Pantheon Report

Generated at 2020-04-16 09:48:45 (UTC).

Tested in mahimahi: `mm-delay 30 mm-link 12mbps.trace 12mbps.trace --uplink-queue=droptail --uplink-queue-args=bytes=90000`

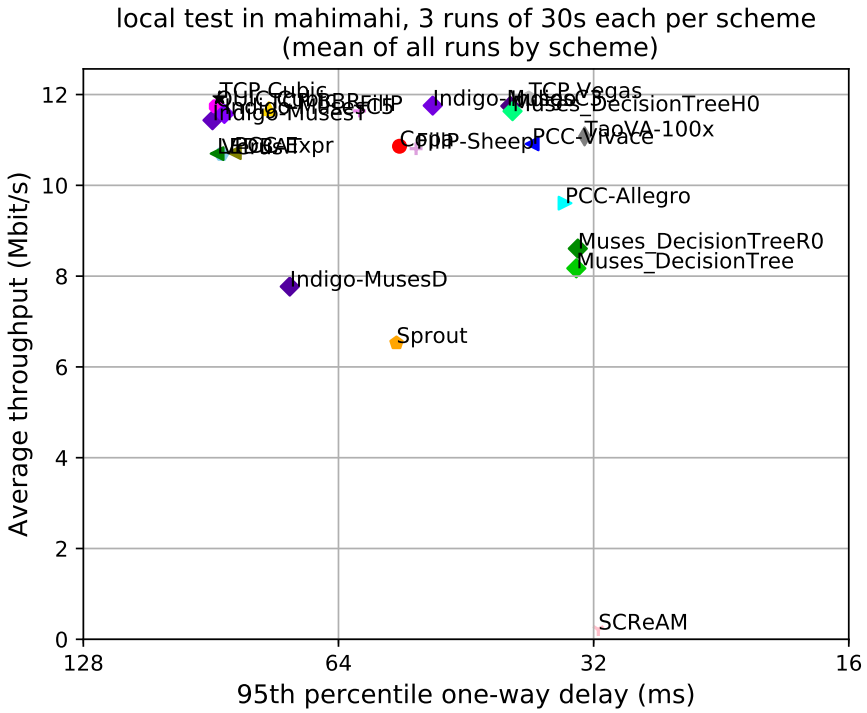
Repeated the test of 24 congestion control schemes 3 times.

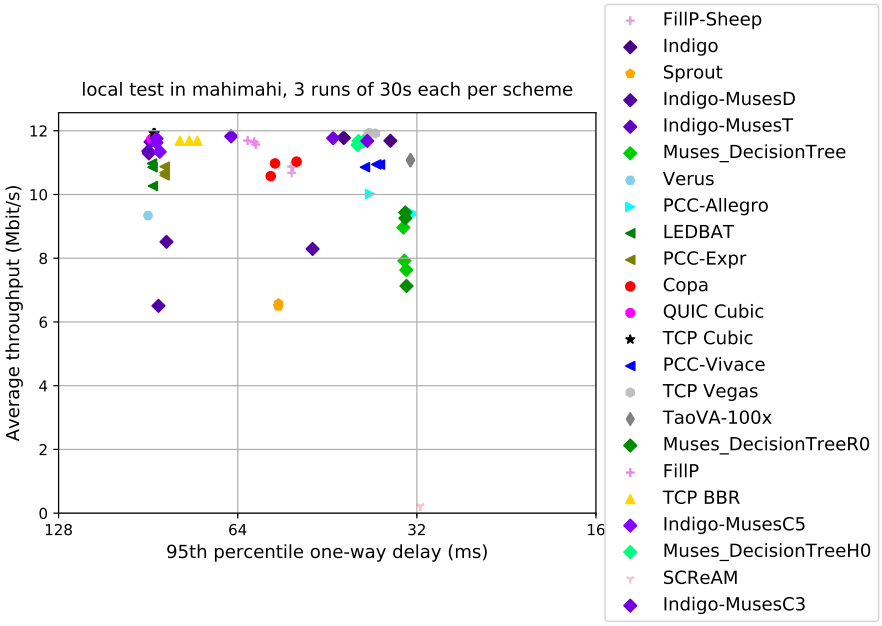
Each test lasted for 30 seconds running 1 flow.

```
System info:
Linux 5.0.0-1031-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)
0
2
4
6
8
10
12
128
64
32
16
TCP-Cubic
Indigo-MusesC
TCP-Vegas
Muses_DecisionTreeH0
TaoVA-100x
PCC-Vivace
PCC-Allegro
Muses_DecisionTreeR0
Muses_DecisionTree
Indigo-MusesD
Sprout
SCReAM


local test in mahimahi, 3 runs of 30s each per scheme
Average throughput (Mbit/s)
95th percentile one-way delay (ms)
0
2
4
6
8
10
12
128
64
32
16
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

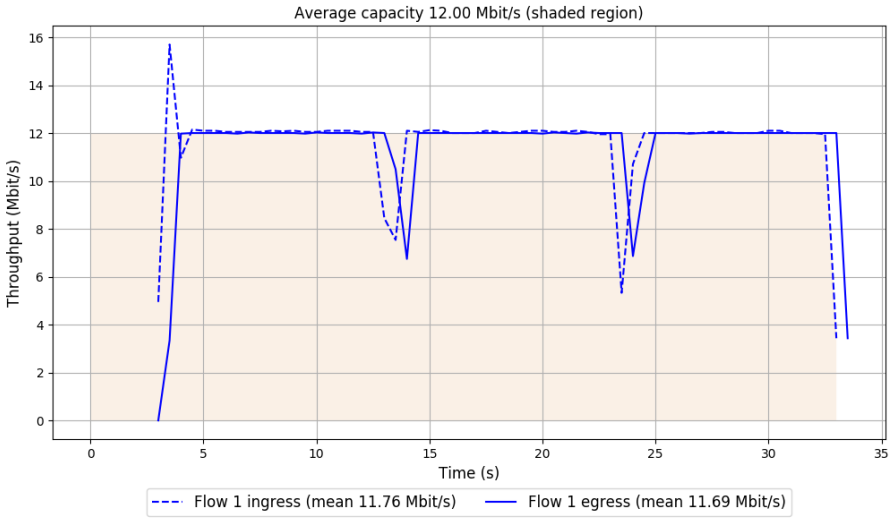
scheme	# runs	mean avg tput (Mbit/s) flow 1	mean 95th-%ile delay (ms) flow 1	mean loss rate (%) flow 1
TCP BBR	3	11.69	77.34	0.66
Copa	3	10.86	54.22	0.19
TCP Cubic	3	11.93	88.41	0.39
FillP	3	11.64	60.43	0.83
FillP-Sheep	3	10.81	51.84	0.79
Indigo	3	11.75	40.13	0.13
Indigo-MusesC3	3	11.76	49.55	0.20
Indigo-MusesC5	3	11.57	87.26	8.33
Indigo-MusesD	3	7.77	73.06	1.58
Indigo-MusesT	3	11.43	90.12	11.06
LEDBAT	3	10.70	89.01	0.28
Muses_DecisionTree	3	8.17	33.54	0.11
Muses_DecisionTreeH0	3	11.63	39.89	0.13
Muses_DecisionTreeR0	3	8.61	33.41	0.11
PCC-Allegro	3	9.61	34.58	0.87
PCC-Expr	3	10.72	84.94	0.25
QUIC Cubic	3	11.74	89.30	0.89
SCReAM	3	0.21	31.59	0.09
Sprout	3	6.53	54.67	0.15
TaoVA-100x	3	11.08	32.80	0.43
TCP Vegas	3	11.93	38.17	0.34
Verus	3	10.68	87.91	31.27
PCC-Vivace	3	10.91	37.82	0.11
WebRTC media	0	N/A	N/A	N/A

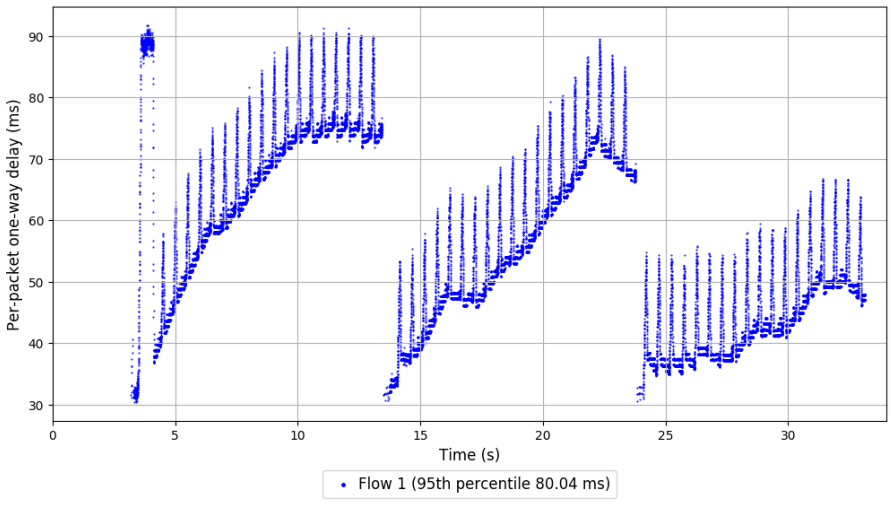
```
Run 1: Statistics of TCP BBR

Start at: 2020-04-16 09:15:22
End at: 2020-04-16 09:15:52

# Below is generated by plot.py at 2020-04-16 09:45:26
# 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: 80.041 ms
Loss rate: 0.67%
-- Flow 1:
Average throughput: 11.69 Mbit/s
95th percentile per-packet one-way delay: 80.041 ms
Loss rate: 0.67%
```

Run 1: Report of TCP BBR — Data Link



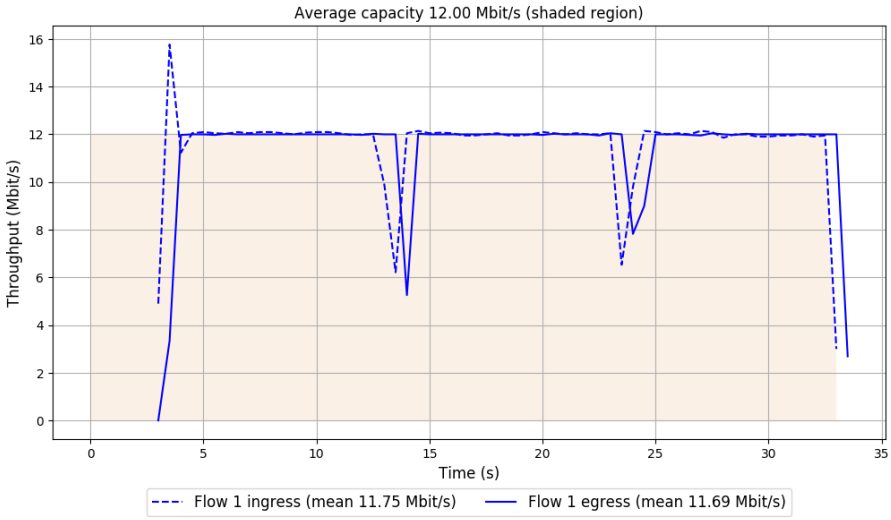


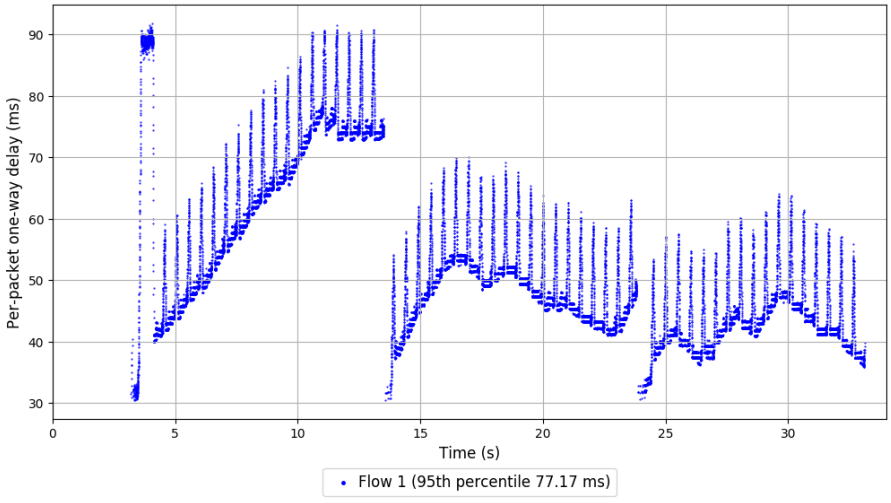
```
Run 2: Statistics of TCP BBR

Start at: 2020-04-16 09:29:30
End at: 2020-04-16 09:30:00

# Below is generated by plot.py at 2020-04-16 09:45:29
# 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: 77.167 ms
Loss rate: 0.64%
-- Flow 1:
Average throughput: 11.69 Mbit/s
95th percentile per-packet one-way delay: 77.167 ms
Loss rate: 0.64%
```

Run 2: Report of TCP BBR — Data Link



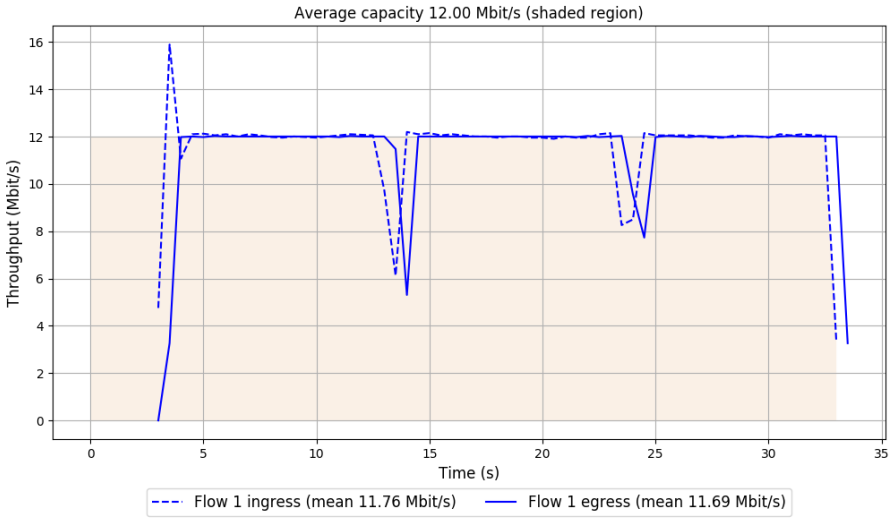


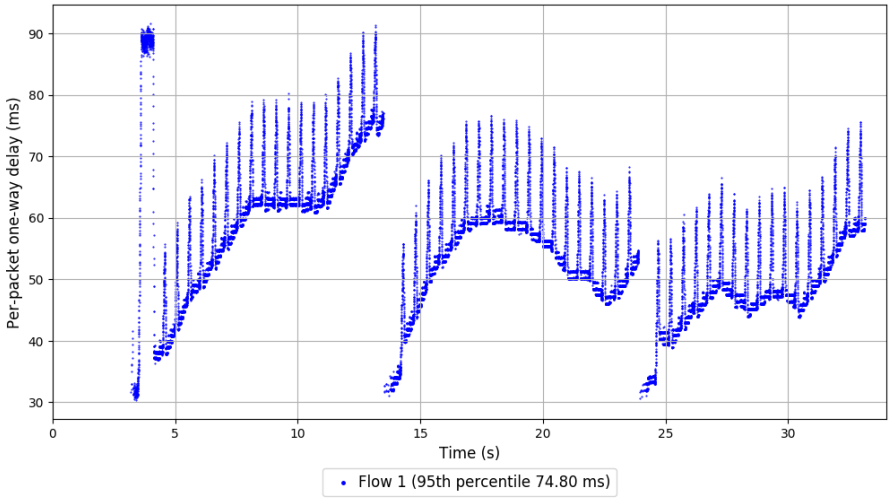
```
Run 3: Statistics of TCP BBR

Start at: 2020-04-16 09:43:37
End at: 2020-04-16 09:44:07

# Below is generated by plot.py at 2020-04-16 09:45:29
# 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: 74.803 ms
Loss rate: 0.68%
-- Flow 1:
Average throughput: 11.69 Mbit/s
95th percentile per-packet one-way delay: 74.803 ms
Loss rate: 0.68%
```

Run 3: Report of TCP BBR — Data Link



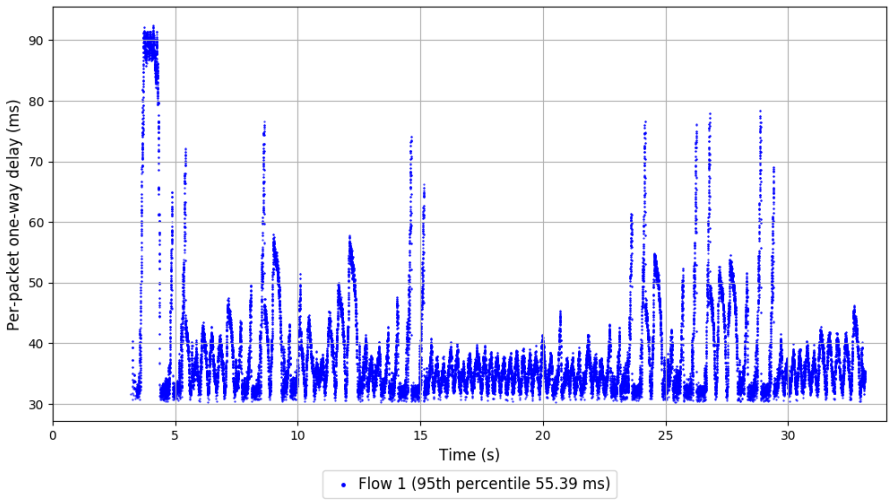


```
Run 1: Statistics of Copa

Start at: 2020-04-16 09:07:08
End at: 2020-04-16 09:07:38

# Below is generated by plot.py at 2020-04-16 09:45:40
# Datalink statistics
-- Total of 1 flow:
Average capacity: 12.00 Mbit/s
Average throughput: 10.97 Mbit/s (91.5% utilization)
95th percentile per-packet one-way delay: 55.391 ms
Loss rate: 0.37%
-- Flow 1:
Average throughput: 10.97 Mbit/s
95th percentile per-packet one-way delay: 55.391 ms
Loss rate: 0.37%
```

Run 1: Report of Copa — Data Link

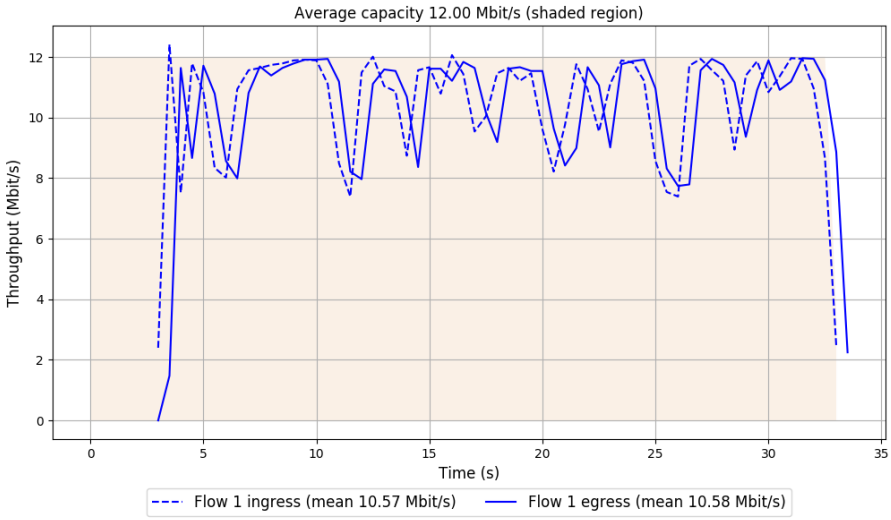


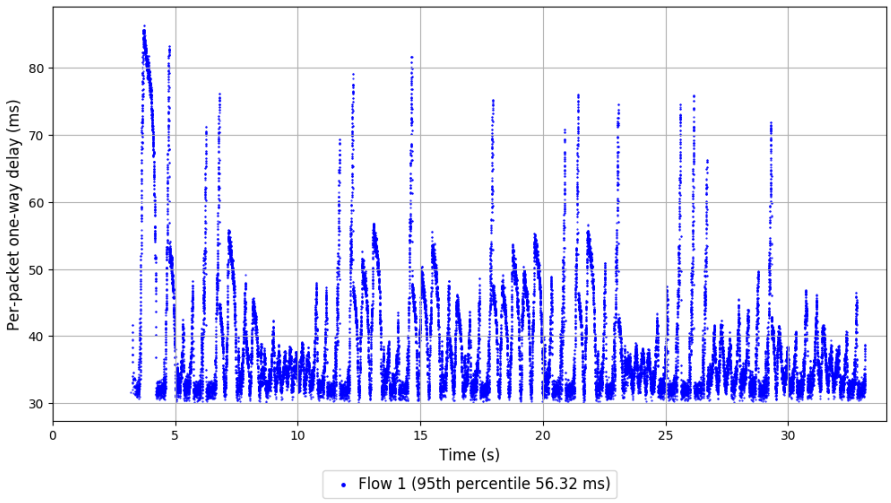
```
Run 2: Statistics of Copa

Start at: 2020-04-16 09:21:16
End at: 2020-04-16 09:21:46

# Below is generated by plot.py at 2020-04-16 09:45:40
# Datalink statistics
-- Total of 1 flow:
Average capacity: 12.00 Mbit/s
Average throughput: 10.58 Mbit/s (88.1% utilization)
95th percentile per-packet one-way delay: 56.318 ms
Loss rate: 0.09%
-- Flow 1:
Average throughput: 10.58 Mbit/s
95th percentile per-packet one-way delay: 56.318 ms
Loss rate: 0.09%
```

Run 2: Report of Copa — Data Link



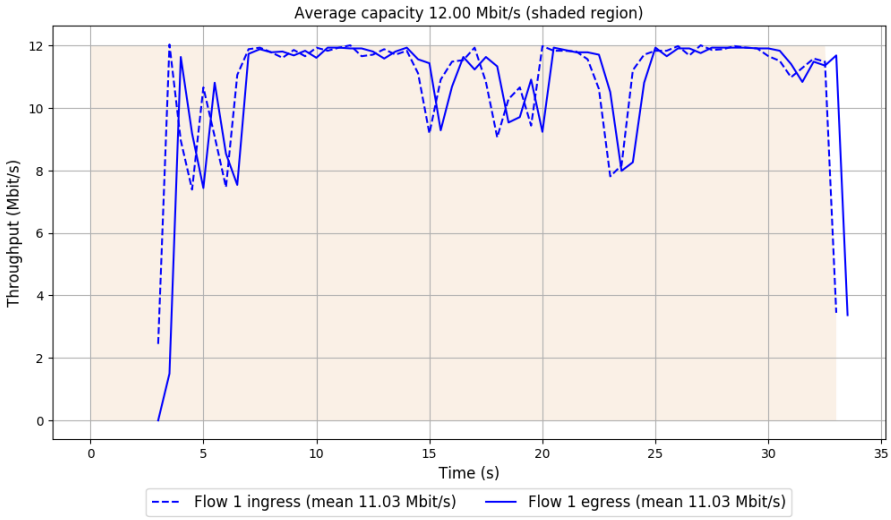


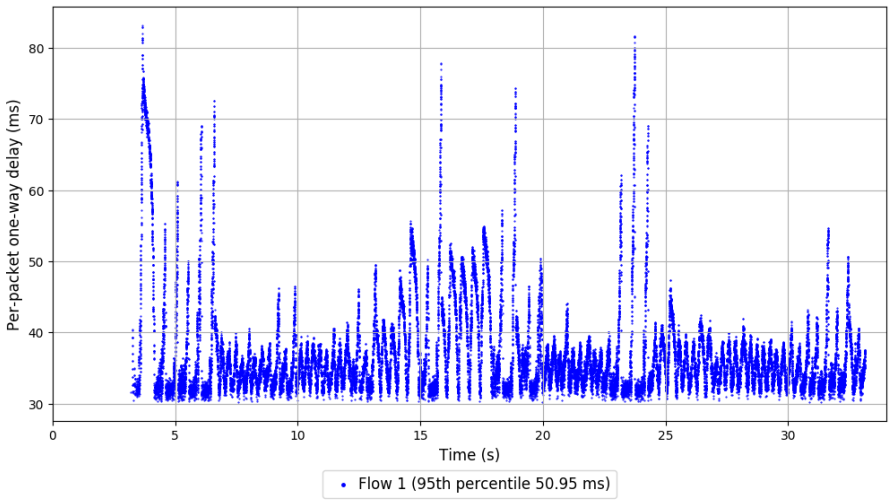
```
Run 3: Statistics of Copa

Start at: 2020-04-16 09:35:23
End at: 2020-04-16 09:35:53

# Below is generated by plot.py at 2020-04-16 09:45:41
# Datalink statistics
-- Total of 1 flow:
Average capacity: 12.00 Mbit/s
Average throughput: 11.03 Mbit/s (91.9% utilization)
95th percentile per-packet one-way delay: 50.954 ms
Loss rate: 0.12%
-- Flow 1:
Average throughput: 11.03 Mbit/s
95th percentile per-packet one-way delay: 50.954 ms
Loss rate: 0.12%
```

Run 3: Report of Copa — Data Link



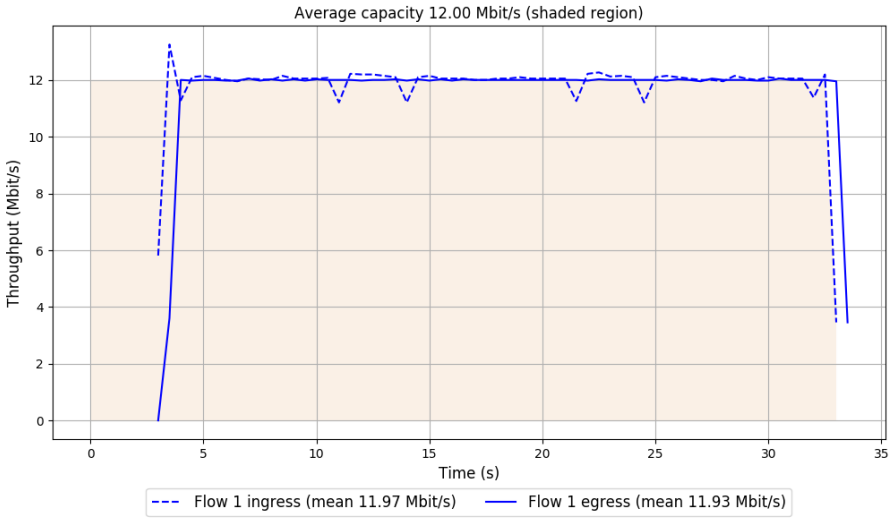


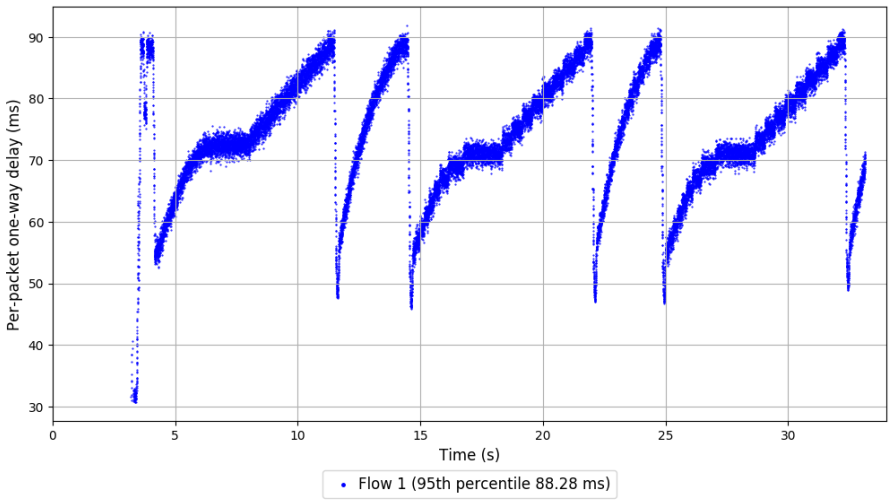
```
Run 1: Statistics of TCP Cubic

Start at: 2020-04-16 09:09:30
End at: 2020-04-16 09:10:00

# Below is generated by plot.py at 2020-04-16 09:45:41
# Datalink statistics
-- Total of 1 flow:
Average capacity: 12.00 Mbit/s
Average throughput: 11.93 Mbit/s (99.4% utilization)
95th percentile per-packet one-way delay: 88.283 ms
Loss rate: 0.44%
-- Flow 1:
Average throughput: 11.93 Mbit/s
95th percentile per-packet one-way delay: 88.283 ms
Loss rate: 0.44%
```

Run 1: Report of TCP Cubic — Data Link



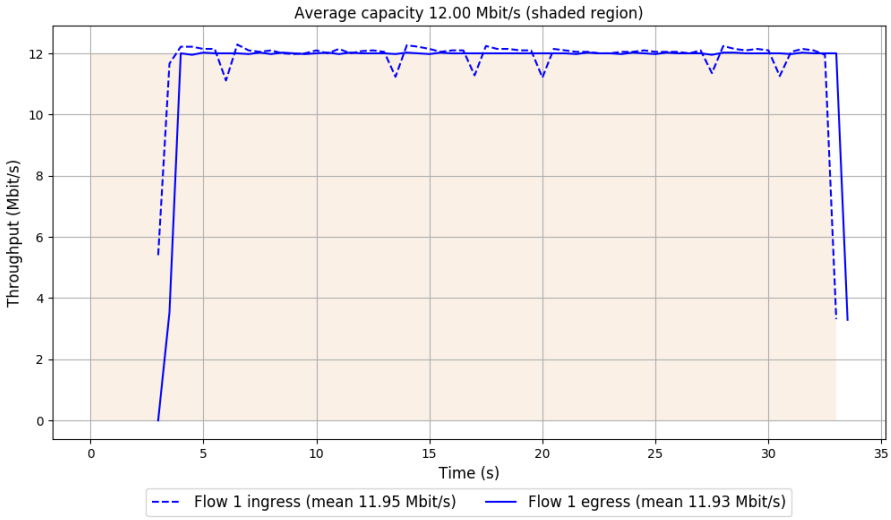


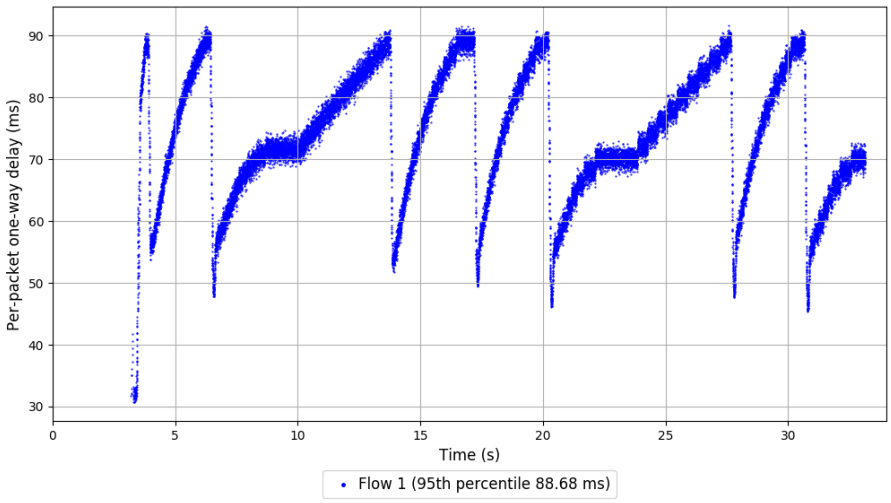
```
Run 2: Statistics of TCP Cubic

Start at: 2020-04-16 09:23:37
End at: 2020-04-16 09:24:07

# Below is generated by plot.py at 2020-04-16 09:45:41
# Datalink statistics
-- Total of 1 flow:
Average capacity: 12.00 Mbit/s
Average throughput: 11.93 Mbit/s (99.4% utilization)
95th percentile per-packet one-way delay: 88.683 ms
Loss rate: 0.28%
-- Flow 1:
Average throughput: 11.93 Mbit/s
95th percentile per-packet one-way delay: 88.683 ms
Loss rate: 0.28%
```

Run 2: Report of TCP Cubic — Data Link



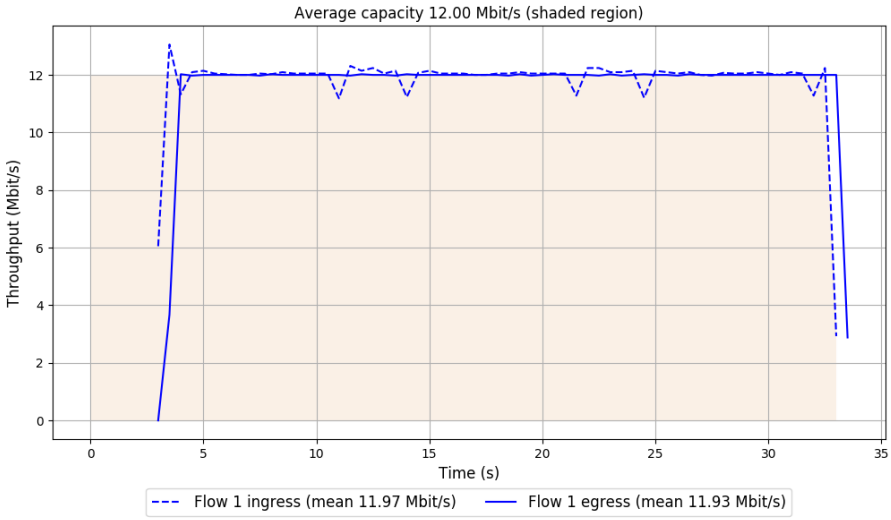


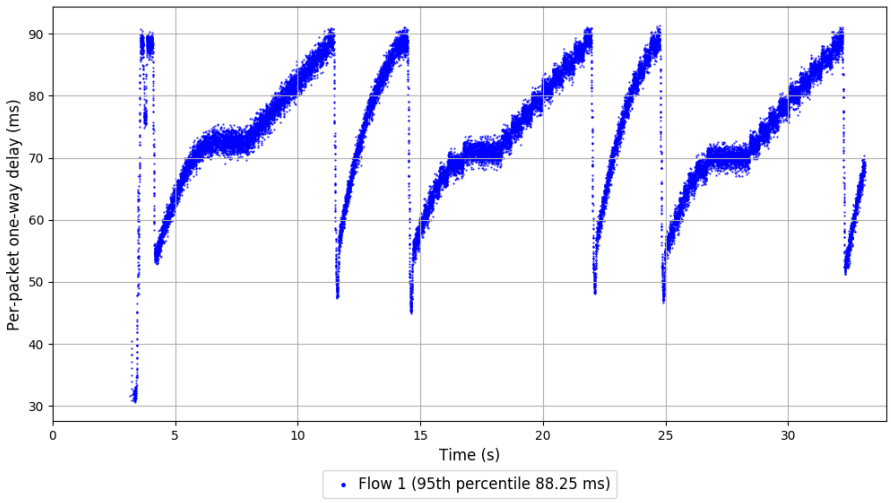
```
Run 3: Statistics of TCP Cubic

Start at: 2020-04-16 09:37:45
End at: 2020-04-16 09:38:15

# Below is generated by plot.py at 2020-04-16 09:45:51
# Datalink statistics
-- Total of 1 flow:
Average capacity: 12.00 Mbit/s
Average throughput: 11.93 Mbit/s (99.4% utilization)
95th percentile per-packet one-way delay: 88.255 ms
Loss rate: 0.44%
-- Flow 1:
Average throughput: 11.93 Mbit/s
95th percentile per-packet one-way delay: 88.255 ms
Loss rate: 0.44%
```

Run 3: Report of TCP Cubic — Data Link



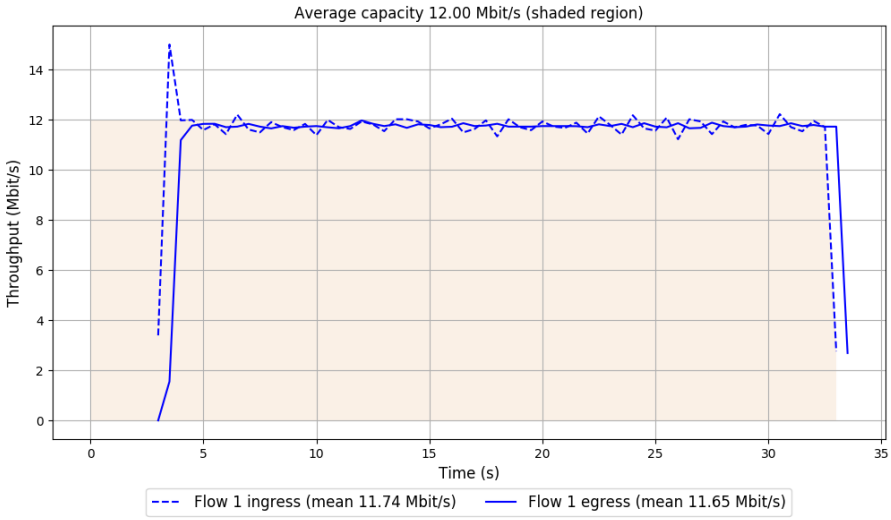


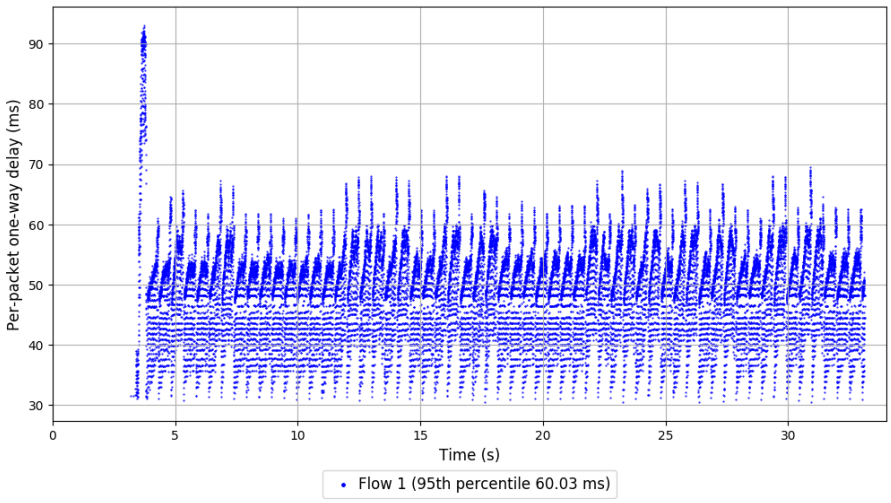
```
Run 1: Statistics of FillP

Start at: 2020-04-16 09:02:26
End at: 2020-04-16 09:02:56

# Below is generated by plot.py at 2020-04-16 09:45:56
# 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: 60.034 ms
Loss rate: 0.83%
-- Flow 1:
Average throughput: 11.65 Mbit/s
95th percentile per-packet one-way delay: 60.034 ms
Loss rate: 0.83%
```

Run 1: Report of FillP — Data Link



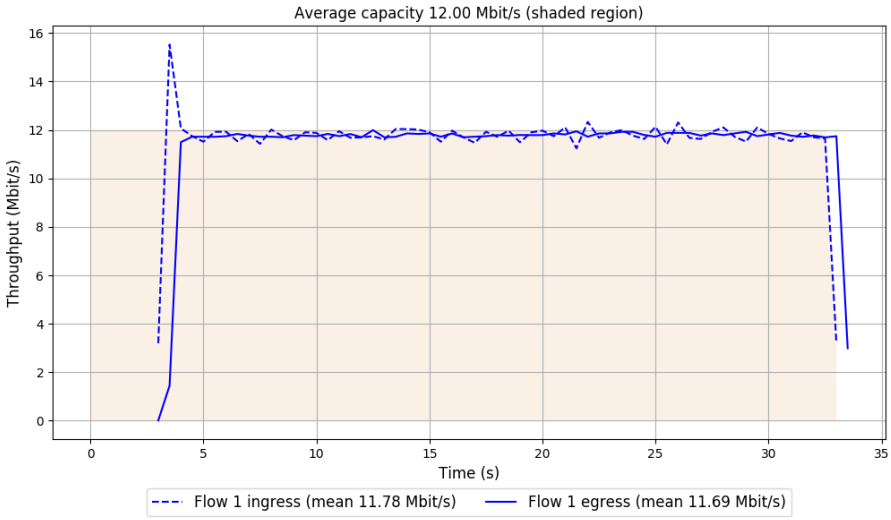


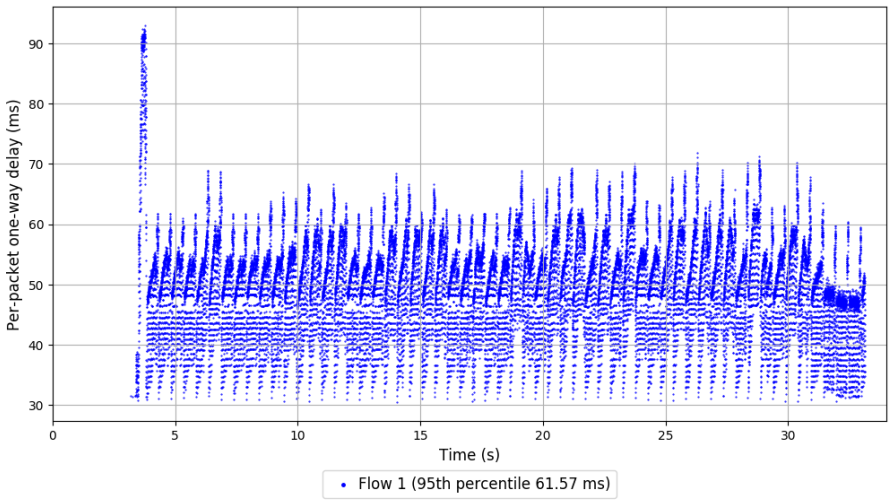
```
Run 2: Statistics of FillP

Start at: 2020-04-16 09:16:33
End at: 2020-04-16 09:17:03

# Below is generated by plot.py at 2020-04-16 09:45:57
# 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: 61.571 ms
Loss rate: 0.87%
-- Flow 1:
Average throughput: 11.69 Mbit/s
95th percentile per-packet one-way delay: 61.571 ms
Loss rate: 0.87%
```

Run 2: Report of FillP — Data Link



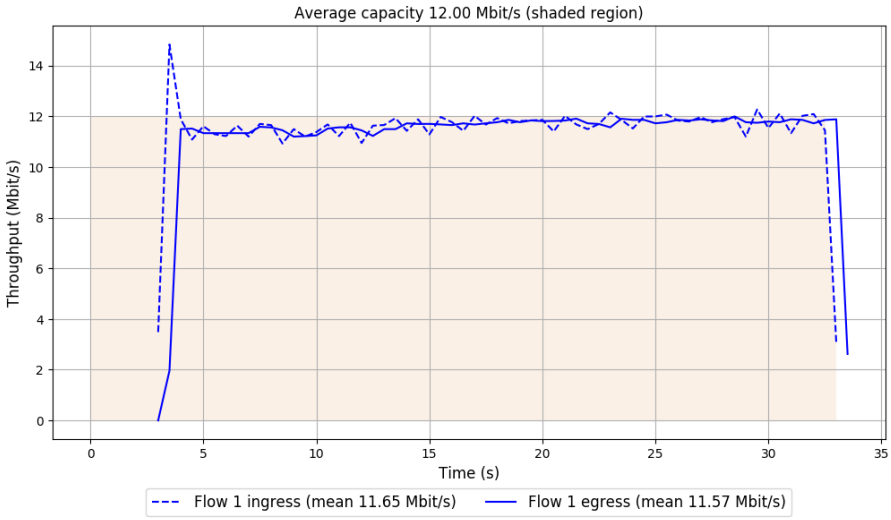


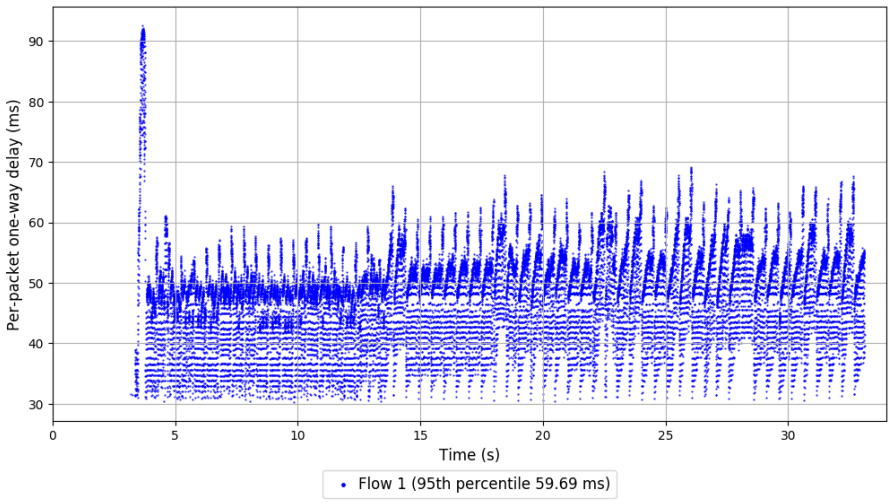
```
Run 3: Statistics of FillP

Start at: 2020-04-16 09:30:41
End at: 2020-04-16 09:31:11

# Below is generated by plot.py at 2020-04-16 09:45:57
# Datalink statistics
-- Total of 1 flow:
Average capacity: 12.00 Mbit/s
Average throughput: 11.57 Mbit/s (96.4% utilization)
95th percentile per-packet one-way delay: 59.687 ms
Loss rate: 0.80%
-- Flow 1:
Average throughput: 11.57 Mbit/s
95th percentile per-packet one-way delay: 59.687 ms
Loss rate: 0.80%
```

Run 3: Report of FillP — Data Link



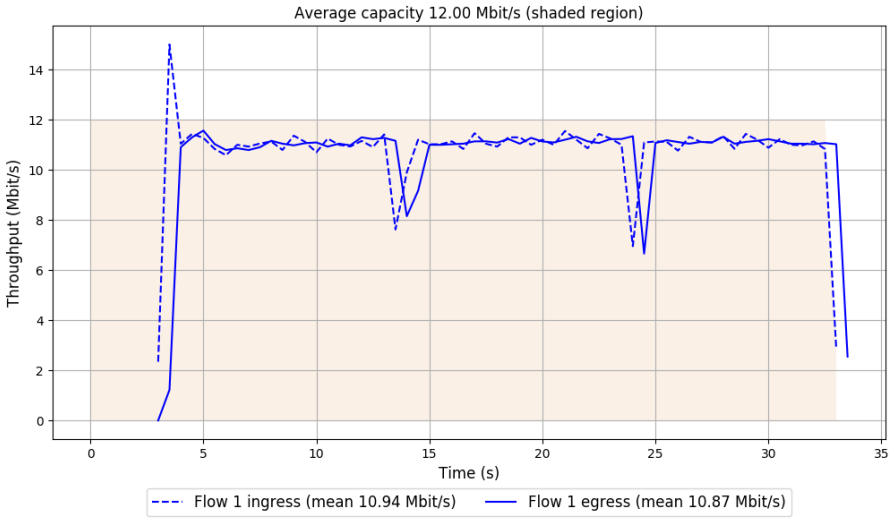


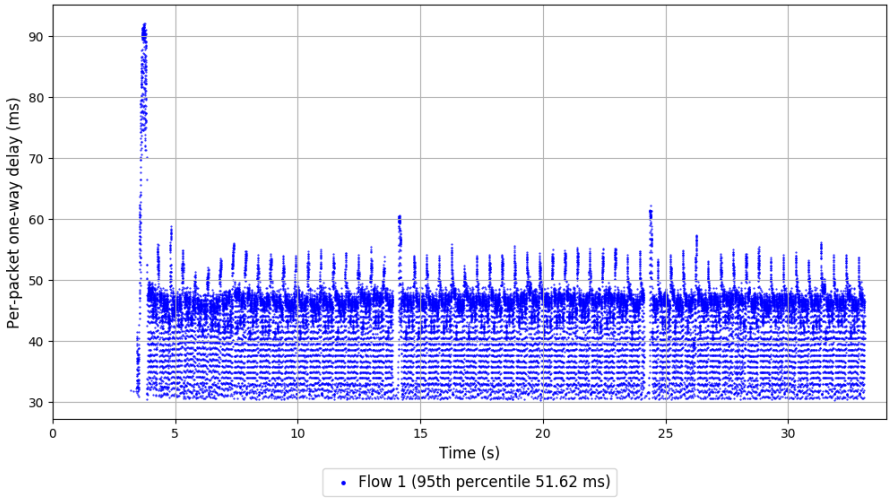
```
Run 1: Statistics of FillP-Sheep

Start at: 2020-04-16 09:10:05
End at: 2020-04-16 09:10:35

# Below is generated by plot.py at 2020-04-16 09:45:57
# Datalink statistics
-- Total of 1 flow:
Average capacity: 12.00 Mbit/s
Average throughput: 10.87 Mbit/s (90.6% utilization)
95th percentile per-packet one-way delay: 51.624 ms
Loss rate: 0.79%
-- Flow 1:
Average throughput: 10.87 Mbit/s
95th percentile per-packet one-way delay: 51.624 ms
Loss rate: 0.79%
```

Run 1: Report of FillP-Sheep — Data Link



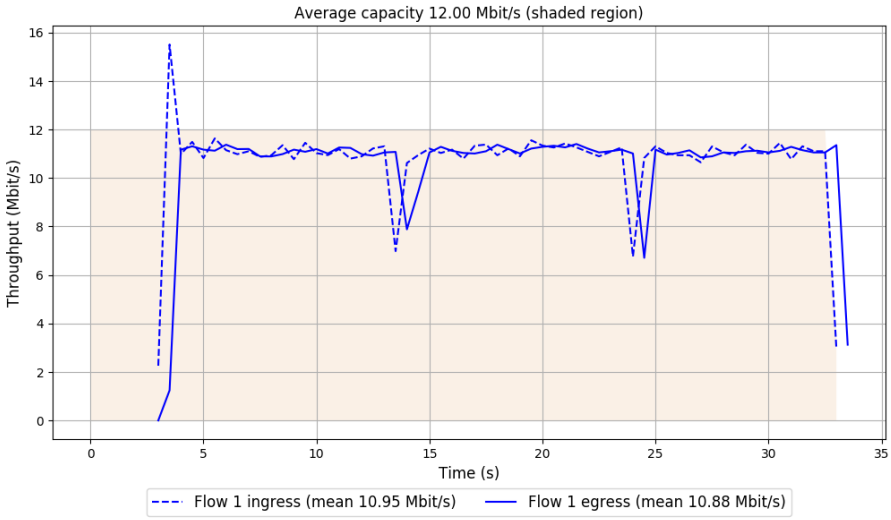


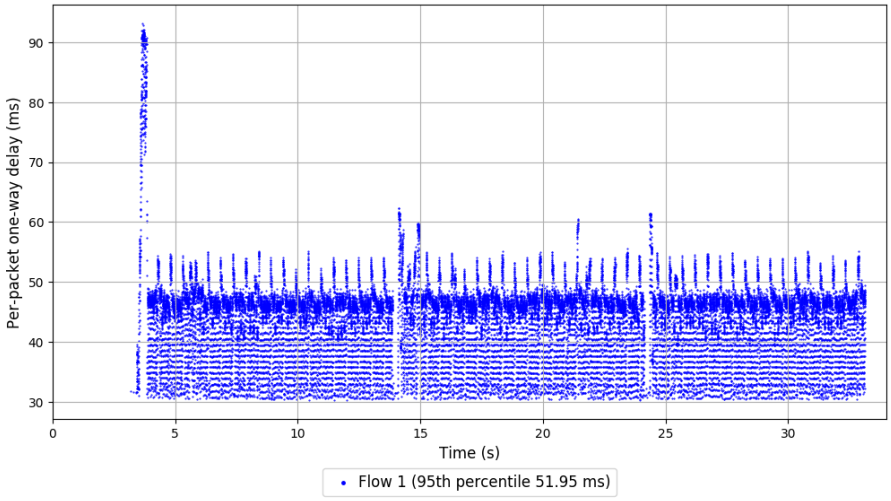
```
Run 2: Statistics of FillP-Sheep

Start at: 2020-04-16 09:24:12
End at: 2020-04-16 09:24:42

# Below is generated by plot.py at 2020-04-16 09:46:07
# Datalink statistics
-- Total of 1 flow:
Average capacity: 12.00 Mbit/s
Average throughput: 10.88 Mbit/s (90.6% utilization)
95th percentile per-packet one-way delay: 51.947 ms
Loss rate: 0.75%
-- Flow 1:
Average throughput: 10.88 Mbit/s
95th percentile per-packet one-way delay: 51.947 ms
Loss rate: 0.75%
```

Run 2: Report of FillP-Sheep — Data Link



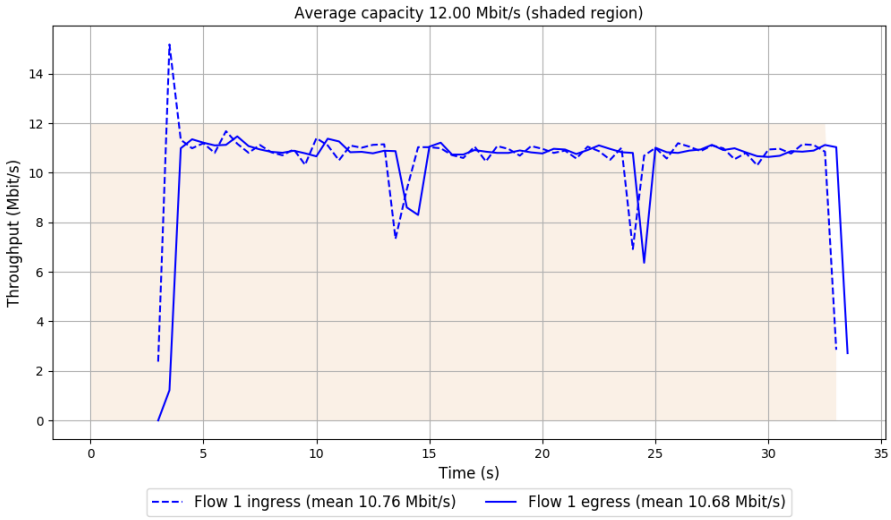


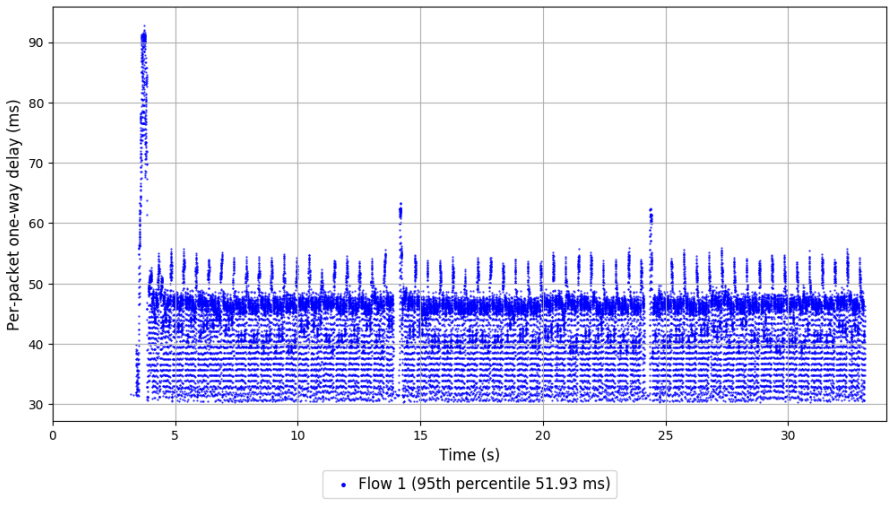
```
Run 3: Statistics of FillP-Sheep

Start at: 2020-04-16 09:38:20
End at: 2020-04-16 09:38:50

# Below is generated by plot.py at 2020-04-16 09:46:07
# Datalink statistics
-- Total of 1 flow:
Average capacity: 12.00 Mbit/s
Average throughput: 10.68 Mbit/s (89.0% utilization)
95th percentile per-packet one-way delay: 51.934 ms
Loss rate: 0.82%
-- Flow 1:
Average throughput: 10.68 Mbit/s
95th percentile per-packet one-way delay: 51.934 ms
Loss rate: 0.82%
```

Run 3: Report of FillP-Sheep — Data Link



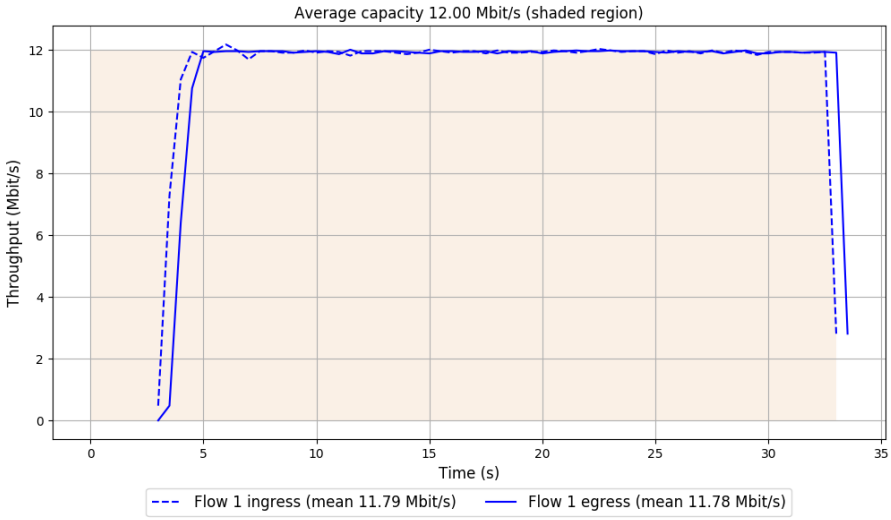


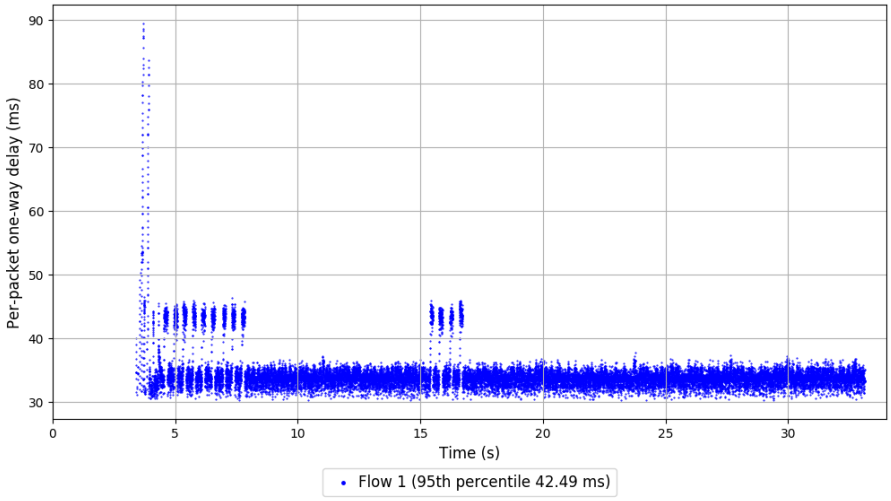
```
Run 1: Statistics of Indigo

Start at: 2020-04-16 09:06:33
End at: 2020-04-16 09:07:03

# Below is generated by plot.py at 2020-04-16 09:46:07
# Datalink statistics
-- Total of 1 flow:
Average capacity: 12.00 Mbit/s
Average throughput: 11.78 Mbit/s (98.2% utilization)
95th percentile per-packet one-way delay: 42.486 ms
Loss rate: 0.13%
-- Flow 1:
Average throughput: 11.78 Mbit/s
95th percentile per-packet one-way delay: 42.486 ms
Loss rate: 0.13%
```

Run 1: Report of Indigo — Data Link



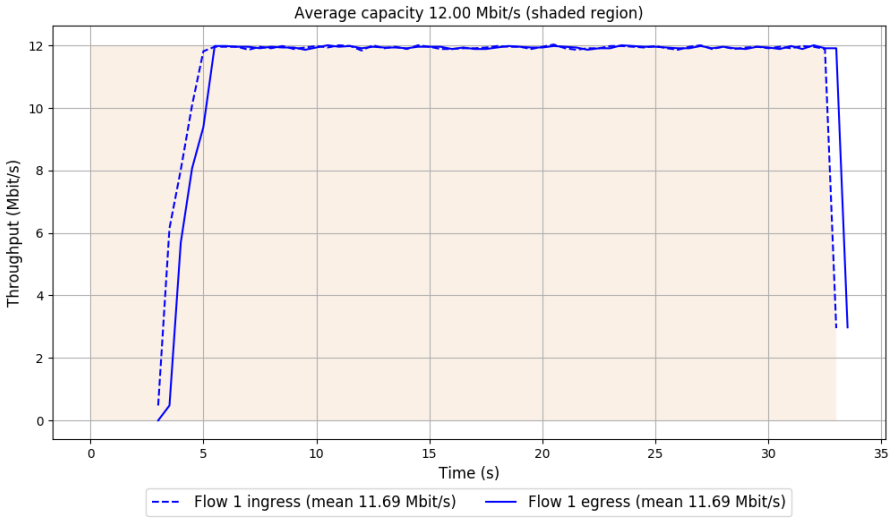


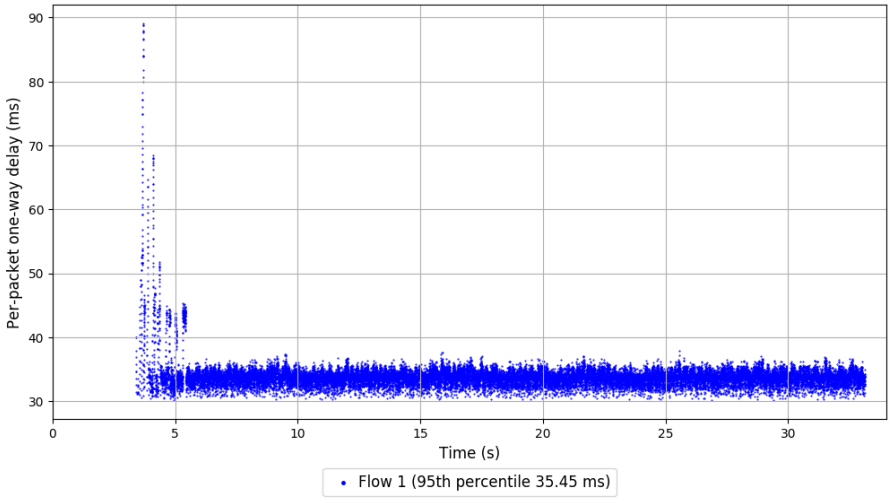
```
Run 2: Statistics of Indigo

Start at: 2020-04-16 09:20:40
End at: 2020-04-16 09:21:10

# Below is generated by plot.py at 2020-04-16 09:46:14
# 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: 35.447 ms
Loss rate: 0.13%
-- Flow 1:
Average throughput: 11.69 Mbit/s
95th percentile per-packet one-way delay: 35.447 ms
Loss rate: 0.13%
```

Run 2: Report of Indigo — Data Link



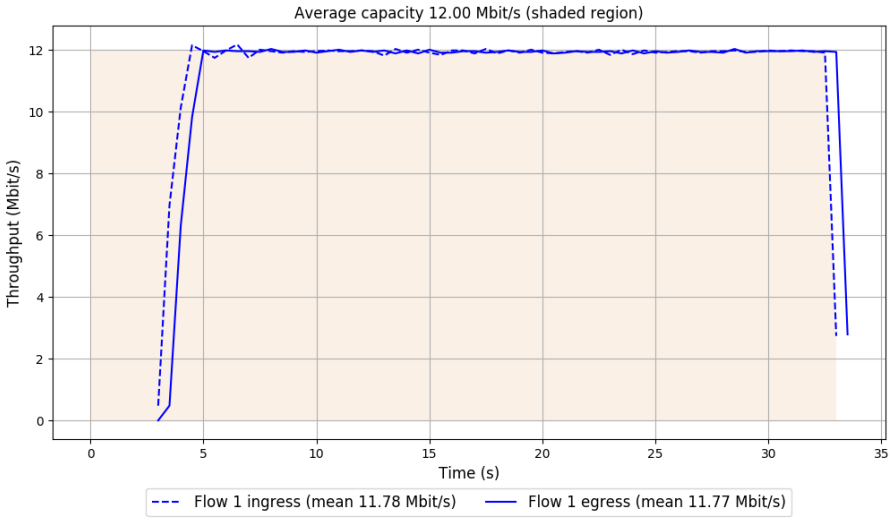


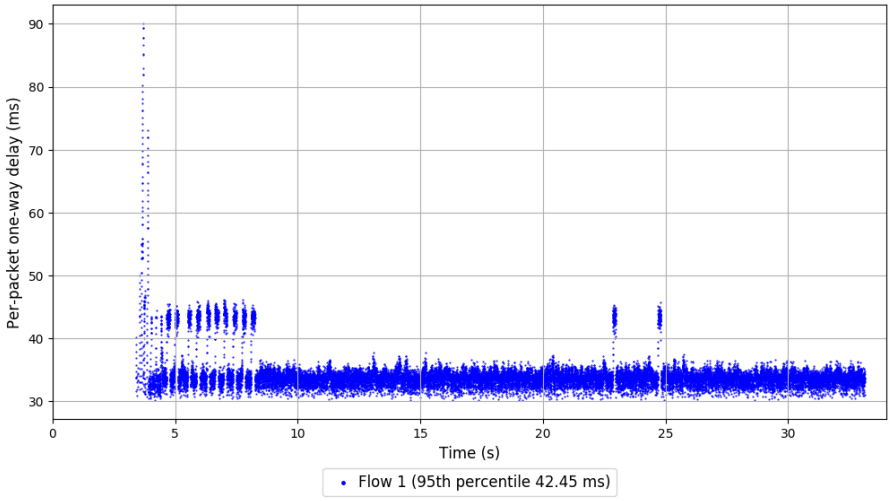
```
Run 3: Statistics of Indigo

Start at: 2020-04-16 09:34:48
End at: 2020-04-16 09:35:18

# Below is generated by plot.py at 2020-04-16 09:46:19
# Datalink statistics
-- Total of 1 flow:
Average capacity: 12.00 Mbit/s
Average throughput: 11.77 Mbit/s (98.1% utilization)
95th percentile per-packet one-way delay: 42.452 ms
Loss rate: 0.13%
-- Flow 1:
Average throughput: 11.77 Mbit/s
95th percentile per-packet one-way delay: 42.452 ms
Loss rate: 0.13%
```

Run 3: Report of Indigo — Data Link



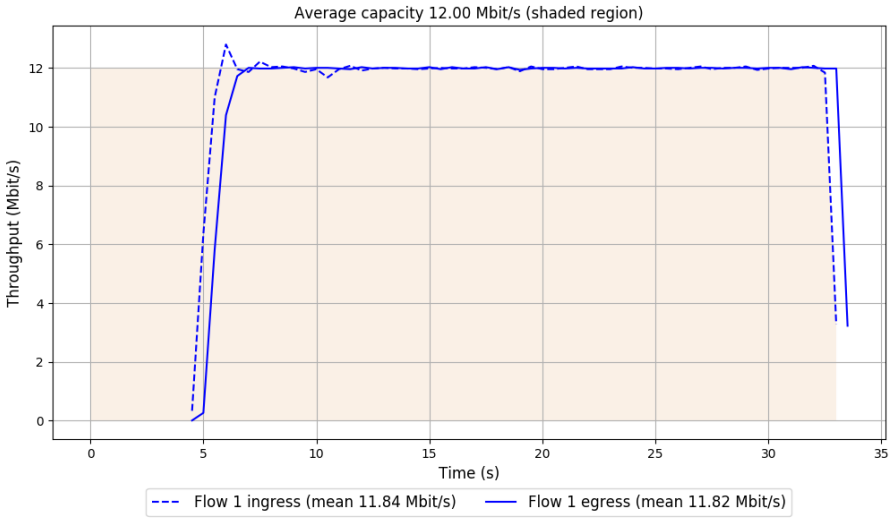


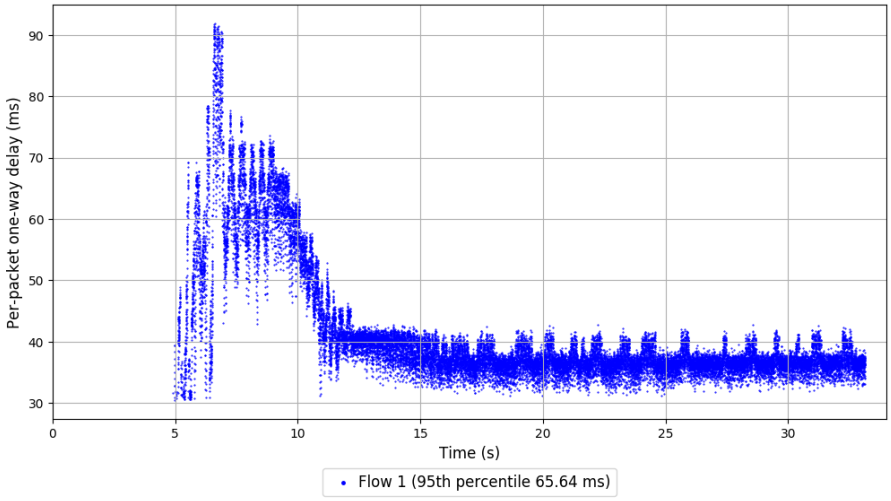
```
Run 1: Statistics of Indigo-MusesC3

Start at: 2020-04-16 09:08:19
End at: 2020-04-16 09:08:49

# Below is generated by plot.py at 2020-04-16 09:46:20
# Datalink statistics
-- Total of 1 flow:
Average capacity: 12.00 Mbit/s
Average throughput: 11.82 Mbit/s (98.5% utilization)
95th percentile per-packet one-way delay: 65.642 ms
Loss rate: 0.27%
-- Flow 1:
Average throughput: 11.82 Mbit/s
95th percentile per-packet one-way delay: 65.642 ms
Loss rate: 0.27%
```

Run 1: Report of Indigo-MusesC3 — Data Link



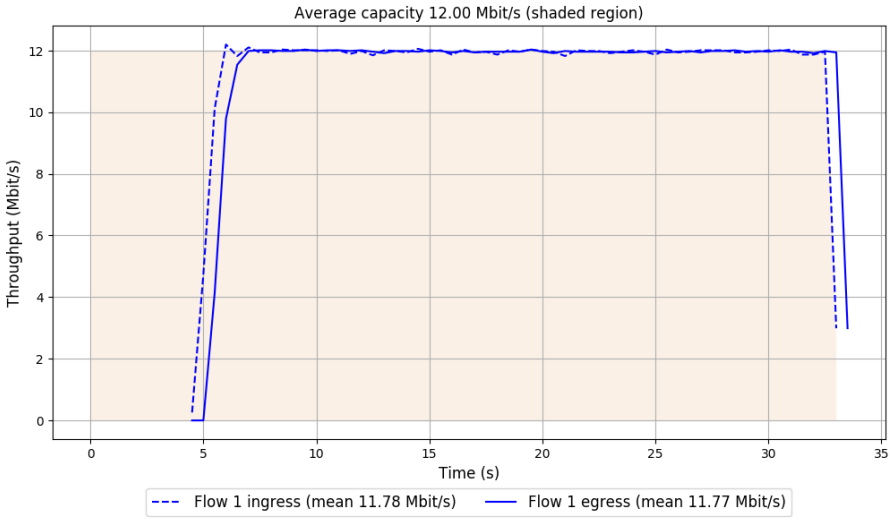


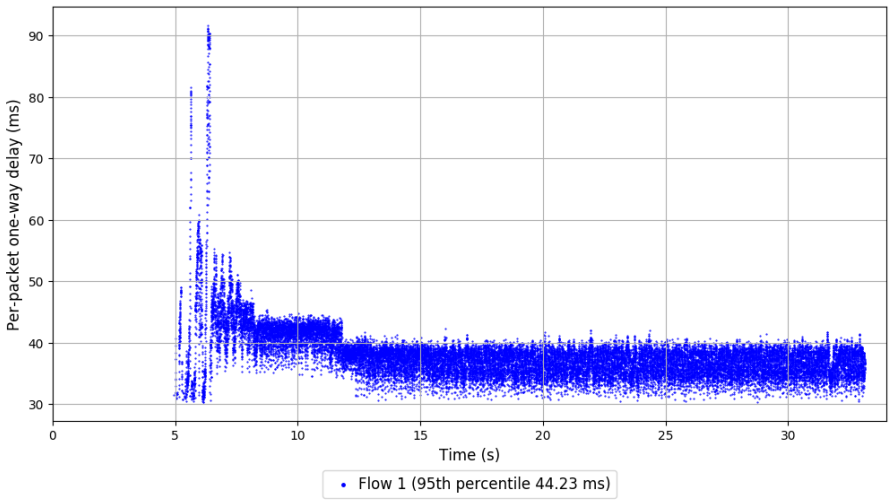
```
Run 2: Statistics of Indigo-MusesC3

Start at: 2020-04-16 09:22:26
End at: 2020-04-16 09:22:56

# Below is generated by plot.py at 2020-04-16 09:46:22
# 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: 44.233 ms
Loss rate: 0.22%
-- Flow 1:
Average throughput: 11.77 Mbit/s
95th percentile per-packet one-way delay: 44.233 ms
Loss rate: 0.22%
```

Run 2: Report of Indigo-MusesC3 — Data Link



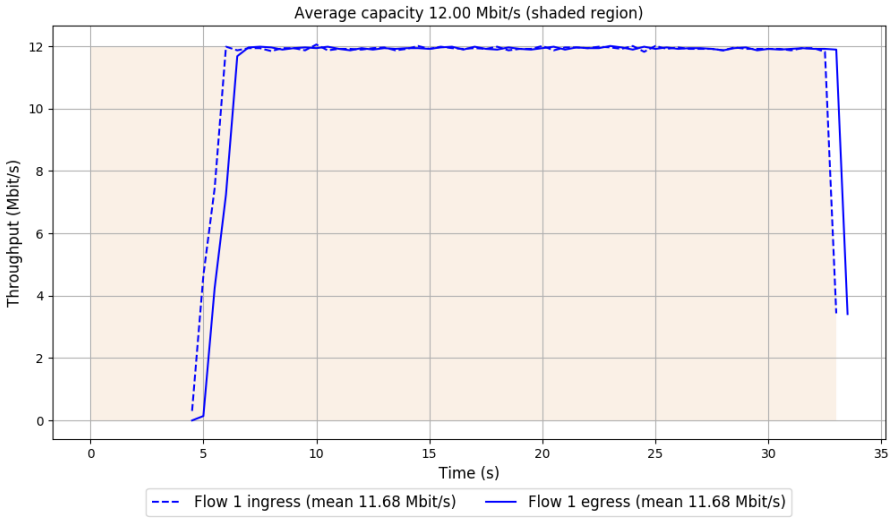


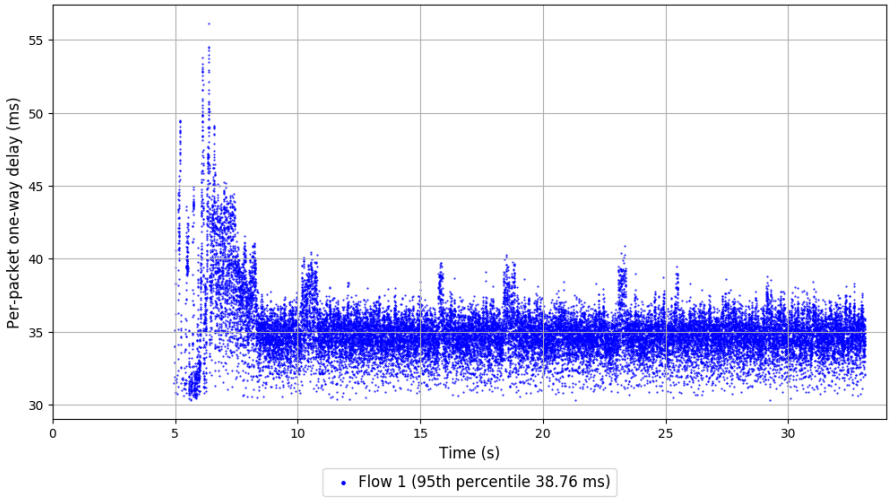
```
Run 3: Statistics of Indigo-MusesC3

Start at: 2020-04-16 09:36:34
End at: 2020-04-16 09:37:04

# Below is generated by plot.py at 2020-04-16 09:46:22
# 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: 38.763 ms
Loss rate: 0.12%
-- Flow 1:
Average throughput: 11.68 Mbit/s
95th percentile per-packet one-way delay: 38.763 ms
Loss rate: 0.12%
```

Run 3: Report of Indigo-MusesC3 — Data Link



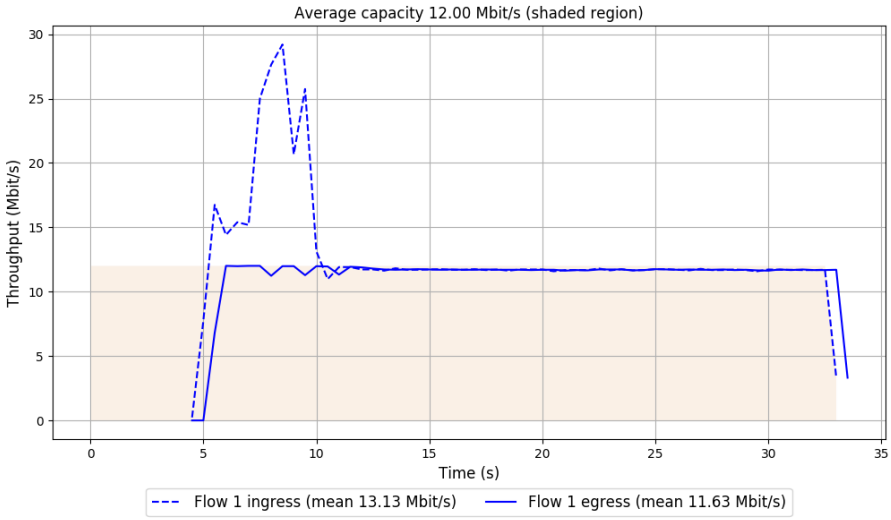


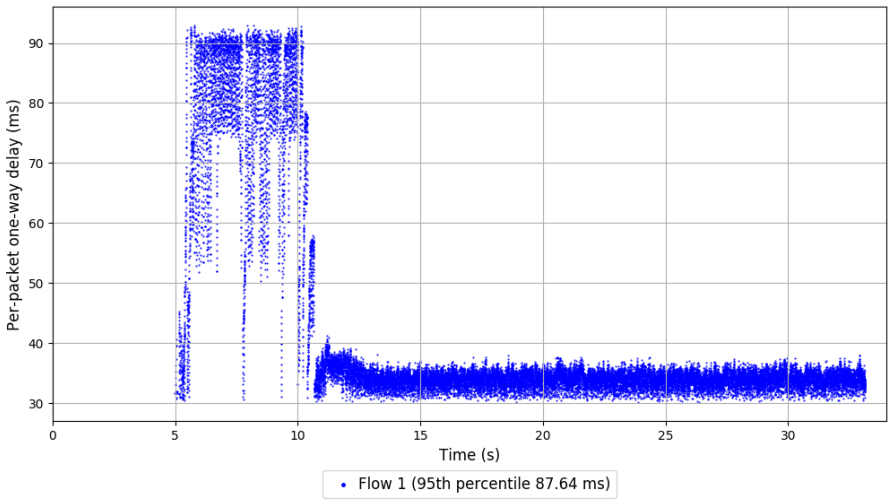
```
Run 1: Statistics of Indigo-MusesC5

Start at: 2020-04-16 09:14:12
End at: 2020-04-16 09:14:42

# Below is generated by plot.py at 2020-04-16 09:46:30
# Datalink statistics
-- Total of 1 flow:
Average capacity: 12.00 Mbit/s
Average throughput: 11.63 Mbit/s (96.9% utilization)
95th percentile per-packet one-way delay: 87.645 ms
Loss rate: 11.54%
-- Flow 1:
Average throughput: 11.63 Mbit/s
95th percentile per-packet one-way delay: 87.645 ms
Loss rate: 11.54%
```

Run 1: Report of Indigo-MusesC5 — Data Link



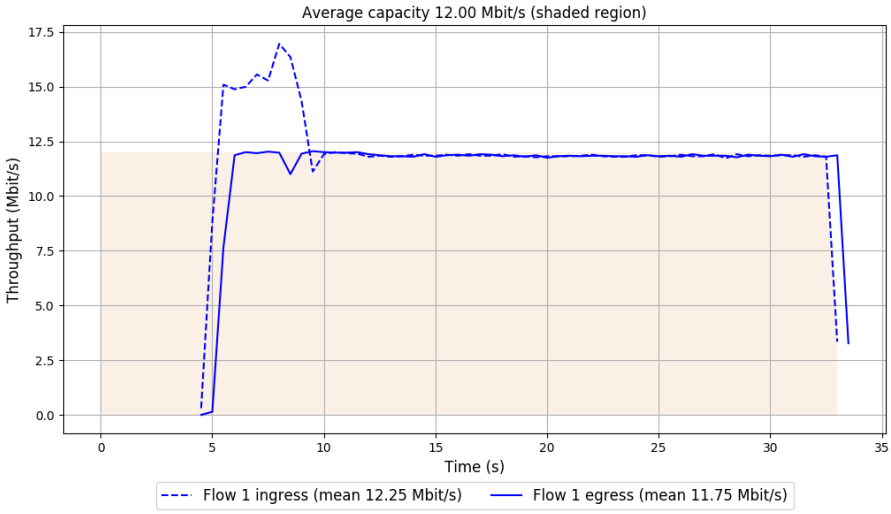


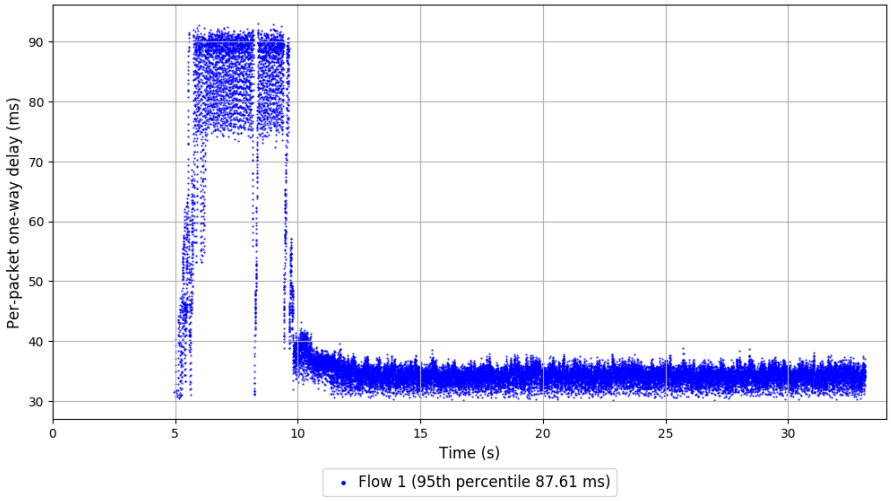
```
Run 2: Statistics of Indigo-MusesC5

Start at: 2020-04-16 09:28:19
End at: 2020-04-16 09:28:49

# Below is generated by plot.py at 2020-04-16 09:46:32
# Datalink statistics
-- Total of 1 flow:
Average capacity: 12.00 Mbit/s
Average throughput: 11.75 Mbit/s (97.9% utilization)
95th percentile per-packet one-way delay: 87.608 ms
Loss rate: 4.19%
-- Flow 1:
Average throughput: 11.75 Mbit/s
95th percentile per-packet one-way delay: 87.608 ms
Loss rate: 4.19%
```

Run 2: Report of Indigo-MusesC5 — Data Link



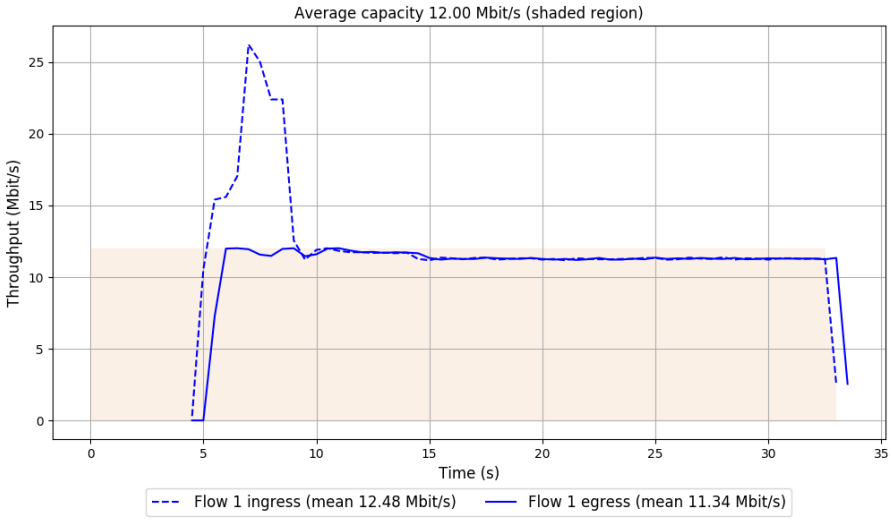


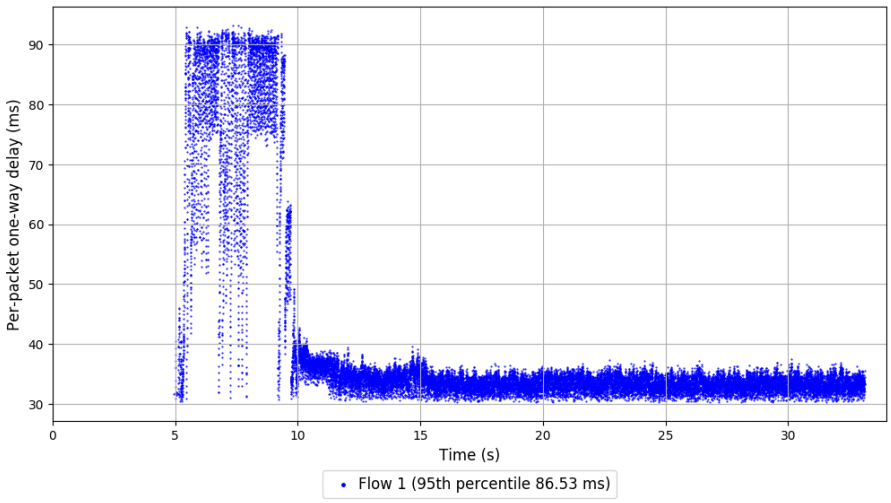
```
Run 3: Statistics of Indigo-MusesC5

Start at: 2020-04-16 09:42:26
End at: 2020-04-16 09:42:56

# Below is generated by plot.py at 2020-04-16 09:46:32
# Datalink statistics
-- Total of 1 flow:
Average capacity: 12.00 Mbit/s
Average throughput: 11.34 Mbit/s (94.5% utilization)
95th percentile per-packet one-way delay: 86.535 ms
Loss rate: 9.25%
-- Flow 1:
Average throughput: 11.34 Mbit/s
95th percentile per-packet one-way delay: 86.535 ms
Loss rate: 9.25%
```

Run 3: Report of Indigo-MusesC5 — Data Link



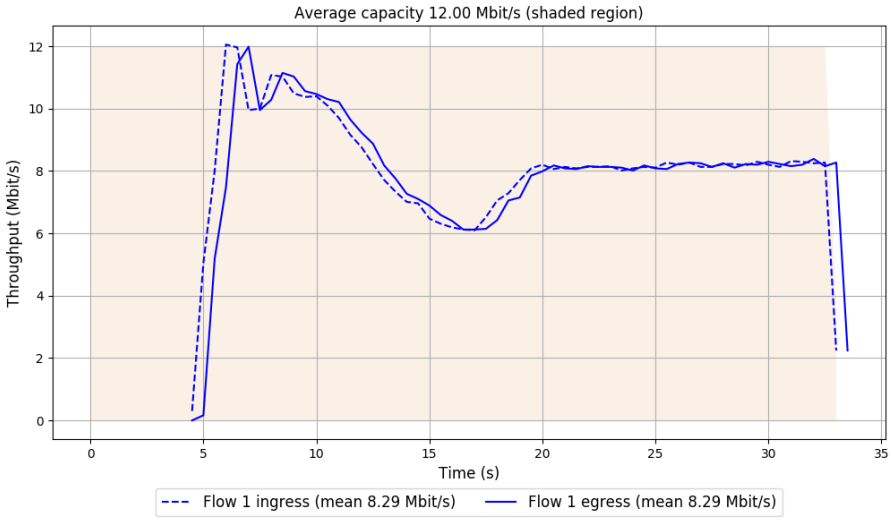


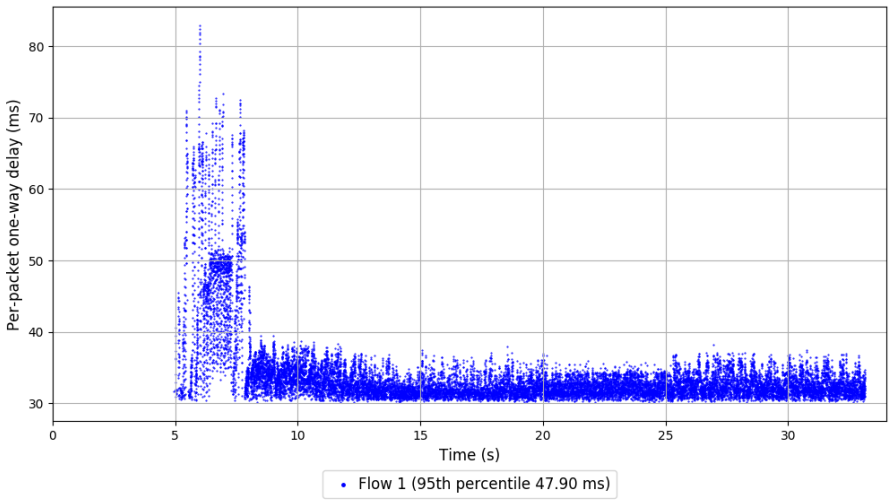
```
Run 1: Statistics of Indigo-MusesD

Start at: 2020-04-16 09:07:44
End at: 2020-04-16 09:08:14

# Below is generated by plot.py at 2020-04-16 09:46:34
# Datalink statistics
-- Total of 1 flow:
Average capacity: 12.00 Mbit/s
Average throughput: 8.29 Mbit/s (69.1% utilization)
95th percentile per-packet one-way delay: 47.899 ms
Loss rate: 0.13%
-- Flow 1:
Average throughput: 8.29 Mbit/s
95th percentile per-packet one-way delay: 47.899 ms
Loss rate: 0.13%
```

Run 1: Report of Indigo-MusesD — Data Link



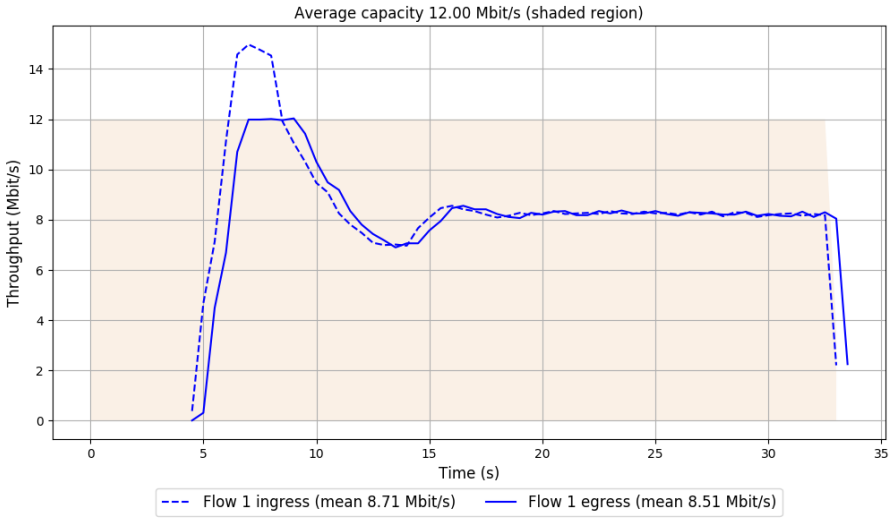


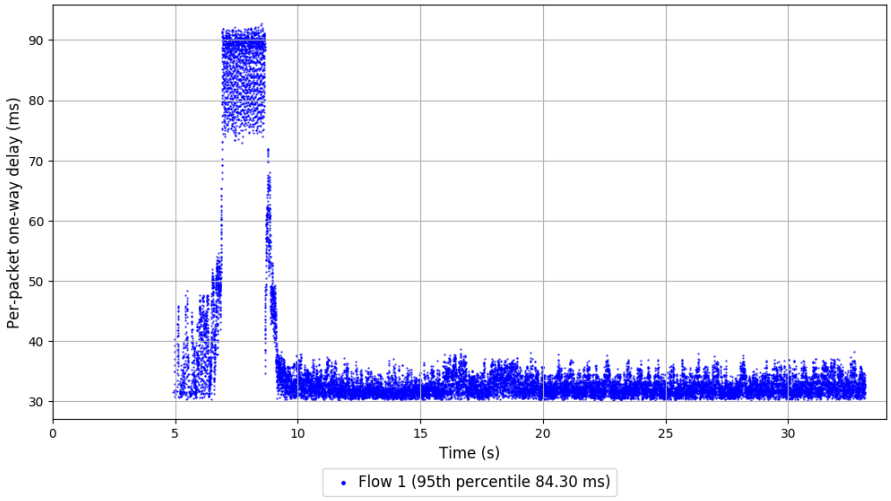
```
Run 2: Statistics of Indigo-MusesD

Start at: 2020-04-16 09:21:51
End at: 2020-04-16 09:22:21

# Below is generated by plot.py at 2020-04-16 09:46:39
# Datalink statistics
-- Total of 1 flow:
Average capacity: 12.00 Mbit/s
Average throughput: 8.51 Mbit/s (70.9% utilization)
95th percentile per-packet one-way delay: 84.304 ms
Loss rate: 2.33%
-- Flow 1:
Average throughput: 8.51 Mbit/s
95th percentile per-packet one-way delay: 84.304 ms
Loss rate: 2.33%
```

Run 2: Report of Indigo-MusesD — Data Link



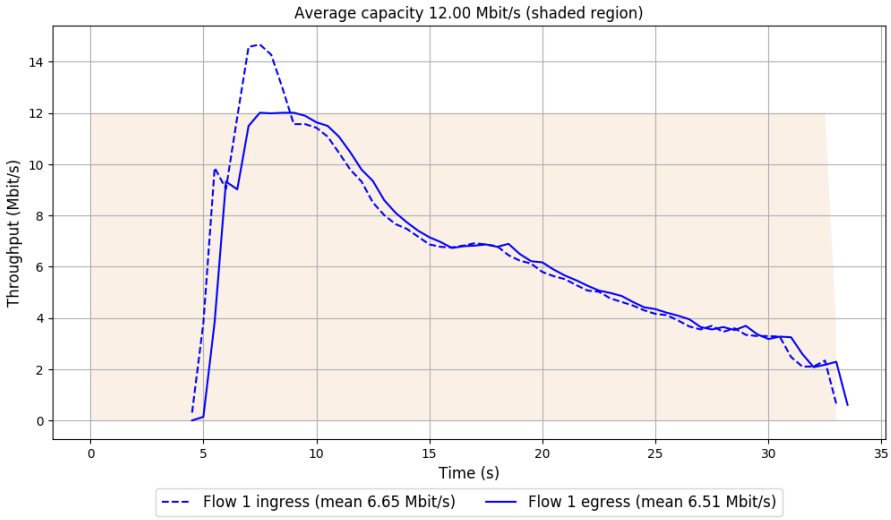


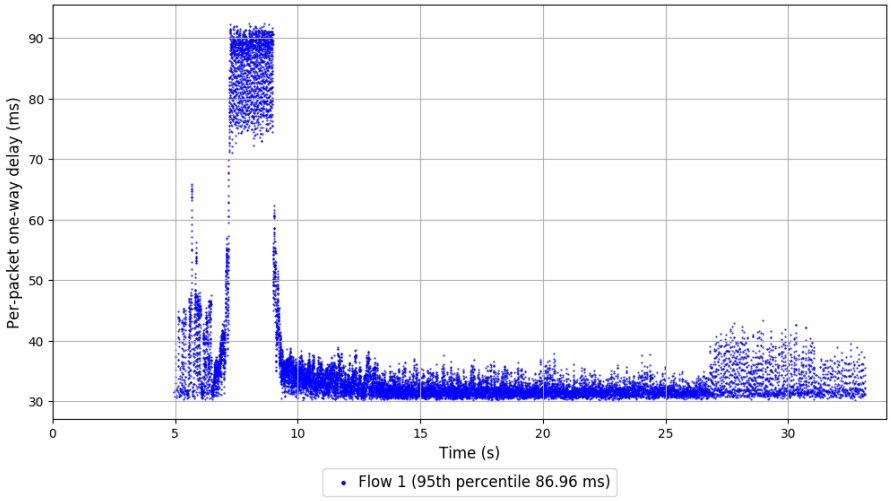
```
Run 3: Statistics of Indigo-MusesD

Start at: 2020-04-16 09:35:59
End at: 2020-04-16 09:36:29

# Below is generated by plot.py at 2020-04-16 09:46:39
# Datalink statistics
-- Total of 1 flow:
Average capacity: 12.00 Mbit/s
Average throughput: 6.51 Mbit/s (54.2% utilization)
95th percentile per-packet one-way delay: 86.962 ms
Loss rate: 2.28%
-- Flow 1:
Average throughput: 6.51 Mbit/s
95th percentile per-packet one-way delay: 86.962 ms
Loss rate: 2.28%
```

Run 3: Report of Indigo-MusesD — Data Link



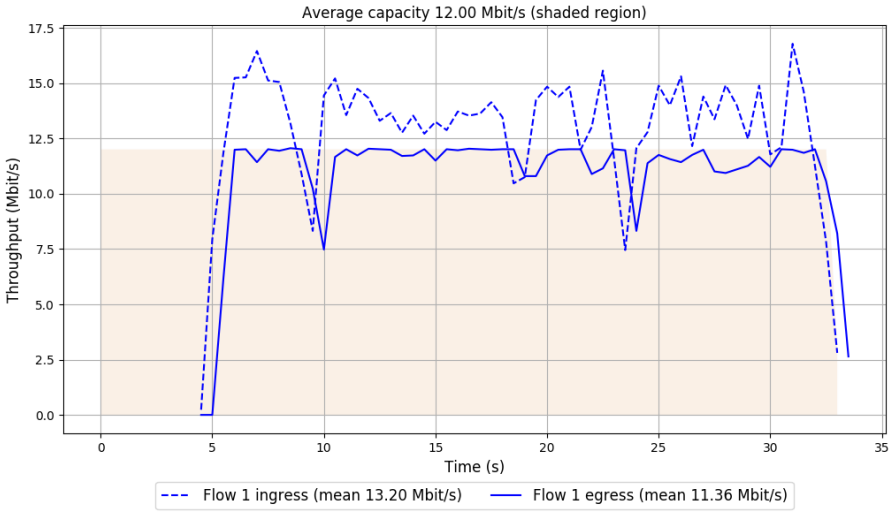


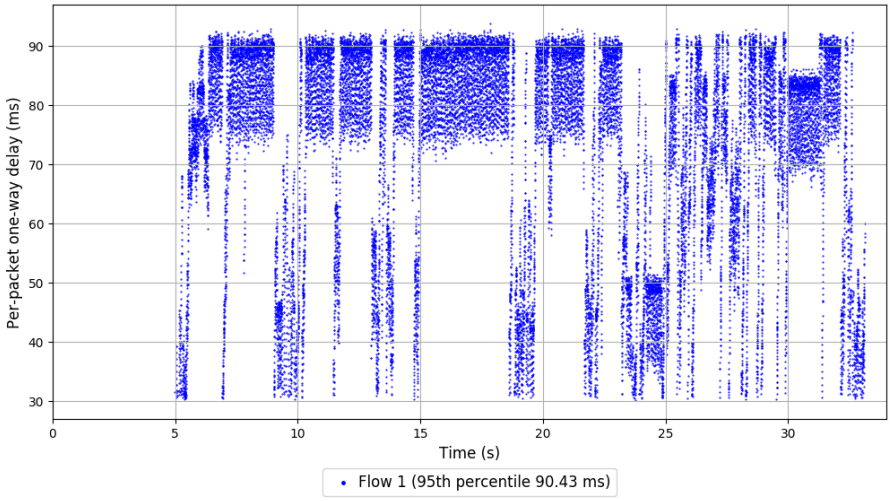
```
Run 1: Statistics of Indigo-MusesT

Start at: 2020-04-16 09:04:47
End at: 2020-04-16 09:05:17

# Below is generated by plot.py at 2020-04-16 09:46:45
# Datalink statistics
-- Total of 1 flow:
Average capacity: 12.00 Mbit/s
Average throughput: 11.36 Mbit/s (94.7% utilization)
95th percentile per-packet one-way delay: 90.433 ms
Loss rate: 14.00%
-- Flow 1:
Average throughput: 11.36 Mbit/s
95th percentile per-packet one-way delay: 90.433 ms
Loss rate: 14.00%
```

Run 1: Report of Indigo-MusesT — Data Link



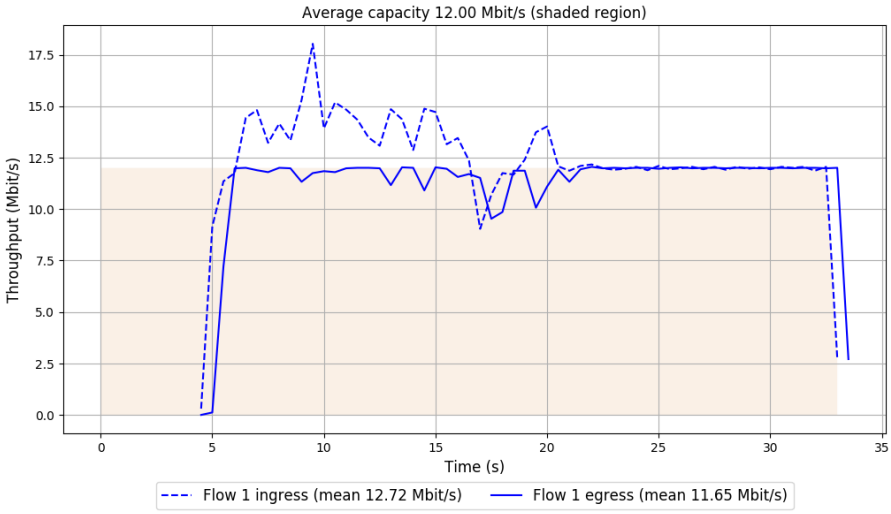


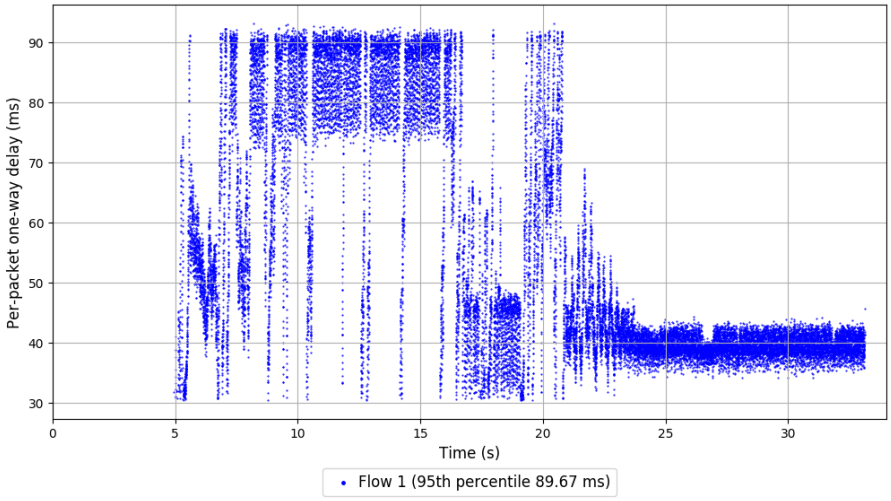
```
Run 2: Statistics of Indigo-MusesT

Start at: 2020-04-16 09:18:54
End at: 2020-04-16 09:19:24

# Below is generated by plot.py at 2020-04-16 09:46:45
# 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: 89.673 ms
Loss rate: 8.46%
-- Flow 1:
Average throughput: 11.65 Mbit/s
95th percentile per-packet one-way delay: 89.673 ms
Loss rate: 8.46%
```

Run 2: Report of Indigo-MusesT — Data Link



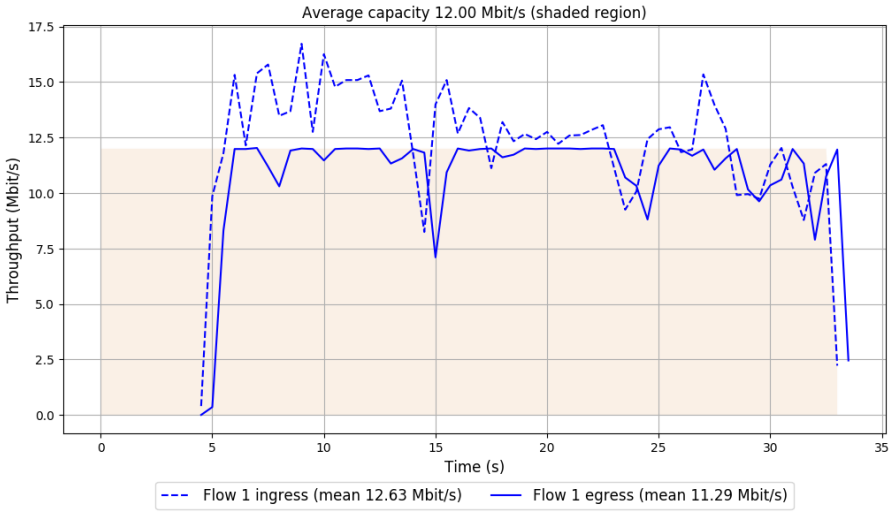


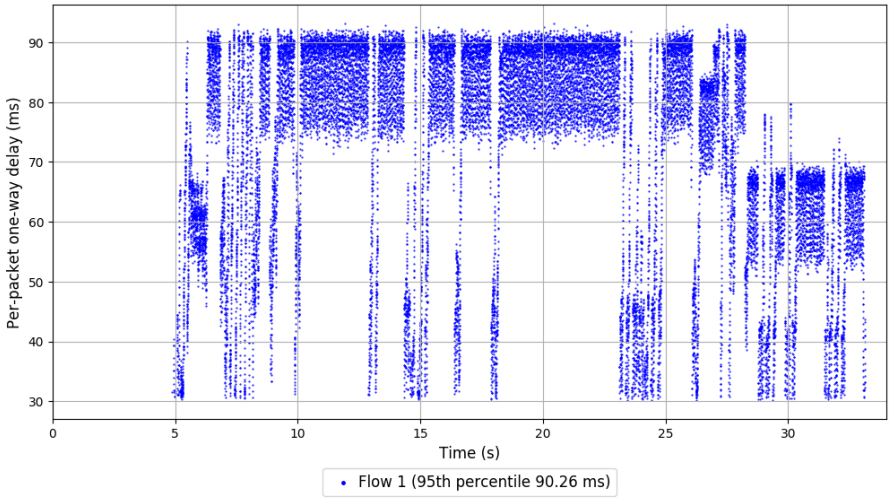
```
Run 3: Statistics of Indigo-MusesT

Start at: 2020-04-16 09:33:02
End at: 2020-04-16 09:33:32

# Below is generated by plot.py at 2020-04-16 09:46:54
# Datalink statistics
-- Total of 1 flow:
Average capacity: 12.00 Mbit/s
Average throughput: 11.29 Mbit/s (94.1% utilization)
95th percentile per-packet one-way delay: 90.256 ms
Loss rate: 10.71%
-- Flow 1:
Average throughput: 11.29 Mbit/s
95th percentile per-packet one-way delay: 90.256 ms
Loss rate: 10.71%
```

Run 3: Report of Indigo-MusesT — Data Link



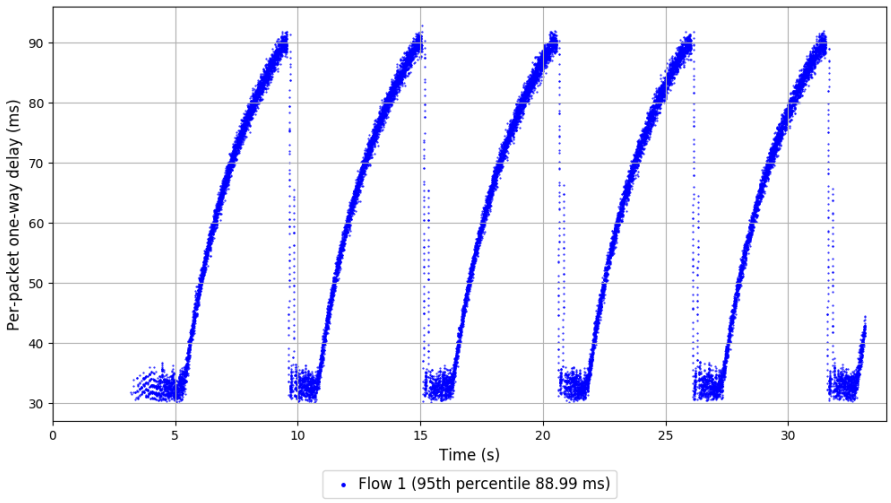


```
Run 1: Statistics of LEDBAT

Start at: 2020-04-16 09:03:01
End at: 2020-04-16 09:03:31

# Below is generated by plot.py at 2020-04-16 09:46:57
# Datalink statistics
-- Total of 1 flow:
Average capacity: 12.00 Mbit/s
Average throughput: 10.85 Mbit/s (90.4% utilization)
95th percentile per-packet one-way delay: 88.988 ms
Loss rate: 0.21%
-- Flow 1:
Average throughput: 10.85 Mbit/s
95th percentile per-packet one-way delay: 88.988 ms
Loss rate: 0.21%
```

Run 1: Report of LEDBAT — Data Link

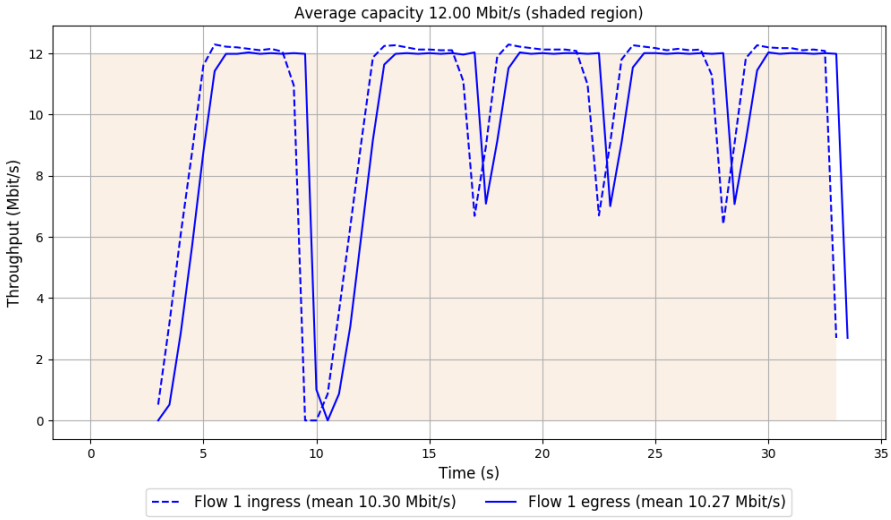


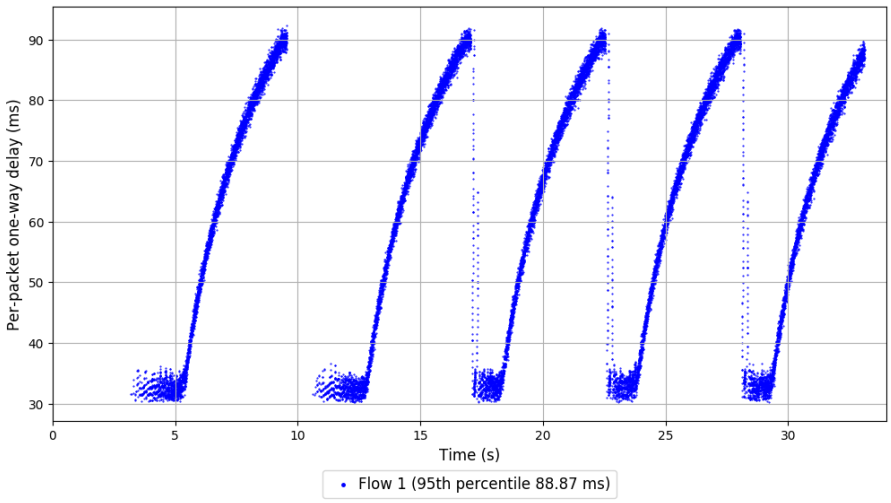
```
Run 2: Statistics of LEDBAT

Start at: 2020-04-16 09:17:09
End at: 2020-04-16 09:17:39

# Below is generated by plot.py at 2020-04-16 09:46:57
# Datalink statistics
-- Total of 1 flow:
Average capacity: 12.00 Mbit/s
Average throughput: 10.27 Mbit/s (85.6% utilization)
95th percentile per-packet one-way delay: 88.867 ms
Loss rate: 0.37%
-- Flow 1:
Average throughput: 10.27 Mbit/s
95th percentile per-packet one-way delay: 88.867 ms
Loss rate: 0.37%
```

Run 2: Report of LEDBAT — Data Link



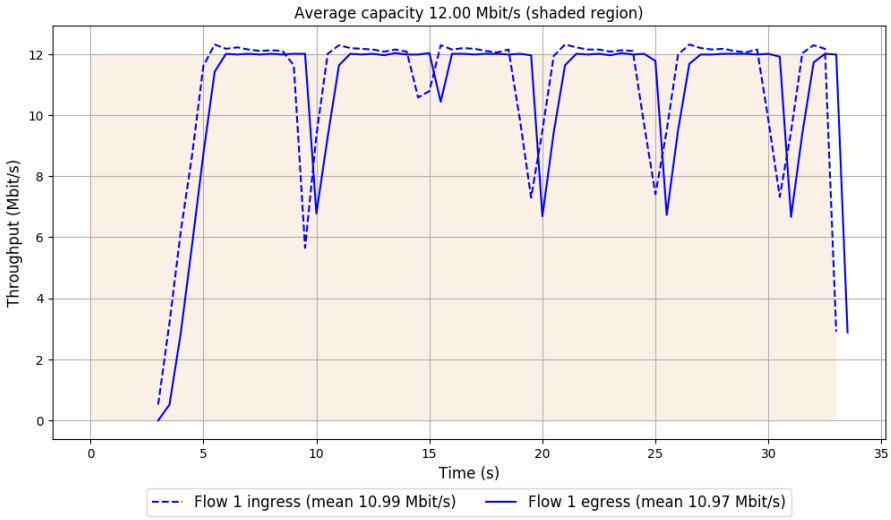


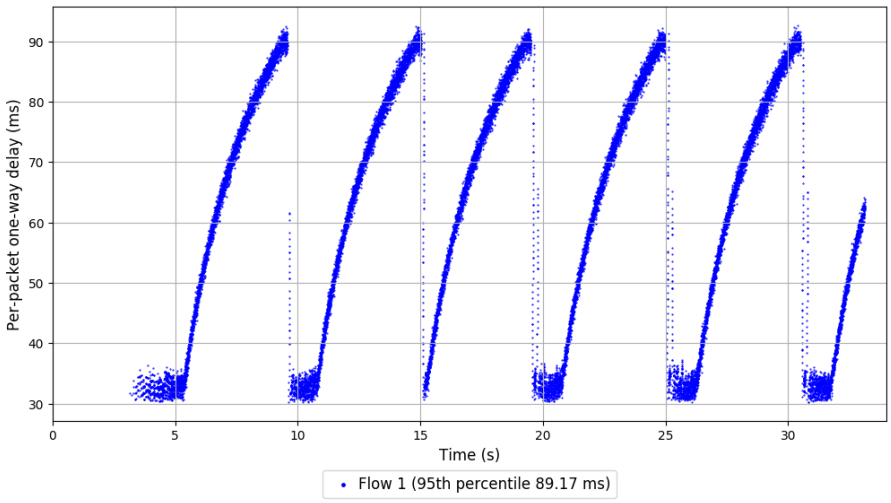
```
Run 3: Statistics of LEDBAT

Start at: 2020-04-16 09:31:16
End at: 2020-04-16 09:31:46

# Below is generated by plot.py at 2020-04-16 09:46:59
# Datalink statistics
-- Total of 1 flow:
Average capacity: 12.00 Mbit/s
Average throughput: 10.97 Mbit/s (91.4% utilization)
95th percentile per-packet one-way delay: 89.165 ms
Loss rate: 0.26%
-- Flow 1:
Average throughput: 10.97 Mbit/s
95th percentile per-packet one-way delay: 89.165 ms
Loss rate: 0.26%
```

Run 3: Report of LEDBAT — Data Link



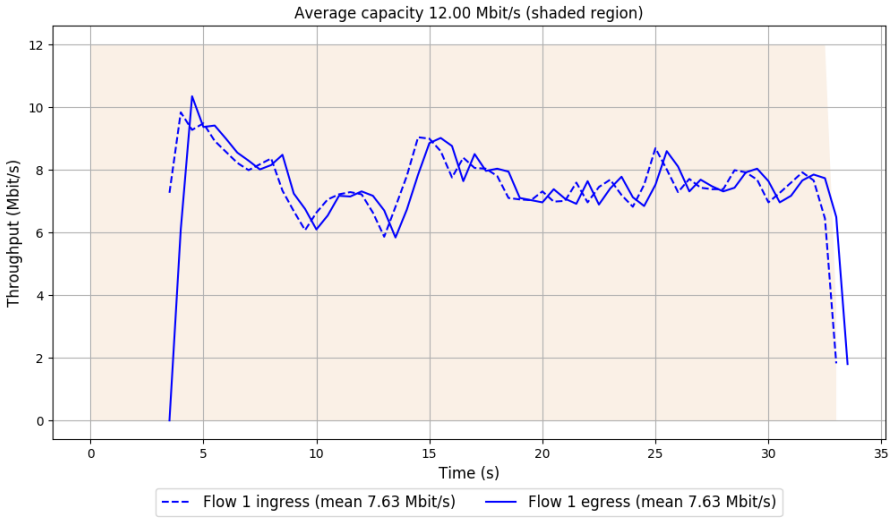


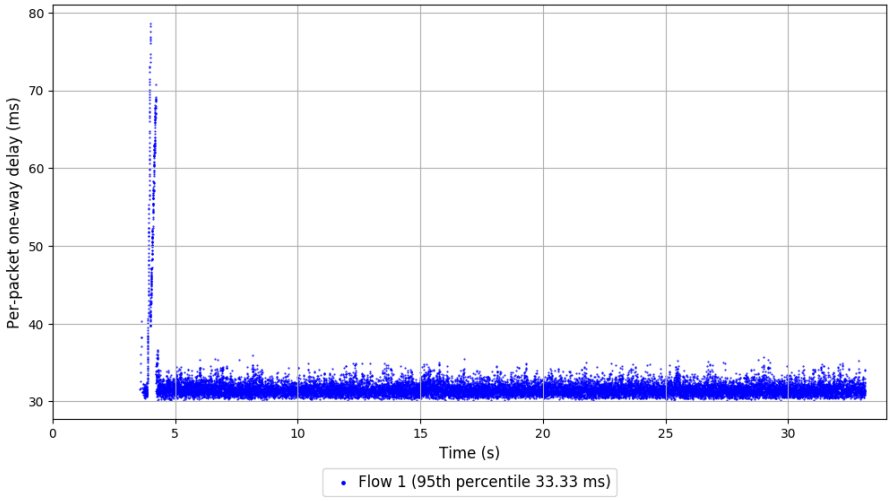
```
Run 1: Statistics of Muses\_DecisionTree

Start at: 2020-04-16 09:12:26
End at: 2020-04-16 09:12:56

# Below is generated by plot.py at 2020-04-16 09:46:59
# Datalink statistics
-- Total of 1 flow:
Average capacity: 12.00 Mbit/s
Average throughput: 7.63 Mbit/s (63.6% utilization)
95th percentile per-packet one-way delay: 33.333 ms
Loss rate: 0.10%
-- Flow 1:
Average throughput: 7.63 Mbit/s
95th percentile per-packet one-way delay: 33.333 ms
Loss rate: 0.10%
```

Run 1: Report of Muses_DecisionTree — Data Link



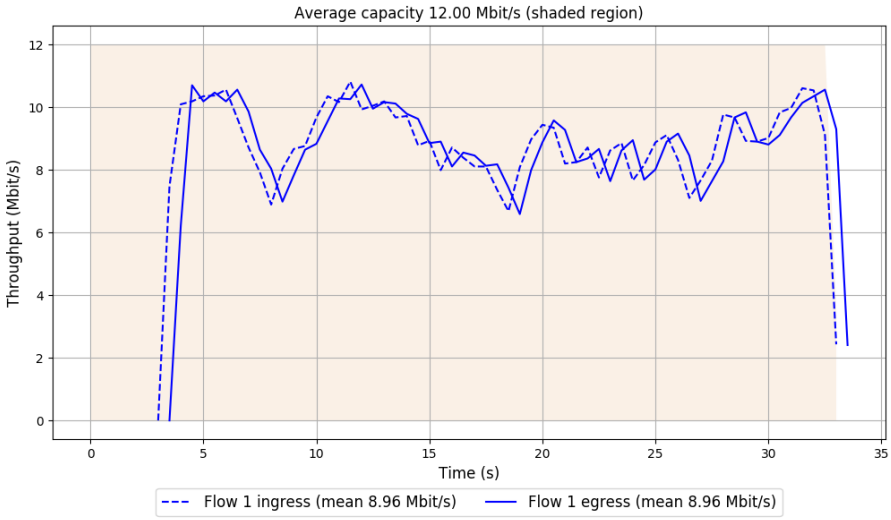


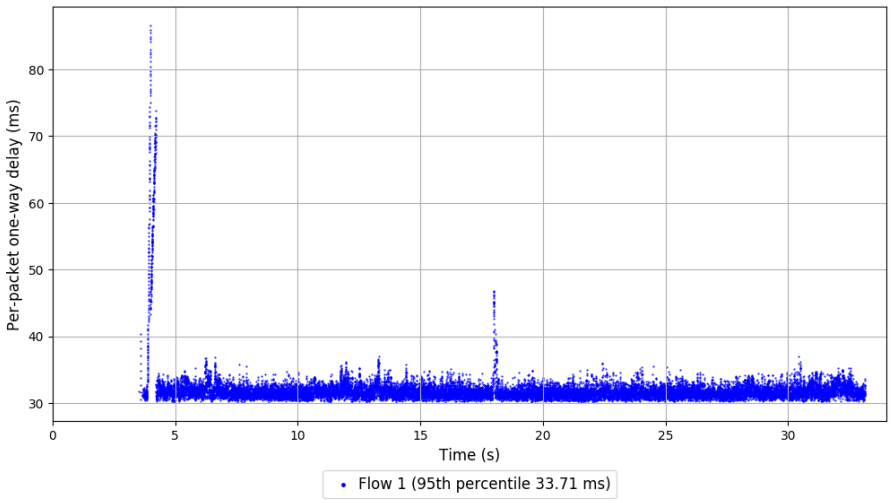
```
Run 2: Statistics of Muses\_DecisionTree

Start at: 2020-04-16 09:26:34
End at: 2020-04-16 09:27:04

# Below is generated by plot.py at 2020-04-16 09:47:01
# Datalink statistics
-- Total of 1 flow:
Average capacity: 12.00 Mbit/s
Average throughput: 8.96 Mbit/s (74.7% utilization)
95th percentile per-packet one-way delay: 33.710 ms
Loss rate: 0.11%
-- Flow 1:
Average throughput: 8.96 Mbit/s
95th percentile per-packet one-way delay: 33.710 ms
Loss rate: 0.11%
```

Run 2: Report of Muses_DecisionTree — Data Link



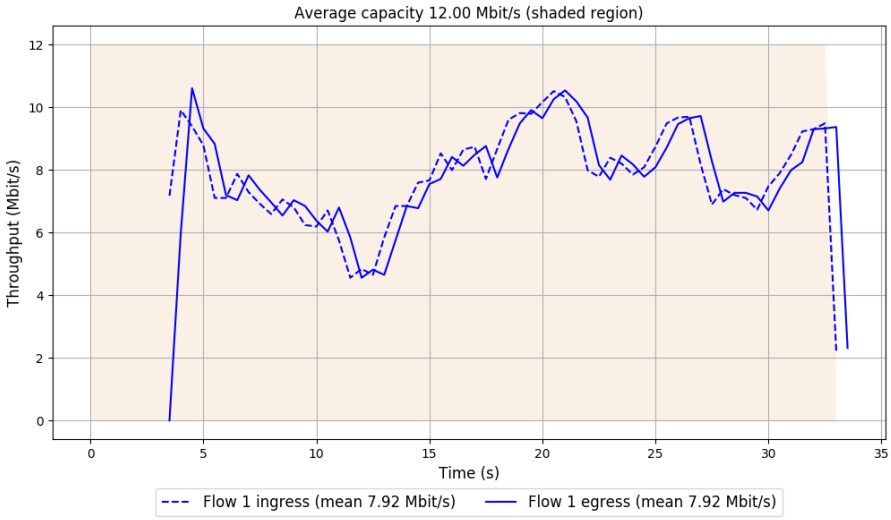


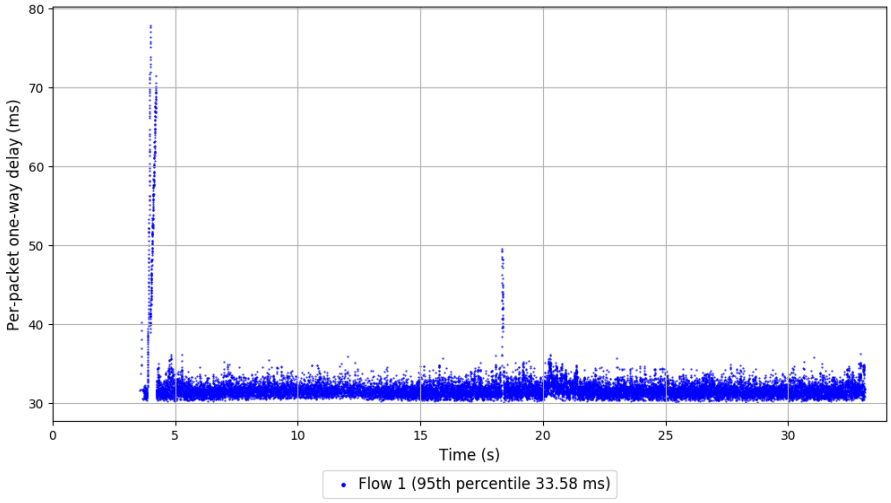
```
Run 3: Statistics of Muses\_DecisionTree

Start at: 2020-04-16 09:40:41
End at: 2020-04-16 09:41:11

# Below is generated by plot.py at 2020-04-16 09:47:05
# Datalink statistics
-- Total of 1 flow:
Average capacity: 12.00 Mbit/s
Average throughput: 7.92 Mbit/s (66.0% utilization)
95th percentile per-packet one-way delay: 33.579 ms
Loss rate: 0.12%
-- Flow 1:
Average throughput: 7.92 Mbit/s
95th percentile per-packet one-way delay: 33.579 ms
Loss rate: 0.12%
```

Run 3: Report of Muses_DecisionTree — Data Link



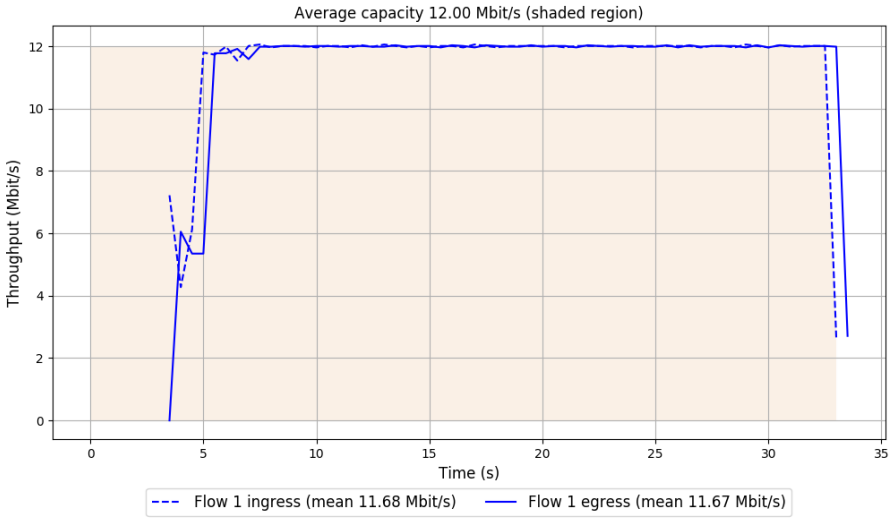


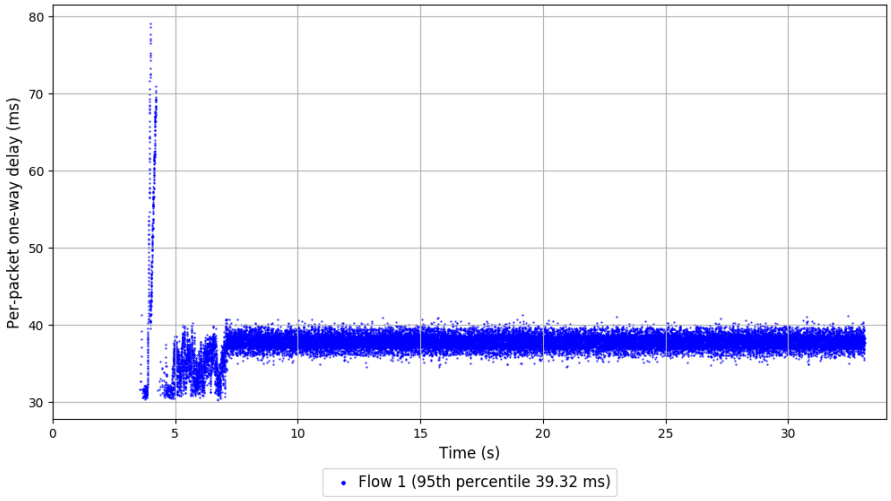
```
Run 1: Statistics of Muses\_DecisionTreeH0

Start at: 2020-04-16 09:11:51
End at: 2020-04-16 09:12:21

# Below is generated by plot.py at 2020-04-16 09:47:10
# Datalink statistics
-- Total of 1 flow:
Average capacity: 12.00 Mbit/s
Average throughput: 11.67 Mbit/s (97.3% utilization)
95th percentile per-packet one-way delay: 39.322 ms
Loss rate: 0.13%
-- Flow 1:
Average throughput: 11.67 Mbit/s
95th percentile per-packet one-way delay: 39.322 ms
Loss rate: 0.13%
```

Run 1: Report of Muses_DecisionTreeH0 — Data Link



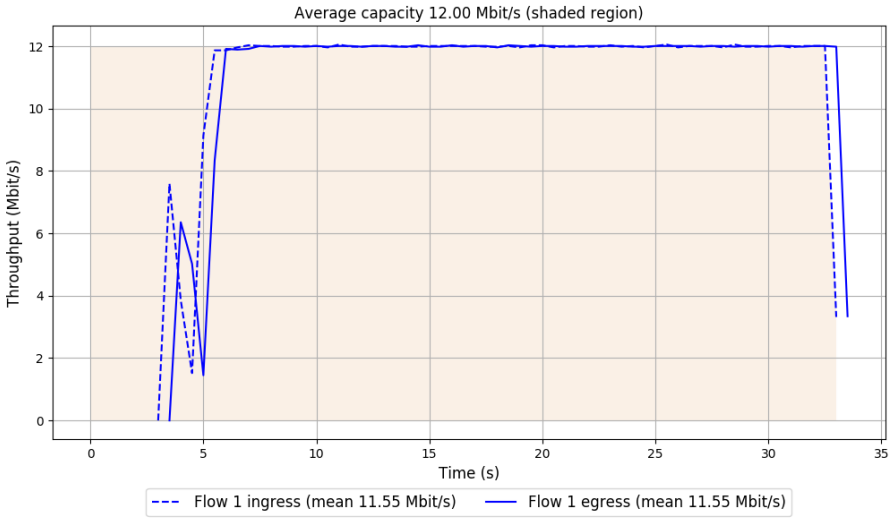


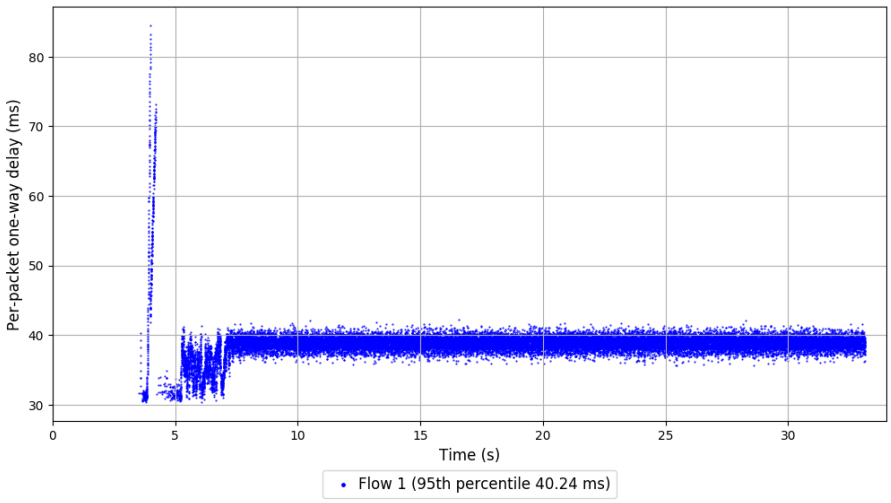
```
Run 2: Statistics of Muses\_DecisionTreeH0

Start at: 2020-04-16 09:25:59
End at: 2020-04-16 09:26:29

# Below is generated by plot.py at 2020-04-16 09:47:18
# Datalink statistics
-- Total of 1 flow:
Average capacity: 12.00 Mbit/s
Average throughput: 11.55 Mbit/s (96.3% utilization)
95th percentile per-packet one-way delay: 40.238 ms
Loss rate: 0.13%
-- Flow 1:
Average throughput: 11.55 Mbit/s
95th percentile per-packet one-way delay: 40.238 ms
Loss rate: 0.13%
```

Run 2: Report of Muses_DecisionTreeH0 — Data Link



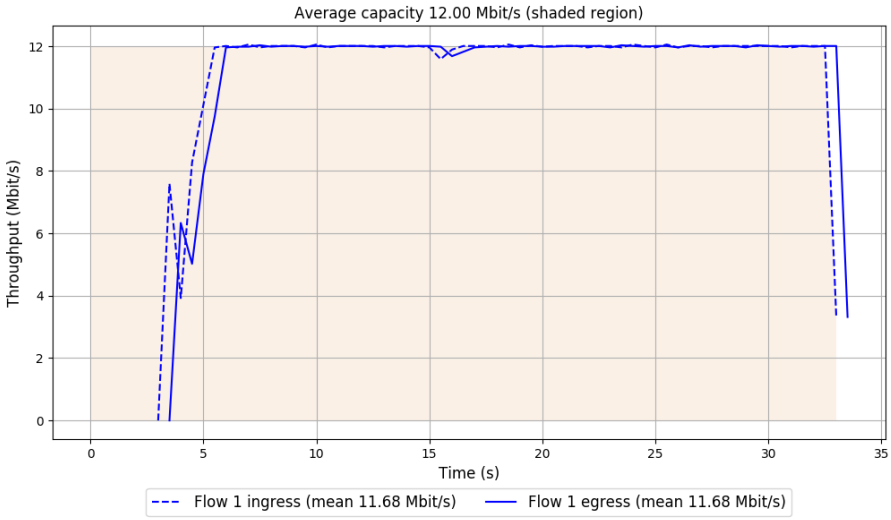


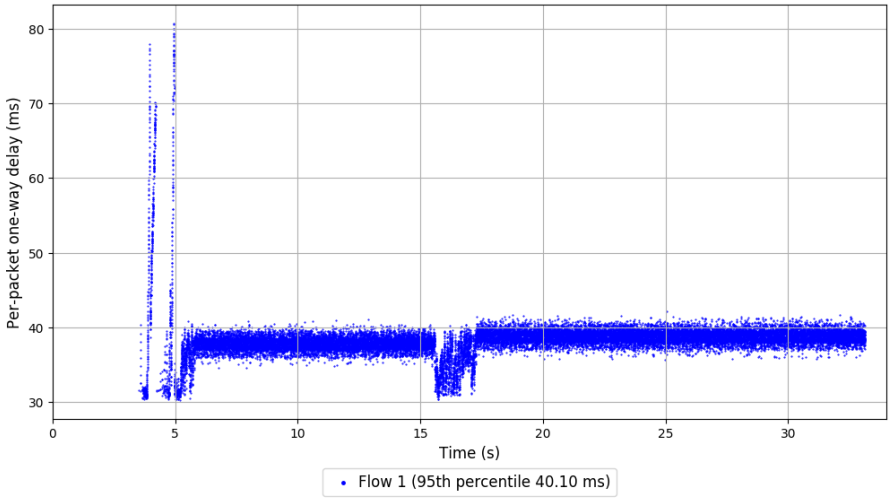
```
Run 3: Statistics of Muses\_DecisionTreeH0

Start at: 2020-04-16 09:40:06
End at: 2020-04-16 09:40:36

# Below is generated by plot.py at 2020-04-16 09:47:21
# 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: 40.098 ms
Loss rate: 0.14%
-- Flow 1:
Average throughput: 11.68 Mbit/s
95th percentile per-packet one-way delay: 40.098 ms
Loss rate: 0.14%
```

Run 3: Report of Muses_DecisionTreeH0 — Data Link



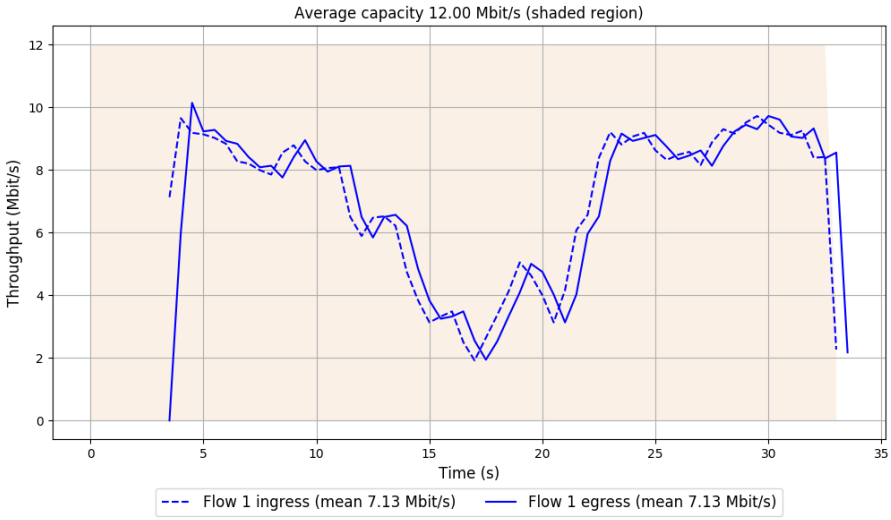


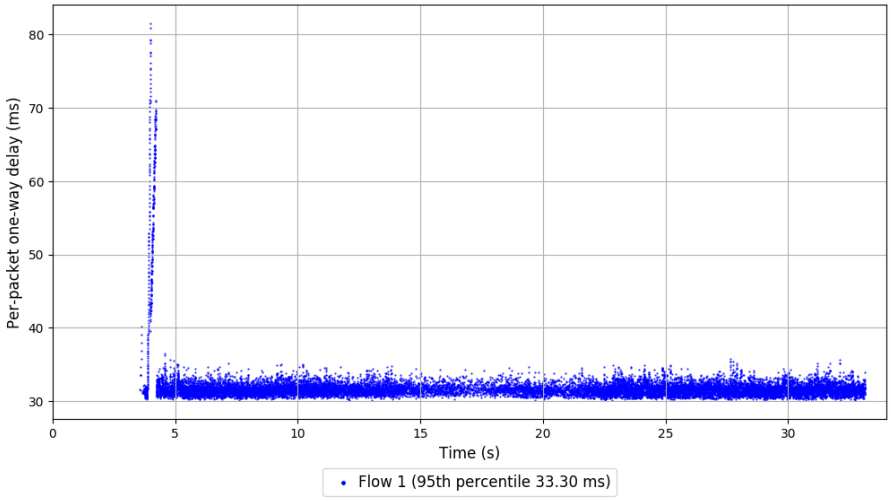
```
Run 1: Statistics of Muses\_DecisionTreeR0

Start at: 2020-04-16 09:13:37
End at: 2020-04-16 09:14:07

# Below is generated by plot.py at 2020-04-16 09:47:21
# Datalink statistics
-- Total of 1 flow:
Average capacity: 12.00 Mbit/s
Average throughput: 7.13 Mbit/s (59.4% utilization)
95th percentile per-packet one-way delay: 33.305 ms
Loss rate: 0.14%
-- Flow 1:
Average throughput: 7.13 Mbit/s
95th percentile per-packet one-way delay: 33.305 ms
Loss rate: 0.14%
```

Run 1: Report of Muses_DecisionTreeR0 — Data Link



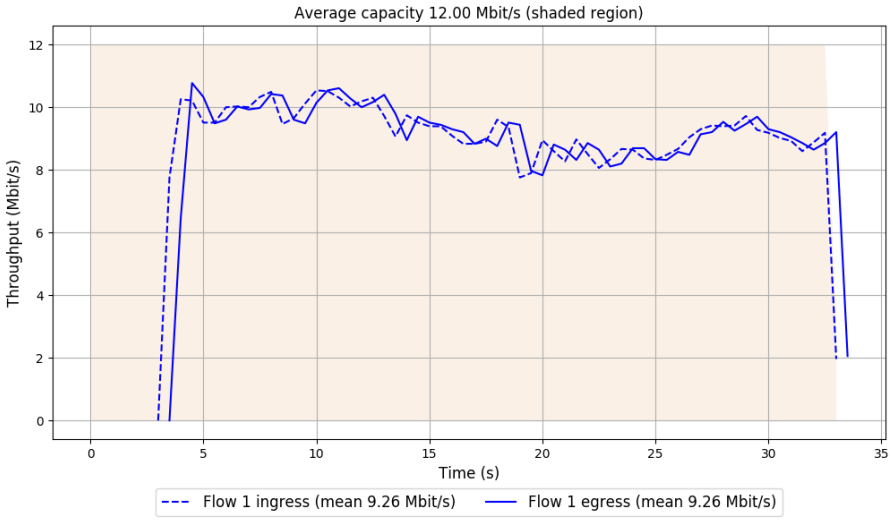


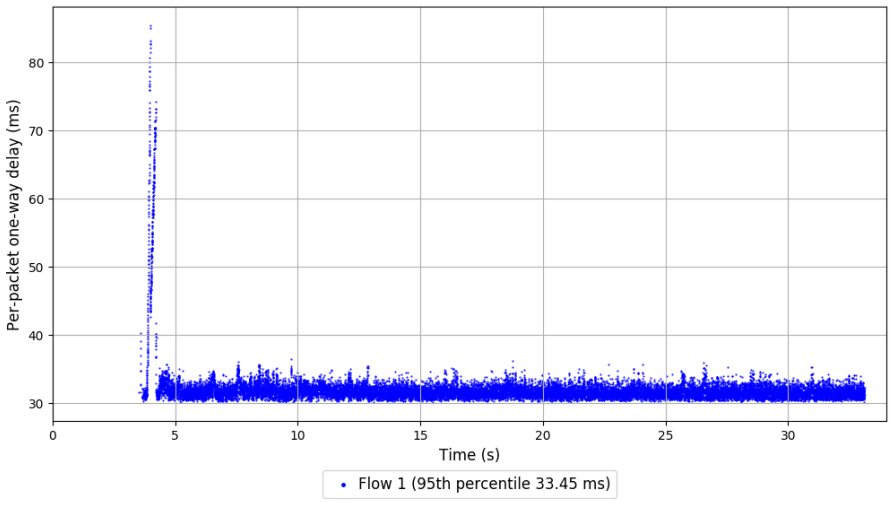
```
Run 2: Statistics of Muses\_DecisionTreeR0

Start at: 2020-04-16 09:27:44
End at: 2020-04-16 09:28:14

# Below is generated by plot.py at 2020-04-16 09:47:21
# Datalink statistics
-- Total of 1 flow:
Average capacity: 12.00 Mbit/s
Average throughput: 9.26 Mbit/s (77.1% utilization)
95th percentile per-packet one-way delay: 33.449 ms
Loss rate: 0.09%
-- Flow 1:
Average throughput: 9.26 Mbit/s
95th percentile per-packet one-way delay: 33.449 ms
Loss rate: 0.09%
```

Run 2: Report of Muses_DecisionTreeR0 — Data Link



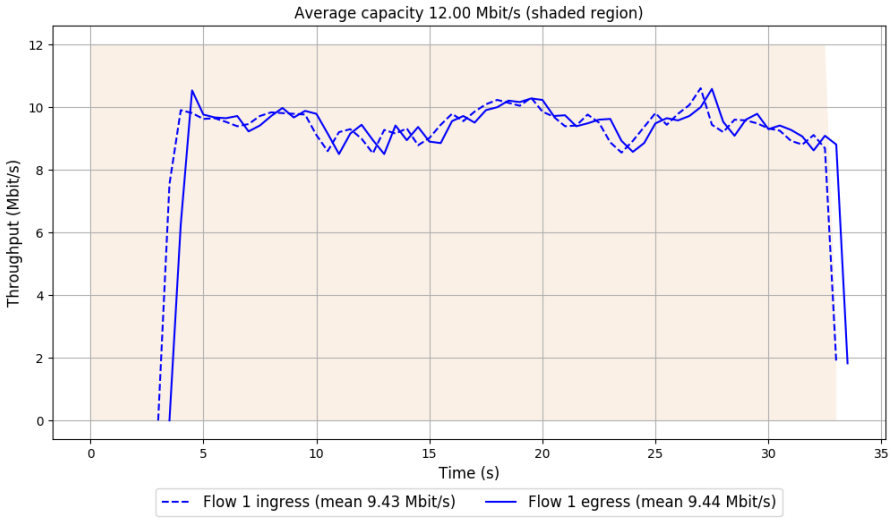


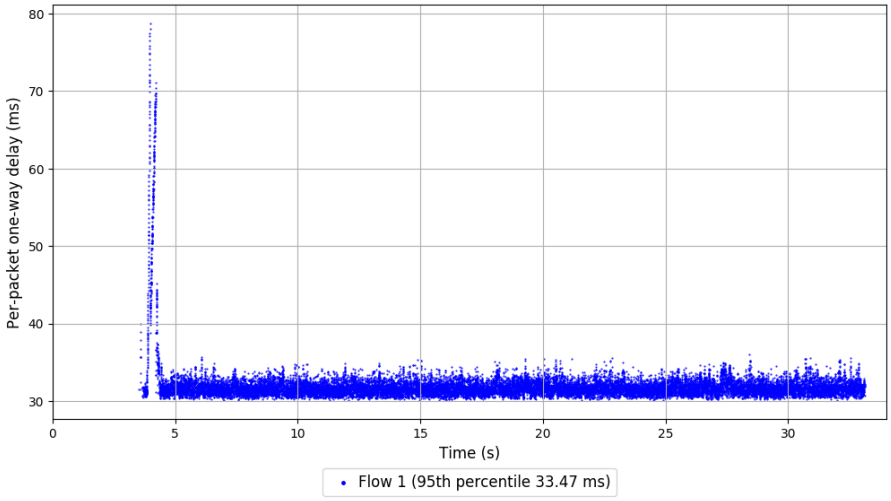
```
Run 3: Statistics of Muses\_DecisionTreeR0

Start at: 2020-04-16 09:41:51
End at: 2020-04-16 09:42:21

# Below is generated by plot.py at 2020-04-16 09:47:21
# Datalink statistics
-- Total of 1 flow:
Average capacity: 12.00 Mbit/s
Average throughput: 9.44 Mbit/s (78.6% utilization)
95th percentile per-packet one-way delay: 33.466 ms
Loss rate: 0.10%
-- Flow 1:
Average throughput: 9.44 Mbit/s
95th percentile per-packet one-way delay: 33.466 ms
Loss rate: 0.10%
```

Run 3: Report of Muses_DecisionTreeR0 — Data Link



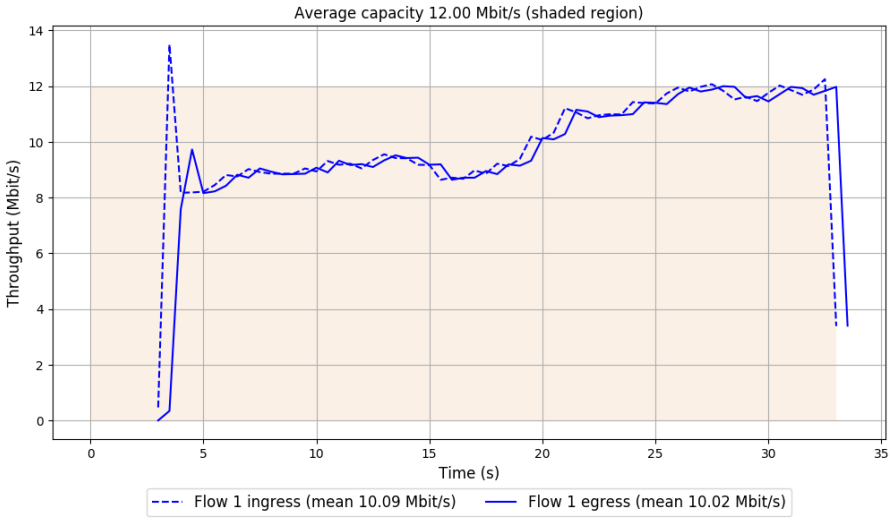


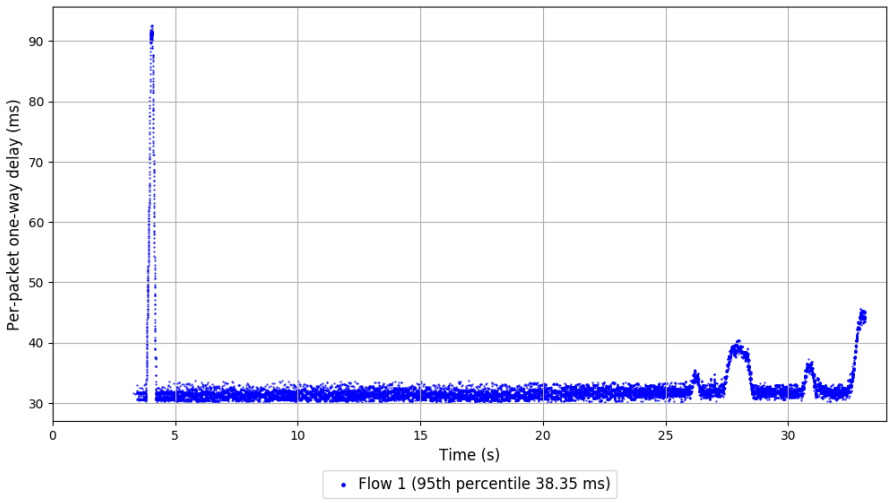
```
Run 1: Statistics of PCC-Allegro

Start at: 2020-04-16 09:11:16
End at: 2020-04-16 09:11:46

# Below is generated by plot.py at 2020-04-16 09:47:25
# Datalink statistics
-- Total of 1 flow:
Average capacity: 12.00 Mbit/s
Average throughput: 10.02 Mbit/s (83.5% utilization)
95th percentile per-packet one-way delay: 38.352 ms
Loss rate: 0.83%
-- Flow 1:
Average throughput: 10.02 Mbit/s
95th percentile per-packet one-way delay: 38.352 ms
Loss rate: 0.83%
```

Run 1: Report of PCC-Allegro — Data Link



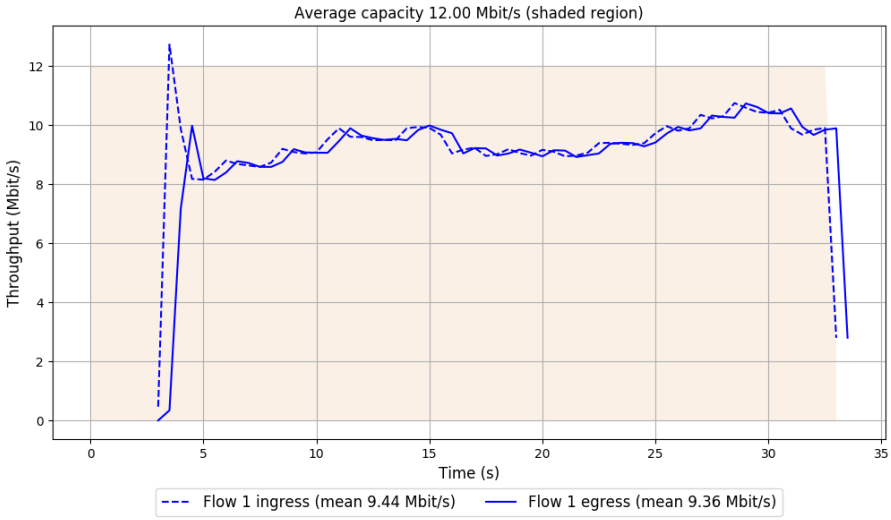


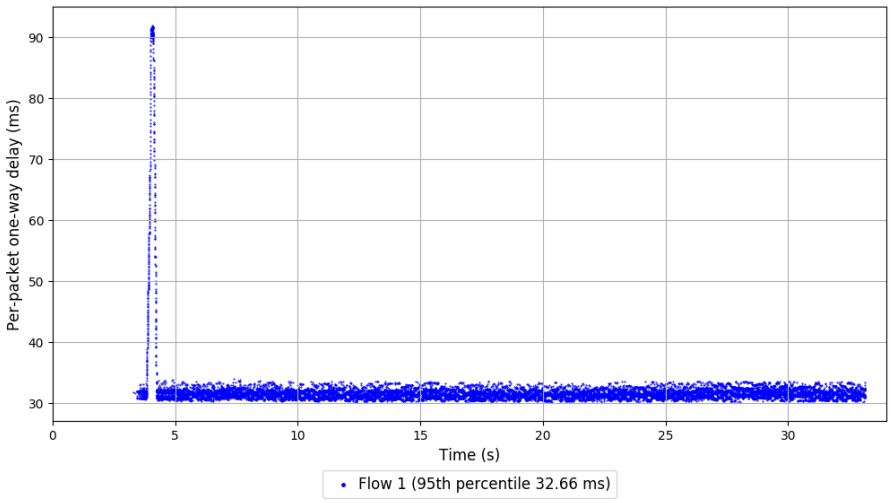
```
Run 2: Statistics of PCC-Allegro

Start at: 2020-04-16 09:25:24
End at: 2020-04-16 09:25:54

# Below is generated by plot.py at 2020-04-16 09:47:28
# Datalink statistics
-- Total of 1 flow:
Average capacity: 12.00 Mbit/s
Average throughput: 9.36 Mbit/s (78.0% utilization)
95th percentile per-packet one-way delay: 32.662 ms
Loss rate: 1.00%
-- Flow 1:
Average throughput: 9.36 Mbit/s
95th percentile per-packet one-way delay: 32.662 ms
Loss rate: 1.00%
```

Run 2: Report of PCC-Allegro — Data Link



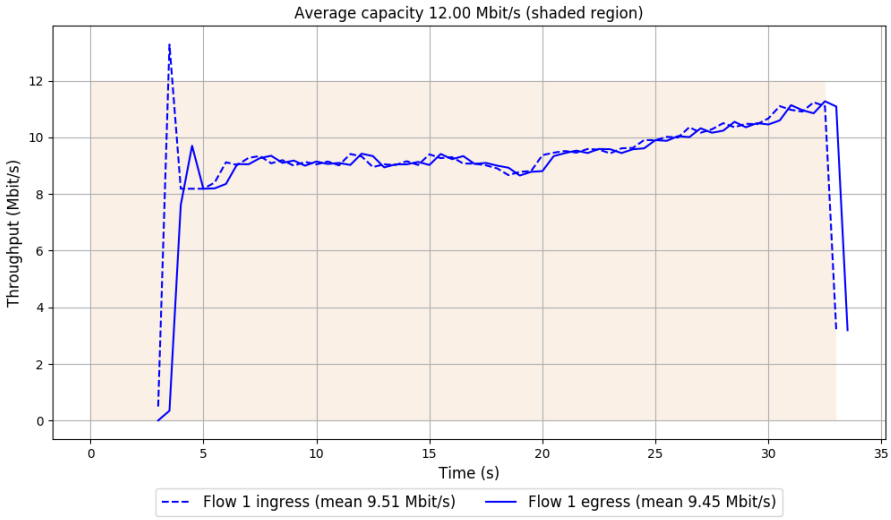


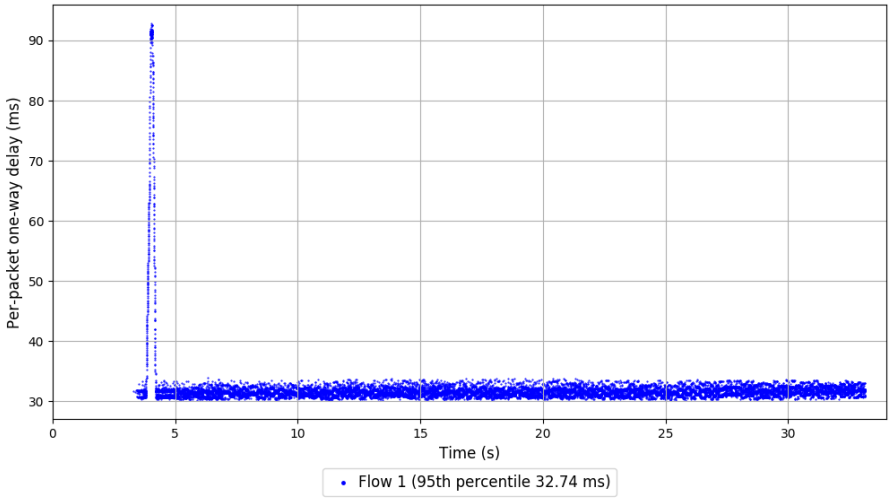
```
Run 3: Statistics of PCC-Allegro

Start at: 2020-04-16 09:39:30
End at: 2020-04-16 09:40:01

# Below is generated by plot.py at 2020-04-16 09:47:32
# Datalink statistics
-- Total of 1 flow:
Average capacity: 12.00 Mbit/s
Average throughput: 9.45 Mbit/s (78.7% utilization)
95th percentile per-packet one-way delay: 32.738 ms
Loss rate: 0.79%
-- Flow 1:
Average throughput: 9.45 Mbit/s
95th percentile per-packet one-way delay: 32.738 ms
Loss rate: 0.79%
```

Run 3: Report of PCC-Allegro — Data Link



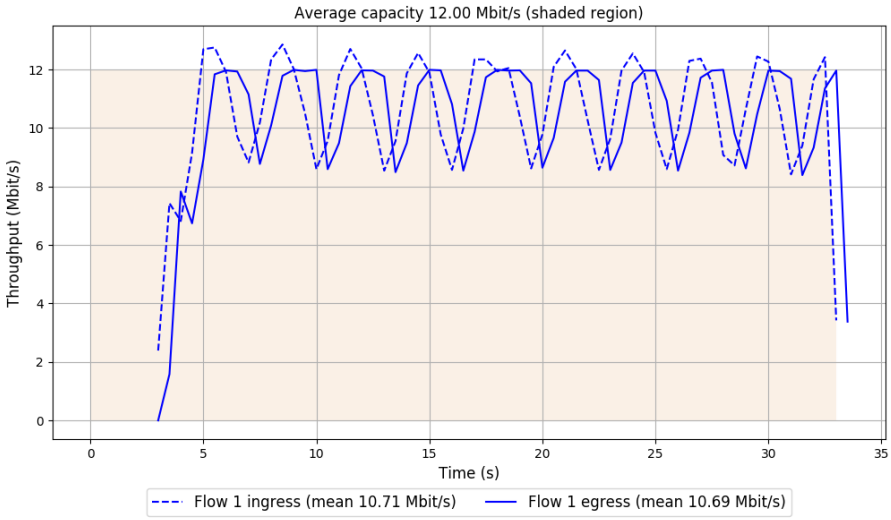


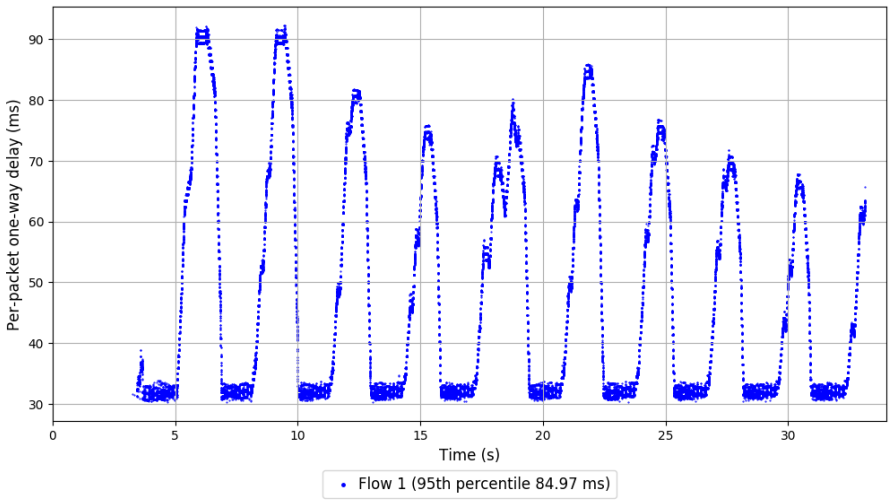
```
Run 1: Statistics of PCC-Expr

Start at: 2020-04-16 09:05:22
End at: 2020-04-16 09:05:52

# Below is generated by plot.py at 2020-04-16 09:47:51
# Datalink statistics
-- Total of 1 flow:
Average capacity: 12.00 Mbit/s
Average throughput: 10.69 Mbit/s (89.0% utilization)
95th percentile per-packet one-way delay: 84.966 ms
Loss rate: 0.30%
-- Flow 1:
Average throughput: 10.69 Mbit/s
95th percentile per-packet one-way delay: 84.966 ms
Loss rate: 0.30%
```

Run 1: Report of PCC-Expr — Data Link



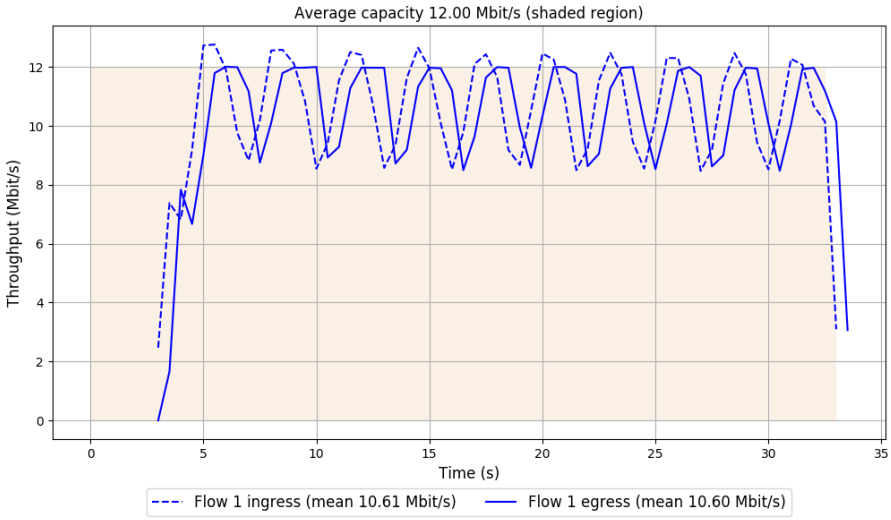


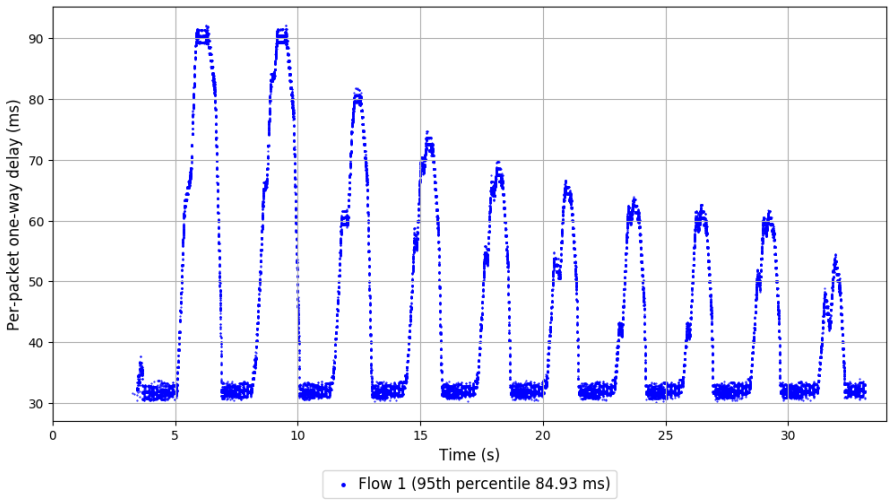
```
Run 2: Statistics of PCC-Expr

Start at: 2020-04-16 09:19:30
End at: 2020-04-16 09:20:00

# Below is generated by plot.py at 2020-04-16 09:47:54
# Datalink statistics
-- Total of 1 flow:
Average capacity: 12.00 Mbit/s
Average throughput: 10.60 Mbit/s (88.3% utilization)
95th percentile per-packet one-way delay: 84.932 ms
Loss rate: 0.18%
-- Flow 1:
Average throughput: 10.60 Mbit/s
95th percentile per-packet one-way delay: 84.932 ms
Loss rate: 0.18%
```

Run 2: Report of PCC-Expr — Data Link



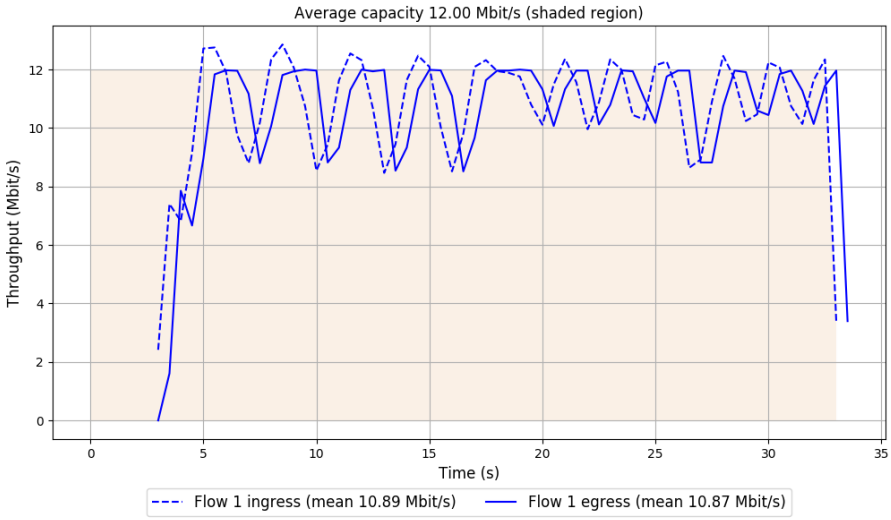


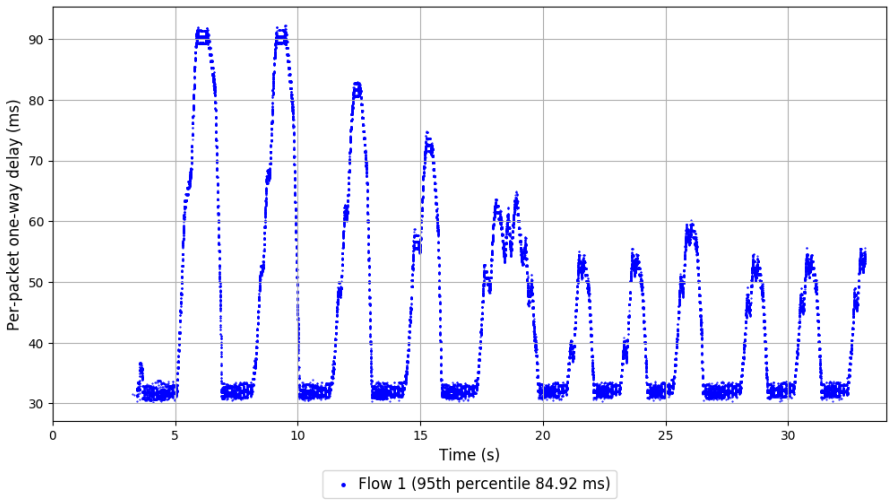
```
Run 3: Statistics of PCC-Expr

Start at: 2020-04-16 09:33:37
End at: 2020-04-16 09:34:07

# Below is generated by plot.py at 2020-04-16 09:47:55
# Datalink statistics
-- Total of 1 flow:
Average capacity: 12.00 Mbit/s
Average throughput: 10.87 Mbit/s (90.6% utilization)
95th percentile per-packet one-way delay: 84.917 ms
Loss rate: 0.27%
-- Flow 1:
Average throughput: 10.87 Mbit/s
95th percentile per-packet one-way delay: 84.917 ms
Loss rate: 0.27%
```

Run 3: Report of PCC-Expr — Data Link



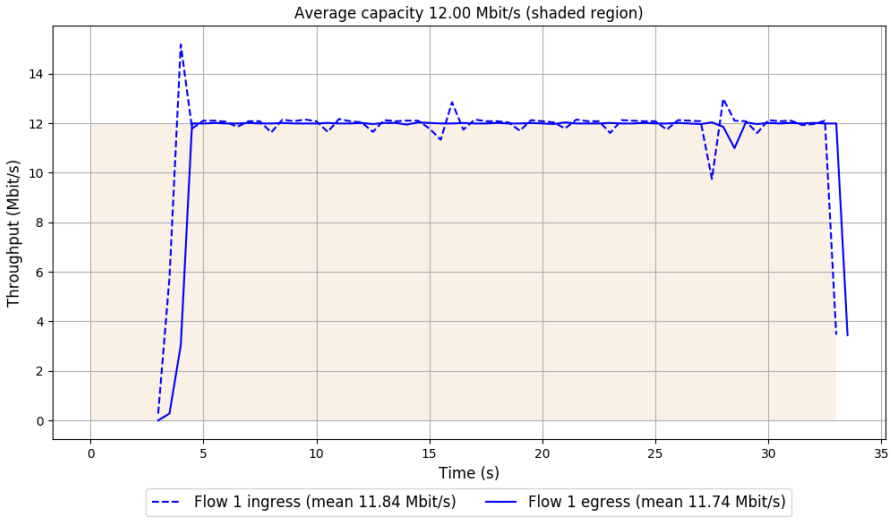


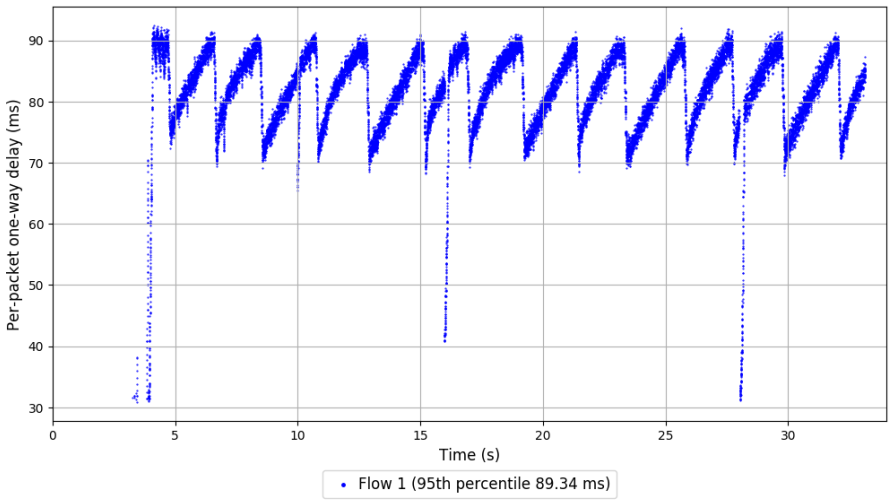
```
Run 1: Statistics of QUIC Cubic

Start at: 2020-04-16 09:14:47
End at: 2020-04-16 09:15:17

# Below is generated by plot.py at 2020-04-16 09:47:55
# Datalink statistics
-- Total of 1 flow:
Average capacity: 12.00 Mbit/s
Average throughput: 11.74 Mbit/s (97.9% utilization)
95th percentile per-packet one-way delay: 89.342 ms
Loss rate: 0.89%
-- Flow 1:
Average throughput: 11.74 Mbit/s
95th percentile per-packet one-way delay: 89.342 ms
Loss rate: 0.89%
```

Run 1: Report of QUIC Cubic — Data Link



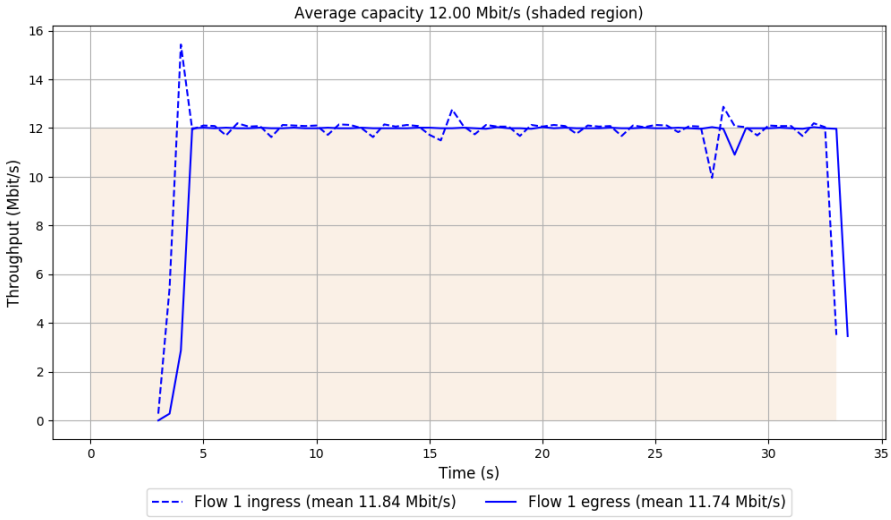


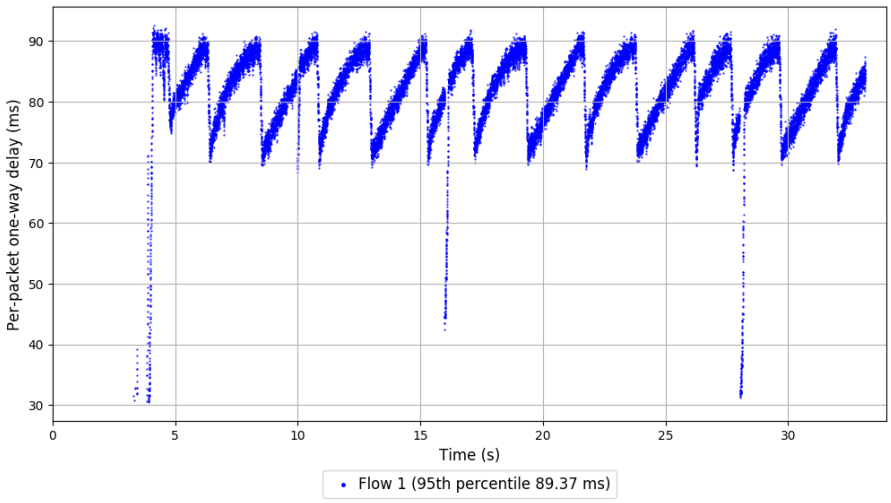
```
Run 2: Statistics of QUIC Cubic

Start at: 2020-04-16 09:28:55
End at: 2020-04-16 09:29:25

# Below is generated by plot.py at 2020-04-16 09:47:55
# Datalink statistics
-- Total of 1 flow:
Average capacity: 12.00 Mbit/s
Average throughput: 11.74 Mbit/s (97.9% utilization)
95th percentile per-packet one-way delay: 89.367 ms
Loss rate: 0.91%
-- Flow 1:
Average throughput: 11.74 Mbit/s
95th percentile per-packet one-way delay: 89.367 ms
Loss rate: 0.91%
```

Run 2: Report of QUIC Cubic — Data Link



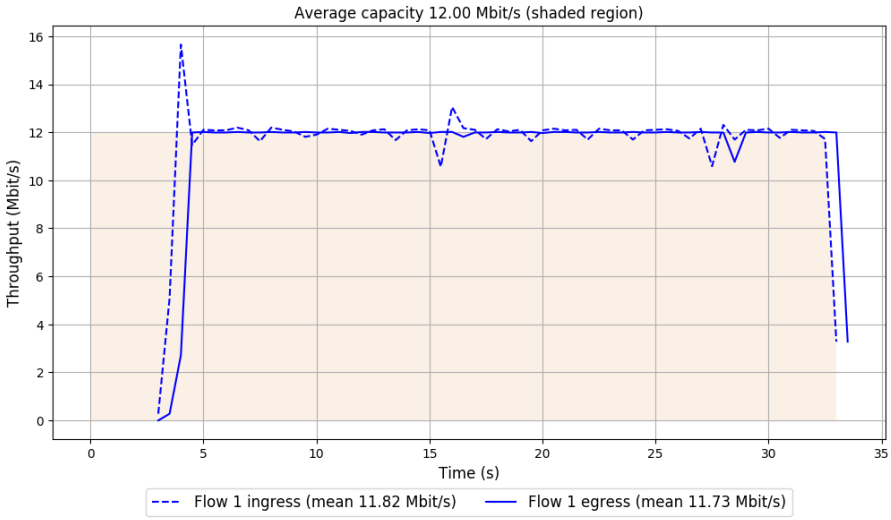


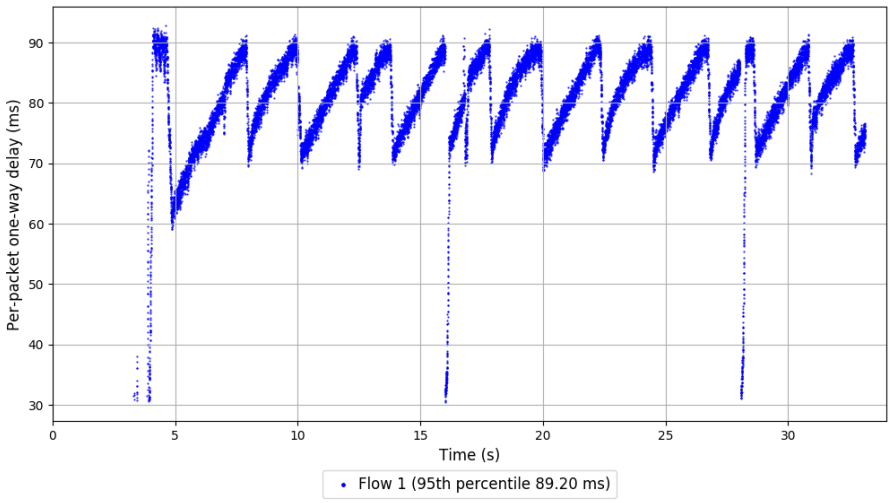
```
Run 3: Statistics of QUIC Cubic

Start at: 2020-04-16 09:43:02
End at: 2020-04-16 09:43:32

# Below is generated by plot.py at 2020-04-16 09:47:55
# 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: 89.205 ms
Loss rate: 0.87%
-- Flow 1:
Average throughput: 11.73 Mbit/s
95th percentile per-packet one-way delay: 89.205 ms
Loss rate: 0.87%
```

Run 3: Report of QUIC Cubic — Data Link



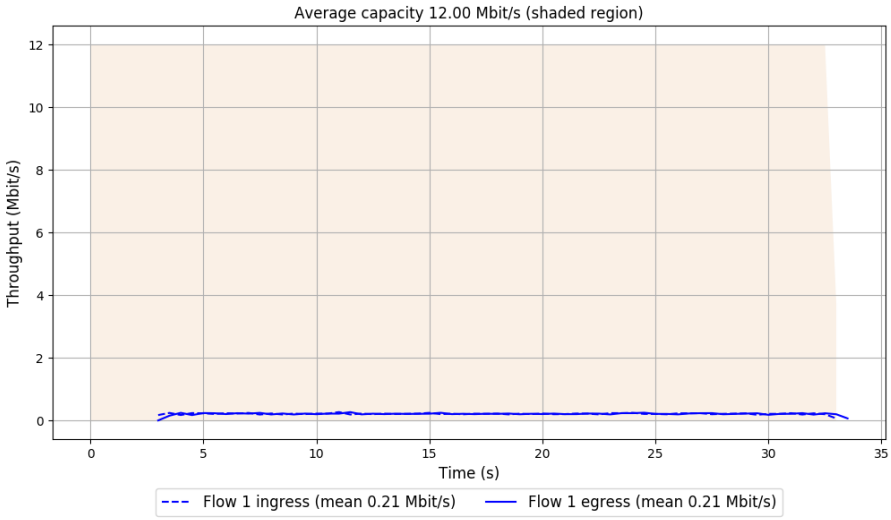


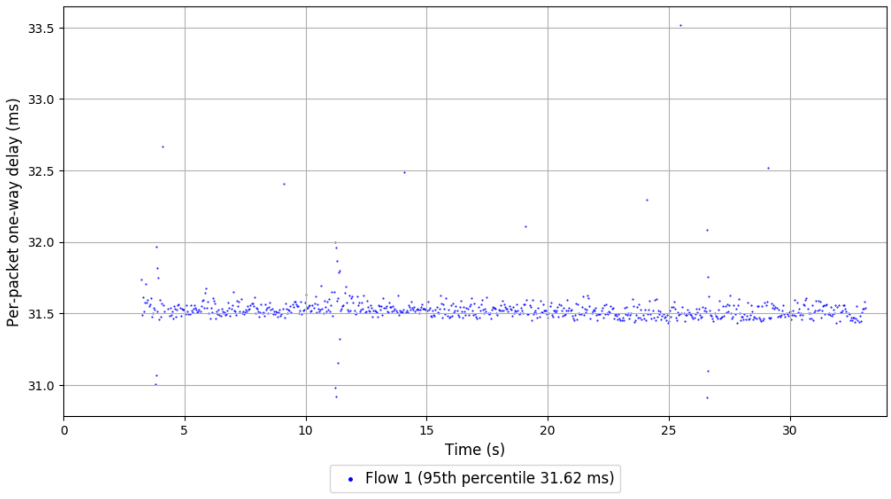
```
Run 1: Statistics of SCReAM

Start at: 2020-04-16 09:04:12
End at: 2020-04-16 09:04:42

# Below is generated by plot.py at 2020-04-16 09:47:55
# 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: 31.618 ms
Loss rate: 0.13%
-- Flow 1:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 31.618 ms
Loss rate: 0.13%
```

Run 1: Report of SCReAM — Data Link



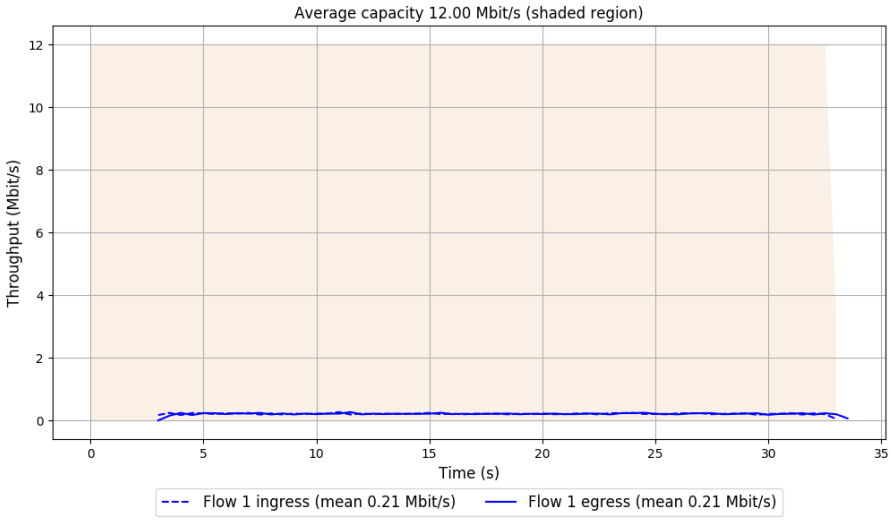


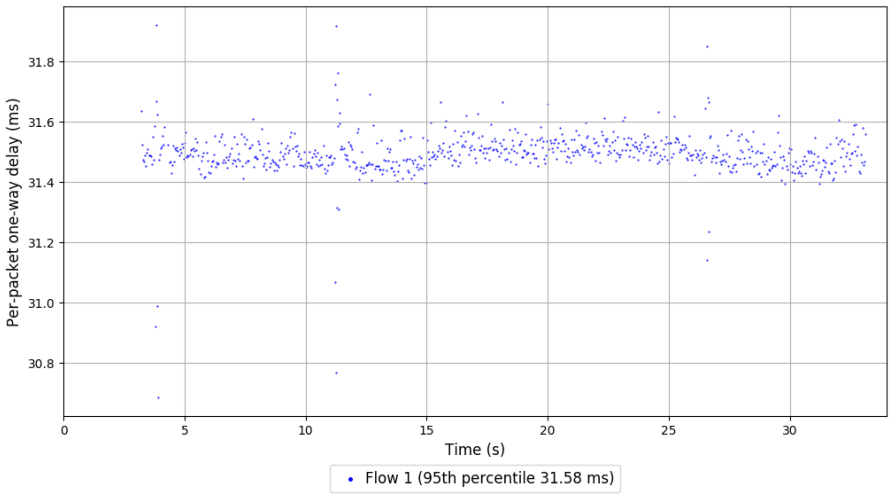
```
Run 2: Statistics of SCReAM

Start at: 2020-04-16 09:18:20
End at: 2020-04-16 09:18:50

# Below is generated by plot.py at 2020-04-16 09:47:55
# 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: 31.583 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 31.583 ms
Loss rate: 0.00%
```

Run 2: Report of SCReAM — Data Link



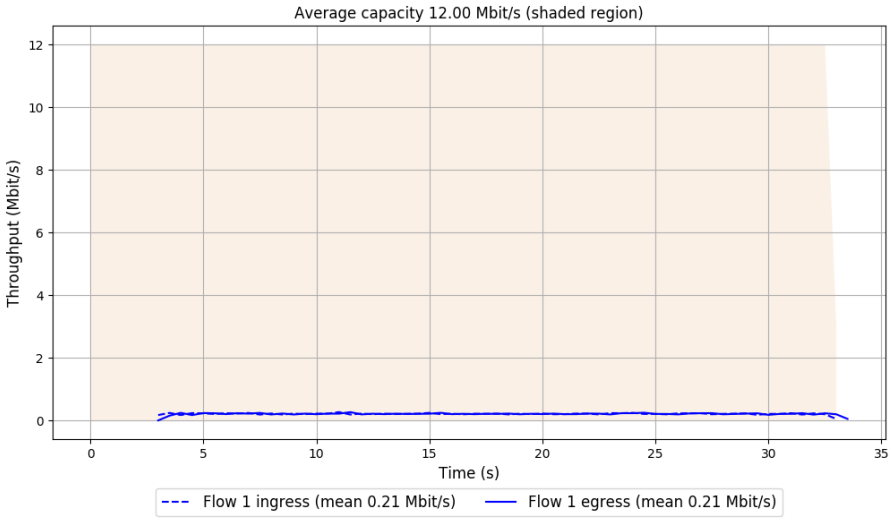


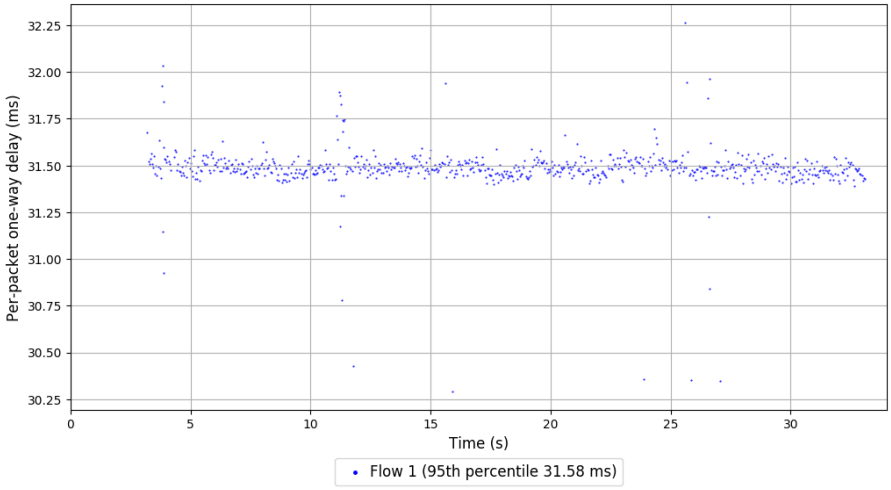
```
Run 3: Statistics of SCReAM

Start at: 2020-04-16 09:32:27
End at: 2020-04-16 09:32:57

# Below is generated by plot.py at 2020-04-16 09:47:55
# 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: 31.581 ms
Loss rate: 0.13%
-- Flow 1:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 31.581 ms
Loss rate: 0.13%
```

Run 3: Report of SCReAM — Data Link



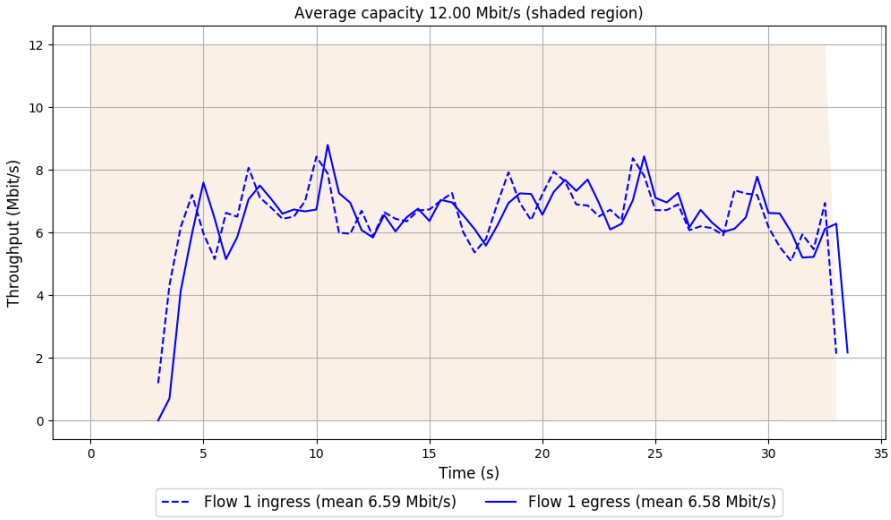


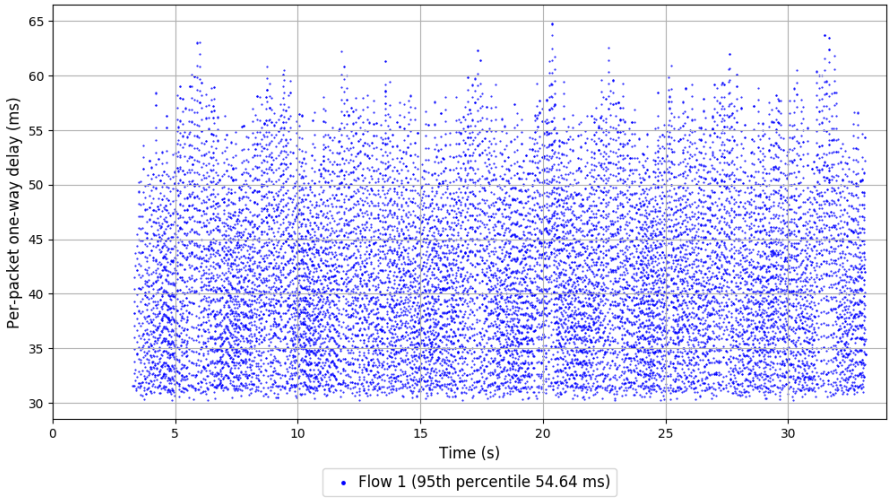
```
Run 1: Statistics of Sprout

Start at: 2020-04-16 09:13:02
End at: 2020-04-16 09:13:32

# Below is generated by plot.py at 2020-04-16 09:48:00
# Datalink statistics
-- Total of 1 flow:
Average capacity: 12.00 Mbit/s
Average throughput: 6.58 Mbit/s (54.9% utilization)
95th percentile per-packet one-way delay: 54.641 ms
Loss rate: 0.18%
-- Flow 1:
Average throughput: 6.58 Mbit/s
95th percentile per-packet one-way delay: 54.641 ms
Loss rate: 0.18%
```

Run 1: Report of Sprout — Data Link



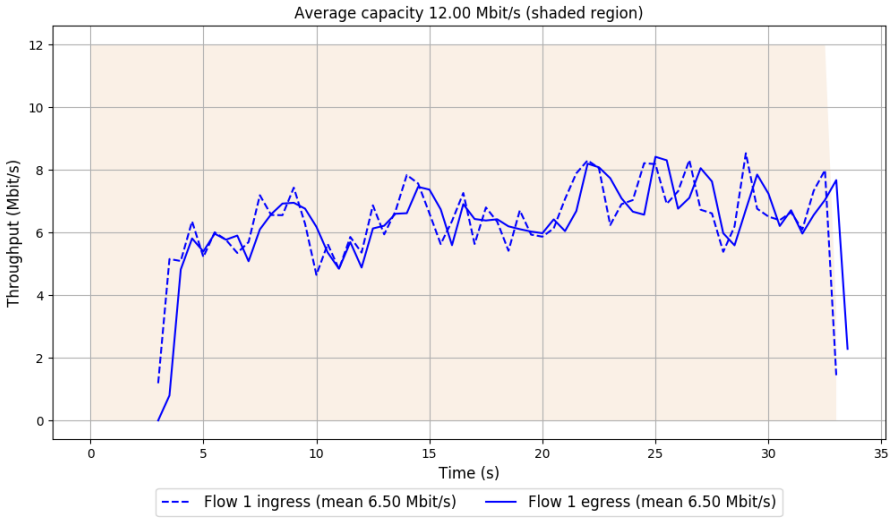


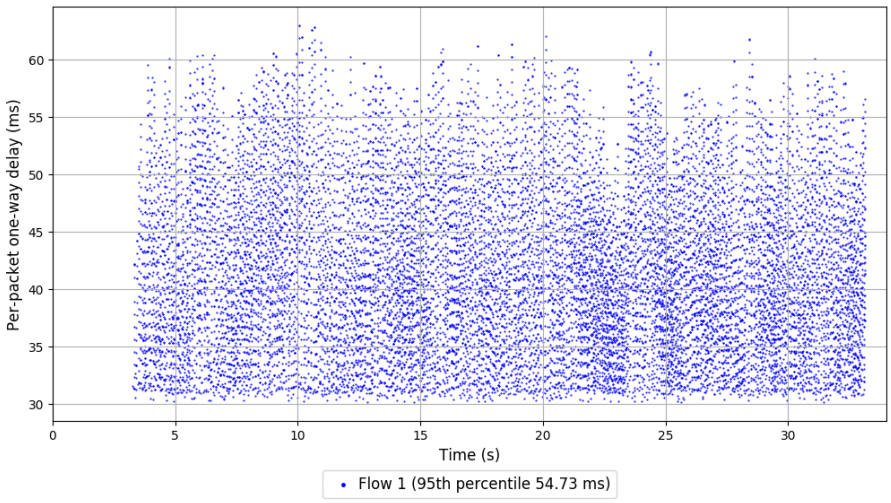
```
Run 2: Statistics of Sprout

Start at: 2020-04-16 09:27:09
End at: 2020-04-16 09:27:39

# Below is generated by plot.py at 2020-04-16 09:48:02
# Datalink statistics
-- Total of 1 flow:
Average capacity: 12.00 Mbit/s
Average throughput: 6.50 Mbit/s (54.2% utilization)
95th percentile per-packet one-way delay: 54.733 ms
Loss rate: 0.06%
-- Flow 1:
Average throughput: 6.50 Mbit/s
95th percentile per-packet one-way delay: 54.733 ms
Loss rate: 0.06%
```

Run 2: Report of Sprout — Data Link



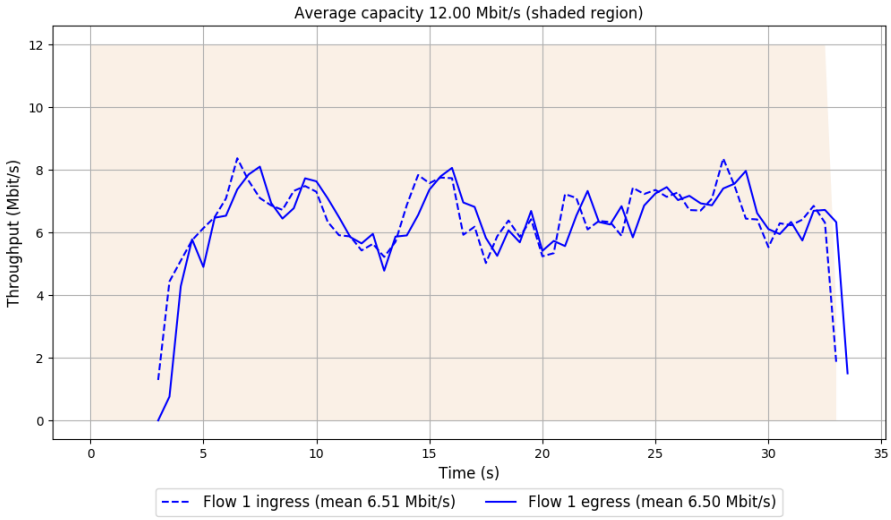


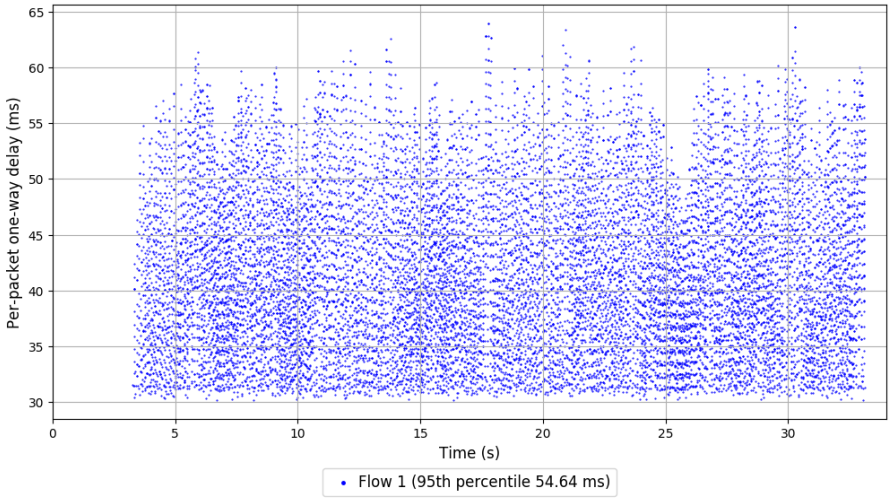
```
Run 3: Statistics of Sprout

Start at: 2020-04-16 09:41:16
End at: 2020-04-16 09:41:46

# Below is generated by plot.py at 2020-04-16 09:48:03
# Datalink statistics
-- Total of 1 flow:
Average capacity: 12.00 Mbit/s
Average throughput: 6.50 Mbit/s (54.2% utilization)
95th percentile per-packet one-way delay: 54.636 ms
Loss rate: 0.21%
-- Flow 1:
Average throughput: 6.50 Mbit/s
95th percentile per-packet one-way delay: 54.636 ms
Loss rate: 0.21%
```

Run 3: Report of Sprout — Data Link



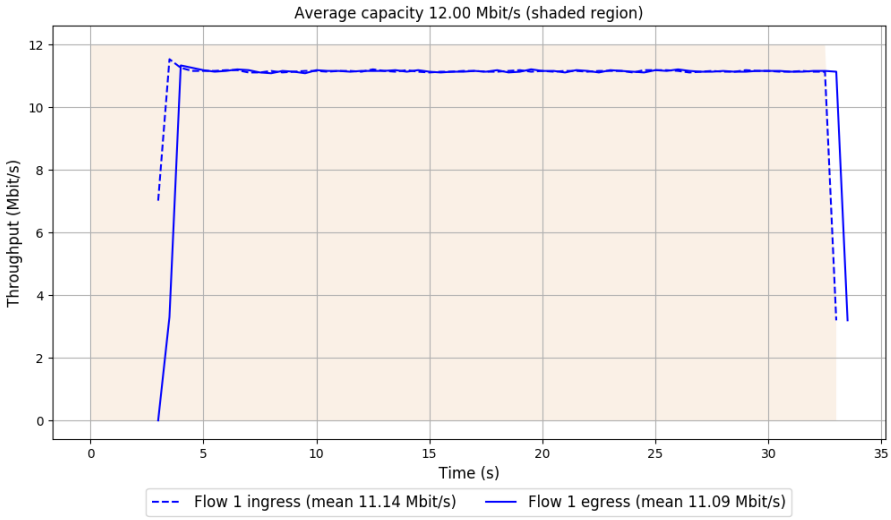


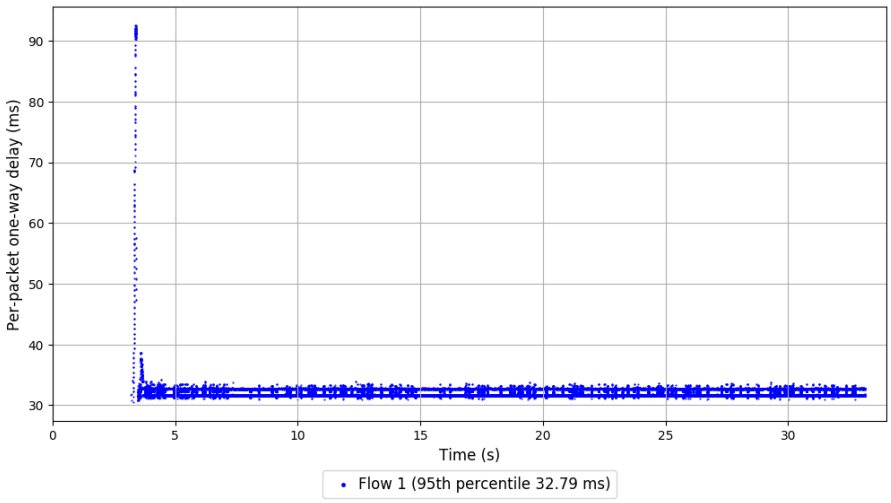
```
Run 1: Statistics of TaoVA-100x

Start at: 2020-04-16 09:15:58
End at: 2020-04-16 09:16:28

# Below is generated by plot.py at 2020-04-16 09:48:24
# Datalink statistics
-- Total of 1 flow:
Average capacity: 12.00 Mbit/s
Average throughput: 11.09 Mbit/s (92.4% utilization)
95th percentile per-packet one-way delay: 32.788 ms
Loss rate: 0.58%
-- Flow 1:
Average throughput: 11.09 Mbit/s
95th percentile per-packet one-way delay: 32.788 ms
Loss rate: 0.58%
```

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



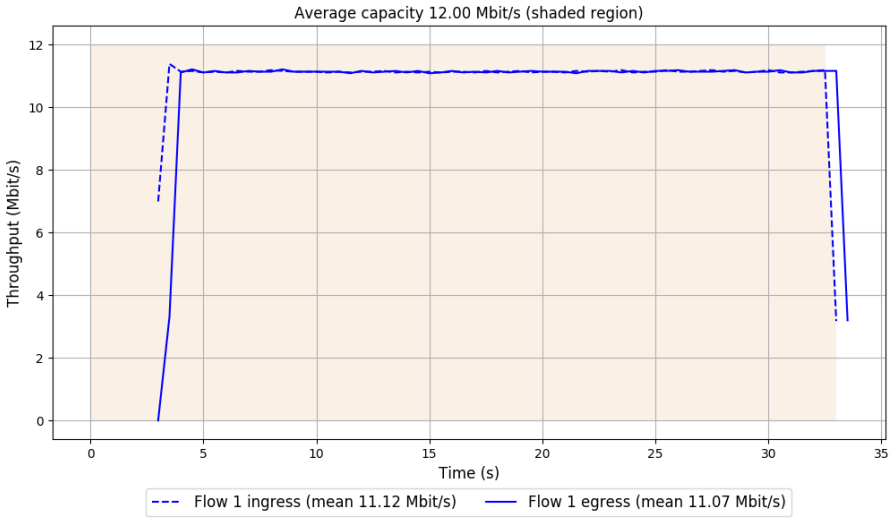


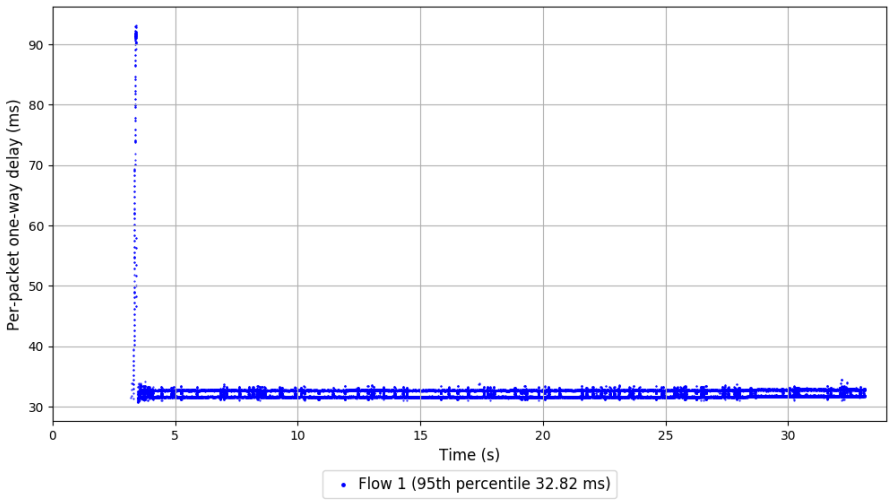
```
Run 2: Statistics of TaoVA-100x

Start at: 2020-04-16 09:30:05
End at: 2020-04-16 09:30:35

# Below is generated by plot.py at 2020-04-16 09:48:28
# 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: 32.824 ms
Loss rate: 0.58%
-- Flow 1:
Average throughput: 11.07 Mbit/s
95th percentile per-packet one-way delay: 32.824 ms
Loss rate: 0.58%
```

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



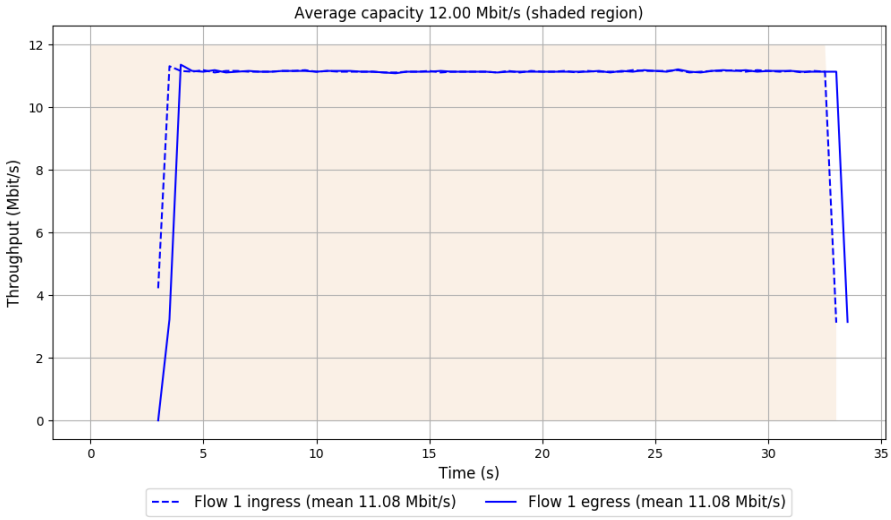


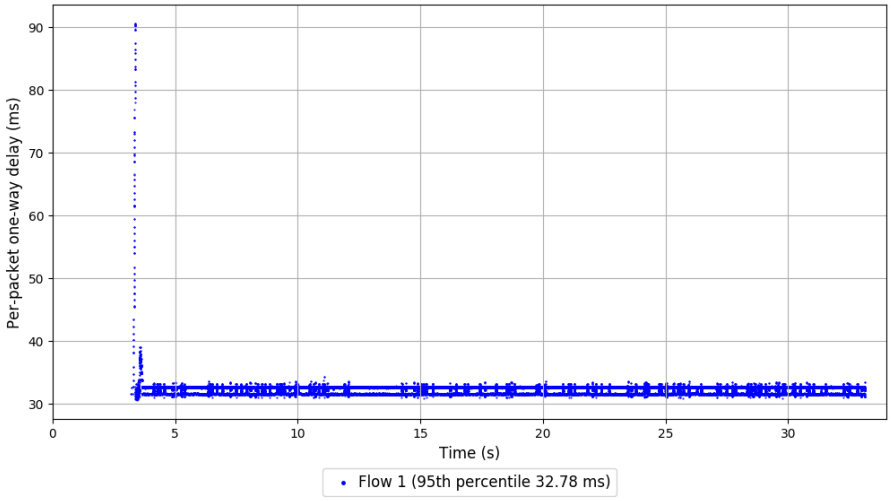
```
Run 3: Statistics of TaoVA-100x

Start at: 2020-04-16 09:44:12
End at: 2020-04-16 09:44:42

# Below is generated by plot.py at 2020-04-16 09:48:28
# Datalink statistics
-- Total of 1 flow:
Average capacity: 12.00 Mbit/s
Average throughput: 11.08 Mbit/s (92.3% utilization)
95th percentile per-packet one-way delay: 32.778 ms
Loss rate: 0.14%
-- Flow 1:
Average throughput: 11.08 Mbit/s
95th percentile per-packet one-way delay: 32.778 ms
Loss rate: 0.14%
```

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



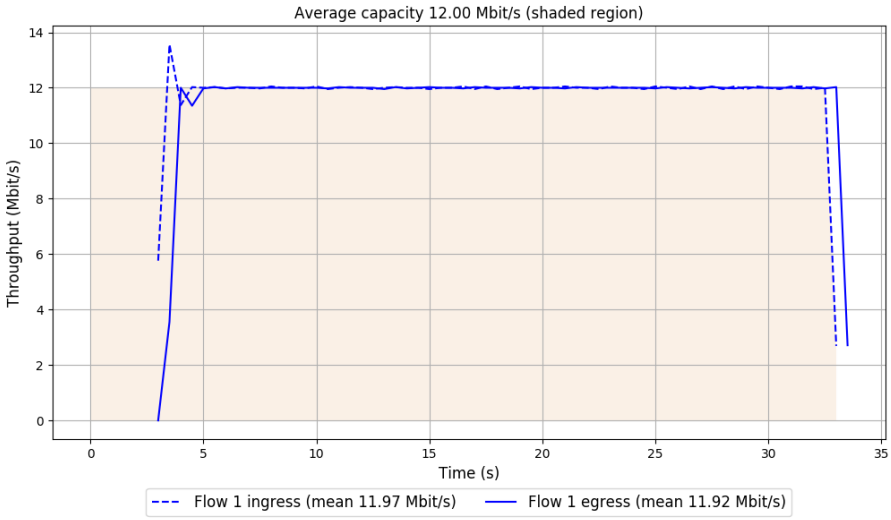


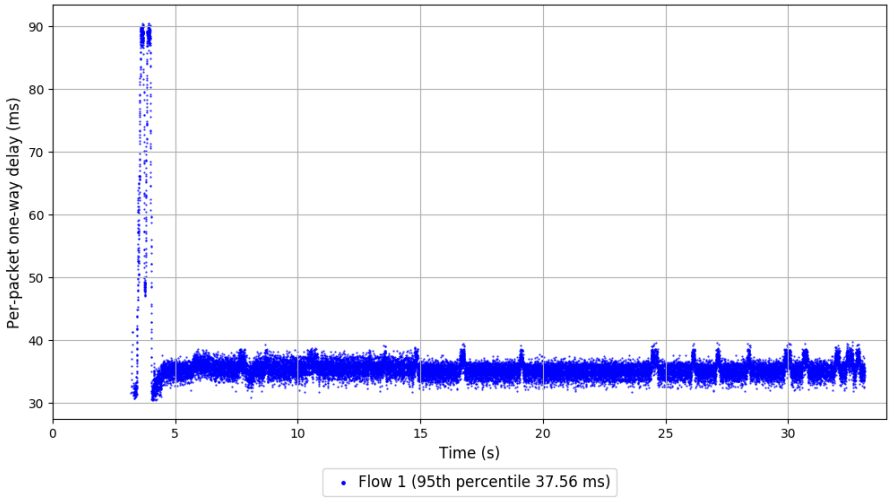
```
Run 1: Statistics of TCP Vegas

Start at: 2020-04-16 09:08:55
End at: 2020-04-16 09:09:25

# Below is generated by plot.py at 2020-04-16 09:48:28
# 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: 37.557 ms
Loss rate: 0.53%
-- Flow 1:
Average throughput: 11.92 Mbit/s
95th percentile per-packet one-way delay: 37.557 ms
Loss rate: 0.53%
```

Run 1: Report of TCP Vegas — Data Link



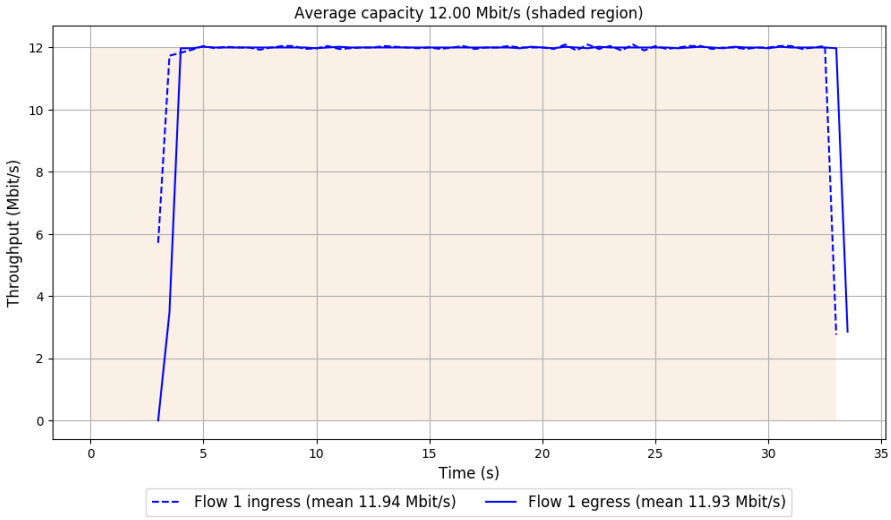


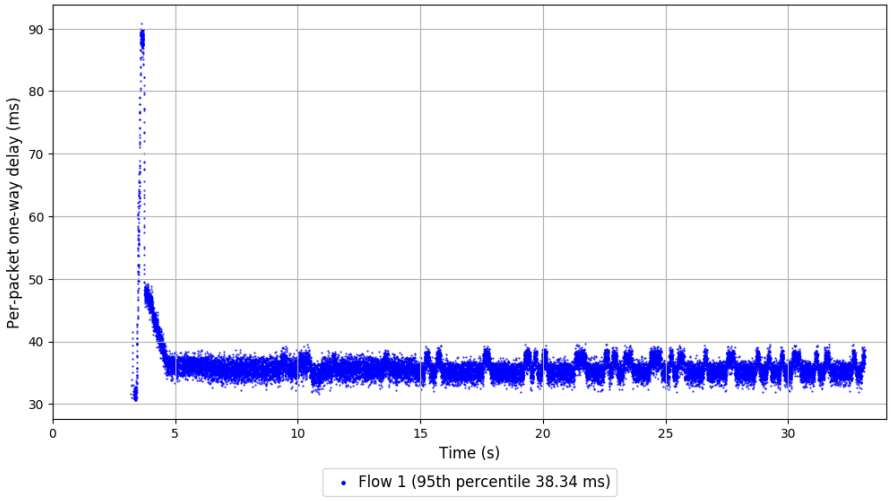
```
Run 2: Statistics of TCP Vegas

Start at: 2020-04-16 09:23:02
End at: 2020-04-16 09:23:32

# Below is generated by plot.py at 2020-04-16 09:48:28
# Datalink statistics
-- Total of 1 flow:
Average capacity: 12.00 Mbit/s
Average throughput: 11.93 Mbit/s (99.4% utilization)
95th percentile per-packet one-way delay: 38.337 ms
Loss rate: 0.24%
-- Flow 1:
Average throughput: 11.93 Mbit/s
95th percentile per-packet one-way delay: 38.337 ms
Loss rate: 0.24%
```

Run 2: Report of TCP Vegas — Data Link



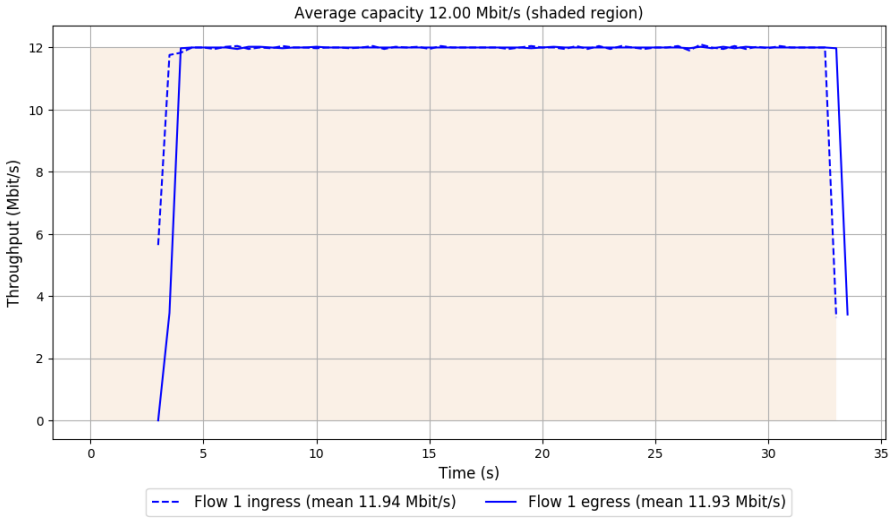


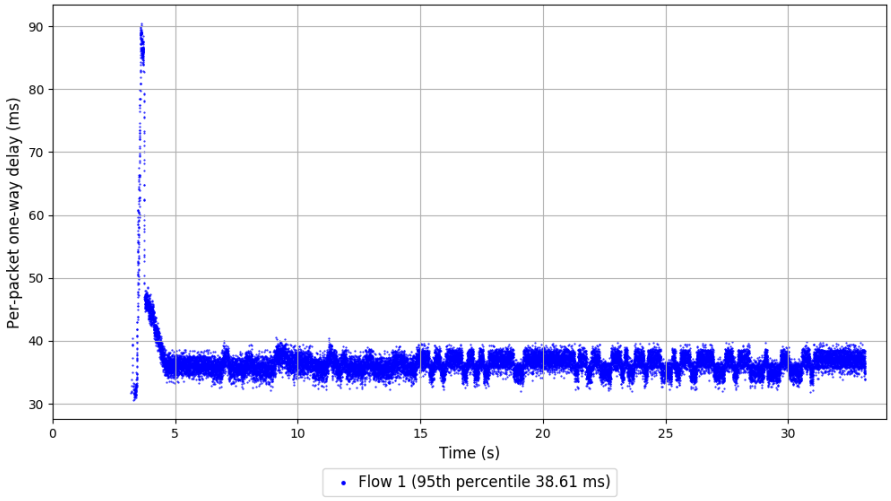
```
Run 3: Statistics of TCP Vegas

Start at: 2020-04-16 09:37:09
End at: 2020-04-16 09:37:39

# Below is generated by plot.py at 2020-04-16 09:48:28
# Datalink statistics
-- Total of 1 flow:
Average capacity: 12.00 Mbit/s
Average throughput: 11.93 Mbit/s (99.4% utilization)
95th percentile per-packet one-way delay: 38.608 ms
Loss rate: 0.24%
-- Flow 1:
Average throughput: 11.93 Mbit/s
95th percentile per-packet one-way delay: 38.608 ms
Loss rate: 0.24%
```

Run 3: Report of TCP Vegas — Data Link



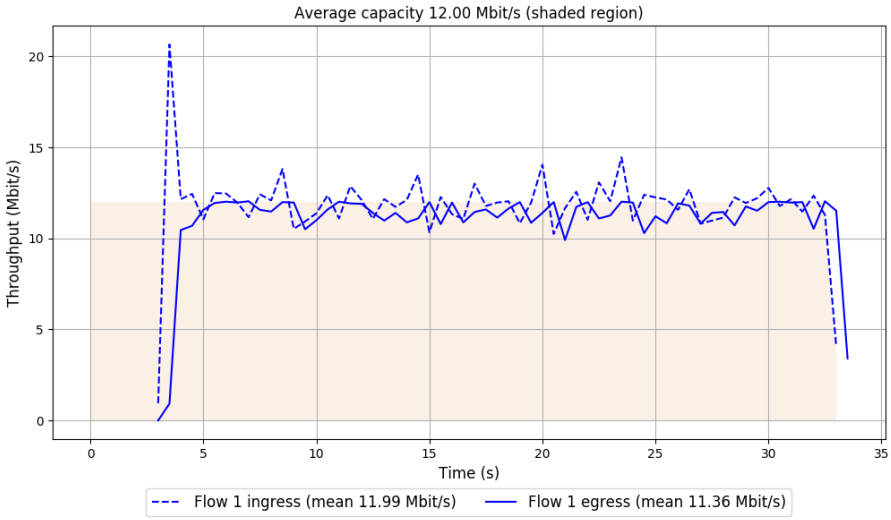


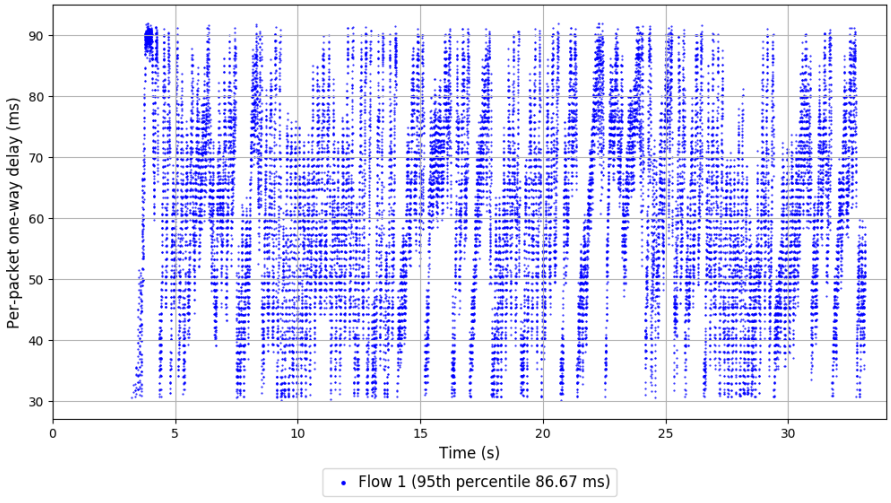
```
Run 1: Statistics of Verus

Start at: 2020-04-16 09:10:40
End at: 2020-04-16 09:11:11

# Below is generated by plot.py at 2020-04-16 09:48:28
# Datalink statistics
-- Total of 1 flow:
Average capacity: 12.00 Mbit/s
Average throughput: 11.36 Mbit/s (94.7% utilization)
95th percentile per-packet one-way delay: 86.667 ms
Loss rate: 5.34%
-- Flow 1:
Average throughput: 11.36 Mbit/s
95th percentile per-packet one-way delay: 86.667 ms
Loss rate: 5.34%
```

Run 1: Report of Verus — Data Link



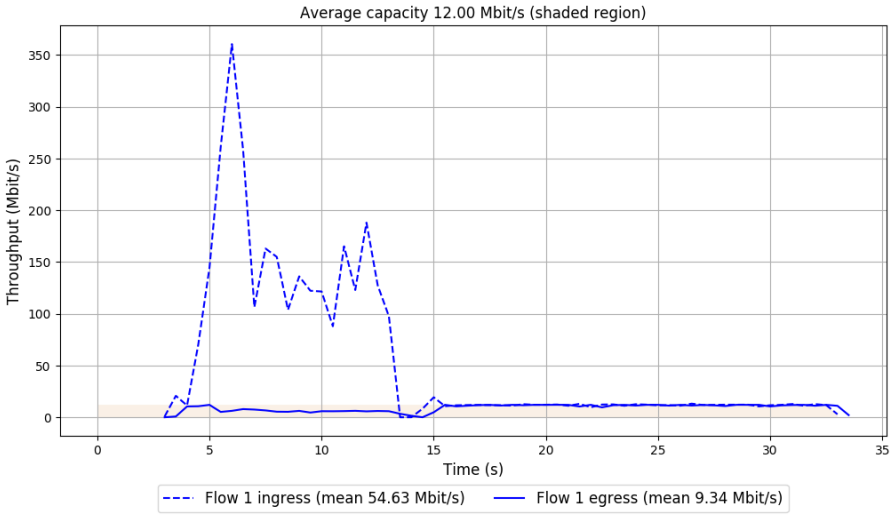


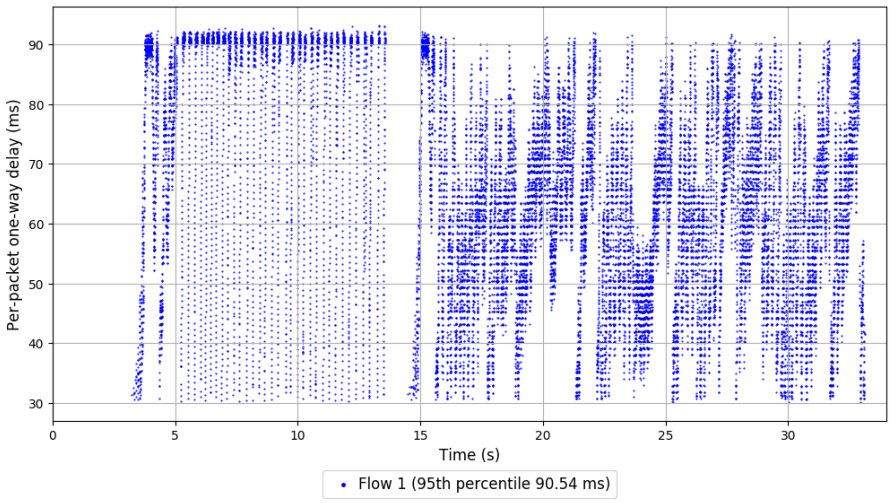
```
Run 2: Statistics of Verus

Start at: 2020-04-16 09:24:47
End at: 2020-04-16 09:25:17

# Below is generated by plot.py at 2020-04-16 09:48:39
# Datalink statistics
-- Total of 1 flow:
Average capacity: 12.00 Mbit/s
Average throughput: 9.34 Mbit/s (77.8% utilization)
95th percentile per-packet one-way delay: 90.544 ms
Loss rate: 82.92%
-- Flow 1:
Average throughput: 9.34 Mbit/s
95th percentile per-packet one-way delay: 90.544 ms
Loss rate: 82.92%
```

Run 2: Report of Verus — Data Link



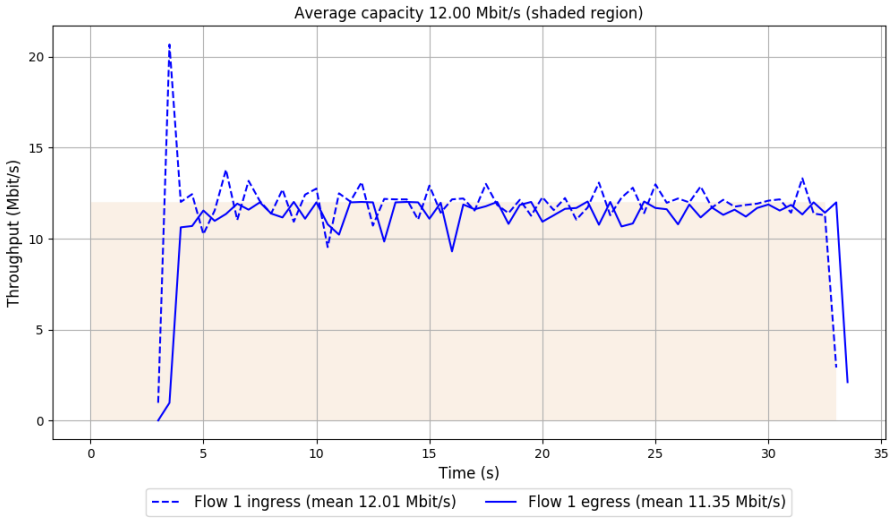


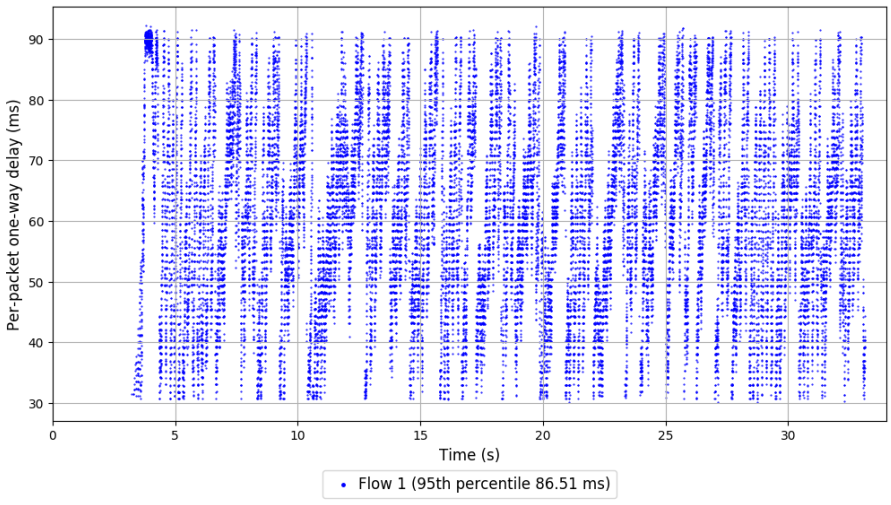
```
Run 3: Statistics of Verus

Start at: 2020-04-16 09:38:55
End at: 2020-04-16 09:39:25

# Below is generated by plot.py at 2020-04-16 09:48:40
# 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: 86.512 ms
Loss rate: 5.55%
-- Flow 1:
Average throughput: 11.35 Mbit/s
95th percentile per-packet one-way delay: 86.512 ms
Loss rate: 5.55%
```

Run 3: Report of Verus — Data Link



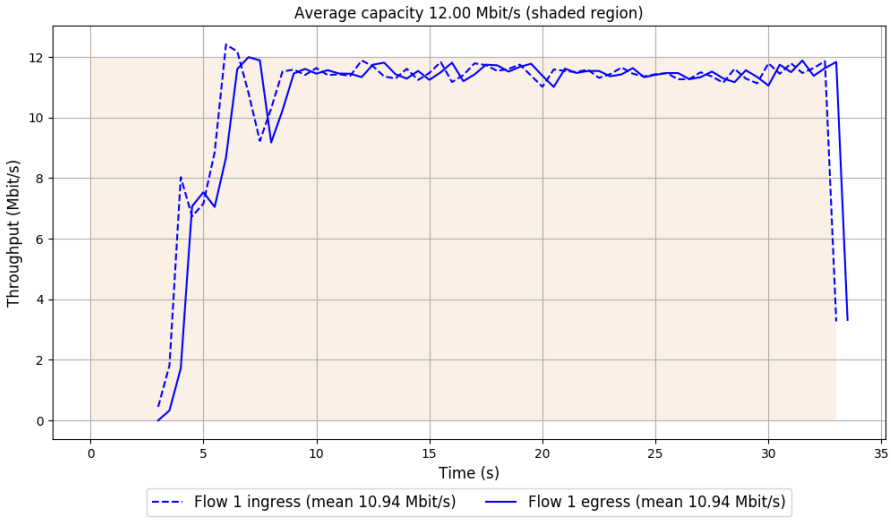


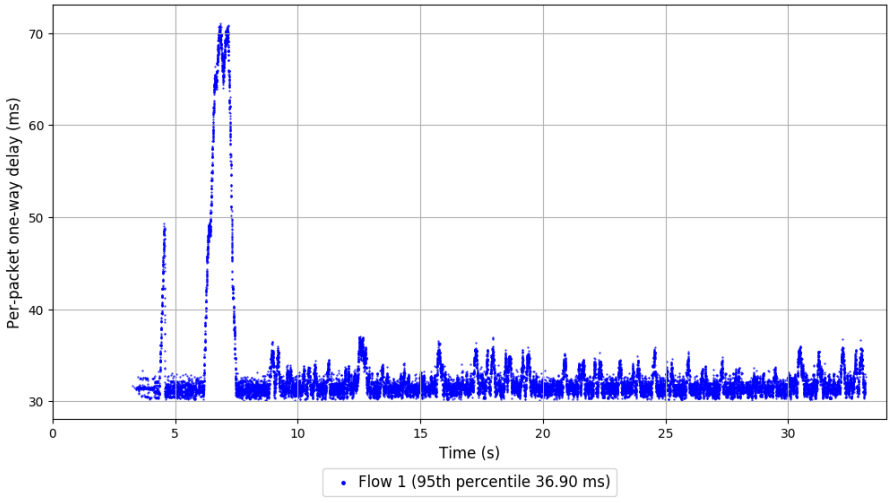
```
Run 1: Statistics of PCC-Vivace

Start at: 2020-04-16 09:03:37
End at: 2020-04-16 09:04:07

# Below is generated by plot.py at 2020-04-16 09:48:42
# Datalink statistics
-- Total of 1 flow:
Average capacity: 12.00 Mbit/s
Average throughput: 10.94 Mbit/s (91.2% utilization)
95th percentile per-packet one-way delay: 36.904 ms
Loss rate: 0.11%
-- Flow 1:
Average throughput: 10.94 Mbit/s
95th percentile per-packet one-way delay: 36.904 ms
Loss rate: 0.11%
```

Run 1: Report of PCC-Vivace — Data Link



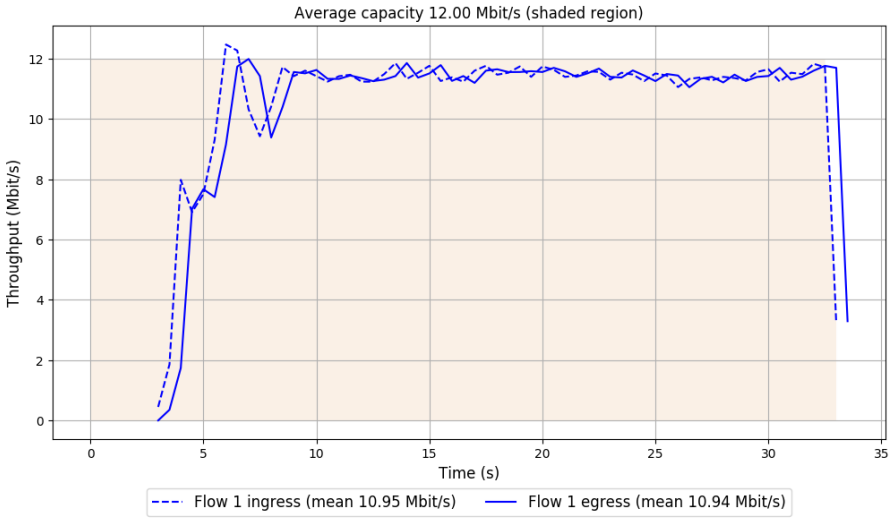


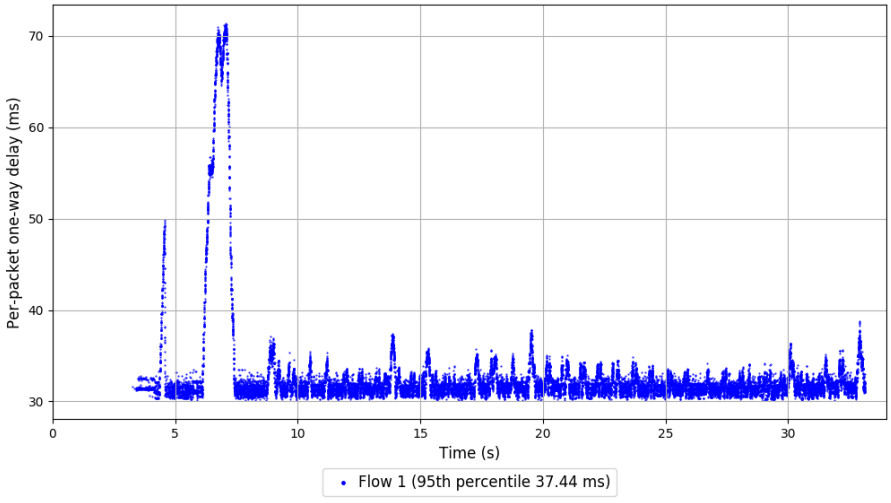
```
Run 2: Statistics of PCC-Vivace

Start at: 2020-04-16 09:17:44
End at: 2020-04-16 09:18:14

# Below is generated by plot.py at 2020-04-16 09:48:42
# Datalink statistics
-- Total of 1 flow:
Average capacity: 12.00 Mbit/s
Average throughput: 10.94 Mbit/s (91.2% utilization)
95th percentile per-packet one-way delay: 37.436 ms
Loss rate: 0.11%
-- Flow 1:
Average throughput: 10.94 Mbit/s
95th percentile per-packet one-way delay: 37.436 ms
Loss rate: 0.11%
```

Run 2: Report of PCC-Vivace — Data Link



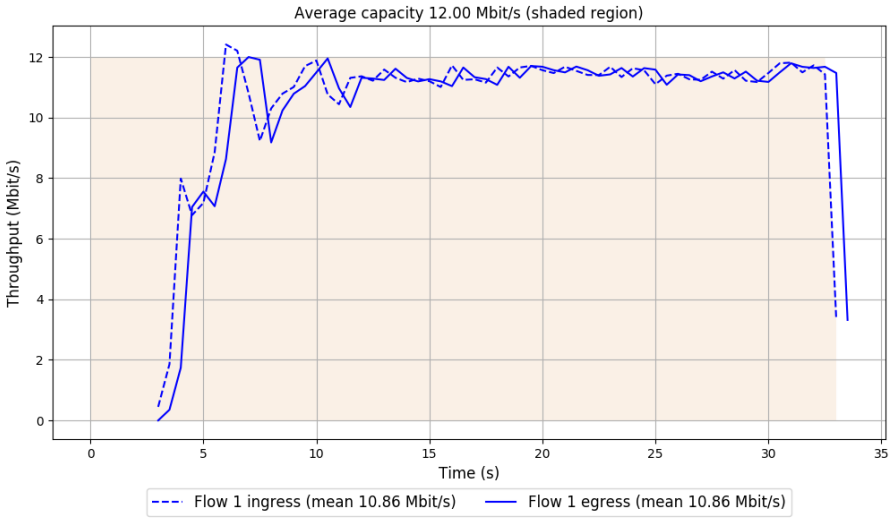


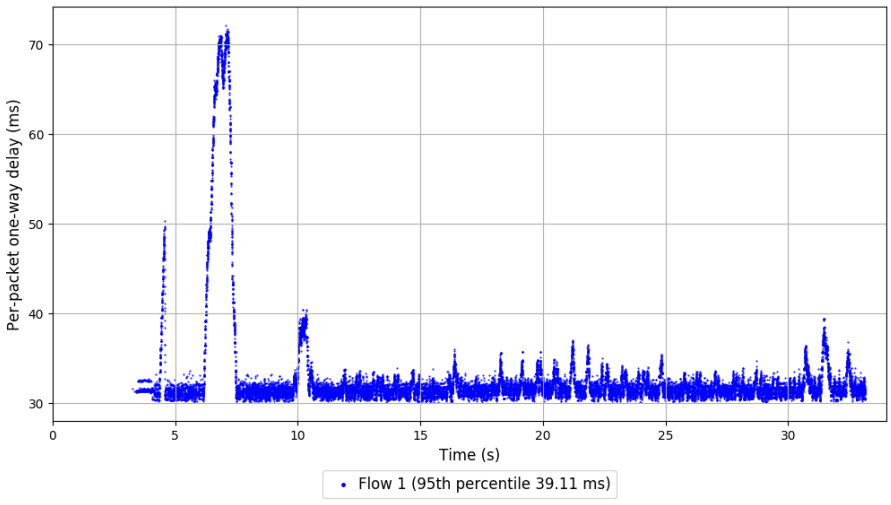
```
Run 3: Statistics of PCC-Vivace

Start at: 2020-04-16 09:31:52
End at: 2020-04-16 09:32:22

# Below is generated by plot.py at 2020-04-16 09:48:43
# Datalink statistics
-- Total of 1 flow:
Average capacity: 12.00 Mbit/s
Average throughput: 10.86 Mbit/s (90.5% utilization)
95th percentile per-packet one-way delay: 39.111 ms
Loss rate: 0.11%
-- Flow 1:
Average throughput: 10.86 Mbit/s
95th percentile per-packet one-way delay: 39.111 ms
Loss rate: 0.11%
```

Run 3: Report of PCC-Vivace — Data Link

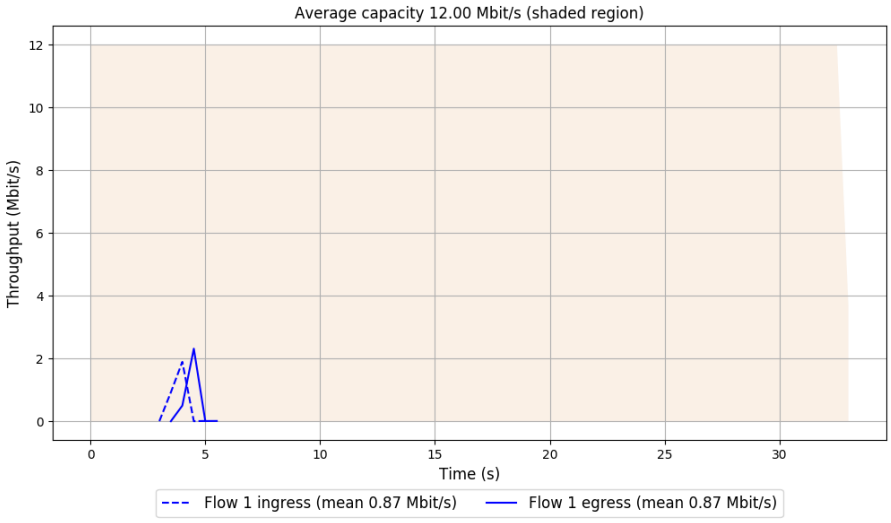


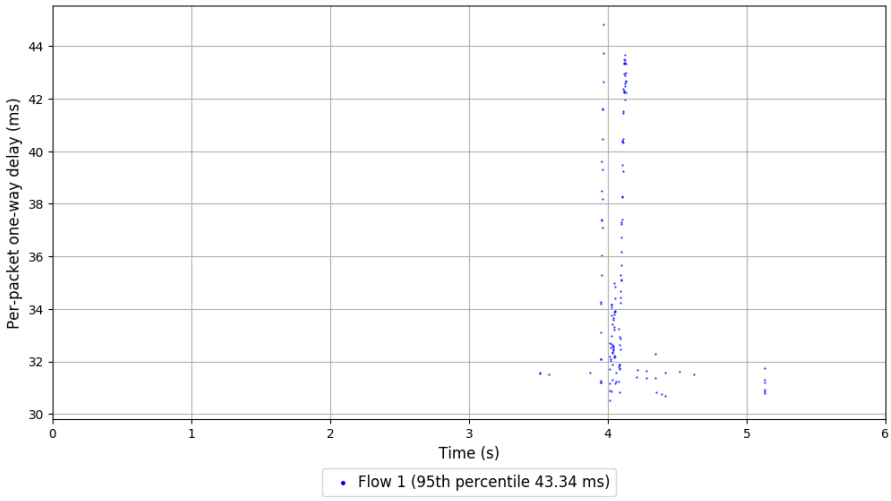


```
Run 1: Statistics of WebRTC media

Start at: 2020-04-16 09:05:58
End at: 2020-04-16 09:06:28
```

Run 1: Report of WebRTC media — Data Link

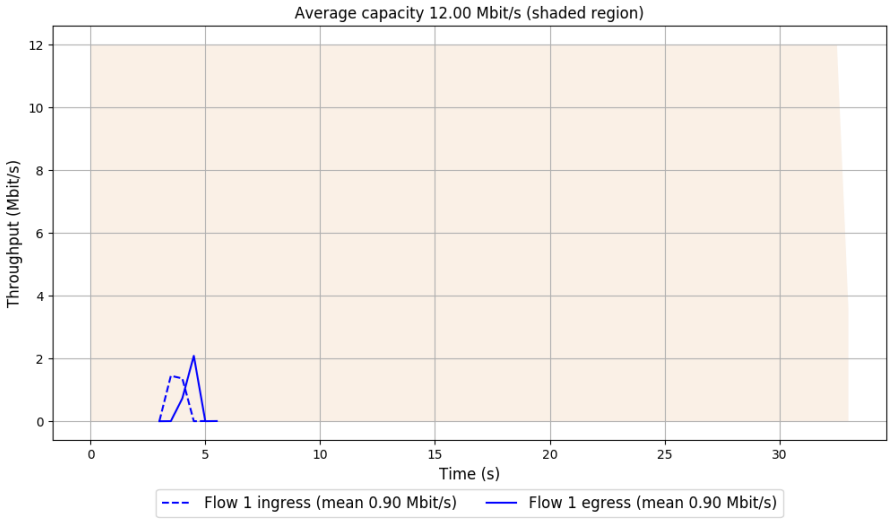


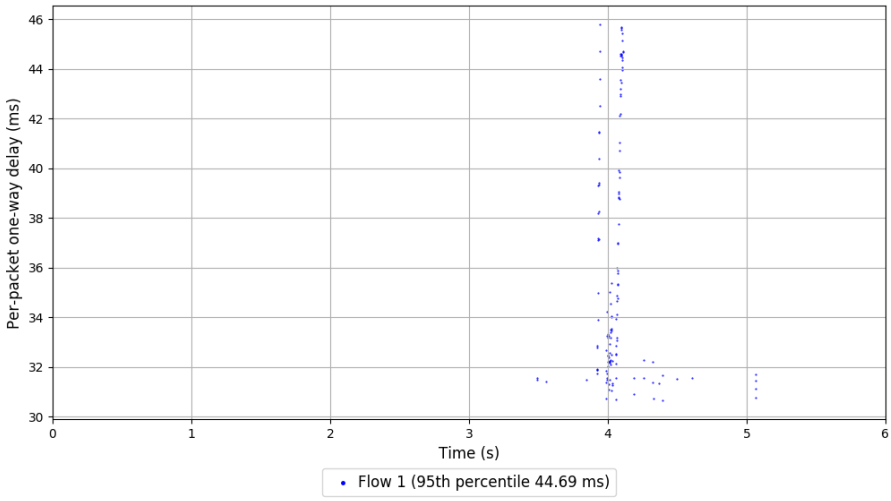


```
Run 2: Statistics of WebRTC media

Start at: 2020-04-16 09:20:05
End at: 2020-04-16 09:20:35
```

Run 2: Report of WebRTC media — Data Link





```
Run 3: Statistics of WebRTC media

Start at: 2020-04-16 09:34:13
End at: 2020-04-16 09:34:43
```

Run 3: Report of WebRTC media — Data Link