

Pantheon Report

Generated at 2018-12-11 10:54:59 (UTC).

Data path: AWS Brazil 1 on `ens5` (*local*) → Brazil on `p4p1` (*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 `gps.ntp.br` and have been applied to correct the timestamps in logs.

System info:

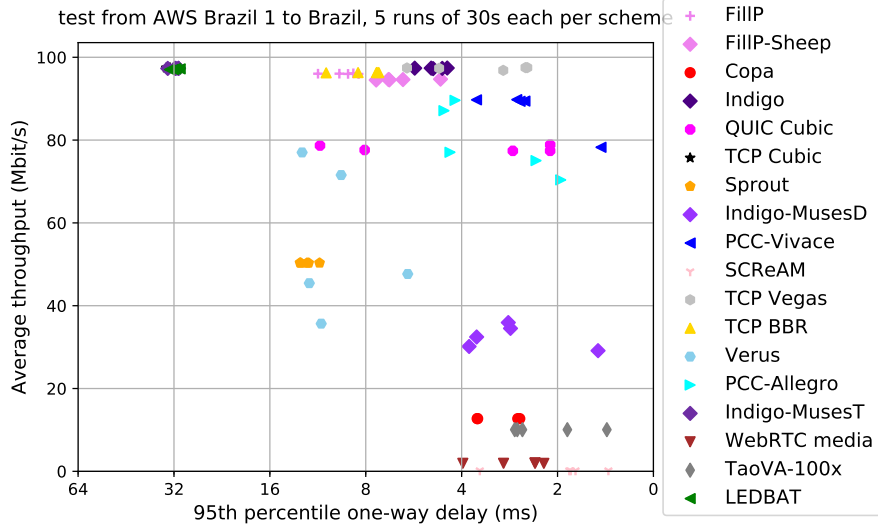
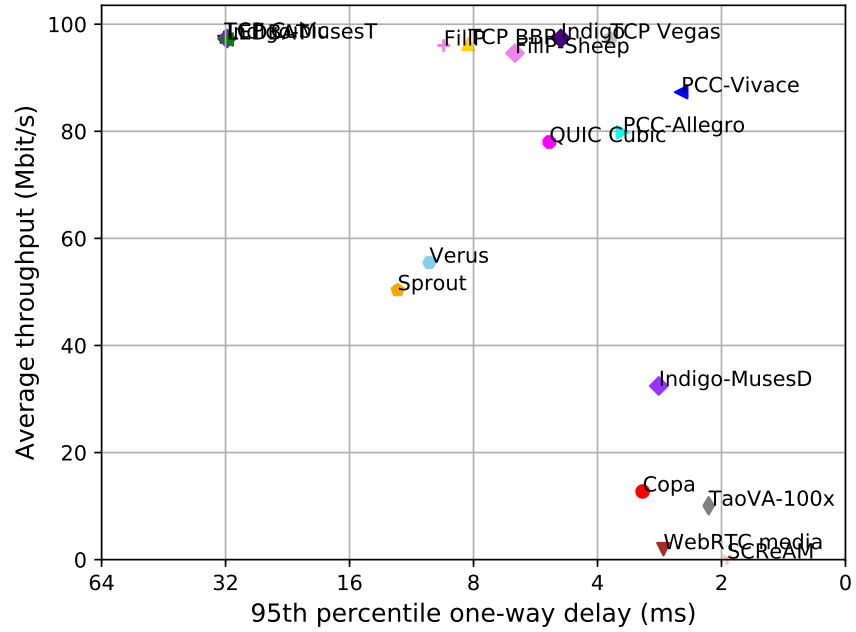
```
Linux 4.15.0-1029-aws
net.core.default_qdisc = fq
net.core.rmem_default = 16777216
net.core.rmem_max = 536870912
net.core.wmem_default = 16777216
net.core.wmem_max = 536870912
net.ipv4.tcp_rmem = 4096 16777216 536870912
net.ipv4.tcp_wmem = 4096 16777216 536870912
```

Git summary:

```
branch: muses @ c654af0b7d59d4ef4b914cfac404e1fc2e96dc68
third_party/fillp @ d6da1459332fcee56963885d7eba17e6a32d4519
third_party/fillp-sheep @ 0e5bb722943babcd2b090d2c64fcd45e12e923f9
third_party/genericCC @ d0153f8e594aa89e93b032143cedbdfc58e562f4
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 Brazil 1 to Brazil, 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	96.30	8.23	0.00
Copa	4	12.73	3.11	68.20
TCP Cubic	5	97.48	32.24	0.01
FillP	5	96.03	9.45	0.29
FillP-Sheep	5	94.60	6.34	0.08
Indigo	5	97.34	4.91	0.00
Indigo-MusesD	5	32.44	2.84	0.01
Indigo-MusesT	5	97.32	31.76	46.59
LEDBAT	5	97.14	31.80	0.01
PCC-Allegro	5	79.84	3.47	0.01
PCC-Expr	0	N/A	N/A	N/A
QUIC Cubic	5	78.00	5.24	0.28
SCReAM	5	0.22	1.91	0.03
Sprout	5	50.33	12.23	0.00
TaoVA-100x	5	10.06	2.15	81.14
TCP Vegas	5	97.32	3.72	0.00
Verus	5	55.47	10.24	1.31
PCC-Vivace	5	87.31	2.51	0.01
WebRTC media	5	1.96	2.77	0.00

Run 1: Statistics of TCP BBR

Start at: 2018-12-11 09:00:11

End at: 2018-12-11 09:00:41

Local clock offset: -5.48 ms

Remote clock offset: -0.023 ms

Below is generated by plot.py at 2018-12-11 10:46:54

Datalink statistics

-- Total of 1 flow:

Average throughput: 96.30 Mbit/s

95th percentile per-packet one-way delay: 8.458 ms

Loss rate: 0.00%

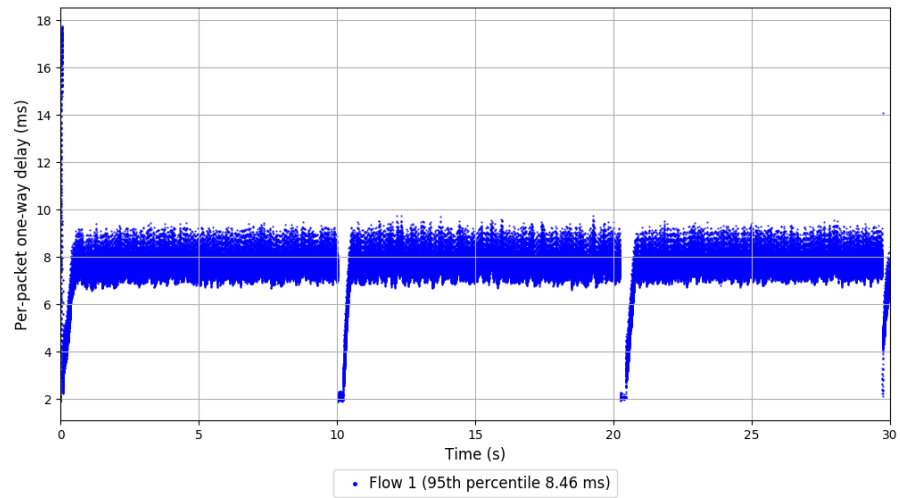
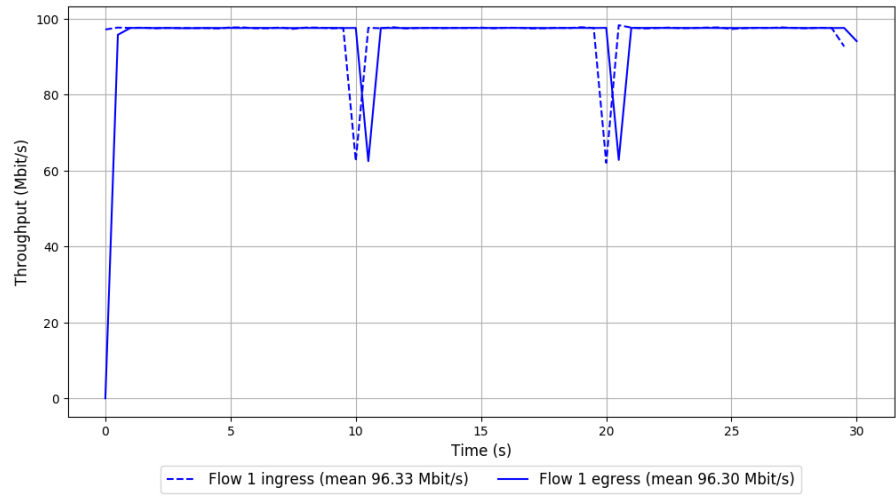
-- Flow 1:

Average throughput: 96.30 Mbit/s

95th percentile per-packet one-way delay: 8.458 ms

Loss rate: 0.00%

Run 1: Report of TCP BBR — Data Link



Run 2: Statistics of TCP BBR

Start at: 2018-12-11 09:21:23

End at: 2018-12-11 09:21:53

Local clock offset: -1.925 ms

Remote clock offset: 0.077 ms

Below is generated by plot.py at 2018-12-11 10:46:55

Datalink statistics

-- Total of 1 flow:

Average throughput: 96.31 Mbit/s

95th percentile per-packet one-way delay: 7.399 ms

Loss rate: 0.00%

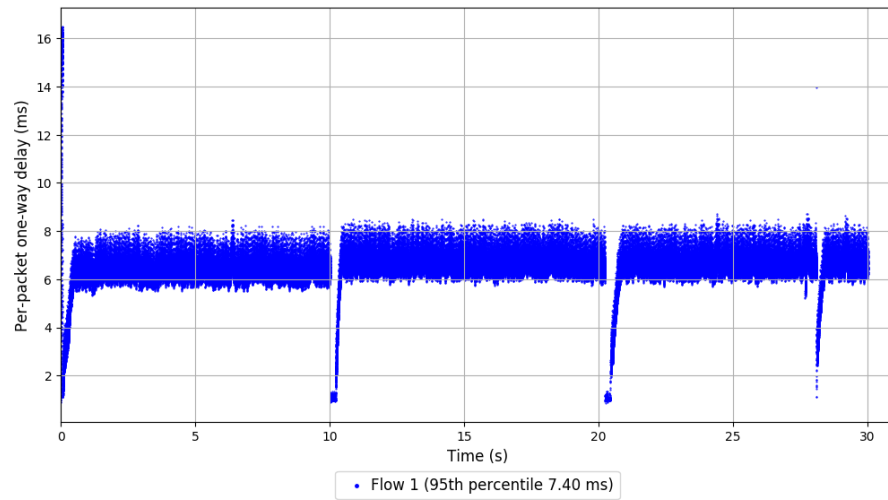
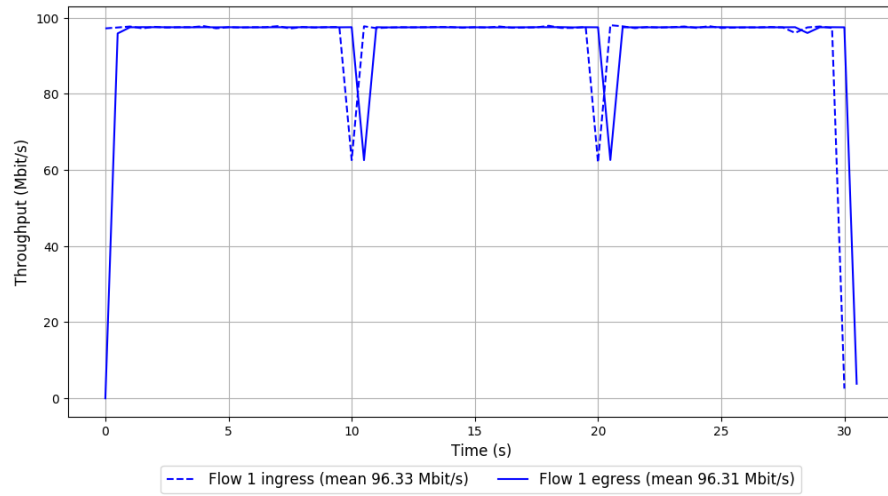
-- Flow 1:

Average throughput: 96.31 Mbit/s

95th percentile per-packet one-way delay: 7.399 ms

Loss rate: 0.00%

Run 2: Report of TCP BBR — Data Link



Run 3: Statistics of TCP BBR

Start at: 2018-12-11 09:42:36

End at: 2018-12-11 09:43:06

Local clock offset: -2.067 ms

Remote clock offset: 0.236 ms

Below is generated by plot.py at 2018-12-11 10:46:56

Datalink statistics

-- Total of 1 flow:

Average throughput: 96.33 Mbit/s

95th percentile per-packet one-way delay: 7.379 ms

Loss rate: 0.00%

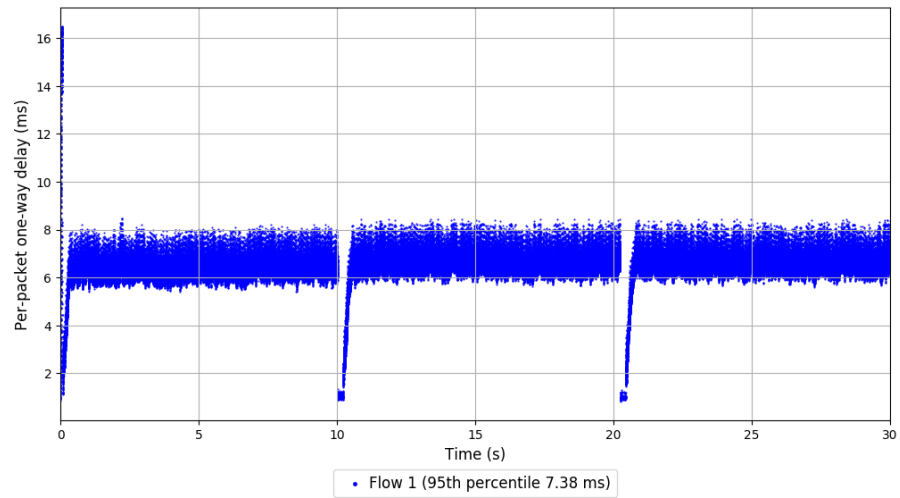
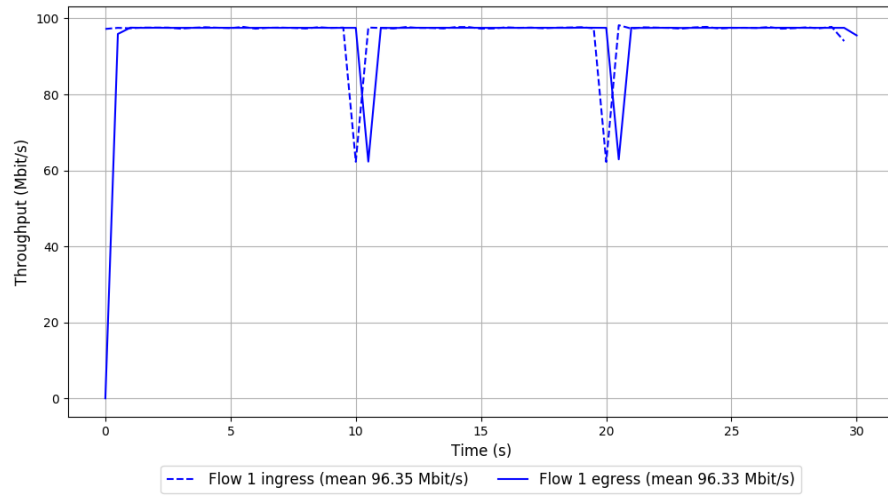
-- Flow 1:

Average throughput: 96.33 Mbit/s

95th percentile per-packet one-way delay: 7.379 ms

Loss rate: 0.00%

Run 3: Report of TCP BBR — Data Link



Run 4: Statistics of TCP BBR

Start at: 2018-12-11 10:03:46

End at: 2018-12-11 10:04:16

Local clock offset: -2.8 ms

Remote clock offset: 0.448 ms

Below is generated by plot.py at 2018-12-11 10:46:56

Datalink statistics

-- Total of 1 flow:

Average throughput: 96.24 Mbit/s

95th percentile per-packet one-way delay: 10.650 ms

Loss rate: 0.01%

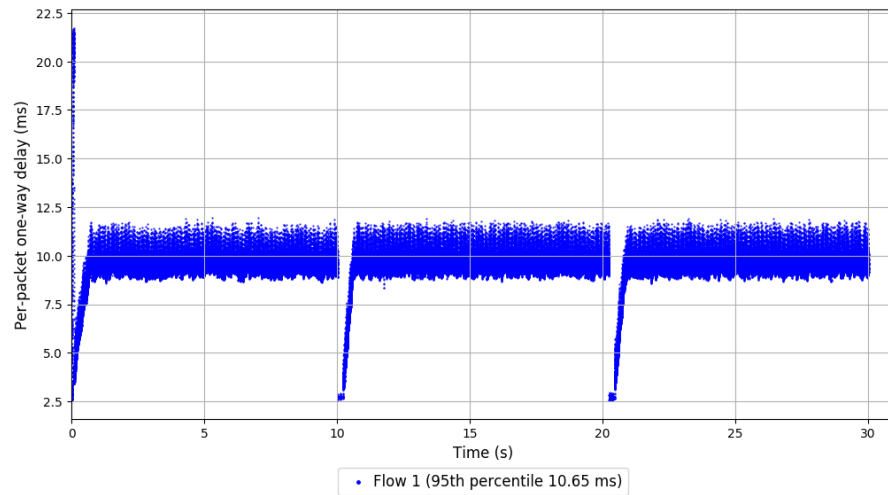
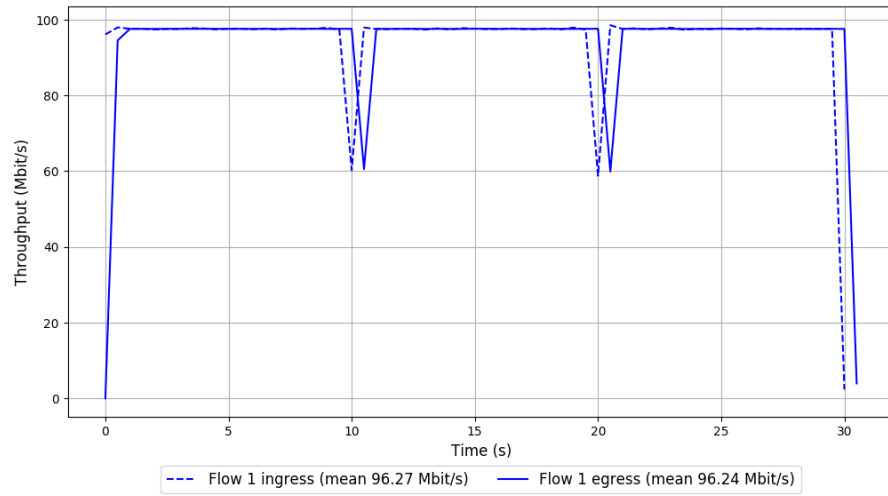
-- Flow 1:

Average throughput: 96.24 Mbit/s

95th percentile per-packet one-way delay: 10.650 ms

Loss rate: 0.01%

Run 4: Report of TCP BBR — Data Link



Run 5: Statistics of TCP BBR

Start at: 2018-12-11 10:24:57

End at: 2018-12-11 10:25:28

Local clock offset: -6.179 ms

Remote clock offset: 0.498 ms

Below is generated by plot.py at 2018-12-11 10:46:56

Datalink statistics

-- Total of 1 flow:

Average throughput: 96.32 Mbit/s

95th percentile per-packet one-way delay: 7.284 ms

Loss rate: 0.00%

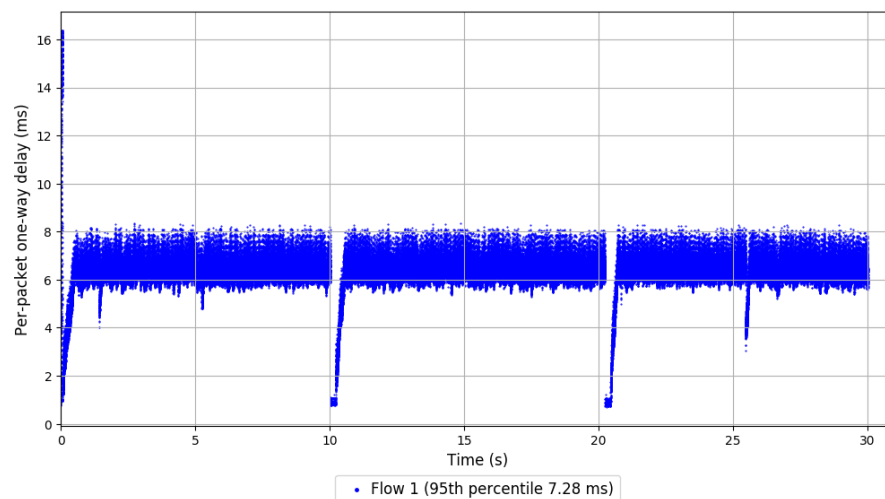
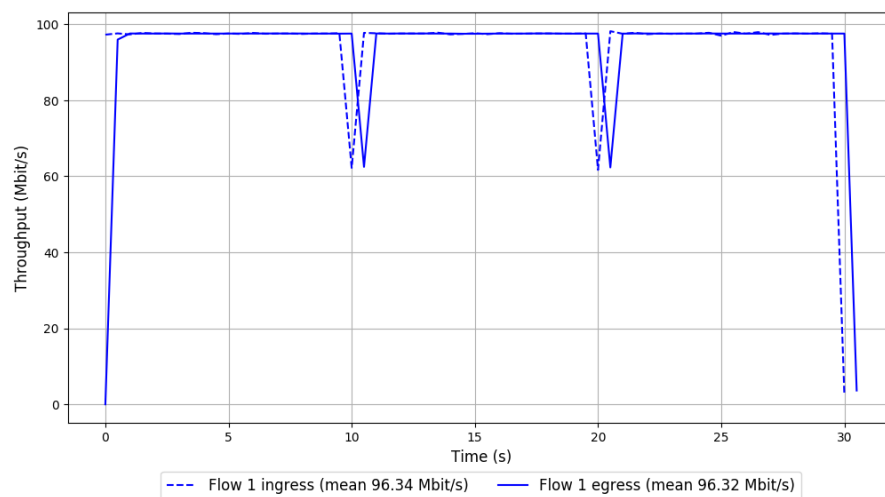
-- Flow 1:

Average throughput: 96.32 Mbit/s

95th percentile per-packet one-way delay: 7.284 ms

Loss rate: 0.00%

Run 5: Report of TCP BBR — Data Link



Run 1: Statistics of Copa

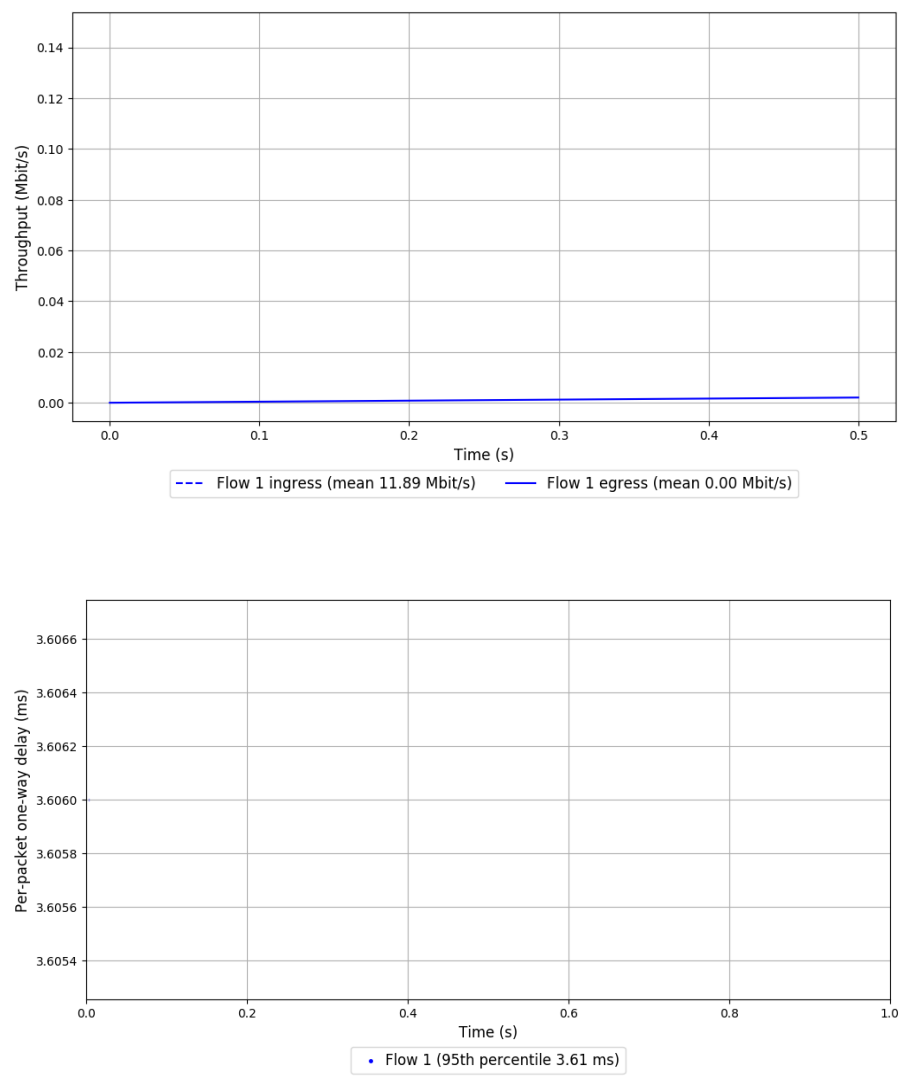
Start at: 2018-12-11 08:59:07

End at: 2018-12-11 08:59:37

Local clock offset: -5.867 ms

Remote clock offset: -0.208 ms

Run 1: Report of Copa — Data Link



Run 2: Statistics of Copa

Start at: 2018-12-11 09:20:18

End at: 2018-12-11 09:20:48

Local clock offset: -2.811 ms

Remote clock offset: 0.006 ms

Below is generated by plot.py at 2018-12-11 10:46:56

Datalink statistics

-- Total of 1 flow:

Average throughput: 12.73 Mbit/s

95th percentile per-packet one-way delay: 3.575 ms

Loss rate: 68.69%

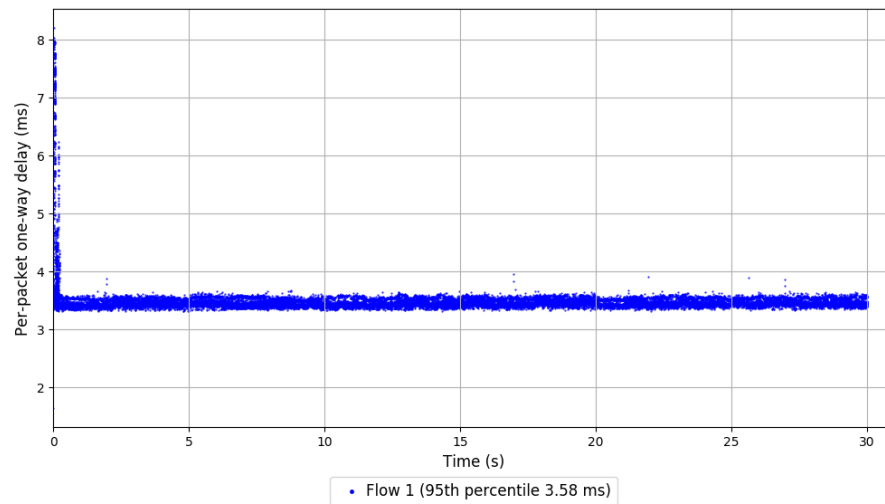
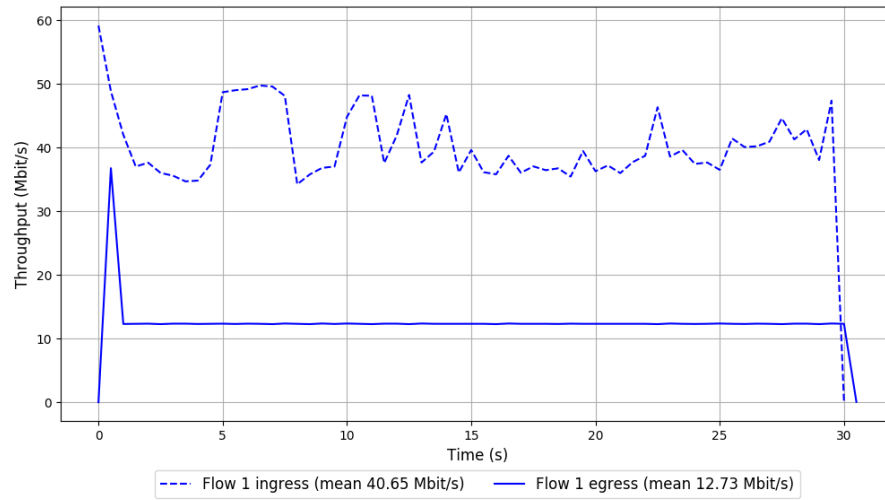
-- Flow 1:

Average throughput: 12.73 Mbit/s

95th percentile per-packet one-way delay: 3.575 ms

Loss rate: 68.69%

Run 2: Report of Copa — Data Link



Run 3: Statistics of Copa

Start at: 2018-12-11 09:41:31

End at: 2018-12-11 09:42:01

Local clock offset: -1.959 ms

Remote clock offset: 0.176 ms

Below is generated by plot.py at 2018-12-11 10:46:56

Datalink statistics

-- Total of 1 flow:

Average throughput: 12.73 Mbit/s

95th percentile per-packet one-way delay: 2.666 ms

Loss rate: 67.71%

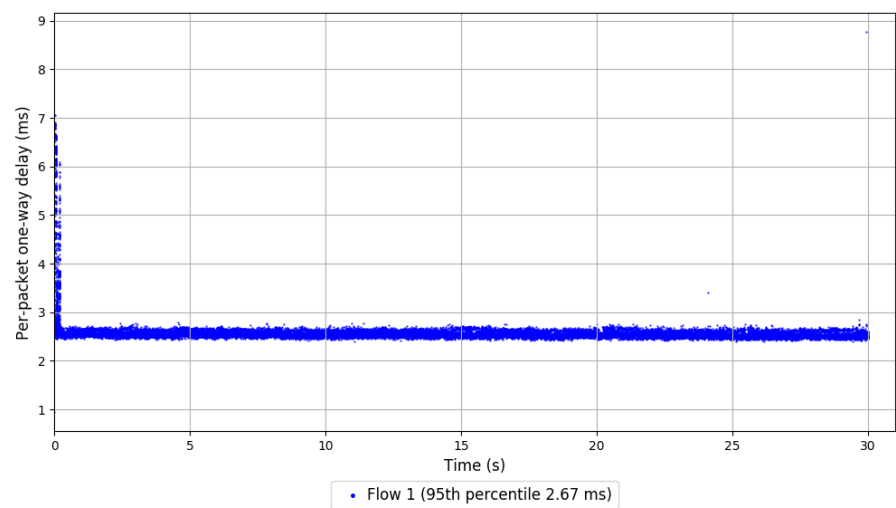
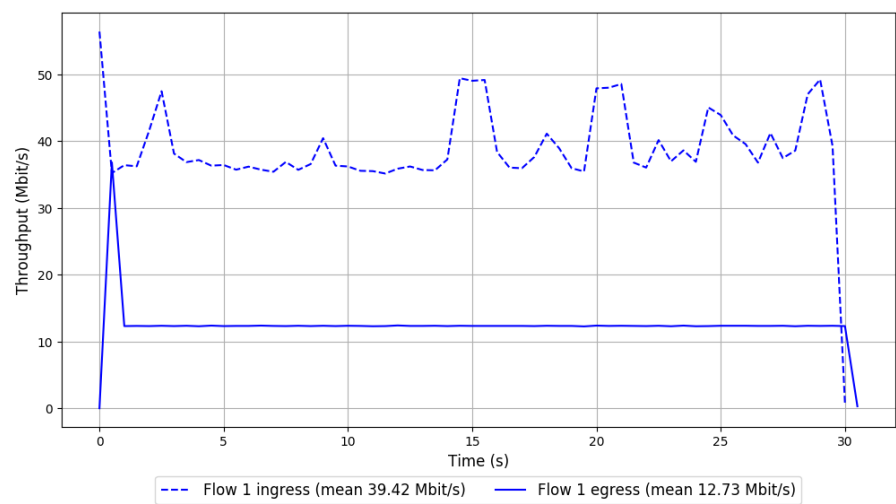
-- Flow 1:

Average throughput: 12.73 Mbit/s

95th percentile per-packet one-way delay: 2.666 ms

Loss rate: 67.71%

Run 3: Report of Copa — Data Link



Run 4: Statistics of Copa

Start at: 2018-12-11 10:02:41

End at: 2018-12-11 10:03:11

Local clock offset: -2.782 ms

Remote clock offset: 0.311 ms

Below is generated by plot.py at 2018-12-11 10:46:56

Datalink statistics

-- Total of 1 flow:

Average throughput: 12.73 Mbit/s

95th percentile per-packet one-way delay: 2.628 ms

Loss rate: 68.18%

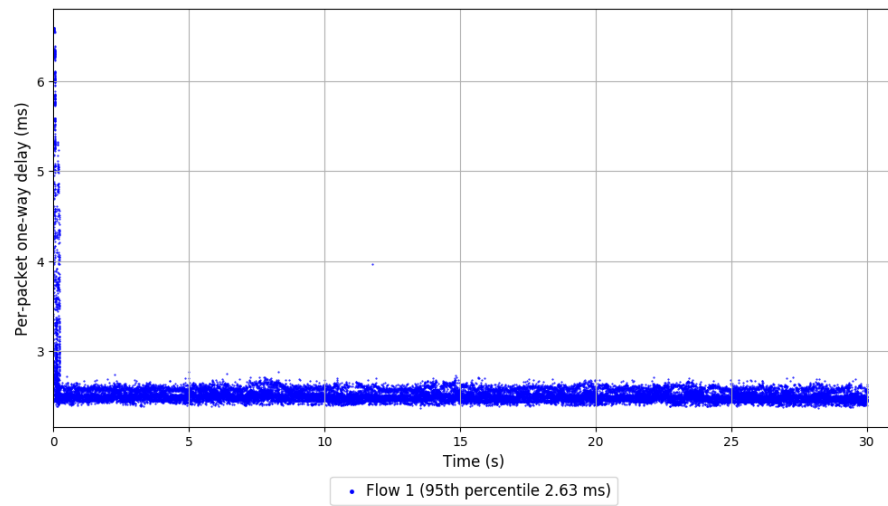
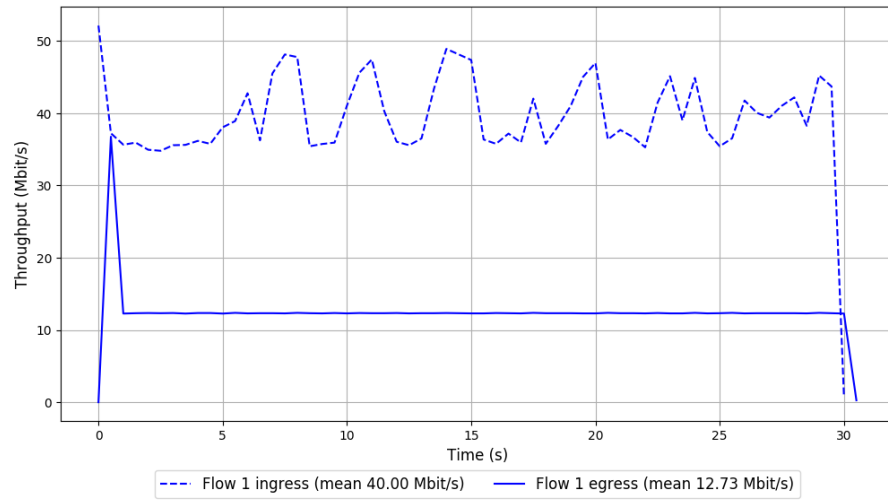
-- Flow 1:

Average throughput: 12.73 Mbit/s

95th percentile per-packet one-way delay: 2.628 ms

Loss rate: 68.18%

Run 4: Report of Copa — Data Link



Run 5: Statistics of Copa

Start at: 2018-12-11 10:23:52

End at: 2018-12-11 10:24:22

Local clock offset: -6.936 ms

Remote clock offset: 0.54 ms

Below is generated by plot.py at 2018-12-11 10:46:56

Datalink statistics

-- Total of 1 flow:

Average throughput: 12.73 Mbit/s

95th percentile per-packet one-way delay: 3.563 ms

Loss rate: 68.22%

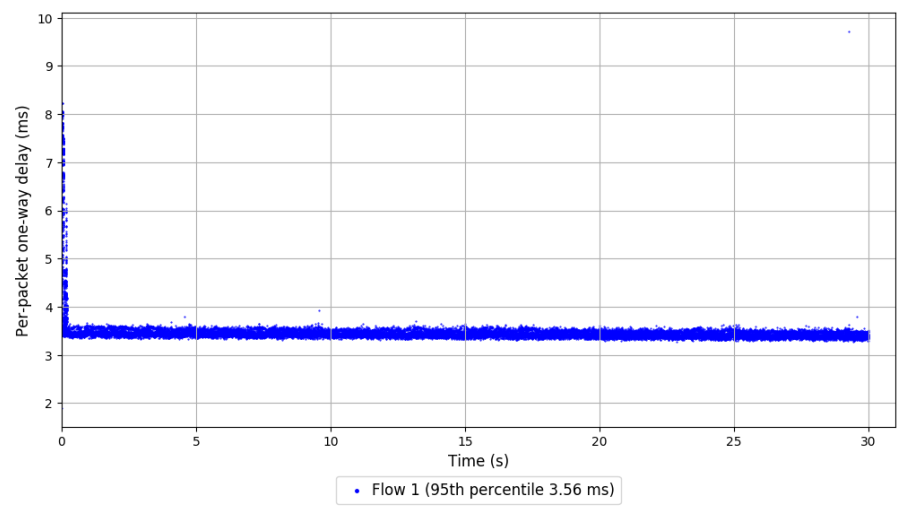
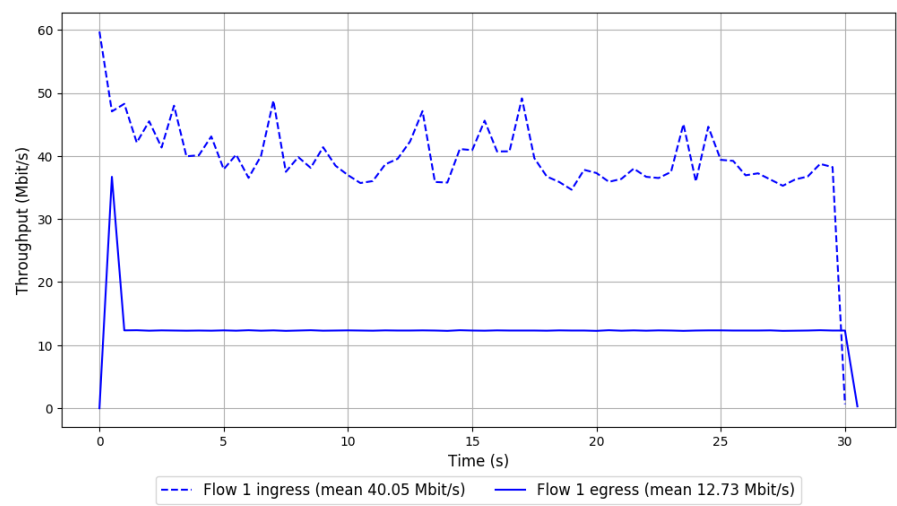
-- Flow 1:

Average throughput: 12.73 Mbit/s

95th percentile per-packet one-way delay: 3.563 ms

Loss rate: 68.22%

Run 5: Report of Copa — Data Link

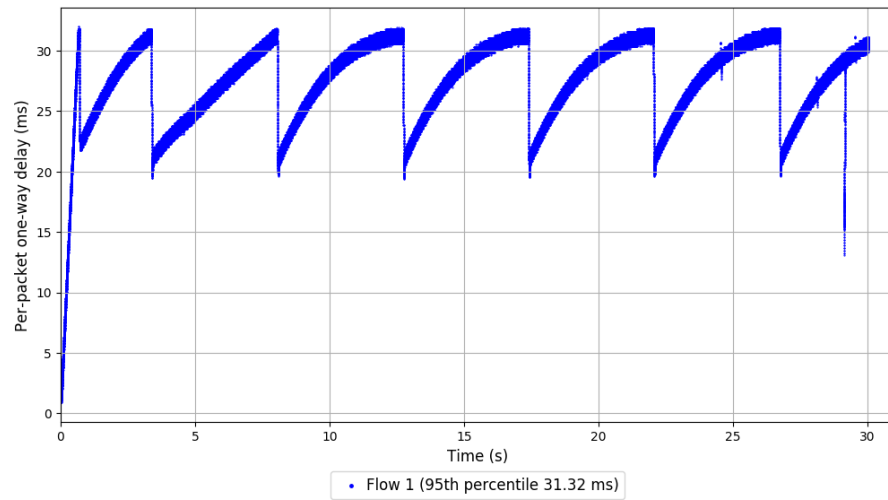
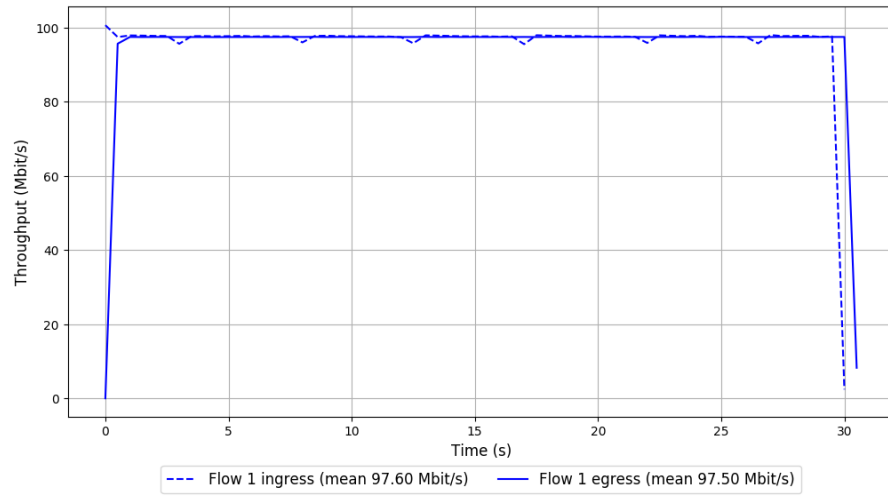


Run 1: Statistics of TCP Cubic

Start at: 2018-12-11 09:11:18
End at: 2018-12-11 09:11:48
Local clock offset: -3.12 ms
Remote clock offset: -0.078 ms

Below is generated by plot.py at 2018-12-11 10:47:10
Datalink statistics
-- Total of 1 flow:
Average throughput: 97.50 Mbit/s
95th percentile per-packet one-way delay: 31.322 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 97.50 Mbit/s
95th percentile per-packet one-way delay: 31.322 ms
Loss rate: 0.01%

Run 1: Report of TCP Cubic — Data Link



Run 2: Statistics of TCP Cubic

Start at: 2018-12-11 09:32:29

End at: 2018-12-11 09:32:59

Local clock offset: -1.701 ms

Remote clock offset: 0.16 ms

Below is generated by plot.py at 2018-12-11 10:47:10

Datalink statistics

-- Total of 1 flow:

Average throughput: 97.46 Mbit/s

95th percentile per-packet one-way delay: 32.928 ms

Loss rate: 0.01%

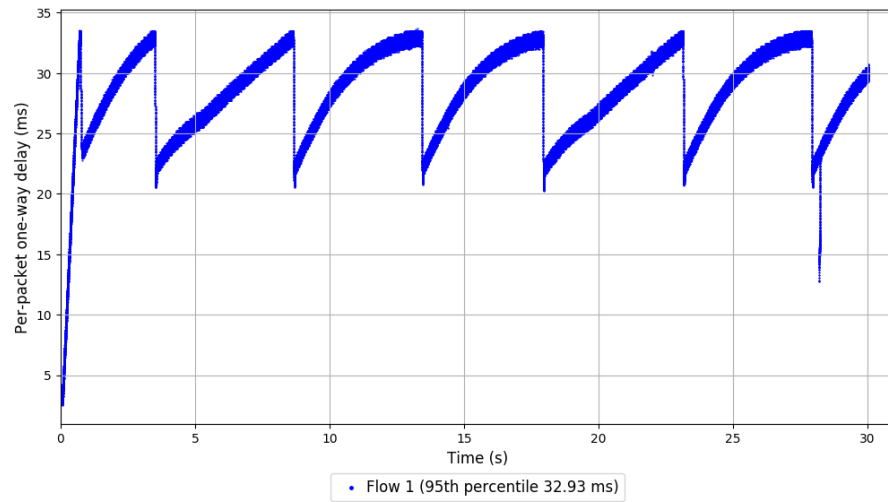
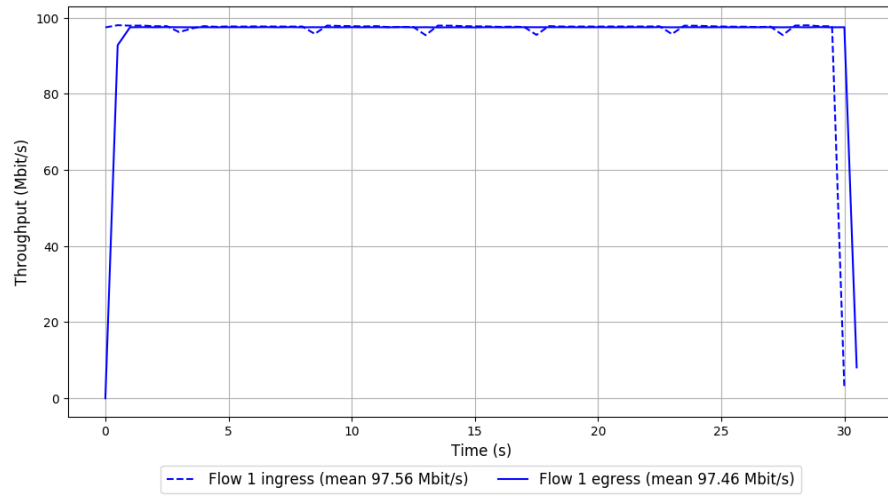
-- Flow 1:

Average throughput: 97.46 Mbit/s

95th percentile per-packet one-way delay: 32.928 ms

Loss rate: 0.01%

Run 2: Report of TCP Cubic — Data Link



Run 3: Statistics of TCP Cubic

Start at: 2018-12-11 09:53:42

End at: 2018-12-11 09:54:12

Local clock offset: -3.4 ms

Remote clock offset: 0.298 ms

Below is generated by plot.py at 2018-12-11 10:47:19

Datalink statistics

-- Total of 1 flow:

Average throughput: 97.50 Mbit/s

95th percentile per-packet one-way delay: 32.087 ms

Loss rate: 0.01%

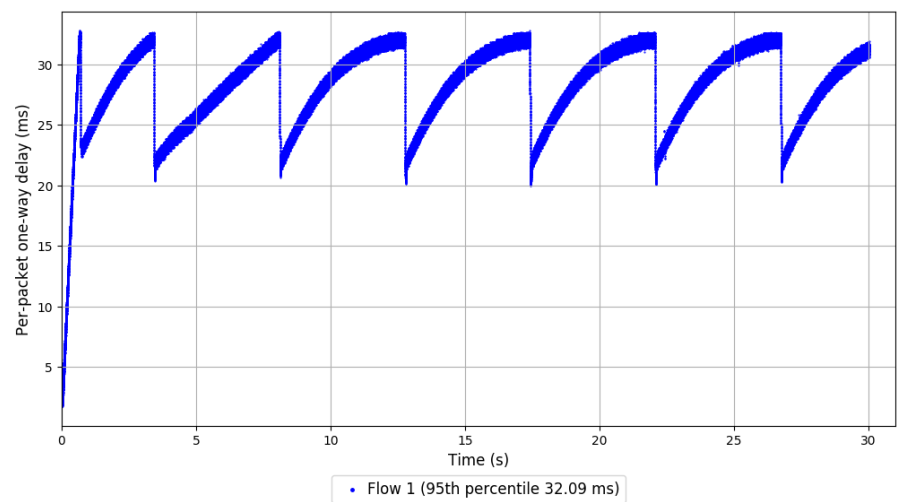
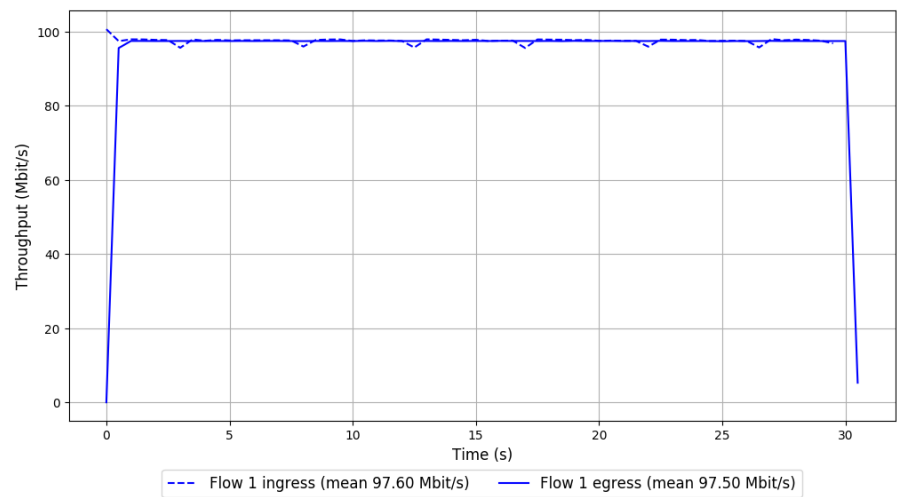
-- Flow 1:

Average throughput: 97.50 Mbit/s

95th percentile per-packet one-way delay: 32.087 ms

Loss rate: 0.01%

Run 3: Report of TCP Cubic — Data Link



Run 4: Statistics of TCP Cubic

Start at: 2018-12-11 10:14:53

End at: 2018-12-11 10:15:23

Local clock offset: -4.678 ms

Remote clock offset: 0.48 ms

Below is generated by plot.py at 2018-12-11 10:47:55

Datalink statistics

-- Total of 1 flow:

Average throughput: 97.46 Mbit/s

95th percentile per-packet one-way delay: 31.061 ms

Loss rate: 0.01%

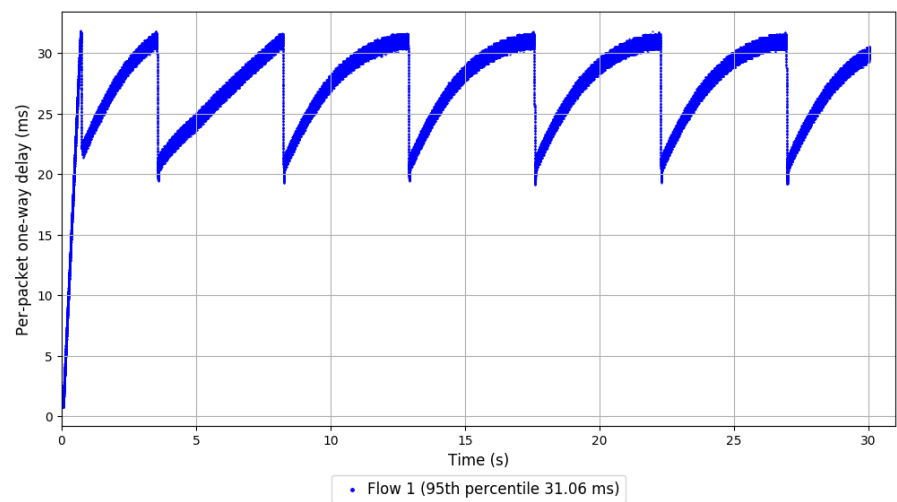
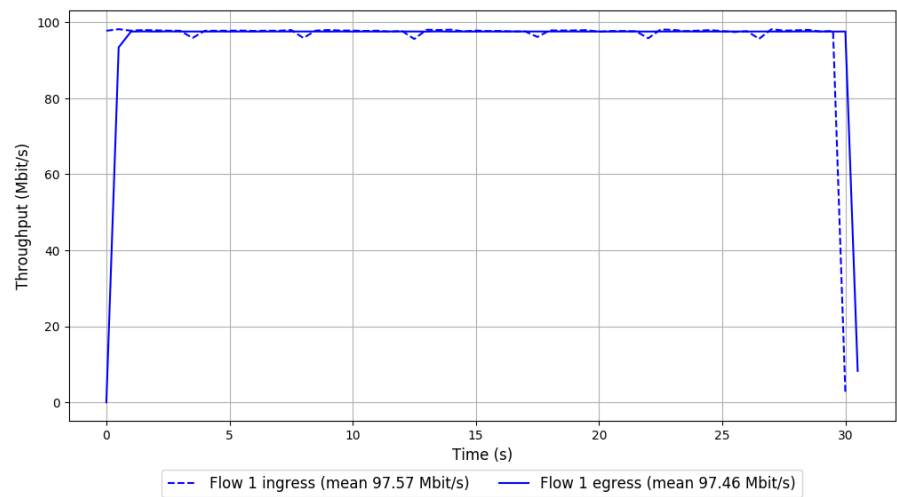
-- Flow 1:

Average throughput: 97.46 Mbit/s

95th percentile per-packet one-way delay: 31.061 ms

Loss rate: 0.01%

Run 4: Report of TCP Cubic — Data Link



Run 5: Statistics of TCP Cubic

Start at: 2018-12-11 10:36:04

End at: 2018-12-11 10:36:34

Local clock offset: -8.09 ms

Remote clock offset: 0.619 ms

Below is generated by plot.py at 2018-12-11 10:47:56

Datalink statistics

-- Total of 1 flow:

Average throughput: 97.46 Mbit/s

95th percentile per-packet one-way delay: 33.822 ms

Loss rate: 0.02%

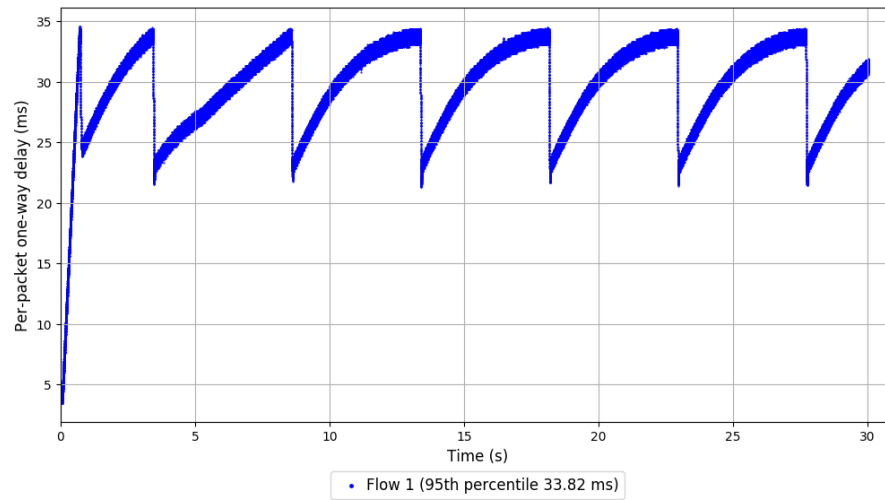
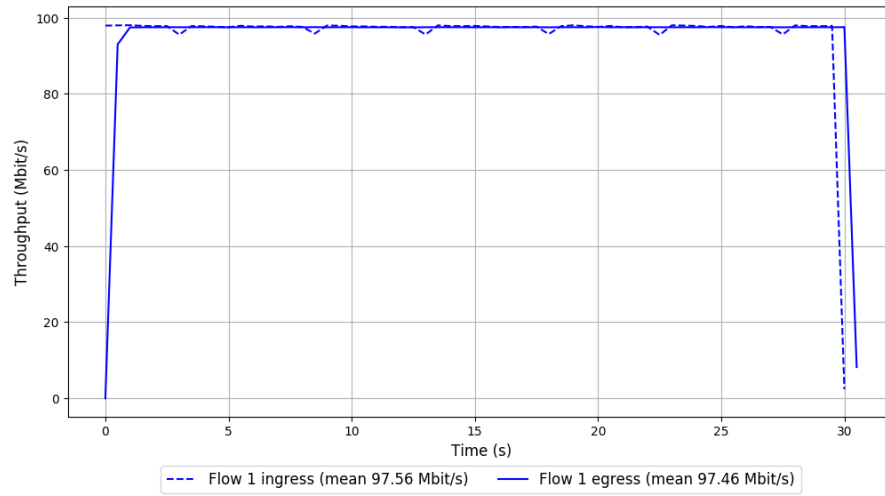
-- Flow 1:

Average throughput: 97.46 Mbit/s

95th percentile per-packet one-way delay: 33.822 ms

Loss rate: 0.02%

Run 5: Report of TCP Cubic — Data Link

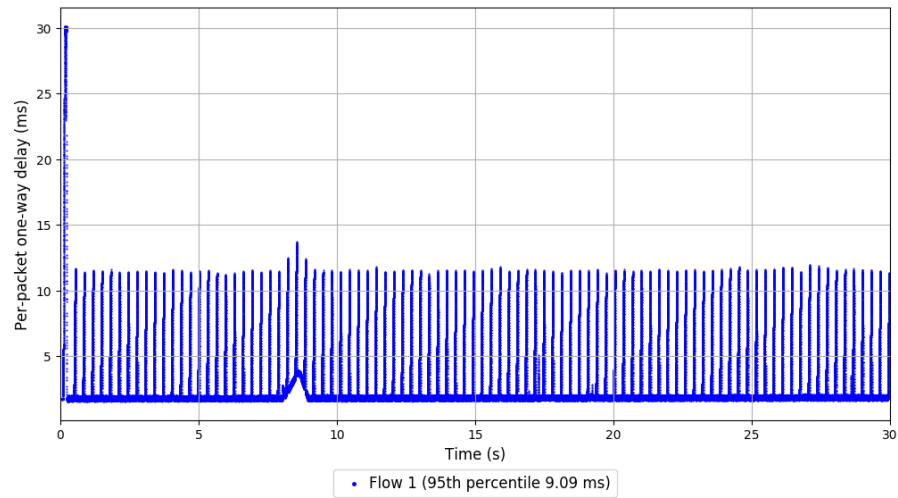
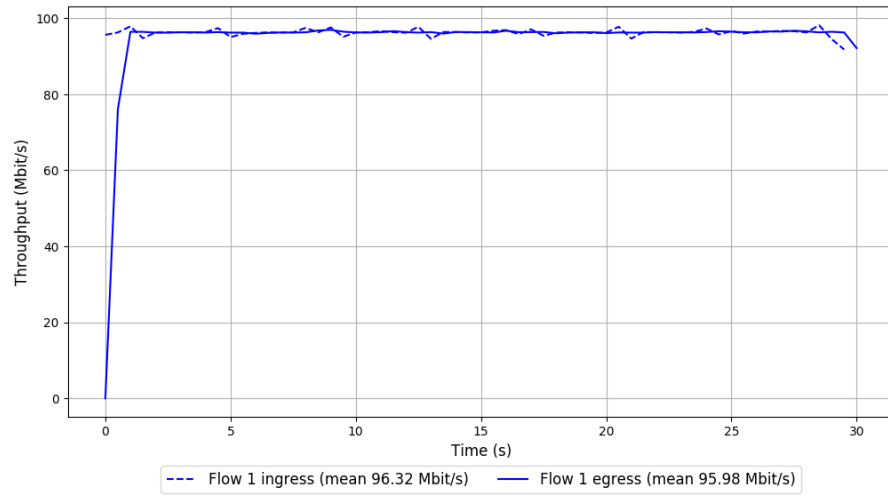


Run 1: Statistics of FillP

Start at: 2018-12-11 09:13:35
End at: 2018-12-11 09:14:05
Local clock offset: -3.513 ms
Remote clock offset: -0.025 ms

Below is generated by plot.py at 2018-12-11 10:48:11
Datalink statistics
-- Total of 1 flow:
Average throughput: 95.98 Mbit/s
95th percentile per-packet one-way delay: 9.093 ms
Loss rate: 0.33%
-- Flow 1:
Average throughput: 95.98 Mbit/s
95th percentile per-packet one-way delay: 9.093 ms
Loss rate: 0.33%

Run 1: Report of FillP — Data Link



Run 2: Statistics of FillP

Start at: 2018-12-11 09:34:47

End at: 2018-12-11 09:35:17

Local clock offset: -2.651 ms

Remote clock offset: 0.055 ms

Below is generated by plot.py at 2018-12-11 10:48:13

Datalink statistics

-- Total of 1 flow:

Average throughput: 96.03 Mbit/s

95th percentile per-packet one-way delay: 11.298 ms

Loss rate: 0.25%

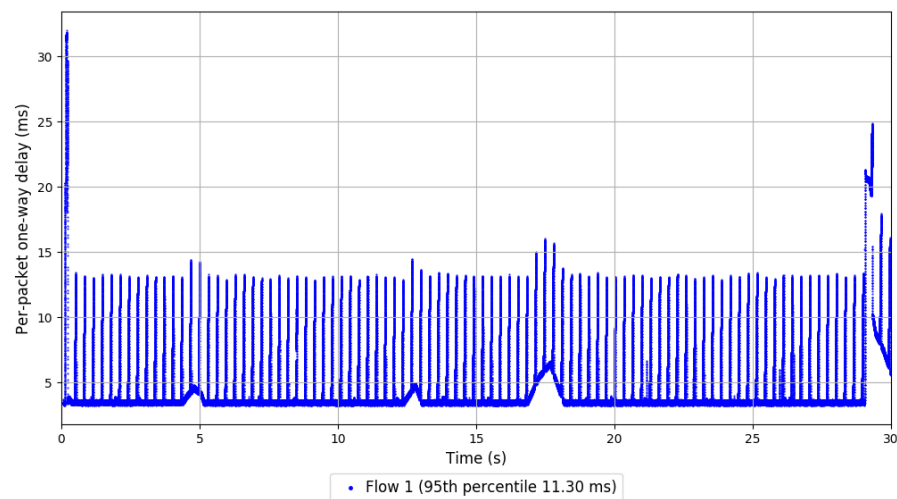
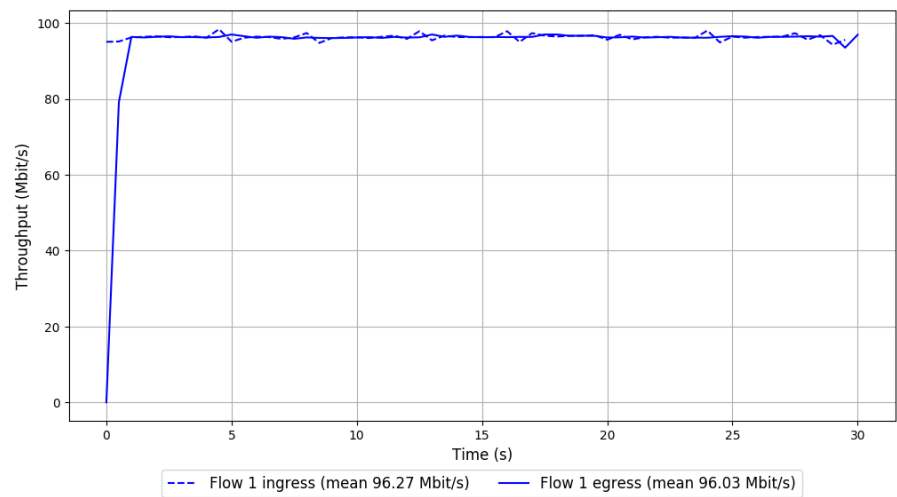
-- Flow 1:

Average throughput: 96.03 Mbit/s

95th percentile per-packet one-way delay: 11.298 ms

Loss rate: 0.25%

Run 2: Report of FillP — Data Link



Run 3: Statistics of FillP

Start at: 2018-12-11 09:55:59

End at: 2018-12-11 09:56:29

Local clock offset: -2.622 ms

Remote clock offset: 0.355 ms

Below is generated by plot.py at 2018-12-11 10:48:13

Datalink statistics

-- Total of 1 flow:

Average throughput: 95.97 Mbit/s

95th percentile per-packet one-way delay: 8.426 ms

Loss rate: 0.33%

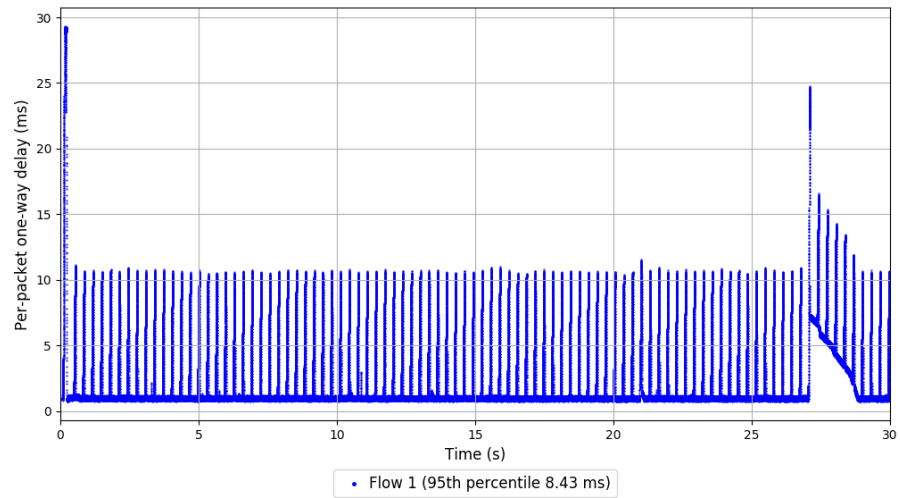
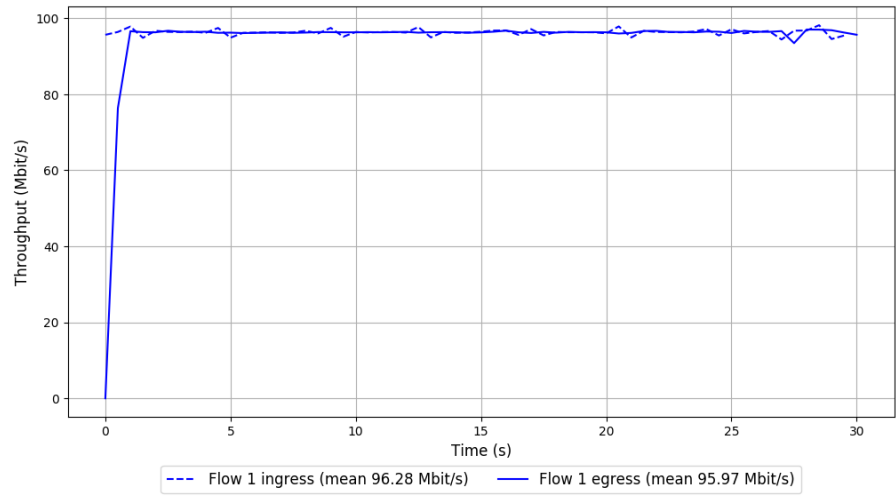
-- Flow 1:

Average throughput: 95.97 Mbit/s

95th percentile per-packet one-way delay: 8.426 ms

Loss rate: 0.33%

Run 3: Report of FillP — Data Link



Run 4: Statistics of FillP

Start at: 2018-12-11 10:17:10

End at: 2018-12-11 10:17:40

Local clock offset: -5.091 ms

Remote clock offset: 0.448 ms

Below is generated by plot.py at 2018-12-11 10:48:27

Datalink statistics

-- Total of 1 flow:

Average throughput: 96.04 Mbit/s

95th percentile per-packet one-way delay: 9.682 ms

Loss rate: 0.25%

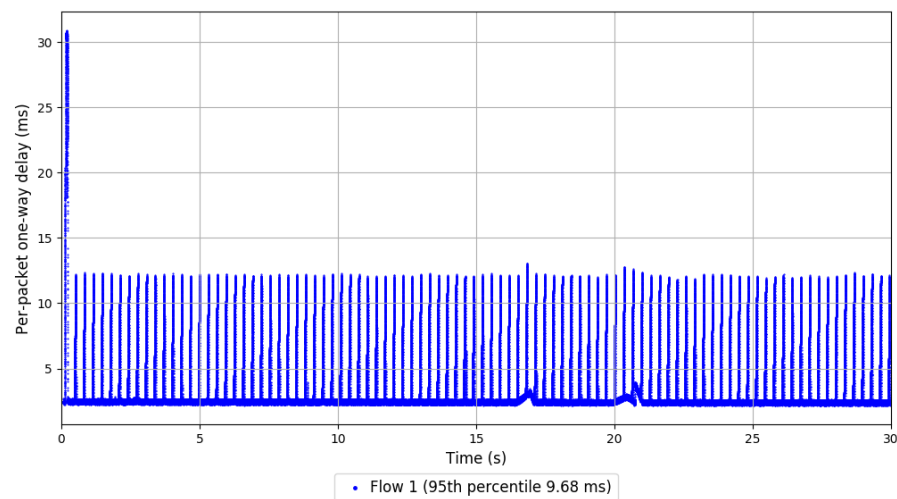
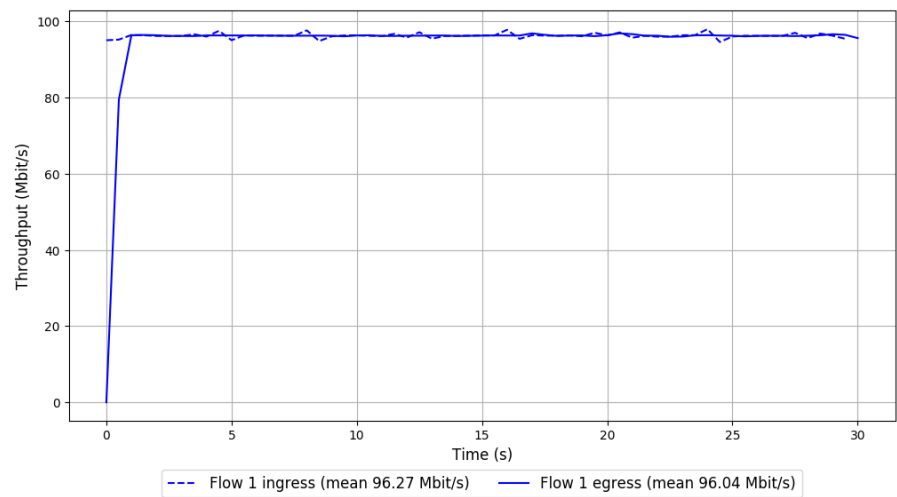
-- Flow 1:

Average throughput: 96.04 Mbit/s

95th percentile per-packet one-way delay: 9.682 ms

Loss rate: 0.25%

Run 4: Report of FillP — Data Link



Run 5: Statistics of FillP

Start at: 2018-12-11 10:38:21

End at: 2018-12-11 10:38:51

Local clock offset: -7.363 ms

Remote clock offset: 0.587 ms

Below is generated by plot.py at 2018-12-11 10:48:28

Datalink statistics

-- Total of 1 flow:

Average throughput: 96.12 Mbit/s

95th percentile per-packet one-way delay: 8.751 ms

Loss rate: 0.28%

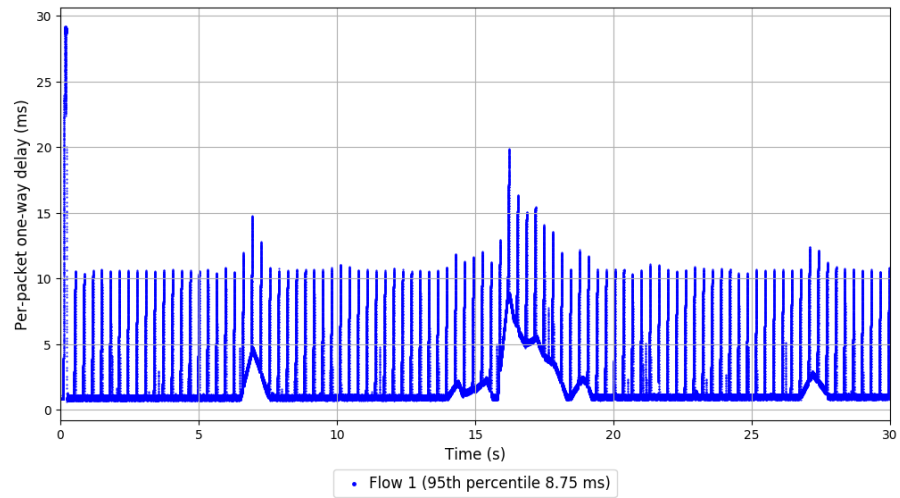
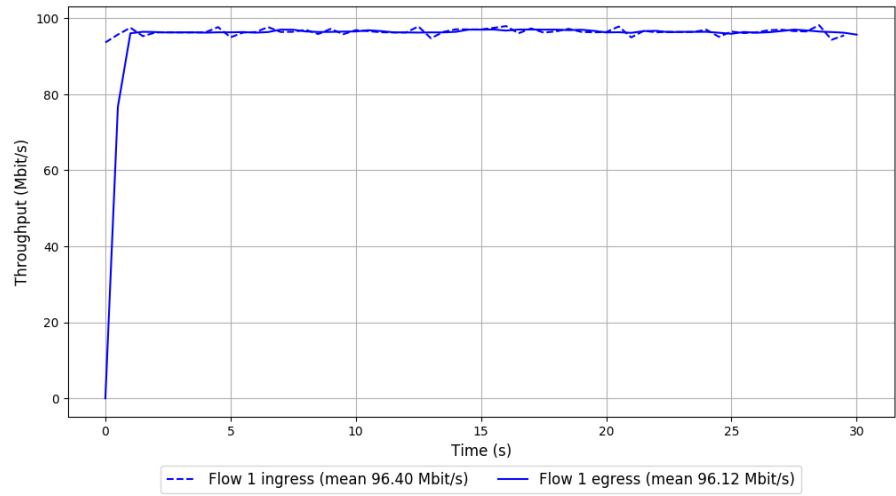
-- Flow 1:

Average throughput: 96.12 Mbit/s

95th percentile per-packet one-way delay: 8.751 ms

Loss rate: 0.28%

Run 5: Report of FillP — Data Link



Run 1: Statistics of FillP-Sheep

Start at: 2018-12-11 09:01:19

End at: 2018-12-11 09:01:49

Local clock offset: -5.305 ms

Remote clock offset: -0.1 ms

Below is generated by plot.py at 2018-12-11 10:48:35

Datalink statistics

-- Total of 1 flow:

Average throughput: 94.61 Mbit/s

95th percentile per-packet one-way delay: 6.113 ms

Loss rate: 0.08%

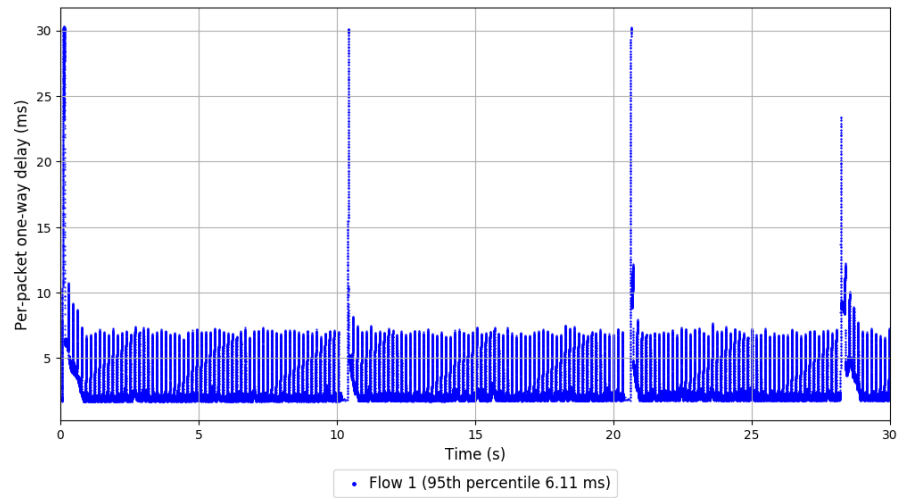
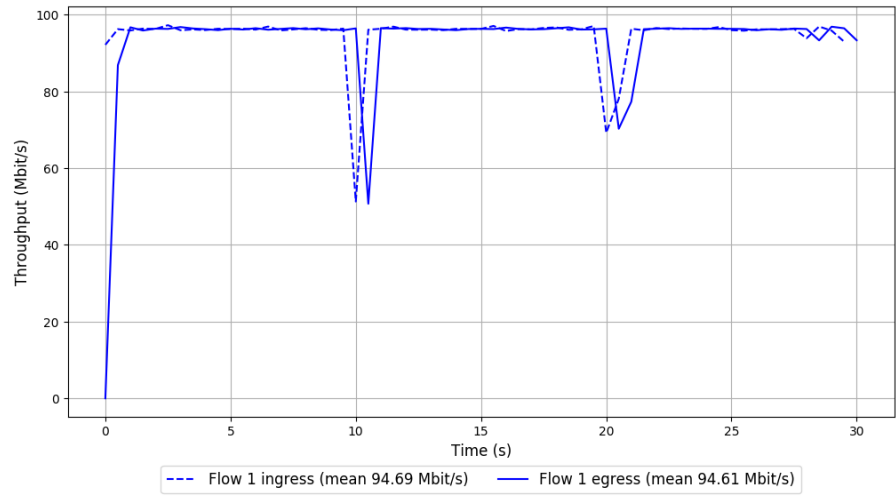
-- Flow 1:

Average throughput: 94.61 Mbit/s

95th percentile per-packet one-way delay: 6.113 ms

Loss rate: 0.08%

Run 1: Report of FillP-Sheep — Data Link



Run 2: Statistics of FillP-Sheep

Start at: 2018-12-11 09:22:31

End at: 2018-12-11 09:23:01

Local clock offset: -1.86 ms

Remote clock offset: 0.013 ms

Below is generated by plot.py at 2018-12-11 10:49:11

Datalink statistics

-- Total of 1 flow:

Average throughput: 94.71 Mbit/s

95th percentile per-packet one-way delay: 4.660 ms

Loss rate: 0.07%

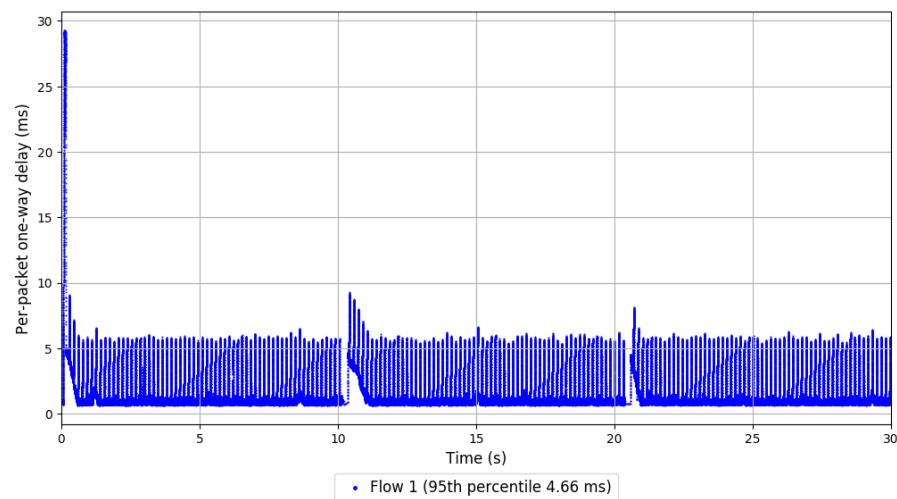
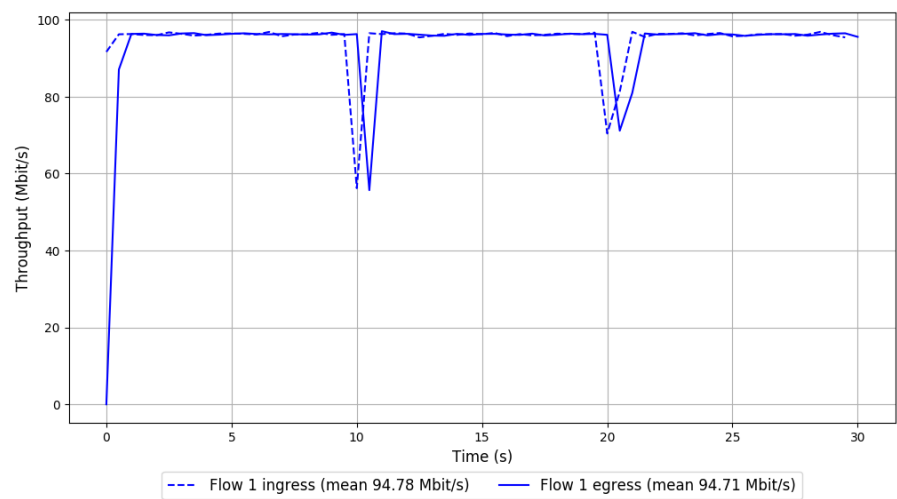
-- Flow 1:

Average throughput: 94.71 Mbit/s

95th percentile per-packet one-way delay: 4.660 ms

Loss rate: 0.07%

Run 2: Report of FillP-Sheep — Data Link



Run 3: Statistics of FillP-Sheep

Start at: 2018-12-11 09:43:44

End at: 2018-12-11 09:44:14

Local clock offset: -2.073 ms

Remote clock offset: 0.182 ms

Below is generated by plot.py at 2018-12-11 10:49:12

Datalink statistics

-- Total of 1 flow:

Average throughput: 94.54 Mbit/s

95th percentile per-packet one-way delay: 6.746 ms

Loss rate: 0.09%

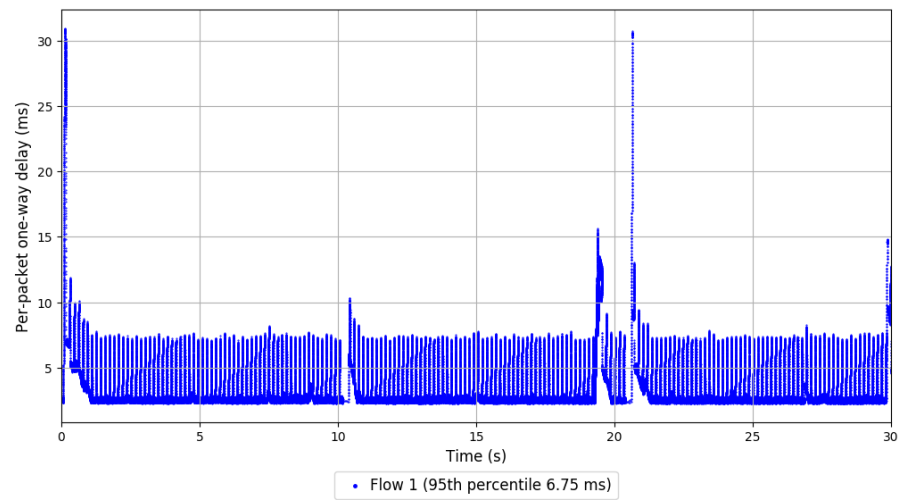
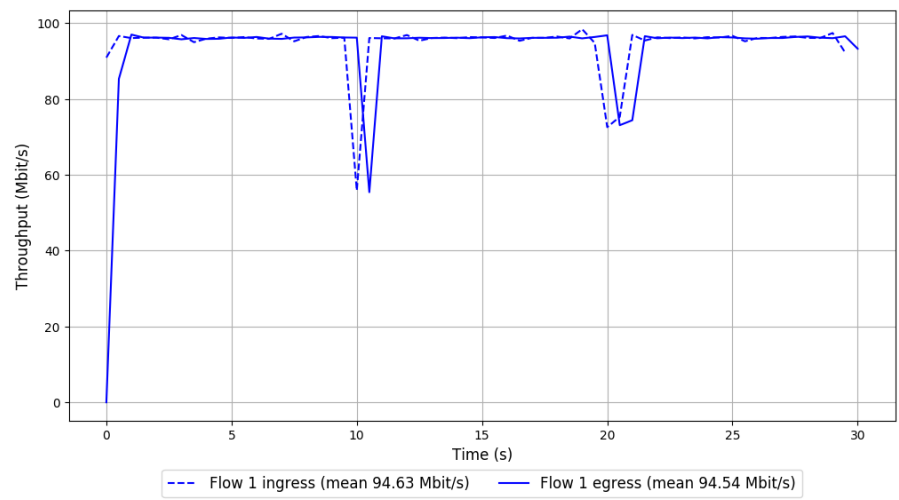
-- Flow 1:

Average throughput: 94.54 Mbit/s

95th percentile per-packet one-way delay: 6.746 ms

Loss rate: 0.09%

Run 3: Report of FillP-Sheep — Data Link



Run 4: Statistics of FillP-Sheep

Start at: 2018-12-11 10:04:54

End at: 2018-12-11 10:05:24

Local clock offset: -2.84 ms

Remote clock offset: 0.402 ms

Below is generated by plot.py at 2018-12-11 10:49:26

Datalink statistics

-- Total of 1 flow:

Average throughput: 94.63 Mbit/s

95th percentile per-packet one-way delay: 6.787 ms

Loss rate: 0.09%

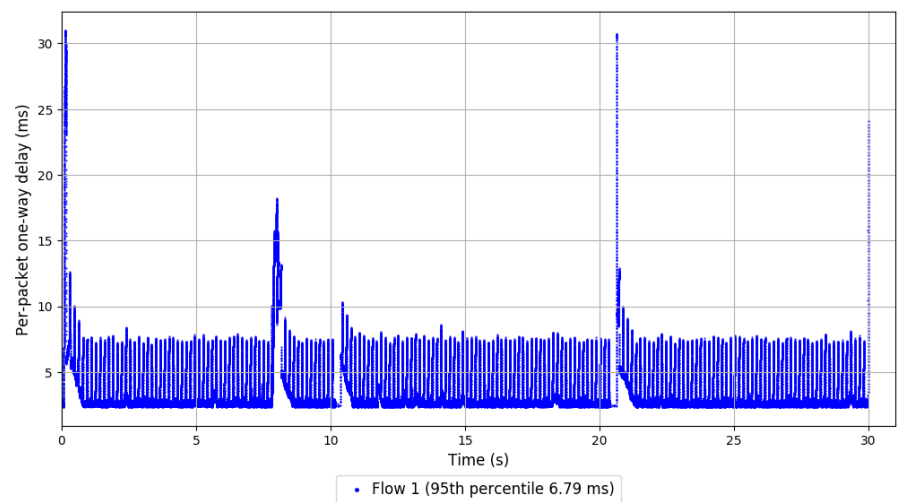
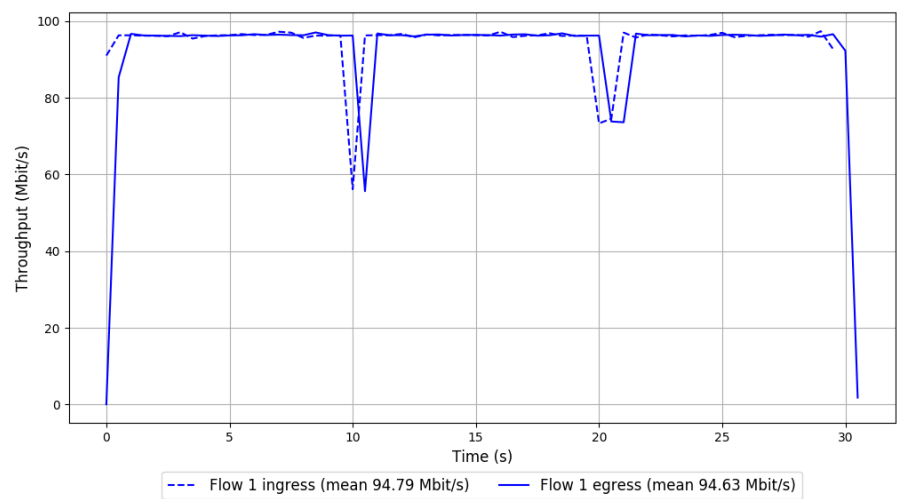
-- Flow 1:

Average throughput: 94.63 Mbit/s

95th percentile per-packet one-way delay: 6.787 ms

Loss rate: 0.09%

Run 4: Report of FillP-Sheep — Data Link



Run 5: Statistics of FillP-Sheep

Start at: 2018-12-11 10:26:05

End at: 2018-12-11 10:26:36

Local clock offset: -7.152 ms

Remote clock offset: 0.53 ms

Below is generated by plot.py at 2018-12-11 10:49:29

Datalink statistics

-- Total of 1 flow:

Average throughput: 94.50 Mbit/s

95th percentile per-packet one-way delay: 7.419 ms

Loss rate: 0.09%

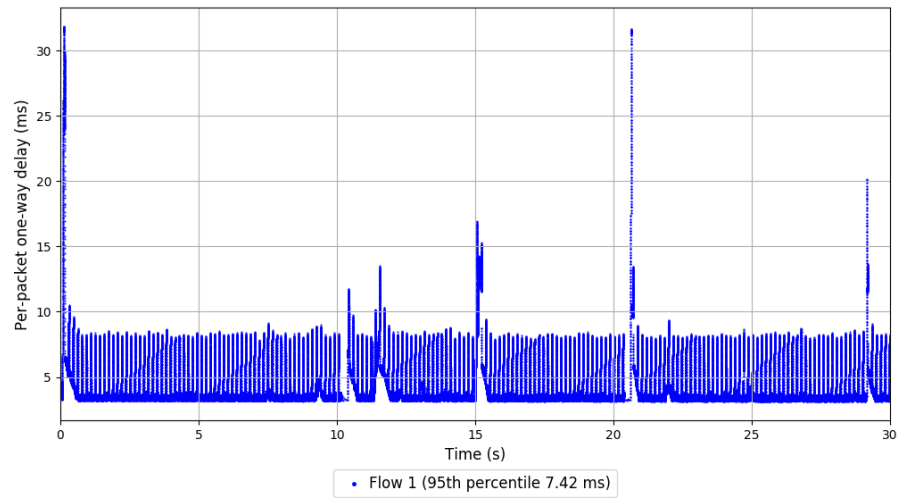
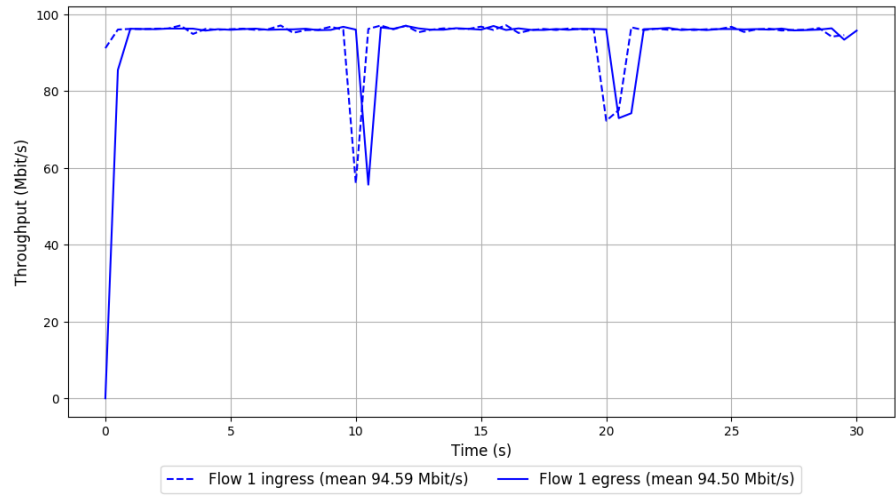
-- Flow 1:

Average throughput: 94.50 Mbit/s

95th percentile per-packet one-way delay: 7.419 ms

Loss rate: 0.09%

Run 5: Report of FillP-Sheep — Data Link

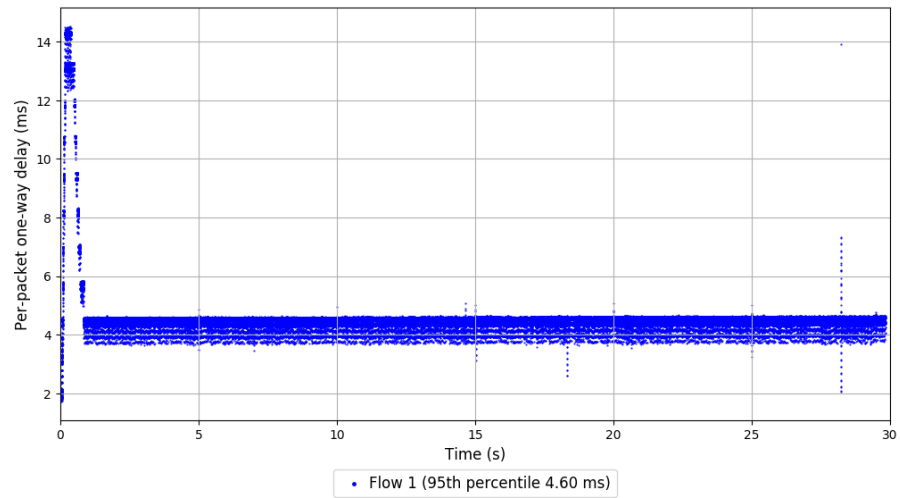
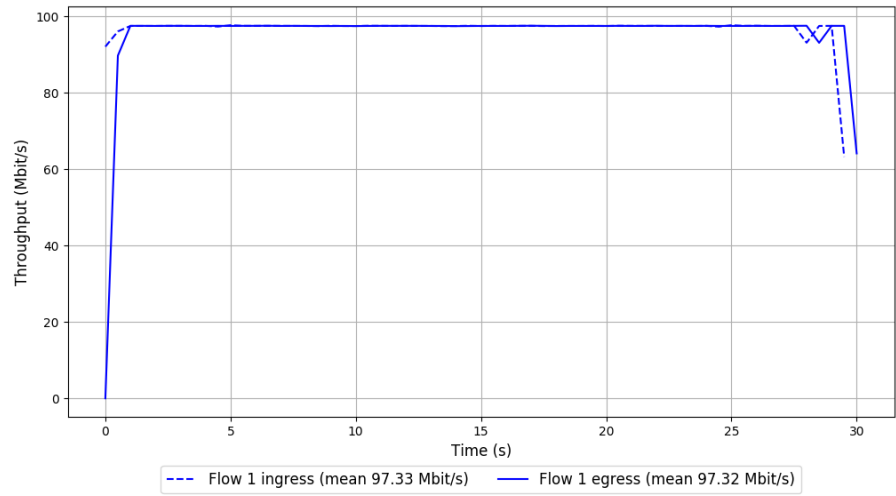


```
Run 1: Statistics of Indigo

Start at: 2018-12-11 09:15:50
End at: 2018-12-11 09:16:20
Local clock offset: -3.223 ms
Remote clock offset: 0.022 ms

# Below is generated by plot.py at 2018-12-11 10:49:29
# Datalink statistics
-- Total of 1 flow:
Average throughput: 97.32 Mbit/s
95th percentile per-packet one-way delay: 4.601 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 97.32 Mbit/s
95th percentile per-packet one-way delay: 4.601 ms
Loss rate: 0.00%
```

Run 1: Report of Indigo — Data Link



Run 2: Statistics of Indigo

Start at: 2018-12-11 09:37:02

End at: 2018-12-11 09:37:32

Local clock offset: -2.58 ms

Remote clock offset: 0.07 ms

Below is generated by plot.py at 2018-12-11 10:49:35

Datalink statistics

-- Total of 1 flow:

Average throughput: 97.37 Mbit/s

95th percentile per-packet one-way delay: 5.616 ms

Loss rate: 0.00%

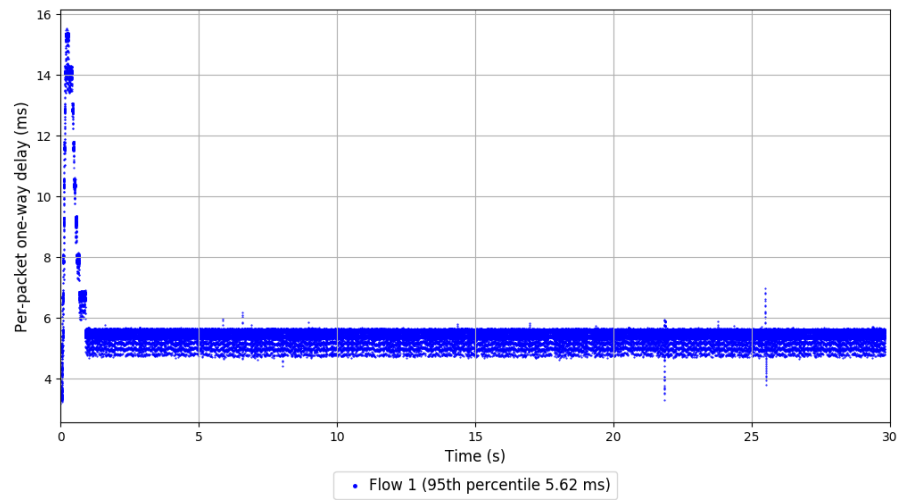
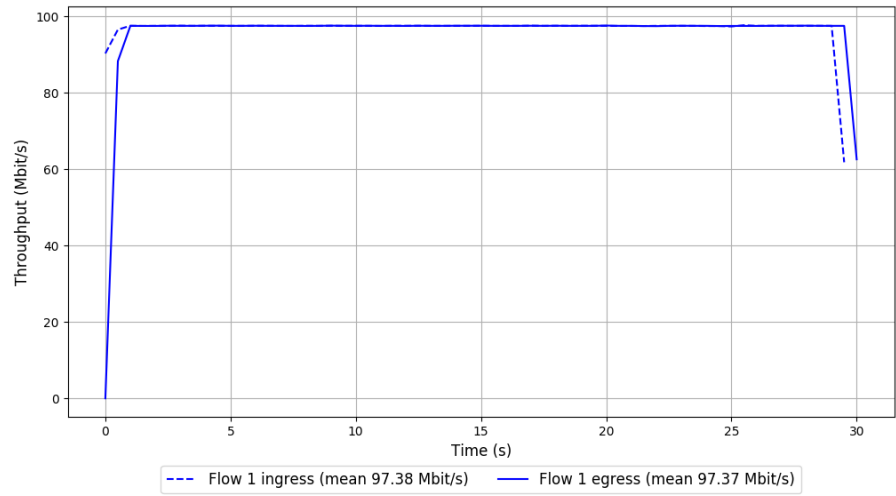
-- Flow 1:

Average throughput: 97.37 Mbit/s

95th percentile per-packet one-way delay: 5.616 ms

Loss rate: 0.00%

Run 2: Report of Indigo — Data Link



Run 3: Statistics of Indigo

Start at: 2018-12-11 09:58:13

End at: 2018-12-11 09:58:43

Local clock offset: -2.64 ms

Remote clock offset: 0.386 ms

Below is generated by plot.py at 2018-12-11 10:49:37

Datalink statistics

-- Total of 1 flow:

Average throughput: 97.25 Mbit/s

95th percentile per-packet one-way delay: 4.915 ms

Loss rate: 0.01%

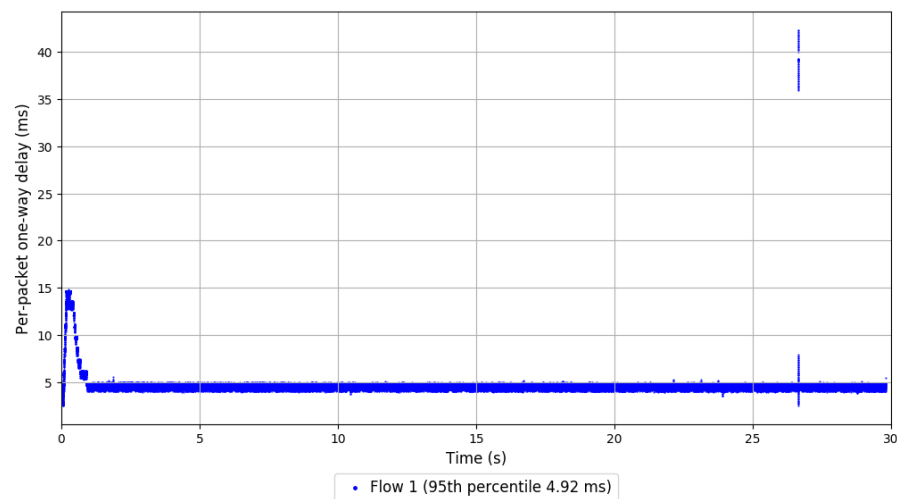
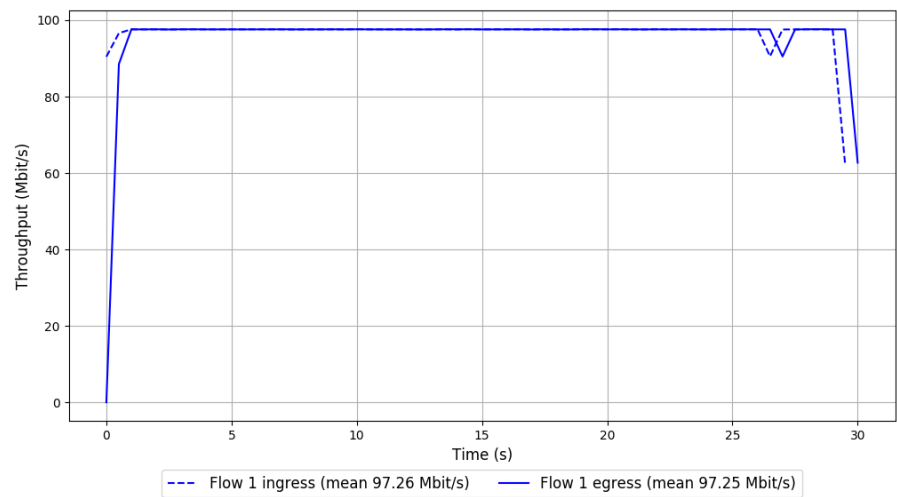
-- Flow 1:

Average throughput: 97.25 Mbit/s

95th percentile per-packet one-way delay: 4.915 ms

Loss rate: 0.01%

Run 3: Report of Indigo — Data Link



Run 4: Statistics of Indigo

Start at: 2018-12-11 10:19:24

End at: 2018-12-11 10:19:54

Local clock offset: -6.325 ms

Remote clock offset: 0.513 ms

Below is generated by plot.py at 2018-12-11 10:49:47

Datalink statistics

-- Total of 1 flow:

Average throughput: 97.40 Mbit/s

95th percentile per-packet one-way delay: 4.439 ms

Loss rate: 0.00%

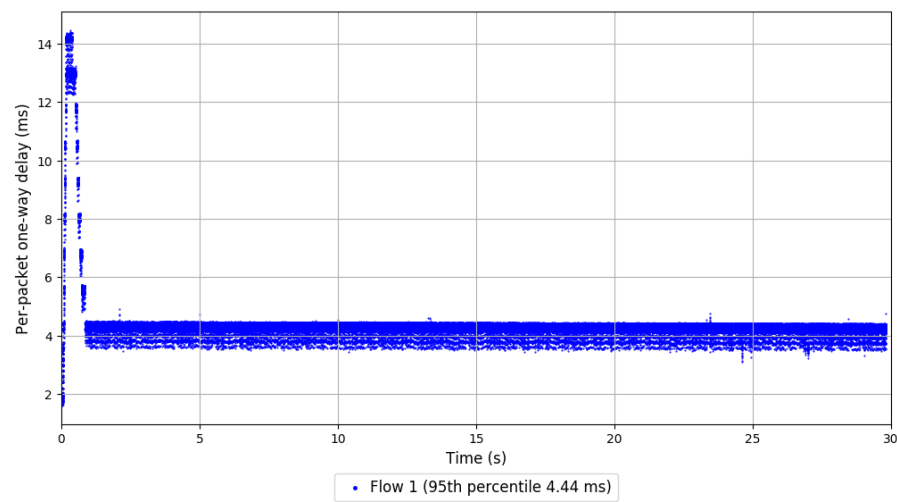
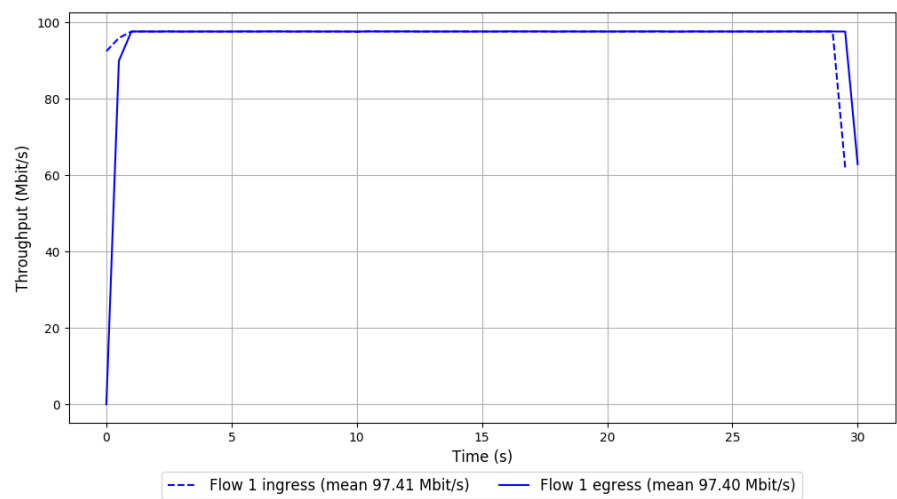
-- Flow 1:

Average throughput: 97.40 Mbit/s

95th percentile per-packet one-way delay: 4.439 ms

Loss rate: 0.00%

Run 4: Report of Indigo — Data Link



Run 5: Statistics of Indigo

Start at: 2018-12-11 10:40:35

End at: 2018-12-11 10:41:05

Local clock offset: -7.088 ms

Remote clock offset: 0.545 ms

Below is generated by plot.py at 2018-12-11 10:50:12

Datalink statistics

-- Total of 1 flow:

Average throughput: 97.38 Mbit/s

95th percentile per-packet one-way delay: 4.985 ms

Loss rate: 0.00%

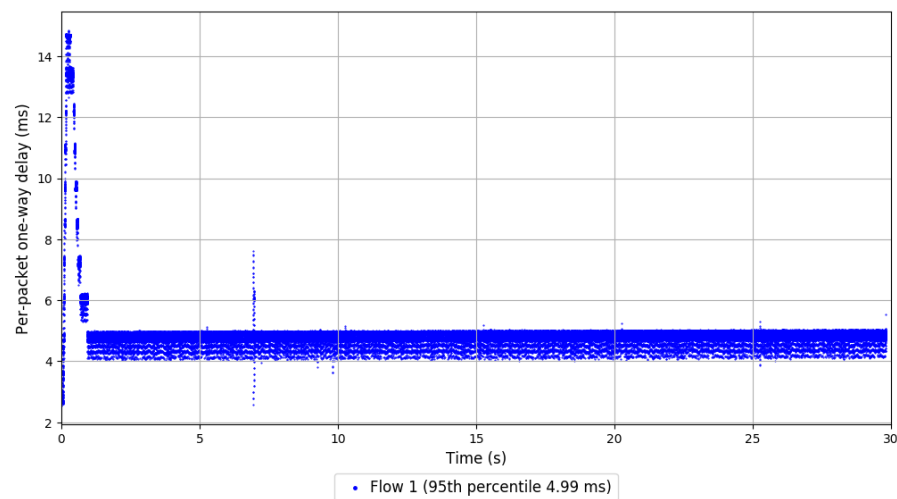
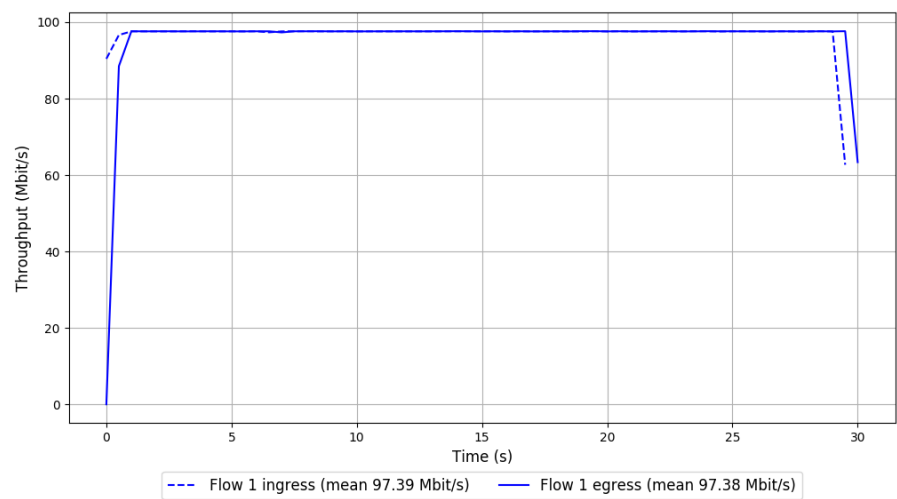
-- Flow 1:

Average throughput: 97.38 Mbit/s

95th percentile per-packet one-way delay: 4.985 ms

Loss rate: 0.00%

Run 5: Report of Indigo — Data Link

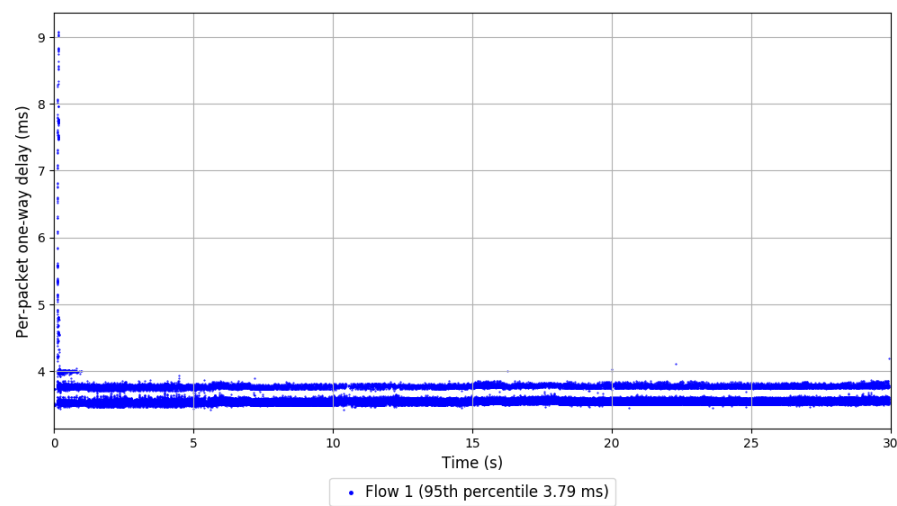
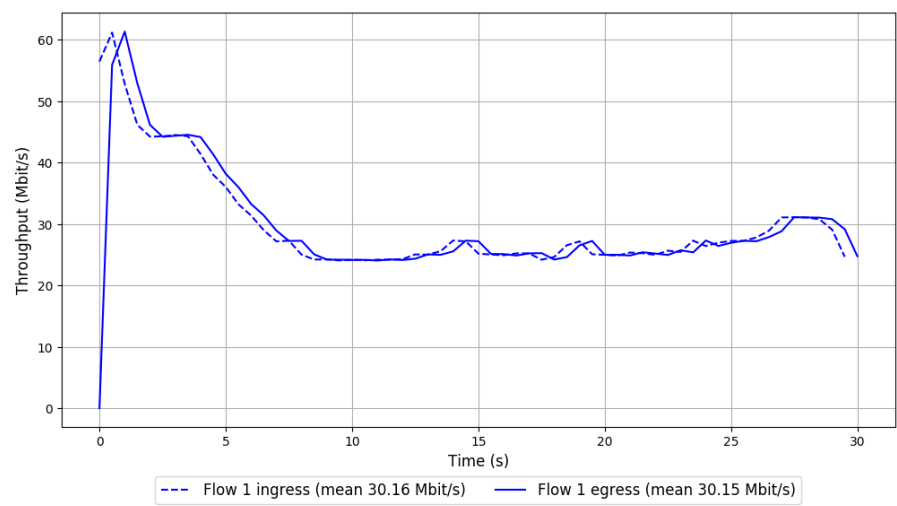


```
Run 1: Statistics of Indigo-MusesD

Start at: 2018-12-11 09:04:39
End at: 2018-12-11 09:05:09
Local clock offset: -4.76 ms
Remote clock offset: -0.003 ms

# Below is generated by plot.py at 2018-12-11 10:50:12
# Datalink statistics
-- Total of 1 flow:
Average throughput: 30.15 Mbit/s
95th percentile per-packet one-way delay: 3.790 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 30.15 Mbit/s
95th percentile per-packet one-way delay: 3.790 ms
Loss rate: 0.01%
```

Run 1: Report of Indigo-MusesD — Data Link



Run 2: Statistics of Indigo-MusesD

Start at: 2018-12-11 09:25:51

End at: 2018-12-11 09:26:21

Local clock offset: -1.769 ms

Remote clock offset: 0.027 ms

Below is generated by plot.py at 2018-12-11 10:50:12

Datalink statistics

-- Total of 1 flow:

Average throughput: 34.52 Mbit/s

95th percentile per-packet one-way delay: 2.810 ms

Loss rate: 0.01%

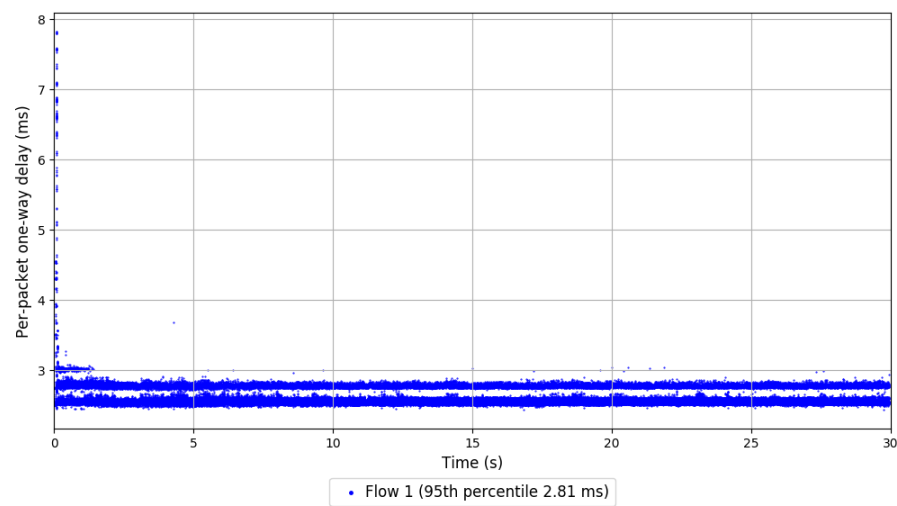
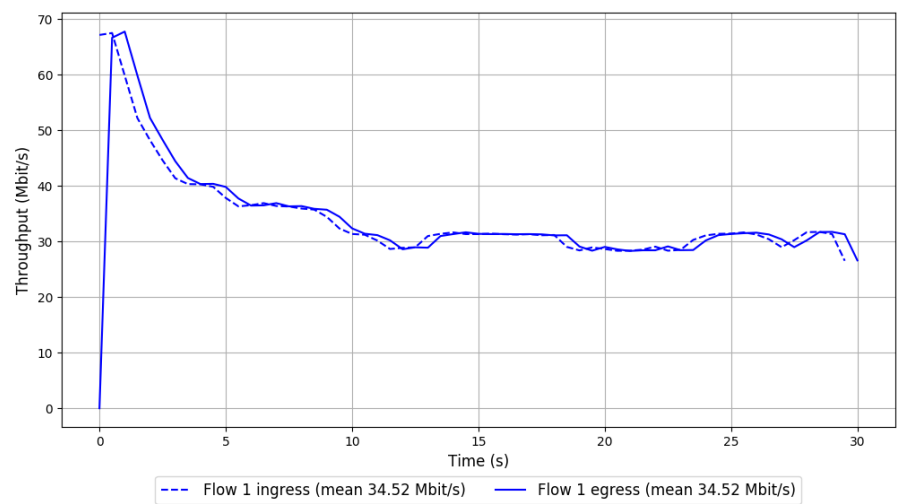
-- Flow 1:

Average throughput: 34.52 Mbit/s

95th percentile per-packet one-way delay: 2.810 ms

Loss rate: 0.01%

Run 2: Report of Indigo-MusesD — Data Link



Run 3: Statistics of Indigo-MusesD

Start at: 2018-12-11 09:47:03

End at: 2018-12-11 09:47:33

Local clock offset: -2.236 ms

Remote clock offset: 0.299 ms

Below is generated by plot.py at 2018-12-11 10:50:12

Datalink statistics

-- Total of 1 flow:

Average throughput: 35.93 Mbit/s

95th percentile per-packet one-way delay: 2.855 ms

Loss rate: 0.01%

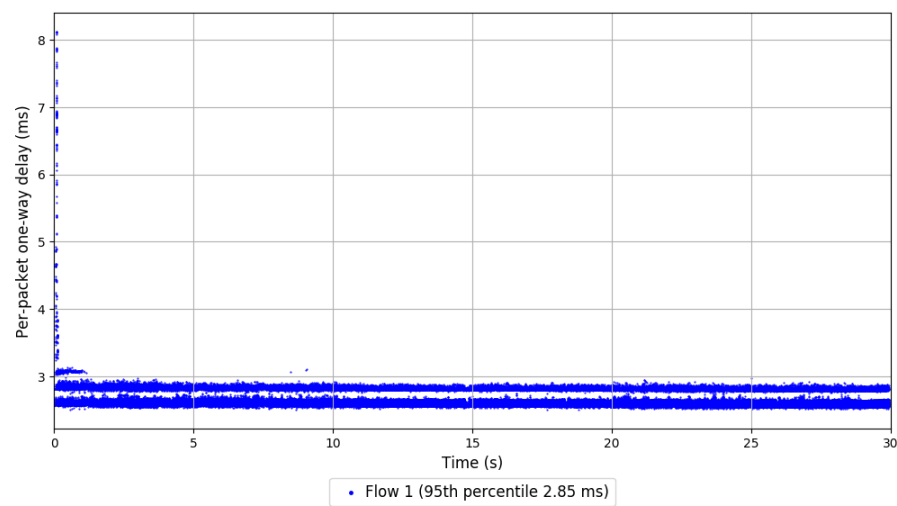
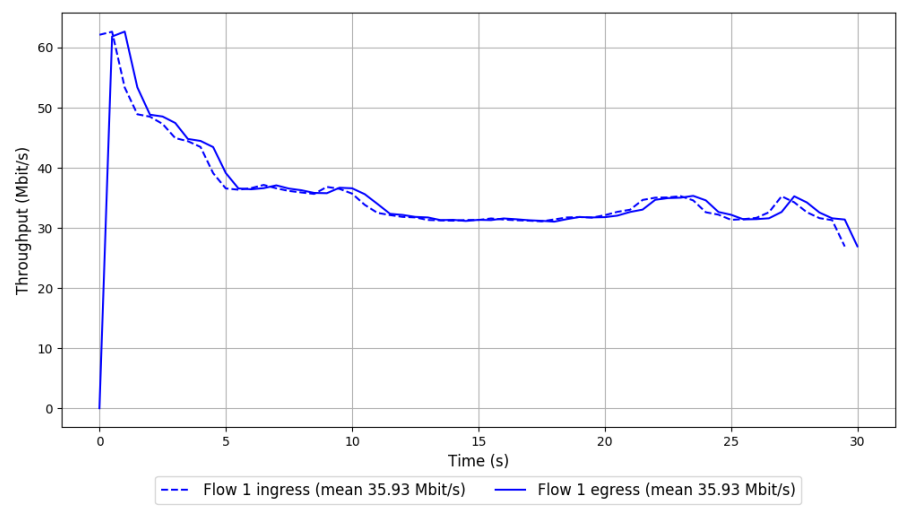
-- Flow 1:

Average throughput: 35.93 Mbit/s

95th percentile per-packet one-way delay: 2.855 ms

Loss rate: 0.01%

Run 3: Report of Indigo-MusesD — Data Link



Run 4: Statistics of Indigo-MusesD

Start at: 2018-12-11 10:08:14

End at: 2018-12-11 10:08:44

Local clock offset: -3.778 ms

Remote clock offset: 0.401 ms

Below is generated by plot.py at 2018-12-11 10:50:12

Datalink statistics

-- Total of 1 flow:

Average throughput: 32.45 Mbit/s

95th percentile per-packet one-way delay: 3.589 ms

Loss rate: 0.01%

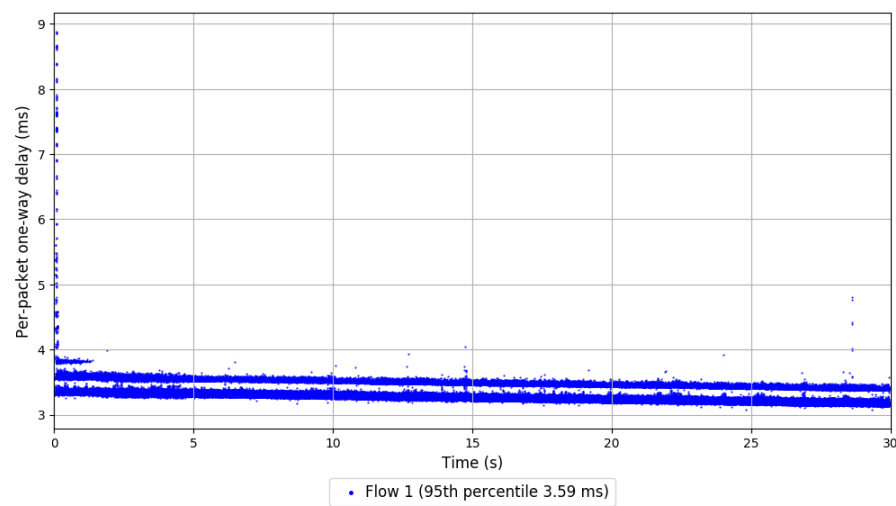
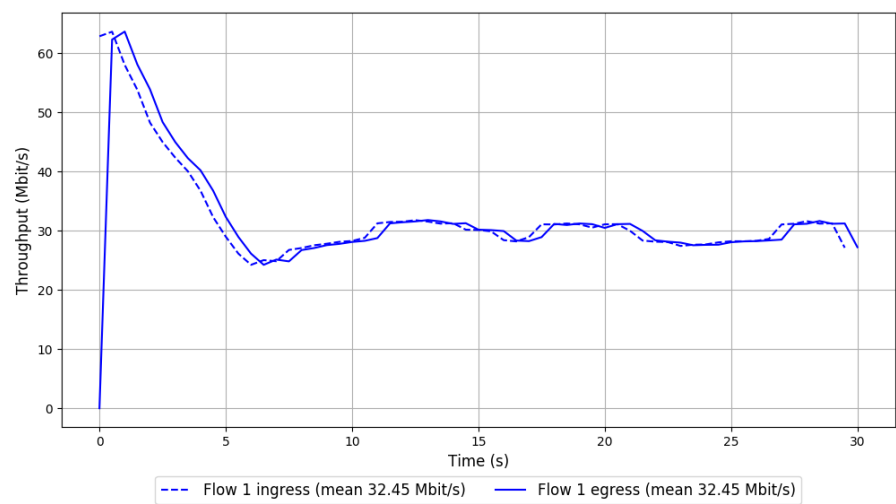
-- Flow 1:

Average throughput: 32.45 Mbit/s

95th percentile per-packet one-way delay: 3.589 ms

Loss rate: 0.01%

Run 4: Report of Indigo-MusesD — Data Link



Run 5: Statistics of Indigo-MusesD

Start at: 2018-12-11 10:29:25

End at: 2018-12-11 10:29:55

Local clock offset: -6.656 ms

Remote clock offset: 0.572 ms

Below is generated by plot.py at 2018-12-11 10:50:12

Datalink statistics

-- Total of 1 flow:

Average throughput: 29.14 Mbit/s

95th percentile per-packet one-way delay: 1.155 ms

Loss rate: 0.00%

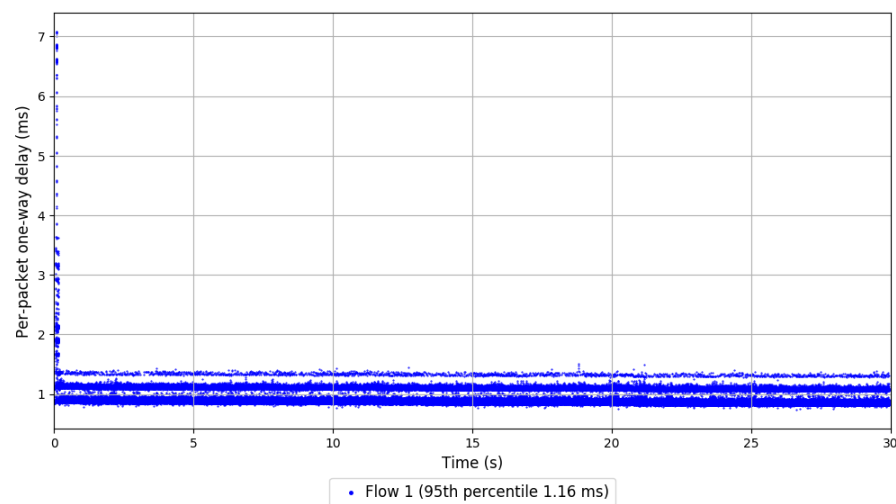
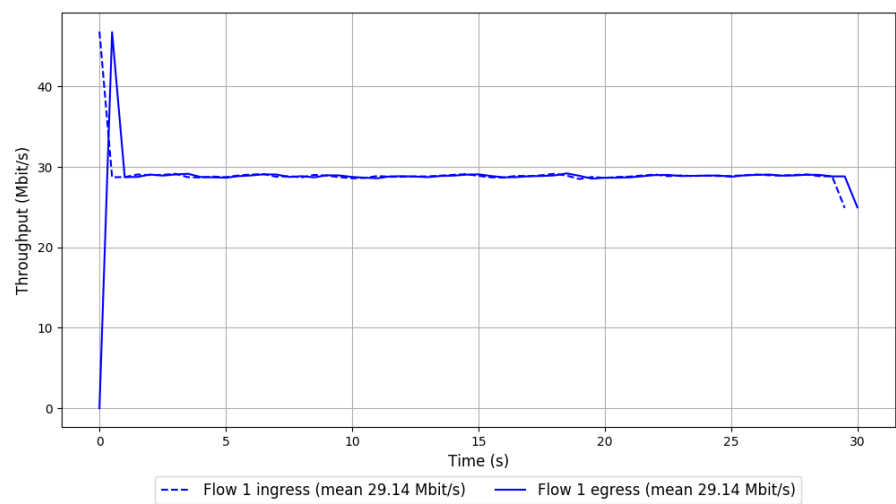
-- Flow 1:

Average throughput: 29.14 Mbit/s

95th percentile per-packet one-way delay: 1.155 ms

Loss rate: 0.00%

Run 5: Report of Indigo-MusesD — Data Link



Run 1: Statistics of Indigo-MusesT

Start at: 2018-12-11 09:05:45

End at: 2018-12-11 09:06:15

Local clock offset: -4.683 ms

Remote clock offset: -0.171 ms

Below is generated by plot.py at 2018-12-11 10:50:52

Datalink statistics

-- Total of 1 flow:

Average throughput: 97.31 Mbit/s

95th percentile per-packet one-way delay: 33.477 ms

Loss rate: 43.66%

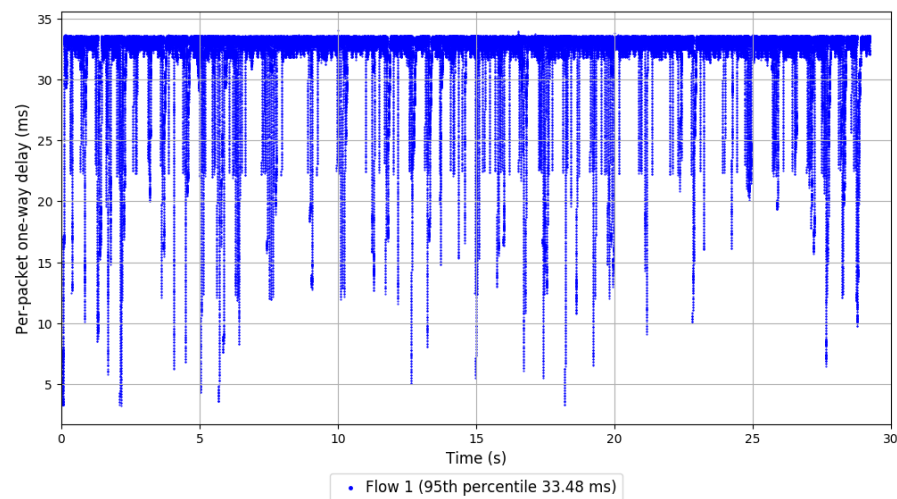
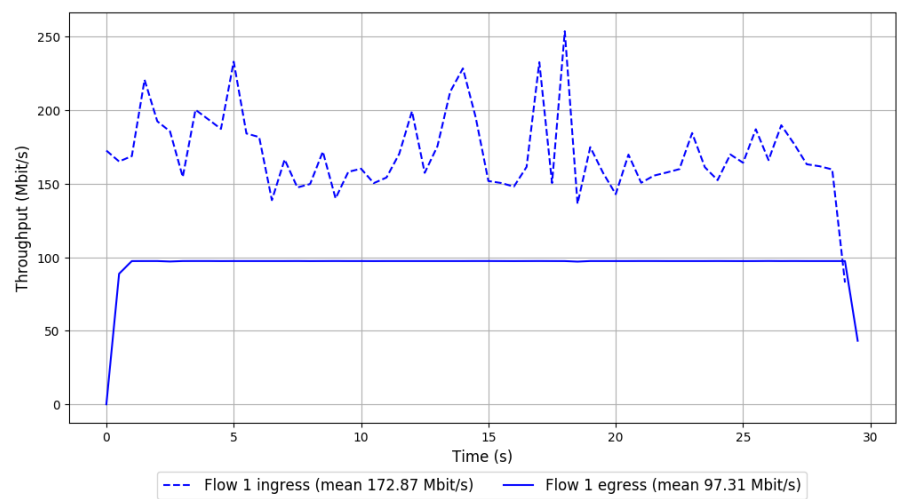
-- Flow 1:

Average throughput: 97.31 Mbit/s

95th percentile per-packet one-way delay: 33.477 ms

Loss rate: 43.66%

Run 1: Report of Indigo-MusesT — Data Link



Run 2: Statistics of Indigo-MusesT

Start at: 2018-12-11 09:26:56

End at: 2018-12-11 09:27:26

Local clock offset: -1.737 ms

Remote clock offset: 0.018 ms

Below is generated by plot.py at 2018-12-11 10:50:57

Datalink statistics

-- Total of 1 flow:

Average throughput: 97.31 Mbit/s

95th percentile per-packet one-way delay: 30.963 ms

Loss rate: 47.63%

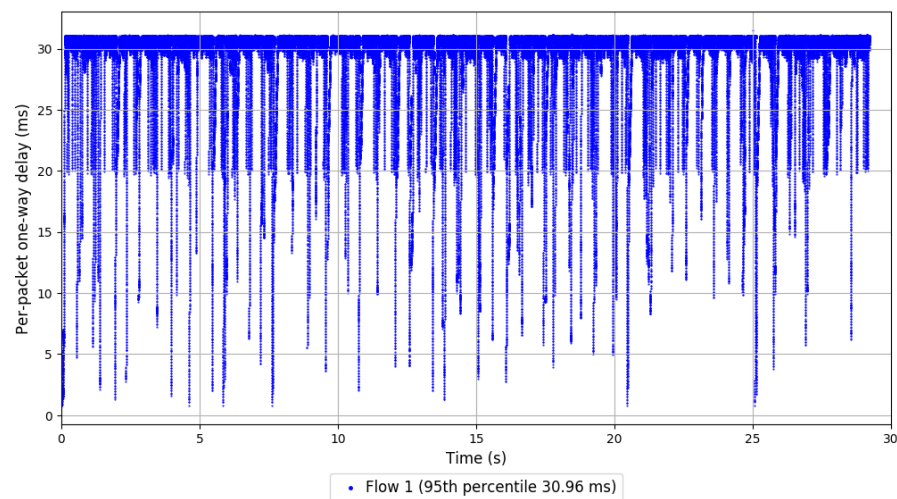
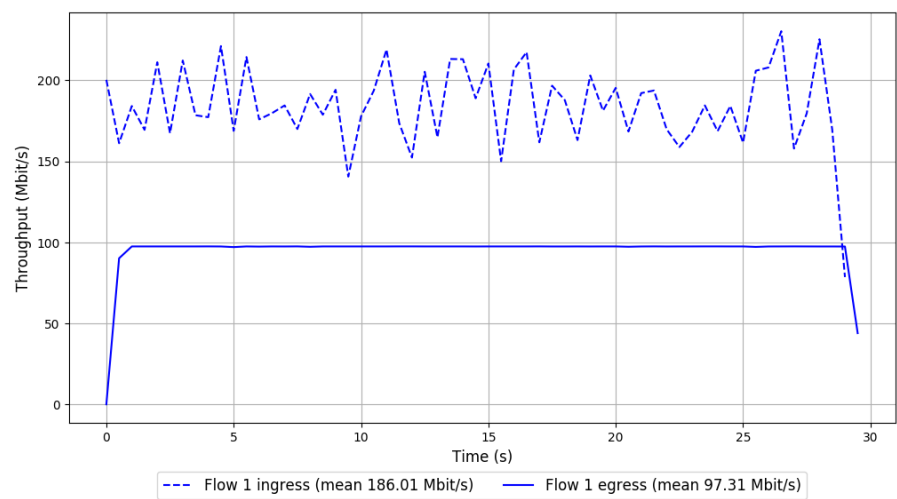
-- Flow 1:

Average throughput: 97.31 Mbit/s

95th percentile per-packet one-way delay: 30.963 ms

Loss rate: 47.63%

Run 2: Report of Indigo-MusesT — Data Link



Run 3: Statistics of Indigo-MusesT

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

End at: 2018-12-11 09:48:39

Local clock offset: -3.128 ms

Remote clock offset: 0.198 ms

Below is generated by plot.py at 2018-12-11 10:51:00

Datalink statistics

-- Total of 1 flow:

Average throughput: 97.33 Mbit/s

95th percentile per-packet one-way delay: 31.763 ms

Loss rate: 46.73%

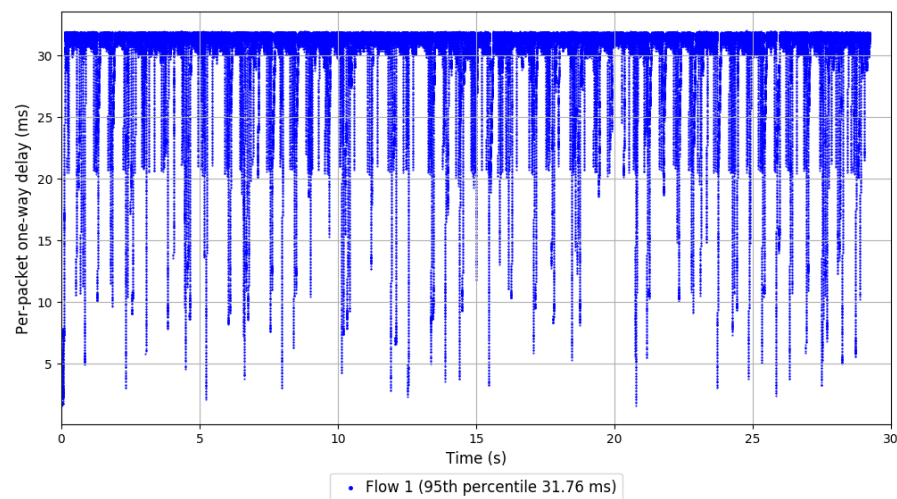
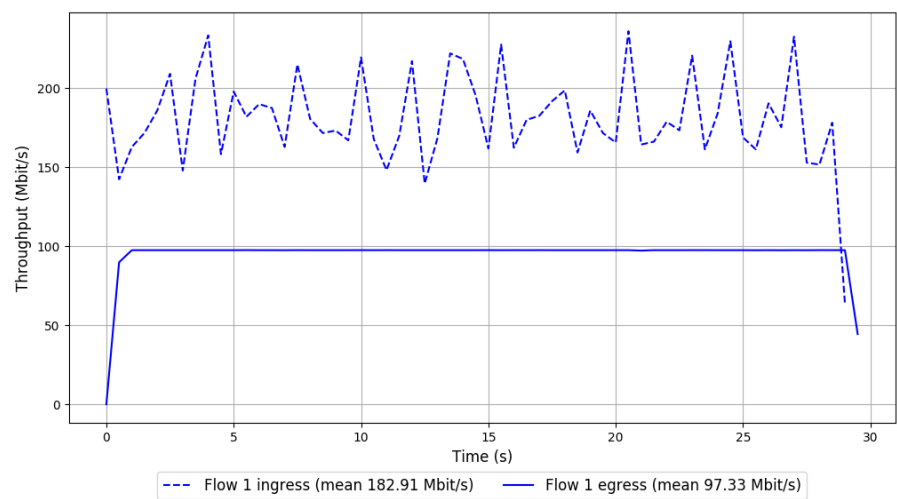
-- Flow 1:

Average throughput: 97.33 Mbit/s

95th percentile per-packet one-way delay: 31.763 ms

Loss rate: 46.73%

Run 3: Report of Indigo-MusesT — Data Link



Run 4: Statistics of Indigo-MusesT

Start at: 2018-12-11 10:09:19

End at: 2018-12-11 10:09:50

Local clock offset: -4.043 ms

Remote clock offset: 0.381 ms

Below is generated by plot.py at 2018-12-11 10:51:09

Datalink statistics

-- Total of 1 flow:

Average throughput: 97.32 Mbit/s

95th percentile per-packet one-way delay: 31.582 ms

Loss rate: 47.13%

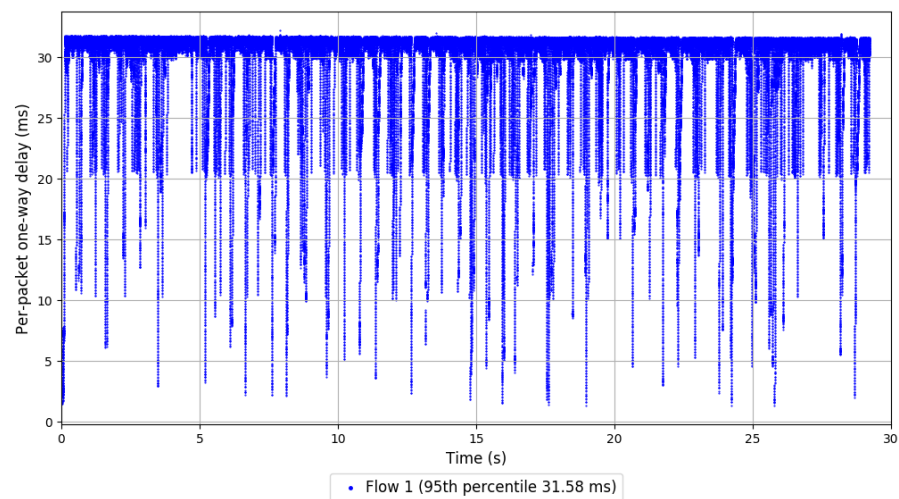
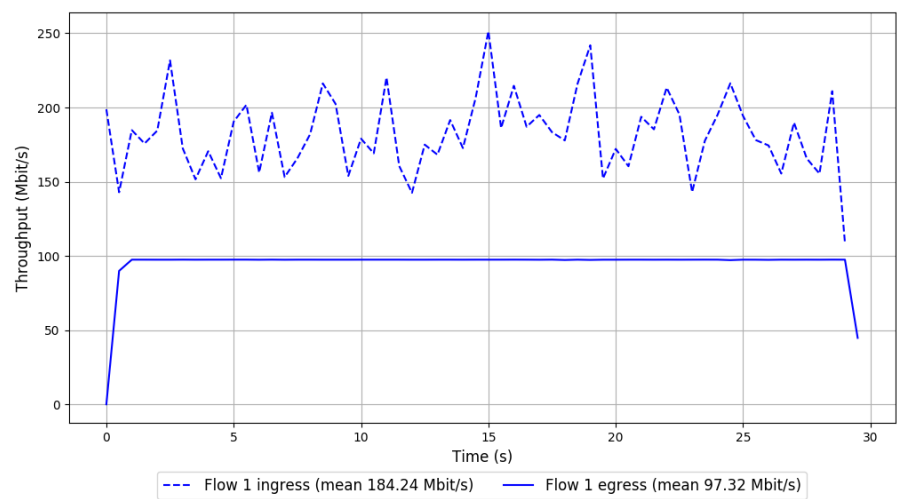
-- Flow 1:

Average throughput: 97.32 Mbit/s

95th percentile per-packet one-way delay: 31.582 ms

Loss rate: 47.13%

Run 4: Report of Indigo-MusesT — Data Link



Run 5: Statistics of Indigo-MusesT

Start at: 2018-12-11 10:30:30

End at: 2018-12-11 10:31:00

Local clock offset: -6.744 ms

Remote clock offset: 0.568 ms

Below is generated by plot.py at 2018-12-11 10:51:12

Datalink statistics

-- Total of 1 flow:

Average throughput: 97.33 Mbit/s

95th percentile per-packet one-way delay: 30.990 ms

Loss rate: 47.82%

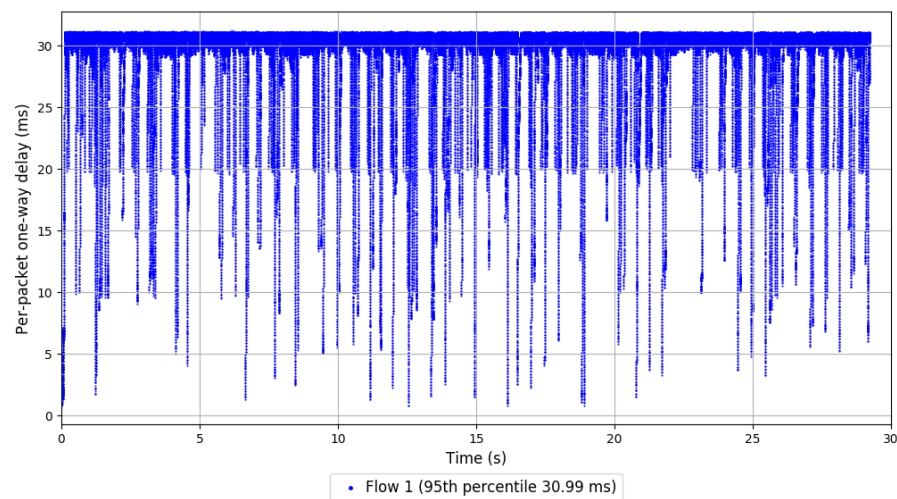
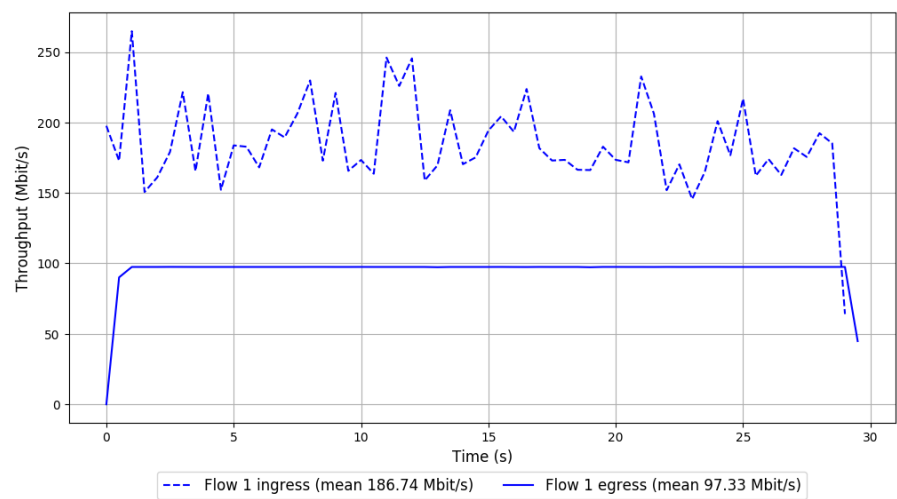
-- Flow 1:

Average throughput: 97.33 Mbit/s

95th percentile per-packet one-way delay: 30.990 ms

Loss rate: 47.82%

Run 5: Report of Indigo-MusesT — Data Link

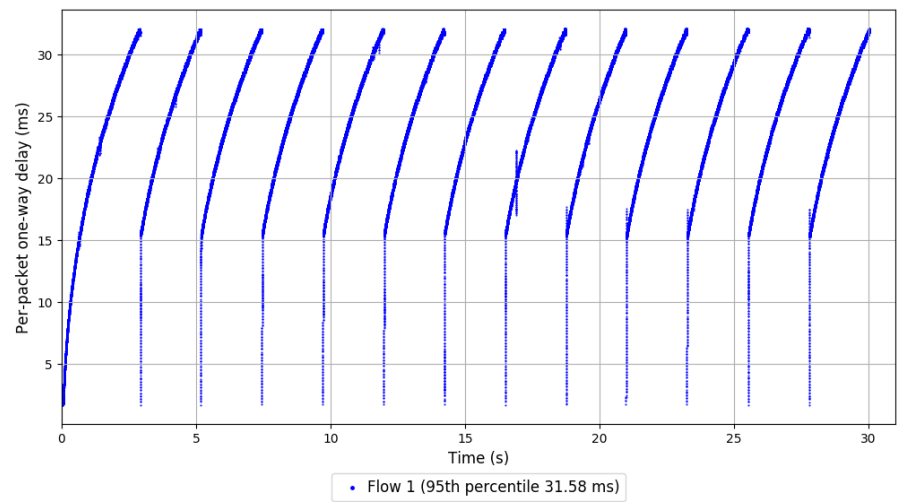
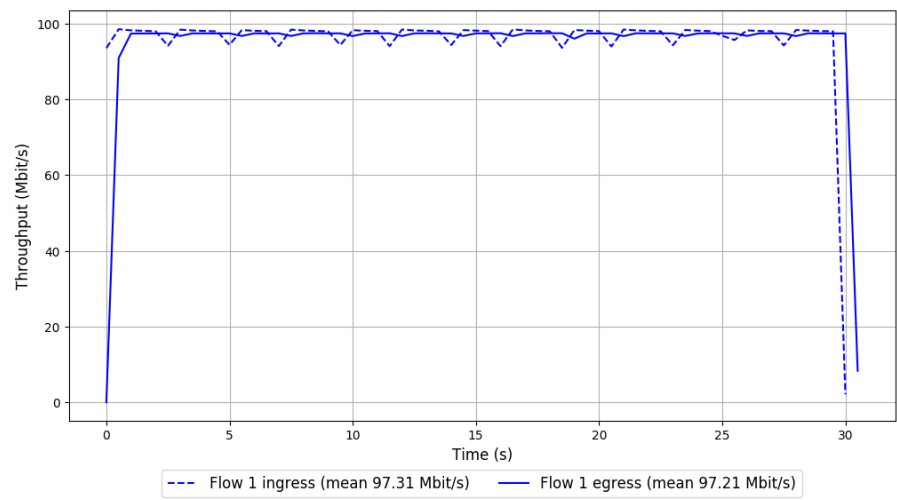


Run 1: Statistics of LEDBAT

Start at: 2018-12-11 09:16:59
End at: 2018-12-11 09:17:29
Local clock offset: -3.108 ms
Remote clock offset: -0.009 ms

Below is generated by plot.py at 2018-12-11 10:51:12
Datalink statistics
-- Total of 1 flow:
Average throughput: 97.21 Mbit/s
95th percentile per-packet one-way delay: 31.576 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 97.21 Mbit/s
95th percentile per-packet one-way delay: 31.576 ms
Loss rate: 0.01%

Run 1: Report of LEDBAT — Data Link



Run 2: Statistics of LEDBAT

Start at: 2018-12-11 09:38:12

End at: 2018-12-11 09:38:42

Local clock offset: -1.748 ms

Remote clock offset: 0.134 ms

Below is generated by plot.py at 2018-12-11 10:51:12

Datalink statistics

-- Total of 1 flow:

Average throughput: 97.05 Mbit/s

95th percentile per-packet one-way delay: 32.132 ms

Loss rate: 0.01%

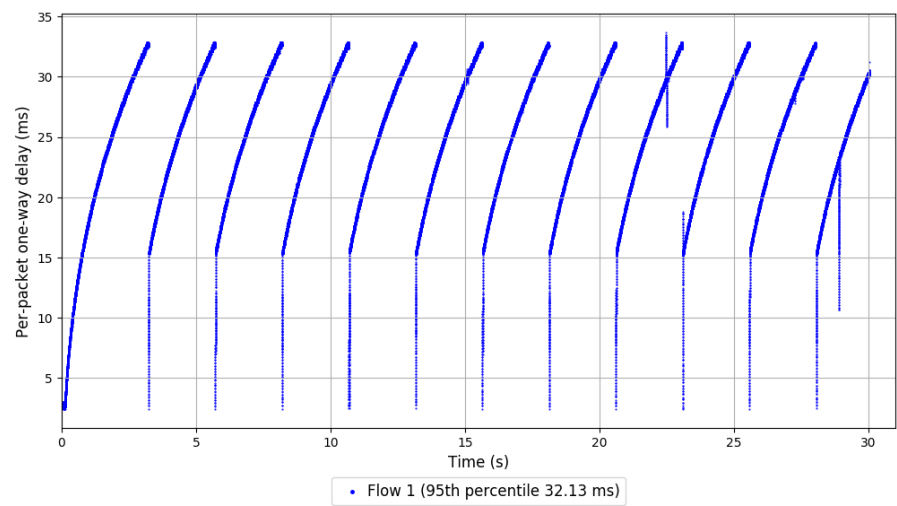
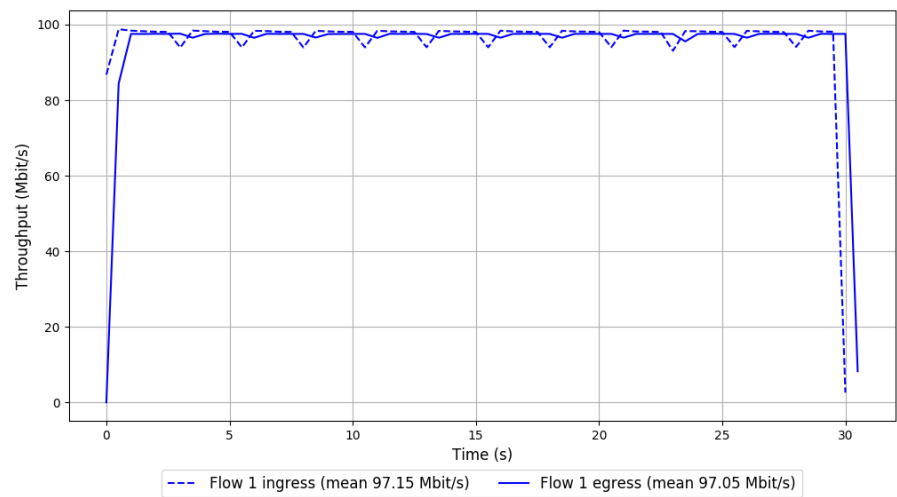
-- Flow 1:

Average throughput: 97.05 Mbit/s

95th percentile per-packet one-way delay: 32.132 ms

Loss rate: 0.01%

Run 2: Report of LEDBAT — Data Link



Run 3: Statistics of LEDBAT

Start at: 2018-12-11 09:59:22

End at: 2018-12-11 09:59:52

Local clock offset: -3.514 ms

Remote clock offset: 0.383 ms

Below is generated by plot.py at 2018-12-11 10:51:19

Datalink statistics

-- Total of 1 flow:

Average throughput: 97.03 Mbit/s

95th percentile per-packet one-way delay: 33.053 ms

Loss rate: 0.01%

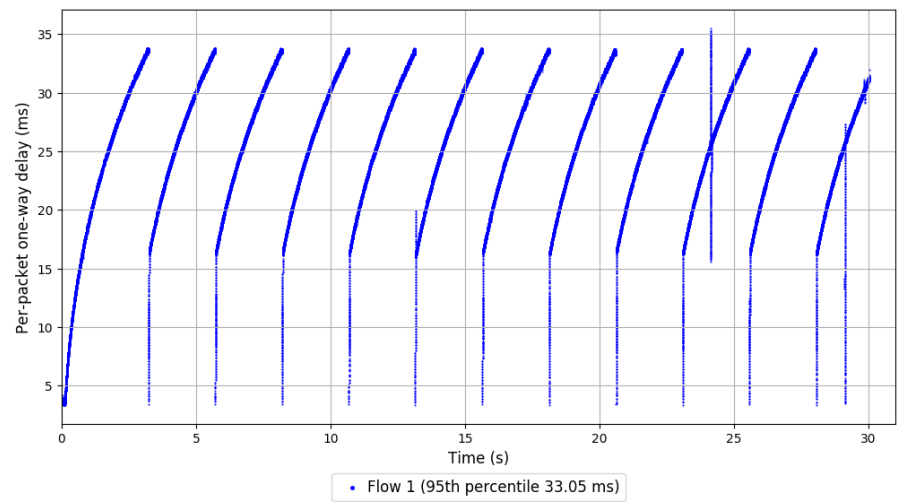
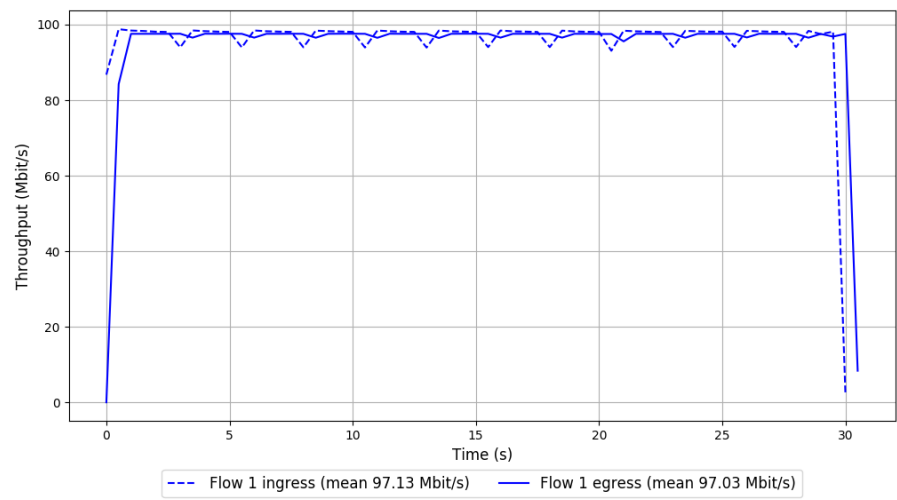
-- Flow 1:

Average throughput: 97.03 Mbit/s

95th percentile per-packet one-way delay: 33.053 ms

Loss rate: 0.01%

Run 3: Report of LEDBAT — Data Link



Run 4: Statistics of LEDBAT

Start at: 2018-12-11 10:20:33

End at: 2018-12-11 10:21:03

Local clock offset: -5.657 ms

Remote clock offset: 0.514 ms

Below is generated by plot.py at 2018-12-11 10:52:02

Datalink statistics

-- Total of 1 flow:

Average throughput: 97.20 Mbit/s

95th percentile per-packet one-way delay: 30.601 ms

Loss rate: 0.01%

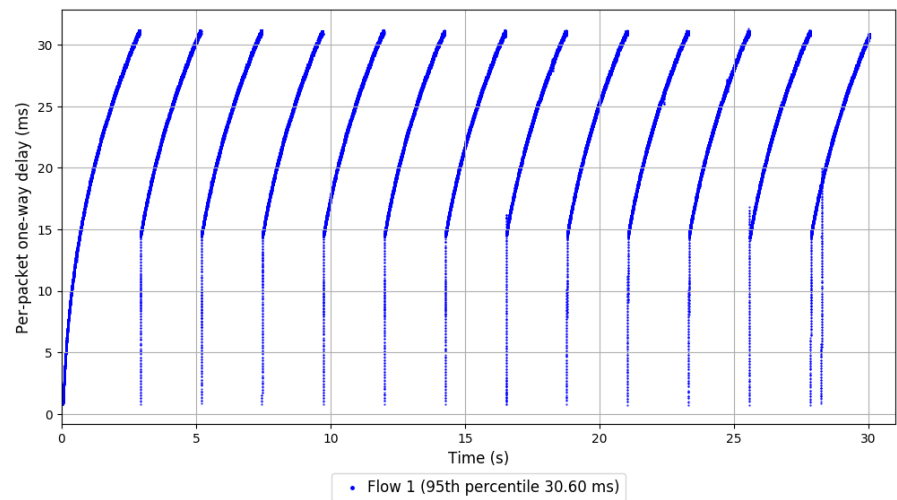
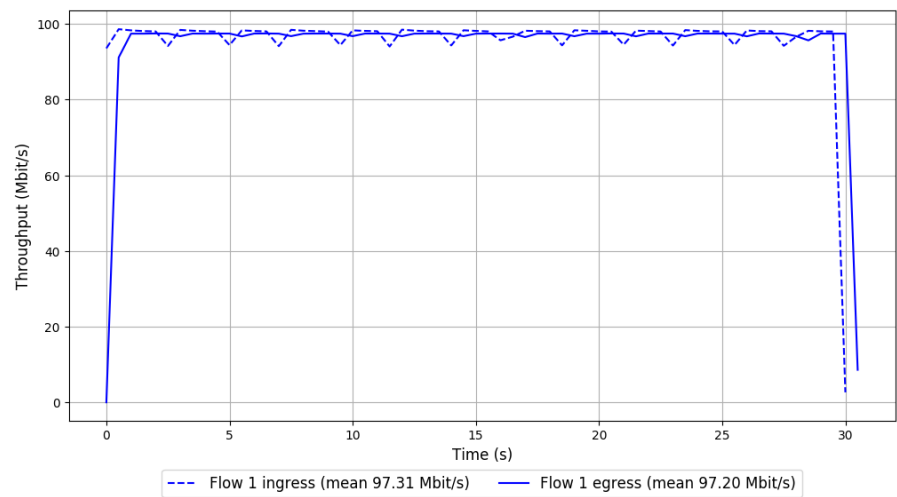
-- Flow 1:

Average throughput: 97.20 Mbit/s

95th percentile per-packet one-way delay: 30.601 ms

Loss rate: 0.01%

Run 4: Report of LEDBAT — Data Link



Run 5: Statistics of LEDBAT

Start at: 2018-12-11 10:41:44

End at: 2018-12-11 10:42:14

Local clock offset: -7.728 ms

Remote clock offset: 0.652 ms

Below is generated by plot.py at 2018-12-11 10:52:05

Datalink statistics

-- Total of 1 flow:

Average throughput: 97.22 Mbit/s

95th percentile per-packet one-way delay: 31.630 ms

Loss rate: 0.01%

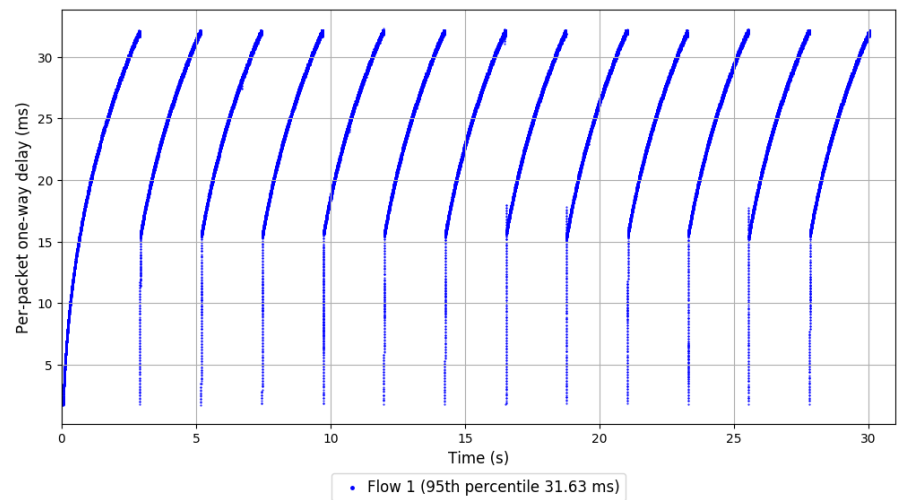
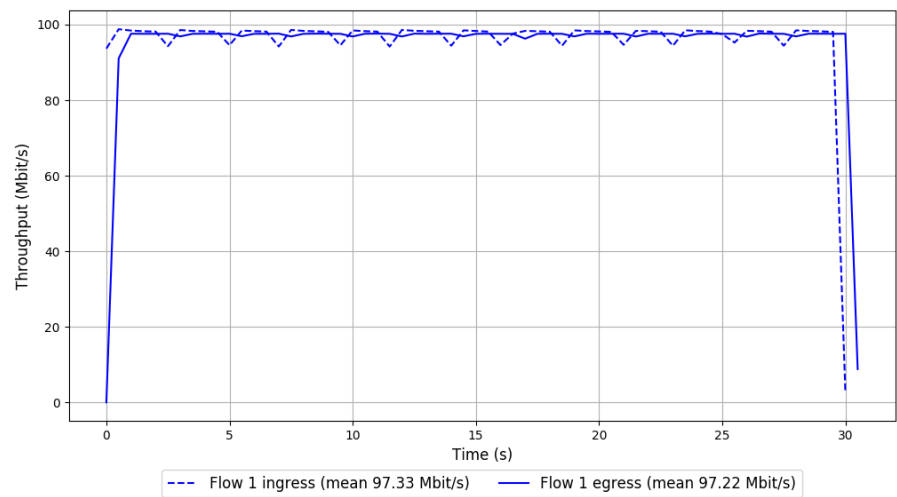
-- Flow 1:

Average throughput: 97.22 Mbit/s

95th percentile per-packet one-way delay: 31.630 ms

Loss rate: 0.01%

Run 5: Report of LEDBAT — Data Link

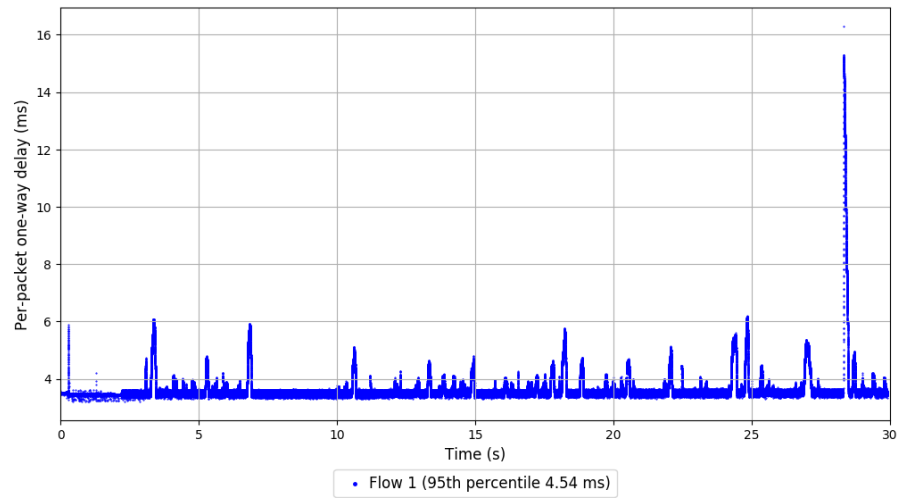
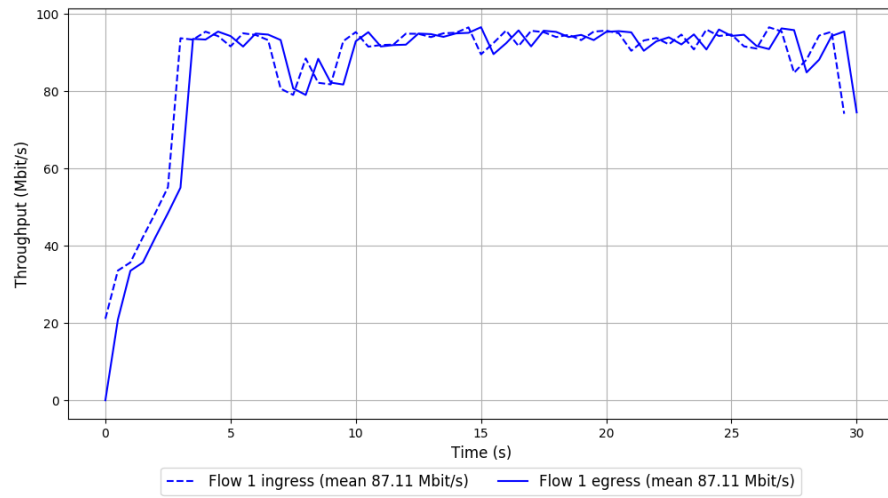


```
Run 1: Statistics of PCC-Allegro

Start at: 2018-12-11 09:03:32
End at: 2018-12-11 09:04:02
Local clock offset: -4.853 ms
Remote clock offset: -0.097 ms

# Below is generated by plot.py at 2018-12-11 10:52:05
# Datalink statistics
-- Total of 1 flow:
Average throughput: 87.11 Mbit/s
95th percentile per-packet one-way delay: 4.545 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 87.11 Mbit/s
95th percentile per-packet one-way delay: 4.545 ms
Loss rate: 0.01%
```

Run 1: Report of PCC-Allegro — Data Link



Run 2: Statistics of PCC-Allegro

Start at: 2018-12-11 09:24:44

End at: 2018-12-11 09:25:14

Local clock offset: -2.639 ms

Remote clock offset: 0.094 ms

Below is generated by plot.py at 2018-12-11 10:52:05

Datalink statistics

-- Total of 1 flow:

Average throughput: 70.38 Mbit/s

95th percentile per-packet one-way delay: 1.933 ms

Loss rate: 0.00%

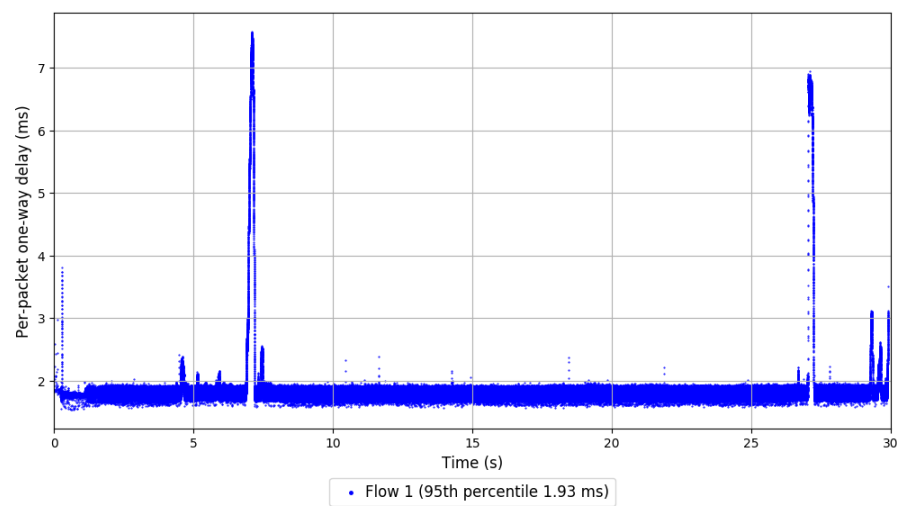
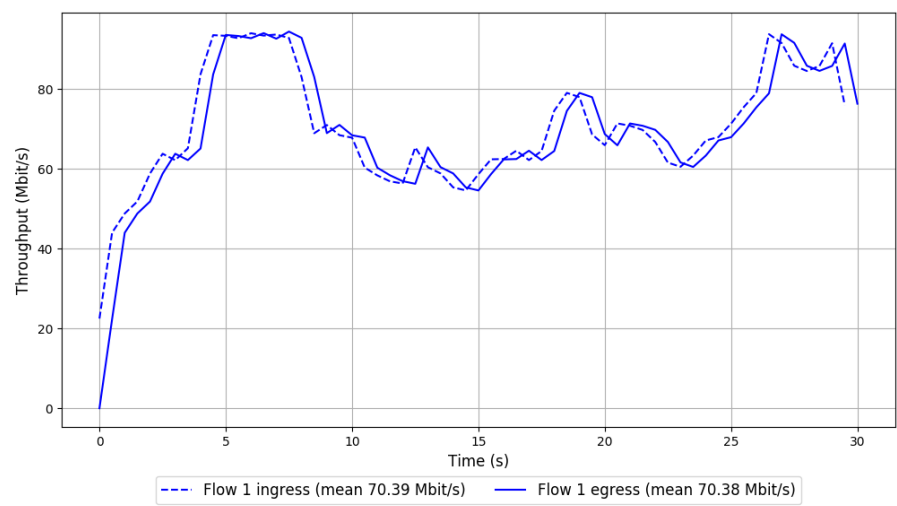
-- Flow 1:

Average throughput: 70.38 Mbit/s

95th percentile per-packet one-way delay: 1.933 ms

Loss rate: 0.00%

Run 2: Report of PCC-Allegro — Data Link



Run 3: Statistics of PCC-Allegro

Start at: 2018-12-11 09:45:57

End at: 2018-12-11 09:46:27

Local clock offset: -3.053 ms

Remote clock offset: 0.208 ms

Below is generated by plot.py at 2018-12-11 10:52:05

Datalink statistics

-- Total of 1 flow:

Average throughput: 77.06 Mbit/s

95th percentile per-packet one-way delay: 4.351 ms

Loss rate: 0.01%

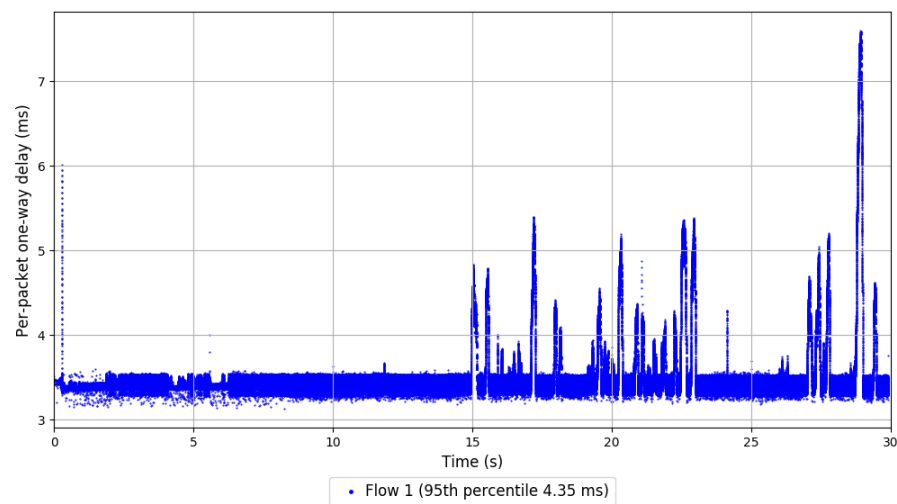
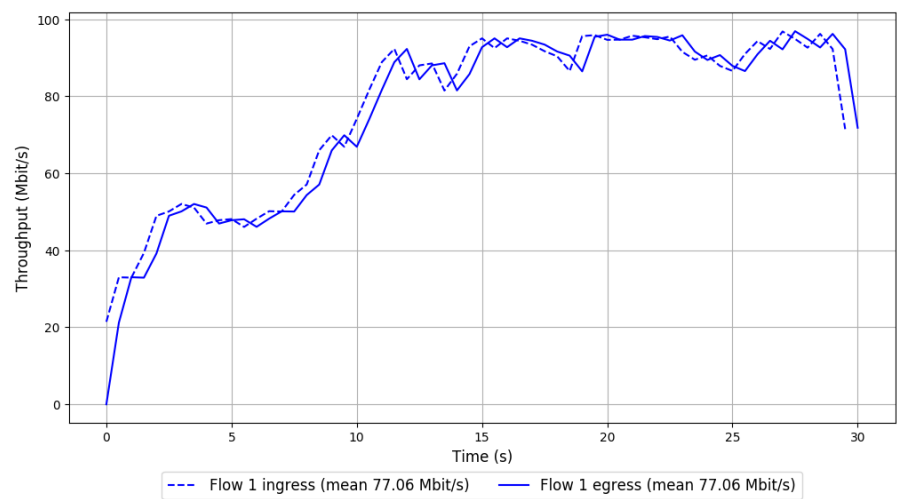
-- Flow 1:

Average throughput: 77.06 Mbit/s

95th percentile per-packet one-way delay: 4.351 ms

Loss rate: 0.01%

Run 3: Report of PCC-Allegro — Data Link



Run 4: Statistics of PCC-Allegro

Start at: 2018-12-11 10:07:07

End at: 2018-12-11 10:07:37

Local clock offset: -3.754 ms

Remote clock offset: 0.313 ms

Below is generated by plot.py at 2018-12-11 10:52:15

Datalink statistics

-- Total of 1 flow:

Average throughput: 89.60 Mbit/s

95th percentile per-packet one-way delay: 4.195 ms

Loss rate: 0.01%

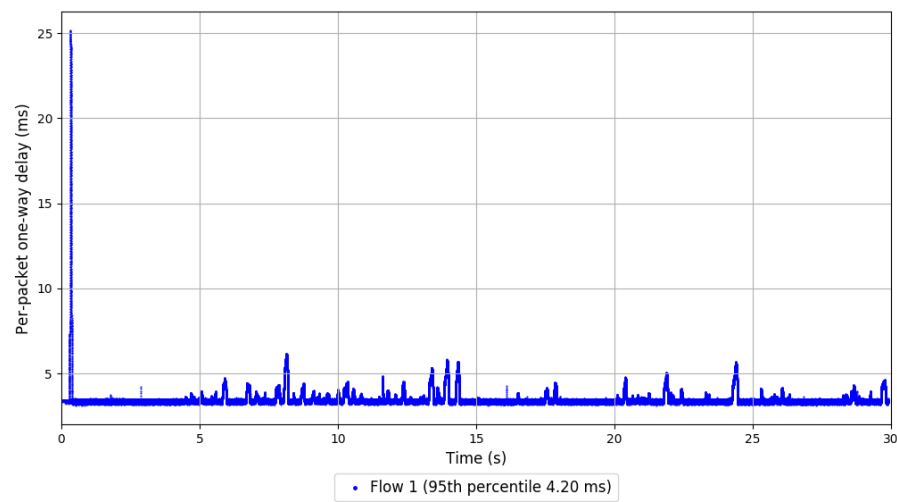
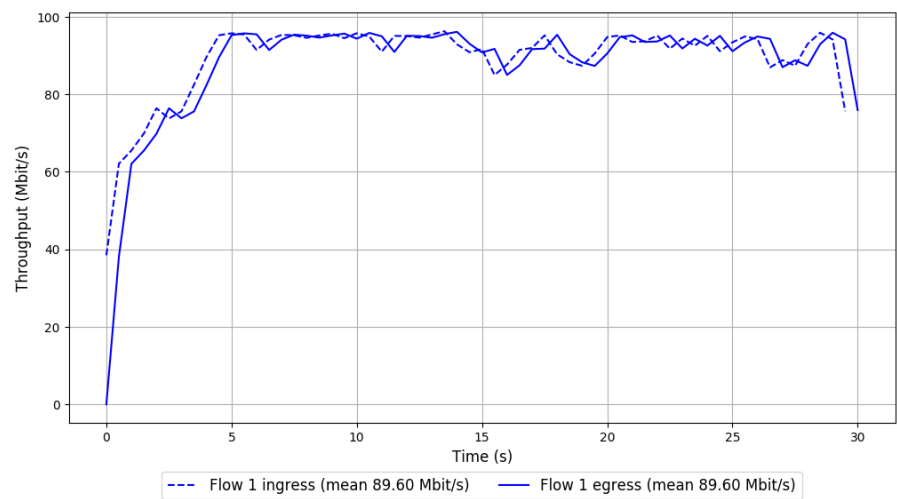
-- Flow 1:

Average throughput: 89.60 Mbit/s

95th percentile per-packet one-way delay: 4.195 ms

Loss rate: 0.01%

Run 4: Report of PCC-Allegro — Data Link



Run 5: Statistics of PCC-Allegro

Start at: 2018-12-11 10:28:18

End at: 2018-12-11 10:28:48

Local clock offset: -6.584 ms

Remote clock offset: 0.516 ms

Below is generated by plot.py at 2018-12-11 10:52:15

Datalink statistics

-- Total of 1 flow:

Average throughput: 75.05 Mbit/s

95th percentile per-packet one-way delay: 2.336 ms

Loss rate: 0.00%

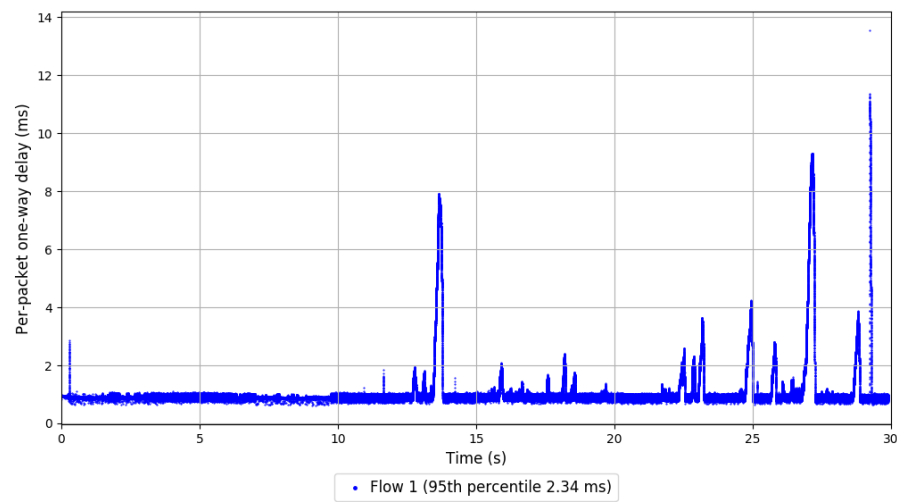
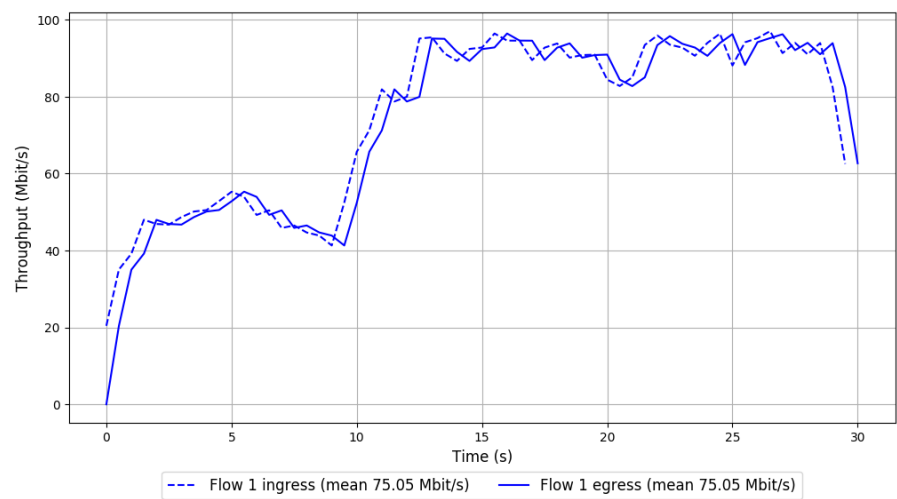
-- Flow 1:

Average throughput: 75.05 Mbit/s

95th percentile per-packet one-way delay: 2.336 ms

Loss rate: 0.00%

Run 5: Report of PCC-Allegro — Data Link



Run 1: Statistics of PCC-Expr

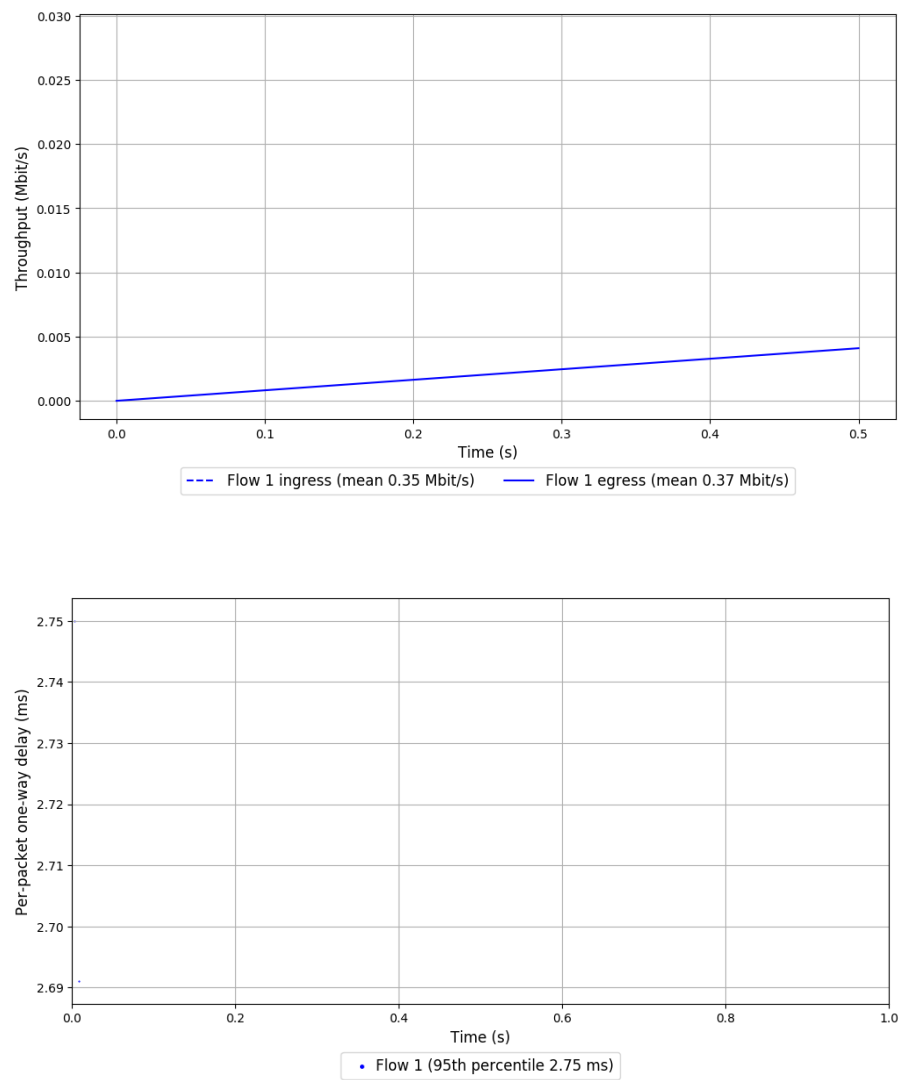
Start at: 2018-12-11 09:18:09

End at: 2018-12-11 09:18:39

Local clock offset: -2.121 ms

Remote clock offset: 0.063 ms

Run 1: Report of PCC-Expr — Data Link



Run 2: Statistics of PCC-Expr

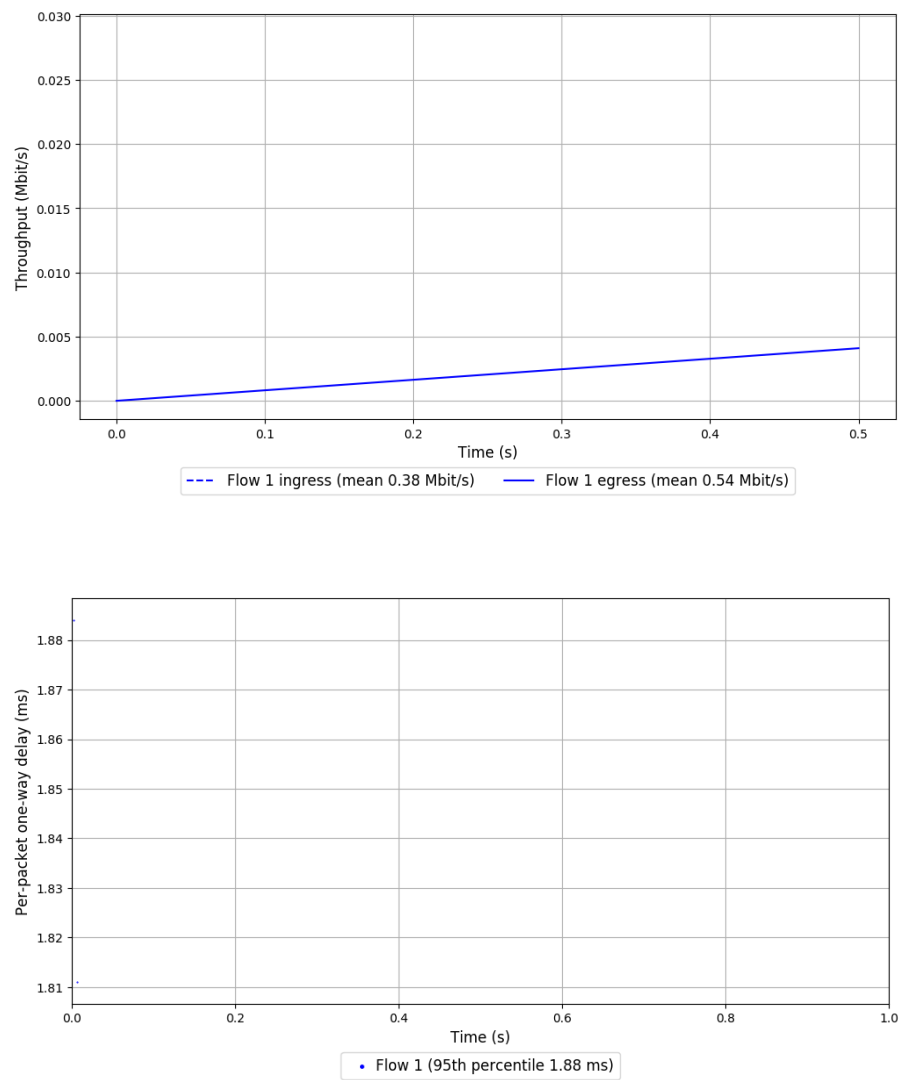
Start at: 2018-12-11 09:39:21

End at: 2018-12-11 09:39:51

Local clock offset: -2.748 ms

Remote clock offset: 0.187 ms

Run 2: Report of PCC-Expr — Data Link



Run 3: Statistics of PCC-Expr

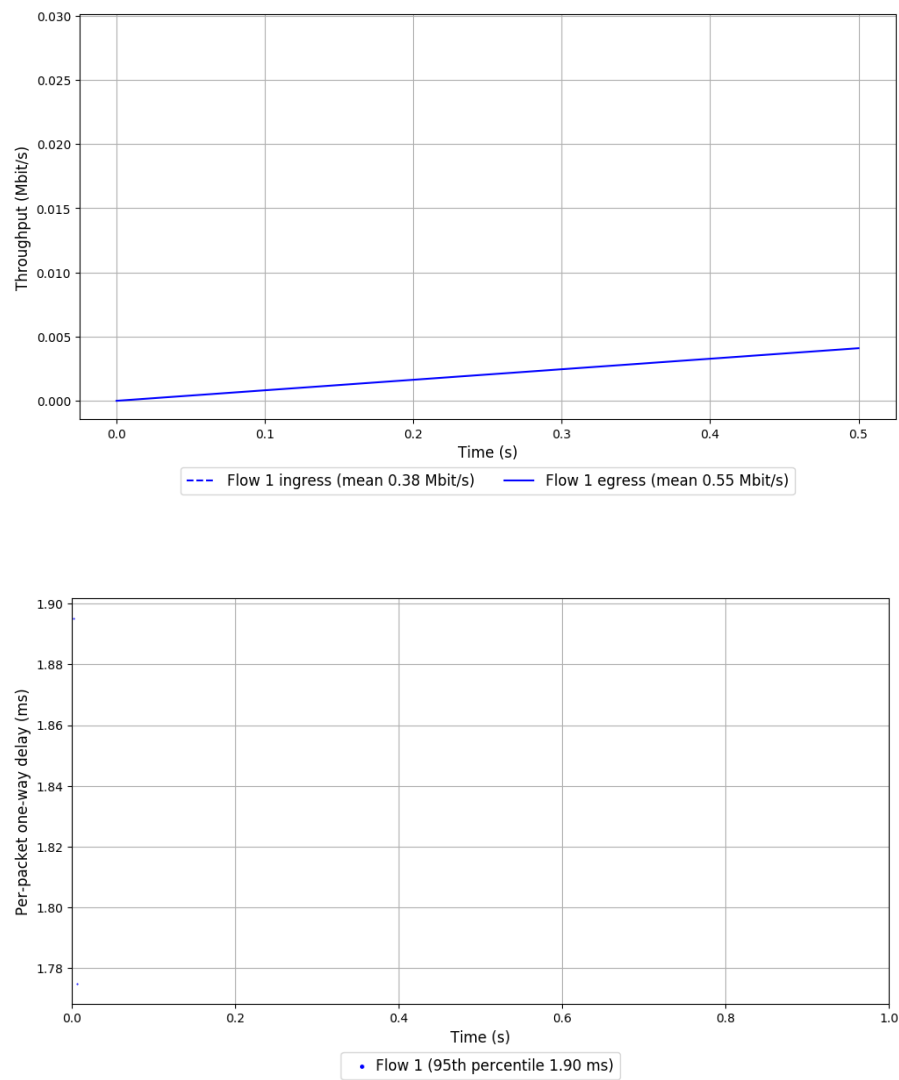
Start at: 2018-12-11 10:00:31

End at: 2018-12-11 10:01:01

Local clock offset: -3.628 ms

Remote clock offset: 0.34 ms

Run 3: Report of PCC-Expr — Data Link



Run 4: Statistics of PCC-Expr

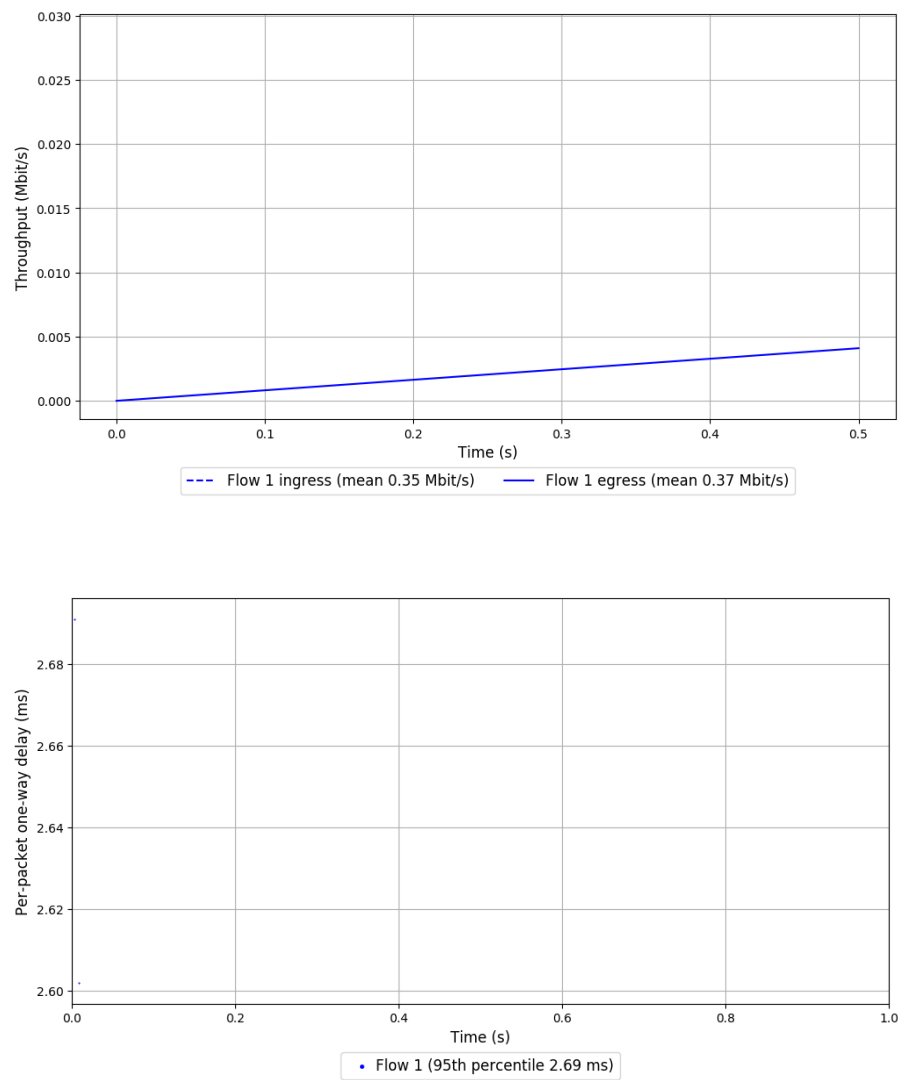
Start at: 2018-12-11 10:21:43

End at: 2018-12-11 10:22:13

Local clock offset: -5.795 ms

Remote clock offset: 0.513 ms

Run 4: Report of PCC-Expr — Data Link



Run 5: Statistics of PCC-Expr

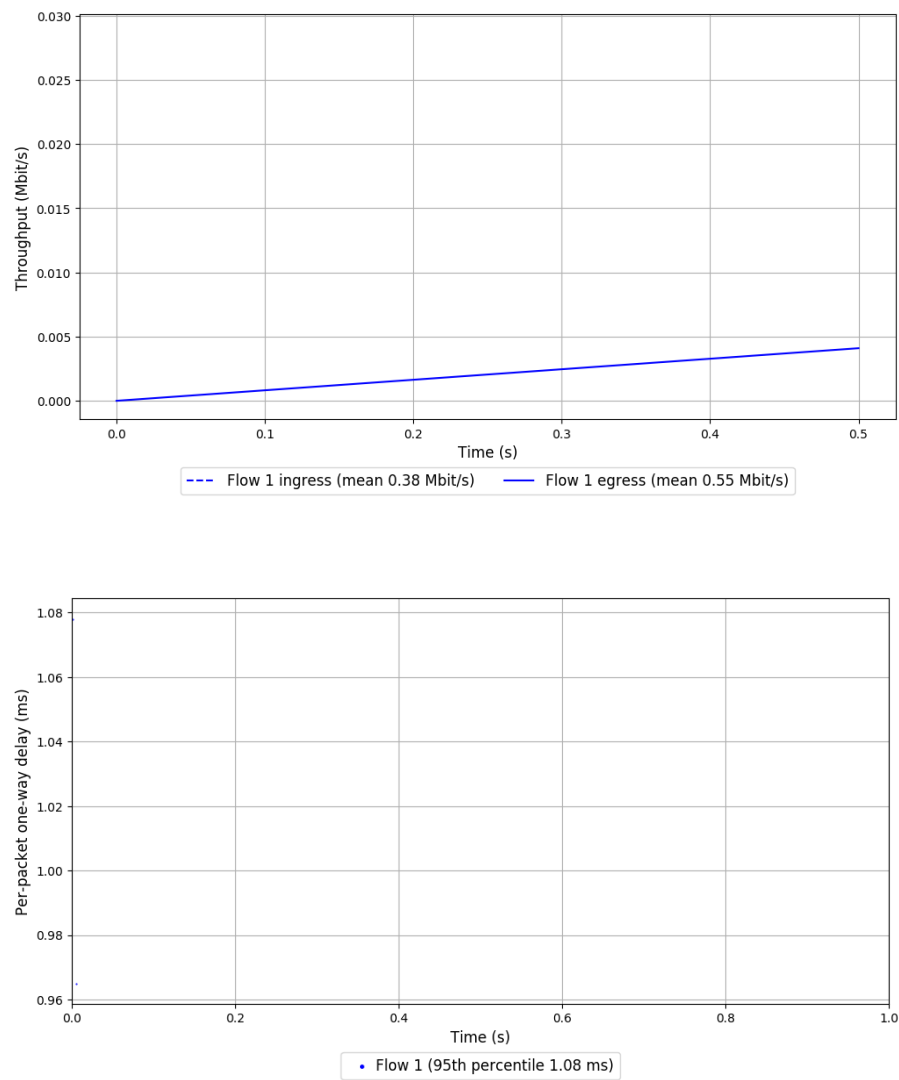
Start at: 2018-12-11 10:42:54

End at: 2018-12-11 10:43:24

Local clock offset: -6.724 ms

Remote clock offset: 0.661 ms

Run 5: Report of PCC-Expr — Data Link

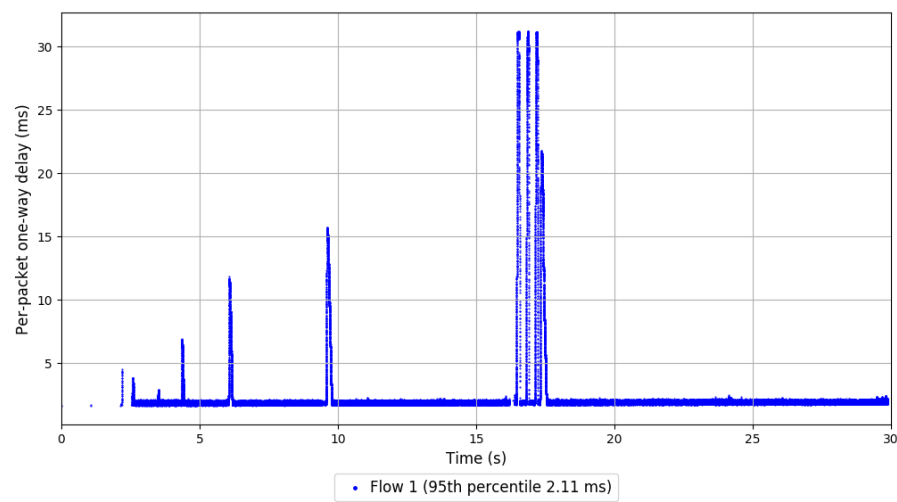
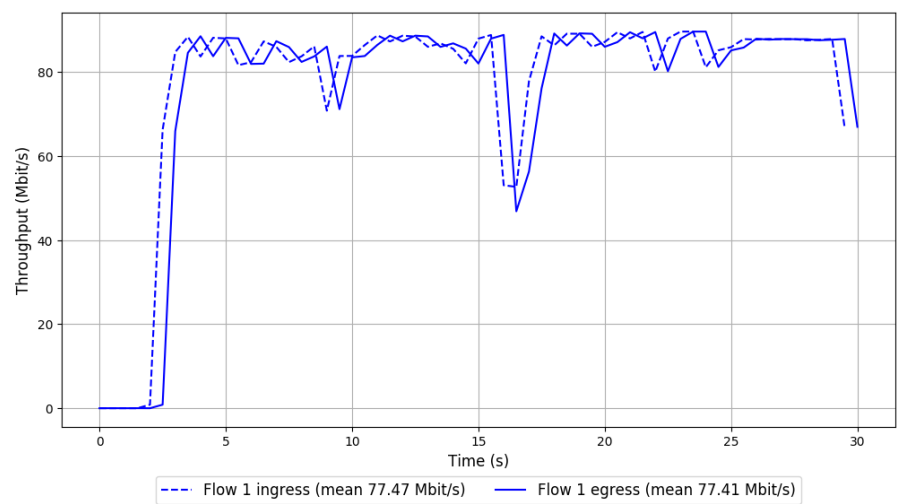


Run 1: Statistics of QUIC Cubic

Start at: 2018-12-11 09:10:10
End at: 2018-12-11 09:10:40
Local clock offset: -4.179 ms
Remote clock offset: -0.052 ms

Below is generated by plot.py at 2018-12-11 10:52:22
Datalink statistics
-- Total of 1 flow:
Average throughput: 77.41 Mbit/s
95th percentile per-packet one-way delay: 2.110 ms
Loss rate: 0.08%
-- Flow 1:
Average throughput: 77.41 Mbit/s
95th percentile per-packet one-way delay: 2.110 ms
Loss rate: 0.08%

Run 1: Report of QUIC Cubic — Data Link



Run 2: Statistics of QUIC Cubic

Start at: 2018-12-11 09:31:22

End at: 2018-12-11 09:31:52

Local clock offset: -2.611 ms

Remote clock offset: 0.152 ms

Below is generated by plot.py at 2018-12-11 10:52:51

Datalink statistics

-- Total of 1 flow:

Average throughput: 78.68 Mbit/s

95th percentile per-packet one-way delay: 11.136 ms

Loss rate: 0.40%

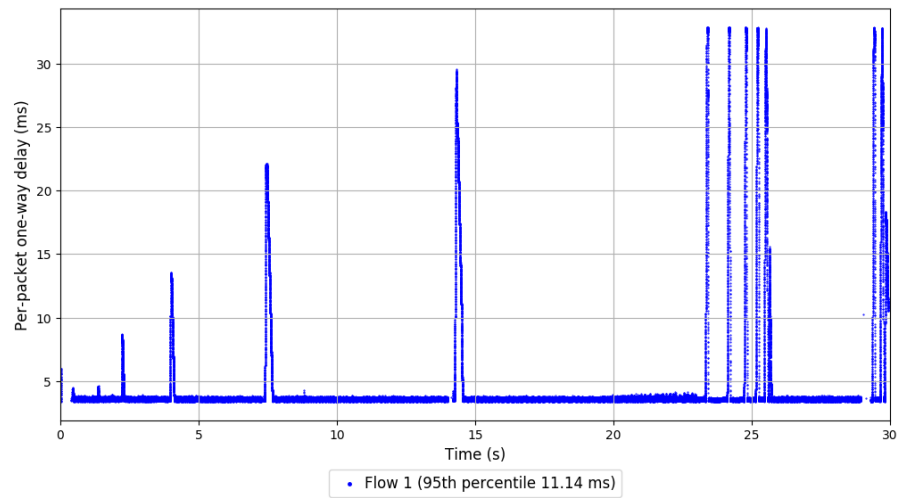
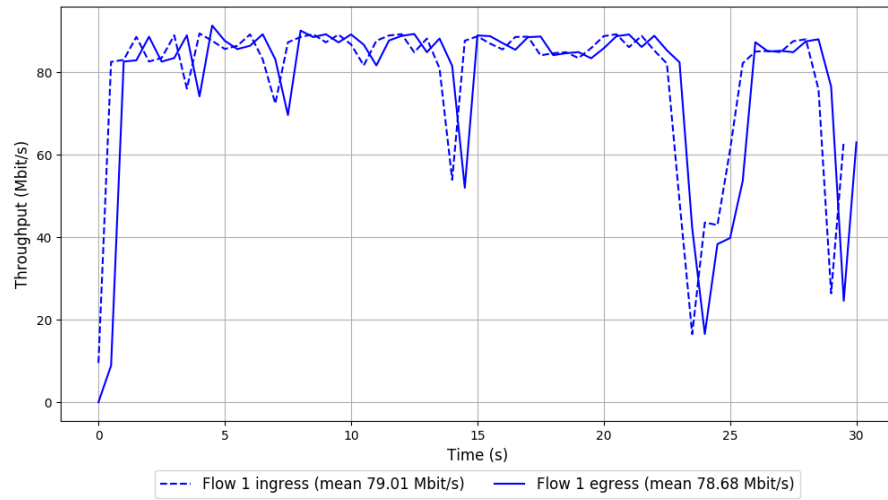
-- Flow 1:

Average throughput: 78.68 Mbit/s

95th percentile per-packet one-way delay: 11.136 ms

Loss rate: 0.40%

Run 2: Report of QUIC Cubic — Data Link



Run 3: Statistics of QUIC Cubic

Start at: 2018-12-11 09:52:34

End at: 2018-12-11 09:53:04

Local clock offset: -2.497 ms

Remote clock offset: 0.287 ms

Below is generated by plot.py at 2018-12-11 10:52:56

Datalink statistics

-- Total of 1 flow:

Average throughput: 77.61 Mbit/s

95th percentile per-packet one-way delay: 8.064 ms

Loss rate: 0.35%

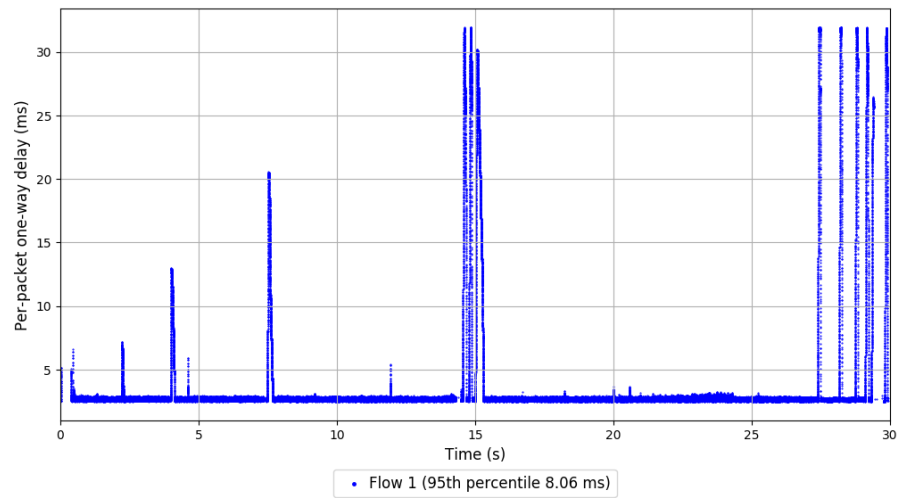
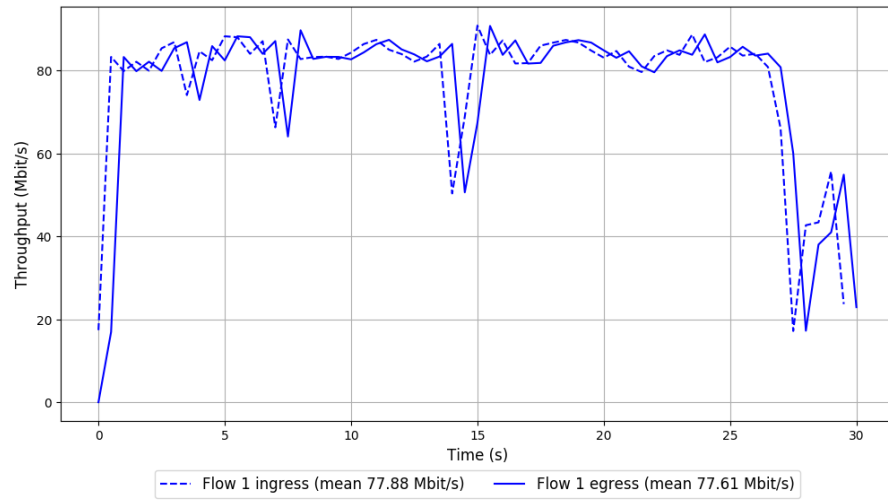
-- Flow 1:

Average throughput: 77.61 Mbit/s

95th percentile per-packet one-way delay: 8.064 ms

Loss rate: 0.35%

Run 3: Report of QUIC Cubic — Data Link



Run 4: Statistics of QUIC Cubic

Start at: 2018-12-11 10:13:45

End at: 2018-12-11 10:14:15

Local clock offset: -4.439 ms

Remote clock offset: 0.481 ms

Below is generated by plot.py at 2018-12-11 10:52:58

Datalink statistics

-- Total of 1 flow:

Average throughput: 77.41 Mbit/s

95th percentile per-packet one-way delay: 2.763 ms

Loss rate: 0.30%

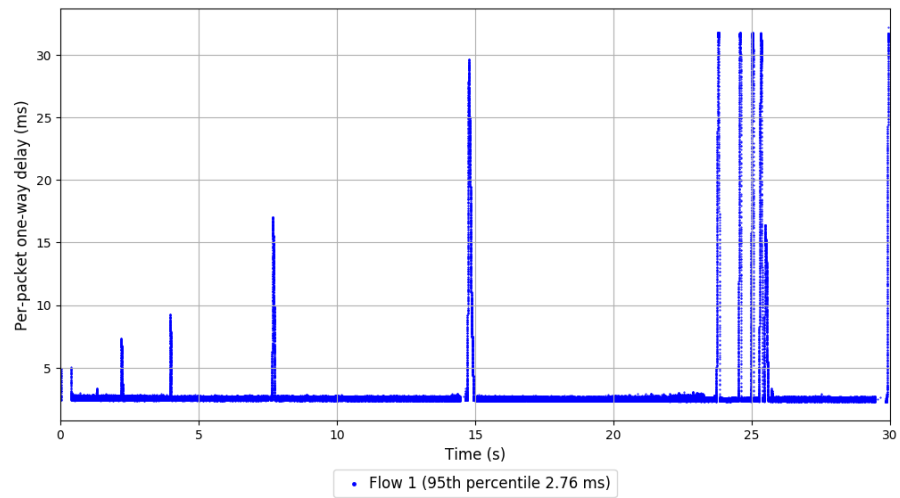
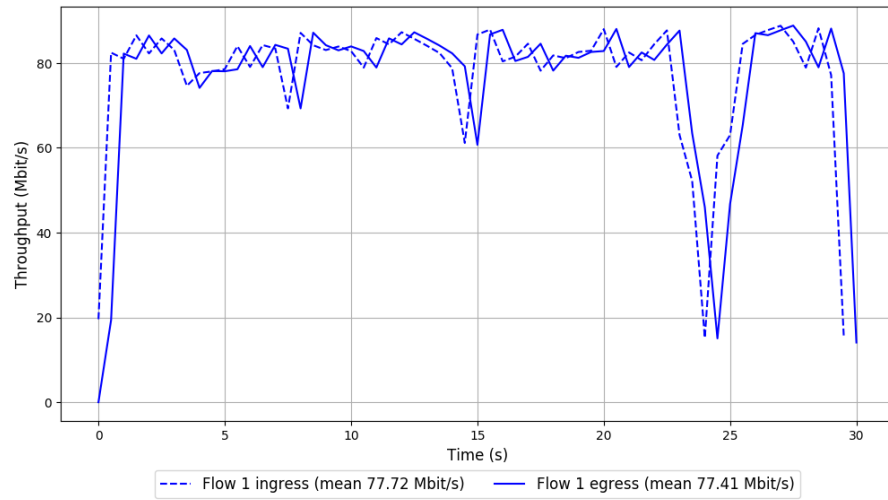
-- Flow 1:

Average throughput: 77.41 Mbit/s

95th percentile per-packet one-way delay: 2.763 ms

Loss rate: 0.30%

Run 4: Report of QUIC Cubic — Data Link



Run 5: Statistics of QUIC Cubic

Start at: 2018-12-11 10:34:56

End at: 2018-12-11 10:35:26

Local clock offset: -7.951 ms

Remote clock offset: 0.594 ms

Below is generated by plot.py at 2018-12-11 10:53:03

Datalink statistics

-- Total of 1 flow:

Average throughput: 78.87 Mbit/s

95th percentile per-packet one-way delay: 2.109 ms

Loss rate: 0.27%

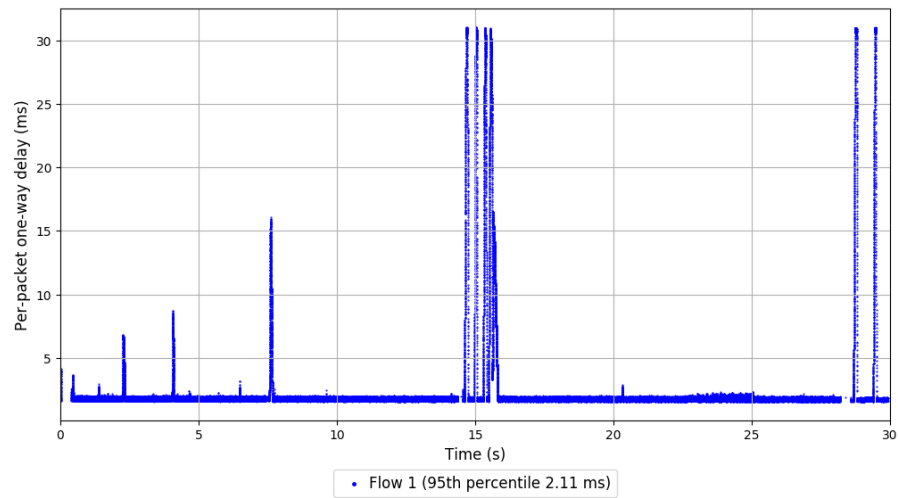
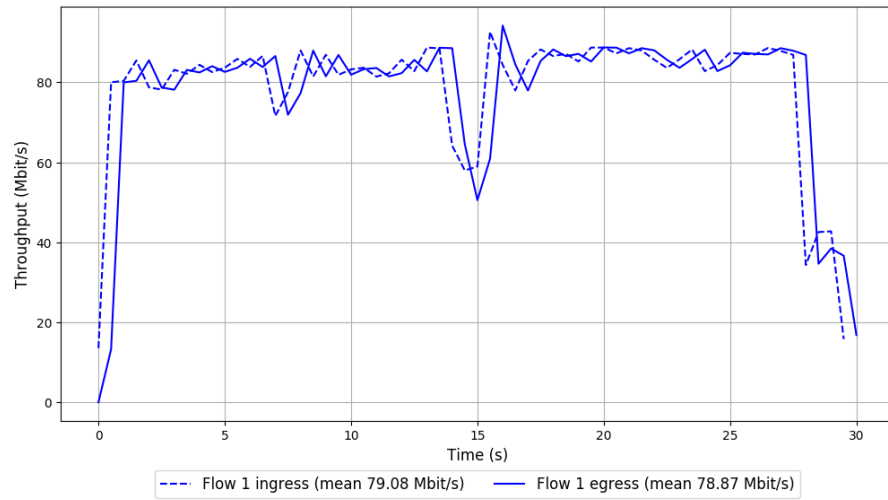
-- Flow 1:

Average throughput: 78.87 Mbit/s

95th percentile per-packet one-way delay: 2.109 ms

Loss rate: 0.27%

Run 5: Report of QUIC Cubic — Data Link

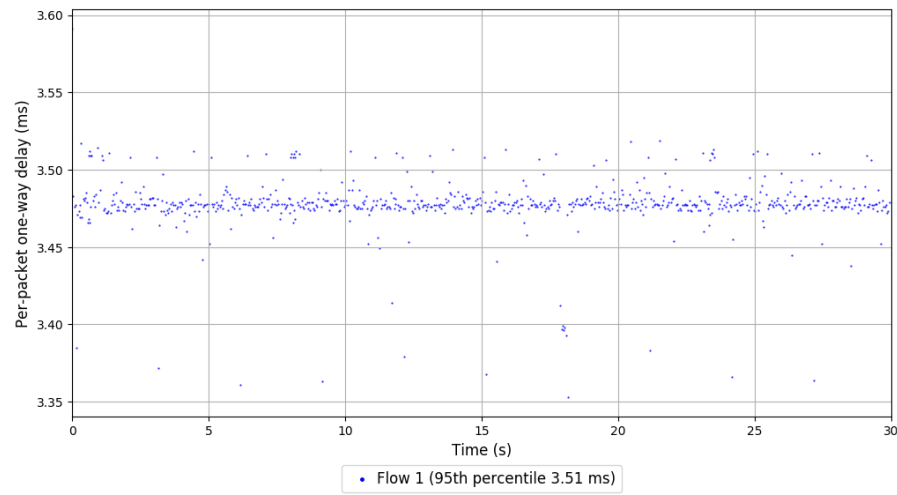
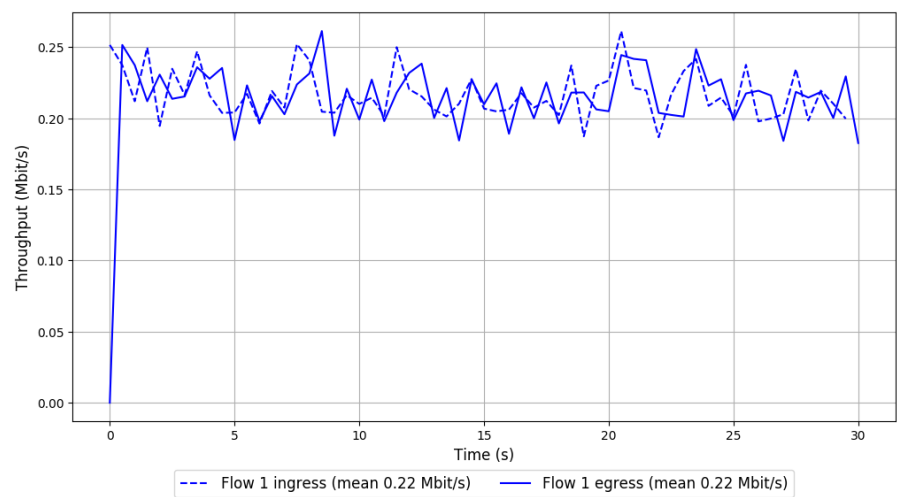


Run 1: Statistics of SCReAM

Start at: 2018-12-11 09:06:54
End at: 2018-12-11 09:07:24
Local clock offset: -4.647 ms
Remote clock offset: -0.036 ms

Below is generated by plot.py at 2018-12-11 10:53:03
Datalink statistics
-- Total of 1 flow:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 3.508 ms
Loss rate: 0.13%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 3.508 ms
Loss rate: 0.13%

Run 1: Report of SReAM — Data Link



Run 2: Statistics of SCReAM

Start at: 2018-12-11 09:28:05

End at: 2018-12-11 09:28:35

Local clock offset: -1.725 ms

Remote clock offset: 0.088 ms

Below is generated by plot.py at 2018-12-11 10:53:03

Datalink statistics

-- Total of 1 flow:

Average throughput: 0.22 Mbit/s

95th percentile per-packet one-way delay: 0.939 ms

Loss rate: 0.00%

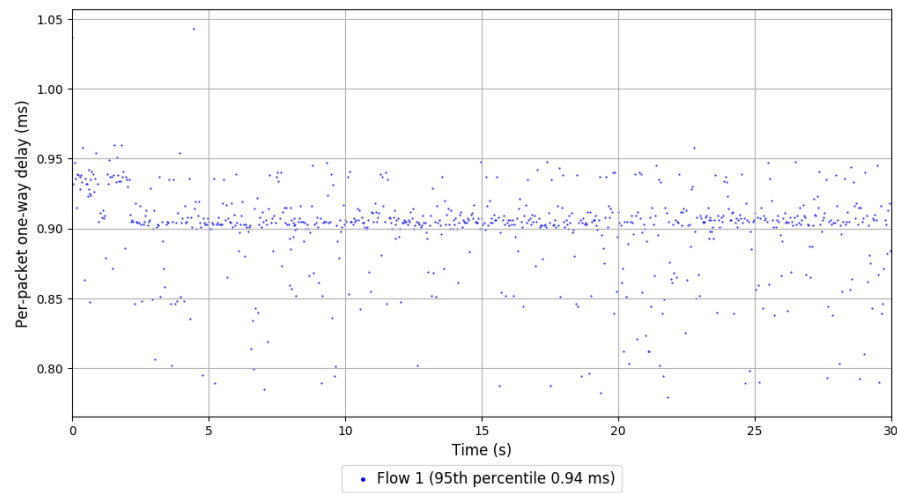
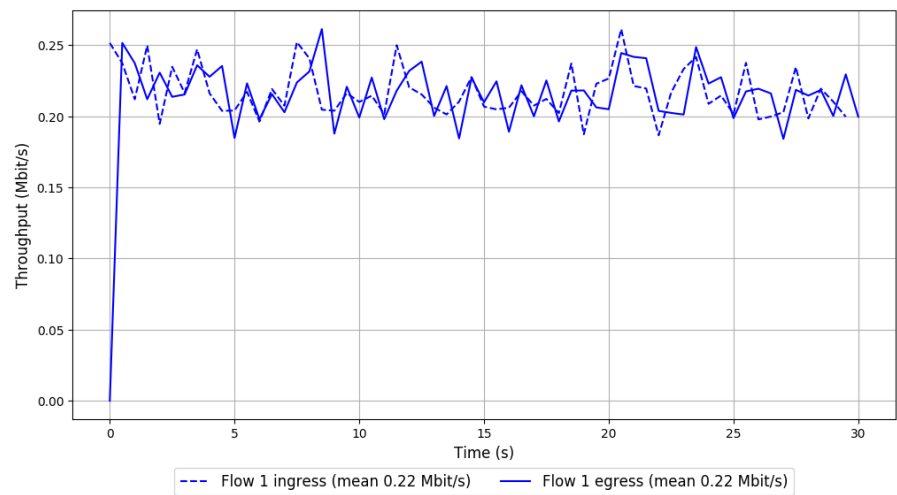
-- Flow 1:

Average throughput: 0.22 Mbit/s

95th percentile per-packet one-way delay: 0.939 ms

Loss rate: 0.00%

Run 2: Report of SReAM — Data Link



Run 3: Statistics of SCReAM

Start at: 2018-12-11 09:49:18

End at: 2018-12-11 09:49:48

Local clock offset: -3.173 ms

Remote clock offset: 0.25 ms

Below is generated by plot.py at 2018-12-11 10:53:03

Datalink statistics

-- Total of 1 flow:

Average throughput: 0.22 Mbit/s

95th percentile per-packet one-way delay: 1.755 ms

Loss rate: 0.00%

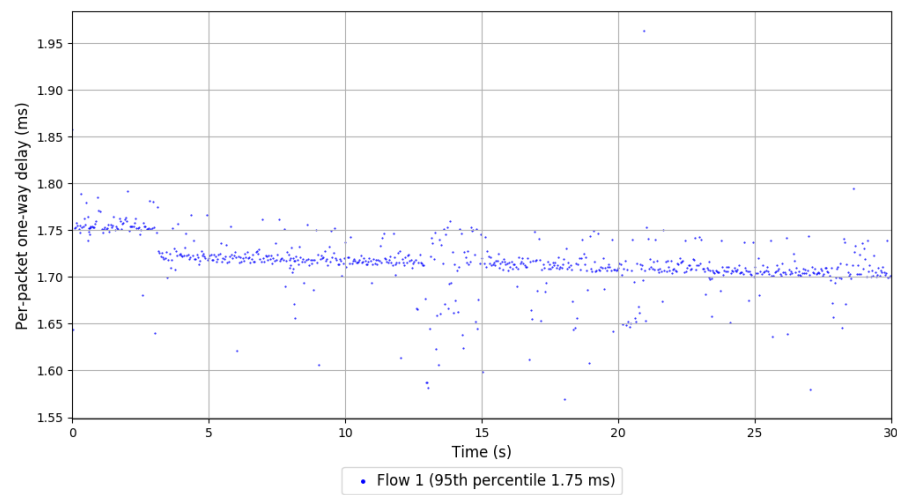
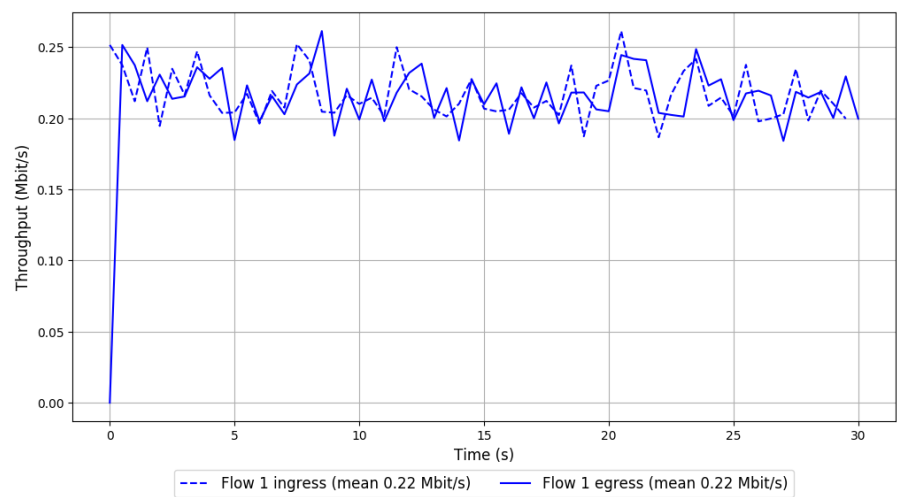
-- Flow 1:

Average throughput: 0.22 Mbit/s

95th percentile per-packet one-way delay: 1.755 ms

Loss rate: 0.00%

Run 3: Report of SReAM — Data Link



Run 4: Statistics of SCReAM

Start at: 2018-12-11 10:10:29

End at: 2018-12-11 10:10:59

Local clock offset: -4.526 ms

Remote clock offset: 0.415 ms

Below is generated by plot.py at 2018-12-11 10:53:03

Datalink statistics

-- Total of 1 flow:

Average throughput: 0.22 Mbit/s

95th percentile per-packet one-way delay: 1.725 ms

Loss rate: 0.00%

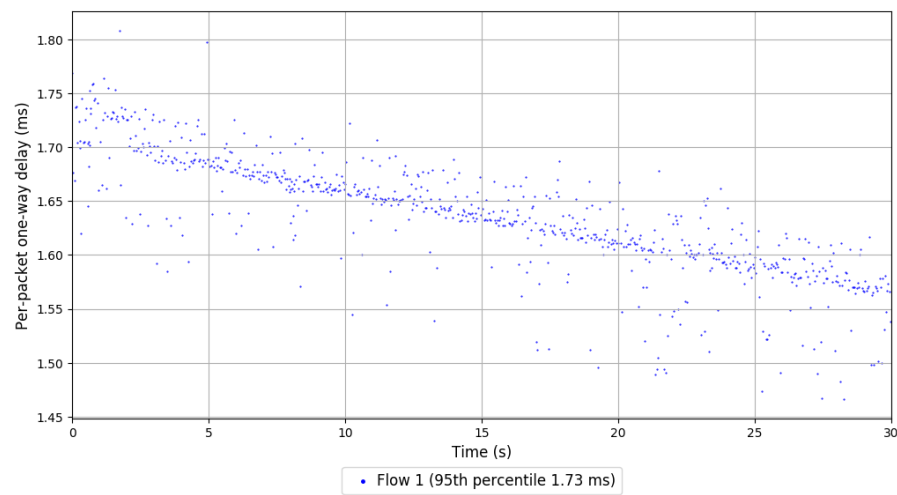
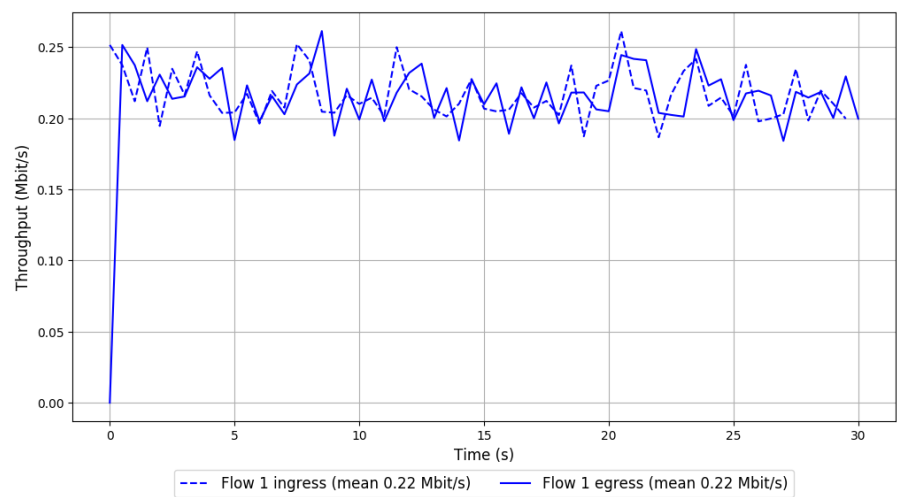
-- Flow 1:

Average throughput: 0.22 Mbit/s

95th percentile per-packet one-way delay: 1.725 ms

Loss rate: 0.00%

Run 4: Report of SReAM — Data Link



Run 5: Statistics of SCReAM

Start at: 2018-12-11 10:31:39

End at: 2018-12-11 10:32:09

Local clock offset: -7.671 ms

Remote clock offset: 0.437 ms

Below is generated by plot.py at 2018-12-11 10:53:03

Datalink statistics

-- Total of 1 flow:

Average throughput: 0.22 Mbit/s

95th percentile per-packet one-way delay: 1.625 ms

Loss rate: 0.00%

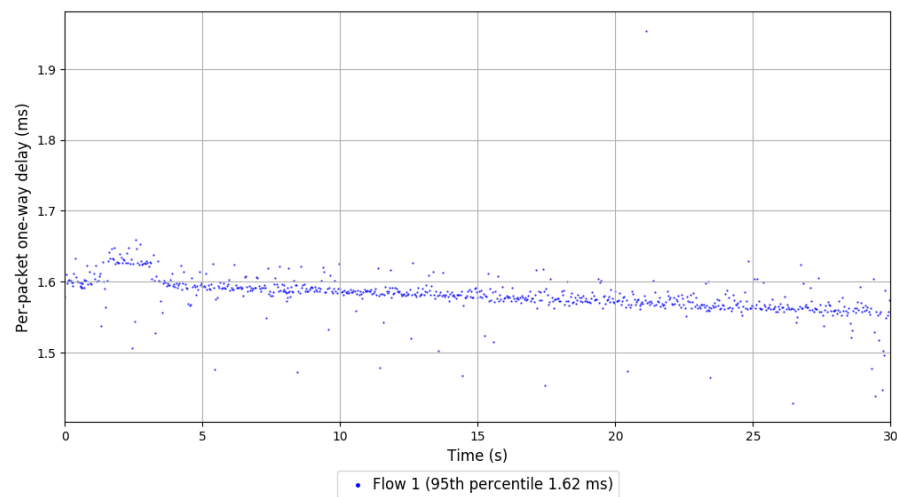
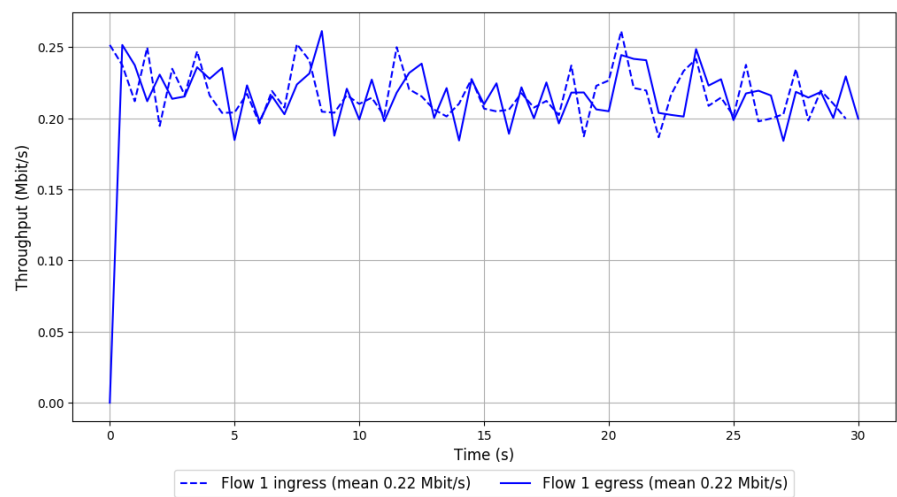
-- Flow 1:

Average throughput: 0.22 Mbit/s

95th percentile per-packet one-way delay: 1.625 ms

Loss rate: 0.00%

Run 5: Report of SReAM — Data Link

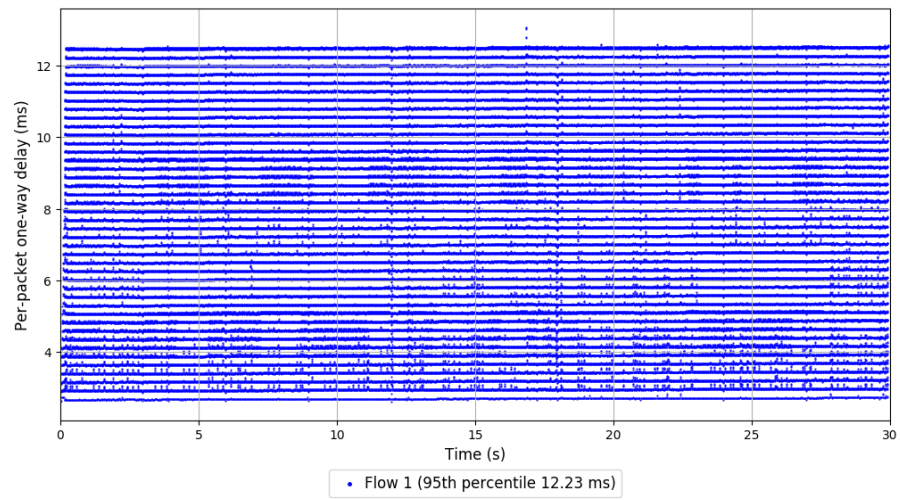
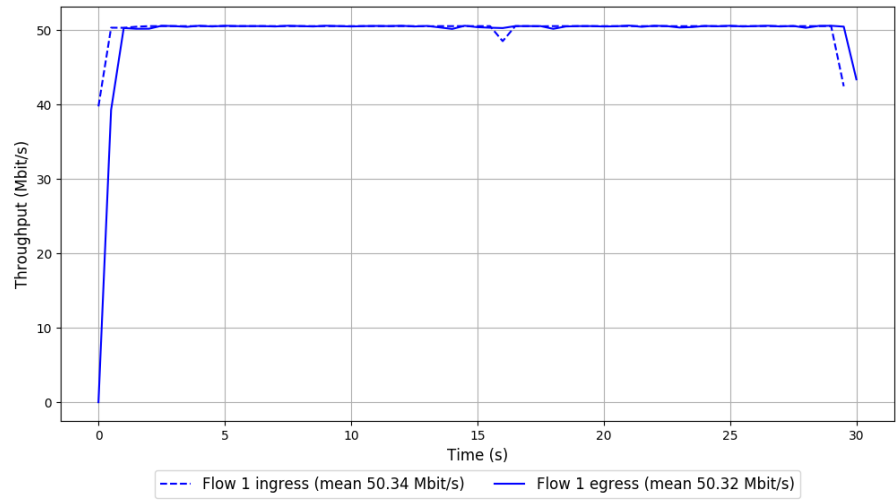


Run 1: Statistics of Sprout

Start at: 2018-12-11 09:02:27
End at: 2018-12-11 09:02:57
Local clock offset: -4.147 ms
Remote clock offset: -0.016 ms

Below is generated by plot.py at 2018-12-11 10:53:03
Datalink statistics
-- Total of 1 flow:
Average throughput: 50.32 Mbit/s
95th percentile per-packet one-way delay: 12.234 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 50.32 Mbit/s
95th percentile per-packet one-way delay: 12.234 ms
Loss rate: 0.00%

Run 1: Report of Sprout — Data Link

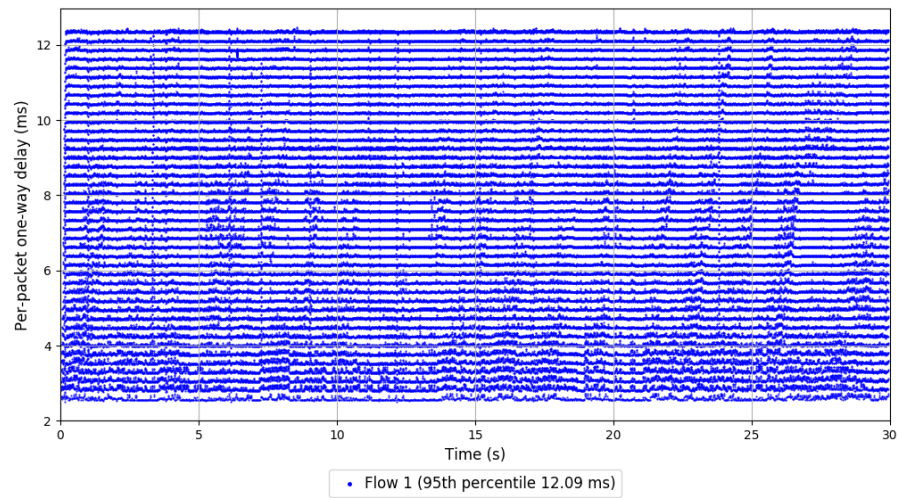
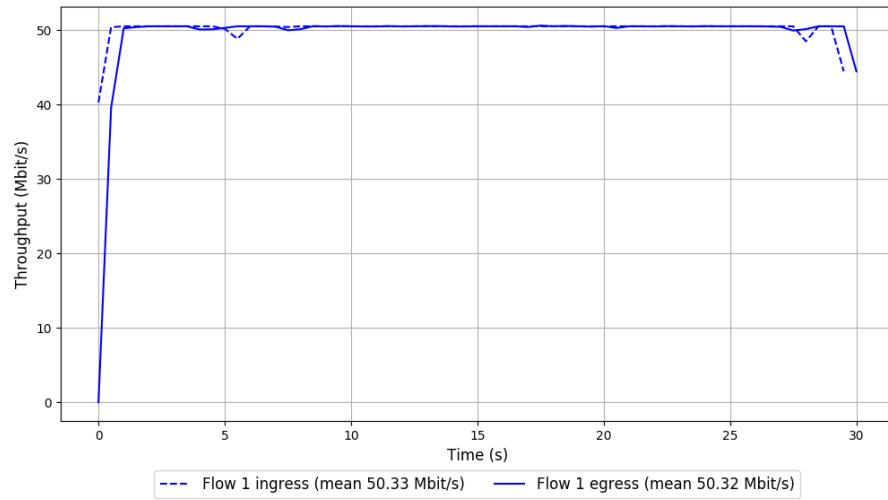


Run 2: Statistics of Sprout

Start at: 2018-12-11 09:23:39
End at: 2018-12-11 09:24:09
Local clock offset: -1.816 ms
Remote clock offset: 0.054 ms

Below is generated by plot.py at 2018-12-11 10:53:03
Datalink statistics
-- Total of 1 flow:
Average throughput: 50.32 Mbit/s
95th percentile per-packet one-way delay: 12.088 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 50.32 Mbit/s
95th percentile per-packet one-way delay: 12.088 ms
Loss rate: 0.00%

Run 2: Report of Sprout — Data Link

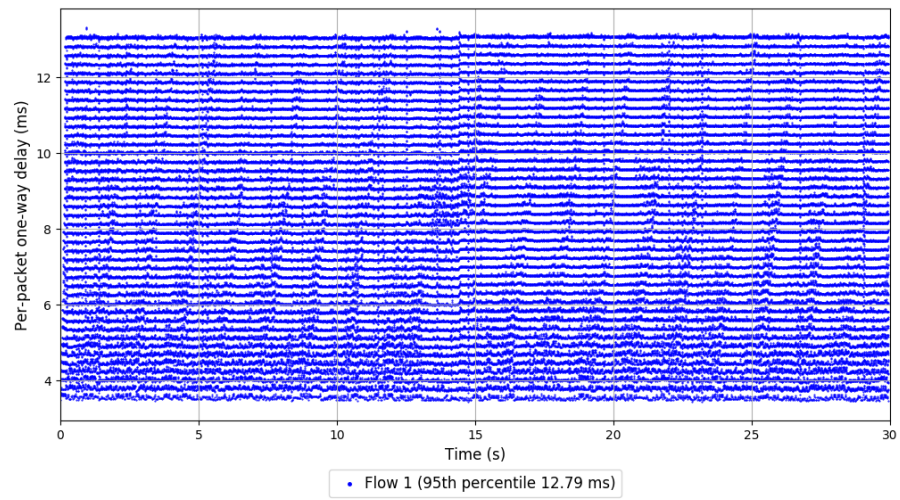
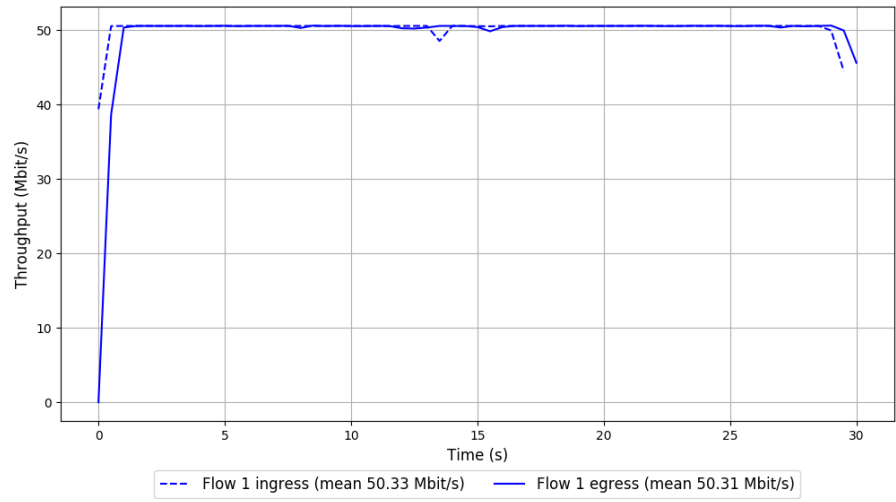


Run 3: Statistics of Sprout

Start at: 2018-12-11 09:44:51
End at: 2018-12-11 09:45:21
Local clock offset: -3.066 ms
Remote clock offset: 0.29 ms

Below is generated by plot.py at 2018-12-11 10:53:03
Datalink statistics
-- Total of 1 flow:
Average throughput: 50.31 Mbit/s
95th percentile per-packet one-way delay: 12.795 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 50.31 Mbit/s
95th percentile per-packet one-way delay: 12.795 ms
Loss rate: 0.00%

Run 3: Report of Sprout — Data Link



Run 4: Statistics of Sprout

Start at: 2018-12-11 10:06:01

End at: 2018-12-11 10:06:32

Local clock offset: -3.716 ms

Remote clock offset: 0.39 ms

Below is generated by plot.py at 2018-12-11 10:53:03

Datalink statistics

-- Total of 1 flow:

Average throughput: 50.33 Mbit/s

95th percentile per-packet one-way delay: 11.173 ms

Loss rate: 0.00%

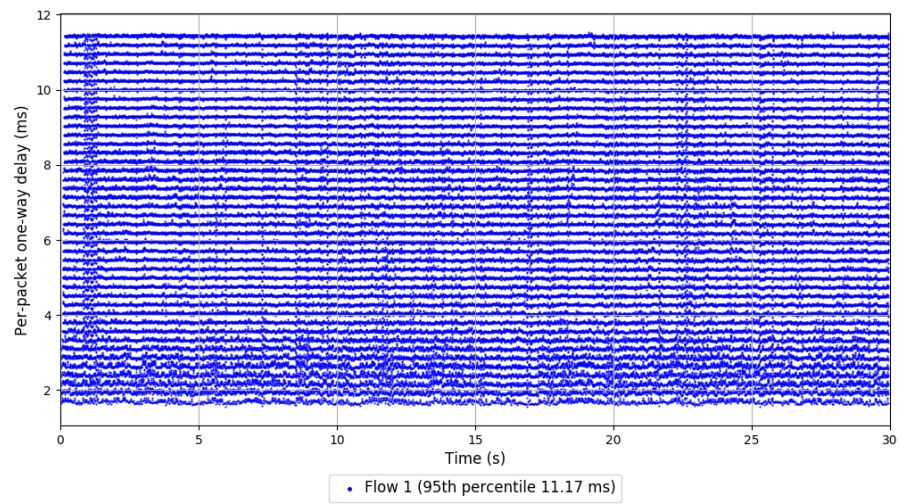
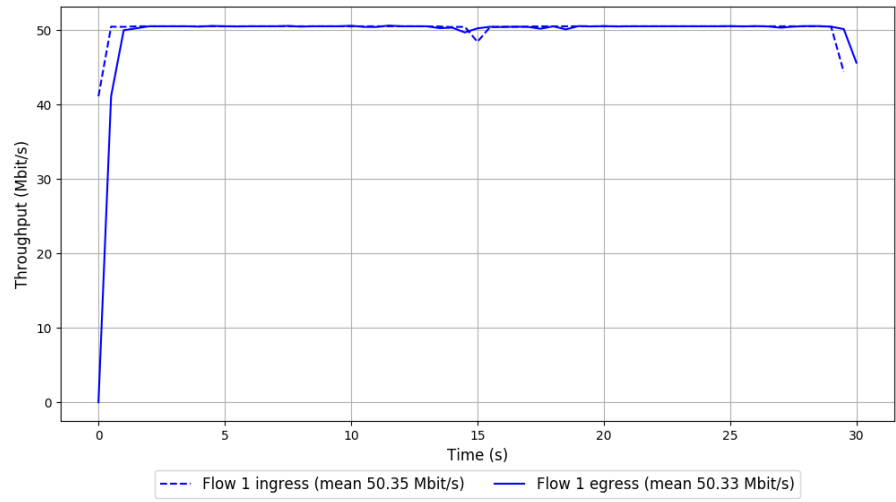
-- Flow 1:

Average throughput: 50.33 Mbit/s

95th percentile per-packet one-way delay: 11.173 ms

Loss rate: 0.00%

Run 4: Report of Sprout — Data Link



Run 5: Statistics of Sprout

Start at: 2018-12-11 10:27:13

End at: 2018-12-11 10:27:43

Local clock offset: -7.259 ms

Remote clock offset: 0.54 ms

Below is generated by plot.py at 2018-12-11 10:53:19

Datalink statistics

-- Total of 1 flow:

Average throughput: 50.36 Mbit/s

95th percentile per-packet one-way delay: 12.867 ms

Loss rate: 0.00%

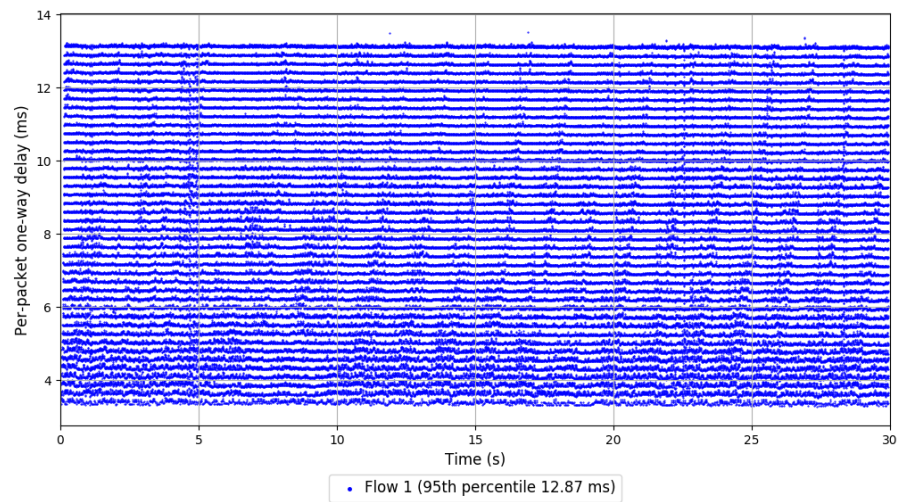
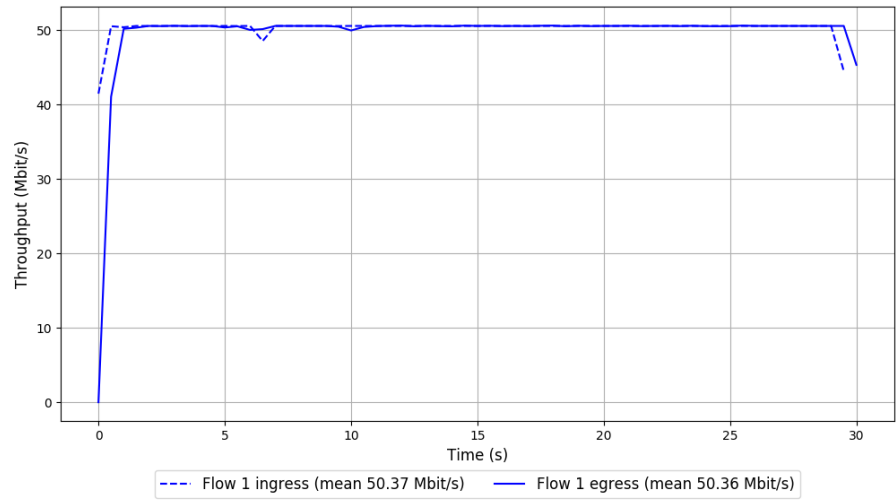
-- Flow 1:

Average throughput: 50.36 Mbit/s

95th percentile per-packet one-way delay: 12.867 ms

Loss rate: 0.00%

Run 5: Report of Sprout — Data Link



Run 1: Statistics of TaoVA-100x

Start at: 2018-12-11 09:19:13

End at: 2018-12-11 09:19:43

Local clock offset: -2.059 ms

Remote clock offset: 0.027 ms

Below is generated by plot.py at 2018-12-11 10:53:19

Datalink statistics

-- Total of 1 flow:

Average throughput: 10.07 Mbit/s

95th percentile per-packet one-way delay: 2.725 ms

Loss rate: 81.14%

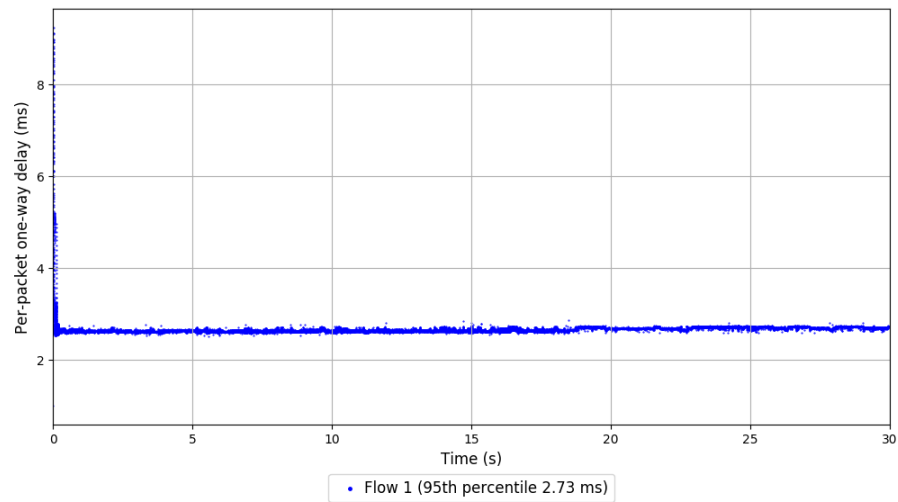
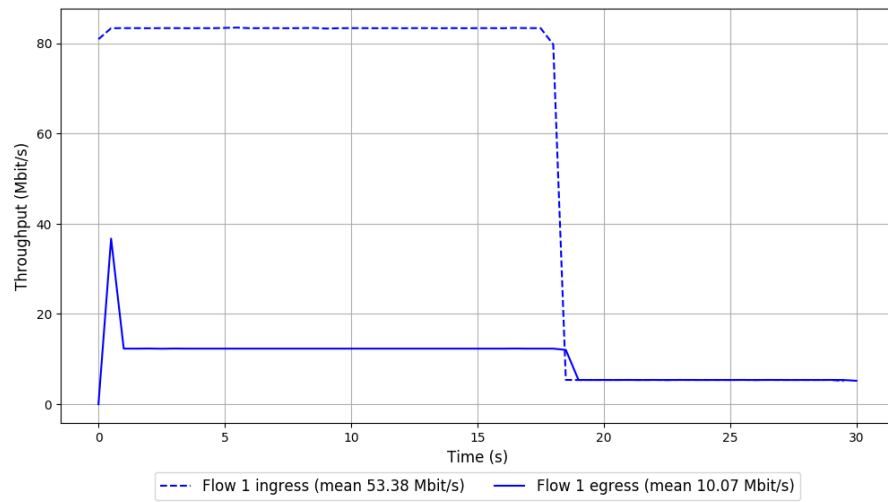
-- Flow 1:

Average throughput: 10.07 Mbit/s

95th percentile per-packet one-way delay: 2.725 ms

Loss rate: 81.14%

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



Run 2: Statistics of TaoVA-100x

Start at: 2018-12-11 09:40:25

End at: 2018-12-11 09:40:55

Local clock offset: -2.731 ms

Remote clock offset: 0.233 ms

Below is generated by plot.py at 2018-12-11 10:53:19

Datalink statistics

-- Total of 1 flow:

Average throughput: 10.06 Mbit/s

95th percentile per-packet one-way delay: 1.795 ms

Loss rate: 81.14%

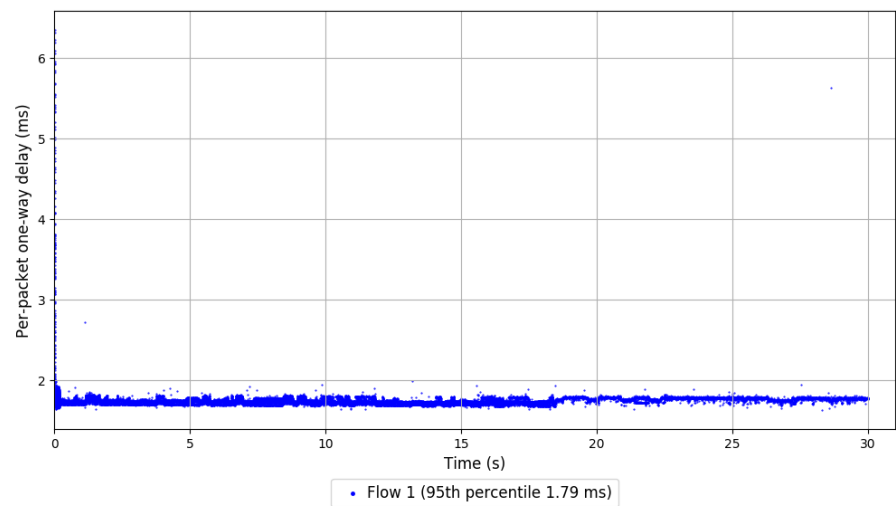
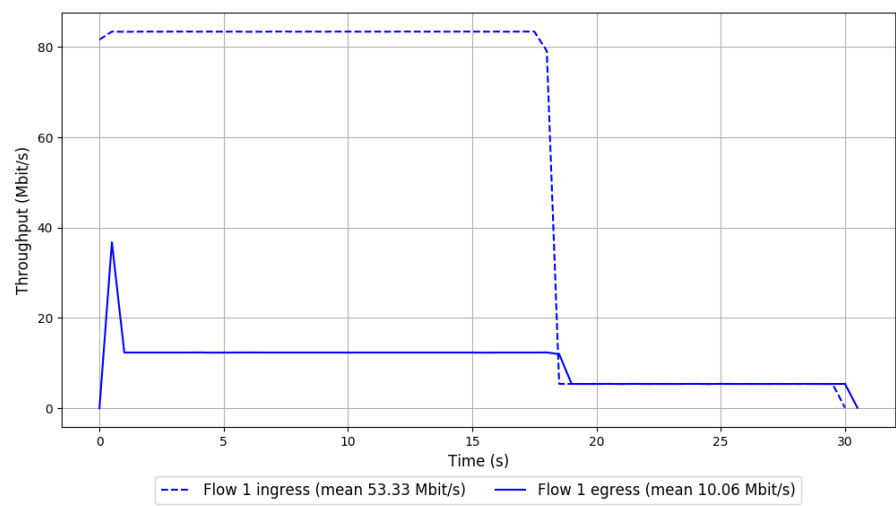
-- Flow 1:

Average throughput: 10.06 Mbit/s

95th percentile per-packet one-way delay: 1.795 ms

Loss rate: 81.14%

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



Run 3: Statistics of TaoVA-100x

Start at: 2018-12-11 10:01:36

End at: 2018-12-11 10:02:06

Local clock offset: -2.728 ms

Remote clock offset: 0.427 ms

Below is generated by plot.py at 2018-12-11 10:53:19

Datalink statistics

-- Total of 1 flow:

Average throughput: 10.06 Mbit/s

95th percentile per-packet one-way delay: 0.971 ms

Loss rate: 81.14%

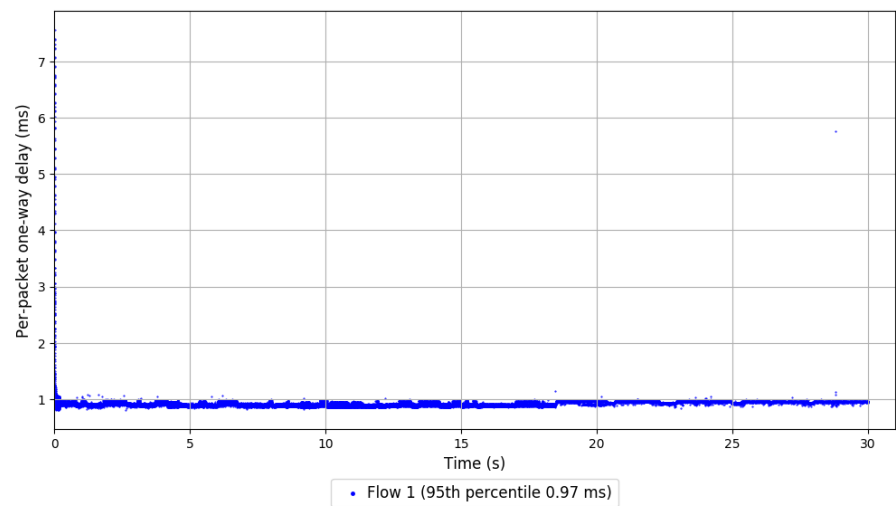
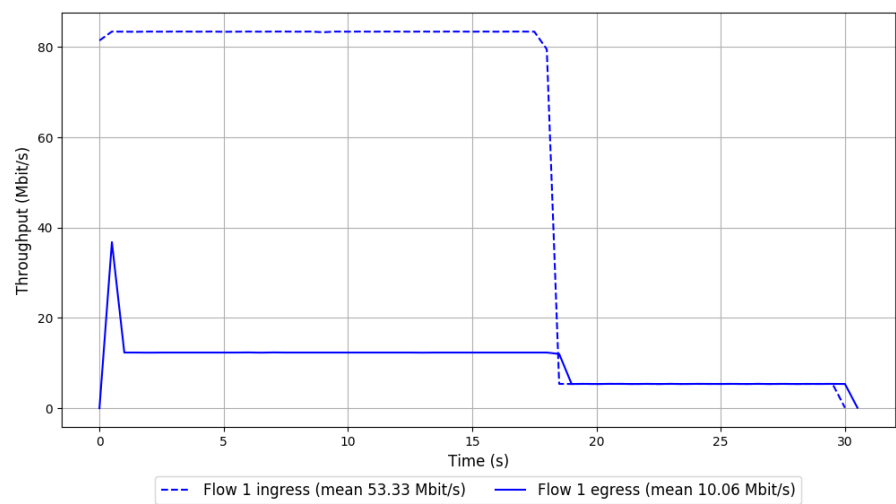
-- Flow 1:

Average throughput: 10.06 Mbit/s

95th percentile per-packet one-way delay: 0.971 ms

Loss rate: 81.14%

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



Run 4: Statistics of TaoVA-100x

Start at: 2018-12-11 10:22:47

End at: 2018-12-11 10:23:17

Local clock offset: -5.946 ms

Remote clock offset: 0.478 ms

Below is generated by plot.py at 2018-12-11 10:53:19

Datalink statistics

-- Total of 1 flow:

Average throughput: 10.06 Mbit/s

95th percentile per-packet one-way delay: 2.578 ms

Loss rate: 81.14%

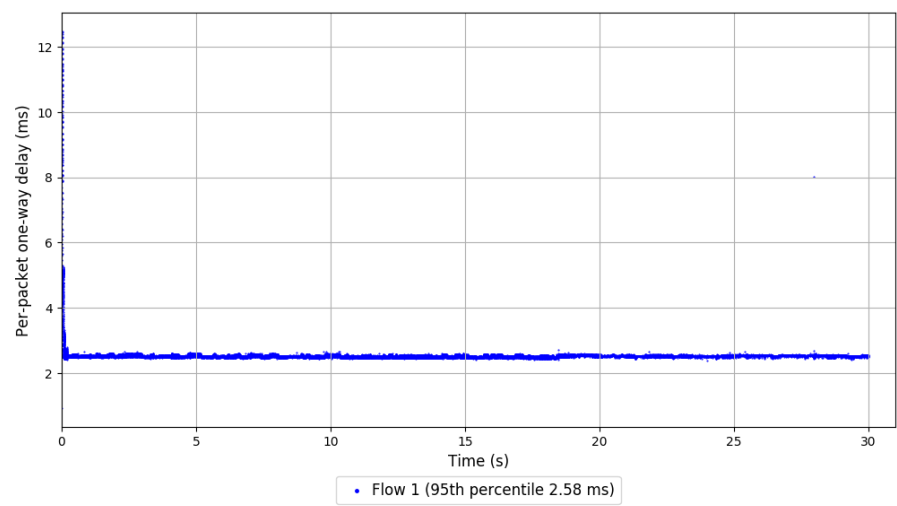
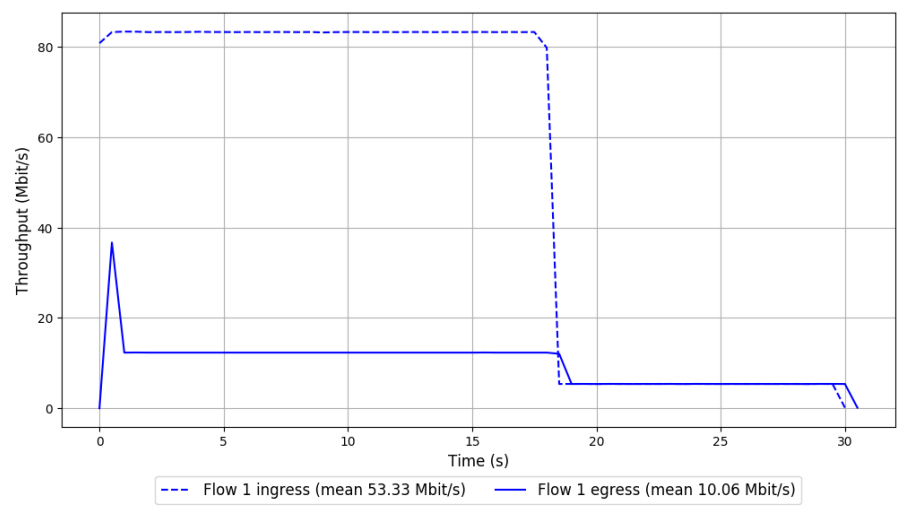
-- Flow 1:

Average throughput: 10.06 Mbit/s

95th percentile per-packet one-way delay: 2.578 ms

Loss rate: 81.14%

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



Run 5: Statistics of TaoVA-100x

Start at: 2018-12-11 10:43:58

End at: 2018-12-11 10:44:28

Local clock offset: -6.629 ms

Remote clock offset: 0.578 ms

Below is generated by plot.py at 2018-12-11 10:53:19

Datalink statistics

-- Total of 1 flow:

Average throughput: 10.06 Mbit/s

95th percentile per-packet one-way delay: 2.675 ms

Loss rate: 81.14%

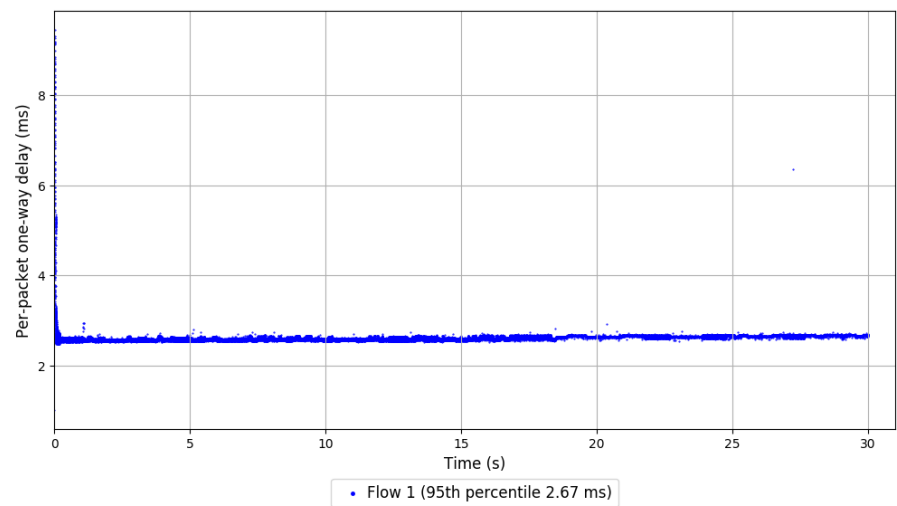
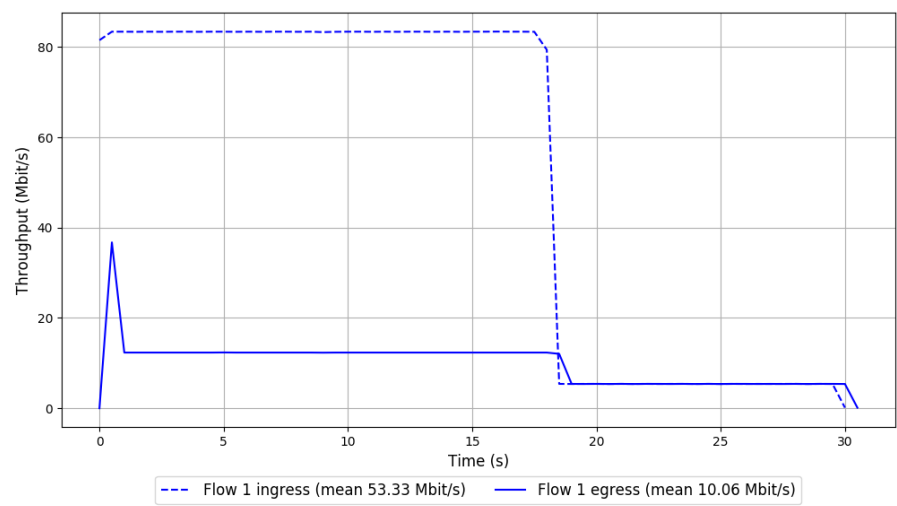
-- Flow 1:

Average throughput: 10.06 Mbit/s

95th percentile per-packet one-way delay: 2.675 ms

Loss rate: 81.14%

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

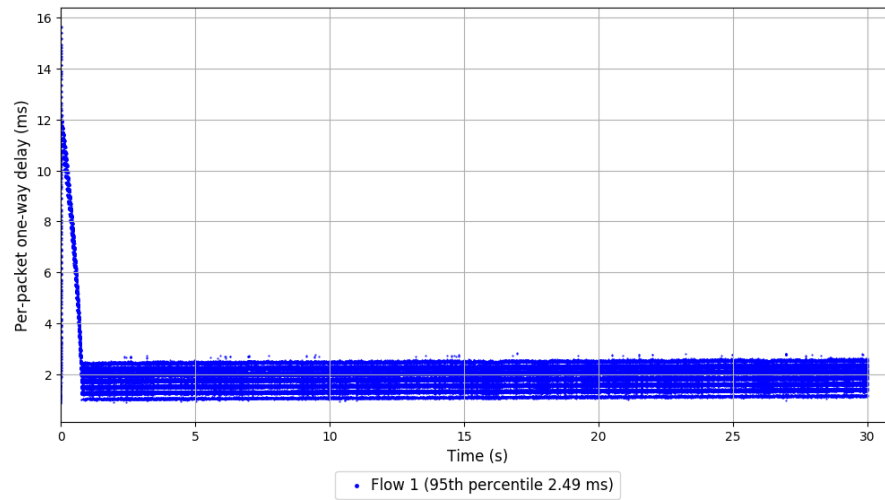
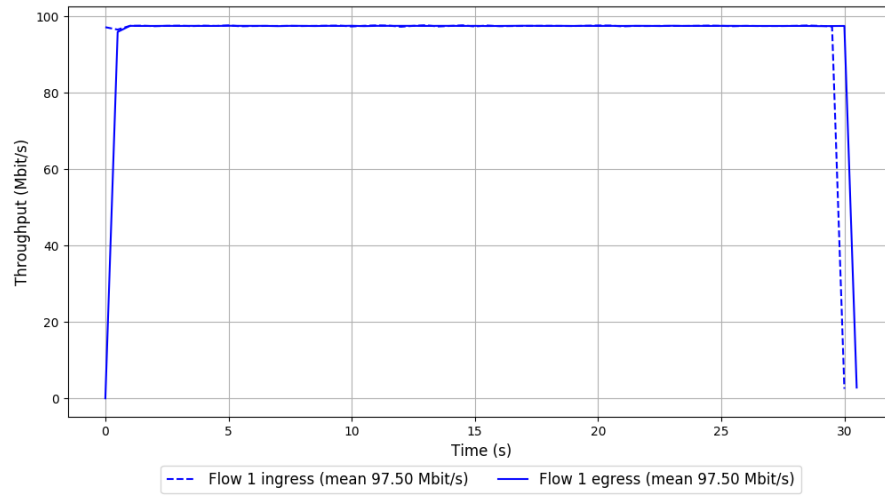


Run 1: Statistics of TCP Vegas

Start at: 2018-12-11 09:09:02
End at: 2018-12-11 09:09:32
Local clock offset: -3.663 ms
Remote clock offset: -0.139 ms

Below is generated by plot.py at 2018-12-11 10:54:07
Datalink statistics
-- Total of 1 flow:
Average throughput: 97.50 Mbit/s
95th percentile per-packet one-way delay: 2.489 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 97.50 Mbit/s
95th percentile per-packet one-way delay: 2.489 ms
Loss rate: 0.00%

Run 1: Report of TCP Vegas — Data Link



Run 2: Statistics of TCP Vegas

Start at: 2018-12-11 09:30:14

End at: 2018-12-11 09:30:44

Local clock offset: -1.771 ms

Remote clock offset: 0.149 ms

Below is generated by plot.py at 2018-12-11 10:54:09

Datalink statistics

-- Total of 1 flow:

Average throughput: 97.50 Mbit/s

95th percentile per-packet one-way delay: 2.521 ms

Loss rate: 0.00%

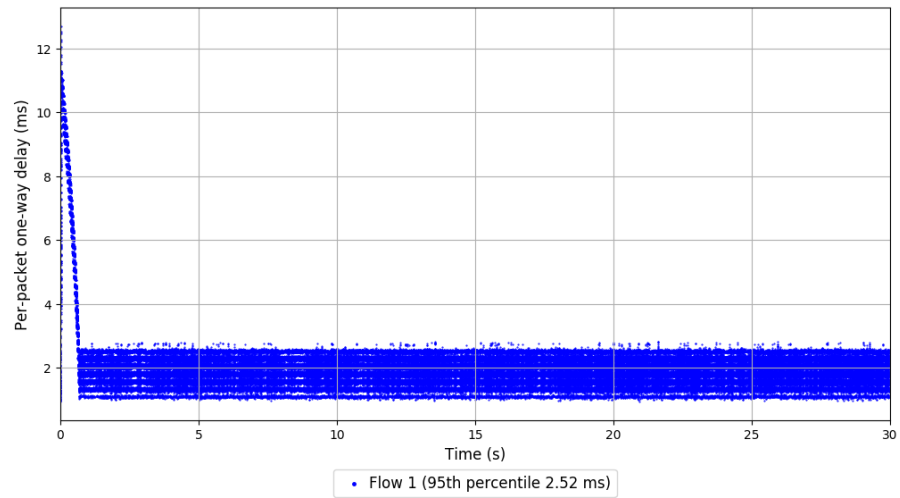
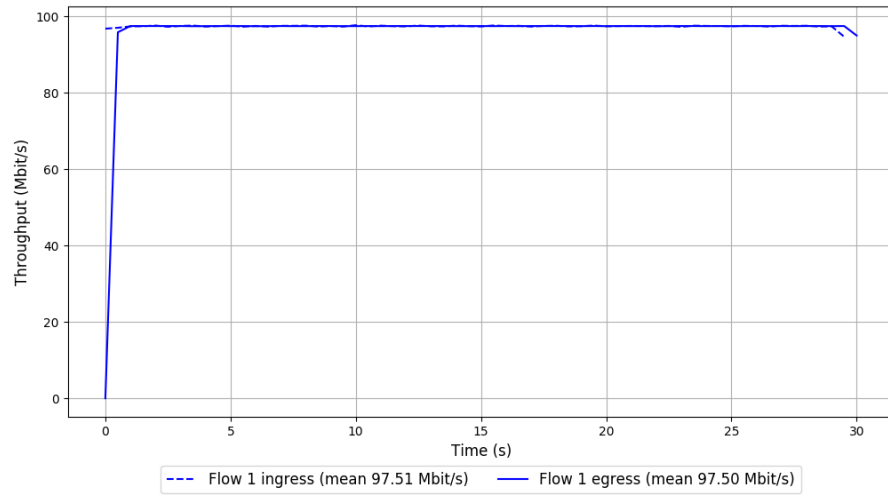
-- Flow 1:

Average throughput: 97.50 Mbit/s

95th percentile per-packet one-way delay: 2.521 ms

Loss rate: 0.00%

Run 2: Report of TCP Vegas — Data Link



Run 3: Statistics of TCP Vegas

Start at: 2018-12-11 09:51:26

End at: 2018-12-11 09:51:56

Local clock offset: -2.403 ms

Remote clock offset: 0.257 ms

Below is generated by plot.py at 2018-12-11 10:54:09

Datalink statistics

-- Total of 1 flow:

Average throughput: 97.42 Mbit/s

95th percentile per-packet one-way delay: 5.938 ms

Loss rate: 0.00%

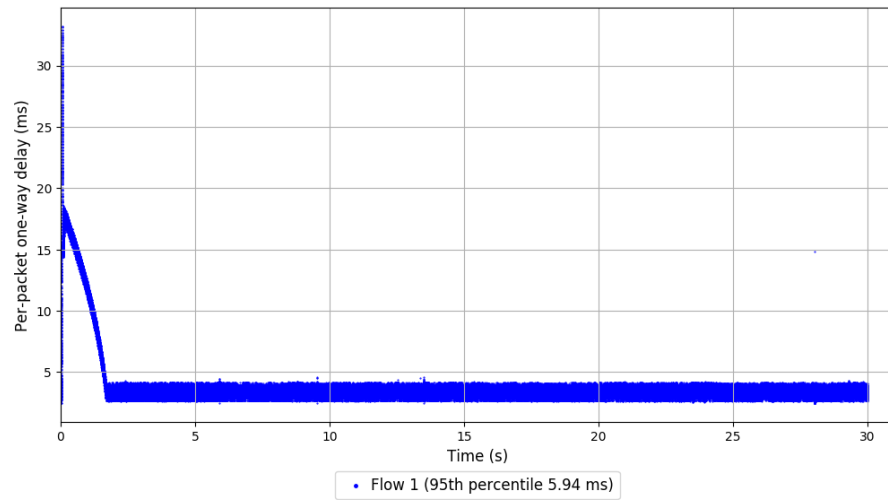
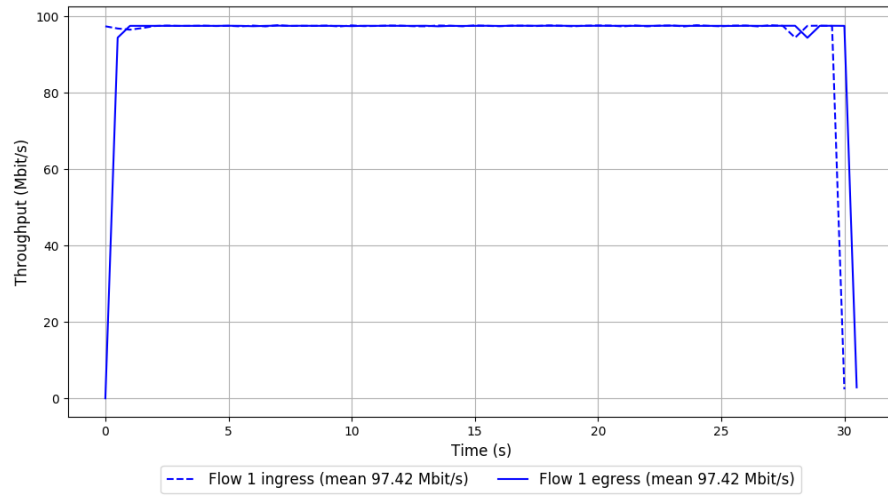
-- Flow 1:

Average throughput: 97.42 Mbit/s

95th percentile per-packet one-way delay: 5.938 ms

Loss rate: 0.00%

Run 3: Report of TCP Vegas — Data Link



Run 4: Statistics of TCP Vegas

Start at: 2018-12-11 10:12:37

End at: 2018-12-11 10:13:07

Local clock offset: -5.072 ms

Remote clock offset: 0.483 ms

Below is generated by plot.py at 2018-12-11 10:54:13

Datalink statistics

-- Total of 1 flow:

Average throughput: 96.84 Mbit/s

95th percentile per-packet one-way delay: 2.961 ms

Loss rate: 0.00%

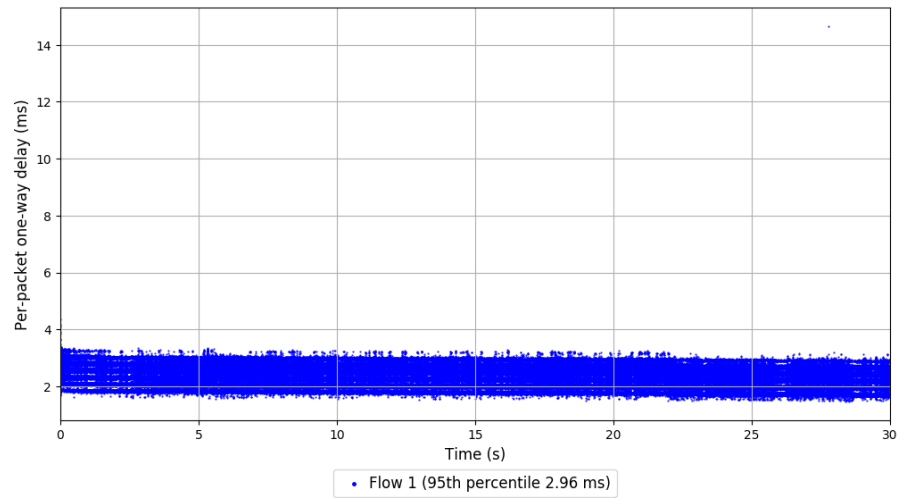
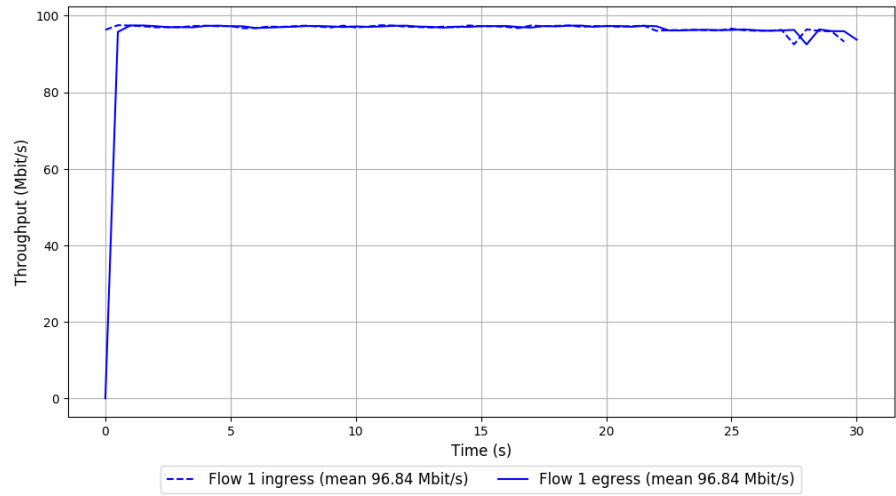
-- Flow 1:

Average throughput: 96.84 Mbit/s

95th percentile per-packet one-way delay: 2.961 ms

Loss rate: 0.00%

Run 4: Report of TCP Vegas — Data Link



Run 5: Statistics of TCP Vegas

Start at: 2018-12-11 10:33:48

End at: 2018-12-11 10:34:18

Local clock offset: -7.849 ms

Remote clock offset: 0.506 ms

Below is generated by plot.py at 2018-12-11 10:54:14

Datalink statistics

-- Total of 1 flow:

Average throughput: 97.33 Mbit/s

95th percentile per-packet one-way delay: 4.707 ms

Loss rate: 0.01%

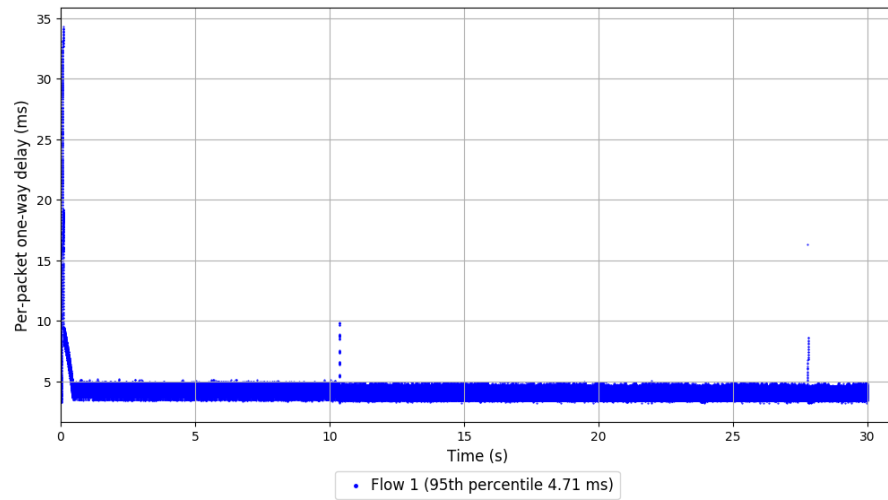
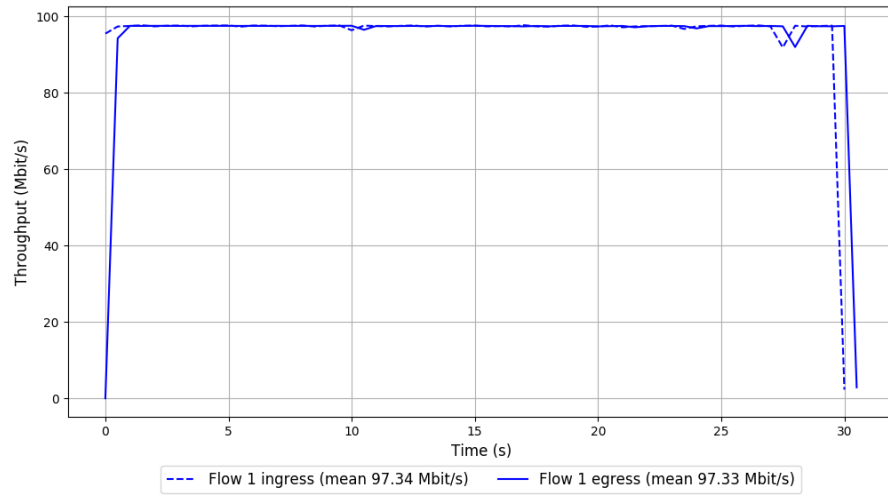
-- Flow 1:

Average throughput: 97.33 Mbit/s

95th percentile per-packet one-way delay: 4.707 ms

Loss rate: 0.01%

Run 5: Report of TCP Vegas — Data Link

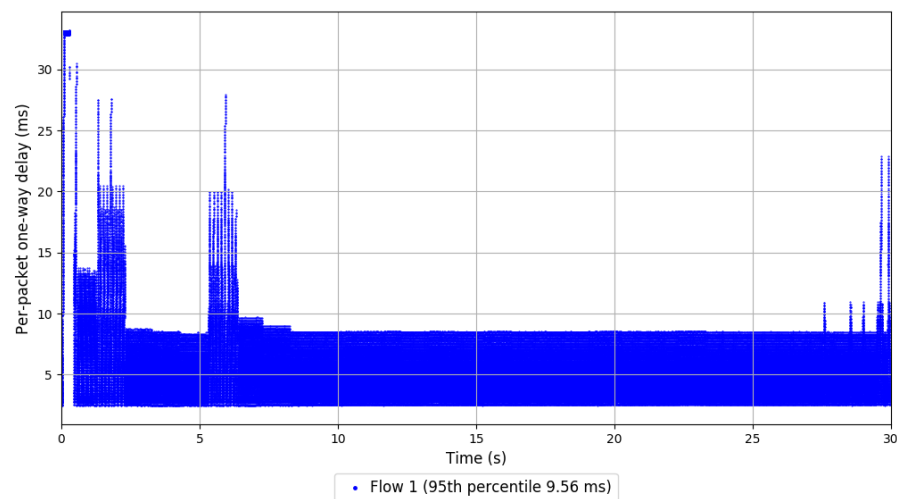
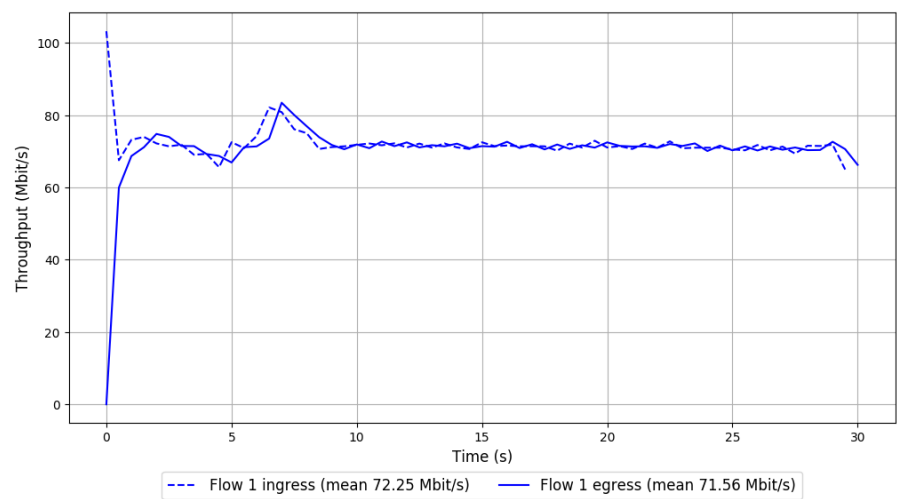


Run 1: Statistics of Verus

Start at: 2018-12-11 09:14:42
End at: 2018-12-11 09:15:12
Local clock offset: -2.513 ms
Remote clock offset: -0.087 ms

Below is generated by plot.py at 2018-12-11 10:54:14
Datalink statistics
-- Total of 1 flow:
Average throughput: 71.56 Mbit/s
95th percentile per-packet one-way delay: 9.556 ms
Loss rate: 0.95%
-- Flow 1:
Average throughput: 71.56 Mbit/s
95th percentile per-packet one-way delay: 9.556 ms
Loss rate: 0.95%

Run 1: Report of Verus — Data Link



Run 2: Statistics of Verus

Start at: 2018-12-11 09:35:54

End at: 2018-12-11 09:36:24

Local clock offset: -1.799 ms

Remote clock offset: 0.17 ms

Below is generated by plot.py at 2018-12-11 10:54:14

Datalink statistics

-- Total of 1 flow:

Average throughput: 77.02 Mbit/s

95th percentile per-packet one-way delay: 12.672 ms

Loss rate: 0.90%

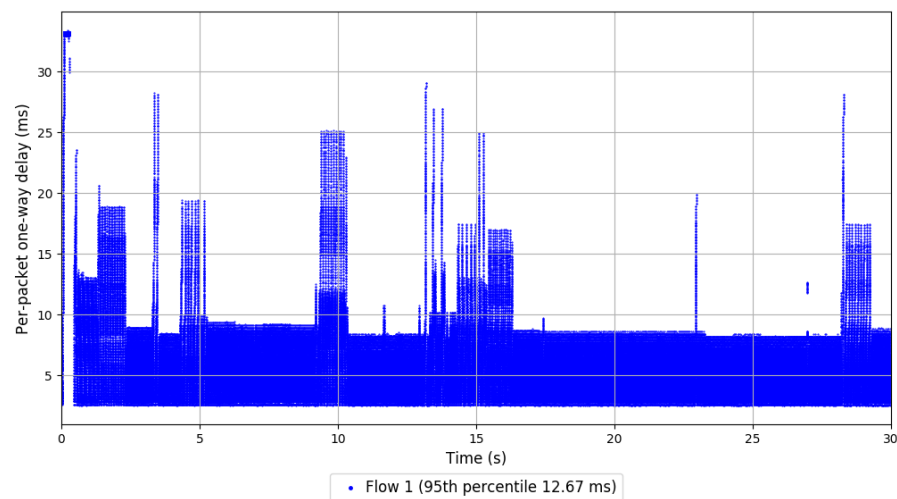
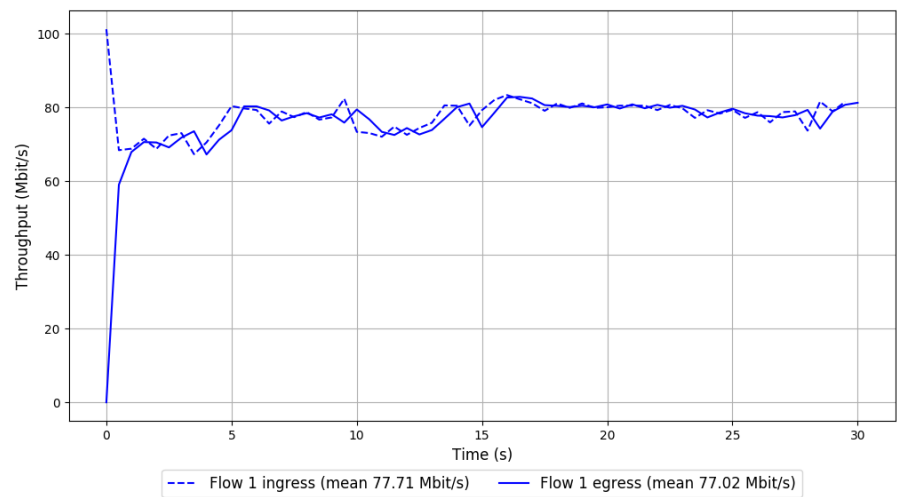
-- Flow 1:

Average throughput: 77.02 Mbit/s

95th percentile per-packet one-way delay: 12.672 ms

Loss rate: 0.90%

Run 2: Report of Verus — Data Link



Run 3: Statistics of Verus

Start at: 2018-12-11 09:57:07

End at: 2018-12-11 09:57:37

Local clock offset: -3.436 ms

Remote clock offset: 0.303 ms

Below is generated by plot.py at 2018-12-11 10:54:14

Datalink statistics

-- Total of 1 flow:

Average throughput: 35.67 Mbit/s

95th percentile per-packet one-way delay: 11.039 ms

Loss rate: 1.85%

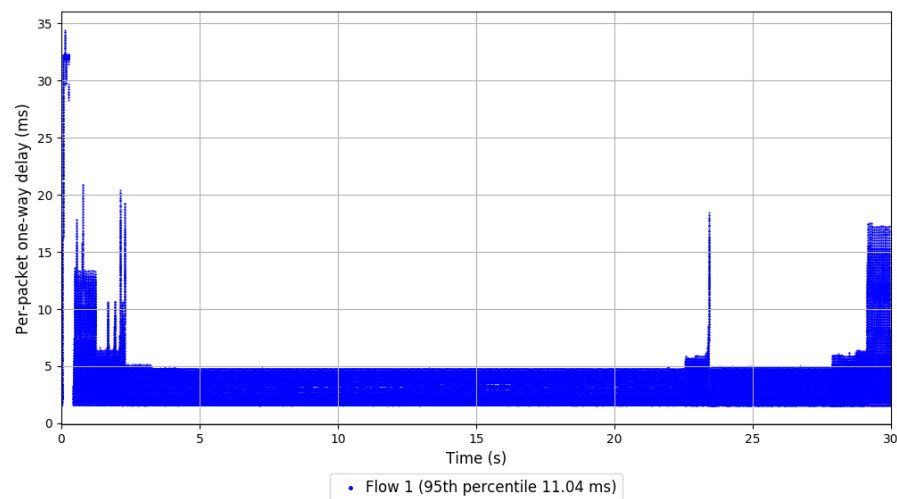
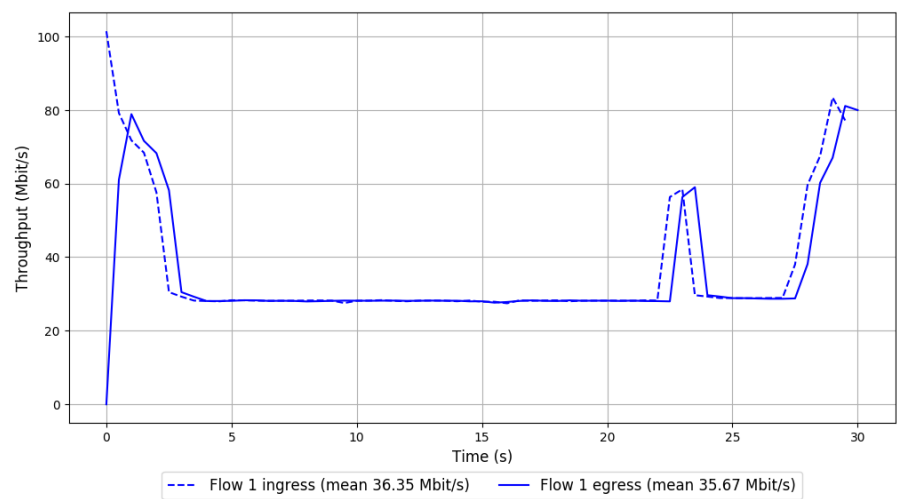
-- Flow 1:

Average throughput: 35.67 Mbit/s

95th percentile per-packet one-way delay: 11.039 ms

Loss rate: 1.85%

Run 3: Report of Verus — Data Link



Run 4: Statistics of Verus

Start at: 2018-12-11 10:18:17

End at: 2018-12-11 10:18:47

Local clock offset: -6.171 ms

Remote clock offset: 0.498 ms

Below is generated by plot.py at 2018-12-11 10:54:20

Datalink statistics

-- Total of 1 flow:

Average throughput: 47.66 Mbit/s

95th percentile per-packet one-way delay: 5.906 ms

Loss rate: 1.40%

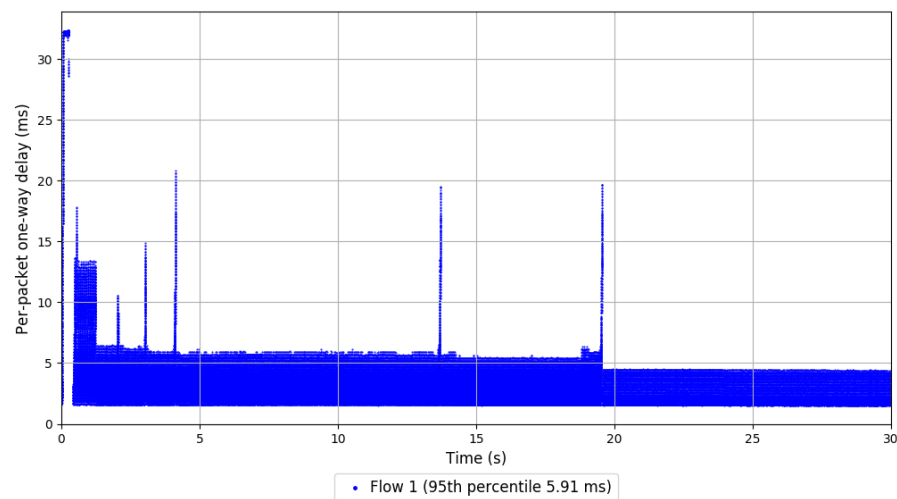
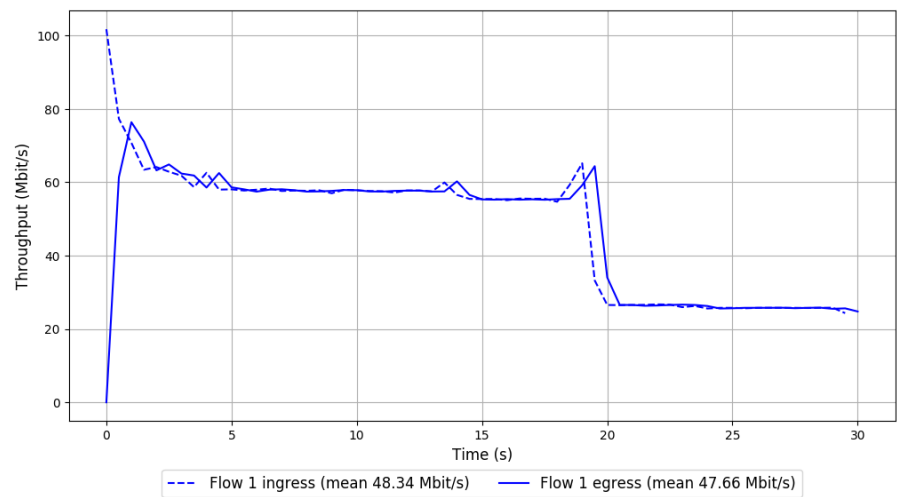
-- Flow 1:

Average throughput: 47.66 Mbit/s

95th percentile per-packet one-way delay: 5.906 ms

Loss rate: 1.40%

Run 4: Report of Verus — Data Link



Run 5: Statistics of Verus

Start at: 2018-12-11 10:39:28

End at: 2018-12-11 10:39:58

Local clock offset: -8.055 ms

Remote clock offset: 0.625 ms

Below is generated by plot.py at 2018-12-11 10:54:30

Datalink statistics

-- Total of 1 flow:

Average throughput: 45.44 Mbit/s

95th percentile per-packet one-way delay: 12.031 ms

Loss rate: 1.46%

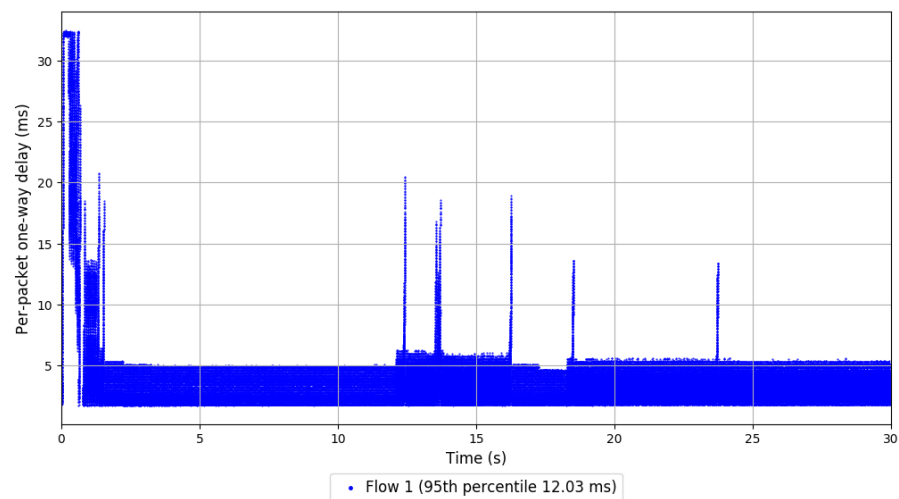
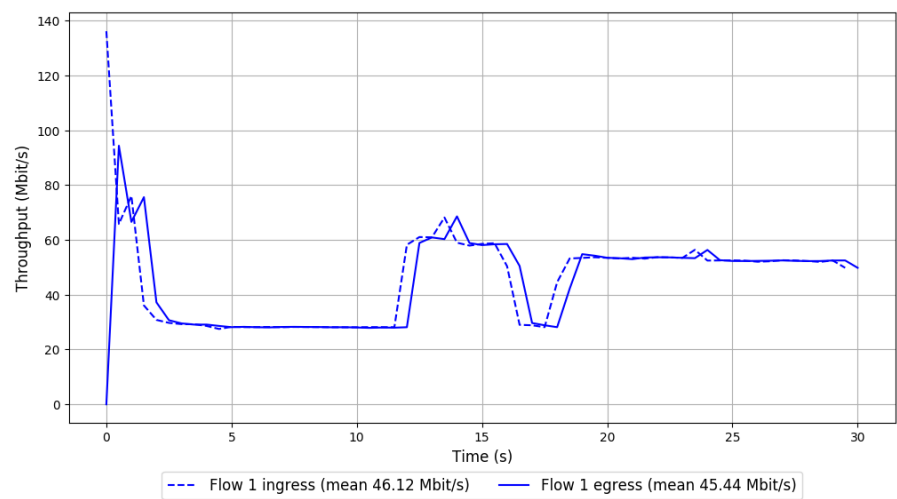
-- Flow 1:

Average throughput: 45.44 Mbit/s

95th percentile per-packet one-way delay: 12.031 ms

Loss rate: 1.46%

Run 5: Report of Verus — Data Link

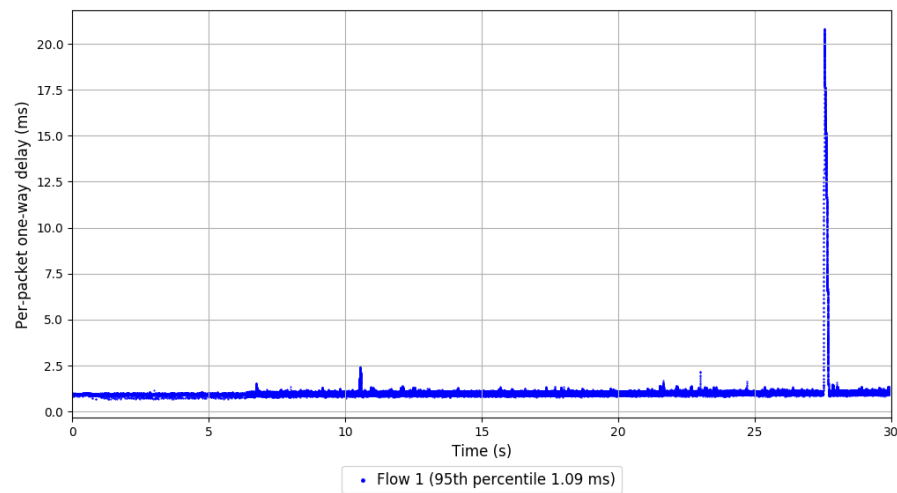
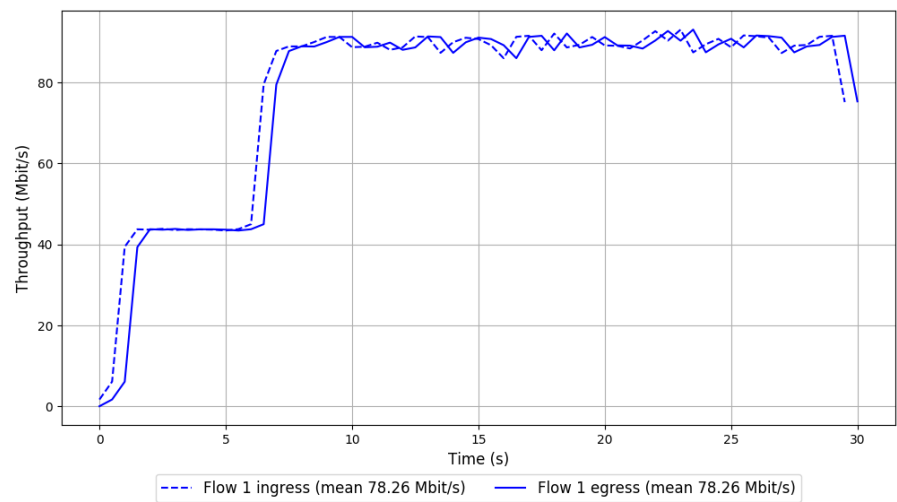


Run 1: Statistics of PCC-Vivace

Start at: 2018-12-11 09:12:26
End at: 2018-12-11 09:12:56
Local clock offset: -2.849 ms
Remote clock offset: -0.055 ms

Below is generated by plot.py at 2018-12-11 10:54:53
Datalink statistics
-- Total of 1 flow:
Average throughput: 78.26 Mbit/s
95th percentile per-packet one-way delay: 1.094 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 78.26 Mbit/s
95th percentile per-packet one-way delay: 1.094 ms
Loss rate: 0.00%

Run 1: Report of PCC-Vivace — Data Link



Run 2: Statistics of PCC-Vivace

Start at: 2018-12-11 09:33:37

End at: 2018-12-11 09:34:07

Local clock offset: -1.711 ms

Remote clock offset: 0.108 ms

Below is generated by plot.py at 2018-12-11 10:54:56

Datalink statistics

-- Total of 1 flow:

Average throughput: 89.77 Mbit/s

95th percentile per-packet one-way delay: 2.686 ms

Loss rate: 0.01%

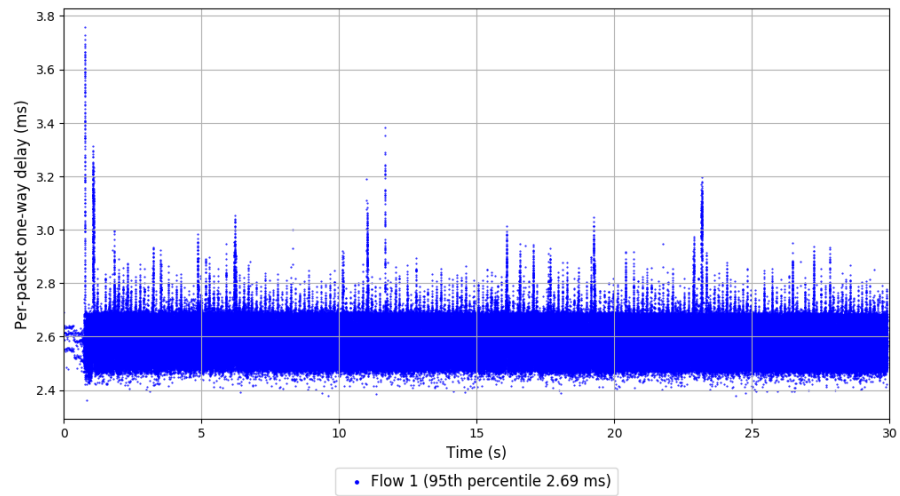
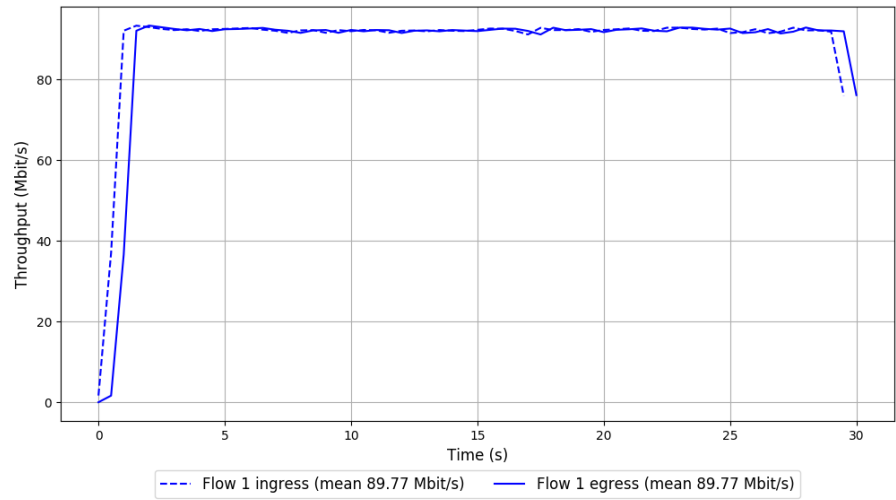
-- Flow 1:

Average throughput: 89.77 Mbit/s

95th percentile per-packet one-way delay: 2.686 ms

Loss rate: 0.01%

Run 2: Report of PCC-Vivace — Data Link



Run 3: Statistics of PCC-Vivace

Start at: 2018-12-11 09:54:50

End at: 2018-12-11 09:55:20

Local clock offset: -3.437 ms

Remote clock offset: 0.289 ms

Below is generated by plot.py at 2018-12-11 10:54:57

Datalink statistics

-- Total of 1 flow:

Average throughput: 89.72 Mbit/s

95th percentile per-packet one-way delay: 3.593 ms

Loss rate: 0.01%

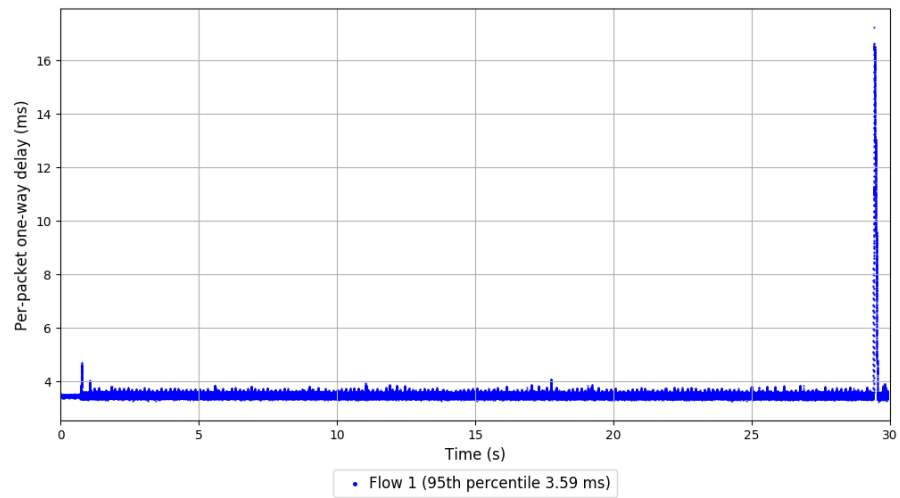
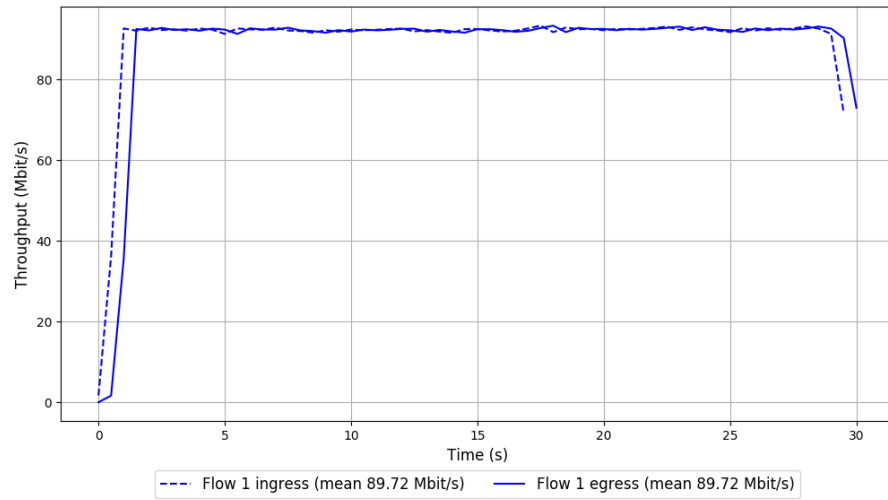
-- Flow 1:

Average throughput: 89.72 Mbit/s

95th percentile per-packet one-way delay: 3.593 ms

Loss rate: 0.01%

Run 3: Report of PCC-Vivace — Data Link



Run 4: Statistics of PCC-Vivace

Start at: 2018-12-11 10:16:01

End at: 2018-12-11 10:16:31

Local clock offset: -4.885 ms

Remote clock offset: 0.395 ms

Below is generated by plot.py at 2018-12-11 10:54:57

Datalink statistics

-- Total of 1 flow:

Average throughput: 89.42 Mbit/s

95th percentile per-packet one-way delay: 2.532 ms

Loss rate: 0.01%

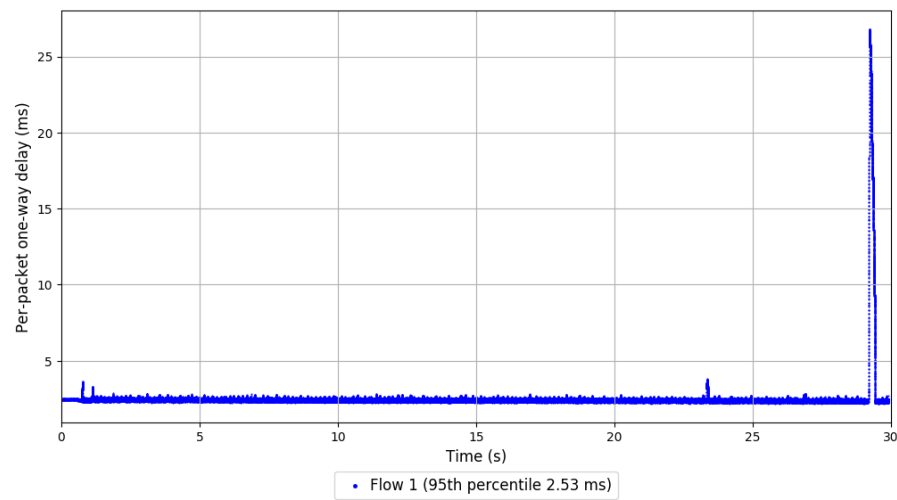
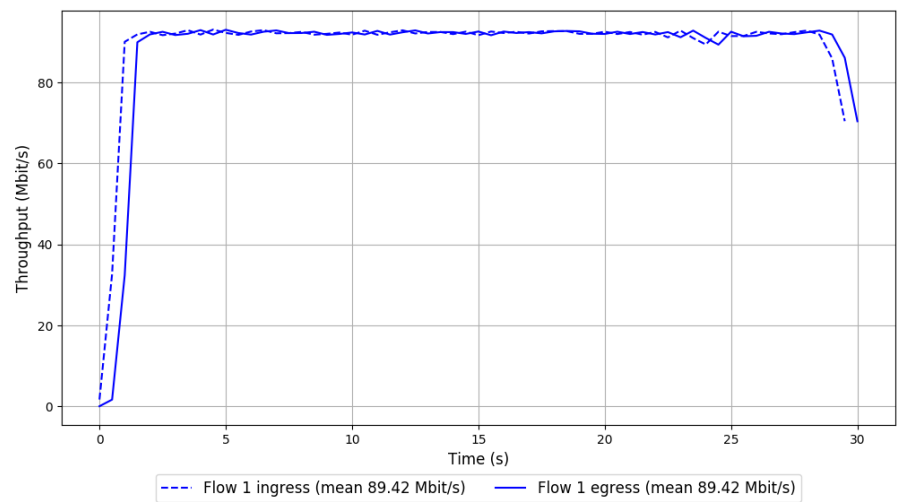
-- Flow 1:

Average throughput: 89.42 Mbit/s

95th percentile per-packet one-way delay: 2.532 ms

Loss rate: 0.01%

Run 4: Report of PCC-Vivace — Data Link



Run 5: Statistics of PCC-Vivace

Start at: 2018-12-11 10:37:12

End at: 2018-12-11 10:37:42

Local clock offset: -7.277 ms

Remote clock offset: 0.514 ms

Below is generated by plot.py at 2018-12-11 10:54:58

Datalink statistics

-- Total of 1 flow:

Average throughput: 89.37 Mbit/s

95th percentile per-packet one-way delay: 2.622 ms

Loss rate: 0.01%

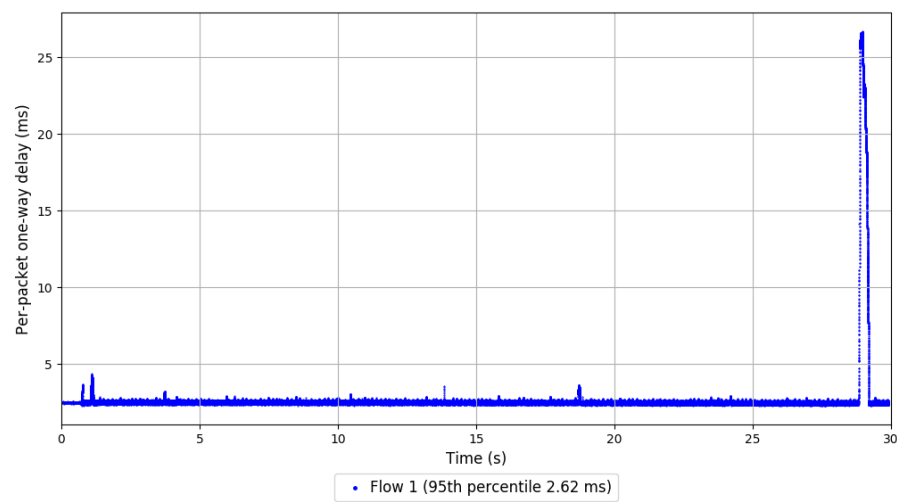
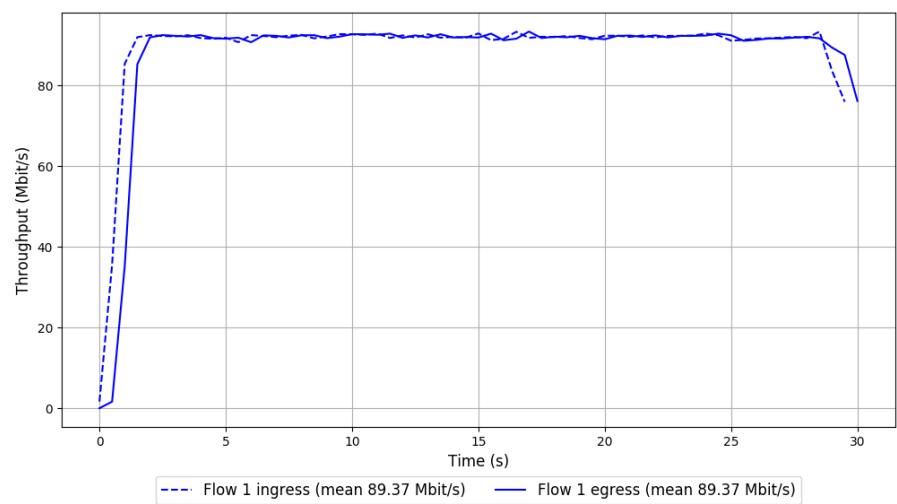
-- Flow 1:

Average throughput: 89.37 Mbit/s

95th percentile per-packet one-way delay: 2.622 ms

Loss rate: 0.01%

Run 5: Report of PCC-Vivace — Data Link



Run 1: Statistics of WebRTC media

Start at: 2018-12-11 09:07:58

End at: 2018-12-11 09:08:28

Local clock offset: -4.64 ms

Remote clock offset: -0.105 ms

Below is generated by plot.py at 2018-12-11 10:54:58

Datalink statistics

-- Total of 1 flow:

Average throughput: 2.06 Mbit/s

95th percentile per-packet one-way delay: 2.353 ms

Loss rate: 0.00%

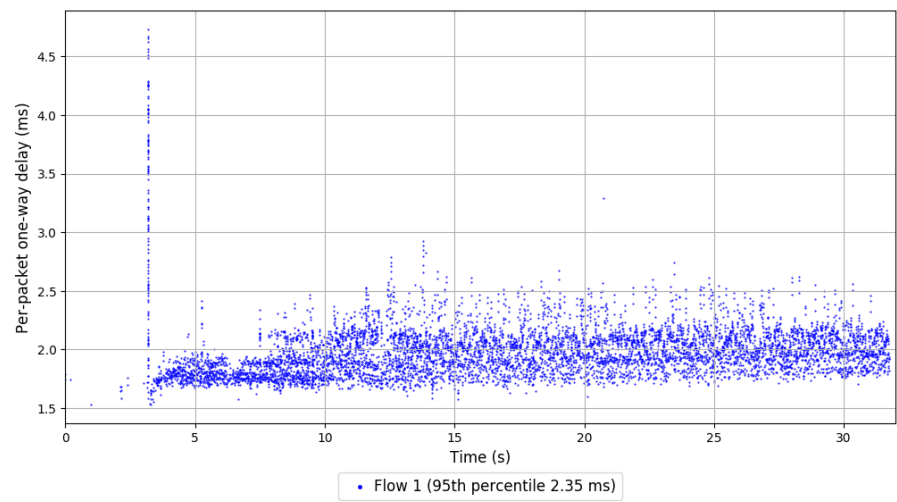
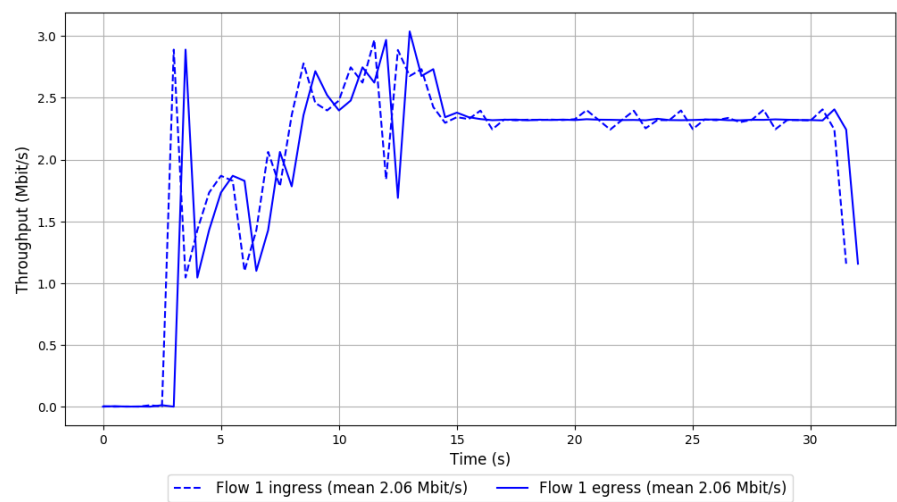
-- Flow 1:

Average throughput: 2.06 Mbit/s

95th percentile per-packet one-way delay: 2.353 ms

Loss rate: 0.00%

Run 1: Report of WebRTC media — Data Link



Run 2: Statistics of WebRTC media

Start at: 2018-12-11 09:29:09

End at: 2018-12-11 09:29:39

Local clock offset: -2.638 ms

Remote clock offset: 0.051 ms

Below is generated by plot.py at 2018-12-11 10:54:58

Datalink statistics

-- Total of 1 flow:

Average throughput: 1.92 Mbit/s

95th percentile per-packet one-way delay: 2.208 ms

Loss rate: 0.02%

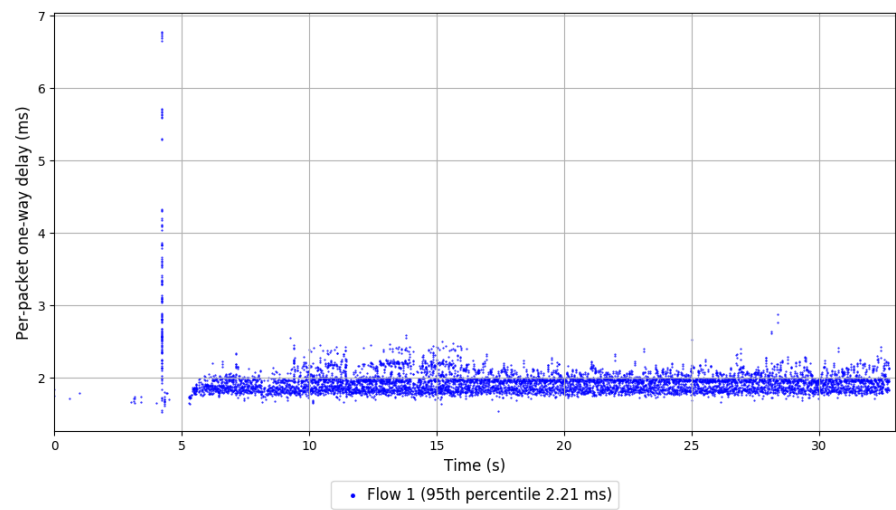
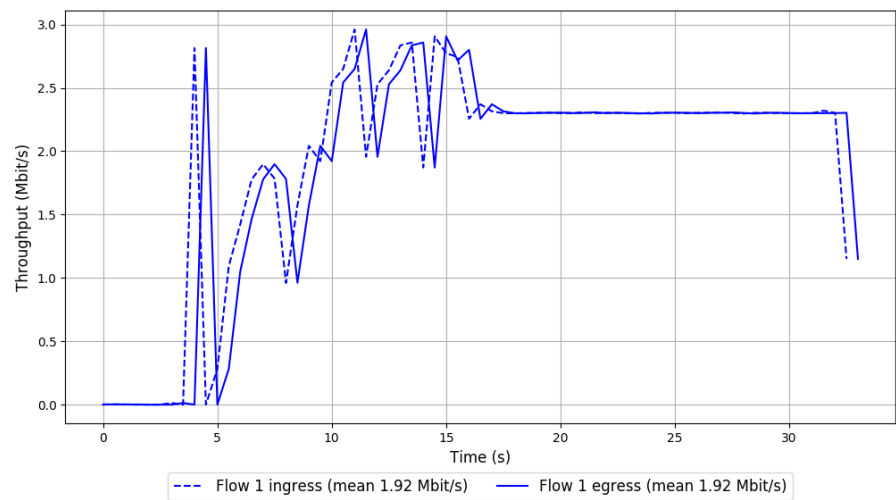
-- Flow 1:

Average throughput: 1.92 Mbit/s

95th percentile per-packet one-way delay: 2.208 ms

Loss rate: 0.02%

Run 2: Report of WebRTC media — Data Link



Run 3: Statistics of WebRTC media

Start at: 2018-12-11 09:50:22

End at: 2018-12-11 09:50:52

Local clock offset: -3.216 ms

Remote clock offset: 0.205 ms

Below is generated by plot.py at 2018-12-11 10:54:58

Datalink statistics

-- Total of 1 flow:

Average throughput: 1.94 Mbit/s

95th percentile per-packet one-way delay: 3.966 ms

Loss rate: 0.00%

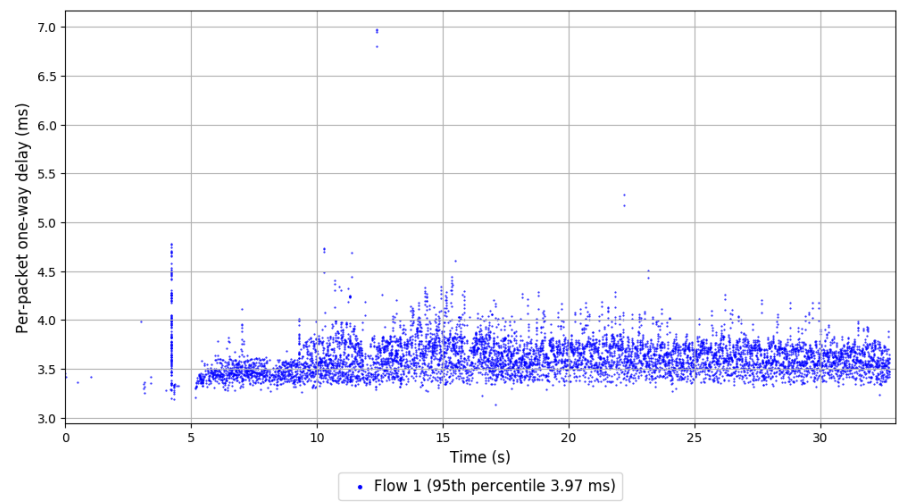
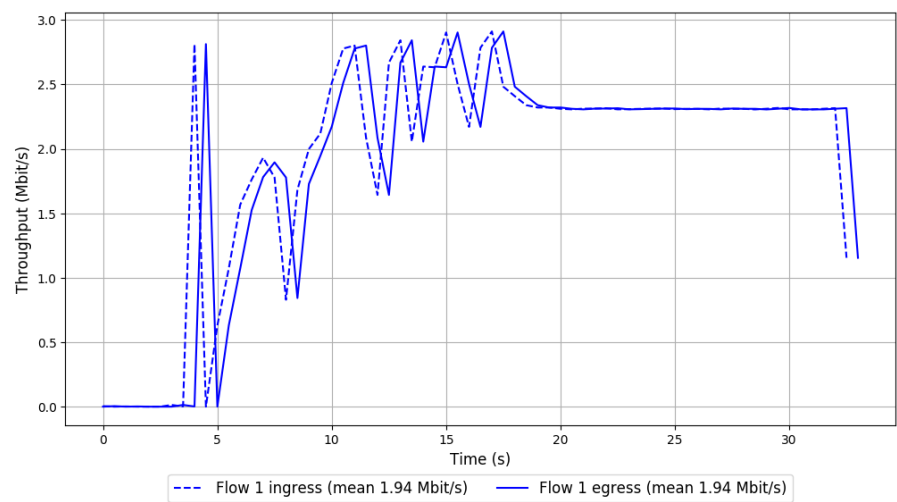
-- Flow 1:

Average throughput: 1.94 Mbit/s

95th percentile per-packet one-way delay: 3.966 ms

Loss rate: 0.00%

Run 3: Report of WebRTC media — Data Link



Run 4: Statistics of WebRTC media

Start at: 2018-12-11 10:11:33

End at: 2018-12-11 10:12:03

Local clock offset: -3.969 ms

Remote clock offset: 0.328 ms

Below is generated by plot.py at 2018-12-11 10:54:58

Datalink statistics

-- Total of 1 flow:

Average throughput: 1.94 Mbit/s

95th percentile per-packet one-way delay: 2.955 ms

Loss rate: 0.00%

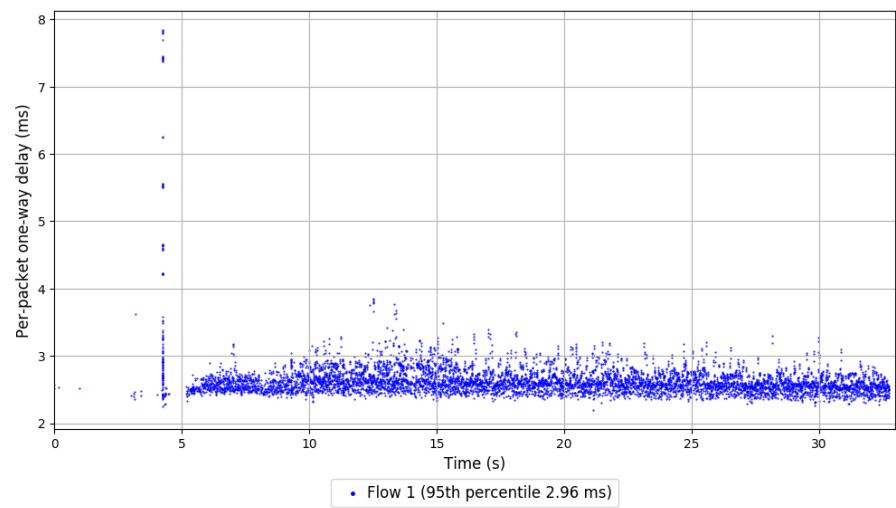
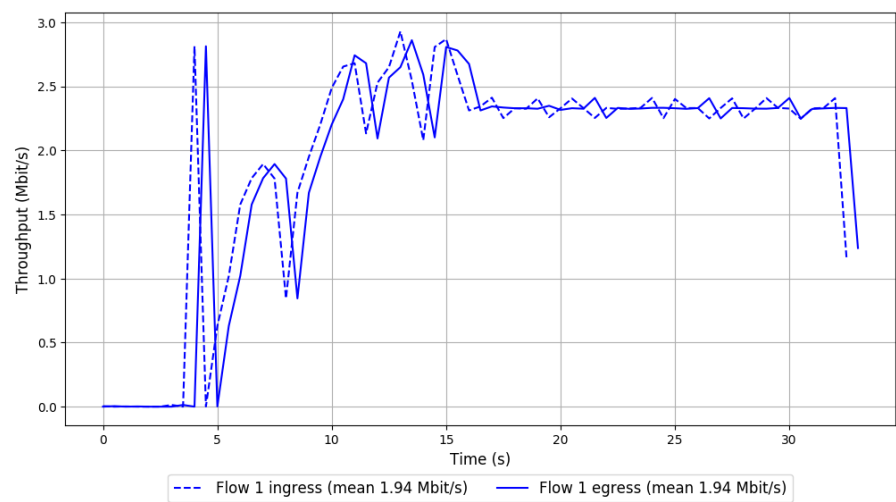
-- Flow 1:

Average throughput: 1.94 Mbit/s

95th percentile per-packet one-way delay: 2.955 ms

Loss rate: 0.00%

Run 4: Report of WebRTC media — Data Link



Run 5: Statistics of WebRTC media

Start at: 2018-12-11 10:32:44

End at: 2018-12-11 10:33:14

Local clock offset: -7.758 ms

Remote clock offset: 0.591 ms

Below is generated by plot.py at 2018-12-11 10:54:58

Datalink statistics

-- Total of 1 flow:

Average throughput: 1.93 Mbit/s

95th percentile per-packet one-way delay: 2.353 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 1.93 Mbit/s

95th percentile per-packet one-way delay: 2.353 ms

Loss rate: 0.00%

Run 5: Report of WebRTC media — Data Link

