

Pantheon Report

Generated at 2017-09-18 10:25:27 (UTC).

Data path: AWS Korea Ethernet (*local*) →China Ethernet (*remote*).

Repeated the test of 10 congestion control schemes 10 times.

Each test lasted for 30 seconds running 1 flow.

Increased UDP receive buffer to 16 MB (default) and 32 MB (max).

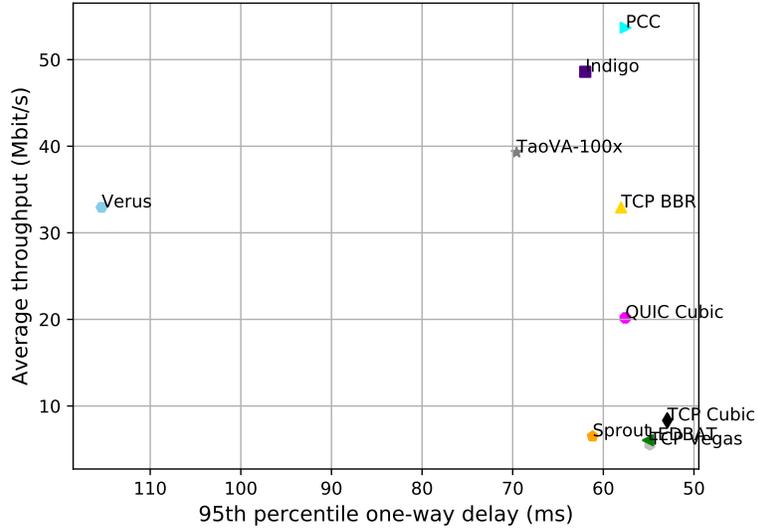
Tested BBR with qdisc of Fair Queuing (*fq*), and other schemes with the default Linux qdisc (*pfifo_fast*).

NTP offsets were measured against `ntp.nict.jp` and have been applied to correct the timestamps in logs.

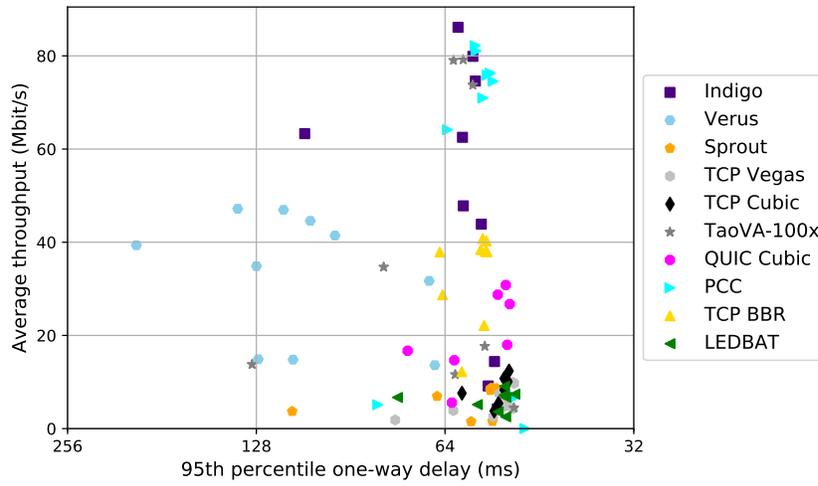
Git summary:

```
branch: master @ 57453dc11f8da93a2e03eea75289fea01b816298
third_party/calibrated_koho @ 3cb73c0d1c0322cdfae446ea37a522e53227db50
  M datagrump/sender.cc
third_party/genericCC @ f7ca42f251bf49b432bb71de6d13fa903515c366
third_party/indigo @ b19f3730105f9aa95452552af924e3719b03cc55
third_party/koho_cc @ f0f2e693303aee82ea808e6928eac4f1083a6681
  M datagrump/sender.cc
third_party/libutp @ b3465b942e2826f2b179eaab4a906ce6bb7cf3cf
third_party/pantheon-tunnel @ baf443516dea3eeddeccaf9b916cc313273ca4f4
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/proto-quick @ 77961f1a82733a86b42f1bc8143ebc978f3cff42
third_party/scream @ c3370fd7bd17265a79aeb34e4016ad23f5965885
third_party/sourdough @ f1a14bffe749737437f61b1eaeeb30b267cde681
third_party/sprout @ 6f2efe6e088d91066a9f023df375eee2665089ce
  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/webrtc @ a488197ddd041ace68a42849b2540ad834825f42
```

test from AWS Korea Ethernet to China Ethernet, 10 runs of 30s each per scheme
(mean of all runs by scheme)



test from AWS Korea Ethernet to China Ethernet, 10 runs of 30s each per scheme



scheme	# runs	mean avg tput (Mbit/s)	mean 95th-%ile delay (ms)	mean loss rate (%)
		flow 1	flow 1	flow 1
TCP BBR	9	32.93	58.04	29.17
TCP Cubic	7	8.33	52.94	1.01
Indigo	10	48.59	61.99	7.82
LEDBAT	8	6.05	55.08	0.39
PCC	10	53.69	57.53	0.77
QUIC Cubic	7	20.17	57.58	0.78
Sprout	10	6.50	61.19	2.35
TaoVA-100x	8	39.28	69.58	3.22
TCP Vegas	10	5.55	54.87	0.69
Verus	10	32.94	115.36	75.36

Run 1: Statistics of TCP BBR

Start at: 2017-09-18 07:51:32

End at: 2017-09-18 07:52:02

Local clock offset: 0.871 ms

Remote clock offset: 0.334 ms

Below is generated by plot.py at 2017-09-18 10:19:39

Datalink statistics

-- Total of 1 flow:

Average throughput: 37.89 Mbit/s

95th percentile per-packet one-way delay: 65.248 ms

Loss rate: 29.75%

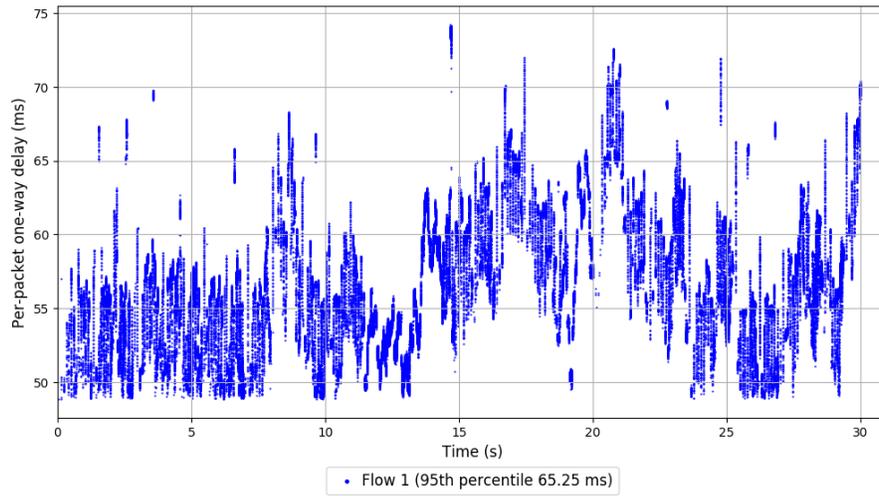
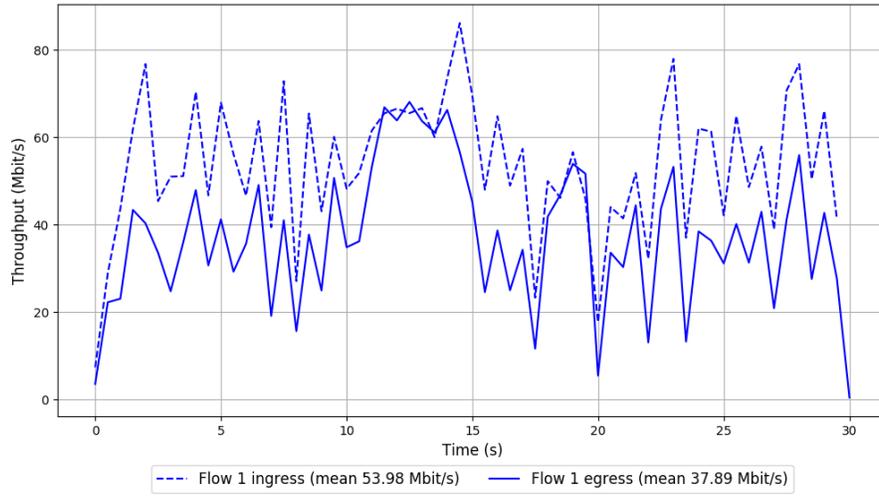
-- Flow 1:

Average throughput: 37.89 Mbit/s

95th percentile per-packet one-way delay: 65.248 ms

Loss rate: 29.75%

Run 1: Report of TCP BBR — Data Link



Run 2: Statistics of TCP BBR

Start at: 2017-09-18 08:04:31

End at: 2017-09-18 08:05:01

Local clock offset: 0.519 ms

Remote clock offset: 0.288 ms

Below is generated by plot.py at 2017-09-18 10:19:39

Datalink statistics

-- Total of 1 flow:

Average throughput: 28.71 Mbit/s

95th percentile per-packet one-way delay: 64.578 ms

Loss rate: 26.37%

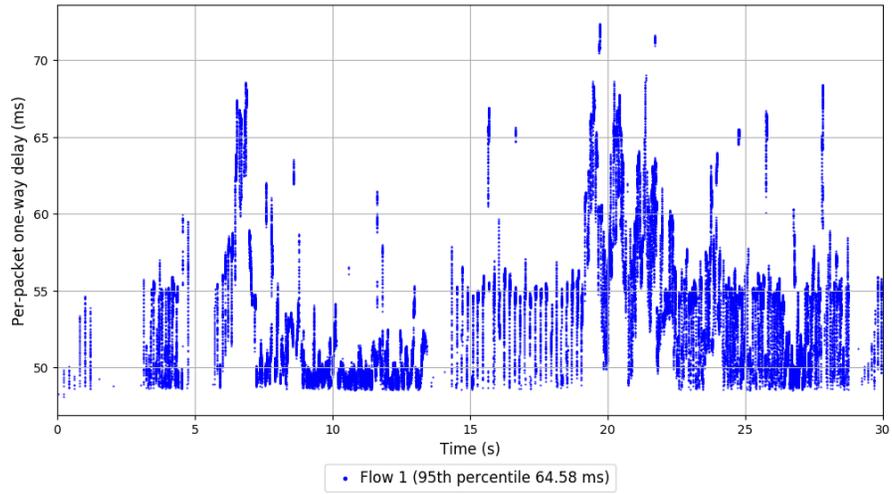
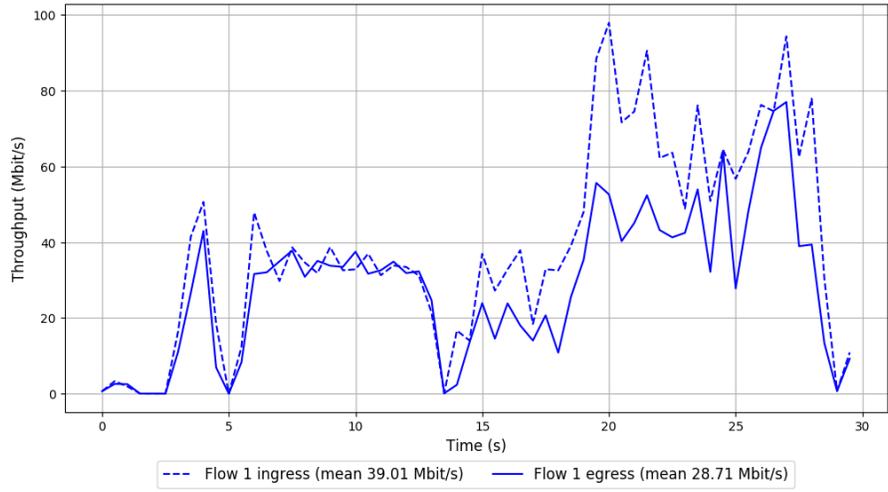
-- Flow 1:

Average throughput: 28.71 Mbit/s

95th percentile per-packet one-way delay: 64.578 ms

Loss rate: 26.37%

Run 2: Report of TCP BBR — Data Link



Run 3: Statistics of TCP BBR

Start at: 2017-09-18 08:21:25

End at: 2017-09-18 08:21:55

Local clock offset: 0.171 ms

Remote clock offset: 0.354 ms

Below is generated by plot.py at 2017-09-18 10:19:39

Datalink statistics

-- Total of 1 flow:

Average throughput: 12.21 Mbit/s

95th percentile per-packet one-way delay: 60.184 ms

Loss rate: 27.78%

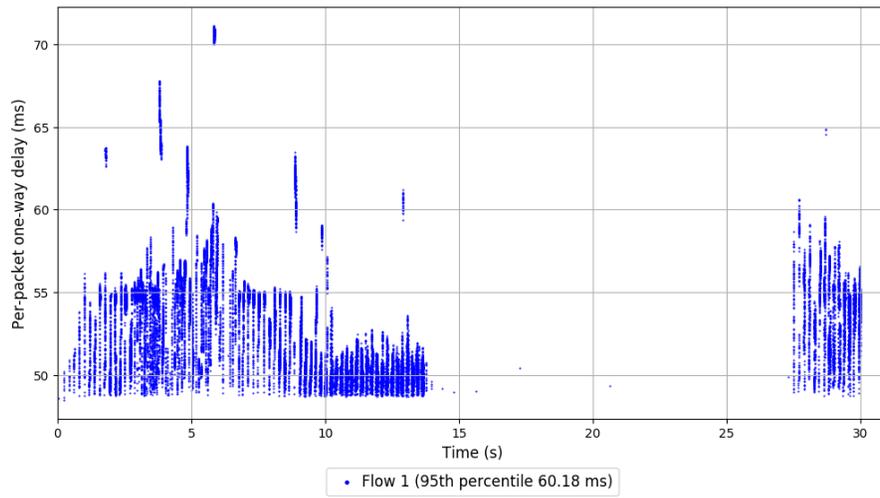
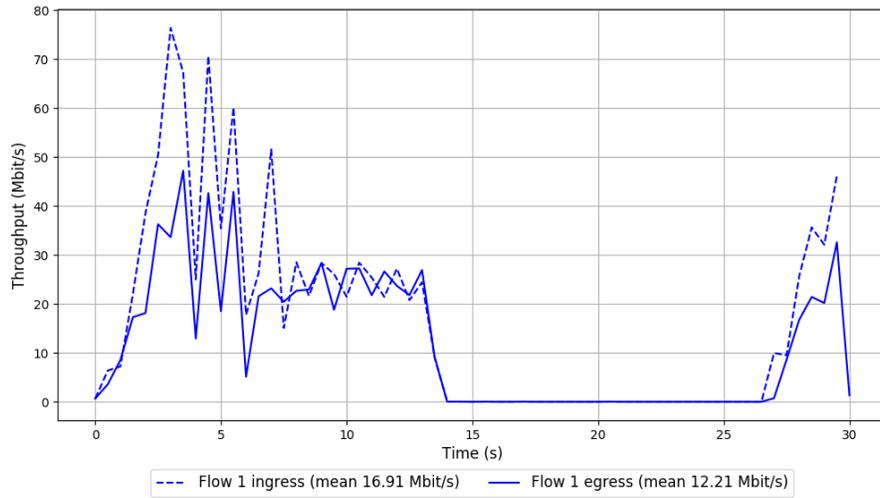
-- Flow 1:

Average throughput: 12.21 Mbit/s

95th percentile per-packet one-way delay: 60.184 ms

Loss rate: 27.78%

Run 3: Report of TCP BBR — Data Link



Run 4: Statistics of TCP BBR

Start at: 2017-09-18 08:41:29

End at: 2017-09-18 08:41:59

Local clock offset: -0.457 ms

Remote clock offset: 0.122 ms

Below is generated by plot.py at 2017-09-18 10:19:39

Datalink statistics

-- Total of 1 flow:

Average throughput: 22.13 Mbit/s

95th percentile per-packet one-way delay: 55.449 ms

Loss rate: 28.37%

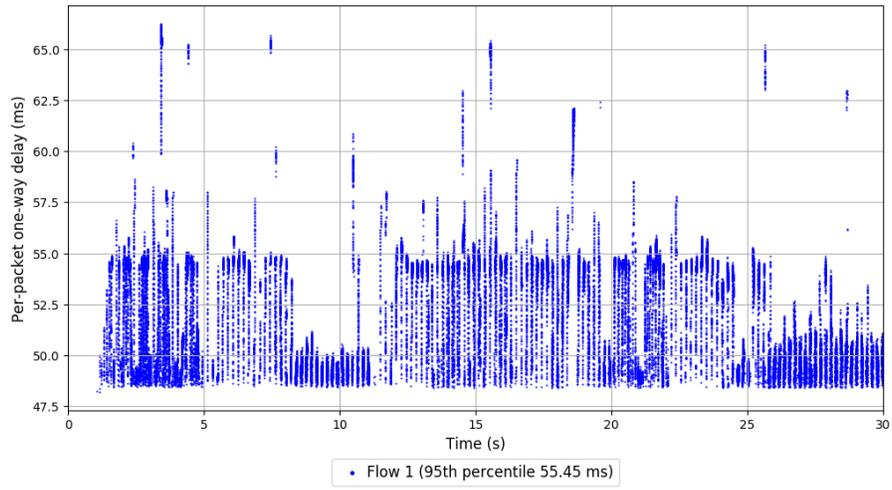
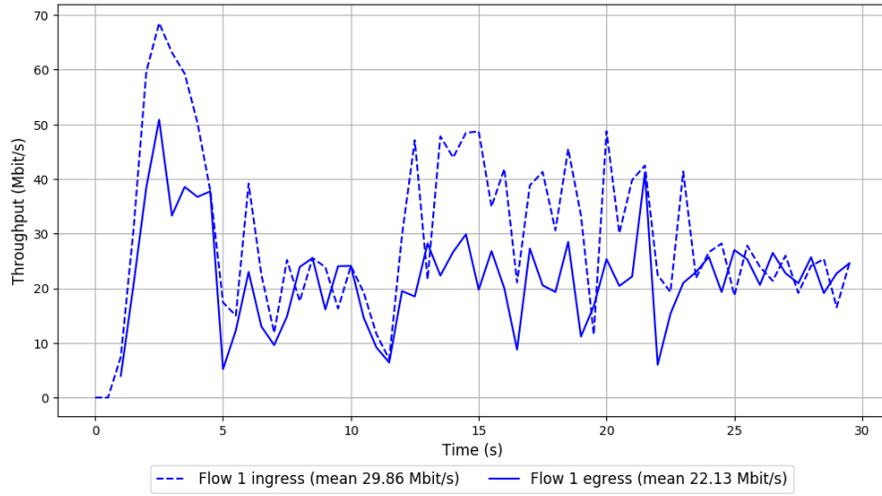
-- Flow 1:

Average throughput: 22.13 Mbit/s

95th percentile per-packet one-way delay: 55.449 ms

Loss rate: 28.37%

Run 4: Report of TCP BBR — Data Link



Run 5: Statistics of TCP BBR

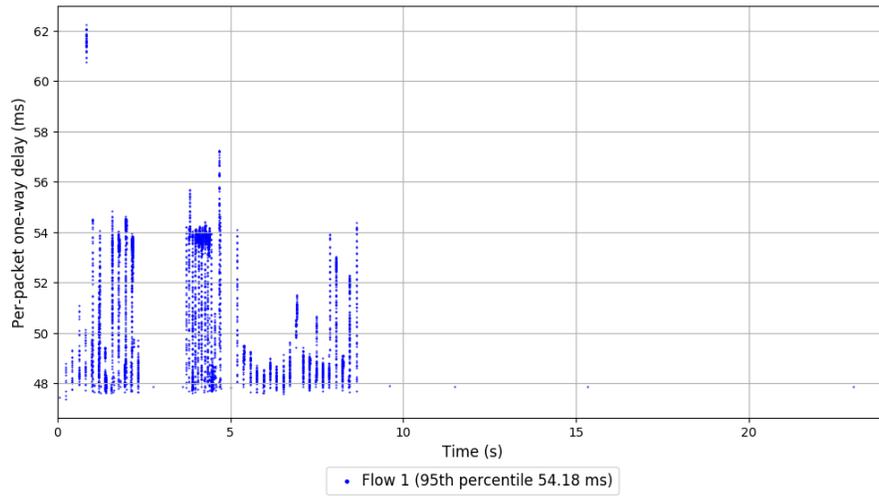
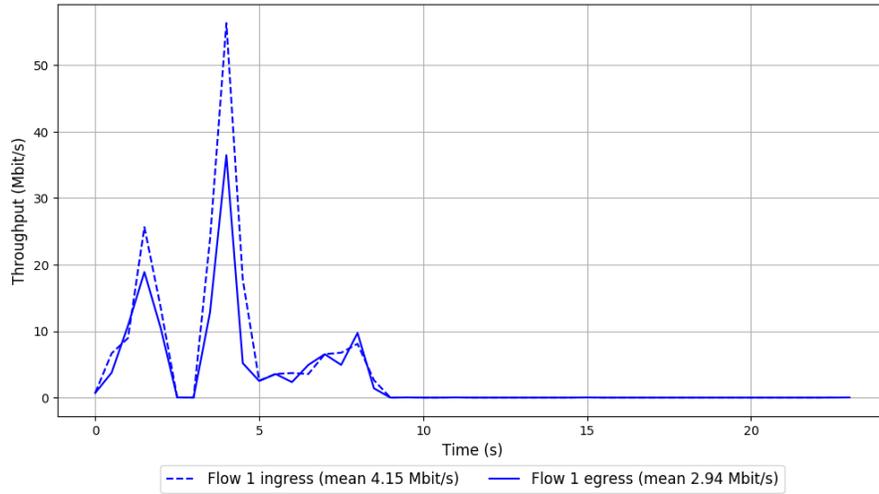
Start at: 2017-09-18 08:58:05

End at: 2017-09-18 08:58:35

Local clock offset: 0.393 ms

Remote clock offset: -0.001 ms

Run 5: Report of TCP BBR — Data Link



Run 6: Statistics of TCP BBR

Start at: 2017-09-18 09:11:08

End at: 2017-09-18 09:11:38

Local clock offset: -0.839 ms

Remote clock offset: -0.197 ms

Below is generated by plot.py at 2017-09-18 10:19:39

Datalink statistics

-- Total of 1 flow:

Average throughput: 37.98 Mbit/s

95th percentile per-packet one-way delay: 55.182 ms

Loss rate: 21.10%

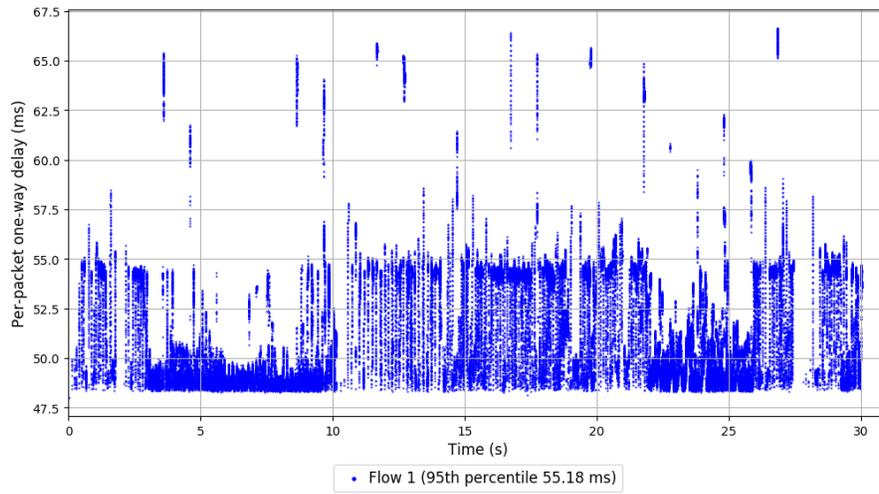
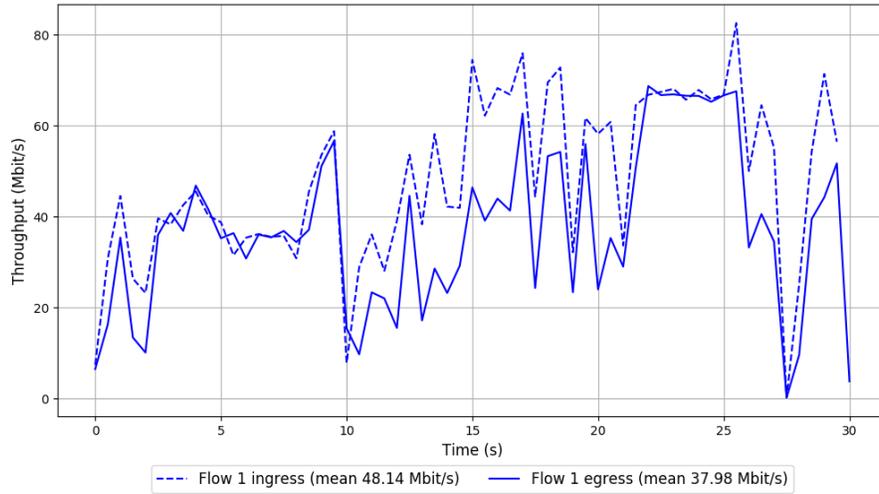
-- Flow 1:

Average throughput: 37.98 Mbit/s

95th percentile per-packet one-way delay: 55.182 ms

Loss rate: 21.10%

Run 6: Report of TCP BBR — Data Link



Run 7: Statistics of TCP BBR

Start at: 2017-09-18 09:23:44

End at: 2017-09-18 09:24:14

Local clock offset: -0.123 ms

Remote clock offset: -0.254 ms

Below is generated by plot.py at 2017-09-18 10:19:40

Datalink statistics

-- Total of 1 flow:

Average throughput: 37.93 Mbit/s

95th percentile per-packet one-way delay: 54.864 ms

Loss rate: 33.63%

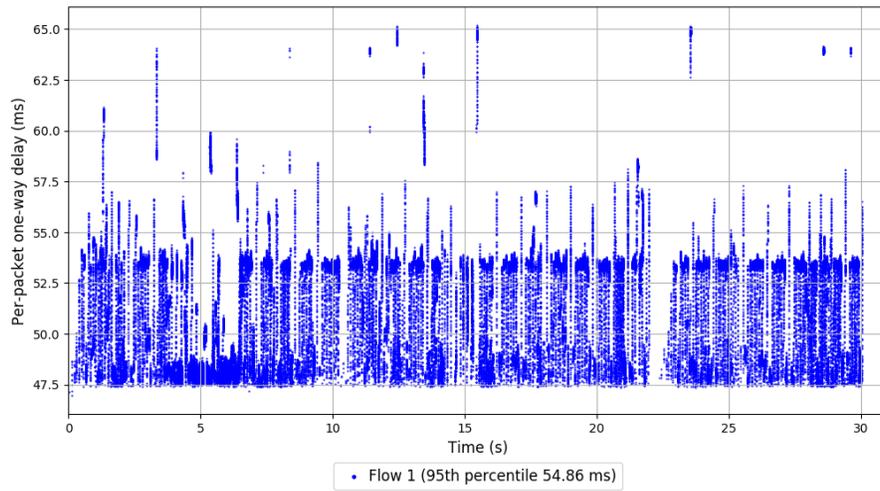
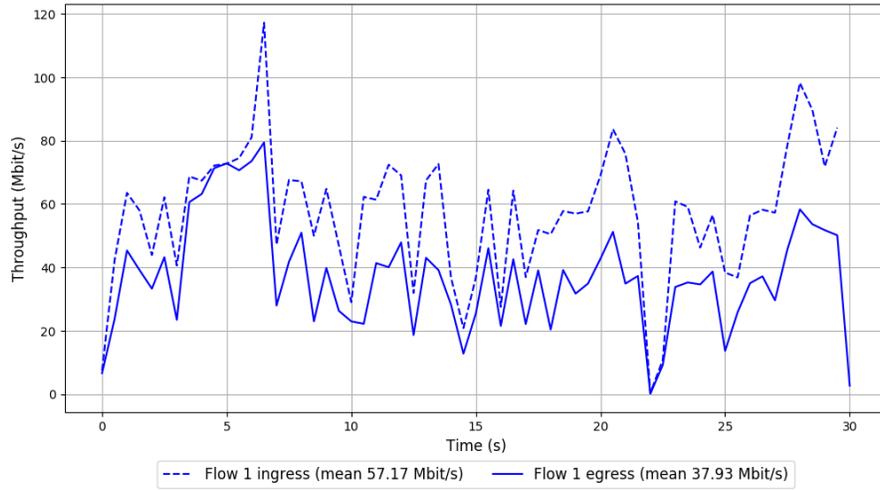
-- Flow 1:

Average throughput: 37.93 Mbit/s

95th percentile per-packet one-way delay: 54.864 ms

Loss rate: 33.63%

Run 7: Report of TCP BBR — Data Link



Run 8: Statistics of TCP BBR

Start at: 2017-09-18 09:36:00

End at: 2017-09-18 09:36:30

Local clock offset: -1.309 ms

Remote clock offset: -0.504 ms

Below is generated by plot.py at 2017-09-18 10:19:41

Datalink statistics

-- Total of 1 flow:

Average throughput: 38.41 Mbit/s

95th percentile per-packet one-way delay: 56.146 ms

Loss rate: 32.74%

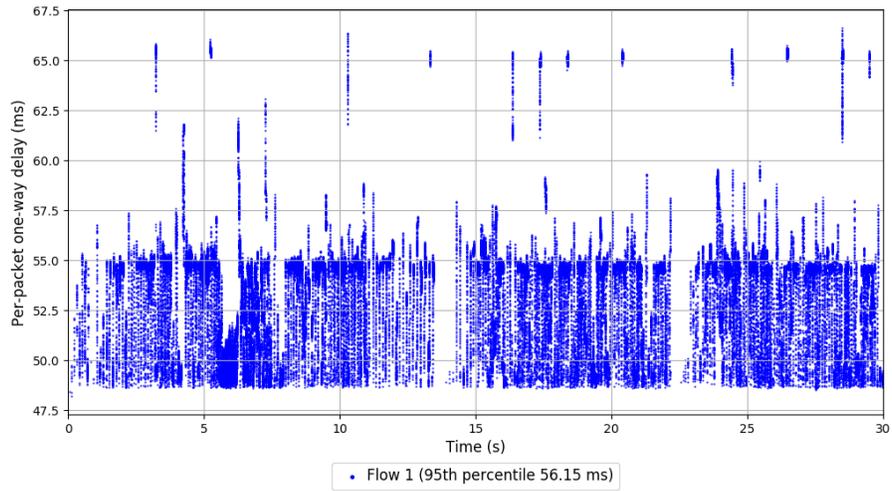
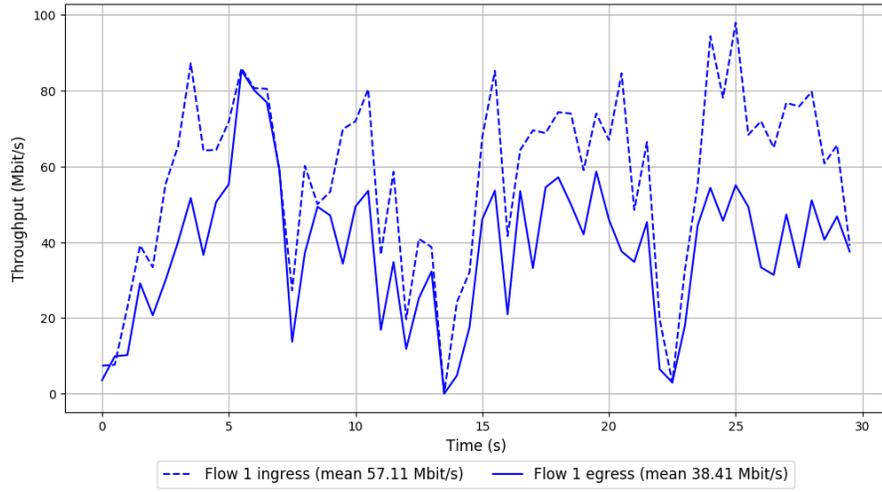
-- Flow 1:

Average throughput: 38.41 Mbit/s

95th percentile per-packet one-way delay: 56.146 ms

Loss rate: 32.74%

Run 8: Report of TCP BBR — Data Link

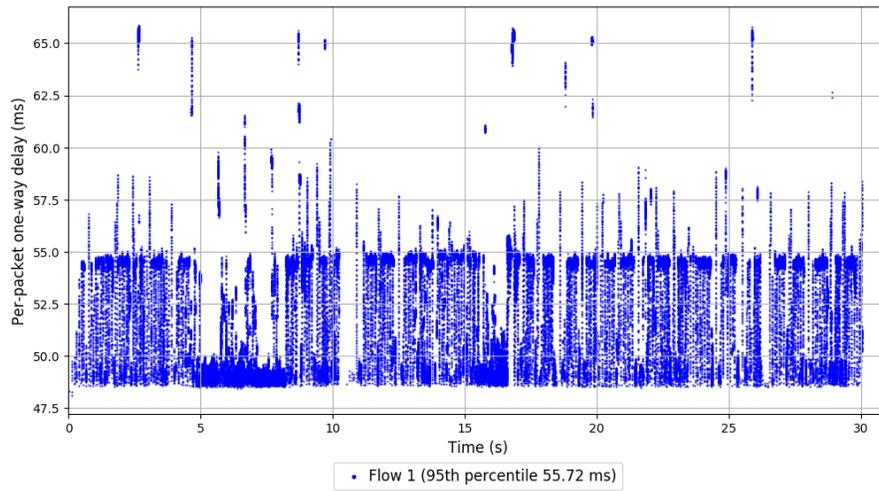
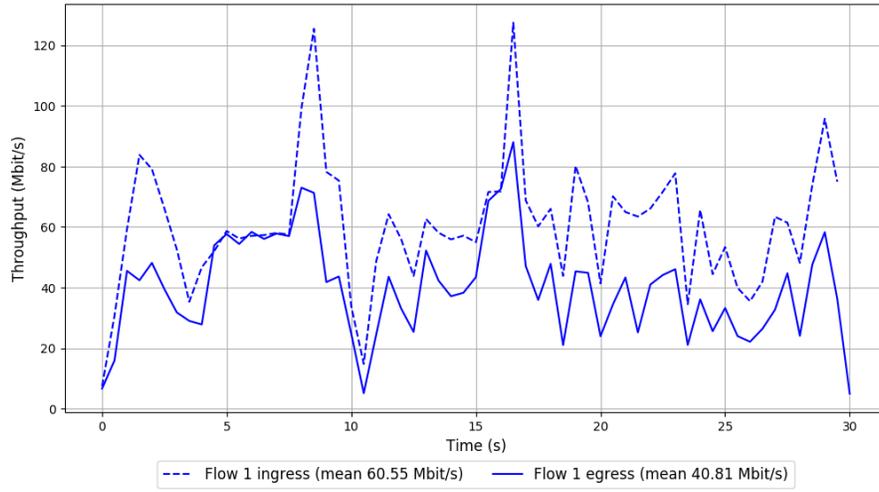


Run 9: Statistics of TCP BBR

Start at: 2017-09-18 09:48:27
End at: 2017-09-18 09:48:57
Local clock offset: -1.799 ms
Remote clock offset: -0.653 ms

Below is generated by plot.py at 2017-09-18 10:19:46
Datalink statistics
-- Total of 1 flow:
Average throughput: 40.81 Mbit/s
95th percentile per-packet one-way delay: 55.715 ms
Loss rate: 32.60%
-- Flow 1:
Average throughput: 40.81 Mbit/s
95th percentile per-packet one-way delay: 55.715 ms
Loss rate: 32.60%

Run 9: Report of TCP BBR — Data Link

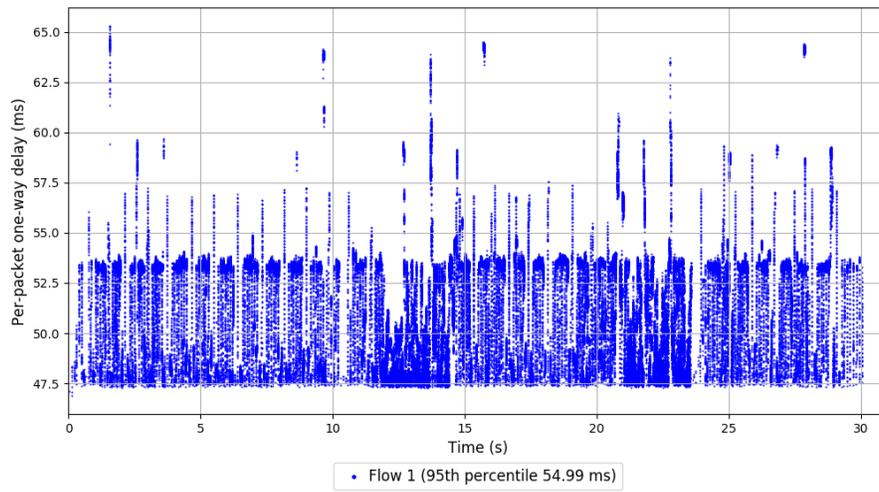
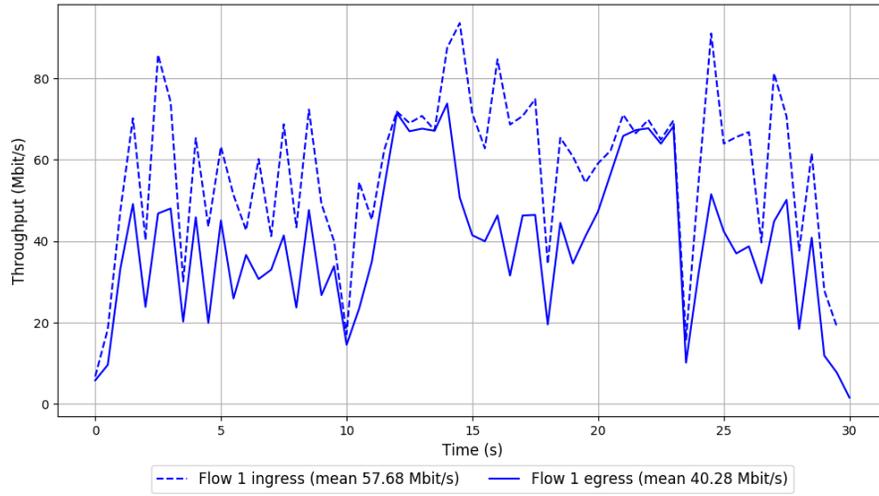


Run 10: Statistics of TCP BBR

Start at: 2017-09-18 10:00:19
End at: 2017-09-18 10:00:49
Local clock offset: -0.663 ms
Remote clock offset: -0.878 ms

Below is generated by plot.py at 2017-09-18 10:19:57
Datalink statistics
-- Total of 1 flow:
Average throughput: 40.28 Mbit/s
95th percentile per-packet one-way delay: 54.988 ms
Loss rate: 30.16%
-- Flow 1:
Average throughput: 40.28 Mbit/s
95th percentile per-packet one-way delay: 54.988 ms
Loss rate: 30.16%

Run 10: Report of TCP BBR — Data Link



Run 1: Statistics of TCP Cubic

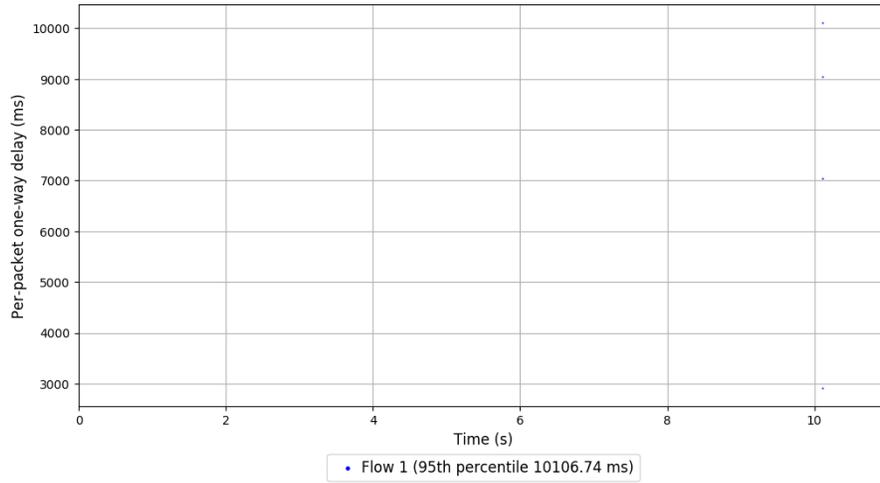
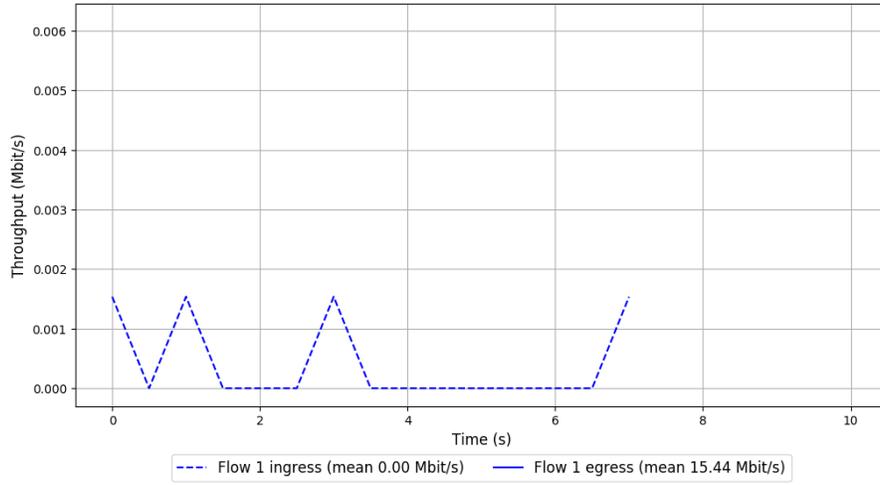
Start at: 2017-09-18 07:58:00

End at: 2017-09-18 07:58:30

Local clock offset: 0.821 ms

Remote clock offset: 0.215 ms

Run 1: Report of TCP Cubic — Data Link



Run 2: Statistics of TCP Cubic

Start at: 2017-09-18 08:12:49

End at: 2017-09-18 08:13:20

Local clock offset: 0.458 ms

Remote clock offset: 0.289 ms

Below is generated by plot.py at 2017-09-18 10:19:57

Datalink statistics

-- Total of 1 flow:

Average throughput: 7.60 Mbit/s

95th percentile per-packet one-way delay: 60.149 ms

Loss rate: 2.18%

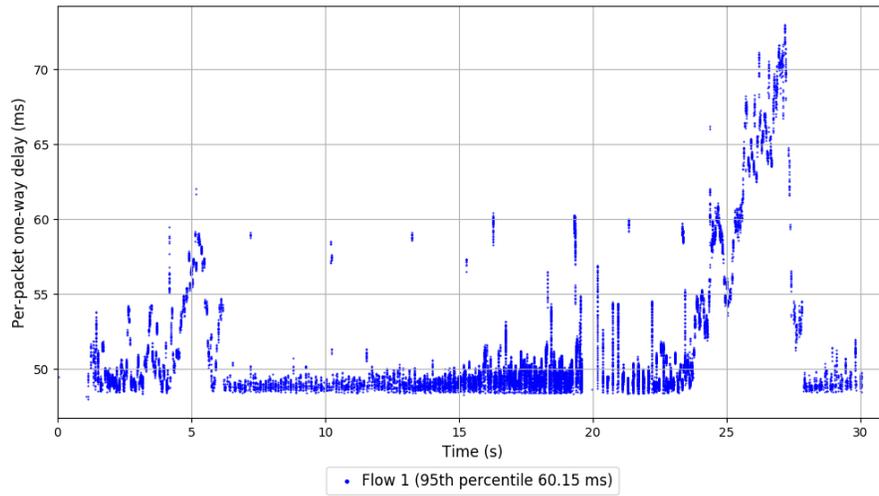
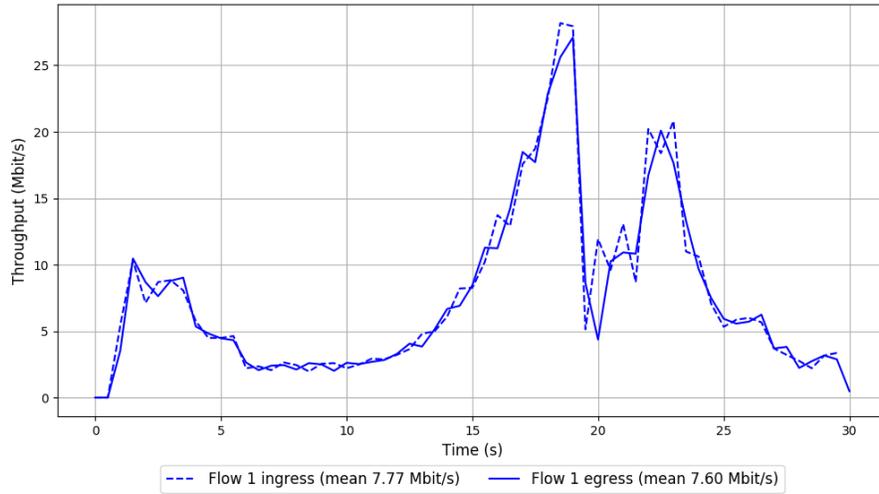
-- Flow 1:

Average throughput: 7.60 Mbit/s

95th percentile per-packet one-way delay: 60.149 ms

Loss rate: 2.18%

Run 2: Report of TCP Cubic — Data Link



Run 3: Statistics of TCP Cubic

Start at: 2017-09-18 08:32:57

End at: 2017-09-18 08:33:27

Local clock offset: 0.802 ms

Remote clock offset: 0.214 ms

Below is generated by plot.py at 2017-09-18 10:19:57

Datalink statistics

-- Total of 1 flow:

Average throughput: 10.76 Mbit/s

95th percentile per-packet one-way delay: 51.518 ms

Loss rate: 0.35%

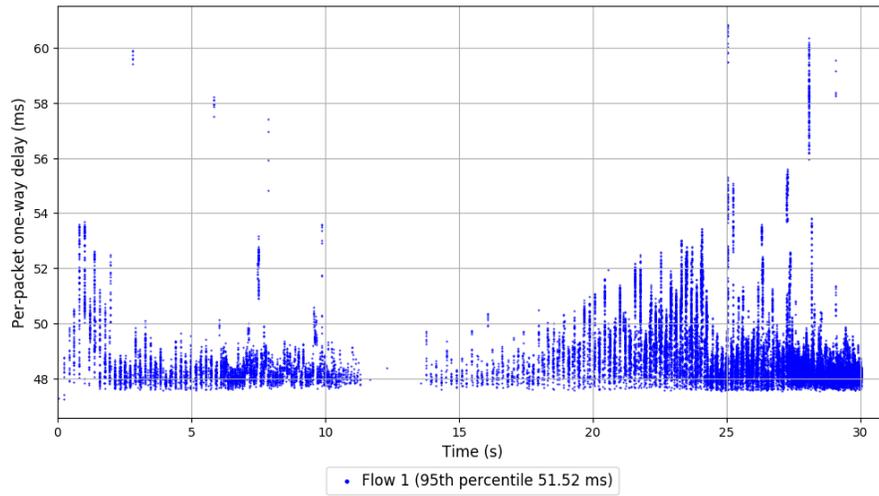
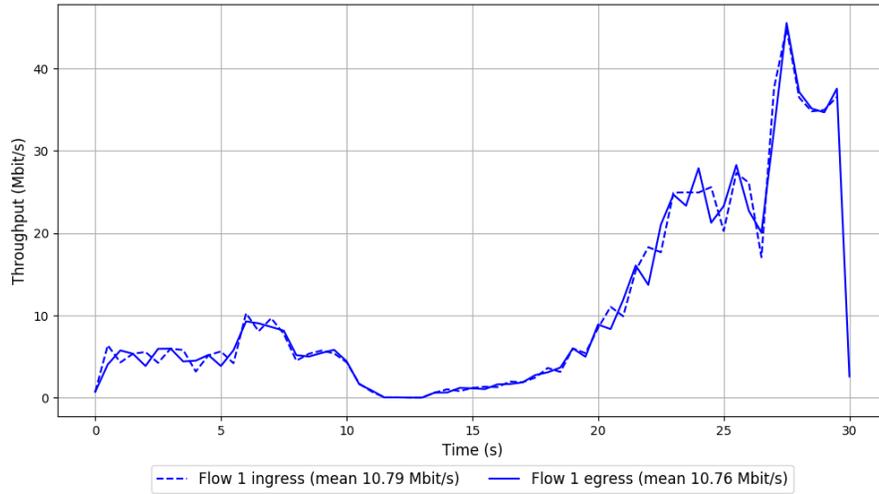
-- Flow 1:

Average throughput: 10.76 Mbit/s

95th percentile per-packet one-way delay: 51.518 ms

Loss rate: 0.35%

Run 3: Report of TCP Cubic — Data Link

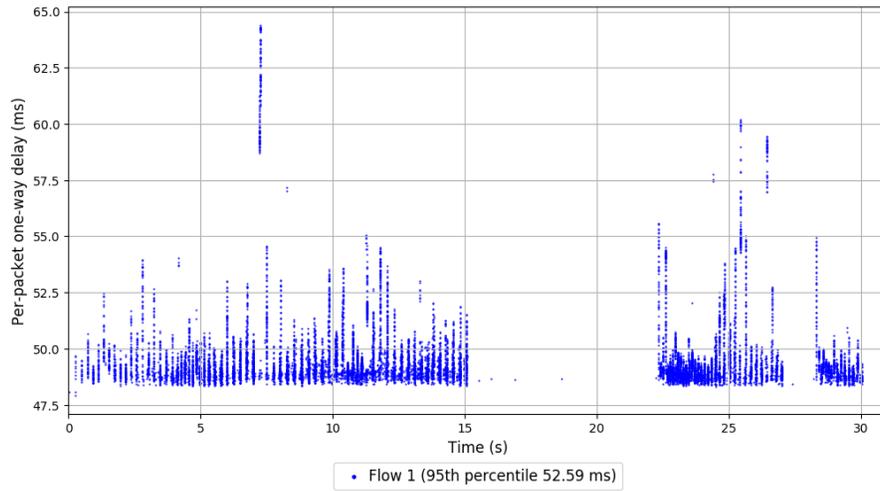
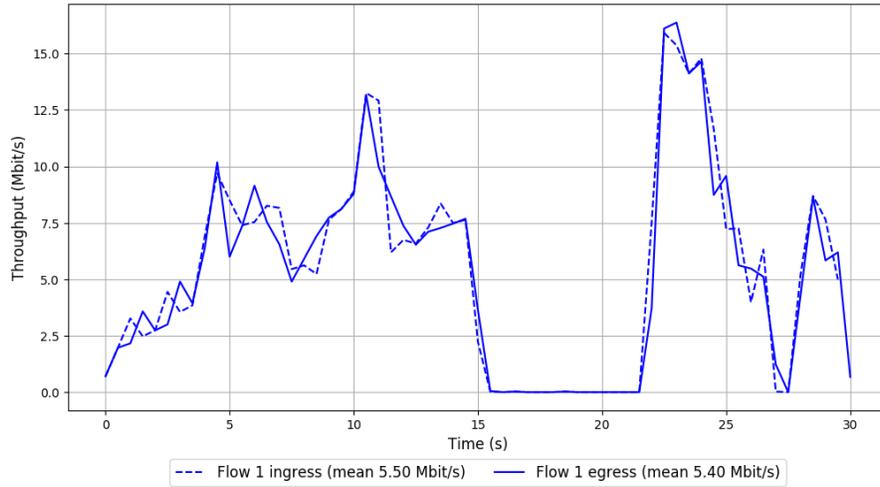


Run 4: Statistics of TCP Cubic

Start at: 2017-09-18 08:51:27
End at: 2017-09-18 08:51:57
Local clock offset: -0.574 ms
Remote clock offset: -0.026 ms

Below is generated by plot.py at 2017-09-18 10:19:57
Datalink statistics
-- Total of 1 flow:
Average throughput: 5.40 Mbit/s
95th percentile per-packet one-way delay: 52.587 ms
Loss rate: 1.84%
-- Flow 1:
Average throughput: 5.40 Mbit/s
95th percentile per-packet one-way delay: 52.587 ms
Loss rate: 1.84%

Run 4: Report of TCP Cubic — Data Link



Run 5: Statistics of TCP Cubic

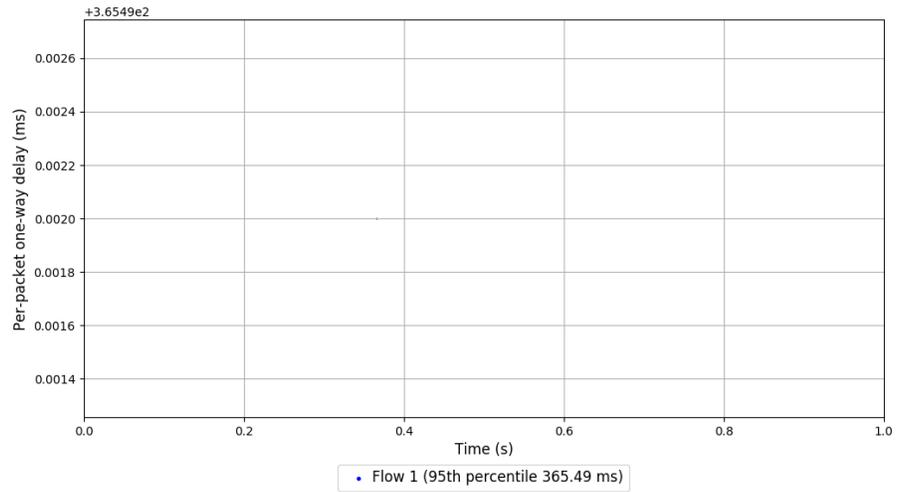
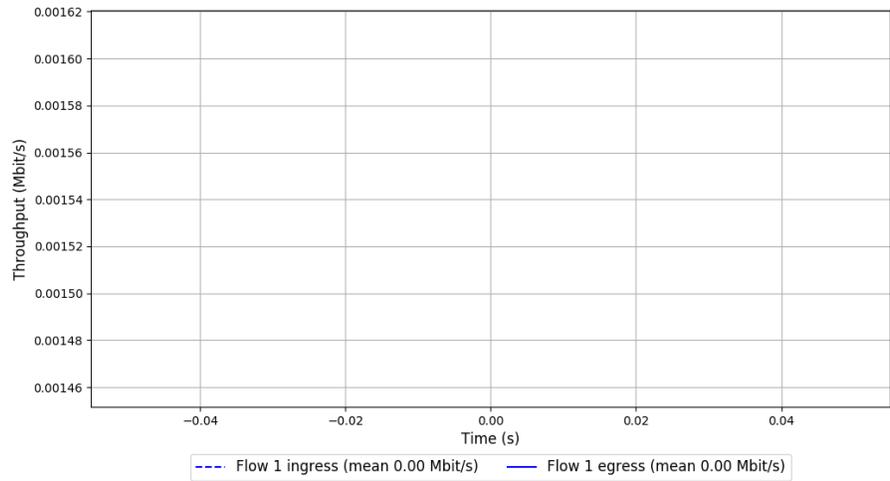
Start at: 2017-09-18 09:04:21

End at: 2017-09-18 09:04:51

Local clock offset: -0.795 ms

Remote clock offset: -0.036 ms

Run 5: Report of TCP Cubic — Data Link

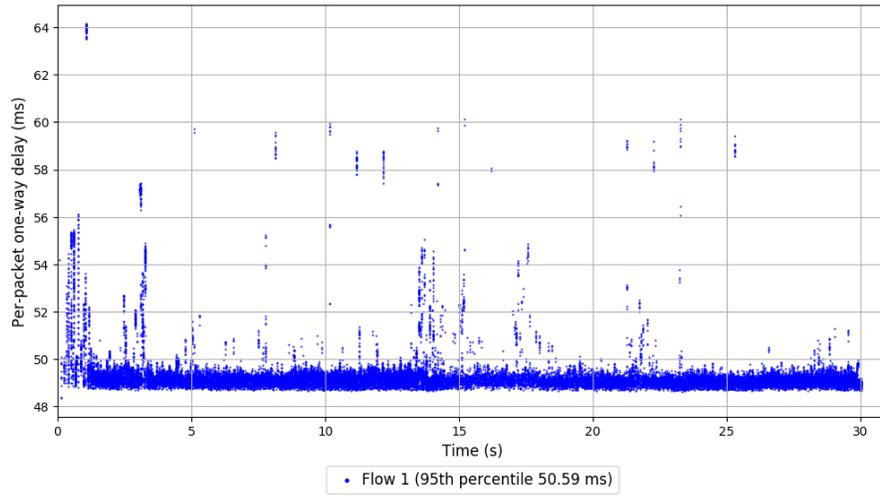
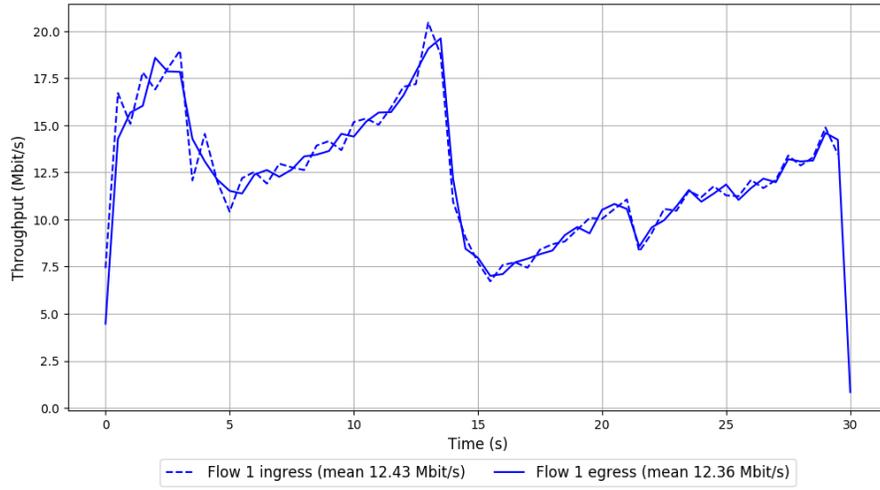


Run 6: Statistics of TCP Cubic

Start at: 2017-09-18 09:17:37
End at: 2017-09-18 09:18:07
Local clock offset: -1.004 ms
Remote clock offset: -0.224 ms

Below is generated by plot.py at 2017-09-18 10:19:57
Datalink statistics
-- Total of 1 flow:
Average throughput: 12.36 Mbit/s
95th percentile per-packet one-way delay: 50.595 ms
Loss rate: 0.52%
-- Flow 1:
Average throughput: 12.36 Mbit/s
95th percentile per-packet one-way delay: 50.595 ms
Loss rate: 0.52%

Run 6: Report of TCP Cubic — Data Link

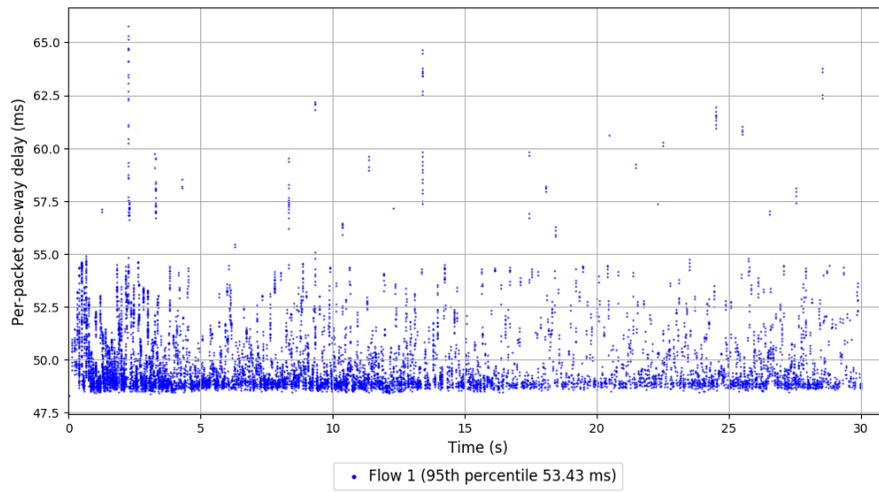


Run 7: Statistics of TCP Cubic

Start at: 2017-09-18 09:29:58
End at: 2017-09-18 09:30:28
Local clock offset: -1.327 ms
Remote clock offset: -0.404 ms

Below is generated by plot.py at 2017-09-18 10:19:57
Datalink statistics
-- Total of 1 flow:
Average throughput: 3.79 Mbit/s
95th percentile per-packet one-way delay: 53.433 ms
Loss rate: 1.23%
-- Flow 1:
Average throughput: 3.79 Mbit/s
95th percentile per-packet one-way delay: 53.433 ms
Loss rate: 1.23%

Run 7: Report of TCP Cubic — Data Link



Run 8: Statistics of TCP Cubic

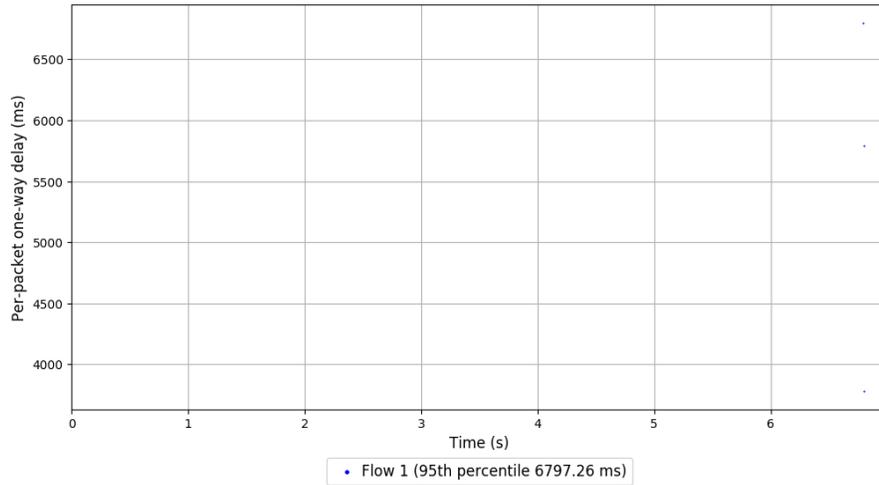
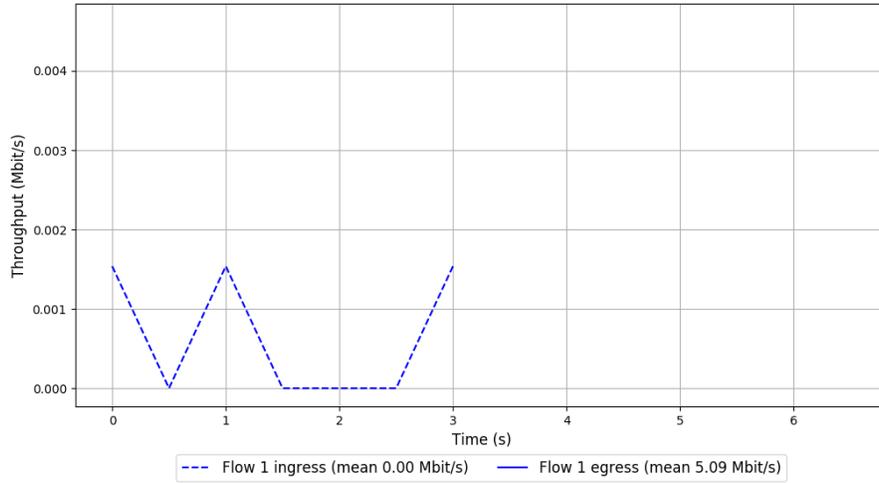
Start at: 2017-09-18 09:42:28

End at: 2017-09-18 09:42:58

Local clock offset: -1.505 ms

Remote clock offset: -0.567 ms

Run 8: Report of TCP Cubic — Data Link

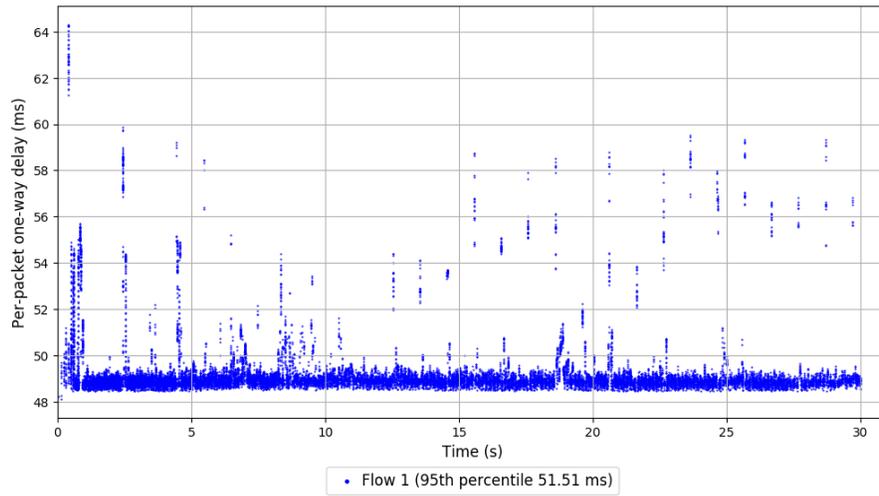
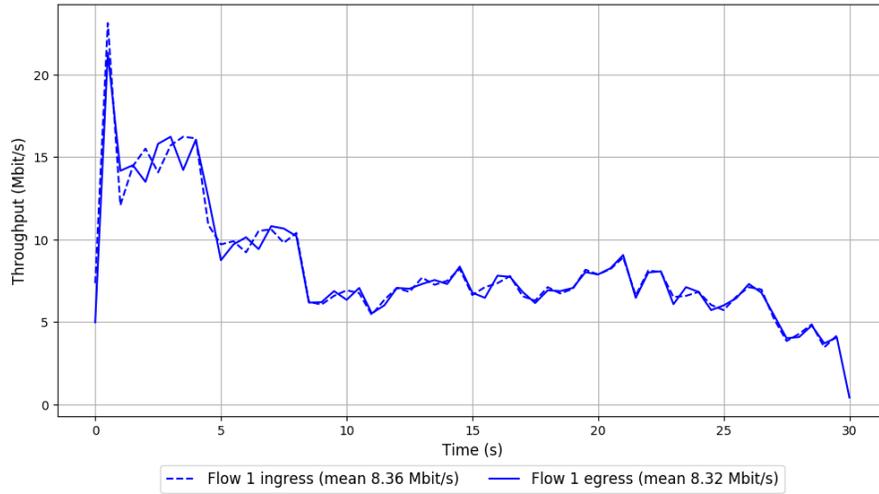


Run 9: Statistics of TCP Cubic

Start at: 2017-09-18 09:54:29
End at: 2017-09-18 09:54:59
Local clock offset: -1.759 ms
Remote clock offset: -0.659 ms

Below is generated by plot.py at 2017-09-18 10:19:57
Datalink statistics
-- Total of 1 flow:
Average throughput: 8.32 Mbit/s
95th percentile per-packet one-way delay: 51.507 ms
Loss rate: 0.46%
-- Flow 1:
Average throughput: 8.32 Mbit/s
95th percentile per-packet one-way delay: 51.507 ms
Loss rate: 0.46%

Run 9: Report of TCP Cubic — Data Link



Run 10: Statistics of TCP Cubic

Start at: 2017-09-18 10:06:35

End at: 2017-09-18 10:07:05

Local clock offset: -1.733 ms

Remote clock offset: -1.013 ms

Below is generated by plot.py at 2017-09-18 10:19:57

Datalink statistics

-- Total of 1 flow:

Average throughput: 10.09 Mbit/s

95th percentile per-packet one-way delay: 50.805 ms

Loss rate: 0.46%

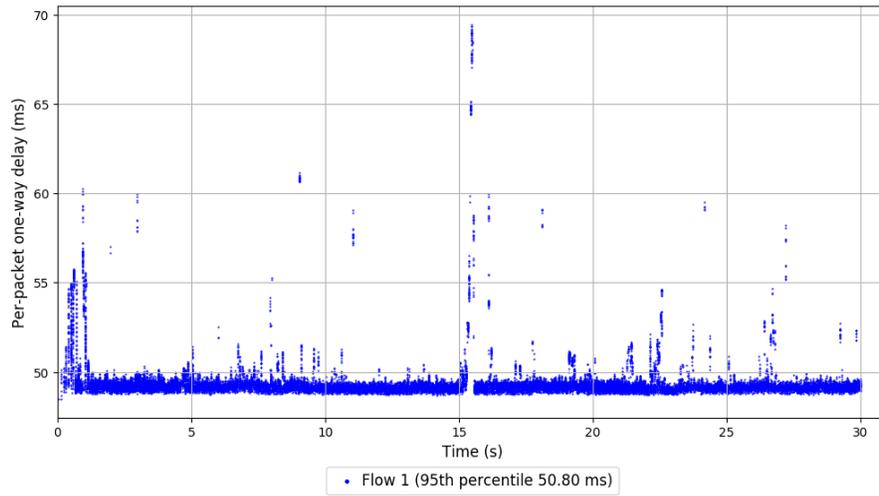
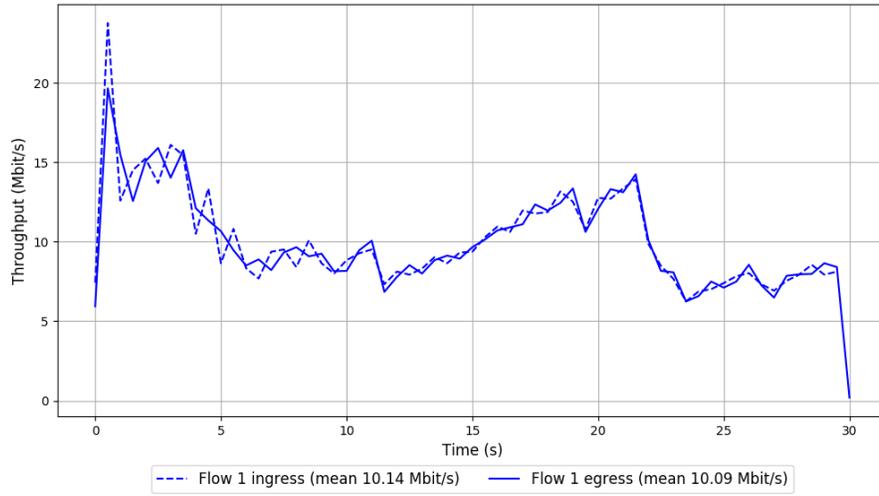
-- Flow 1:

Average throughput: 10.09 Mbit/s

95th percentile per-packet one-way delay: 50.805 ms

Loss rate: 0.46%

Run 10: Report of TCP Cubic — Data Link



Run 1: Statistics of Indigo

Start at: 2017-09-18 07:56:31

End at: 2017-09-18 07:57:01

Local clock offset: 2.058 ms

Remote clock offset: 0.261 ms

Below is generated by plot.py at 2017-09-18 10:21:03

Datalink statistics

-- Total of 1 flow:

Average throughput: 79.90 Mbit/s

95th percentile per-packet one-way delay: 57.787 ms

Loss rate: 1.95%

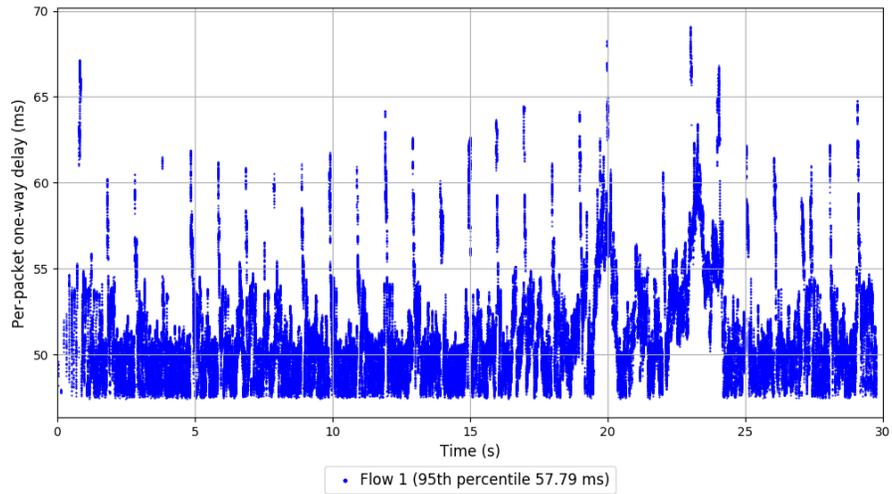
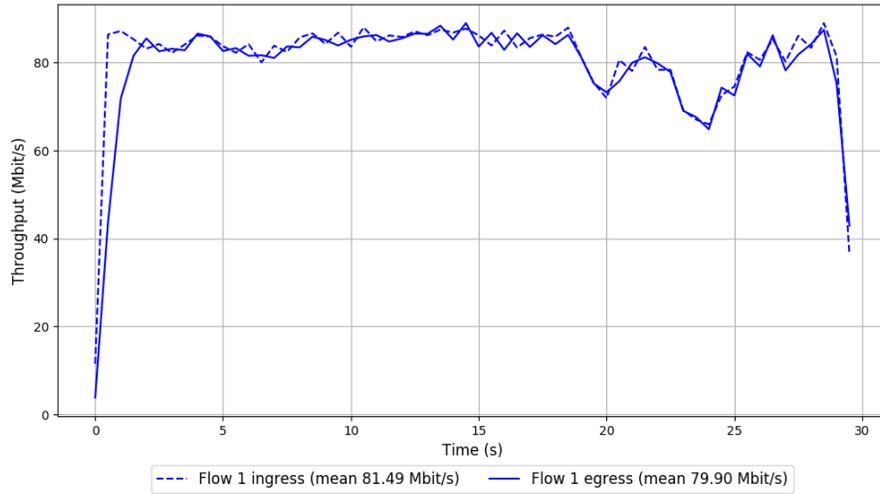
-- Flow 1:

Average throughput: 79.90 Mbit/s

95th percentile per-packet one-way delay: 57.787 ms

Loss rate: 1.95%

Run 1: Report of Indigo — Data Link



Run 2: Statistics of Indigo

Start at: 2017-09-18 08:09:48

End at: 2017-09-18 08:10:18

Local clock offset: 1.742 ms

Remote clock offset: 0.326 ms

Below is generated by plot.py at 2017-09-18 10:21:03

Datalink statistics

-- Total of 1 flow:

Average throughput: 47.81 Mbit/s

95th percentile per-packet one-way delay: 59.848 ms

Loss rate: 24.54%

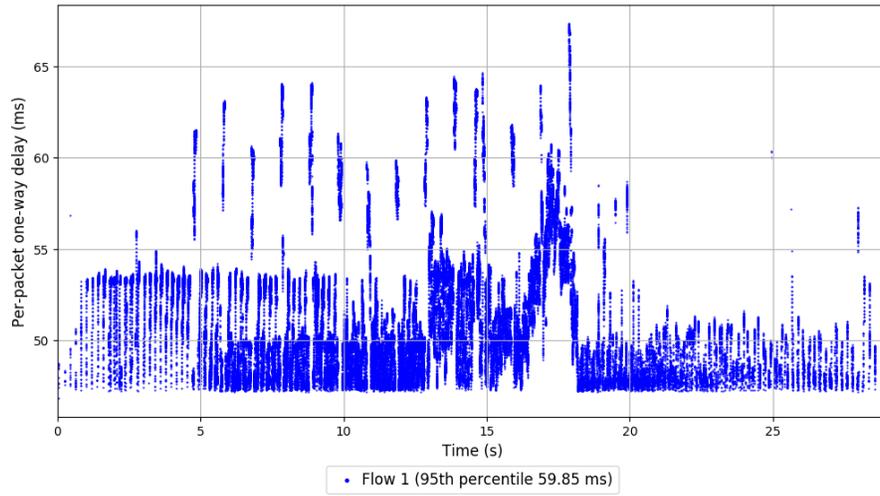
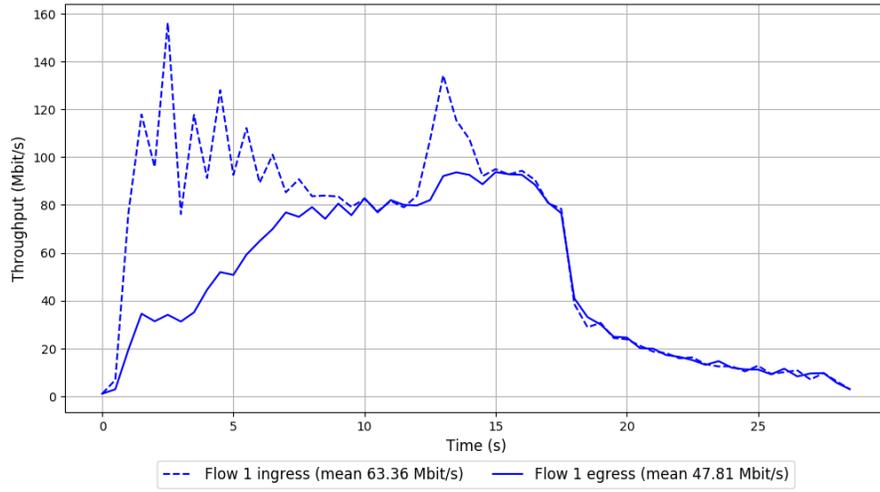
-- Flow 1:

Average throughput: 47.81 Mbit/s

95th percentile per-packet one-way delay: 59.848 ms

Loss rate: 24.54%

Run 2: Report of Indigo — Data Link



Run 3: Statistics of Indigo

Start at: 2017-09-18 08:31:21

End at: 2017-09-18 08:31:51

Local clock offset: -0.18 ms

Remote clock offset: 0.234 ms

Below is generated by plot.py at 2017-09-18 10:21:03

Datalink statistics

-- Total of 1 flow:

Average throughput: 9.16 Mbit/s

95th percentile per-packet one-way delay: 54.628 ms

Loss rate: 15.04%

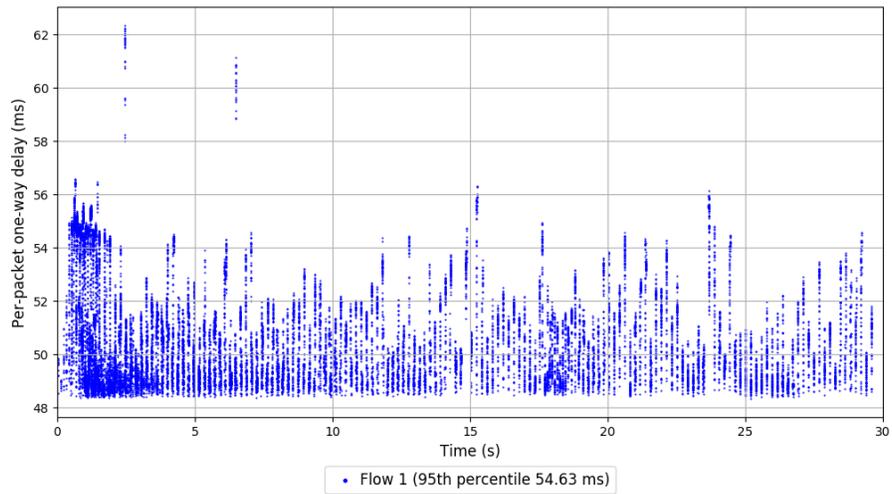
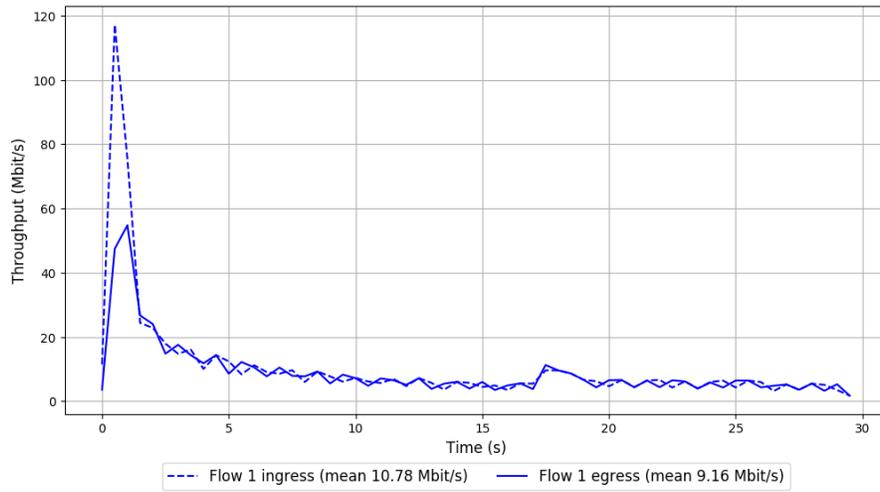
-- Flow 1:

Average throughput: 9.16 Mbit/s

95th percentile per-packet one-way delay: 54.628 ms

Loss rate: 15.04%

Run 3: Report of Indigo — Data Link



Run 4: Statistics of Indigo

Start at: 2017-09-18 08:49:32

End at: 2017-09-18 08:50:02

Local clock offset: 0.415 ms

Remote clock offset: 0.041 ms

Below is generated by plot.py at 2017-09-18 10:21:03

Datalink statistics

-- Total of 1 flow:

Average throughput: 4.23 Mbit/s

95th percentile per-packet one-way delay: 52.819 ms

Loss rate: 4.02%

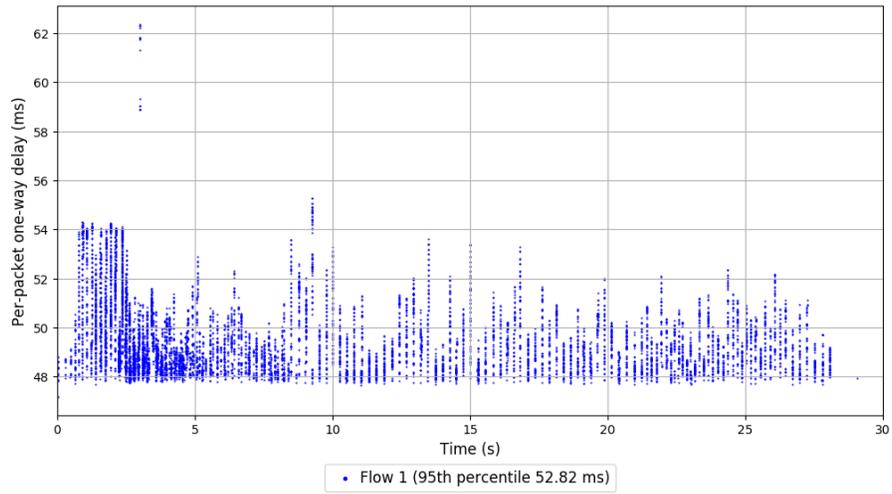
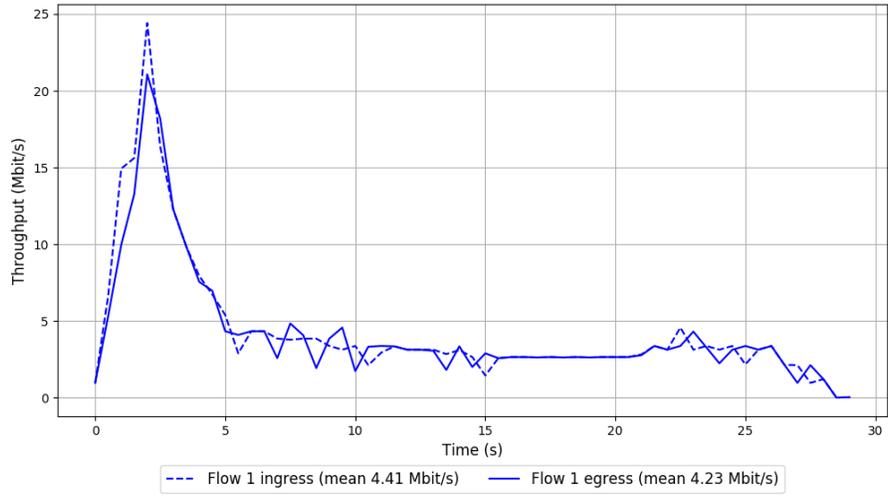
-- Flow 1:

Average throughput: 4.23 Mbit/s

95th percentile per-packet one-way delay: 52.819 ms

Loss rate: 4.02%

Run 4: Report of Indigo — Data Link



Run 5: Statistics of Indigo

Start at: 2017-09-18 09:03:00

End at: 2017-09-18 09:03:30

Local clock offset: -0.915 ms

Remote clock offset: 0.003 ms

Below is generated by plot.py at 2017-09-18 10:21:03

Datalink statistics

-- Total of 1 flow:

Average throughput: 14.40 Mbit/s

95th percentile per-packet one-way delay: 53.376 ms

Loss rate: 0.53%

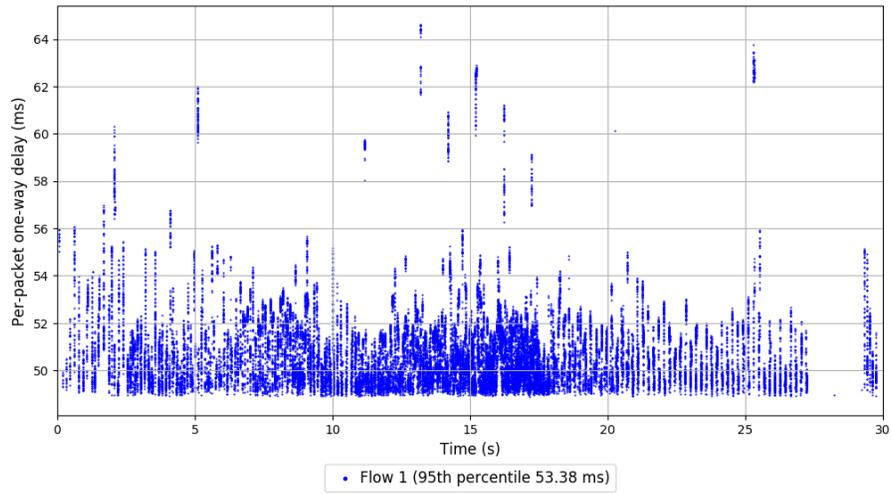
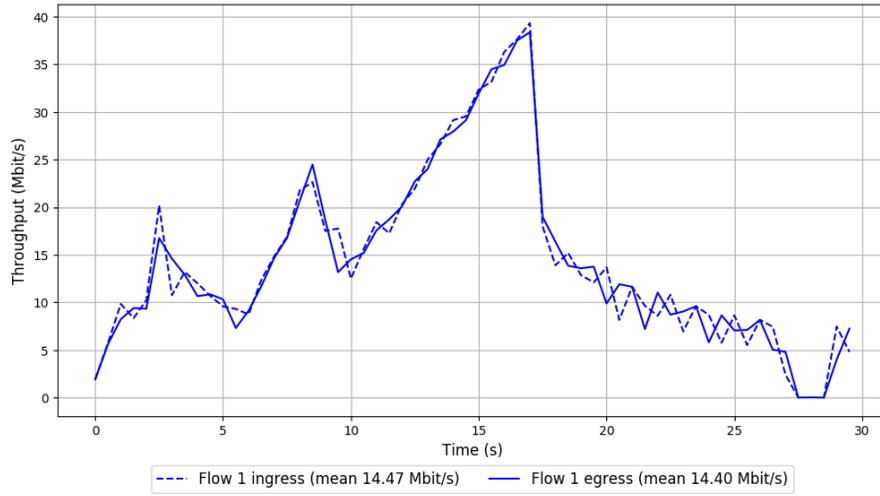
-- Flow 1:

Average throughput: 14.40 Mbit/s

95th percentile per-packet one-way delay: 53.376 ms

Loss rate: 0.53%

Run 5: Report of Indigo — Data Link

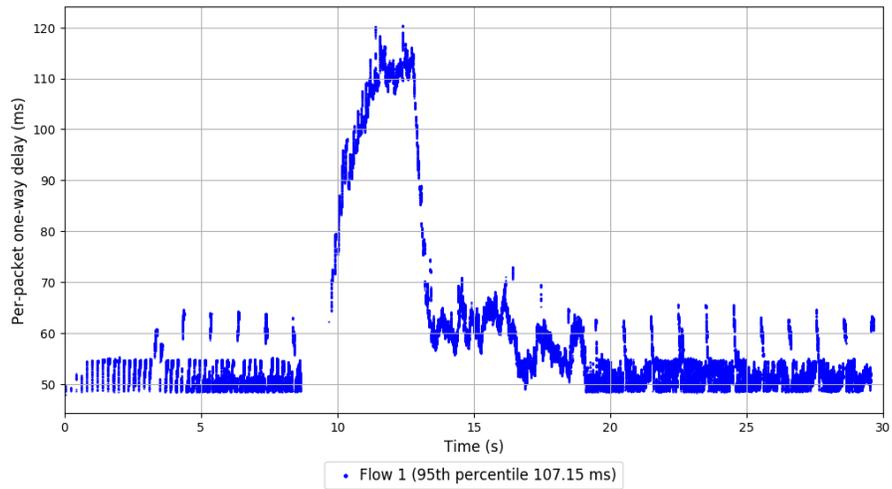
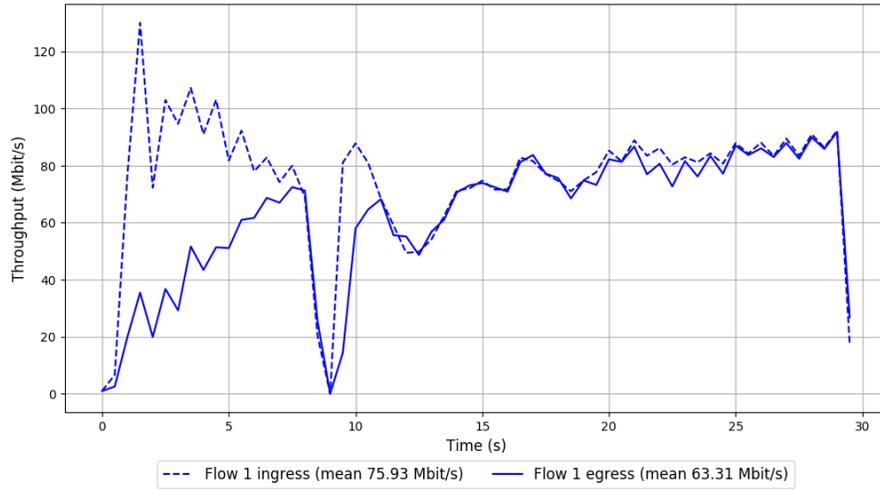


Run 6: Statistics of Indigo

Start at: 2017-09-18 09:16:06
End at: 2017-09-18 09:16:36
Local clock offset: -0.923 ms
Remote clock offset: -0.204 ms

```
# Below is generated by plot.py at 2017-09-18 10:21:03
# Datalink statistics
-- Total of 1 flow:
Average throughput: 63.31 Mbit/s
95th percentile per-packet one-way delay: 107.151 ms
Loss rate: 16.59%
-- Flow 1:
Average throughput: 63.31 Mbit/s
95th percentile per-packet one-way delay: 107.151 ms
Loss rate: 16.59%
```

Run 6: Report of Indigo — Data Link

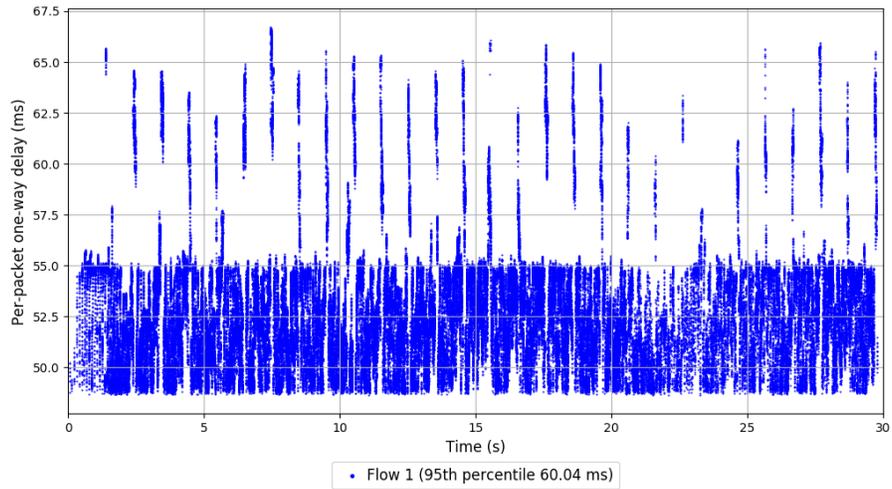
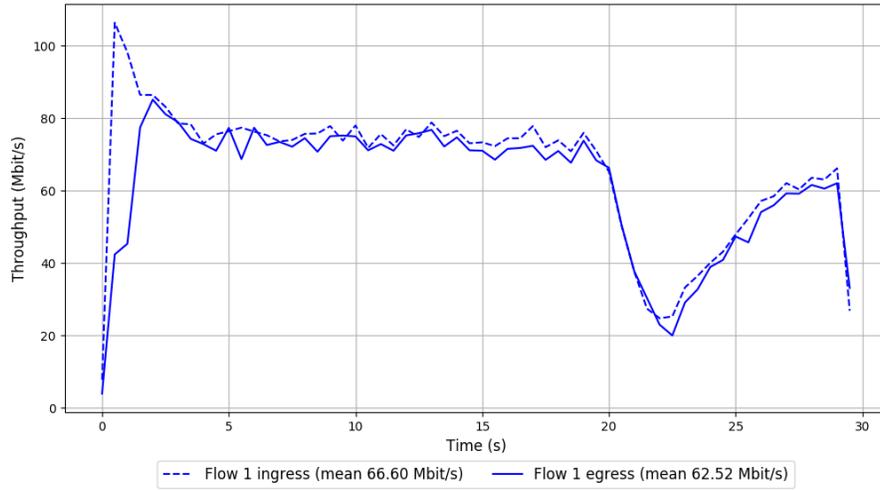


Run 7: Statistics of Indigo

Start at: 2017-09-18 09:28:43
End at: 2017-09-18 09:29:13
Local clock offset: -1.255 ms
Remote clock offset: -0.316 ms

```
# Below is generated by plot.py at 2017-09-18 10:21:03
# Datalink statistics
-- Total of 1 flow:
Average throughput: 62.52 Mbit/s
95th percentile per-packet one-way delay: 60.038 ms
Loss rate: 6.13%
-- Flow 1:
Average throughput: 62.52 Mbit/s
95th percentile per-packet one-way delay: 60.038 ms
Loss rate: 6.13%
```

Run 7: Report of Indigo — Data Link

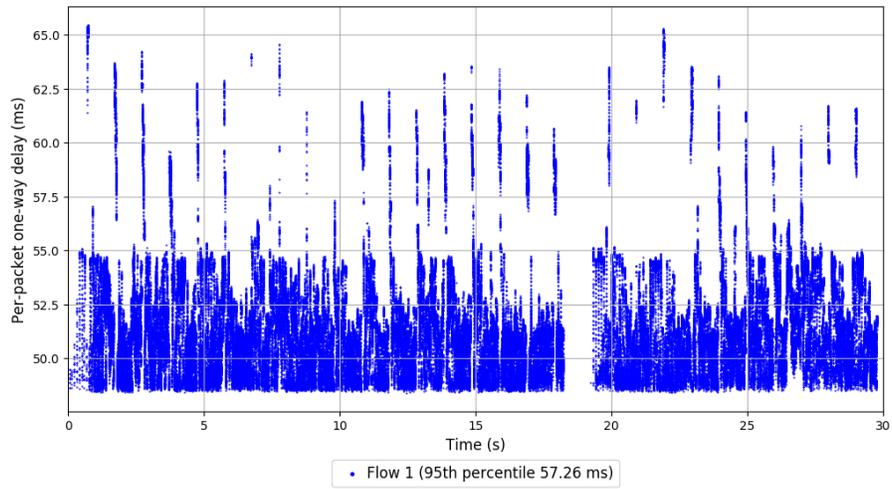
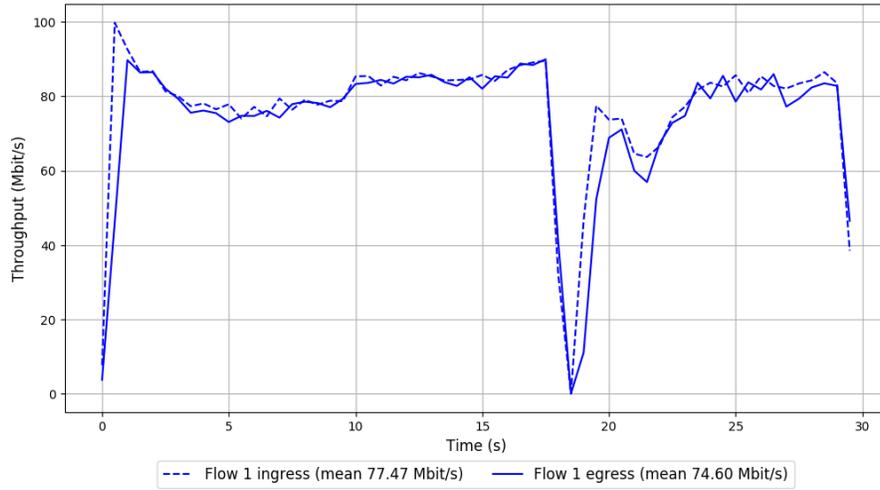


Run 8: Statistics of Indigo

Start at: 2017-09-18 09:40:41
End at: 2017-09-18 09:41:11
Local clock offset: -1.479 ms
Remote clock offset: -0.556 ms

Below is generated by plot.py at 2017-09-18 10:21:07
Datalink statistics
-- Total of 1 flow:
Average throughput: 74.60 Mbit/s
95th percentile per-packet one-way delay: 57.257 ms
Loss rate: 3.70%
-- Flow 1:
Average throughput: 74.60 Mbit/s
95th percentile per-packet one-way delay: 57.257 ms
Loss rate: 3.70%

Run 8: Report of Indigo — Data Link

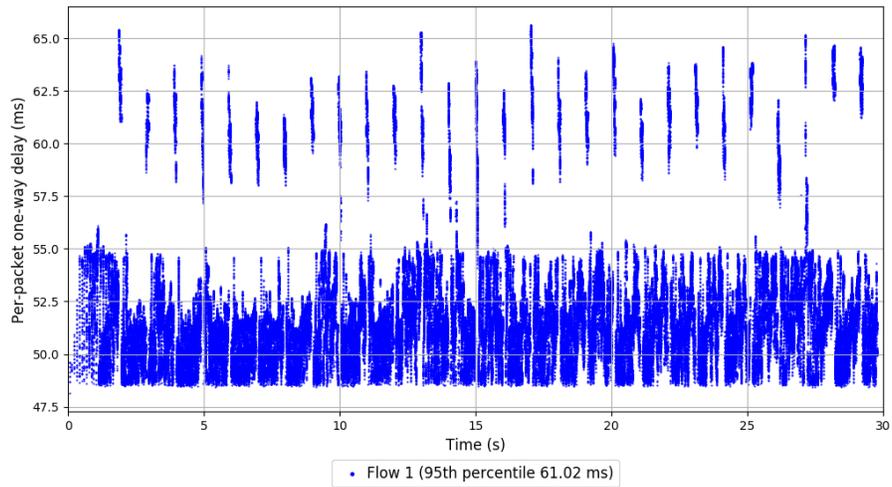
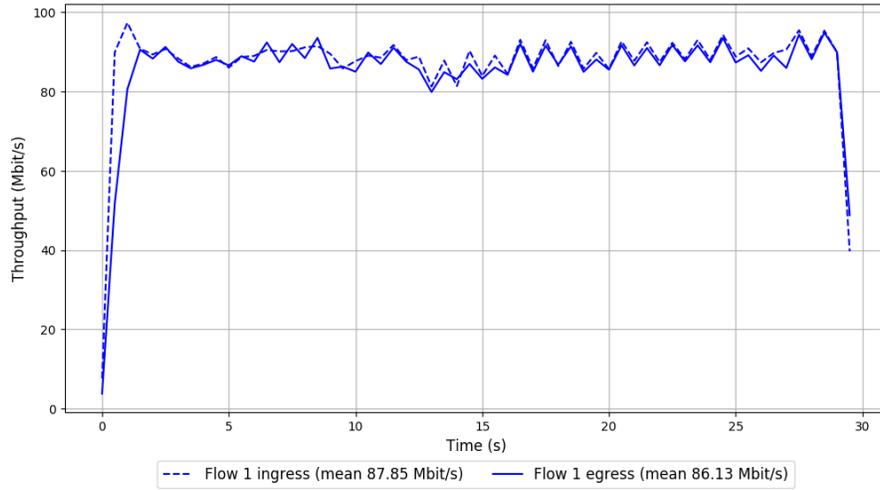


Run 9: Statistics of Indigo

Start at: 2017-09-18 09:53:14
End at: 2017-09-18 09:53:44
Local clock offset: -1.811 ms
Remote clock offset: -0.671 ms

Below is generated by plot.py at 2017-09-18 10:21:14
Datalink statistics
-- Total of 1 flow:
Average throughput: 86.13 Mbit/s
95th percentile per-packet one-way delay: 61.020 ms
Loss rate: 1.95%
-- Flow 1:
Average throughput: 86.13 Mbit/s
95th percentile per-packet one-way delay: 61.020 ms
Loss rate: 1.95%

Run 9: Report of Indigo — Data Link



Run 10: Statistics of Indigo

Start at: 2017-09-18 10:05:16

End at: 2017-09-18 10:05:46

Local clock offset: -0.696 ms

Remote clock offset: -0.971 ms

Below is generated by plot.py at 2017-09-18 10:21:14

Datalink statistics

-- Total of 1 flow:

Average throughput: 43.88 Mbit/s

95th percentile per-packet one-way delay: 56.019 ms

Loss rate: 3.79%

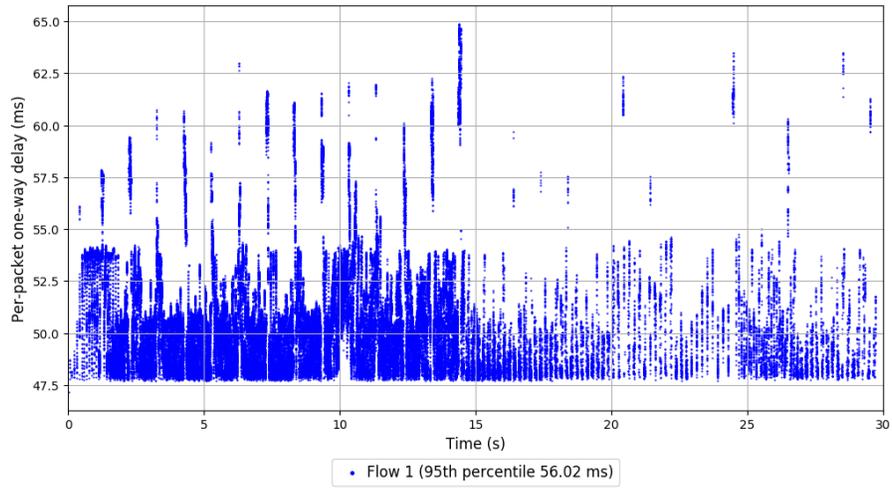
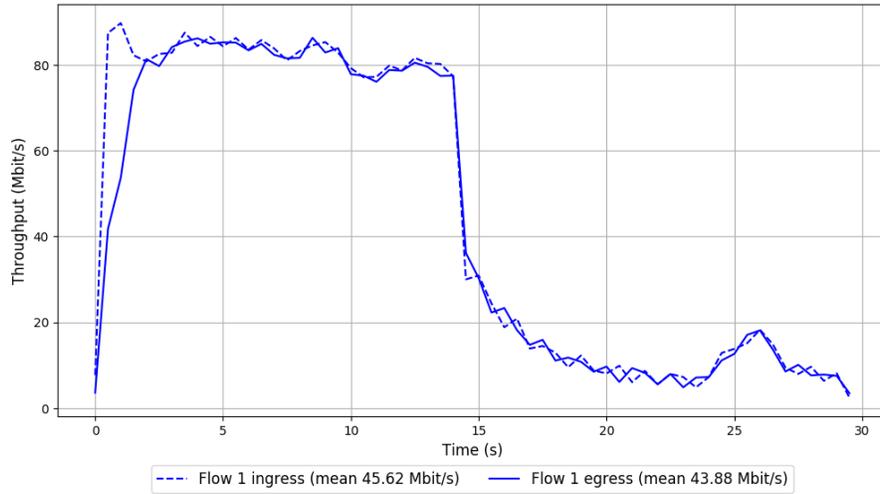
-- Flow 1:

Average throughput: 43.88 Mbit/s

95th percentile per-packet one-way delay: 56.019 ms

Loss rate: 3.79%

Run 10: Report of Indigo — Data Link



Run 1: Statistics of LEDBAT

Start at: 2017-09-18 07:53:57

End at: 2017-09-18 07:54:27

Local clock offset: 0.784 ms

Remote clock offset: 0.306 ms

Below is generated by plot.py at 2017-09-18 10:21:14

Datalink statistics

-- Total of 1 flow:

Average throughput: 5.15 Mbit/s

95th percentile per-packet one-way delay: 56.838 ms

Loss rate: 0.44%

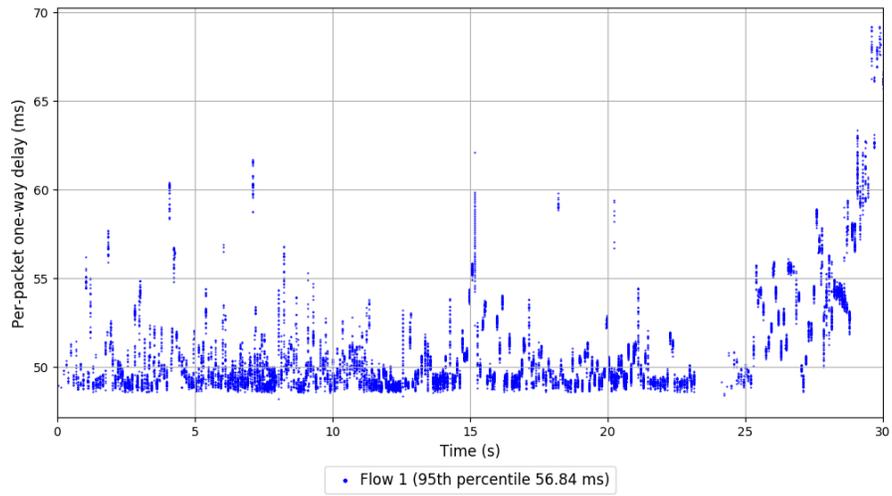
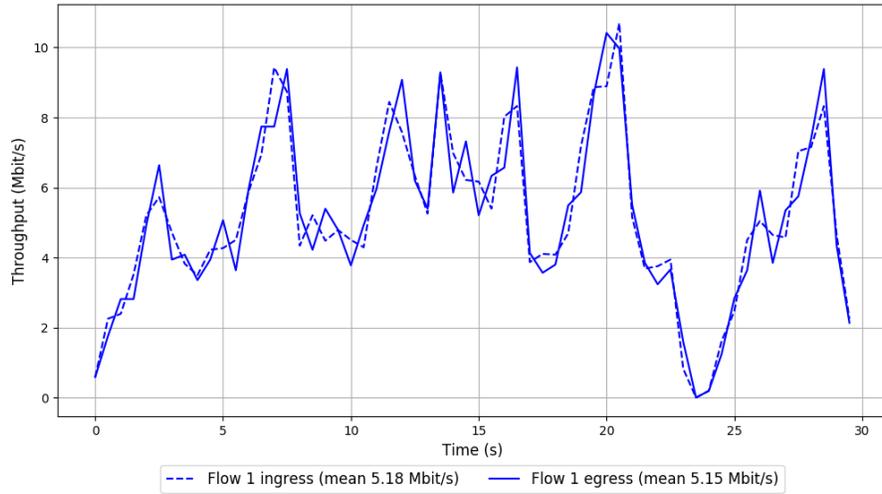
-- Flow 1:

Average throughput: 5.15 Mbit/s

95th percentile per-packet one-way delay: 56.838 ms

Loss rate: 0.44%

Run 1: Report of LEDBAT — Data Link



Run 2: Statistics of LEDBAT

Start at: 2017-09-18 08:07:08

End at: 2017-09-18 08:07:38

Local clock offset: 1.575 ms

Remote clock offset: 0.259 ms

Below is generated by plot.py at 2017-09-18 10:21:14

Datalink statistics

-- Total of 1 flow:

Average throughput: 6.69 Mbit/s

95th percentile per-packet one-way delay: 76.232 ms

Loss rate: 0.53%

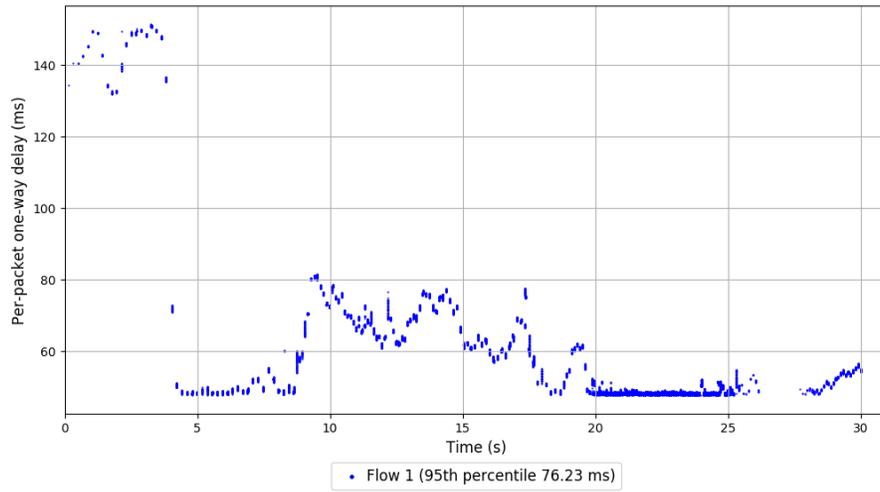
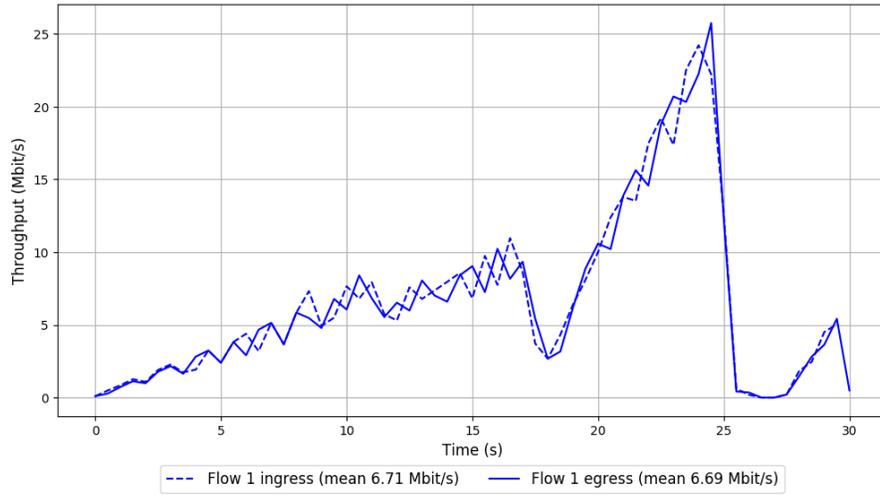
-- Flow 1:

Average throughput: 6.69 Mbit/s

95th percentile per-packet one-way delay: 76.232 ms

Loss rate: 0.53%

Run 2: Report of LEDBAT — Data Link



Run 3: Statistics of LEDBAT

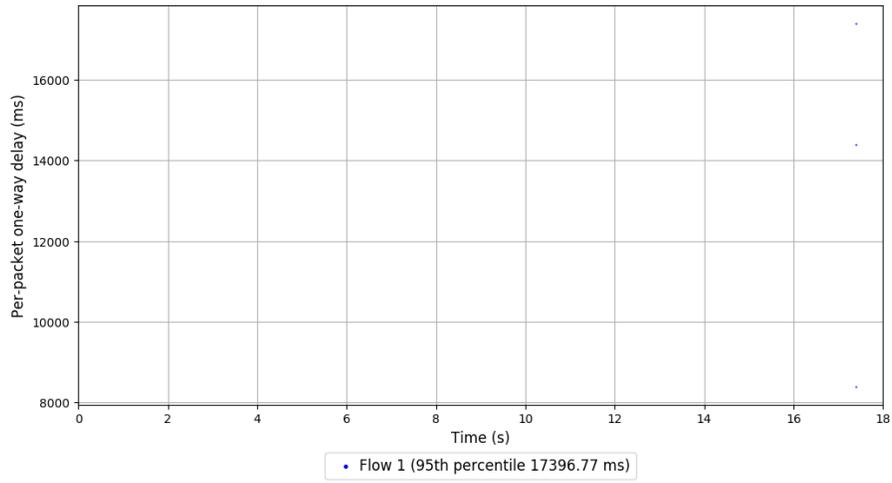
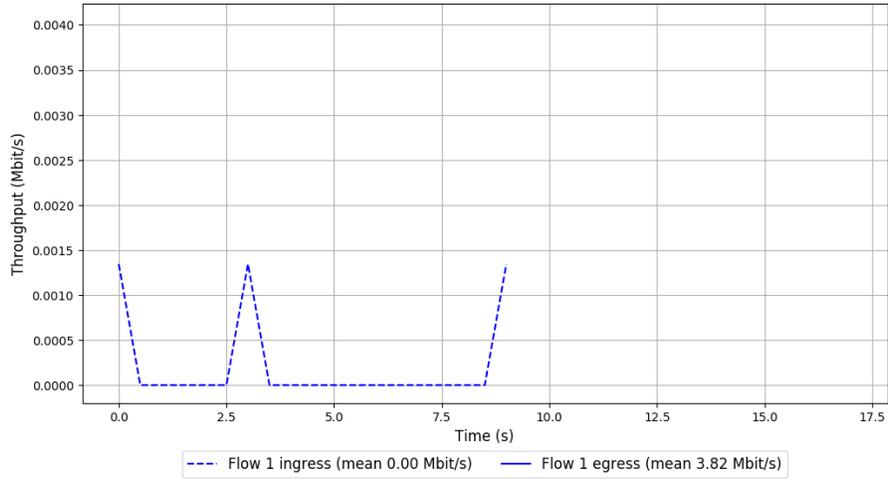
Start at: 2017-09-18 08:26:27

End at: 2017-09-18 08:26:57

Local clock offset: -0.213 ms

Remote clock offset: 0.341 ms

Run 3: Report of LEDBAT — Data Link



Run 4: Statistics of LEDBAT

Start at: 2017-09-18 08:45:59

End at: 2017-09-18 08:46:29

Local clock offset: -0.666 ms

Remote clock offset: 0.036 ms

Below is generated by plot.py at 2017-09-18 10:21:14

Datalink statistics

-- Total of 1 flow:

Average throughput: 2.53 Mbit/s

95th percentile per-packet one-way delay: 51.226 ms

Loss rate: 0.11%

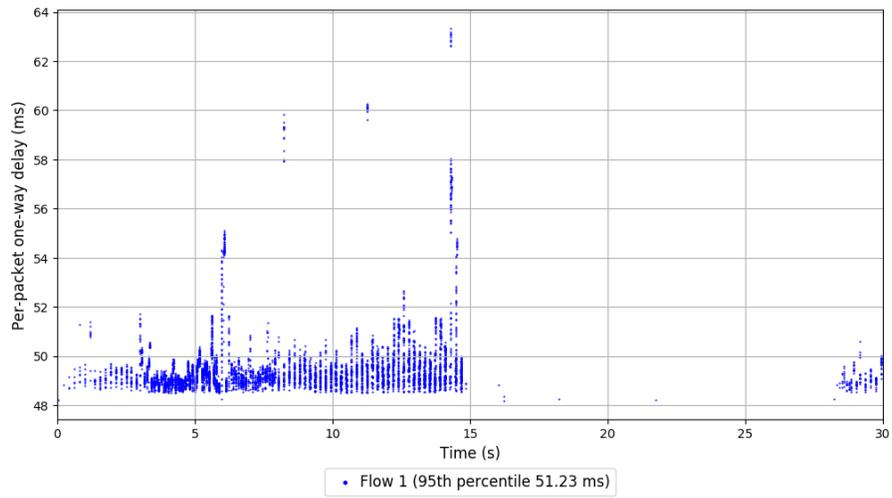
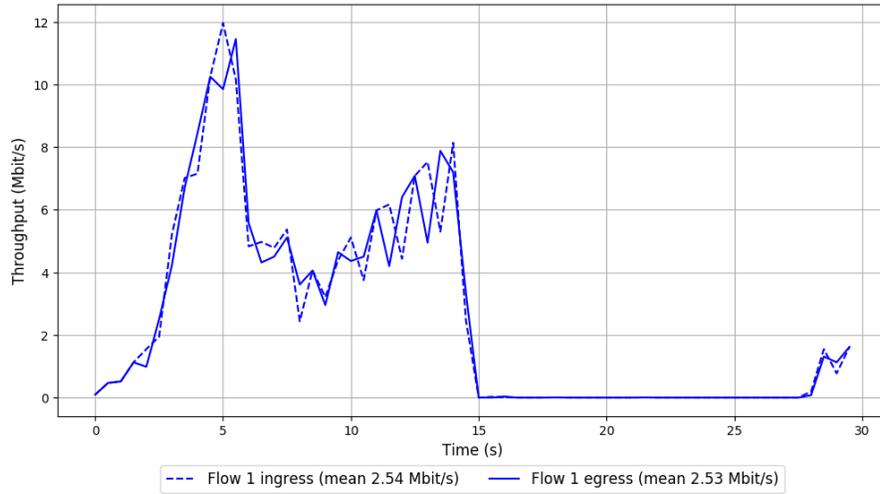
-- Flow 1:

Average throughput: 2.53 Mbit/s

95th percentile per-packet one-way delay: 51.226 ms

Loss rate: 0.11%

Run 4: Report of LEDBAT — Data Link



Run 5: Statistics of LEDBAT

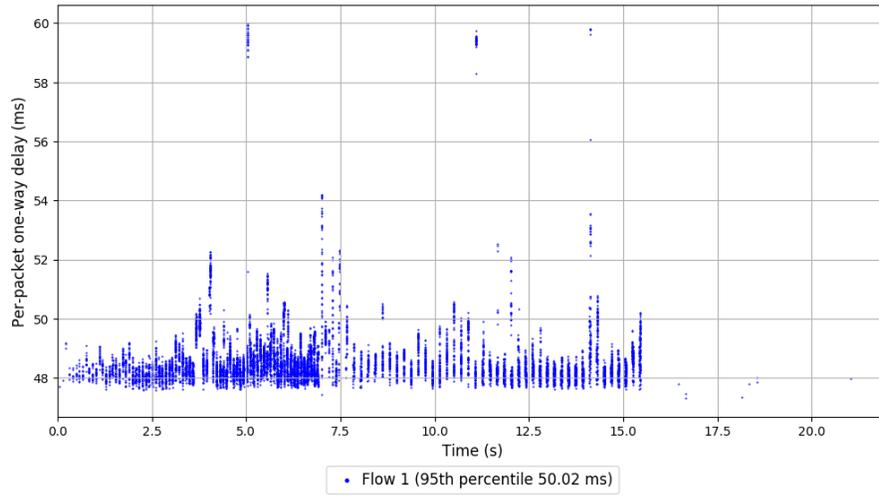
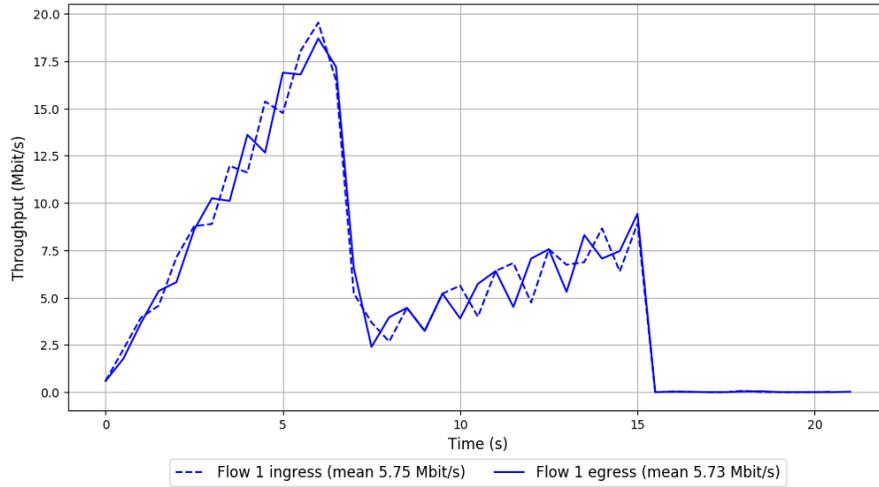
Start at: 2017-09-18 09:00:23

End at: 2017-09-18 09:00:53

Local clock offset: 0.366 ms

Remote clock offset: -0.039 ms

Run 5: Report of LEDBAT — Data Link



Run 6: Statistics of LEDBAT

Start at: 2017-09-18 09:13:34

End at: 2017-09-18 09:14:04

Local clock offset: -1.051 ms

Remote clock offset: -0.2 ms

Below is generated by plot.py at 2017-09-18 10:21:14

Datalink statistics

-- Total of 1 flow:

Average throughput: 9.10 Mbit/s

95th percentile per-packet one-way delay: 51.438 ms

Loss rate: 0.40%

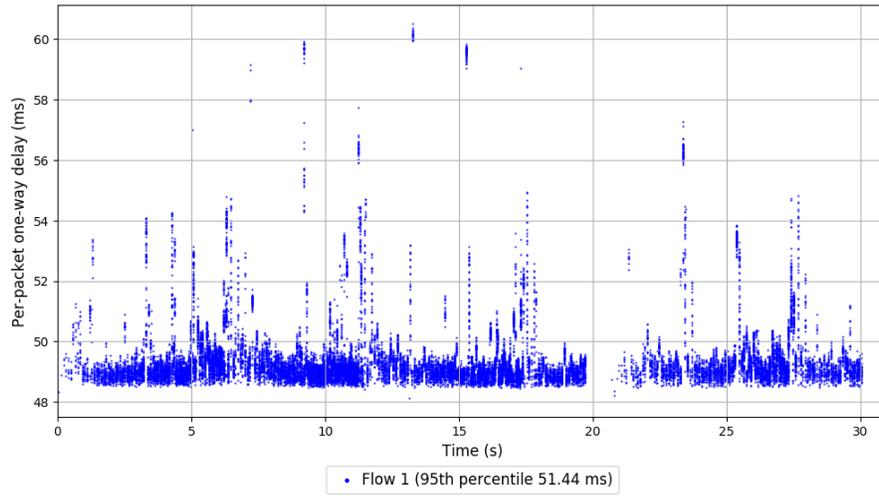
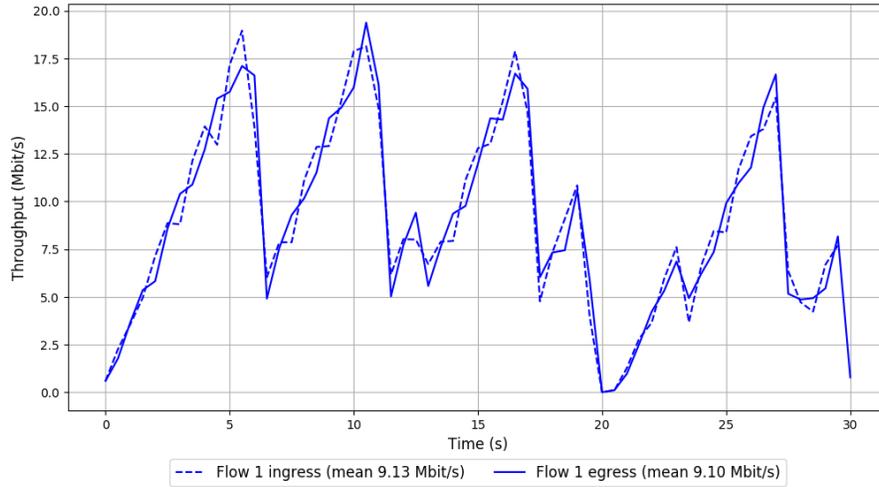
-- Flow 1:

Average throughput: 9.10 Mbit/s

95th percentile per-packet one-way delay: 51.438 ms

Loss rate: 0.40%

Run 6: Report of LEDBAT — Data Link

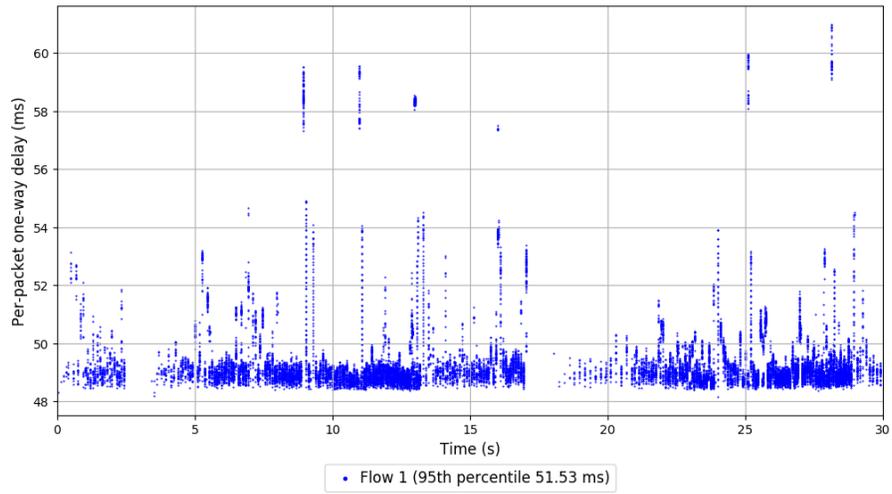
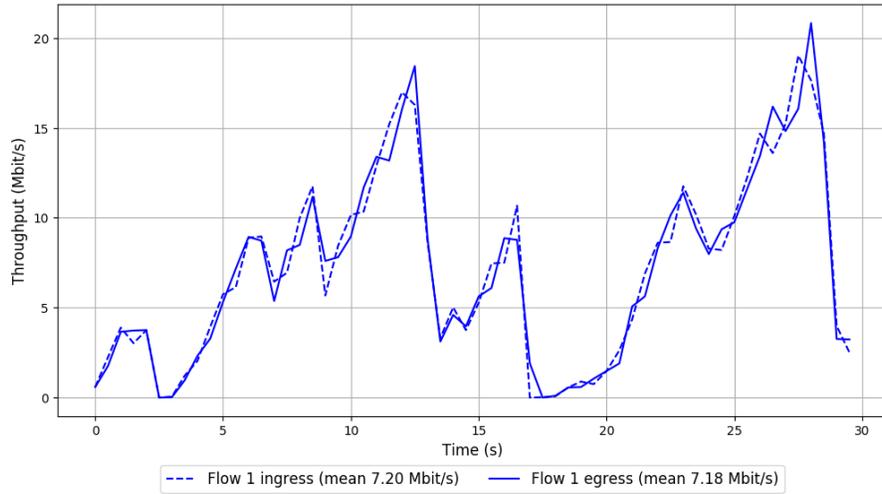


Run 7: Statistics of LEDBAT

Start at: 2017-09-18 09:26:07
End at: 2017-09-18 09:26:37
Local clock offset: -1.279 ms
Remote clock offset: -0.331 ms

Below is generated by plot.py at 2017-09-18 10:21:14
Datalink statistics
-- Total of 1 flow:
Average throughput: 7.18 Mbit/s
95th percentile per-packet one-way delay: 51.531 ms
Loss rate: 0.37%
-- Flow 1:
Average throughput: 7.18 Mbit/s
95th percentile per-packet one-way delay: 51.531 ms
Loss rate: 0.37%

Run 7: Report of LEDBAT — Data Link

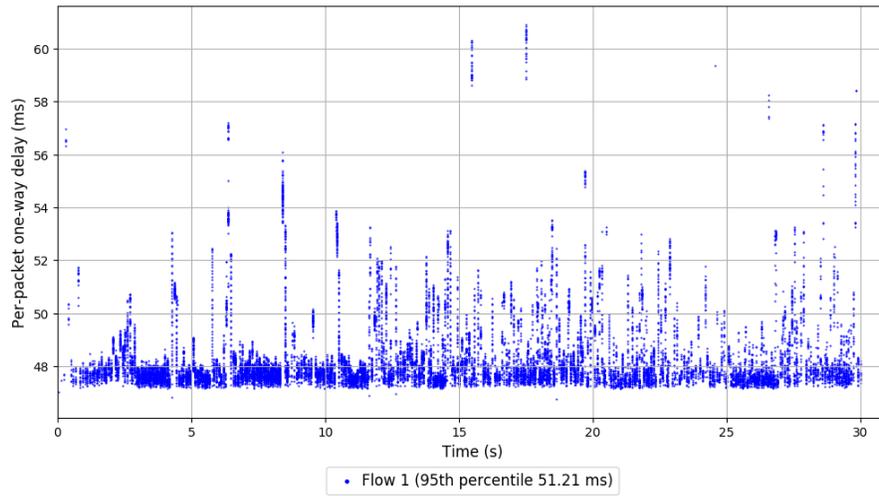
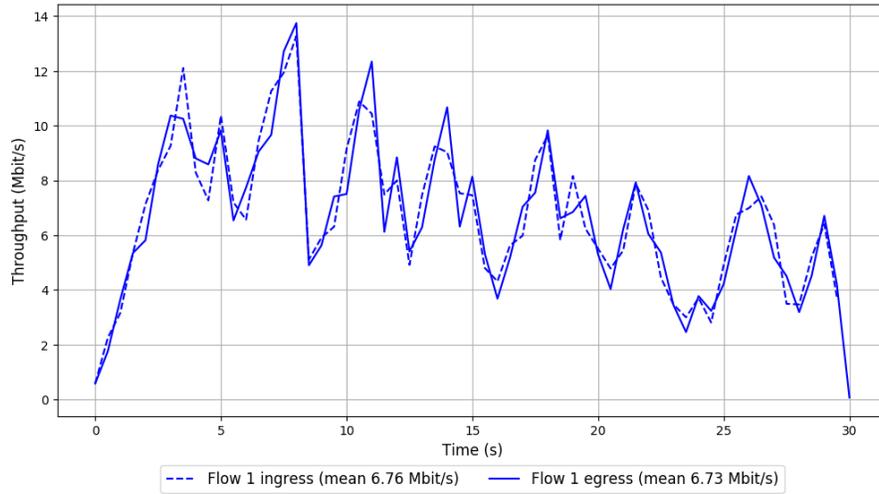


Run 8: Statistics of LEDBAT

Start at: 2017-09-18 09:38:21
End at: 2017-09-18 09:38:51
Local clock offset: -0.136 ms
Remote clock offset: -0.502 ms

Below is generated by plot.py at 2017-09-18 10:21:14
Datalink statistics
-- Total of 1 flow:
Average throughput: 6.73 Mbit/s
95th percentile per-packet one-way delay: 51.212 ms
Loss rate: 0.38%
-- Flow 1:
Average throughput: 6.73 Mbit/s
95th percentile per-packet one-way delay: 51.212 ms
Loss rate: 0.38%

Run 8: Report of LEDBAT — Data Link

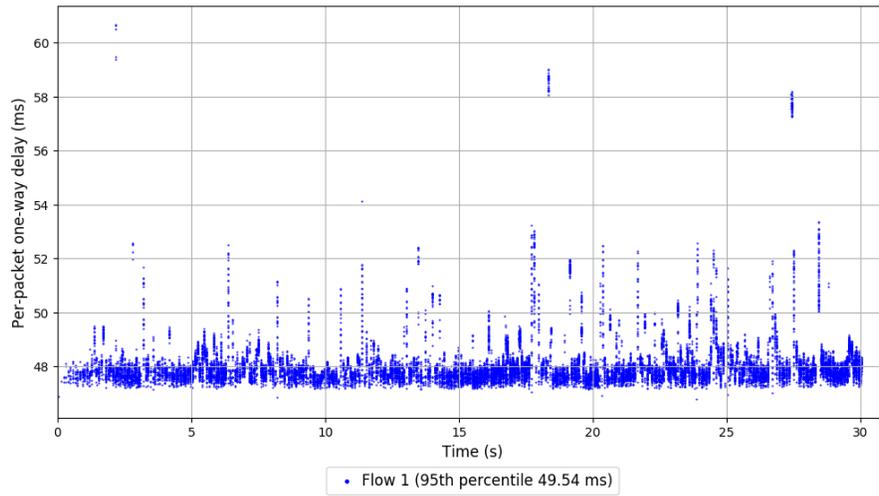
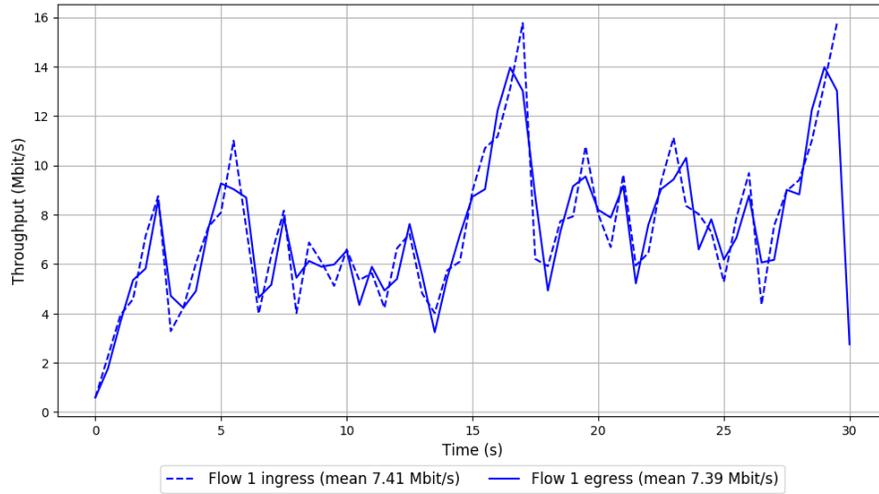


Run 9: Statistics of LEDBAT

Start at: 2017-09-18 09:50:48
End at: 2017-09-18 09:51:18
Local clock offset: -0.504 ms
Remote clock offset: -0.688 ms

Below is generated by plot.py at 2017-09-18 10:21:14
Datalink statistics
-- Total of 1 flow:
Average throughput: 7.39 Mbit/s
95th percentile per-packet one-way delay: 49.536 ms
Loss rate: 0.18%
-- Flow 1:
Average throughput: 7.39 Mbit/s
95th percentile per-packet one-way delay: 49.536 ms
Loss rate: 0.18%

Run 9: Report of LEDBAT — Data Link

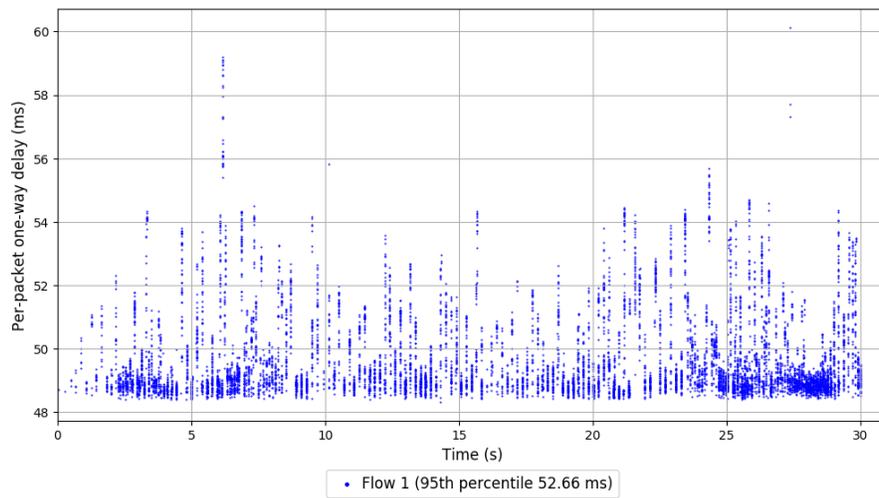
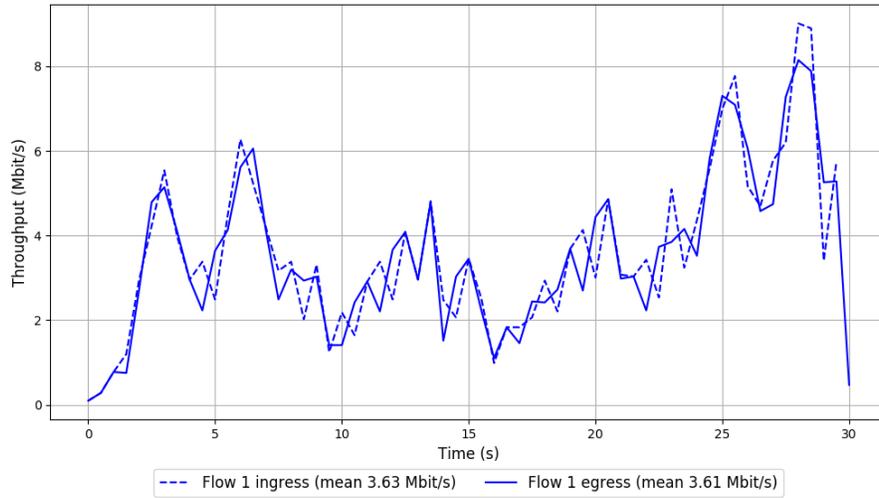


Run 10: Statistics of LEDBAT

Start at: 2017-09-18 10:02:41
End at: 2017-09-18 10:03:11
Local clock offset: -1.701 ms
Remote clock offset: -0.909 ms

Below is generated by plot.py at 2017-09-18 10:21:14
Datalink statistics
-- Total of 1 flow:
Average throughput: 3.61 Mbit/s
95th percentile per-packet one-way delay: 52.657 ms
Loss rate: 0.70%
-- Flow 1:
Average throughput: 3.61 Mbit/s
95th percentile per-packet one-way delay: 52.657 ms
Loss rate: 0.70%

Run 10: Report of LEDBAT — Data Link



Run 1: Statistics of PCC

Start at: 2017-09-18 07:50:19

End at: 2017-09-18 07:50:49

Local clock offset: 1.046 ms

Remote clock offset: 0.297 ms

Below is generated by plot.py at 2017-09-18 10:21:40

Datalink statistics

-- Total of 1 flow:

Average throughput: 64.15 Mbit/s

95th percentile per-packet one-way delay: 63.420 ms

Loss rate: 1.31%

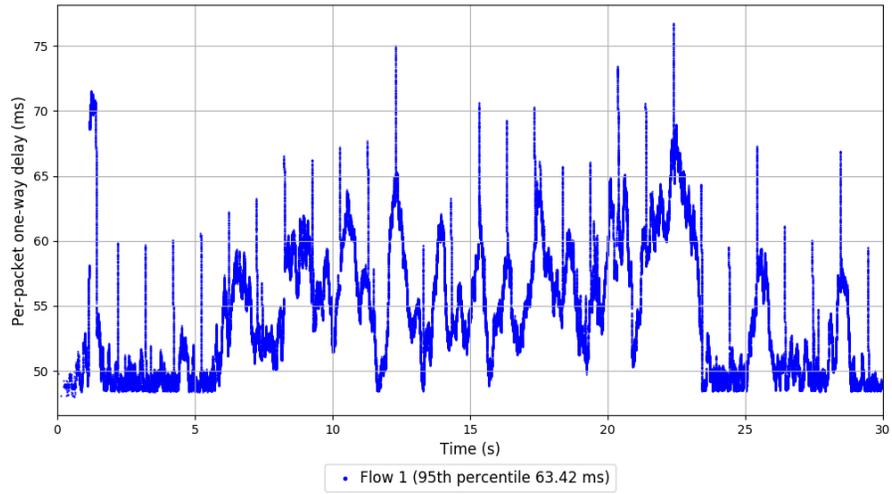
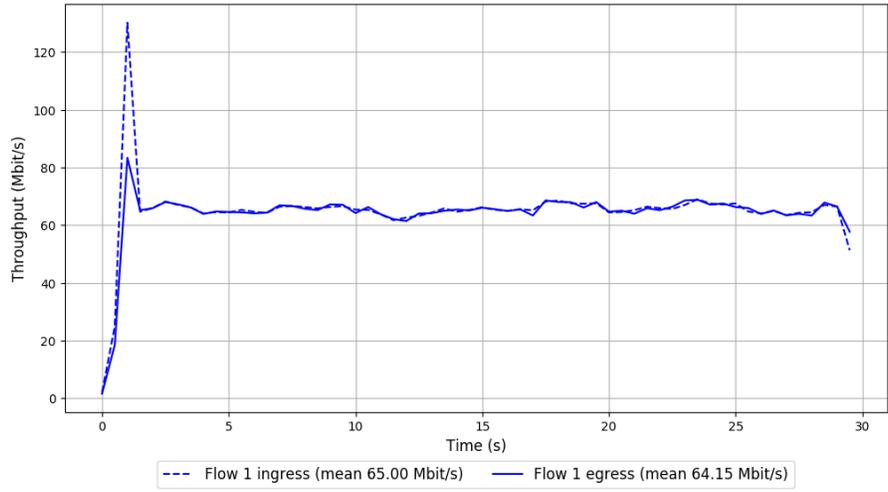
-- Flow 1:

Average throughput: 64.15 Mbit/s

95th percentile per-packet one-way delay: 63.420 ms

Loss rate: 1.31%

Run 1: Report of PCC — Data Link



Run 2: Statistics of PCC

Start at: 2017-09-18 08:02:57

End at: 2017-09-18 08:03:27

Local clock offset: 1.638 ms

Remote clock offset: 0.015 ms

Below is generated by plot.py at 2017-09-18 10:22:01

Datalink statistics

-- Total of 1 flow:

Average throughput: 75.86 Mbit/s

95th percentile per-packet one-way delay: 54.848 ms

Loss rate: 1.03%

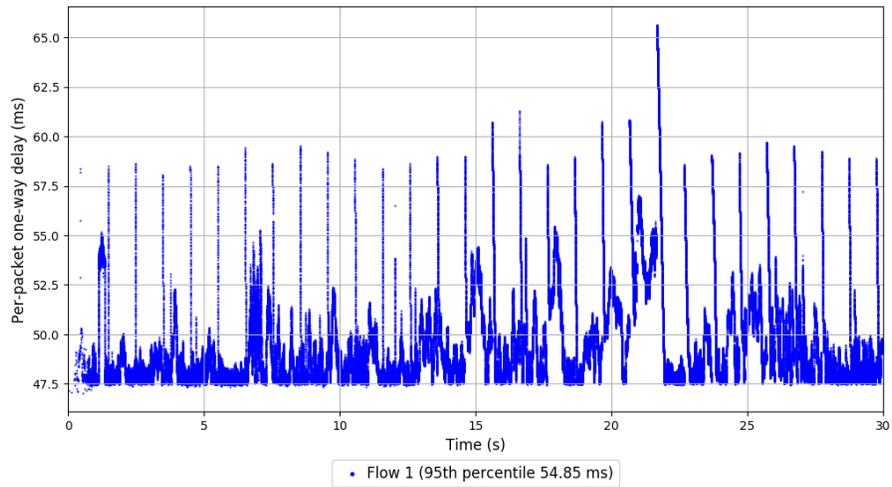
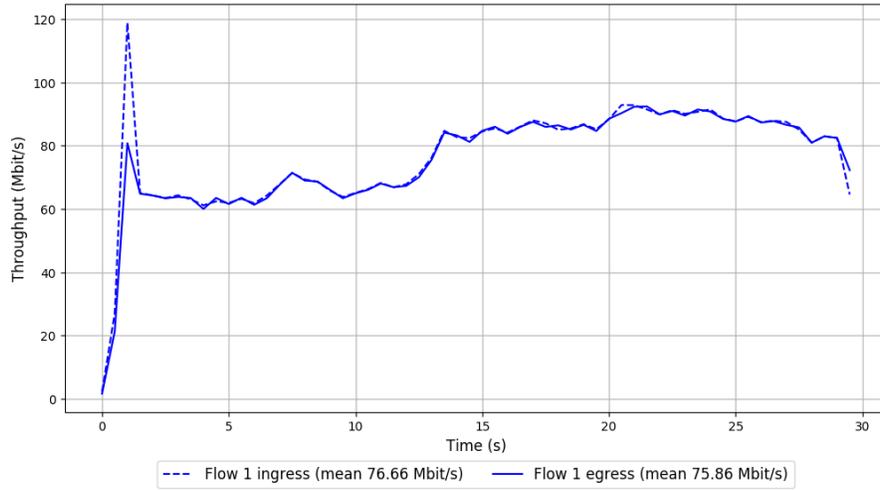
-- Flow 1:

Average throughput: 75.86 Mbit/s

95th percentile per-packet one-way delay: 54.848 ms

Loss rate: 1.03%

Run 2: Report of PCC — Data Link



Run 3: Statistics of PCC

Start at: 2017-09-18 08:20:08

End at: 2017-09-18 08:20:38

Local clock offset: 0.157 ms

Remote clock offset: 0.232 ms

Below is generated by plot.py at 2017-09-18 10:22:01

Datalink statistics

-- Total of 1 flow:

Average throughput: 5.13 Mbit/s

95th percentile per-packet one-way delay: 81.925 ms

Loss rate: 0.17%

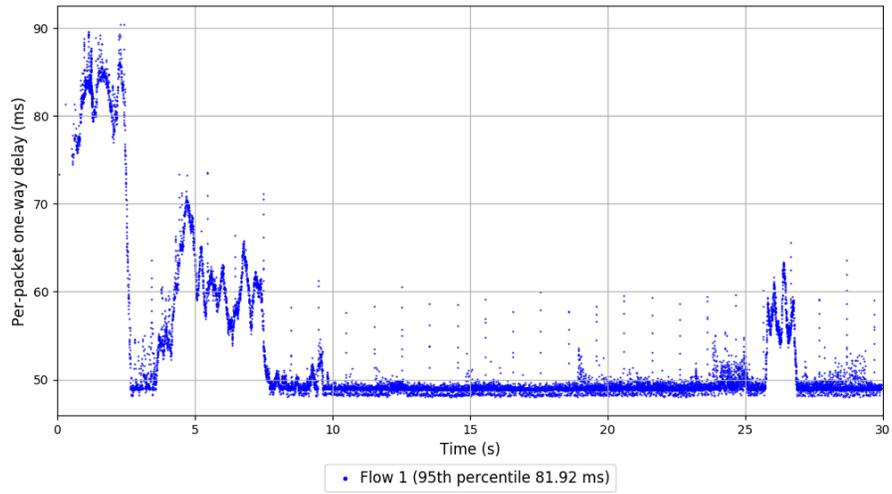
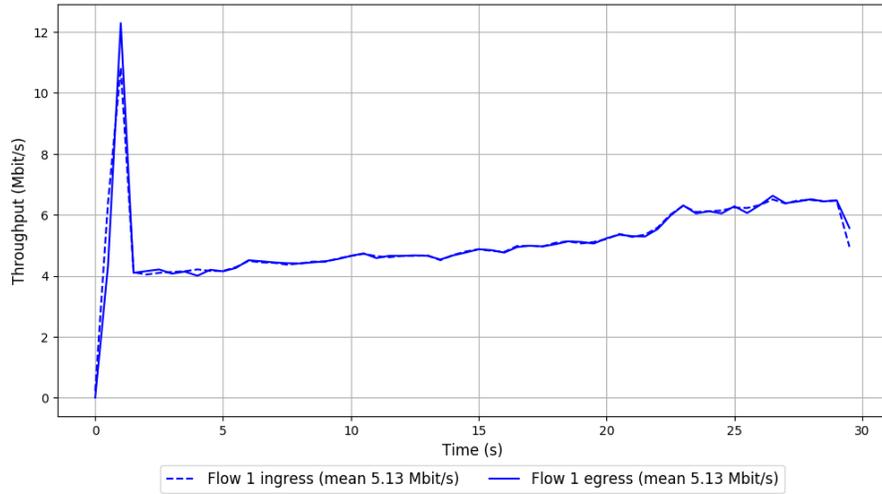
-- Flow 1:

Average throughput: 5.13 Mbit/s

95th percentile per-packet one-way delay: 81.925 ms

Loss rate: 0.17%

Run 3: Report of PCC — Data Link



Run 4: Statistics of PCC

Start at: 2017-09-18 08:40:12

End at: 2017-09-18 08:40:42

Local clock offset: 0.65 ms

Remote clock offset: 0.105 ms

Below is generated by plot.py at 2017-09-18 10:22:01

Datalink statistics

-- Total of 1 flow:

Average throughput: 0.00 Mbit/s

95th percentile per-packet one-way delay: 47.726 ms

Loss rate: 0.00%

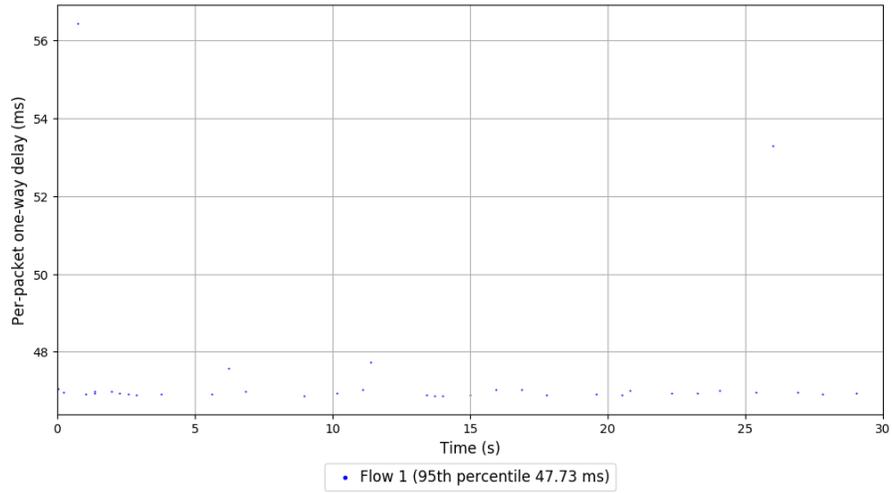
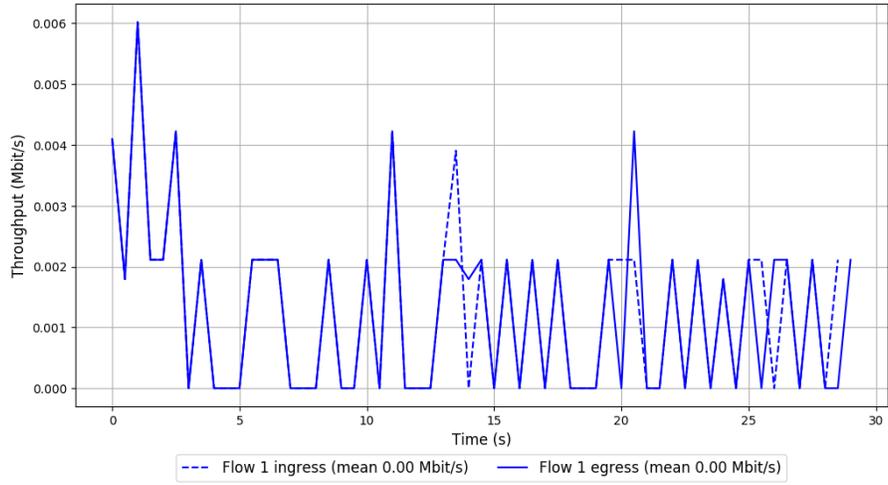
-- Flow 1:

Average throughput: 0.00 Mbit/s

95th percentile per-packet one-way delay: 47.726 ms

Loss rate: 0.00%

Run 4: Report of PCC — Data Link



Run 5: Statistics of PCC

Start at: 2017-09-18 08:56:51

End at: 2017-09-18 08:57:21

Local clock offset: -0.775 ms

Remote clock offset: -0.07 ms

Below is generated by plot.py at 2017-09-18 10:22:12

Datalink statistics

-- Total of 1 flow:

Average throughput: 76.26 Mbit/s

95th percentile per-packet one-way delay: 54.201 ms

Loss rate: 0.90%

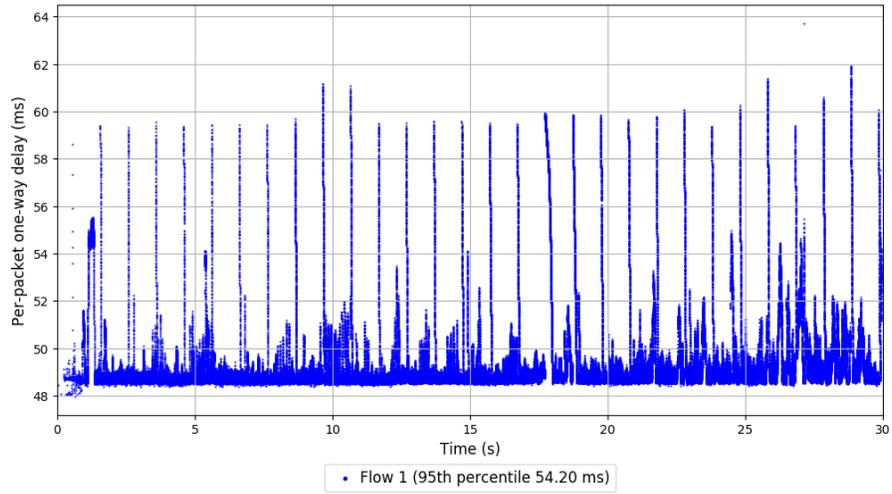
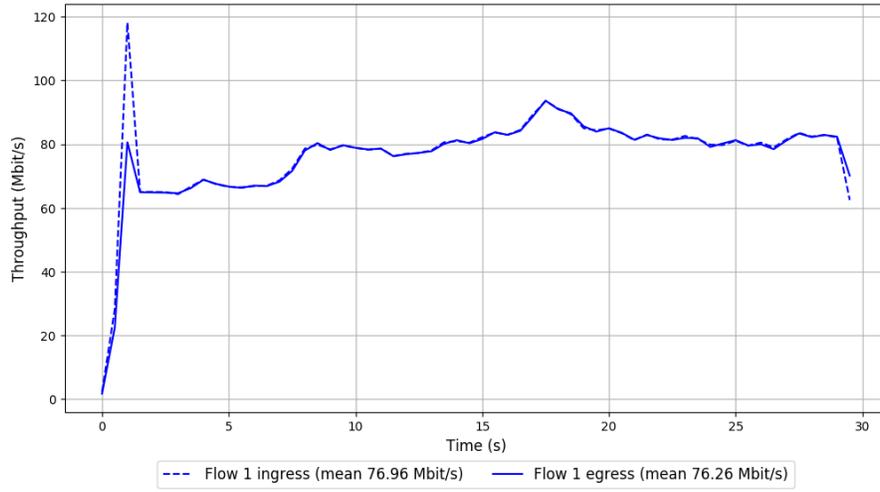
-- Flow 1:

Average throughput: 76.26 Mbit/s

95th percentile per-packet one-way delay: 54.201 ms

Loss rate: 0.90%

Run 5: Report of PCC — Data Link

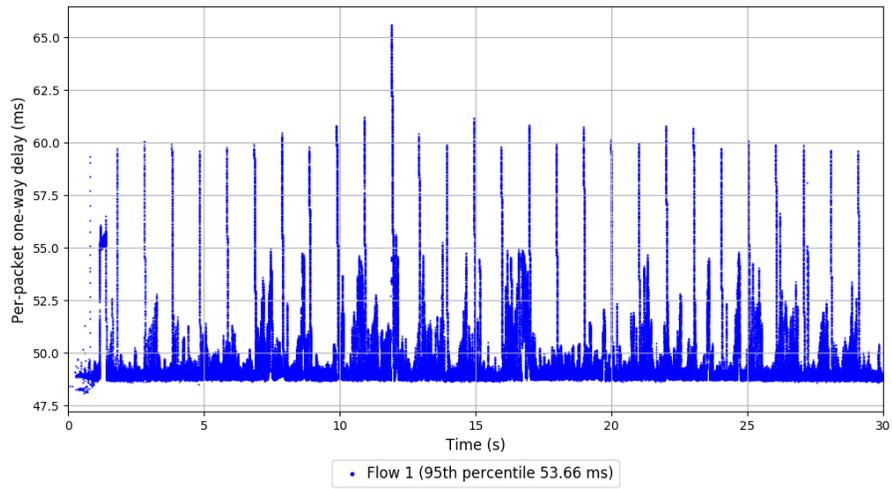
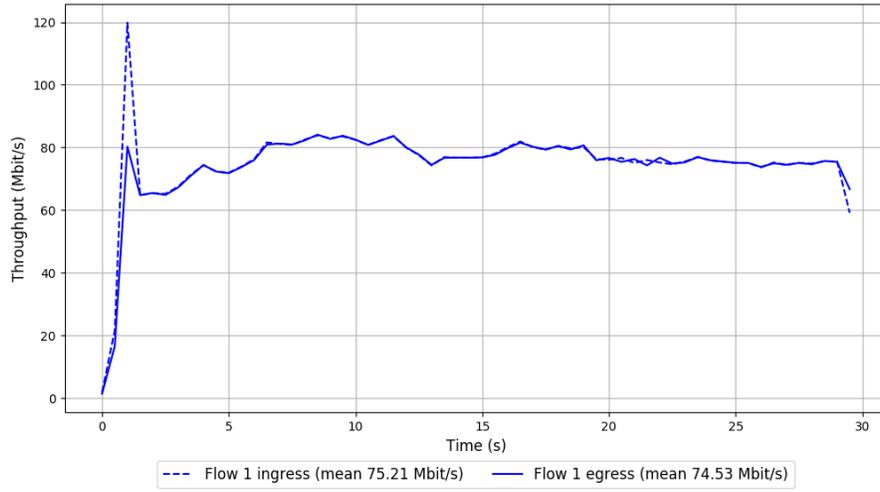


Run 6: Statistics of PCC

Start at: 2017-09-18 09:09:17
End at: 2017-09-18 09:09:47
Local clock offset: -0.883 ms
Remote clock offset: -0.172 ms

Below is generated by plot.py at 2017-09-18 10:22:12
Datalink statistics
-- Total of 1 flow:
Average throughput: 74.53 Mbit/s
95th percentile per-packet one-way delay: 53.656 ms
Loss rate: 0.89%
-- Flow 1:
Average throughput: 74.53 Mbit/s
95th percentile per-packet one-way delay: 53.656 ms
Loss rate: 0.89%

Run 6: Report of PCC — Data Link



Run 7: Statistics of PCC

Start at: 2017-09-18 09:22:27

End at: 2017-09-18 09:22:57

Local clock offset: -1.18 ms

Remote clock offset: -0.27 ms

Below is generated by plot.py at 2017-09-18 10:22:20

Datalink statistics

-- Total of 1 flow:

Average throughput: 82.18 Mbit/s

95th percentile per-packet one-way delay: 57.291 ms

Loss rate: 1.09%

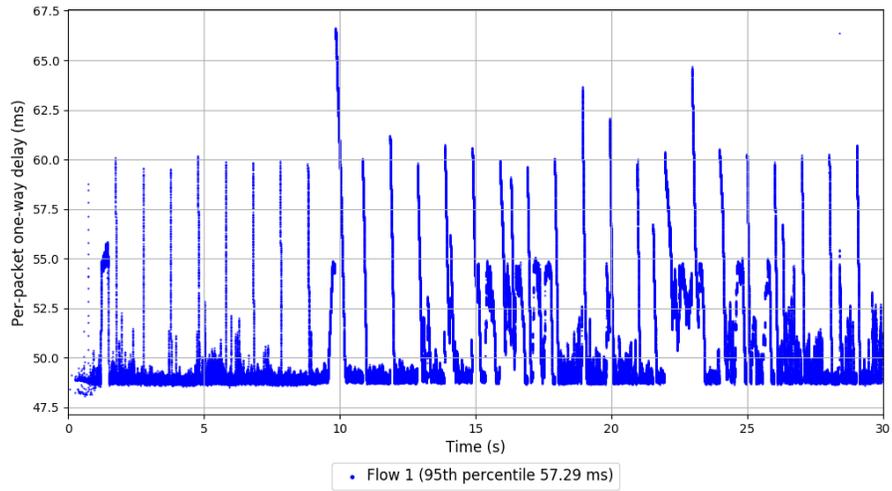
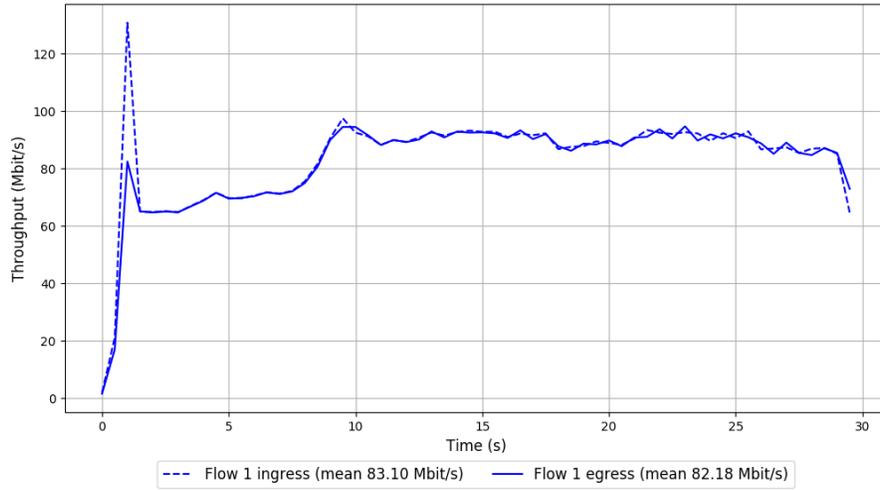
-- Flow 1:

Average throughput: 82.18 Mbit/s

95th percentile per-packet one-way delay: 57.291 ms

Loss rate: 1.09%

Run 7: Report of PCC — Data Link

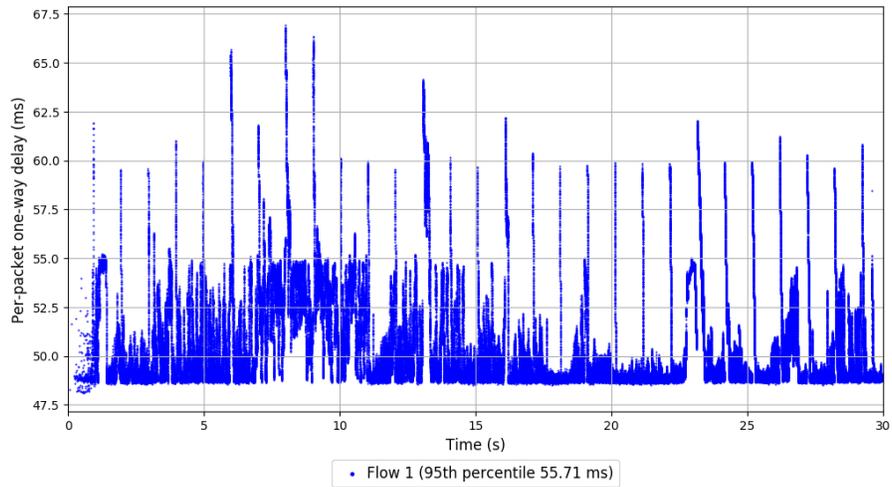
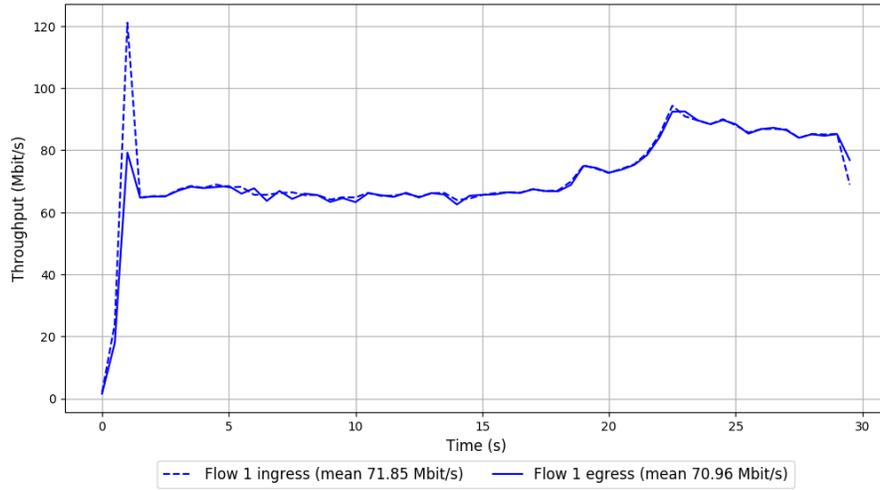


Run 8: Statistics of PCC

Start at: 2017-09-18 09:34:45
End at: 2017-09-18 09:35:15
Local clock offset: -1.302 ms
Remote clock offset: -0.474 ms

Below is generated by plot.py at 2017-09-18 10:22:20
Datalink statistics
-- Total of 1 flow:
Average throughput: 70.96 Mbit/s
95th percentile per-packet one-way delay: 55.710 ms
Loss rate: 1.24%
-- Flow 1:
Average throughput: 70.96 Mbit/s
95th percentile per-packet one-way delay: 55.710 ms
Loss rate: 1.24%

Run 8: Report of PCC — Data Link

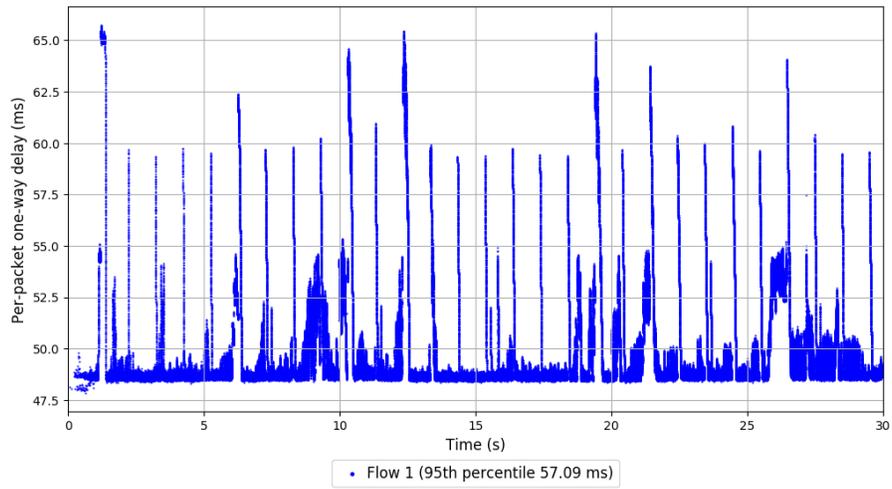
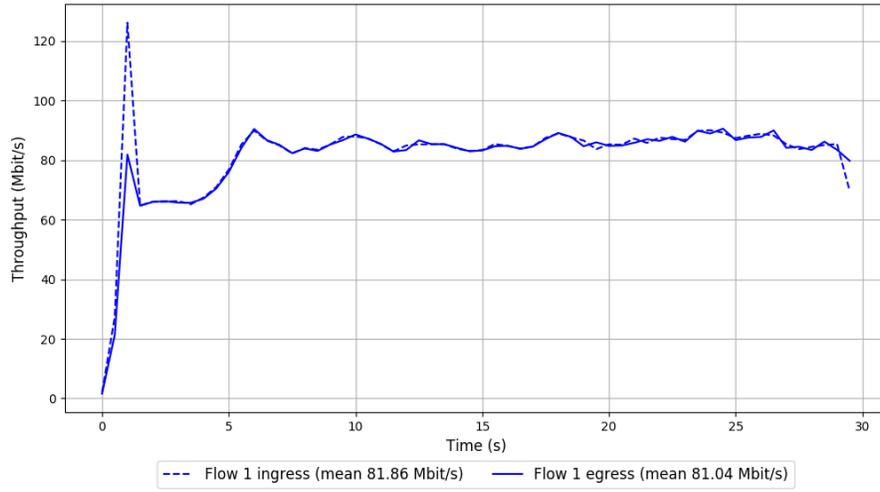


Run 9: Statistics of PCC

Start at: 2017-09-18 09:47:12
End at: 2017-09-18 09:47:42
Local clock offset: -1.679 ms
Remote clock offset: -0.657 ms

Below is generated by plot.py at 2017-09-18 10:22:32
Datalink statistics
-- Total of 1 flow:
Average throughput: 81.04 Mbit/s
95th percentile per-packet one-way delay: 57.089 ms
Loss rate: 0.99%
-- Flow 1:
Average throughput: 81.04 Mbit/s
95th percentile per-packet one-way delay: 57.089 ms
Loss rate: 0.99%

Run 9: Report of PCC — Data Link

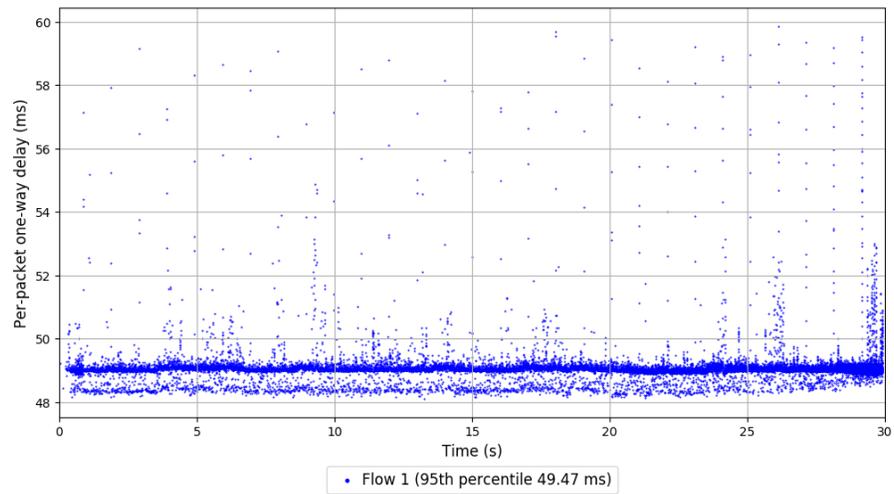
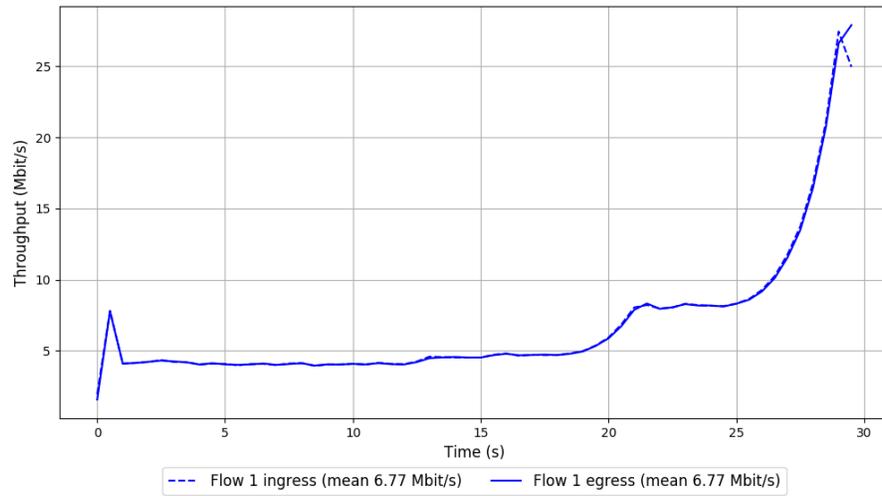


Run 10: Statistics of PCC

Start at: 2017-09-18 09:59:10
End at: 2017-09-18 09:59:40
Local clock offset: -1.904 ms
Remote clock offset: -0.826 ms

Below is generated by plot.py at 2017-09-18 10:22:32
Datalink statistics
-- Total of 1 flow:
Average throughput: 6.77 Mbit/s
95th percentile per-packet one-way delay: 49.471 ms
Loss rate: 0.08%
-- Flow 1:
Average throughput: 6.77 Mbit/s
95th percentile per-packet one-way delay: 49.471 ms
Loss rate: 0.08%

Run 10: Report of PCC — Data Link



Run 1: Statistics of QUIC Cubic

Start at: 2017-09-18 07:49:09

End at: 2017-09-18 07:49:39

Local clock offset: 1.007 ms

Remote clock offset: 0.281 ms

Below is generated by plot.py at 2017-09-18 10:22:32

Datalink statistics

-- Total of 1 flow:

Average throughput: 14.67 Mbit/s

95th percentile per-packet one-way delay: 61.868 ms

Loss rate: 0.55%

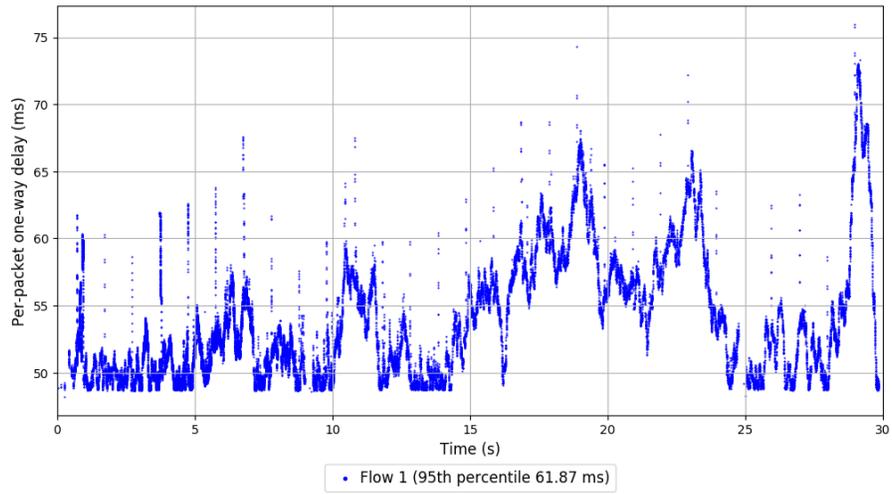
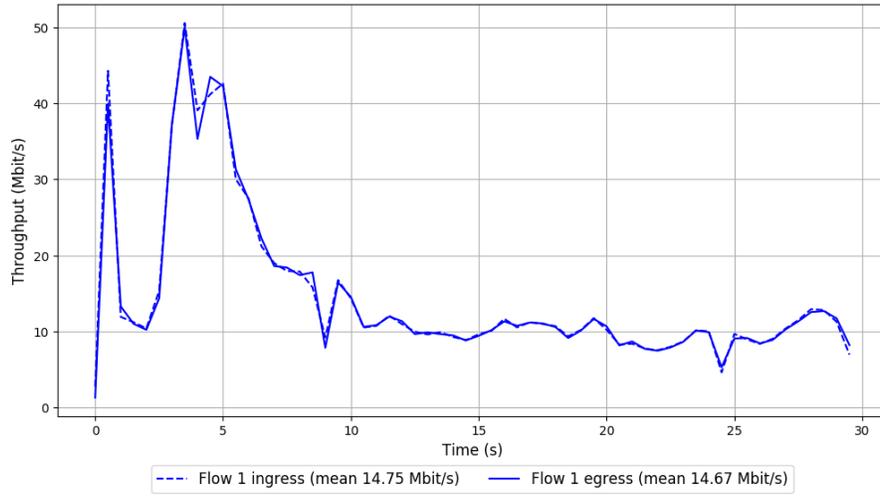
-- Flow 1:

Average throughput: 14.67 Mbit/s

95th percentile per-packet one-way delay: 61.868 ms

Loss rate: 0.55%

Run 1: Report of QUIC Cubic — Data Link



Run 2: Statistics of QUIC Cubic

Start at: 2017-09-18 08:01:47

End at: 2017-09-18 08:02:17

Local clock offset: 0.644 ms

Remote clock offset: 0.212 ms

Below is generated by plot.py at 2017-09-18 10:22:32

Datalink statistics

-- Total of 1 flow:

Average throughput: 16.71 Mbit/s

95th percentile per-packet one-way delay: 73.431 ms

Loss rate: 0.62%

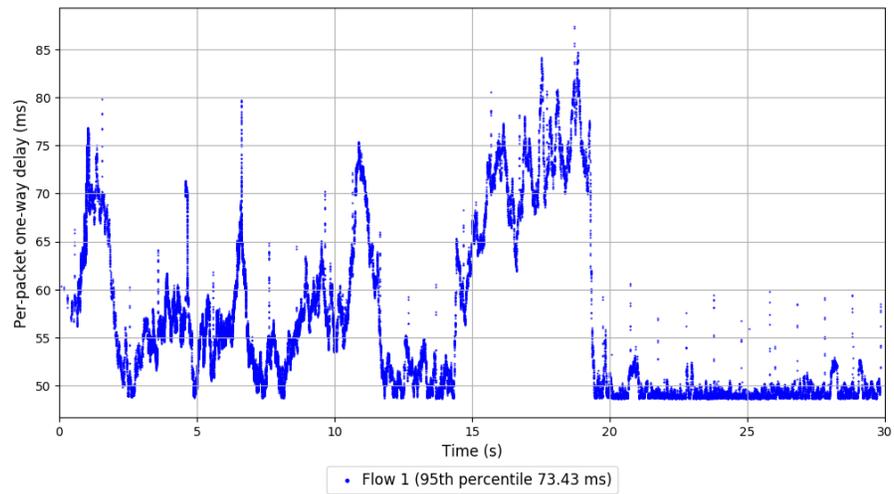
-- Flow 1:

Average throughput: 16.71 Mbit/s

95th percentile per-packet one-way delay: 73.431 ms

Loss rate: 0.62%

Run 2: Report of QUIC Cubic — Data Link



Run 3: Statistics of QUIC Cubic

Start at: 2017-09-18 08:18:08

End at: 2017-09-18 08:18:38

Local clock offset: 0.239 ms

Remote clock offset: 0.192 ms

Below is generated by plot.py at 2017-09-18 10:22:32

Datalink statistics

-- Total of 1 flow:

Average throughput: 5.57 Mbit/s

95th percentile per-packet one-way delay: 62.418 ms

Loss rate: 0.33%

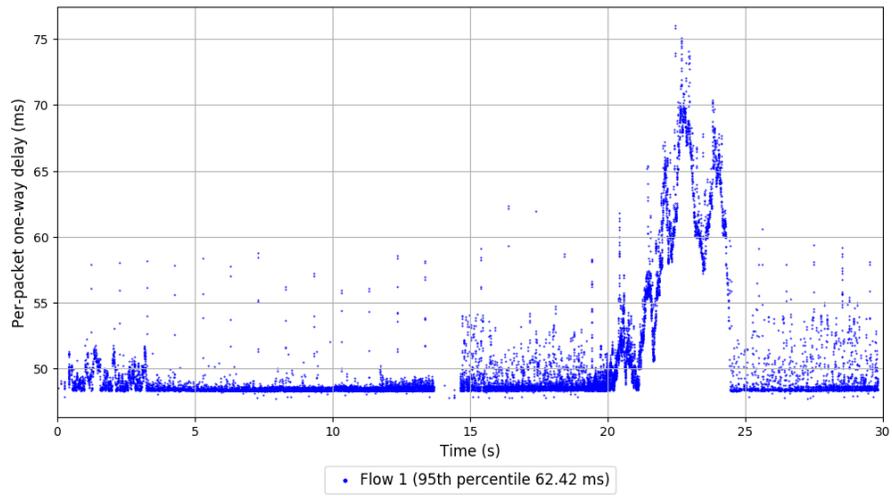
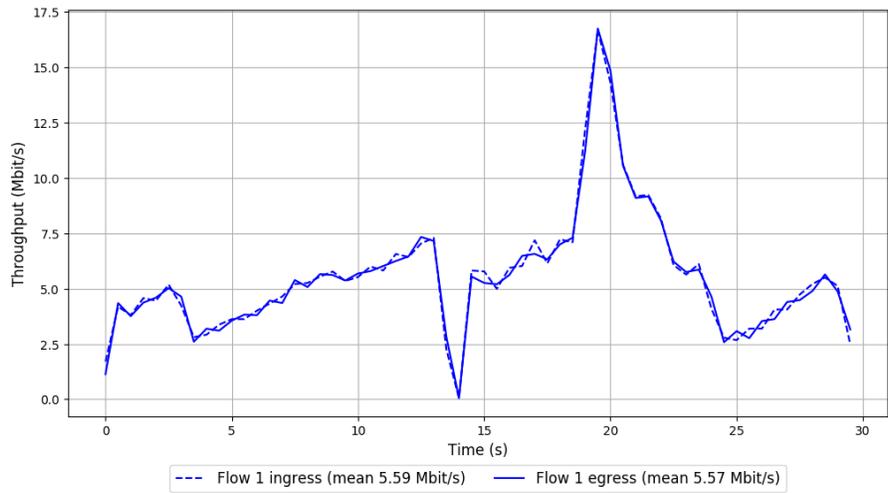
-- Flow 1:

Average throughput: 5.57 Mbit/s

95th percentile per-packet one-way delay: 62.418 ms

Loss rate: 0.33%

Run 3: Report of QUIC Cubic — Data Link



Run 4: Statistics of QUIC Cubic

Start at: 2017-09-18 08:38:23

End at: 2017-09-18 08:38:53

Local clock offset: 0.601 ms

Remote clock offset: 0.092 ms

Below is generated by plot.py at 2017-09-18 10:22:32

Datalink statistics

-- Total of 1 flow:

Average throughput: 28.74 Mbit/s

95th percentile per-packet one-way delay: 52.735 ms

Loss rate: 1.43%

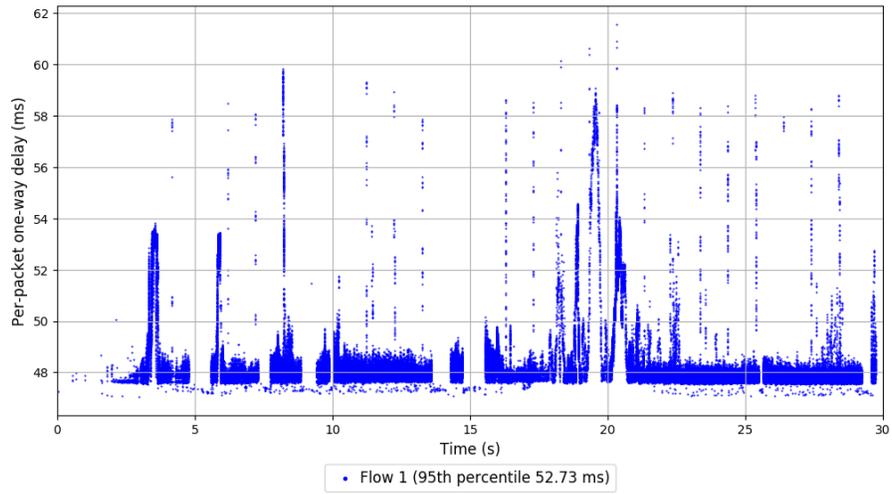
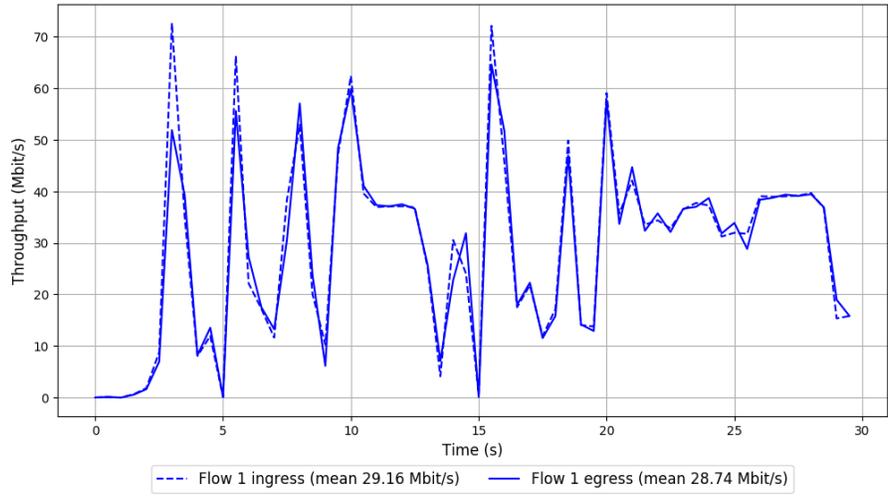
-- Flow 1:

Average throughput: 28.74 Mbit/s

95th percentile per-packet one-way delay: 52.735 ms

Loss rate: 1.43%

Run 4: Report of QUIC Cubic — Data Link



Run 5: Statistics of QUIC Cubic

Start at: 2017-09-18 08:55:40

End at: 2017-09-18 08:56:10

Local clock offset: 0.382 ms

Remote clock offset: 0.015 ms

Below is generated by plot.py at 2017-09-18 10:22:37

Datalink statistics

-- Total of 1 flow:

Average throughput: 30.81 Mbit/s

95th percentile per-packet one-way delay: 51.198 ms

Loss rate: 0.82%

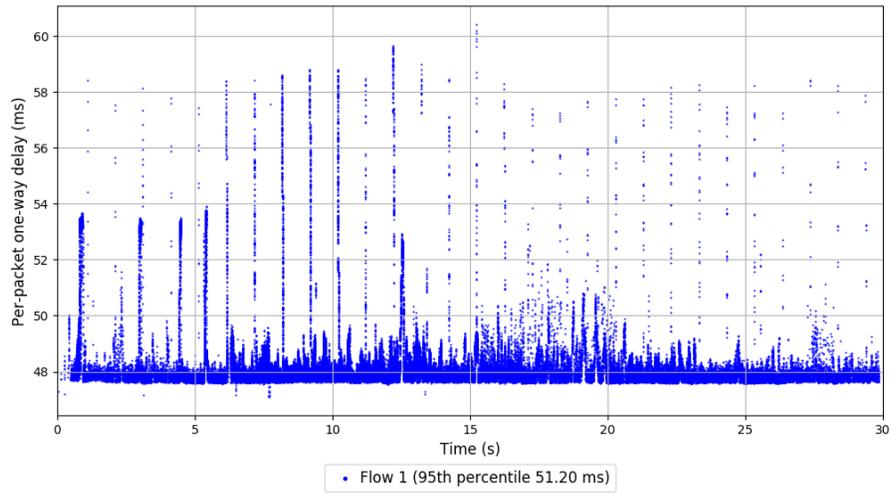
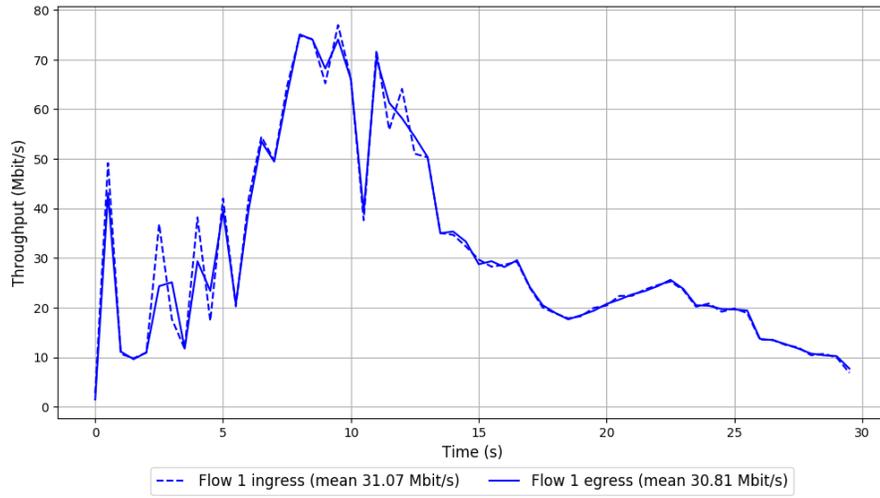
-- Flow 1:

Average throughput: 30.81 Mbit/s

95th percentile per-packet one-way delay: 51.198 ms

Loss rate: 0.82%

Run 5: Report of QUIC Cubic — Data Link



Run 6: Statistics of QUIC Cubic

Start at: 2017-09-18 09:08:05

End at: 2017-09-18 09:08:35

Local clock offset: 0.119 ms

Remote clock offset: -0.122 ms

Below is generated by plot.py at 2017-09-18 10:22:37

Datalink statistics

-- Total of 1 flow:

Average throughput: 26.71 Mbit/s

95th percentile per-packet one-way delay: 50.466 ms

Loss rate: 0.80%

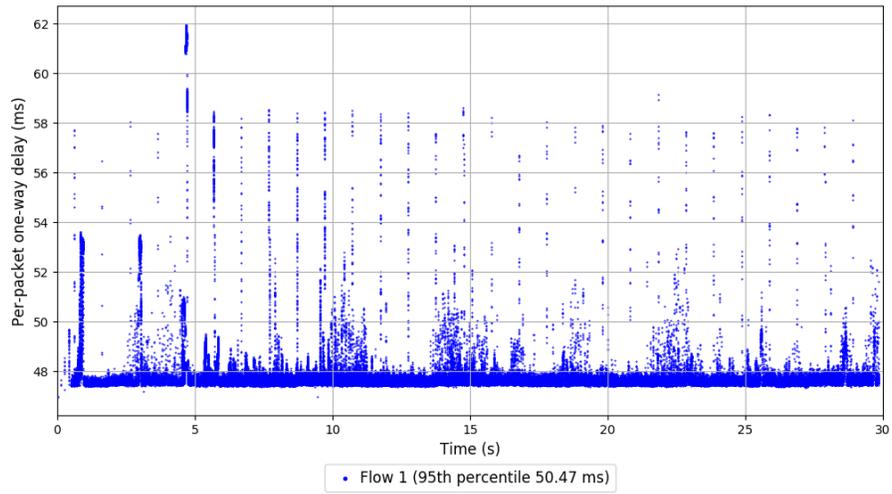
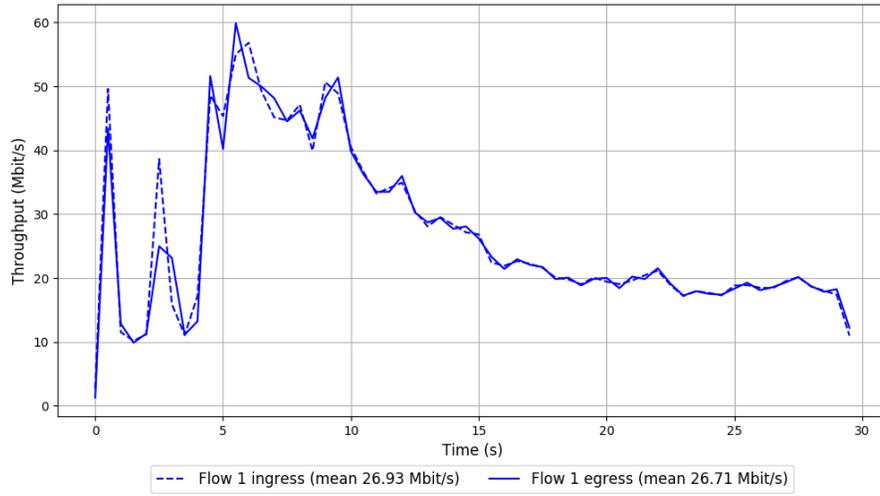
-- Flow 1:

Average throughput: 26.71 Mbit/s

95th percentile per-packet one-way delay: 50.466 ms

Loss rate: 0.80%

Run 6: Report of QUIC Cubic — Data Link



Run 7: Statistics of QUIC Cubic

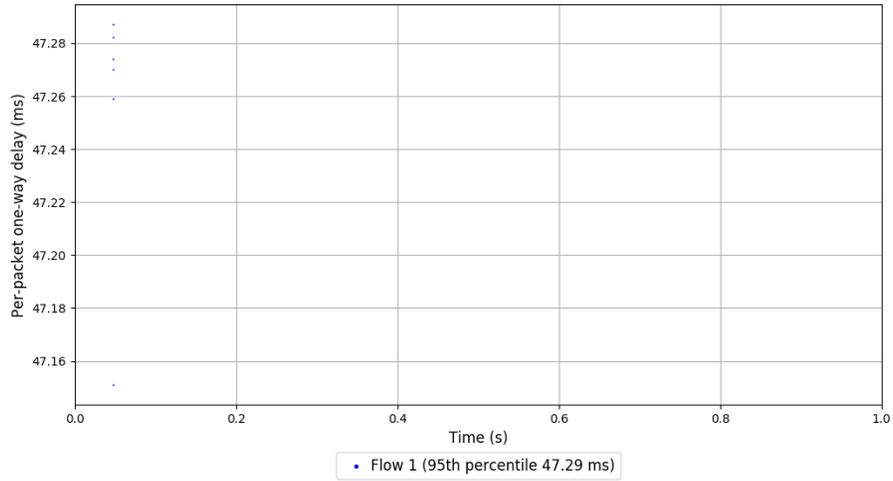
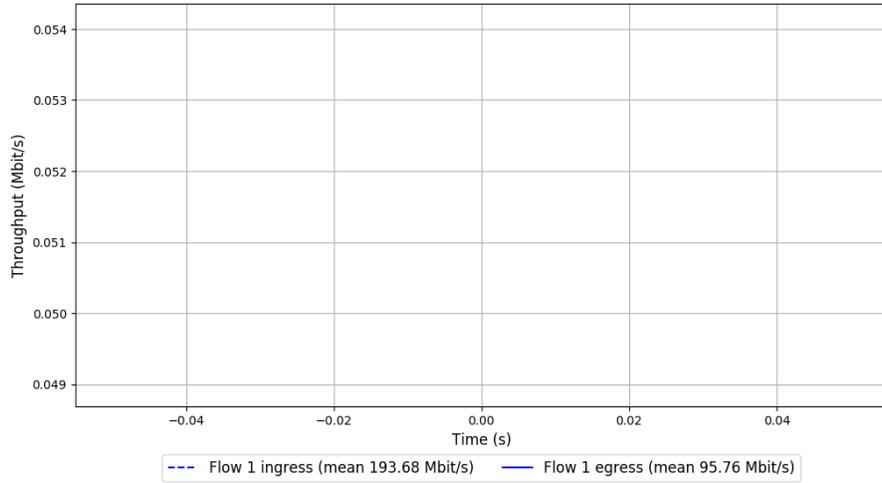
Start at: 2017-09-18 09:21:13

End at: 2017-09-18 09:21:43

Local clock offset: -0.052 ms

Remote clock offset: -0.249 ms

Run 7: Report of QUIC Cubic — Data Link



Run 8: Statistics of QUIC Cubic

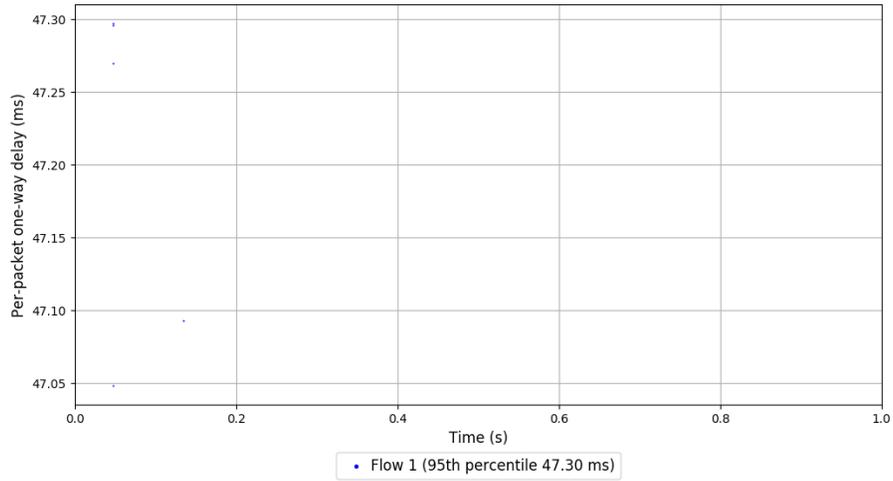
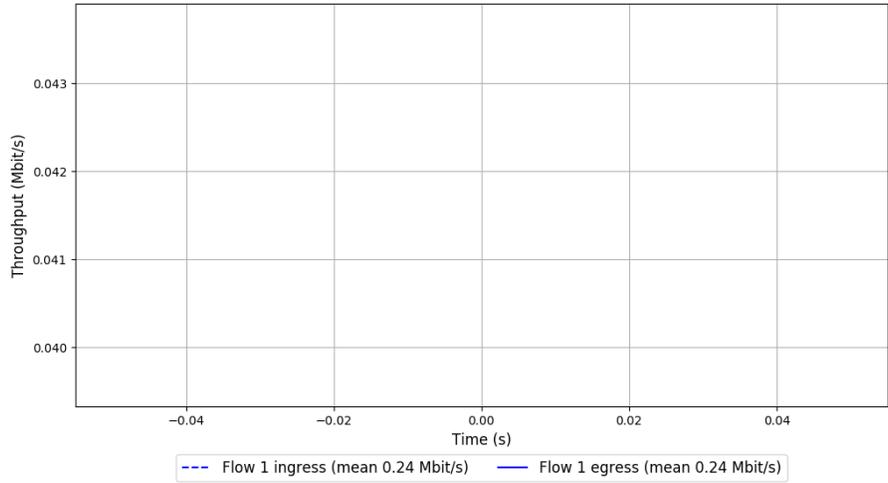
Start at: 2017-09-18 09:33:37

End at: 2017-09-18 09:34:07

Local clock offset: -0.259 ms

Remote clock offset: -0.446 ms

Run 8: Report of QUIC Cubic — Data Link



Run 9: Statistics of QUIC Cubic

Start at: 2017-09-18 09:45:58

End at: 2017-09-18 09:46:28

Local clock offset: -0.471 ms

Remote clock offset: -0.603 ms

Below is generated by plot.py at 2017-09-18 10:22:37

Datalink statistics

-- Total of 1 flow:

Average throughput: 17.99 Mbit/s

95th percentile per-packet one-way delay: 50.941 ms

Loss rate: 0.88%

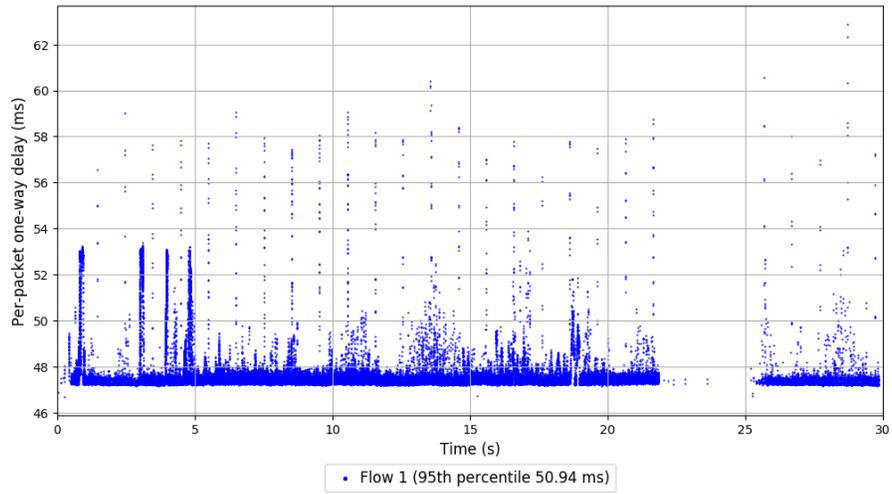
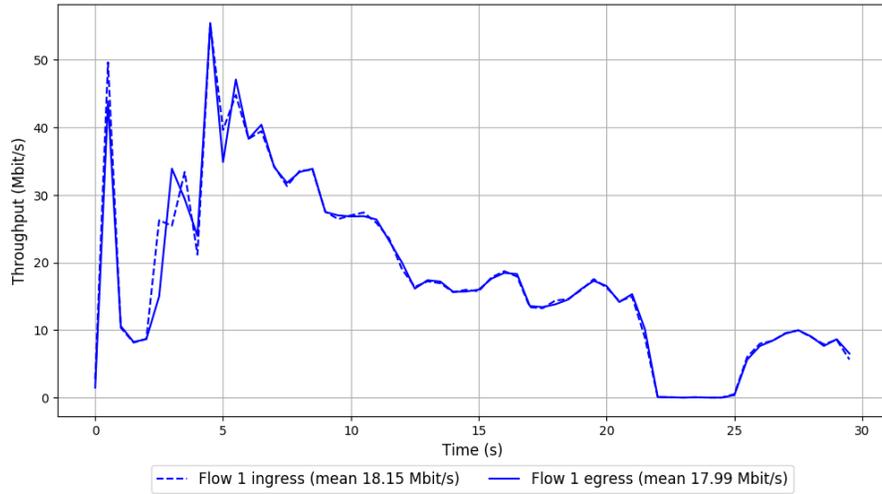
-- Flow 1:

Average throughput: 17.99 Mbit/s

95th percentile per-packet one-way delay: 50.941 ms

Loss rate: 0.88%

Run 9: Report of QUIC Cubic — Data Link



Run 10: Statistics of QUIC Cubic

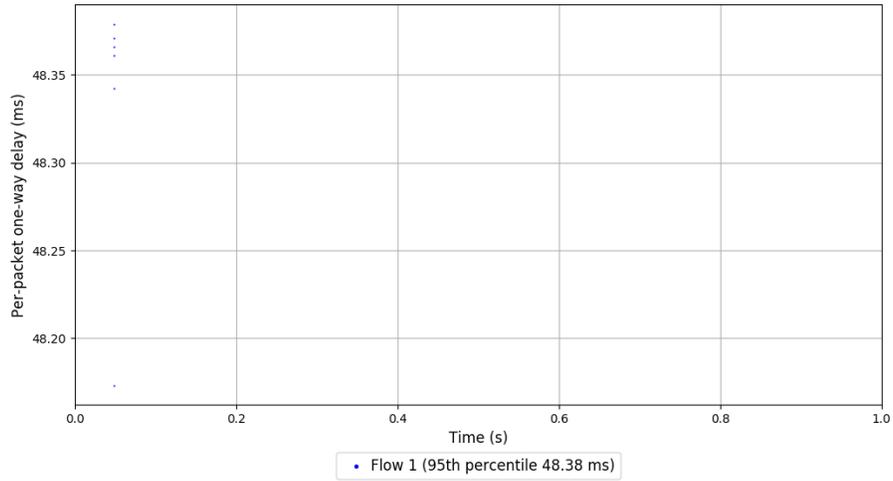
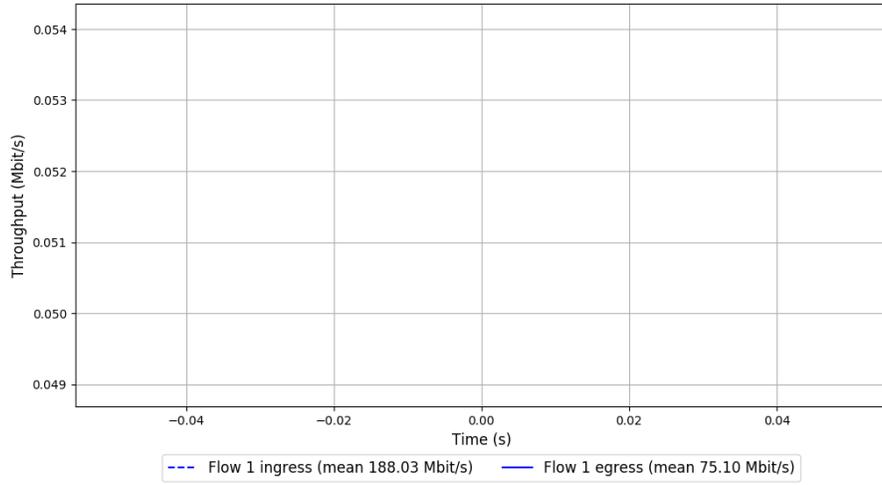
Start at: 2017-09-18 09:58:02

End at: 2017-09-18 09:58:32

Local clock offset: -0.741 ms

Remote clock offset: -0.838 ms

Run 10: Report of QUIC Cubic — Data Link



Run 1: Statistics of Sprout

Start at: 2017-09-18 07:47:59

End at: 2017-09-18 07:48:29

Local clock offset: 2.12 ms

Remote clock offset: 0.261 ms

Below is generated by plot.py at 2017-09-18 10:22:37

Datalink statistics

-- Total of 1 flow:

Average throughput: 6.94 Mbit/s

95th percentile per-packet one-way delay: 65.911 ms

Loss rate: 3.73%

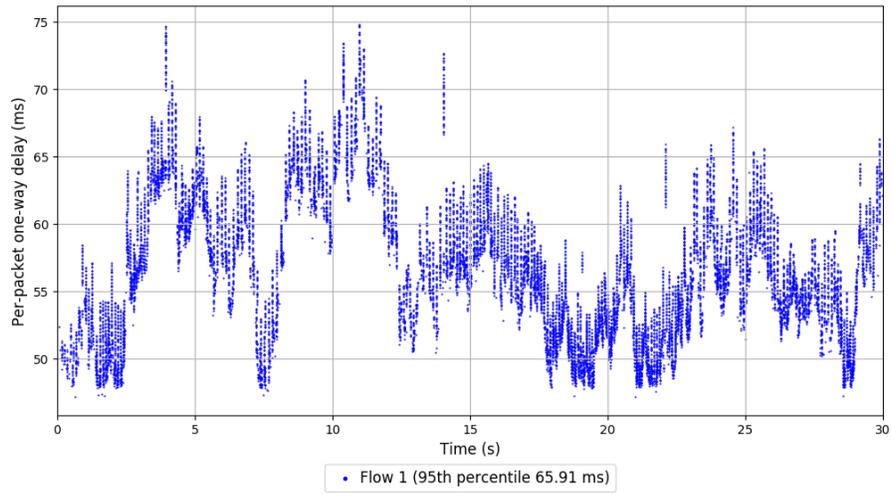
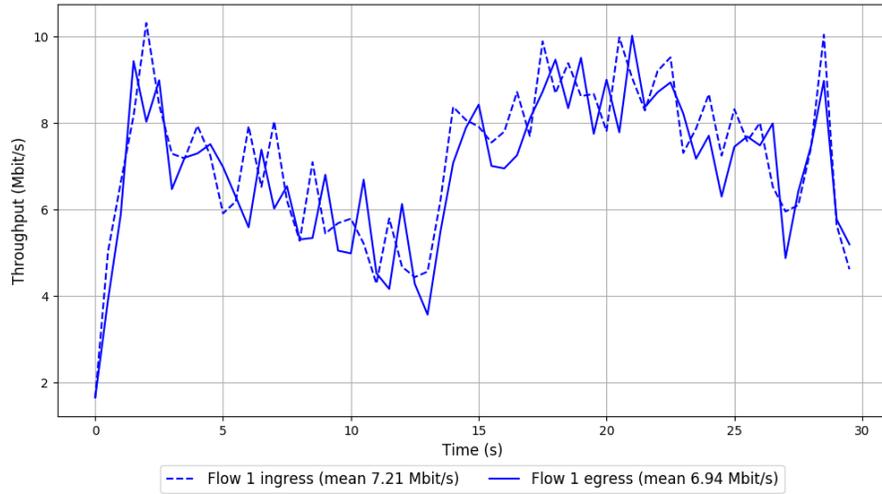
-- Flow 1:

Average throughput: 6.94 Mbit/s

95th percentile per-packet one-way delay: 65.911 ms

Loss rate: 3.73%

Run 1: Report of Sprout — Data Link



Run 2: Statistics of Sprout

Start at: 2017-09-18 08:00:36

End at: 2017-09-18 08:01:06

Local clock offset: 0.592 ms

Remote clock offset: 0.268 ms

Below is generated by plot.py at 2017-09-18 10:22:37

Datalink statistics

-- Total of 1 flow:

Average throughput: 3.70 Mbit/s

95th percentile per-packet one-way delay: 112.217 ms

Loss rate: 6.34%

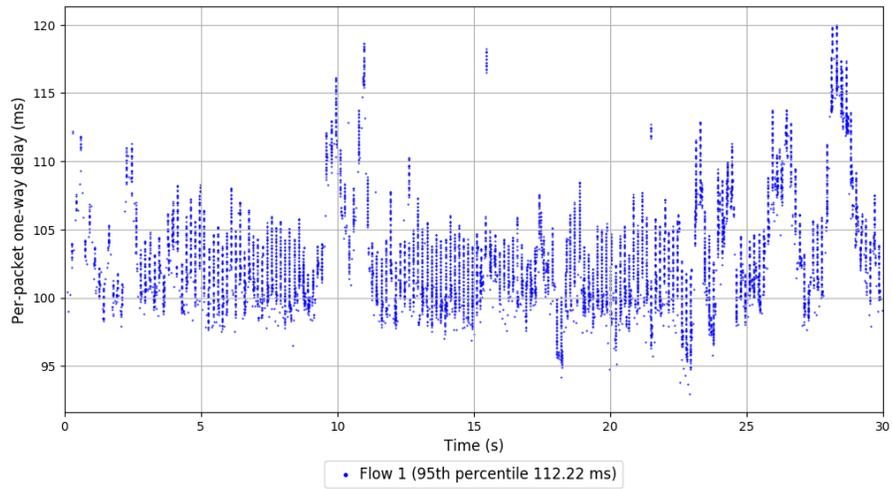
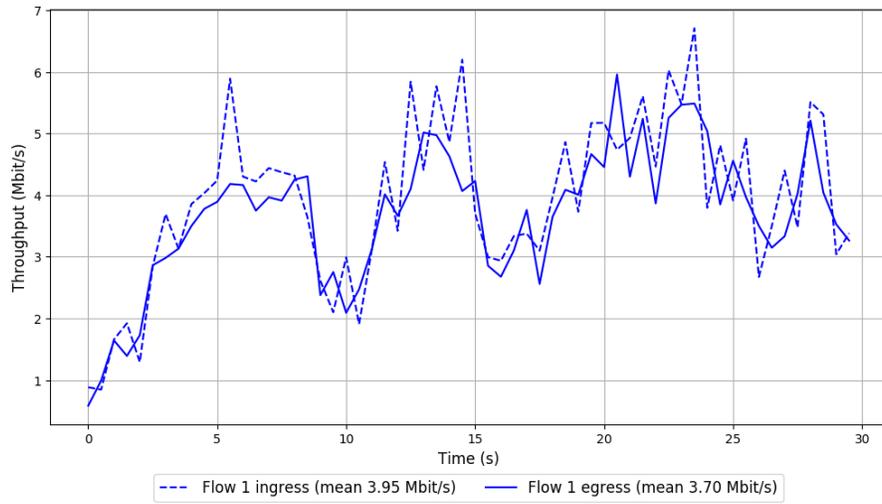
-- Flow 1:

Average throughput: 3.70 Mbit/s

95th percentile per-packet one-way delay: 112.217 ms

Loss rate: 6.34%

Run 2: Report of Sprout — Data Link



Run 3: Statistics of Sprout

Start at: 2017-09-18 08:16:39

End at: 2017-09-18 08:17:09

Local clock offset: 0.3 ms

Remote clock offset: 0.319 ms

Below is generated by plot.py at 2017-09-18 10:22:37

Datalink statistics

-- Total of 1 flow:

Average throughput: 1.52 Mbit/s

95th percentile per-packet one-way delay: 58.156 ms

Loss rate: 2.85%

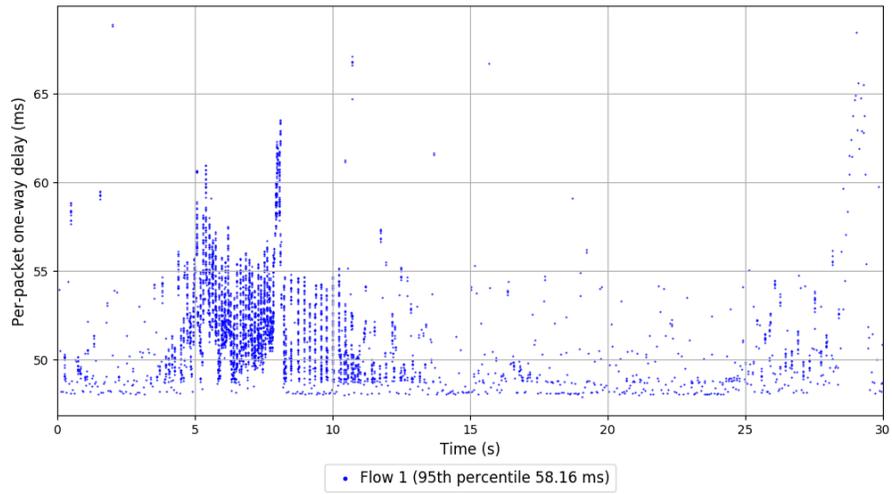
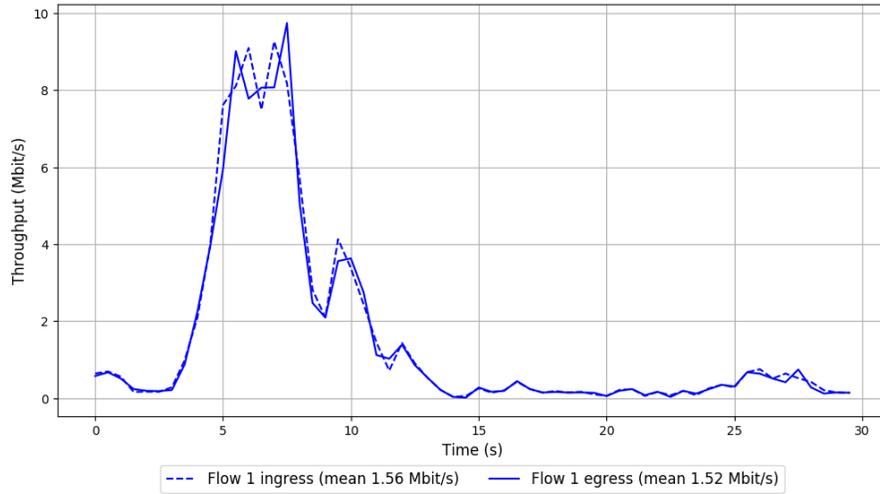
-- Flow 1:

Average throughput: 1.52 Mbit/s

95th percentile per-packet one-way delay: 58.156 ms

Loss rate: 2.85%

Run 3: Report of Sprout — Data Link



Run 4: Statistics of Sprout

Start at: 2017-09-18 08:37:04

End at: 2017-09-18 08:37:34

Local clock offset: 0.622 ms

Remote clock offset: 0.165 ms

Below is generated by plot.py at 2017-09-18 10:22:37

Datalink statistics

-- Total of 1 flow:

Average throughput: 1.58 Mbit/s

95th percentile per-packet one-way delay: 53.767 ms

Loss rate: 0.99%

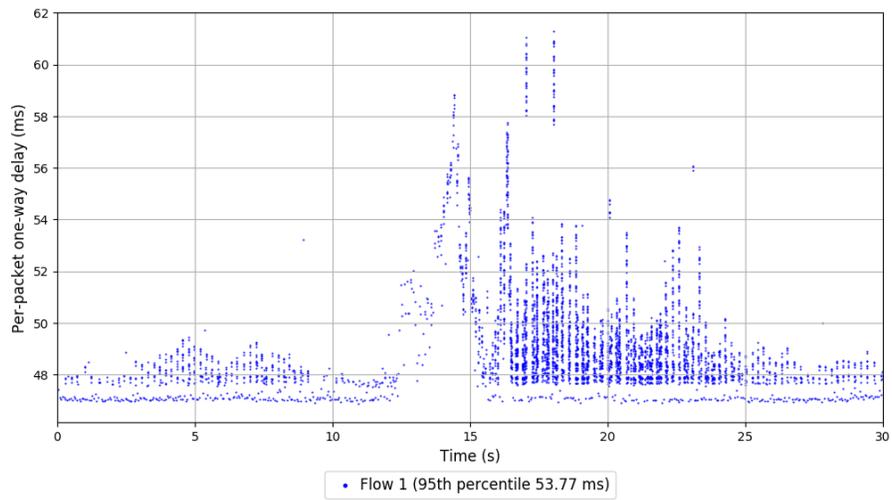
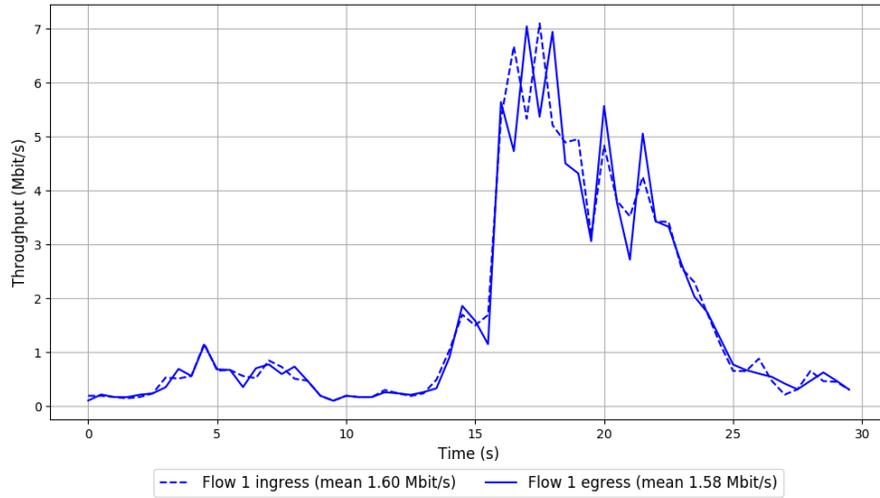
-- Flow 1:

Average throughput: 1.58 Mbit/s

95th percentile per-packet one-way delay: 53.767 ms

Loss rate: 0.99%

Run 4: Report of Sprout — Data Link

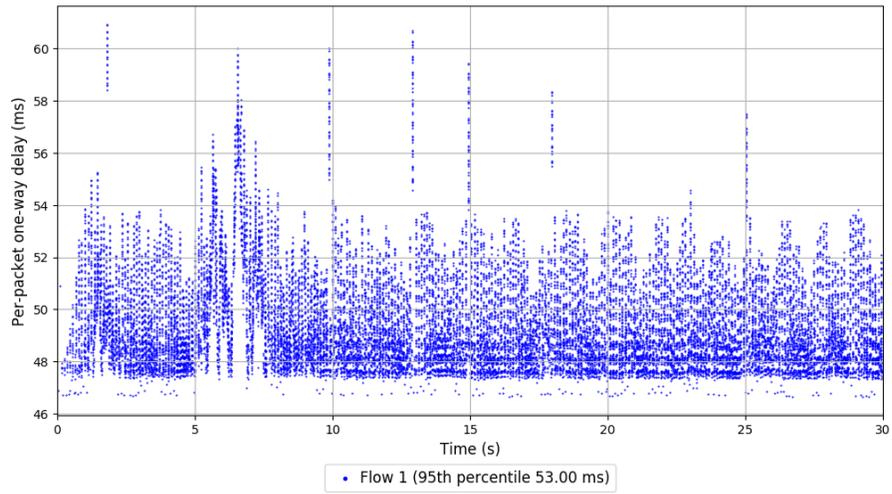
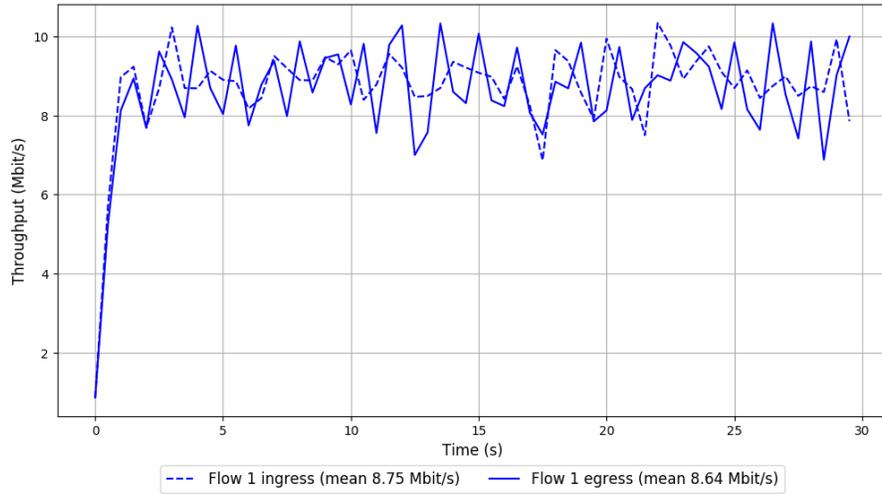


Run 5: Statistics of Sprout

Start at: 2017-09-18 08:54:31
End at: 2017-09-18 08:55:01
Local clock offset: 0.64 ms
Remote clock offset: -0.003 ms

Below is generated by plot.py at 2017-09-18 10:22:37
Datalink statistics
-- Total of 1 flow:
Average throughput: 8.64 Mbit/s
95th percentile per-packet one-way delay: 52.997 ms
Loss rate: 1.26%
-- Flow 1:
Average throughput: 8.64 Mbit/s
95th percentile per-packet one-way delay: 52.997 ms
Loss rate: 1.26%

Run 5: Report of Sprout — Data Link

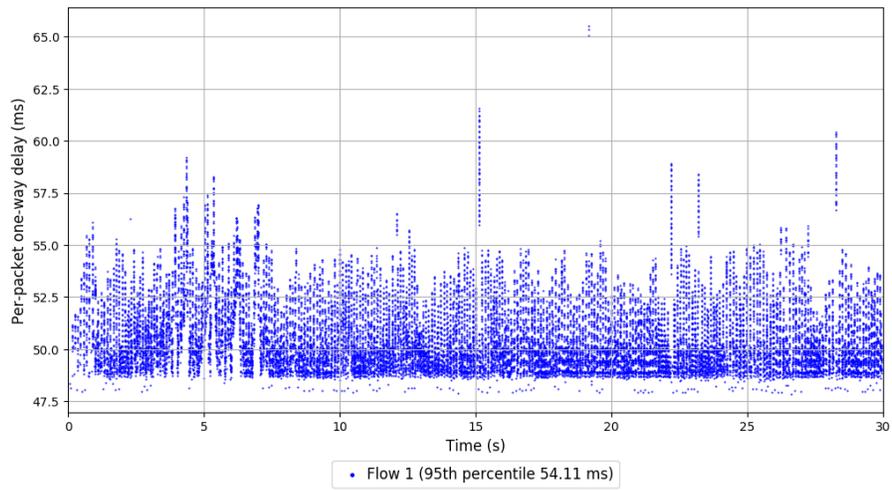
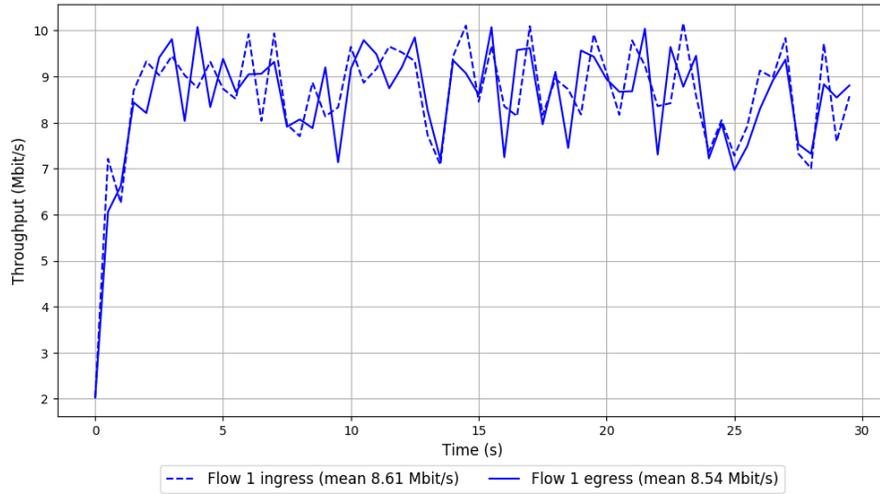


Run 6: Statistics of Sprout

Start at: 2017-09-18 09:06:56
End at: 2017-09-18 09:07:26
Local clock offset: -0.915 ms
Remote clock offset: -0.165 ms

Below is generated by plot.py at 2017-09-18 10:22:37
Datalink statistics
-- Total of 1 flow:
Average throughput: 8.54 Mbit/s
95th percentile per-packet one-way delay: 54.114 ms
Loss rate: 0.92%
-- Flow 1:
Average throughput: 8.54 Mbit/s
95th percentile per-packet one-way delay: 54.114 ms
Loss rate: 0.92%

Run 6: Report of Sprout — Data Link

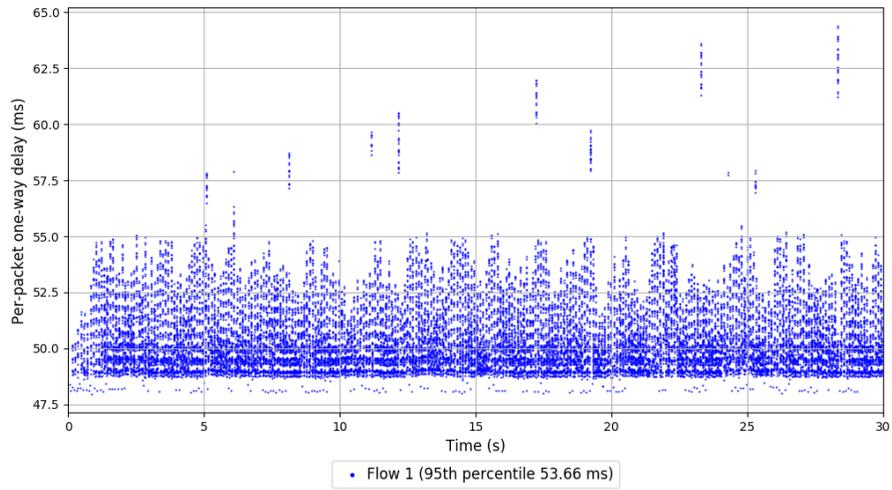
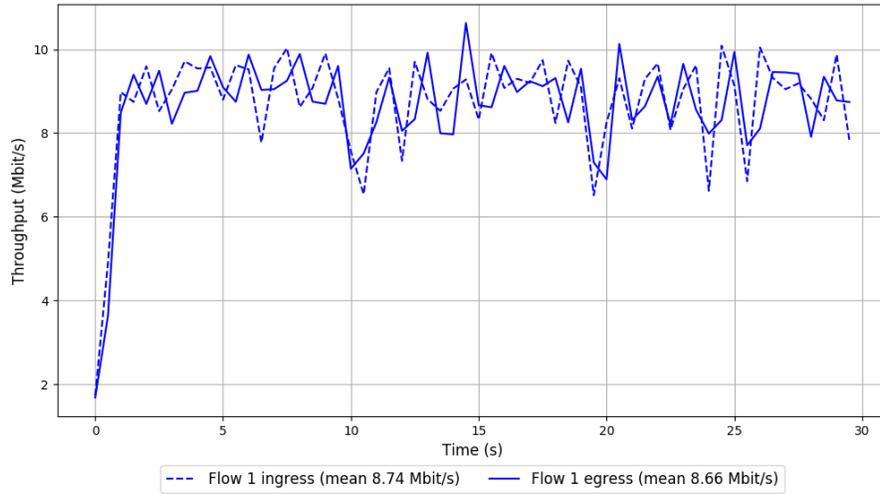


Run 7: Statistics of Sprout

Start at: 2017-09-18 09:20:03
End at: 2017-09-18 09:20:33
Local clock offset: -1.153 ms
Remote clock offset: -0.224 ms

Below is generated by plot.py at 2017-09-18 10:22:37
Datalink statistics
-- Total of 1 flow:
Average throughput: 8.66 Mbit/s
95th percentile per-packet one-way delay: 53.657 ms
Loss rate: 0.95%
-- Flow 1:
Average throughput: 8.66 Mbit/s
95th percentile per-packet one-way delay: 53.657 ms
Loss rate: 0.95%

Run 7: Report of Sprout — Data Link

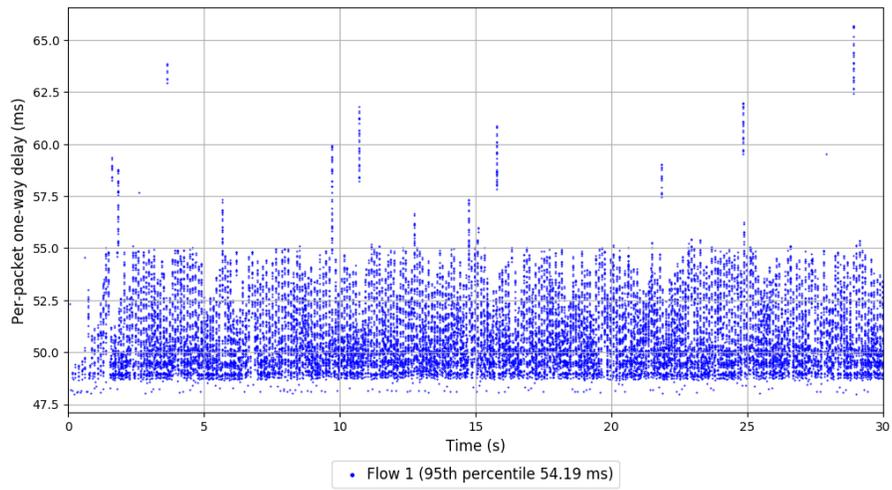
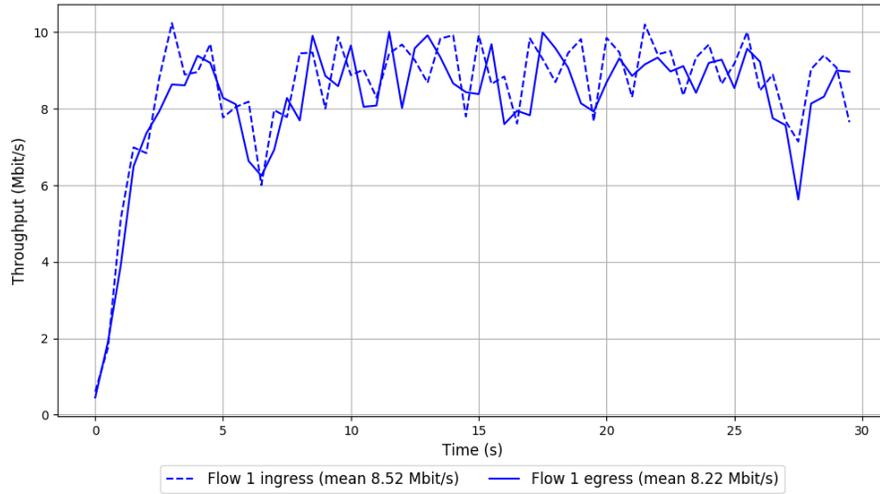


Run 8: Statistics of Sprout

Start at: 2017-09-18 09:32:25
End at: 2017-09-18 09:32:55
Local clock offset: -1.428 ms
Remote clock offset: -0.456 ms

```
# Below is generated by plot.py at 2017-09-18 10:22:38
# Datalink statistics
-- Total of 1 flow:
Average throughput: 8.22 Mbit/s
95th percentile per-packet one-way delay: 54.193 ms
Loss rate: 3.52%
-- Flow 1:
Average throughput: 8.22 Mbit/s
95th percentile per-packet one-way delay: 54.193 ms
Loss rate: 3.52%
```

Run 8: Report of Sprout — Data Link

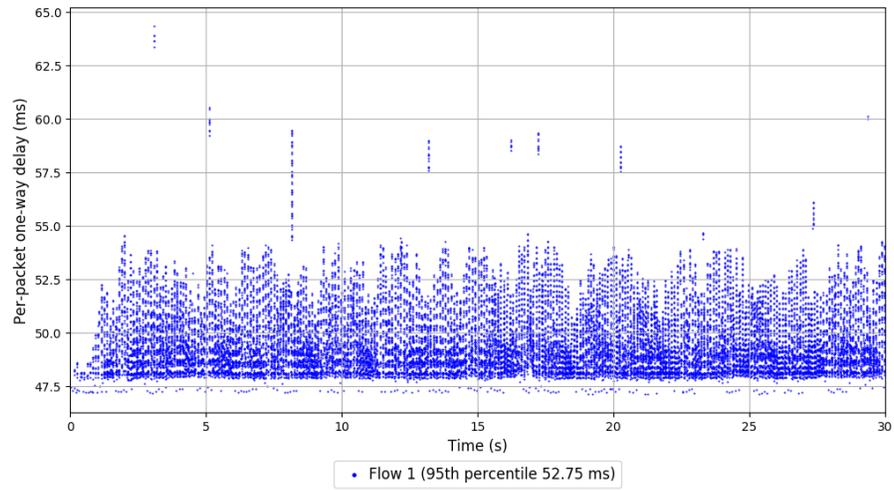
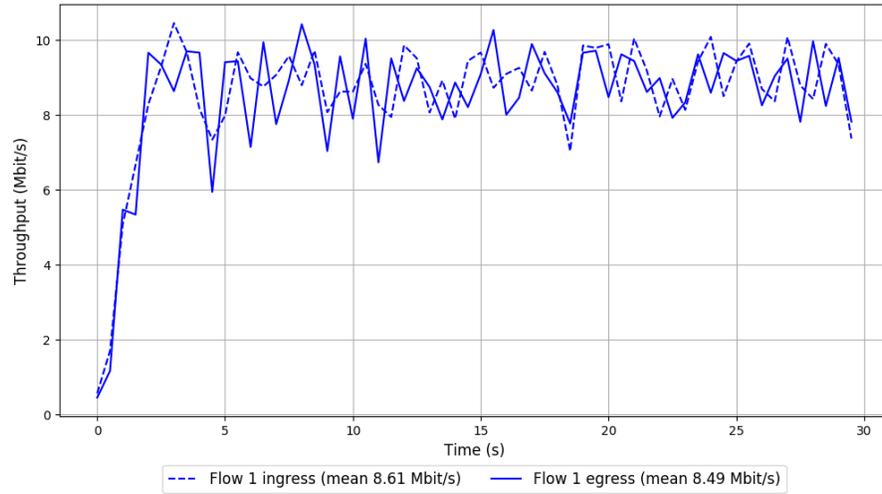


Run 9: Statistics of Sprout

Start at: 2017-09-18 09:44:49
End at: 2017-09-18 09:45:19
Local clock offset: -0.618 ms
Remote clock offset: -0.628 ms

Below is generated by plot.py at 2017-09-18 10:22:43
Datalink statistics
-- Total of 1 flow:
Average throughput: 8.49 Mbit/s
95th percentile per-packet one-way delay: 52.750 ms
Loss rate: 1.34%
-- Flow 1:
Average throughput: 8.49 Mbit/s
95th percentile per-packet one-way delay: 52.750 ms
Loss rate: 1.34%

Run 9: Report of Sprout — Data Link



Run 10: Statistics of Sprout

Start at: 2017-09-18 09:56:53

End at: 2017-09-18 09:57:23

Local clock offset: -1.907 ms

Remote clock offset: -0.71 ms

Below is generated by plot.py at 2017-09-18 10:22:44

Datalink statistics

-- Total of 1 flow:

Average throughput: 8.67 Mbit/s

95th percentile per-packet one-way delay: 54.096 ms

Loss rate: 1.63%

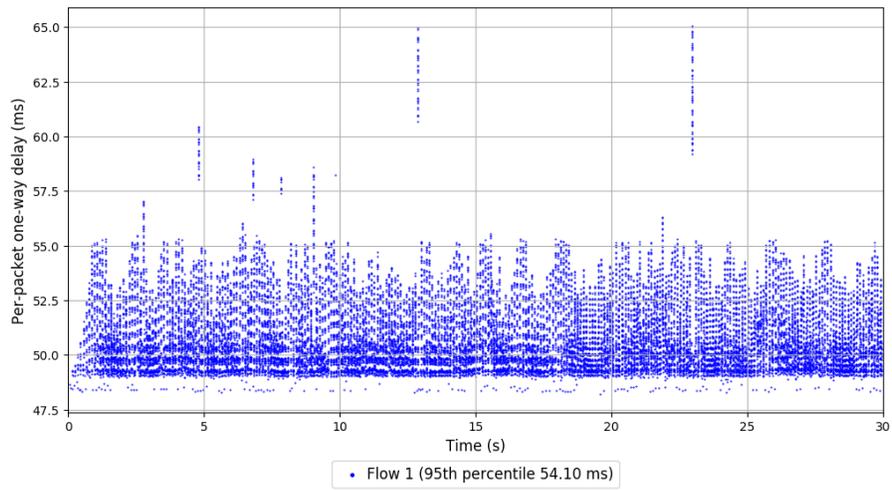
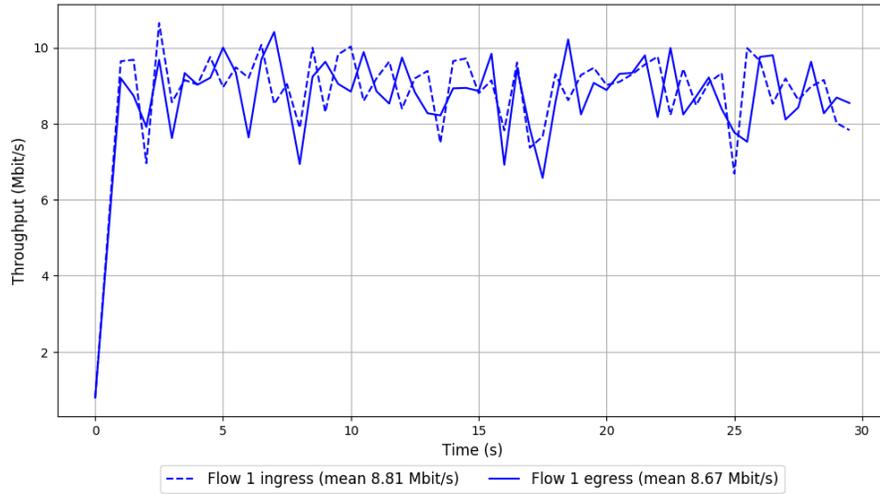
-- Flow 1:

Average throughput: 8.67 Mbit/s

95th percentile per-packet one-way delay: 54.096 ms

Loss rate: 1.63%

Run 10: Report of Sprout — Data Link



Run 1: Statistics of TaoVA-100x

Start at: 2017-09-18 07:55:08

End at: 2017-09-18 07:55:38

Local clock offset: 0.893 ms

Remote clock offset: 0.331 ms

Below is generated by plot.py at 2017-09-18 10:22:56

Datalink statistics

-- Total of 1 flow:

Average throughput: 13.79 Mbit/s

95th percentile per-packet one-way delay: 130.027 ms

Loss rate: 5.75%

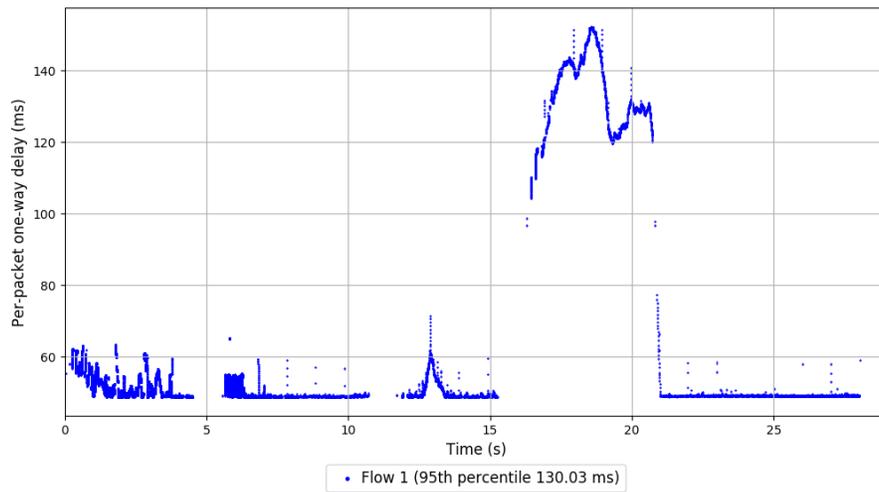
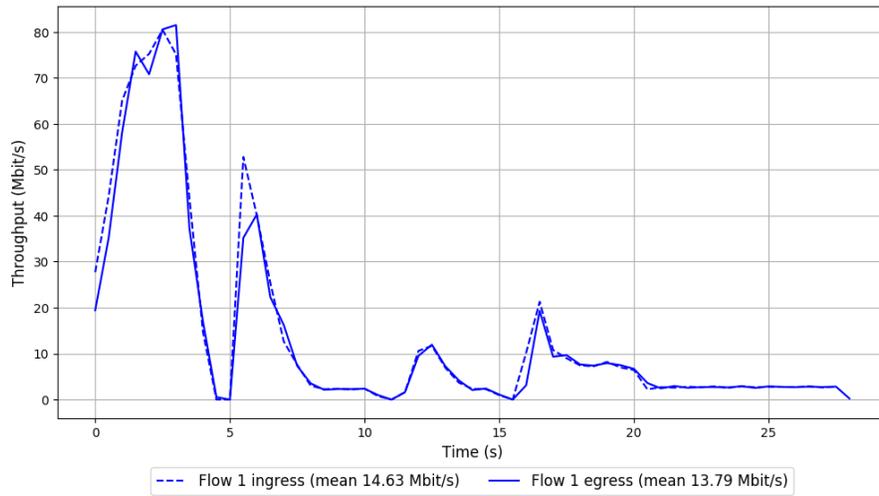
-- Flow 1:

Average throughput: 13.79 Mbit/s

95th percentile per-packet one-way delay: 130.027 ms

Loss rate: 5.75%

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



Run 2: Statistics of TaoVA-100x

Start at: 2017-09-18 08:08:18

End at: 2017-09-18 08:08:48

Local clock offset: 0.442 ms

Remote clock offset: 0.3 ms

Below is generated by plot.py at 2017-09-18 10:23:27

Datalink statistics

-- Total of 1 flow:

Average throughput: 34.69 Mbit/s

95th percentile per-packet one-way delay: 80.182 ms

Loss rate: 1.71%

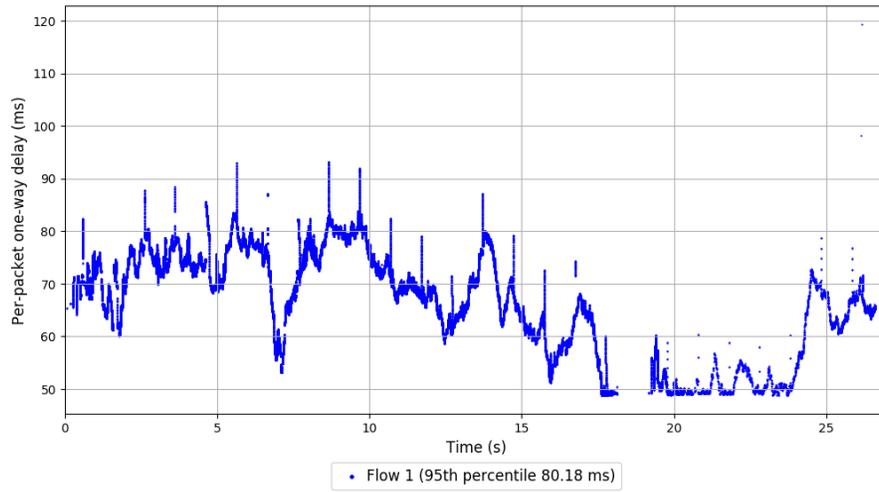
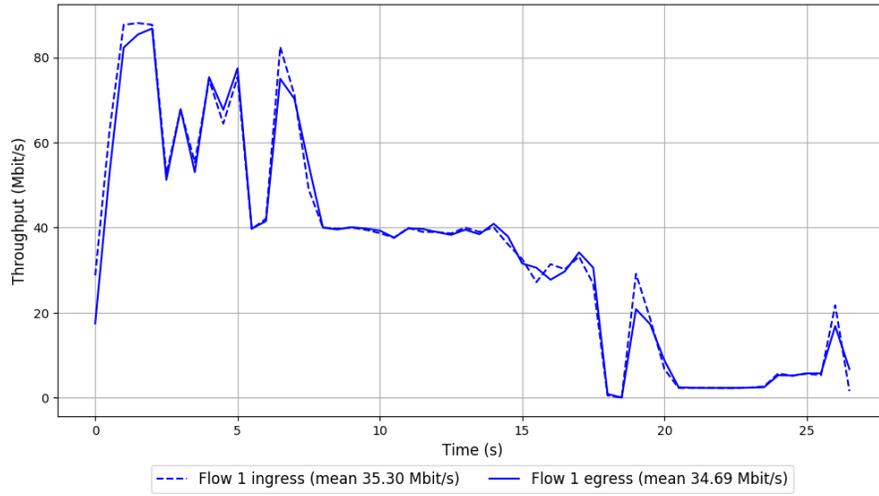
-- Flow 1:

Average throughput: 34.69 Mbit/s

95th percentile per-packet one-way delay: 80.182 ms

Loss rate: 1.71%

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



Run 3: Statistics of TaoVA-100x

Start at: 2017-09-18 08:28:24

End at: 2017-09-18 08:28:54

Local clock offset: 0.947 ms

Remote clock offset: 0.342 ms

Below is generated by plot.py at 2017-09-18 10:23:27

Datalink statistics

-- Total of 1 flow:

Average throughput: 11.62 Mbit/s

95th percentile per-packet one-way delay: 61.653 ms

Loss rate: 1.31%

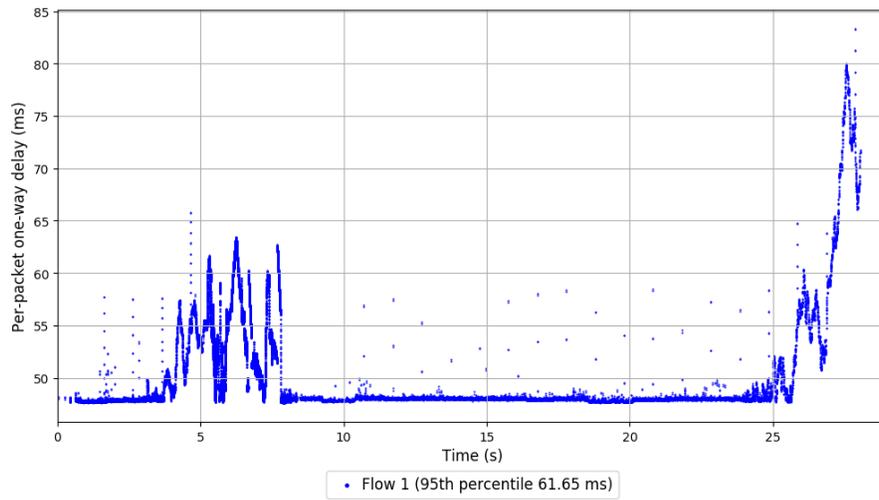
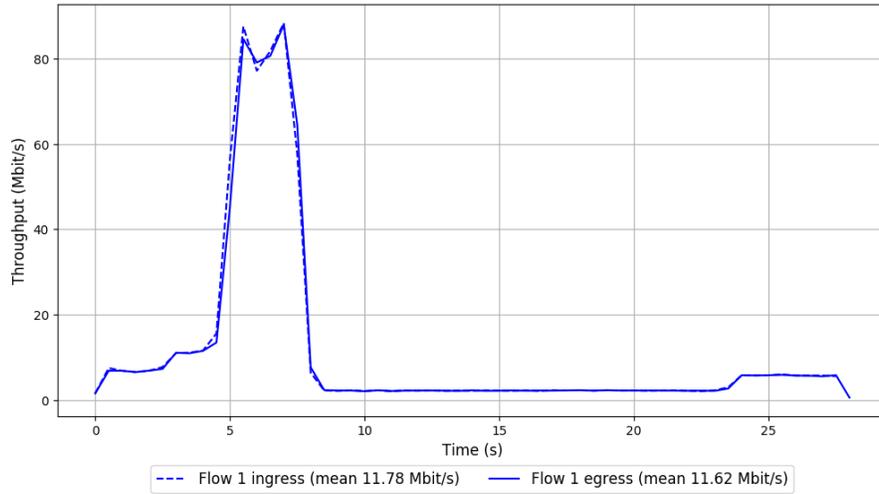
-- Flow 1:

Average throughput: 11.62 Mbit/s

95th percentile per-packet one-way delay: 61.653 ms

Loss rate: 1.31%

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



Run 4: Statistics of TaoVA-100x

Start at: 2017-09-18 08:47:30

End at: 2017-09-18 08:48:00

Local clock offset: -0.586 ms

Remote clock offset: 0.162 ms

Below is generated by plot.py at 2017-09-18 10:23:27

Datalink statistics

-- Total of 1 flow:

Average throughput: 4.45 Mbit/s

95th percentile per-packet one-way delay: 49.711 ms

Loss rate: 2.20%

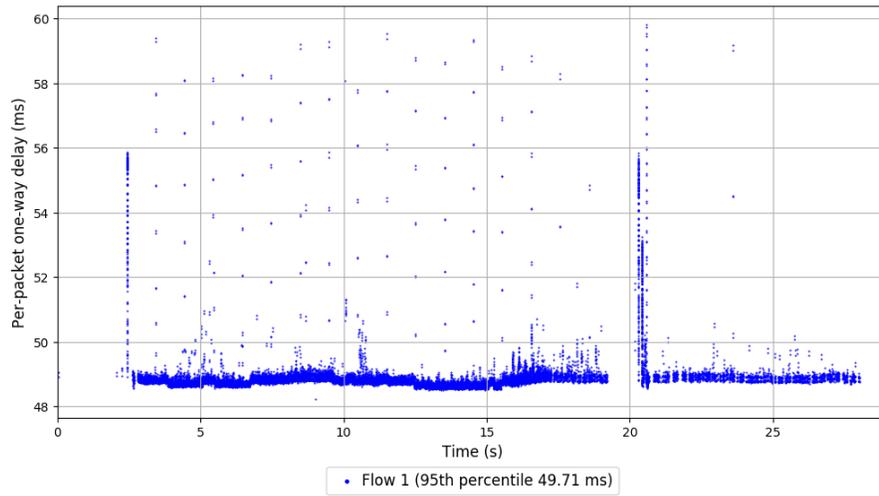
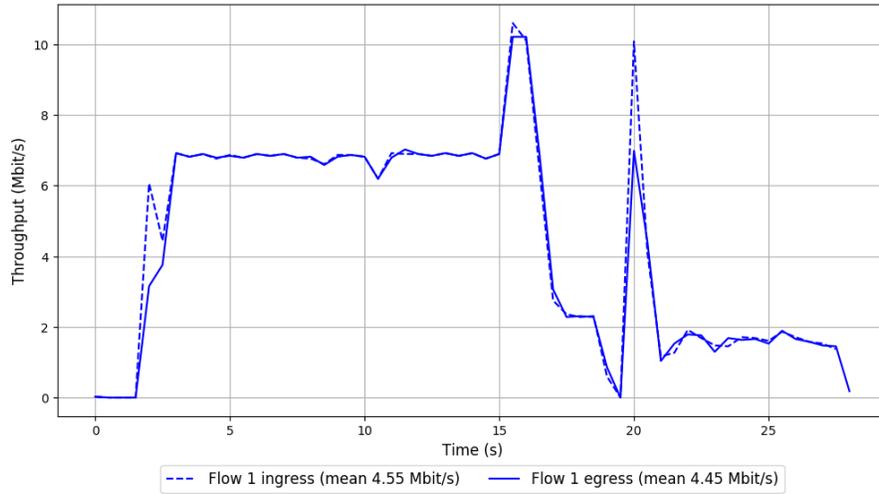
-- Flow 1:

Average throughput: 4.45 Mbit/s

95th percentile per-packet one-way delay: 49.711 ms

Loss rate: 2.20%

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



Run 5: Statistics of TaoVA-100x

Start at: 2017-09-18 09:01:36

End at: 2017-09-18 09:02:06

Local clock offset: 0.486 ms

Remote clock offset: -0.065 ms

Below is generated by plot.py at 2017-09-18 10:24:34

Datalink statistics

-- Total of 1 flow:

Average throughput: 73.76 Mbit/s

95th percentile per-packet one-way delay: 57.807 ms

Loss rate: 1.91%

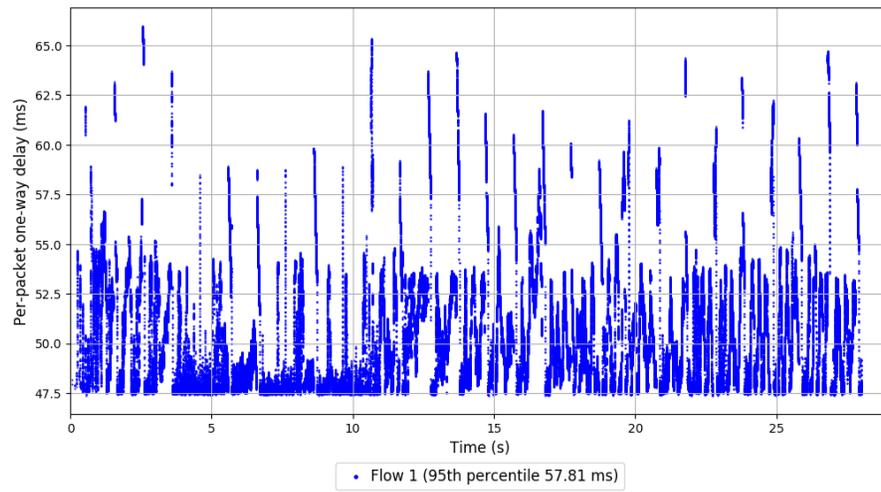
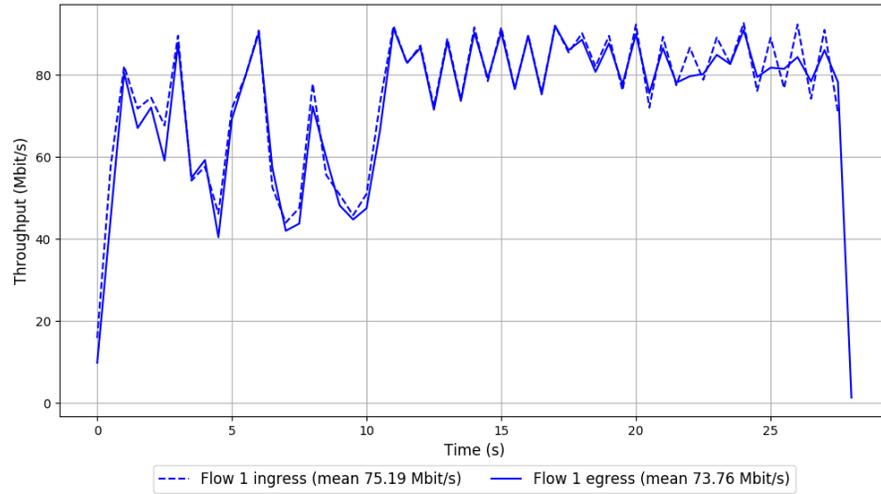
-- Flow 1:

Average throughput: 73.76 Mbit/s

95th percentile per-packet one-way delay: 57.807 ms

Loss rate: 1.91%

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



Run 6: Statistics of TaoVA-100x

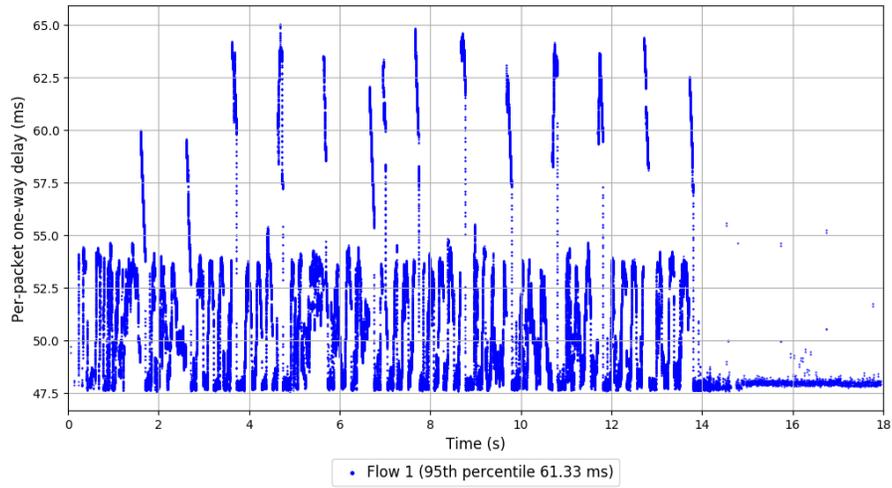
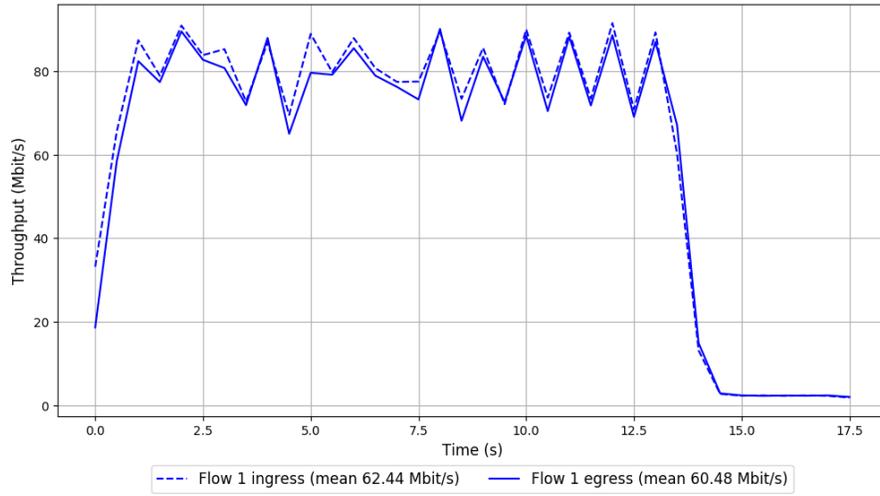
Start at: 2017-09-18 09:14:43

End at: 2017-09-18 09:15:13

Local clock offset: 0.141 ms

Remote clock offset: -0.177 ms

Run 6: Report of TaoVA-100x — Data Link

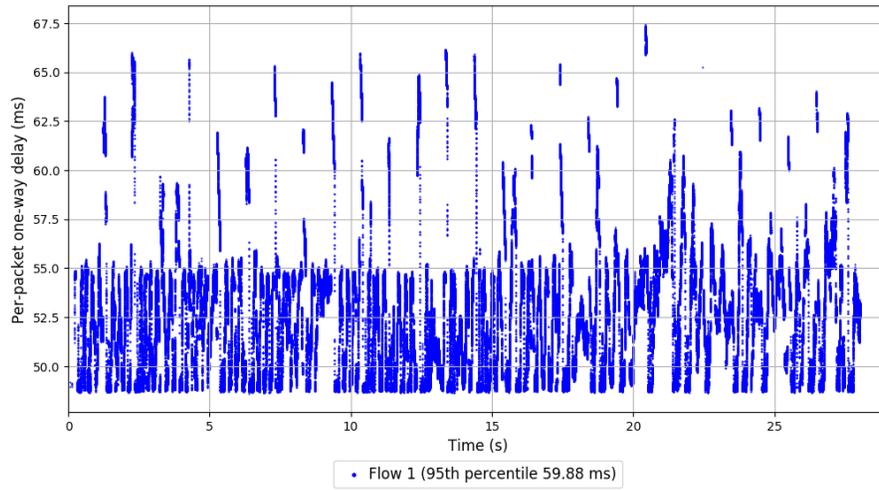
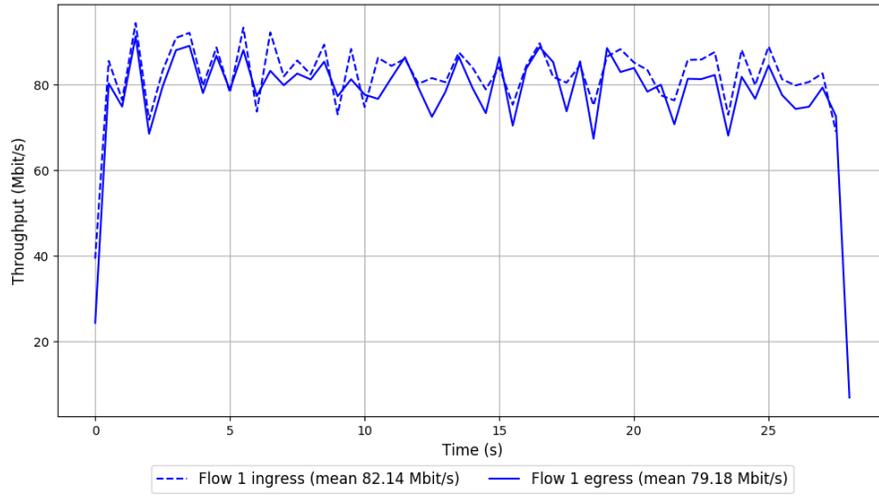


Run 7: Statistics of TaoVA-100x

Start at: 2017-09-18 09:27:20
End at: 2017-09-18 09:27:50
Local clock offset: -1.304 ms
Remote clock offset: -0.334 ms

Below is generated by plot.py at 2017-09-18 10:24:44
Datalink statistics
-- Total of 1 flow:
Average throughput: 79.18 Mbit/s
95th percentile per-packet one-way delay: 59.875 ms
Loss rate: 3.59%
-- Flow 1:
Average throughput: 79.18 Mbit/s
95th percentile per-packet one-way delay: 59.875 ms
Loss rate: 3.59%

Run 7: Report of TaoVA-100x — Data Link

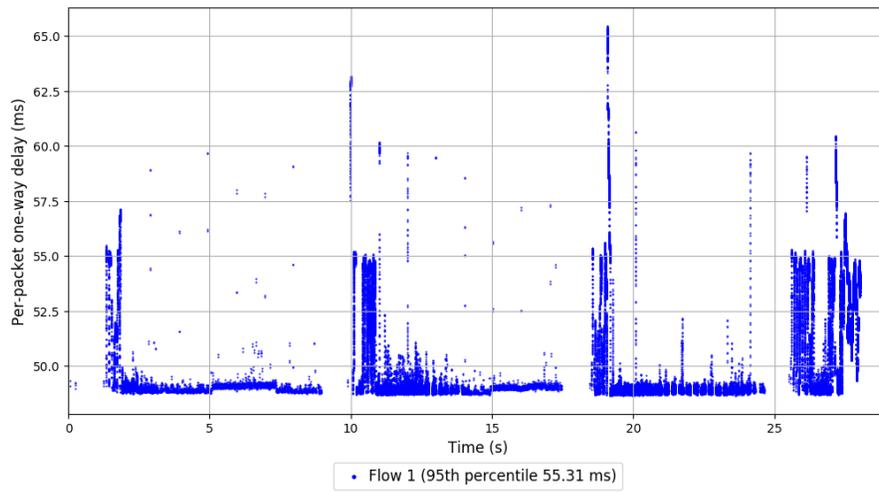
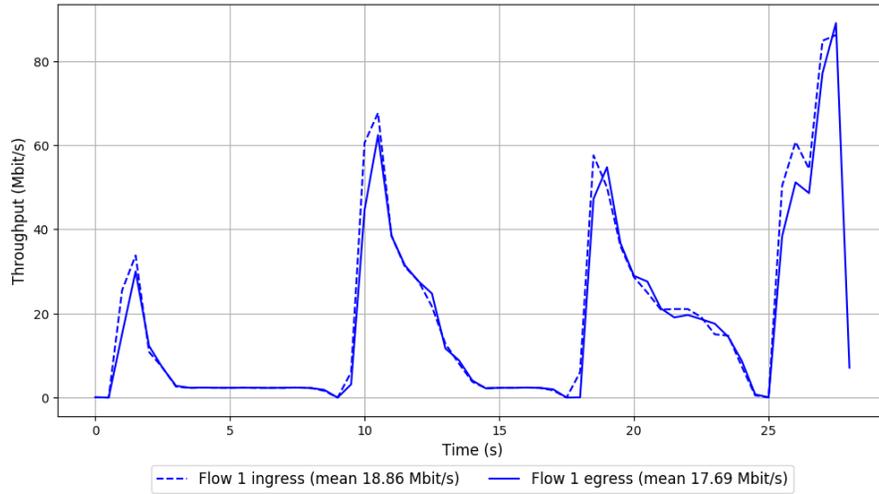


Run 8: Statistics of TaoVA-100x

Start at: 2017-09-18 09:39:30
End at: 2017-09-18 09:40:00
Local clock offset: -1.451 ms
Remote clock offset: -0.544 ms

Below is generated by plot.py at 2017-09-18 10:24:44
Datalink statistics
-- Total of 1 flow:
Average throughput: 17.69 Mbit/s
95th percentile per-packet one-way delay: 55.307 ms
Loss rate: 6.21%
-- Flow 1:
Average throughput: 17.69 Mbit/s
95th percentile per-packet one-way delay: 55.307 ms
Loss rate: 6.21%

Run 8: Report of TaoVA-100x — Data Link

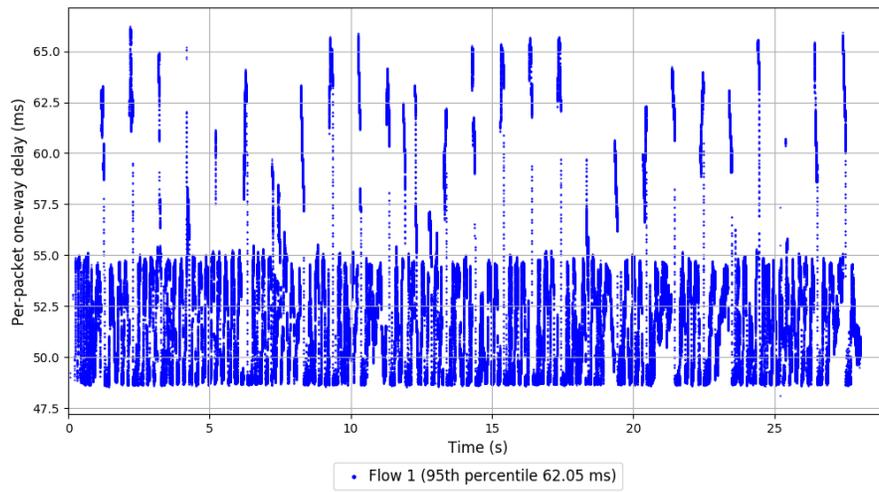
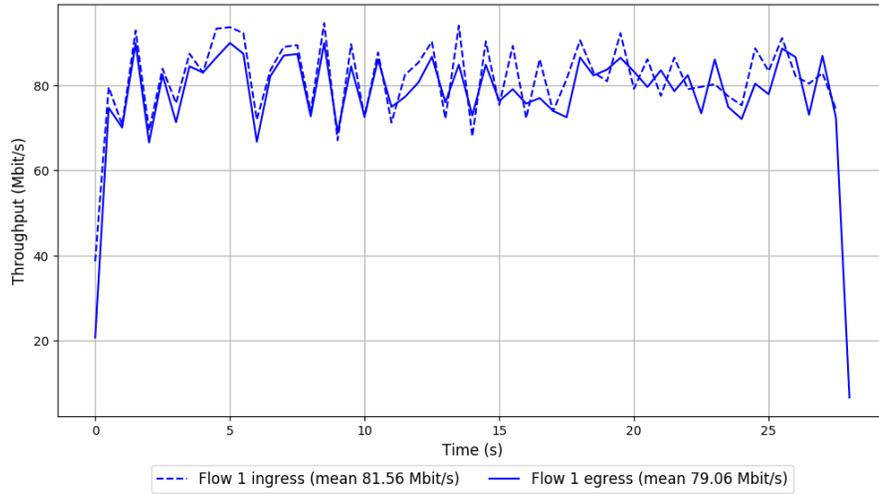


Run 9: Statistics of TaoVA-100x

Start at: 2017-09-18 09:51:57
End at: 2017-09-18 09:52:27
Local clock offset: -1.736 ms
Remote clock offset: -0.685 ms

Below is generated by plot.py at 2017-09-18 10:24:45
Datalink statistics
-- Total of 1 flow:
Average throughput: 79.06 Mbit/s
95th percentile per-packet one-way delay: 62.046 ms
Loss rate: 3.06%
-- Flow 1:
Average throughput: 79.06 Mbit/s
95th percentile per-packet one-way delay: 62.046 ms
Loss rate: 3.06%

Run 9: Report of TaoVA-100x — Data Link



Run 10: Statistics of TaoVA-100x

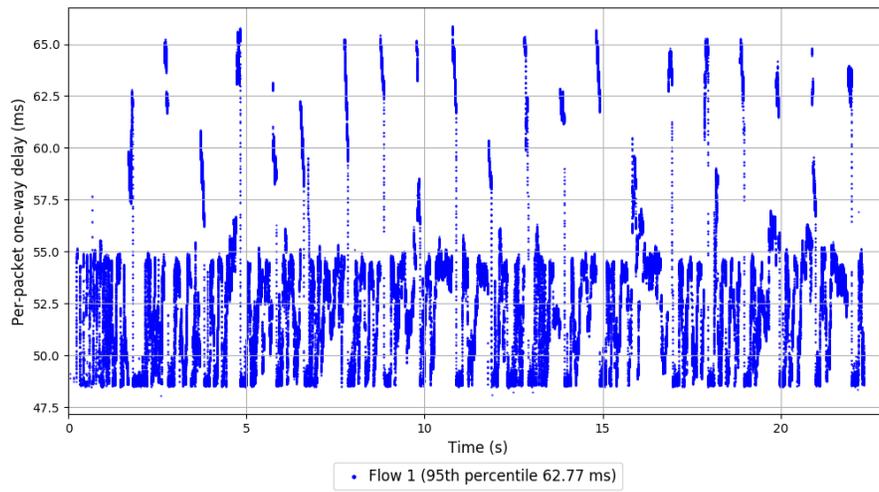
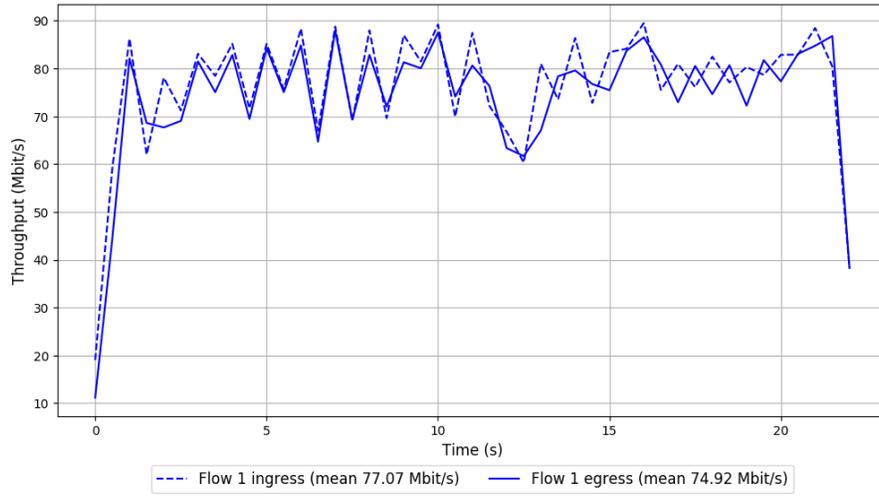
Start at: 2017-09-18 10:03:54

End at: 2017-09-18 10:04:24

Local clock offset: -1.8 ms

Remote clock offset: -0.957 ms

Run 10: Report of TaoVA-100x — Data Link



Run 1: Statistics of TCP Vegas

Start at: 2017-09-18 07:52:46

End at: 2017-09-18 07:53:17

Local clock offset: 0.966 ms

Remote clock offset: 0.22 ms

Below is generated by plot.py at 2017-09-18 10:24:45

Datalink statistics

-- Total of 1 flow:

Average throughput: 3.87 Mbit/s

95th percentile per-packet one-way delay: 62.081 ms

Loss rate: 0.74%

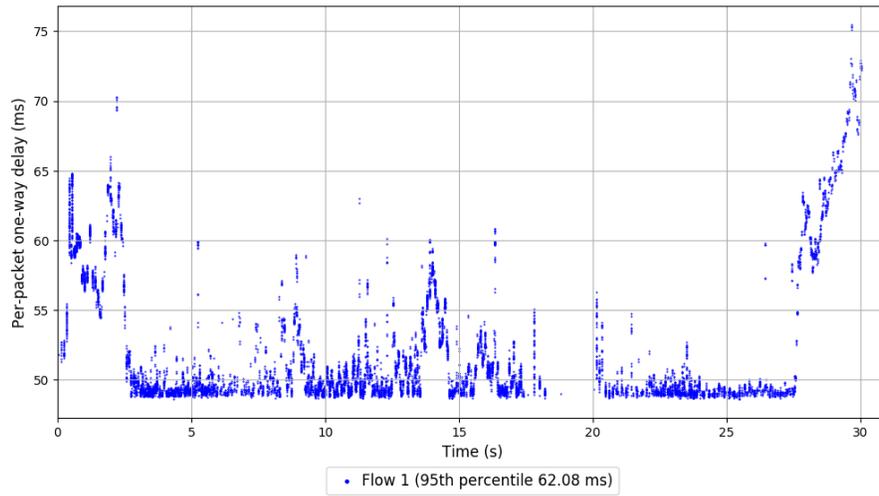
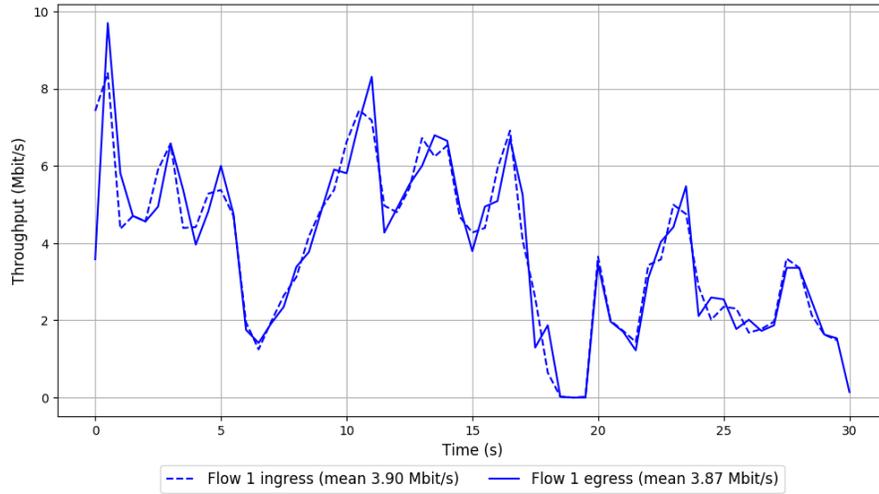
-- Flow 1:

Average throughput: 3.87 Mbit/s

95th percentile per-packet one-way delay: 62.081 ms

Loss rate: 0.74%

Run 1: Report of TCP Vegas — Data Link



Run 2: Statistics of TCP Vegas

Start at: 2017-09-18 08:05:52

End at: 2017-09-18 08:06:22

Local clock offset: 1.764 ms

Remote clock offset: 0.272 ms

Below is generated by plot.py at 2017-09-18 10:24:45

Datalink statistics

-- Total of 1 flow:

Average throughput: 7.50 Mbit/s

95th percentile per-packet one-way delay: 52.424 ms

Loss rate: 0.61%

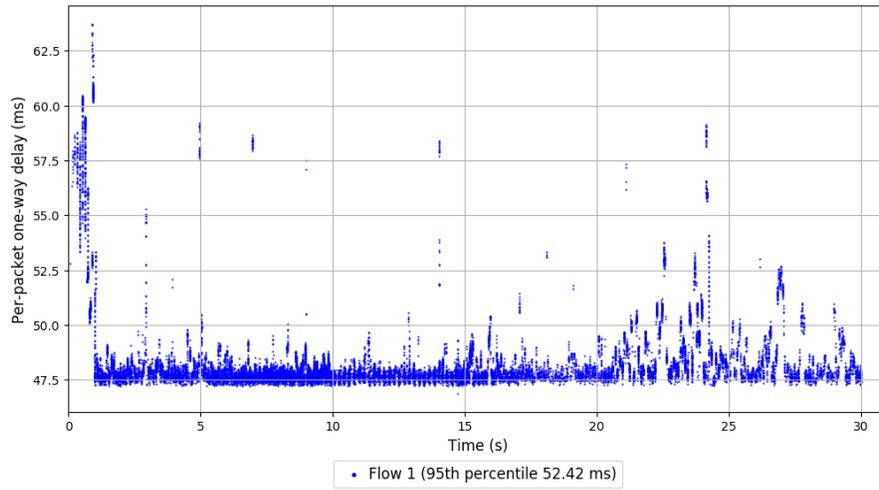
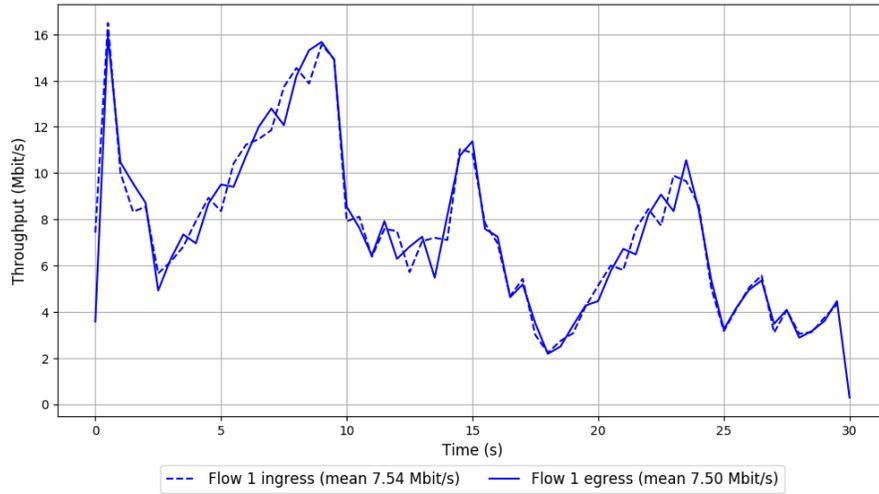
-- Flow 1:

Average throughput: 7.50 Mbit/s

95th percentile per-packet one-way delay: 52.424 ms

Loss rate: 0.61%

Run 2: Report of TCP Vegas — Data Link



Run 3: Statistics of TCP Vegas

Start at: 2017-09-18 08:24:45

End at: 2017-09-18 08:25:15

Local clock offset: 1.075 ms

Remote clock offset: 0.282 ms

Below is generated by plot.py at 2017-09-18 10:24:45

Datalink statistics

-- Total of 1 flow:

Average throughput: 1.85 Mbit/s

95th percentile per-packet one-way delay: 76.858 ms

Loss rate: 0.90%

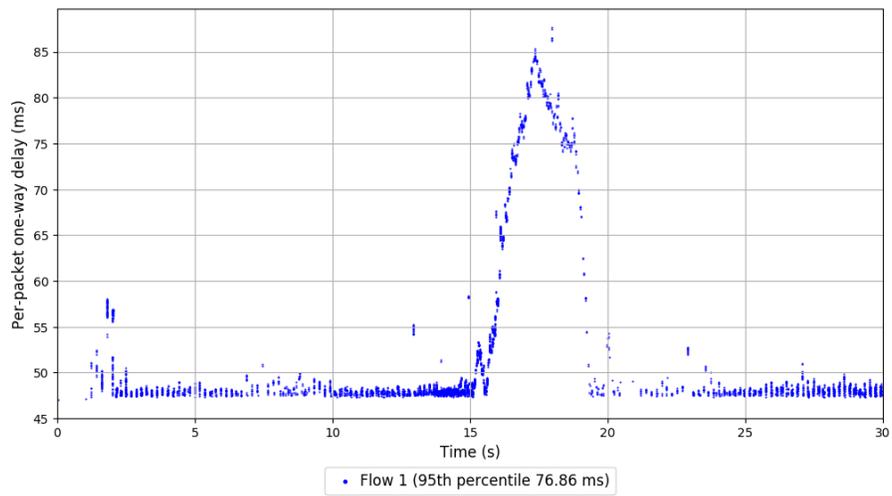
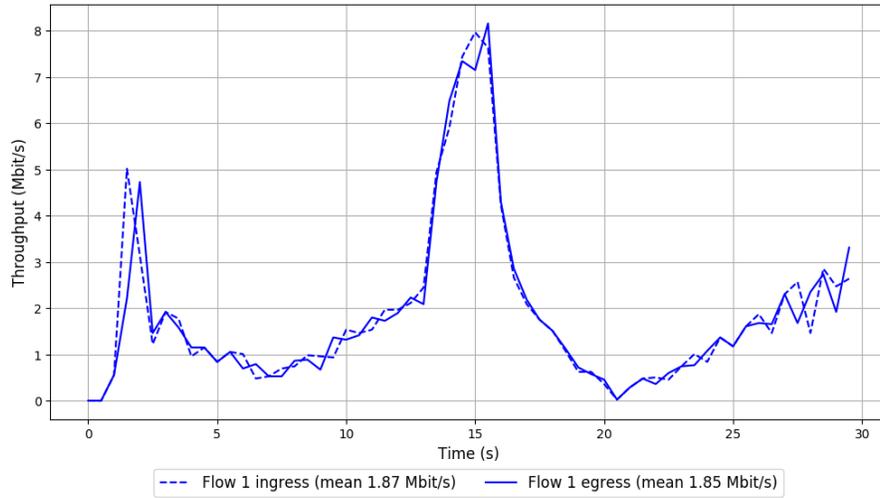
-- Flow 1:

Average throughput: 1.85 Mbit/s

95th percentile per-packet one-way delay: 76.858 ms

Loss rate: 0.90%

Run 3: Report of TCP Vegas — Data Link



Run 4: Statistics of TCP Vegas

Start at: 2017-09-18 08:44:19

End at: 2017-09-18 08:44:49

Local clock offset: 0.577 ms

Remote clock offset: 0.082 ms

Below is generated by plot.py at 2017-09-18 10:24:45

Datalink statistics

-- Total of 1 flow:

Average throughput: 4.27 Mbit/s

95th percentile per-packet one-way delay: 49.877 ms

Loss rate: 0.80%

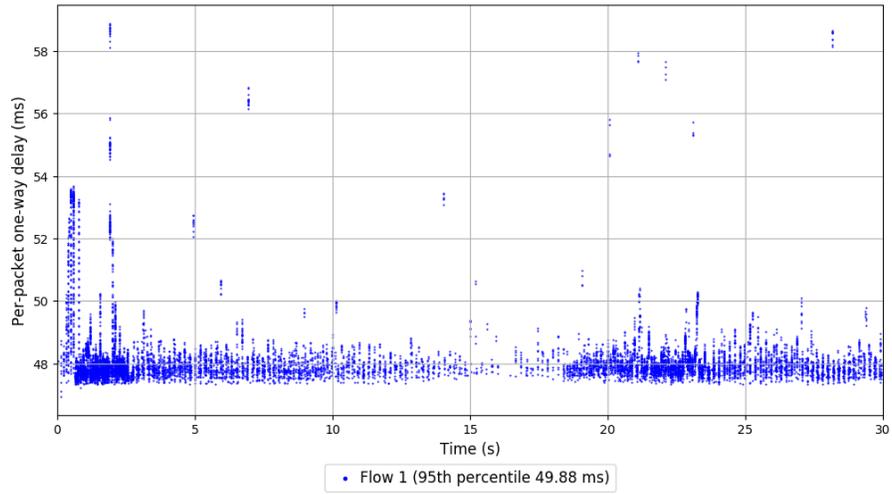
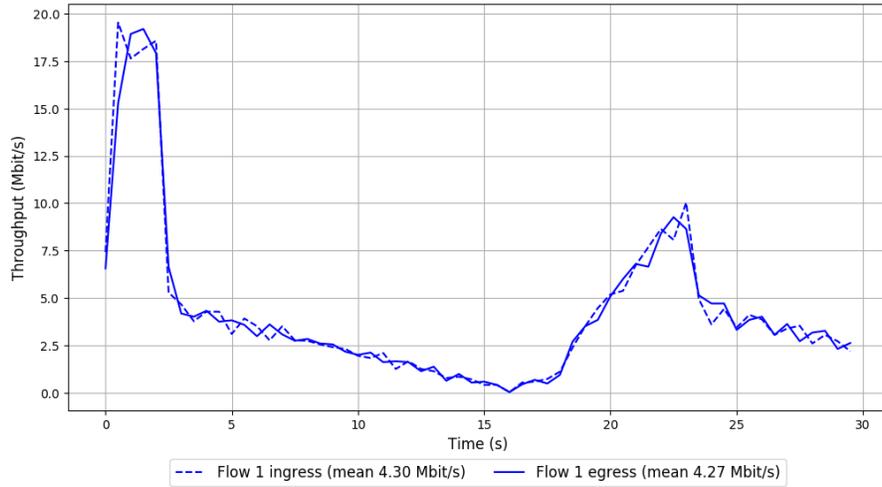
-- Flow 1:

Average throughput: 4.27 Mbit/s

95th percentile per-packet one-way delay: 49.877 ms

Loss rate: 0.80%

Run 4: Report of TCP Vegas — Data Link

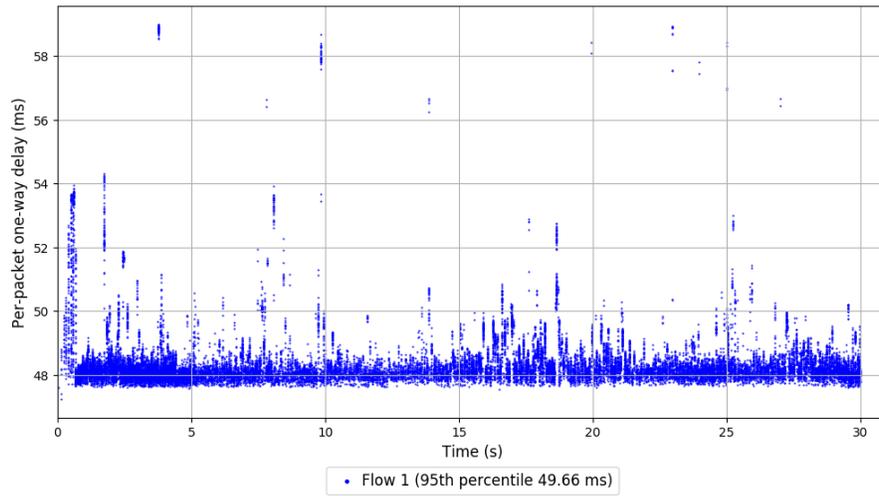
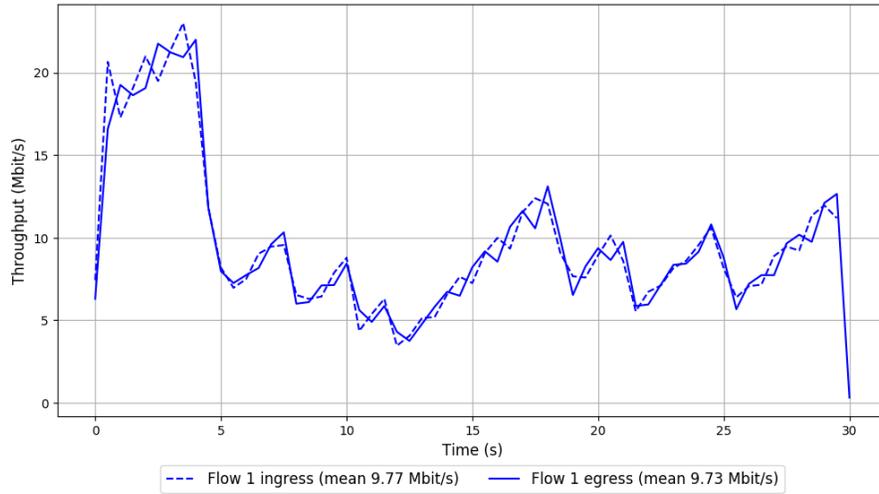


Run 5: Statistics of TCP Vegas

Start at: 2017-09-18 08:59:13
End at: 2017-09-18 08:59:43
Local clock offset: 0.368 ms
Remote clock offset: -0.037 ms

Below is generated by plot.py at 2017-09-18 10:24:45
Datalink statistics
-- Total of 1 flow:
Average throughput: 9.73 Mbit/s
95th percentile per-packet one-way delay: 49.661 ms
Loss rate: 0.42%
-- Flow 1:
Average throughput: 9.73 Mbit/s
95th percentile per-packet one-way delay: 49.661 ms
Loss rate: 0.42%

Run 5: Report of TCP Vegas — Data Link



Run 6: Statistics of TCP Vegas

Start at: 2017-09-18 09:12:24

End at: 2017-09-18 09:12:54

Local clock offset: 0.238 ms

Remote clock offset: -0.145 ms

Below is generated by plot.py at 2017-09-18 10:24:45

Datalink statistics

-- Total of 1 flow:

Average throughput: 9.90 Mbit/s

95th percentile per-packet one-way delay: 49.912 ms

Loss rate: 0.37%

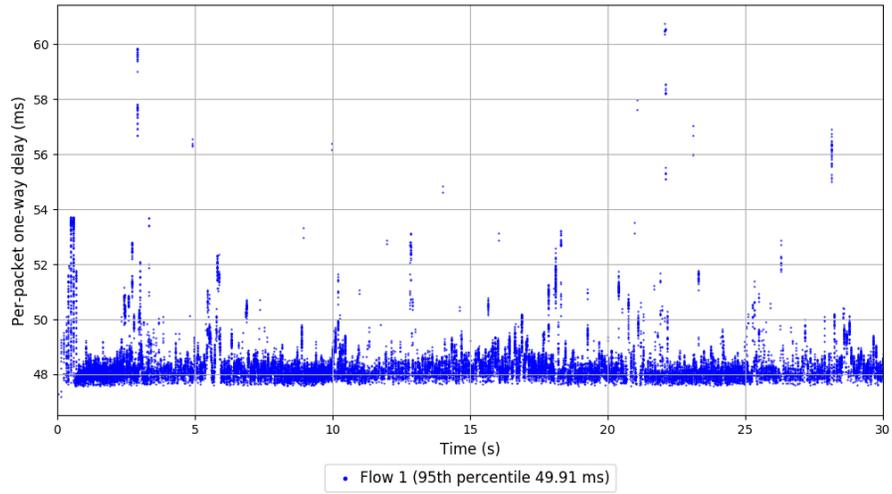
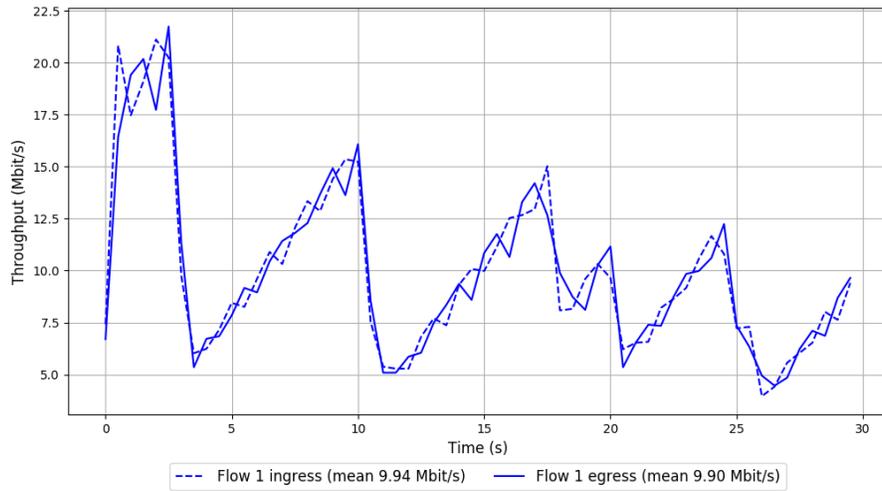
-- Flow 1:

Average throughput: 9.90 Mbit/s

95th percentile per-packet one-way delay: 49.912 ms

Loss rate: 0.37%

Run 6: Report of TCP Vegas — Data Link

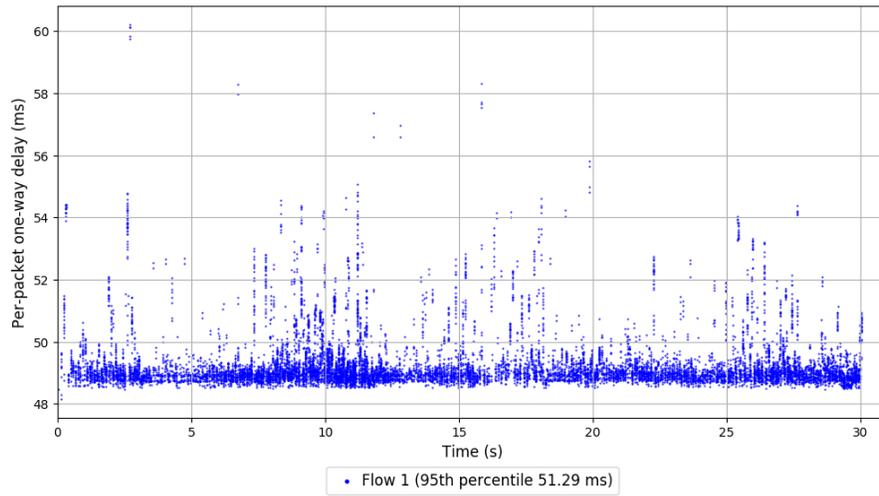
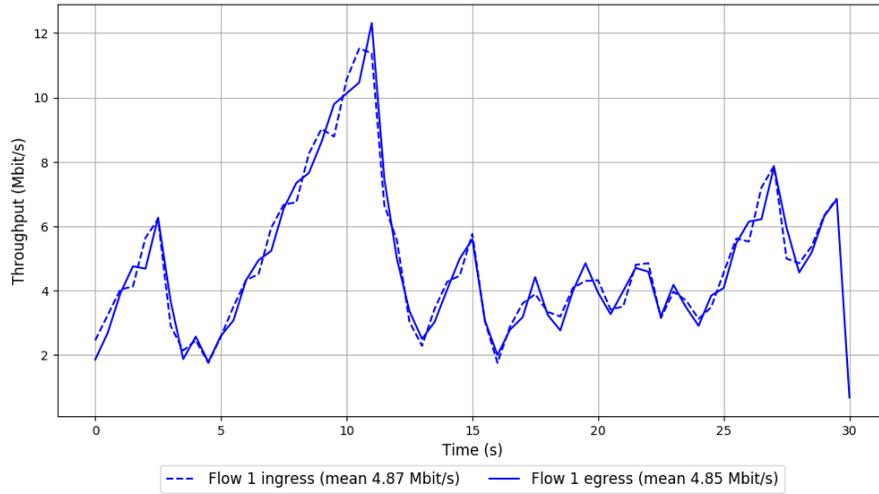


Run 7: Statistics of TCP Vegas

Start at: 2017-09-18 09:24:57
End at: 2017-09-18 09:25:27
Local clock offset: -1.341 ms
Remote clock offset: -0.304 ms

Below is generated by plot.py at 2017-09-18 10:24:45
Datalink statistics
-- Total of 1 flow:
Average throughput: 4.85 Mbit/s
95th percentile per-packet one-way delay: 51.290 ms
Loss rate: 0.38%
-- Flow 1:
Average throughput: 4.85 Mbit/s
95th percentile per-packet one-way delay: 51.290 ms
Loss rate: 0.38%

Run 7: Report of TCP Vegas — Data Link

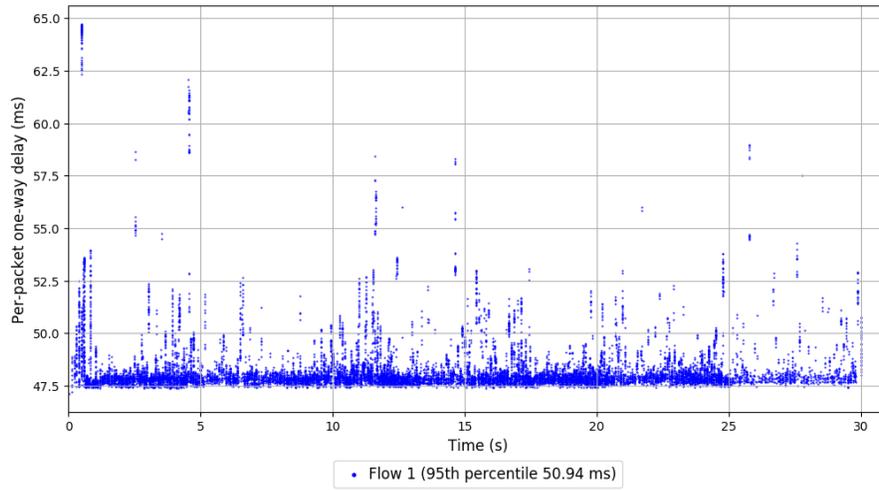
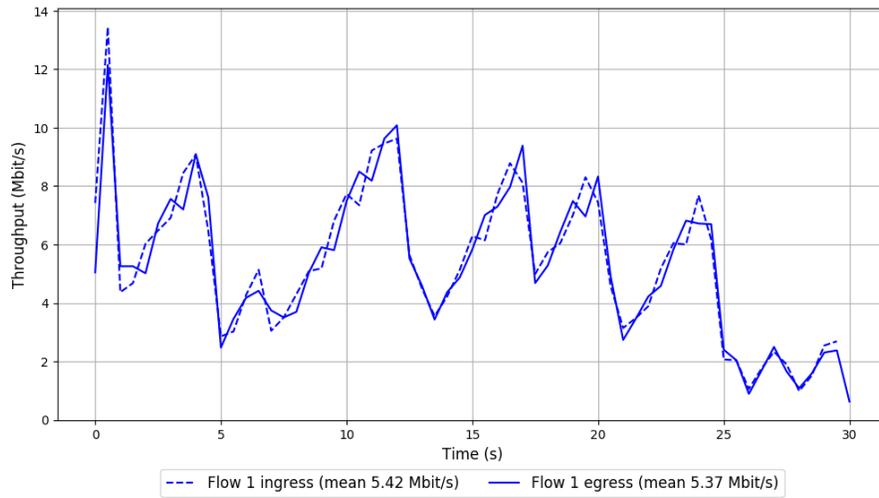


Run 8: Statistics of TCP Vegas

Start at: 2017-09-18 09:37:12
End at: 2017-09-18 09:37:42
Local clock offset: -0.37 ms
Remote clock offset: -0.548 ms

Below is generated by plot.py at 2017-09-18 10:24:45
Datalink statistics
-- Total of 1 flow:
Average throughput: 5.37 Mbit/s
95th percentile per-packet one-way delay: 50.937 ms
Loss rate: 0.93%
-- Flow 1:
Average throughput: 5.37 Mbit/s
95th percentile per-packet one-way delay: 50.937 ms
Loss rate: 0.93%

Run 8: Report of TCP Vegas — Data Link



Run 9: Statistics of TCP Vegas

Start at: 2017-09-18 09:49:39
End at: 2017-09-18 09:50:09
Local clock offset: -1.743 ms
Remote clock offset: -0.659 ms

Below is generated by plot.py at 2017-09-18 10:24:45

Datalink statistics

-- Total of 1 flow:

Average throughput: 5.58 Mbit/s

95th percentile per-packet one-way delay: 52.048 ms

Loss rate: 0.71%

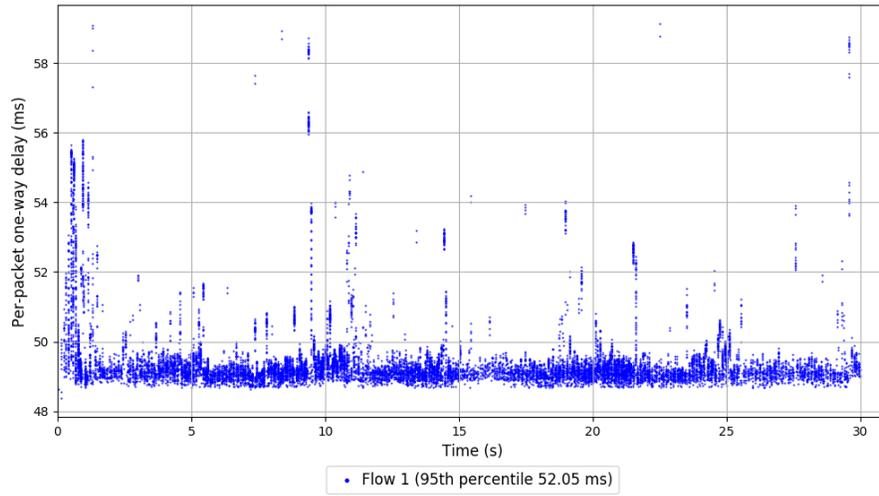
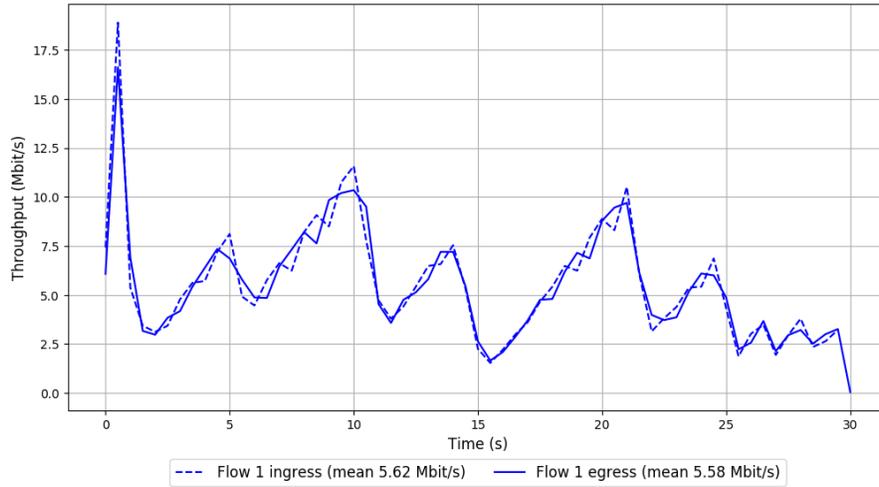
-- Flow 1:

Average throughput: 5.58 Mbit/s

95th percentile per-packet one-way delay: 52.048 ms

Loss rate: 0.71%

Run 9: Report of TCP Vegas — Data Link



Run 10: Statistics of TCP Vegas

Start at: 2017-09-18 10:01:31

End at: 2017-09-18 10:02:01

Local clock offset: -1.875 ms

Remote clock offset: -0.886 ms

Below is generated by plot.py at 2017-09-18 10:24:45

Datalink statistics

-- Total of 1 flow:

Average throughput: 2.54 Mbit/s

95th percentile per-packet one-way delay: 53.628 ms

Loss rate: 1.02%

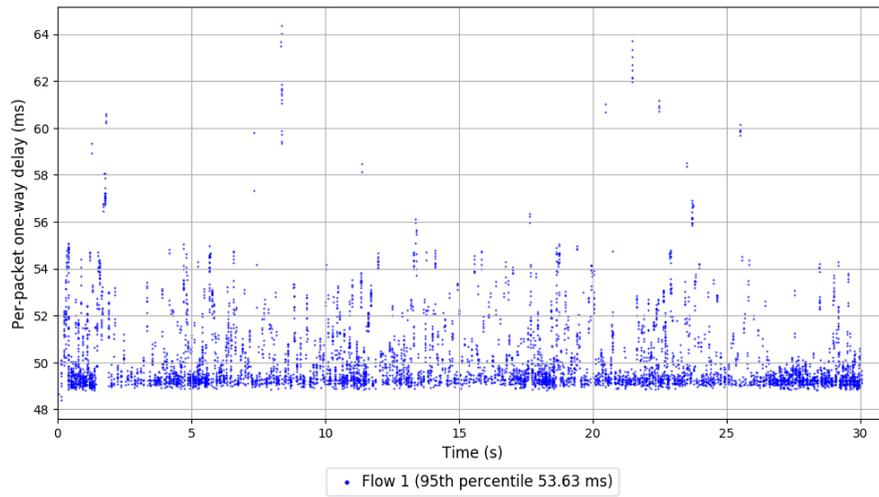
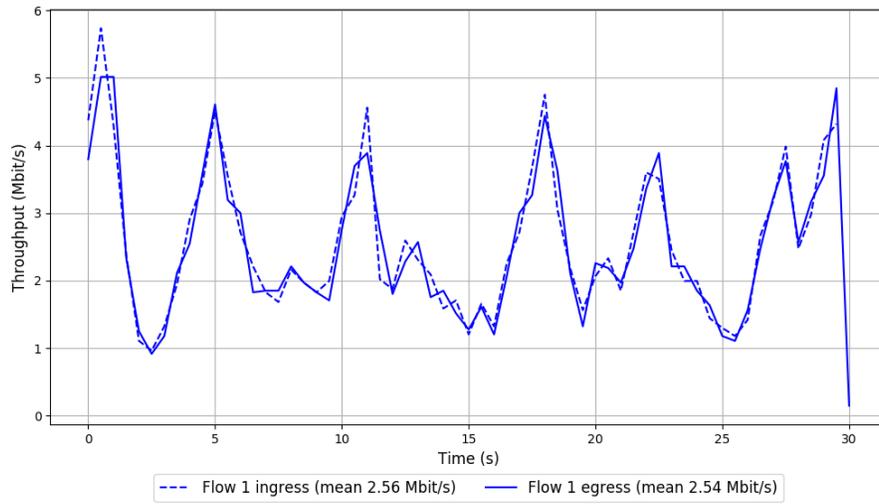
-- Flow 1:

Average throughput: 2.54 Mbit/s

95th percentile per-packet one-way delay: 53.628 ms

Loss rate: 1.02%

Run 10: Report of TCP Vegas — Data Link



Run 1: Statistics of Verus

Start at: 2017-09-18 07:46:45

End at: 2017-09-18 07:47:15

Local clock offset: 2.379 ms

Remote clock offset: 0.248 ms

Below is generated by plot.py at 2017-09-18 10:24:54

Datalink statistics

-- Total of 1 flow:

Average throughput: 34.87 Mbit/s

95th percentile per-packet one-way delay: 127.917 ms

Loss rate: 84.86%

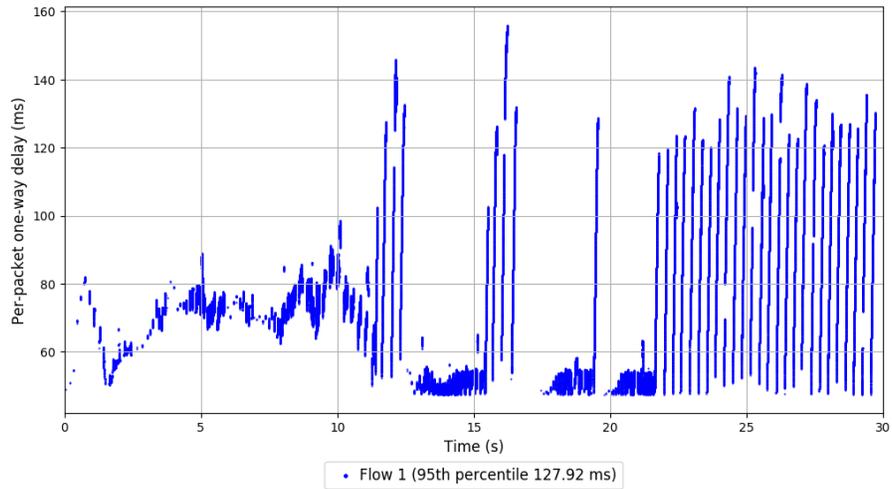
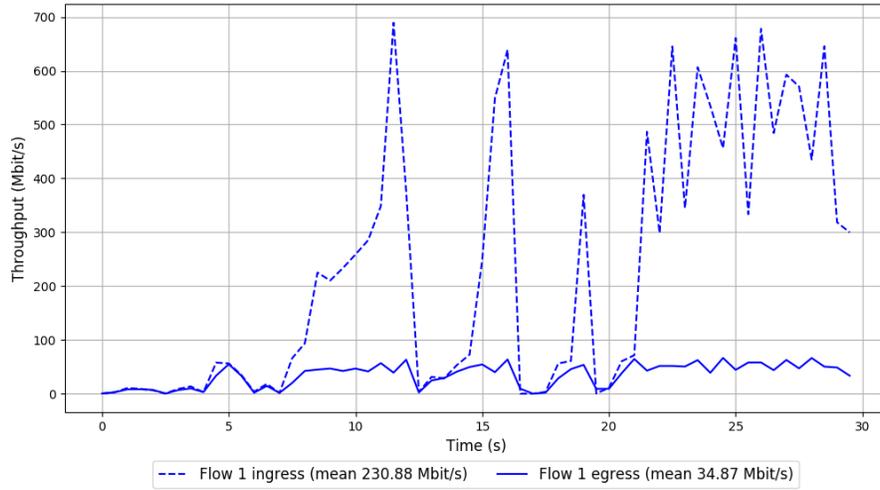
-- Flow 1:

Average throughput: 34.87 Mbit/s

95th percentile per-packet one-way delay: 127.917 ms

Loss rate: 84.86%

Run 1: Report of Verus — Data Link



Run 2: Statistics of Verus

Start at: 2017-09-18 07:59:10

End at: 2017-09-18 07:59:40

Local clock offset: 0.73 ms

Remote clock offset: 0.29 ms

Below is generated by plot.py at 2017-09-18 10:24:54

Datalink statistics

-- Total of 1 flow:

Average throughput: 39.37 Mbit/s

95th percentile per-packet one-way delay: 198.782 ms

Loss rate: 46.10%

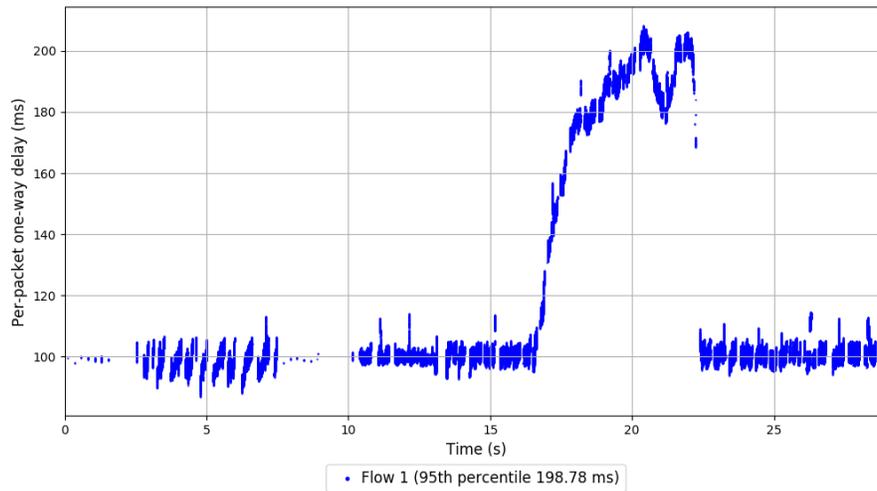
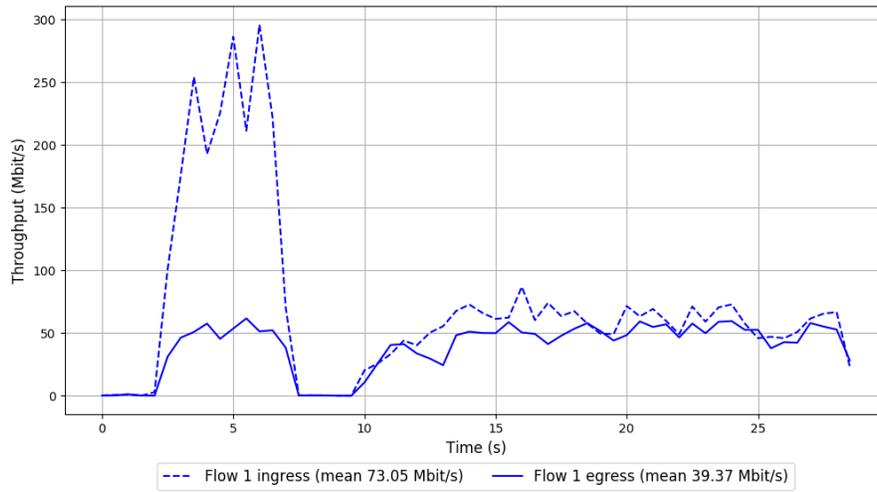
-- Flow 1:

Average throughput: 39.37 Mbit/s

95th percentile per-packet one-way delay: 198.782 ms

Loss rate: 46.10%

Run 2: Report of Verus — Data Link



Run 3: Statistics of Verus

Start at: 2017-09-18 08:14:34

End at: 2017-09-18 08:15:04

Local clock offset: 0.371 ms

Remote clock offset: 0.267 ms

Below is generated by plot.py at 2017-09-18 10:24:54

Datalink statistics

-- Total of 1 flow:

Average throughput: 13.61 Mbit/s

95th percentile per-packet one-way delay: 66.452 ms

Loss rate: 52.83%

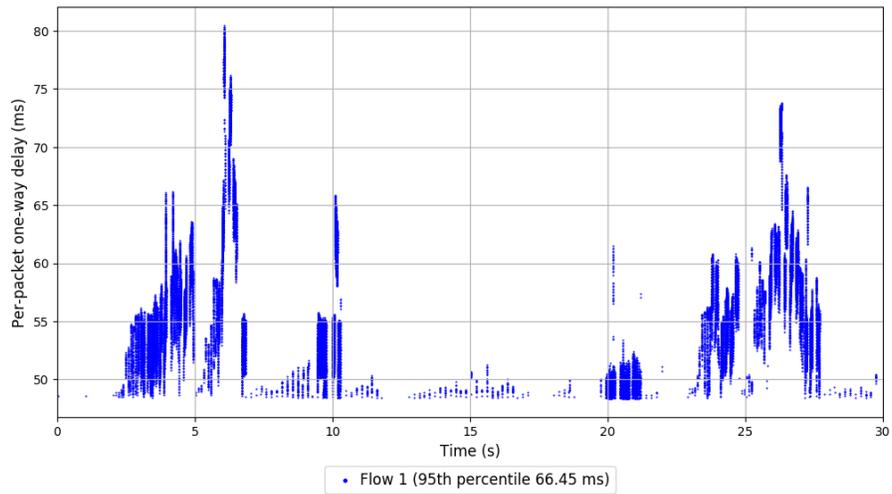
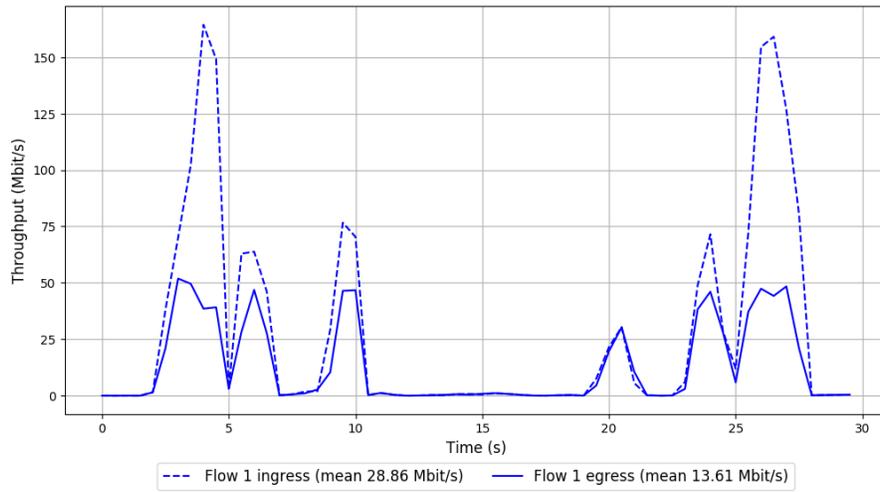
-- Flow 1:

Average throughput: 13.61 Mbit/s

95th percentile per-packet one-way delay: 66.452 ms

Loss rate: 52.83%

Run 3: Report of Verus — Data Link



Run 4: Statistics of Verus

Start at: 2017-09-18 08:34:41

End at: 2017-09-18 08:35:11

Local clock offset: 0.958 ms

Remote clock offset: 0.211 ms

Below is generated by plot.py at 2017-09-18 10:24:54

Datalink statistics

-- Total of 1 flow:

Average throughput: 14.90 Mbit/s

95th percentile per-packet one-way delay: 127.093 ms

Loss rate: 87.65%

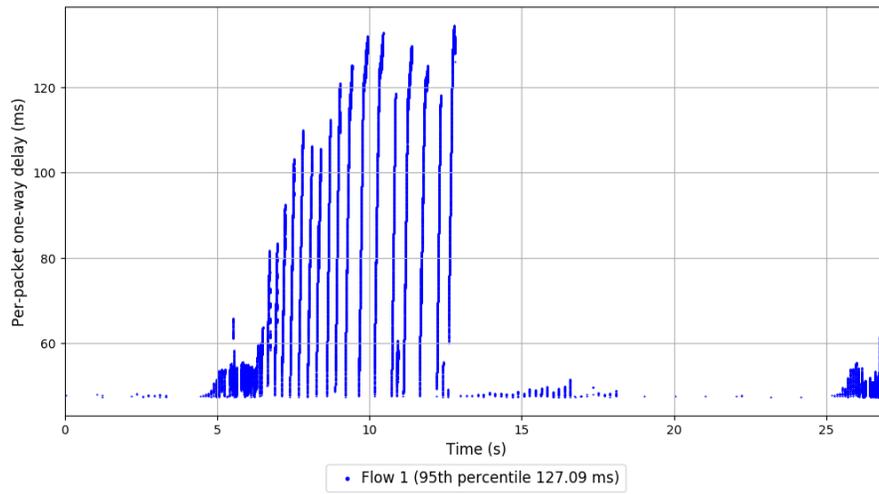
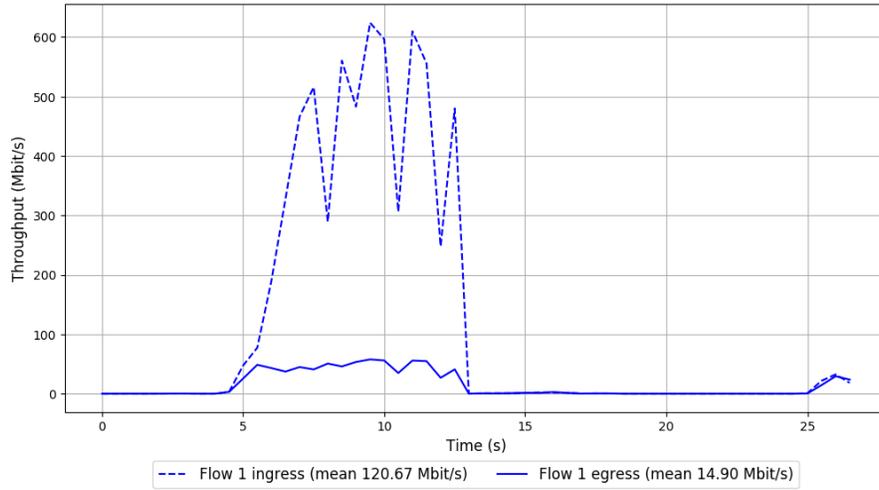
-- Flow 1:

Average throughput: 14.90 Mbit/s

95th percentile per-packet one-way delay: 127.093 ms

Loss rate: 87.65%

Run 4: Report of Verus — Data Link

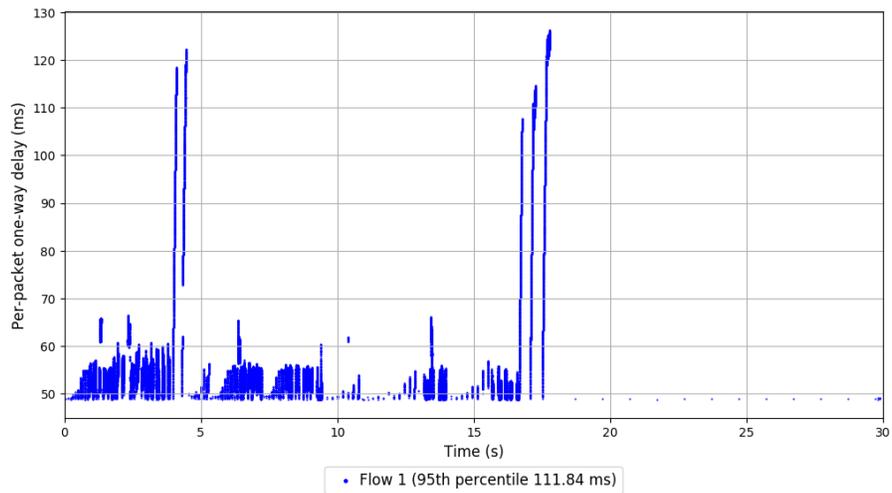
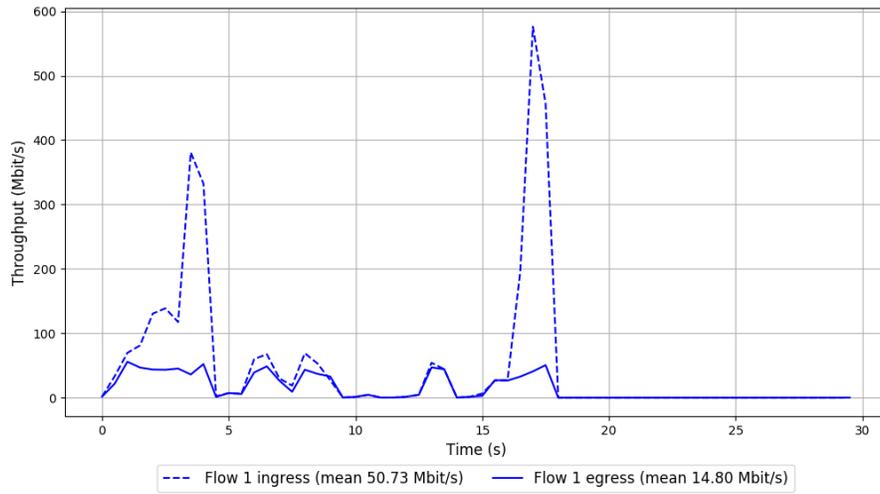


Run 5: Statistics of Verus

Start at: 2017-09-18 08:52:56
End at: 2017-09-18 08:53:26
Local clock offset: -0.712 ms
Remote clock offset: -0.043 ms

Below is generated by plot.py at 2017-09-18 10:24:54
Datalink statistics
-- Total of 1 flow:
Average throughput: 14.80 Mbit/s
95th percentile per-packet one-way delay: 111.845 ms
Loss rate: 70.82%
-- Flow 1:
Average throughput: 14.80 Mbit/s
95th percentile per-packet one-way delay: 111.845 ms
Loss rate: 70.82%

Run 5: Report of Verus — Data Link

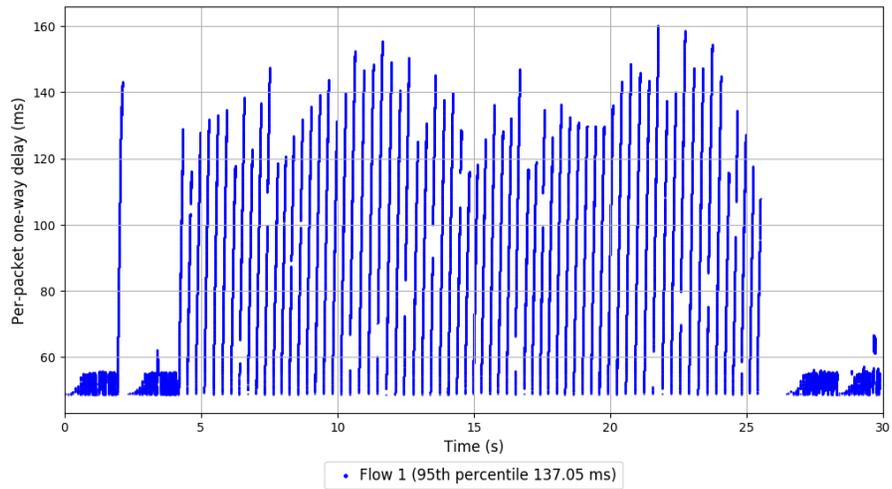
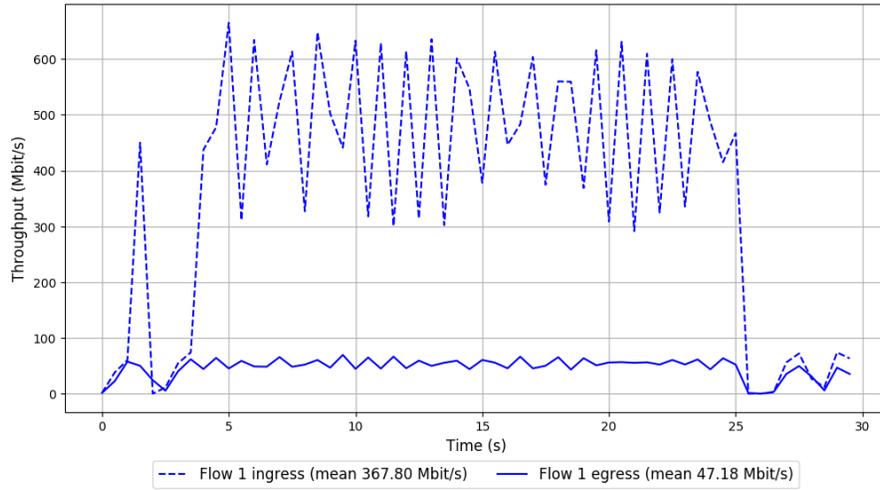


Run 6: Statistics of Verus

Start at: 2017-09-18 09:05:34
End at: 2017-09-18 09:06:05
Local clock offset: -0.963 ms
Remote clock offset: -0.069 ms

Below is generated by plot.py at 2017-09-18 10:25:24
Datalink statistics
-- Total of 1 flow:
Average throughput: 47.18 Mbit/s
95th percentile per-packet one-way delay: 137.050 ms
Loss rate: 87.17%
-- Flow 1:
Average throughput: 47.18 Mbit/s
95th percentile per-packet one-way delay: 137.050 ms
Loss rate: 87.17%

Run 6: Report of Verus — Data Link

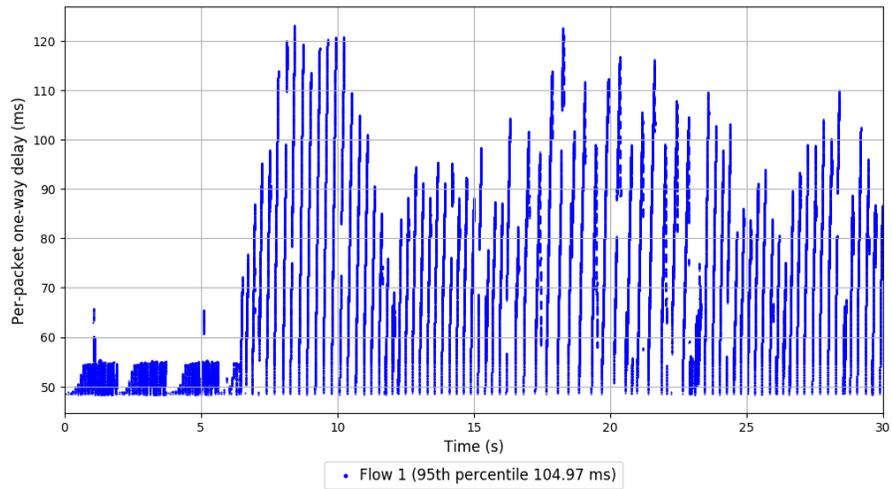
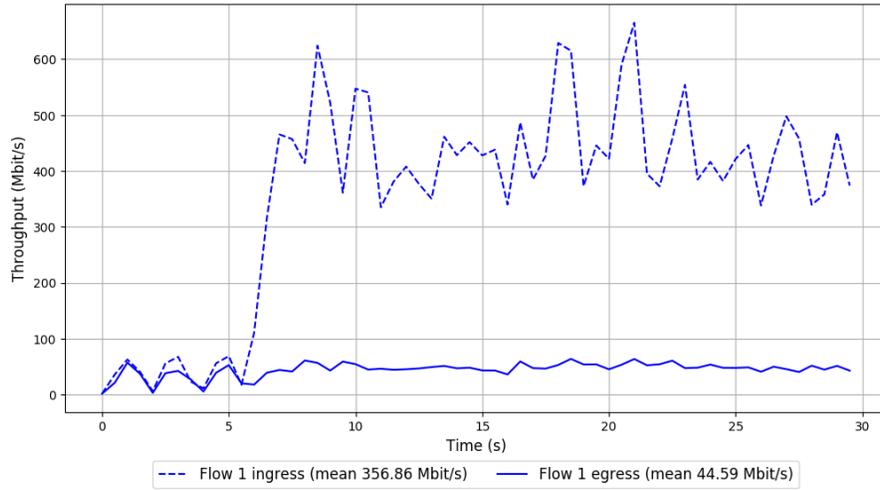


Run 7: Statistics of Verus

Start at: 2017-09-18 09:18:47
End at: 2017-09-18 09:19:17
Local clock offset: -1.02 ms
Remote clock offset: -0.238 ms

Below is generated by plot.py at 2017-09-18 10:25:24
Datalink statistics
-- Total of 1 flow:
Average throughput: 44.59 Mbit/s
95th percentile per-packet one-way delay: 104.972 ms
Loss rate: 87.49%
-- Flow 1:
Average throughput: 44.59 Mbit/s
95th percentile per-packet one-way delay: 104.972 ms
Loss rate: 87.49%

Run 7: Report of Verus — Data Link

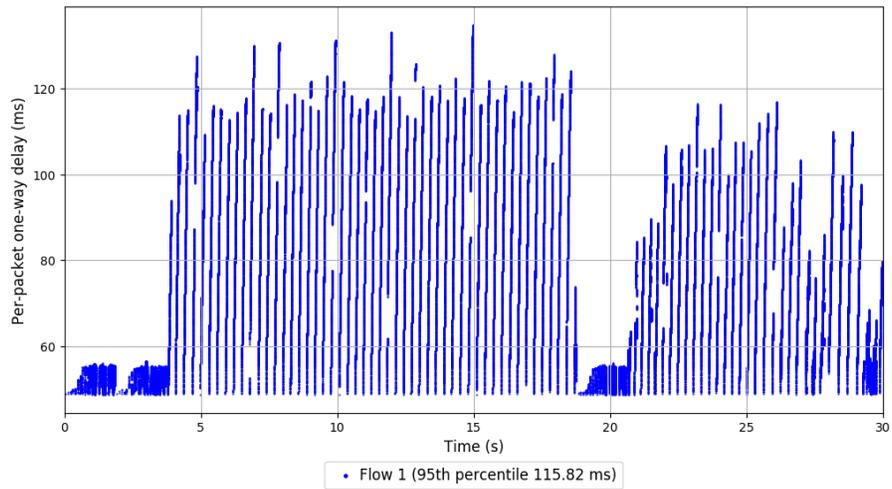
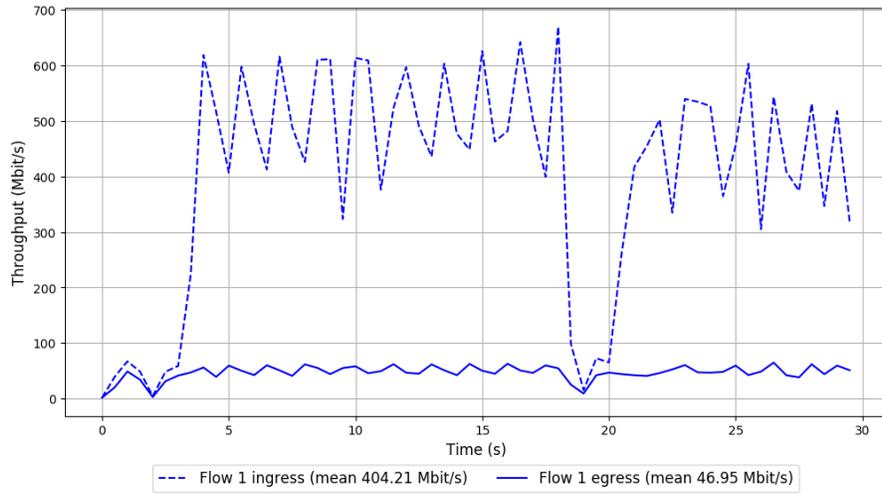


Run 8: Statistics of Verus

Start at: 2017-09-18 09:31:07
End at: 2017-09-18 09:31:37
Local clock offset: -1.381 ms
Remote clock offset: -0.444 ms

Below is generated by plot.py at 2017-09-18 10:25:25
Datalink statistics
-- Total of 1 flow:
Average throughput: 46.95 Mbit/s
95th percentile per-packet one-way delay: 115.816 ms
Loss rate: 88.38%
-- Flow 1:
Average throughput: 46.95 Mbit/s
95th percentile per-packet one-way delay: 115.816 ms
Loss rate: 88.38%

Run 8: Report of Verus — Data Link

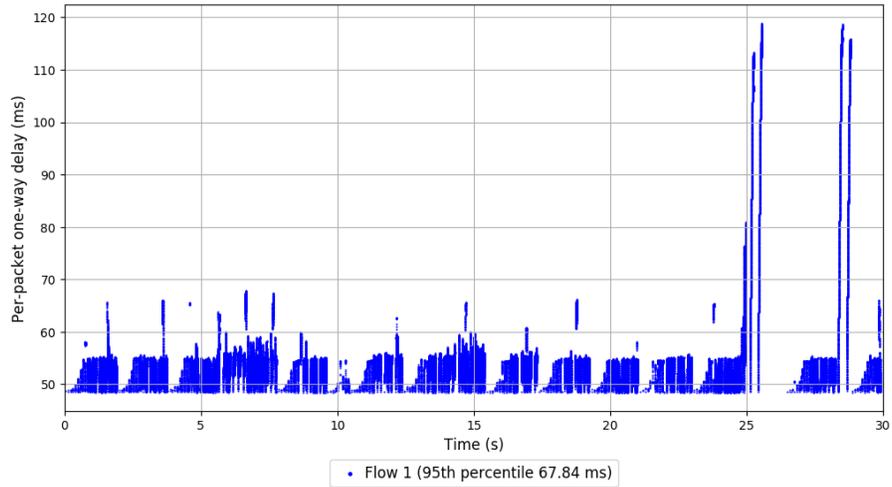
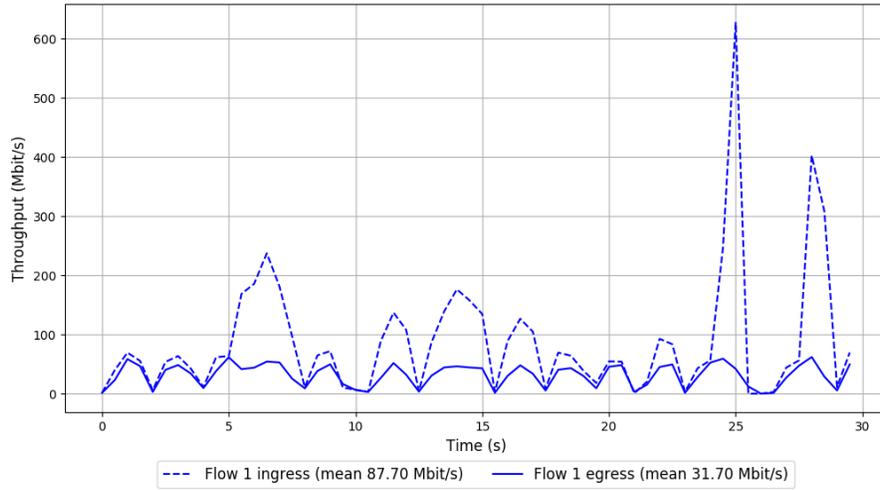


Run 9: Statistics of Verus

Start at: 2017-09-18 09:43:37
End at: 2017-09-18 09:44:07
Local clock offset: -1.598 ms
Remote clock offset: -0.622 ms

Below is generated by plot.py at 2017-09-18 10:25:25
Datalink statistics
-- Total of 1 flow:
Average throughput: 31.70 Mbit/s
95th percentile per-packet one-way delay: 67.844 ms
Loss rate: 63.85%
-- Flow 1:
Average throughput: 31.70 Mbit/s
95th percentile per-packet one-way delay: 67.844 ms
Loss rate: 63.85%

Run 9: Report of Verus — Data Link



Run 10: Statistics of Verus

Start at: 2017-09-18 09:55:38
End at: 2017-09-18 09:56:08
Local clock offset: -1.799 ms
Remote clock offset: -0.748 ms

Below is generated by plot.py at 2017-09-18 10:25:25
Datalink statistics
-- Total of 1 flow:
Average throughput: 41.43 Mbit/s
95th percentile per-packet one-way delay: 95.858 ms
Loss rate: 84.48%
-- Flow 1:
Average throughput: 41.43 Mbit/s
95th percentile per-packet one-way delay: 95.858 ms
Loss rate: 84.48%

Run 10: Report of Verus — Data Link

