Pantheon Report

Generated at 2019-07-11 23:08:43 (UTC).

Tested in mahimahi: `mm-delay 50 mm-link 60mbps.trace 60mbps.trace --uplink-queue=droptail --uplink-queue-args=packets=1 --downlink-queue=droptail --downlink-queue-args=packets=1`

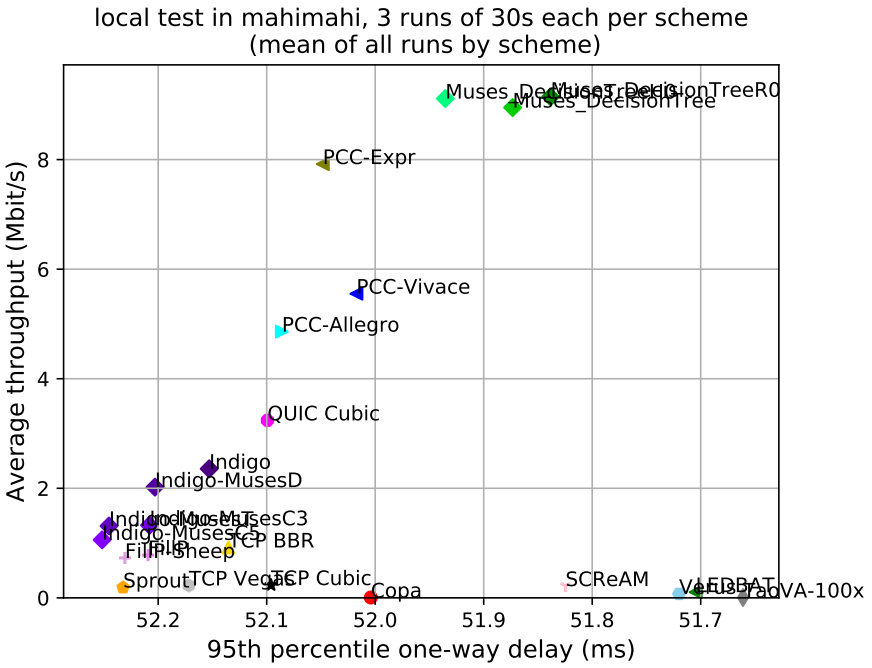
Repeated the test of 24 congestion control schemes 3 times.

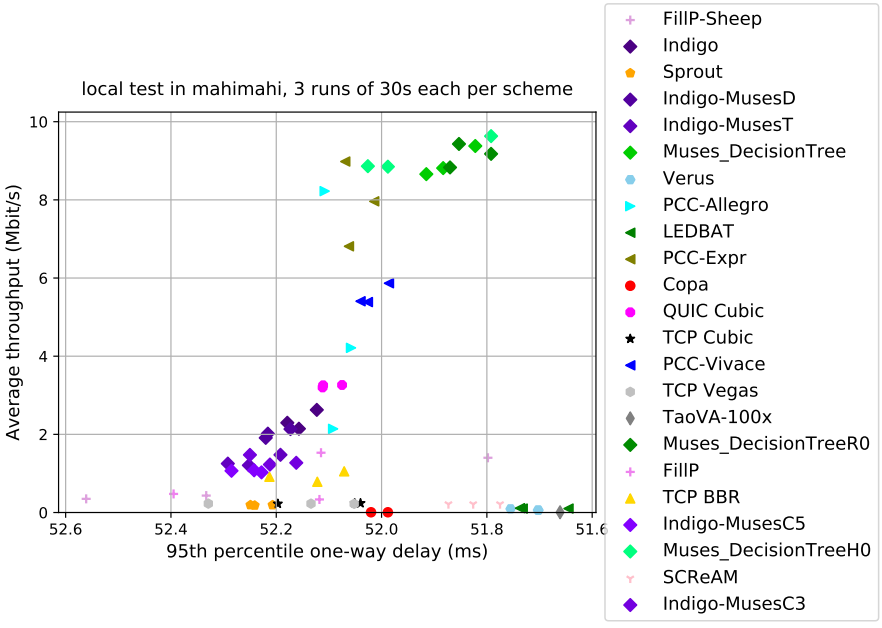
Each test lasted for 30 seconds running 1 flow.

```
System info:
Linux 4.15.0-1034-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 @ 2076e1149a241f3edb4365d686df32342bf9561f
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 @ 8bb93ffff2b107204a92d8b72449fc0c55e15f00
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)
Muses_DecisionTree
PCC-Expr
PCC-Vivace
PCC-Allegro
QUIC Cubic
Indigo
Indigo-MusesD
TCP BBR
FillP-Sheep
Sprout
TCP Vegas
TCP Cubic
Copa
SCReAM
TaoVA-100x


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
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

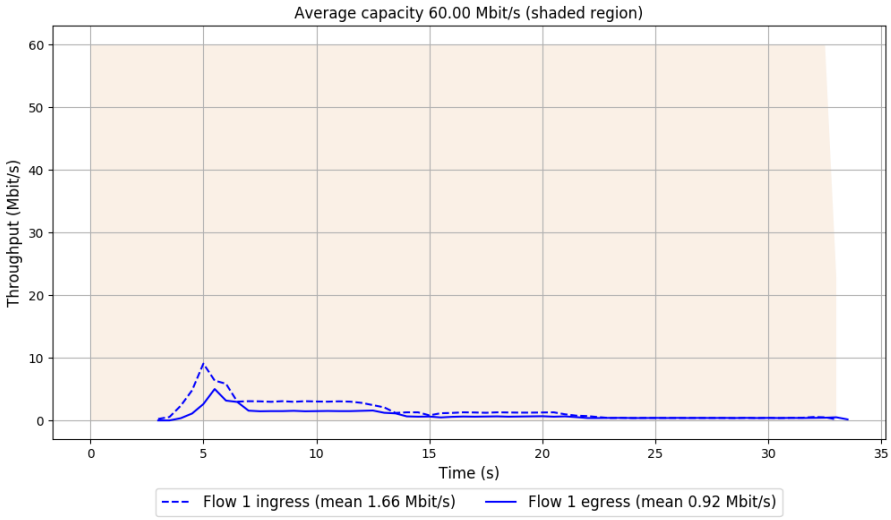
scheme	# runs	mean avg tput (Mbit/s) flow 1	mean 95th-%ile delay (ms) flow 1	mean loss rate (%) flow 1
TCP BBR	3	0.92	52.14	43.05
Copa	2	0.01	52.00	90.36
TCP Cubic	3	0.23	52.10	13.77
FillP	3	0.78	52.21	47.90
FillP-Sheep	3	0.73	52.23	38.76
Indigo	3	2.36	52.15	97.42
Indigo-MusesC3	3	1.32	52.21	30.77
Indigo-MusesC5	3	1.06	52.25	44.90
Indigo-MusesD	3	2.02	52.20	48.10
Indigo-MusesT	3	1.31	52.25	25.17
LEDBAT	3	0.10	51.70	48.87
Muses_DecisionTree	3	8.95	51.87	29.08
Muses_DecisionTreeH0	3	9.11	51.94	82.65
Muses_DecisionTreeR0	3	9.15	51.84	45.81
PCC-Allegro	3	4.86	52.09	2.58
PCC-Expr	3	7.92	52.05	6.51
QUIC Cubic	3	3.24	52.10	1.47
SCReAM	3	0.21	51.82	0.13
Sprout	3	0.19	52.23	6.84
TaoVA-100x	1	0.01	51.66	51.91
TCP Vegas	3	0.23	52.17	13.80
Verus	3	0.07	51.72	52.71
PCC-Vivace	3	5.55	52.02	0.60
WebRTC media	0	N/A	N/A	N/A

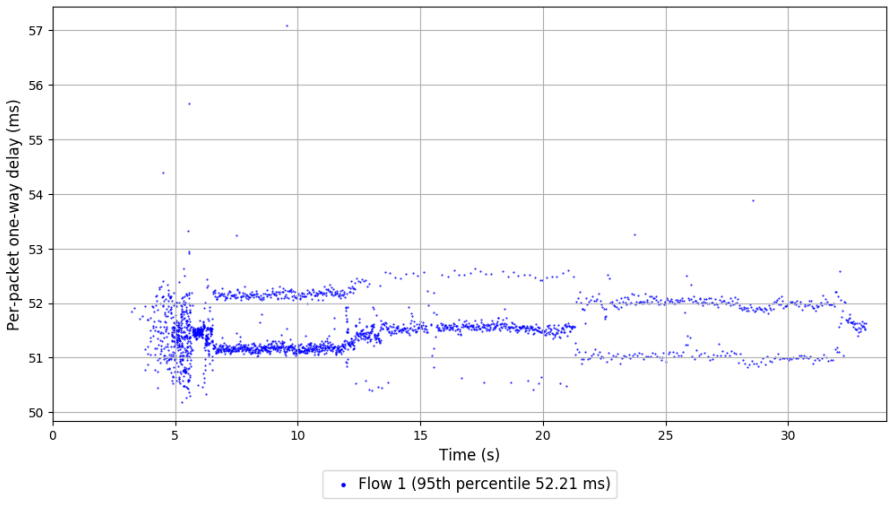
```
Run 1: Statistics of TCP BBR

Start at: 2019-07-11 22:26:59
End at: 2019-07-11 22:27:29

# Below is generated by plot.py at 2019-07-11 23:05:29
# Datalink statistics
-- Total of 1 flow:
Average capacity: 60.00 Mbit/s
Average throughput: 0.92 Mbit/s (1.5% utilization)
95th percentile per-packet one-way delay: 52.213 ms
Loss rate: 44.96%
-- Flow 1:
Average throughput: 0.92 Mbit/s
95th percentile per-packet one-way delay: 52.213 ms
Loss rate: 44.96%
```

Run 1: Report of TCP BBR — Data Link



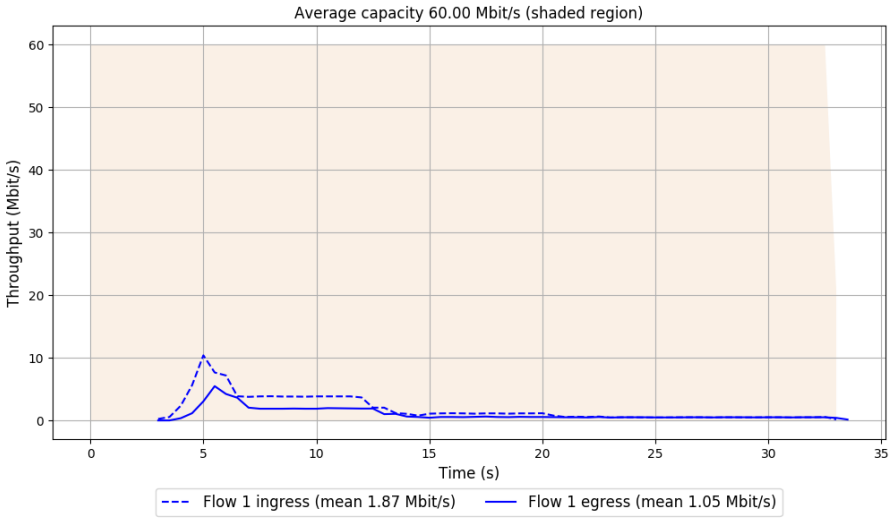


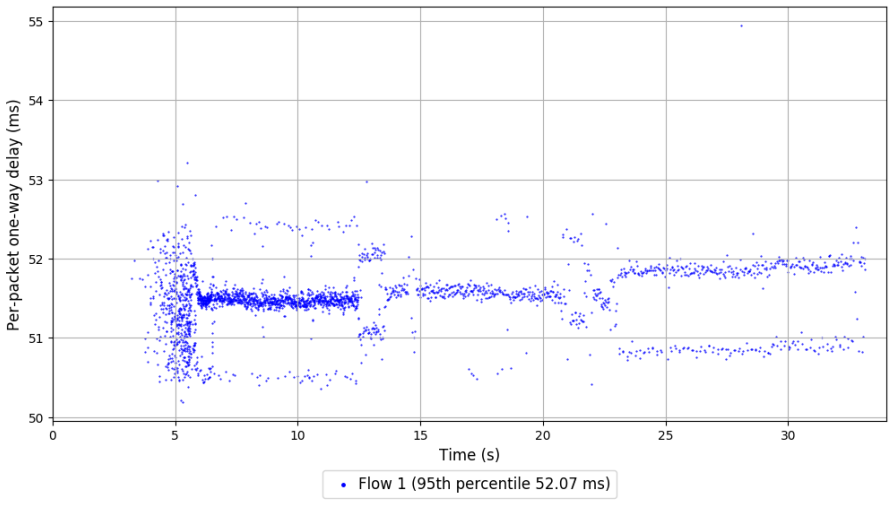
```
Run 2: Statistics of TCP BBR

Start at: 2019-07-11 22:41:25
End at: 2019-07-11 22:41:55

# Below is generated by plot.py at 2019-07-11 23:05:30
# Datalink statistics
-- Total of 1 flow:
Average capacity: 60.00 Mbit/s
Average throughput: 1.05 Mbit/s (1.8% utilization)
95th percentile per-packet one-way delay: 52.071 ms
Loss rate: 43.88%
-- Flow 1:
Average throughput: 1.05 Mbit/s
95th percentile per-packet one-way delay: 52.071 ms
Loss rate: 43.88%
```

Run 2: Report of TCP BBR — Data Link



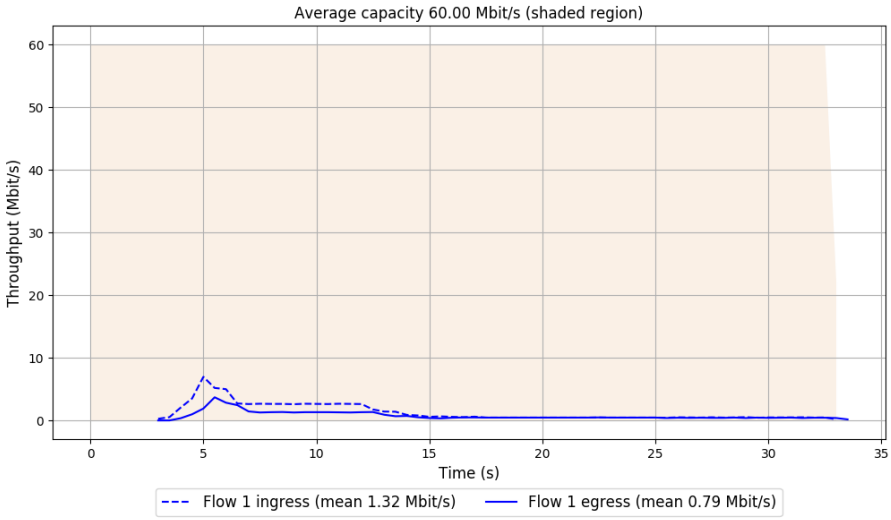


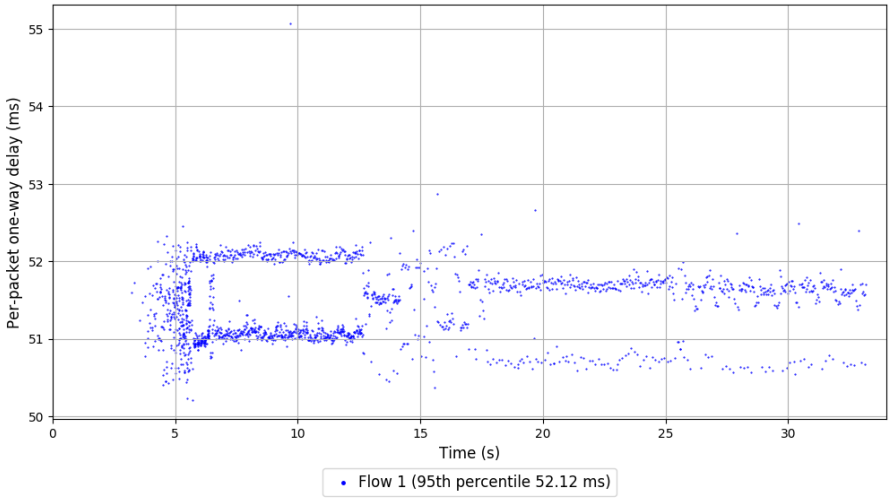
```
Run 3: Statistics of TCP BBR

Start at: 2019-07-11 22:55:51
End at: 2019-07-11 22:56:21

# Below is generated by plot.py at 2019-07-11 23:05:30
# Datalink statistics
-- Total of 1 flow:
Average capacity: 60.00 Mbit/s
Average throughput: 0.79 Mbit/s (1.3% utilization)
95th percentile per-packet one-way delay: 52.122 ms
Loss rate: 40.31%
-- Flow 1:
Average throughput: 0.79 Mbit/s
95th percentile per-packet one-way delay: 52.122 ms
Loss rate: 40.31%
```

Run 3: Report of TCP BBR — Data Link



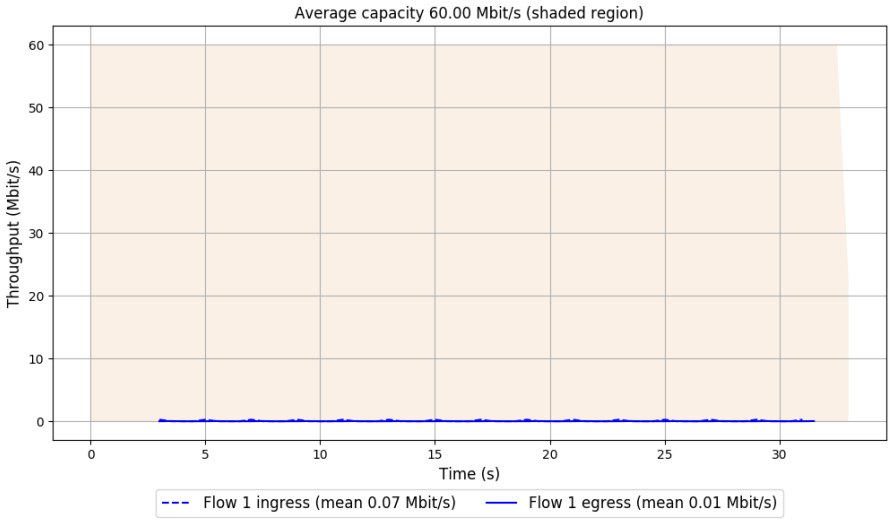


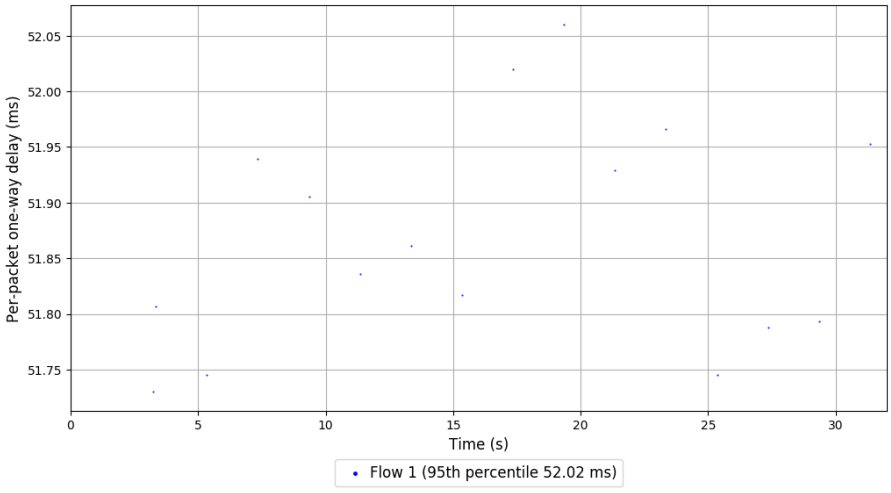
```
Run 1: Statistics of Copa

Start at: 2019-07-11 22:22:48
End at: 2019-07-11 22:23:18

# Below is generated by plot.py at 2019-07-11 23:05:30
# Datalink statistics
-- Total of 1 flow:
Average capacity: 60.00 Mbit/s
Average throughput: 0.01 Mbit/s (0.0% utilization)
95th percentile per-packet one-way delay: 52.020 ms
Loss rate: 90.36%
-- Flow 1:
Average throughput: 0.01 Mbit/s
95th percentile per-packet one-way delay: 52.020 ms
Loss rate: 90.36%
```

Run 1: Report of Copa — Data Link



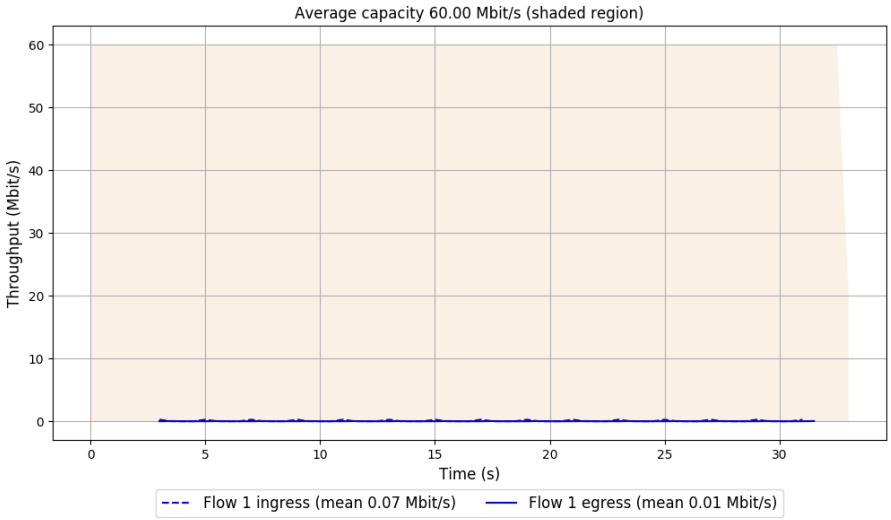


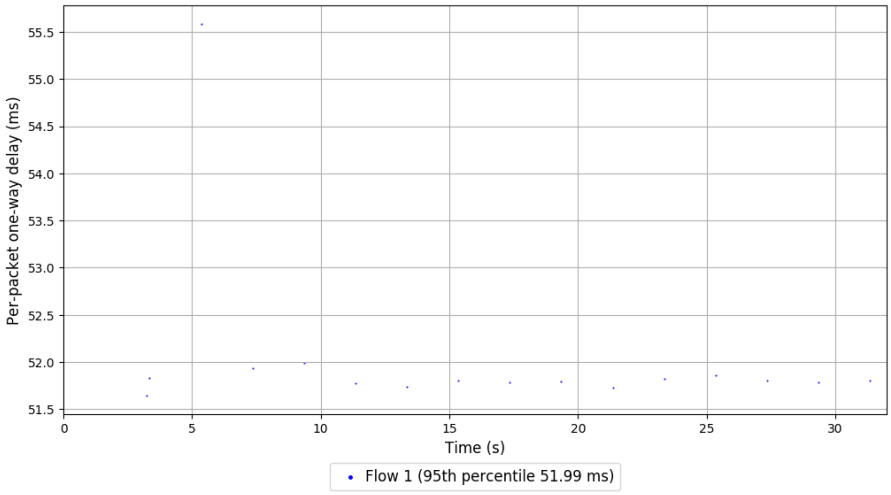
```
Run 2: Statistics of Copa

Start at: 2019-07-11 22:37:14
End at: 2019-07-11 22:37:44

# Below is generated by plot.py at 2019-07-11 23:05:30
# Datalink statistics
-- Total of 1 flow:
Average capacity: 60.00 Mbit/s
Average throughput: 0.01 Mbit/s (0.0% utilization)
95th percentile per-packet one-way delay: 51.988 ms
Loss rate: 90.36%
-- Flow 1:
Average throughput: 0.01 Mbit/s
95th percentile per-packet one-way delay: 51.988 ms
Loss rate: 90.36%
```

Run 2: Report of Copa — Data Link

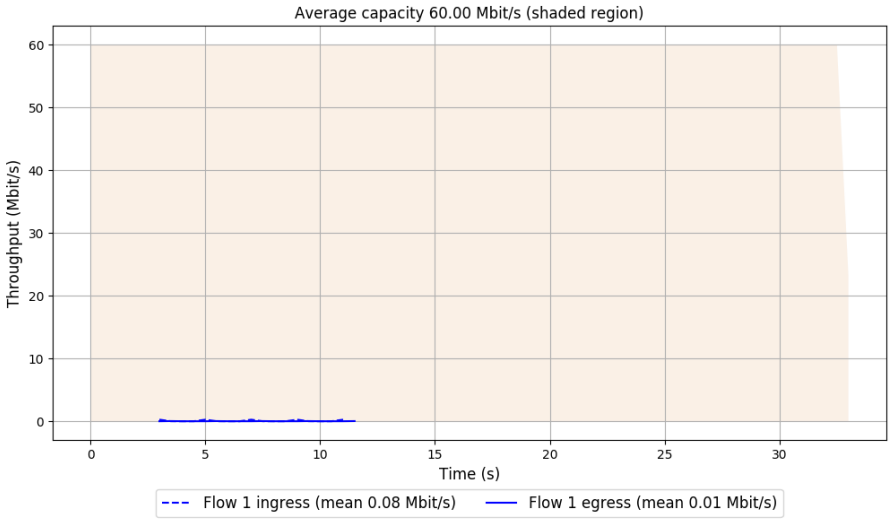


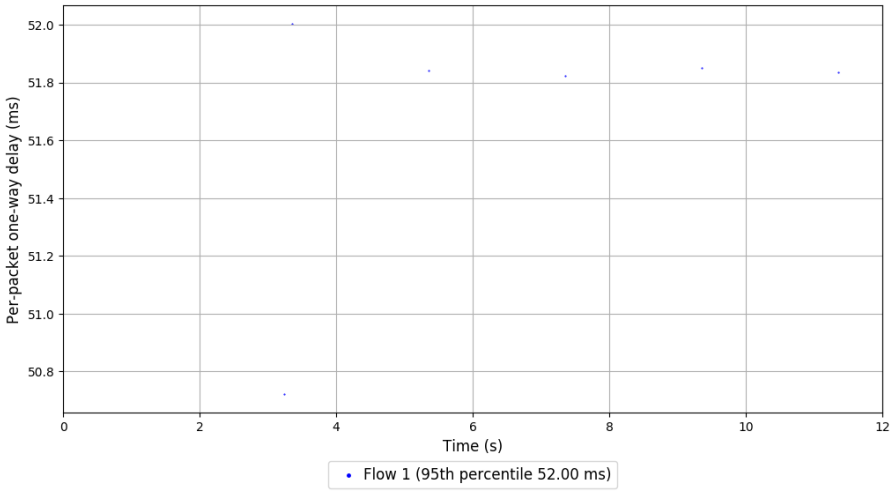


```
Run 3: Statistics of Copa

Start at: 2019-07-11 22:51:39
End at: 2019-07-11 22:52:09
```

Run 3: Report of Copa — Data Link



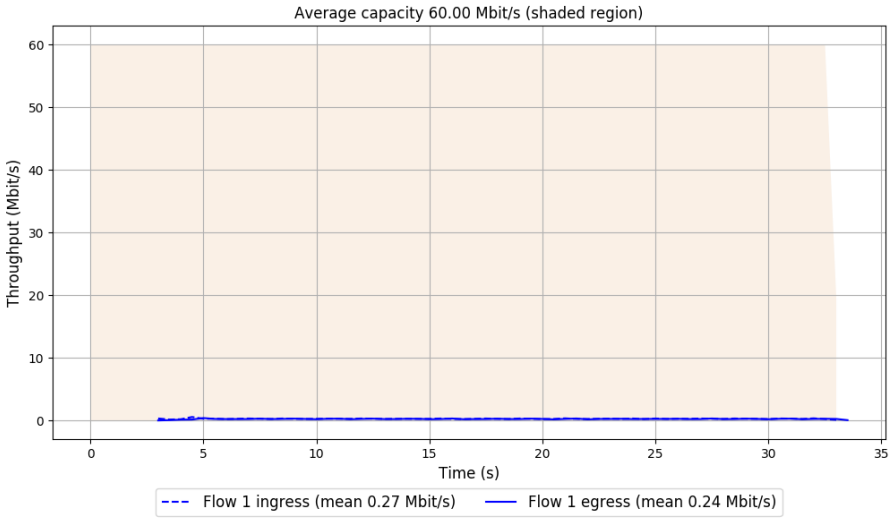


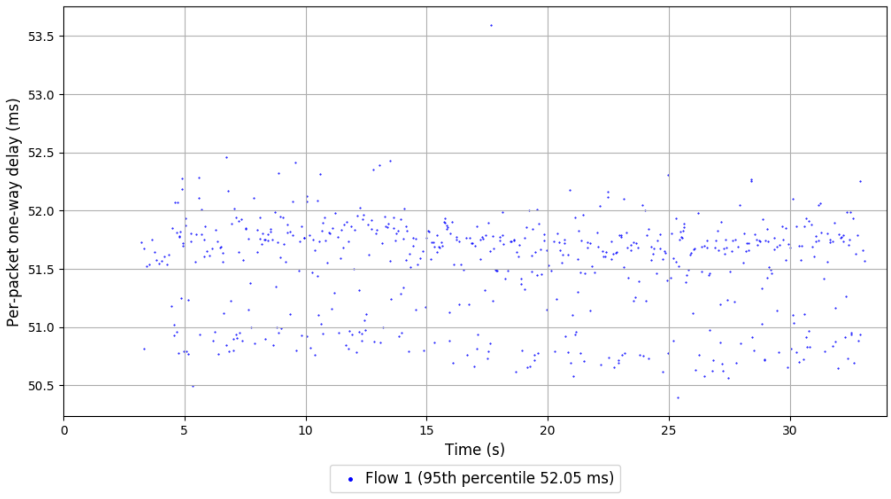
```
Run 1: Statistics of TCP Cubic

Start at: 2019-07-11 22:24:36
End at: 2019-07-11 22:25:06

# Below is generated by plot.py at 2019-07-11 23:05:30
# Datalink statistics
-- Total of 1 flow:
Average capacity: 60.00 Mbit/s
Average throughput: 0.24 Mbit/s (0.4% utilization)
95th percentile per-packet one-way delay: 52.051 ms
Loss rate: 13.00%
-- Flow 1:
Average throughput: 0.24 Mbit/s
95th percentile per-packet one-way delay: 52.051 ms
Loss rate: 13.00%
```

Run 1: Report of TCP Cubic — Data Link



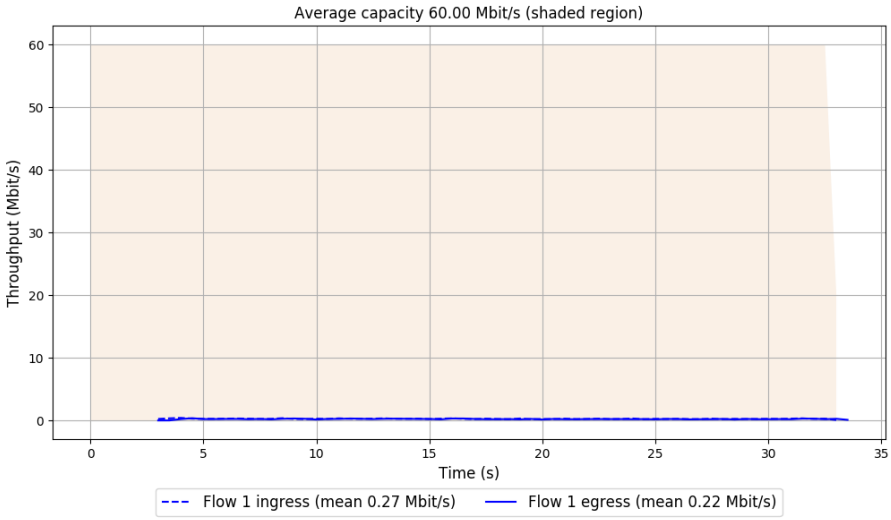


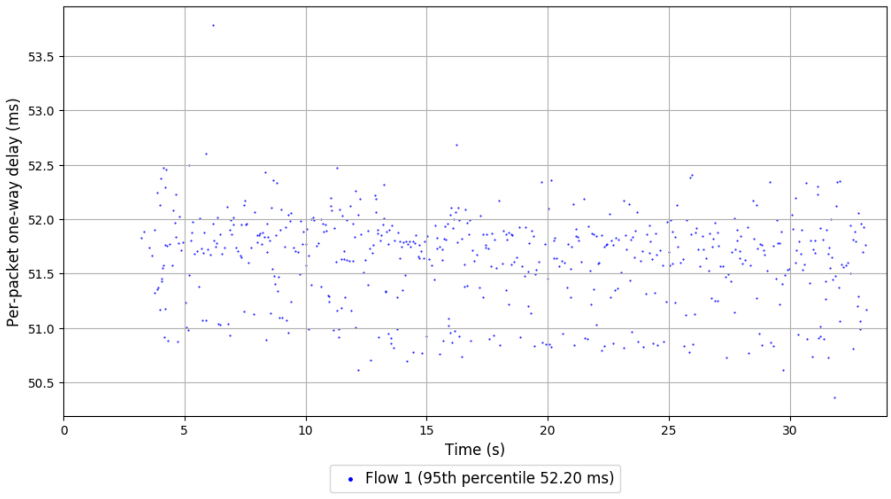
```
Run 2: Statistics of TCP Cubic

Start at: 2019-07-11 22:39:02
End at: 2019-07-11 22:39:32

# Below is generated by plot.py at 2019-07-11 23:05:30
# Datalink statistics
-- Total of 1 flow:
Average capacity: 60.00 Mbit/s
Average throughput: 0.22 Mbit/s (0.4% utilization)
95th percentile per-packet one-way delay: 52.197 ms
Loss rate: 15.66%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 52.197 ms
Loss rate: 15.66%
```

Run 2: Report of TCP Cubic — Data Link



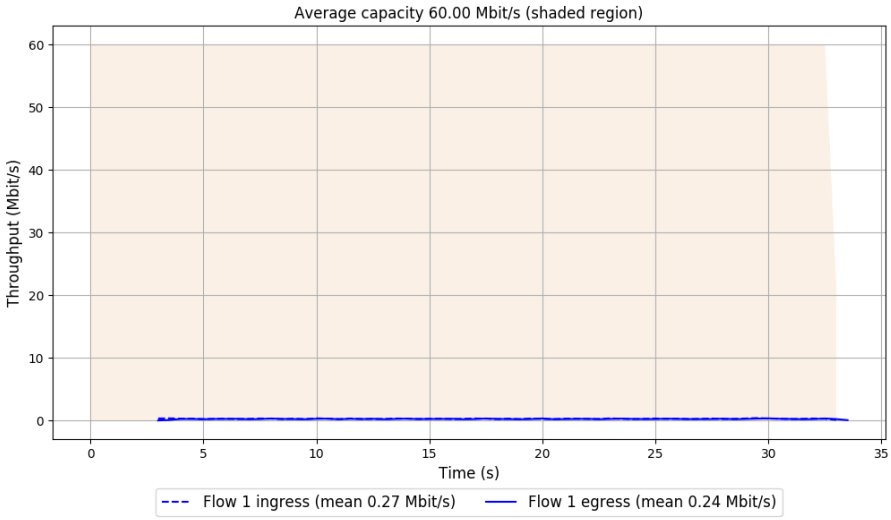


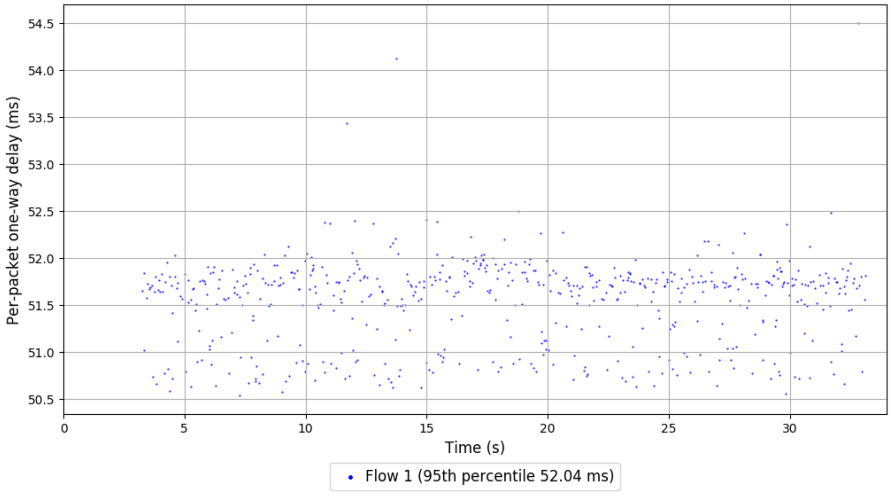
```
Run 3: Statistics of TCP Cubic

Start at: 2019-07-11 22:53:27
End at: 2019-07-11 22:53:57

# Below is generated by plot.py at 2019-07-11 23:05:42
# Datalink statistics
-- Total of 1 flow:
Average capacity: 60.00 Mbit/s
Average throughput: 0.24 Mbit/s (0.4% utilization)
95th percentile per-packet one-way delay: 52.040 ms
Loss rate: 12.66%
-- Flow 1:
Average throughput: 0.24 Mbit/s
95th percentile per-packet one-way delay: 52.040 ms
Loss rate: 12.66%
```

Run 3: Report of TCP Cubic — Data Link



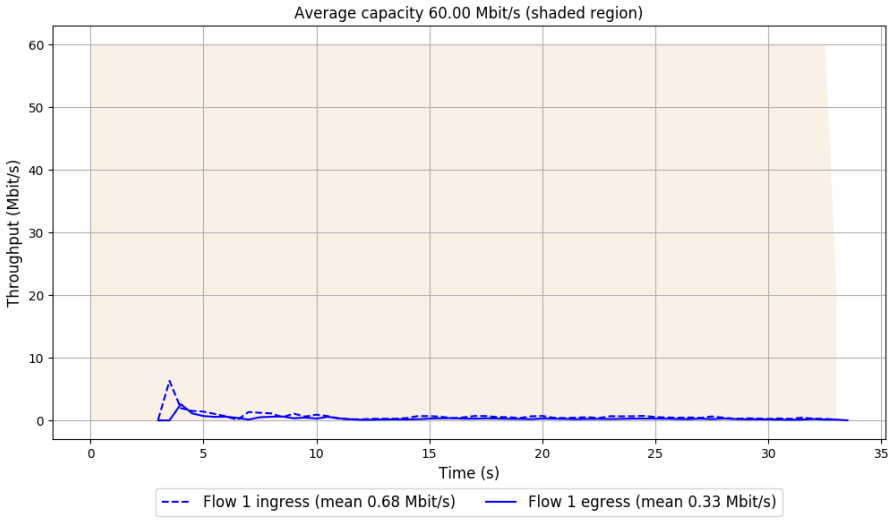


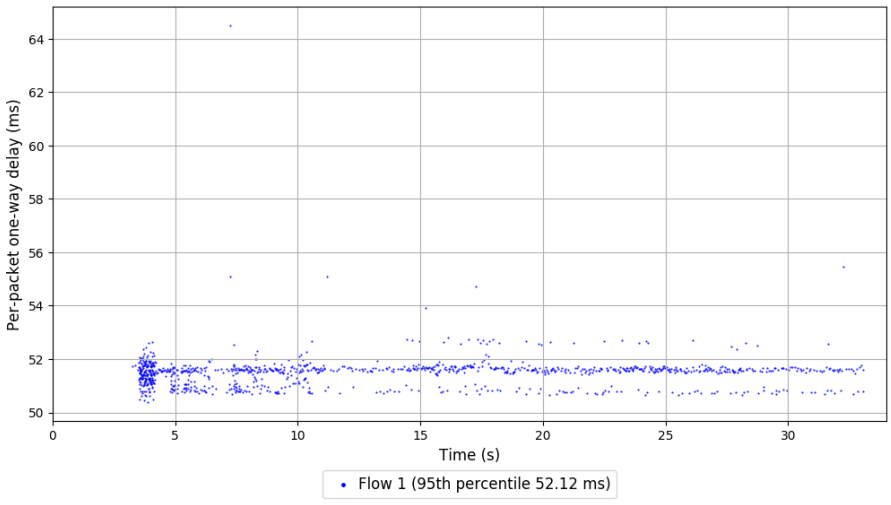
```
Run 1: Statistics of FillP

Start at: 2019-07-11 22:31:15
End at: 2019-07-11 22:31:45

# Below is generated by plot.py at 2019-07-11 23:05:44
# Datalink statistics
-- Total of 1 flow:
Average capacity: 60.00 Mbit/s
Average throughput: 0.33 Mbit/s (0.6% utilization)
95th percentile per-packet one-way delay: 52.118 ms
Loss rate: 51.19%
-- Flow 1:
Average throughput: 0.33 Mbit/s
95th percentile per-packet one-way delay: 52.118 ms
Loss rate: 51.19%
```

Run 1: Report of FillP — Data Link



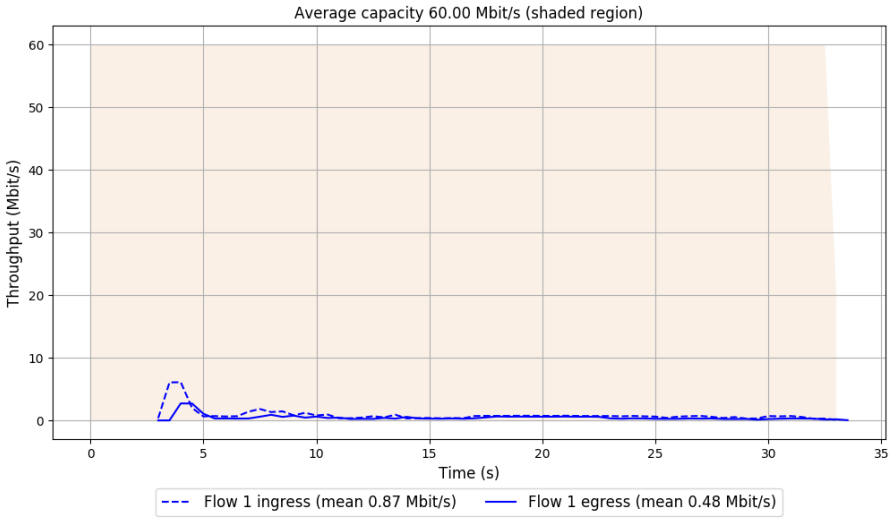


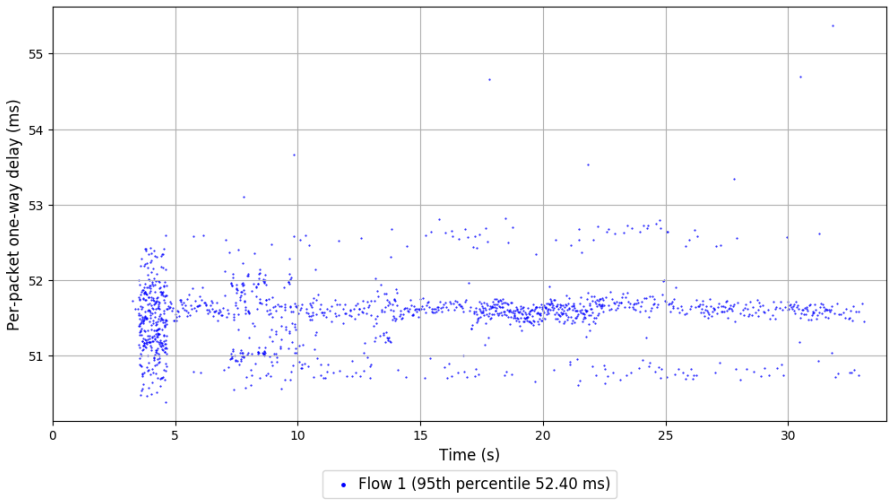
```
Run 2: Statistics of FillP

Start at: 2019-07-11 22:45:39
End at: 2019-07-11 22:46:09

# Below is generated by plot.py at 2019-07-11 23:05:47
# Datalink statistics
-- Total of 1 flow:
Average capacity: 60.00 Mbit/s
Average throughput: 0.48 Mbit/s (0.8% utilization)
95th percentile per-packet one-way delay: 52.395 ms
Loss rate: 45.60%
-- Flow 1:
Average throughput: 0.48 Mbit/s
95th percentile per-packet one-way delay: 52.395 ms
Loss rate: 45.60%
```

Run 2: Report of FillP — Data Link



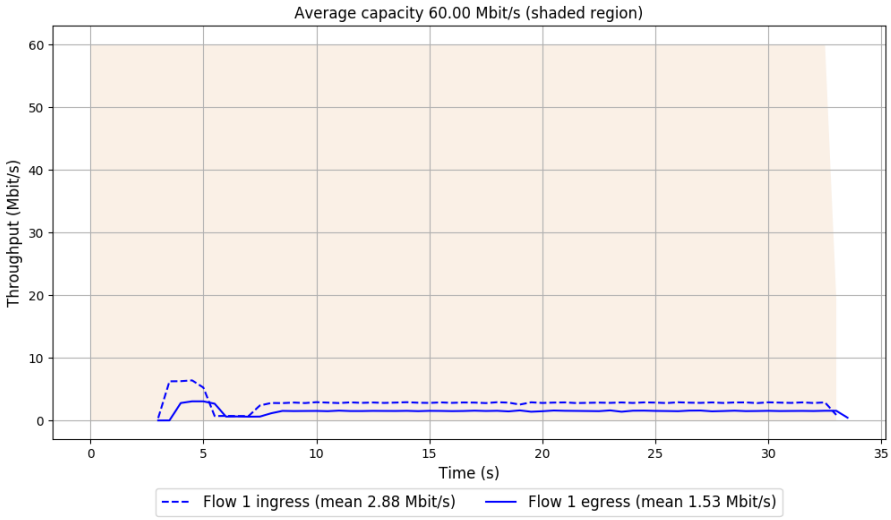


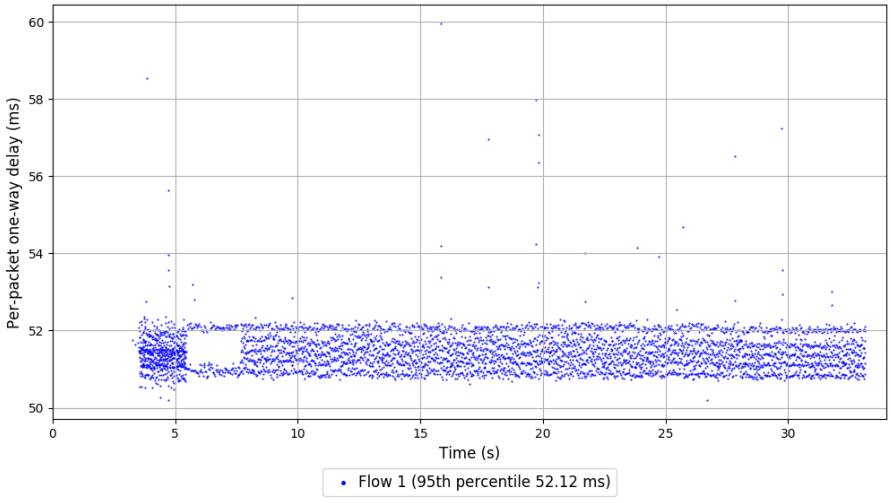
```
Run 3: Statistics of FillP

Start at: 2019-07-11 23:00:07
End at: 2019-07-11 23:00:37

# Below is generated by plot.py at 2019-07-11 23:05:50
# Datalink statistics
-- Total of 1 flow:
Average capacity: 60.00 Mbit/s
Average throughput: 1.53 Mbit/s (2.6% utilization)
95th percentile per-packet one-way delay: 52.115 ms
Loss rate: 46.91%
-- Flow 1:
Average throughput: 1.53 Mbit/s
95th percentile per-packet one-way delay: 52.115 ms
Loss rate: 46.91%
```

Run 3: Report of FillP — Data Link



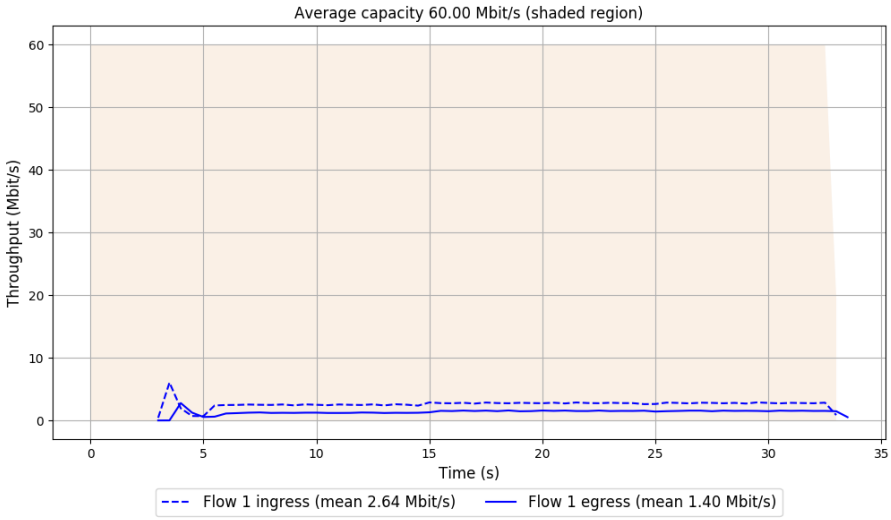


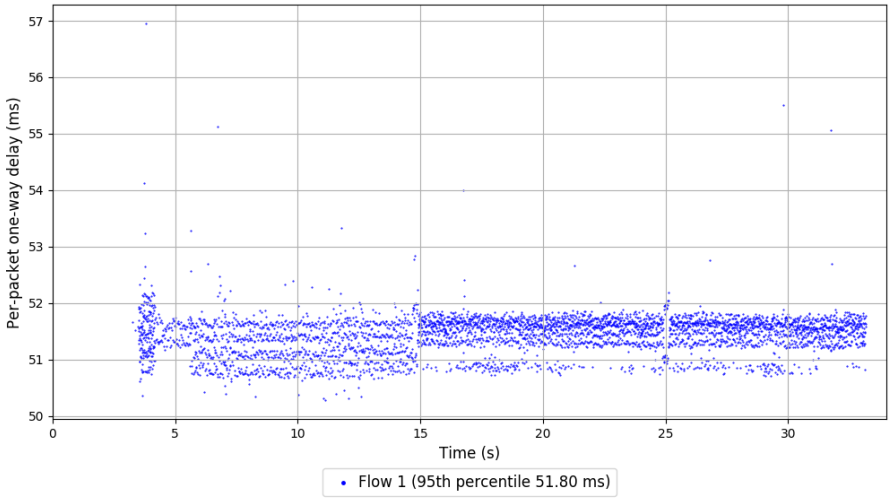
```
Run 1: Statistics of FillP-Sheep

Start at: 2019-07-11 22:22:12
End at: 2019-07-11 22:22:42

# Below is generated by plot.py at 2019-07-11 23:05:50
# Datalink statistics
-- Total of 1 flow:
Average capacity: 60.00 Mbit/s
Average throughput: 1.40 Mbit/s (2.3% utilization)
95th percentile per-packet one-way delay: 51.798 ms
Loss rate: 46.93%
-- Flow 1:
Average throughput: 1.40 Mbit/s
95th percentile per-packet one-way delay: 51.798 ms
Loss rate: 46.93%
```

Run 1: Report of FillP-Sheep — Data Link



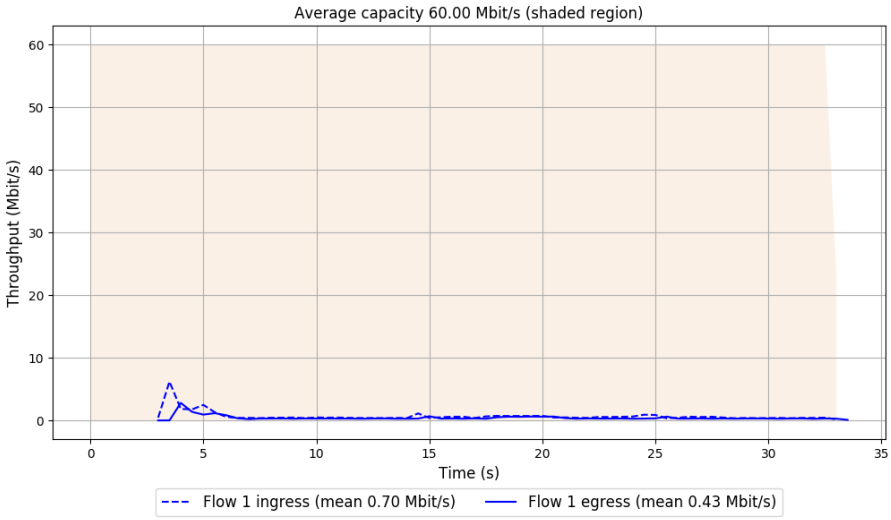


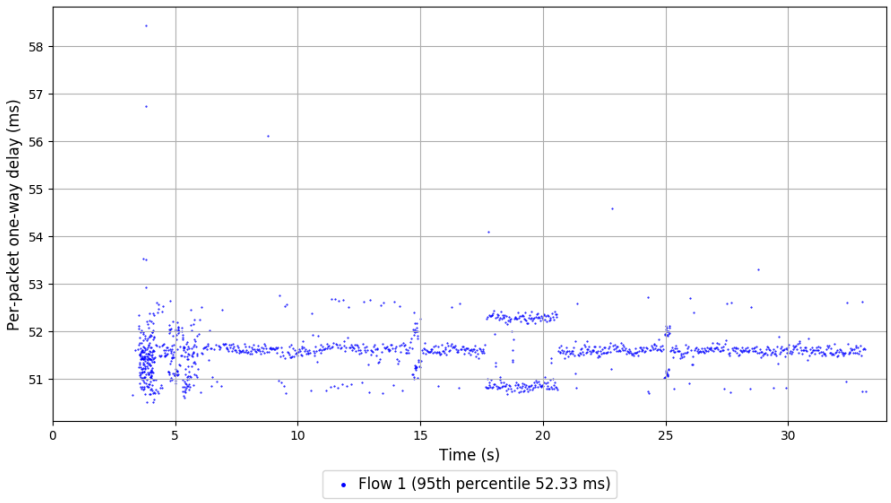
```
Run 2: Statistics of FillP-Sheep

Start at: 2019-07-11 22:36:38
End at: 2019-07-11 22:37:08

# Below is generated by plot.py at 2019-07-11 23:05:50
# Datalink statistics
-- Total of 1 flow:
Average capacity: 60.00 Mbit/s
Average throughput: 0.43 Mbit/s (0.7% utilization)
95th percentile per-packet one-way delay: 52.333 ms
Loss rate: 37.89%
-- Flow 1:
Average throughput: 0.43 Mbit/s
95th percentile per-packet one-way delay: 52.333 ms
Loss rate: 37.89%
```

Run 2: Report of FillP-Sheep — Data Link



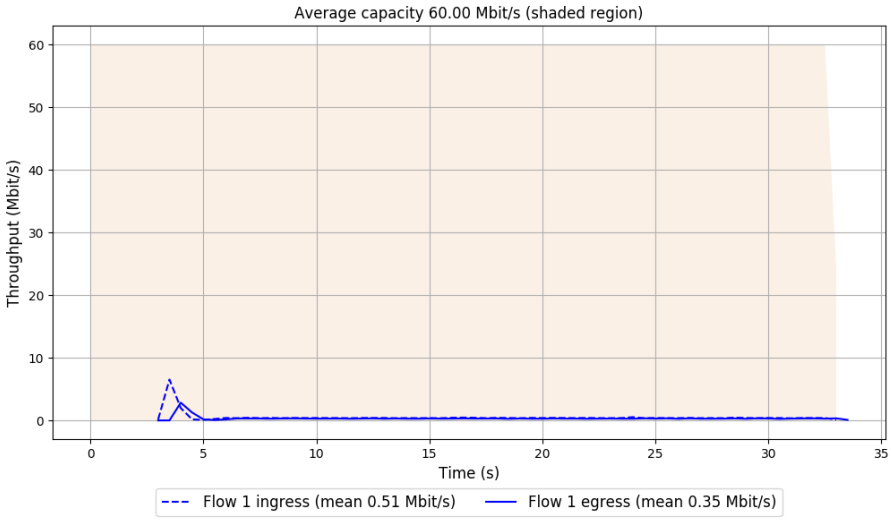


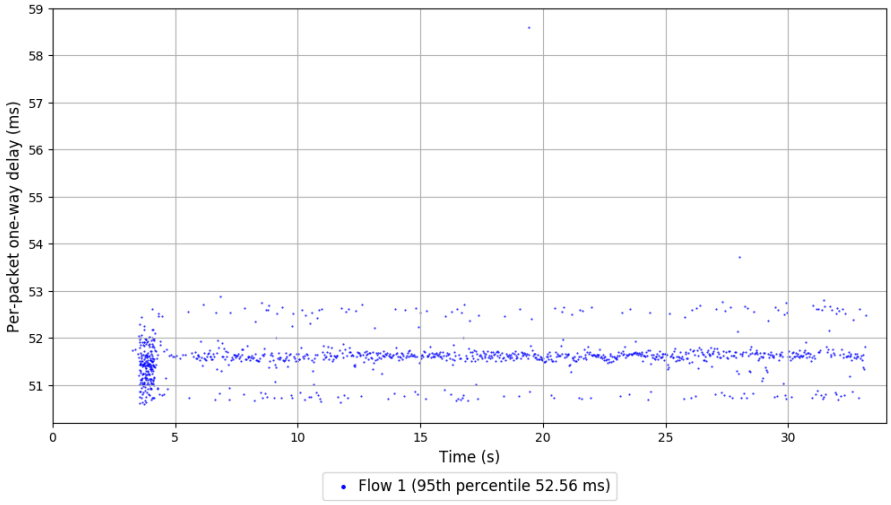
```
Run 3: Statistics of FillP-Sheep

Start at: 2019-07-11 22:51:03
End at: 2019-07-11 22:51:33

# Below is generated by plot.py at 2019-07-11 23:05:50
# Datalink statistics
-- Total of 1 flow:
Average capacity: 60.00 Mbit/s
Average throughput: 0.35 Mbit/s (0.6% utilization)
95th percentile per-packet one-way delay: 52.561 ms
Loss rate: 31.47%
-- Flow 1:
Average throughput: 0.35 Mbit/s
95th percentile per-packet one-way delay: 52.561 ms
Loss rate: 31.47%
```

Run 3: Report of FillP-Sheep — Data Link



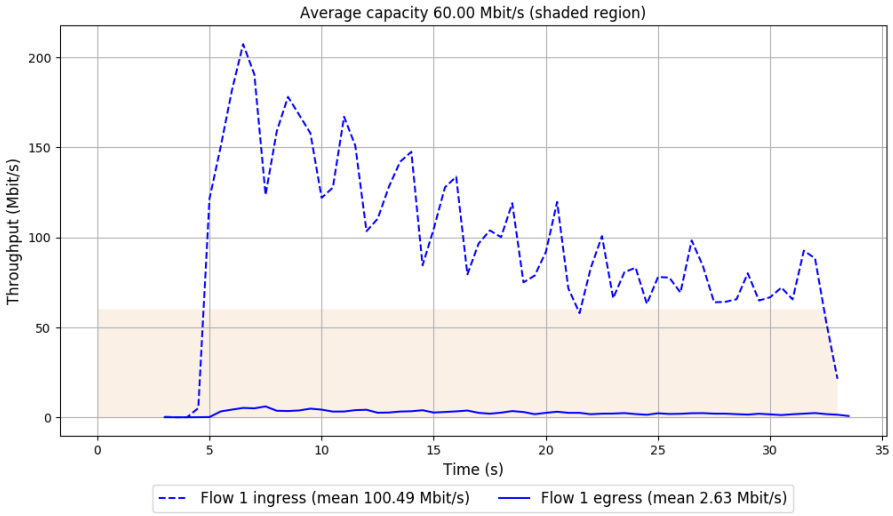


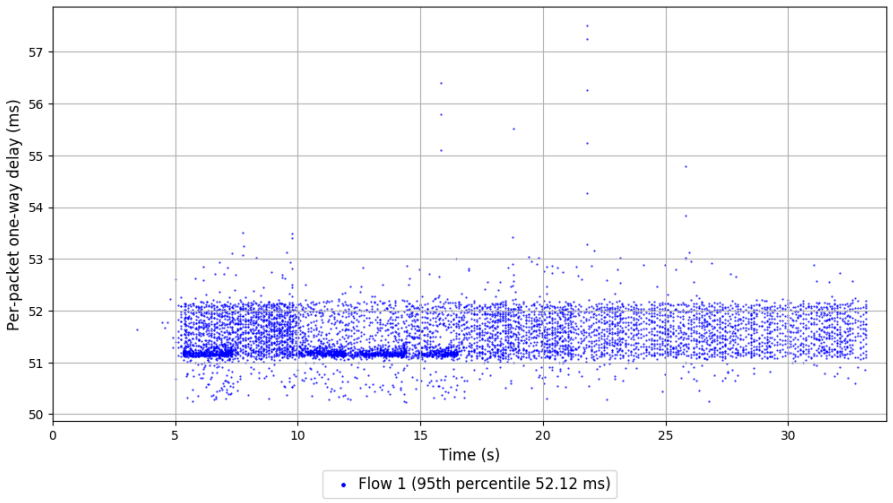
```
Run 1: Statistics of Indigo

Start at: 2019-07-11 22:30:37
End at: 2019-07-11 22:31:07

# Below is generated by plot.py at 2019-07-11 23:06:14
# Datalink statistics
-- Total of 1 flow:
Average capacity: 60.00 Mbit/s
Average throughput: 2.63 Mbit/s (4.4% utilization)
95th percentile per-packet one-way delay: 52.123 ms
Loss rate: 97.39%
-- Flow 1:
Average throughput: 2.63 Mbit/s
95th percentile per-packet one-way delay: 52.123 ms
Loss rate: 97.39%
```

Run 1: Report of Indigo — Data Link



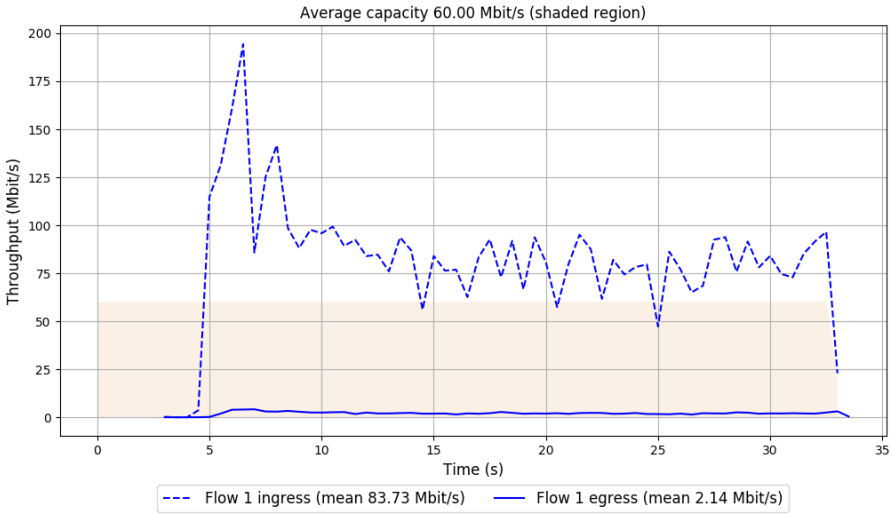


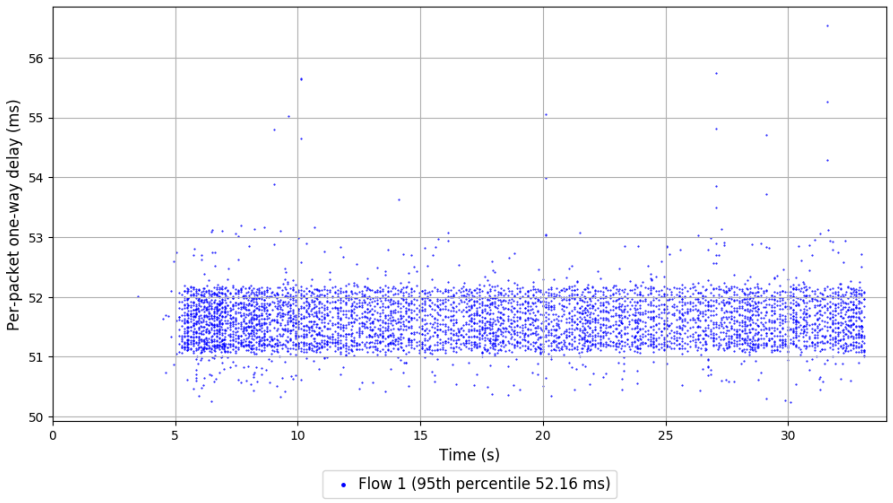
```
Run 2: Statistics of Indigo

Start at: 2019-07-11 22:45:02
End at: 2019-07-11 22:45:32

# Below is generated by plot.py at 2019-07-11 23:06:24
# Datalink statistics
-- Total of 1 flow:
Average capacity: 60.00 Mbit/s
Average throughput: 2.14 Mbit/s (3.6% utilization)
95th percentile per-packet one-way delay: 52.157 ms
Loss rate: 97.45%
-- Flow 1:
Average throughput: 2.14 Mbit/s
95th percentile per-packet one-way delay: 52.157 ms
Loss rate: 97.45%
```

Run 2: Report of Indigo — Data Link



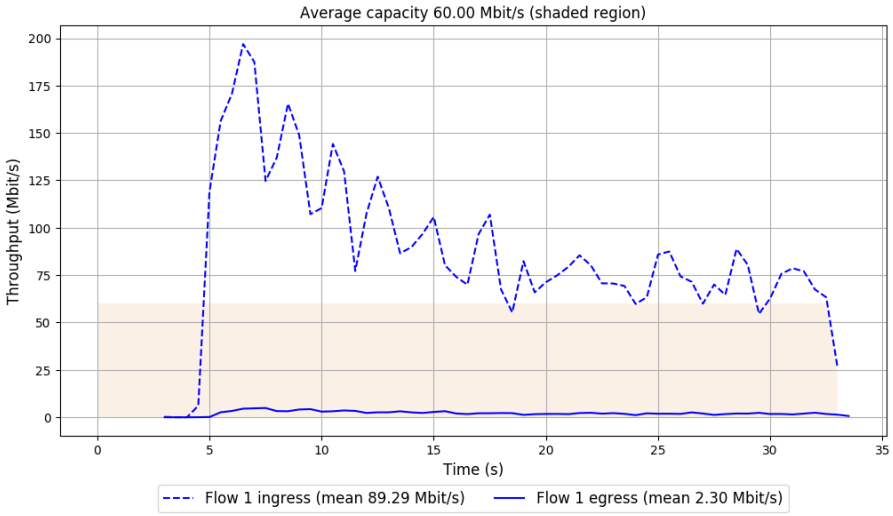


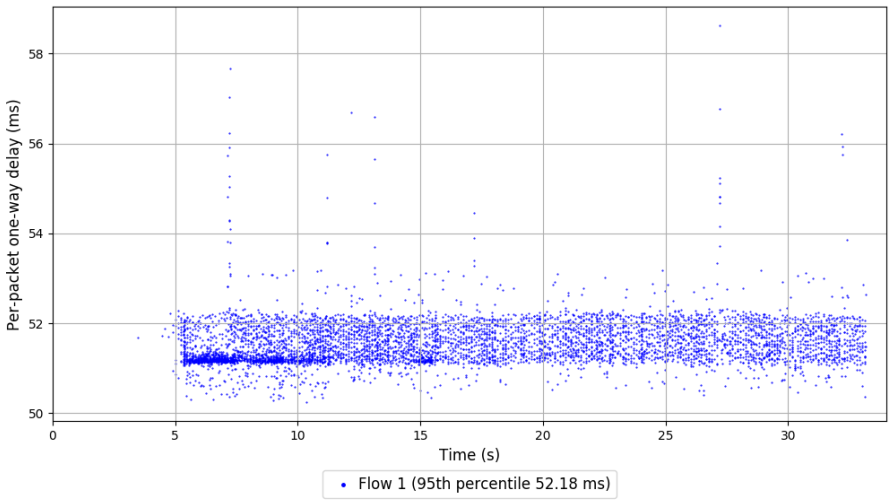
```
Run 3: Statistics of Indigo

Start at: 2019-07-11 22:59:30
End at: 2019-07-11 23:00:00

# Below is generated by plot.py at 2019-07-11 23:06:31
# Datalink statistics
-- Total of 1 flow:
Average capacity: 60.00 Mbit/s
Average throughput: 2.30 Mbit/s (3.8% utilization)
95th percentile per-packet one-way delay: 52.179 ms
Loss rate: 97.43%
-- Flow 1:
Average throughput: 2.30 Mbit/s
95th percentile per-packet one-way delay: 52.179 ms
Loss rate: 97.43%
```

Run 3: Report of Indigo — Data Link



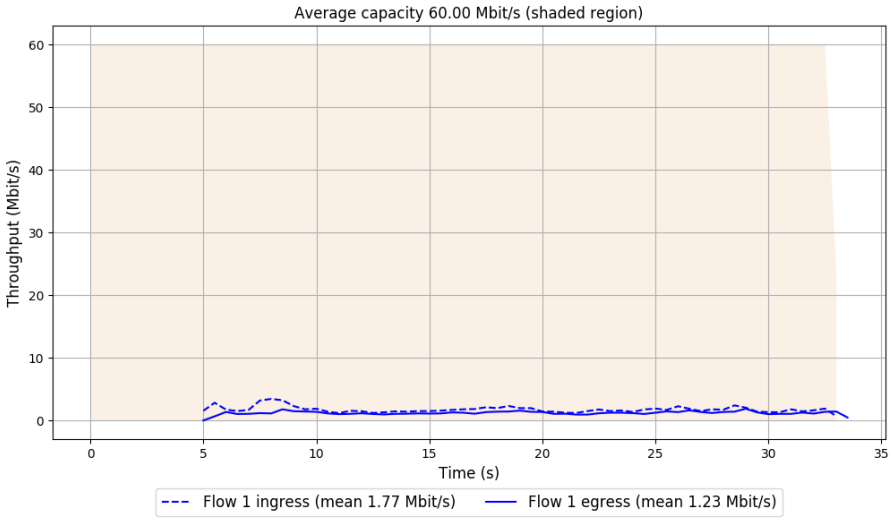


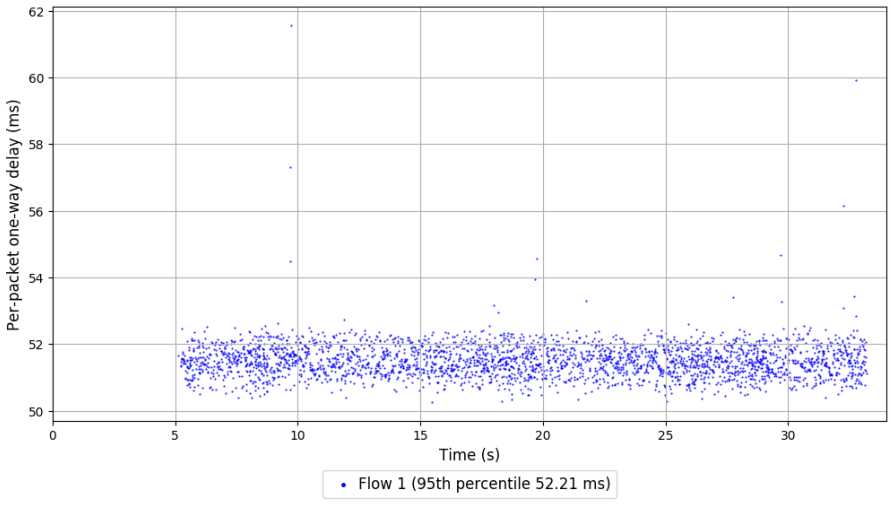
```
Run 1: Statistics of Indigo-MusesC3

Start at: 2019-07-11 22:34:14
End at: 2019-07-11 22:34:44

# Below is generated by plot.py at 2019-07-11 23:06:31
# Datalink statistics
-- Total of 1 flow:
Average capacity: 60.00 Mbit/s
Average throughput: 1.23 Mbit/s (2.0% utilization)
95th percentile per-packet one-way delay: 52.212 ms
Loss rate: 30.68%
-- Flow 1:
Average throughput: 1.23 Mbit/s
95th percentile per-packet one-way delay: 52.212 ms
Loss rate: 30.68%
```

Run 1: Report of Indigo-MusesC3 — Data Link



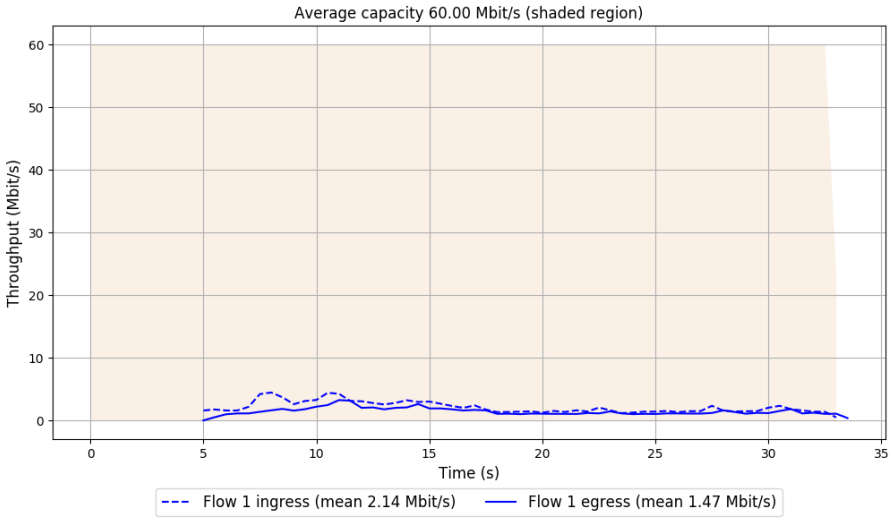


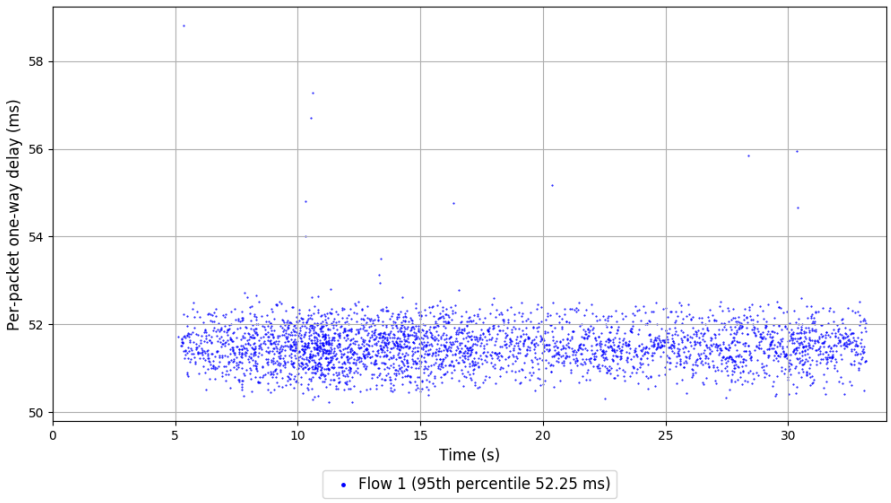
```
Run 2: Statistics of Indigo-MusesC3

Start at: 2019-07-11 22:48:39
End at: 2019-07-11 22:49:09

# Below is generated by plot.py at 2019-07-11 23:06:31
# Datalink statistics
-- Total of 1 flow:
Average capacity: 60.00 Mbit/s
Average throughput: 1.47 Mbit/s (2.5% utilization)
95th percentile per-packet one-way delay: 52.250 ms
Loss rate: 31.09%
-- Flow 1:
Average throughput: 1.47 Mbit/s
95th percentile per-packet one-way delay: 52.250 ms
Loss rate: 31.09%
```

Run 2: Report of Indigo-MusesC3 — Data Link



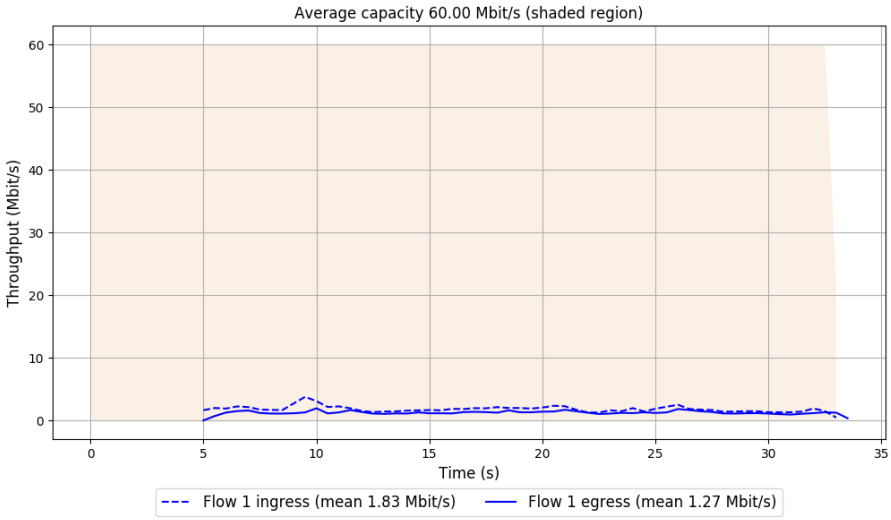


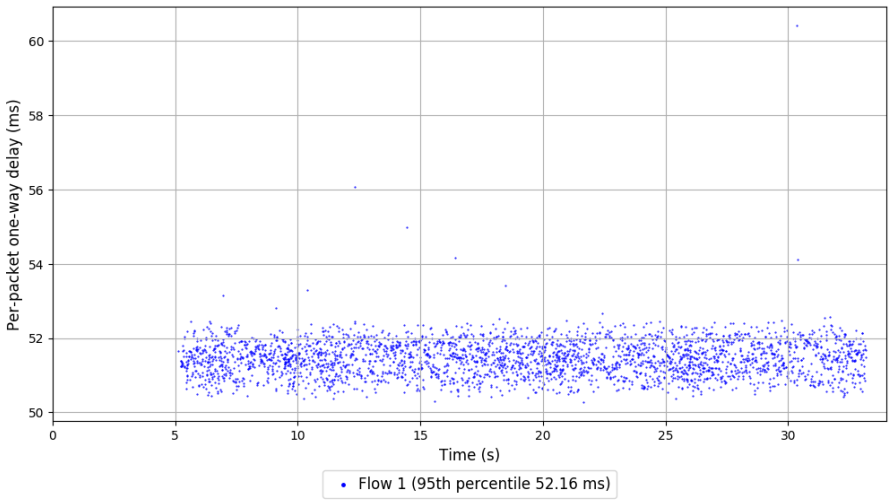
```
Run 3: Statistics of Indigo-MusesC3

Start at: 2019-07-11 23:03:07
End at: 2019-07-11 23:03:37

# Below is generated by plot.py at 2019-07-11 23:06:31
# Datalink statistics
-- Total of 1 flow:
Average capacity: 60.00 Mbit/s
Average throughput: 1.27 Mbit/s (2.1% utilization)
95th percentile per-packet one-way delay: 52.162 ms
Loss rate: 30.54%
-- Flow 1:
Average throughput: 1.27 Mbit/s
95th percentile per-packet one-way delay: 52.162 ms
Loss rate: 30.54%
```

Run 3: Report of Indigo-MusesC3 — Data Link



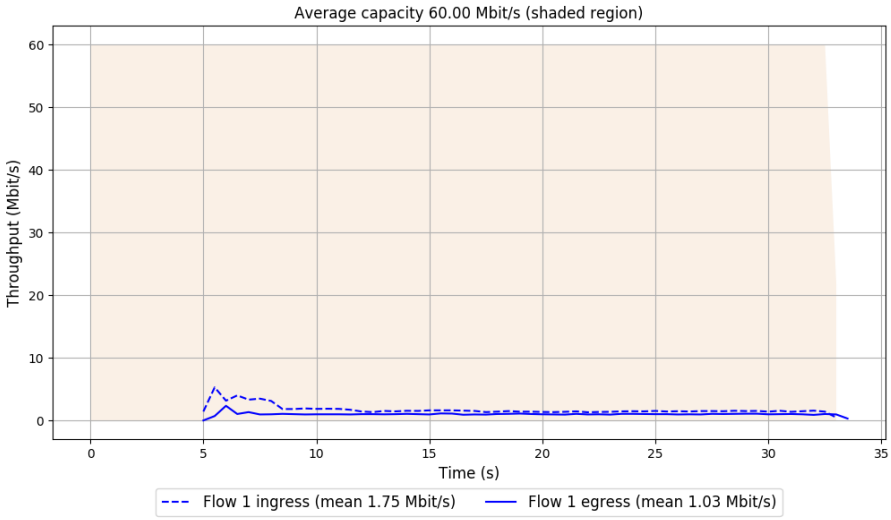


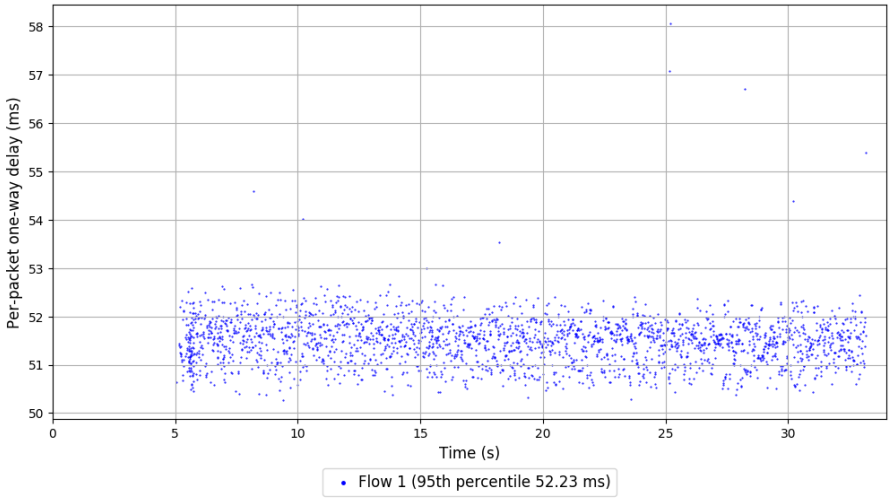
```
Run 1: Statistics of Indigo-MusesC5

Start at: 2019-07-11 22:23:24
End at: 2019-07-11 22:23:54

# Below is generated by plot.py at 2019-07-11 23:06:31
# Datalink statistics
-- Total of 1 flow:
Average capacity: 60.00 Mbit/s
Average throughput: 1.03 Mbit/s (1.7% utilization)
95th percentile per-packet one-way delay: 52.228 ms
Loss rate: 41.24%
-- Flow 1:
Average throughput: 1.03 Mbit/s
95th percentile per-packet one-way delay: 52.228 ms
Loss rate: 41.24%
```

Run 1: Report of Indigo-MusesC5 — Data Link



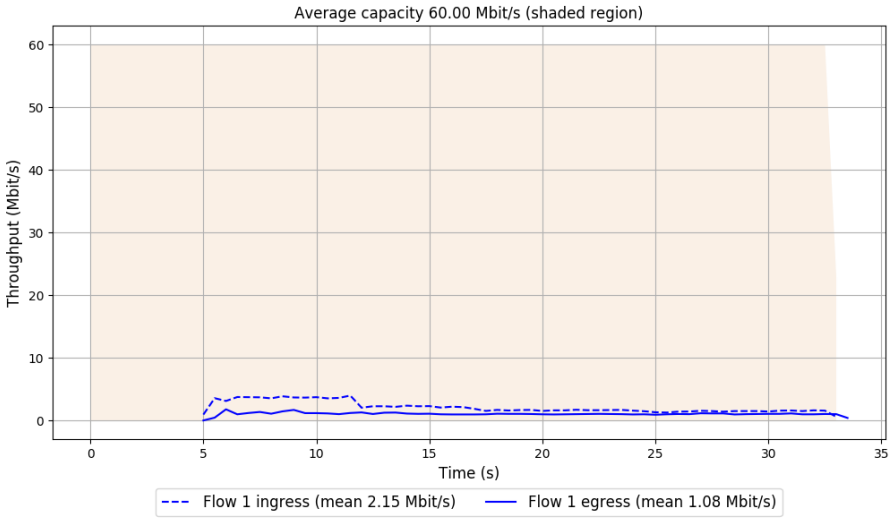


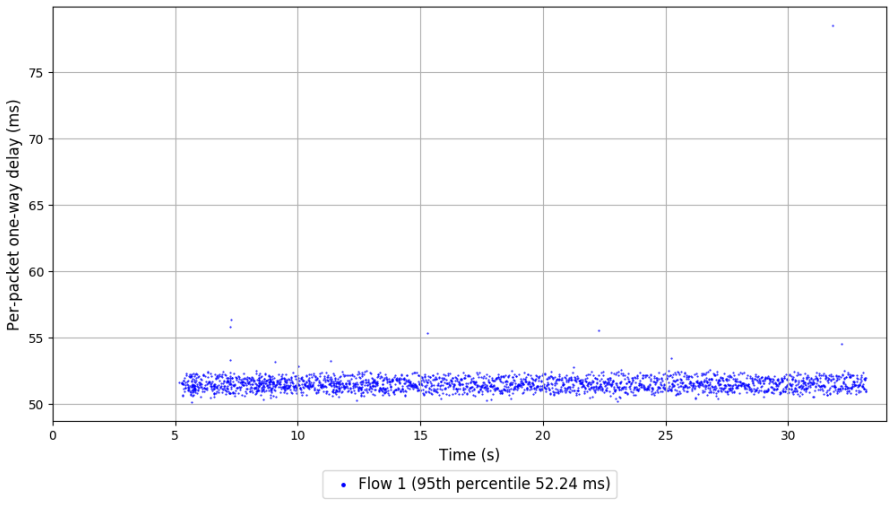
```
Run 2: Statistics of Indigo-MusesC5

Start at: 2019-07-11 22:37:50
End at: 2019-07-11 22:38:20

# Below is generated by plot.py at 2019-07-11 23:06:31
# Datalink statistics
-- Total of 1 flow:
Average capacity: 60.00 Mbit/s
Average throughput: 1.08 Mbit/s (1.8% utilization)
95th percentile per-packet one-way delay: 52.242 ms
Loss rate: 49.73%
-- Flow 1:
Average throughput: 1.08 Mbit/s
95th percentile per-packet one-way delay: 52.242 ms
Loss rate: 49.73%
```

Run 2: Report of Indigo-MusesC5 — Data Link



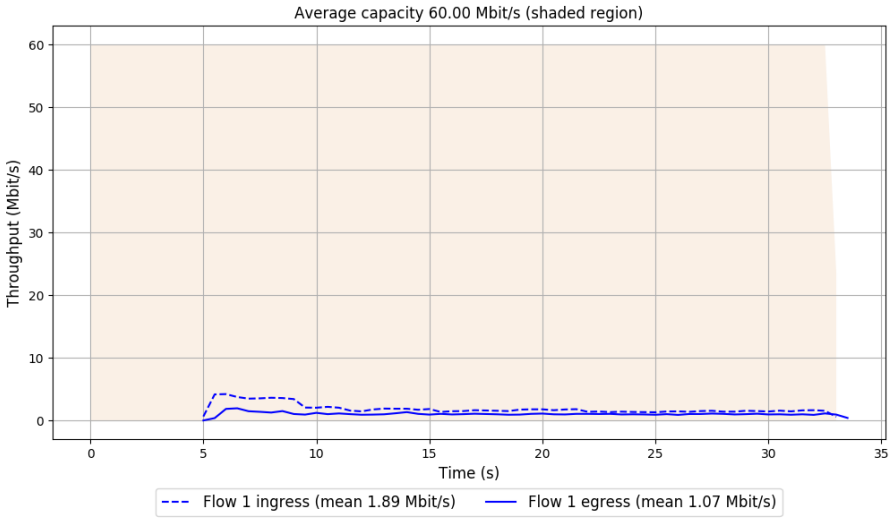


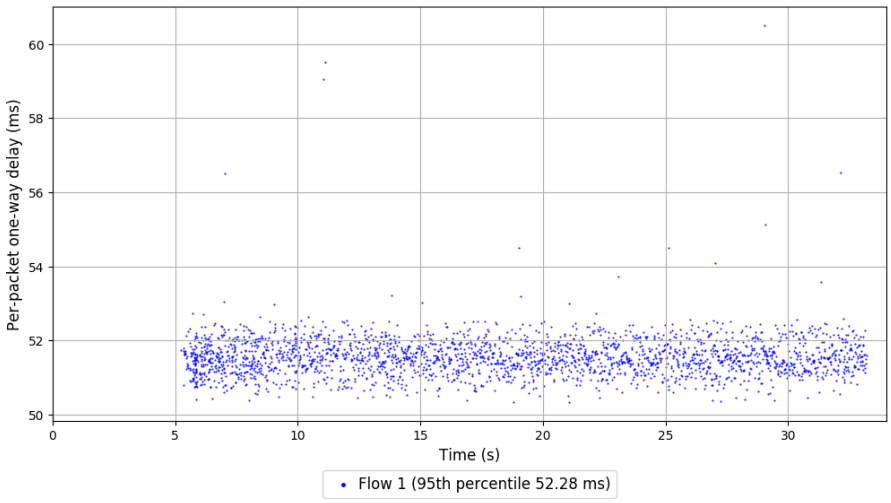
```
Run 3: Statistics of Indigo-MusesC5

Start at: 2019-07-11 22:52:15
End at: 2019-07-11 22:52:45

# Below is generated by plot.py at 2019-07-11 23:06:31
# Datalink statistics
-- Total of 1 flow:
Average capacity: 60.00 Mbit/s
Average throughput: 1.07 Mbit/s (1.8% utilization)
95th percentile per-packet one-way delay: 52.285 ms
Loss rate: 43.73%
-- Flow 1:
Average throughput: 1.07 Mbit/s
95th percentile per-packet one-way delay: 52.285 ms
Loss rate: 43.73%
```

Run 3: Report of Indigo-MusesC5 — Data Link



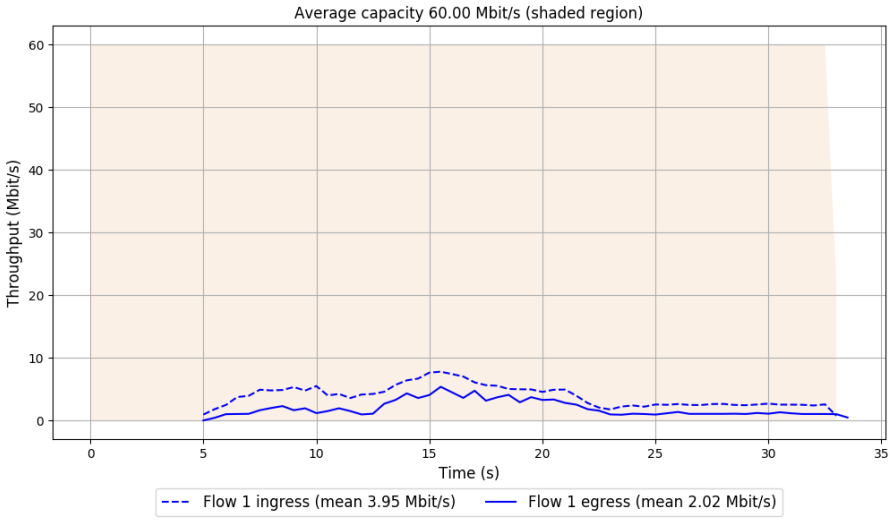


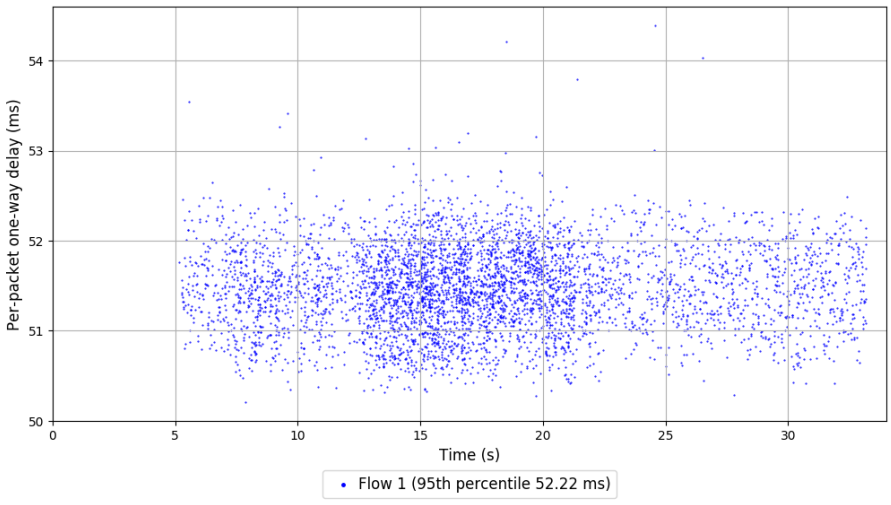
```
Run 1: Statistics of Indigo-MusesD

Start at: 2019-07-11 22:33:02
End at: 2019-07-11 22:33:32

# Below is generated by plot.py at 2019-07-11 23:06:31
# Datalink statistics
-- Total of 1 flow:
Average capacity: 60.00 Mbit/s
Average throughput: 2.02 Mbit/s (3.4% utilization)
95th percentile per-packet one-way delay: 52.216 ms
Loss rate: 48.96%
-- Flow 1:
Average throughput: 2.02 Mbit/s
95th percentile per-packet one-way delay: 52.216 ms
Loss rate: 48.96%
```

Run 1: Report of Indigo-MusesD — Data Link



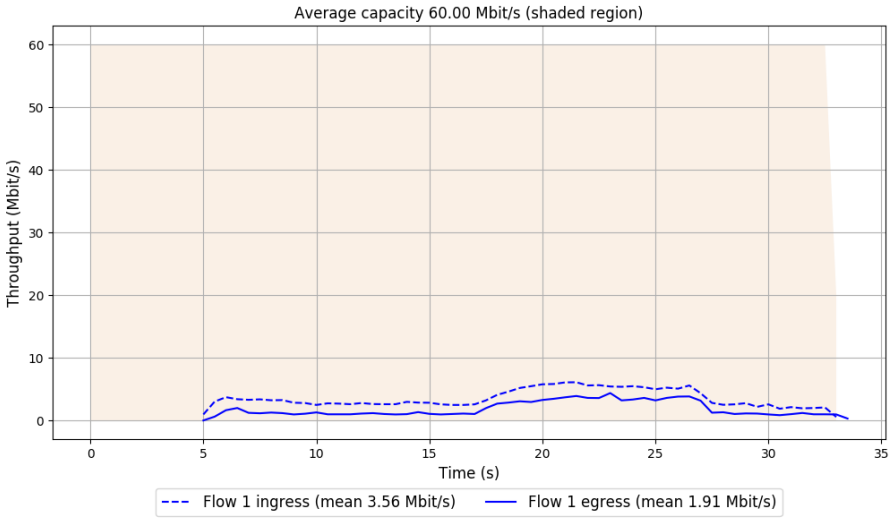


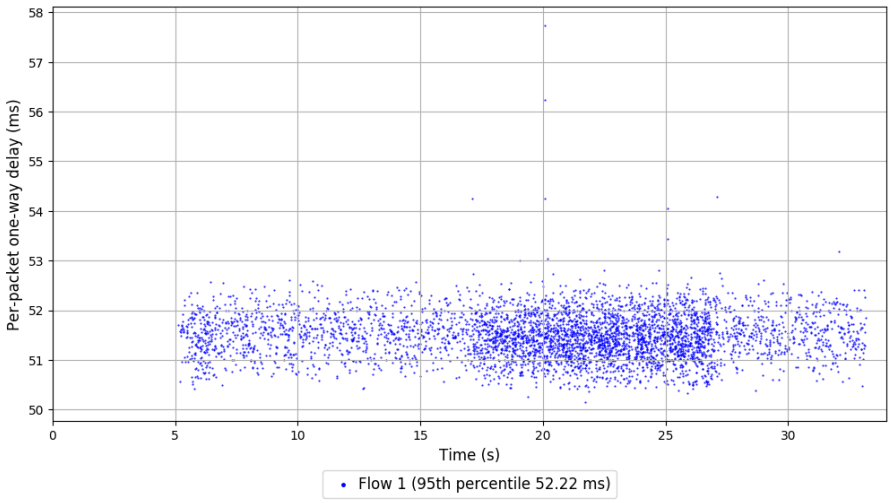
```
Run 2: Statistics of Indigo-MusesD

Start at: 2019-07-11 22:47:27
End at: 2019-07-11 22:47:57

# Below is generated by plot.py at 2019-07-11 23:06:31
# Datalink statistics
-- Total of 1 flow:
Average capacity: 60.00 Mbit/s
Average throughput: 1.91 Mbit/s (3.2% utilization)
95th percentile per-packet one-way delay: 52.220 ms
Loss rate: 46.39%
-- Flow 1:
Average throughput: 1.91 Mbit/s
95th percentile per-packet one-way delay: 52.220 ms
Loss rate: 46.39%
```

Run 2: Report of Indigo-MusesD — Data Link



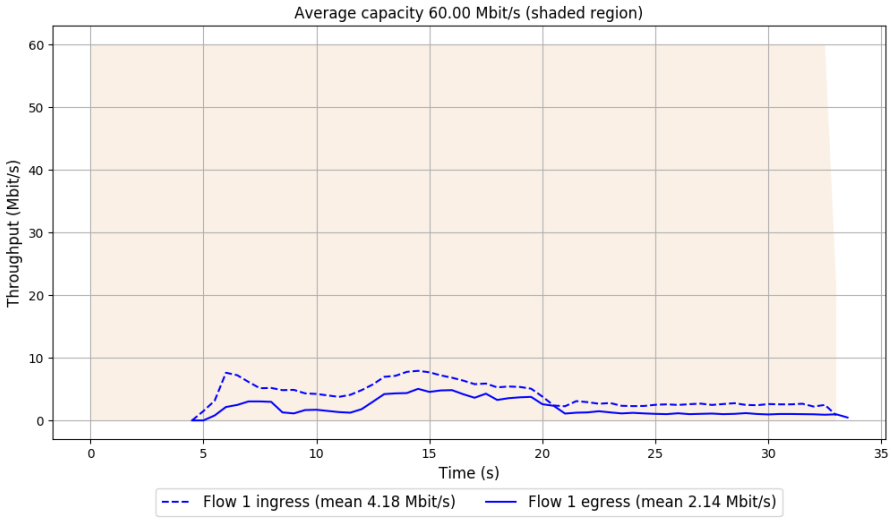


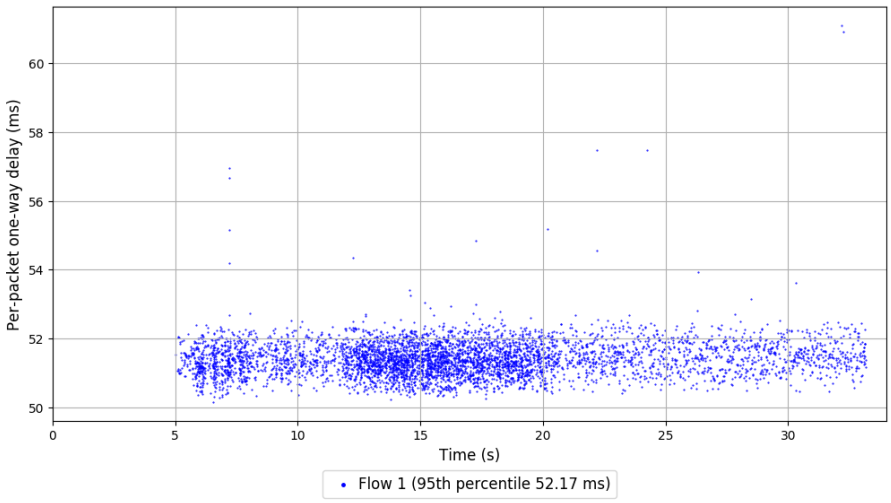
```
Run 3: Statistics of Indigo-MusesD

Start at: 2019-07-11 23:01:55
End at: 2019-07-11 23:02:25

# Below is generated by plot.py at 2019-07-11 23:06:31
# Datalink statistics
-- Total of 1 flow:
Average capacity: 60.00 Mbit/s
Average throughput: 2.14 Mbit/s (3.6% utilization)
95th percentile per-packet one-way delay: 52.173 ms
Loss rate: 48.94%
-- Flow 1:
Average throughput: 2.14 Mbit/s
95th percentile per-packet one-way delay: 52.173 ms
Loss rate: 48.94%
```

Run 3: Report of Indigo-MusesD — Data Link



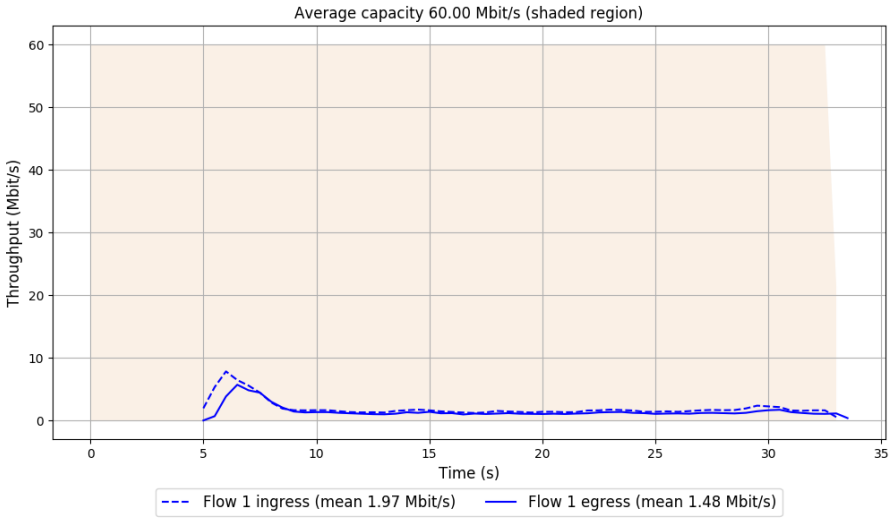


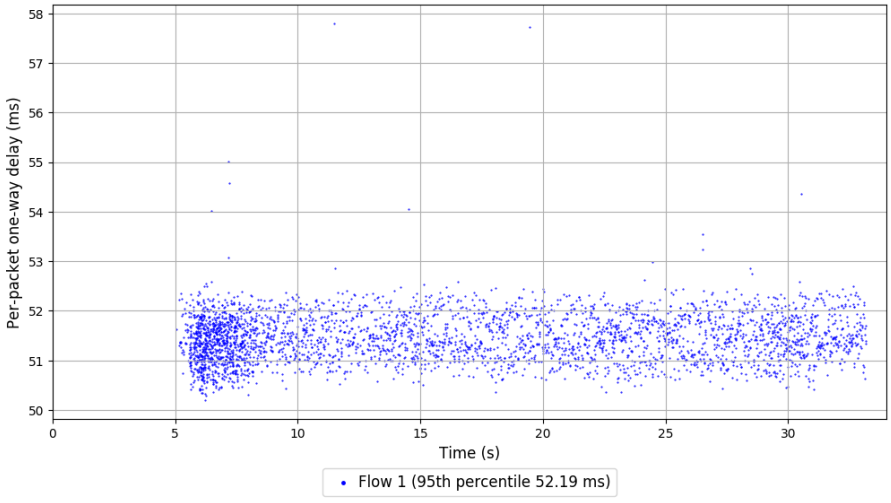
```
Run 1: Statistics of Indigo-MusesT

Start at: 2019-07-11 22:29:25
End at: 2019-07-11 22:29:56

# Below is generated by plot.py at 2019-07-11 23:06:31
# Datalink statistics
-- Total of 1 flow:
Average capacity: 60.00 Mbit/s
Average throughput: 1.48 Mbit/s (2.5% utilization)
95th percentile per-packet one-way delay: 52.192 ms
Loss rate: 25.12%
-- Flow 1:
Average throughput: 1.48 Mbit/s
95th percentile per-packet one-way delay: 52.192 ms
Loss rate: 25.12%
```

Run 1: Report of Indigo-MusesT — Data Link



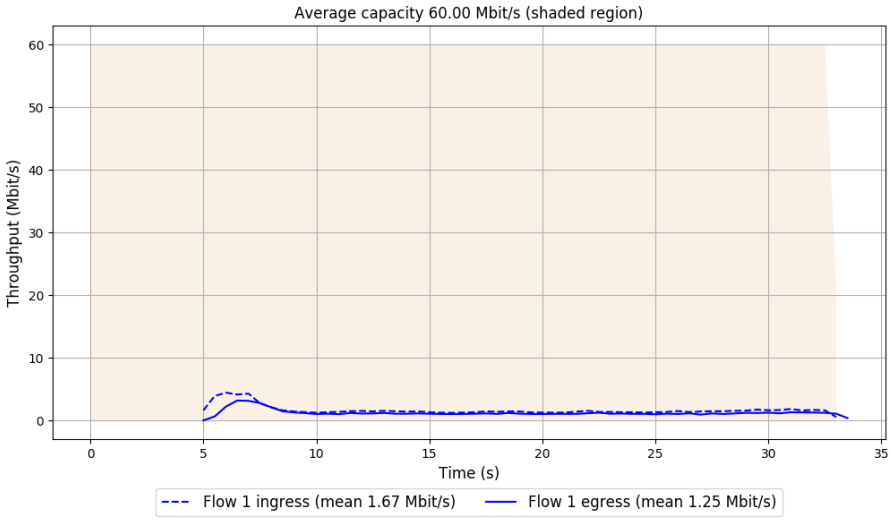


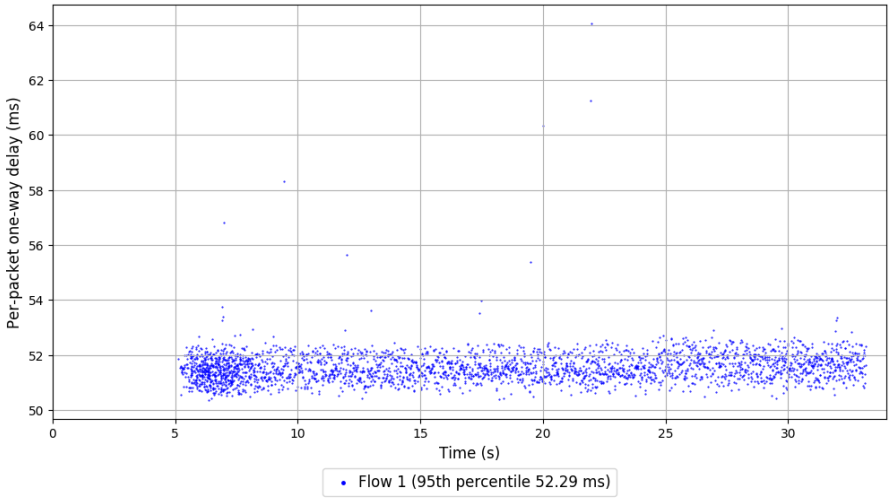
```
Run 2: Statistics of Indigo-MusesT

Start at: 2019-07-11 22:43:50
End at: 2019-07-11 22:44:20

# Below is generated by plot.py at 2019-07-11 23:06:35
# Datalink statistics
-- Total of 1 flow:
Average capacity: 60.00 Mbit/s
Average throughput: 1.25 Mbit/s (2.1% utilization)
95th percentile per-packet one-way delay: 52.292 ms
Loss rate: 25.02%
-- Flow 1:
Average throughput: 1.25 Mbit/s
95th percentile per-packet one-way delay: 52.292 ms
Loss rate: 25.02%
```

Run 2: Report of Indigo-MusesT — Data Link



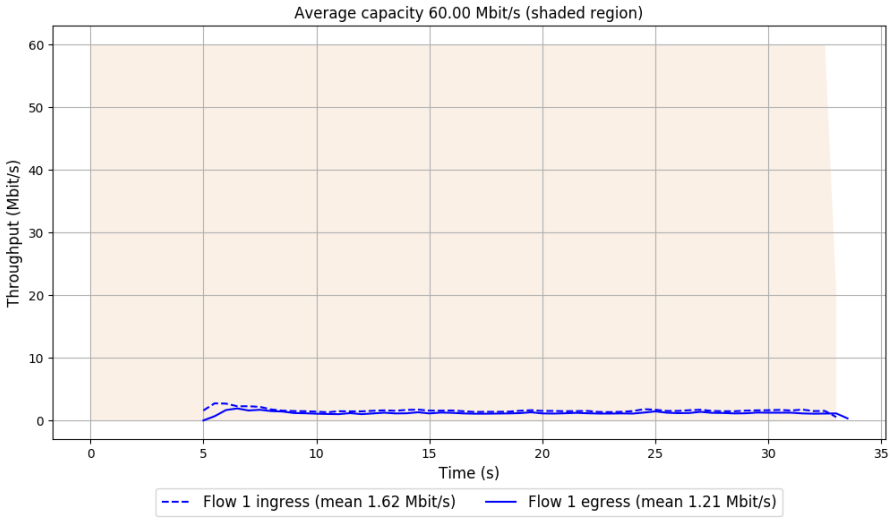


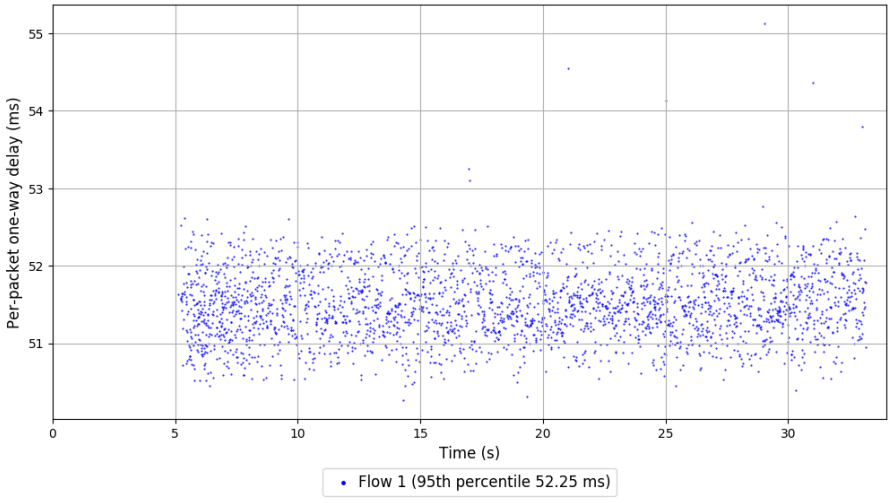
```
Run 3: Statistics of Indigo-MusesT

Start at: 2019-07-11 22:58:18
End at: 2019-07-11 22:58:48

# Below is generated by plot.py at 2019-07-11 23:06:46
# Datalink statistics
-- Total of 1 flow:
Average capacity: 60.00 Mbit/s
Average throughput: 1.21 Mbit/s (2.0% utilization)
95th percentile per-packet one-way delay: 52.252 ms
Loss rate: 25.38%
-- Flow 1:
Average throughput: 1.21 Mbit/s
95th percentile per-packet one-way delay: 52.252 ms
Loss rate: 25.38%
```

Run 3: Report of Indigo-MusesT — Data Link



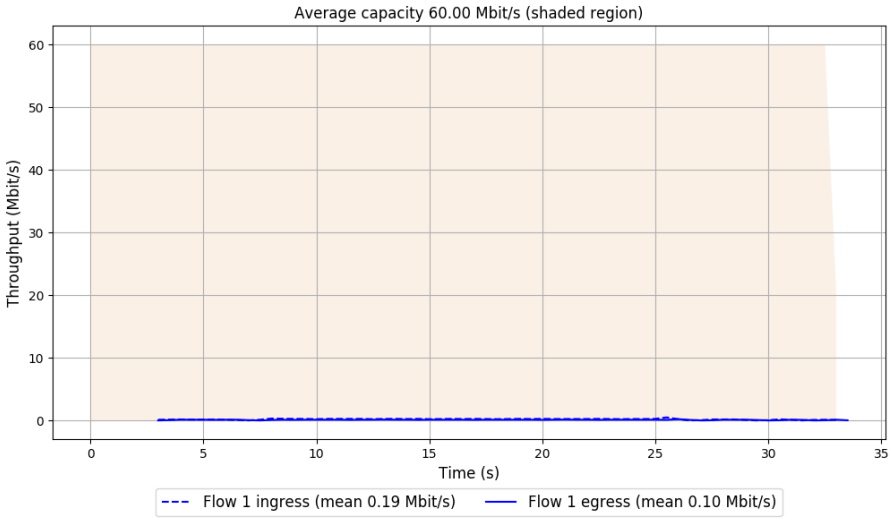


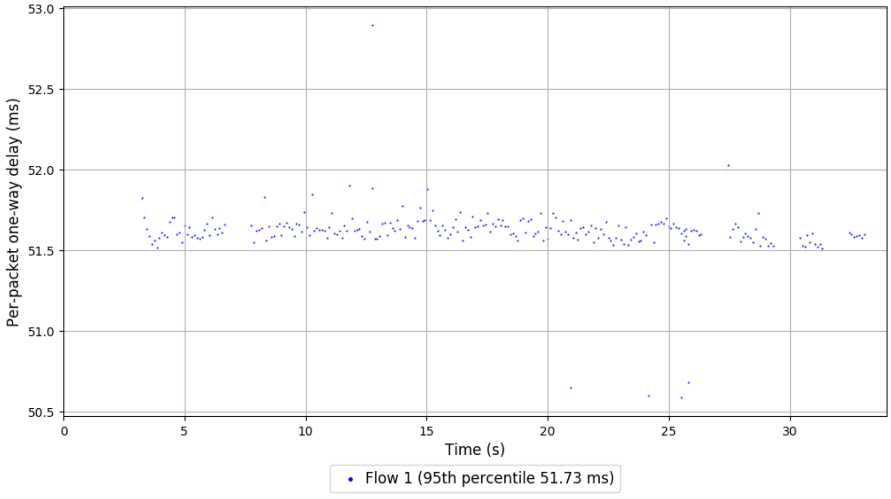
```
Run 1: Statistics of LEDBAT

Start at: 2019-07-11 22:31:51
End at: 2019-07-11 22:32:21

# Below is generated by plot.py at 2019-07-11 23:06:46
# Datalink statistics
-- Total of 1 flow:
Average capacity: 60.00 Mbit/s
Average throughput: 0.10 Mbit/s (0.2% utilization)
95th percentile per-packet one-way delay: 51.732 ms
Loss rate: 48.58%
-- Flow 1:
Average throughput: 0.10 Mbit/s
95th percentile per-packet one-way delay: 51.732 ms
Loss rate: 48.58%
```

Run 1: Report of LEDBAT — Data Link



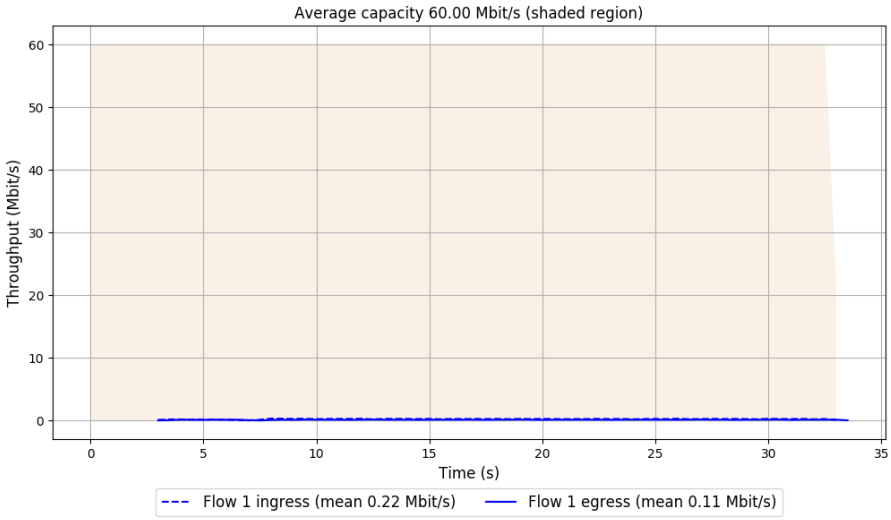


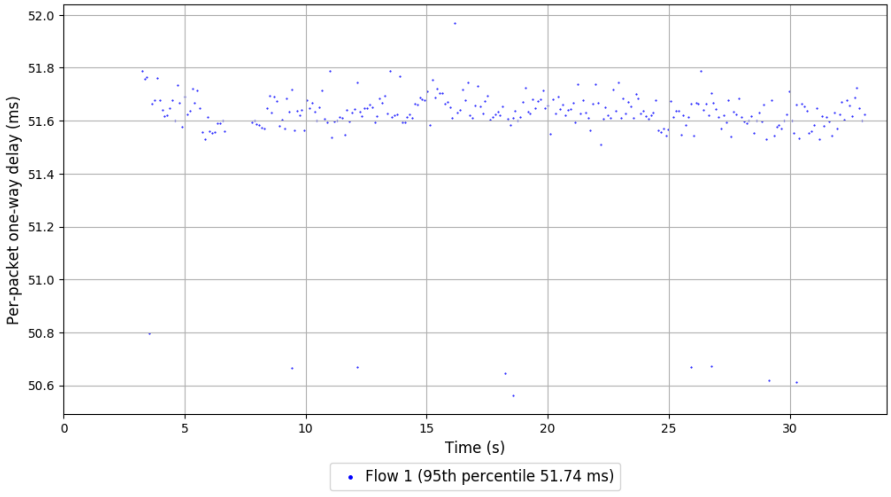
```
Run 2: Statistics of LEDBAT

Start at: 2019-07-11 22:46:15
End at: 2019-07-11 22:46:45

# Below is generated by plot.py at 2019-07-11 23:06:47
# Datalink statistics
-- Total of 1 flow:
Average capacity: 60.00 Mbit/s
Average throughput: 0.11 Mbit/s (0.2% utilization)
95th percentile per-packet one-way delay: 51.737 ms
Loss rate: 50.26%
-- Flow 1:
Average throughput: 0.11 Mbit/s
95th percentile per-packet one-way delay: 51.737 ms
Loss rate: 50.26%
```

Run 2: Report of LEDBAT — Data Link



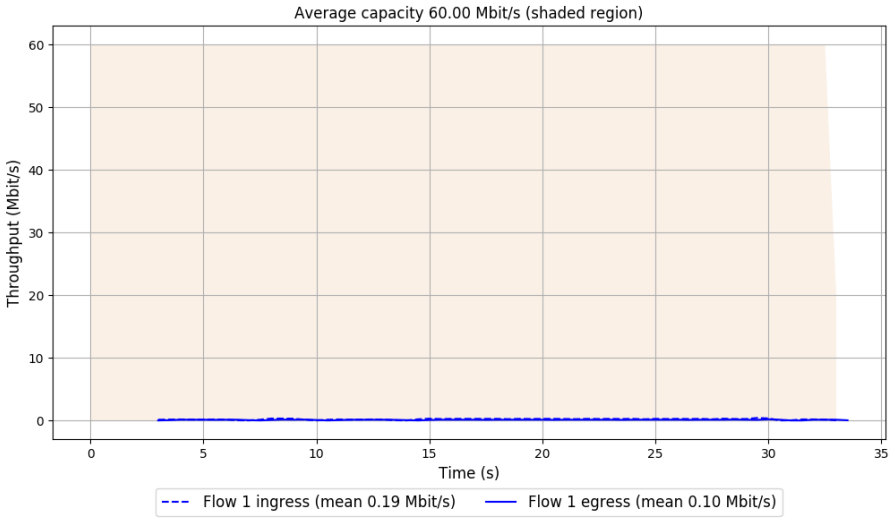


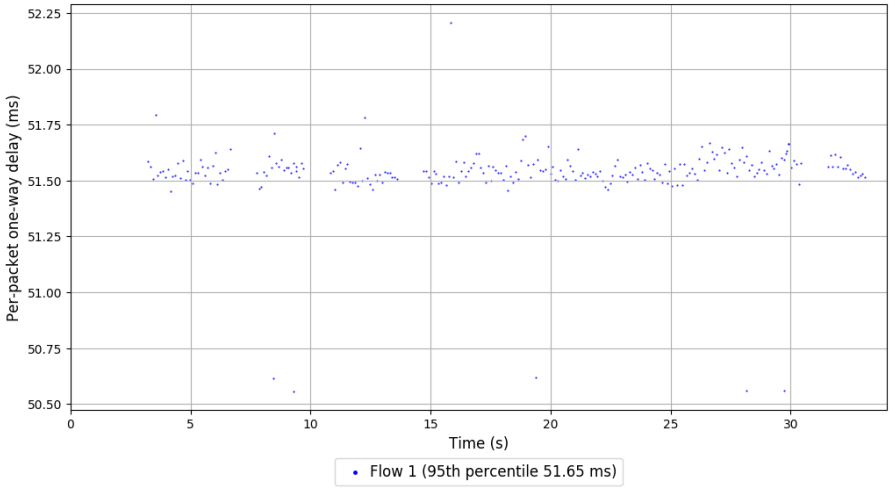
```
Run 3: Statistics of LEDBAT

Start at: 2019-07-11 23:00:43
End at: 2019-07-11 23:01:13

# Below is generated by plot.py at 2019-07-11 23:06:48
# Datalink statistics
-- Total of 1 flow:
Average capacity: 60.00 Mbit/s
Average throughput: 0.10 Mbit/s (0.2% utilization)
95th percentile per-packet one-way delay: 51.645 ms
Loss rate: 47.76%
-- Flow 1:
Average throughput: 0.10 Mbit/s
95th percentile per-packet one-way delay: 51.645 ms
Loss rate: 47.76%
```

Run 3: Report of LEDBAT — Data Link



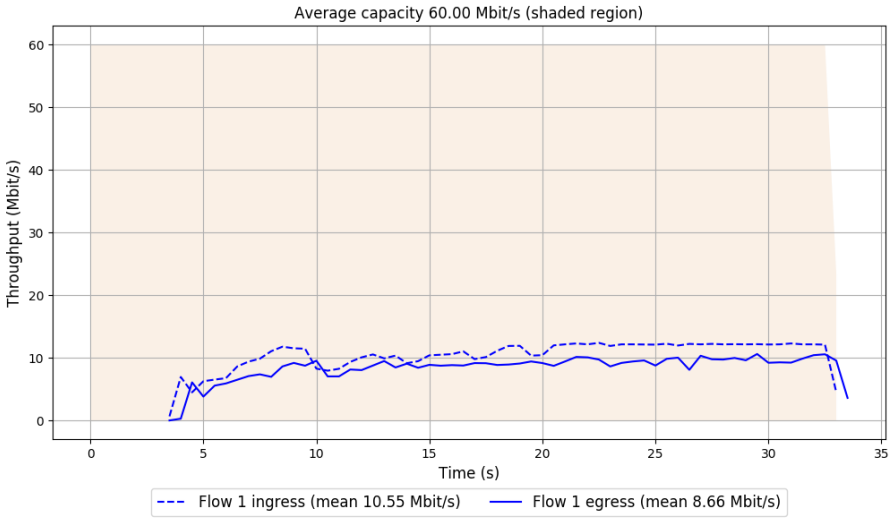


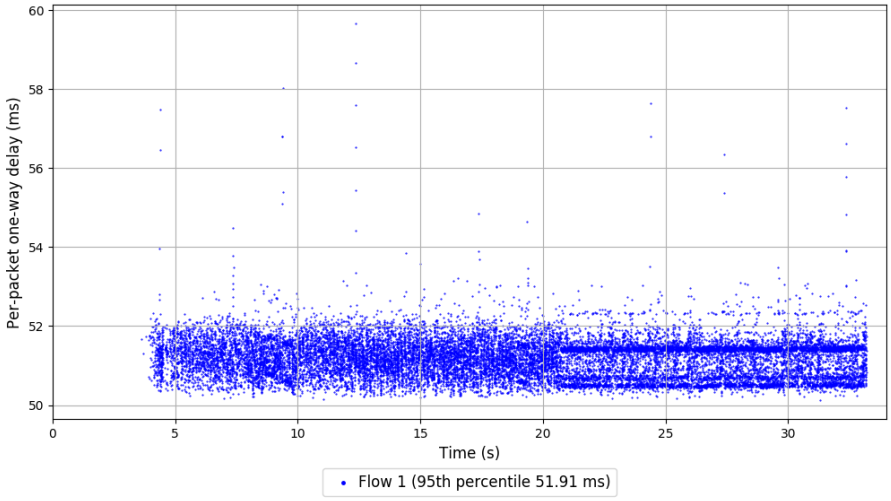
```
Run 1: Statistics of Muses\_DecisionTree

Start at: 2019-07-11 22:24:00
End at: 2019-07-11 22:24:30

# Below is generated by plot.py at 2019-07-11 23:06:56
# Datalink statistics
-- Total of 1 flow:
Average capacity: 60.00 Mbit/s
Average throughput: 8.66 Mbit/s (14.4% utilization)
95th percentile per-packet one-way delay: 51.915 ms
Loss rate: 18.04%
-- Flow 1:
Average throughput: 8.66 Mbit/s
95th percentile per-packet one-way delay: 51.915 ms
Loss rate: 18.04%
```

Run 1: Report of Muses_DecisionTree — Data Link



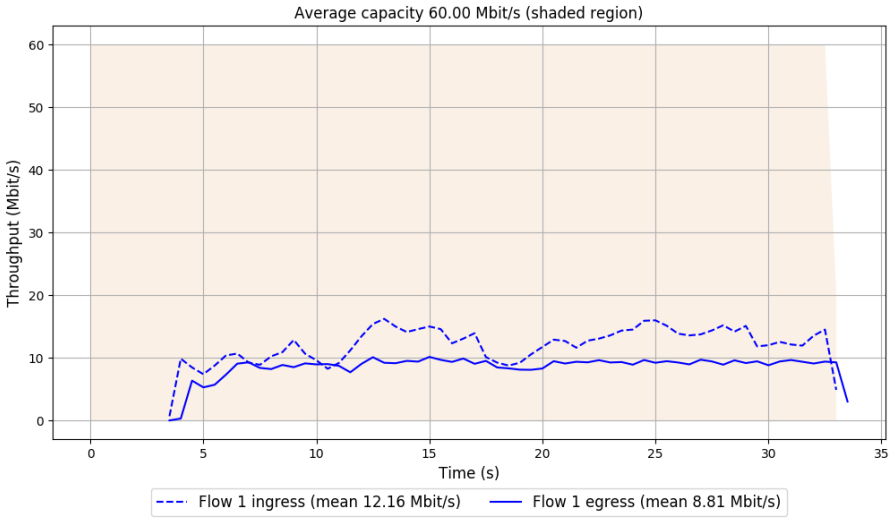


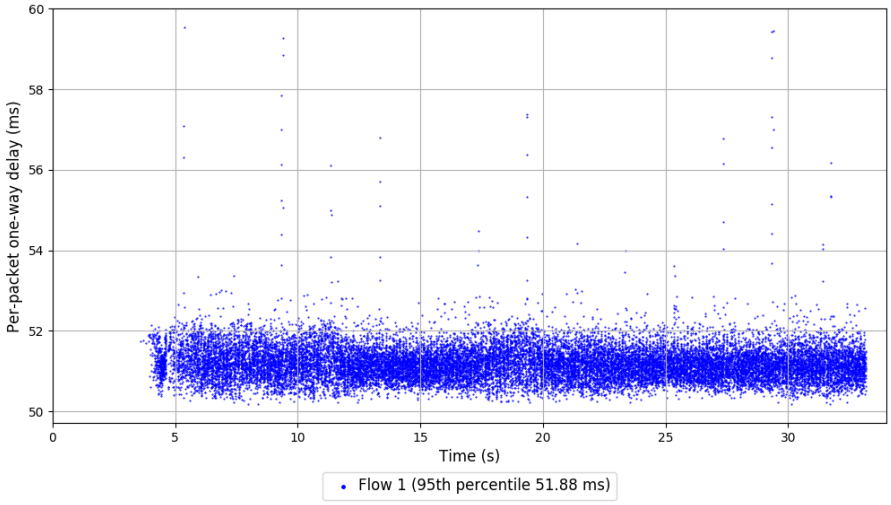
```
Run 2: Statistics of Muses\_DecisionTree

Start at: 2019-07-11 22:38:26
End at: 2019-07-11 22:38:56

# Below is generated by plot.py at 2019-07-11 23:06:58
# Datalink statistics
-- Total of 1 flow:
Average capacity: 60.00 Mbit/s
Average throughput: 8.81 Mbit/s (14.7% utilization)
95th percentile per-packet one-way delay: 51.883 ms
Loss rate: 27.66%
-- Flow 1:
Average throughput: 8.81 Mbit/s
95th percentile per-packet one-way delay: 51.883 ms
Loss rate: 27.66%
```

Run 2: Report of Muses_DecisionTree — Data Link



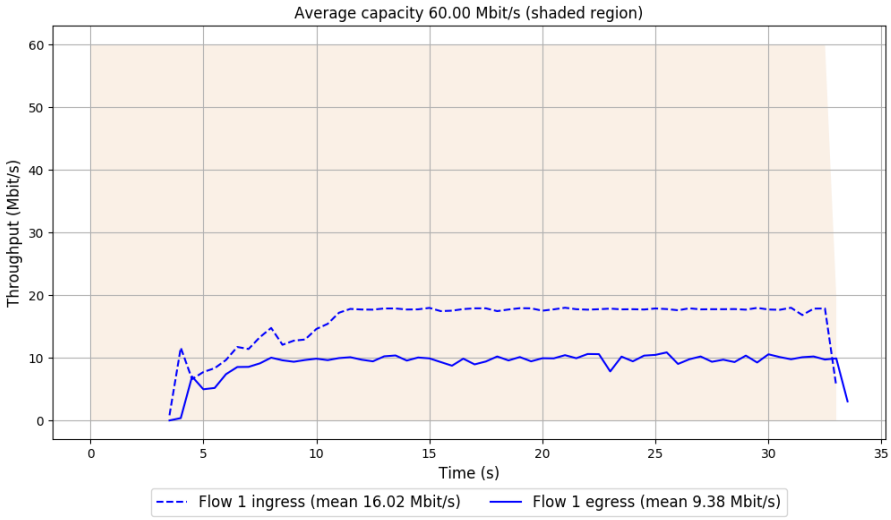


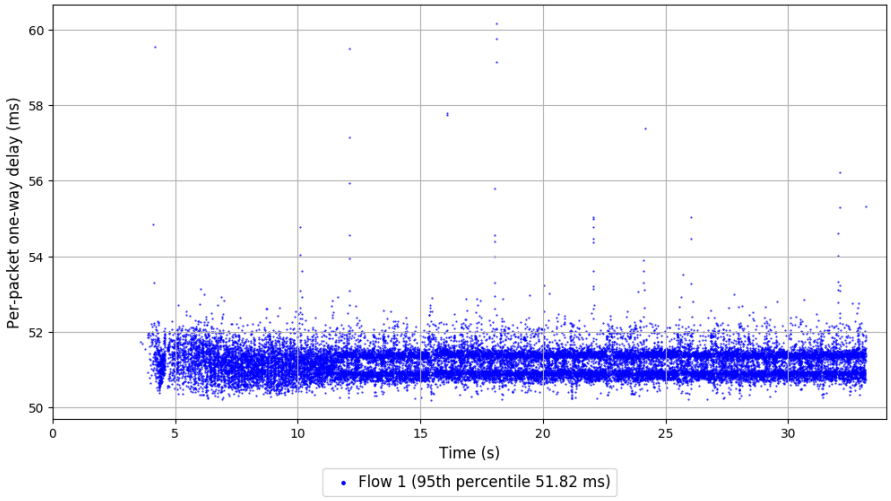
```
Run 3: Statistics of Muses\_DecisionTree

Start at: 2019-07-11 22:52:51
End at: 2019-07-11 22:53:21

# Below is generated by plot.py at 2019-07-11 23:06:59
# Datalink statistics
-- Total of 1 flow:
Average capacity: 60.00 Mbit/s
Average throughput: 9.38 Mbit/s (15.6% utilization)
95th percentile per-packet one-way delay: 51.822 ms
Loss rate: 41.54%
-- Flow 1:
Average throughput: 9.38 Mbit/s
95th percentile per-packet one-way delay: 51.822 ms
Loss rate: 41.54%
```

Run 3: Report of Muses_DecisionTree — Data Link



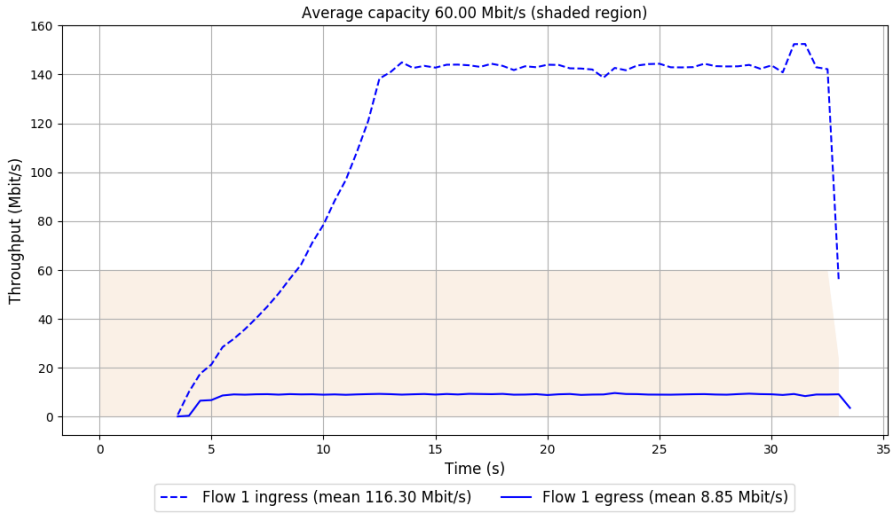


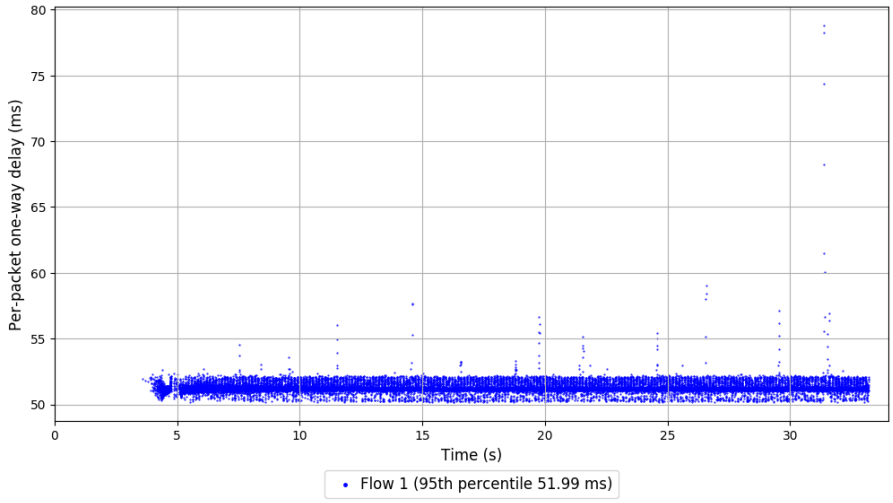
```
Run 1: Statistics of Muses\_DecisionTreeH0

Start at: 2019-07-11 22:28:47
End at: 2019-07-11 22:29:17

# Below is generated by plot.py at 2019-07-11 23:07:30
# Datalink statistics
-- Total of 1 flow:
Average capacity: 60.00 Mbit/s
Average throughput: 8.85 Mbit/s (14.7% utilization)
95th percentile per-packet one-way delay: 51.988 ms
Loss rate: 92.40%
-- Flow 1:
Average throughput: 8.85 Mbit/s
95th percentile per-packet one-way delay: 51.988 ms
Loss rate: 92.40%
```

Run 1: Report of Muses_DecisionTreeH0 — Data Link



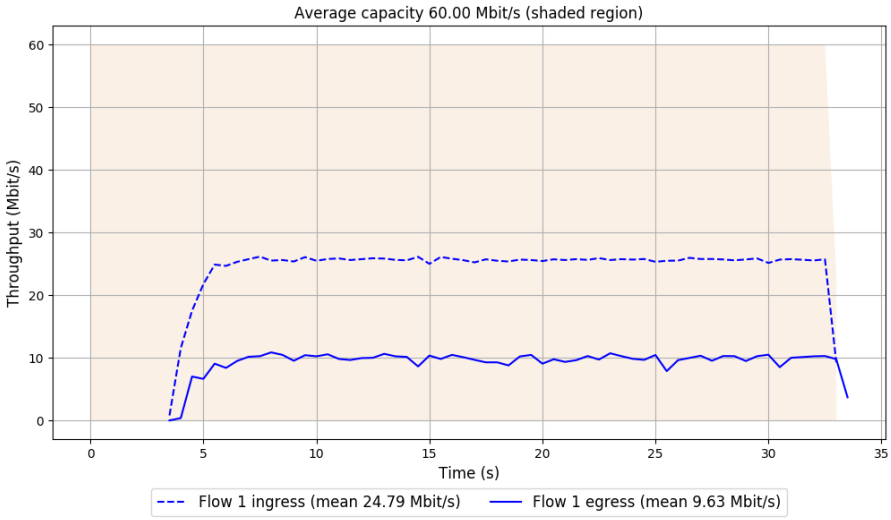


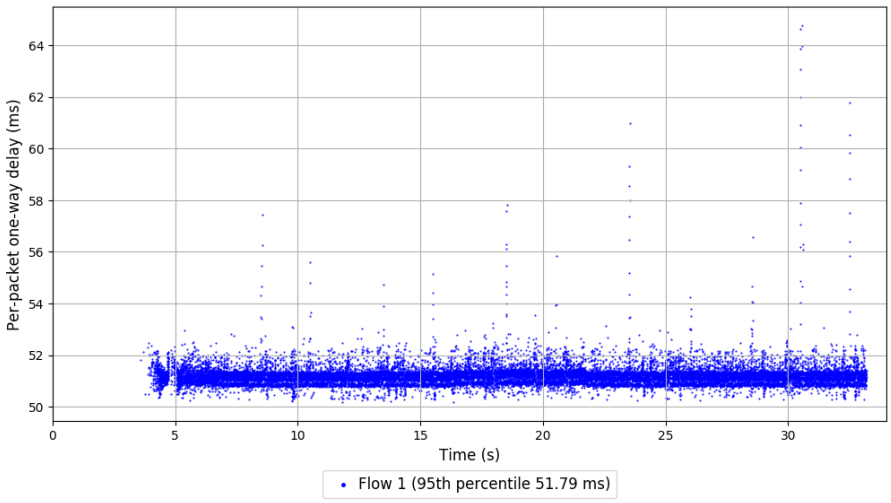
```
Run 2: Statistics of Muses\_DecisionTreeH0

Start at: 2019-07-11 22:43:13
End at: 2019-07-11 22:43:43

# Below is generated by plot.py at 2019-07-11 23:07:30
# Datalink statistics
-- Total of 1 flow:
Average capacity: 60.00 Mbit/s
Average throughput: 9.63 Mbit/s (16.1% utilization)
95th percentile per-packet one-way delay: 51.792 ms
Loss rate: 61.21%
-- Flow 1:
Average throughput: 9.63 Mbit/s
95th percentile per-packet one-way delay: 51.792 ms
Loss rate: 61.21%
```

Run 2: Report of Muses_DecisionTreeH0 — Data Link



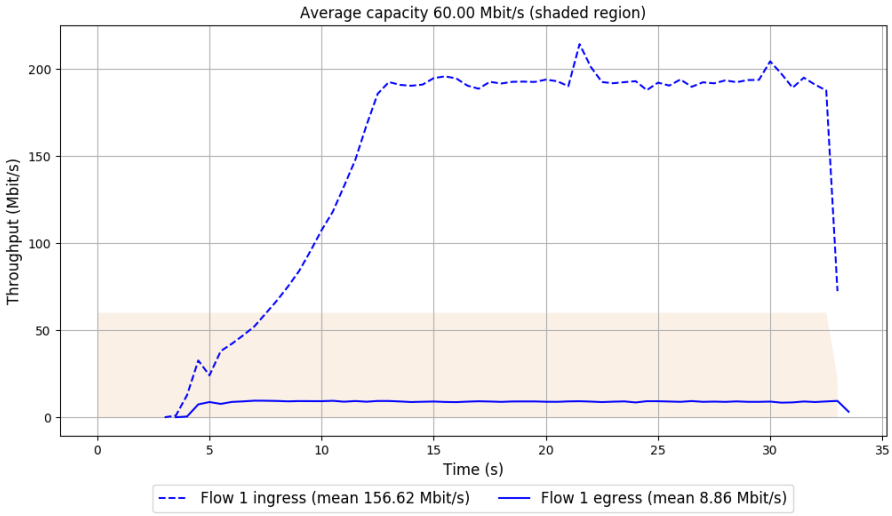


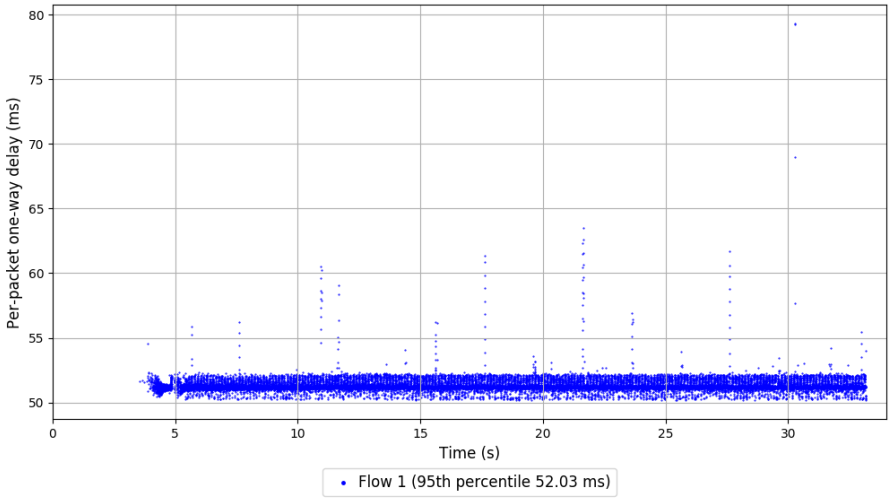
```
Run 3: Statistics of Muses\_DecisionTreeH0

Start at: 2019-07-11 22:57:39
End at: 2019-07-11 22:58:09

# Below is generated by plot.py at 2019-07-11 23:07:55
# Datalink statistics
-- Total of 1 flow:
Average capacity: 60.00 Mbit/s
Average throughput: 8.86 Mbit/s (14.8% utilization)
95th percentile per-packet one-way delay: 52.026 ms
Loss rate: 94.35%
-- Flow 1:
Average throughput: 8.86 Mbit/s
95th percentile per-packet one-way delay: 52.026 ms
Loss rate: 94.35%
```

Run 3: Report of Muses_DecisionTreeH0 — Data Link



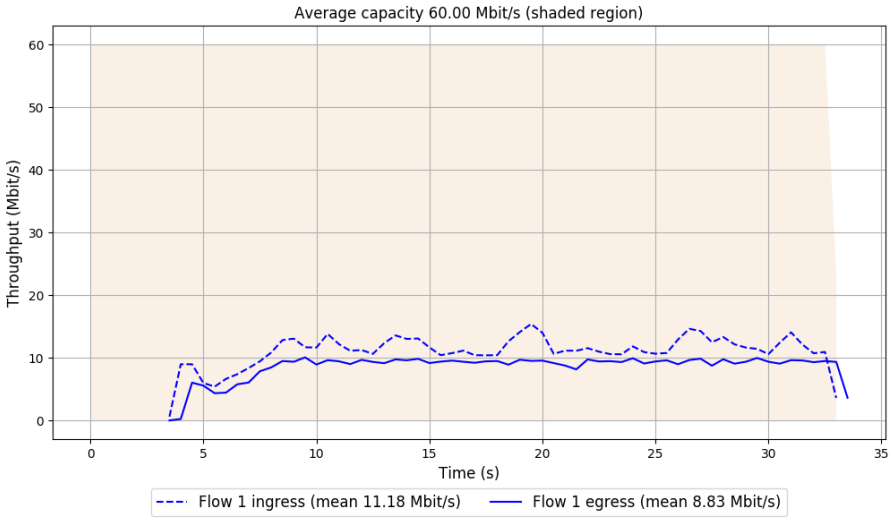


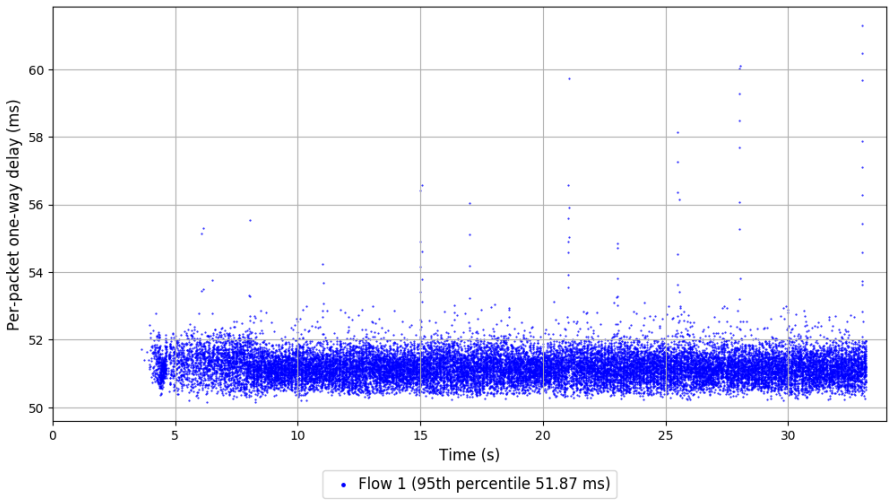
```
Run 1: Statistics of Muses\_DecisionTreeR0

Start at: 2019-07-11 22:35:26
End at: 2019-07-11 22:35:56

# Below is generated by plot.py at 2019-07-11 23:07:55
# Datalink statistics
-- Total of 1 flow:
Average capacity: 60.00 Mbit/s
Average throughput: 8.83 Mbit/s (14.7% utilization)
95th percentile per-packet one-way delay: 51.870 ms
Loss rate: 21.15%
-- Flow 1:
Average throughput: 8.83 Mbit/s
95th percentile per-packet one-way delay: 51.870 ms
Loss rate: 21.15%
```

Run 1: Report of Muses_DecisionTreeR0 — Data Link



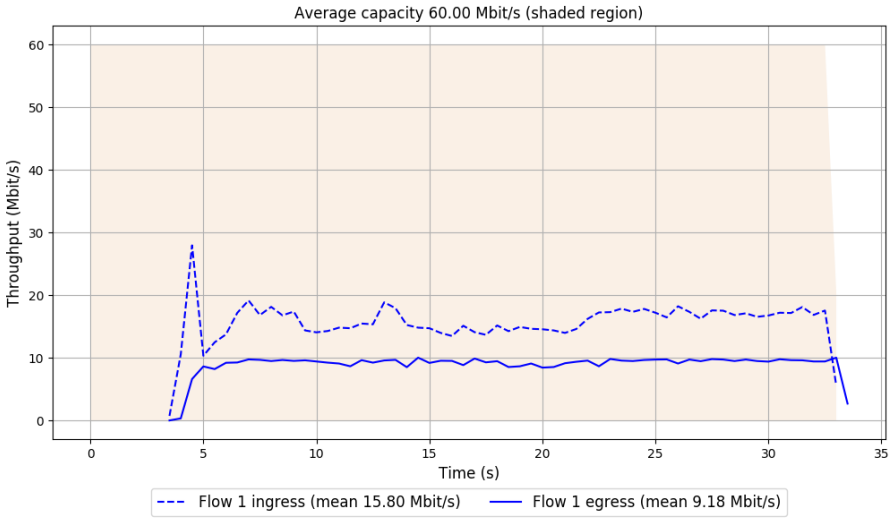


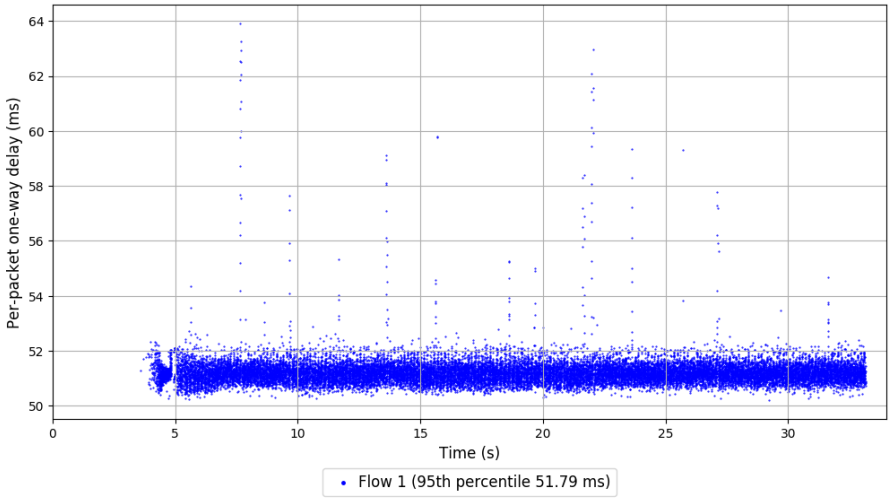
```
Run 2: Statistics of Muses\_DecisionTreeR0

Start at: 2019-07-11 22:49:50
End at: 2019-07-11 22:50:20

# Below is generated by plot.py at 2019-07-11 23:07:55
# Datalink statistics
-- Total of 1 flow:
Average capacity: 60.00 Mbit/s
Average throughput: 9.18 Mbit/s (15.3% utilization)
95th percentile per-packet one-way delay: 51.792 ms
Loss rate: 42.03%
-- Flow 1:
Average throughput: 9.18 Mbit/s
95th percentile per-packet one-way delay: 51.792 ms
Loss rate: 42.03%
```

Run 2: Report of Muses_DecisionTreeR0 — Data Link



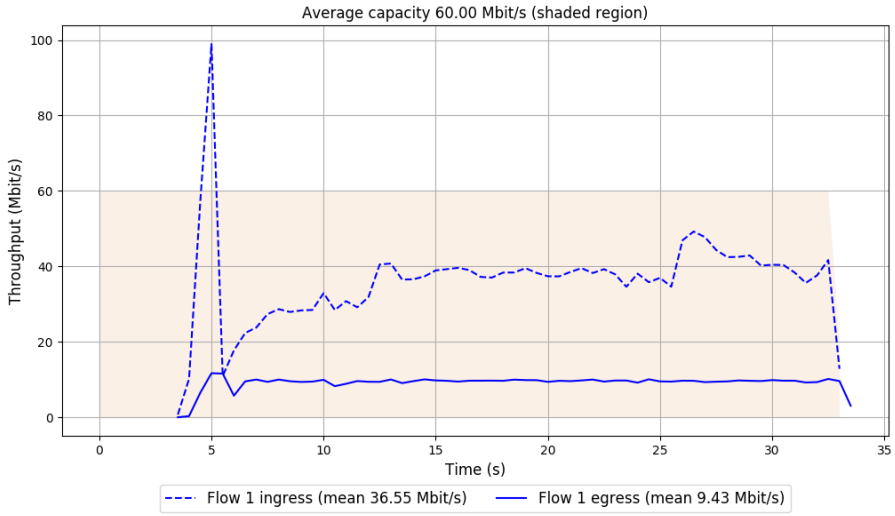


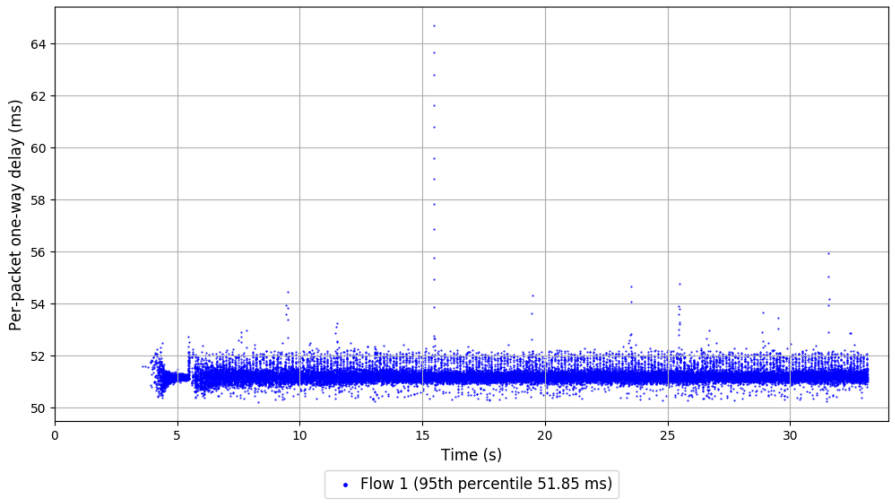
```
Run 3: Statistics of Muses\_DecisionTreeR0

Start at: 2019-07-11 23:04:19
End at: 2019-07-11 23:04:49

# Below is generated by plot.py at 2019-07-11 23:07:55
# Datalink statistics
-- Total of 1 flow:
Average capacity: 60.00 Mbit/s
Average throughput: 9.43 Mbit/s (15.7% utilization)
95th percentile per-packet one-way delay: 51.853 ms
Loss rate: 74.25%
-- Flow 1:
Average throughput: 9.43 Mbit/s
95th percentile per-packet one-way delay: 51.853 ms
Loss rate: 74.25%
```

Run 3: Report of Muses_DecisionTreeR0 — Data Link



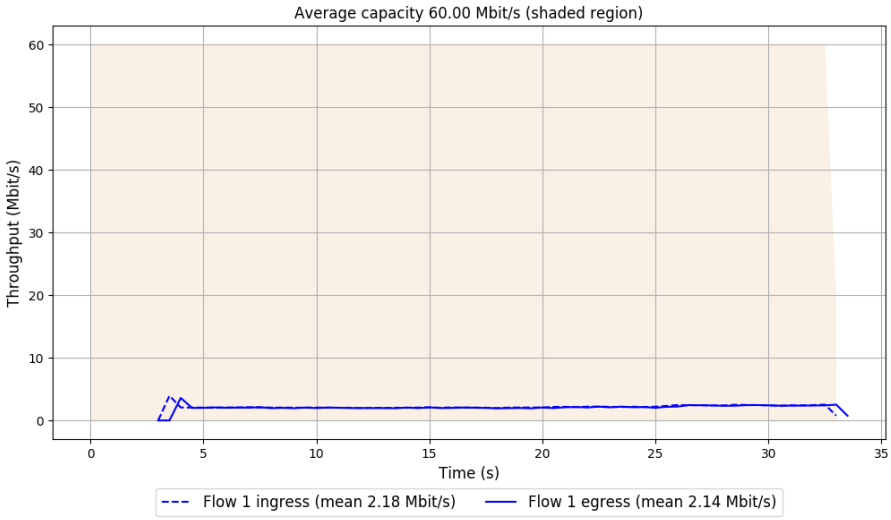


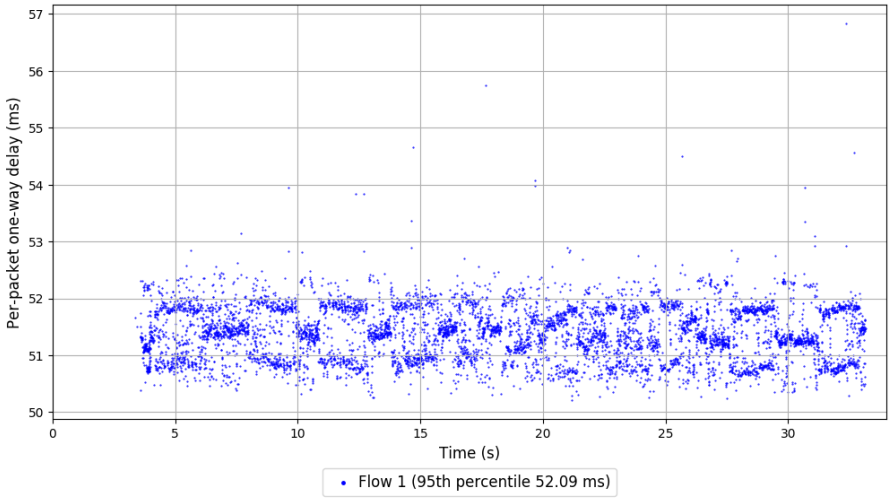
```
Run 1: Statistics of PCC-Allegro

Start at: 2019-07-11 22:21:36
End at: 2019-07-11 22:22:06

# Below is generated by plot.py at 2019-07-11 23:07:55
# Datalink statistics
-- Total of 1 flow:
Average capacity: 60.00 Mbit/s
Average throughput: 2.14 Mbit/s (3.6% utilization)
95th percentile per-packet one-way delay: 52.092 ms
Loss rate: 2.15%
-- Flow 1:
Average throughput: 2.14 Mbit/s
95th percentile per-packet one-way delay: 52.092 ms
Loss rate: 2.15%
```

Run 1: Report of PCC-Allegro — Data Link



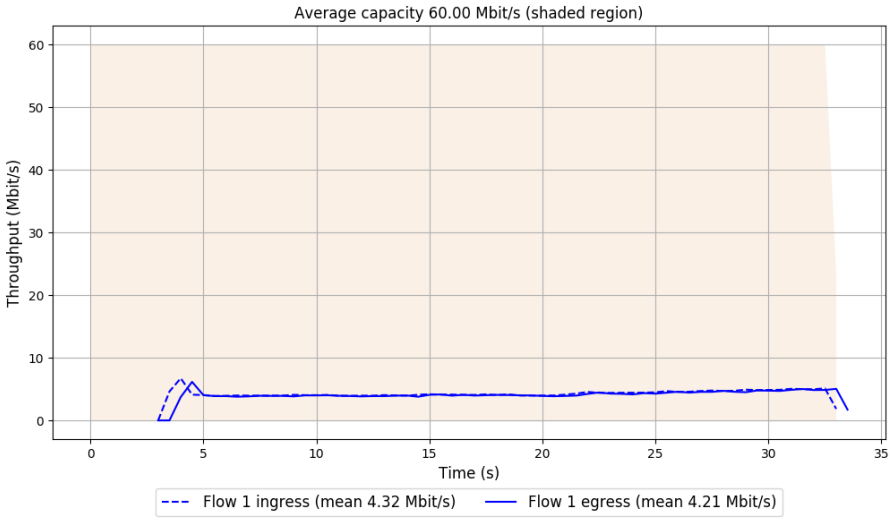


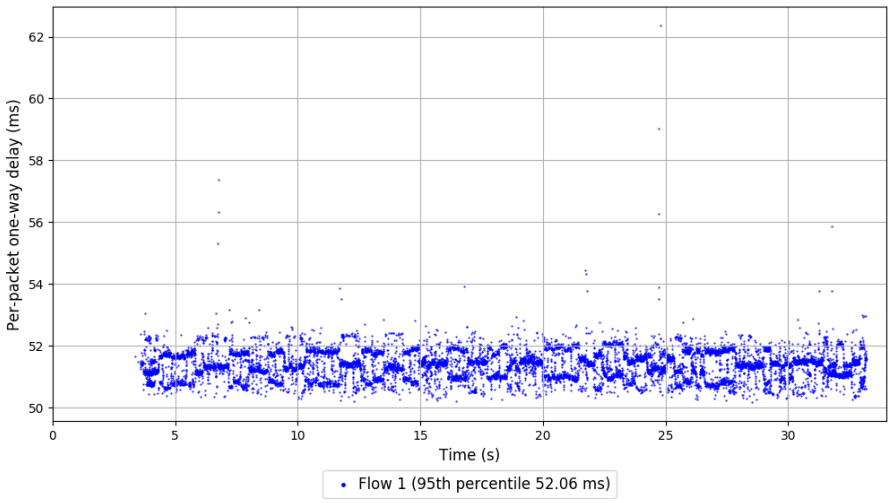
```
Run 2: Statistics of PCC-Allegro

Start at: 2019-07-11 22:36:02
End at: 2019-07-11 22:36:32

# Below is generated by plot.py at 2019-07-11 23:07:55
# Datalink statistics
-- Total of 1 flow:
Average capacity: 60.00 Mbit/s
Average throughput: 4.21 Mbit/s (7.0% utilization)
95th percentile per-packet one-way delay: 52.058 ms
Loss rate: 2.58%
-- Flow 1:
Average throughput: 4.21 Mbit/s
95th percentile per-packet one-way delay: 52.058 ms
Loss rate: 2.58%
```

Run 2: Report of PCC-Allegro — Data Link



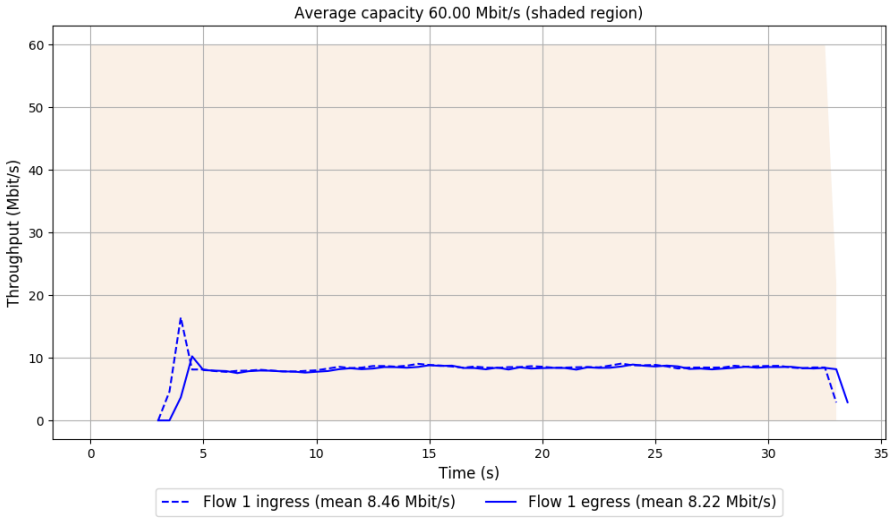


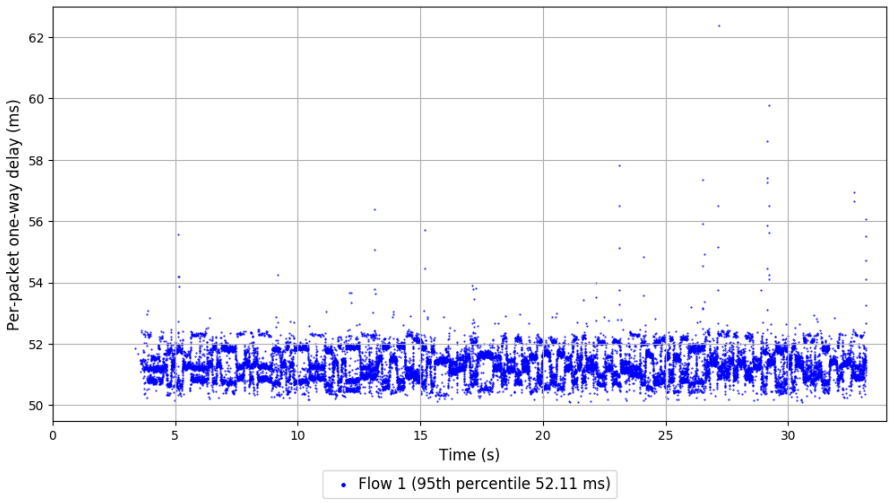
```
Run 3: Statistics of PCC-Allegro

Start at: 2019-07-11 22:50:27
End at: 2019-07-11 22:50:57

# Below is generated by plot.py at 2019-07-11 23:07:55
# Datalink statistics
-- Total of 1 flow:
Average capacity: 60.00 Mbit/s
Average throughput: 8.22 Mbit/s (13.7% utilization)
95th percentile per-packet one-way delay: 52.108 ms
Loss rate: 3.00%
-- Flow 1:
Average throughput: 8.22 Mbit/s
95th percentile per-packet one-way delay: 52.108 ms
Loss rate: 3.00%
```

Run 3: Report of PCC-Allegro — Data Link



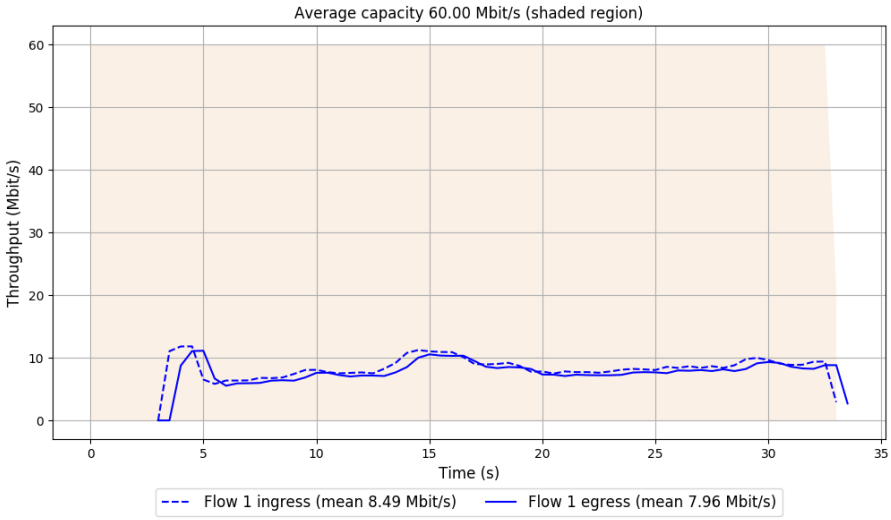


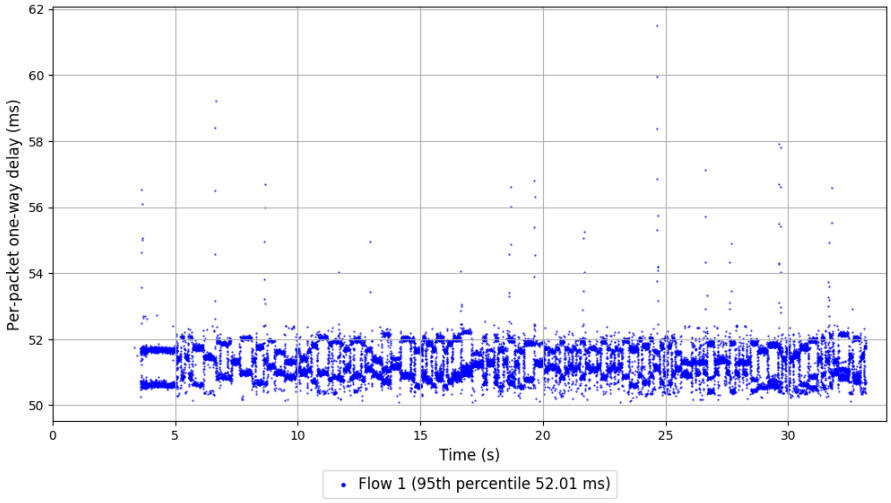
```
Run 1: Statistics of PCC-Expr

Start at: 2019-07-11 22:27:35
End at: 2019-07-11 22:28:05

# Below is generated by plot.py at 2019-07-11 23:07:55
# Datalink statistics
-- Total of 1 flow:
Average capacity: 60.00 Mbit/s
Average throughput: 7.96 Mbit/s (13.3% utilization)
95th percentile per-packet one-way delay: 52.014 ms
Loss rate: 6.39%
-- Flow 1:
Average throughput: 7.96 Mbit/s
95th percentile per-packet one-way delay: 52.014 ms
Loss rate: 6.39%
```

Run 1: Report of PCC-Expr — Data Link



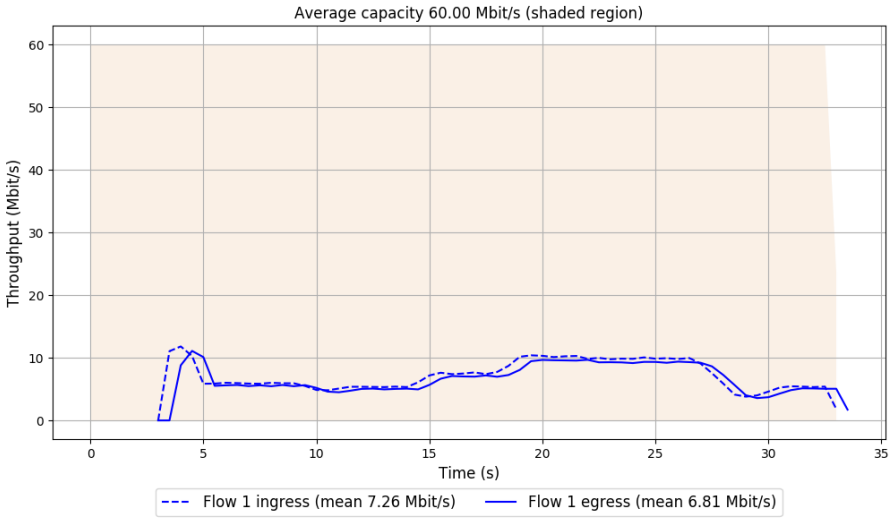


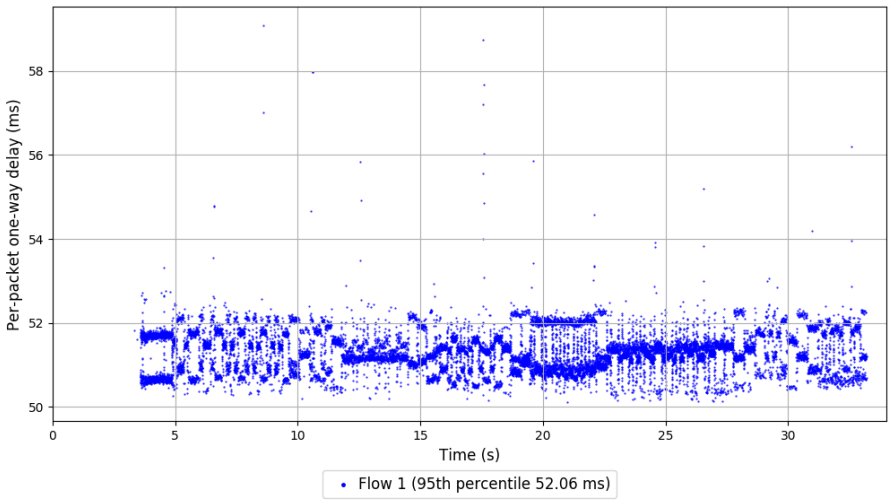
```
Run 2: Statistics of PCC-Expr

Start at: 2019-07-11 22:42:01
End at: 2019-07-11 22:42:31

# Below is generated by plot.py at 2019-07-11 23:07:55
# Datalink statistics
-- Total of 1 flow:
Average capacity: 60.00 Mbit/s
Average throughput: 6.81 Mbit/s (11.4% utilization)
95th percentile per-packet one-way delay: 52.062 ms
Loss rate: 6.36%
-- Flow 1:
Average throughput: 6.81 Mbit/s
95th percentile per-packet one-way delay: 52.062 ms
Loss rate: 6.36%
```

Run 2: Report of PCC-Expr — Data Link



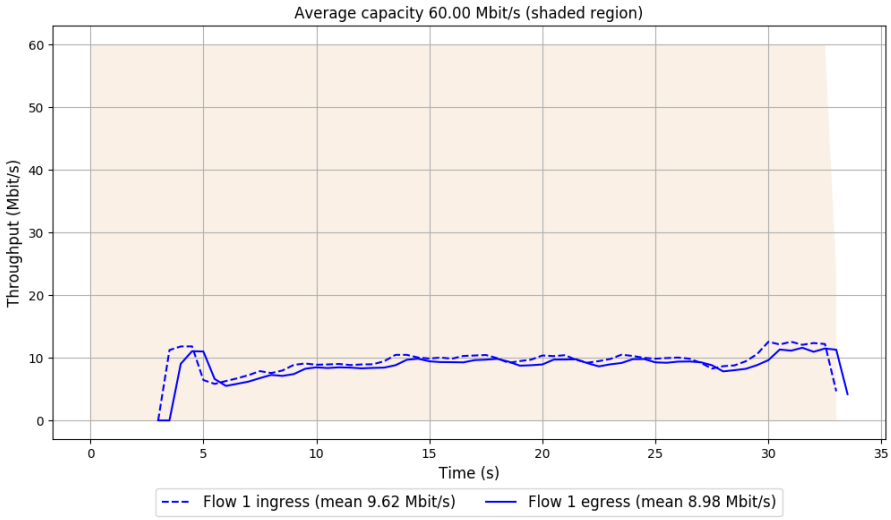


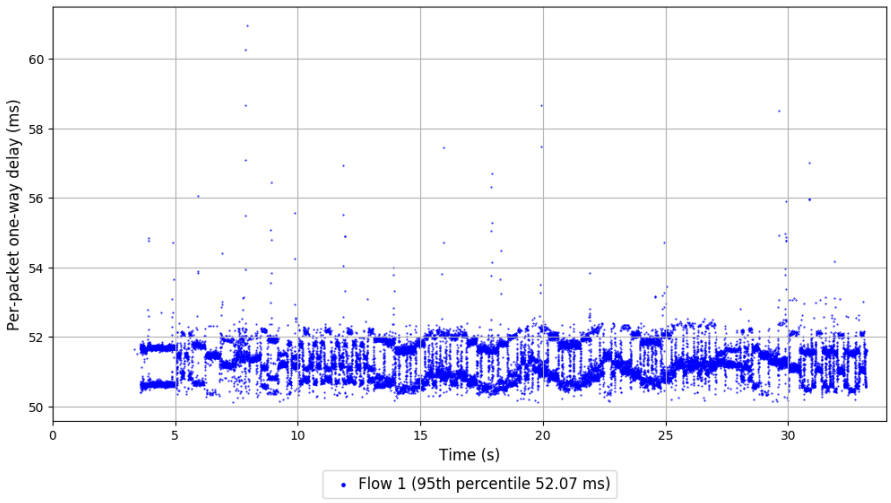
```
Run 3: Statistics of PCC-Expr

Start at: 2019-07-11 22:56:27
End at: 2019-07-11 22:56:57

# Below is generated by plot.py at 2019-07-11 23:07:55
# Datalink statistics
-- Total of 1 flow:
Average capacity: 60.00 Mbit/s
Average throughput: 8.98 Mbit/s (15.0% utilization)
95th percentile per-packet one-way delay: 52.069 ms
Loss rate: 6.77%
-- Flow 1:
Average throughput: 8.98 Mbit/s
95th percentile per-packet one-way delay: 52.069 ms
Loss rate: 6.77%
```

Run 3: Report of PCC-Expr — Data Link



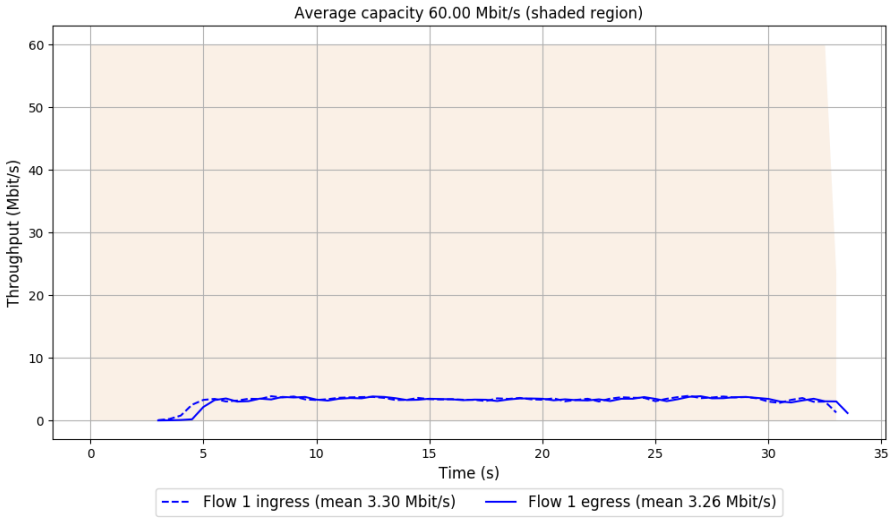


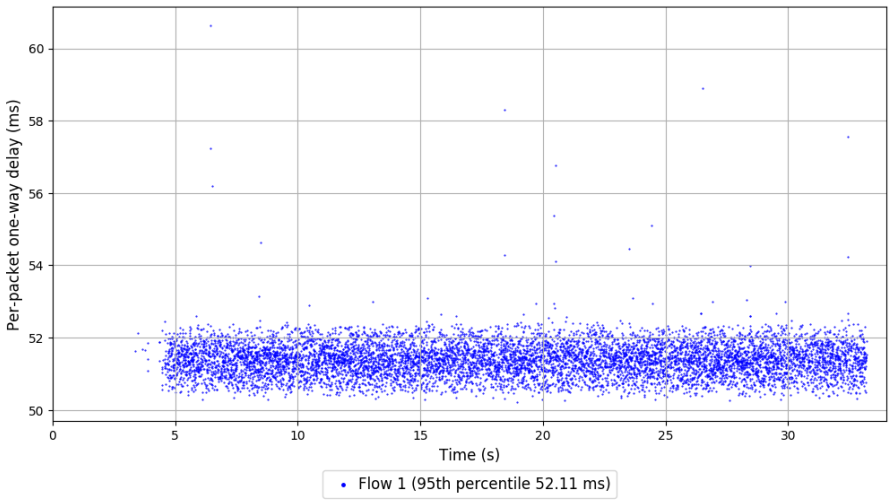
```
Run 1: Statistics of QUIC Cubic

Start at: 2019-07-11 22:26:24
End at: 2019-07-11 22:26:54

# Below is generated by plot.py at 2019-07-11 23:07:55
# Datalink statistics
-- Total of 1 flow:
Average capacity: 60.00 Mbit/s
Average throughput: 3.26 Mbit/s (5.4% utilization)
95th percentile per-packet one-way delay: 52.111 ms
Loss rate: 1.54%
-- Flow 1:
Average throughput: 3.26 Mbit/s
95th percentile per-packet one-way delay: 52.111 ms
Loss rate: 1.54%
```

Run 1: Report of QUIC Cubic — Data Link



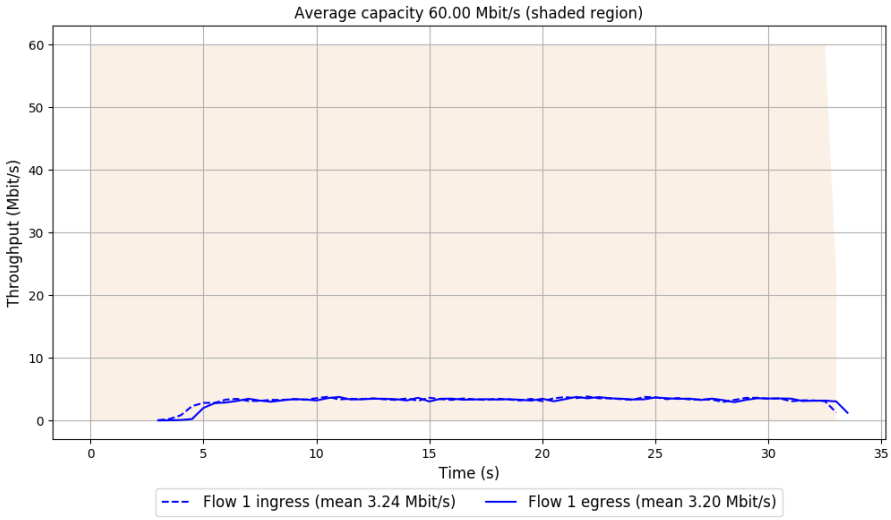


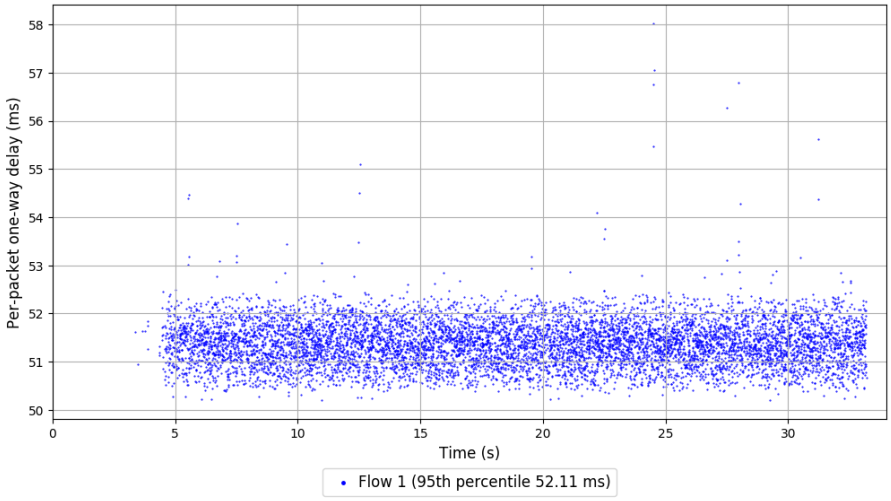
```
Run 2: Statistics of QUIC Cubic

Start at: 2019-07-11 22:40:49
End at: 2019-07-11 22:41:20

# Below is generated by plot.py at 2019-07-11 23:07:55
# Datalink statistics
-- Total of 1 flow:
Average capacity: 60.00 Mbit/s
Average throughput: 3.20 Mbit/s (5.3% utilization)
95th percentile per-packet one-way delay: 52.112 ms
Loss rate: 1.45%
-- Flow 1:
Average throughput: 3.20 Mbit/s
95th percentile per-packet one-way delay: 52.112 ms
Loss rate: 1.45%
```

Run 2: Report of QUIC Cubic — Data Link



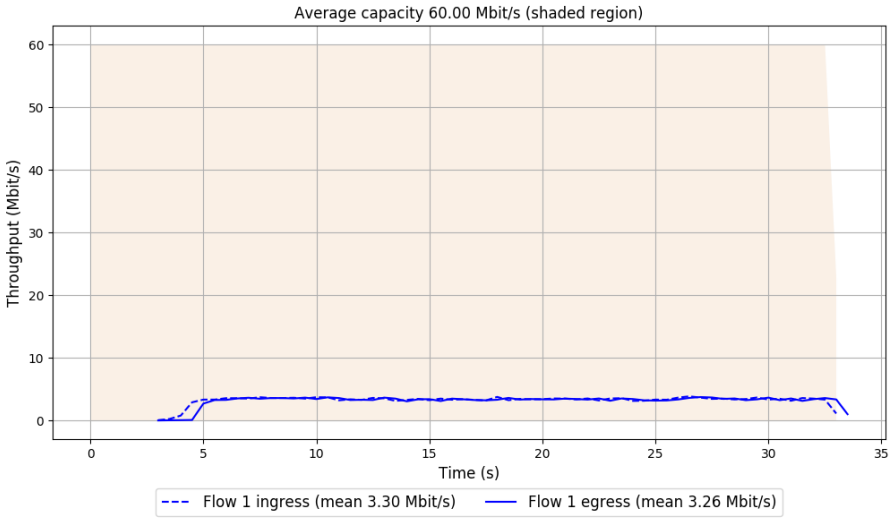


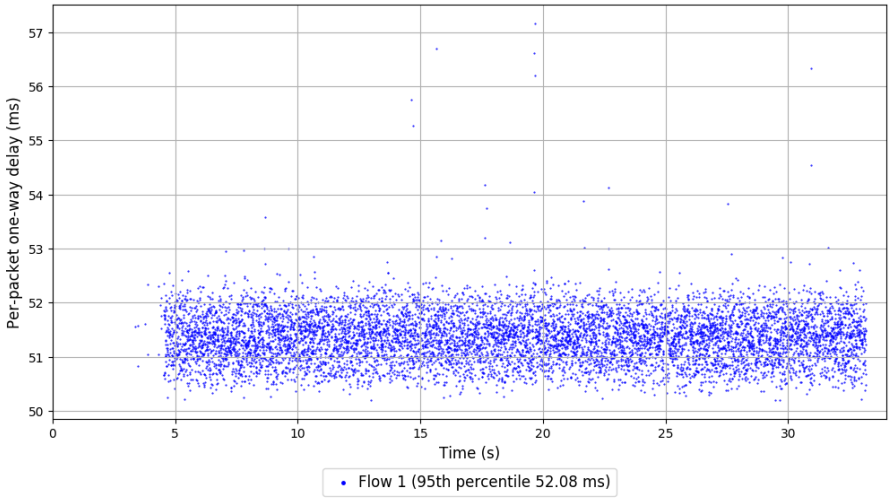
```
Run 3: Statistics of QUIC Cubic

Start at: 2019-07-11 22:55:15
End at: 2019-07-11 22:55:45

# Below is generated by plot.py at 2019-07-11 23:07:55
# Datalink statistics
-- Total of 1 flow:
Average capacity: 60.00 Mbit/s
Average throughput: 3.26 Mbit/s (5.4% utilization)
95th percentile per-packet one-way delay: 52.075 ms
Loss rate: 1.41%
-- Flow 1:
Average throughput: 3.26 Mbit/s
95th percentile per-packet one-way delay: 52.075 ms
Loss rate: 1.41%
```

Run 3: Report of QUIC Cubic — Data Link



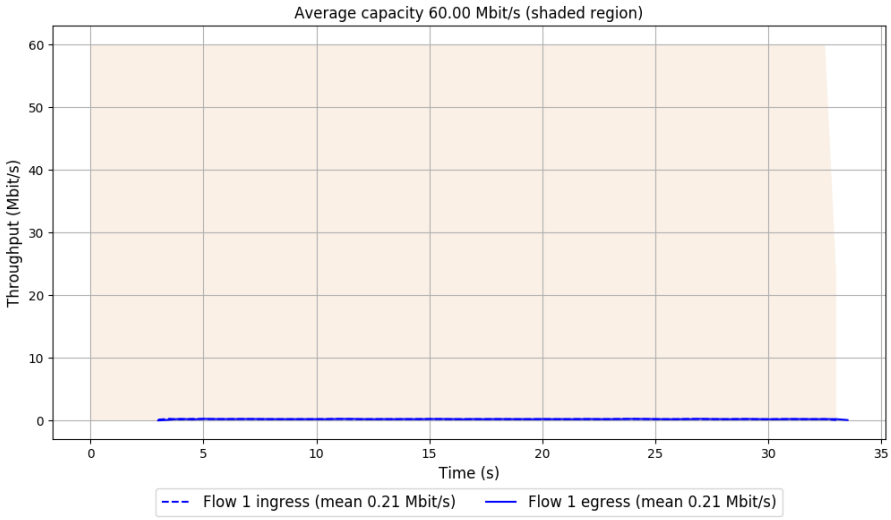


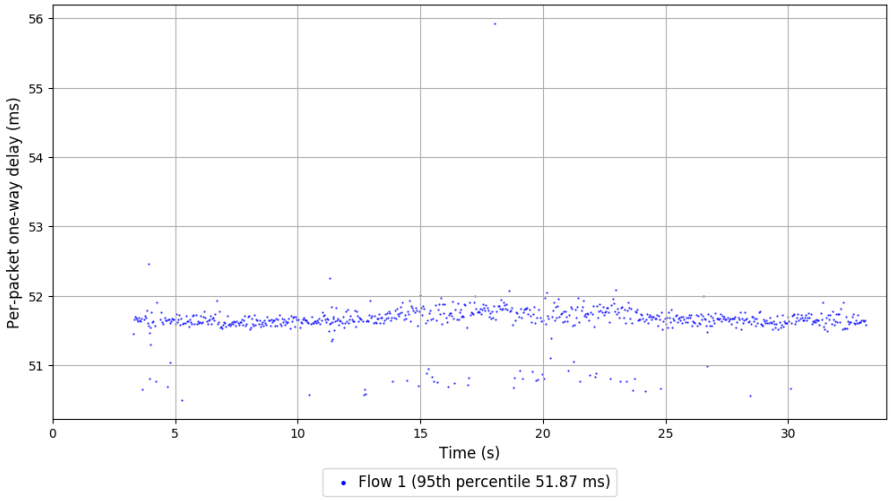
```
Run 1: Statistics of SCReAM

Start at: 2019-07-11 22:33:38
End at: 2019-07-11 22:34:08

# Below is generated by plot.py at 2019-07-11 23:08:00
# Datalink statistics
-- Total of 1 flow:
Average capacity: 60.00 Mbit/s
Average throughput: 0.21 Mbit/s (0.4% utilization)
95th percentile per-packet one-way delay: 51.873 ms
Loss rate: 0.13%
-- Flow 1:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 51.873 ms
Loss rate: 0.13%
```

Run 1: Report of SCReAM — Data Link



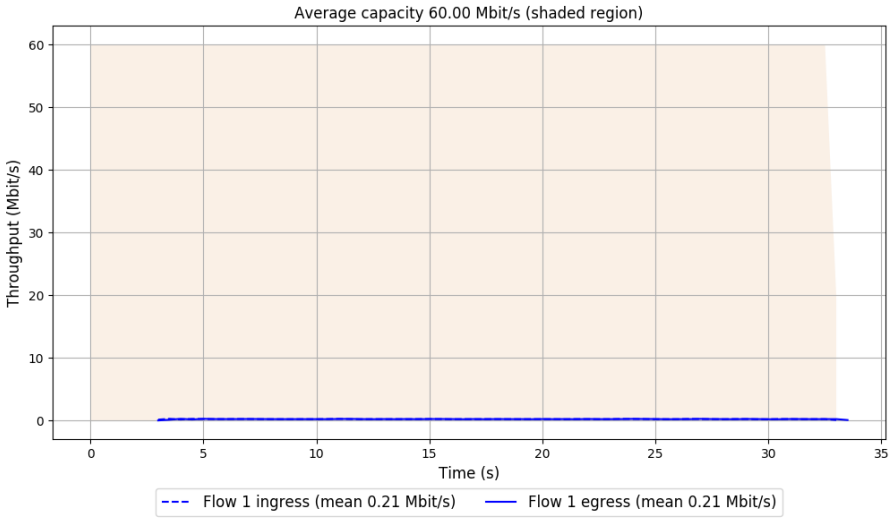


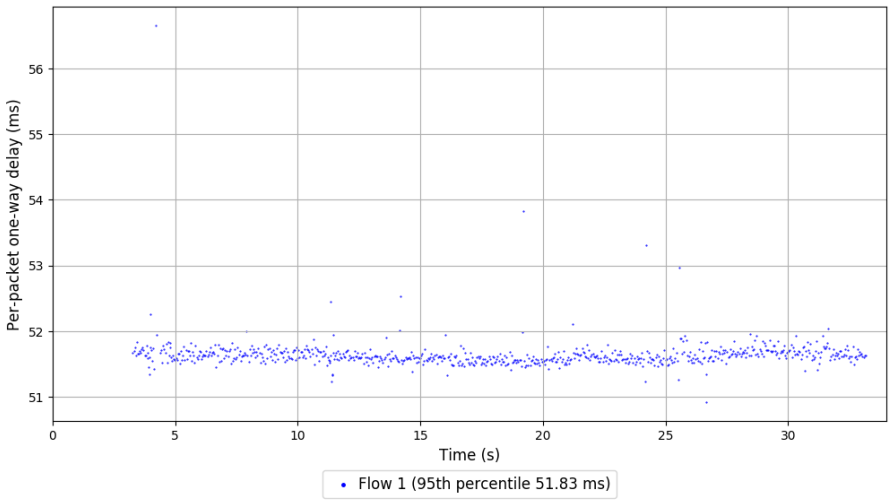
```
Run 2: Statistics of SCReAM

Start at: 2019-07-11 22:48:03
End at: 2019-07-11 22:48:33

# Below is generated by plot.py at 2019-07-11 23:08:02
# Datalink statistics
-- Total of 1 flow:
Average capacity: 60.00 Mbit/s
Average throughput: 0.21 Mbit/s (0.4% utilization)
95th percentile per-packet one-way delay: 51.826 ms
Loss rate: 0.13%
-- Flow 1:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 51.826 ms
Loss rate: 0.13%
```

Run 2: Report of SCReAM — Data Link



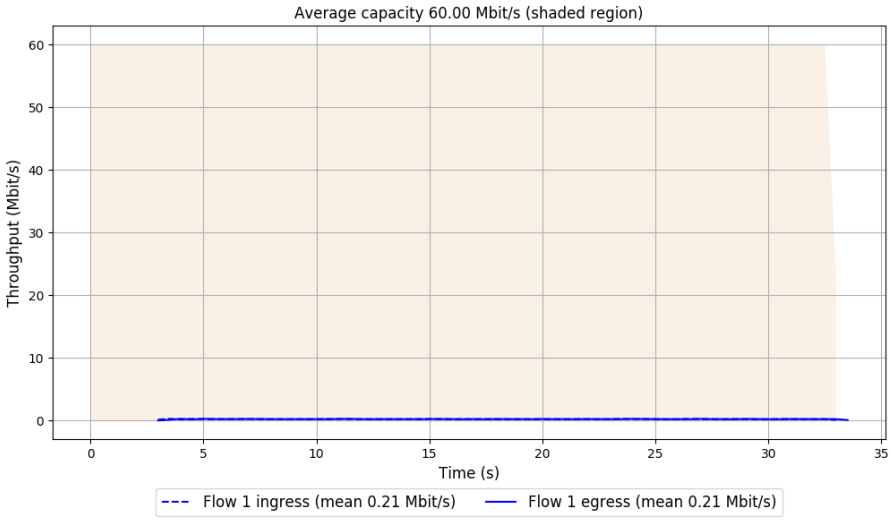


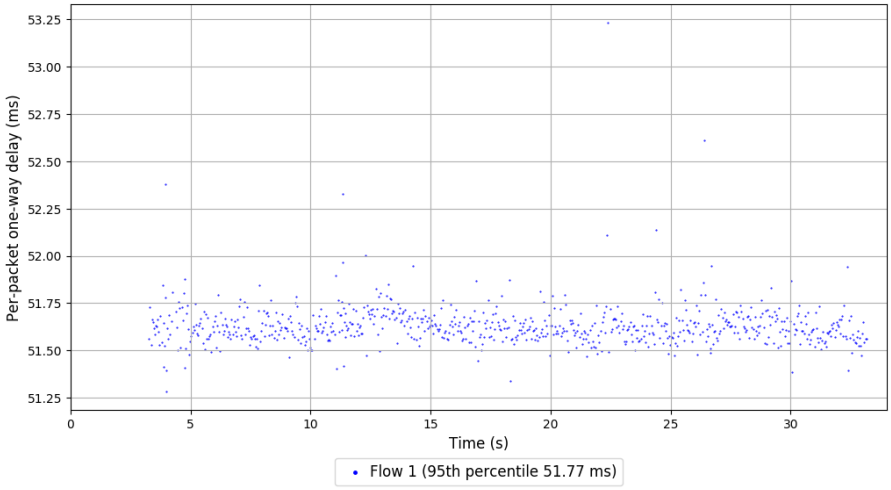
```
Run 3: Statistics of SCReAM

Start at: 2019-07-11 23:02:31
End at: 2019-07-11 23:03:01

# Below is generated by plot.py at 2019-07-11 23:08:04
# Datalink statistics
-- Total of 1 flow:
Average capacity: 60.00 Mbit/s
Average throughput: 0.21 Mbit/s (0.4% utilization)
95th percentile per-packet one-way delay: 51.775 ms
Loss rate: 0.13%
-- Flow 1:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 51.775 ms
Loss rate: 0.13%
```

Run 3: Report of SCReAM — Data Link



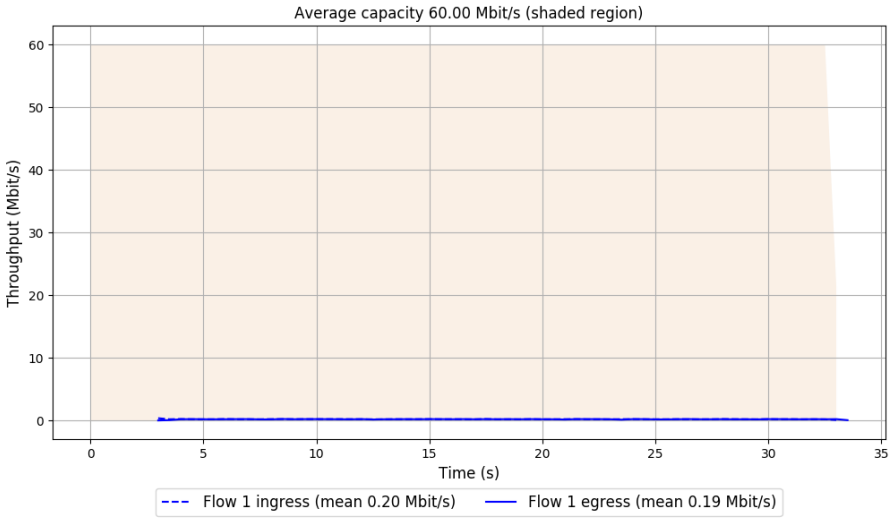


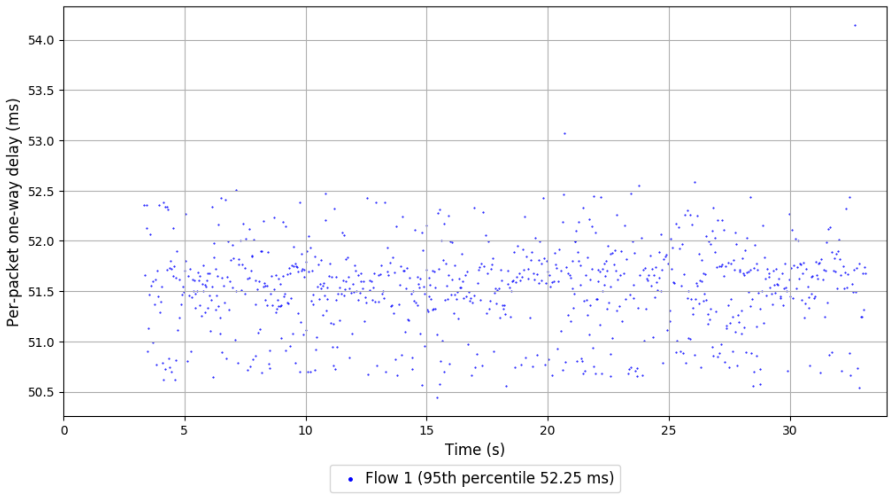
```
Run 1: Statistics of Sprout

Start at: 2019-07-11 22:30:01
End at: 2019-07-11 22:30:31

# Below is generated by plot.py at 2019-07-11 23:08:05
# Datalink statistics
-- Total of 1 flow:
Average capacity: 60.00 Mbit/s
Average throughput: 0.19 Mbit/s (0.3% utilization)
95th percentile per-packet one-way delay: 52.249 ms
Loss rate: 5.44%
-- Flow 1:
Average throughput: 0.19 Mbit/s
95th percentile per-packet one-way delay: 52.249 ms
Loss rate: 5.44%
```

Run 1: Report of Sprout — Data Link



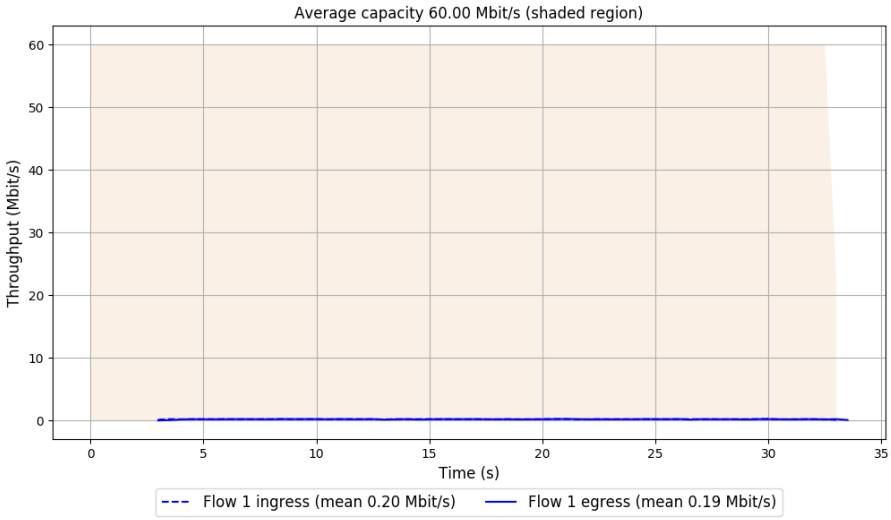


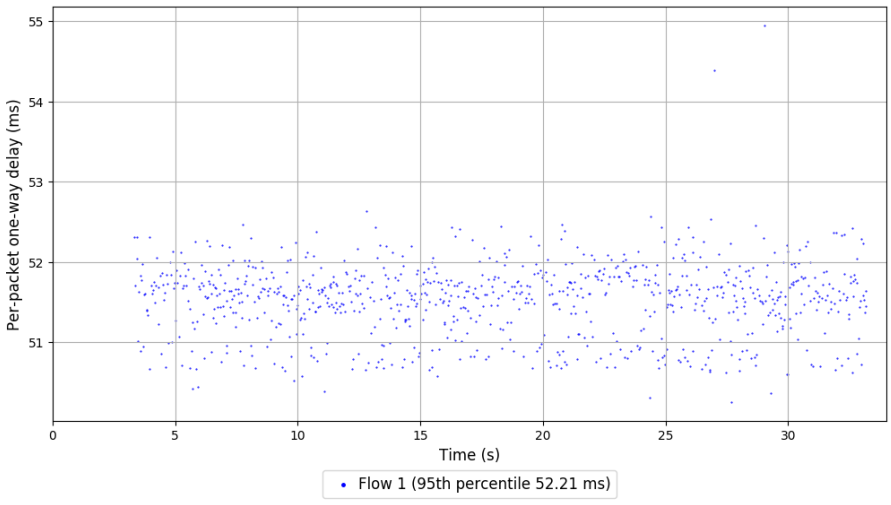
```
Run 2: Statistics of Sprout

Start at: 2019-07-11 22:44:26
End at: 2019-07-11 22:44:56

# Below is generated by plot.py at 2019-07-11 23:08:07
# Datalink statistics
-- Total of 1 flow:
Average capacity: 60.00 Mbit/s
Average throughput: 0.19 Mbit/s (0.3% utilization)
95th percentile per-packet one-way delay: 52.207 ms
Loss rate: 5.45%
-- Flow 1:
Average throughput: 0.19 Mbit/s
95th percentile per-packet one-way delay: 52.207 ms
Loss rate: 5.45%
```

Run 2: Report of Sprout — Data Link



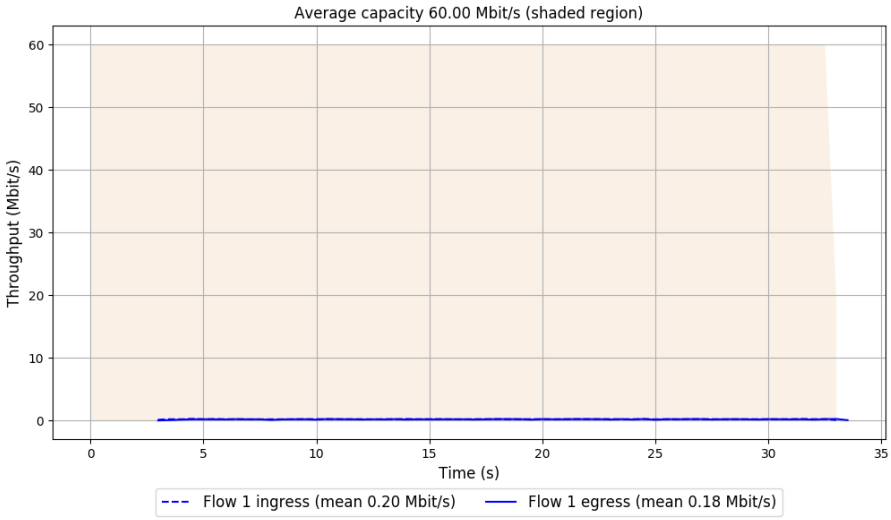


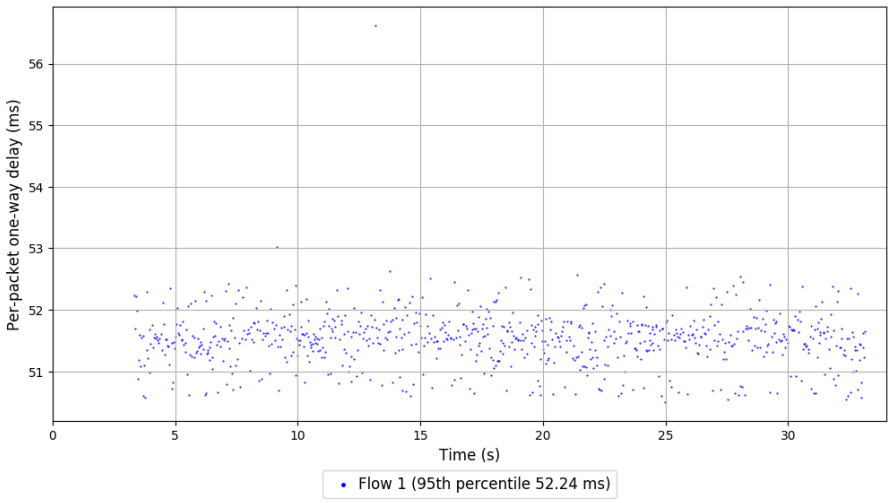
```
Run 3: Statistics of Sprout

Start at: 2019-07-11 22:58:54
End at: 2019-07-11 22:59:24

# Below is generated by plot.py at 2019-07-11 23:08:12
# Datalink statistics
-- Total of 1 flow:
Average capacity: 60.00 Mbit/s
Average throughput: 0.18 Mbit/s (0.3% utilization)
95th percentile per-packet one-way delay: 52.241 ms
Loss rate: 9.62%
-- Flow 1:
Average throughput: 0.18 Mbit/s
95th percentile per-packet one-way delay: 52.241 ms
Loss rate: 9.62%
```

Run 3: Report of Sprout — Data Link

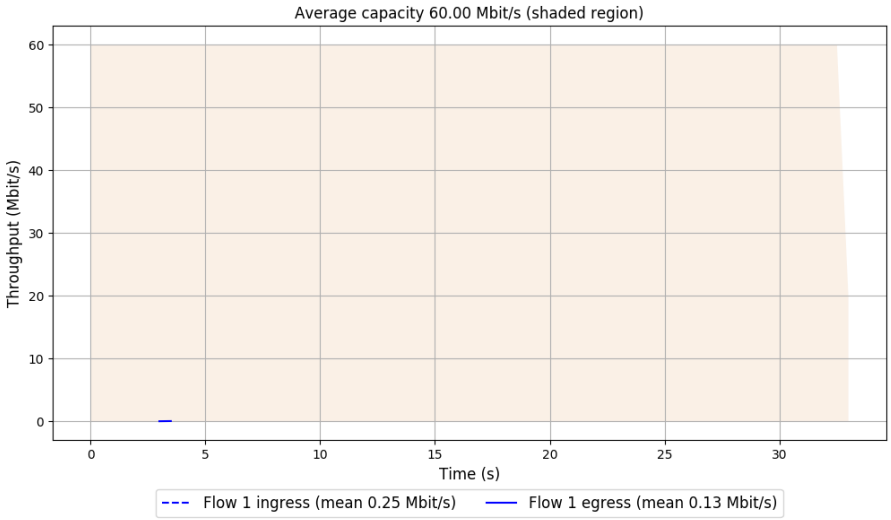


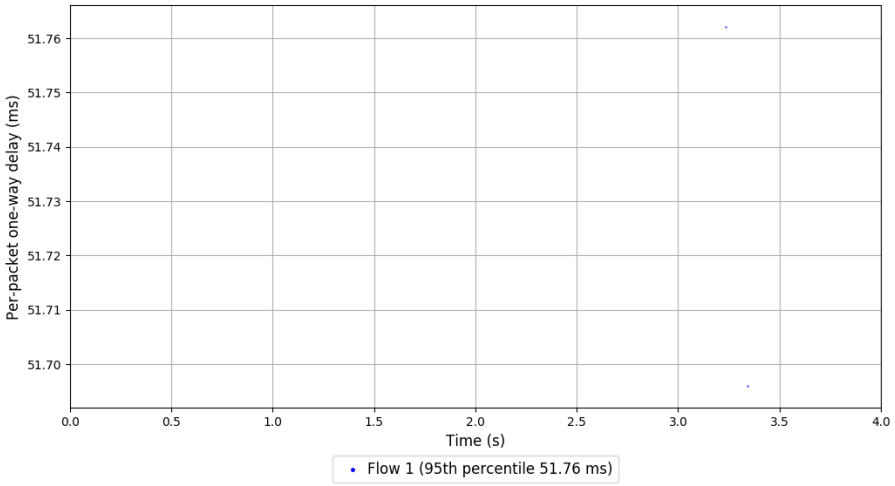


```
Run 1: Statistics of TaoVA-100x

Start at: 2019-07-11 22:32:27
End at: 2019-07-11 22:32:57
```

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

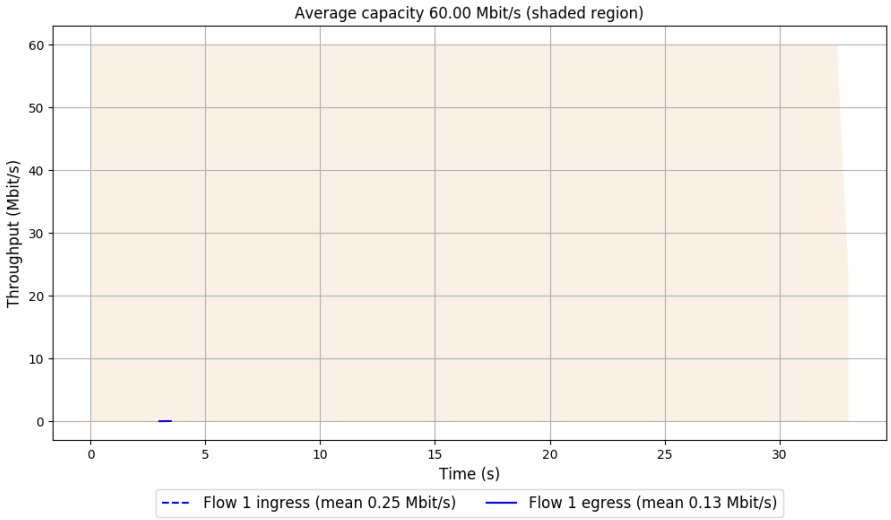


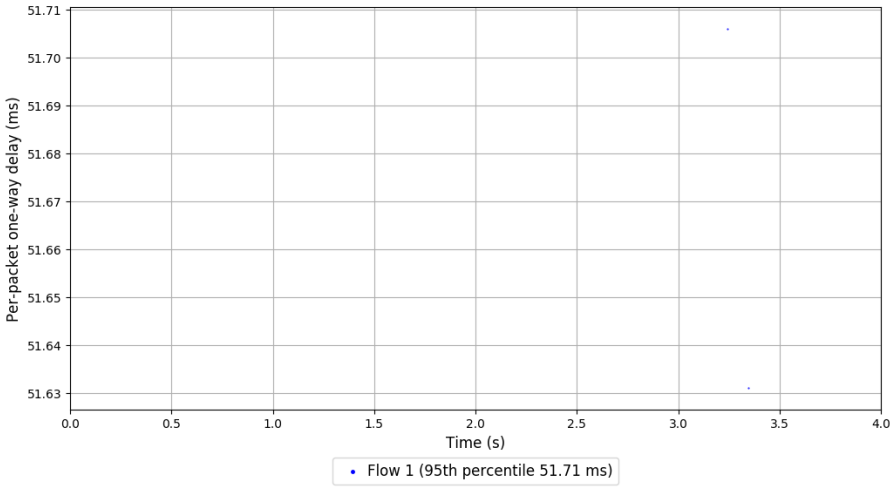


```
Run 2: Statistics of TaoVA-100x

Start at: 2019-07-11 22:46:51
End at: 2019-07-11 22:47:21
```

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



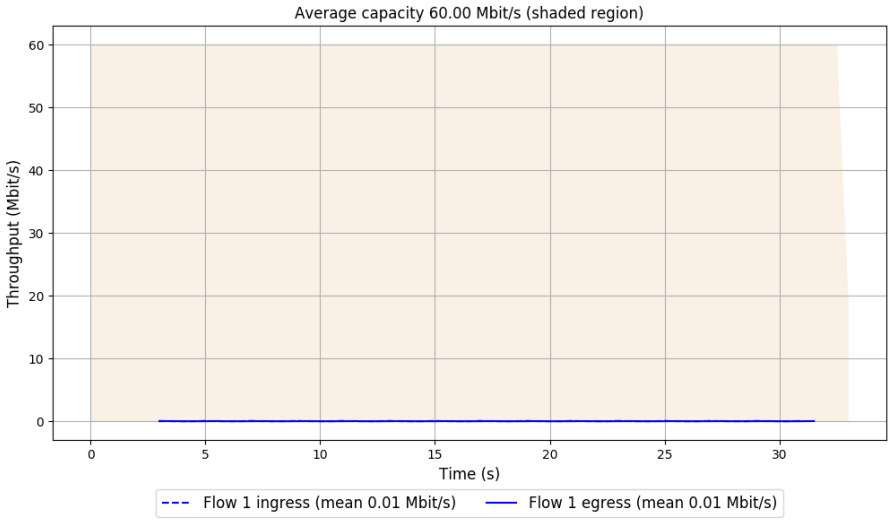


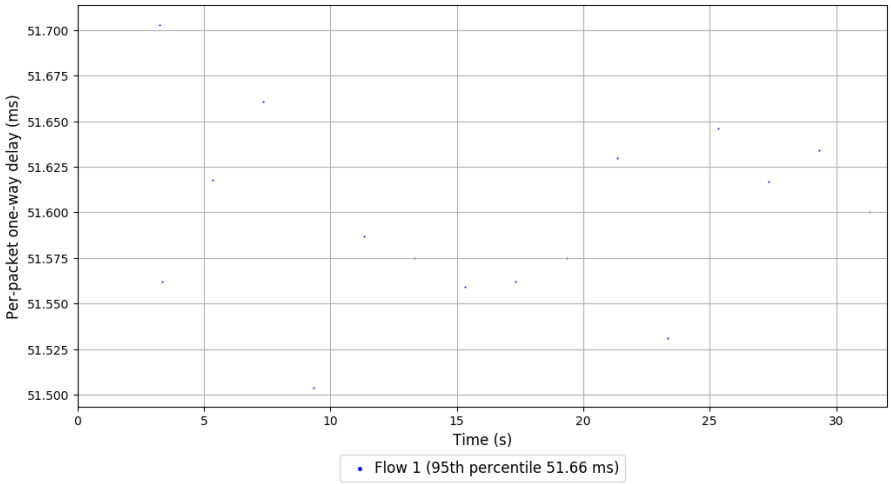
```
Run 3: Statistics of TaoVA-100x

Start at: 2019-07-11 23:01:19
End at: 2019-07-11 23:01:49

# Below is generated by plot.py at 2019-07-11 23:08:19
# Datalink statistics
-- Total of 1 flow:
Average capacity: 60.00 Mbit/s
Average throughput: 0.01 Mbit/s (0.0% utilization)
95th percentile per-packet one-way delay: 51.661 ms
Loss rate: 51.91%
-- Flow 1:
Average throughput: 0.01 Mbit/s
95th percentile per-packet one-way delay: 51.661 ms
Loss rate: 51.91%
```

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



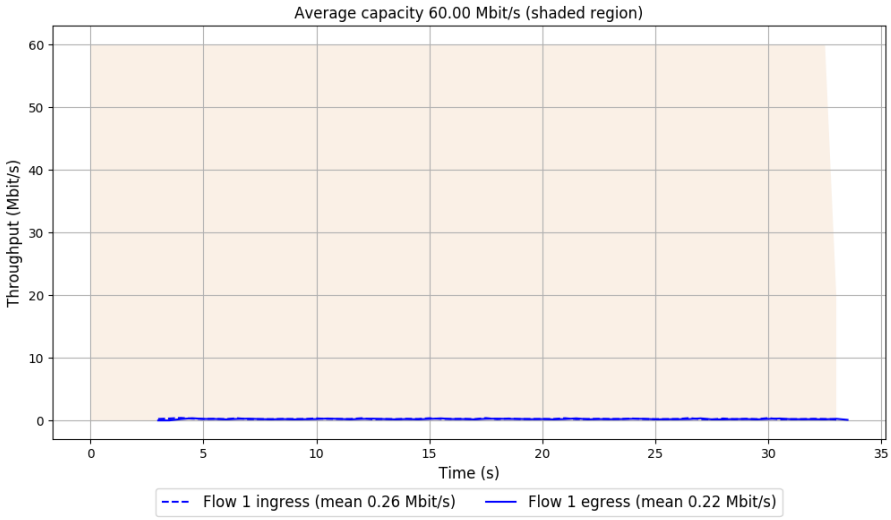


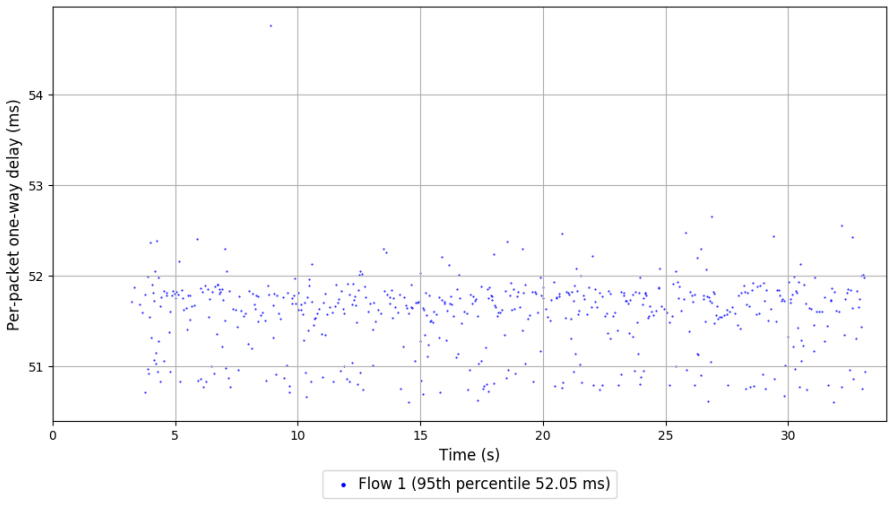
```
Run 1: Statistics of TCP Vegas

Start at: 2019-07-11 22:34:50
End at: 2019-07-11 22:35:20

# Below is generated by plot.py at 2019-07-11 23:08:21
# Datalink statistics
-- Total of 1 flow:
Average capacity: 60.00 Mbit/s
Average throughput: 0.22 Mbit/s (0.4% utilization)
95th percentile per-packet one-way delay: 52.052 ms
Loss rate: 13.97%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 52.052 ms
Loss rate: 13.97%
```

Run 1: Report of TCP Vegas — Data Link



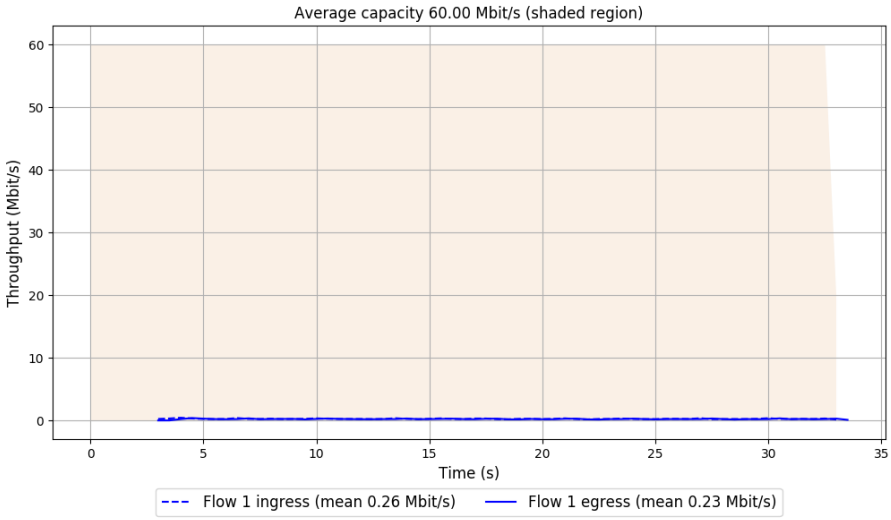


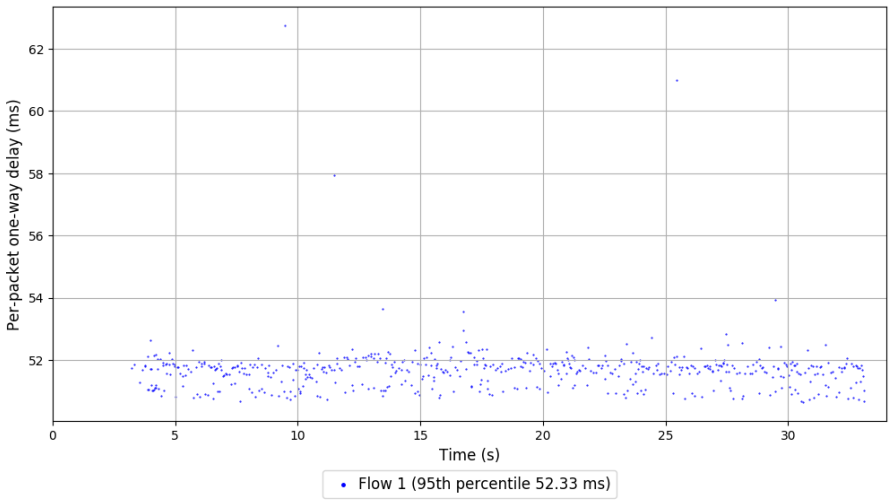
```
Run 2: Statistics of TCP Vegas

Start at: 2019-07-11 22:49:15
End at: 2019-07-11 22:49:45

# Below is generated by plot.py at 2019-07-11 23:08:23
# Datalink statistics
-- Total of 1 flow:
Average capacity: 60.00 Mbit/s
Average throughput: 0.23 Mbit/s (0.4% utilization)
95th percentile per-packet one-way delay: 52.329 ms
Loss rate: 13.72%
-- Flow 1:
Average throughput: 0.23 Mbit/s
95th percentile per-packet one-way delay: 52.329 ms
Loss rate: 13.72%
```

Run 2: Report of TCP Vegas — Data Link



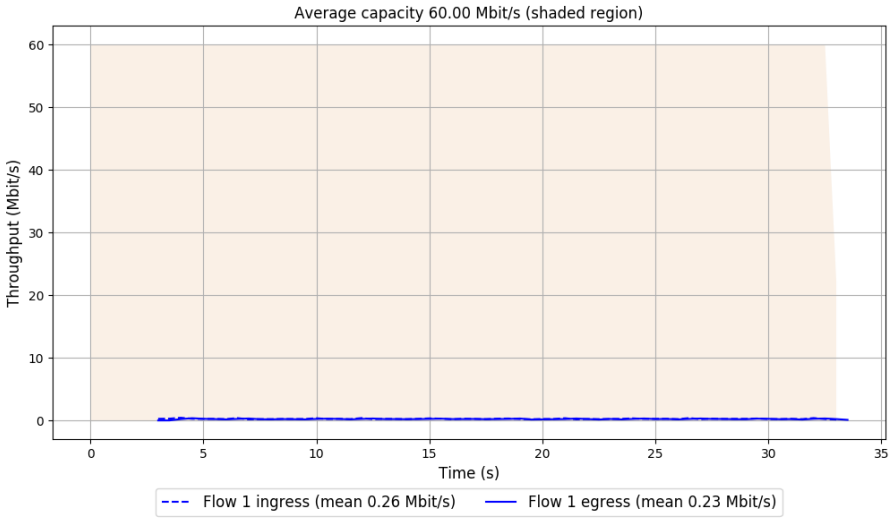


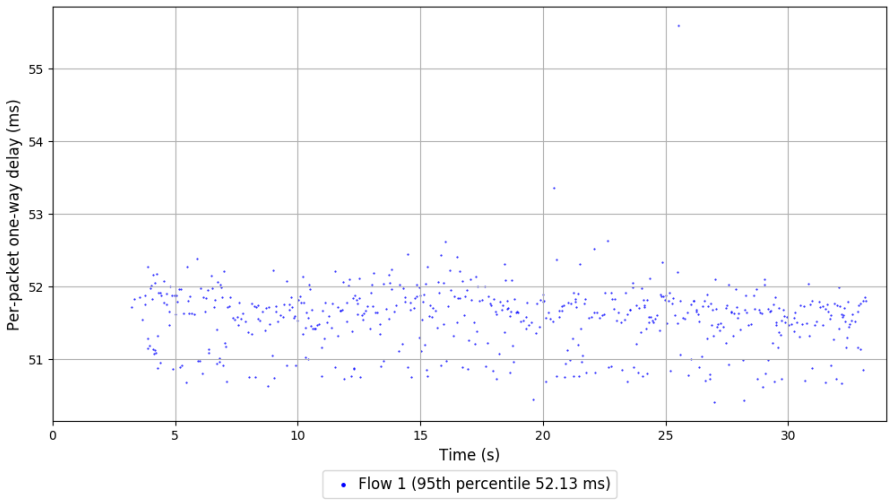
```
Run 3: Statistics of TCP Vegas

Start at: 2019-07-11 23:03:43
End at: 2019-07-11 23:04:13

# Below is generated by plot.py at 2019-07-11 23:08:24
# Datalink statistics
-- Total of 1 flow:
Average capacity: 60.00 Mbit/s
Average throughput: 0.23 Mbit/s (0.4% utilization)
95th percentile per-packet one-way delay: 52.134 ms
Loss rate: 13.72%
-- Flow 1:
Average throughput: 0.23 Mbit/s
95th percentile per-packet one-way delay: 52.134 ms
Loss rate: 13.72%
```

Run 3: Report of TCP Vegas — Data Link



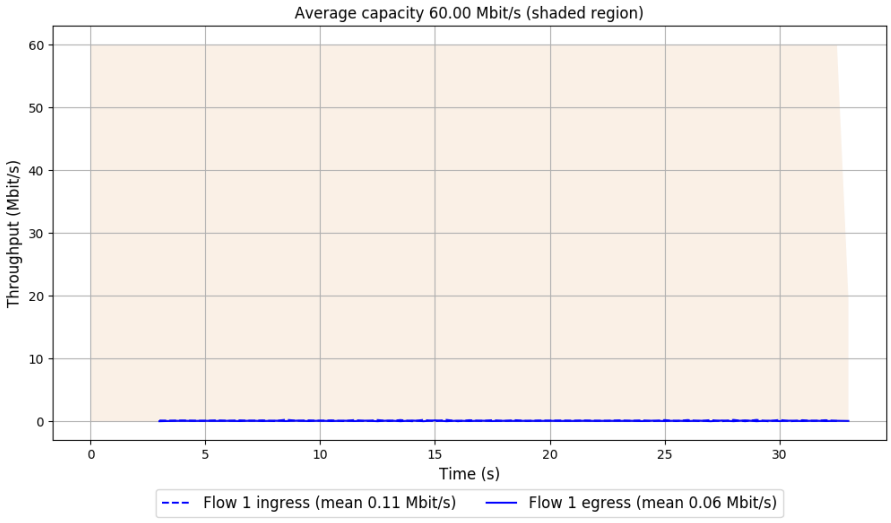


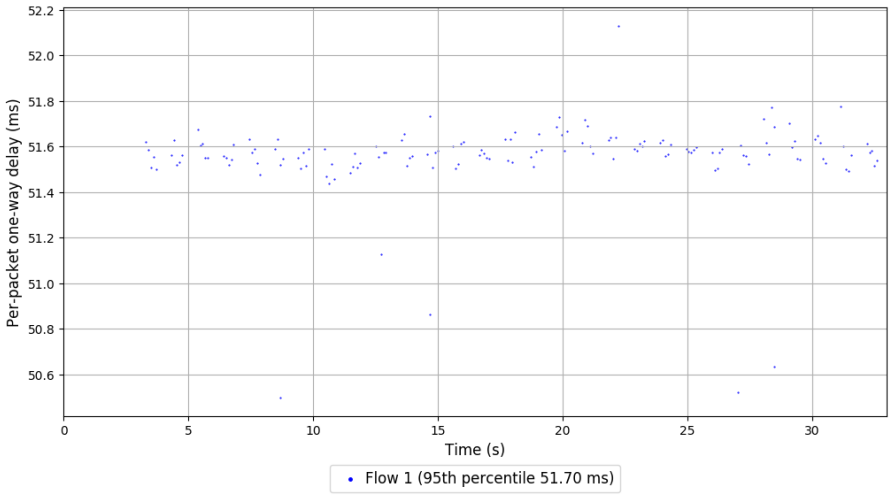
```
Run 1: Statistics of Verus

Start at: 2019-07-11 22:25:48
End at: 2019-07-11 22:26:18

# Below is generated by plot.py at 2019-07-11 23:08:26
# Datalink statistics
-- Total of 1 flow:
Average capacity: 60.00 Mbit/s
Average throughput: 0.06 Mbit/s (0.1% utilization)
95th percentile per-packet one-way delay: 51.702 ms
Loss rate: 44.11%
-- Flow 1:
Average throughput: 0.06 Mbit/s
95th percentile per-packet one-way delay: 51.702 ms
Loss rate: 44.11%
```

Run 1: Report of Verus — Data Link



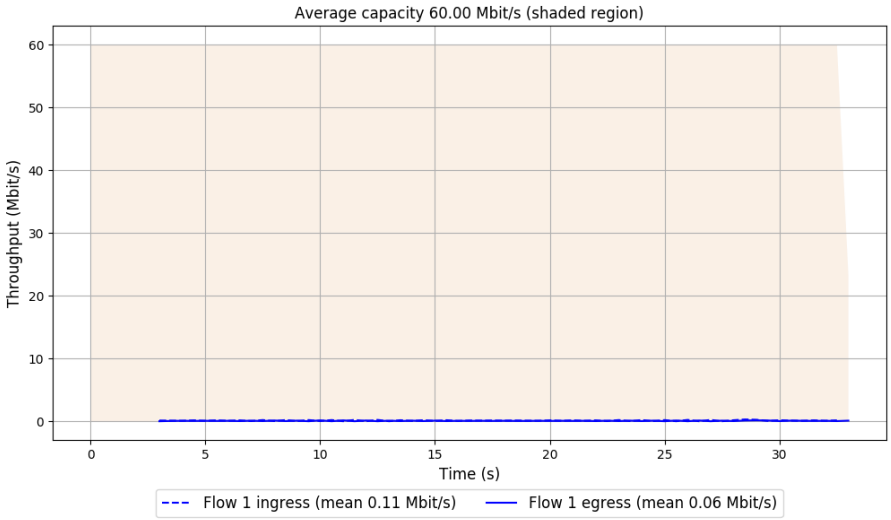


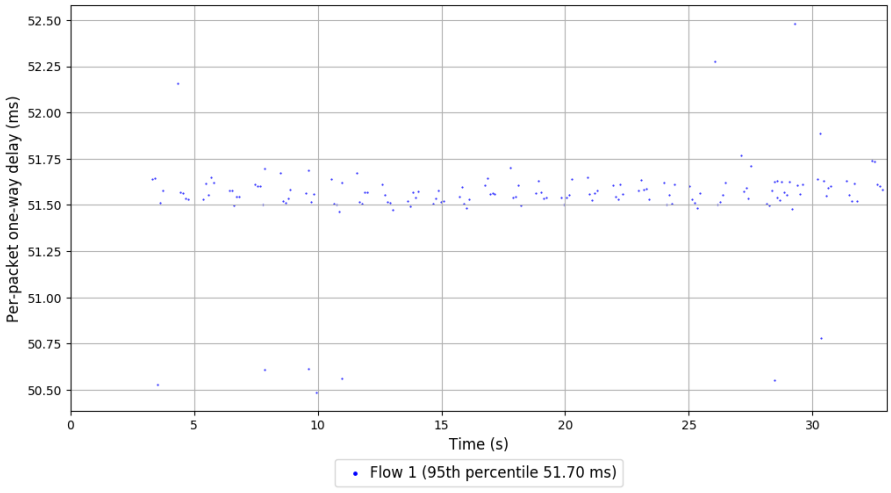
```
Run 2: Statistics of Verus

Start at: 2019-07-11 22:40:14
End at: 2019-07-11 22:40:44

# Below is generated by plot.py at 2019-07-11 23:08:31
# Datalink statistics
-- Total of 1 flow:
Average capacity: 60.00 Mbit/s
Average throughput: 0.06 Mbit/s (0.1% utilization)
95th percentile per-packet one-way delay: 51.703 ms
Loss rate: 43.12%
-- Flow 1:
Average throughput: 0.06 Mbit/s
95th percentile per-packet one-way delay: 51.703 ms
Loss rate: 43.12%
```

Run 2: Report of Verus — Data Link



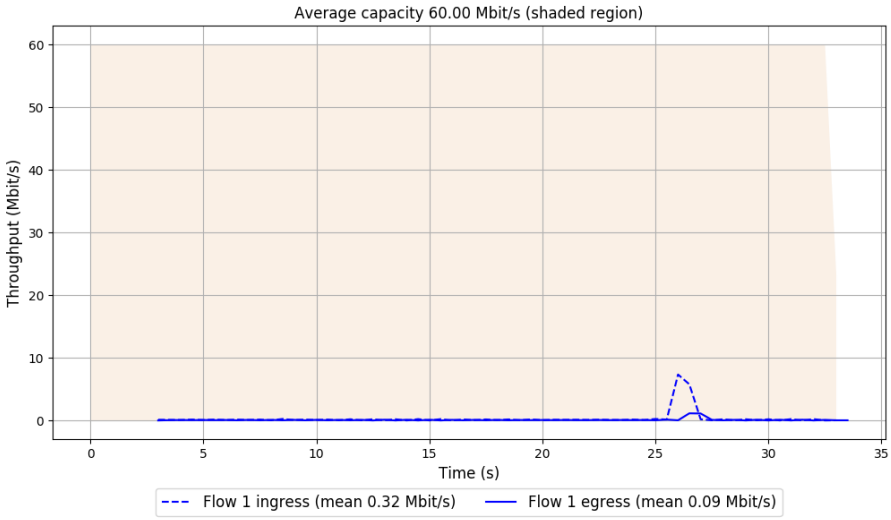


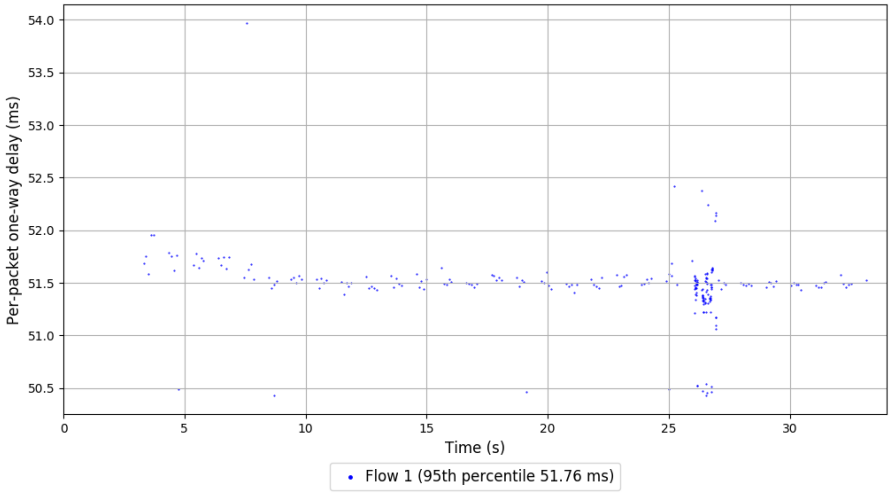
```
Run 3: Statistics of Verus

Start at: 2019-07-11 22:54:39
End at: 2019-07-11 22:55:09

# Below is generated by plot.py at 2019-07-11 23:08:31
# Datalink statistics
-- Total of 1 flow:
Average capacity: 60.00 Mbit/s
Average throughput: 0.09 Mbit/s (0.2% utilization)
95th percentile per-packet one-way delay: 51.755 ms
Loss rate: 70.90%
-- Flow 1:
Average throughput: 0.09 Mbit/s
95th percentile per-packet one-way delay: 51.755 ms
Loss rate: 70.90%
```

Run 3: Report of Verus — Data Link



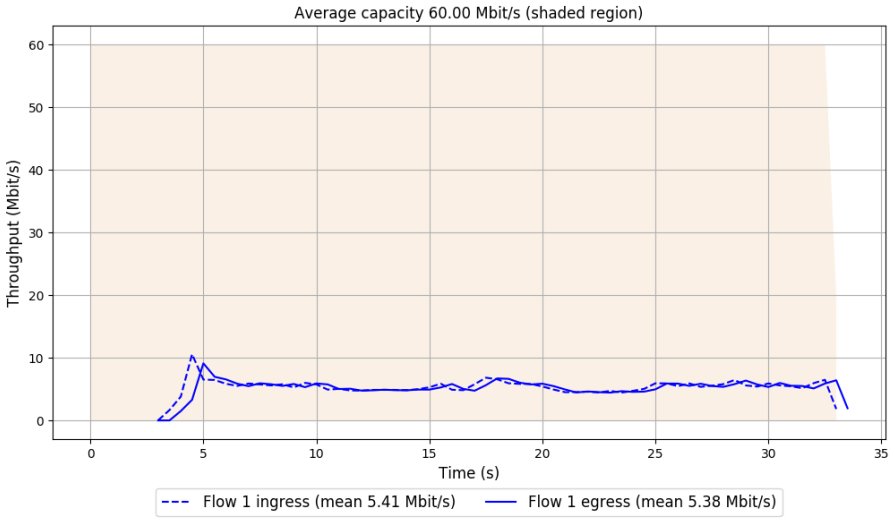


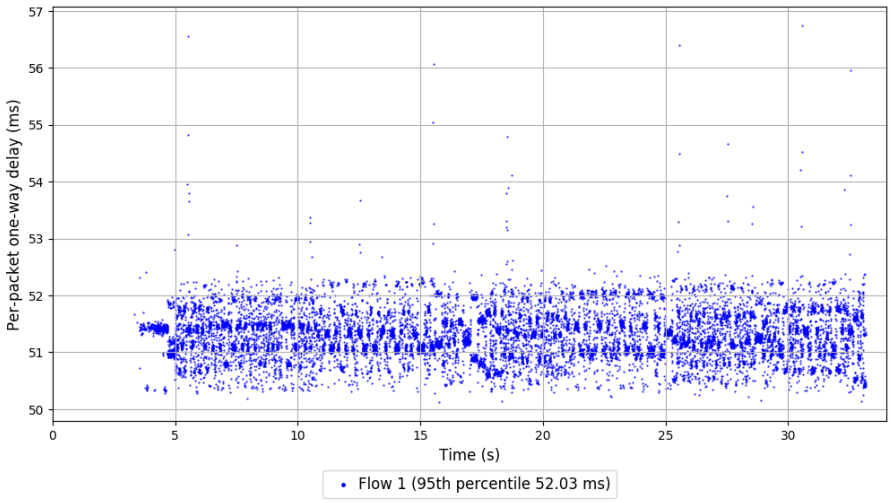
```
Run 1: Statistics of PCC-Vivace

Start at: 2019-07-11 22:25:11
End at: 2019-07-11 22:25:41

# Below is generated by plot.py at 2019-07-11 23:08:35
# Datalink statistics
-- Total of 1 flow:
Average capacity: 60.00 Mbit/s
Average throughput: 5.38 Mbit/s (9.0% utilization)
95th percentile per-packet one-way delay: 52.026 ms
Loss rate: 0.60%
-- Flow 1:
Average throughput: 5.38 Mbit/s
95th percentile per-packet one-way delay: 52.026 ms
Loss rate: 0.60%
```

Run 1: Report of PCC-Vivace — Data Link



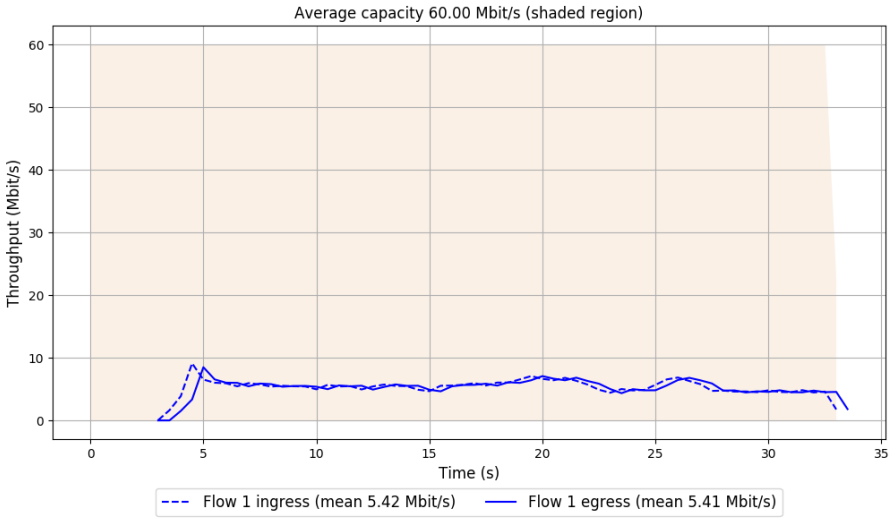


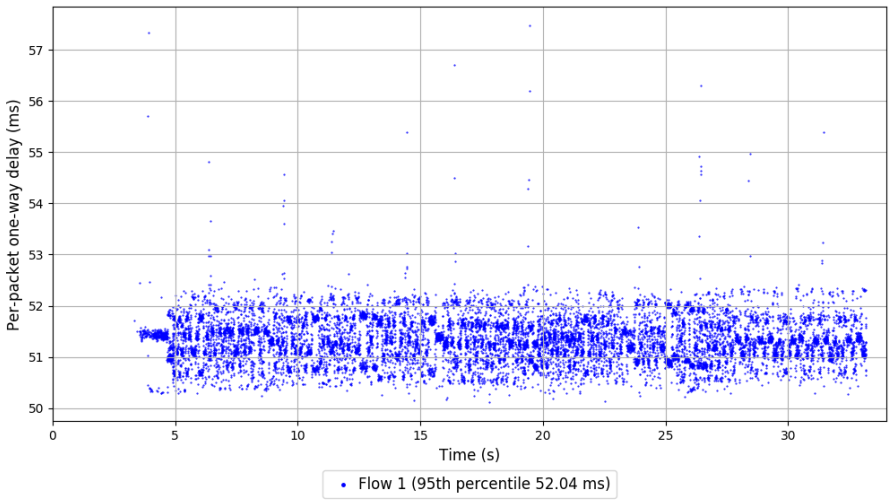
```
Run 2: Statistics of PCC-Vivace

Start at: 2019-07-11 22:39:38
End at: 2019-07-11 22:40:08

# Below is generated by plot.py at 2019-07-11 23:08:40
# Datalink statistics
-- Total of 1 flow:
Average capacity: 60.00 Mbit/s
Average throughput: 5.41 Mbit/s (9.0% utilization)
95th percentile per-packet one-way delay: 52.040 ms
Loss rate: 0.45%
-- Flow 1:
Average throughput: 5.41 Mbit/s
95th percentile per-packet one-way delay: 52.040 ms
Loss rate: 0.45%
```

Run 2: Report of PCC-Vivace — Data Link



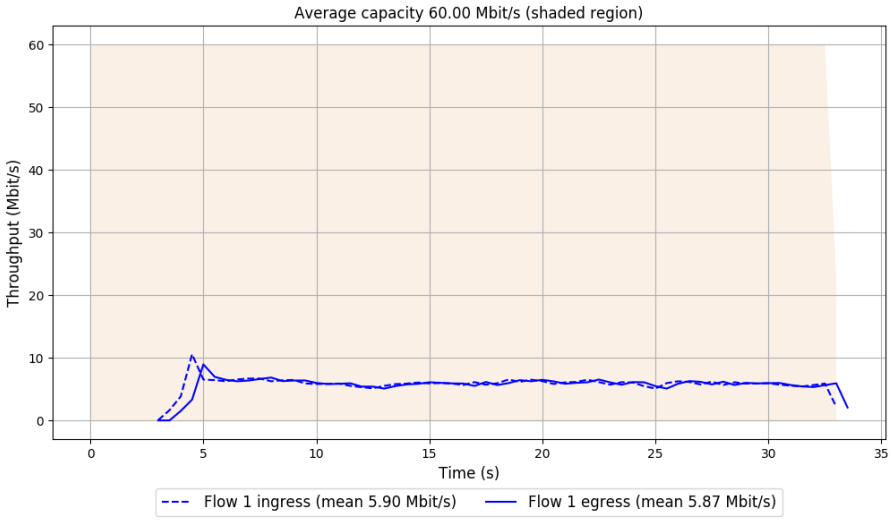


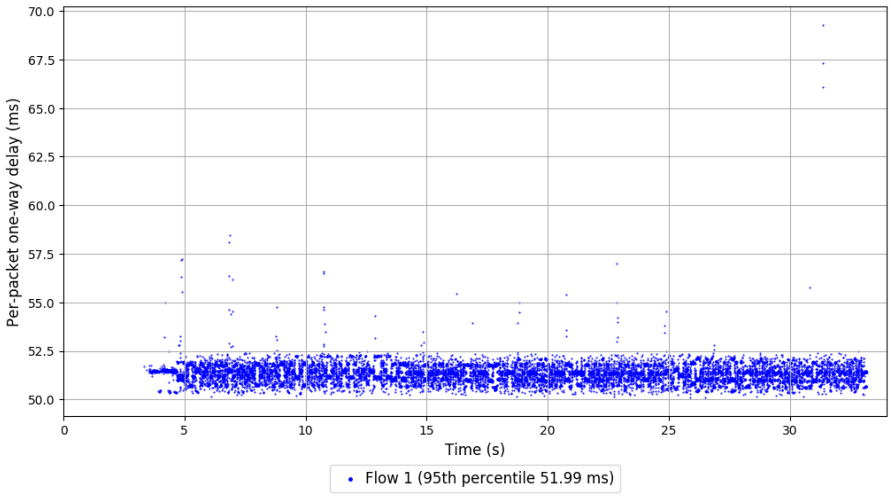
```
Run 3: Statistics of PCC-Vivace

Start at: 2019-07-11 22:54:03
End at: 2019-07-11 22:54:33

# Below is generated by plot.py at 2019-07-11 23:08:41
# Datalink statistics
-- Total of 1 flow:
Average capacity: 60.00 Mbit/s
Average throughput: 5.87 Mbit/s (9.8% utilization)
95th percentile per-packet one-way delay: 51.986 ms
Loss rate: 0.74%
-- Flow 1:
Average throughput: 5.87 Mbit/s
95th percentile per-packet one-way delay: 51.986 ms
Loss rate: 0.74%
```

Run 3: Report of PCC-Vivace — Data Link

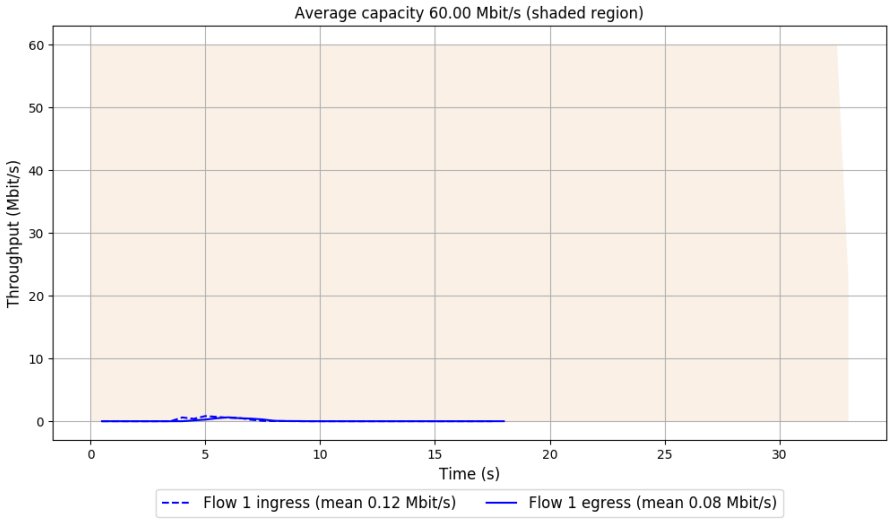


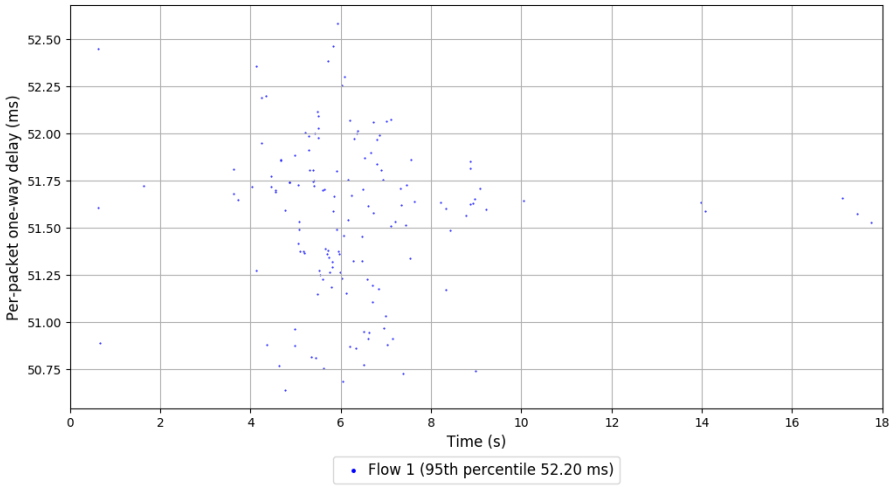


```
Run 1: Statistics of WebRTC media

Start at: 2019-07-11 22:28:12
End at: 2019-07-11 22:28:42
```

Run 1: Report of WebRTC media — Data Link

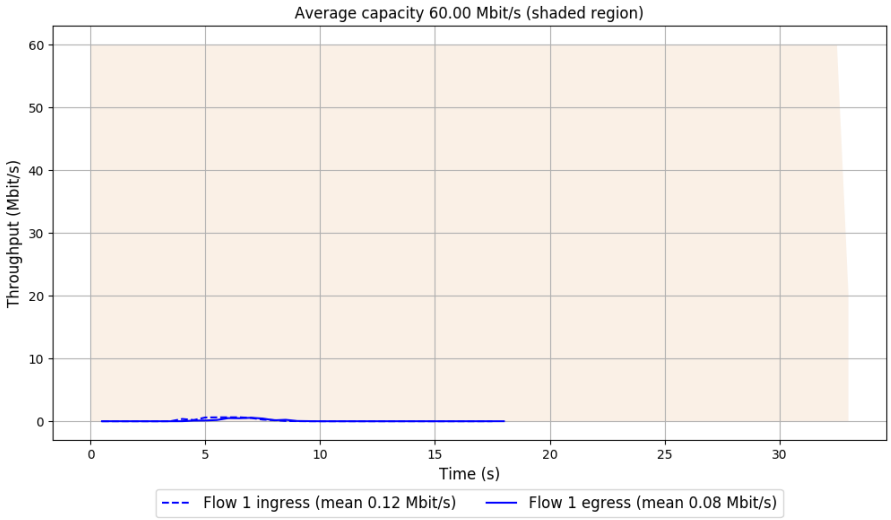


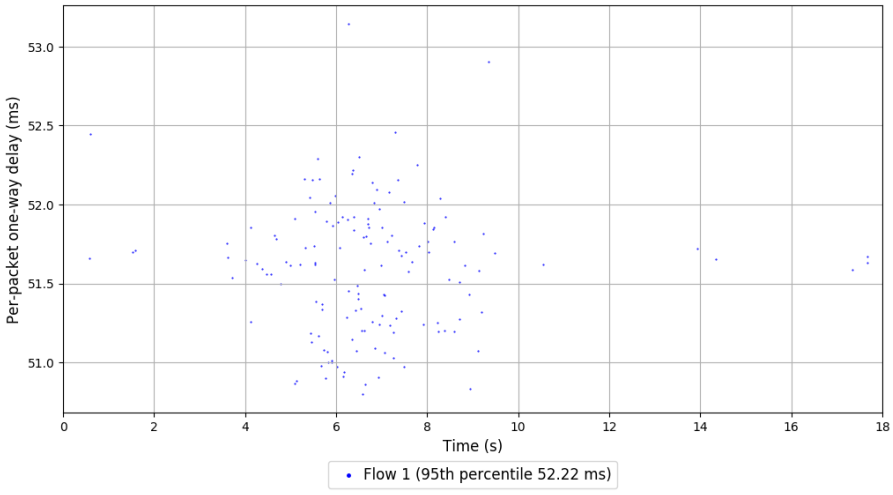


```
Run 2: Statistics of WebRTC media

Start at: 2019-07-11 22:42:38
End at: 2019-07-11 22:43:08
```

Run 2: Report of WebRTC media — Data Link





```
Run 3: Statistics of WebRTC media

Start at: 2019-07-11 22:57:04
End at: 2019-07-11 22:57:34
```

Run 3: Report of WebRTC media — Data Link