

Pantheon Report

Generated at 2019-01-02 21:24:35 (UTC).

Data path: AWS India 1 on `ens5` (*local*) → India on `em1` (*remote*).

Repeated the test of 19 congestion control schemes 5 times.

Each test lasted for 30 seconds running 1 flow.

NTP offsets were measured against `nets.org.sg` and have been applied to correct the timestamps in logs.

System info:

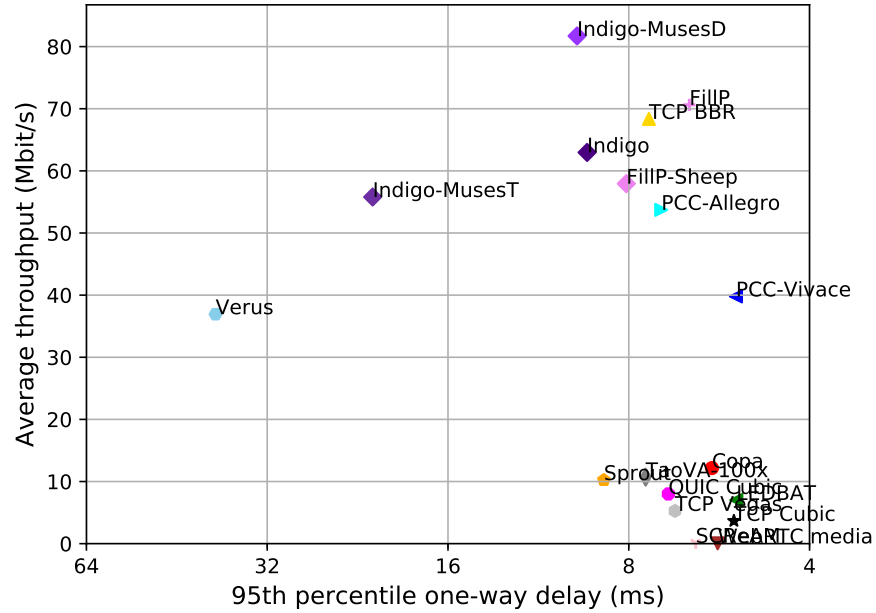
```
Linux 4.15.0-1029-aws
net.core.default_qdisc = fq
net.core.rmem_default = 16777216
net.core.rmem_max = 536870912
net.core.wmem_default = 16777216
net.core.wmem_max = 536870912
net.ipv4.tcp_rmem = 4096 16777216 536870912
net.ipv4.tcp_wmem = 4096 16777216 536870912
```

Git summary:

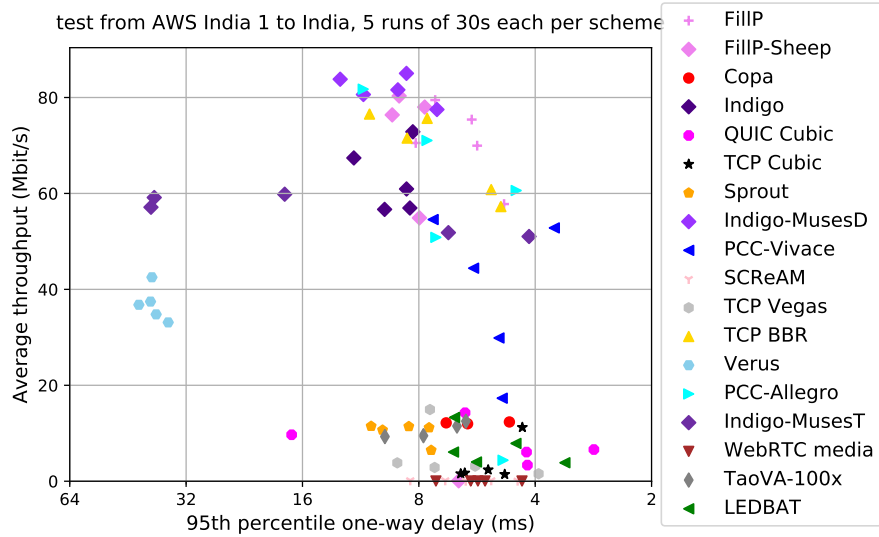
```
branch: muses @ c654af0b7d59d4ef4b914cfac404e1fc2e96dc68
third_party/fillp @ d6da1459332fcee56963885d7eba17e6a32d4519
third_party/fillp-sheep @ 0e5bb722943babcd2b090d2c64fcd45e12e923f9
third_party/genericCC @ d0153f8e594aa89e93b032143cedbdf58e562f4
third_party/indigo @ 2601c92e4aa9d58d38dc4dfe0ecd90c077e64d
third_party/libutp @ b3465b942e2826f2b179eaab4a906ce6bb7cf3cf
third_party/muses @ 65ac1b19bbefed0c6349ae986009b4fa8643c40a
third_party/muses-refactored @ 31f8f0ba8ef8b1da76c2bc0cd0a7850c33ff64fb
third_party/pantheon-tunnel @ f866d3f58d27afd942717625ee3a354cc2e802bd
third_party/pcc @ 1afc958fa0d66d18b623c091a55fec872b4981e1
M receiver/src/buffer.h
M receiver/src/core.cpp
M sender/src/buffer.h
M sender/src/core.cpp
third_party/pcc-experimental @ cd43e34e3f5f5613e8acd08fab92c4eb24f974ab
third_party/proto-quick @ 77961f1a82733a86b42f1bc8143ebc978f3cff42
third_party/scream-reproduce @ f099118d1421aa3131bf11ff1964974e1da3bdb2
M src/ScreamClient
M src/ScreamServer
third_party/sprout @ 366e35c6178b01e31d4a46ad18c74f9415f19a26
M src/examples/cellsim.cc
M src/examples/sproutbt2.cc
M src/network/sproutconn.cc
third_party/verus @ d4b447ea74c6c60a261149af2629562939f9a494
M src/verus.hpp
M tools/plot.py
```

third_party/vivace @ 2baf86211435ae071a32f96b7d8c504587f5d7f4
third_party/webrtc @ 3f0cc2a9061a41b6f9dde4735770d143a1fa2851

test from AWS India 1 to India, 5 runs of 30s each per scheme
(mean of all runs by scheme)



test from AWS India 1 to India, 5 runs of 30s each per scheme



scheme	# runs	mean avg tput (Mbit/s) flow 1	mean 95th-%ile delay (ms) flow 1	mean loss rate (%) flow 1
TCP BBR	5	68.36	7.41	13.48
Copa	3	12.17	5.82	61.92
TCP Cubic	5	3.66	5.35	2.55
FillP	5	70.63	6.34	14.76
FillP-Sheep	5	57.94	8.08	17.16
Indigo	5	62.96	9.39	15.12
Indigo-MusesD	5	81.71	9.75	21.98
Indigo-MusesT	5	55.79	21.36	22.55
LEDBAT	5	7.02	5.30	0.75
PCC-Allegro	5	53.72	7.06	10.50
PCC-Expr	0	N/A	N/A	N/A
QUIC Cubic	5	8.00	6.87	2.58
SCReAM	5	0.14	6.19	1.53
Sprout	5	10.24	8.80	2.18
TaoVA-100x	4	10.70	7.50	53.34
TCP Vegas	5	5.27	6.70	1.87
Verus	5	36.93	39.01	50.30
PCC-Vivace	5	39.79	5.31	7.09
WebRTC media	5	0.05	5.69	0.43

Run 1: Statistics of TCP BBR

Start at: 2019-01-02 19:28:47

End at: 2019-01-02 19:29:17

Local clock offset: 4.573 ms

Remote clock offset: 0.051 ms

Below is generated by plot.py at 2019-01-02 21:20:13

Datalink statistics

-- Total of 1 flow:

Average throughput: 75.65 Mbit/s

95th percentile per-packet one-way delay: 7.612 ms

Loss rate: 13.14%

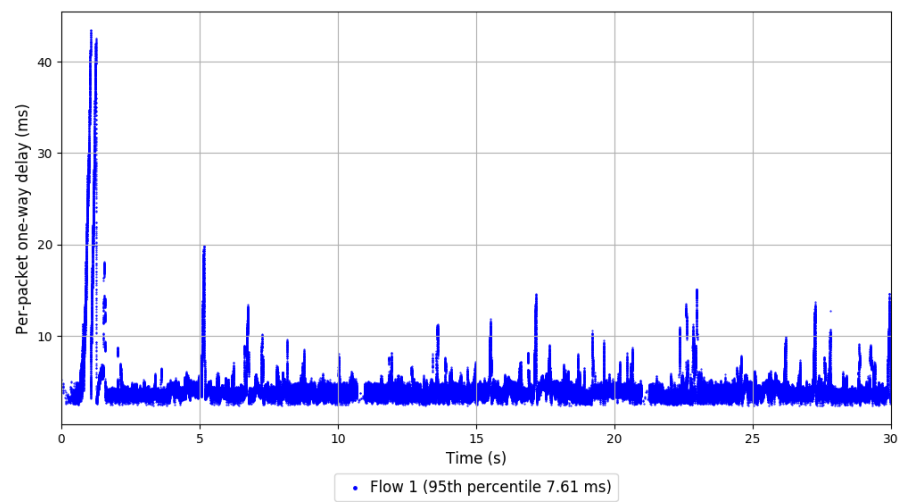
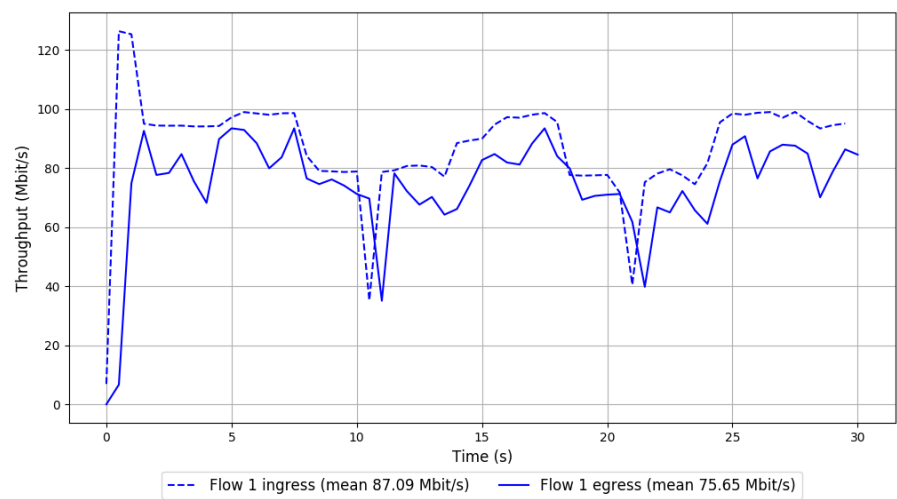
-- Flow 1:

Average throughput: 75.65 Mbit/s

95th percentile per-packet one-way delay: 7.612 ms

Loss rate: 13.14%

Run 1: Report of TCP BBR — Data Link

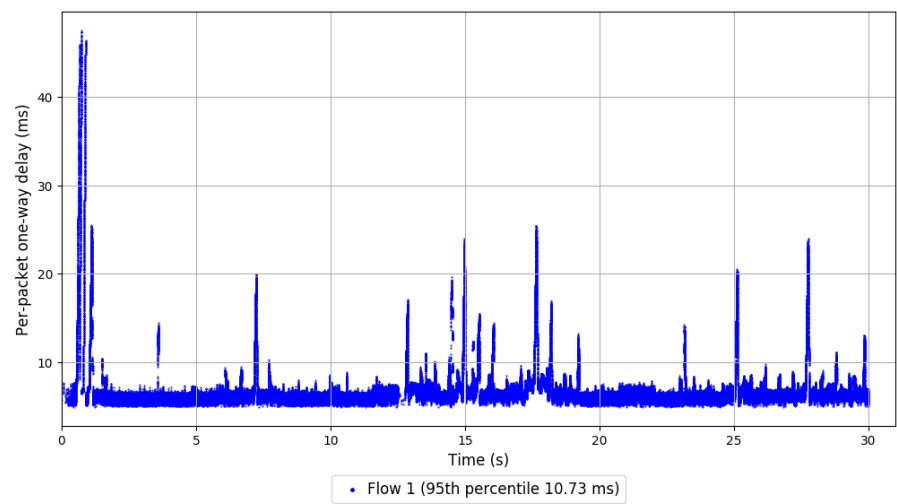
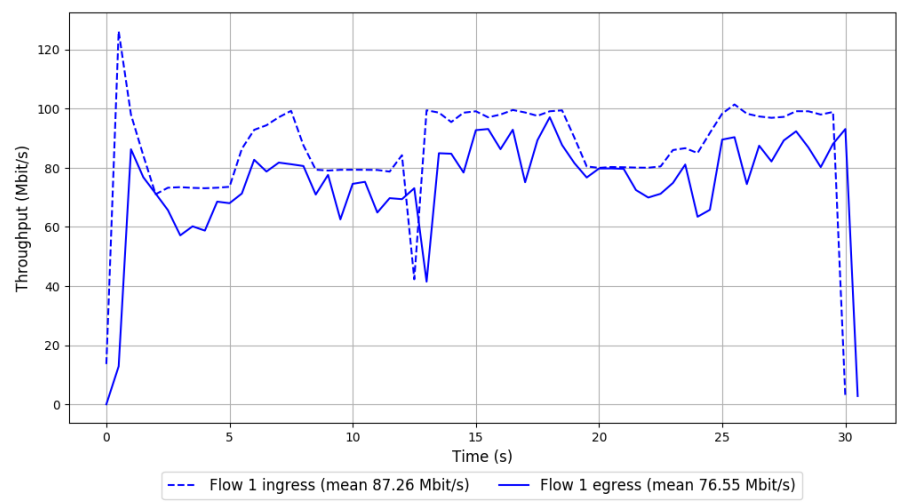


Run 2: Statistics of TCP BBR

Start at: 2019-01-02 19:52:07
End at: 2019-01-02 19:52:37
Local clock offset: 0.957 ms
Remote clock offset: -0.146 ms

Below is generated by plot.py at 2019-01-02 21:20:13
Datalink statistics
-- Total of 1 flow:
Average throughput: 76.55 Mbit/s
95th percentile per-packet one-way delay: 10.731 ms
Loss rate: 12.28%
-- Flow 1:
Average throughput: 76.55 Mbit/s
95th percentile per-packet one-way delay: 10.731 ms
Loss rate: 12.28%

Run 2: Report of TCP BBR — Data Link



Run 3: Statistics of TCP BBR

Start at: 2019-01-02 20:15:46

End at: 2019-01-02 20:16:16

Local clock offset: 1.756 ms

Remote clock offset: 1.139 ms

Below is generated by plot.py at 2019-01-02 21:20:13

Datalink statistics

-- Total of 1 flow:

Average throughput: 71.54 Mbit/s

95th percentile per-packet one-way delay: 8.577 ms

Loss rate: 12.90%

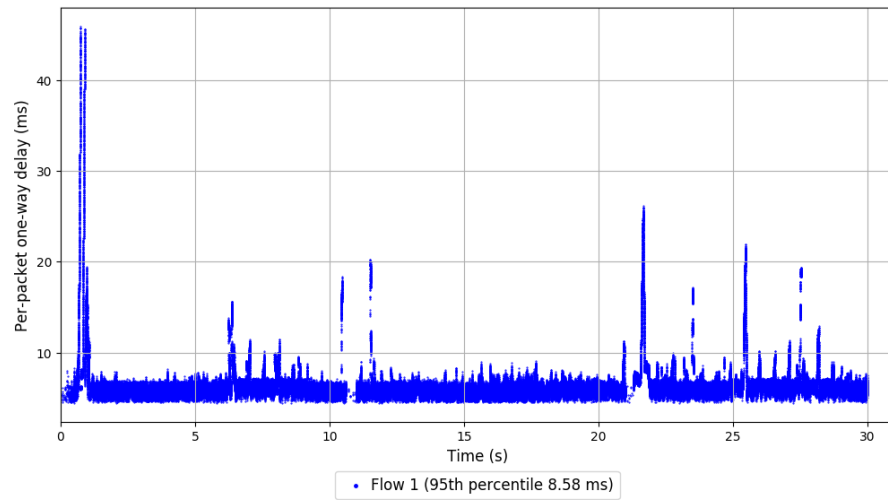
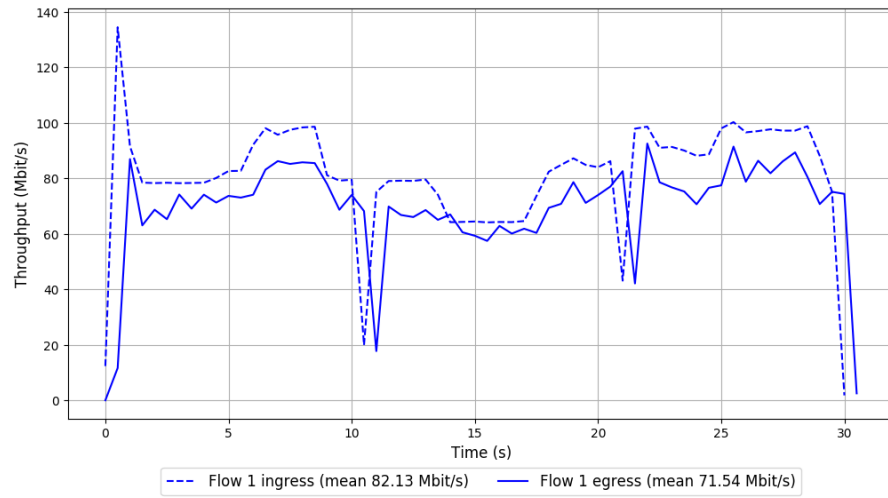
-- Flow 1:

Average throughput: 71.54 Mbit/s

95th percentile per-packet one-way delay: 8.577 ms

Loss rate: 12.90%

Run 3: Report of TCP BBR — Data Link



Run 4: Statistics of TCP BBR

Start at: 2019-01-02 20:38:51

End at: 2019-01-02 20:39:21

Local clock offset: 0.12 ms

Remote clock offset: 2.089 ms

Below is generated by plot.py at 2019-01-02 21:20:13

Datalink statistics

-- Total of 1 flow:

Average throughput: 60.81 Mbit/s

95th percentile per-packet one-way delay: 5.199 ms

Loss rate: 15.58%

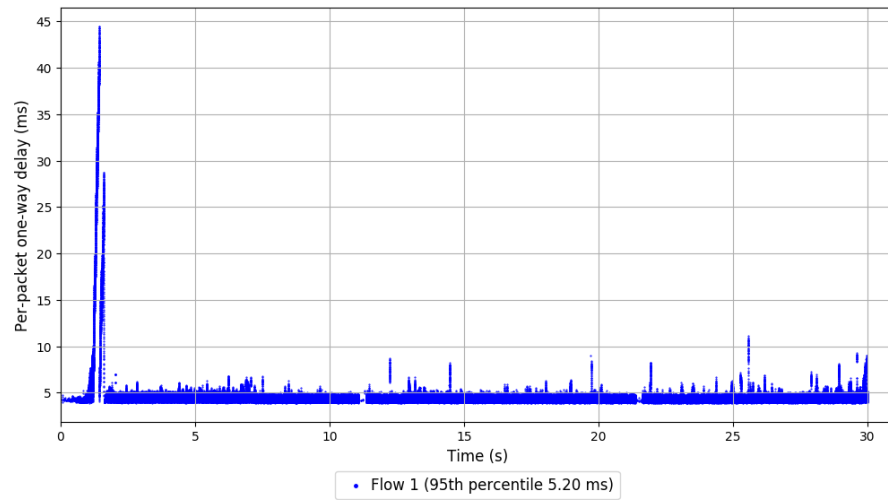
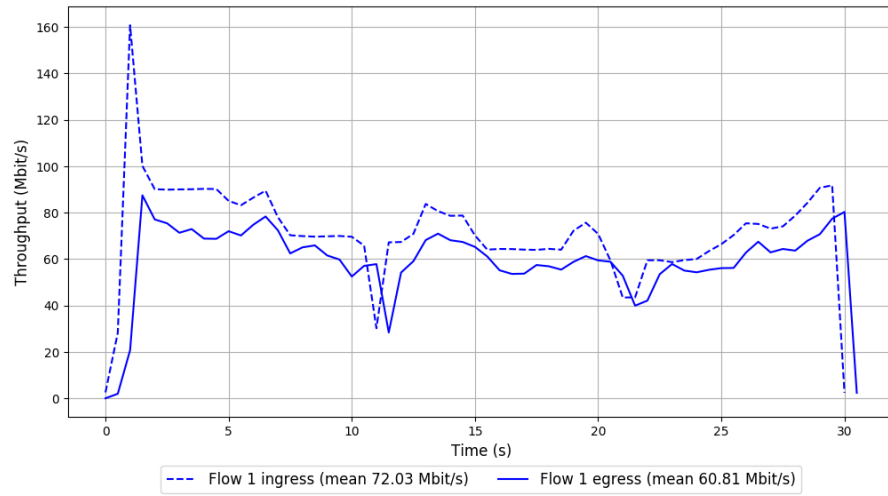
-- Flow 1:

Average throughput: 60.81 Mbit/s

95th percentile per-packet one-way delay: 5.199 ms

Loss rate: 15.58%

Run 4: Report of TCP BBR — Data Link



Run 5: Statistics of TCP BBR

Start at: 2019-01-02 21:01:27

End at: 2019-01-02 21:01:57

Local clock offset: 0.843 ms

Remote clock offset: 2.763 ms

Below is generated by plot.py at 2019-01-02 21:20:13

Datalink statistics

-- Total of 1 flow:

Average throughput: 57.26 Mbit/s

95th percentile per-packet one-way delay: 4.908 ms

Loss rate: 13.52%

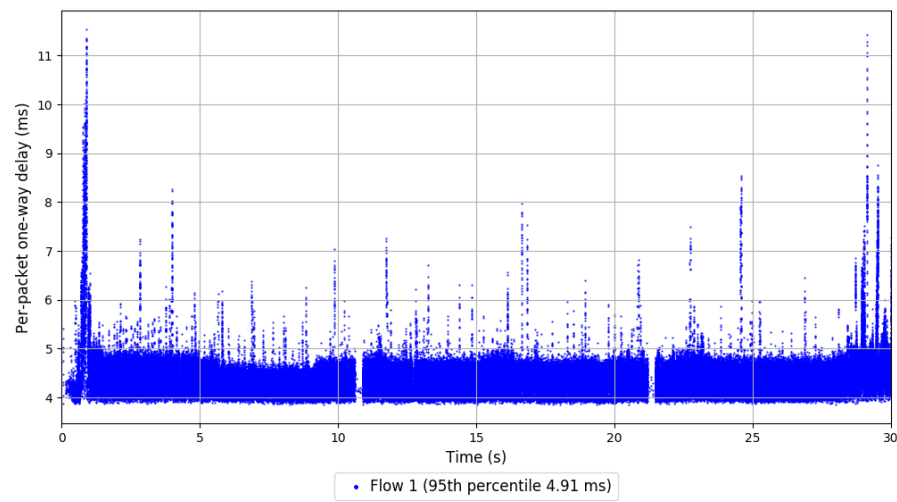
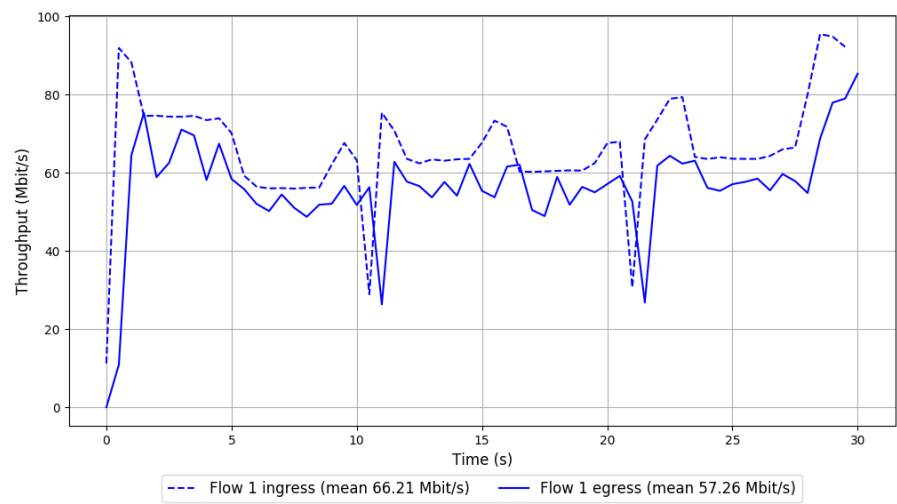
-- Flow 1:

Average throughput: 57.26 Mbit/s

95th percentile per-packet one-way delay: 4.908 ms

Loss rate: 13.52%

Run 5: Report of TCP BBR — Data Link



Run 1: Statistics of Copa

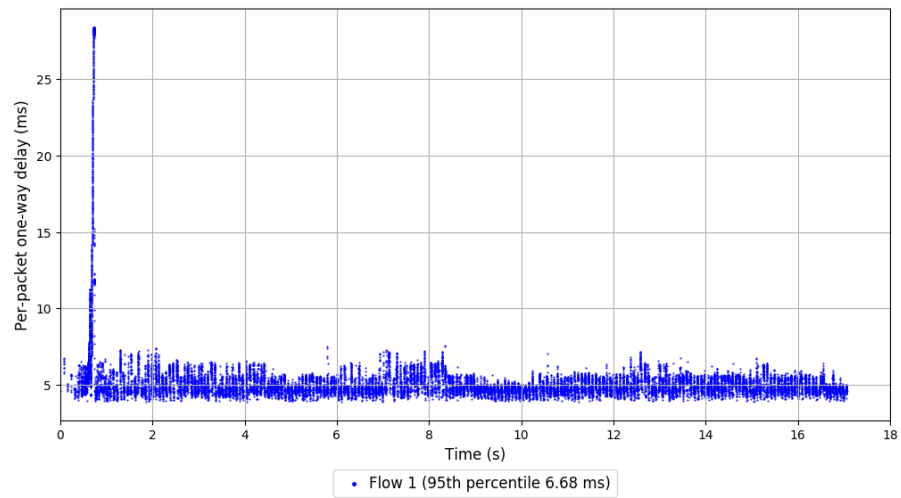
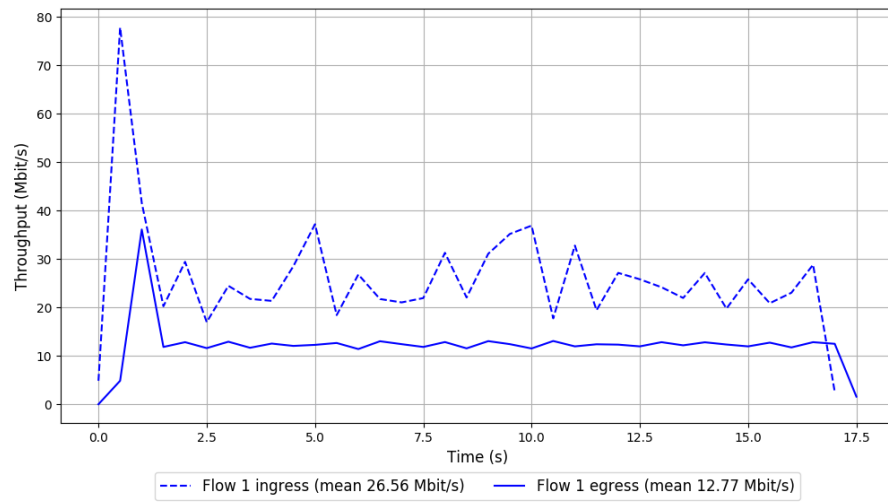
Start at: 2019-01-02 19:43:41

End at: 2019-01-02 19:44:11

Local clock offset: 2.014 ms

Remote clock offset: -0.184 ms

Run 1: Report of Copa — Data Link



Run 2: Statistics of Copa

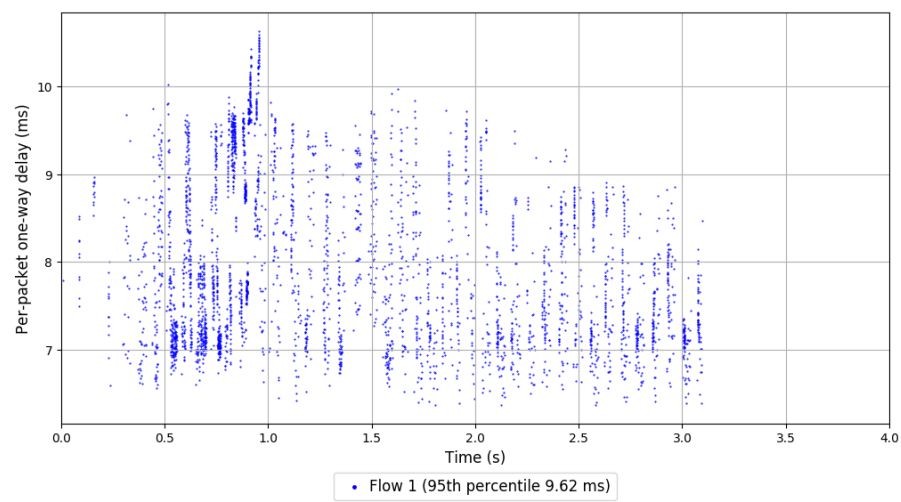
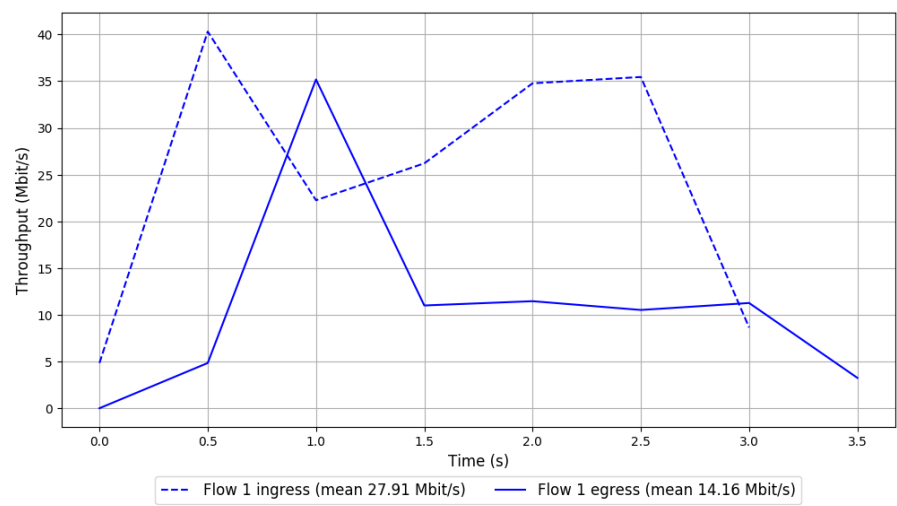
Start at: 2019-01-02 20:07:10

End at: 2019-01-02 20:07:40

Local clock offset: -0.287 ms

Remote clock offset: 0.443 ms

Run 2: Report of Copa — Data Link



Run 3: Statistics of Copa

Start at: 2019-01-02 20:30:25

End at: 2019-01-02 20:30:55

Local clock offset: 1.861 ms

Remote clock offset: 1.585 ms

Below is generated by plot.py at 2019-01-02 21:20:13

Datalink statistics

-- Total of 1 flow:

Average throughput: 11.98 Mbit/s

95th percentile per-packet one-way delay: 5.984 ms

Loss rate: 50.73%

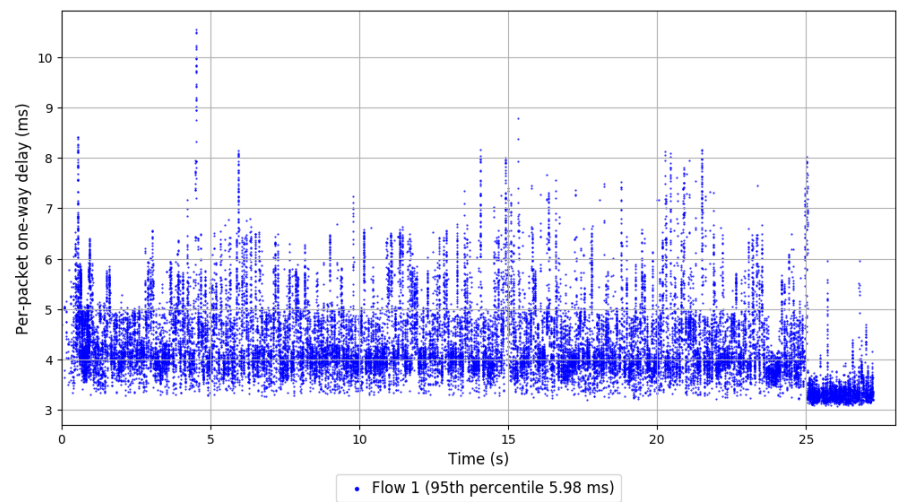
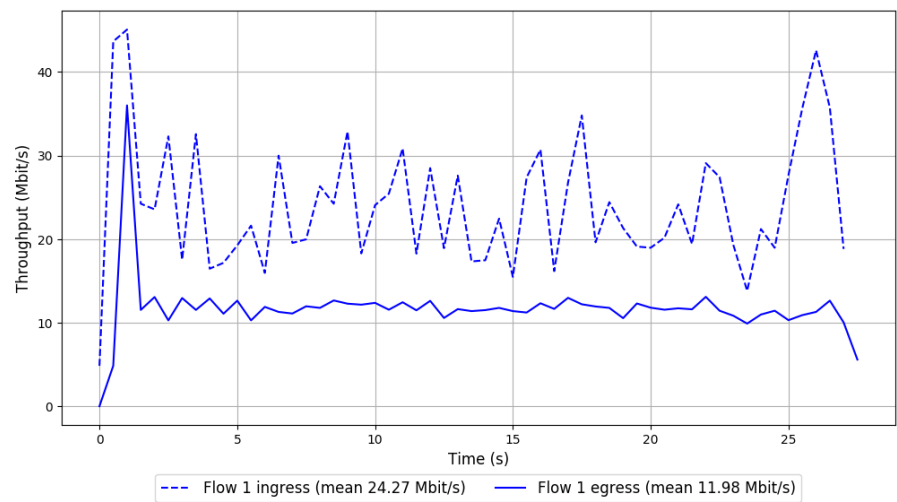
-- Flow 1:

Average throughput: 11.98 Mbit/s

95th percentile per-packet one-way delay: 5.984 ms

Loss rate: 50.73%

Run 3: Report of Copa — Data Link



Run 4: Statistics of Copa

Start at: 2019-01-02 20:53:10

End at: 2019-01-02 20:53:40

Local clock offset: -1.27 ms

Remote clock offset: 2.534 ms

Below is generated by plot.py at 2019-01-02 21:20:13

Datalink statistics

-- Total of 1 flow:

Average throughput: 12.17 Mbit/s

95th percentile per-packet one-way delay: 6.798 ms

Loss rate: 66.09%

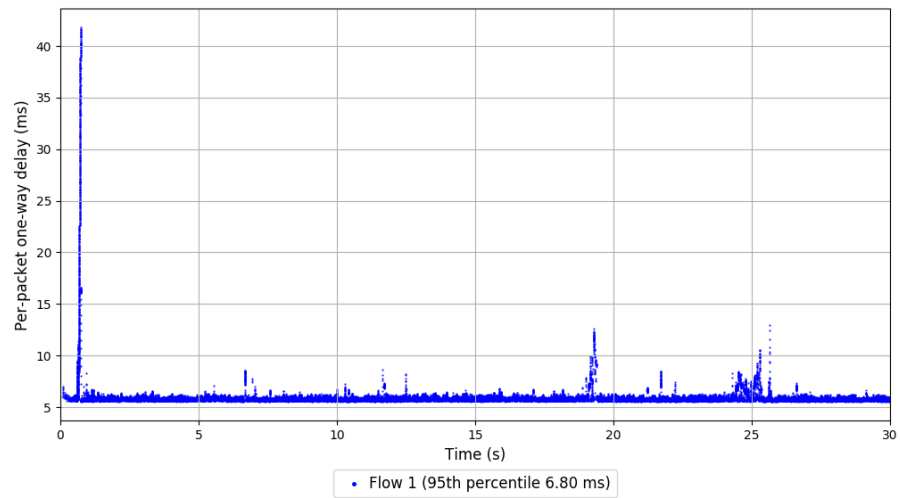
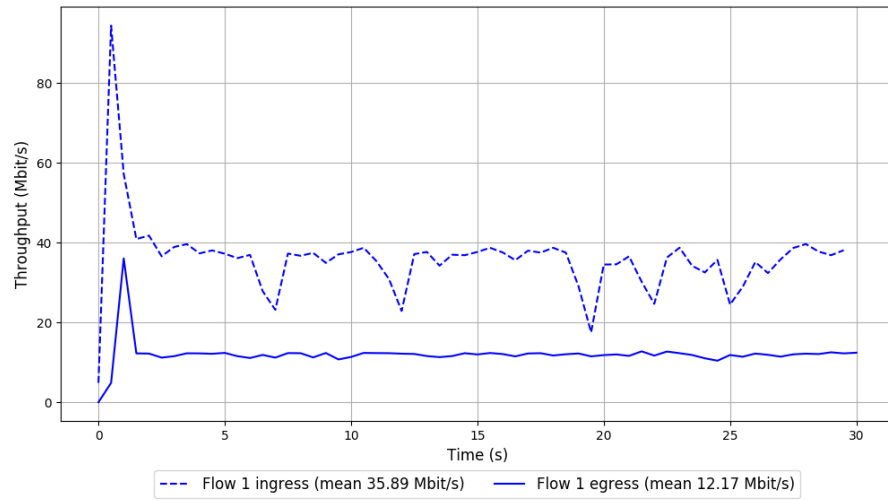
-- Flow 1:

Average throughput: 12.17 Mbit/s

95th percentile per-packet one-way delay: 6.798 ms

Loss rate: 66.09%

Run 4: Report of Copa — Data Link



Run 5: Statistics of Copa

Start at: 2019-01-02 21:15:46

End at: 2019-01-02 21:16:16

Local clock offset: 1.534 ms

Remote clock offset: 2.533 ms

Below is generated by plot.py at 2019-01-02 21:20:13

Datalink statistics

-- Total of 1 flow:

Average throughput: 12.36 Mbit/s

95th percentile per-packet one-way delay: 4.665 ms

Loss rate: 68.94%

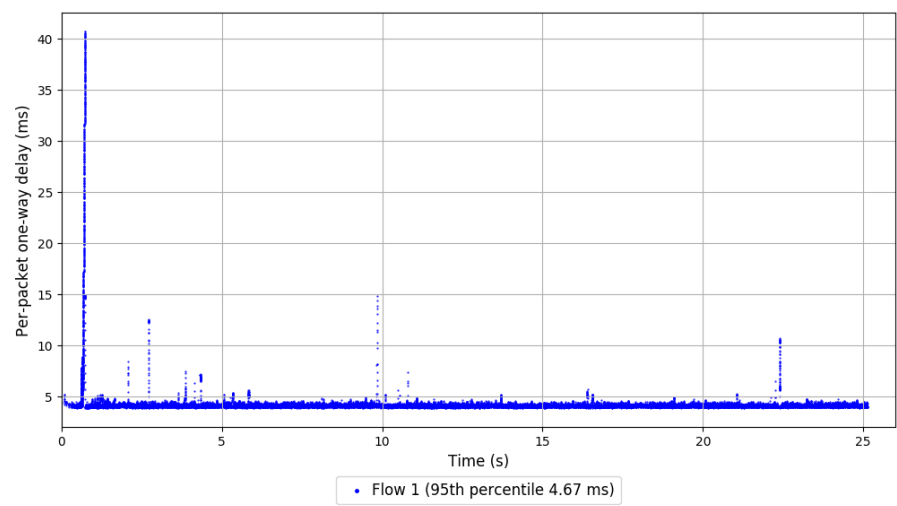
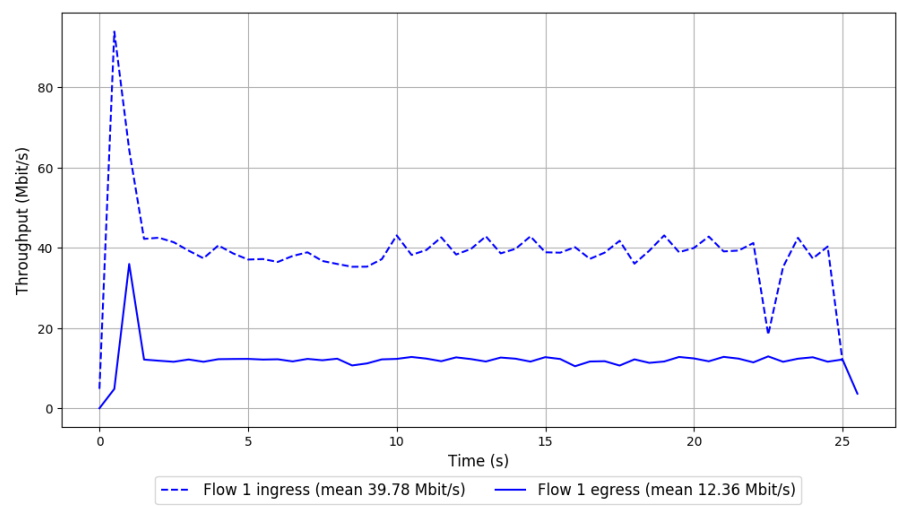
-- Flow 1:

Average throughput: 12.36 Mbit/s

95th percentile per-packet one-way delay: 4.665 ms

Loss rate: 68.94%

Run 5: Report of Copa — Data Link



Run 1: Statistics of TCP Cubic

Start at: 2019-01-02 19:30:27

End at: 2019-01-02 19:30:57

Local clock offset: 3.381 ms

Remote clock offset: -0.19 ms

Below is generated by plot.py at 2019-01-02 21:20:13

Datalink statistics

-- Total of 1 flow:

Average throughput: 2.38 Mbit/s

95th percentile per-packet one-way delay: 5.293 ms

Loss rate: 1.99%

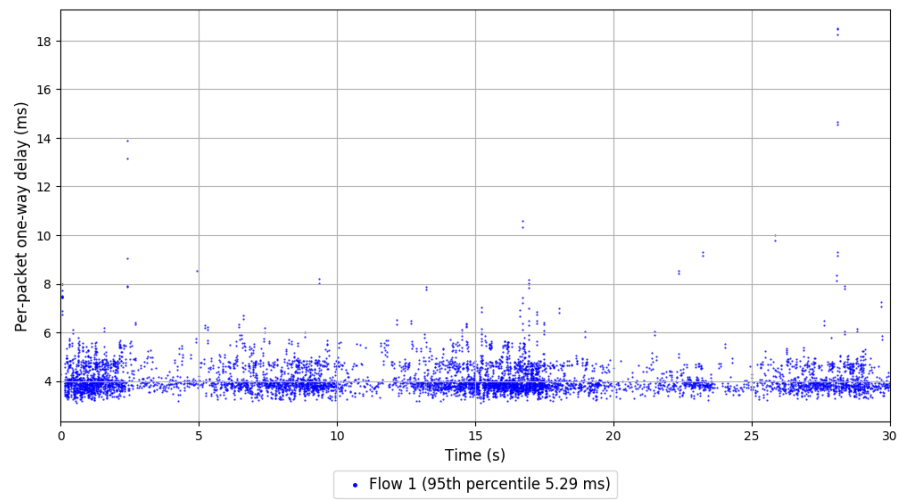
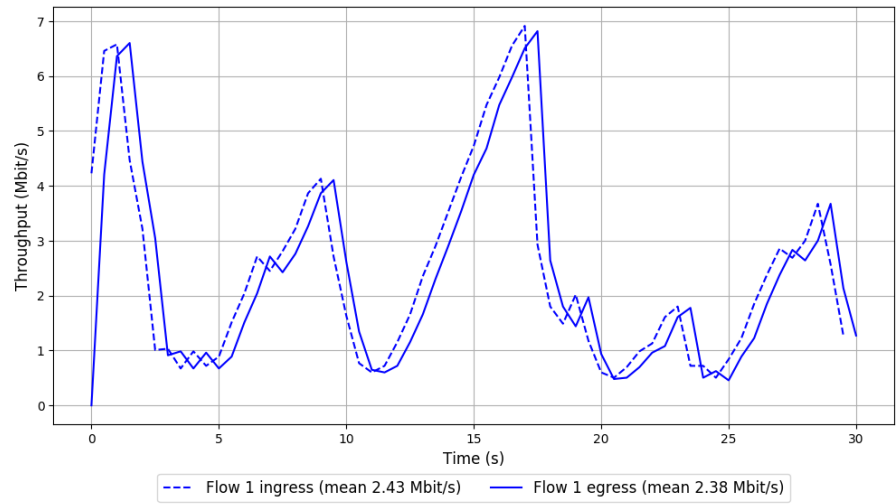
-- Flow 1:

Average throughput: 2.38 Mbit/s

95th percentile per-packet one-way delay: 5.293 ms

Loss rate: 1.99%

Run 1: Report of TCP Cubic — Data Link



Run 2: Statistics of TCP Cubic

Start at: 2019-01-02 19:53:34

End at: 2019-01-02 19:54:04

Local clock offset: 2.928 ms

Remote clock offset: -0.65 ms

Below is generated by plot.py at 2019-01-02 21:20:13

Datalink statistics

-- Total of 1 flow:

Average throughput: 11.23 Mbit/s

95th percentile per-packet one-way delay: 4.318 ms

Loss rate: 0.15%

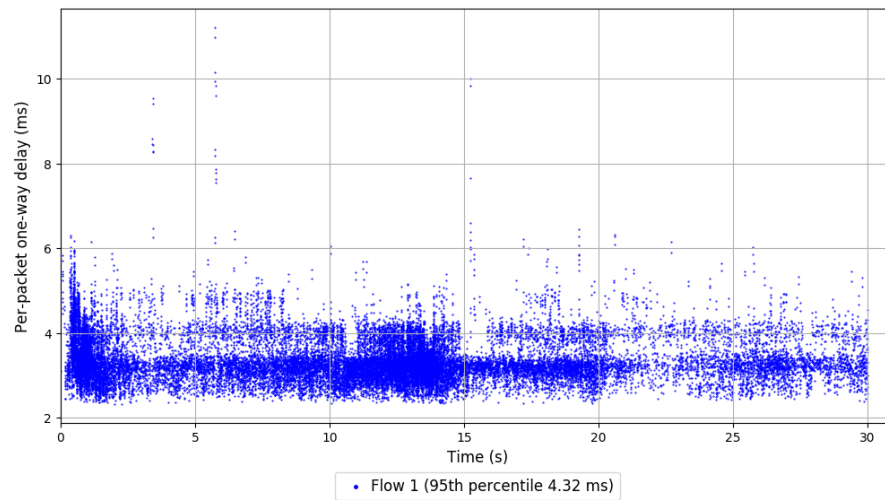
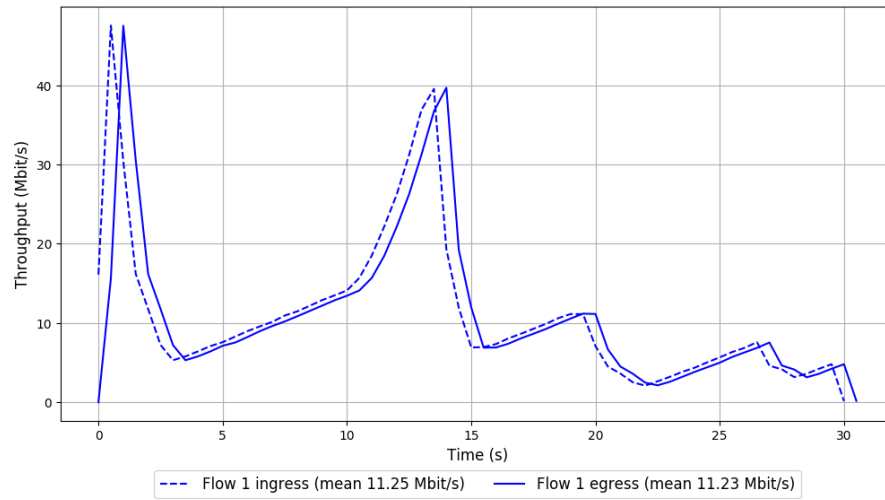
-- Flow 1:

Average throughput: 11.23 Mbit/s

95th percentile per-packet one-way delay: 4.318 ms

Loss rate: 0.15%

Run 2: Report of TCP Cubic — Data Link



Run 3: Statistics of TCP Cubic

Start at: 2019-01-02 20:17:28

End at: 2019-01-02 20:17:58

Local clock offset: 2.38 ms

Remote clock offset: 0.68 ms

Below is generated by plot.py at 2019-01-02 21:20:13

Datalink statistics

-- Total of 1 flow:

Average throughput: 1.72 Mbit/s

95th percentile per-packet one-way delay: 6.087 ms

Loss rate: 4.50%

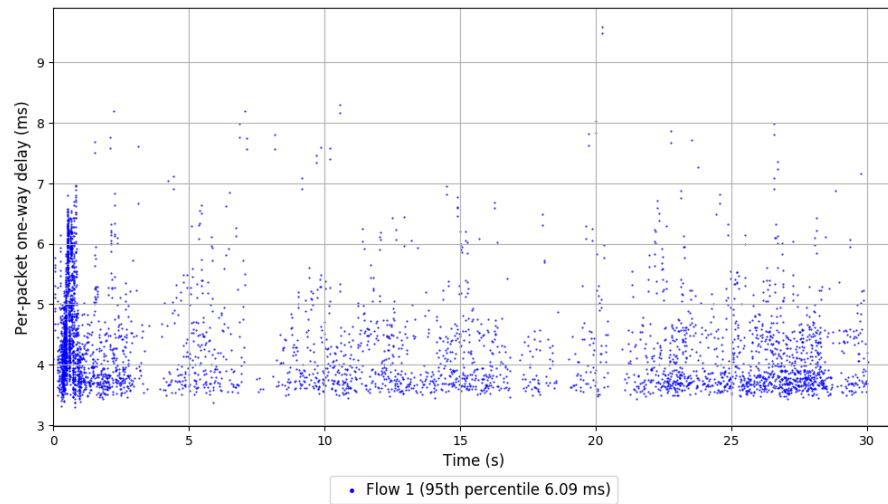
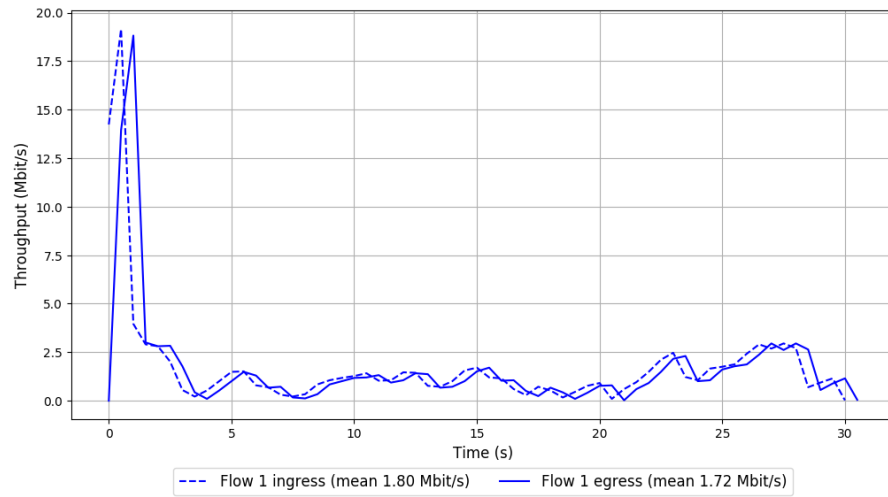
-- Flow 1:

Average throughput: 1.72 Mbit/s

95th percentile per-packet one-way delay: 6.087 ms

Loss rate: 4.50%

Run 3: Report of TCP Cubic — Data Link



Run 4: Statistics of TCP Cubic

Start at: 2019-01-02 20:40:15

End at: 2019-01-02 20:40:45

Local clock offset: -1.492 ms

Remote clock offset: 1.736 ms

Below is generated by plot.py at 2019-01-02 21:20:13

Datalink statistics

-- Total of 1 flow:

Average throughput: 1.56 Mbit/s

95th percentile per-packet one-way delay: 6.235 ms

Loss rate: 2.74%

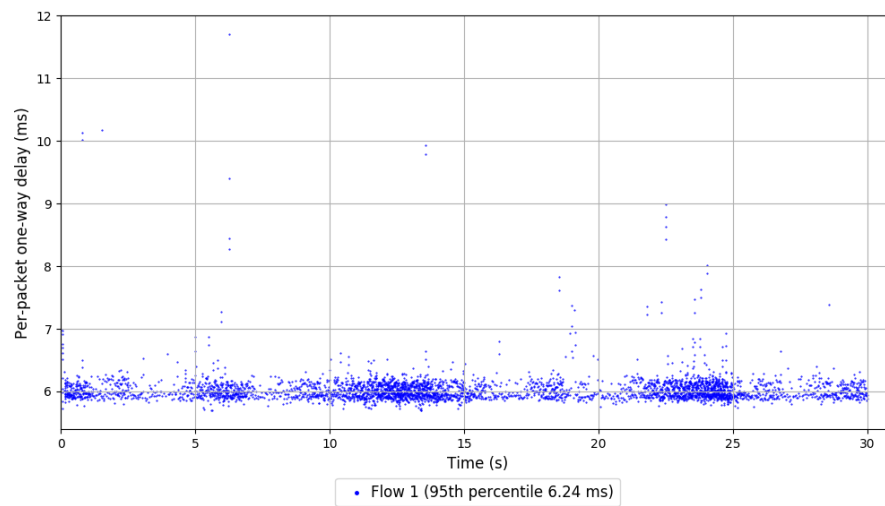
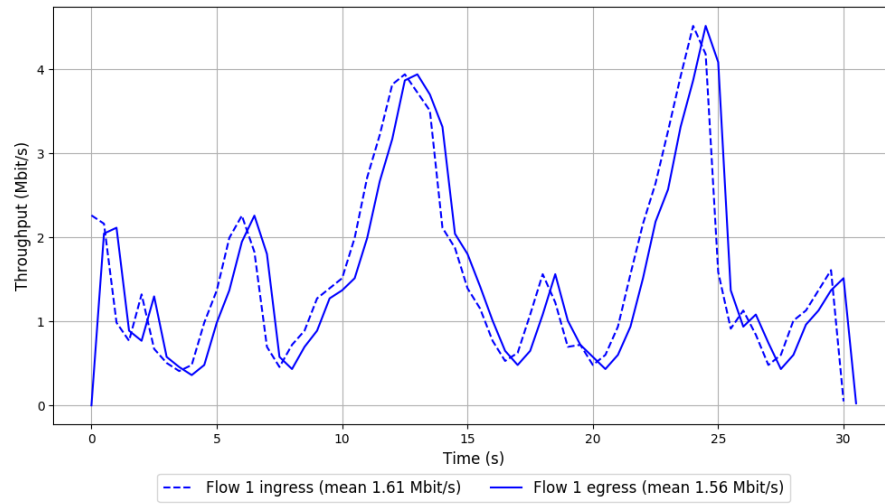
-- Flow 1:

Average throughput: 1.56 Mbit/s

95th percentile per-packet one-way delay: 6.235 ms

Loss rate: 2.74%

Run 4: Report of TCP Cubic — Data Link



Run 5: Statistics of TCP Cubic

Start at: 2019-01-02 21:02:44

End at: 2019-01-02 21:03:14

Local clock offset: 0.999 ms

Remote clock offset: 2.762 ms

Below is generated by plot.py at 2019-01-02 21:20:13

Datalink statistics

-- Total of 1 flow:

Average throughput: 1.43 Mbit/s

95th percentile per-packet one-way delay: 4.797 ms

Loss rate: 3.38%

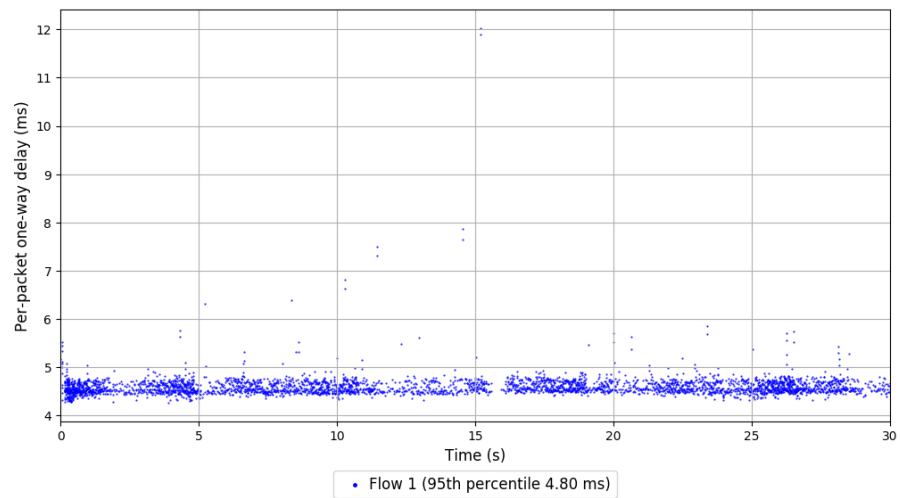
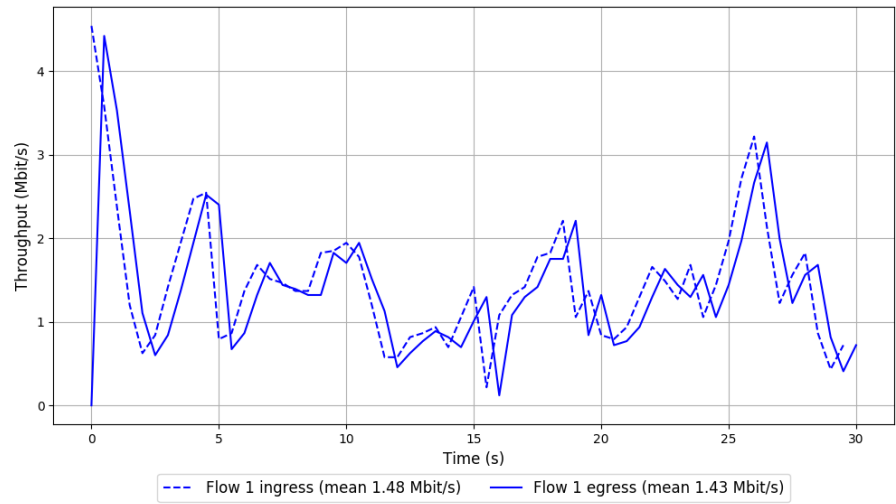
-- Flow 1:

Average throughput: 1.43 Mbit/s

95th percentile per-packet one-way delay: 4.797 ms

Loss rate: 3.38%

Run 5: Report of TCP Cubic — Data Link



Run 1: Statistics of FillP

Start at: 2019-01-02 19:24:52

End at: 2019-01-02 19:25:22

Local clock offset: 5.426 ms

Remote clock offset: 0.243 ms

Below is generated by plot.py at 2019-01-02 21:20:44

Datalink statistics

-- Total of 1 flow:

Average throughput: 75.40 Mbit/s

95th percentile per-packet one-way delay: 5.838 ms

Loss rate: 15.57%

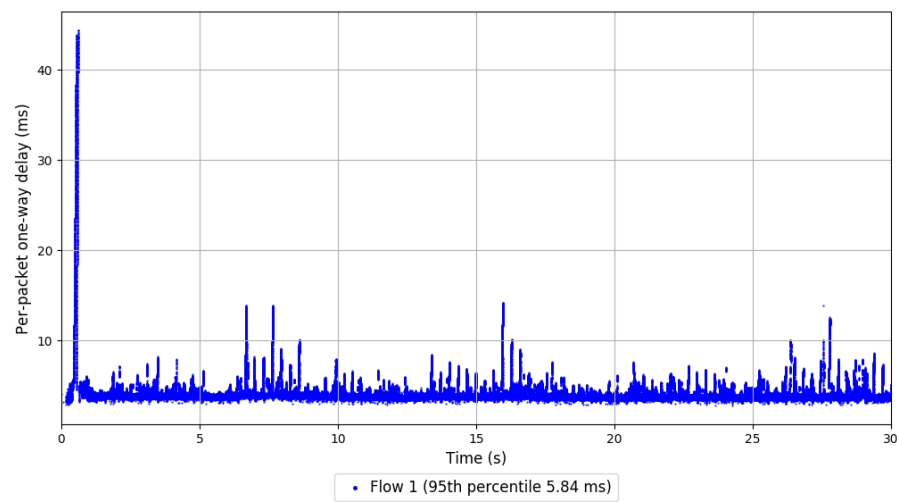
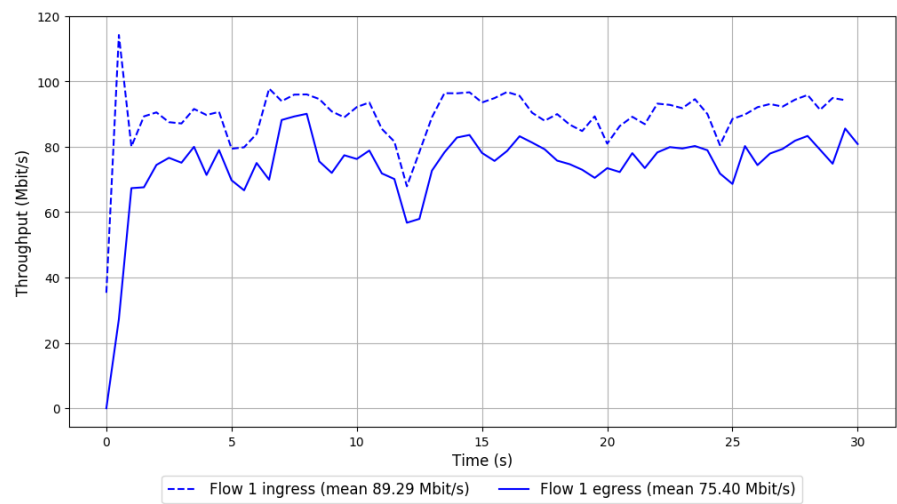
-- Flow 1:

Average throughput: 75.40 Mbit/s

95th percentile per-packet one-way delay: 5.838 ms

Loss rate: 15.57%

Run 1: Report of FillP — Data Link

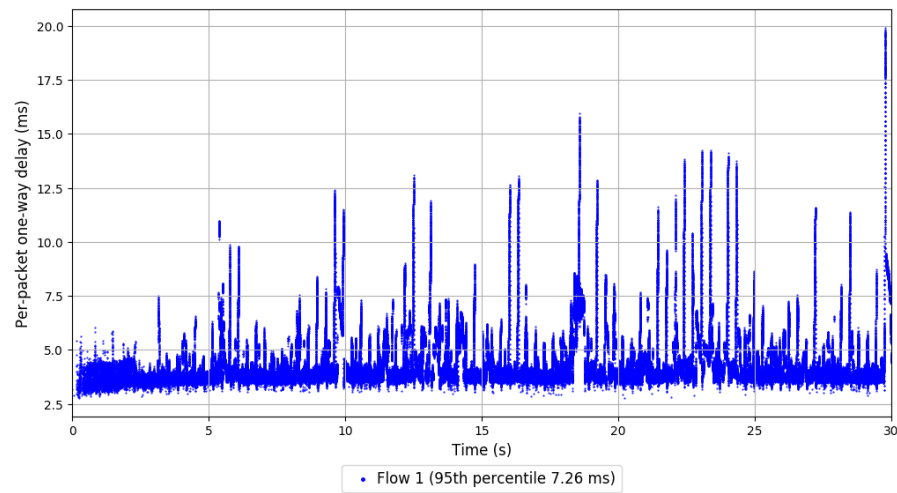
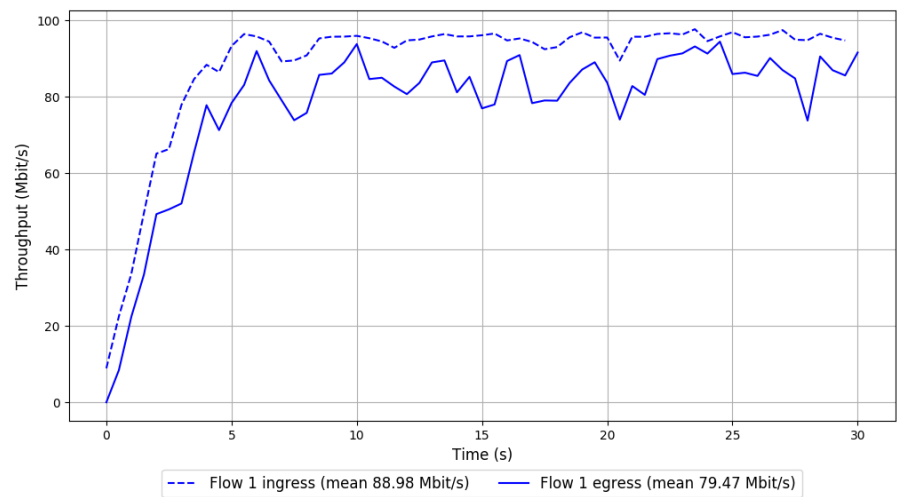


Run 2: Statistics of FillP

Start at: 2019-01-02 19:48:23
End at: 2019-01-02 19:48:53
Local clock offset: 2.743 ms
Remote clock offset: -0.326 ms

Below is generated by plot.py at 2019-01-02 21:20:47
Datalink statistics
-- Total of 1 flow:
Average throughput: 79.47 Mbit/s
95th percentile per-packet one-way delay: 7.258 ms
Loss rate: 10.69%
-- Flow 1:
Average throughput: 79.47 Mbit/s
95th percentile per-packet one-way delay: 7.258 ms
Loss rate: 10.69%

Run 2: Report of FillP — Data Link



Run 3: Statistics of FillP

Start at: 2019-01-02 20:12:01

End at: 2019-01-02 20:12:31

Local clock offset: 0.394 ms

Remote clock offset: 0.002 ms

Below is generated by plot.py at 2019-01-02 21:20:47

Datalink statistics

-- Total of 1 flow:

Average throughput: 70.52 Mbit/s

95th percentile per-packet one-way delay: 8.150 ms

Loss rate: 15.72%

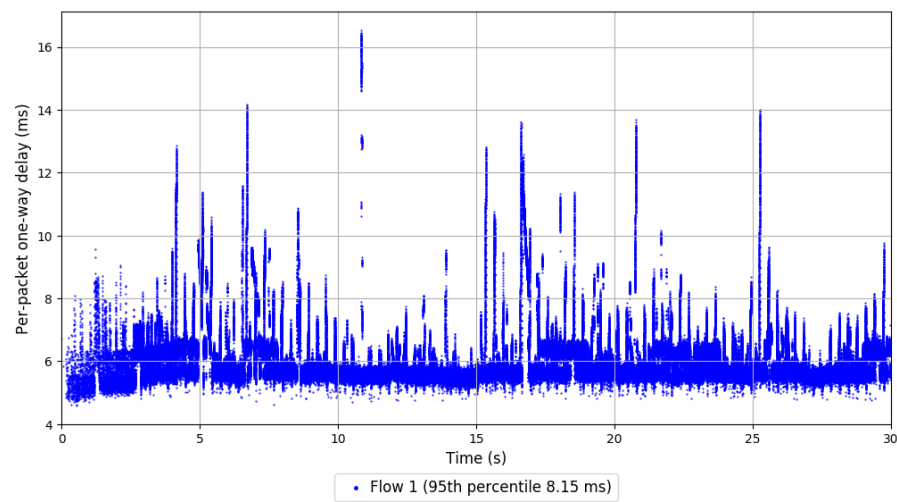
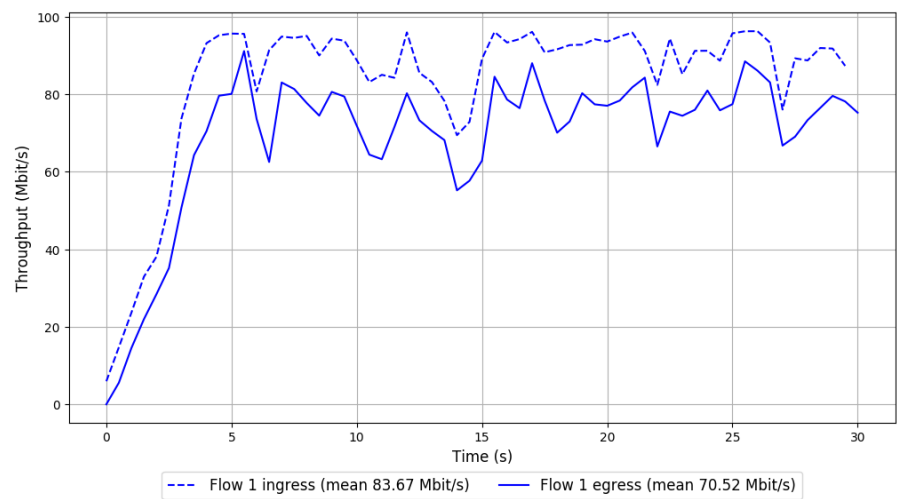
-- Flow 1:

Average throughput: 70.52 Mbit/s

95th percentile per-packet one-way delay: 8.150 ms

Loss rate: 15.72%

Run 3: Report of FillP — Data Link



Run 4: Statistics of FillP

Start at: 2019-01-02 20:35:13

End at: 2019-01-02 20:35:43

Local clock offset: 0.254 ms

Remote clock offset: 1.753 ms

Below is generated by plot.py at 2019-01-02 21:20:54

Datalink statistics

-- Total of 1 flow:

Average throughput: 57.79 Mbit/s

95th percentile per-packet one-way delay: 4.815 ms

Loss rate: 17.05%

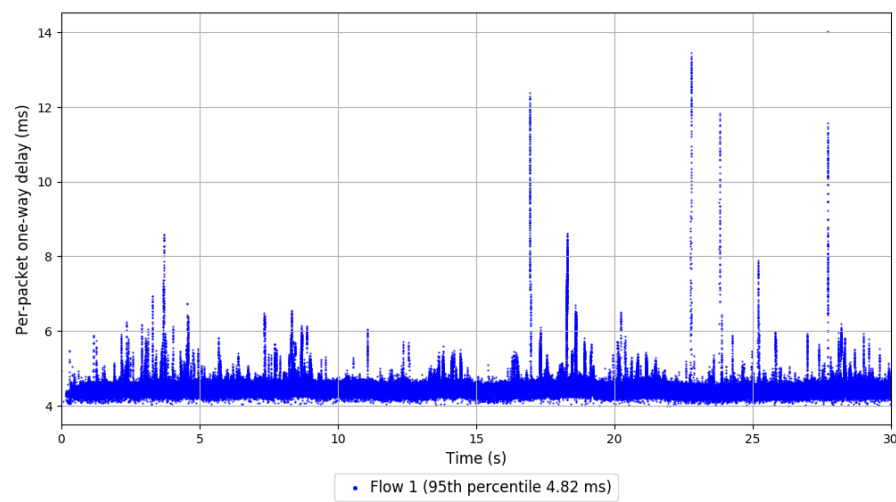
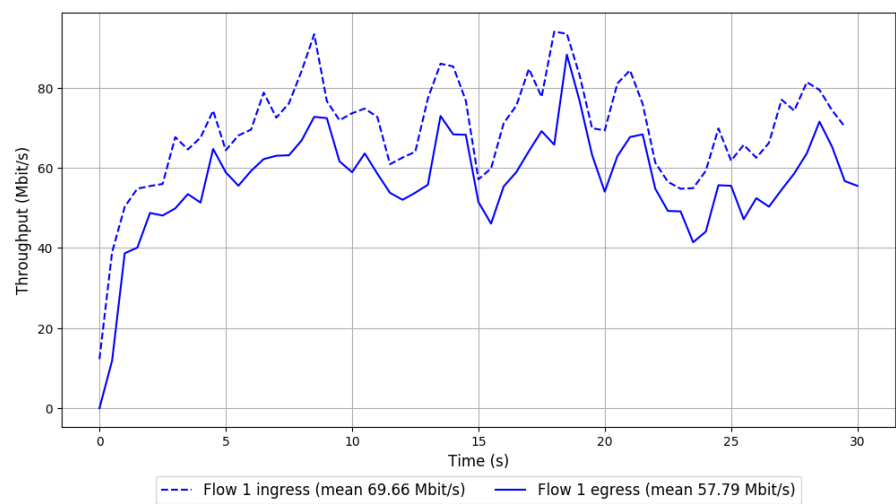
-- Flow 1:

Average throughput: 57.79 Mbit/s

95th percentile per-packet one-way delay: 4.815 ms

Loss rate: 17.05%

Run 4: Report of FillP — Data Link



Run 5: Statistics of FillP

Start at: 2019-01-02 20:57:48

End at: 2019-01-02 20:58:18

Local clock offset: 0.679 ms

Remote clock offset: 2.525 ms

Below is generated by plot.py at 2019-01-02 21:21:08

Datalink statistics

-- Total of 1 flow:

Average throughput: 69.96 Mbit/s

95th percentile per-packet one-way delay: 5.652 ms

Loss rate: 14.75%

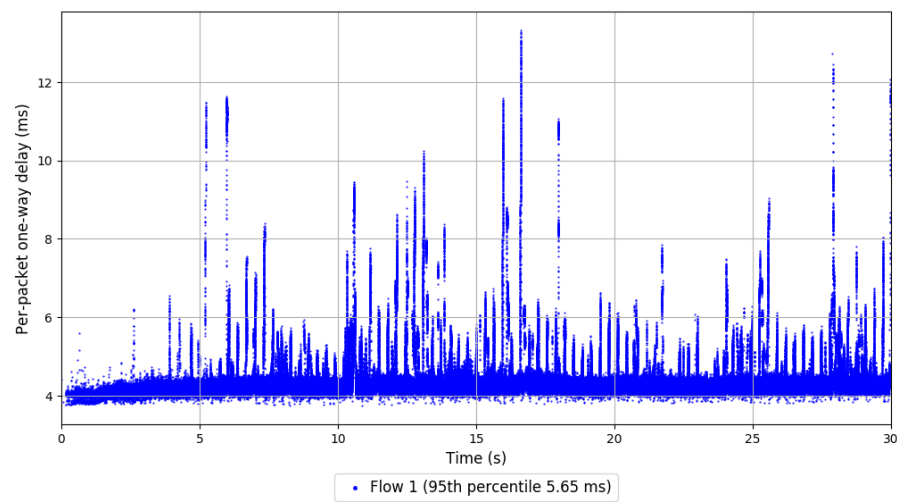
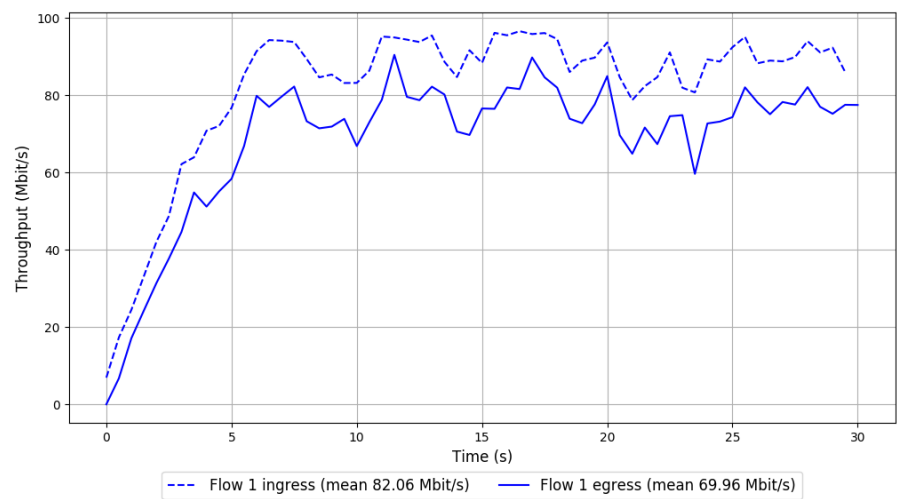
-- Flow 1:

Average throughput: 69.96 Mbit/s

95th percentile per-packet one-way delay: 5.652 ms

Loss rate: 14.75%

Run 5: Report of FillP — Data Link



Run 1: Statistics of FillP-Sheep

Start at: 2019-01-02 19:41:09

End at: 2019-01-02 19:41:39

Local clock offset: 2.693 ms

Remote clock offset: 0.301 ms

Below is generated by plot.py at 2019-01-02 21:21:20

Datalink statistics

-- Total of 1 flow:

Average throughput: 80.32 Mbit/s

95th percentile per-packet one-way delay: 8.996 ms

Loss rate: 10.39%

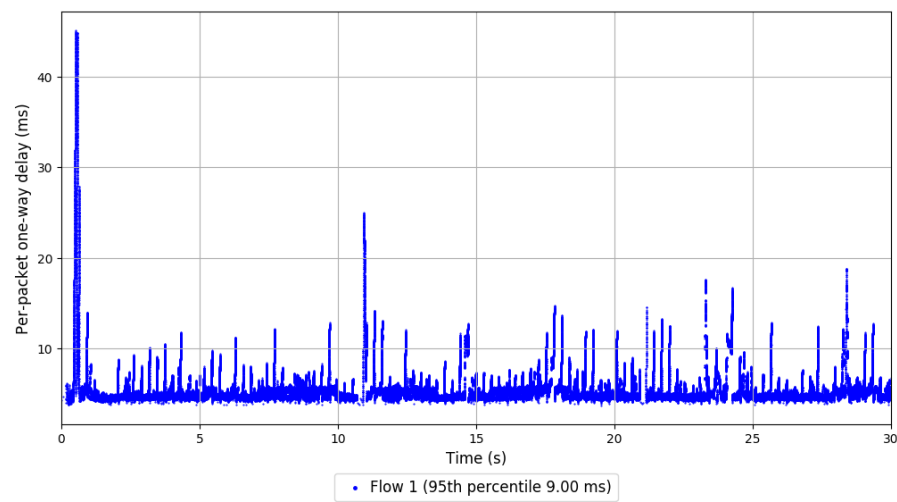
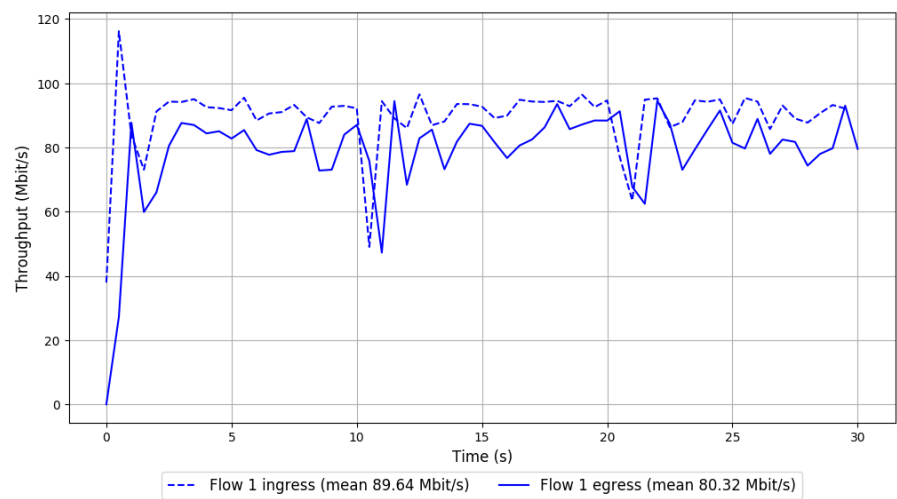
-- Flow 1:

Average throughput: 80.32 Mbit/s

95th percentile per-packet one-way delay: 8.996 ms

Loss rate: 10.39%

Run 1: Report of FillP-Sheep — Data Link



Run 2: Statistics of FillP-Sheep

Start at: 2019-01-02 20:04:25

End at: 2019-01-02 20:04:55

Local clock offset: 0.416 ms

Remote clock offset: 0.538 ms

Below is generated by plot.py at 2019-01-02 21:21:20

Datalink statistics

-- Total of 1 flow:

Average throughput: 76.37 Mbit/s

95th percentile per-packet one-way delay: 9.375 ms

Loss rate: 10.44%

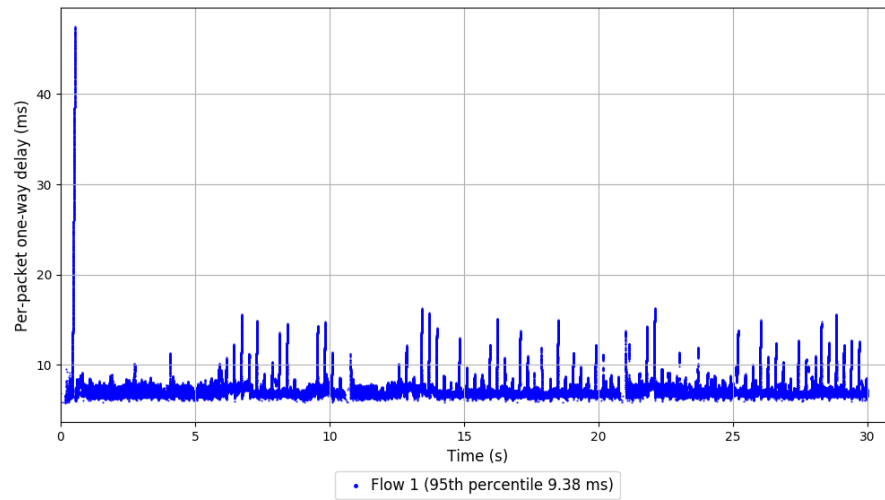
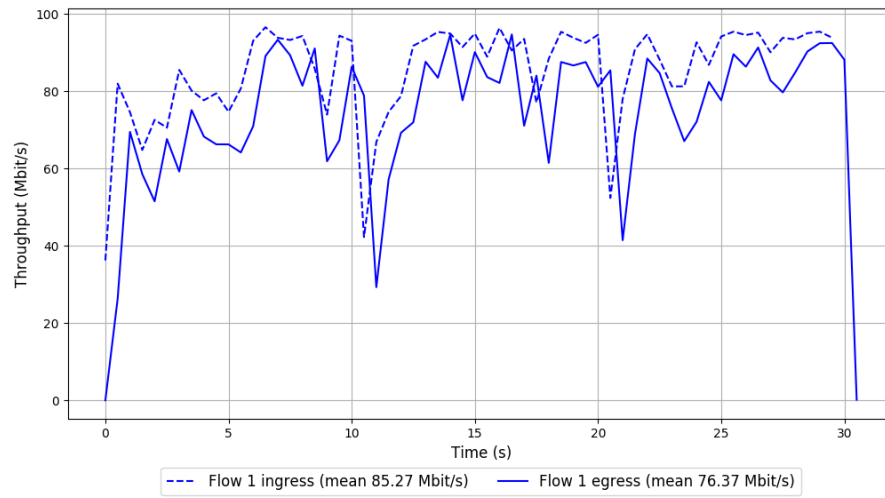
-- Flow 1:

Average throughput: 76.37 Mbit/s

95th percentile per-packet one-way delay: 9.375 ms

Loss rate: 10.44%

Run 2: Report of FillP-Sheep — Data Link



Run 3: Statistics of FillP-Sheep

Start at: 2019-01-02 20:27:47

End at: 2019-01-02 20:28:17

Local clock offset: -1.083 ms

Remote clock offset: 1.274 ms

Below is generated by plot.py at 2019-01-02 21:21:20

Datalink statistics

-- Total of 1 flow:

Average throughput: 54.90 Mbit/s

95th percentile per-packet one-way delay: 7.972 ms

Loss rate: 15.30%

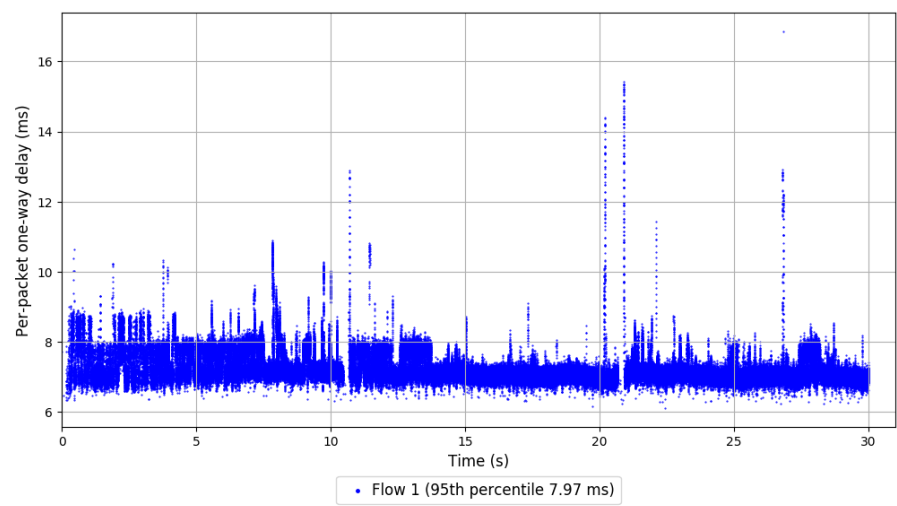
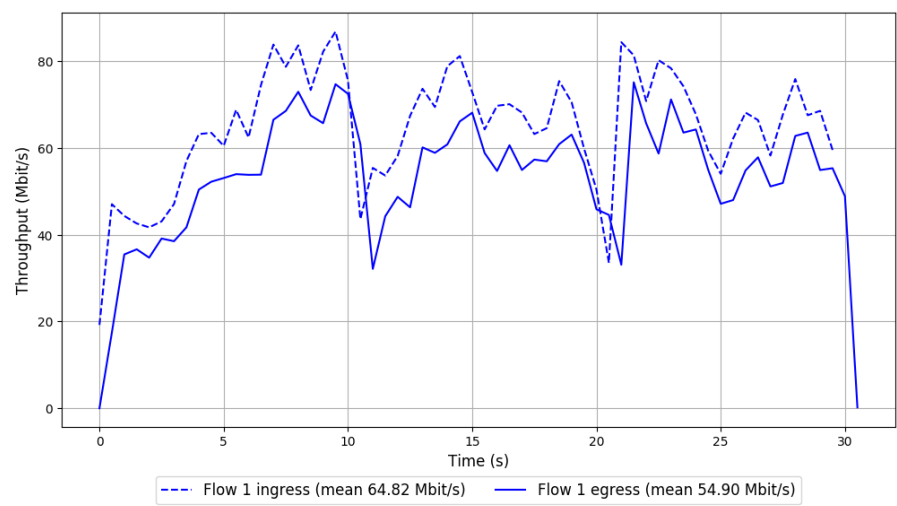
-- Flow 1:

Average throughput: 54.90 Mbit/s

95th percentile per-packet one-way delay: 7.972 ms

Loss rate: 15.30%

Run 3: Report of FillP-Sheep — Data Link



Run 4: Statistics of FillP-Sheep

Start at: 2019-01-02 20:50:49

End at: 2019-01-02 20:51:19

Local clock offset: -1.976 ms

Remote clock offset: 2.604 ms

Below is generated by plot.py at 2019-01-02 21:21:20

Datalink statistics

-- Total of 1 flow:

Average throughput: 0.09 Mbit/s

95th percentile per-packet one-way delay: 6.311 ms

Loss rate: 38.37%

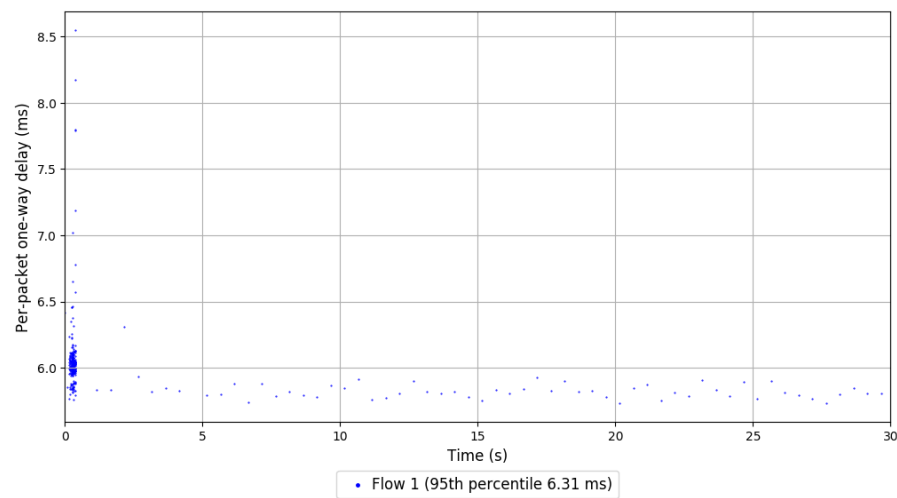
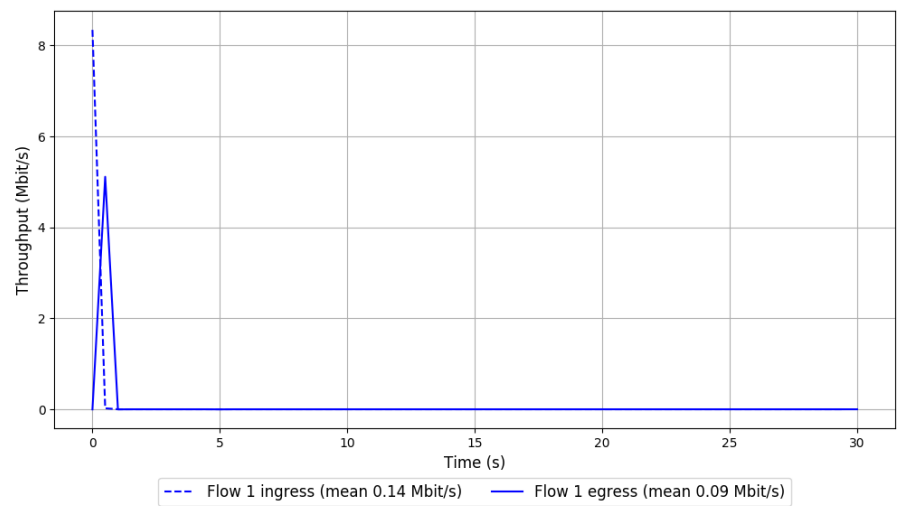
-- Flow 1:

Average throughput: 0.09 Mbit/s

95th percentile per-packet one-way delay: 6.311 ms

Loss rate: 38.37%

Run 4: Report of FillP-Sheep — Data Link



Run 5: Statistics of FillP-Sheep

Start at: 2019-01-02 21:13:18

End at: 2019-01-02 21:13:48

Local clock offset: 1.43 ms

Remote clock offset: 2.992 ms

Below is generated by plot.py at 2019-01-02 21:21:52

Datalink statistics

-- Total of 1 flow:

Average throughput: 78.00 Mbit/s

95th percentile per-packet one-way delay: 7.726 ms

Loss rate: 11.32%

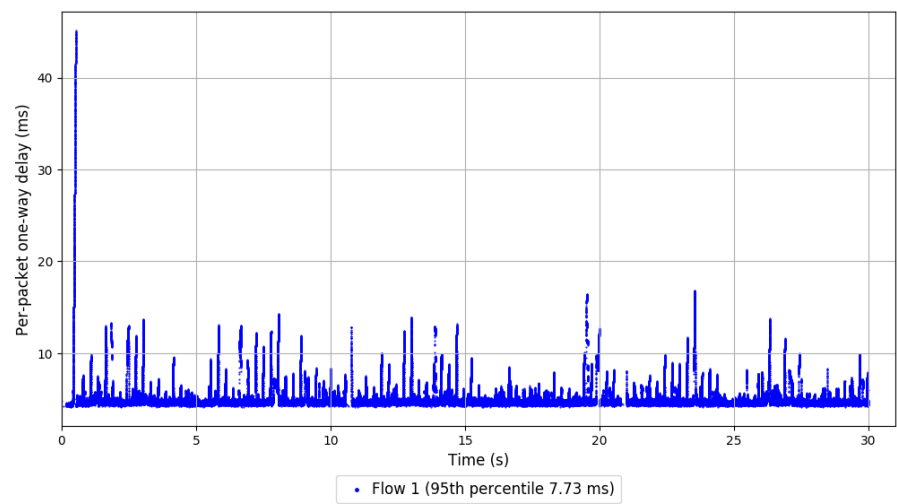
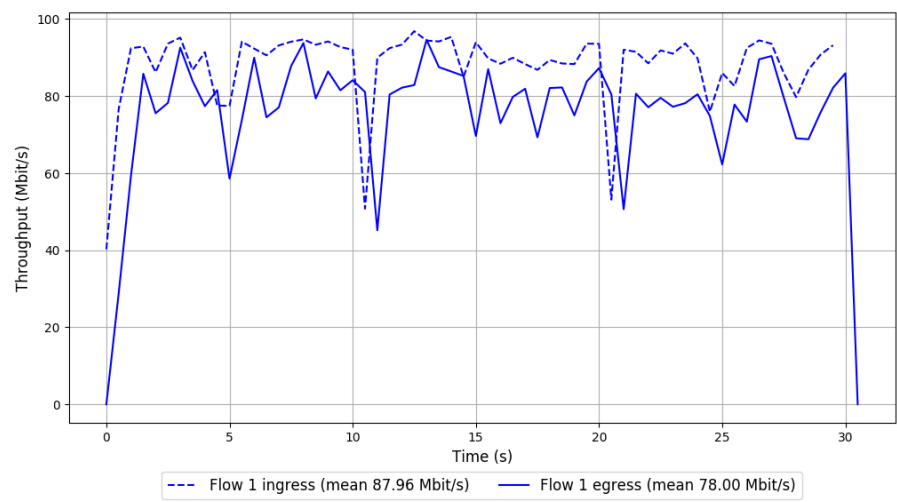
-- Flow 1:

Average throughput: 78.00 Mbit/s

95th percentile per-packet one-way delay: 7.726 ms

Loss rate: 11.32%

Run 5: Report of FillP-Sheep — Data Link

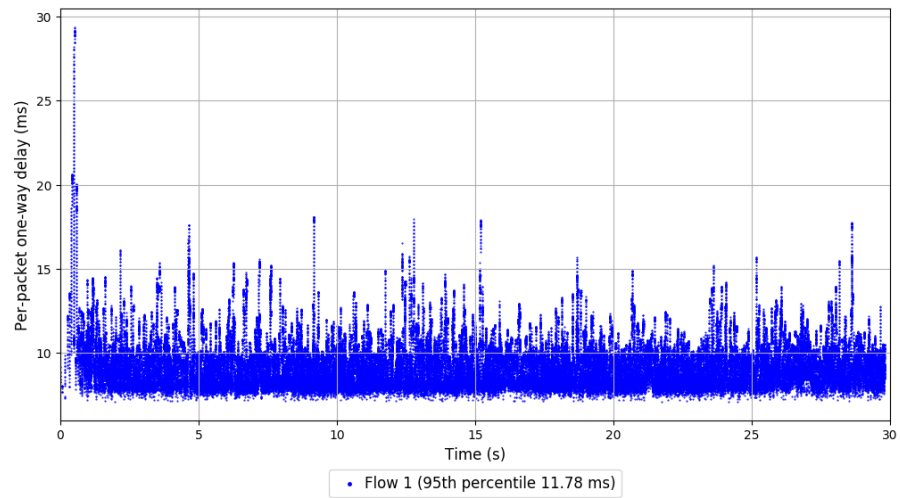
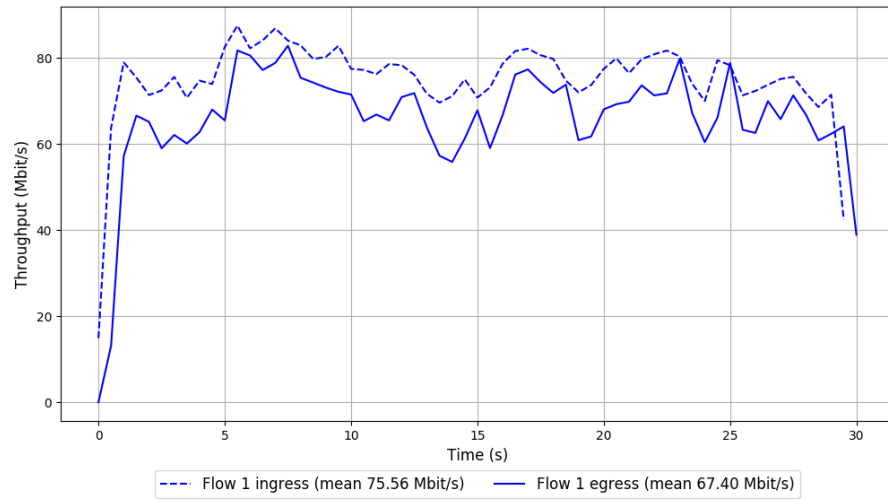


```
Run 1: Statistics of Indigo

Start at: 2019-01-02 19:23:22
End at: 2019-01-02 19:23:52
Local clock offset: 2.761 ms
Remote clock offset: 1.452 ms

# Below is generated by plot.py at 2019-01-02 21:21:52
# Datalink statistics
-- Total of 1 flow:
Average throughput: 67.40 Mbit/s
95th percentile per-packet one-way delay: 11.783 ms
Loss rate: 10.80%
-- Flow 1:
Average throughput: 67.40 Mbit/s
95th percentile per-packet one-way delay: 11.783 ms
Loss rate: 10.80%
```

Run 1: Report of Indigo — Data Link

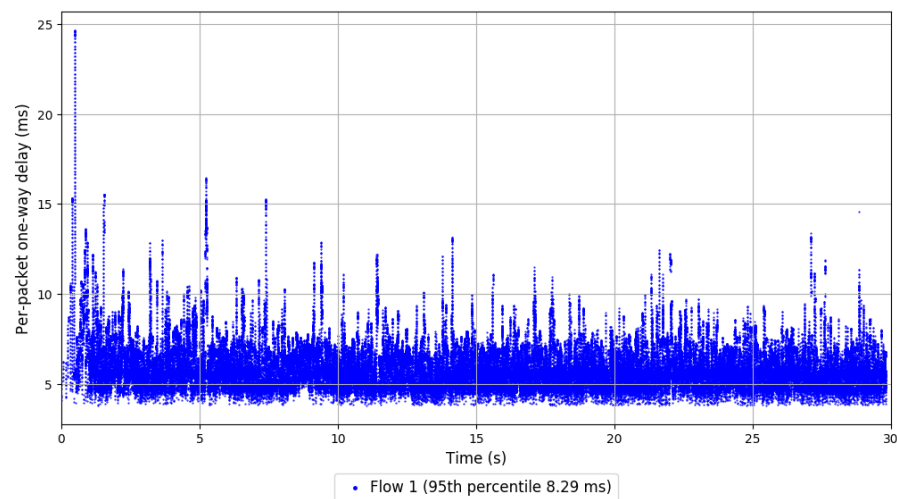
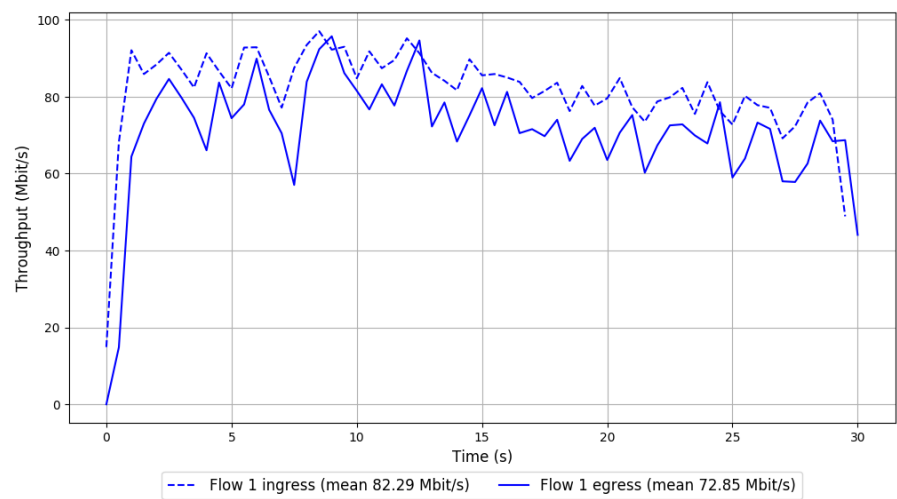


Run 2: Statistics of Indigo

Start at: 2019-01-02 19:47:02
End at: 2019-01-02 19:47:32
Local clock offset: 1.536 ms
Remote clock offset: -0.586 ms

Below is generated by plot.py at 2019-01-02 21:21:52
Datalink statistics
-- Total of 1 flow:
Average throughput: 72.85 Mbit/s
95th percentile per-packet one-way delay: 8.292 ms
Loss rate: 11.47%
-- Flow 1:
Average throughput: 72.85 Mbit/s
95th percentile per-packet one-way delay: 8.292 ms
Loss rate: 11.47%

Run 2: Report of Indigo — Data Link



Run 3: Statistics of Indigo

Start at: 2019-01-02 20:10:36

End at: 2019-01-02 20:11:06

Local clock offset: 1.892 ms

Remote clock offset: 0.365 ms

Below is generated by plot.py at 2019-01-02 21:21:52

Datalink statistics

-- Total of 1 flow:

Average throughput: 60.93 Mbit/s

95th percentile per-packet one-way delay: 8.609 ms

Loss rate: 14.38%

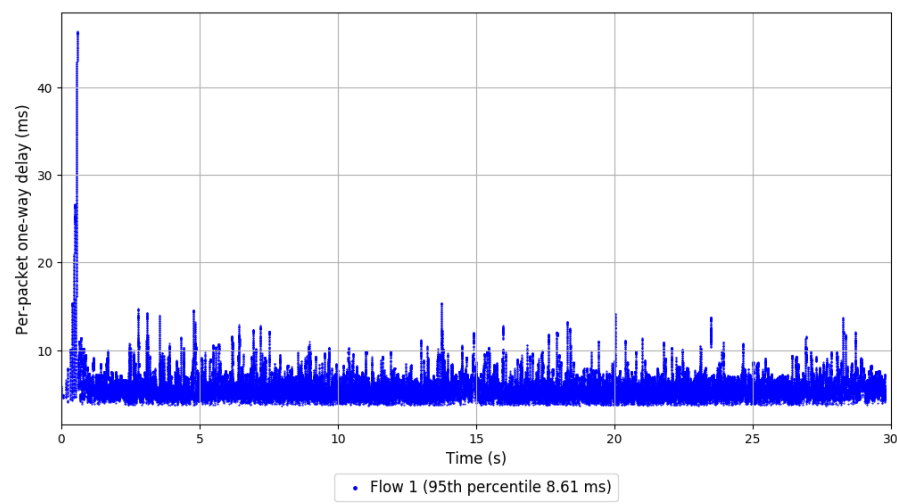
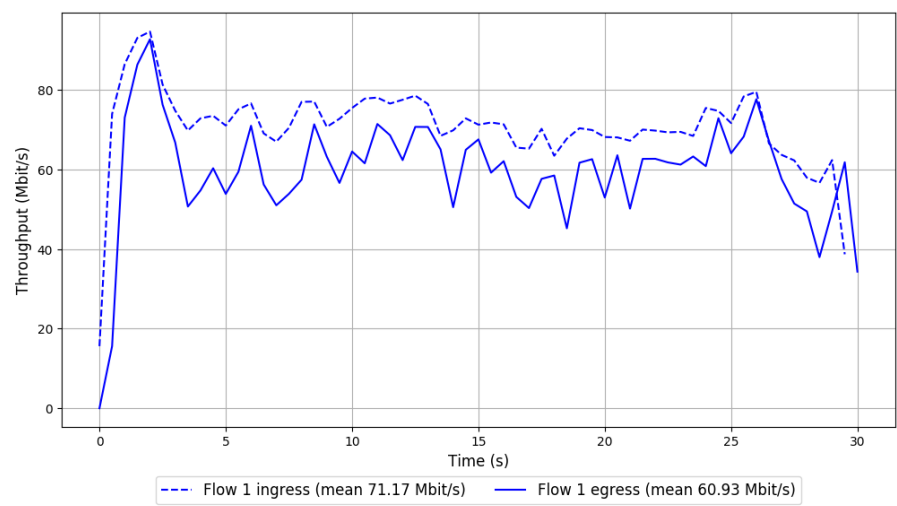
-- Flow 1:

Average throughput: 60.93 Mbit/s

95th percentile per-packet one-way delay: 8.609 ms

Loss rate: 14.38%

Run 3: Report of Indigo — Data Link



Run 4: Statistics of Indigo

Start at: 2019-01-02 20:33:52

End at: 2019-01-02 20:34:22

Local clock offset: 0.892 ms

Remote clock offset: 1.634 ms

Below is generated by plot.py at 2019-01-02 21:21:52

Datalink statistics

-- Total of 1 flow:

Average throughput: 56.96 Mbit/s

95th percentile per-packet one-way delay: 8.439 ms

Loss rate: 18.13%

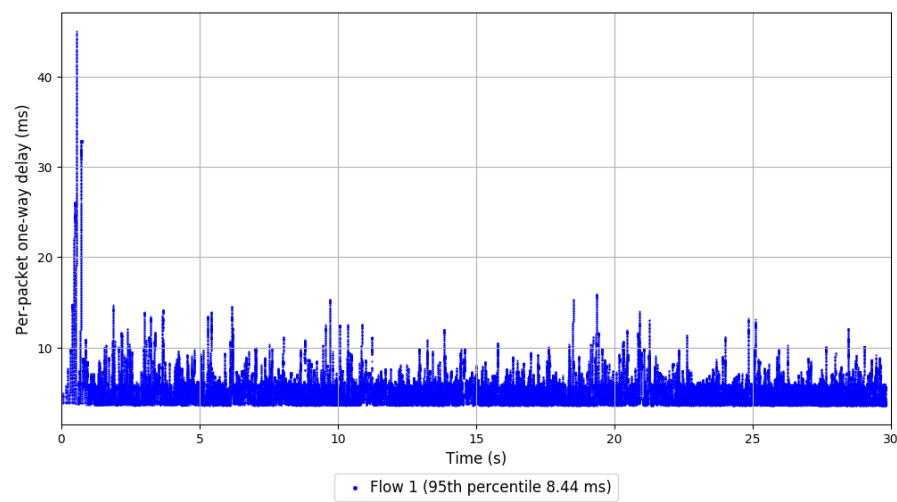
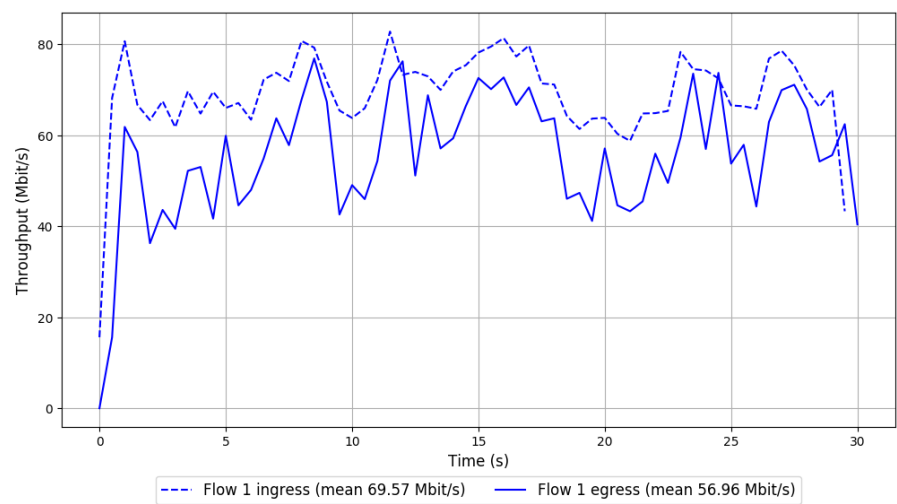
-- Flow 1:

Average throughput: 56.96 Mbit/s

95th percentile per-packet one-way delay: 8.439 ms

Loss rate: 18.13%

Run 4: Report of Indigo — Data Link



Run 5: Statistics of Indigo

Start at: 2019-01-02 20:56:32

End at: 2019-01-02 20:57:02

Local clock offset: -0.706 ms

Remote clock offset: 2.331 ms

Below is generated by plot.py at 2019-01-02 21:21:52

Datalink statistics

-- Total of 1 flow:

Average throughput: 56.67 Mbit/s

95th percentile per-packet one-way delay: 9.810 ms

Loss rate: 20.80%

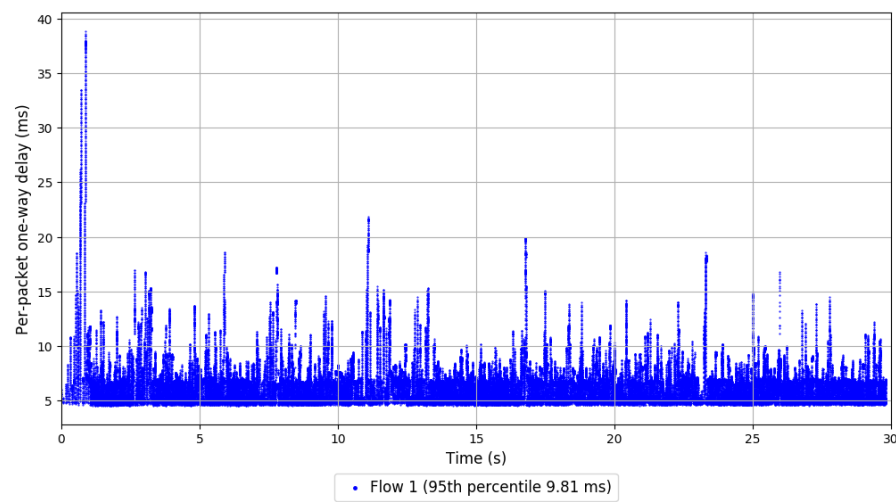
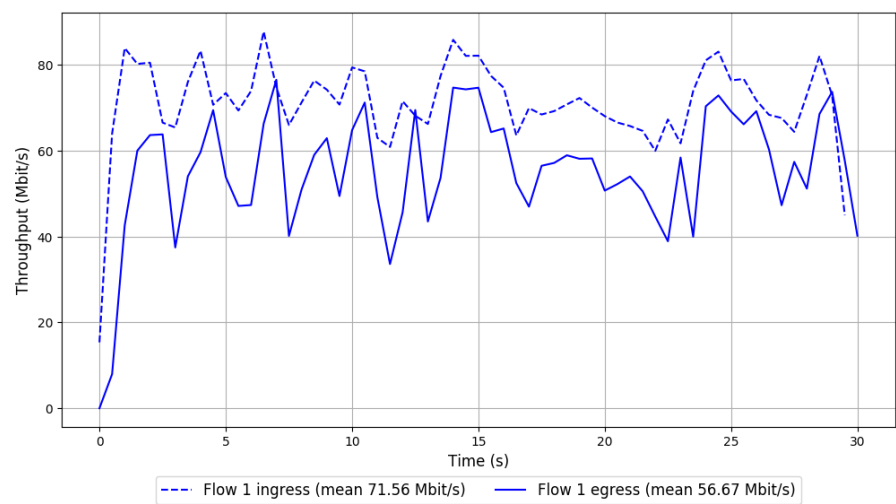
-- Flow 1:

Average throughput: 56.67 Mbit/s

95th percentile per-packet one-way delay: 9.810 ms

Loss rate: 20.80%

Run 5: Report of Indigo — Data Link



Run 1: Statistics of Indigo-MusesD

Start at: 2019-01-02 19:35:03

End at: 2019-01-02 19:35:33

Local clock offset: 0.554 ms

Remote clock offset: -0.575 ms

Below is generated by plot.py at 2019-01-02 21:22:28

Datalink statistics

-- Total of 1 flow:

Average throughput: 81.60 Mbit/s

95th percentile per-packet one-way delay: 9.064 ms

Loss rate: 29.20%

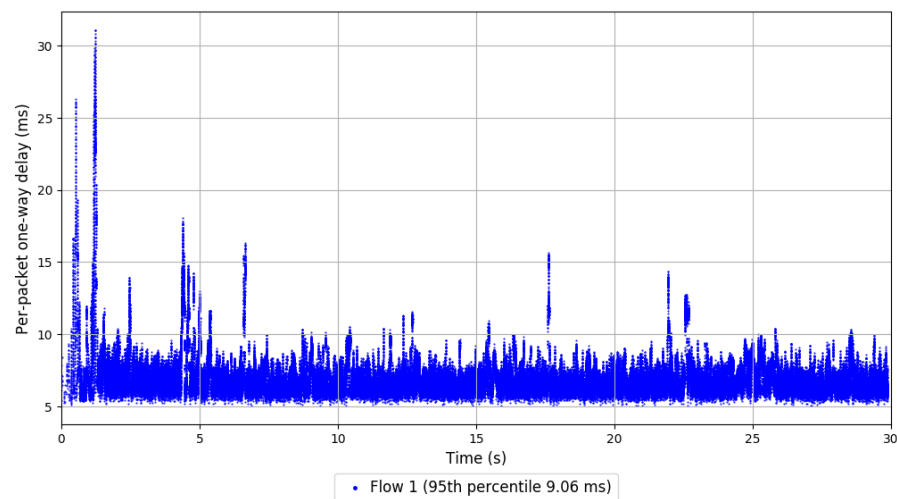
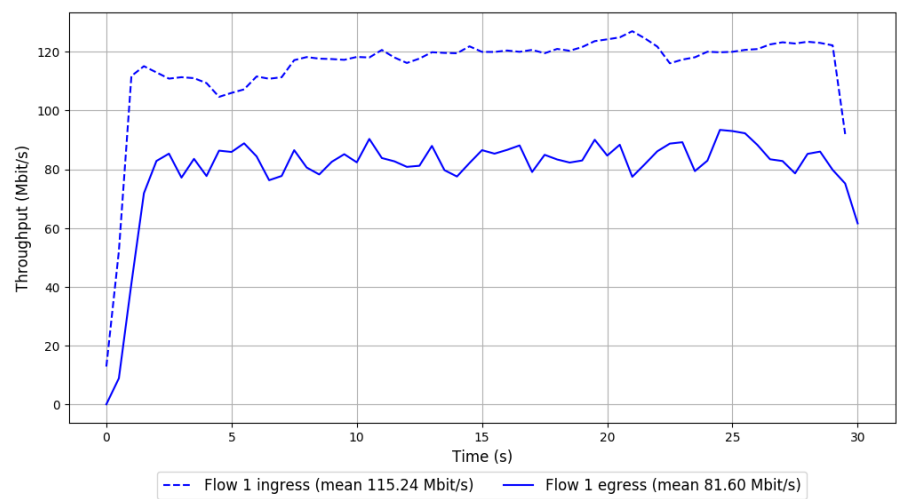
-- Flow 1:

Average throughput: 81.60 Mbit/s

95th percentile per-packet one-way delay: 9.064 ms

Loss rate: 29.20%

Run 1: Report of Indigo-MusesD — Data Link



Run 2: Statistics of Indigo-MusesD

Start at: 2019-01-02 19:58:18

End at: 2019-01-02 19:58:48

Local clock offset: 3.205 ms

Remote clock offset: -0.284 ms

Below is generated by plot.py at 2019-01-02 21:22:28

Datalink statistics

-- Total of 1 flow:

Average throughput: 85.03 Mbit/s

95th percentile per-packet one-way delay: 8.613 ms

Loss rate: 12.82%

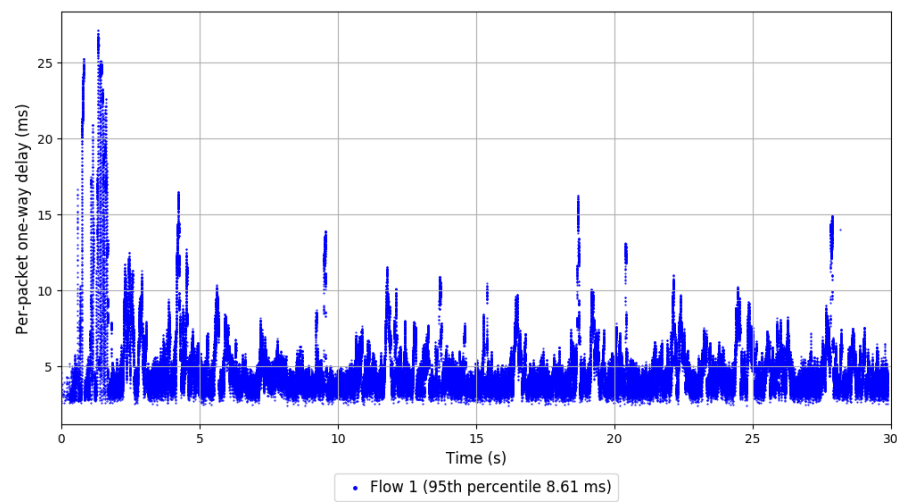
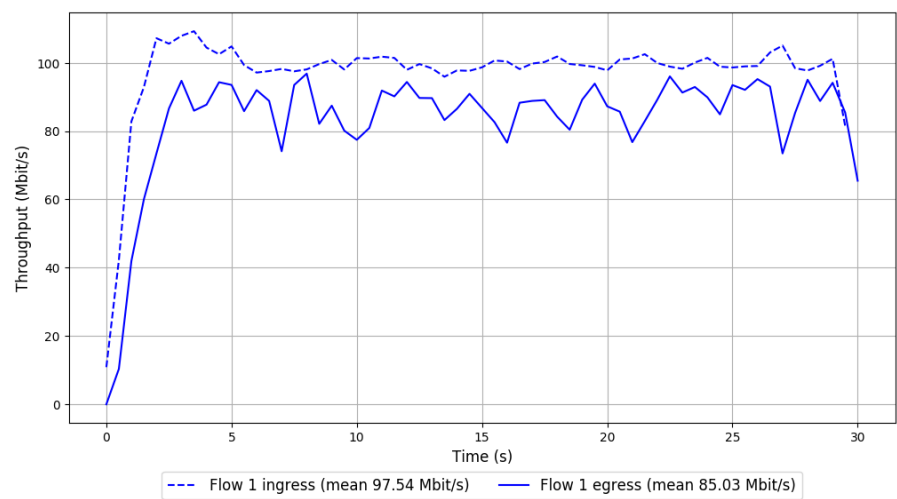
-- Flow 1:

Average throughput: 85.03 Mbit/s

95th percentile per-packet one-way delay: 8.613 ms

Loss rate: 12.82%

Run 2: Report of Indigo-MusesD — Data Link



Run 3: Statistics of Indigo-MusesD

Start at: 2019-01-02 20:21:58

End at: 2019-01-02 20:22:28

Local clock offset: 2.262 ms

Remote clock offset: 0.932 ms

Below is generated by plot.py at 2019-01-02 21:22:36

Datalink statistics

-- Total of 1 flow:

Average throughput: 77.49 Mbit/s

95th percentile per-packet one-way delay: 7.182 ms

Loss rate: 22.67%

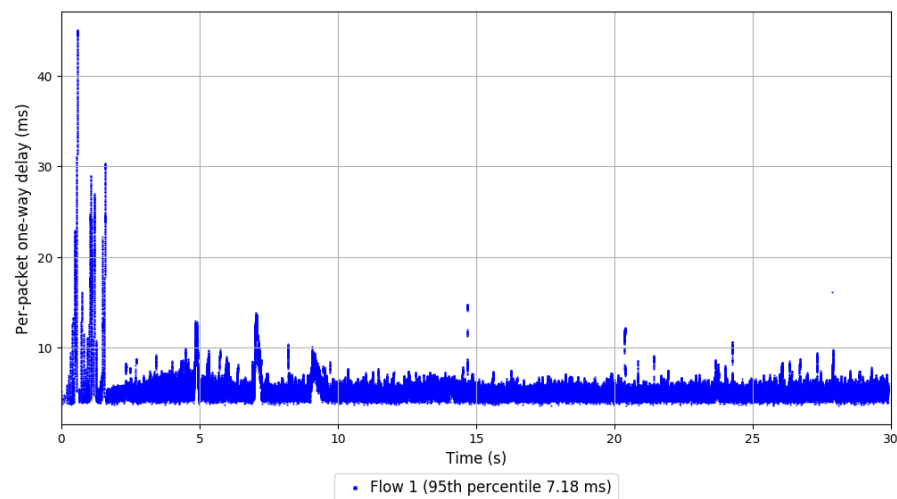
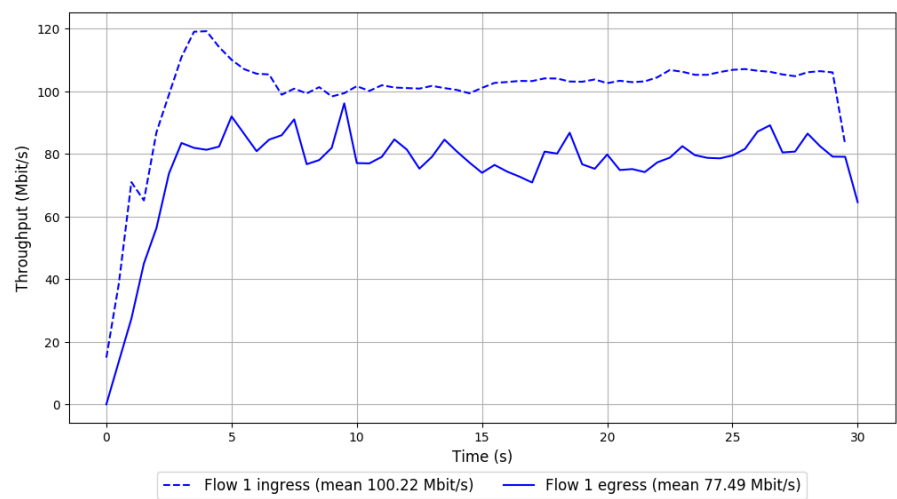
-- Flow 1:

Average throughput: 77.49 Mbit/s

95th percentile per-packet one-way delay: 7.182 ms

Loss rate: 22.67%

Run 3: Report of Indigo-MusesD — Data Link



Run 4: Statistics of Indigo-MusesD

Start at: 2019-01-02 20:44:53

End at: 2019-01-02 20:45:23

Local clock offset: -1.449 ms

Remote clock offset: 2.173 ms

Below is generated by plot.py at 2019-01-02 21:22:43

Datalink statistics

-- Total of 1 flow:

Average throughput: 80.63 Mbit/s

95th percentile per-packet one-way delay: 11.131 ms

Loss rate: 25.51%

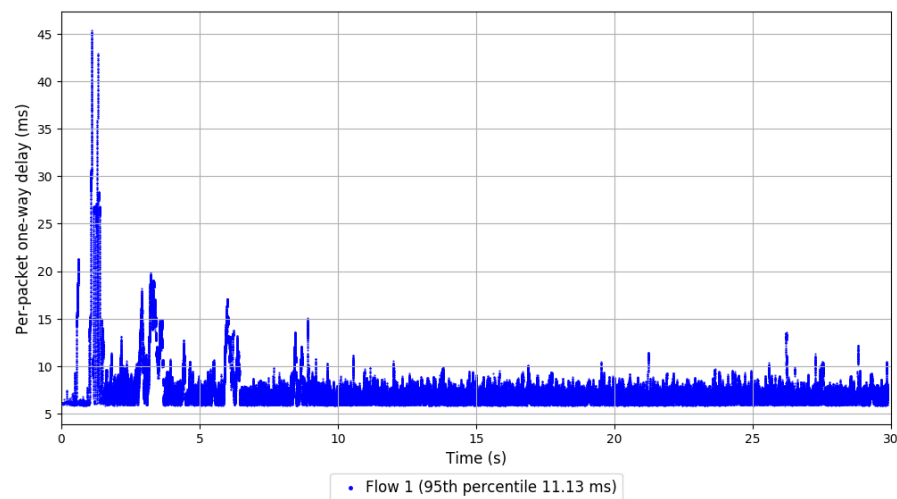
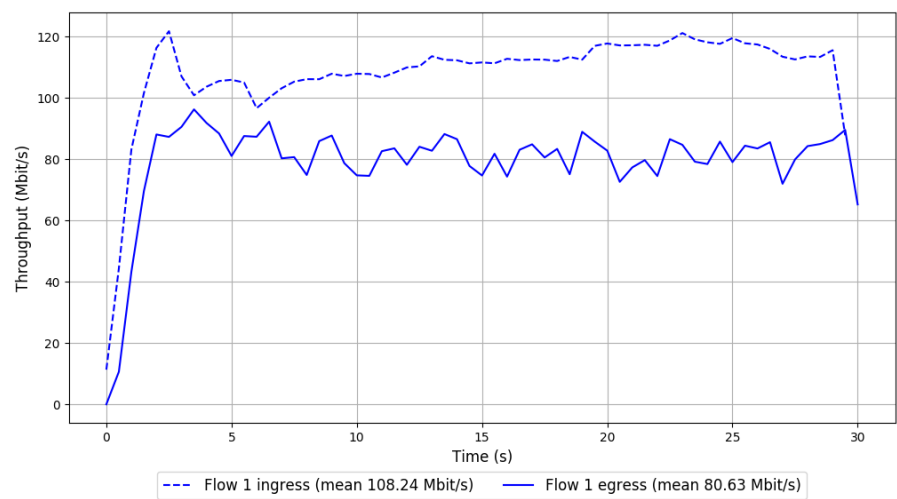
-- Flow 1:

Average throughput: 80.63 Mbit/s

95th percentile per-packet one-way delay: 11.131 ms

Loss rate: 25.51%

Run 4: Report of Indigo-MusesD — Data Link



Run 5: Statistics of Indigo-MusesD

Start at: 2019-01-02 21:07:16

End at: 2019-01-02 21:07:46

Local clock offset: -0.664 ms

Remote clock offset: 2.805 ms

Below is generated by plot.py at 2019-01-02 21:22:50

Datalink statistics

-- Total of 1 flow:

Average throughput: 83.81 Mbit/s

95th percentile per-packet one-way delay: 12.781 ms

Loss rate: 19.71%

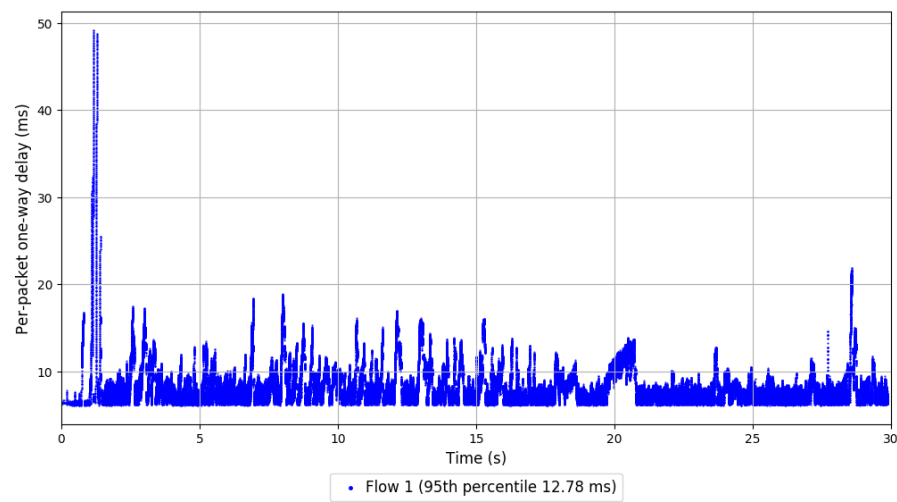
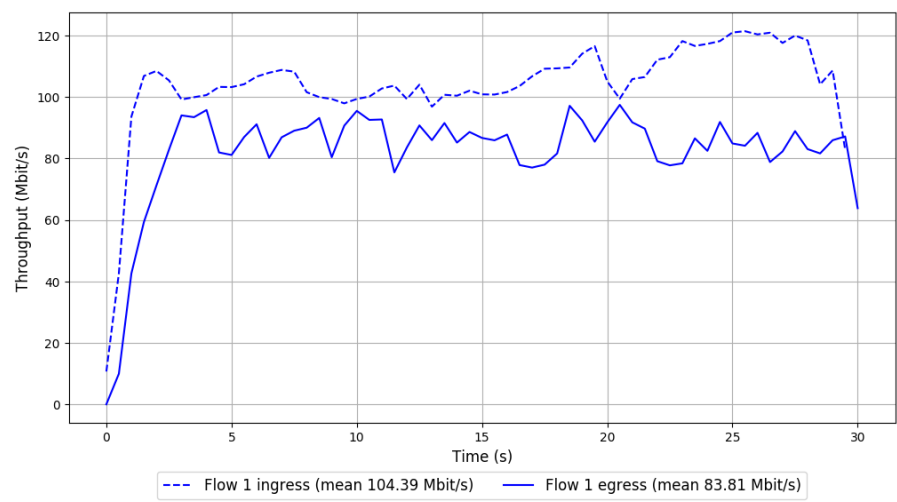
-- Flow 1:

Average throughput: 83.81 Mbit/s

95th percentile per-packet one-way delay: 12.781 ms

Loss rate: 19.71%

Run 5: Report of Indigo-MusesD — Data Link



Run 1: Statistics of Indigo-MusesT

Start at: 2019-01-02 19:42:25

End at: 2019-01-02 19:42:55

Local clock offset: 2.442 ms

Remote clock offset: -0.18 ms

Below is generated by plot.py at 2019-01-02 21:22:50

Datalink statistics

-- Total of 1 flow:

Average throughput: 57.12 Mbit/s

95th percentile per-packet one-way delay: 39.453 ms

Loss rate: 38.61%

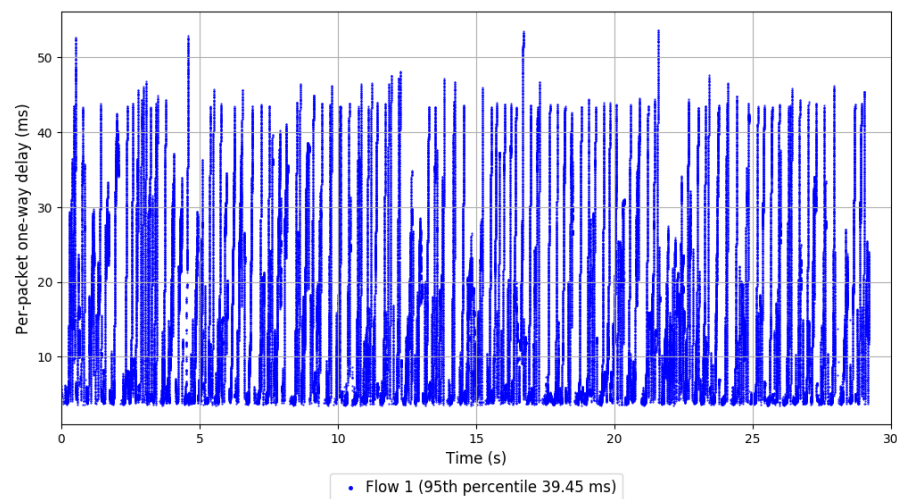
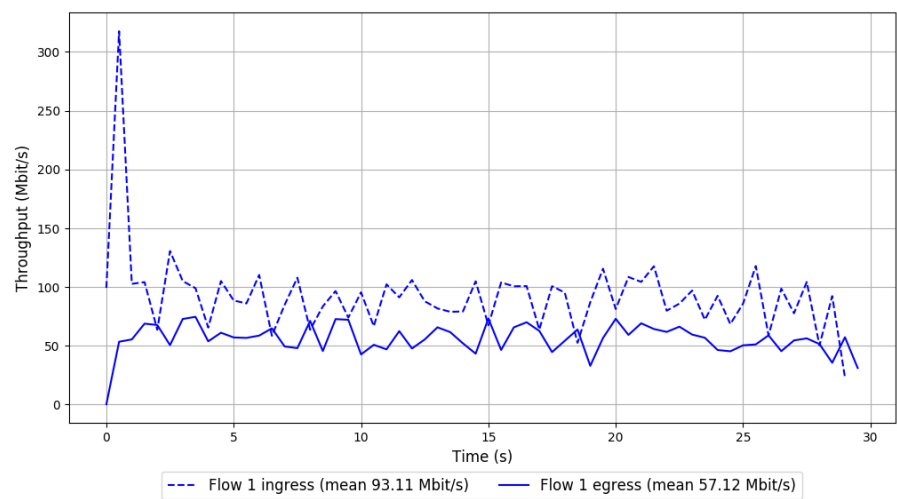
-- Flow 1:

Average throughput: 57.12 Mbit/s

95th percentile per-packet one-way delay: 39.453 ms

Loss rate: 38.61%

Run 1: Report of Indigo-MusesT — Data Link



Run 2: Statistics of Indigo-MusesT

Start at: 2019-01-02 20:05:48

End at: 2019-01-02 20:06:18

Local clock offset: 1.592 ms

Remote clock offset: 0.302 ms

Below is generated by plot.py at 2019-01-02 21:22:50

Datalink statistics

-- Total of 1 flow:

Average throughput: 59.15 Mbit/s

95th percentile per-packet one-way delay: 38.691 ms

Loss rate: 35.79%

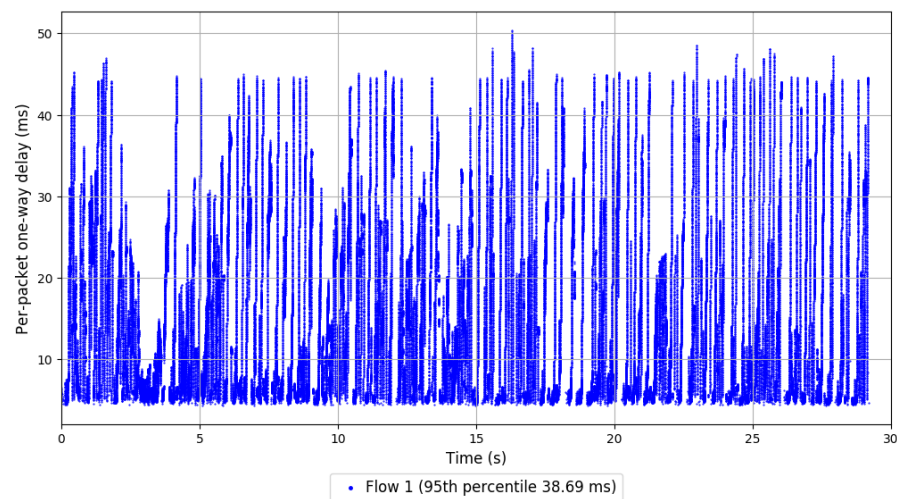
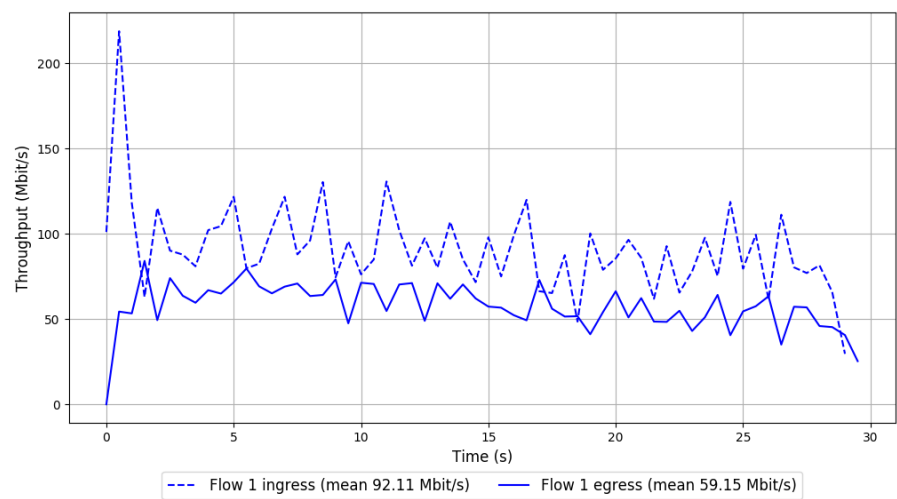
-- Flow 1:

Average throughput: 59.15 Mbit/s

95th percentile per-packet one-way delay: 38.691 ms

Loss rate: 35.79%

Run 2: Report of Indigo-MusesT — Data Link



Run 3: Statistics of Indigo-MusesT

Start at: 2019-01-02 20:29:08

End at: 2019-01-02 20:29:38

Local clock offset: 3.263 ms

Remote clock offset: 1.156 ms

Below is generated by plot.py at 2019-01-02 21:22:50

Datalink statistics

-- Total of 1 flow:

Average throughput: 51.03 Mbit/s

95th percentile per-packet one-way delay: 4.149 ms

Loss rate: 14.63%

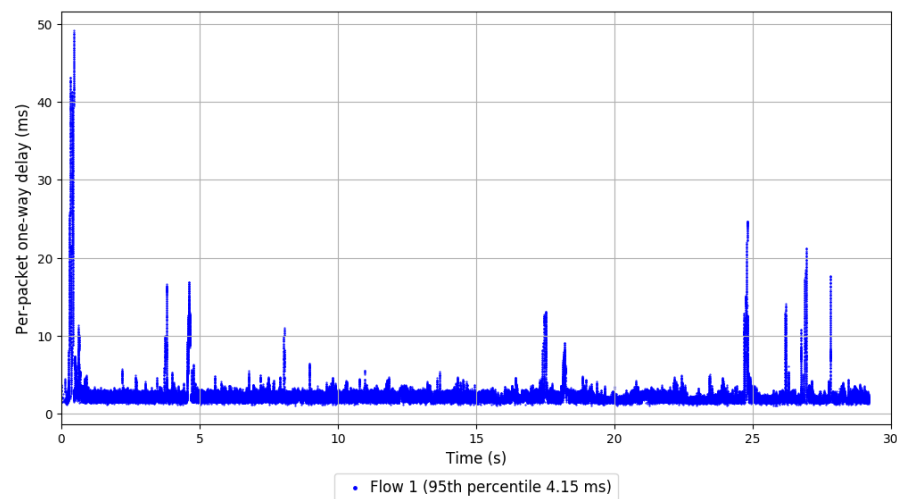
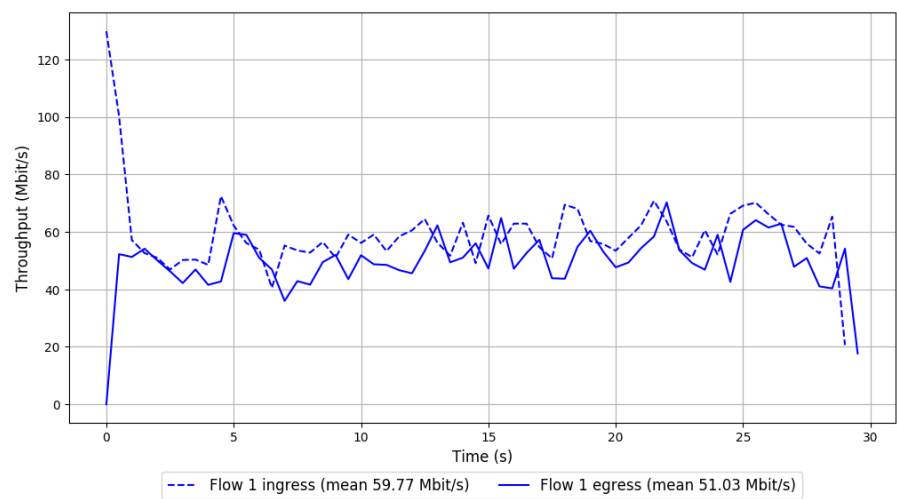
-- Flow 1:

Average throughput: 51.03 Mbit/s

95th percentile per-packet one-way delay: 4.149 ms

Loss rate: 14.63%

Run 3: Report of Indigo-MusesT — Data Link



Run 4: Statistics of Indigo-MusesT

Start at: 2019-01-02 20:51:55

End at: 2019-01-02 20:52:25

Local clock offset: -2.311 ms

Remote clock offset: 2.507 ms

Below is generated by plot.py at 2019-01-02 21:23:18

Datalink statistics

-- Total of 1 flow:

Average throughput: 59.84 Mbit/s

95th percentile per-packet one-way delay: 17.788 ms

Loss rate: 14.88%

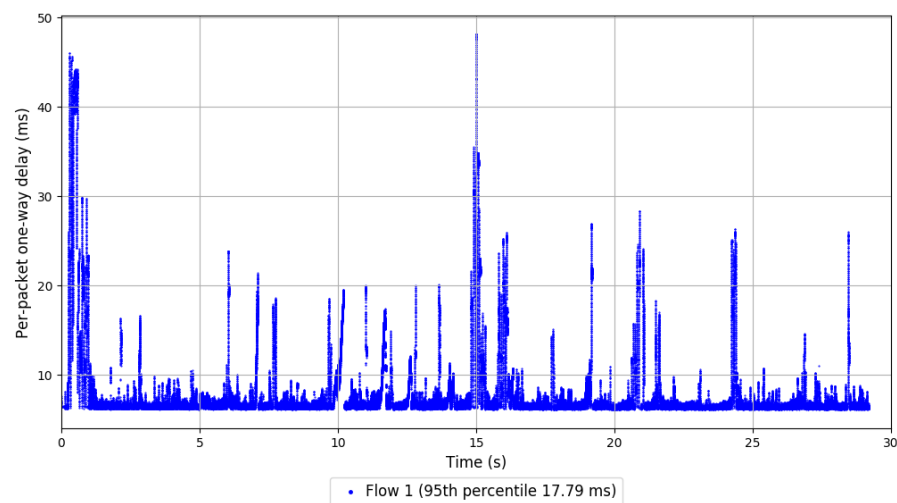
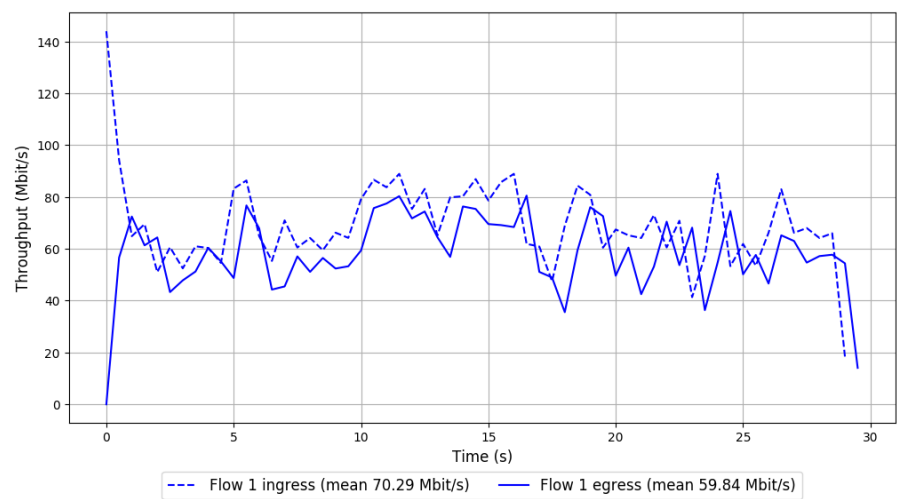
-- Flow 1:

Average throughput: 59.84 Mbit/s

95th percentile per-packet one-way delay: 17.788 ms

Loss rate: 14.88%

Run 4: Report of Indigo-MusesT — Data Link



Run 5: Statistics of Indigo-MusesT

Start at: 2019-01-02 21:14:34

End at: 2019-01-02 21:15:04

Local clock offset: 2.083 ms

Remote clock offset: 3.325 ms

Below is generated by plot.py at 2019-01-02 21:23:18

Datalink statistics

-- Total of 1 flow:

Average throughput: 51.82 Mbit/s

95th percentile per-packet one-way delay: 6.709 ms

Loss rate: 8.86%

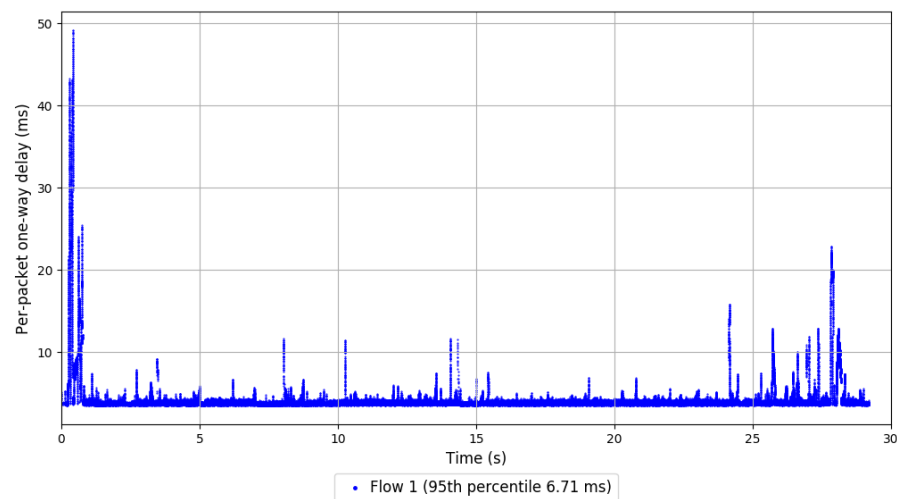
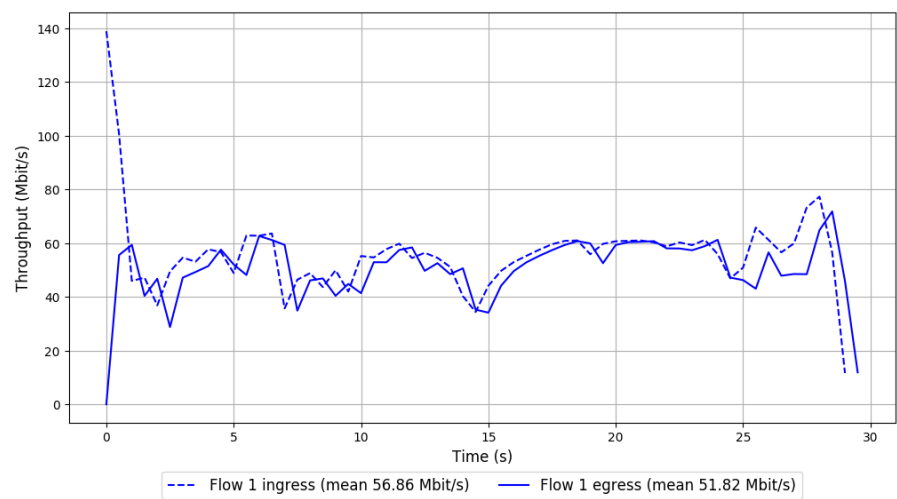
-- Flow 1:

Average throughput: 51.82 Mbit/s

95th percentile per-packet one-way delay: 6.709 ms

Loss rate: 8.86%

Run 5: Report of Indigo-MusesT — Data Link

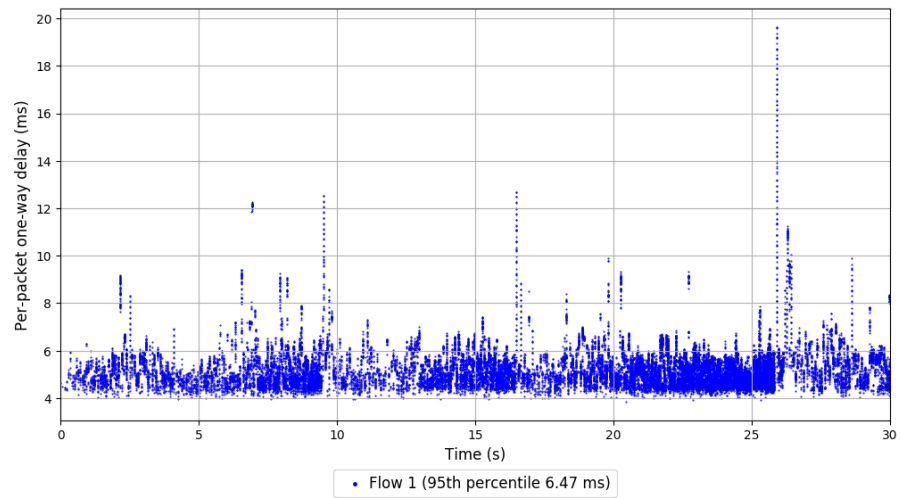
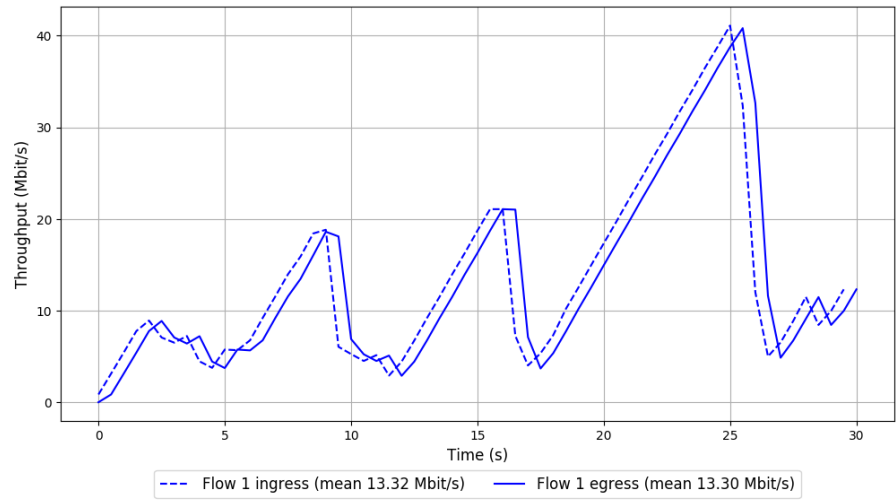



```
Run 1: Statistics of LEDBAT

Start at: 2019-01-02 19:40:01
End at: 2019-01-02 19:40:31
Local clock offset: 2.139 ms
Remote clock offset: -0.083 ms

# Below is generated by plot.py at 2019-01-02 21:23:18
# Datalink statistics
-- Total of 1 flow:
Average throughput: 13.30 Mbit/s
95th percentile per-packet one-way delay: 6.466 ms
Loss rate: 0.08%
-- Flow 1:
Average throughput: 13.30 Mbit/s
95th percentile per-packet one-way delay: 6.466 ms
Loss rate: 0.08%
```

Run 1: Report of LEDBAT — Data Link



Run 2: Statistics of LEDBAT

Start at: 2019-01-02 20:03:16

End at: 2019-01-02 20:03:46

Local clock offset: 2.123 ms

Remote clock offset: 0.264 ms

Below is generated by plot.py at 2019-01-02 21:23:18

Datalink statistics

-- Total of 1 flow:

Average throughput: 6.08 Mbit/s

95th percentile per-packet one-way delay: 6.508 ms

Loss rate: 0.56%

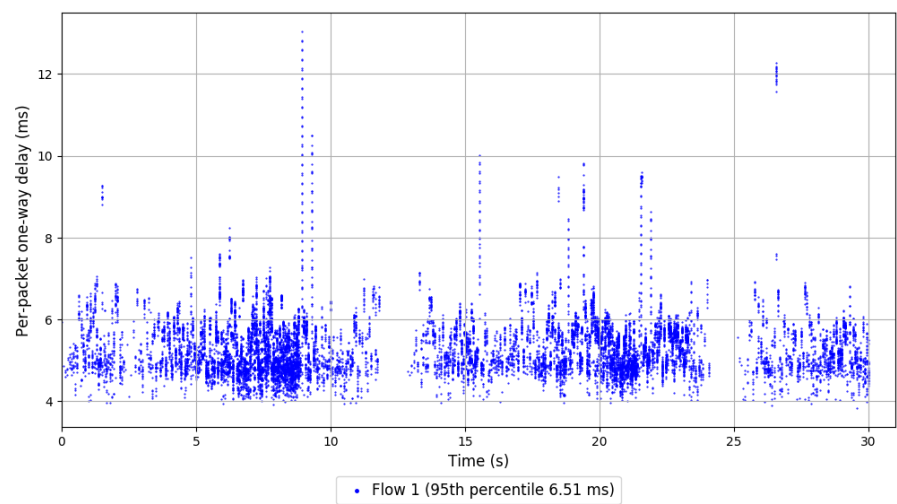
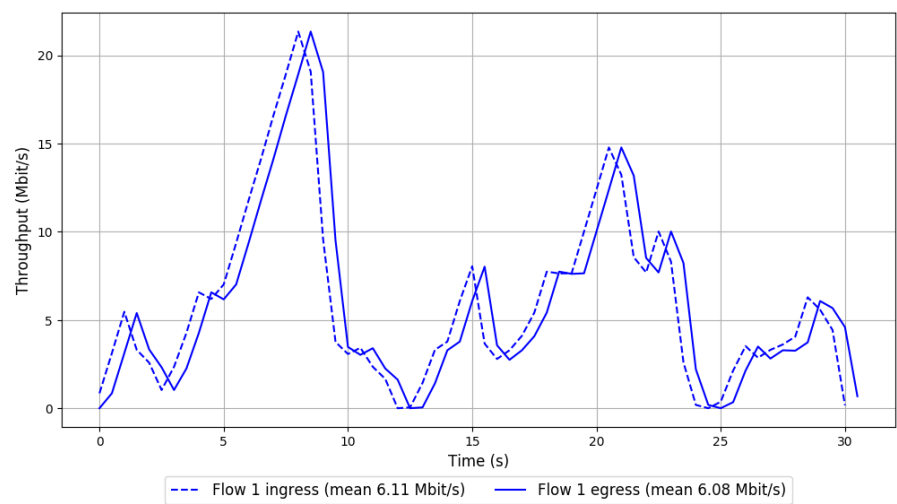
-- Flow 1:

Average throughput: 6.08 Mbit/s

95th percentile per-packet one-way delay: 6.508 ms

Loss rate: 0.56%

Run 2: Report of LEDBAT — Data Link



Run 3: Statistics of LEDBAT

Start at: 2019-01-02 20:26:39

End at: 2019-01-02 20:27:09

Local clock offset: 1.791 ms

Remote clock offset: 1.196 ms

Below is generated by plot.py at 2019-01-02 21:23:18

Datalink statistics

-- Total of 1 flow:

Average throughput: 4.01 Mbit/s

95th percentile per-packet one-way delay: 5.676 ms

Loss rate: 1.41%

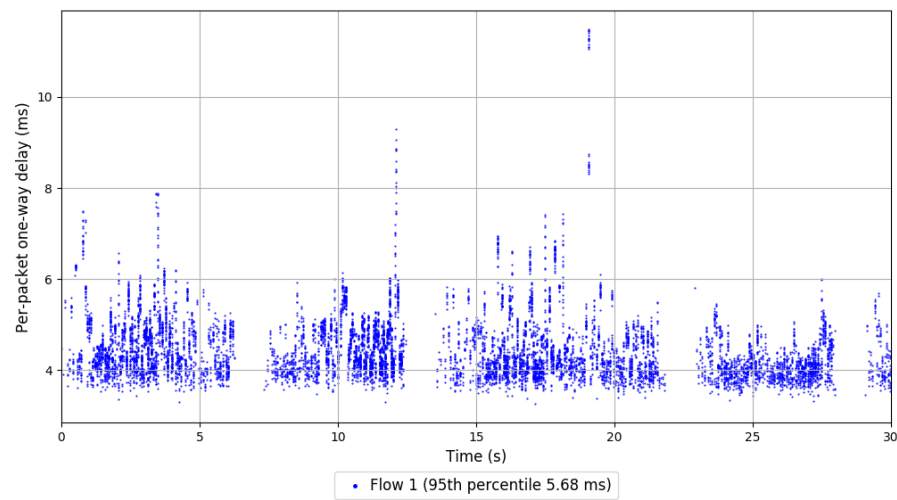
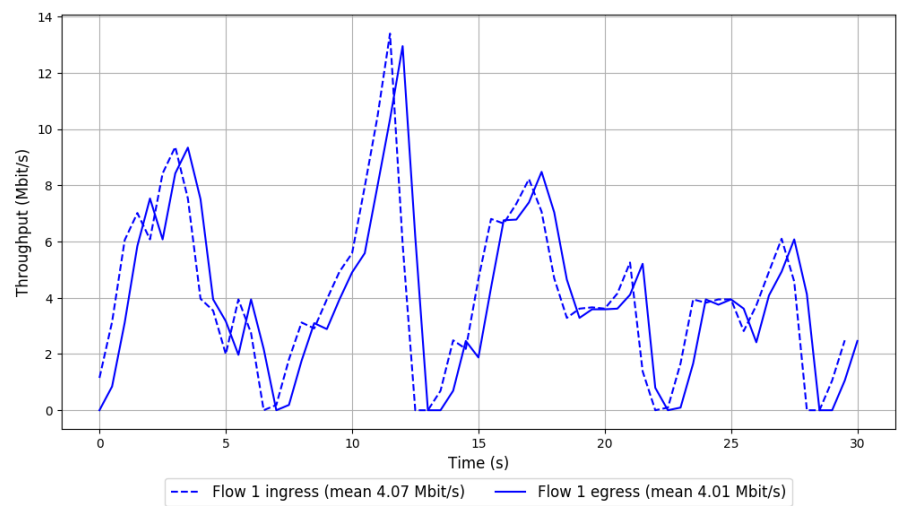
-- Flow 1:

Average throughput: 4.01 Mbit/s

95th percentile per-packet one-way delay: 5.676 ms

Loss rate: 1.41%

Run 3: Report of LEDBAT — Data Link



Run 4: Statistics of LEDBAT

Start at: 2019-01-02 20:49:42

End at: 2019-01-02 20:50:12

Local clock offset: 0.834 ms

Remote clock offset: 1.661 ms

Below is generated by plot.py at 2019-01-02 21:23:18

Datalink statistics

-- Total of 1 flow:

Average throughput: 3.85 Mbit/s

95th percentile per-packet one-way delay: 3.352 ms

Loss rate: 1.19%

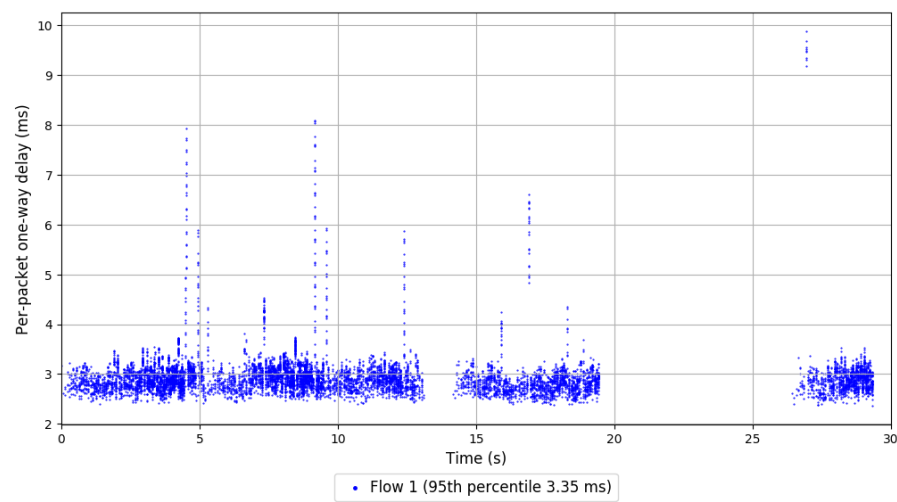
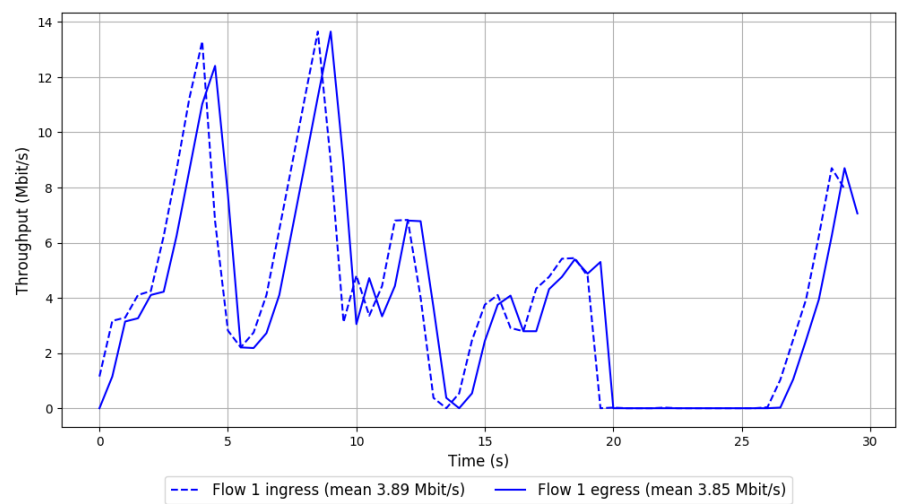
-- Flow 1:

Average throughput: 3.85 Mbit/s

95th percentile per-packet one-way delay: 3.352 ms

Loss rate: 1.19%

Run 4: Report of LEDBAT — Data Link



Run 5: Statistics of LEDBAT

Start at: 2019-01-02 21:12:08

End at: 2019-01-02 21:12:39

Local clock offset: 1.844 ms

Remote clock offset: 2.472 ms

Below is generated by plot.py at 2019-01-02 21:23:18

Datalink statistics

-- Total of 1 flow:

Average throughput: 7.88 Mbit/s

95th percentile per-packet one-way delay: 4.487 ms

Loss rate: 0.50%

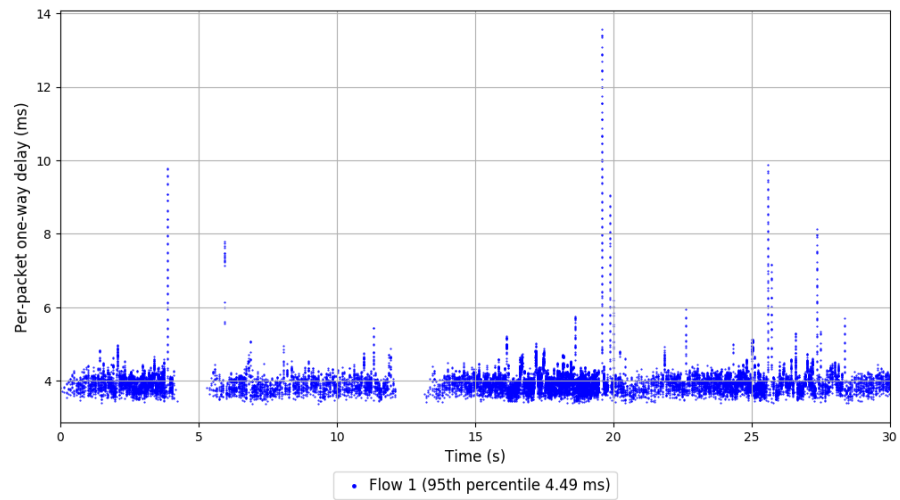
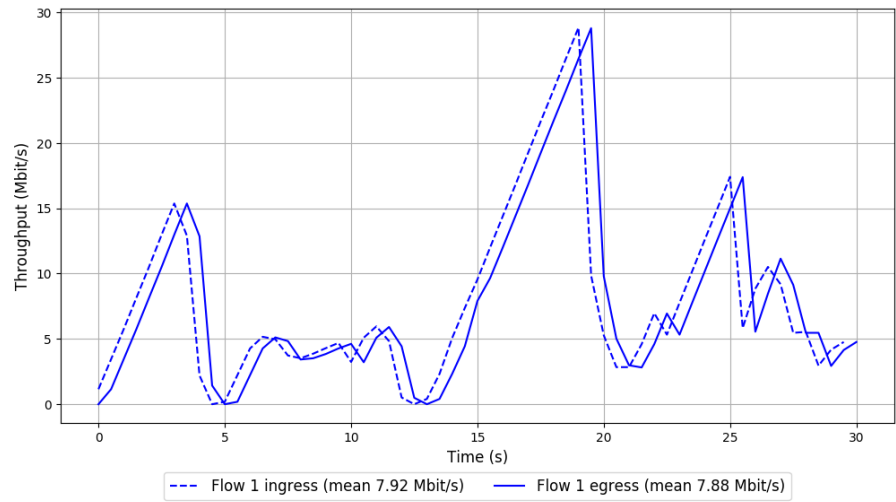
-- Flow 1:

Average throughput: 7.88 Mbit/s

95th percentile per-packet one-way delay: 4.487 ms

Loss rate: 0.50%

Run 5: Report of LEDBAT — Data Link



Run 1: Statistics of PCC-Allegro

Start at: 2019-01-02 19:38:41

End at: 2019-01-02 19:39:11

Local clock offset: 0.697 ms

Remote clock offset: 0.452 ms

Below is generated by plot.py at 2019-01-02 21:23:47

Datalink statistics

-- Total of 1 flow:

Average throughput: 71.04 Mbit/s

95th percentile per-packet one-way delay: 7.620 ms

Loss rate: 9.40%

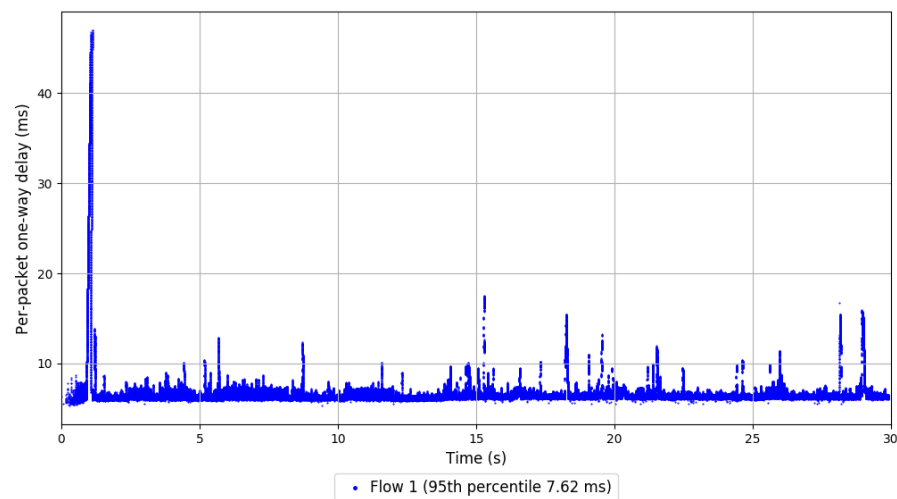
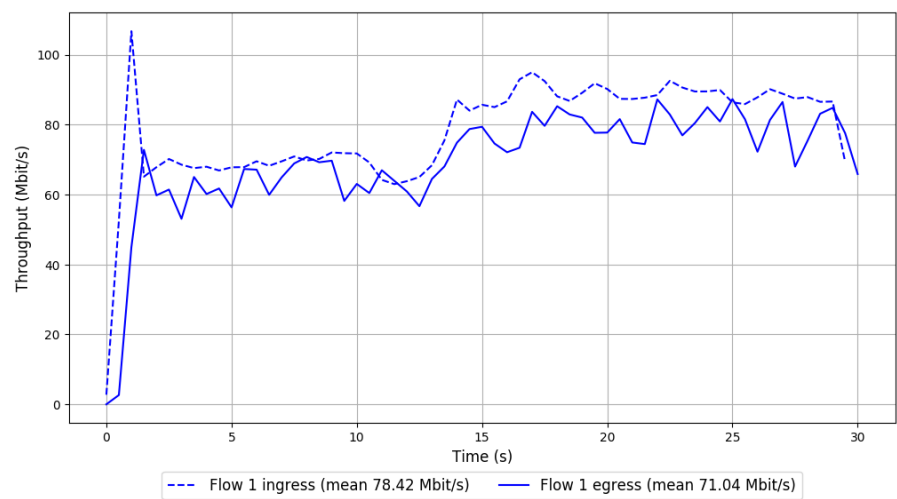
-- Flow 1:

Average throughput: 71.04 Mbit/s

95th percentile per-packet one-way delay: 7.620 ms

Loss rate: 9.40%

Run 1: Report of PCC-Allegro — Data Link



Run 2: Statistics of PCC-Allegro

Start at: 2019-01-02 20:01:58

End at: 2019-01-02 20:02:28

Local clock offset: 0.987 ms

Remote clock offset: -0.622 ms

Below is generated by plot.py at 2019-01-02 21:23:58

Datalink statistics

-- Total of 1 flow:

Average throughput: 81.74 Mbit/s

95th percentile per-packet one-way delay: 11.142 ms

Loss rate: 21.44%

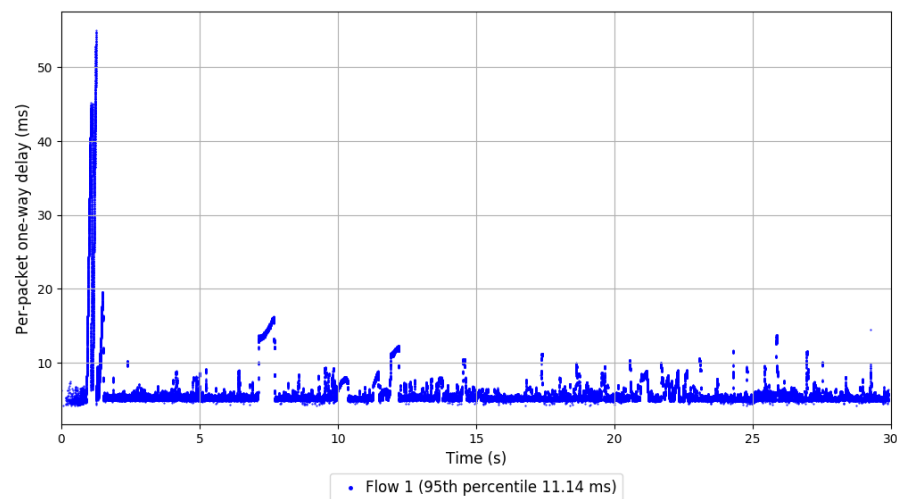
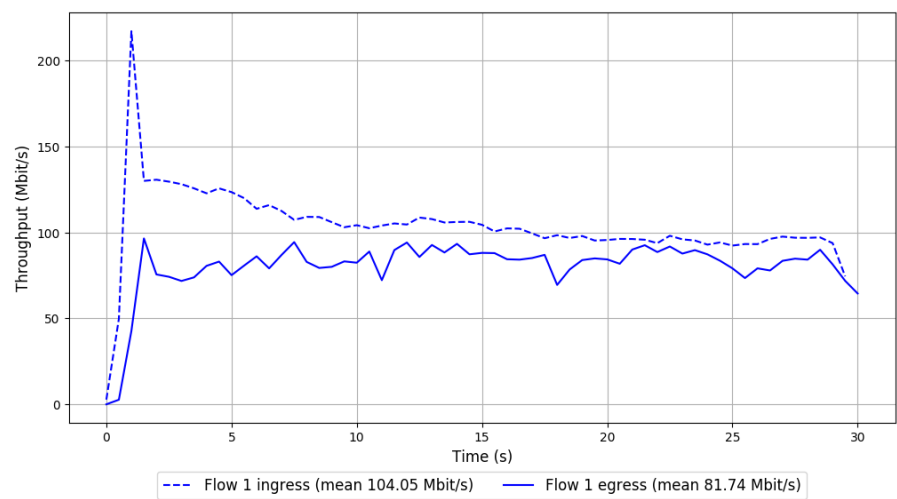
-- Flow 1:

Average throughput: 81.74 Mbit/s

95th percentile per-packet one-way delay: 11.142 ms

Loss rate: 21.44%

Run 2: Report of PCC-Allegro — Data Link



Run 3: Statistics of PCC-Allegro

Start at: 2019-01-02 20:25:33

End at: 2019-01-02 20:26:03

Local clock offset: 3.375 ms

Remote clock offset: 1.401 ms

Below is generated by plot.py at 2019-01-02 21:23:58

Datalink statistics

-- Total of 1 flow:

Average throughput: 4.38 Mbit/s

95th percentile per-packet one-way delay: 4.844 ms

Loss rate: 3.30%

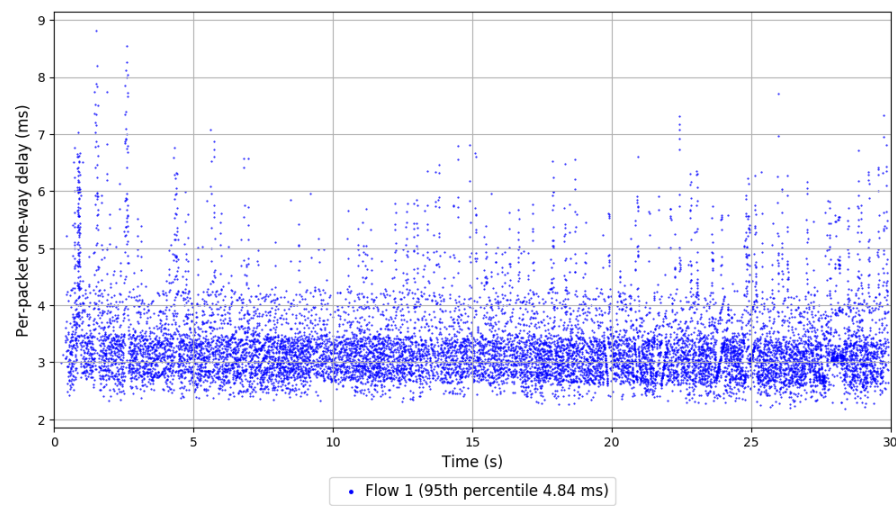
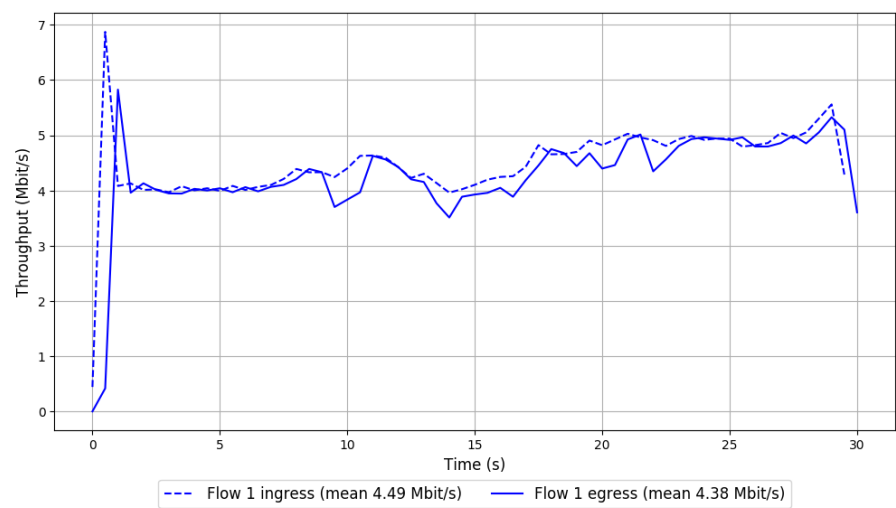
-- Flow 1:

Average throughput: 4.38 Mbit/s

95th percentile per-packet one-way delay: 4.844 ms

Loss rate: 3.30%

Run 3: Report of PCC-Allegro — Data Link



Run 4: Statistics of PCC-Allegro

Start at: 2019-01-02 20:48:26

End at: 2019-01-02 20:48:56

Local clock offset: -1.952 ms

Remote clock offset: 2.831 ms

Below is generated by plot.py at 2019-01-02 21:23:58

Datalink statistics

-- Total of 1 flow:

Average throughput: 50.84 Mbit/s

95th percentile per-packet one-way delay: 7.228 ms

Loss rate: 8.41%

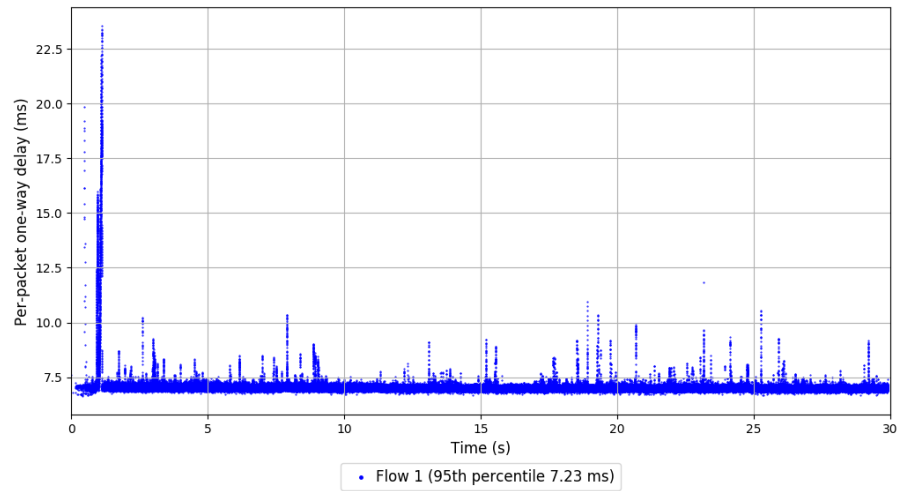
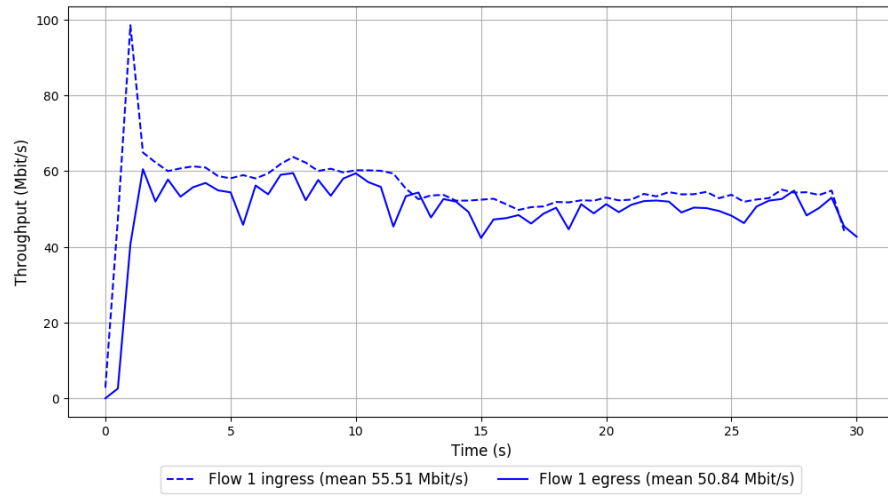
-- Flow 1:

Average throughput: 50.84 Mbit/s

95th percentile per-packet one-way delay: 7.228 ms

Loss rate: 8.41%

Run 4: Report of PCC-Allegro — Data Link



Run 5: Statistics of PCC-Allegro

Start at: 2019-01-02 21:10:52

End at: 2019-01-02 21:11:22

Local clock offset: 1.302 ms

Remote clock offset: 2.636 ms

Below is generated by plot.py at 2019-01-02 21:23:58

Datalink statistics

-- Total of 1 flow:

Average throughput: 60.61 Mbit/s

95th percentile per-packet one-way delay: 4.479 ms

Loss rate: 9.94%

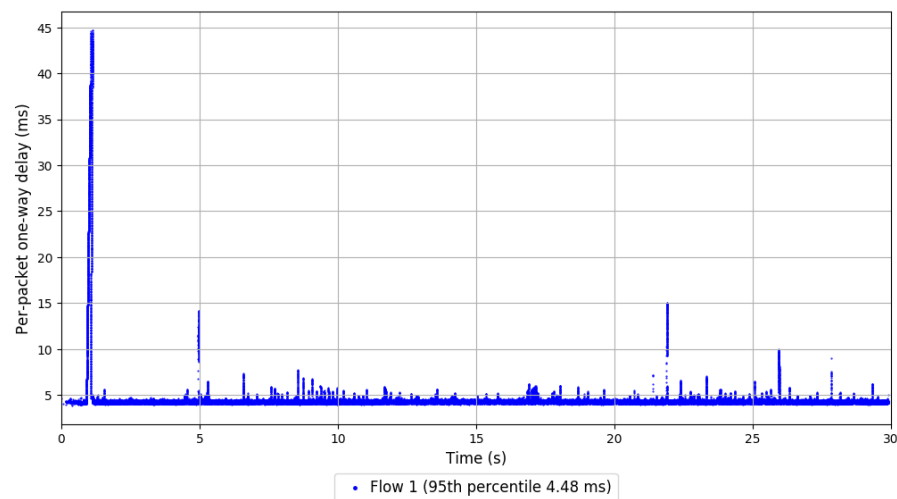
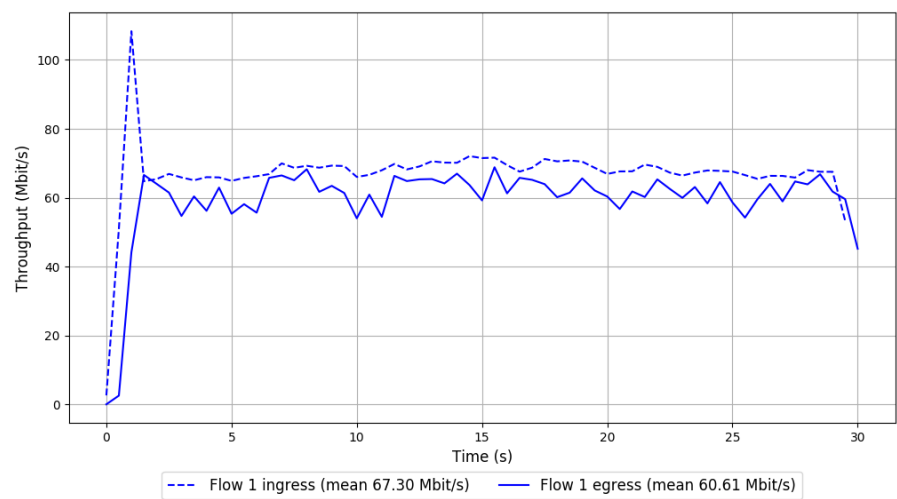
-- Flow 1:

Average throughput: 60.61 Mbit/s

95th percentile per-packet one-way delay: 4.479 ms

Loss rate: 9.94%

Run 5: Report of PCC-Allegro — Data Link



Run 1: Statistics of PCC-Expr

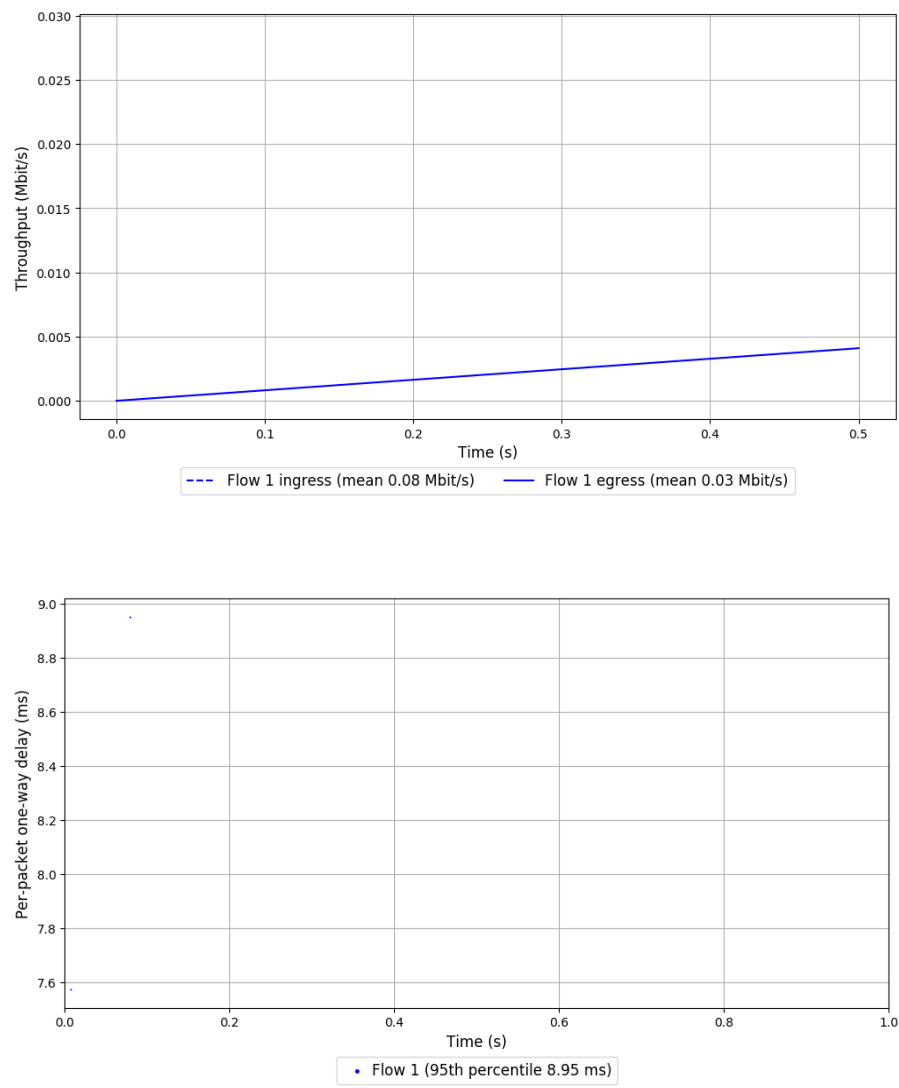
Start at: 2019-01-02 19:33:57

End at: 2019-01-02 19:34:27

Local clock offset: 0.085 ms

Remote clock offset: 0.432 ms

Run 1: Report of PCC-Expr — Data Link



Run 2: Statistics of PCC-Expr

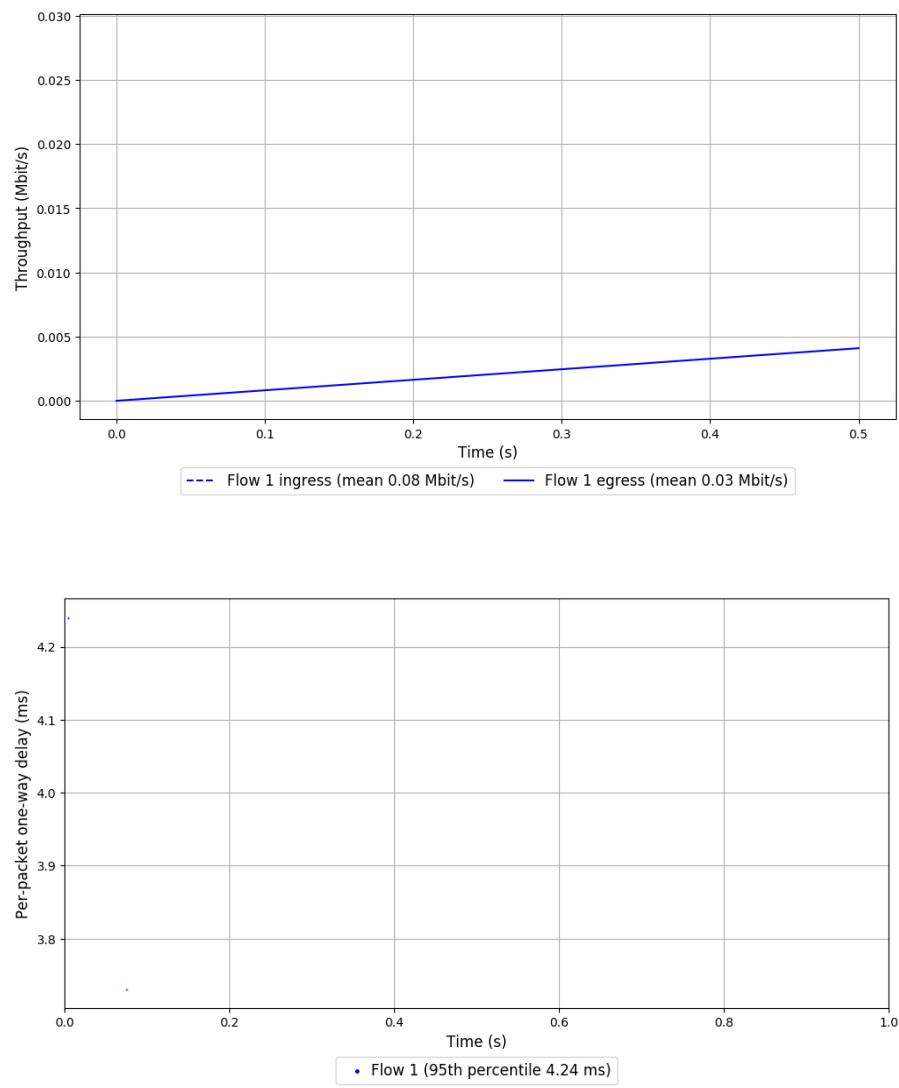
Start at: 2019-01-02 19:57:13

End at: 2019-01-02 19:57:43

Local clock offset: 2.531 ms

Remote clock offset: -0.255 ms

Run 2: Report of PCC-Expr — Data Link



Run 3: Statistics of PCC-Expr

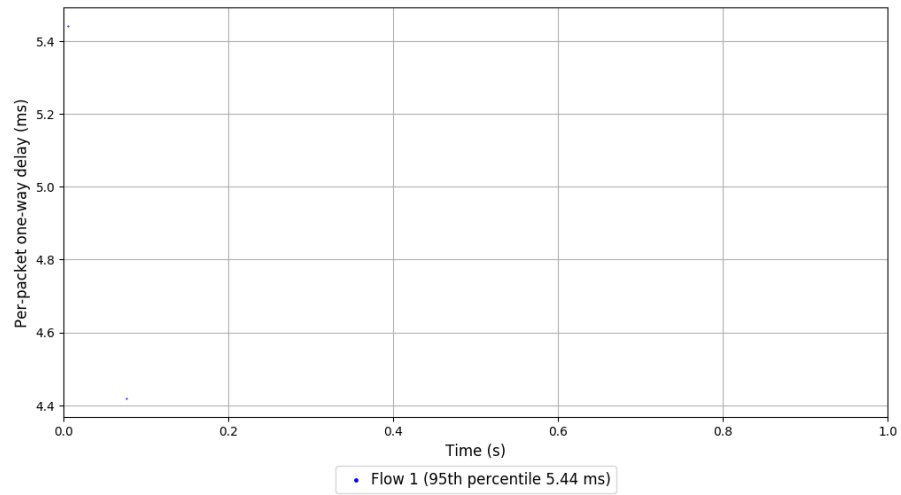
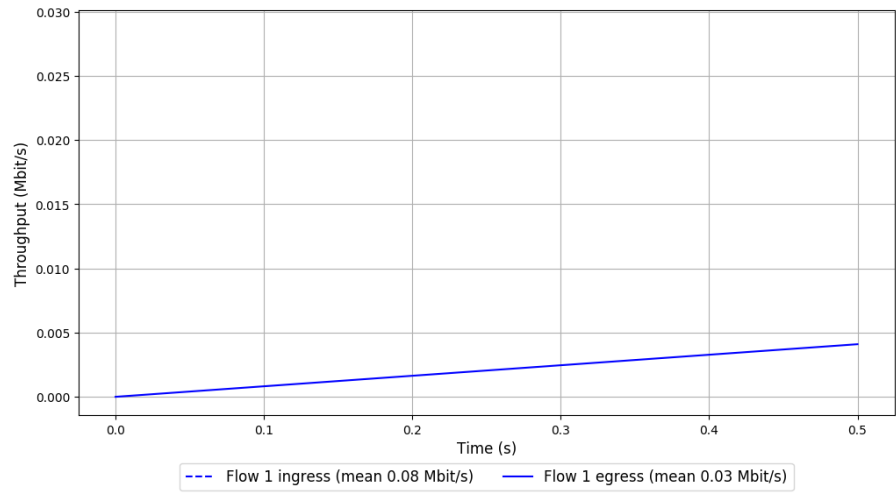
Start at: 2019-01-02 20:20:52

End at: 2019-01-02 20:21:22

Local clock offset: 1.887 ms

Remote clock offset: 1.028 ms

Run 3: Report of PCC-Expr — Data Link



Run 4: Statistics of PCC-Expr

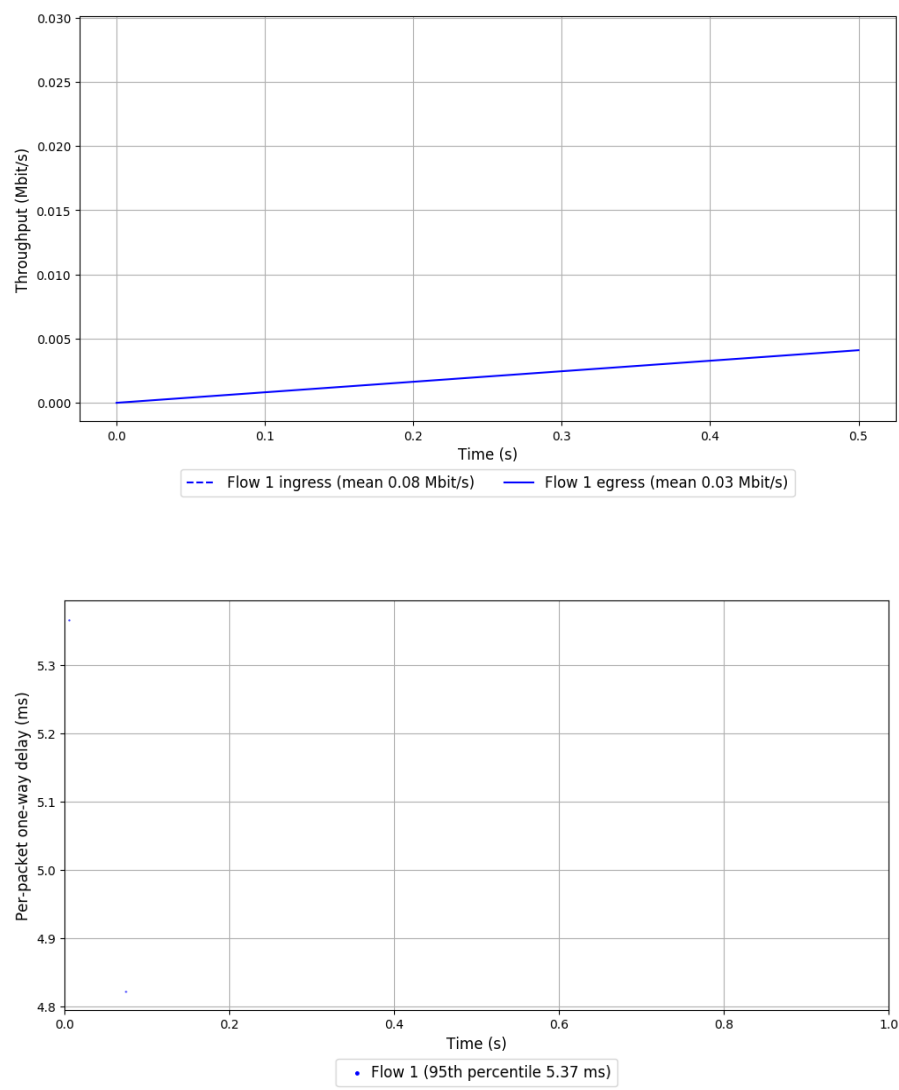
Start at: 2019-01-02 20:43:48

End at: 2019-01-02 20:44:18

Local clock offset: -0.688 ms

Remote clock offset: 2.272 ms

Run 4: Report of PCC-Expr — Data Link



Run 5: Statistics of PCC-Expr

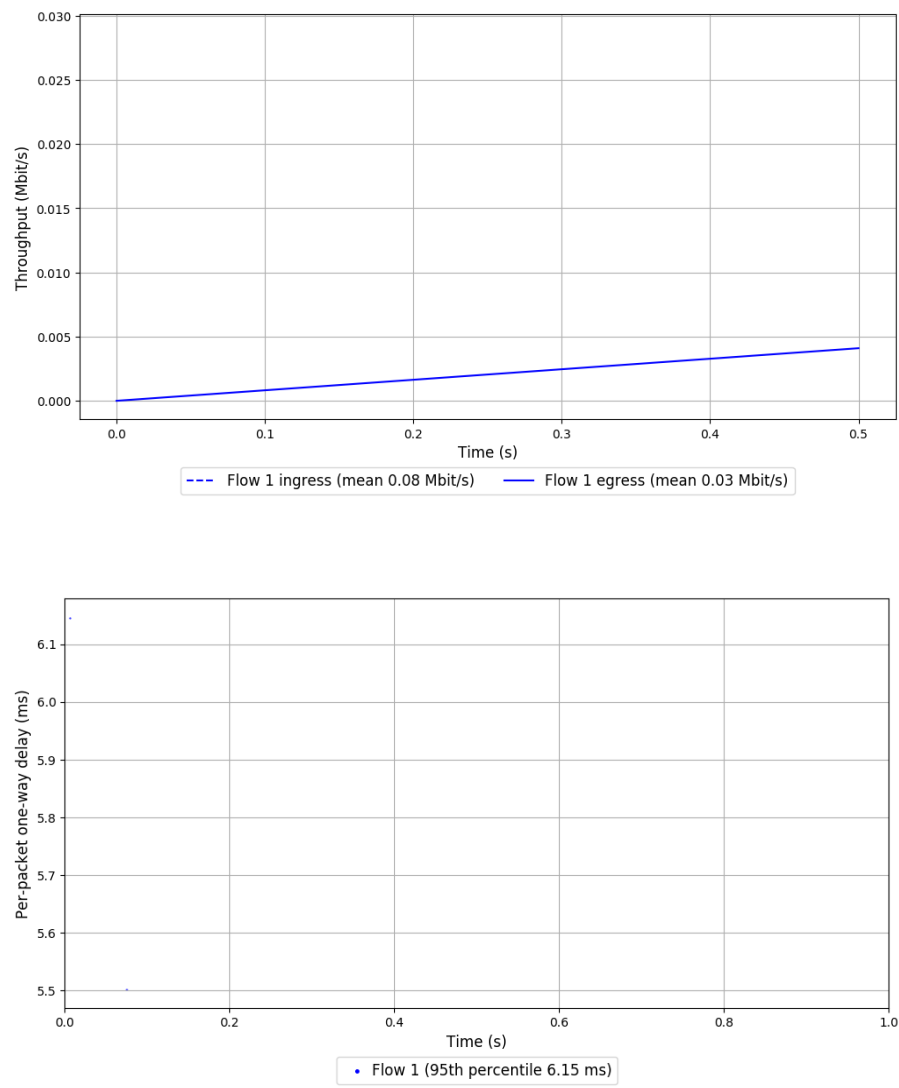
Start at: 2019-01-02 21:06:11

End at: 2019-01-02 21:06:41

Local clock offset: -0.217 ms

Remote clock offset: 2.547 ms

Run 5: Report of PCC-Expr — Data Link



Run 1: Statistics of QUIC Cubic

Start at: 2019-01-02 19:45:55

End at: 2019-01-02 19:46:25

Local clock offset: 0.963 ms

Remote clock offset: 0.404 ms

Below is generated by plot.py at 2019-01-02 21:23:58

Datalink statistics

-- Total of 1 flow:

Average throughput: 9.69 Mbit/s

95th percentile per-packet one-way delay: 17.067 ms

Loss rate: 4.44%

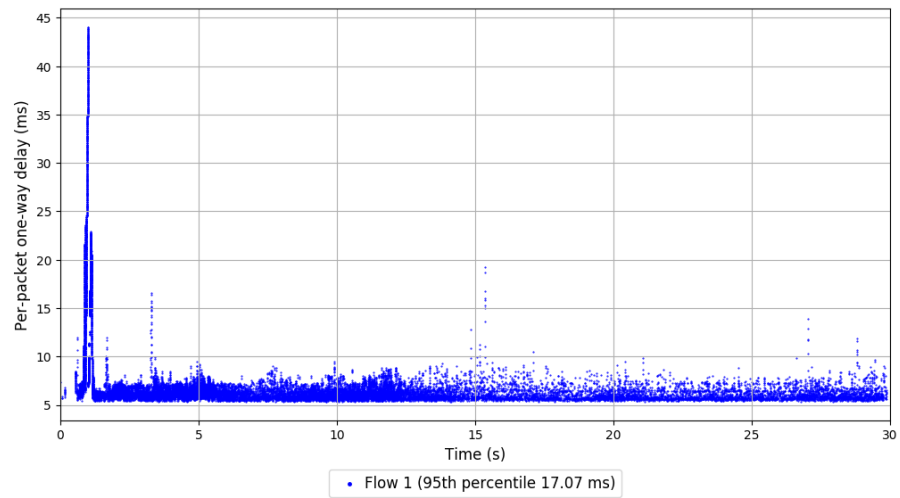
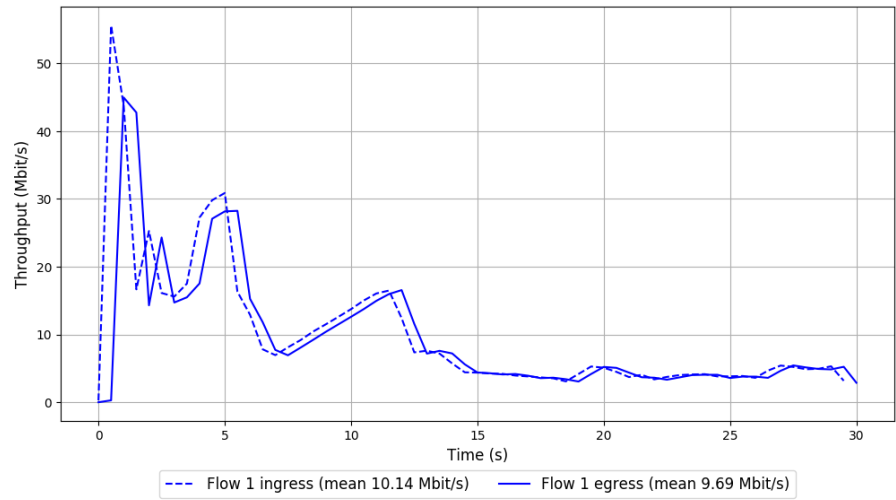
-- Flow 1:

Average throughput: 9.69 Mbit/s

95th percentile per-packet one-way delay: 17.067 ms

Loss rate: 4.44%

Run 1: Report of QUIC Cubic — Data Link



Run 2: Statistics of QUIC Cubic

Start at: 2019-01-02 20:09:27

End at: 2019-01-02 20:09:57

Local clock offset: 3.01 ms

Remote clock offset: 0.207 ms

Below is generated by plot.py at 2019-01-02 21:23:58

Datalink statistics

-- Total of 1 flow:

Average throughput: 14.28 Mbit/s

95th percentile per-packet one-way delay: 6.075 ms

Loss rate: 1.26%

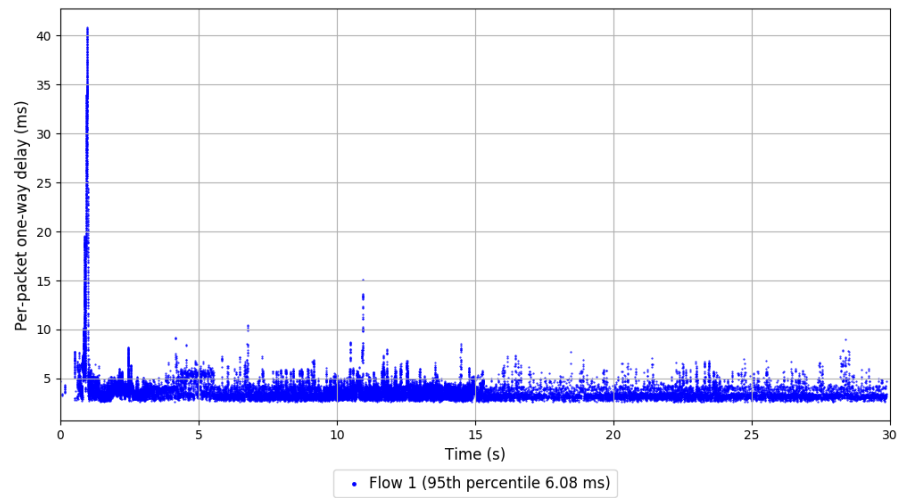
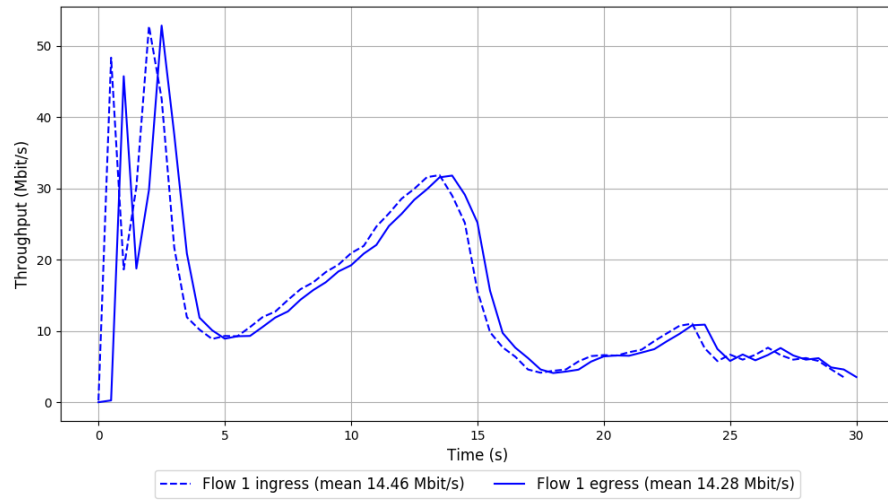
-- Flow 1:

Average throughput: 14.28 Mbit/s

95th percentile per-packet one-way delay: 6.075 ms

Loss rate: 1.26%

Run 2: Report of QUIC Cubic — Data Link



Run 3: Statistics of QUIC Cubic

Start at: 2019-01-02 20:32:45

End at: 2019-01-02 20:33:15

Local clock offset: 1.051 ms

Remote clock offset: 1.874 ms

Below is generated by plot.py at 2019-01-02 21:23:58

Datalink statistics

-- Total of 1 flow:

Average throughput: 6.08 Mbit/s

95th percentile per-packet one-way delay: 4.212 ms

Loss rate: 2.78%

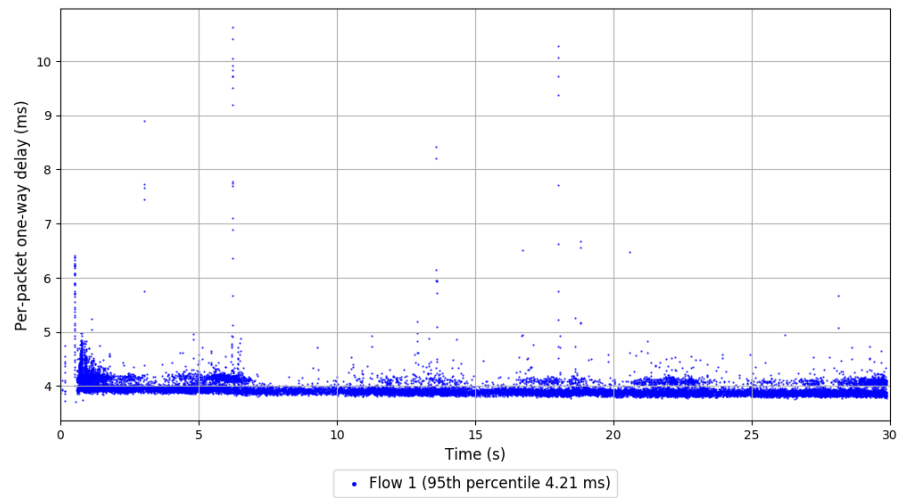
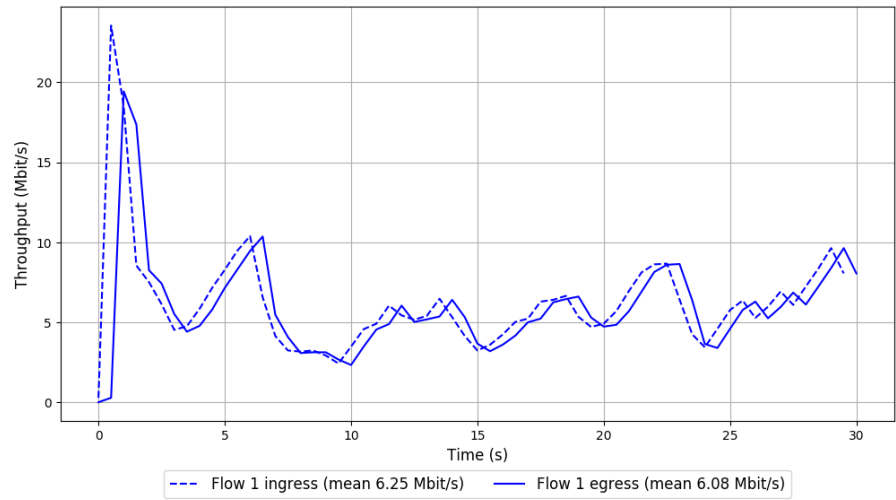
-- Flow 1:

Average throughput: 6.08 Mbit/s

95th percentile per-packet one-way delay: 4.212 ms

Loss rate: 2.78%

Run 3: Report of QUIC Cubic — Data Link



Run 4: Statistics of QUIC Cubic

Start at: 2019-01-02 20:55:26

End at: 2019-01-02 20:55:56

Local clock offset: 0.357 ms

Remote clock offset: 2.391 ms

Below is generated by plot.py at 2019-01-02 21:23:58

Datalink statistics

-- Total of 1 flow:

Average throughput: 3.36 Mbit/s

95th percentile per-packet one-way delay: 4.190 ms

Loss rate: 3.73%

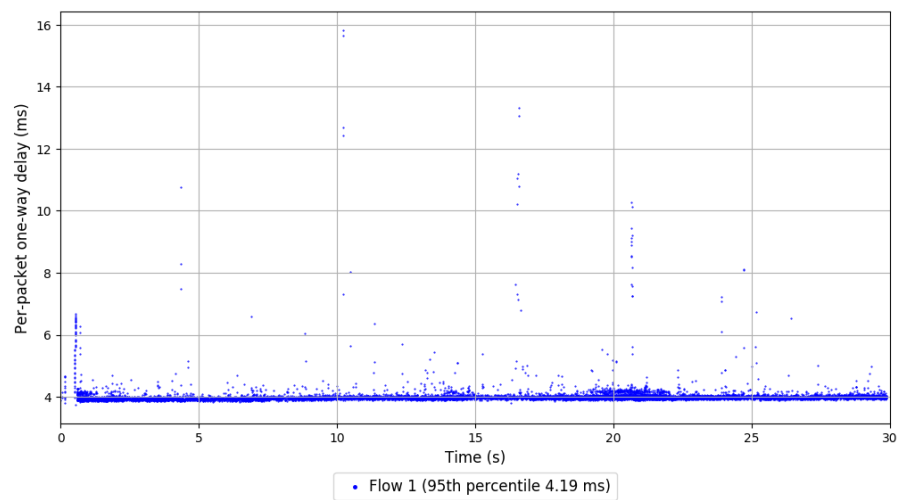
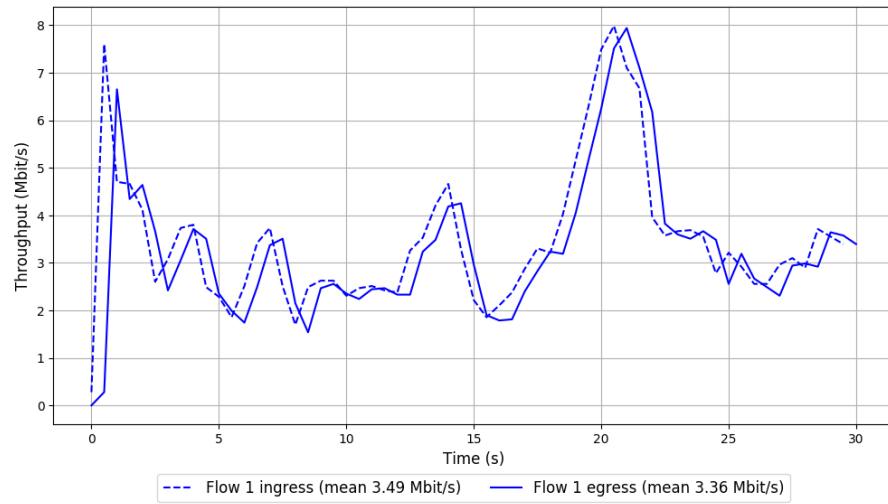
-- Flow 1:

Average throughput: 3.36 Mbit/s

95th percentile per-packet one-way delay: 4.190 ms

Loss rate: 3.73%

Run 4: Report of QUIC Cubic — Data Link



Run 5: Statistics of QUIC Cubic

Start at: 2019-01-02 21:18:01

End at: 2019-01-02 21:18:31

Local clock offset: 2.927 ms

Remote clock offset: 2.422 ms

Below is generated by plot.py at 2019-01-02 21:23:58

Datalink statistics

-- Total of 1 flow:

Average throughput: 6.61 Mbit/s

95th percentile per-packet one-way delay: 2.820 ms

Loss rate: 0.71%

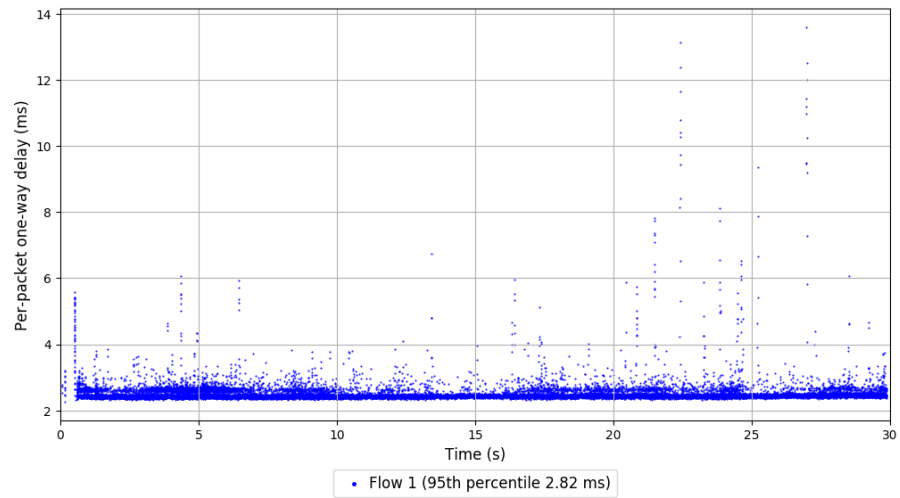
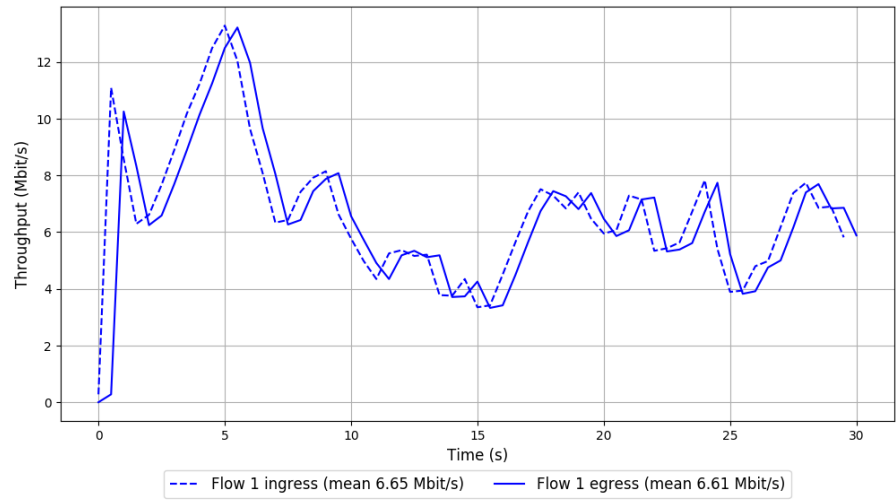
-- Flow 1:

Average throughput: 6.61 Mbit/s

95th percentile per-packet one-way delay: 2.820 ms

Loss rate: 0.71%

Run 5: Report of QUIC Cubic — Data Link



Run 1: Statistics of SCReAM

Start at: 2019-01-02 19:31:32

End at: 2019-01-02 19:32:02

Local clock offset: 2.973 ms

Remote clock offset: 0.965 ms

Below is generated by plot.py at 2019-01-02 21:23:58

Datalink statistics

-- Total of 1 flow:

Average throughput: 0.17 Mbit/s

95th percentile per-packet one-way delay: 6.837 ms

Loss rate: 0.67%

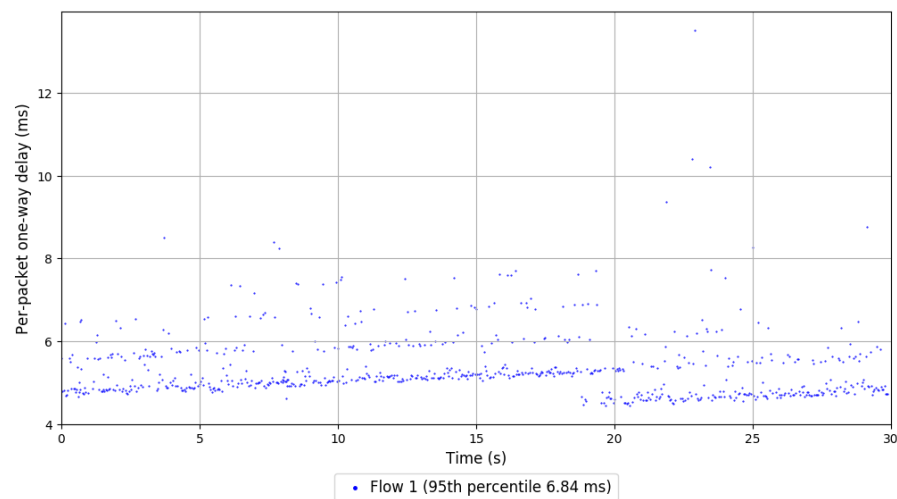
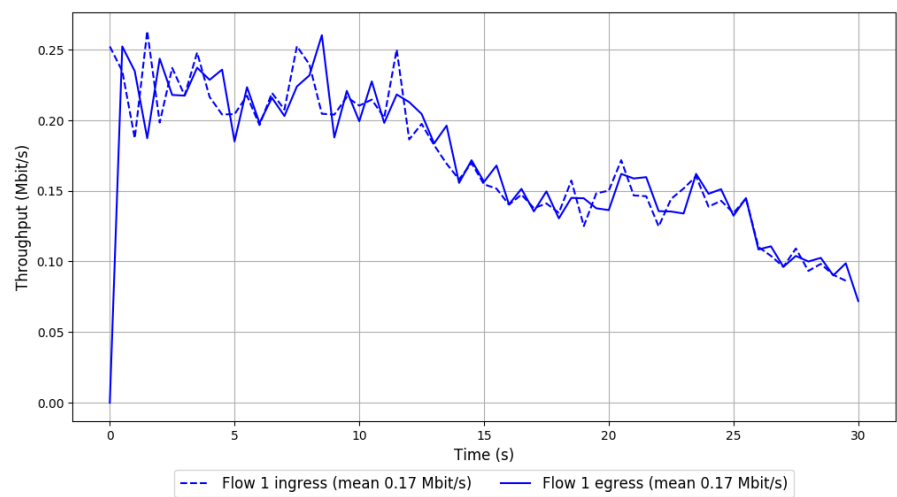
-- Flow 1:

Average throughput: 0.17 Mbit/s

95th percentile per-packet one-way delay: 6.837 ms

Loss rate: 0.67%

Run 1: Report of SReAM — Data Link



Run 2: Statistics of SCReAM

Start at: 2019-01-02 19:54:42

End at: 2019-01-02 19:55:12

Local clock offset: 0.006 ms

Remote clock offset: 0.263 ms

Below is generated by plot.py at 2019-01-02 21:23:58

Datalink statistics

-- Total of 1 flow:

Average throughput: 0.18 Mbit/s

95th percentile per-packet one-way delay: 8.421 ms

Loss rate: 0.89%

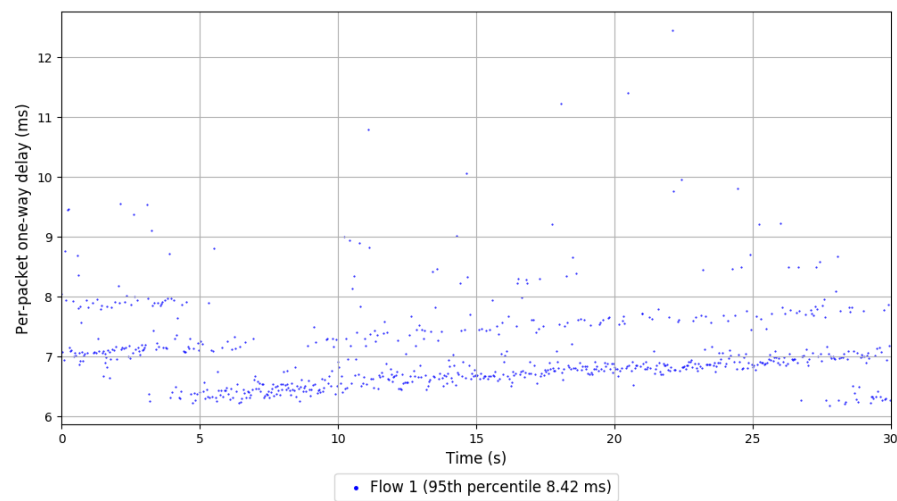
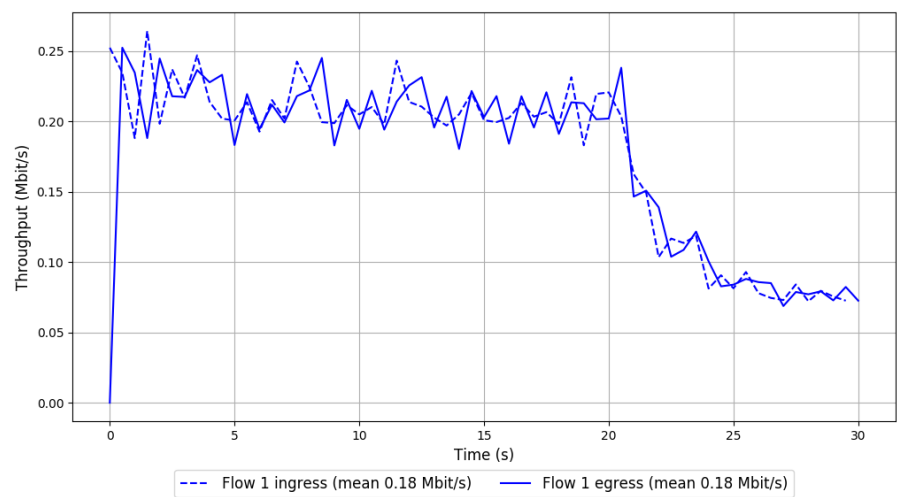
-- Flow 1:

Average throughput: 0.18 Mbit/s

95th percentile per-packet one-way delay: 8.421 ms

Loss rate: 0.89%

Run 2: Report of SReAM — Data Link



Run 3: Statistics of SCReAM

Start at: 2019-01-02 20:18:34

End at: 2019-01-02 20:19:04

Local clock offset: 1.79 ms

Remote clock offset: 0.463 ms

Below is generated by plot.py at 2019-01-02 21:23:58

Datalink statistics

-- Total of 1 flow:

Average throughput: 0.09 Mbit/s

95th percentile per-packet one-way delay: 6.050 ms

Loss rate: 2.35%

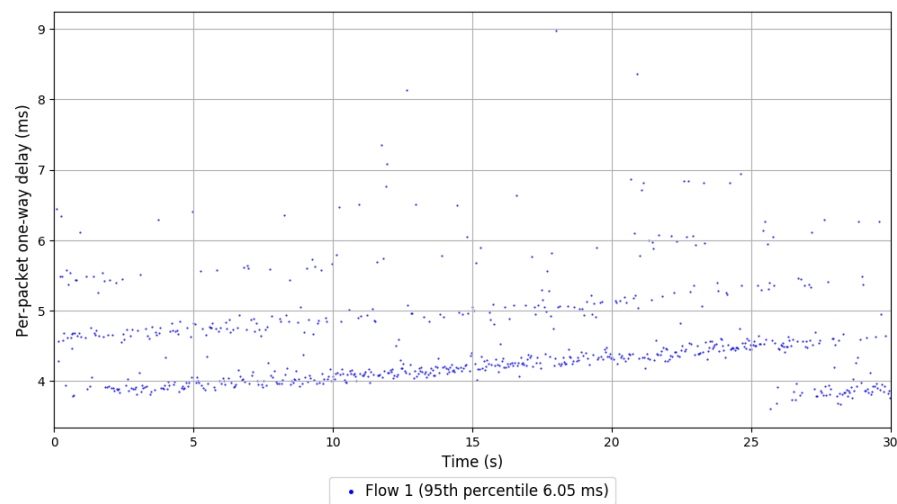
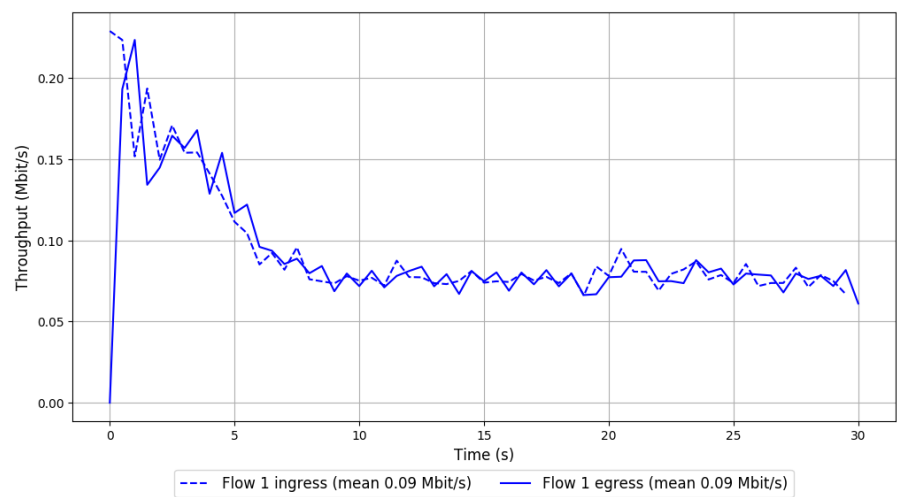
-- Flow 1:

Average throughput: 0.09 Mbit/s

95th percentile per-packet one-way delay: 6.050 ms

Loss rate: 2.35%

Run 3: Report of SReAM — Data Link



Run 4: Statistics of SCReAM

Start at: 2019-01-02 20:41:22

End at: 2019-01-02 20:41:52

Local clock offset: -0.867 ms

Remote clock offset: 2.194 ms

Below is generated by plot.py at 2019-01-02 21:23:58

Datalink statistics

-- Total of 1 flow:

Average throughput: 0.18 Mbit/s

95th percentile per-packet one-way delay: 5.199 ms

Loss rate: 0.31%

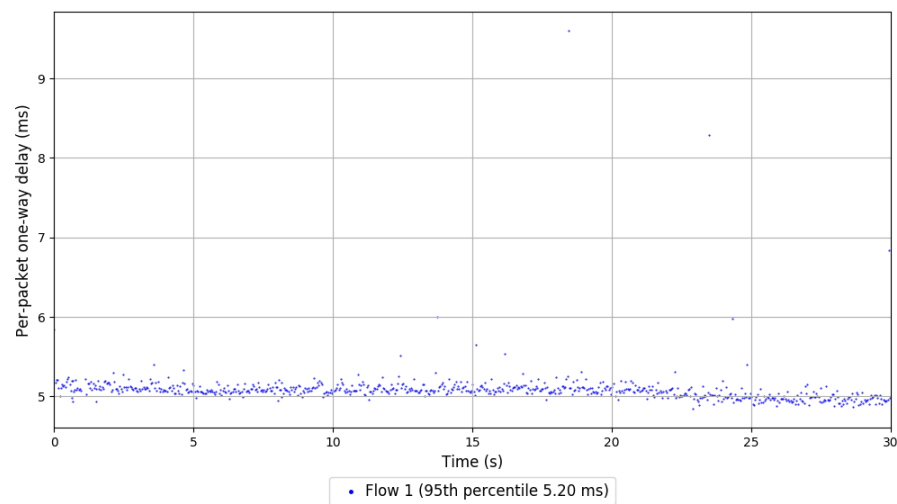
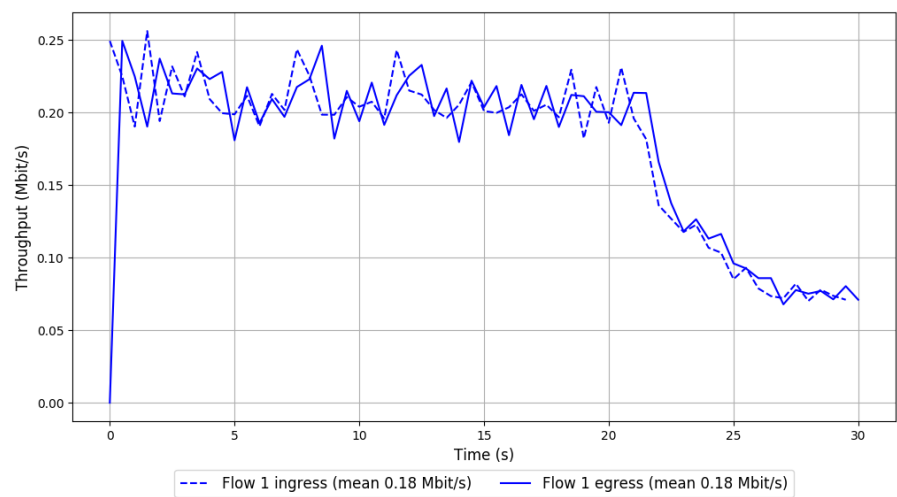
-- Flow 1:

Average throughput: 0.18 Mbit/s

95th percentile per-packet one-way delay: 5.199 ms

Loss rate: 0.31%

Run 4: Report of SReAM — Data Link



Run 5: Statistics of SCReAM

Start at: 2019-01-02 21:03:50

End at: 2019-01-02 21:04:20

Local clock offset: -1.822 ms

Remote clock offset: -0.1 ms

Below is generated by plot.py at 2019-01-02 21:23:58

Datalink statistics

-- Total of 1 flow:

Average throughput: 0.10 Mbit/s

95th percentile per-packet one-way delay: 4.441 ms

Loss rate: 3.43%

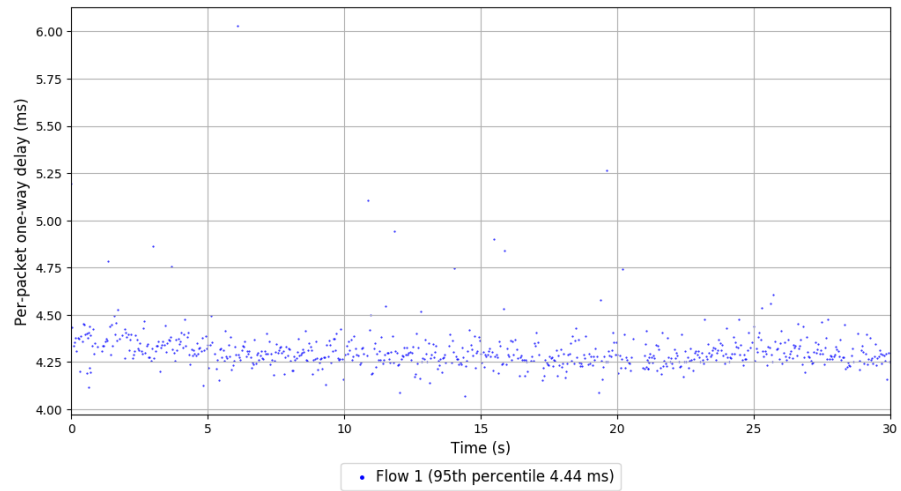
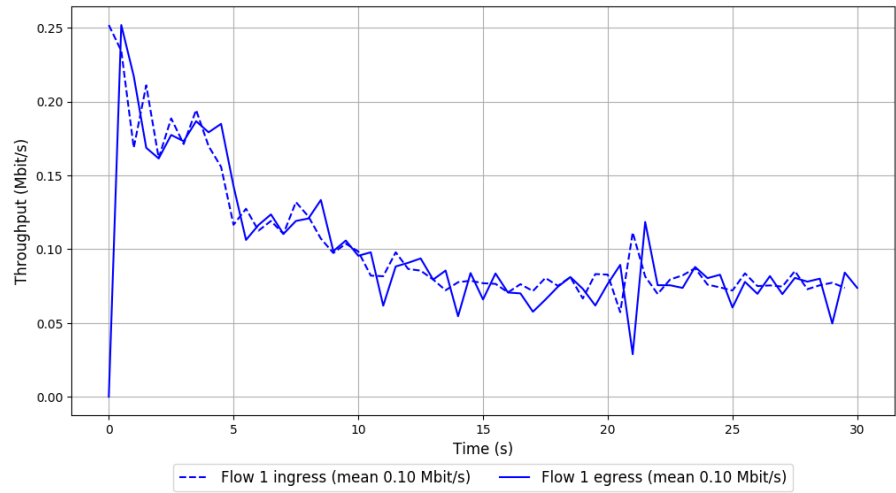
-- Flow 1:

Average throughput: 0.10 Mbit/s

95th percentile per-packet one-way delay: 4.441 ms

Loss rate: 3.43%

Run 5: Report of SReAM — Data Link

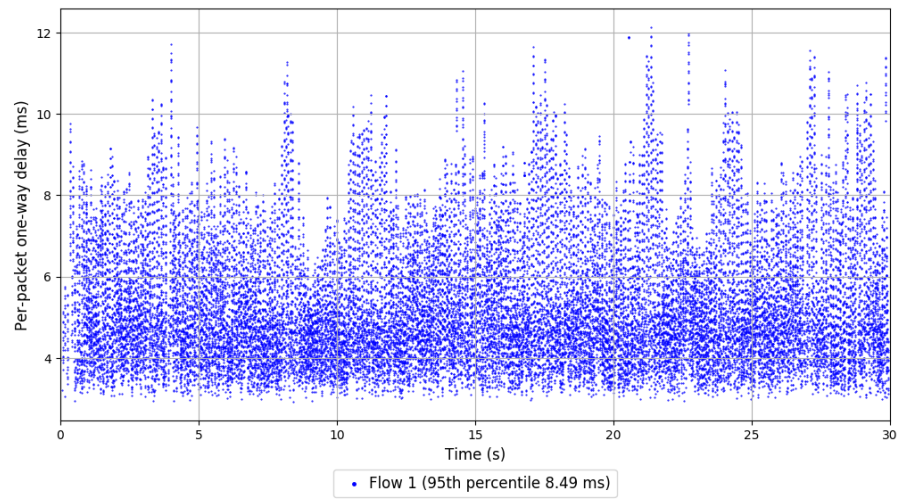
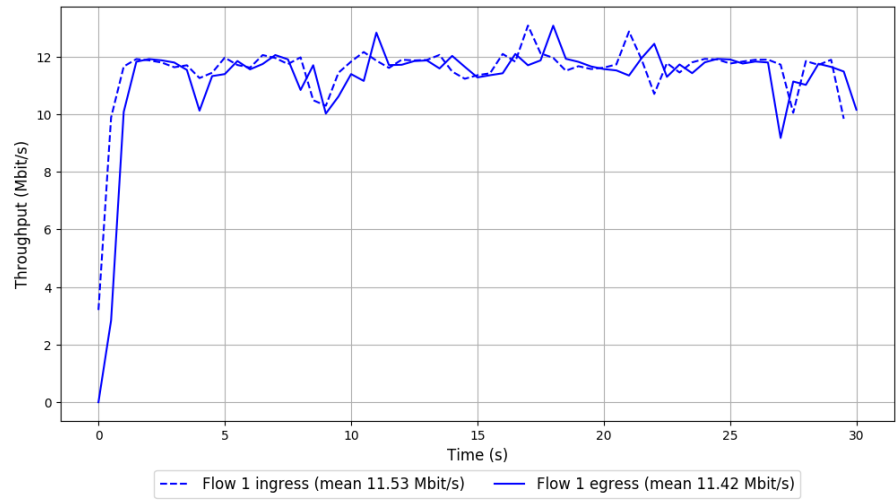


Run 1: Statistics of Sprout

Start at: 2019-01-02 19:37:32
End at: 2019-01-02 19:38:02
Local clock offset: 2.978 ms
Remote clock offset: -0.288 ms

Below is generated by plot.py at 2019-01-02 21:23:58
Datalink statistics
-- Total of 1 flow:
Average throughput: 11.42 Mbit/s
95th percentile per-packet one-way delay: 8.493 ms
Loss rate: 0.95%
-- Flow 1:
Average throughput: 11.42 Mbit/s
95th percentile per-packet one-way delay: 8.493 ms
Loss rate: 0.95%

Run 1: Report of Sprout — Data Link

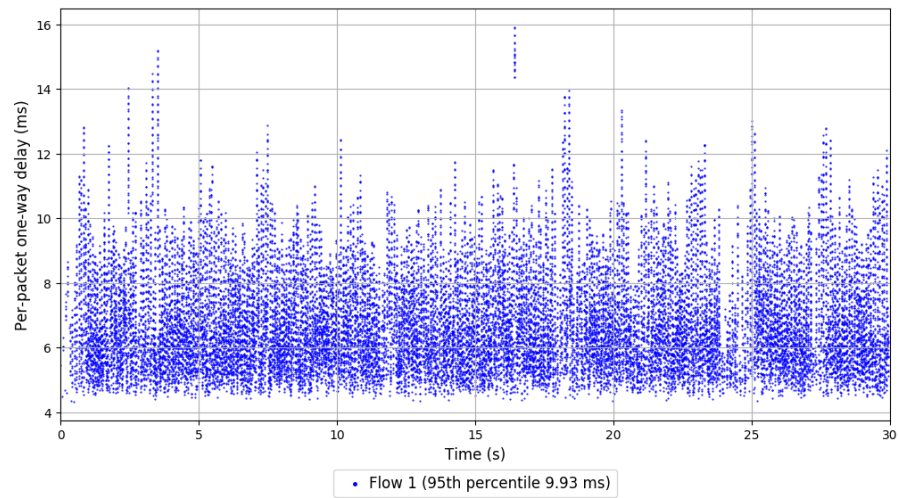
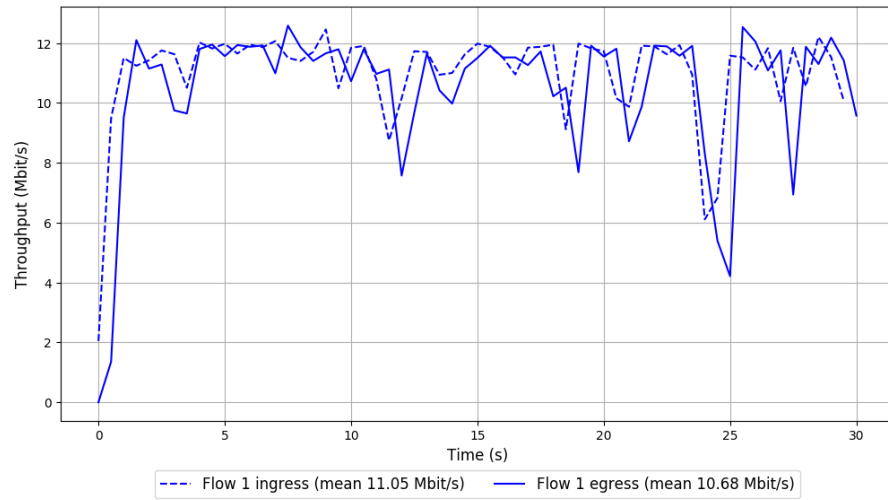


Run 2: Statistics of Sprout

Start at: 2019-01-02 20:00:50
End at: 2019-01-02 20:01:20
Local clock offset: 0.884 ms
Remote clock offset: -0.538 ms

Below is generated by plot.py at 2019-01-02 21:23:58
Datalink statistics
-- Total of 1 flow:
Average throughput: 10.68 Mbit/s
95th percentile per-packet one-way delay: 9.931 ms
Loss rate: 3.38%
-- Flow 1:
Average throughput: 10.68 Mbit/s
95th percentile per-packet one-way delay: 9.931 ms
Loss rate: 3.38%

Run 2: Report of Sprout — Data Link



Run 3: Statistics of Sprout

Start at: 2019-01-02 20:24:26

End at: 2019-01-02 20:24:56

Local clock offset: 3.661 ms

Remote clock offset: 1.228 ms

Below is generated by plot.py at 2019-01-02 21:23:58

Datalink statistics

-- Total of 1 flow:

Average throughput: 11.17 Mbit/s

95th percentile per-packet one-way delay: 7.527 ms

Loss rate: 1.76%

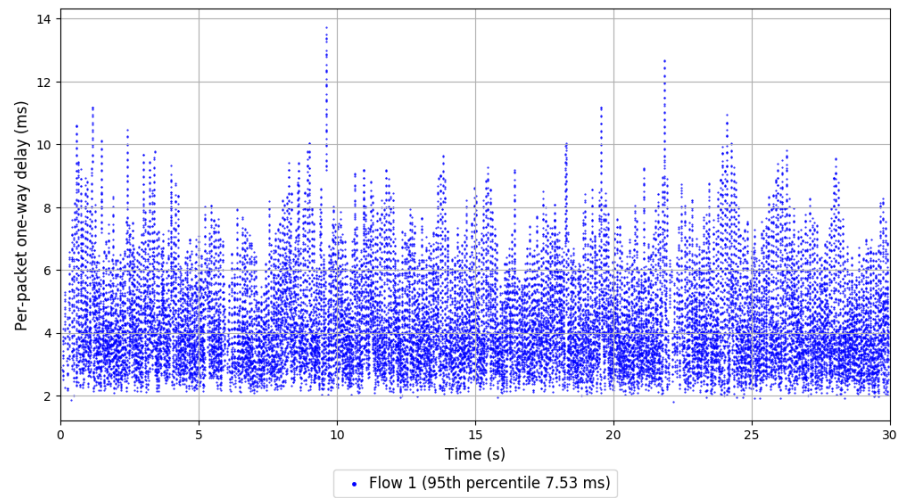
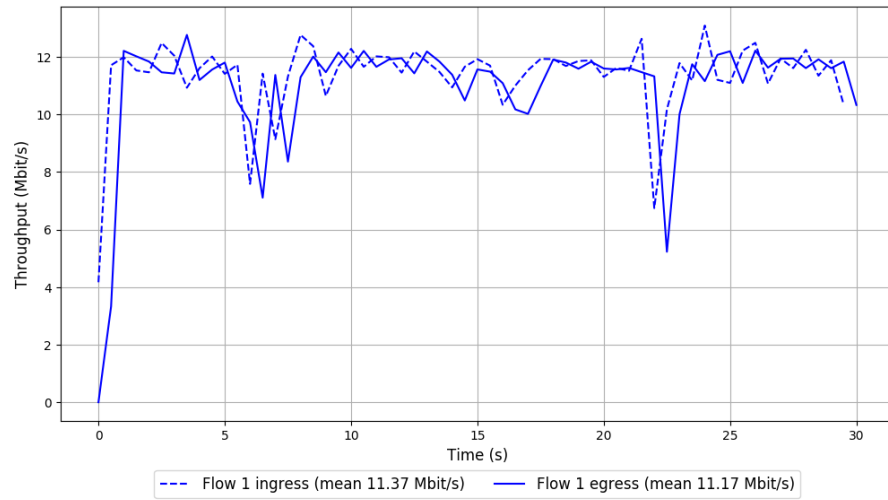
-- Flow 1:

Average throughput: 11.17 Mbit/s

95th percentile per-packet one-way delay: 7.527 ms

Loss rate: 1.76%

Run 3: Report of Sprout — Data Link



Run 4: Statistics of Sprout

Start at: 2019-01-02 20:47:19

End at: 2019-01-02 20:47:49

Local clock offset: 1.206 ms

Remote clock offset: 2.213 ms

Below is generated by plot.py at 2019-01-02 21:23:58

Datalink statistics

-- Total of 1 flow:

Average throughput: 6.47 Mbit/s

95th percentile per-packet one-way delay: 7.434 ms

Loss rate: 4.05%

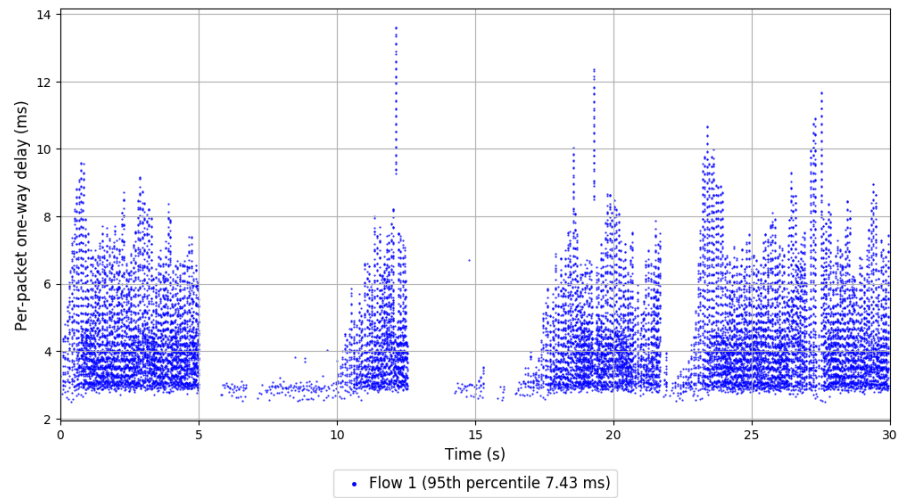
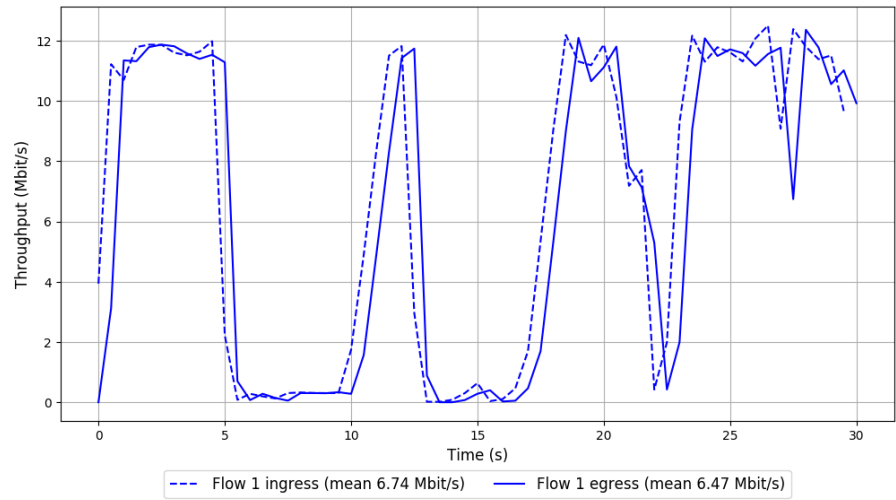
-- Flow 1:

Average throughput: 6.47 Mbit/s

95th percentile per-packet one-way delay: 7.434 ms

Loss rate: 4.05%

Run 4: Report of Sprout — Data Link



Run 5: Statistics of Sprout

Start at: 2019-01-02 21:09:44

End at: 2019-01-02 21:10:14

Local clock offset: -0.549 ms

Remote clock offset: 2.614 ms

Below is generated by plot.py at 2019-01-02 21:23:58

Datalink statistics

-- Total of 1 flow:

Average throughput: 11.47 Mbit/s

95th percentile per-packet one-way delay: 10.629 ms

Loss rate: 0.77%

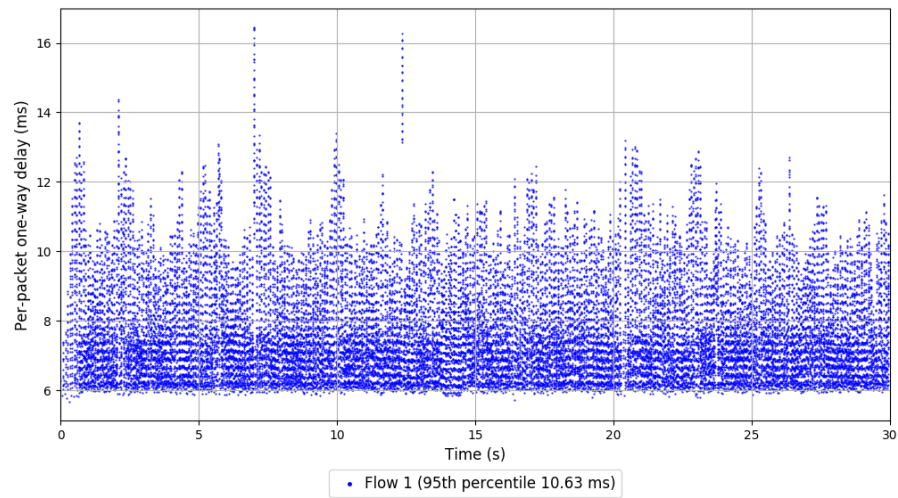
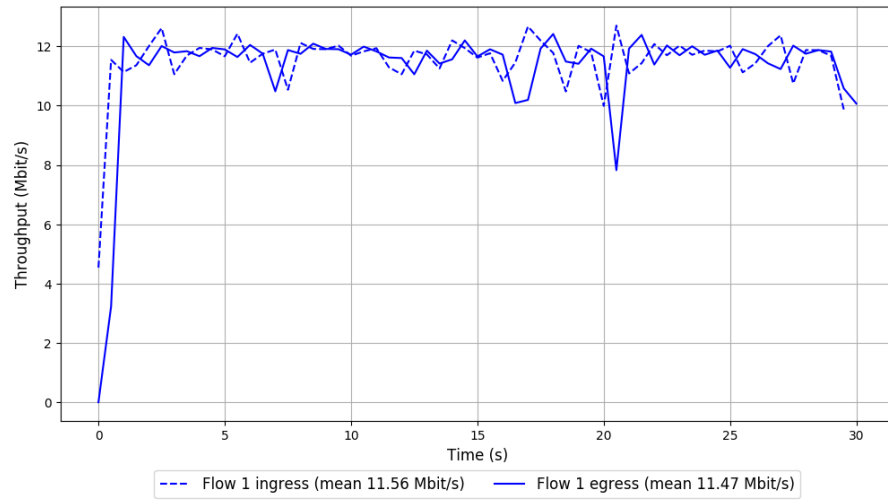
-- Flow 1:

Average throughput: 11.47 Mbit/s

95th percentile per-packet one-way delay: 10.629 ms

Loss rate: 0.77%

Run 5: Report of Sprout — Data Link



Run 1: Statistics of TaoVA-100x

Start at: 2019-01-02 19:44:47

End at: 2019-01-02 19:45:18

Local clock offset: 0.61 ms

Remote clock offset: -0.217 ms

Below is generated by plot.py at 2019-01-02 21:23:58

Datalink statistics

-- Total of 1 flow:

Average throughput: 9.49 Mbit/s

95th percentile per-packet one-way delay: 7.784 ms

Loss rate: 82.06%

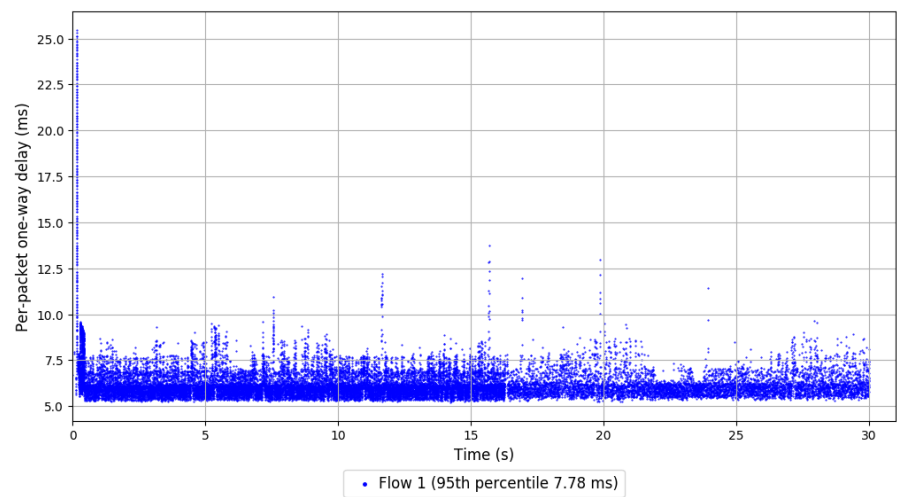
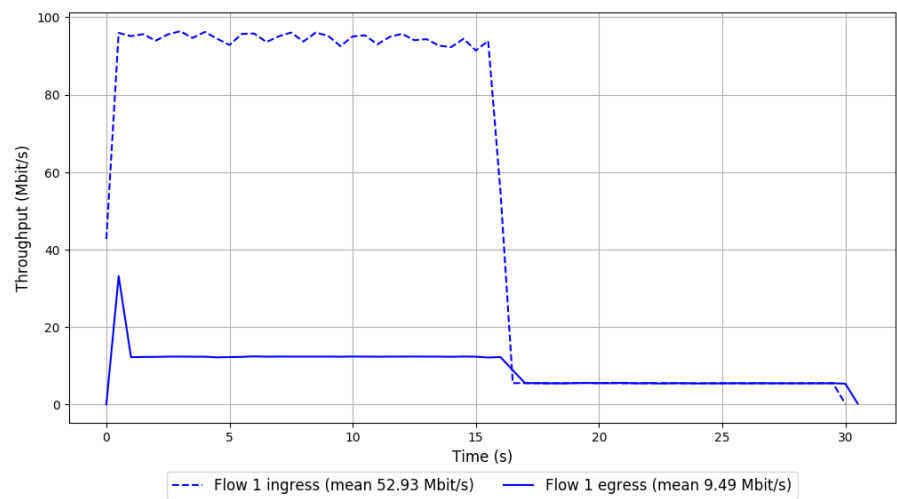
-- Flow 1:

Average throughput: 9.49 Mbit/s

95th percentile per-packet one-way delay: 7.784 ms

Loss rate: 82.06%

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



Run 2: Statistics of TaoVA-100x

Start at: 2019-01-02 20:08:16

End at: 2019-01-02 20:08:46

Local clock offset: -0.987 ms

Remote clock offset: -0.23 ms

Below is generated by plot.py at 2019-01-02 21:23:58

Datalink statistics

-- Total of 1 flow:

Average throughput: 9.31 Mbit/s

95th percentile per-packet one-way delay: 9.792 ms

Loss rate: 82.36%

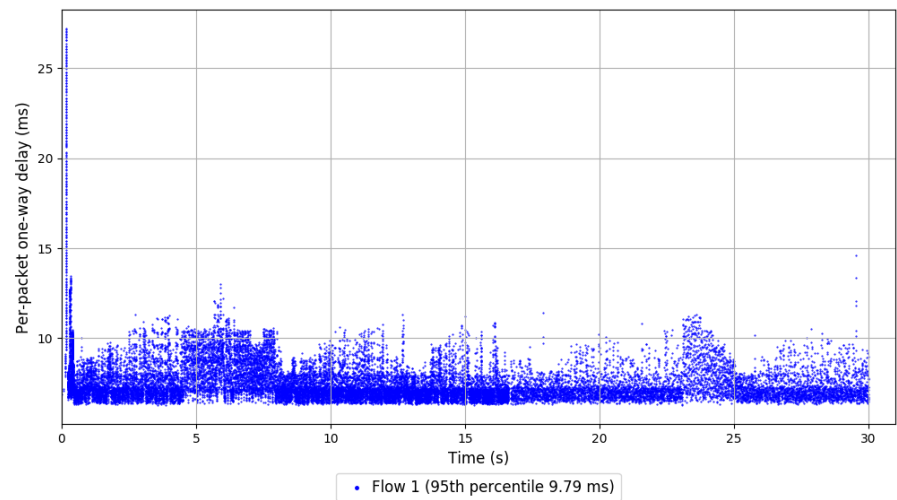
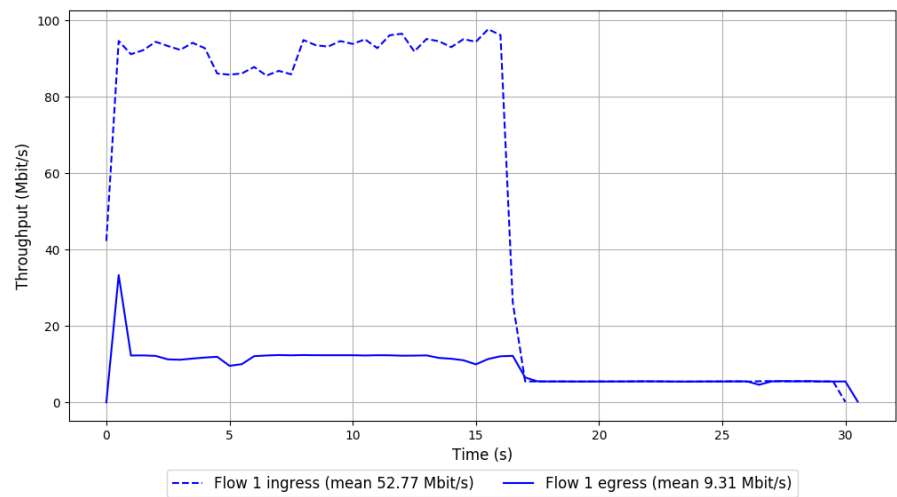
-- Flow 1:

Average throughput: 9.31 Mbit/s

95th percentile per-packet one-way delay: 9.792 ms

Loss rate: 82.36%

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



Run 3: Statistics of TaoVA-100x

Start at: 2019-01-02 20:31:35

End at: 2019-01-02 20:32:05

Local clock offset: -0.861 ms

Remote clock offset: 1.8 ms

Below is generated by plot.py at 2019-01-02 21:23:58

Datalink statistics

-- Total of 1 flow:

Average throughput: 11.50 Mbit/s

95th percentile per-packet one-way delay: 6.374 ms

Loss rate: 42.95%

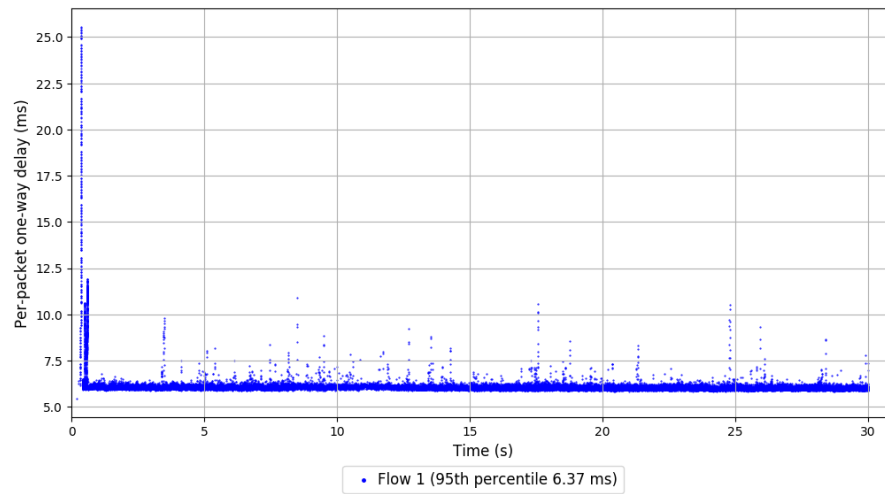
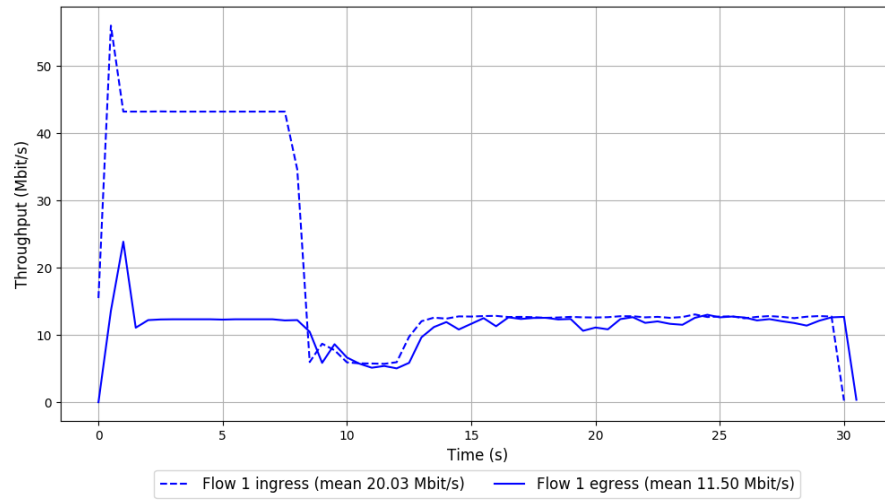
-- Flow 1:

Average throughput: 11.50 Mbit/s

95th percentile per-packet one-way delay: 6.374 ms

Loss rate: 42.95%

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



Run 4: Statistics of TaoVA-100x

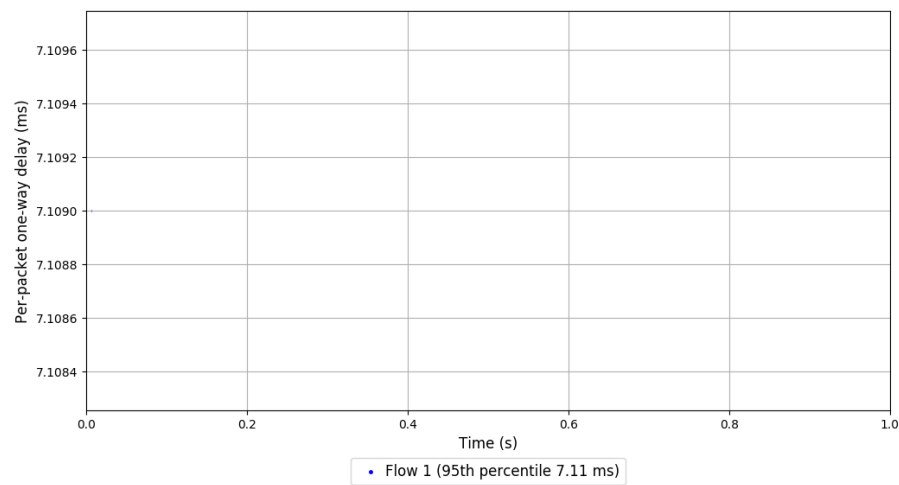
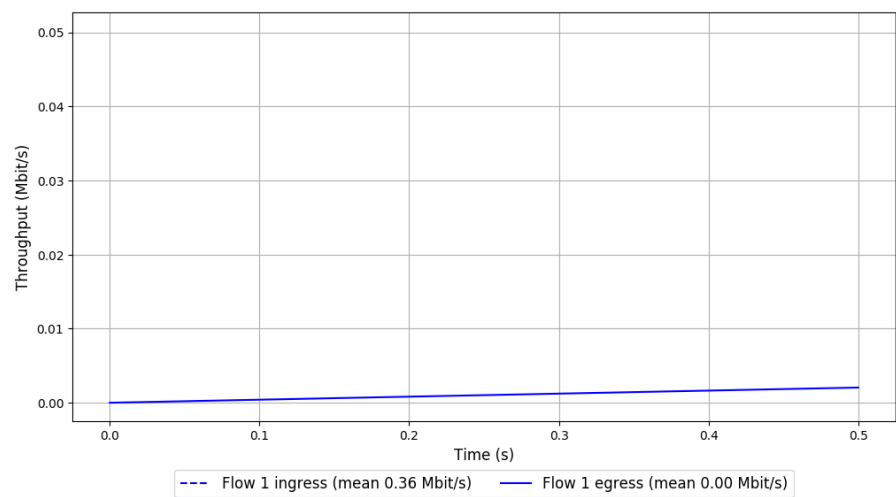
Start at: 2019-01-02 20:54:20

End at: 2019-01-02 20:54:50

Local clock offset: -2.654 ms

Remote clock offset: 2.451 ms

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



Run 5: Statistics of TaoVA-100x

Start at: 2019-01-02 21:16:54

End at: 2019-01-02 21:17:24

Local clock offset: -0.389 ms

Remote clock offset: 2.332 ms

Below is generated by plot.py at 2019-01-02 21:23:58

Datalink statistics

-- Total of 1 flow:

Average throughput: 12.51 Mbit/s

95th percentile per-packet one-way delay: 6.045 ms

Loss rate: 5.98%

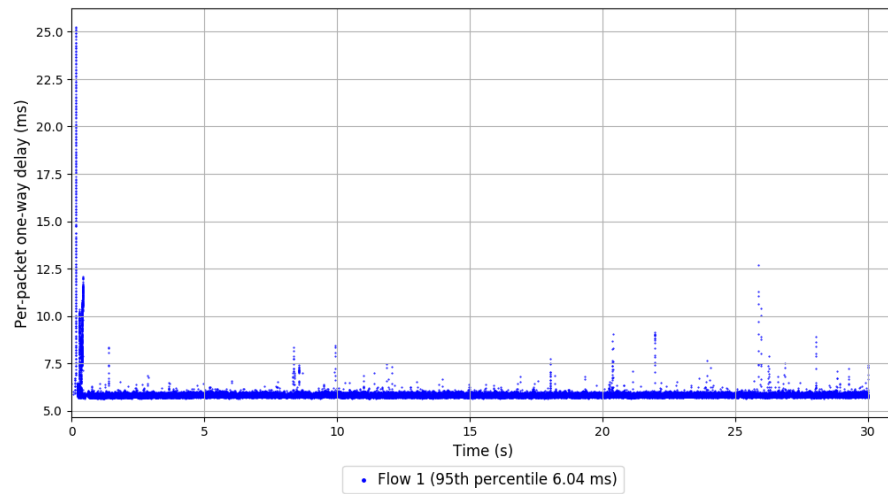
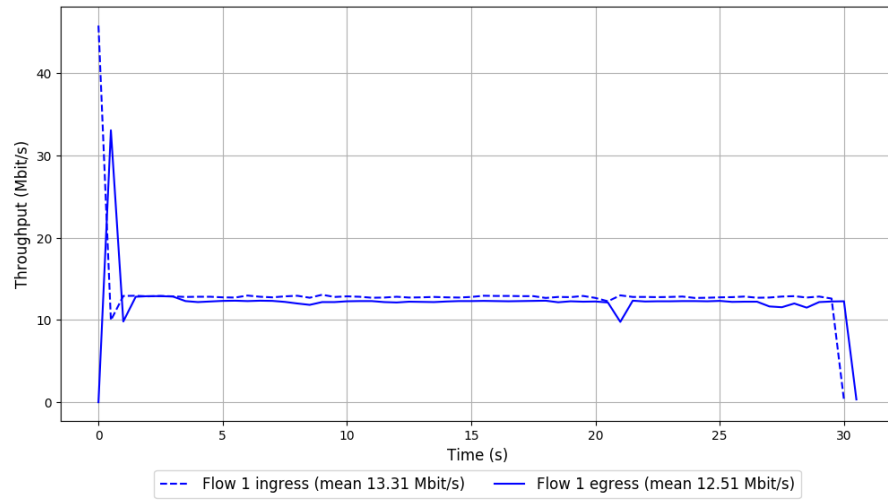
-- Flow 1:

Average throughput: 12.51 Mbit/s

95th percentile per-packet one-way delay: 6.045 ms

Loss rate: 5.98%

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



Run 1: Statistics of TCP Vegas

Start at: 2019-01-02 19:26:17

End at: 2019-01-02 19:26:47

Local clock offset: 3.919 ms

Remote clock offset: 1.211 ms

Below is generated by plot.py at 2019-01-02 21:23:58

Datalink statistics

-- Total of 1 flow:

Average throughput: 2.87 Mbit/s

95th percentile per-packet one-way delay: 7.282 ms

Loss rate: 1.67%

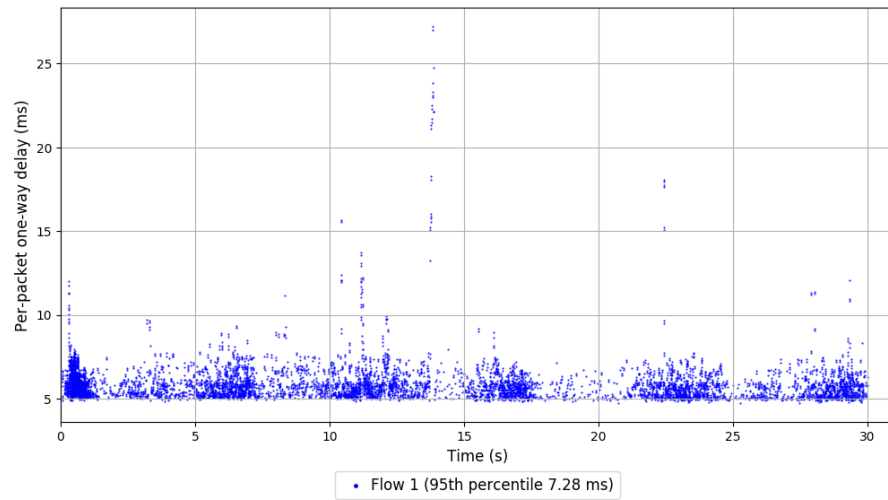
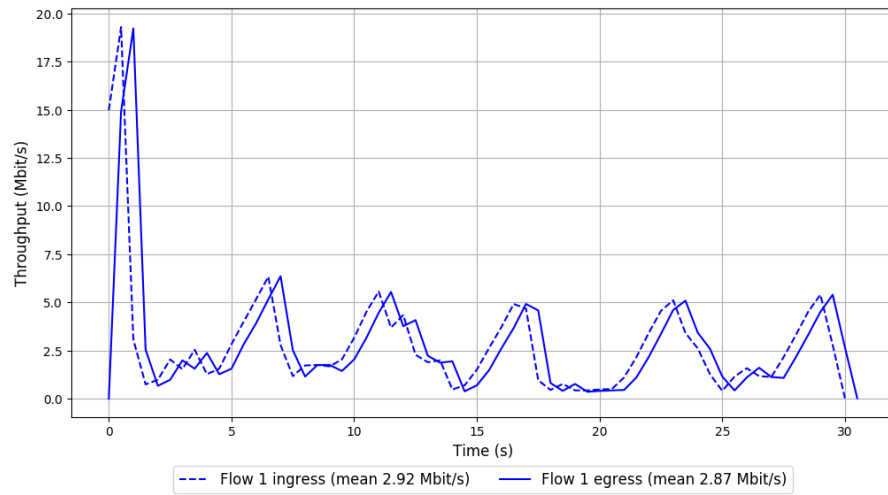
-- Flow 1:

Average throughput: 2.87 Mbit/s

95th percentile per-packet one-way delay: 7.282 ms

Loss rate: 1.67%

Run 1: Report of TCP Vegas — Data Link

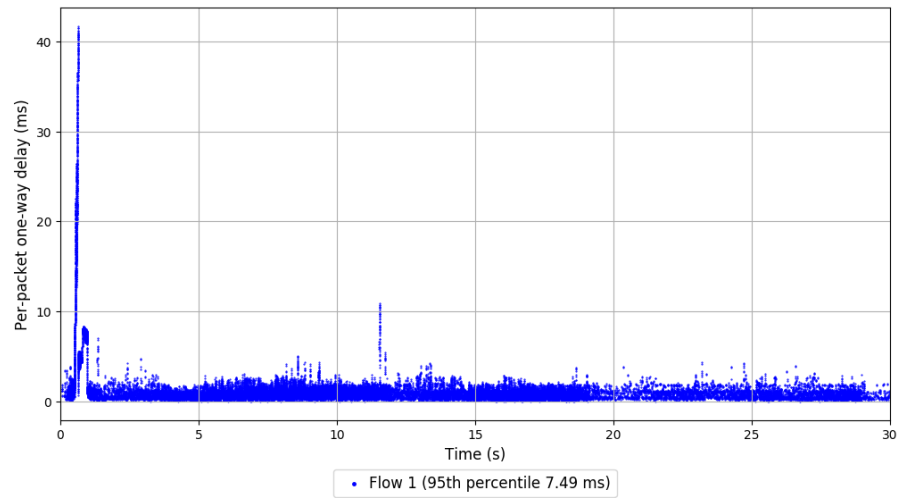
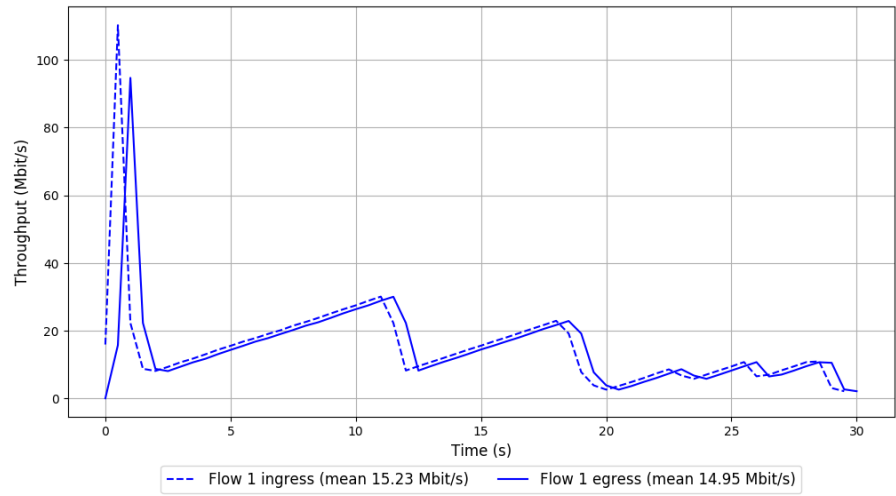


Run 2: Statistics of TCP Vegas

Start at: 2019-01-02 19:49:42
End at: 2019-01-02 19:50:12
Local clock offset: 1.48 ms
Remote clock offset: -4.519 ms

Below is generated by plot.py at 2019-01-02 21:23:58
Datalink statistics
-- Total of 1 flow:
Average throughput: 14.95 Mbit/s
95th percentile per-packet one-way delay: 7.488 ms
Loss rate: 1.84%
-- Flow 1:
Average throughput: 14.95 Mbit/s
95th percentile per-packet one-way delay: 7.488 ms
Loss rate: 1.84%

Run 2: Report of TCP Vegas — Data Link



Run 3: Statistics of TCP Vegas

Start at: 2019-01-02 20:13:25

End at: 2019-01-02 20:13:55

Local clock offset: -0.41 ms

Remote clock offset: 0.953 ms

Below is generated by plot.py at 2019-01-02 21:23:58

Datalink statistics

-- Total of 1 flow:

Average throughput: 3.83 Mbit/s

95th percentile per-packet one-way delay: 9.096 ms

Loss rate: 0.84%

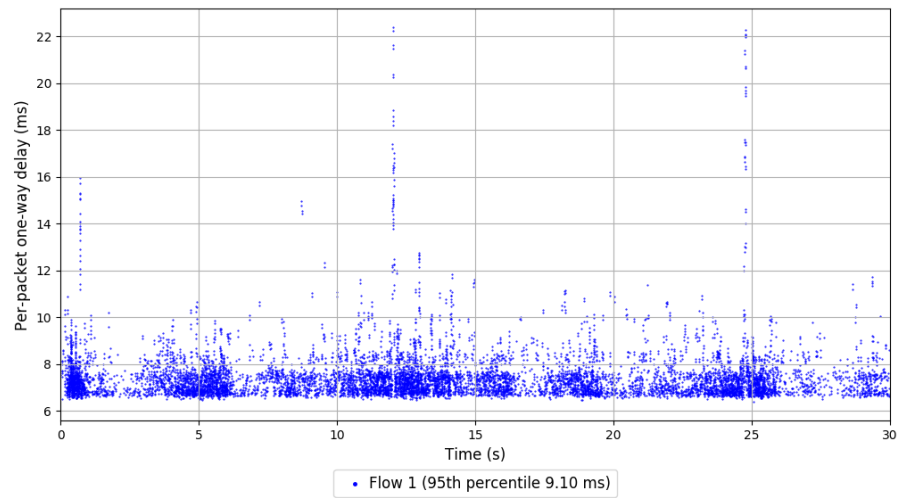
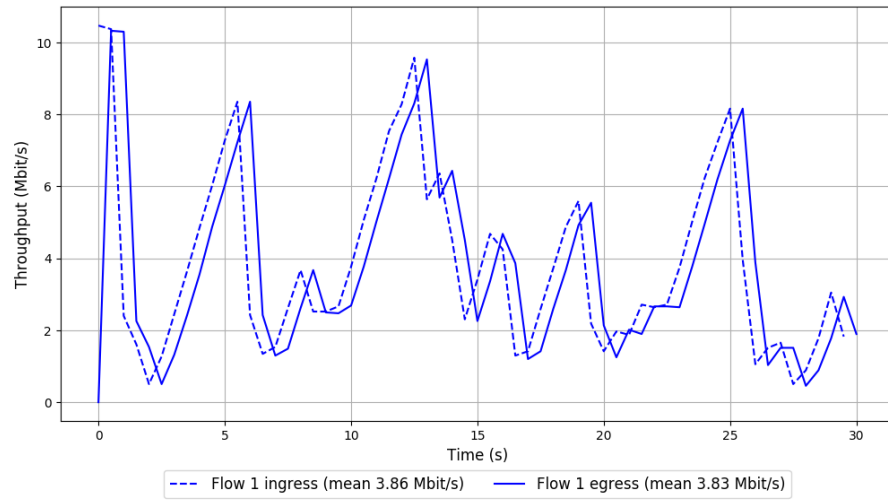
-- Flow 1:

Average throughput: 3.83 Mbit/s

95th percentile per-packet one-way delay: 9.096 ms

Loss rate: 0.84%

Run 3: Report of TCP Vegas — Data Link



Run 4: Statistics of TCP Vegas

Start at: 2019-01-02 20:36:28

End at: 2019-01-02 20:36:58

Local clock offset: -1.316 ms

Remote clock offset: 1.669 ms

Below is generated by plot.py at 2019-01-02 21:23:58

Datalink statistics

-- Total of 1 flow:

Average throughput: 3.15 Mbit/s

95th percentile per-packet one-way delay: 5.720 ms

Loss rate: 1.37%

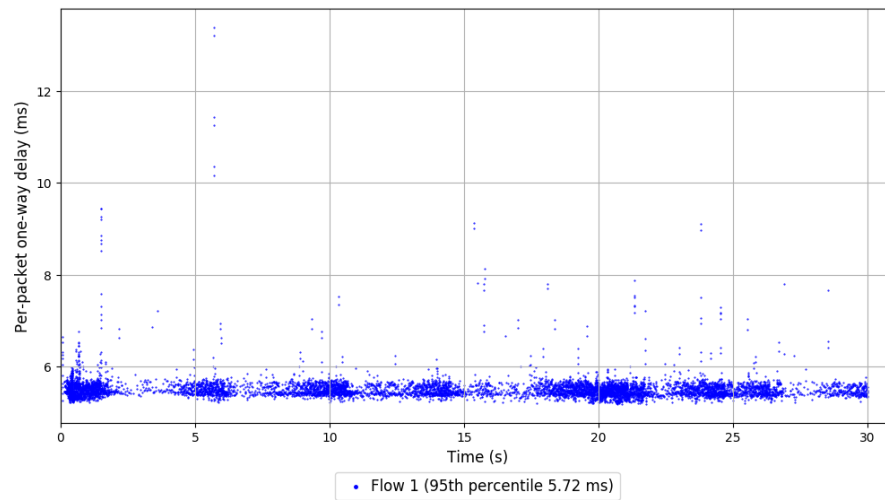
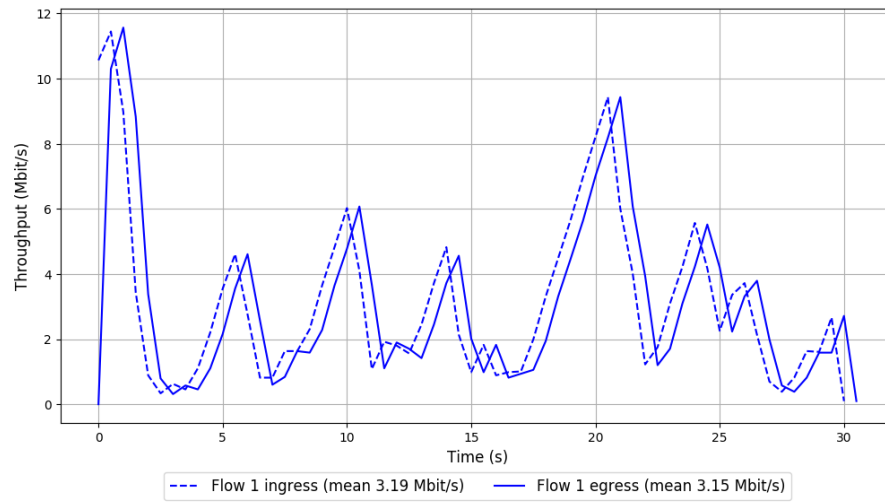
-- Flow 1:

Average throughput: 3.15 Mbit/s

95th percentile per-packet one-way delay: 5.720 ms

Loss rate: 1.37%

Run 4: Report of TCP Vegas — Data Link



Run 5: Statistics of TCP Vegas

Start at: 2019-01-02 20:59:08

End at: 2019-01-02 20:59:38

Local clock offset: 0.638 ms

Remote clock offset: 1.798 ms

Below is generated by plot.py at 2019-01-02 21:23:58

Datalink statistics

-- Total of 1 flow:

Average throughput: 1.56 Mbit/s

95th percentile per-packet one-way delay: 3.920 ms

Loss rate: 3.61%

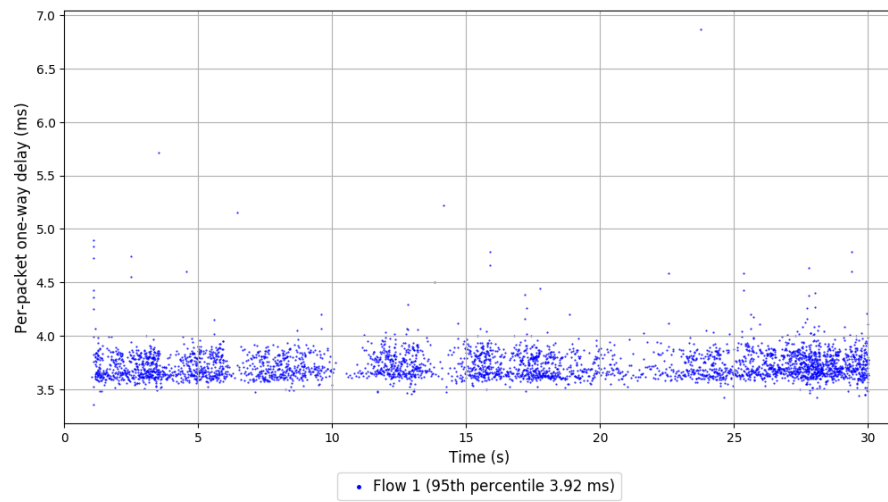
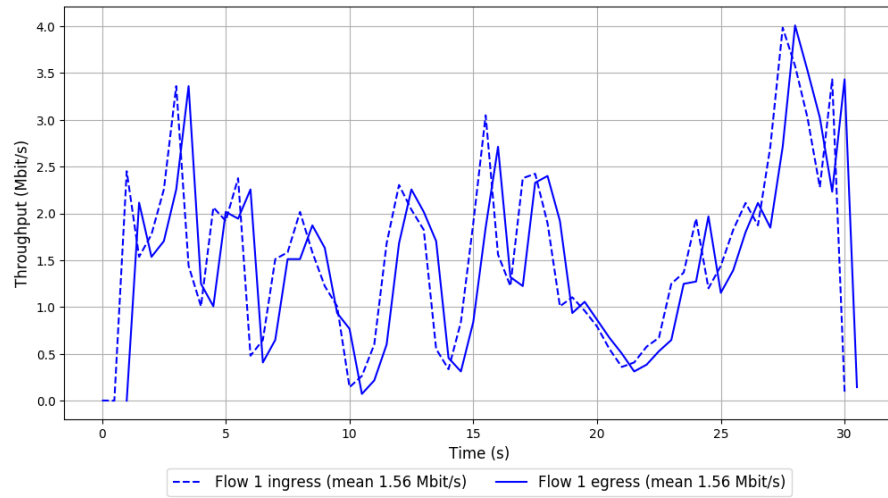
-- Flow 1:

Average throughput: 1.56 Mbit/s

95th percentile per-packet one-way delay: 3.920 ms

Loss rate: 3.61%

Run 5: Report of TCP Vegas — Data Link



Run 1: Statistics of Verus

Start at: 2019-01-02 19:27:25

End at: 2019-01-02 19:27:55

Local clock offset: 5.044 ms

Remote clock offset: 0.208 ms

Below is generated by plot.py at 2019-01-02 21:24:18

Datalink statistics

-- Total of 1 flow:

Average throughput: 37.45 Mbit/s

95th percentile per-packet one-way delay: 39.557 ms

Loss rate: 49.45%

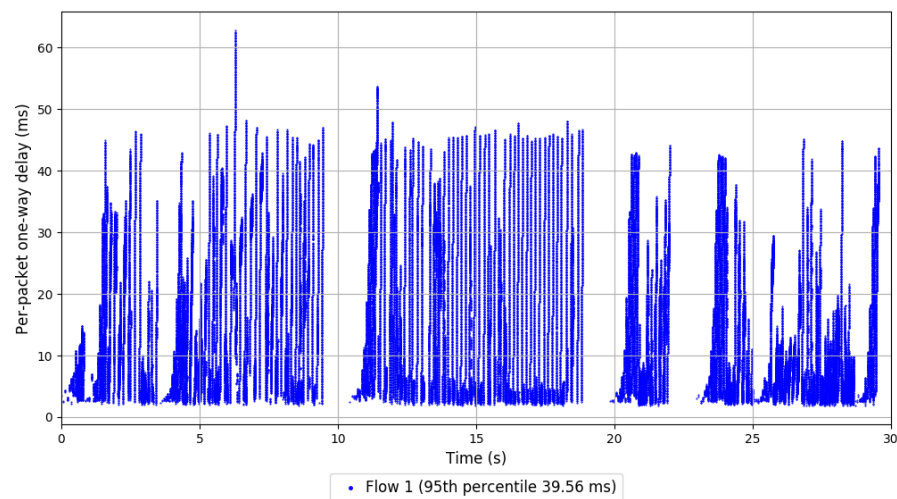
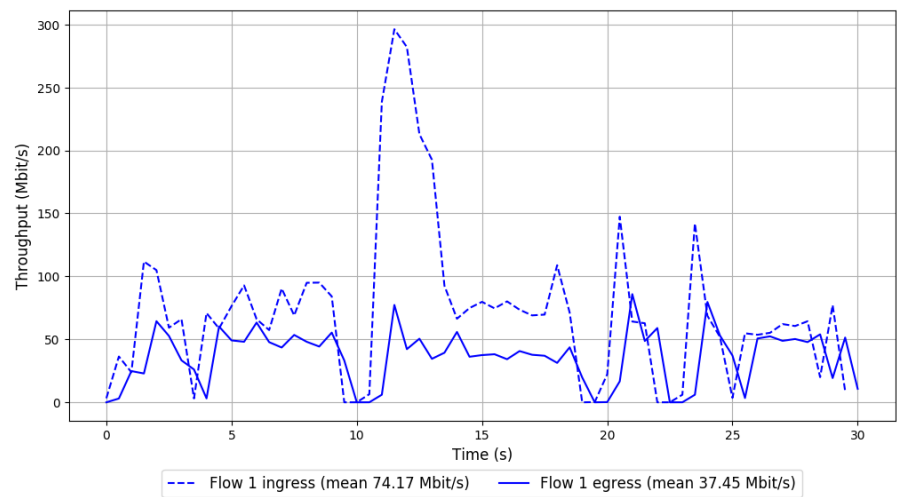
-- Flow 1:

Average throughput: 37.45 Mbit/s

95th percentile per-packet one-way delay: 39.557 ms

Loss rate: 49.45%

Run 1: Report of Verus — Data Link

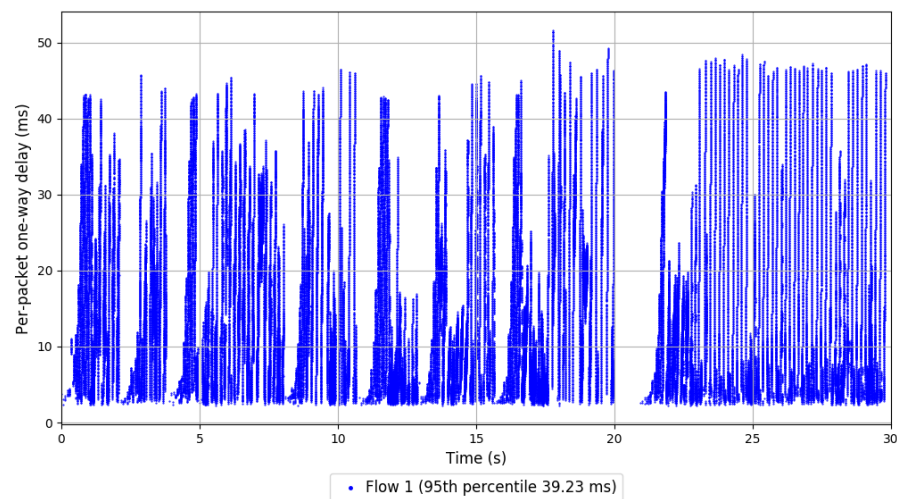
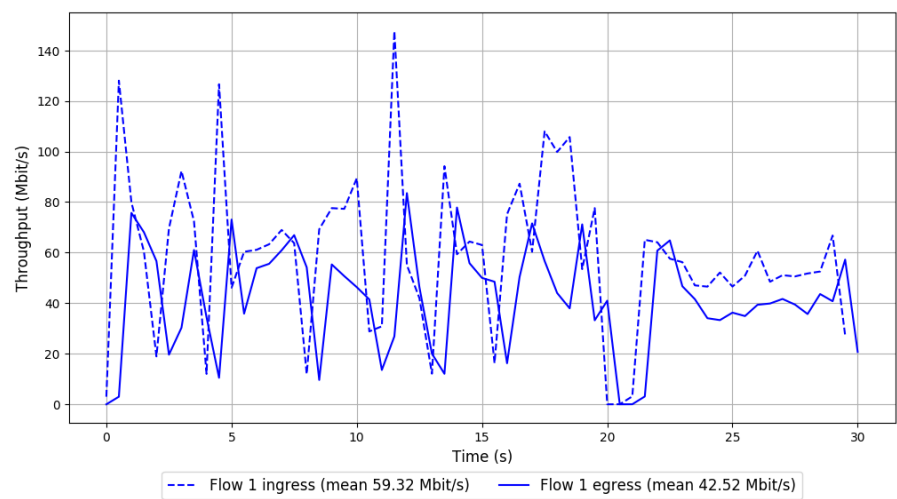


Run 2: Statistics of Verus

Start at: 2019-01-02 19:50:52
End at: 2019-01-02 19:51:22
Local clock offset: 3.249 ms
Remote clock offset: -0.414 ms

Below is generated by plot.py at 2019-01-02 21:24:21
Datalink statistics
-- Total of 1 flow:
Average throughput: 42.52 Mbit/s
95th percentile per-packet one-way delay: 39.227 ms
Loss rate: 28.25%
-- Flow 1:
Average throughput: 42.52 Mbit/s
95th percentile per-packet one-way delay: 39.227 ms
Loss rate: 28.25%

Run 2: Report of Verus — Data Link



Run 3: Statistics of Verus

Start at: 2019-01-02 20:14:31

End at: 2019-01-02 20:15:01

Local clock offset: 1.665 ms

Remote clock offset: 0.965 ms

Below is generated by plot.py at 2019-01-02 21:24:21

Datalink statistics

-- Total of 1 flow:

Average throughput: 36.79 Mbit/s

95th percentile per-packet one-way delay: 42.399 ms

Loss rate: 46.80%

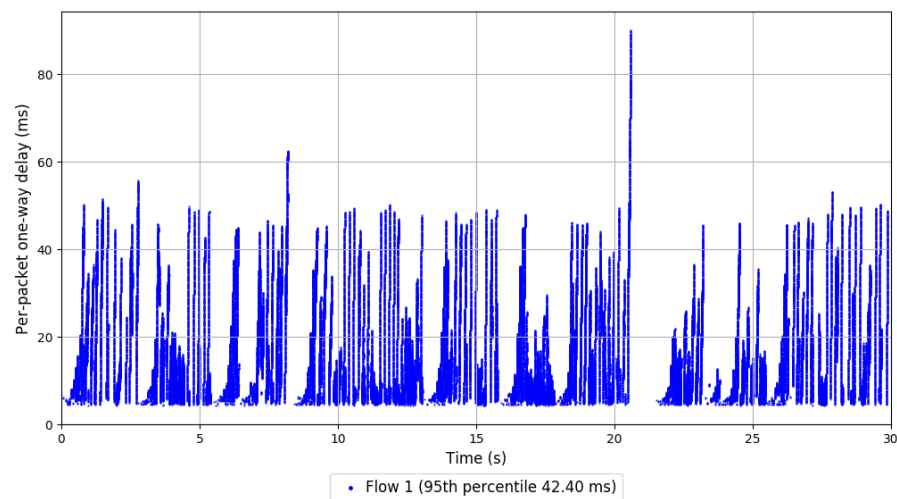
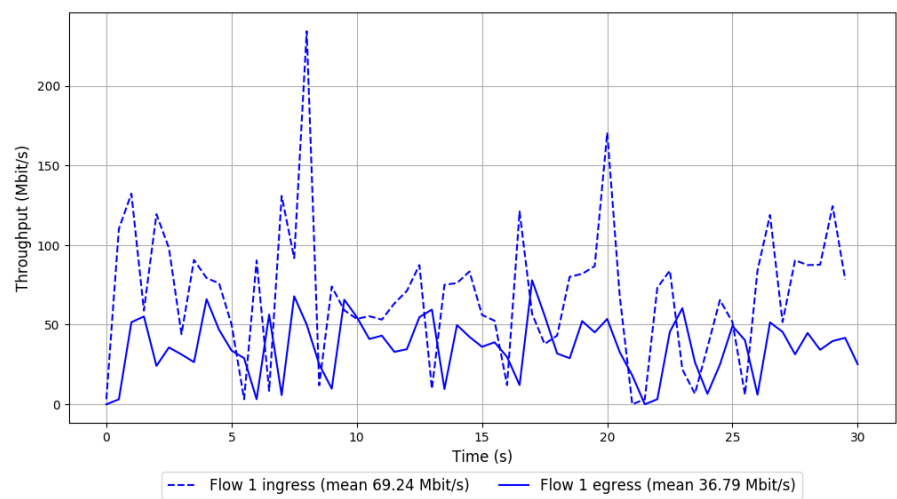
-- Flow 1:

Average throughput: 36.79 Mbit/s

95th percentile per-packet one-way delay: 42.399 ms

Loss rate: 46.80%

Run 3: Report of Verus — Data Link



Run 4: Statistics of Verus

Start at: 2019-01-02 20:37:34

End at: 2019-01-02 20:38:04

Local clock offset: 1.404 ms

Remote clock offset: 1.577 ms

Below is generated by plot.py at 2019-01-02 21:24:33

Datalink statistics

-- Total of 1 flow:

Average throughput: 34.79 Mbit/s

95th percentile per-packet one-way delay: 38.253 ms

Loss rate: 81.64%

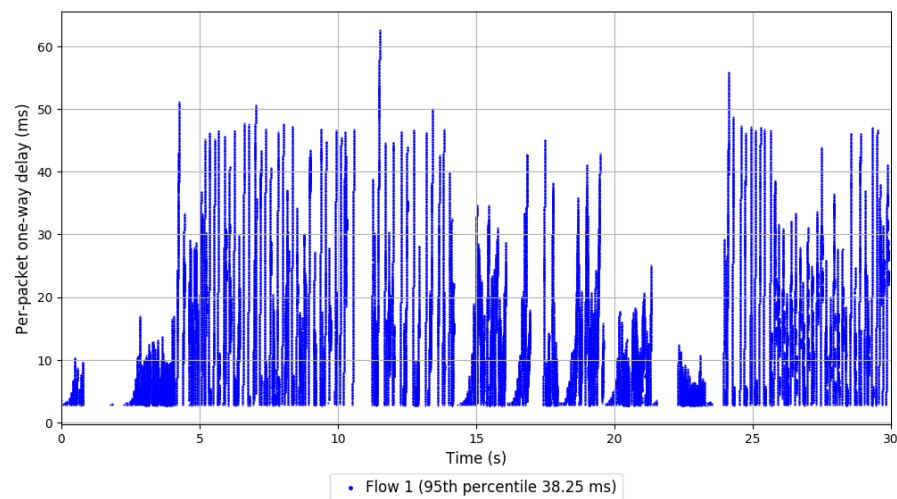
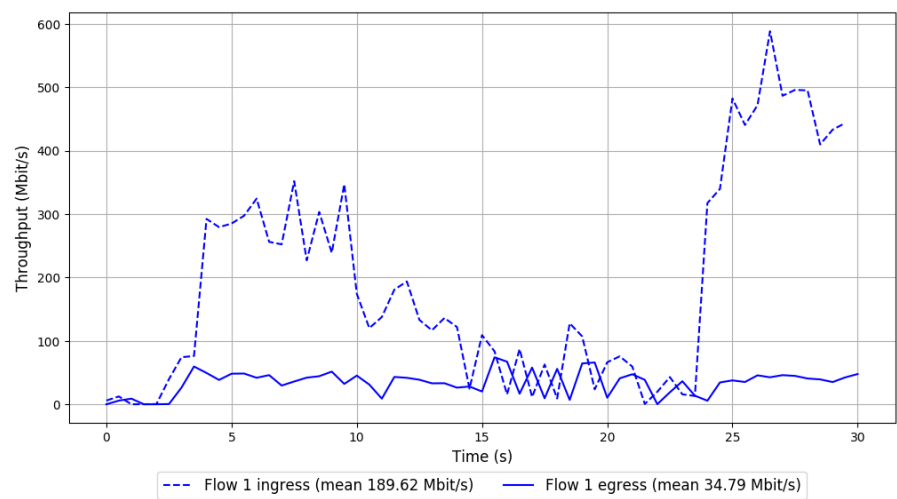
-- Flow 1:

Average throughput: 34.79 Mbit/s

95th percentile per-packet one-way delay: 38.253 ms

Loss rate: 81.64%

Run 4: Report of Verus — Data Link



Run 5: Statistics of Verus

Start at: 2019-01-02 21:00:14

End at: 2019-01-02 21:00:45

Local clock offset: 1.431 ms

Remote clock offset: 2.139 ms

Below is generated by plot.py at 2019-01-02 21:24:33

Datalink statistics

-- Total of 1 flow:

Average throughput: 33.11 Mbit/s

95th percentile per-packet one-way delay: 35.601 ms

Loss rate: 45.38%

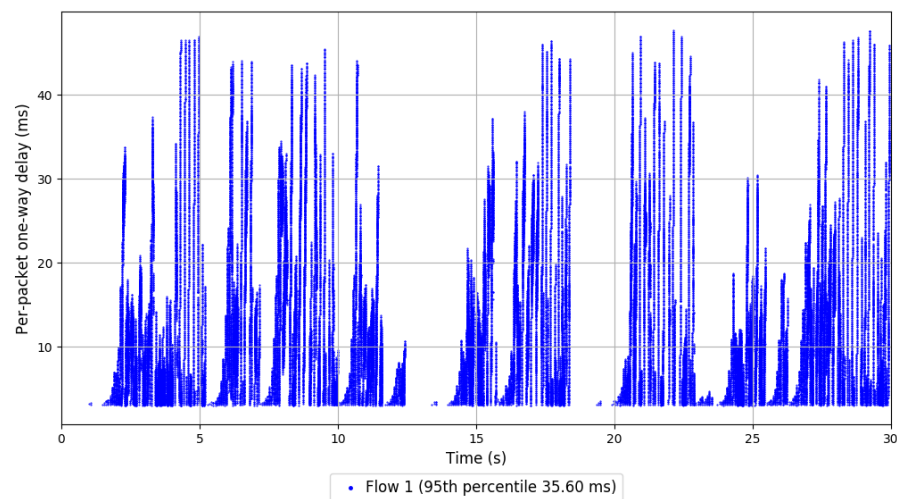
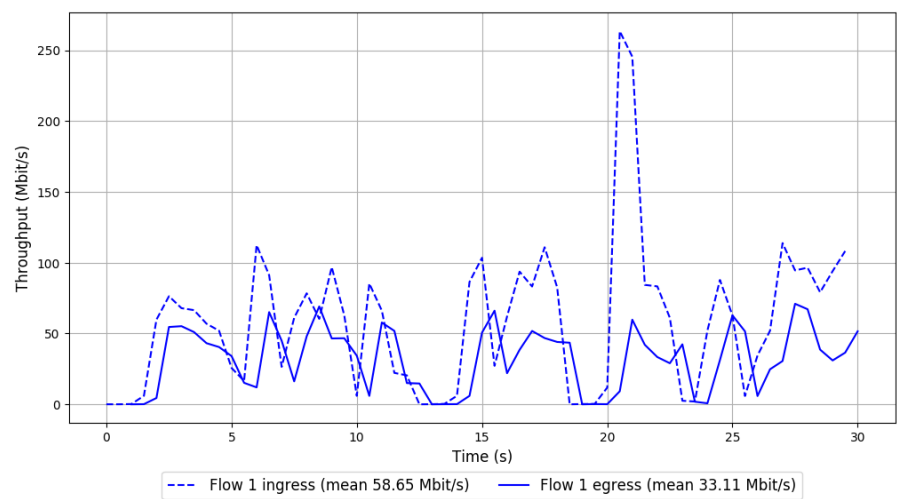
-- Flow 1:

Average throughput: 33.11 Mbit/s

95th percentile per-packet one-way delay: 35.601 ms

Loss rate: 45.38%

Run 5: Report of Verus — Data Link



Run 1: Statistics of PCC-Vivace

Start at: 2019-01-02 19:32:38

End at: 2019-01-02 19:33:08

Local clock offset: 1.85 ms

Remote clock offset: -0.404 ms

Below is generated by plot.py at 2019-01-02 21:24:33

Datalink statistics

-- Total of 1 flow:

Average throughput: 44.41 Mbit/s

95th percentile per-packet one-way delay: 5.774 ms

Loss rate: 6.63%

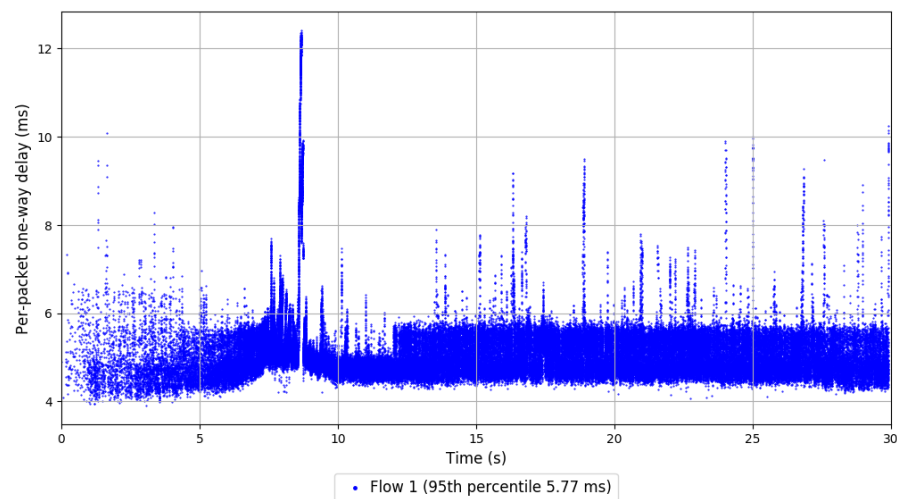
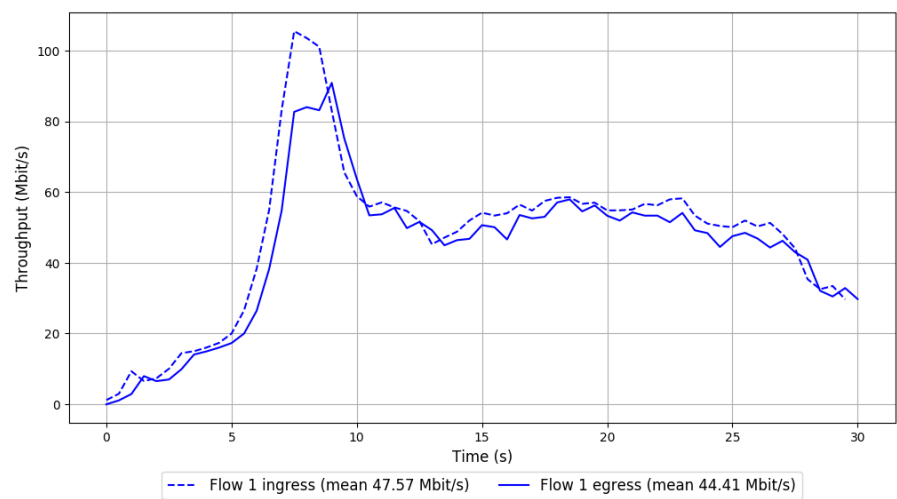
-- Flow 1:

Average throughput: 44.41 Mbit/s

95th percentile per-packet one-way delay: 5.774 ms

Loss rate: 6.63%

Run 1: Report of PCC-Vivace — Data Link



Run 2: Statistics of PCC-Vivace

Start at: 2019-01-02 19:55:48

End at: 2019-01-02 19:56:18

Local clock offset: 0.766 ms

Remote clock offset: 0.303 ms

Below is generated by plot.py at 2019-01-02 21:24:33

Datalink statistics

-- Total of 1 flow:

Average throughput: 54.56 Mbit/s

95th percentile per-packet one-way delay: 7.348 ms

Loss rate: 8.53%

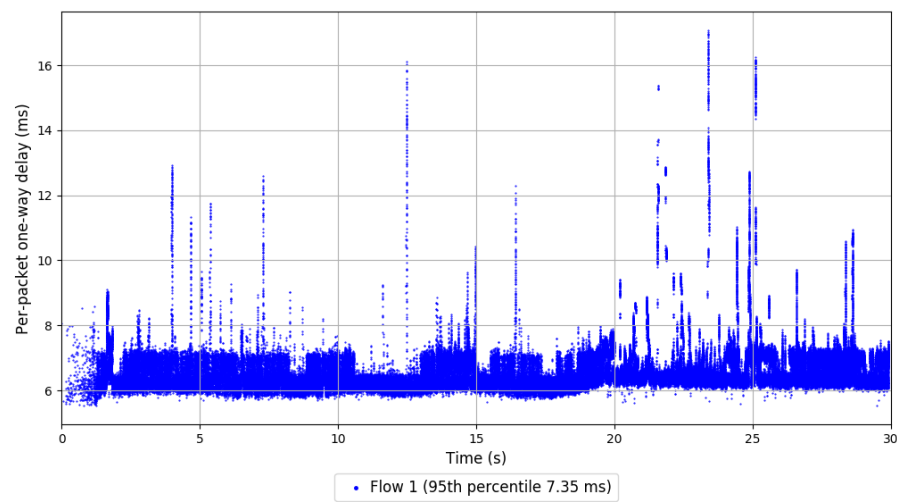
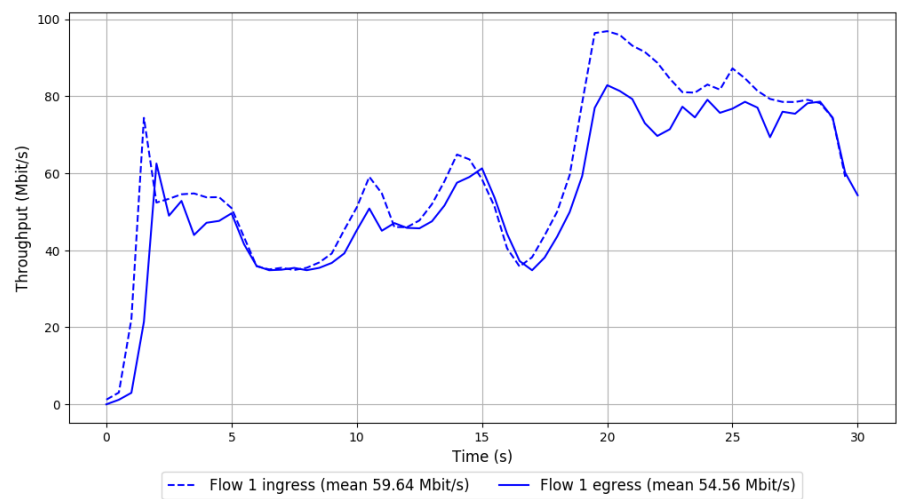
-- Flow 1:

Average throughput: 54.56 Mbit/s

95th percentile per-packet one-way delay: 7.348 ms

Loss rate: 8.53%

Run 2: Report of PCC-Vivace — Data Link



Run 3: Statistics of PCC-Vivace

Start at: 2019-01-02 20:19:39

End at: 2019-01-02 20:20:10

Local clock offset: 3.217 ms

Remote clock offset: 0.51 ms

Below is generated by plot.py at 2019-01-02 21:24:33

Datalink statistics

-- Total of 1 flow:

Average throughput: 17.31 Mbit/s

95th percentile per-packet one-way delay: 4.870 ms

Loss rate: 6.73%

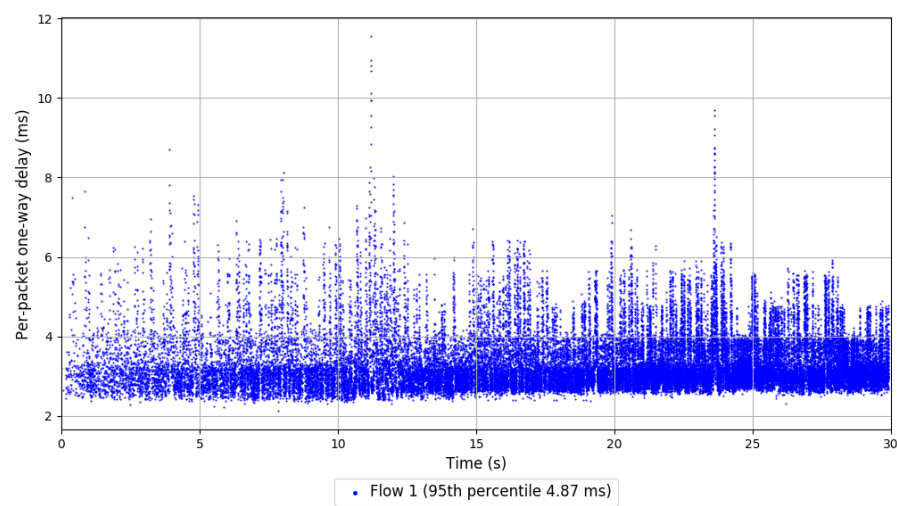
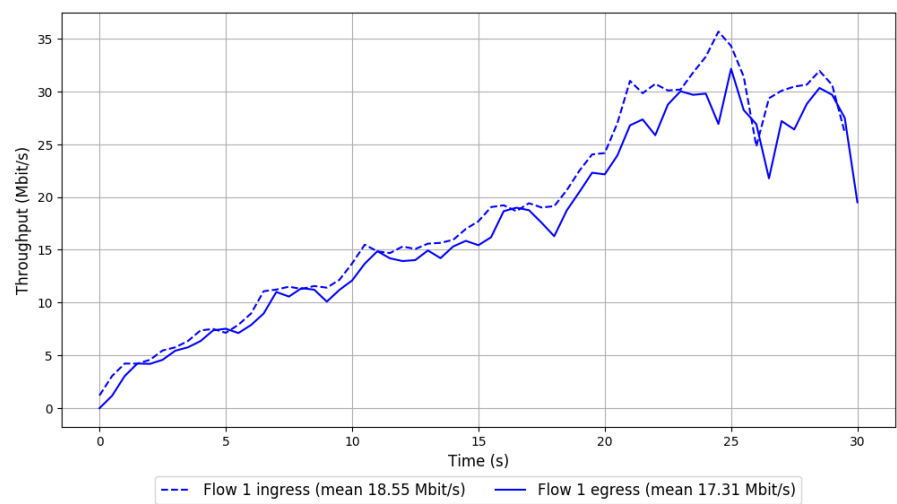
-- Flow 1:

Average throughput: 17.31 Mbit/s

95th percentile per-packet one-way delay: 4.870 ms

Loss rate: 6.73%

Run 3: Report of PCC-Vivace — Data Link



Run 4: Statistics of PCC-Vivace

Start at: 2019-01-02 20:42:28

End at: 2019-01-02 20:42:58

Local clock offset: 0.846 ms

Remote clock offset: 1.529 ms

Below is generated by plot.py at 2019-01-02 21:24:33

Datalink statistics

-- Total of 1 flow:

Average throughput: 52.81 Mbit/s

95th percentile per-packet one-way delay: 3.570 ms

Loss rate: 5.80%

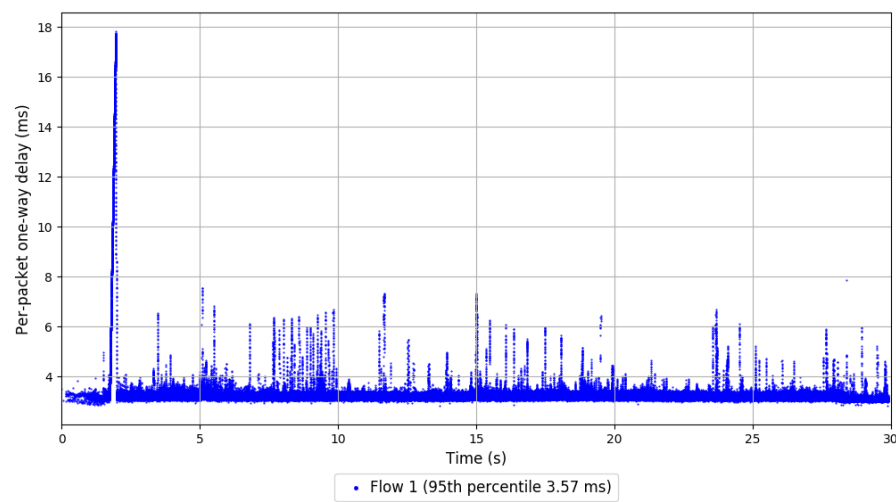
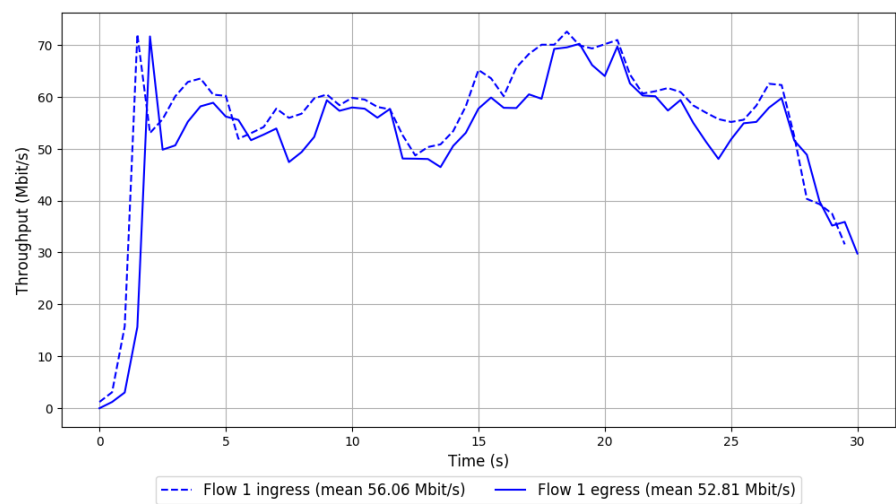
-- Flow 1:

Average throughput: 52.81 Mbit/s

95th percentile per-packet one-way delay: 3.570 ms

Loss rate: 5.80%

Run 4: Report of PCC-Vivace — Data Link



Run 5: Statistics of PCC-Vivace

Start at: 2019-01-02 21:04:56

End at: 2019-01-02 21:05:26

Local clock offset: 0.351 ms

Remote clock offset: 2.871 ms

Below is generated by plot.py at 2019-01-02 21:24:33

Datalink statistics

-- Total of 1 flow:

Average throughput: 29.87 Mbit/s

95th percentile per-packet one-way delay: 4.964 ms

Loss rate: 7.74%

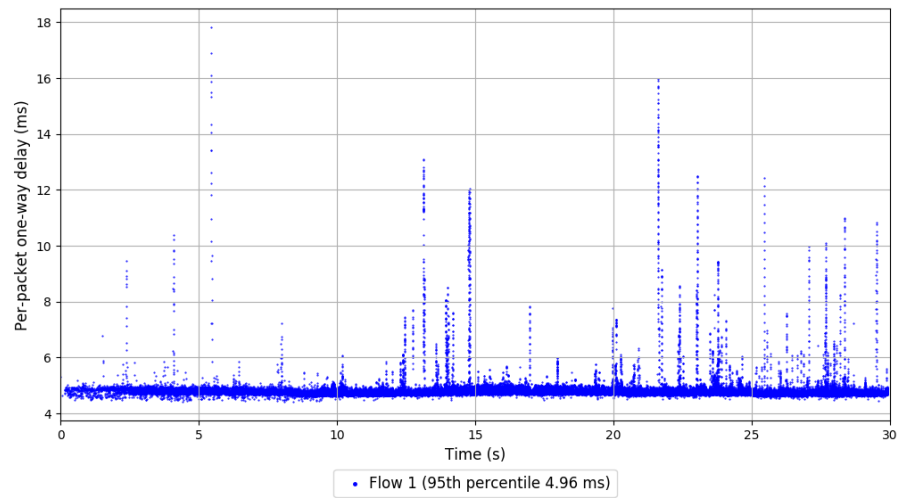
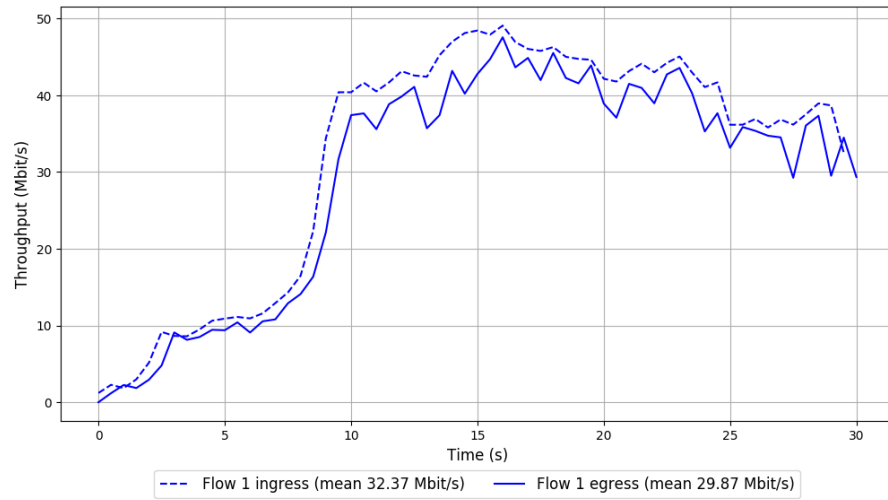
-- Flow 1:

Average throughput: 29.87 Mbit/s

95th percentile per-packet one-way delay: 4.964 ms

Loss rate: 7.74%

Run 5: Report of PCC-Vivace — Data Link



Run 1: Statistics of WebRTC media

Start at: 2019-01-02 19:36:26

End at: 2019-01-02 19:36:56

Local clock offset: 3.245 ms

Remote clock offset: -0.04 ms

Below is generated by plot.py at 2019-01-02 21:24:33

Datalink statistics

-- Total of 1 flow:

Average throughput: 0.05 Mbit/s

95th percentile per-packet one-way delay: 5.873 ms

Loss rate: 0.00%

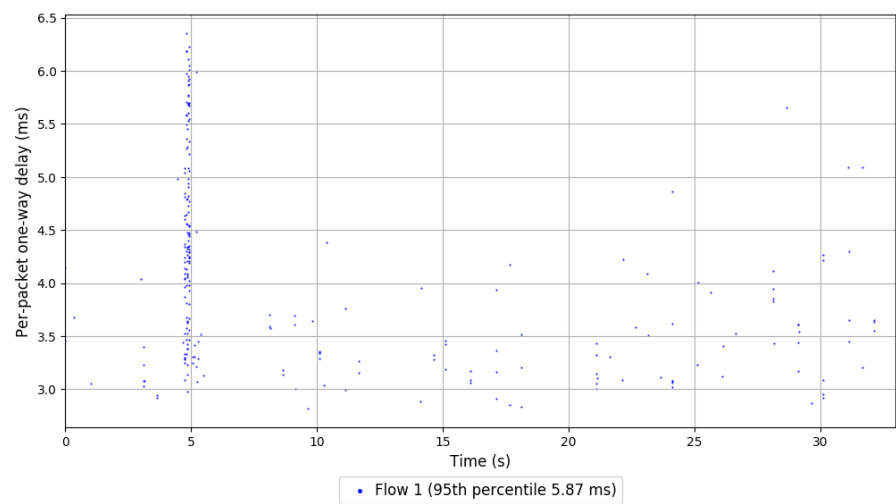
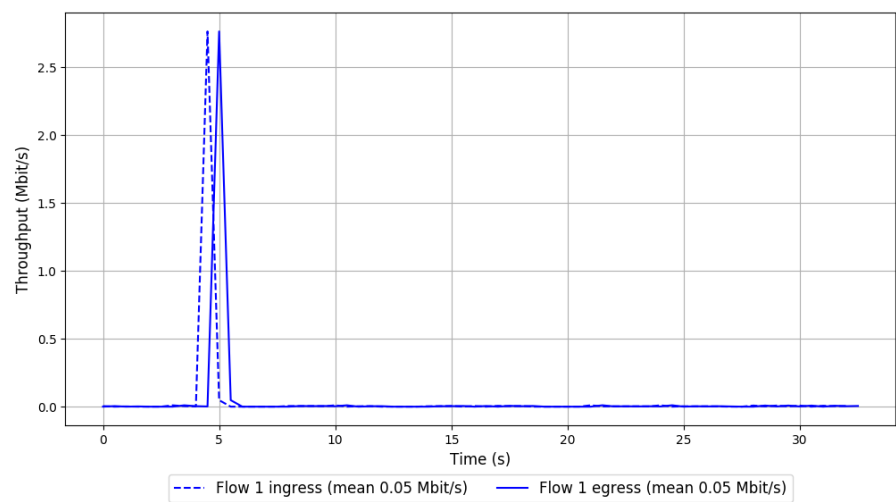
-- Flow 1:

Average throughput: 0.05 Mbit/s

95th percentile per-packet one-way delay: 5.873 ms

Loss rate: 0.00%

Run 1: Report of WebRTC media — Data Link

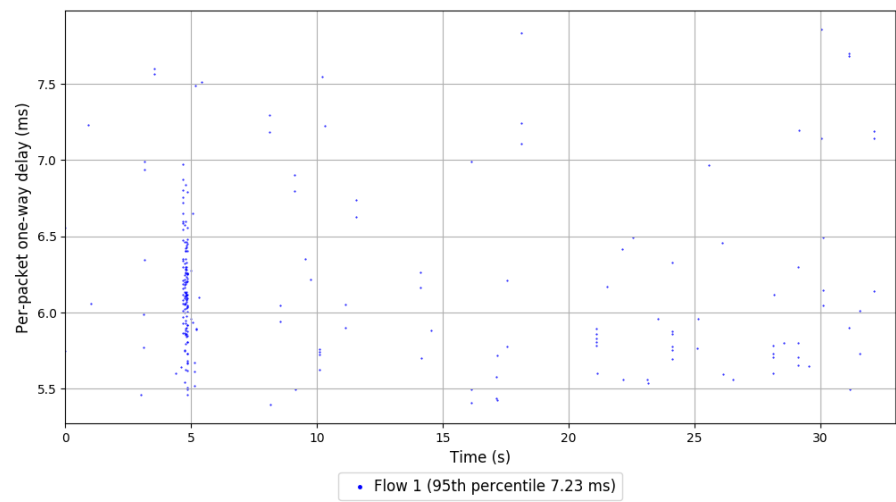
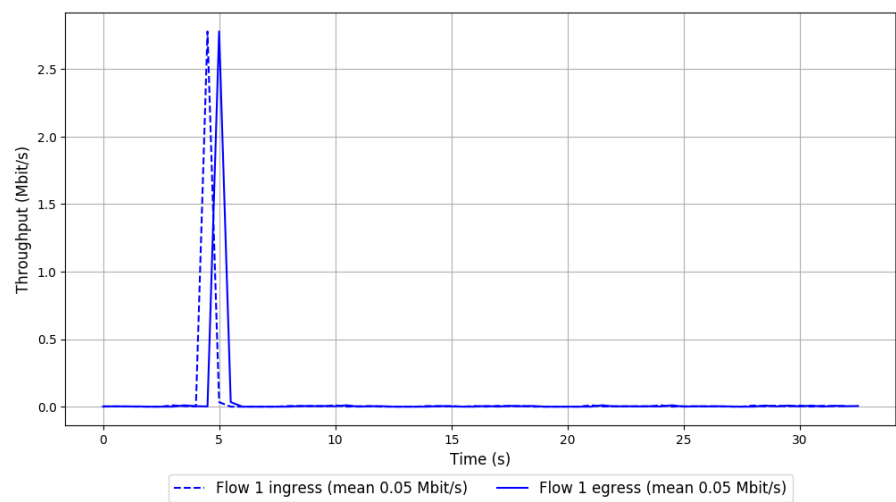


Run 2: Statistics of WebRTC media

Start at: 2019-01-02 19:59:44
End at: 2019-01-02 20:00:14
Local clock offset: -0.023 ms
Remote clock offset: -0.472 ms

Below is generated by plot.py at 2019-01-02 21:24:33
Datalink statistics
-- Total of 1 flow:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 7.226 ms
Loss rate: 0.17%
-- Flow 1:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 7.226 ms
Loss rate: 0.17%

Run 2: Report of WebRTC media — Data Link



Run 3: Statistics of WebRTC media

Start at: 2019-01-02 20:23:20

End at: 2019-01-02 20:23:50

Local clock offset: 3.04 ms

Remote clock offset: 1.108 ms

Below is generated by plot.py at 2019-01-02 21:24:33

Datalink statistics

-- Total of 1 flow:

Average throughput: 0.05 Mbit/s

95th percentile per-packet one-way delay: 5.392 ms

Loss rate: 0.80%

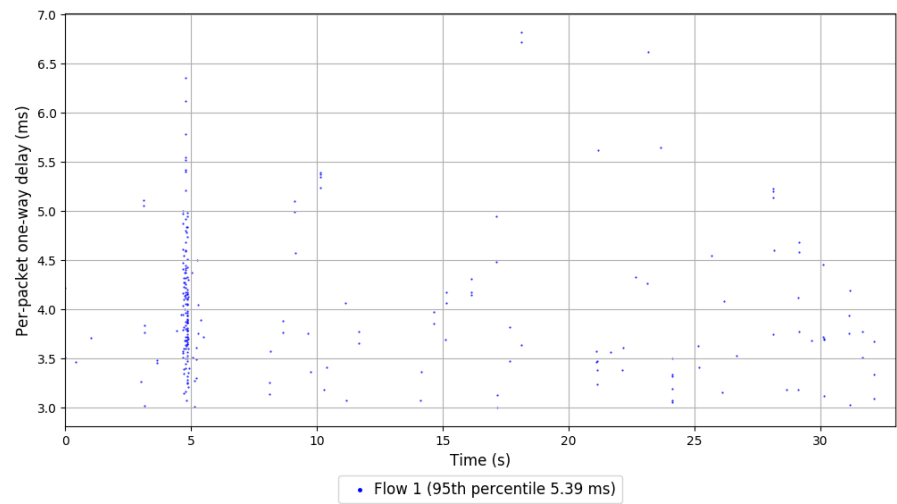
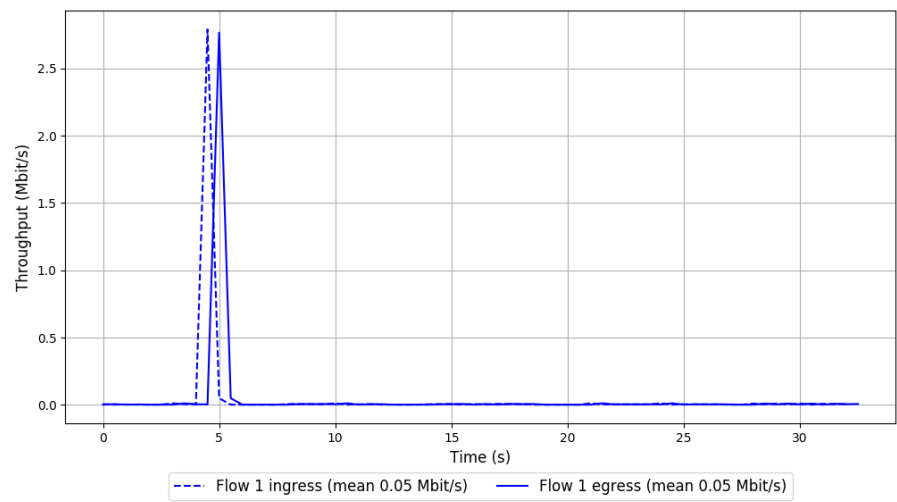
-- Flow 1:

Average throughput: 0.05 Mbit/s

95th percentile per-packet one-way delay: 5.392 ms

Loss rate: 0.80%

Run 3: Report of WebRTC media — Data Link



Run 4: Statistics of WebRTC media

Start at: 2019-01-02 20:46:14

End at: 2019-01-02 20:46:44

Local clock offset: -0.577 ms

Remote clock offset: 2.21 ms

Below is generated by plot.py at 2019-01-02 21:24:33

Datalink statistics

-- Total of 1 flow:

Average throughput: 0.05 Mbit/s

95th percentile per-packet one-way delay: 5.628 ms

Loss rate: 0.40%

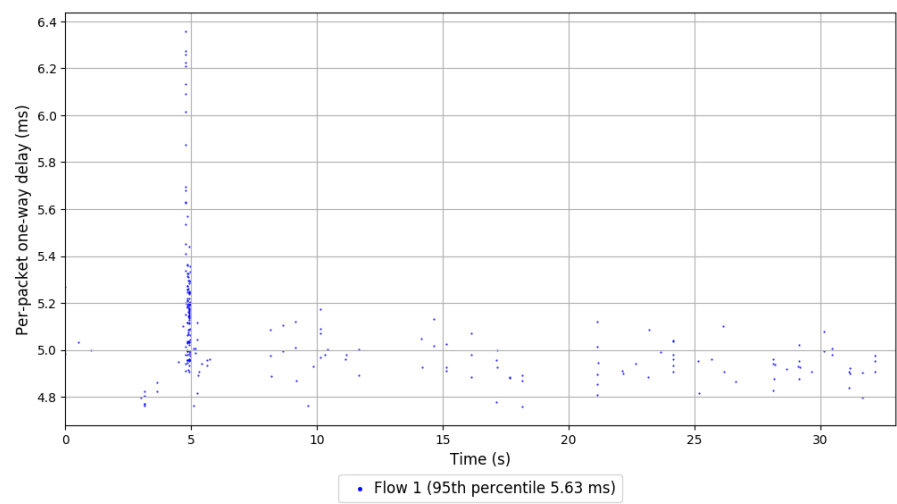
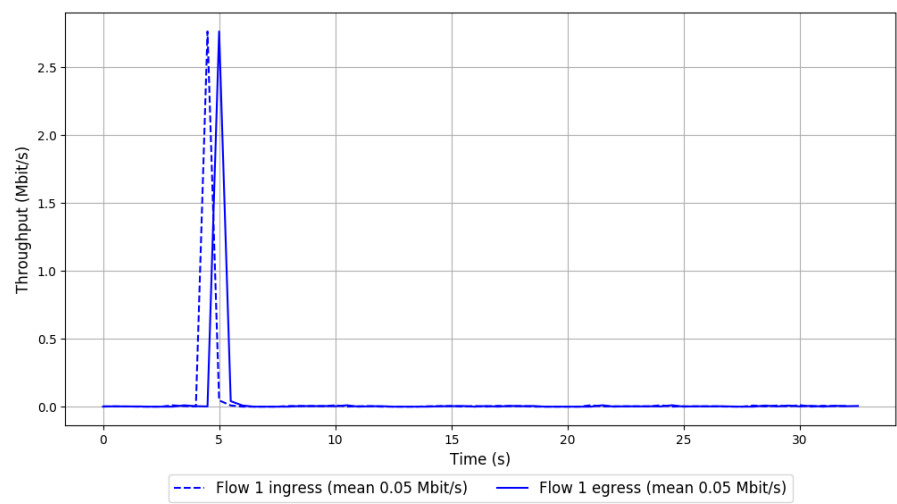
-- Flow 1:

Average throughput: 0.05 Mbit/s

95th percentile per-packet one-way delay: 5.628 ms

Loss rate: 0.40%

Run 4: Report of WebRTC media — Data Link



Run 5: Statistics of WebRTC media

Start at: 2019-01-02 21:08:38

End at: 2019-01-02 21:09:08

Local clock offset: 1.498 ms

Remote clock offset: 2.054 ms

Below is generated by plot.py at 2019-01-02 21:24:33

Datalink statistics

-- Total of 1 flow:

Average throughput: 0.05 Mbit/s

95th percentile per-packet one-way delay: 4.327 ms

Loss rate: 0.80%

-- Flow 1:

Average throughput: 0.05 Mbit/s

95th percentile per-packet one-way delay: 4.327 ms

Loss rate: 0.80%

Run 5: Report of WebRTC media — Data Link

