

Pantheon Report

Generated at 2018-09-25 14:36:53 (UTC).

Data path: Mexico on **em1** (*remote*) → AWS California 2 on **ens5** (*local*).

Repeated the test of 19 congestion control schemes 5 times.

Each test lasted for 30 seconds running 1 flow.

NTP offsets were measured against **time.stanford.edu** and have been applied to correct the timestamps in logs.

System info:

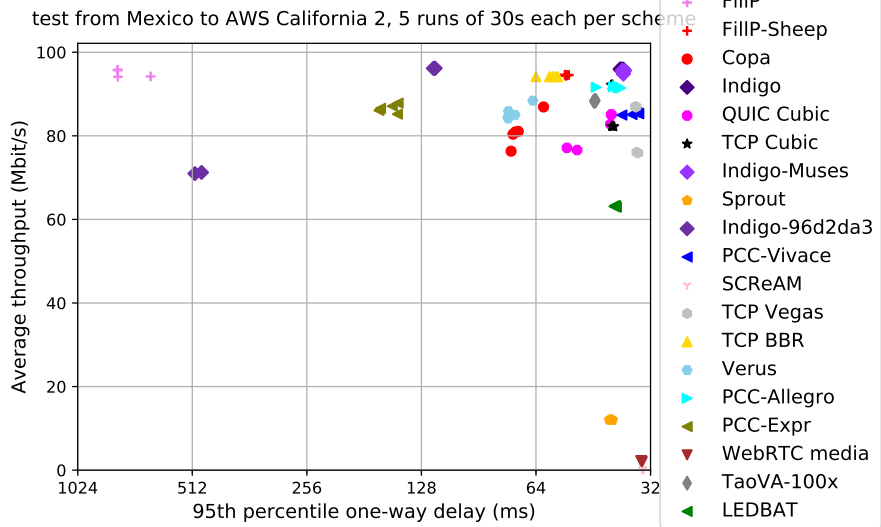
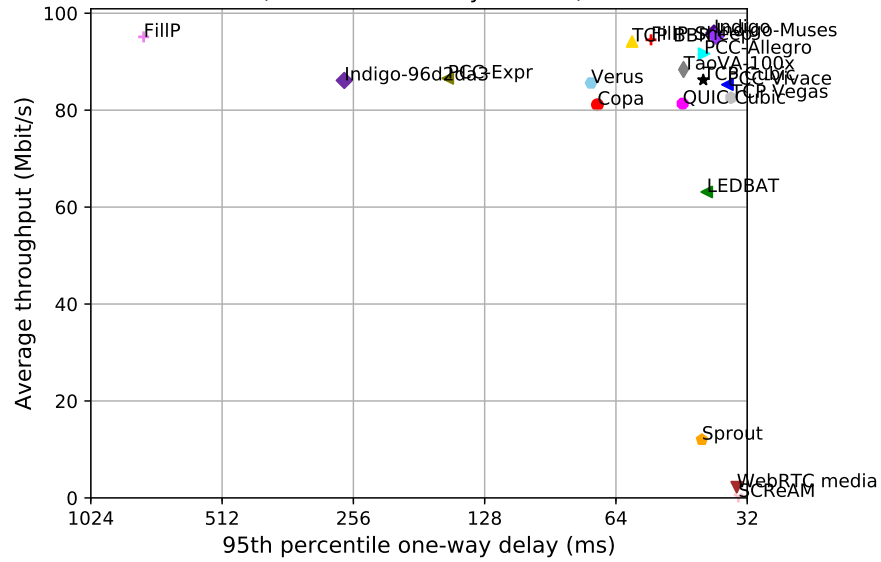
```
Linux 4.15.0-1021-aws
net.core.default_qdisc = fq
net.core.rmem_default = 16777216
net.core.rmem_max = 536870912
net.core.wmem_default = 16777216
net.core.wmem_max = 536870912
net.ipv4.tcp_rmem = 4096 16777216 536870912
net.ipv4.tcp_wmem = 4096 16777216 536870912
net.ipv4.tcp_mem = 184101 245469 368202
```

Git summary:

```
branch: muses @ 90192f6b64ce1a1191dcca0e9ff9ee24950674d7
third_party/fillp @ d47f4fa1b454a5e3c0537115c5a28436dbd4b834
third_party/fillp-sheep @ daed0c84f98531712514b2231f43ec6901114ffe
third_party/genericCC @ d0153f8e594aa89e93b032143cedbdf58e562f4
third_party/indigo @ 2601c92e4aa9d58d38dc4dfe0ecdbf90c077e64d
third_party/indigo-96d2da3 @ 8413272d46f8aa0bcb967ed7048b6a8f994abb95
third_party/libutp @ b3465b942e2826f2b179eaab4a906ce6bb7cf3cf
third_party/muses @ 65ac1b19bbefed0c6349ae986009b4fa8643c40a
third_party/pantheon-tunnel @ cbfce6db5ff5740dafe1771f813cd646339e1952
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 Mexico to AWS California 2, 5 runs of 30s each per scheme
(mean of all runs by scheme)



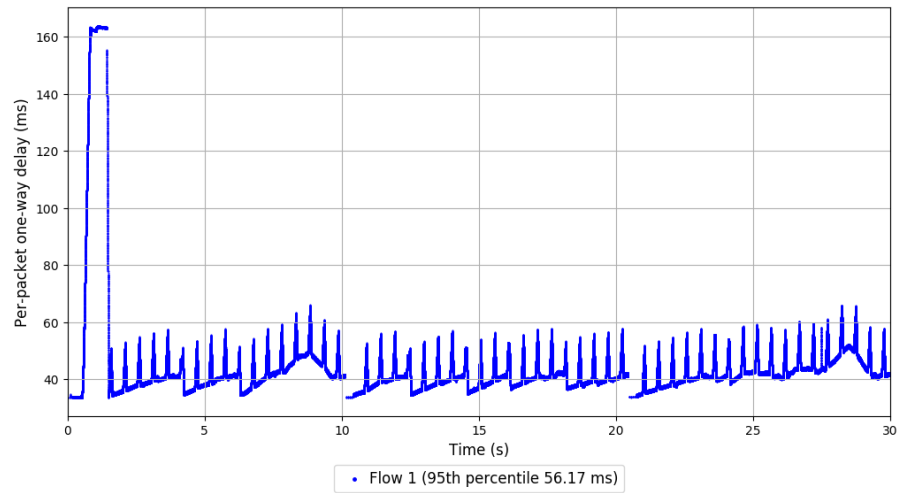
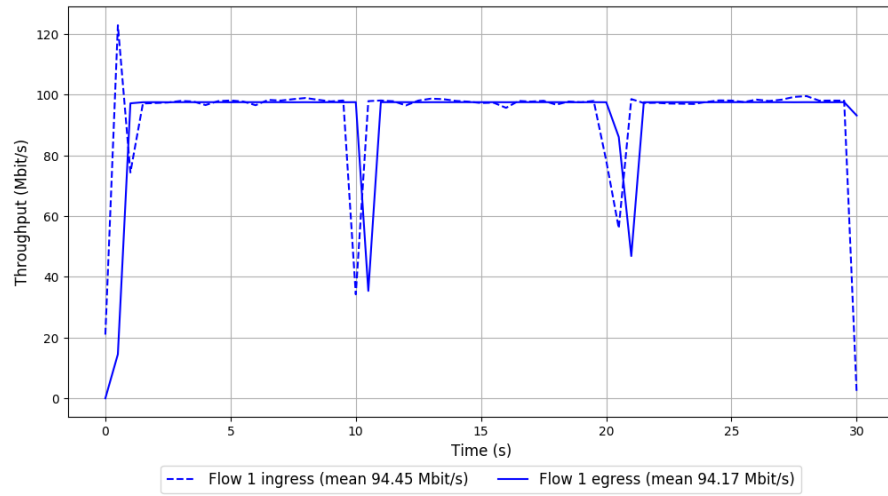
scheme	# runs	mean avg tput (Mbit/s) flow 1	mean 95th-%ile delay (ms) flow 1	mean loss rate (%) flow 1
TCP BBR	5	94.17	58.76	0.68
Copa	5	81.12	70.57	0.31
TCP Cubic	5	86.23	40.36	0.26
FillP	5	95.12	774.79	3.88
FillP-Sheep	5	94.51	53.18	0.71
Indigo	5	95.91	38.15	0.23
Indigo-96d2da3	5	86.13	268.60	6.05
LEDBAT	5	63.12	39.63	0.20
Indigo-Muses	5	95.26	37.72	0.23
PCC-Allegro	5	91.65	40.18	0.24
PCC-Expr	5	86.55	155.57	0.40
QUIC Cubic	5	81.34	45.00	0.28
SCReAM	5	0.21	33.52	0.26
Sprout	5	12.03	40.65	0.19
TaoVA-100x	5	88.38	44.79	0.22
TCP Vegas	5	82.56	34.85	0.26
Verus	5	85.61	73.00	0.44
PCC-Vivace	5	85.27	35.53	0.23
WebRTC media	5	2.21	33.82	0.25

Run 1: Statistics of TCP BBR

Start at: 2018-09-25 12:31:04
End at: 2018-09-25 12:31:34
Local clock offset: -2.879 ms
Remote clock offset: -1.125 ms

Below is generated by plot.py at 2018-09-25 14:25:06
Datalink statistics
-- Total of 1 flow:
Average throughput: 94.17 Mbit/s
95th percentile per-packet one-way delay: 56.169 ms
Loss rate: 0.51%
-- Flow 1:
Average throughput: 94.17 Mbit/s
95th percentile per-packet one-way delay: 56.169 ms
Loss rate: 0.51%

Run 1: Report of TCP BBR — Data Link



Run 2: Statistics of TCP BBR

Start at: 2018-09-25 12:56:15

End at: 2018-09-25 12:56:45

Local clock offset: 3.154 ms

Remote clock offset: 0.882 ms

Below is generated by plot.py at 2018-09-25 14:25:06

Datalink statistics

-- Total of 1 flow:

Average throughput: 94.17 Mbit/s

95th percentile per-packet one-way delay: 57.788 ms

Loss rate: 0.61%

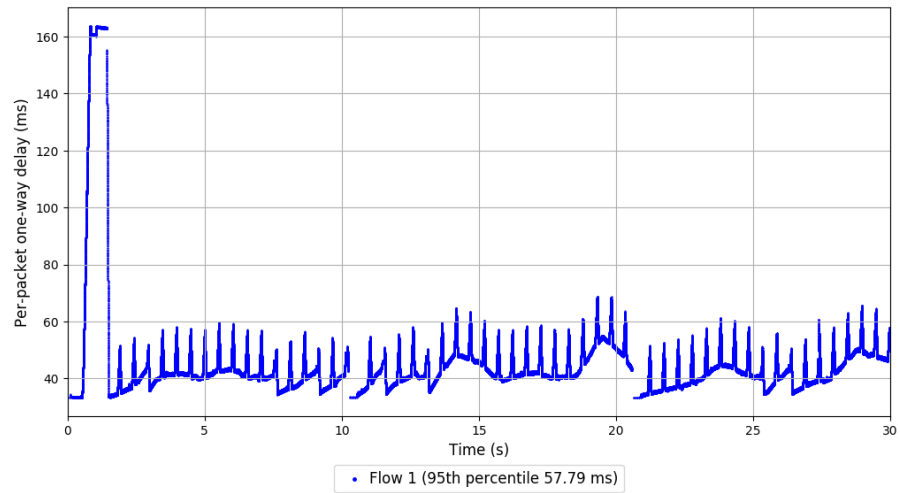
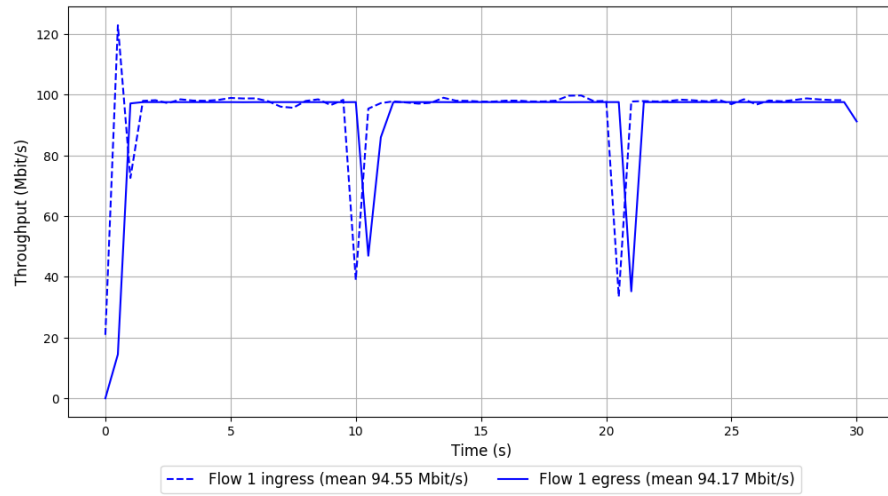
-- Flow 1:

Average throughput: 94.17 Mbit/s

95th percentile per-packet one-way delay: 57.788 ms

Loss rate: 0.61%

Run 2: Report of TCP BBR — Data Link



Run 3: Statistics of TCP BBR

Start at: 2018-09-25 13:21:29

End at: 2018-09-25 13:21:59

Local clock offset: 1.365 ms

Remote clock offset: 1.397 ms

Below is generated by plot.py at 2018-09-25 14:25:06

Datalink statistics

-- Total of 1 flow:

Average throughput: 94.18 Mbit/s

95th percentile per-packet one-way delay: 63.988 ms

Loss rate: 0.78%

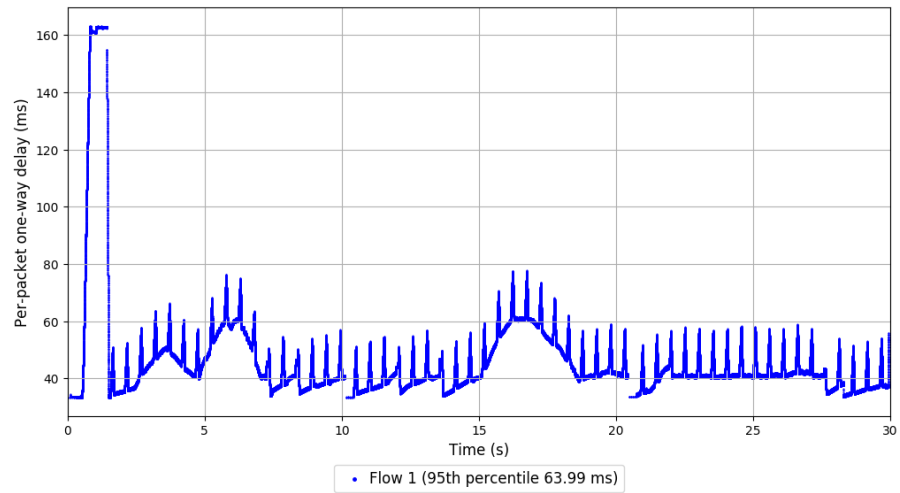
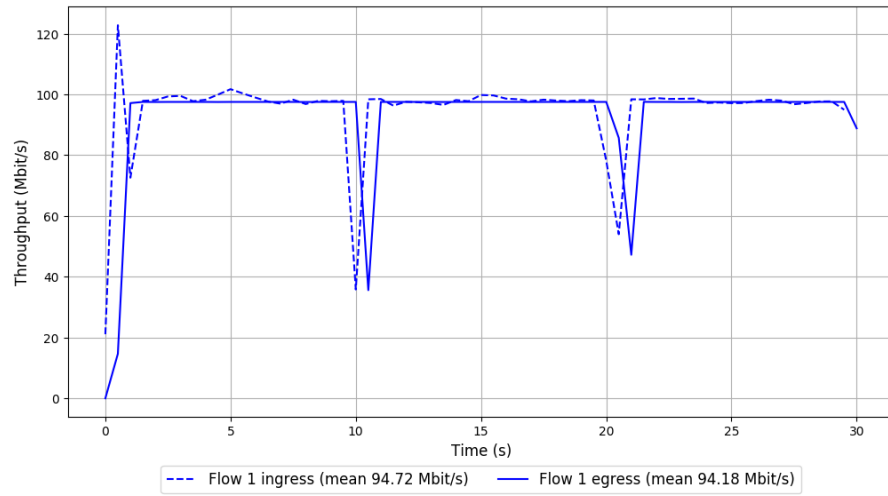
-- Flow 1:

Average throughput: 94.18 Mbit/s

95th percentile per-packet one-way delay: 63.988 ms

Loss rate: 0.78%

Run 3: Report of TCP BBR — Data Link



Run 4: Statistics of TCP BBR

Start at: 2018-09-25 13:46:46

End at: 2018-09-25 13:47:16

Local clock offset: 0.345 ms

Remote clock offset: 1.066 ms

Below is generated by plot.py at 2018-09-25 14:25:08

Datalink statistics

-- Total of 1 flow:

Average throughput: 94.17 Mbit/s

95th percentile per-packet one-way delay: 58.982 ms

Loss rate: 0.73%

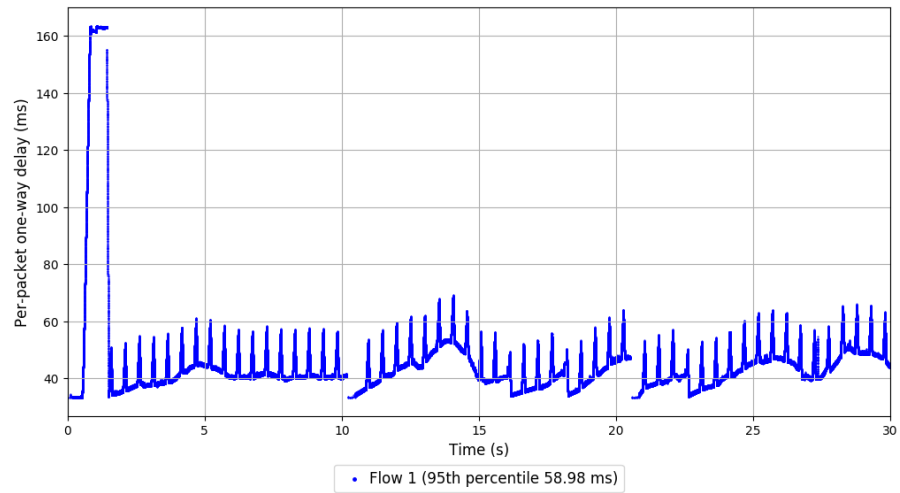
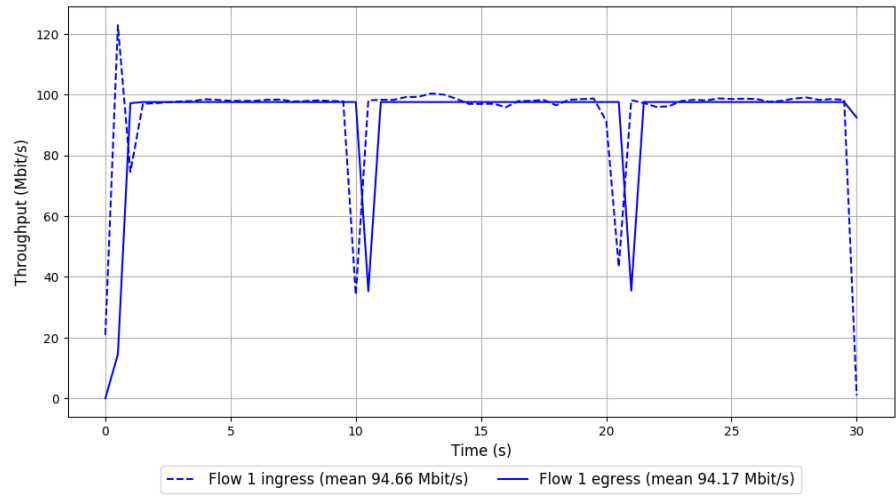
-- Flow 1:

Average throughput: 94.17 Mbit/s

95th percentile per-packet one-way delay: 58.982 ms

Loss rate: 0.73%

Run 4: Report of TCP BBR — Data Link



Run 5: Statistics of TCP BBR

Start at: 2018-09-25 14:12:21

End at: 2018-09-25 14:12:51

Local clock offset: 0.093 ms

Remote clock offset: 0.258 ms

Below is generated by plot.py at 2018-09-25 14:25:08

Datalink statistics

-- Total of 1 flow:

Average throughput: 94.17 Mbit/s

95th percentile per-packet one-way delay: 56.852 ms

Loss rate: 0.78%

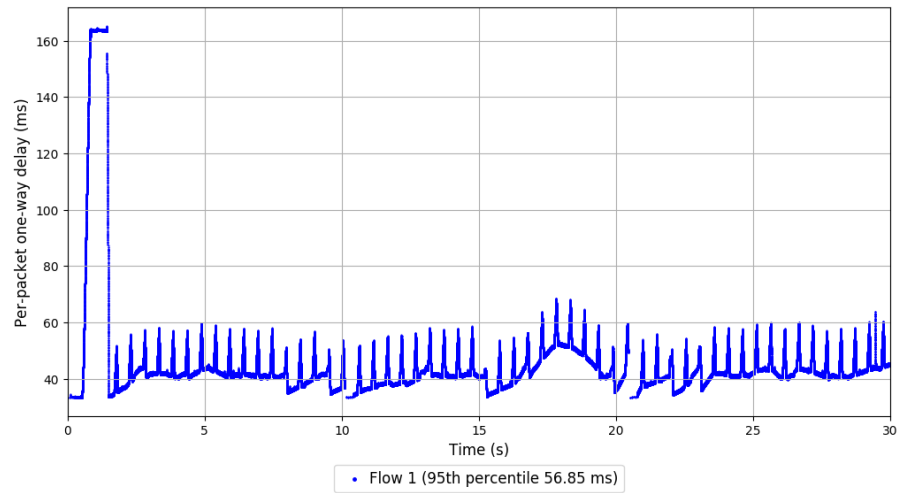
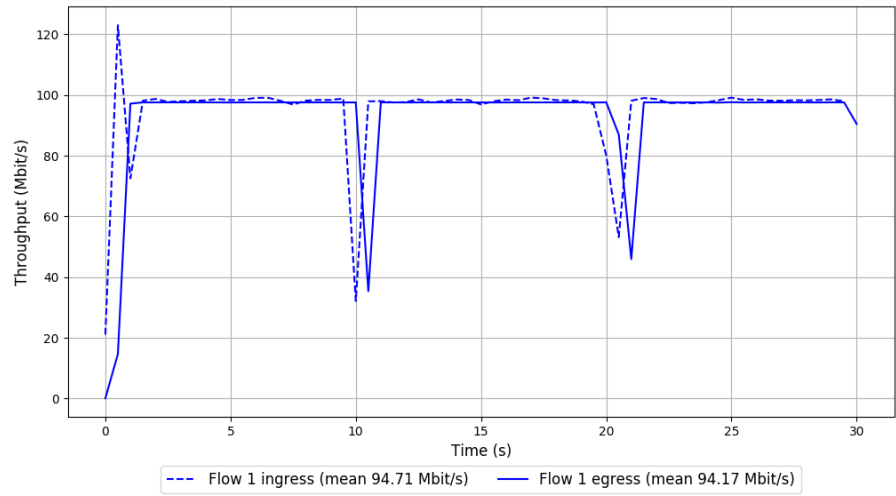
-- Flow 1:

Average throughput: 94.17 Mbit/s

95th percentile per-packet one-way delay: 56.852 ms

Loss rate: 0.78%

Run 5: Report of TCP BBR — Data Link

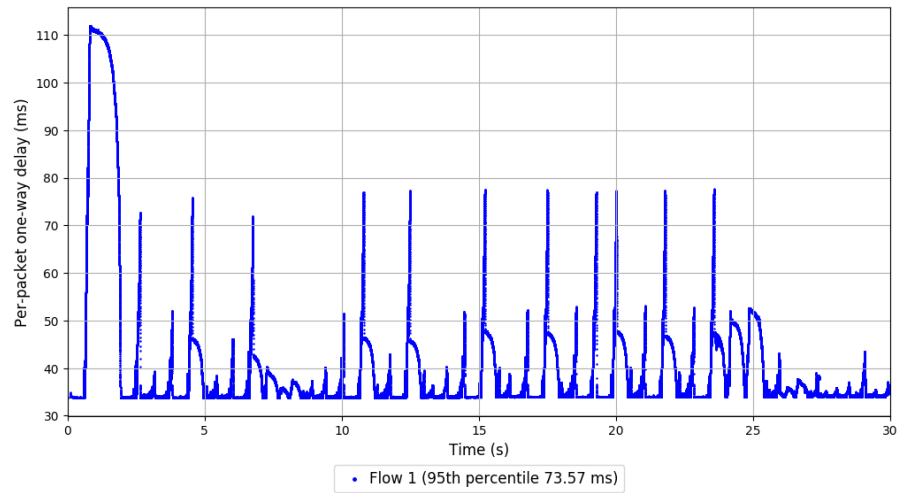
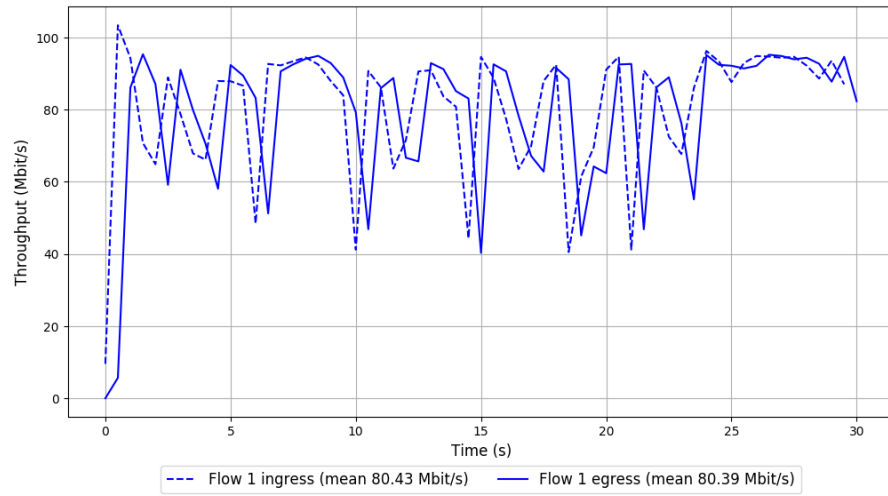


Run 1: Statistics of Copa

Start at: 2018-09-25 12:23:02
End at: 2018-09-25 12:23:32
Local clock offset: -1.565 ms
Remote clock offset: -1.518 ms

Below is generated by plot.py at 2018-09-25 14:25:54
Datalink statistics
-- Total of 1 flow:
Average throughput: 80.39 Mbit/s
95th percentile per-packet one-way delay: 73.570 ms
Loss rate: 0.27%
-- Flow 1:
Average throughput: 80.39 Mbit/s
95th percentile per-packet one-way delay: 73.570 ms
Loss rate: 0.27%

Run 1: Report of Copa — Data Link



Run 2: Statistics of Copa

Start at: 2018-09-25 12:48:11

End at: 2018-09-25 12:48:41

Local clock offset: 1.155 ms

Remote clock offset: 0.356 ms

Below is generated by plot.py at 2018-09-25 14:25:54

Datalink statistics

-- Total of 1 flow:

Average throughput: 76.32 Mbit/s

95th percentile per-packet one-way delay: 74.416 ms

Loss rate: 0.27%

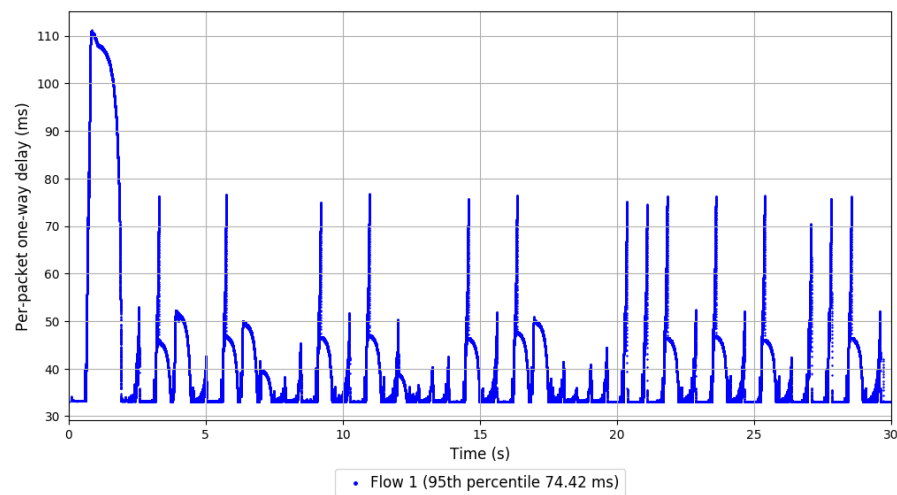
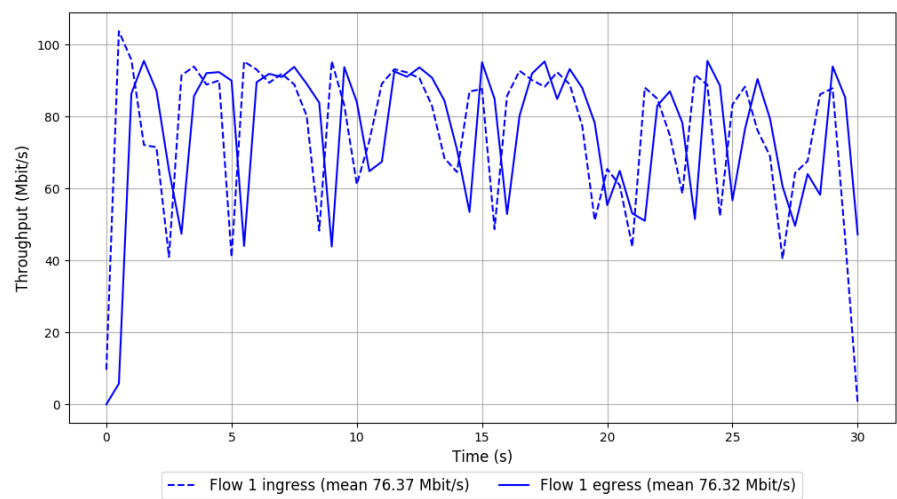
-- Flow 1:

Average throughput: 76.32 Mbit/s

95th percentile per-packet one-way delay: 74.416 ms

Loss rate: 0.27%

Run 2: Report of Copa — Data Link



Run 3: Statistics of Copa

Start at: 2018-09-25 13:13:25

End at: 2018-09-25 13:13:55

Local clock offset: 3.046 ms

Remote clock offset: 1.34 ms

Below is generated by plot.py at 2018-09-25 14:26:03

Datalink statistics

-- Total of 1 flow:

Average throughput: 86.91 Mbit/s

95th percentile per-packet one-way delay: 61.140 ms

Loss rate: 0.36%

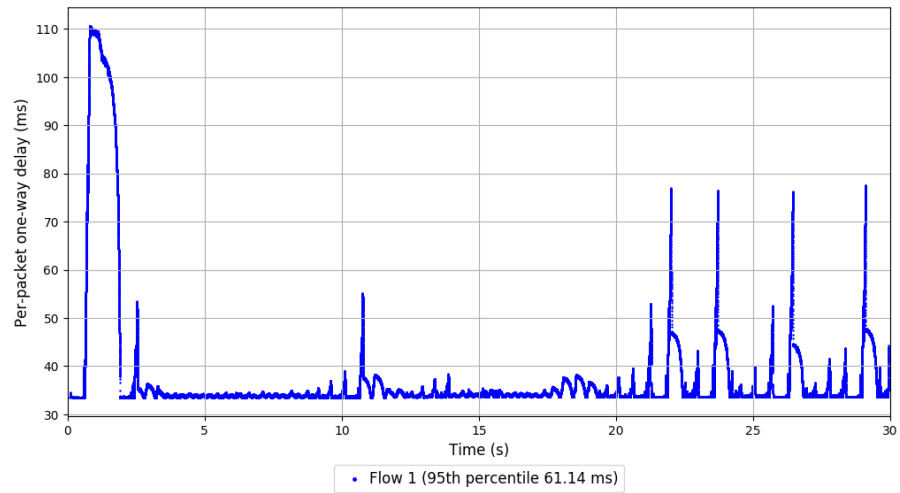
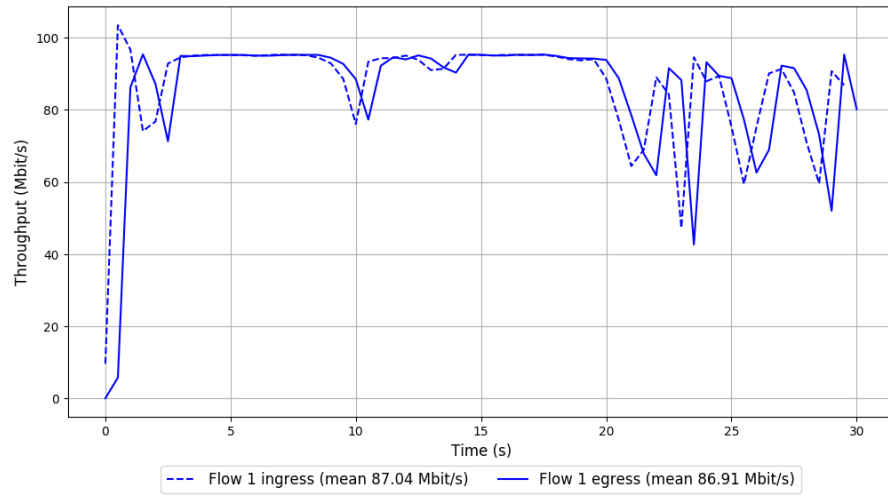
-- Flow 1:

Average throughput: 86.91 Mbit/s

95th percentile per-packet one-way delay: 61.140 ms

Loss rate: 0.36%

Run 3: Report of Copa — Data Link



Run 4: Statistics of Copa

Start at: 2018-09-25 13:38:40

End at: 2018-09-25 13:39:10

Local clock offset: 0.321 ms

Remote clock offset: 1.273 ms

Below is generated by plot.py at 2018-09-25 14:26:57

Datalink statistics

-- Total of 1 flow:

Average throughput: 81.06 Mbit/s

95th percentile per-packet one-way delay: 71.262 ms

Loss rate: 0.31%

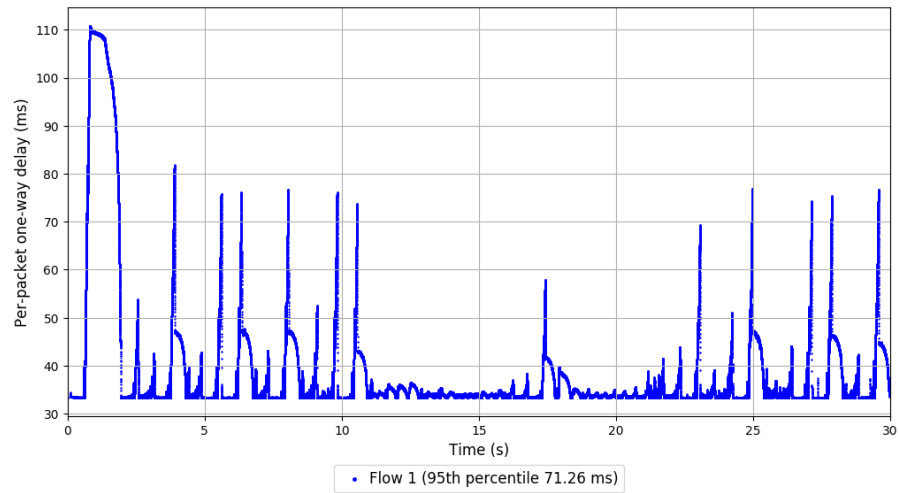
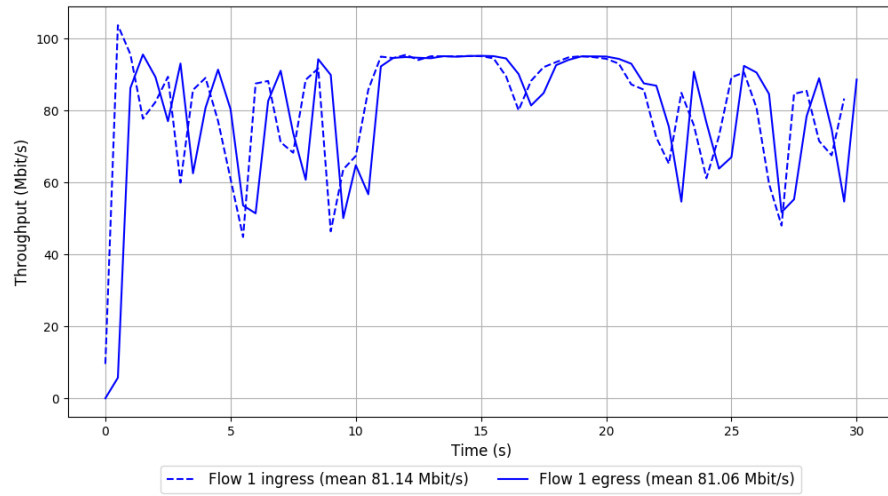
-- Flow 1:

Average throughput: 81.06 Mbit/s

95th percentile per-packet one-way delay: 71.262 ms

Loss rate: 0.31%

Run 4: Report of Copa — Data Link



Run 5: Statistics of Copa

Start at: 2018-09-25 14:04:07

End at: 2018-09-25 14:04:37

Local clock offset: 0.313 ms

Remote clock offset: 0.476 ms

Below is generated by plot.py at 2018-09-25 14:26:57

Datalink statistics

-- Total of 1 flow:

Average throughput: 80.94 Mbit/s

95th percentile per-packet one-way delay: 72.467 ms

Loss rate: 0.36%

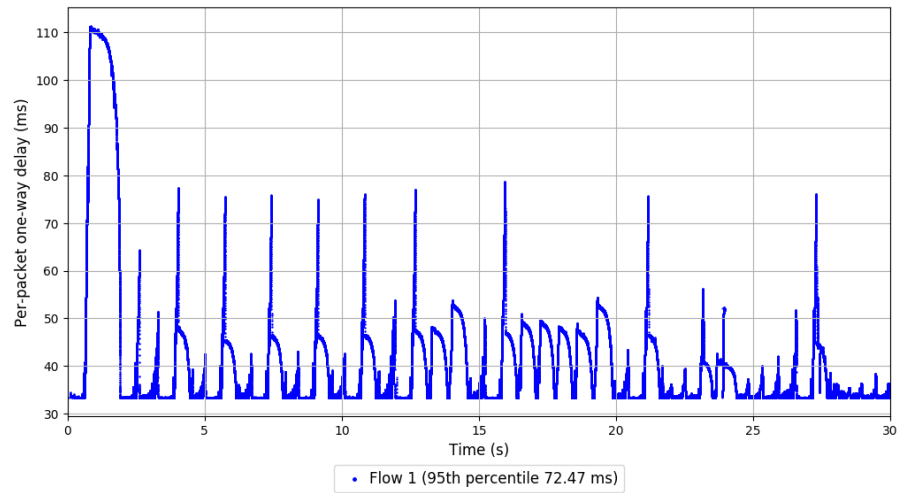
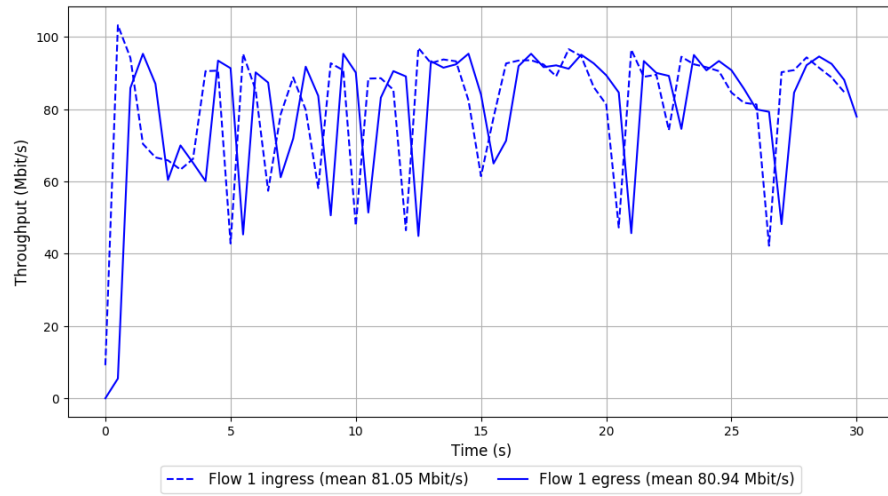
-- Flow 1:

Average throughput: 80.94 Mbit/s

95th percentile per-packet one-way delay: 72.467 ms

Loss rate: 0.36%

Run 5: Report of Copa — Data Link



Run 1: Statistics of TCP Cubic

Start at: 2018-09-25 12:21:42

End at: 2018-09-25 12:22:12

Local clock offset: -1.253 ms

Remote clock offset: -1.32 ms

Below is generated by plot.py at 2018-09-25 14:26:57

Datalink statistics

-- Total of 1 flow:

Average throughput: 92.16 Mbit/s

95th percentile per-packet one-way delay: 40.602 ms

Loss rate: 0.25%

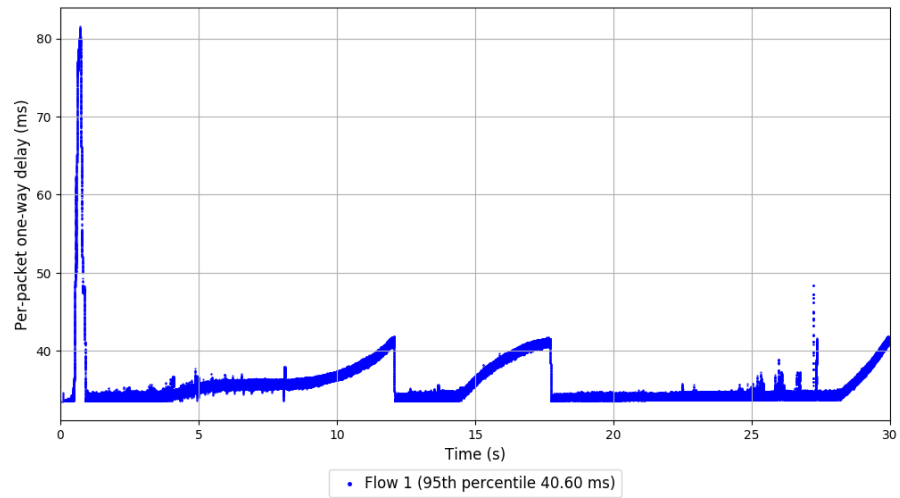
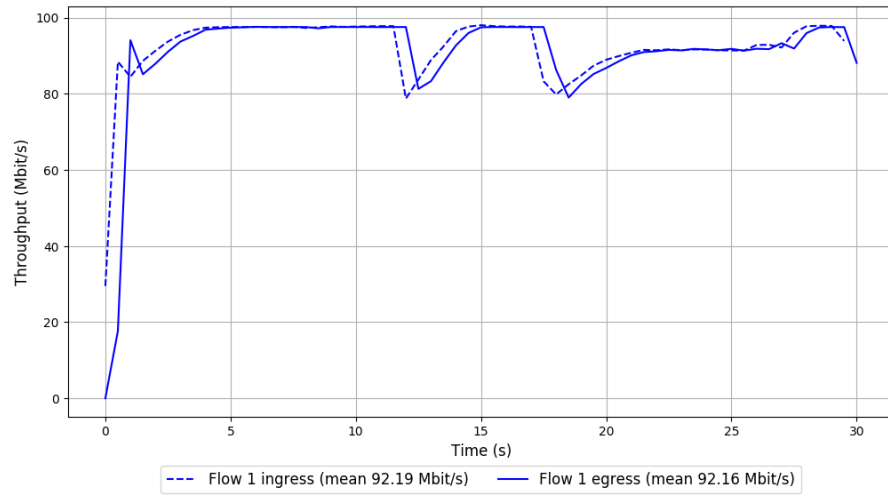
-- Flow 1:

Average throughput: 92.16 Mbit/s

95th percentile per-packet one-way delay: 40.602 ms

Loss rate: 0.25%

Run 1: Report of TCP Cubic — Data Link



Run 2: Statistics of TCP Cubic

Start at: 2018-09-25 12:46:51

End at: 2018-09-25 12:47:21

Local clock offset: 0.708 ms

Remote clock offset: 0.218 ms

Below is generated by plot.py at 2018-09-25 14:26:57

Datalink statistics

-- Total of 1 flow:

Average throughput: 82.21 Mbit/s

95th percentile per-packet one-way delay: 39.946 ms

Loss rate: 0.28%

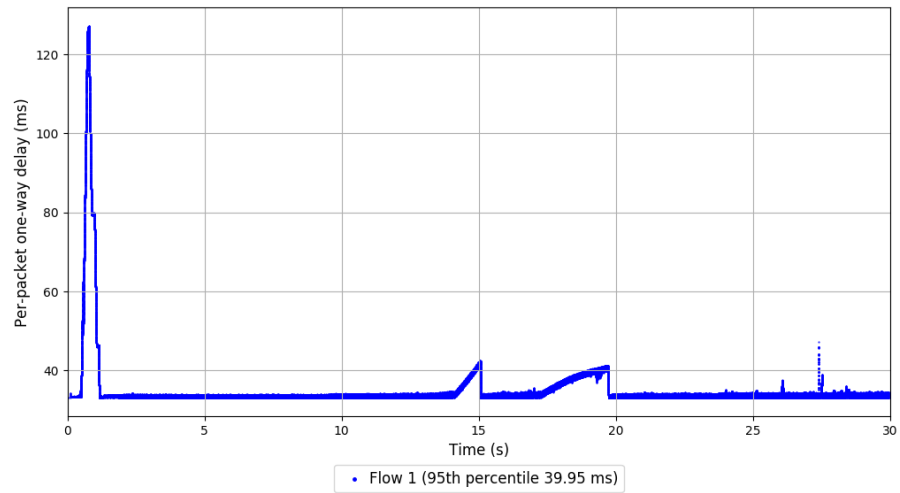
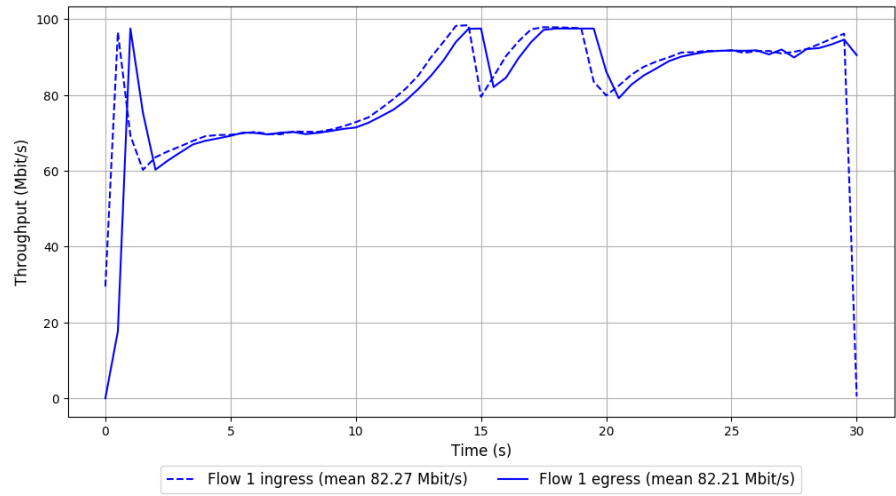
-- Flow 1:

Average throughput: 82.21 Mbit/s

95th percentile per-packet one-way delay: 39.946 ms

Loss rate: 0.28%

Run 2: Report of TCP Cubic — Data Link



Run 3: Statistics of TCP Cubic

Start at: 2018-09-25 13:12:06

End at: 2018-09-25 13:12:36

Local clock offset: 3.478 ms

Remote clock offset: 1.311 ms

Below is generated by plot.py at 2018-09-25 14:26:57

Datalink statistics

-- Total of 1 flow:

Average throughput: 82.25 Mbit/s

95th percentile per-packet one-way delay: 40.439 ms

Loss rate: 0.26%

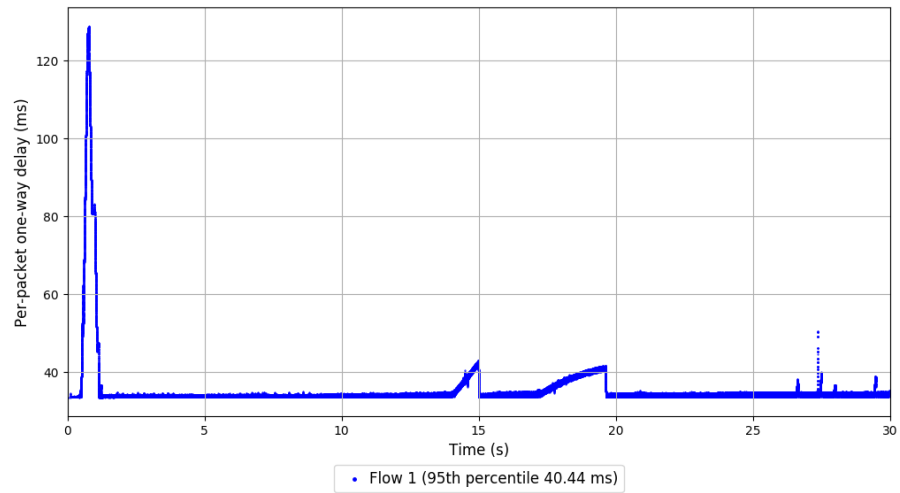
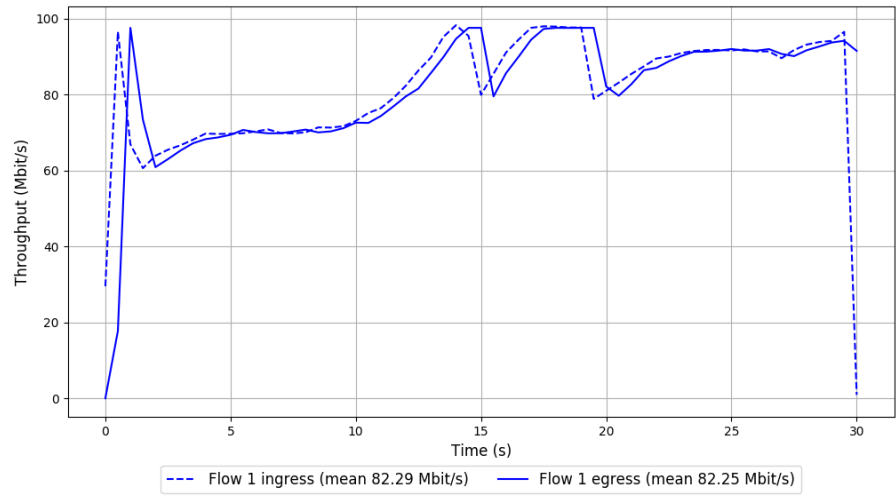
-- Flow 1:

Average throughput: 82.25 Mbit/s

95th percentile per-packet one-way delay: 40.439 ms

Loss rate: 0.26%

Run 3: Report of TCP Cubic — Data Link



Run 4: Statistics of TCP Cubic

Start at: 2018-09-25 13:37:21

End at: 2018-09-25 13:37:51

Local clock offset: 0.345 ms

Remote clock offset: 1.368 ms

Below is generated by plot.py at 2018-09-25 14:26:57

Datalink statistics

-- Total of 1 flow:

Average throughput: 82.30 Mbit/s

95th percentile per-packet one-way delay: 40.474 ms

Loss rate: 0.27%

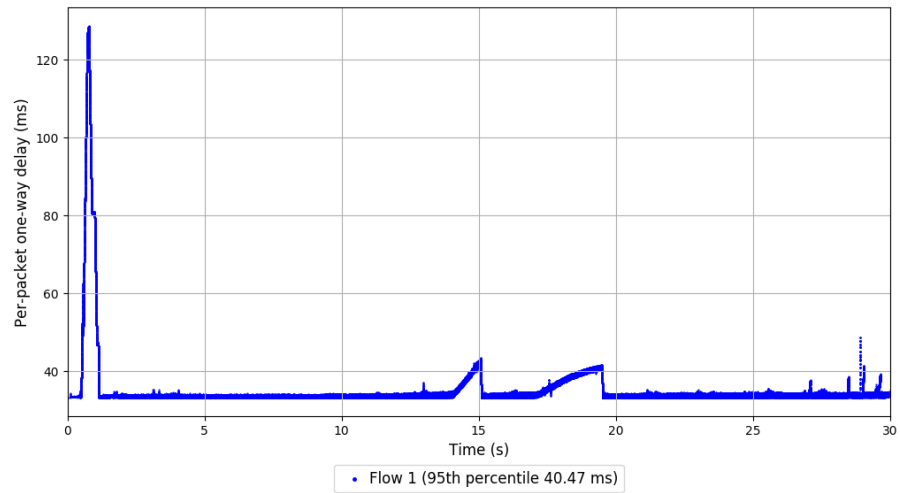
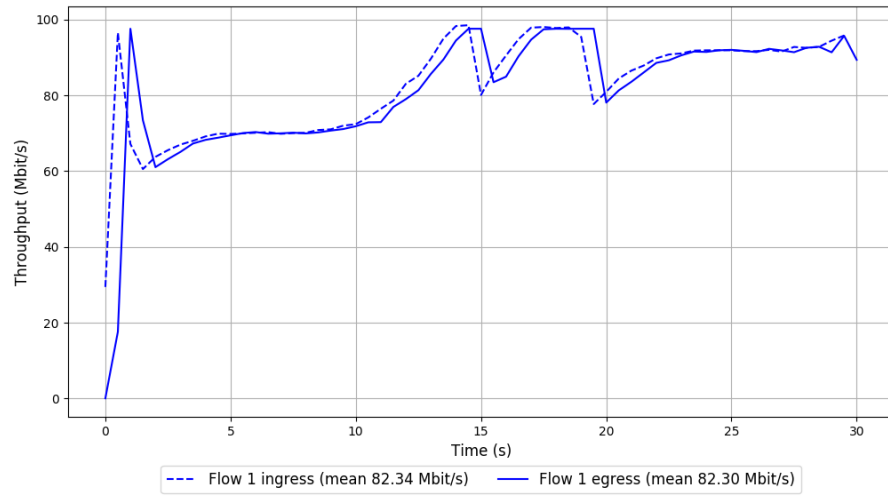
-- Flow 1:

Average throughput: 82.30 Mbit/s

95th percentile per-packet one-way delay: 40.474 ms

Loss rate: 0.27%

Run 4: Report of TCP Cubic — Data Link



Run 5: Statistics of TCP Cubic

Start at: 2018-09-25 14:02:47

End at: 2018-09-25 14:03:17

Local clock offset: 0.319 ms

Remote clock offset: 0.614 ms

Below is generated by plot.py at 2018-09-25 14:26:57

Datalink statistics

-- Total of 1 flow:

Average throughput: 92.21 Mbit/s

95th percentile per-packet one-way delay: 40.317 ms

Loss rate: 0.26%

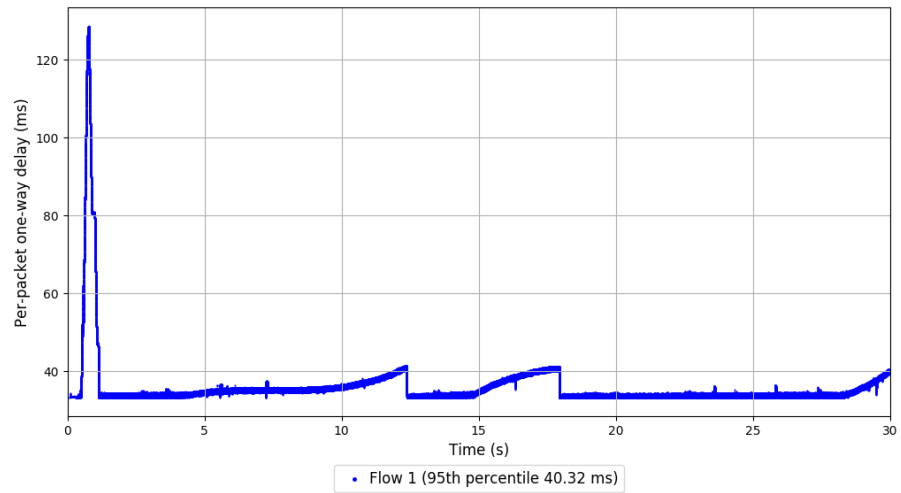
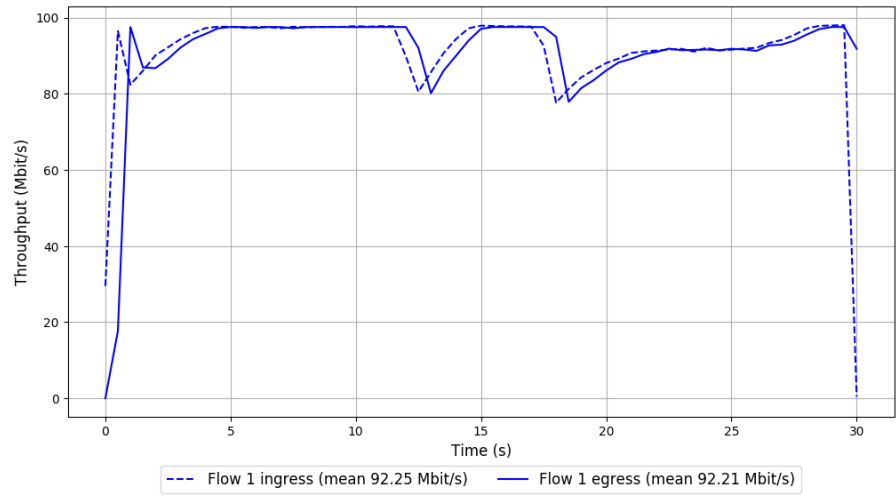
-- Flow 1:

Average throughput: 92.21 Mbit/s

95th percentile per-packet one-way delay: 40.317 ms

Loss rate: 0.26%

Run 5: Report of TCP Cubic — Data Link

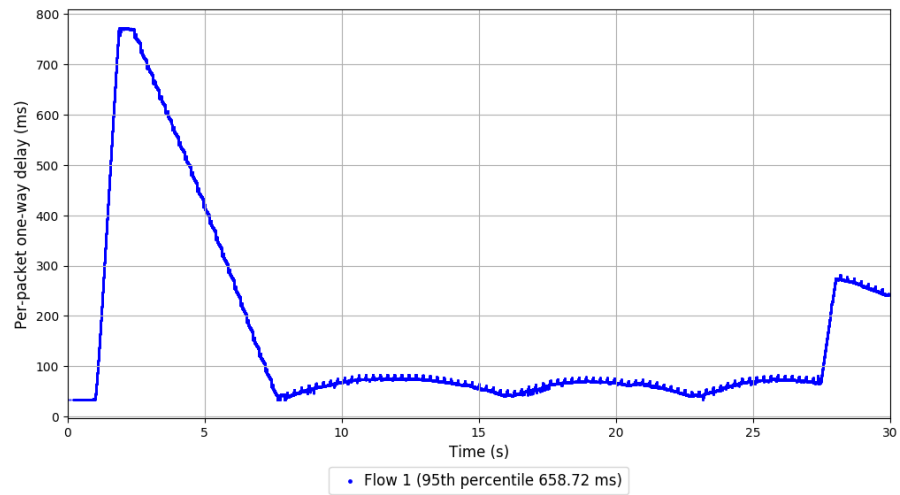
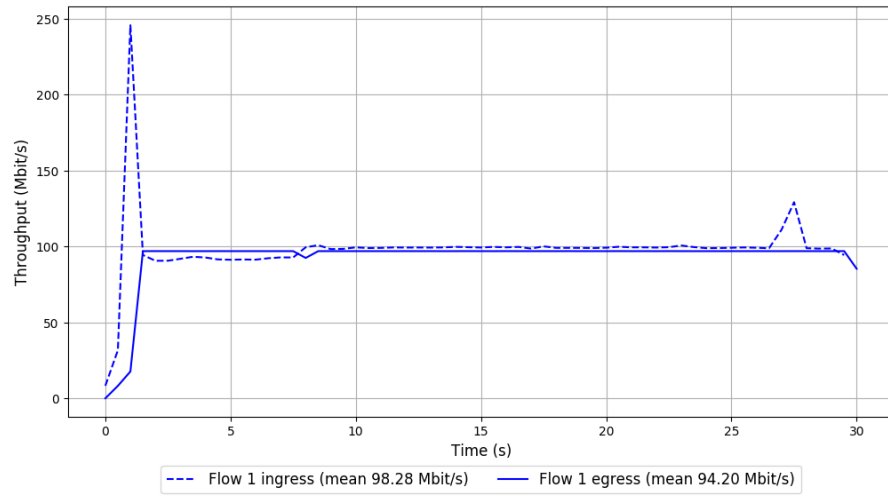


Run 1: Statistics of FillP

Start at: 2018-09-25 12:17:42
End at: 2018-09-25 12:18:12
Local clock offset: 0.021 ms
Remote clock offset: -1.513 ms

Below is generated by plot.py at 2018-09-25 14:27:27
Datalink statistics
-- Total of 1 flow:
Average throughput: 94.20 Mbit/s
95th percentile per-packet one-way delay: 658.718 ms
Loss rate: 4.35%
-- Flow 1:
Average throughput: 94.20 Mbit/s
95th percentile per-packet one-way delay: 658.718 ms
Loss rate: 4.35%

Run 1: Report of FillP — Data Link

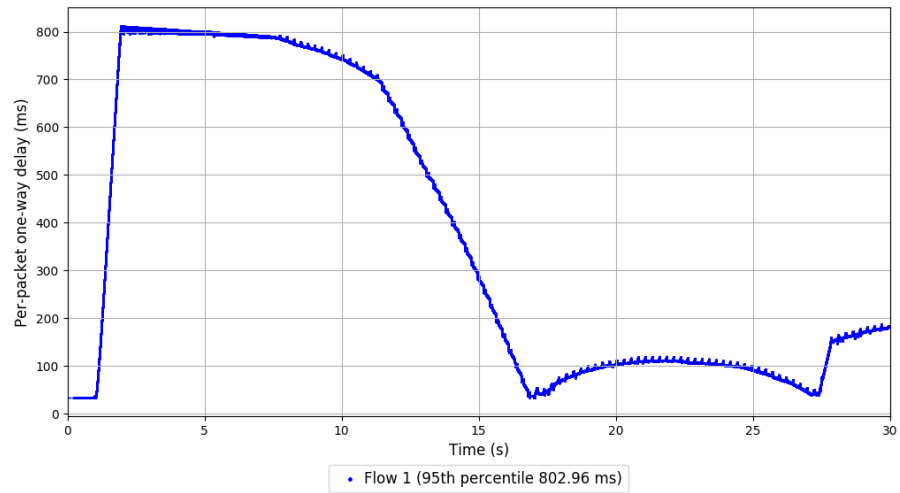
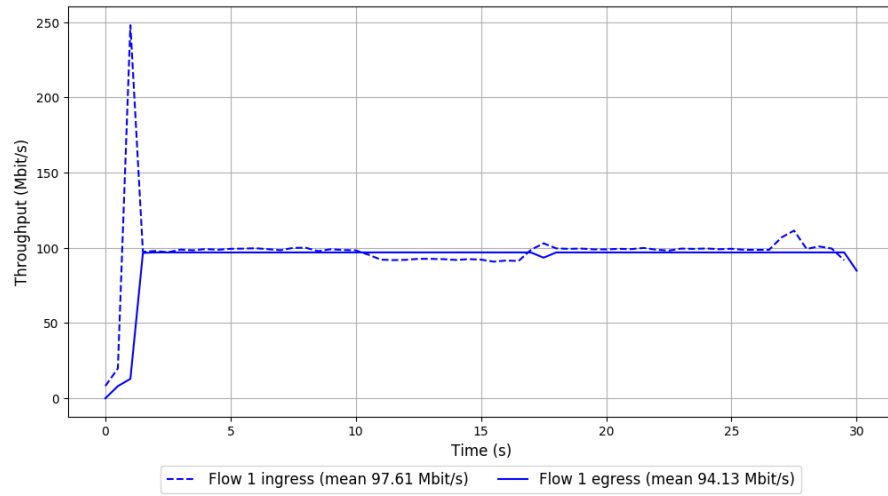


Run 2: Statistics of FillP

Start at: 2018-09-25 12:42:53
End at: 2018-09-25 12:43:23
Local clock offset: -1.175 ms
Remote clock offset: -0.009 ms

Below is generated by plot.py at 2018-09-25 14:27:29
Datalink statistics
-- Total of 1 flow:
Average throughput: 94.13 Mbit/s
95th percentile per-packet one-way delay: 802.960 ms
Loss rate: 3.78%
-- Flow 1:
Average throughput: 94.13 Mbit/s
95th percentile per-packet one-way delay: 802.960 ms
Loss rate: 3.78%

Run 2: Report of FillP — Data Link



Run 3: Statistics of FillP

Start at: 2018-09-25 13:08:06

End at: 2018-09-25 13:08:36

Local clock offset: 4.517 ms

Remote clock offset: 1.093 ms

Below is generated by plot.py at 2018-09-25 14:27:31

Datalink statistics

-- Total of 1 flow:

Average throughput: 95.79 Mbit/s

95th percentile per-packet one-way delay: 803.872 ms

Loss rate: 3.51%

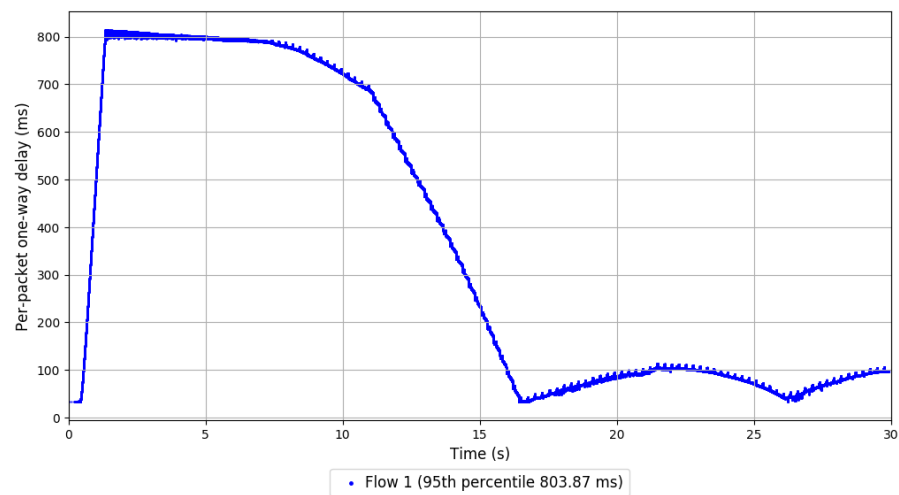
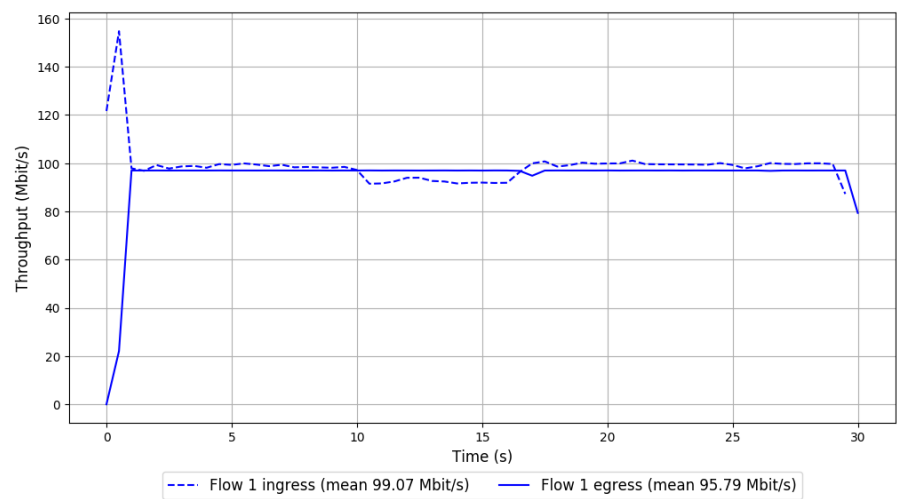
-- Flow 1:

Average throughput: 95.79 Mbit/s

95th percentile per-packet one-way delay: 803.872 ms

Loss rate: 3.51%

Run 3: Report of FillP — Data Link



Run 4: Statistics of FillP

Start at: 2018-09-25 13:33:20

End at: 2018-09-25 13:33:50

Local clock offset: 0.476 ms

Remote clock offset: 1.526 ms

Below is generated by plot.py at 2018-09-25 14:27:36

Datalink statistics

-- Total of 1 flow:

Average throughput: 95.72 Mbit/s

95th percentile per-packet one-way delay: 804.566 ms

Loss rate: 3.47%

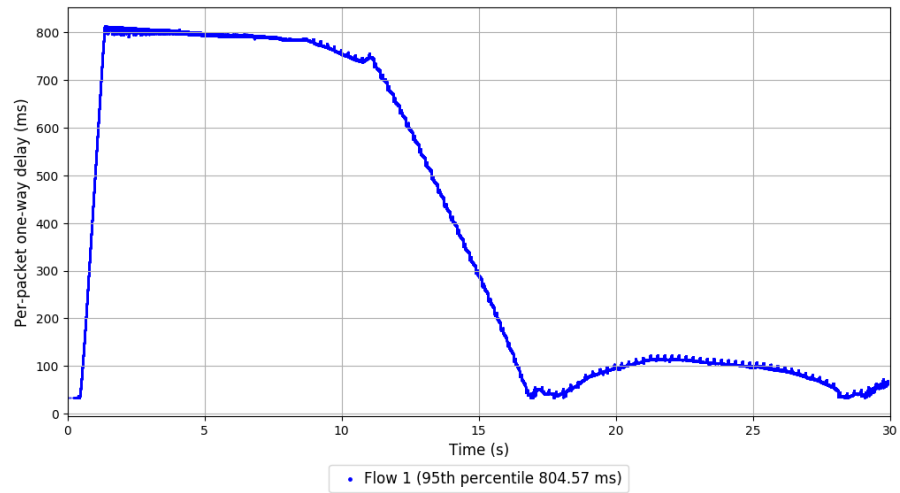
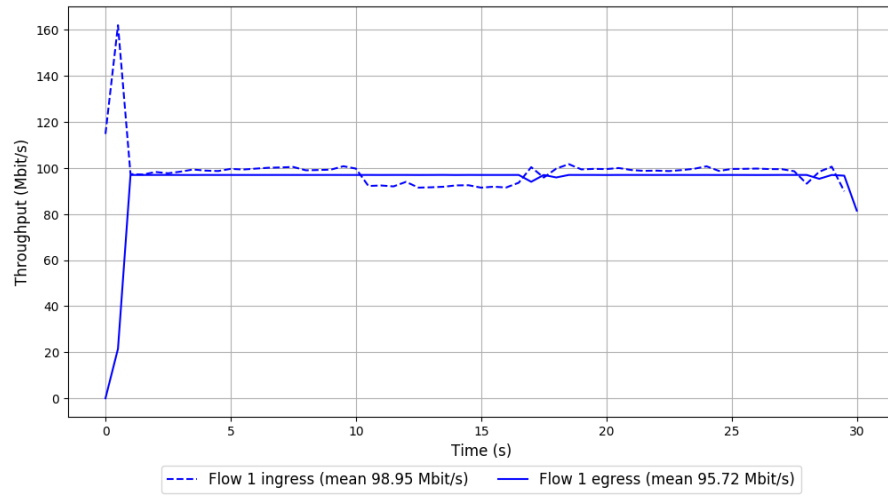
-- Flow 1:

Average throughput: 95.72 Mbit/s

95th percentile per-packet one-way delay: 804.566 ms

Loss rate: 3.47%

Run 4: Report of FillP — Data Link



Run 5: Statistics of FillP

Start at: 2018-09-25 13:58:38

End at: 2018-09-25 13:59:08

Local clock offset: 0.332 ms

Remote clock offset: 0.686 ms

Below is generated by plot.py at 2018-09-25 14:28:11

Datalink statistics

-- Total of 1 flow:

Average throughput: 95.75 Mbit/s

95th percentile per-packet one-way delay: 803.845 ms

Loss rate: 4.27%

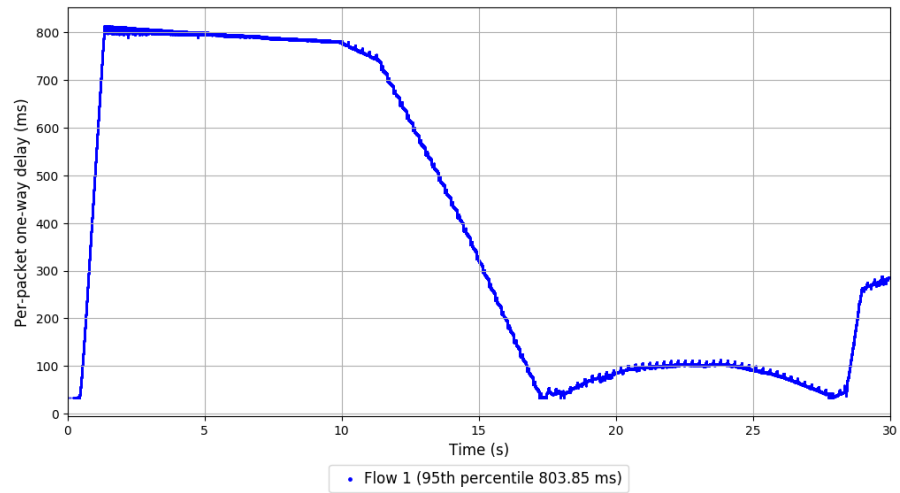
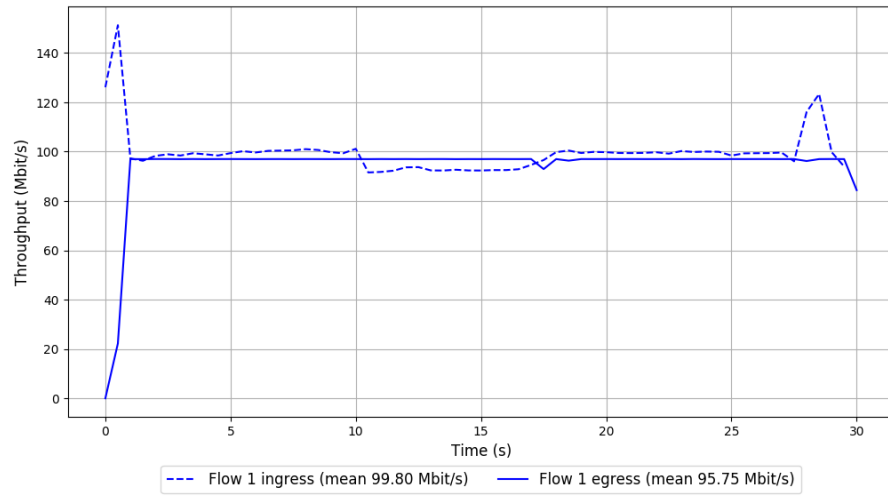
-- Flow 1:

Average throughput: 95.75 Mbit/s

95th percentile per-packet one-way delay: 803.845 ms

Loss rate: 4.27%

Run 5: Report of FillP — Data Link



Run 1: Statistics of FillP-Sheep

Start at: 2018-09-25 12:28:26

End at: 2018-09-25 12:28:56

Local clock offset: -2.532 ms

Remote clock offset: -1.051 ms

Below is generated by plot.py at 2018-09-25 14:28:18

Datalink statistics

-- Total of 1 flow:

Average throughput: 94.45 Mbit/s

95th percentile per-packet one-way delay: 53.102 ms

Loss rate: 0.68%

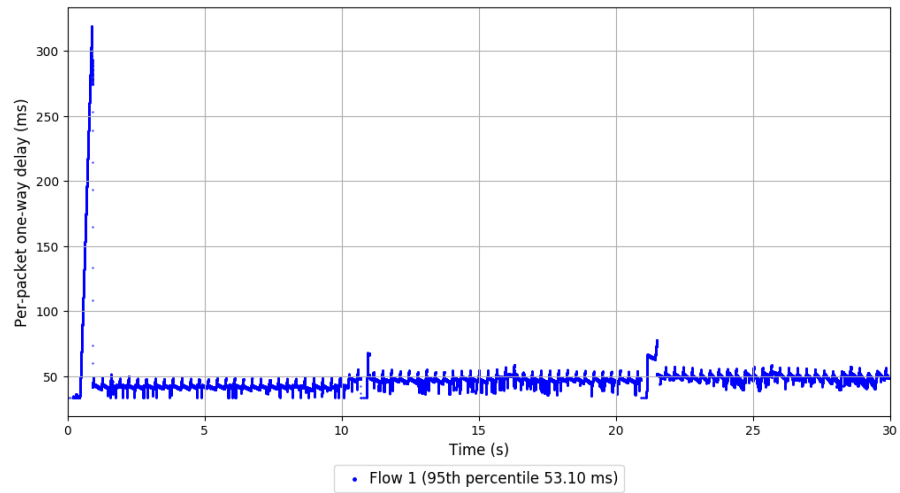
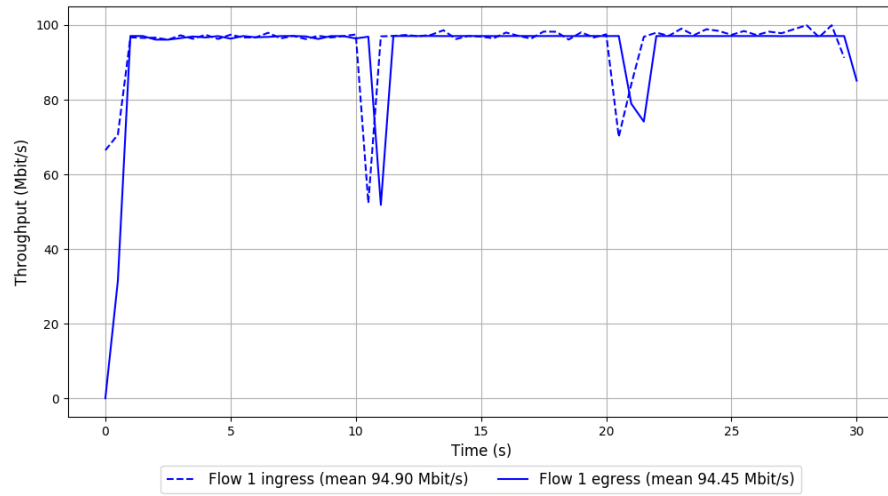
-- Flow 1:

Average throughput: 94.45 Mbit/s

95th percentile per-packet one-way delay: 53.102 ms

Loss rate: 0.68%

Run 1: Report of FillP-Sheep — Data Link



Run 2: Statistics of FillP-Sheep

Start at: 2018-09-25 12:53:36

End at: 2018-09-25 12:54:06

Local clock offset: 2.638 ms

Remote clock offset: 0.691 ms

Below is generated by plot.py at 2018-09-25 14:28:18

Datalink statistics

-- Total of 1 flow:

Average throughput: 94.37 Mbit/s

95th percentile per-packet one-way delay: 53.464 ms

Loss rate: 0.51%

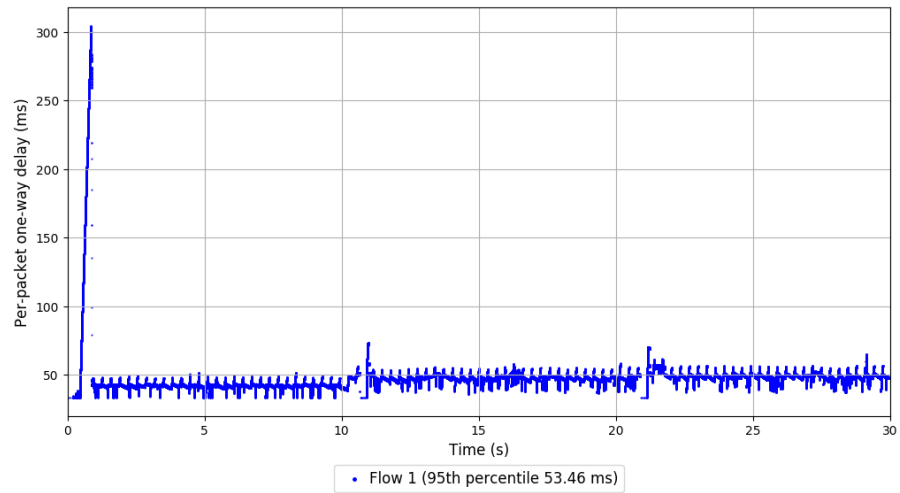
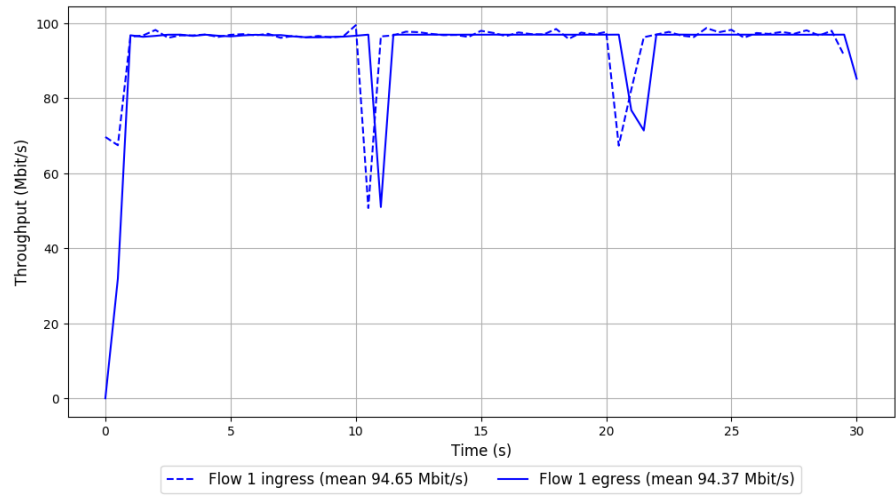
-- Flow 1:

Average throughput: 94.37 Mbit/s

95th percentile per-packet one-way delay: 53.464 ms

Loss rate: 0.51%

Run 2: Report of FillP-Sheep — Data Link



Run 3: Statistics of FillP-Sheep

Start at: 2018-09-25 13:18:50

End at: 2018-09-25 13:19:20

Local clock offset: 1.745 ms

Remote clock offset: 1.34 ms

Below is generated by plot.py at 2018-09-25 14:28:22

Datalink statistics

-- Total of 1 flow:

Average throughput: 94.55 Mbit/s

95th percentile per-packet one-way delay: 53.122 ms

Loss rate: 0.69%

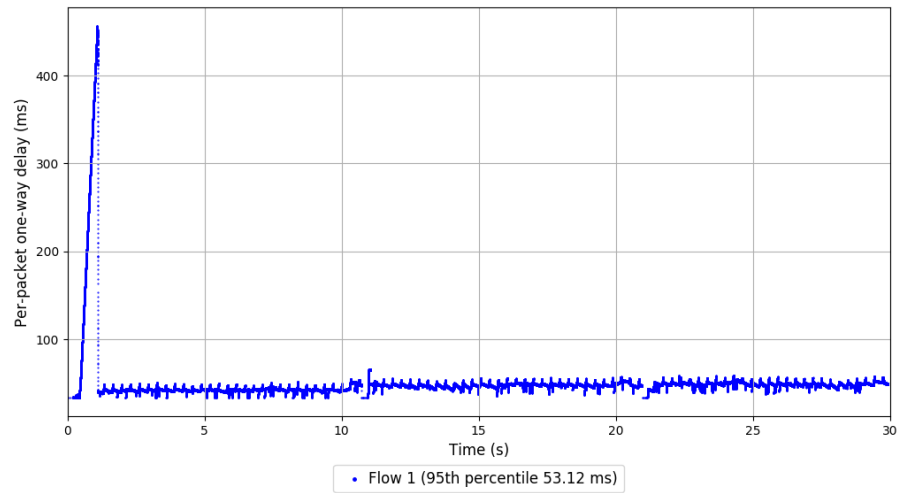
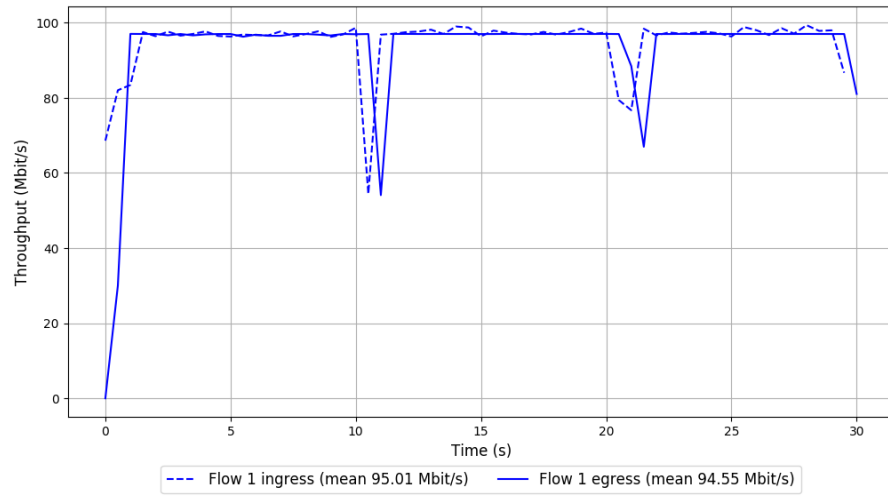
-- Flow 1:

Average throughput: 94.55 Mbit/s

95th percentile per-packet one-way delay: 53.122 ms

Loss rate: 0.69%

Run 3: Report of FillP-Sheep — Data Link



Run 4: Statistics of FillP-Sheep

Start at: 2018-09-25 13:44:07

End at: 2018-09-25 13:44:37

Local clock offset: 0.331 ms

Remote clock offset: 1.239 ms

Below is generated by plot.py at 2018-09-25 14:28:49

Datalink statistics

-- Total of 1 flow:

Average throughput: 94.56 Mbit/s

95th percentile per-packet one-way delay: 52.477 ms

Loss rate: 0.66%

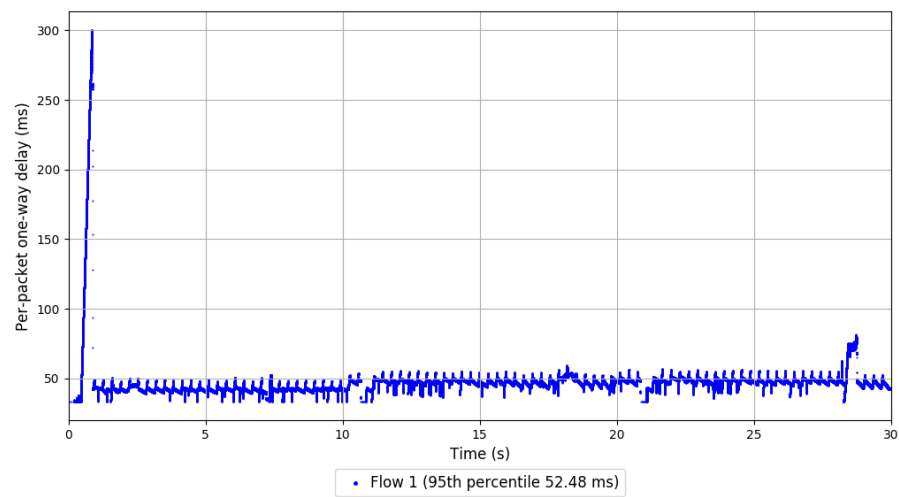
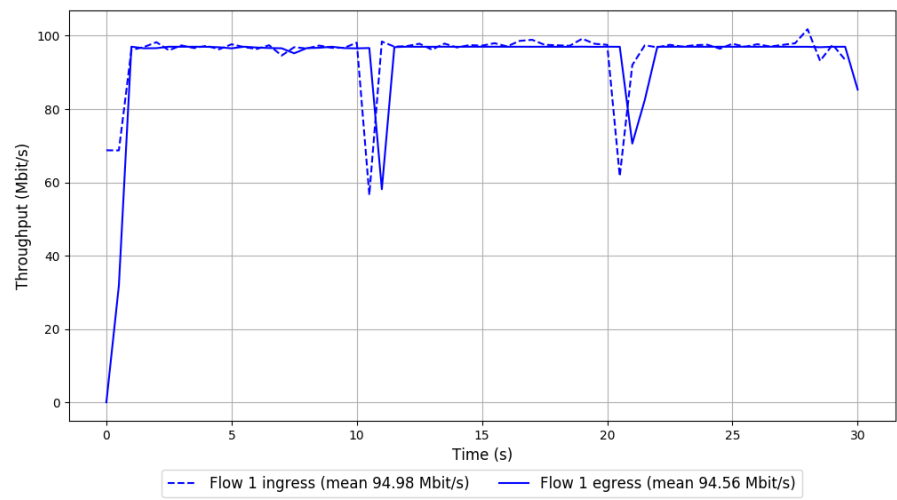
-- Flow 1:

Average throughput: 94.56 Mbit/s

95th percentile per-packet one-way delay: 52.477 ms

Loss rate: 0.66%

Run 4: Report of FillP-Sheep — Data Link



Run 5: Statistics of FillP-Sheep

Start at: 2018-09-25 14:09:39

End at: 2018-09-25 14:10:09

Local clock offset: 0.258 ms

Remote clock offset: 0.289 ms

Below is generated by plot.py at 2018-09-25 14:28:52

Datalink statistics

-- Total of 1 flow:

Average throughput: 94.63 Mbit/s

95th percentile per-packet one-way delay: 53.723 ms

Loss rate: 1.03%

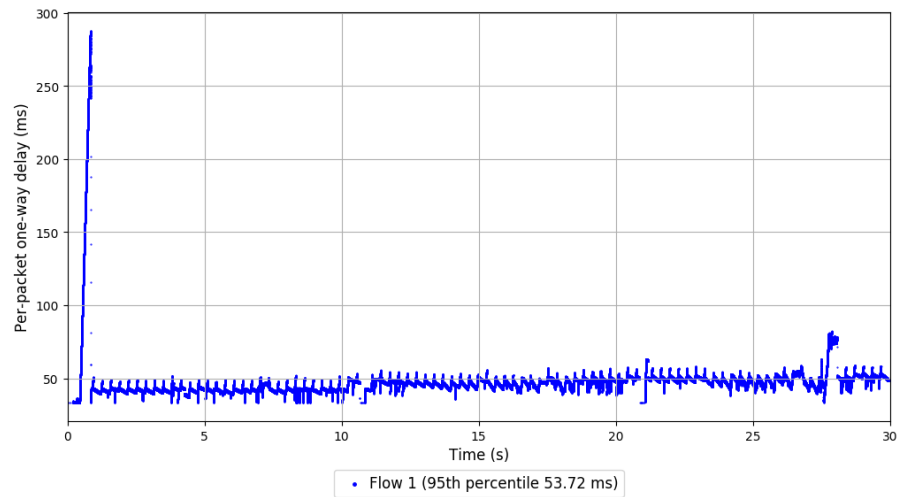
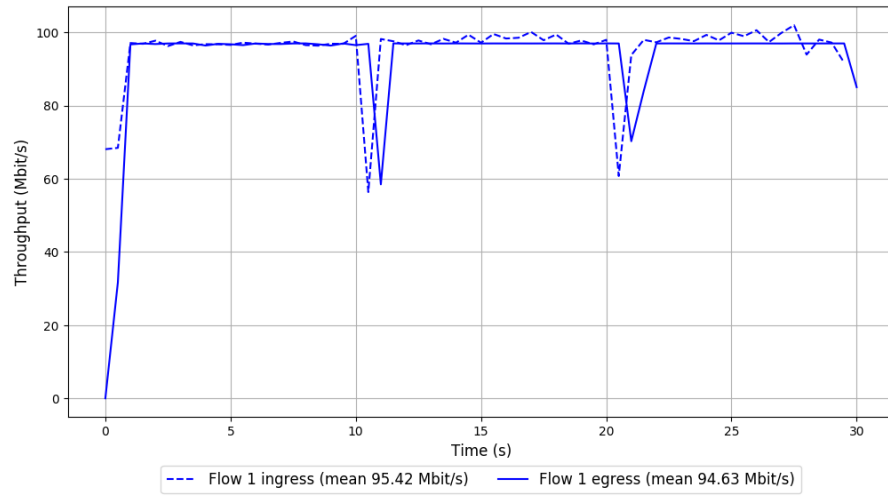
-- Flow 1:

Average throughput: 94.63 Mbit/s

95th percentile per-packet one-way delay: 53.723 ms

Loss rate: 1.03%

Run 5: Report of FillP-Sheep — Data Link

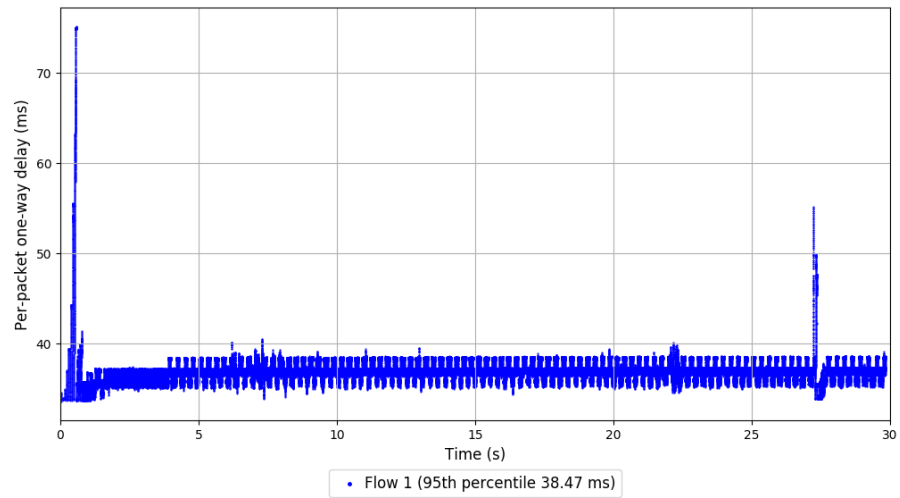
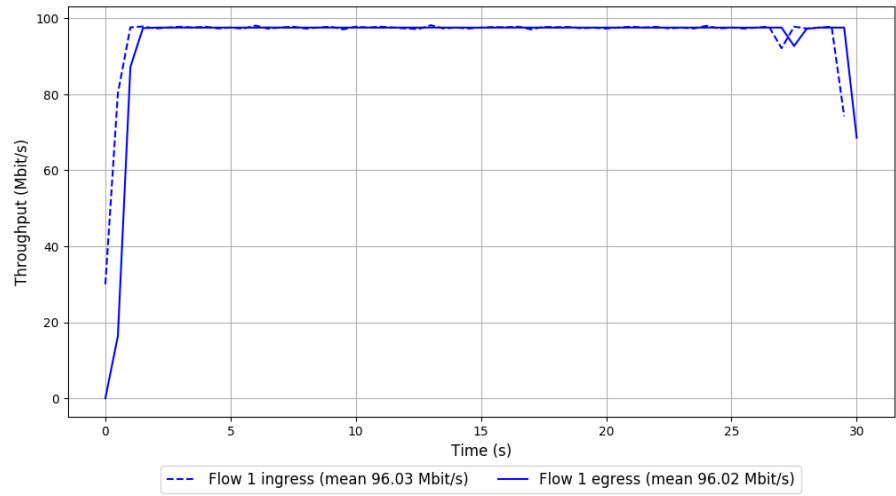


Run 1: Statistics of Indigo

Start at: 2018-09-25 12:19:02
End at: 2018-09-25 12:19:32
Local clock offset: -0.465 ms
Remote clock offset: -1.494 ms

Below is generated by plot.py at 2018-09-25 14:28:52
Datalink statistics
-- Total of 1 flow:
Average throughput: 96.02 Mbit/s
95th percentile per-packet one-way delay: 38.468 ms
Loss rate: 0.22%
-- Flow 1:
Average throughput: 96.02 Mbit/s
95th percentile per-packet one-way delay: 38.468 ms
Loss rate: 0.22%

Run 1: Report of Indigo — Data Link



Run 2: Statistics of Indigo

Start at: 2018-09-25 12:44:12

End at: 2018-09-25 12:44:42

Local clock offset: -0.498 ms

Remote clock offset: 0.023 ms

Below is generated by plot.py at 2018-09-25 14:28:52

Datalink statistics

-- Total of 1 flow:

Average throughput: 95.94 Mbit/s

95th percentile per-packet one-way delay: 37.695 ms

Loss rate: 0.23%

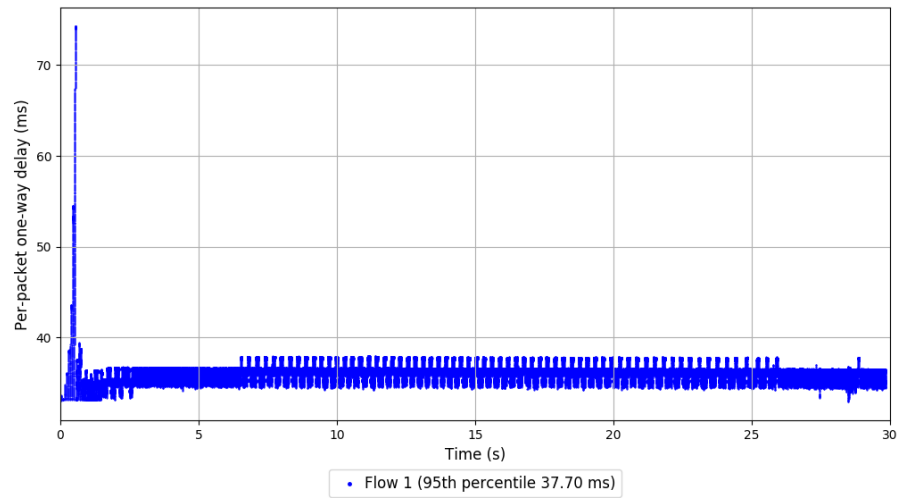
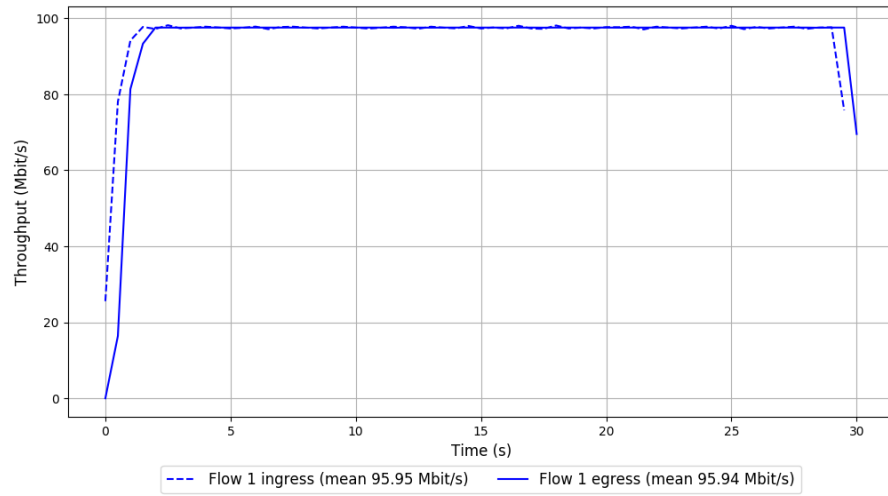
-- Flow 1:

Average throughput: 95.94 Mbit/s

95th percentile per-packet one-way delay: 37.695 ms

Loss rate: 0.23%

Run 2: Report of Indigo — Data Link



Run 3: Statistics of Indigo

Start at: 2018-09-25 13:09:26

End at: 2018-09-25 13:09:56

Local clock offset: 4.637 ms

Remote clock offset: 1.269 ms

Below is generated by plot.py at 2018-09-25 14:29:21

Datalink statistics

-- Total of 1 flow:

Average throughput: 95.85 Mbit/s

95th percentile per-packet one-way delay: 38.405 ms

Loss rate: 0.23%

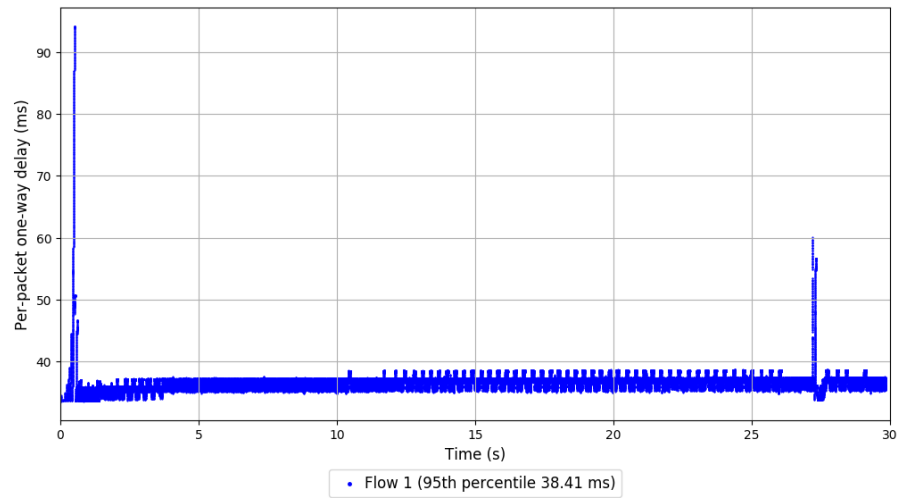
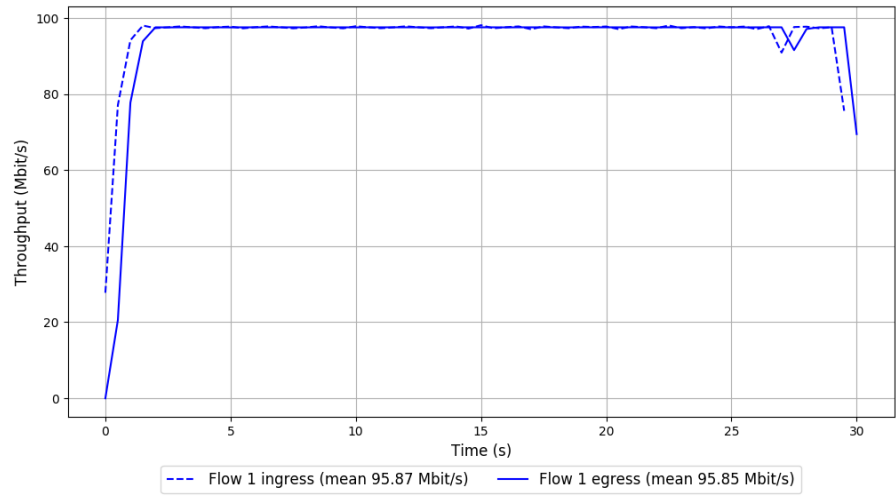
-- Flow 1:

Average throughput: 95.85 Mbit/s

95th percentile per-packet one-way delay: 38.405 ms

Loss rate: 0.23%

Run 3: Report of Indigo — Data Link



Run 4: Statistics of Indigo

Start at: 2018-09-25 13:34:41

End at: 2018-09-25 13:35:11

Local clock offset: 0.45 ms

Remote clock offset: 1.334 ms

Below is generated by plot.py at 2018-09-25 14:29:32

Datalink statistics

-- Total of 1 flow:

Average throughput: 95.73 Mbit/s

95th percentile per-packet one-way delay: 38.139 ms

Loss rate: 0.23%

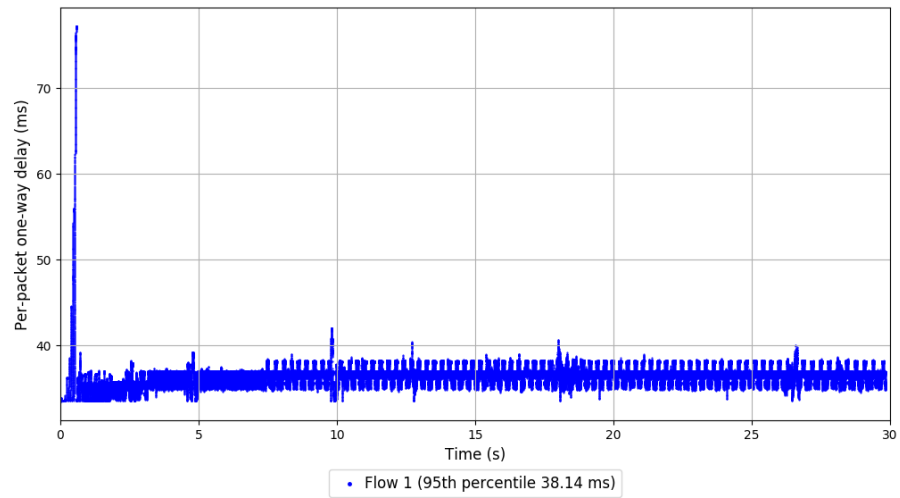
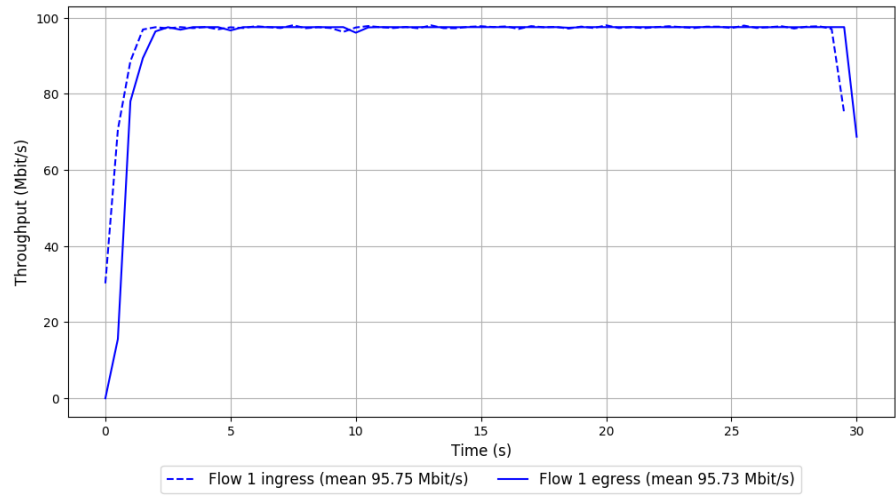
-- Flow 1:

Average throughput: 95.73 Mbit/s

95th percentile per-packet one-way delay: 38.139 ms

Loss rate: 0.23%

Run 4: Report of Indigo — Data Link



Run 5: Statistics of Indigo

Start at: 2018-09-25 14:00:06

End at: 2018-09-25 14:00:36

Local clock offset: 0.323 ms

Remote clock offset: 0.62 ms

Below is generated by plot.py at 2018-09-25 14:29:32

Datalink statistics

-- Total of 1 flow:

Average throughput: 95.99 Mbit/s

95th percentile per-packet one-way delay: 38.030 ms

Loss rate: 0.23%

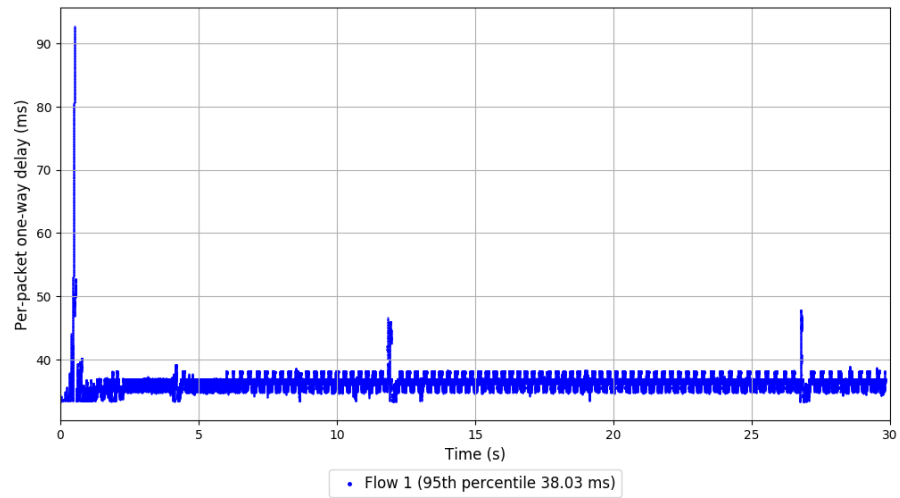
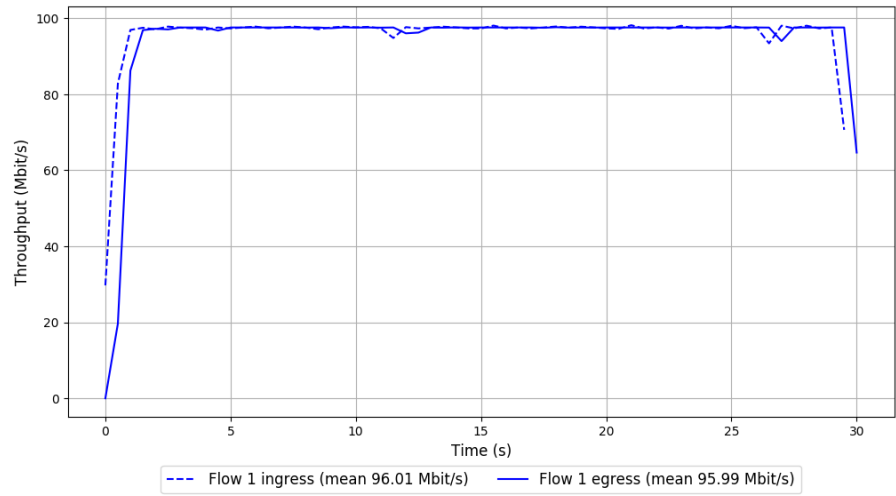
-- Flow 1:

Average throughput: 95.99 Mbit/s

95th percentile per-packet one-way delay: 38.030 ms

Loss rate: 0.23%

Run 5: Report of Indigo — Data Link

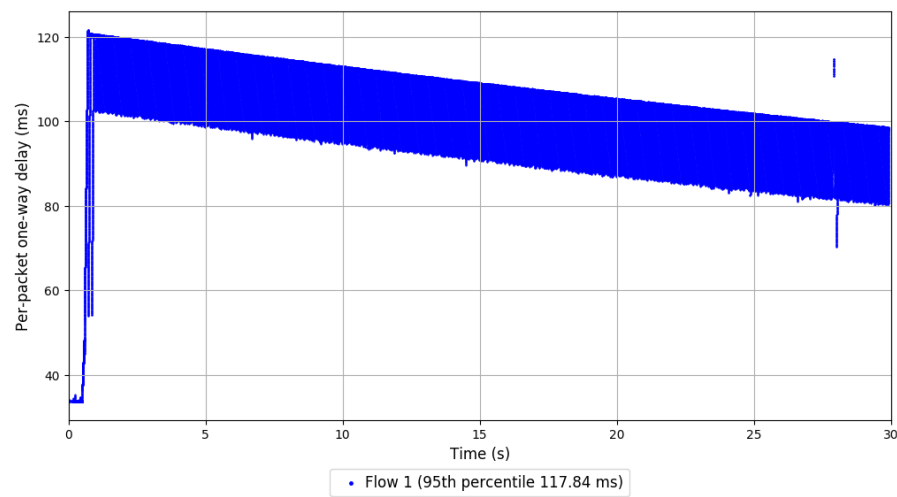
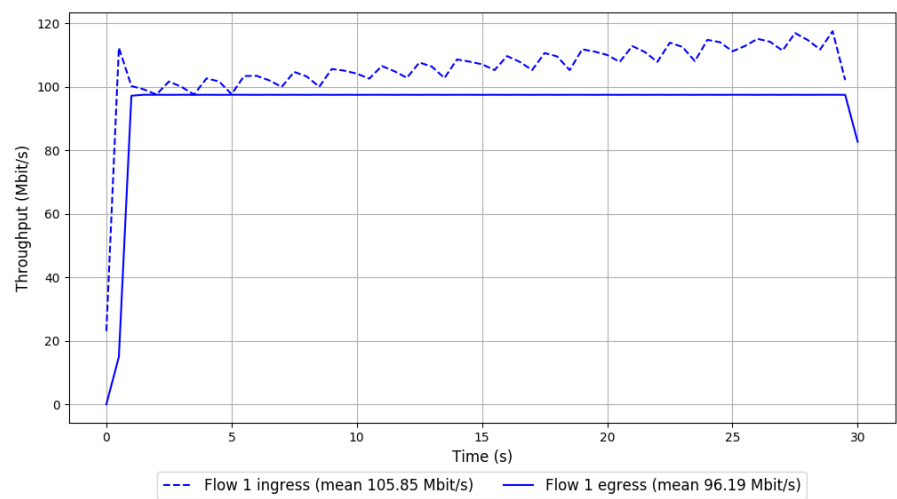


Run 1: Statistics of Indigo-96d2da3

Start at: 2018-09-25 12:36:22
End at: 2018-09-25 12:36:52
Local clock offset: -3.371 ms
Remote clock offset: -0.794 ms

Below is generated by plot.py at 2018-09-25 14:29:38
Datalink statistics
-- Total of 1 flow:
Average throughput: 96.19 Mbit/s
95th percentile per-packet one-way delay: 117.838 ms
Loss rate: 9.28%
-- Flow 1:
Average throughput: 96.19 Mbit/s
95th percentile per-packet one-way delay: 117.838 ms
Loss rate: 9.28%

Run 1: Report of Indigo-96d2da3 — Data Link



Run 2: Statistics of Indigo-96d2da3

Start at: 2018-09-25 13:01:33

End at: 2018-09-25 13:02:03

Local clock offset: 3.878 ms

Remote clock offset: 0.852 ms

Below is generated by plot.py at 2018-09-25 14:29:57

Datalink statistics

-- Total of 1 flow:

Average throughput: 96.14 Mbit/s

95th percentile per-packet one-way delay: 119.096 ms

Loss rate: 8.52%

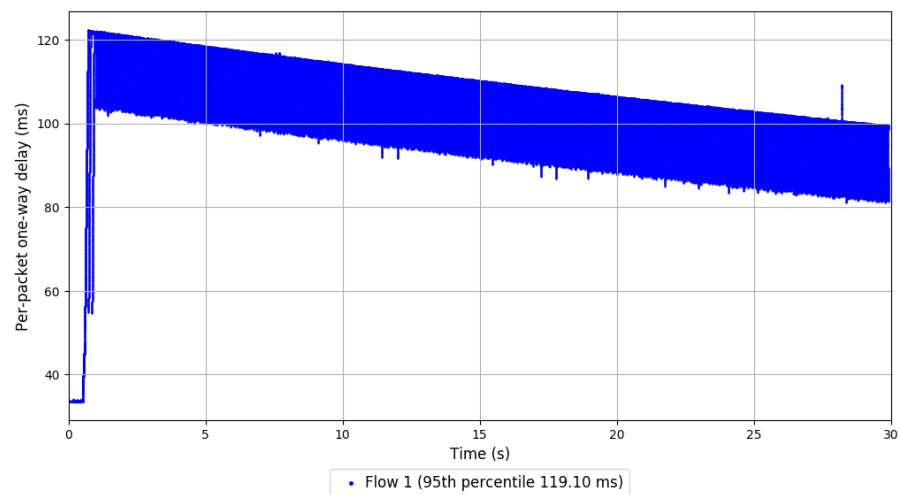
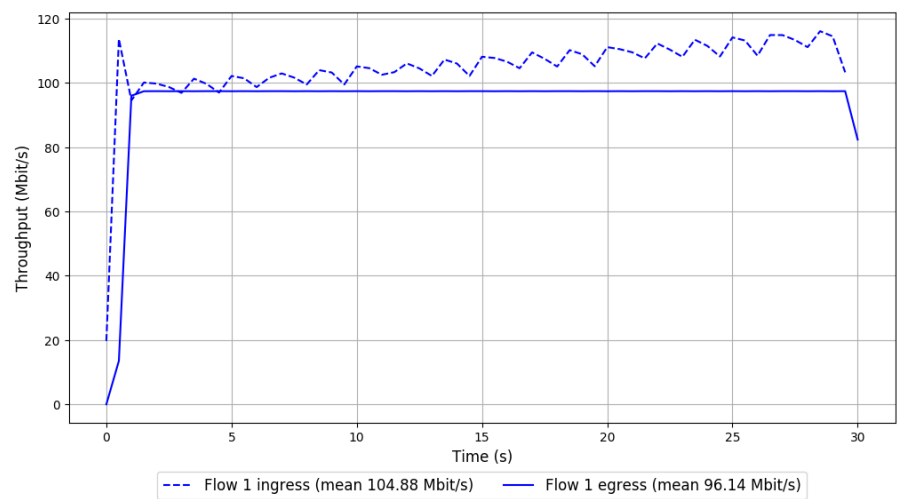
-- Flow 1:

Average throughput: 96.14 Mbit/s

95th percentile per-packet one-way delay: 119.096 ms

Loss rate: 8.52%

Run 2: Report of Indigo-96d2da3 — Data Link



Run 3: Statistics of Indigo-96d2da3

Start at: 2018-09-25 13:26:48

End at: 2018-09-25 13:27:18

Local clock offset: 0.825 ms

Remote clock offset: 1.532 ms

Below is generated by plot.py at 2018-09-25 14:29:57

Datalink statistics

-- Total of 1 flow:

Average throughput: 71.24 Mbit/s

95th percentile per-packet one-way delay: 484.072 ms

Loss rate: 1.95%

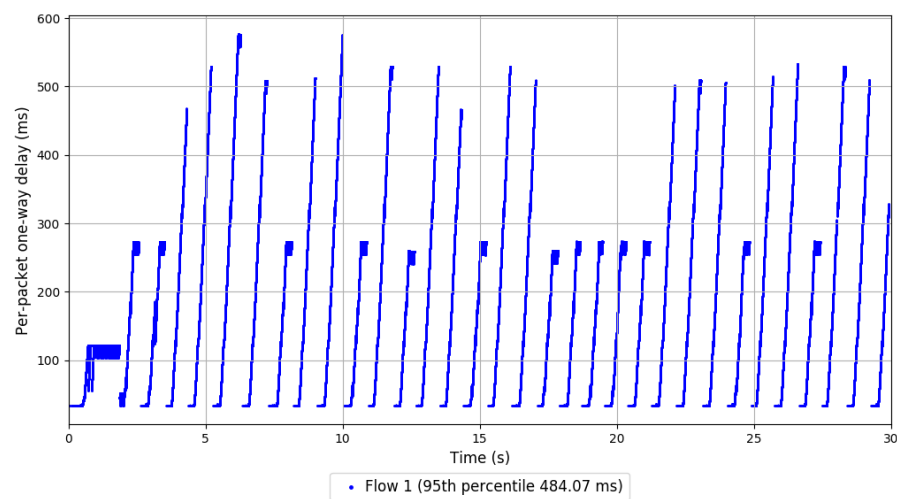
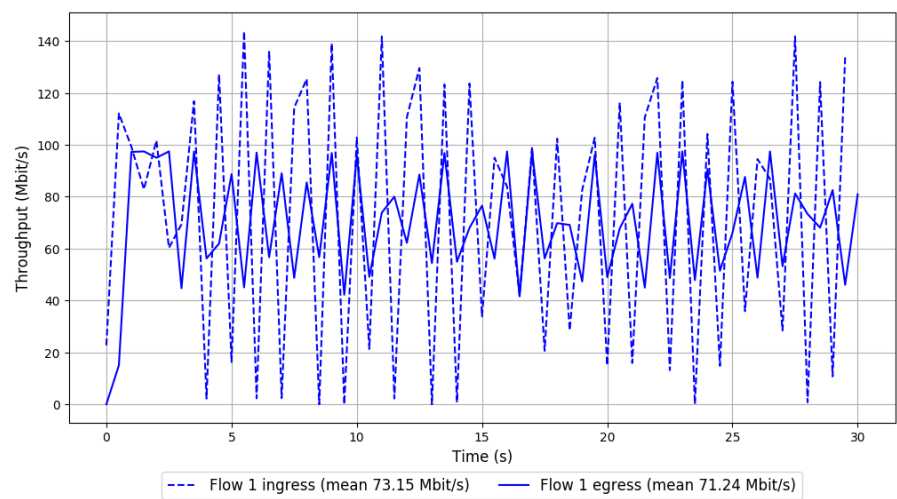
-- Flow 1:

Average throughput: 71.24 Mbit/s

95th percentile per-packet one-way delay: 484.072 ms

Loss rate: 1.95%

Run 3: Report of Indigo-96d2da3 — Data Link



Run 4: Statistics of Indigo-96d2da3

Start at: 2018-09-25 13:52:06

End at: 2018-09-25 13:52:36

Local clock offset: 0.355 ms

Remote clock offset: 0.812 ms

Below is generated by plot.py at 2018-09-25 14:29:57

Datalink statistics

-- Total of 1 flow:

Average throughput: 70.96 Mbit/s

95th percentile per-packet one-way delay: 503.948 ms

Loss rate: 1.56%

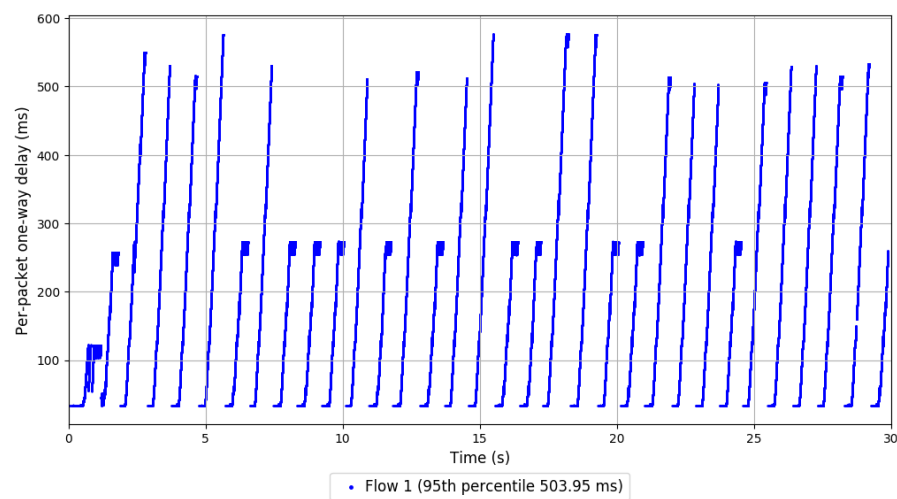
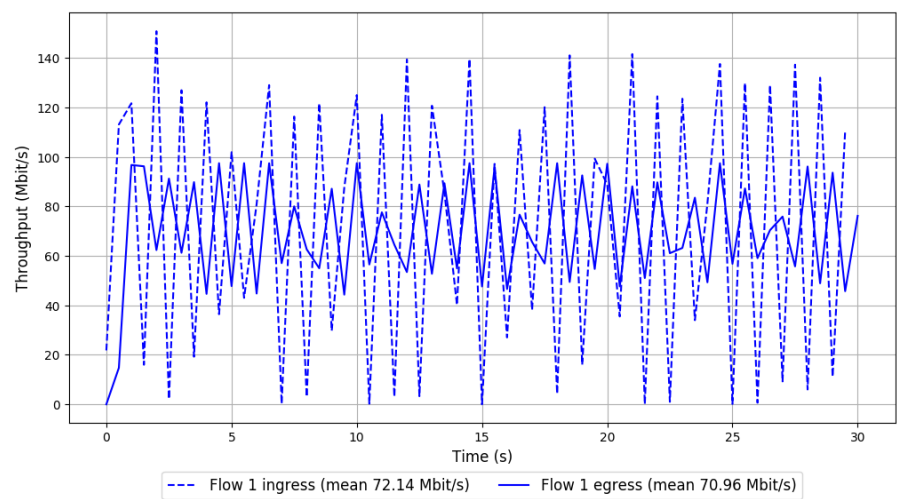
-- Flow 1:

Average throughput: 70.96 Mbit/s

95th percentile per-packet one-way delay: 503.948 ms

Loss rate: 1.56%

Run 4: Report of Indigo-96d2da3 — Data Link



Run 5: Statistics of Indigo-96d2da3

Start at: 2018-09-25 14:17:48

End at: 2018-09-25 14:18:18

Local clock offset: -0.155 ms

Remote clock offset: 0.158 ms

Below is generated by plot.py at 2018-09-25 14:30:08

Datalink statistics

-- Total of 1 flow:

Average throughput: 96.13 Mbit/s

95th percentile per-packet one-way delay: 118.034 ms

Loss rate: 8.94%

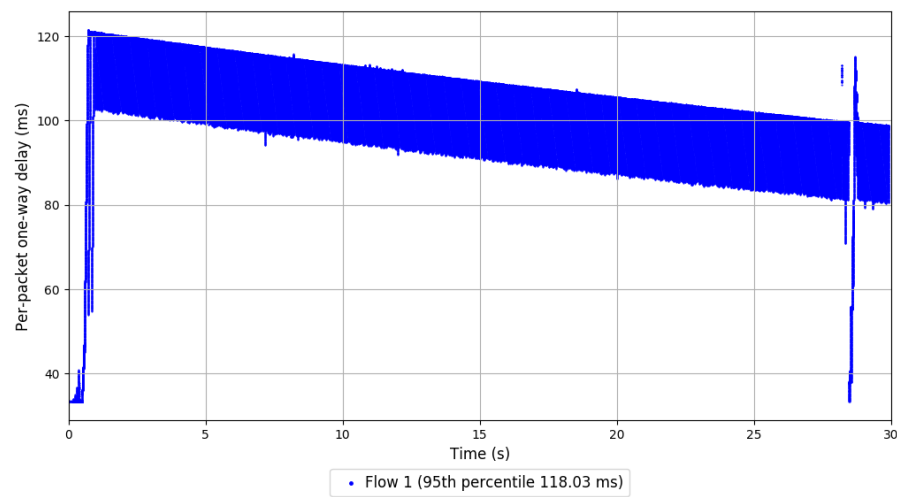
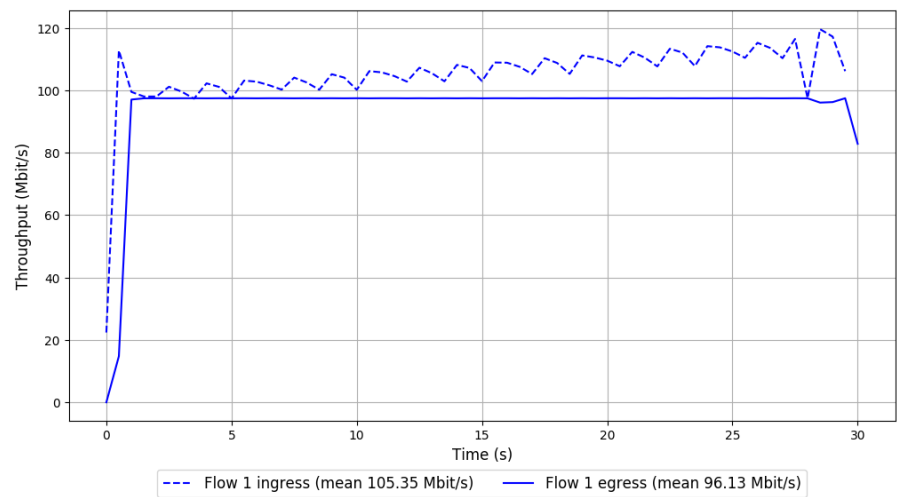
-- Flow 1:

Average throughput: 96.13 Mbit/s

95th percentile per-packet one-way delay: 118.034 ms

Loss rate: 8.94%

Run 5: Report of Indigo-96d2da3 — Data Link

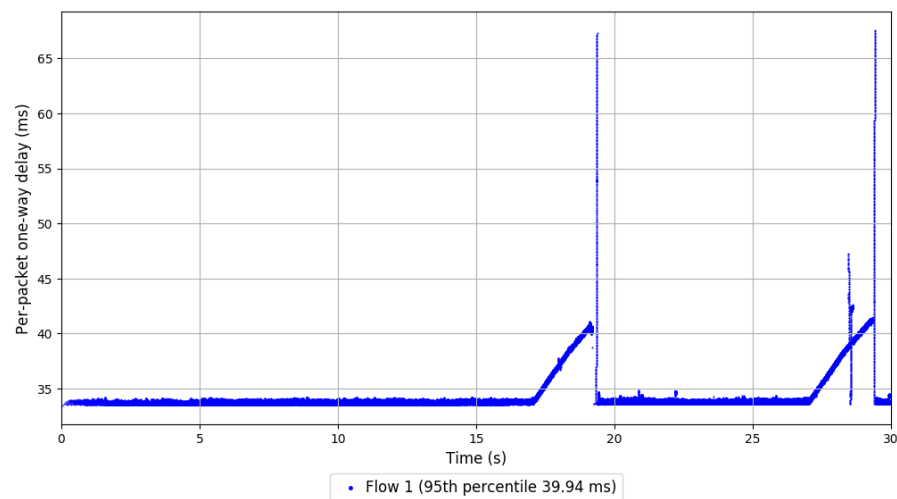
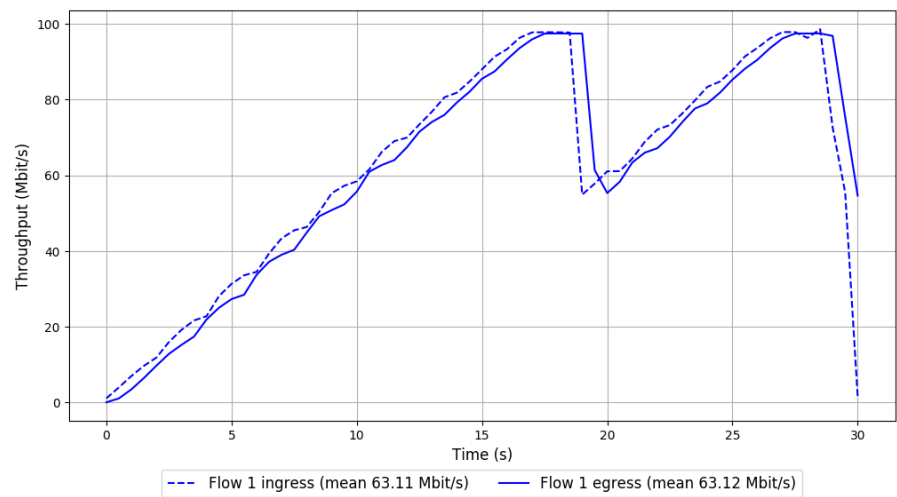


Run 1: Statistics of LEDBAT

Start at: 2018-09-25 12:29:45
End at: 2018-09-25 12:30:15
Local clock offset: -2.699 ms
Remote clock offset: -0.971 ms

Below is generated by plot.py at 2018-09-25 14:30:09
Datalink statistics
-- Total of 1 flow:
Average throughput: 63.12 Mbit/s
95th percentile per-packet one-way delay: 39.935 ms
Loss rate: 0.20%
-- Flow 1:
Average throughput: 63.12 Mbit/s
95th percentile per-packet one-way delay: 39.935 ms
Loss rate: 0.20%

Run 1: Report of LEDBAT — Data Link



Run 2: Statistics of LEDBAT

Start at: 2018-09-25 12:54:55

End at: 2018-09-25 12:55:25

Local clock offset: 2.933 ms

Remote clock offset: 0.812 ms

Below is generated by plot.py at 2018-09-25 14:30:19

Datalink statistics

-- Total of 1 flow:

Average throughput: 62.94 Mbit/s

95th percentile per-packet one-way delay: 39.403 ms

Loss rate: 0.20%

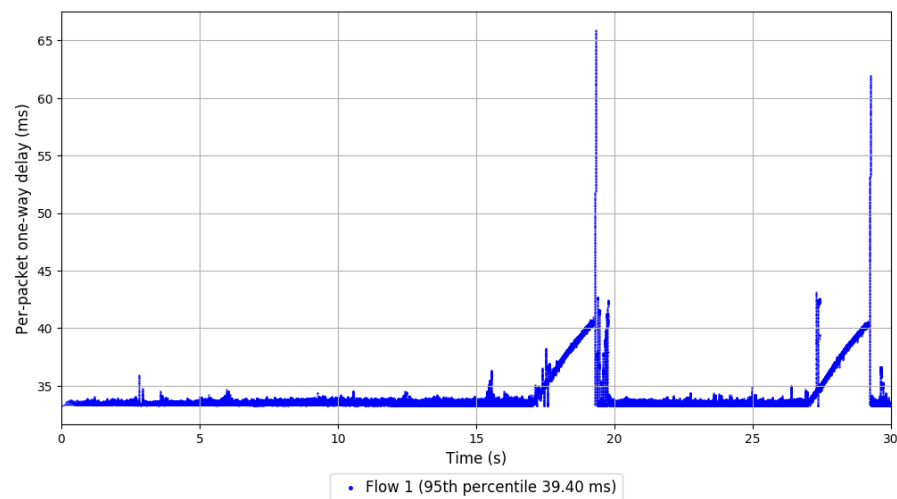
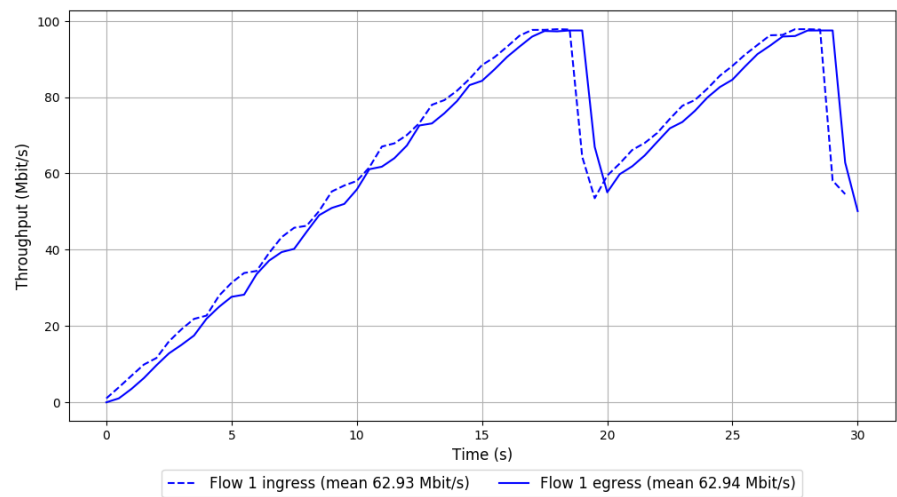
-- Flow 1:

Average throughput: 62.94 Mbit/s

95th percentile per-packet one-way delay: 39.403 ms

Loss rate: 0.20%

Run 2: Report of LEDBAT — Data Link



Run 3: Statistics of LEDBAT

Start at: 2018-09-25 13:20:09

End at: 2018-09-25 13:20:39

Local clock offset: 1.499 ms

Remote clock offset: 1.4 ms

Below is generated by plot.py at 2018-09-25 14:30:19

Datalink statistics

-- Total of 1 flow:

Average throughput: 62.98 Mbit/s

95th percentile per-packet one-way delay: 39.458 ms

Loss rate: 0.20%

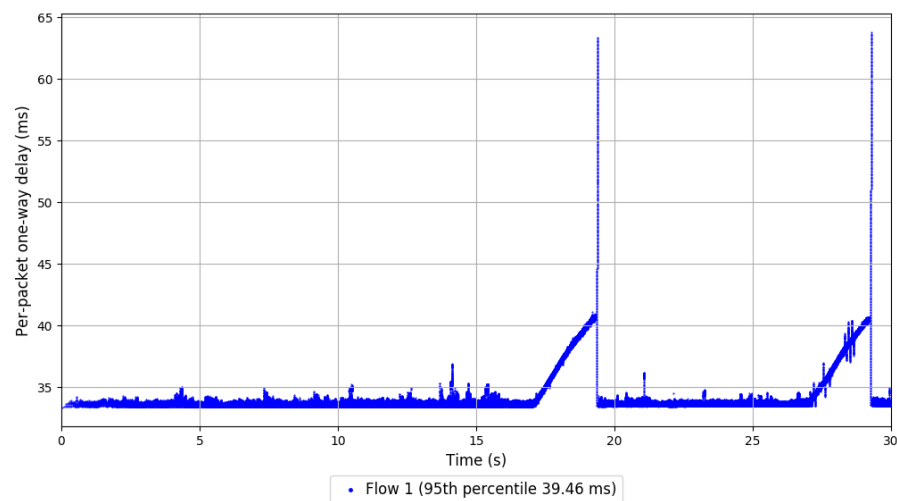
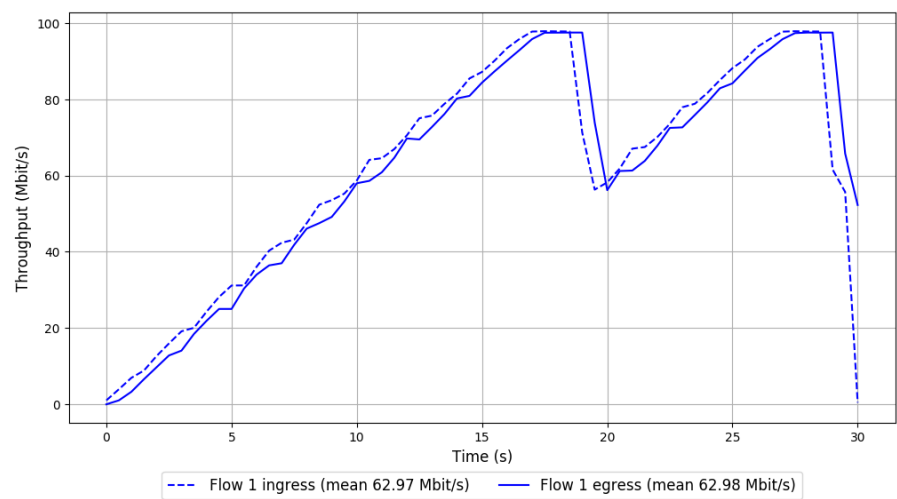
-- Flow 1:

Average throughput: 62.98 Mbit/s

95th percentile per-packet one-way delay: 39.458 ms

Loss rate: 0.20%

Run 3: Report of LEDBAT — Data Link



Run 4: Statistics of LEDBAT

Start at: 2018-09-25 13:45:27

End at: 2018-09-25 13:45:57

Local clock offset: 0.337 ms

Remote clock offset: 1.027 ms

Below is generated by plot.py at 2018-09-25 14:30:23

Datalink statistics

-- Total of 1 flow:

Average throughput: 63.30 Mbit/s

95th percentile per-packet one-way delay: 39.717 ms

Loss rate: 0.20%

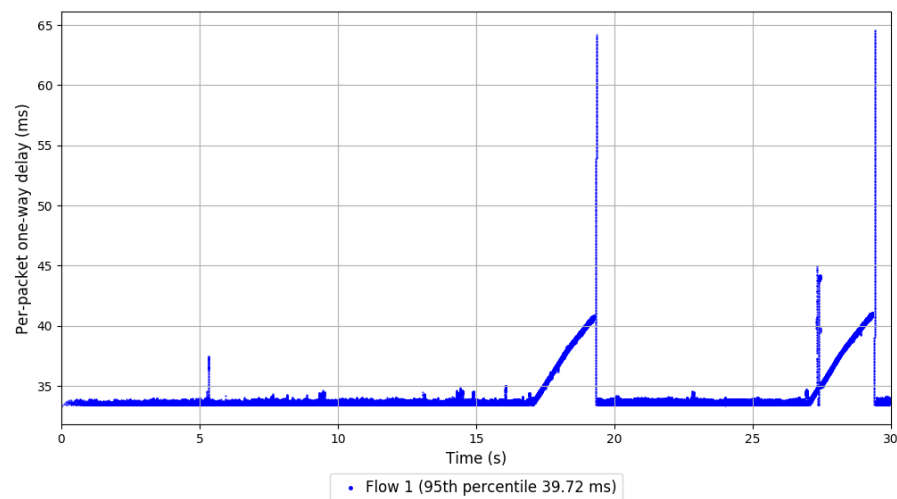
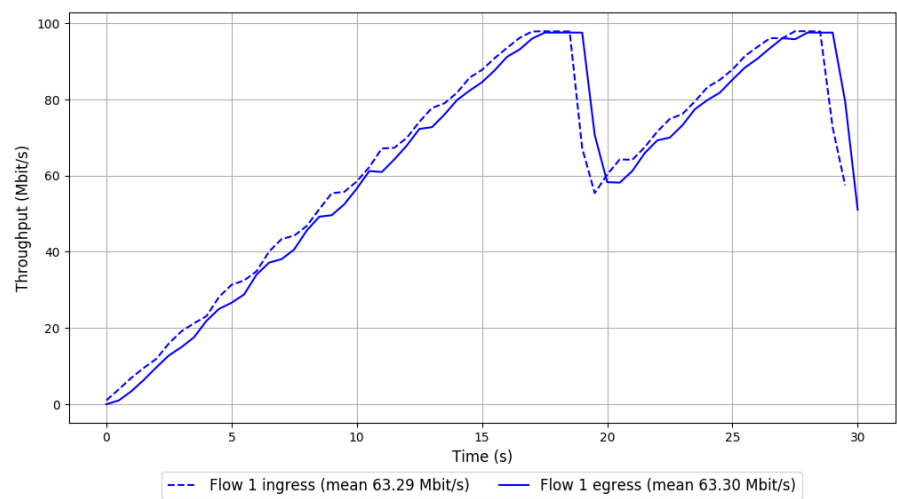
-- Flow 1:

Average throughput: 63.30 Mbit/s

95th percentile per-packet one-way delay: 39.717 ms

Loss rate: 0.20%

Run 4: Report of LEDBAT — Data Link



Run 5: Statistics of LEDBAT

Start at: 2018-09-25 14:11:00

End at: 2018-09-25 14:11:30

Local clock offset: 0.18 ms

Remote clock offset: 0.438 ms

Below is generated by plot.py at 2018-09-25 14:30:27

Datalink statistics

-- Total of 1 flow:

Average throughput: 63.27 Mbit/s

95th percentile per-packet one-way delay: 39.629 ms

Loss rate: 0.20%

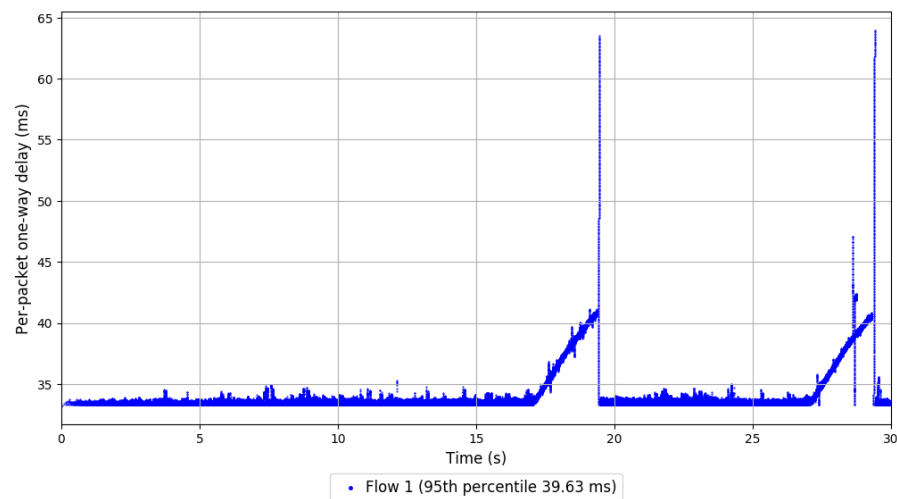
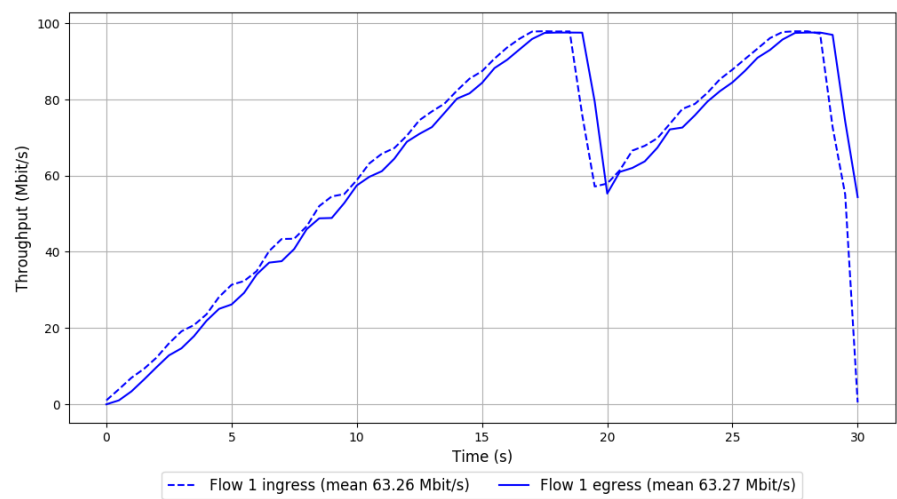
-- Flow 1:

Average throughput: 63.27 Mbit/s

95th percentile per-packet one-way delay: 39.629 ms

Loss rate: 0.20%

Run 5: Report of LEDBAT — Data Link

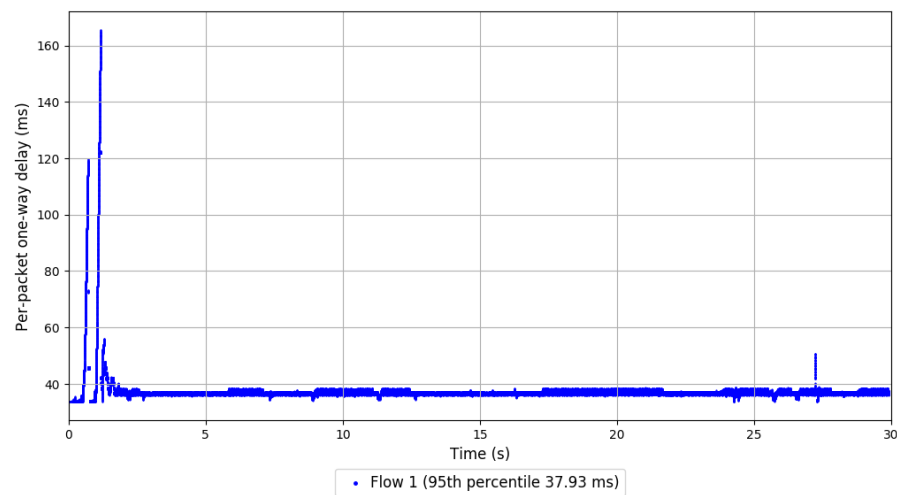
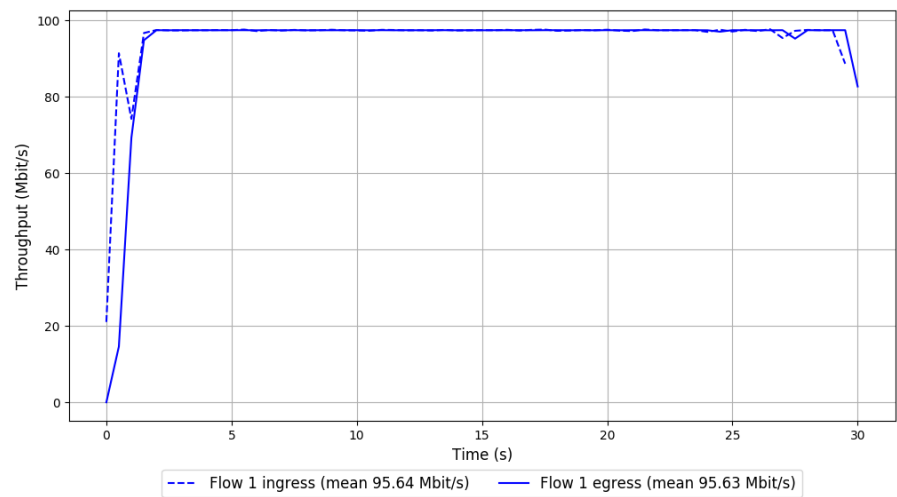


```
Run 1: Statistics of Indigo-Muses

Start at: 2018-09-25 12:33:46
End at: 2018-09-25 12:34:16
Local clock offset: -3.148 ms
Remote clock offset: -0.953 ms

# Below is generated by plot.py at 2018-09-25 14:30:50
# Datalink statistics
-- Total of 1 flow:
Average throughput: 95.63 Mbit/s
95th percentile per-packet one-way delay: 37.931 ms
Loss rate: 0.23%
-- Flow 1:
Average throughput: 95.63 Mbit/s
95th percentile per-packet one-way delay: 37.931 ms
Loss rate: 0.23%
```

Run 1: Report of Indigo-Muses — Data Link



Run 2: Statistics of Indigo-Muses

Start at: 2018-09-25 12:58:57

End at: 2018-09-25 12:59:27

Local clock offset: 3.55 ms

Remote clock offset: 0.972 ms

Below is generated by plot.py at 2018-09-25 14:31:03

Datalink statistics

-- Total of 1 flow:

Average throughput: 95.64 Mbit/s

95th percentile per-packet one-way delay: 37.426 ms

Loss rate: 0.23%

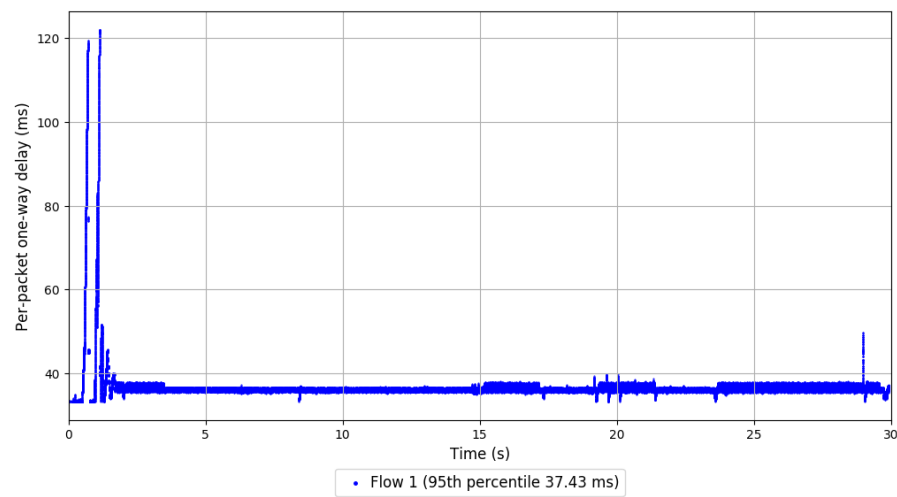
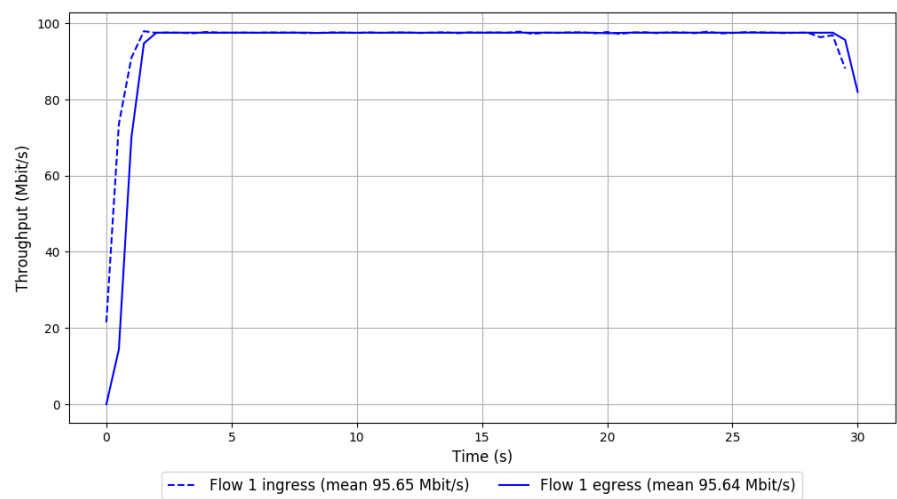
-- Flow 1:

Average throughput: 95.64 Mbit/s

95th percentile per-packet one-way delay: 37.426 ms

Loss rate: 0.23%

Run 2: Report of Indigo-Muses — Data Link



Run 3: Statistics of Indigo-Muses

Start at: 2018-09-25 13:24:12

End at: 2018-09-25 13:24:42

Local clock offset: 1.031 ms

Remote clock offset: 1.5 ms

Below is generated by plot.py at 2018-09-25 14:31:17

Datalink statistics

-- Total of 1 flow:

Average throughput: 94.76 Mbit/s

95th percentile per-packet one-way delay: 37.732 ms

Loss rate: 0.23%

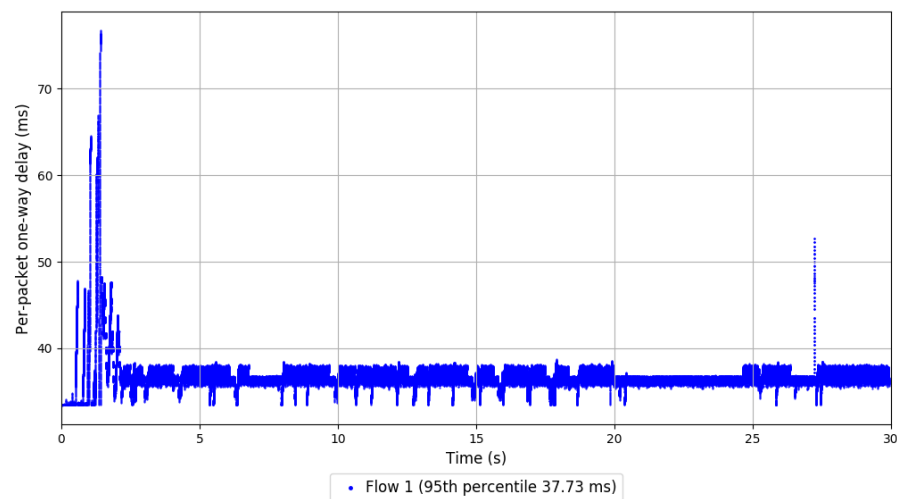
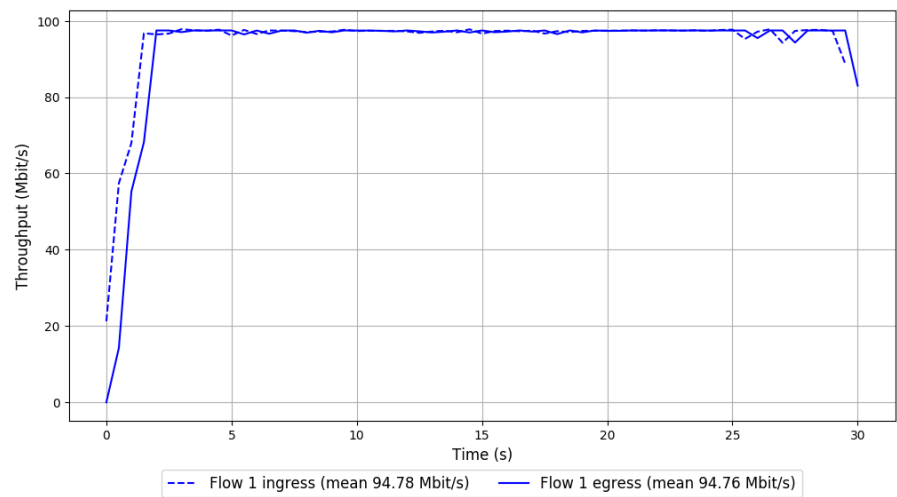
-- Flow 1:

Average throughput: 94.76 Mbit/s

95th percentile per-packet one-way delay: 37.732 ms

Loss rate: 0.23%

Run 3: Report of Indigo-Muses — Data Link



Run 4: Statistics of Indigo-Muses

Start at: 2018-09-25 13:49:29

End at: 2018-09-25 13:49:59

Local clock offset: 0.362 ms

Remote clock offset: 0.756 ms

Below is generated by plot.py at 2018-09-25 14:31:18

Datalink statistics

-- Total of 1 flow:

Average throughput: 95.02 Mbit/s

95th percentile per-packet one-way delay: 37.711 ms

Loss rate: 0.23%

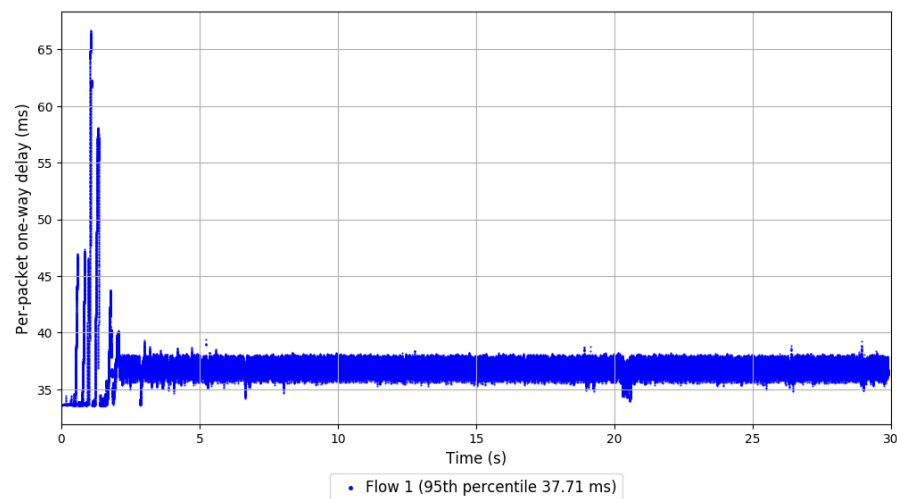
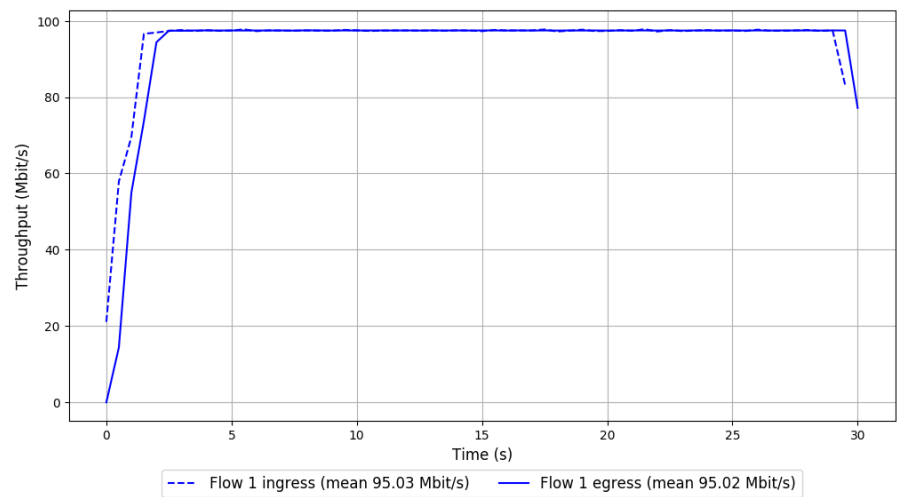
-- Flow 1:

Average throughput: 95.02 Mbit/s

95th percentile per-packet one-way delay: 37.711 ms

Loss rate: 0.23%

Run 4: Report of Indigo-Muses — Data Link



Run 5: Statistics of Indigo-Muses

Start at: 2018-09-25 14:15:10

End at: 2018-09-25 14:15:40

Local clock offset: -0.053 ms

Remote clock offset: 0.094 ms

Below is generated by plot.py at 2018-09-25 14:31:28

Datalink statistics

-- Total of 1 flow:

Average throughput: 95.24 Mbit/s

95th percentile per-packet one-way delay: 37.798 ms

Loss rate: 0.23%

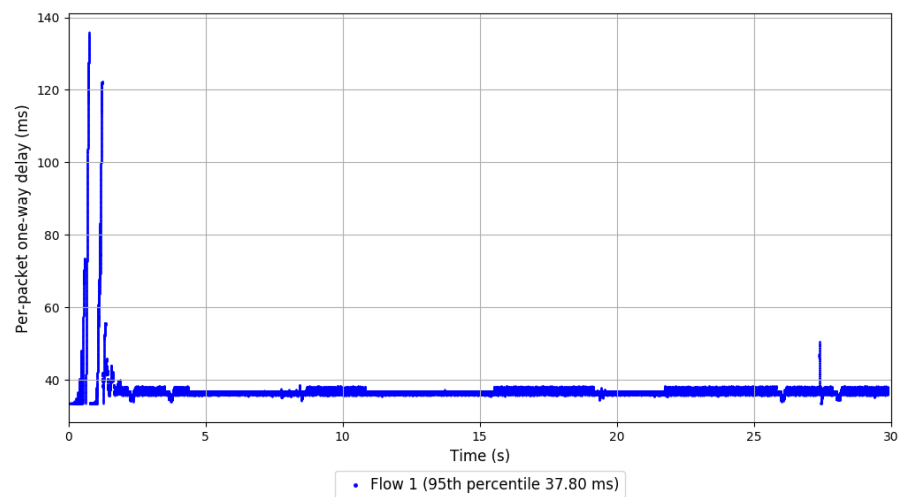
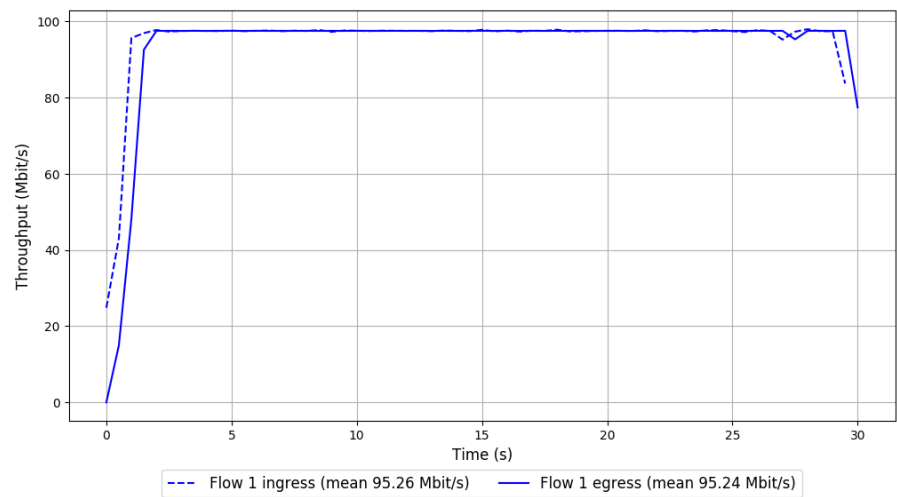
-- Flow 1:

Average throughput: 95.24 Mbit/s

95th percentile per-packet one-way delay: 37.798 ms

Loss rate: 0.23%

Run 5: Report of Indigo-Muses — Data Link



Run 1: Statistics of PCC-Allegro

Start at: 2018-09-25 12:20:23

End at: 2018-09-25 12:20:53

Local clock offset: -0.889 ms

Remote clock offset: -1.435 ms

Below is generated by plot.py at 2018-09-25 14:31:28

Datalink statistics

-- Total of 1 flow:

Average throughput: 91.54 Mbit/s

95th percentile per-packet one-way delay: 38.948 ms

Loss rate: 0.24%

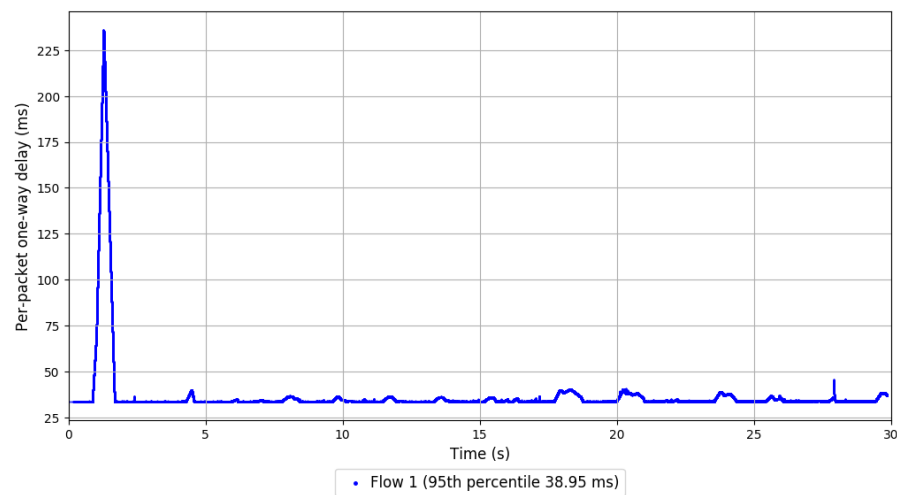
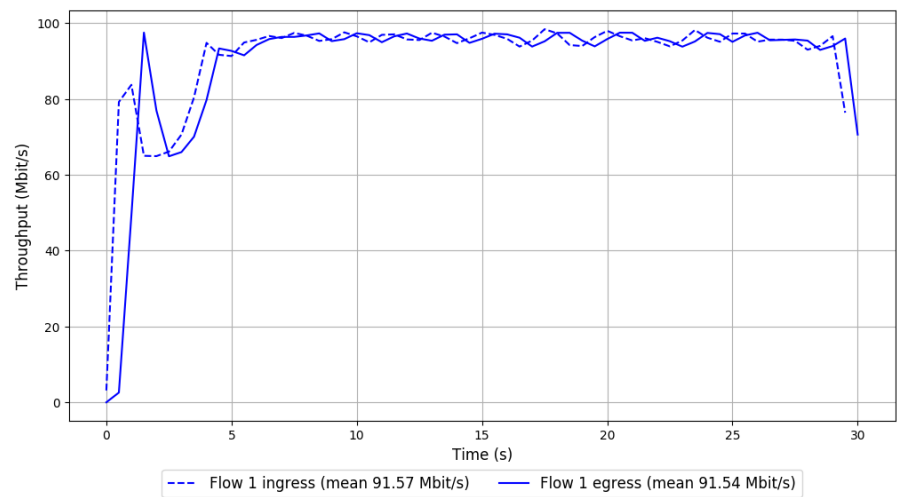
-- Flow 1:

Average throughput: 91.54 Mbit/s

95th percentile per-packet one-way delay: 38.948 ms

Loss rate: 0.24%

Run 1: Report of PCC-Allegro — Data Link



Run 2: Statistics of PCC-Allegro

Start at: 2018-09-25 12:45:33

End at: 2018-09-25 12:46:03

Local clock offset: 0.131 ms

Remote clock offset: 0.105 ms

Below is generated by plot.py at 2018-09-25 14:31:31

Datalink statistics

-- Total of 1 flow:

Average throughput: 91.43 Mbit/s

95th percentile per-packet one-way delay: 38.334 ms

Loss rate: 0.23%

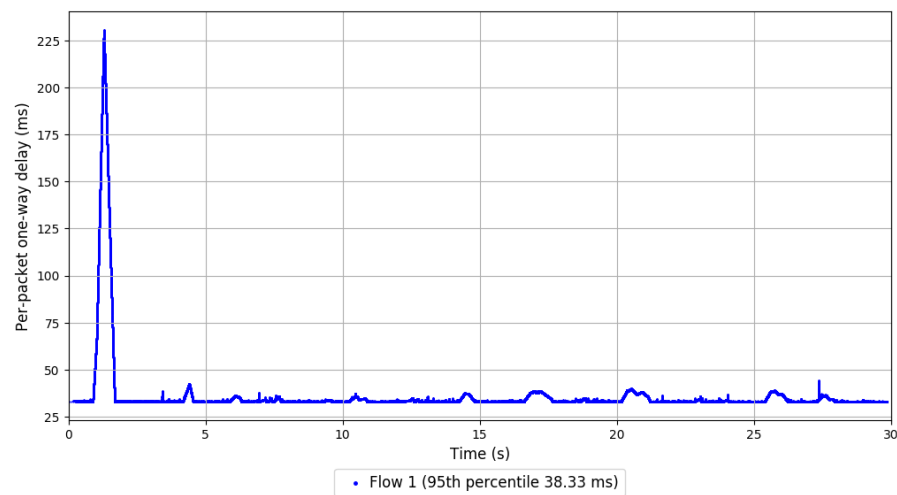
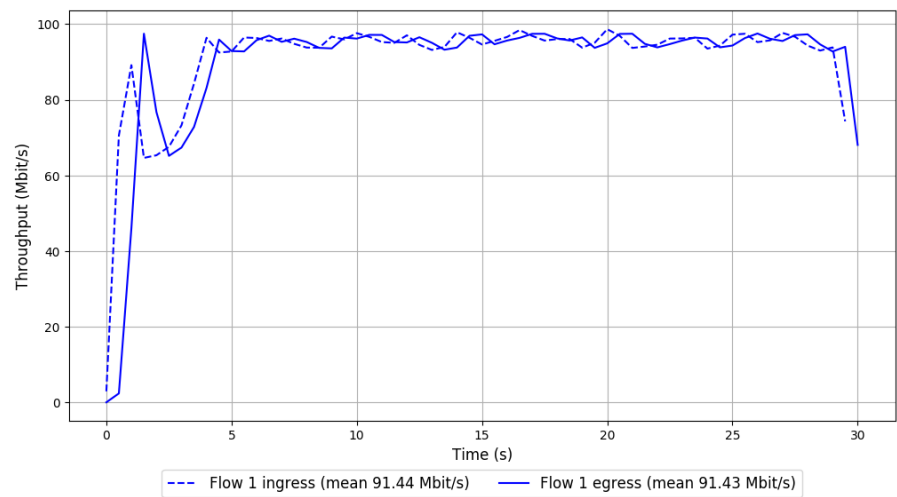
-- Flow 1:

Average throughput: 91.43 Mbit/s

95th percentile per-packet one-way delay: 38.334 ms

Loss rate: 0.23%

Run 2: Report of PCC-Allegro — Data Link



Run 3: Statistics of PCC-Allegro

Start at: 2018-09-25 13:10:47

End at: 2018-09-25 13:11:17

Local clock offset: 4.04 ms

Remote clock offset: 1.275 ms

Below is generated by plot.py at 2018-09-25 14:31:35

Datalink statistics

-- Total of 1 flow:

Average throughput: 91.73 Mbit/s

95th percentile per-packet one-way delay: 40.063 ms

Loss rate: 0.23%

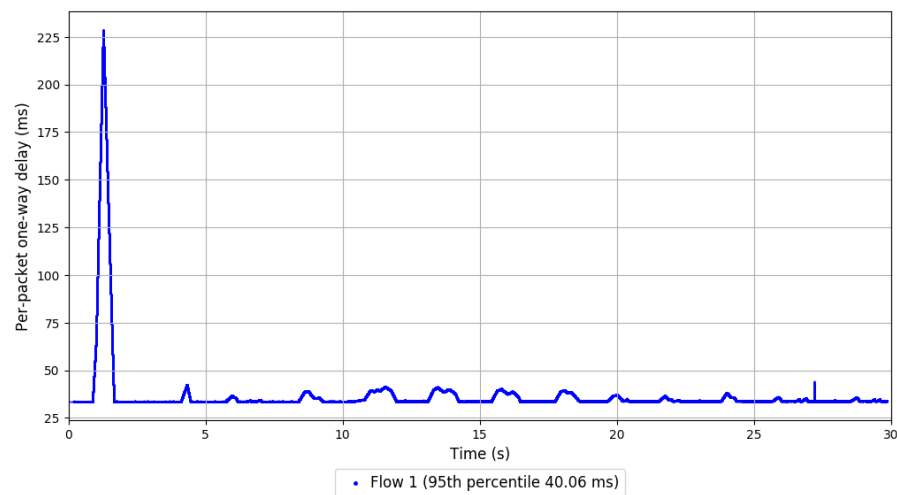
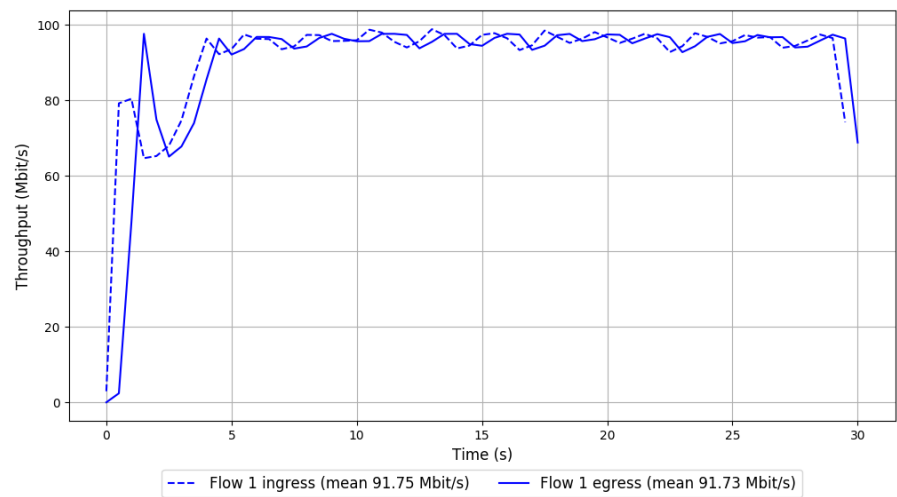
-- Flow 1:

Average throughput: 91.73 Mbit/s

95th percentile per-packet one-way delay: 40.063 ms

Loss rate: 0.23%

Run 3: Report of PCC-Allegro — Data Link



Run 4: Statistics of PCC-Allegro

Start at: 2018-09-25 13:36:02

End at: 2018-09-25 13:36:32

Local clock offset: 0.382 ms

Remote clock offset: 1.335 ms

Below is generated by plot.py at 2018-09-25 14:31:58

Datalink statistics

-- Total of 1 flow:

Average throughput: 91.63 Mbit/s

95th percentile per-packet one-way delay: 44.428 ms

Loss rate: 0.25%

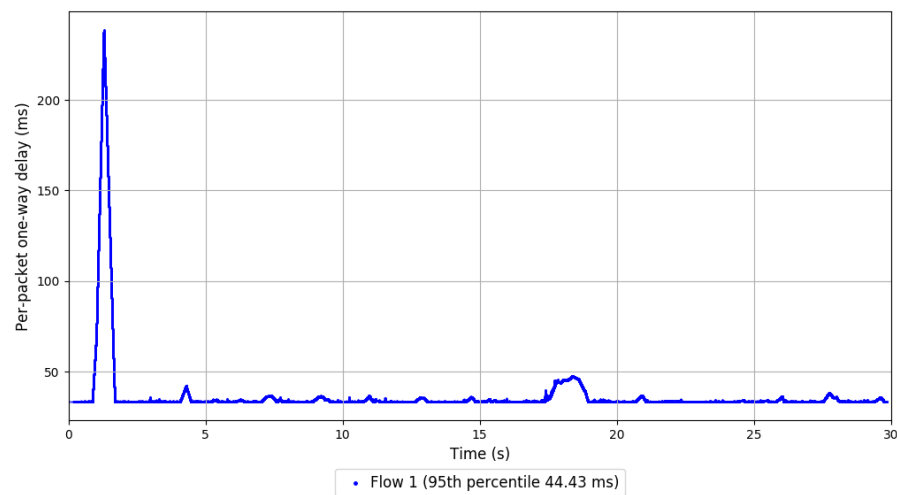
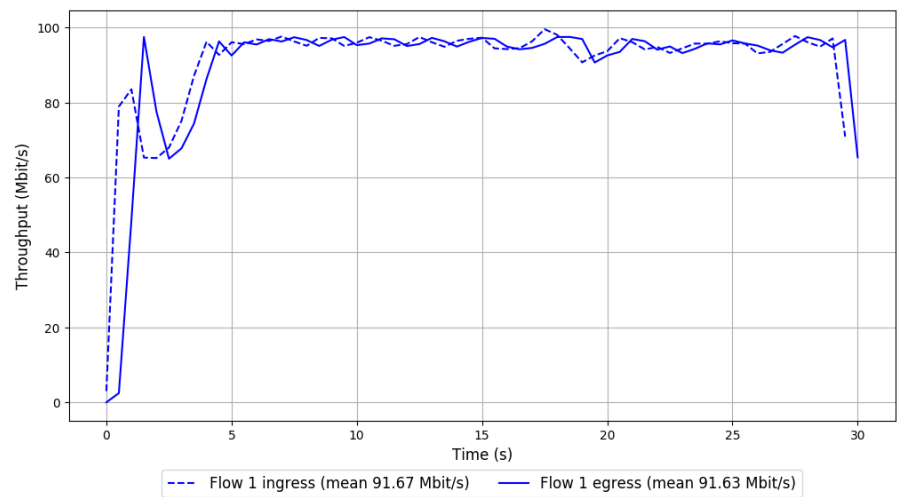
-- Flow 1:

Average throughput: 91.63 Mbit/s

95th percentile per-packet one-way delay: 44.428 ms

Loss rate: 0.25%

Run 4: Report of PCC-Allegro — Data Link



Run 5: Statistics of PCC-Allegro

Start at: 2018-09-25 14:01:28

End at: 2018-09-25 14:01:58

Local clock offset: 0.316 ms

Remote clock offset: 0.602 ms

Below is generated by plot.py at 2018-09-25 14:32:07

Datalink statistics

-- Total of 1 flow:

Average throughput: 91.94 Mbit/s

95th percentile per-packet one-way delay: 39.148 ms

Loss rate: 0.23%

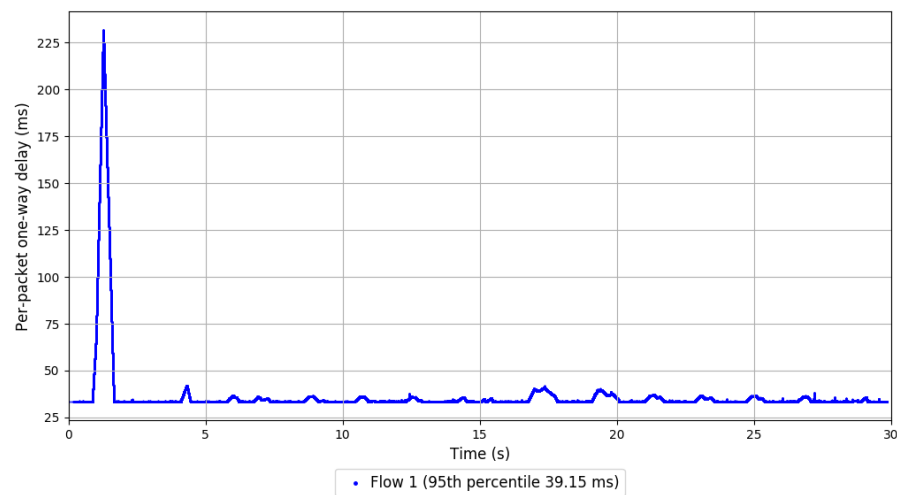
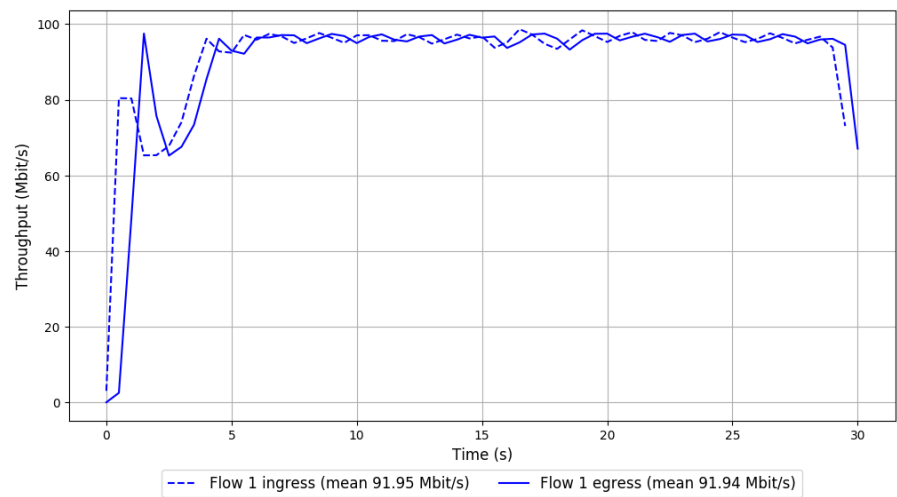
-- Flow 1:

Average throughput: 91.94 Mbit/s

95th percentile per-packet one-way delay: 39.148 ms

Loss rate: 0.23%

Run 5: Report of PCC-Allegro — Data Link



Run 1: Statistics of PCC-Expr

Start at: 2018-09-25 12:32:24

End at: 2018-09-25 12:32:54

Local clock offset: -3.001 ms

Remote clock offset: -0.657 ms

Below is generated by plot.py at 2018-09-25 14:33:13

Datalink statistics

-- Total of 1 flow:

Average throughput: 87.11 Mbit/s

95th percentile per-packet one-way delay: 152.720 ms

Loss rate: 0.46%

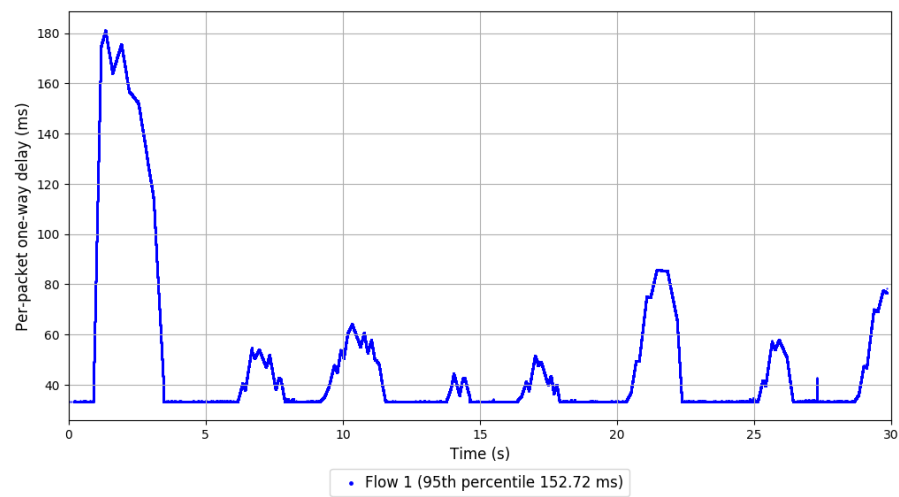
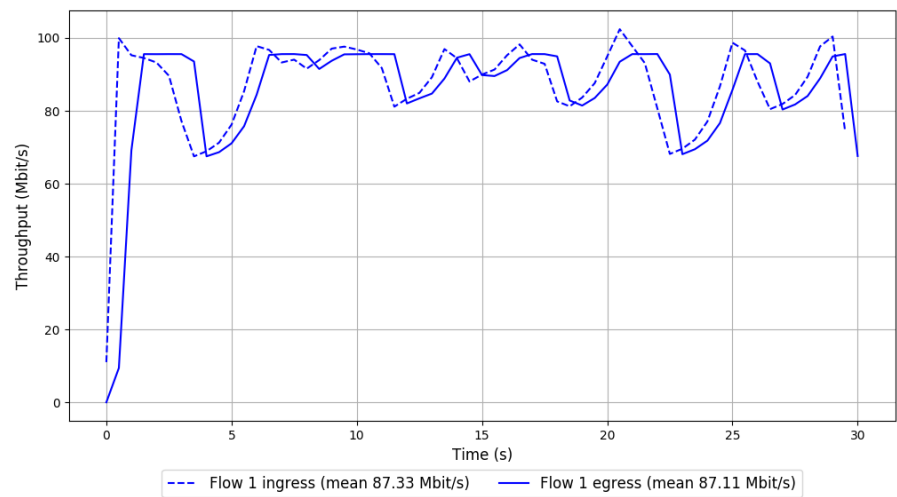
-- Flow 1:

Average throughput: 87.11 Mbit/s

95th percentile per-packet one-way delay: 152.720 ms

Loss rate: 0.46%

Run 1: Report of PCC-Expr — Data Link



Run 2: Statistics of PCC-Expr

Start at: 2018-09-25 12:57:35

End at: 2018-09-25 12:58:05

Local clock offset: 3.349 ms

Remote clock offset: 0.761 ms

Below is generated by plot.py at 2018-09-25 14:33:13

Datalink statistics

-- Total of 1 flow:

Average throughput: 85.19 Mbit/s

95th percentile per-packet one-way delay: 148.091 ms

Loss rate: 0.47%

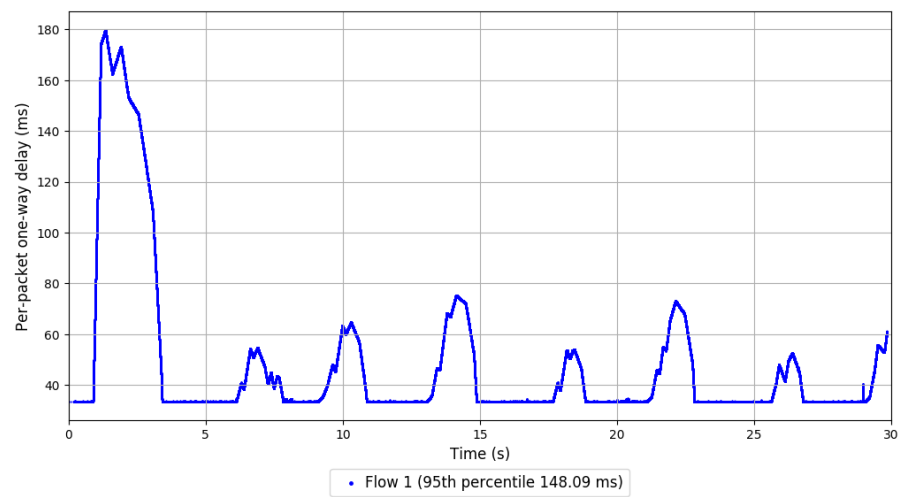
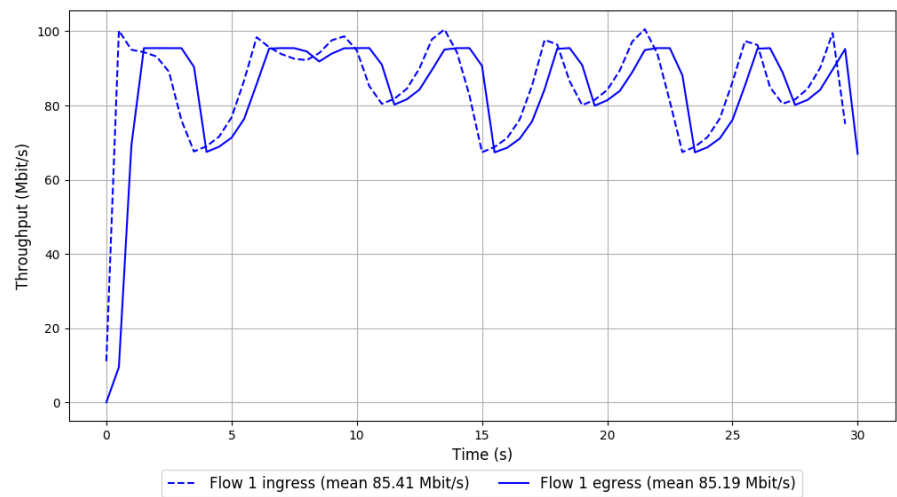
-- Flow 1:

Average throughput: 85.19 Mbit/s

95th percentile per-packet one-way delay: 148.091 ms

Loss rate: 0.47%

Run 2: Report of PCC-Expr — Data Link



Run 3: Statistics of PCC-Expr

Start at: 2018-09-25 13:22:49

End at: 2018-09-25 13:23:19

Local clock offset: 1.163 ms

Remote clock offset: 1.462 ms

Below is generated by plot.py at 2018-09-25 14:33:22

Datalink statistics

-- Total of 1 flow:

Average throughput: 86.08 Mbit/s

95th percentile per-packet one-way delay: 165.621 ms

Loss rate: 0.30%

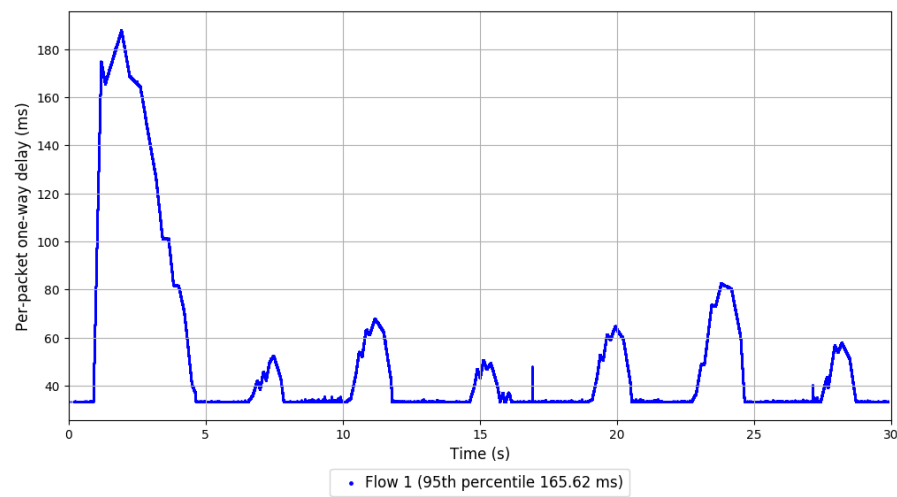
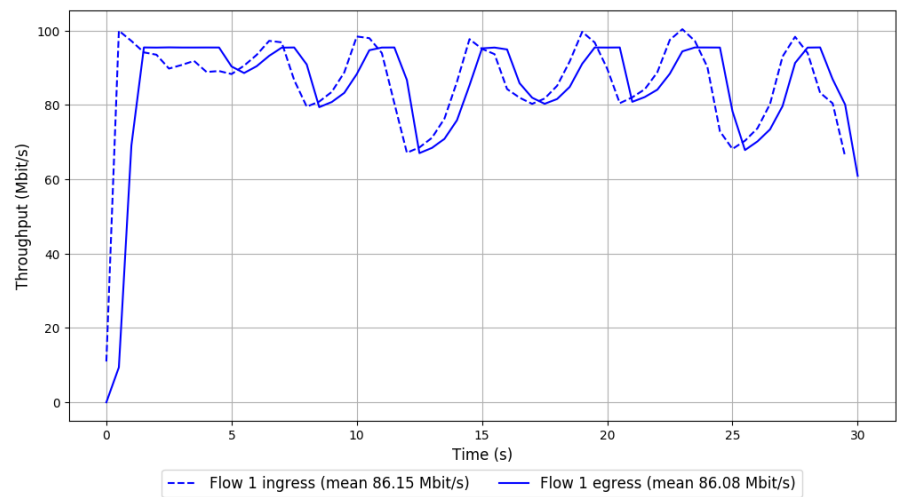
-- Flow 1:

Average throughput: 86.08 Mbit/s

95th percentile per-packet one-way delay: 165.621 ms

Loss rate: 0.30%

Run 3: Report of PCC-Expr — Data Link



Run 4: Statistics of PCC-Expr

Start at: 2018-09-25 13:48:07

End at: 2018-09-25 13:48:37

Local clock offset: 0.344 ms

Remote clock offset: 1.038 ms

Below is generated by plot.py at 2018-09-25 14:33:24

Datalink statistics

-- Total of 1 flow:

Average throughput: 86.57 Mbit/s

95th percentile per-packet one-way delay: 163.988 ms

Loss rate: 0.29%

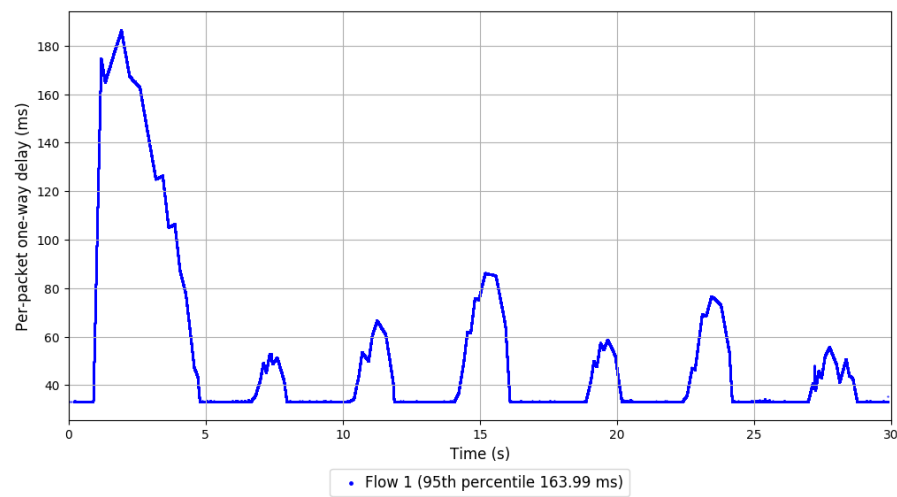
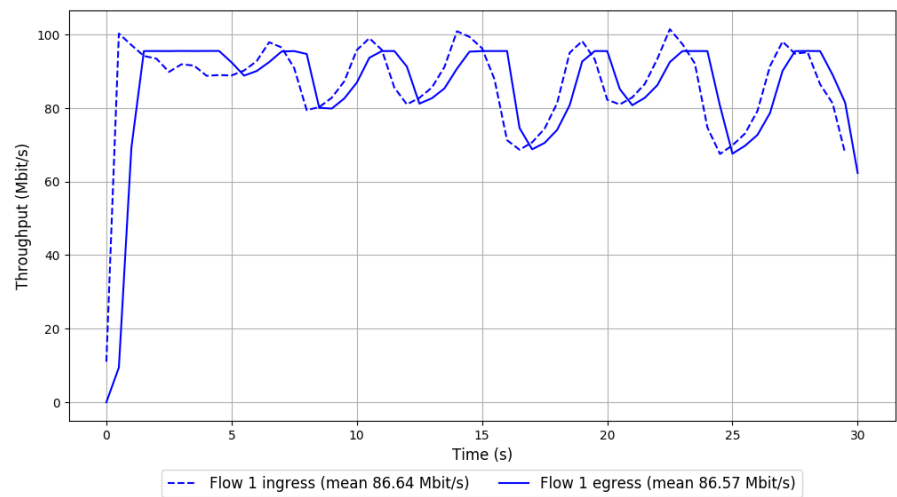
-- Flow 1:

Average throughput: 86.57 Mbit/s

95th percentile per-packet one-way delay: 163.988 ms

Loss rate: 0.29%

Run 4: Report of PCC-Expr — Data Link



Run 5: Statistics of PCC-Expr

Start at: 2018-09-25 14:13:44

End at: 2018-09-25 14:14:14

Local clock offset: 0.016 ms

Remote clock offset: 0.254 ms

Below is generated by plot.py at 2018-09-25 14:33:34

Datalink statistics

-- Total of 1 flow:

Average throughput: 87.82 Mbit/s

95th percentile per-packet one-way delay: 147.407 ms

Loss rate: 0.47%

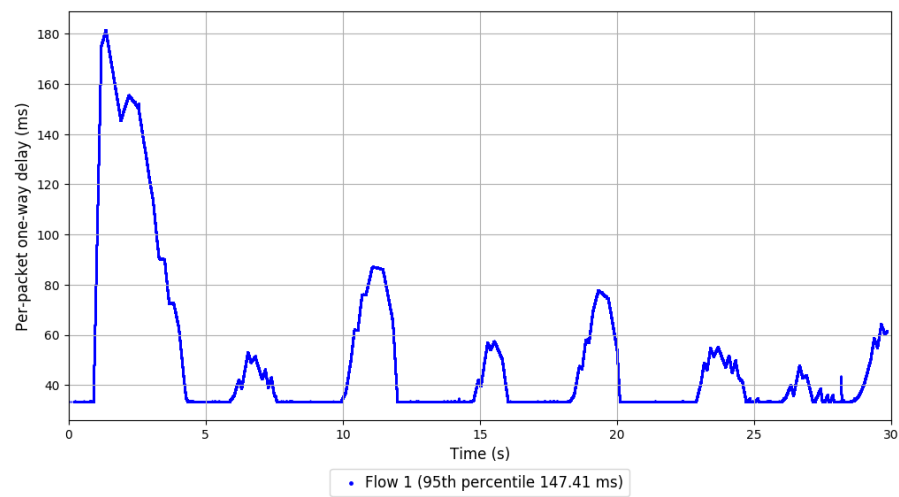
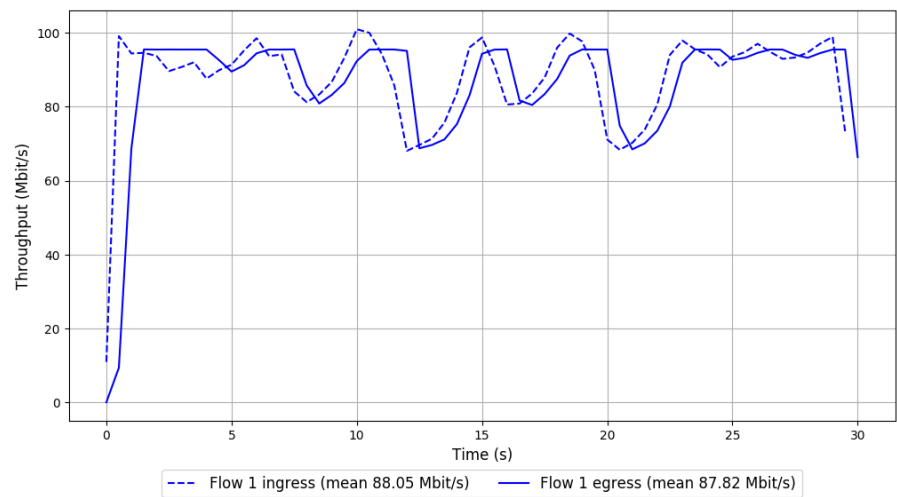
-- Flow 1:

Average throughput: 87.82 Mbit/s

95th percentile per-packet one-way delay: 147.407 ms

Loss rate: 0.47%

Run 5: Report of PCC-Expr — Data Link



Run 1: Statistics of QUIC Cubic

Start at: 2018-09-25 12:27:07

End at: 2018-09-25 12:27:37

Local clock offset: -2.361 ms

Remote clock offset: -1.188 ms

Below is generated by plot.py at 2018-09-25 14:33:34

Datalink statistics

-- Total of 1 flow:

Average throughput: 85.06 Mbit/s

95th percentile per-packet one-way delay: 40.632 ms

Loss rate: 0.26%

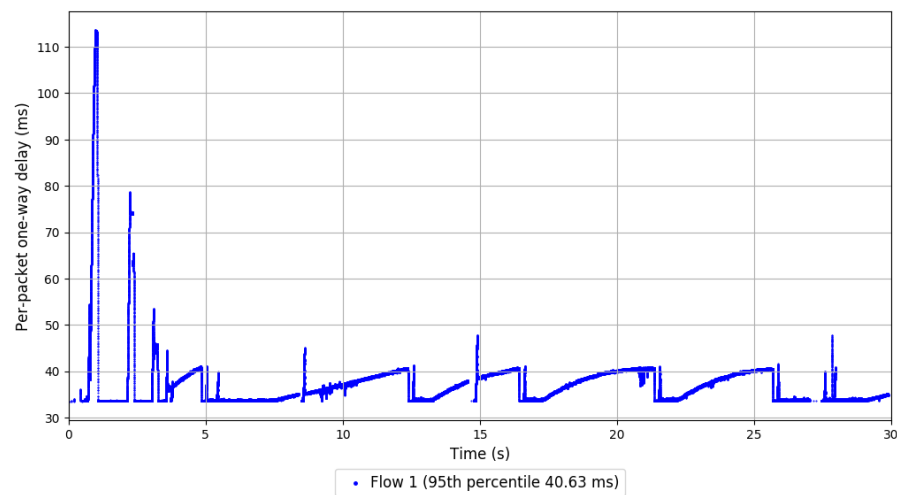
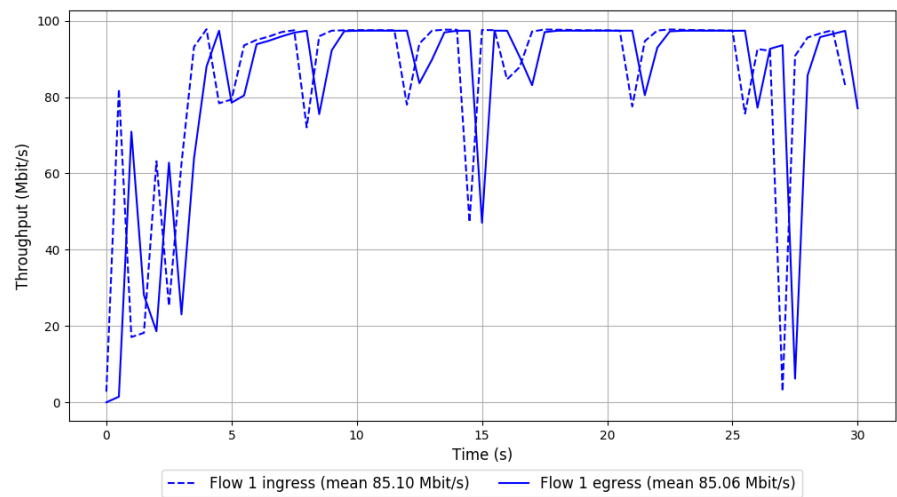
-- Flow 1:

Average throughput: 85.06 Mbit/s

95th percentile per-packet one-way delay: 40.632 ms

Loss rate: 0.26%

Run 1: Report of QUIC Cubic — Data Link



Run 2: Statistics of QUIC Cubic

Start at: 2018-09-25 12:52:16

End at: 2018-09-25 12:52:46

Local clock offset: 2.349 ms

Remote clock offset: 0.574 ms

Below is generated by plot.py at 2018-09-25 14:33:34

Datalink statistics

-- Total of 1 flow:

Average throughput: 77.12 Mbit/s

95th percentile per-packet one-way delay: 53.090 ms

Loss rate: 0.28%

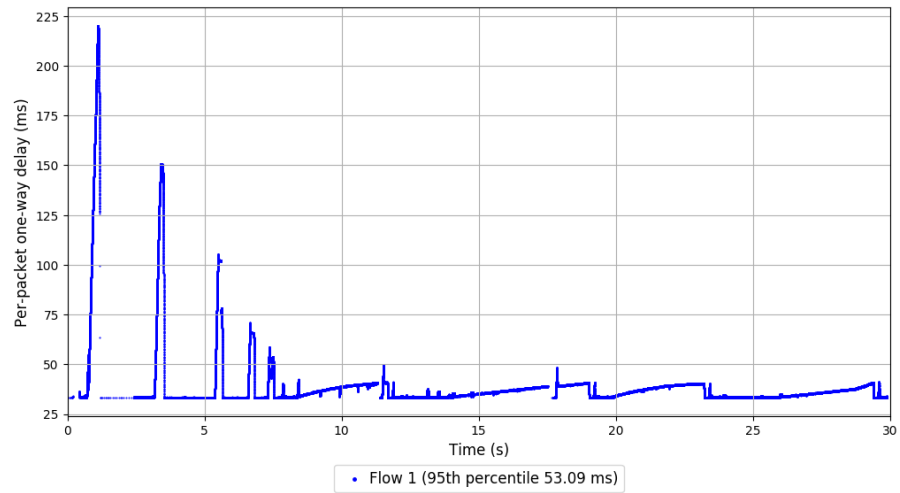
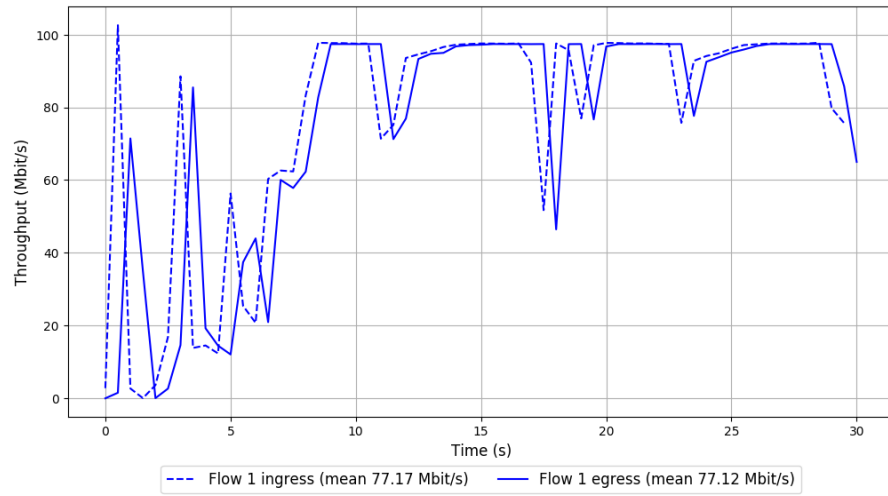
-- Flow 1:

Average throughput: 77.12 Mbit/s

95th percentile per-packet one-way delay: 53.090 ms

Loss rate: 0.28%

Run 2: Report of QUIC Cubic — Data Link



Run 3: Statistics of QUIC Cubic

Start at: 2018-09-25 13:17:31

End at: 2018-09-25 13:18:01

Local clock offset: 2.005 ms

Remote clock offset: 1.288 ms

Below is generated by plot.py at 2018-09-25 14:33:34

Datalink statistics

-- Total of 1 flow:

Average throughput: 82.79 Mbit/s

95th percentile per-packet one-way delay: 40.821 ms

Loss rate: 0.28%

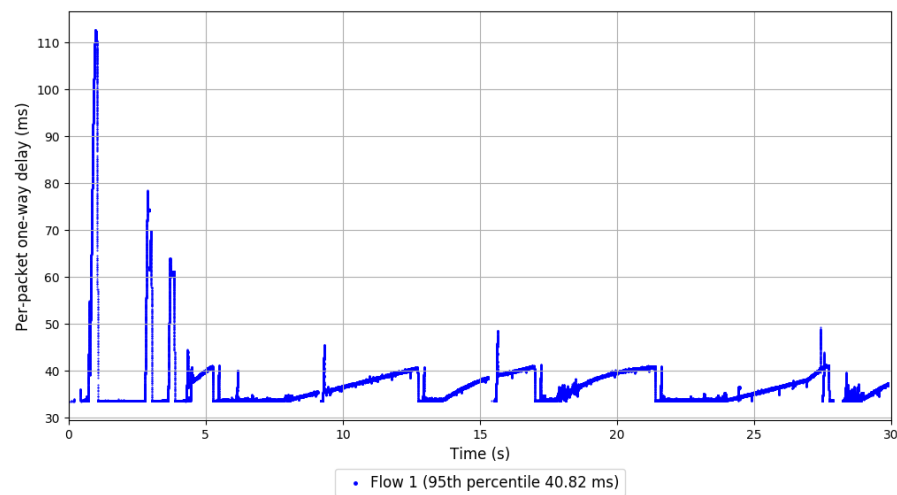
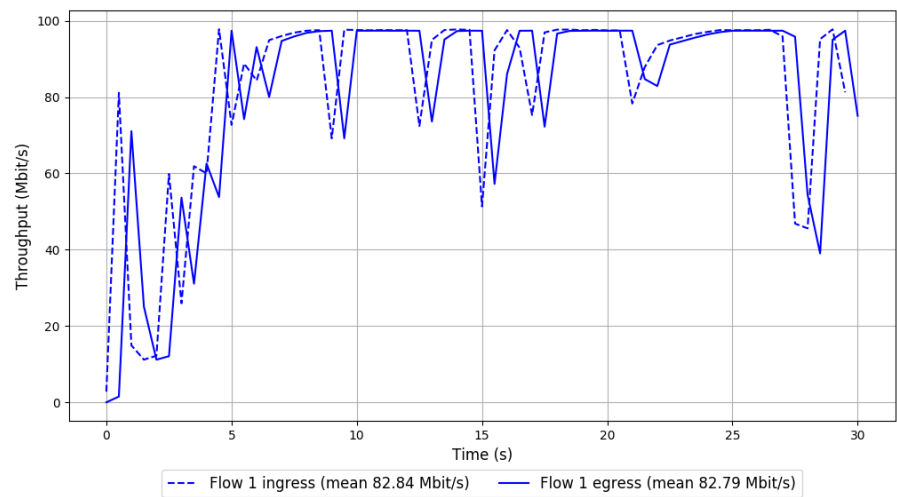
-- Flow 1:

Average throughput: 82.79 Mbit/s

95th percentile per-packet one-way delay: 40.821 ms

Loss rate: 0.28%

Run 3: Report of QUIC Cubic — Data Link



Run 4: Statistics of QUIC Cubic

Start at: 2018-09-25 13:42:48

End at: 2018-09-25 13:43:18

Local clock offset: 0.335 ms

Remote clock offset: 0.94 ms

Below is generated by plot.py at 2018-09-25 14:33:44

Datalink statistics

-- Total of 1 flow:

Average throughput: 76.59 Mbit/s

95th percentile per-packet one-way delay: 49.899 ms

Loss rate: 0.30%

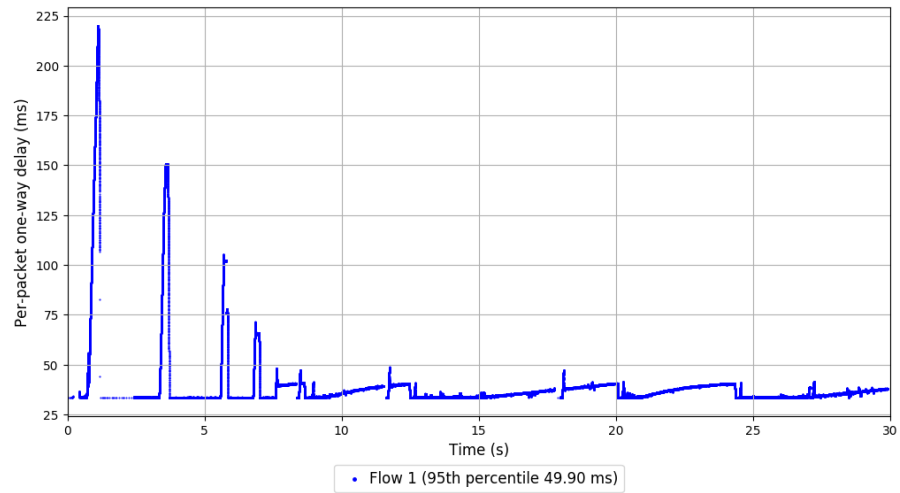
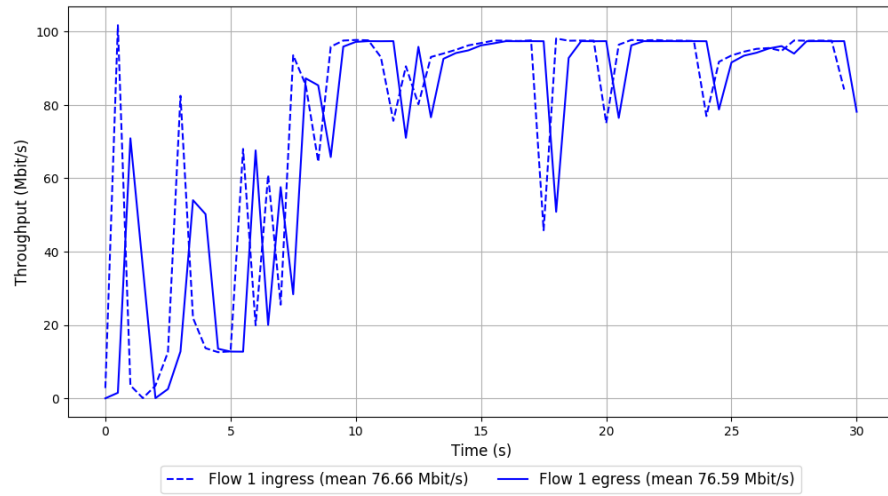
-- Flow 1:

Average throughput: 76.59 Mbit/s

95th percentile per-packet one-way delay: 49.899 ms

Loss rate: 0.30%

Run 4: Report of QUIC Cubic — Data Link



Run 5: Statistics of QUIC Cubic

Start at: 2018-09-25 14:08:18

End at: 2018-09-25 14:08:48

Local clock offset: 0.274 ms

Remote clock offset: 0.351 ms

Below is generated by plot.py at 2018-09-25 14:34:07

Datalink statistics

-- Total of 1 flow:

Average throughput: 85.13 Mbit/s

95th percentile per-packet one-way delay: 40.540 ms

Loss rate: 0.26%

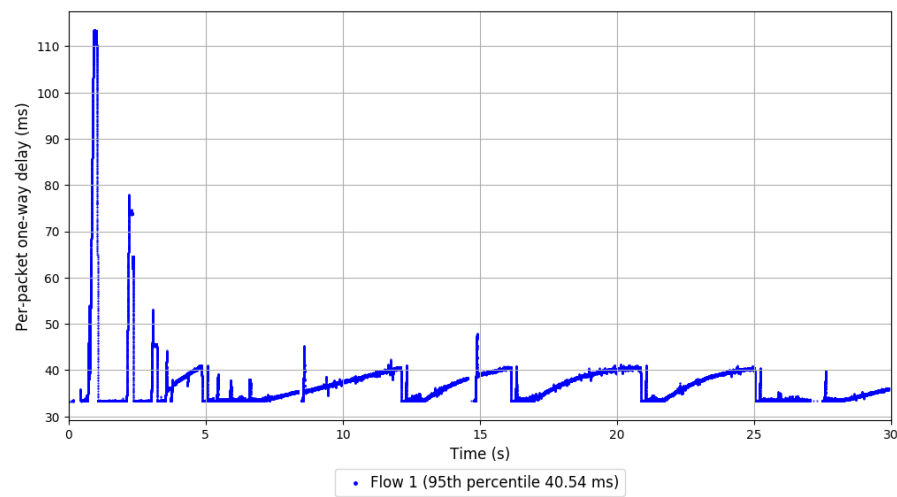
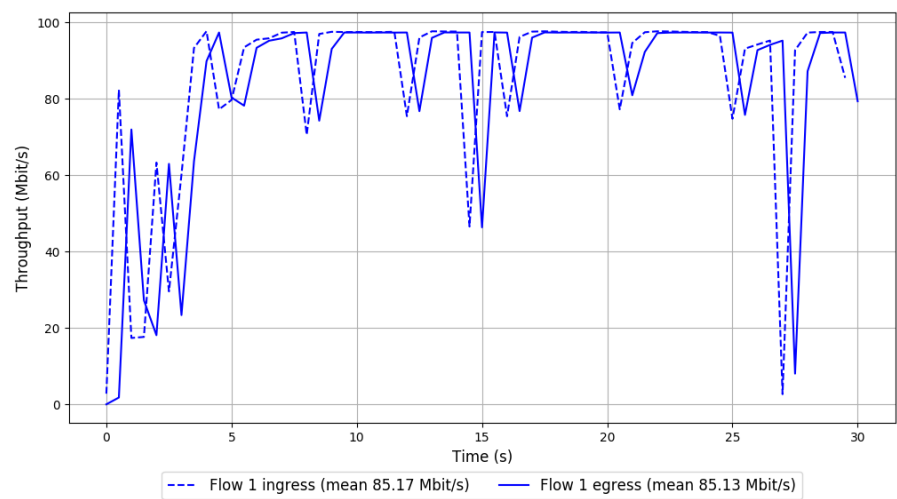
-- Flow 1:

Average throughput: 85.13 Mbit/s

95th percentile per-packet one-way delay: 40.540 ms

Loss rate: 0.26%

Run 5: Report of QUIC Cubic — Data Link

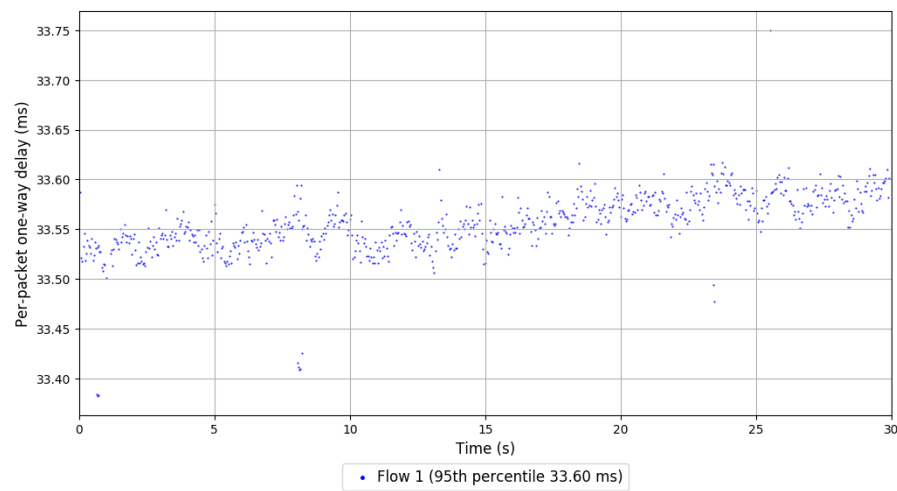
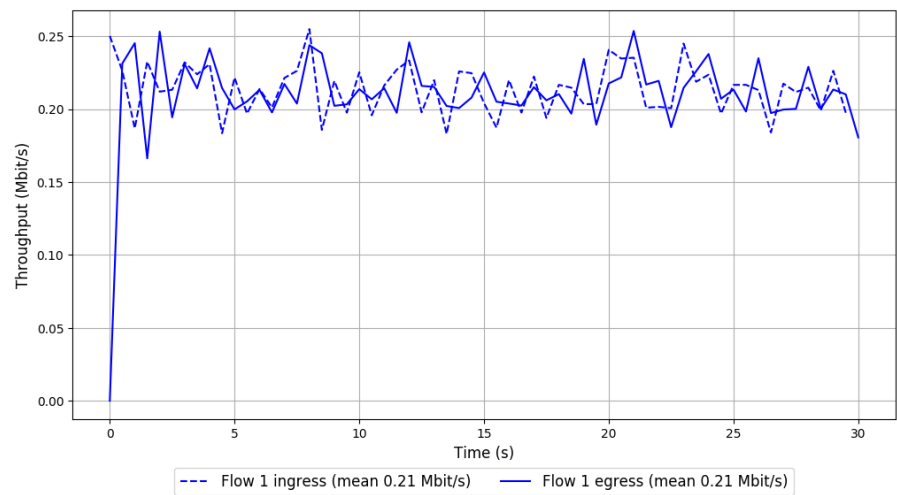


Run 1: Statistics of SCReAM

Start at: 2018-09-25 12:37:42
End at: 2018-09-25 12:38:12
Local clock offset: -3.469 ms
Remote clock offset: -0.531 ms

Below is generated by plot.py at 2018-09-25 14:34:07
Datalink statistics
-- Total of 1 flow:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 33.597 ms
Loss rate: 0.26%
-- Flow 1:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 33.597 ms
Loss rate: 0.26%

Run 1: Report of SReAM — Data Link



Run 2: Statistics of SCReAM

Start at: 2018-09-25 13:02:54

End at: 2018-09-25 13:03:24

Local clock offset: 4.044 ms

Remote clock offset: 0.884 ms

Below is generated by plot.py at 2018-09-25 14:34:07

Datalink statistics

-- Total of 1 flow:

Average throughput: 0.21 Mbit/s

95th percentile per-packet one-way delay: 33.623 ms

Loss rate: 0.26%

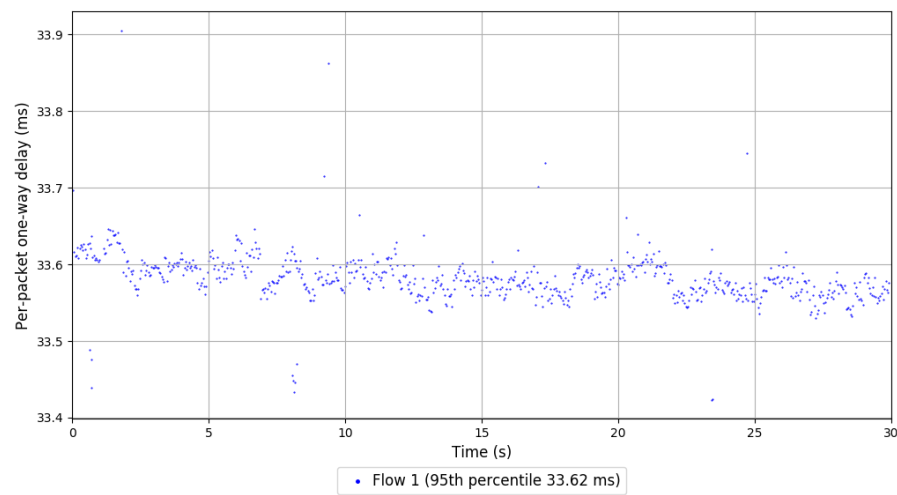
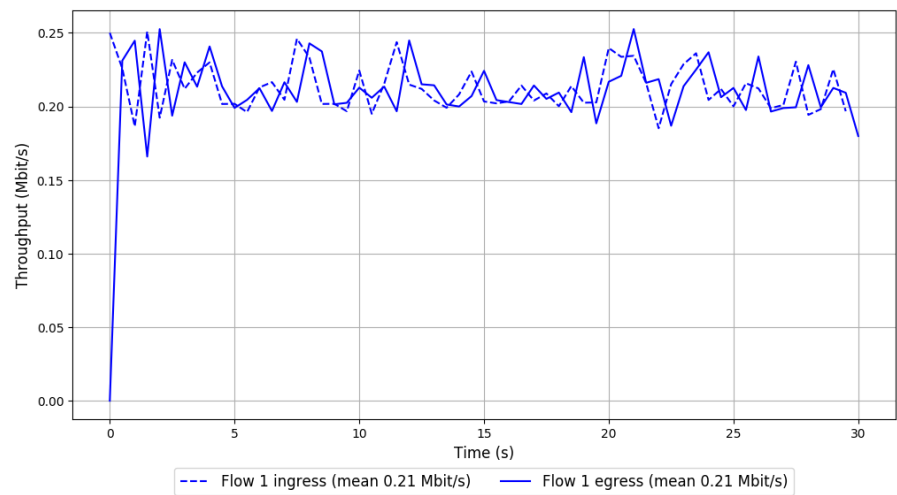
-- Flow 1:

Average throughput: 0.21 Mbit/s

95th percentile per-packet one-way delay: 33.623 ms

Loss rate: 0.26%

Run 2: Report of SReAM — Data Link



Run 3: Statistics of SCReAM

Start at: 2018-09-25 13:28:07

End at: 2018-09-25 13:28:37

Local clock offset: 0.726 ms

Remote clock offset: 1.507 ms

Below is generated by plot.py at 2018-09-25 14:34:07

Datalink statistics

-- Total of 1 flow:

Average throughput: 0.21 Mbit/s

95th percentile per-packet one-way delay: 33.535 ms

Loss rate: 0.26%

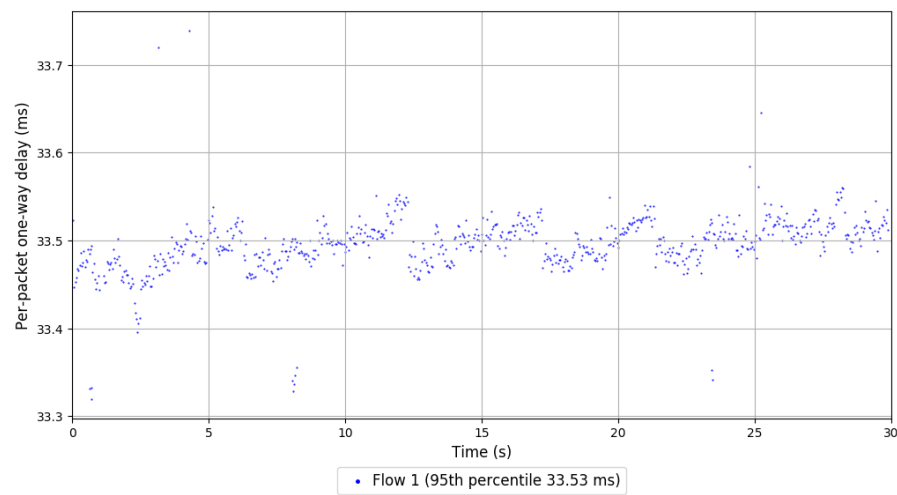
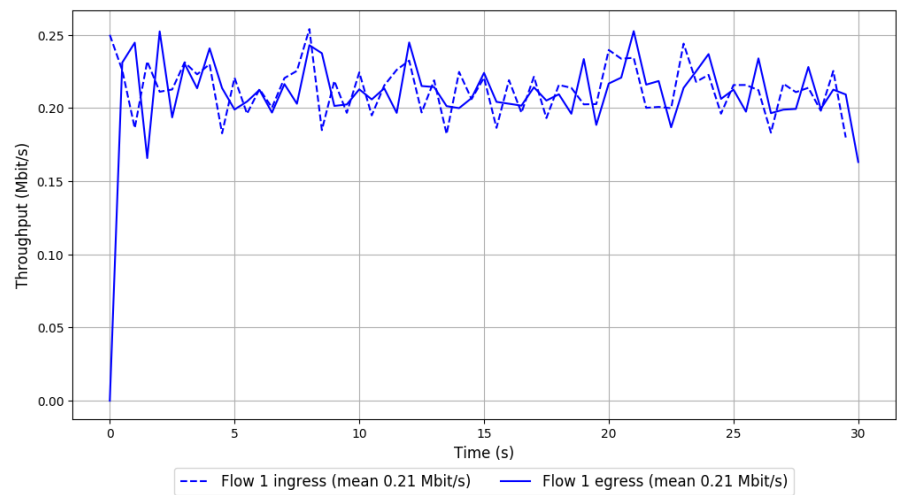
-- Flow 1:

Average throughput: 0.21 Mbit/s

95th percentile per-packet one-way delay: 33.535 ms

Loss rate: 0.26%

Run 3: Report of SReAM — Data Link



Run 4: Statistics of SCReAM

Start at: 2018-09-25 13:53:25

End at: 2018-09-25 13:53:55

Local clock offset: 0.34 ms

Remote clock offset: 0.828 ms

Below is generated by plot.py at 2018-09-25 14:34:07

Datalink statistics

-- Total of 1 flow:

Average throughput: 0.21 Mbit/s

95th percentile per-packet one-way delay: 33.438 ms

Loss rate: 0.26%

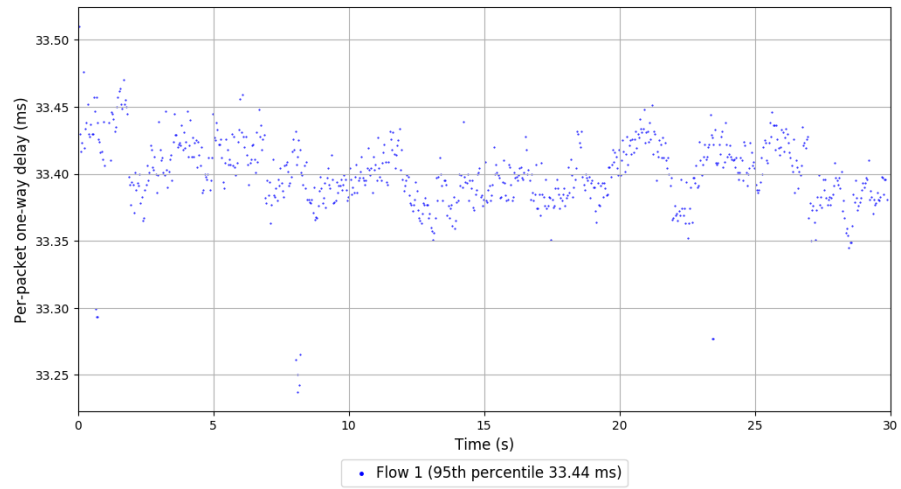
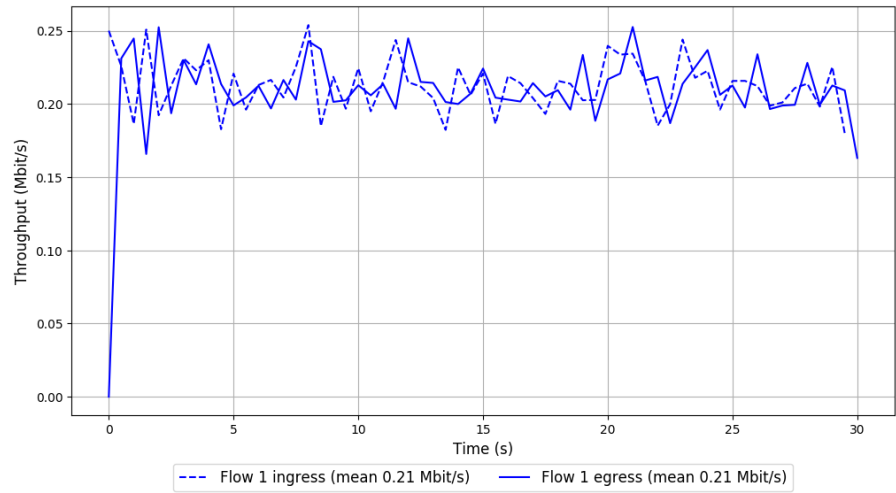
-- Flow 1:

Average throughput: 0.21 Mbit/s

95th percentile per-packet one-way delay: 33.438 ms

Loss rate: 0.26%

Run 4: Report of SCReAM — Data Link



Run 5: Statistics of SCReAM

Start at: 2018-09-25 14:19:09

End at: 2018-09-25 14:19:39

Local clock offset: -0.189 ms

Remote clock offset: 0.148 ms

Below is generated by plot.py at 2018-09-25 14:34:07

Datalink statistics

-- Total of 1 flow:

Average throughput: 0.21 Mbit/s

95th percentile per-packet one-way delay: 33.430 ms

Loss rate: 0.26%

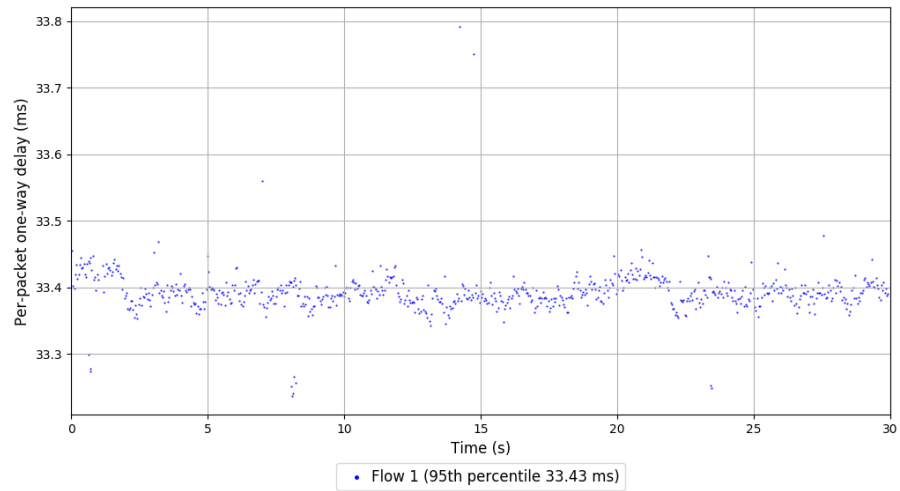
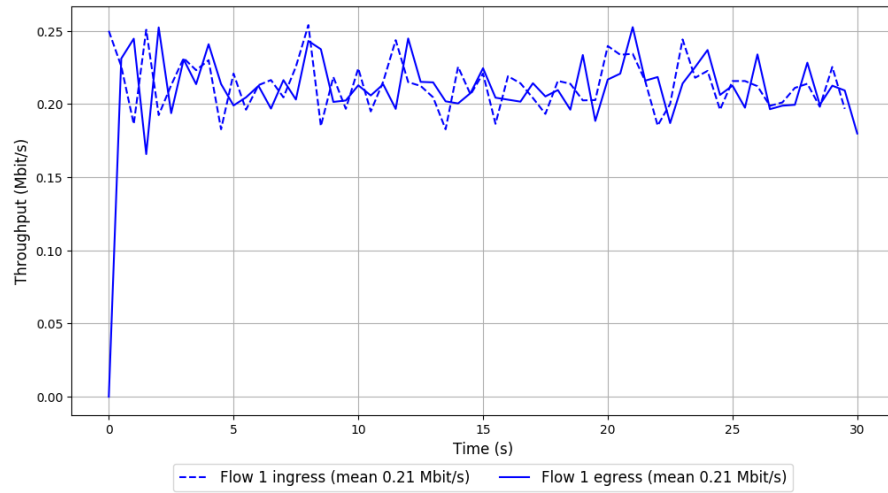
-- Flow 1:

Average throughput: 0.21 Mbit/s

95th percentile per-packet one-way delay: 33.430 ms

Loss rate: 0.26%

Run 5: Report of SReAM — Data Link

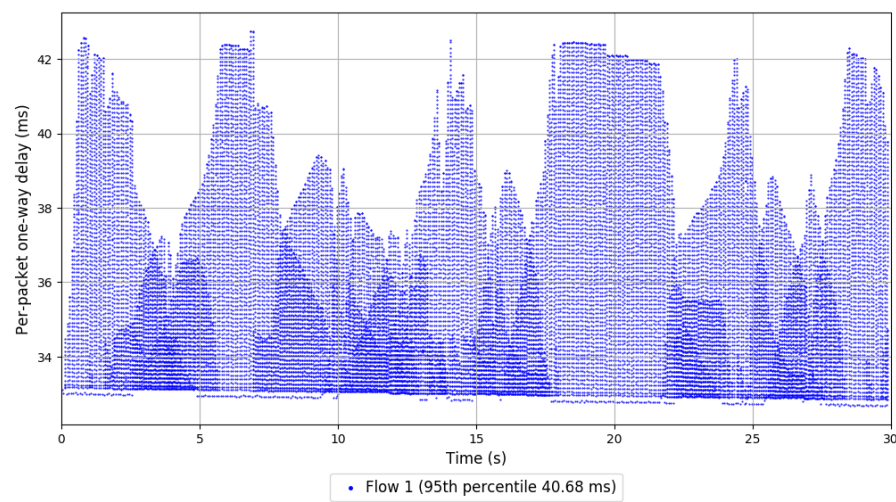
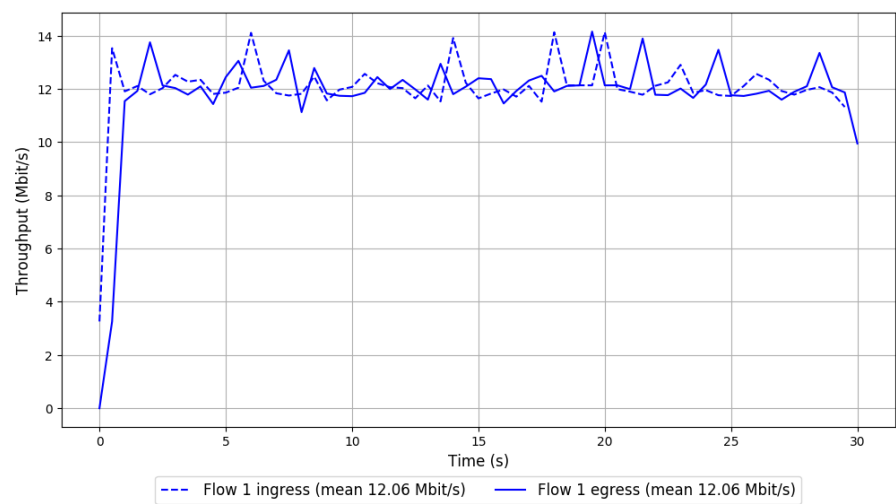


Run 1: Statistics of Sprout

Start at: 2018-09-25 12:40:17
End at: 2018-09-25 12:40:47
Local clock offset: -2.936 ms
Remote clock offset: -0.329 ms

Below is generated by plot.py at 2018-09-25 14:34:07
Datalink statistics
-- Total of 1 flow:
Average throughput: 12.06 Mbit/s
95th percentile per-packet one-way delay: 40.679 ms
Loss rate: 0.19%
-- Flow 1:
Average throughput: 12.06 Mbit/s
95th percentile per-packet one-way delay: 40.679 ms
Loss rate: 0.19%

Run 1: Report of Sprout — Data Link



Run 2: Statistics of Sprout

Start at: 2018-09-25 13:05:29

End at: 2018-09-25 13:05:59

Local clock offset: 4.304 ms

Remote clock offset: 1.091 ms

Below is generated by plot.py at 2018-09-25 14:34:07

Datalink statistics

-- Total of 1 flow:

Average throughput: 12.03 Mbit/s

95th percentile per-packet one-way delay: 40.838 ms

Loss rate: 0.14%

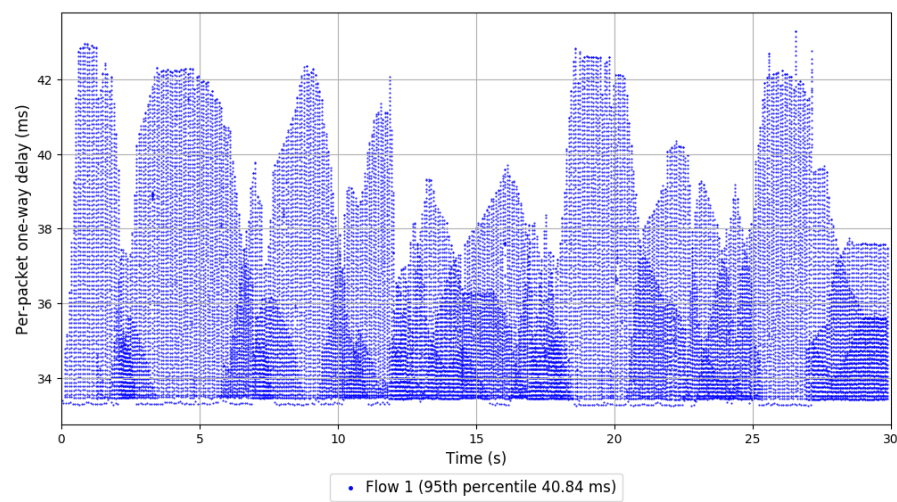
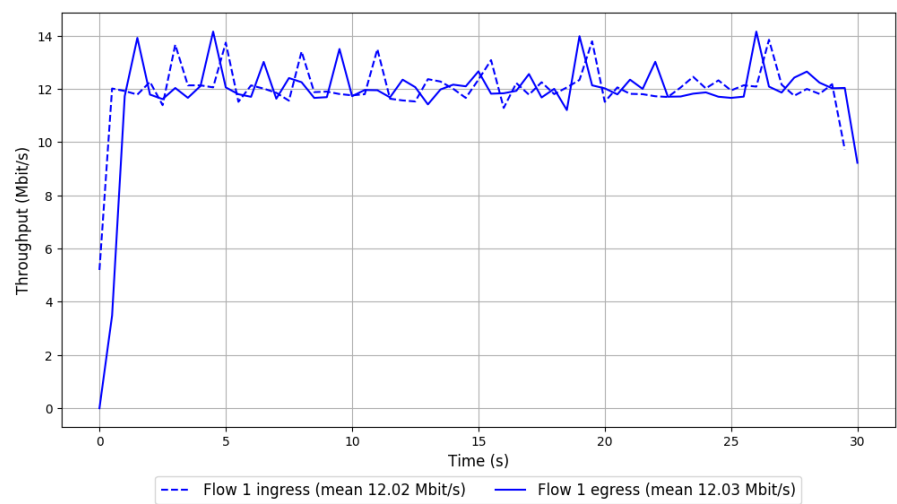
-- Flow 1:

Average throughput: 12.03 Mbit/s

95th percentile per-packet one-way delay: 40.838 ms

Loss rate: 0.14%

Run 2: Report of Sprout — Data Link



Run 3: Statistics of Sprout

Start at: 2018-09-25 13:30:43

End at: 2018-09-25 13:31:13

Local clock offset: 0.598 ms

Remote clock offset: 1.668 ms

Below is generated by plot.py at 2018-09-25 14:34:07

Datalink statistics

-- Total of 1 flow:

Average throughput: 12.02 Mbit/s

95th percentile per-packet one-way delay: 40.255 ms

Loss rate: 0.06%

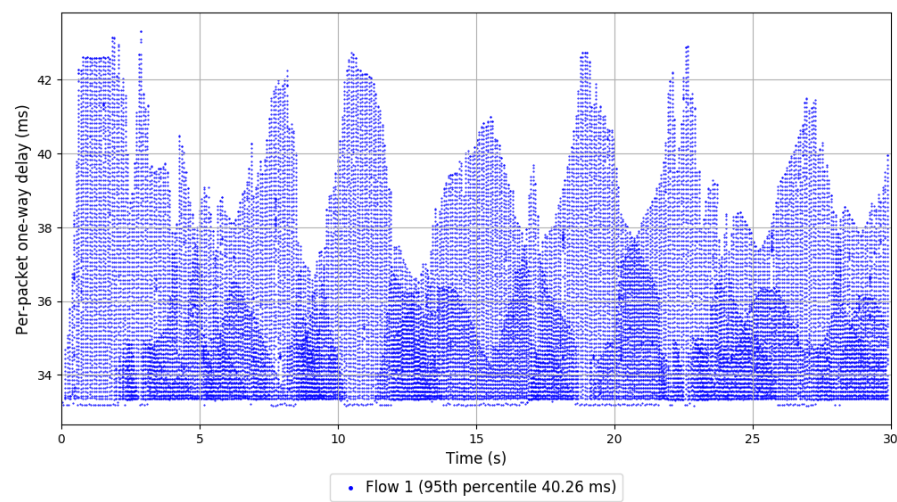
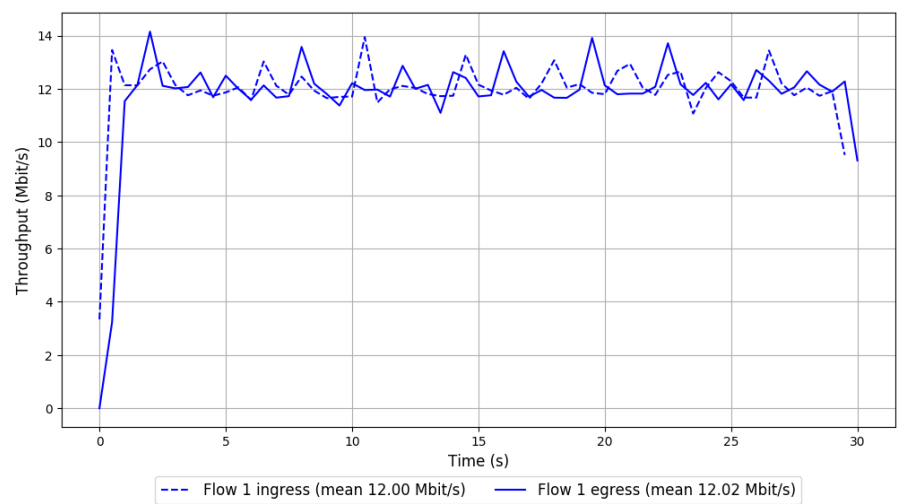
-- Flow 1:

Average throughput: 12.02 Mbit/s

95th percentile per-packet one-way delay: 40.255 ms

Loss rate: 0.06%

Run 3: Report of Sprout — Data Link



Run 4: Statistics of Sprout

Start at: 2018-09-25 13:56:01

End at: 2018-09-25 13:56:31

Local clock offset: 0.336 ms

Remote clock offset: 0.716 ms

Below is generated by plot.py at 2018-09-25 14:34:07

Datalink statistics

-- Total of 1 flow:

Average throughput: 12.05 Mbit/s

95th percentile per-packet one-way delay: 41.091 ms

Loss rate: 0.27%

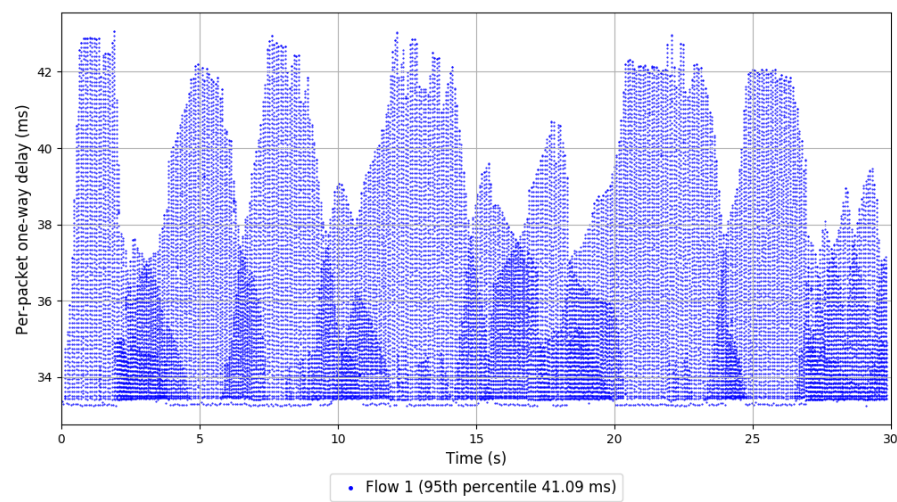
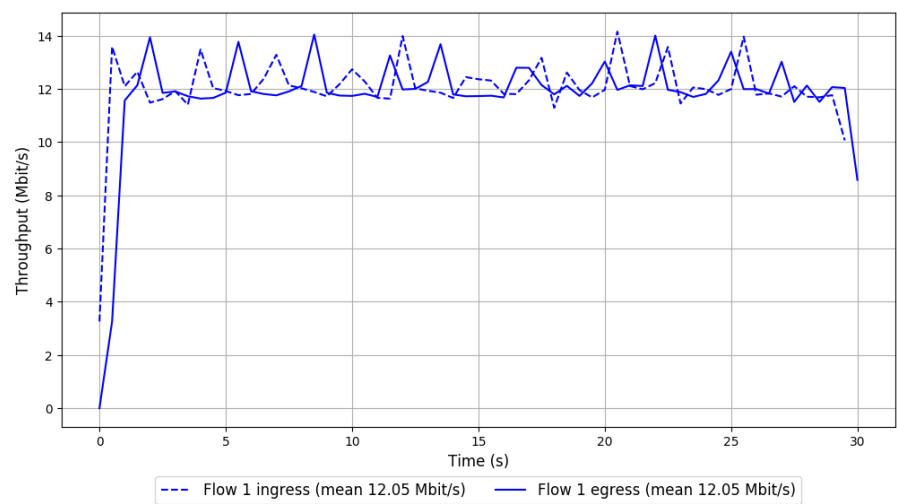
-- Flow 1:

Average throughput: 12.05 Mbit/s

95th percentile per-packet one-way delay: 41.091 ms

Loss rate: 0.27%

Run 4: Report of Sprout — Data Link



Run 5: Statistics of Sprout

Start at: 2018-09-25 14:21:45

End at: 2018-09-25 14:22:15

Local clock offset: -0.273 ms

Remote clock offset: 0.066 ms

Below is generated by plot.py at 2018-09-25 14:34:07

Datalink statistics

-- Total of 1 flow:

Average throughput: 11.99 Mbit/s

95th percentile per-packet one-way delay: 40.394 ms

Loss rate: 0.27%

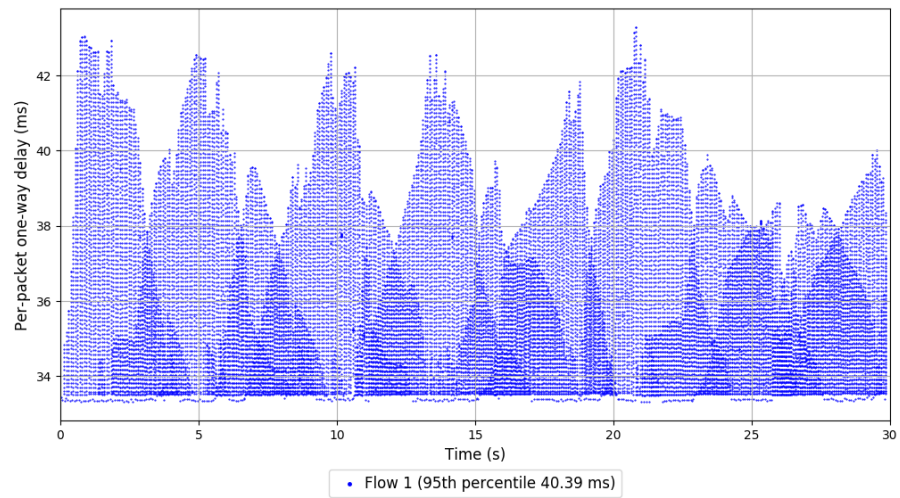
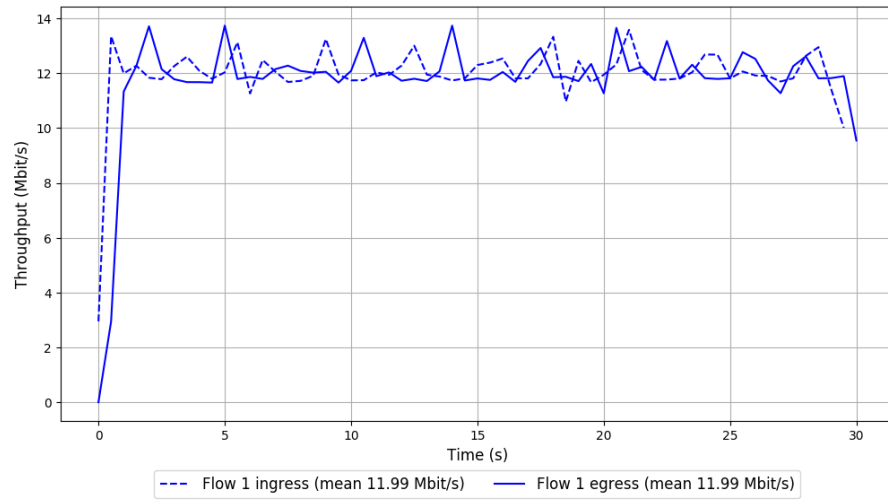
-- Flow 1:

Average throughput: 11.99 Mbit/s

95th percentile per-packet one-way delay: 40.394 ms

Loss rate: 0.27%

Run 5: Report of Sprout — Data Link



Run 1: Statistics of TaoVA-100x

Start at: 2018-09-25 12:25:44

End at: 2018-09-25 12:26:14

Local clock offset: -2.123 ms

Remote clock offset: -1.432 ms

Below is generated by plot.py at 2018-09-25 14:35:24

Datalink statistics

-- Total of 1 flow:

Average throughput: 88.33 Mbit/s

95th percentile per-packet one-way delay: 45.122 ms

Loss rate: 0.19%

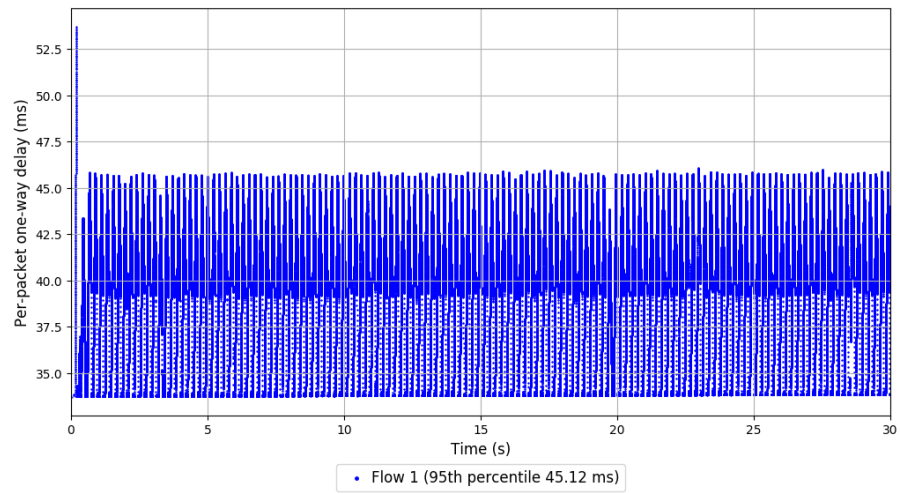
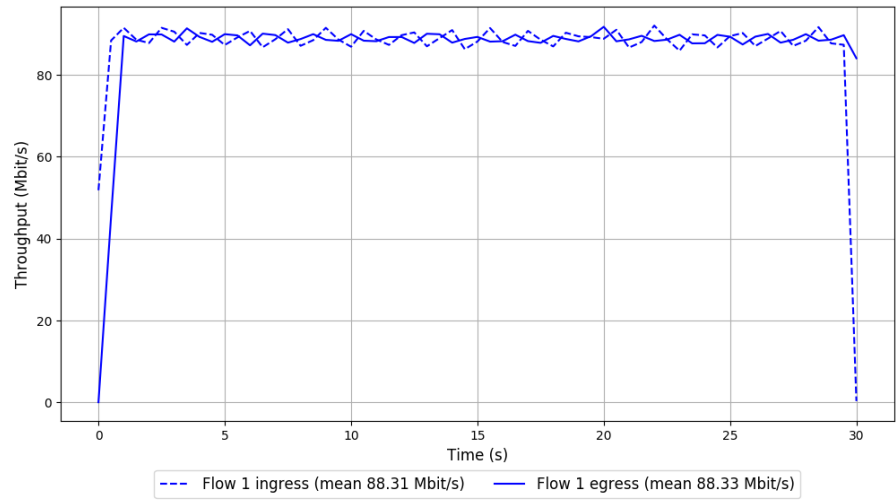
-- Flow 1:

Average throughput: 88.33 Mbit/s

95th percentile per-packet one-way delay: 45.122 ms

Loss rate: 0.19%

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



Run 2: Statistics of TaoVA-100x

Start at: 2018-09-25 12:50:54

End at: 2018-09-25 12:51:24

Local clock offset: 2.003 ms

Remote clock offset: 0.539 ms

Below is generated by plot.py at 2018-09-25 14:35:24

Datalink statistics

-- Total of 1 flow:

Average throughput: 88.44 Mbit/s

95th percentile per-packet one-way delay: 44.591 ms

Loss rate: 0.26%

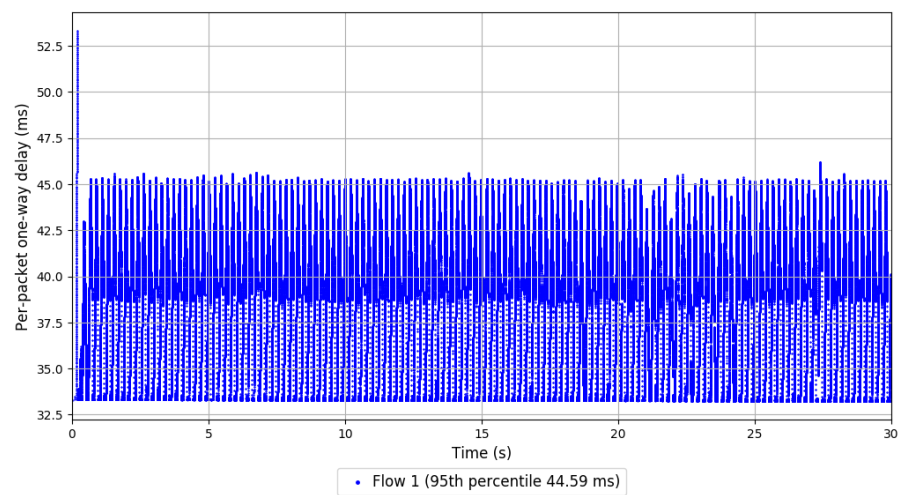
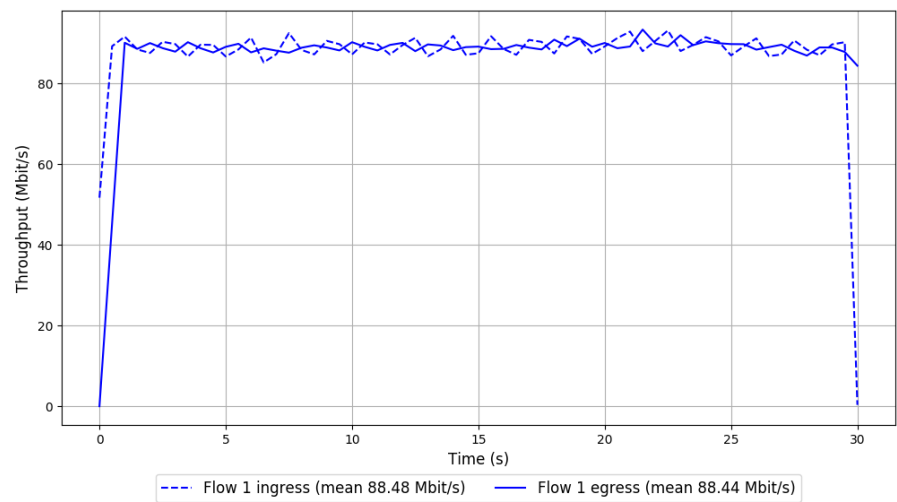
-- Flow 1:

Average throughput: 88.44 Mbit/s

95th percentile per-packet one-way delay: 44.591 ms

Loss rate: 0.26%

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



Run 3: Statistics of TaoVA-100x

Start at: 2018-09-25 13:16:09

End at: 2018-09-25 13:16:39

Local clock offset: 2.321 ms

Remote clock offset: 1.272 ms

Below is generated by plot.py at 2018-09-25 14:35:32

Datalink statistics

-- Total of 1 flow:

Average throughput: 88.27 Mbit/s

95th percentile per-packet one-way delay: 44.958 ms

Loss rate: 0.20%

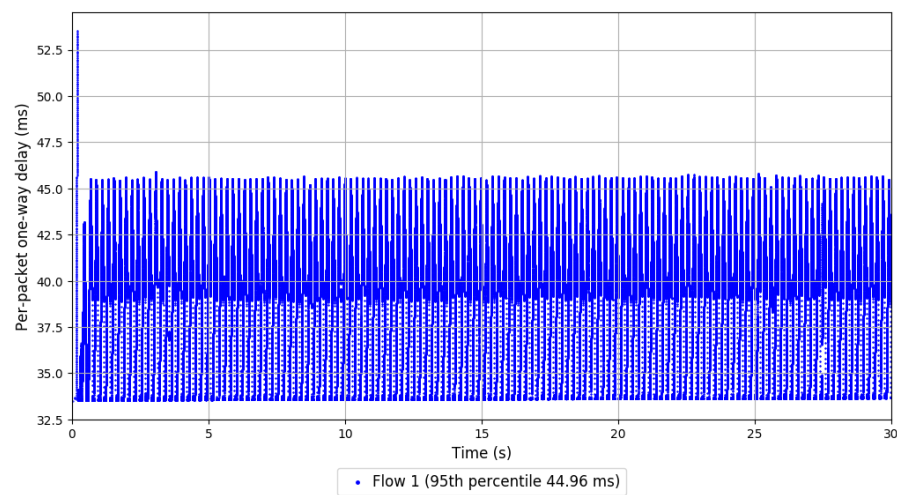
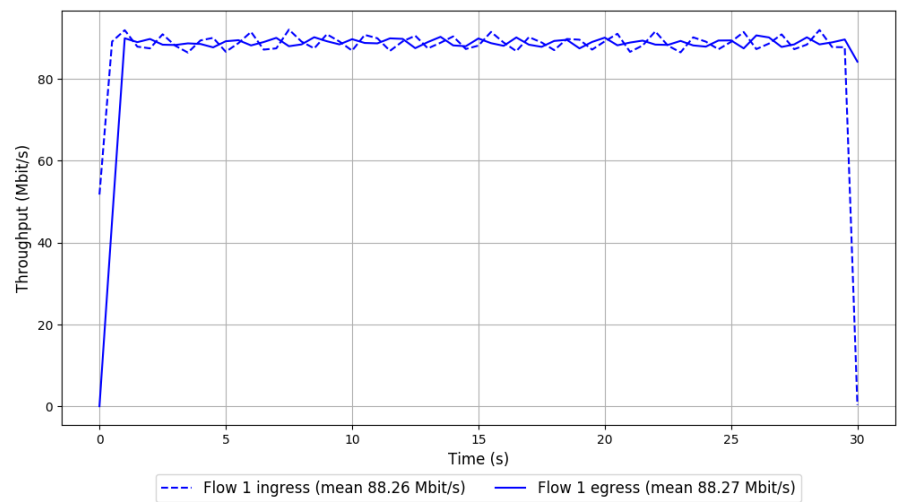
-- Flow 1:

Average throughput: 88.27 Mbit/s

95th percentile per-packet one-way delay: 44.958 ms

Loss rate: 0.20%

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



Run 4: Statistics of TaoVA-100x

Start at: 2018-09-25 13:41:24

End at: 2018-09-25 13:41:54

Local clock offset: 0.323 ms

Remote clock offset: 1.118 ms

Below is generated by plot.py at 2018-09-25 14:35:32

Datalink statistics

-- Total of 1 flow:

Average throughput: 88.42 Mbit/s

95th percentile per-packet one-way delay: 44.633 ms

Loss rate: 0.26%

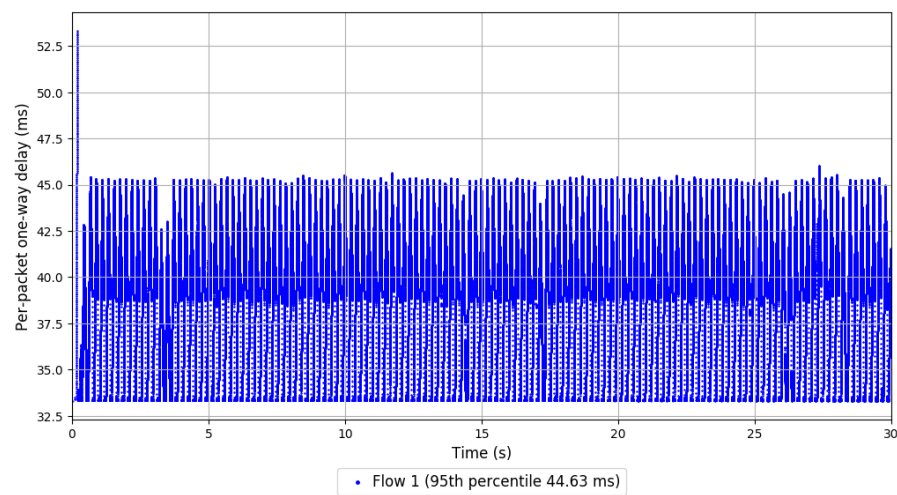
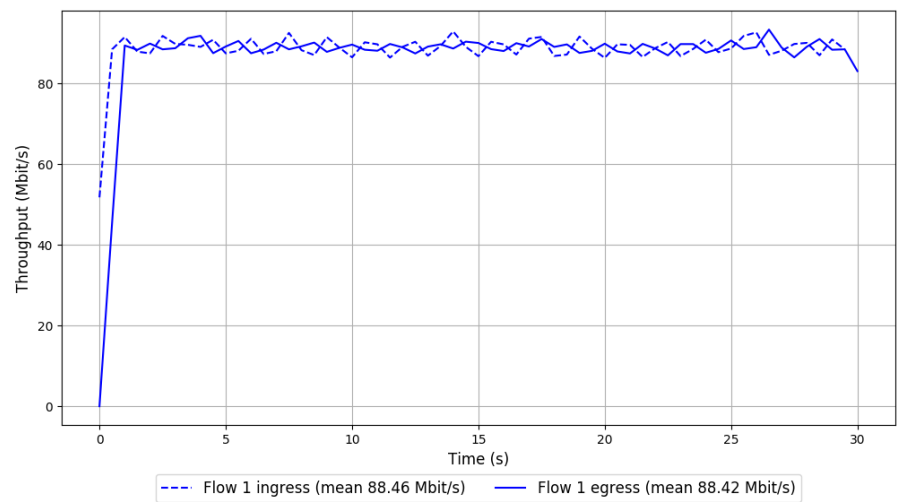
-- Flow 1:

Average throughput: 88.42 Mbit/s

95th percentile per-packet one-way delay: 44.633 ms

Loss rate: 0.26%

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



Run 5: Statistics of TaoVA-100x

Start at: 2018-09-25 14:06:52

End at: 2018-09-25 14:07:22

Local clock offset: 0.308 ms

Remote clock offset: 0.411 ms

Below is generated by plot.py at 2018-09-25 14:35:33

Datalink statistics

-- Total of 1 flow:

Average throughput: 88.46 Mbit/s

95th percentile per-packet one-way delay: 44.654 ms

Loss rate: 0.21%

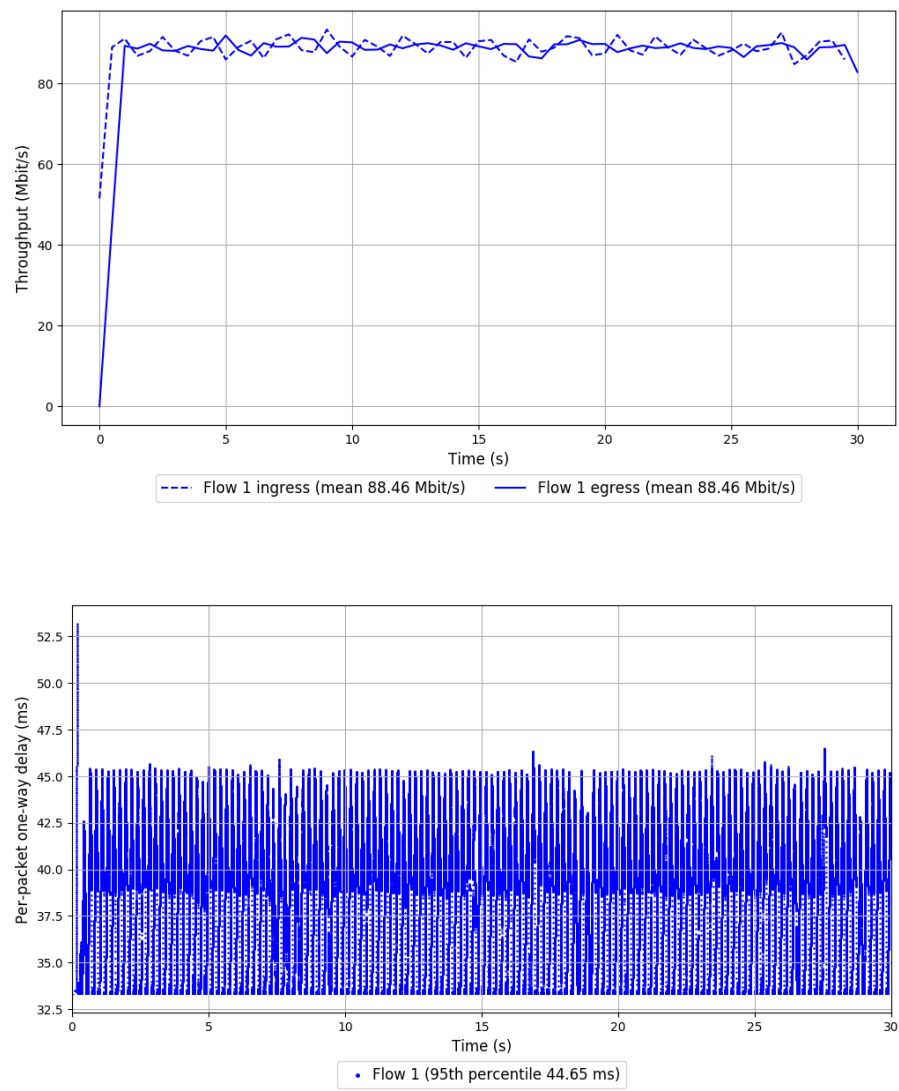
-- Flow 1:

Average throughput: 88.46 Mbit/s

95th percentile per-packet one-way delay: 44.654 ms

Loss rate: 0.21%

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

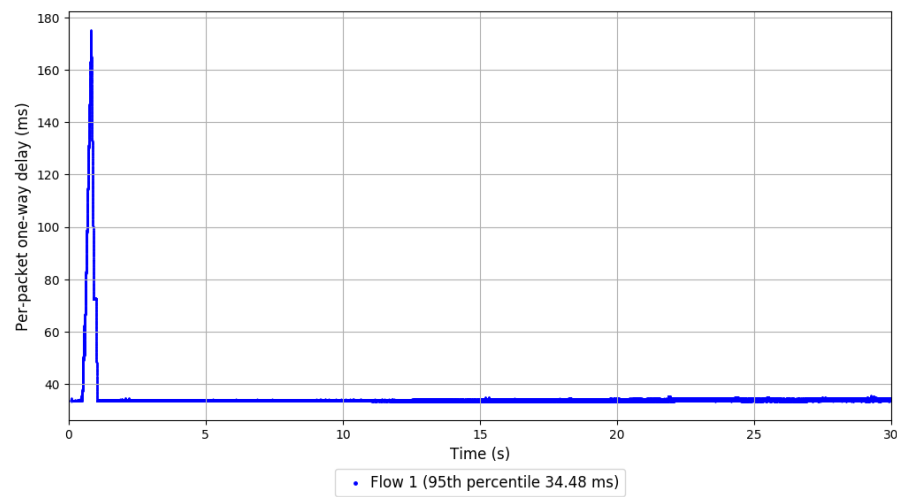
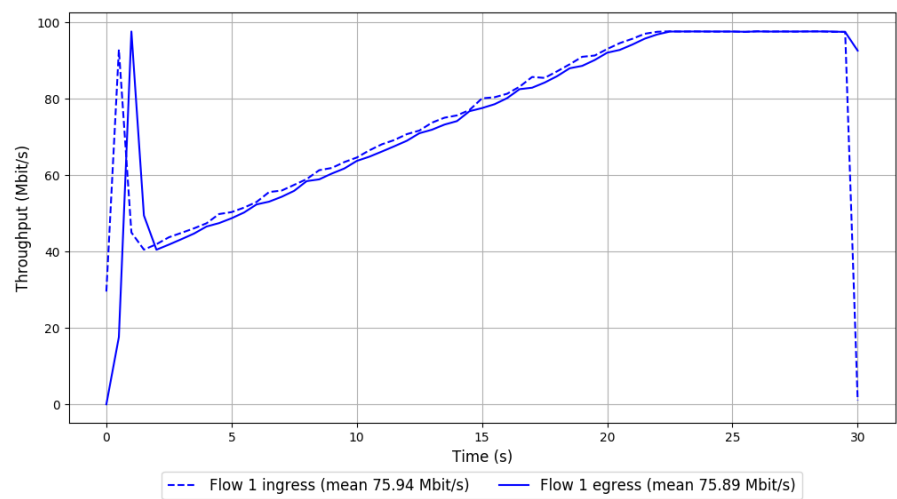


Run 1: Statistics of TCP Vegas

Start at: 2018-09-25 12:38:58
End at: 2018-09-25 12:39:28
Local clock offset: -3.586 ms
Remote clock offset: -0.439 ms

Below is generated by plot.py at 2018-09-25 14:35:33
Datalink statistics
-- Total of 1 flow:
Average throughput: 75.89 Mbit/s
95th percentile per-packet one-way delay: 34.479 ms
Loss rate: 0.28%
-- Flow 1:
Average throughput: 75.89 Mbit/s
95th percentile per-packet one-way delay: 34.479 ms
Loss rate: 0.28%

Run 1: Report of TCP Vegas — Data Link



Run 2: Statistics of TCP Vegas

Start at: 2018-09-25 13:04:09

End at: 2018-09-25 13:04:39

Local clock offset: 4.165 ms

Remote clock offset: 1.09 ms

Below is generated by plot.py at 2018-09-25 14:35:33

Datalink statistics

-- Total of 1 flow:

Average throughput: 76.08 Mbit/s

95th percentile per-packet one-way delay: 34.842 ms

Loss rate: 0.29%

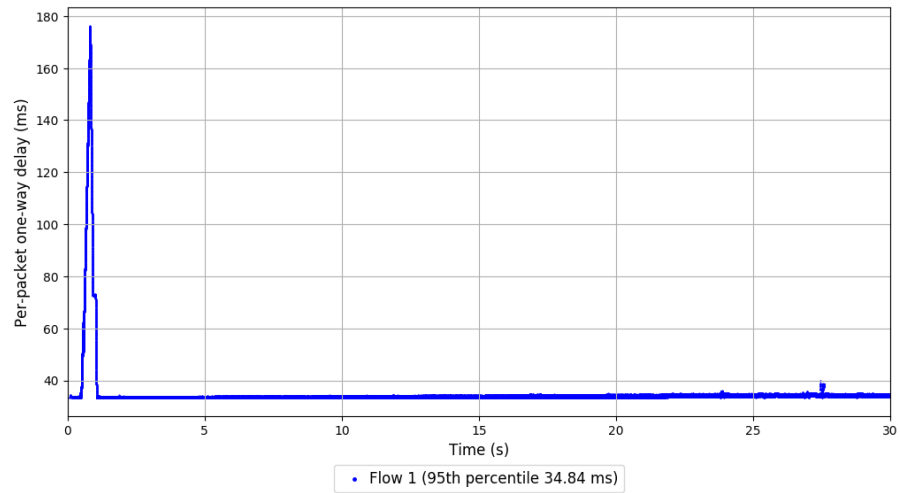
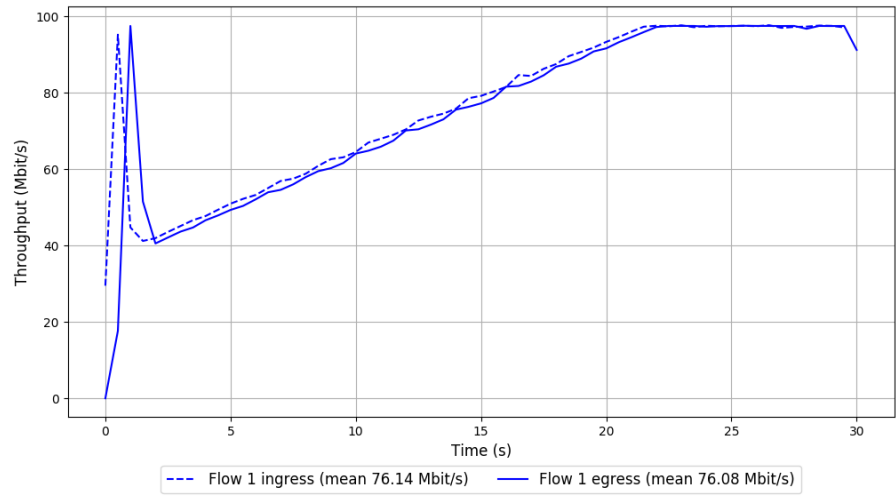
-- Flow 1:

Average throughput: 76.08 Mbit/s

95th percentile per-packet one-way delay: 34.842 ms

Loss rate: 0.29%

Run 2: Report of TCP Vegas — Data Link



Run 3: Statistics of TCP Vegas

Start at: 2018-09-25 13:29:23

End at: 2018-09-25 13:29:53

Local clock offset: 0.661 ms

Remote clock offset: 1.582 ms

Below is generated by plot.py at 2018-09-25 14:35:33

Datalink statistics

-- Total of 1 flow:

Average throughput: 86.95 Mbit/s

95th percentile per-packet one-way delay: 34.875 ms

Loss rate: 0.24%

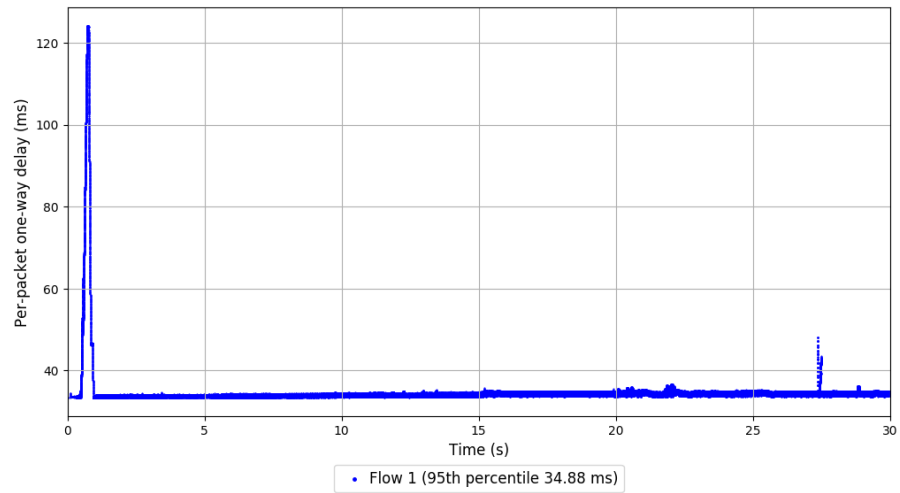
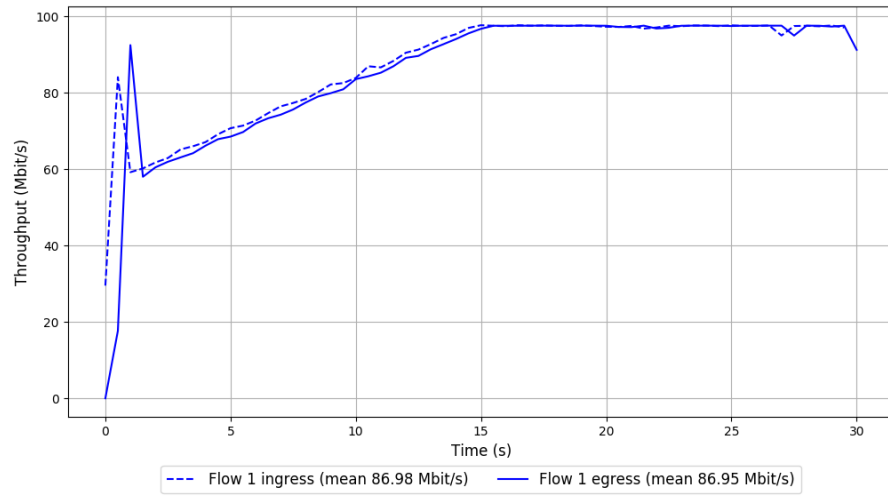
-- Flow 1:

Average throughput: 86.95 Mbit/s

95th percentile per-packet one-way delay: 34.875 ms

Loss rate: 0.24%

Run 3: Report of TCP Vegas — Data Link



Run 4: Statistics of TCP Vegas

Start at: 2018-09-25 13:54:41

End at: 2018-09-25 13:55:11

Local clock offset: 0.347 ms

Remote clock offset: 0.541 ms

Below is generated by plot.py at 2018-09-25 14:35:33

Datalink statistics

-- Total of 1 flow:

Average throughput: 86.97 Mbit/s

95th percentile per-packet one-way delay: 35.132 ms

Loss rate: 0.25%

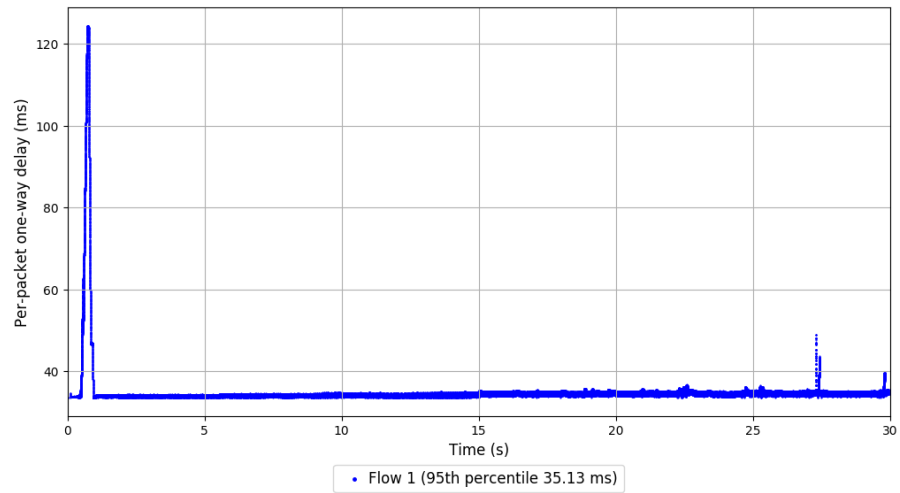
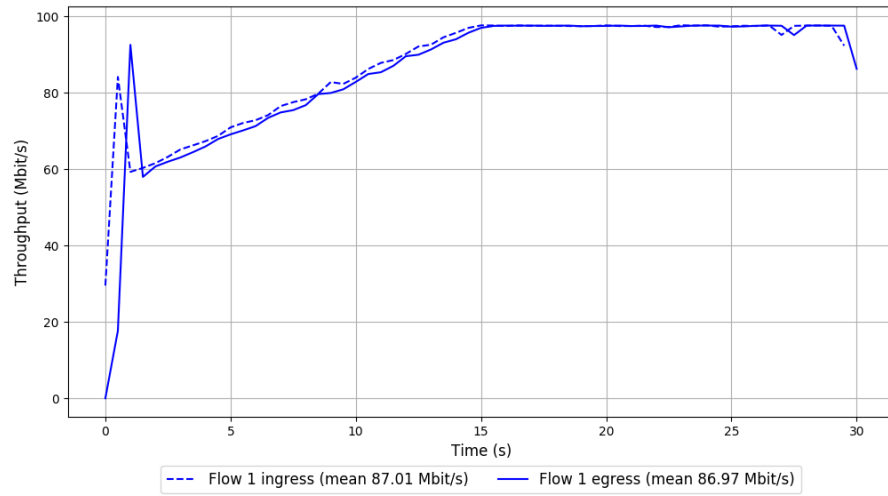
-- Flow 1:

Average throughput: 86.97 Mbit/s

95th percentile per-packet one-way delay: 35.132 ms

Loss rate: 0.25%

Run 4: Report of TCP Vegas — Data Link



Run 5: Statistics of TCP Vegas

Start at: 2018-09-25 14:20:25

End at: 2018-09-25 14:20:55

Local clock offset: -0.224 ms

Remote clock offset: 0.097 ms

Below is generated by plot.py at 2018-09-25 14:35:42

Datalink statistics

-- Total of 1 flow:

Average throughput: 86.90 Mbit/s

95th percentile per-packet one-way delay: 34.943 ms

Loss rate: 0.24%

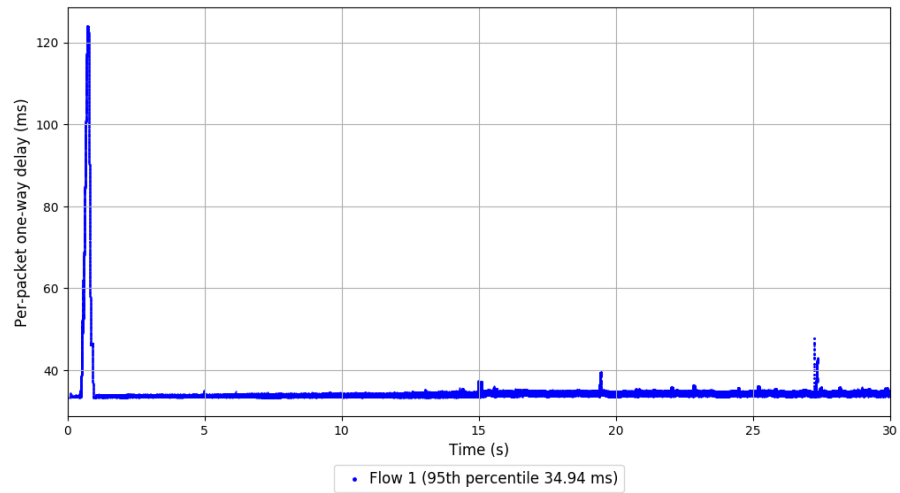
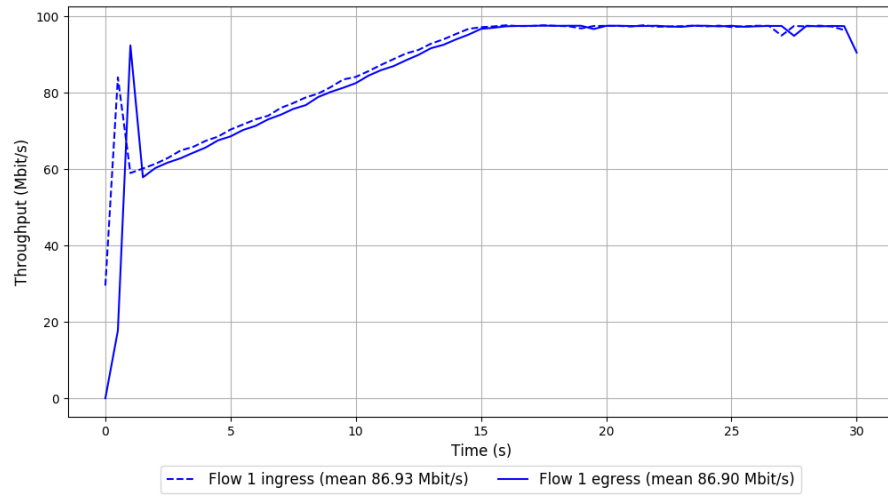
-- Flow 1:

Average throughput: 86.90 Mbit/s

95th percentile per-packet one-way delay: 34.943 ms

Loss rate: 0.24%

Run 5: Report of TCP Vegas — Data Link

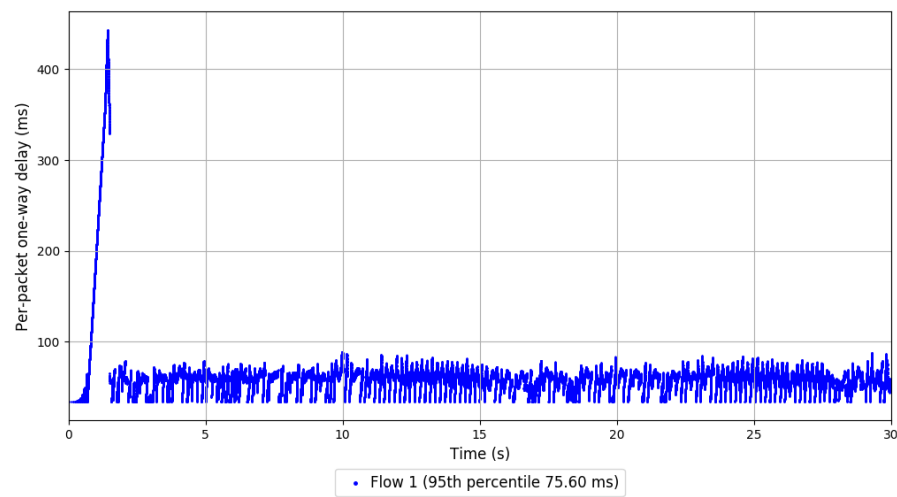
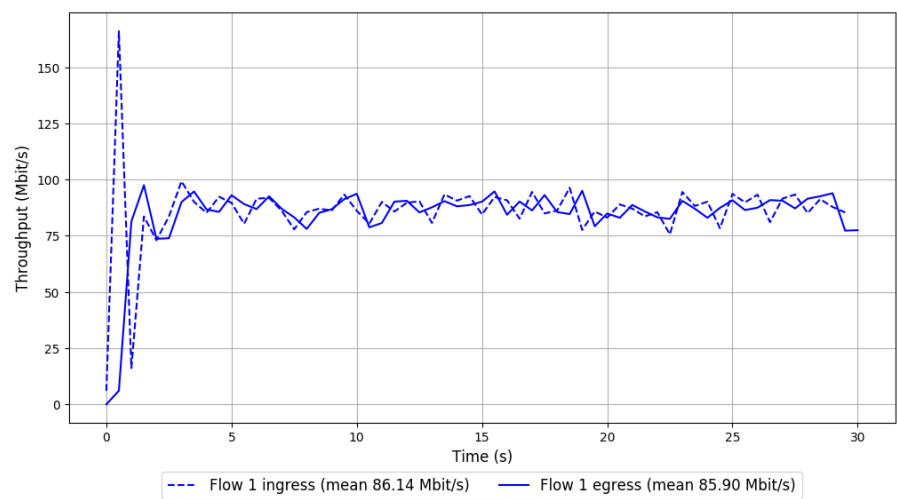


Run 1: Statistics of Verus

Start at: 2018-09-25 12:16:22
End at: 2018-09-25 12:16:52
Local clock offset: 0.55 ms
Remote clock offset: -1.558 ms

Below is generated by plot.py at 2018-09-25 14:36:15
Datalink statistics
-- Total of 1 flow:
Average throughput: 85.90 Mbit/s
95th percentile per-packet one-way delay: 75.604 ms
Loss rate: 0.49%
-- Flow 1:
Average throughput: 85.90 Mbit/s
95th percentile per-packet one-way delay: 75.604 ms
Loss rate: 0.49%

Run 1: Report of Verus — Data Link

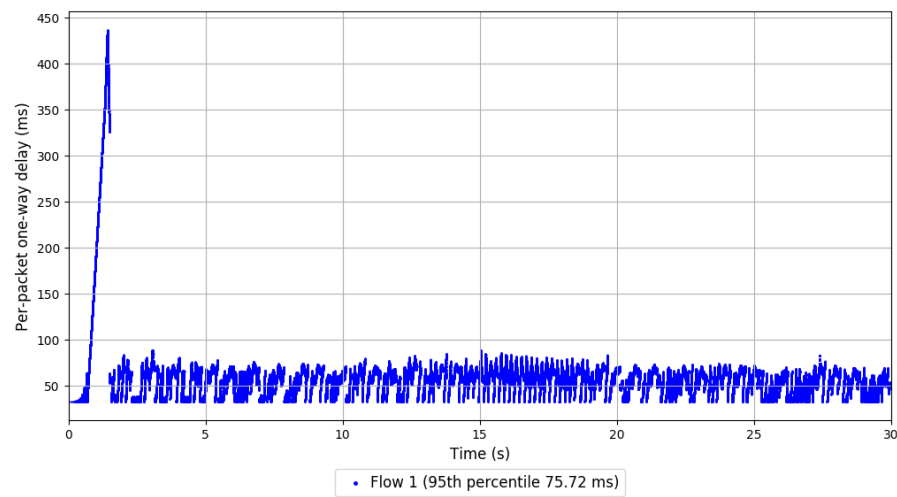
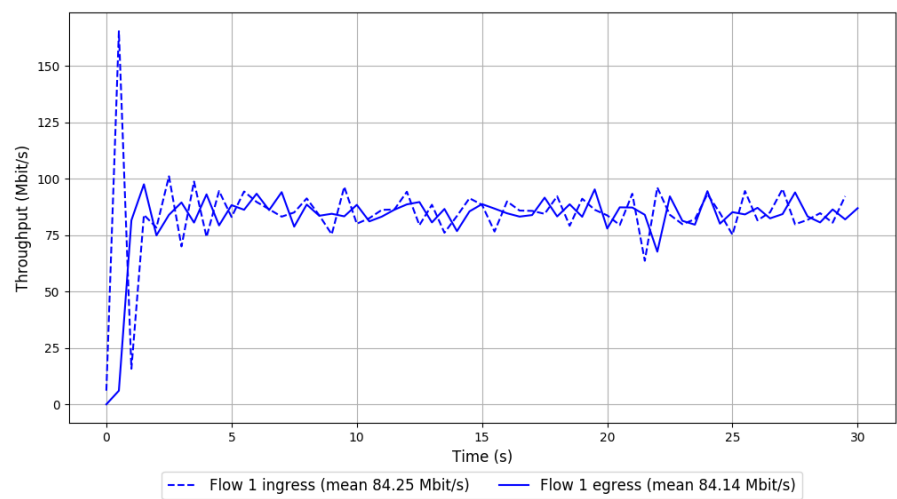


Run 2: Statistics of Verus

Start at: 2018-09-25 12:41:33
End at: 2018-09-25 12:42:03
Local clock offset: -1.955 ms
Remote clock offset: -0.233 ms

Below is generated by plot.py at 2018-09-25 14:36:25
Datalink statistics
-- Total of 1 flow:
Average throughput: 84.14 Mbit/s
95th percentile per-packet one-way delay: 75.715 ms
Loss rate: 0.36%
-- Flow 1:
Average throughput: 84.14 Mbit/s
95th percentile per-packet one-way delay: 75.715 ms
Loss rate: 0.36%

Run 2: Report of Verus — Data Link



Run 3: Statistics of Verus

Start at: 2018-09-25 13:06:45

End at: 2018-09-25 13:07:15

Local clock offset: 4.403 ms

Remote clock offset: 1.281 ms

Below is generated by plot.py at 2018-09-25 14:36:27

Datalink statistics

-- Total of 1 flow:

Average throughput: 88.41 Mbit/s

95th percentile per-packet one-way delay: 65.249 ms

Loss rate: 0.39%

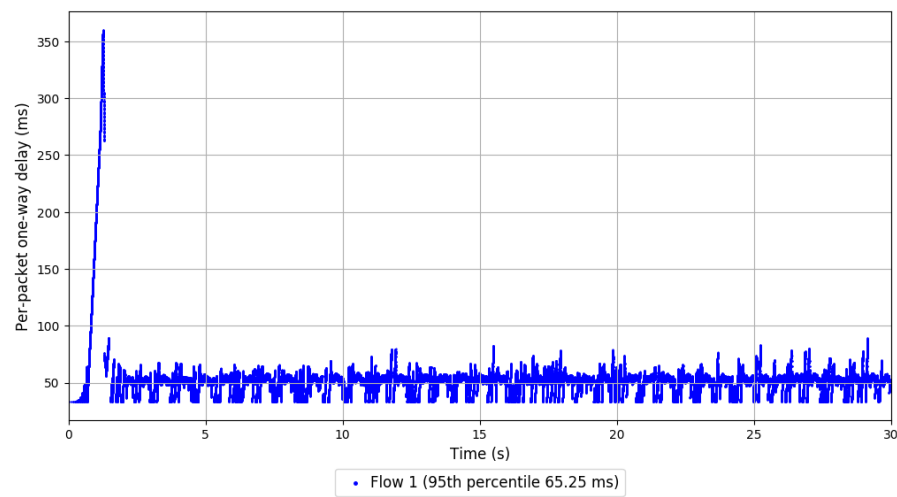
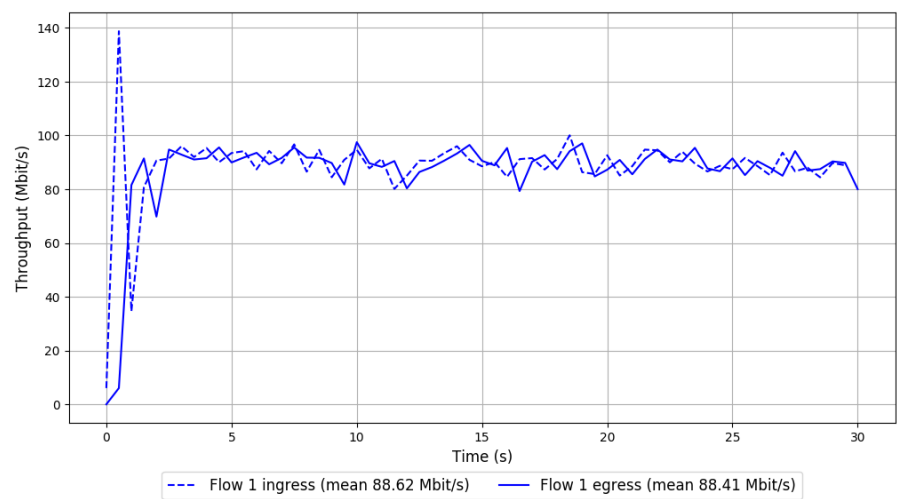
-- Flow 1:

Average throughput: 88.41 Mbit/s

95th percentile per-packet one-way delay: 65.249 ms

Loss rate: 0.39%

Run 3: Report of Verus — Data Link



Run 4: Statistics of Verus

Start at: 2018-09-25 13:32:00

End at: 2018-09-25 13:32:30

Local clock offset: 0.534 ms

Remote clock offset: 1.363 ms

Below is generated by plot.py at 2018-09-25 14:36:30

Datalink statistics

-- Total of 1 flow:

Average throughput: 84.58 Mbit/s

95th percentile per-packet one-way delay: 75.796 ms

Loss rate: 0.47%

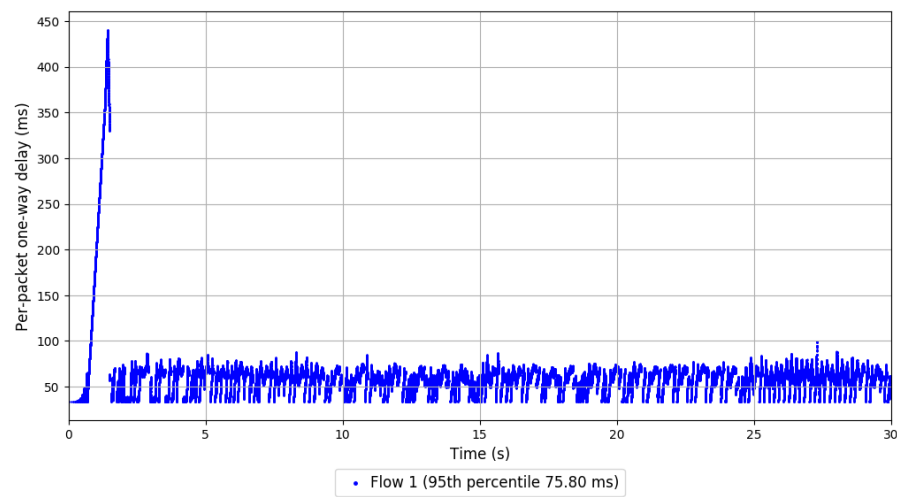
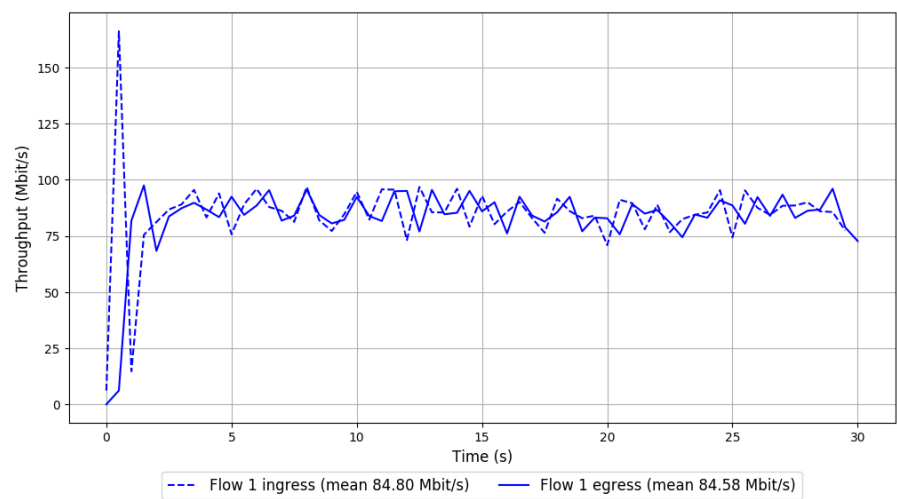
-- Flow 1:

Average throughput: 84.58 Mbit/s

95th percentile per-packet one-way delay: 75.796 ms

Loss rate: 0.47%

Run 4: Report of Verus — Data Link



Run 5: Statistics of Verus

Start at: 2018-09-25 13:57:17

End at: 2018-09-25 13:57:47

Local clock offset: 0.337 ms

Remote clock offset: 0.761 ms

Below is generated by plot.py at 2018-09-25 14:36:32

Datalink statistics

-- Total of 1 flow:

Average throughput: 85.00 Mbit/s

95th percentile per-packet one-way delay: 72.657 ms

Loss rate: 0.49%

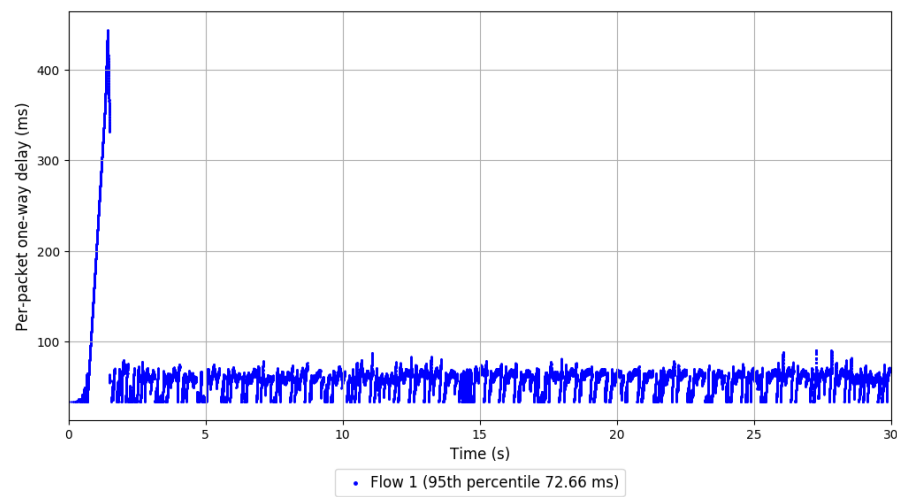
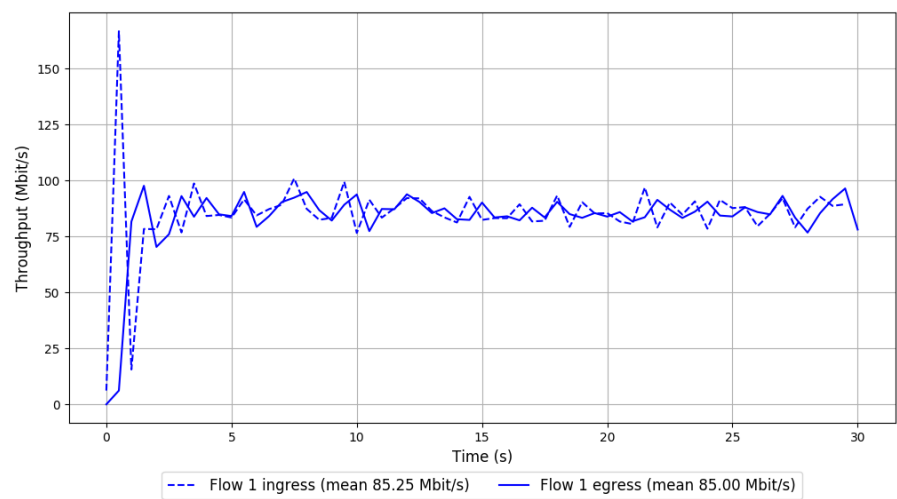
-- Flow 1:

Average throughput: 85.00 Mbit/s

95th percentile per-packet one-way delay: 72.657 ms

Loss rate: 0.49%

Run 5: Report of Verus — Data Link



Run 1: Statistics of PCC-Vivace

Start at: 2018-09-25 12:24:23

End at: 2018-09-25 12:24:53

Local clock offset: -1.886 ms

Remote clock offset: -1.48 ms

Below is generated by plot.py at 2018-09-25 14:36:40

Datalink statistics

-- Total of 1 flow:

Average throughput: 84.97 Mbit/s

95th percentile per-packet one-way delay: 38.070 ms

Loss rate: 0.24%

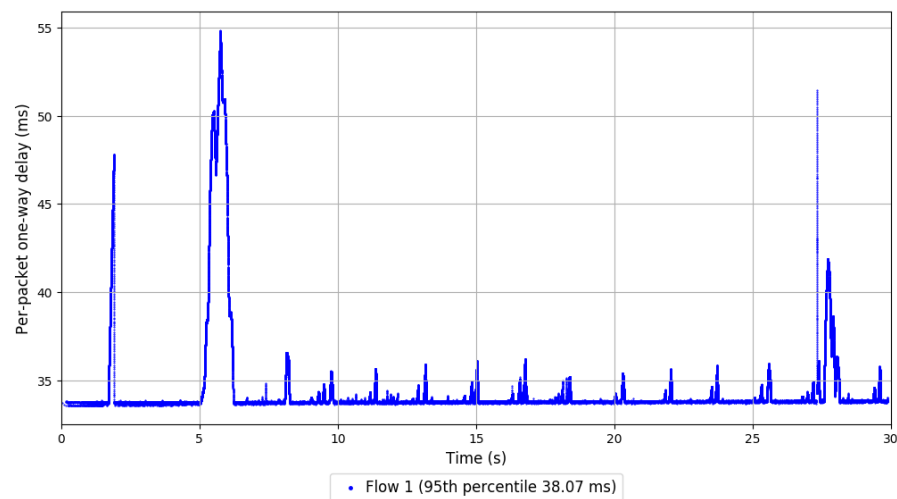
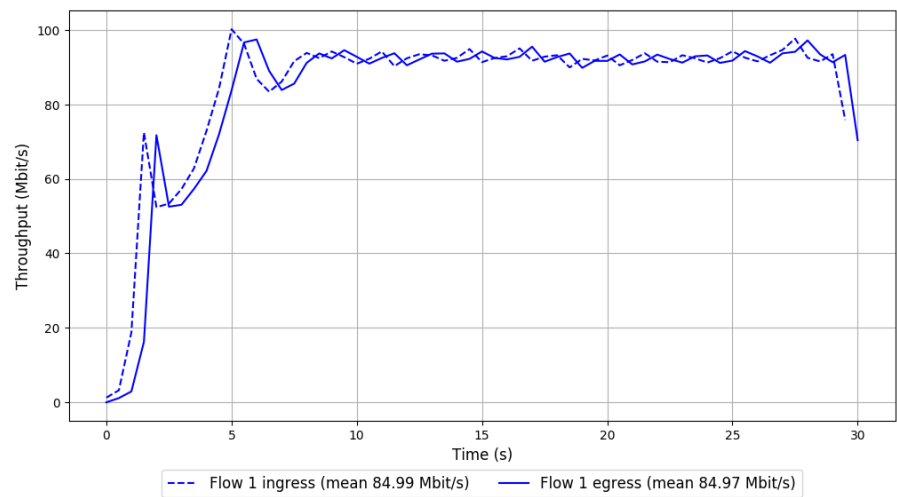
-- Flow 1:

Average throughput: 84.97 Mbit/s

95th percentile per-packet one-way delay: 38.070 ms

Loss rate: 0.24%

Run 1: Report of PCC-Vivace — Data Link



Run 2: Statistics of PCC-Vivace

Start at: 2018-09-25 12:49:33

End at: 2018-09-25 12:50:03

Local clock offset: 1.648 ms

Remote clock offset: 0.457 ms

Below is generated by plot.py at 2018-09-25 14:36:40

Datalink statistics

-- Total of 1 flow:

Average throughput: 85.09 Mbit/s

95th percentile per-packet one-way delay: 35.802 ms

Loss rate: 0.23%

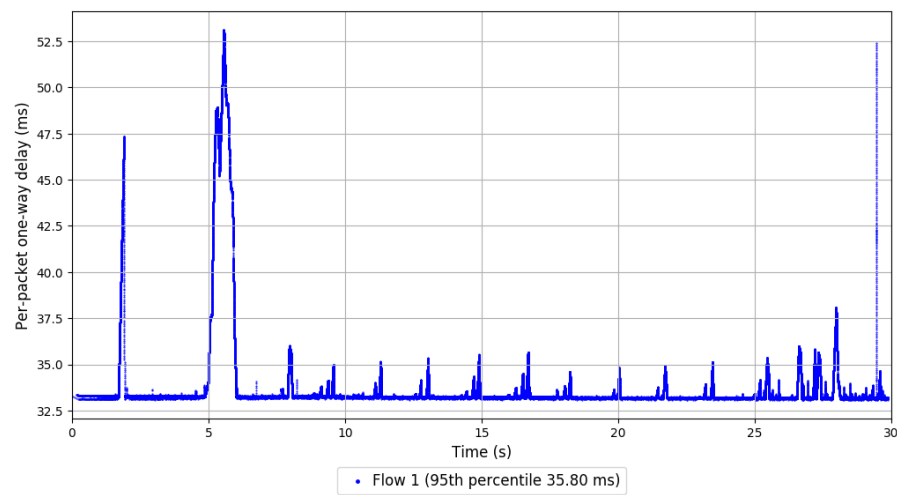
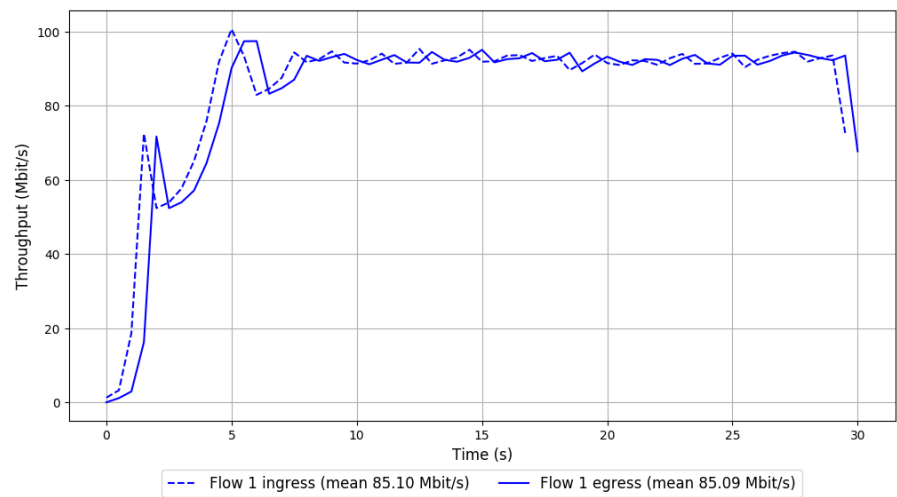
-- Flow 1:

Average throughput: 85.09 Mbit/s

95th percentile per-packet one-way delay: 35.802 ms

Loss rate: 0.23%

Run 2: Report of PCC-Vivace — Data Link



Run 3: Statistics of PCC-Vivace

Start at: 2018-09-25 13:14:48

End at: 2018-09-25 13:15:18

Local clock offset: 2.63 ms

Remote clock offset: 1.303 ms

Below is generated by plot.py at 2018-09-25 14:36:42

Datalink statistics

-- Total of 1 flow:

Average throughput: 85.59 Mbit/s

95th percentile per-packet one-way delay: 34.923 ms

Loss rate: 0.23%

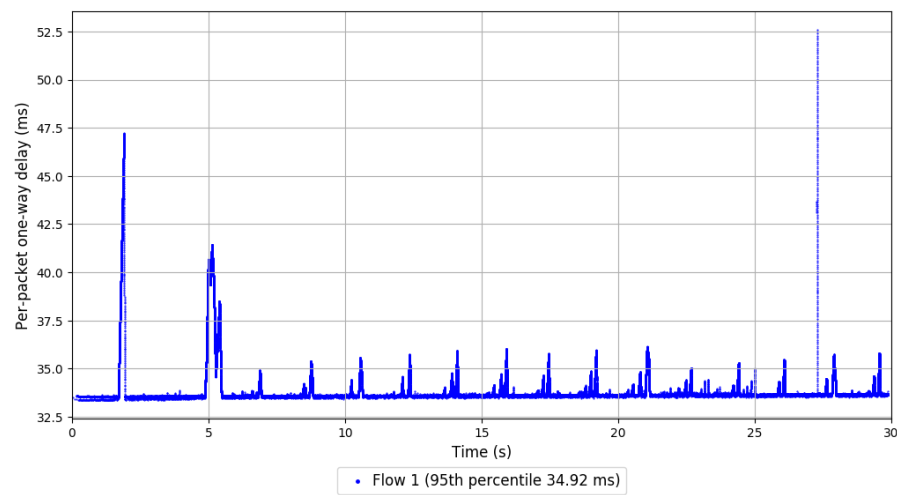
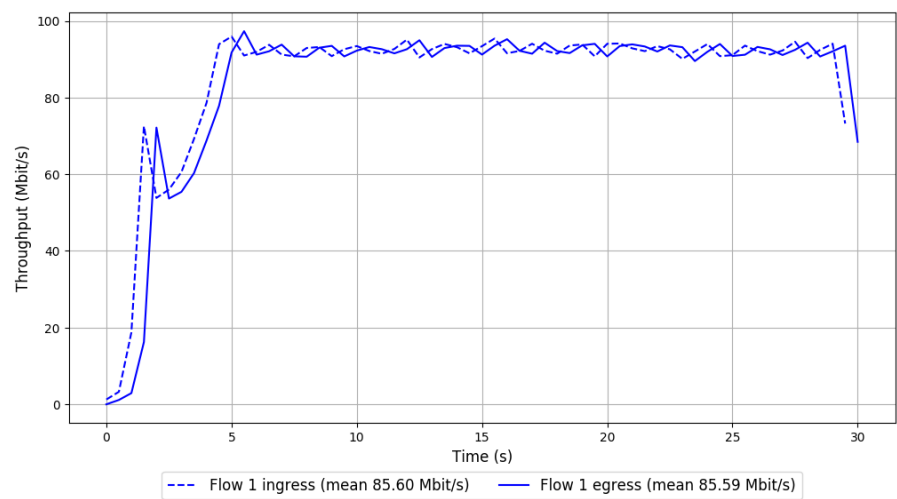
-- Flow 1:

Average throughput: 85.59 Mbit/s

95th percentile per-packet one-way delay: 34.923 ms

Loss rate: 0.23%

Run 3: Report of PCC-Vivace — Data Link



Run 4: Statistics of PCC-Vivace

Start at: 2018-09-25 13:40:03

End at: 2018-09-25 13:40:33

Local clock offset: 0.301 ms

Remote clock offset: 1.241 ms

Below is generated by plot.py at 2018-09-25 14:36:50

Datalink statistics

-- Total of 1 flow:

Average throughput: 85.28 Mbit/s

95th percentile per-packet one-way delay: 34.368 ms

Loss rate: 0.22%

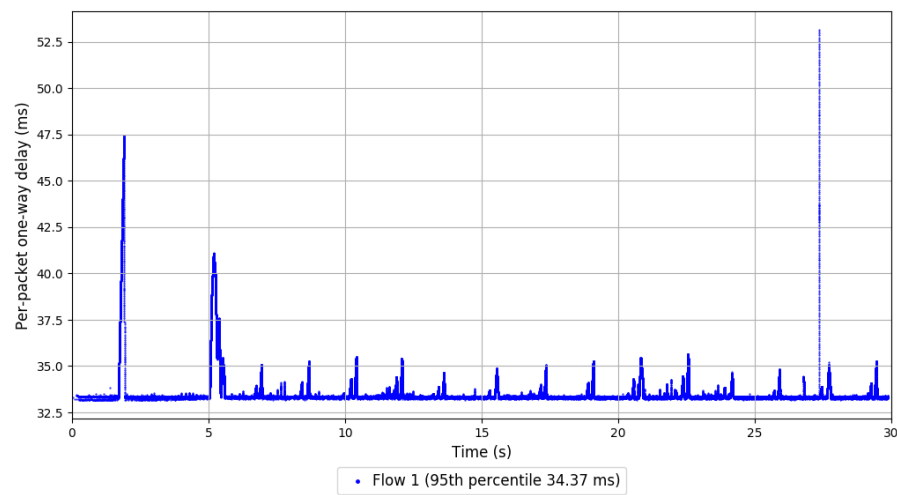
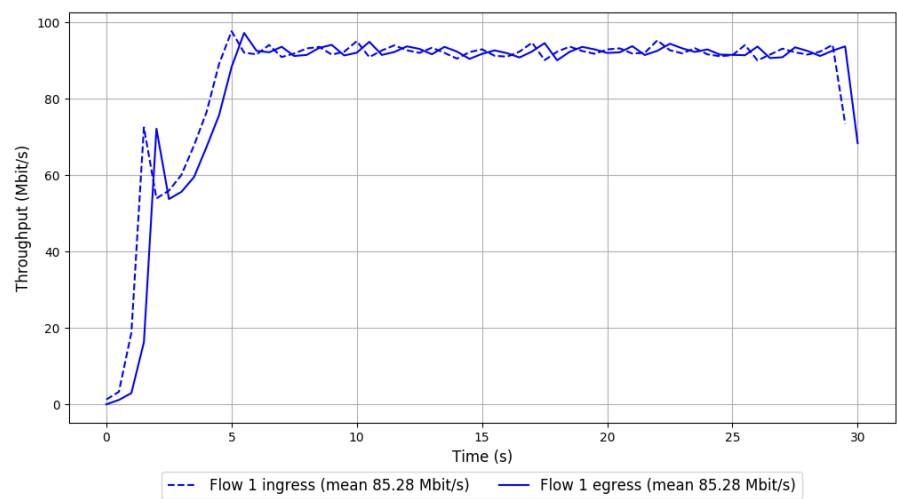
-- Flow 1:

Average throughput: 85.28 Mbit/s

95th percentile per-packet one-way delay: 34.368 ms

Loss rate: 0.22%

Run 4: Report of PCC-Vivace — Data Link



Run 5: Statistics of PCC-Vivace

Start at: 2018-09-25 14:05:30

End at: 2018-09-25 14:06:00

Local clock offset: 0.302 ms

Remote clock offset: 0.471 ms

Below is generated by plot.py at 2018-09-25 14:36:51

Datalink statistics

-- Total of 1 flow:

Average throughput: 85.43 Mbit/s

95th percentile per-packet one-way delay: 34.472 ms

Loss rate: 0.22%

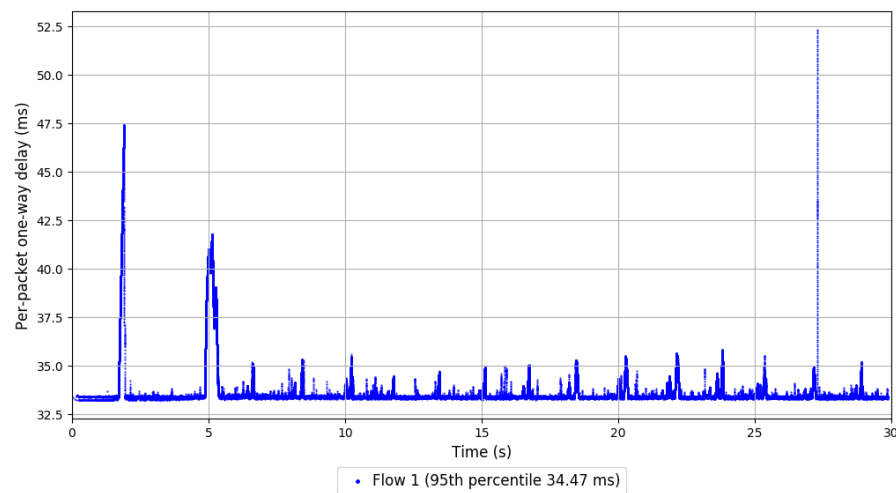
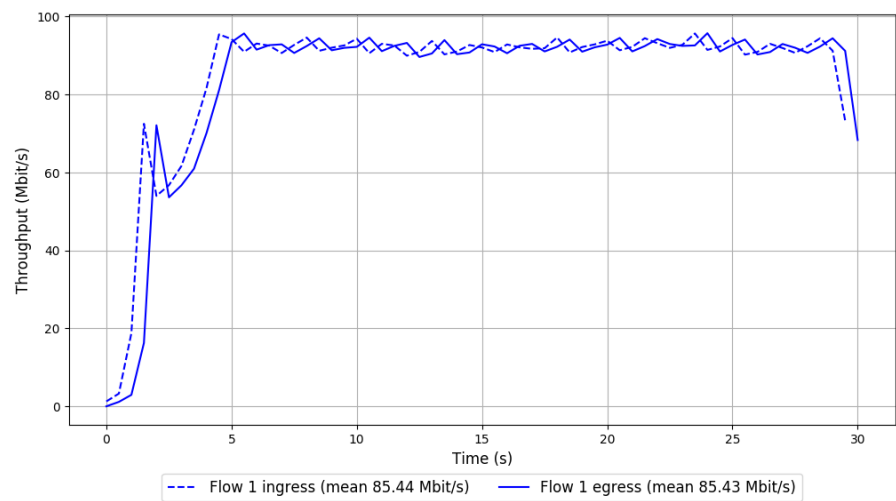
-- Flow 1:

Average throughput: 85.43 Mbit/s

95th percentile per-packet one-way delay: 34.472 ms

Loss rate: 0.22%

Run 5: Report of PCC-Vivace — Data Link

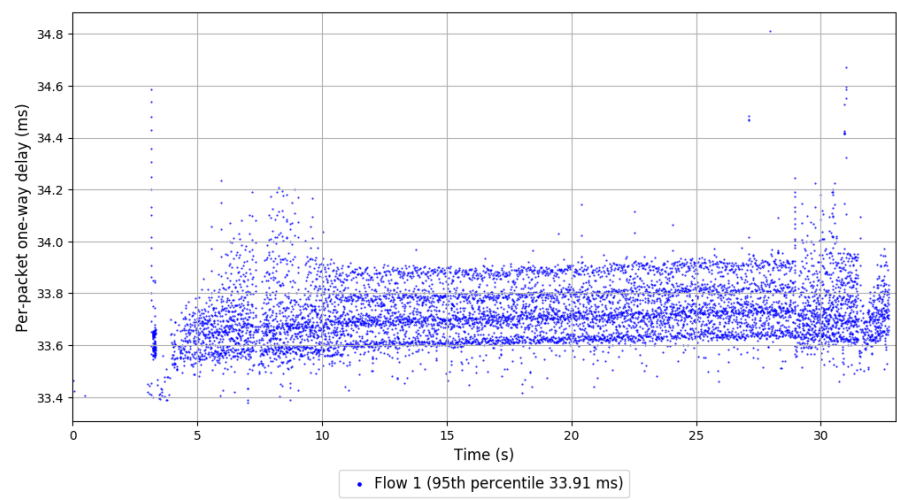
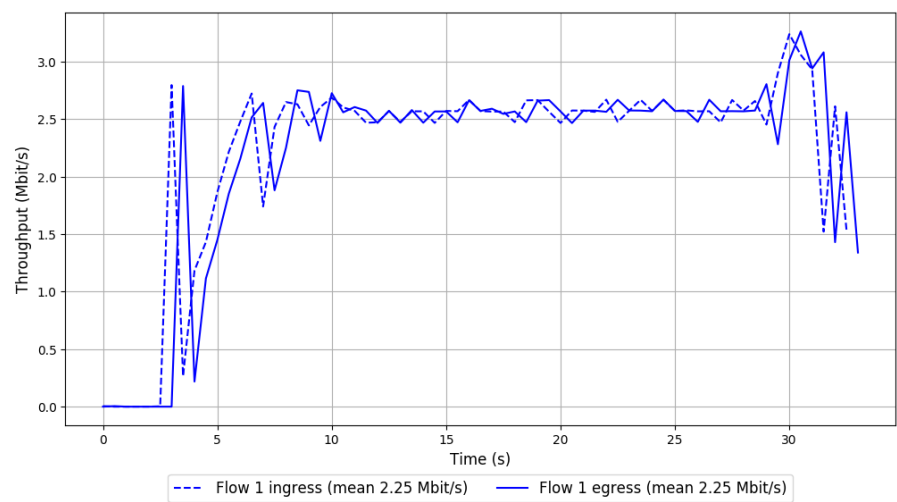



```
Run 1: Statistics of WebRTC media

Start at: 2018-09-25 12:35:06
End at: 2018-09-25 12:35:36
Local clock offset: -3.248 ms
Remote clock offset: -0.618 ms

# Below is generated by plot.py at 2018-09-25 14:36:51
# Datalink statistics
-- Total of 1 flow:
Average throughput: 2.25 Mbit/s
95th percentile per-packet one-way delay: 33.915 ms
Loss rate: 0.27%
-- Flow 1:
Average throughput: 2.25 Mbit/s
95th percentile per-packet one-way delay: 33.915 ms
Loss rate: 0.27%
```

Run 1: Report of WebRTC media — Data Link



Run 2: Statistics of WebRTC media

Start at: 2018-09-25 13:00:17

End at: 2018-09-25 13:00:47

Local clock offset: 3.734 ms

Remote clock offset: 0.862 ms

Below is generated by plot.py at 2018-09-25 14:36:51

Datalink statistics

-- Total of 1 flow:

Average throughput: 2.24 Mbit/s

95th percentile per-packet one-way delay: 33.899 ms

Loss rate: 0.27%

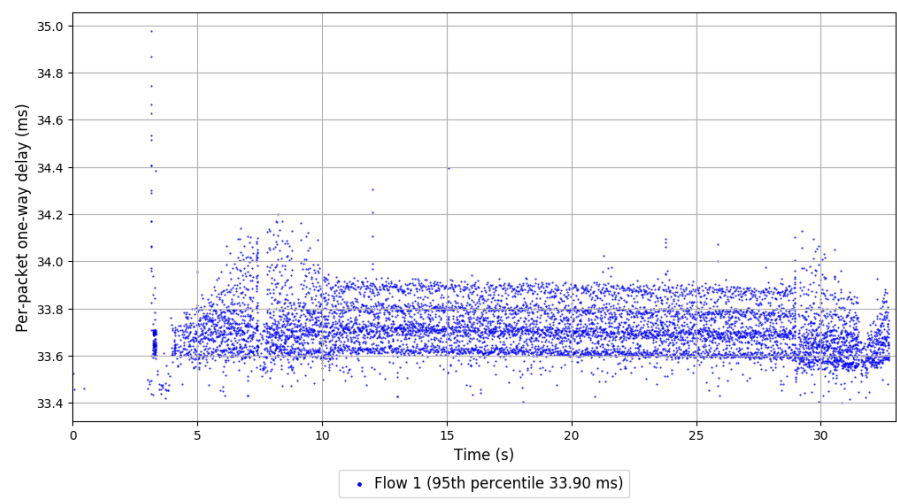
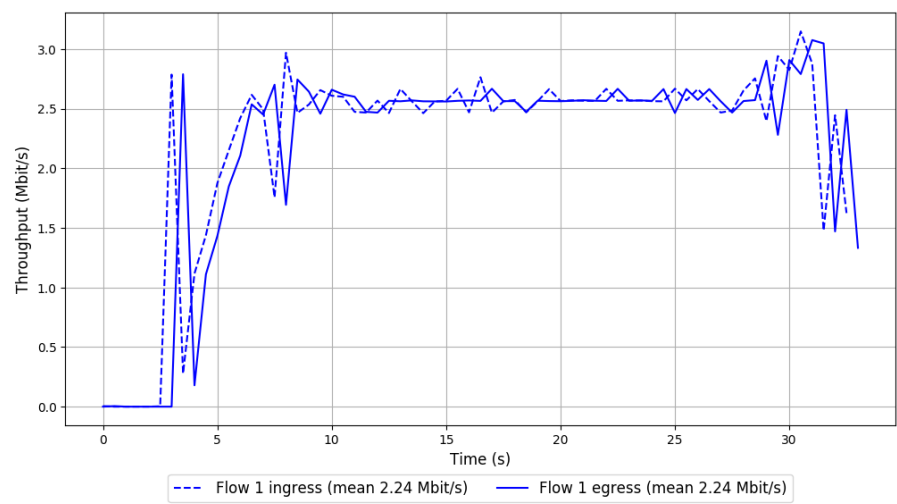
-- Flow 1:

Average throughput: 2.24 Mbit/s

95th percentile per-packet one-way delay: 33.899 ms

Loss rate: 0.27%

Run 2: Report of WebRTC media — Data Link



Run 3: Statistics of WebRTC media

Start at: 2018-09-25 13:25:32

End at: 2018-09-25 13:26:02

Local clock offset: 0.921 ms

Remote clock offset: 1.46 ms

Below is generated by plot.py at 2018-09-25 14:36:51

Datalink statistics

-- Total of 1 flow:

Average throughput: 2.27 Mbit/s

95th percentile per-packet one-way delay: 33.820 ms

Loss rate: 0.22%

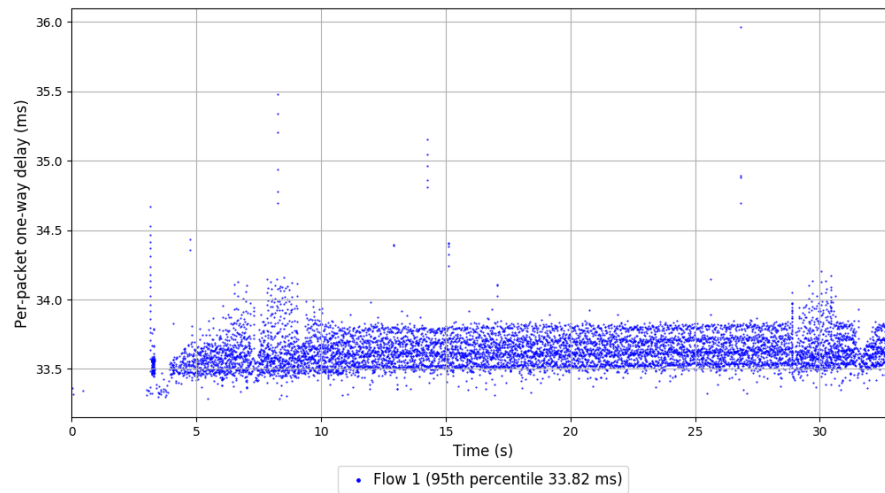
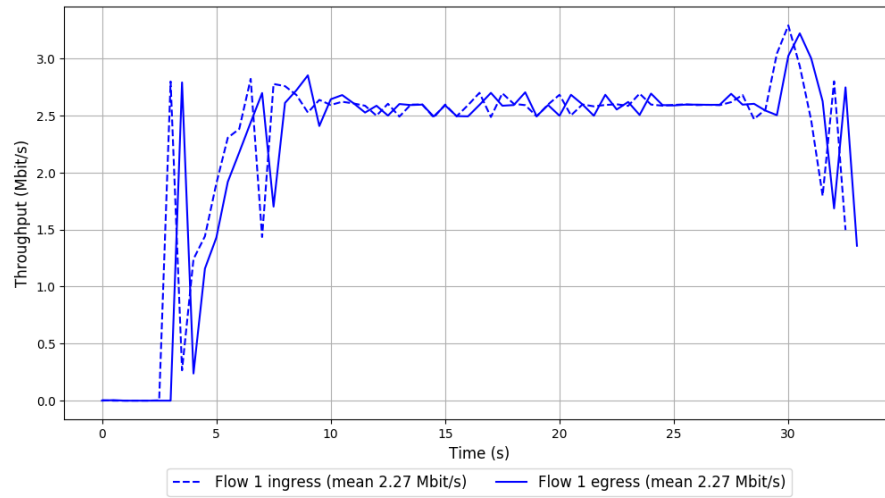
-- Flow 1:

Average throughput: 2.27 Mbit/s

95th percentile per-packet one-way delay: 33.820 ms

Loss rate: 0.22%

Run 3: Report of WebRTC media — Data Link



Run 4: Statistics of WebRTC media

Start at: 2018-09-25 13:50:49

End at: 2018-09-25 13:51:19

Local clock offset: 0.345 ms

Remote clock offset: 0.762 ms

Below is generated by plot.py at 2018-09-25 14:36:51

Datalink statistics

-- Total of 1 flow:

Average throughput: 2.27 Mbit/s

95th percentile per-packet one-way delay: 33.836 ms

Loss rate: 0.26%

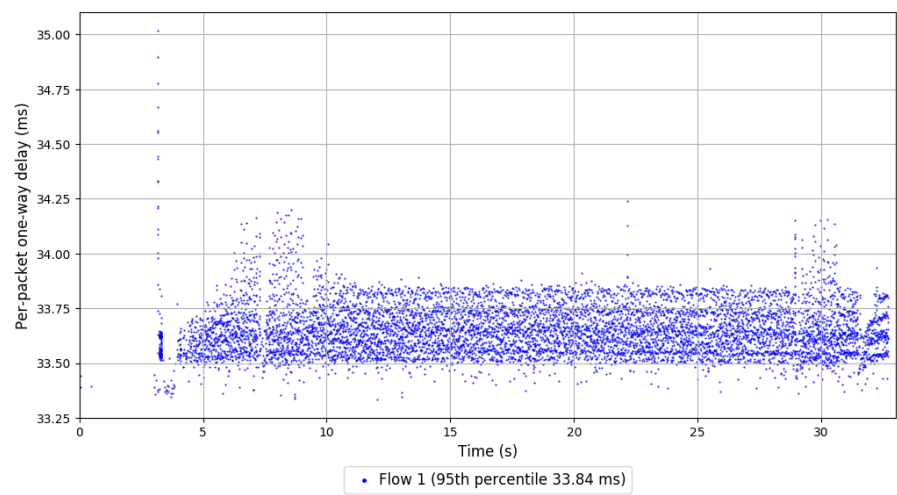
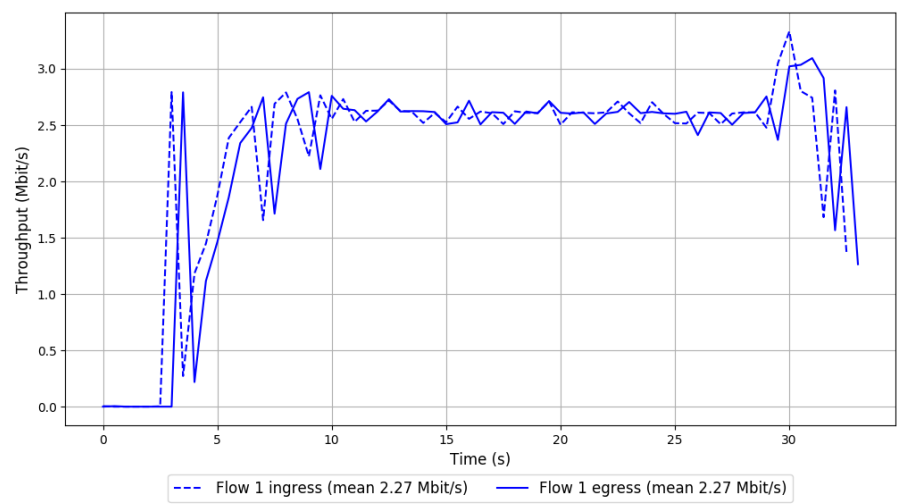
-- Flow 1:

Average throughput: 2.27 Mbit/s

95th percentile per-packet one-way delay: 33.836 ms

Loss rate: 0.26%

Run 4: Report of WebRTC media — Data Link



Run 5: Statistics of WebRTC media

Start at: 2018-09-25 14:16:32

End at: 2018-09-25 14:17:02

Local clock offset: -0.104 ms

Remote clock offset: 0.143 ms

Below is generated by plot.py at 2018-09-25 14:36:51

Datalink statistics

-- Total of 1 flow:

Average throughput: 2.01 Mbit/s

95th percentile per-packet one-way delay: 33.648 ms

Loss rate: 0.23%

-- Flow 1:

Average throughput: 2.01 Mbit/s

95th percentile per-packet one-way delay: 33.648 ms

Loss rate: 0.23%

Run 5: Report of WebRTC media — Data Link

