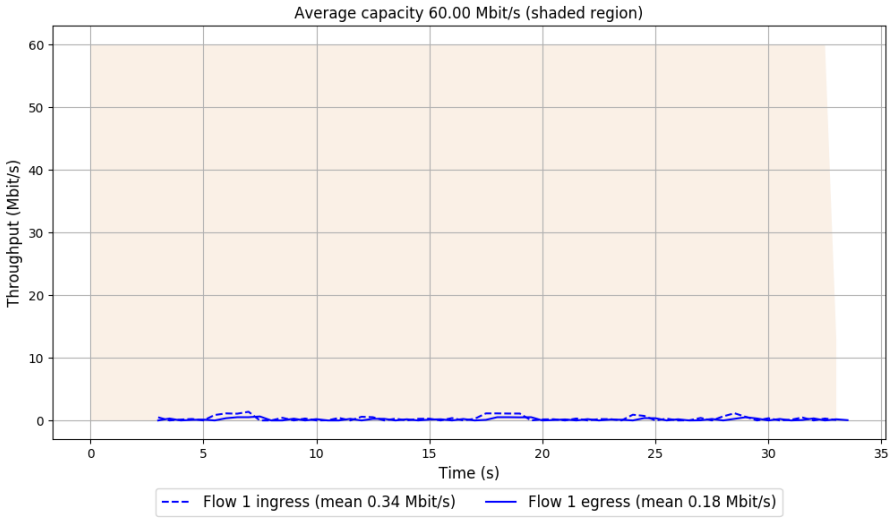


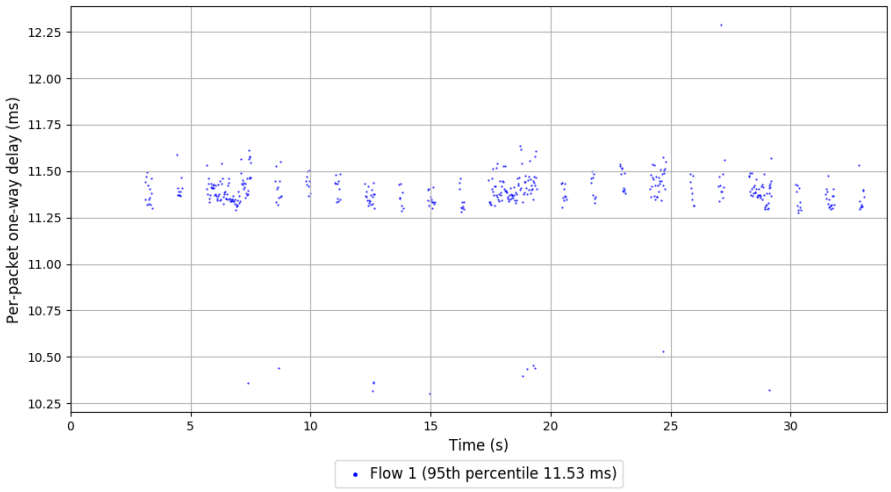
```
Run 1: Statistics of LEDBAT

Start at: 2019-11-23 23:30:13
End at: 2019-11-23 23:30:43

# Below is generated by plot.py at 2019-11-24 00:08:58
# Datalink statistics
-- Total of 1 flow:
Average capacity: 60.00 Mbit/s
Average throughput: 0.18 Mbit/s (0.3% utilization)
95th percentile per-packet one-way delay: 11.534 ms
Loss rate: 48.86%
-- Flow 1:
Average throughput: 0.18 Mbit/s
95th percentile per-packet one-way delay: 11.534 ms
Loss rate: 48.86%
```

Run 1: Report of LEDBAT — Data Link



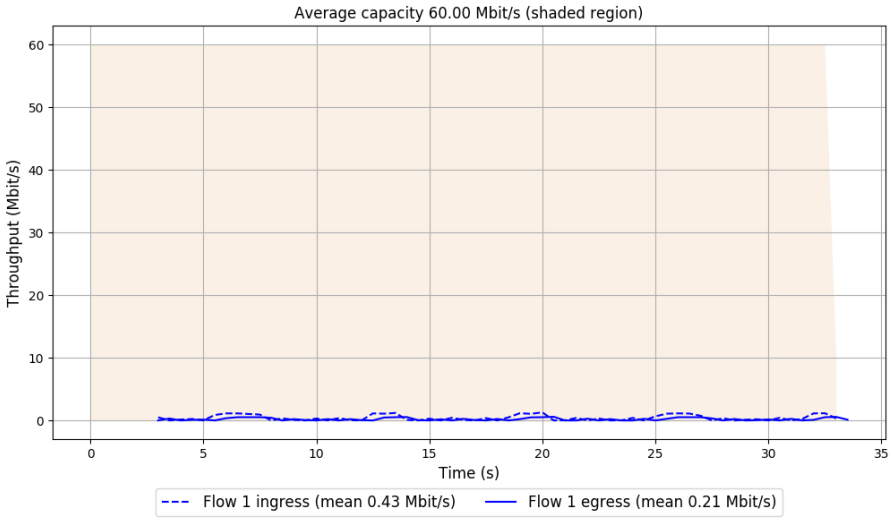


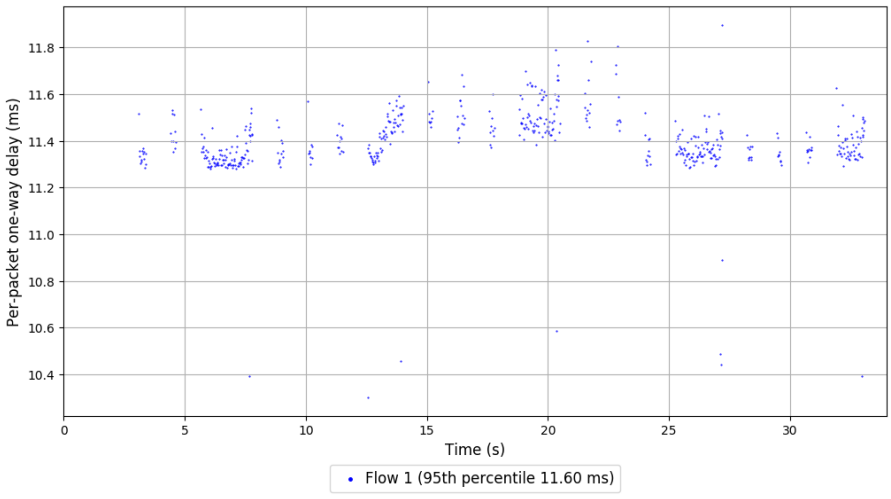
```
Run 2: Statistics of LEDBAT

Start at: 2019-11-23 23:44:38
End at: 2019-11-23 23:45:08

# Below is generated by plot.py at 2019-11-24 00:08:59
# Datalink statistics
-- Total of 1 flow:
Average capacity: 60.00 Mbit/s
Average throughput: 0.21 Mbit/s (0.4% utilization)
95th percentile per-packet one-way delay: 11.599 ms
Loss rate: 50.64%
-- Flow 1:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 11.599 ms
Loss rate: 50.64%
```

Run 2: Report of LEDBAT — Data Link



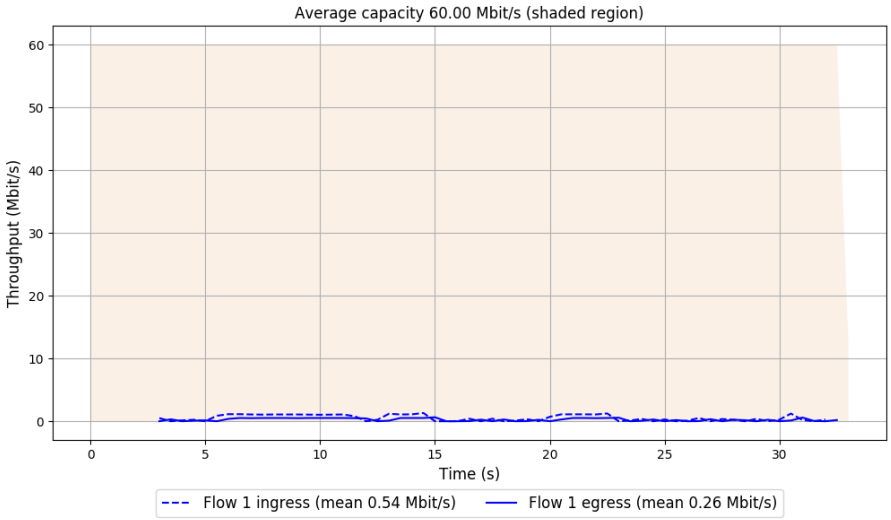


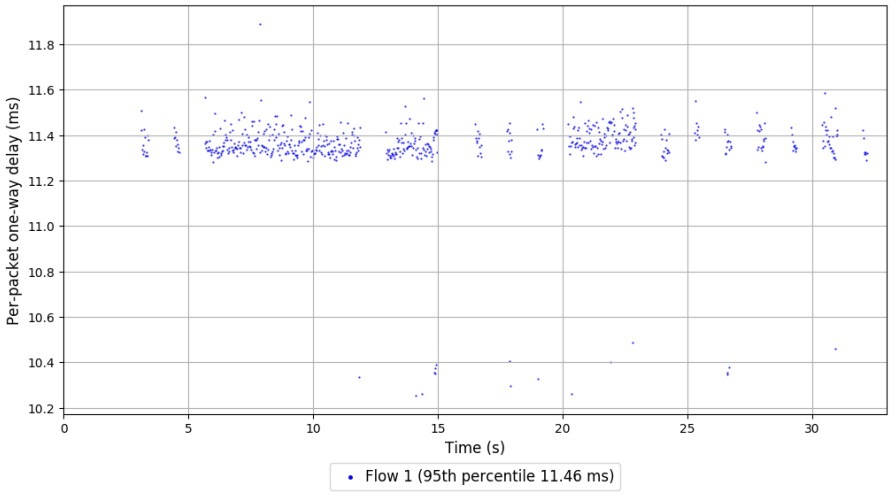
```
Run 3: Statistics of LEDBAT

Start at: 2019-11-23 23:59:00
End at: 2019-11-23 23:59:30

# Below is generated by plot.py at 2019-11-24 00:09:10
# Datalink statistics
-- Total of 1 flow:
Average capacity: 60.00 Mbit/s
Average throughput: 0.26 Mbit/s (0.4% utilization)
95th percentile per-packet one-way delay: 11.465 ms
Loss rate: 50.56%
-- Flow 1:
Average throughput: 0.26 Mbit/s
95th percentile per-packet one-way delay: 11.465 ms
Loss rate: 50.56%
```

Run 3: Report of LEDBAT — Data Link



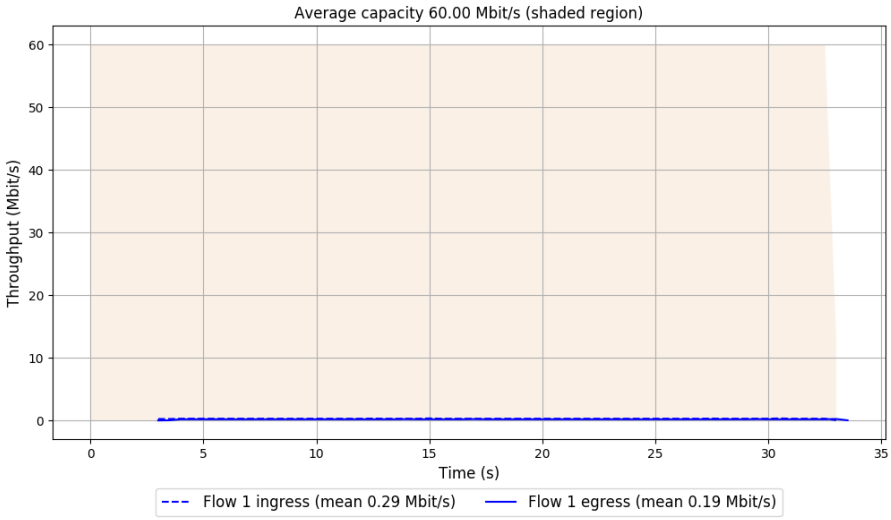


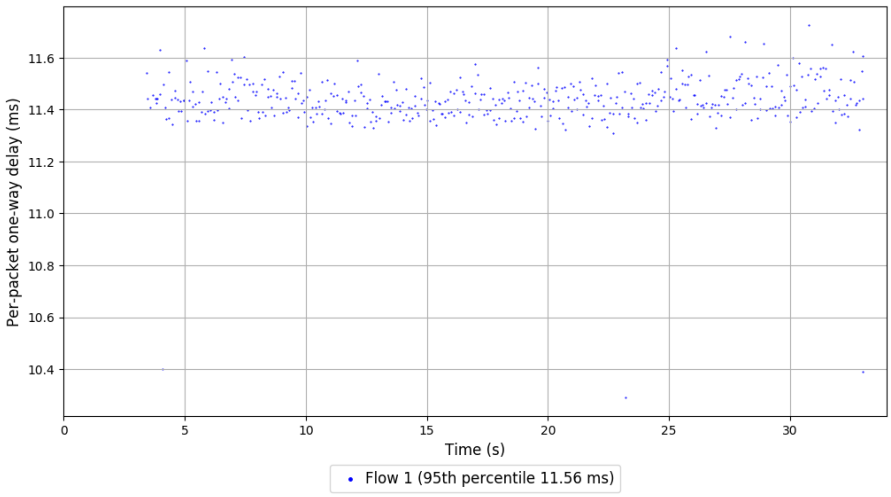
```
Run 1: Statistics of Muses\_DecisionTree

Start at: 2019-11-23 23:25:26
End at: 2019-11-23 23:25:56

# Below is generated by plot.py at 2019-11-24 00:09:11
# Datalink statistics
-- Total of 1 flow:
Average capacity: 60.00 Mbit/s
Average throughput: 0.19 Mbit/s (0.3% utilization)
95th percentile per-packet one-way delay: 11.559 ms
Loss rate: 33.84%
-- Flow 1:
Average throughput: 0.19 Mbit/s
95th percentile per-packet one-way delay: 11.559 ms
Loss rate: 33.84%
```

Run 1: Report of Muses_DecisionTree — Data Link



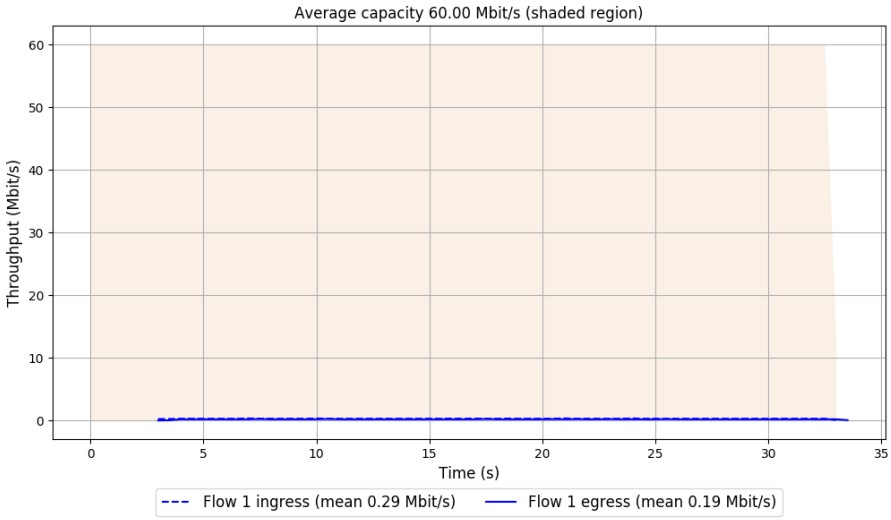


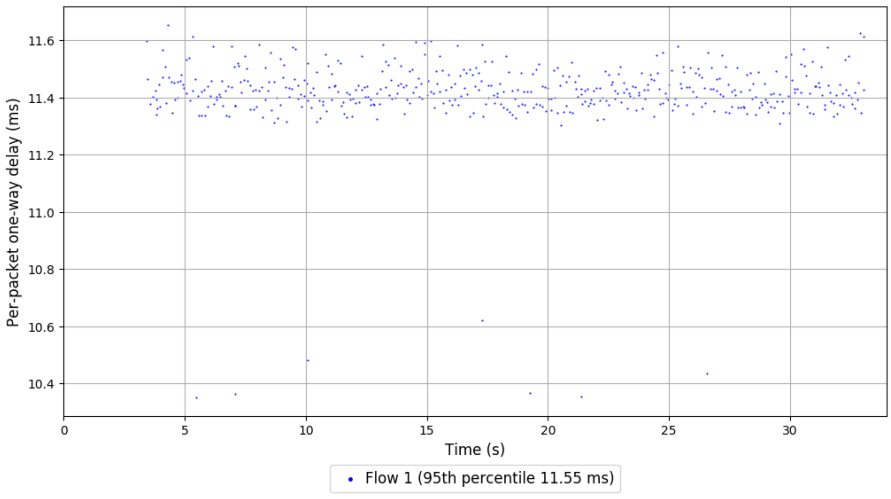
```
Run 2: Statistics of Muses\_DecisionTree

Start at: 2019-11-23 23:39:48
End at: 2019-11-23 23:40:18

# Below is generated by plot.py at 2019-11-24 00:09:11
# Datalink statistics
-- Total of 1 flow:
Average capacity: 60.00 Mbit/s
Average throughput: 0.19 Mbit/s (0.3% utilization)
95th percentile per-packet one-way delay: 11.552 ms
Loss rate: 33.56%
-- Flow 1:
Average throughput: 0.19 Mbit/s
95th percentile per-packet one-way delay: 11.552 ms
Loss rate: 33.56%
```

Run 2: Report of Muses_DecisionTree — Data Link



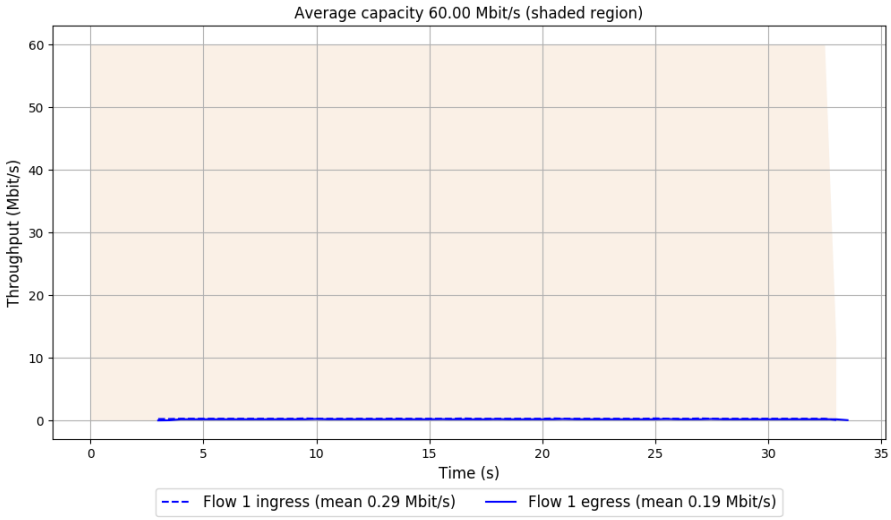


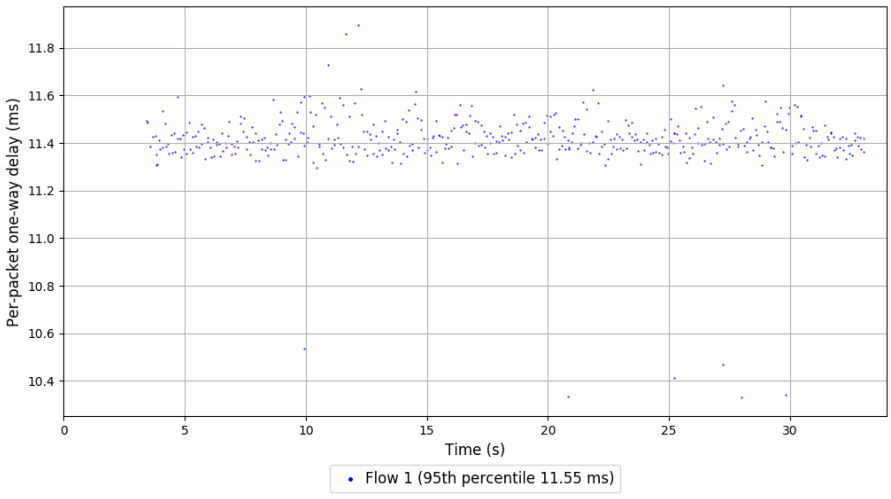
```
Run 3: Statistics of Muses\_DecisionTree

Start at: 2019-11-23 23:54:12
End at: 2019-11-23 23:54:42

# Below is generated by plot.py at 2019-11-24 00:09:12
# Datalink statistics
-- Total of 1 flow:
Average capacity: 60.00 Mbit/s
Average throughput: 0.19 Mbit/s (0.3% utilization)
95th percentile per-packet one-way delay: 11.555 ms
Loss rate: 33.56%
-- Flow 1:
Average throughput: 0.19 Mbit/s
95th percentile per-packet one-way delay: 11.555 ms
Loss rate: 33.56%
```

Run 3: Report of Muses_DecisionTree — Data Link



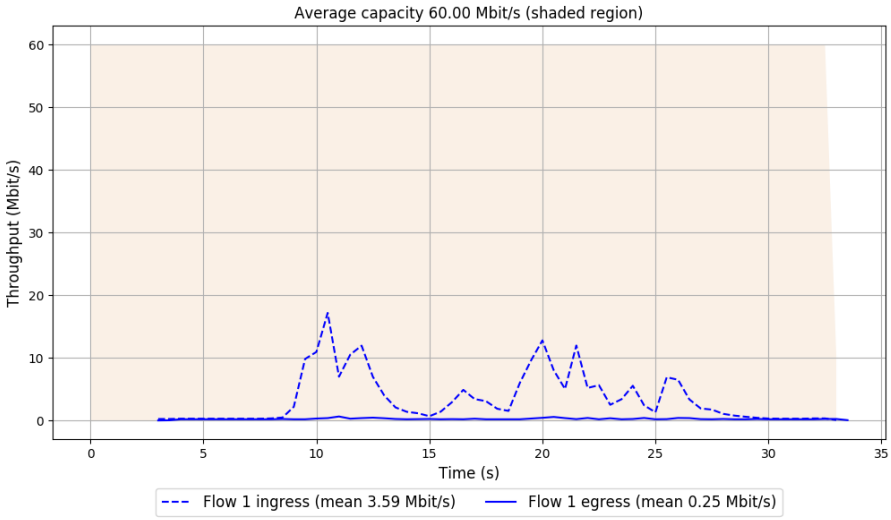


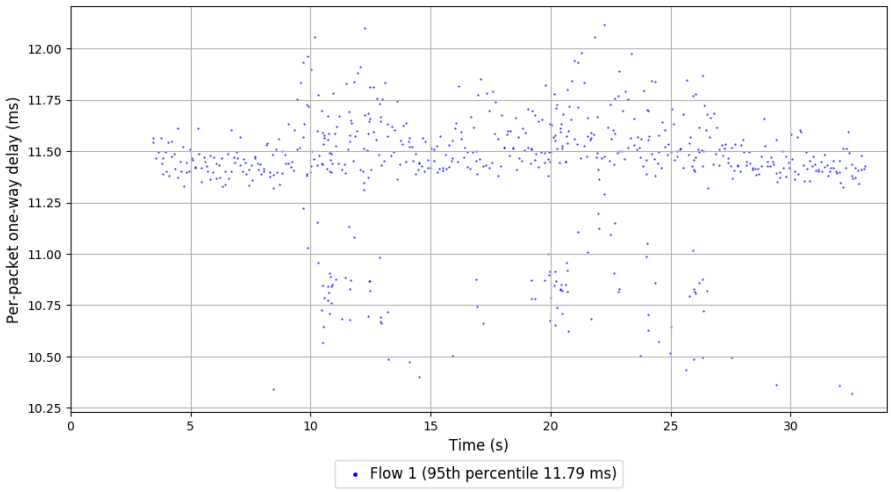
```
Run 1: Statistics of Muses\_DecisionTreeH0

Start at: 2019-11-23 23:35:38
End at: 2019-11-23 23:36:08

# Below is generated by plot.py at 2019-11-24 00:09:13
# Datalink statistics
-- Total of 1 flow:
Average capacity: 60.00 Mbit/s
Average throughput: 0.25 Mbit/s (0.4% utilization)
95th percentile per-packet one-way delay: 11.791 ms
Loss rate: 92.94%
-- Flow 1:
Average throughput: 0.25 Mbit/s
95th percentile per-packet one-way delay: 11.791 ms
Loss rate: 92.94%
```

Run 1: Report of Muses_DecisionTreeH0 — Data Link



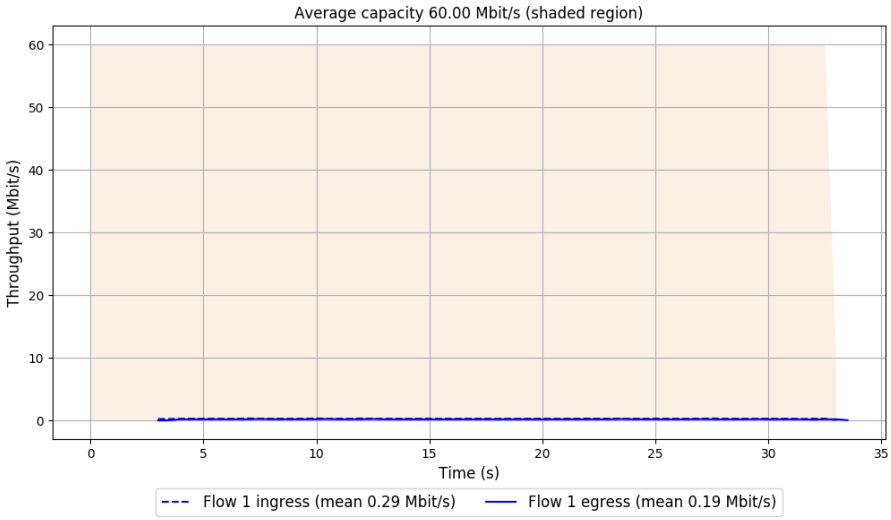


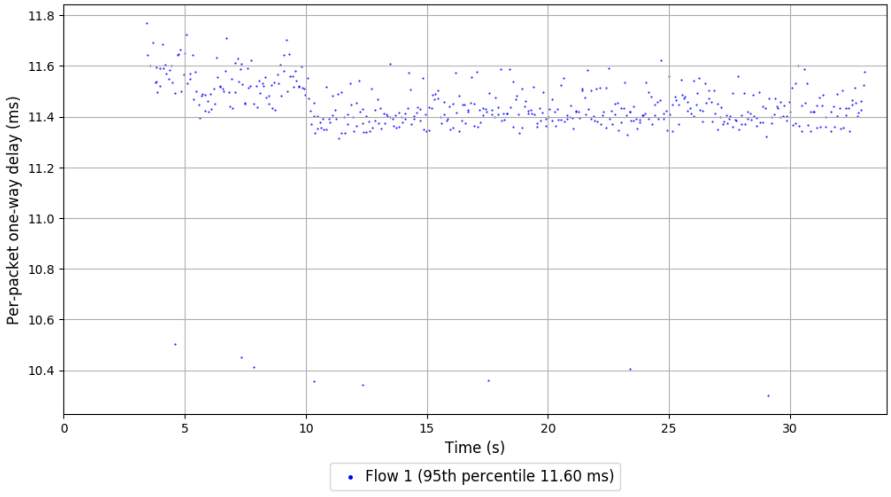
```
Run 2: Statistics of Muses\_DecisionTreeH0

Start at: 2019-11-23 23:50:02
End at: 2019-11-23 23:50:32

# Below is generated by plot.py at 2019-11-24 00:09:15
# Datalink statistics
-- Total of 1 flow:
Average capacity: 60.00 Mbit/s
Average throughput: 0.19 Mbit/s (0.3% utilization)
95th percentile per-packet one-way delay: 11.601 ms
Loss rate: 33.65%
-- Flow 1:
Average throughput: 0.19 Mbit/s
95th percentile per-packet one-way delay: 11.601 ms
Loss rate: 33.65%
```

Run 2: Report of Muses_DecisionTreeH0 — Data Link



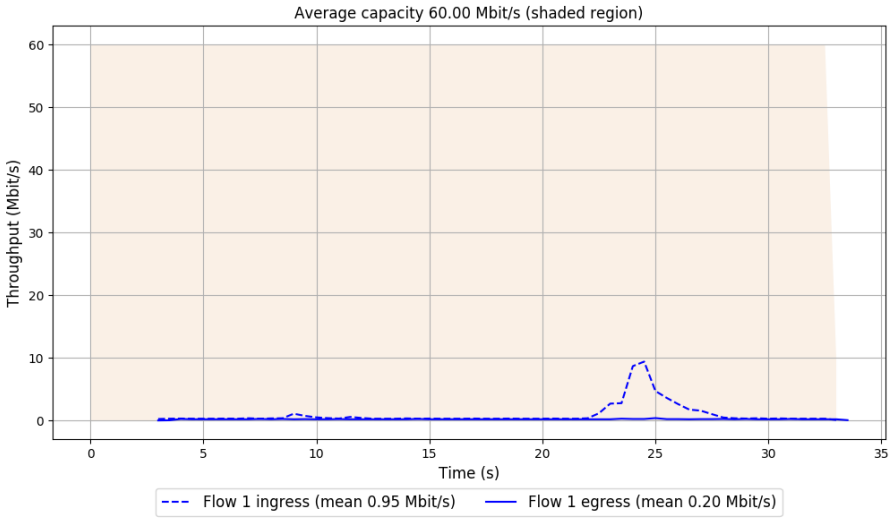


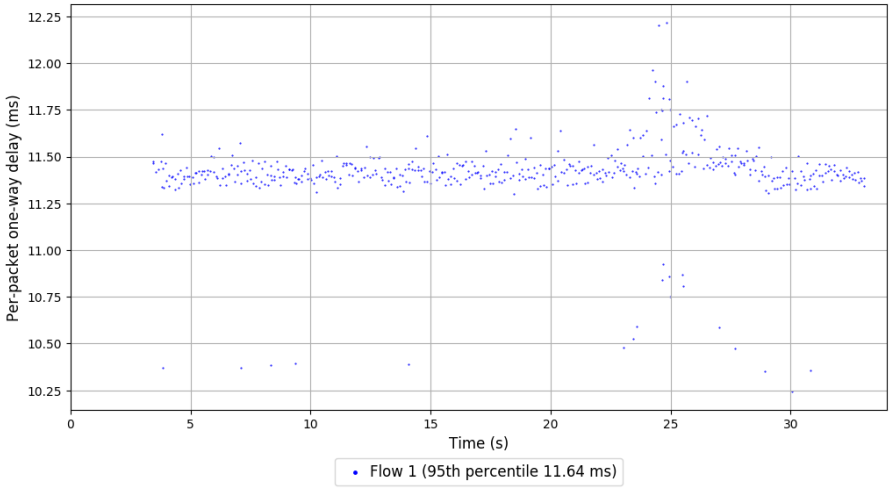
```
Run 3: Statistics of Muses\_DecisionTreeH0

Start at: 2019-11-24 00:04:27
End at: 2019-11-24 00:04:57

# Below is generated by plot.py at 2019-11-24 00:09:17
# Datalink statistics
-- Total of 1 flow:
Average capacity: 60.00 Mbit/s
Average throughput: 0.20 Mbit/s (0.3% utilization)
95th percentile per-packet one-way delay: 11.639 ms
Loss rate: 78.84%
-- Flow 1:
Average throughput: 0.20 Mbit/s
95th percentile per-packet one-way delay: 11.639 ms
Loss rate: 78.84%
```

Run 3: Report of Muses_DecisionTreeH0 — Data Link



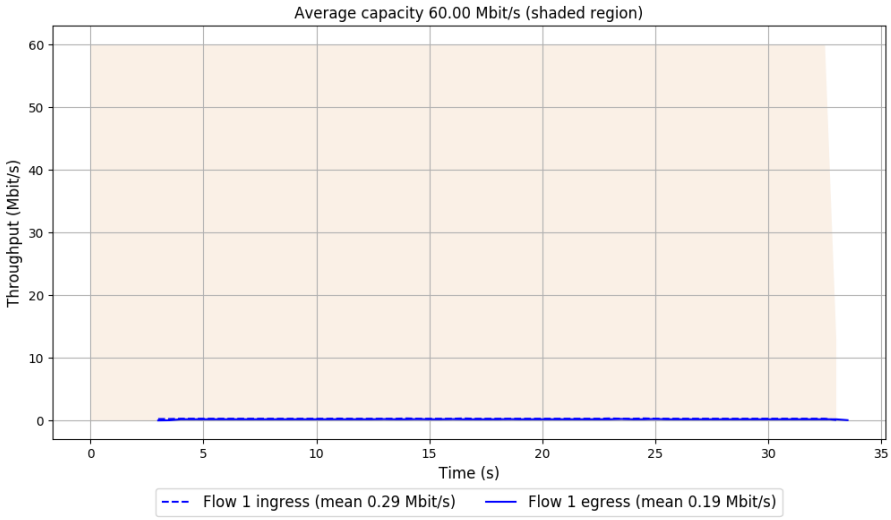


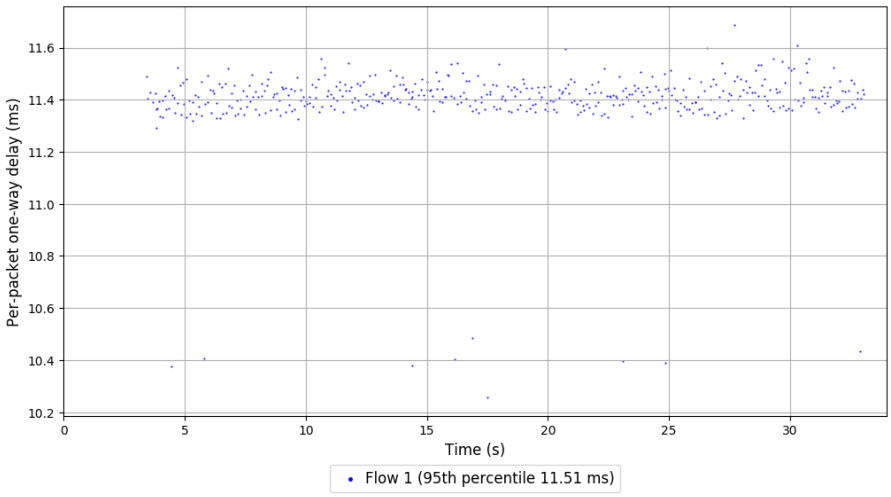
```
Run 1: Statistics of Muses\_DecisionTreeR0

Start at: 2019-11-23 23:24:50
End at: 2019-11-23 23:25:20

# Below is generated by plot.py at 2019-11-24 00:09:17
# Datalink statistics
-- Total of 1 flow:
Average capacity: 60.00 Mbit/s
Average throughput: 0.19 Mbit/s (0.3% utilization)
95th percentile per-packet one-way delay: 11.514 ms
Loss rate: 33.65%
-- Flow 1:
Average throughput: 0.19 Mbit/s
95th percentile per-packet one-way delay: 11.514 ms
Loss rate: 33.65%
```

Run 1: Report of Muses_DecisionTreeR0 — Data Link



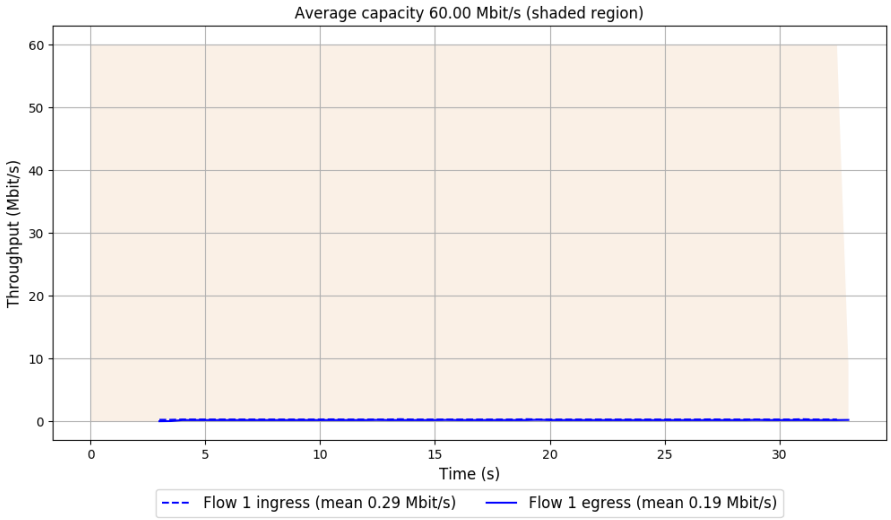


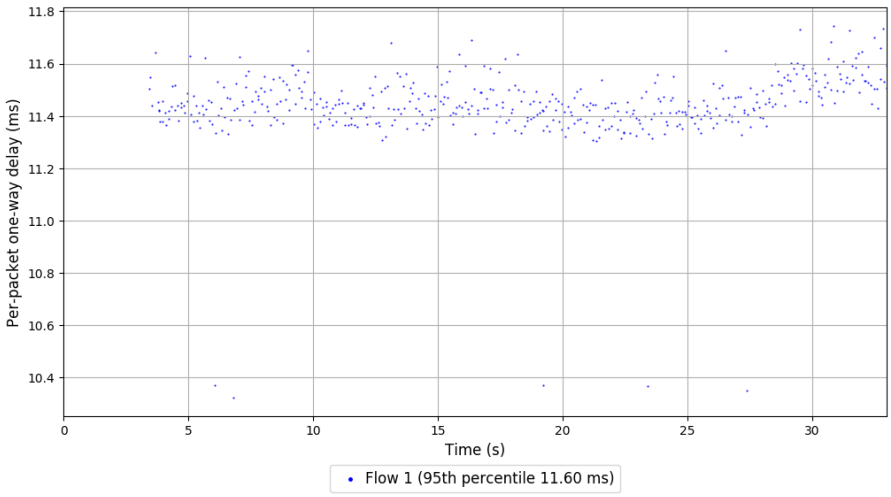
```
Run 2: Statistics of Muses\_DecisionTreeR0

Start at: 2019-11-23 23:39:12
End at: 2019-11-23 23:39:42

# Below is generated by plot.py at 2019-11-24 00:09:28
# Datalink statistics
-- Total of 1 flow:
Average capacity: 60.00 Mbit/s
Average throughput: 0.19 Mbit/s (0.3% utilization)
95th percentile per-packet one-way delay: 11.602 ms
Loss rate: 33.84%
-- Flow 1:
Average throughput: 0.19 Mbit/s
95th percentile per-packet one-way delay: 11.602 ms
Loss rate: 33.84%
```

Run 2: Report of Muses_DecisionTreeR0 — Data Link



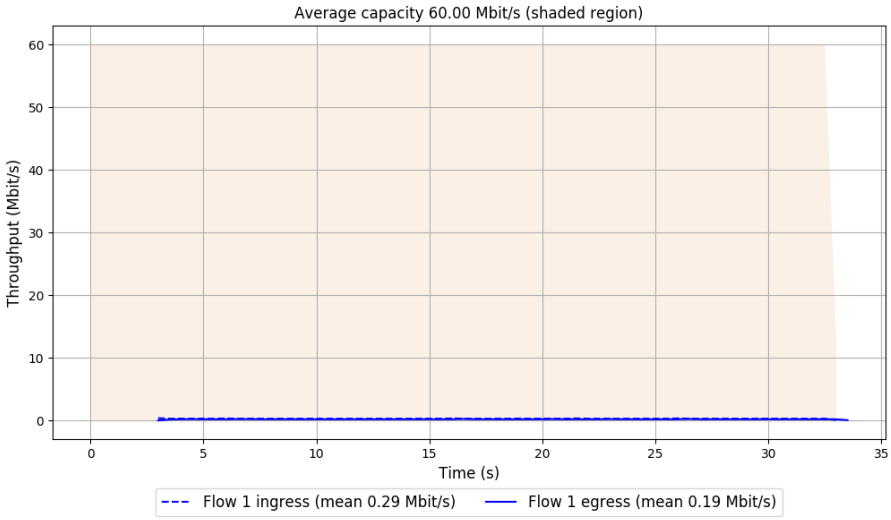


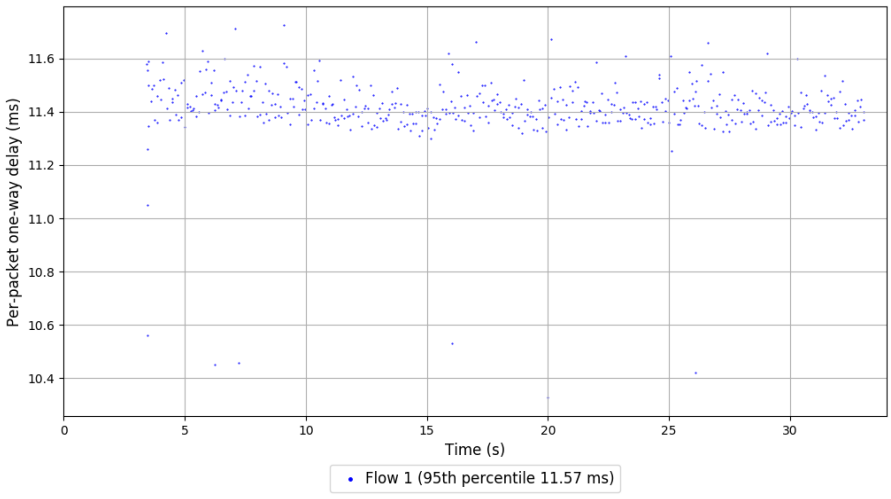
```
Run 3: Statistics of Muses\_DecisionTreeR0

Start at: 2019-11-23 23:53:37
End at: 2019-11-23 23:54:07

# Below is generated by plot.py at 2019-11-24 00:09:29
# Datalink statistics
-- Total of 1 flow:
Average capacity: 60.00 Mbit/s
Average throughput: 0.19 Mbit/s (0.3% utilization)
95th percentile per-packet one-way delay: 11.567 ms
Loss rate: 33.56%
-- Flow 1:
Average throughput: 0.19 Mbit/s
95th percentile per-packet one-way delay: 11.567 ms
Loss rate: 33.56%
```

Run 3: Report of Muses_DecisionTreeR0 — Data Link



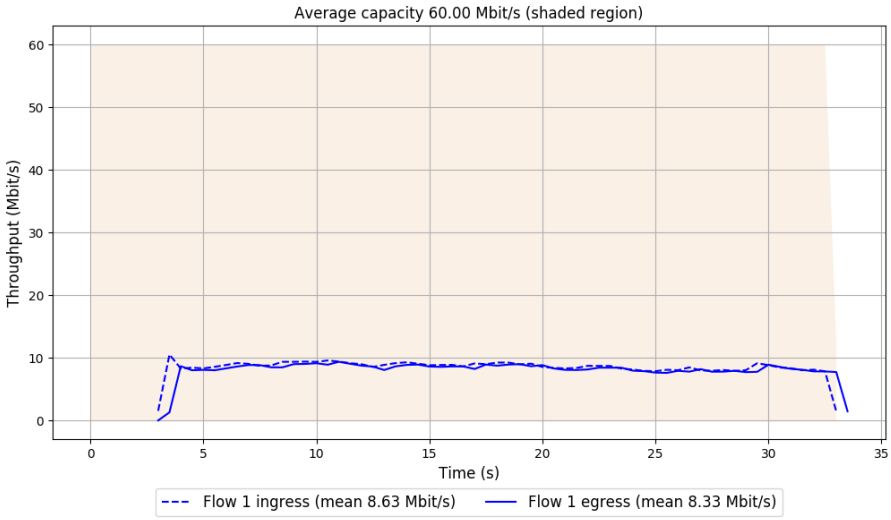


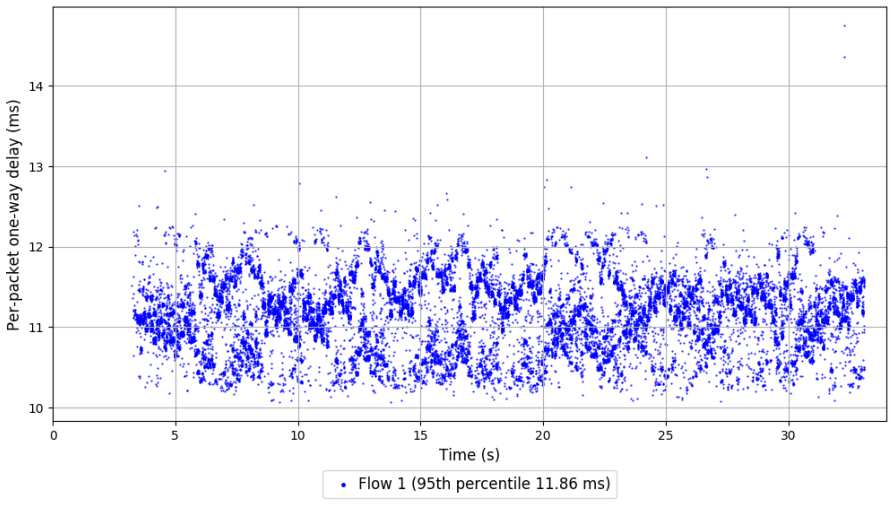
```
Run 1: Statistics of PCC-Allegro

Start at: 2019-11-23 23:37:24
End at: 2019-11-23 23:37:54

# Below is generated by plot.py at 2019-11-24 00:09:38
# Datalink statistics
-- Total of 1 flow:
Average capacity: 60.00 Mbit/s
Average throughput: 8.33 Mbit/s (13.9% utilization)
95th percentile per-packet one-way delay: 11.858 ms
Loss rate: 3.50%
-- Flow 1:
Average throughput: 8.33 Mbit/s
95th percentile per-packet one-way delay: 11.858 ms
Loss rate: 3.50%
```

Run 1: Report of PCC-Allegro — Data Link



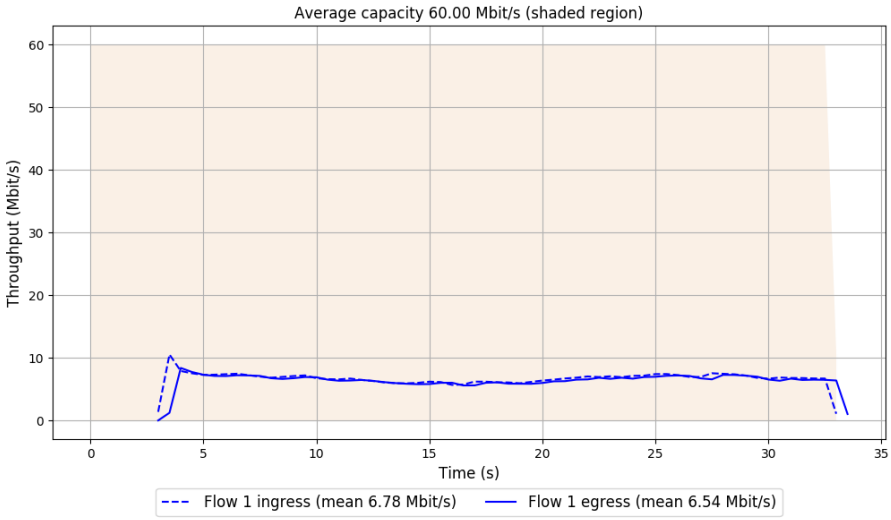


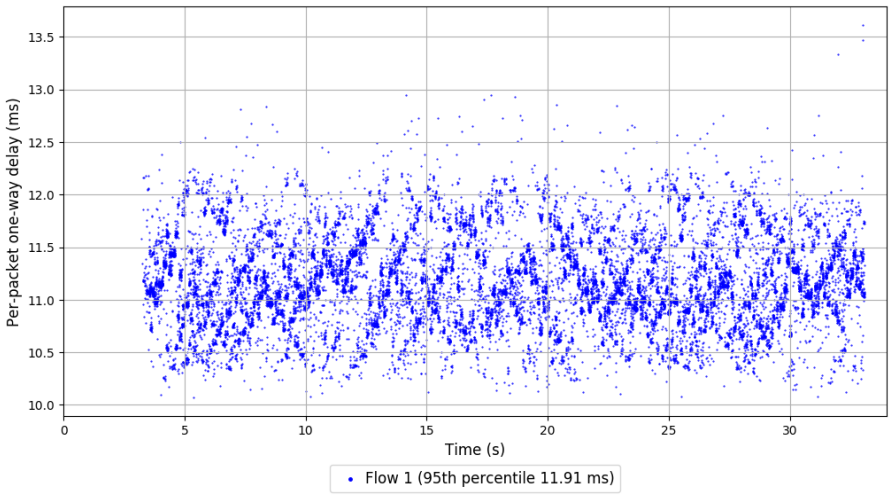
```
Run 2: Statistics of PCC-Allegro

Start at: 2019-11-23 23:51:49
End at: 2019-11-23 23:52:19

# Below is generated by plot.py at 2019-11-24 00:09:38
# Datalink statistics
-- Total of 1 flow:
Average capacity: 60.00 Mbit/s
Average throughput: 6.54 Mbit/s (10.9% utilization)
95th percentile per-packet one-way delay: 11.911 ms
Loss rate: 3.49%
-- Flow 1:
Average throughput: 6.54 Mbit/s
95th percentile per-packet one-way delay: 11.911 ms
Loss rate: 3.49%
```

Run 2: Report of PCC-Allegro — Data Link



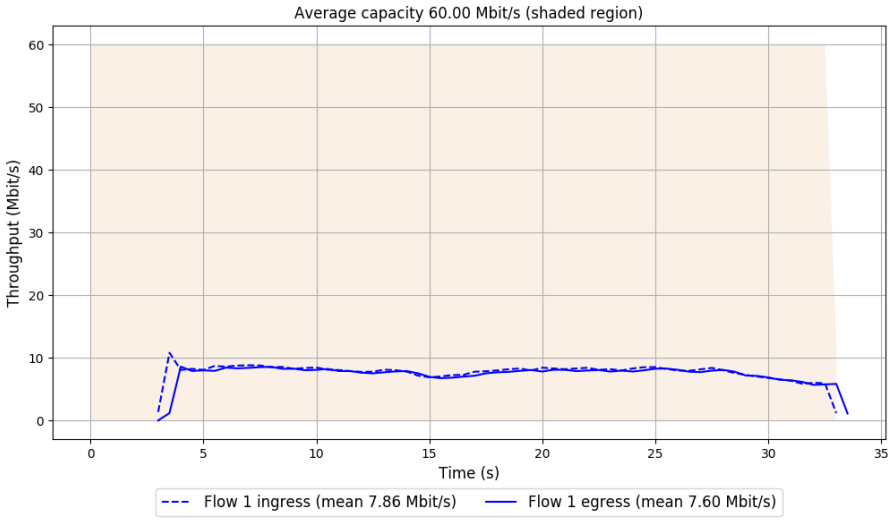


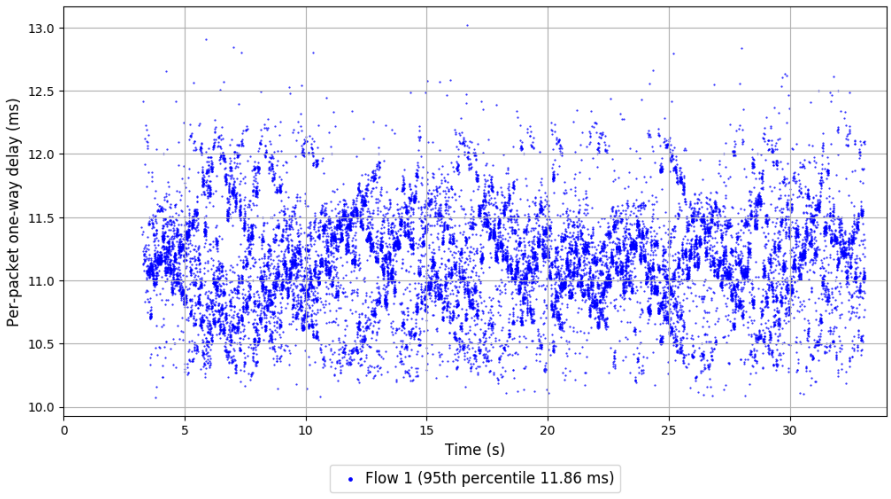
```
Run 3: Statistics of PCC-Allegro

Start at: 2019-11-24 00:06:14
End at: 2019-11-24 00:06:44

# Below is generated by plot.py at 2019-11-24 00:09:38
# Datalink statistics
-- Total of 1 flow:
Average capacity: 60.00 Mbit/s
Average throughput: 7.60 Mbit/s (12.7% utilization)
95th percentile per-packet one-way delay: 11.864 ms
Loss rate: 3.34%
-- Flow 1:
Average throughput: 7.60 Mbit/s
95th percentile per-packet one-way delay: 11.864 ms
Loss rate: 3.34%
```

Run 3: Report of PCC-Allegro — Data Link

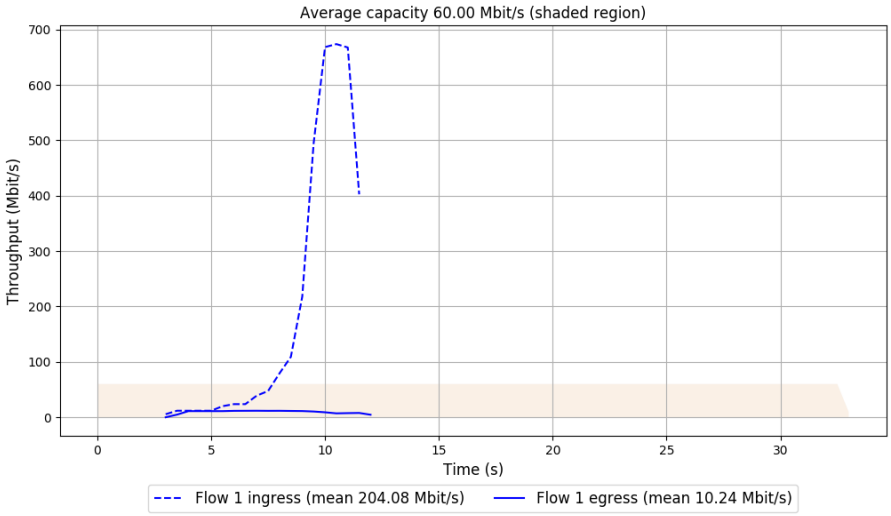


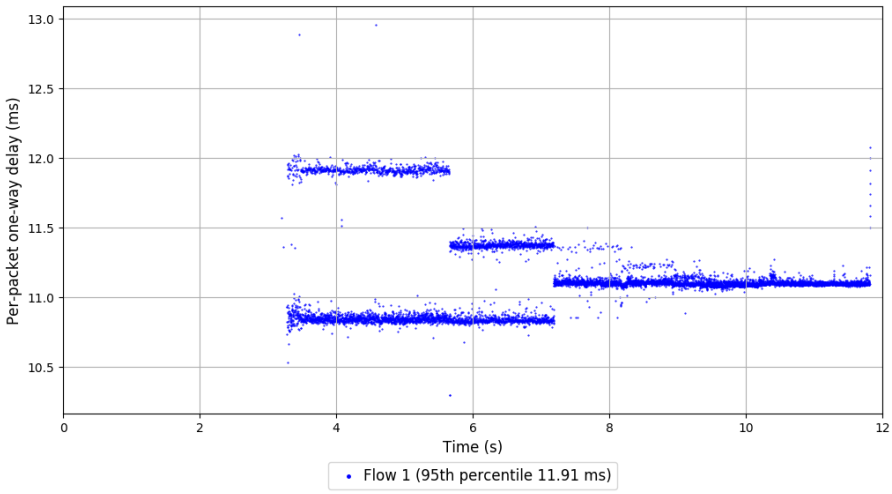


```
Run 1: Statistics of PCC-Expr

Start at: 2019-11-23 23:26:37
End at: 2019-11-23 23:27:07
```

Run 1: Report of PCC-Expr — Data Link

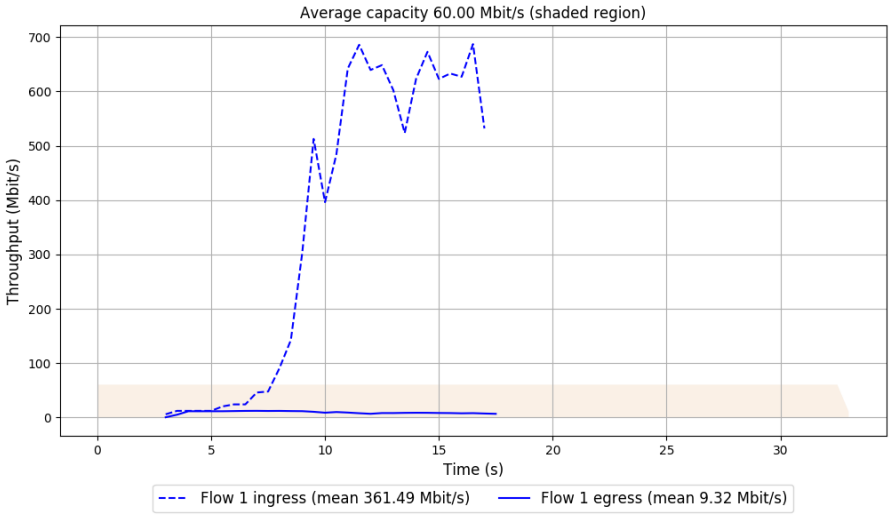


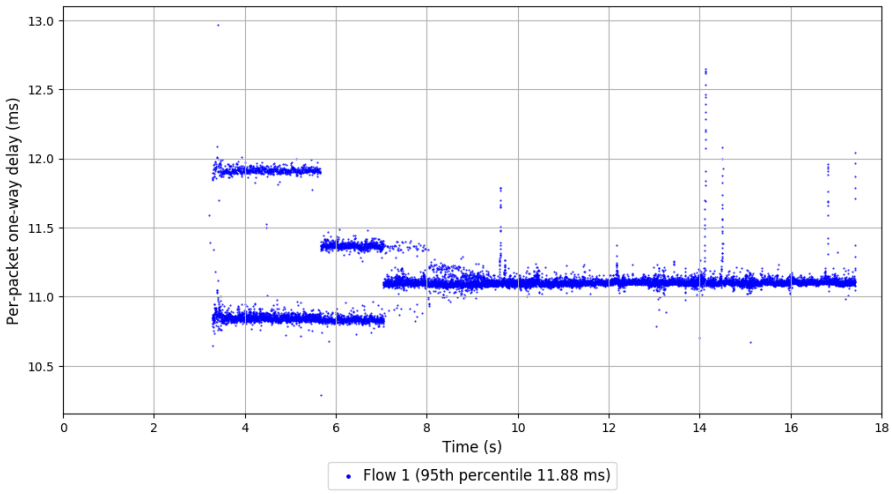


```
Run 2: Statistics of PCC-Expr

Start at: 2019-11-23 23:40:59
End at: 2019-11-23 23:41:29
```

Run 2: Report of PCC-Expr — Data Link

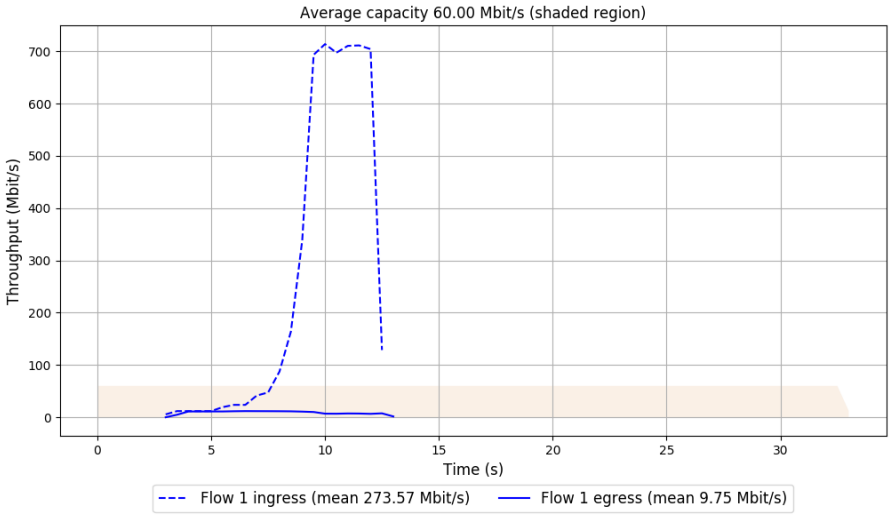


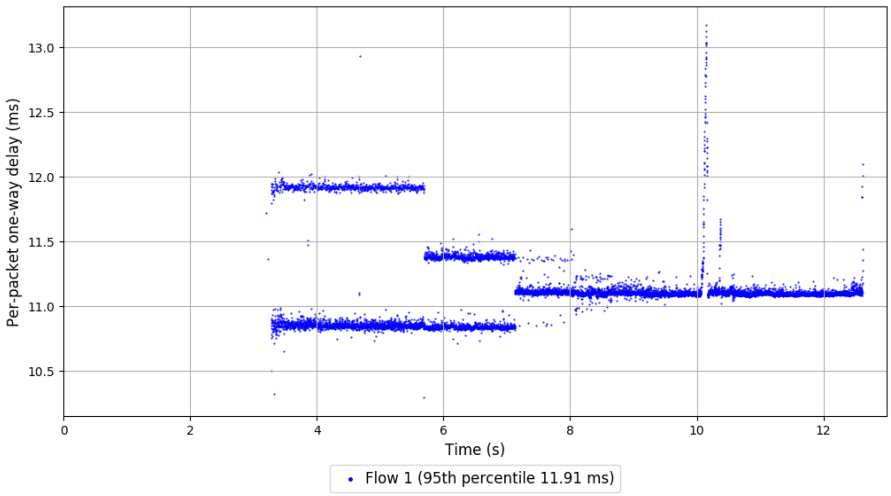


```
Run 3: Statistics of PCC-Expr

Start at: 2019-11-23 23:55:24
End at: 2019-11-23 23:55:54
```

Run 3: Report of PCC-Expr — Data Link



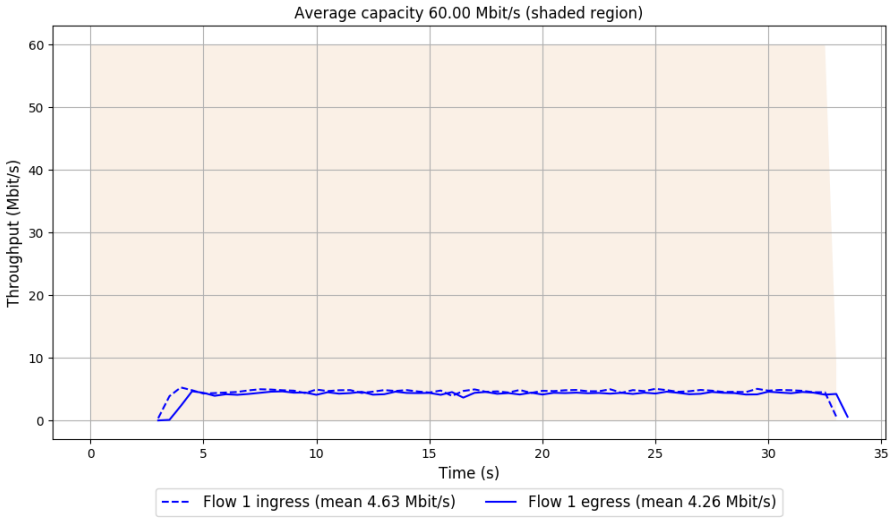


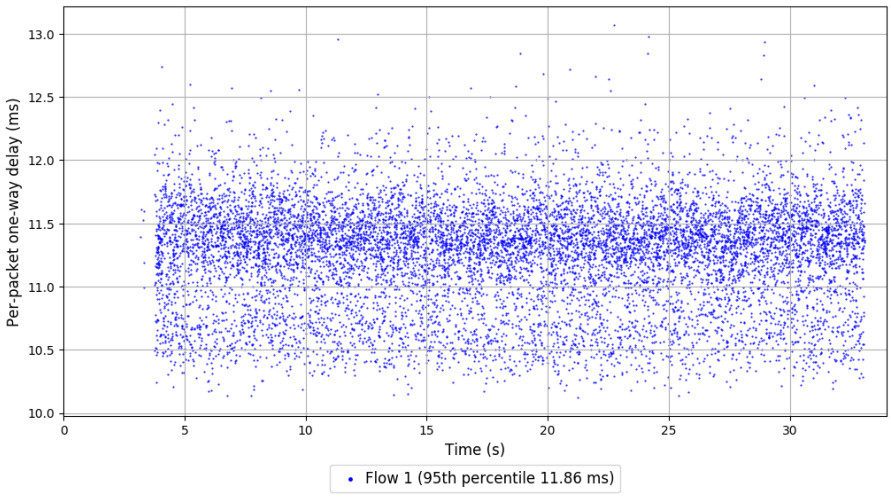
```
Run 1: Statistics of QUIC Cubic

Start at: 2019-11-23 23:28:26
End at: 2019-11-23 23:28:56

# Below is generated by plot.py at 2019-11-24 00:10:54
# Datalink statistics
-- Total of 1 flow:
Average capacity: 60.00 Mbit/s
Average throughput: 4.26 Mbit/s (7.1% utilization)
95th percentile per-packet one-way delay: 11.855 ms
Loss rate: 8.04%
-- Flow 1:
Average throughput: 4.26 Mbit/s
95th percentile per-packet one-way delay: 11.855 ms
Loss rate: 8.04%
```

Run 1: Report of QUIC Cubic — Data Link



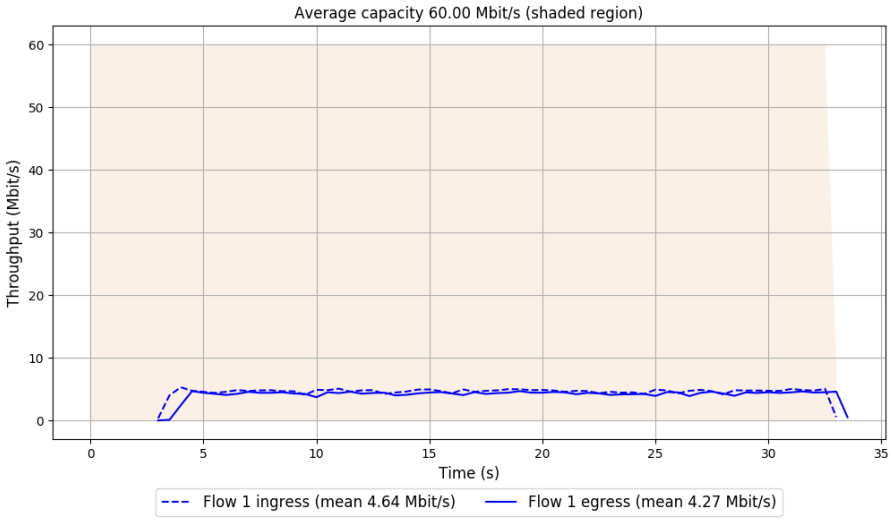


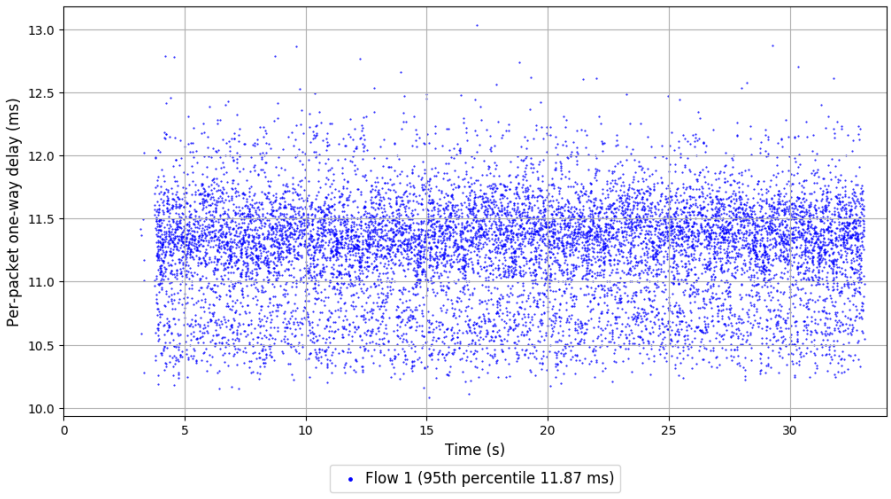
```
Run 2: Statistics of QUIC Cubic

Start at: 2019-11-23 23:42:51
End at: 2019-11-23 23:43:21

# Below is generated by plot.py at 2019-11-24 00:10:54
# Datalink statistics
-- Total of 1 flow:
Average capacity: 60.00 Mbit/s
Average throughput: 4.27 Mbit/s (7.1% utilization)
95th percentile per-packet one-way delay: 11.872 ms
Loss rate: 8.07%
-- Flow 1:
Average throughput: 4.27 Mbit/s
95th percentile per-packet one-way delay: 11.872 ms
Loss rate: 8.07%
```

Run 2: Report of QUIC Cubic — Data Link



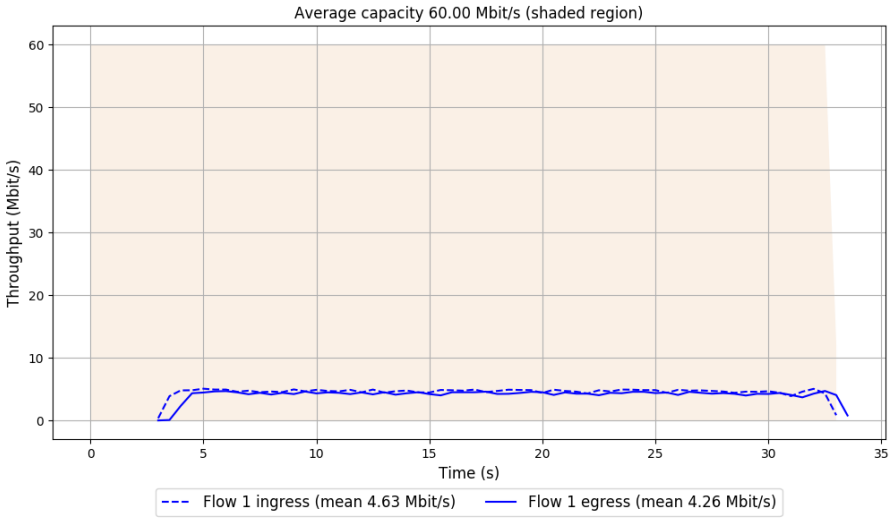


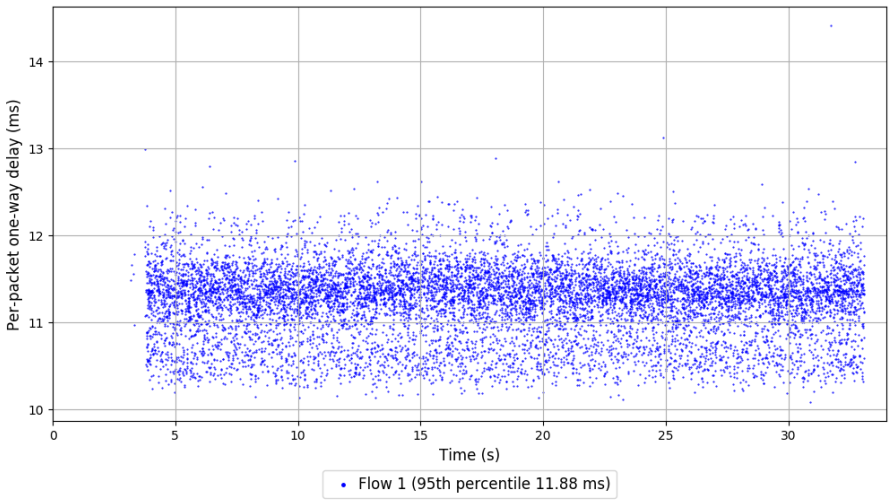
```
Run 3: Statistics of QUIC Cubic

Start at: 2019-11-23 23:57:13
End at: 2019-11-23 23:57:43

# Below is generated by plot.py at 2019-11-24 00:10:54
# Datalink statistics
-- Total of 1 flow:
Average capacity: 60.00 Mbit/s
Average throughput: 4.26 Mbit/s (7.1% utilization)
95th percentile per-packet one-way delay: 11.882 ms
Loss rate: 8.02%
-- Flow 1:
Average throughput: 4.26 Mbit/s
95th percentile per-packet one-way delay: 11.882 ms
Loss rate: 8.02%
```

Run 3: Report of QUIC Cubic — Data Link



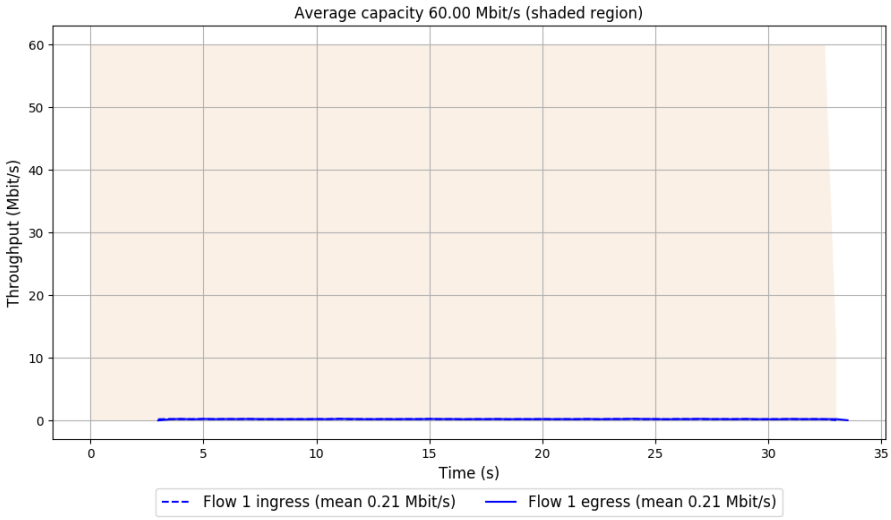


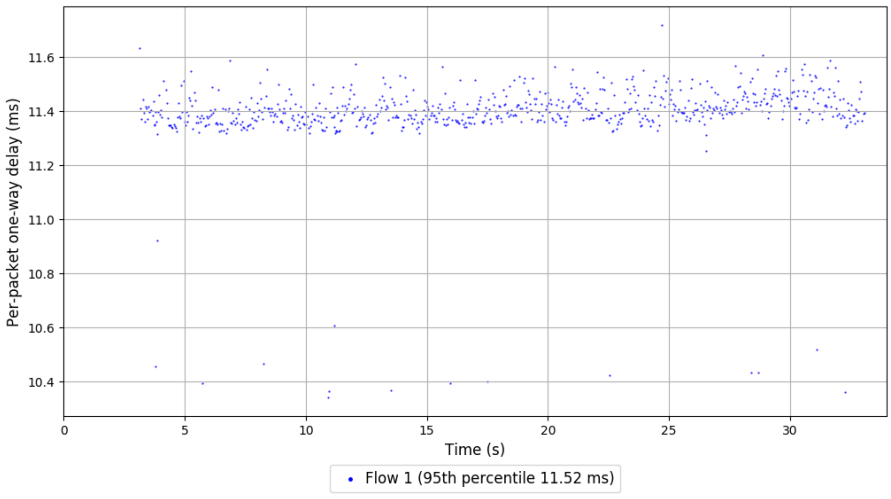
```
Run 1: Statistics of SCReAM

Start at: 2019-11-23 23:32:04
End at: 2019-11-23 23:32:34

# Below is generated by plot.py at 2019-11-24 00:10:54
# Datalink statistics
-- Total of 1 flow:
Average capacity: 60.00 Mbit/s
Average throughput: 0.21 Mbit/s (0.4% utilization)
95th percentile per-packet one-way delay: 11.521 ms
Loss rate: 0.13%
-- Flow 1:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 11.521 ms
Loss rate: 0.13%
```

Run 1: Report of SCReAM — Data Link



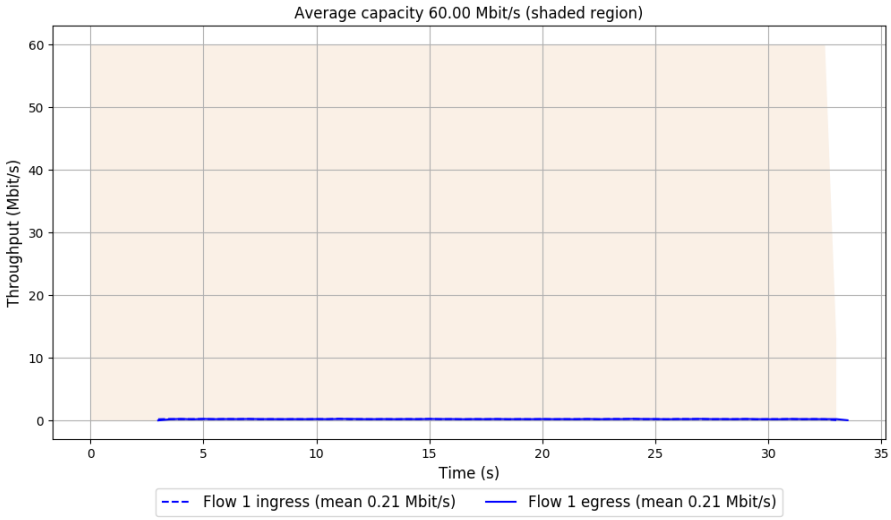


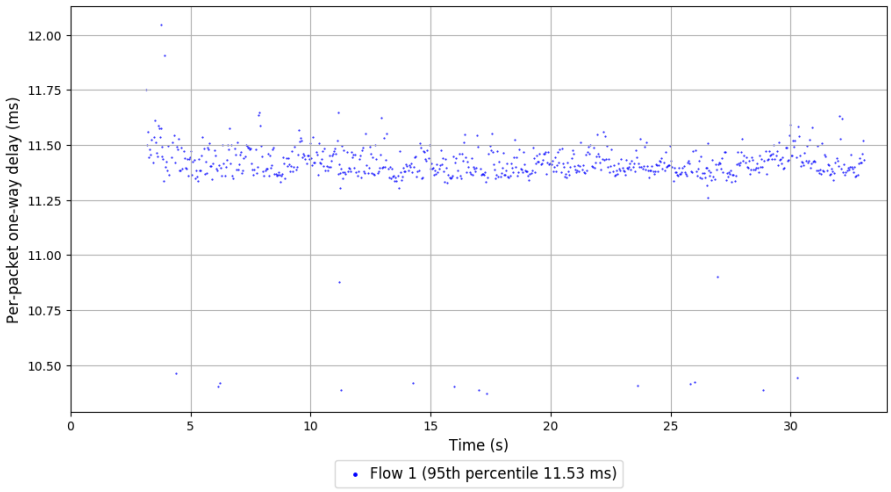
```
Run 2: Statistics of SCReAM

Start at: 2019-11-23 23:46:29
End at: 2019-11-23 23:46:59

# Below is generated by plot.py at 2019-11-24 00:10:54
# Datalink statistics
-- Total of 1 flow:
Average capacity: 60.00 Mbit/s
Average throughput: 0.21 Mbit/s (0.4% utilization)
95th percentile per-packet one-way delay: 11.529 ms
Loss rate: 0.13%
-- Flow 1:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 11.529 ms
Loss rate: 0.13%
```

Run 2: Report of SCReAM — Data Link



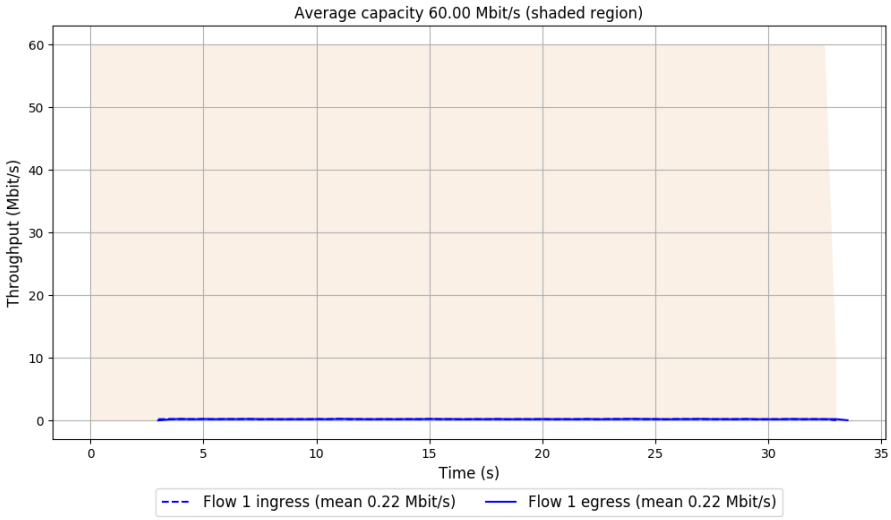


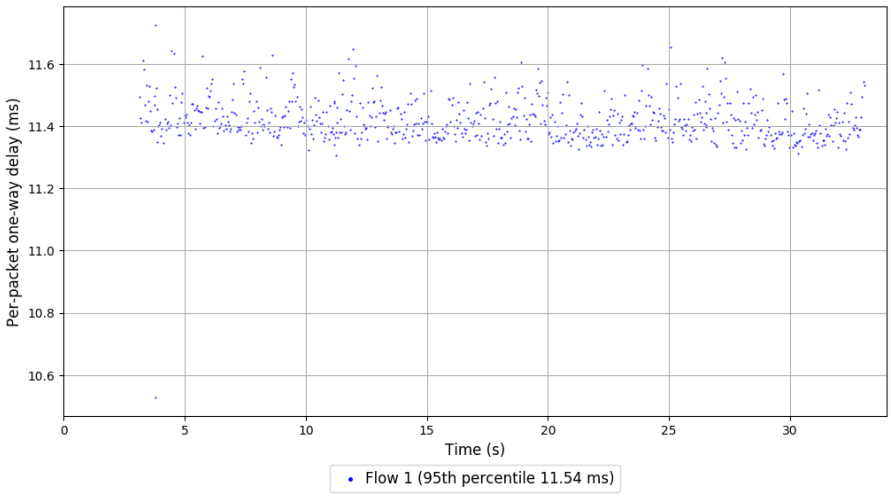
```
Run 3: Statistics of SCReAM

Start at: 2019-11-24 00:00:53
End at: 2019-11-24 00:01:23

# Below is generated by plot.py at 2019-11-24 00:10:54
# Datalink statistics
-- Total of 1 flow:
Average capacity: 60.00 Mbit/s
Average throughput: 0.22 Mbit/s (0.4% utilization)
95th percentile per-packet one-way delay: 11.539 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 11.539 ms
Loss rate: 0.00%
```

Run 3: Report of SCReAM — Data Link



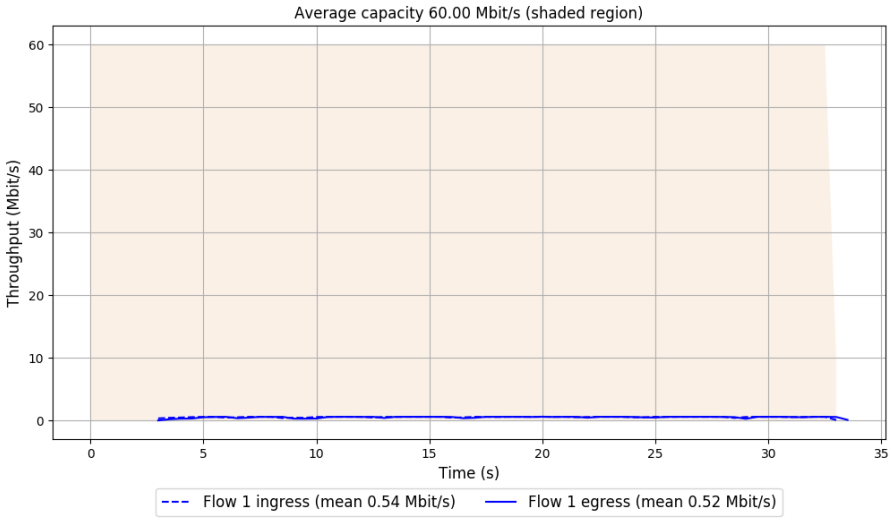


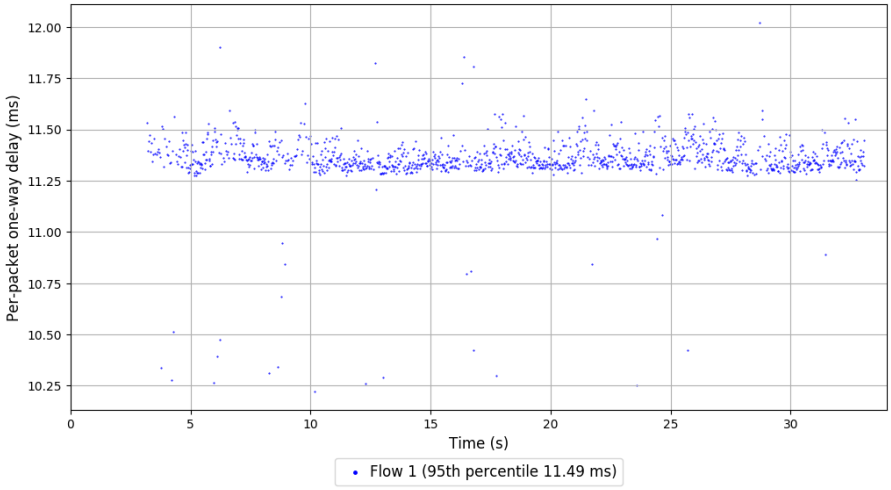
```
Run 1: Statistics of Sprout

Start at: 2019-11-23 23:27:50
End at: 2019-11-23 23:28:20

# Below is generated by plot.py at 2019-11-24 00:10:54
# Datalink statistics
-- Total of 1 flow:
Average capacity: 60.00 Mbit/s
Average throughput: 0.52 Mbit/s (0.9% utilization)
95th percentile per-packet one-way delay: 11.489 ms
Loss rate: 4.95%
-- Flow 1:
Average throughput: 0.52 Mbit/s
95th percentile per-packet one-way delay: 11.489 ms
Loss rate: 4.95%
```

Run 1: Report of Sprout — Data Link



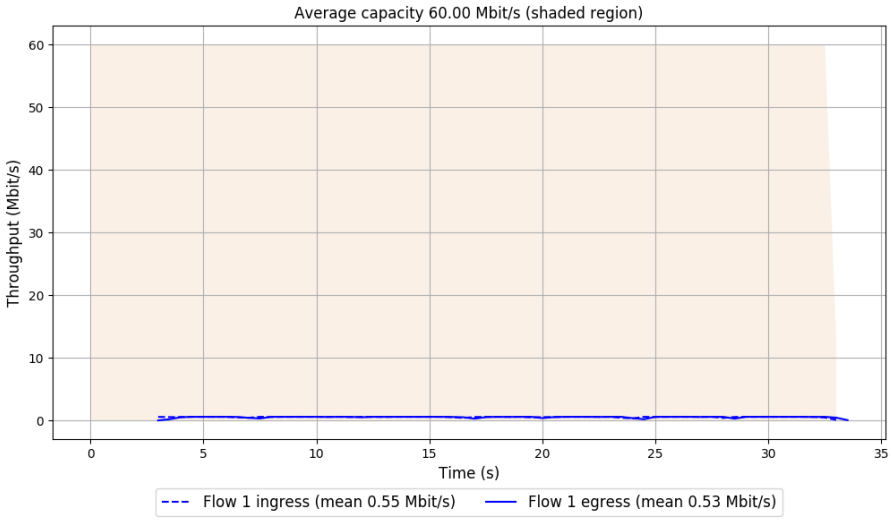


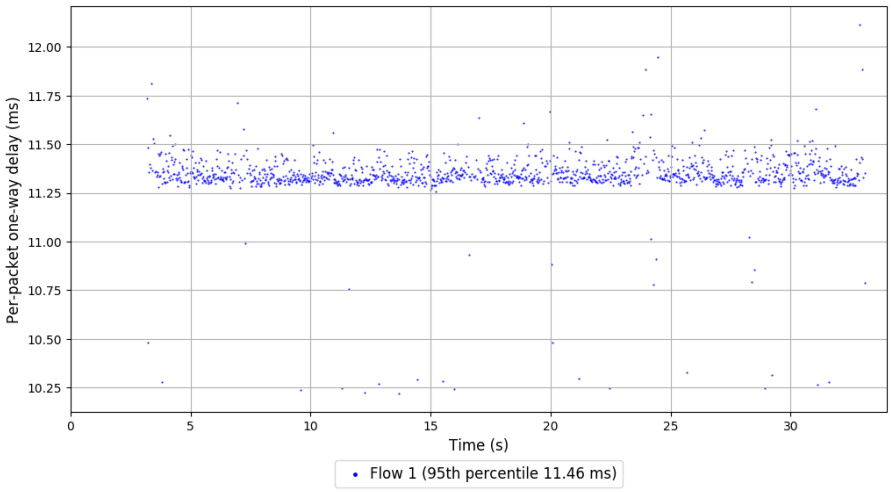
```
Run 2: Statistics of Sprout

Start at: 2019-11-23 23:42:15
End at: 2019-11-23 23:42:45

# Below is generated by plot.py at 2019-11-24 00:10:54
# Datalink statistics
-- Total of 1 flow:
Average capacity: 60.00 Mbit/s
Average throughput: 0.53 Mbit/s (0.9% utilization)
95th percentile per-packet one-way delay: 11.464 ms
Loss rate: 3.92%
-- Flow 1:
Average throughput: 0.53 Mbit/s
95th percentile per-packet one-way delay: 11.464 ms
Loss rate: 3.92%
```

Run 2: Report of Sprout — Data Link



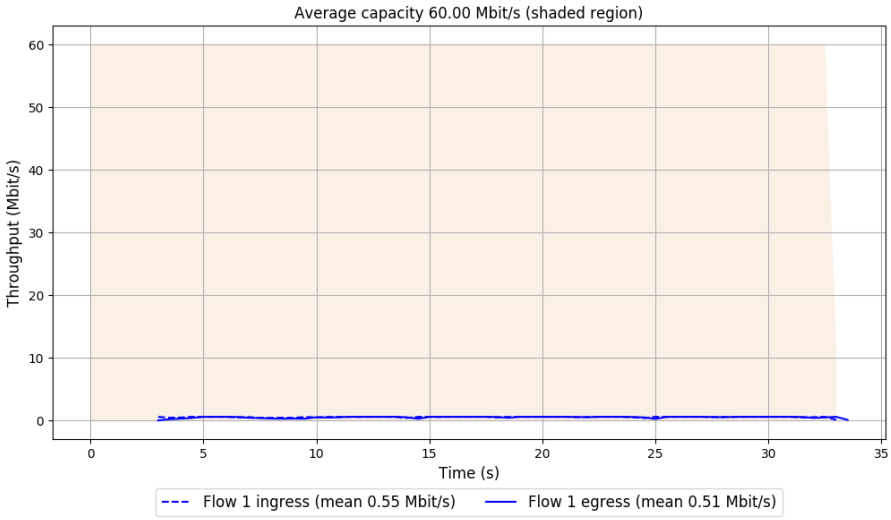


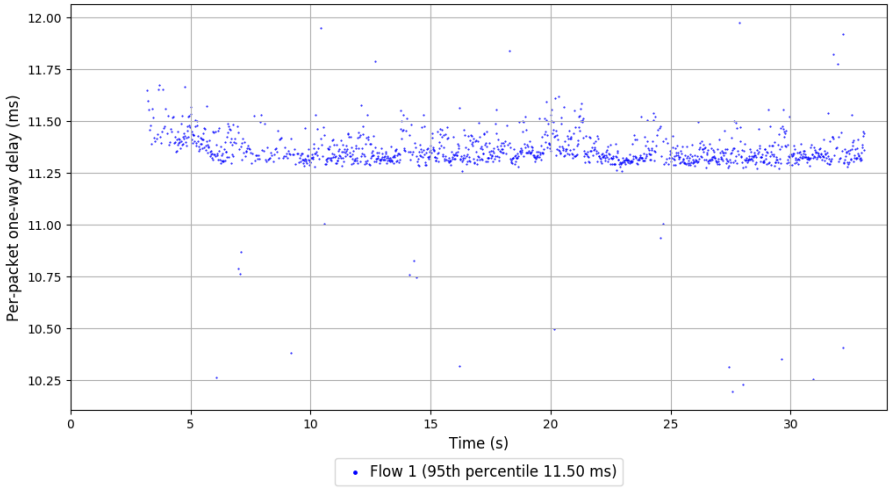
```
Run 3: Statistics of Sprout

Start at: 2019-11-23 23:56:37
End at: 2019-11-23 23:57:07

# Below is generated by plot.py at 2019-11-24 00:10:54
# Datalink statistics
-- Total of 1 flow:
Average capacity: 60.00 Mbit/s
Average throughput: 0.51 Mbit/s (0.9% utilization)
95th percentile per-packet one-way delay: 11.501 ms
Loss rate: 6.31%
-- Flow 1:
Average throughput: 0.51 Mbit/s
95th percentile per-packet one-way delay: 11.501 ms
Loss rate: 6.31%
```

Run 3: Report of Sprout — Data Link



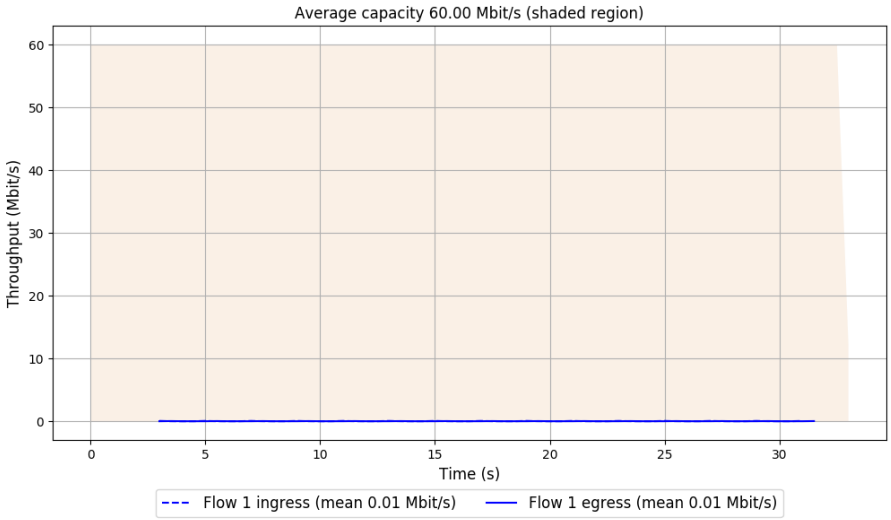


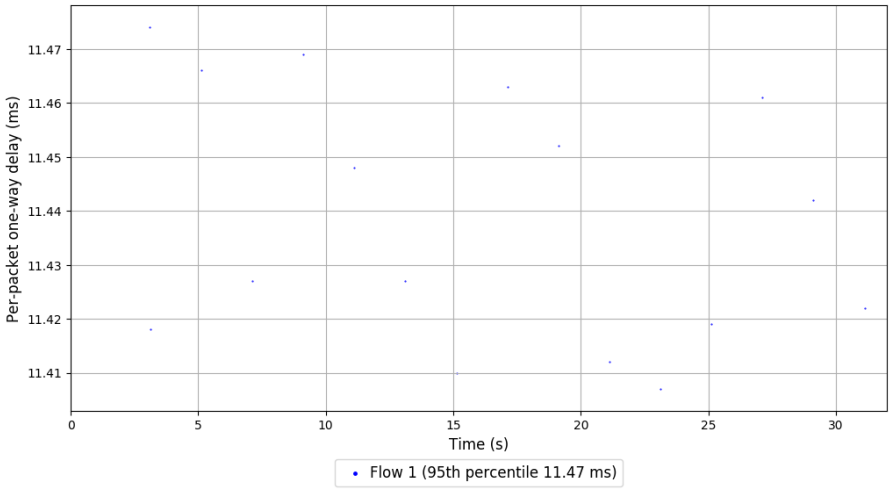
```
Run 1: Statistics of TaoVA-100x

Start at: 2019-11-23 23:36:49
End at: 2019-11-23 23:37:19

# Below is generated by plot.py at 2019-11-24 00:10:54
# Datalink statistics
-- Total of 1 flow:
Average capacity: 60.00 Mbit/s
Average throughput: 0.01 Mbit/s (0.0% utilization)
95th percentile per-packet one-way delay: 11.469 ms
Loss rate: 51.91%
-- Flow 1:
Average throughput: 0.01 Mbit/s
95th percentile per-packet one-way delay: 11.469 ms
Loss rate: 51.91%
```

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



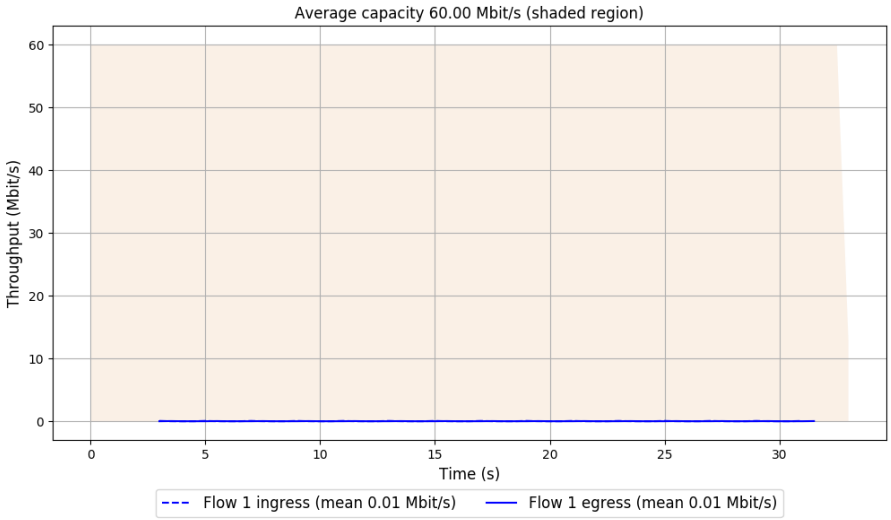


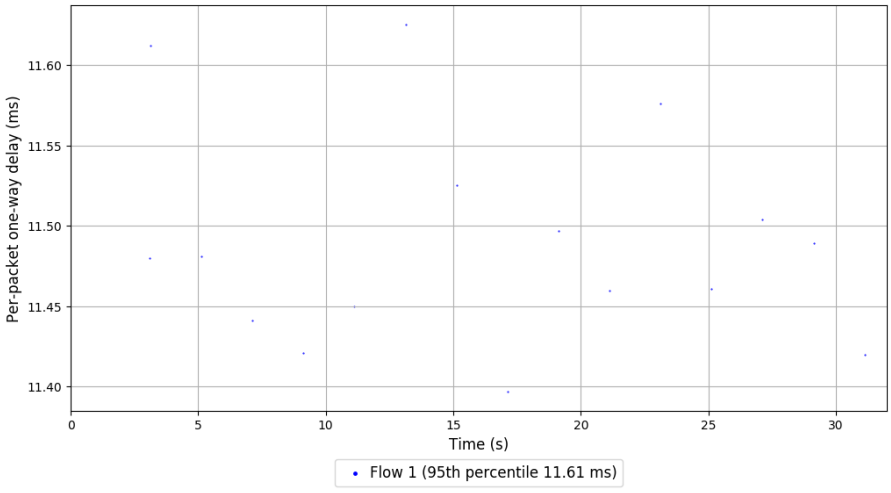
```
Run 2: Statistics of TaoVA-100x

Start at: 2019-11-23 23:51:14
End at: 2019-11-23 23:51:44

# Below is generated by plot.py at 2019-11-24 00:10:54
# Datalink statistics
-- Total of 1 flow:
Average capacity: 60.00 Mbit/s
Average throughput: 0.01 Mbit/s (0.0% utilization)
95th percentile per-packet one-way delay: 11.612 ms
Loss rate: 51.91%
-- Flow 1:
Average throughput: 0.01 Mbit/s
95th percentile per-packet one-way delay: 11.612 ms
Loss rate: 51.91%
```

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



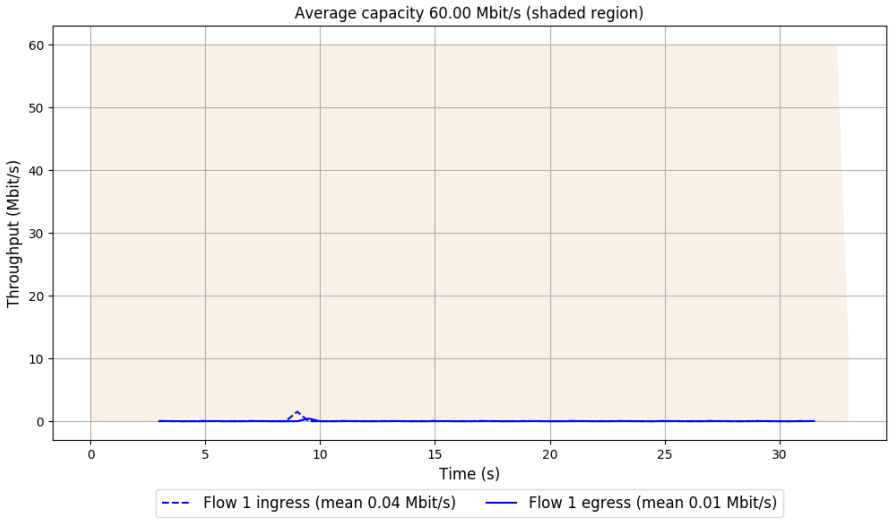


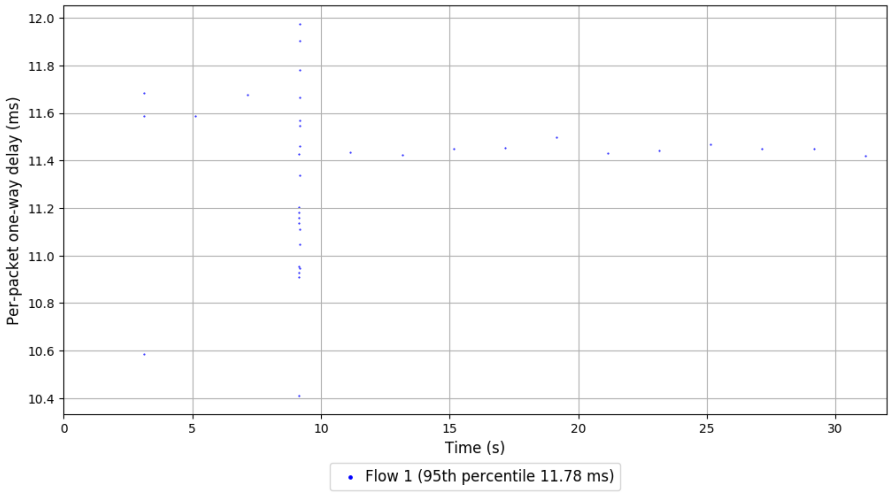
```
Run 3: Statistics of TaoVA-100x

Start at: 2019-11-24 00:05:38
End at: 2019-11-24 00:06:08

# Below is generated by plot.py at 2019-11-24 00:10:54
# Datalink statistics
-- Total of 1 flow:
Average capacity: 60.00 Mbit/s
Average throughput: 0.01 Mbit/s (0.0% utilization)
95th percentile per-packet one-way delay: 11.780 ms
Loss rate: 65.32%
-- Flow 1:
Average throughput: 0.01 Mbit/s
95th percentile per-packet one-way delay: 11.780 ms
Loss rate: 65.32%
```

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



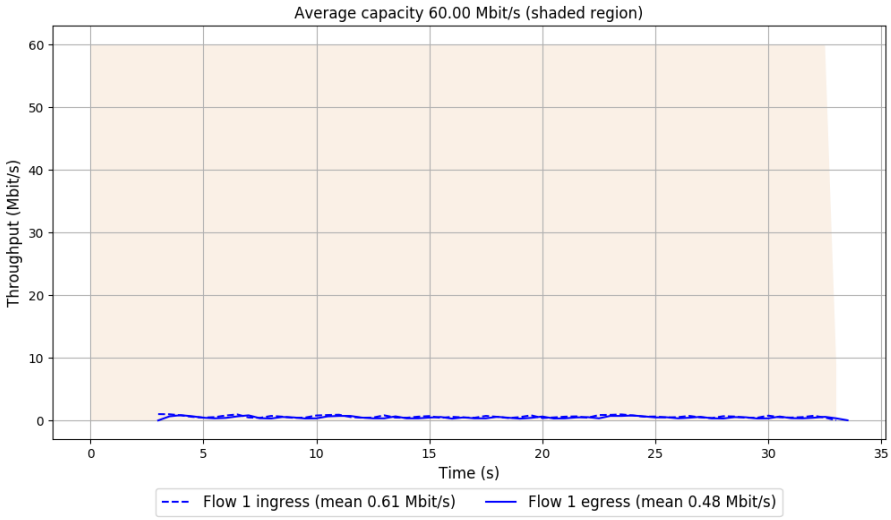


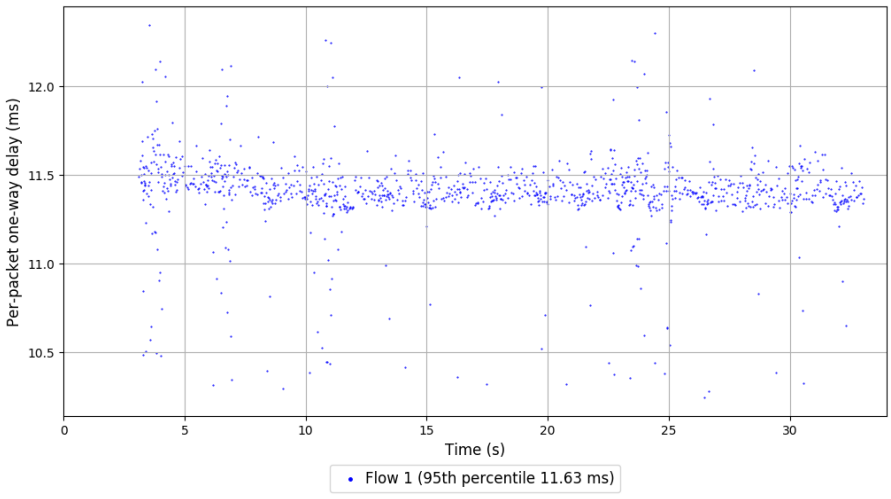
```
Run 1: Statistics of TCP Vegas

Start at: 2019-11-23 23:36:13
End at: 2019-11-23 23:36:43

# Below is generated by plot.py at 2019-11-24 00:10:54
# Datalink statistics
-- Total of 1 flow:
Average capacity: 60.00 Mbit/s
Average throughput: 0.48 Mbit/s (0.8% utilization)
95th percentile per-packet one-way delay: 11.629 ms
Loss rate: 21.69%
-- Flow 1:
Average throughput: 0.48 Mbit/s
95th percentile per-packet one-way delay: 11.629 ms
Loss rate: 21.69%
```

Run 1: Report of TCP Vegas — Data Link



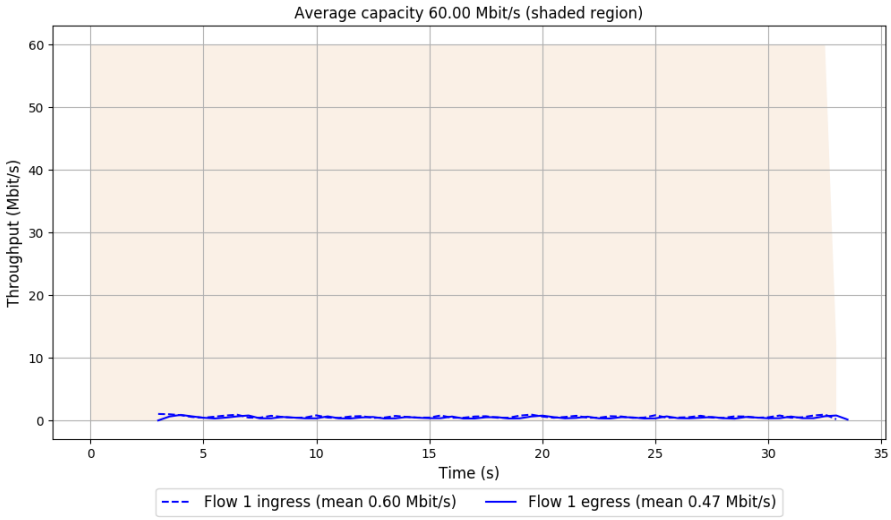


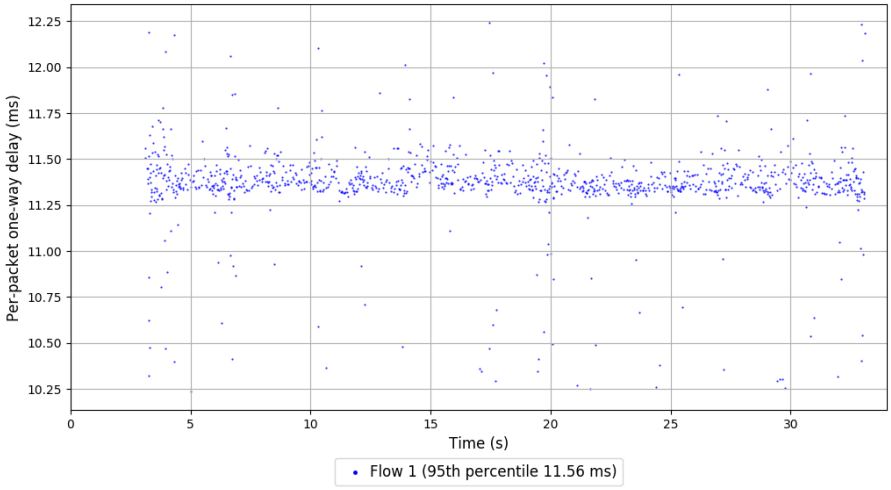
```
Run 2: Statistics of TCP Vegas

Start at: 2019-11-23 23:50:38
End at: 2019-11-23 23:51:08

# Below is generated by plot.py at 2019-11-24 00:10:54
# Datalink statistics
-- Total of 1 flow:
Average capacity: 60.00 Mbit/s
Average throughput: 0.47 Mbit/s (0.8% utilization)
95th percentile per-packet one-way delay: 11.563 ms
Loss rate: 22.07%
-- Flow 1:
Average throughput: 0.47 Mbit/s
95th percentile per-packet one-way delay: 11.563 ms
Loss rate: 22.07%
```

Run 2: Report of TCP Vegas — Data Link



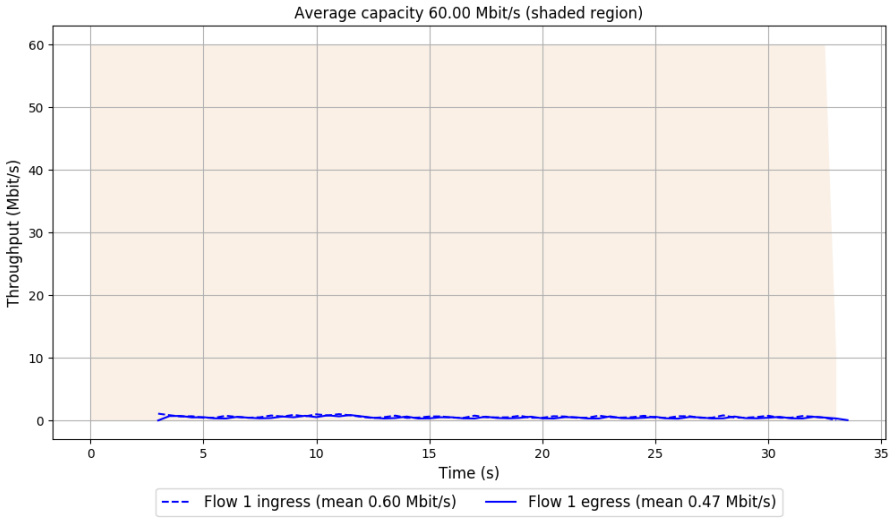


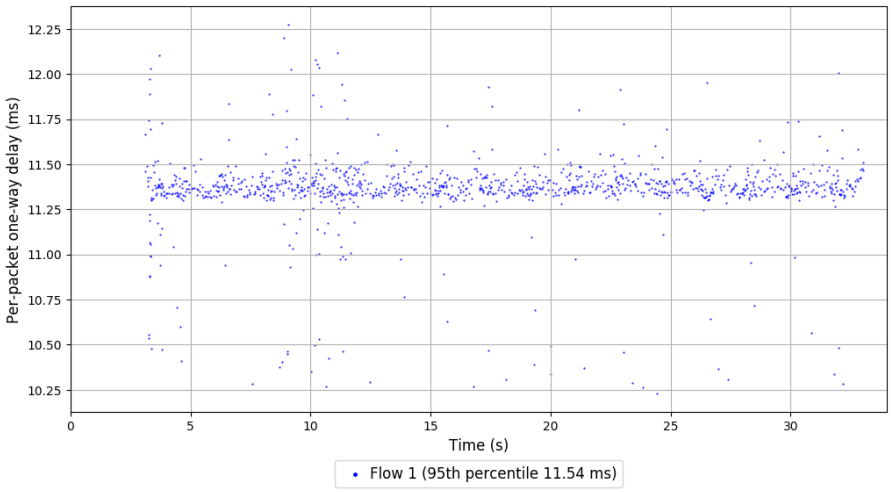
```
Run 3: Statistics of TCP Vegas

Start at: 2019-11-24 00:05:02
End at: 2019-11-24 00:05:32

# Below is generated by plot.py at 2019-11-24 00:10:54
# Datalink statistics
-- Total of 1 flow:
Average capacity: 60.00 Mbit/s
Average throughput: 0.47 Mbit/s (0.8% utilization)
95th percentile per-packet one-way delay: 11.538 ms
Loss rate: 22.12%
-- Flow 1:
Average throughput: 0.47 Mbit/s
95th percentile per-packet one-way delay: 11.538 ms
Loss rate: 22.12%
```

Run 3: Report of TCP Vegas — Data Link



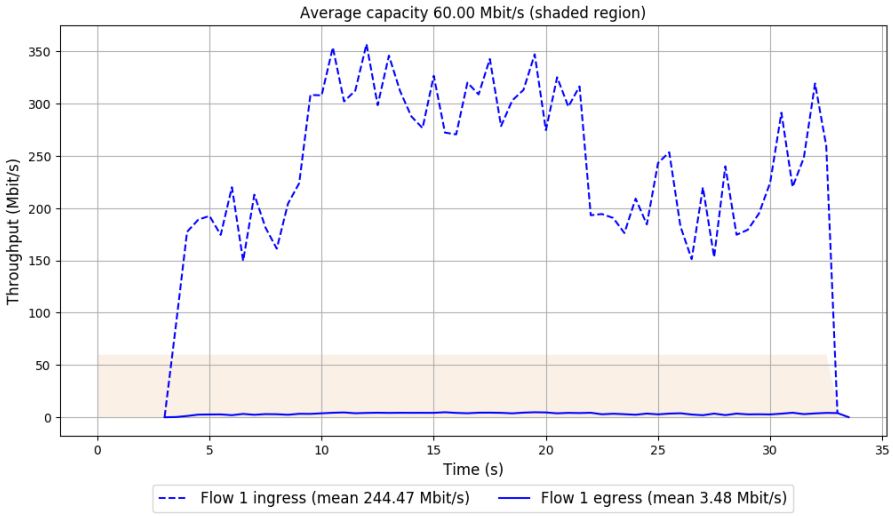


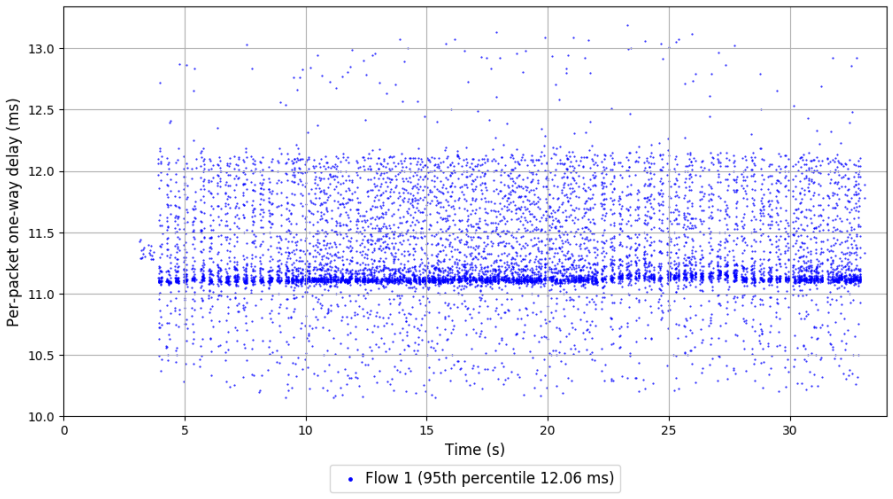
```
Run 1: Statistics of Verus

Start at: 2019-11-23 23:30:48
End at: 2019-11-23 23:31:18

# Below is generated by plot.py at 2019-11-24 00:11:07
# Datalink statistics
-- Total of 1 flow:
Average capacity: 60.00 Mbit/s
Average throughput: 3.48 Mbit/s (5.8% utilization)
95th percentile per-packet one-way delay: 12.061 ms
Loss rate: 98.58%
-- Flow 1:
Average throughput: 3.48 Mbit/s
95th percentile per-packet one-way delay: 12.061 ms
Loss rate: 98.58%
```

Run 1: Report of Verus — Data Link



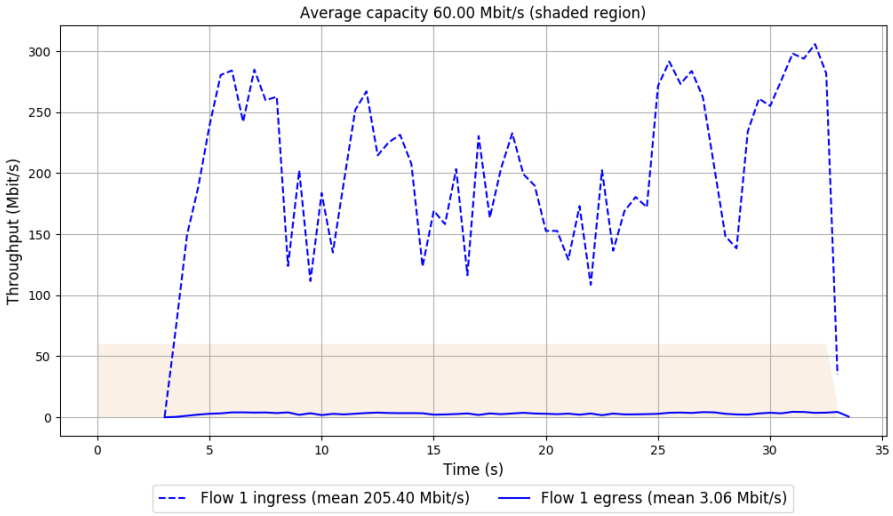


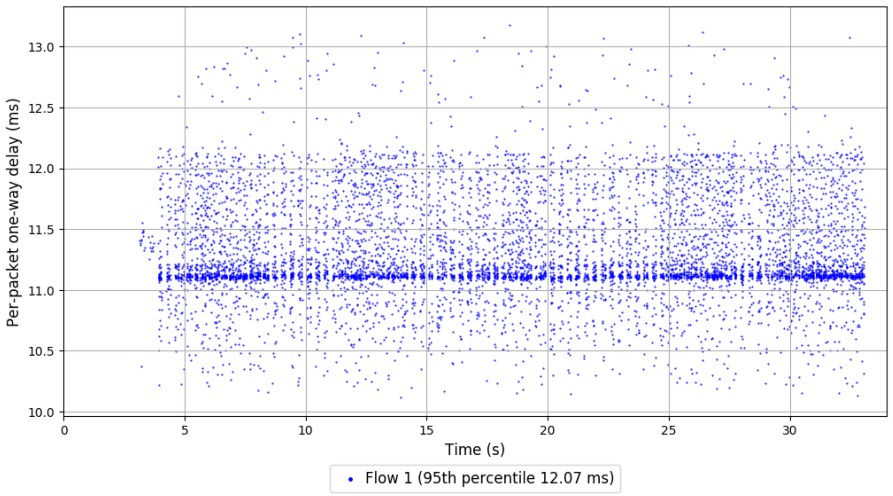
```
Run 2: Statistics of Verus

Start at: 2019-11-23 23:45:14
End at: 2019-11-23 23:45:44

# Below is generated by plot.py at 2019-11-24 00:11:07
# Datalink statistics
-- Total of 1 flow:
Average capacity: 60.00 Mbit/s
Average throughput: 3.06 Mbit/s (5.1% utilization)
95th percentile per-packet one-way delay: 12.075 ms
Loss rate: 98.51%
-- Flow 1:
Average throughput: 3.06 Mbit/s
95th percentile per-packet one-way delay: 12.075 ms
Loss rate: 98.51%
```

Run 2: Report of Verus — Data Link



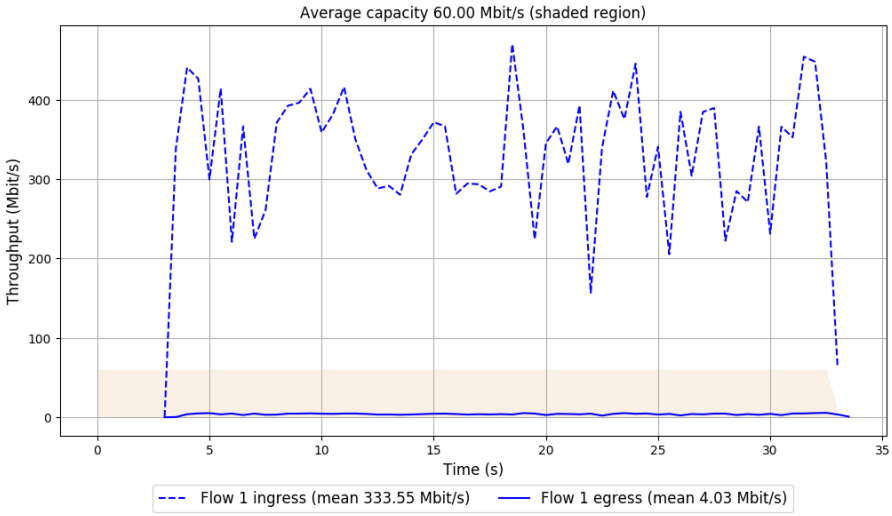


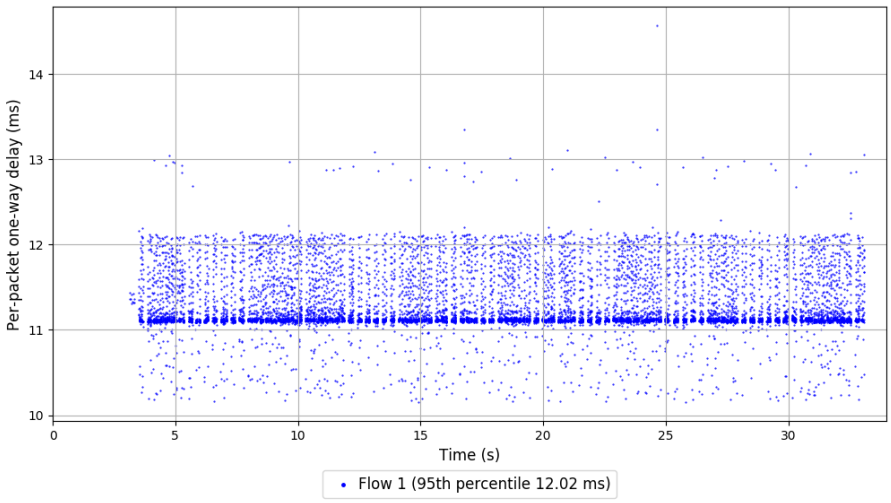
```
Run 3: Statistics of Verus

Start at: 2019-11-23 23:59:36
End at: 2019-11-24 00:00:06

# Below is generated by plot.py at 2019-11-24 00:11:08
# Datalink statistics
-- Total of 1 flow:
Average capacity: 60.00 Mbit/s
Average throughput: 4.03 Mbit/s (6.7% utilization)
95th percentile per-packet one-way delay: 12.015 ms
Loss rate: 98.79%
-- Flow 1:
Average throughput: 4.03 Mbit/s
95th percentile per-packet one-way delay: 12.015 ms
Loss rate: 98.79%
```

Run 3: Report of Verus — Data Link



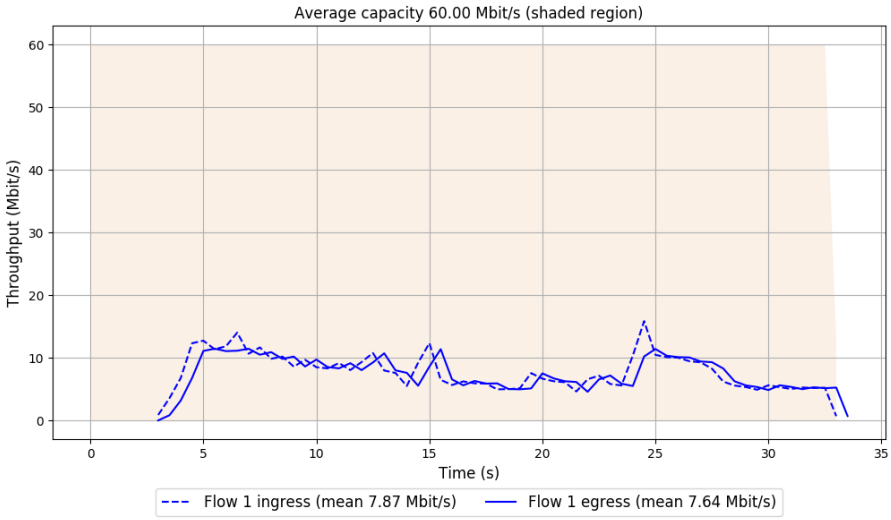


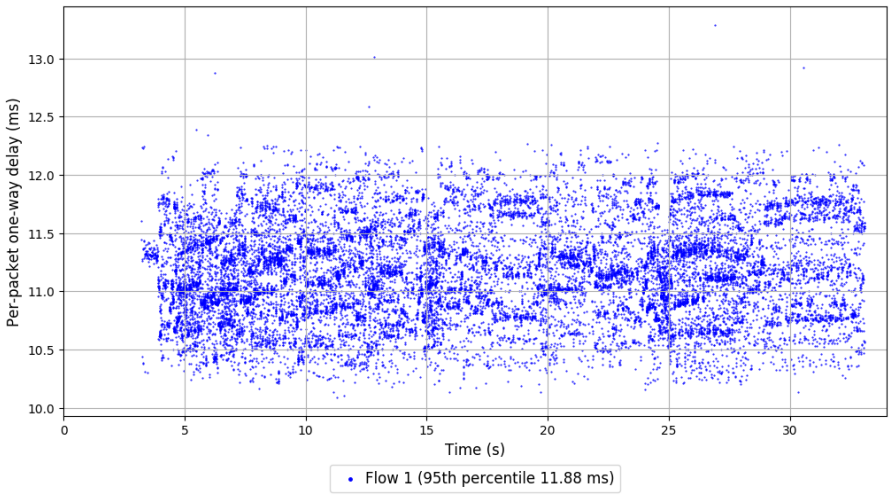
```
Run 1: Statistics of PCC-Vivace

Start at: 2019-11-23 23:31:28
End at: 2019-11-23 23:31:58

# Below is generated by plot.py at 2019-11-24 00:11:08
# Datalink statistics
-- Total of 1 flow:
Average capacity: 60.00 Mbit/s
Average throughput: 7.64 Mbit/s (12.7% utilization)
95th percentile per-packet one-way delay: 11.880 ms
Loss rate: 2.89%
-- Flow 1:
Average throughput: 7.64 Mbit/s
95th percentile per-packet one-way delay: 11.880 ms
Loss rate: 2.89%
```

Run 1: Report of PCC-Vivace — Data Link



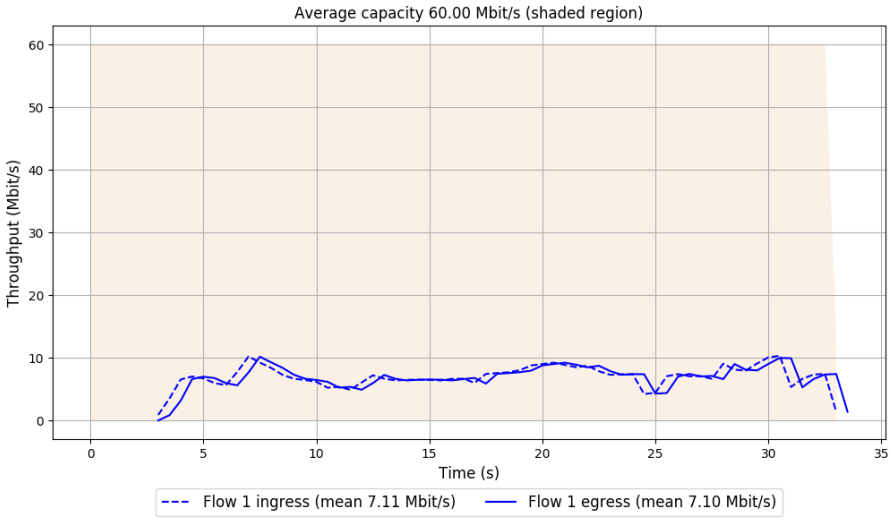


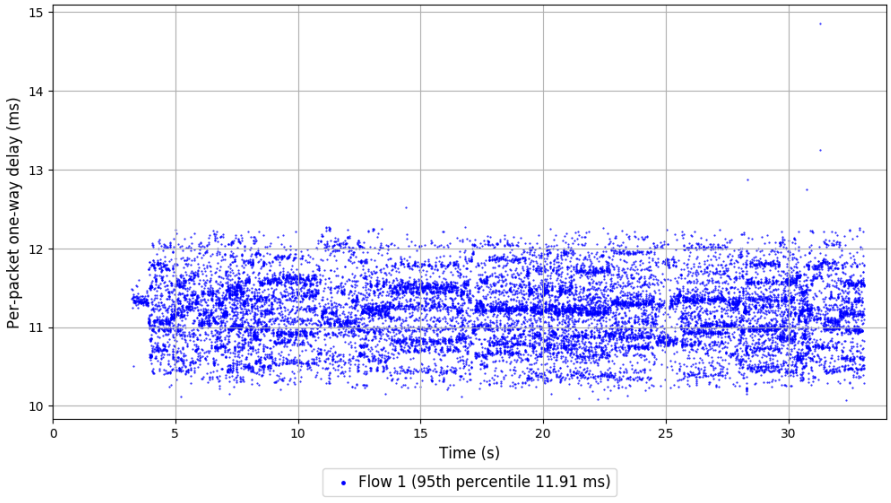
```
Run 2: Statistics of PCC-Vivace

Start at: 2019-11-23 23:45:53
End at: 2019-11-23 23:46:23

# Below is generated by plot.py at 2019-11-24 00:11:08
# Datalink statistics
-- Total of 1 flow:
Average capacity: 60.00 Mbit/s
Average throughput: 7.10 Mbit/s (11.8% utilization)
95th percentile per-packet one-way delay: 11.907 ms
Loss rate: 0.26%
-- Flow 1:
Average throughput: 7.10 Mbit/s
95th percentile per-packet one-way delay: 11.907 ms
Loss rate: 0.26%
```

Run 2: Report of PCC-Vivace — Data Link



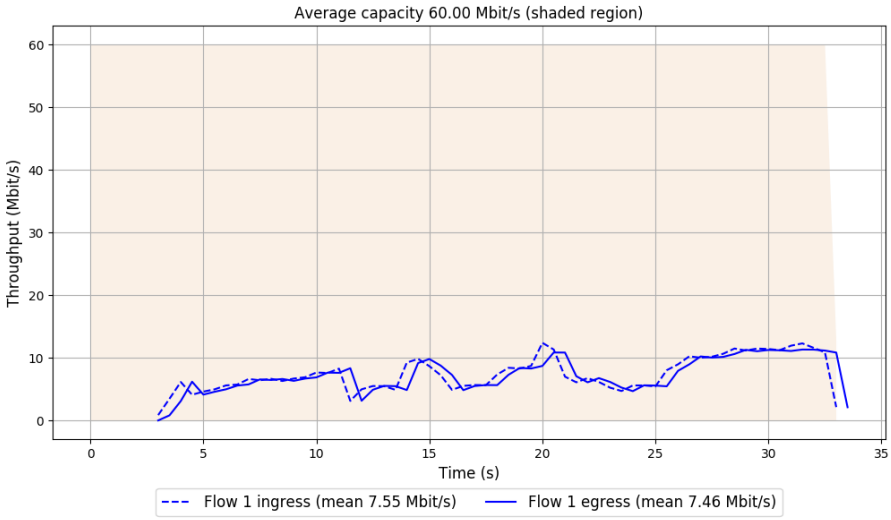


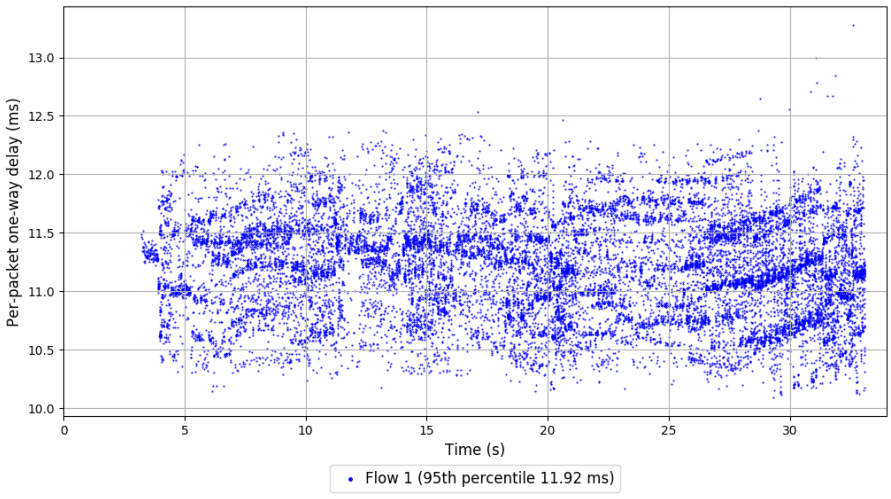
```
Run 3: Statistics of PCC-Vivace

Start at: 2019-11-24 00:00:17
End at: 2019-11-24 00:00:47

# Below is generated by plot.py at 2019-11-24 00:11:08
# Datalink statistics
-- Total of 1 flow:
Average capacity: 60.00 Mbit/s
Average throughput: 7.46 Mbit/s (12.4% utilization)
95th percentile per-packet one-way delay: 11.919 ms
Loss rate: 1.23%
-- Flow 1:
Average throughput: 7.46 Mbit/s
95th percentile per-packet one-way delay: 11.919 ms
Loss rate: 1.23%
```

Run 3: Report of PCC-Vivace — Data Link



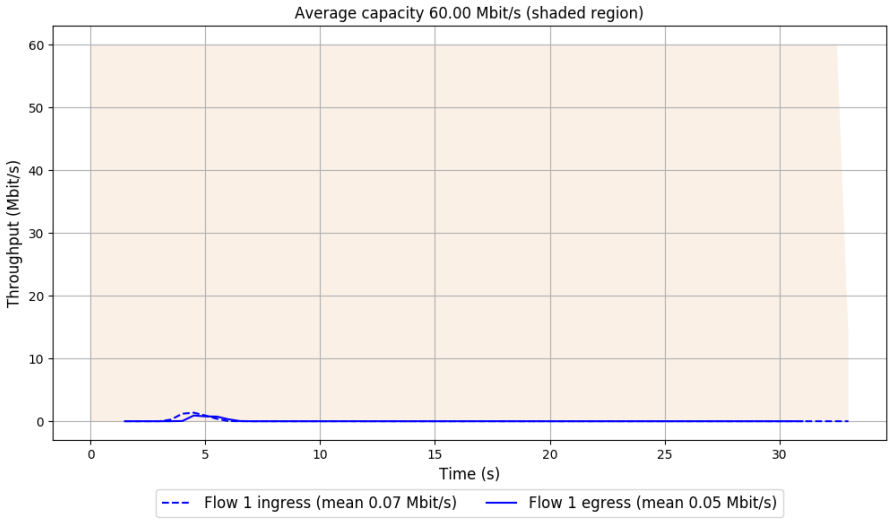


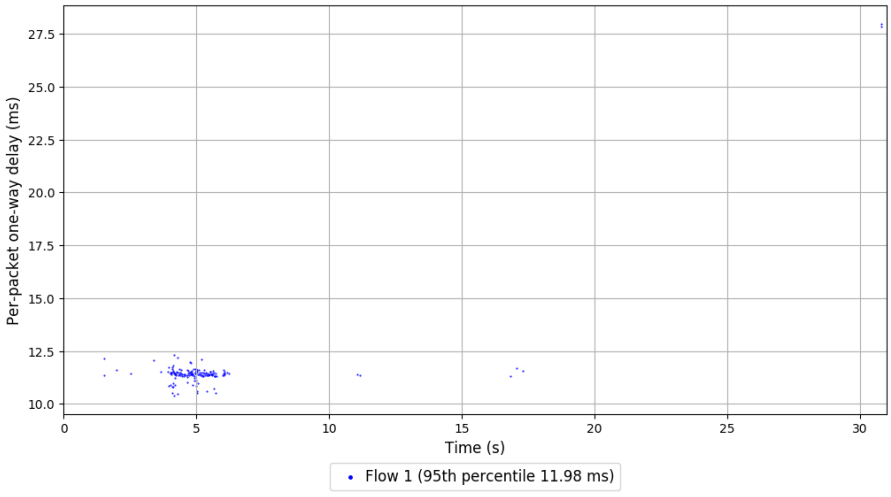
```
Run 1: Statistics of WebRTC media

Start at: 2019-11-23 23:33:51
End at: 2019-11-23 23:34:21

# Below is generated by plot.py at 2019-11-24 00:11:08
# Datalink statistics
-- Total of 1 flow:
Average capacity: 60.00 Mbit/s
Average throughput: 0.05 Mbit/s (0.1% utilization)
95th percentile per-packet one-way delay: 11.979 ms
Loss rate: 32.07%
-- Flow 1:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 11.979 ms
Loss rate: 32.07%
```

Run 1: Report of WebRTC media — Data Link



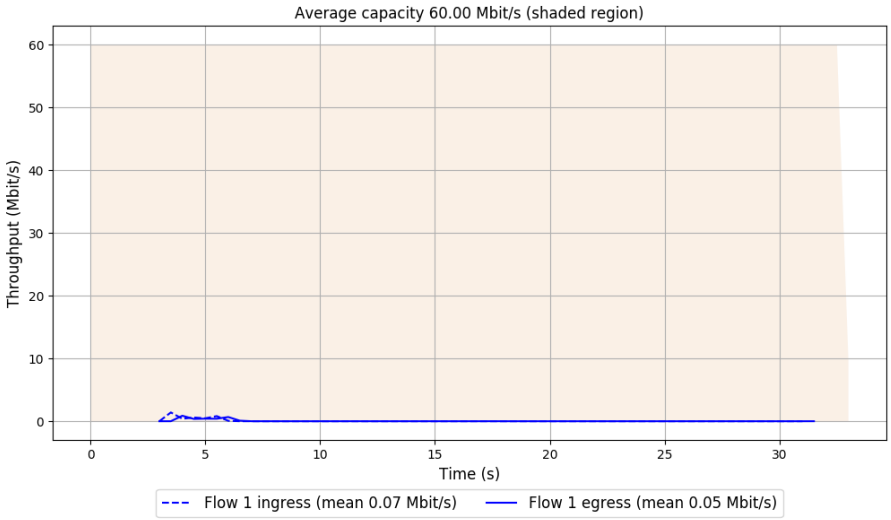


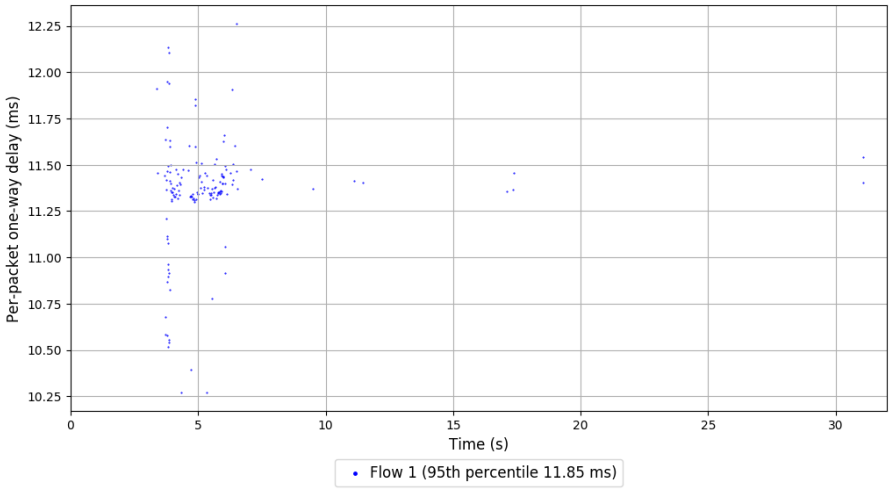
```
Run 2: Statistics of WebRTC media

Start at: 2019-11-23 23:48:15
End at: 2019-11-23 23:48:45

# Below is generated by plot.py at 2019-11-24 00:11:08
# Datalink statistics
-- Total of 1 flow:
Average capacity: 60.00 Mbit/s
Average throughput: 0.05 Mbit/s (0.1% utilization)
95th percentile per-packet one-way delay: 11.852 ms
Loss rate: 24.64%
-- Flow 1:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 11.852 ms
Loss rate: 24.64%
```

Run 2: Report of WebRTC media — Data Link





```
Run 3: Statistics of WebRTC media

Start at: 2019-11-24 00:02:40
End at: 2019-11-24 00:03:10

# Below is generated by plot.py at 2019-11-24 00:11:08
# Datalink statistics
-- Total of 1 flow:
Average capacity: 60.00 Mbit/s
Average throughput: 0.05 Mbit/s (0.1% utilization)
95th percentile per-packet one-way delay: 11.732 ms
Loss rate: 28.60%
-- Flow 1:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 11.732 ms
Loss rate: 28.60%
```

Run 3: Report of WebRTC media — Data Link