

Pantheon Report

Generated at 2019-11-24 03:53:24 (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.

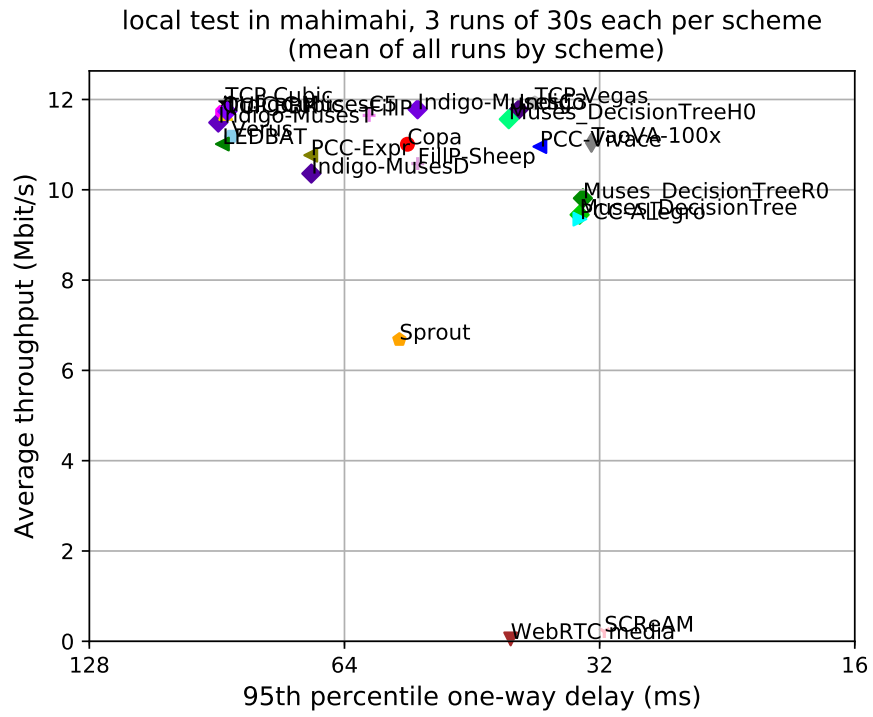
System info:

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

Git summary:

```
branch: muses @ de42328552b3776a75a932a94dfafd722537b0ec
third_party/fillp @ d6da1459332fcee56963885d7eba17e6a32d4519
third_party/fillp-sheep @ 0e5bb722943babcd2b090d2c64fcd45e12e923f9
third_party/genericCC @ d0153f8e594aa89e93b032143cedbdf58e562f4
third_party/indigo @ 2601c92e4aa9d58d38dc4dfe0ecd90c077e64d
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-quick @ 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



5

scheme	# runs	mean avg tput (Mbit/s)	mean 95th-%ile delay (ms)	mean loss rate (%)
		flow 1	flow 1	flow 1
TCP BBR	3	11.69	88.37	1.68
Copa	3	11.01	53.94	0.31
TCP Cubic	3	11.93	88.46	0.50
FillP	3	11.64	59.85	0.83
FillP-Sheep	3	10.58	52.46	0.74
Indigo	3	11.78	39.86	0.13
Indigo-MusesC3	3	11.78	52.48	0.23
Indigo-MusesC5	3	11.73	87.98	5.17
Indigo-MusesD	3	10.36	70.03	1.61
Indigo-MusesT	3	11.49	90.18	8.45
LEDBAT	3	11.01	89.18	0.26
Muses_DecisionTree	3	9.45	33.79	0.11
Muses_DecisionTreeH0	3	11.56	40.96	0.14
Muses_DecisionTreeR0	3	9.81	33.49	0.12
PCC-Allegro	3	9.35	33.76	0.93
PCC-Expr	3	10.77	70.14	0.28
QUIC Cubic	3	11.72	89.21	0.80
SCReAM	3	0.21	31.60	0.13
Sprout	3	6.68	55.13	0.13
TaoVA-100x	3	11.04	32.72	0.67
TCP Vegas	3	11.93	38.17	0.35
Verus	3	11.18	87.02	8.59
PCC-Vivace	3	10.96	37.64	0.12
WebRTC media	3	0.05	40.75	0.00

Run 1: Statistics of TCP BBR

Start at: 2019-11-24 03:13:55

End at: 2019-11-24 03:14:25

Below is generated by plot.py at 2019-11-24 03:50:01

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: 88.508 ms

Loss rate: 1.68%

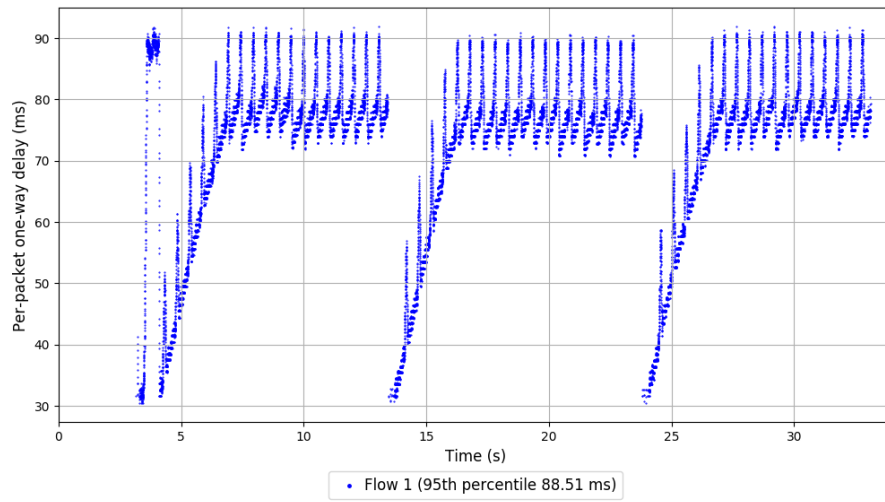
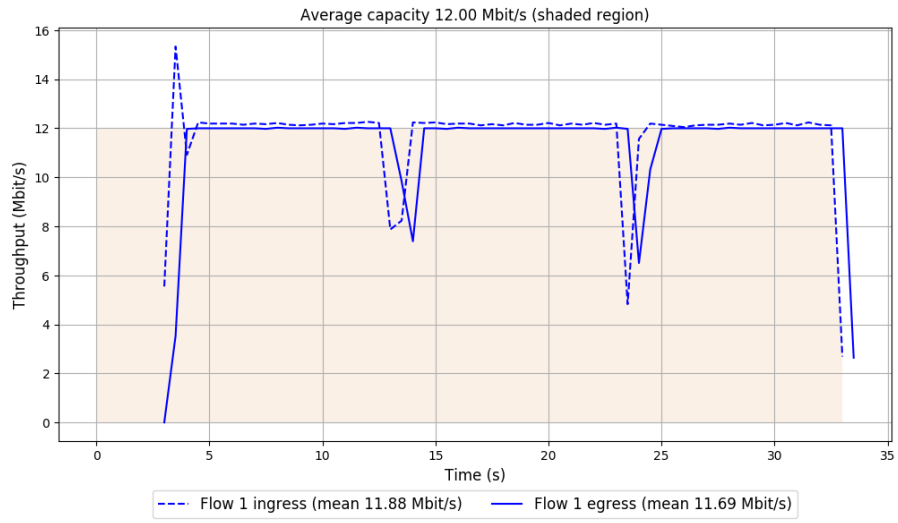
-- Flow 1:

Average throughput: 11.69 Mbit/s

95th percentile per-packet one-way delay: 88.508 ms

Loss rate: 1.68%

Run 1: Report of TCP BBR — Data Link



Run 2: Statistics of TCP BBR

Start at: 2019-11-24 03:28:06

End at: 2019-11-24 03:28:36

Below is generated by plot.py at 2019-11-24 03:50:04

Datalink statistics

-- Total of 1 flow:

Average capacity: 12.00 Mbit/s

Average throughput: 11.70 Mbit/s (97.5% utilization)

95th percentile per-packet one-way delay: 88.203 ms

Loss rate: 1.68%

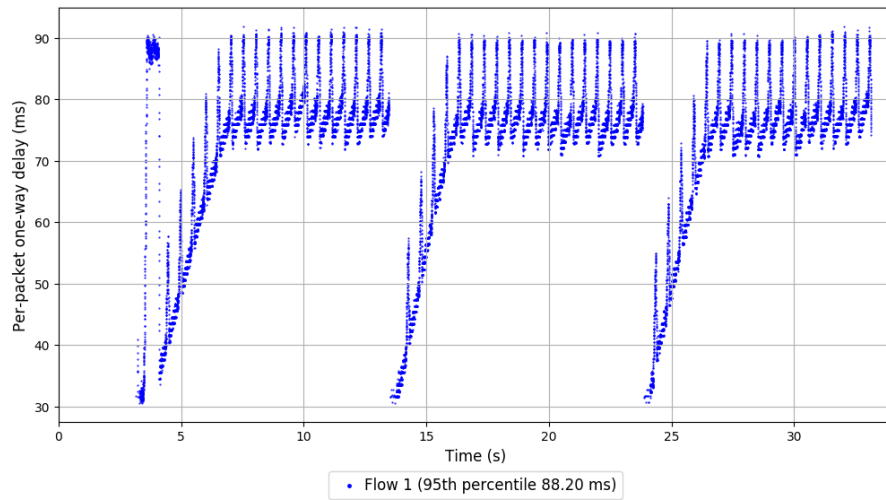
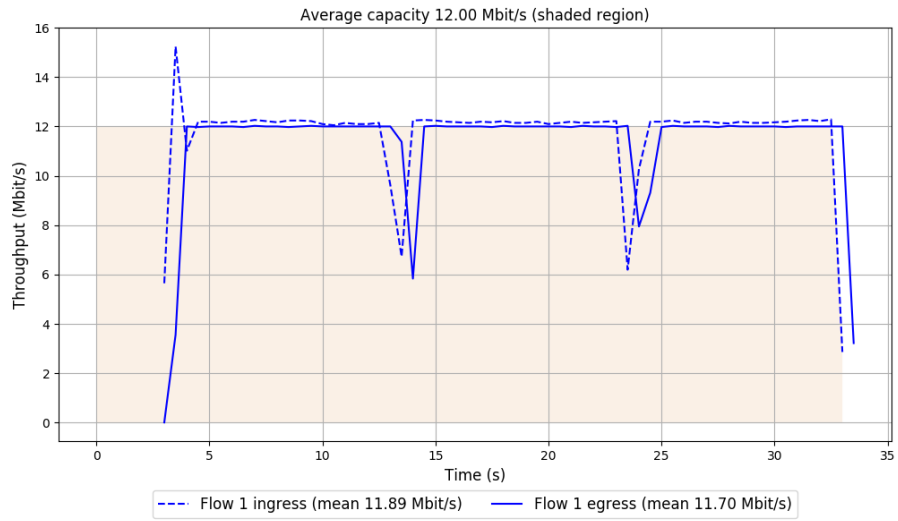
-- Flow 1:

Average throughput: 11.70 Mbit/s

95th percentile per-packet one-way delay: 88.203 ms

Loss rate: 1.68%

Run 2: Report of TCP BBR — Data Link



Run 3: Statistics of TCP BBR

Start at: 2019-11-24 03:42:18

End at: 2019-11-24 03:42:48

Below is generated by plot.py at 2019-11-24 03:50:04

Datalink statistics

-- Total of 1 flow:

Average capacity: 12.00 Mbit/s

Average throughput: 11.68 Mbit/s (97.4% utilization)

95th percentile per-packet one-way delay: 88.409 ms

Loss rate: 1.69%

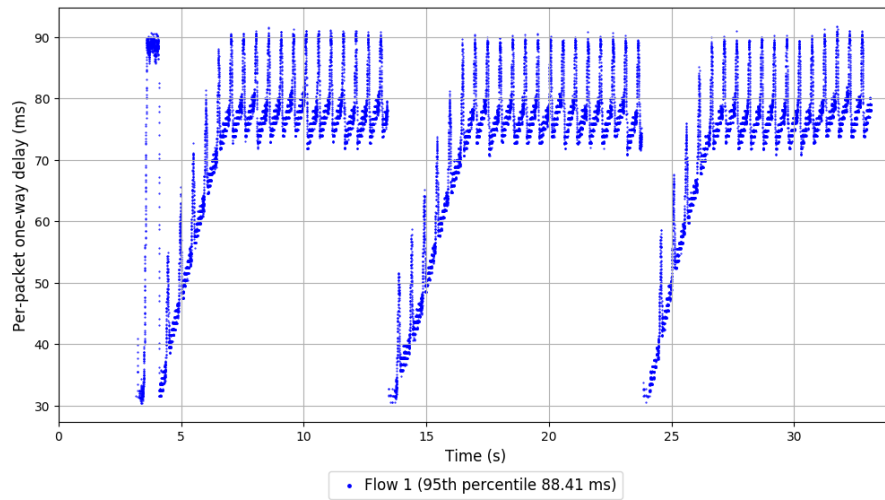
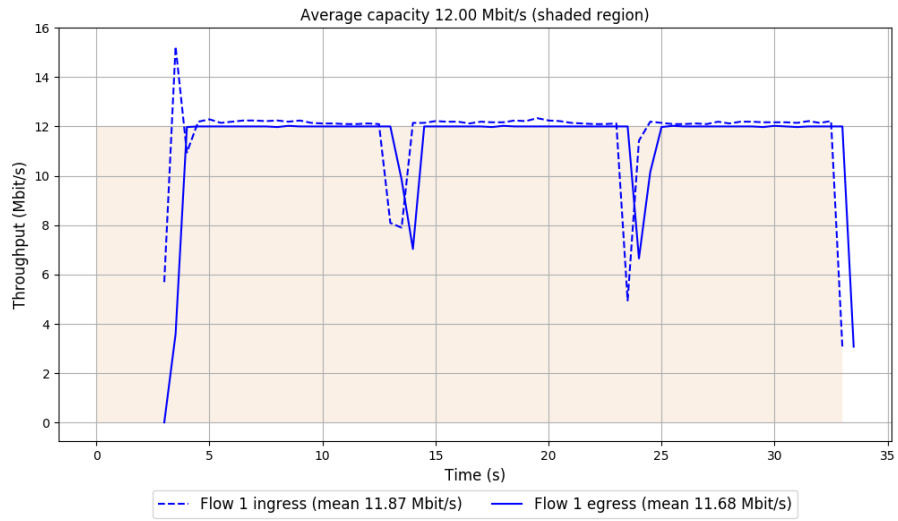
-- Flow 1:

Average throughput: 11.68 Mbit/s

95th percentile per-packet one-way delay: 88.409 ms

Loss rate: 1.69%

Run 3: Report of TCP BBR — Data Link



Run 1: Statistics of Copa

Start at: 2019-11-24 03:10:57

End at: 2019-11-24 03:11:27

Below is generated by plot.py at 2019-11-24 03:50:15

Datalink statistics

-- Total of 1 flow:

Average capacity: 12.00 Mbit/s

Average throughput: 10.87 Mbit/s (90.5% utilization)

95th percentile per-packet one-way delay: 54.424 ms

Loss rate: 0.43%

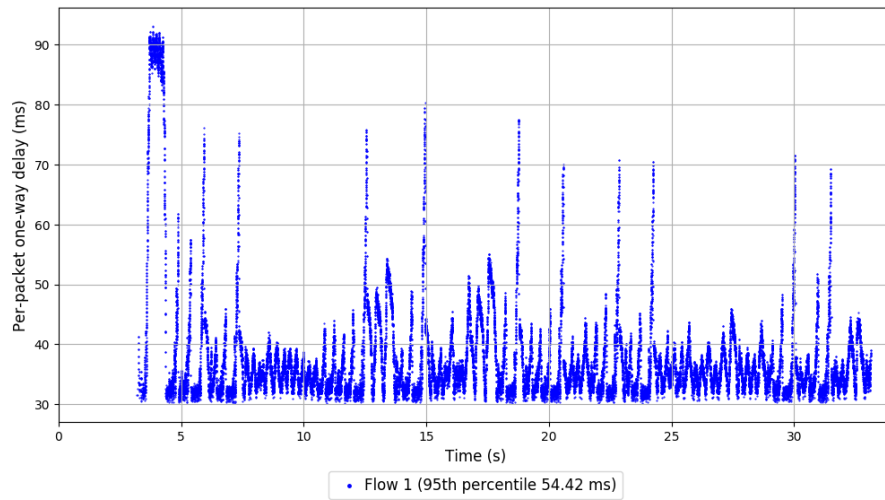
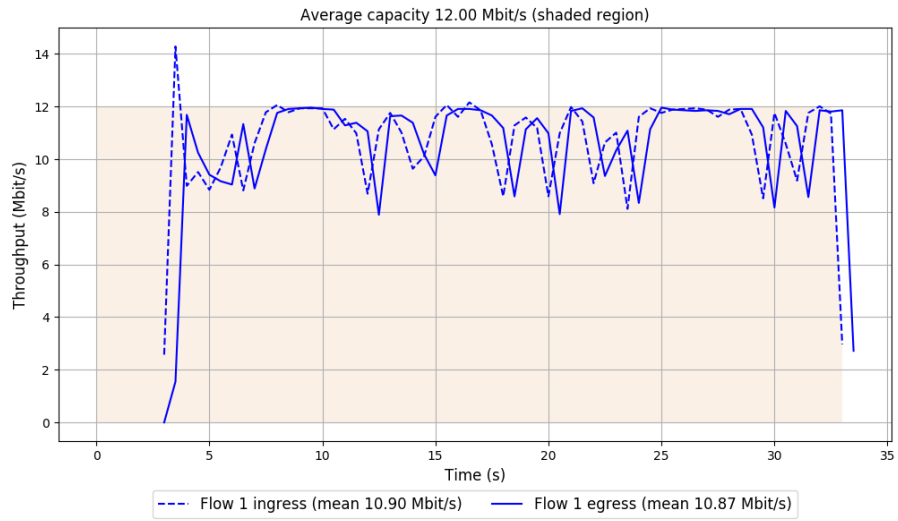
-- Flow 1:

Average throughput: 10.87 Mbit/s

95th percentile per-packet one-way delay: 54.424 ms

Loss rate: 0.43%

Run 1: Report of Copa — Data Link



Run 2: Statistics of Copa

Start at: 2019-11-24 03:25:08

End at: 2019-11-24 03:25:38

Below is generated by plot.py at 2019-11-24 03:50:16

Datalink statistics

-- Total of 1 flow:

Average capacity: 12.00 Mbit/s

Average throughput: 11.19 Mbit/s (93.3% utilization)

95th percentile per-packet one-way delay: 53.287 ms

Loss rate: 0.32%

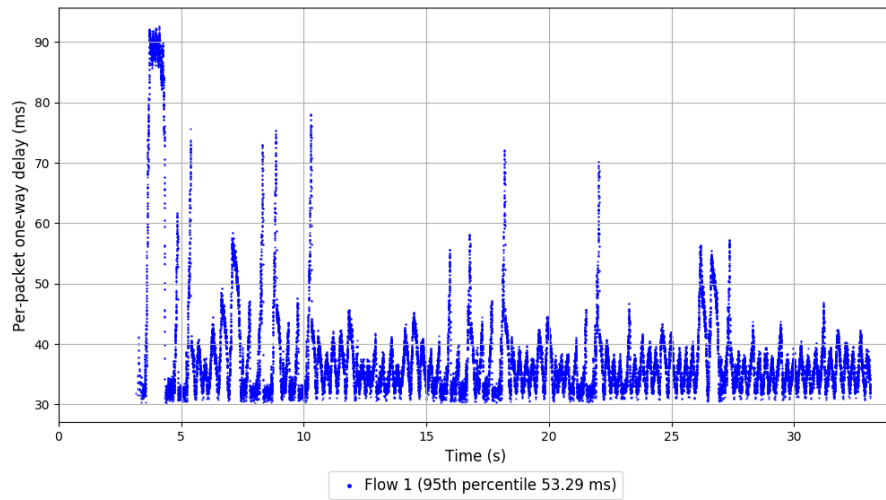
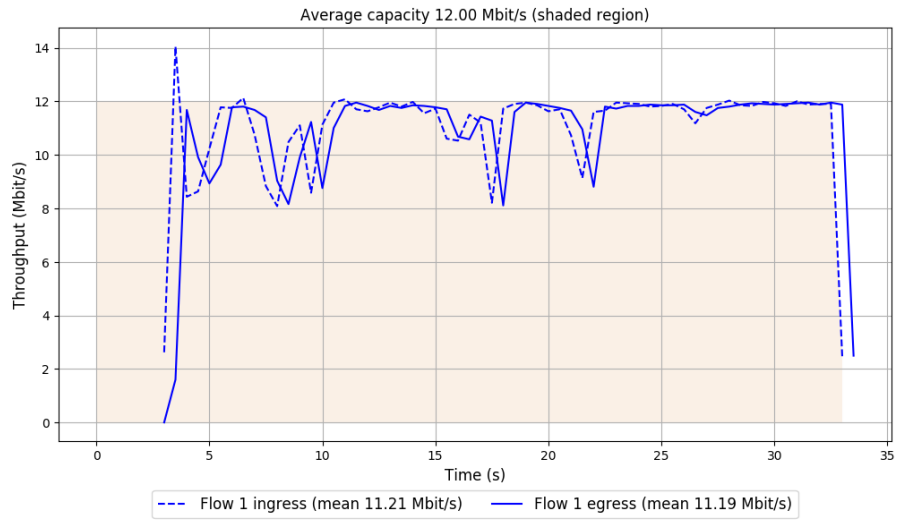
-- Flow 1:

Average throughput: 11.19 Mbit/s

95th percentile per-packet one-way delay: 53.287 ms

Loss rate: 0.32%

Run 2: Report of Copa — Data Link



Run 3: Statistics of Copa

Start at: 2019-11-24 03:39:20

End at: 2019-11-24 03:39:50

Below is generated by plot.py at 2019-11-24 03:50:16

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: 54.112 ms

Loss rate: 0.18%

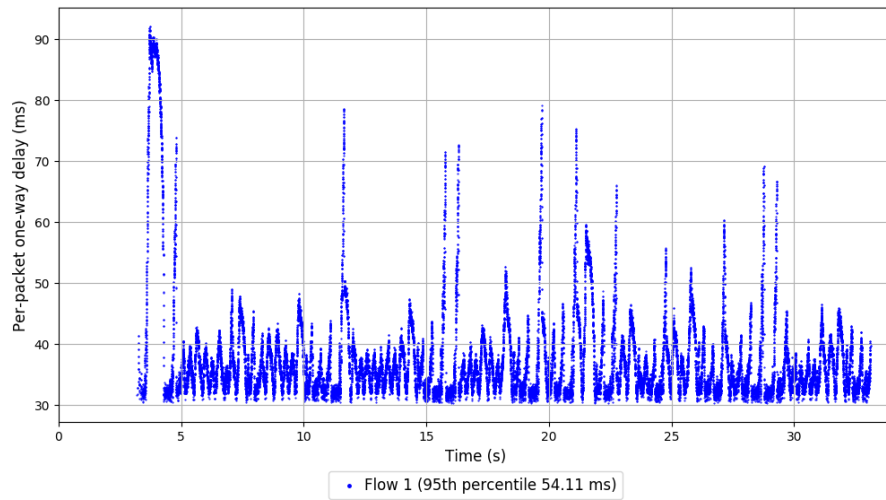
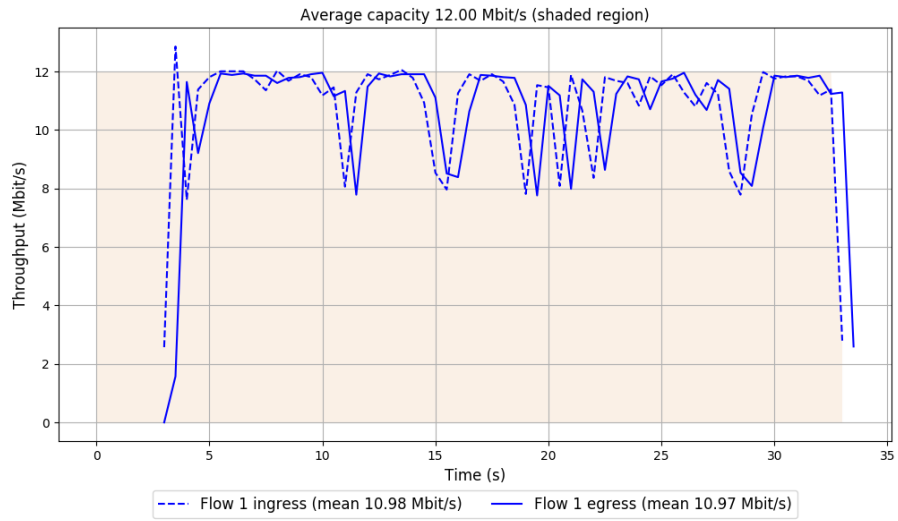
-- Flow 1:

Average throughput: 10.97 Mbit/s

95th percentile per-packet one-way delay: 54.112 ms

Loss rate: 0.18%

Run 3: Report of Copa — Data Link



Run 1: Statistics of TCP Cubic

Start at: 2019-11-24 03:16:17

End at: 2019-11-24 03:16:47

Below is generated by plot.py at 2019-11-24 03:50:16

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: 88.368 ms

Loss rate: 0.49%

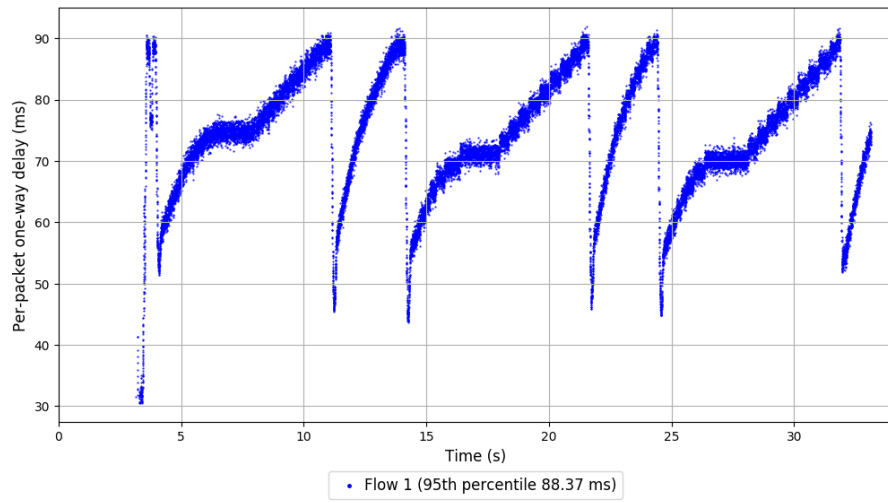
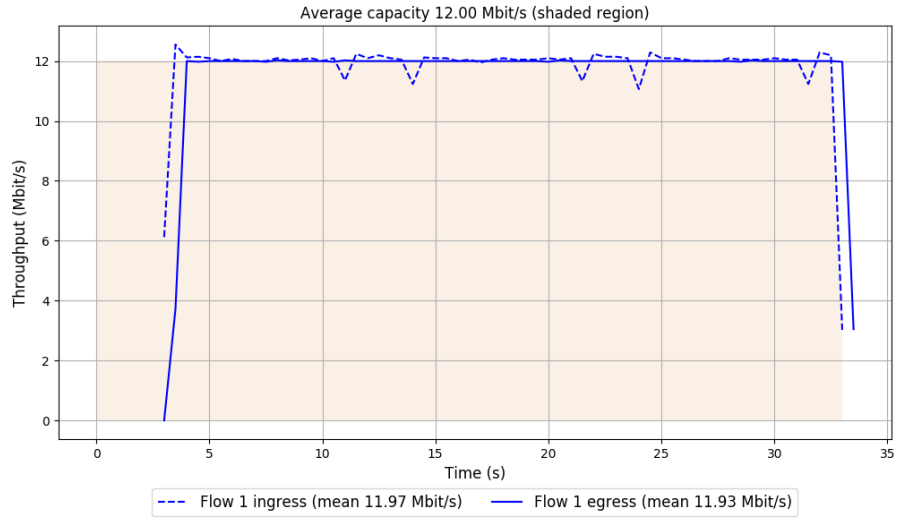
-- Flow 1:

Average throughput: 11.93 Mbit/s

95th percentile per-packet one-way delay: 88.368 ms

Loss rate: 0.49%

Run 1: Report of TCP Cubic — Data Link



Run 2: Statistics of TCP Cubic

Start at: 2019-11-24 03:30:28

End at: 2019-11-24 03:30:58

Below is generated by plot.py at 2019-11-24 03:50:16

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: 88.300 ms

Loss rate: 0.51%

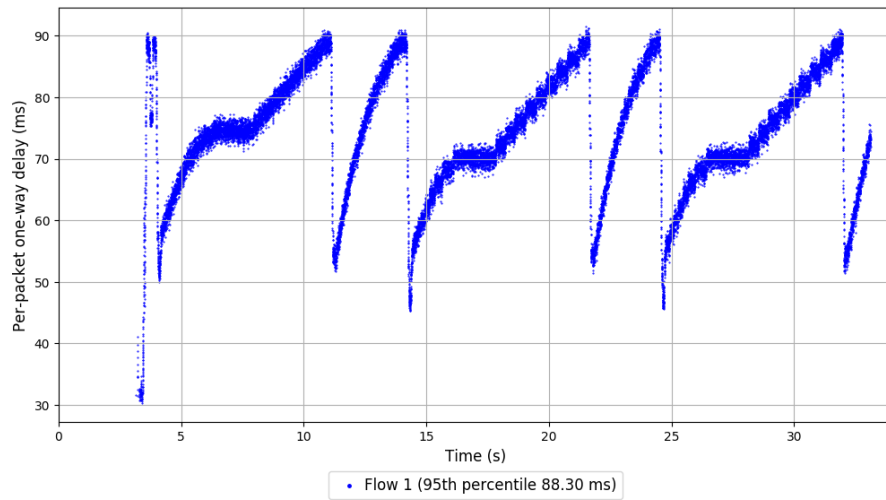
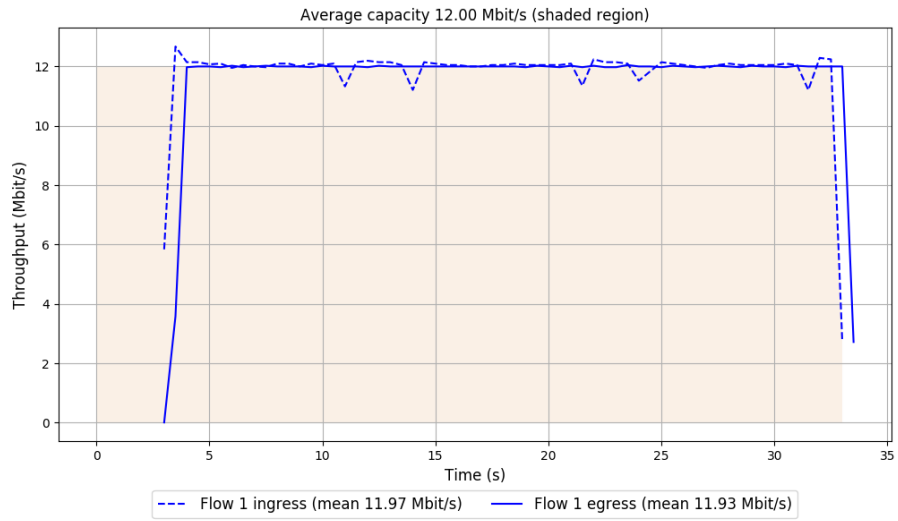
-- Flow 1:

Average throughput: 11.93 Mbit/s

95th percentile per-packet one-way delay: 88.300 ms

Loss rate: 0.51%

Run 2: Report of TCP Cubic — Data Link



Run 3: Statistics of TCP Cubic

Start at: 2019-11-24 03:44:40

End at: 2019-11-24 03:45:10

Below is generated by plot.py at 2019-11-24 03:50:27

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: 88.706 ms

Loss rate: 0.49%

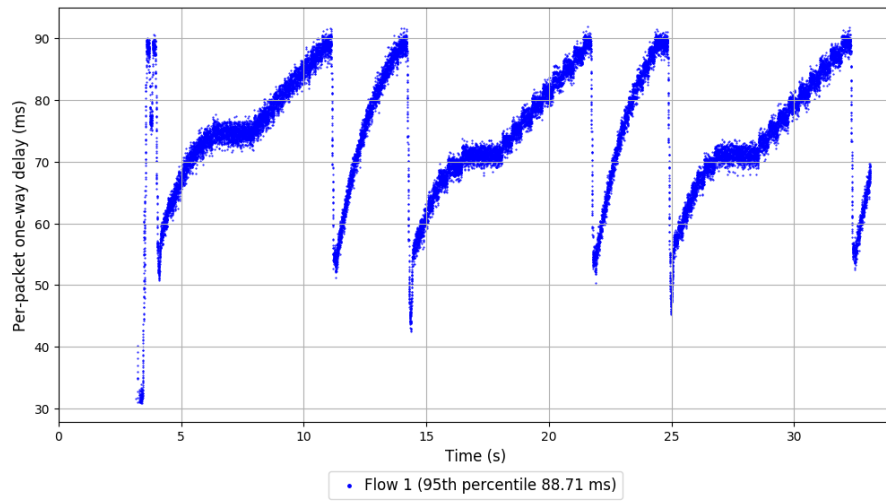
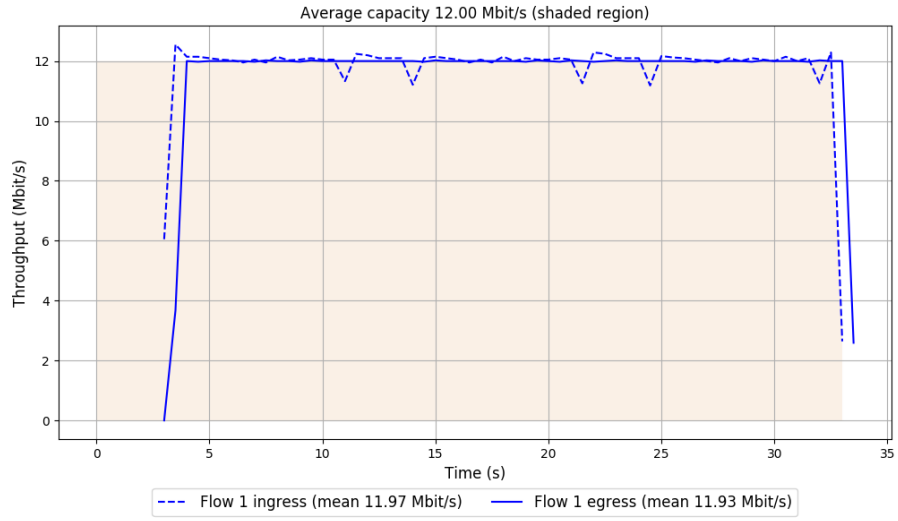
-- Flow 1:

Average throughput: 11.93 Mbit/s

95th percentile per-packet one-way delay: 88.706 ms

Loss rate: 0.49%

Run 3: Report of TCP Cubic — Data Link



Run 1: Statistics of FillP

Start at: 2019-11-24 03:14:31

End at: 2019-11-24 03:15:01

Below is generated by plot.py at 2019-11-24 03:50:31

Datalink statistics

-- Total of 1 flow:

Average capacity: 12.00 Mbit/s

Average throughput: 11.61 Mbit/s (96.8% utilization)

95th percentile per-packet one-way delay: 58.665 ms

Loss rate: 0.85%

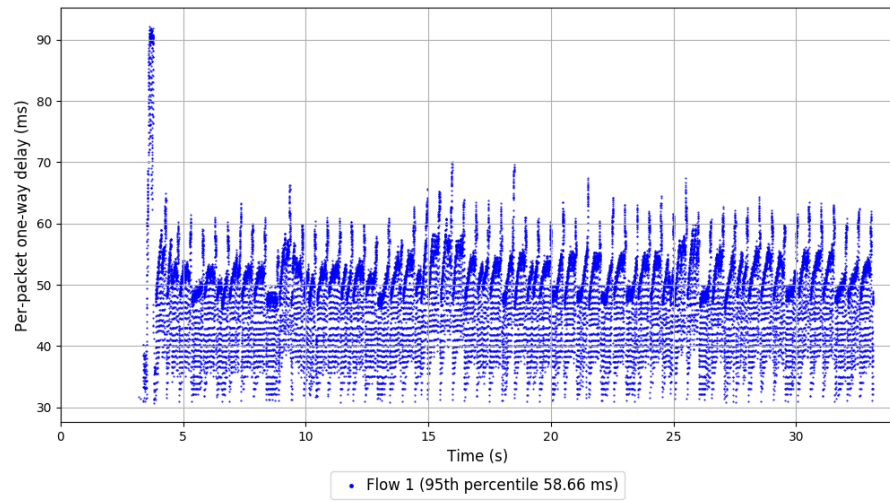
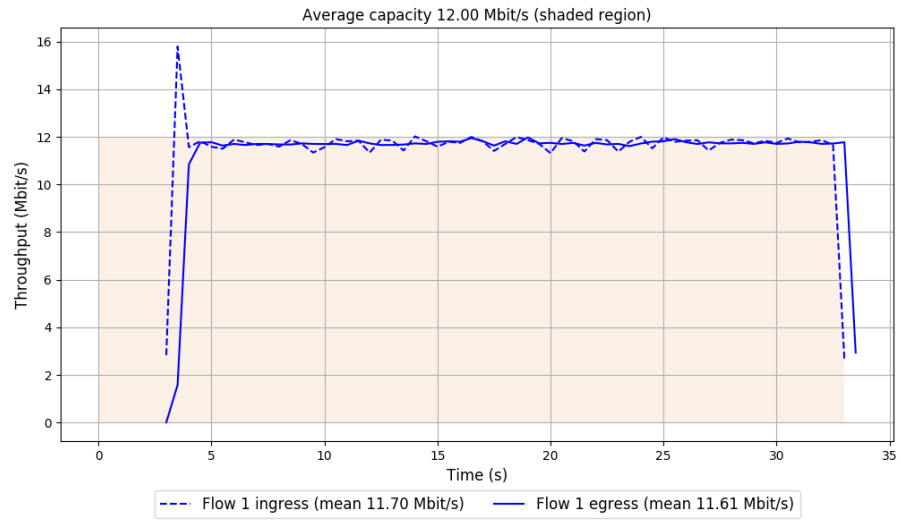
-- Flow 1:

Average throughput: 11.61 Mbit/s

95th percentile per-packet one-way delay: 58.665 ms

Loss rate: 0.85%

Run 1: Report of FillP — Data Link



Run 2: Statistics of FillP

Start at: 2019-11-24 03:28:42

End at: 2019-11-24 03:29:12

Below is generated by plot.py at 2019-11-24 03:50:32

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: 61.245 ms

Loss rate: 0.82%

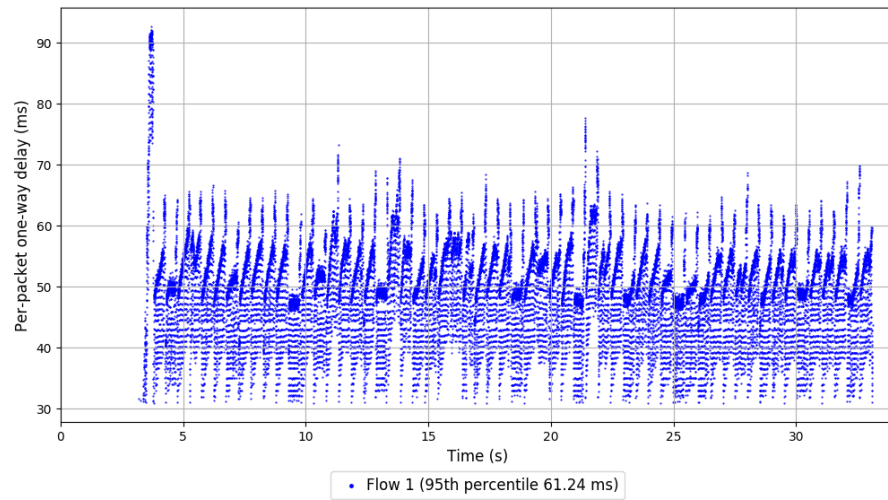
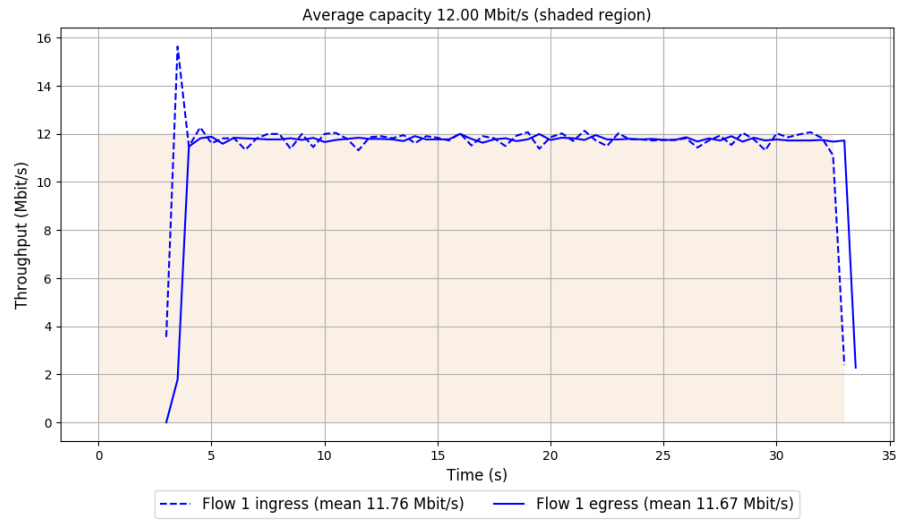
-- Flow 1:

Average throughput: 11.67 Mbit/s

95th percentile per-packet one-way delay: 61.245 ms

Loss rate: 0.82%

Run 2: Report of FillP — Data Link



Run 3: Statistics of FillP

Start at: 2019-11-24 03:42:53

End at: 2019-11-24 03:43:23

Below is generated by plot.py at 2019-11-24 03:50:32

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: 59.654 ms

Loss rate: 0.81%

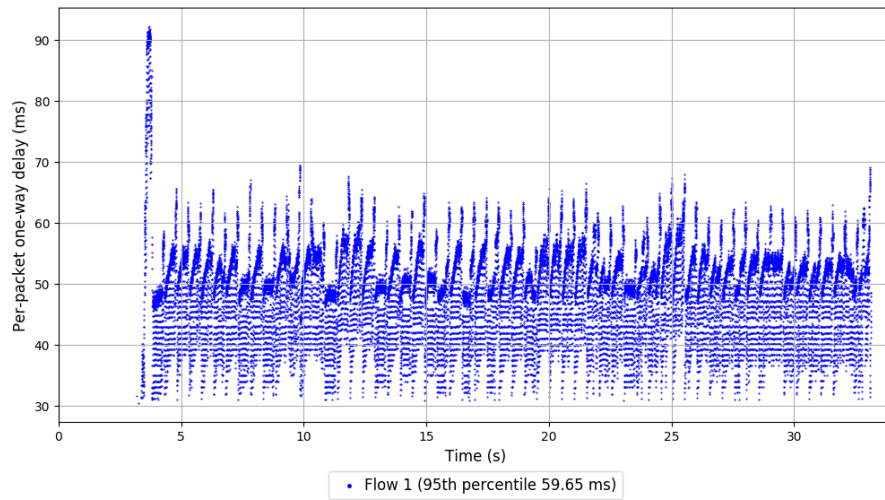
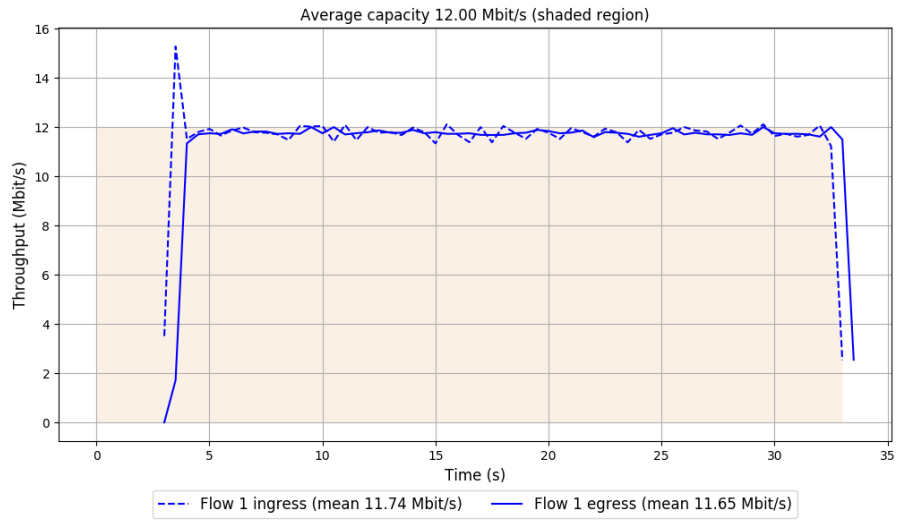
-- Flow 1:

Average throughput: 11.65 Mbit/s

95th percentile per-packet one-way delay: 59.654 ms

Loss rate: 0.81%

Run 3: Report of FillP — Data Link



Run 1: Statistics of FillP-Sheep

Start at: 2019-11-24 03:15:42

End at: 2019-11-24 03:16:12

Below is generated by plot.py at 2019-11-24 03:50:32

Datalink statistics

-- Total of 1 flow:

Average capacity: 12.00 Mbit/s

Average throughput: 10.57 Mbit/s (88.0% utilization)

95th percentile per-packet one-way delay: 52.654 ms

Loss rate: 0.71%

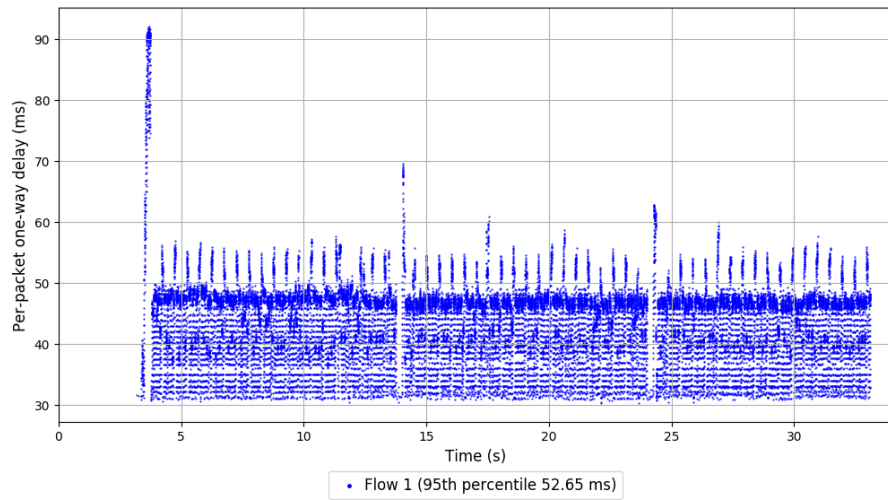
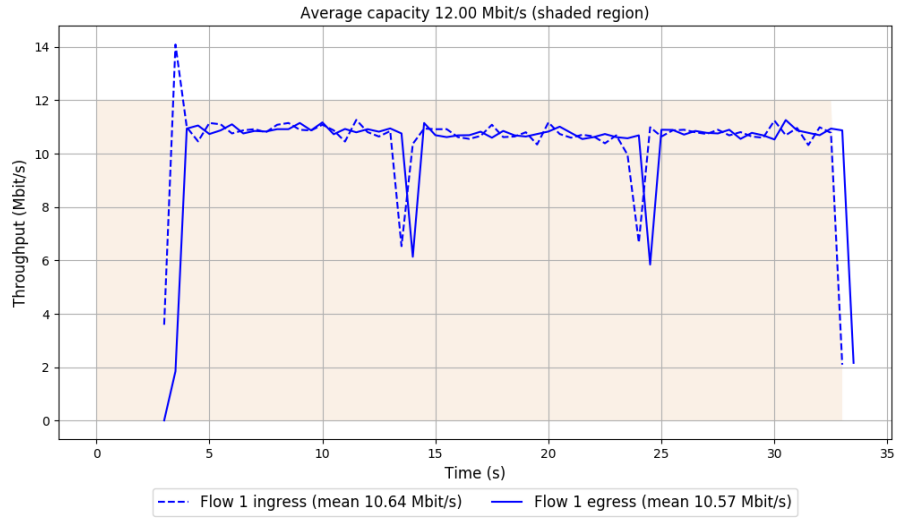
-- Flow 1:

Average throughput: 10.57 Mbit/s

95th percentile per-packet one-way delay: 52.654 ms

Loss rate: 0.71%

Run 1: Report of FillP-Sheep — Data Link



Run 2: Statistics of FillP-Sheep

Start at: 2019-11-24 03:29:53

End at: 2019-11-24 03:30:23

Below is generated by plot.py at 2019-11-24 03:50:42

Datalink statistics

-- Total of 1 flow:

Average capacity: 12.00 Mbit/s

Average throughput: 10.57 Mbit/s (88.1% utilization)

95th percentile per-packet one-way delay: 52.560 ms

Loss rate: 0.77%

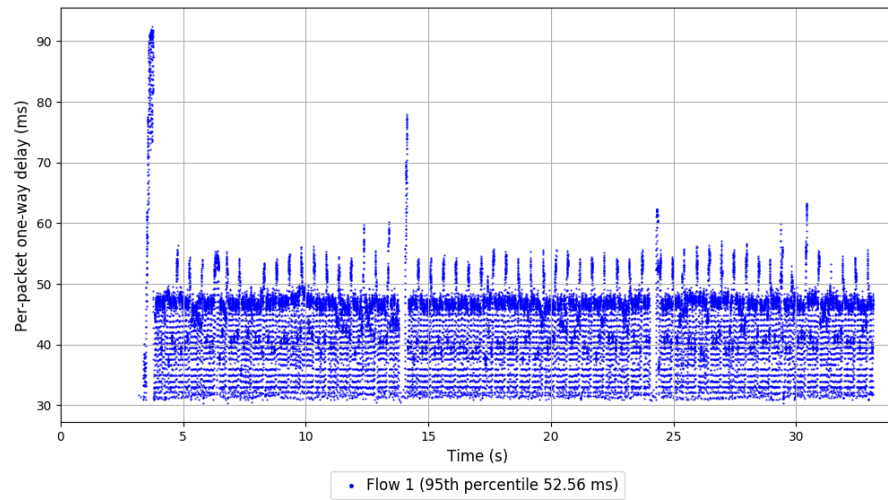
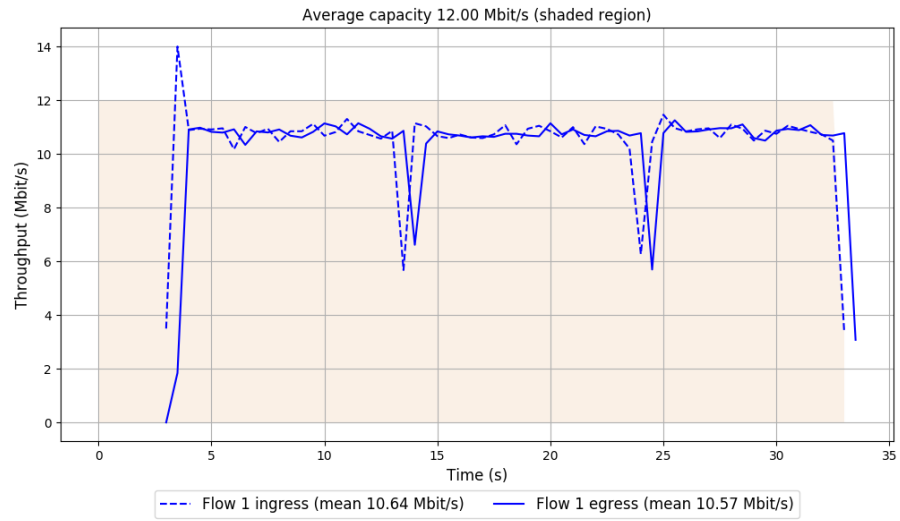
-- Flow 1:

Average throughput: 10.57 Mbit/s

95th percentile per-packet one-way delay: 52.560 ms

Loss rate: 0.77%

Run 2: Report of FillP-Sheep — Data Link



Run 3: Statistics of FillP-Sheep

Start at: 2019-11-24 03:44:04

End at: 2019-11-24 03:44:34

Below is generated by plot.py at 2019-11-24 03:50:43

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: 52.159 ms

Loss rate: 0.73%

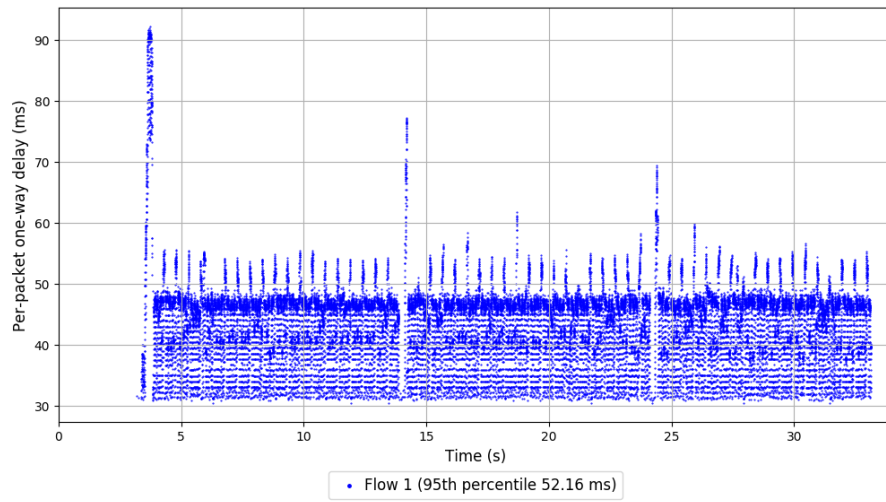
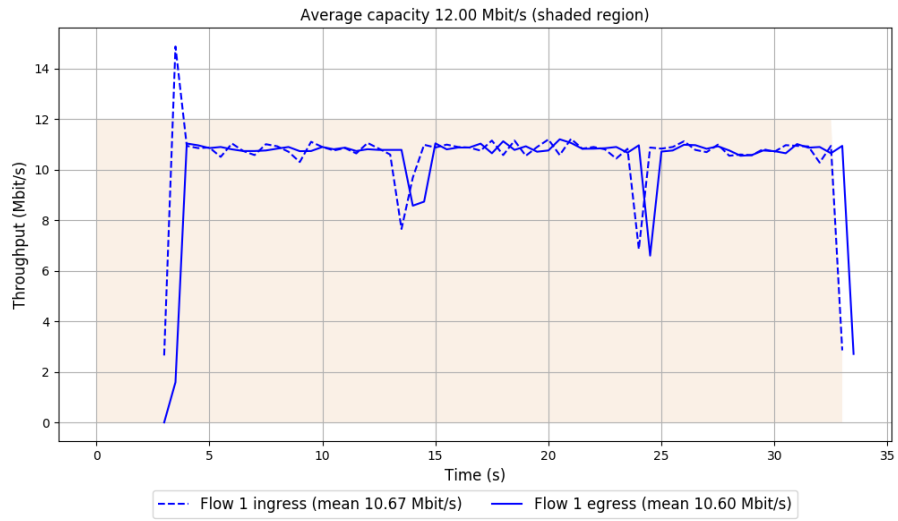
-- Flow 1:

Average throughput: 10.60 Mbit/s

95th percentile per-packet one-way delay: 52.159 ms

Loss rate: 0.73%

Run 3: Report of FillP-Sheep — Data Link



Run 1: Statistics of Indigo

Start at: 2019-11-24 03:15:06

End at: 2019-11-24 03:15:36

Below is generated by plot.py at 2019-11-24 03:50:43

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: 35.255 ms

Loss rate: 0.13%

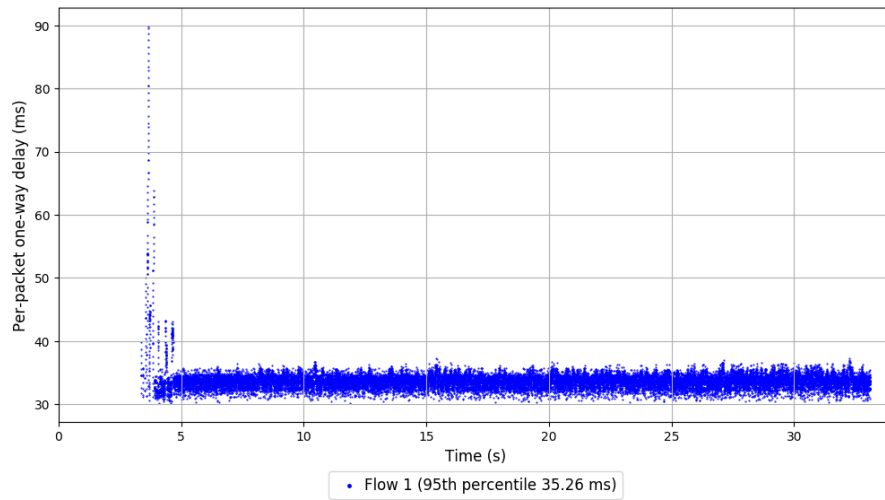
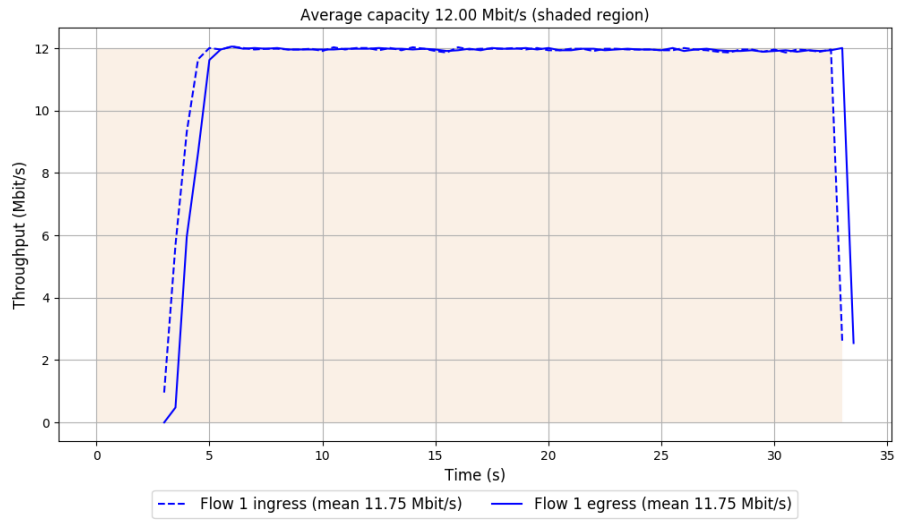
-- Flow 1:

Average throughput: 11.75 Mbit/s

95th percentile per-packet one-way delay: 35.255 ms

Loss rate: 0.13%

Run 1: Report of Indigo — Data Link



Run 2: Statistics of Indigo

Start at: 2019-11-24 03:29:17

End at: 2019-11-24 03:29:47

Below is generated by plot.py at 2019-11-24 03:50:52

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: 42.421 ms

Loss rate: 0.14%

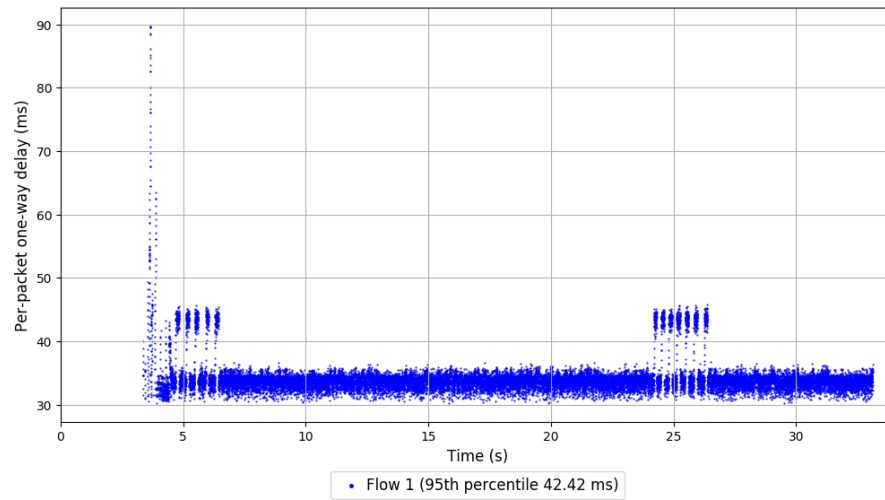
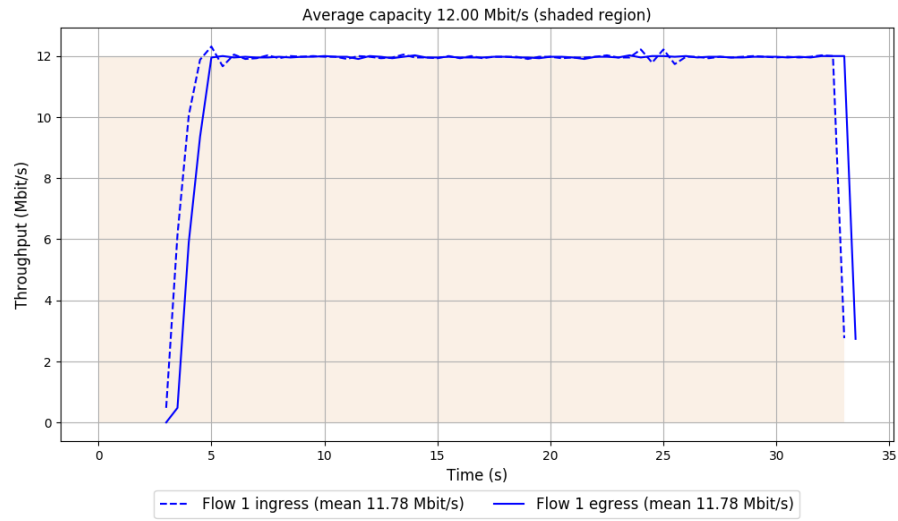
-- Flow 1:

Average throughput: 11.78 Mbit/s

95th percentile per-packet one-way delay: 42.421 ms

Loss rate: 0.14%

Run 2: Report of Indigo — Data Link



Run 3: Statistics of Indigo

Start at: 2019-11-24 03:43:29

End at: 2019-11-24 03:43:59

Below is generated by plot.py at 2019-11-24 03:50:54

Datalink statistics

-- Total of 1 flow:

Average capacity: 12.00 Mbit/s

Average throughput: 11.81 Mbit/s (98.4% utilization)

95th percentile per-packet one-way delay: 41.906 ms

Loss rate: 0.13%

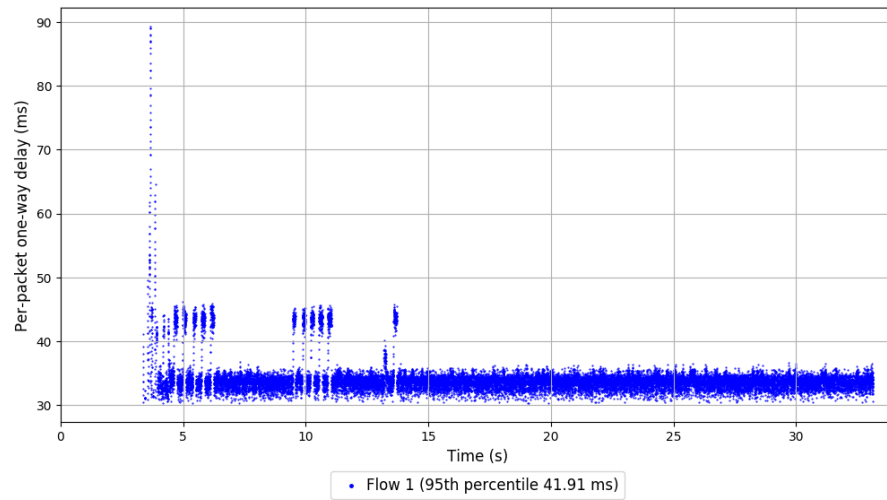
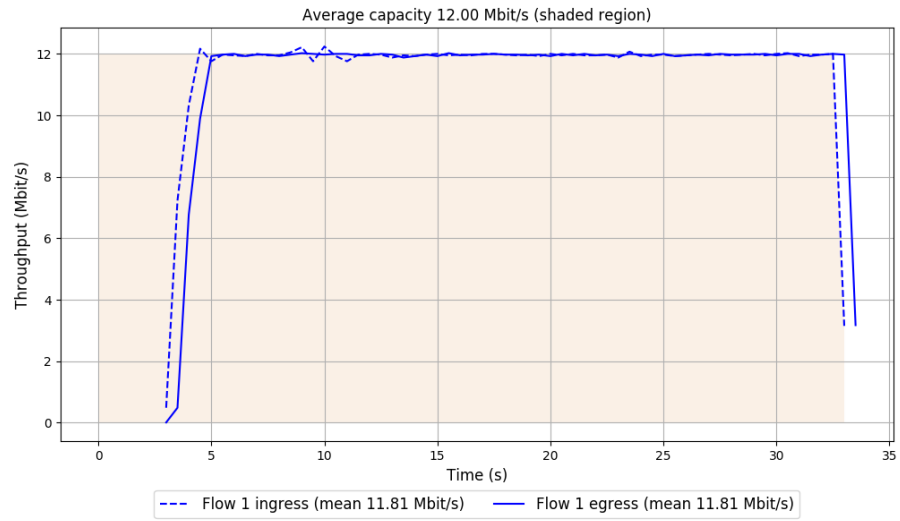
-- Flow 1:

Average throughput: 11.81 Mbit/s

95th percentile per-packet one-way delay: 41.906 ms

Loss rate: 0.13%

Run 3: Report of Indigo — Data Link



Run 1: Statistics of Indigo-MusesC3

Start at: 2019-11-24 03:16:52

End at: 2019-11-24 03:17:22

Below is generated by plot.py at 2019-11-24 03:50:55

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: 39.927 ms

Loss rate: 0.14%

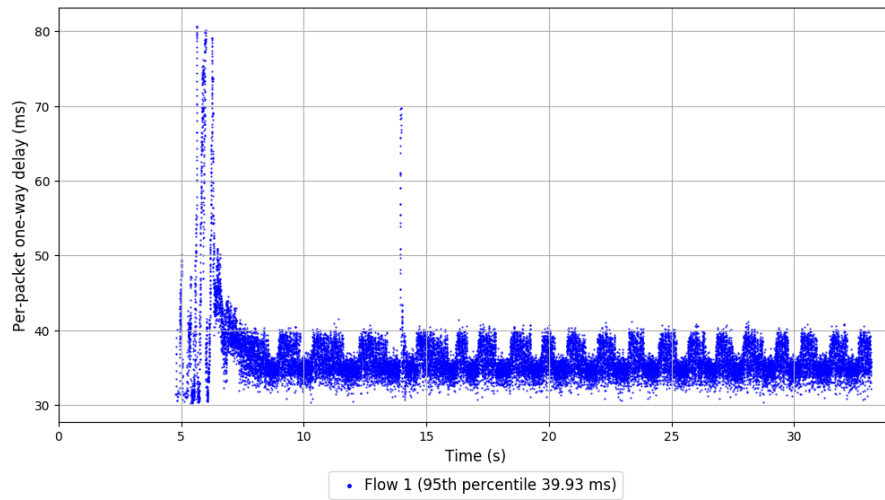
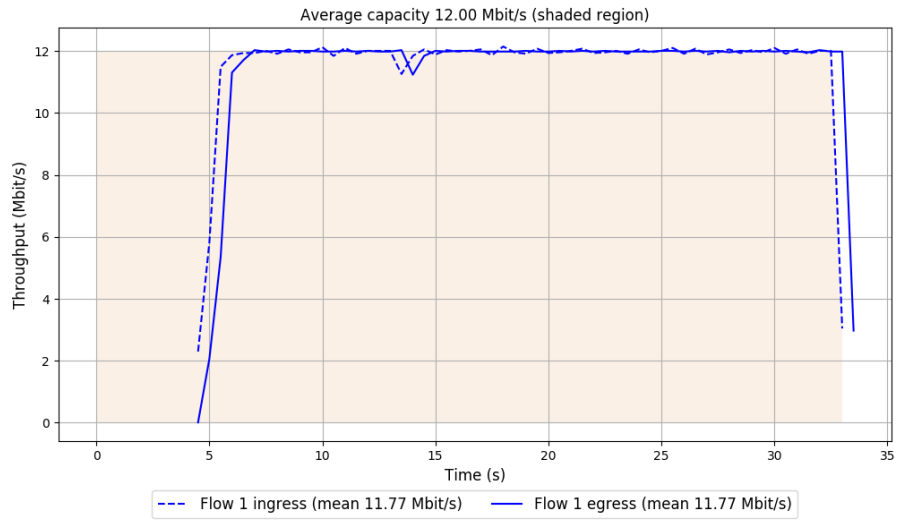
-- Flow 1:

Average throughput: 11.77 Mbit/s

95th percentile per-packet one-way delay: 39.927 ms

Loss rate: 0.14%

Run 1: Report of Indigo-MusesC3 — Data Link



Run 2: Statistics of Indigo-MusesC3

Start at: 2019-11-24 03:31:04

End at: 2019-11-24 03:31:34

Below is generated by plot.py at 2019-11-24 03:50:57

Datalink statistics

-- Total of 1 flow:

Average capacity: 12.00 Mbit/s

Average throughput: 11.79 Mbit/s (98.2% utilization)

95th percentile per-packet one-way delay: 62.483 ms

Loss rate: 0.25%

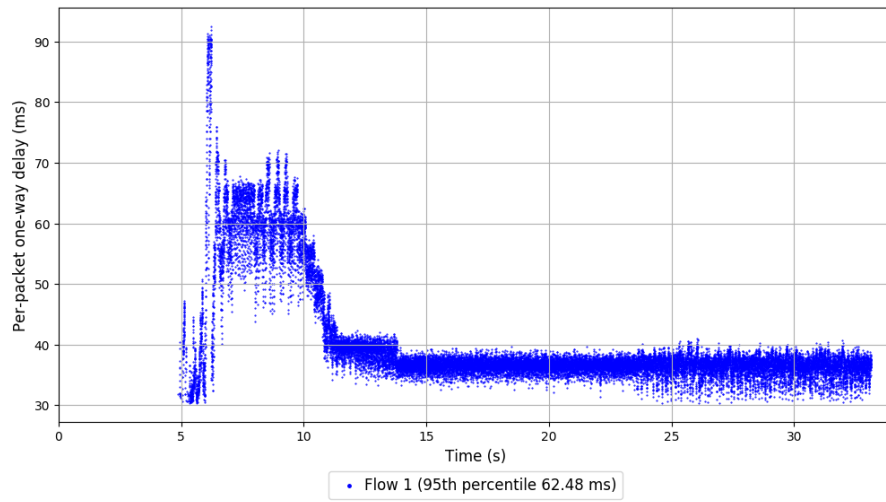
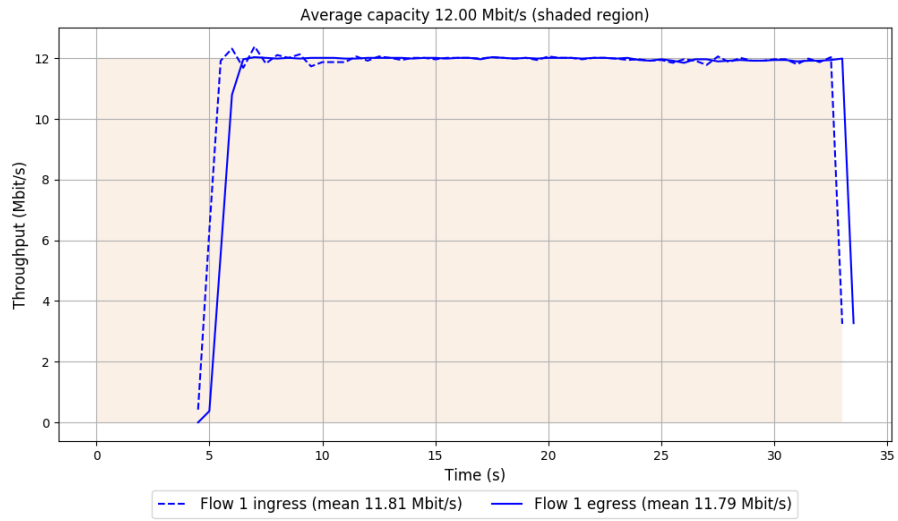
-- Flow 1:

Average throughput: 11.79 Mbit/s

95th percentile per-packet one-way delay: 62.483 ms

Loss rate: 0.25%

Run 2: Report of Indigo-MusesC3 — Data Link



Run 3: Statistics of Indigo-MusesC3

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

End at: 2019-11-24 03:45:45

Below is generated by plot.py at 2019-11-24 03:50:57

Datalink statistics

-- Total of 1 flow:

Average capacity: 12.00 Mbit/s

Average throughput: 11.79 Mbit/s (98.2% utilization)

95th percentile per-packet one-way delay: 55.017 ms

Loss rate: 0.30%

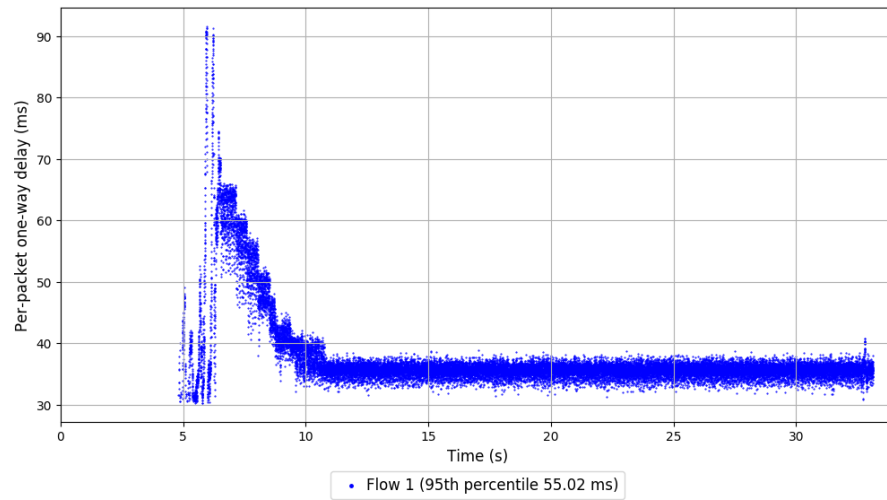
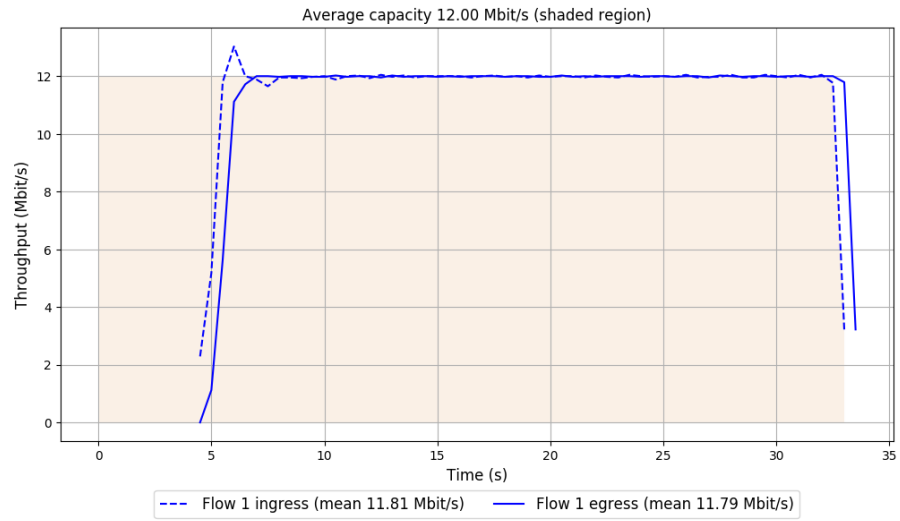
-- Flow 1:

Average throughput: 11.79 Mbit/s

95th percentile per-packet one-way delay: 55.017 ms

Loss rate: 0.30%

Run 3: Report of Indigo-MusesC3 — Data Link



Run 1: Statistics of Indigo-MusesC5

Start at: 2019-11-24 03:10:22

End at: 2019-11-24 03:10:52

Below is generated by plot.py at 2019-11-24 03:51:06

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: 88.032 ms

Loss rate: 6.46%

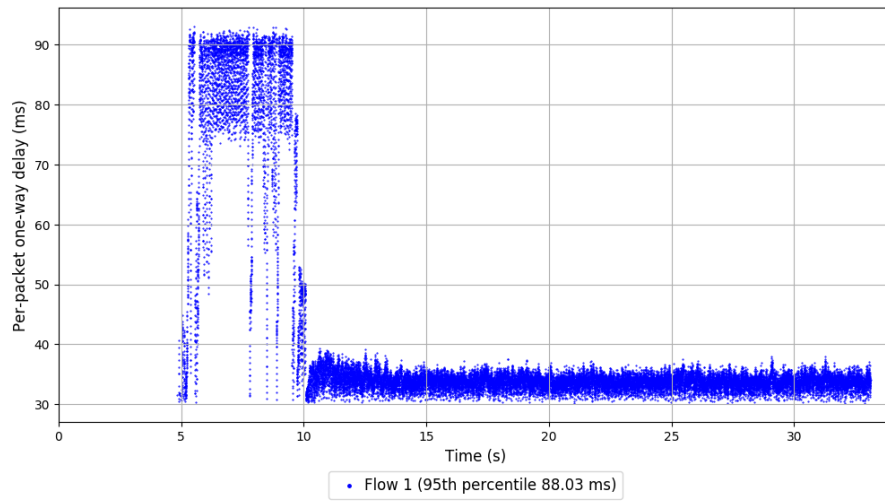
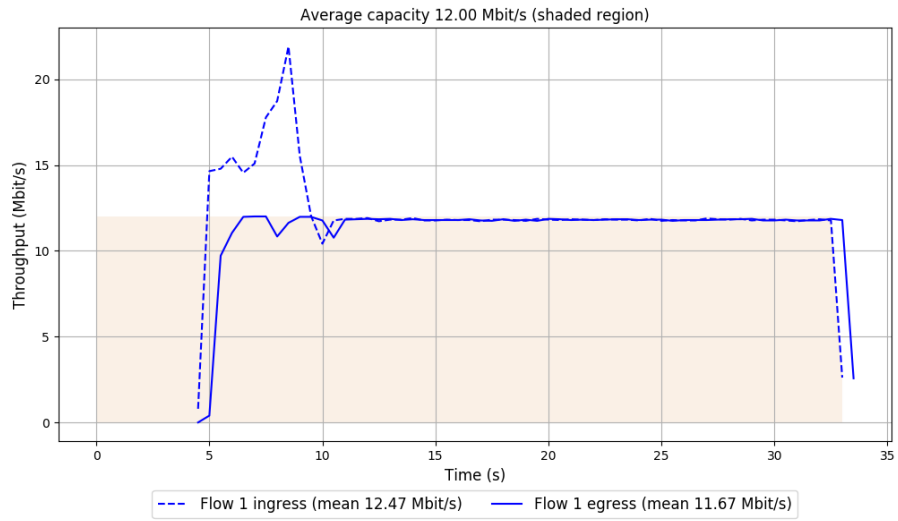
-- Flow 1:

Average throughput: 11.67 Mbit/s

95th percentile per-packet one-way delay: 88.032 ms

Loss rate: 6.46%

Run 1: Report of Indigo-MusesC5 — Data Link



Run 2: Statistics of Indigo-MusesC5

Start at: 2019-11-24 03:24:33

End at: 2019-11-24 03:25:03

Below is generated by plot.py at 2019-11-24 03:51:07

Datalink statistics

-- Total of 1 flow:

Average capacity: 12.00 Mbit/s

Average throughput: 11.72 Mbit/s (97.7% utilization)

95th percentile per-packet one-way delay: 87.743 ms

Loss rate: 4.94%

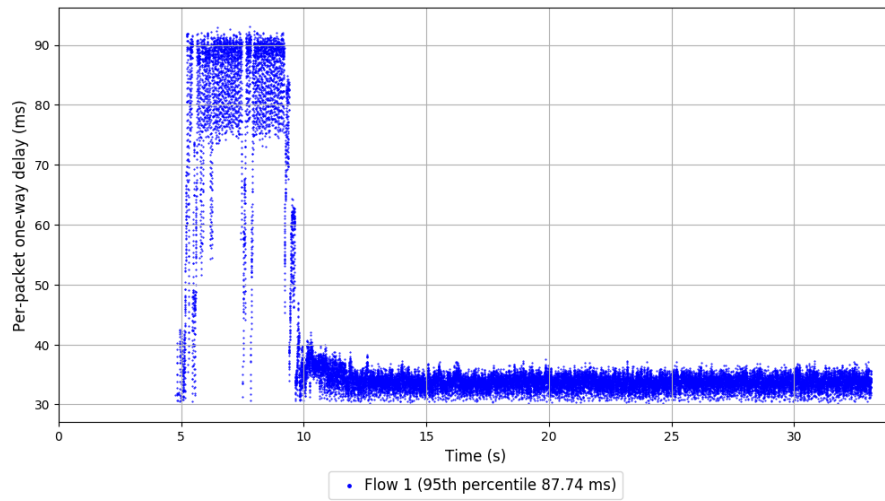
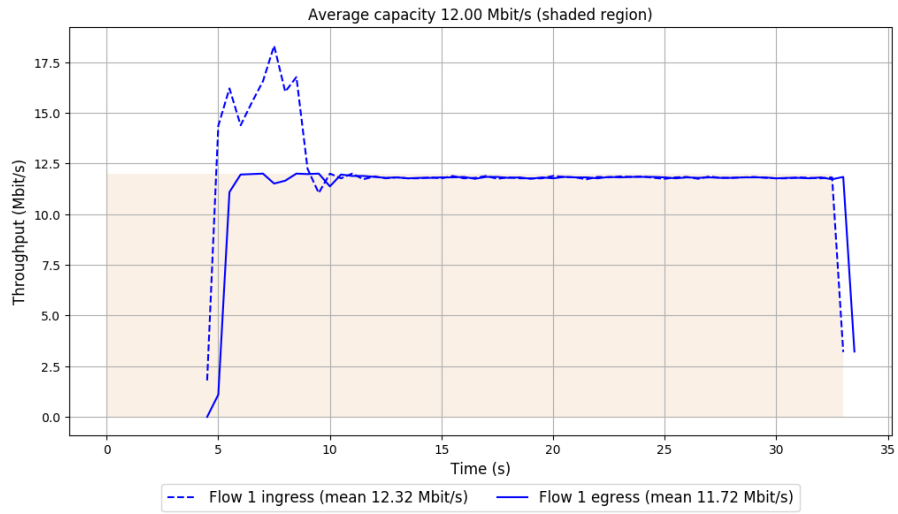
-- Flow 1:

Average throughput: 11.72 Mbit/s

95th percentile per-packet one-way delay: 87.743 ms

Loss rate: 4.94%

Run 2: Report of Indigo-MusesC5 — Data Link



Run 3: Statistics of Indigo-MusesC5

Start at: 2019-11-24 03:38:44

End at: 2019-11-24 03:39:14

Below is generated by plot.py at 2019-11-24 03:51:08

Datalink statistics

-- Total of 1 flow:

Average capacity: 12.00 Mbit/s

Average throughput: 11.81 Mbit/s (98.4% utilization)

95th percentile per-packet one-way delay: 88.178 ms

Loss rate: 4.12%

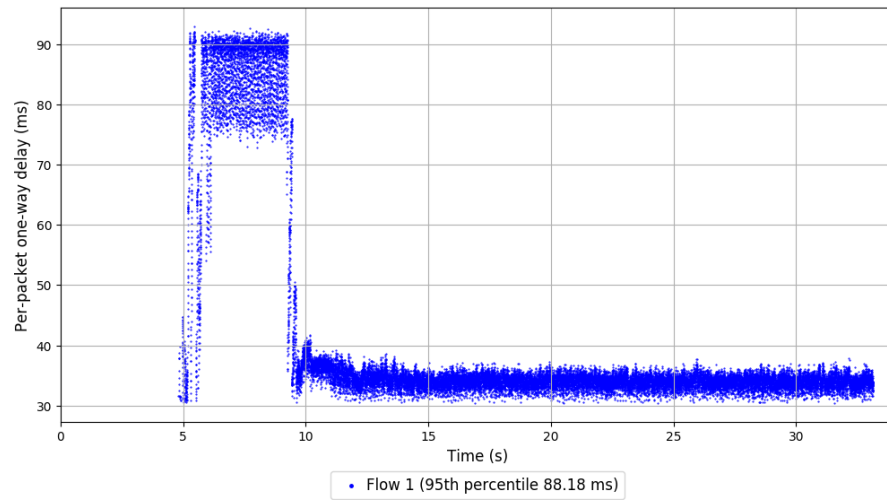
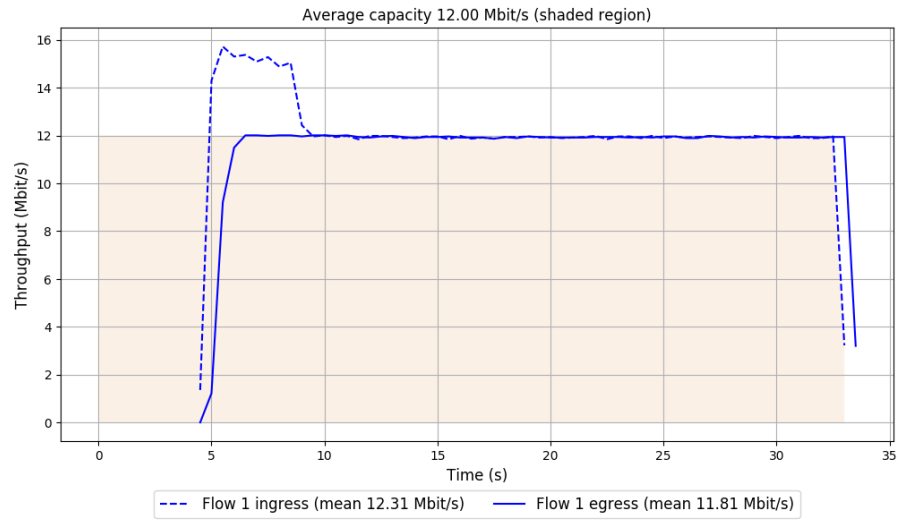
-- Flow 1:

Average throughput: 11.81 Mbit/s

95th percentile per-packet one-way delay: 88.178 ms

Loss rate: 4.12%

Run 3: Report of Indigo-MusesC5 — Data Link



Run 1: Statistics of Indigo-MusesD

Start at: 2019-11-24 03:19:14

End at: 2019-11-24 03:19:44

Below is generated by plot.py at 2019-11-24 03:51:13

Datalink statistics

-- Total of 1 flow:

Average capacity: 12.00 Mbit/s

Average throughput: 9.69 Mbit/s (80.7% utilization)

95th percentile per-packet one-way delay: 61.263 ms

Loss rate: 0.12%

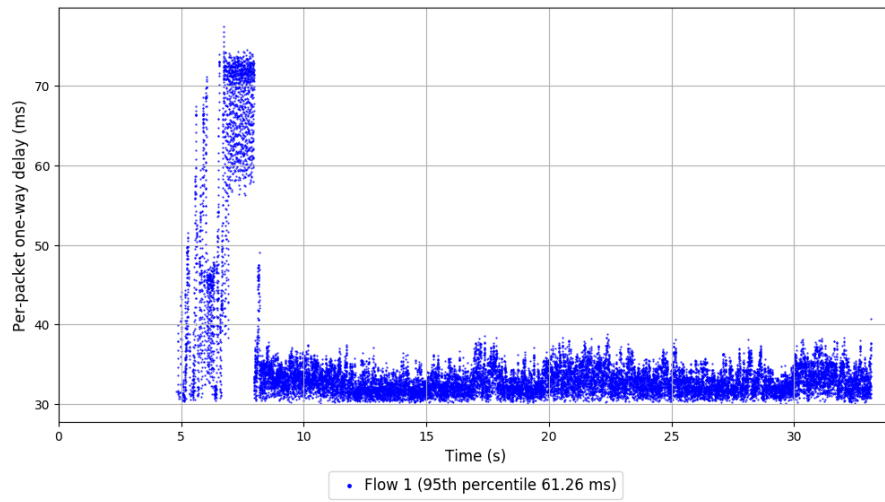
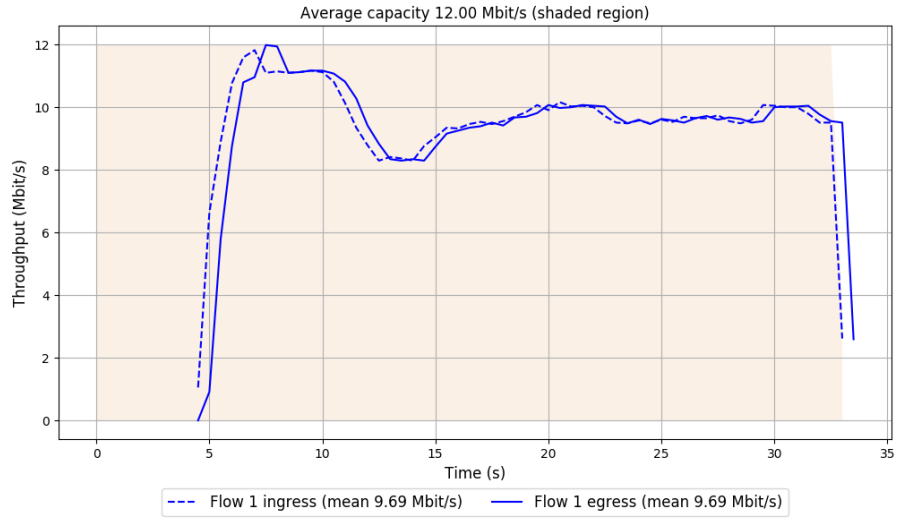
-- Flow 1:

Average throughput: 9.69 Mbit/s

95th percentile per-packet one-way delay: 61.263 ms

Loss rate: 0.12%

Run 1: Report of Indigo-MusesD — Data Link



Run 2: Statistics of Indigo-MusesD

Start at: 2019-11-24 03:33:25

End at: 2019-11-24 03:33:55

Below is generated by plot.py at 2019-11-24 03:51:16

Datalink statistics

-- Total of 1 flow:

Average capacity: 12.00 Mbit/s

Average throughput: 9.67 Mbit/s (80.6% utilization)

95th percentile per-packet one-way delay: 58.372 ms

Loss rate: 0.86%

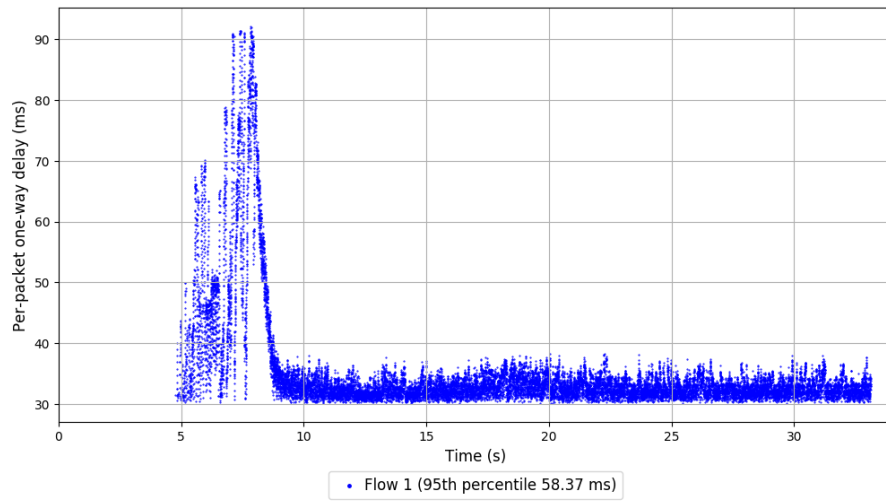
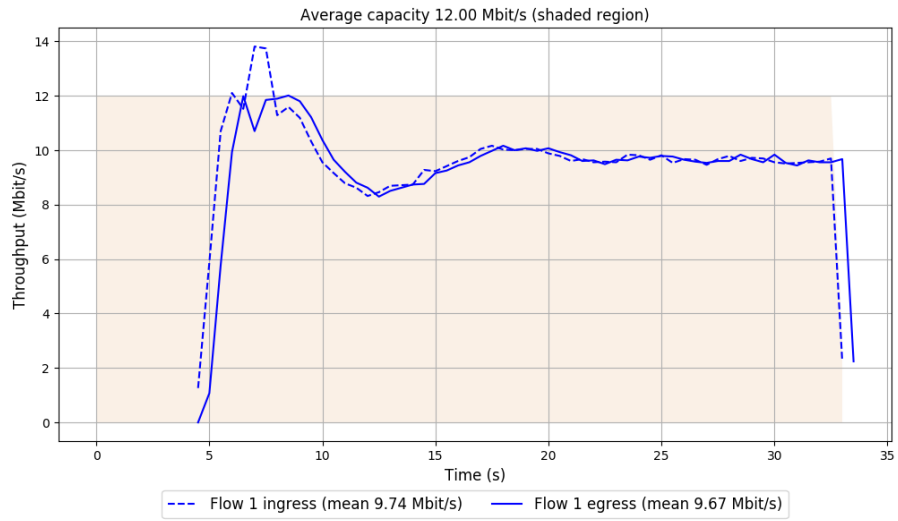
-- Flow 1:

Average throughput: 9.67 Mbit/s

95th percentile per-packet one-way delay: 58.372 ms

Loss rate: 0.86%

Run 2: Report of Indigo-MusesD — Data Link



Run 3: Statistics of Indigo-MusesD

Start at: 2019-11-24 03:47:37

End at: 2019-11-24 03:48:07

Below is generated by plot.py at 2019-11-24 03:51:19

Datalink statistics

-- Total of 1 flow:

Average capacity: 12.00 Mbit/s

Average throughput: 11.72 Mbit/s (97.7% utilization)

95th percentile per-packet one-way delay: 90.459 ms

Loss rate: 3.84%

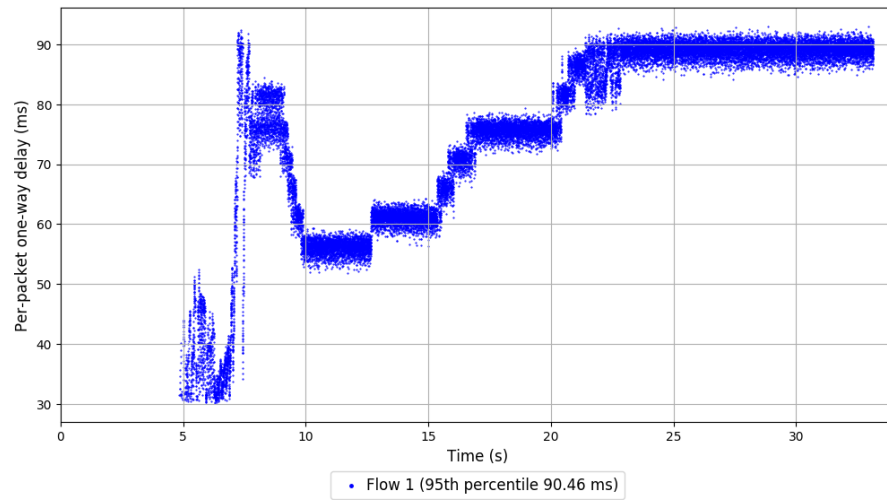
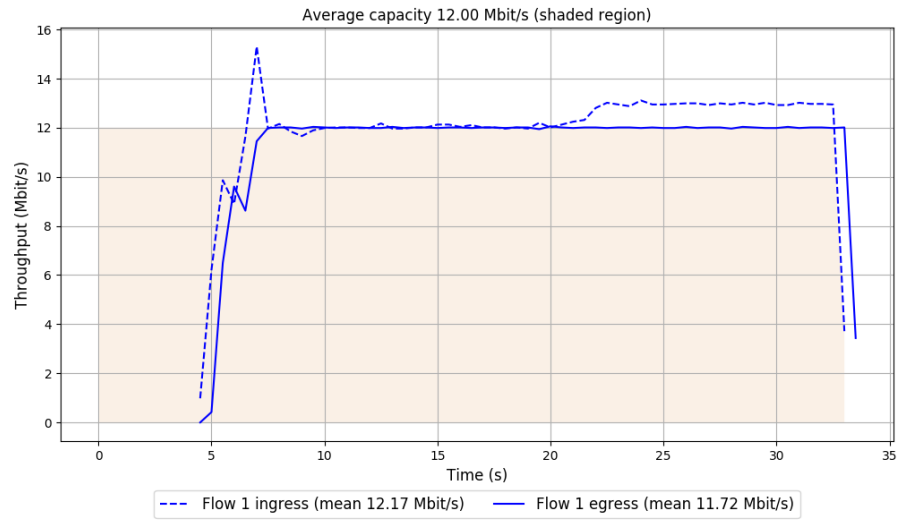
-- Flow 1:

Average throughput: 11.72 Mbit/s

95th percentile per-packet one-way delay: 90.459 ms

Loss rate: 3.84%

Run 3: Report of Indigo-MusesD — Data Link



Run 1: Statistics of Indigo-MuseST

Start at: 2019-11-24 03:11:33

End at: 2019-11-24 03:12:03

Below is generated by plot.py at 2019-11-24 03:51:21

Datalink statistics

-- Total of 1 flow:

Average capacity: 12.00 Mbit/s

Average throughput: 11.39 Mbit/s (94.9% utilization)

95th percentile per-packet one-way delay: 90.397 ms

Loss rate: 11.27%

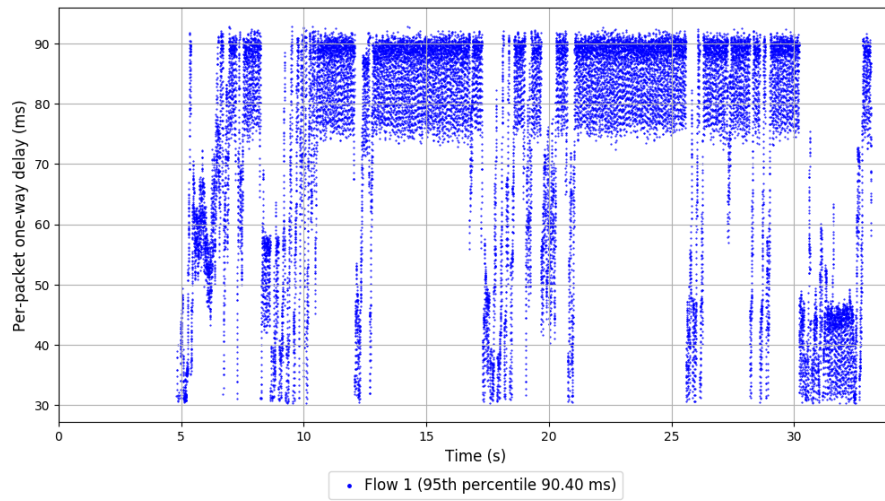
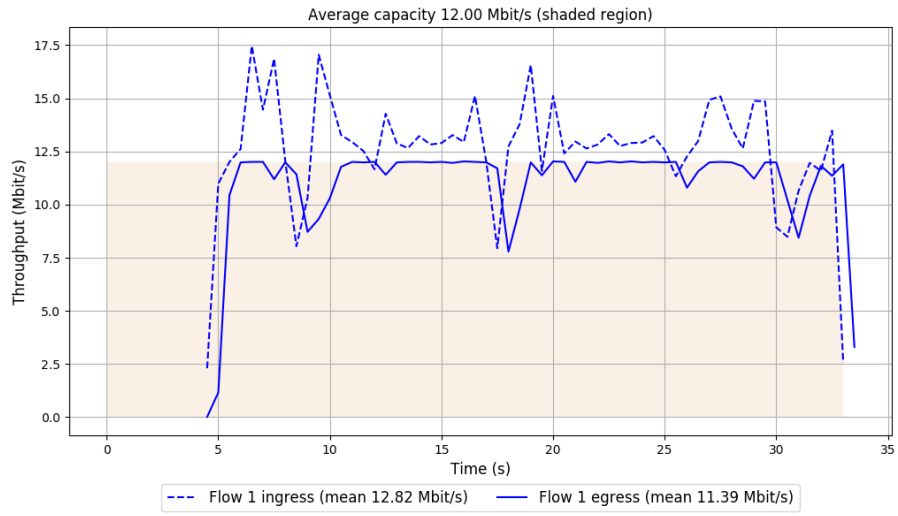
-- Flow 1:

Average throughput: 11.39 Mbit/s

95th percentile per-packet one-way delay: 90.397 ms

Loss rate: 11.27%

Run 1: Report of Indigo-MusesT — Data Link



Run 2: Statistics of Indigo-MuseST

Start at: 2019-11-24 03:25:44

End at: 2019-11-24 03:26:14

Below is generated by plot.py at 2019-11-24 03:51:21

Datalink statistics

-- Total of 1 flow:

Average capacity: 12.00 Mbit/s

Average throughput: 11.40 Mbit/s (95.0% utilization)

95th percentile per-packet one-way delay: 89.622 ms

Loss rate: 5.76%

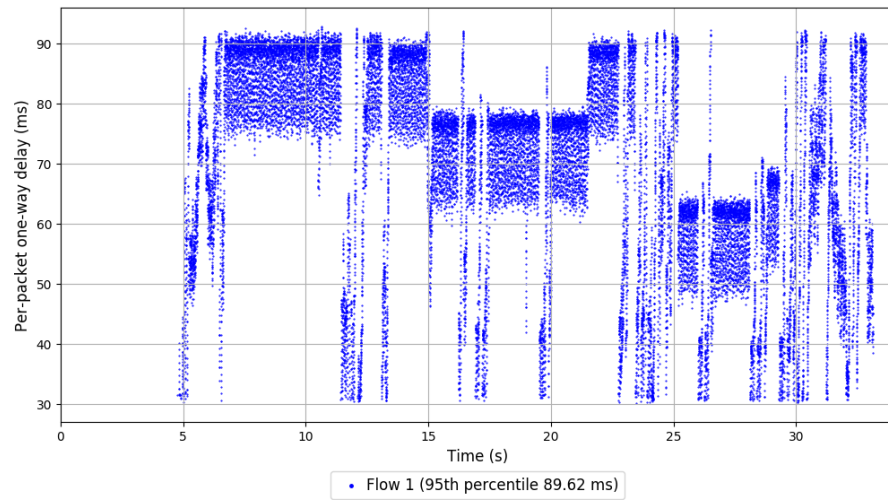
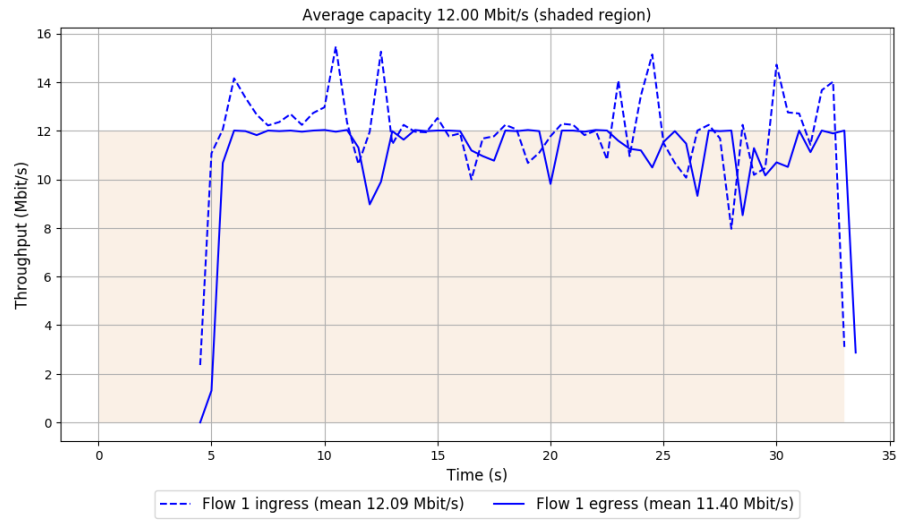
-- Flow 1:

Average throughput: 11.40 Mbit/s

95th percentile per-packet one-way delay: 89.622 ms

Loss rate: 5.76%

Run 2: Report of Indigo-MusesT — Data Link



Run 3: Statistics of Indigo-MuseST

Start at: 2019-11-24 03:39:56

End at: 2019-11-24 03:40:26

Below is generated by plot.py at 2019-11-24 03:51:30

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: 90.508 ms

Loss rate: 8.32%

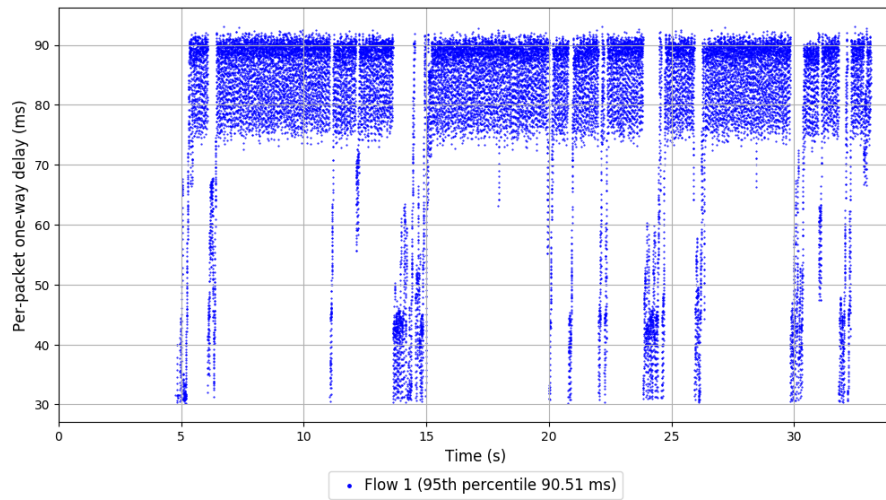
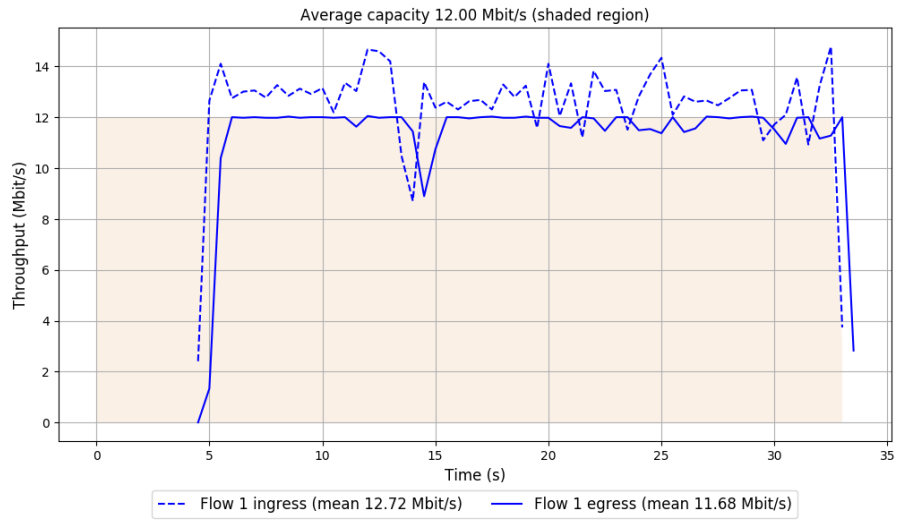
-- Flow 1:

Average throughput: 11.68 Mbit/s

95th percentile per-packet one-way delay: 90.508 ms

Loss rate: 8.32%

Run 3: Report of Indigo-MusesT — Data Link



Run 1: Statistics of LEDBAT

Start at: 2019-11-24 03:12:44

End at: 2019-11-24 03:13:14

Below is generated by plot.py at 2019-11-24 03:51:33

Datalink statistics

-- Total of 1 flow:

Average capacity: 12.00 Mbit/s

Average throughput: 11.20 Mbit/s (93.3% utilization)

95th percentile per-packet one-way delay: 89.169 ms

Loss rate: 0.33%

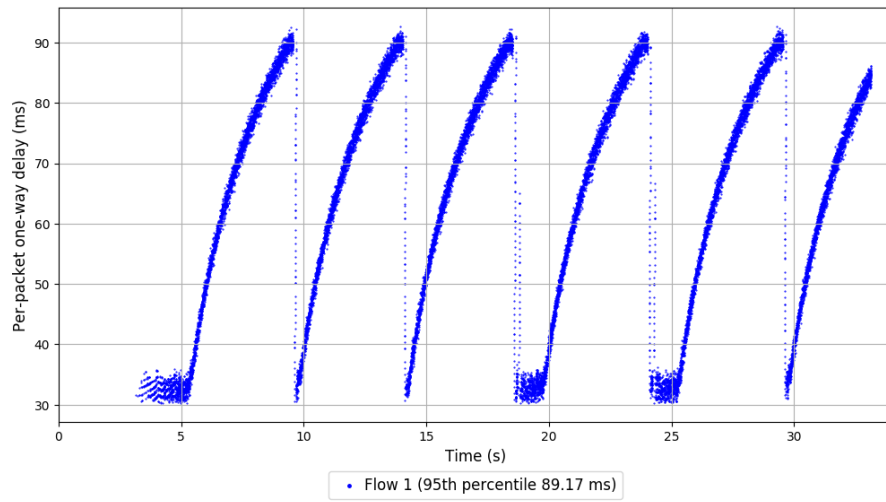
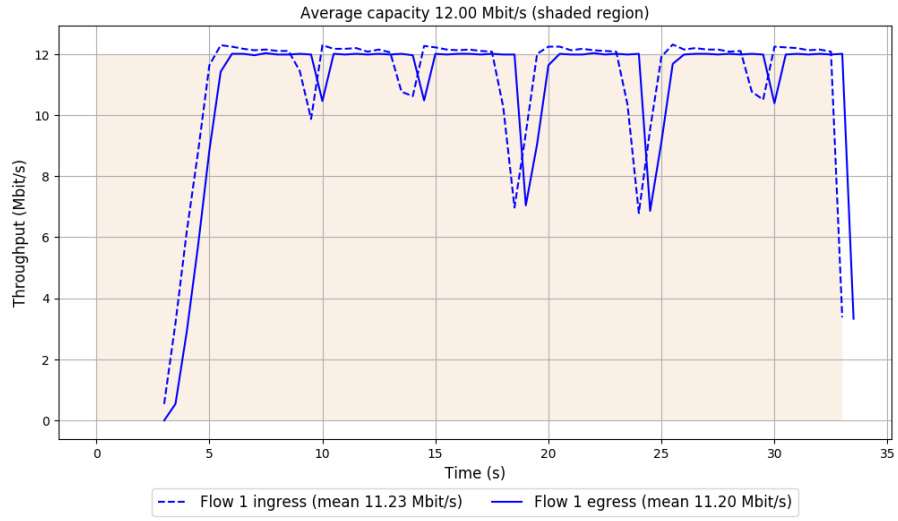
-- Flow 1:

Average throughput: 11.20 Mbit/s

95th percentile per-packet one-way delay: 89.169 ms

Loss rate: 0.33%

Run 1: Report of LEDBAT — Data Link



Run 2: Statistics of LEDBAT

Start at: 2019-11-24 03:26:55

End at: 2019-11-24 03:27:25

Below is generated by plot.py at 2019-11-24 03:51:33

Datalink statistics

-- Total of 1 flow:

Average capacity: 12.00 Mbit/s

Average throughput: 10.87 Mbit/s (90.5% utilization)

95th percentile per-packet one-way delay: 89.218 ms

Loss rate: 0.19%

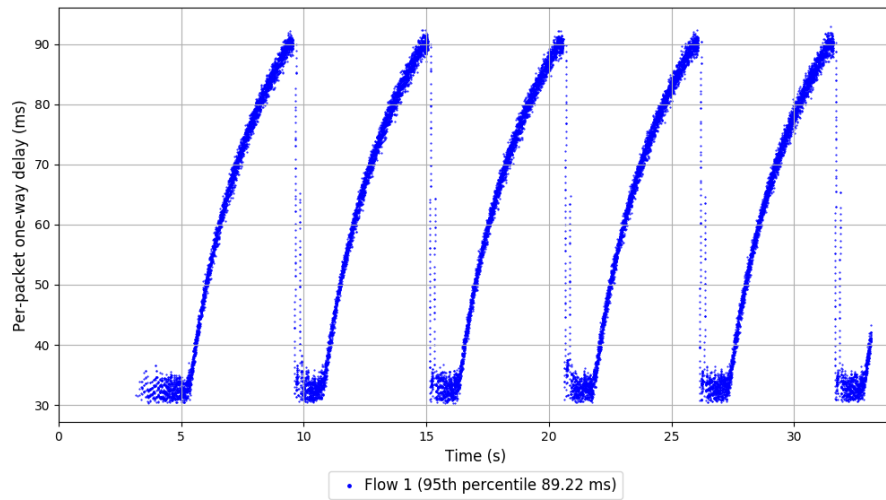
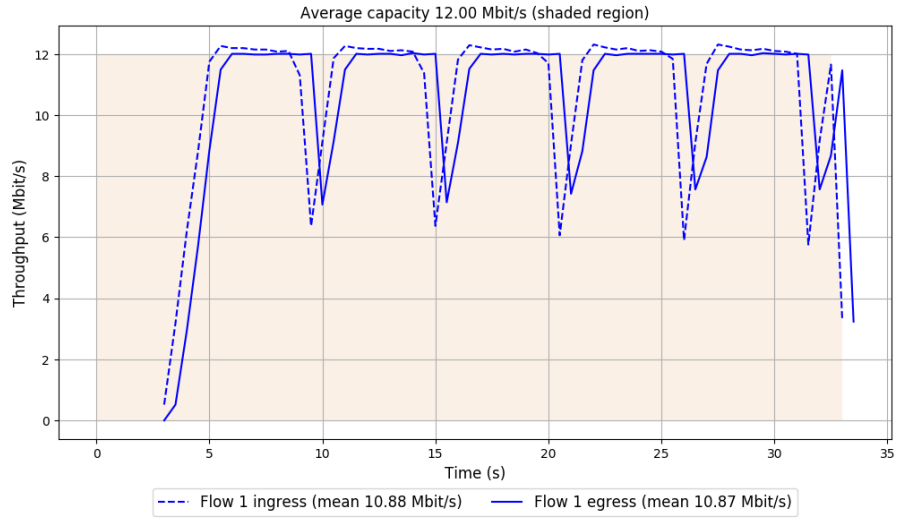
-- Flow 1:

Average throughput: 10.87 Mbit/s

95th percentile per-packet one-way delay: 89.218 ms

Loss rate: 0.19%

Run 2: Report of LEDBAT — Data Link



Run 3: Statistics of LEDBAT

Start at: 2019-11-24 03:41:07

End at: 2019-11-24 03:41:37

Below is generated by plot.py at 2019-11-24 03:51:38

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: 89.142 ms

Loss rate: 0.27%

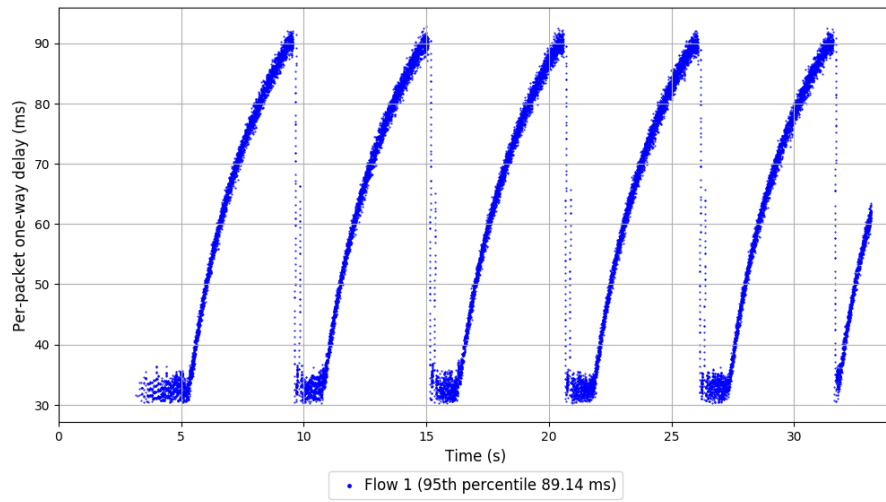
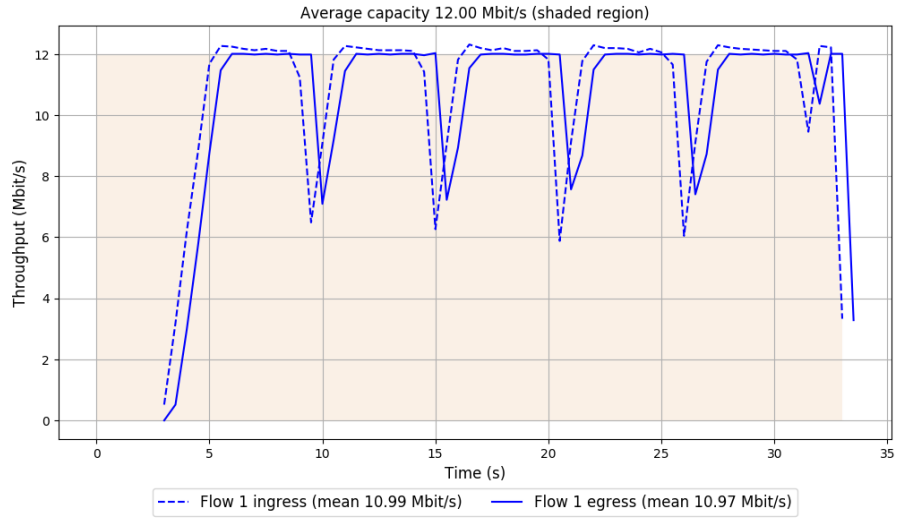
-- Flow 1:

Average throughput: 10.97 Mbit/s

95th percentile per-packet one-way delay: 89.142 ms

Loss rate: 0.27%

Run 3: Report of LEDBAT — Data Link



Run 1: Statistics of Muses_DecisionTree

Start at: 2019-11-24 03:06:49

End at: 2019-11-24 03:07:19

Below is generated by plot.py at 2019-11-24 03:51:39

Datalink statistics

-- Total of 1 flow:

Average capacity: 12.00 Mbit/s

Average throughput: 9.54 Mbit/s (79.5% utilization)

95th percentile per-packet one-way delay: 33.664 ms

Loss rate: 0.12%

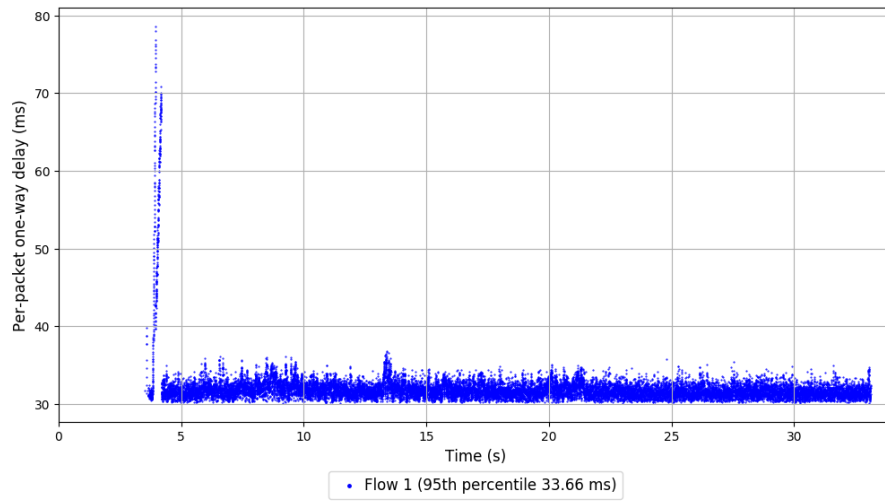
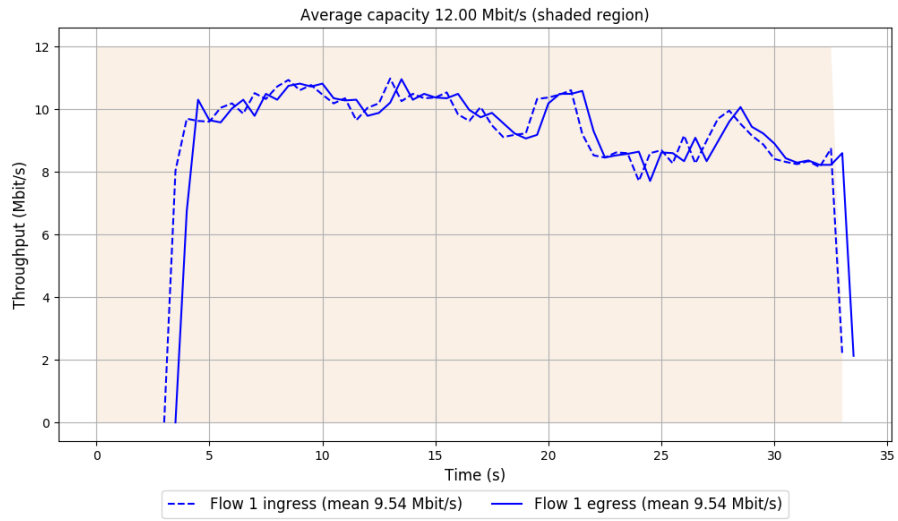
-- Flow 1:

Average throughput: 9.54 Mbit/s

95th percentile per-packet one-way delay: 33.664 ms

Loss rate: 0.12%

Run 1: Report of Muses_DecisionTree — Data Link



Run 2: Statistics of Muses_DecisionTree

Start at: 2019-11-24 03:21:00

End at: 2019-11-24 03:21:30

Below is generated by plot.py at 2019-11-24 03:51:42

Datalink statistics

-- Total of 1 flow:

Average capacity: 12.00 Mbit/s

Average throughput: 9.43 Mbit/s (78.6% utilization)

95th percentile per-packet one-way delay: 33.806 ms

Loss rate: 0.11%

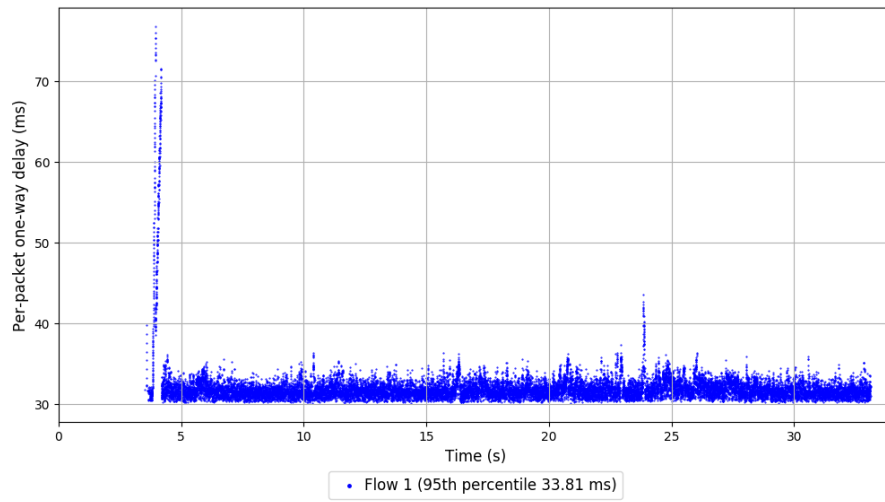
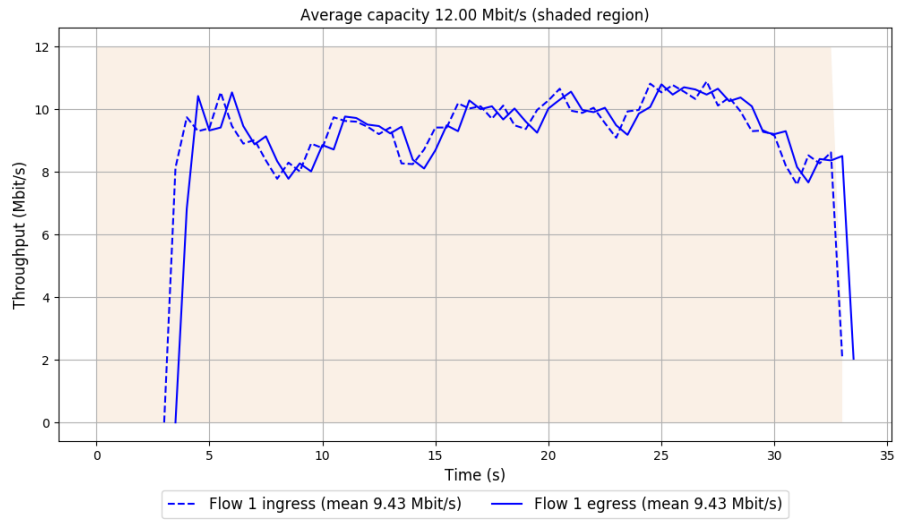
-- Flow 1:

Average throughput: 9.43 Mbit/s

95th percentile per-packet one-way delay: 33.806 ms

Loss rate: 0.11%

Run 2: Report of Muses_DecisionTree — Data Link



Run 3: Statistics of Muses_DecisionTree

Start at: 2019-11-24 03:35:11

End at: 2019-11-24 03:35:41

Below is generated by plot.py at 2019-11-24 03:51:43

Datalink statistics

-- Total of 1 flow:

Average capacity: 12.00 Mbit/s

Average throughput: 9.37 Mbit/s (78.0% utilization)

95th percentile per-packet one-way delay: 33.896 ms

Loss rate: 0.11%

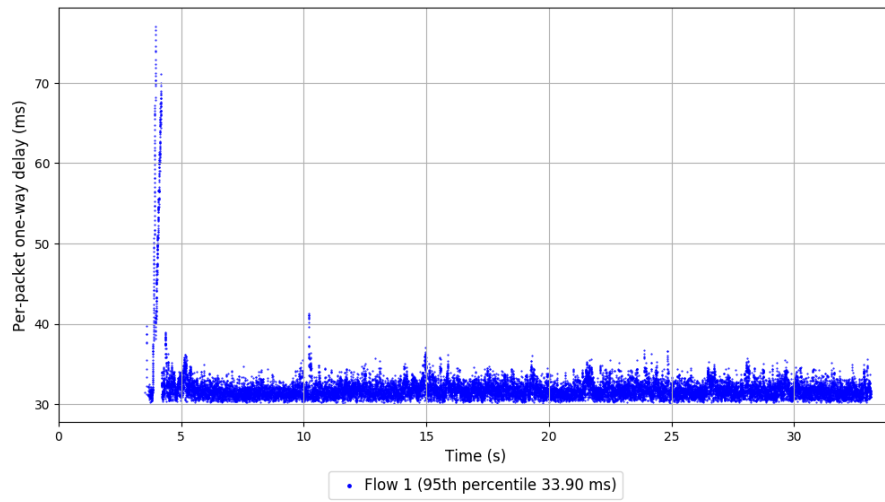
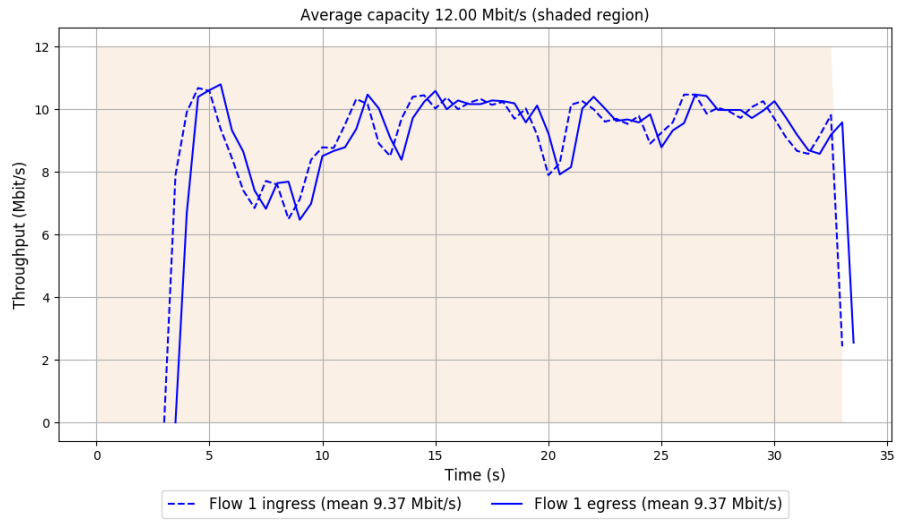
-- Flow 1:

Average throughput: 9.37 Mbit/s

95th percentile per-packet one-way delay: 33.896 ms

Loss rate: 0.11%

Run 3: Report of Muses_DecisionTree — Data Link



Run 1: Statistics of Muses_DecisionTreeH0

Start at: 2019-11-24 03:13:20

End at: 2019-11-24 03:13:50

Below is generated by plot.py at 2019-11-24 03:51:46

Datalink statistics

-- Total of 1 flow:

Average capacity: 12.00 Mbit/s

Average throughput: 11.64 Mbit/s (97.0% utilization)

95th percentile per-packet one-way delay: 40.247 ms

Loss rate: 0.13%

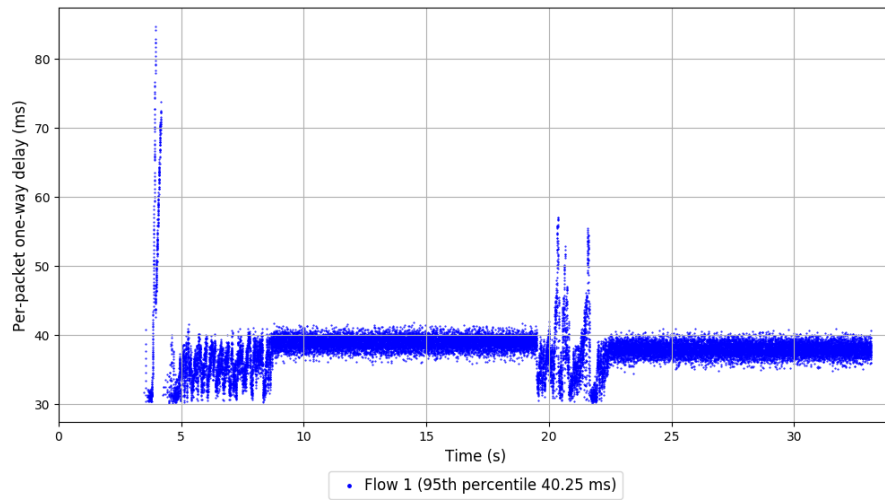
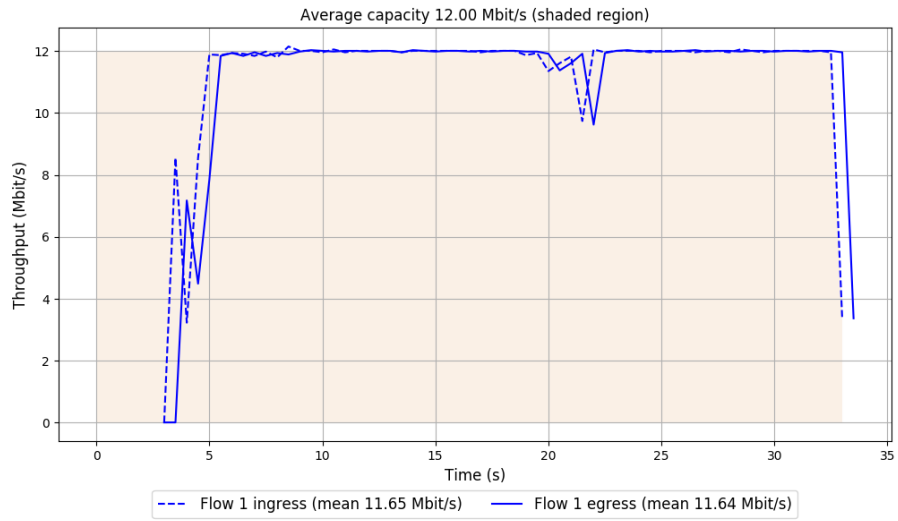
-- Flow 1:

Average throughput: 11.64 Mbit/s

95th percentile per-packet one-way delay: 40.247 ms

Loss rate: 0.13%

Run 1: Report of Muses_DecisionTreeH0 — Data Link



Run 2: Statistics of Muses_DecisionTreeH0

Start at: 2019-11-24 03:27:31

End at: 2019-11-24 03:28:01

Below is generated by plot.py at 2019-11-24 03:51:57

Datalink statistics

-- Total of 1 flow:

Average capacity: 12.00 Mbit/s

Average throughput: 11.35 Mbit/s (94.5% utilization)

95th percentile per-packet one-way delay: 41.507 ms

Loss rate: 0.16%

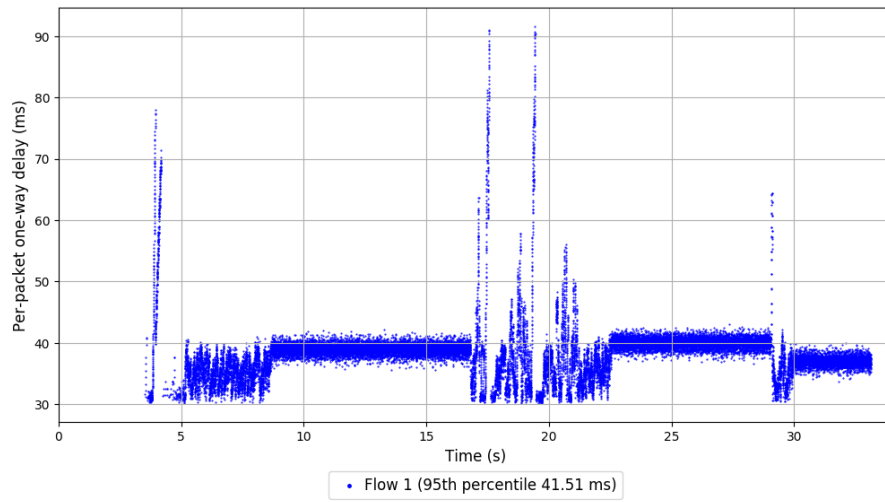
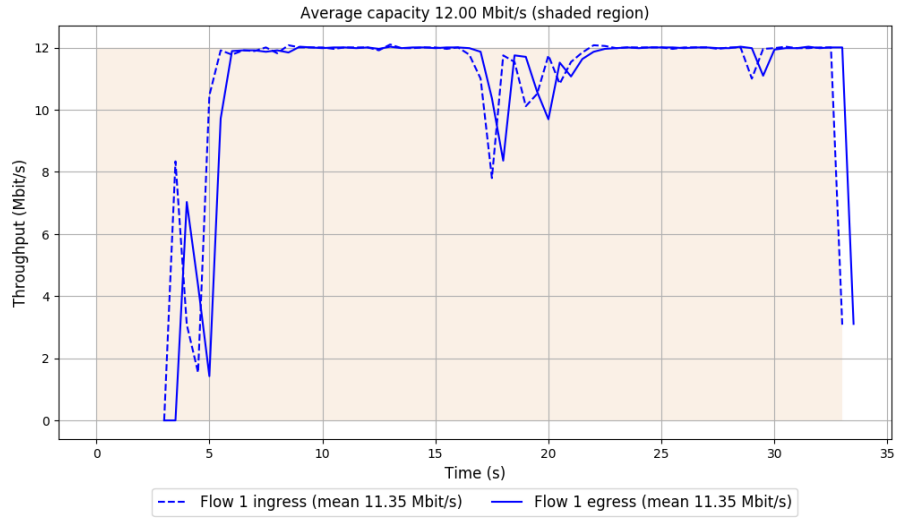
-- Flow 1:

Average throughput: 11.35 Mbit/s

95th percentile per-packet one-way delay: 41.507 ms

Loss rate: 0.16%

Run 2: Report of Muses_DecisionTreeH0 — Data Link



Run 3: Statistics of Muses_DecisionTreeH0

Start at: 2019-11-24 03:41:42

End at: 2019-11-24 03:42:12

Below is generated by plot.py at 2019-11-24 03:51:58

Datalink statistics

-- Total of 1 flow:

Average capacity: 12.00 Mbit/s

Average throughput: 11.70 Mbit/s (97.5% utilization)

95th percentile per-packet one-way delay: 41.116 ms

Loss rate: 0.13%

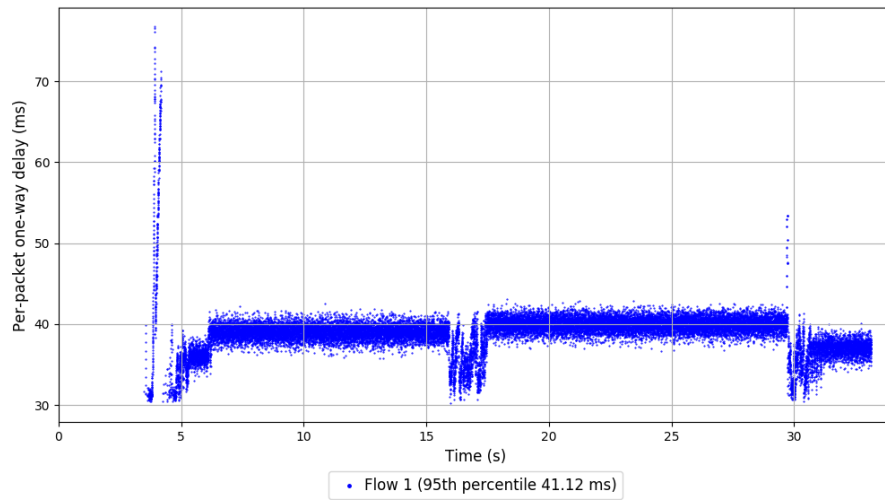
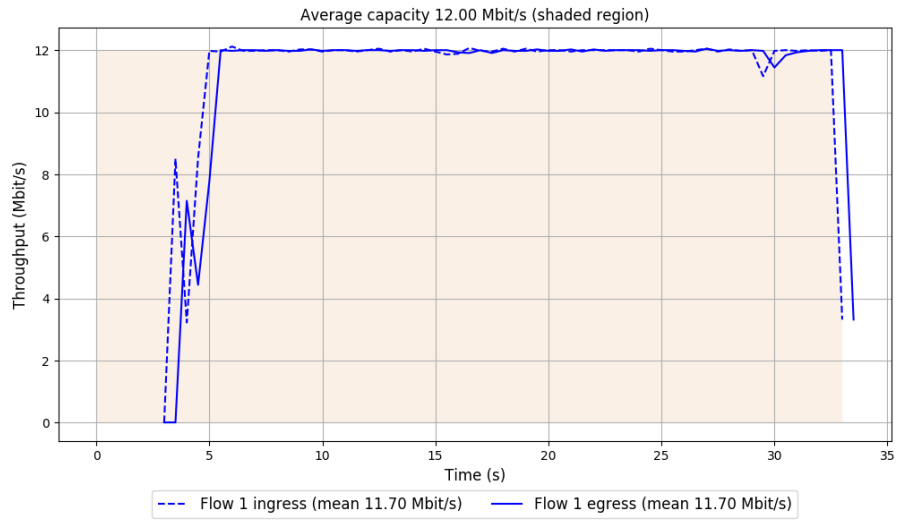
-- Flow 1:

Average throughput: 11.70 Mbit/s

95th percentile per-packet one-way delay: 41.116 ms

Loss rate: 0.13%

Run 3: Report of Muses_DecisionTreeH0 — Data Link



Run 1: Statistics of Muses_DecisionTreeR0

Start at: 2019-11-24 03:08:00

End at: 2019-11-24 03:08:30

Below is generated by plot.py at 2019-11-24 03:51:58

Datalink statistics

-- Total of 1 flow:

Average capacity: 12.00 Mbit/s

Average throughput: 9.91 Mbit/s (82.6% utilization)

95th percentile per-packet one-way delay: 33.490 ms

Loss rate: 0.11%

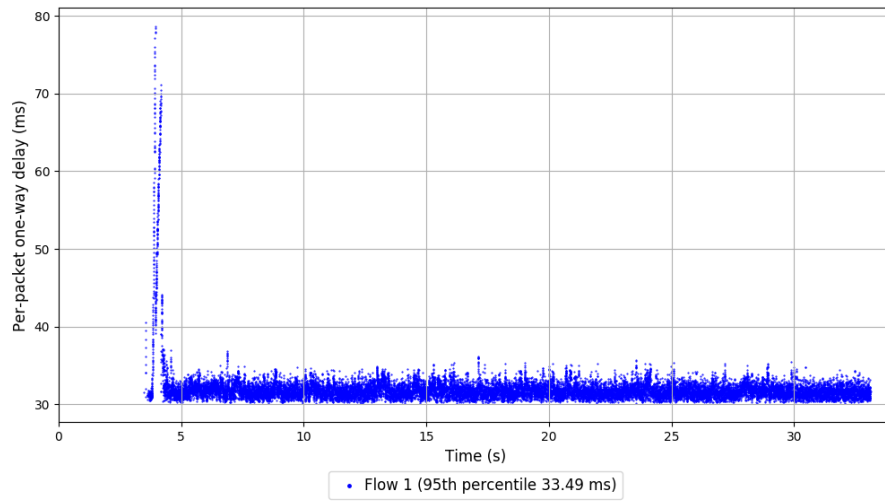
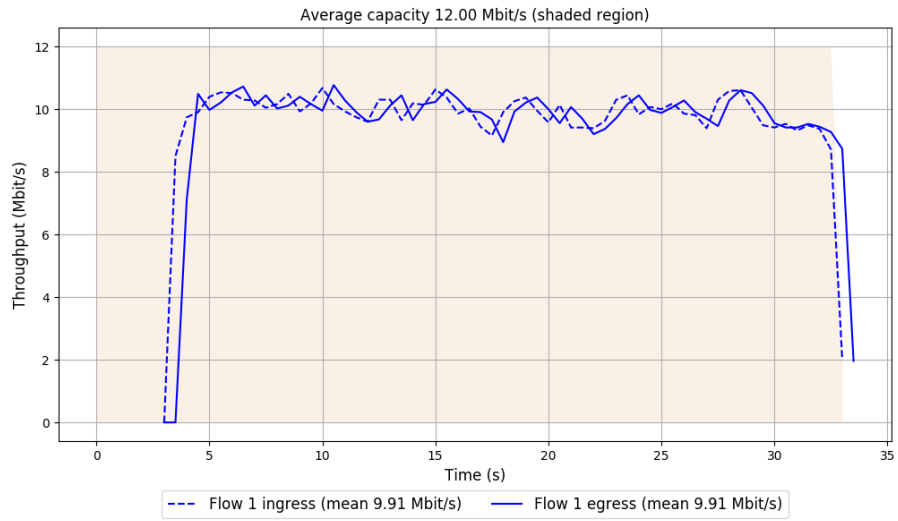
-- Flow 1:

Average throughput: 9.91 Mbit/s

95th percentile per-packet one-way delay: 33.490 ms

Loss rate: 0.11%

Run 1: Report of Muses_DecisionTreeR0 — Data Link



Run 2: Statistics of Muses_DecisionTreeR0

Start at: 2019-11-24 03:22:12

End at: 2019-11-24 03:22:42

Below is generated by plot.py at 2019-11-24 03:52:01

Datalink statistics

-- Total of 1 flow:

Average capacity: 12.00 Mbit/s

Average throughput: 9.84 Mbit/s (82.0% utilization)

95th percentile per-packet one-way delay: 33.497 ms

Loss rate: 0.11%

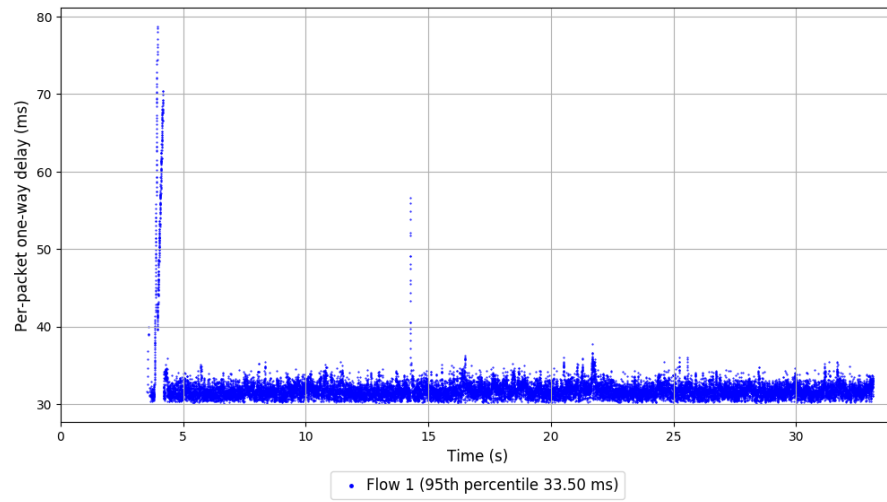
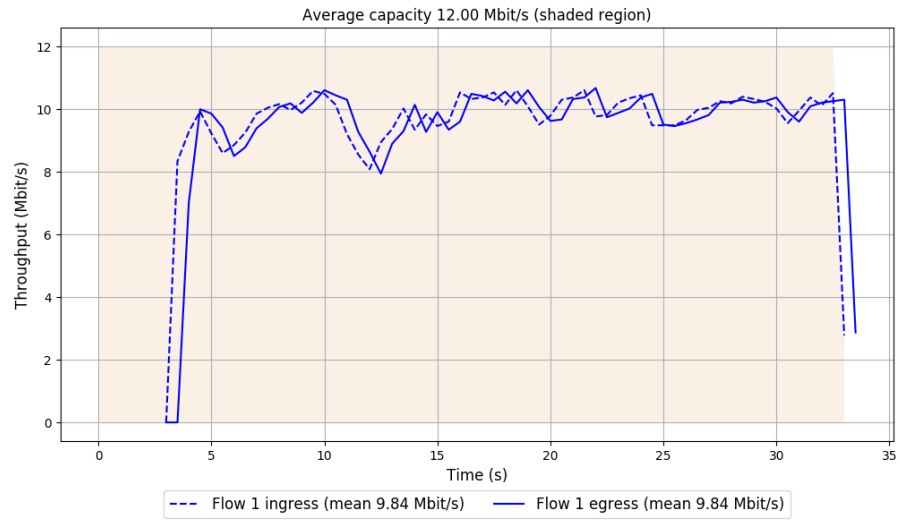
-- Flow 1:

Average throughput: 9.84 Mbit/s

95th percentile per-packet one-way delay: 33.497 ms

Loss rate: 0.11%

Run 2: Report of Muses_DecisionTreeR0 — Data Link



Run 3: Statistics of Muses_DecisionTreeR0

Start at: 2019-11-24 03:36:23

End at: 2019-11-24 03:36:53

Below is generated by plot.py at 2019-11-24 03:52:02

Datalink statistics

-- Total of 1 flow:

Average capacity: 12.00 Mbit/s

Average throughput: 9.68 Mbit/s (80.7% utilization)

95th percentile per-packet one-way delay: 33.474 ms

Loss rate: 0.13%

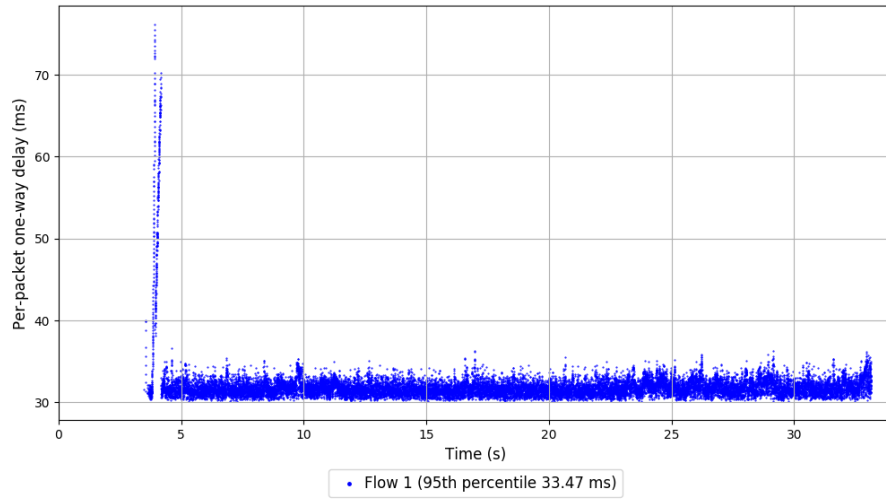
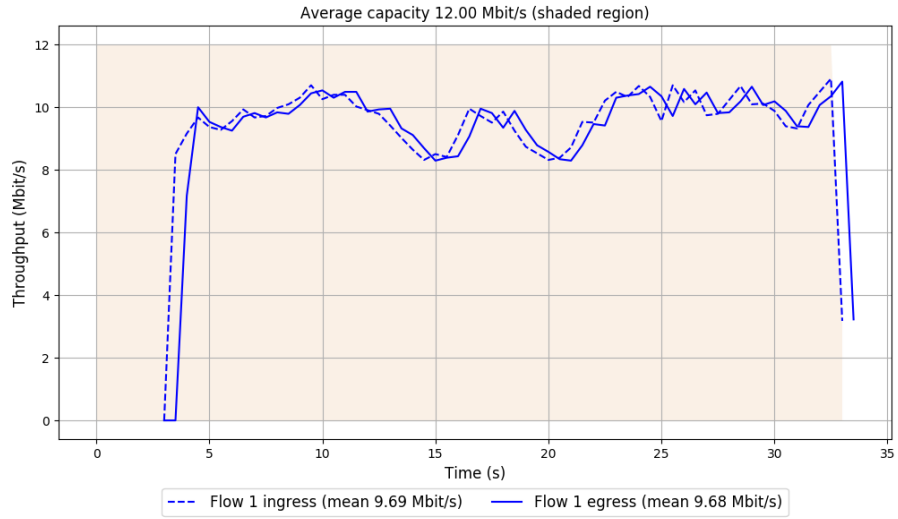
-- Flow 1:

Average throughput: 9.68 Mbit/s

95th percentile per-packet one-way delay: 33.474 ms

Loss rate: 0.13%

Run 3: Report of Muses_DecisionTreeR0 — Data Link



Run 1: Statistics of PCC-Allegro

Start at: 2019-11-24 03:09:11

End at: 2019-11-24 03:09:41

Below is generated by plot.py at 2019-11-24 03:52:07

Datalink statistics

-- Total of 1 flow:

Average capacity: 12.00 Mbit/s

Average throughput: 10.56 Mbit/s (88.0% utilization)

95th percentile per-packet one-way delay: 36.532 ms

Loss rate: 0.95%

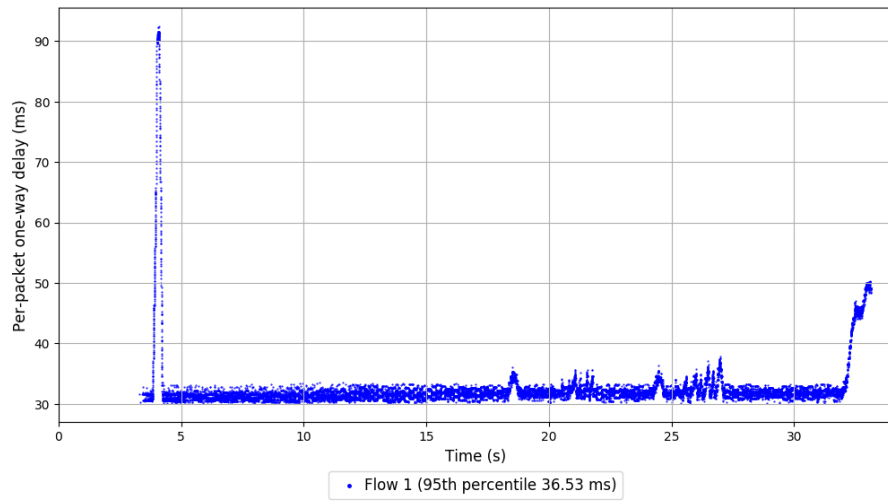
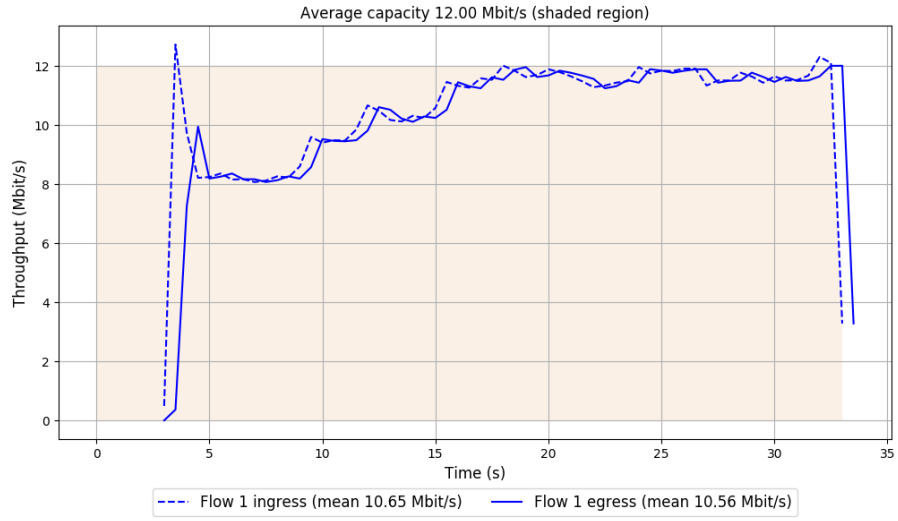
-- Flow 1:

Average throughput: 10.56 Mbit/s

95th percentile per-packet one-way delay: 36.532 ms

Loss rate: 0.95%

Run 1: Report of PCC-Allegro — Data Link



Run 2: Statistics of PCC-Allegro

Start at: 2019-11-24 03:23:22

End at: 2019-11-24 03:23:52

Below is generated by plot.py at 2019-11-24 03:52:07

Datalink statistics

-- Total of 1 flow:

Average capacity: 12.00 Mbit/s

Average throughput: 8.70 Mbit/s (72.5% utilization)

95th percentile per-packet one-way delay: 32.383 ms

Loss rate: 0.83%

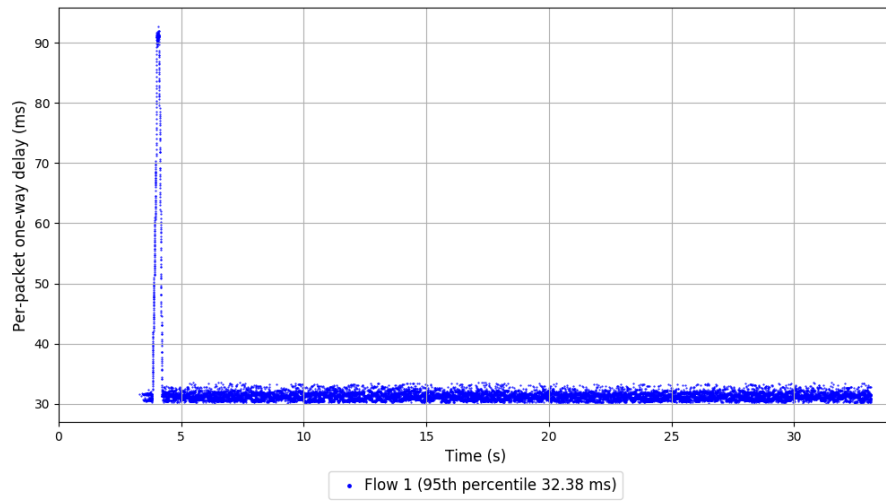
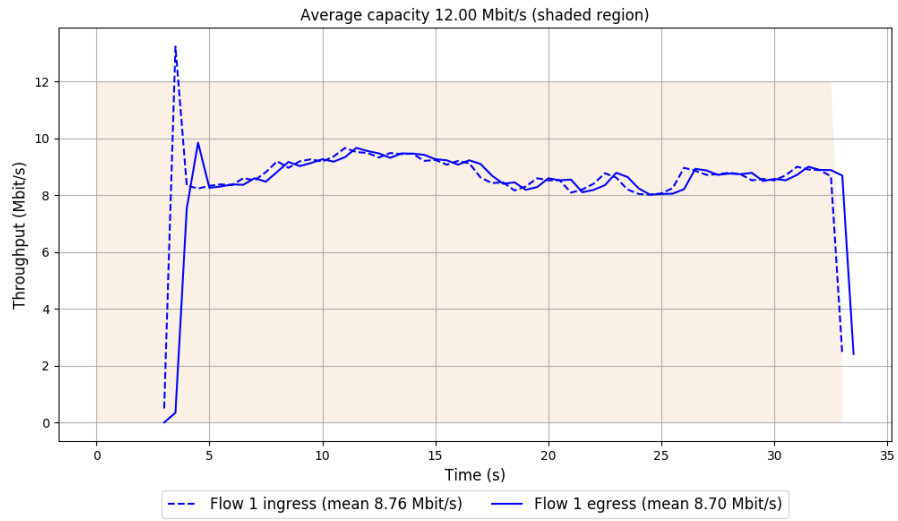
-- Flow 1:

Average throughput: 8.70 Mbit/s

95th percentile per-packet one-way delay: 32.383 ms

Loss rate: 0.83%

Run 2: Report of PCC-Allegro — Data Link



Run 3: Statistics of PCC-Allegro

Start at: 2019-11-24 03:37:33

End at: 2019-11-24 03:38:03

Below is generated by plot.py at 2019-11-24 03:52:09

Datalink statistics

-- Total of 1 flow:

Average capacity: 12.00 Mbit/s

Average throughput: 8.79 Mbit/s (73.3% utilization)

95th percentile per-packet one-way delay: 32.366 ms

Loss rate: 1.01%

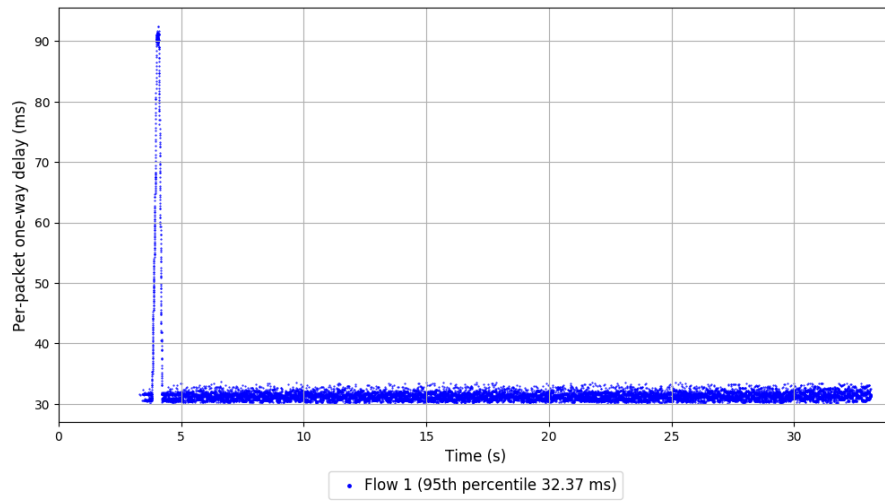
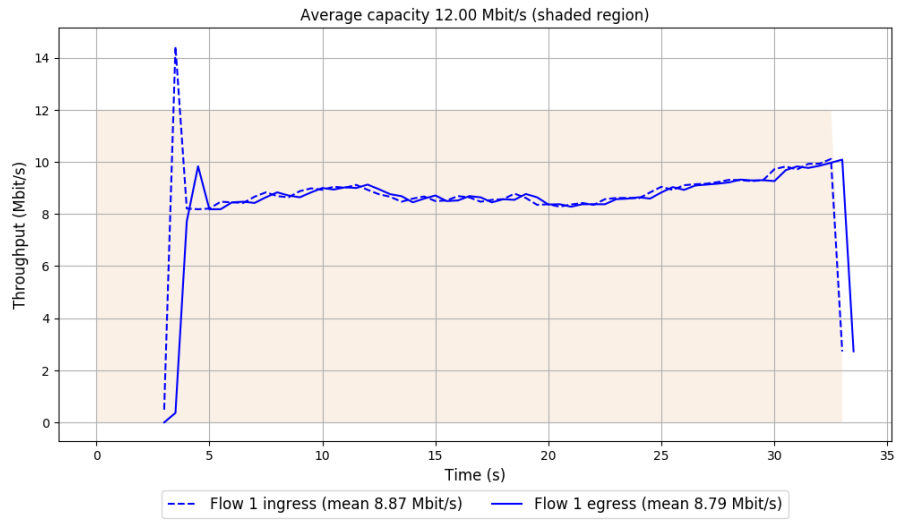
-- Flow 1:

Average throughput: 8.79 Mbit/s

95th percentile per-packet one-way delay: 32.366 ms

Loss rate: 1.01%

Run 3: Report of PCC-Allegro — Data Link



Run 1: Statistics of PCC-Expr

Start at: 2019-11-24 03:18:38

End at: 2019-11-24 03:19:08

Below is generated by plot.py at 2019-11-24 03:52:34

Datalink statistics

-- Total of 1 flow:

Average capacity: 12.00 Mbit/s

Average throughput: 10.77 Mbit/s (89.7% utilization)

95th percentile per-packet one-way delay: 85.684 ms

Loss rate: 0.21%

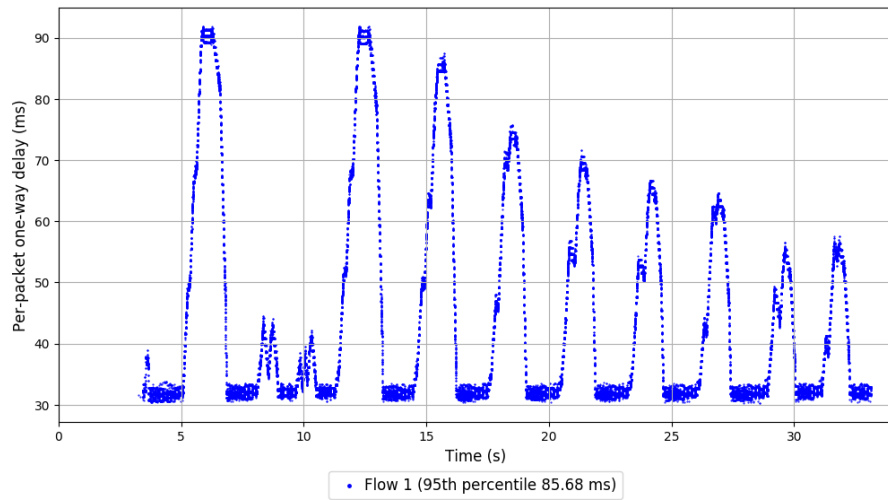
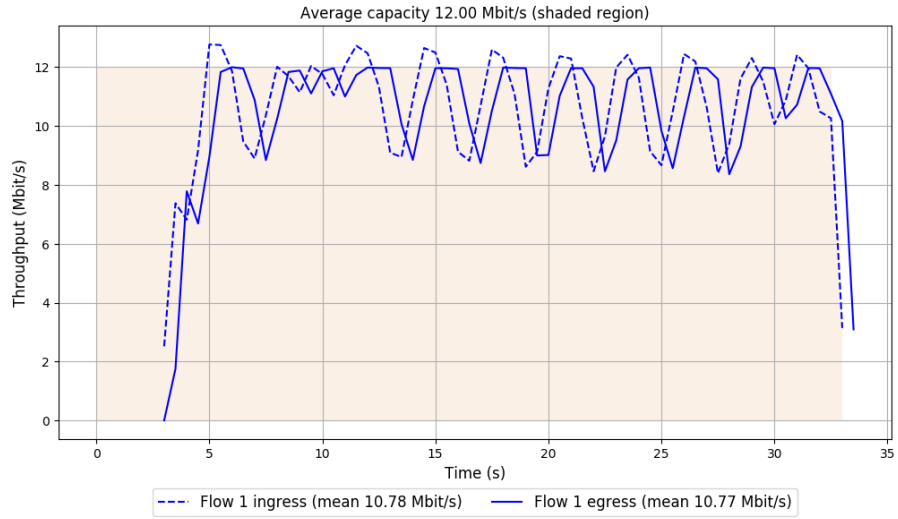
-- Flow 1:

Average throughput: 10.77 Mbit/s

95th percentile per-packet one-way delay: 85.684 ms

Loss rate: 0.21%

Run 1: Report of PCC-Expr — Data Link



Run 2: Statistics of PCC-Expr

Start at: 2019-11-24 03:32:49

End at: 2019-11-24 03:33:19

Below is generated by plot.py at 2019-11-24 03:52:34

Datalink statistics

-- Total of 1 flow:

Average capacity: 12.00 Mbit/s

Average throughput: 10.71 Mbit/s (89.2% utilization)

95th percentile per-packet one-way delay: 64.298 ms

Loss rate: 0.16%

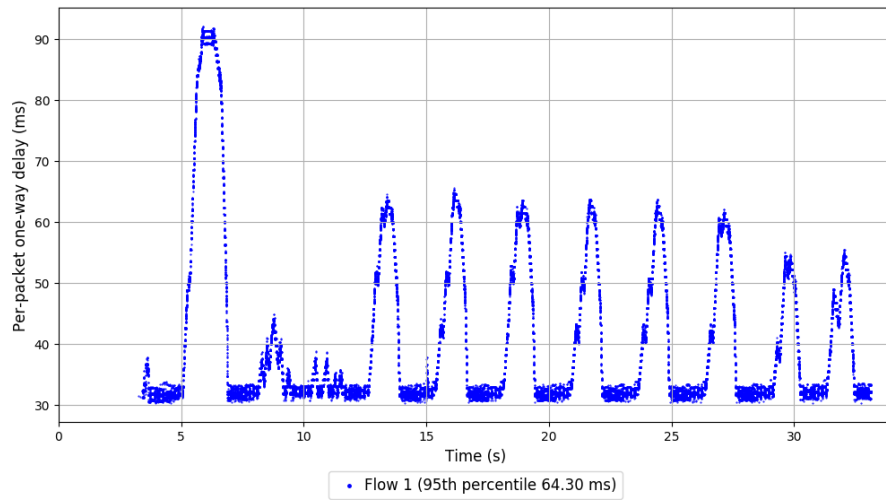
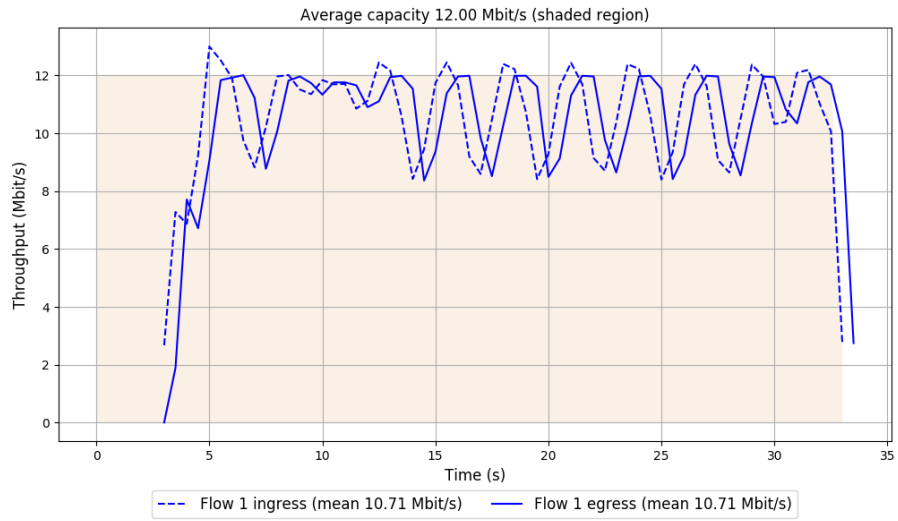
-- Flow 1:

Average throughput: 10.71 Mbit/s

95th percentile per-packet one-way delay: 64.298 ms

Loss rate: 0.16%

Run 2: Report of PCC-Expr — Data Link



Run 3: Statistics of PCC-Expr

Start at: 2019-11-24 03:47:01

End at: 2019-11-24 03:47:31

Below is generated by plot.py at 2019-11-24 03:52:36

Datalink statistics

-- Total of 1 flow:

Average capacity: 12.00 Mbit/s

Average throughput: 10.82 Mbit/s (90.2% utilization)

95th percentile per-packet one-way delay: 60.453 ms

Loss rate: 0.47%

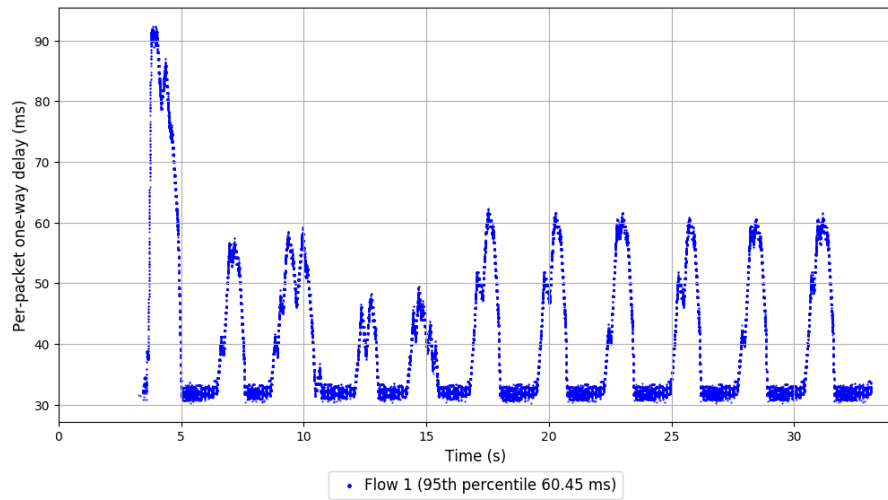
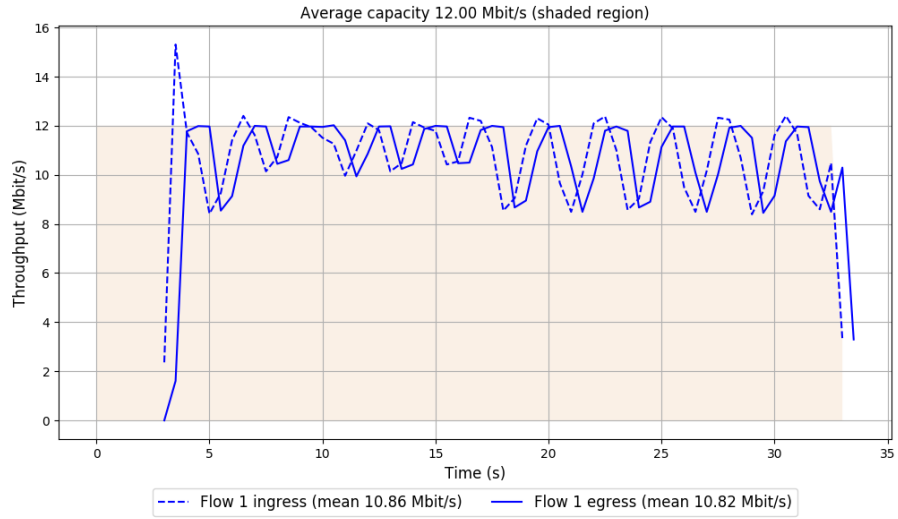
-- Flow 1:

Average throughput: 10.82 Mbit/s

95th percentile per-packet one-way delay: 60.453 ms

Loss rate: 0.47%

Run 3: Report of PCC-Expr — Data Link



Run 1: Statistics of QUIC Cubic

Start at: 2019-11-24 03:19:49

End at: 2019-11-24 03:20:19

Below is generated by plot.py at 2019-11-24 03:52:36

Datalink statistics

-- Total of 1 flow:

Average capacity: 12.00 Mbit/s

Average throughput: 11.72 Mbit/s (97.7% utilization)

95th percentile per-packet one-way delay: 89.322 ms

Loss rate: 0.84%

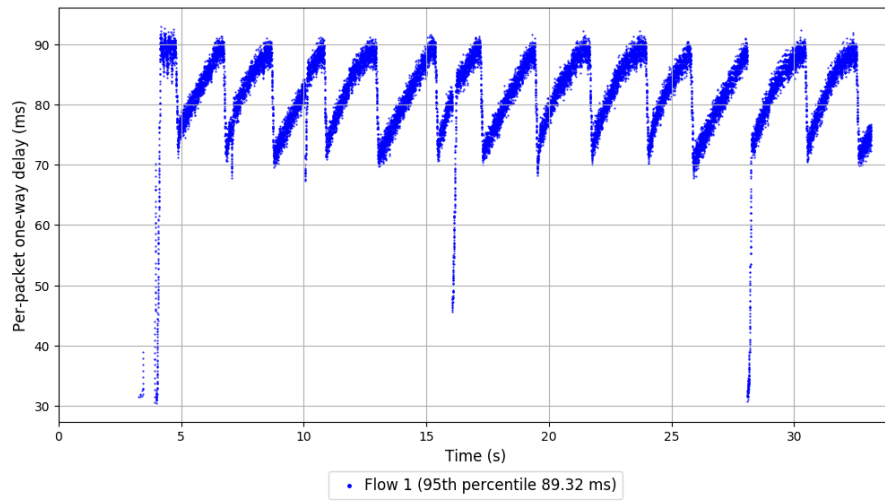
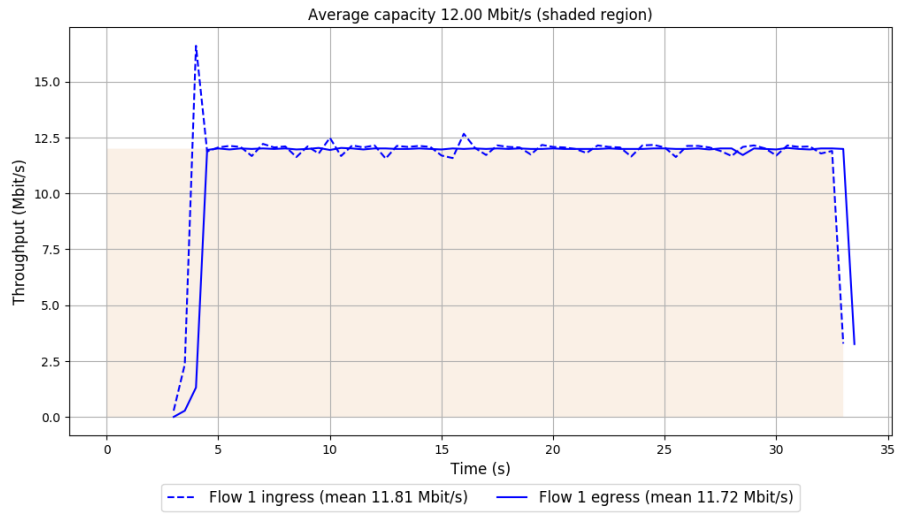
-- Flow 1:

Average throughput: 11.72 Mbit/s

95th percentile per-packet one-way delay: 89.322 ms

Loss rate: 0.84%

Run 1: Report of QUIC Cubic — Data Link



Run 2: Statistics of QUIC Cubic

Start at: 2019-11-24 03:34:00

End at: 2019-11-24 03:34:30

Below is generated by plot.py at 2019-11-24 03:52:36

Datalink statistics

-- Total of 1 flow:

Average capacity: 12.00 Mbit/s

Average throughput: 11.73 Mbit/s (97.7% utilization)

95th percentile per-packet one-way delay: 89.220 ms

Loss rate: 0.77%

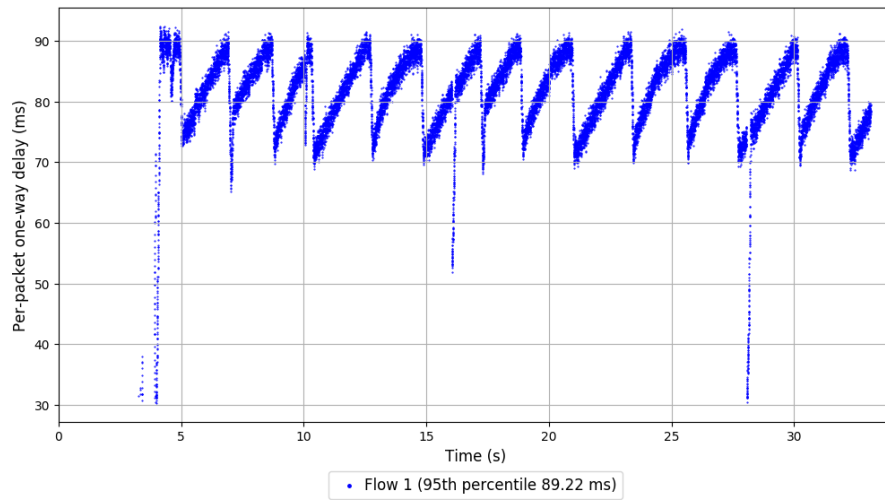
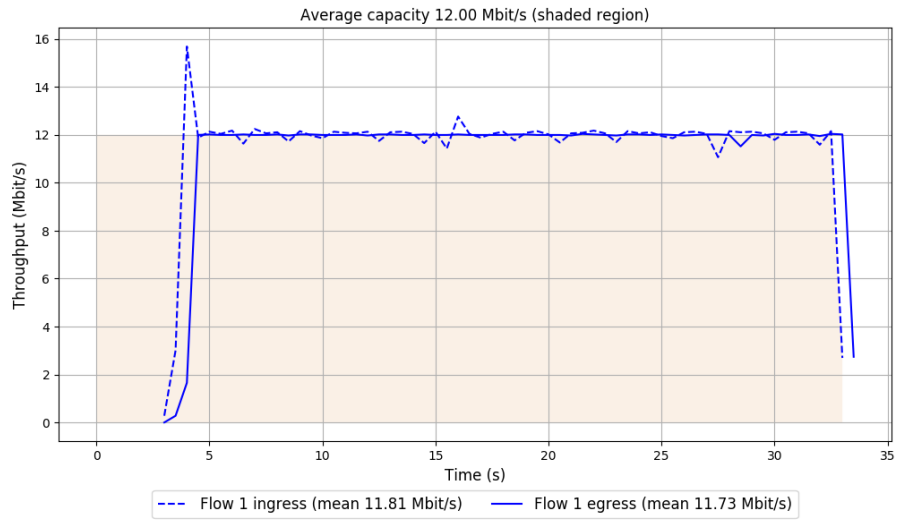
-- Flow 1:

Average throughput: 11.73 Mbit/s

95th percentile per-packet one-way delay: 89.220 ms

Loss rate: 0.77%

Run 2: Report of QUIC Cubic — Data Link



Run 3: Statistics of QUIC Cubic

Start at: 2019-11-24 03:48:12

End at: 2019-11-24 03:48:42

Below is generated by plot.py at 2019-11-24 03:52:36

Datalink statistics

-- Total of 1 flow:

Average capacity: 12.00 Mbit/s

Average throughput: 11.71 Mbit/s (97.6% utilization)

95th percentile per-packet one-way delay: 89.098 ms

Loss rate: 0.80%

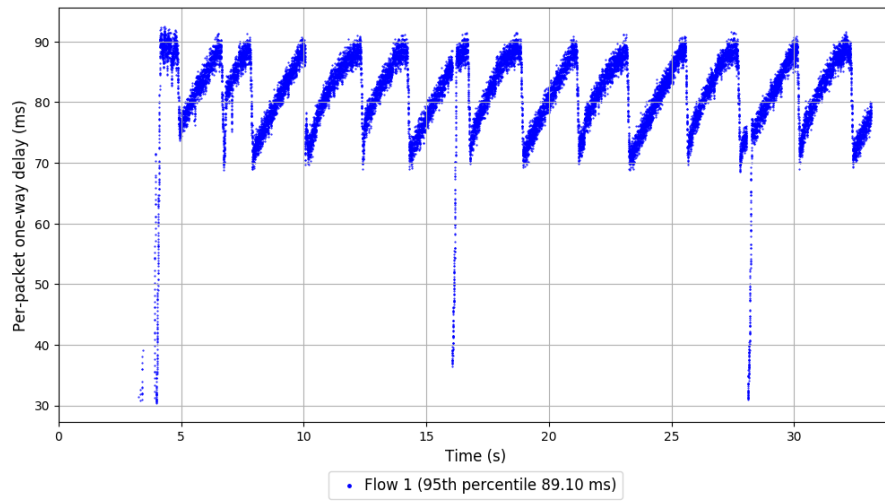
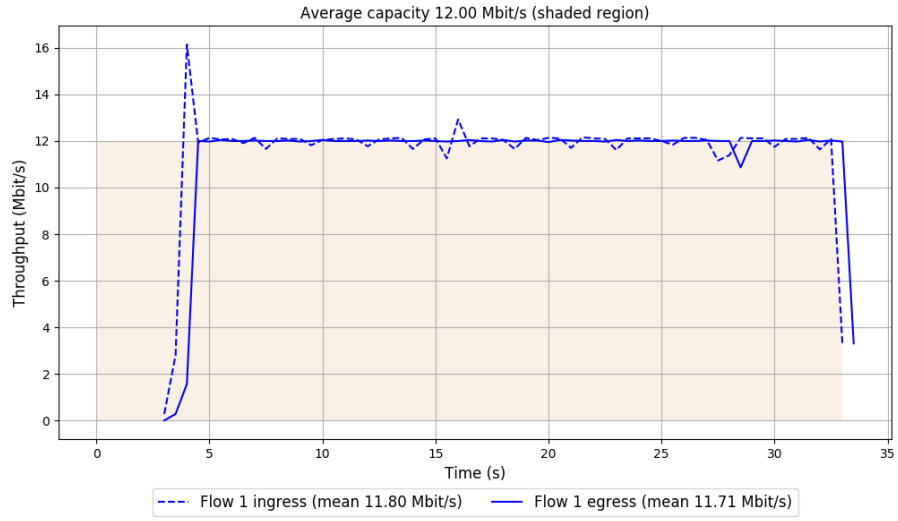
-- Flow 1:

Average throughput: 11.71 Mbit/s

95th percentile per-packet one-way delay: 89.098 ms

Loss rate: 0.80%

Run 3: Report of QUIC Cubic — Data Link



Run 1: Statistics of SCReAM

Start at: 2019-11-24 03:18:03

End at: 2019-11-24 03:18:33

Below is generated by plot.py at 2019-11-24 03:52:36

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: 31.573 ms

Loss rate: 0.13%

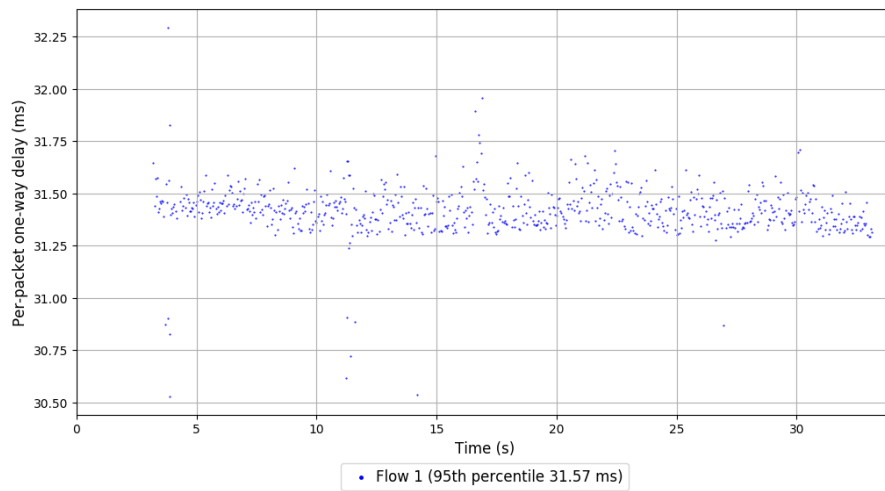
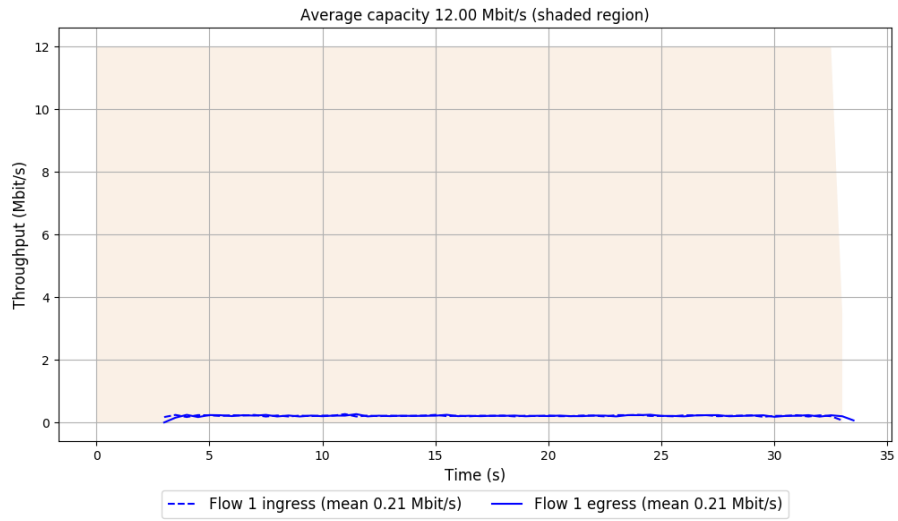
-- Flow 1:

Average throughput: 0.21 Mbit/s

95th percentile per-packet one-way delay: 31.573 ms

Loss rate: 0.13%

Run 1: Report of SCReAM — Data Link



Run 2: Statistics of SCReAM

Start at: 2019-11-24 03:32:14

End at: 2019-11-24 03:32:44

Below is generated by plot.py at 2019-11-24 03:52:36

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: 31.573 ms

Loss rate: 0.13%

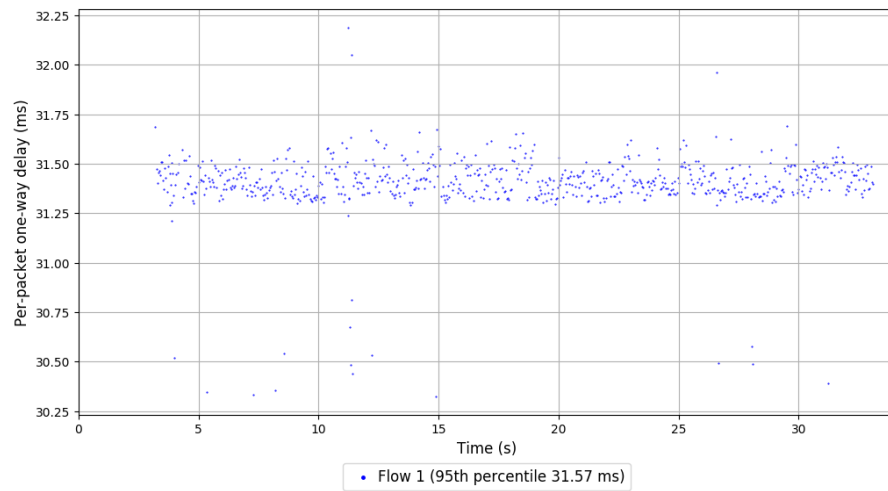
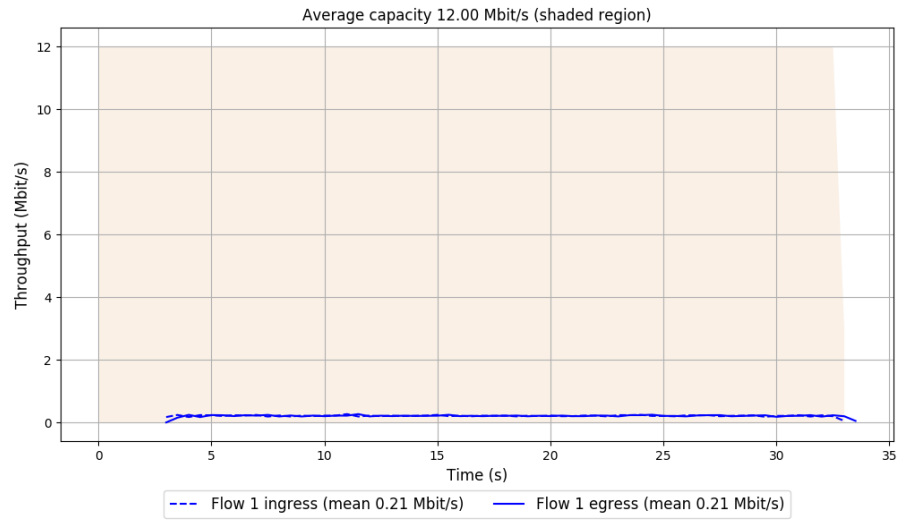
-- Flow 1:

Average throughput: 0.21 Mbit/s

95th percentile per-packet one-way delay: 31.573 ms

Loss rate: 0.13%

Run 2: Report of SCReAM — Data Link



Run 3: Statistics of SCReAM

Start at: 2019-11-24 03:46:26

End at: 2019-11-24 03:46:56

Below is generated by plot.py at 2019-11-24 03:52:36

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: 31.642 ms

Loss rate: 0.13%

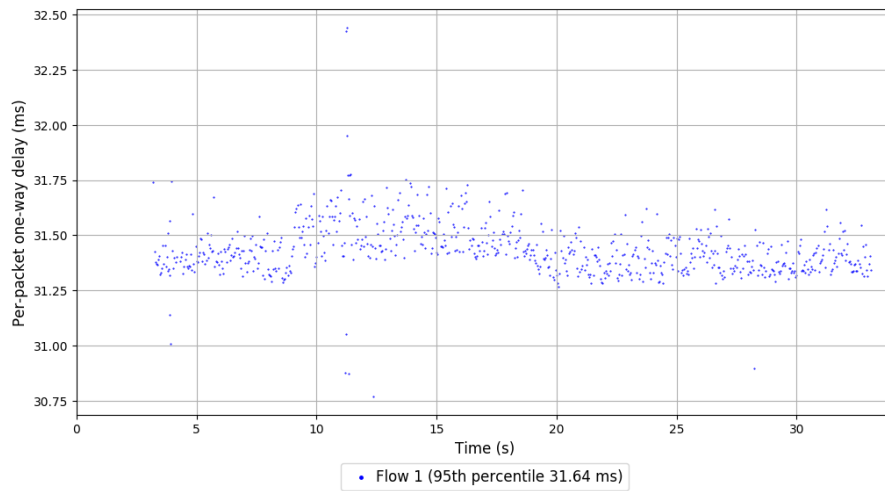
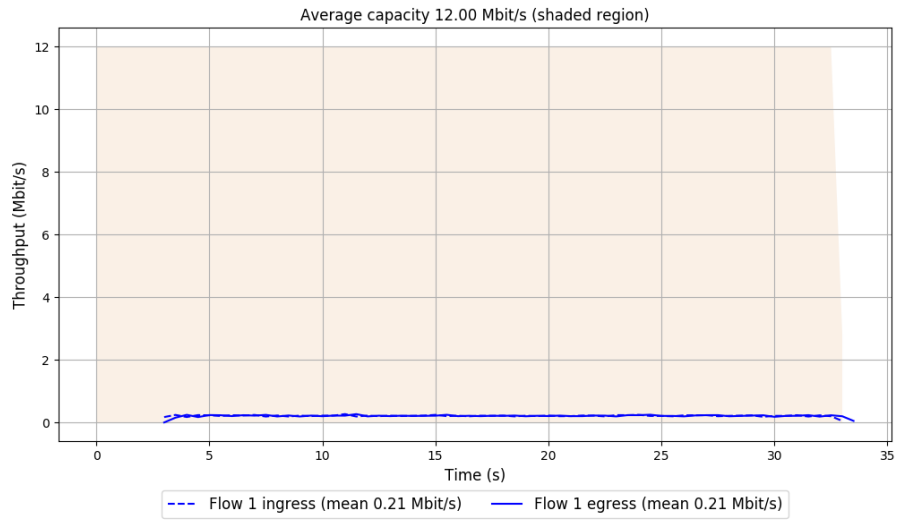
-- Flow 1:

Average throughput: 0.21 Mbit/s

95th percentile per-packet one-way delay: 31.642 ms

Loss rate: 0.13%

Run 3: Report of SCReAM — Data Link



Run 1: Statistics of Sprout

Start at: 2019-11-24 03:17:28

End at: 2019-11-24 03:17:58

Below is generated by plot.py at 2019-11-24 03:52:36

Datalink statistics

-- Total of 1 flow:

Average capacity: 12.00 Mbit/s

Average throughput: 6.38 Mbit/s (53.2% utilization)

95th percentile per-packet one-way delay: 55.606 ms

Loss rate: 0.20%

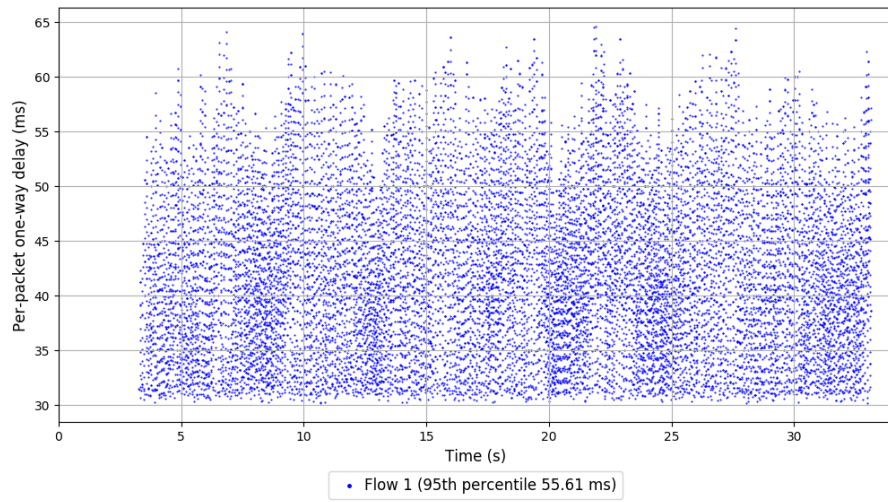
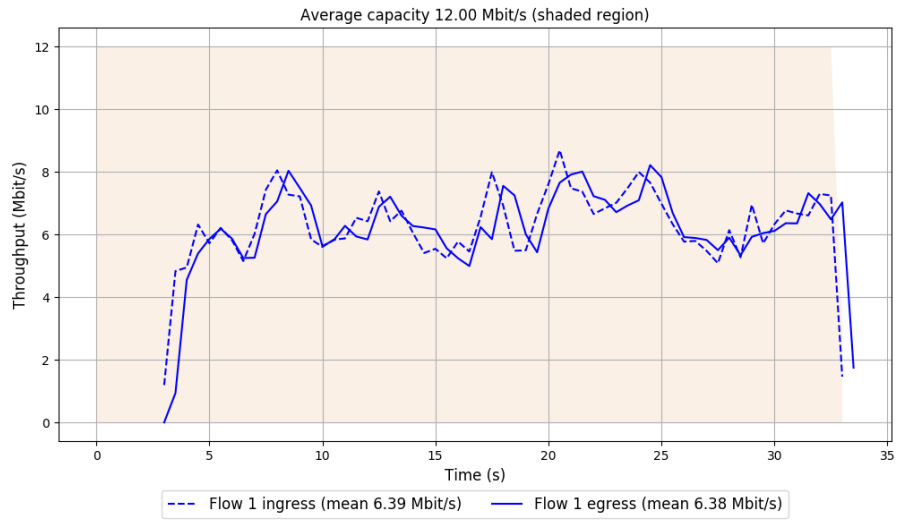
-- Flow 1:

Average throughput: 6.38 Mbit/s

95th percentile per-packet one-way delay: 55.606 ms

Loss rate: 0.20%

Run 1: Report of Sprout — Data Link



Run 2: Statistics of Sprout

Start at: 2019-11-24 03:31:39

End at: 2019-11-24 03:32:09

Below is generated by plot.py at 2019-11-24 03:52:41

Datalink statistics

-- Total of 1 flow:

Average capacity: 12.00 Mbit/s

Average throughput: 6.62 Mbit/s (55.2% utilization)

95th percentile per-packet one-way delay: 54.828 ms

Loss rate: 0.14%

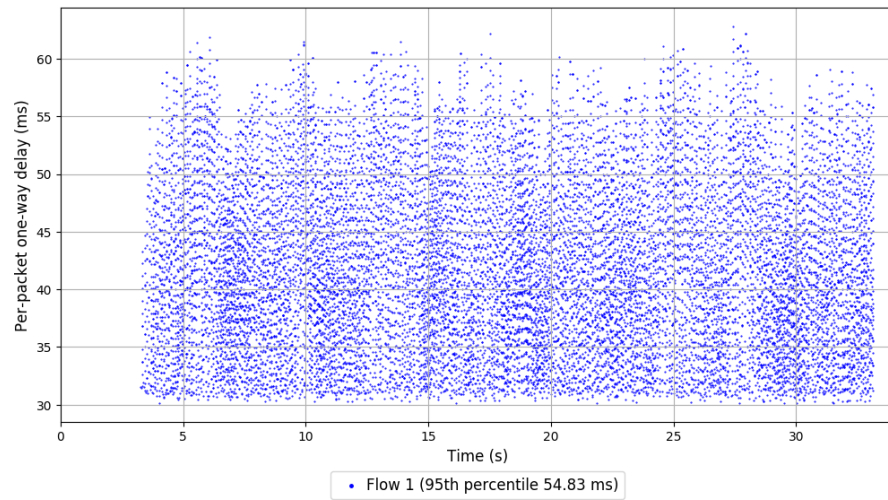
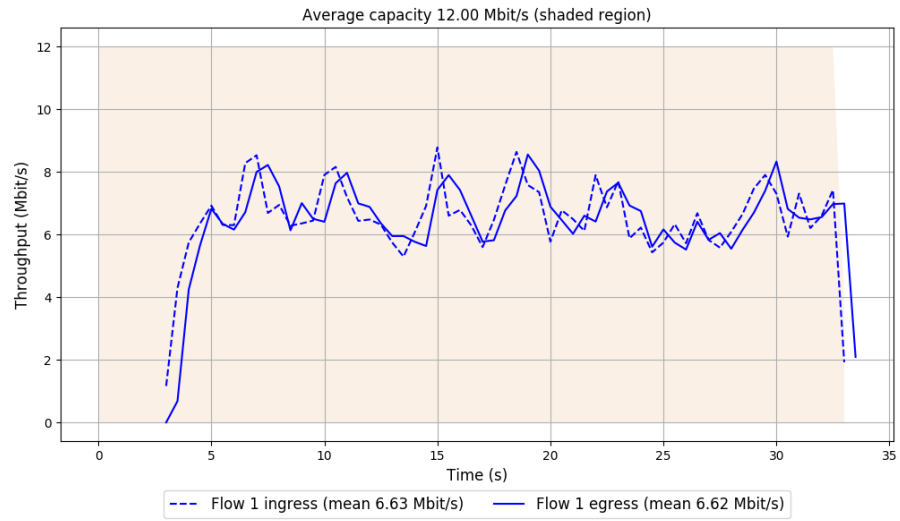
-- Flow 1:

Average throughput: 6.62 Mbit/s

95th percentile per-packet one-way delay: 54.828 ms

Loss rate: 0.14%

Run 2: Report of Sprout — Data Link



Run 3: Statistics of Sprout

Start at: 2019-11-24 03:45:51

End at: 2019-11-24 03:46:21

Below is generated by plot.py at 2019-11-24 03:52:45

Datalink statistics

-- Total of 1 flow:

Average capacity: 12.00 Mbit/s

Average throughput: 7.04 Mbit/s (58.7% utilization)

95th percentile per-packet one-way delay: 54.951 ms

Loss rate: 0.04%

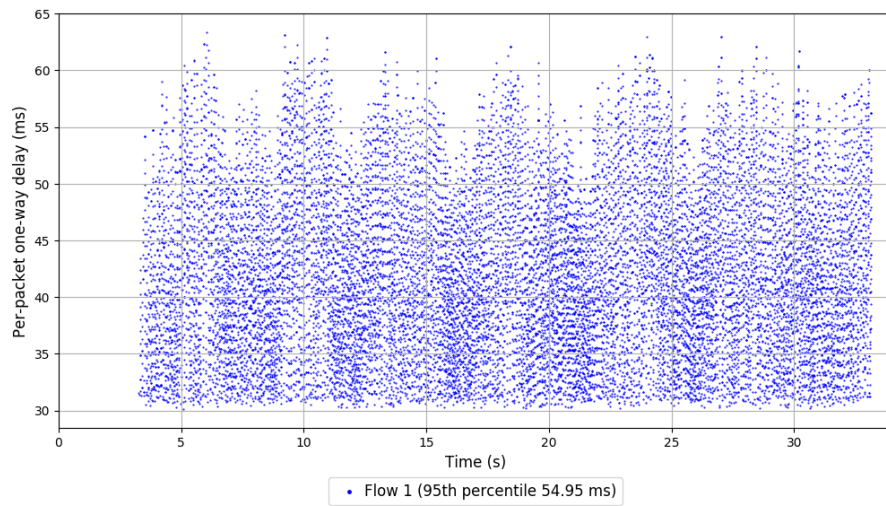
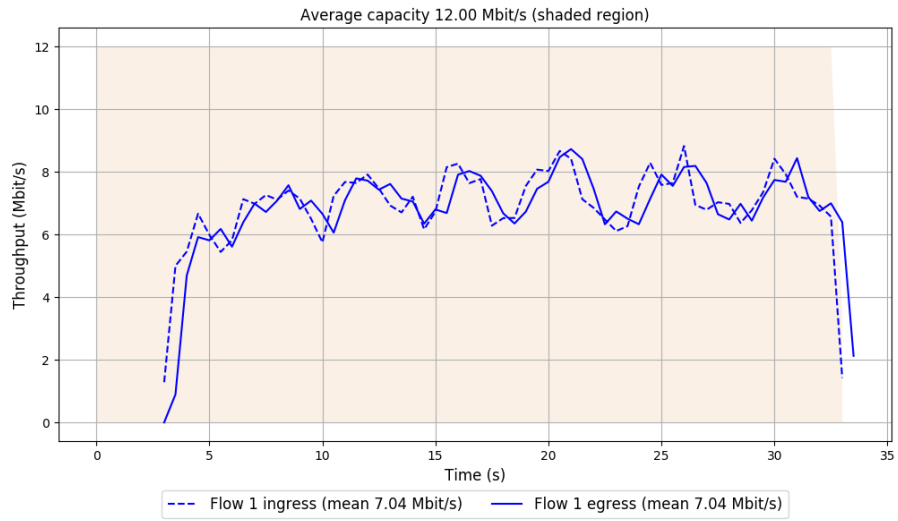
-- Flow 1:

Average throughput: 7.04 Mbit/s

95th percentile per-packet one-way delay: 54.951 ms

Loss rate: 0.04%

Run 3: Report of Sprout — Data Link



Run 1: Statistics of TaoVA-100x

Start at: 2019-11-24 03:07:24

End at: 2019-11-24 03:07:54

Below is generated by plot.py at 2019-11-24 03:53:07

Datalink statistics

-- Total of 1 flow:

Average capacity: 12.00 Mbit/s

Average throughput: 11.05 Mbit/s (92.1% utilization)

95th percentile per-packet one-way delay: 32.707 ms

Loss rate: 0.58%

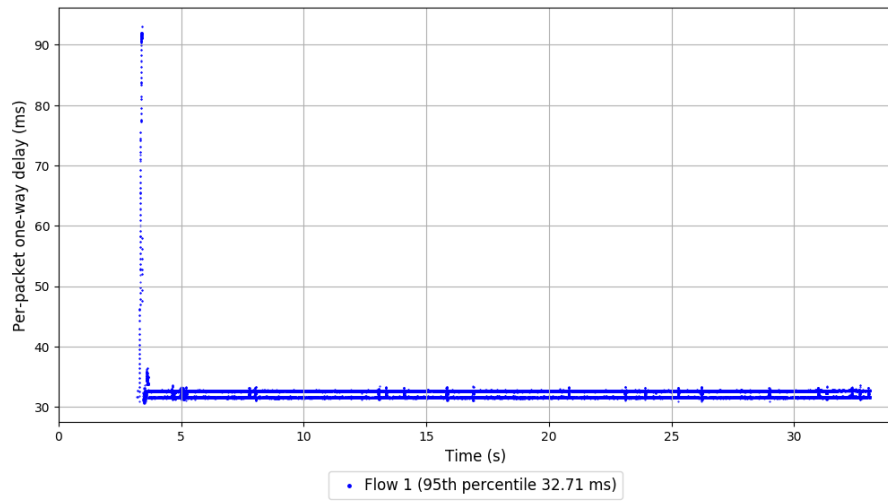
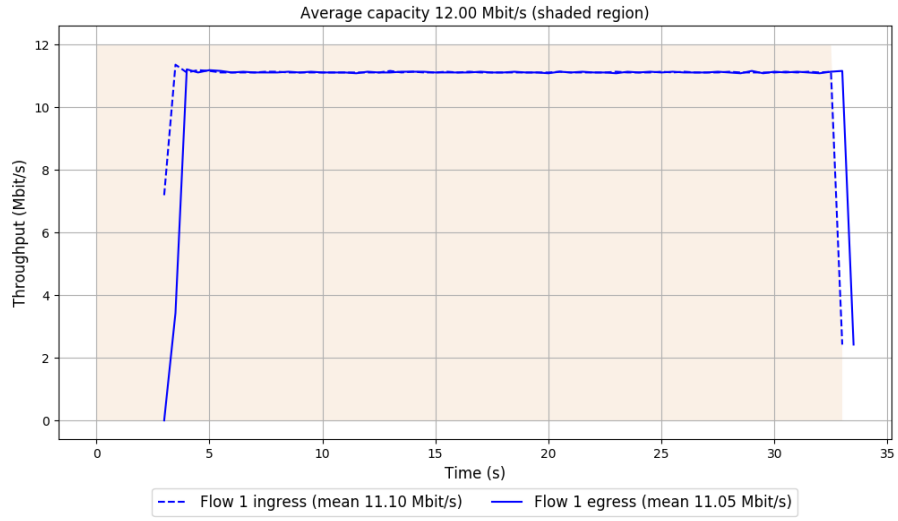
-- Flow 1:

Average throughput: 11.05 Mbit/s

95th percentile per-packet one-way delay: 32.707 ms

Loss rate: 0.58%

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



Run 2: Statistics of TaoVA-100x

Start at: 2019-11-24 03:21:36

End at: 2019-11-24 03:22:06

Below is generated by plot.py at 2019-11-24 03:53:10

Datalink statistics

-- Total of 1 flow:

Average capacity: 12.00 Mbit/s

Average throughput: 11.05 Mbit/s (92.1% utilization)

95th percentile per-packet one-way delay: 32.706 ms

Loss rate: 0.58%

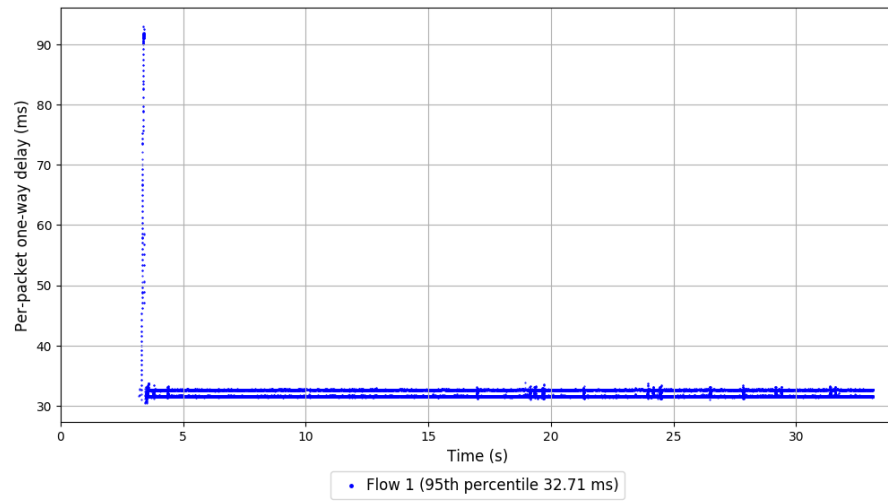
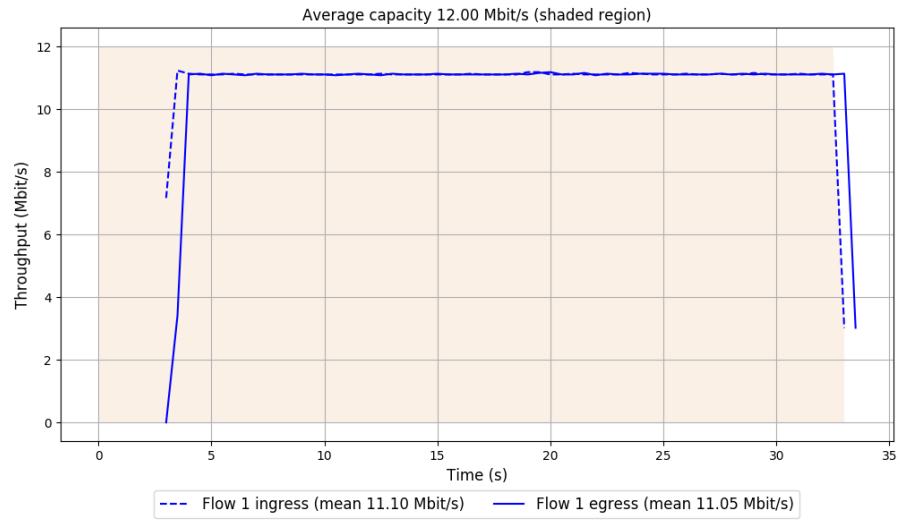
-- Flow 1:

Average throughput: 11.05 Mbit/s

95th percentile per-packet one-way delay: 32.706 ms

Loss rate: 0.58%

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



Run 3: Statistics of TaoVA-100x

Start at: 2019-11-24 03:35:47

End at: 2019-11-24 03:36:17

Below is generated by plot.py at 2019-11-24 03:53:11

Datalink statistics

-- Total of 1 flow:

Average capacity: 12.00 Mbit/s

Average throughput: 11.02 Mbit/s (91.8% utilization)

95th percentile per-packet one-way delay: 32.752 ms

Loss rate: 0.86%

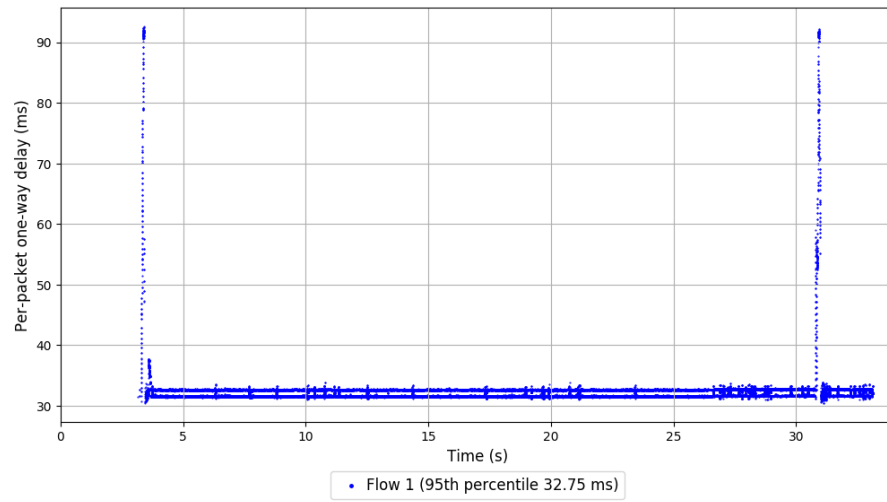
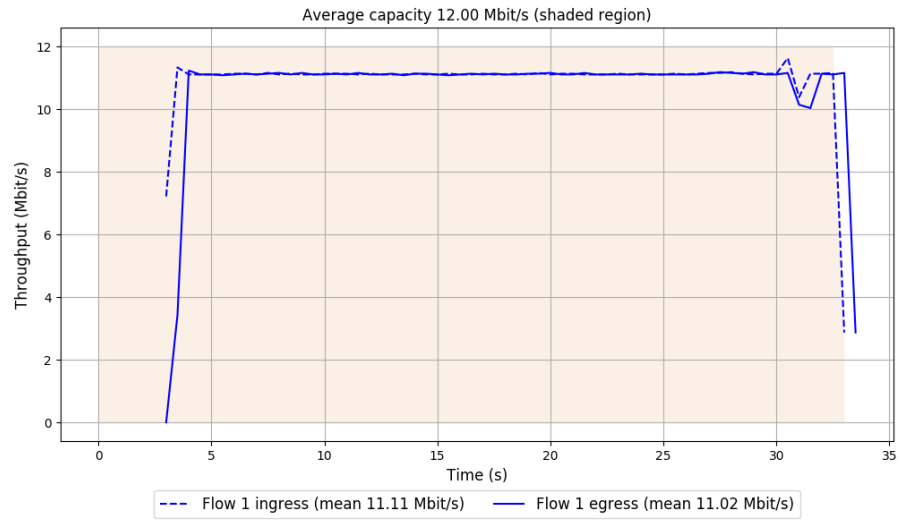
-- Flow 1:

Average throughput: 11.02 Mbit/s

95th percentile per-packet one-way delay: 32.752 ms

Loss rate: 0.86%

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



Run 1: Statistics of TCP Vegas

Start at: 2019-11-24 03:20:25

End at: 2019-11-24 03:20:55

Below is generated by plot.py at 2019-11-24 03:53:11

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: 38.671 ms

Loss rate: 0.25%

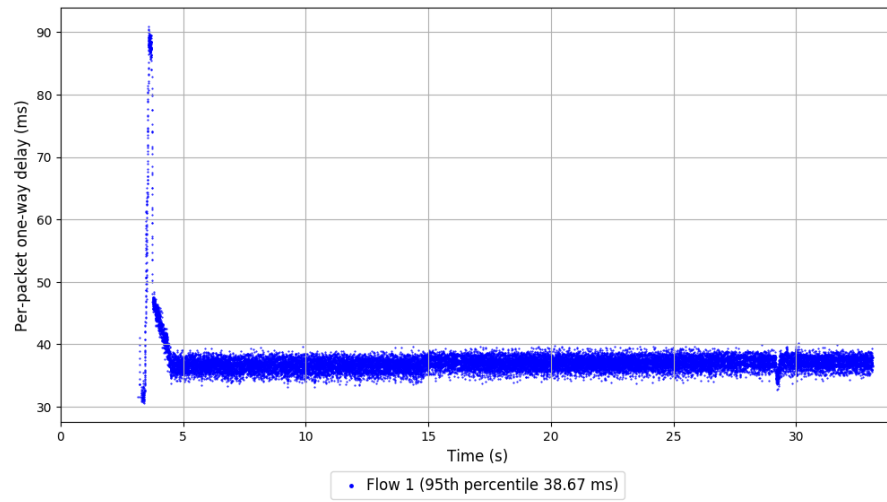
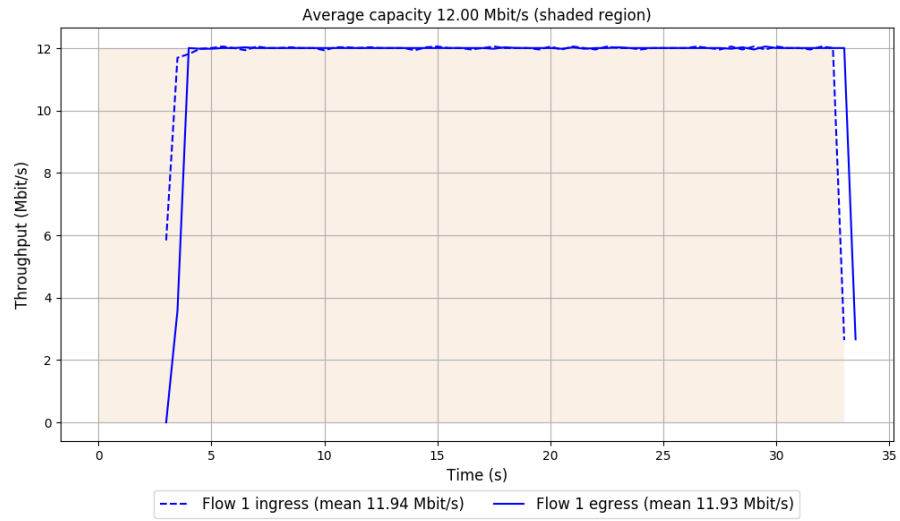
-- Flow 1:

Average throughput: 11.93 Mbit/s

95th percentile per-packet one-way delay: 38.671 ms

Loss rate: 0.25%

Run 1: Report of TCP Vegas — Data Link



Run 2: Statistics of TCP Vegas

Start at: 2019-11-24 03:34:36

End at: 2019-11-24 03:35:06

Below is generated by plot.py at 2019-11-24 03:53:11

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: 37.627 ms

Loss rate: 0.56%

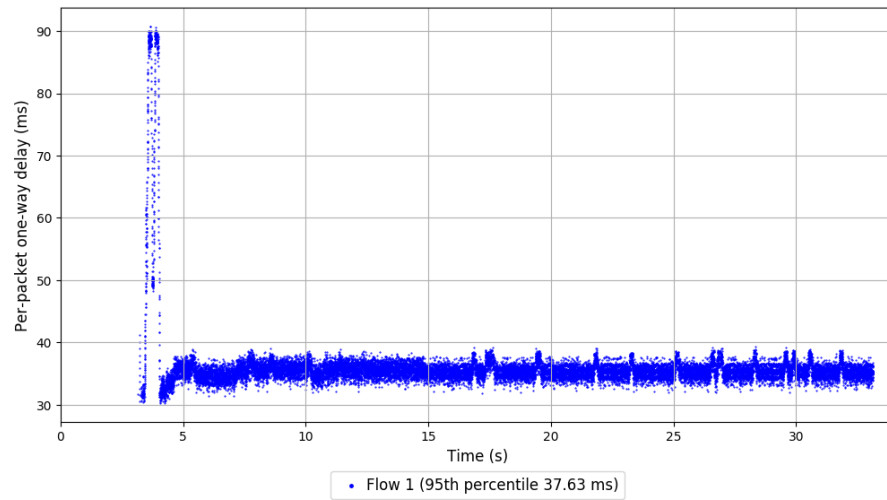
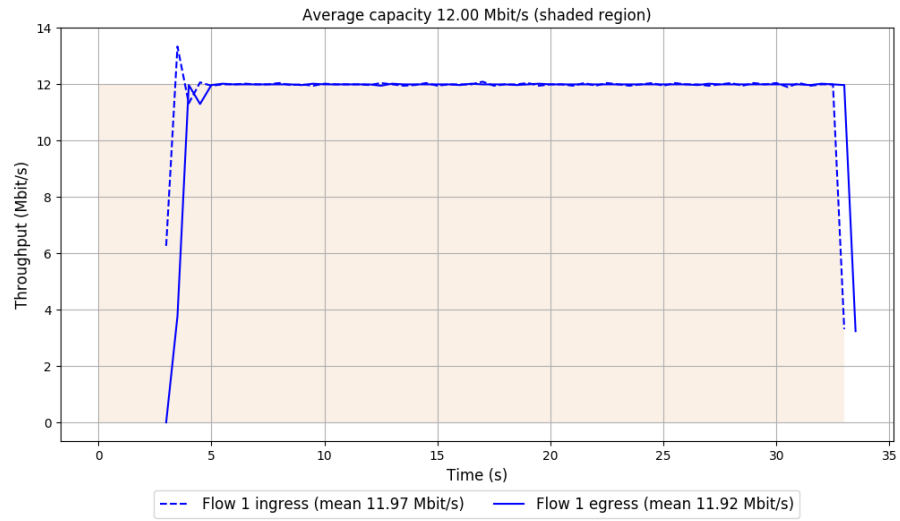
-- Flow 1:

Average throughput: 11.92 Mbit/s

95th percentile per-packet one-way delay: 37.627 ms

Loss rate: 0.56%

Run 2: Report of TCP Vegas — Data Link



Run 3: Statistics of TCP Vegas

Start at: 2019-11-24 03:48:48

End at: 2019-11-24 03:49:18

Below is generated by plot.py at 2019-11-24 03:53:11

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: 38.199 ms

Loss rate: 0.25%

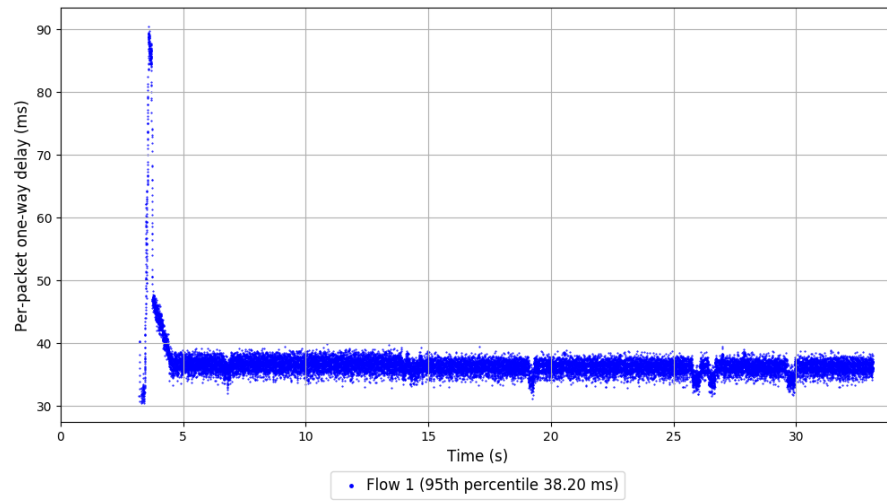
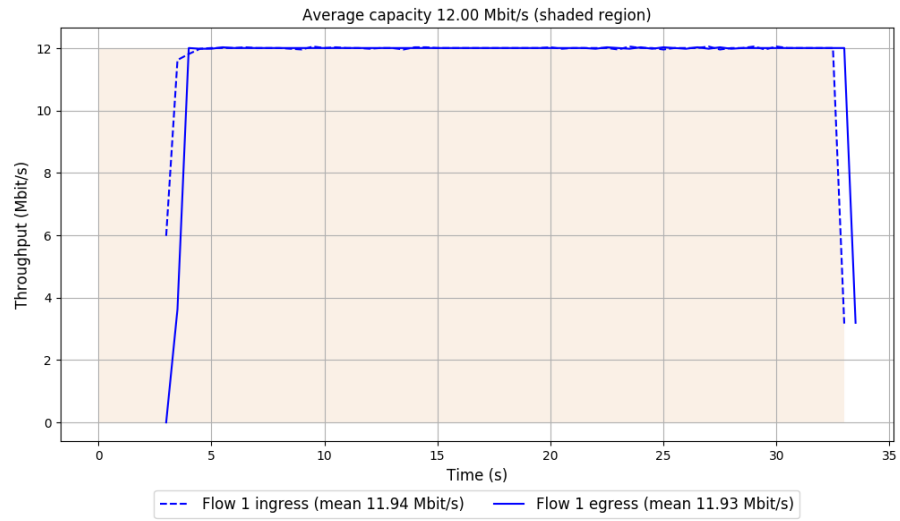
-- Flow 1:

Average throughput: 11.93 Mbit/s

95th percentile per-packet one-way delay: 38.199 ms

Loss rate: 0.25%

Run 3: Report of TCP Vegas — Data Link



Run 1: Statistics of Verus

Start at: 2019-11-24 03:12:09

End at: 2019-11-24 03:12:39

Below is generated by plot.py at 2019-11-24 03:53:11

Datalink statistics

-- Total of 1 flow:

Average capacity: 12.00 Mbit/s

Average throughput: 11.21 Mbit/s (93.4% utilization)

95th percentile per-packet one-way delay: 86.935 ms

Loss rate: 10.62%

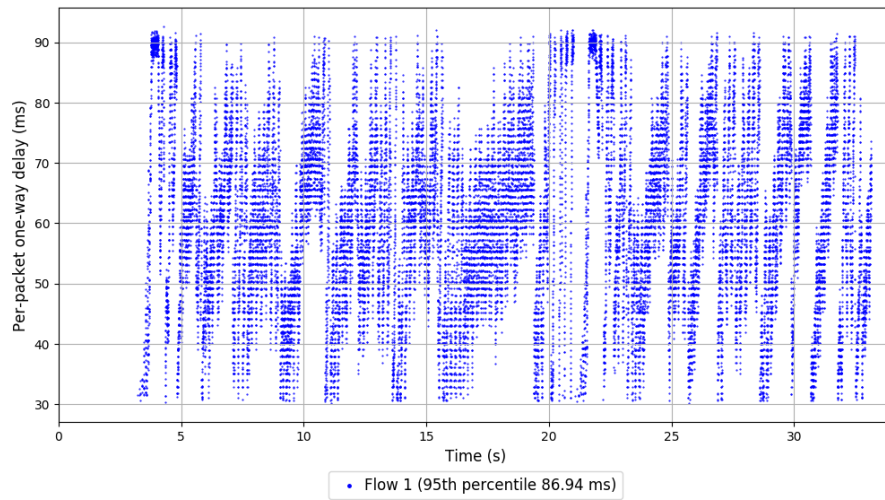
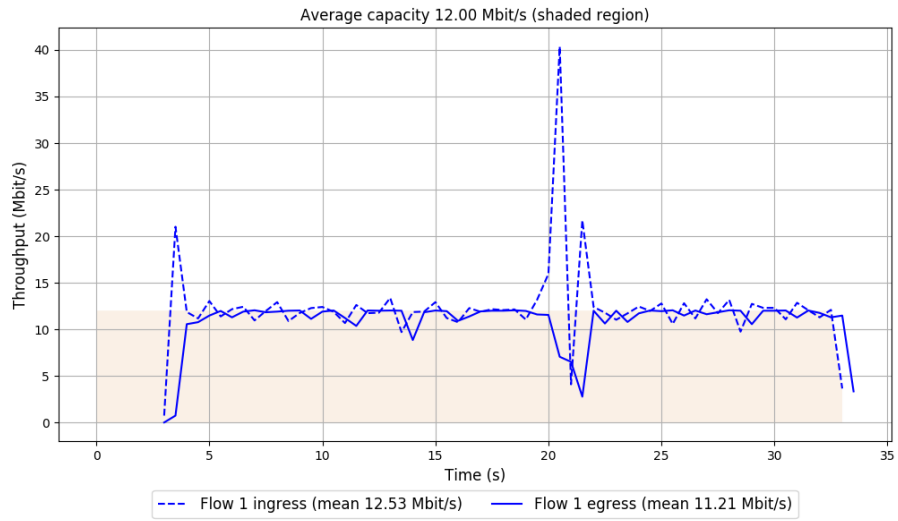
-- Flow 1:

Average throughput: 11.21 Mbit/s

95th percentile per-packet one-way delay: 86.935 ms

Loss rate: 10.62%

Run 1: Report of Verus — Data Link



Run 2: Statistics of Verus

Start at: 2019-11-24 03:26:20

End at: 2019-11-24 03:26:50

Below is generated by plot.py at 2019-11-24 03:53:11

Datalink statistics

-- Total of 1 flow:

Average capacity: 12.00 Mbit/s

Average throughput: 10.95 Mbit/s (91.2% utilization)

95th percentile per-packet one-way delay: 88.124 ms

Loss rate: 10.42%

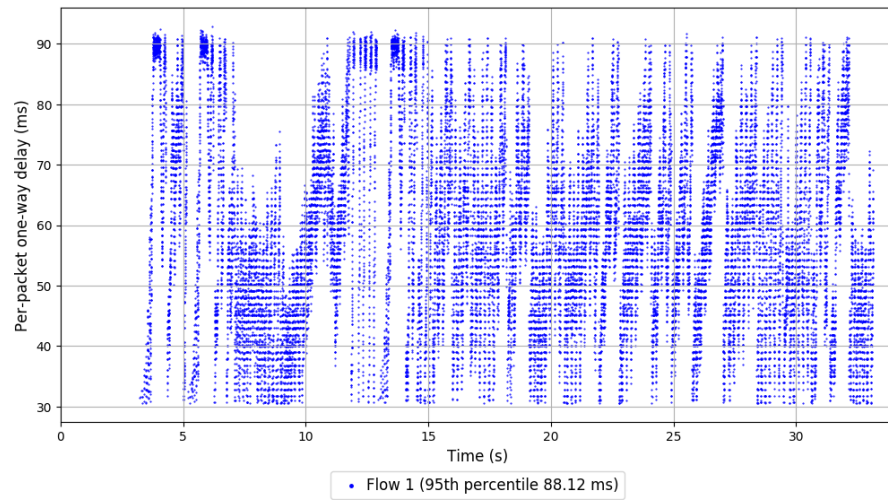
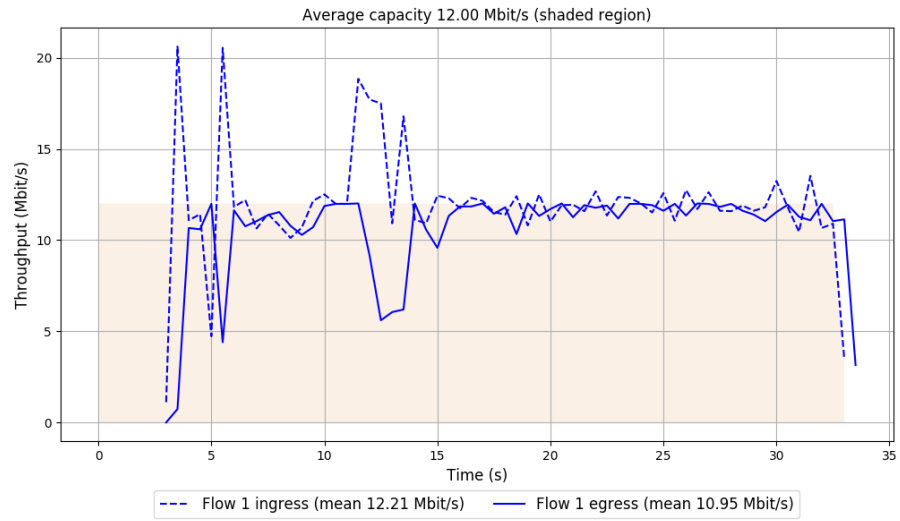
-- Flow 1:

Average throughput: 10.95 Mbit/s

95th percentile per-packet one-way delay: 88.124 ms

Loss rate: 10.42%

Run 2: Report of Verus — Data Link



Run 3: Statistics of Verus

Start at: 2019-11-24 03:40:31

End at: 2019-11-24 03:41:01

Below is generated by plot.py at 2019-11-24 03:53:20

Datalink statistics

-- Total of 1 flow:

Average capacity: 12.00 Mbit/s

Average throughput: 11.39 Mbit/s (94.9% utilization)

95th percentile per-packet one-way delay: 86.009 ms

Loss rate: 4.74%

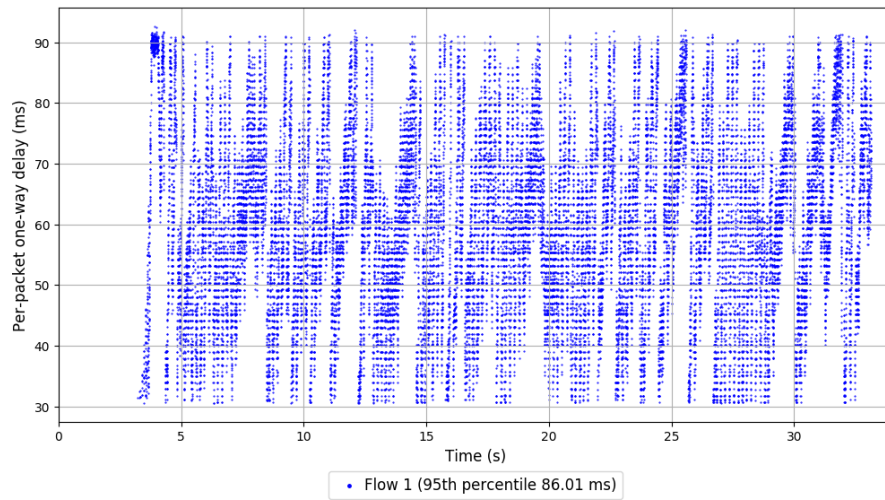
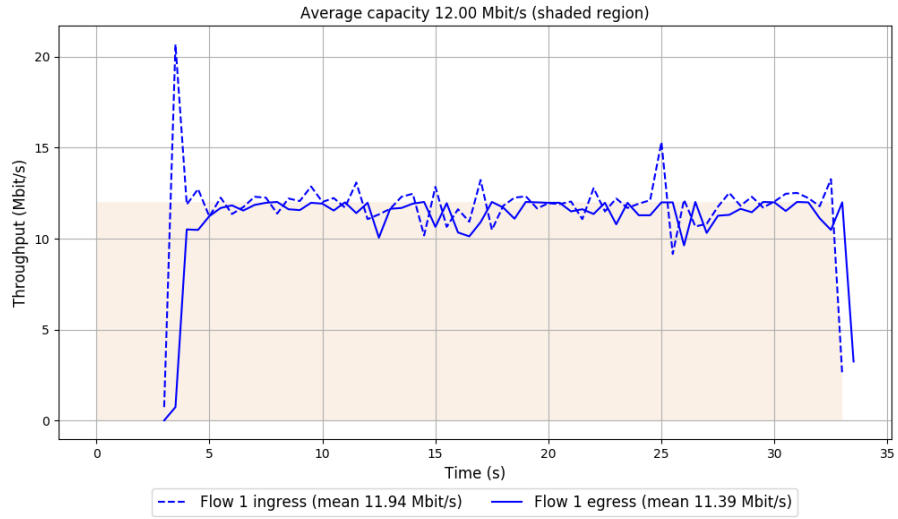
-- Flow 1:

Average throughput: 11.39 Mbit/s

95th percentile per-packet one-way delay: 86.009 ms

Loss rate: 4.74%

Run 3: Report of Verus — Data Link



Run 1: Statistics of PCC-Vivace

Start at: 2019-11-24 03:09:46

End at: 2019-11-24 03:10:16

Below is generated by plot.py at 2019-11-24 03:53:21

Datalink statistics

-- Total of 1 flow:

Average capacity: 12.00 Mbit/s

Average throughput: 10.95 Mbit/s (91.2% utilization)

95th percentile per-packet one-way delay: 37.864 ms

Loss rate: 0.11%

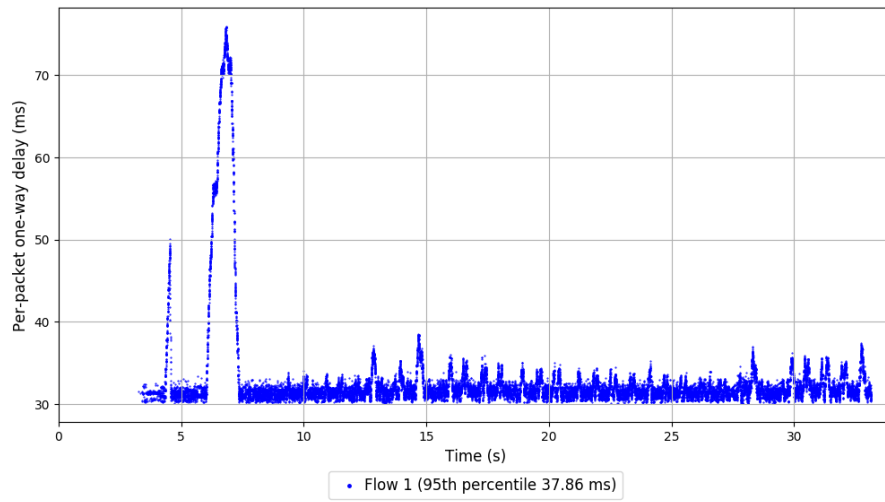
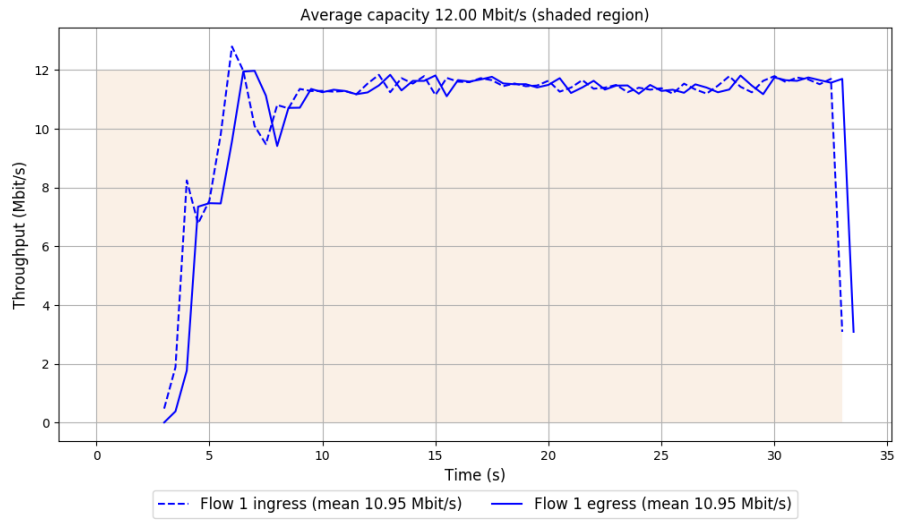
-- Flow 1:

Average throughput: 10.95 Mbit/s

95th percentile per-packet one-way delay: 37.864 ms

Loss rate: 0.11%

Run 1: Report of PCC-Vivace — Data Link



Run 2: Statistics of PCC-Vivace

Start at: 2019-11-24 03:23:57

End at: 2019-11-24 03:24:27

Below is generated by plot.py at 2019-11-24 03:53:21

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: 37.593 ms

Loss rate: 0.13%

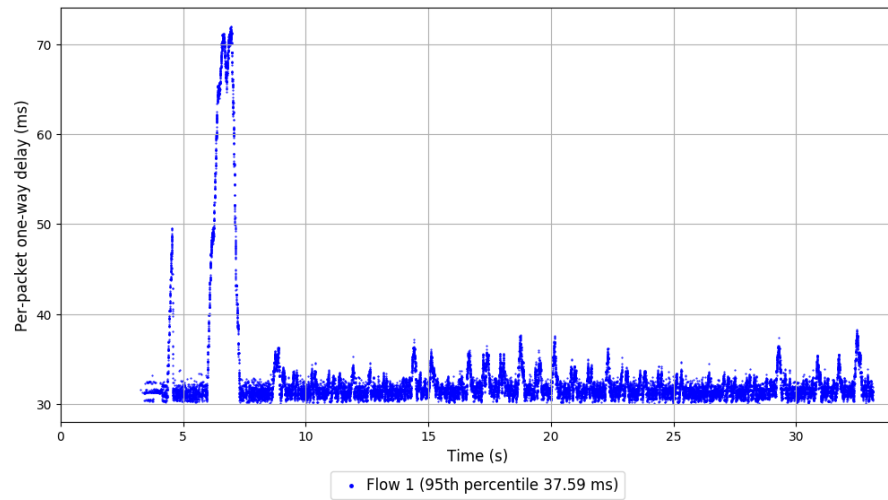
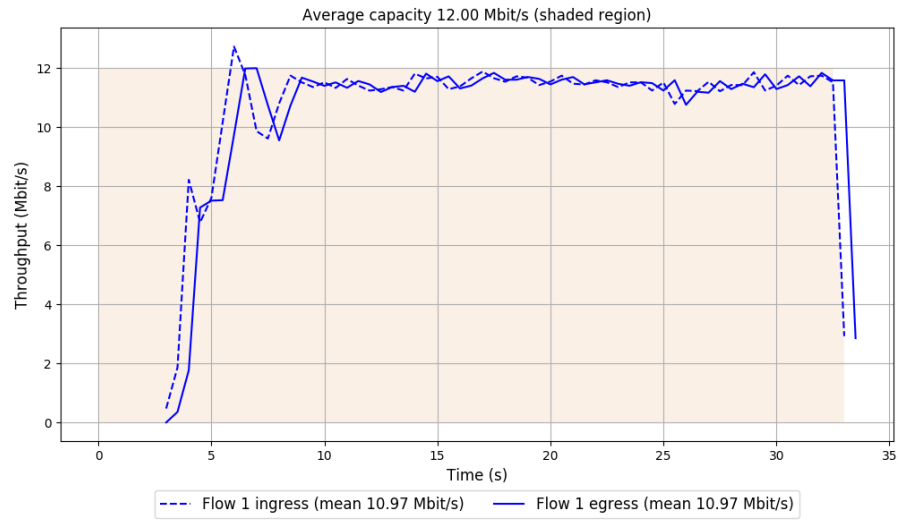
-- Flow 1:

Average throughput: 10.97 Mbit/s

95th percentile per-packet one-way delay: 37.593 ms

Loss rate: 0.13%

Run 2: Report of PCC-Vivace — Data Link



Run 3: Statistics of PCC-Vivace

Start at: 2019-11-24 03:38:09

End at: 2019-11-24 03:38:39

Below is generated by plot.py at 2019-11-24 03:53:22

Datalink statistics

-- Total of 1 flow:

Average capacity: 12.00 Mbit/s

Average throughput: 10.95 Mbit/s (91.3% utilization)

95th percentile per-packet one-way delay: 37.471 ms

Loss rate: 0.11%

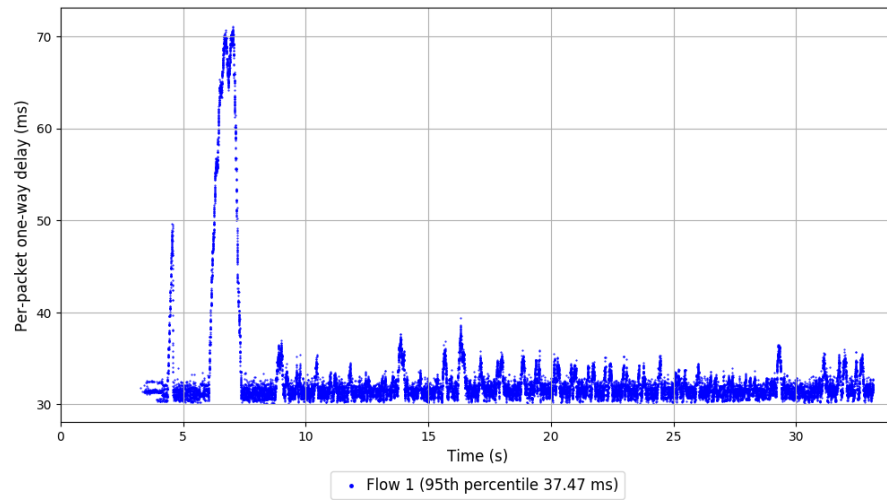
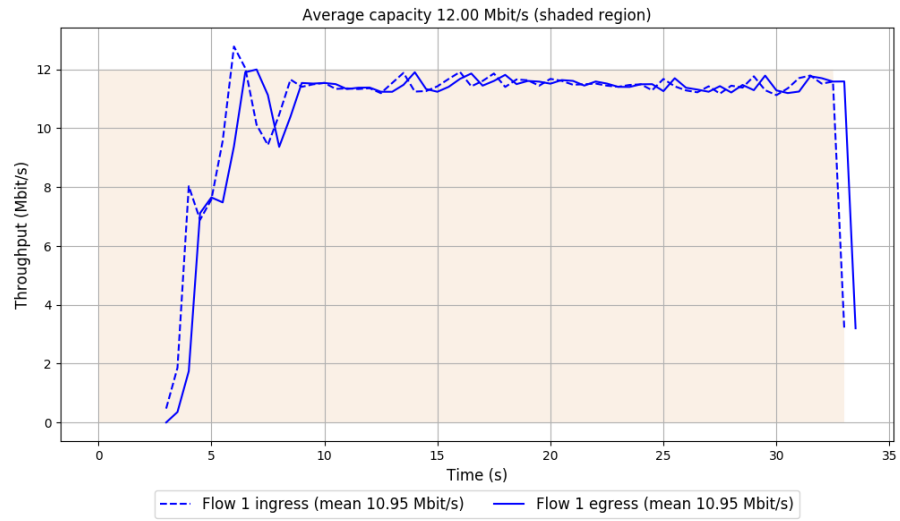
-- Flow 1:

Average throughput: 10.95 Mbit/s

95th percentile per-packet one-way delay: 37.471 ms

Loss rate: 0.11%

Run 3: Report of PCC-Vivace — Data Link



Run 1: Statistics of WebRTC media

Start at: 2019-11-24 03:08:36

End at: 2019-11-24 03:09:06

Below is generated by plot.py at 2019-11-24 03:53:22

Datalink statistics

-- Total of 1 flow:

Average capacity: 12.00 Mbit/s

Average throughput: 0.05 Mbit/s (0.4% utilization)

95th percentile per-packet one-way delay: 40.244 ms

Loss rate: 0.00%

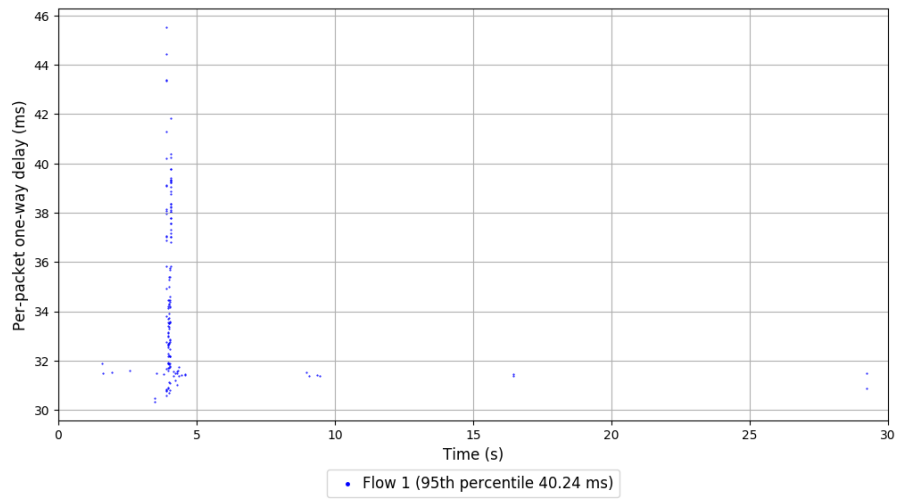
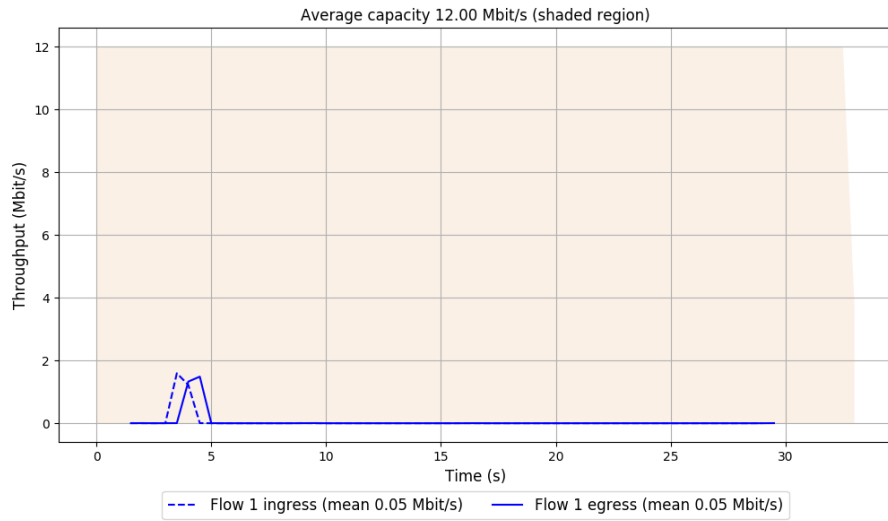
-- Flow 1:

Average throughput: 0.05 Mbit/s

95th percentile per-packet one-way delay: 40.244 ms

Loss rate: 0.00%

Run 1: Report of WebRTC media — Data Link



Run 2: Statistics of WebRTC media

Start at: 2019-11-24 03:22:47

End at: 2019-11-24 03:23:17

Below is generated by plot.py at 2019-11-24 03:53:22

Datalink statistics

-- Total of 1 flow:

Average capacity: 12.00 Mbit/s

Average throughput: 0.05 Mbit/s (0.4% utilization)

95th percentile per-packet one-way delay: 42.110 ms

Loss rate: 0.00%

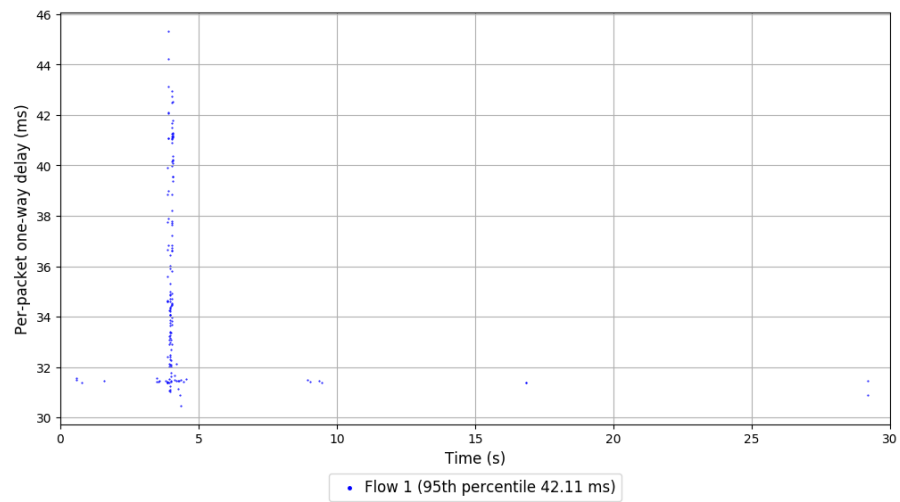
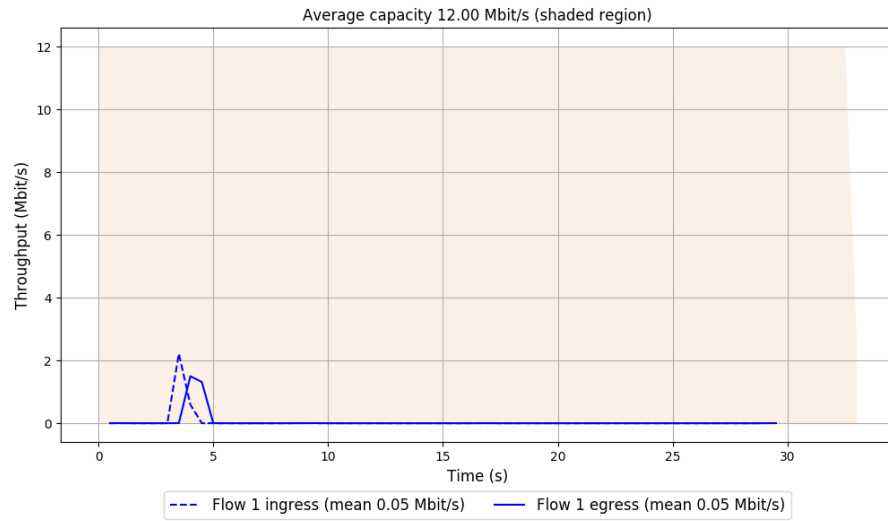
-- Flow 1:

Average throughput: 0.05 Mbit/s

95th percentile per-packet one-way delay: 42.110 ms

Loss rate: 0.00%

Run 2: Report of WebRTC media — Data Link



Run 3: Statistics of WebRTC media

Start at: 2019-11-24 03:36:58

End at: 2019-11-24 03:37:28

Below is generated by plot.py at 2019-11-24 03:53:22

Datalink statistics

-- Total of 1 flow:

Average capacity: 12.00 Mbit/s

Average throughput: 0.06 Mbit/s (0.5% utilization)

95th percentile per-packet one-way delay: 39.893 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 0.06 Mbit/s

95th percentile per-packet one-way delay: 39.893 ms

Loss rate: 0.00%

Run 3: Report of WebRTC media — Data Link

