Pantheon Report

Generated at 2019-12-11 08:18:22 (UTC).

Tested in mahimahi: `mm-delay 30 mm-link 12mbps.trace 12mbps.trace --uplink-queue=droptail --uplink-queue-args=bytes=30000`

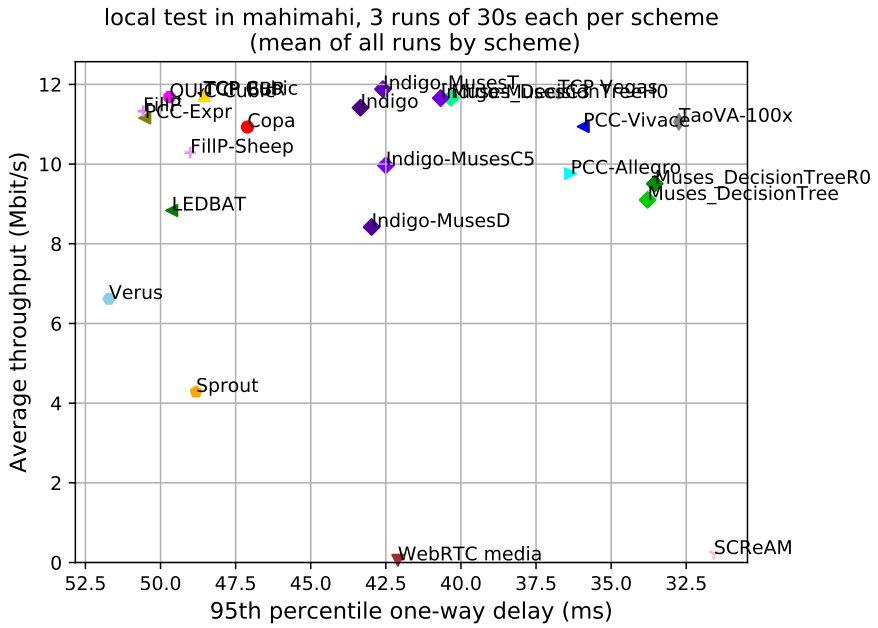
Repeated the test of 24 congestion control schemes 3 times.

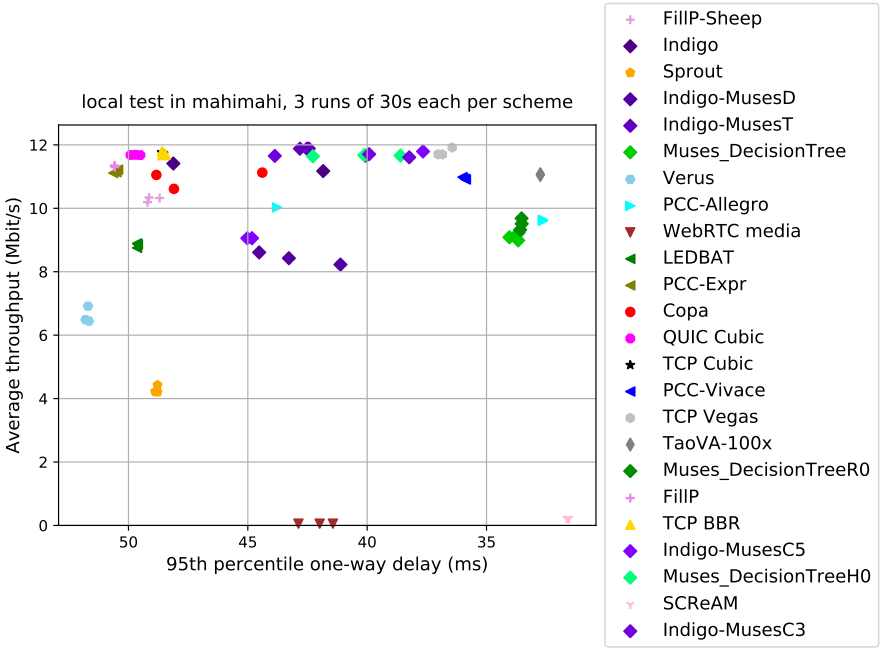
Each test lasted for 30 seconds running 1 flow.

```
System info:
Linux 5.0.0-1025-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)
Average throughput (Mbit/s)
95th percentile one-way delay (ms)
Indigo-MusesT
Indigo
PCC-Expr
Copa
FillP-Sheep
PCC-Vivace
TaoVA-100x
Indigo-MusesC5
PCC-Allegro
Muses_DecisionTreeR0
Muses_DecisionTree
LEDBAT
Indigo-MusesD
Verus
Sprout
WebRTC media
SCReAM


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
PCC-Expr
Copa
QUIC Cubic
TCP Cubic
PCC-Vivace
TCP Vegas
TaoVA-100x
Muses_DecisionTreeR0
FillP
TCP BBR
Indigo-MusesC5
Muses_DecisionTreeH0
SCReAM
Indigo-MusesC3

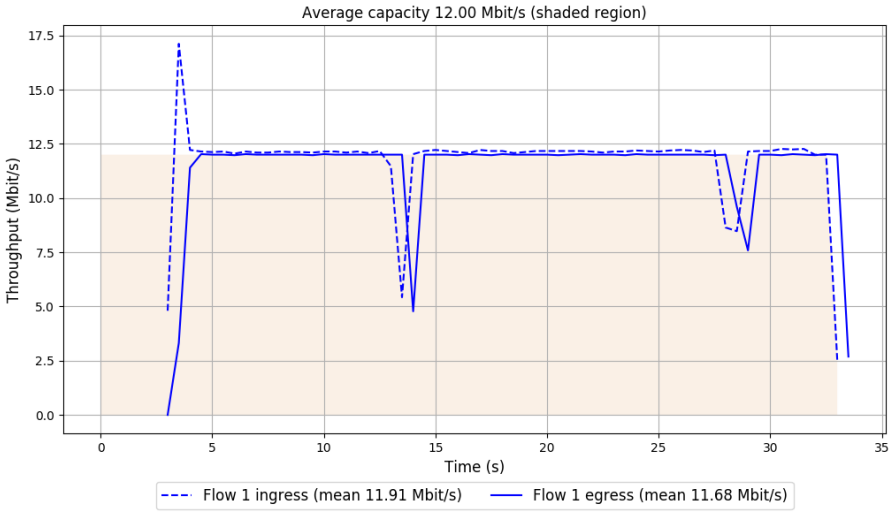
scheme	# runs	mean avg tput (Mbit/s) flow 1	mean 95th-%ile delay (ms) flow 1	mean loss rate (%) flow 1
TCP BBR	3	11.72	48.54	2.00
Copa	3	10.93	47.11	1.65
TCP Cubic	3	11.74	48.57	0.24
FillP	3	11.33	50.58	3.22
FillP-Sheep	3	10.28	49.01	1.47
Indigo	3	11.41	43.34	3.78
Indigo-MusesC3	3	11.66	40.67	0.41
Indigo-MusesC5	3	9.97	42.50	0.89
Indigo-MusesD	3	8.42	42.97	1.85
Indigo-MusesT	3	11.88	42.59	0.44
LEDBAT	3	8.83	49.63	1.08
Muses_DecisionTree	3	9.10	33.79	0.61
Muses_DecisionTreeH0	3	11.66	40.33	0.56
Muses_DecisionTreeR0	3	9.50	33.55	0.60
PCC-Allegro	3	9.76	36.35	0.82
PCC-Expr	3	11.16	50.52	0.89
QUIC Cubic	3	11.68	49.70	0.37
SCReAM	3	0.21	31.58	0.13
Sprout	3	4.28	48.82	7.82
TaoVA-100x	3	11.06	32.75	0.76
TCP Vegas	3	11.77	36.77	0.28
Verus	3	6.61	51.72	92.62
PCC-Vivace	3	10.94	35.93	0.19
WebRTC media	3	0.06	42.10	0.00

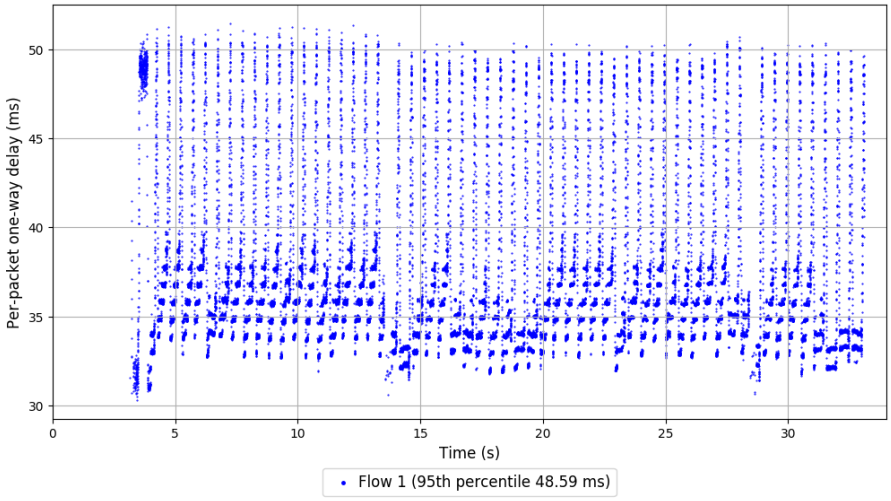
```
Run 1: Statistics of TCP BBR

Start at: 2019-12-11 07:36:20
End at: 2019-12-11 07:36:50

# Below is generated by plot.py at 2019-12-11 08:15:13
# Datalink statistics
-- Total of 1 flow:
Average capacity: 12.00 Mbit/s
Average throughput: 11.68 Mbit/s (97.3% utilization)
95th percentile per-packet one-way delay: 48.587 ms
Loss rate: 2.09%
-- Flow 1:
Average throughput: 11.68 Mbit/s
95th percentile per-packet one-way delay: 48.587 ms
Loss rate: 2.09%
```

Run 1: Report of TCP BBR — Data Link



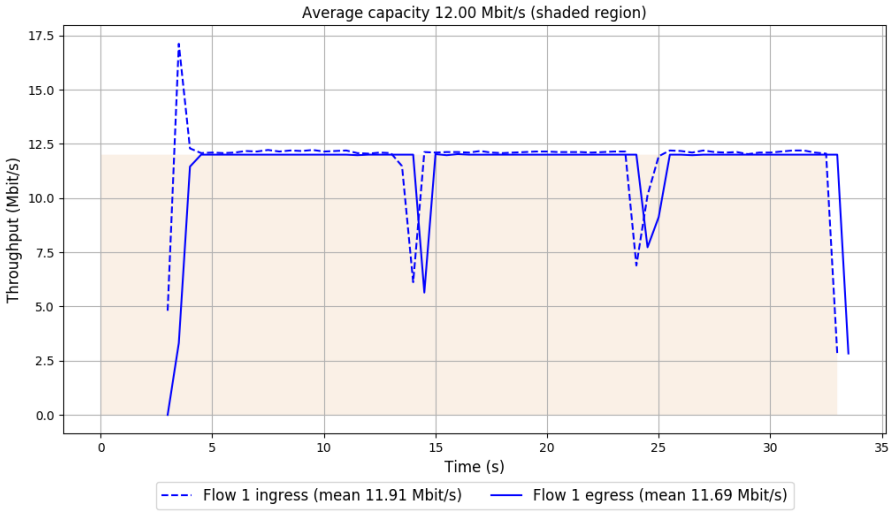


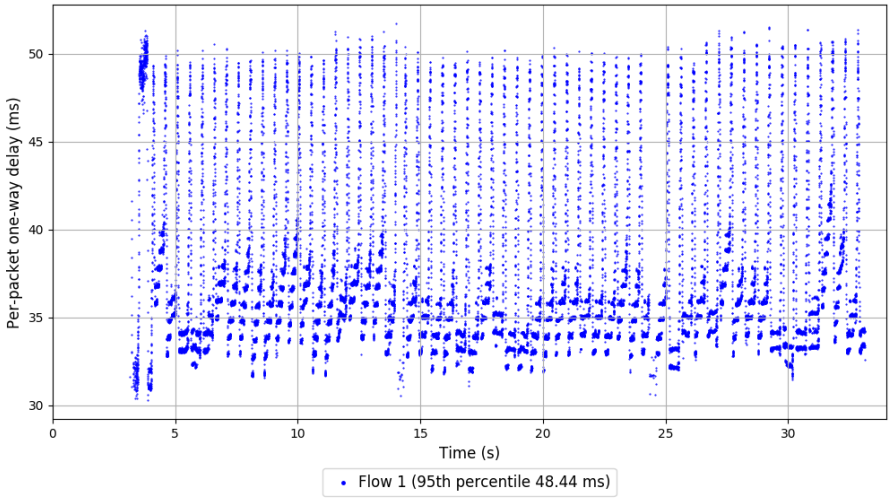
```
Run 2: Statistics of TCP BBR

Start at: 2019-12-11 07:50:27
End at: 2019-12-11 07:50:57

# Below is generated by plot.py at 2019-12-11 08:15:13
# Datalink statistics
-- Total of 1 flow:
Average capacity: 12.00 Mbit/s
Average throughput: 11.69 Mbit/s (97.4% utilization)
95th percentile per-packet one-way delay: 48.440 ms
Loss rate: 1.96%
-- Flow 1:
Average throughput: 11.69 Mbit/s
95th percentile per-packet one-way delay: 48.440 ms
Loss rate: 1.96%
```

Run 2: Report of TCP BBR — Data Link



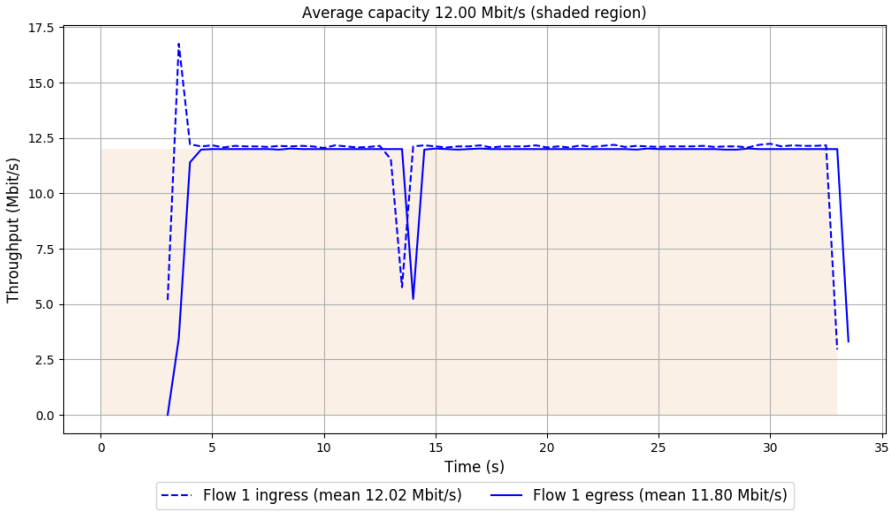


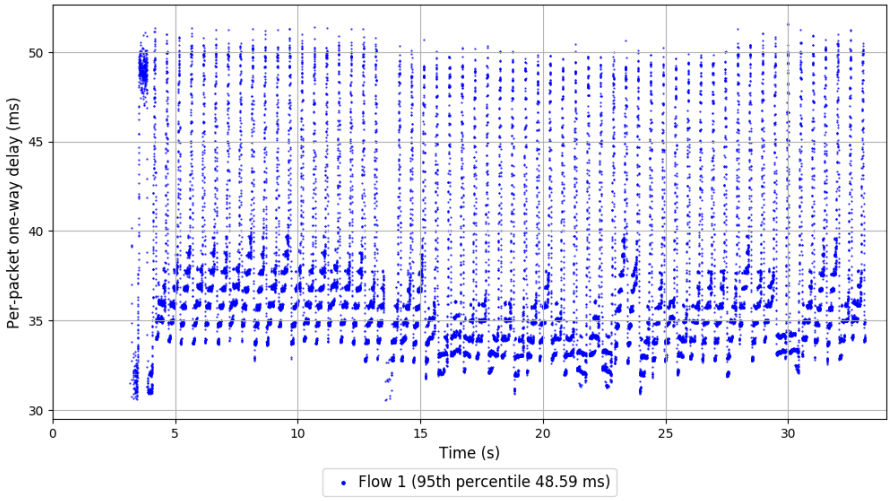
```
Run 3: Statistics of TCP BBR

Start at: 2019-12-11 08:04:35
End at: 2019-12-11 08:05:05

# Below is generated by plot.py at 2019-12-11 08:15:14
# Datalink statistics
-- Total of 1 flow:
Average capacity: 12.00 Mbit/s
Average throughput: 11.80 Mbit/s (98.3% utilization)
95th percentile per-packet one-way delay: 48.591 ms
Loss rate: 1.94%
-- Flow 1:
Average throughput: 11.80 Mbit/s
95th percentile per-packet one-way delay: 48.591 ms
Loss rate: 1.94%
```

Run 3: Report of TCP BBR — Data Link



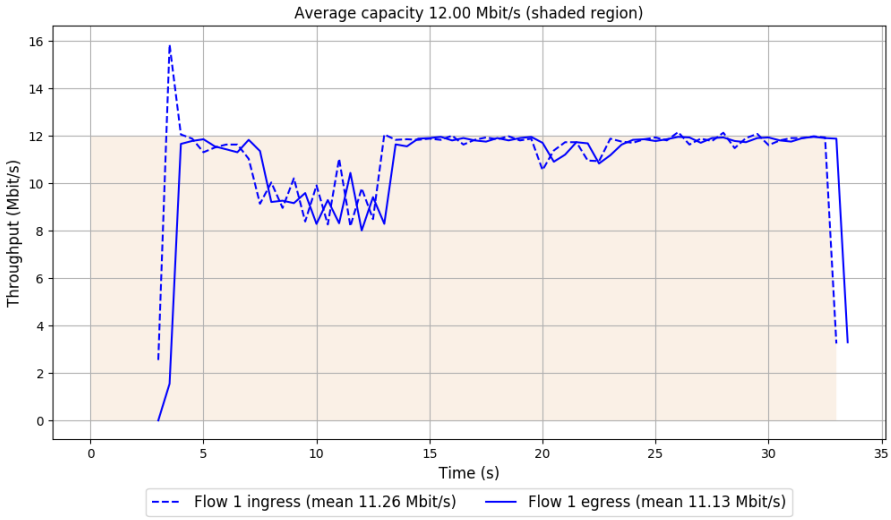


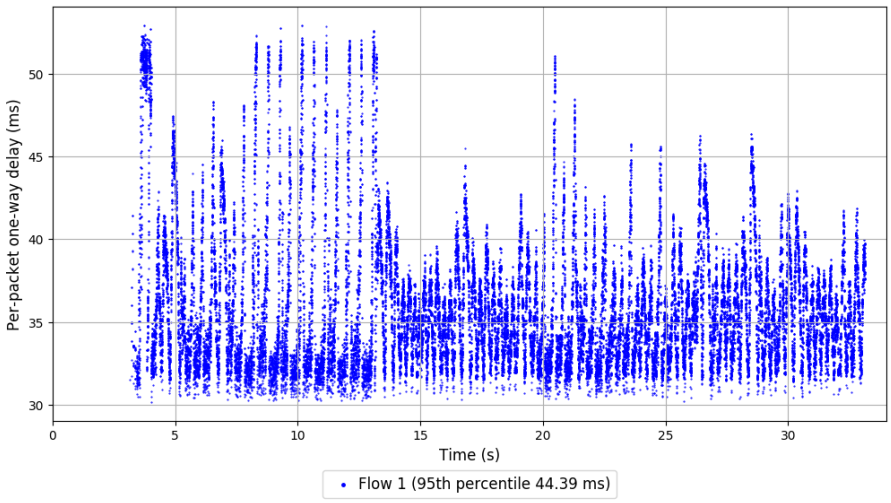
```
Run 1: Statistics of Copa

Start at: 2019-12-11 07:36:55
End at: 2019-12-11 07:37:25

# Below is generated by plot.py at 2019-12-11 08:15:25
# Datalink statistics
-- Total of 1 flow:
Average capacity: 12.00 Mbit/s
Average throughput: 11.13 Mbit/s (92.7% utilization)
95th percentile per-packet one-way delay: 44.393 ms
Loss rate: 1.31%
-- Flow 1:
Average throughput: 11.13 Mbit/s
95th percentile per-packet one-way delay: 44.393 ms
Loss rate: 1.31%
```

Run 1: Report of Copa — Data Link



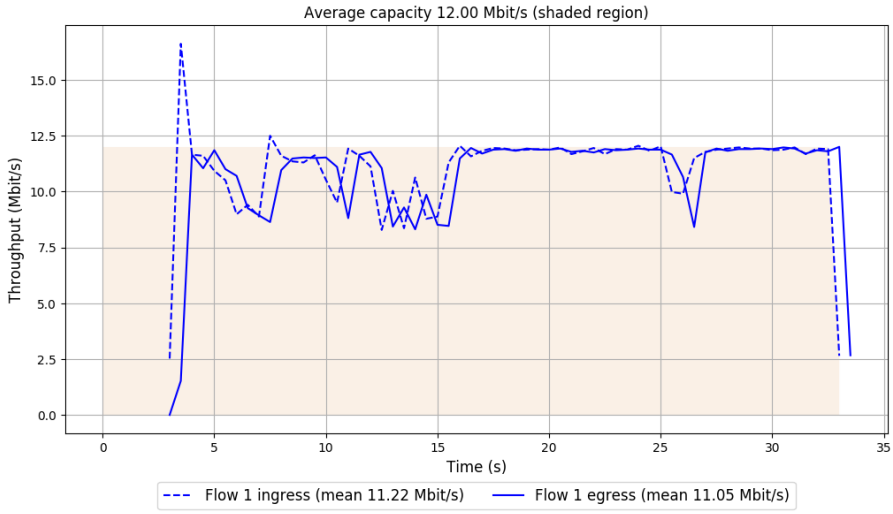


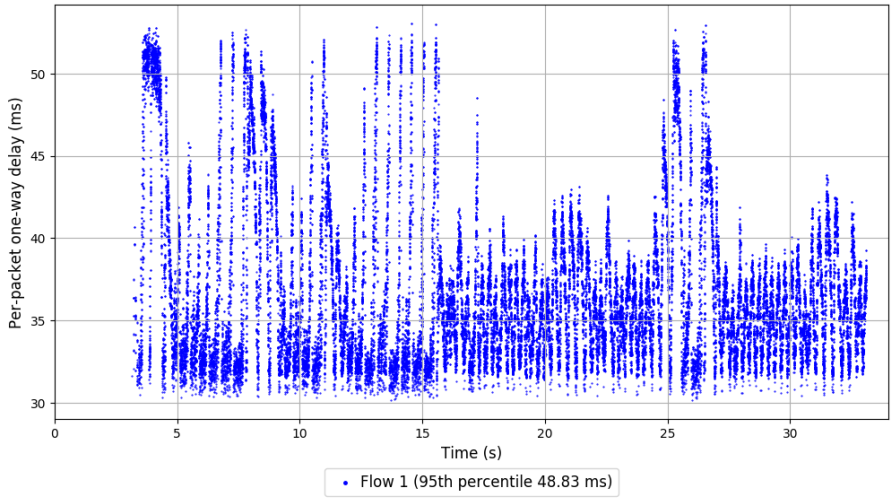
```
Run 2: Statistics of Copa

Start at: 2019-12-11 07:51:02
End at: 2019-12-11 07:51:32

# Below is generated by plot.py at 2019-12-11 08:15:25
# Datalink statistics
-- Total of 1 flow:
Average capacity: 12.00 Mbit/s
Average throughput: 11.05 Mbit/s (92.1% utilization)
95th percentile per-packet one-way delay: 48.832 ms
Loss rate: 1.64%
-- Flow 1:
Average throughput: 11.05 Mbit/s
95th percentile per-packet one-way delay: 48.832 ms
Loss rate: 1.64%
```

Run 2: Report of Copa — Data Link



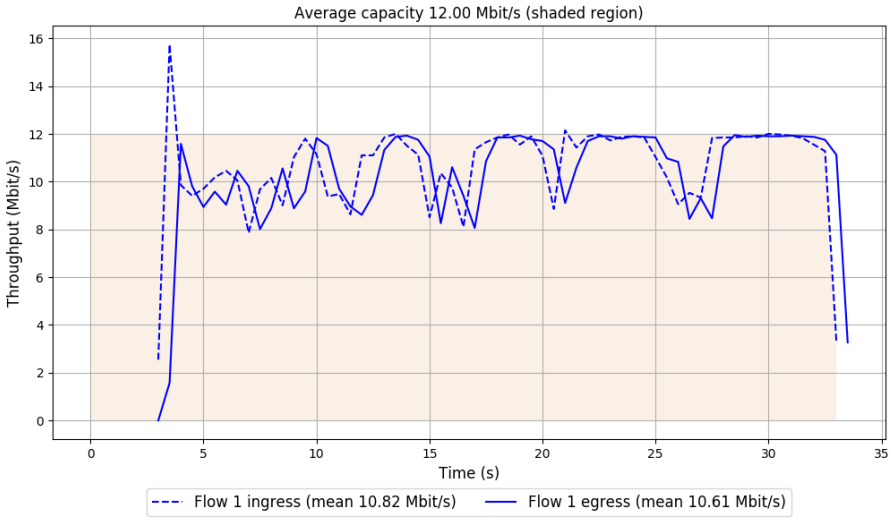


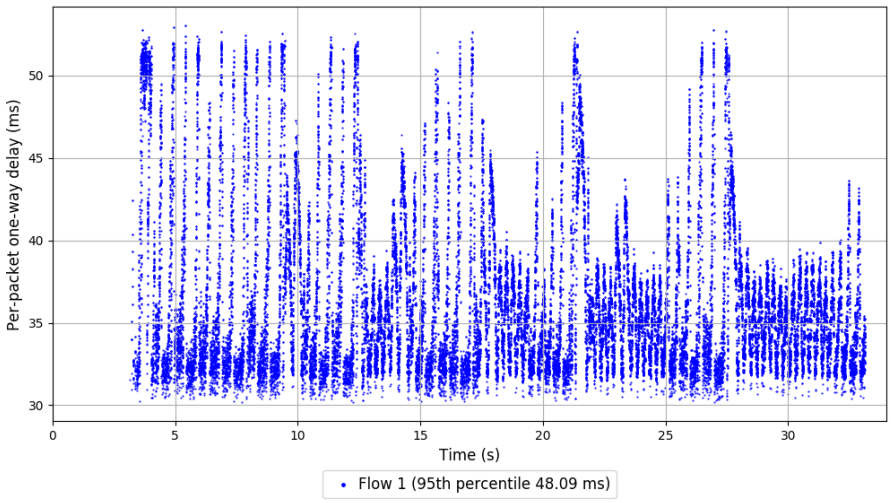
```
Run 3: Statistics of Copa

Start at: 2019-12-11 08:05:10
End at: 2019-12-11 08:05:40

# Below is generated by plot.py at 2019-12-11 08:15:25
# Datalink statistics
-- Total of 1 flow:
Average capacity: 12.00 Mbit/s
Average throughput: 10.61 Mbit/s (88.4% utilization)
95th percentile per-packet one-way delay: 48.095 ms
Loss rate: 2.00%
-- Flow 1:
Average throughput: 10.61 Mbit/s
95th percentile per-packet one-way delay: 48.095 ms
Loss rate: 2.00%
```

Run 3: Report of Copa — Data Link



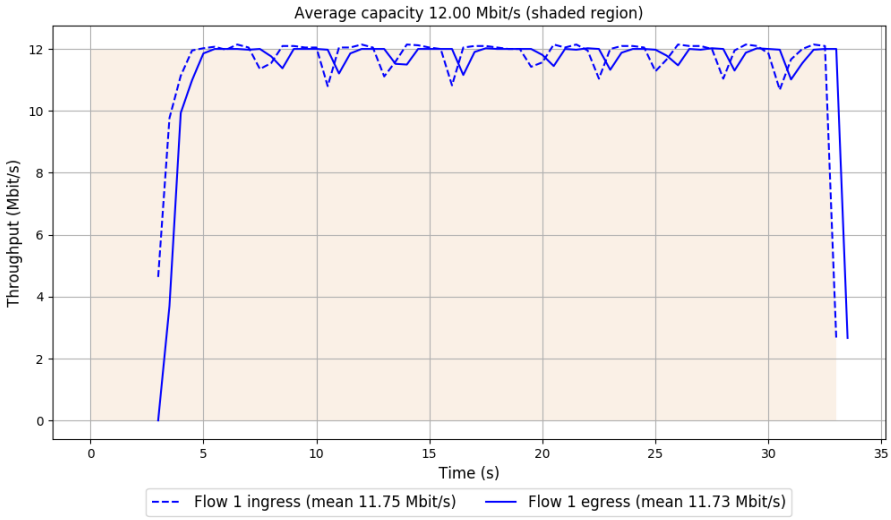


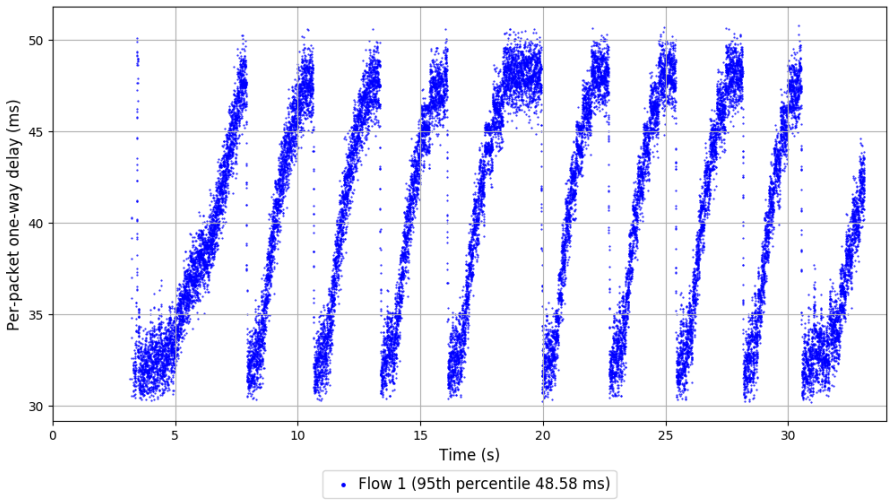
```
Run 1: Statistics of TCP Cubic

Start at: 2019-12-11 07:43:59
End at: 2019-12-11 07:44:29

# Below is generated by plot.py at 2019-12-11 08:15:25
# Datalink statistics
-- Total of 1 flow:
Average capacity: 12.00 Mbit/s
Average throughput: 11.73 Mbit/s (97.8% utilization)
95th percentile per-packet one-way delay: 48.575 ms
Loss rate: 0.21%
-- Flow 1:
Average throughput: 11.73 Mbit/s
95th percentile per-packet one-way delay: 48.575 ms
Loss rate: 0.21%
```

Run 1: Report of TCP Cubic — Data Link



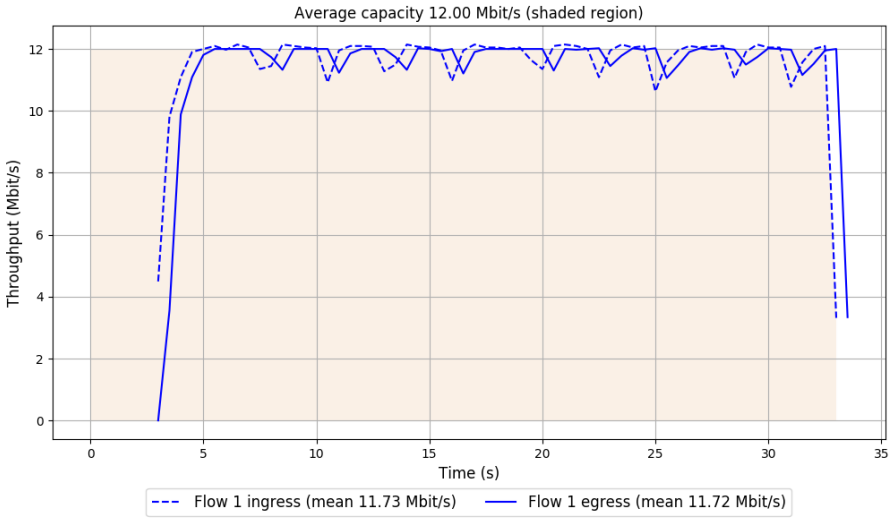


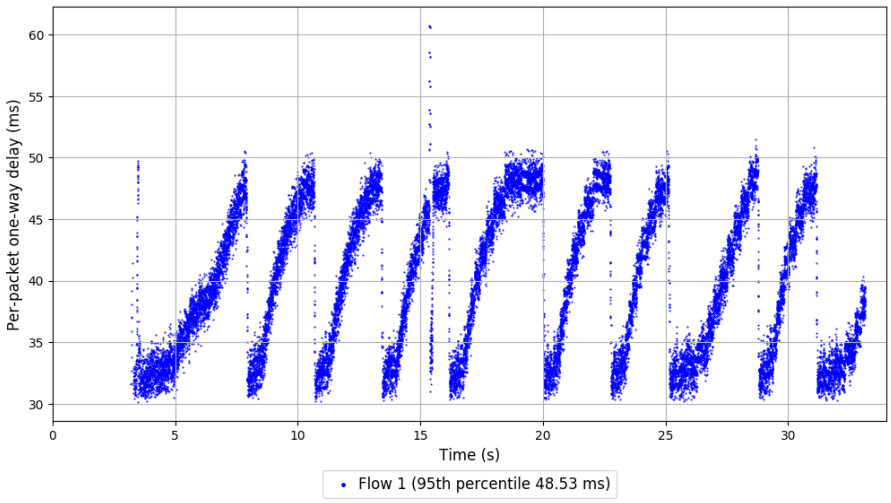
```
Run 2: Statistics of TCP Cubic

Start at: 2019-12-11 07:58:06
End at: 2019-12-11 07:58:36

# Below is generated by plot.py at 2019-12-11 08:15:25
# Datalink statistics
-- Total of 1 flow:
Average capacity: 12.00 Mbit/s
Average throughput: 11.72 Mbit/s (97.7% utilization)
95th percentile per-packet one-way delay: 48.531 ms
Loss rate: 0.18%
-- Flow 1:
Average throughput: 11.72 Mbit/s
95th percentile per-packet one-way delay: 48.531 ms
Loss rate: 0.18%
```

Run 2: Report of TCP Cubic — Data Link



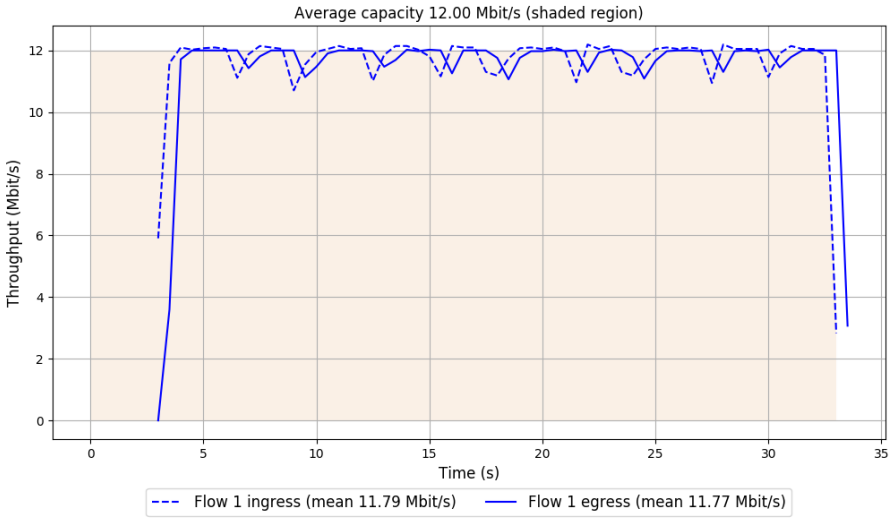


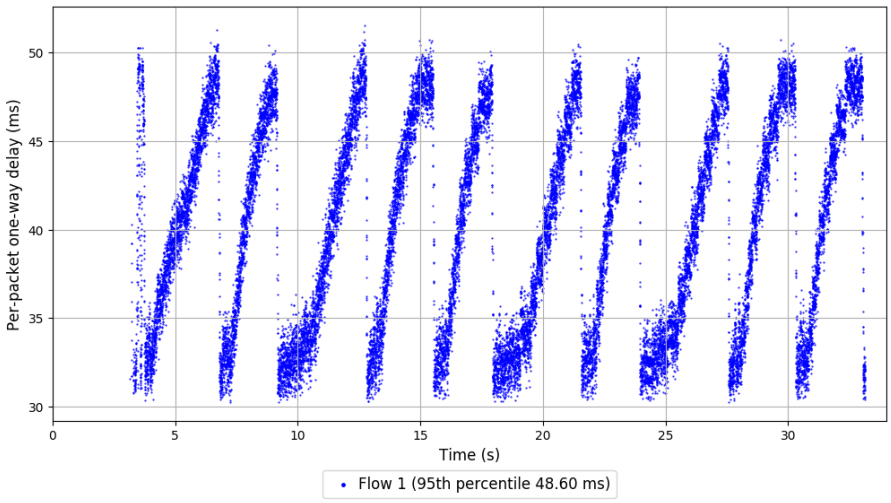
```
Run 3: Statistics of TCP Cubic

Start at: 2019-12-11 08:12:14
End at: 2019-12-11 08:12:44

# Below is generated by plot.py at 2019-12-11 08:15:36
# Datalink statistics
-- Total of 1 flow:
Average capacity: 12.00 Mbit/s
Average throughput: 11.77 Mbit/s (98.0% utilization)
95th percentile per-packet one-way delay: 48.601 ms
Loss rate: 0.34%
-- Flow 1:
Average throughput: 11.77 Mbit/s
95th percentile per-packet one-way delay: 48.601 ms
Loss rate: 0.34%
```

Run 3: Report of TCP Cubic — Data Link



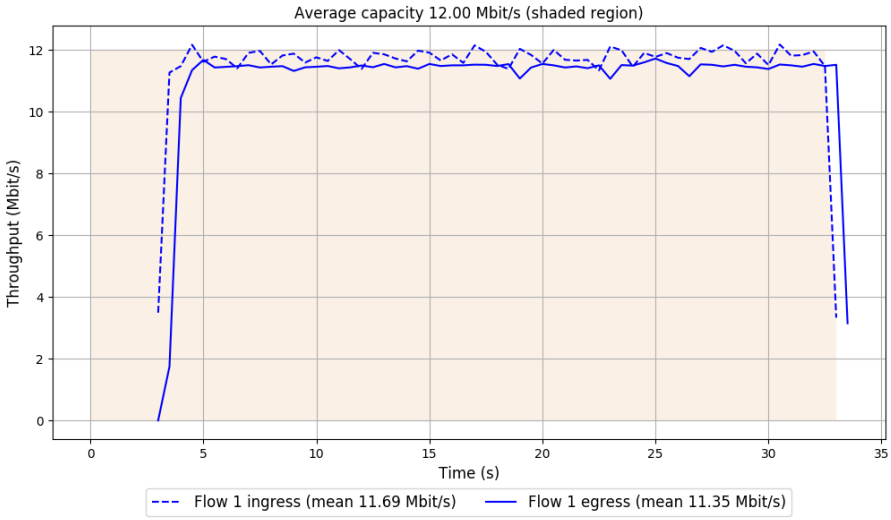


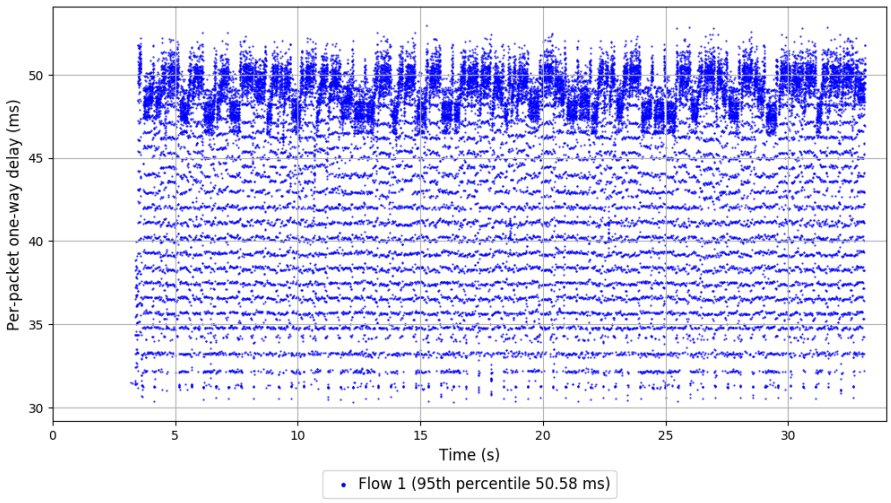
```
Run 1: Statistics of FillP

Start at: 2019-12-11 07:38:41
End at: 2019-12-11 07:39:11

# Below is generated by plot.py at 2019-12-11 08:15:39
# Datalink statistics
-- Total of 1 flow:
Average capacity: 12.00 Mbit/s
Average throughput: 11.35 Mbit/s (94.6% utilization)
95th percentile per-packet one-way delay: 50.575 ms
Loss rate: 2.98%
-- Flow 1:
Average throughput: 11.35 Mbit/s
95th percentile per-packet one-way delay: 50.575 ms
Loss rate: 2.98%
```

Run 1: Report of FillP — Data Link



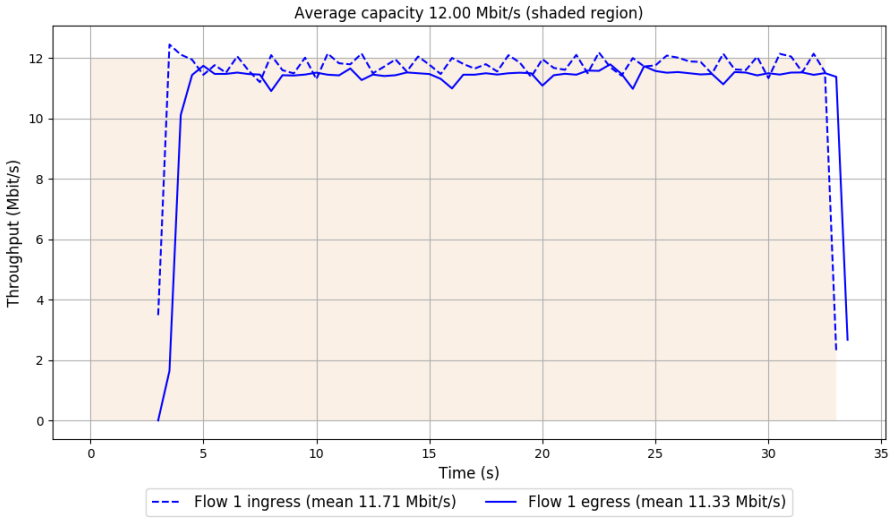


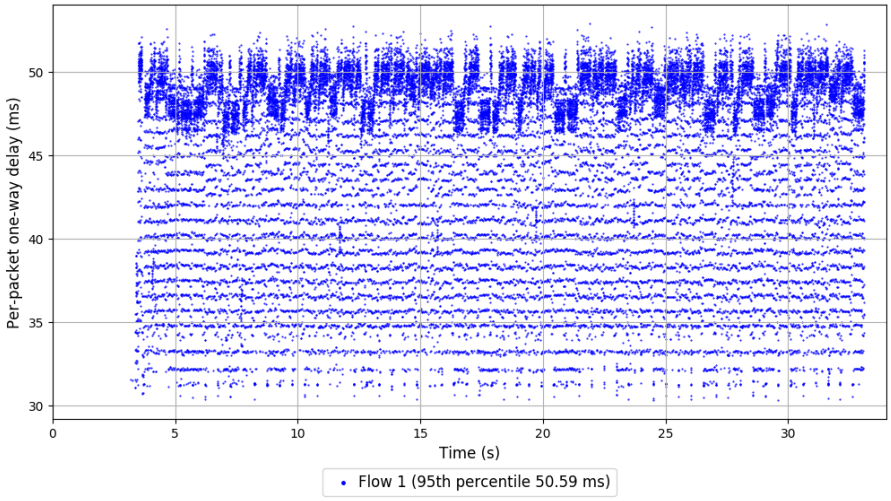
```
Run 2: Statistics of FillP

Start at: 2019-12-11 07:52:48
End at: 2019-12-11 07:53:18

# Below is generated by plot.py at 2019-12-11 08:15:41
# Datalink statistics
-- Total of 1 flow:
Average capacity: 12.00 Mbit/s
Average throughput: 11.33 Mbit/s (94.5% utilization)
95th percentile per-packet one-way delay: 50.593 ms
Loss rate: 3.28%
-- Flow 1:
Average throughput: 11.33 Mbit/s
95th percentile per-packet one-way delay: 50.593 ms
Loss rate: 3.28%
```

Run 2: Report of FillP — Data Link



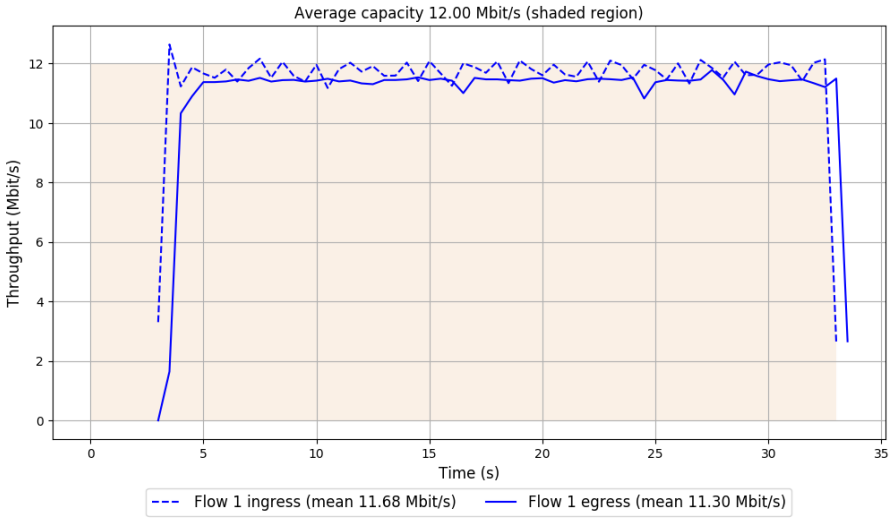


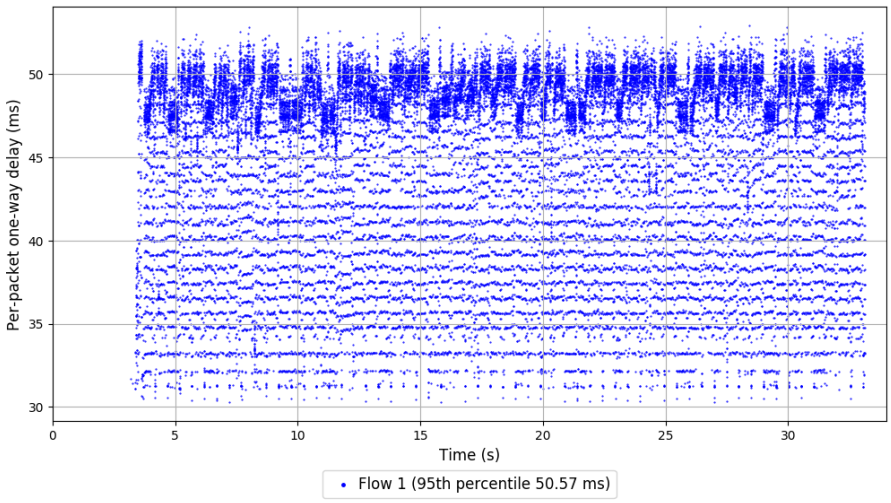
```
Run 3: Statistics of FillP

Start at: 2019-12-11 08:06:56
End at: 2019-12-11 08:07:26

# Below is generated by plot.py at 2019-12-11 08:15:41
# Datalink statistics
-- Total of 1 flow:
Average capacity: 12.00 Mbit/s
Average throughput: 11.30 Mbit/s (94.2% utilization)
95th percentile per-packet one-way delay: 50.570 ms
Loss rate: 3.39%
-- Flow 1:
Average throughput: 11.30 Mbit/s
95th percentile per-packet one-way delay: 50.570 ms
Loss rate: 3.39%
```

Run 3: Report of FillP — Data Link



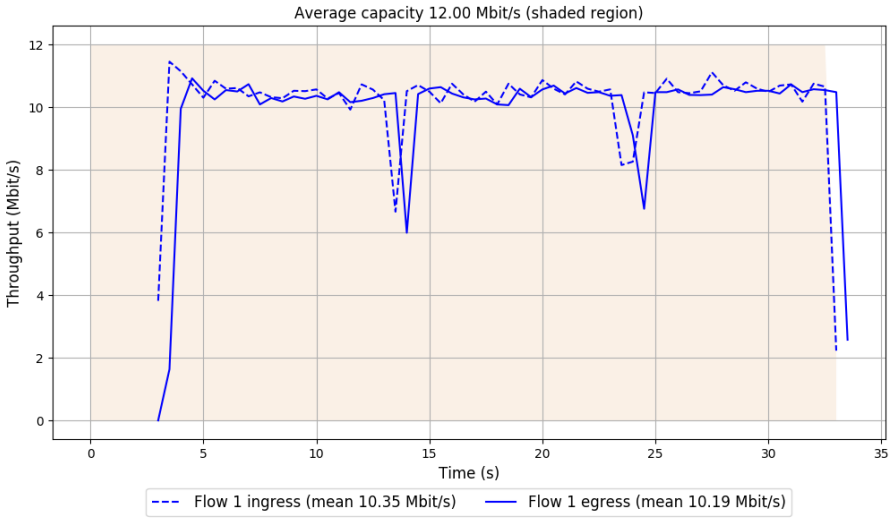


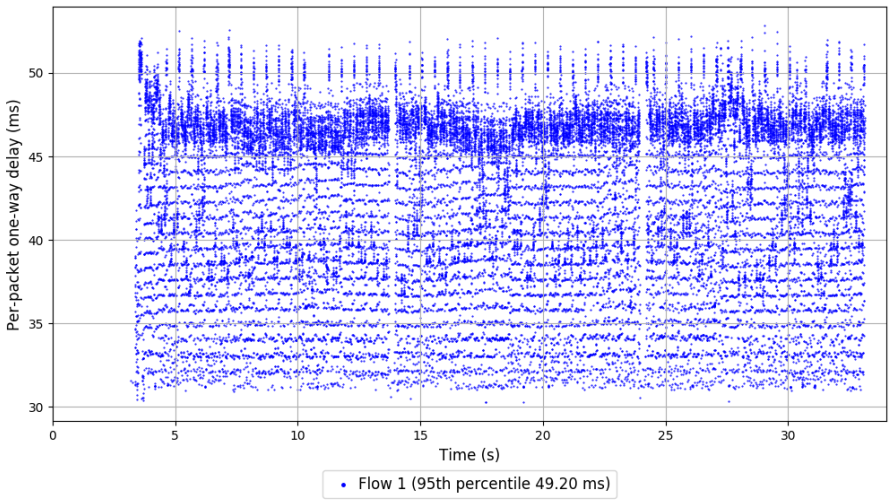
```
Run 1: Statistics of FillP-Sheep

Start at: 2019-12-11 07:39:16
End at: 2019-12-11 07:39:47

# Below is generated by plot.py at 2019-12-11 08:15:41
# Datalink statistics
-- Total of 1 flow:
Average capacity: 12.00 Mbit/s
Average throughput: 10.19 Mbit/s (84.9% utilization)
95th percentile per-packet one-way delay: 49.203 ms
Loss rate: 1.63%
-- Flow 1:
Average throughput: 10.19 Mbit/s
95th percentile per-packet one-way delay: 49.203 ms
Loss rate: 1.63%
```

Run 1: Report of FillP-Sheep — Data Link



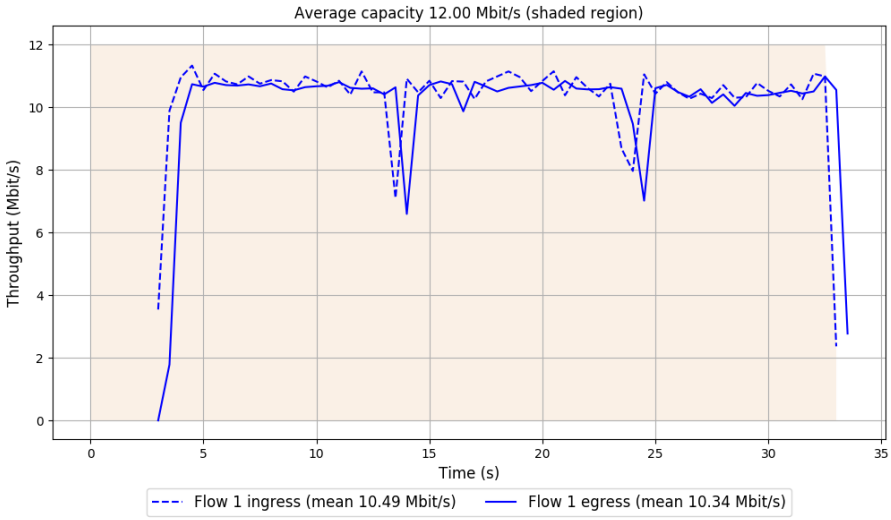


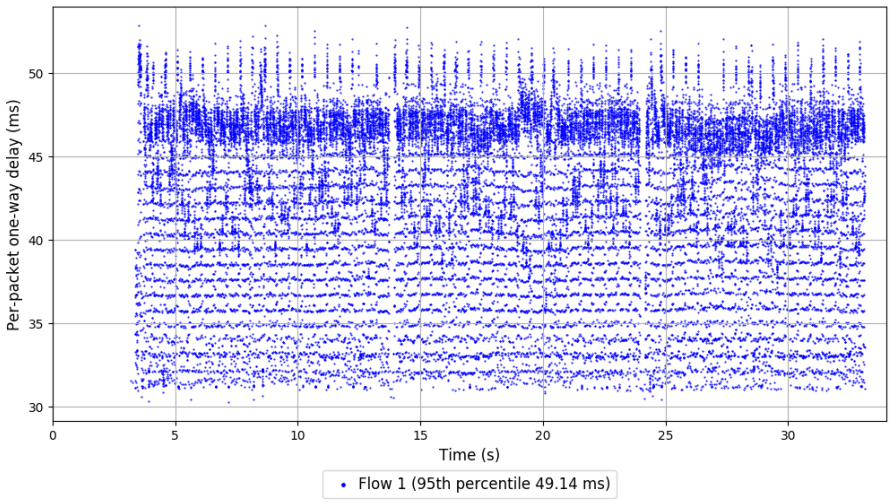
```
Run 2: Statistics of FillP-Sheep

Start at: 2019-12-11 07:53:23
End at: 2019-12-11 07:53:53

# Below is generated by plot.py at 2019-12-11 08:15:49
# Datalink statistics
-- Total of 1 flow:
Average capacity: 12.00 Mbit/s
Average throughput: 10.34 Mbit/s (86.2% utilization)
95th percentile per-packet one-way delay: 49.136 ms
Loss rate: 1.45%
-- Flow 1:
Average throughput: 10.34 Mbit/s
95th percentile per-packet one-way delay: 49.136 ms
Loss rate: 1.45%
```

Run 2: Report of FillP-Sheep — Data Link



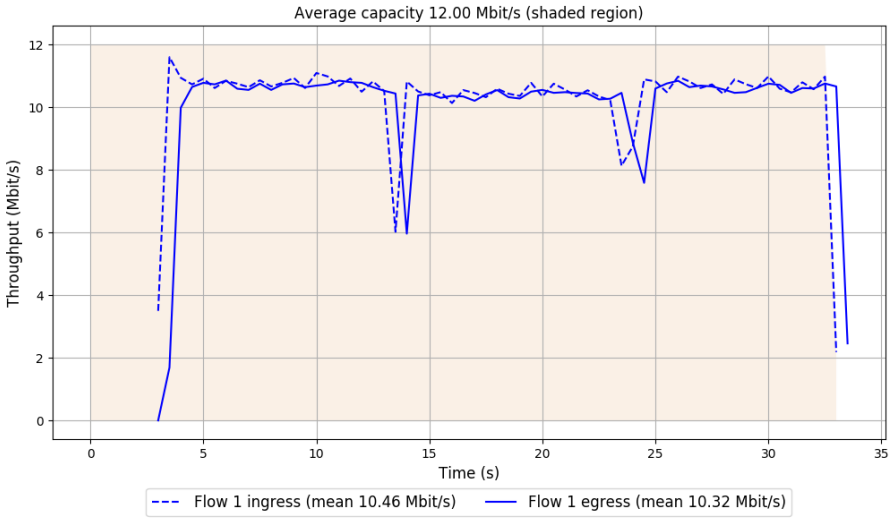


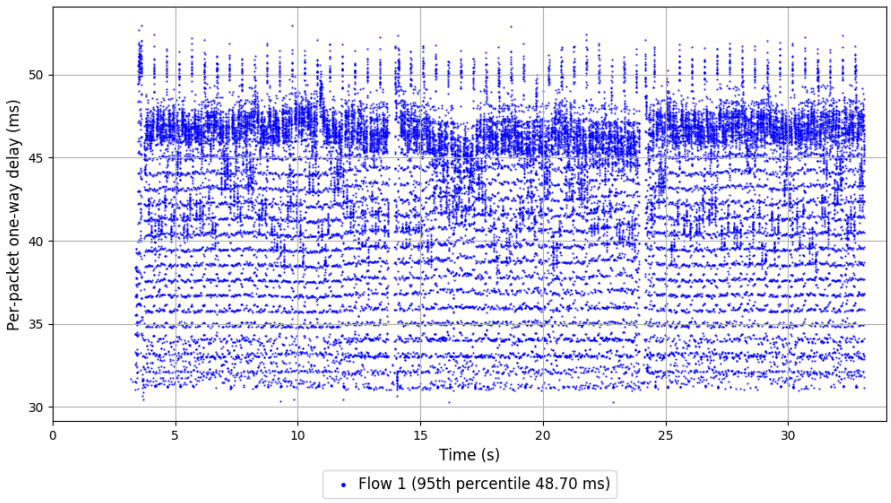
```
Run 3: Statistics of FillP-Sheep

Start at: 2019-12-11 08:07:31
End at: 2019-12-11 08:08:01

# Below is generated by plot.py at 2019-12-11 08:15:50
# Datalink statistics
-- Total of 1 flow:
Average capacity: 12.00 Mbit/s
Average throughput: 10.32 Mbit/s (86.0% utilization)
95th percentile per-packet one-way delay: 48.696 ms
Loss rate: 1.34%
-- Flow 1:
Average throughput: 10.32 Mbit/s
95th percentile per-packet one-way delay: 48.696 ms
Loss rate: 1.34%
```

Run 3: Report of FillP-Sheep — Data Link



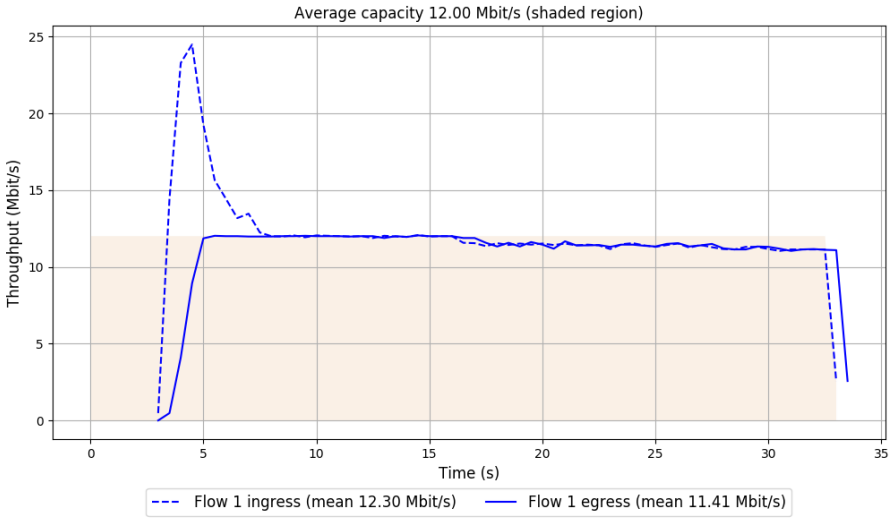


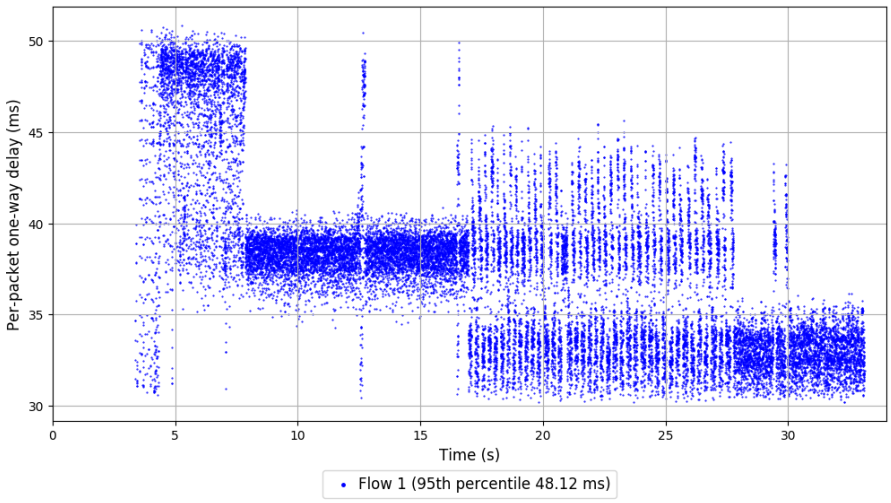
```
Run 1: Statistics of Indigo

Start at: 2019-12-11 07:34:33
End at: 2019-12-11 07:35:03

# Below is generated by plot.py at 2019-12-11 08:15:50
# Datalink statistics
-- Total of 1 flow:
Average capacity: 12.00 Mbit/s
Average throughput: 11.41 Mbit/s (95.1% utilization)
95th percentile per-packet one-way delay: 48.119 ms
Loss rate: 7.30%
-- Flow 1:
Average throughput: 11.41 Mbit/s
95th percentile per-packet one-way delay: 48.119 ms
Loss rate: 7.30%
```

Run 1: Report of Indigo — Data Link



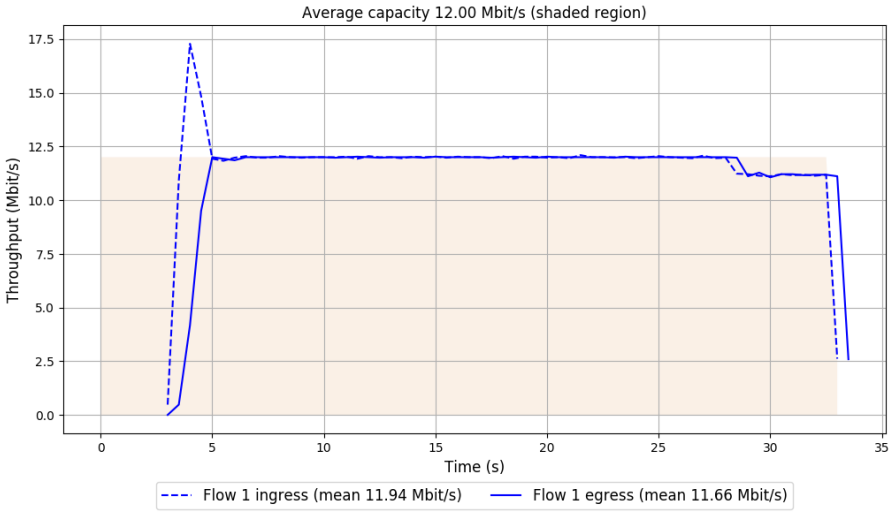


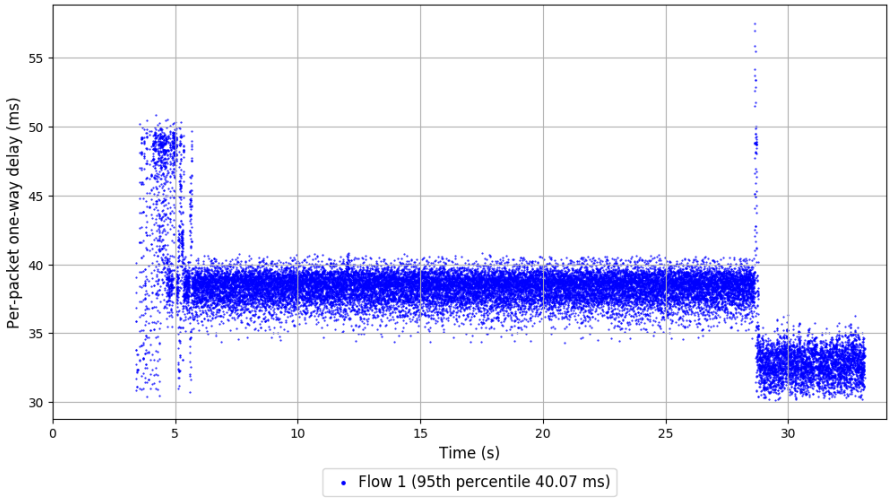
```
Run 2: Statistics of Indigo

Start at: 2019-12-11 07:48:40
End at: 2019-12-11 07:49:10

# Below is generated by plot.py at 2019-12-11 08:16:00
# Datalink statistics
-- Total of 1 flow:
Average capacity: 12.00 Mbit/s
Average throughput: 11.66 Mbit/s (97.1% utilization)
95th percentile per-packet one-way delay: 40.071 ms
Loss rate: 2.45%
-- Flow 1:
Average throughput: 11.66 Mbit/s
95th percentile per-packet one-way delay: 40.071 ms
Loss rate: 2.45%
```

Run 2: Report of Indigo — Data Link



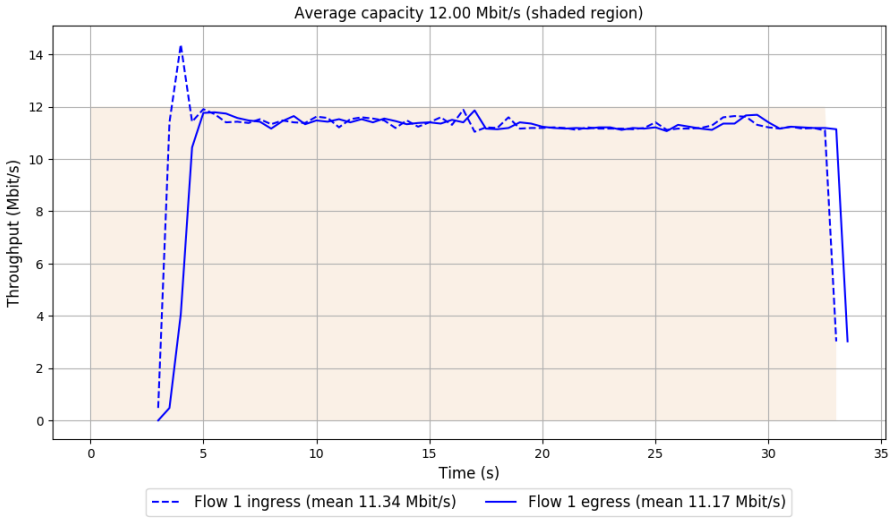


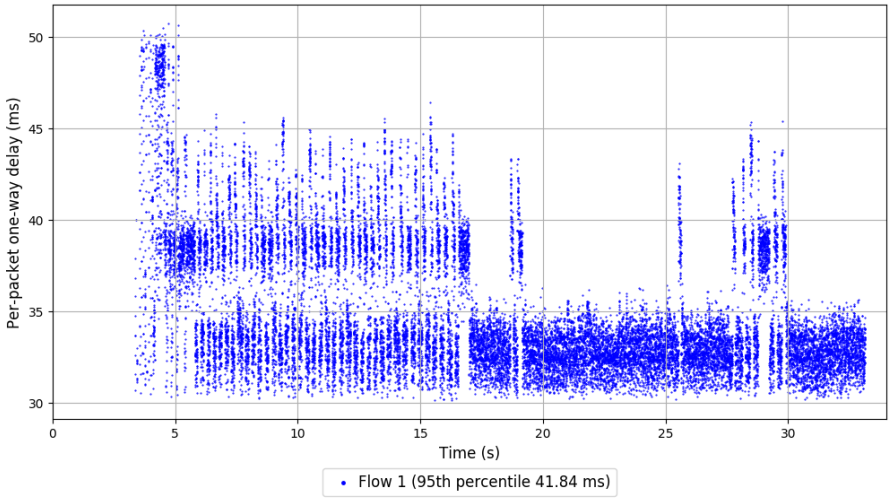
```
Run 3: Statistics of Indigo

Start at: 2019-12-11 08:02:46
End at: 2019-12-11 08:03:16

# Below is generated by plot.py at 2019-12-11 08:16:01
# Datalink statistics
-- Total of 1 flow:
Average capacity: 12.00 Mbit/s
Average throughput: 11.17 Mbit/s (93.1% utilization)
95th percentile per-packet one-way delay: 41.842 ms
Loss rate: 1.60%
-- Flow 1:
Average throughput: 11.17 Mbit/s
95th percentile per-packet one-way delay: 41.842 ms
Loss rate: 1.60%
```

Run 3: Report of Indigo — Data Link



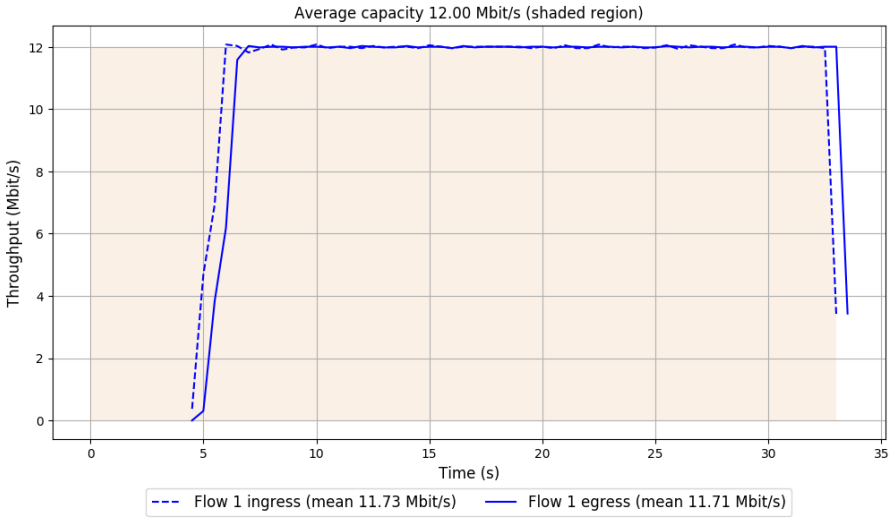


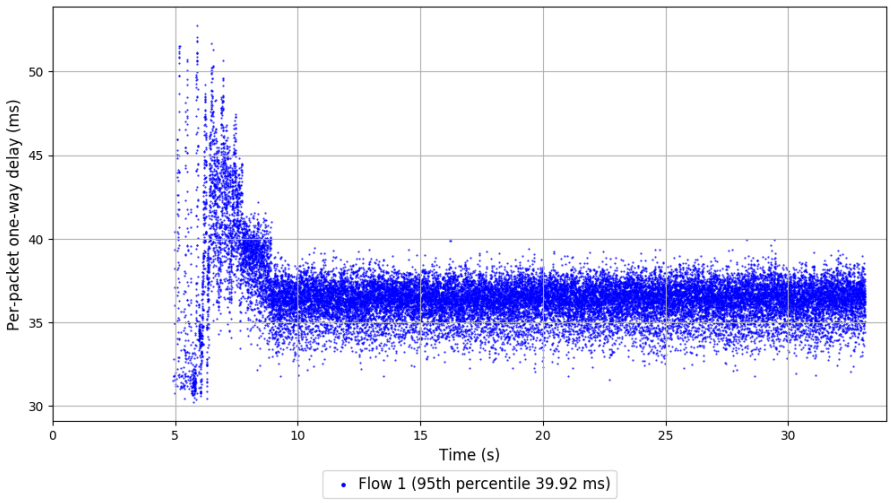
```
Run 1: Statistics of Indigo-MusesC3

Start at: 2019-12-11 07:35:45
End at: 2019-12-11 07:36:15

# Below is generated by plot.py at 2019-12-11 08:16:02
# Datalink statistics
-- Total of 1 flow:
Average capacity: 12.00 Mbit/s
Average throughput: 11.71 Mbit/s (97.5% utilization)
95th percentile per-packet one-way delay: 39.916 ms
Loss rate: 0.29%
-- Flow 1:
Average throughput: 11.71 Mbit/s
95th percentile per-packet one-way delay: 39.916 ms
Loss rate: 0.29%
```

Run 1: Report of Indigo-MusesC3 — Data Link



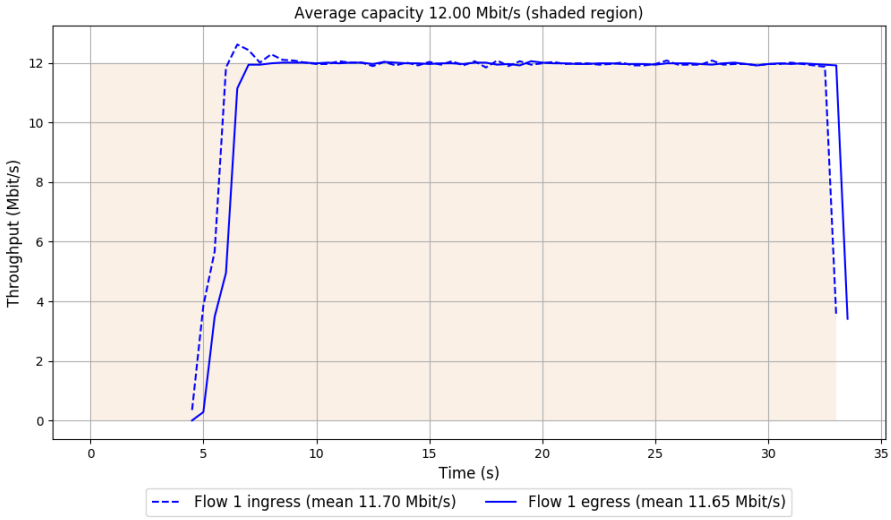


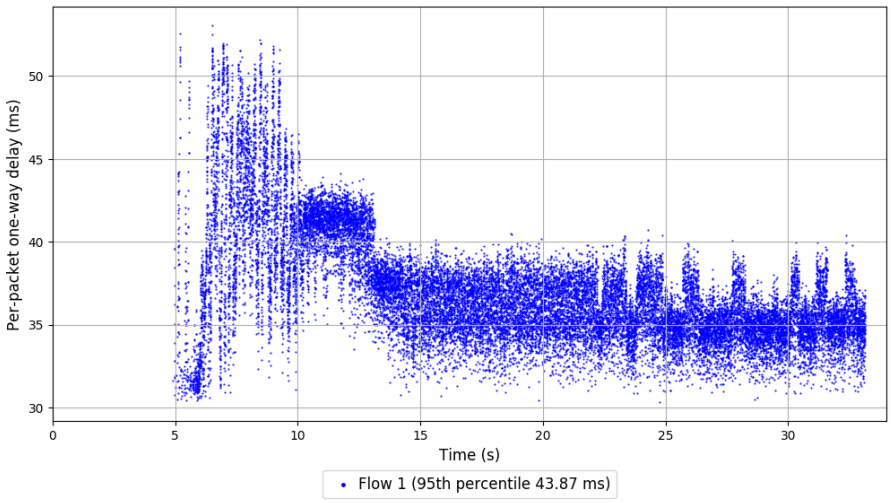
```
Run 2: Statistics of Indigo-MusesC3

Start at: 2019-12-11 07:49:52
End at: 2019-12-11 07:50:22

# Below is generated by plot.py at 2019-12-11 08:16:04
# Datalink statistics
-- Total of 1 flow:
Average capacity: 12.00 Mbit/s
Average throughput: 11.65 Mbit/s (97.1% utilization)
95th percentile per-packet one-way delay: 43.869 ms
Loss rate: 0.51%
-- Flow 1:
Average throughput: 11.65 Mbit/s
95th percentile per-packet one-way delay: 43.869 ms
Loss rate: 0.51%
```

Run 2: Report of Indigo-MusesC3 — Data Link



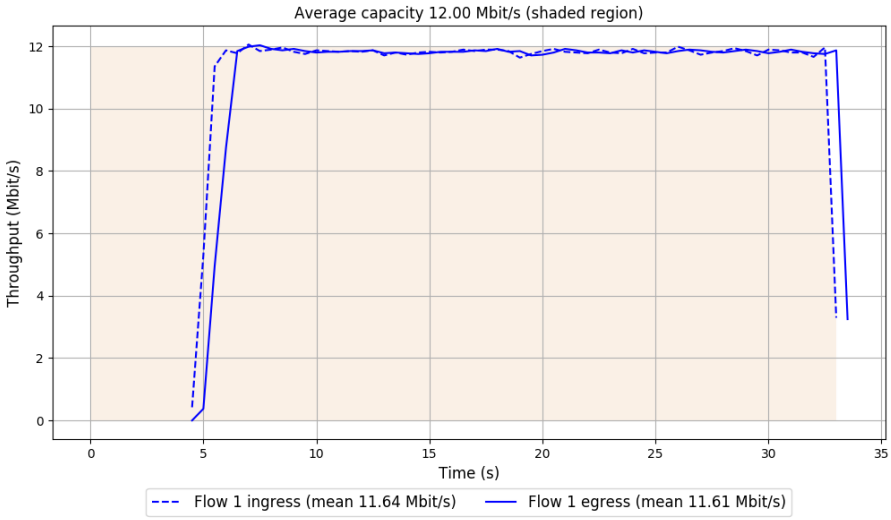


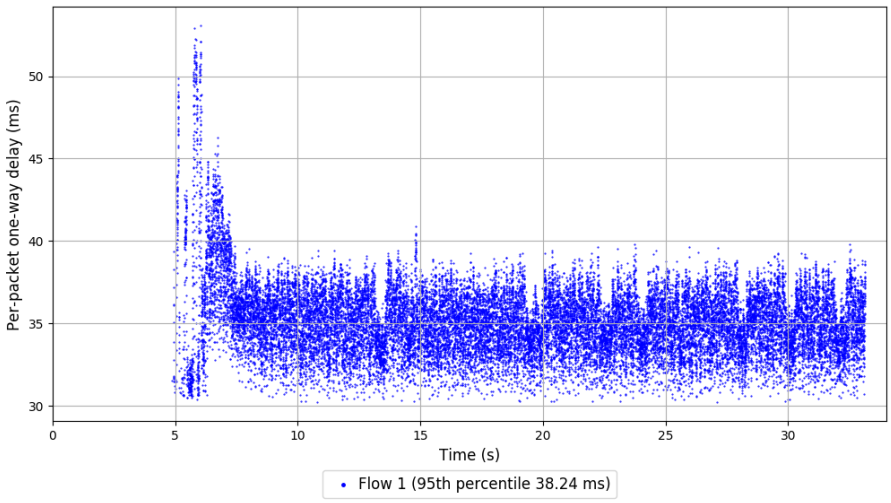
```
Run 3: Statistics of Indigo-MusesC3

Start at: 2019-12-11 08:03:59
End at: 2019-12-11 08:04:29

# Below is generated by plot.py at 2019-12-11 08:16:04
# Datalink statistics
-- Total of 1 flow:
Average capacity: 12.00 Mbit/s
Average throughput: 11.61 Mbit/s (96.7% utilization)
95th percentile per-packet one-way delay: 38.236 ms
Loss rate: 0.43%
-- Flow 1:
Average throughput: 11.61 Mbit/s
95th percentile per-packet one-way delay: 38.236 ms
Loss rate: 0.43%
```

Run 3: Report of Indigo-MusesC3 — Data Link



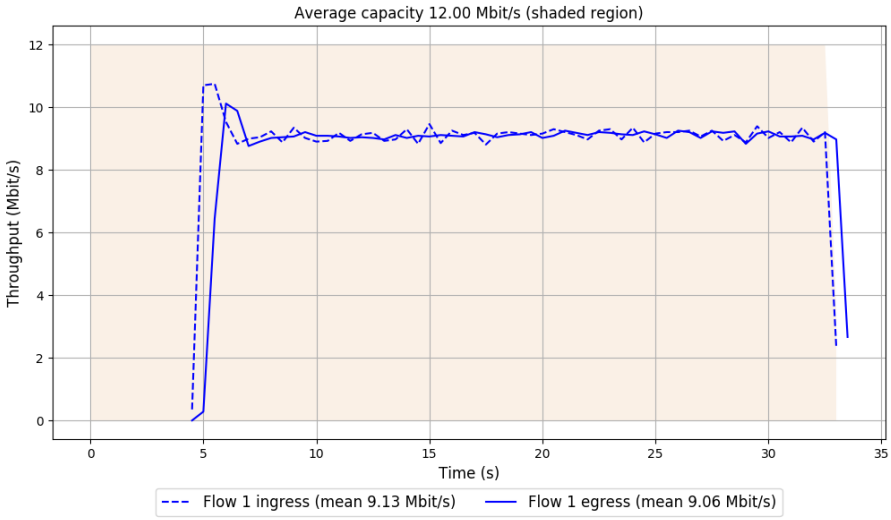


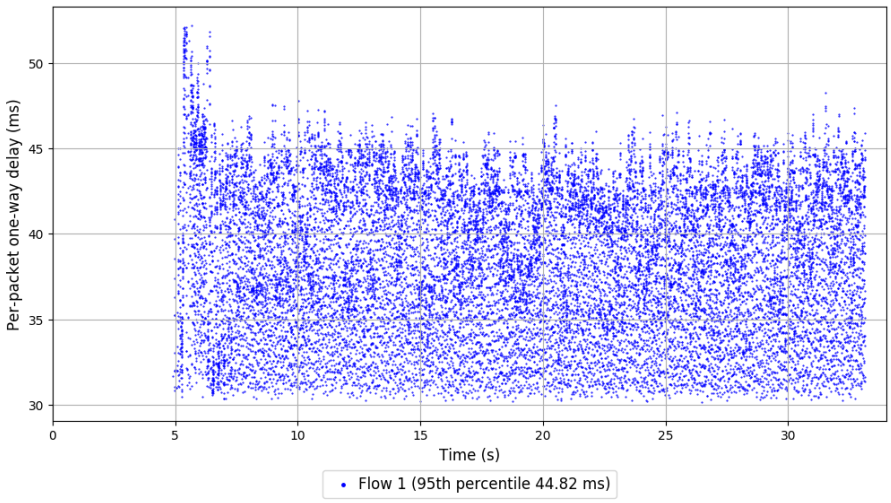
```
Run 1: Statistics of Indigo-MusesC5

Start at: 2019-12-11 07:45:44
End at: 2019-12-11 07:46:14

# Below is generated by plot.py at 2019-12-11 08:16:09
# Datalink statistics
-- Total of 1 flow:
Average capacity: 12.00 Mbit/s
Average throughput: 9.06 Mbit/s (75.5% utilization)
95th percentile per-packet one-way delay: 44.823 ms
Loss rate: 0.91%
-- Flow 1:
Average throughput: 9.06 Mbit/s
95th percentile per-packet one-way delay: 44.823 ms
Loss rate: 0.91%
```

Run 1: Report of Indigo-MusesC5 — Data Link



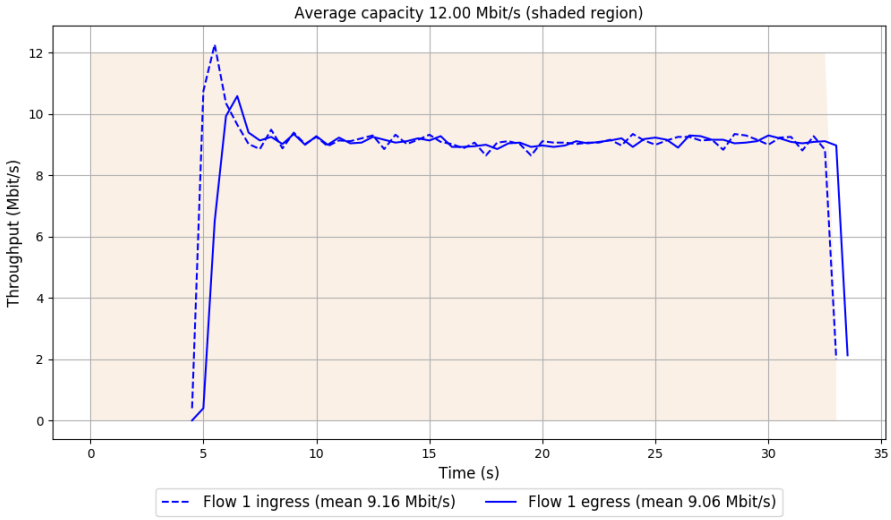


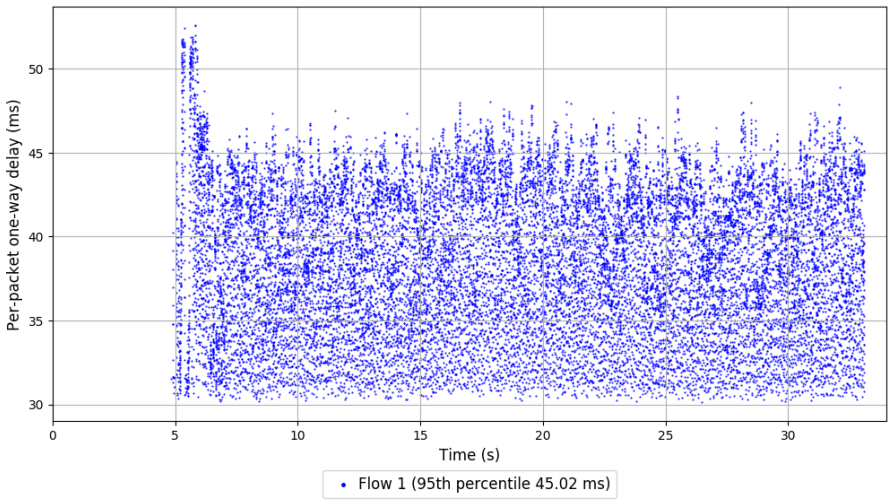
```
Run 2: Statistics of Indigo-MusesC5

Start at: 2019-12-11 07:59:51
End at: 2019-12-11 08:00:21

# Below is generated by plot.py at 2019-12-11 08:16:10
# Datalink statistics
-- Total of 1 flow:
Average capacity: 12.00 Mbit/s
Average throughput: 9.06 Mbit/s (75.5% utilization)
95th percentile per-packet one-way delay: 45.020 ms
Loss rate: 1.21%
-- Flow 1:
Average throughput: 9.06 Mbit/s
95th percentile per-packet one-way delay: 45.020 ms
Loss rate: 1.21%
```

Run 2: Report of Indigo-MusesC5 — Data Link



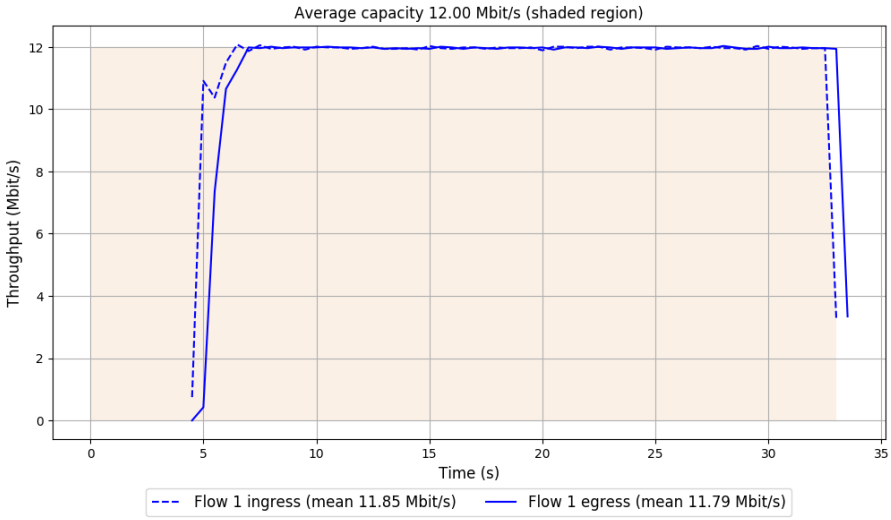


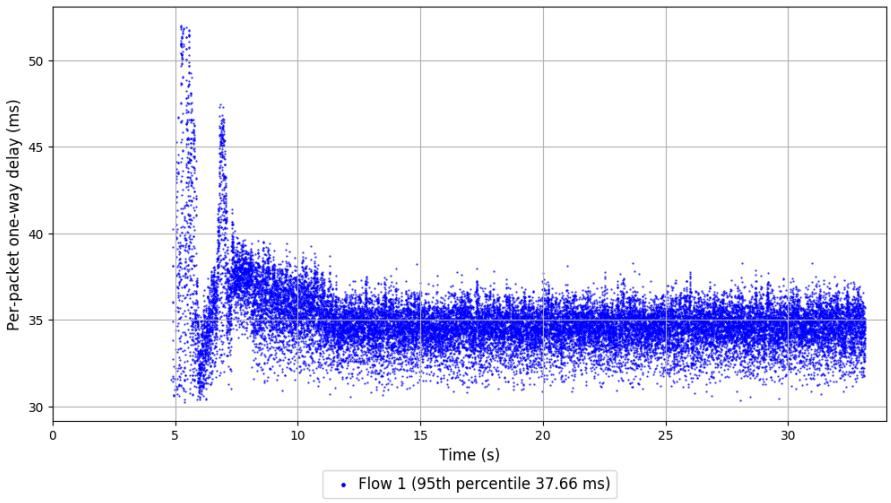
```
Run 3: Statistics of Indigo-MusesC5

Start at: 2019-12-11 08:13:59
End at: 2019-12-11 08:14:29

# Below is generated by plot.py at 2019-12-11 08:16:14
# Datalink statistics
-- Total of 1 flow:
Average capacity: 12.00 Mbit/s
Average throughput: 11.79 Mbit/s (98.3% utilization)
95th percentile per-packet one-way delay: 37.659 ms
Loss rate: 0.56%
-- Flow 1:
Average throughput: 11.79 Mbit/s
95th percentile per-packet one-way delay: 37.659 ms
Loss rate: 0.56%
```

Run 3: Report of Indigo-MusesC5 — Data Link



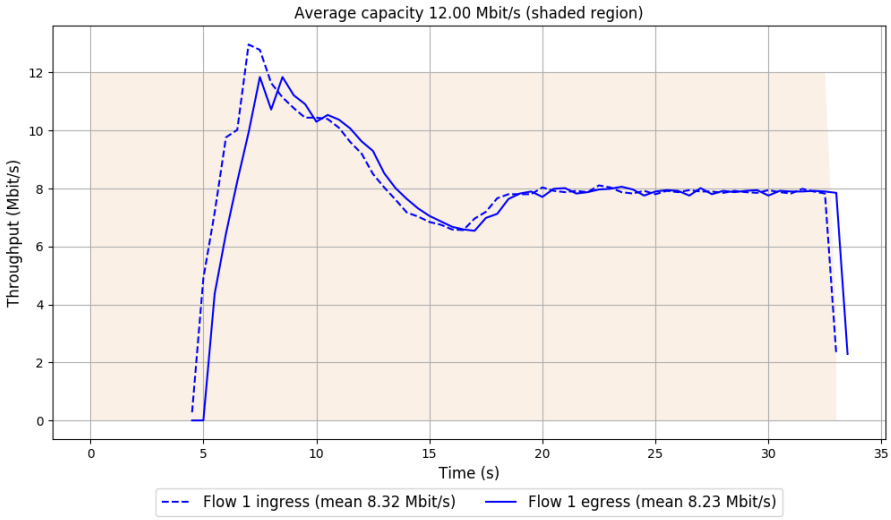


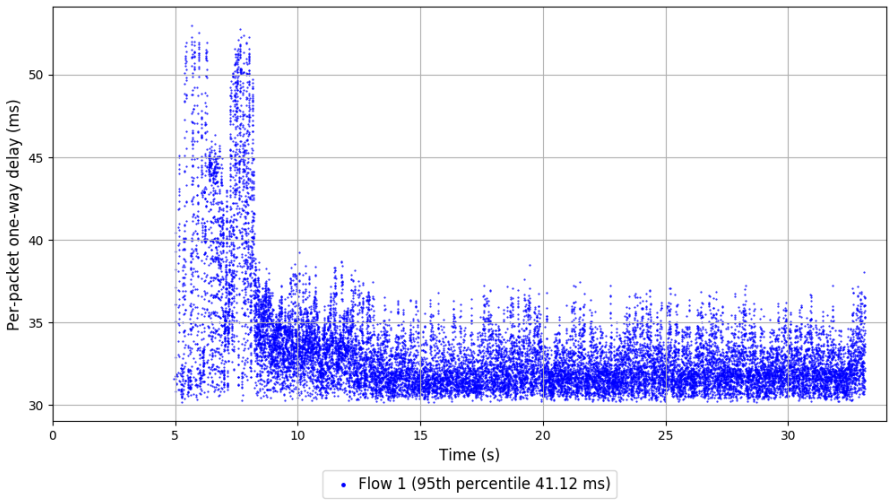
```
Run 1: Statistics of Indigo-MusesD

Start at: 2019-12-11 07:32:48
End at: 2019-12-11 07:33:18

# Below is generated by plot.py at 2019-12-11 08:16:17
# Datalink statistics
-- Total of 1 flow:
Average capacity: 12.00 Mbit/s
Average throughput: 8.23 Mbit/s (68.5% utilization)
95th percentile per-packet one-way delay: 41.120 ms
Loss rate: 1.24%
-- Flow 1:
Average throughput: 8.23 Mbit/s
95th percentile per-packet one-way delay: 41.120 ms
Loss rate: 1.24%
```

Run 1: Report of Indigo-MusesD — Data Link



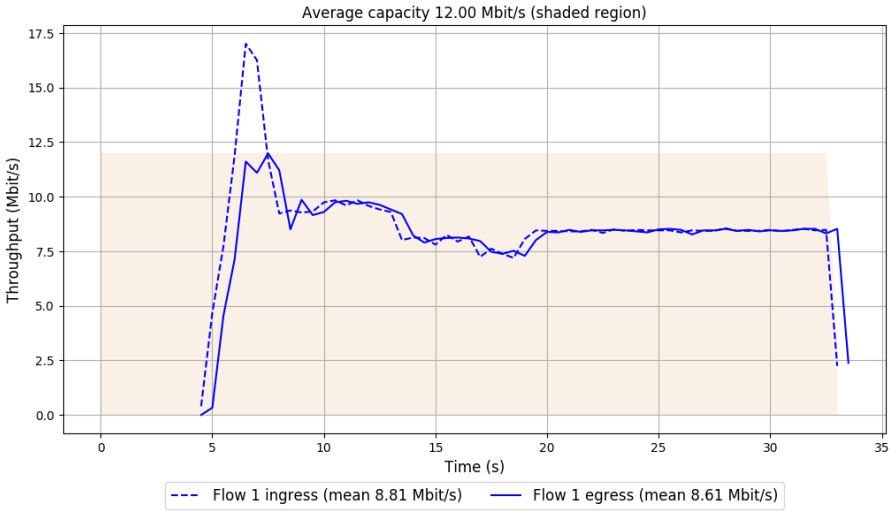


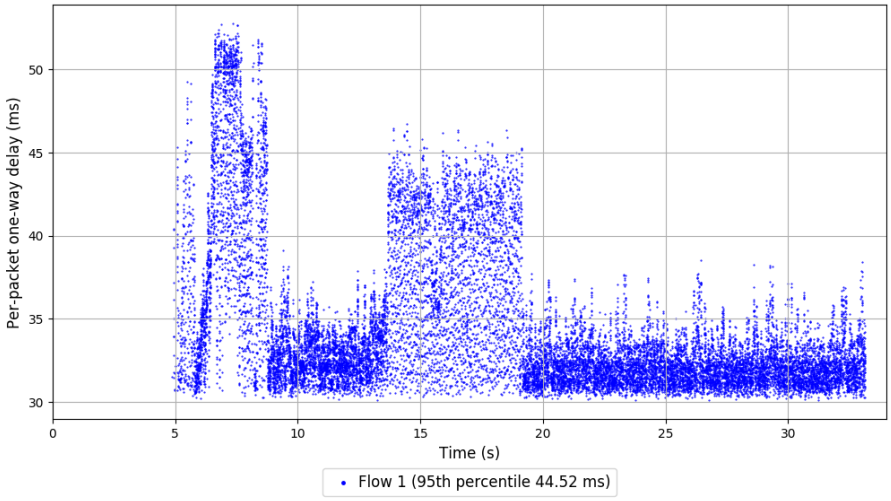
```
Run 2: Statistics of Indigo-MusesD

Start at: 2019-12-11 07:46:55
End at: 2019-12-11 07:47:25

# Below is generated by plot.py at 2019-12-11 08:16:19
# Datalink statistics
-- Total of 1 flow:
Average capacity: 12.00 Mbit/s
Average throughput: 8.61 Mbit/s (71.7% utilization)
95th percentile per-packet one-way delay: 44.524 ms
Loss rate: 2.39%
-- Flow 1:
Average throughput: 8.61 Mbit/s
95th percentile per-packet one-way delay: 44.524 ms
Loss rate: 2.39%
```

Run 2: Report of Indigo-MusesD — Data Link



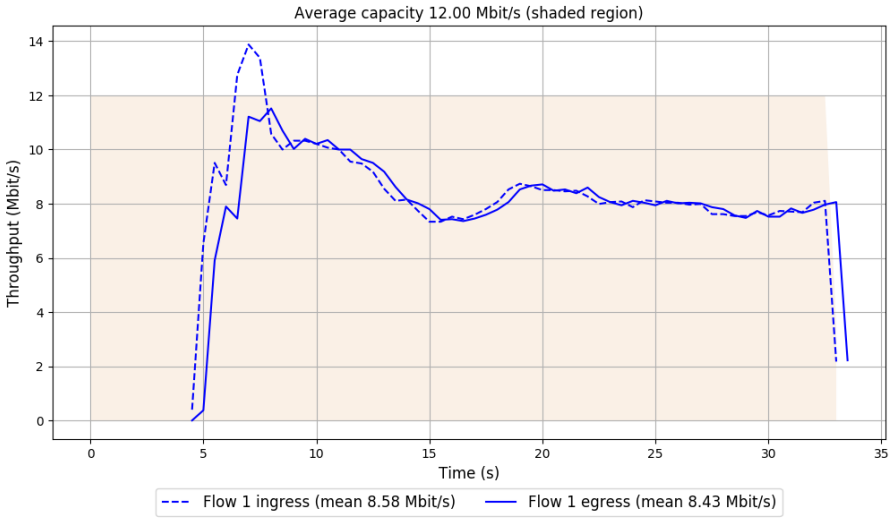


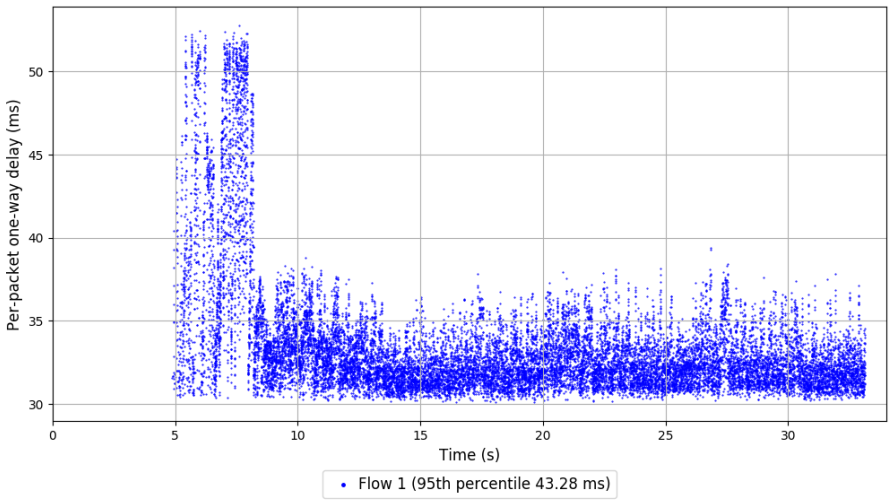
```
Run 3: Statistics of Indigo-MusesD

Start at: 2019-12-11 08:01:01
End at: 2019-12-11 08:01:31

# Below is generated by plot.py at 2019-12-11 08:16:21
# Datalink statistics
-- Total of 1 flow:
Average capacity: 12.00 Mbit/s
Average throughput: 8.43 Mbit/s (70.2% utilization)
95th percentile per-packet one-way delay: 43.279 ms
Loss rate: 1.93%
-- Flow 1:
Average throughput: 8.43 Mbit/s
95th percentile per-packet one-way delay: 43.279 ms
Loss rate: 1.93%
```

Run 3: Report of Indigo-MusesD — Data Link



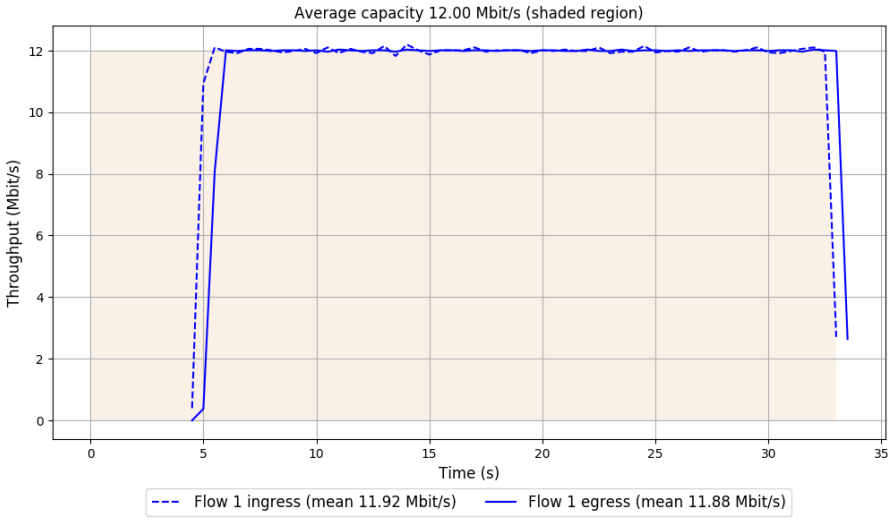


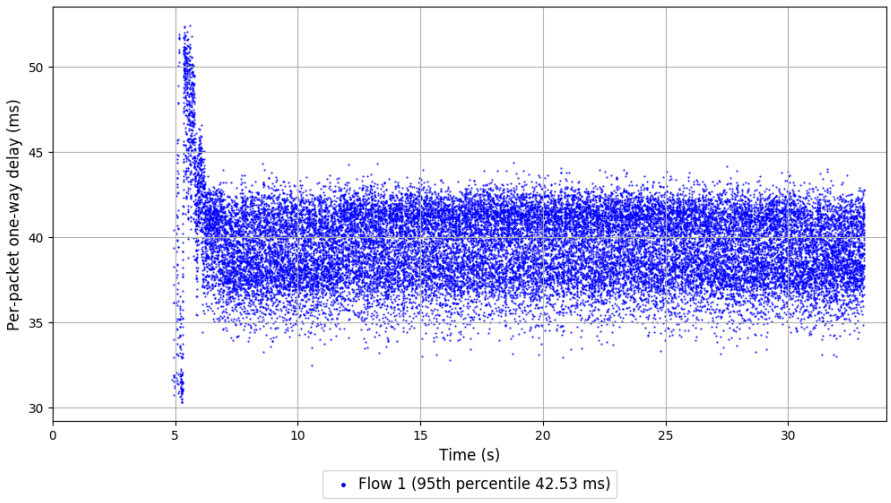
```
Run 1: Statistics of Indigo-MusesT

Start at: 2019-12-11 07:41:02
End at: 2019-12-11 07:41:32

# Below is generated by plot.py at 2019-12-11 08:16:28
# Datalink statistics
-- Total of 1 flow:
Average capacity: 12.00 Mbit/s
Average throughput: 11.88 Mbit/s (99.0% utilization)
95th percentile per-packet one-way delay: 42.526 ms
Loss rate: 0.45%
-- Flow 1:
Average throughput: 11.88 Mbit/s
95th percentile per-packet one-way delay: 42.526 ms
Loss rate: 0.45%
```

Run 1: Report of Indigo-MusesT — Data Link



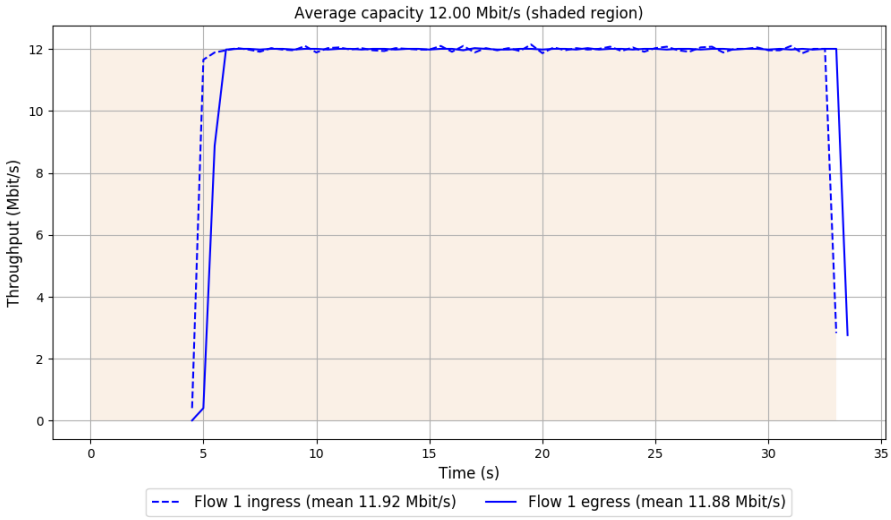


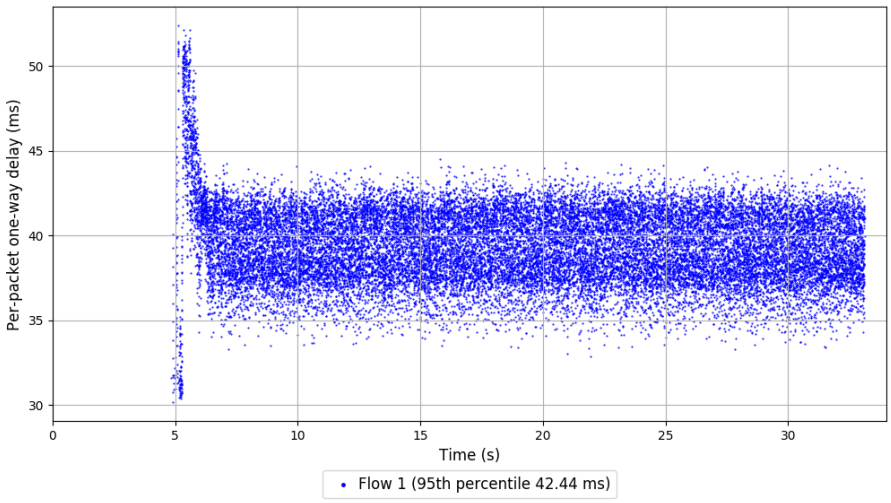
```
Run 2: Statistics of Indigo-MusesT

Start at: 2019-12-11 07:55:09
End at: 2019-12-11 07:55:39

# Below is generated by plot.py at 2019-12-11 08:16:28
# Datalink statistics
-- Total of 1 flow:
Average capacity: 12.00 Mbit/s
Average throughput: 11.88 Mbit/s (99.0% utilization)
95th percentile per-packet one-way delay: 42.443 ms
Loss rate: 0.39%
-- Flow 1:
Average throughput: 11.88 Mbit/s
95th percentile per-packet one-way delay: 42.443 ms
Loss rate: 0.39%
```

Run 2: Report of Indigo-MusesT — Data Link



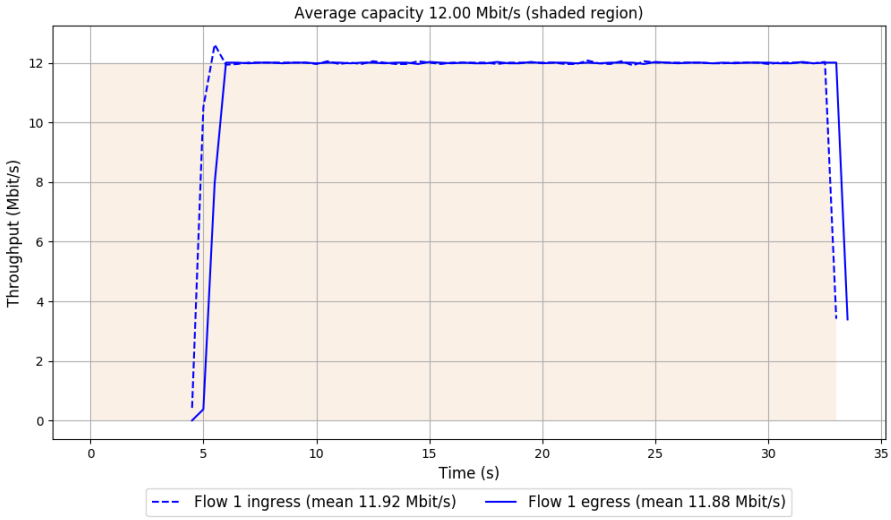


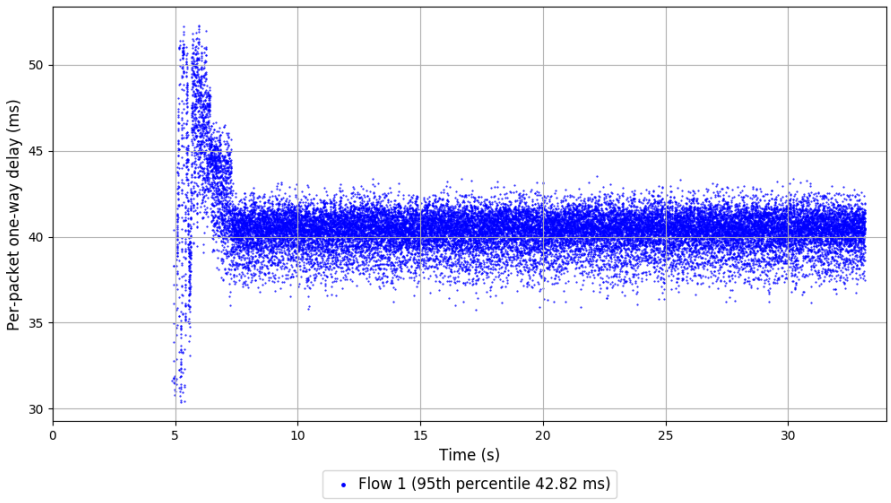
```
Run 3: Statistics of Indigo-MusesT

Start at: 2019-12-11 08:09:17
End at: 2019-12-11 08:09:47

# Below is generated by plot.py at 2019-12-11 08:16:33
# Datalink statistics
-- Total of 1 flow:
Average capacity: 12.00 Mbit/s
Average throughput: 11.88 Mbit/s (99.0% utilization)
95th percentile per-packet one-way delay: 42.816 ms
Loss rate: 0.47%
-- Flow 1:
Average throughput: 11.88 Mbit/s
95th percentile per-packet one-way delay: 42.816 ms
Loss rate: 0.47%
```

Run 3: Report of Indigo-MusesT — Data Link



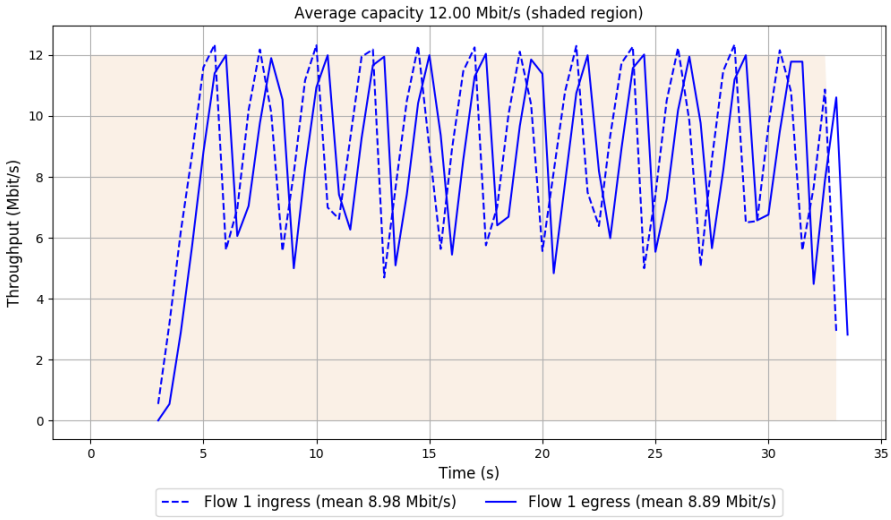


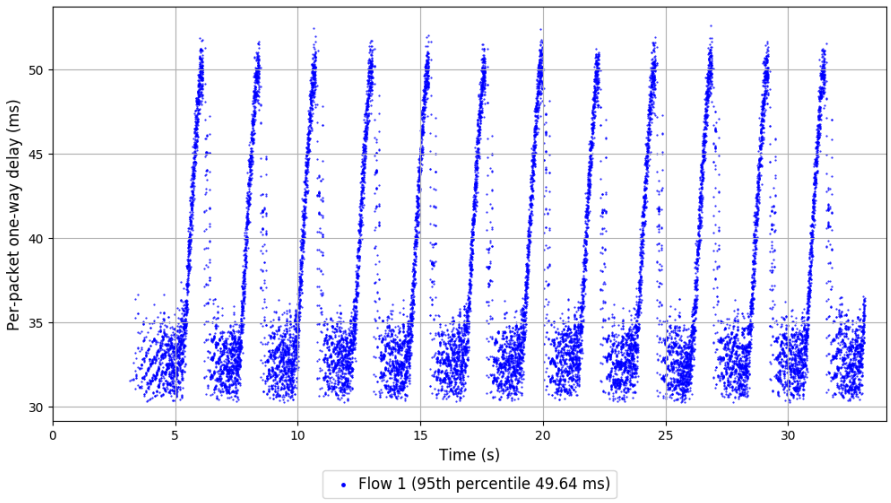
```
Run 1: Statistics of LEDBAT

Start at: 2019-12-11 07:38:06
End at: 2019-12-11 07:38:36

# Below is generated by plot.py at 2019-12-11 08:16:33
# Datalink statistics
-- Total of 1 flow:
Average capacity: 12.00 Mbit/s
Average throughput: 8.89 Mbit/s (74.1% utilization)
95th percentile per-packet one-way delay: 49.638 ms
Loss rate: 1.04%
-- Flow 1:
Average throughput: 8.89 Mbit/s
95th percentile per-packet one-way delay: 49.638 ms
Loss rate: 1.04%
```

Run 1: Report of LEDBAT — Data Link



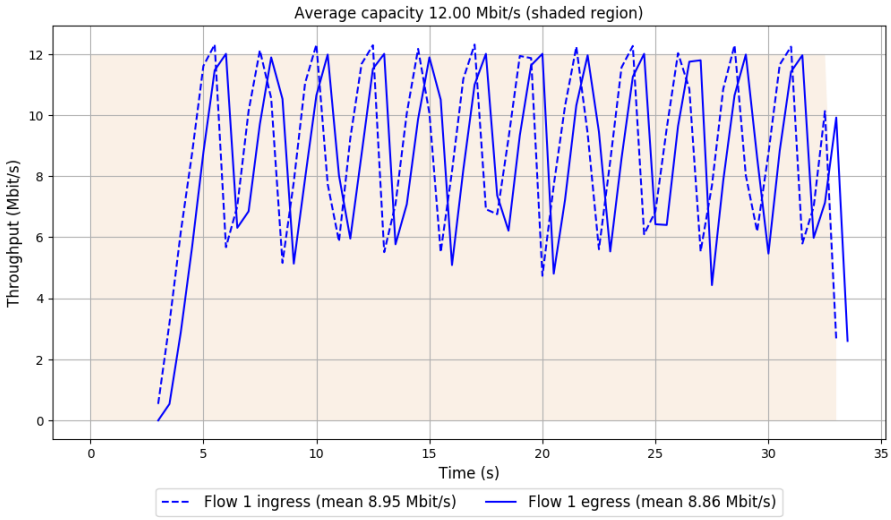


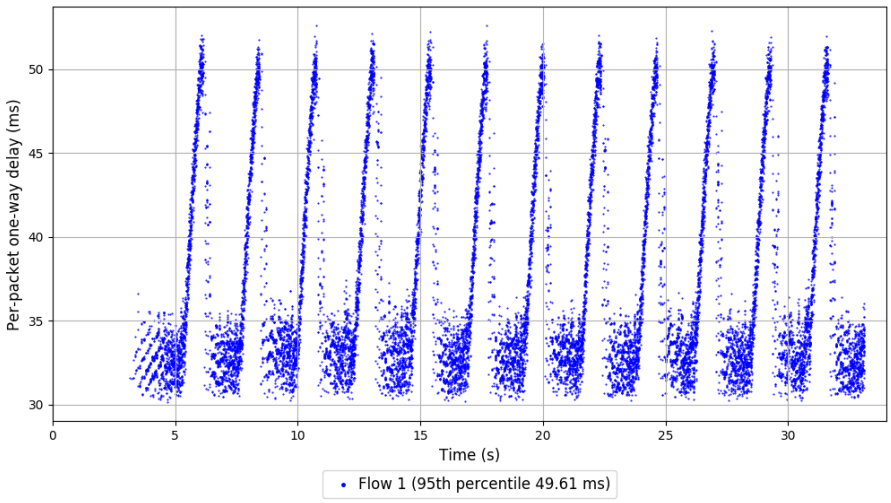
```
Run 2: Statistics of LEDBAT

Start at: 2019-12-11 07:52:13
End at: 2019-12-11 07:52:43

# Below is generated by plot.py at 2019-12-11 08:16:34
# Datalink statistics
-- Total of 1 flow:
Average capacity: 12.00 Mbit/s
Average throughput: 8.86 Mbit/s (73.8% utilization)
95th percentile per-packet one-way delay: 49.606 ms
Loss rate: 1.11%
-- Flow 1:
Average throughput: 8.86 Mbit/s
95th percentile per-packet one-way delay: 49.606 ms
Loss rate: 1.11%
```

Run 2: Report of LEDBAT — Data Link



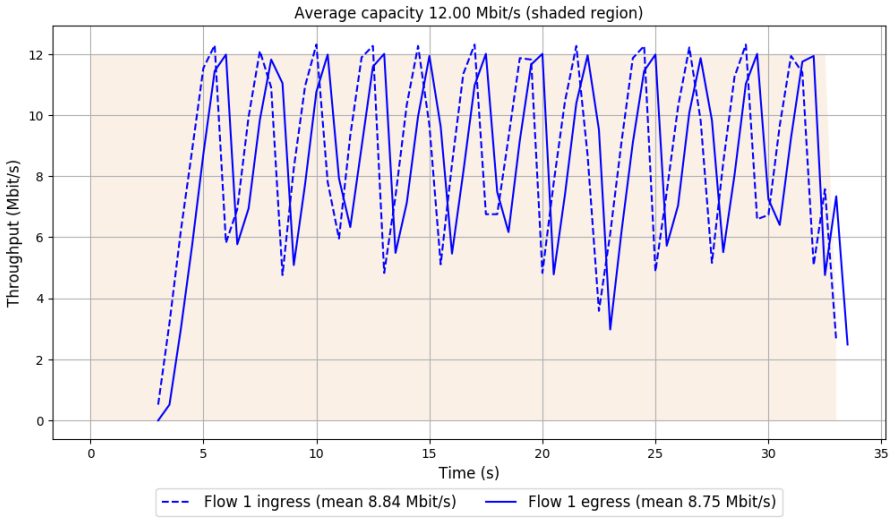


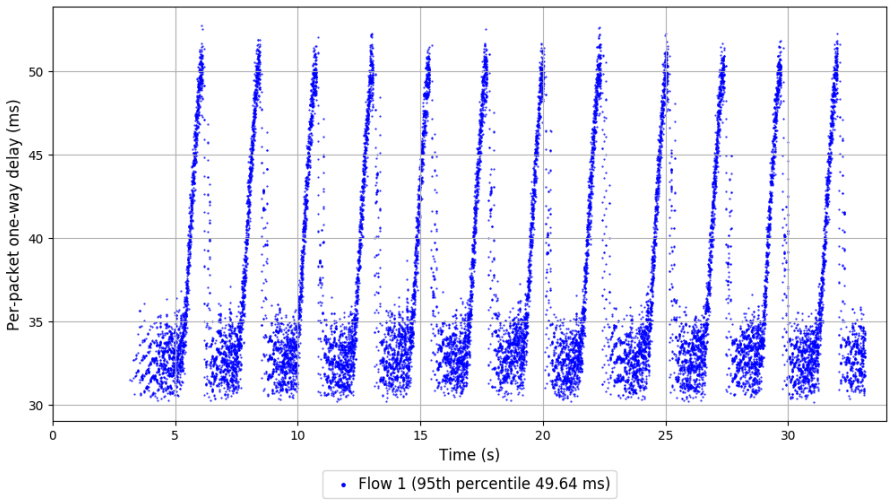
```
Run 3: Statistics of LEDBAT

Start at: 2019-12-11 08:06:20
End at: 2019-12-11 08:06:50

# Below is generated by plot.py at 2019-12-11 08:16:38
# Datalink statistics
-- Total of 1 flow:
Average capacity: 12.00 Mbit/s
Average throughput: 8.75 Mbit/s (72.9% utilization)
95th percentile per-packet one-way delay: 49.639 ms
Loss rate: 1.10%
-- Flow 1:
Average throughput: 8.75 Mbit/s
95th percentile per-packet one-way delay: 49.639 ms
Loss rate: 1.10%
```

Run 3: Report of LEDBAT — Data Link



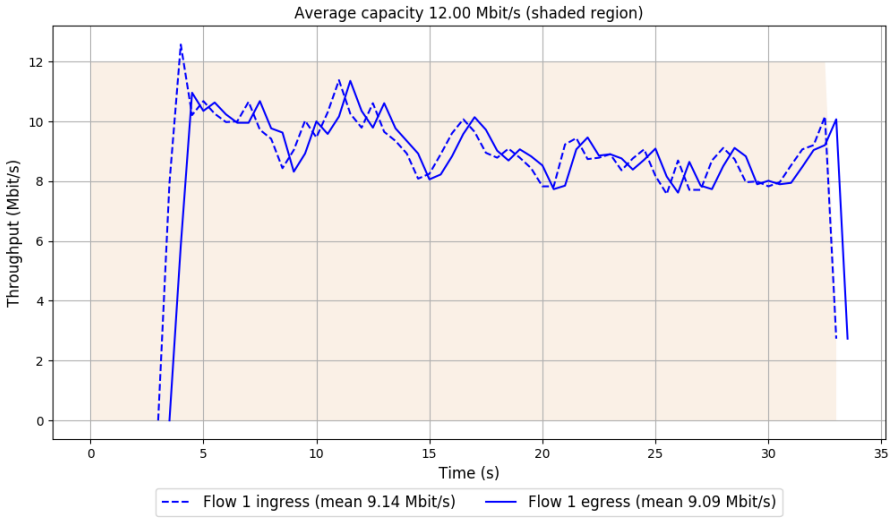


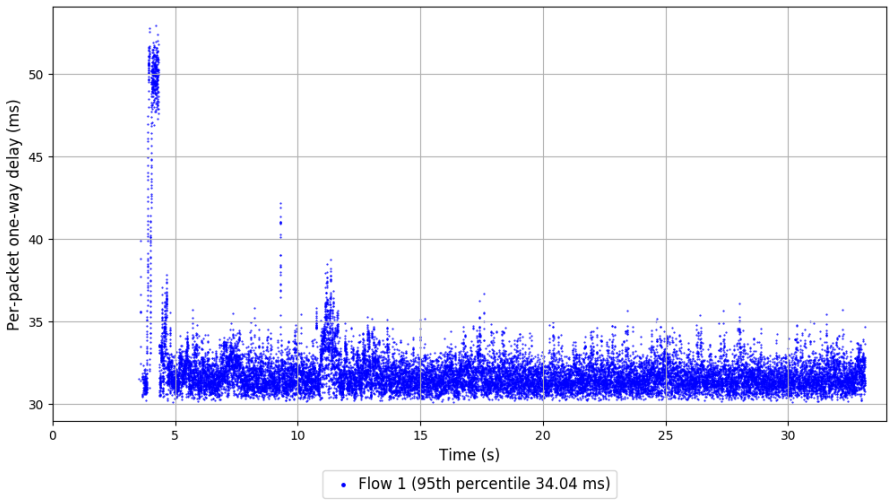
```
Run 1: Statistics of Muses\_DecisionTree

Start at: 2019-12-11 07:42:13
End at: 2019-12-11 07:42:43

# Below is generated by plot.py at 2019-12-11 08:16:39
# Datalink statistics
-- Total of 1 flow:
Average capacity: 12.00 Mbit/s
Average throughput: 9.09 Mbit/s (75.7% utilization)
95th percentile per-packet one-way delay: 34.037 ms
Loss rate: 0.68%
-- Flow 1:
Average throughput: 9.09 Mbit/s
95th percentile per-packet one-way delay: 34.037 ms
Loss rate: 0.68%
```

Run 1: Report of Muses_DecisionTree — Data Link



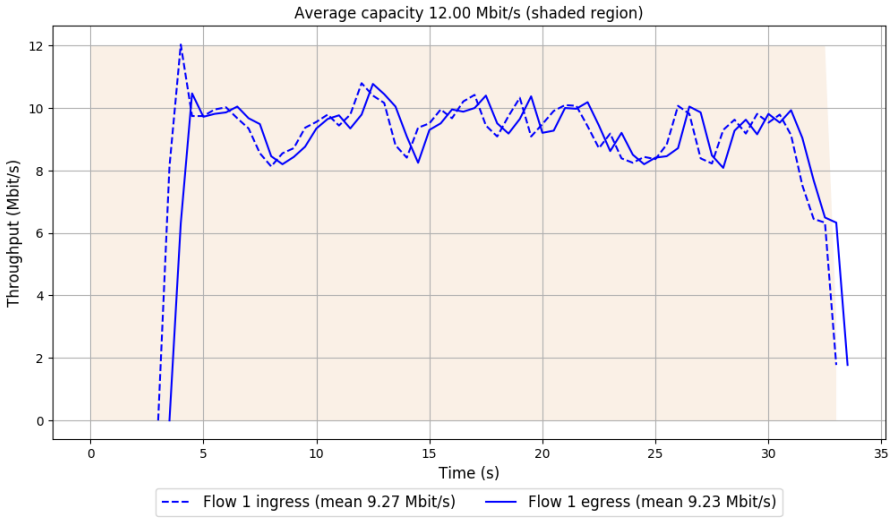


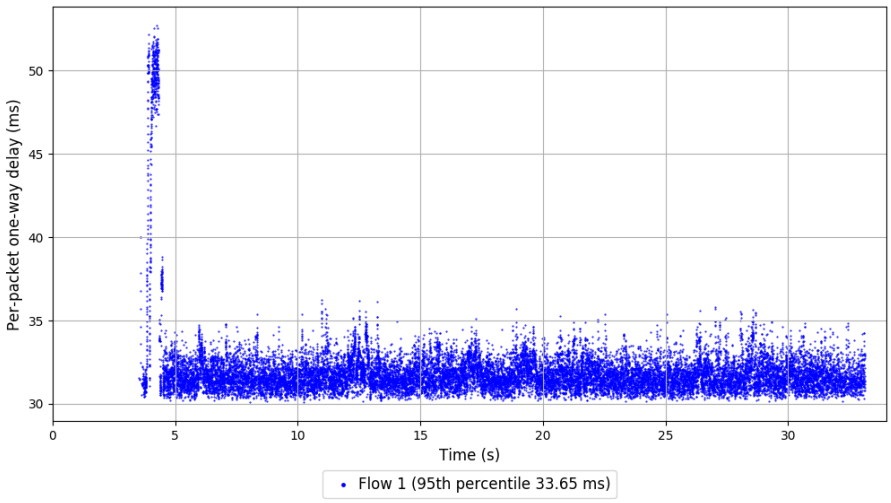
```
Run 2: Statistics of Muses\_DecisionTree

Start at: 2019-12-11 07:56:20
End at: 2019-12-11 07:56:50

# Below is generated by plot.py at 2019-12-11 08:16:41
# Datalink statistics
-- Total of 1 flow:
Average capacity: 12.00 Mbit/s
Average throughput: 9.23 Mbit/s (76.9% utilization)
95th percentile per-packet one-way delay: 33.651 ms
Loss rate: 0.58%
-- Flow 1:
Average throughput: 9.23 Mbit/s
95th percentile per-packet one-way delay: 33.651 ms
Loss rate: 0.58%
```

Run 2: Report of Muses_DecisionTree — Data Link



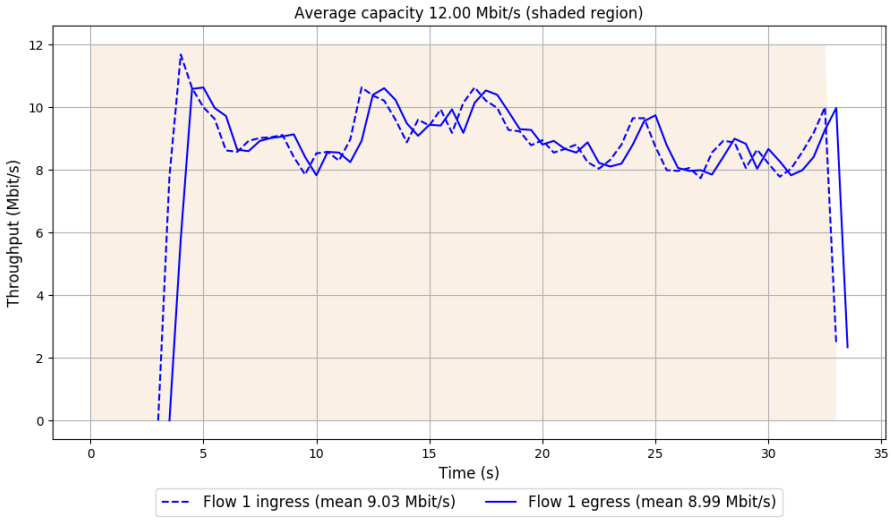


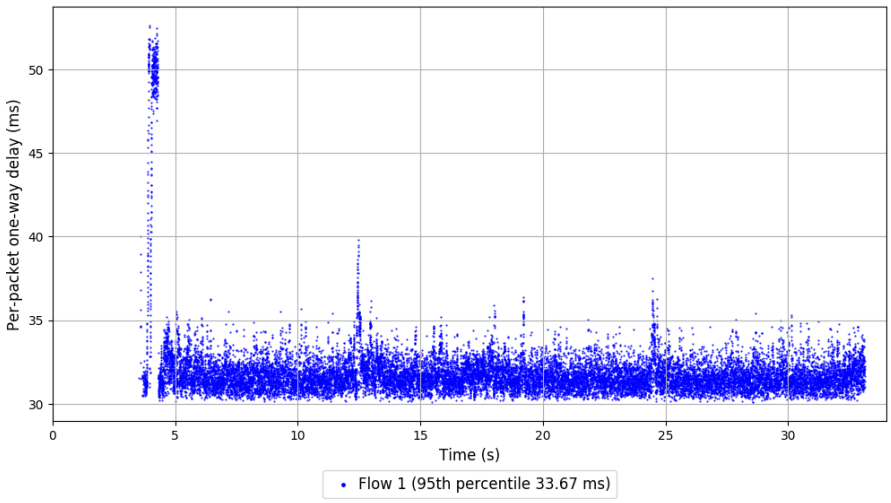
```
Run 3: Statistics of Muses\_DecisionTree

Start at: 2019-12-11 08:10:28
End at: 2019-12-11 08:10:58

# Below is generated by plot.py at 2019-12-11 08:16:47
# Datalink statistics
-- Total of 1 flow:
Average capacity: 12.00 Mbit/s
Average throughput: 8.99 Mbit/s (74.9% utilization)
95th percentile per-packet one-way delay: 33.672 ms
Loss rate: 0.58%
-- Flow 1:
Average throughput: 8.99 Mbit/s
95th percentile per-packet one-way delay: 33.672 ms
Loss rate: 0.58%
```

Run 3: Report of Muses_DecisionTree — Data Link



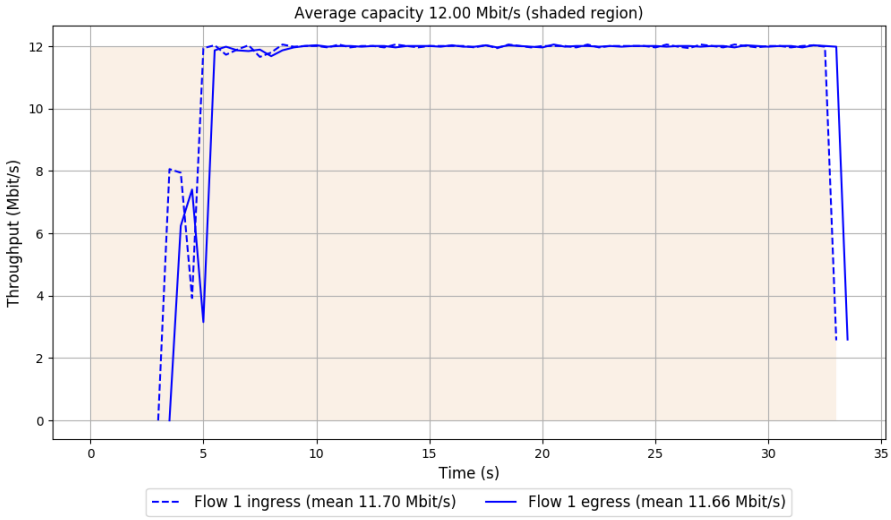


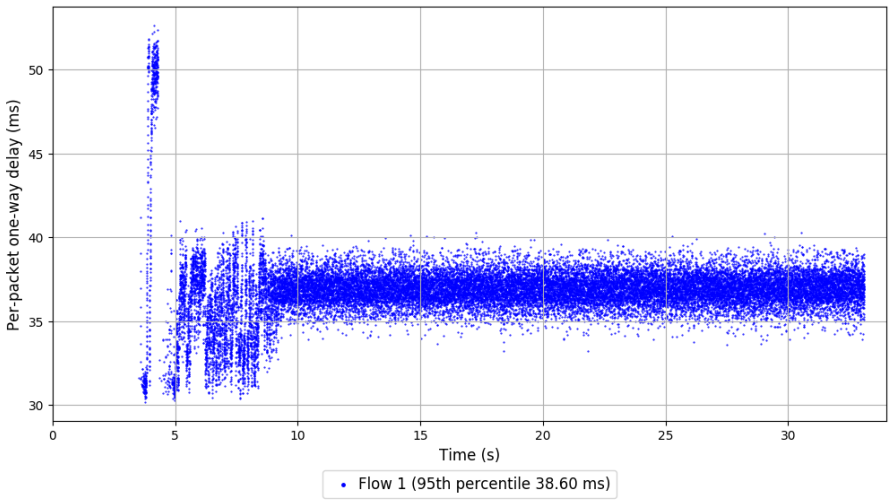
```
Run 1: Statistics of Muses\_DecisionTreeH0

Start at: 2019-12-11 07:43:24
End at: 2019-12-11 07:43:54

# Below is generated by plot.py at 2019-12-11 08:16:51
# Datalink statistics
-- Total of 1 flow:
Average capacity: 12.00 Mbit/s
Average throughput: 11.66 Mbit/s (97.2% utilization)
95th percentile per-packet one-way delay: 38.605 ms
Loss rate: 0.46%
-- Flow 1:
Average throughput: 11.66 Mbit/s
95th percentile per-packet one-way delay: 38.605 ms
Loss rate: 0.46%
```

Run 1: Report of Muses_DecisionTreeH0 — Data Link



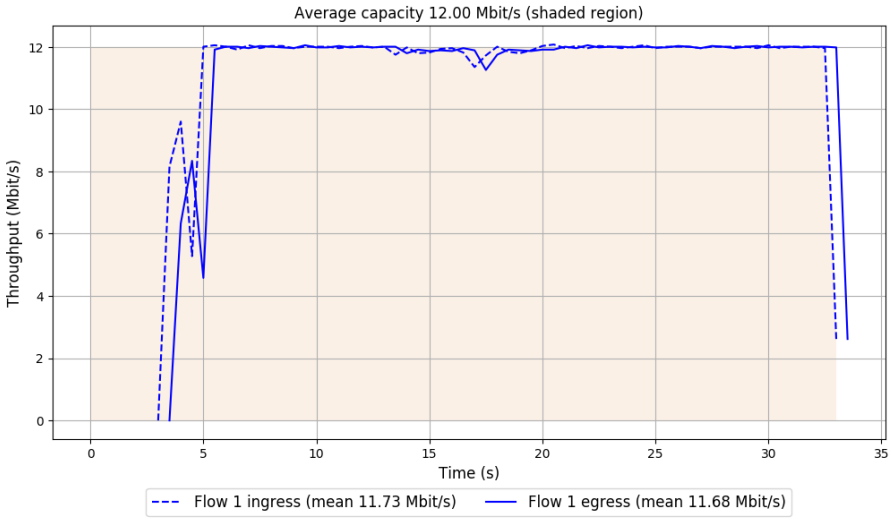


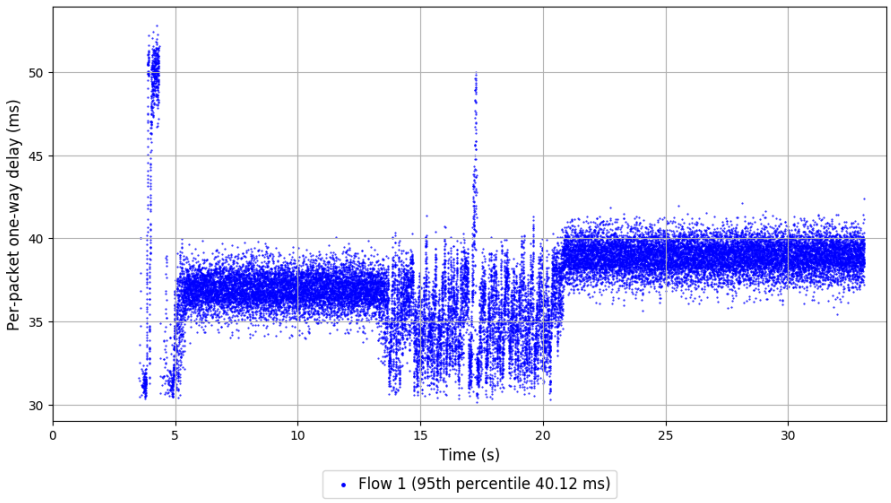
```
Run 2: Statistics of Muses\_DecisionTreeH0

Start at: 2019-12-11 07:57:31
End at: 2019-12-11 07:58:01

# Below is generated by plot.py at 2019-12-11 08:16:54
# Datalink statistics
-- Total of 1 flow:
Average capacity: 12.00 Mbit/s
Average throughput: 11.68 Mbit/s (97.3% utilization)
95th percentile per-packet one-way delay: 40.115 ms
Loss rate: 0.57%
-- Flow 1:
Average throughput: 11.68 Mbit/s
95th percentile per-packet one-way delay: 40.115 ms
Loss rate: 0.57%
```

Run 2: Report of Muses_DecisionTreeH0 — Data Link



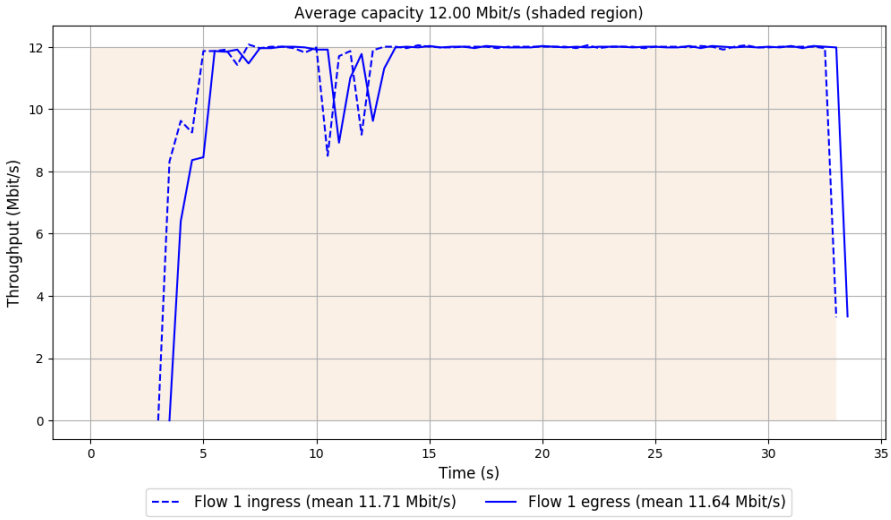


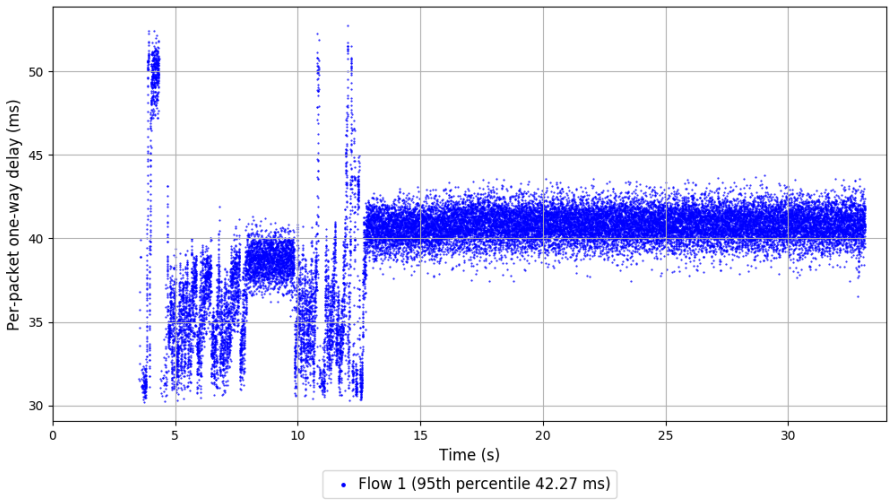
```
Run 3: Statistics of Muses\_DecisionTreeH0

Start at: 2019-12-11 08:11:38
End at: 2019-12-11 08:12:08

# Below is generated by plot.py at 2019-12-11 08:16:57
# Datalink statistics
-- Total of 1 flow:
Average capacity: 12.00 Mbit/s
Average throughput: 11.64 Mbit/s (97.0% utilization)
95th percentile per-packet one-way delay: 42.272 ms
Loss rate: 0.65%
-- Flow 1:
Average throughput: 11.64 Mbit/s
95th percentile per-packet one-way delay: 42.272 ms
Loss rate: 0.65%
```

Run 3: Report of Muses_DecisionTreeH0 — Data Link



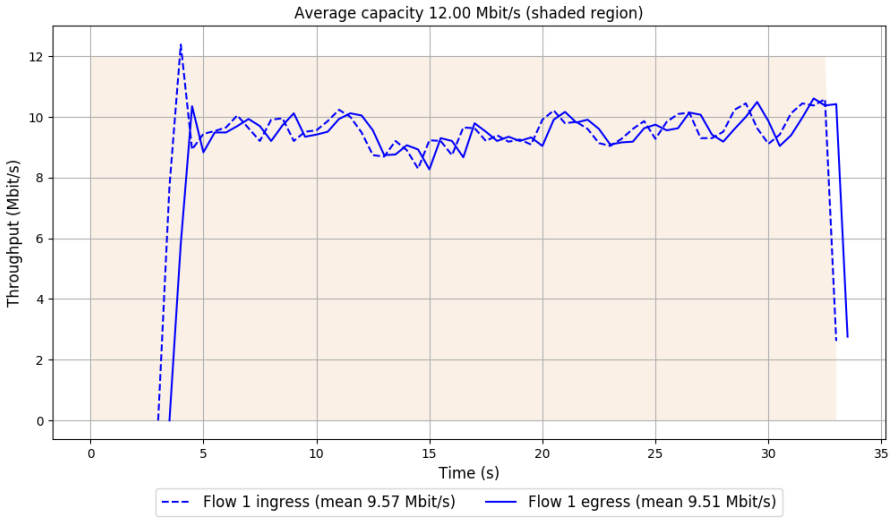


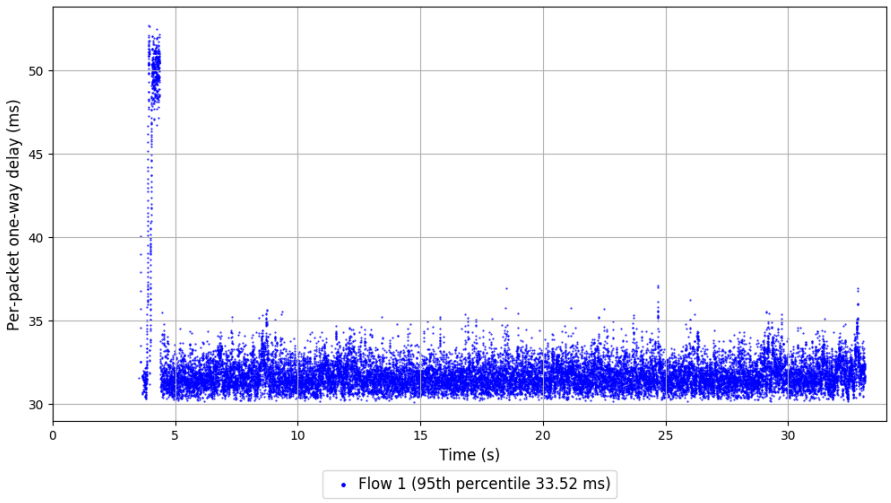
```
Run 1: Statistics of Muses\_DecisionTreeR0

Start at: 2019-12-11 07:45:09
End at: 2019-12-11 07:45:39

# Below is generated by plot.py at 2019-12-11 08:16:57
# Datalink statistics
-- Total of 1 flow:
Average capacity: 12.00 Mbit/s
Average throughput: 9.51 Mbit/s (79.3% utilization)
95th percentile per-packet one-way delay: 33.523 ms
Loss rate: 0.70%
-- Flow 1:
Average throughput: 9.51 Mbit/s
95th percentile per-packet one-way delay: 33.523 ms
Loss rate: 0.70%
```

Run 1: Report of Muses_DecisionTreeR0 — Data Link



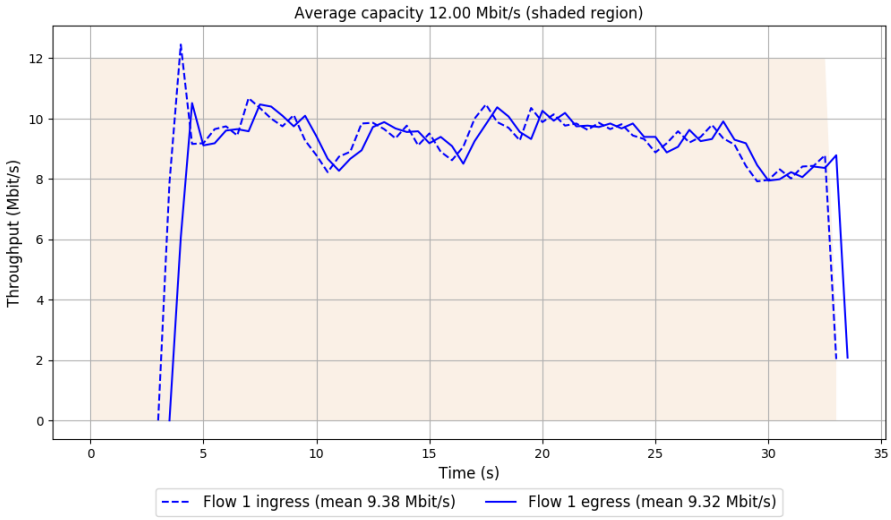


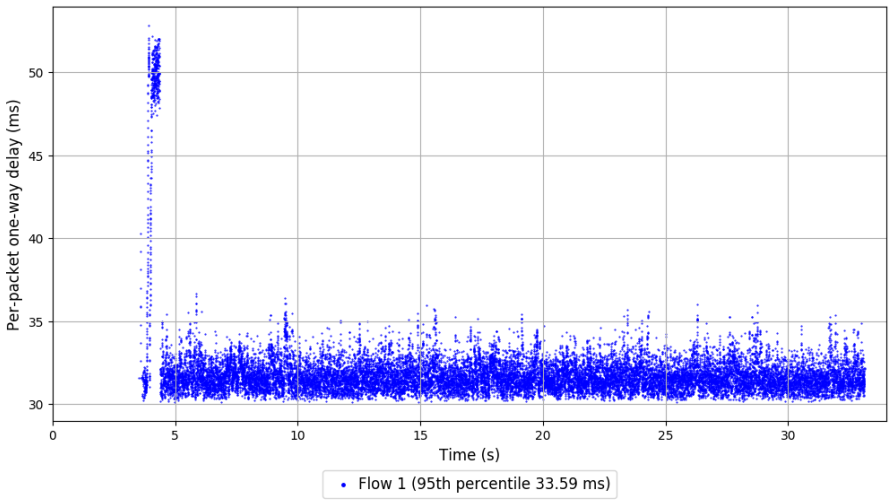
```
Run 2: Statistics of Muses\_DecisionTreeR0

Start at: 2019-12-11 07:59:16
End at: 2019-12-11 07:59:46

# Below is generated by plot.py at 2019-12-11 08:16:58
# Datalink statistics
-- Total of 1 flow:
Average capacity: 12.00 Mbit/s
Average throughput: 9.32 Mbit/s (77.7% utilization)
95th percentile per-packet one-way delay: 33.589 ms
Loss rate: 0.69%
-- Flow 1:
Average throughput: 9.32 Mbit/s
95th percentile per-packet one-way delay: 33.589 ms
Loss rate: 0.69%
```

Run 2: Report of Muses_DecisionTreeR0 — Data Link



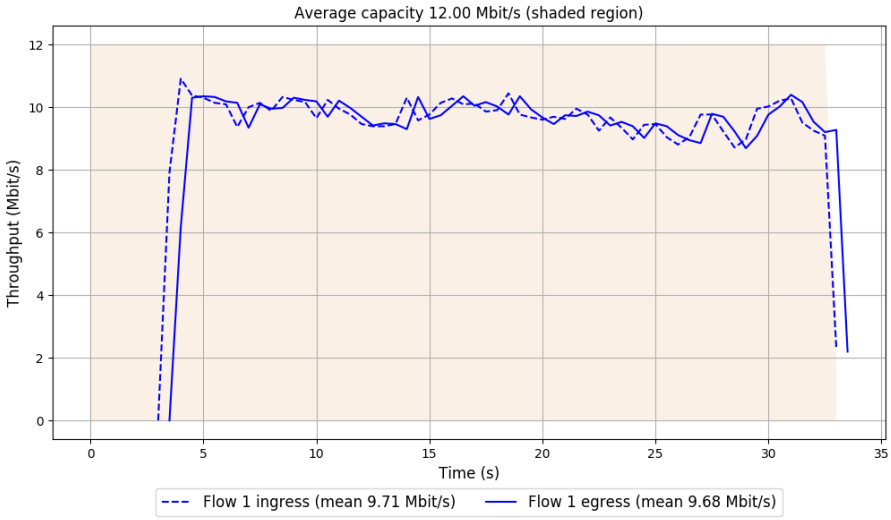


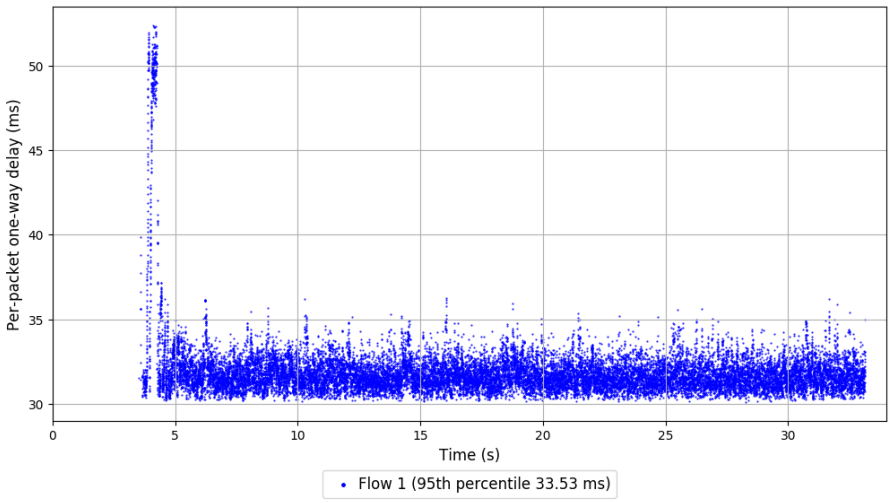
```
Run 3: Statistics of Muses\_DecisionTreeR0

Start at: 2019-12-11 08:13:24
End at: 2019-12-11 08:13:54

# Below is generated by plot.py at 2019-12-11 08:17:02
# Datalink statistics
-- Total of 1 flow:
Average capacity: 12.00 Mbit/s
Average throughput: 9.68 Mbit/s (80.7% utilization)
95th percentile per-packet one-way delay: 33.531 ms
Loss rate: 0.40%
-- Flow 1:
Average throughput: 9.68 Mbit/s
95th percentile per-packet one-way delay: 33.531 ms
Loss rate: 0.40%
```

Run 3: Report of Muses_DecisionTreeR0 — Data Link



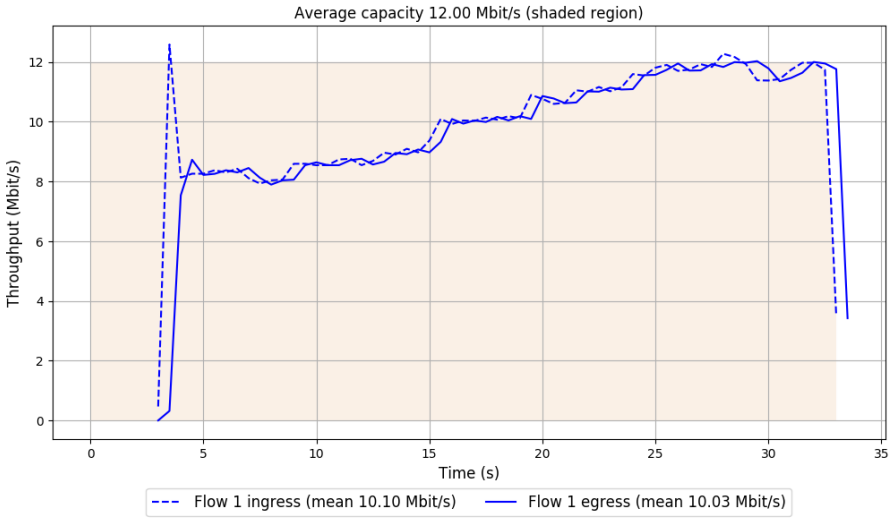


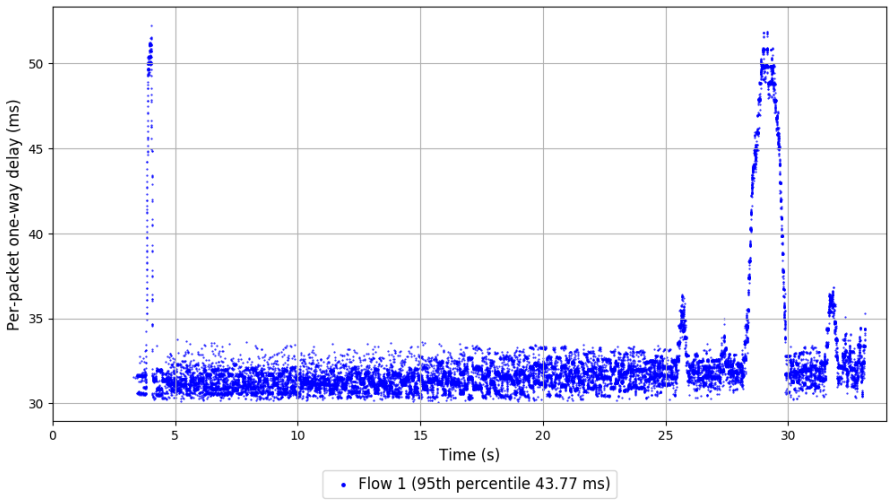
```
Run 1: Statistics of PCC-Allegro

Start at: 2019-12-11 07:33:24
End at: 2019-12-11 07:33:54

# Below is generated by plot.py at 2019-12-11 08:17:05
# Datalink statistics
-- Total of 1 flow:
Average capacity: 12.00 Mbit/s
Average throughput: 10.03 Mbit/s (83.6% utilization)
95th percentile per-packet one-way delay: 43.774 ms
Loss rate: 0.83%
-- Flow 1:
Average throughput: 10.03 Mbit/s
95th percentile per-packet one-way delay: 43.774 ms
Loss rate: 0.83%
```

Run 1: Report of PCC-Allegro — Data Link



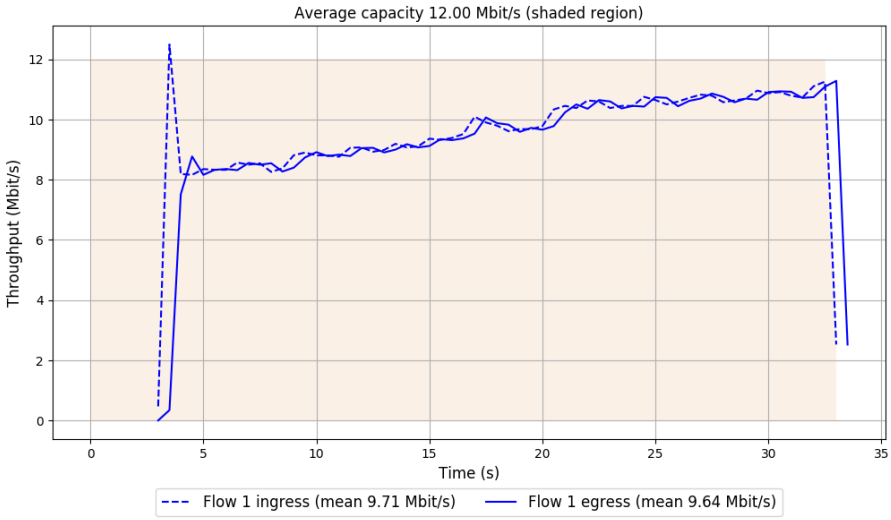


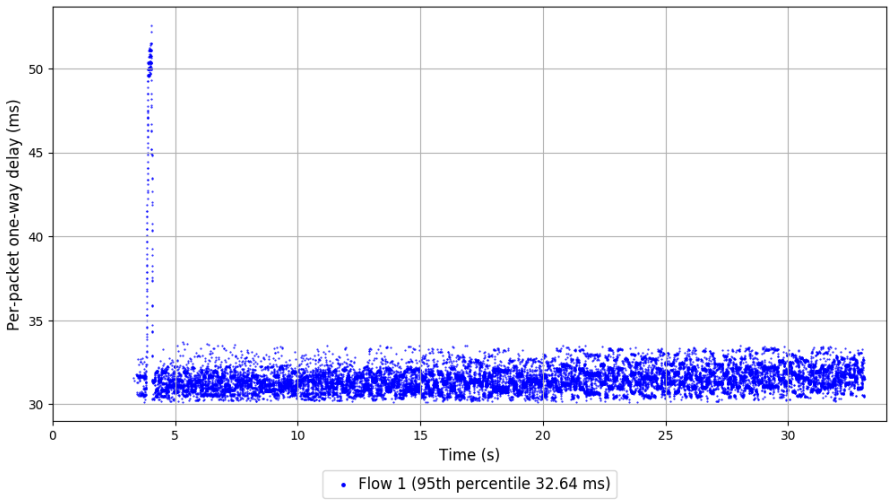
```
Run 2: Statistics of PCC-Allegro

Start at: 2019-12-11 07:47:30
End at: 2019-12-11 07:48:00

# Below is generated by plot.py at 2019-12-11 08:17:09
# Datalink statistics
-- Total of 1 flow:
Average capacity: 12.00 Mbit/s
Average throughput: 9.64 Mbit/s (80.3% utilization)
95th percentile per-packet one-way delay: 32.640 ms
Loss rate: 0.81%
-- Flow 1:
Average throughput: 9.64 Mbit/s
95th percentile per-packet one-way delay: 32.640 ms
Loss rate: 0.81%
```

Run 2: Report of PCC-Allegro — Data Link



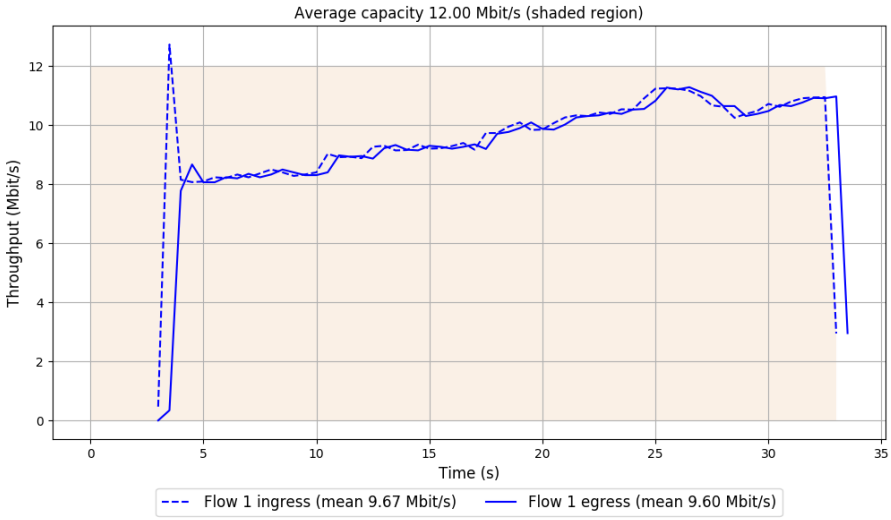


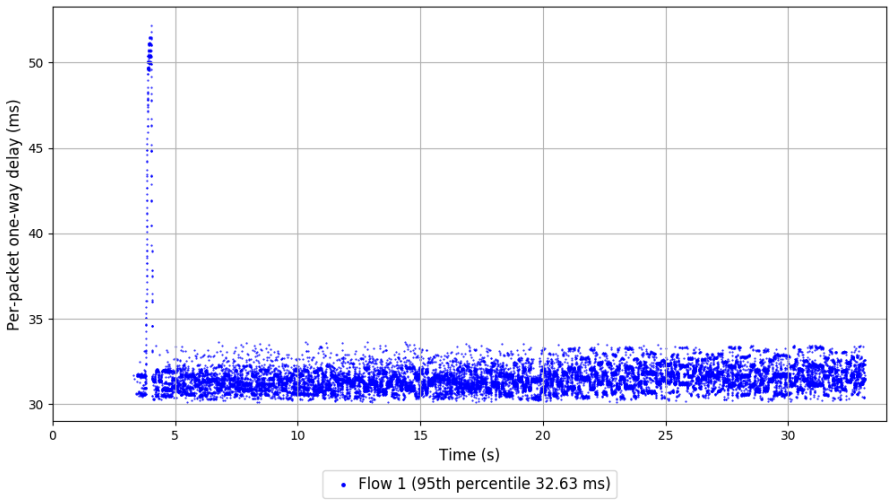
```
Run 3: Statistics of PCC-Allegro

Start at: 2019-12-11 08:01:37
End at: 2019-12-11 08:02:07

# Below is generated by plot.py at 2019-12-11 08:17:11
# Datalink statistics
-- Total of 1 flow:
Average capacity: 12.00 Mbit/s
Average throughput: 9.60 Mbit/s (80.0% utilization)
95th percentile per-packet one-way delay: 32.634 ms
Loss rate: 0.82%
-- Flow 1:
Average throughput: 9.60 Mbit/s
95th percentile per-packet one-way delay: 32.634 ms
Loss rate: 0.82%
```

Run 3: Report of PCC-Allegro — Data Link



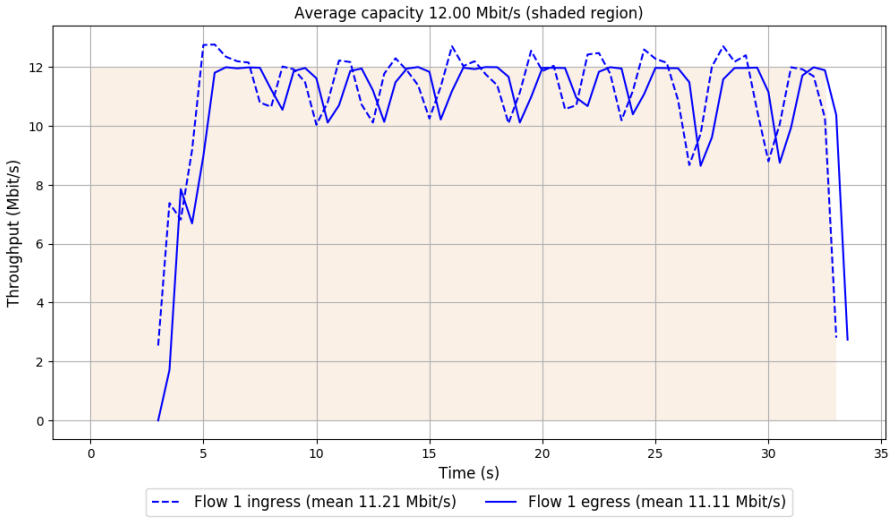


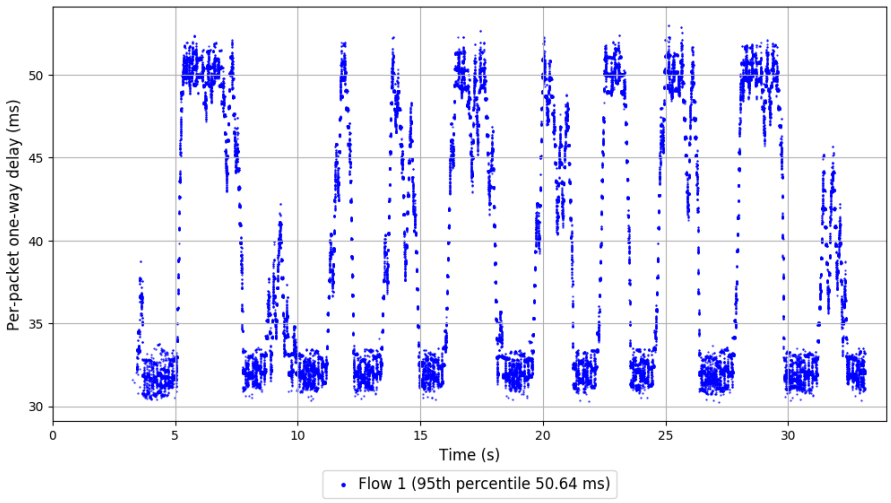
```
Run 1: Statistics of PCC-Expr

Start at: 2019-12-11 07:41:38
End at: 2019-12-11 07:42:08

# Below is generated by plot.py at 2019-12-11 08:17:31
# Datalink statistics
-- Total of 1 flow:
Average capacity: 12.00 Mbit/s
Average throughput: 11.11 Mbit/s (92.6% utilization)
95th percentile per-packet one-way delay: 50.638 ms
Loss rate: 1.00%
-- Flow 1:
Average throughput: 11.11 Mbit/s
95th percentile per-packet one-way delay: 50.638 ms
Loss rate: 1.00%
```

Run 1: Report of PCC-Expr — Data Link



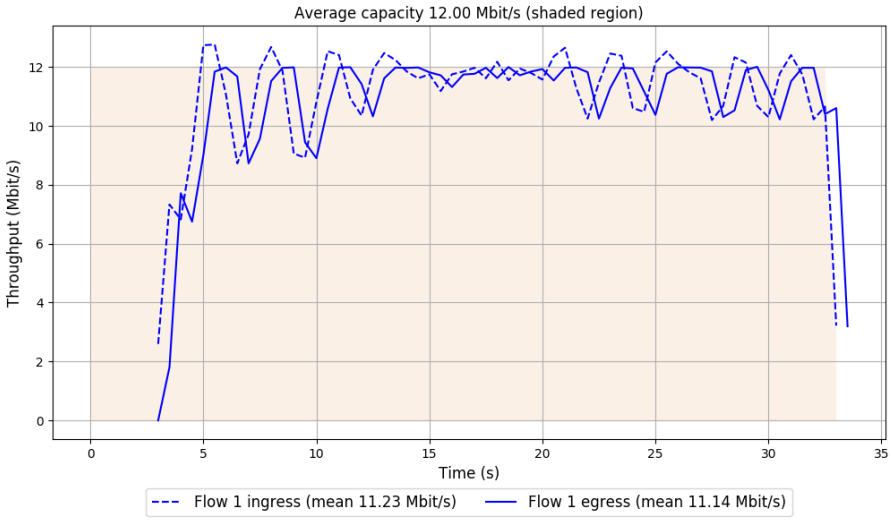


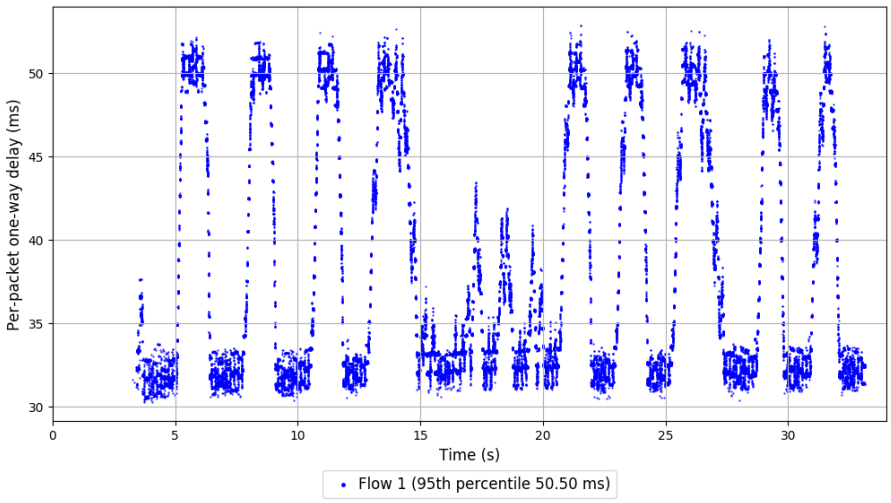
```
Run 2: Statistics of PCC-Expr

Start at: 2019-12-11 07:55:44
End at: 2019-12-11 07:56:14

# Below is generated by plot.py at 2019-12-11 08:17:32
# Datalink statistics
-- Total of 1 flow:
Average capacity: 12.00 Mbit/s
Average throughput: 11.14 Mbit/s (92.8% utilization)
95th percentile per-packet one-way delay: 50.500 ms
Loss rate: 0.94%
-- Flow 1:
Average throughput: 11.14 Mbit/s
95th percentile per-packet one-way delay: 50.500 ms
Loss rate: 0.94%
```

Run 2: Report of PCC-Expr — Data Link



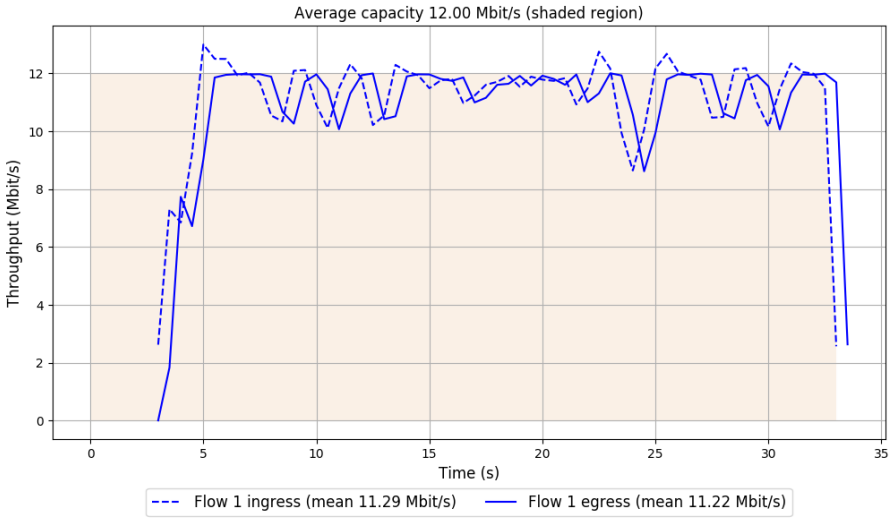


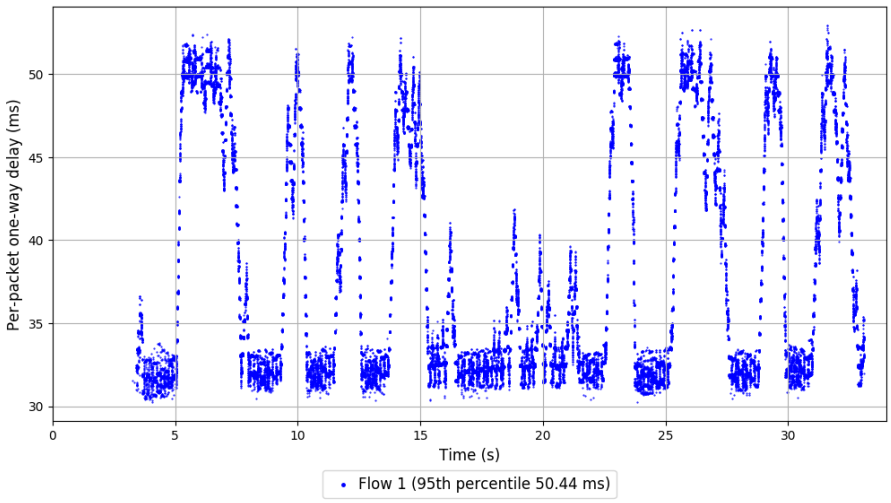
```
Run 3: Statistics of PCC-Expr

Start at: 2019-12-11 08:09:52
End at: 2019-12-11 08:10:22

# Below is generated by plot.py at 2019-12-11 08:17:35
# Datalink statistics
-- Total of 1 flow:
Average capacity: 12.00 Mbit/s
Average throughput: 11.22 Mbit/s (93.5% utilization)
95th percentile per-packet one-way delay: 50.436 ms
Loss rate: 0.74%
-- Flow 1:
Average throughput: 11.22 Mbit/s
95th percentile per-packet one-way delay: 50.436 ms
Loss rate: 0.74%
```

Run 3: Report of PCC-Expr — Data Link



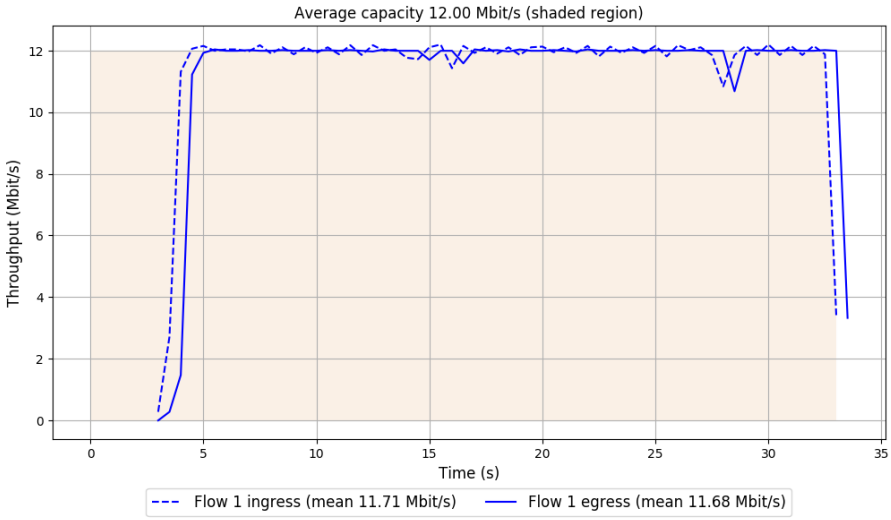


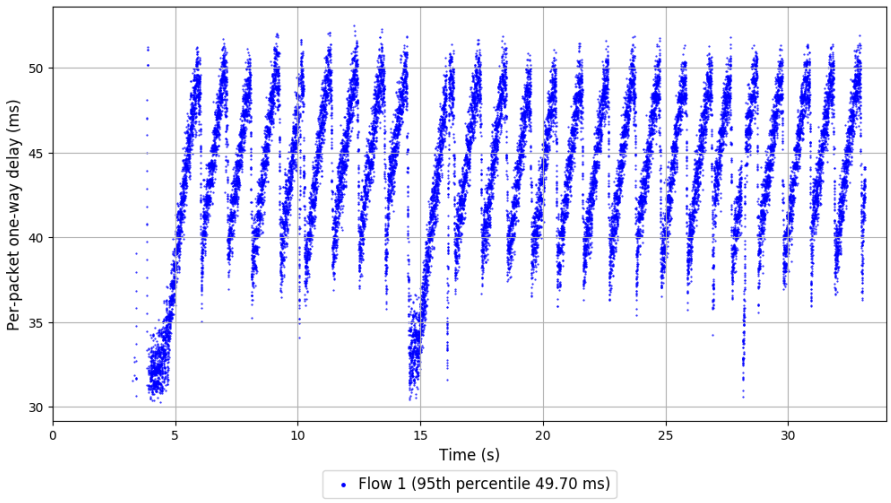
```
Run 1: Statistics of QUIC Cubic

Start at: 2019-12-11 07:40:27
End at: 2019-12-11 07:40:57

# Below is generated by plot.py at 2019-12-11 08:17:35
# Datalink statistics
-- Total of 1 flow:
Average capacity: 12.00 Mbit/s
Average throughput: 11.68 Mbit/s (97.4% utilization)
95th percentile per-packet one-way delay: 49.699 ms
Loss rate: 0.36%
-- Flow 1:
Average throughput: 11.68 Mbit/s
95th percentile per-packet one-way delay: 49.699 ms
Loss rate: 0.36%
```

Run 1: Report of QUIC Cubic — Data Link



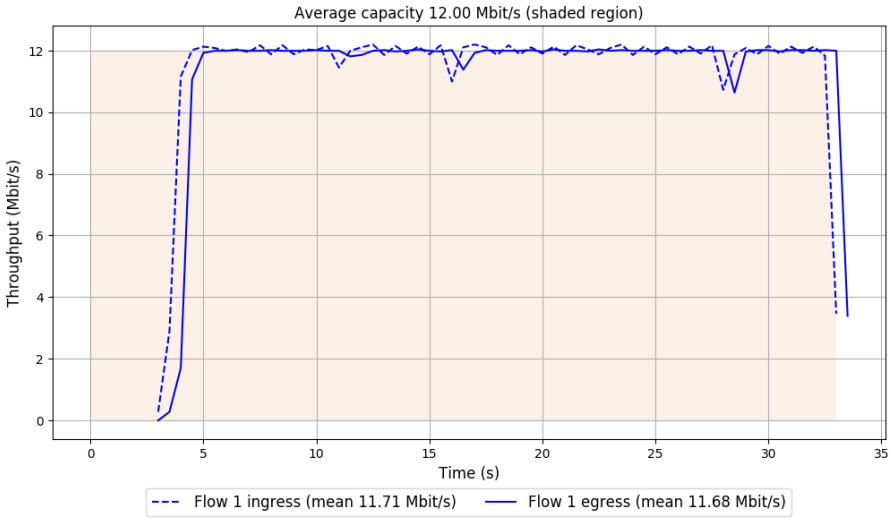


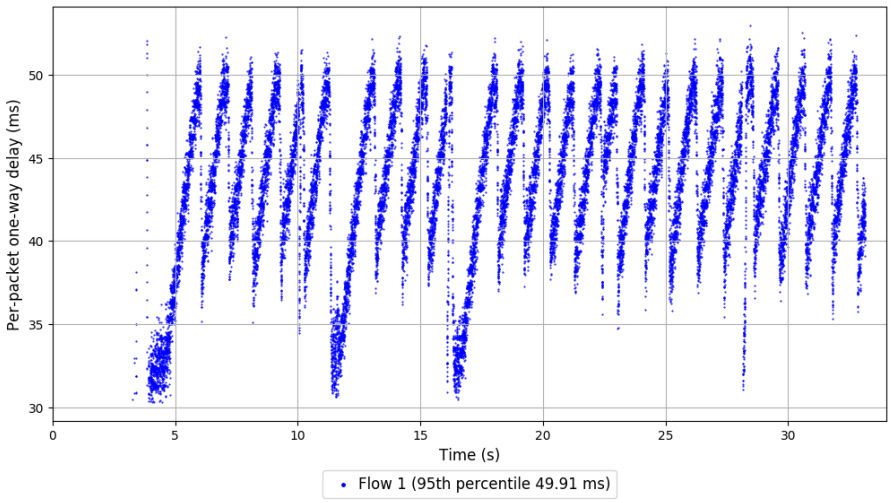
```
Run 2: Statistics of QUIC Cubic

Start at: 2019-12-11 07:54:34
End at: 2019-12-11 07:55:04

# Below is generated by plot.py at 2019-12-11 08:17:35
# Datalink statistics
-- Total of 1 flow:
Average capacity: 12.00 Mbit/s
Average throughput: 11.68 Mbit/s (97.3% utilization)
95th percentile per-packet one-way delay: 49.914 ms
Loss rate: 0.37%
-- Flow 1:
Average throughput: 11.68 Mbit/s
95th percentile per-packet one-way delay: 49.914 ms
Loss rate: 0.37%
```

Run 2: Report of QUIC Cubic — Data Link



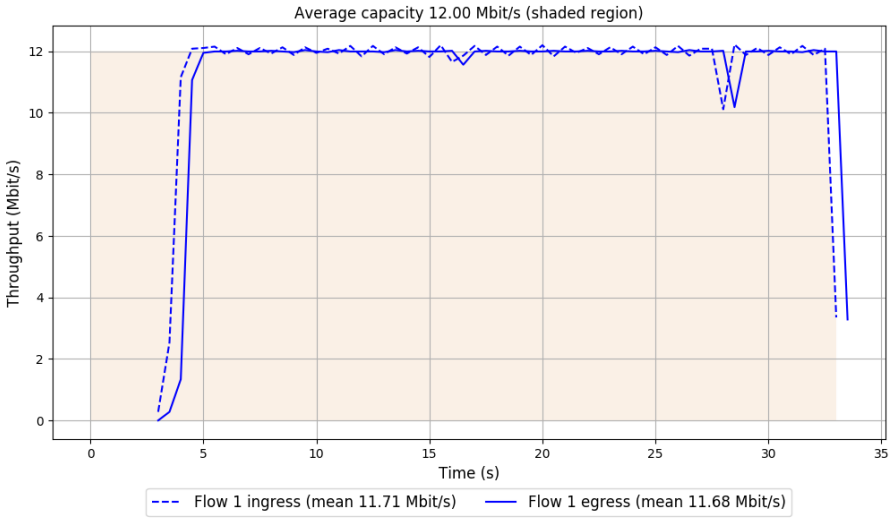


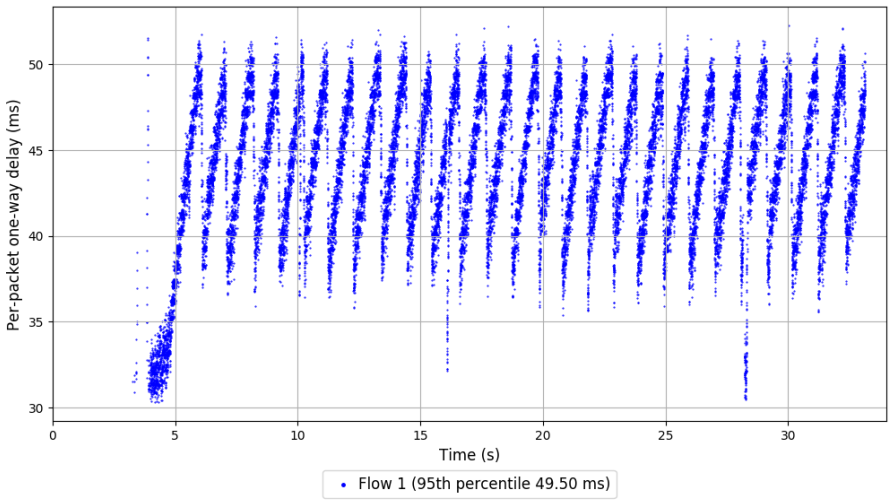
```
Run 3: Statistics of QUIC Cubic

Start at: 2019-12-11 08:08:41
End at: 2019-12-11 08:09:11

# Below is generated by plot.py at 2019-12-11 08:17:35
# Datalink statistics
-- Total of 1 flow:
Average capacity: 12.00 Mbit/s
Average throughput: 11.68 Mbit/s (97.3% utilization)
95th percentile per-packet one-way delay: 49.498 ms
Loss rate: 0.39%
-- Flow 1:
Average throughput: 11.68 Mbit/s
95th percentile per-packet one-way delay: 49.498 ms
Loss rate: 0.39%
```

Run 3: Report of QUIC Cubic — Data Link



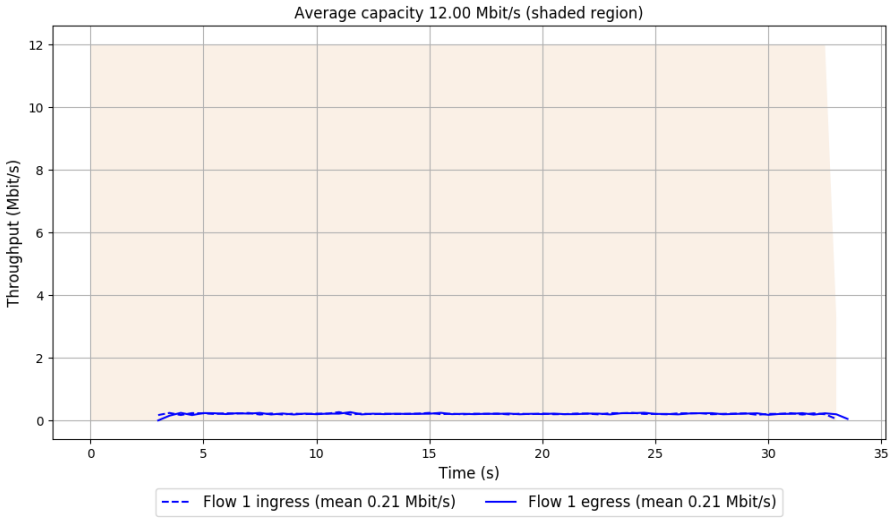


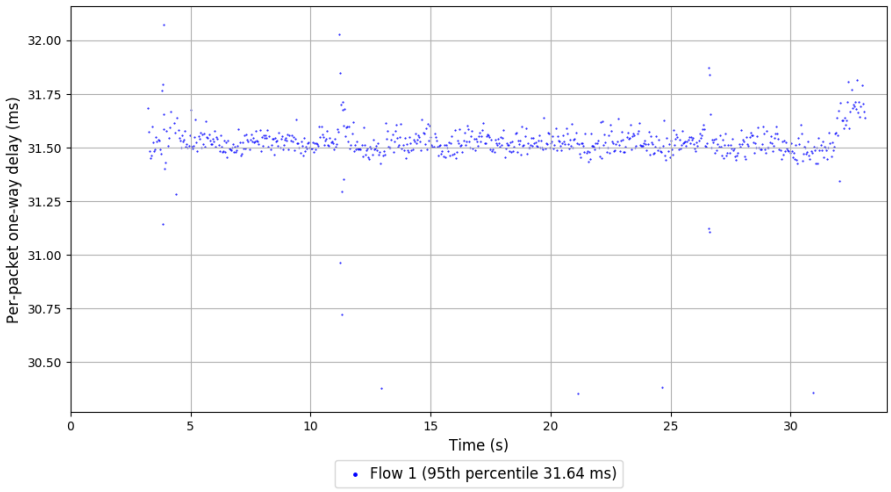
```
Run 1: Statistics of SCReAM

Start at: 2019-12-11 07:33:59
End at: 2019-12-11 07:34:29

# Below is generated by plot.py at 2019-12-11 08:17:35
# Datalink statistics
-- Total of 1 flow:
Average capacity: 12.00 Mbit/s
Average throughput: 0.21 Mbit/s (1.8% utilization)
95th percentile per-packet one-way delay: 31.639 ms
Loss rate: 0.13%
-- Flow 1:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 31.639 ms
Loss rate: 0.13%
```

Run 1: Report of SCReAM — Data Link



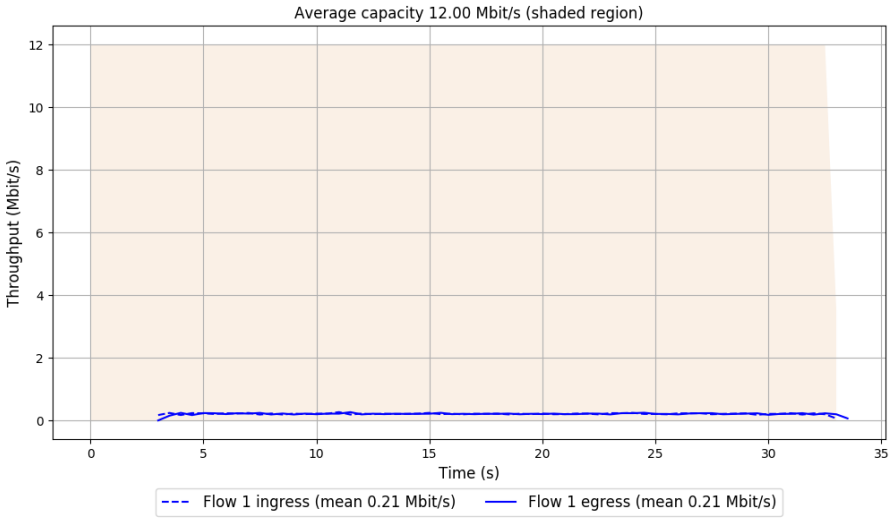


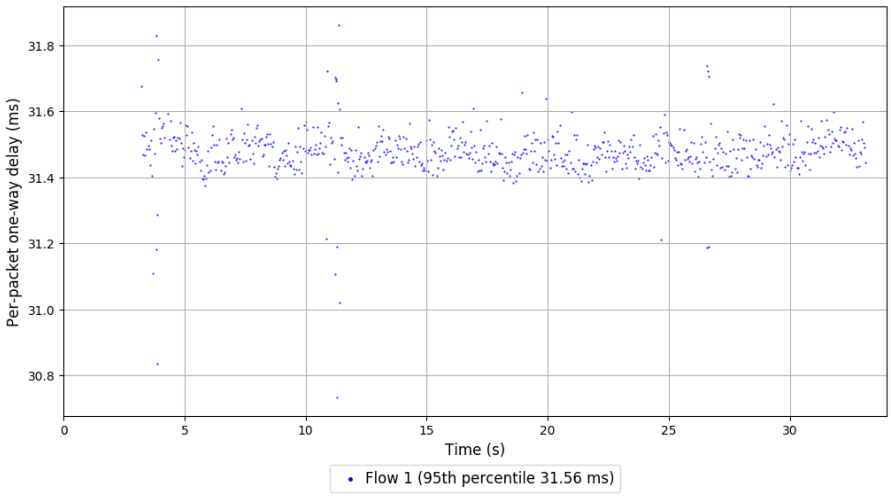
```
Run 2: Statistics of SCReAM

Start at: 2019-12-11 07:48:05
End at: 2019-12-11 07:48:35

# Below is generated by plot.py at 2019-12-11 08:17:35
# Datalink statistics
-- Total of 1 flow:
Average capacity: 12.00 Mbit/s
Average throughput: 0.21 Mbit/s (1.8% utilization)
95th percentile per-packet one-way delay: 31.564 ms
Loss rate: 0.13%
-- Flow 1:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 31.564 ms
Loss rate: 0.13%
```

Run 2: Report of SCReAM — Data Link



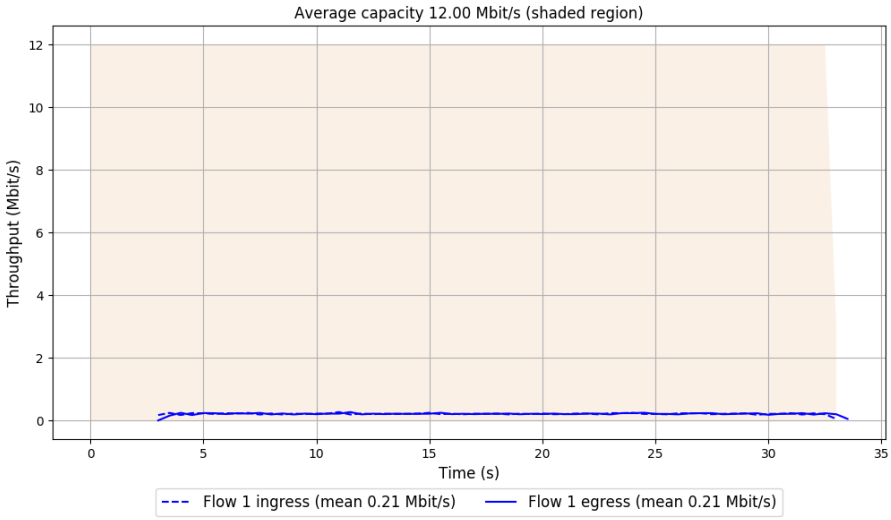


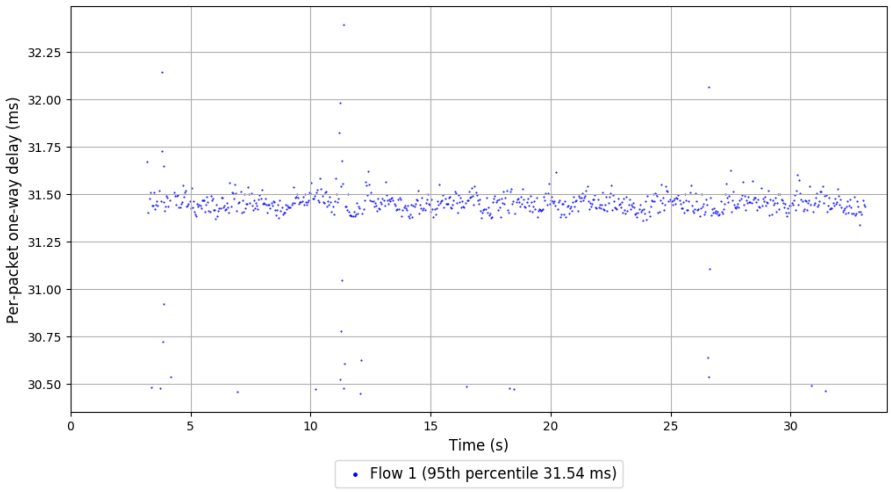
```
Run 3: Statistics of SCReAM

Start at: 2019-12-11 08:02:12
End at: 2019-12-11 08:02:42

# Below is generated by plot.py at 2019-12-11 08:17:35
# Datalink statistics
-- Total of 1 flow:
Average capacity: 12.00 Mbit/s
Average throughput: 0.21 Mbit/s (1.8% utilization)
95th percentile per-packet one-way delay: 31.541 ms
Loss rate: 0.13%
-- Flow 1:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 31.541 ms
Loss rate: 0.13%
```

Run 3: Report of SCReAM — Data Link



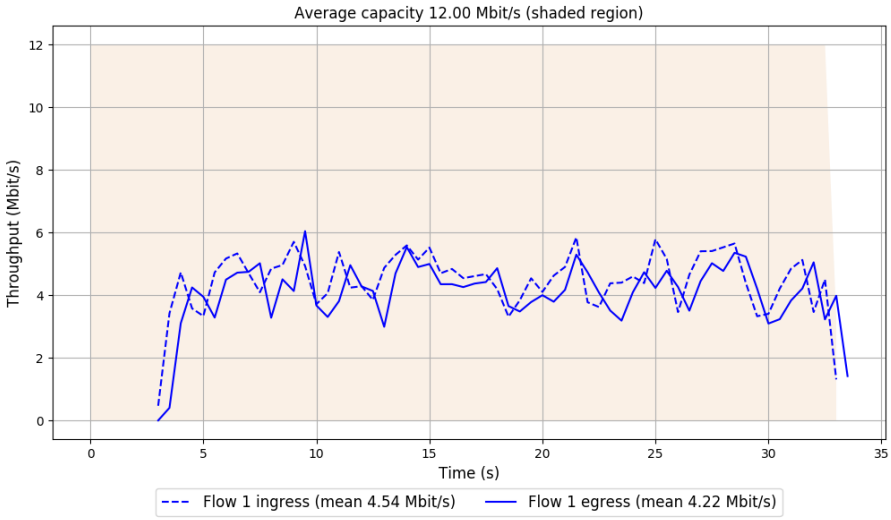


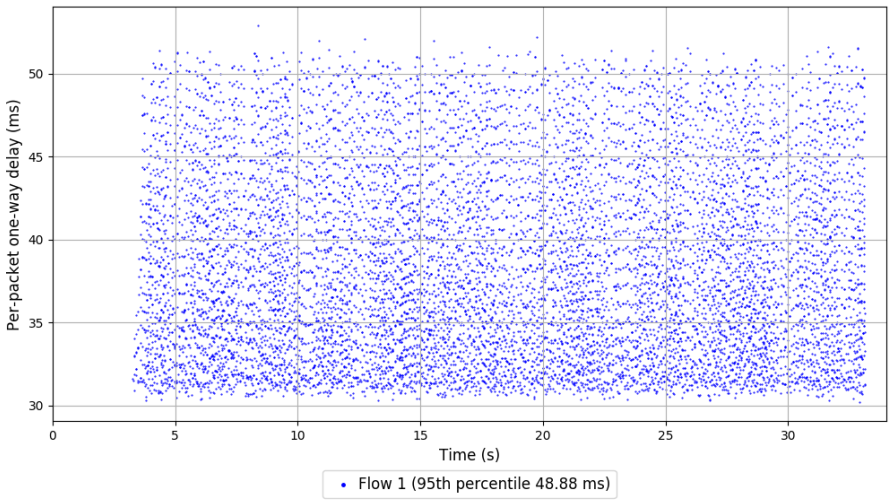
```
Run 1: Statistics of Sprout

Start at: 2019-12-11 07:37:31
End at: 2019-12-11 07:38:01

# Below is generated by plot.py at 2019-12-11 08:17:36
# Datalink statistics
-- Total of 1 flow:
Average capacity: 12.00 Mbit/s
Average throughput: 4.22 Mbit/s (35.2% utilization)
95th percentile per-packet one-way delay: 48.882 ms
Loss rate: 7.10%
-- Flow 1:
Average throughput: 4.22 Mbit/s
95th percentile per-packet one-way delay: 48.882 ms
Loss rate: 7.10%
```

Run 1: Report of Sprout — Data Link



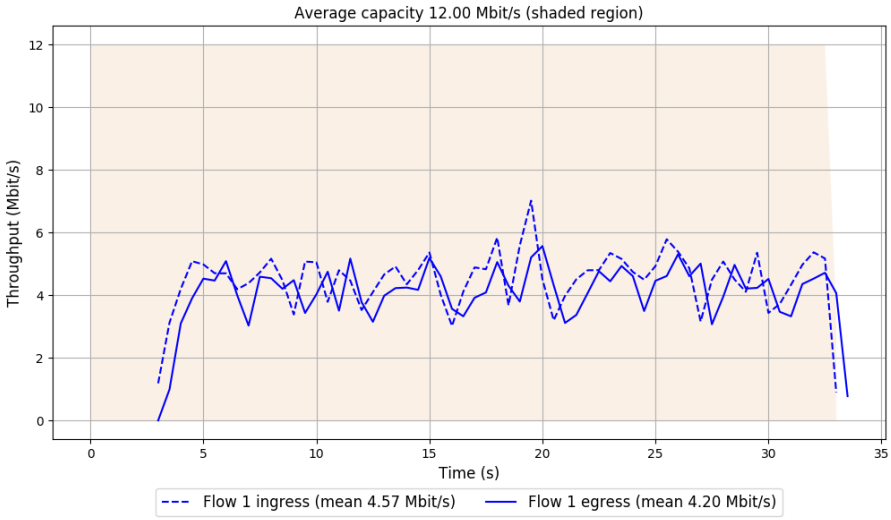


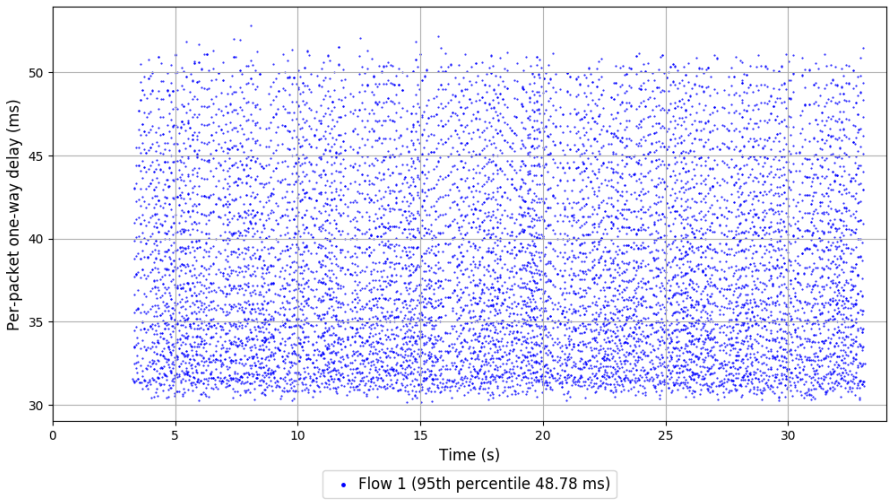
```
Run 2: Statistics of Sprout

Start at: 2019-12-11 07:51:38
End at: 2019-12-11 07:52:08

# Below is generated by plot.py at 2019-12-11 08:17:36
# Datalink statistics
-- Total of 1 flow:
Average capacity: 12.00 Mbit/s
Average throughput: 4.20 Mbit/s (35.0% utilization)
95th percentile per-packet one-way delay: 48.784 ms
Loss rate: 8.06%
-- Flow 1:
Average throughput: 4.20 Mbit/s
95th percentile per-packet one-way delay: 48.784 ms
Loss rate: 8.06%
```

Run 2: Report of Sprout — Data Link



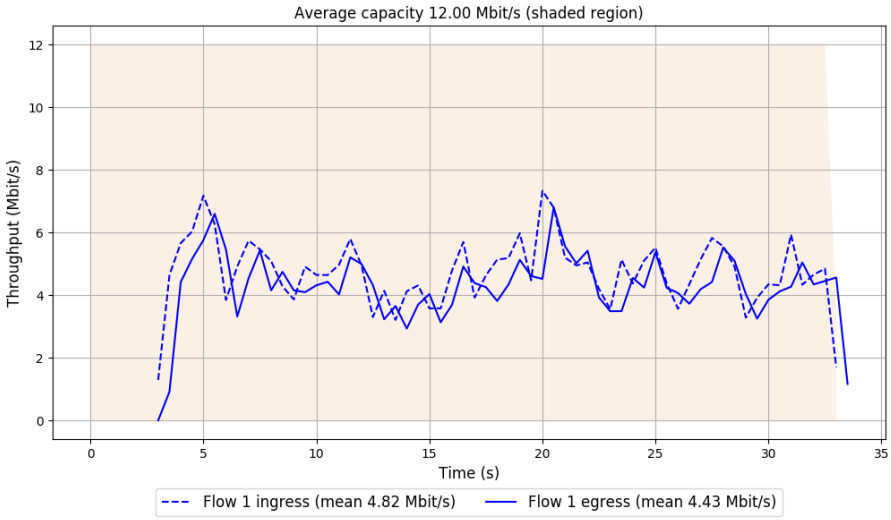


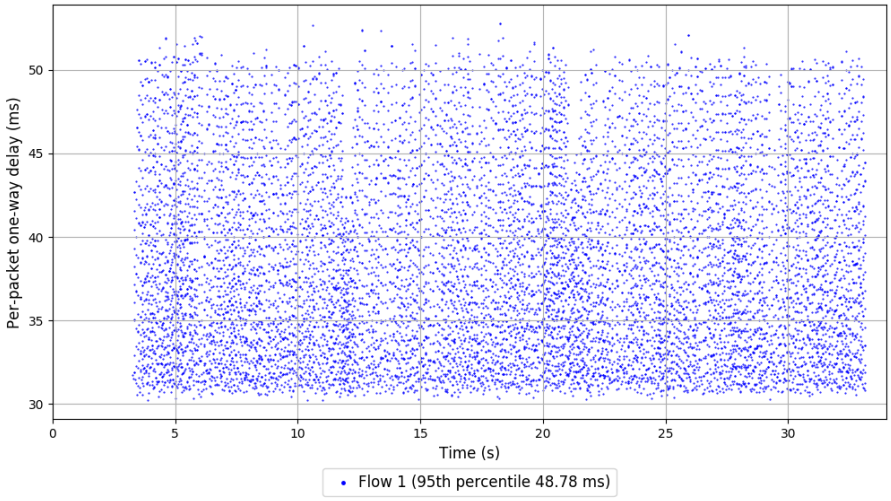
```
Run 3: Statistics of Sprout

Start at: 2019-12-11 08:05:46
End at: 2019-12-11 08:06:16

# Below is generated by plot.py at 2019-12-11 08:17:39
# Datalink statistics
-- Total of 1 flow:
Average capacity: 12.00 Mbit/s
Average throughput: 4.43 Mbit/s (36.9% utilization)
95th percentile per-packet one-way delay: 48.783 ms
Loss rate: 8.29%
-- Flow 1:
Average throughput: 4.43 Mbit/s
95th percentile per-packet one-way delay: 48.783 ms
Loss rate: 8.29%
```

Run 3: Report of Sprout — Data Link



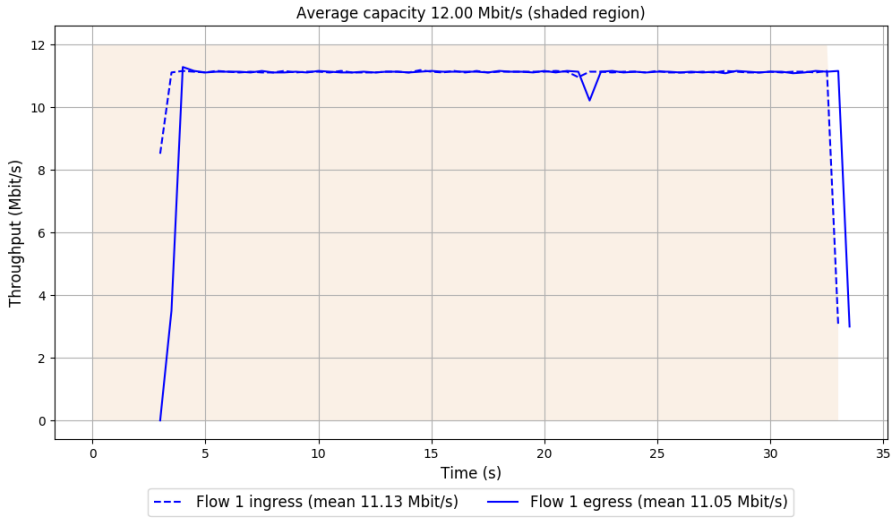


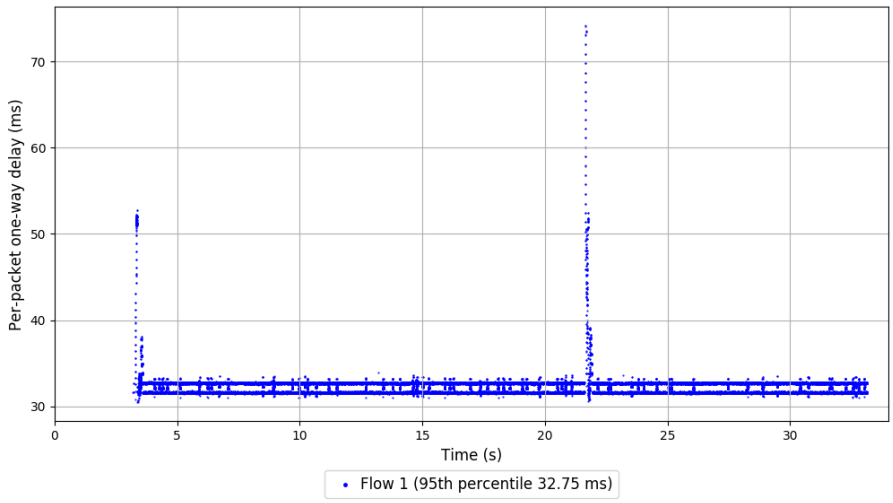
```
Run 1: Statistics of TaoVA-100x

Start at: 2019-12-11 07:42:48
End at: 2019-12-11 07:43:18

# Below is generated by plot.py at 2019-12-11 08:18:00
# Datalink statistics
-- Total of 1 flow:
Average capacity: 12.00 Mbit/s
Average throughput: 11.05 Mbit/s (92.1% utilization)
95th percentile per-packet one-way delay: 32.751 ms
Loss rate: 0.84%
-- Flow 1:
Average throughput: 11.05 Mbit/s
95th percentile per-packet one-way delay: 32.751 ms
Loss rate: 0.84%
```

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



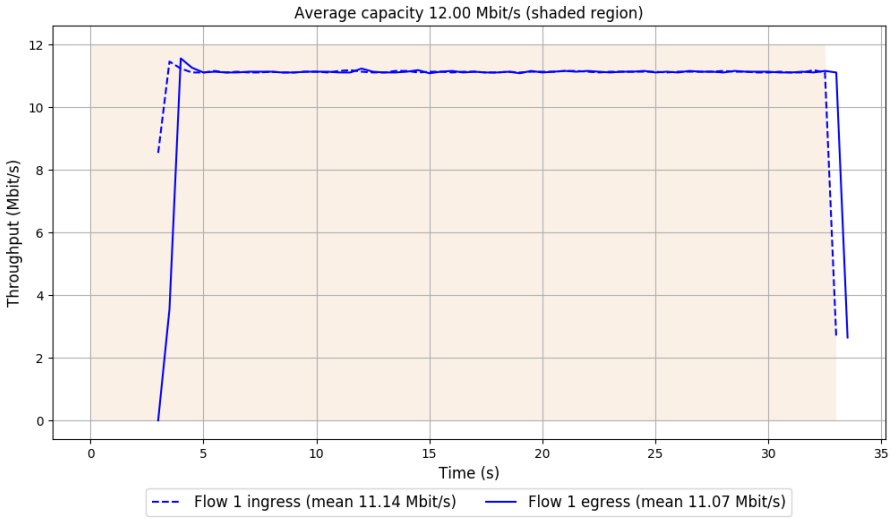


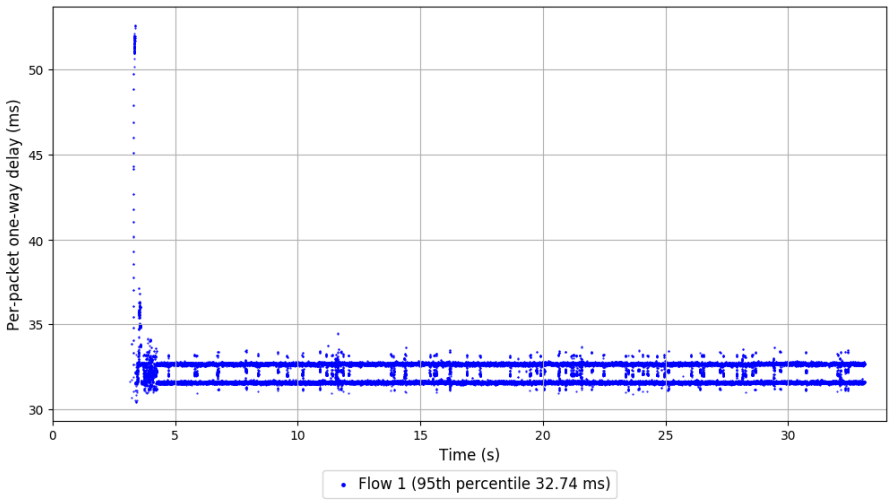
```
Run 2: Statistics of TaoVA-100x

Start at: 2019-12-11 07:56:55
End at: 2019-12-11 07:57:25

# Below is generated by plot.py at 2019-12-11 08:18:03
# Datalink statistics
-- Total of 1 flow:
Average capacity: 12.00 Mbit/s
Average throughput: 11.07 Mbit/s (92.3% utilization)
95th percentile per-packet one-way delay: 32.744 ms
Loss rate: 0.73%
-- Flow 1:
Average throughput: 11.07 Mbit/s
95th percentile per-packet one-way delay: 32.744 ms
Loss rate: 0.73%
```

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



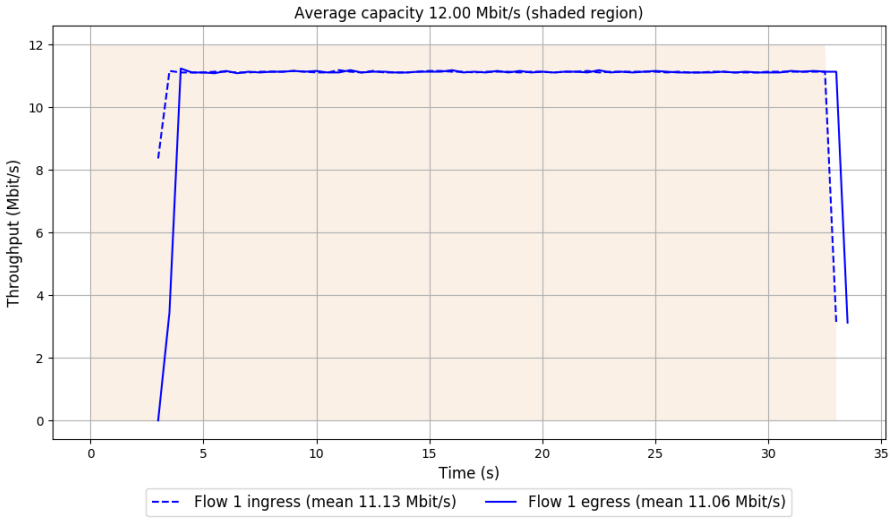


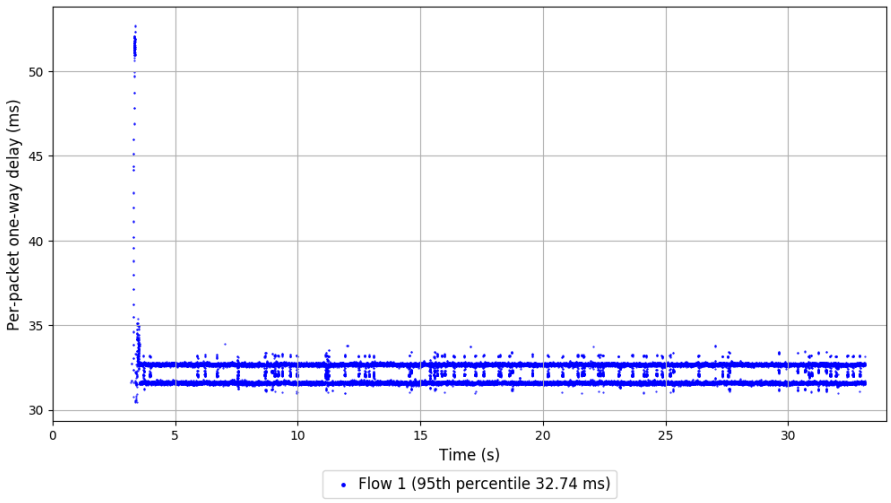
```
Run 3: Statistics of TaoVA-100x

Start at: 2019-12-11 08:11:03
End at: 2019-12-11 08:11:33

# Below is generated by plot.py at 2019-12-11 08:18:03
# Datalink statistics
-- Total of 1 flow:
Average capacity: 12.00 Mbit/s
Average throughput: 11.06 Mbit/s (92.2% utilization)
95th percentile per-packet one-way delay: 32.743 ms
Loss rate: 0.72%
-- Flow 1:
Average throughput: 11.06 Mbit/s
95th percentile per-packet one-way delay: 32.743 ms
Loss rate: 0.72%
```

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



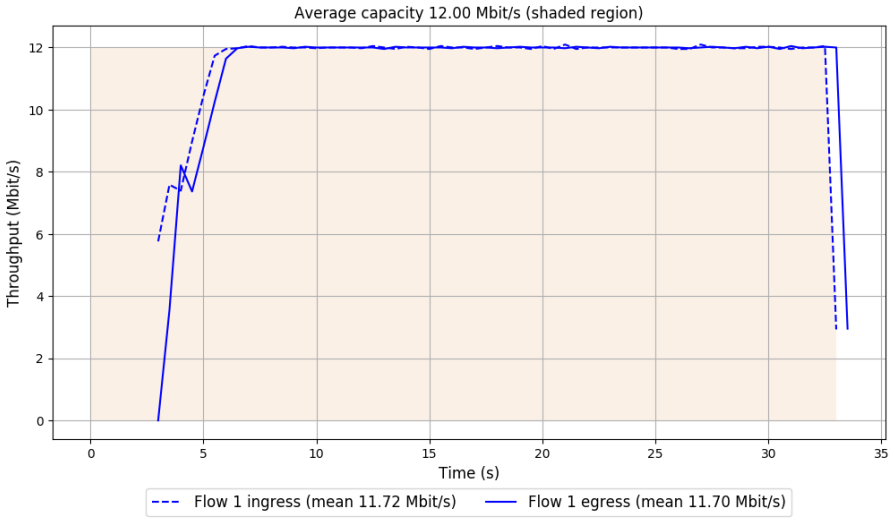


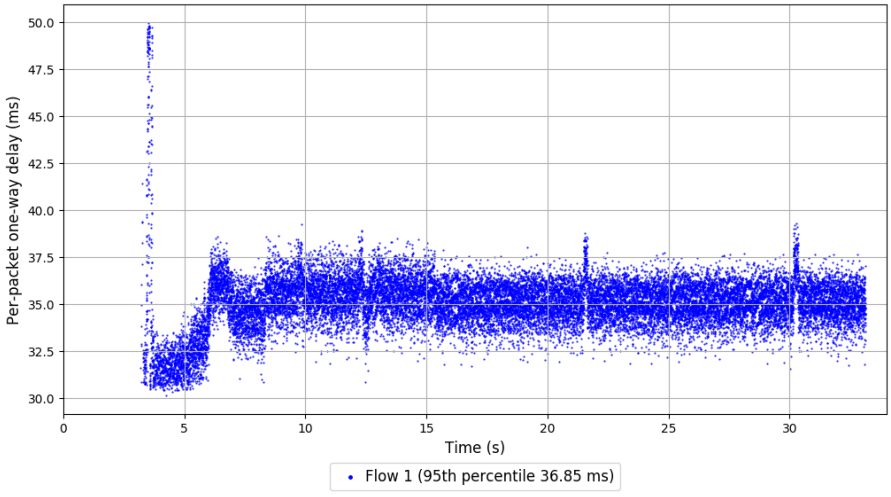
```
Run 1: Statistics of TCP Vegas

Start at: 2019-12-11 07:32:13
End at: 2019-12-11 07:32:43

# Below is generated by plot.py at 2019-12-11 08:18:03
# Datalink statistics
-- Total of 1 flow:
Average capacity: 12.00 Mbit/s
Average throughput: 11.70 Mbit/s (97.5% utilization)
95th percentile per-packet one-way delay: 36.848 ms
Loss rate: 0.29%
-- Flow 1:
Average throughput: 11.70 Mbit/s
95th percentile per-packet one-way delay: 36.848 ms
Loss rate: 0.29%
```

Run 1: Report of TCP Vegas — Data Link



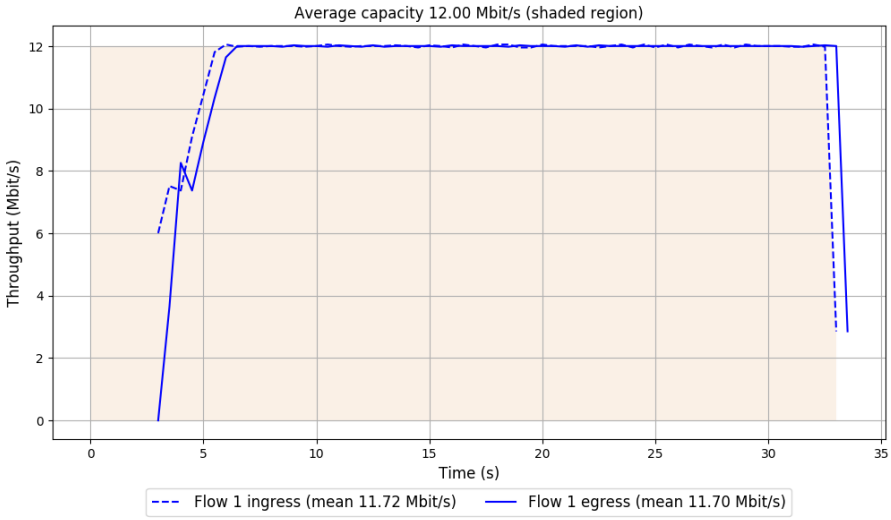


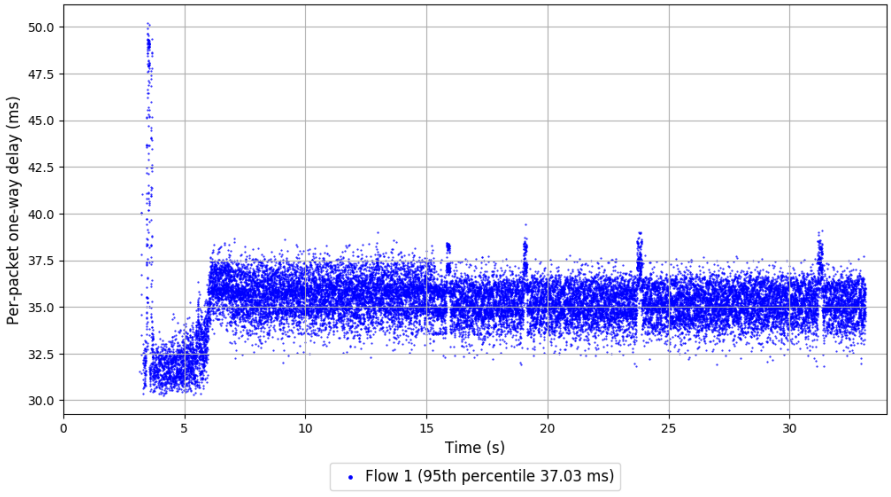
```
Run 2: Statistics of TCP Vegas

Start at: 2019-12-11 07:46:20
End at: 2019-12-11 07:46:50

# Below is generated by plot.py at 2019-12-11 08:18:03
# Datalink statistics
-- Total of 1 flow:
Average capacity: 12.00 Mbit/s
Average throughput: 11.70 Mbit/s (97.5% utilization)
95th percentile per-packet one-way delay: 37.028 ms
Loss rate: 0.29%
-- Flow 1:
Average throughput: 11.70 Mbit/s
95th percentile per-packet one-way delay: 37.028 ms
Loss rate: 0.29%
```

Run 2: Report of TCP Vegas — Data Link



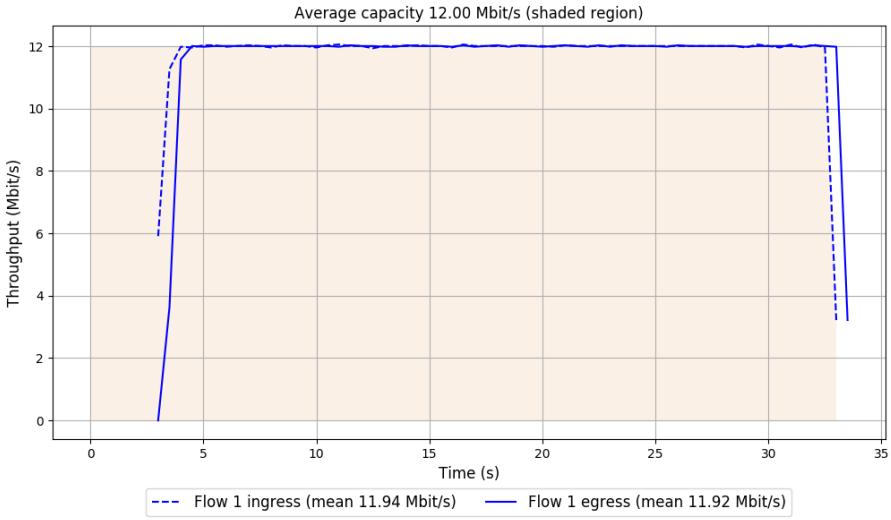


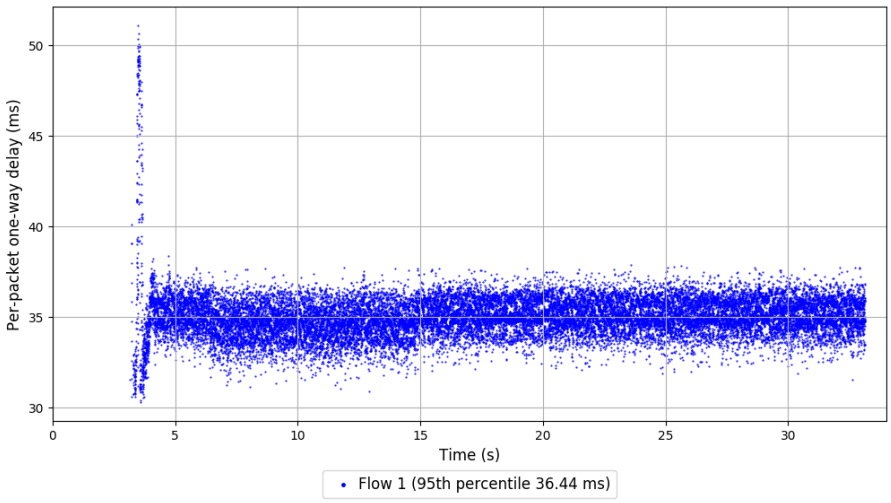
```
Run 3: Statistics of TCP Vegas

Start at: 2019-12-11 08:00:26
End at: 2019-12-11 08:00:56

# Below is generated by plot.py at 2019-12-11 08:18:03
# Datalink statistics
-- Total of 1 flow:
Average capacity: 12.00 Mbit/s
Average throughput: 11.92 Mbit/s (99.3% utilization)
95th percentile per-packet one-way delay: 36.437 ms
Loss rate: 0.27%
-- Flow 1:
Average throughput: 11.92 Mbit/s
95th percentile per-packet one-way delay: 36.437 ms
Loss rate: 0.27%
```

Run 3: Report of TCP Vegas — Data Link



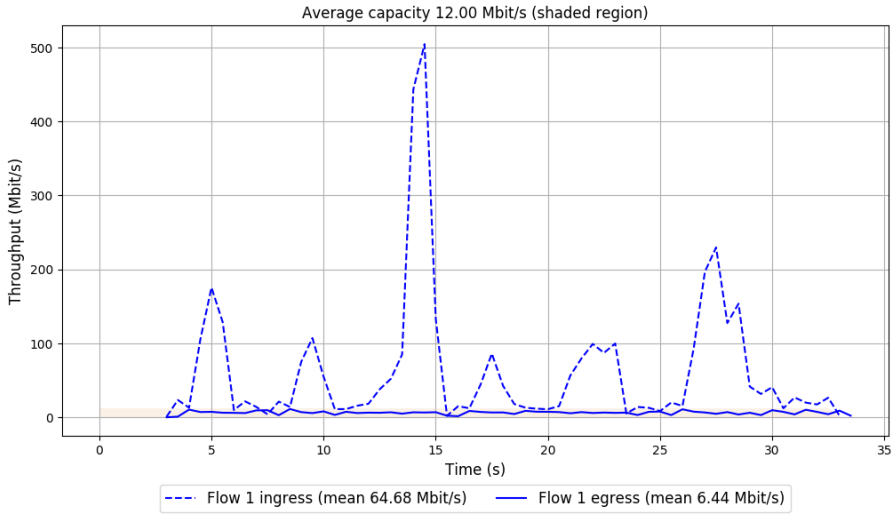


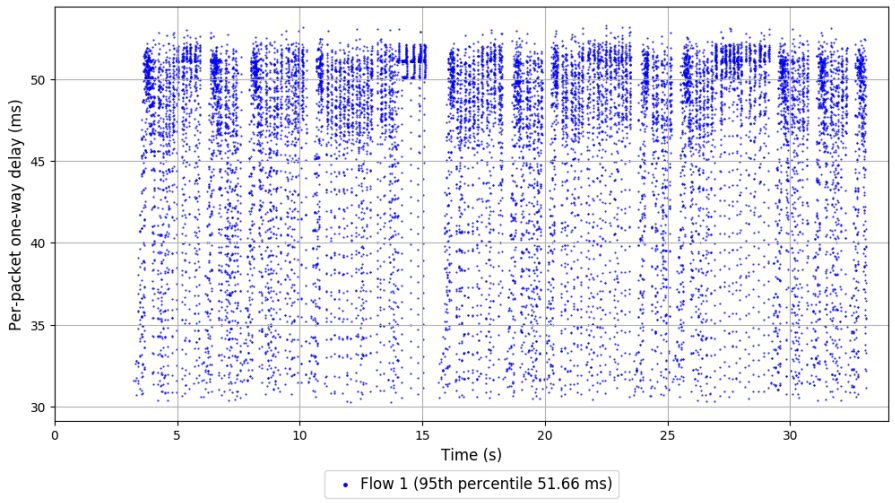
```
Run 1: Statistics of Verus

Start at: 2019-12-11 07:35:09
End at: 2019-12-11 07:35:39

# Below is generated by plot.py at 2019-12-11 08:18:12
# Datalink statistics
-- Total of 1 flow:
Average capacity: 12.00 Mbit/s
Average throughput: 6.44 Mbit/s (53.7% utilization)
95th percentile per-packet one-way delay: 51.655 ms
Loss rate: 90.03%
-- Flow 1:
Average throughput: 6.44 Mbit/s
95th percentile per-packet one-way delay: 51.655 ms
Loss rate: 90.03%
```

Run 1: Report of Verus — Data Link



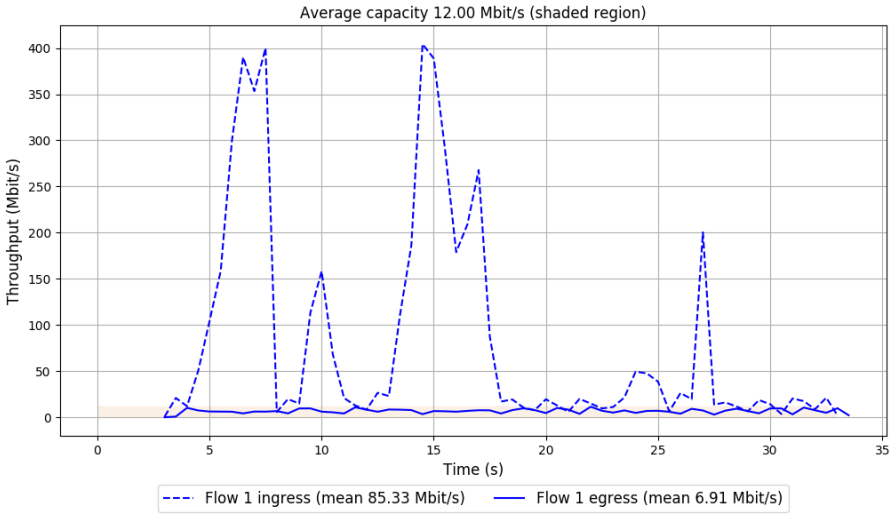


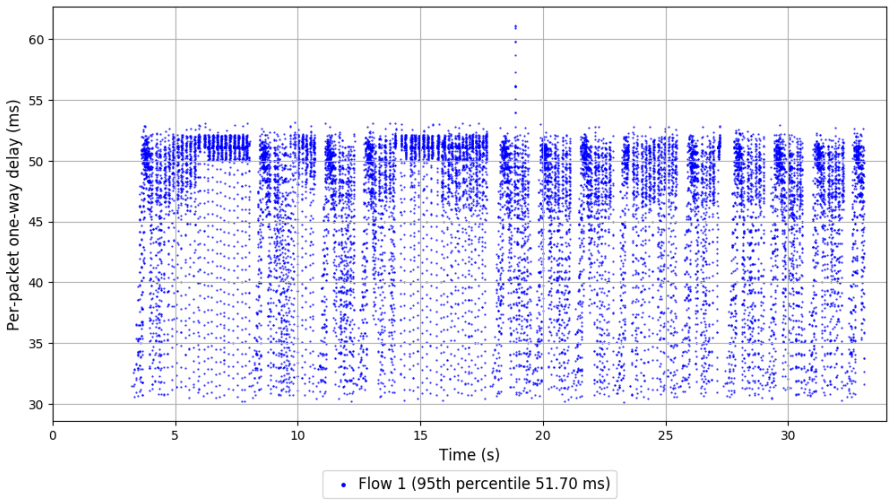
```
Run 2: Statistics of Verus

Start at: 2019-12-11 07:49:15
End at: 2019-12-11 07:49:45

# Below is generated by plot.py at 2019-12-11 08:18:19
# Datalink statistics
-- Total of 1 flow:
Average capacity: 12.00 Mbit/s
Average throughput: 6.91 Mbit/s (57.6% utilization)
95th percentile per-packet one-way delay: 51.695 ms
Loss rate: 91.90%
-- Flow 1:
Average throughput: 6.91 Mbit/s
95th percentile per-packet one-way delay: 51.695 ms
Loss rate: 91.90%
```

Run 2: Report of Verus — Data Link



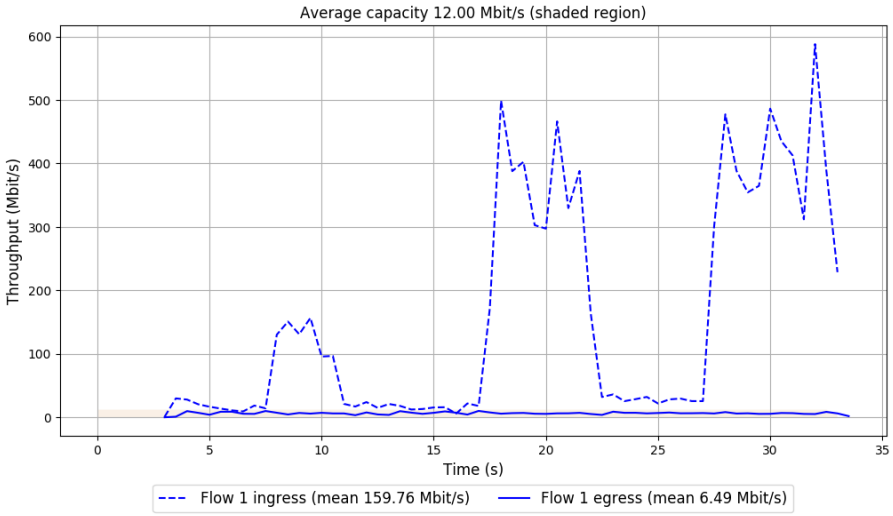


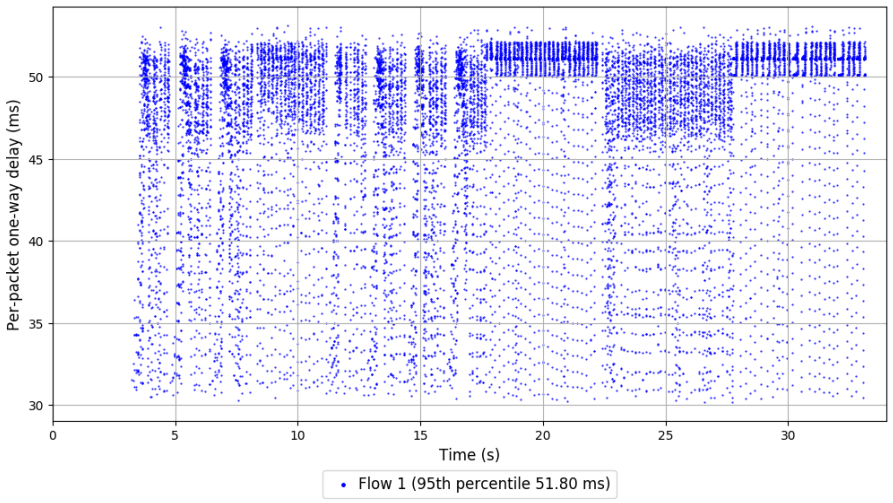
```
Run 3: Statistics of Verus

Start at: 2019-12-11 08:03:22
End at: 2019-12-11 08:03:52

# Below is generated by plot.py at 2019-12-11 08:18:20
# Datalink statistics
-- Total of 1 flow:
Average capacity: 12.00 Mbit/s
Average throughput: 6.49 Mbit/s (54.1% utilization)
95th percentile per-packet one-way delay: 51.801 ms
Loss rate: 95.94%
-- Flow 1:
Average throughput: 6.49 Mbit/s
95th percentile per-packet one-way delay: 51.801 ms
Loss rate: 95.94%
```

Run 3: Report of Verus — Data Link



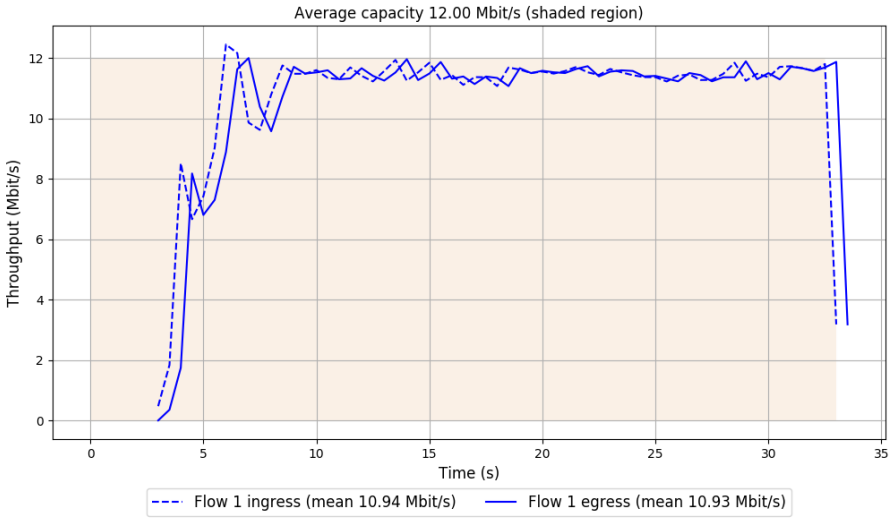


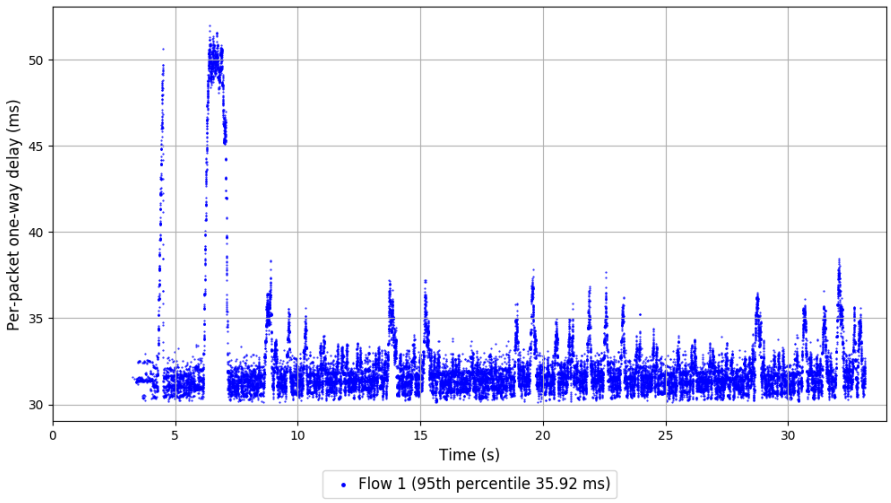
```
Run 1: Statistics of PCC-Vivace

Start at: 2019-12-11 07:39:52
End at: 2019-12-11 07:40:22

# Below is generated by plot.py at 2019-12-11 08:18:20
# Datalink statistics
-- Total of 1 flow:
Average capacity: 12.00 Mbit/s
Average throughput: 10.93 Mbit/s (91.1% utilization)
95th percentile per-packet one-way delay: 35.917 ms
Loss rate: 0.19%
-- Flow 1:
Average throughput: 10.93 Mbit/s
95th percentile per-packet one-way delay: 35.917 ms
Loss rate: 0.19%
```

Run 1: Report of PCC-Vivace — Data Link



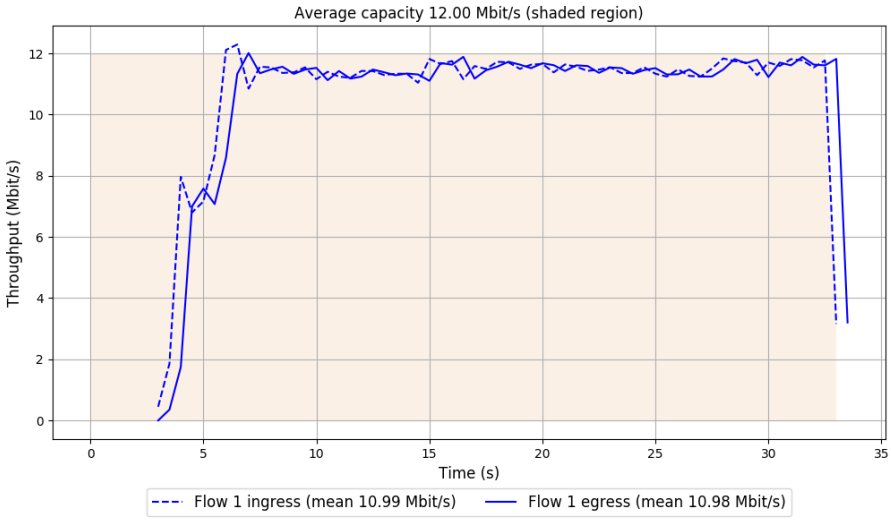


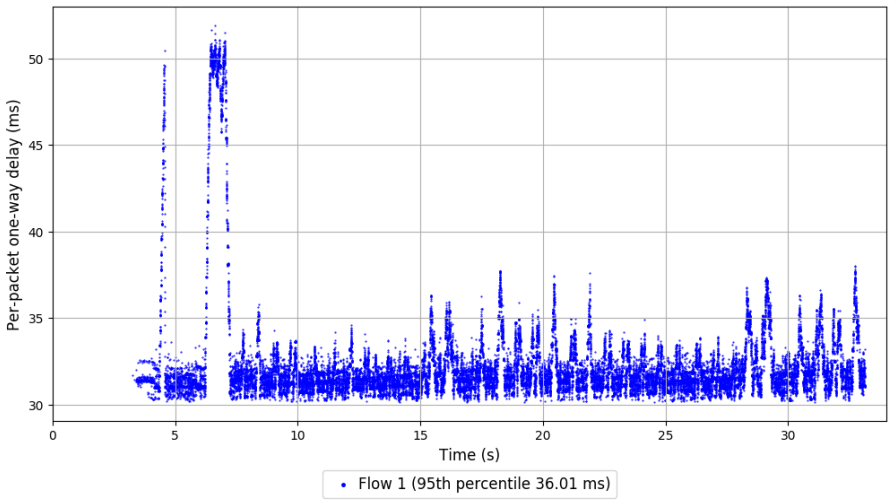
```
Run 2: Statistics of PCC-Vivace

Start at: 2019-12-11 07:53:58
End at: 2019-12-11 07:54:28

# Below is generated by plot.py at 2019-12-11 08:18:20
# Datalink statistics
-- Total of 1 flow:
Average capacity: 12.00 Mbit/s
Average throughput: 10.98 Mbit/s (91.5% utilization)
95th percentile per-packet one-way delay: 36.007 ms
Loss rate: 0.17%
-- Flow 1:
Average throughput: 10.98 Mbit/s
95th percentile per-packet one-way delay: 36.007 ms
Loss rate: 0.17%
```

Run 2: Report of PCC-Vivace — Data Link



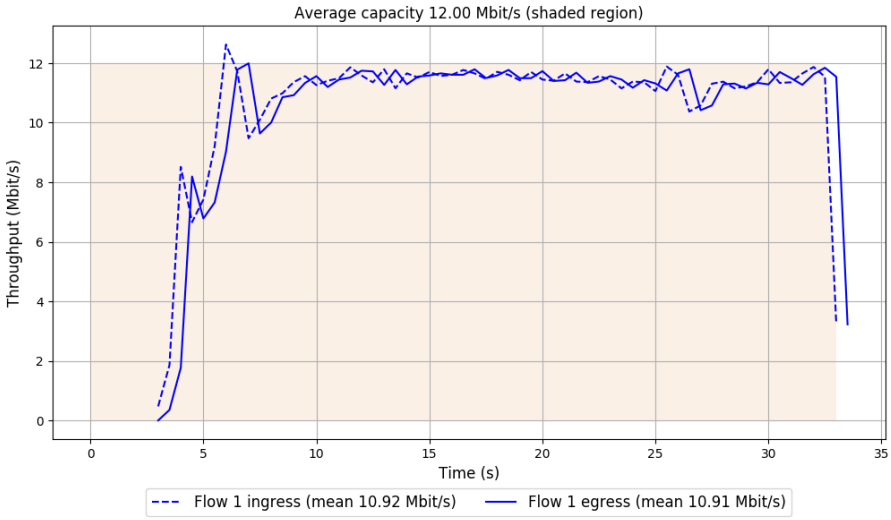


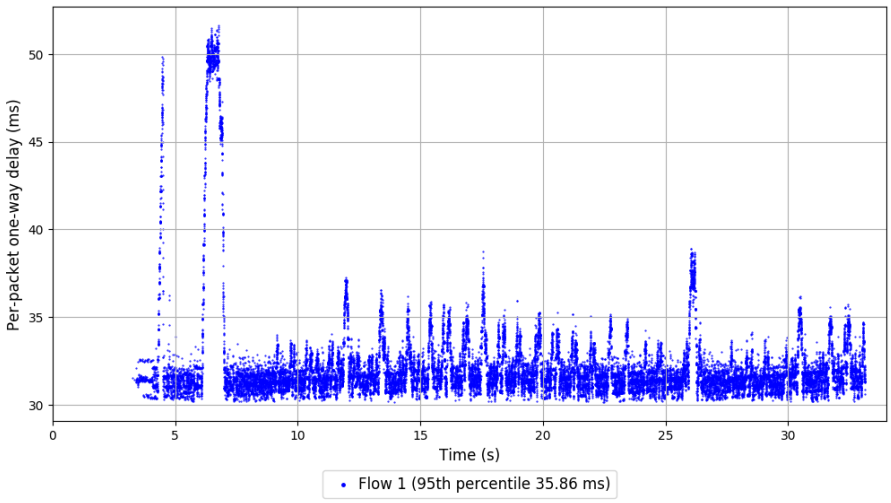
```
Run 3: Statistics of PCC-Vivace

Start at: 2019-12-11 08:08:06
End at: 2019-12-11 08:08:36

# Below is generated by plot.py at 2019-12-11 08:18:20
# Datalink statistics
-- Total of 1 flow:
Average capacity: 12.00 Mbit/s
Average throughput: 10.91 Mbit/s (90.9% utilization)
95th percentile per-packet one-way delay: 35.864 ms
Loss rate: 0.20%
-- Flow 1:
Average throughput: 10.91 Mbit/s
95th percentile per-packet one-way delay: 35.864 ms
Loss rate: 0.20%
```

Run 3: Report of PCC-Vivace — Data Link



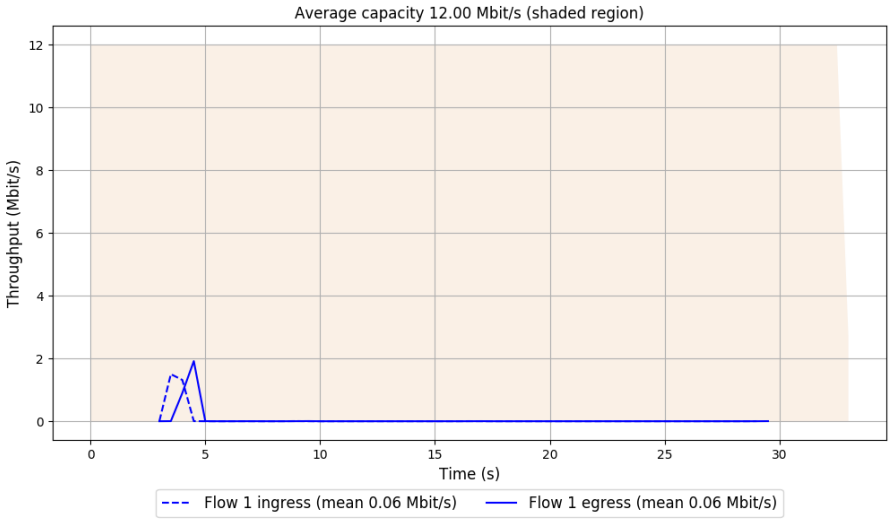


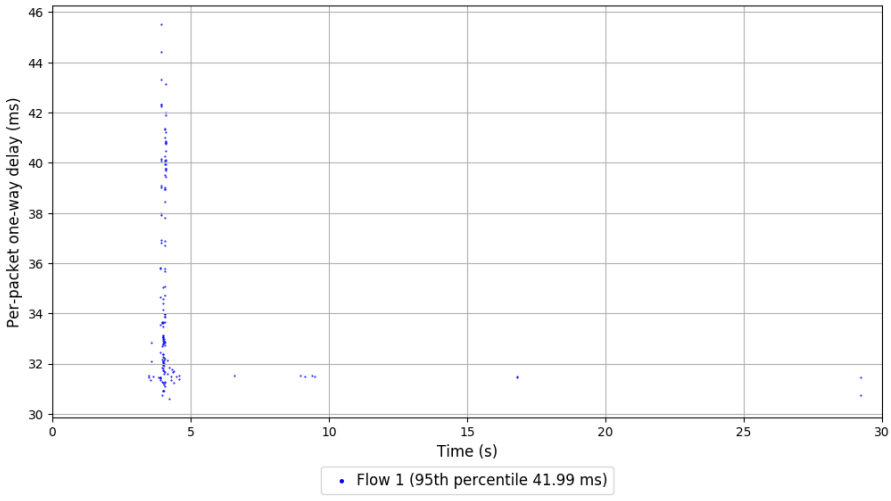
```
Run 1: Statistics of WebRTC media

Start at: 2019-12-11 07:44:35
End at: 2019-12-11 07:45:05

# Below is generated by plot.py at 2019-12-11 08:18:20
# Datalink statistics
-- Total of 1 flow:
Average capacity: 12.00 Mbit/s
Average throughput: 0.06 Mbit/s (0.5% utilization)
95th percentile per-packet one-way delay: 41.990 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.06 Mbit/s
95th percentile per-packet one-way delay: 41.990 ms
Loss rate: 0.00%
```

Run 1: Report of WebRTC media — Data Link



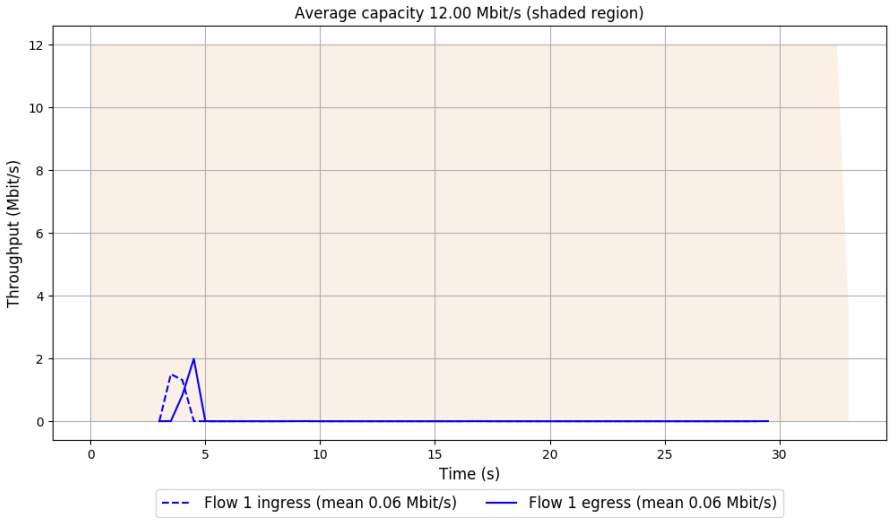


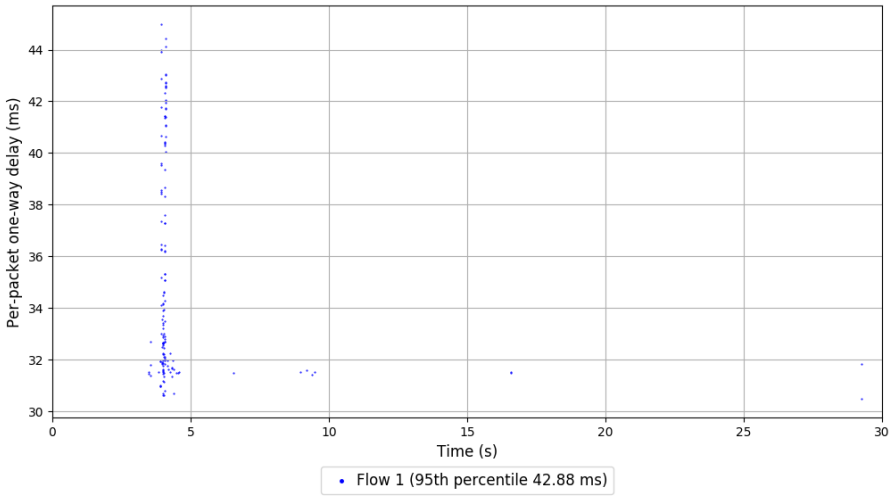
```
Run 2: Statistics of WebRTC media

Start at: 2019-12-11 07:58:41
End at: 2019-12-11 07:59:11

# Below is generated by plot.py at 2019-12-11 08:18:20
# Datalink statistics
-- Total of 1 flow:
Average capacity: 12.00 Mbit/s
Average throughput: 0.06 Mbit/s (0.5% utilization)
95th percentile per-packet one-way delay: 42.879 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.06 Mbit/s
95th percentile per-packet one-way delay: 42.879 ms
Loss rate: 0.00%
```

Run 2: Report of WebRTC media — Data Link





```
Run 3: Statistics of WebRTC media

Start at: 2019-12-11 08:12:49
End at: 2019-12-11 08:13:19

# Below is generated by plot.py at 2019-12-11 08:18:20
# Datalink statistics
-- Total of 1 flow:
Average capacity: 12.00 Mbit/s
Average throughput: 0.06 Mbit/s (0.5% utilization)
95th percentile per-packet one-way delay: 41.435 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.06 Mbit/s
95th percentile per-packet one-way delay: 41.435 ms
Loss rate: 0.00%
```

Run 3: Report of WebRTC media — Data Link