

Pantheon Report

Generated at 2018-12-11 17:48:27 (UTC).

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

Repeated the test of 19 congestion control schemes 5 times.

Each test lasted for 30 seconds running 1 flow.

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

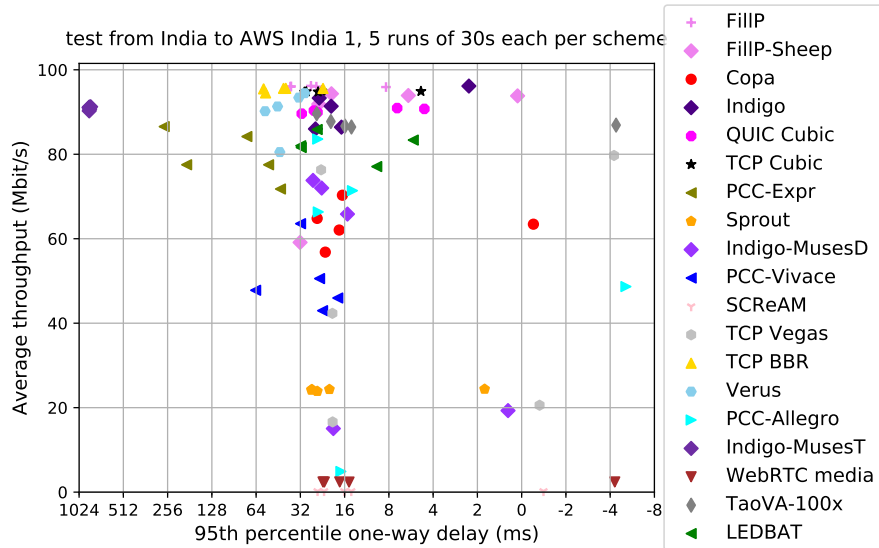
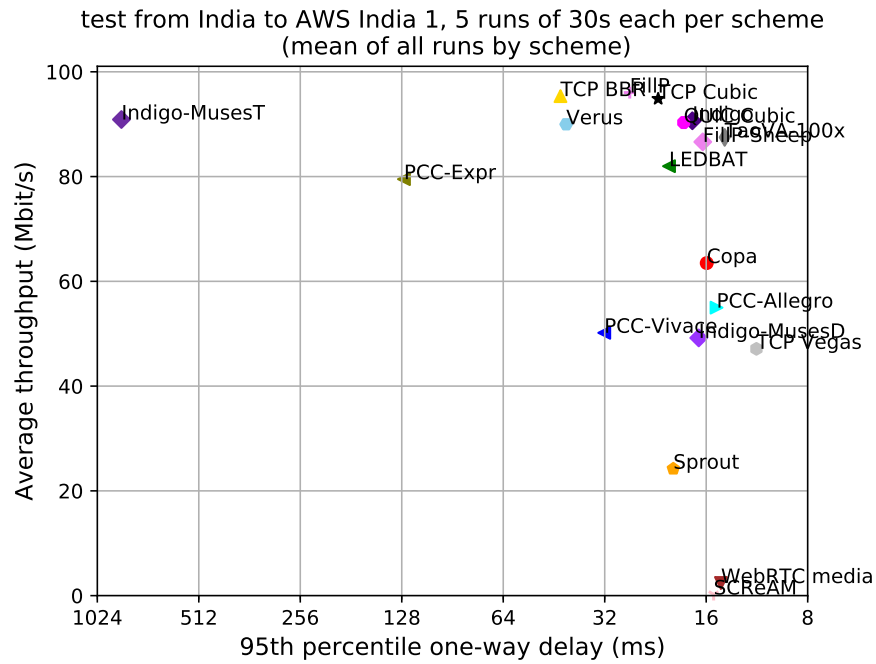
System info:

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

Git summary:

```
branch: muses @ c654af0b7d59d4ef4b914cfac404e1fc2e96dc68
third_party/fillp @ d6da1459332fcee56963885d7eba17e6a32d4519
third_party/fillp-sheep @ 0e5bb722943babcd2b090d2c64fcd45e12e923f9
third_party/genericCC @ 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-quic @ 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



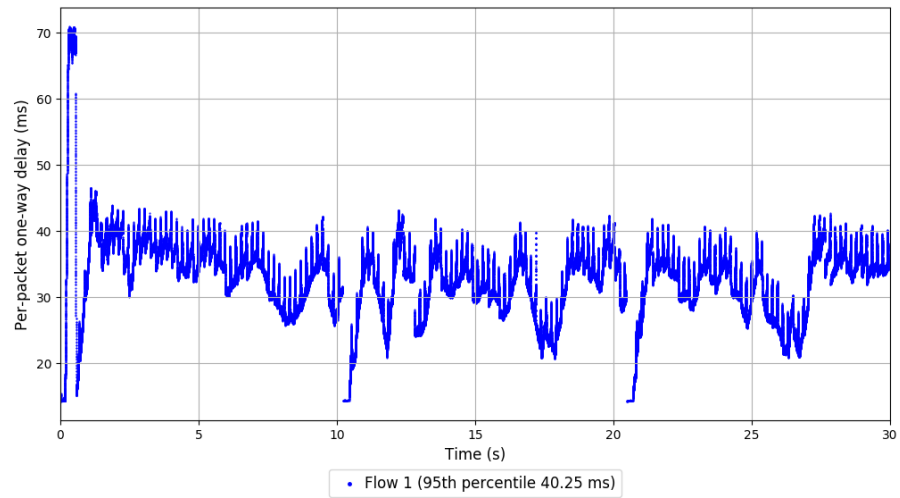
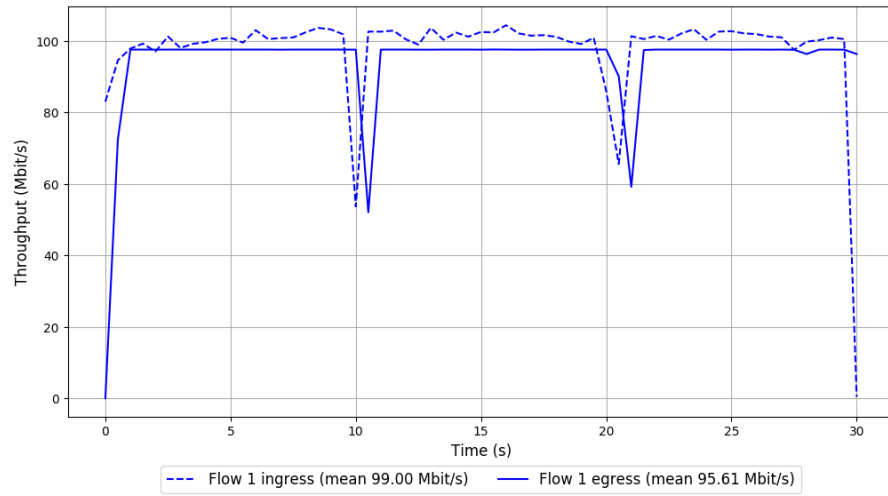
scheme	# runs	mean avg tput (Mbit/s) flow 1	mean 95th-%ile delay (ms) flow 1	mean loss rate (%) flow 1
TCP BBR	5	95.36	43.29	3.66
Copa	5	63.49	15.94	0.10
TCP Cubic	5	94.84	22.21	0.11
FillP	5	96.03	26.97	0.12
FillP-Sheep	5	86.62	16.38	0.12
Indigo	5	90.65	17.59	0.09
Indigo-MusesD	5	49.20	16.84	0.06
Indigo-MusesT	5	90.89	868.58	3.63
LEDBAT	5	81.98	20.63	0.10
PCC-Allegro	5	54.97	14.91	0.14
PCC-Expr	5	79.51	126.13	0.27
QUIC Cubic	5	90.31	18.66	0.12
SCReAM	5	0.21	15.21	0.10
Sprout	5	24.23	20.03	0.15
TaoVA-100x	5	87.48	14.10	0.09
TCP Vegas	5	47.11	11.35	0.24
Verus	5	89.98	41.64	0.25
PCC-Vivace	5	50.17	32.11	0.16
WebRTC media	5	2.40	14.47	0.09

Run 1: Statistics of TCP BBR

Start at: 2018-12-11 15:49:14
End at: 2018-12-11 15:49:44
Local clock offset: -1.95 ms
Remote clock offset: -28.307 ms

Below is generated by plot.py at 2018-12-11 17:38:33
Datalink statistics
-- Total of 1 flow:
Average throughput: 95.61 Mbit/s
95th percentile per-packet one-way delay: 40.246 ms
Loss rate: 3.50%
-- Flow 1:
Average throughput: 95.61 Mbit/s
95th percentile per-packet one-way delay: 40.246 ms
Loss rate: 3.50%

Run 1: Report of TCP BBR — Data Link



Run 2: Statistics of TCP BBR

Start at: 2018-12-11 16:11:21

End at: 2018-12-11 16:11:51

Local clock offset: 0.783 ms

Remote clock offset: -13.412 ms

Below is generated by plot.py at 2018-12-11 17:38:34

Datalink statistics

-- Total of 1 flow:

Average throughput: 95.59 Mbit/s

95th percentile per-packet one-way delay: 22.445 ms

Loss rate: 3.71%

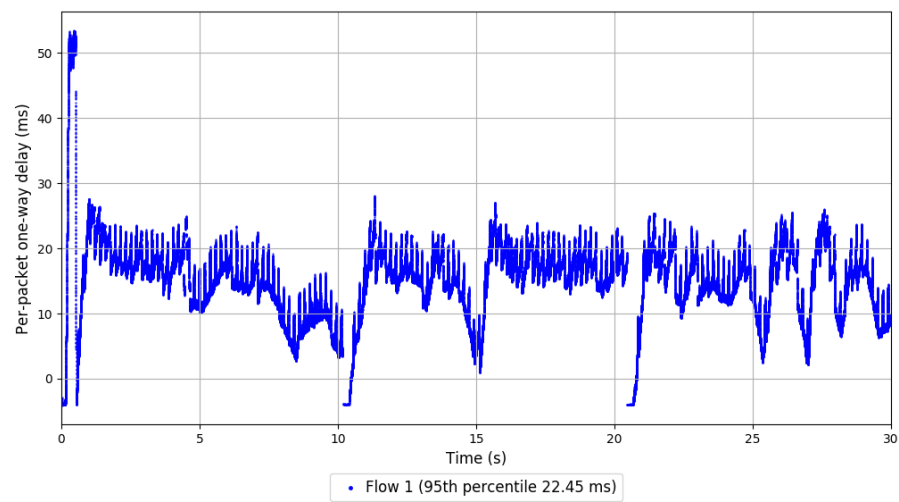
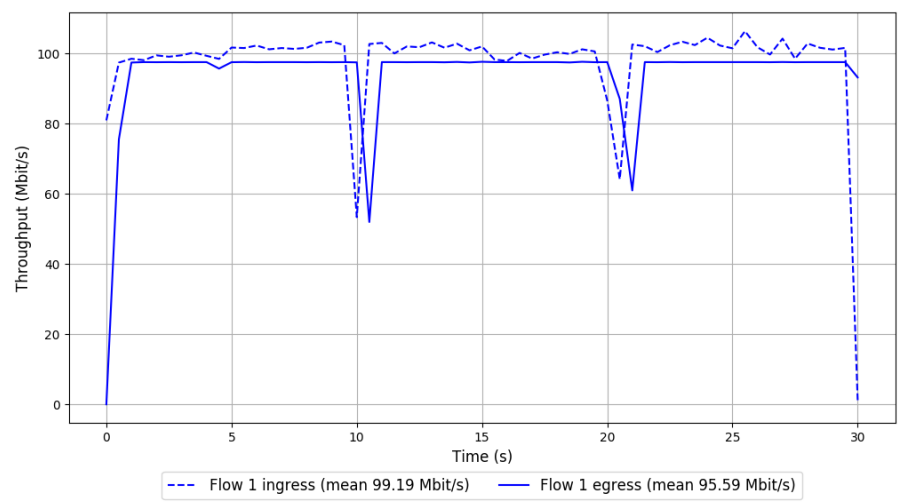
-- Flow 1:

Average throughput: 95.59 Mbit/s

95th percentile per-packet one-way delay: 22.445 ms

Loss rate: 3.71%

Run 2: Report of TCP BBR — Data Link

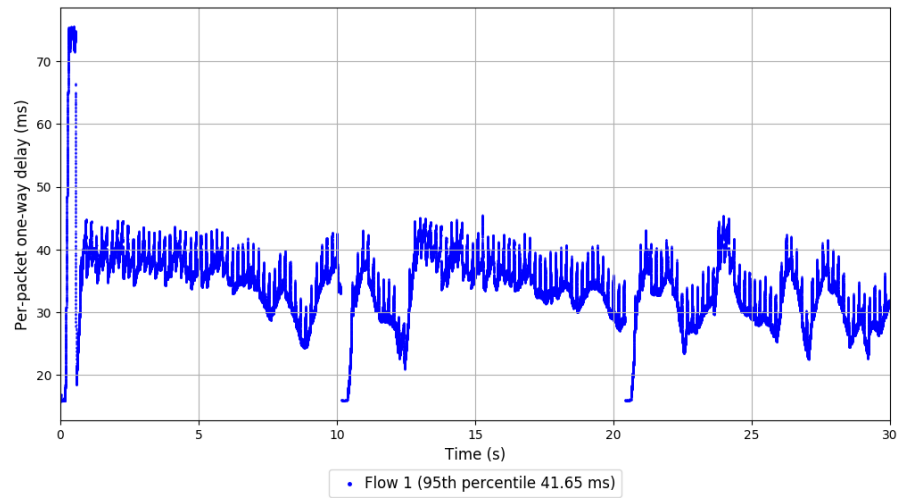
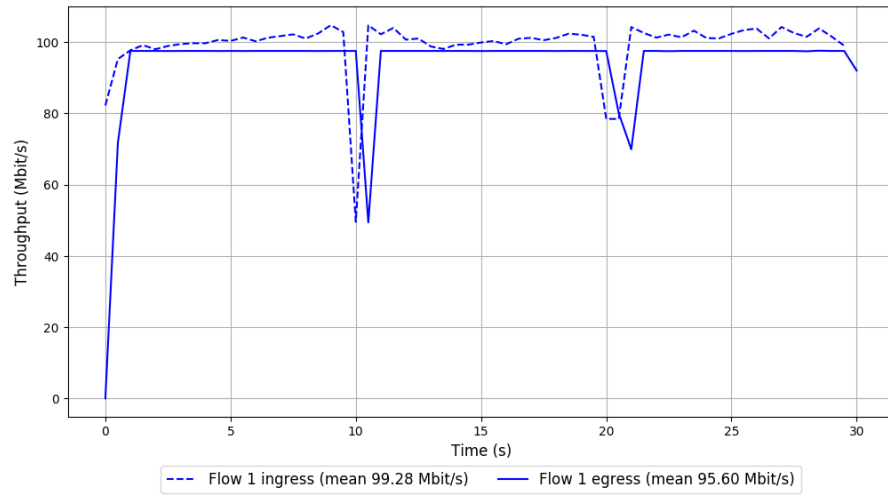


Run 3: Statistics of TCP BBR

Start at: 2018-12-11 16:33:43
End at: 2018-12-11 16:34:13
Local clock offset: 0.948 ms
Remote clock offset: -35.525 ms

Below is generated by plot.py at 2018-12-11 17:38:34
Datalink statistics
-- Total of 1 flow:
Average throughput: 95.60 Mbit/s
95th percentile per-packet one-way delay: 41.654 ms
Loss rate: 3.80%
-- Flow 1:
Average throughput: 95.60 Mbit/s
95th percentile per-packet one-way delay: 41.654 ms
Loss rate: 3.80%

Run 3: Report of TCP BBR — Data Link

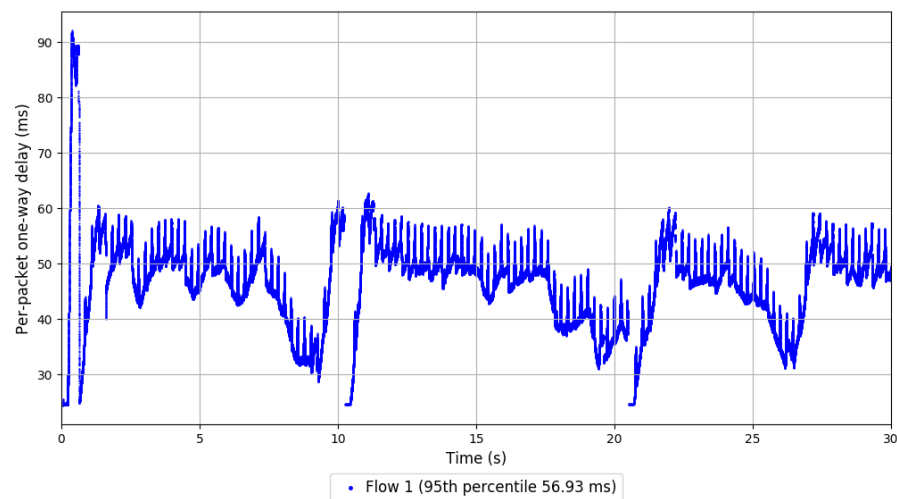
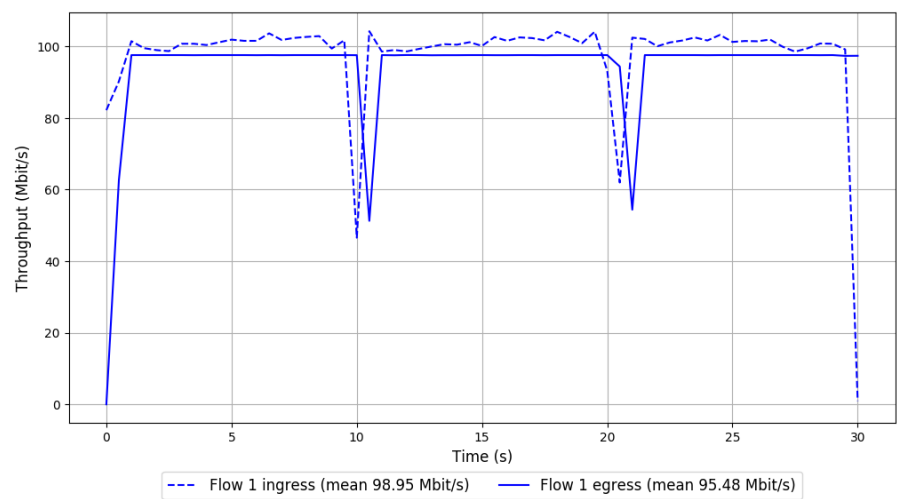


Run 4: Statistics of TCP BBR

Start at: 2018-12-11 16:56:07
End at: 2018-12-11 16:56:37
Local clock offset: -1.338 ms
Remote clock offset: -36.706 ms

Below is generated by plot.py at 2018-12-11 17:38:34
Datalink statistics
-- Total of 1 flow:
Average throughput: 95.48 Mbit/s
95th percentile per-packet one-way delay: 56.926 ms
Loss rate: 3.61%
-- Flow 1:
Average throughput: 95.48 Mbit/s
95th percentile per-packet one-way delay: 56.926 ms
Loss rate: 3.61%

Run 4: Report of TCP BBR — Data Link

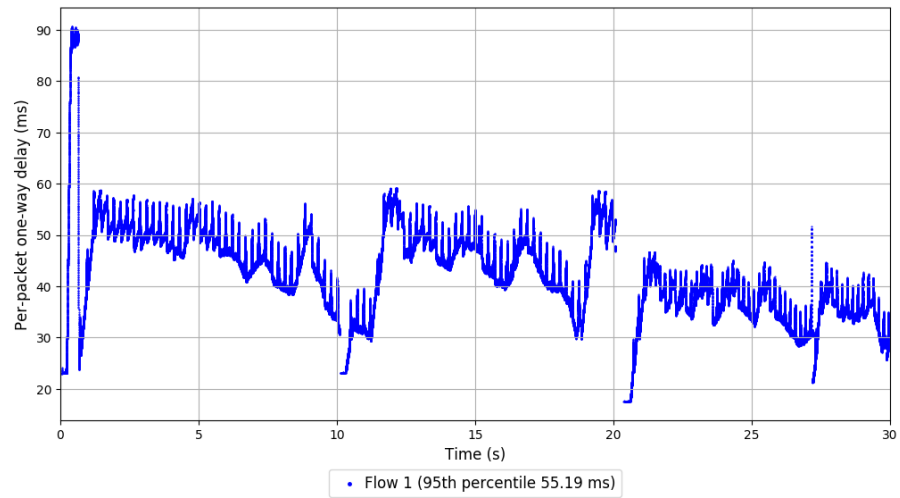
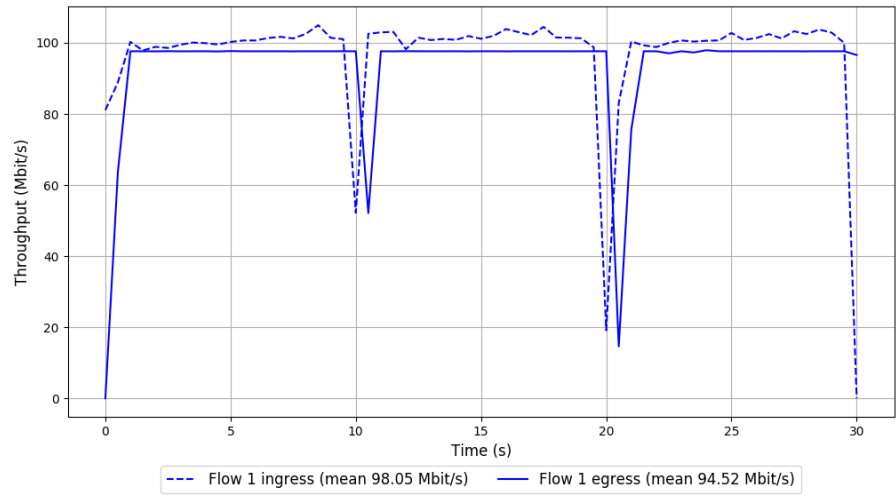


Run 5: Statistics of TCP BBR

Start at: 2018-12-11 17:18:24
End at: 2018-12-11 17:18:54
Local clock offset: 2.288 ms
Remote clock offset: -29.266 ms

Below is generated by plot.py at 2018-12-11 17:38:34
Datalink statistics
-- Total of 1 flow:
Average throughput: 94.52 Mbit/s
95th percentile per-packet one-way delay: 55.185 ms
Loss rate: 3.69%
-- Flow 1:
Average throughput: 94.52 Mbit/s
95th percentile per-packet one-way delay: 55.185 ms
Loss rate: 3.69%

Run 5: Report of TCP BBR — Data Link

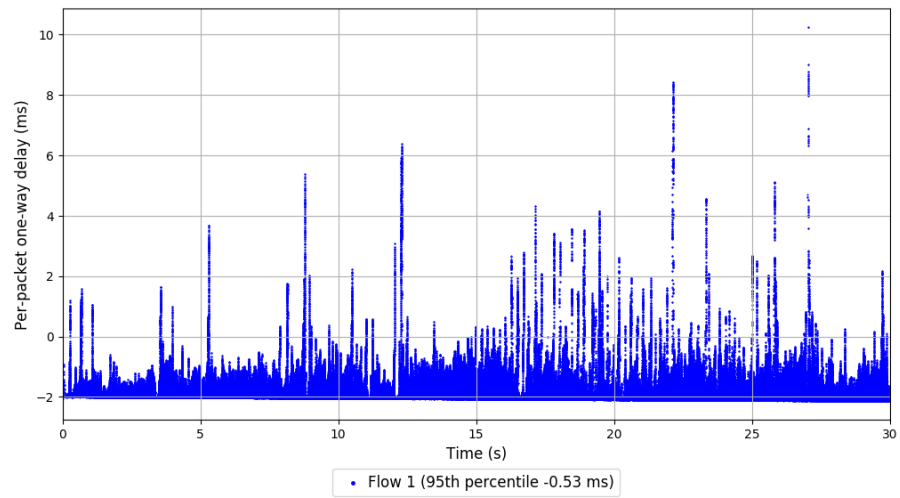
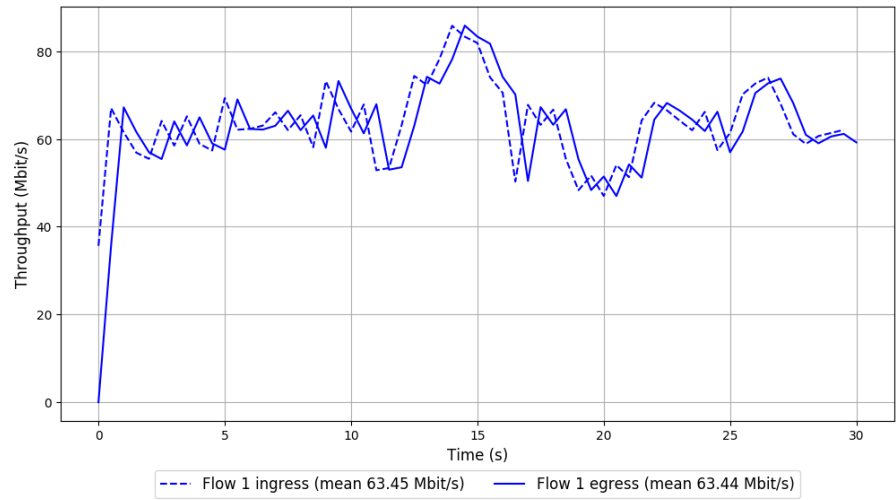


Run 1: Statistics of Copa

Start at: 2018-12-11 15:56:19
End at: 2018-12-11 15:56:49
Local clock offset: 1.665 ms
Remote clock offset: -10.526 ms

Below is generated by plot.py at 2018-12-11 17:38:50
Datalink statistics
-- Total of 1 flow:
Average throughput: 63.44 Mbit/s
95th percentile per-packet one-way delay: -0.531 ms
Loss rate: 0.10%
-- Flow 1:
Average throughput: 63.44 Mbit/s
95th percentile per-packet one-way delay: -0.531 ms
Loss rate: 0.10%

Run 1: Report of Copa — Data Link

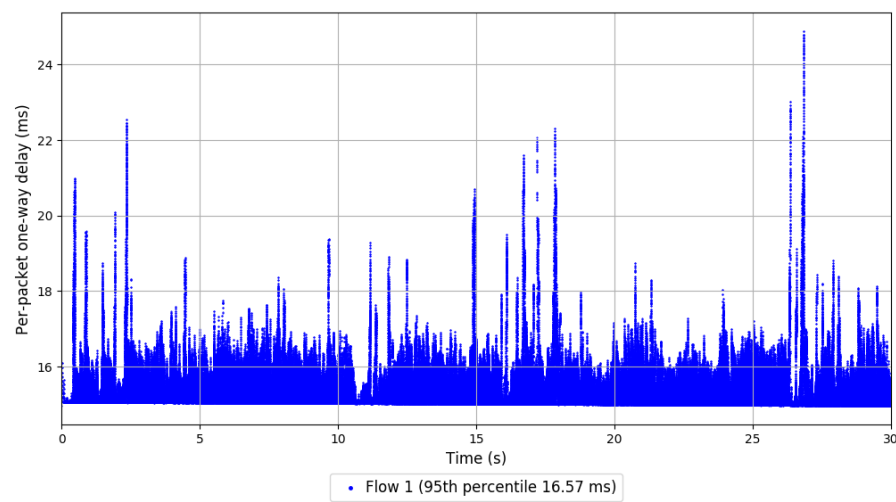
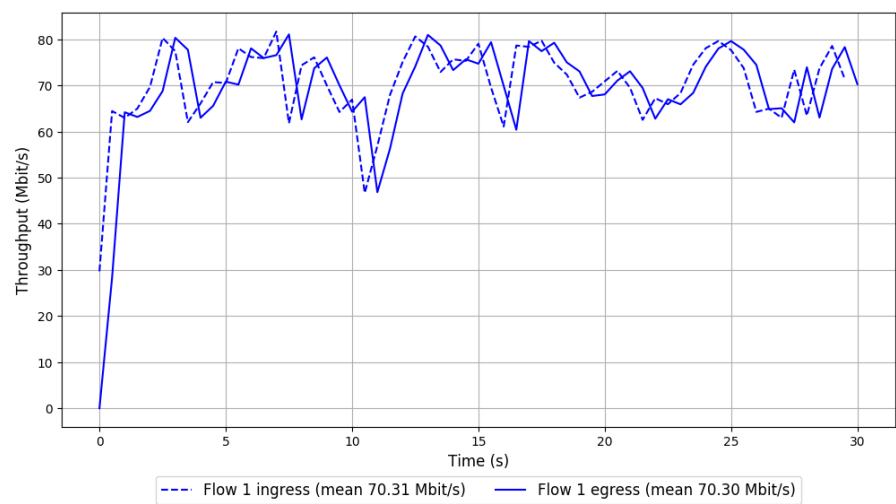


Run 2: Statistics of Copa

Start at: 2018-12-11 16:18:21
End at: 2018-12-11 16:18:51
Local clock offset: 0.411 ms
Remote clock offset: -34.195 ms

Below is generated by plot.py at 2018-12-11 17:38:57
Datalink statistics
-- Total of 1 flow:
Average throughput: 70.30 Mbit/s
95th percentile per-packet one-way delay: 16.565 ms
Loss rate: 0.09%
-- Flow 1:
Average throughput: 70.30 Mbit/s
95th percentile per-packet one-way delay: 16.565 ms
Loss rate: 0.09%

Run 2: Report of Copa — Data Link

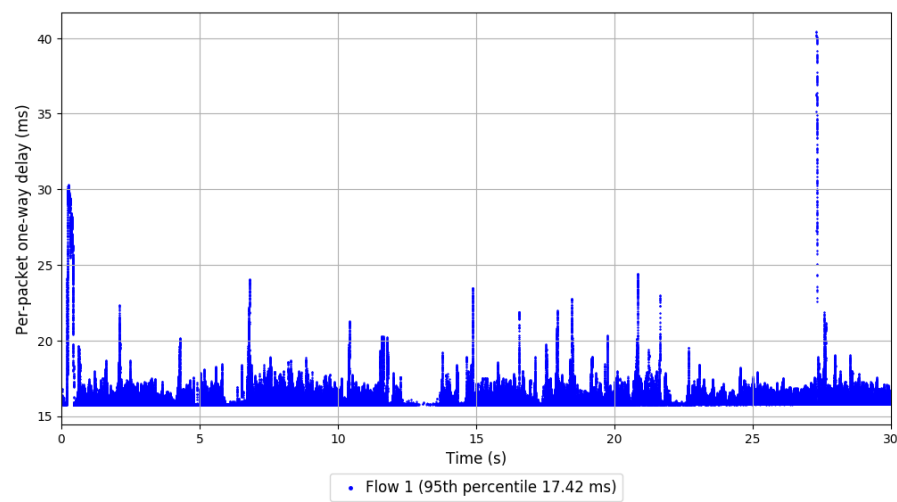
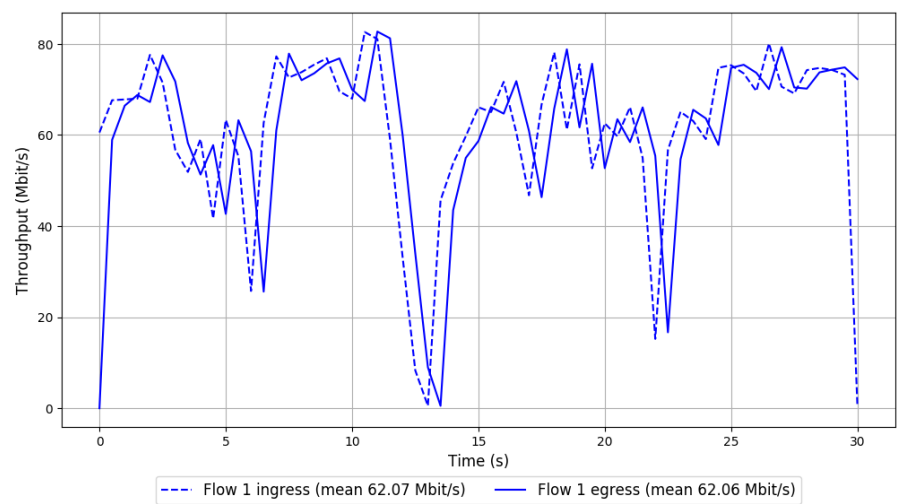


Run 3: Statistics of Copa

Start at: 2018-12-11 16:40:53
End at: 2018-12-11 16:41:23
Local clock offset: 1.217 ms
Remote clock offset: -34.261 ms

Below is generated by plot.py at 2018-12-11 17:38:57
Datalink statistics
-- Total of 1 flow:
Average throughput: 62.06 Mbit/s
95th percentile per-packet one-way delay: 17.416 ms
Loss rate: 0.10%
-- Flow 1:
Average throughput: 62.06 Mbit/s
95th percentile per-packet one-way delay: 17.416 ms
Loss rate: 0.10%

Run 3: Report of Copa — Data Link

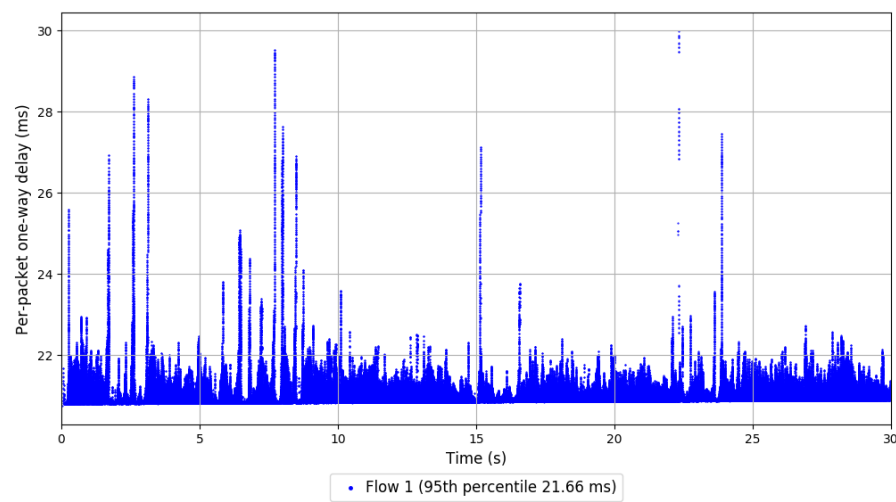
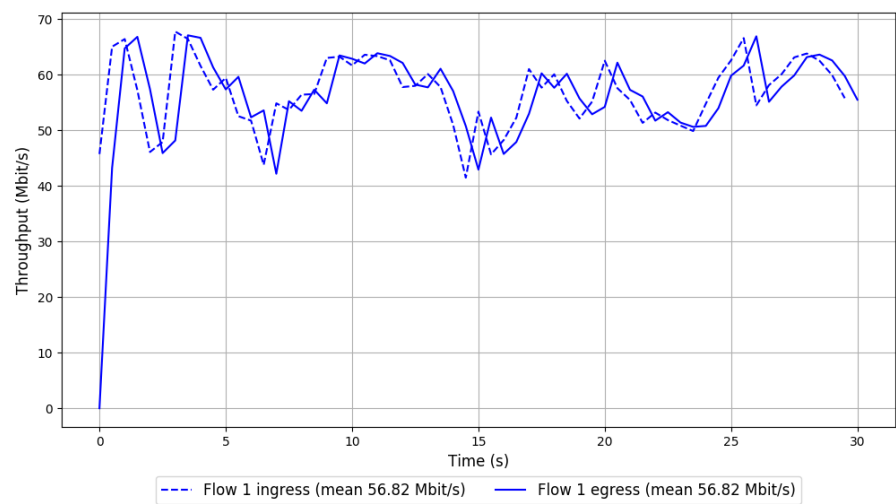


Run 4: Statistics of Copa

Start at: 2018-12-11 17:03:12
End at: 2018-12-11 17:03:42
Local clock offset: 0.637 ms
Remote clock offset: -29.899 ms

Below is generated by plot.py at 2018-12-11 17:39:44
Datalink statistics
-- Total of 1 flow:
Average throughput: 56.82 Mbit/s
95th percentile per-packet one-way delay: 21.660 ms
Loss rate: 0.09%
-- Flow 1:
Average throughput: 56.82 Mbit/s
95th percentile per-packet one-way delay: 21.660 ms
Loss rate: 0.09%

Run 4: Report of Copa — Data Link

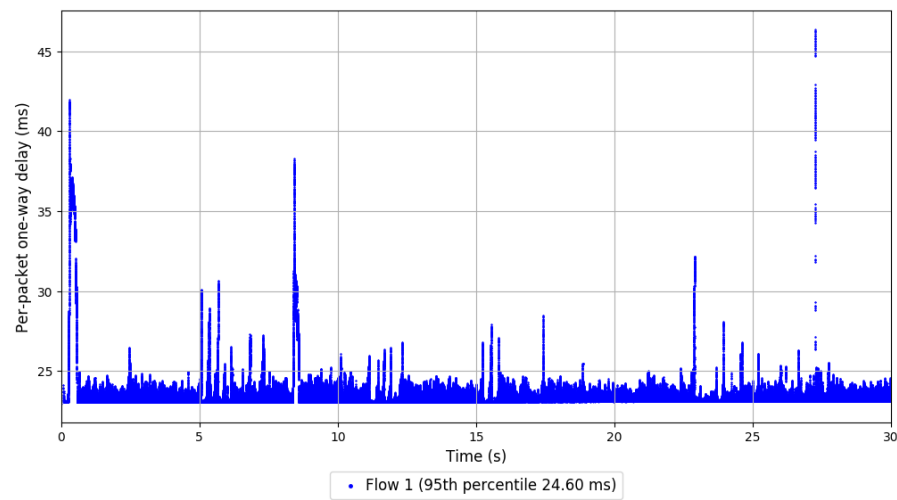
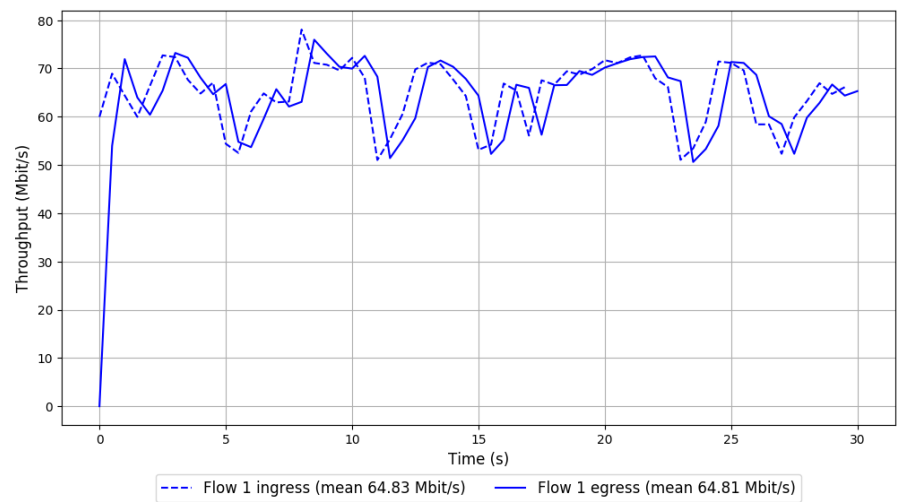


Run 5: Statistics of Copa

Start at: 2018-12-11 17:25:29
End at: 2018-12-11 17:25:59
Local clock offset: 2.486 ms
Remote clock offset: -28.389 ms

Below is generated by plot.py at 2018-12-11 17:39:52
Datalink statistics
-- Total of 1 flow:
Average throughput: 64.81 Mbit/s
95th percentile per-packet one-way delay: 24.599 ms
Loss rate: 0.12%
-- Flow 1:
Average throughput: 64.81 Mbit/s
95th percentile per-packet one-way delay: 24.599 ms
Loss rate: 0.12%

Run 5: Report of Copa — Data Link

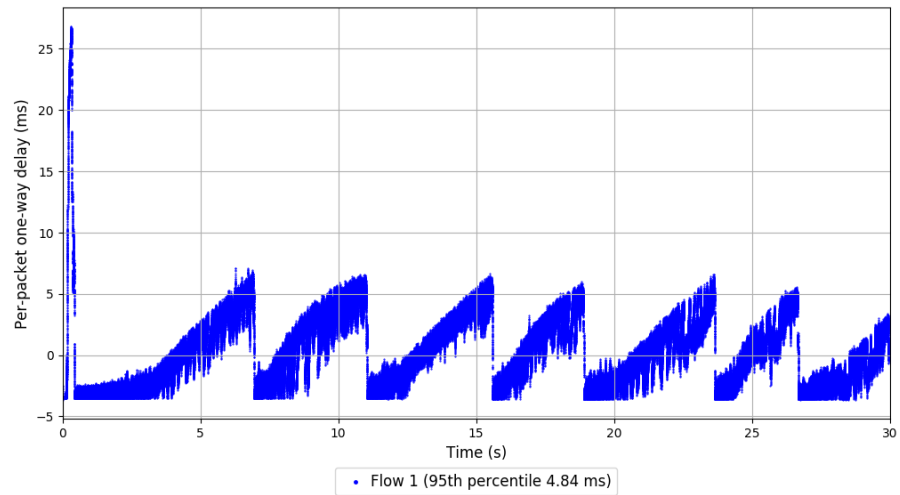
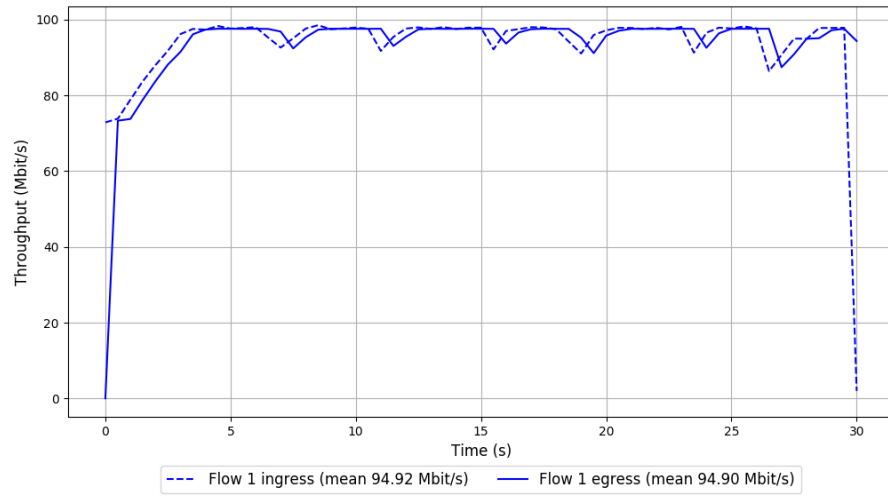


Run 1: Statistics of TCP Cubic

Start at: 2018-12-11 15:59:51
End at: 2018-12-11 16:00:21
Local clock offset: 1.603 ms
Remote clock offset: -10.043 ms

Below is generated by plot.py at 2018-12-11 17:39:52
Datalink statistics
-- Total of 1 flow:
Average throughput: 94.90 Mbit/s
95th percentile per-packet one-way delay: 4.843 ms
Loss rate: 0.10%
-- Flow 1:
Average throughput: 94.90 Mbit/s
95th percentile per-packet one-way delay: 4.843 ms
Loss rate: 0.10%

Run 1: Report of TCP Cubic — Data Link

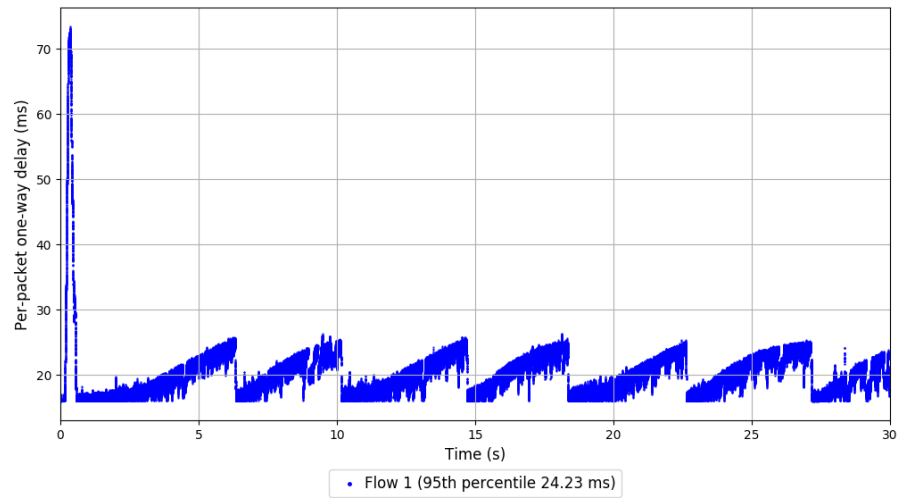
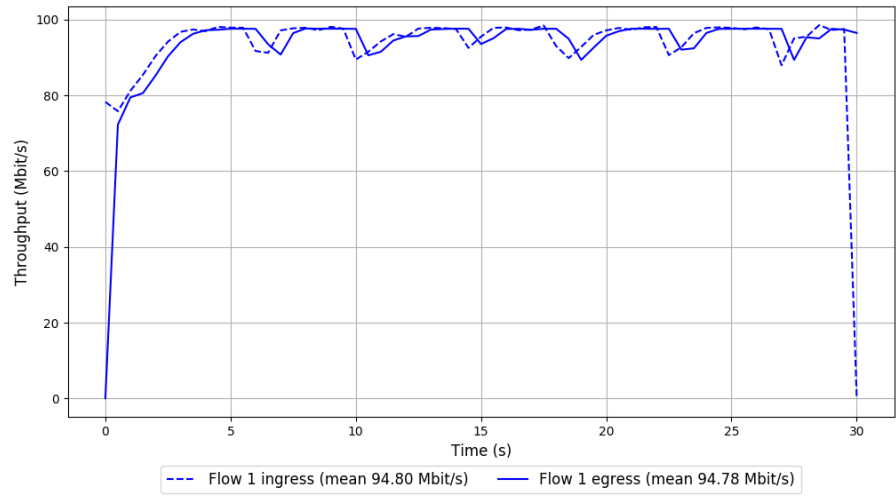


Run 2: Statistics of TCP Cubic

Start at: 2018-12-11 16:21:55
End at: 2018-12-11 16:22:25
Local clock offset: 0.528 ms
Remote clock offset: -35.768 ms

Below is generated by plot.py at 2018-12-11 17:39:52
Datalink statistics
-- Total of 1 flow:
Average throughput: 94.78 Mbit/s
95th percentile per-packet one-way delay: 24.232 ms
Loss rate: 0.11%
-- Flow 1:
Average throughput: 94.78 Mbit/s
95th percentile per-packet one-way delay: 24.232 ms
Loss rate: 0.11%

Run 2: Report of TCP Cubic — Data Link

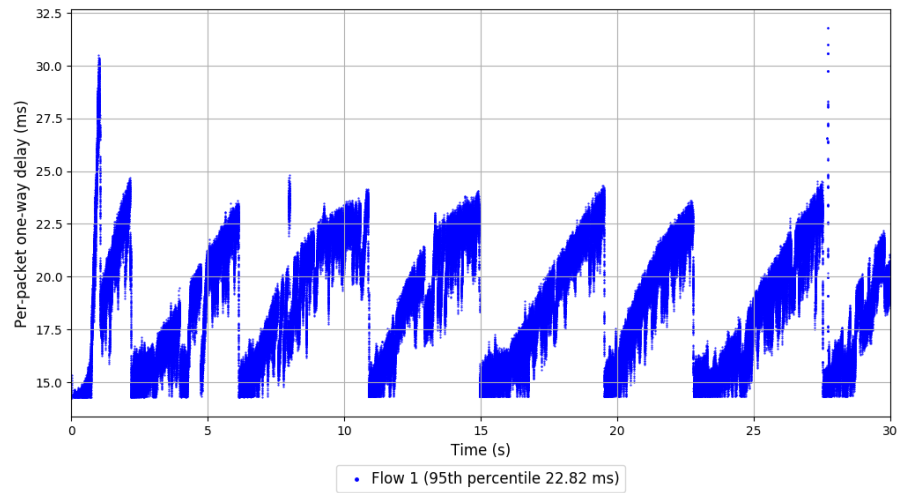
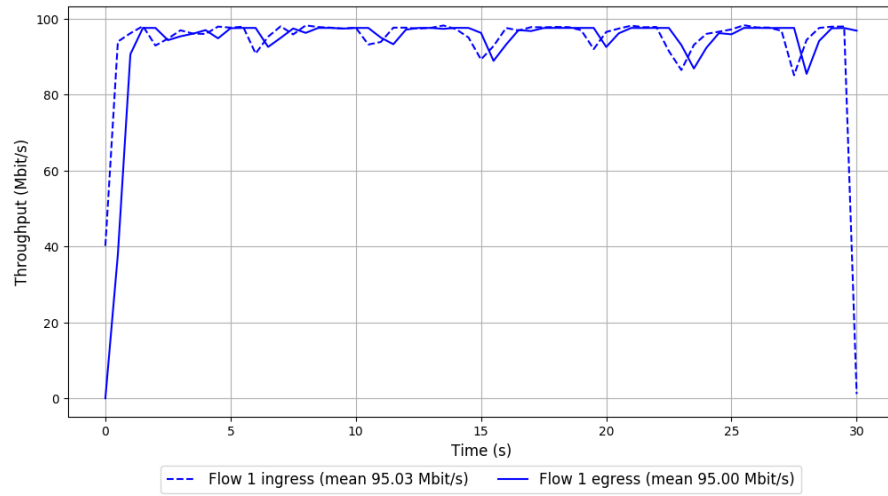


Run 3: Statistics of TCP Cubic

Start at: 2018-12-11 16:44:33
End at: 2018-12-11 16:45:03
Local clock offset: -0.4 ms
Remote clock offset: -34.092 ms

Below is generated by plot.py at 2018-12-11 17:39:52
Datalink statistics
-- Total of 1 flow:
Average throughput: 95.00 Mbit/s
95th percentile per-packet one-way delay: 22.817 ms
Loss rate: 0.11%
-- Flow 1:
Average throughput: 95.00 Mbit/s
95th percentile per-packet one-way delay: 22.817 ms
Loss rate: 0.11%

Run 3: Report of TCP Cubic — Data Link

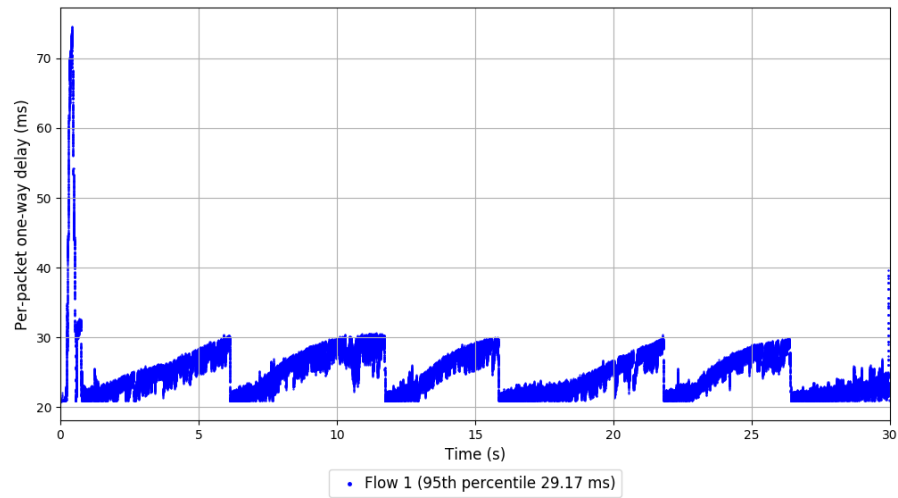
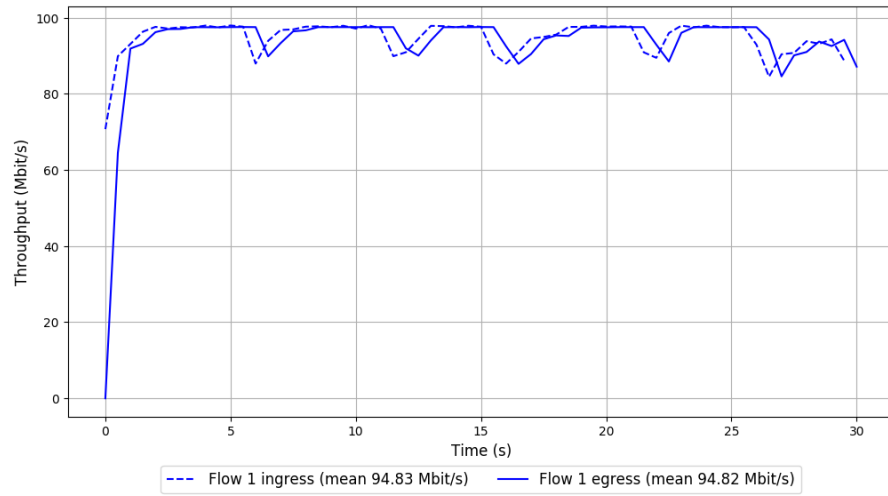


Run 4: Statistics of TCP Cubic

Start at: 2018-12-11 17:06:50
End at: 2018-12-11 17:07:20
Local clock offset: 1.289 ms
Remote clock offset: -28.653 ms

Below is generated by plot.py at 2018-12-11 17:39:52
Datalink statistics
-- Total of 1 flow:
Average throughput: 94.82 Mbit/s
95th percentile per-packet one-way delay: 29.167 ms
Loss rate: 0.11%
-- Flow 1:
Average throughput: 94.82 Mbit/s
95th percentile per-packet one-way delay: 29.167 ms
Loss rate: 0.11%

Run 4: Report of TCP Cubic — Data Link

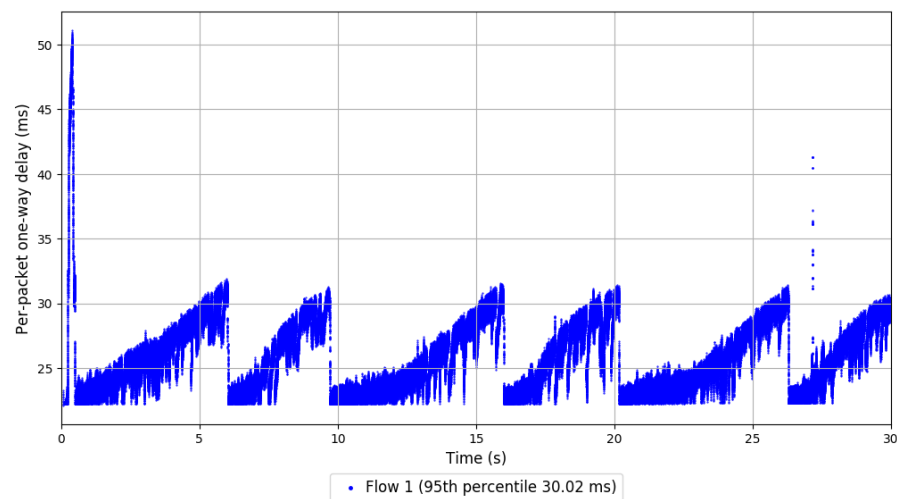
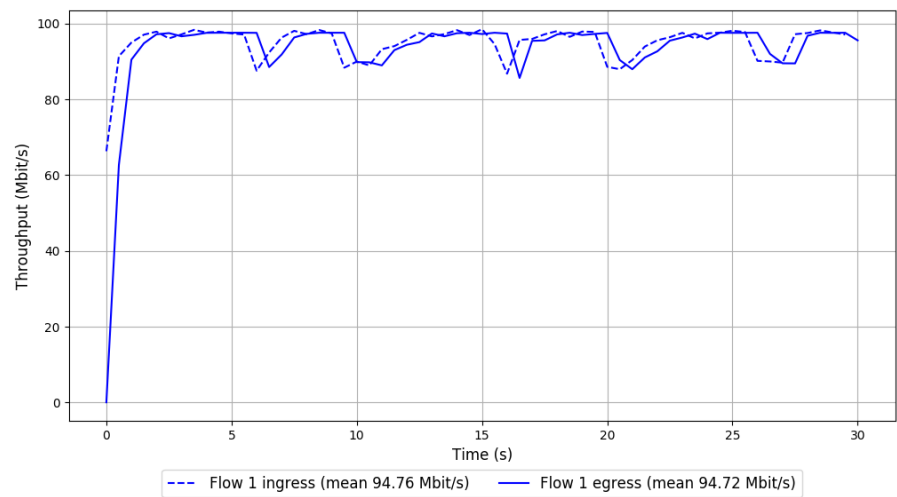


Run 5: Statistics of TCP Cubic

Start at: 2018-12-11 17:29:15
End at: 2018-12-11 17:29:45
Local clock offset: 1.165 ms
Remote clock offset: -28.439 ms

Below is generated by plot.py at 2018-12-11 17:39:52
Datalink statistics
-- Total of 1 flow:
Average throughput: 94.72 Mbit/s
95th percentile per-packet one-way delay: 30.015 ms
Loss rate: 0.13%
-- Flow 1:
Average throughput: 94.72 Mbit/s
95th percentile per-packet one-way delay: 30.015 ms
Loss rate: 0.13%

Run 5: Report of TCP Cubic — Data Link

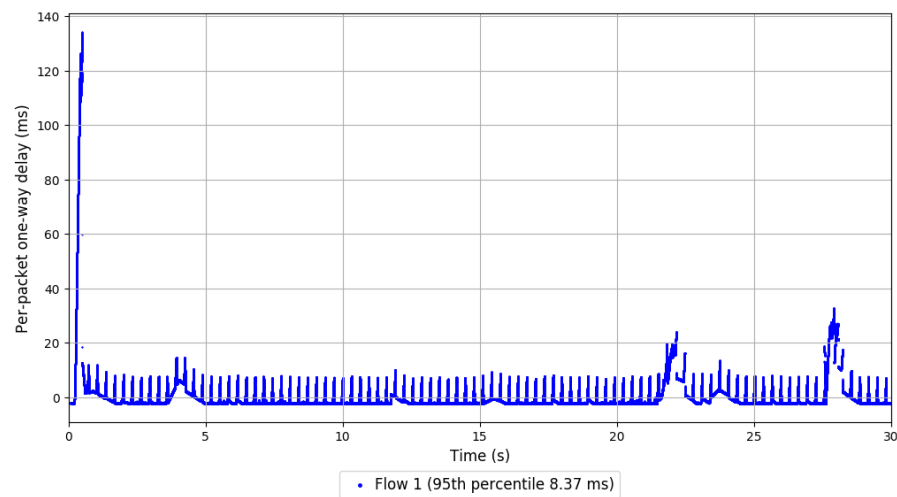
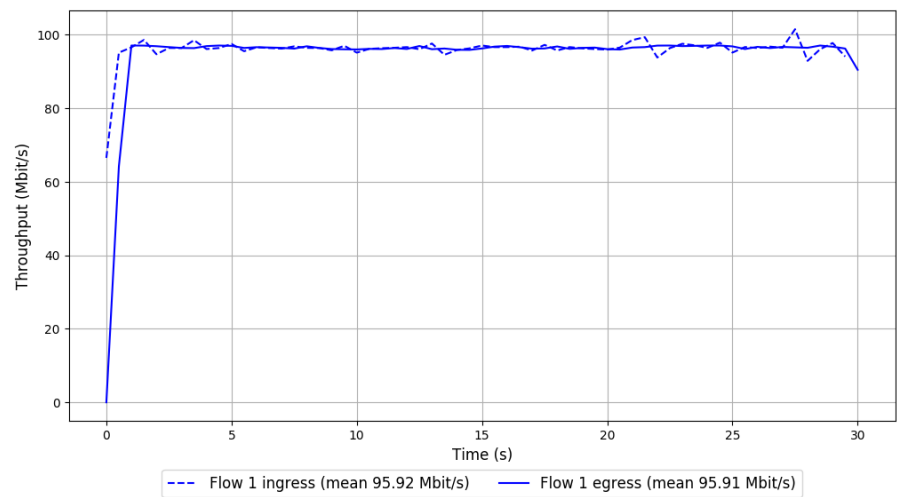


Run 1: Statistics of FillP

Start at: 2018-12-11 15:52:53
End at: 2018-12-11 15:53:23
Local clock offset: 1.138 ms
Remote clock offset: -10.039 ms

Below is generated by plot.py at 2018-12-11 17:40:15
Datalink statistics
-- Total of 1 flow:
Average throughput: 95.91 Mbit/s
95th percentile per-packet one-way delay: 8.370 ms
Loss rate: 0.09%
-- Flow 1:
Average throughput: 95.91 Mbit/s
95th percentile per-packet one-way delay: 8.370 ms
Loss rate: 0.09%

Run 1: Report of FillP — Data Link

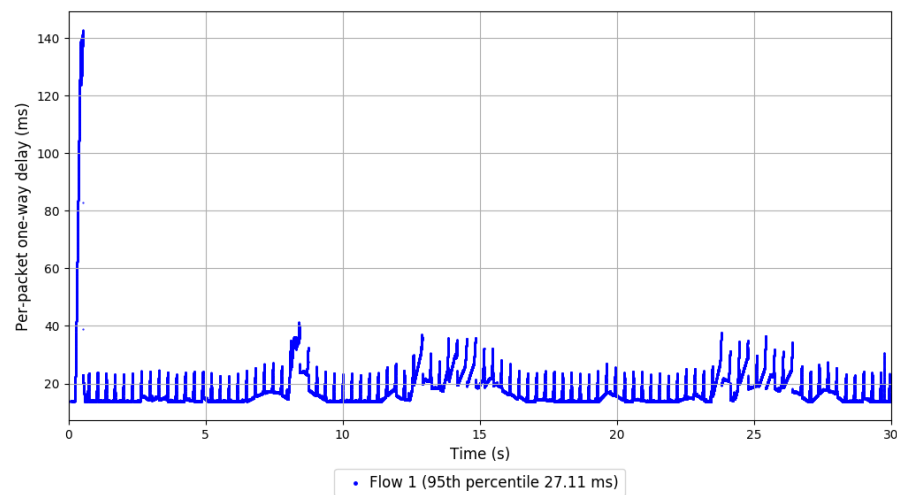
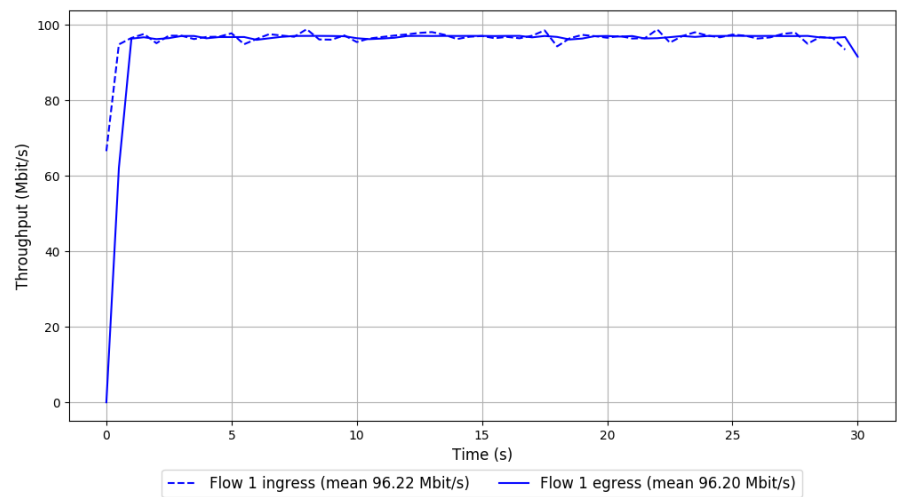


Run 2: Statistics of FillP

Start at: 2018-12-11 16:14:58
End at: 2018-12-11 16:15:28
Local clock offset: -0.47 ms
Remote clock offset: -33.326 ms

Below is generated by plot.py at 2018-12-11 17:40:55
Datalink statistics
-- Total of 1 flow:
Average throughput: 96.20 Mbit/s
95th percentile per-packet one-way delay: 27.109 ms
Loss rate: 0.10%
-- Flow 1:
Average throughput: 96.20 Mbit/s
95th percentile per-packet one-way delay: 27.109 ms
Loss rate: 0.10%

Run 2: Report of FillP — Data Link

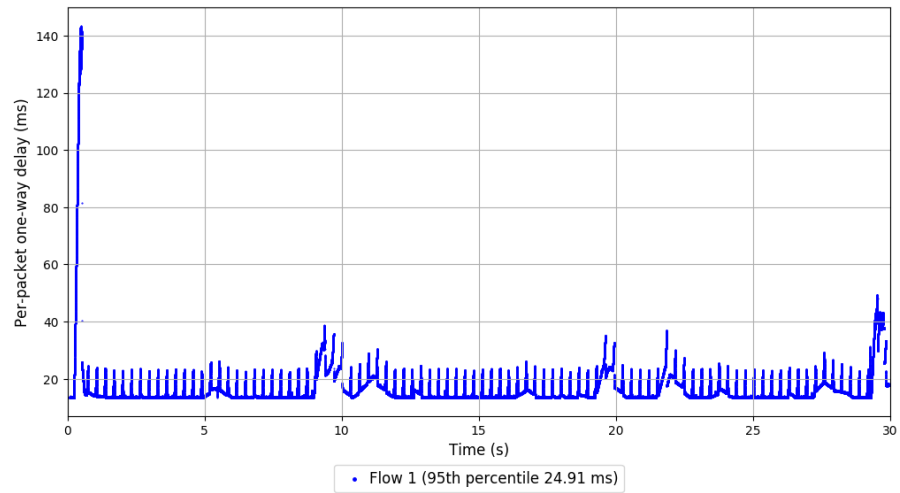
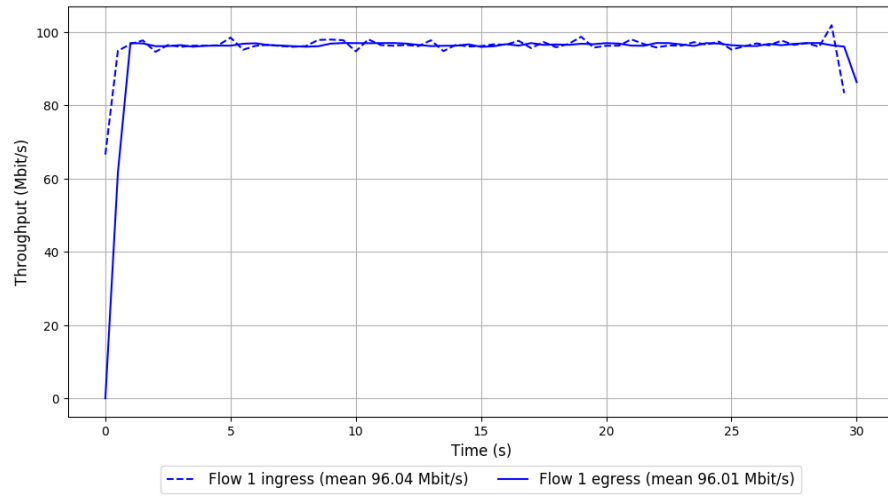


Run 3: Statistics of FillP

Start at: 2018-12-11 16:37:21
End at: 2018-12-11 16:37:51
Local clock offset: -0.962 ms
Remote clock offset: -34.68 ms

Below is generated by plot.py at 2018-12-11 17:40:55
Datalink statistics
-- Total of 1 flow:
Average throughput: 96.01 Mbit/s
95th percentile per-packet one-way delay: 24.911 ms
Loss rate: 0.11%
-- Flow 1:
Average throughput: 96.01 Mbit/s
95th percentile per-packet one-way delay: 24.911 ms
Loss rate: 0.11%

Run 3: Report of FillP — Data Link

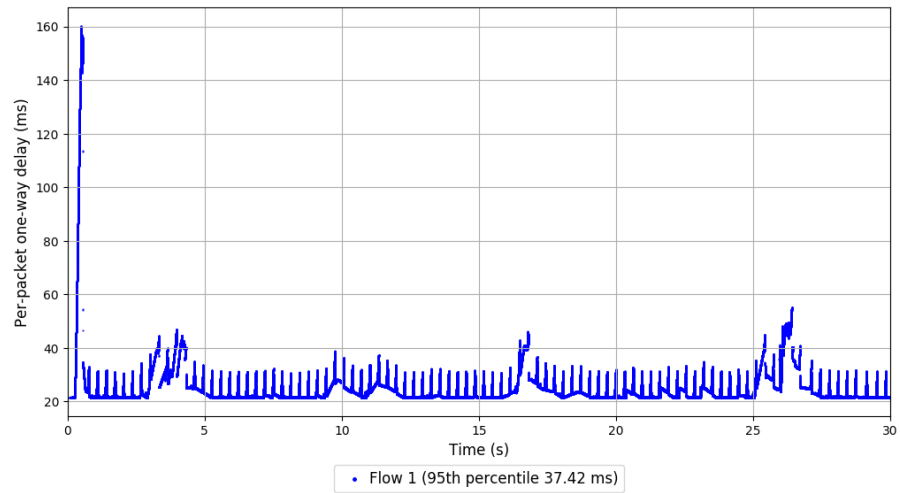
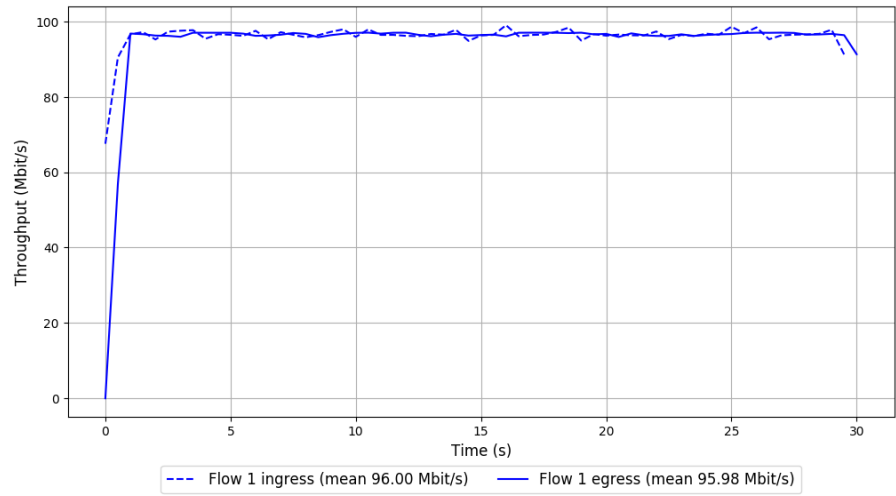


Run 4: Statistics of FillP

Start at: 2018-12-11 16:59:47
End at: 2018-12-11 17:00:17
Local clock offset: 1.81 ms
Remote clock offset: -30.067 ms

Below is generated by plot.py at 2018-12-11 17:40:55
Datalink statistics
-- Total of 1 flow:
Average throughput: 95.98 Mbit/s
95th percentile per-packet one-way delay: 37.420 ms
Loss rate: 0.11%
-- Flow 1:
Average throughput: 95.98 Mbit/s
95th percentile per-packet one-way delay: 37.420 ms
Loss rate: 0.11%

Run 4: Report of FillP — Data Link

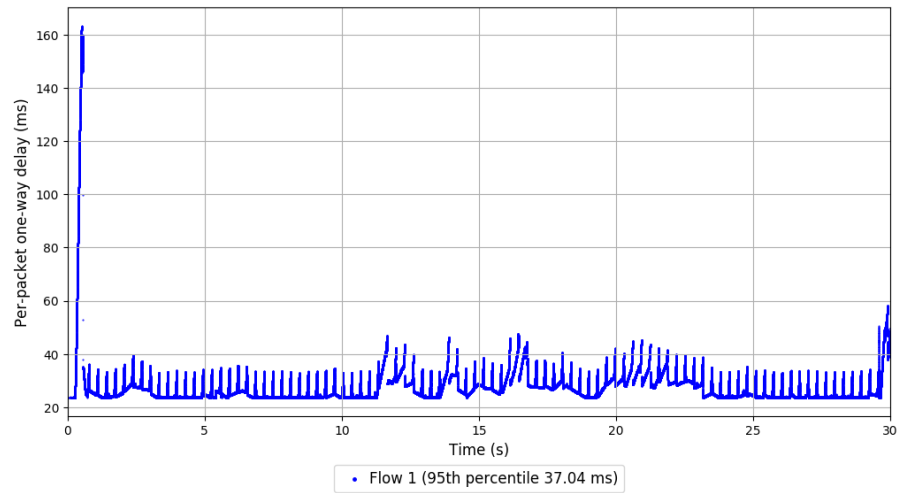
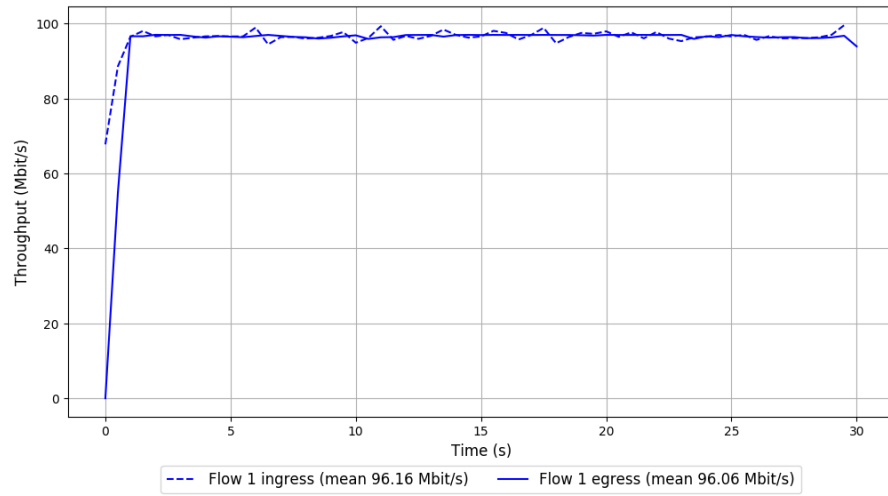


Run 5: Statistics of FillP

Start at: 2018-12-11 17:22:02
End at: 2018-12-11 17:22:32
Local clock offset: 3.016 ms
Remote clock offset: -28.974 ms

Below is generated by plot.py at 2018-12-11 17:41:01
Datalink statistics
-- Total of 1 flow:
Average throughput: 96.06 Mbit/s
95th percentile per-packet one-way delay: 37.042 ms
Loss rate: 0.19%
-- Flow 1:
Average throughput: 96.06 Mbit/s
95th percentile per-packet one-way delay: 37.042 ms
Loss rate: 0.19%

Run 5: Report of FillP — Data Link



Run 1: Statistics of FillP-Sheep

Start at: 2018-12-11 15:46:54

End at: 2018-12-11 15:47:24

Local clock offset: -0.618 ms

Remote clock offset: -8.026 ms

Below is generated by plot.py at 2018-12-11 17:41:05

Datalink statistics

-- Total of 1 flow:

Average throughput: 93.83 Mbit/s

95th percentile per-packet one-way delay: 0.184 ms

Loss rate: 0.09%

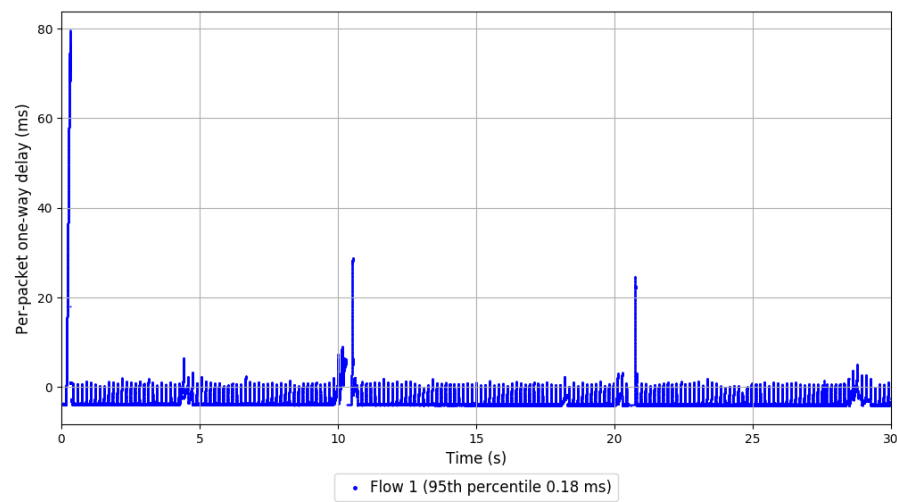
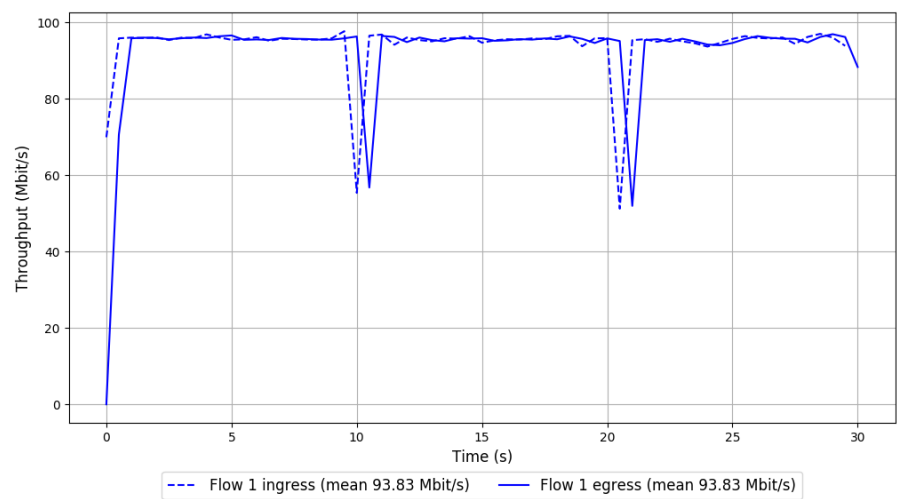
-- Flow 1:

Average throughput: 93.83 Mbit/s

95th percentile per-packet one-way delay: 0.184 ms

Loss rate: 0.09%

Run 1: Report of FillP-Sheep — Data Link



Run 2: Statistics of FillP-Sheep

Start at: 2018-12-11 16:08:59

End at: 2018-12-11 16:09:29

Local clock offset: 2.347 ms

Remote clock offset: -17.181 ms

Below is generated by plot.py at 2018-12-11 17:41:07

Datalink statistics

-- Total of 1 flow:

Average throughput: 93.91 Mbit/s

95th percentile per-packet one-way delay: 5.900 ms

Loss rate: 0.08%

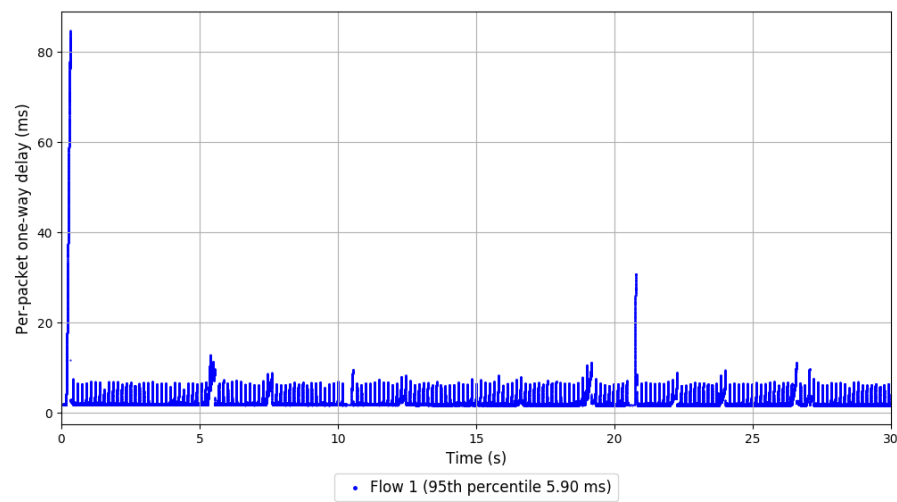
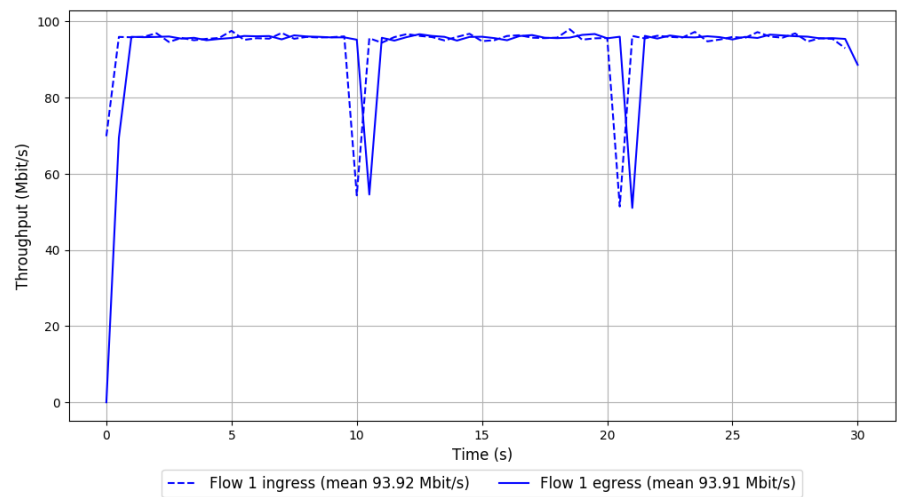
-- Flow 1:

Average throughput: 93.91 Mbit/s

95th percentile per-packet one-way delay: 5.900 ms

Loss rate: 0.08%

Run 2: Report of FillP-Sheep — Data Link

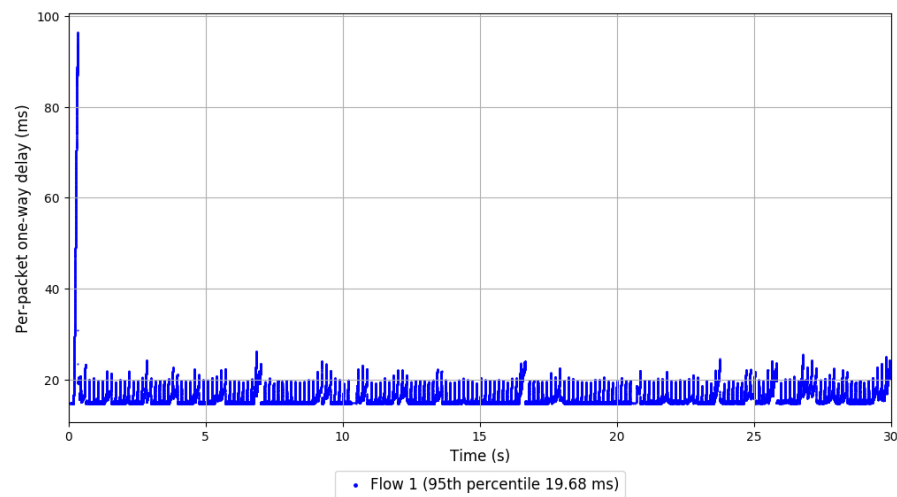
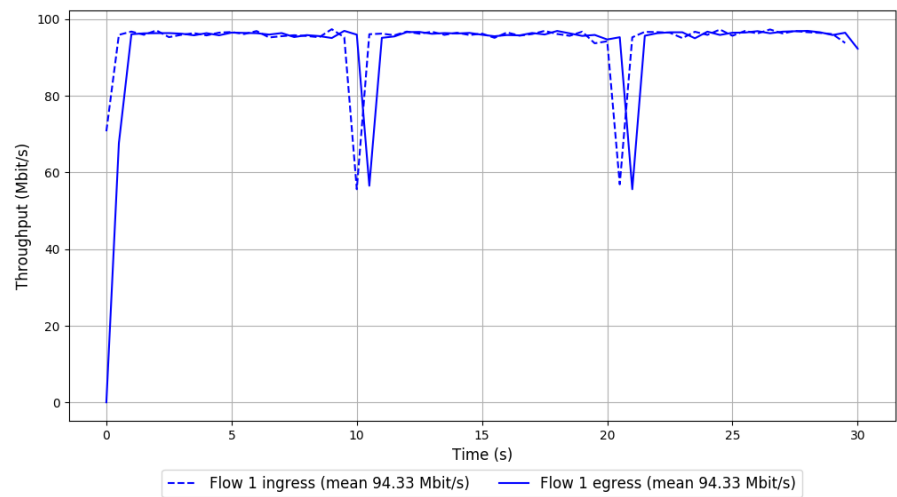


Run 3: Statistics of FillP-Sheep

Start at: 2018-12-11 16:31:11
End at: 2018-12-11 16:31:41
Local clock offset: -0.881 ms
Remote clock offset: -36.654 ms

Below is generated by plot.py at 2018-12-11 17:41:09
Datalink statistics
-- Total of 1 flow:
Average throughput: 94.33 Mbit/s
95th percentile per-packet one-way delay: 19.676 ms
Loss rate: 0.08%
-- Flow 1:
Average throughput: 94.33 Mbit/s
95th percentile per-packet one-way delay: 19.676 ms
Loss rate: 0.08%

Run 3: Report of FillP-Sheep — Data Link

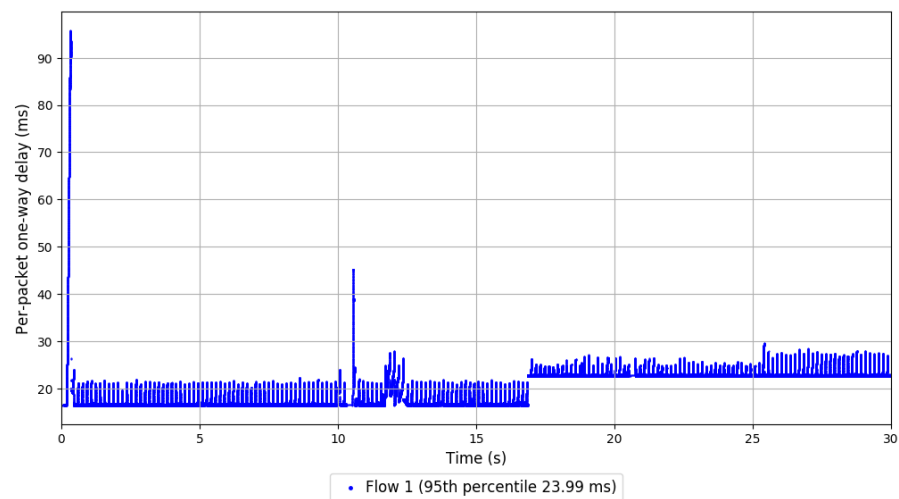
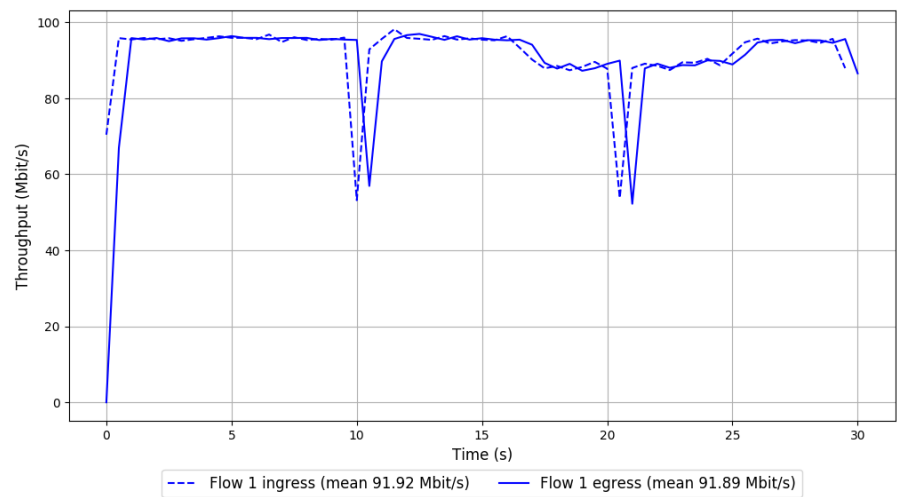


Run 4: Statistics of FillP-Sheep

Start at: 2018-12-11 16:53:43
End at: 2018-12-11 16:54:13
Local clock offset: 2.138 ms
Remote clock offset: -31.878 ms

Below is generated by plot.py at 2018-12-11 17:41:40
Datalink statistics
-- Total of 1 flow:
Average throughput: 91.89 Mbit/s
95th percentile per-packet one-way delay: 23.993 ms
Loss rate: 0.11%
-- Flow 1:
Average throughput: 91.89 Mbit/s
95th percentile per-packet one-way delay: 23.993 ms
Loss rate: 0.11%

Run 4: Report of FillP-Sheep — Data Link



Run 5: Statistics of FillP-Sheep

Start at: 2018-12-11 17:16:04

End at: 2018-12-11 17:16:34

Local clock offset: 4.336 ms

Remote clock offset: -31.529 ms

Below is generated by plot.py at 2018-12-11 17:41:40

Datalink statistics

-- Total of 1 flow:

Average throughput: 59.13 Mbit/s

95th percentile per-packet one-way delay: 32.145 ms

Loss rate: 0.25%

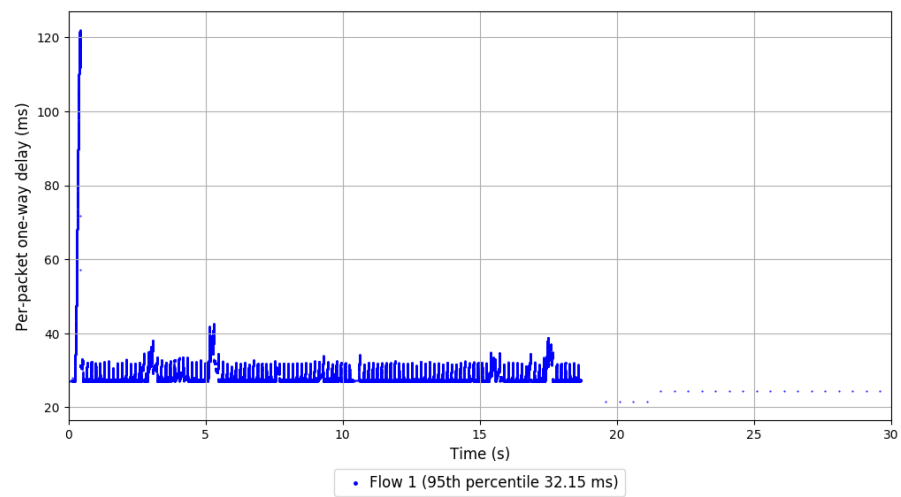
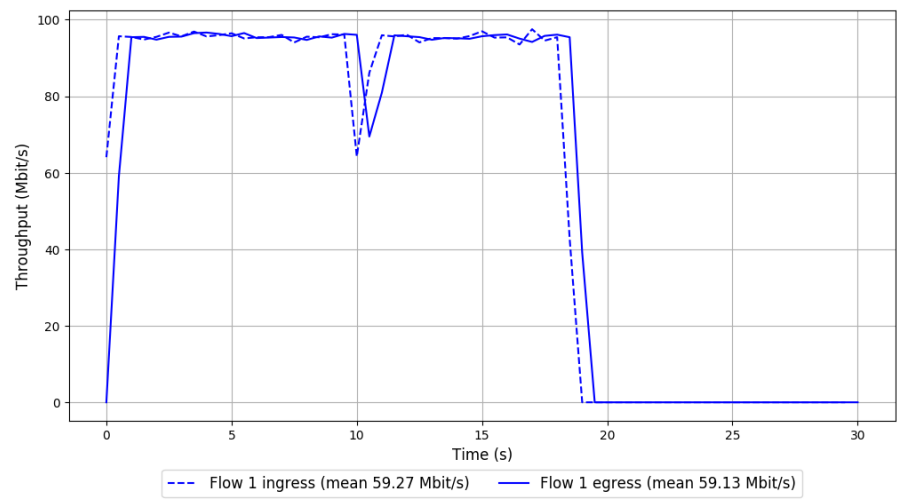
-- Flow 1:

Average throughput: 59.13 Mbit/s

95th percentile per-packet one-way delay: 32.145 ms

Loss rate: 0.25%

Run 5: Report of FillP-Sheep — Data Link

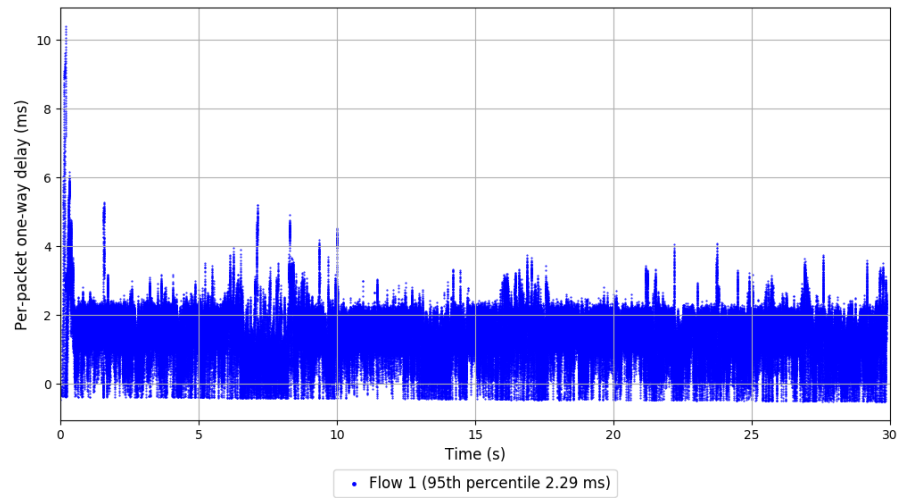
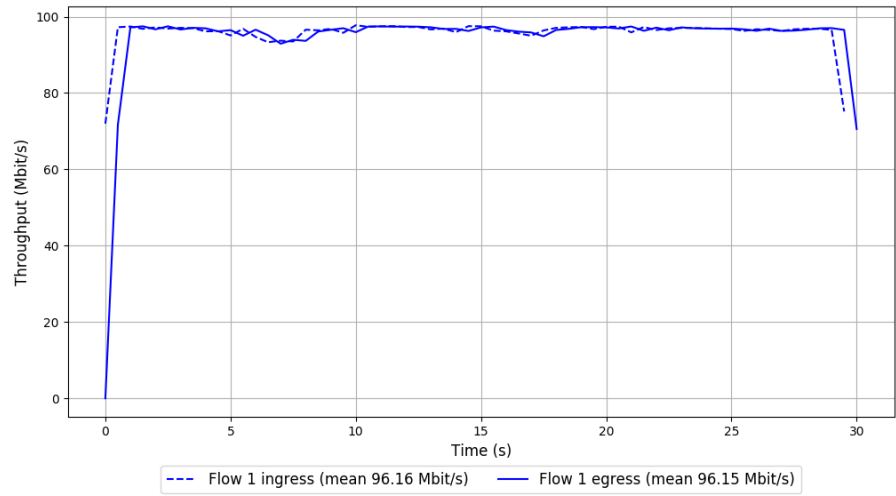


```
Run 1: Statistics of Indigo

Start at: 2018-12-11 16:04:26
End at: 2018-12-11 16:04:56
Local clock offset: 1.636 ms
Remote clock offset: -14.368 ms

# Below is generated by plot.py at 2018-12-11 17:41:58
# Datalink statistics
-- Total of 1 flow:
Average throughput: 96.15 Mbit/s
95th percentile per-packet one-way delay: 2.285 ms
Loss rate: 0.08%
-- Flow 1:
Average throughput: 96.15 Mbit/s
95th percentile per-packet one-way delay: 2.285 ms
Loss rate: 0.08%
```

Run 1: Report of Indigo — Data Link

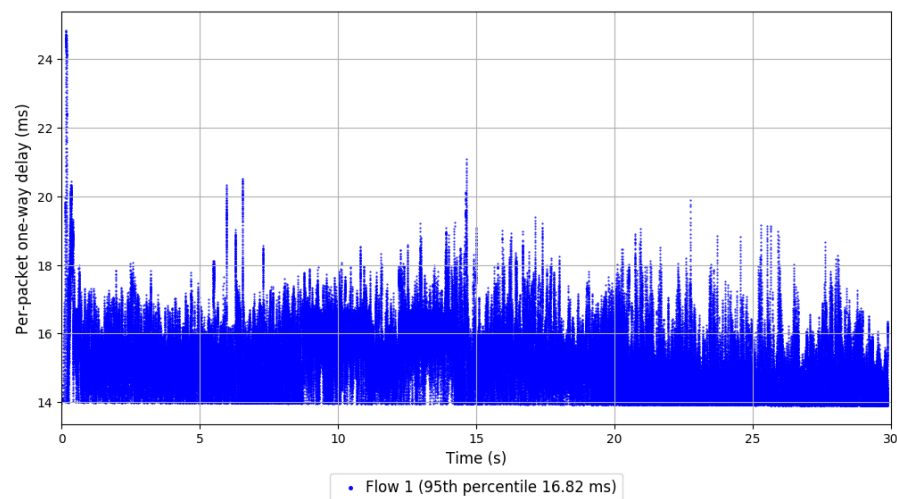
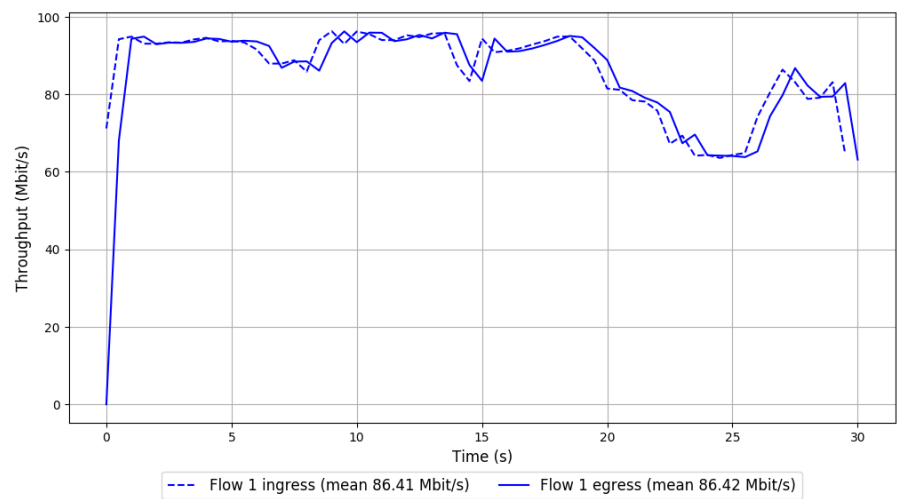


Run 2: Statistics of Indigo

Start at: 2018-12-11 16:26:35
End at: 2018-12-11 16:27:05
Local clock offset: -1.011 ms
Remote clock offset: -36.138 ms

Below is generated by plot.py at 2018-12-11 17:41:58
Datalink statistics
-- Total of 1 flow:
Average throughput: 86.42 Mbit/s
95th percentile per-packet one-way delay: 16.823 ms
Loss rate: 0.08%
-- Flow 1:
Average throughput: 86.42 Mbit/s
95th percentile per-packet one-way delay: 16.823 ms
Loss rate: 0.08%

Run 2: Report of Indigo — Data Link

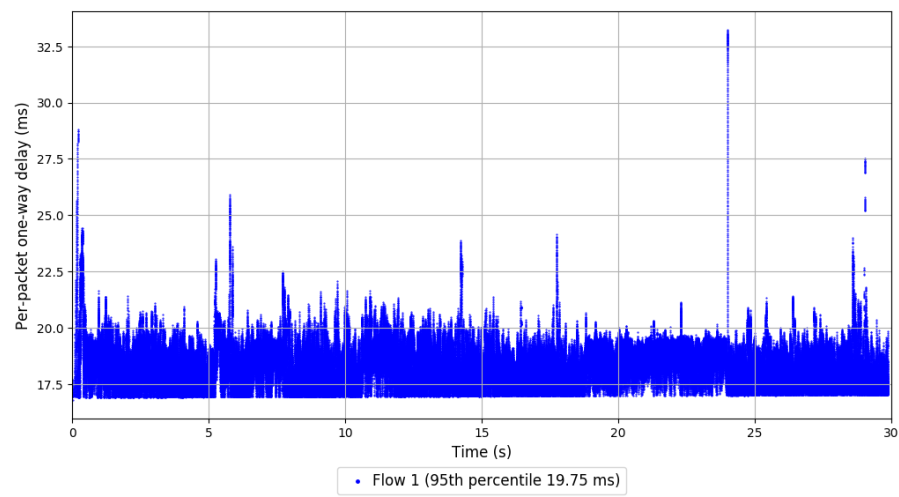
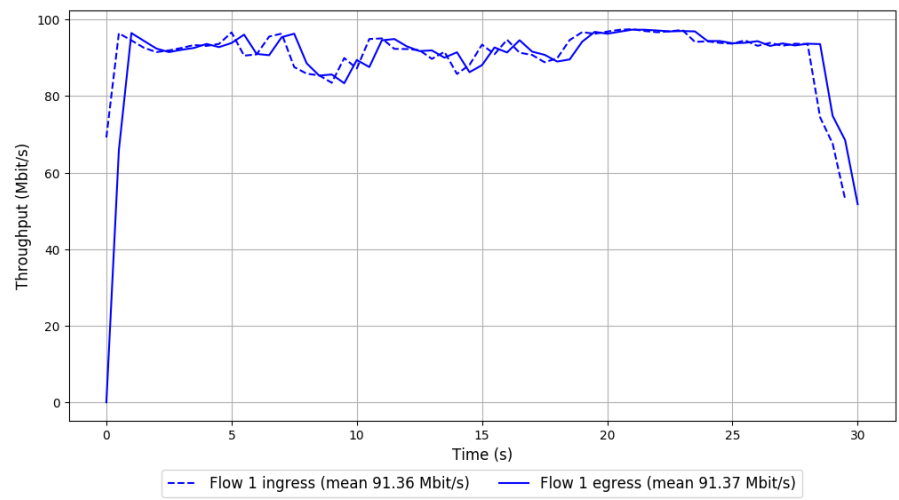


Run 3: Statistics of Indigo

Start at: 2018-12-11 16:49:03
End at: 2018-12-11 16:49:33
Local clock offset: 2.539 ms
Remote clock offset: -32.907 ms

Below is generated by plot.py at 2018-12-11 17:42:02
Datalink statistics
-- Total of 1 flow:
Average throughput: 91.37 Mbit/s
95th percentile per-packet one-way delay: 19.748 ms
Loss rate: 0.07%
-- Flow 1:
Average throughput: 91.37 Mbit/s
95th percentile per-packet one-way delay: 19.748 ms
Loss rate: 0.07%

Run 3: Report of Indigo — Data Link



Run 4: Statistics of Indigo

Start at: 2018-12-11 17:11:21

End at: 2018-12-11 17:11:51

Local clock offset: 2.675 ms

Remote clock offset: -28.775 ms

Below is generated by plot.py at 2018-12-11 17:42:04

Datalink statistics

-- Total of 1 flow:

Average throughput: 86.00 Mbit/s

95th percentile per-packet one-way delay: 25.268 ms

Loss rate: 0.10%

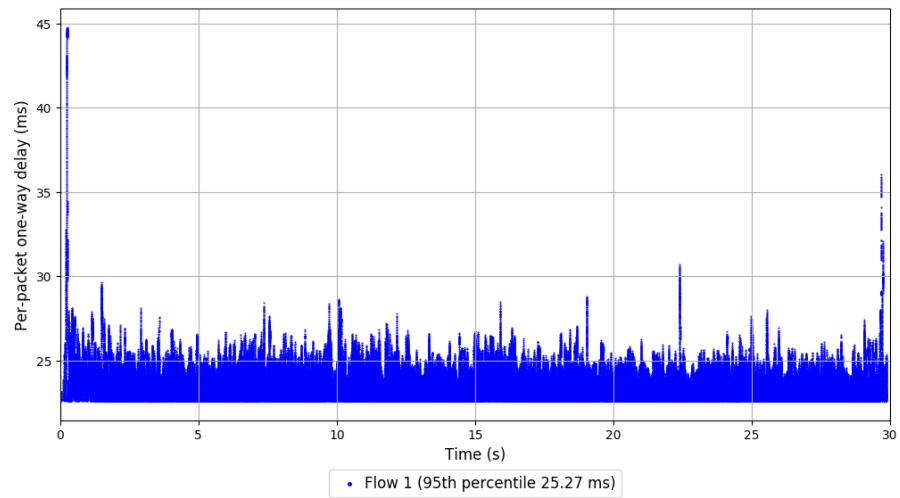
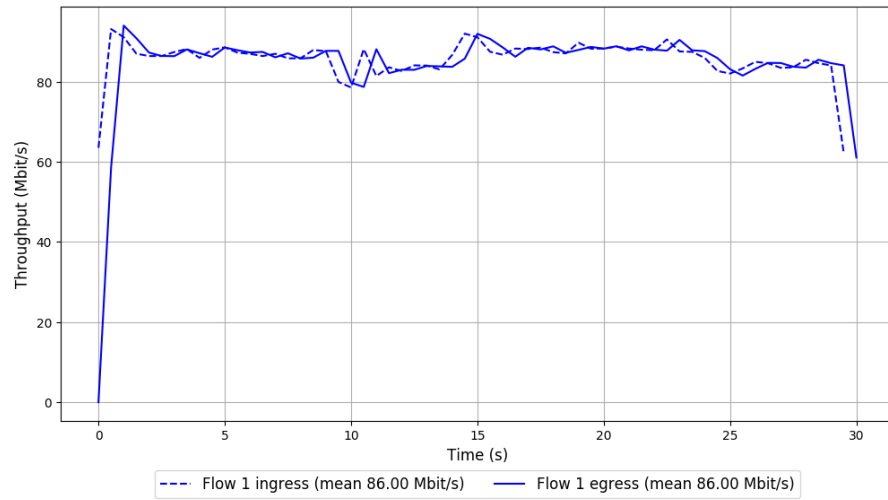
-- Flow 1:

Average throughput: 86.00 Mbit/s

95th percentile per-packet one-way delay: 25.268 ms

Loss rate: 0.10%

Run 4: Report of Indigo — Data Link



Run 5: Statistics of Indigo

Start at: 2018-12-11 17:33:51

End at: 2018-12-11 17:34:21

Local clock offset: 1.401 ms

Remote clock offset: -26.731 ms

Below is generated by plot.py at 2018-12-11 17:42:12

Datalink statistics

-- Total of 1 flow:

Average throughput: 93.30 Mbit/s

95th percentile per-packet one-way delay: 23.813 ms

Loss rate: 0.10%

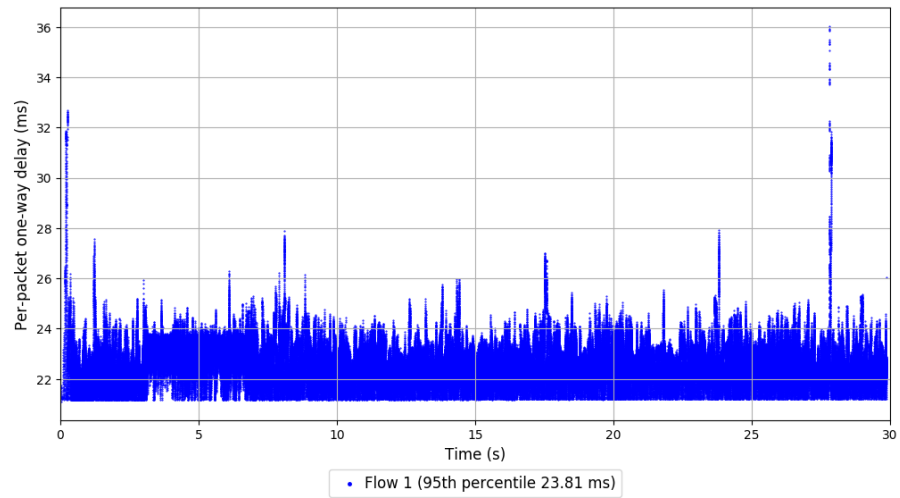
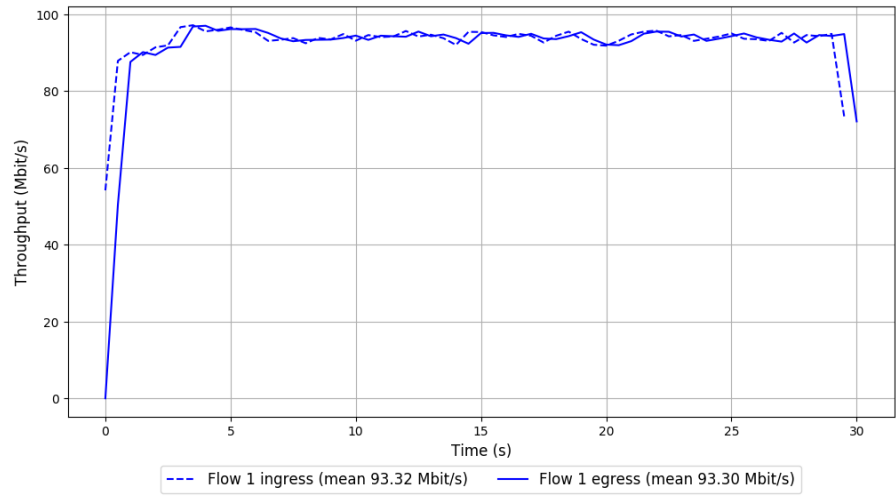
-- Flow 1:

Average throughput: 93.30 Mbit/s

95th percentile per-packet one-way delay: 23.813 ms

Loss rate: 0.10%

Run 5: Report of Indigo — Data Link



Run 1: Statistics of Indigo-MusesD

Start at: 2018-12-11 15:58:43

End at: 2018-12-11 15:59:13

Local clock offset: 1.1 ms

Remote clock offset: -10.325 ms

Below is generated by plot.py at 2018-12-11 17:42:12

Datalink statistics

-- Total of 1 flow:

Average throughput: 19.30 Mbit/s

95th percentile per-packet one-way delay: 0.616 ms

Loss rate: 0.02%

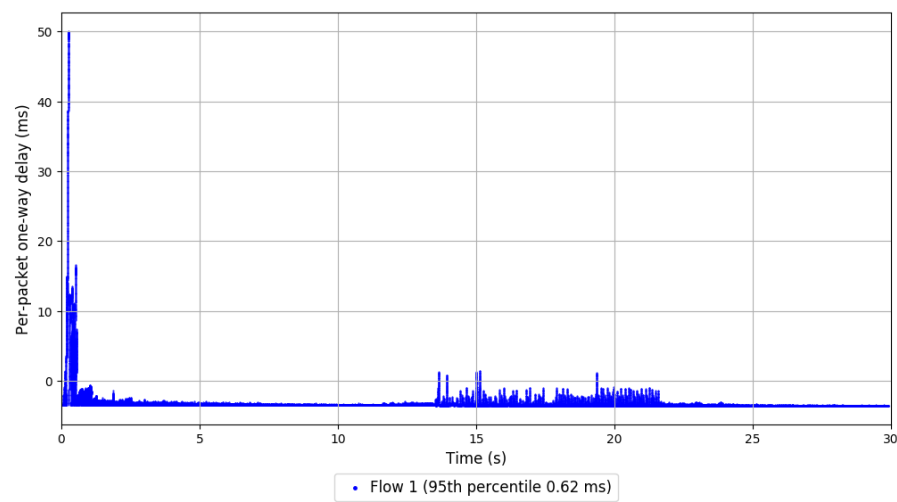
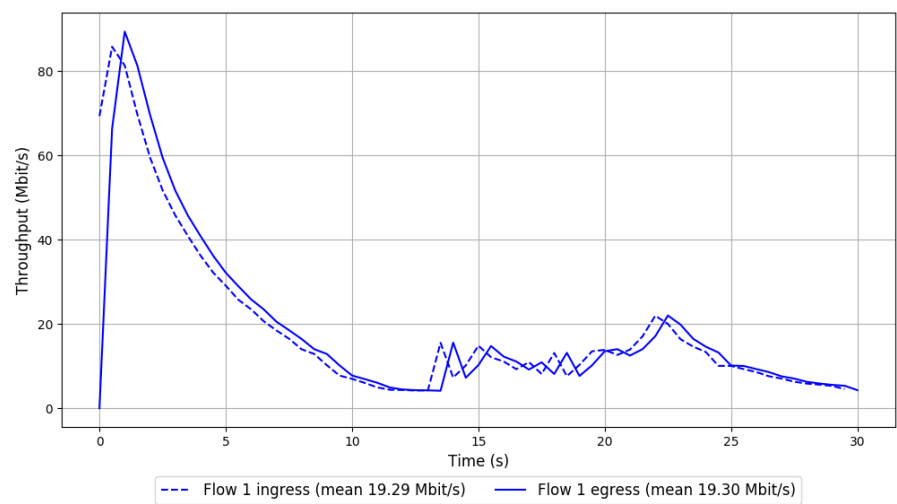
-- Flow 1:

Average throughput: 19.30 Mbit/s

95th percentile per-packet one-way delay: 0.616 ms

Loss rate: 0.02%

Run 1: Report of Indigo-MusesD — Data Link



Run 2: Statistics of Indigo-MusesD

Start at: 2018-12-11 16:20:50

End at: 2018-12-11 16:21:20

Local clock offset: 2.132 ms

Remote clock offset: -34.841 ms

Below is generated by plot.py at 2018-12-11 17:42:12

Datalink statistics

-- Total of 1 flow:

Average throughput: 15.05 Mbit/s

95th percentile per-packet one-way delay: 19.096 ms

Loss rate: 0.00%

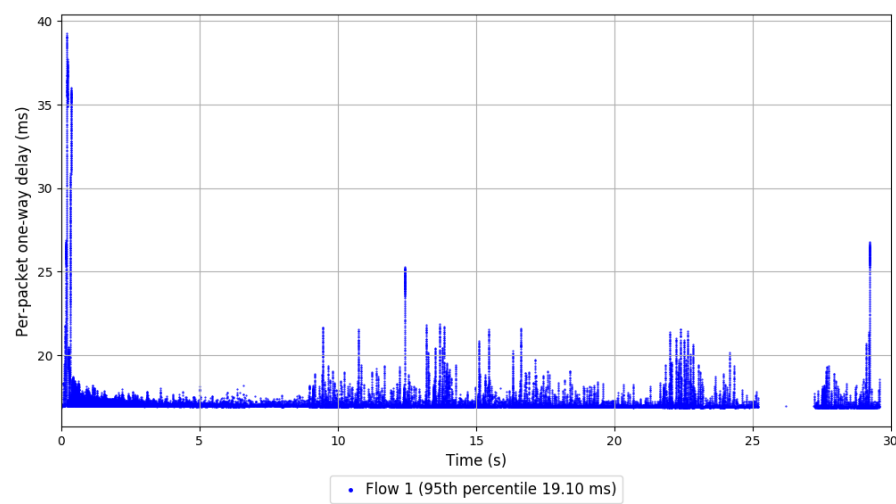
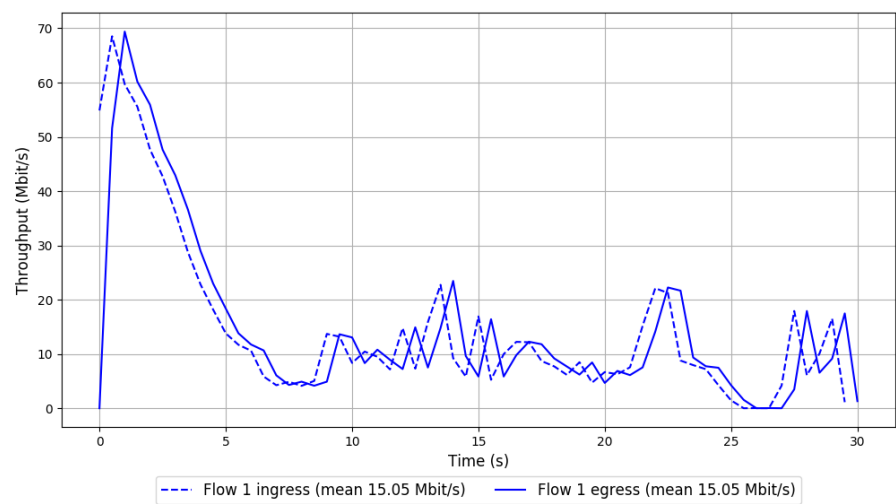
-- Flow 1:

Average throughput: 15.05 Mbit/s

95th percentile per-packet one-way delay: 19.096 ms

Loss rate: 0.00%

Run 2: Report of Indigo-MusesD — Data Link



Run 3: Statistics of Indigo-MusesD

Start at: 2018-12-11 16:43:24

End at: 2018-12-11 16:43:54

Local clock offset: 0.353 ms

Remote clock offset: -33.833 ms

Below is generated by plot.py at 2018-12-11 17:42:21

Datalink statistics

-- Total of 1 flow:

Average throughput: 65.84 Mbit/s

95th percentile per-packet one-way delay: 15.306 ms

Loss rate: 0.09%

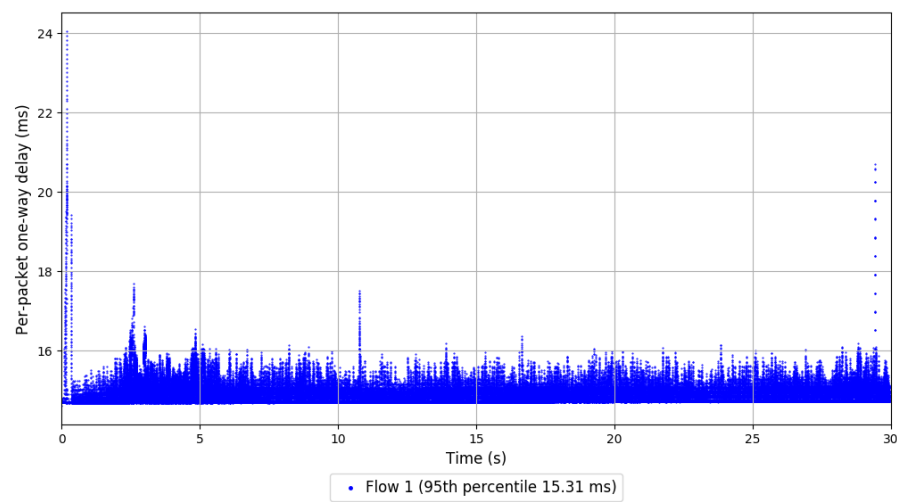
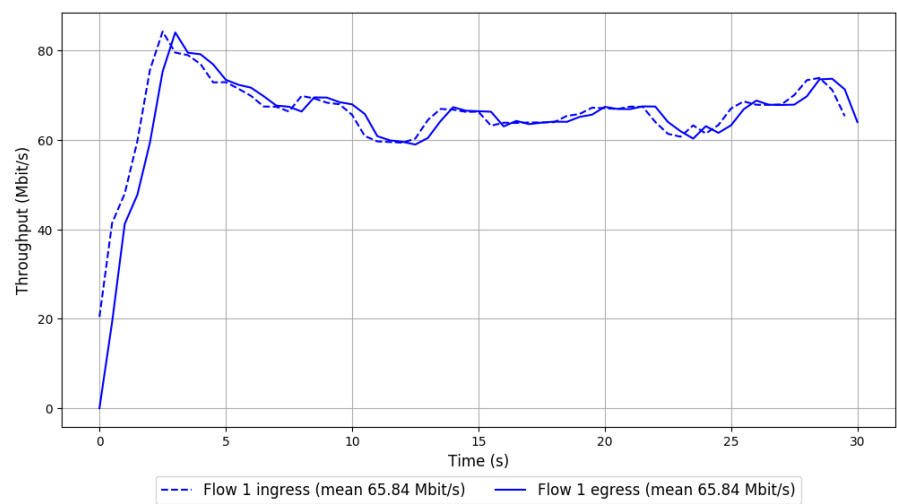
-- Flow 1:

Average throughput: 65.84 Mbit/s

95th percentile per-packet one-way delay: 15.306 ms

Loss rate: 0.09%

Run 3: Report of Indigo-MusesD — Data Link



Run 4: Statistics of Indigo-MusesD

Start at: 2018-12-11 17:05:40

End at: 2018-12-11 17:06:10

Local clock offset: 1.176 ms

Remote clock offset: -29.986 ms

Below is generated by plot.py at 2018-12-11 17:42:28

Datalink statistics

-- Total of 1 flow:

Average throughput: 72.00 Mbit/s

95th percentile per-packet one-way delay: 22.923 ms

Loss rate: 0.10%

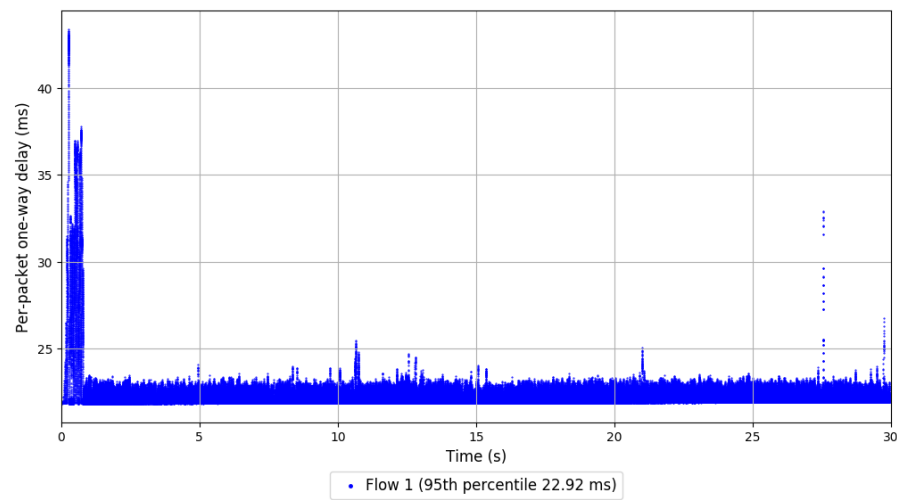
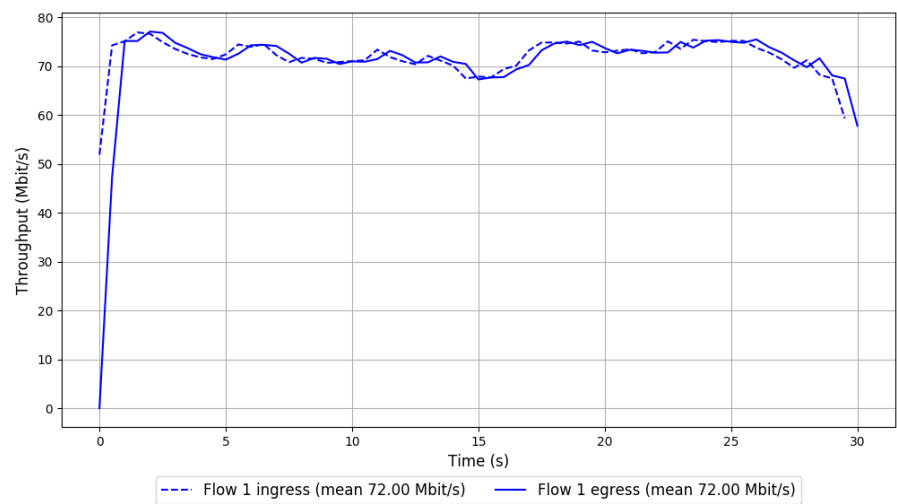
-- Flow 1:

Average throughput: 72.00 Mbit/s

95th percentile per-packet one-way delay: 22.923 ms

Loss rate: 0.10%

Run 4: Report of Indigo-MusesD — Data Link



Run 5: Statistics of Indigo-MusesD

Start at: 2018-12-11 17:28:05

End at: 2018-12-11 17:28:35

Local clock offset: 4.631 ms

Remote clock offset: -28.064 ms

Below is generated by plot.py at 2018-12-11 17:42:29

Datalink statistics

-- Total of 1 flow:

Average throughput: 73.81 Mbit/s

95th percentile per-packet one-way delay: 26.246 ms

Loss rate: 0.10%

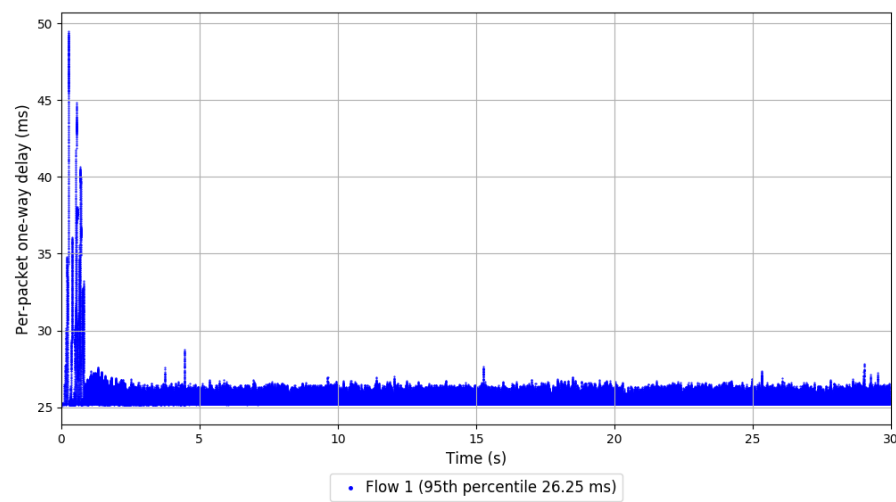
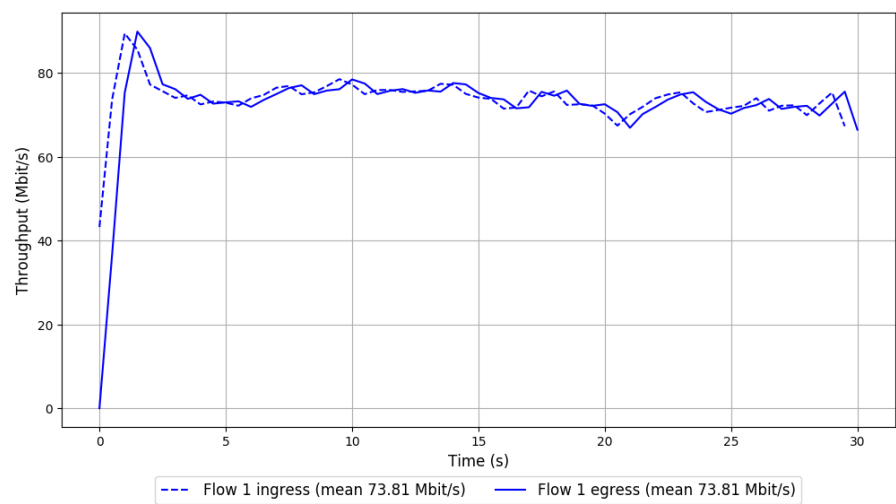
-- Flow 1:

Average throughput: 73.81 Mbit/s

95th percentile per-packet one-way delay: 26.246 ms

Loss rate: 0.10%

Run 5: Report of Indigo-MusesD — Data Link



Run 1: Statistics of Indigo-MusesT

Start at: 2018-12-11 16:01:04

End at: 2018-12-11 16:01:34

Local clock offset: 0.08 ms

Remote clock offset: -13.375 ms

Below is generated by plot.py at 2018-12-11 17:42:52

Datalink statistics

-- Total of 1 flow:

Average throughput: 91.25 Mbit/s

95th percentile per-packet one-way delay: 854.742 ms

Loss rate: 3.00%

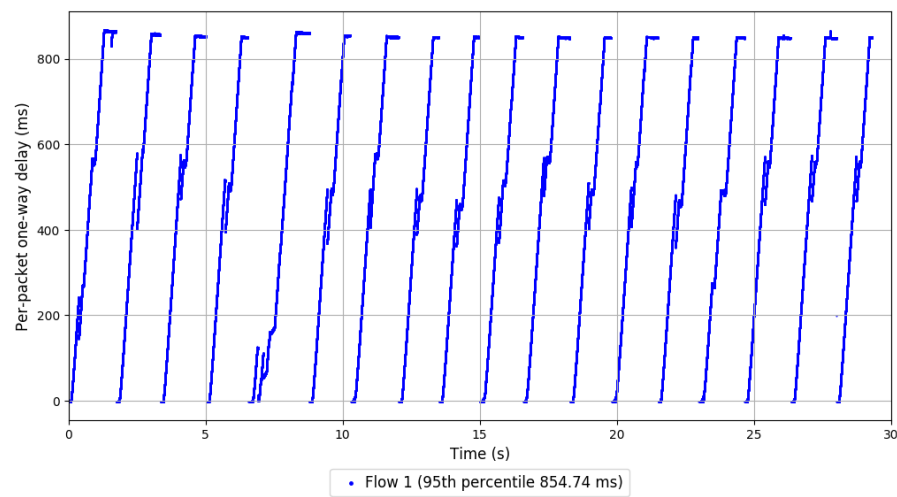
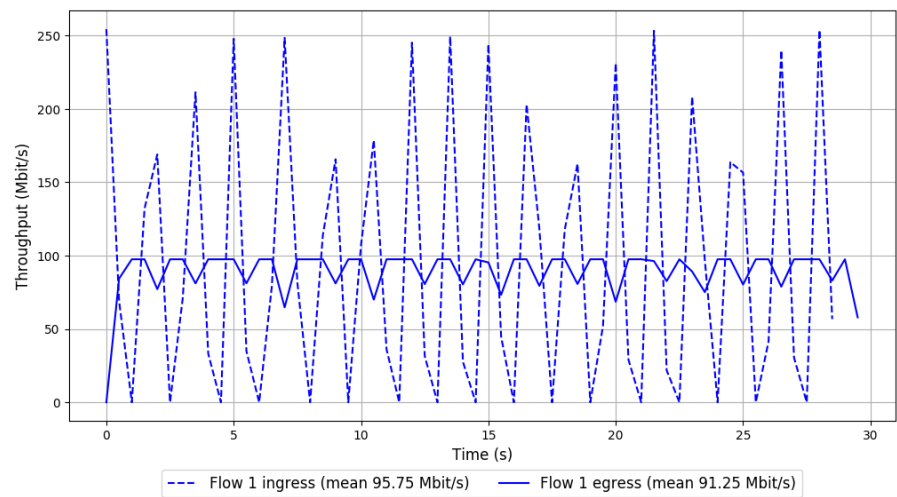
-- Flow 1:

Average throughput: 91.25 Mbit/s

95th percentile per-packet one-way delay: 854.742 ms

Loss rate: 3.00%

Run 1: Report of Indigo-MusesT — Data Link



Run 2: Statistics of Indigo-MusesT

Start at: 2018-12-11 16:23:05

End at: 2018-12-11 16:23:35

Local clock offset: 1.688 ms

Remote clock offset: -36.998 ms

Below is generated by plot.py at 2018-12-11 17:42:58

Datalink statistics

-- Total of 1 flow:

Average throughput: 91.18 Mbit/s

95th percentile per-packet one-way delay: 870.770 ms

Loss rate: 2.96%

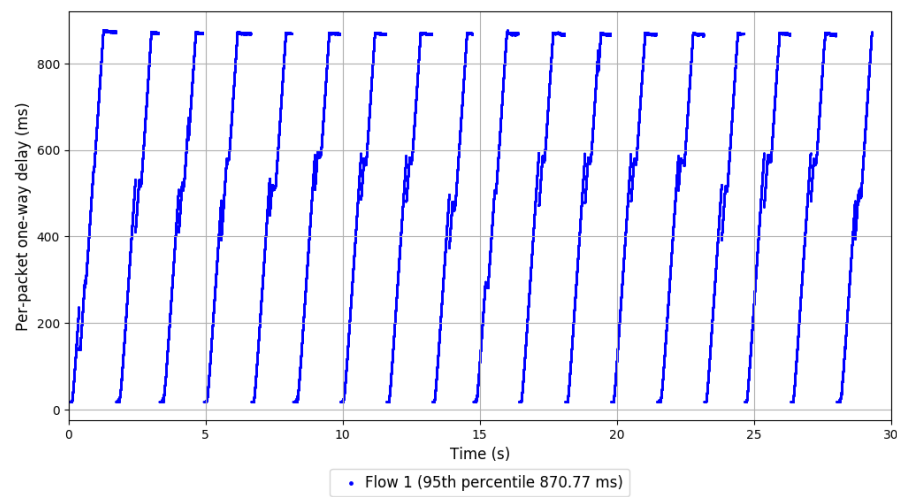
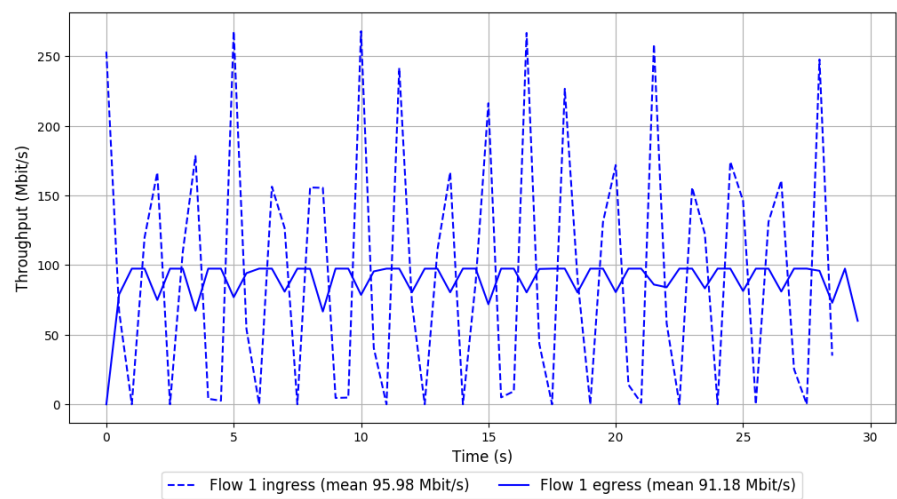
-- Flow 1:

Average throughput: 91.18 Mbit/s

95th percentile per-packet one-way delay: 870.770 ms

Loss rate: 2.96%

Run 2: Report of Indigo-MusesT — Data Link

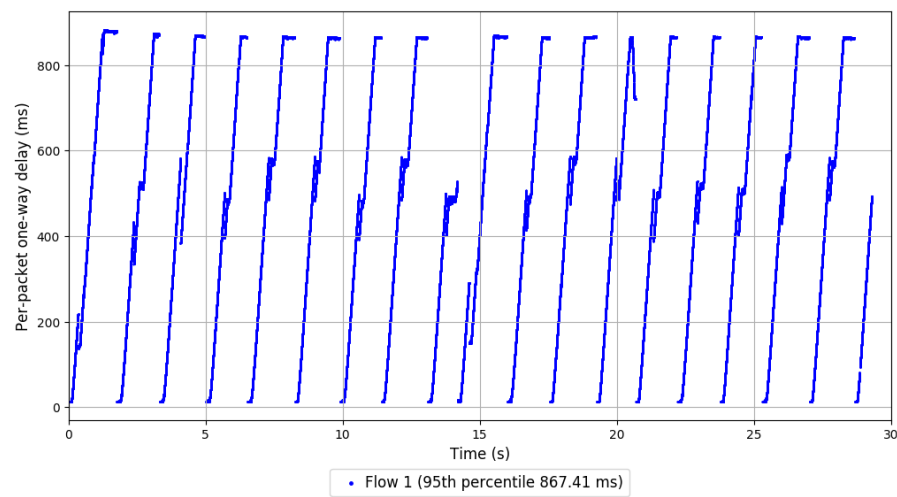
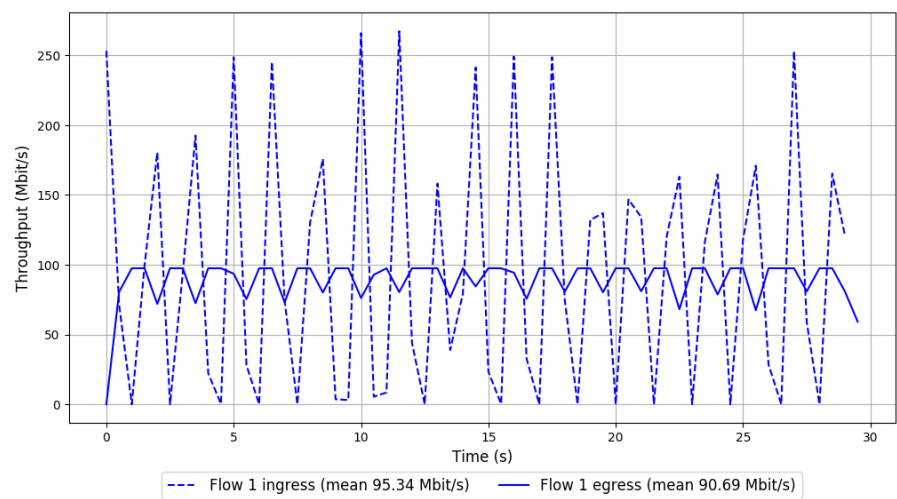


Run 3: Statistics of Indigo-MusesT

Start at: 2018-12-11 16:45:42
End at: 2018-12-11 16:46:13
Local clock offset: -0.972 ms
Remote clock offset: -33.106 ms

Below is generated by plot.py at 2018-12-11 17:43:04
Datalink statistics
-- Total of 1 flow:
Average throughput: 90.69 Mbit/s
95th percentile per-packet one-way delay: 867.414 ms
Loss rate: 4.95%
-- Flow 1:
Average throughput: 90.69 Mbit/s
95th percentile per-packet one-way delay: 867.414 ms
Loss rate: 4.95%

Run 3: Report of Indigo-MusesT — Data Link



Run 4: Statistics of Indigo-MusesT

Start at: 2018-12-11 17:08:00

End at: 2018-12-11 17:08:30

Local clock offset: 0.092 ms

Remote clock offset: -28.933 ms

Below is generated by plot.py at 2018-12-11 17:43:05

Datalink statistics

-- Total of 1 flow:

Average throughput: 90.27 Mbit/s

95th percentile per-packet one-way delay: 873.704 ms

Loss rate: 5.00%

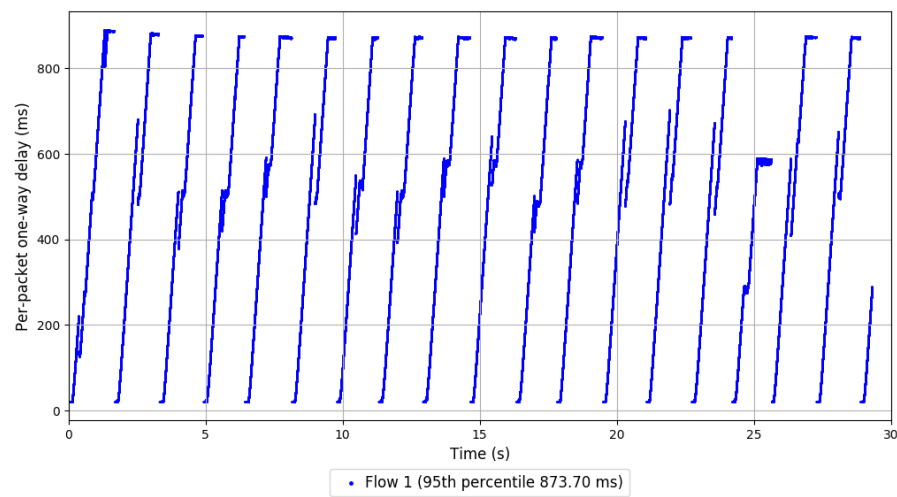
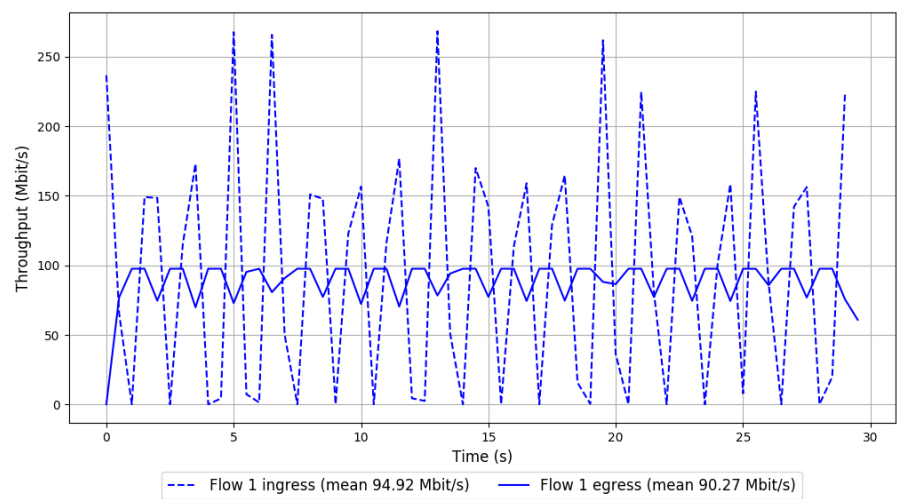
-- Flow 1:

Average throughput: 90.27 Mbit/s

95th percentile per-packet one-way delay: 873.704 ms

Loss rate: 5.00%

Run 4: Report of Indigo-MusesT — Data Link

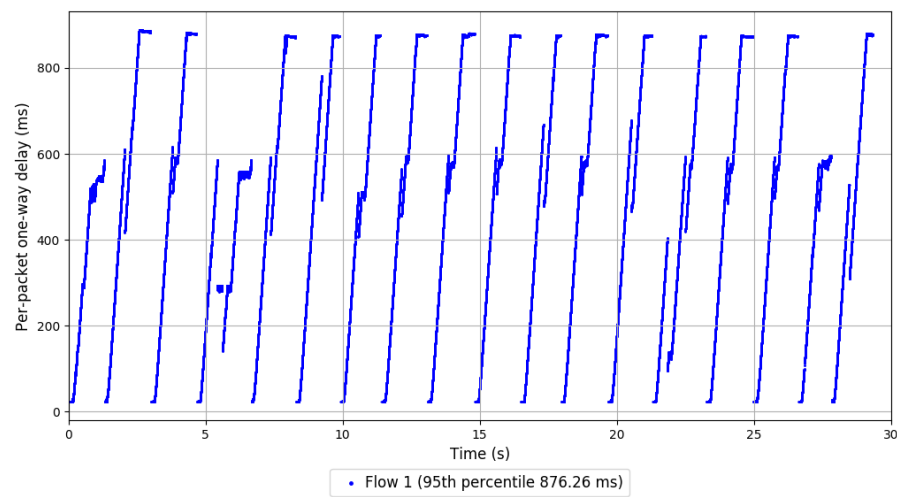
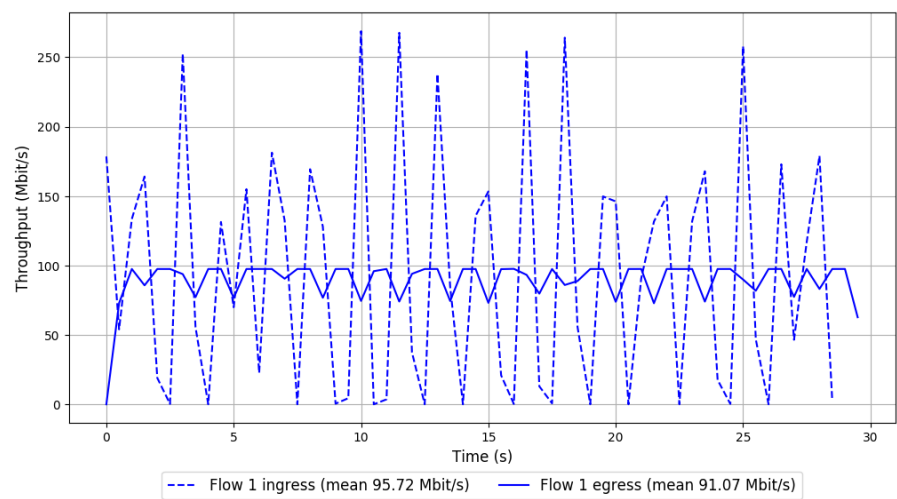


Run 5: Statistics of Indigo-MusesT

Start at: 2018-12-11 17:30:26
End at: 2018-12-11 17:30:56
Local clock offset: 2.994 ms
Remote clock offset: -27.557 ms

Below is generated by plot.py at 2018-12-11 17:43:15
Datalink statistics
-- Total of 1 flow:
Average throughput: 91.07 Mbit/s
95th percentile per-packet one-way delay: 876.257 ms
Loss rate: 2.25%
-- Flow 1:
Average throughput: 91.07 Mbit/s
95th percentile per-packet one-way delay: 876.257 ms
Loss rate: 2.25%

Run 5: Report of Indigo-MusesT — Data Link

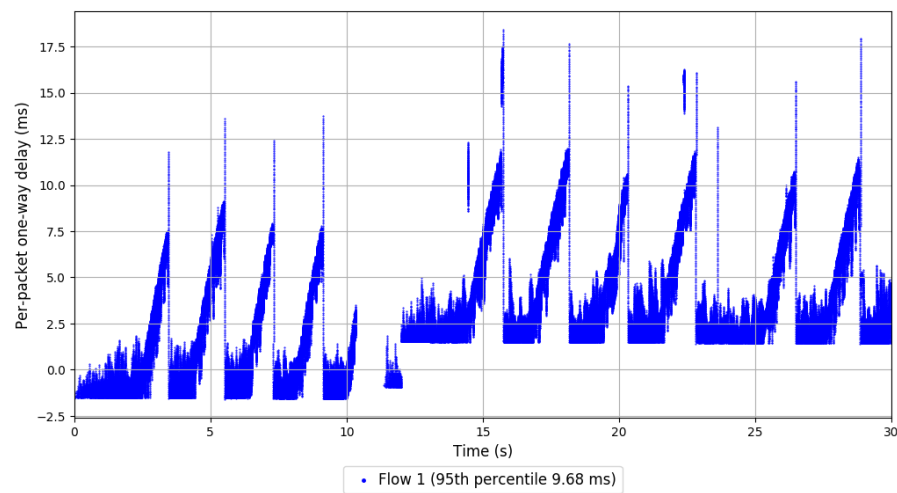
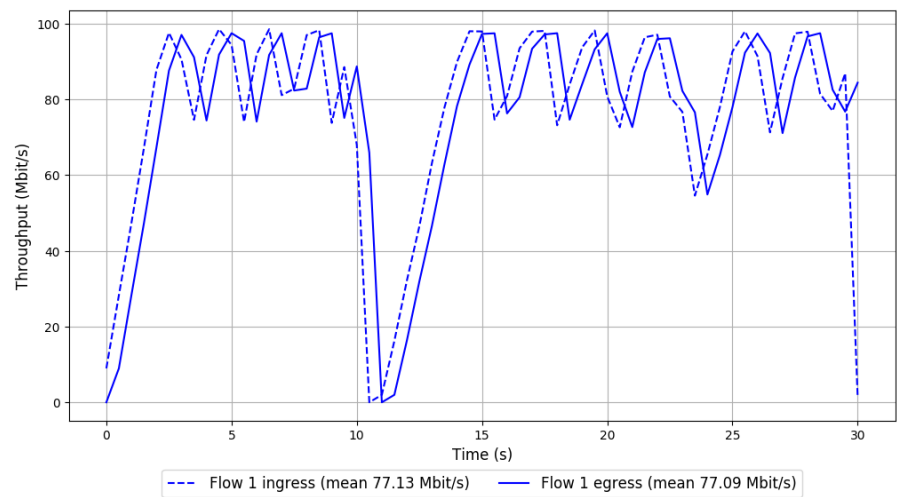


Run 1: Statistics of LEDBAT

Start at: 2018-12-11 15:51:39
End at: 2018-12-11 15:52:09
Local clock offset: 1.146 ms
Remote clock offset: -10.165 ms

Below is generated by plot.py at 2018-12-11 17:43:15
Datalink statistics
-- Total of 1 flow:
Average throughput: 77.09 Mbit/s
95th percentile per-packet one-way delay: 9.678 ms
Loss rate: 0.14%
-- Flow 1:
Average throughput: 77.09 Mbit/s
95th percentile per-packet one-way delay: 9.678 ms
Loss rate: 0.14%

Run 1: Report of LEDBAT — Data Link

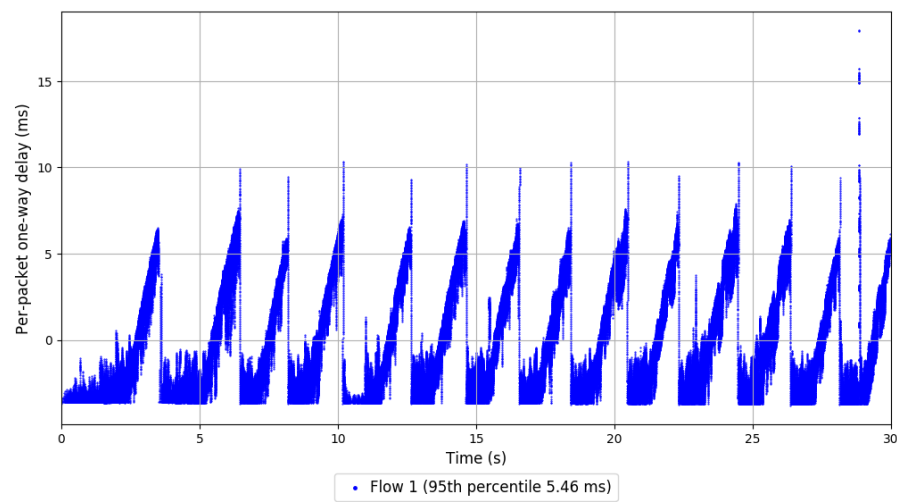
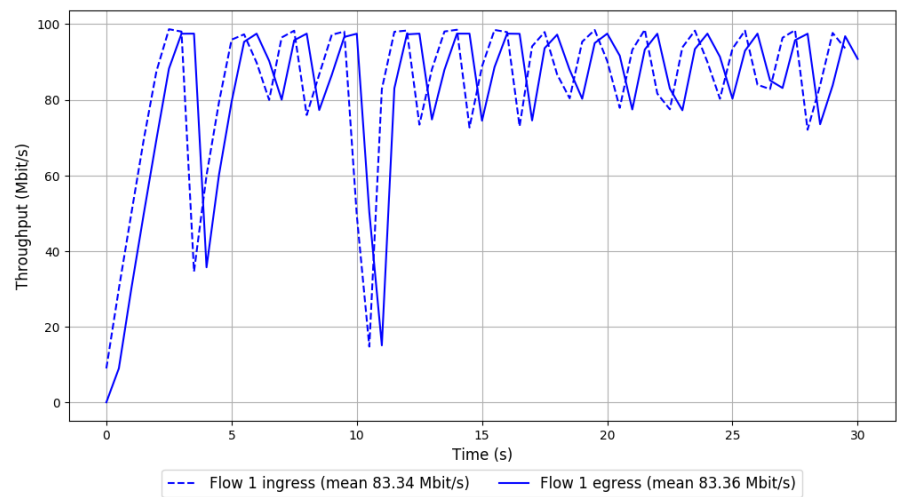


Run 2: Statistics of LEDBAT

Start at: 2018-12-11 16:13:47
End at: 2018-12-11 16:14:17
Local clock offset: -1.473 ms
Remote clock offset: -16.548 ms

Below is generated by plot.py at 2018-12-11 17:43:28
Datalink statistics
-- Total of 1 flow:
Average throughput: 83.36 Mbit/s
95th percentile per-packet one-way delay: 5.463 ms
Loss rate: 0.07%
-- Flow 1:
Average throughput: 83.36 Mbit/s
95th percentile per-packet one-way delay: 5.463 ms
Loss rate: 0.07%

Run 2: Report of LEDBAT — Data Link

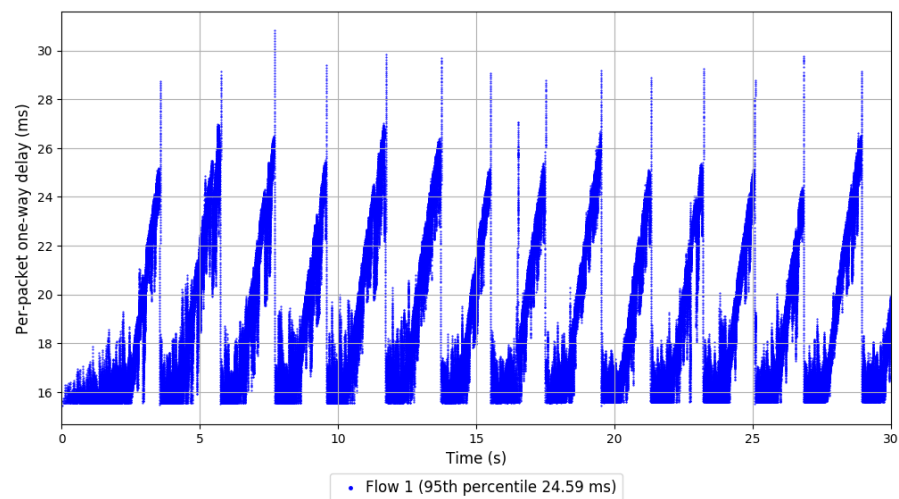
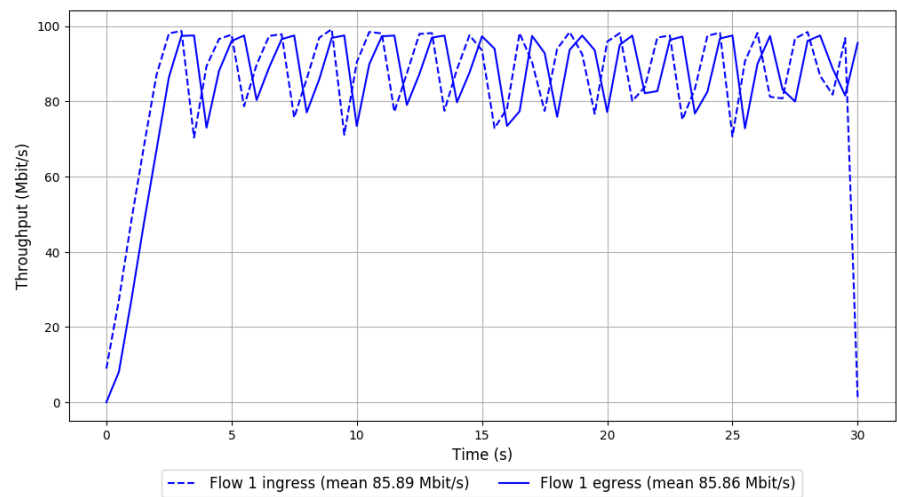


Run 3: Statistics of LEDBAT

Start at: 2018-12-11 16:36:08
End at: 2018-12-11 16:36:38
Local clock offset: 1.33 ms
Remote clock offset: -34.515 ms

Below is generated by plot.py at 2018-12-11 17:43:31
Datalink statistics
-- Total of 1 flow:
Average throughput: 85.86 Mbit/s
95th percentile per-packet one-way delay: 24.595 ms
Loss rate: 0.11%
-- Flow 1:
Average throughput: 85.86 Mbit/s
95th percentile per-packet one-way delay: 24.595 ms
Loss rate: 0.11%

Run 3: Report of LEDBAT — Data Link

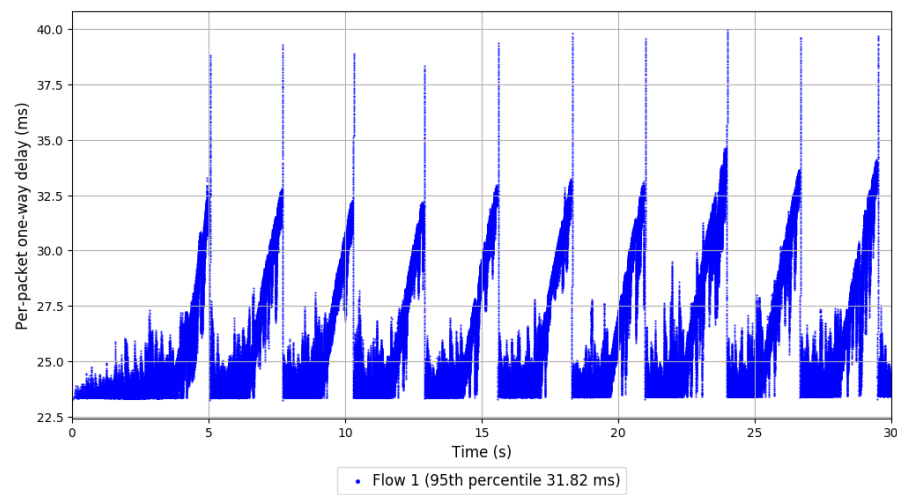
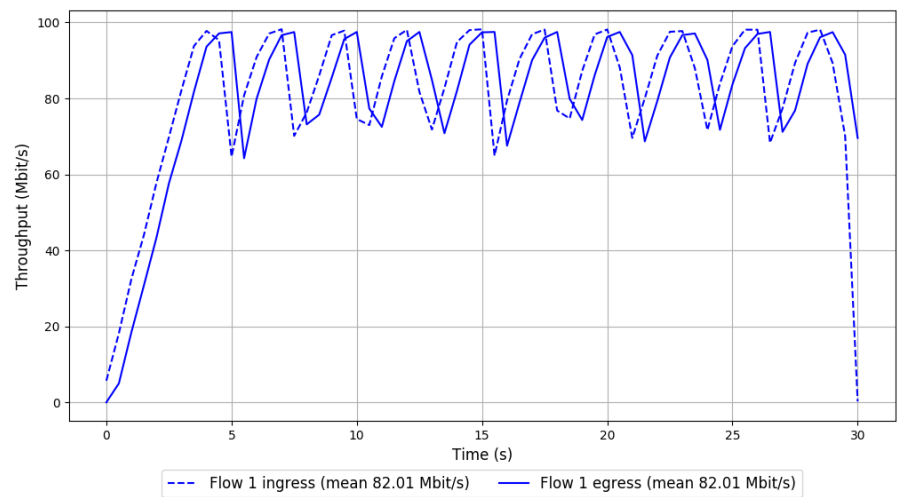


Run 4: Statistics of LEDBAT

Start at: 2018-12-11 16:58:35
End at: 2018-12-11 16:59:05
Local clock offset: 2.336 ms
Remote clock offset: -31.491 ms

Below is generated by plot.py at 2018-12-11 17:43:51
Datalink statistics
-- Total of 1 flow:
Average throughput: 82.01 Mbit/s
95th percentile per-packet one-way delay: 31.824 ms
Loss rate: 0.10%
-- Flow 1:
Average throughput: 82.01 Mbit/s
95th percentile per-packet one-way delay: 31.824 ms
Loss rate: 0.10%

Run 4: Report of LEDBAT — Data Link

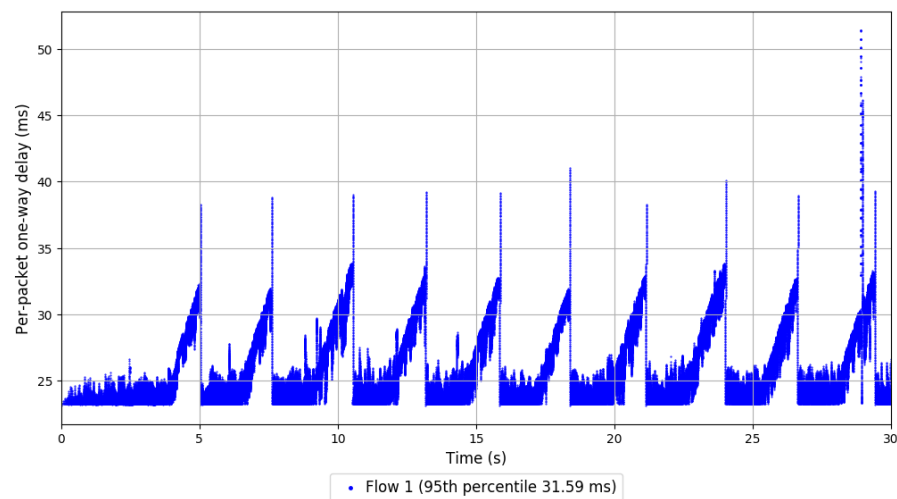
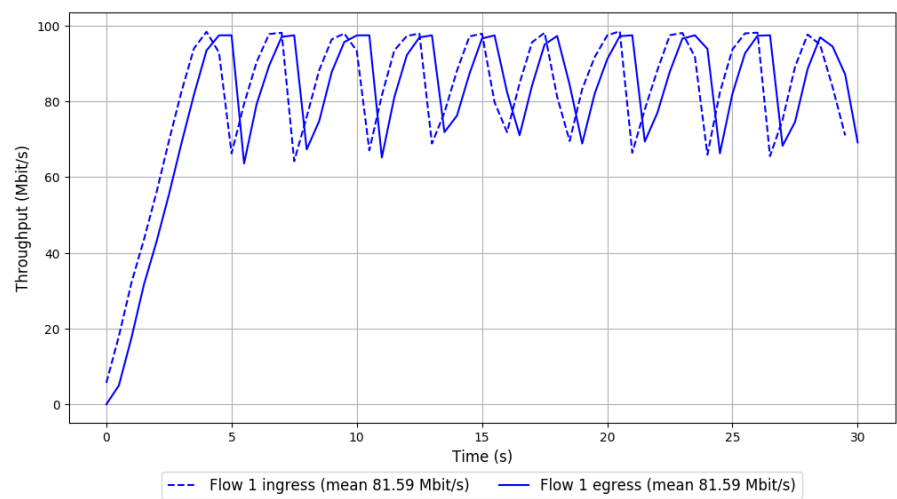


Run 5: Statistics of LEDBAT

Start at: 2018-12-11 17:20:51
End at: 2018-12-11 17:21:21
Local clock offset: 3.313 ms
Remote clock offset: -28.303 ms

Below is generated by plot.py at 2018-12-11 17:43:54
Datalink statistics
-- Total of 1 flow:
Average throughput: 81.59 Mbit/s
95th percentile per-packet one-way delay: 31.591 ms
Loss rate: 0.09%
-- Flow 1:
Average throughput: 81.59 Mbit/s
95th percentile per-packet one-way delay: 31.591 ms
Loss rate: 0.09%

Run 5: Report of LEDBAT — Data Link

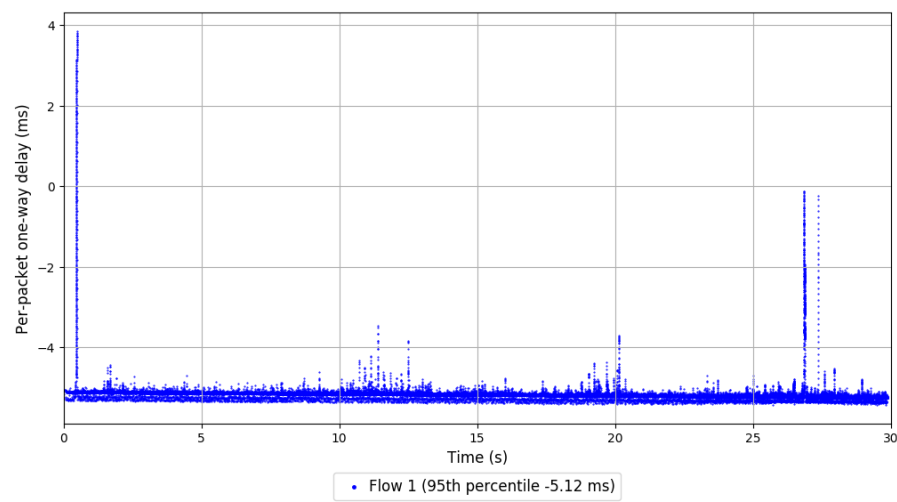
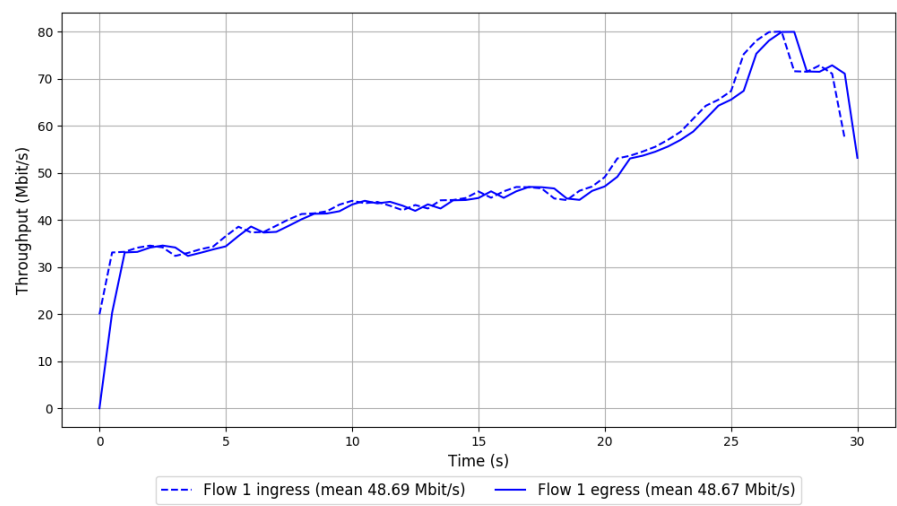


```
Run 1: Statistics of PCC-Allegro

Start at: 2018-12-11 16:05:37
End at: 2018-12-11 16:06:07
Local clock offset: -1.706 ms
Remote clock offset: -13.273 ms

# Below is generated by plot.py at 2018-12-11 17:43:54
# Datalink statistics
-- Total of 1 flow:
Average throughput: 48.67 Mbit/s
95th percentile per-packet one-way delay: -5.122 ms
Loss rate: 0.11%
-- Flow 1:
Average throughput: 48.67 Mbit/s
95th percentile per-packet one-way delay: -5.122 ms
Loss rate: 0.11%
```

Run 1: Report of PCC-Allegro — Data Link



Run 2: Statistics of PCC-Allegro

Start at: 2018-12-11 16:27:50

End at: 2018-12-11 16:28:20

Local clock offset: 2.617 ms

Remote clock offset: -35.683 ms

Below is generated by plot.py at 2018-12-11 17:43:54

Datalink statistics

-- Total of 1 flow:

Average throughput: 4.89 Mbit/s

95th percentile per-packet one-way delay: 16.959 ms

Loss rate: 0.08%

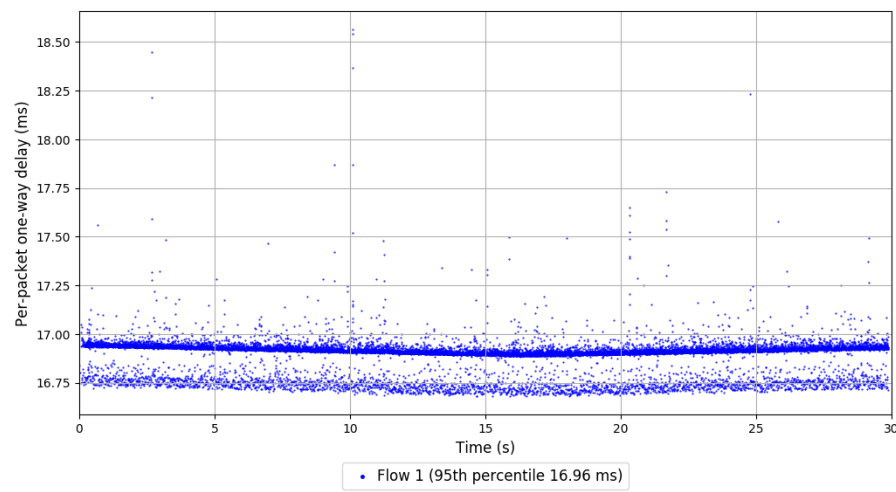
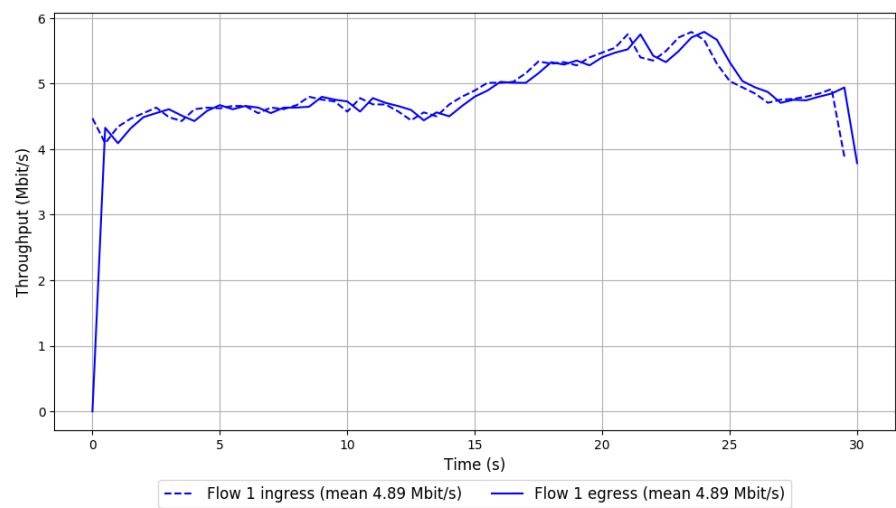
-- Flow 1:

Average throughput: 4.89 Mbit/s

95th percentile per-packet one-way delay: 16.959 ms

Loss rate: 0.08%

Run 2: Report of PCC-Allegro — Data Link

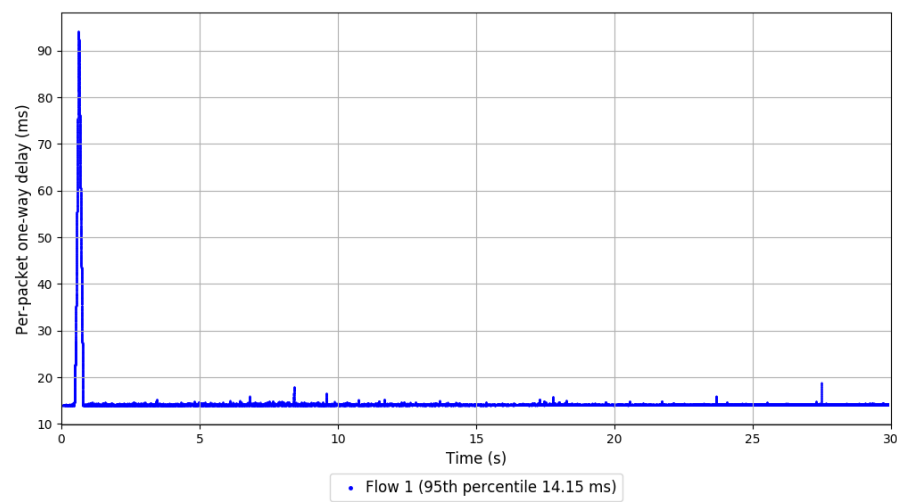
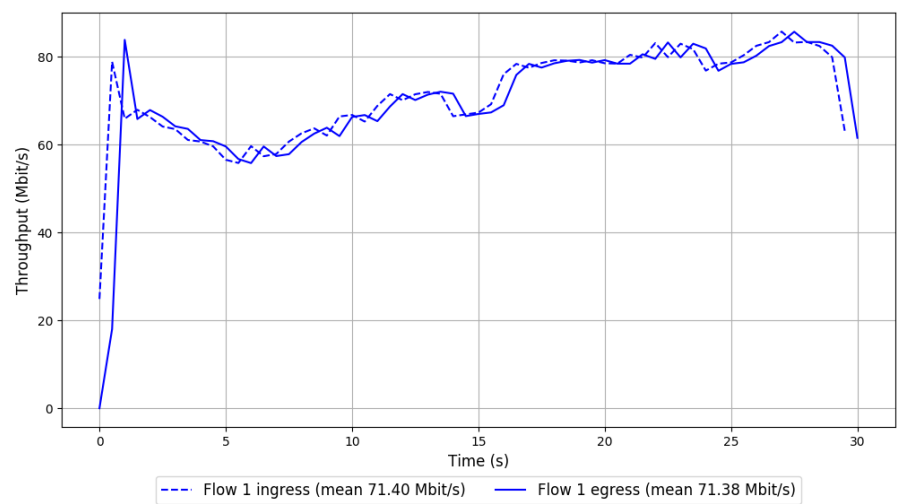


Run 3: Statistics of PCC-Allegro

Start at: 2018-12-11 16:50:16
End at: 2018-12-11 16:50:46
Local clock offset: 0.107 ms
Remote clock offset: -32.169 ms

Below is generated by plot.py at 2018-12-11 17:44:00
Datalink statistics
-- Total of 1 flow:
Average throughput: 71.38 Mbit/s
95th percentile per-packet one-way delay: 14.155 ms
Loss rate: 0.09%
-- Flow 1:
Average throughput: 71.38 Mbit/s
95th percentile per-packet one-way delay: 14.155 ms
Loss rate: 0.09%

Run 3: Report of PCC-Allegro — Data Link



Run 4: Statistics of PCC-Allegro

Start at: 2018-12-11 17:12:32

End at: 2018-12-11 17:13:02

Local clock offset: 2.617 ms

Remote clock offset: -29.182 ms

Below is generated by plot.py at 2018-12-11 17:44:10

Datalink statistics

-- Total of 1 flow:

Average throughput: 83.59 Mbit/s

95th percentile per-packet one-way delay: 24.375 ms

Loss rate: 0.24%

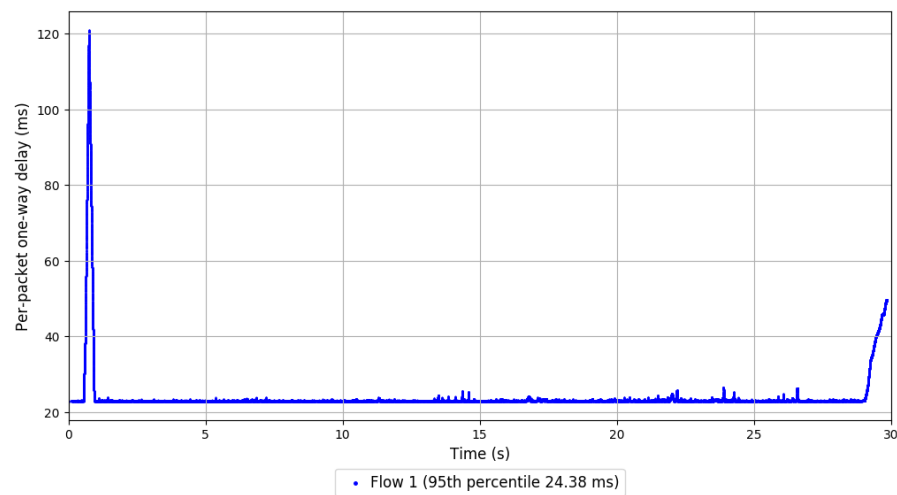
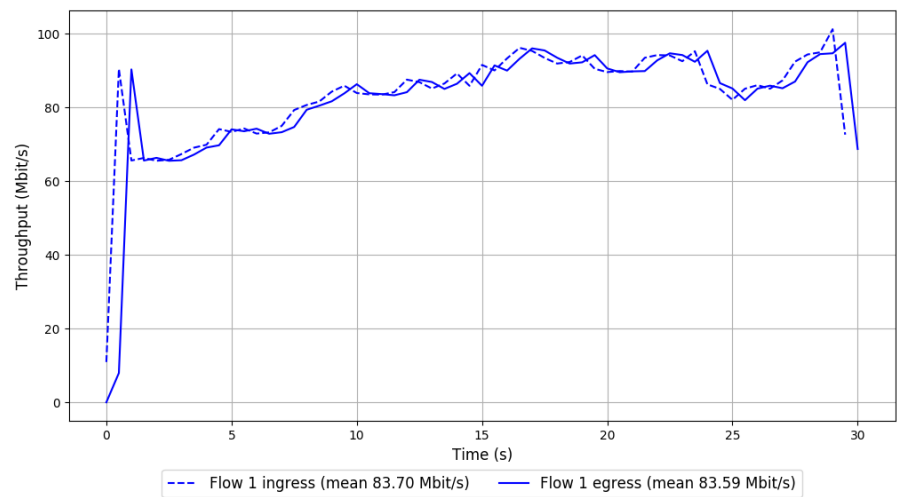
-- Flow 1:

Average throughput: 83.59 Mbit/s

95th percentile per-packet one-way delay: 24.375 ms

Loss rate: 0.24%

Run 4: Report of PCC-Allegro — Data Link



Run 5: Statistics of PCC-Allegro

Start at: 2018-12-11 17:35:11

End at: 2018-12-11 17:35:41

Local clock offset: 3.668 ms

Remote clock offset: -27.277 ms

Below is generated by plot.py at 2018-12-11 17:44:10

Datalink statistics

-- Total of 1 flow:

Average throughput: 66.34 Mbit/s

95th percentile per-packet one-way delay: 24.172 ms

Loss rate: 0.19%

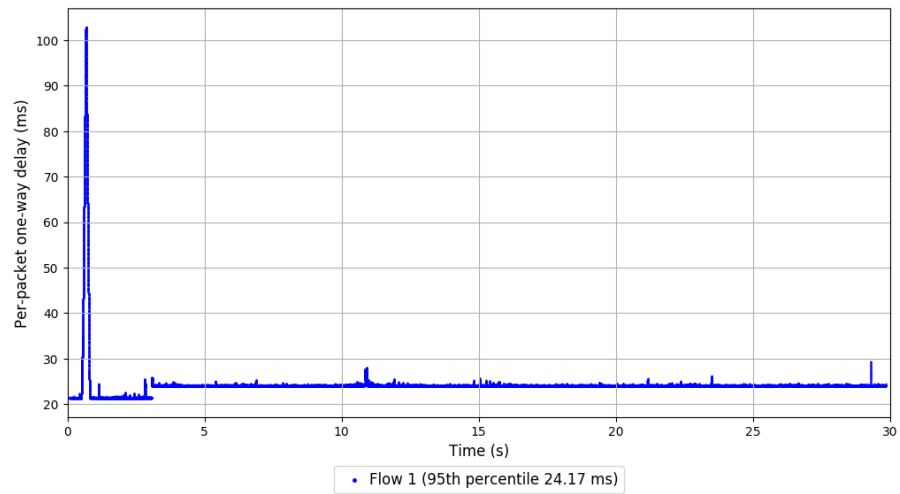
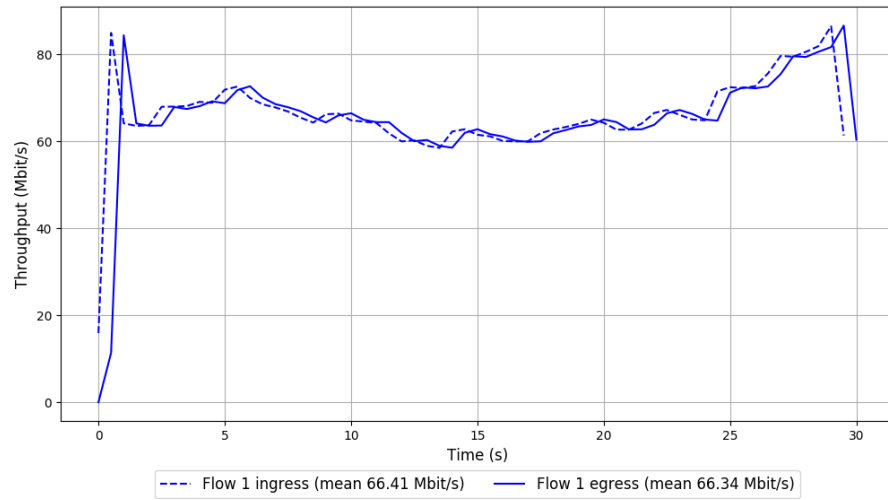
-- Flow 1:

Average throughput: 66.34 Mbit/s

95th percentile per-packet one-way delay: 24.172 ms

Loss rate: 0.19%

Run 5: Report of PCC-Allegro — Data Link

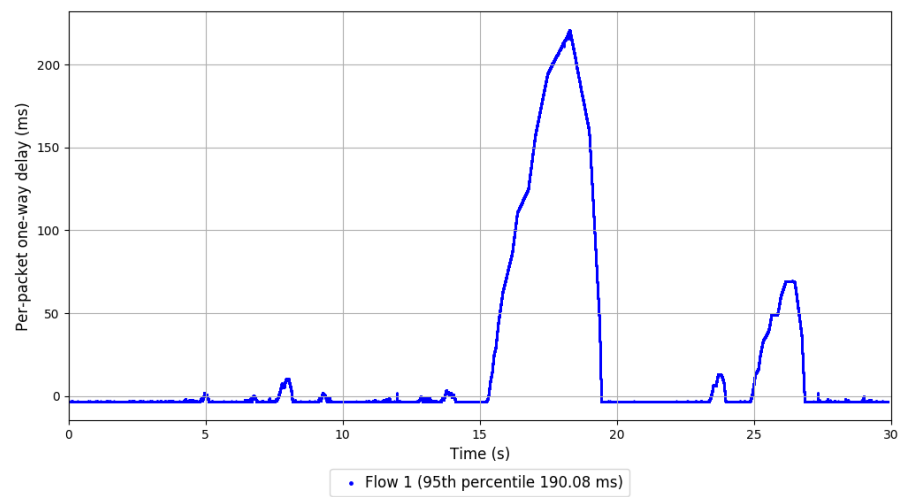
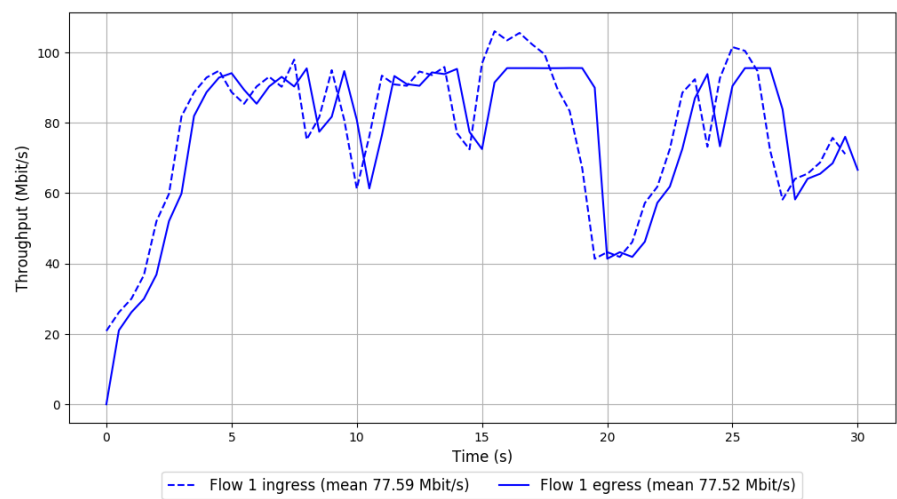


```
Run 1: Statistics of PCC-Expr

Start at: 2018-12-11 15:50:25
End at: 2018-12-11 15:50:55
Local clock offset: -0.169 ms
Remote clock offset: -9.305 ms

# Below is generated by plot.py at 2018-12-11 17:45:02
# Datalink statistics
-- Total of 1 flow:
Average throughput: 77.52 Mbit/s
95th percentile per-packet one-way delay: 190.076 ms
Loss rate: 0.18%
-- Flow 1:
Average throughput: 77.52 Mbit/s
95th percentile per-packet one-way delay: 190.076 ms
Loss rate: 0.18%
```

Run 1: Report of PCC-Expr — Data Link

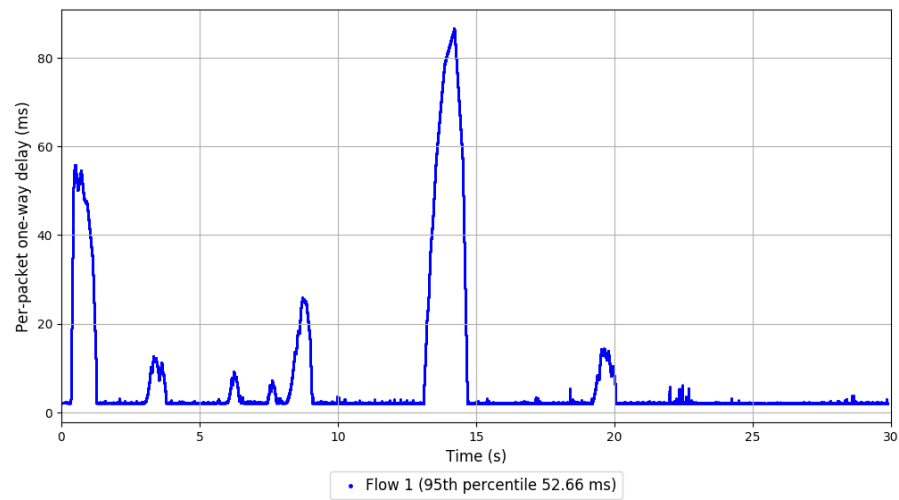
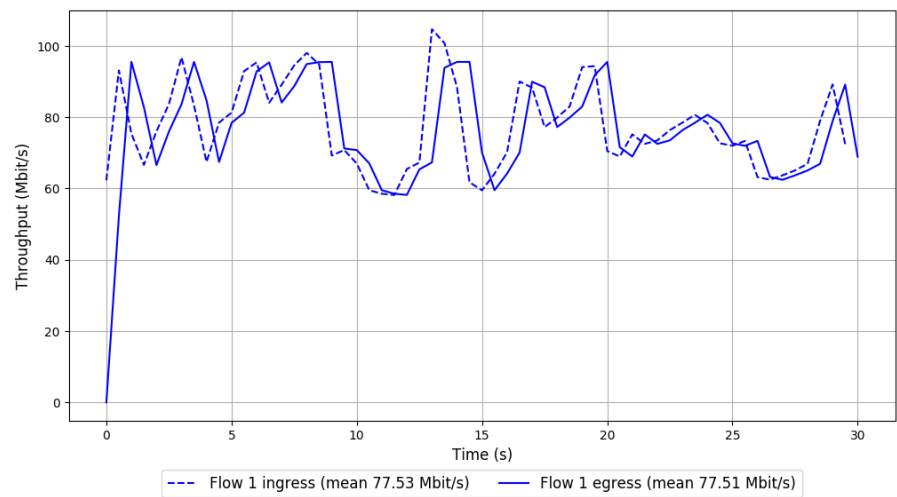


Run 2: Statistics of PCC-Expr

Start at: 2018-12-11 16:12:34
End at: 2018-12-11 16:13:04
Local clock offset: 2.425 ms
Remote clock offset: -18.113 ms

Below is generated by plot.py at 2018-12-11 17:45:12
Datalink statistics
-- Total of 1 flow:
Average throughput: 77.51 Mbit/s
95th percentile per-packet one-way delay: 52.661 ms
Loss rate: 0.10%
-- Flow 1:
Average throughput: 77.51 Mbit/s
95th percentile per-packet one-way delay: 52.661 ms
Loss rate: 0.10%

Run 2: Report of PCC-Expr — Data Link

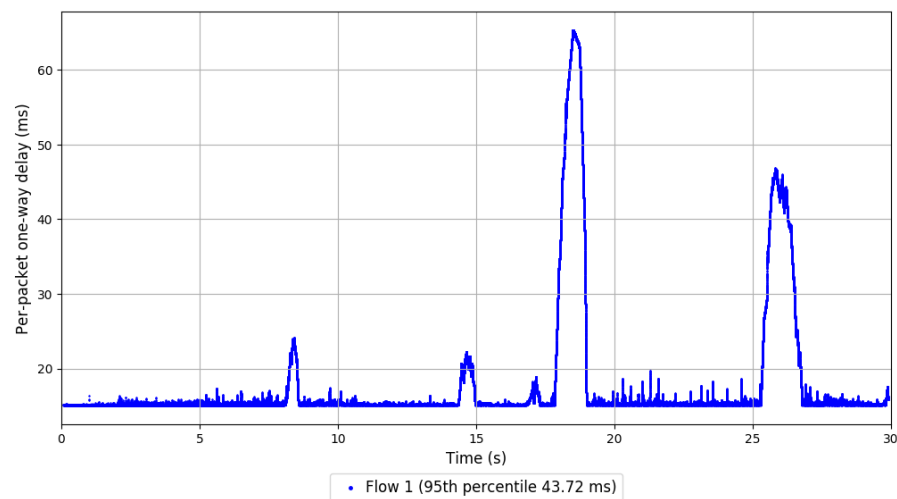
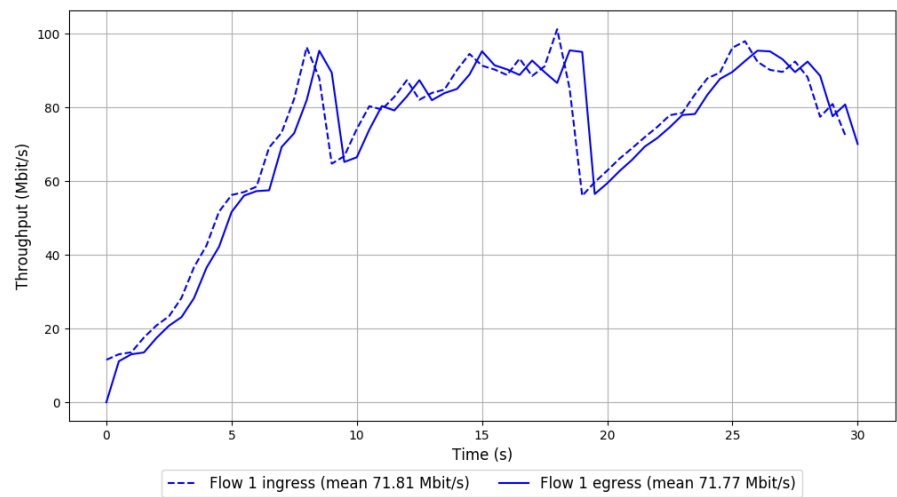


Run 3: Statistics of PCC-Expr

Start at: 2018-12-11 16:34:55
End at: 2018-12-11 16:35:26
Local clock offset: 1.114 ms
Remote clock offset: -34.429 ms

Below is generated by plot.py at 2018-12-11 17:45:12
Datalink statistics
-- Total of 1 flow:
Average throughput: 71.77 Mbit/s
95th percentile per-packet one-way delay: 43.717 ms
Loss rate: 0.13%
-- Flow 1:
Average throughput: 71.77 Mbit/s
95th percentile per-packet one-way delay: 43.717 ms
Loss rate: 0.13%

Run 3: Report of PCC-Expr — Data Link

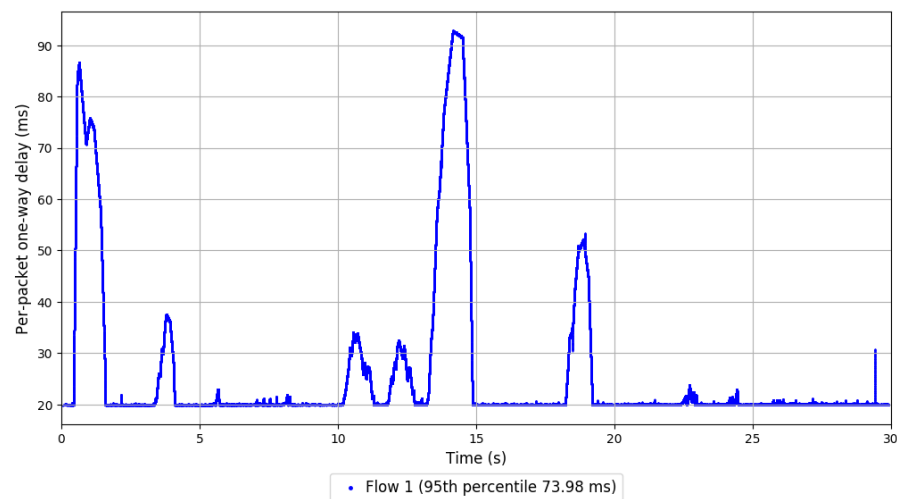
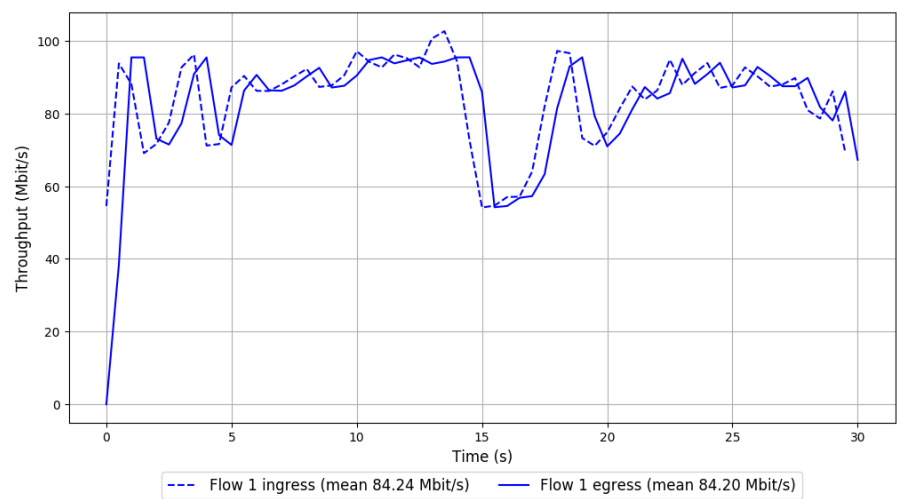


Run 4: Statistics of PCC-Expr

Start at: 2018-12-11 16:57:20
End at: 2018-12-11 16:57:50
Local clock offset: -0.059 ms
Remote clock offset: -30.641 ms

Below is generated by plot.py at 2018-12-11 17:45:40
Datalink statistics
-- Total of 1 flow:
Average throughput: 84.20 Mbit/s
95th percentile per-packet one-way delay: 73.984 ms
Loss rate: 0.15%
-- Flow 1:
Average throughput: 84.20 Mbit/s
95th percentile per-packet one-way delay: 73.984 ms
Loss rate: 0.15%

Run 4: Report of PCC-Expr — Data Link

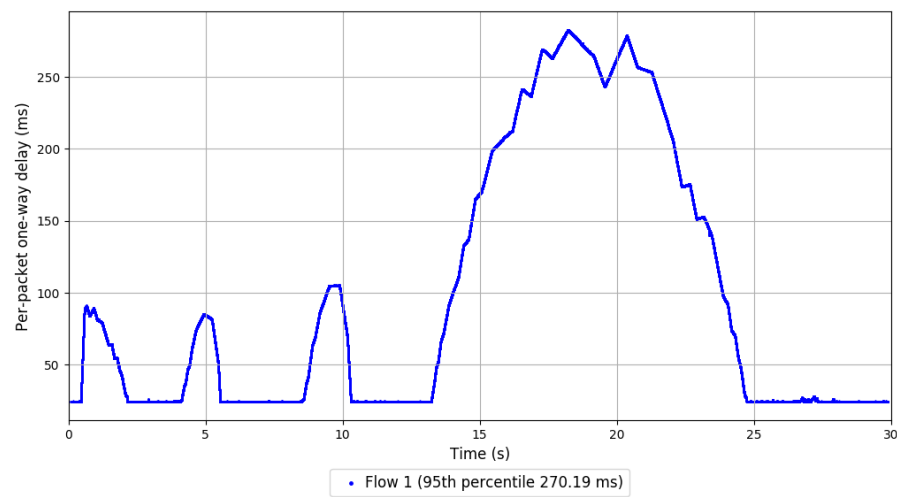
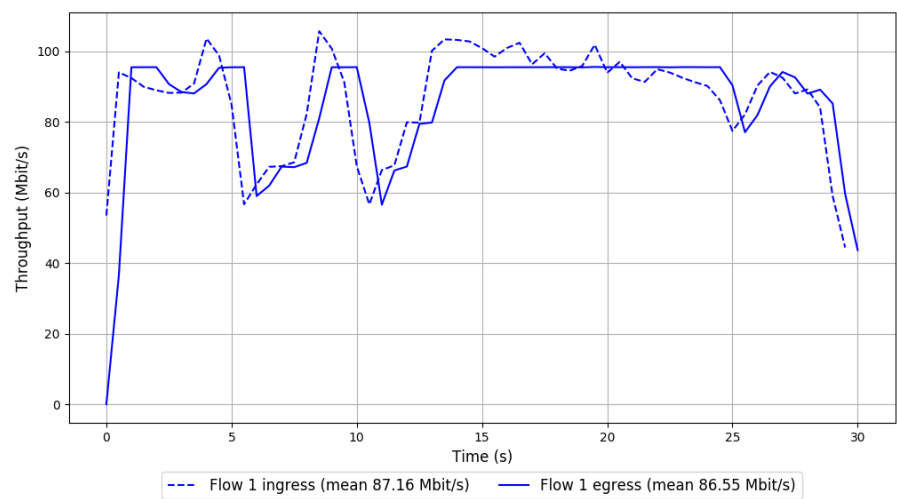


Run 5: Statistics of PCC-Expr

Start at: 2018-12-11 17:19:38
End at: 2018-12-11 17:20:08
Local clock offset: 3.502 ms
Remote clock offset: -29.145 ms

Below is generated by plot.py at 2018-12-11 17:45:46
Datalink statistics
-- Total of 1 flow:
Average throughput: 86.55 Mbit/s
95th percentile per-packet one-way delay: 270.192 ms
Loss rate: 0.79%
-- Flow 1:
Average throughput: 86.55 Mbit/s
95th percentile per-packet one-way delay: 270.192 ms
Loss rate: 0.79%

Run 5: Report of PCC-Expr — Data Link



Run 1: Statistics of QUIC Cubic

Start at: 2018-12-11 15:44:34

End at: 2018-12-11 15:45:04

Local clock offset: -1.126 ms

Remote clock offset: -6.37 ms

Below is generated by plot.py at 2018-12-11 17:45:46

Datalink statistics

-- Total of 1 flow:

Average throughput: 90.74 Mbit/s

95th percentile per-packet one-way delay: 4.589 ms

Loss rate: 0.11%

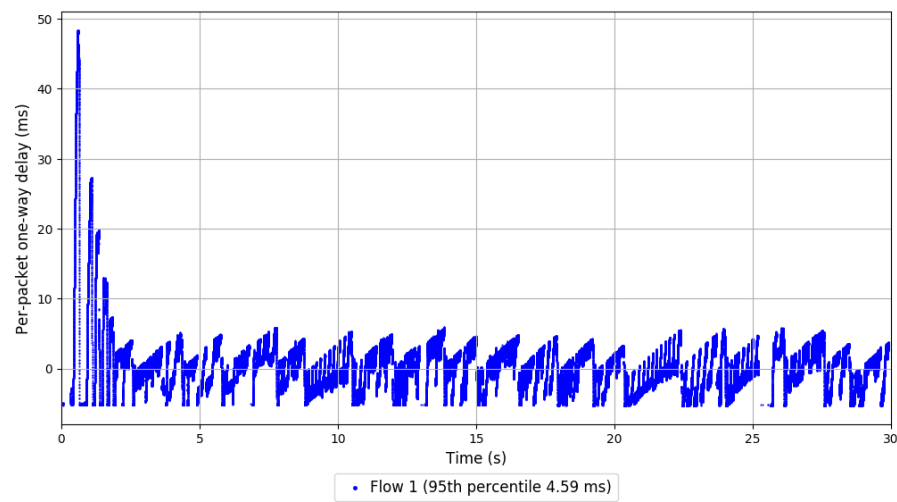
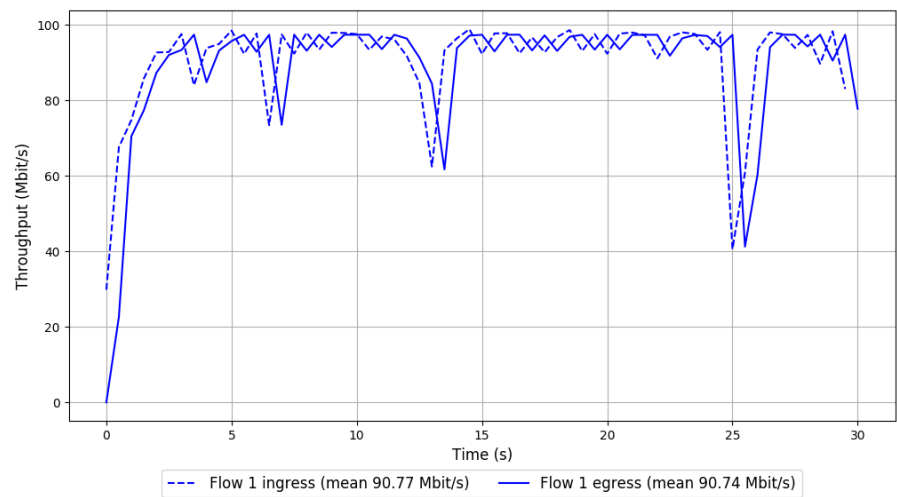
-- Flow 1:

Average throughput: 90.74 Mbit/s

95th percentile per-packet one-way delay: 4.589 ms

Loss rate: 0.11%

Run 1: Report of QUIC Cubic — Data Link

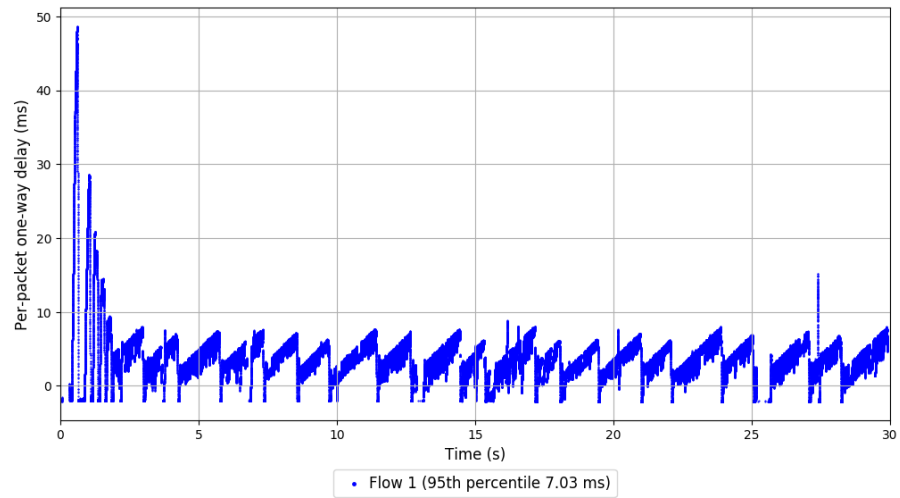
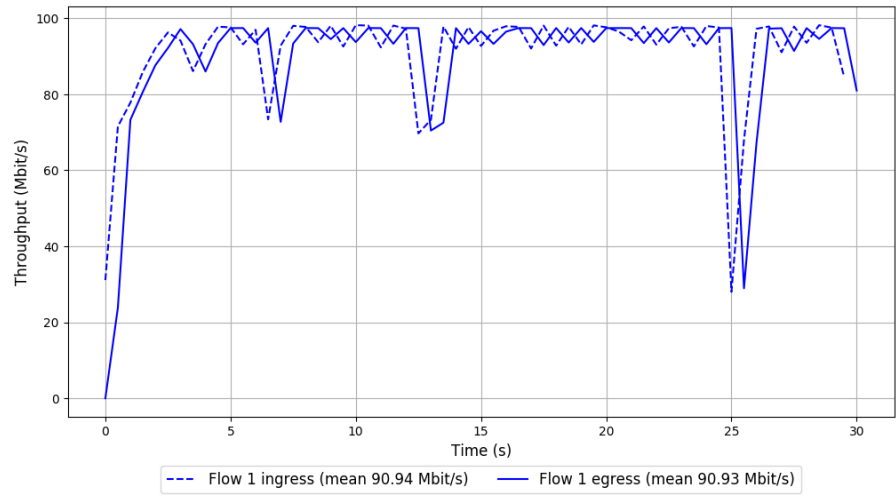


Run 2: Statistics of QUIC Cubic

Start at: 2018-12-11 16:06:43
End at: 2018-12-11 16:07:13
Local clock offset: 2.288 ms
Remote clock offset: -12.709 ms

Below is generated by plot.py at 2018-12-11 17:45:46
Datalink statistics
-- Total of 1 flow:
Average throughput: 90.93 Mbit/s
95th percentile per-packet one-way delay: 7.027 ms
Loss rate: 0.09%
-- Flow 1:
Average throughput: 90.93 Mbit/s
95th percentile per-packet one-way delay: 7.027 ms
Loss rate: 0.09%

Run 2: Report of QUIC Cubic — Data Link

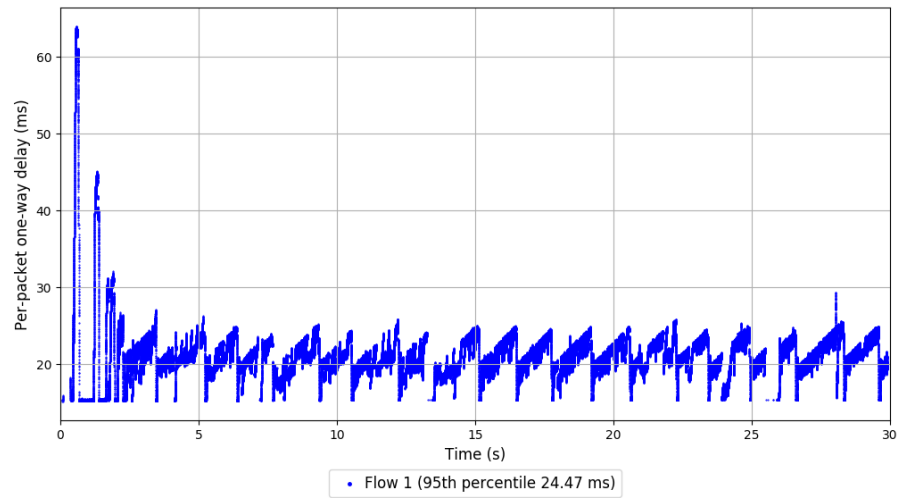
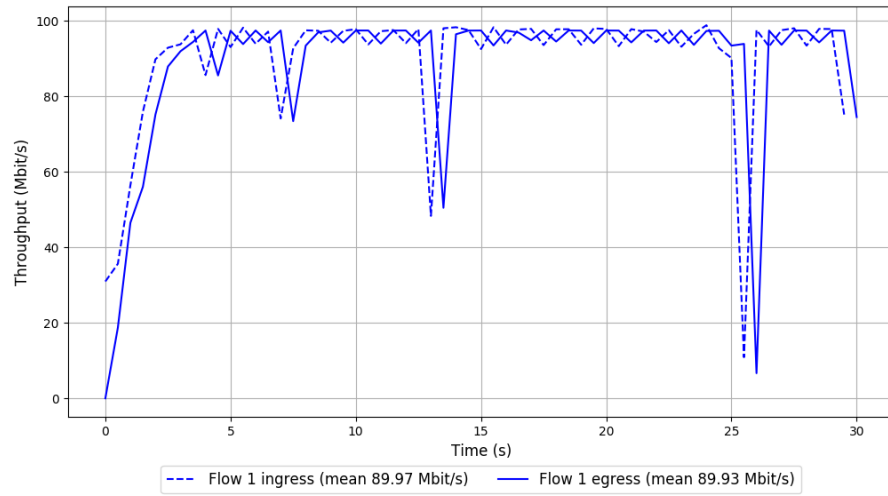


Run 3: Statistics of QUIC Cubic

Start at: 2018-12-11 16:28:55
End at: 2018-12-11 16:29:25
Local clock offset: 0.453 ms
Remote clock offset: -36.146 ms

Below is generated by plot.py at 2018-12-11 17:45:46
Datalink statistics
-- Total of 1 flow:
Average throughput: 89.93 Mbit/s
95th percentile per-packet one-way delay: 24.469 ms
Loss rate: 0.12%
-- Flow 1:
Average throughput: 89.93 Mbit/s
95th percentile per-packet one-way delay: 24.469 ms
Loss rate: 0.12%

Run 3: Report of QUIC Cubic — Data Link

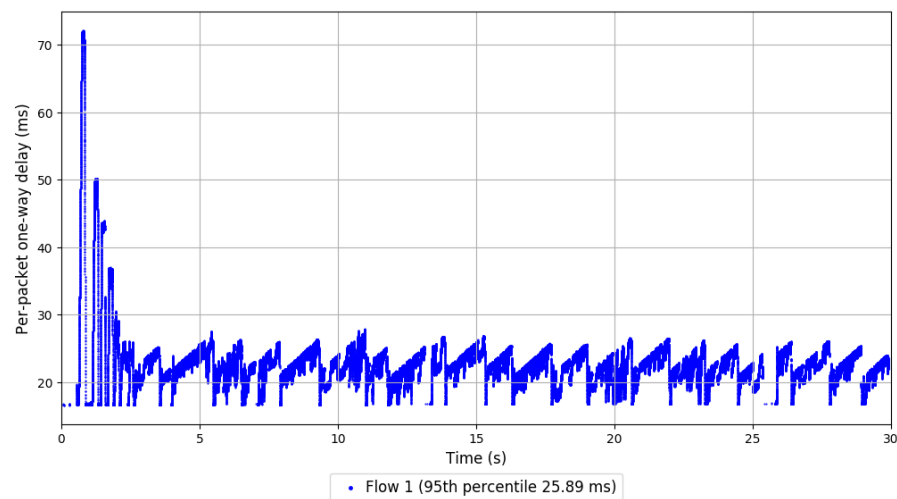
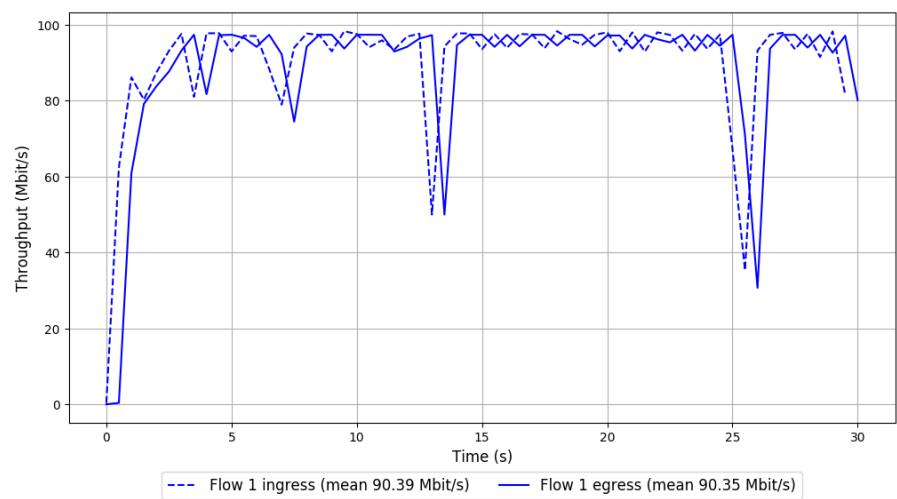


Run 4: Statistics of QUIC Cubic

Start at: 2018-12-11 16:51:24
End at: 2018-12-11 16:51:54
Local clock offset: 2.937 ms
Remote clock offset: -31.789 ms

Below is generated by plot.py at 2018-12-11 17:46:08
Datalink statistics
-- Total of 1 flow:
Average throughput: 90.35 Mbit/s
95th percentile per-packet one-way delay: 25.888 ms
Loss rate: 0.12%
-- Flow 1:
Average throughput: 90.35 Mbit/s
95th percentile per-packet one-way delay: 25.888 ms
Loss rate: 0.12%

Run 4: Report of QUIC Cubic — Data Link

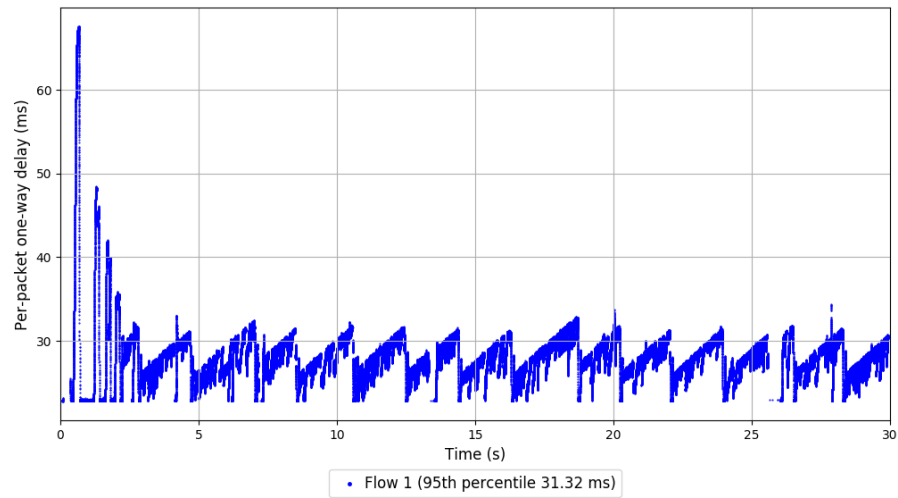
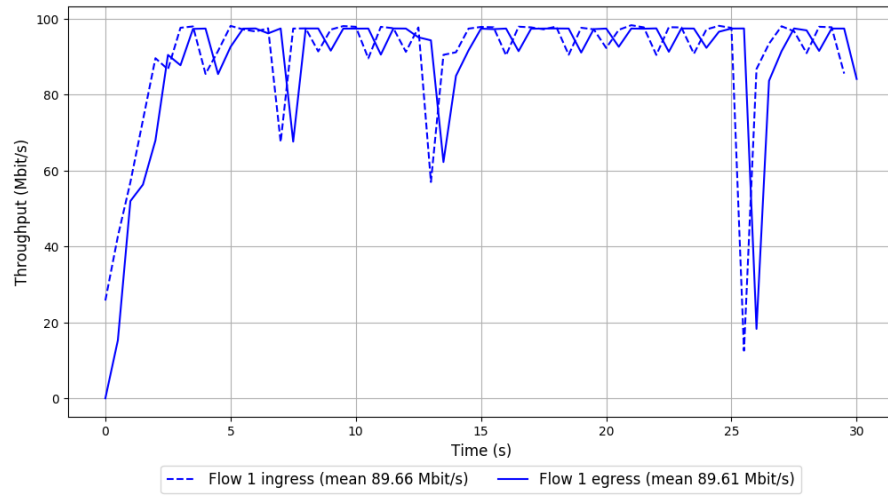


Run 5: Statistics of QUIC Cubic

Start at: 2018-12-11 17:13:41
End at: 2018-12-11 17:14:11
Local clock offset: 2.644 ms
Remote clock offset: -29.008 ms

Below is generated by plot.py at 2018-12-11 17:46:09
Datalink statistics
-- Total of 1 flow:
Average throughput: 89.61 Mbit/s
95th percentile per-packet one-way delay: 31.322 ms
Loss rate: 0.14%
-- Flow 1:
Average throughput: 89.61 Mbit/s
95th percentile per-packet one-way delay: 31.322 ms
Loss rate: 0.14%

Run 5: Report of QUIC Cubic — Data Link

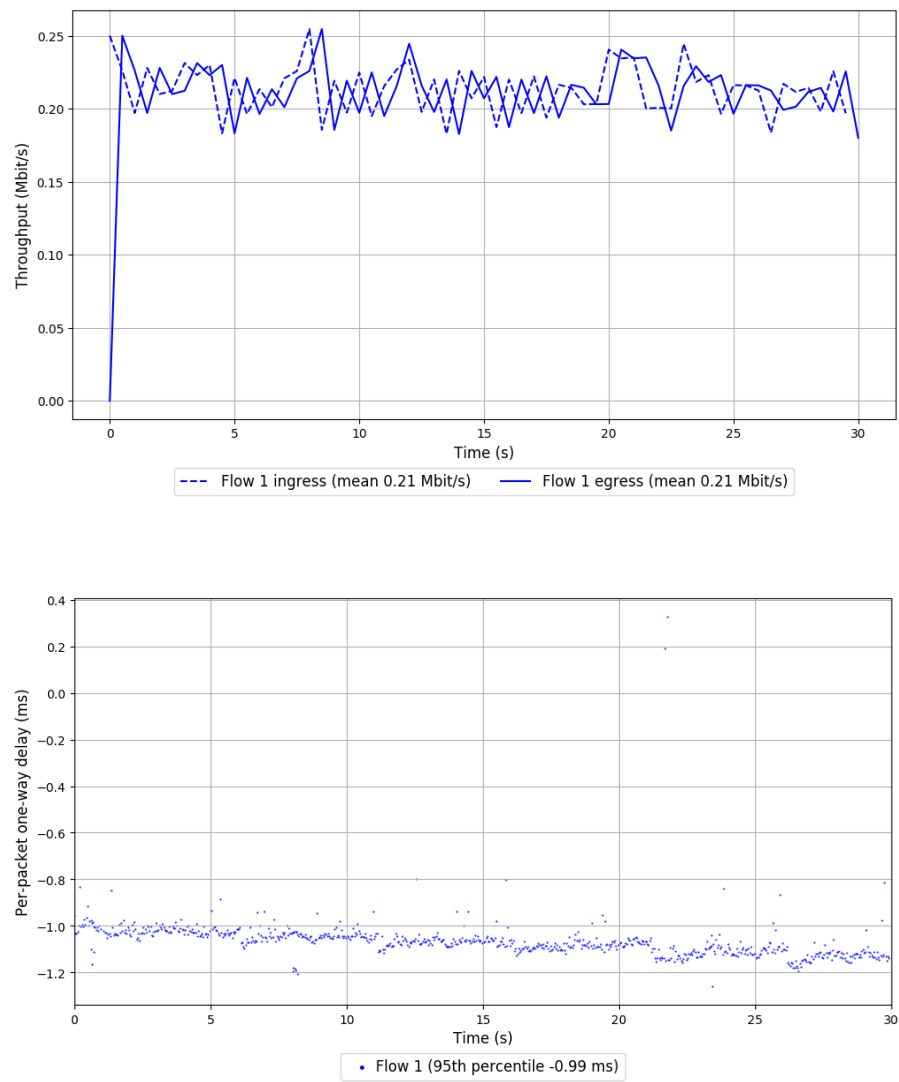


Run 1: Statistics of SCReAM

Start at: 2018-12-11 16:03:21
End at: 2018-12-11 16:03:51
Local clock offset: -1.806 ms
Remote clock offset: -16.877 ms

Below is generated by plot.py at 2018-12-11 17:46:09
Datalink statistics
-- Total of 1 flow:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: -0.987 ms
Loss rate: 0.13%
-- Flow 1:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: -0.987 ms
Loss rate: 0.13%

Run 1: Report of SReAM — Data Link

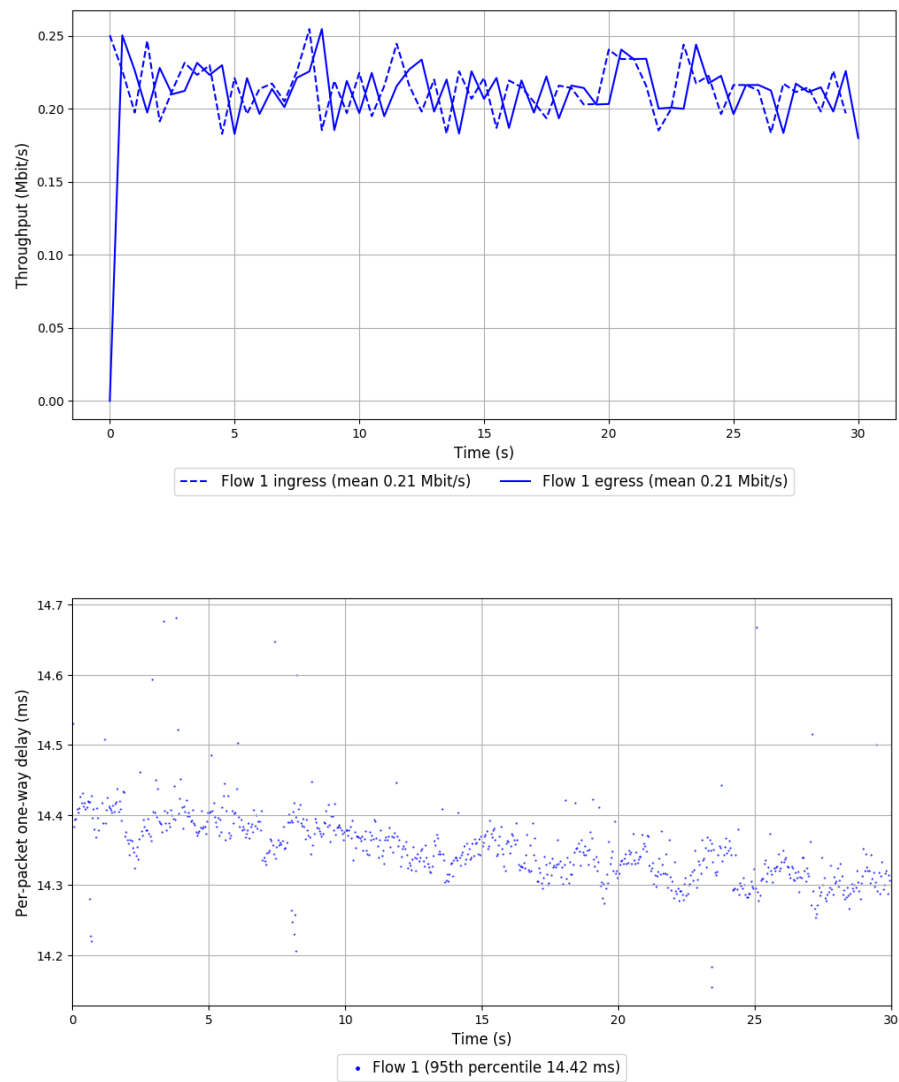


Run 2: Statistics of SCReAM

Start at: 2018-12-11 16:25:30
End at: 2018-12-11 16:26:00
Local clock offset: -0.083 ms
Remote clock offset: -35.393 ms

Below is generated by plot.py at 2018-12-11 17:46:09
Datalink statistics
-- Total of 1 flow:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 14.419 ms
Loss rate: 0.13%
-- Flow 1:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 14.419 ms
Loss rate: 0.13%

Run 2: Report of SReAM — Data Link

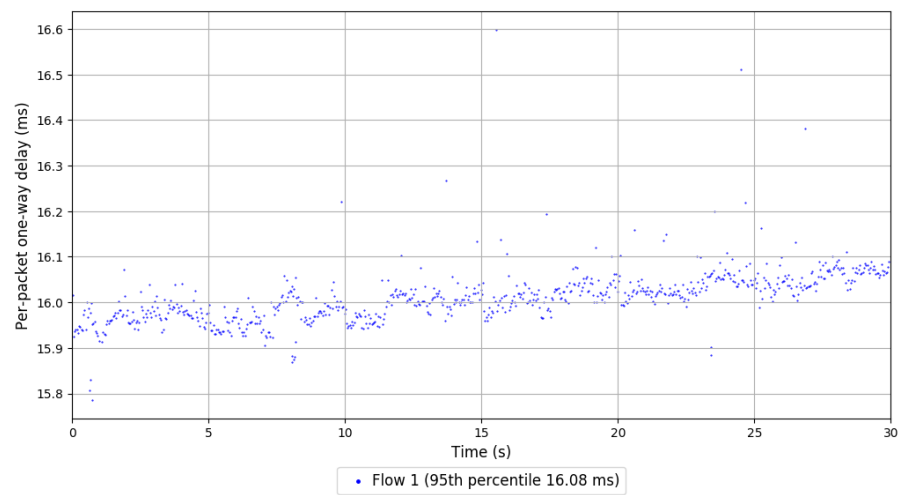
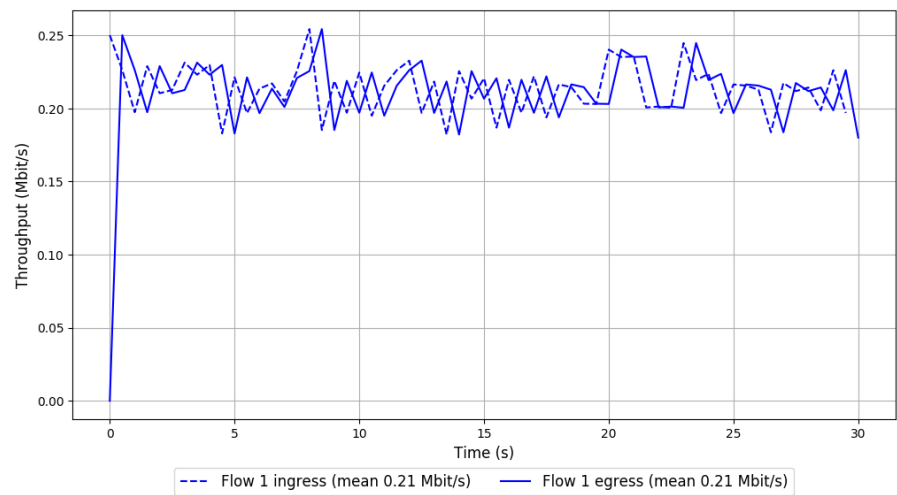


Run 3: Statistics of SCReAM

Start at: 2018-12-11 16:47:58
End at: 2018-12-11 16:48:28
Local clock offset: 1.547 ms
Remote clock offset: -33.167 ms

Below is generated by plot.py at 2018-12-11 17:46:09
Datalink statistics
-- Total of 1 flow:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 16.082 ms
Loss rate: 0.13%
-- Flow 1:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 16.082 ms
Loss rate: 0.13%

Run 3: Report of SReAM — Data Link

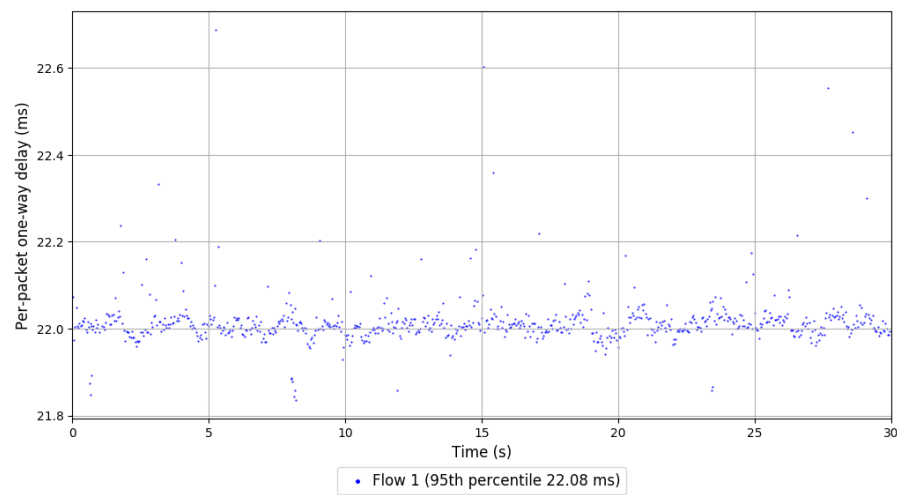
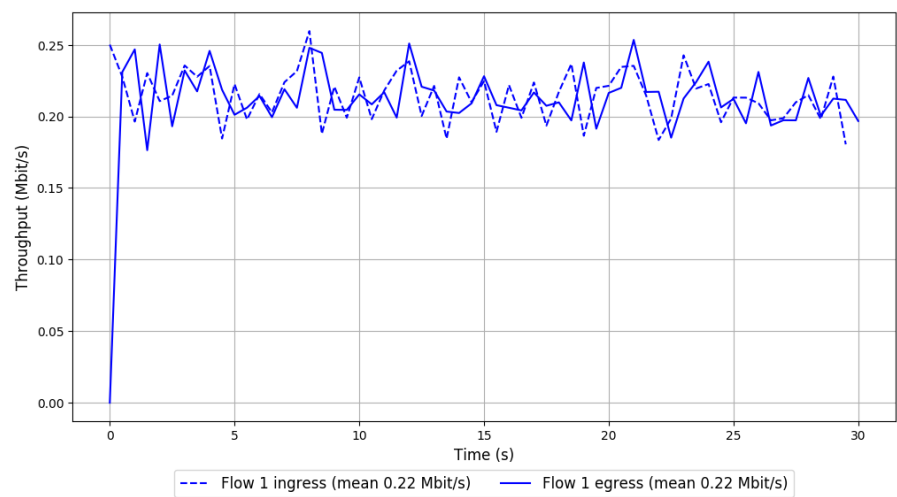


Run 4: Statistics of SCReAM

Start at: 2018-12-11 17:10:16
End at: 2018-12-11 17:10:46
Local clock offset: 1.982 ms
Remote clock offset: -28.867 ms

Below is generated by plot.py at 2018-12-11 17:46:09
Datalink statistics
-- Total of 1 flow:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 22.077 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 22.077 ms
Loss rate: 0.00%

Run 4: Report of SReAM — Data Link

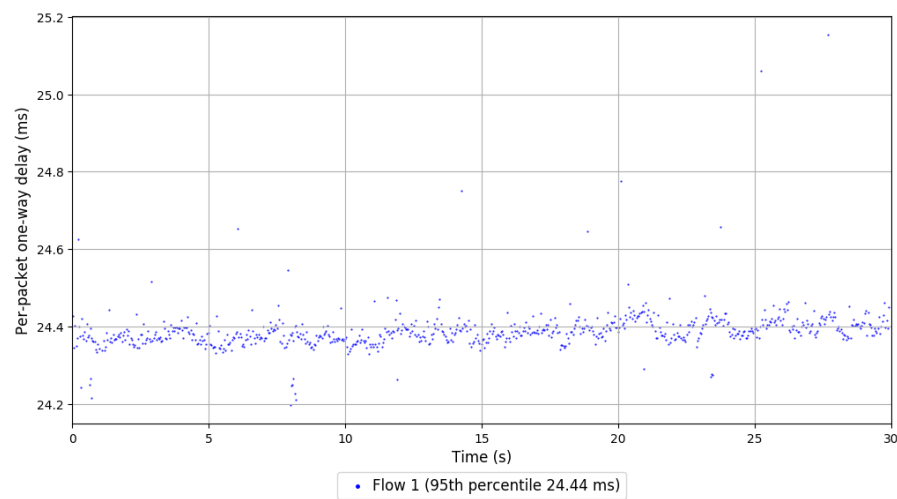
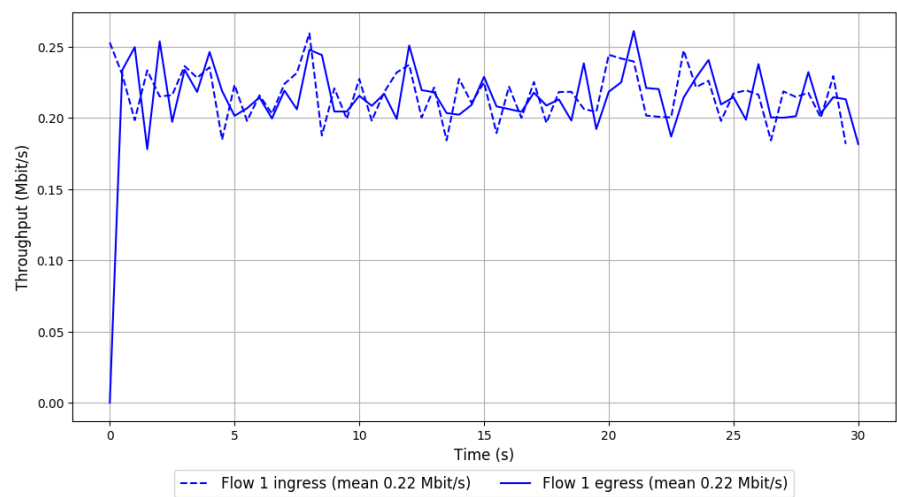


Run 5: Statistics of SCReAM

Start at: 2018-12-11 17:32:46
End at: 2018-12-11 17:33:16
Local clock offset: 4.341 ms
Remote clock offset: -27.056 ms

Below is generated by plot.py at 2018-12-11 17:46:09
Datalink statistics
-- Total of 1 flow:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 24.442 ms
Loss rate: 0.13%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 24.442 ms
Loss rate: 0.13%

Run 5: Report of SReAM — Data Link

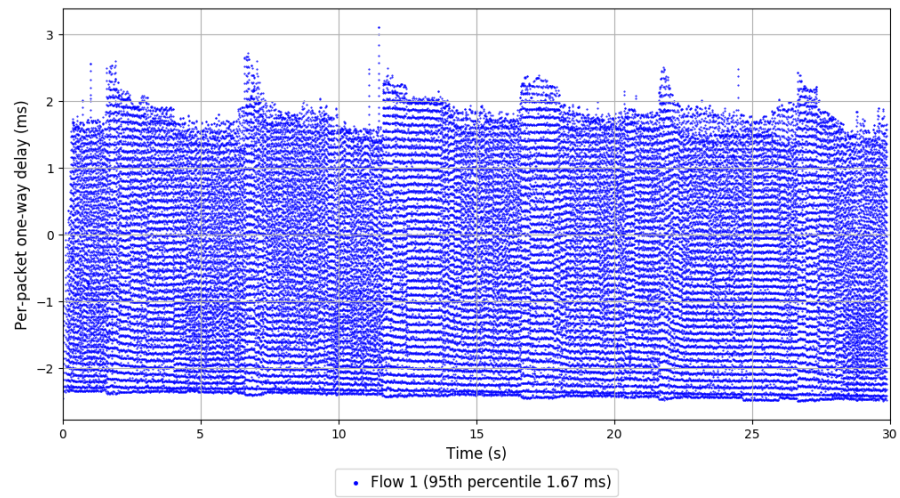
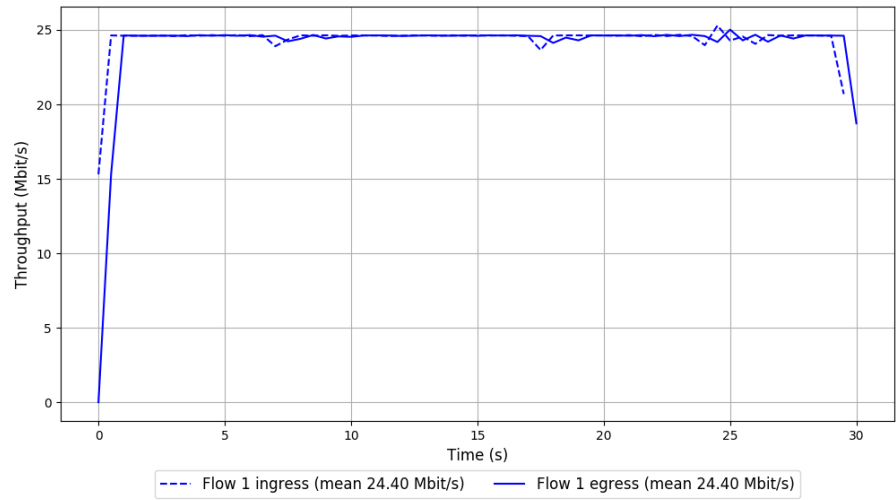


Run 1: Statistics of Sprout

Start at: 2018-12-11 16:02:15
End at: 2018-12-11 16:02:45
Local clock offset: 1.644 ms
Remote clock offset: -11.778 ms

Below is generated by plot.py at 2018-12-11 17:46:09
Datalink statistics
-- Total of 1 flow:
Average throughput: 24.40 Mbit/s
95th percentile per-packet one-way delay: 1.674 ms
Loss rate: 0.13%
-- Flow 1:
Average throughput: 24.40 Mbit/s
95th percentile per-packet one-way delay: 1.674 ms
Loss rate: 0.13%

Run 1: Report of Sprout — Data Link

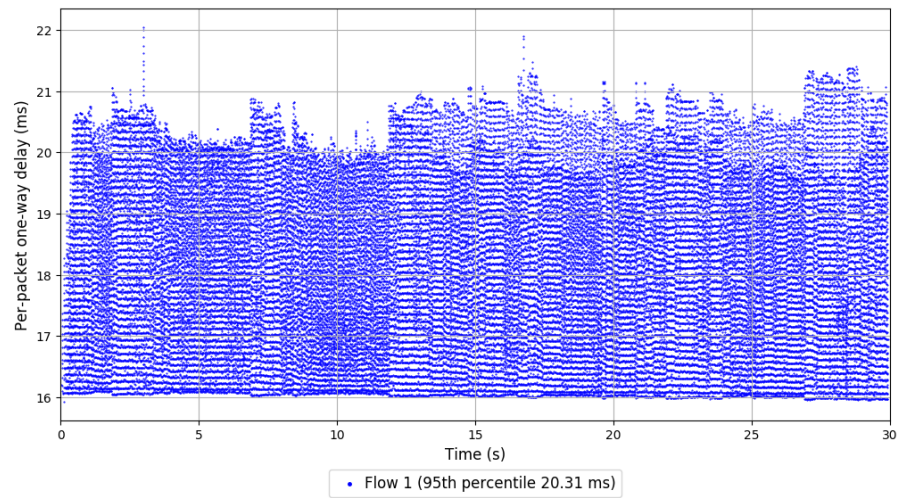
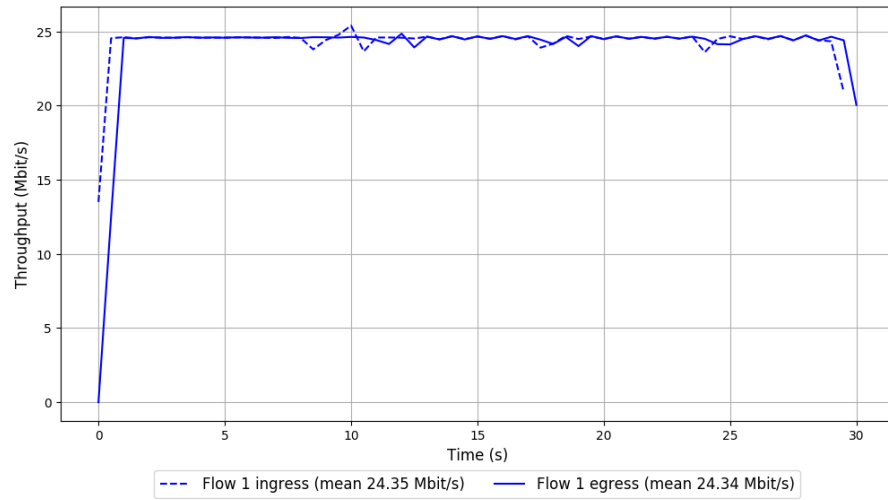


Run 2: Statistics of Sprout

Start at: 2018-12-11 16:24:24
End at: 2018-12-11 16:24:54
Local clock offset: 1.239 ms
Remote clock offset: -35.517 ms

Below is generated by plot.py at 2018-12-11 17:46:09
Datalink statistics
-- Total of 1 flow:
Average throughput: 24.34 Mbit/s
95th percentile per-packet one-way delay: 20.307 ms
Loss rate: 0.12%
-- Flow 1:
Average throughput: 24.34 Mbit/s
95th percentile per-packet one-way delay: 20.307 ms
Loss rate: 0.12%

Run 2: Report of Sprout — Data Link

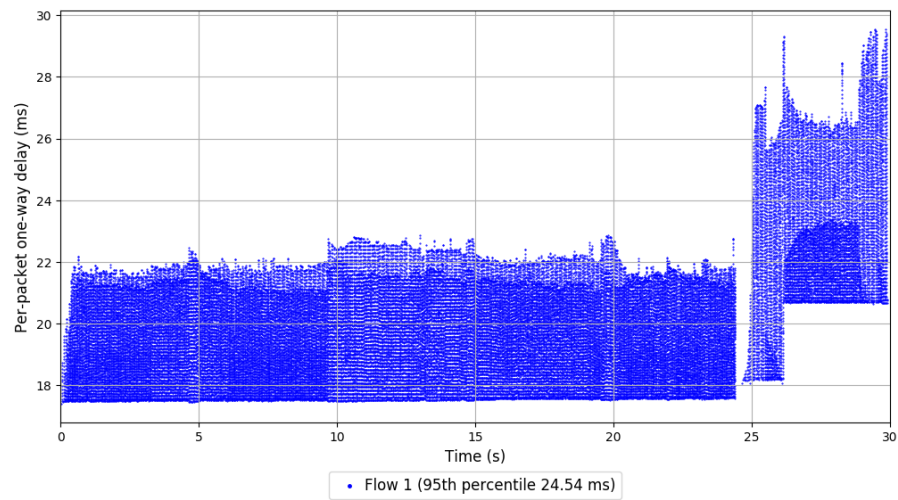
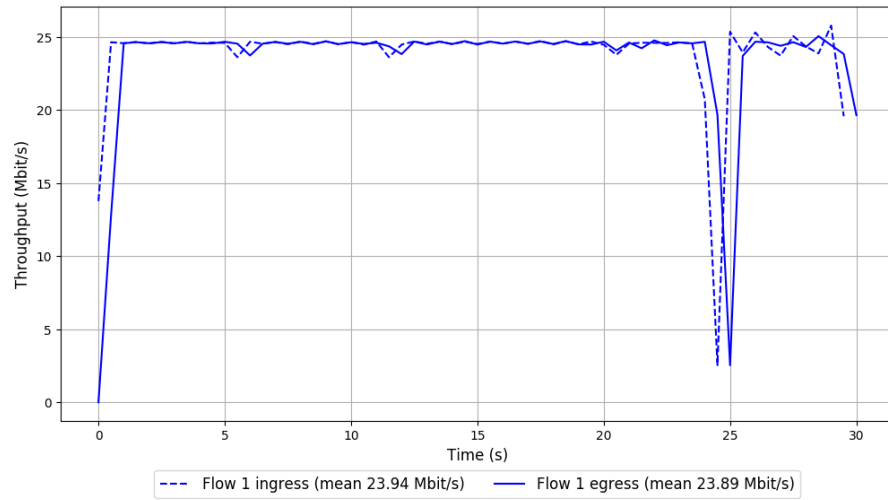


Run 3: Statistics of Sprout

Start at: 2018-12-11 16:46:52
End at: 2018-12-11 16:47:22
Local clock offset: 3.212 ms
Remote clock offset: -33.28 ms

Below is generated by plot.py at 2018-12-11 17:46:09
Datalink statistics
-- Total of 1 flow:
Average throughput: 23.89 Mbit/s
95th percentile per-packet one-way delay: 24.538 ms
Loss rate: 0.27%
-- Flow 1:
Average throughput: 23.89 Mbit/s
95th percentile per-packet one-way delay: 24.538 ms
Loss rate: 0.27%

Run 3: Report of Sprout — Data Link

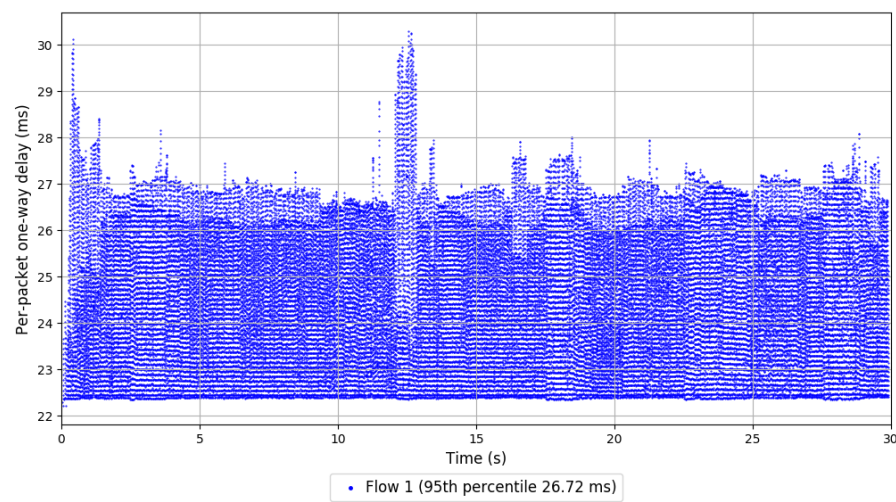
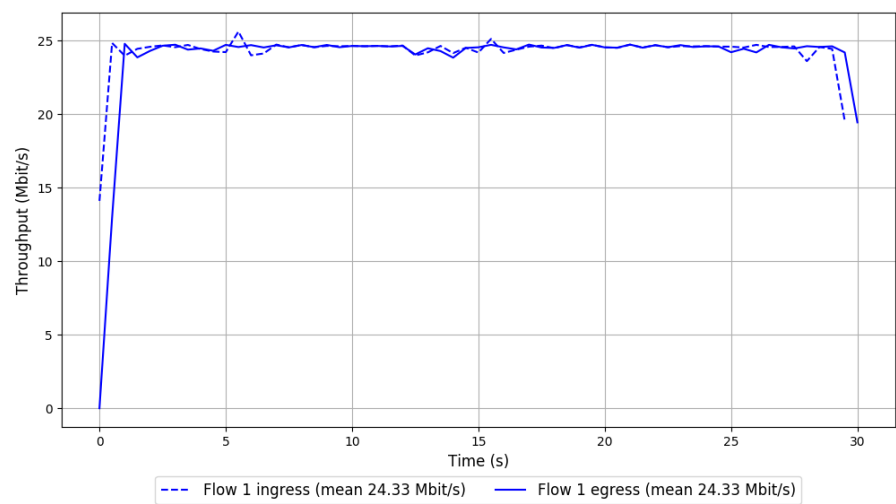


Run 4: Statistics of Sprout

Start at: 2018-12-11 17:09:11
End at: 2018-12-11 17:09:41
Local clock offset: 2.258 ms
Remote clock offset: -28.964 ms

Below is generated by plot.py at 2018-12-11 17:46:09
Datalink statistics
-- Total of 1 flow:
Average throughput: 24.33 Mbit/s
95th percentile per-packet one-way delay: 26.723 ms
Loss rate: 0.09%
-- Flow 1:
Average throughput: 24.33 Mbit/s
95th percentile per-packet one-way delay: 26.723 ms
Loss rate: 0.09%

Run 4: Report of Sprout — Data Link

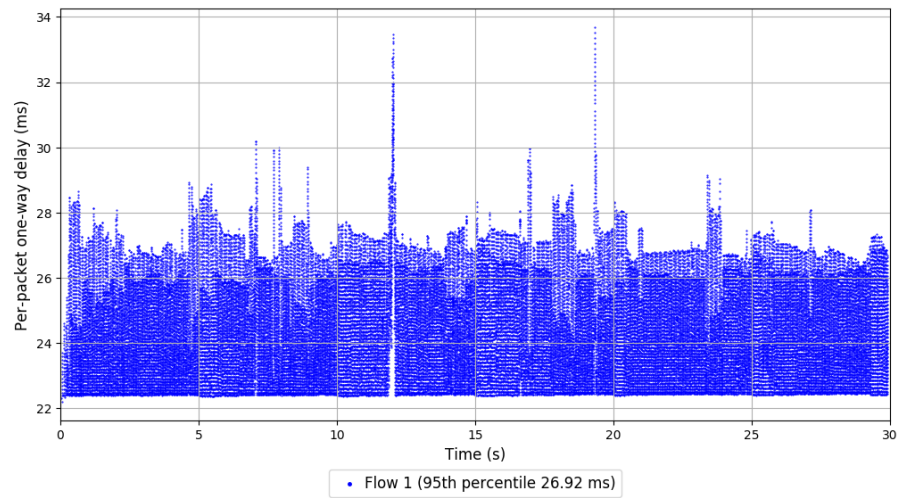
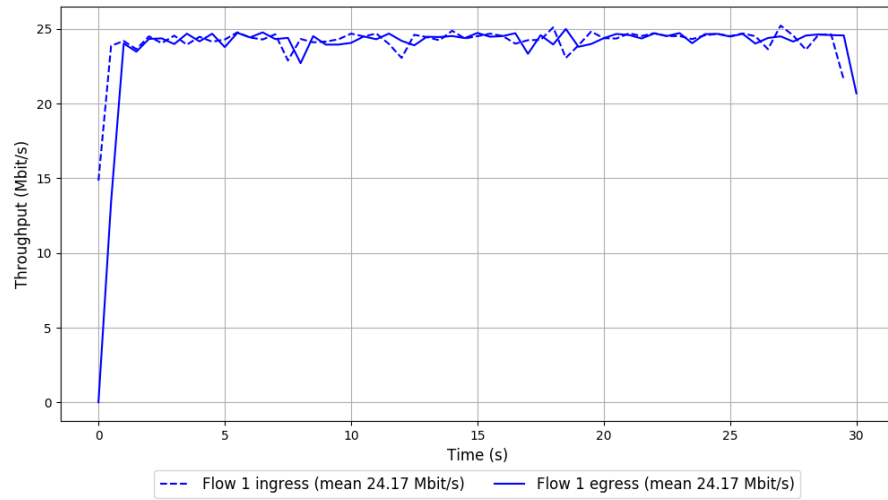


Run 5: Statistics of Sprout

Start at: 2018-12-11 17:31:39
End at: 2018-12-11 17:32:09
Local clock offset: 2.36 ms
Remote clock offset: -27.144 ms

Below is generated by plot.py at 2018-12-11 17:46:09
Datalink statistics
-- Total of 1 flow:
Average throughput: 24.17 Mbit/s
95th percentile per-packet one-way delay: 26.916 ms
Loss rate: 0.14%
-- Flow 1:
Average throughput: 24.17 Mbit/s
95th percentile per-packet one-way delay: 26.916 ms
Loss rate: 0.14%

Run 5: Report of Sprout — Data Link

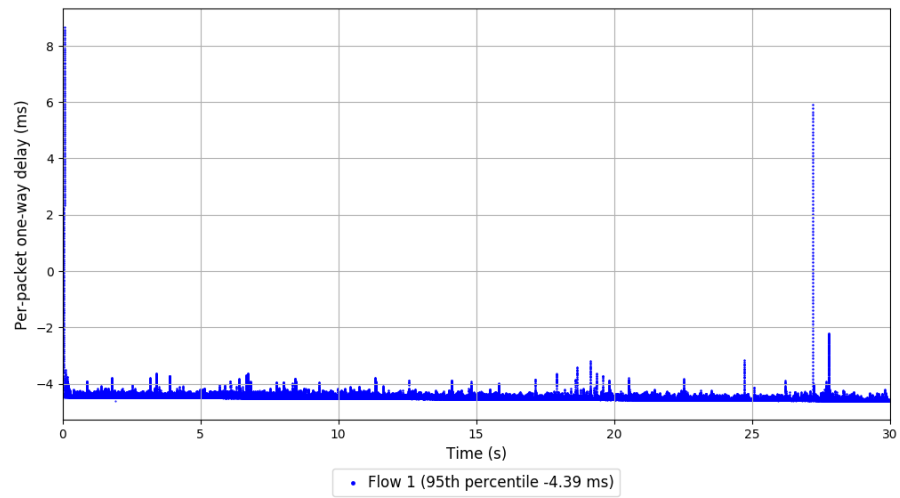
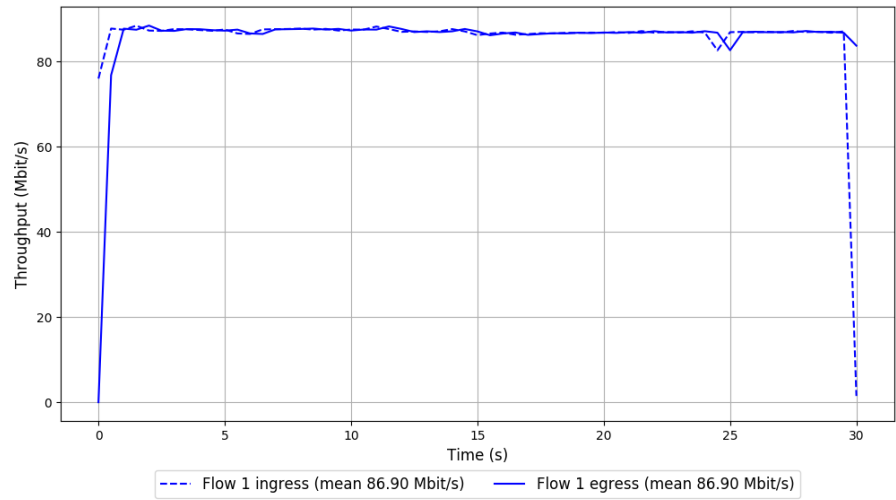


Run 1: Statistics of TaoVA-100x

Start at: 2018-12-11 15:57:30
End at: 2018-12-11 15:58:00
Local clock offset: -1.91 ms
Remote clock offset: -11.958 ms

Below is generated by plot.py at 2018-12-11 17:47:21
Datalink statistics
-- Total of 1 flow:
Average throughput: 86.90 Mbit/s
95th percentile per-packet one-way delay: -4.389 ms
Loss rate: 0.08%
-- Flow 1:
Average throughput: 86.90 Mbit/s
95th percentile per-packet one-way delay: -4.389 ms
Loss rate: 0.08%

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



Run 2: Statistics of TaoVA-100x

Start at: 2018-12-11 16:19:34

End at: 2018-12-11 16:20:04

Local clock offset: 0.796 ms

Remote clock offset: -34.7 ms

Below is generated by plot.py at 2018-12-11 17:47:21

Datalink statistics

-- Total of 1 flow:

Average throughput: 86.68 Mbit/s

95th percentile per-packet one-way delay: 15.894 ms

Loss rate: 0.08%

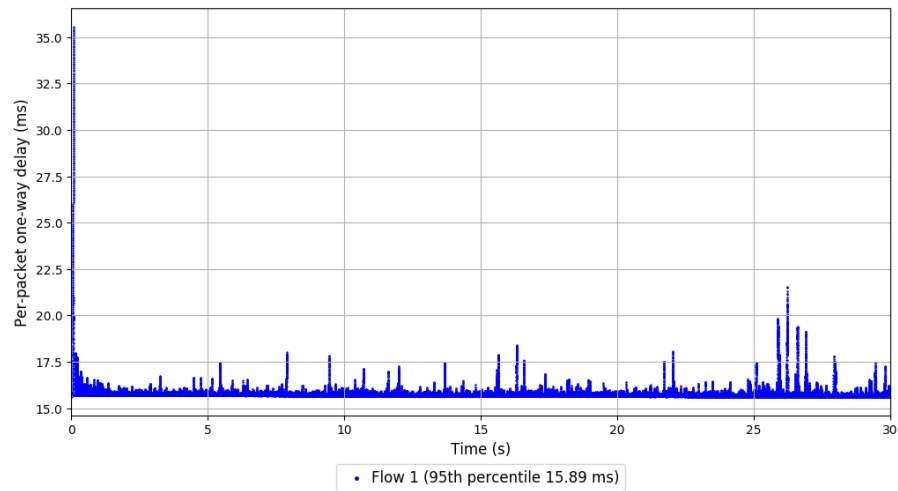
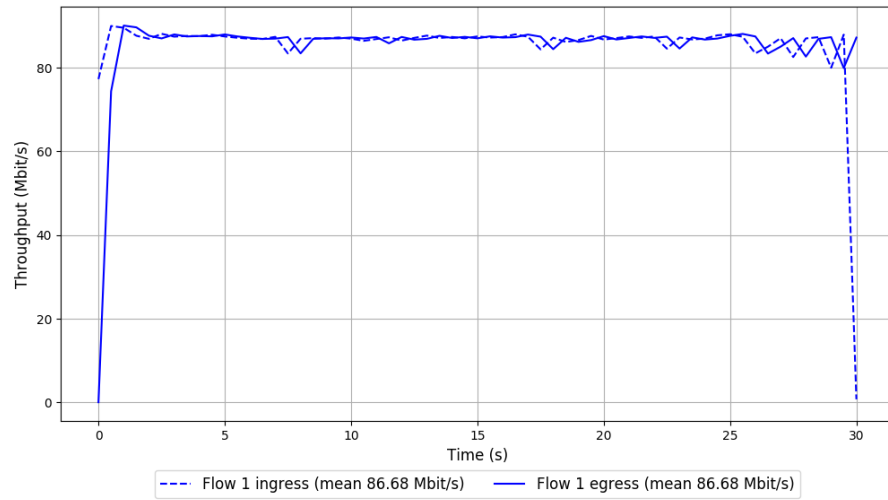
-- Flow 1:

Average throughput: 86.68 Mbit/s

95th percentile per-packet one-way delay: 15.894 ms

Loss rate: 0.08%

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

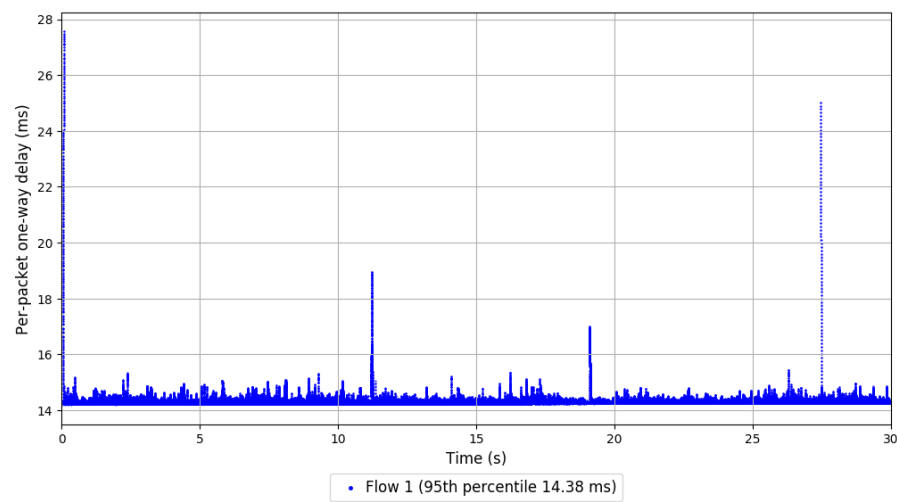
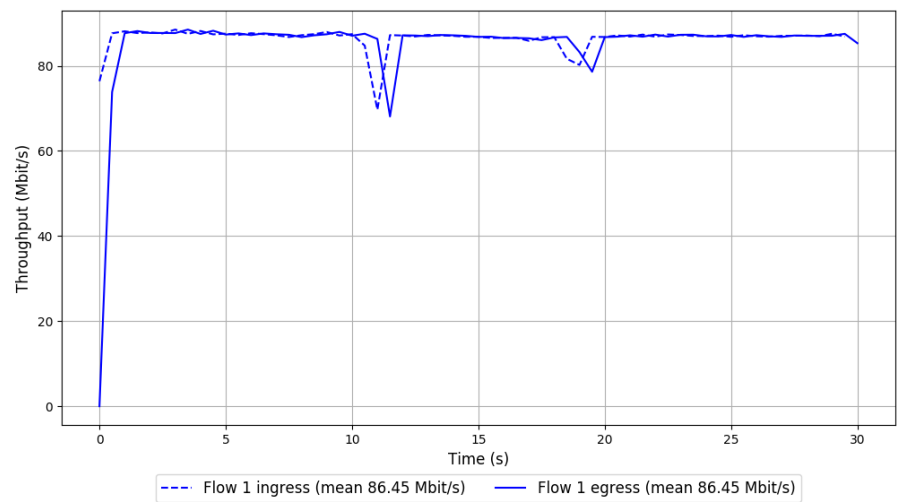


Run 3: Statistics of TaoVA-100x

Start at: 2018-12-11 16:42:10
End at: 2018-12-11 16:42:40
Local clock offset: -0.098 ms
Remote clock offset: -33.941 ms

Below is generated by plot.py at 2018-12-11 17:47:27
Datalink statistics
-- Total of 1 flow:
Average throughput: 86.45 Mbit/s
95th percentile per-packet one-way delay: 14.379 ms
Loss rate: 0.08%
-- Flow 1:
Average throughput: 86.45 Mbit/s
95th percentile per-packet one-way delay: 14.379 ms
Loss rate: 0.08%

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

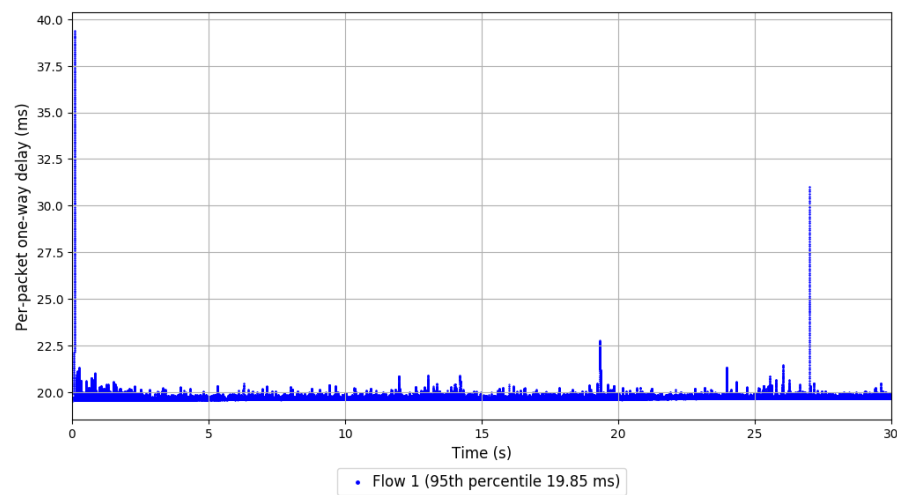
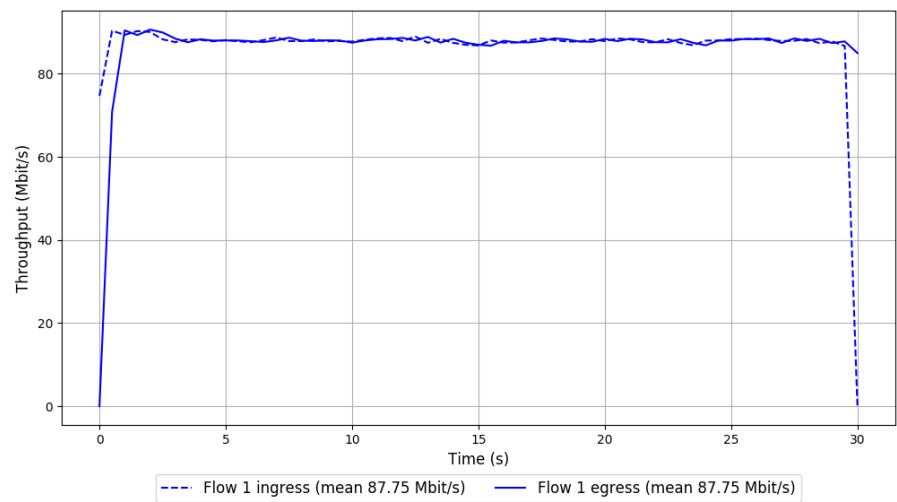


Run 4: Statistics of TaoVA-100x

Start at: 2018-12-11 17:04:24
End at: 2018-12-11 17:04:54
Local clock offset: -0.582 ms
Remote clock offset: -29.696 ms

Below is generated by plot.py at 2018-12-11 17:47:32
Datalink statistics
-- Total of 1 flow:
Average throughput: 87.75 Mbit/s
95th percentile per-packet one-way delay: 19.850 ms
Loss rate: 0.10%
-- Flow 1:
Average throughput: 87.75 Mbit/s
95th percentile per-packet one-way delay: 19.850 ms
Loss rate: 0.10%

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

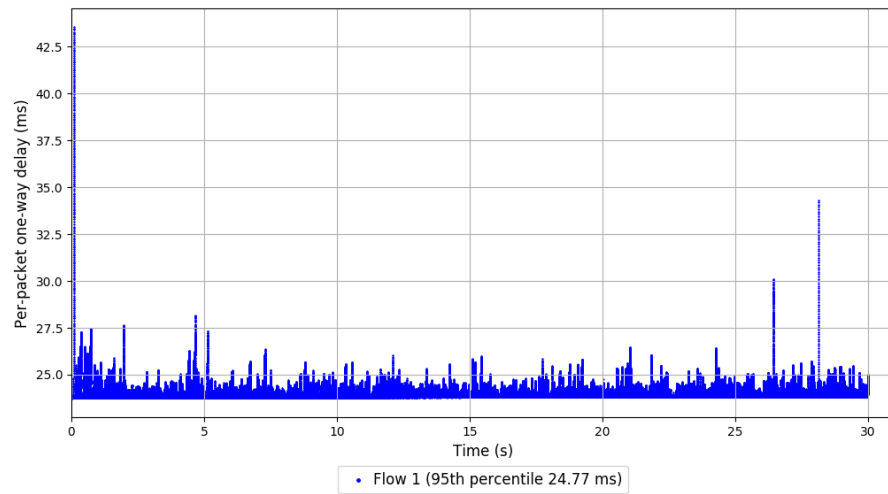
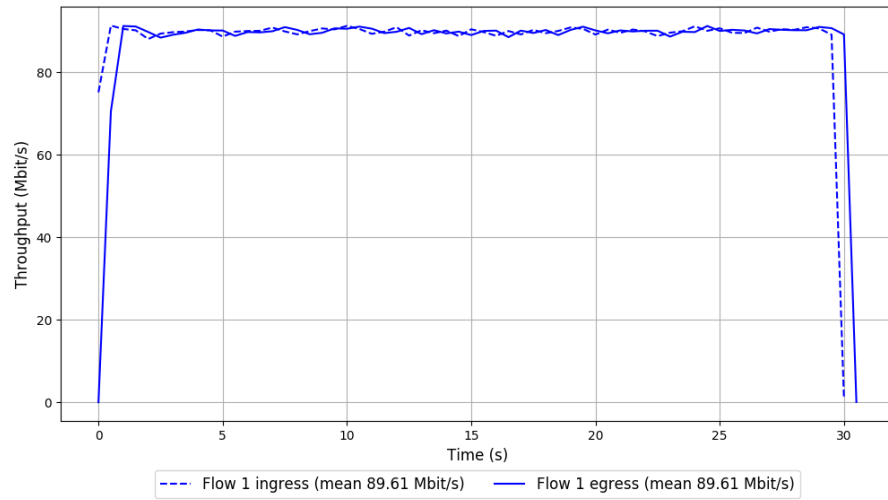


Run 5: Statistics of TaoVA-100x

Start at: 2018-12-11 17:26:45
End at: 2018-12-11 17:27:15
Local clock offset: 3.11 ms
Remote clock offset: -28.313 ms

Below is generated by plot.py at 2018-12-11 17:47:38
Datalink statistics
-- Total of 1 flow:
Average throughput: 89.61 Mbit/s
95th percentile per-packet one-way delay: 24.775 ms
Loss rate: 0.10%
-- Flow 1:
Average throughput: 89.61 Mbit/s
95th percentile per-packet one-way delay: 24.775 ms
Loss rate: 0.10%

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

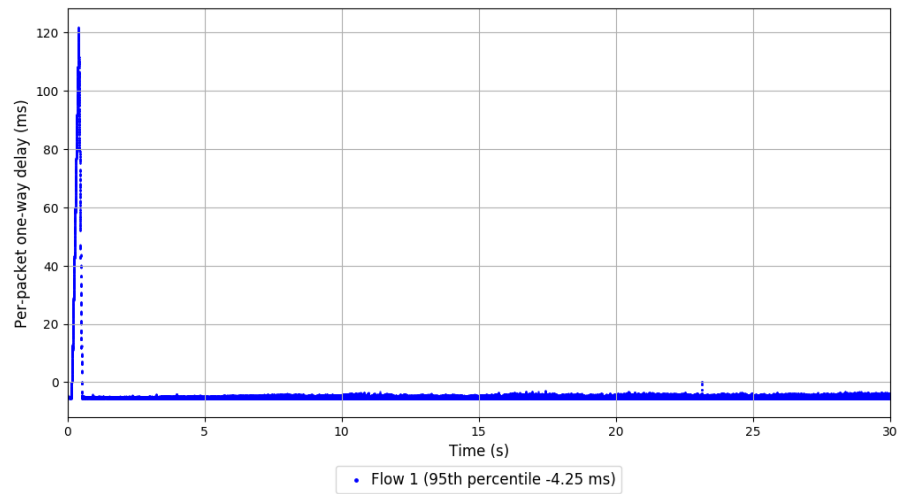
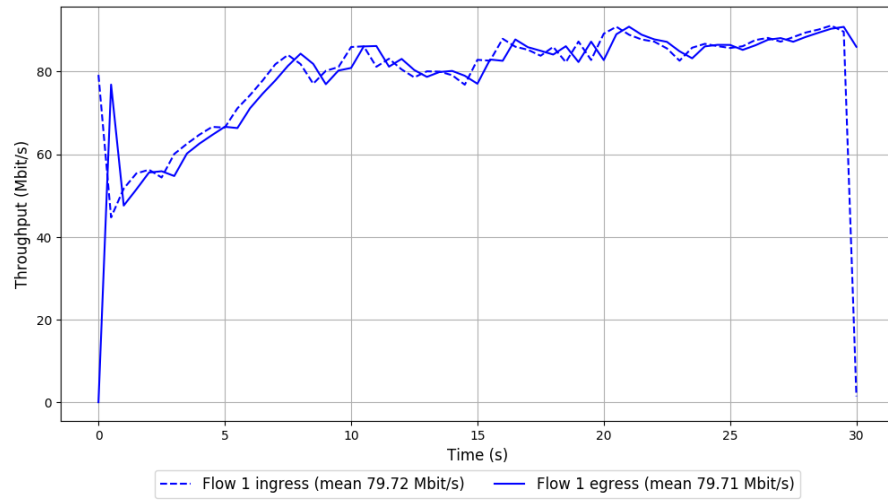


Run 1: Statistics of TCP Vegas

Start at: 2018-12-11 15:45:44
End at: 2018-12-11 15:46:14
Local clock offset: -2.85 ms
Remote clock offset: -8.185 ms

Below is generated by plot.py at 2018-12-11 17:47:38
Datalink statistics
-- Total of 1 flow:
Average throughput: 79.71 Mbit/s
95th percentile per-packet one-way delay: -4.249 ms
Loss rate: 0.09%
-- Flow 1:
Average throughput: 79.71 Mbit/s
95th percentile per-packet one-way delay: -4.249 ms
Loss rate: 0.09%

Run 1: Report of TCP Vegas — Data Link

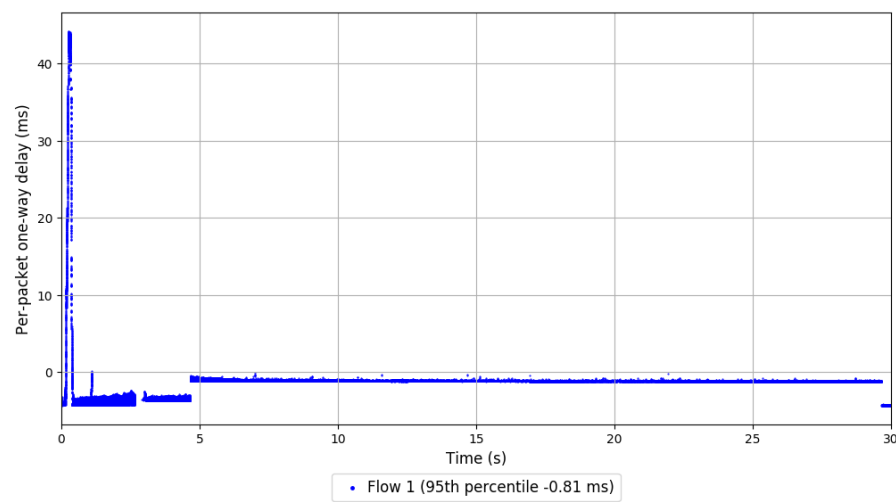
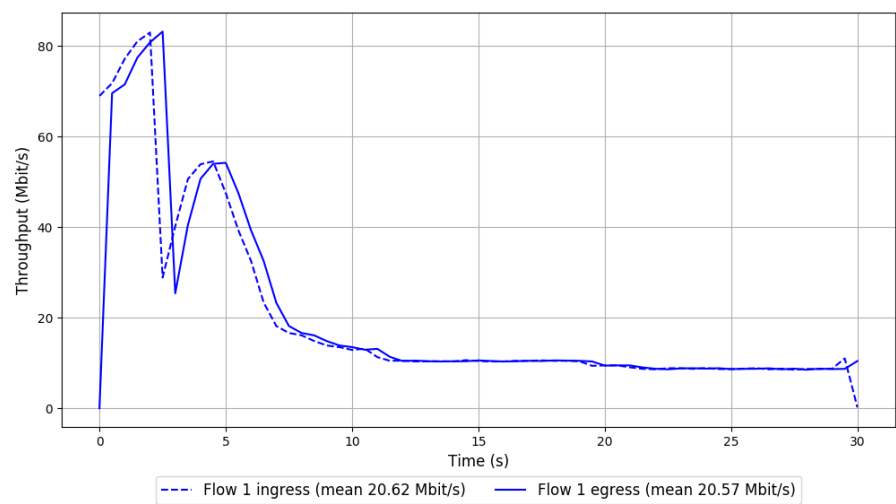


Run 2: Statistics of TCP Vegas

Start at: 2018-12-11 16:07:53
End at: 2018-12-11 16:08:23
Local clock offset: 0.536 ms
Remote clock offset: -12.541 ms

Below is generated by plot.py at 2018-12-11 17:47:38
Datalink statistics
-- Total of 1 flow:
Average throughput: 20.57 Mbit/s
95th percentile per-packet one-way delay: -0.810 ms
Loss rate: 0.29%
-- Flow 1:
Average throughput: 20.57 Mbit/s
95th percentile per-packet one-way delay: -0.810 ms
Loss rate: 0.29%

Run 2: Report of TCP Vegas — Data Link

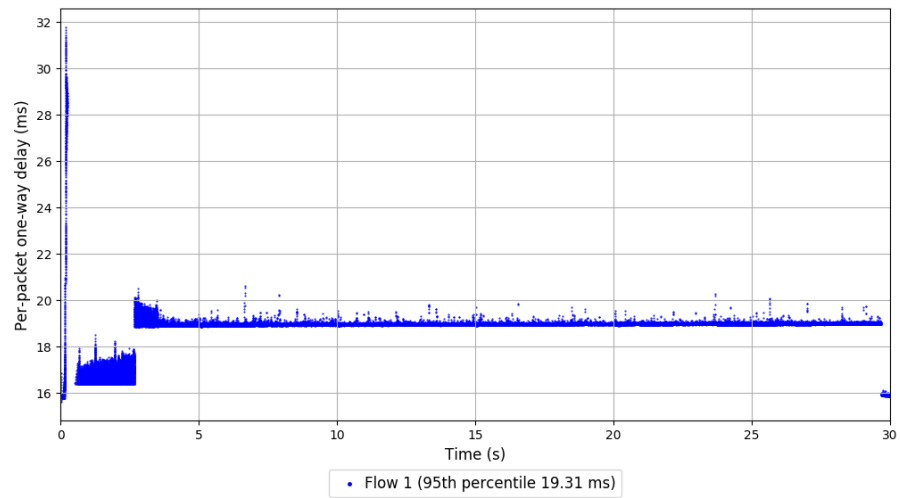
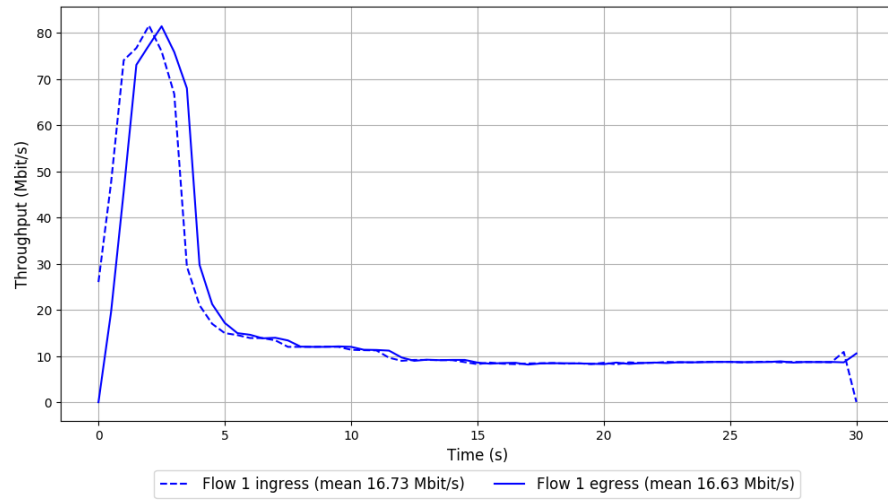


Run 3: Statistics of TCP Vegas

Start at: 2018-12-11 16:30:06
End at: 2018-12-11 16:30:36
Local clock offset: 1.159 ms
Remote clock offset: -35.727 ms

Below is generated by plot.py at 2018-12-11 17:47:38
Datalink statistics
-- Total of 1 flow:
Average throughput: 16.63 Mbit/s
95th percentile per-packet one-way delay: 19.313 ms
Loss rate: 0.71%
-- Flow 1:
Average throughput: 16.63 Mbit/s
95th percentile per-packet one-way delay: 19.313 ms
Loss rate: 0.71%

Run 3: Report of TCP Vegas — Data Link

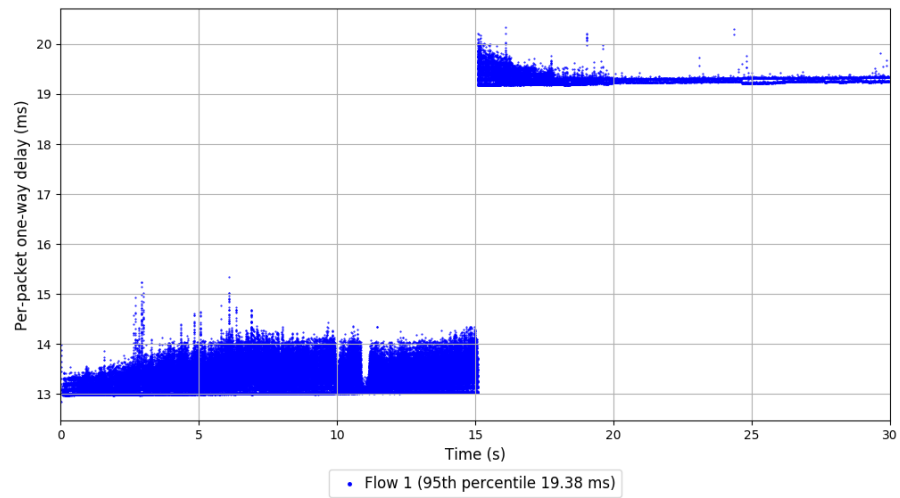
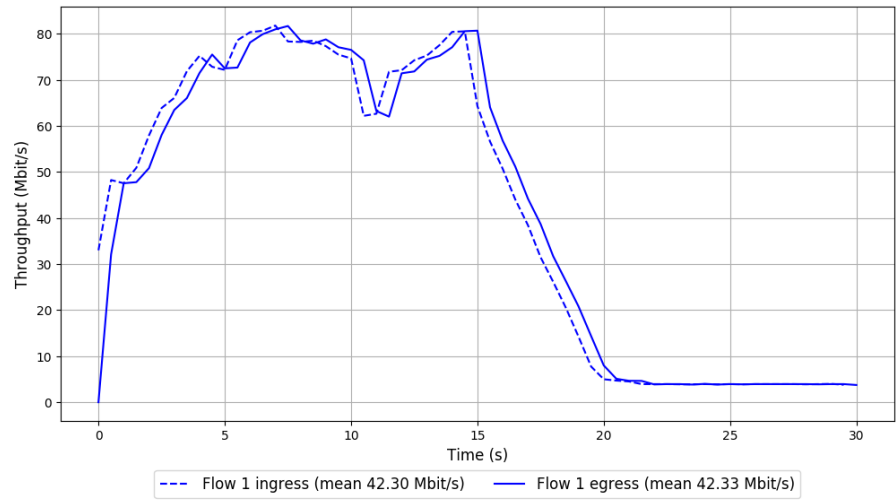


Run 4: Statistics of TCP Vegas

Start at: 2018-12-11 16:52:35
End at: 2018-12-11 16:53:05
Local clock offset: -0.751 ms
Remote clock offset: -31.477 ms

Below is generated by plot.py at 2018-12-11 17:47:38
Datalink statistics
-- Total of 1 flow:
Average throughput: 42.33 Mbit/s
95th percentile per-packet one-way delay: 19.380 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 42.33 Mbit/s
95th percentile per-packet one-way delay: 19.380 ms
Loss rate: 0.01%

Run 4: Report of TCP Vegas — Data Link

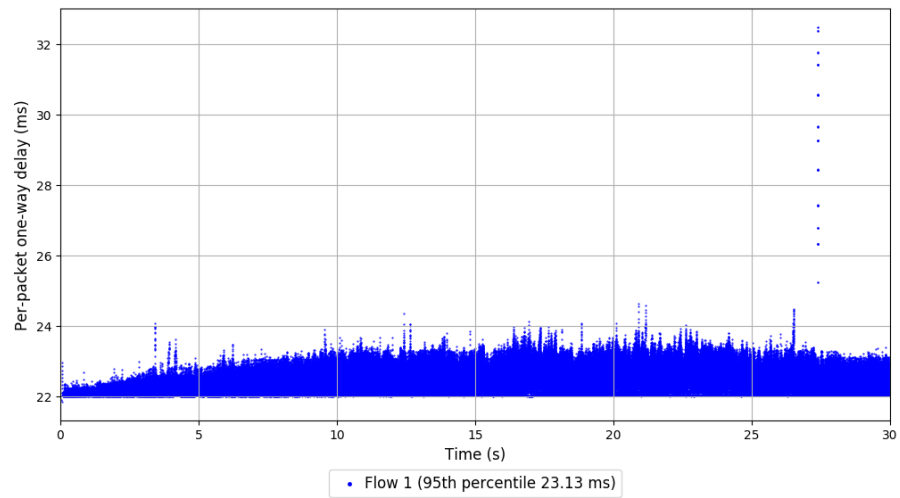
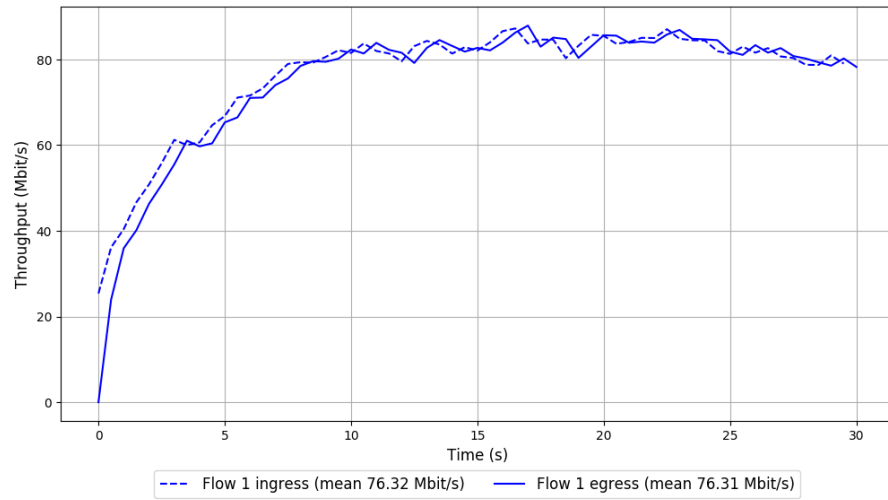


Run 5: Statistics of TCP Vegas

Start at: 2018-12-11 17:14:54
End at: 2018-12-11 17:15:24
Local clock offset: 3.293 ms
Remote clock offset: -27.41 ms

Below is generated by plot.py at 2018-12-11 17:47:38
Datalink statistics
-- Total of 1 flow:
Average throughput: 76.31 Mbit/s
95th percentile per-packet one-way delay: 23.129 ms
Loss rate: 0.10%
-- Flow 1:
Average throughput: 76.31 Mbit/s
95th percentile per-packet one-way delay: 23.129 ms
Loss rate: 0.10%

Run 5: Report of TCP Vegas — Data Link



Run 1: Statistics of Verus

Start at: 2018-12-11 15:48:03

End at: 2018-12-11 15:48:33

Local clock offset: 0.013 ms

Remote clock offset: -7.85 ms

Below is generated by plot.py at 2018-12-11 17:47:46

Datalink statistics

-- Total of 1 flow:

Average throughput: 93.42 Mbit/s

95th percentile per-packet one-way delay: 32.801 ms

Loss rate: 0.27%

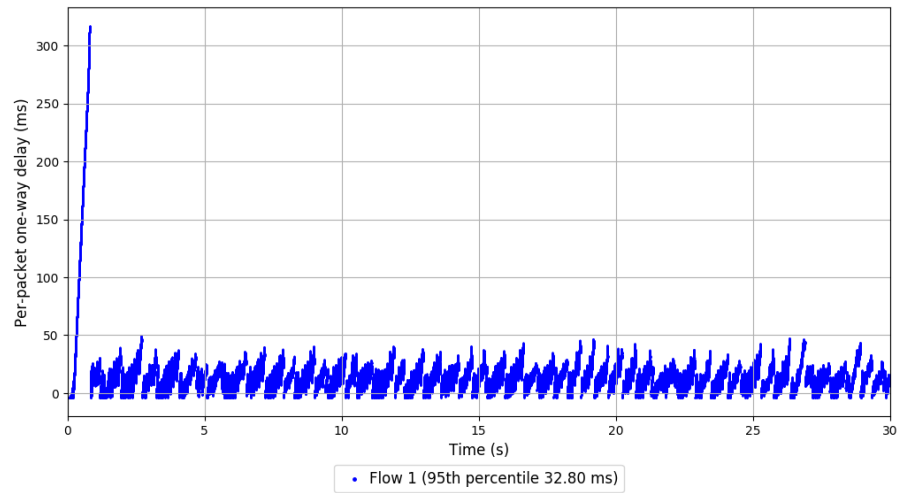
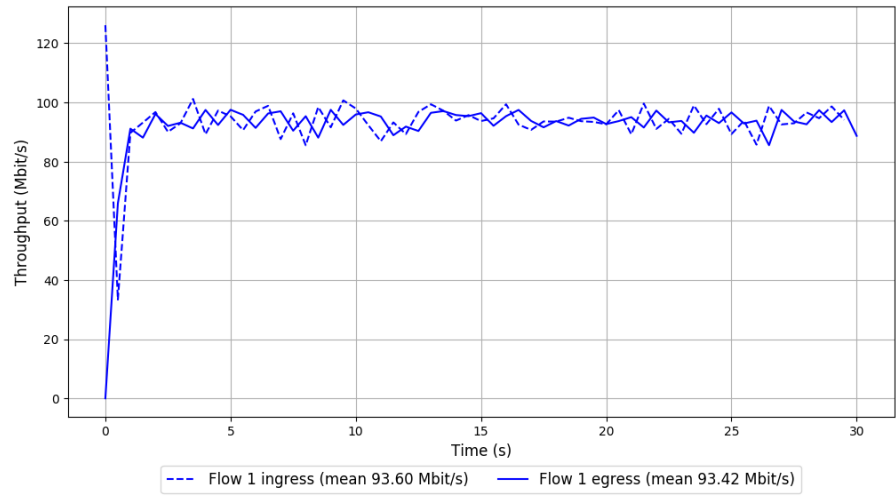
-- Flow 1:

Average throughput: 93.42 Mbit/s

95th percentile per-packet one-way delay: 32.801 ms

Loss rate: 0.27%

Run 1: Report of Verus — Data Link

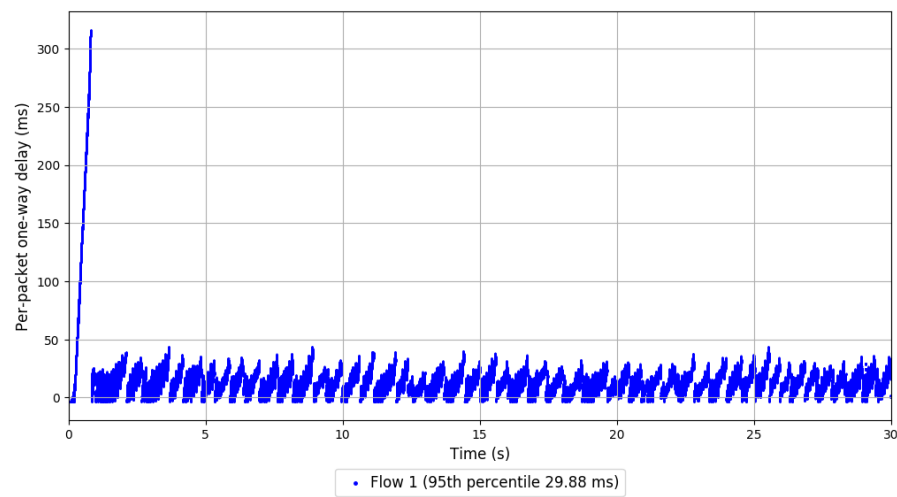
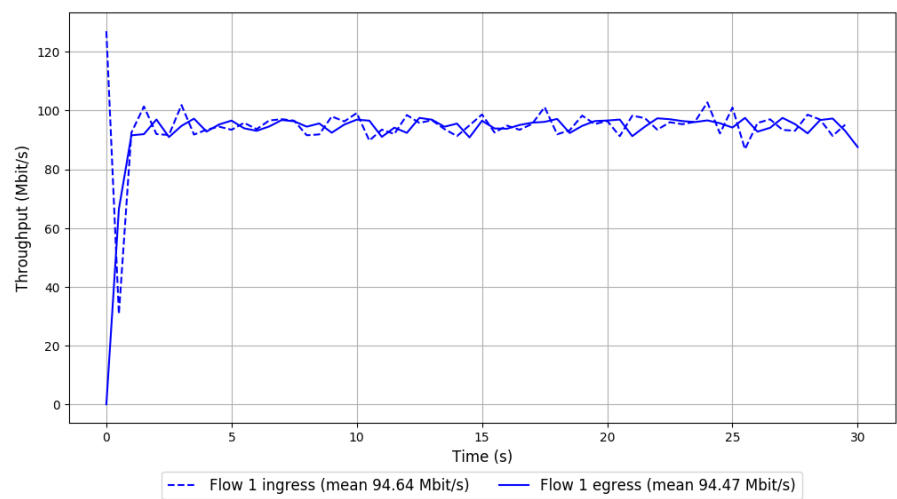


Run 2: Statistics of Verus

Start at: 2018-12-11 16:10:07
End at: 2018-12-11 16:10:37
Local clock offset: -1.287 ms
Remote clock offset: -15.694 ms

Below is generated by plot.py at 2018-12-11 17:47:58
Datalink statistics
-- Total of 1 flow:
Average throughput: 94.47 Mbit/s
95th percentile per-packet one-way delay: 29.882 ms
Loss rate: 0.25%
-- Flow 1:
Average throughput: 94.47 Mbit/s
95th percentile per-packet one-way delay: 29.882 ms
Loss rate: 0.25%

Run 2: Report of Verus — Data Link

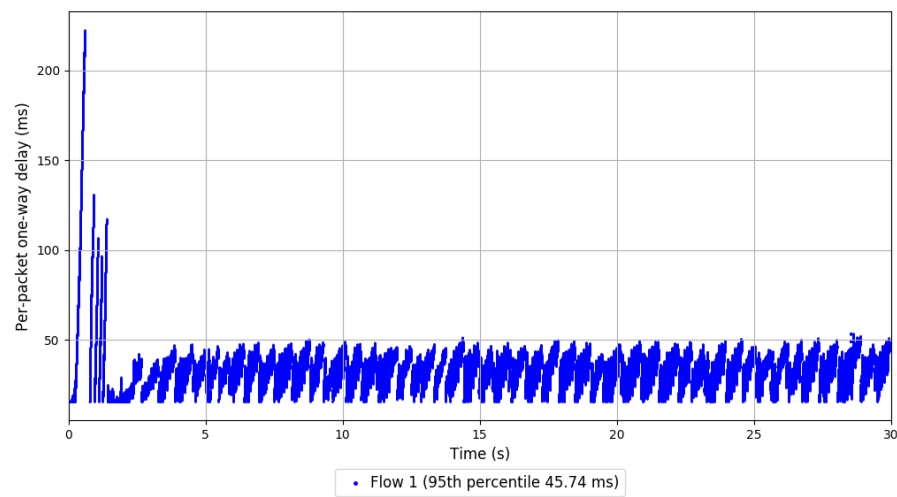
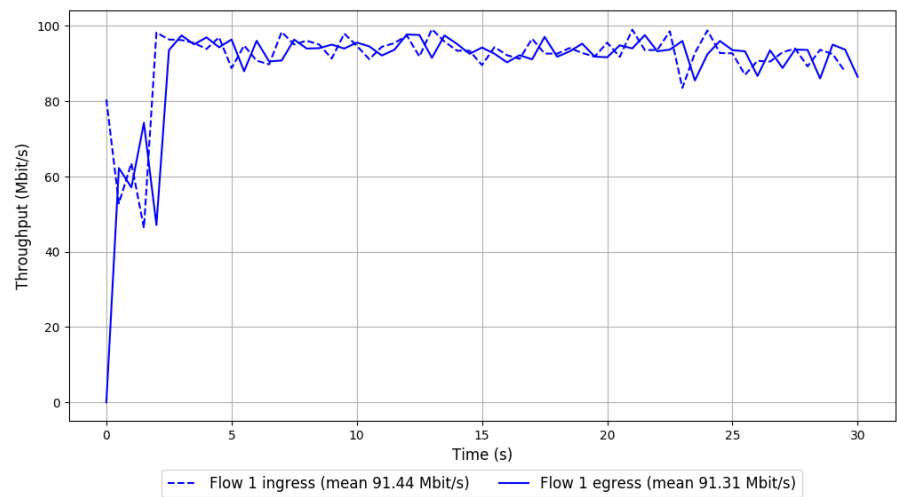


Run 3: Statistics of Verus

Start at: 2018-12-11 16:32:25
End at: 2018-12-11 16:32:55
Local clock offset: 1.258 ms
Remote clock offset: -34.983 ms

Below is generated by plot.py at 2018-12-11 17:48:22
Datalink statistics
-- Total of 1 flow:
Average throughput: 91.31 Mbit/s
95th percentile per-packet one-way delay: 45.736 ms
Loss rate: 0.25%
-- Flow 1:
Average throughput: 91.31 Mbit/s
95th percentile per-packet one-way delay: 45.736 ms
Loss rate: 0.25%

Run 3: Report of Verus — Data Link

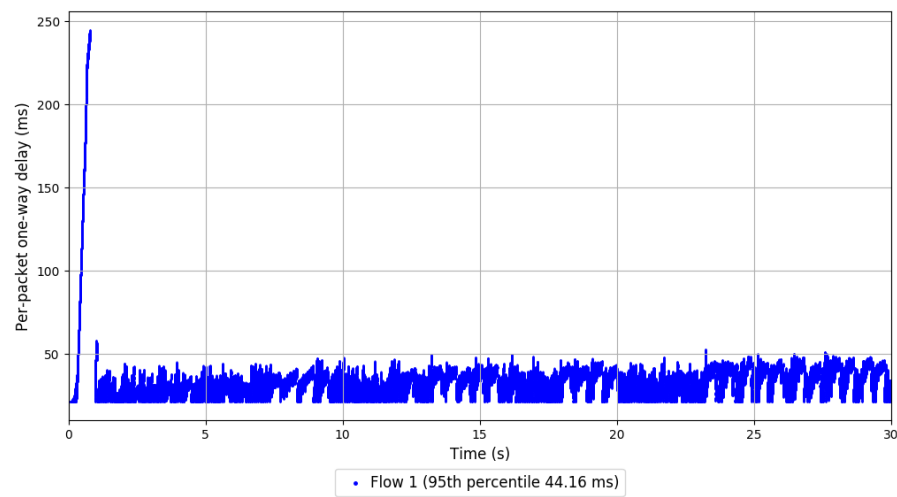
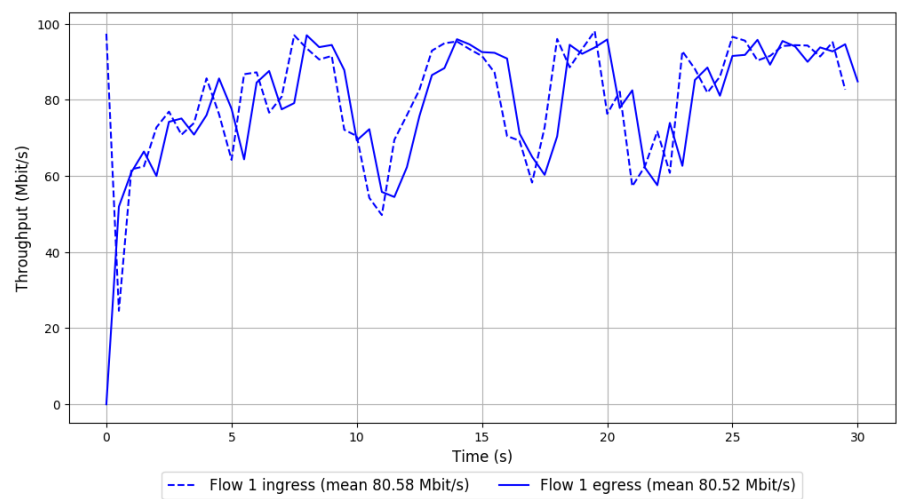


Run 4: Statistics of Verus

Start at: 2018-12-11 16:54:53
End at: 2018-12-11 16:55:23
Local clock offset: 1.28 ms
Remote clock offset: -31.145 ms

Below is generated by plot.py at 2018-12-11 17:48:22
Datalink statistics
-- Total of 1 flow:
Average throughput: 80.52 Mbit/s
95th percentile per-packet one-way delay: 44.159 ms
Loss rate: 0.18%
-- Flow 1:
Average throughput: 80.52 Mbit/s
95th percentile per-packet one-way delay: 44.159 ms
Loss rate: 0.18%

Run 4: Report of Verus — Data Link

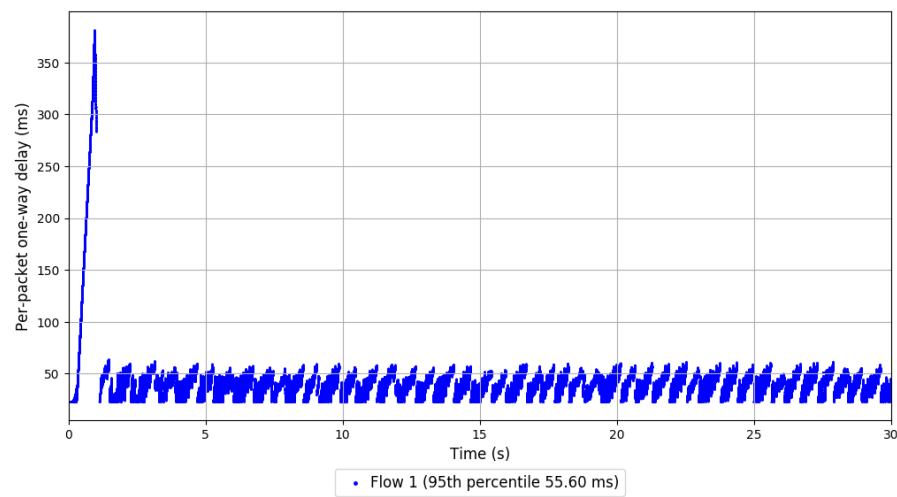
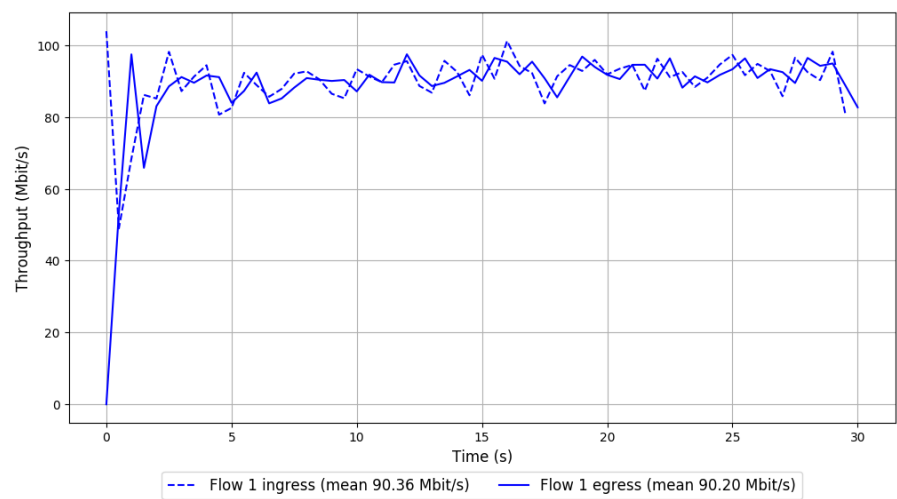


Run 5: Statistics of Verus

Start at: 2018-12-11 17:17:12
End at: 2018-12-11 17:17:42
Local clock offset: 1.83 ms
Remote clock offset: -29.624 ms

Below is generated by plot.py at 2018-12-11 17:48:23
Datalink statistics
-- Total of 1 flow:
Average throughput: 90.20 Mbit/s
95th percentile per-packet one-way delay: 55.604 ms
Loss rate: 0.28%
-- Flow 1:
Average throughput: 90.20 Mbit/s
95th percentile per-packet one-way delay: 55.604 ms
Loss rate: 0.28%

Run 5: Report of Verus — Data Link

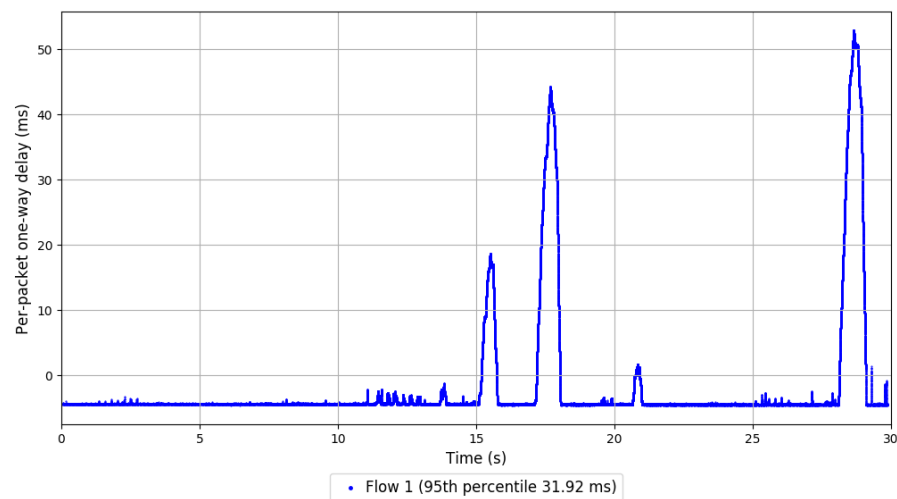
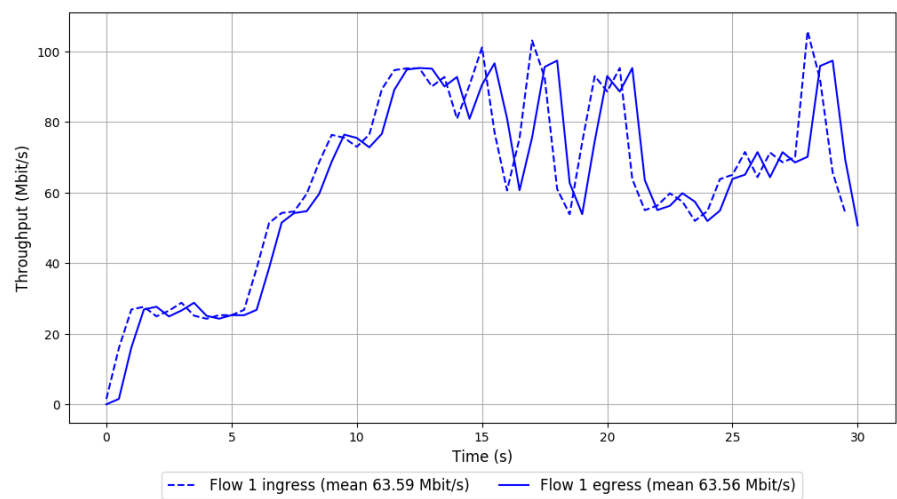


Run 1: Statistics of PCC-Vivace

Start at: 2018-12-11 15:54:03
End at: 2018-12-11 15:54:33
Local clock offset: -2.054 ms
Remote clock offset: -11.187 ms

Below is generated by plot.py at 2018-12-11 17:48:23
Datalink statistics
-- Total of 1 flow:
Average throughput: 63.56 Mbit/s
95th percentile per-packet one-way delay: 31.917 ms
Loss rate: 0.12%
-- Flow 1:
Average throughput: 63.56 Mbit/s
95th percentile per-packet one-way delay: 31.917 ms
Loss rate: 0.12%

Run 1: Report of PCC-Vivace — Data Link

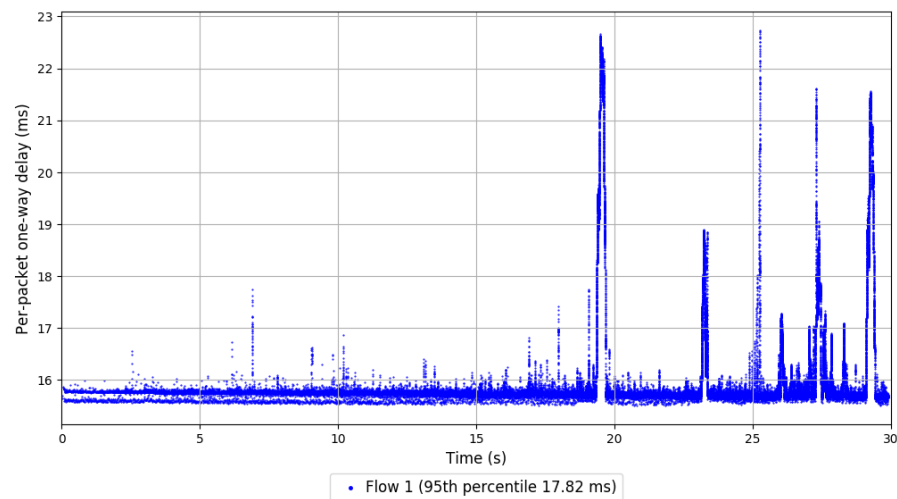
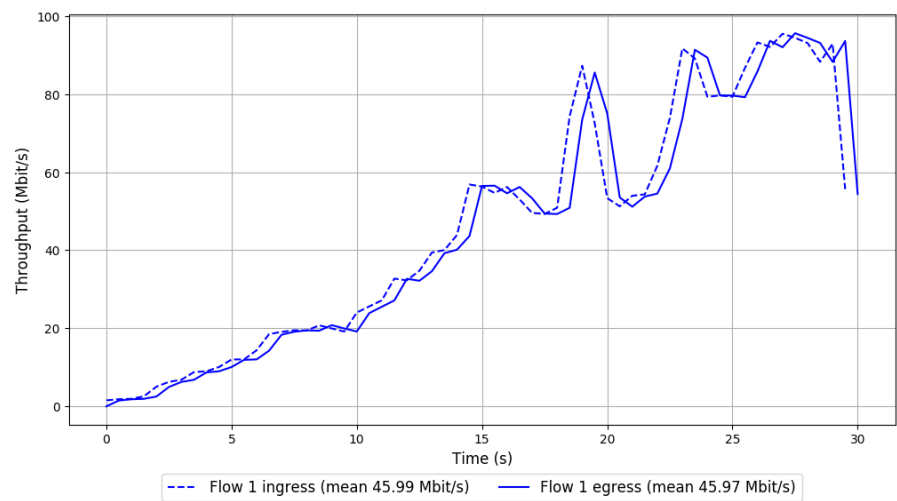


Run 2: Statistics of PCC-Vivace

Start at: 2018-12-11 16:16:07
End at: 2018-12-11 16:16:37
Local clock offset: 1.191 ms
Remote clock offset: -33.71 ms

Below is generated by plot.py at 2018-12-11 17:48:23
Datalink statistics
-- Total of 1 flow:
Average throughput: 45.97 Mbit/s
95th percentile per-packet one-way delay: 17.821 ms
Loss rate: 0.13%
-- Flow 1:
Average throughput: 45.97 Mbit/s
95th percentile per-packet one-way delay: 17.821 ms
Loss rate: 0.13%

Run 2: Report of PCC-Vivace — Data Link

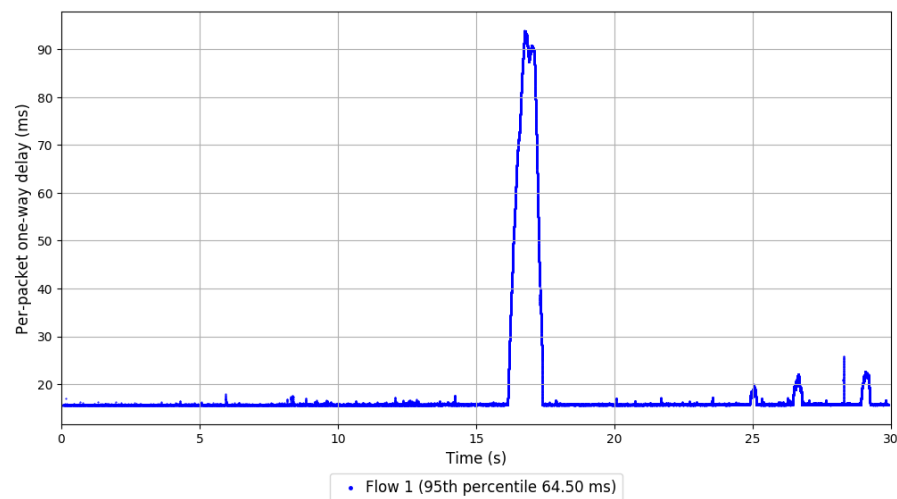
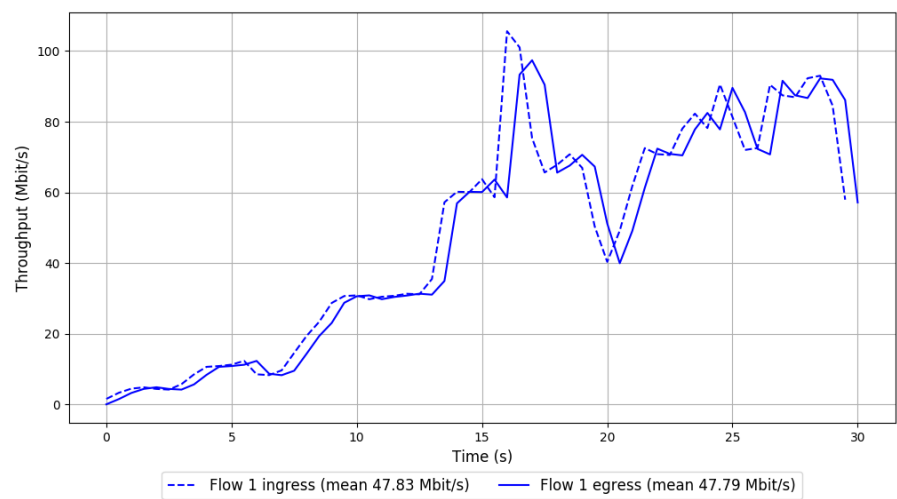


Run 3: Statistics of PCC-Vivace

Start at: 2018-12-11 16:38:39
End at: 2018-12-11 16:39:09
Local clock offset: 1.047 ms
Remote clock offset: -34.698 ms

Below is generated by plot.py at 2018-12-11 17:48:23
Datalink statistics
-- Total of 1 flow:
Average throughput: 47.79 Mbit/s
95th percentile per-packet one-way delay: 64.496 ms
Loss rate: 0.15%
-- Flow 1:
Average throughput: 47.79 Mbit/s
95th percentile per-packet one-way delay: 64.496 ms
Loss rate: 0.15%

Run 3: Report of PCC-Vivace — Data Link

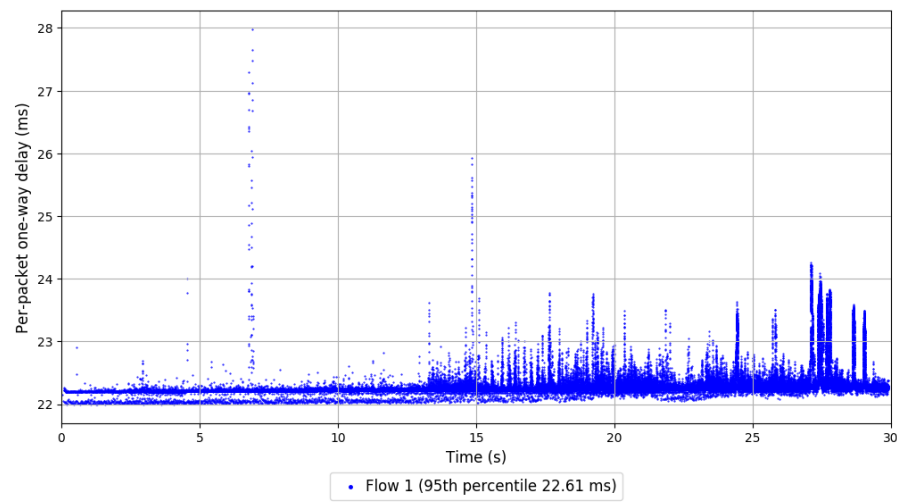
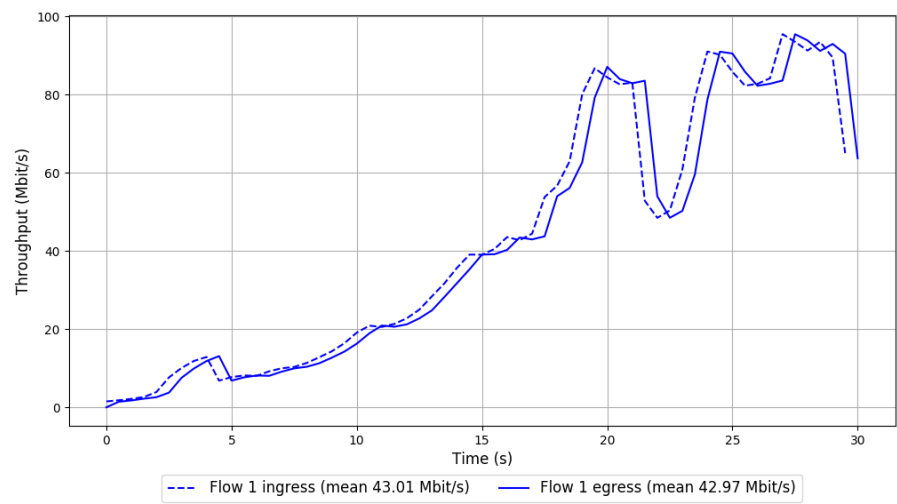


Run 4: Statistics of PCC-Vivace

Start at: 2018-12-11 17:00:58
End at: 2018-12-11 17:01:28
Local clock offset: 1.614 ms
Remote clock offset: -30.673 ms

Below is generated by plot.py at 2018-12-11 17:48:23
Datalink statistics
-- Total of 1 flow:
Average throughput: 42.97 Mbit/s
95th percentile per-packet one-way delay: 22.614 ms
Loss rate: 0.19%
-- Flow 1:
Average throughput: 42.97 Mbit/s
95th percentile per-packet one-way delay: 22.614 ms
Loss rate: 0.19%

Run 4: Report of PCC-Vivace — Data Link

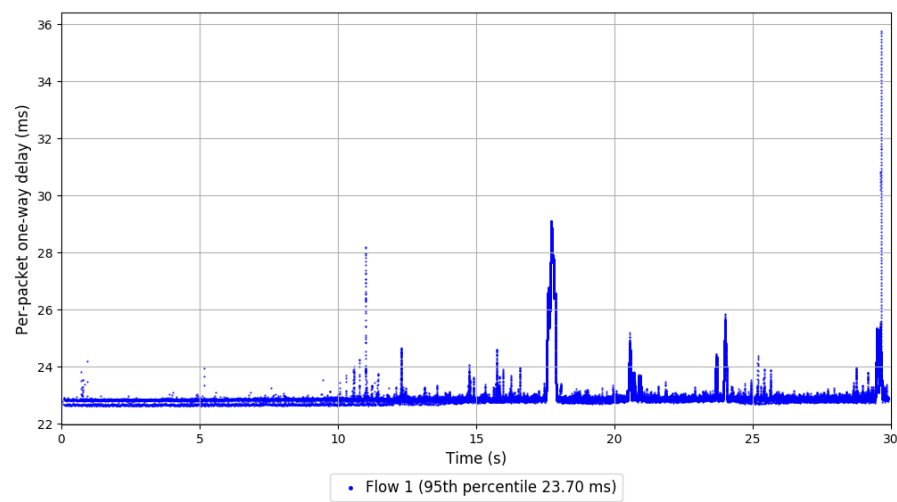
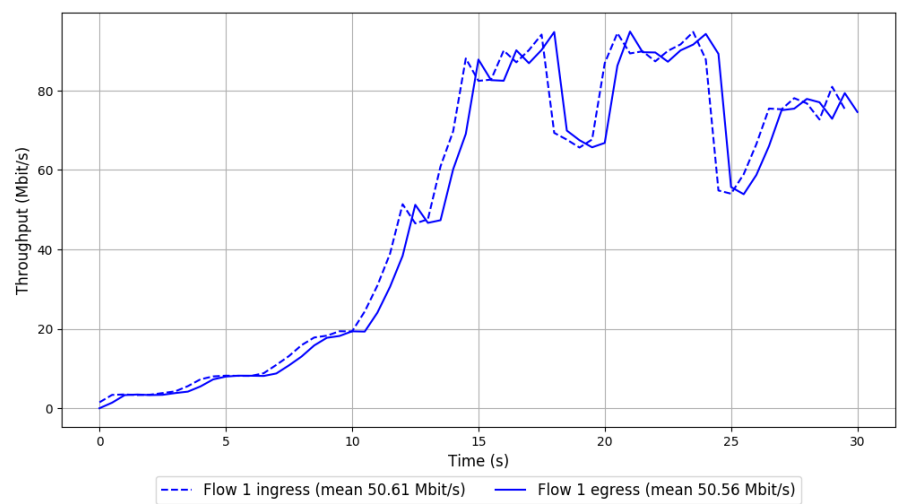


Run 5: Statistics of PCC-Vivace

Start at: 2018-12-11 17:23:14
End at: 2018-12-11 17:23:44
Local clock offset: 2.103 ms
Remote clock offset: -28.811 ms

Below is generated by plot.py at 2018-12-11 17:48:25
Datalink statistics
-- Total of 1 flow:
Average throughput: 50.56 Mbit/s
95th percentile per-packet one-way delay: 23.697 ms
Loss rate: 0.19%
-- Flow 1:
Average throughput: 50.56 Mbit/s
95th percentile per-packet one-way delay: 23.697 ms
Loss rate: 0.19%

Run 5: Report of PCC-Vivace — Data Link

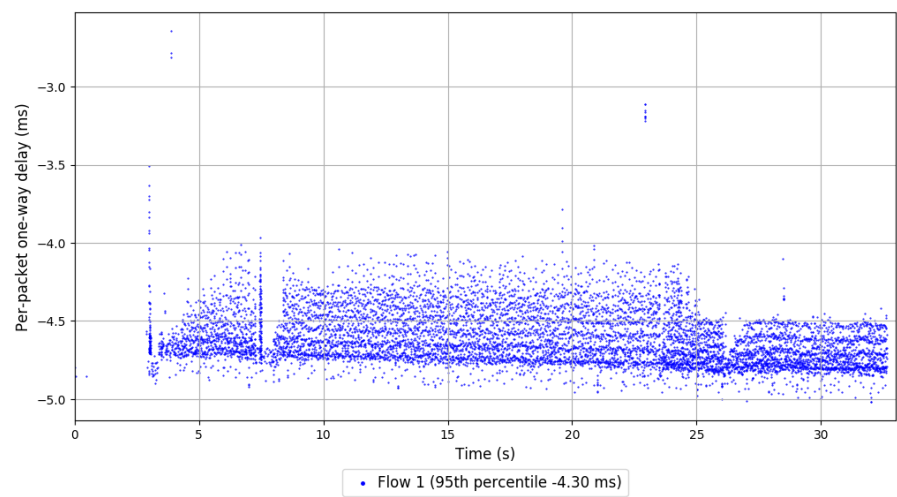
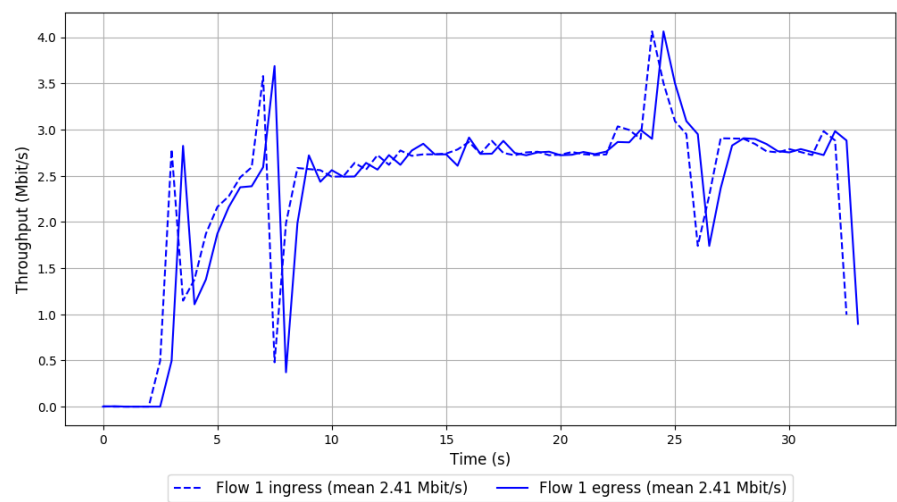


Run 1: Statistics of WebRTC media

Start at: 2018-12-11 15:55:14
End at: 2018-12-11 15:55:44
Local clock offset: -1.285 ms
Remote clock offset: -10.446 ms

Below is generated by plot.py at 2018-12-11 17:48:25
Datalink statistics
-- Total of 1 flow:
Average throughput: 2.41 Mbit/s
95th percentile per-packet one-way delay: -4.299 ms
Loss rate: 0.06%
-- Flow 1:
Average throughput: 2.41 Mbit/s
95th percentile per-packet one-way delay: -4.299 ms
Loss rate: 0.06%

Run 1: Report of WebRTC media — Data Link

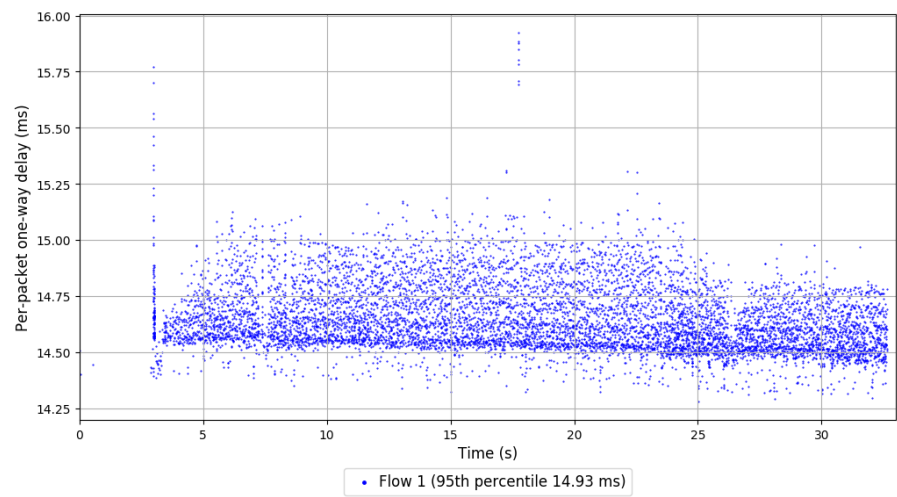
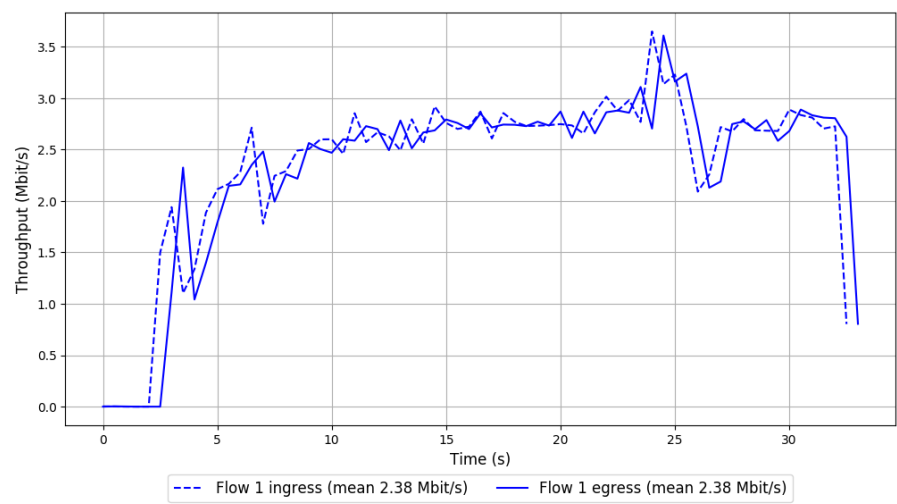


Run 2: Statistics of WebRTC media

Start at: 2018-12-11 16:17:16
End at: 2018-12-11 16:17:46
Local clock offset: -0.509 ms
Remote clock offset: -34.403 ms

Below is generated by plot.py at 2018-12-11 17:48:25
Datalink statistics
-- Total of 1 flow:
Average throughput: 2.38 Mbit/s
95th percentile per-packet one-way delay: 14.933 ms
Loss rate: 0.06%
-- Flow 1:
Average throughput: 2.38 Mbit/s
95th percentile per-packet one-way delay: 14.933 ms
Loss rate: 0.06%

Run 2: Report of WebRTC media — Data Link

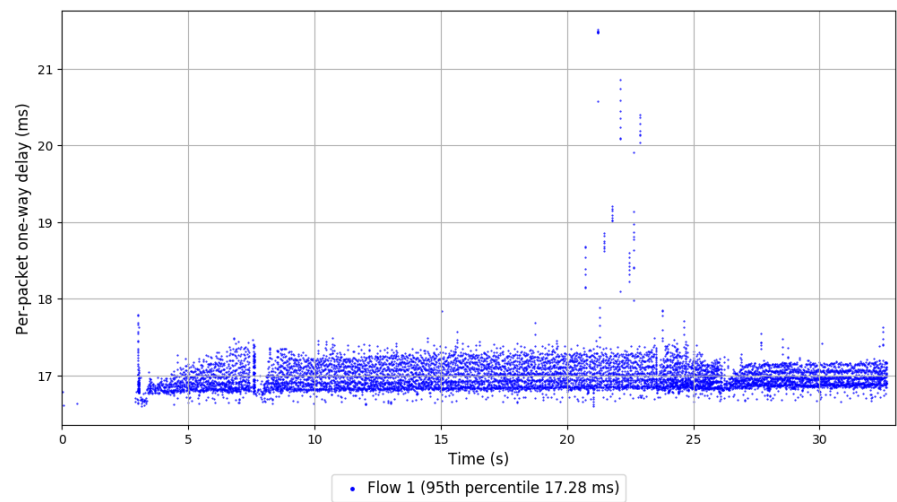
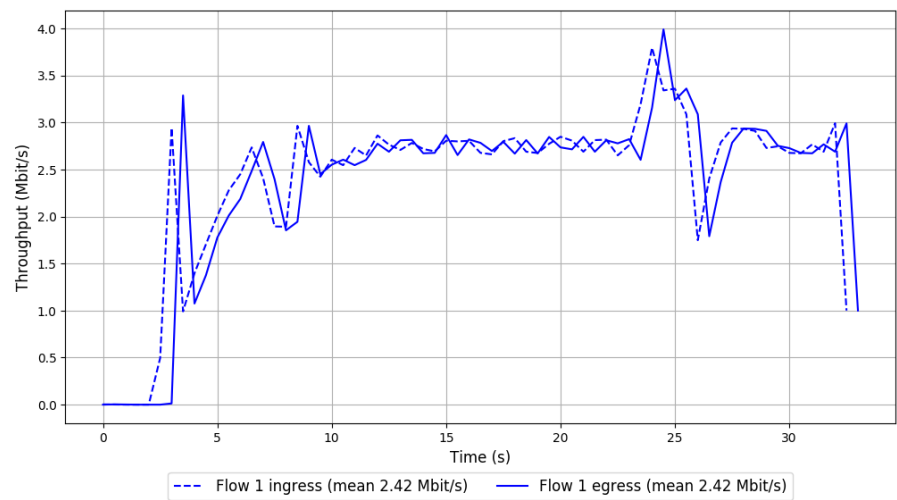


Run 3: Statistics of WebRTC media

Start at: 2018-12-11 16:39:48
End at: 2018-12-11 16:40:18
Local clock offset: 2.403 ms
Remote clock offset: -34.244 ms

Below is generated by plot.py at 2018-12-11 17:48:25
Datalink statistics
-- Total of 1 flow:
Average throughput: 2.42 Mbit/s
95th percentile per-packet one-way delay: 17.277 ms
Loss rate: 0.06%
-- Flow 1:
Average throughput: 2.42 Mbit/s
95th percentile per-packet one-way delay: 17.277 ms
Loss rate: 0.06%

Run 3: Report of WebRTC media — Data Link

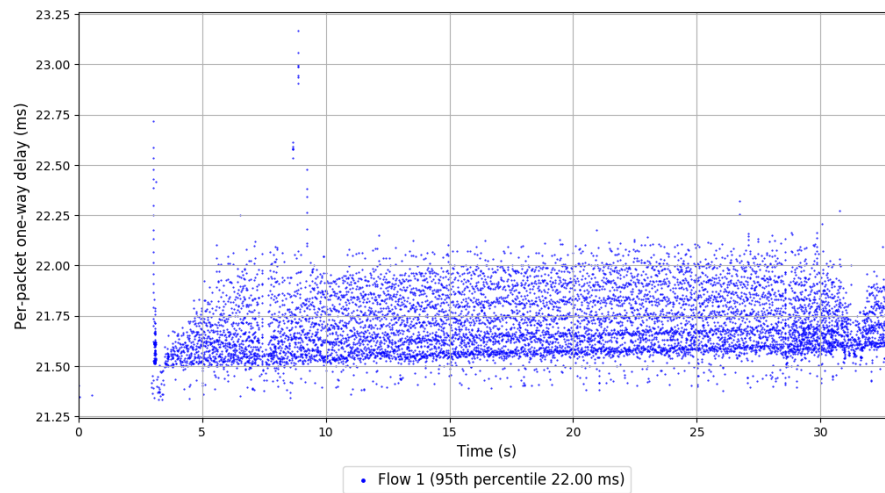
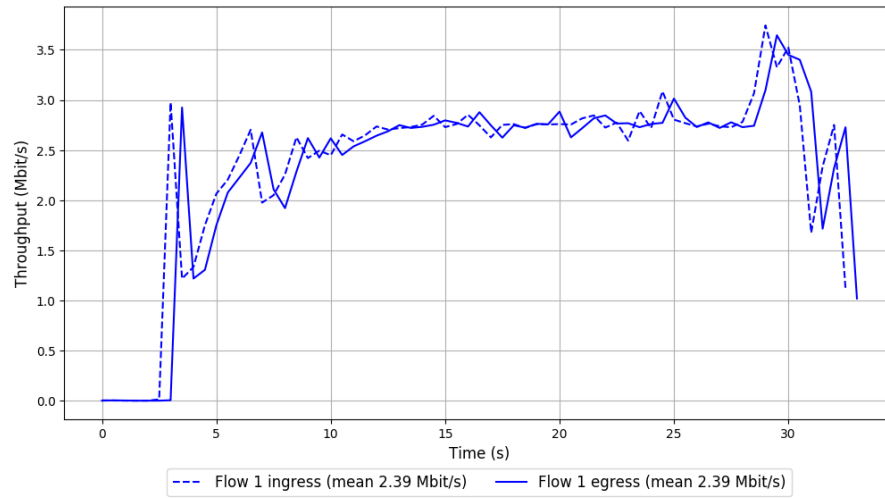


Run 4: Statistics of WebRTC media

Start at: 2018-12-11 17:02:07
End at: 2018-12-11 17:02:37
Local clock offset: 1.242 ms
Remote clock offset: -30.166 ms

Below is generated by plot.py at 2018-12-11 17:48:25
Datalink statistics
-- Total of 1 flow:
Average throughput: 2.39 Mbit/s
95th percentile per-packet one-way delay: 21.995 ms
Loss rate: 0.12%
-- Flow 1:
Average throughput: 2.39 Mbit/s
95th percentile per-packet one-way delay: 21.995 ms
Loss rate: 0.12%

Run 4: Report of WebRTC media — Data Link



Run 5: Statistics of WebRTC media

Start at: 2018-12-11 17:24:24
End at: 2018-12-11 17:24:54
Local clock offset: 1.079 ms
Remote clock offset: -28.822 ms

Below is generated by plot.py at 2018-12-11 17:48:25
Datalink statistics
-- Total of 1 flow:
Average throughput: 2.41 Mbit/s
95th percentile per-packet one-way delay: 22.442 ms
Loss rate: 0.13%
-- Flow 1:
Average throughput: 2.41 Mbit/s
95th percentile per-packet one-way delay: 22.442 ms
Loss rate: 0.13%

Run 5: Report of WebRTC media — Data Link

