Pantheon Report

Generated at 2018-09-07 11:16:12 (UTC).

Tested in mahimahi: `mm-delay 10 mm-link 108mbps.trace 108mbps.trace --uplink-queue=droptail --uplink-queue-args=packets=1 --downlink-queue=droptail --downlink-queue-args=packets=1`

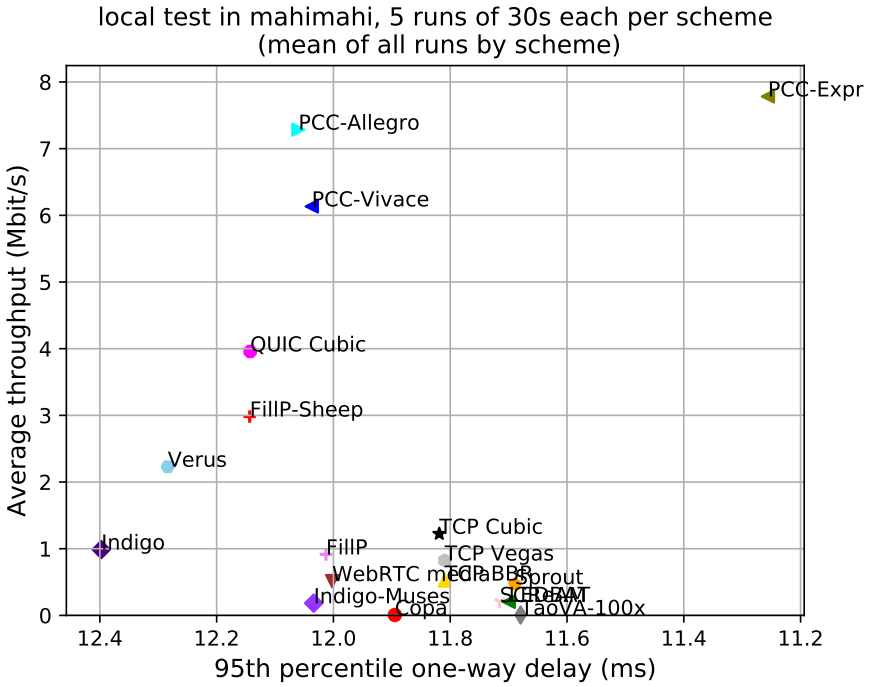
Repeated the test of 18 congestion control schemes 5 times.

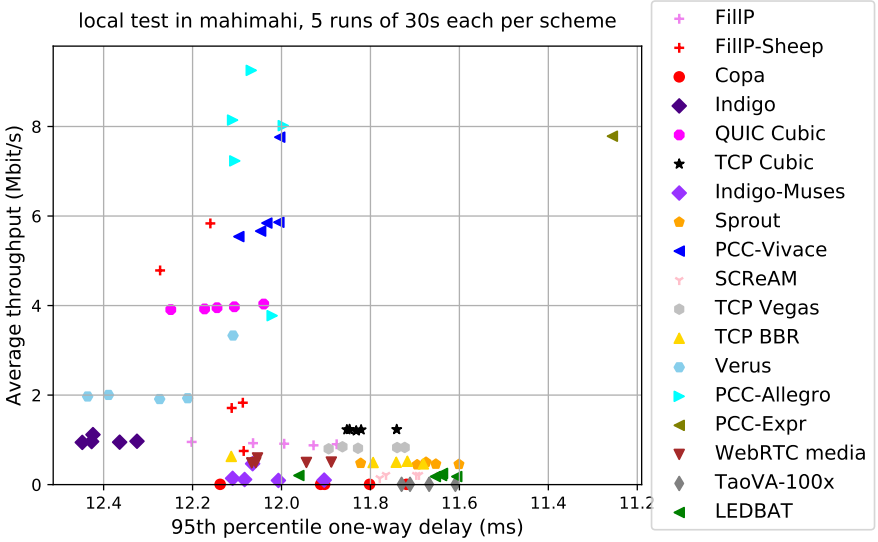
Each test lasted for 30 seconds running 1 flow.

```
System info:
Linux 4.15.0-1018-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
net.ipv4.tcp_mem = 190986 254651 381972
```

```
Git summary:
branch: muses @ e0a9b05ad97d268013b7cc9a9c95637b593a1b4c
third_party/fillp @ d47f4fa1b454a5e3c0537115c5a28436dbd4b834
third_party/fillp-sheep @ daed0c84f98531712514b2231f43ec6901114ffe
third_party/genericCC @ d0153f8e594aa89e93b032143cedbdfe58e562f4
third_party/indigo @ 2601c92e4aa9d58d38dc4dfe0ecdbf90c077e64d
third_party/libutp @ b3465b942e2826f2b179eaab4a906ce6bb7cf3cf
third_party/muses @ 7631aea3923a3598767c87765ae5103aca0678d3
third_party/pantheon-tunnel @ cbfce6db5ff5740dafe1771f813cd646339e1952
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, 5 runs of 30s each per scheme
(mean of all runs by scheme)
Average throughput (Mbit/s)
95th percentile one-way delay (ms)
PCC-Expr
PCC-Allegro
PCC-Vivace
QUIC Cubic
FillP-Sheep
Verus
Indigo
FillP
TCP Cubic
TCP Vegas
Sprout
Indigo-Muses
Copa
TaoVA-100x


local test in mahimahi, 5 runs of 30s each per scheme
Average throughput (Mbit/s)
95th percentile one-way delay (ms)
FillP
FillP-Sheep
Copa
Indigo
QUIC Cubic
TCP Cubic
Indigo-Muses
Sprout
PCC-Vivace
SCReAM
TCP Vegas
TCP BBR
Verus
PCC-Allegro
PCC-Expr
WebRTC media
TaoVA-100x
LEDBAT

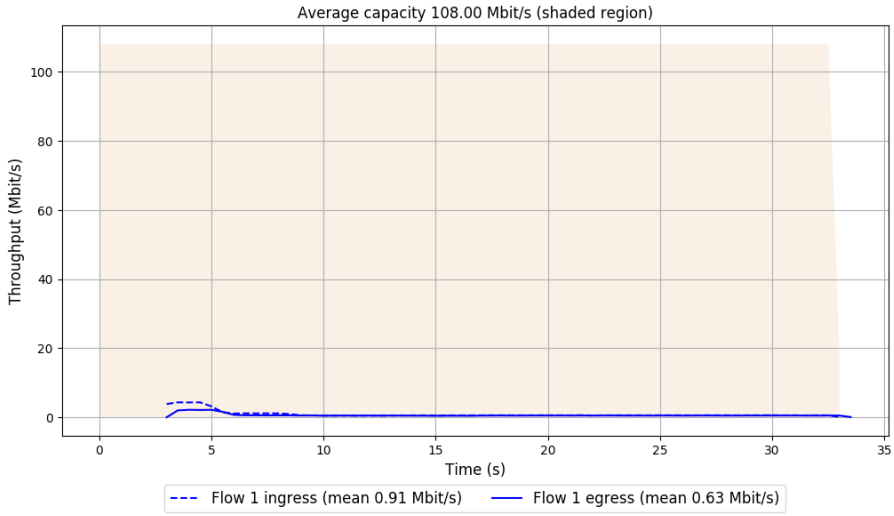
scheme	# runs	mean avg tput (Mbit/s) flow 1	mean 95th-%ile delay (ms) flow 1	mean loss rate (%) flow 1
TCP BBR	5	0.52	11.81	26.54
Copa	5	0.01	11.89	90.36
TCP Cubic	5	1.22	11.82	8.75
FillP	5	0.91	12.01	44.31
FillP-Sheep	5	2.98	12.14	57.50
Indigo	5	0.99	12.40	96.07
LEDBAT	5	0.20	11.70	49.12
Indigo-Muses	5	0.18	12.03	54.73
PCC-Allegro	5	7.28	12.06	3.44
PCC-Expr	1	7.78	11.26	98.69
QUIC Cubic	5	3.96	12.14	8.39
SCReAM	5	0.20	11.72	0.04
Sprout	5	0.47	11.69	10.15
TaoVA-100x	4	0.01	11.68	51.84
TCP Vegas	5	0.82	11.81	16.57
Verus	5	2.23	12.28	98.18
PCC-Vivace	5	6.13	12.04	0.40
WebRTC media	5	0.51	12.00	33.00

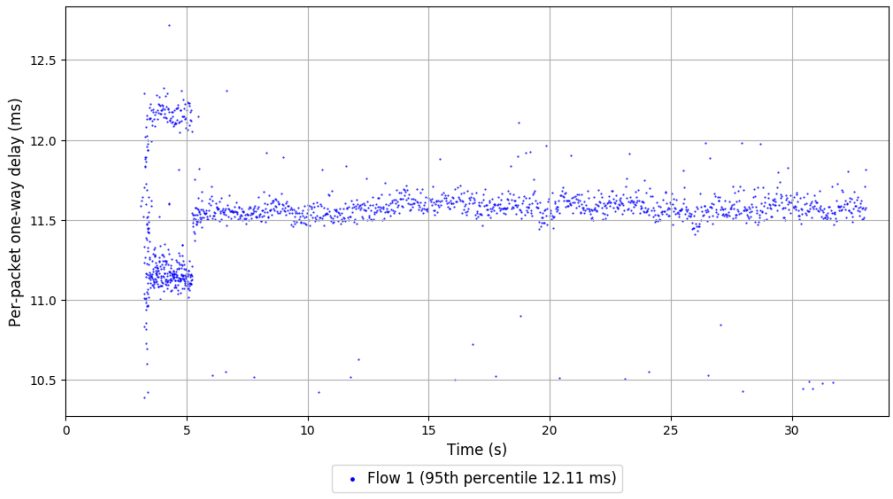
```
Run 1: Statistics of TCP BBR

Start at: 2018-09-07 10:21:59
End at: 2018-09-07 10:22:29

# Below is generated by plot.py at 2018-09-07 11:09:35
# Datalink statistics
-- Total of 1 flow:
Average capacity: 108.00 Mbit/s
Average throughput: 0.63 Mbit/s (0.6% utilization)
95th percentile per-packet one-way delay: 12.113 ms
Loss rate: 30.61%
-- Flow 1:
Average throughput: 0.63 Mbit/s
95th percentile per-packet one-way delay: 12.113 ms
Loss rate: 30.61%
```

Run 1: Report of TCP BBR — Data Link



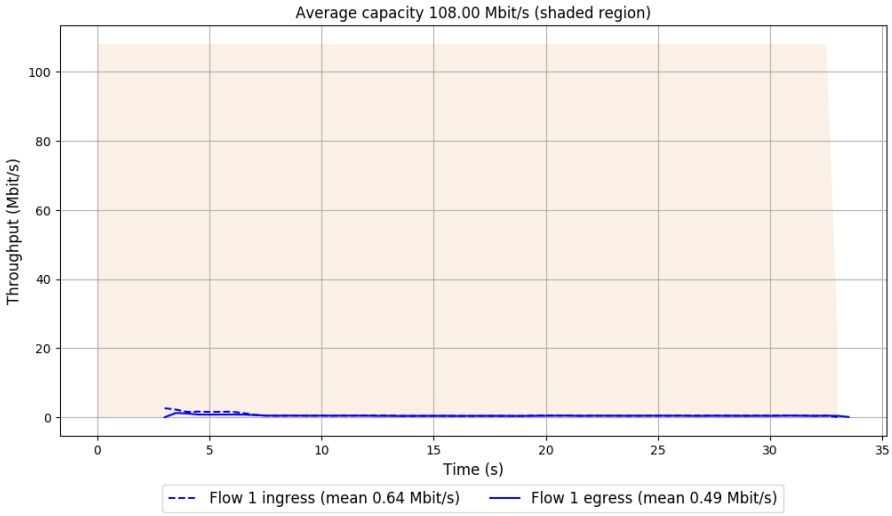


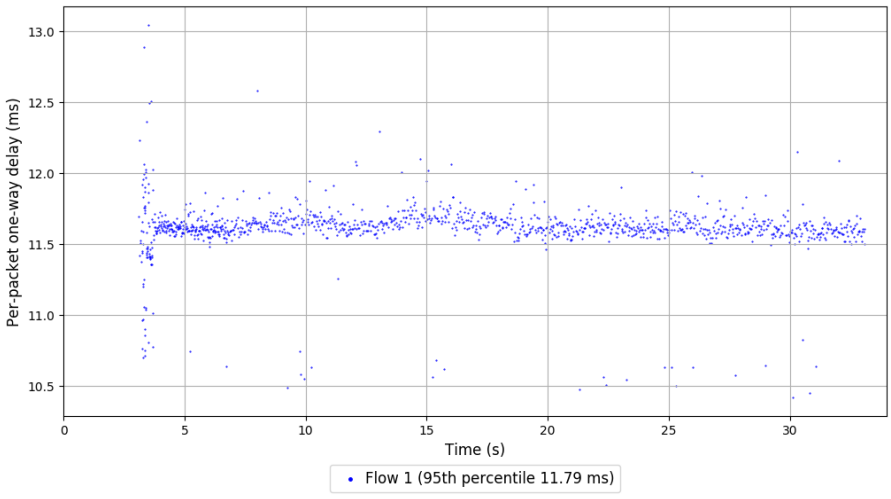
```
Run 2: Statistics of TCP BBR

Start at: 2018-09-07 10:33:07
End at: 2018-09-07 10:33:37

# Below is generated by plot.py at 2018-09-07 11:09:36
# Datalink statistics
-- Total of 1 flow:
Average capacity: 108.00 Mbit/s
Average throughput: 0.49 Mbit/s (0.5% utilization)
95th percentile per-packet one-way delay: 11.794 ms
Loss rate: 22.76%
-- Flow 1:
Average throughput: 0.49 Mbit/s
95th percentile per-packet one-way delay: 11.794 ms
Loss rate: 22.76%
```

Run 2: Report of TCP BBR — Data Link



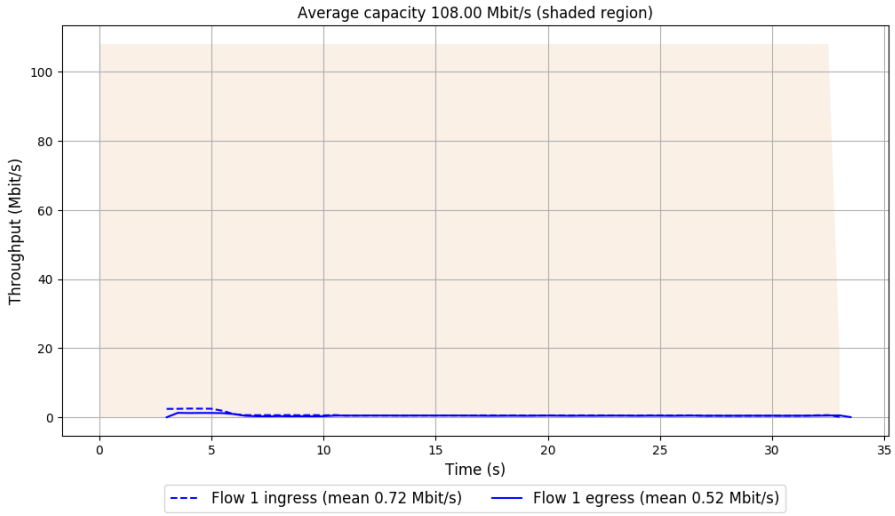


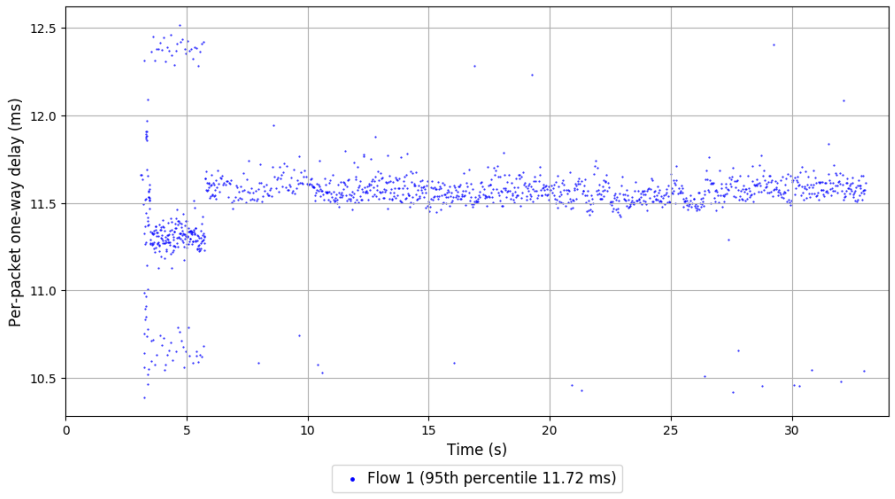
```
Run 3: Statistics of TCP BBR

Start at: 2018-09-07 10:44:11
End at: 2018-09-07 10:44:41

# Below is generated by plot.py at 2018-09-07 11:09:36
# Datalink statistics
-- Total of 1 flow:
Average capacity: 108.00 Mbit/s
Average throughput: 0.52 Mbit/s (0.5% utilization)
95th percentile per-packet one-way delay: 11.717 ms
Loss rate: 27.79%
-- Flow 1:
Average throughput: 0.52 Mbit/s
95th percentile per-packet one-way delay: 11.717 ms
Loss rate: 27.79%
```

Run 3: Report of TCP BBR — Data Link



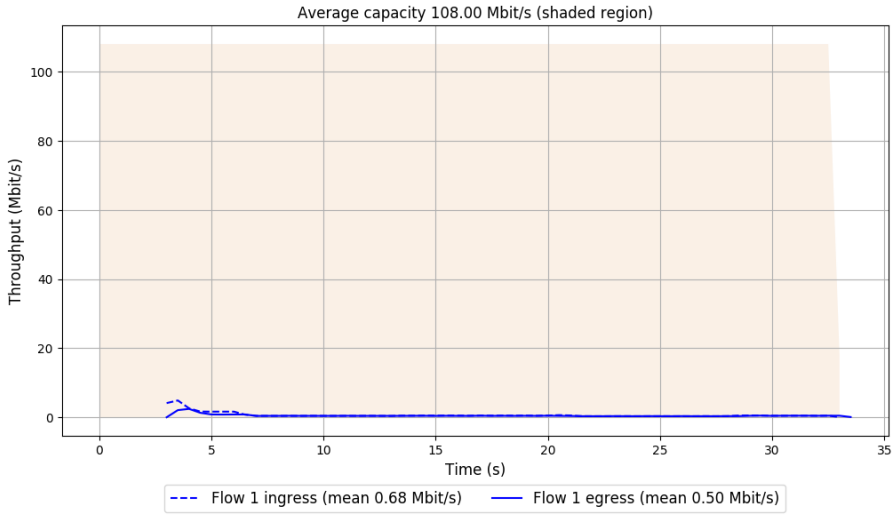


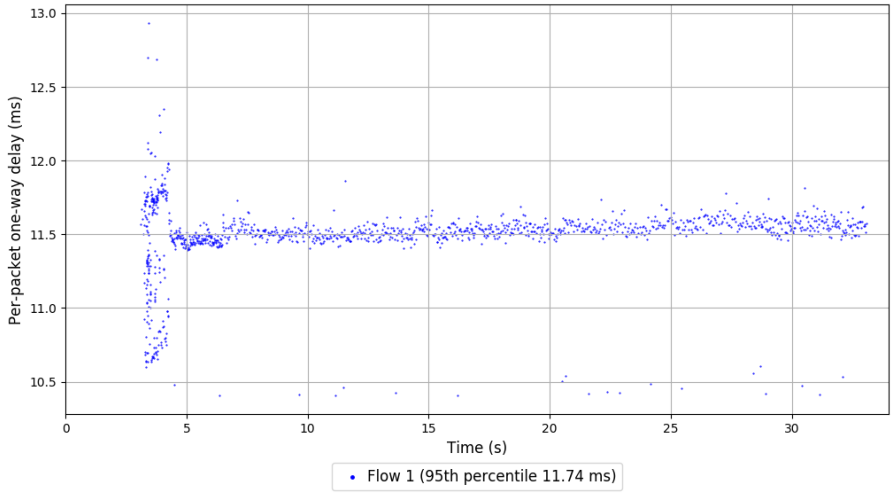
```
Run 4: Statistics of TCP BBR

Start at: 2018-09-07 10:55:21
End at: 2018-09-07 10:55:51

# Below is generated by plot.py at 2018-09-07 11:09:36
# Datalink statistics
-- Total of 1 flow:
Average capacity: 108.00 Mbit/s
Average throughput: 0.50 Mbit/s (0.5% utilization)
95th percentile per-packet one-way delay: 11.742 ms
Loss rate: 26.83%
-- Flow 1:
Average throughput: 0.50 Mbit/s
95th percentile per-packet one-way delay: 11.742 ms
Loss rate: 26.83%
```

Run 4: Report of TCP BBR — Data Link



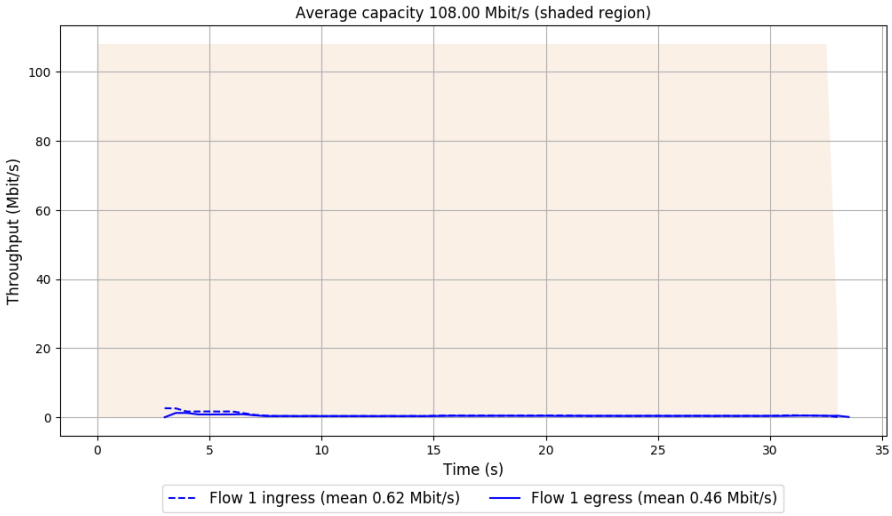


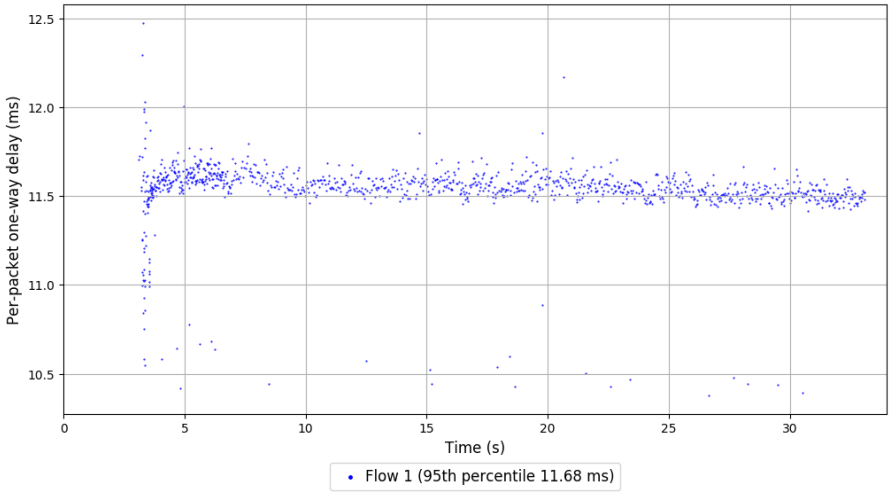
```
Run 5: Statistics of TCP BBR

Start at: 2018-09-07 11:06:27
End at: 2018-09-07 11:06:57

# Below is generated by plot.py at 2018-09-07 11:09:36
# Datalink statistics
-- Total of 1 flow:
Average capacity: 108.00 Mbit/s
Average throughput: 0.46 Mbit/s (0.4% utilization)
95th percentile per-packet one-way delay: 11.681 ms
Loss rate: 24.69%
-- Flow 1:
Average throughput: 0.46 Mbit/s
95th percentile per-packet one-way delay: 11.681 ms
Loss rate: 24.69%
```

Run 5: Report of TCP BBR — Data Link



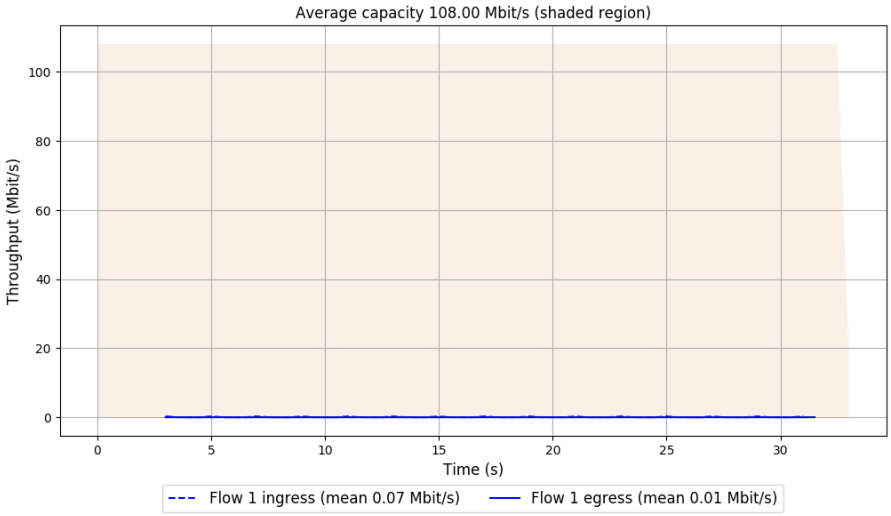


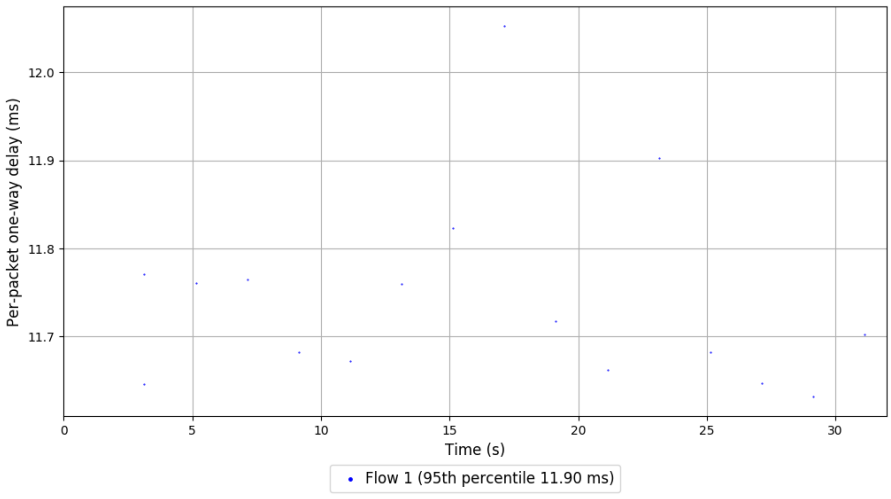
```
Run 1: Statistics of Copa

Start at: 2018-09-07 10:20:46
End at: 2018-09-07 10:21:16

# Below is generated by plot.py at 2018-09-07 11:09:36
# Datalink statistics
-- Total of 1 flow:
Average capacity: 108.00 Mbit/s
Average throughput: 0.01 Mbit/s (0.0% utilization)
95th percentile per-packet one-way delay: 11.903 ms
Loss rate: 90.36%
-- Flow 1:
Average throughput: 0.01 Mbit/s
95th percentile per-packet one-way delay: 11.903 ms
Loss rate: 90.36%
```

Run 1: Report of Copa — Data Link



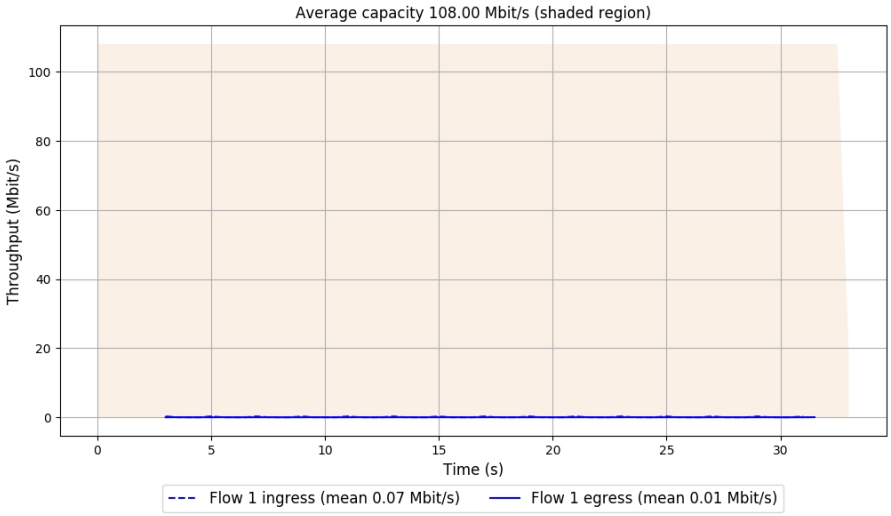


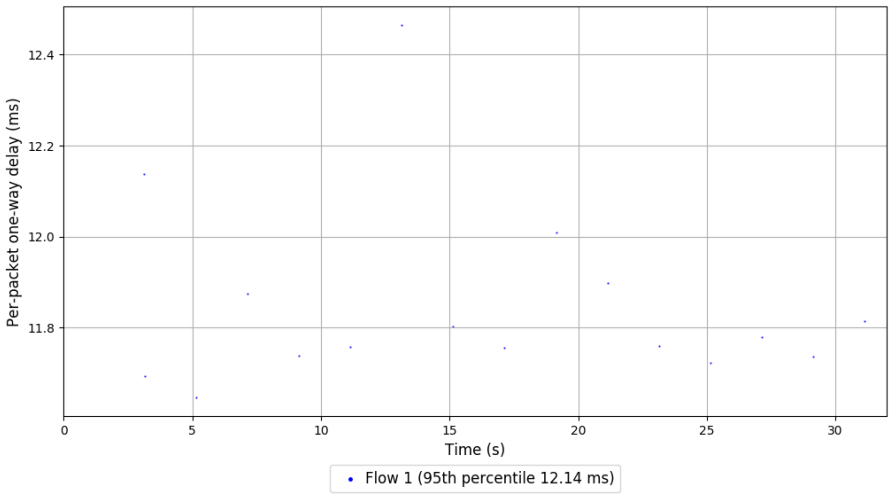
```
Run 2: Statistics of Copa

Start at: 2018-09-07 10:31:54
End at: 2018-09-07 10:32:24

# Below is generated by plot.py at 2018-09-07 11:09:36
# Datalink statistics
-- Total of 1 flow:
Average capacity: 108.00 Mbit/s
Average throughput: 0.01 Mbit/s (0.0% utilization)
95th percentile per-packet one-way delay: 12.138 ms
Loss rate: 90.36%
-- Flow 1:
Average throughput: 0.01 Mbit/s
95th percentile per-packet one-way delay: 12.138 ms
Loss rate: 90.36%
```

Run 2: Report of Copa — Data Link



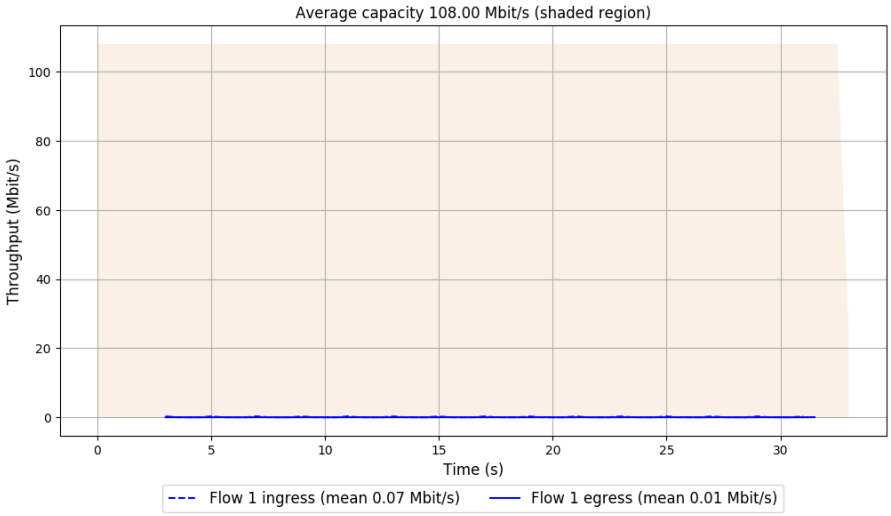


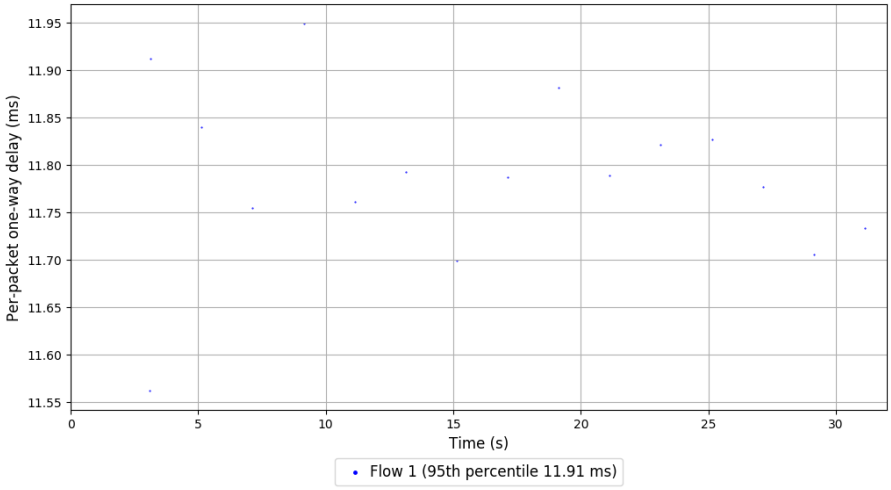
```
Run 3: Statistics of Copa

Start at: 2018-09-07 10:42:58
End at: 2018-09-07 10:43:28

# Below is generated by plot.py at 2018-09-07 11:09:36
# Datalink statistics
-- Total of 1 flow:
Average capacity: 108.00 Mbit/s
Average throughput: 0.01 Mbit/s (0.0% utilization)
95th percentile per-packet one-way delay: 11.912 ms
Loss rate: 90.36%
-- Flow 1:
Average throughput: 0.01 Mbit/s
95th percentile per-packet one-way delay: 11.912 ms
Loss rate: 90.36%
```

Run 3: Report of Copa — Data Link



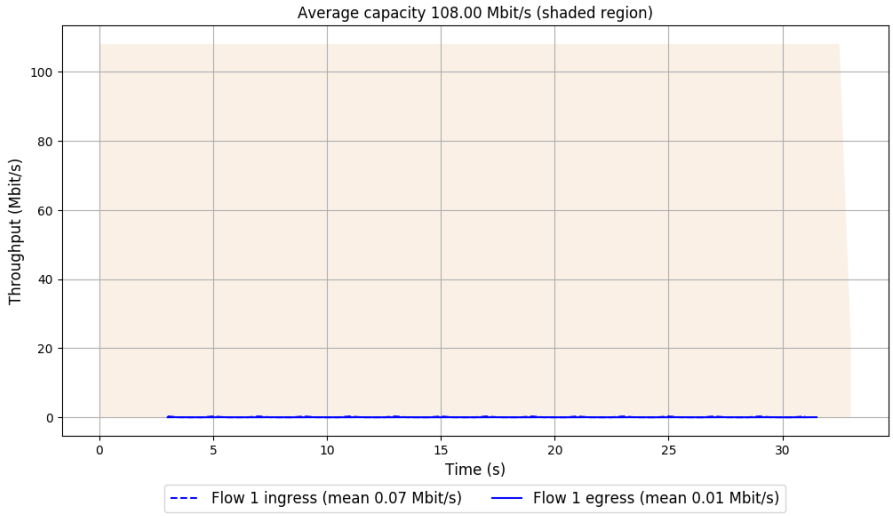


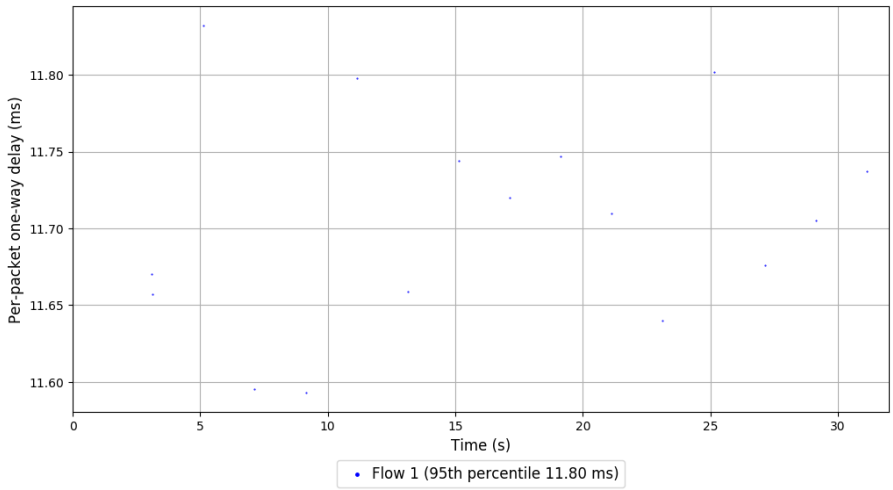
```
Run 4: Statistics of Copa

Start at: 2018-09-07 10:54:08
End at: 2018-09-07 10:54:38

# Below is generated by plot.py at 2018-09-07 11:09:56
# Datalink statistics
-- Total of 1 flow:
Average capacity: 108.00 Mbit/s
Average throughput: 0.01 Mbit/s (0.0% utilization)
95th percentile per-packet one-way delay: 11.802 ms
Loss rate: 90.36%
-- Flow 1:
Average throughput: 0.01 Mbit/s
95th percentile per-packet one-way delay: 11.802 ms
Loss rate: 90.36%
```

Run 4: Report of Copa — Data Link



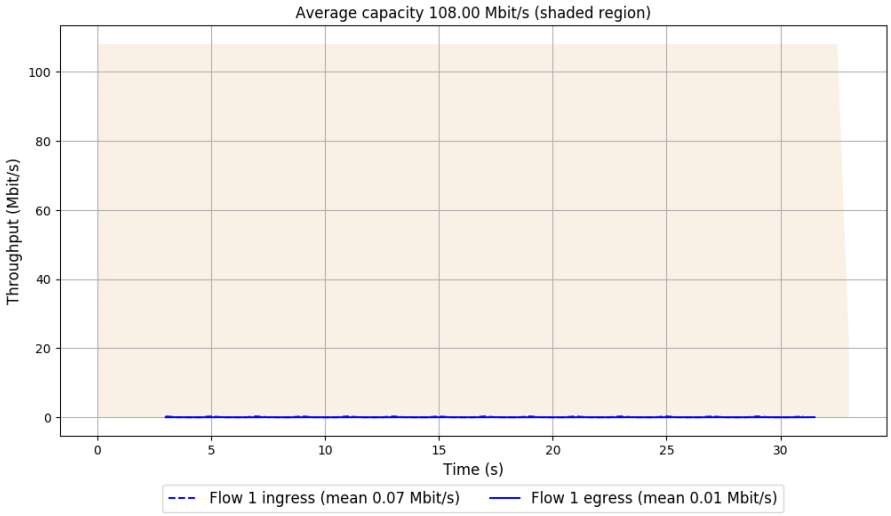


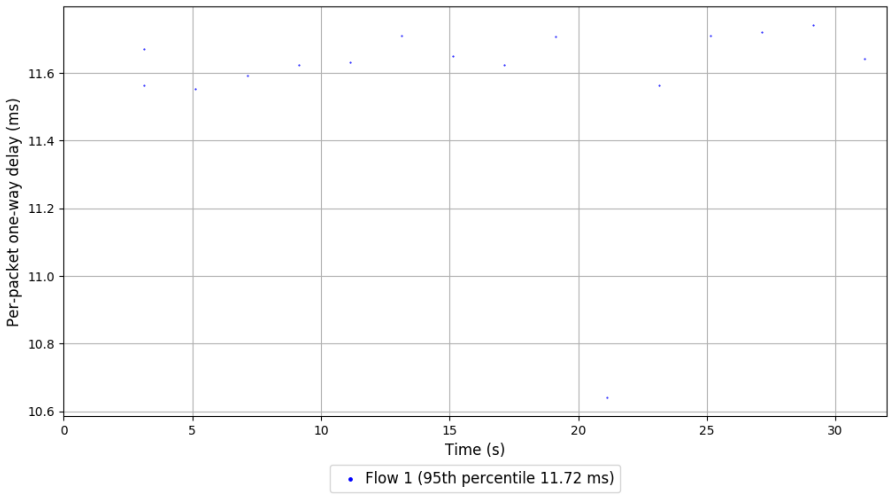
```
Run 5: Statistics of Copa

Start at: 2018-09-07 11:05:14
End at: 2018-09-07 11:05:44

# Below is generated by plot.py at 2018-09-07 11:09:57
# Datalink statistics
-- Total of 1 flow:
Average capacity: 108.00 Mbit/s
Average throughput: 0.01 Mbit/s (0.0% utilization)
95th percentile per-packet one-way delay: 11.719 ms
Loss rate: 90.36%
-- Flow 1:
Average throughput: 0.01 Mbit/s
95th percentile per-packet one-way delay: 11.719 ms
Loss rate: 90.36%
```

Run 5: Report of Copa — Data Link



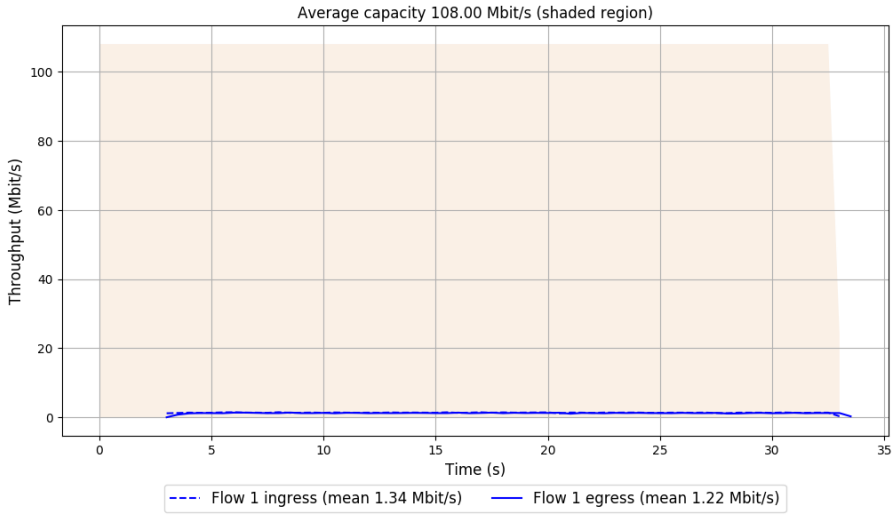


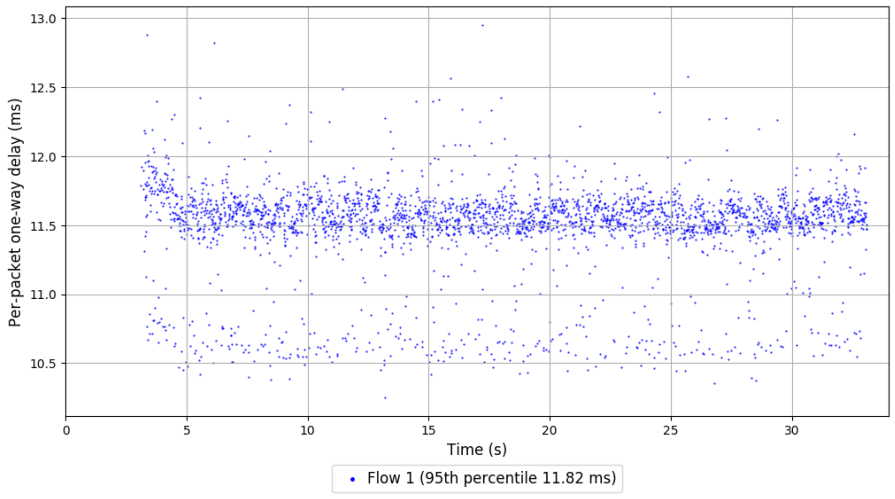
```
Run 1: Statistics of TCP Cubic

Start at: 2018-09-07 10:14:42
End at: 2018-09-07 10:15:12

# Below is generated by plot.py at 2018-09-07 11:10:03
# Datalink statistics
-- Total of 1 flow:
Average capacity: 108.00 Mbit/s
Average throughput: 1.22 Mbit/s (1.1% utilization)
95th percentile per-packet one-way delay: 11.821 ms
Loss rate: 8.74%
-- Flow 1:
Average throughput: 1.22 Mbit/s
95th percentile per-packet one-way delay: 11.821 ms
Loss rate: 8.74%
```

Run 1: Report of TCP Cubic — Data Link



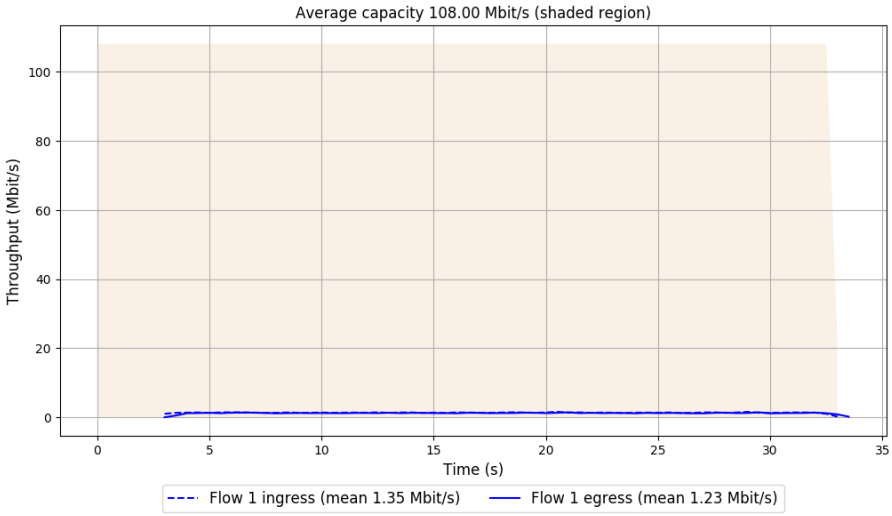


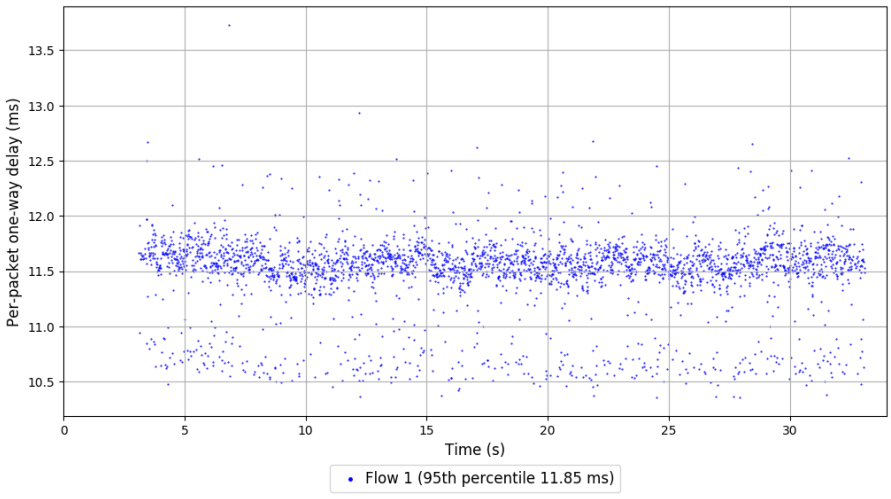
```
Run 2: Statistics of TCP Cubic

Start at: 2018-09-07 10:25:49
End at: 2018-09-07 10:26:19

# Below is generated by plot.py at 2018-09-07 11:10:03
# Datalink statistics
-- Total of 1 flow:
Average capacity: 108.00 Mbit/s
Average throughput: 1.23 Mbit/s (1.1% utilization)
95th percentile per-packet one-way delay: 11.853 ms
Loss rate: 8.84%
-- Flow 1:
Average throughput: 1.23 Mbit/s
95th percentile per-packet one-way delay: 11.853 ms
Loss rate: 8.84%
```

Run 2: Report of TCP Cubic — Data Link



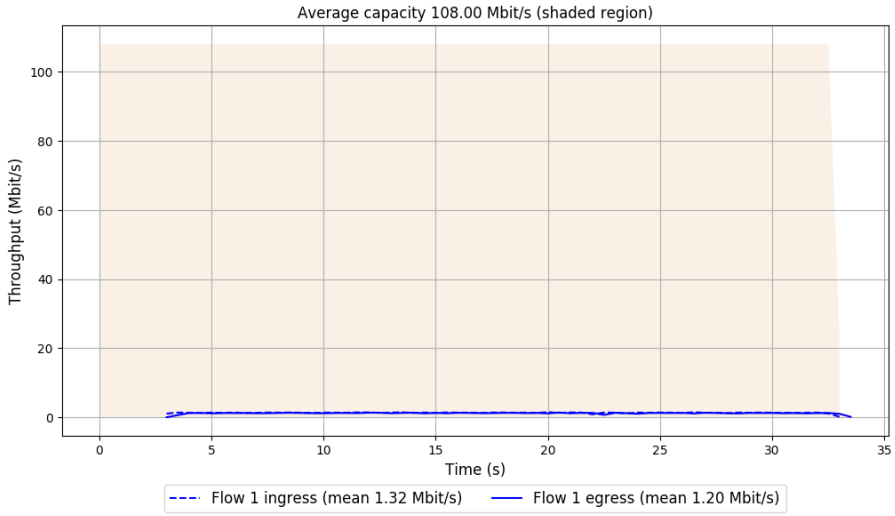


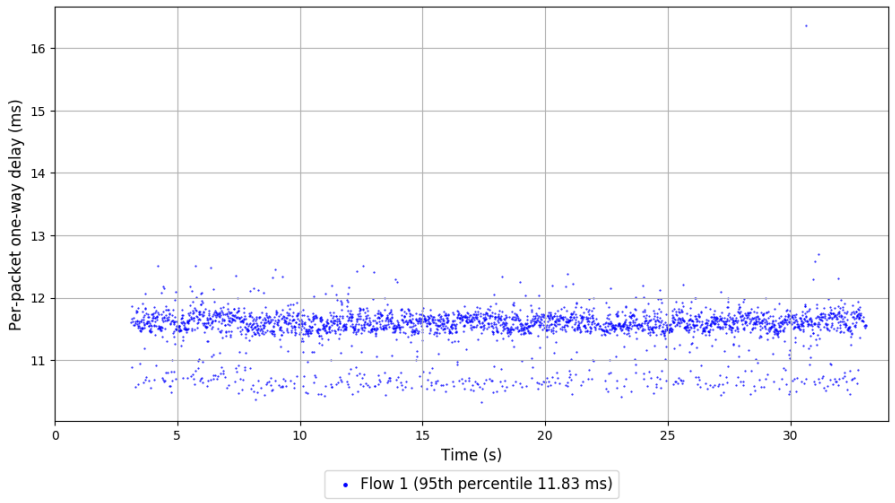
```
Run 3: Statistics of TCP Cubic

Start at: 2018-09-07 10:36:53
End at: 2018-09-07 10:37:23

# Below is generated by plot.py at 2018-09-07 11:10:04
# Datalink statistics
-- Total of 1 flow:
Average capacity: 108.00 Mbit/s
Average throughput: 1.20 Mbit/s (1.1% utilization)
95th percentile per-packet one-way delay: 11.832 ms
Loss rate: 8.91%
-- Flow 1:
Average throughput: 1.20 Mbit/s
95th percentile per-packet one-way delay: 11.832 ms
Loss rate: 8.91%
```

Run 3: Report of TCP Cubic — Data Link



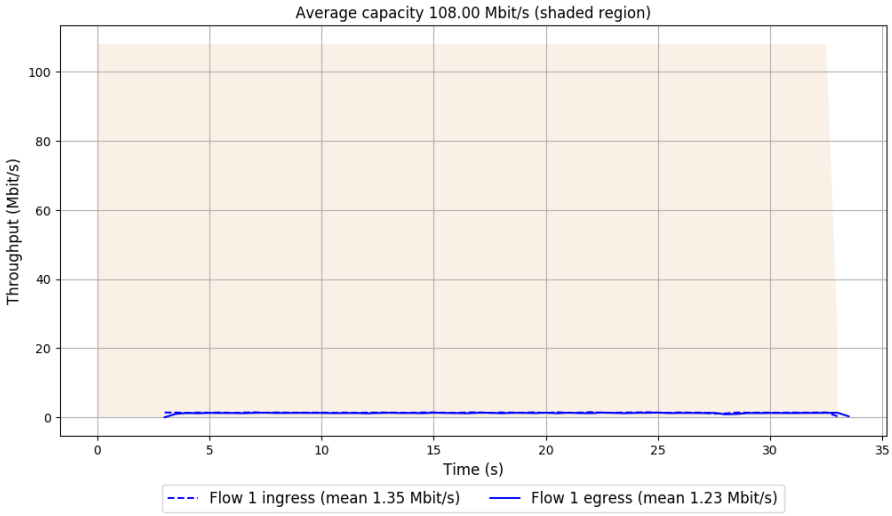


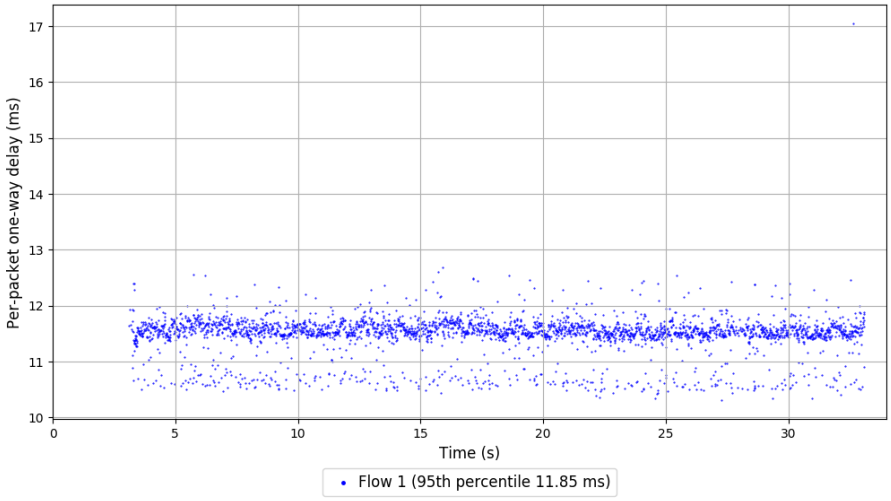
```
Run 4: Statistics of TCP Cubic

Start at: 2018-09-07 10:48:02
End at: 2018-09-07 10:48:33

# Below is generated by plot.py at 2018-09-07 11:10:04
# Datalink statistics
-- Total of 1 flow:
Average capacity: 108.00 Mbit/s
Average throughput: 1.23 Mbit/s (1.1% utilization)
95th percentile per-packet one-way delay: 11.847 ms
Loss rate: 8.66%
-- Flow 1:
Average throughput: 1.23 Mbit/s
95th percentile per-packet one-way delay: 11.847 ms
Loss rate: 8.66%
```

Run 4: Report of TCP Cubic — Data Link



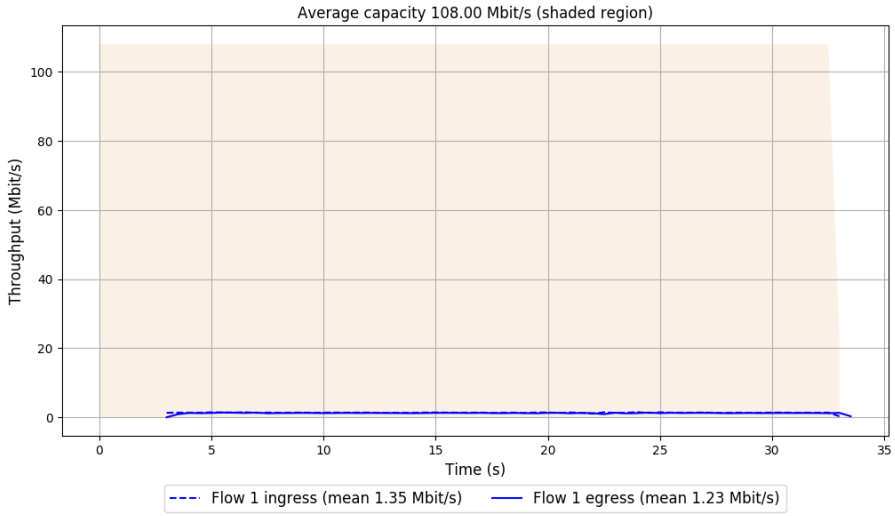


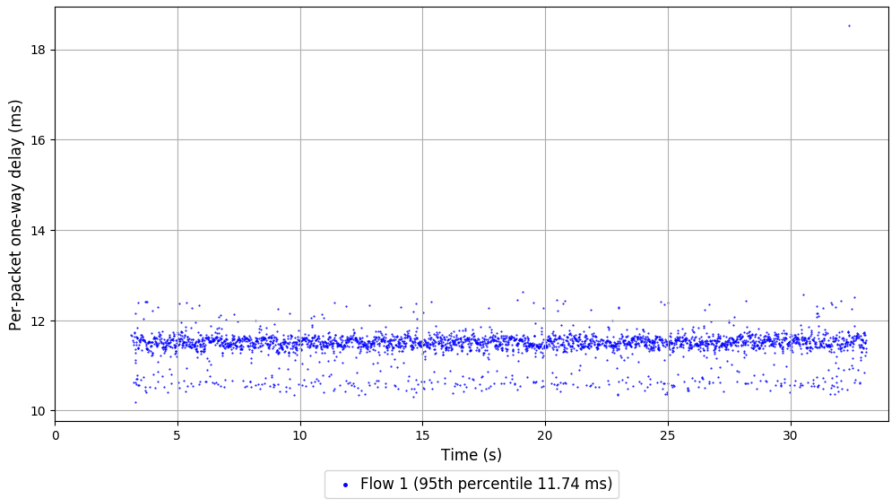
```
Run 5: Statistics of TCP Cubic

Start at: 2018-09-07 10:59:09
End at: 2018-09-07 10:59:39

# Below is generated by plot.py at 2018-09-07 11:10:04
# Datalink statistics
-- Total of 1 flow:
Average capacity: 108.00 Mbit/s
Average throughput: 1.23 Mbit/s (1.1% utilization)
95th percentile per-packet one-way delay: 11.741 ms
Loss rate: 8.61%
-- Flow 1:
Average throughput: 1.23 Mbit/s
95th percentile per-packet one-way delay: 11.741 ms
Loss rate: 8.61%
```

Run 5: Report of TCP Cubic — Data Link



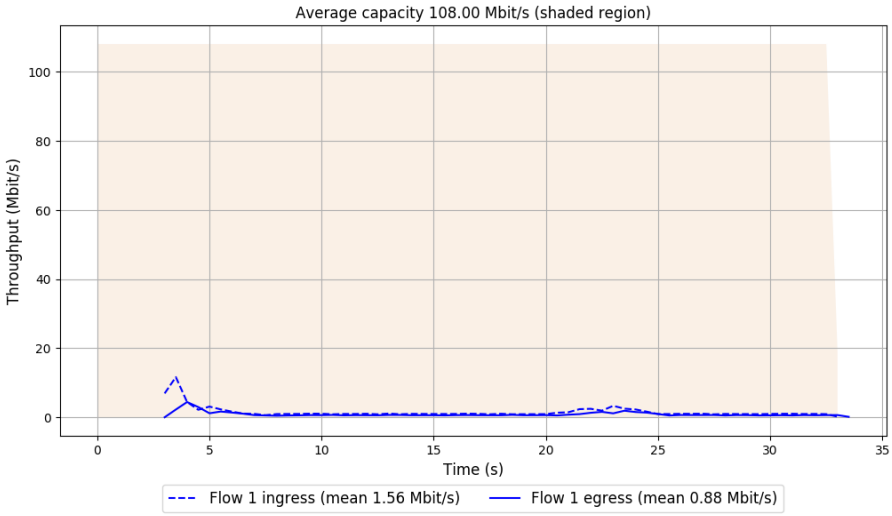


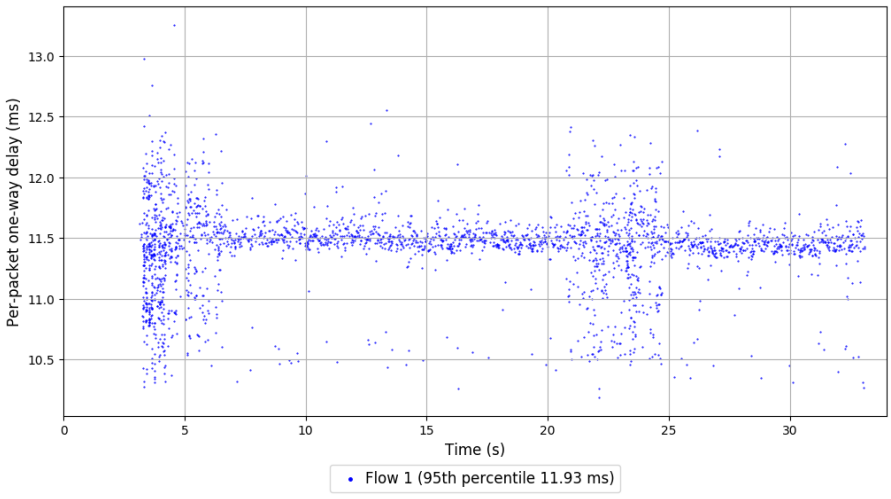
```
Run 1: Statistics of FillP

Start at: 2018-09-07 10:18:57
End at: 2018-09-07 10:19:27

# Below is generated by plot.py at 2018-09-07 11:10:04
# Datalink statistics
-- Total of 1 flow:
Average capacity: 108.00 Mbit/s
Average throughput: 0.88 Mbit/s (0.8% utilization)
95th percentile per-packet one-way delay: 11.928 ms
Loss rate: 43.80%
-- Flow 1:
Average throughput: 0.88 Mbit/s
95th percentile per-packet one-way delay: 11.928 ms
Loss rate: 43.80%
```

Run 1: Report of FillP — Data Link



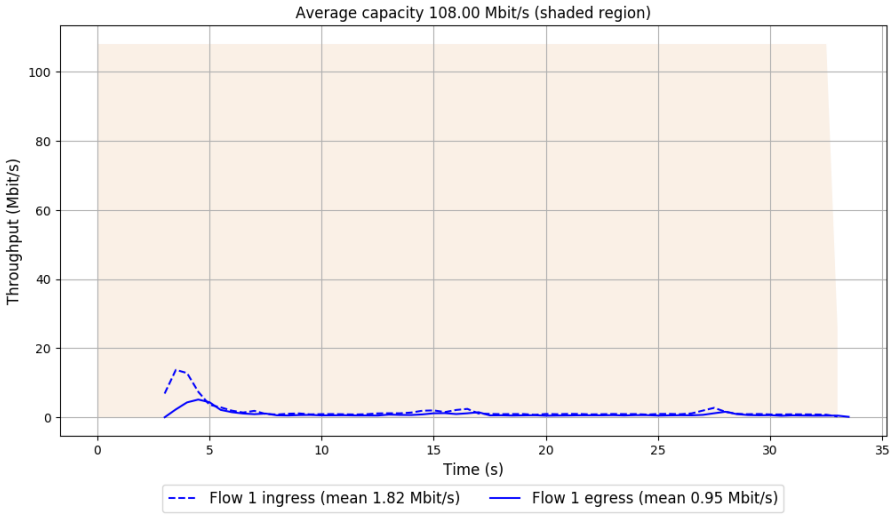


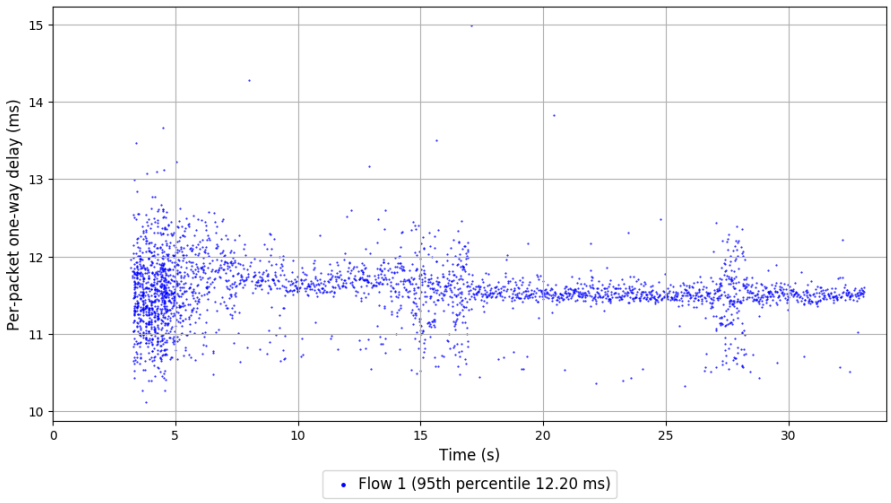
```
Run 2: Statistics of FillP

Start at: 2018-09-07 10:30:04
End at: 2018-09-07 10:30:34

# Below is generated by plot.py at 2018-09-07 11:10:24
# Datalink statistics
-- Total of 1 flow:
Average capacity: 108.00 Mbit/s
Average throughput: 0.95 Mbit/s (0.9% utilization)
95th percentile per-packet one-way delay: 12.202 ms
Loss rate: 47.66%
-- Flow 1:
Average throughput: 0.95 Mbit/s
95th percentile per-packet one-way delay: 12.202 ms
Loss rate: 47.66%
```

Run 2: Report of FillP — Data Link



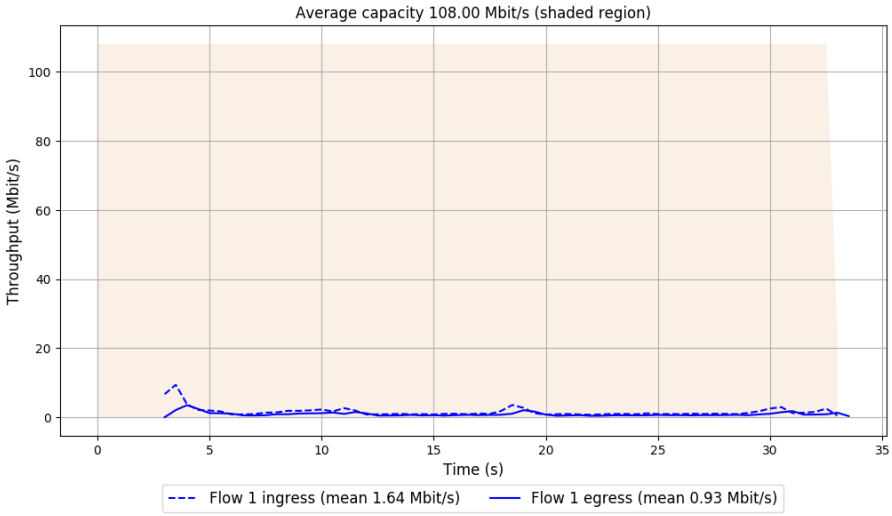


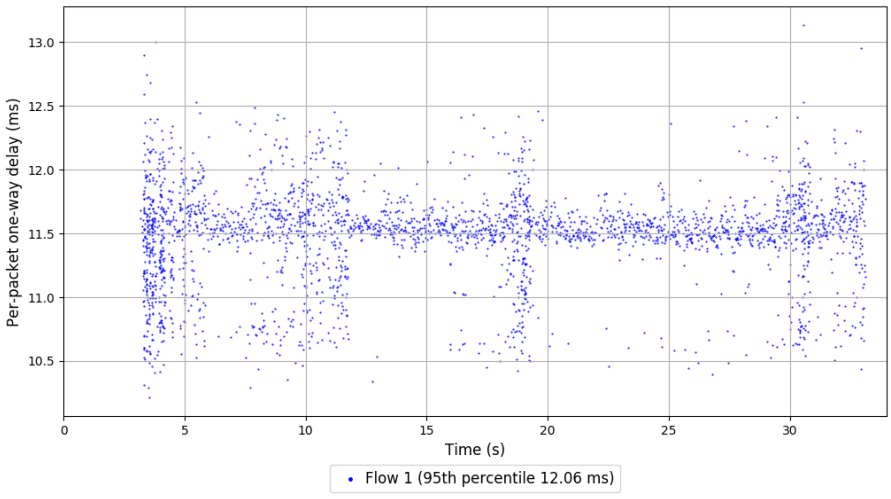
```
Run 3: Statistics of FillP

Start at: 2018-09-07 10:41:09
End at: 2018-09-07 10:41:39

# Below is generated by plot.py at 2018-09-07 11:10:25
# Datalink statistics
-- Total of 1 flow:
Average capacity: 108.00 Mbit/s
Average throughput: 0.93 Mbit/s (0.9% utilization)
95th percentile per-packet one-way delay: 12.064 ms
Loss rate: 43.36%
-- Flow 1:
Average throughput: 0.93 Mbit/s
95th percentile per-packet one-way delay: 12.064 ms
Loss rate: 43.36%
```

Run 3: Report of FillP — Data Link



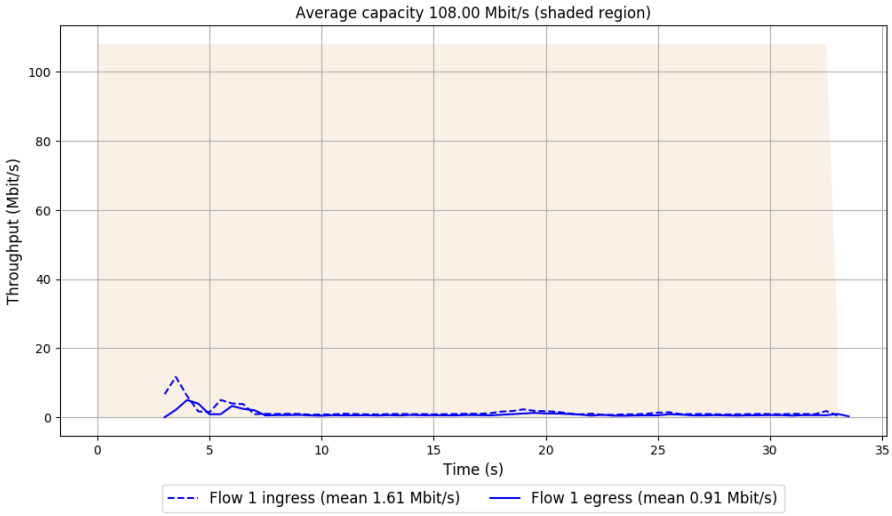


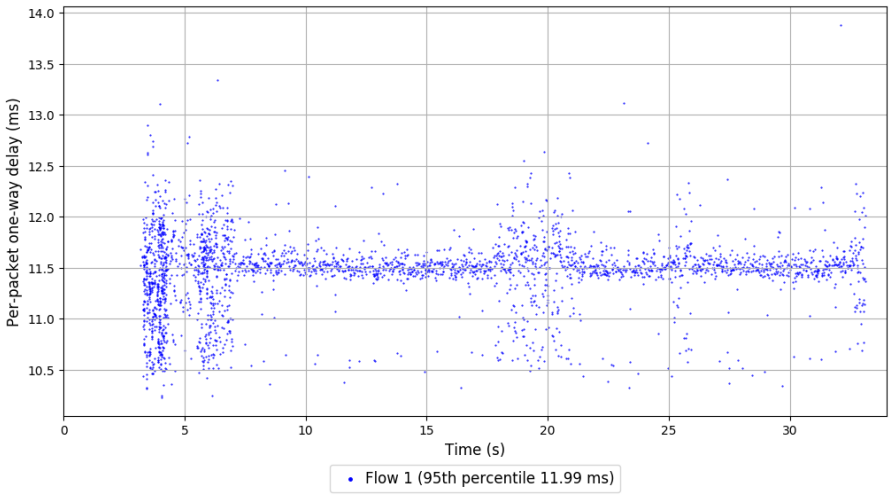
```
Run 4: Statistics of FillP

Start at: 2018-09-07 10:52:19
End at: 2018-09-07 10:52:49

# Below is generated by plot.py at 2018-09-07 11:10:28
# Datalink statistics
-- Total of 1 flow:
Average capacity: 108.00 Mbit/s
Average throughput: 0.91 Mbit/s (0.8% utilization)
95th percentile per-packet one-way delay: 11.994 ms
Loss rate: 43.16%
-- Flow 1:
Average throughput: 0.91 Mbit/s
95th percentile per-packet one-way delay: 11.994 ms
Loss rate: 43.16%
```

Run 4: Report of FillP — Data Link



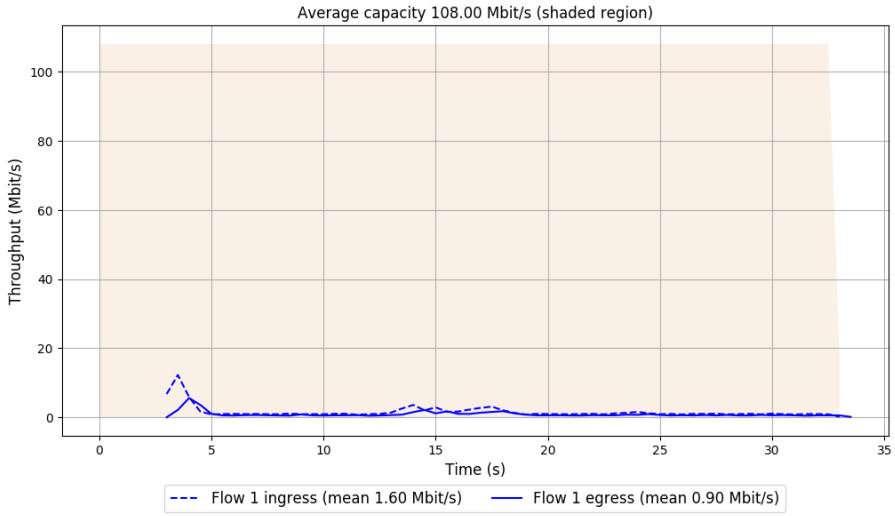


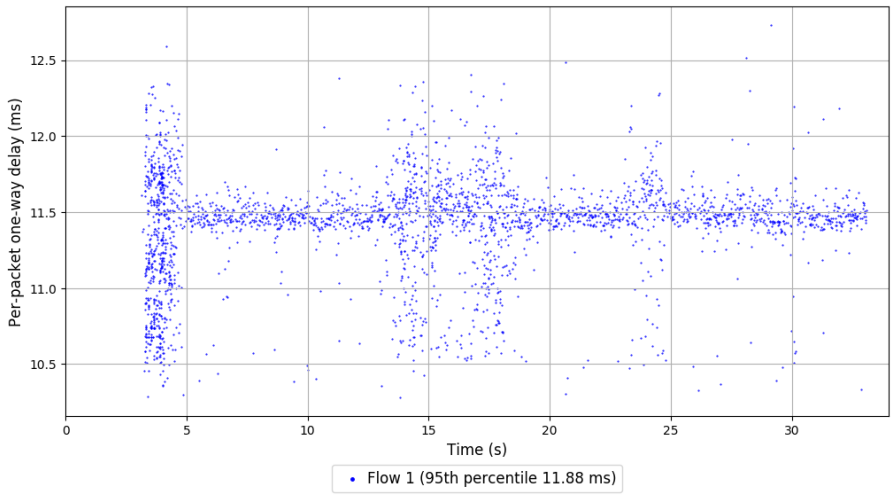
```
Run 5: Statistics of FillP

Start at: 2018-09-07 11:03:24
End at: 2018-09-07 11:03:54

# Below is generated by plot.py at 2018-09-07 11:10:30
# Datalink statistics
-- Total of 1 flow:
Average capacity: 108.00 Mbit/s
Average throughput: 0.90 Mbit/s (0.8% utilization)
95th percentile per-packet one-way delay: 11.876 ms
Loss rate: 43.59%
-- Flow 1:
Average throughput: 0.90 Mbit/s
95th percentile per-packet one-way delay: 11.876 ms
Loss rate: 43.59%
```

Run 5: Report of FillP — Data Link



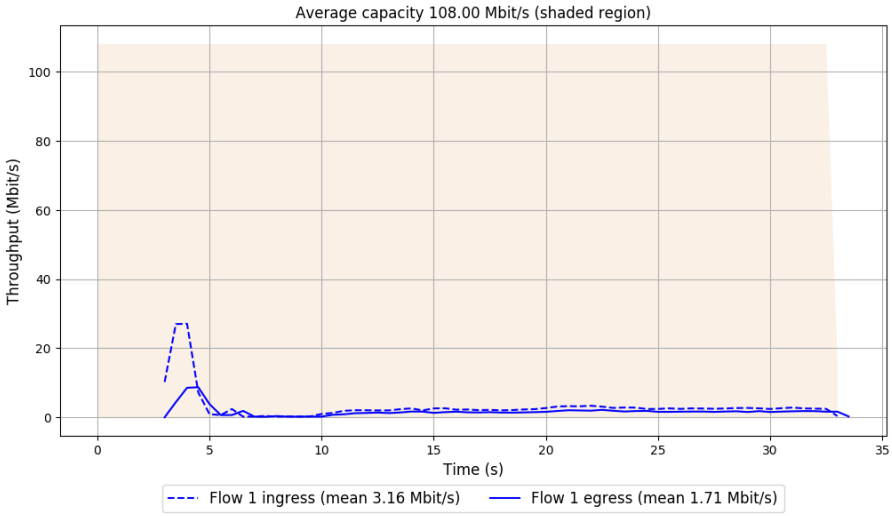


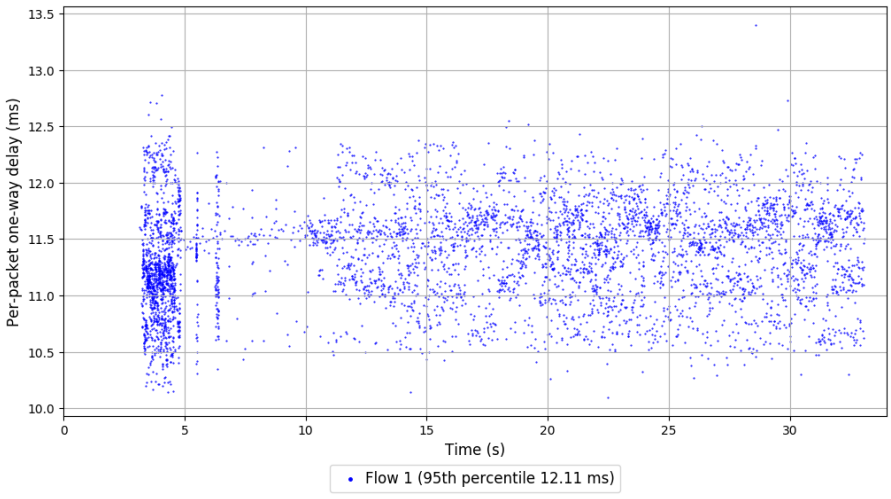
```
Run 1: Statistics of FillP-Sheep

Start at: 2018-09-07 10:16:32
End at: 2018-09-07 10:17:02

# Below is generated by plot.py at 2018-09-07 11:10:31
# Datalink statistics
-- Total of 1 flow:
Average capacity: 108.00 Mbit/s
Average throughput: 1.71 Mbit/s (1.6% utilization)
95th percentile per-packet one-way delay: 12.112 ms
Loss rate: 45.83%
-- Flow 1:
Average throughput: 1.71 Mbit/s
95th percentile per-packet one-way delay: 12.112 ms
Loss rate: 45.83%
```

Run 1: Report of FillP-Sheep — Data Link



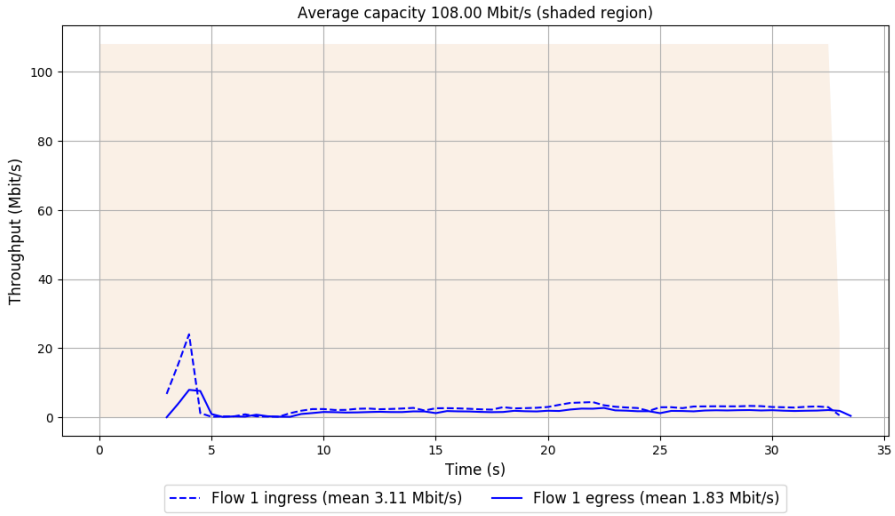


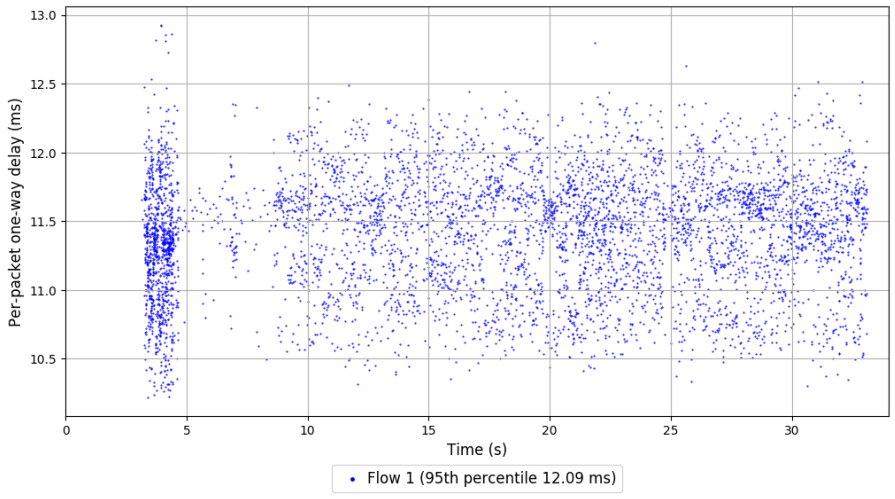
```
Run 2: Statistics of FillP-Sheep

Start at: 2018-09-07 10:27:39
End at: 2018-09-07 10:28:09

# Below is generated by plot.py at 2018-09-07 11:10:32
# Datalink statistics
-- Total of 1 flow:
Average capacity: 108.00 Mbit/s
Average throughput: 1.83 Mbit/s (1.7% utilization)
95th percentile per-packet one-way delay: 12.087 ms
Loss rate: 41.19%
-- Flow 1:
Average throughput: 1.83 Mbit/s
95th percentile per-packet one-way delay: 12.087 ms
Loss rate: 41.19%
```

Run 2: Report of FillP-Sheep — Data Link



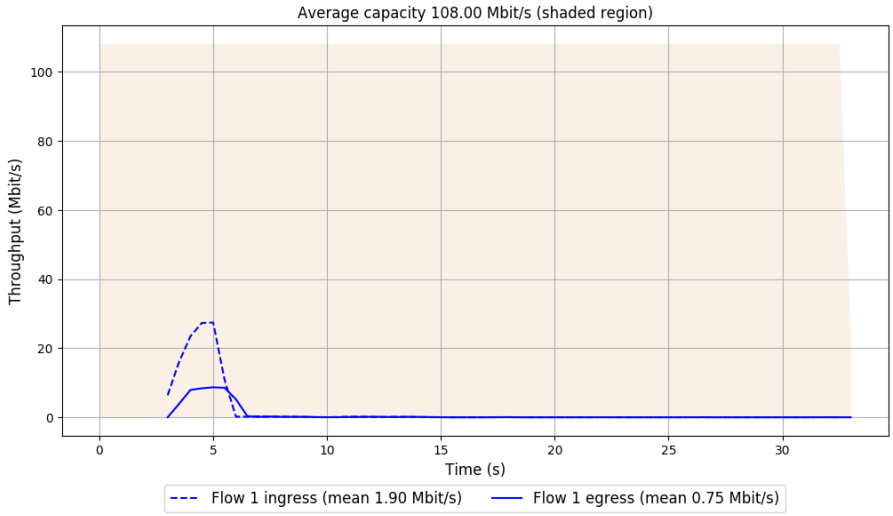


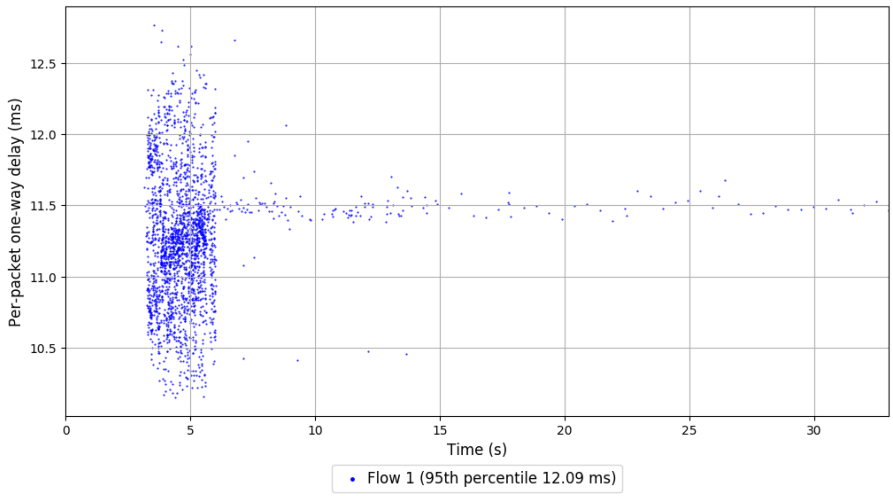
```
Run 3: Statistics of FillP-Sheep

Start at: 2018-09-07 10:38:43
End at: 2018-09-07 10:39:13

# Below is generated by plot.py at 2018-09-07 11:10:32
# Datalink statistics
-- Total of 1 flow:
Average capacity: 108.00 Mbit/s
Average throughput: 0.75 Mbit/s (0.7% utilization)
95th percentile per-packet one-way delay: 12.085 ms
Loss rate: 60.55%
-- Flow 1:
Average throughput: 0.75 Mbit/s
95th percentile per-packet one-way delay: 12.085 ms
Loss rate: 60.55%
```

Run 3: Report of FillP-Sheep — Data Link



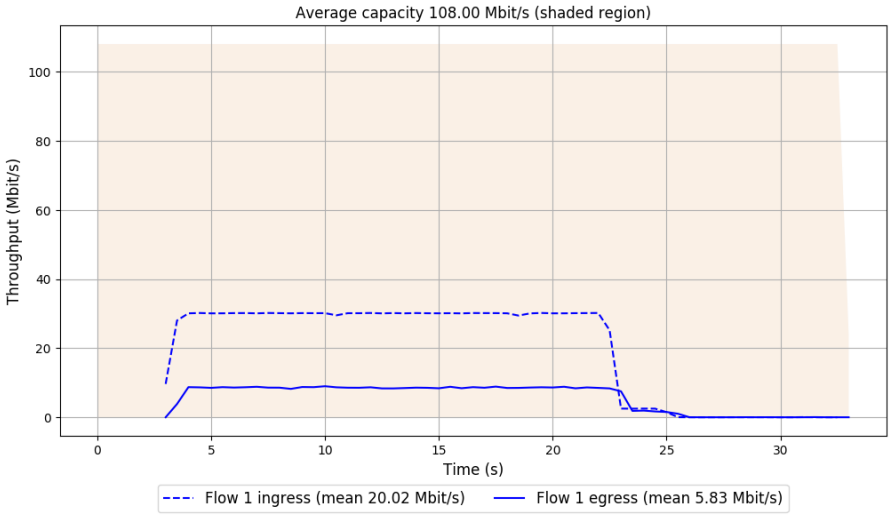


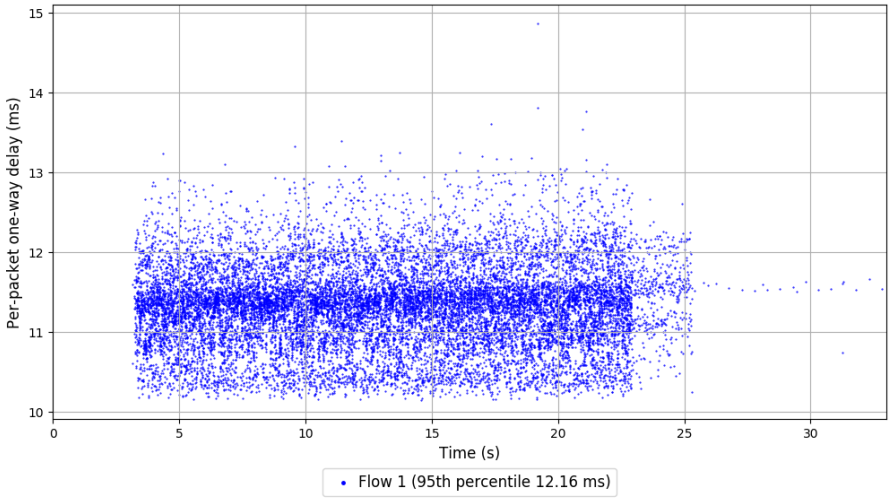
```
Run 4: Statistics of FillP-Sheep

Start at: 2018-09-07 10:49:52
End at: 2018-09-07 10:50:22

# Below is generated by plot.py at 2018-09-07 11:10:38
# Datalink statistics
-- Total of 1 flow:
Average capacity: 108.00 Mbit/s
Average throughput: 5.83 Mbit/s (5.4% utilization)
95th percentile per-packet one-way delay: 12.160 ms
Loss rate: 70.86%
-- Flow 1:
Average throughput: 5.83 Mbit/s
95th percentile per-packet one-way delay: 12.160 ms
Loss rate: 70.86%
```

Run 4: Report of FillP-Sheep — Data Link



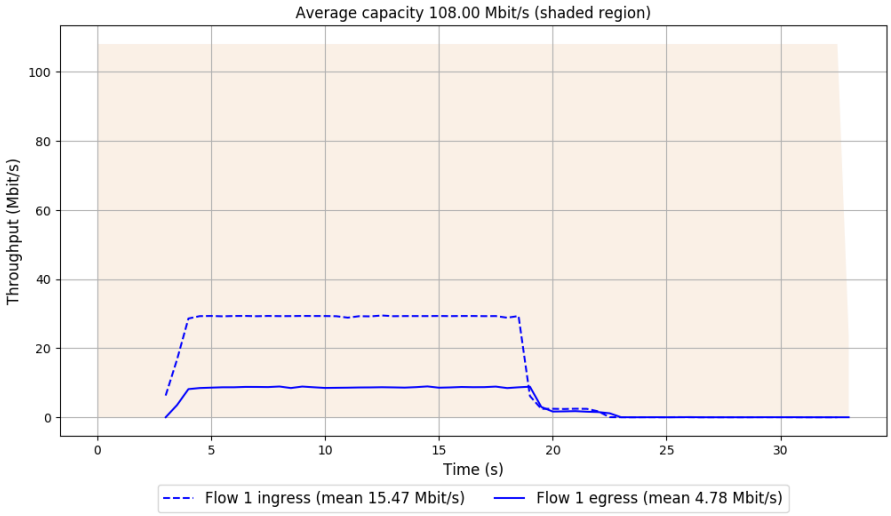


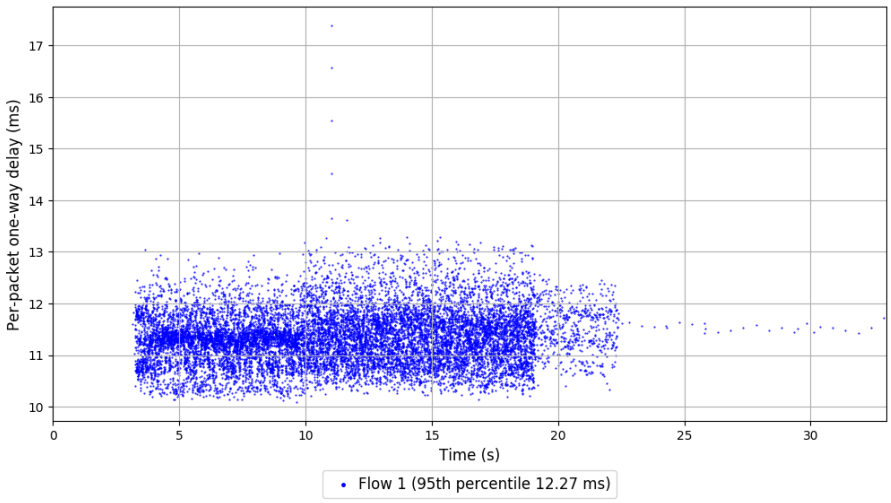
```
Run 5: Statistics of FillP-Sheep

Start at: 2018-09-07 11:00:58
End at: 2018-09-07 11:01:28

# Below is generated by plot.py at 2018-09-07 11:10:59
# Datalink statistics
-- Total of 1 flow:
Average capacity: 108.00 Mbit/s
Average throughput: 4.78 Mbit/s (4.4% utilization)
95th percentile per-packet one-way delay: 12.273 ms
Loss rate: 69.07%
-- Flow 1:
Average throughput: 4.78 Mbit/s
95th percentile per-packet one-way delay: 12.273 ms
Loss rate: 69.07%
```

Run 5: Report of FillP-Sheep — Data Link



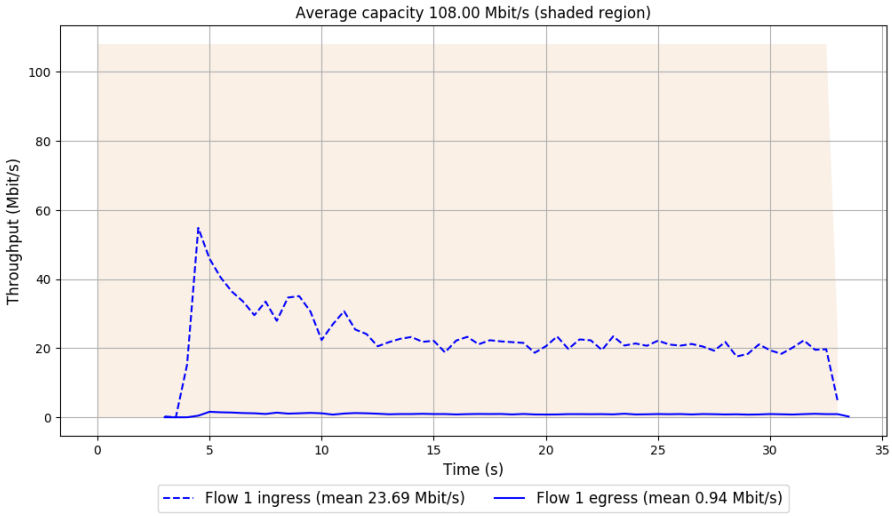


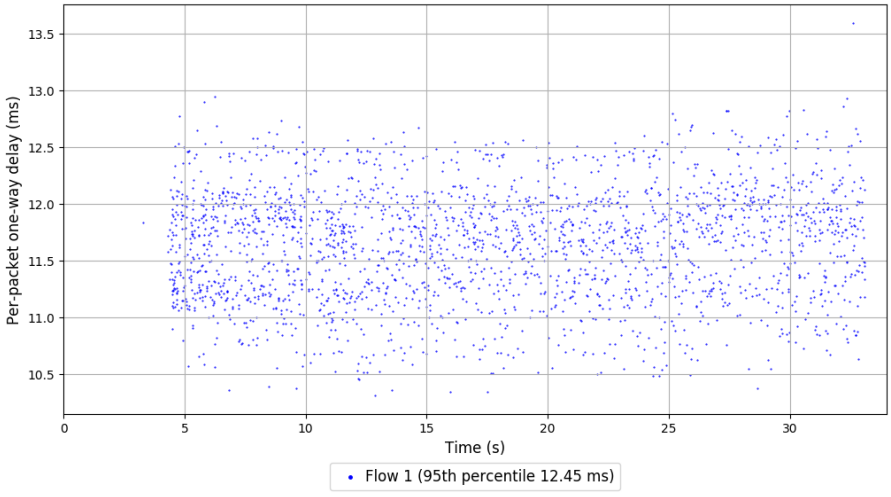
```
Run 1: Statistics of Indigo

Start at: 2018-09-07 10:14:06
End at: 2018-09-07 10:14:36

# Below is generated by plot.py at 2018-09-07 11:10:59
# Datalink statistics
-- Total of 1 flow:
Average capacity: 108.00 Mbit/s
Average throughput: 0.94 Mbit/s (0.9% utilization)
95th percentile per-packet one-way delay: 12.448 ms
Loss rate: 96.02%
-- Flow 1:
Average throughput: 0.94 Mbit/s
95th percentile per-packet one-way delay: 12.448 ms
Loss rate: 96.02%
```

Run 1: Report of Indigo — Data Link



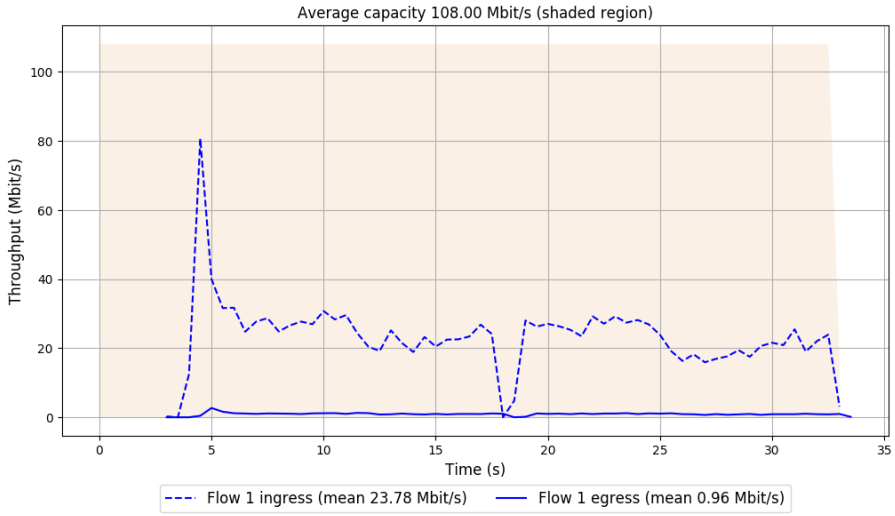


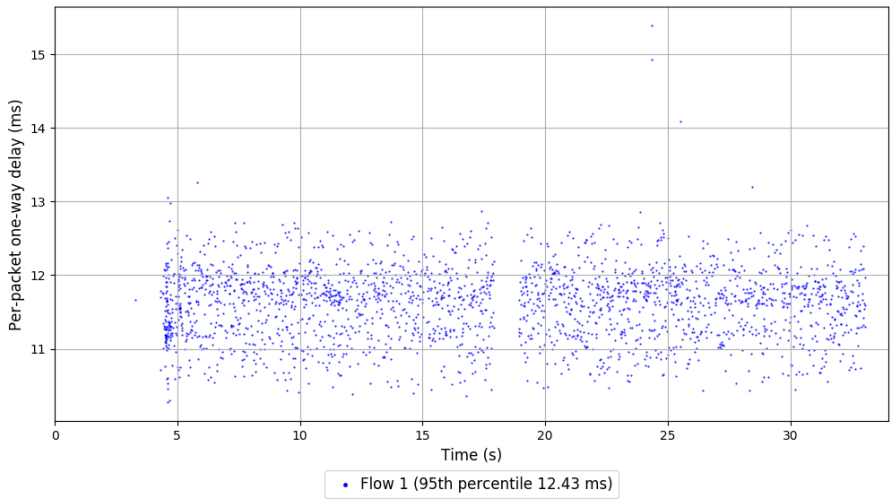
```
Run 2: Statistics of Indigo

Start at: 2018-09-07 10:25:12
End at: 2018-09-07 10:25:42

# Below is generated by plot.py at 2018-09-07 11:11:01
# Datalink statistics
-- Total of 1 flow:
Average capacity: 108.00 Mbit/s
Average throughput: 0.96 Mbit/s (0.9% utilization)
95th percentile per-packet one-way delay: 12.427 ms
Loss rate: 95.95%
-- Flow 1:
Average throughput: 0.96 Mbit/s
95th percentile per-packet one-way delay: 12.427 ms
Loss rate: 95.95%
```

Run 2: Report of Indigo — Data Link



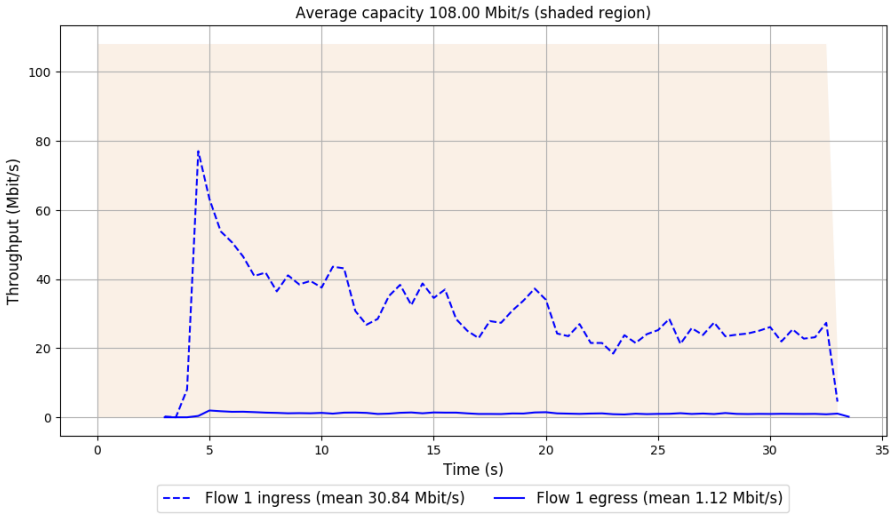


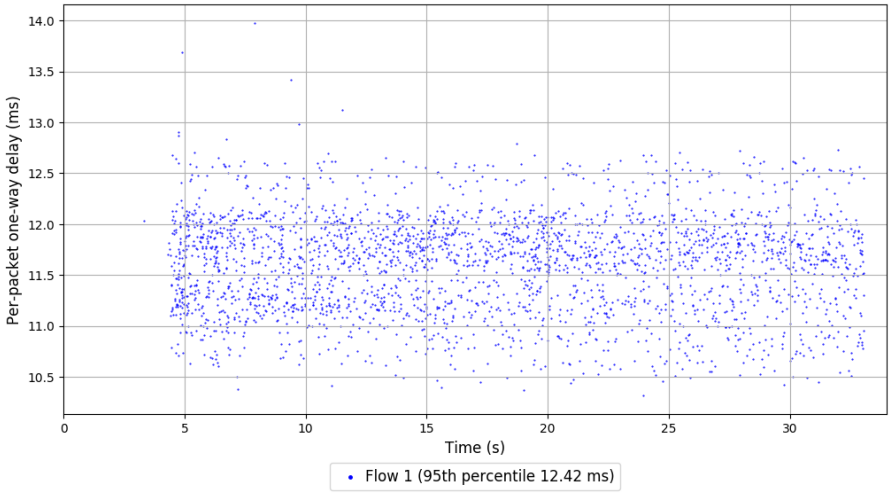
```
Run 3: Statistics of Indigo

Start at: 2018-09-07 10:36:16
End at: 2018-09-07 10:36:46

# Below is generated by plot.py at 2018-09-07 11:11:05
# Datalink statistics
-- Total of 1 flow:
Average capacity: 108.00 Mbit/s
Average throughput: 1.12 Mbit/s (1.0% utilization)
95th percentile per-packet one-way delay: 12.424 ms
Loss rate: 96.38%
-- Flow 1:
Average throughput: 1.12 Mbit/s
95th percentile per-packet one-way delay: 12.424 ms
Loss rate: 96.38%
```

Run 3: Report of Indigo — Data Link



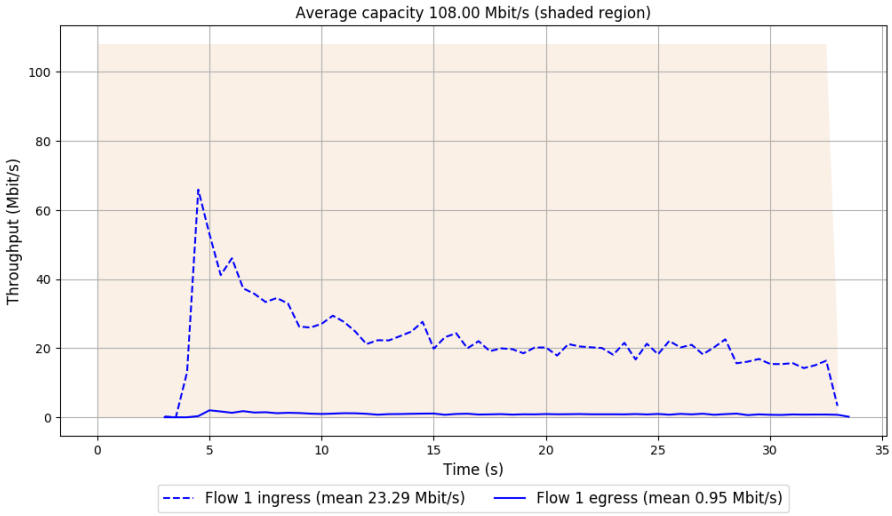


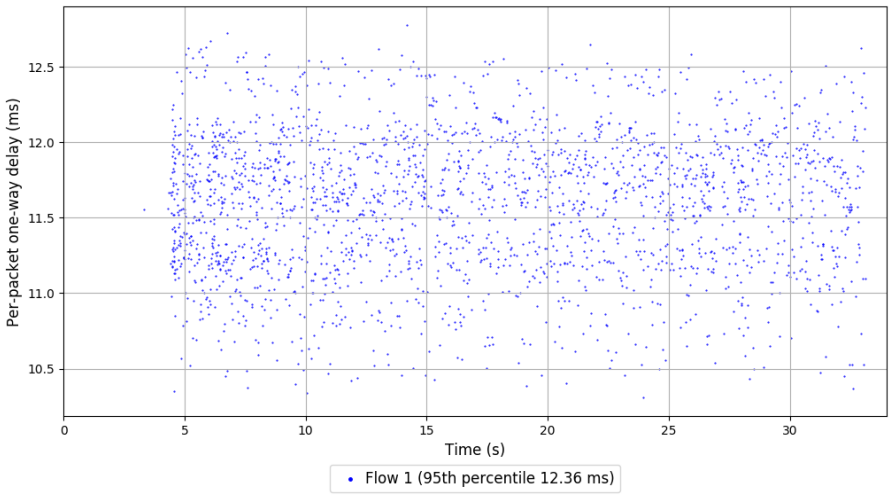
```
Run 4: Statistics of Indigo

Start at: 2018-09-07 10:47:26
End at: 2018-09-07 10:47:56

# Below is generated by plot.py at 2018-09-07 11:11:05
# Datalink statistics
-- Total of 1 flow:
Average capacity: 108.00 Mbit/s
Average throughput: 0.95 Mbit/s (0.9% utilization)
95th percentile per-packet one-way delay: 12.364 ms
Loss rate: 95.93%
-- Flow 1:
Average throughput: 0.95 Mbit/s
95th percentile per-packet one-way delay: 12.364 ms
Loss rate: 95.93%
```

Run 4: Report of Indigo — Data Link



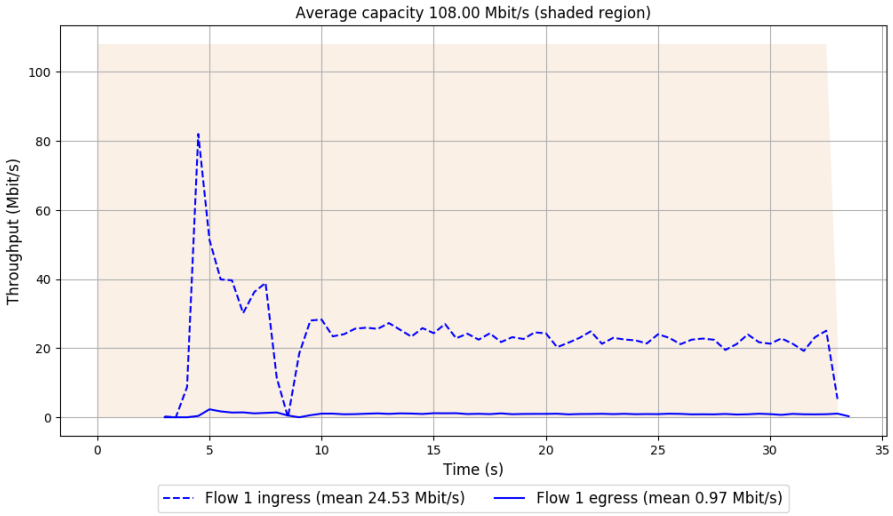


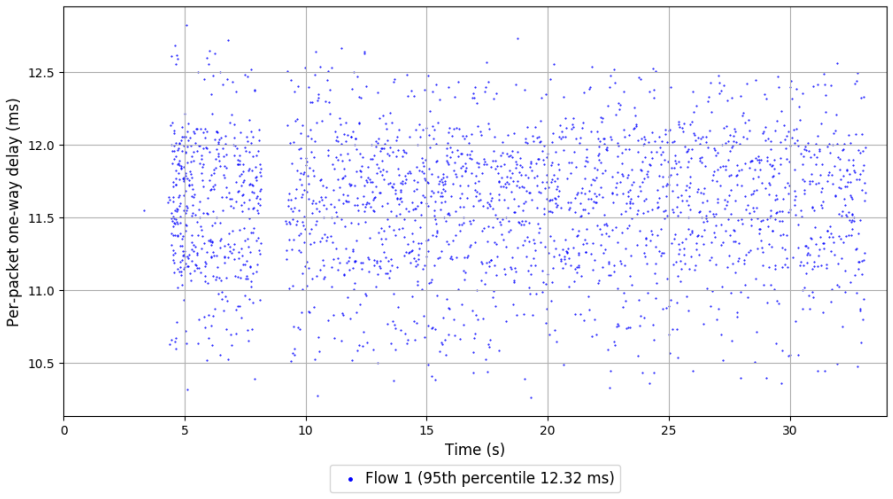
```
Run 5: Statistics of Indigo

Start at: 2018-09-07 10:58:32
End at: 2018-09-07 10:59:02

# Below is generated by plot.py at 2018-09-07 11:11:05
# Datalink statistics
-- Total of 1 flow:
Average capacity: 108.00 Mbit/s
Average throughput: 0.97 Mbit/s (0.9% utilization)
95th percentile per-packet one-way delay: 12.325 ms
Loss rate: 96.05%
-- Flow 1:
Average throughput: 0.97 Mbit/s
95th percentile per-packet one-way delay: 12.325 ms
Loss rate: 96.05%
```

Run 5: Report of Indigo — Data Link



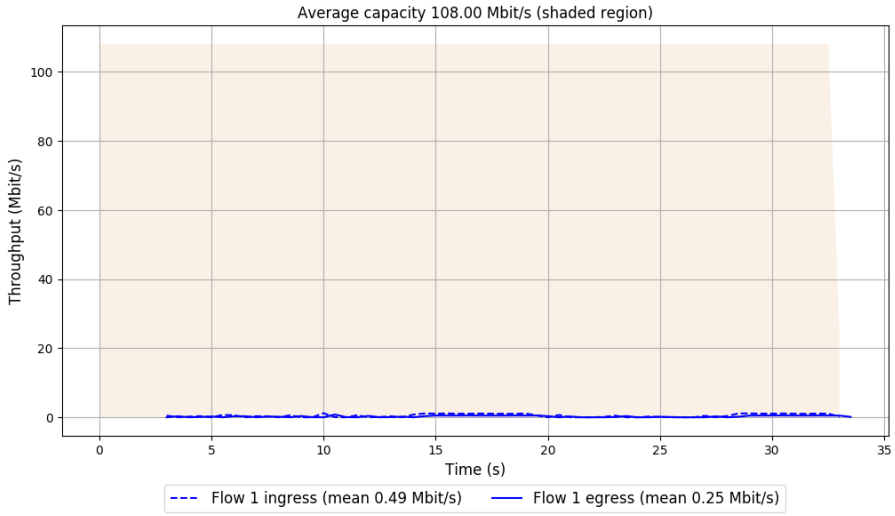


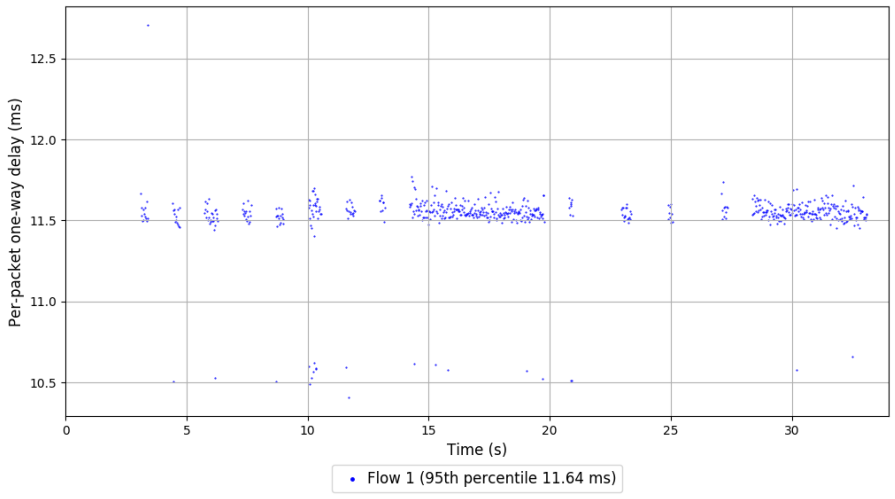
```
Run 1: Statistics of LEDBAT

Start at: 2018-09-07 10:17:08
End at: 2018-09-07 10:17:38

# Below is generated by plot.py at 2018-09-07 11:11:05
# Datalink statistics
-- Total of 1 flow:
Average capacity: 108.00 Mbit/s
Average throughput: 0.25 Mbit/s (0.2% utilization)
95th percentile per-packet one-way delay: 11.638 ms
Loss rate: 49.29%
-- Flow 1:
Average throughput: 0.25 Mbit/s
95th percentile per-packet one-way delay: 11.638 ms
Loss rate: 49.29%
```

Run 1: Report of LEDBAT — Data Link



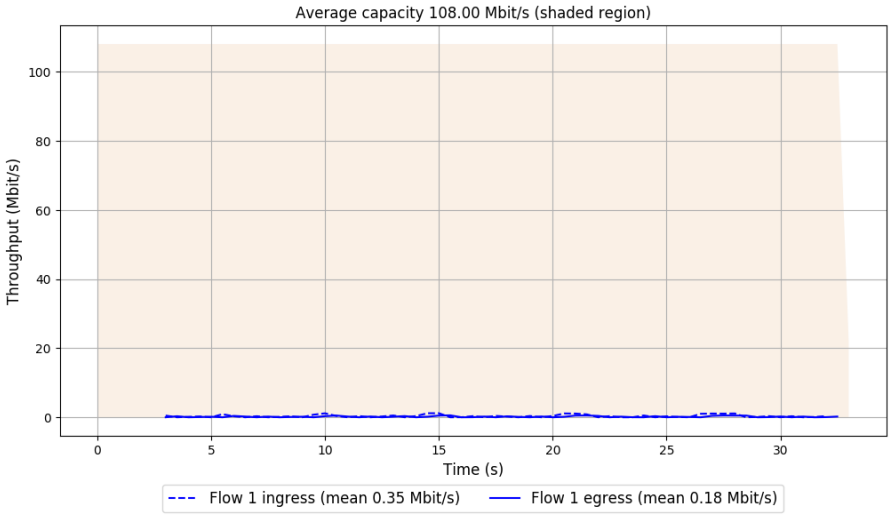


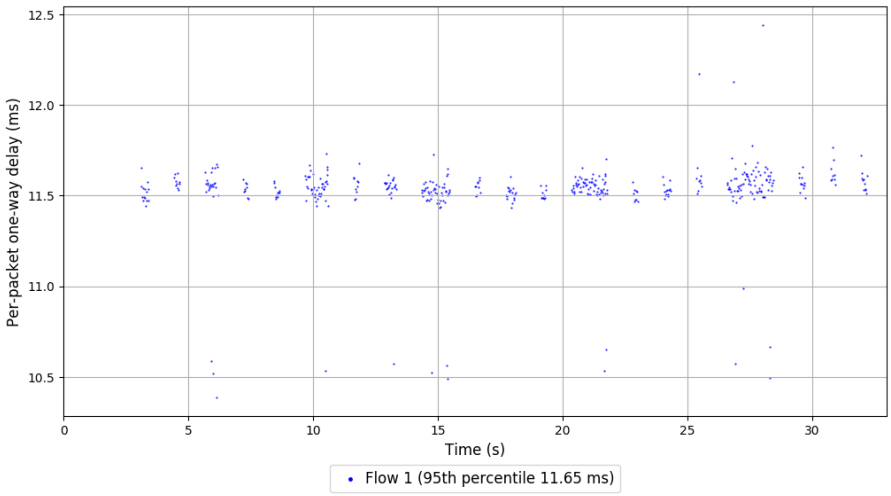
```
Run 2: Statistics of LEDBAT

Start at: 2018-09-07 10:28:15
End at: 2018-09-07 10:28:45

# Below is generated by plot.py at 2018-09-07 11:11:06
# Datalink statistics
-- Total of 1 flow:
Average capacity: 108.00 Mbit/s
Average throughput: 0.18 Mbit/s (0.2% utilization)
95th percentile per-packet one-way delay: 11.654 ms
Loss rate: 48.02%
-- Flow 1:
Average throughput: 0.18 Mbit/s
95th percentile per-packet one-way delay: 11.654 ms
Loss rate: 48.02%
```

Run 2: Report of LEDBAT — Data Link



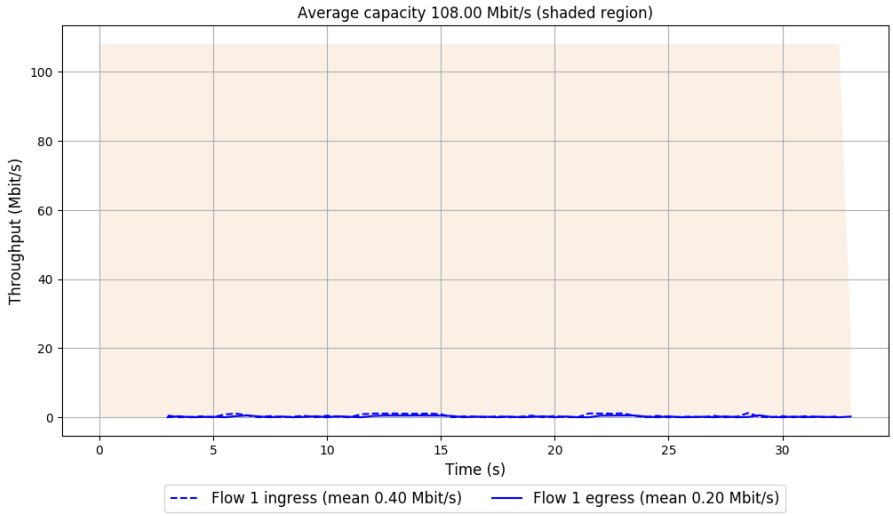


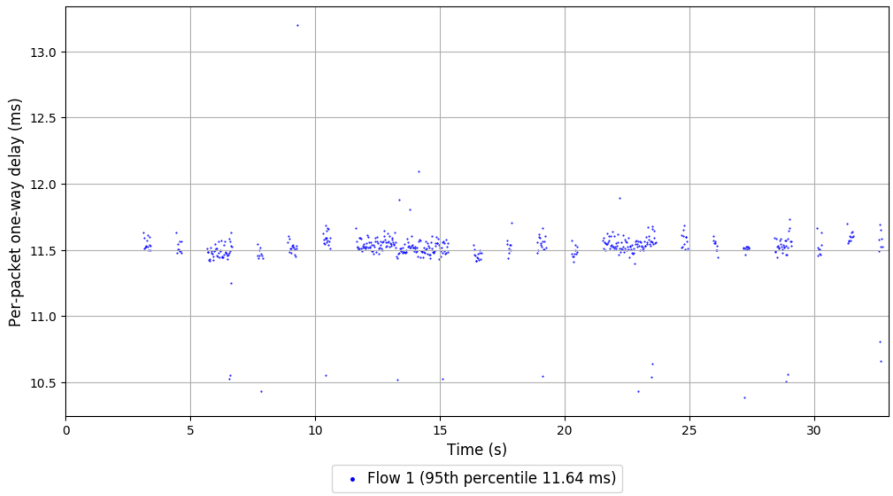
```
Run 3: Statistics of LEDBAT

Start at: 2018-09-07 10:39:19
End at: 2018-09-07 10:39:49

# Below is generated by plot.py at 2018-09-07 11:11:22
# Datalink statistics
-- Total of 1 flow:
Average capacity: 108.00 Mbit/s
Average throughput: 0.20 Mbit/s (0.2% utilization)
95th percentile per-packet one-way delay: 11.640 ms
Loss rate: 48.70%
-- Flow 1:
Average throughput: 0.20 Mbit/s
95th percentile per-packet one-way delay: 11.640 ms
Loss rate: 48.70%
```

Run 3: Report of LEDBAT — Data Link



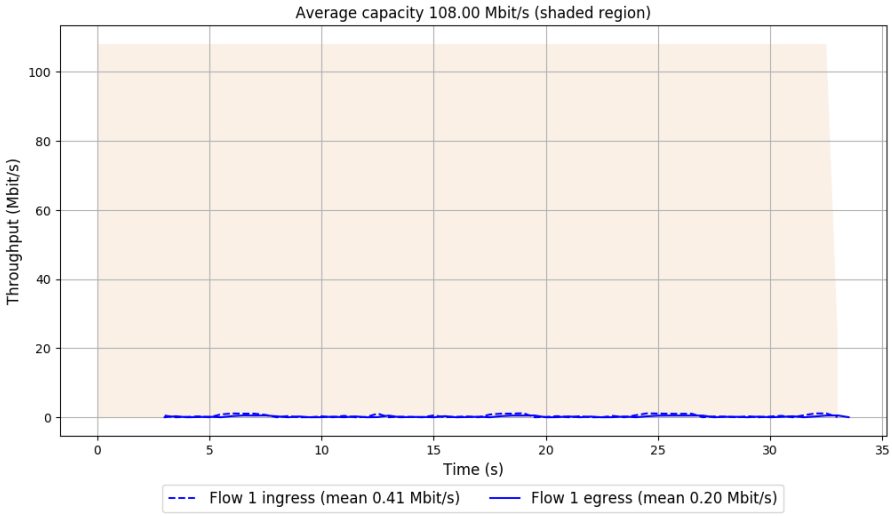


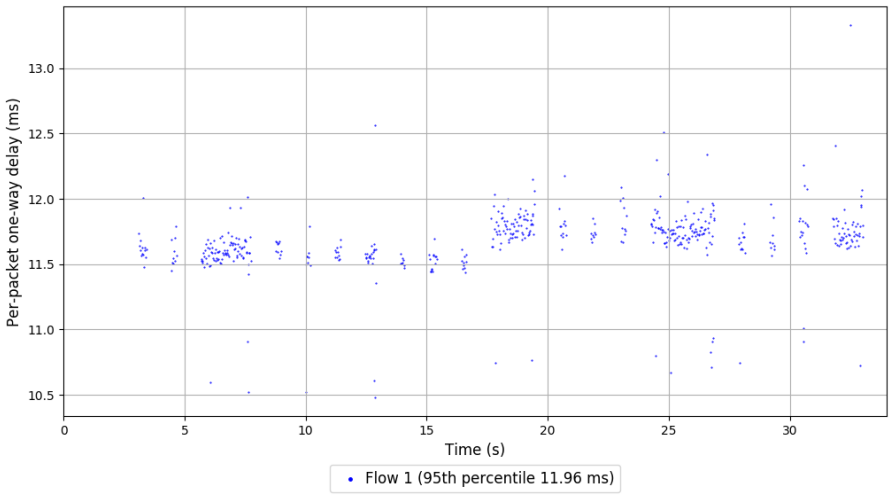
```
Run 4: Statistics of LEDBAT

Start at: 2018-09-07 10:50:30
End at: 2018-09-07 10:51:00

# Below is generated by plot.py at 2018-09-07 11:11:25
# Datalink statistics
-- Total of 1 flow:
Average capacity: 108.00 Mbit/s
Average throughput: 0.20 Mbit/s (0.2% utilization)
95th percentile per-packet one-way delay: 11.961 ms
Loss rate: 50.00%
-- Flow 1:
Average throughput: 0.20 Mbit/s
95th percentile per-packet one-way delay: 11.961 ms
Loss rate: 50.00%
```

Run 4: Report of LEDBAT — Data Link



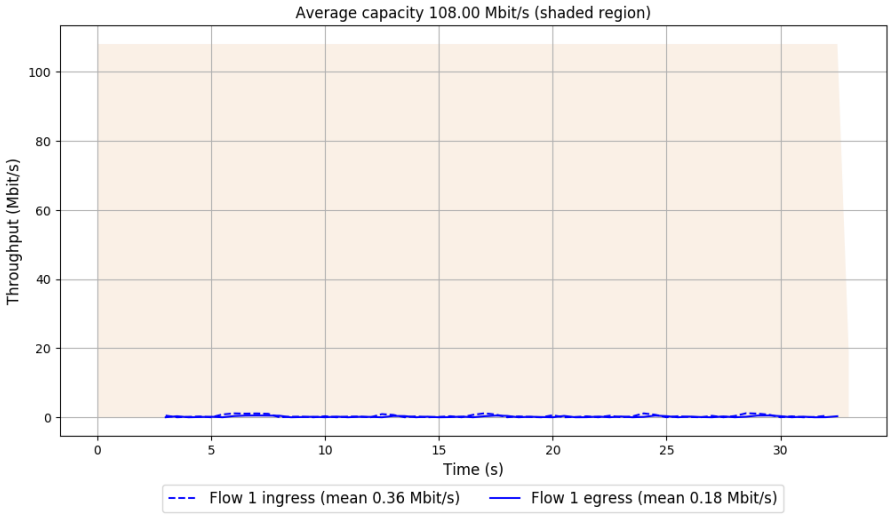


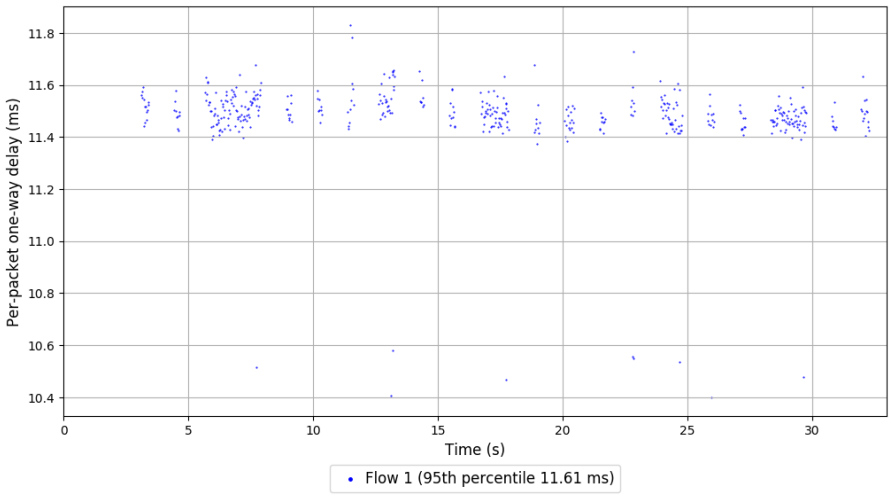
```
Run 5: Statistics of LEDBAT

Start at: 2018-09-07 11:01:35
End at: 2018-09-07 11:02:05

# Below is generated by plot.py at 2018-09-07 11:11:25
# Datalink statistics
-- Total of 1 flow:
Average capacity: 108.00 Mbit/s
Average throughput: 0.18 Mbit/s (0.2% utilization)
95th percentile per-packet one-way delay: 11.606 ms
Loss rate: 49.60%
-- Flow 1:
Average throughput: 0.18 Mbit/s
95th percentile per-packet one-way delay: 11.606 ms
Loss rate: 49.60%
```

Run 5: Report of LEDBAT — Data Link



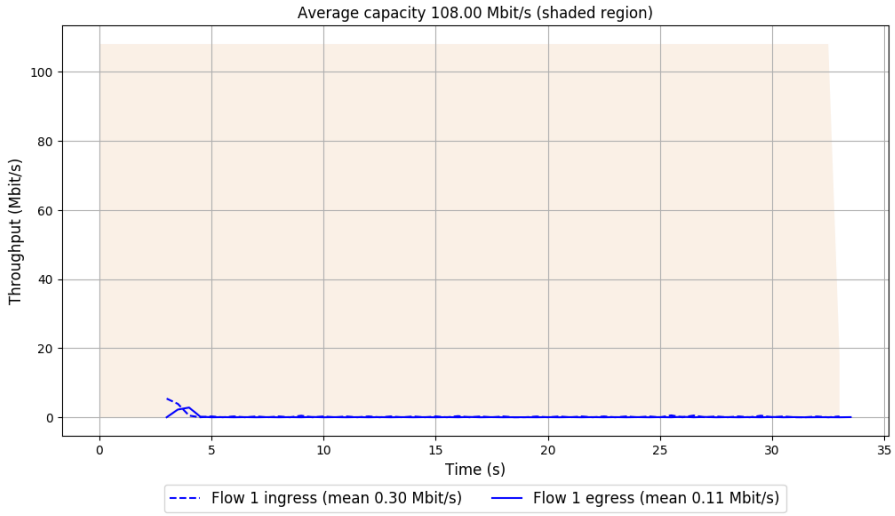


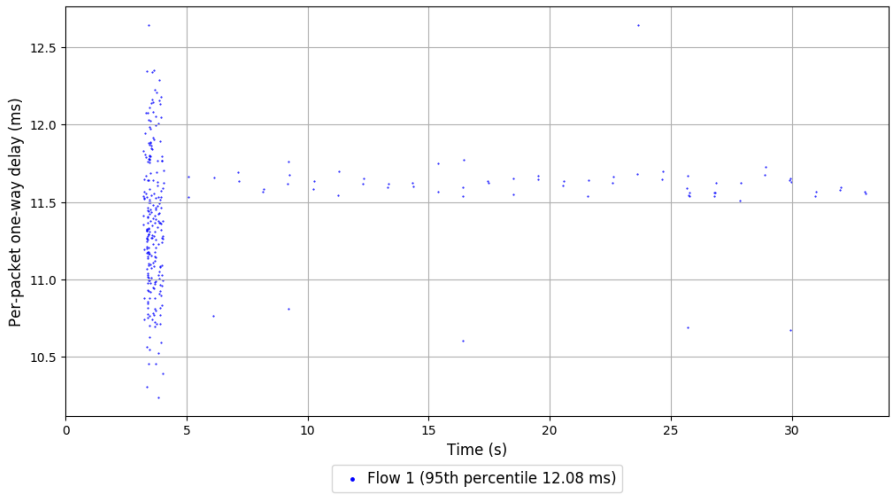
```
Run 1: Statistics of Indigo-Muses

Start at: 2018-09-07 10:21:23
End at: 2018-09-07 10:21:53

# Below is generated by plot.py at 2018-09-07 11:11:27
# Datalink statistics
-- Total of 1 flow:
Average capacity: 108.00 Mbit/s
Average throughput: 0.11 Mbit/s (0.1% utilization)
95th percentile per-packet one-way delay: 12.083 ms
Loss rate: 62.14%
-- Flow 1:
Average throughput: 0.11 Mbit/s
95th percentile per-packet one-way delay: 12.083 ms
Loss rate: 62.14%
```

Run 1: Report of Indigo-Muses — Data Link



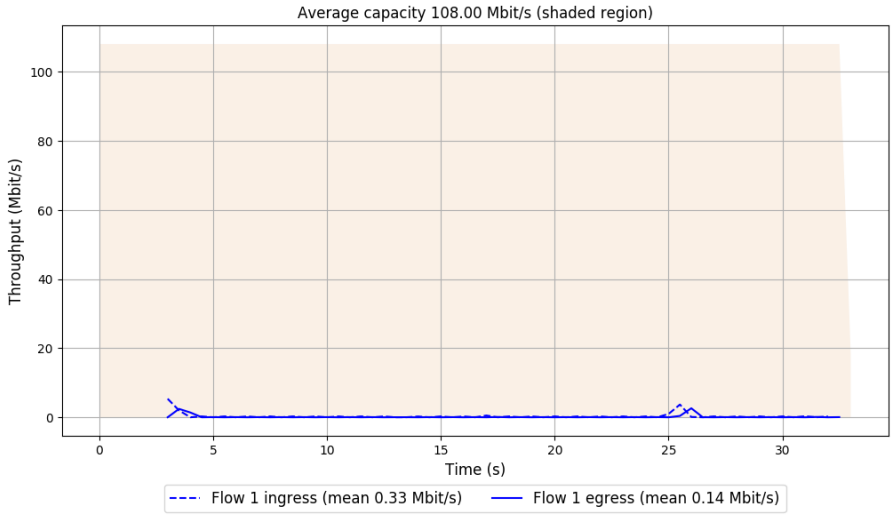


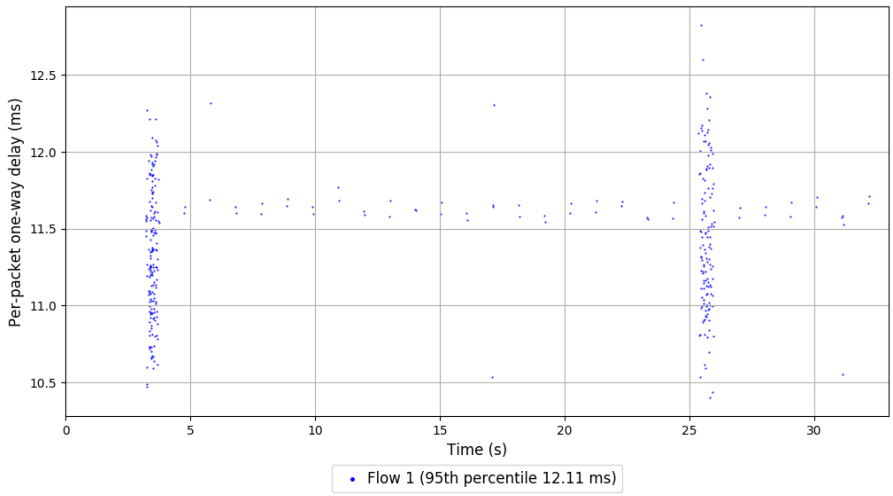
```
Run 2: Statistics of Indigo-Muses

Start at: 2018-09-07 10:32:30
End at: 2018-09-07 10:33:00

# Below is generated by plot.py at 2018-09-07 11:11:28
# Datalink statistics
-- Total of 1 flow:
Average capacity: 108.00 Mbit/s
Average throughput: 0.14 Mbit/s (0.1% utilization)
95th percentile per-packet one-way delay: 12.110 ms
Loss rate: 57.28%
-- Flow 1:
Average throughput: 0.14 Mbit/s
95th percentile per-packet one-way delay: 12.110 ms
Loss rate: 57.28%
```

Run 2: Report of Indigo-Muses — Data Link



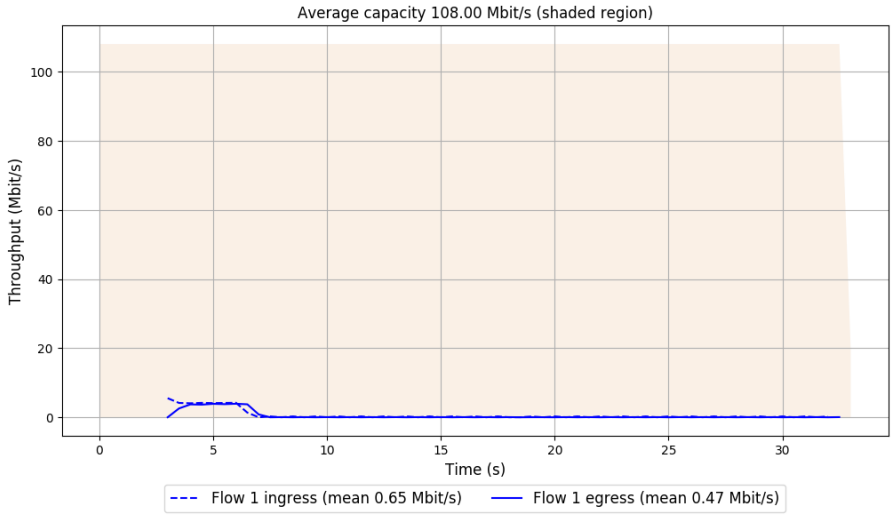


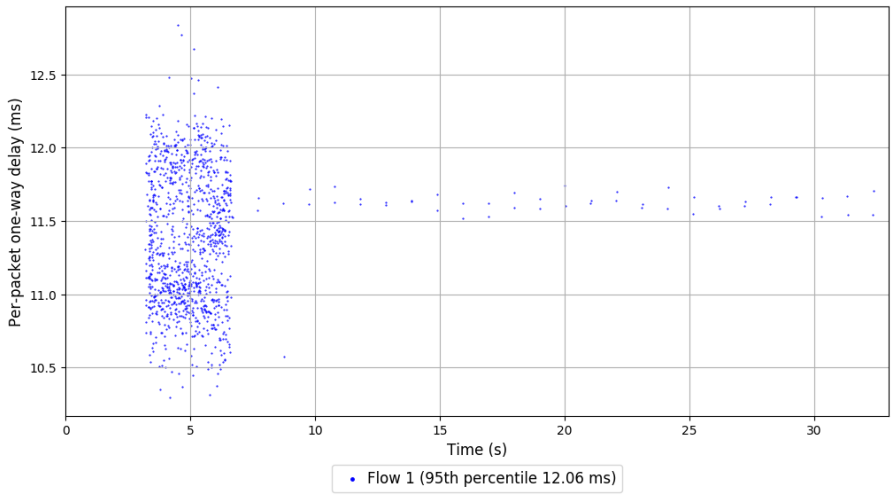
```
Run 3: Statistics of Indigo-Muses

Start at: 2018-09-07 10:43:34
End at: 2018-09-07 10:44:04

# Below is generated by plot.py at 2018-09-07 11:11:30
# Datalink statistics
-- Total of 1 flow:
Average capacity: 108.00 Mbit/s
Average throughput: 0.47 Mbit/s (0.4% utilization)
95th percentile per-packet one-way delay: 12.065 ms
Loss rate: 28.38%
-- Flow 1:
Average throughput: 0.47 Mbit/s
95th percentile per-packet one-way delay: 12.065 ms
Loss rate: 28.38%
```

Run 3: Report of Indigo-Muses — Data Link



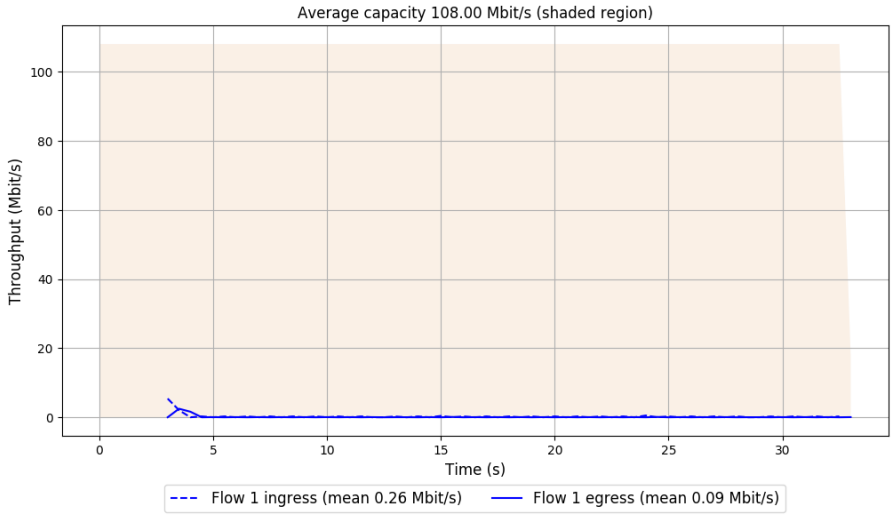


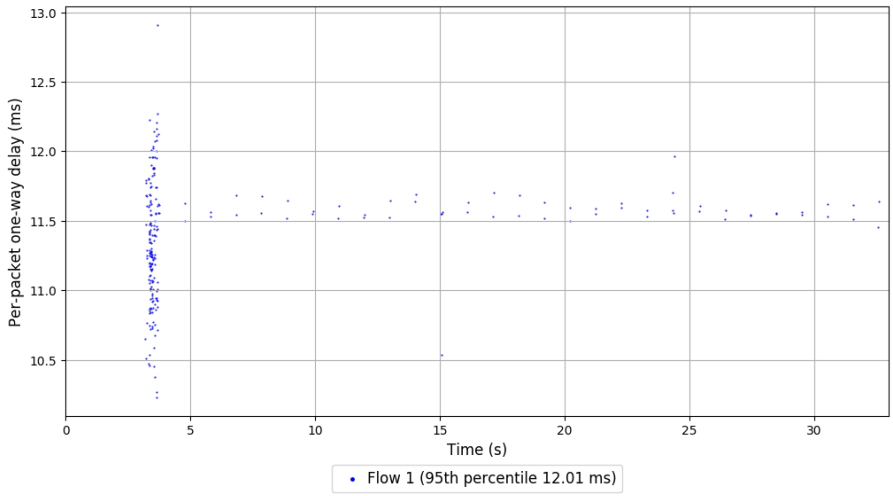
```
Run 4: Statistics of Indigo-Muses

Start at: 2018-09-07 10:54:45
End at: 2018-09-07 10:55:15

# Below is generated by plot.py at 2018-09-07 11:11:31
# Datalink statistics
-- Total of 1 flow:
Average capacity: 108.00 Mbit/s
Average throughput: 0.09 Mbit/s (0.1% utilization)
95th percentile per-packet one-way delay: 12.007 ms
Loss rate: 63.56%
-- Flow 1:
Average throughput: 0.09 Mbit/s
95th percentile per-packet one-way delay: 12.007 ms
Loss rate: 63.56%
```

Run 4: Report of Indigo-Muses — Data Link



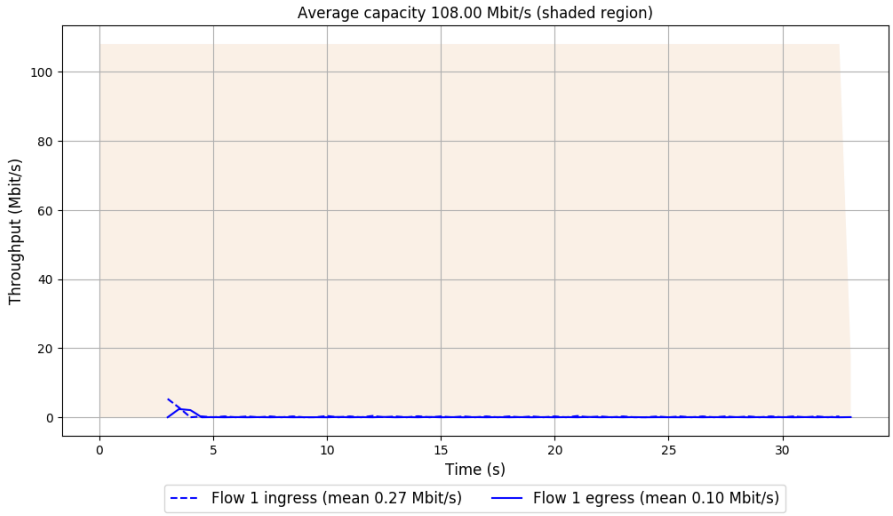


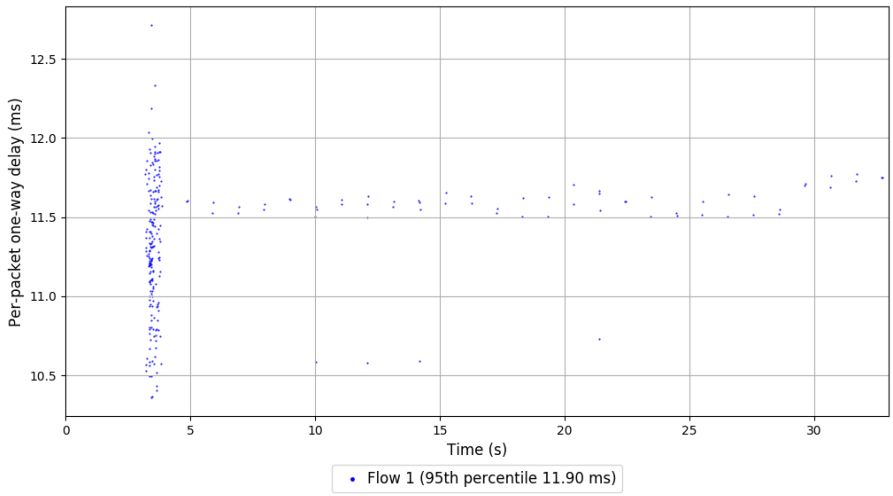
```
Run 5: Statistics of Indigo-Muses

Start at: 2018-09-07 11:05:50
End at: 2018-09-07 11:06:20

# Below is generated by plot.py at 2018-09-07 11:11:32
# Datalink statistics
-- Total of 1 flow:
Average capacity: 108.00 Mbit/s
Average throughput: 0.10 Mbit/s (0.1% utilization)
95th percentile per-packet one-way delay: 11.904 ms
Loss rate: 62.27%
-- Flow 1:
Average throughput: 0.10 Mbit/s
95th percentile per-packet one-way delay: 11.904 ms
Loss rate: 62.27%
```

Run 5: Report of Indigo-Muses — Data Link



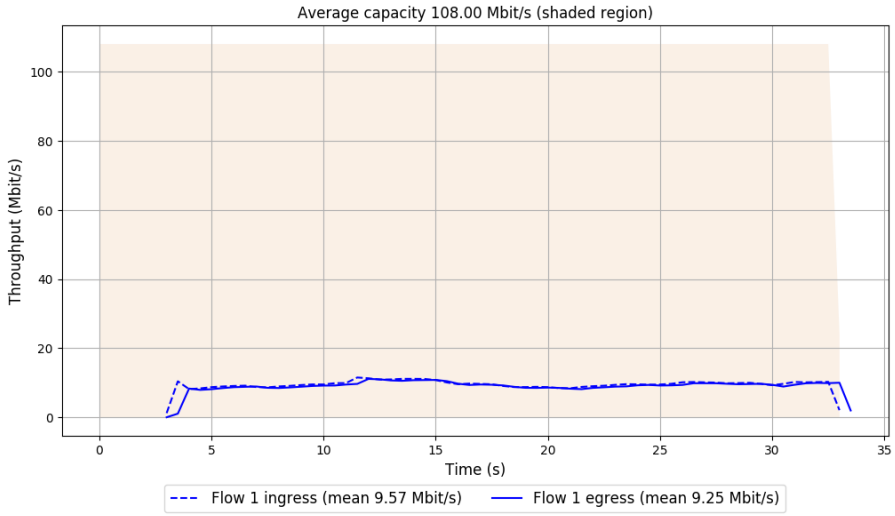


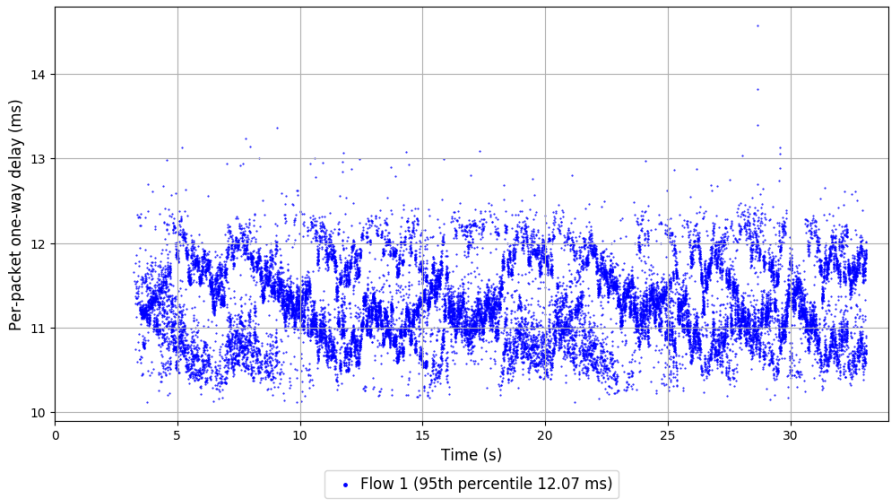
```
Run 1: Statistics of PCC-Allegro

Start at: 2018-09-07 10:23:21
End at: 2018-09-07 10:23:51

# Below is generated by plot.py at 2018-09-07 11:11:59
# Datalink statistics
-- Total of 1 flow:
Average capacity: 108.00 Mbit/s
Average throughput: 9.25 Mbit/s (8.6% utilization)
95th percentile per-packet one-way delay: 12.068 ms
Loss rate: 3.29%
-- Flow 1:
Average throughput: 9.25 Mbit/s
95th percentile per-packet one-way delay: 12.068 ms
Loss rate: 3.29%
```

Run 1: Report of PCC-Allegro — Data Link



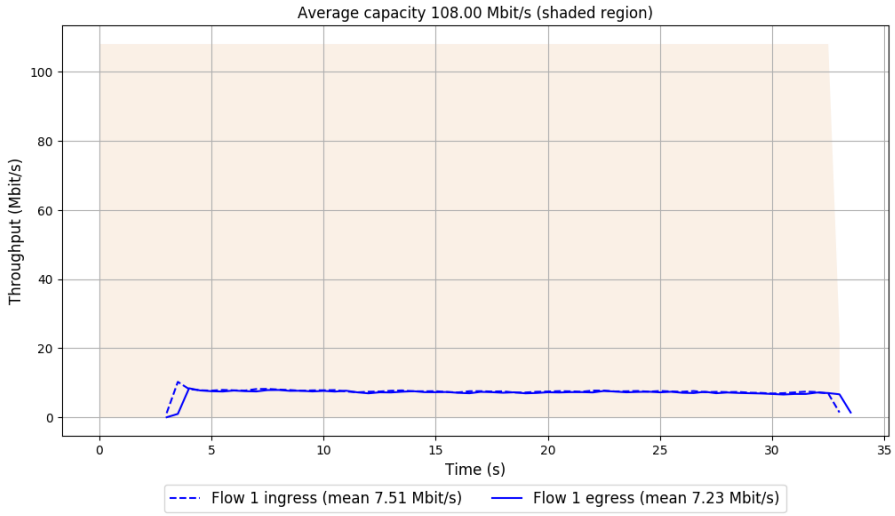


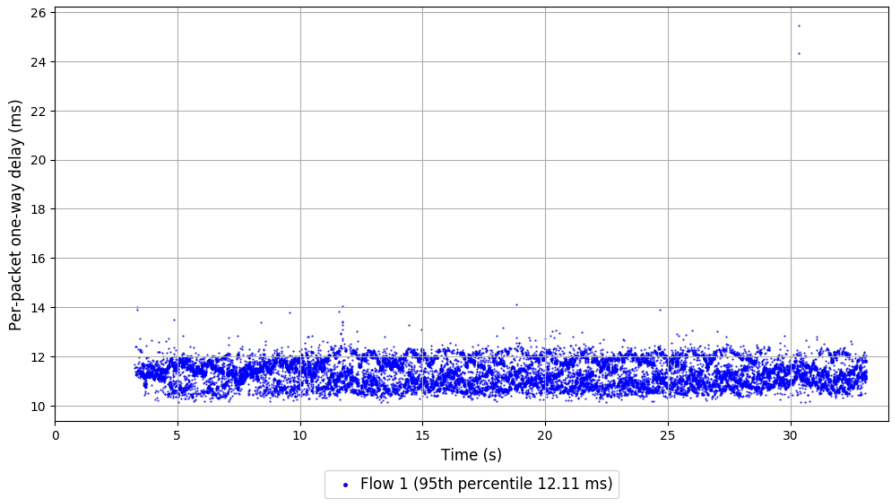
```
Run 2: Statistics of PCC-Allegro

Start at: 2018-09-07 10:34:25
End at: 2018-09-07 10:34:55

# Below is generated by plot.py at 2018-09-07 11:12:02
# Datalink statistics
-- Total of 1 flow:
Average capacity: 108.00 Mbit/s
Average throughput: 7.23 Mbit/s (6.7% utilization)
95th percentile per-packet one-way delay: 12.105 ms
Loss rate: 3.74%
-- Flow 1:
Average throughput: 7.23 Mbit/s
95th percentile per-packet one-way delay: 12.105 ms
Loss rate: 3.74%
```

Run 2: Report of PCC-Allegro — Data Link



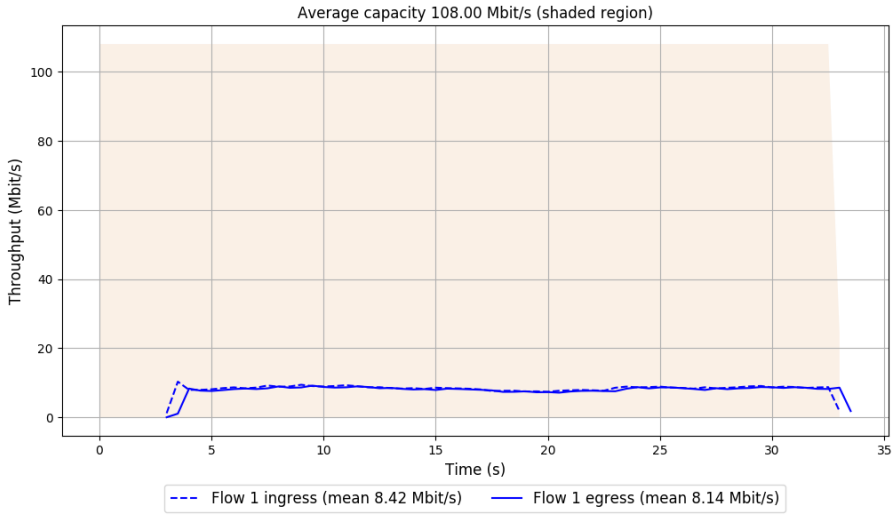


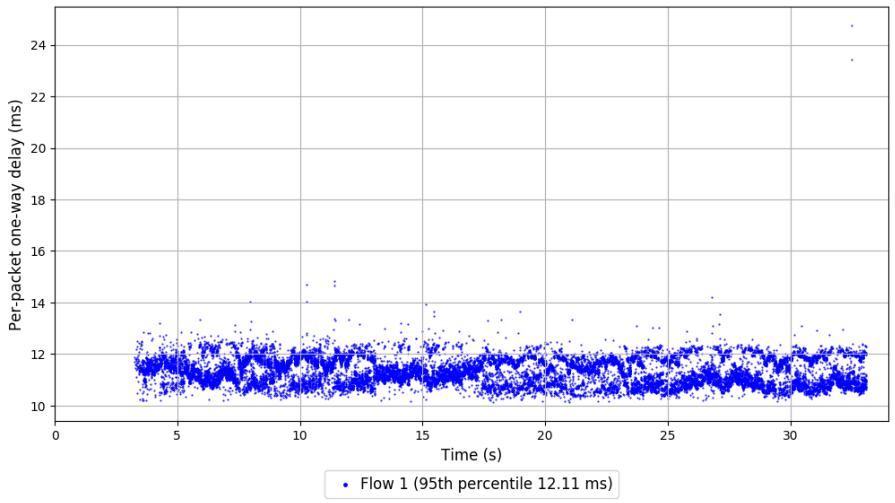
```
Run 3: Statistics of PCC-Allegro

Start at: 2018-09-07 10:45:34
End at: 2018-09-07 10:46:04

# Below is generated by plot.py at 2018-09-07 11:12:02
# Datalink statistics
-- Total of 1 flow:
Average capacity: 108.00 Mbit/s
Average throughput: 8.14 Mbit/s (7.5% utilization)
95th percentile per-packet one-way delay: 12.110 ms
Loss rate: 3.31%
-- Flow 1:
Average throughput: 8.14 Mbit/s
95th percentile per-packet one-way delay: 12.110 ms
Loss rate: 3.31%
```

Run 3: Report of PCC-Allegro — Data Link



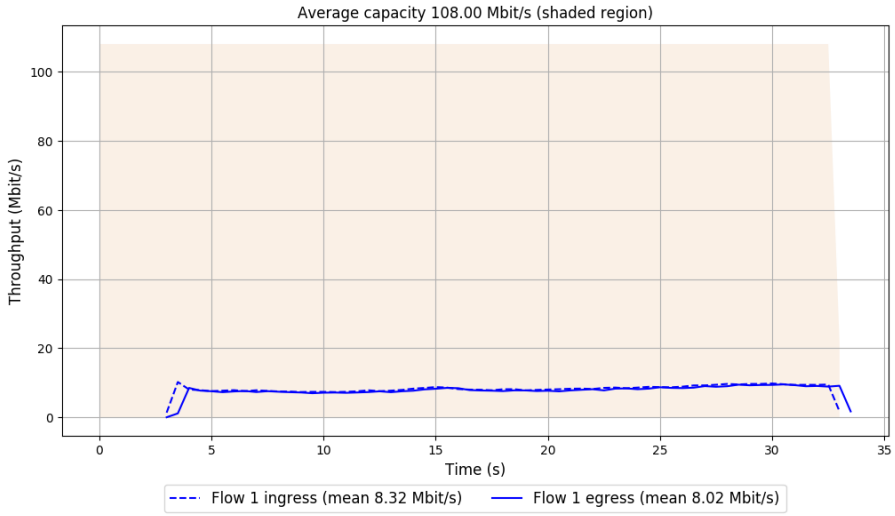


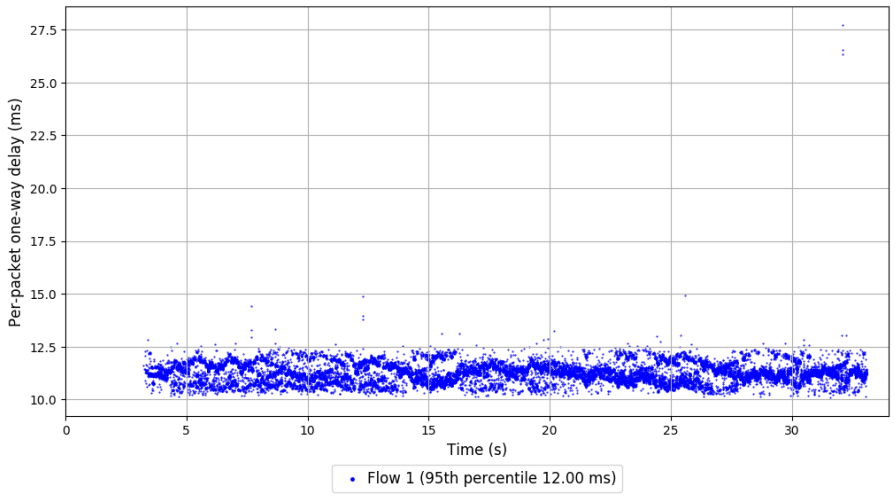
```
Run 4: Statistics of PCC-Allegro

Start at: 2018-09-07 10:56:41
End at: 2018-09-07 10:57:11

# Below is generated by plot.py at 2018-09-07 11:12:04
# Datalink statistics
-- Total of 1 flow:
Average capacity: 108.00 Mbit/s
Average throughput: 8.02 Mbit/s (7.4% utilization)
95th percentile per-packet one-way delay: 11.996 ms
Loss rate: 3.60%
-- Flow 1:
Average throughput: 8.02 Mbit/s
95th percentile per-packet one-way delay: 11.996 ms
Loss rate: 3.60%
```

Run 4: Report of PCC-Allegro — Data Link



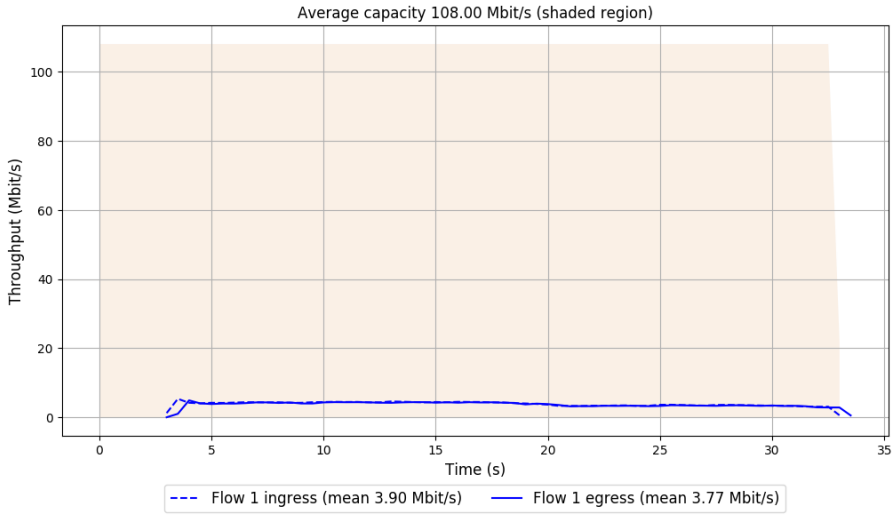


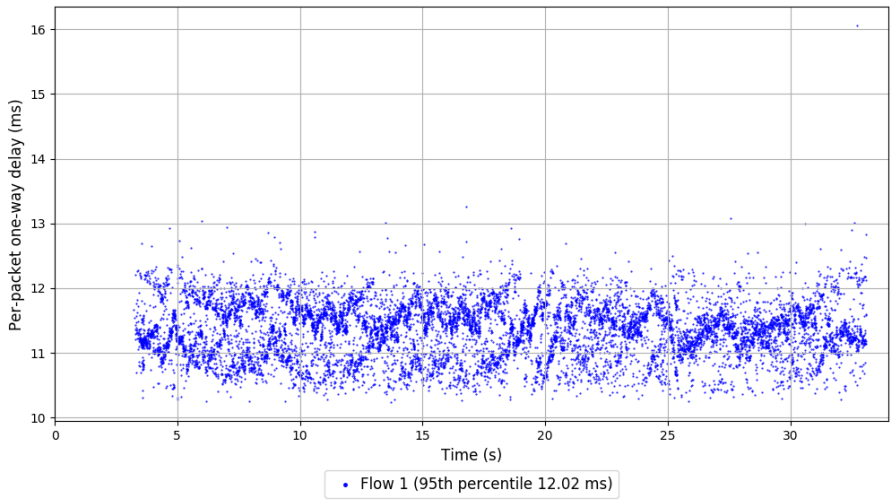
```
Run 5: Statistics of PCC-Allegro

Start at: 2018-09-07 11:07:57
End at: 2018-09-07 11:08:27

# Below is generated by plot.py at 2018-09-07 11:12:04
# Datalink statistics
-- Total of 1 flow:
Average capacity: 108.00 Mbit/s
Average throughput: 3.77 Mbit/s (3.5% utilization)
95th percentile per-packet one-way delay: 12.021 ms
Loss rate: 3.26%
-- Flow 1:
Average throughput: 3.77 Mbit/s
95th percentile per-packet one-way delay: 12.021 ms
Loss rate: 3.26%
```

Run 5: Report of PCC-Allegro — Data Link

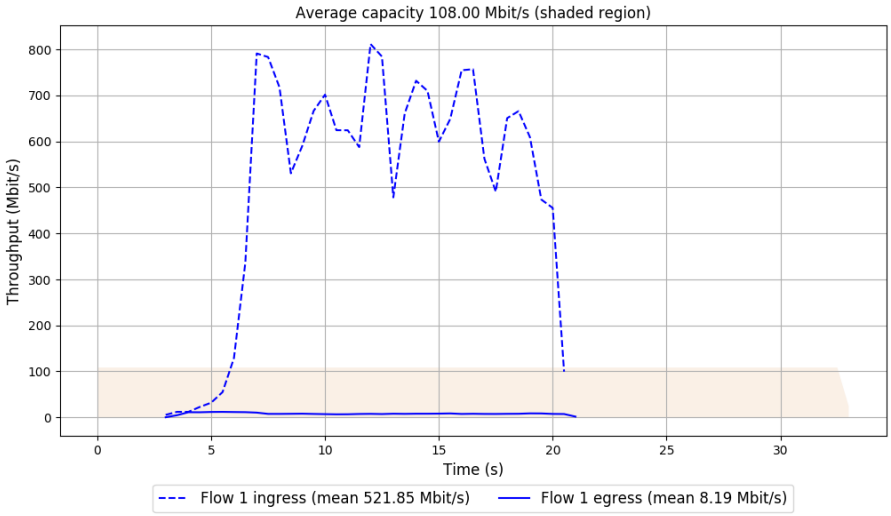


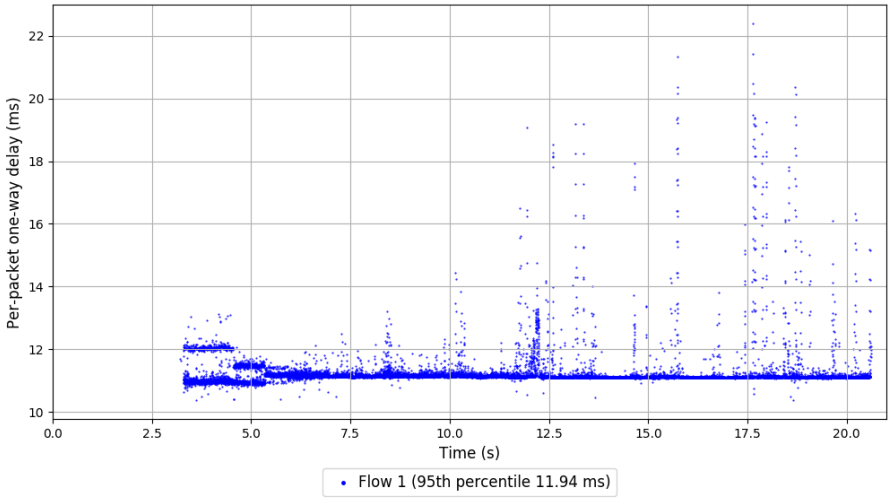


```
Run 1: Statistics of PCC-Expr

Start at: 2018-09-07 10:22:35
End at: 2018-09-07 10:23:05
```

Run 1: Report of PCC-Expr — Data Link

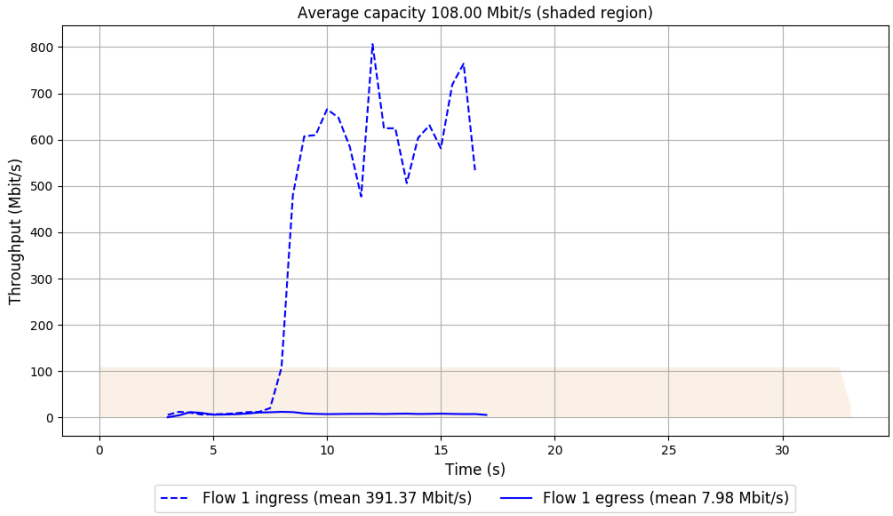


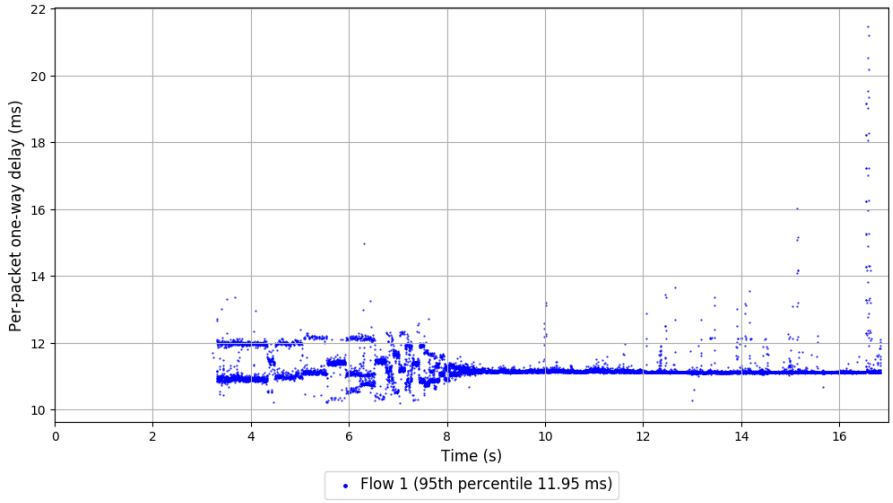


```
Run 2: Statistics of PCC-Expr

Start at: 2018-09-07 10:33:43
End at: 2018-09-07 10:34:13
```

Run 2: Report of PCC-Expr — Data Link

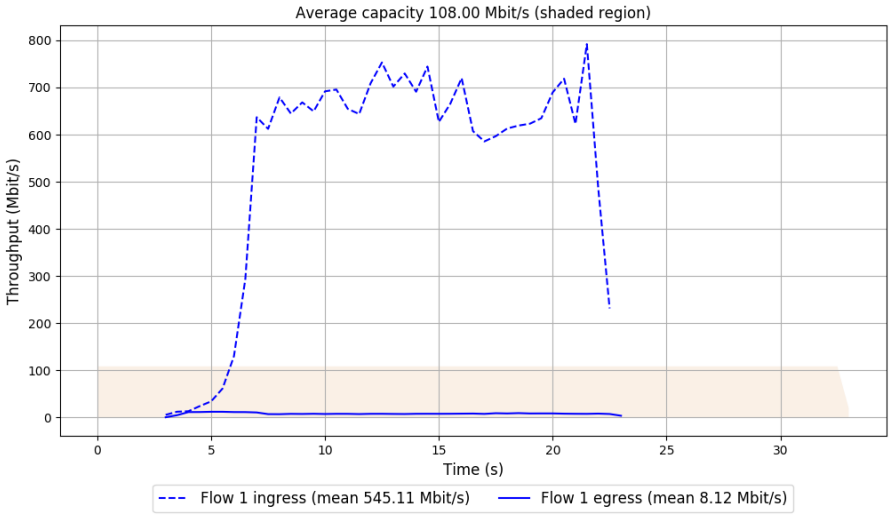


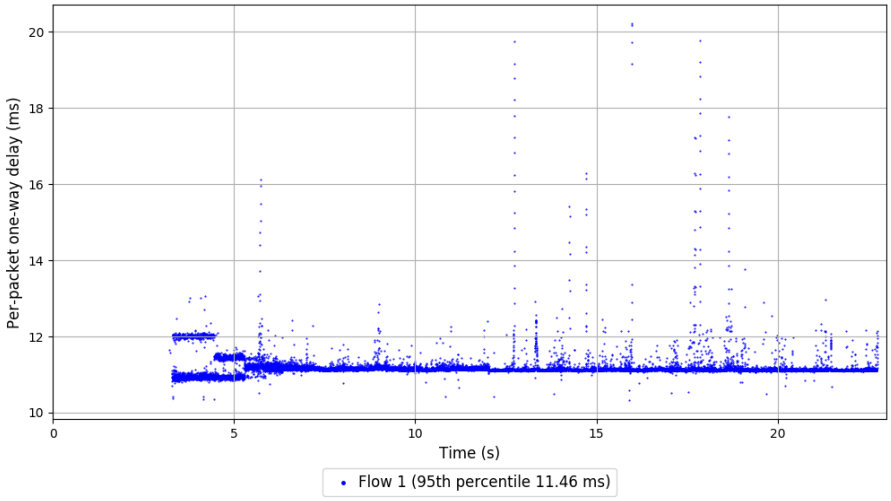


```
Run 3: Statistics of PCC-Expr

Start at: 2018-09-07 10:44:47
End at: 2018-09-07 10:45:17
```

Run 3: Report of PCC-Expr — Data Link

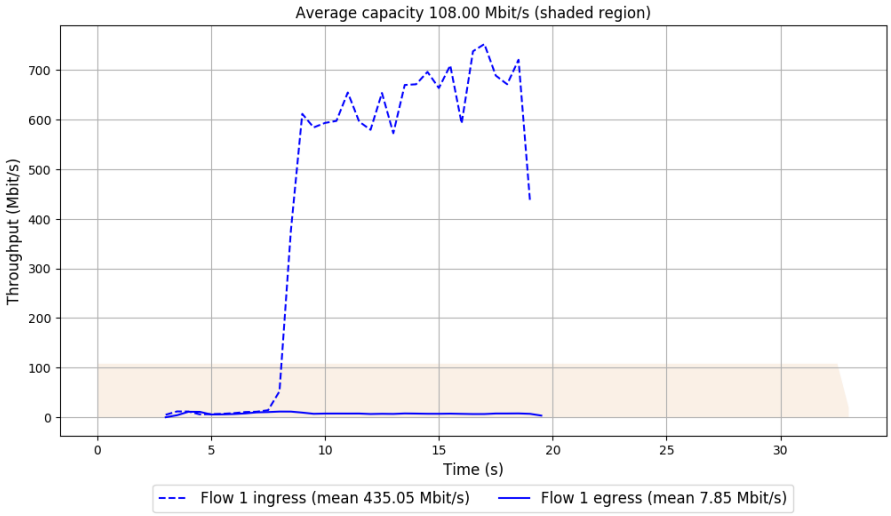


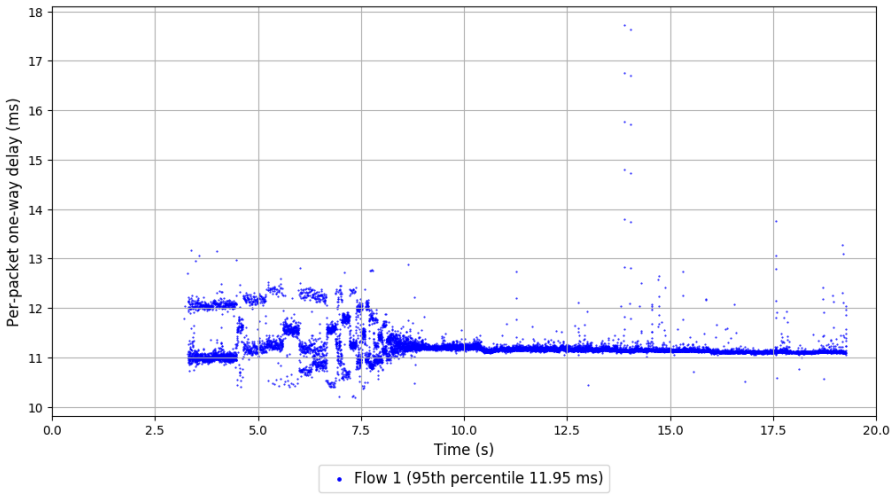


```
Run 4: Statistics of PCC-Expr

Start at: 2018-09-07 10:55:57
End at: 2018-09-07 10:56:27
```

Run 4: Report of PCC-Expr — Data Link



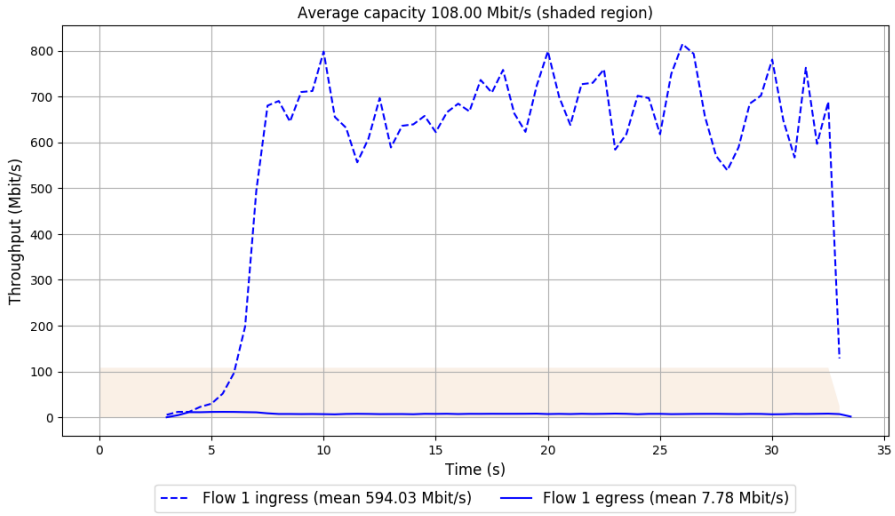


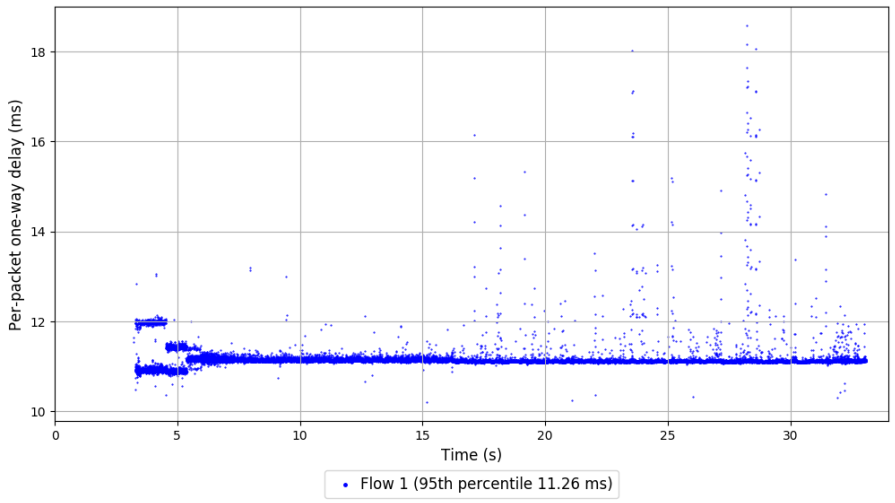
```
Run 5: Statistics of PCC-Expr

Start at: 2018-09-07 11:07:03
End at: 2018-09-07 11:07:33

# Below is generated by plot.py at 2018-09-07 11:16:11
# Datalink statistics
-- Total of 1 flow:
Average capacity: 108.00 Mbit/s
Average throughput: 7.78 Mbit/s (7.2% utilization)
95th percentile per-packet one-way delay: 11.256 ms
Loss rate: 98.69%
-- Flow 1:
Average throughput: 7.78 Mbit/s
95th percentile per-packet one-way delay: 11.256 ms
Loss rate: 98.69%
```

Run 5: Report of PCC-Expr — Data Link



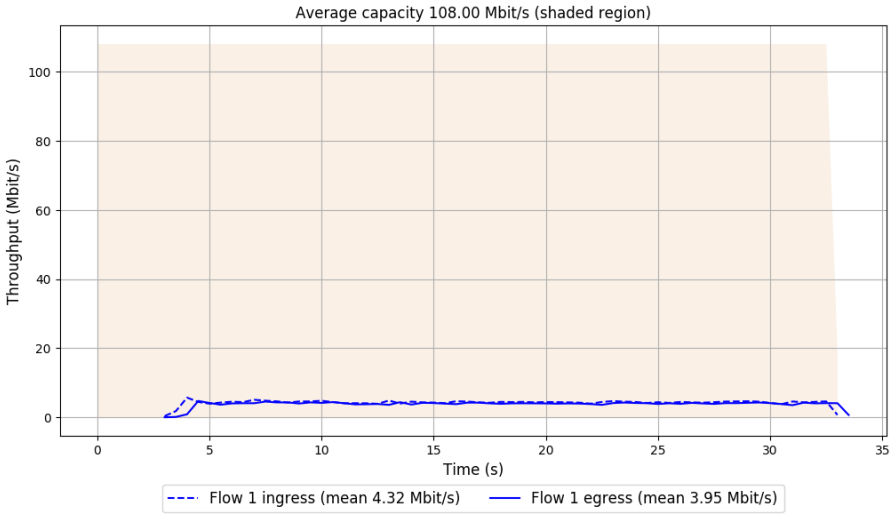


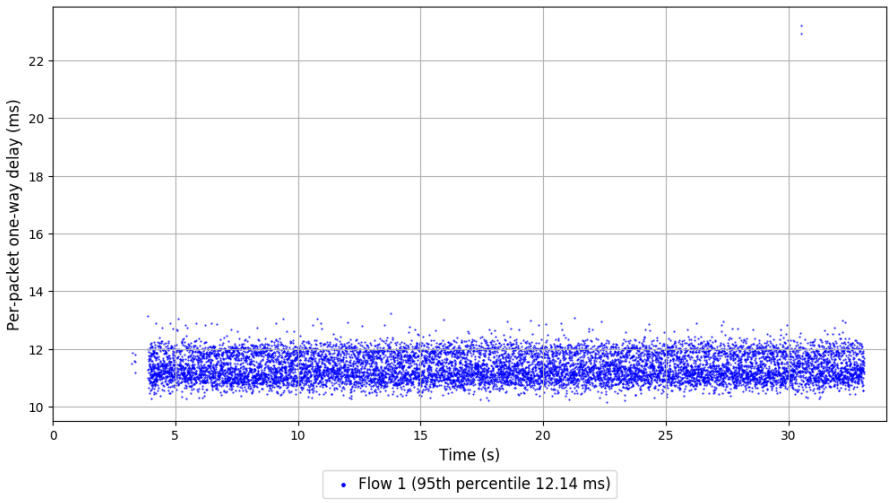
```
Run 1: Statistics of QUIC Cubic

Start at: 2018-09-07 10:13:29
End at: 2018-09-07 10:13:59

# Below is generated by plot.py at 2018-09-07 11:16:11
# Datalink statistics
-- Total of 1 flow:
Average capacity: 108.00 Mbit/s
Average throughput: 3.95 Mbit/s (3.7% utilization)
95th percentile per-packet one-way delay: 12.145 ms
Loss rate: 8.51%
-- Flow 1:
Average throughput: 3.95 Mbit/s
95th percentile per-packet one-way delay: 12.145 ms
Loss rate: 8.51%
```

Run 1: Report of QUIC Cubic — Data Link



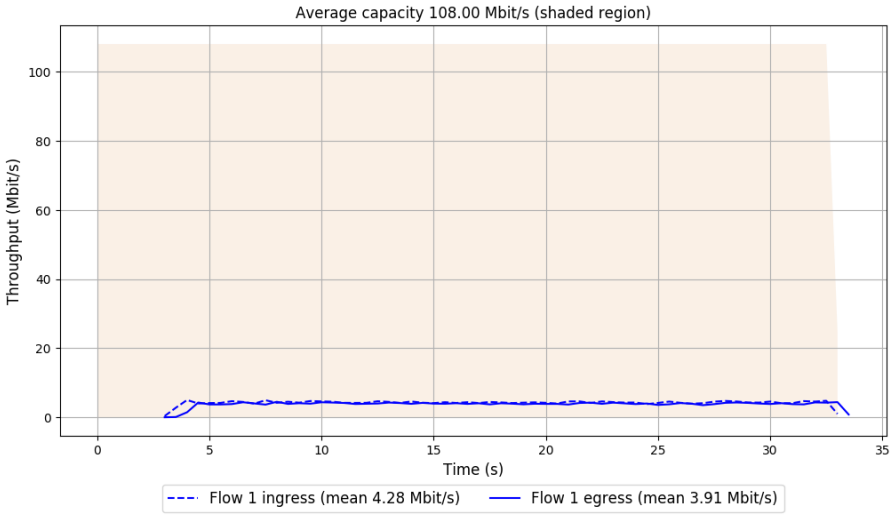


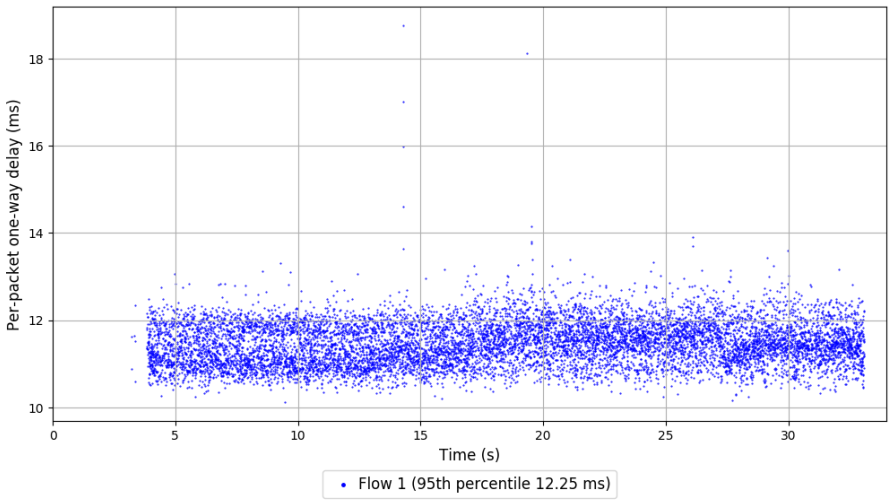
```
Run 2: Statistics of QUIC Cubic

Start at: 2018-09-07 10:24:36
End at: 2018-09-07 10:25:06

# Below is generated by plot.py at 2018-09-07 11:16:11
# Datalink statistics
-- Total of 1 flow:
Average capacity: 108.00 Mbit/s
Average throughput: 3.91 Mbit/s (3.6% utilization)
95th percentile per-packet one-way delay: 12.249 ms
Loss rate: 8.66%
-- Flow 1:
Average throughput: 3.91 Mbit/s
95th percentile per-packet one-way delay: 12.249 ms
Loss rate: 8.66%
```

Run 2: Report of QUIC Cubic — Data Link



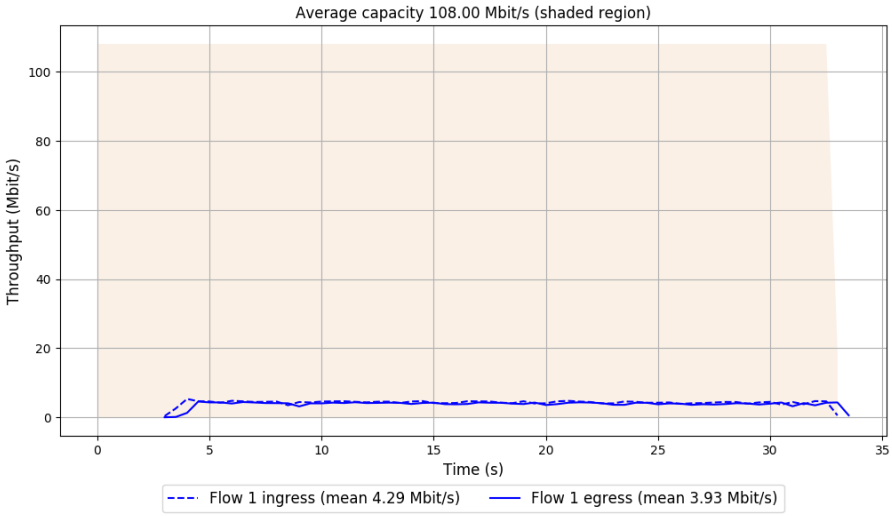


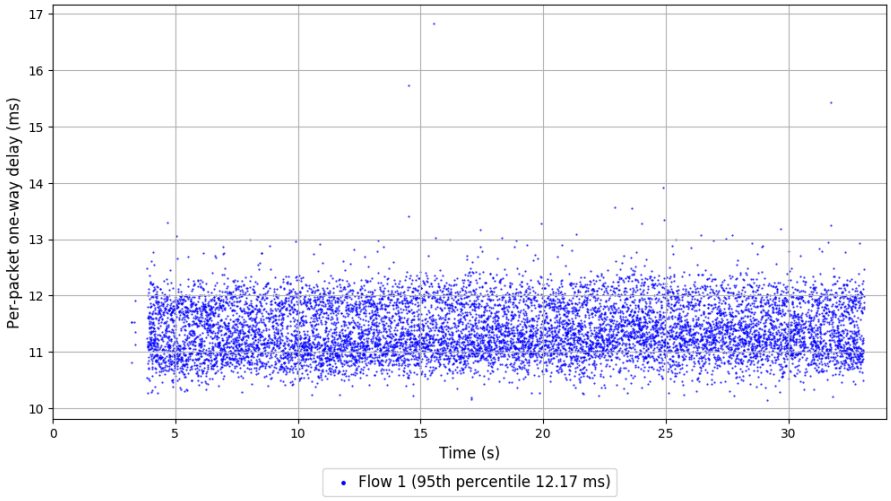
```
Run 3: Statistics of QUIC Cubic

Start at: 2018-09-07 10:35:39
End at: 2018-09-07 10:36:09

# Below is generated by plot.py at 2018-09-07 11:16:11
# Datalink statistics
-- Total of 1 flow:
Average capacity: 108.00 Mbit/s
Average throughput: 3.93 Mbit/s (3.6% utilization)
95th percentile per-packet one-way delay: 12.173 ms
Loss rate: 8.56%
-- Flow 1:
Average throughput: 3.93 Mbit/s
95th percentile per-packet one-way delay: 12.173 ms
Loss rate: 8.56%
```

Run 3: Report of QUIC Cubic — Data Link



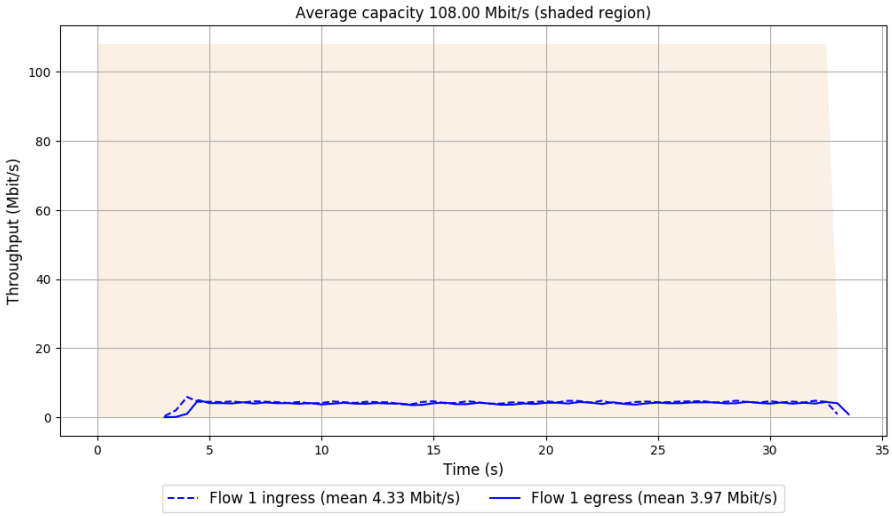


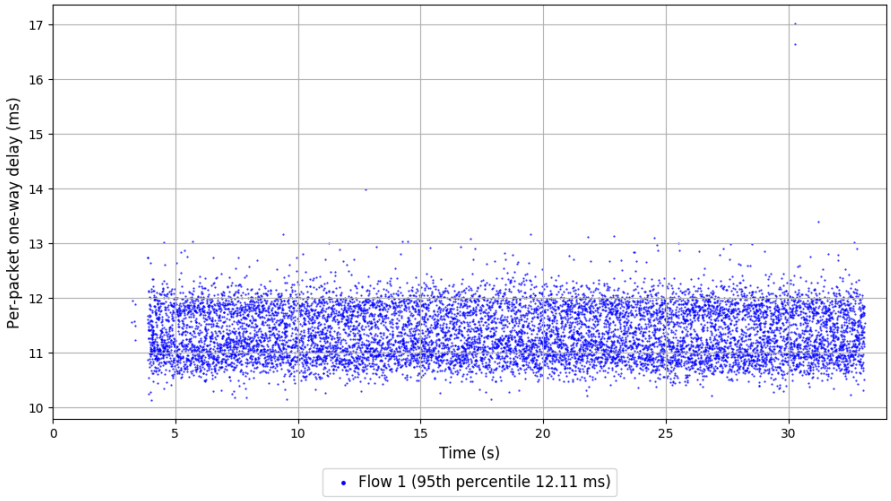
```
Run 4: Statistics of QUIC Cubic

Start at: 2018-09-07 10:46:49
End at: 2018-09-07 10:47:19

# Below is generated by plot.py at 2018-09-07 11:16:11
# Datalink statistics
-- Total of 1 flow:
Average capacity: 108.00 Mbit/s
Average throughput: 3.97 Mbit/s (3.7% utilization)
95th percentile per-packet one-way delay: 12.106 ms
Loss rate: 8.32%
-- Flow 1:
Average throughput: 3.97 Mbit/s
95th percentile per-packet one-way delay: 12.106 ms
Loss rate: 8.32%
```

Run 4: Report of QUIC Cubic — Data Link



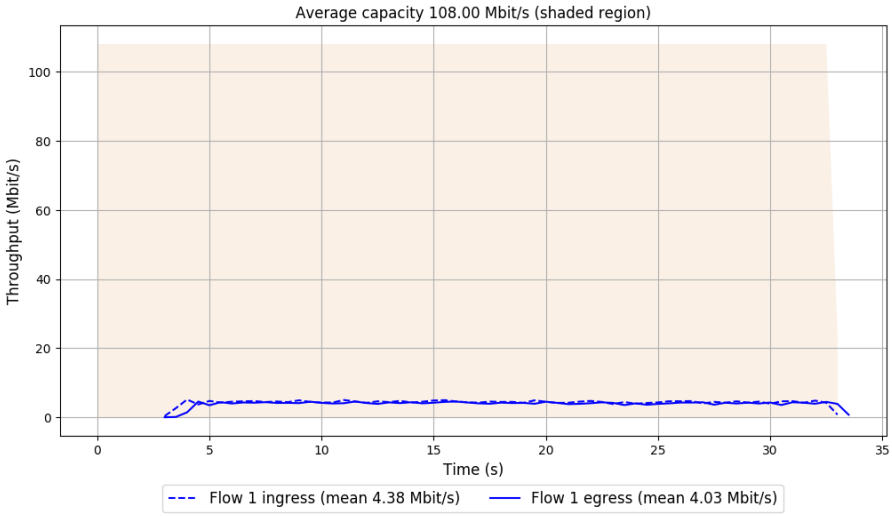


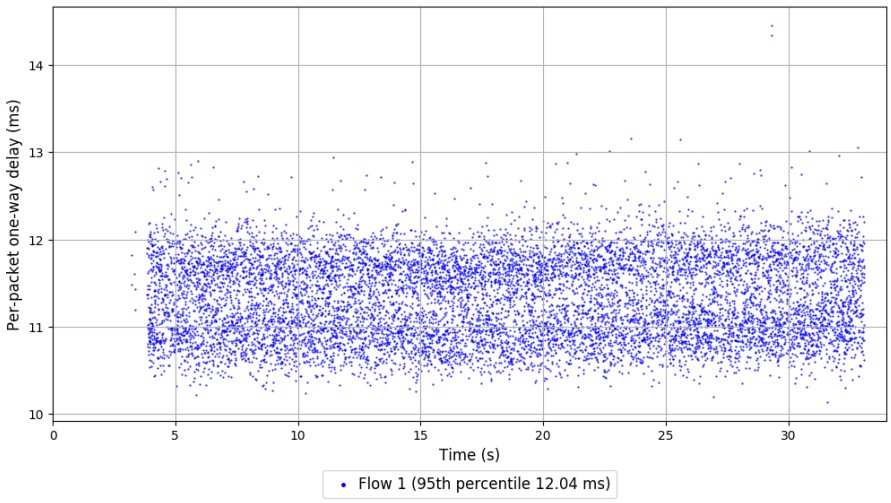
```
Run 5: Statistics of QUIC Cubic

Start at: 2018-09-07 10:57:56
End at: 2018-09-07 10:58:26

# Below is generated by plot.py at 2018-09-07 11:16:11
# Datalink statistics
-- Total of 1 flow:
Average capacity: 108.00 Mbit/s
Average throughput: 4.03 Mbit/s (3.7% utilization)
95th percentile per-packet one-way delay: 12.040 ms
Loss rate: 7.91%
-- Flow 1:
Average throughput: 4.03 Mbit/s
95th percentile per-packet one-way delay: 12.040 ms
Loss rate: 7.91%
```

Run 5: Report of QUIC Cubic — Data Link



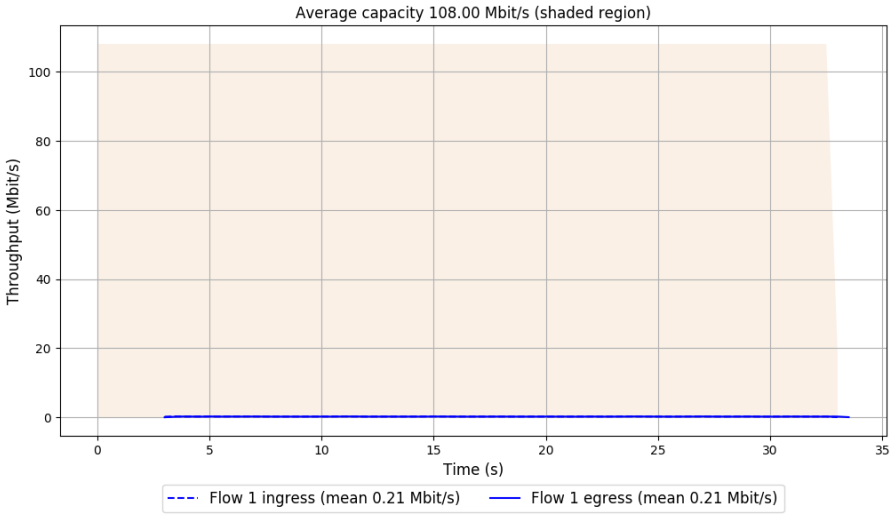


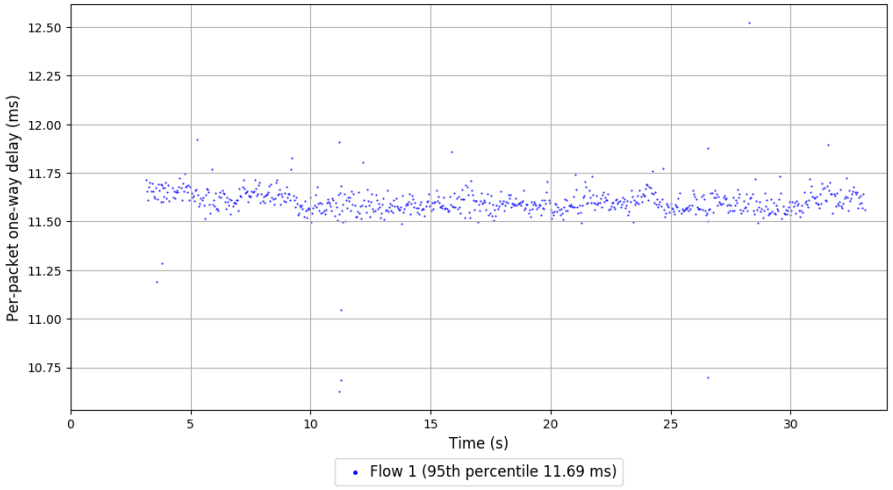
```
Run 1: Statistics of SCReAM

Start at: 2018-09-07 10:18:21
End at: 2018-09-07 10:18:51

# Below is generated by plot.py at 2018-09-07 11:16:11
# Datalink statistics
-- Total of 1 flow:
Average capacity: 108.00 Mbit/s
Average throughput: 0.21 Mbit/s (0.2% utilization)
95th percentile per-packet one-way delay: 11.691 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 11.691 ms
Loss rate: 0.00%
```

Run 1: Report of SCReAM — Data Link



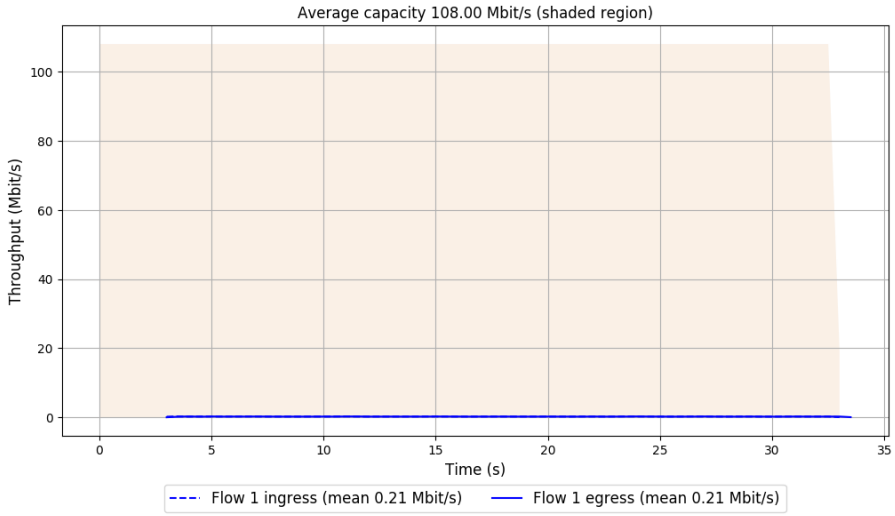


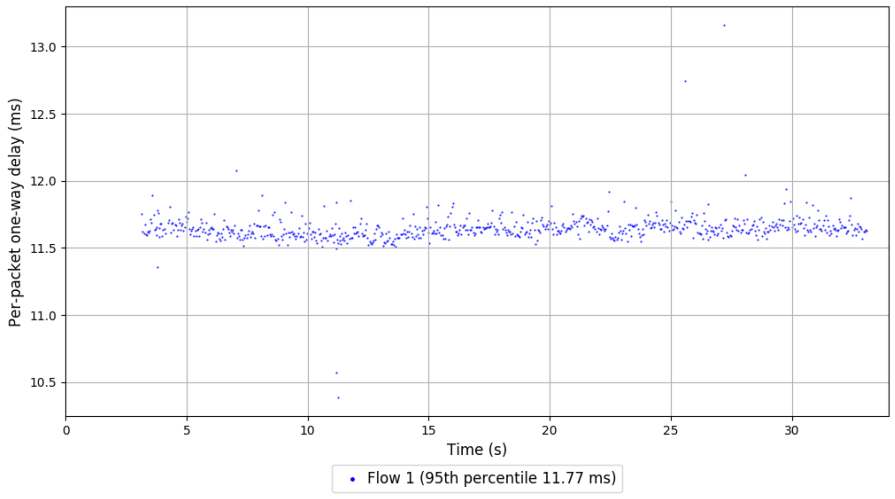
```
Run 2: Statistics of SCReAM

Start at: 2018-09-07 10:29:28
End at: 2018-09-07 10:29:58

# Below is generated by plot.py at 2018-09-07 11:16:11
# Datalink statistics
-- Total of 1 flow:
Average capacity: 108.00 Mbit/s
Average throughput: 0.21 Mbit/s (0.2% utilization)
95th percentile per-packet one-way delay: 11.765 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 11.765 ms
Loss rate: 0.00%
```

Run 2: Report of SCReAM — Data Link



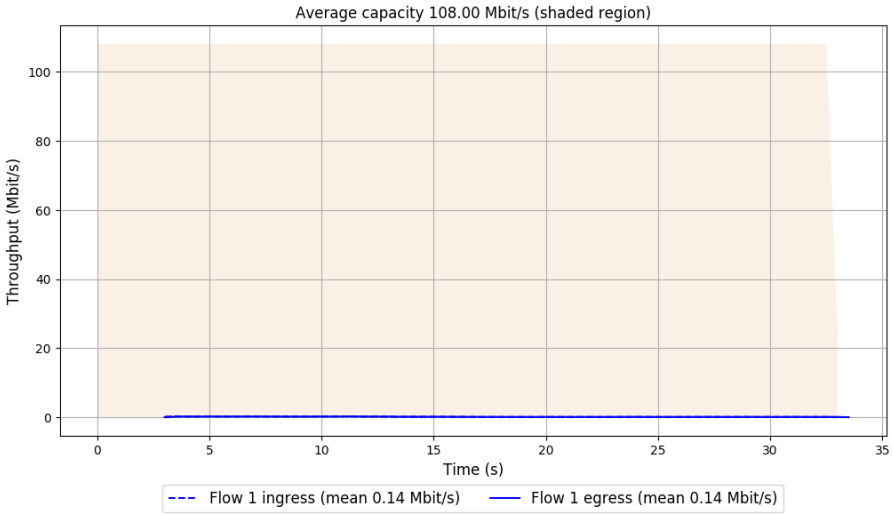


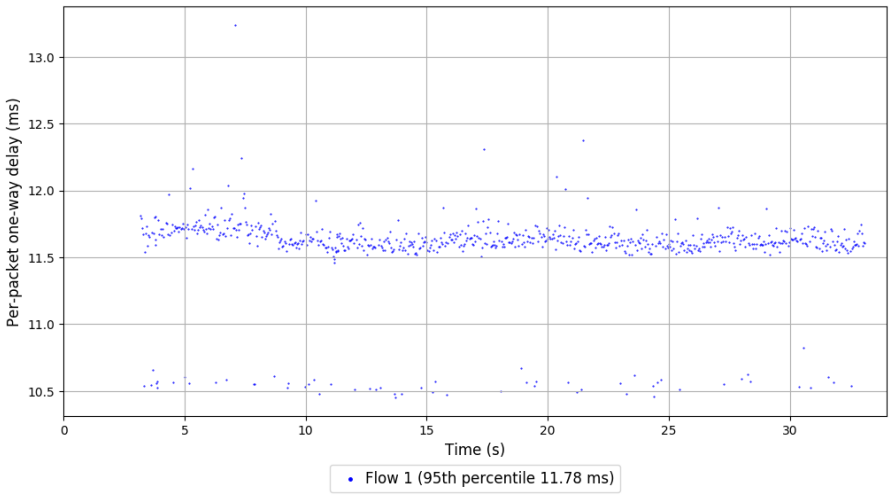
```
Run 3: Statistics of SCReAM

Start at: 2018-09-07 10:40:32
End at: 2018-09-07 10:41:02

# Below is generated by plot.py at 2018-09-07 11:16:11
# Datalink statistics
-- Total of 1 flow:
Average capacity: 108.00 Mbit/s
Average throughput: 0.14 Mbit/s (0.1% utilization)
95th percentile per-packet one-way delay: 11.779 ms
Loss rate: 0.19%
-- Flow 1:
Average throughput: 0.14 Mbit/s
95th percentile per-packet one-way delay: 11.779 ms
Loss rate: 0.19%
```

Run 3: Report of SCReAM — Data Link



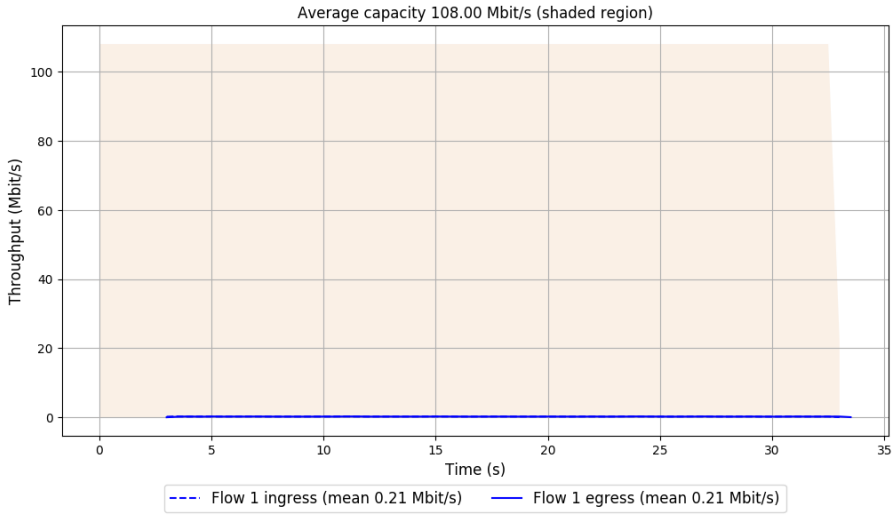


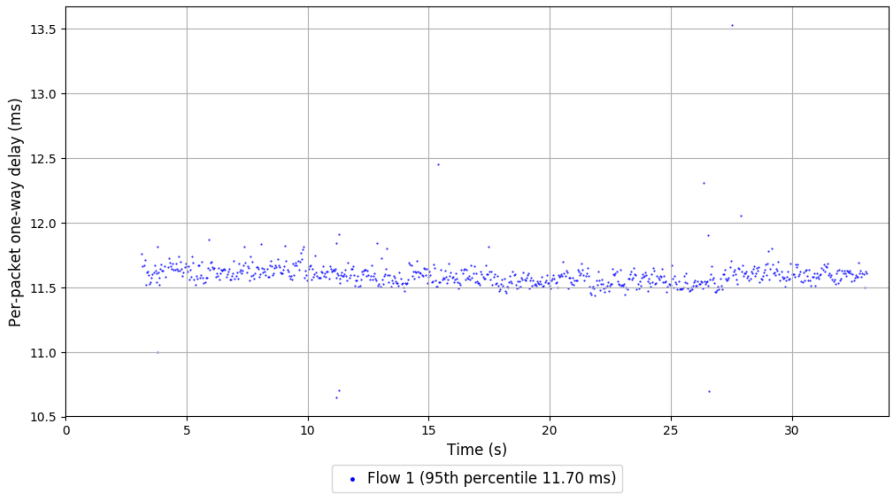
```
Run 4: Statistics of SCReAM

Start at: 2018-09-07 10:51:43
End at: 2018-09-07 10:52:13

# Below is generated by plot.py at 2018-09-07 11:16:11
# Datalink statistics
-- Total of 1 flow:
Average capacity: 108.00 Mbit/s
Average throughput: 0.21 Mbit/s (0.2% utilization)
95th percentile per-packet one-way delay: 11.697 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 11.697 ms
Loss rate: 0.00%
```

Run 4: Report of SCReAM — Data Link



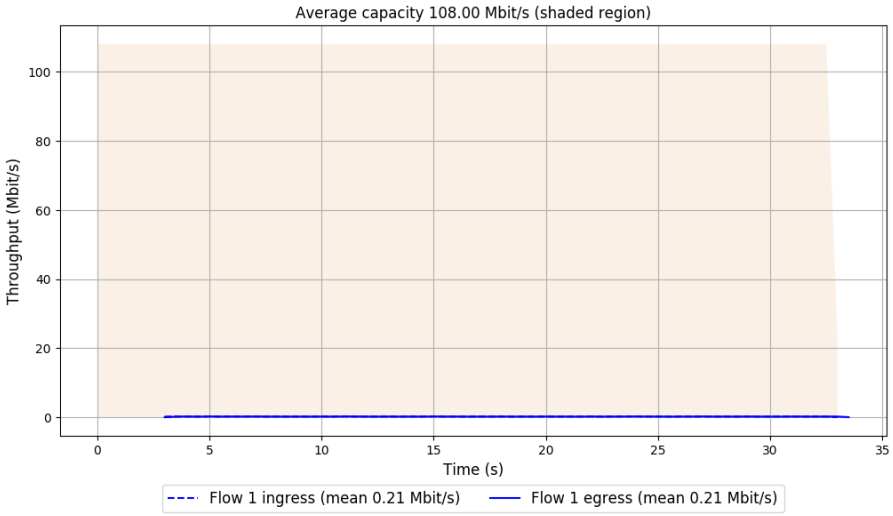


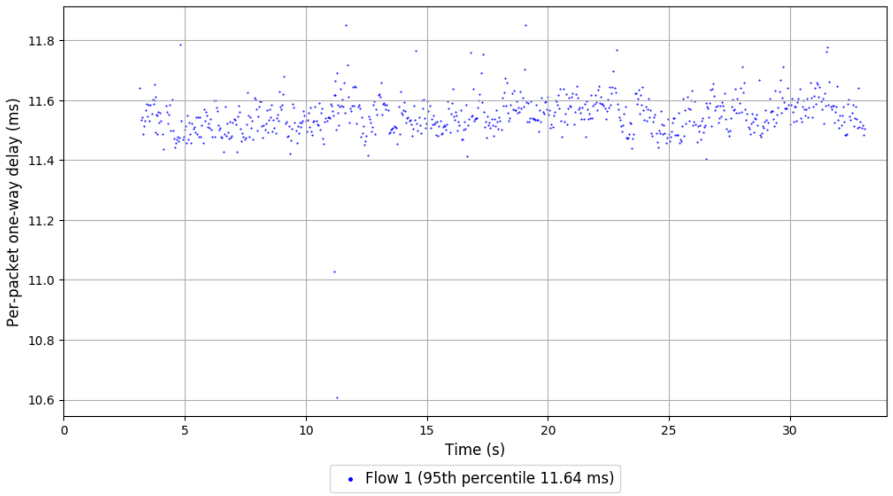
```
Run 5: Statistics of SCReAM

Start at: 2018-09-07 11:02:48
End at: 2018-09-07 11:03:18

# Below is generated by plot.py at 2018-09-07 11:16:11
# Datalink statistics
-- Total of 1 flow:
Average capacity: 108.00 Mbit/s
Average throughput: 0.21 Mbit/s (0.2% utilization)
95th percentile per-packet one-way delay: 11.644 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 11.644 ms
Loss rate: 0.00%
```

Run 5: Report of SCReAM — Data Link



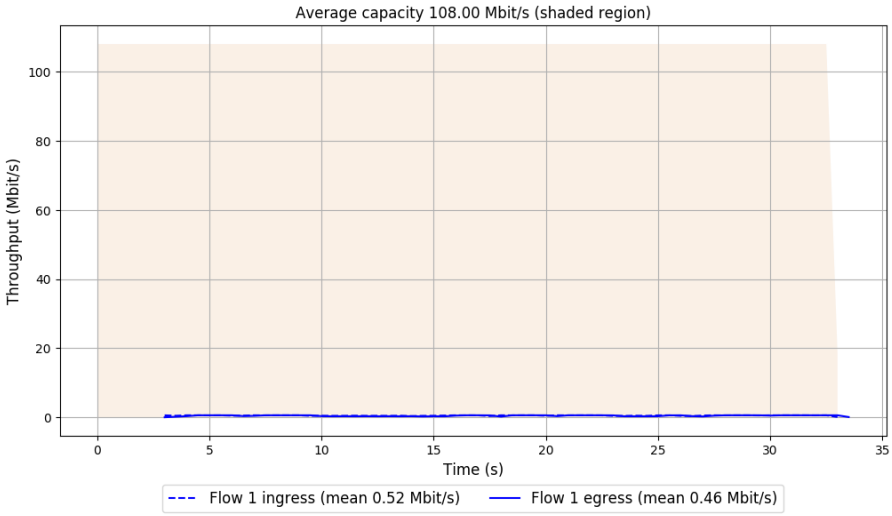


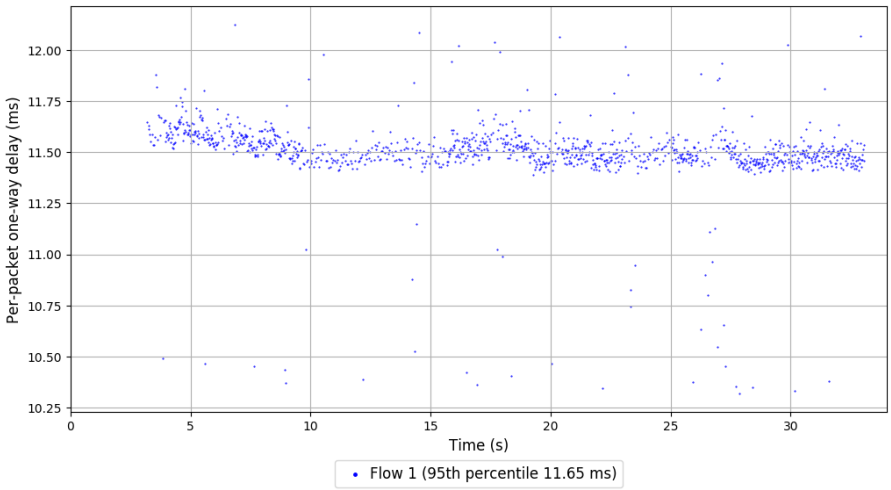
```
Run 1: Statistics of Sprout

Start at: 2018-09-07 10:17:45
End at: 2018-09-07 10:18:15

# Below is generated by plot.py at 2018-09-07 11:16:11
# Datalink statistics
-- Total of 1 flow:
Average capacity: 108.00 Mbit/s
Average throughput: 0.46 Mbit/s (0.4% utilization)
95th percentile per-packet one-way delay: 11.653 ms
Loss rate: 10.87%
-- Flow 1:
Average throughput: 0.46 Mbit/s
95th percentile per-packet one-way delay: 11.653 ms
Loss rate: 10.87%
```

Run 1: Report of Sprout — Data Link



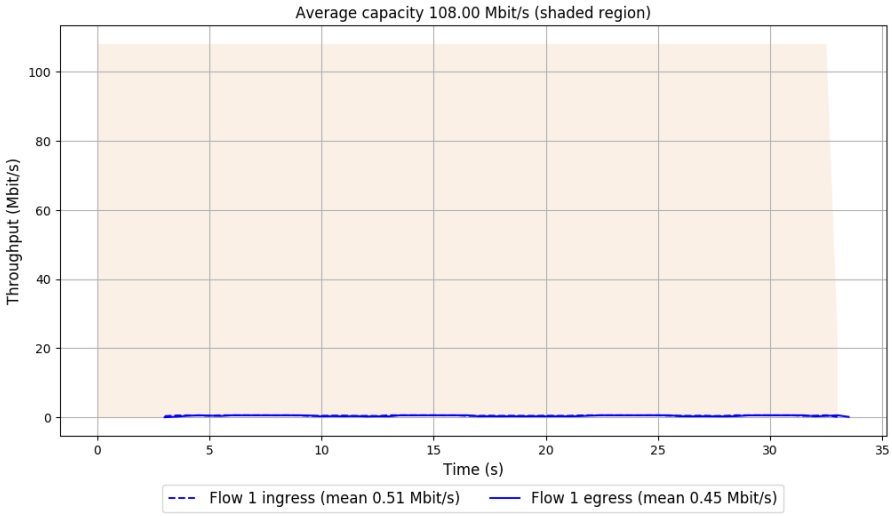


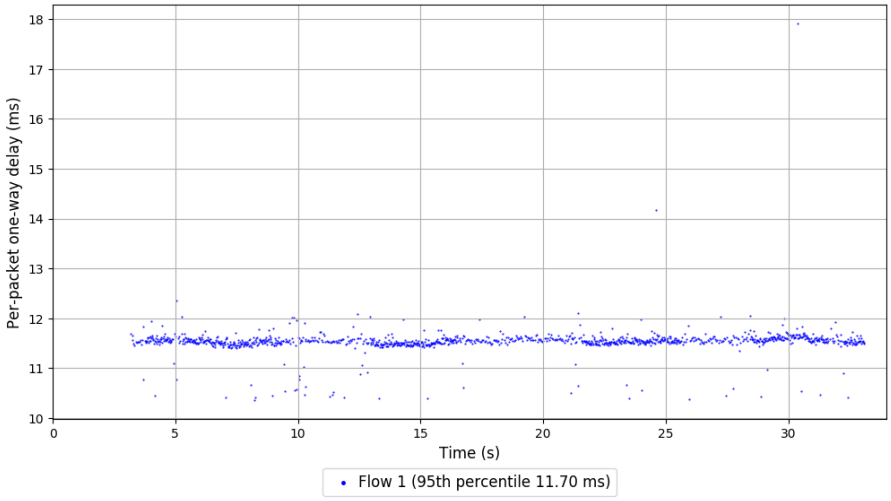
```
Run 2: Statistics of Sprout

Start at: 2018-09-07 10:28:52
End at: 2018-09-07 10:29:22

# Below is generated by plot.py at 2018-09-07 11:16:11
# Datalink statistics
-- Total of 1 flow:
Average capacity: 108.00 Mbit/s
Average throughput: 0.45 Mbit/s (0.4% utilization)
95th percentile per-packet one-way delay: 11.695 ms
Loss rate: 12.08%
-- Flow 1:
Average throughput: 0.45 Mbit/s
95th percentile per-packet one-way delay: 11.695 ms
Loss rate: 12.08%
```

Run 2: Report of Sprout — Data Link



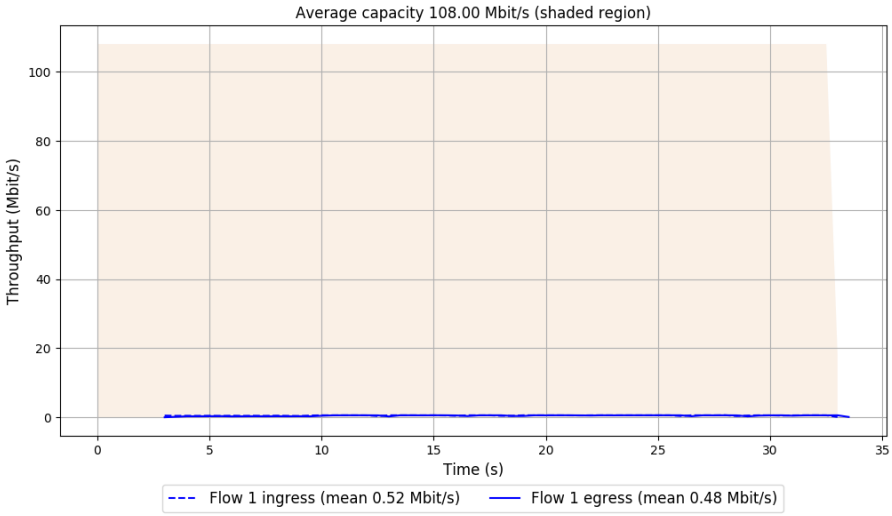


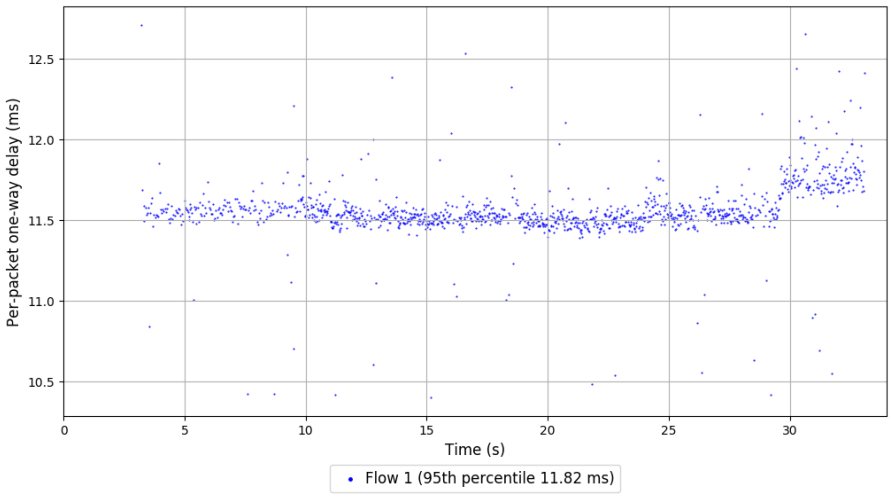
```
Run 3: Statistics of Sprout

Start at: 2018-09-07 10:39:55
End at: 2018-09-07 10:40:25

# Below is generated by plot.py at 2018-09-07 11:16:11
# Datalink statistics
-- Total of 1 flow:
Average capacity: 108.00 Mbit/s
Average throughput: 0.48 Mbit/s (0.4% utilization)
95th percentile per-packet one-way delay: 11.822 ms
Loss rate: 8.94%
-- Flow 1:
Average throughput: 0.48 Mbit/s
95th percentile per-packet one-way delay: 11.822 ms
Loss rate: 8.94%
```

Run 3: Report of Sprout — Data Link



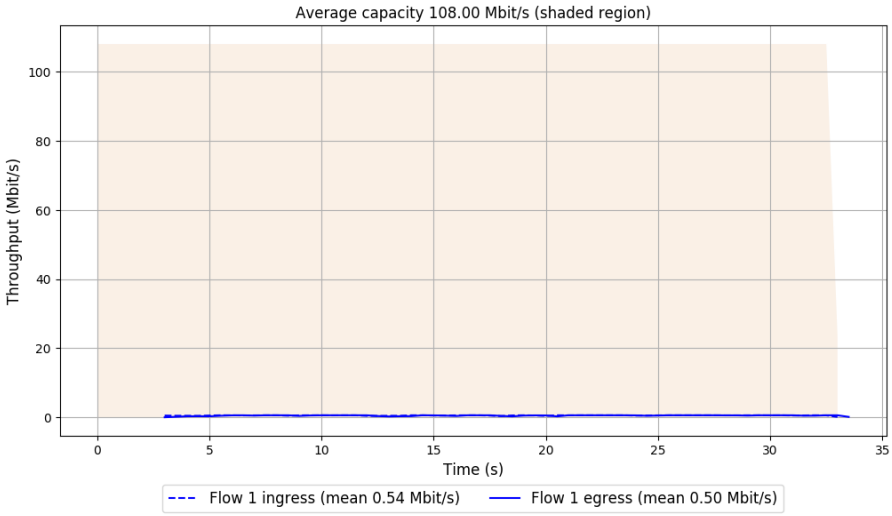


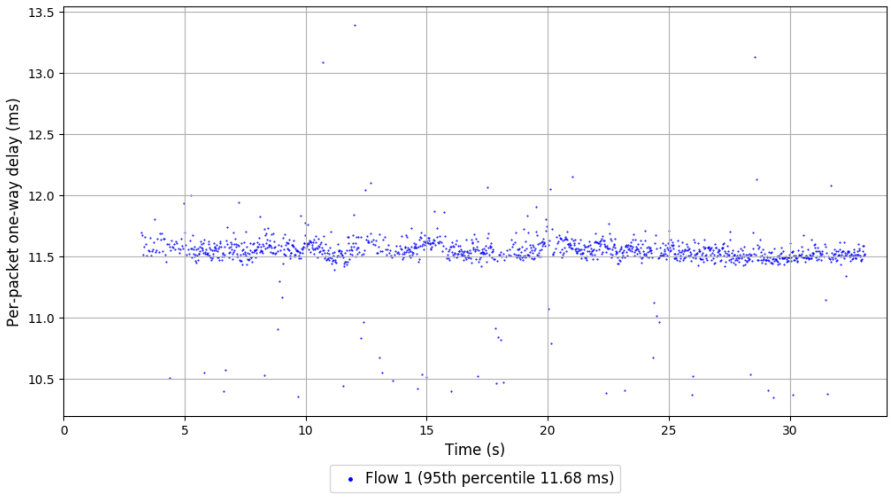
```
Run 4: Statistics of Sprout

Start at: 2018-09-07 10:51:06
End at: 2018-09-07 10:51:36

# Below is generated by plot.py at 2018-09-07 11:16:11
# Datalink statistics
-- Total of 1 flow:
Average capacity: 108.00 Mbit/s
Average throughput: 0.50 Mbit/s (0.5% utilization)
95th percentile per-packet one-way delay: 11.675 ms
Loss rate: 6.86%
-- Flow 1:
Average throughput: 0.50 Mbit/s
95th percentile per-packet one-way delay: 11.675 ms
Loss rate: 6.86%
```

Run 4: Report of Sprout — Data Link



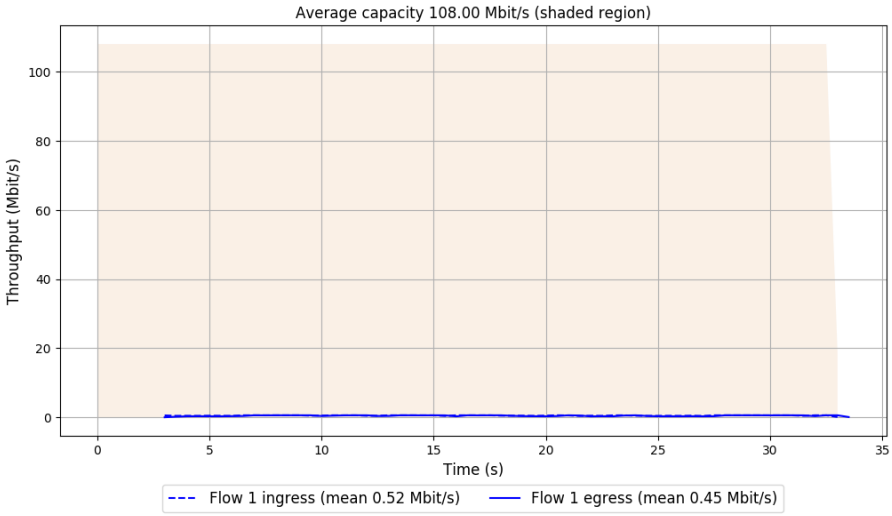


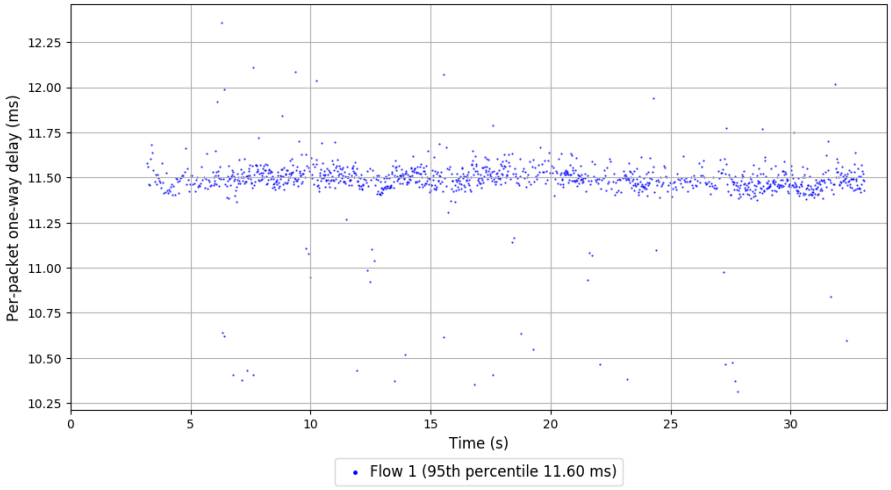
```
Run 5: Statistics of Sprout

Start at: 2018-09-07 11:02:12
End at: 2018-09-07 11:02:42

# Below is generated by plot.py at 2018-09-07 11:16:11
# Datalink statistics
-- Total of 1 flow:
Average capacity: 108.00 Mbit/s
Average throughput: 0.45 Mbit/s (0.4% utilization)
95th percentile per-packet one-way delay: 11.601 ms
Loss rate: 12.02%
-- Flow 1:
Average throughput: 0.45 Mbit/s
95th percentile per-packet one-way delay: 11.601 ms
Loss rate: 12.02%
```

Run 5: Report of Sprout — Data Link



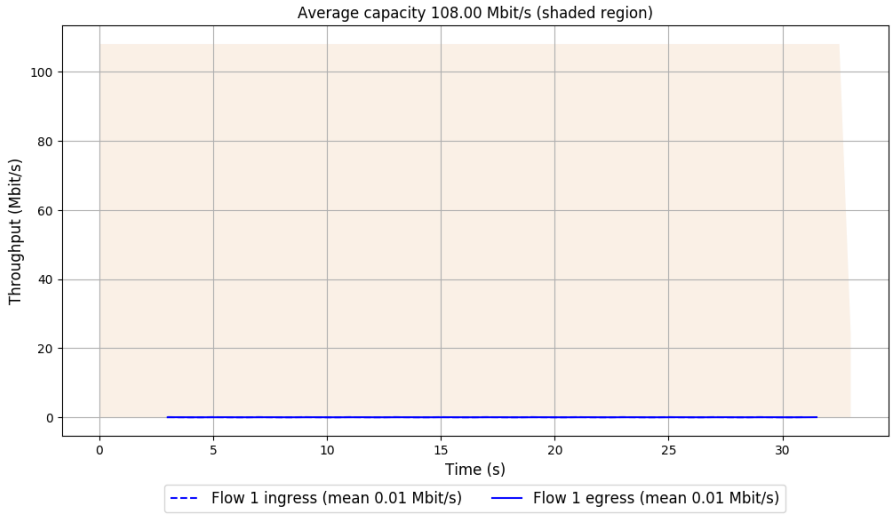


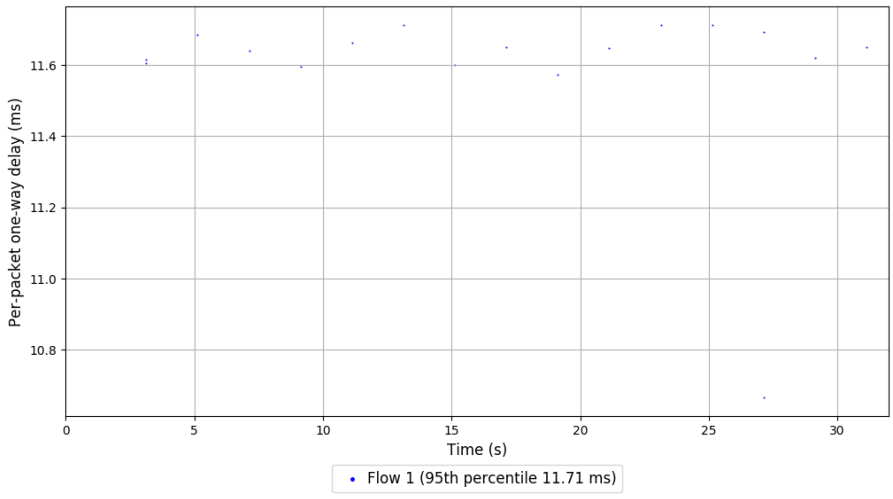
```
Run 1: Statistics of TaoVA-100x

Start at: 2018-09-07 10:15:56
End at: 2018-09-07 10:16:26

# Below is generated by plot.py at 2018-09-07 11:16:11
# Datalink statistics
-- Total of 1 flow:
Average capacity: 108.00 Mbit/s
Average throughput: 0.01 Mbit/s (0.0% utilization)
95th percentile per-packet one-way delay: 11.711 ms
Loss rate: 51.77%
-- Flow 1:
Average throughput: 0.01 Mbit/s
95th percentile per-packet one-way delay: 11.711 ms
Loss rate: 51.77%
```

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



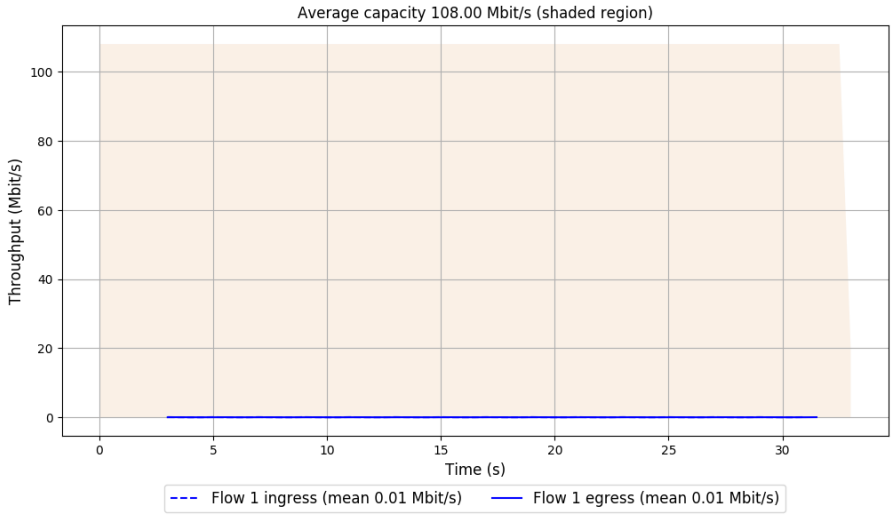


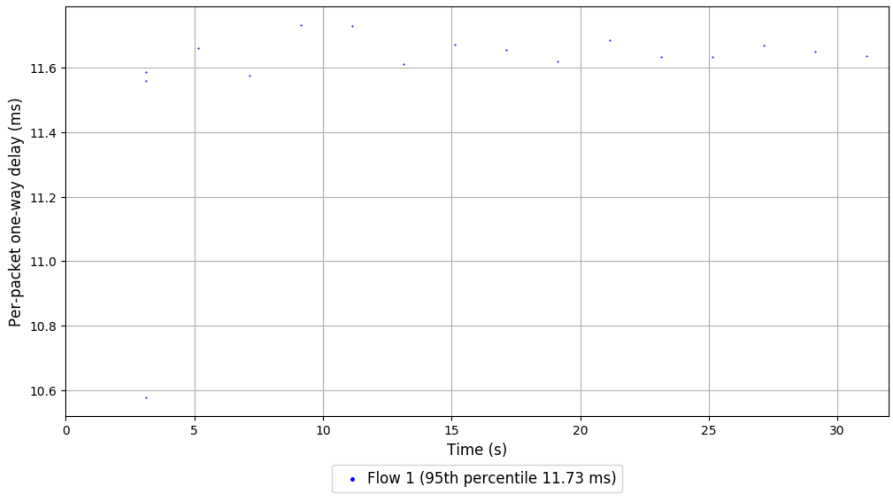
```
Run 2: Statistics of TaoVA-100x

Start at: 2018-09-07 10:27:02
End at: 2018-09-07 10:27:32

# Below is generated by plot.py at 2018-09-07 11:16:11
# Datalink statistics
-- Total of 1 flow:
Average capacity: 108.00 Mbit/s
Average throughput: 0.01 Mbit/s (0.0% utilization)
95th percentile per-packet one-way delay: 11.730 ms
Loss rate: 51.77%
-- Flow 1:
Average throughput: 0.01 Mbit/s
95th percentile per-packet one-way delay: 11.730 ms
Loss rate: 51.77%
```

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

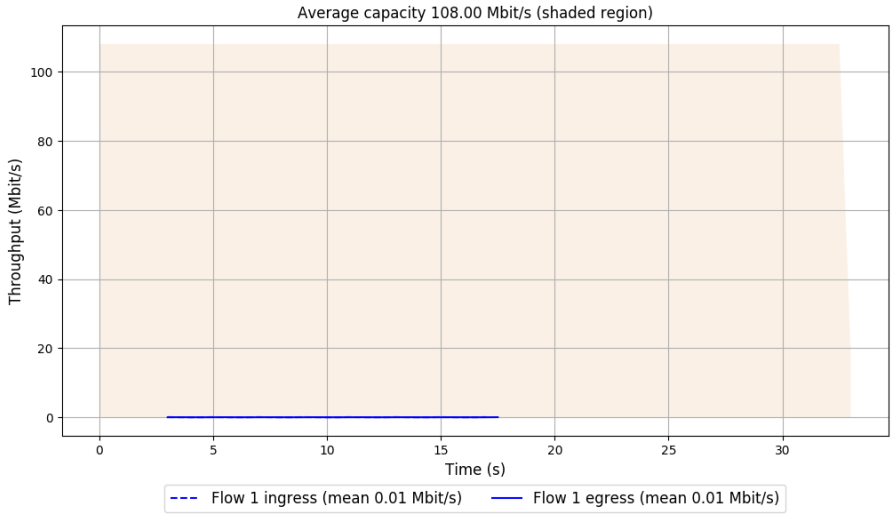


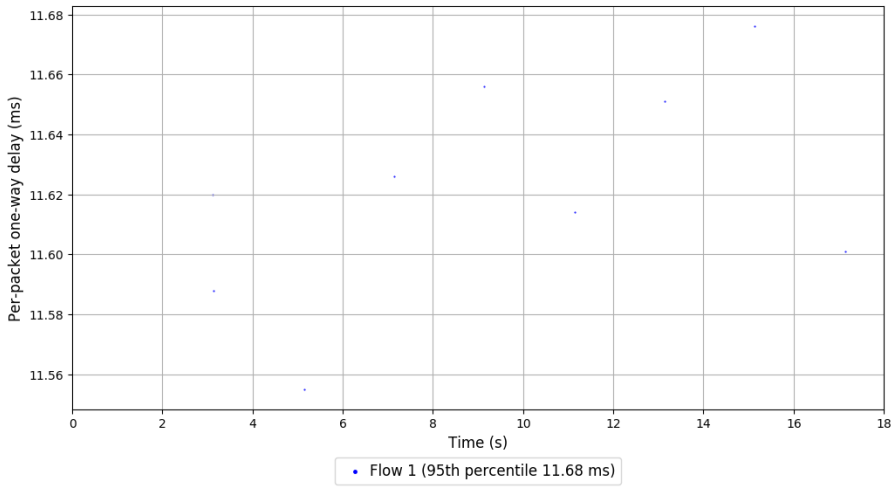


```
Run 3: Statistics of TaoVA-100x

Start at: 2018-09-07 10:38:06
End at: 2018-09-07 10:38:36
```

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



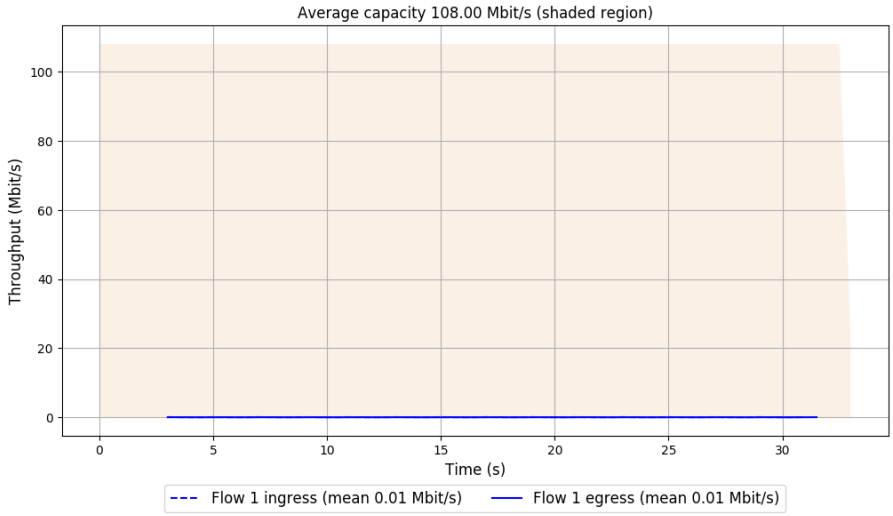


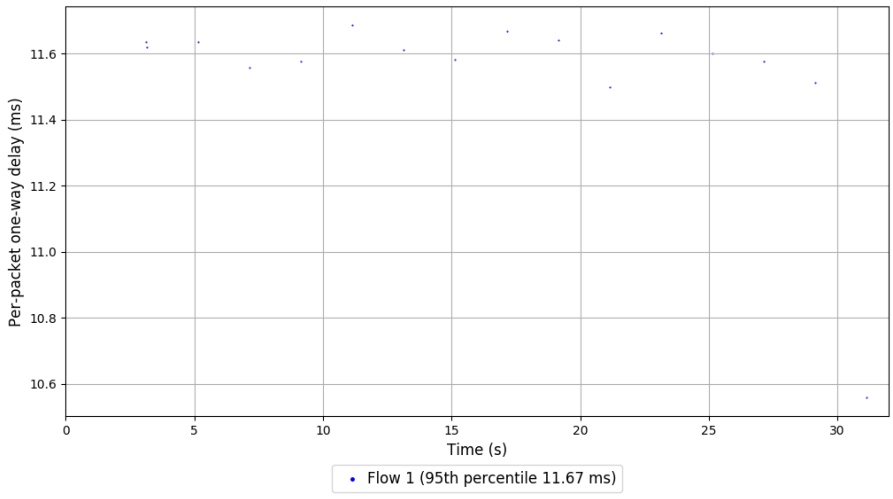
```
Run 4: Statistics of TaoVA-100x

Start at: 2018-09-07 10:49:16
End at: 2018-09-07 10:49:46

# Below is generated by plot.py at 2018-09-07 11:16:11
# Datalink statistics
-- Total of 1 flow:
Average capacity: 108.00 Mbit/s
Average throughput: 0.01 Mbit/s (0.0% utilization)
95th percentile per-packet one-way delay: 11.668 ms
Loss rate: 51.91%
-- Flow 1:
Average throughput: 0.01 Mbit/s
95th percentile per-packet one-way delay: 11.668 ms
Loss rate: 51.91%
```

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



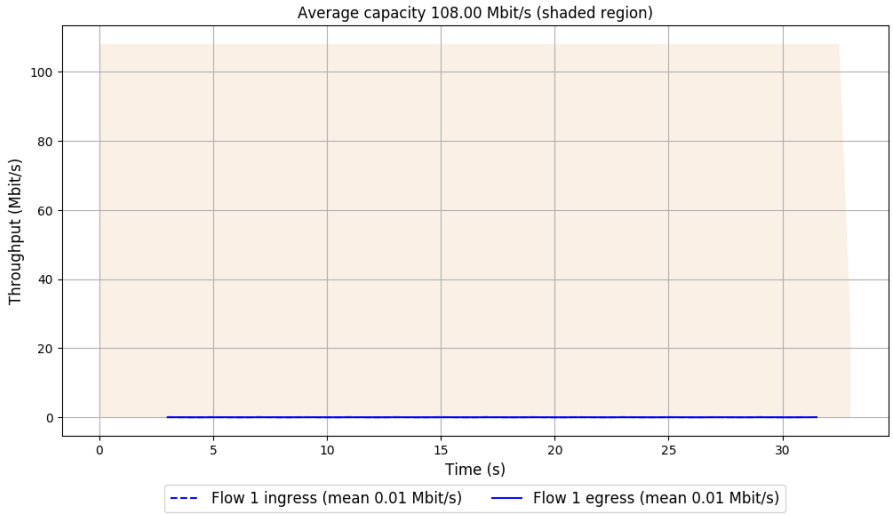


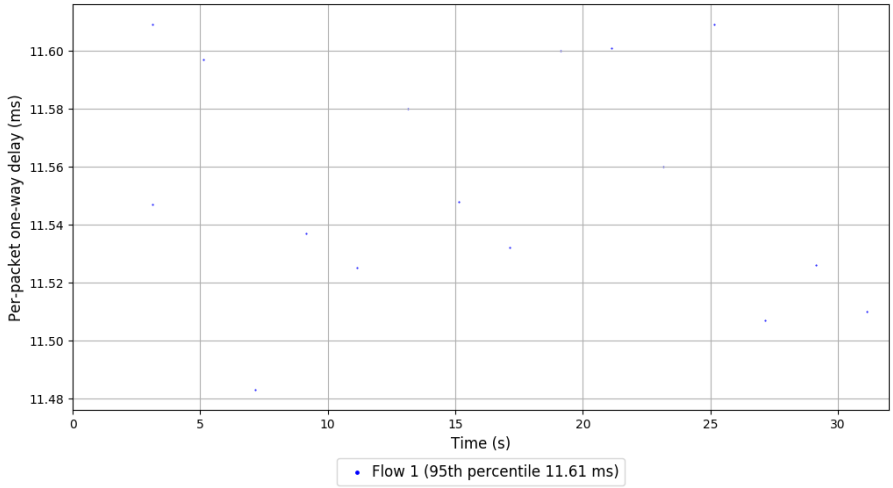
```
Run 5: Statistics of TaoVA-100x

Start at: 2018-09-07 11:00:22
End at: 2018-09-07 11:00:52

# Below is generated by plot.py at 2018-09-07 11:16:11
# Datalink statistics
-- Total of 1 flow:
Average capacity: 108.00 Mbit/s
Average throughput: 0.01 Mbit/s (0.0% utilization)
95th percentile per-packet one-way delay: 11.609 ms
Loss rate: 51.91%
-- Flow 1:
Average throughput: 0.01 Mbit/s
95th percentile per-packet one-way delay: 11.609 ms
Loss rate: 51.91%
```

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



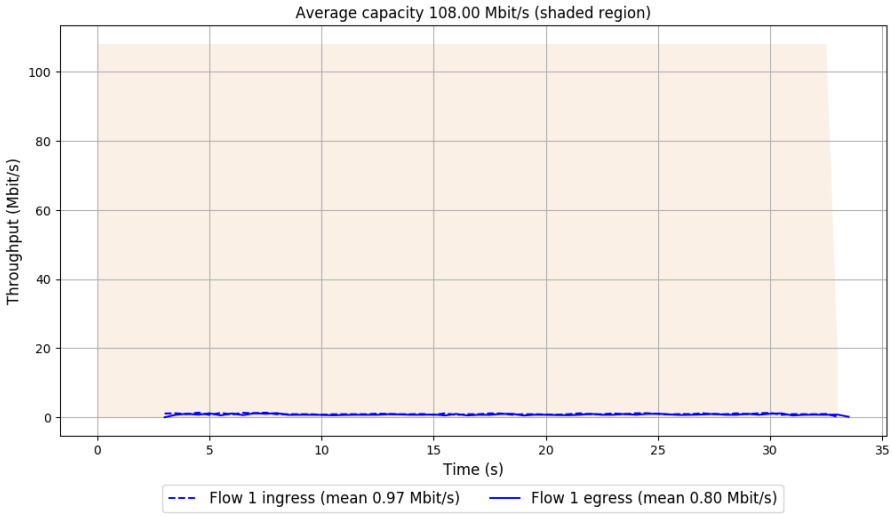


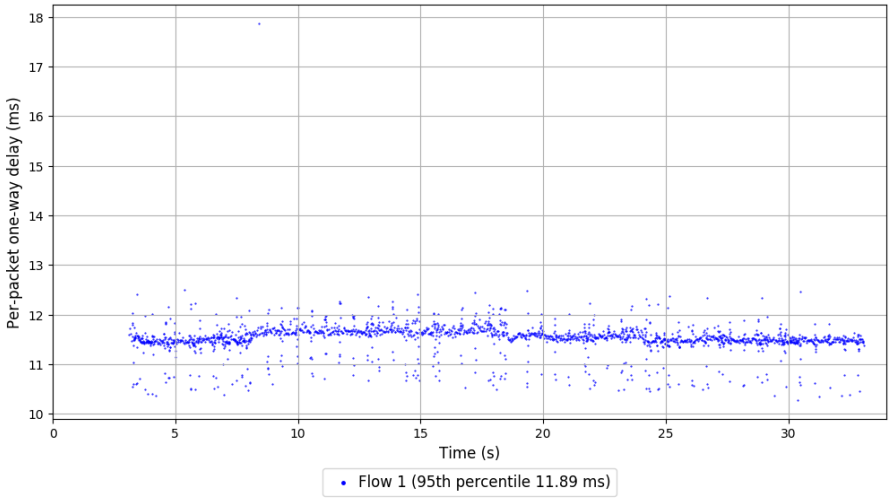
```
Run 1: Statistics of TCP Vegas

Start at: 2018-09-07 10:19:34
End at: 2018-09-07 10:20:04

# Below is generated by plot.py at 2018-09-07 11:16:11
# Datalink statistics
-- Total of 1 flow:
Average capacity: 108.00 Mbit/s
Average throughput: 0.80 Mbit/s (0.7% utilization)
95th percentile per-packet one-way delay: 11.894 ms
Loss rate: 17.20%
-- Flow 1:
Average throughput: 0.80 Mbit/s
95th percentile per-packet one-way delay: 11.894 ms
Loss rate: 17.20%
```

Run 1: Report of TCP Vegas — Data Link



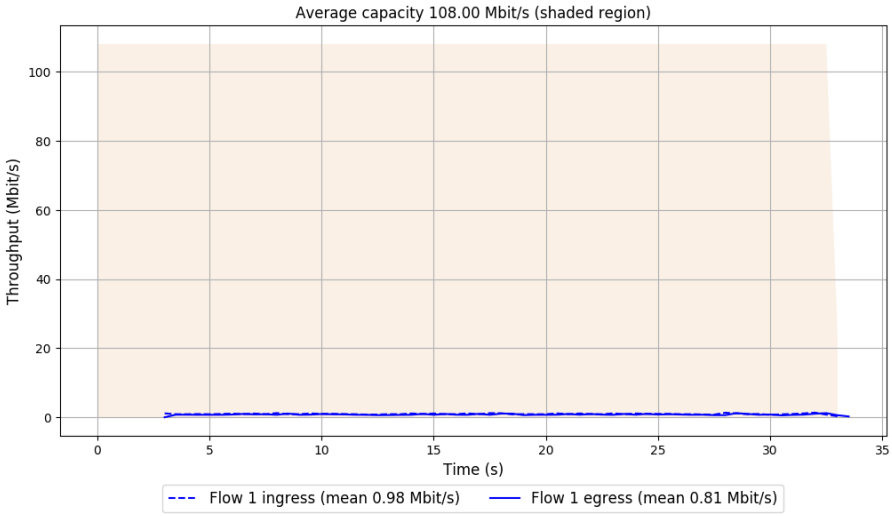


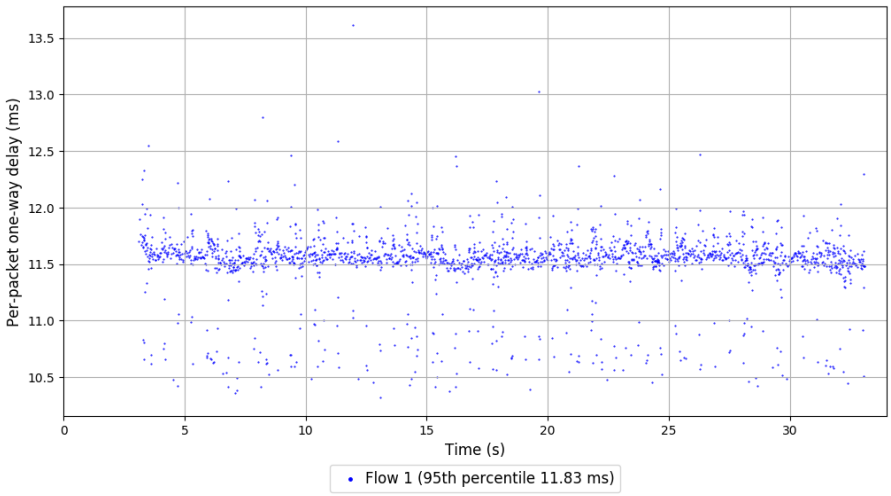
```
Run 2: Statistics of TCP Vegas

Start at: 2018-09-07 10:30:41
End at: 2018-09-07 10:31:11

# Below is generated by plot.py at 2018-09-07 11:16:11
# Datalink statistics
-- Total of 1 flow:
Average capacity: 108.00 Mbit/s
Average throughput: 0.81 Mbit/s (0.8% utilization)
95th percentile per-packet one-way delay: 11.828 ms
Loss rate: 16.84%
-- Flow 1:
Average throughput: 0.81 Mbit/s
95th percentile per-packet one-way delay: 11.828 ms
Loss rate: 16.84%
```

Run 2: Report of TCP Vegas — Data Link



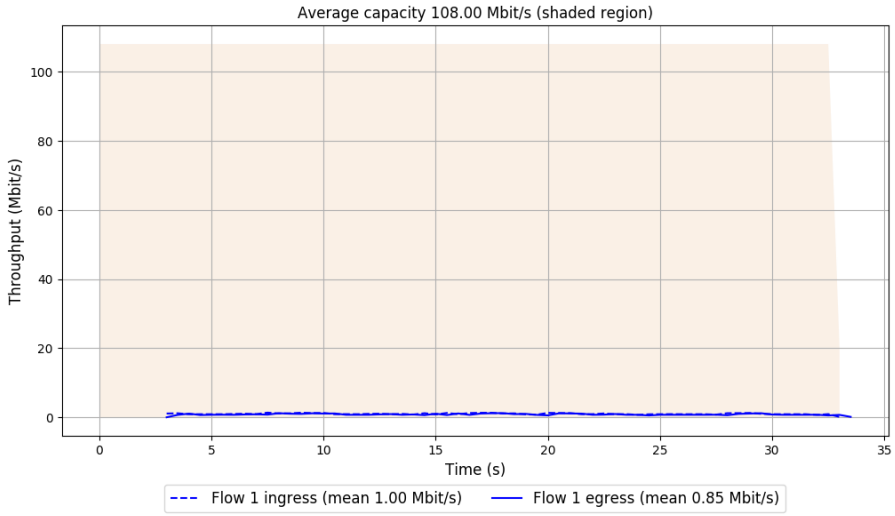


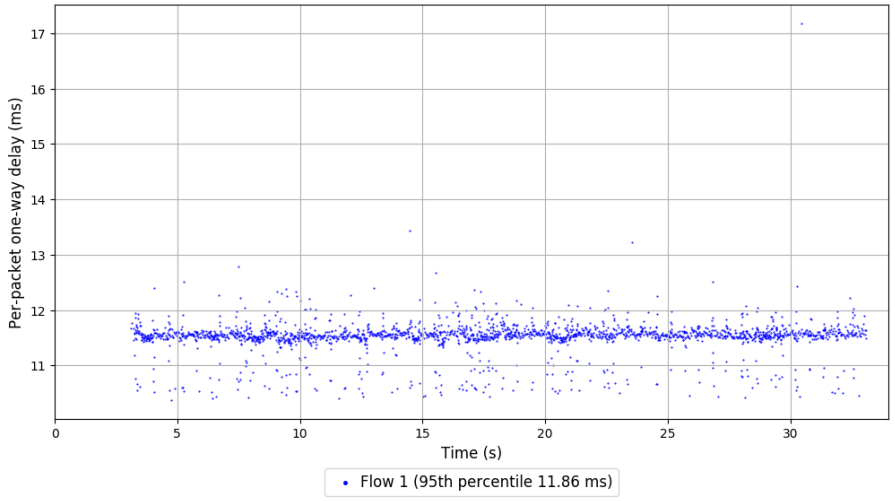
```
Run 3: Statistics of TCP Vegas

Start at: 2018-09-07 10:41:45
End at: 2018-09-07 10:42:15

# Below is generated by plot.py at 2018-09-07 11:16:11
# Datalink statistics
-- Total of 1 flow:
Average capacity: 108.00 Mbit/s
Average throughput: 0.85 Mbit/s (0.8% utilization)
95th percentile per-packet one-way delay: 11.863 ms
Loss rate: 15.94%
-- Flow 1:
Average throughput: 0.85 Mbit/s
95th percentile per-packet one-way delay: 11.863 ms
Loss rate: 15.94%
```

Run 3: Report of TCP Vegas — Data Link



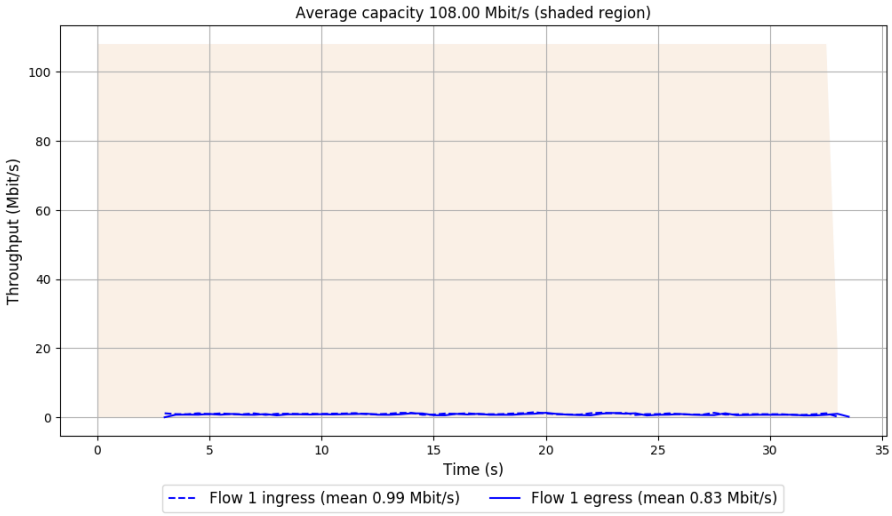


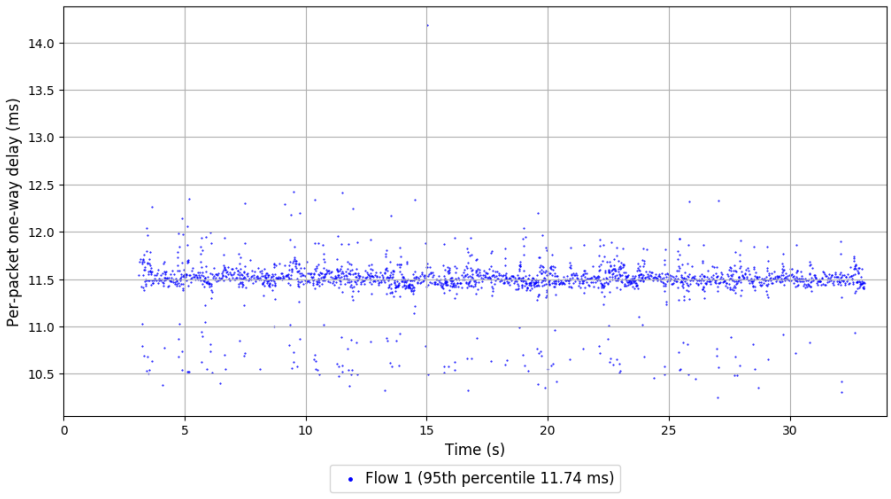
```
Run 4: Statistics of TCP Vegas

Start at: 2018-09-07 10:52:56
End at: 2018-09-07 10:53:26

# Below is generated by plot.py at 2018-09-07 11:16:11
# Datalink statistics
-- Total of 1 flow:
Average capacity: 108.00 Mbit/s
Average throughput: 0.83 Mbit/s (0.8% utilization)
95th percentile per-packet one-way delay: 11.740 ms
Loss rate: 16.39%
-- Flow 1:
Average throughput: 0.83 Mbit/s
95th percentile per-packet one-way delay: 11.740 ms
Loss rate: 16.39%
```

Run 4: Report of TCP Vegas — Data Link



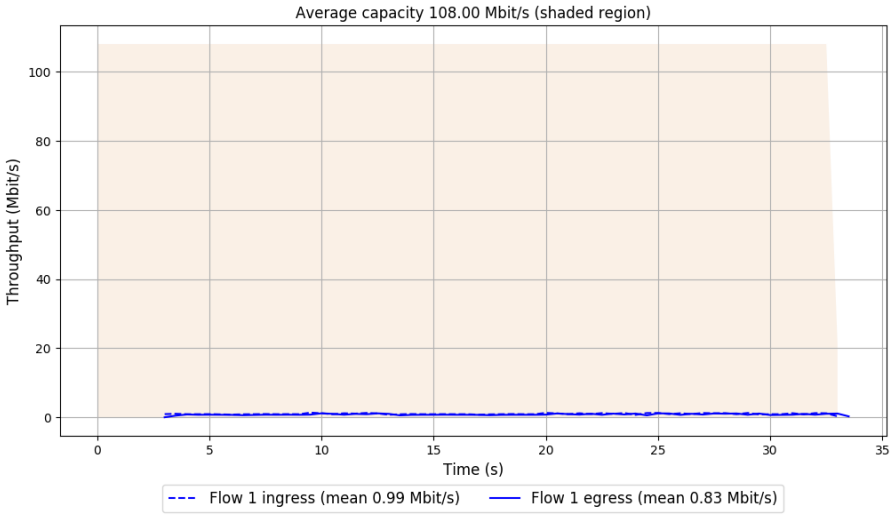


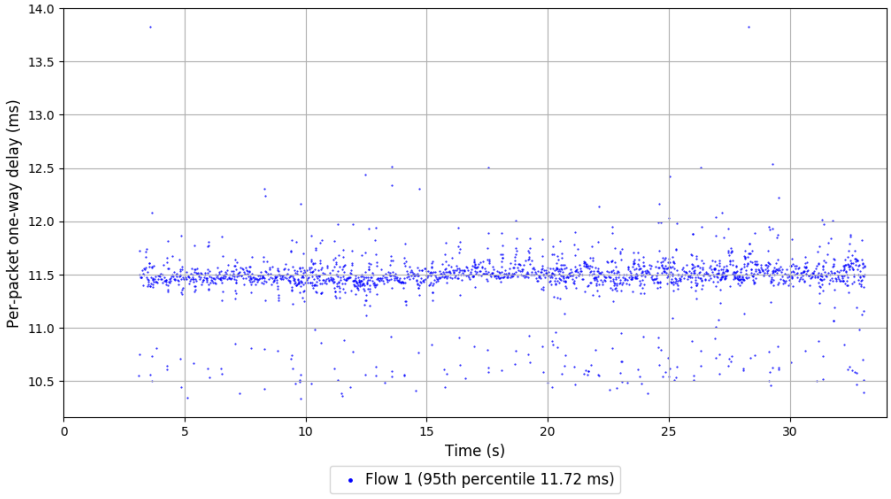
```
Run 5: Statistics of TCP Vegas

Start at: 2018-09-07 11:04:01
End at: 2018-09-07 11:04:31

# Below is generated by plot.py at 2018-09-07 11:16:11
# Datalink statistics
-- Total of 1 flow:
Average capacity: 108.00 Mbit/s
Average throughput: 0.83 Mbit/s (0.8% utilization)
95th percentile per-packet one-way delay: 11.723 ms
Loss rate: 16.47%
-- Flow 1:
Average throughput: 0.83 Mbit/s
95th percentile per-packet one-way delay: 11.723 ms
Loss rate: 16.47%
```

Run 5: Report of TCP Vegas — Data Link



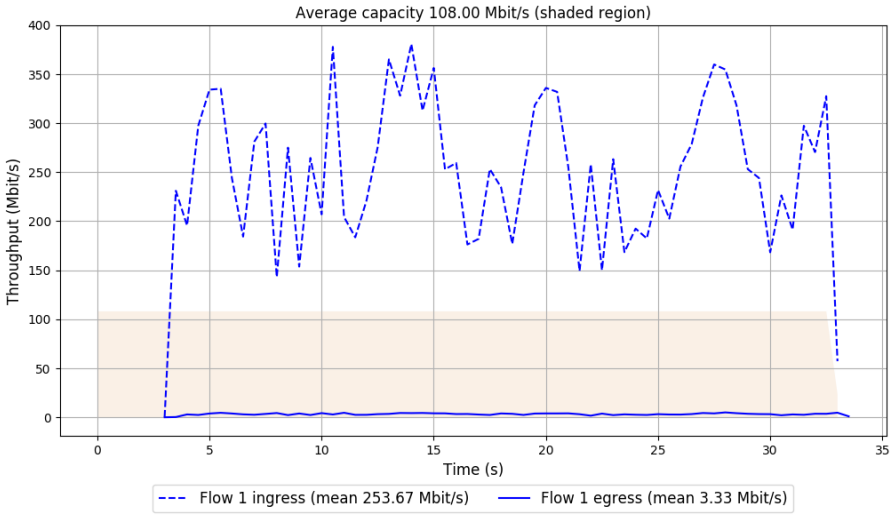


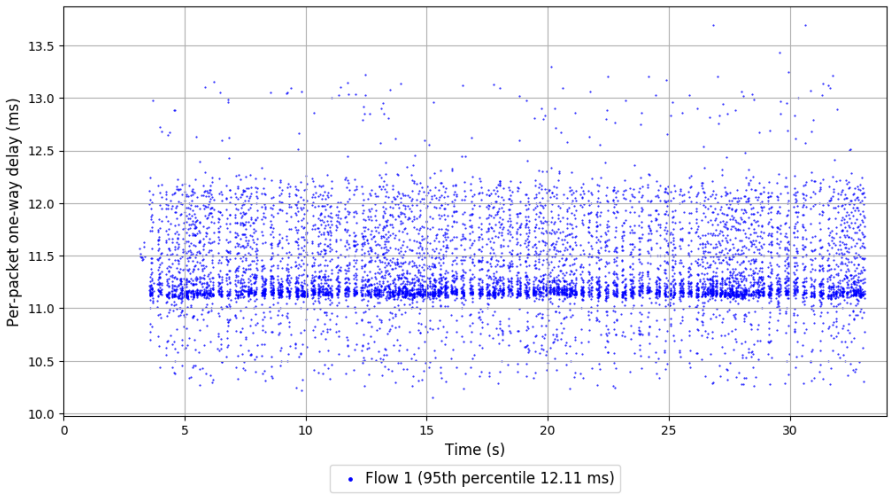
```
Run 1: Statistics of Verus

Start at: 2018-09-07 10:12:48
End at: 2018-09-07 10:13:18

# Below is generated by plot.py at 2018-09-07 11:16:11
# Datalink statistics
-- Total of 1 flow:
Average capacity: 108.00 Mbit/s
Average throughput: 3.33 Mbit/s (3.1% utilization)
95th percentile per-packet one-way delay: 12.109 ms
Loss rate: 98.69%
-- Flow 1:
Average throughput: 3.33 Mbit/s
95th percentile per-packet one-way delay: 12.109 ms
Loss rate: 98.69%
```

Run 1: Report of Verus — Data Link



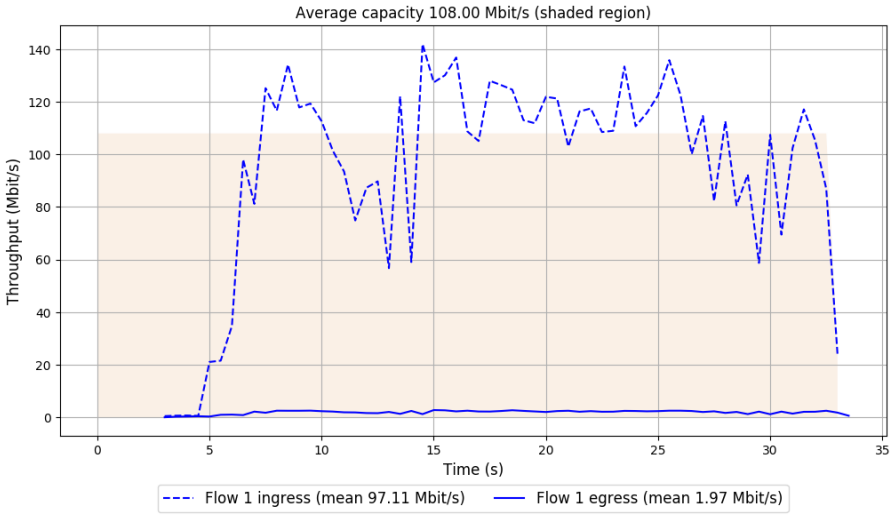


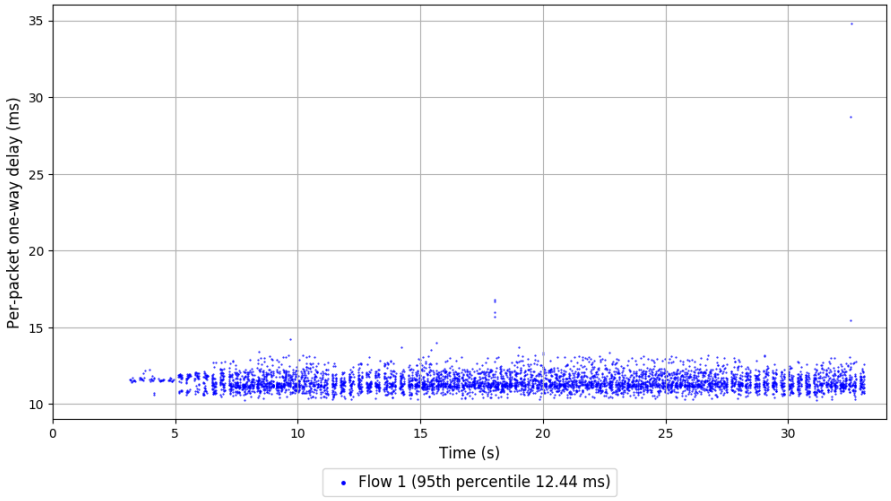
```
Run 2: Statistics of Verus

Start at: 2018-09-07 10:23:58
End at: 2018-09-07 10:24:28

# Below is generated by plot.py at 2018-09-07 11:16:11
# Datalink statistics
-- Total of 1 flow:
Average capacity: 108.00 Mbit/s
Average throughput: 1.97 Mbit/s (1.8% utilization)
95th percentile per-packet one-way delay: 12.436 ms
Loss rate: 97.97%
-- Flow 1:
Average throughput: 1.97 Mbit/s
95th percentile per-packet one-way delay: 12.436 ms
Loss rate: 97.97%
```

Run 2: Report of Verus — Data Link



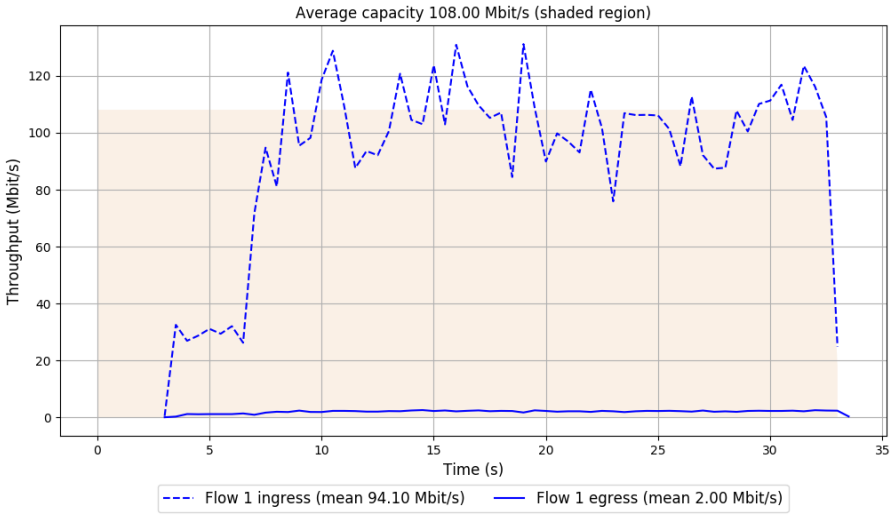


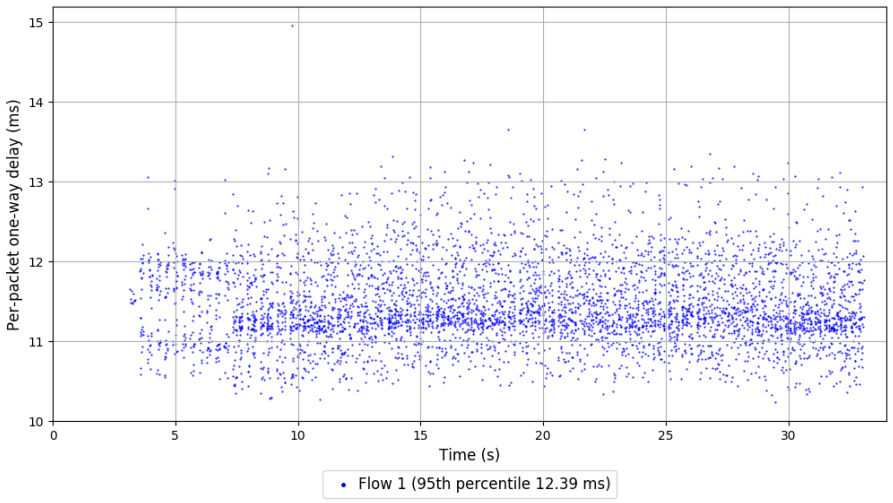
```
Run 3: Statistics of Verus

Start at: 2018-09-07 10:35:01
End at: 2018-09-07 10:35:31

# Below is generated by plot.py at 2018-09-07 11:16:11
# Datalink statistics
-- Total of 1 flow:
Average capacity: 108.00 Mbit/s
Average throughput: 2.00 Mbit/s (1.9% utilization)
95th percentile per-packet one-way delay: 12.389 ms
Loss rate: 97.87%
-- Flow 1:
Average throughput: 2.00 Mbit/s
95th percentile per-packet one-way delay: 12.389 ms
Loss rate: 97.87%
```

Run 3: Report of Verus — Data Link



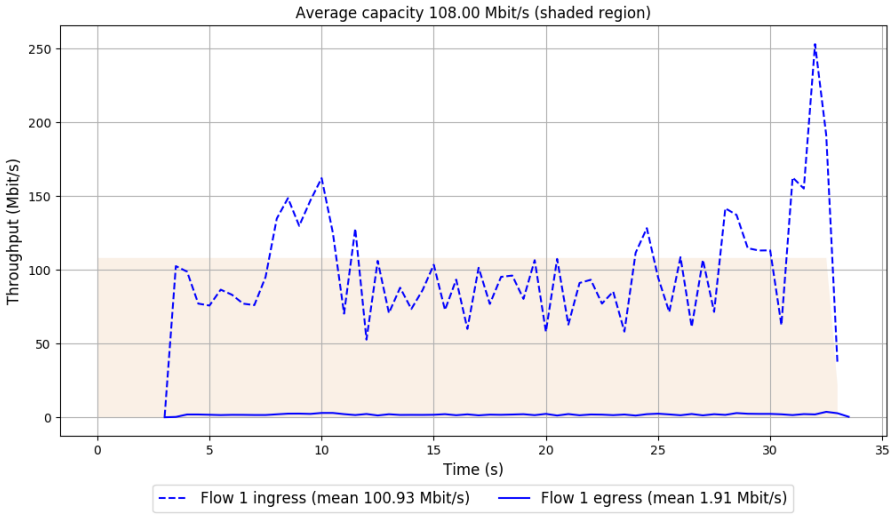


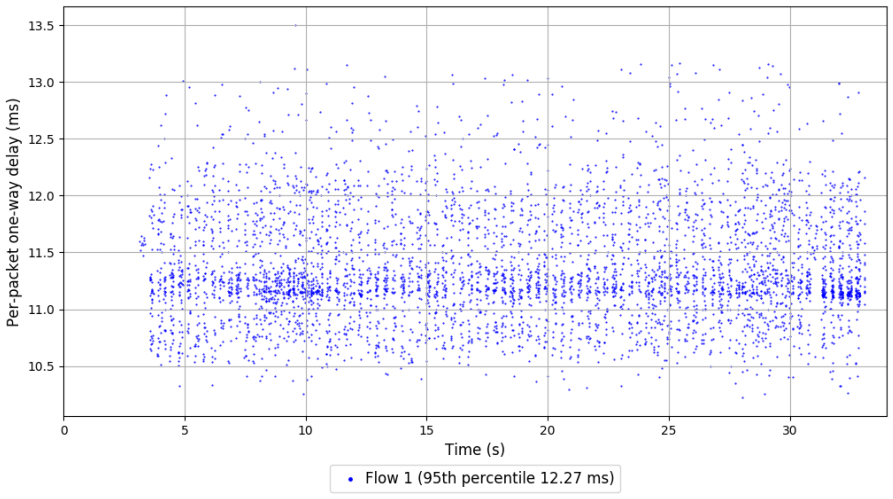
```
Run 4: Statistics of Verus

Start at: 2018-09-07 10:46:11
End at: 2018-09-07 10:46:41

# Below is generated by plot.py at 2018-09-07 11:16:11
# Datalink statistics
-- Total of 1 flow:
Average capacity: 108.00 Mbit/s
Average throughput: 1.91 Mbit/s (1.8% utilization)
95th percentile per-packet one-way delay: 12.274 ms
Loss rate: 98.11%
-- Flow 1:
Average throughput: 1.91 Mbit/s
95th percentile per-packet one-way delay: 12.274 ms
Loss rate: 98.11%
```

Run 4: Report of Verus — Data Link



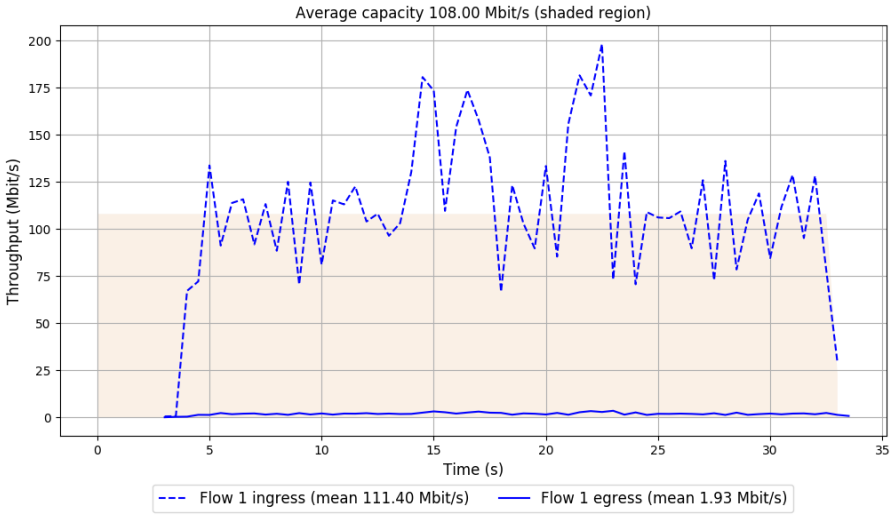


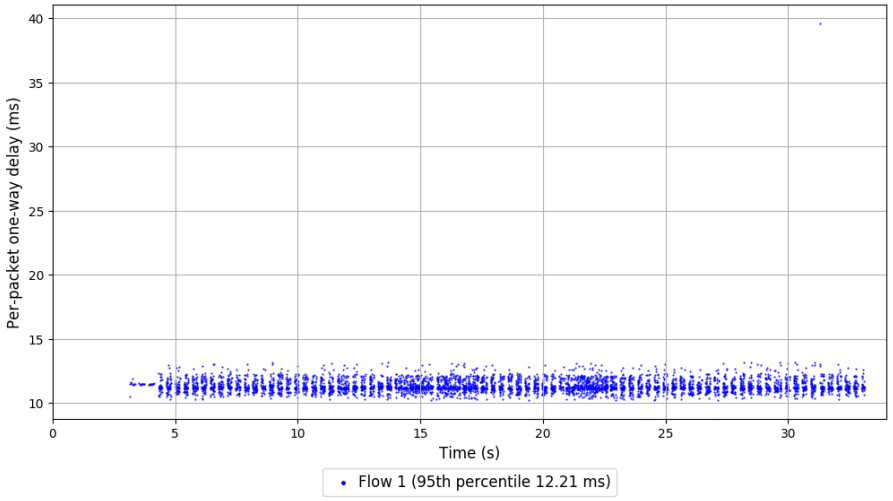
```
Run 5: Statistics of Verus

Start at: 2018-09-07 10:57:17
End at: 2018-09-07 10:57:47

# Below is generated by plot.py at 2018-09-07 11:16:11
# Datalink statistics
-- Total of 1 flow:
Average capacity: 108.00 Mbit/s
Average throughput: 1.93 Mbit/s (1.8% utilization)
95th percentile per-packet one-way delay: 12.211 ms
Loss rate: 98.27%
-- Flow 1:
Average throughput: 1.93 Mbit/s
95th percentile per-packet one-way delay: 12.211 ms
Loss rate: 98.27%
```

Run 5: Report of Verus — Data Link



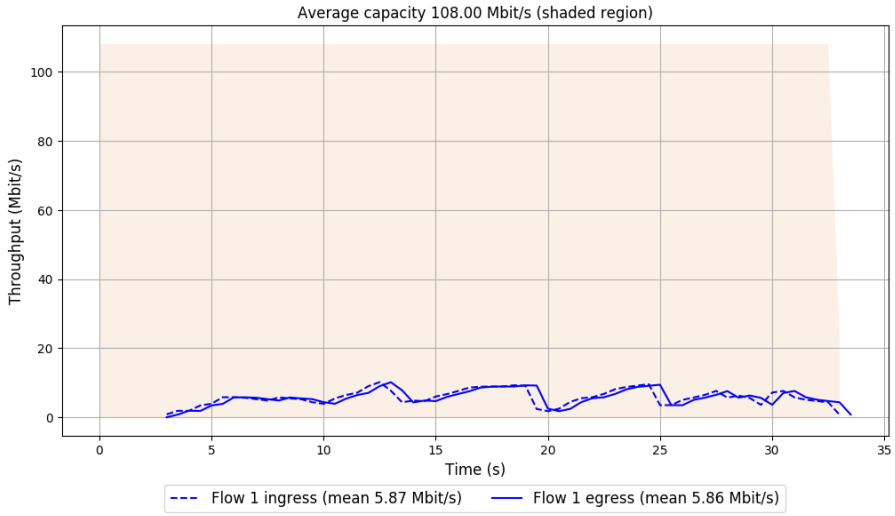


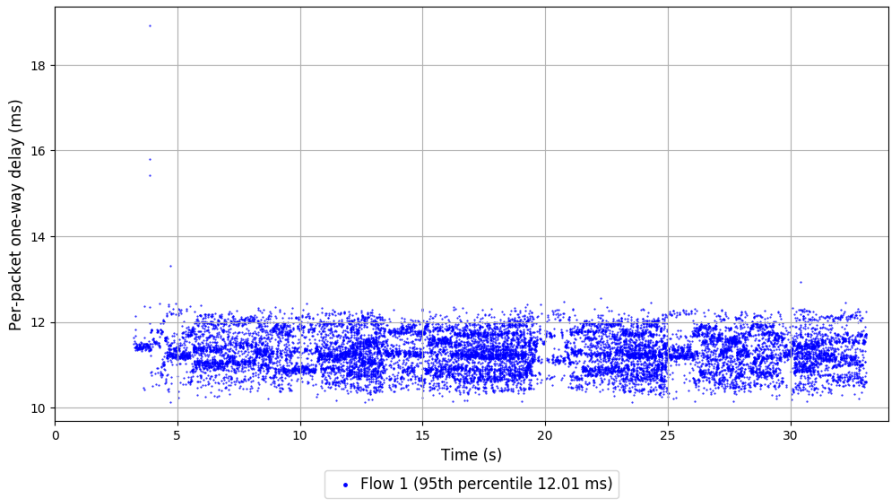
```
Run 1: Statistics of PCC-Vivace

Start at: 2018-09-07 10:15:19
End at: 2018-09-07 10:15:49

# Below is generated by plot.py at 2018-09-07 11:16:11
# Datalink statistics
-- Total of 1 flow:
Average capacity: 108.00 Mbit/s
Average throughput: 5.86 Mbit/s (5.4% utilization)
95th percentile per-packet one-way delay: 12.006 ms
Loss rate: 0.15%
-- Flow 1:
Average throughput: 5.86 Mbit/s
95th percentile per-packet one-way delay: 12.006 ms
Loss rate: 0.15%
```

Run 1: Report of PCC-Vivace — Data Link



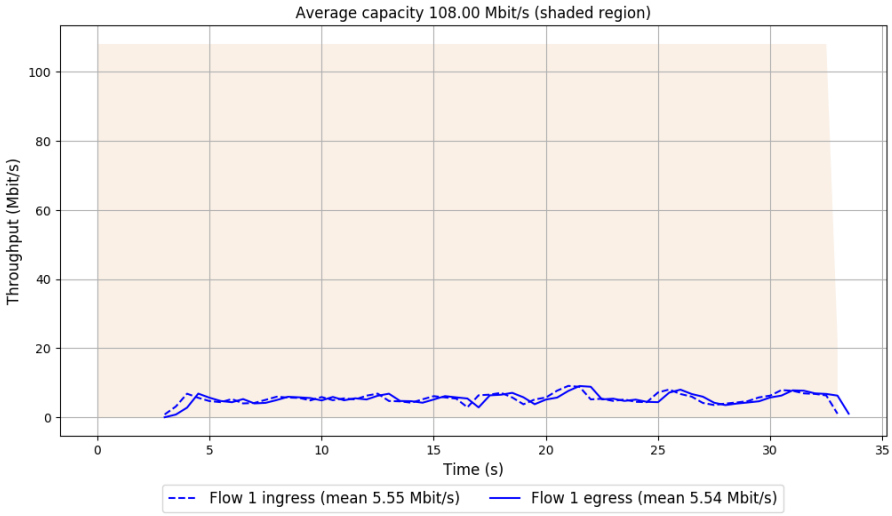


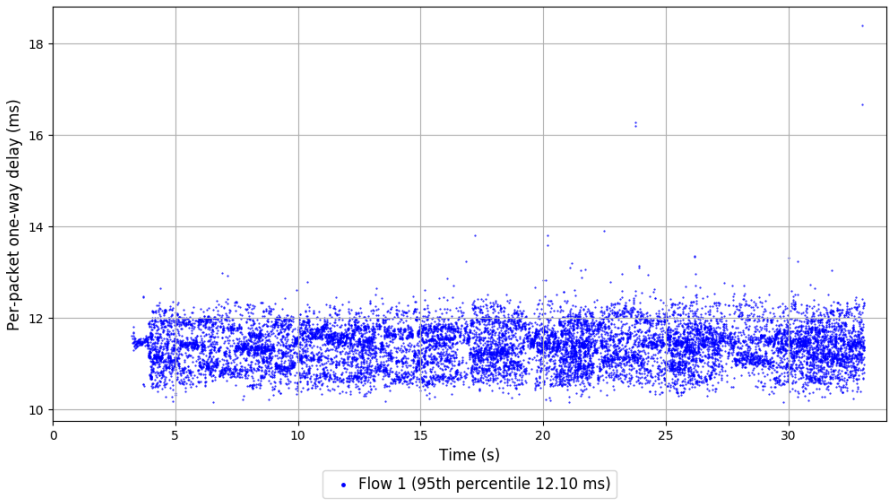
```
Run 2: Statistics of PCC-Vivace

Start at: 2018-09-07 10:26:25
End at: 2018-09-07 10:26:56

# Below is generated by plot.py at 2018-09-07 11:16:11
# Datalink statistics
-- Total of 1 flow:
Average capacity: 108.00 Mbit/s
Average throughput: 5.54 Mbit/s (5.1% utilization)
95th percentile per-packet one-way delay: 12.096 ms
Loss rate: 0.21%
-- Flow 1:
Average throughput: 5.54 Mbit/s
95th percentile per-packet one-way delay: 12.096 ms
Loss rate: 0.21%
```

Run 2: Report of PCC-Vivace — Data Link



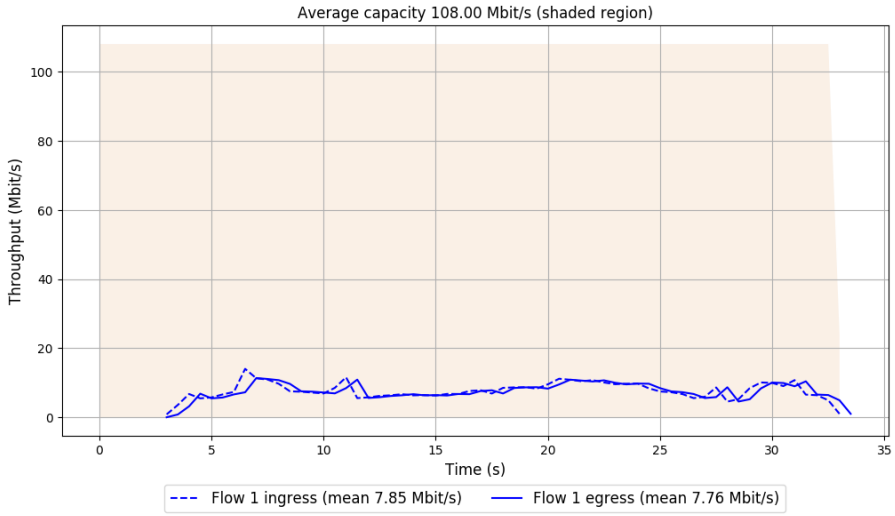


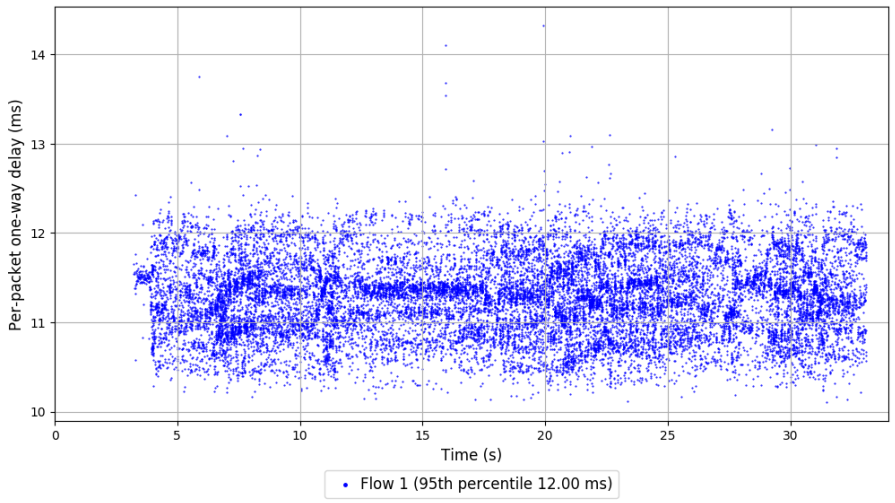
```
Run 3: Statistics of PCC-Vivace

Start at: 2018-09-07 10:37:30
End at: 2018-09-07 10:38:00

# Below is generated by plot.py at 2018-09-07 11:16:11
# Datalink statistics
-- Total of 1 flow:
Average capacity: 108.00 Mbit/s
Average throughput: 7.76 Mbit/s (7.2% utilization)
95th percentile per-packet one-way delay: 12.004 ms
Loss rate: 1.15%
-- Flow 1:
Average throughput: 7.76 Mbit/s
95th percentile per-packet one-way delay: 12.004 ms
Loss rate: 1.15%
```

Run 3: Report of PCC-Vivace — Data Link



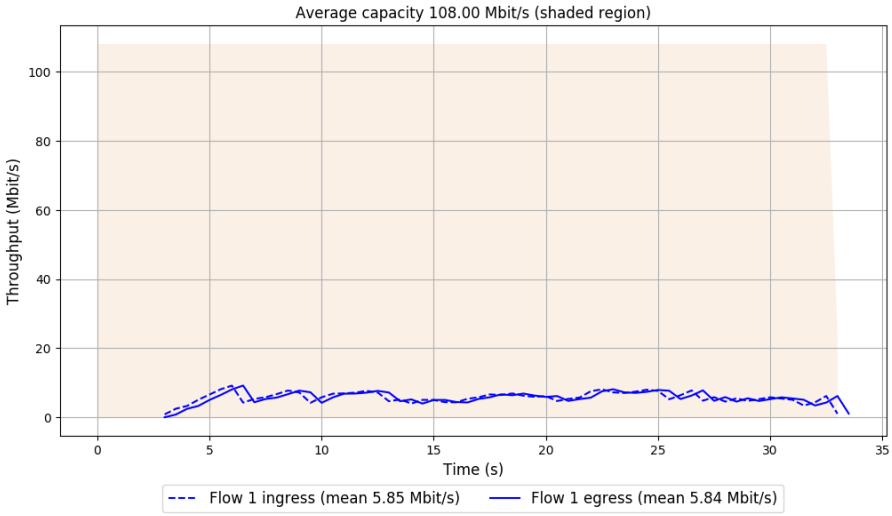


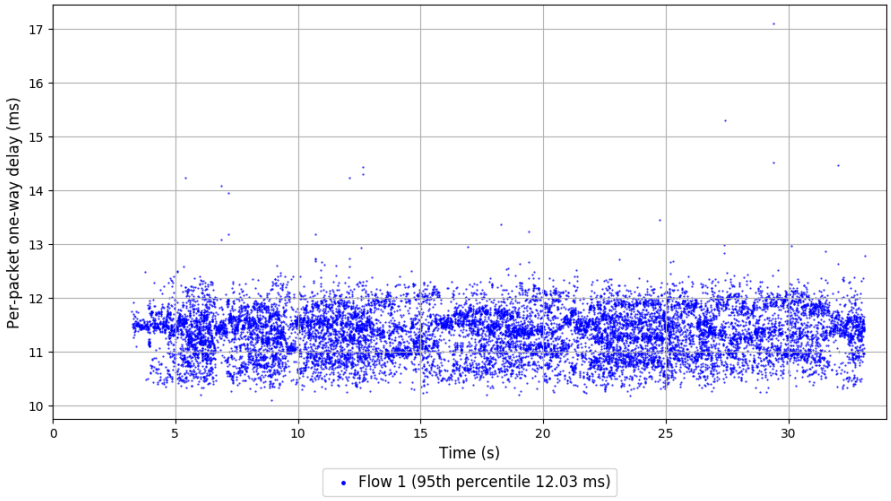
```
Run 4: Statistics of PCC-Vivace

Start at: 2018-09-07 10:48:39
End at: 2018-09-07 10:49:09

# Below is generated by plot.py at 2018-09-07 11:16:11
# Datalink statistics
-- Total of 1 flow:
Average capacity: 108.00 Mbit/s
Average throughput: 5.84 Mbit/s (5.4% utilization)
95th percentile per-packet one-way delay: 12.033 ms
Loss rate: 0.14%
-- Flow 1:
Average throughput: 5.84 Mbit/s
95th percentile per-packet one-way delay: 12.033 ms
Loss rate: 0.14%
```

Run 4: Report of PCC-Vivace — Data Link



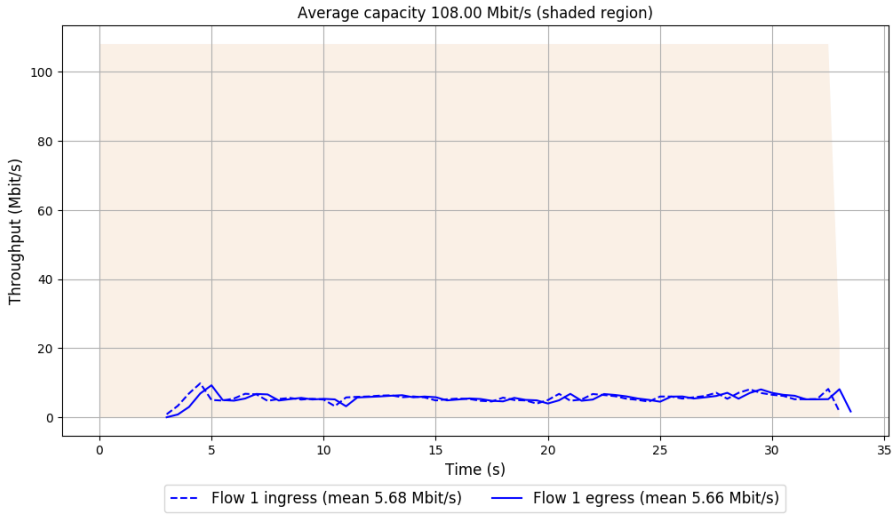


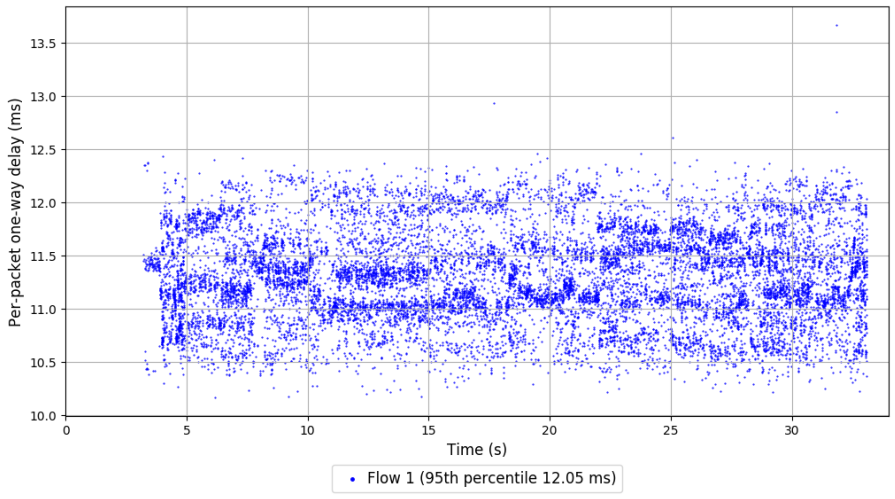
```
Run 5: Statistics of PCC-Vivace

Start at: 2018-09-07 10:59:45
End at: 2018-09-07 11:00:15

# Below is generated by plot.py at 2018-09-07 11:16:11
# Datalink statistics
-- Total of 1 flow:
Average capacity: 108.00 Mbit/s
Average throughput: 5.66 Mbit/s (5.2% utilization)
95th percentile per-packet one-way delay: 12.047 ms
Loss rate: 0.33%
-- Flow 1:
Average throughput: 5.66 Mbit/s
95th percentile per-packet one-way delay: 12.047 ms
Loss rate: 0.33%
```

Run 5: Report of PCC-Vivace — Data Link



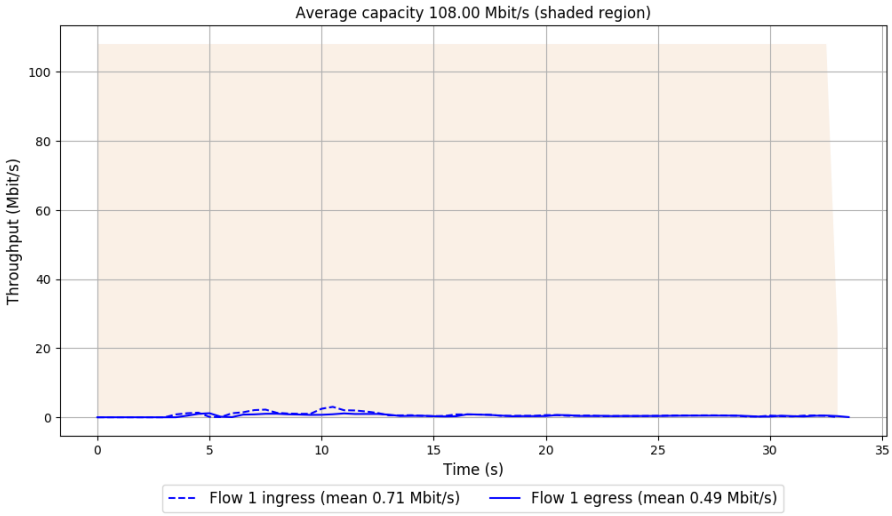


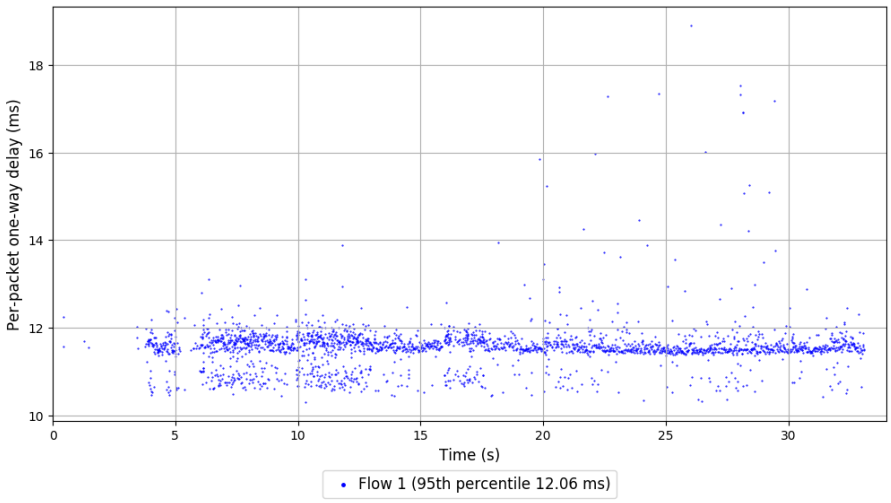
```
Run 1: Statistics of WebRTC media

Start at: 2018-09-07 10:20:10
End at: 2018-09-07 10:20:40

# Below is generated by plot.py at 2018-09-07 11:16:11
# Datalink statistics
-- Total of 1 flow:
Average capacity: 108.00 Mbit/s
Average throughput: 0.49 Mbit/s (0.5% utilization)
95th percentile per-packet one-way delay: 12.058 ms
Loss rate: 30.73%
-- Flow 1:
Average throughput: 0.49 Mbit/s
95th percentile per-packet one-way delay: 12.058 ms
Loss rate: 30.73%
```

Run 1: Report of WebRTC media — Data Link



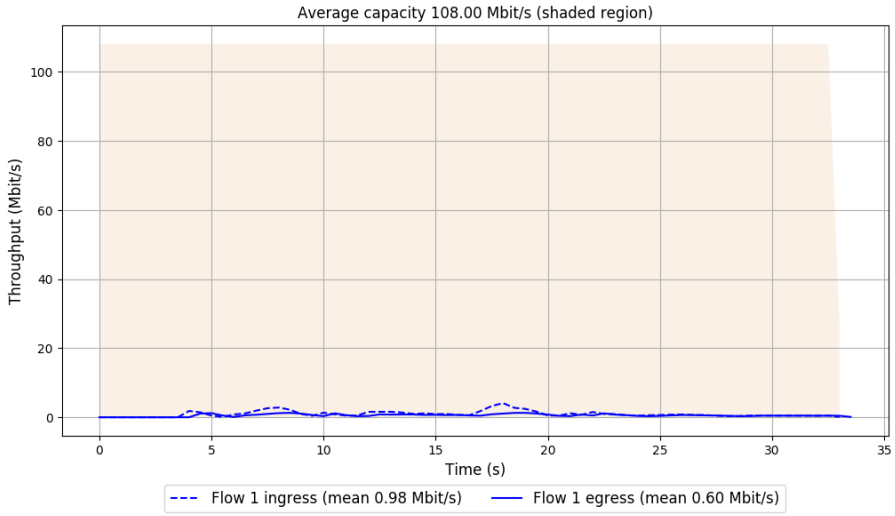


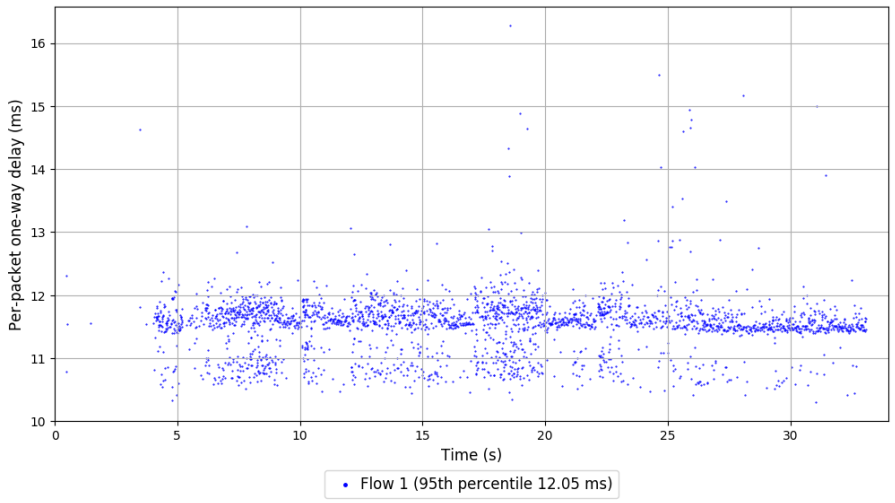
```
Run 2: Statistics of WebRTC media

Start at: 2018-09-07 10:31:17
End at: 2018-09-07 10:31:47

# Below is generated by plot.py at 2018-09-07 11:16:11
# Datalink statistics
-- Total of 1 flow:
Average capacity: 108.00 Mbit/s
Average throughput: 0.60 Mbit/s (0.6% utilization)
95th percentile per-packet one-way delay: 12.054 ms
Loss rate: 39.09%
-- Flow 1:
Average throughput: 0.60 Mbit/s
95th percentile per-packet one-way delay: 12.054 ms
Loss rate: 39.09%
```

Run 2: Report of WebRTC media — Data Link



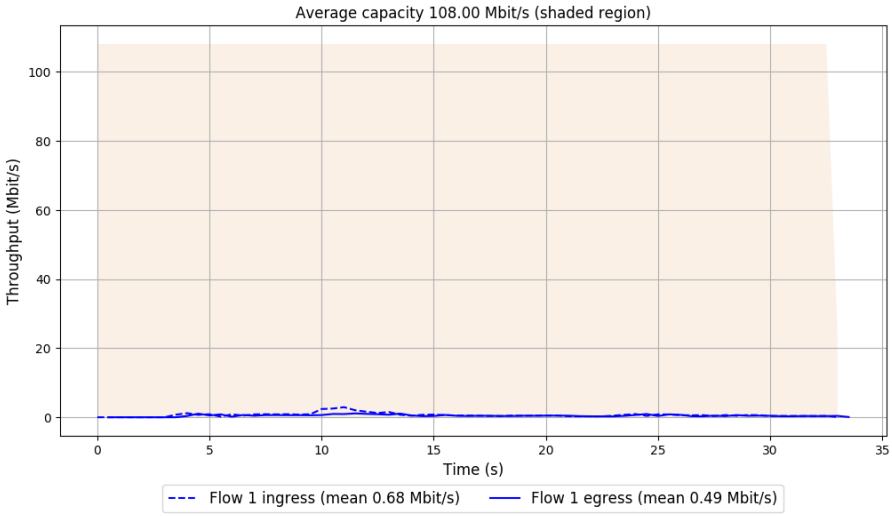


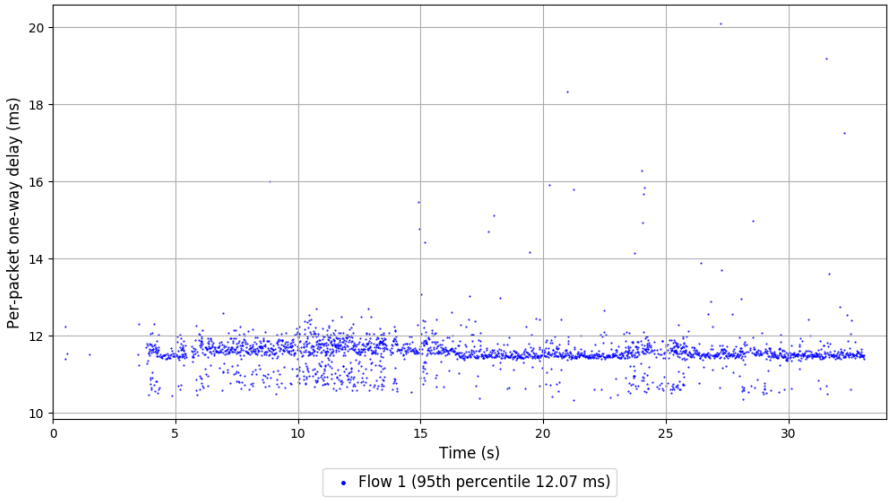
```
Run 3: Statistics of WebRTC media

Start at: 2018-09-07 10:42:22
End at: 2018-09-07 10:42:52

# Below is generated by plot.py at 2018-09-07 11:16:11
# Datalink statistics
-- Total of 1 flow:
Average capacity: 108.00 Mbit/s
Average throughput: 0.49 Mbit/s (0.4% utilization)
95th percentile per-packet one-way delay: 12.067 ms
Loss rate: 28.97%
-- Flow 1:
Average throughput: 0.49 Mbit/s
95th percentile per-packet one-way delay: 12.067 ms
Loss rate: 28.97%
```

Run 3: Report of WebRTC media — Data Link



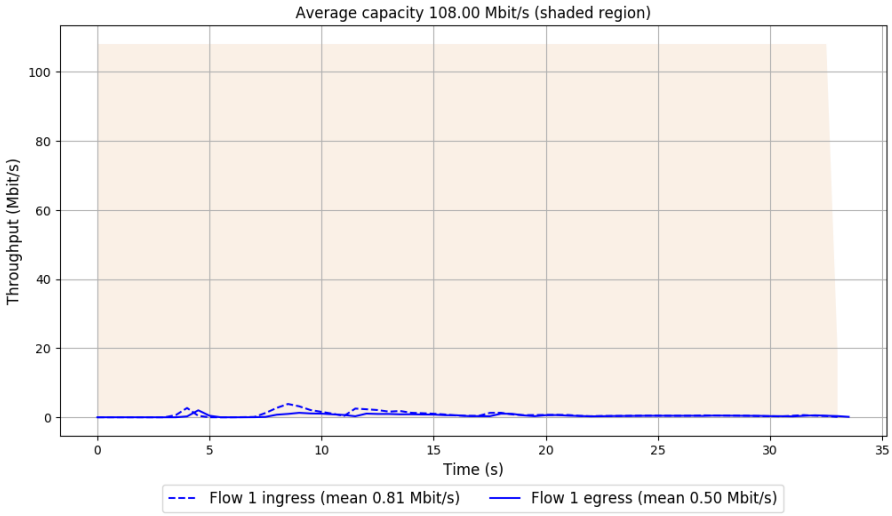


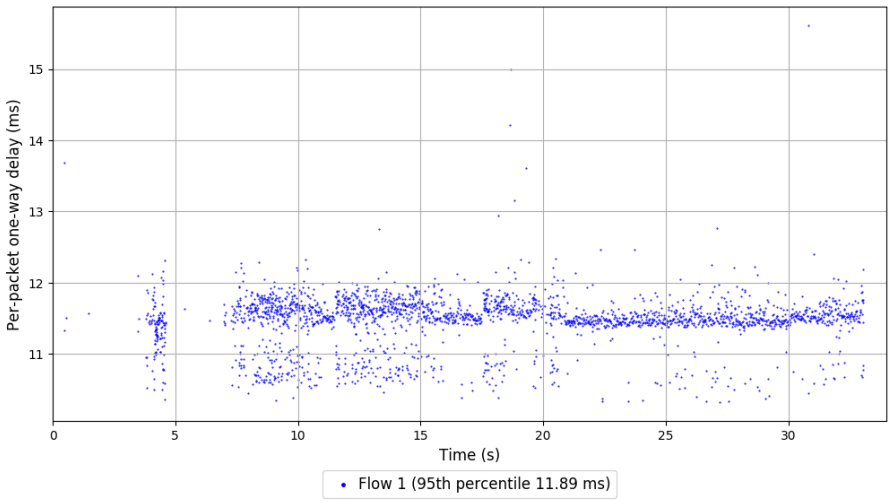
```
Run 4: Statistics of WebRTC media

Start at: 2018-09-07 10:53:32
End at: 2018-09-07 10:54:02

# Below is generated by plot.py at 2018-09-07 11:16:11
# Datalink statistics
-- Total of 1 flow:
Average capacity: 108.00 Mbit/s
Average throughput: 0.50 Mbit/s (0.5% utilization)
95th percentile per-packet one-way delay: 11.888 ms
Loss rate: 37.83%
-- Flow 1:
Average throughput: 0.50 Mbit/s
95th percentile per-packet one-way delay: 11.888 ms
Loss rate: 37.83%
```

Run 4: Report of WebRTC media — Data Link





```
Run 5: Statistics of WebRTC media

Start at: 2018-09-07 11:04:37
End at: 2018-09-07 11:05:07

# Below is generated by plot.py at 2018-09-07 11:16:11
# Datalink statistics
-- Total of 1 flow:
Average capacity: 108.00 Mbit/s
Average throughput: 0.49 Mbit/s (0.5% utilization)
95th percentile per-packet one-way delay: 11.944 ms
Loss rate: 28.38%
-- Flow 1:
Average throughput: 0.49 Mbit/s
95th percentile per-packet one-way delay: 11.944 ms
Loss rate: 28.38%
```

Run 5: Report of WebRTC media — Data Link