

Pantheon Report

Generated at 2018-12-20 06:55:23 (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:

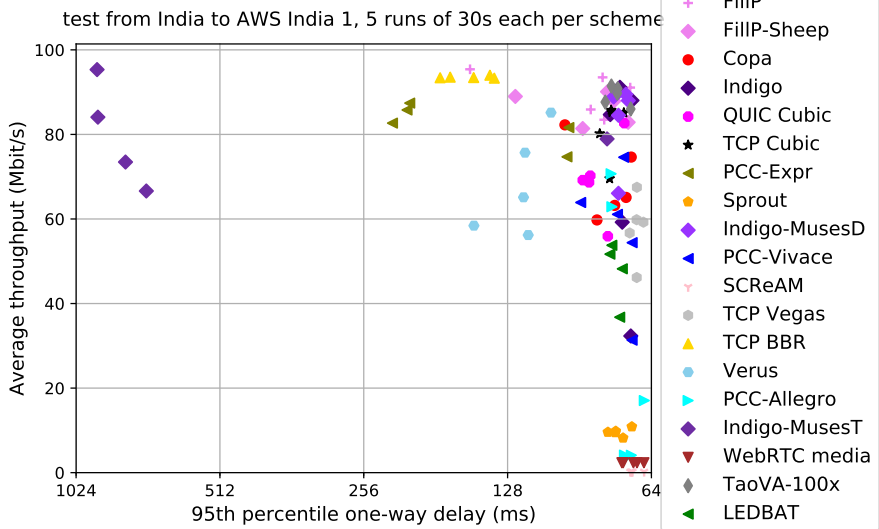
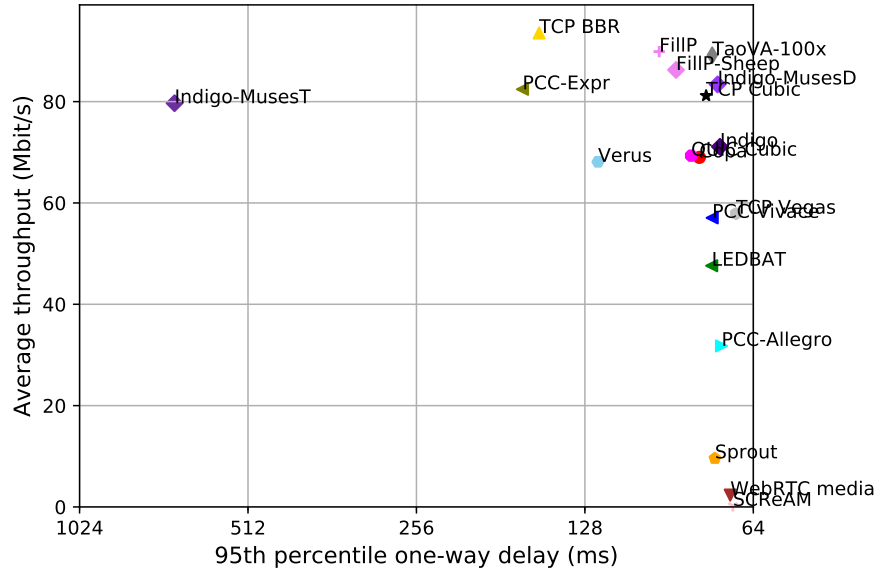
```
Linux 4.15.0-1029-aws
net.core.default_qdisc = fq
net.core.rmem_default = 16777216
net.core.rmem_max = 536870912
net.core.wmem_default = 16777216
net.core.wmem_max = 536870912
net.ipv4.tcp_rmem = 4096 16777216 536870912
net.ipv4.tcp_wmem = 4096 16777216 536870912
```

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-quick @ 77961f1a82733a86b42f1bc8143ebc978f3cff42
third_party/scream-reproduce @ f099118d1421aa3131bf11ff1964974e1da3bdb2
  M src/ScreamClient
  M src/ScreamServer
third_party/sprout @ 366e35c6178b01e31d4a46ad18c74f9415f19a26
  M src/examples/cellsim.cc
  M src/examples/sproutbt2.cc
  M src/network/sproutconn.cc
third_party/verus @ d4b447ea74c6c60a261149af2629562939f9a494
  M src/verus.hpp
  M tools/plot.py
```

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

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



scheme	# runs	mean avg tput (Mbit/s) flow 1	mean 95th-%ile delay (ms) flow 1	mean loss rate (%) flow 1
TCP BBR	5	93.54	154.52	3.00
Copa	5	69.00	79.91	0.25
TCP Cubic	5	81.17	77.72	0.27
FillP	5	89.87	94.27	0.94
FillP-Sheep	5	86.25	87.96	0.31
Indigo	5	71.09	73.43	0.22
Indigo-MusesD	5	83.39	74.15	0.30
Indigo-MusesT	5	79.69	692.75	3.84
LEDBAT	4	47.61	75.97	0.47
PCC-Allegro	5	31.78	72.95	0.30
PCC-Expr	5	82.44	165.49	0.45
QUIC Cubic	5	69.34	82.68	0.36
SCReAM	5	0.22	69.61	0.26
Sprout	5	9.59	74.97	0.33
TaoVA-100x	5	89.14	75.79	0.29
TCP Vegas	5	57.88	68.73	0.32
Verus	5	68.12	121.29	0.47
PCC-Vivace	5	57.06	75.82	0.59
WebRTC media	5	2.34	70.38	0.27

Run 1: Statistics of TCP BBR

Start at: 2018-12-20 04:53:57

End at: 2018-12-20 04:54:27

Local clock offset: -1.25 ms

Remote clock offset: -5.842 ms

Below is generated by plot.py at 2018-12-20 06:46:12

Datalink statistics

-- Total of 1 flow:

Average throughput: 93.31 Mbit/s

95th percentile per-packet one-way delay: 136.463 ms

Loss rate: 3.00%

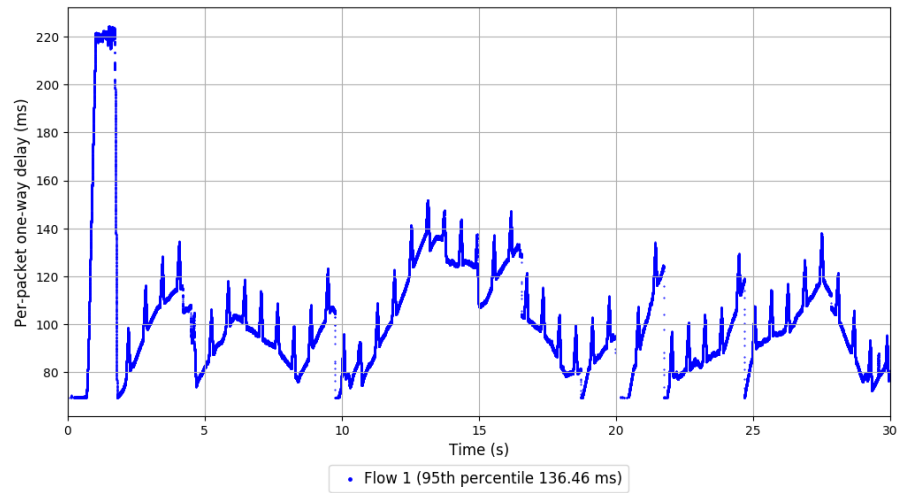
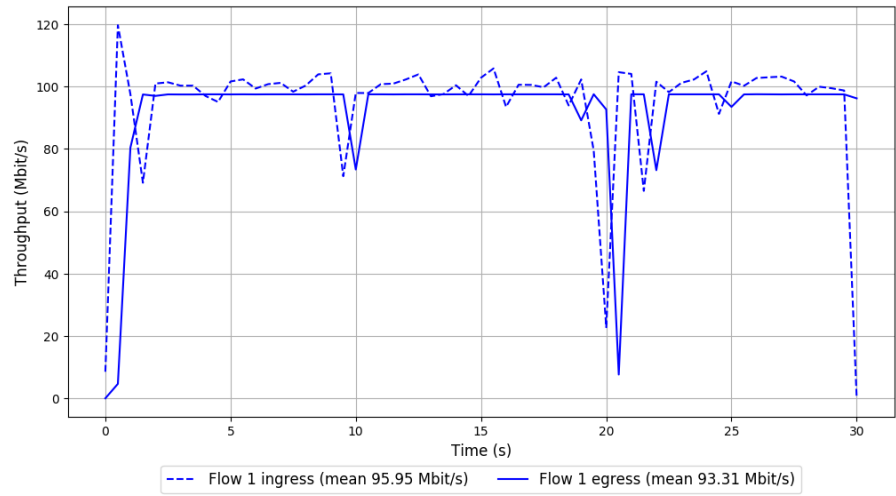
-- Flow 1:

Average throughput: 93.31 Mbit/s

95th percentile per-packet one-way delay: 136.463 ms

Loss rate: 3.00%

Run 1: Report of TCP BBR — Data Link

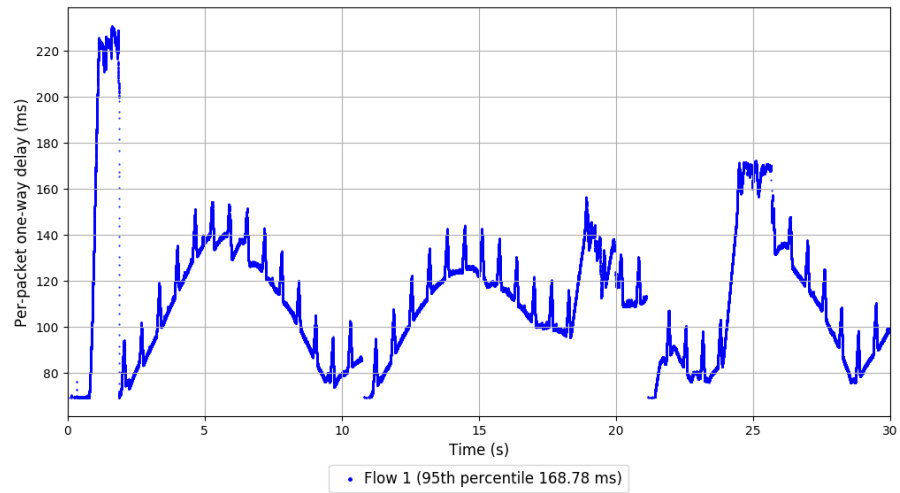
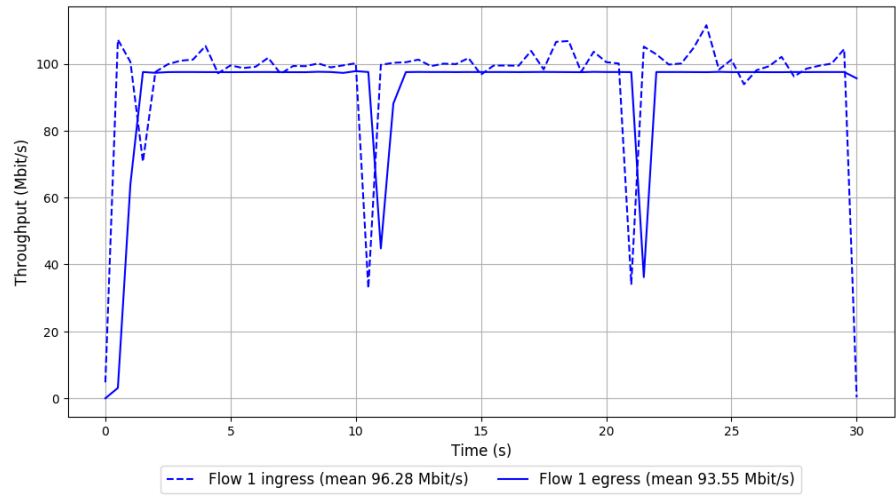


Run 2: Statistics of TCP BBR

Start at: 2018-12-20 05:22:00
End at: 2018-12-20 05:22:30
Local clock offset: -0.863 ms
Remote clock offset: -3.529 ms

Below is generated by plot.py at 2018-12-20 06:46:12
Datalink statistics
-- Total of 1 flow:
Average throughput: 93.55 Mbit/s
95th percentile per-packet one-way delay: 168.781 ms
Loss rate: 3.09%
-- Flow 1:
Average throughput: 93.55 Mbit/s
95th percentile per-packet one-way delay: 168.781 ms
Loss rate: 3.09%

Run 2: Report of TCP BBR — Data Link



Run 3: Statistics of TCP BBR

Start at: 2018-12-20 05:49:05

End at: 2018-12-20 05:49:35

Local clock offset: 0.009 ms

Remote clock offset: -3.35 ms

Below is generated by plot.py at 2018-12-20 06:46:12

Datalink statistics

-- Total of 1 flow:

Average throughput: 93.45 Mbit/s

95th percentile per-packet one-way delay: 150.748 ms

Loss rate: 3.47%

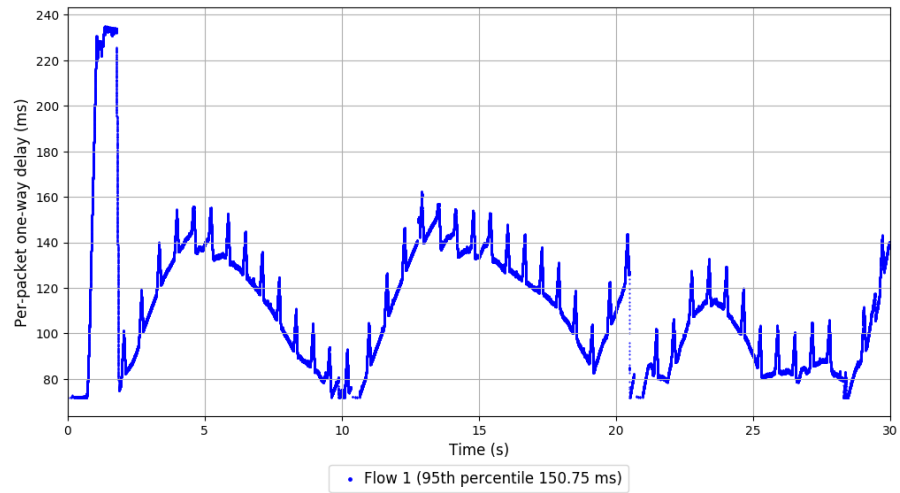
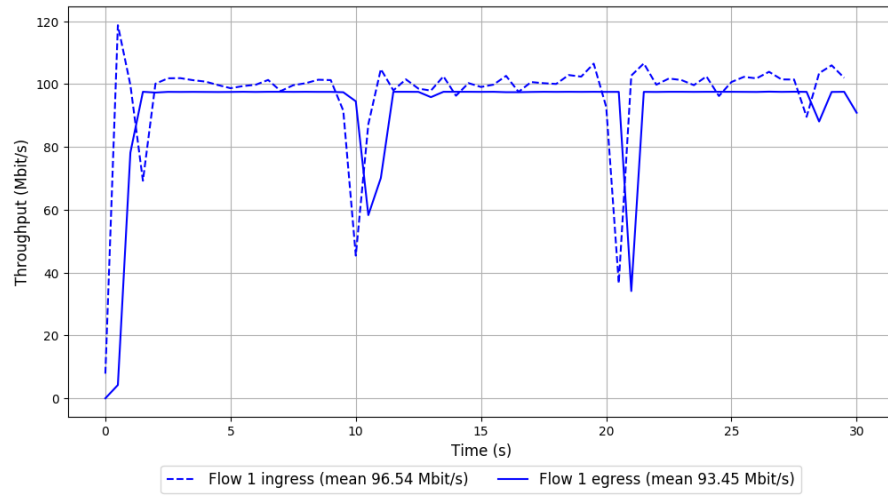
-- Flow 1:

Average throughput: 93.45 Mbit/s

95th percentile per-packet one-way delay: 150.748 ms

Loss rate: 3.47%

Run 3: Report of TCP BBR — Data Link

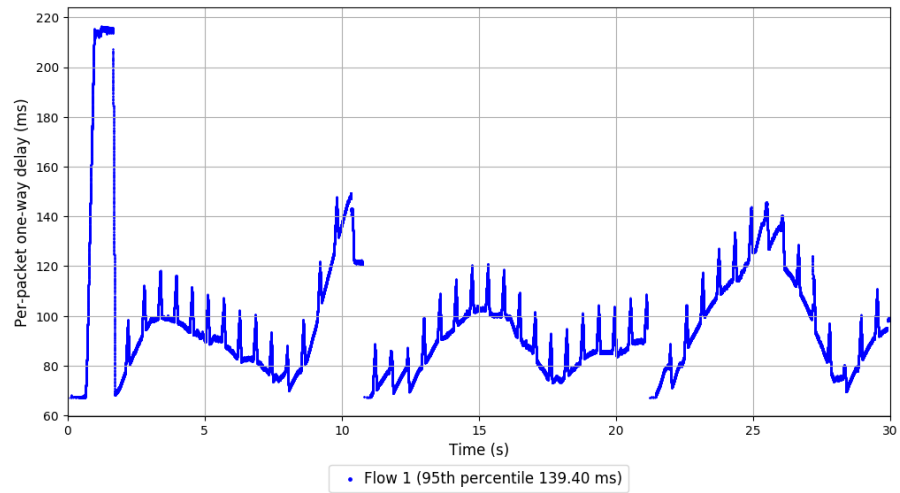
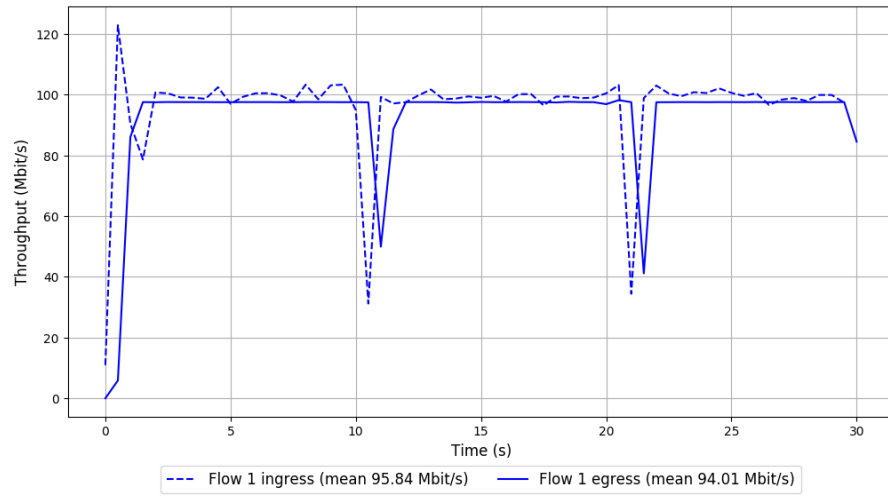


Run 4: Statistics of TCP BBR

Start at: 2018-12-20 06:12:56
End at: 2018-12-20 06:13:26
Local clock offset: 0.227 ms
Remote clock offset: -3.923 ms

Below is generated by plot.py at 2018-12-20 06:46:13
Datalink statistics
-- Total of 1 flow:
Average throughput: 94.01 Mbit/s
95th percentile per-packet one-way delay: 139.404 ms
Loss rate: 2.15%
-- Flow 1:
Average throughput: 94.01 Mbit/s
95th percentile per-packet one-way delay: 139.404 ms
Loss rate: 2.15%

Run 4: Report of TCP BBR — Data Link



Run 5: Statistics of TCP BBR

Start at: 2018-12-20 06:37:03

End at: 2018-12-20 06:37:33

Local clock offset: 4.682 ms

Remote clock offset: -3.0 ms

Below is generated by plot.py at 2018-12-20 06:46:13

Datalink statistics

-- Total of 1 flow:

Average throughput: 93.40 Mbit/s

95th percentile per-packet one-way delay: 177.180 ms

Loss rate: 3.29%

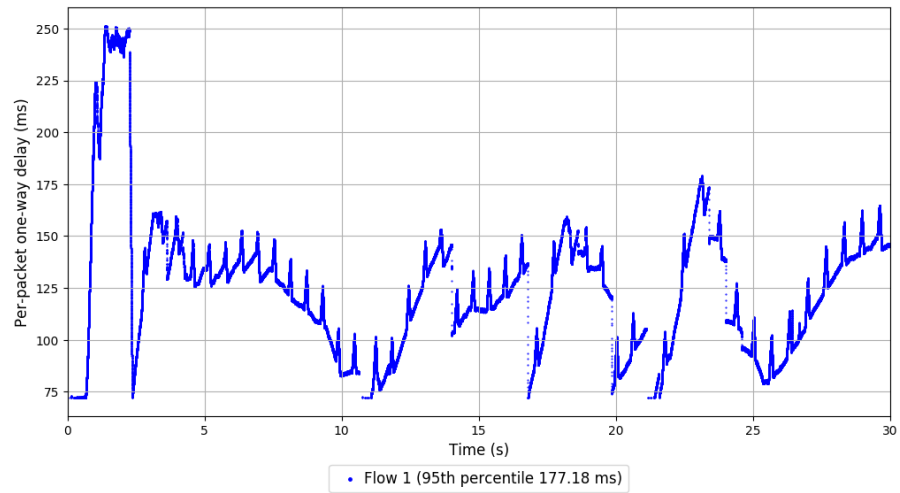
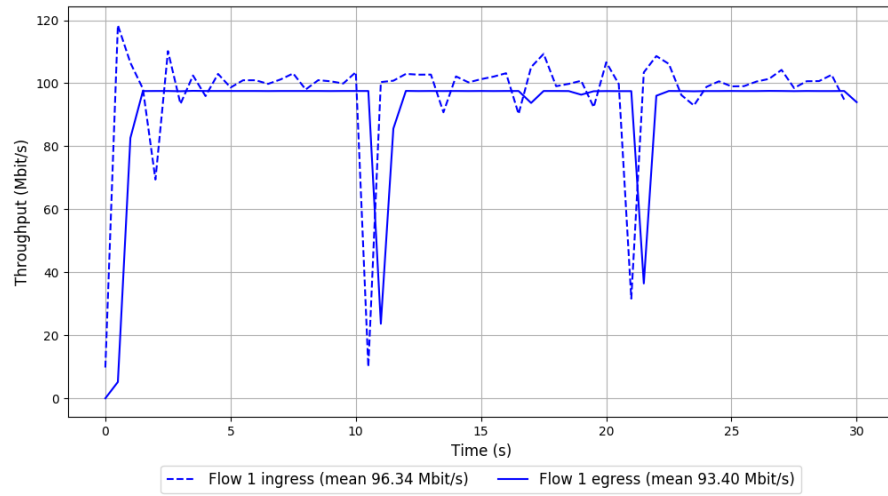
-- Flow 1:

Average throughput: 93.40 Mbit/s

95th percentile per-packet one-way delay: 177.180 ms

Loss rate: 3.29%

Run 5: Report of TCP BBR — Data Link

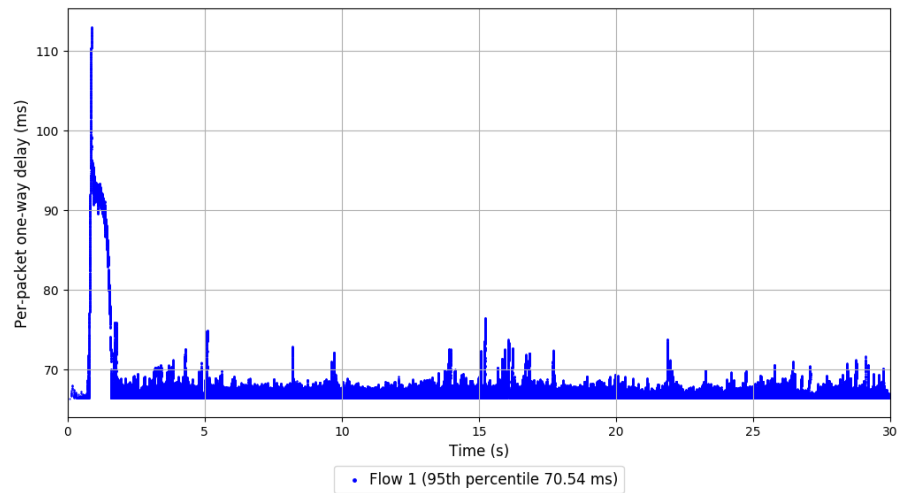
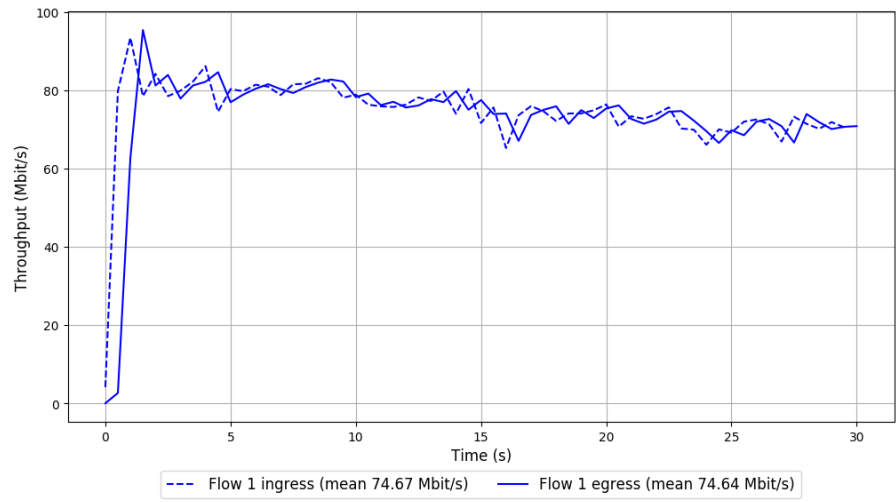


Run 1: Statistics of Copa

Start at: 2018-12-20 04:55:34
End at: 2018-12-20 04:56:04
Local clock offset: -2.796 ms
Remote clock offset: -4.206 ms

Below is generated by plot.py at 2018-12-20 06:46:43
Datalink statistics
-- Total of 1 flow:
Average throughput: 74.64 Mbit/s
95th percentile per-packet one-way delay: 70.542 ms
Loss rate: 0.29%
-- Flow 1:
Average throughput: 74.64 Mbit/s
95th percentile per-packet one-way delay: 70.542 ms
Loss rate: 0.29%

Run 1: Report of Copa — Data Link

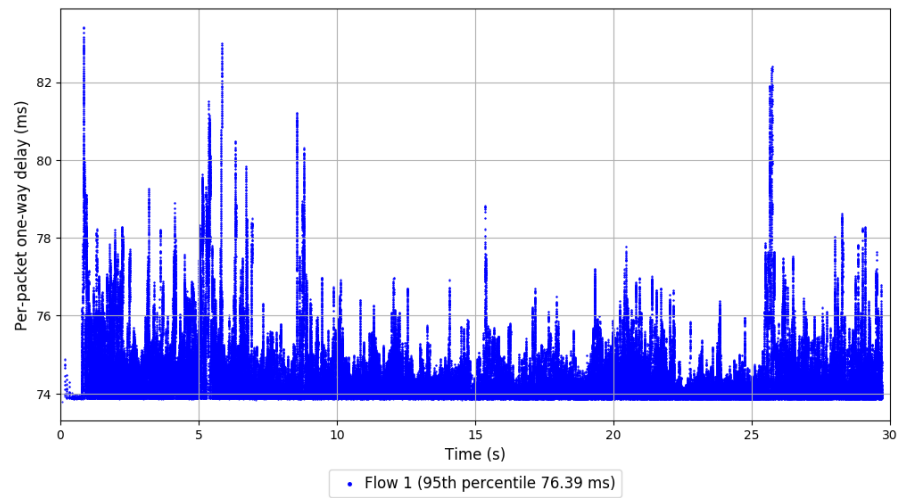
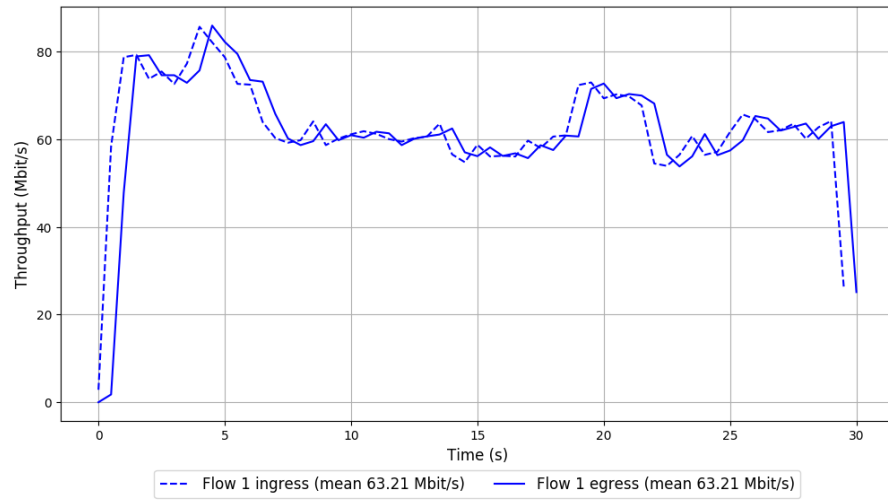


Run 2: Statistics of Copa

Start at: 2018-12-20 05:23:48
End at: 2018-12-20 05:24:18
Local clock offset: 2.712 ms
Remote clock offset: -4.451 ms

Below is generated by plot.py at 2018-12-20 06:46:43
Datalink statistics
-- Total of 1 flow:
Average throughput: 63.21 Mbit/s
95th percentile per-packet one-way delay: 76.388 ms
Loss rate: 0.27%
-- Flow 1:
Average throughput: 63.21 Mbit/s
95th percentile per-packet one-way delay: 76.388 ms
Loss rate: 0.27%

Run 2: Report of Copa — Data Link

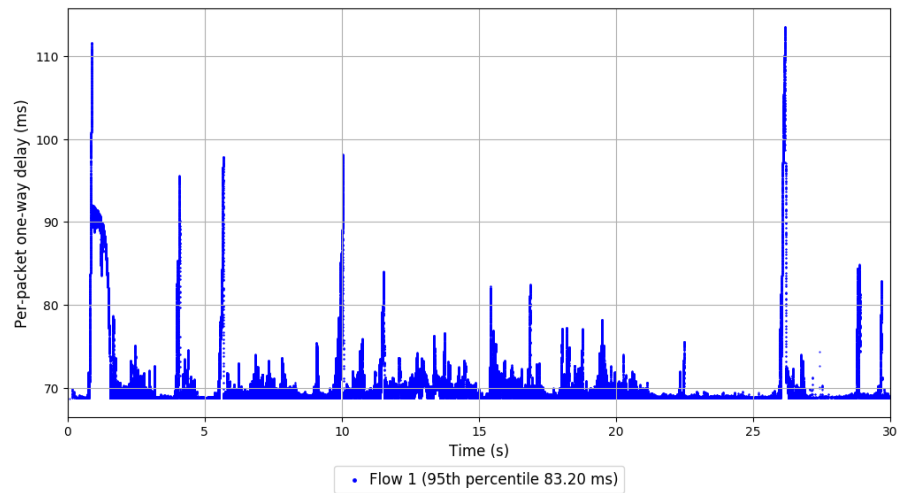
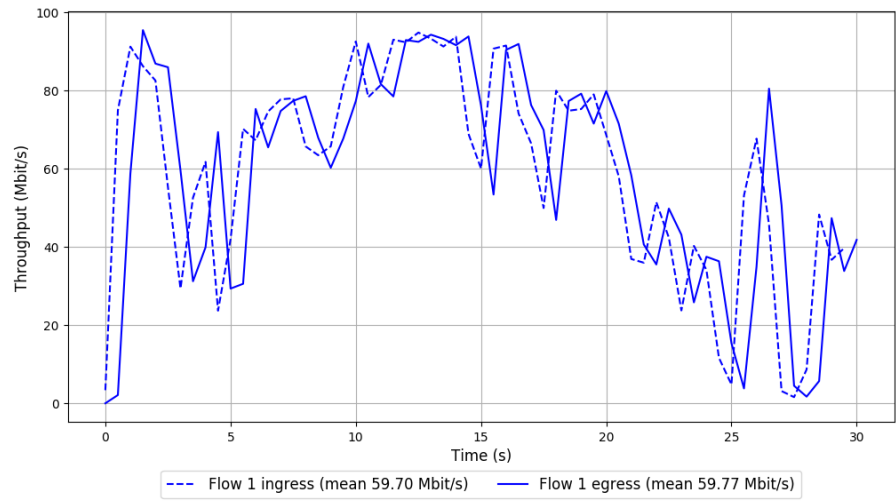


Run 3: Statistics of Copa

Start at: 2018-12-20 05:50:34
End at: 2018-12-20 05:51:04
Local clock offset: -3.057 ms
Remote clock offset: -2.643 ms

Below is generated by plot.py at 2018-12-20 06:46:43
Datalink statistics
-- Total of 1 flow:
Average throughput: 59.77 Mbit/s
95th percentile per-packet one-way delay: 83.202 ms
Loss rate: 0.14%
-- Flow 1:
Average throughput: 59.77 Mbit/s
95th percentile per-packet one-way delay: 83.202 ms
Loss rate: 0.14%

Run 3: Report of Copa — Data Link

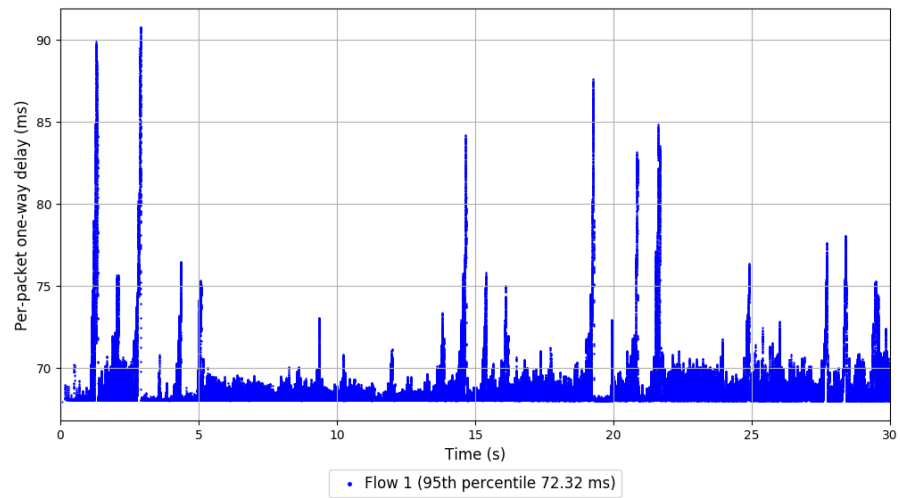
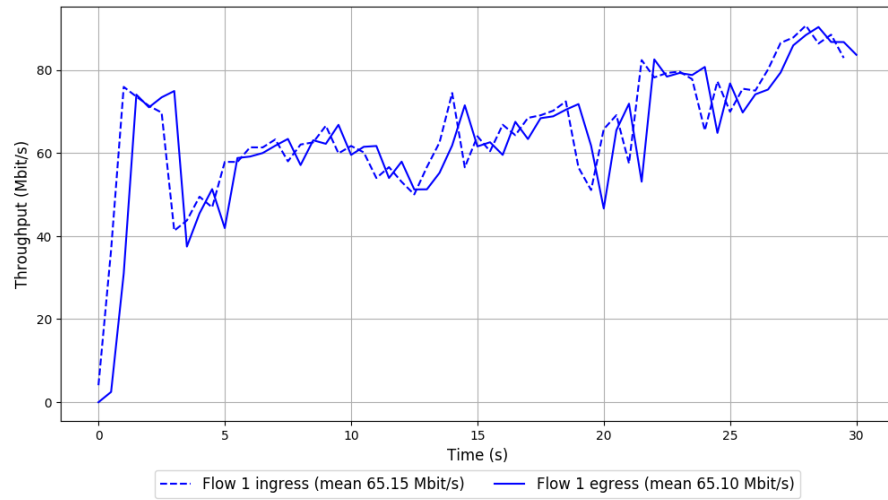


Run 4: Statistics of Copa

Start at: 2018-12-20 06:14:18
End at: 2018-12-20 06:14:48
Local clock offset: -0.982 ms
Remote clock offset: -2.624 ms

Below is generated by plot.py at 2018-12-20 06:47:30
Datalink statistics
-- Total of 1 flow:
Average throughput: 65.10 Mbit/s
95th percentile per-packet one-way delay: 72.316 ms
Loss rate: 0.33%
-- Flow 1:
Average throughput: 65.10 Mbit/s
95th percentile per-packet one-way delay: 72.316 ms
Loss rate: 0.33%

Run 4: Report of Copa — Data Link

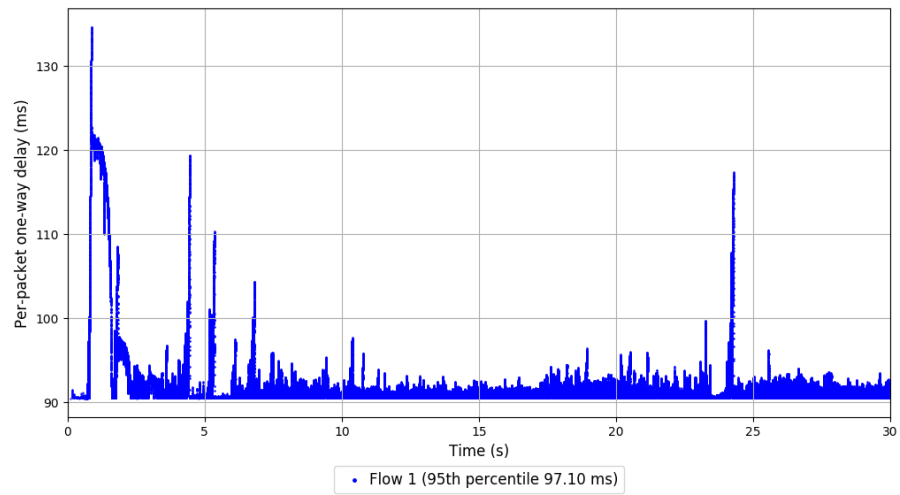
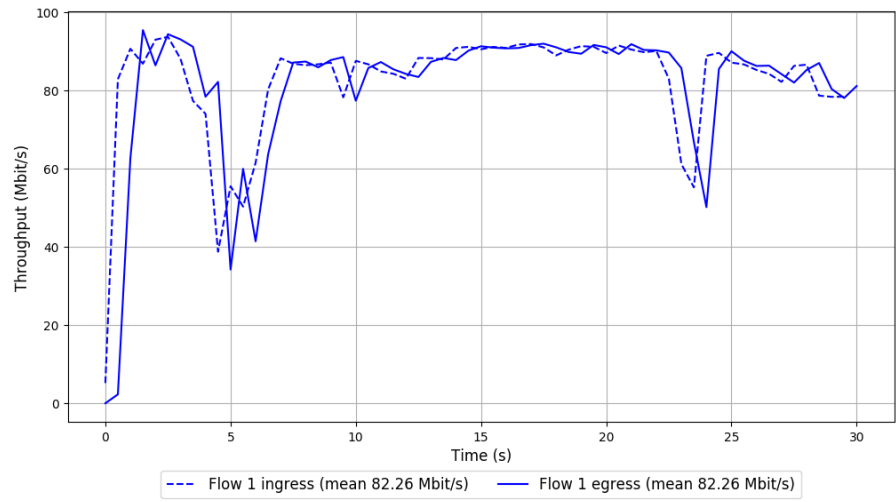


Run 5: Statistics of Copa

Start at: 2018-12-20 06:38:30
End at: 2018-12-20 06:39:00
Local clock offset: 2.042 ms
Remote clock offset: -23.827 ms

Below is generated by plot.py at 2018-12-20 06:47:54
Datalink statistics
-- Total of 1 flow:
Average throughput: 82.26 Mbit/s
95th percentile per-packet one-way delay: 97.100 ms
Loss rate: 0.24%
-- Flow 1:
Average throughput: 82.26 Mbit/s
95th percentile per-packet one-way delay: 97.100 ms
Loss rate: 0.24%

Run 5: Report of Copa — Data Link

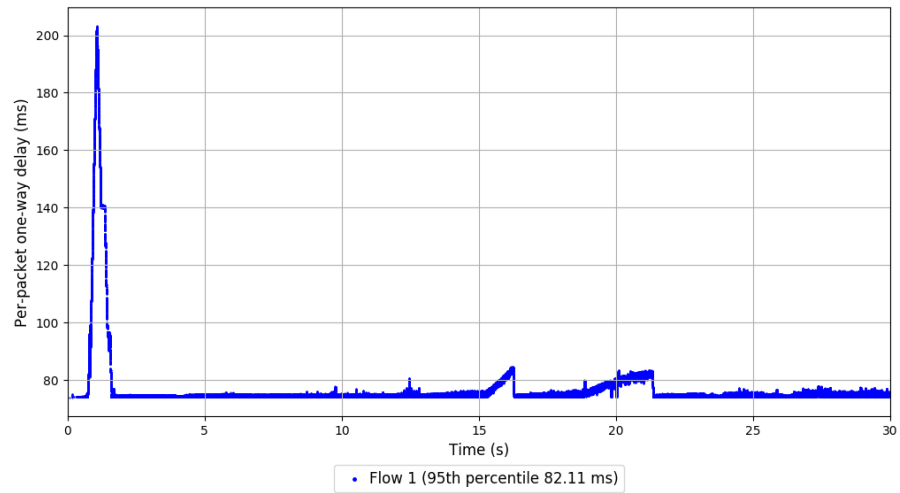
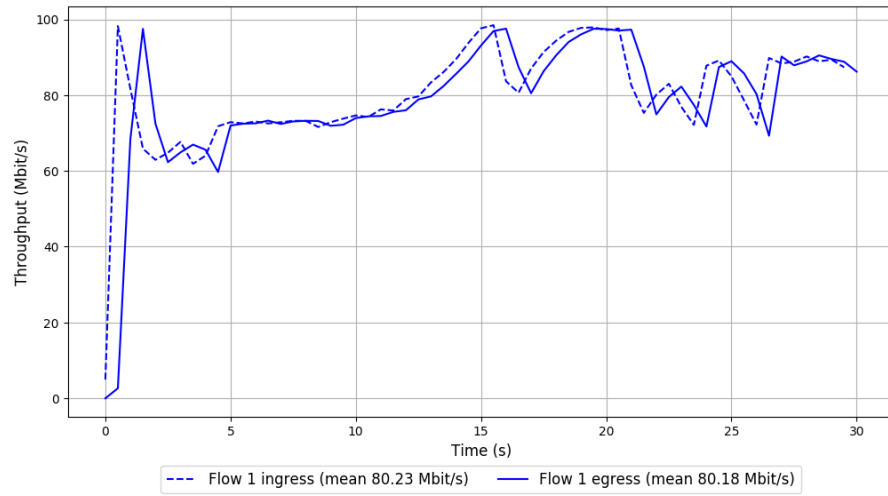


Run 1: Statistics of TCP Cubic

Start at: 2018-12-20 04:50:16
End at: 2018-12-20 04:50:46
Local clock offset: 0.198 ms
Remote clock offset: -4.932 ms

Below is generated by plot.py at 2018-12-20 06:47:54
Datalink statistics
-- Total of 1 flow:
Average throughput: 80.18 Mbit/s
95th percentile per-packet one-way delay: 82.107 ms
Loss rate: 0.32%
-- Flow 1:
Average throughput: 80.18 Mbit/s
95th percentile per-packet one-way delay: 82.107 ms
Loss rate: 0.32%

Run 1: Report of TCP Cubic — Data Link

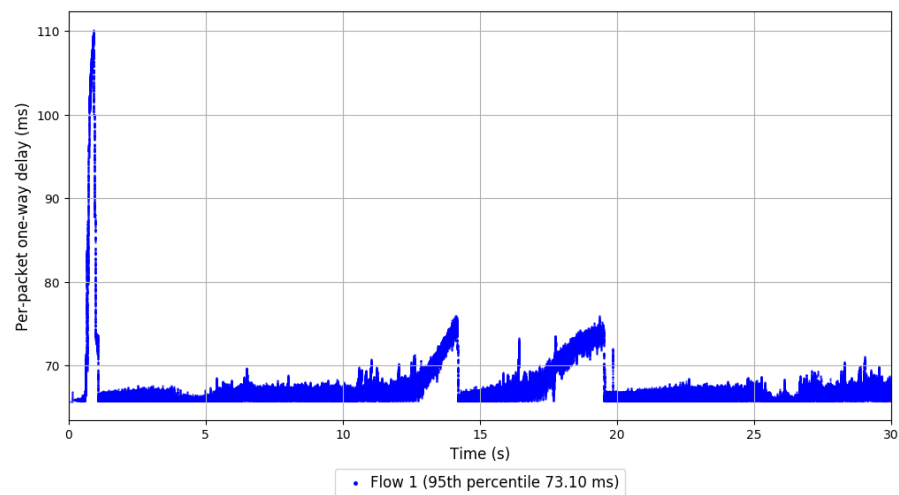
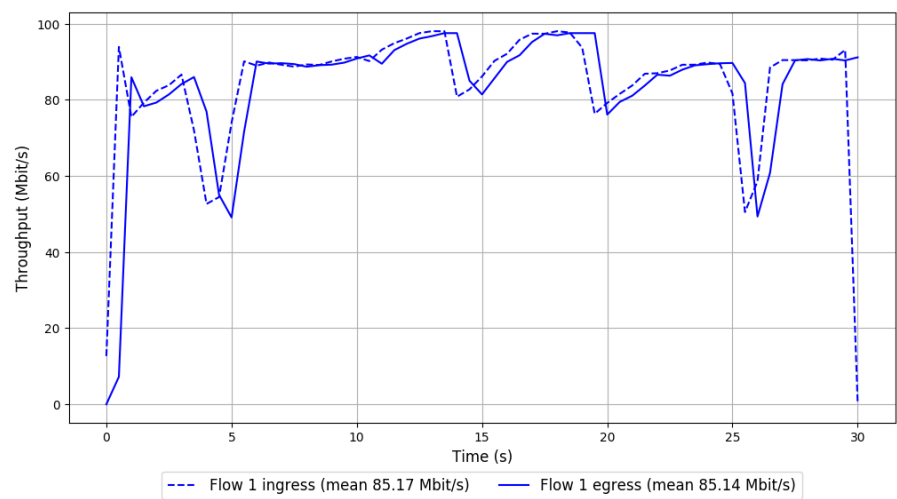


Run 2: Statistics of TCP Cubic

Start at: 2018-12-20 05:17:27
End at: 2018-12-20 05:17:57
Local clock offset: -0.812 ms
Remote clock offset: -3.274 ms

Below is generated by plot.py at 2018-12-20 06:47:54
Datalink statistics
-- Total of 1 flow:
Average throughput: 85.14 Mbit/s
95th percentile per-packet one-way delay: 73.100 ms
Loss rate: 0.29%
-- Flow 1:
Average throughput: 85.14 Mbit/s
95th percentile per-packet one-way delay: 73.100 ms
Loss rate: 0.29%

Run 2: Report of TCP Cubic — Data Link

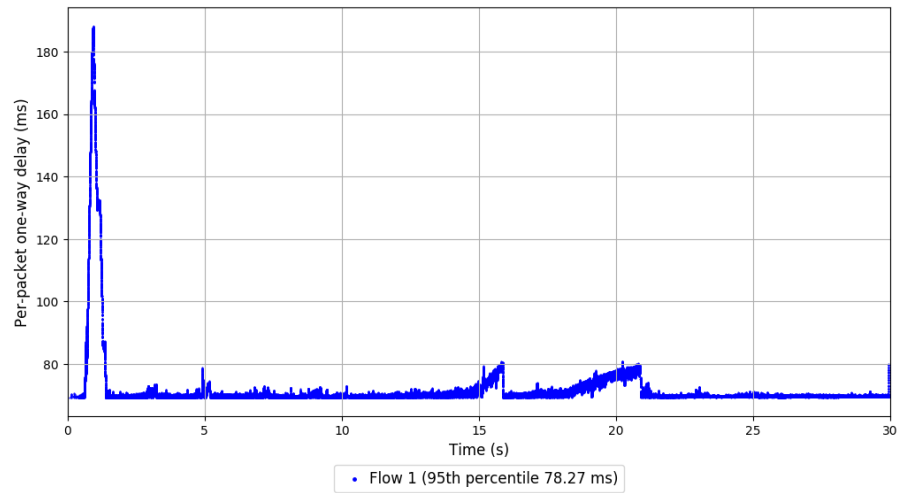
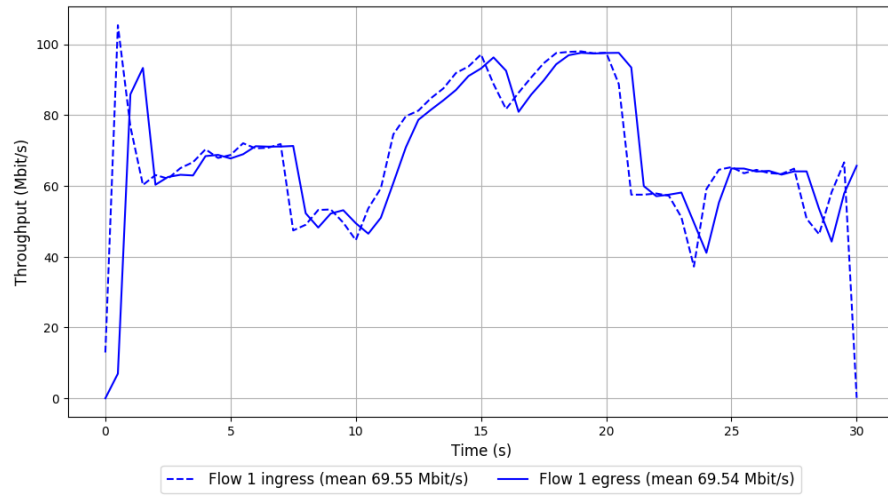


Run 3: Statistics of TCP Cubic

Start at: 2018-12-20 05:45:19
End at: 2018-12-20 05:45:49
Local clock offset: 0.996 ms
Remote clock offset: -3.813 ms

Below is generated by plot.py at 2018-12-20 06:47:54
Datalink statistics
-- Total of 1 flow:
Average throughput: 69.54 Mbit/s
95th percentile per-packet one-way delay: 78.273 ms
Loss rate: 0.26%
-- Flow 1:
Average throughput: 69.54 Mbit/s
95th percentile per-packet one-way delay: 78.273 ms
Loss rate: 0.26%

Run 3: Report of TCP Cubic — Data Link

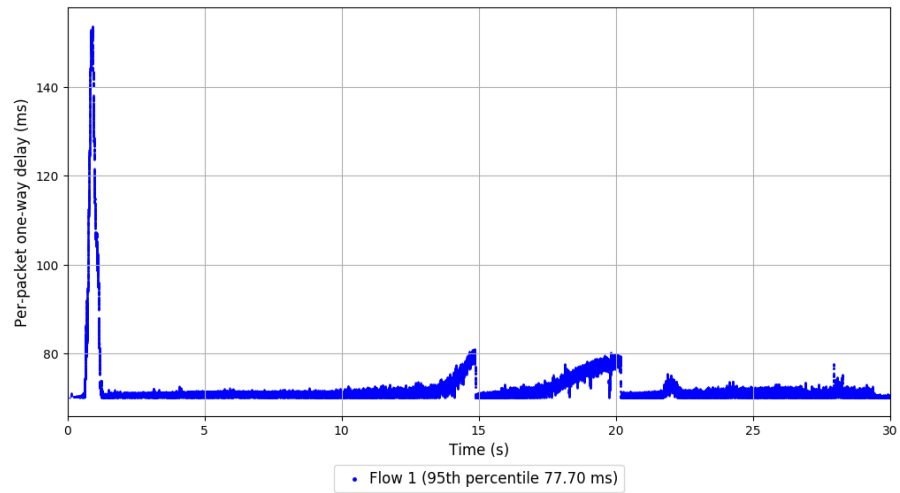
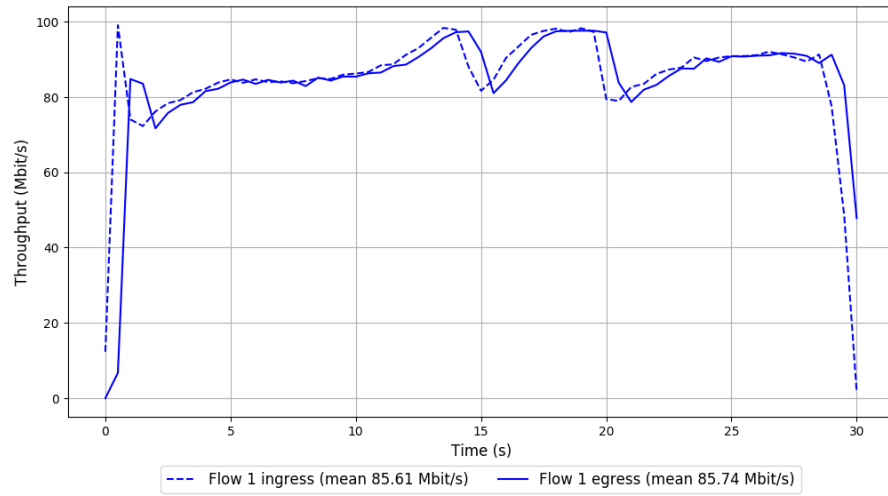


Run 4: Statistics of TCP Cubic

Start at: 2018-12-20 06:09:10
End at: 2018-12-20 06:09:40
Local clock offset: 1.572 ms
Remote clock offset: -2.462 ms

Below is generated by plot.py at 2018-12-20 06:47:54
Datalink statistics
-- Total of 1 flow:
Average throughput: 85.74 Mbit/s
95th percentile per-packet one-way delay: 77.696 ms
Loss rate: 0.20%
-- Flow 1:
Average throughput: 85.74 Mbit/s
95th percentile per-packet one-way delay: 77.696 ms
Loss rate: 0.20%

Run 4: Report of TCP Cubic — Data Link

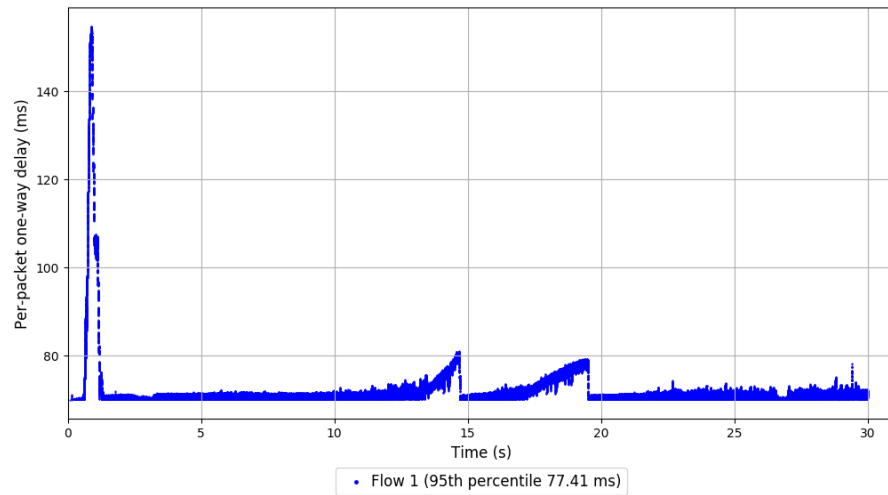
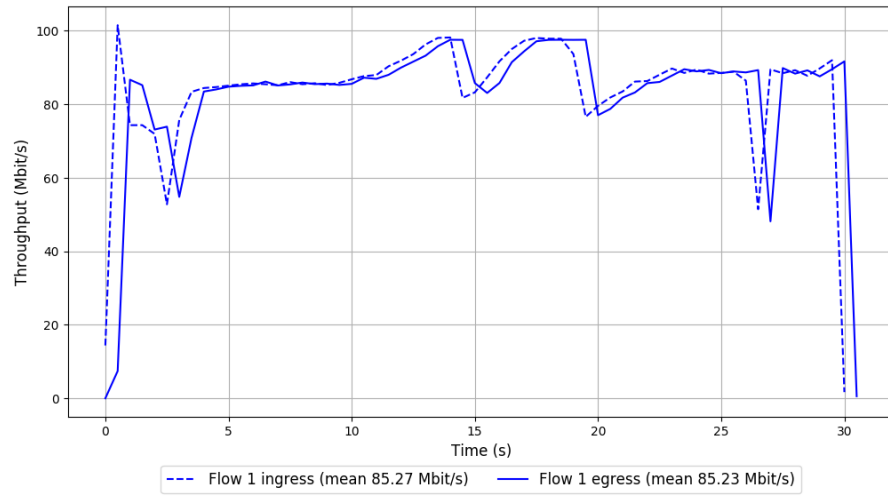


Run 5: Statistics of TCP Cubic

Start at: 2018-12-20 06:33:30
End at: 2018-12-20 06:34:01
Local clock offset: 3.679 ms
Remote clock offset: -1.914 ms

Below is generated by plot.py at 2018-12-20 06:47:54
Datalink statistics
-- Total of 1 flow:
Average throughput: 85.23 Mbit/s
95th percentile per-packet one-way delay: 77.406 ms
Loss rate: 0.30%
-- Flow 1:
Average throughput: 85.23 Mbit/s
95th percentile per-packet one-way delay: 77.406 ms
Loss rate: 0.30%

Run 5: Report of TCP Cubic — Data Link

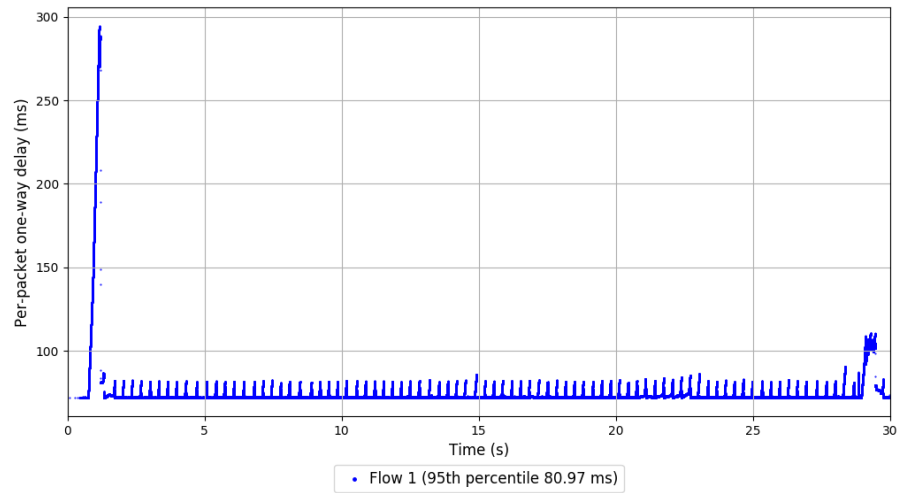
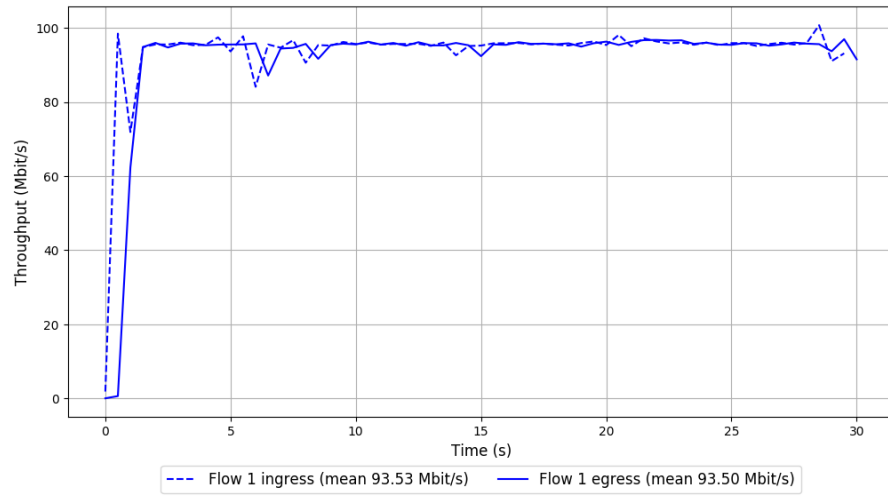


Run 1: Statistics of FillP

Start at: 2018-12-20 04:43:02
End at: 2018-12-20 04:43:32
Local clock offset: -0.116 ms
Remote clock offset: -4.664 ms

Below is generated by plot.py at 2018-12-20 06:48:01
Datalink statistics
-- Total of 1 flow:
Average throughput: 93.50 Mbit/s
95th percentile per-packet one-way delay: 80.969 ms
Loss rate: 0.30%
-- Flow 1:
Average throughput: 93.50 Mbit/s
95th percentile per-packet one-way delay: 80.969 ms
Loss rate: 0.30%

Run 1: Report of FillP — Data Link

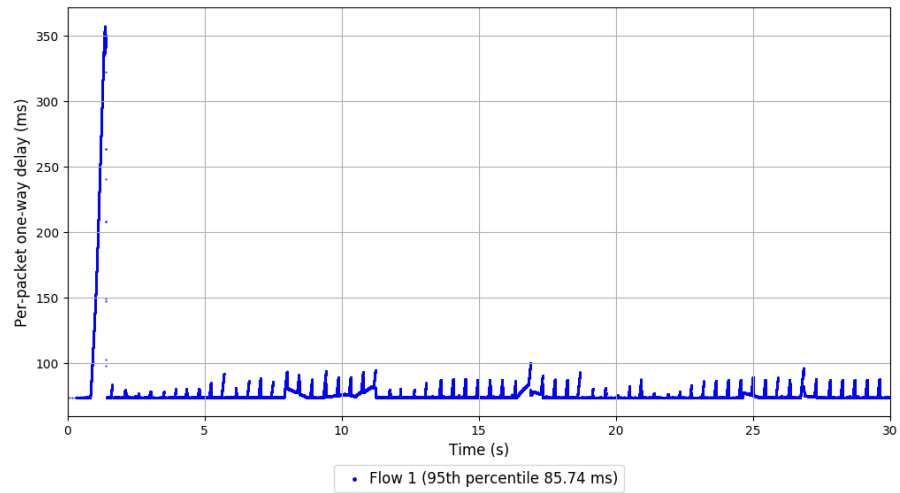
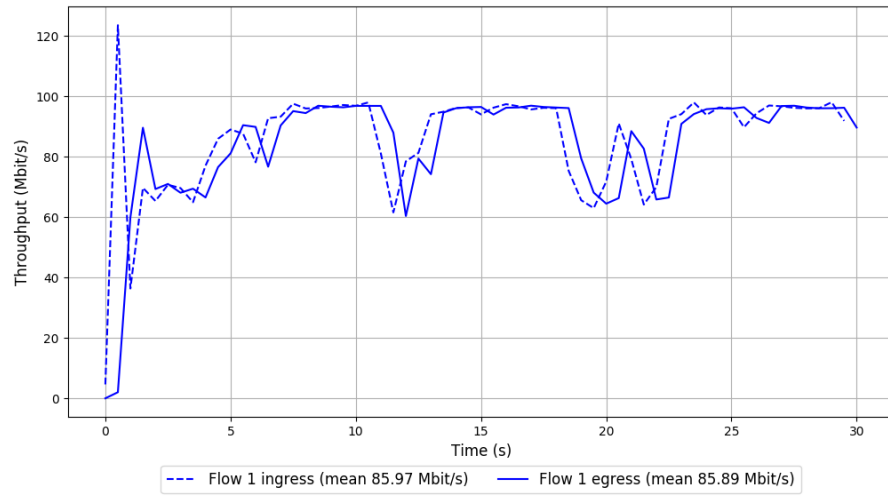


Run 2: Statistics of FillP

Start at: 2018-12-20 05:09:27
End at: 2018-12-20 05:09:57
Local clock offset: -1.213 ms
Remote clock offset: -6.934 ms

Below is generated by plot.py at 2018-12-20 06:48:05
Datalink statistics
-- Total of 1 flow:
Average throughput: 85.89 Mbit/s
95th percentile per-packet one-way delay: 85.738 ms
Loss rate: 0.36%
-- Flow 1:
Average throughput: 85.89 Mbit/s
95th percentile per-packet one-way delay: 85.738 ms
Loss rate: 0.36%

Run 2: Report of FillP — Data Link

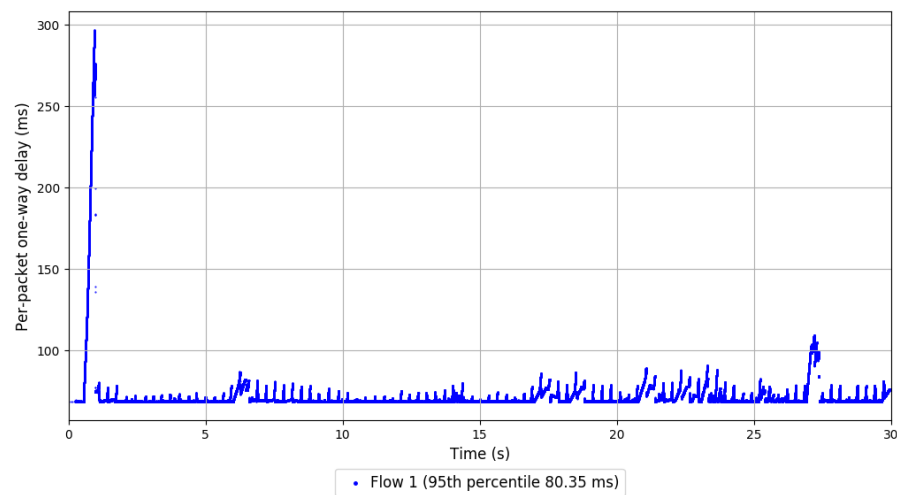
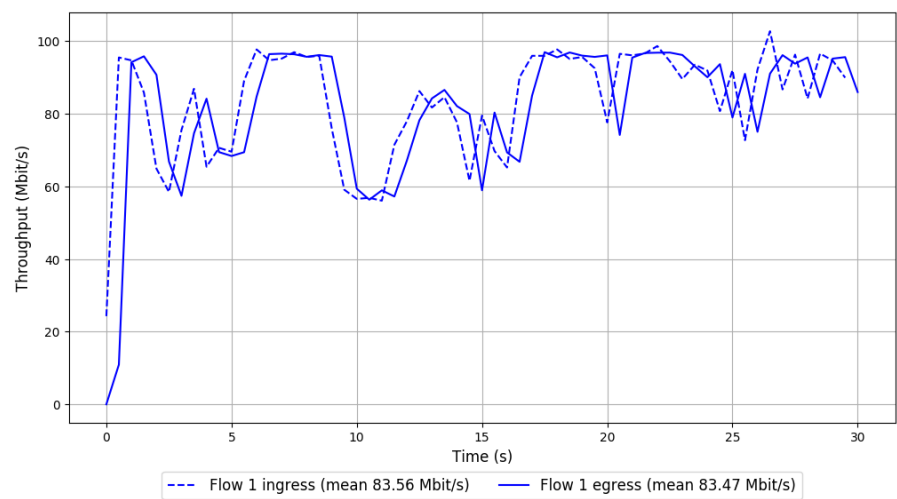


Run 3: Statistics of FillP

Start at: 2018-12-20 05:37:41
End at: 2018-12-20 05:38:11
Local clock offset: 0.953 ms
Remote clock offset: -3.718 ms

Below is generated by plot.py at 2018-12-20 06:48:08
Datalink statistics
-- Total of 1 flow:
Average throughput: 83.47 Mbit/s
95th percentile per-packet one-way delay: 80.352 ms
Loss rate: 0.35%
-- Flow 1:
Average throughput: 83.47 Mbit/s
95th percentile per-packet one-way delay: 80.352 ms
Loss rate: 0.35%

Run 3: Report of FillP — Data Link

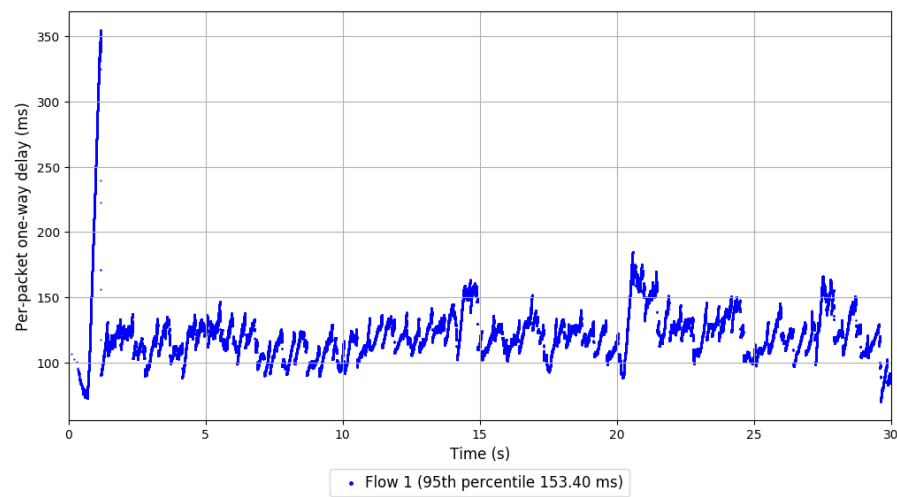
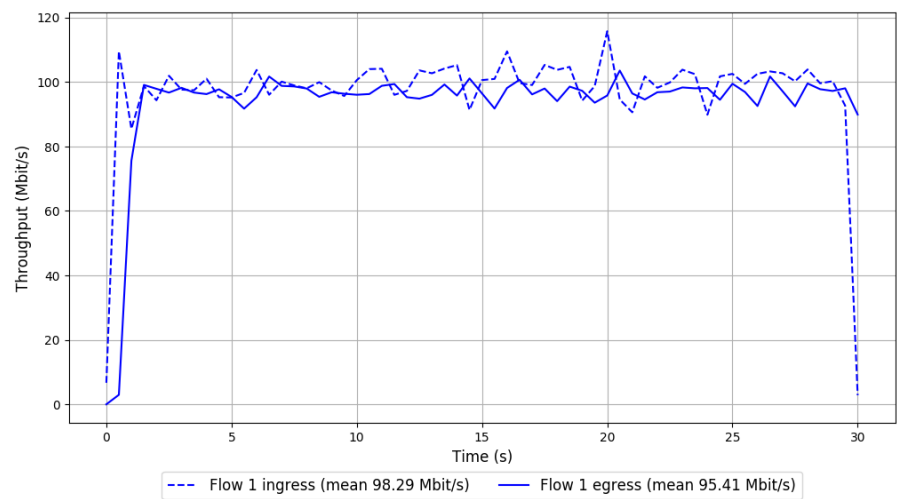


Run 4: Statistics of FillP

Start at: 2018-12-20 06:01:50
End at: 2018-12-20 06:02:20
Local clock offset: 1.29 ms
Remote clock offset: -0.643 ms

Below is generated by plot.py at 2018-12-20 06:48:26
Datalink statistics
-- Total of 1 flow:
Average throughput: 95.41 Mbit/s
95th percentile per-packet one-way delay: 153.397 ms
Loss rate: 3.41%
-- Flow 1:
Average throughput: 95.41 Mbit/s
95th percentile per-packet one-way delay: 153.397 ms
Loss rate: 3.41%

Run 4: Report of FillP — Data Link

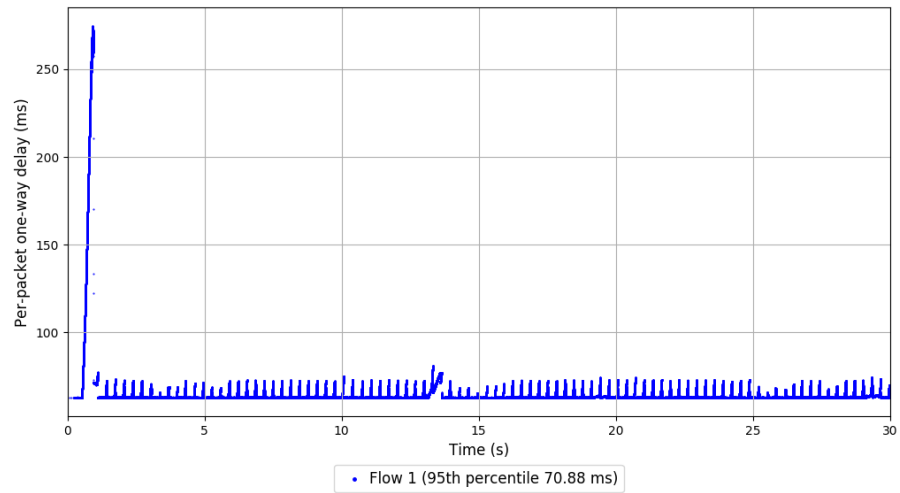
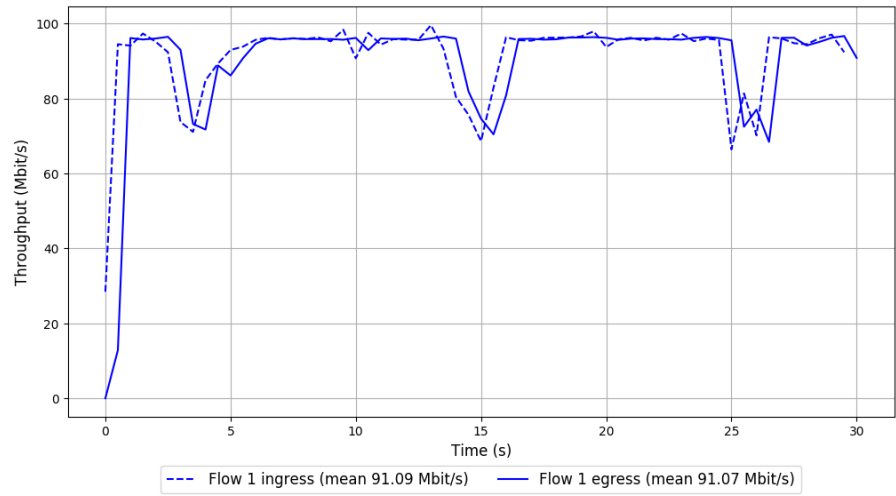


Run 5: Statistics of FillP

Start at: 2018-12-20 06:26:19
End at: 2018-12-20 06:26:49
Local clock offset: -2.349 ms
Remote clock offset: -1.918 ms

Below is generated by plot.py at 2018-12-20 06:48:33
Datalink statistics
-- Total of 1 flow:
Average throughput: 91.07 Mbit/s
95th percentile per-packet one-way delay: 70.884 ms
Loss rate: 0.26%
-- Flow 1:
Average throughput: 91.07 Mbit/s
95th percentile per-packet one-way delay: 70.884 ms
Loss rate: 0.26%

Run 5: Report of FillP — Data Link

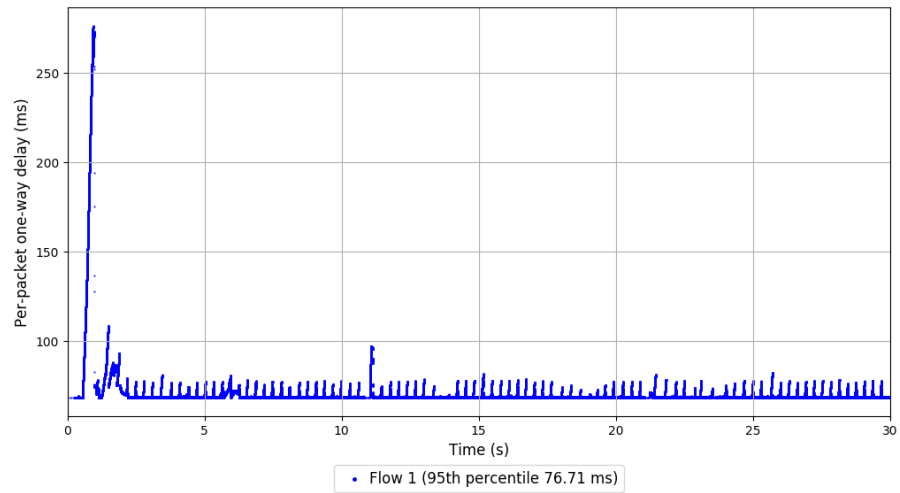
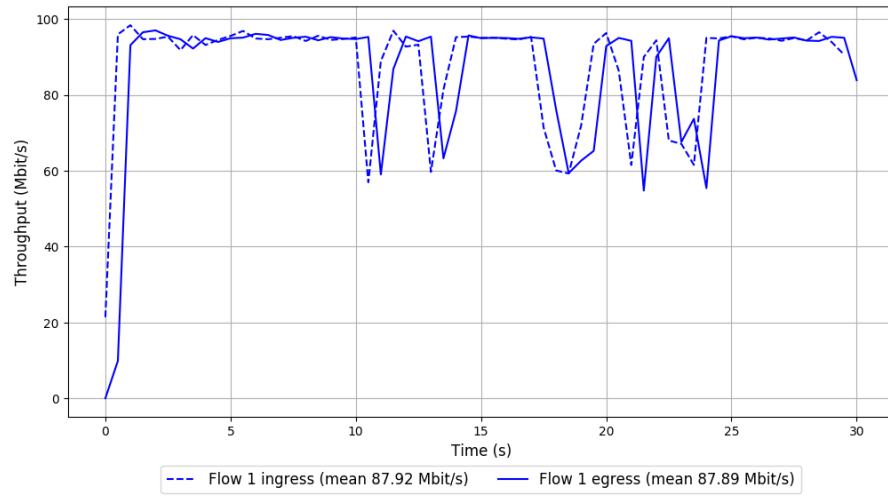


Run 1: Statistics of FillP-Sheep

Start at: 2018-12-20 04:41:48
End at: 2018-12-20 04:42:18
Local clock offset: -0.005 ms
Remote clock offset: -4.824 ms

Below is generated by plot.py at 2018-12-20 06:48:33
Datalink statistics
-- Total of 1 flow:
Average throughput: 87.89 Mbit/s
95th percentile per-packet one-way delay: 76.708 ms
Loss rate: 0.38%
-- Flow 1:
Average throughput: 87.89 Mbit/s
95th percentile per-packet one-way delay: 76.708 ms
Loss rate: 0.38%

Run 1: Report of FillP-Sheep — Data Link



Run 2: Statistics of FillP-Sheep

Start at: 2018-12-20 05:07:53

End at: 2018-12-20 05:08:23

Local clock offset: 0.048 ms

Remote clock offset: -4.115 ms

Below is generated by plot.py at 2018-12-20 06:48:35

Datalink statistics

-- Total of 1 flow:

Average throughput: 81.39 Mbit/s

95th percentile per-packet one-way delay: 89.121 ms

Loss rate: 0.25%

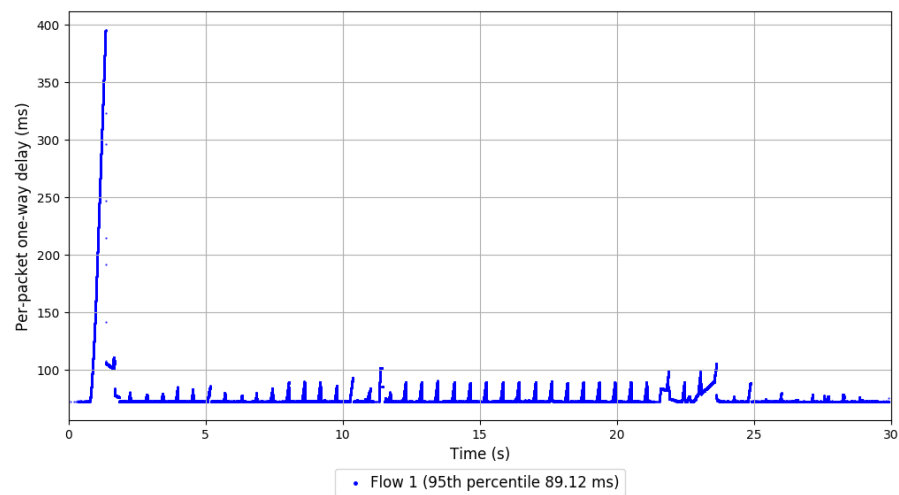
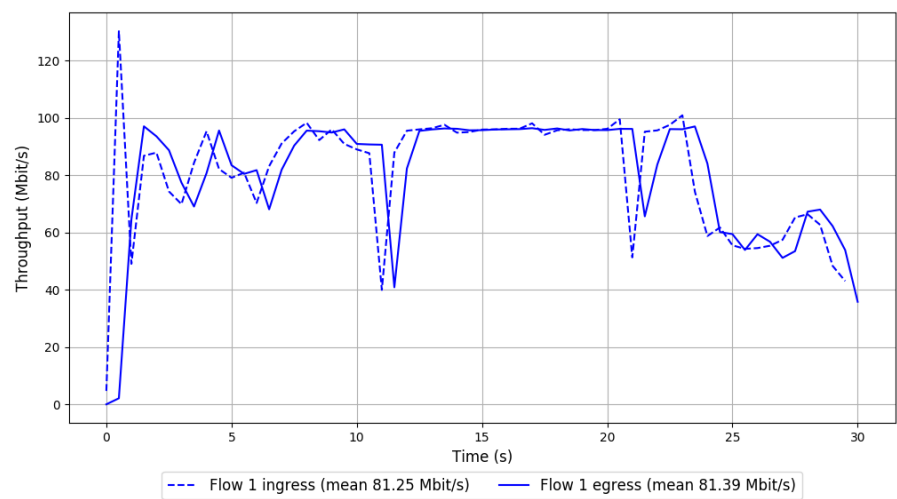
-- Flow 1:

Average throughput: 81.39 Mbit/s

95th percentile per-packet one-way delay: 89.121 ms

Loss rate: 0.25%

Run 2: Report of FillP-Sheep — Data Link

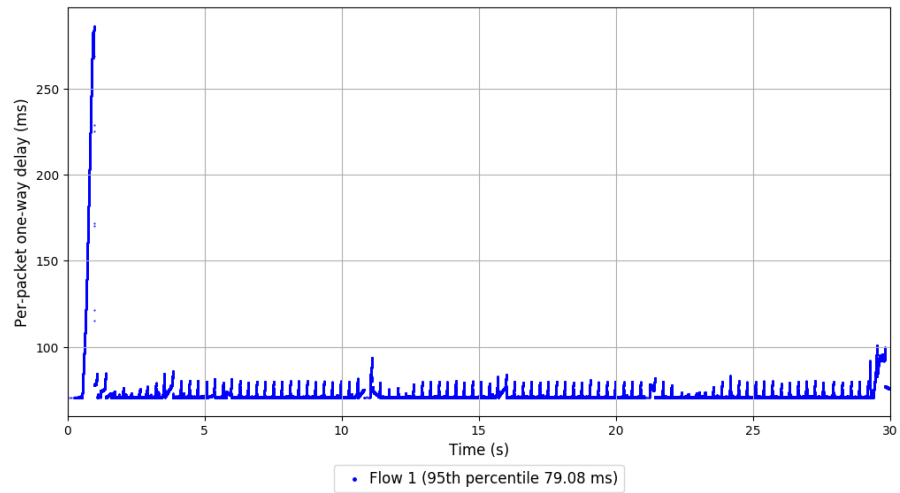
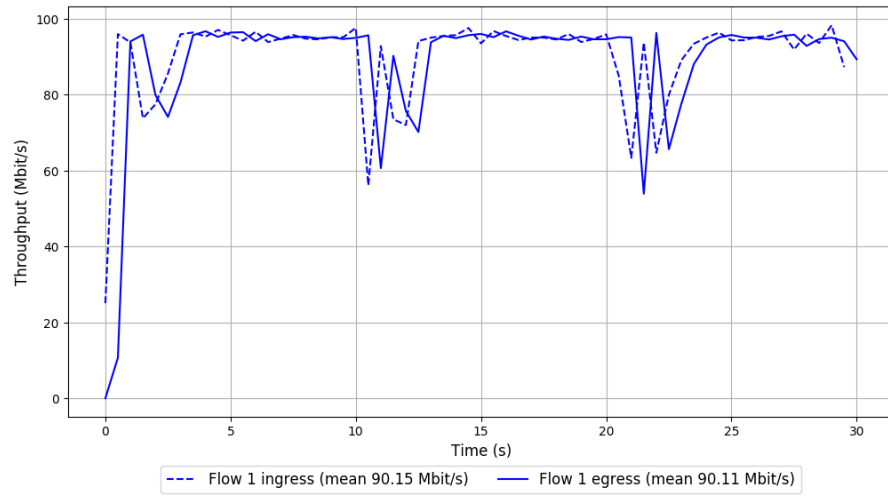


Run 3: Statistics of FillP-Sheep

Start at: 2018-12-20 05:36:11
End at: 2018-12-20 05:36:41
Local clock offset: 4.108 ms
Remote clock offset: -3.514 ms

Below is generated by plot.py at 2018-12-20 06:49:09
Datalink statistics
-- Total of 1 flow:
Average throughput: 90.11 Mbit/s
95th percentile per-packet one-way delay: 79.080 ms
Loss rate: 0.30%
-- Flow 1:
Average throughput: 90.11 Mbit/s
95th percentile per-packet one-way delay: 79.080 ms
Loss rate: 0.30%

Run 3: Report of FillP-Sheep — Data Link

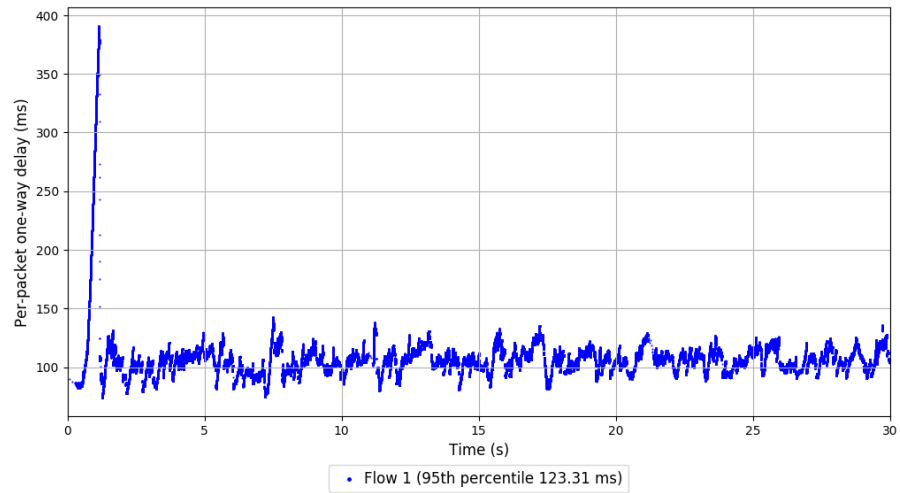
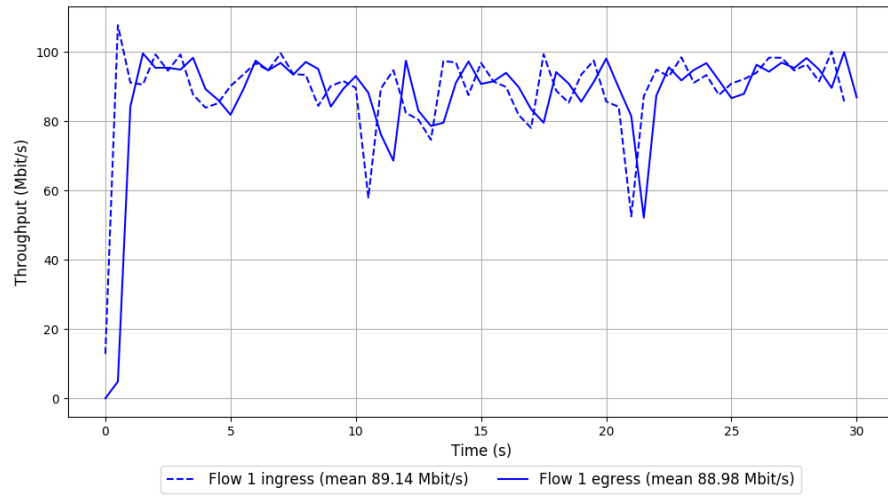


Run 4: Statistics of FillP-Sheep

Start at: 2018-12-20 06:00:31
End at: 2018-12-20 06:01:01
Local clock offset: 3.212 ms
Remote clock offset: -4.391 ms

Below is generated by plot.py at 2018-12-20 06:49:14
Datalink statistics
-- Total of 1 flow:
Average throughput: 88.98 Mbit/s
95th percentile per-packet one-way delay: 123.307 ms
Loss rate: 0.48%
-- Flow 1:
Average throughput: 88.98 Mbit/s
95th percentile per-packet one-way delay: 123.307 ms
Loss rate: 0.48%

Run 4: Report of FillP-Sheep — Data Link

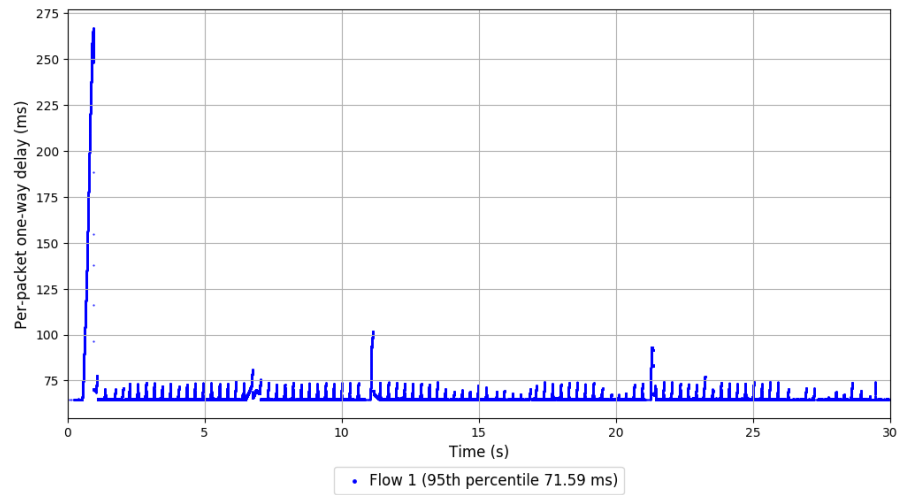
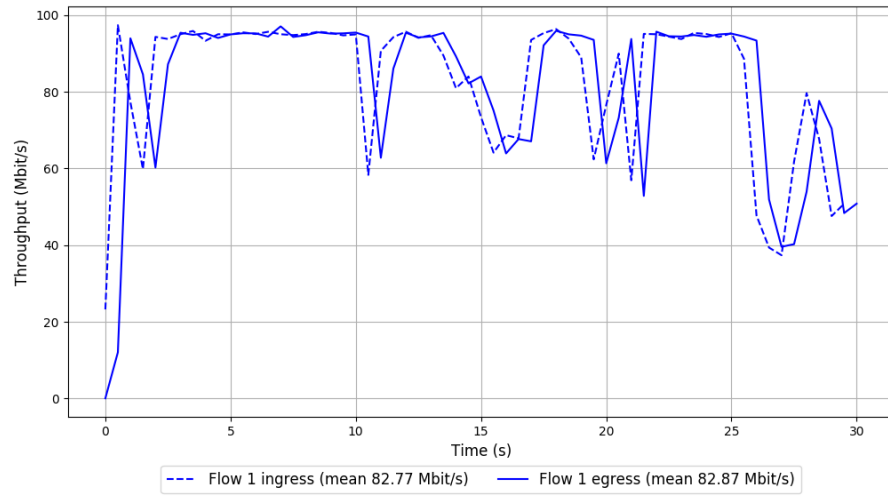


Run 5: Statistics of FillP-Sheep

Start at: 2018-12-20 06:25:09
End at: 2018-12-20 06:25:39
Local clock offset: -0.119 ms
Remote clock offset: -1.995 ms

Below is generated by plot.py at 2018-12-20 06:49:14
Datalink statistics
-- Total of 1 flow:
Average throughput: 82.87 Mbit/s
95th percentile per-packet one-way delay: 71.592 ms
Loss rate: 0.14%
-- Flow 1:
Average throughput: 82.87 Mbit/s
95th percentile per-packet one-way delay: 71.592 ms
Loss rate: 0.14%

Run 5: Report of FillP-Sheep — Data Link



Run 1: Statistics of Indigo

Start at: 2018-12-20 04:37:03

End at: 2018-12-20 04:37:33

Local clock offset: 3.218 ms

Remote clock offset: -4.4 ms

Below is generated by plot.py at 2018-12-20 06:49:14

Datalink statistics

-- Total of 1 flow:

Average throughput: 91.14 Mbit/s

95th percentile per-packet one-way delay: 74.498 ms

Loss rate: 0.26%

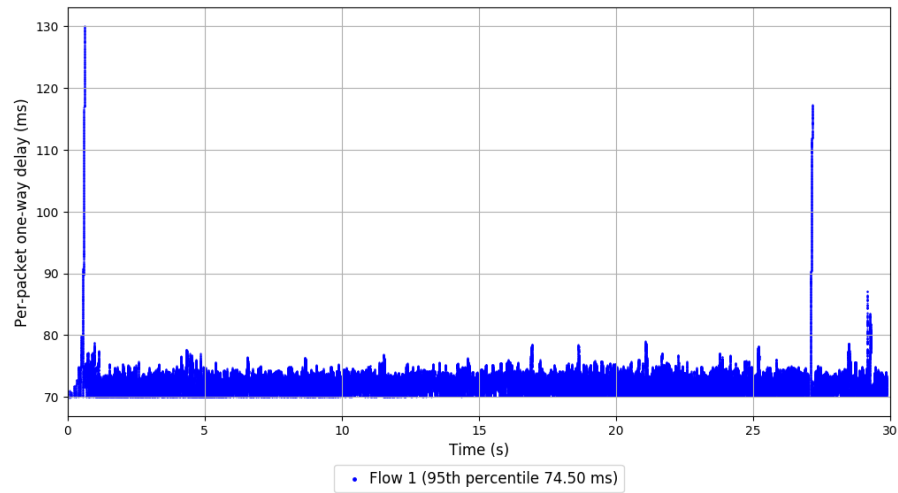
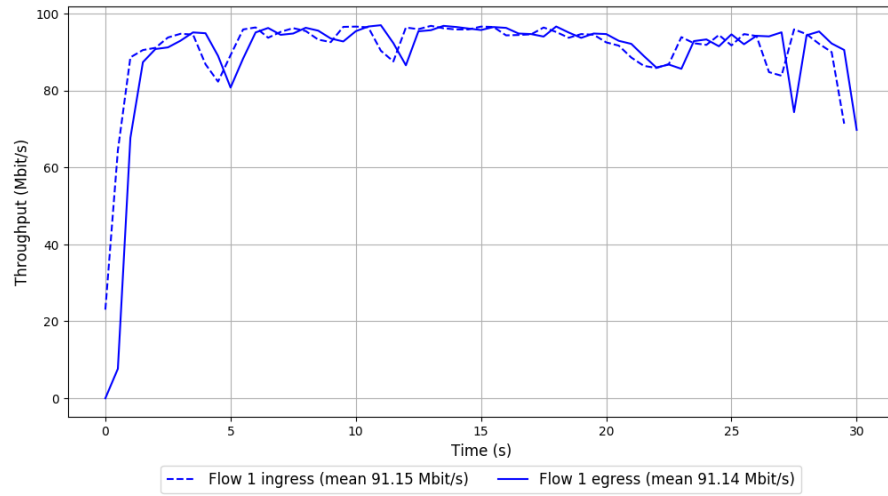
-- Flow 1:

Average throughput: 91.14 Mbit/s

95th percentile per-packet one-way delay: 74.498 ms

Loss rate: 0.26%

Run 1: Report of Indigo — Data Link



Run 2: Statistics of Indigo

Start at: 2018-12-20 05:01:49

End at: 2018-12-20 05:02:19

Local clock offset: -2.622 ms

Remote clock offset: -4.37 ms

Below is generated by plot.py at 2018-12-20 06:49:14

Datalink statistics

-- Total of 1 flow:

Average throughput: 32.33 Mbit/s

95th percentile per-packet one-way delay: 70.691 ms

Loss rate: 0.17%

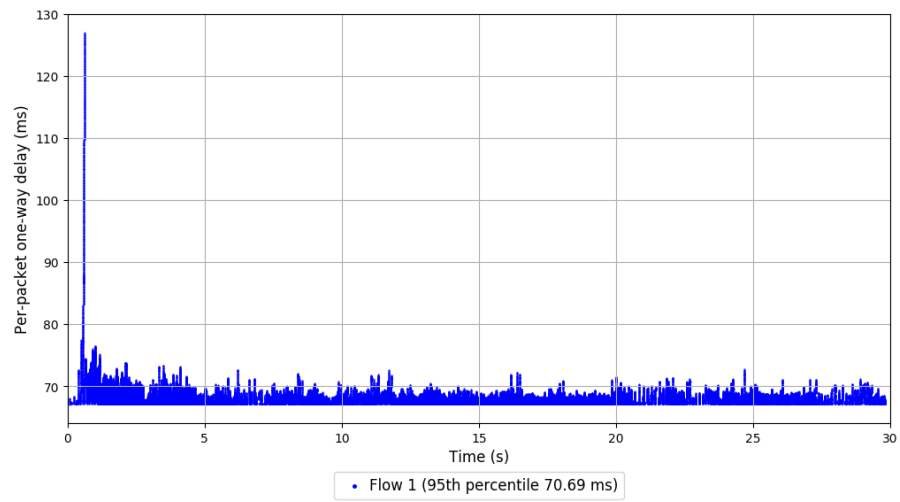
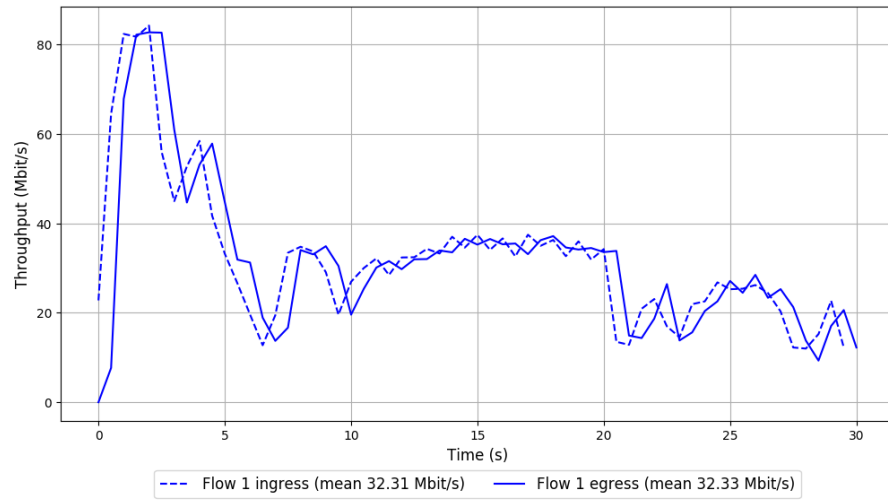
-- Flow 1:

Average throughput: 32.33 Mbit/s

95th percentile per-packet one-way delay: 70.691 ms

Loss rate: 0.17%

Run 2: Report of Indigo — Data Link

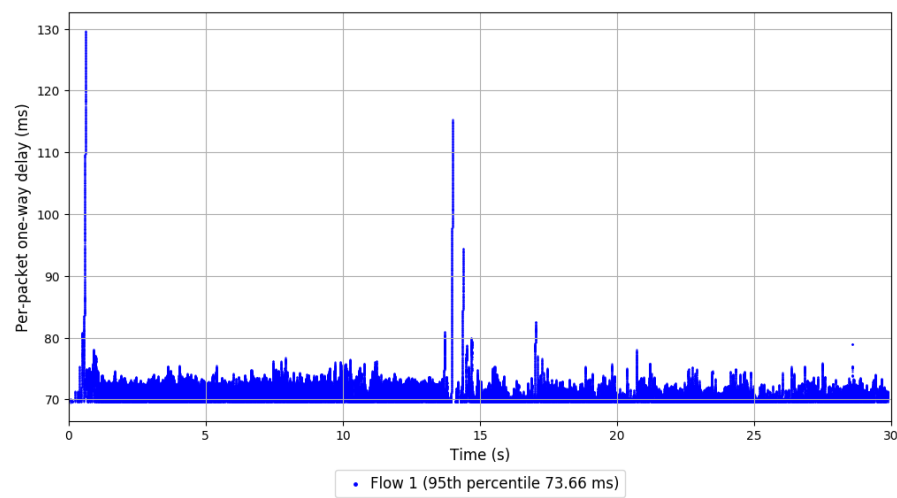
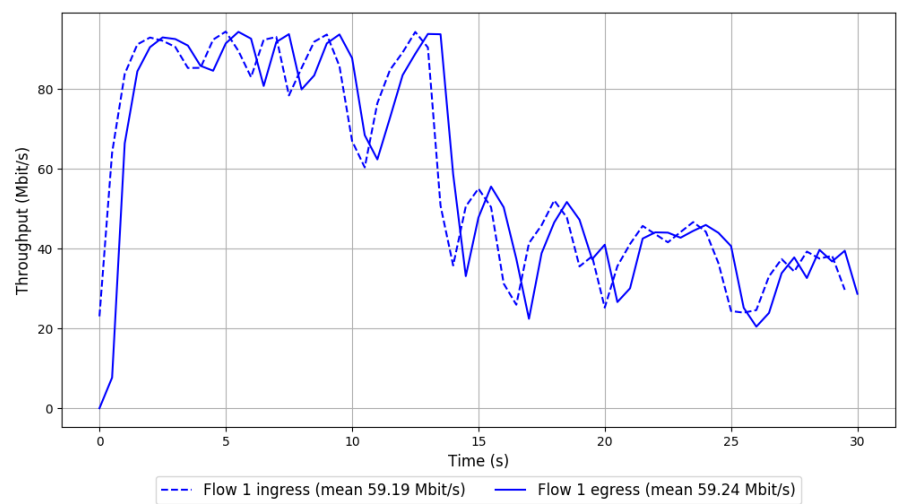


Run 3: Statistics of Indigo

Start at: 2018-12-20 05:30:29
End at: 2018-12-20 05:30:59
Local clock offset: 2.331 ms
Remote clock offset: -3.886 ms

Below is generated by plot.py at 2018-12-20 06:49:14
Datalink statistics
-- Total of 1 flow:
Average throughput: 59.24 Mbit/s
95th percentile per-packet one-way delay: 73.661 ms
Loss rate: 0.16%
-- Flow 1:
Average throughput: 59.24 Mbit/s
95th percentile per-packet one-way delay: 73.661 ms
Loss rate: 0.16%

Run 3: Report of Indigo — Data Link



Run 4: Statistics of Indigo

Start at: 2018-12-20 05:55:42

End at: 2018-12-20 05:56:12

Local clock offset: 1.591 ms

Remote clock offset: -3.08 ms

Below is generated by plot.py at 2018-12-20 06:49:33

Datalink statistics

-- Total of 1 flow:

Average throughput: 84.69 Mbit/s

95th percentile per-packet one-way delay: 78.023 ms

Loss rate: 0.28%

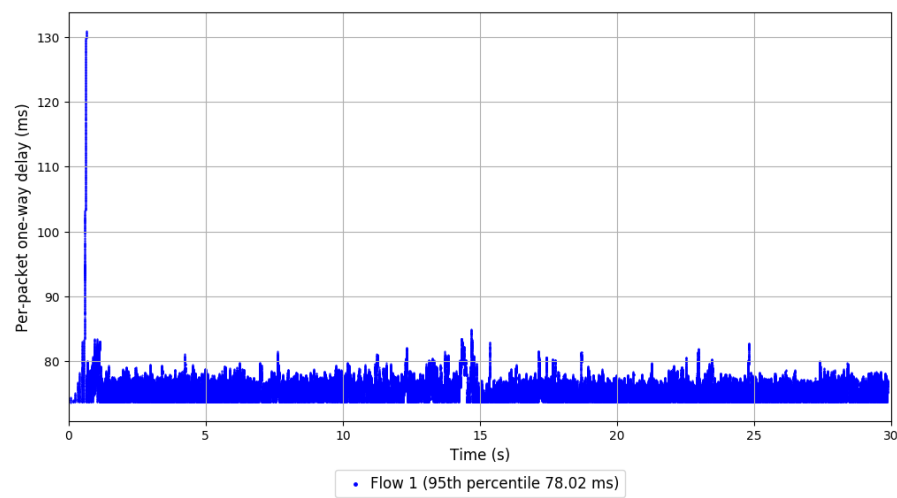
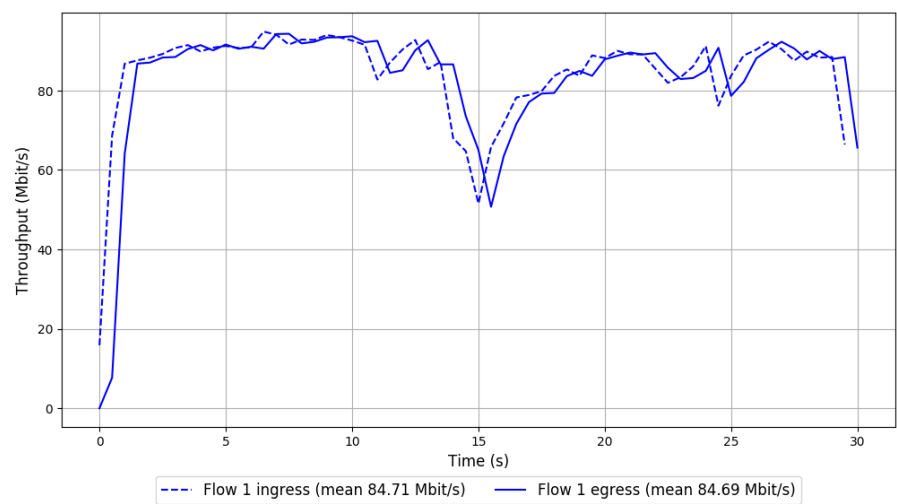
-- Flow 1:

Average throughput: 84.69 Mbit/s

95th percentile per-packet one-way delay: 78.023 ms

Loss rate: 0.28%

Run 4: Report of Indigo — Data Link



Run 5: Statistics of Indigo

Start at: 2018-12-20 06:19:47

End at: 2018-12-20 06:20:17

Local clock offset: 0.025 ms

Remote clock offset: -3.13 ms

Below is generated by plot.py at 2018-12-20 06:49:37

Datalink statistics

-- Total of 1 flow:

Average throughput: 88.04 Mbit/s

95th percentile per-packet one-way delay: 70.282 ms

Loss rate: 0.25%

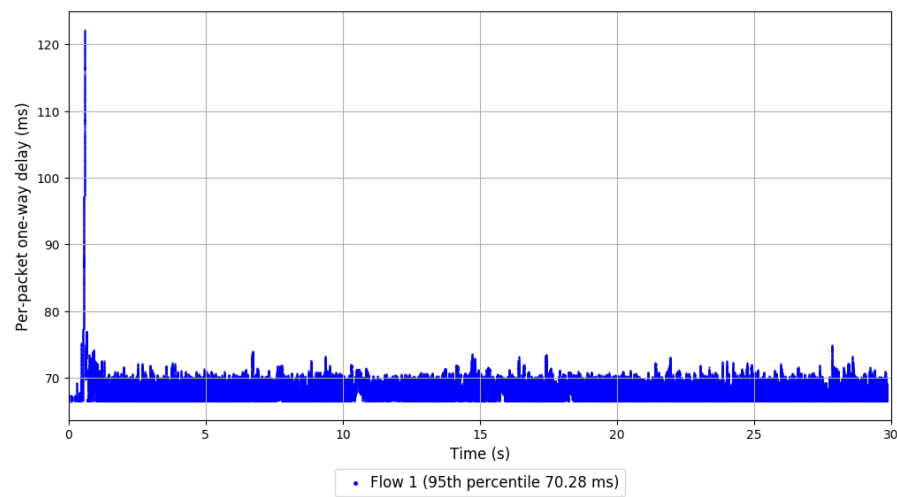
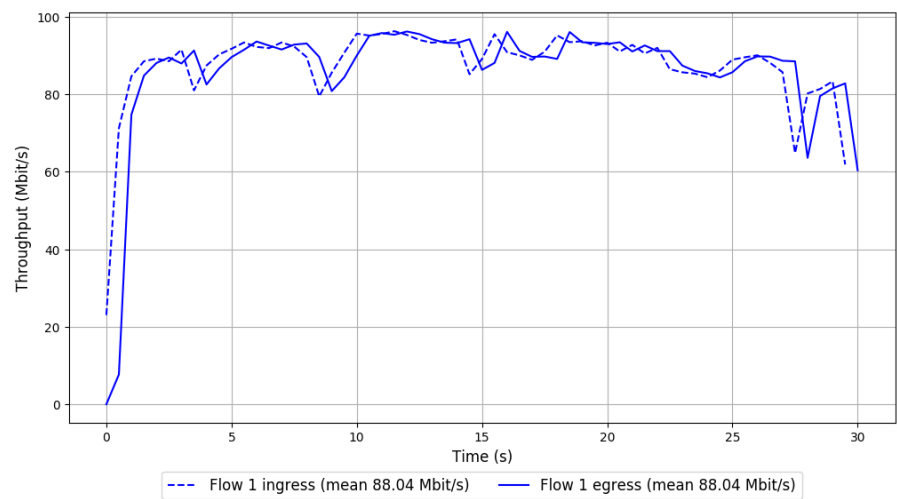
-- Flow 1:

Average throughput: 88.04 Mbit/s

95th percentile per-packet one-way delay: 70.282 ms

Loss rate: 0.25%

Run 5: Report of Indigo — Data Link



Run 1: Statistics of Indigo-MusesD

Start at: 2018-12-20 04:39:28

End at: 2018-12-20 04:39:58

Local clock offset: 1.442 ms

Remote clock offset: -4.414 ms

Below is generated by plot.py at 2018-12-20 06:49:47

Datalink statistics

-- Total of 1 flow:

Average throughput: 89.50 Mbit/s

95th percentile per-packet one-way delay: 72.410 ms

Loss rate: 0.26%

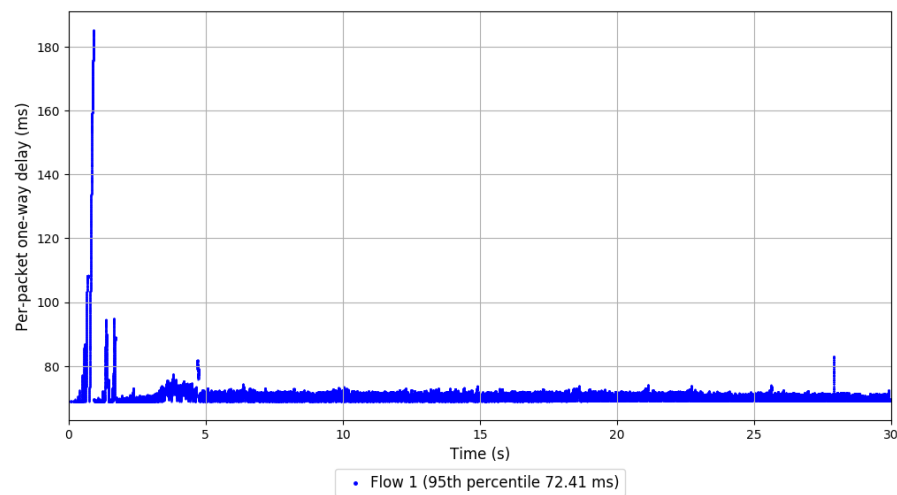
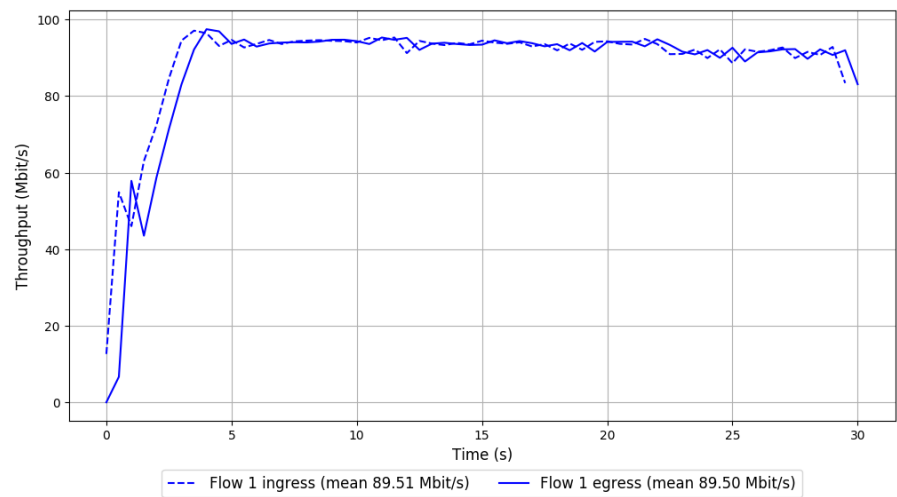
-- Flow 1:

Average throughput: 89.50 Mbit/s

95th percentile per-packet one-way delay: 72.410 ms

Loss rate: 0.26%

Run 1: Report of Indigo-MusesD — Data Link



Run 2: Statistics of Indigo-MusesD

Start at: 2018-12-20 05:04:52

End at: 2018-12-20 05:05:22

Local clock offset: -1.554 ms

Remote clock offset: -4.076 ms

Below is generated by plot.py at 2018-12-20 06:49:55

Datalink statistics

-- Total of 1 flow:

Average throughput: 66.07 Mbit/s

95th percentile per-packet one-way delay: 75.023 ms

Loss rate: 0.37%

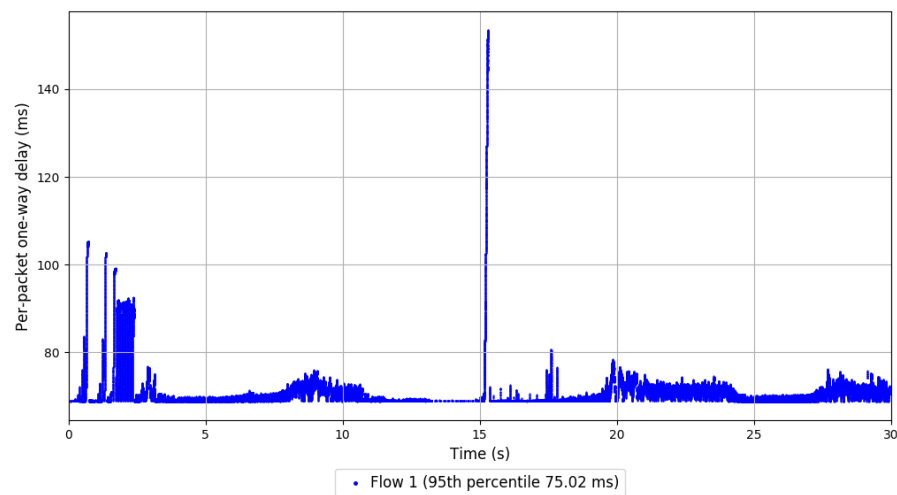
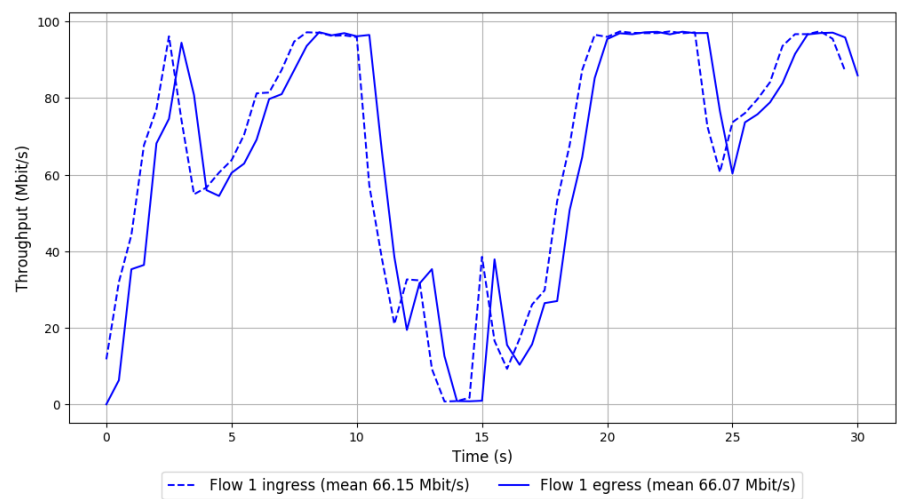
-- Flow 1:

Average throughput: 66.07 Mbit/s

95th percentile per-packet one-way delay: 75.023 ms

Loss rate: 0.37%

Run 2: Report of Indigo-MusesD — Data Link



Run 3: Statistics of Indigo-MusesD

Start at: 2018-12-20 05:33:20

End at: 2018-12-20 05:33:50

Local clock offset: 1.244 ms

Remote clock offset: -3.998 ms

Below is generated by plot.py at 2018-12-20 06:50:11

Datalink statistics

-- Total of 1 flow:

Average throughput: 84.52 Mbit/s

95th percentile per-packet one-way delay: 75.014 ms

Loss rate: 0.30%

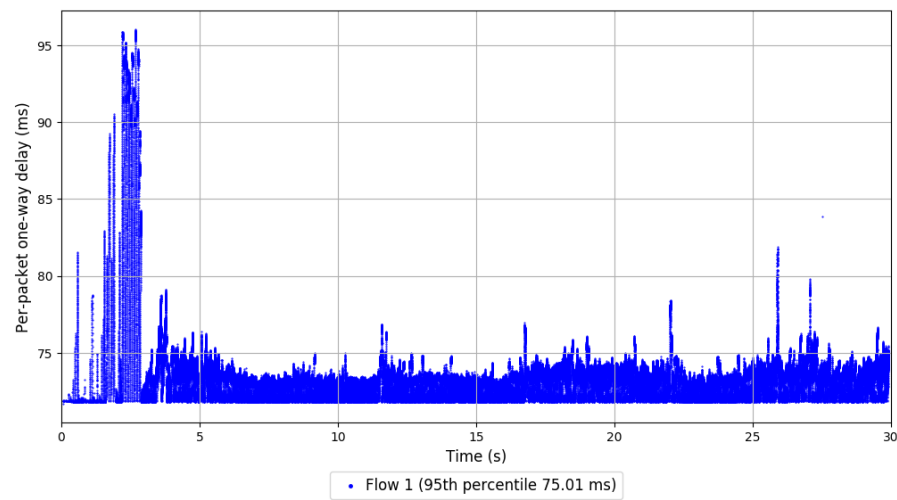
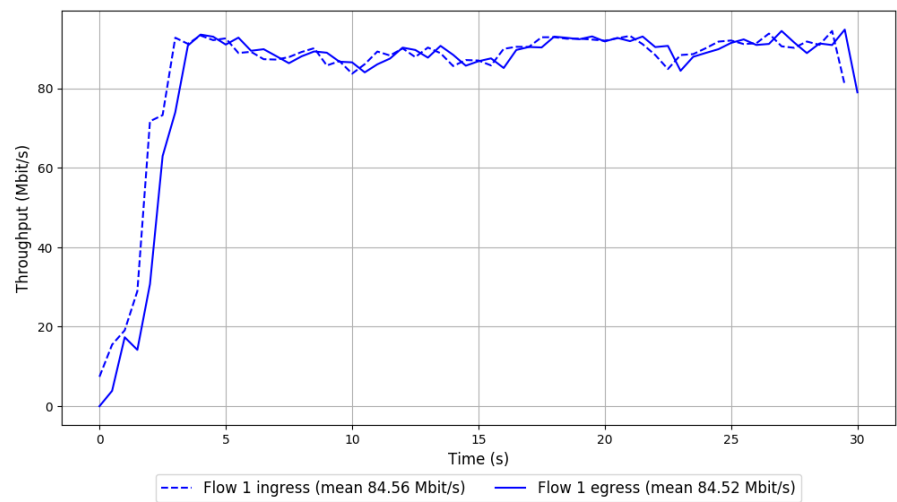
-- Flow 1:

Average throughput: 84.52 Mbit/s

95th percentile per-packet one-way delay: 75.014 ms

Loss rate: 0.30%

Run 3: Report of Indigo-MusesD — Data Link



Run 4: Statistics of Indigo-MusesD

Start at: 2018-12-20 05:58:11

End at: 2018-12-20 05:58:41

Local clock offset: 0.184 ms

Remote clock offset: -2.99 ms

Below is generated by plot.py at 2018-12-20 06:50:15

Datalink statistics

-- Total of 1 flow:

Average throughput: 88.87 Mbit/s

95th percentile per-packet one-way delay: 76.775 ms

Loss rate: 0.26%

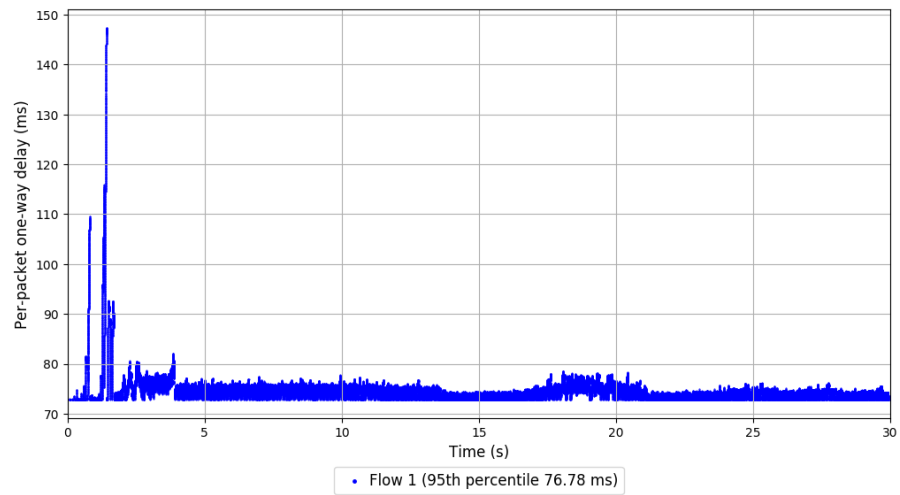
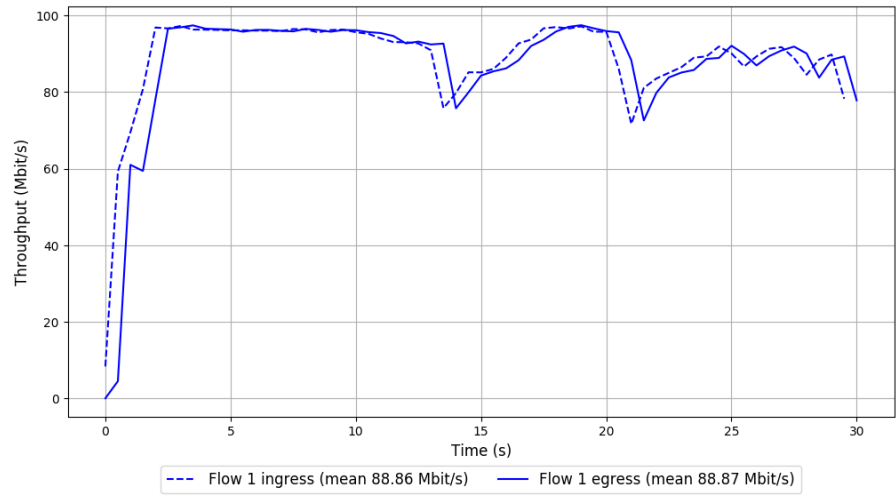
-- Flow 1:

Average throughput: 88.87 Mbit/s

95th percentile per-packet one-way delay: 76.775 ms

Loss rate: 0.26%

Run 4: Report of Indigo-MusesD — Data Link



Run 5: Statistics of Indigo-MusesD

Start at: 2018-12-20 06:22:45

End at: 2018-12-20 06:23:15

Local clock offset: -0.316 ms

Remote clock offset: -1.903 ms

Below is generated by plot.py at 2018-12-20 06:50:16

Datalink statistics

-- Total of 1 flow:

Average throughput: 88.01 Mbit/s

95th percentile per-packet one-way delay: 71.535 ms

Loss rate: 0.32%

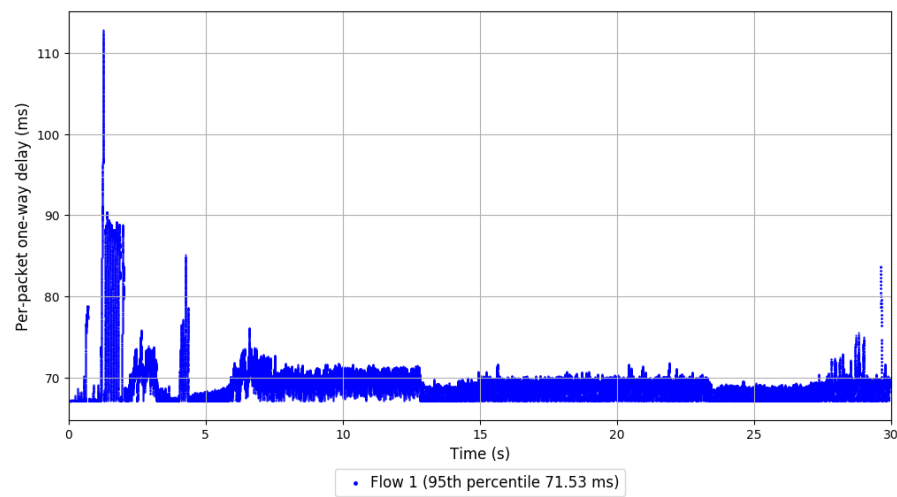
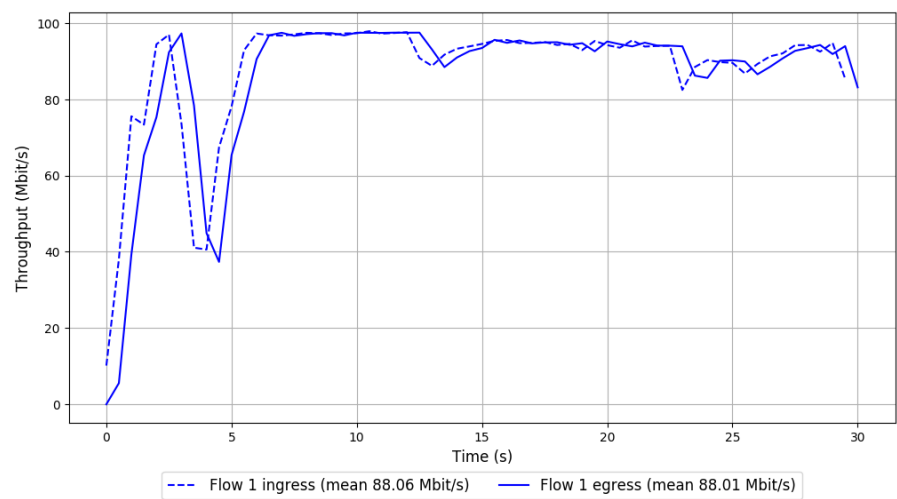
-- Flow 1:

Average throughput: 88.01 Mbit/s

95th percentile per-packet one-way delay: 71.535 ms

Loss rate: 0.32%

Run 5: Report of Indigo-MusesD — Data Link

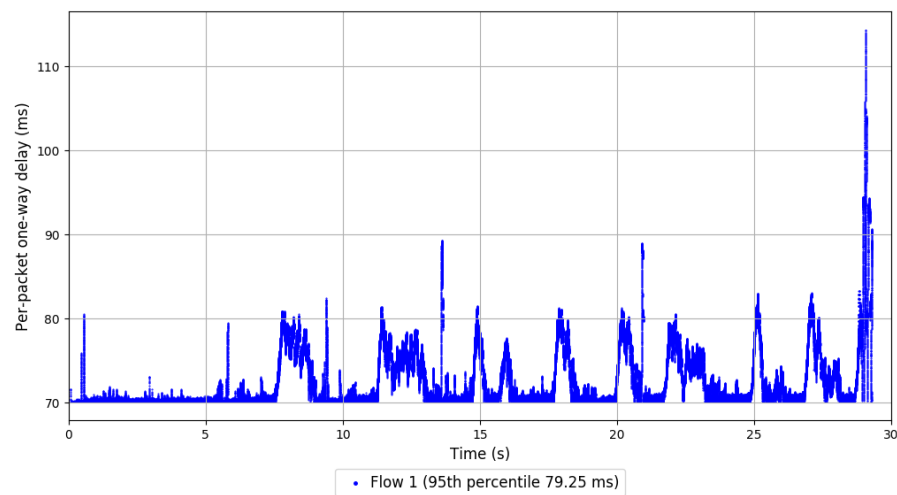
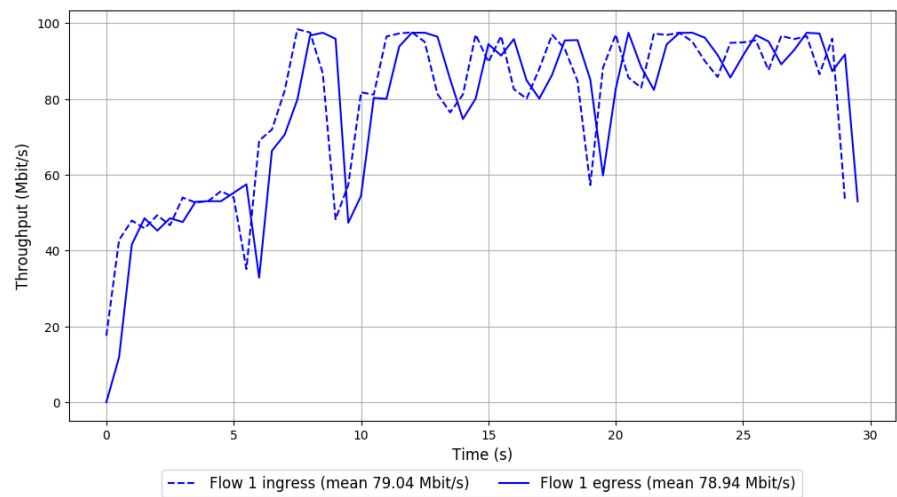


Run 1: Statistics of Indigo-MusesT

Start at: 2018-12-20 04:47:48
End at: 2018-12-20 04:48:18
Local clock offset: -0.948 ms
Remote clock offset: -6.217 ms

Below is generated by plot.py at 2018-12-20 06:50:16
Datalink statistics
-- Total of 1 flow:
Average throughput: 78.94 Mbit/s
95th percentile per-packet one-way delay: 79.250 ms
Loss rate: 0.38%
-- Flow 1:
Average throughput: 78.94 Mbit/s
95th percentile per-packet one-way delay: 79.250 ms
Loss rate: 0.38%

Run 1: Report of Indigo-MusesT — Data Link



Run 2: Statistics of Indigo-MusesT

Start at: 2018-12-20 05:14:56

End at: 2018-12-20 05:15:26

Local clock offset: -3.223 ms

Remote clock offset: -4.025 ms

Below is generated by plot.py at 2018-12-20 06:50:19

Datalink statistics

-- Total of 1 flow:

Average throughput: 66.62 Mbit/s

95th percentile per-packet one-way delay: 729.966 ms

Loss rate: 1.24%

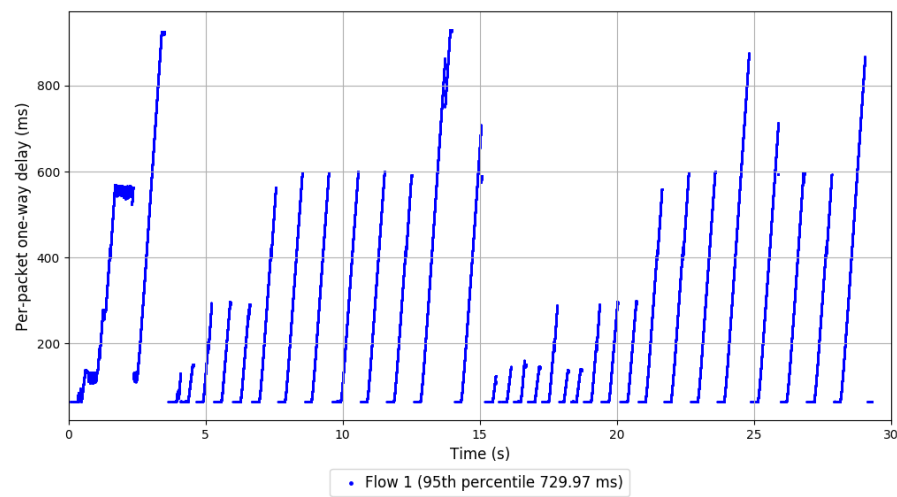
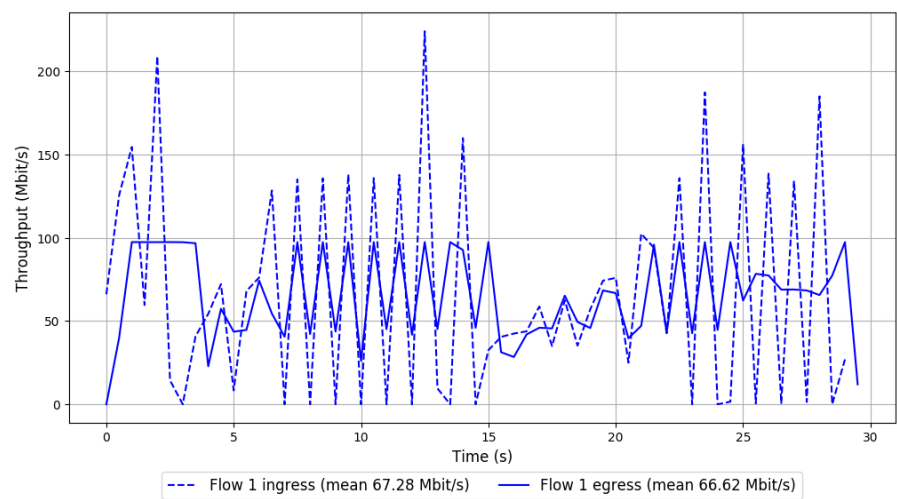
-- Flow 1:

Average throughput: 66.62 Mbit/s

95th percentile per-packet one-way delay: 729.966 ms

Loss rate: 1.24%

Run 2: Report of Indigo-MusesT — Data Link



Run 3: Statistics of Indigo-MusesT

Start at: 2018-12-20 05:42:43

End at: 2018-12-20 05:43:13

Local clock offset: 0.401 ms

Remote clock offset: -3.389 ms

Below is generated by plot.py at 2018-12-20 06:50:52

Datalink statistics

-- Total of 1 flow:

Average throughput: 95.33 Mbit/s

95th percentile per-packet one-way delay: 925.506 ms

Loss rate: 10.58%

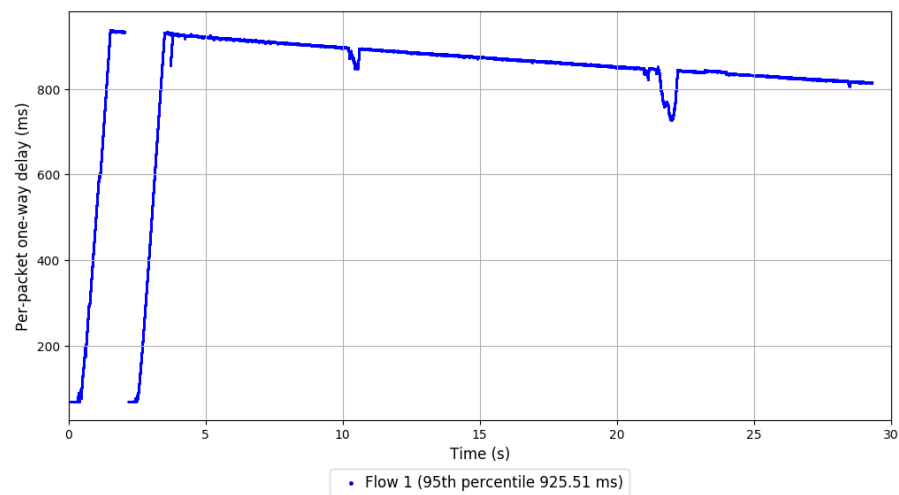
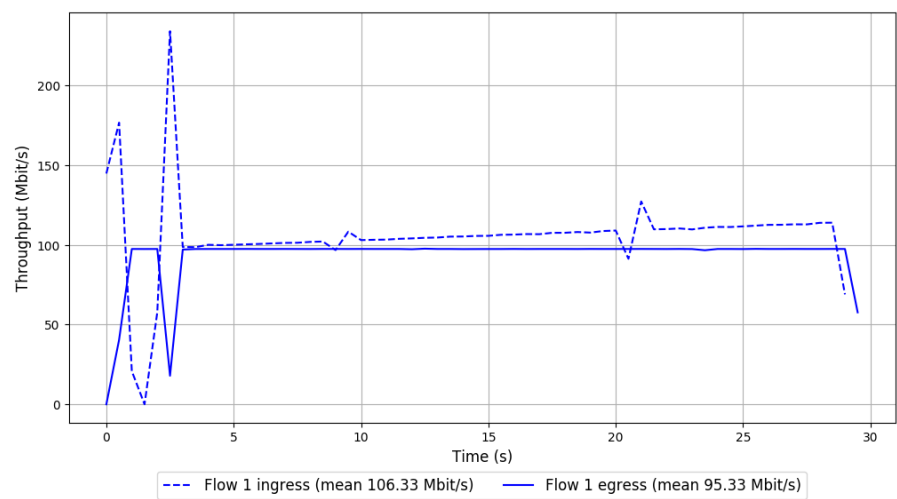
-- Flow 1:

Average throughput: 95.33 Mbit/s

95th percentile per-packet one-way delay: 925.506 ms

Loss rate: 10.58%

Run 3: Report of Indigo-MusesT — Data Link

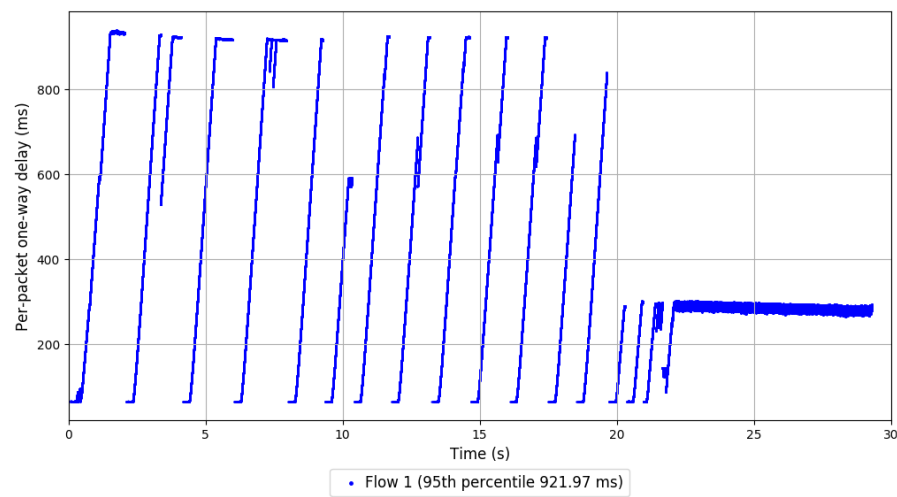
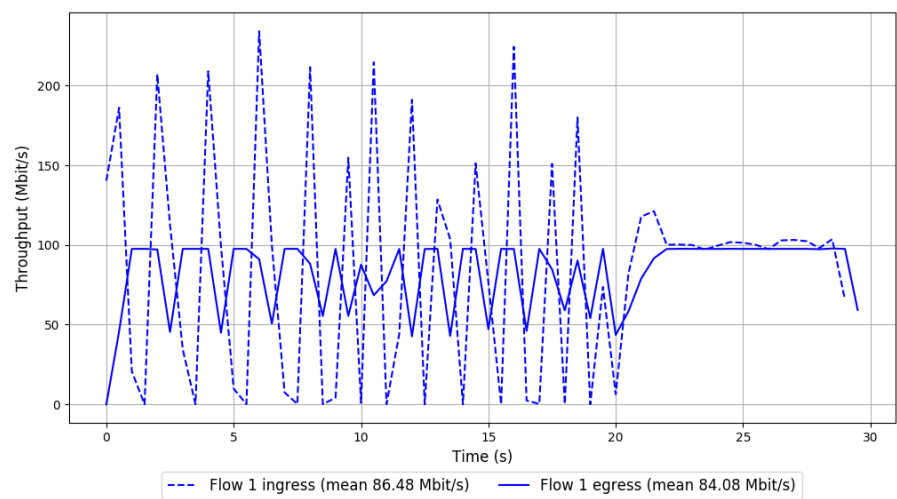


Run 4: Statistics of Indigo-MusesT

Start at: 2018-12-20 06:06:38
End at: 2018-12-20 06:07:08
Local clock offset: -2.202 ms
Remote clock offset: -2.684 ms

Below is generated by plot.py at 2018-12-20 06:50:54
Datalink statistics
-- Total of 1 flow:
Average throughput: 84.08 Mbit/s
95th percentile per-packet one-way delay: 921.965 ms
Loss rate: 3.00%
-- Flow 1:
Average throughput: 84.08 Mbit/s
95th percentile per-packet one-way delay: 921.965 ms
Loss rate: 3.00%

Run 4: Report of Indigo-MusesT — Data Link



Run 5: Statistics of Indigo-MusesT

Start at: 2018-12-20 06:31:07

End at: 2018-12-20 06:31:37

Local clock offset: 0.652 ms

Remote clock offset: -1.341 ms

Below is generated by plot.py at 2018-12-20 06:50:54

Datalink statistics

-- Total of 1 flow:

Average throughput: 73.47 Mbit/s

95th percentile per-packet one-way delay: 807.080 ms

Loss rate: 4.00%

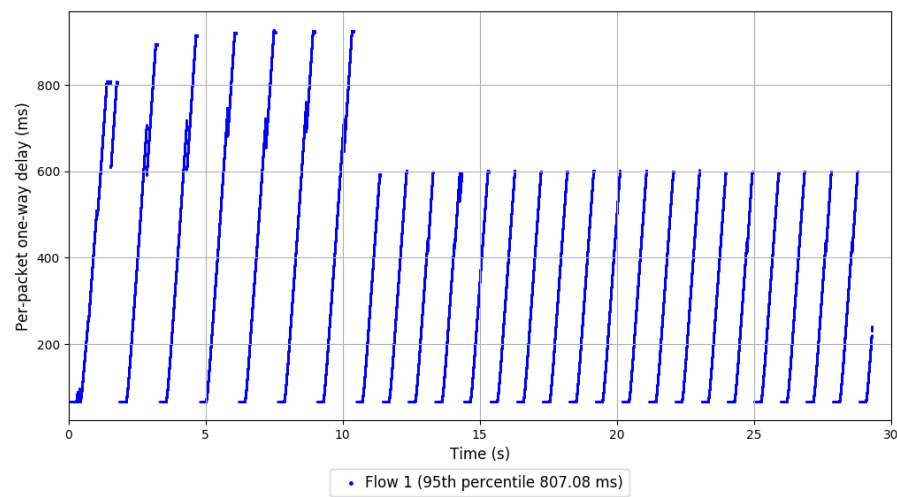
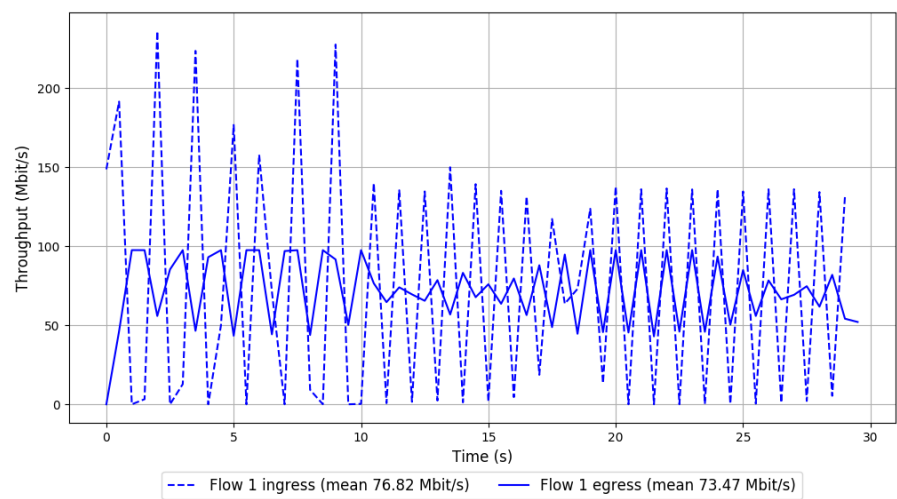
-- Flow 1:

Average throughput: 73.47 Mbit/s

95th percentile per-packet one-way delay: 807.080 ms

Loss rate: 4.00%

Run 5: Report of Indigo-MusesT — Data Link



Run 1: Statistics of LEDBAT

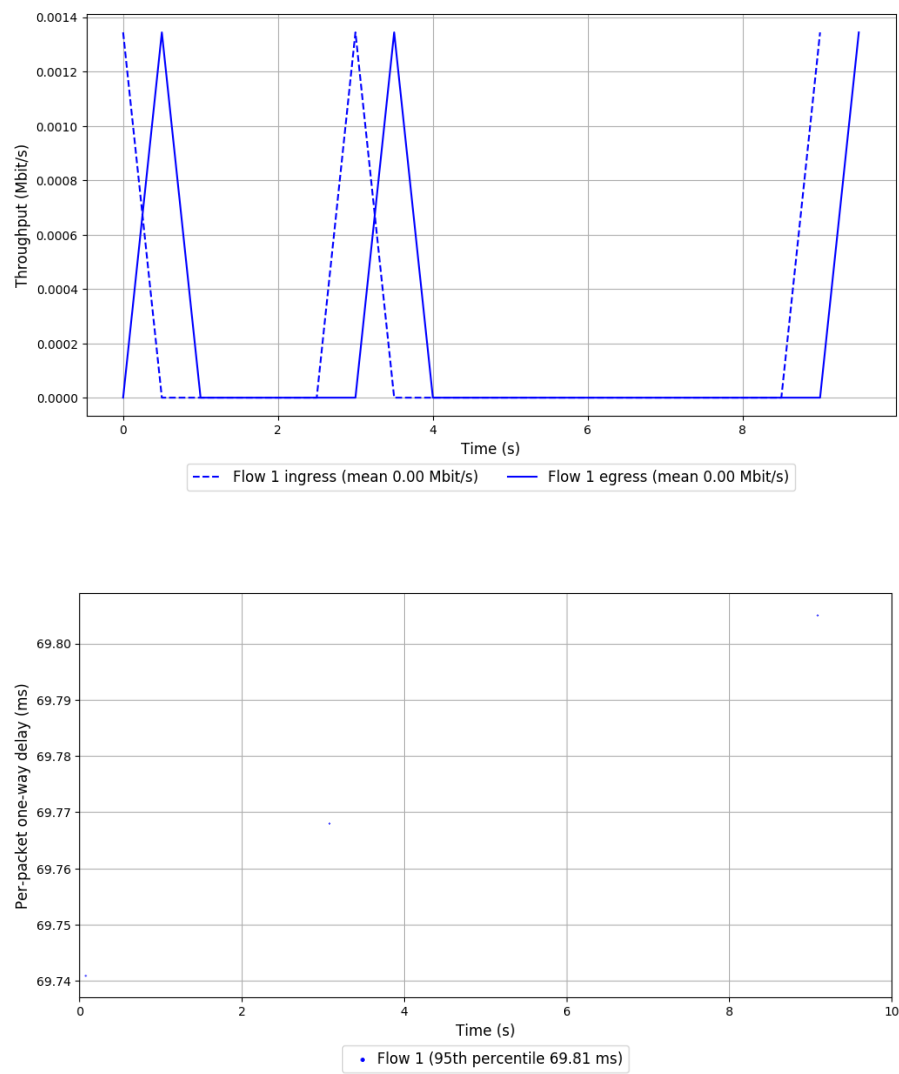
Start at: 2018-12-20 04:40:42

End at: 2018-12-20 04:41:12

Local clock offset: 1.554 ms

Remote clock offset: -5.009 ms

Run 1: Report of LEDBAT — Data Link

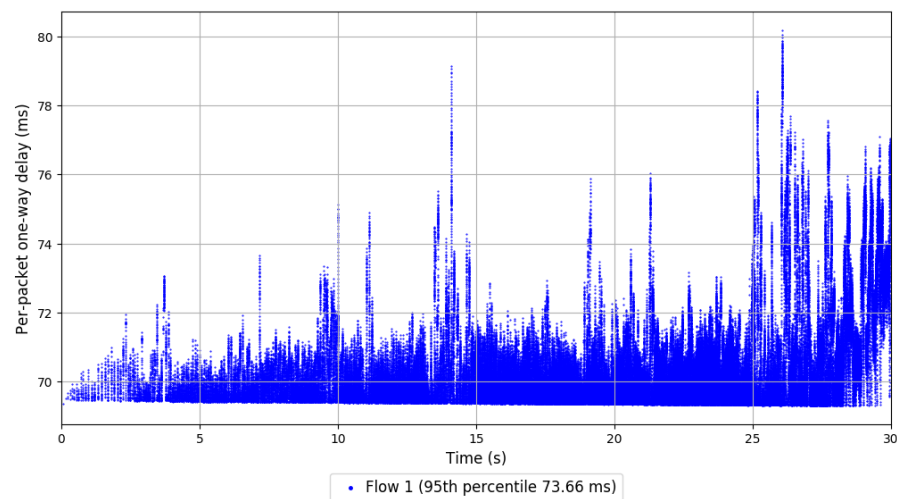
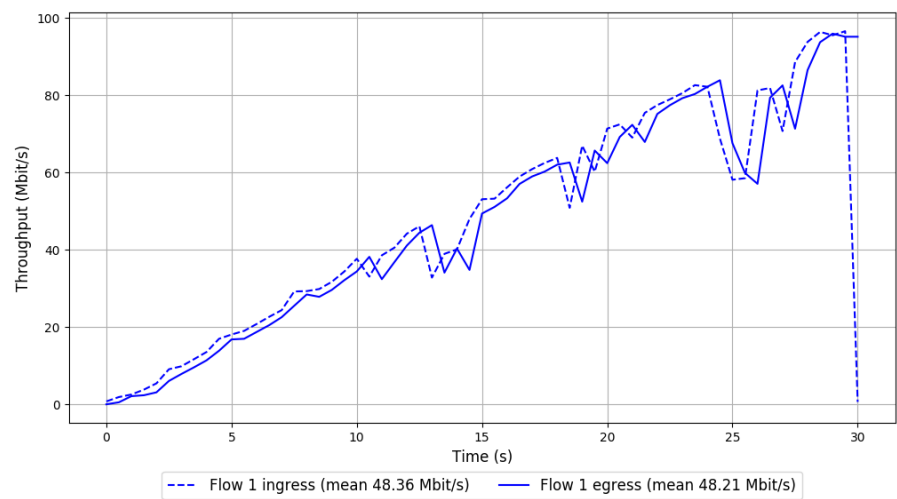


Run 2: Statistics of LEDBAT

Start at: 2018-12-20 05:06:23
End at: 2018-12-20 05:06:53
Local clock offset: -3.865 ms
Remote clock offset: -4.372 ms

Below is generated by plot.py at 2018-12-20 06:50:54
Datalink statistics
-- Total of 1 flow:
Average throughput: 48.21 Mbit/s
95th percentile per-packet one-way delay: 73.661 ms
Loss rate: 0.56%
-- Flow 1:
Average throughput: 48.21 Mbit/s
95th percentile per-packet one-way delay: 73.661 ms
Loss rate: 0.56%

Run 2: Report of LEDBAT — Data Link

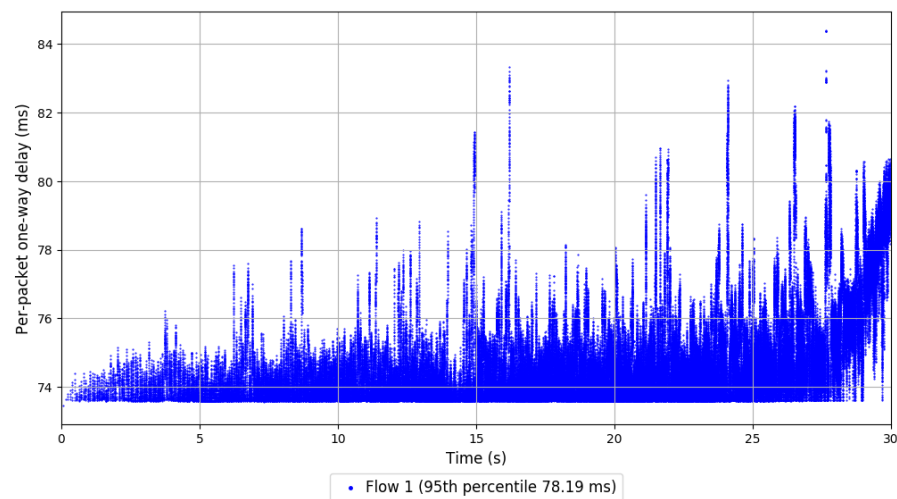
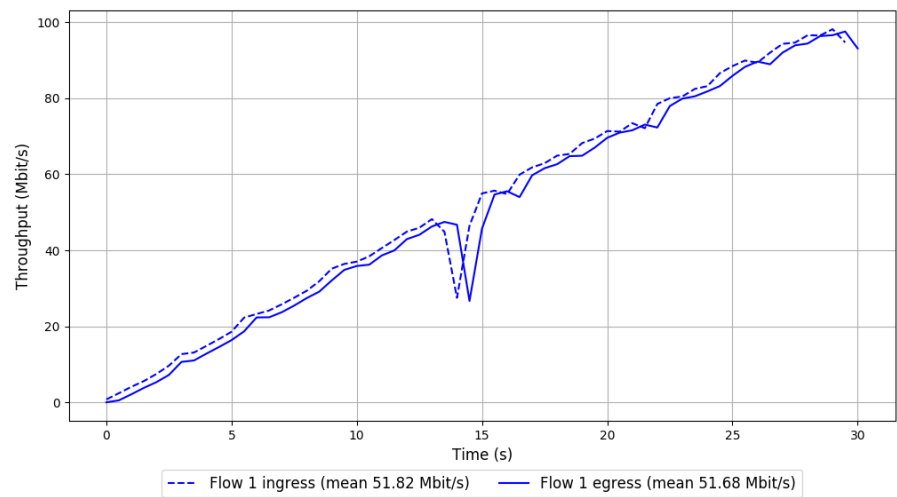


Run 3: Statistics of LEDBAT

Start at: 2018-12-20 05:34:51
End at: 2018-12-20 05:35:21
Local clock offset: 1.848 ms
Remote clock offset: -4.655 ms

Below is generated by plot.py at 2018-12-20 06:50:54
Datalink statistics
-- Total of 1 flow:
Average throughput: 51.68 Mbit/s
95th percentile per-packet one-way delay: 78.186 ms
Loss rate: 0.54%
-- Flow 1:
Average throughput: 51.68 Mbit/s
95th percentile per-packet one-way delay: 78.186 ms
Loss rate: 0.54%

Run 3: Report of LEDBAT — Data Link



Run 4: Statistics of LEDBAT

Start at: 2018-12-20 05:59:22

End at: 2018-12-20 05:59:52

Local clock offset: -0.179 ms

Remote clock offset: -3.54 ms

Below is generated by plot.py at 2018-12-20 06:50:54

Datalink statistics

-- Total of 1 flow:

Average throughput: 36.76 Mbit/s

95th percentile per-packet one-way delay: 74.584 ms

Loss rate: 0.46%

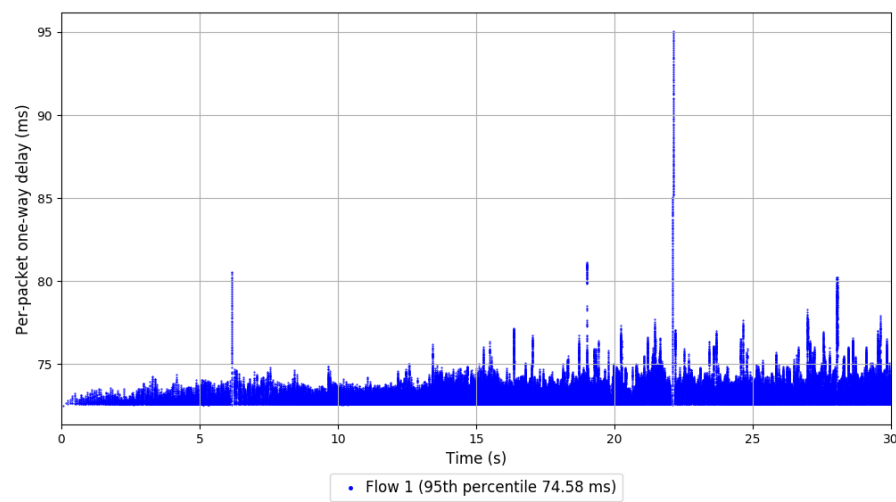
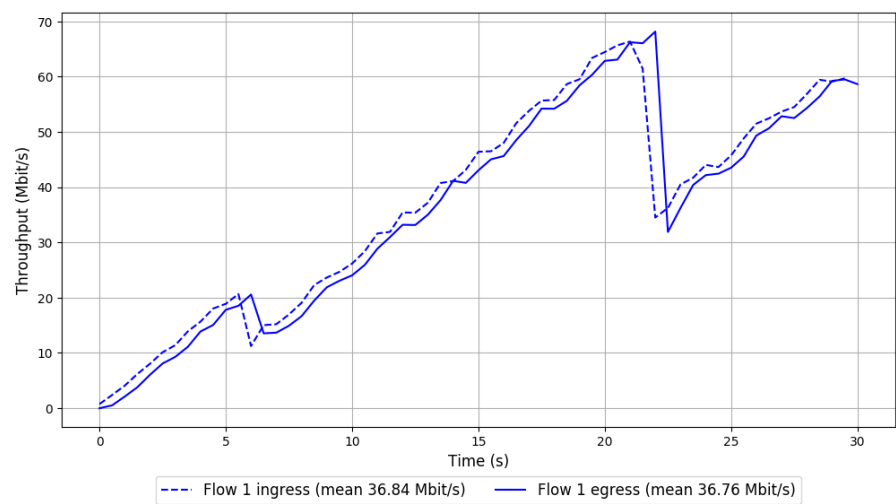
-- Flow 1:

Average throughput: 36.76 Mbit/s

95th percentile per-packet one-way delay: 74.584 ms

Loss rate: 0.46%

Run 4: Report of LEDBAT — Data Link

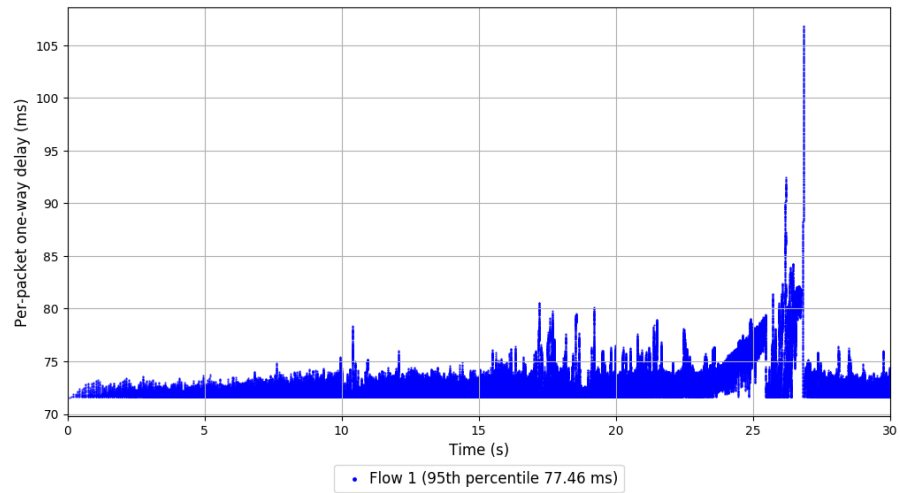
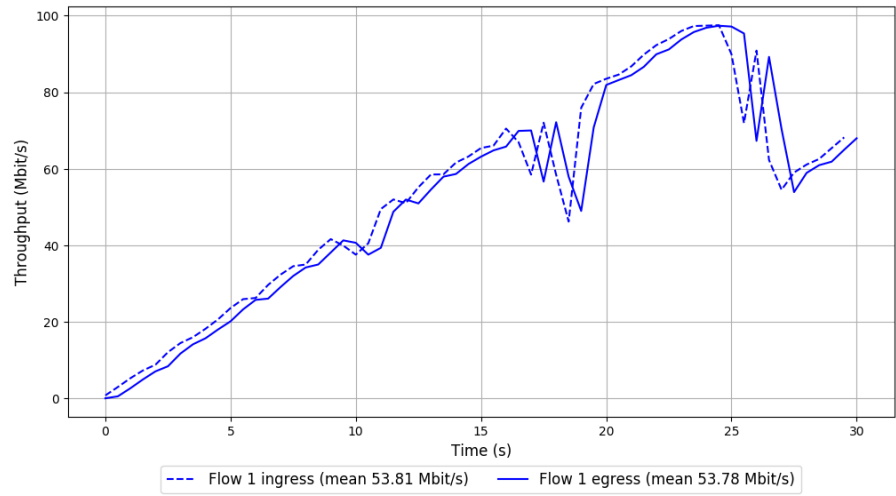


Run 5: Statistics of LEDBAT

Start at: 2018-12-20 06:23:59
End at: 2018-12-20 06:24:29
Local clock offset: 1.117 ms
Remote clock offset: -7.656 ms

Below is generated by plot.py at 2018-12-20 06:50:58
Datalink statistics
-- Total of 1 flow:
Average throughput: 53.78 Mbit/s
95th percentile per-packet one-way delay: 77.457 ms
Loss rate: 0.31%
-- Flow 1:
Average throughput: 53.78 Mbit/s
95th percentile per-packet one-way delay: 77.457 ms
Loss rate: 0.31%

Run 5: Report of LEDBAT — Data Link



Run 1: Statistics of PCC-Allegro

Start at: 2018-12-20 04:46:40

End at: 2018-12-20 04:47:10

Local clock offset: 0.279 ms

Remote clock offset: -4.553 ms

Below is generated by plot.py at 2018-12-20 06:50:58

Datalink statistics

-- Total of 1 flow:

Average throughput: 4.15 Mbit/s

95th percentile per-packet one-way delay: 72.874 ms

Loss rate: 0.28%

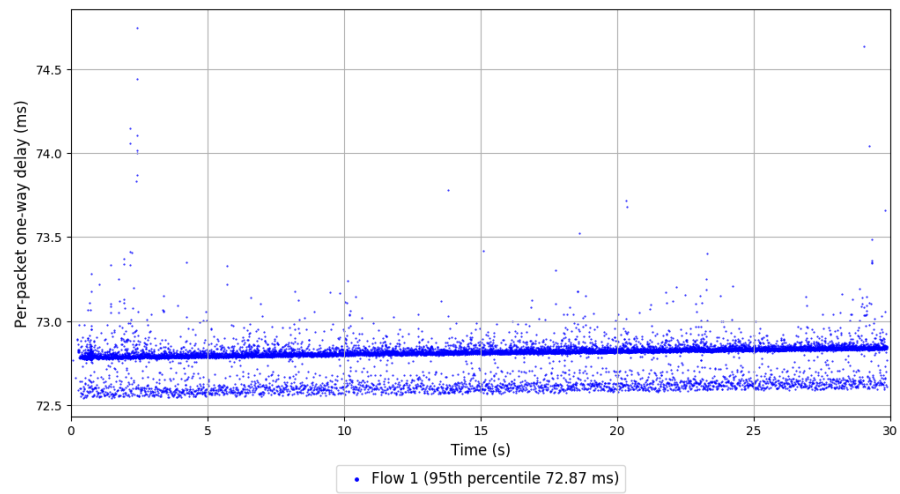
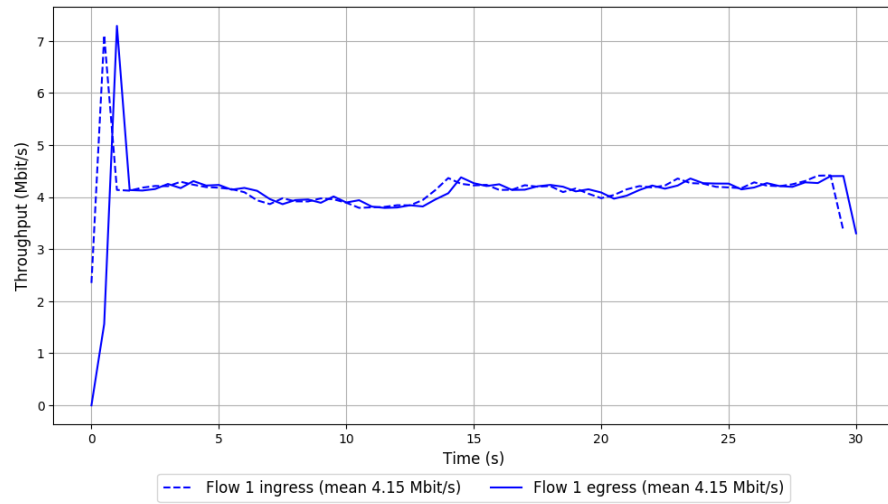
-- Flow 1:

Average throughput: 4.15 Mbit/s

95th percentile per-packet one-way delay: 72.874 ms

Loss rate: 0.28%

Run 1: Report of PCC-Allegro — Data Link



Run 2: Statistics of PCC-Allegro

Start at: 2018-12-20 05:13:45

End at: 2018-12-20 05:14:15

Local clock offset: -1.327 ms

Remote clock offset: -3.746 ms

Below is generated by plot.py at 2018-12-20 06:50:58

Datalink statistics

-- Total of 1 flow:

Average throughput: 17.06 Mbit/s

95th percentile per-packet one-way delay: 66.227 ms

Loss rate: 0.27%

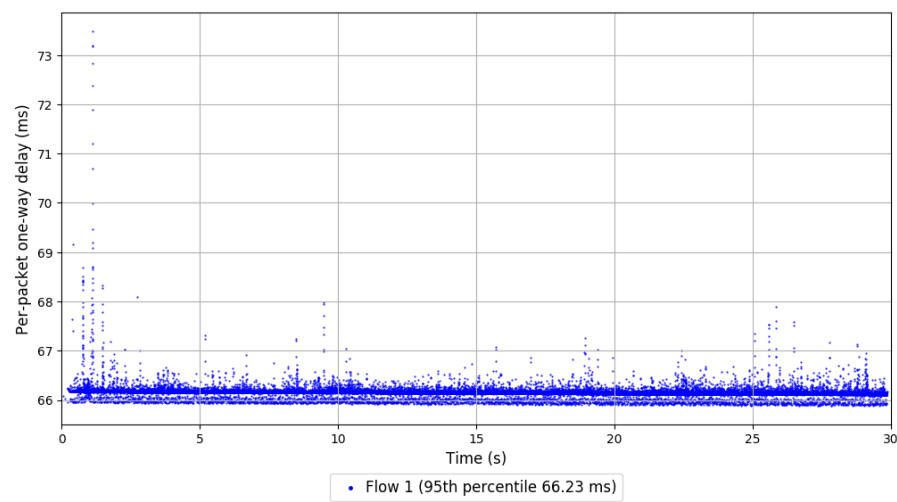
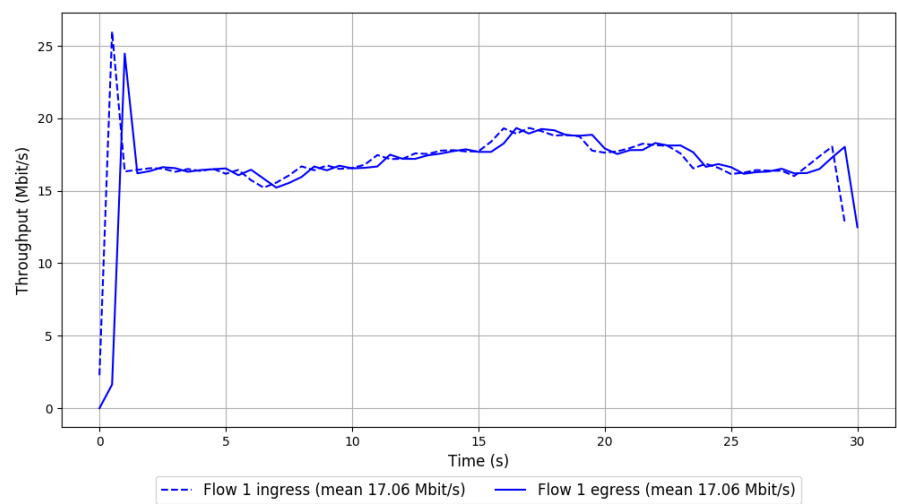
-- Flow 1:

Average throughput: 17.06 Mbit/s

95th percentile per-packet one-way delay: 66.227 ms

Loss rate: 0.27%

Run 2: Report of PCC-Allegro — Data Link



Run 3: Statistics of PCC-Allegro

Start at: 2018-12-20 05:41:37

End at: 2018-12-20 05:42:07

Local clock offset: 2.473 ms

Remote clock offset: -3.213 ms

Below is generated by plot.py at 2018-12-20 06:50:58

Datalink statistics

-- Total of 1 flow:

Average throughput: 4.12 Mbit/s

95th percentile per-packet one-way delay: 70.508 ms

Loss rate: 0.34%

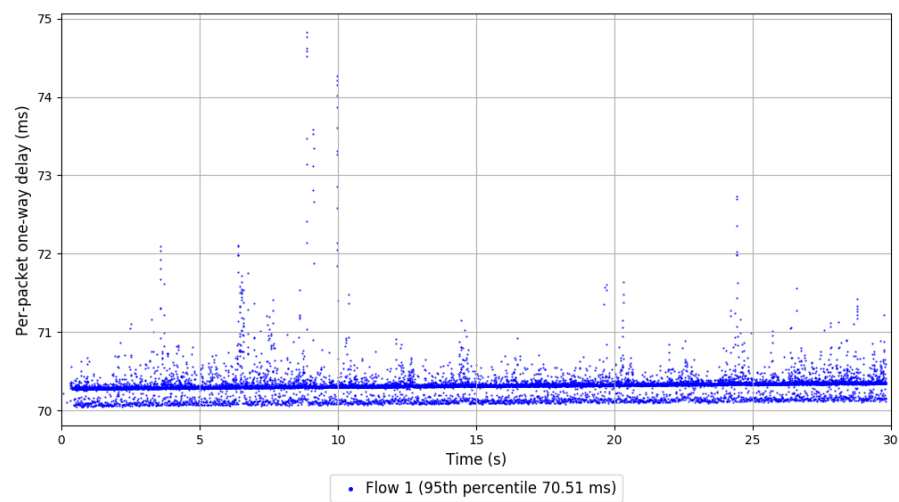
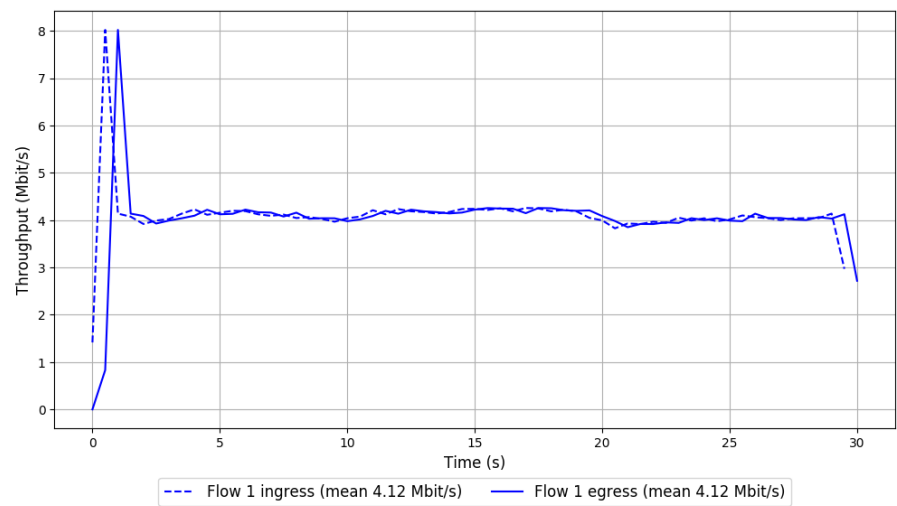
-- Flow 1:

Average throughput: 4.12 Mbit/s

95th percentile per-packet one-way delay: 70.508 ms

Loss rate: 0.34%

Run 3: Report of PCC-Allegro — Data Link



Run 4: Statistics of PCC-Allegro

Start at: 2018-12-20 06:05:29

End at: 2018-12-20 06:05:59

Local clock offset: -1.769 ms

Remote clock offset: -2.965 ms

Below is generated by plot.py at 2018-12-20 06:51:23

Datalink statistics

-- Total of 1 flow:

Average throughput: 62.89 Mbit/s

95th percentile per-packet one-way delay: 77.419 ms

Loss rate: 0.33%

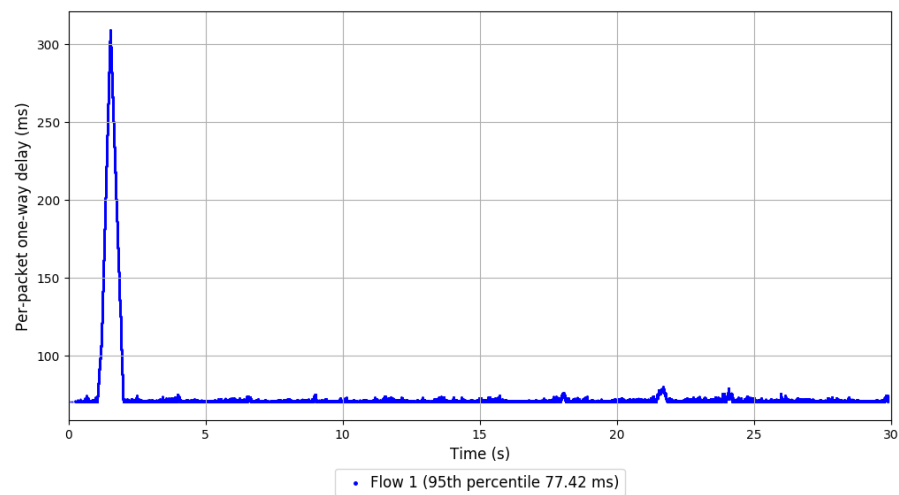
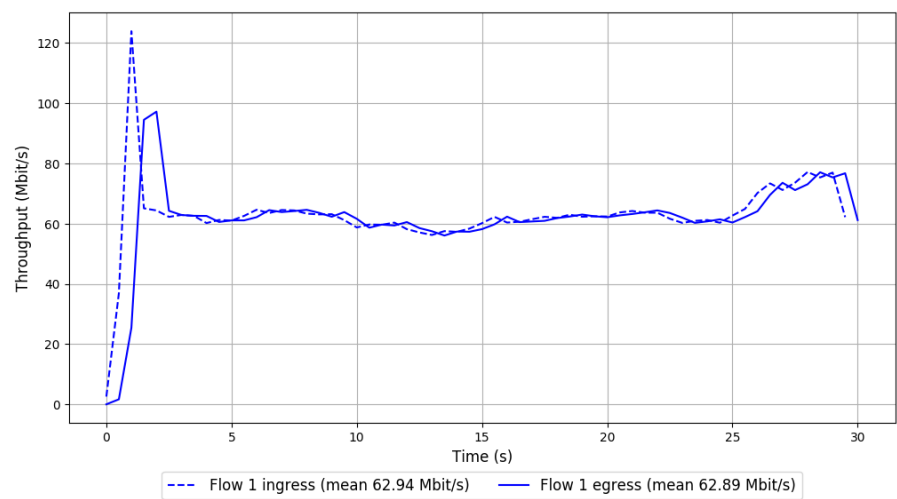
-- Flow 1:

Average throughput: 62.89 Mbit/s

95th percentile per-packet one-way delay: 77.419 ms

Loss rate: 0.33%

Run 4: Report of PCC-Allegro — Data Link



Run 5: Statistics of PCC-Allegro

Start at: 2018-12-20 06:29:50

End at: 2018-12-20 06:30:20

Local clock offset: 2.065 ms

Remote clock offset: -10.984 ms

Below is generated by plot.py at 2018-12-20 06:51:29

Datalink statistics

-- Total of 1 flow:

Average throughput: 70.70 Mbit/s

95th percentile per-packet one-way delay: 77.715 ms

Loss rate: 0.29%

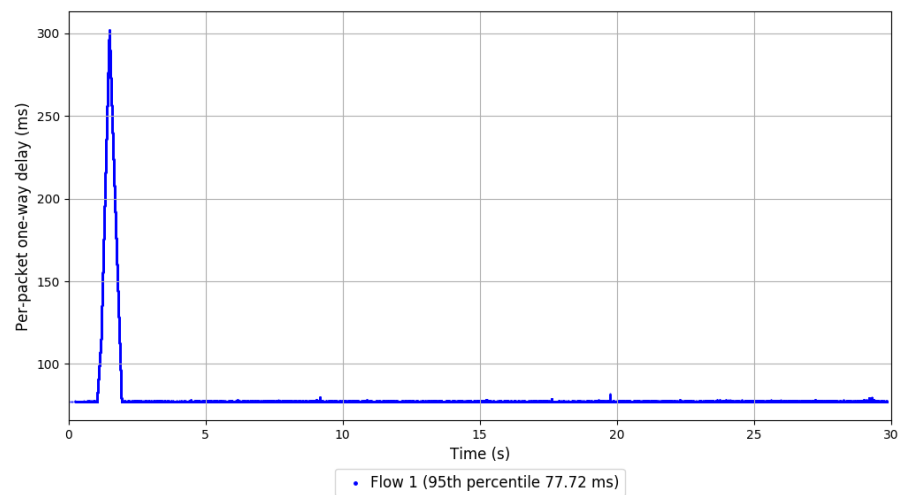
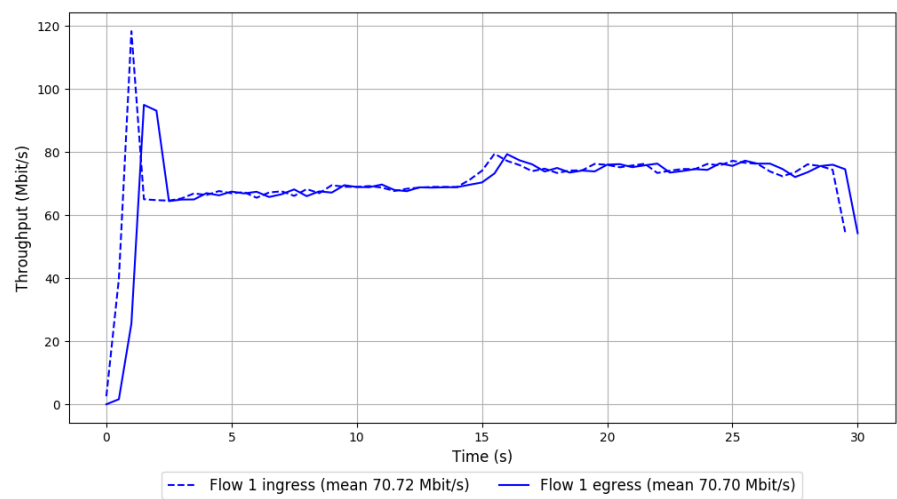
-- Flow 1:

Average throughput: 70.70 Mbit/s

95th percentile per-packet one-way delay: 77.715 ms

Loss rate: 0.29%

Run 5: Report of PCC-Allegro — Data Link



Run 1: Statistics of PCC-Expr

Start at: 2018-12-20 04:59:59

End at: 2018-12-20 05:00:29

Local clock offset: -1.77 ms

Remote clock offset: -4.521 ms

Below is generated by plot.py at 2018-12-20 06:52:32

Datalink statistics

-- Total of 1 flow:

Average throughput: 82.67 Mbit/s

95th percentile per-packet one-way delay: 222.952 ms

Loss rate: 0.38%

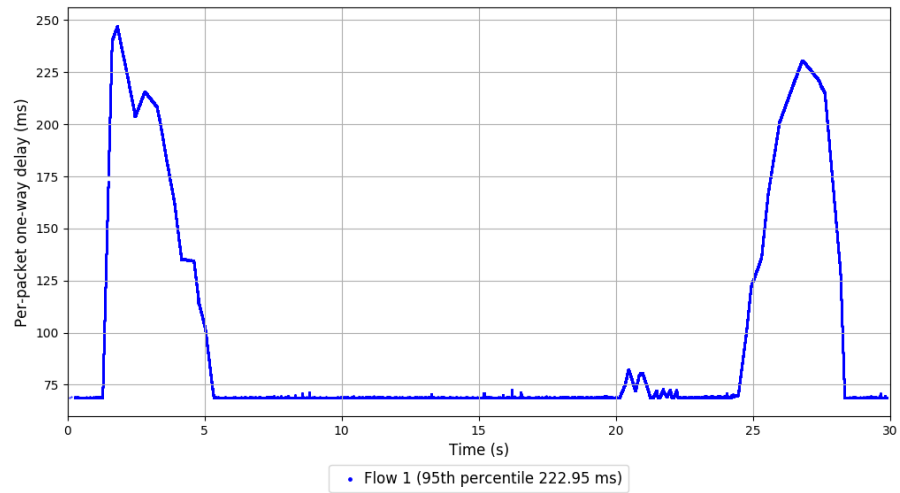
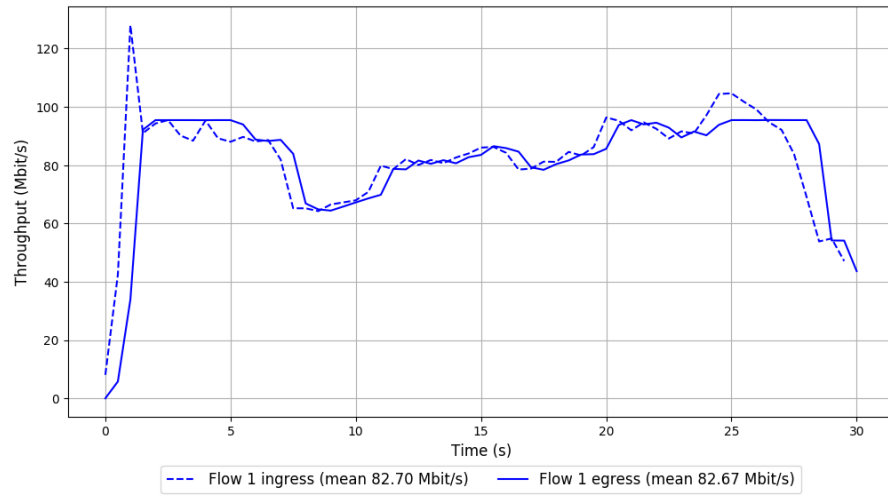
-- Flow 1:

Average throughput: 82.67 Mbit/s

95th percentile per-packet one-way delay: 222.952 ms

Loss rate: 0.38%

Run 1: Report of PCC-Expr — Data Link

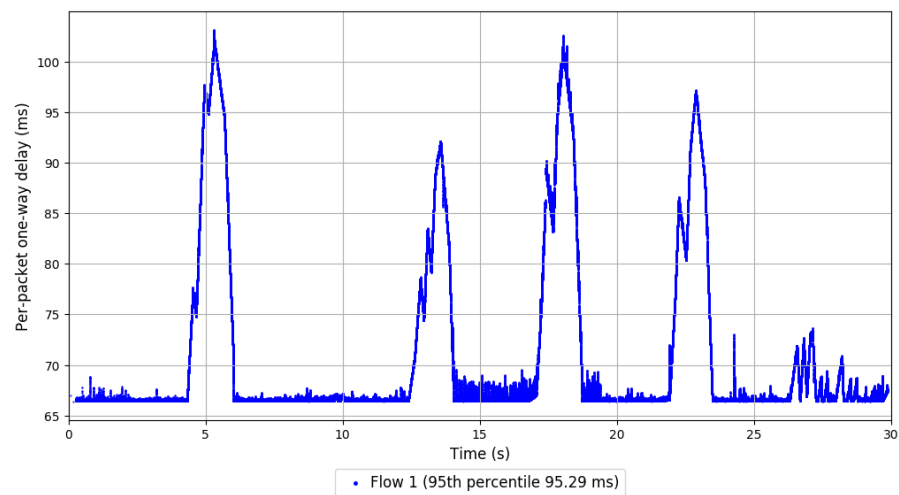
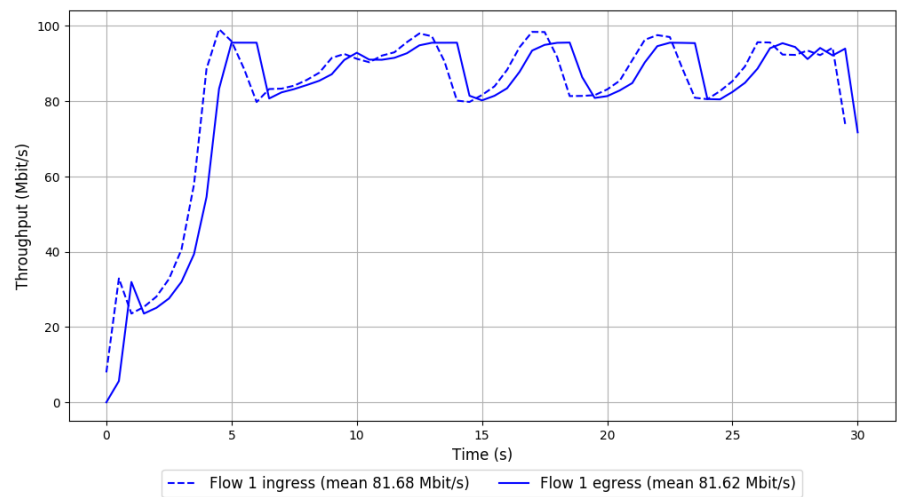


Run 2: Statistics of PCC-Expr

Start at: 2018-12-20 05:28:50
End at: 2018-12-20 05:29:20
Local clock offset: -0.481 ms
Remote clock offset: -3.569 ms

Below is generated by plot.py at 2018-12-20 06:52:33
Datalink statistics
-- Total of 1 flow:
Average throughput: 81.62 Mbit/s
95th percentile per-packet one-way delay: 95.287 ms
Loss rate: 0.32%
-- Flow 1:
Average throughput: 81.62 Mbit/s
95th percentile per-packet one-way delay: 95.287 ms
Loss rate: 0.32%

Run 2: Report of PCC-Expr — Data Link

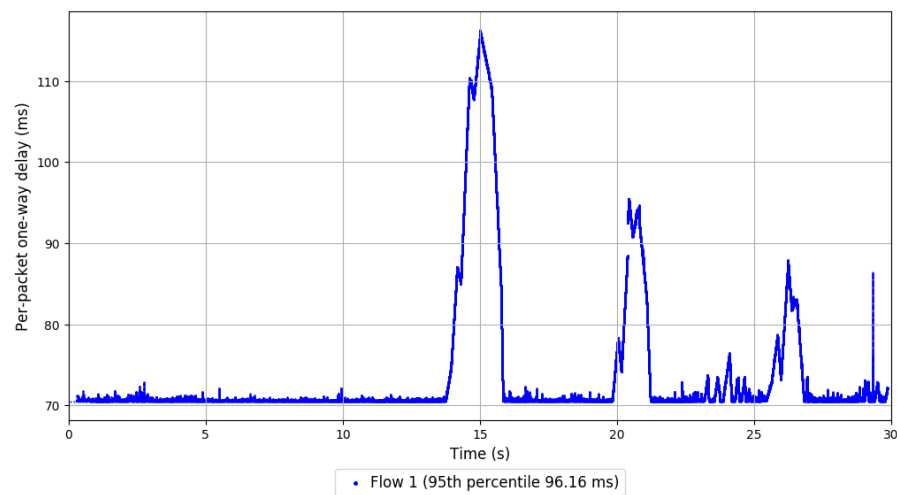
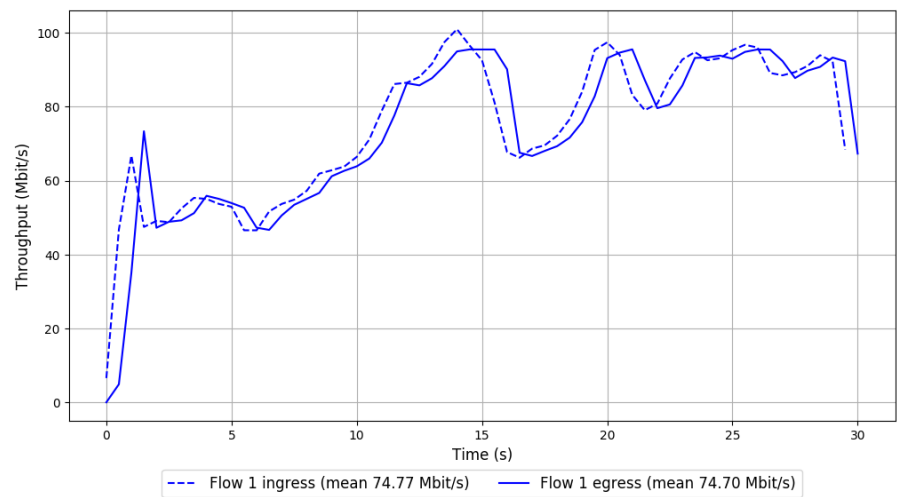


Run 3: Statistics of PCC-Expr

Start at: 2018-12-20 05:54:28
End at: 2018-12-20 05:54:58
Local clock offset: -0.739 ms
Remote clock offset: -2.351 ms

Below is generated by plot.py at 2018-12-20 06:52:33
Datalink statistics
-- Total of 1 flow:
Average throughput: 74.70 Mbit/s
95th percentile per-packet one-way delay: 96.163 ms
Loss rate: 0.35%
-- Flow 1:
Average throughput: 74.70 Mbit/s
95th percentile per-packet one-way delay: 96.163 ms
Loss rate: 0.35%

Run 3: Report of PCC-Expr — Data Link

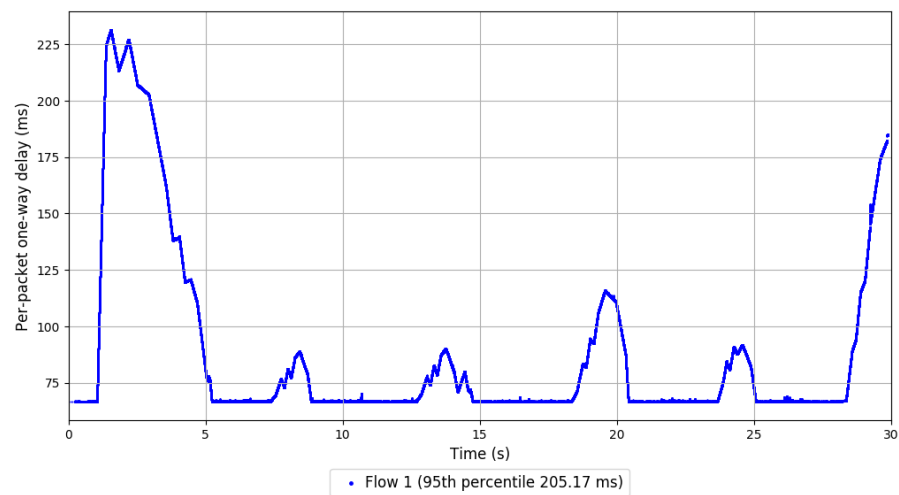
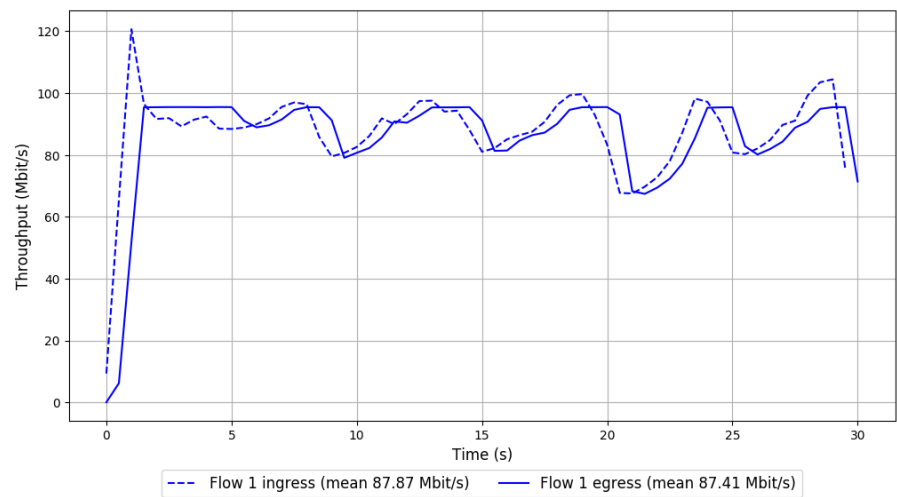


Run 4: Statistics of PCC-Expr

Start at: 2018-12-20 06:18:22
End at: 2018-12-20 06:18:52
Local clock offset: 0.703 ms
Remote clock offset: -2.513 ms

Below is generated by plot.py at 2018-12-20 06:52:44
Datalink statistics
-- Total of 1 flow:
Average throughput: 87.41 Mbit/s
95th percentile per-packet one-way delay: 205.173 ms
Loss rate: 0.78%
-- Flow 1:
Average throughput: 87.41 Mbit/s
95th percentile per-packet one-way delay: 205.173 ms
Loss rate: 0.78%

Run 4: Report of PCC-Expr — Data Link

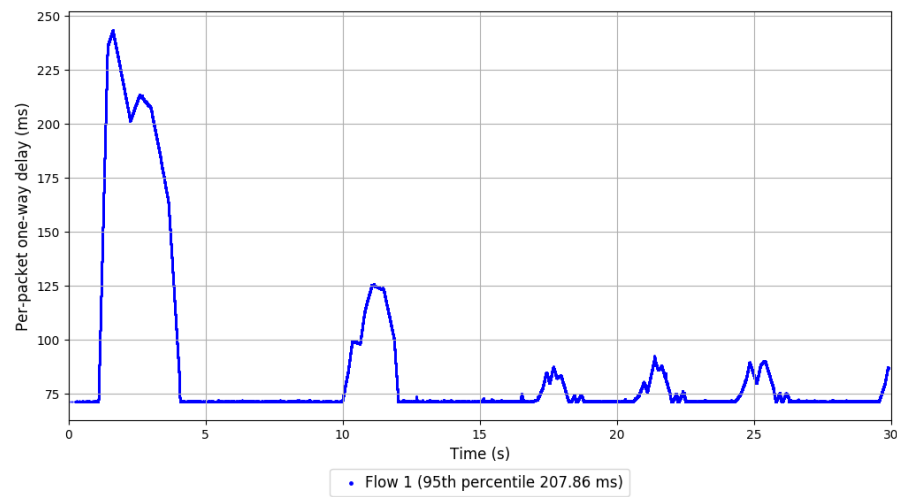
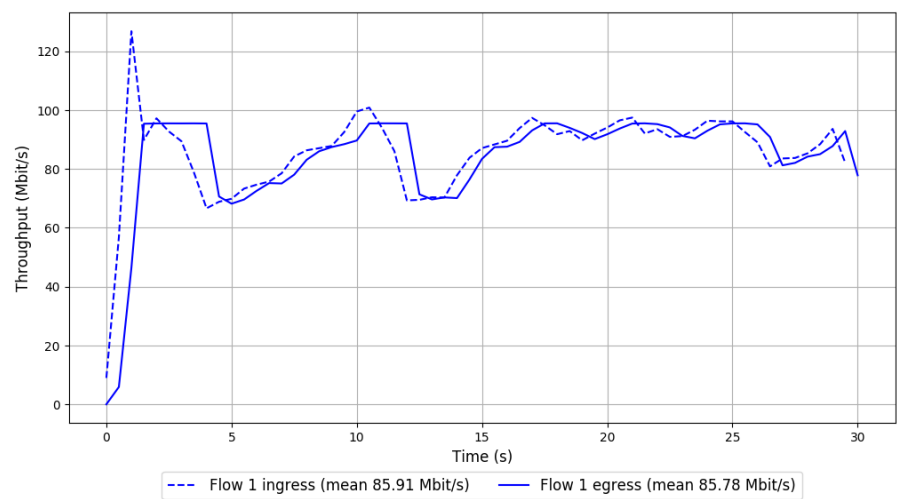


Run 5: Statistics of PCC-Expr

Start at: 2018-12-20 06:42:42
End at: 2018-12-20 06:43:12
Local clock offset: 2.696 ms
Remote clock offset: -2.519 ms

Below is generated by plot.py at 2018-12-20 06:52:45
Datalink statistics
-- Total of 1 flow:
Average throughput: 85.78 Mbit/s
95th percentile per-packet one-way delay: 207.860 ms
Loss rate: 0.43%
-- Flow 1:
Average throughput: 85.78 Mbit/s
95th percentile per-packet one-way delay: 207.860 ms
Loss rate: 0.43%

Run 5: Report of PCC-Expr — Data Link

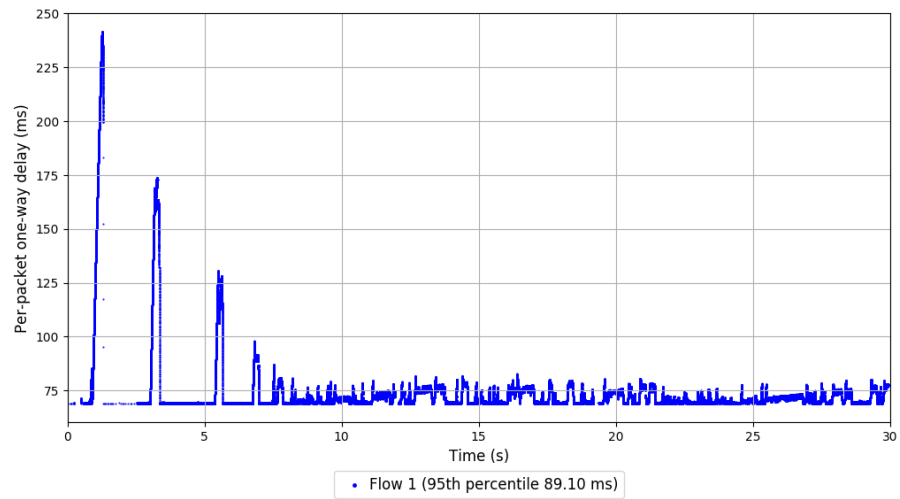
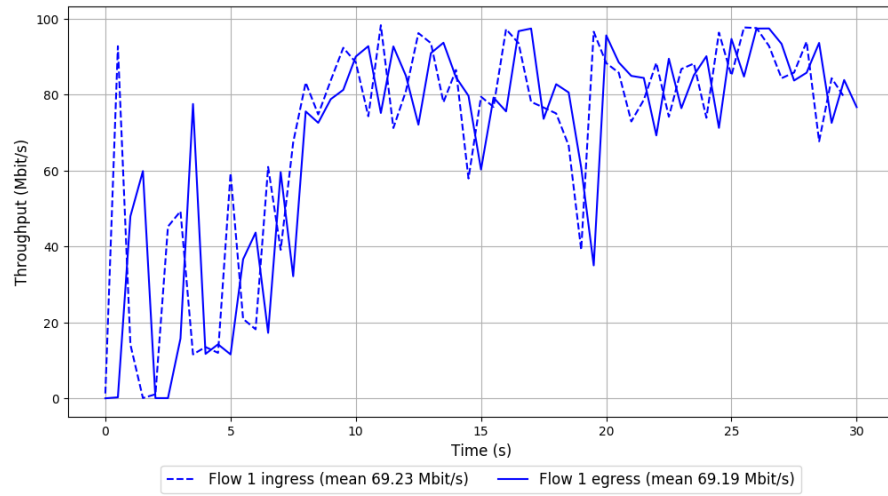


Run 1: Statistics of QUIC Cubic

Start at: 2018-12-20 04:44:17
End at: 2018-12-20 04:44:48
Local clock offset: -0.208 ms
Remote clock offset: -5.395 ms

Below is generated by plot.py at 2018-12-20 06:52:45
Datalink statistics
-- Total of 1 flow:
Average throughput: 69.19 Mbit/s
95th percentile per-packet one-way delay: 89.098 ms
Loss rate: 0.32%
-- Flow 1:
Average throughput: 69.19 Mbit/s
95th percentile per-packet one-way delay: 89.098 ms
Loss rate: 0.32%

Run 1: Report of QUIC Cubic — Data Link



Run 2: Statistics of QUIC Cubic

Start at: 2018-12-20 05:10:50

End at: 2018-12-20 05:11:20

Local clock offset: -1.278 ms

Remote clock offset: -3.631 ms

Below is generated by plot.py at 2018-12-20 06:52:45

Datalink statistics

-- Total of 1 flow:

Average throughput: 70.24 Mbit/s

95th percentile per-packet one-way delay: 85.928 ms

Loss rate: 0.40%

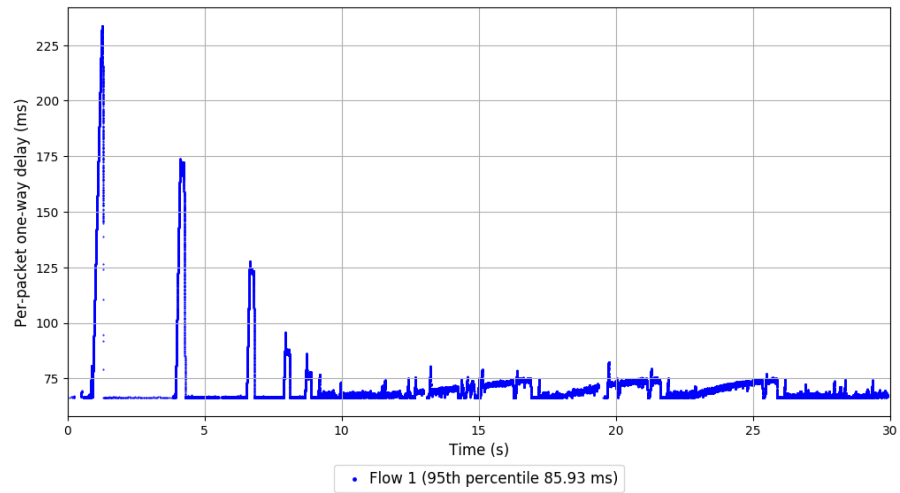
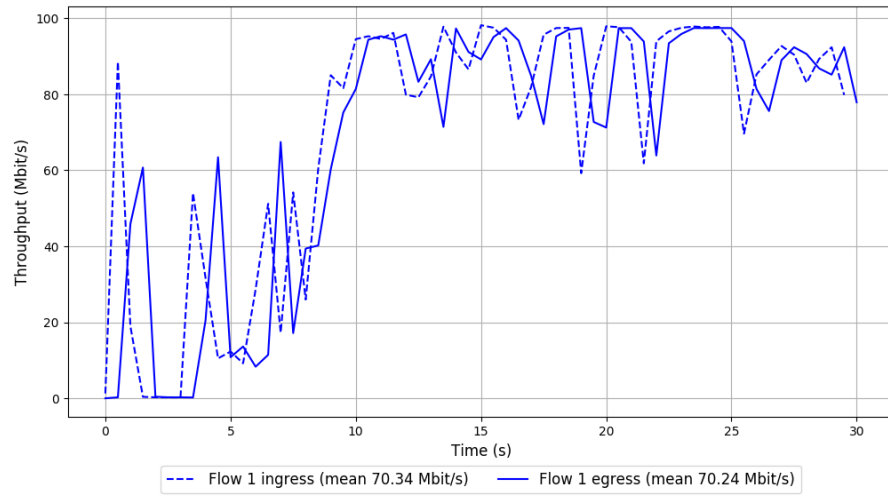
-- Flow 1:

Average throughput: 70.24 Mbit/s

95th percentile per-packet one-way delay: 85.928 ms

Loss rate: 0.40%

Run 2: Report of QUIC Cubic — Data Link

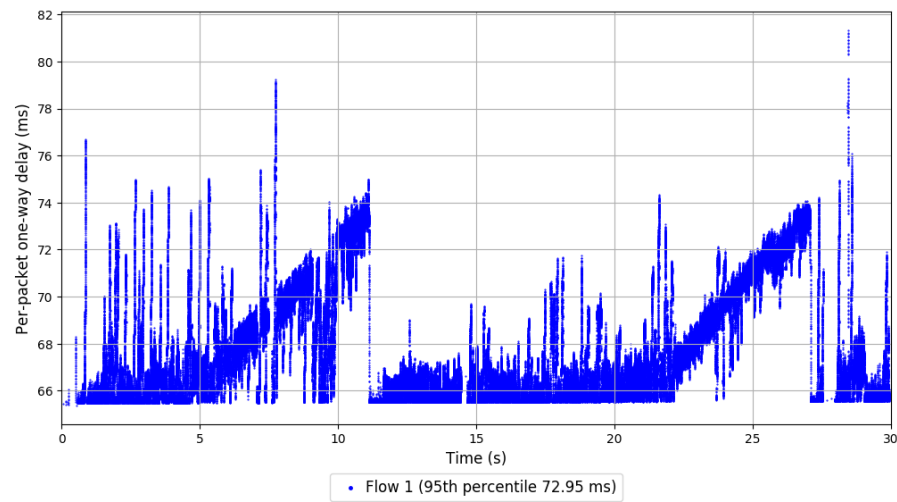
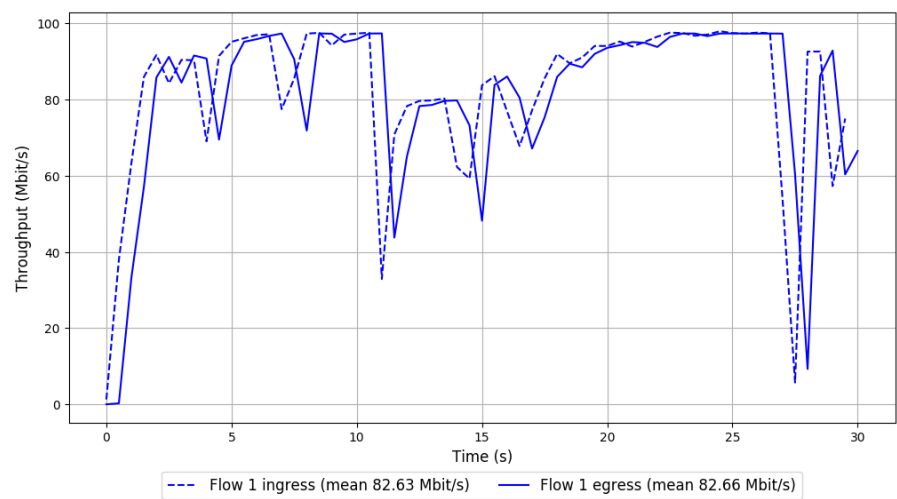


Run 3: Statistics of QUIC Cubic

Start at: 2018-12-20 05:39:01
End at: 2018-12-20 05:39:31
Local clock offset: -2.329 ms
Remote clock offset: -4.165 ms

Below is generated by plot.py at 2018-12-20 06:52:45
Datalink statistics
-- Total of 1 flow:
Average throughput: 82.66 Mbit/s
95th percentile per-packet one-way delay: 72.947 ms
Loss rate: 0.32%
-- Flow 1:
Average throughput: 82.66 Mbit/s
95th percentile per-packet one-way delay: 72.947 ms
Loss rate: 0.32%

Run 3: Report of QUIC Cubic — Data Link

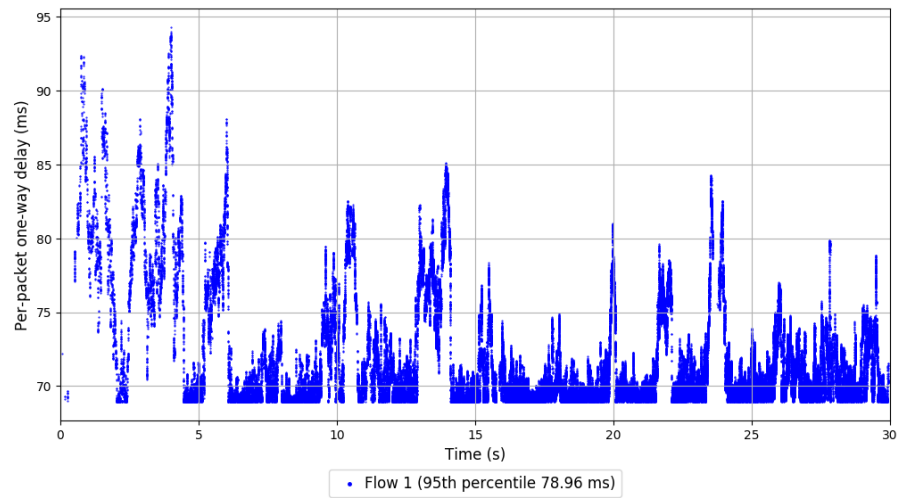
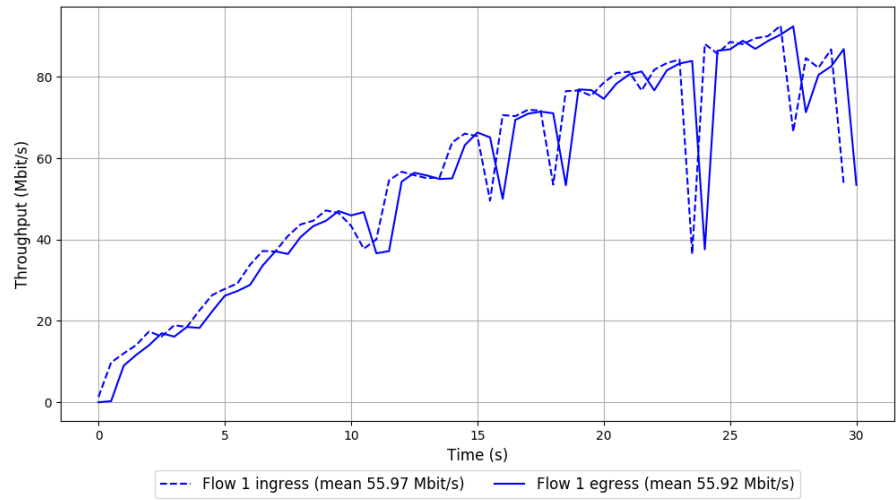


Run 4: Statistics of QUIC Cubic

Start at: 2018-12-20 06:03:11
End at: 2018-12-20 06:03:41
Local clock offset: 1.45 ms
Remote clock offset: -3.701 ms

Below is generated by plot.py at 2018-12-20 06:52:45
Datalink statistics
-- Total of 1 flow:
Average throughput: 55.92 Mbit/s
95th percentile per-packet one-way delay: 78.959 ms
Loss rate: 0.36%
-- Flow 1:
Average throughput: 55.92 Mbit/s
95th percentile per-packet one-way delay: 78.959 ms
Loss rate: 0.36%

Run 4: Report of QUIC Cubic — Data Link



Run 5: Statistics of QUIC Cubic

Start at: 2018-12-20 06:27:30

End at: 2018-12-20 06:28:00

Local clock offset: -0.73 ms

Remote clock offset: -2.506 ms

Below is generated by plot.py at 2018-12-20 06:53:10

Datalink statistics

-- Total of 1 flow:

Average throughput: 68.67 Mbit/s

95th percentile per-packet one-way delay: 86.444 ms

Loss rate: 0.40%

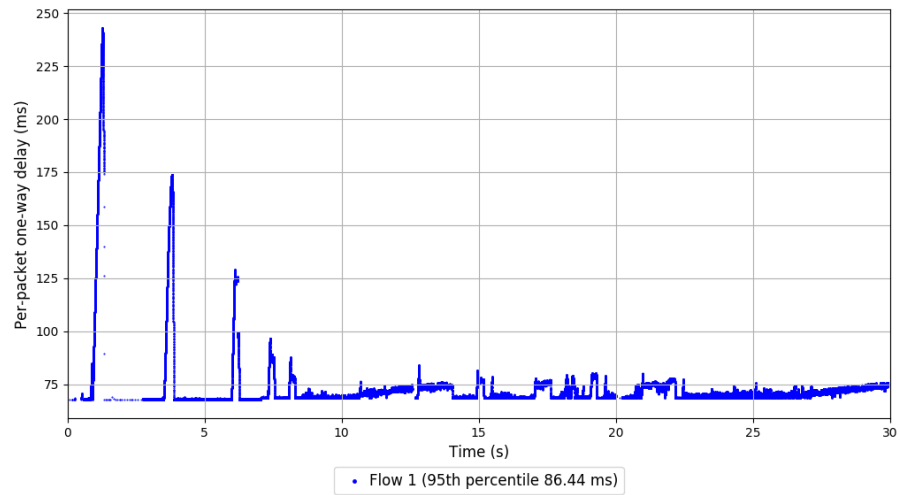
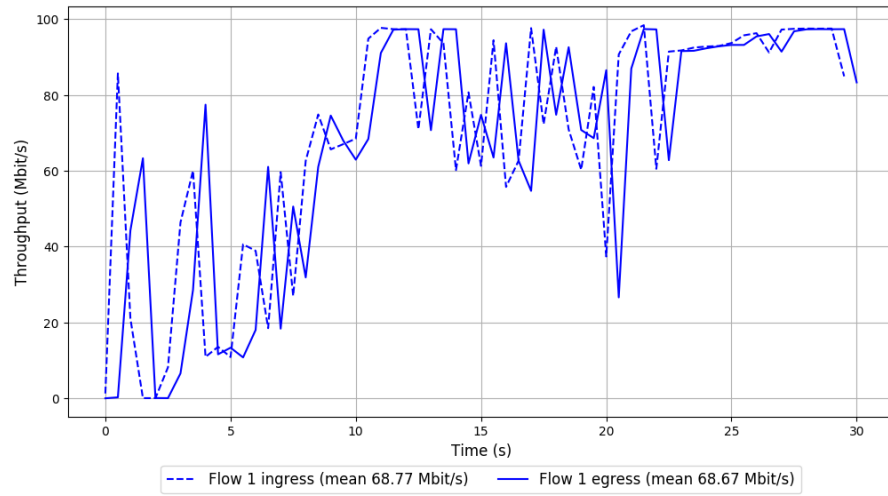
-- Flow 1:

Average throughput: 68.67 Mbit/s

95th percentile per-packet one-way delay: 86.444 ms

Loss rate: 0.40%

Run 5: Report of QUIC Cubic — Data Link

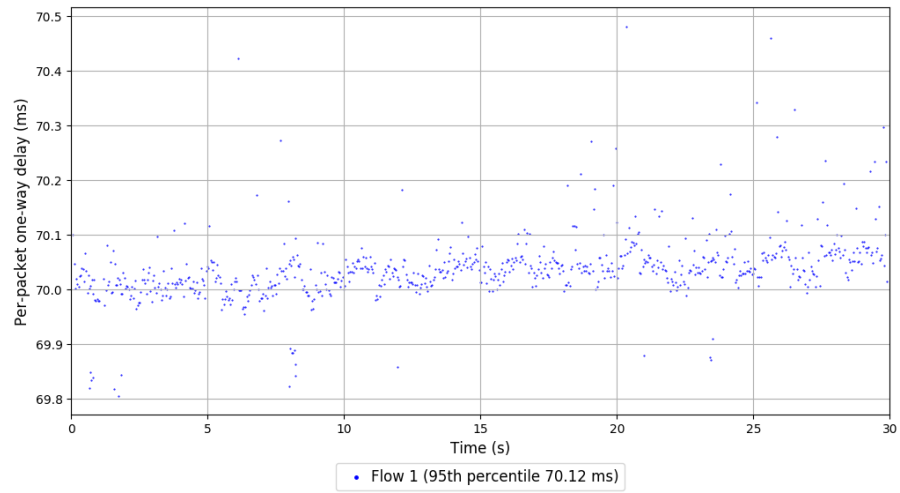
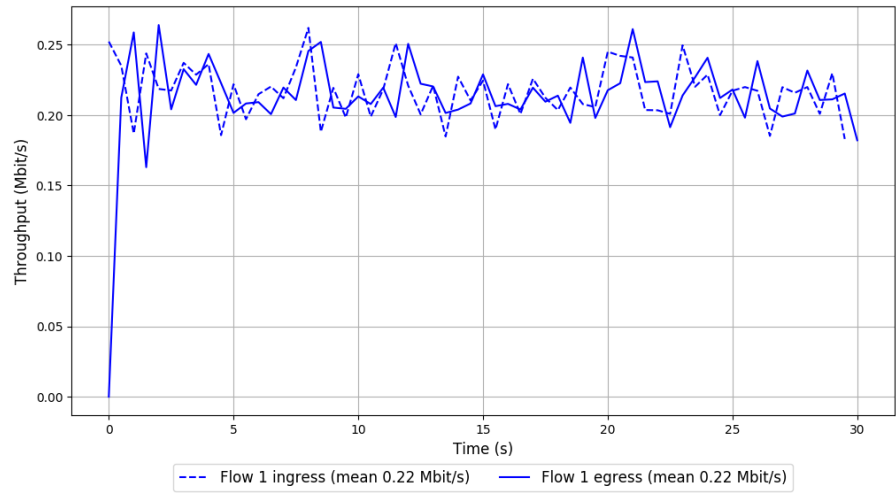


Run 1: Statistics of SCReAM

Start at: 2018-12-20 04:52:51
End at: 2018-12-20 04:53:21
Local clock offset: -1.025 ms
Remote clock offset: -5.388 ms

Below is generated by plot.py at 2018-12-20 06:53:10
Datalink statistics
-- Total of 1 flow:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 70.123 ms
Loss rate: 0.26%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 70.123 ms
Loss rate: 0.26%

Run 1: Report of SReAM — Data Link

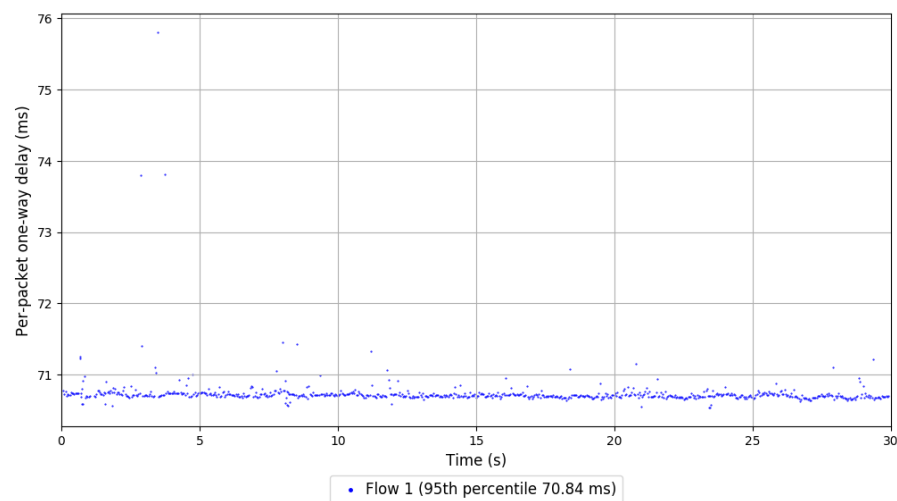
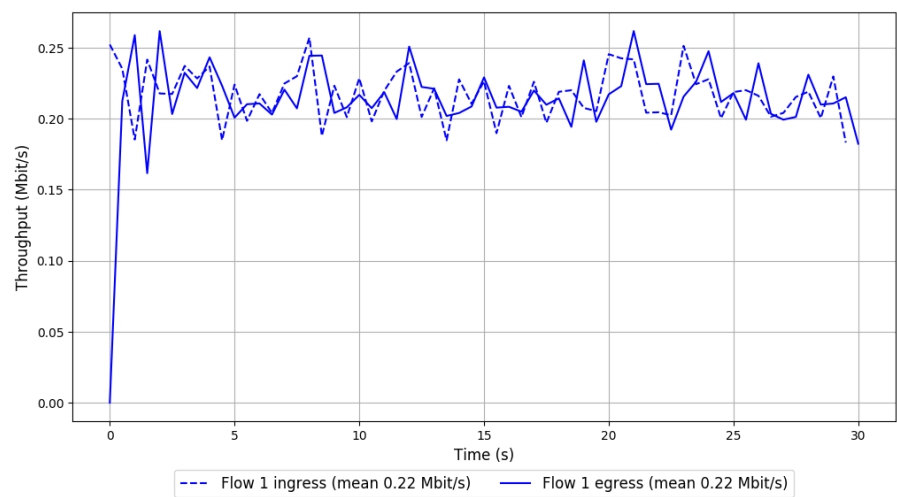


Run 2: Statistics of SCReAM

Start at: 2018-12-20 05:20:54
End at: 2018-12-20 05:21:24
Local clock offset: 1.695 ms
Remote clock offset: -5.135 ms

Below is generated by plot.py at 2018-12-20 06:53:10
Datalink statistics
-- Total of 1 flow:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 70.845 ms
Loss rate: 0.26%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 70.845 ms
Loss rate: 0.26%

Run 2: Report of SReAM — Data Link

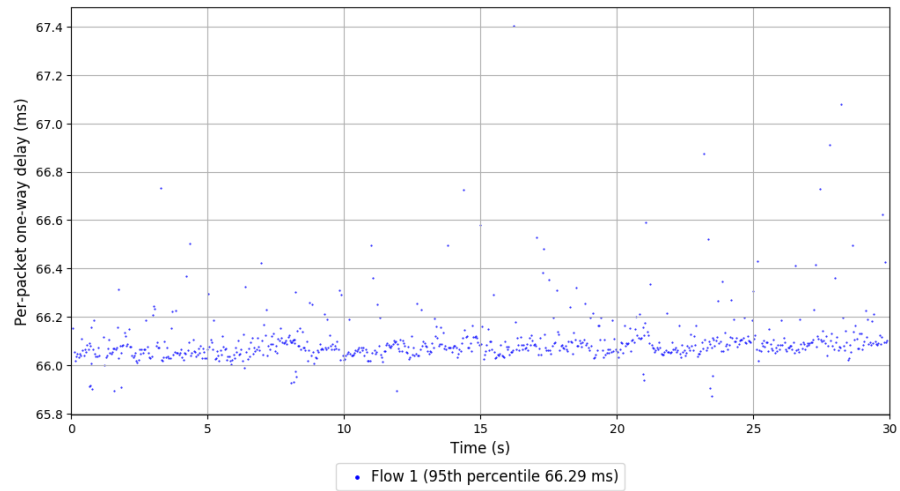
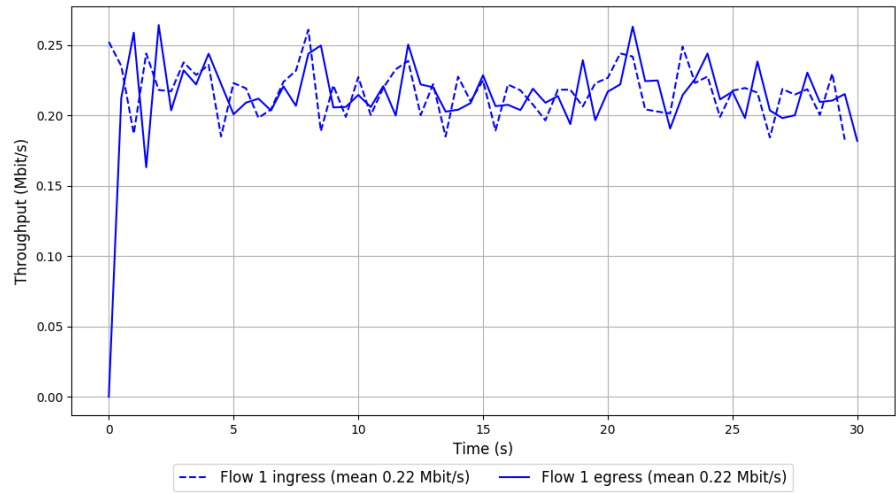


Run 3: Statistics of SCReAM

Start at: 2018-12-20 05:48:00
End at: 2018-12-20 05:48:30
Local clock offset: -2.887 ms
Remote clock offset: -3.372 ms

Below is generated by plot.py at 2018-12-20 06:53:10
Datalink statistics
-- Total of 1 flow:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 66.291 ms
Loss rate: 0.26%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 66.291 ms
Loss rate: 0.26%

Run 3: Report of SReAM — Data Link

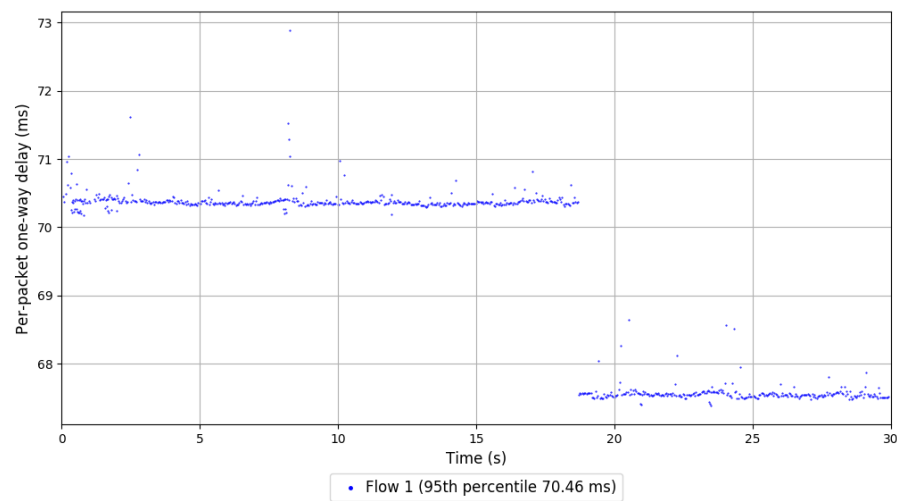
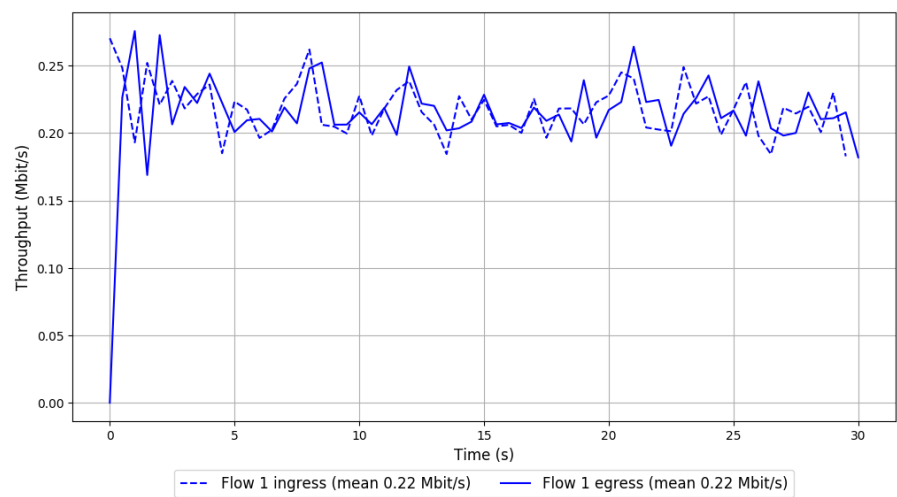


Run 4: Statistics of SCReAM

Start at: 2018-12-20 06:11:50
End at: 2018-12-20 06:12:20
Local clock offset: 1.739 ms
Remote clock offset: -2.608 ms

Below is generated by plot.py at 2018-12-20 06:53:10
Datalink statistics
-- Total of 1 flow:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 70.458 ms
Loss rate: 0.26%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 70.458 ms
Loss rate: 0.26%

Run 4: Report of SReAM — Data Link

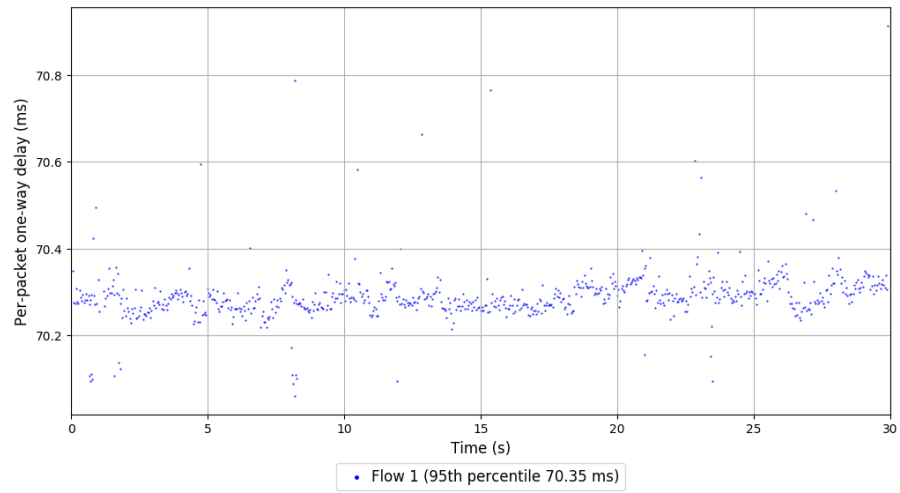
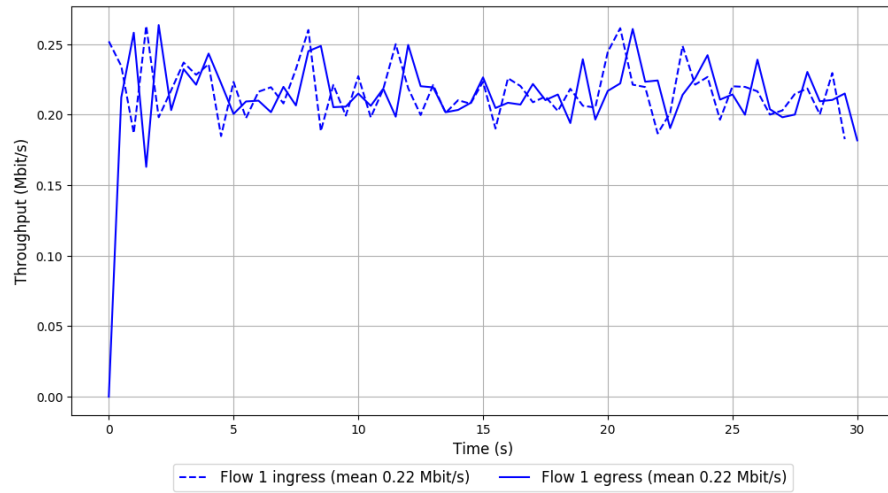


Run 5: Statistics of SCReAM

Start at: 2018-12-20 06:35:58
End at: 2018-12-20 06:36:28
Local clock offset: 3.525 ms
Remote clock offset: -2.269 ms

Below is generated by plot.py at 2018-12-20 06:53:10
Datalink statistics
-- Total of 1 flow:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 70.349 ms
Loss rate: 0.26%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 70.349 ms
Loss rate: 0.26%

Run 5: Report of SReAM — Data Link

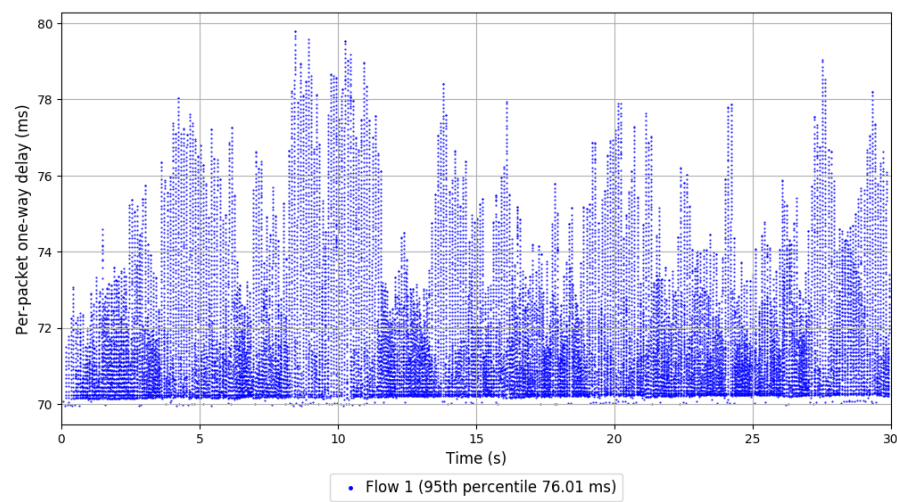
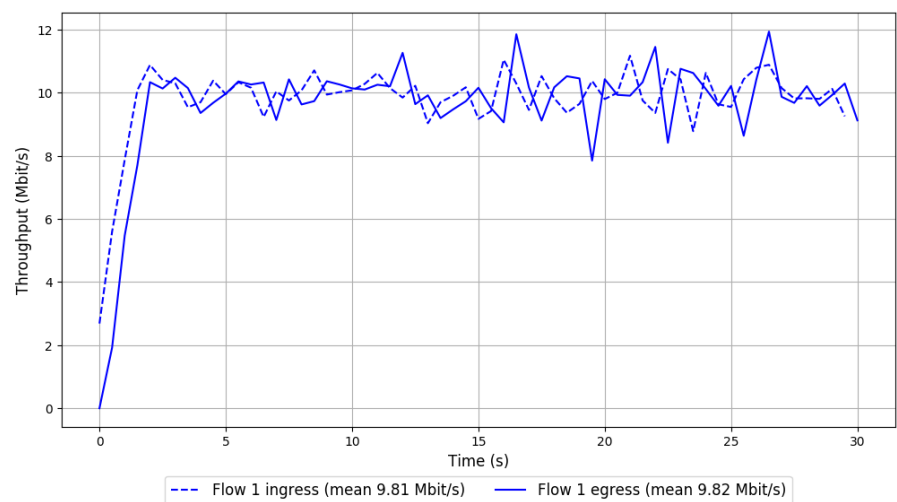


Run 1: Statistics of Sprout

Start at: 2018-12-20 04:45:33
End at: 2018-12-20 04:46:03
Local clock offset: 1.266 ms
Remote clock offset: -3.989 ms

Below is generated by plot.py at 2018-12-20 06:53:10
Datalink statistics
-- Total of 1 flow:
Average throughput: 9.82 Mbit/s
95th percentile per-packet one-way delay: 76.014 ms
Loss rate: 0.31%
-- Flow 1:
Average throughput: 9.82 Mbit/s
95th percentile per-packet one-way delay: 76.014 ms
Loss rate: 0.31%

Run 1: Report of Sprout — Data Link

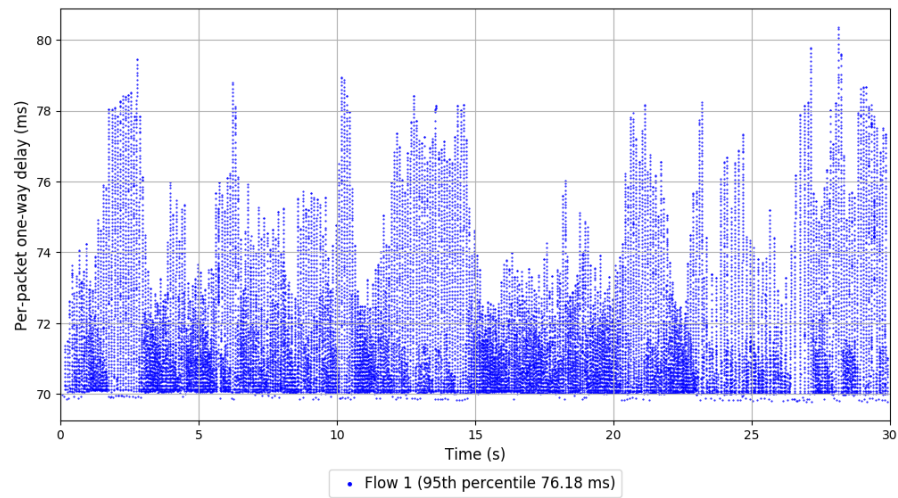
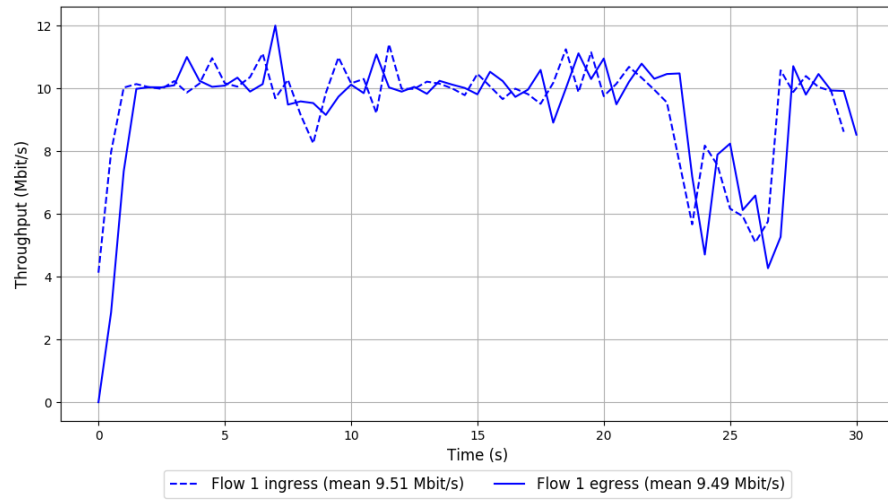


Run 2: Statistics of Sprout

Start at: 2018-12-20 05:12:36
End at: 2018-12-20 05:13:06
Local clock offset: 2.232 ms
Remote clock offset: -3.901 ms

Below is generated by plot.py at 2018-12-20 06:53:10
Datalink statistics
-- Total of 1 flow:
Average throughput: 9.49 Mbit/s
95th percentile per-packet one-way delay: 76.181 ms
Loss rate: 0.36%
-- Flow 1:
Average throughput: 9.49 Mbit/s
95th percentile per-packet one-way delay: 76.181 ms
Loss rate: 0.36%

Run 2: Report of Sprout — Data Link

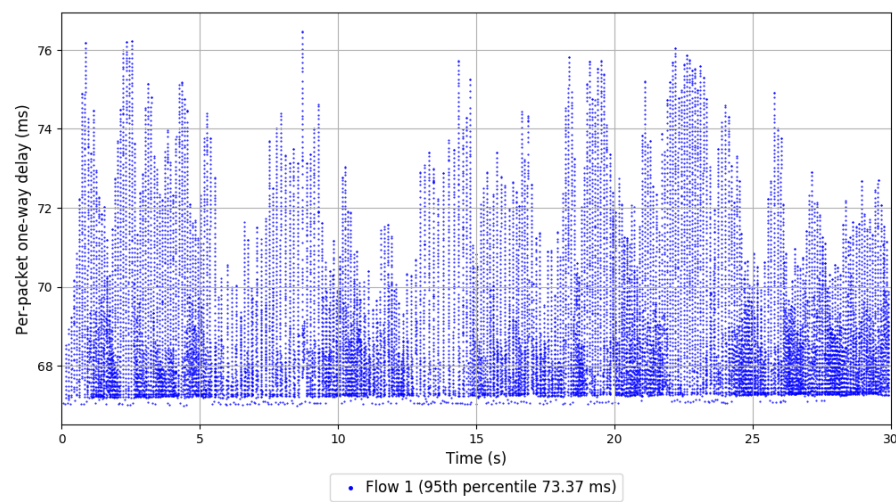
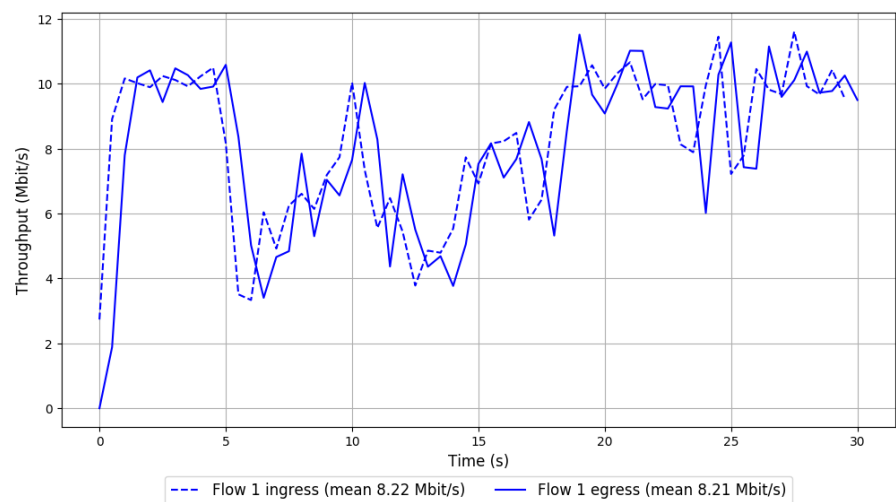


Run 3: Statistics of Sprout

Start at: 2018-12-20 05:40:30
End at: 2018-12-20 05:41:00
Local clock offset: -0.068 ms
Remote clock offset: -3.321 ms

Below is generated by plot.py at 2018-12-20 06:53:10
Datalink statistics
-- Total of 1 flow:
Average throughput: 8.21 Mbit/s
95th percentile per-packet one-way delay: 73.369 ms
Loss rate: 0.39%
-- Flow 1:
Average throughput: 8.21 Mbit/s
95th percentile per-packet one-way delay: 73.369 ms
Loss rate: 0.39%

Run 3: Report of Sprout — Data Link

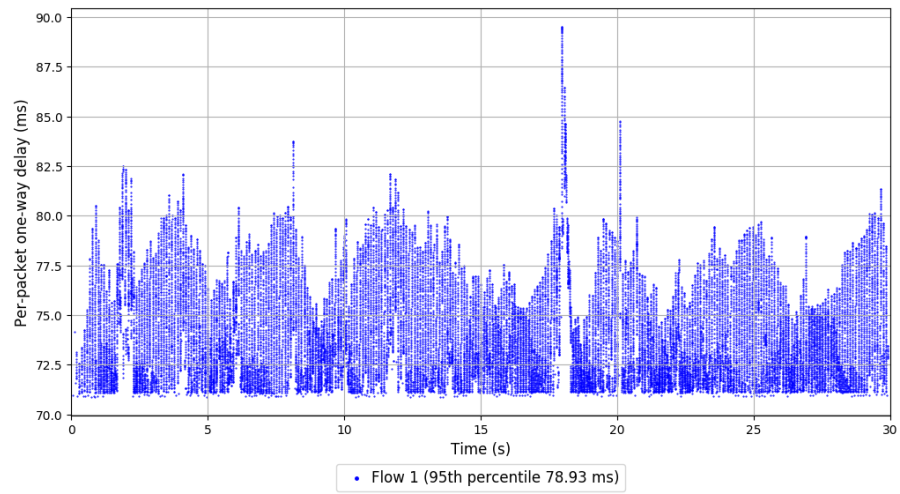
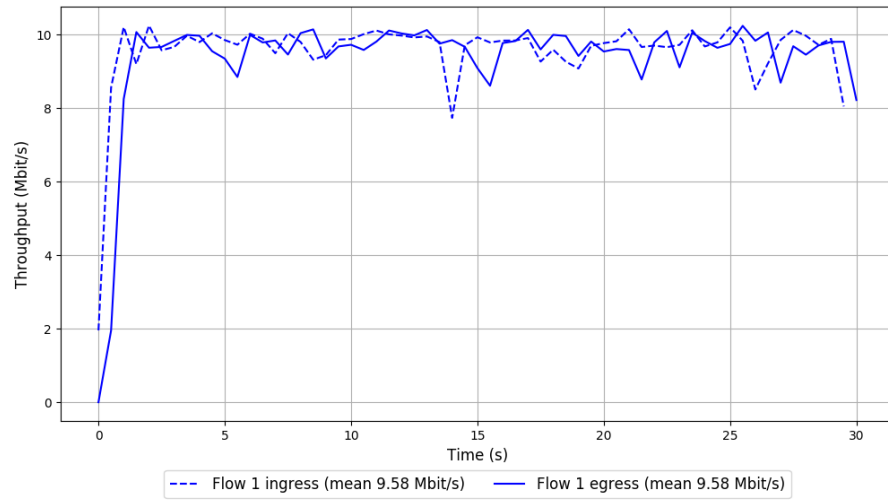


Run 4: Statistics of Sprout

Start at: 2018-12-20 06:04:23
End at: 2018-12-20 06:04:53
Local clock offset: -0.584 ms
Remote clock offset: -2.154 ms

Below is generated by plot.py at 2018-12-20 06:53:10
Datalink statistics
-- Total of 1 flow:
Average throughput: 9.58 Mbit/s
95th percentile per-packet one-way delay: 78.934 ms
Loss rate: 0.32%
-- Flow 1:
Average throughput: 9.58 Mbit/s
95th percentile per-packet one-way delay: 78.934 ms
Loss rate: 0.32%

Run 4: Report of Sprout — Data Link

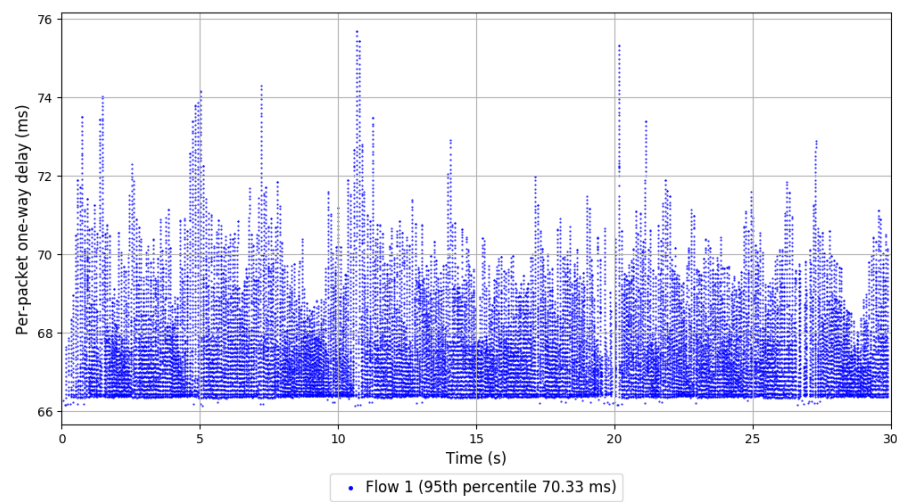
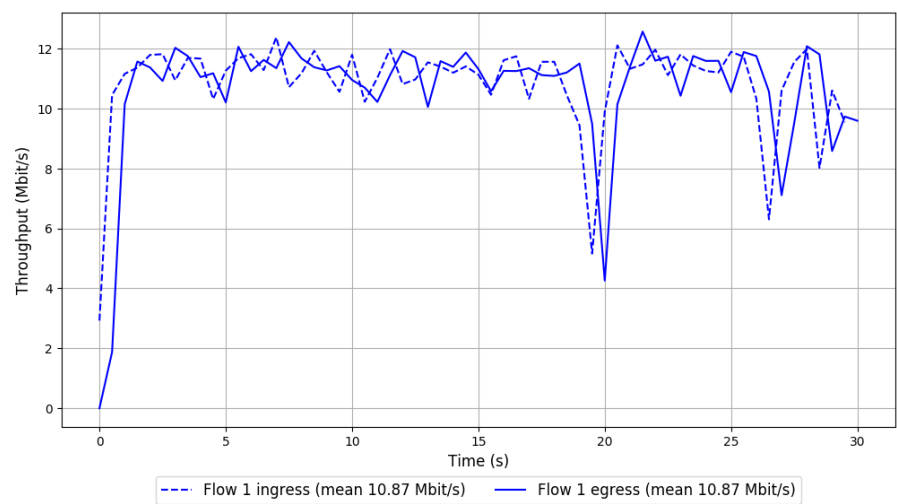


Run 5: Statistics of Sprout

Start at: 2018-12-20 06:28:41
End at: 2018-12-20 06:29:11
Local clock offset: 0.864 ms
Remote clock offset: -2.072 ms

Below is generated by plot.py at 2018-12-20 06:53:10
Datalink statistics
-- Total of 1 flow:
Average throughput: 10.87 Mbit/s
95th percentile per-packet one-way delay: 70.335 ms
Loss rate: 0.28%
-- Flow 1:
Average throughput: 10.87 Mbit/s
95th percentile per-packet one-way delay: 70.335 ms
Loss rate: 0.28%

Run 5: Report of Sprout — Data Link



Run 1: Statistics of TaoVA-100x

Start at: 2018-12-20 04:38:14

End at: 2018-12-20 04:38:44

Local clock offset: 1.029 ms

Remote clock offset: -4.564 ms

Below is generated by plot.py at 2018-12-20 06:54:35

Datalink statistics

-- Total of 1 flow:

Average throughput: 91.45 Mbit/s

95th percentile per-packet one-way delay: 77.608 ms

Loss rate: 0.28%

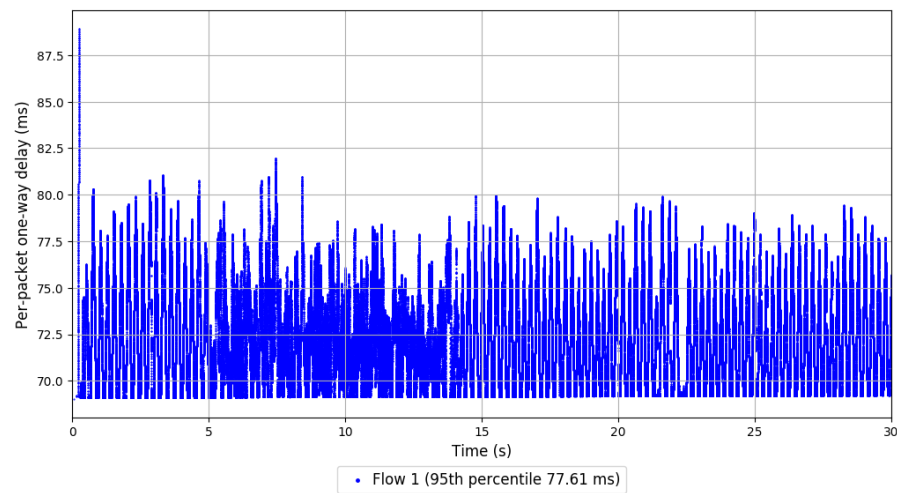
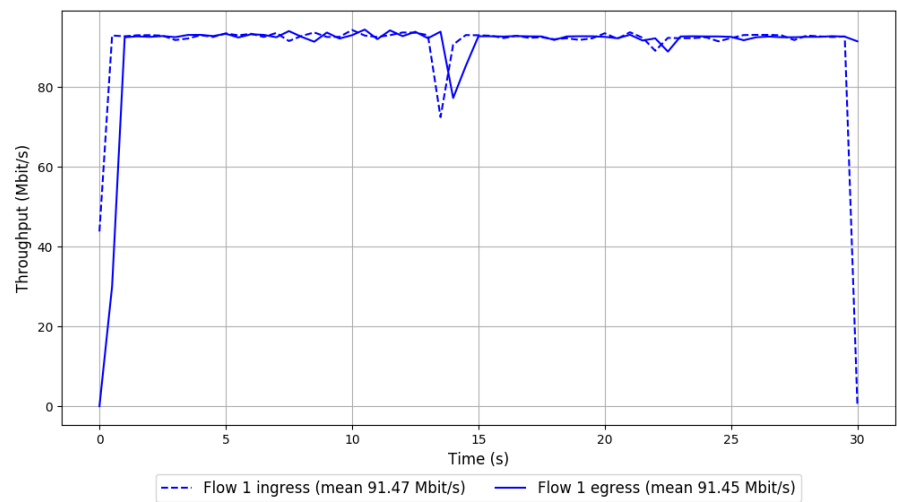
-- Flow 1:

Average throughput: 91.45 Mbit/s

95th percentile per-packet one-way delay: 77.608 ms

Loss rate: 0.28%

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



Run 2: Statistics of TaoVA-100x

Start at: 2018-12-20 05:03:02

End at: 2018-12-20 05:03:32

Local clock offset: -1.839 ms

Remote clock offset: -3.912 ms

Below is generated by plot.py at 2018-12-20 06:54:35

Datalink statistics

-- Total of 1 flow:

Average throughput: 89.75 Mbit/s

95th percentile per-packet one-way delay: 75.457 ms

Loss rate: 0.25%

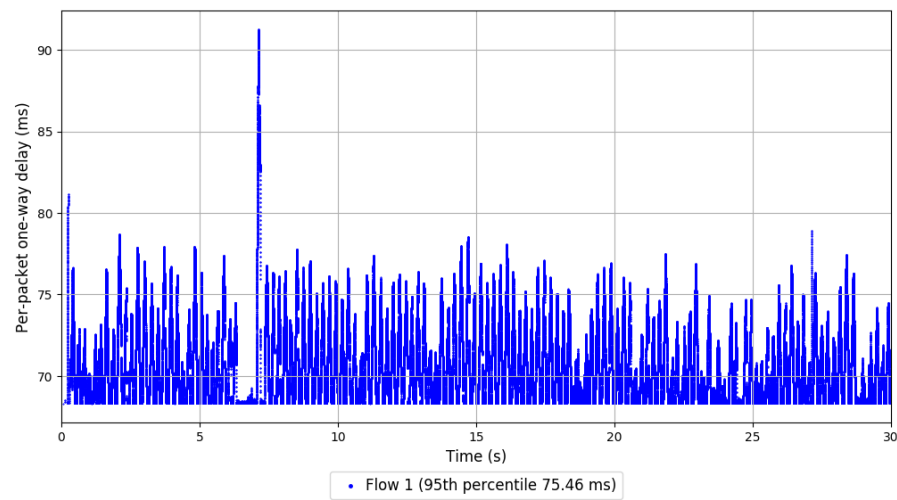
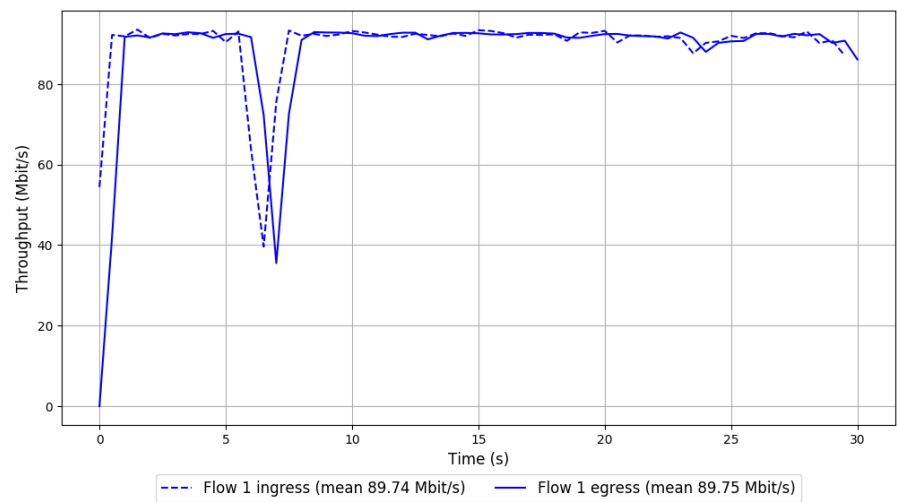
-- Flow 1:

Average throughput: 89.75 Mbit/s

95th percentile per-packet one-way delay: 75.457 ms

Loss rate: 0.25%

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



Run 3: Statistics of TaoVA-100x

Start at: 2018-12-20 05:31:45

End at: 2018-12-20 05:32:15

Local clock offset: 0.014 ms

Remote clock offset: -3.276 ms

Below is generated by plot.py at 2018-12-20 06:54:36

Datalink statistics

-- Total of 1 flow:

Average throughput: 90.82 Mbit/s

95th percentile per-packet one-way delay: 75.260 ms

Loss rate: 0.39%

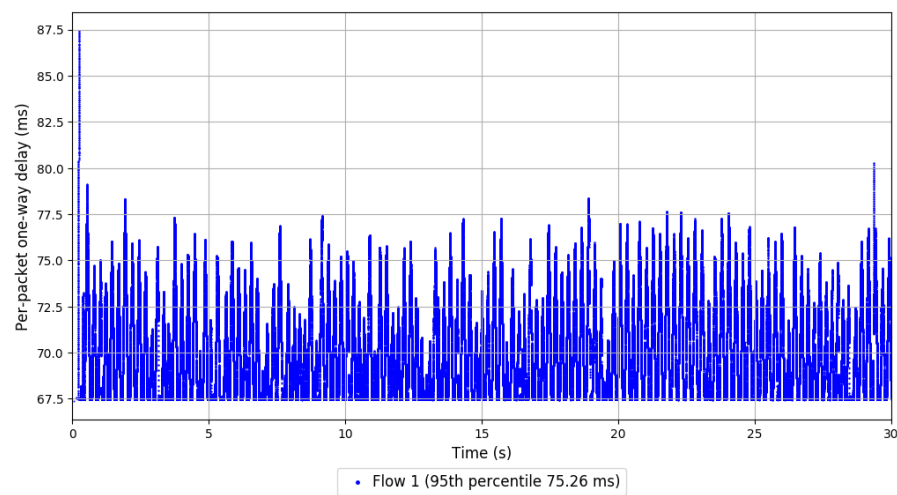
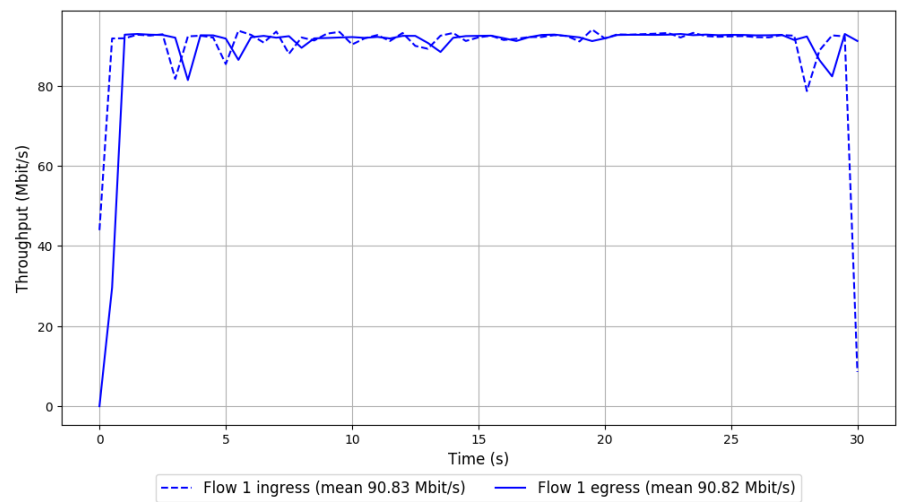
-- Flow 1:

Average throughput: 90.82 Mbit/s

95th percentile per-packet one-way delay: 75.260 ms

Loss rate: 0.39%

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



Run 4: Statistics of TaoVA-100x

Start at: 2018-12-20 05:56:54

End at: 2018-12-20 05:57:24

Local clock offset: 1.756 ms

Remote clock offset: -3.405 ms

Below is generated by plot.py at 2018-12-20 06:54:36

Datalink statistics

-- Total of 1 flow:

Average throughput: 87.64 Mbit/s

95th percentile per-packet one-way delay: 79.943 ms

Loss rate: 0.25%

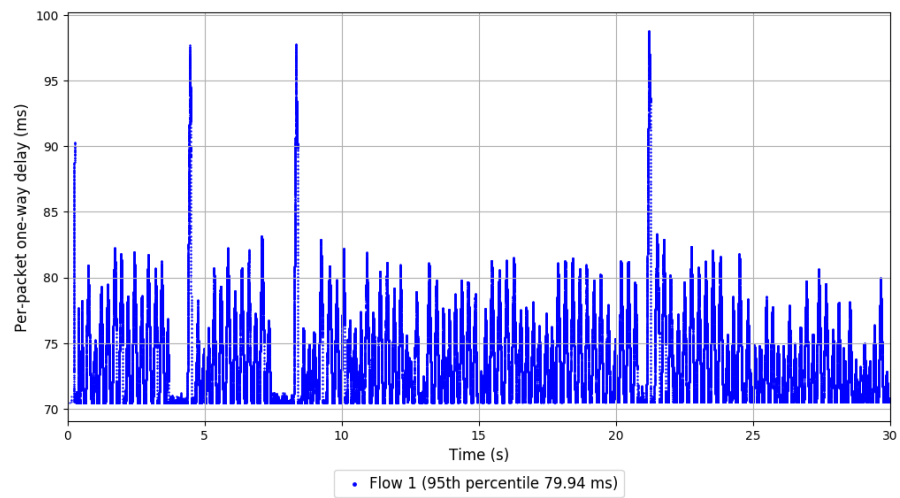
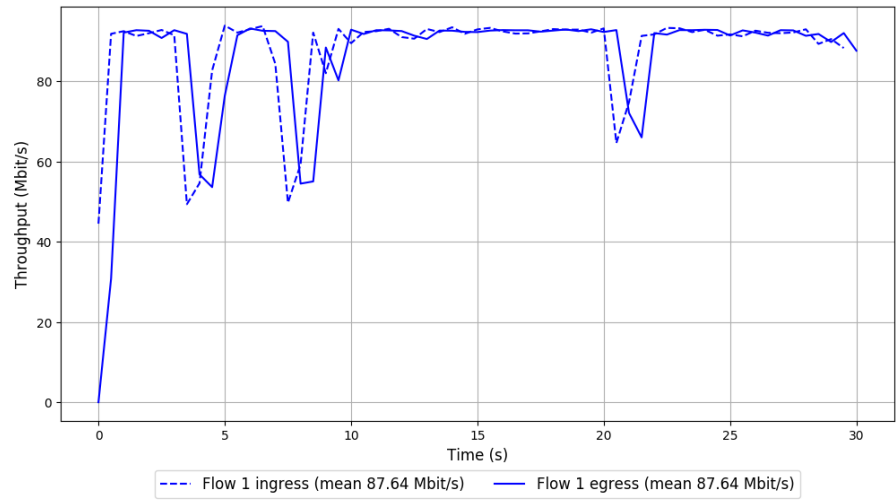
-- Flow 1:

Average throughput: 87.64 Mbit/s

95th percentile per-packet one-way delay: 79.943 ms

Loss rate: 0.25%

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

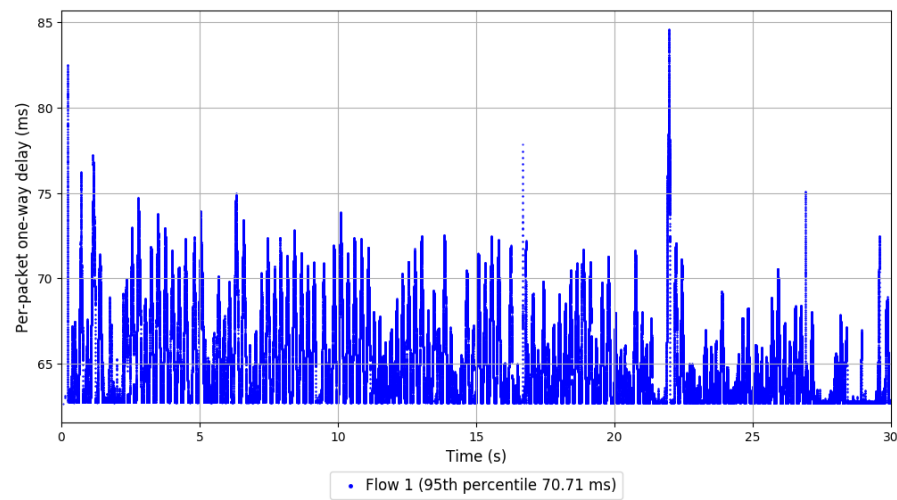
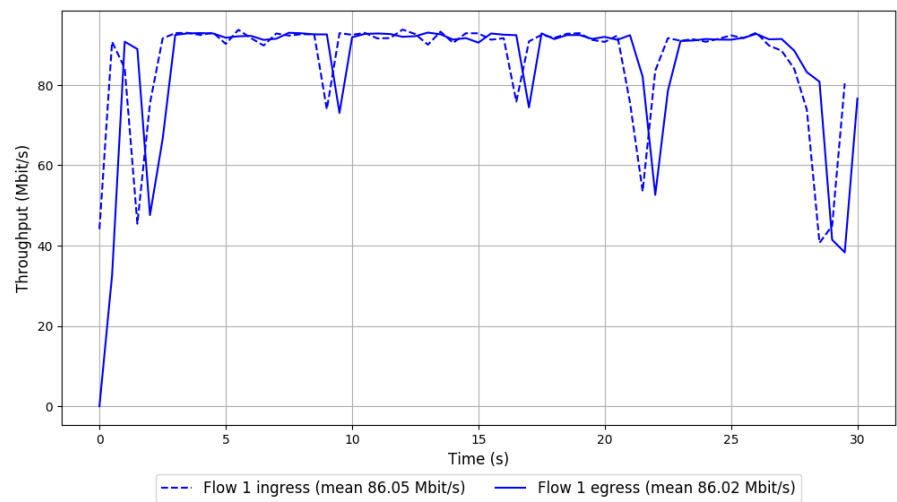


Run 5: Statistics of TaoVA-100x

Start at: 2018-12-20 06:21:00
End at: 2018-12-20 06:21:30
Local clock offset: -2.083 ms
Remote clock offset: -1.927 ms

Below is generated by plot.py at 2018-12-20 06:54:36
Datalink statistics
-- Total of 1 flow:
Average throughput: 86.02 Mbit/s
95th percentile per-packet one-way delay: 70.707 ms
Loss rate: 0.28%
-- Flow 1:
Average throughput: 86.02 Mbit/s
95th percentile per-packet one-way delay: 70.707 ms
Loss rate: 0.28%

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

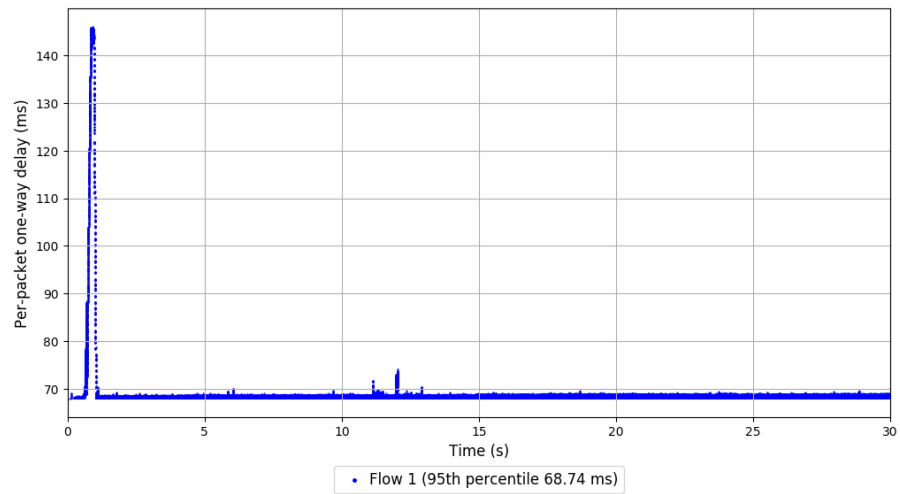
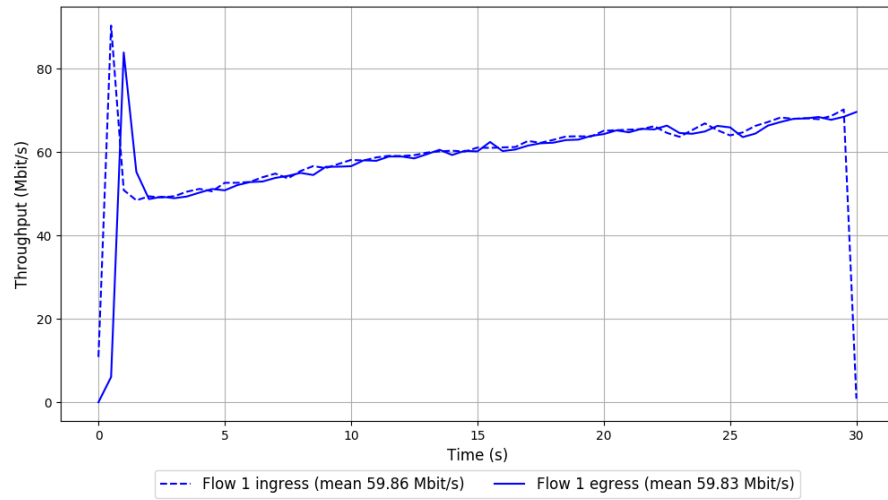


Run 1: Statistics of TCP Vegas

Start at: 2018-12-20 04:58:43
End at: 2018-12-20 04:59:13
Local clock offset: -2.949 ms
Remote clock offset: -4.485 ms

Below is generated by plot.py at 2018-12-20 06:54:36
Datalink statistics
-- Total of 1 flow:
Average throughput: 59.83 Mbit/s
95th percentile per-packet one-way delay: 68.738 ms
Loss rate: 0.30%
-- Flow 1:
Average throughput: 59.83 Mbit/s
95th percentile per-packet one-way delay: 68.738 ms
Loss rate: 0.30%

Run 1: Report of TCP Vegas — Data Link

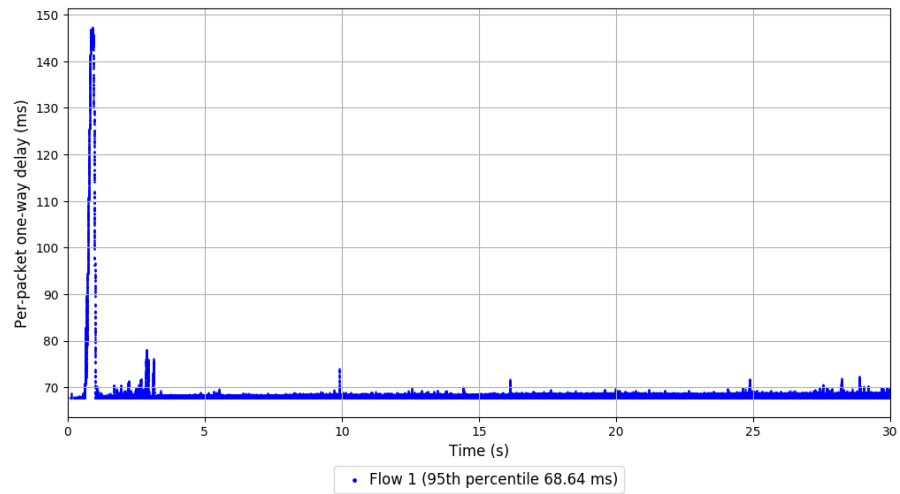
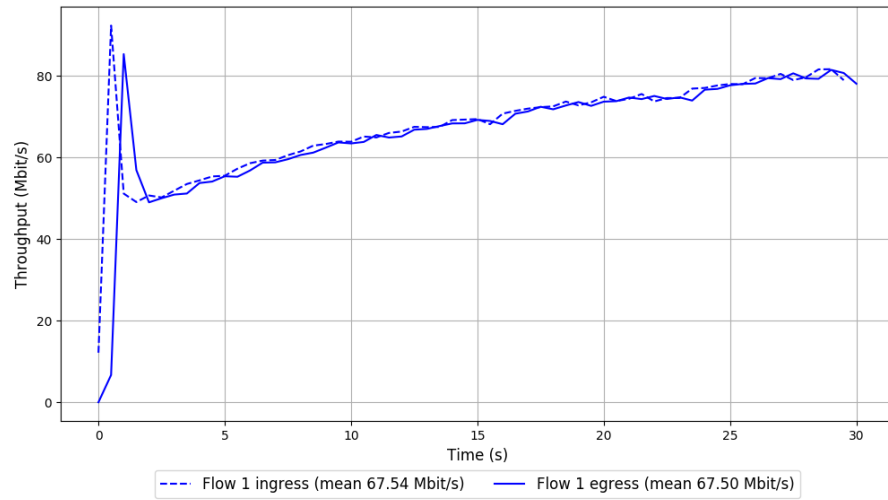


Run 2: Statistics of TCP Vegas

Start at: 2018-12-20 05:27:23
End at: 2018-12-20 05:27:53
Local clock offset: 1.086 ms
Remote clock offset: -3.679 ms

Below is generated by plot.py at 2018-12-20 06:54:36
Datalink statistics
-- Total of 1 flow:
Average throughput: 67.50 Mbit/s
95th percentile per-packet one-way delay: 68.640 ms
Loss rate: 0.31%
-- Flow 1:
Average throughput: 67.50 Mbit/s
95th percentile per-packet one-way delay: 68.640 ms
Loss rate: 0.31%

Run 2: Report of TCP Vegas — Data Link

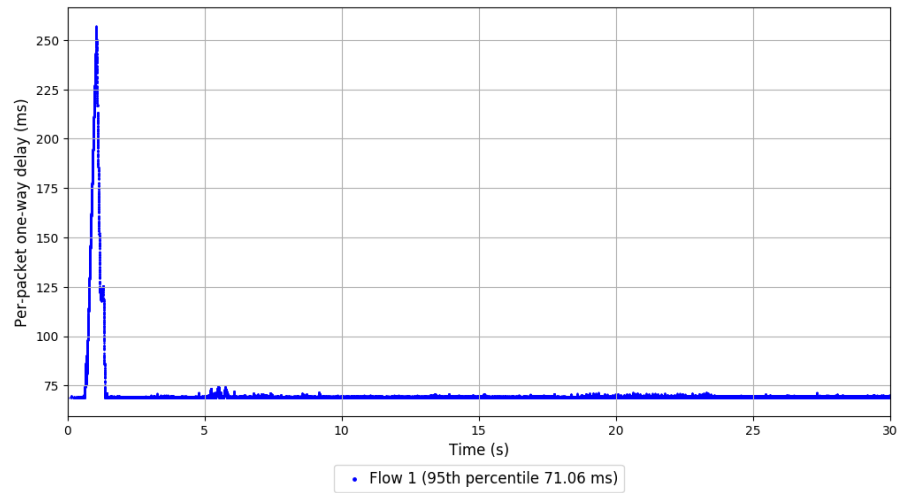
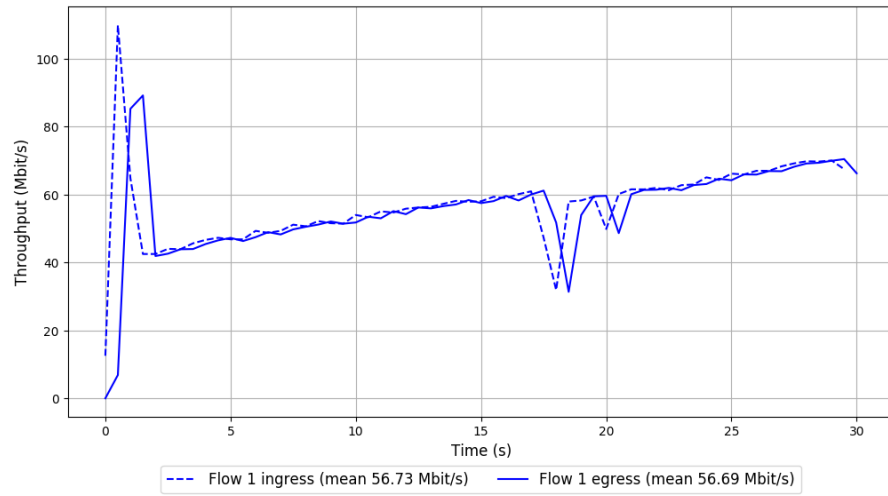


Run 3: Statistics of TCP Vegas

Start at: 2018-12-20 05:53:15
End at: 2018-12-20 05:53:45
Local clock offset: 0.299 ms
Remote clock offset: -2.711 ms

Below is generated by plot.py at 2018-12-20 06:54:36
Datalink statistics
-- Total of 1 flow:
Average throughput: 56.69 Mbit/s
95th percentile per-packet one-way delay: 71.065 ms
Loss rate: 0.32%
-- Flow 1:
Average throughput: 56.69 Mbit/s
95th percentile per-packet one-way delay: 71.065 ms
Loss rate: 0.32%

Run 3: Report of TCP Vegas — Data Link

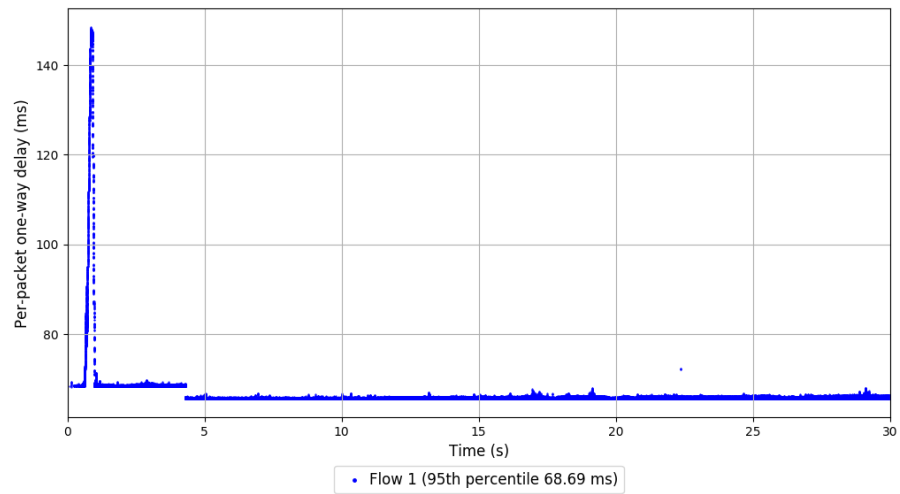
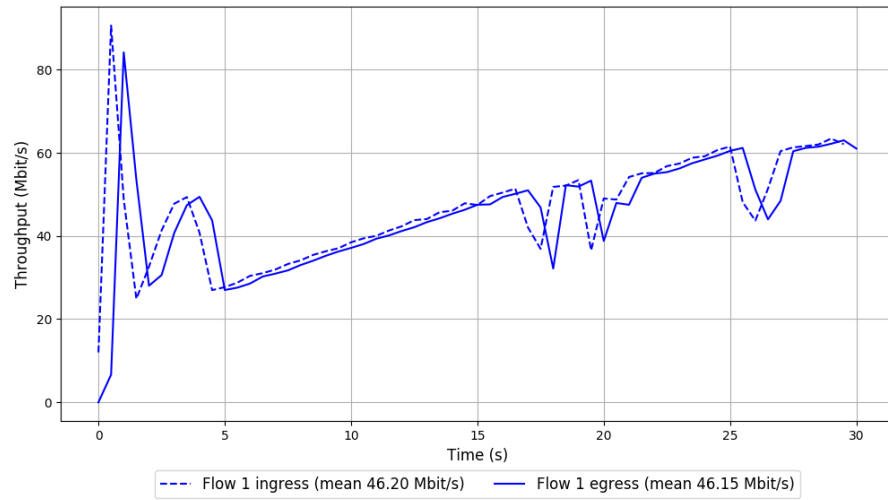


Run 4: Statistics of TCP Vegas

Start at: 2018-12-20 06:17:09
End at: 2018-12-20 06:17:39
Local clock offset: -0.67 ms
Remote clock offset: -3.276 ms

Below is generated by plot.py at 2018-12-20 06:54:36
Datalink statistics
-- Total of 1 flow:
Average throughput: 46.15 Mbit/s
95th percentile per-packet one-way delay: 68.694 ms
Loss rate: 0.36%
-- Flow 1:
Average throughput: 46.15 Mbit/s
95th percentile per-packet one-way delay: 68.694 ms
Loss rate: 0.36%

Run 4: Report of TCP Vegas — Data Link

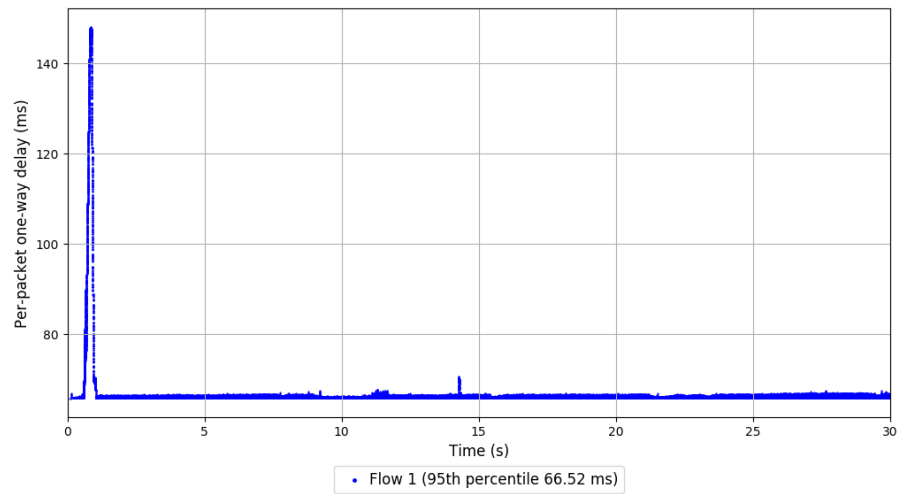
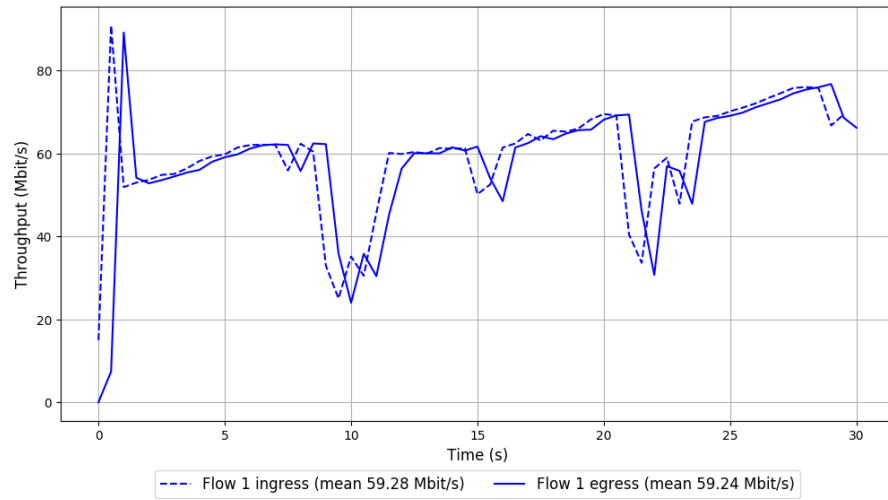


Run 5: Statistics of TCP Vegas

Start at: 2018-12-20 06:41:27
End at: 2018-12-20 06:41:57
Local clock offset: 0.426 ms
Remote clock offset: -1.566 ms

Below is generated by plot.py at 2018-12-20 06:54:36
Datalink statistics
-- Total of 1 flow:
Average throughput: 59.24 Mbit/s
95th percentile per-packet one-way delay: 66.519 ms
Loss rate: 0.30%
-- Flow 1:
Average throughput: 59.24 Mbit/s
95th percentile per-packet one-way delay: 66.519 ms
Loss rate: 0.30%

Run 5: Report of TCP Vegas — Data Link

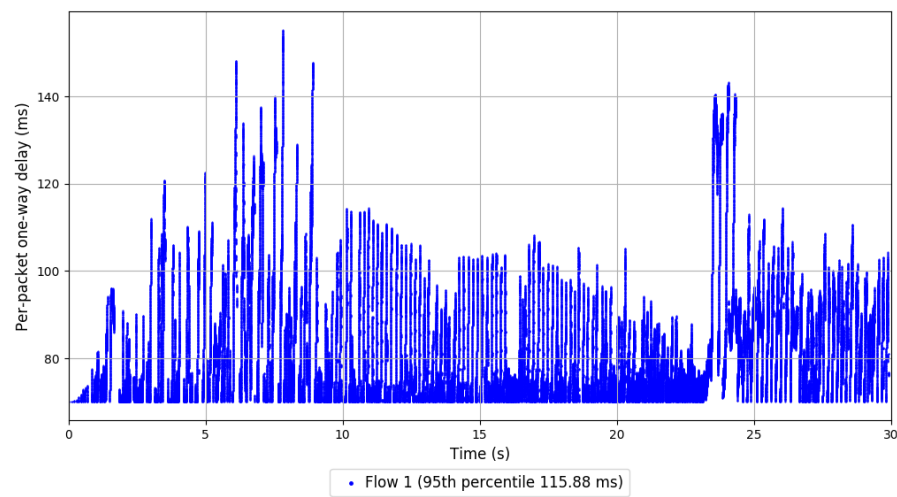
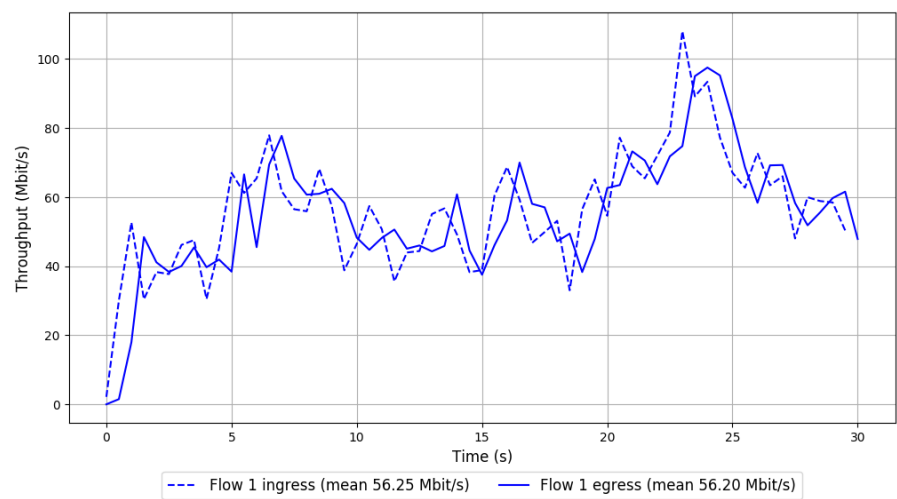


Run 1: Statistics of Verus

Start at: 2018-12-20 04:57:08
End at: 2018-12-20 04:57:38
Local clock offset: 0.634 ms
Remote clock offset: -4.331 ms

Below is generated by plot.py at 2018-12-20 06:54:36
Datalink statistics
-- Total of 1 flow:
Average throughput: 56.20 Mbit/s
95th percentile per-packet one-way delay: 115.884 ms
Loss rate: 0.55%
-- Flow 1:
Average throughput: 56.20 Mbit/s
95th percentile per-packet one-way delay: 115.884 ms
Loss rate: 0.55%

Run 1: Report of Verus — Data Link

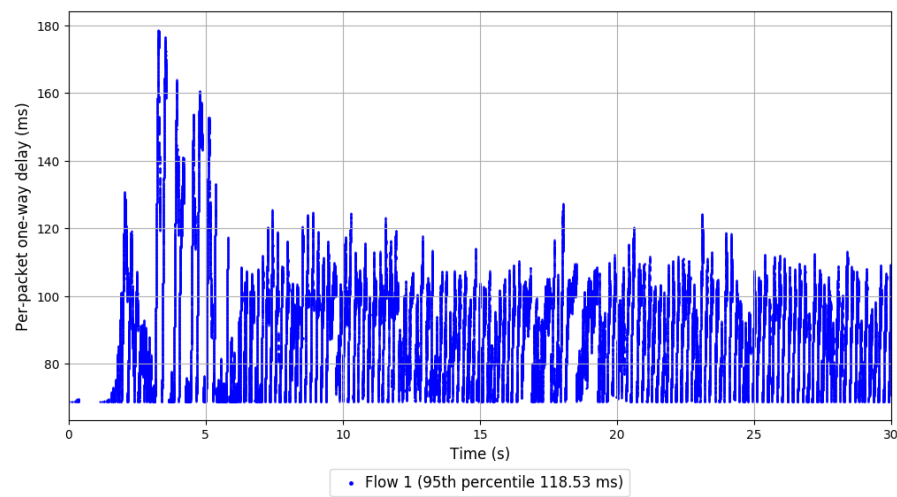
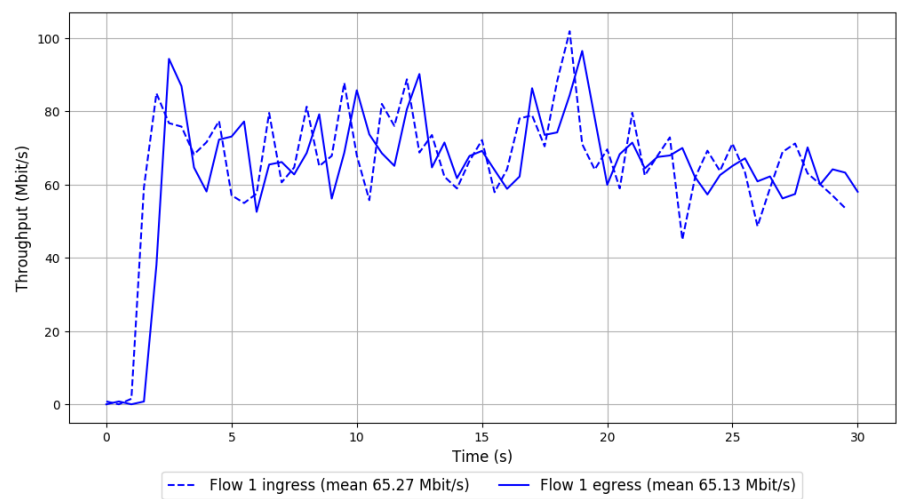


Run 2: Statistics of Verus

Start at: 2018-12-20 05:25:51
End at: 2018-12-20 05:26:21
Local clock offset: 0.575 ms
Remote clock offset: -4.483 ms

Below is generated by plot.py at 2018-12-20 06:54:42
Datalink statistics
-- Total of 1 flow:
Average throughput: 65.13 Mbit/s
95th percentile per-packet one-way delay: 118.532 ms
Loss rate: 0.20%
-- Flow 1:
Average throughput: 65.13 Mbit/s
95th percentile per-packet one-way delay: 118.532 ms
Loss rate: 0.20%

Run 2: Report of Verus — Data Link

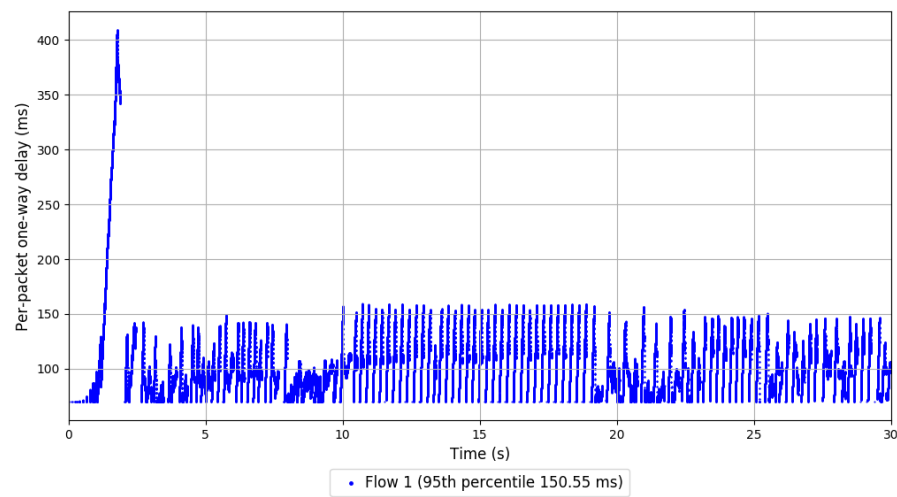
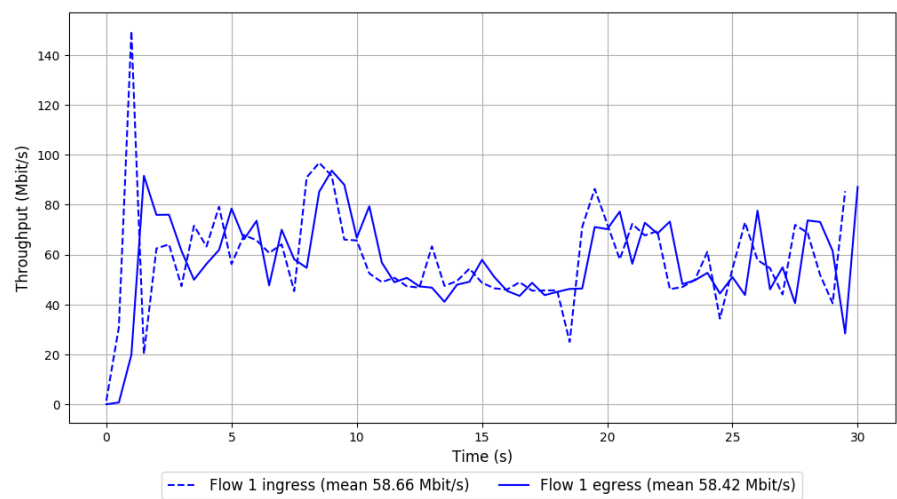


Run 3: Statistics of Verus

Start at: 2018-12-20 05:51:56
End at: 2018-12-20 05:52:26
Local clock offset: 1.206 ms
Remote clock offset: -3.394 ms

Below is generated by plot.py at 2018-12-20 06:54:50
Datalink statistics
-- Total of 1 flow:
Average throughput: 58.42 Mbit/s
95th percentile per-packet one-way delay: 150.547 ms
Loss rate: 0.51%
-- Flow 1:
Average throughput: 58.42 Mbit/s
95th percentile per-packet one-way delay: 150.547 ms
Loss rate: 0.51%

Run 3: Report of Verus — Data Link

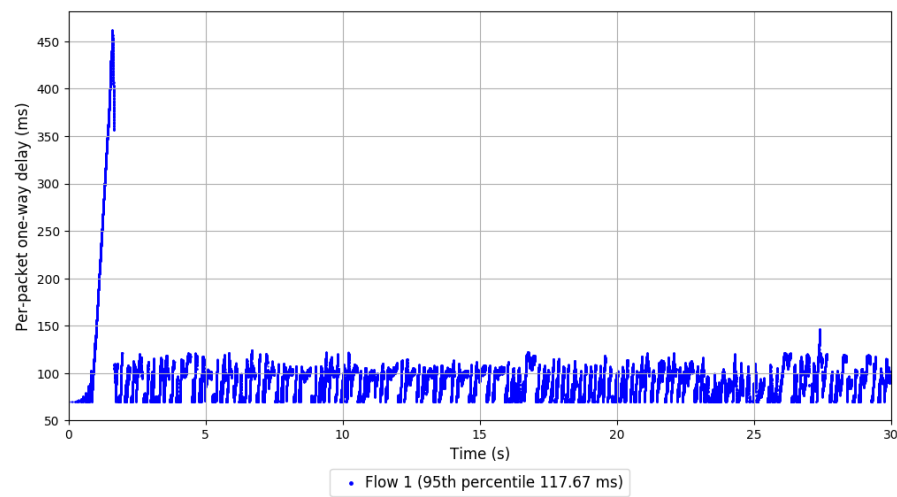
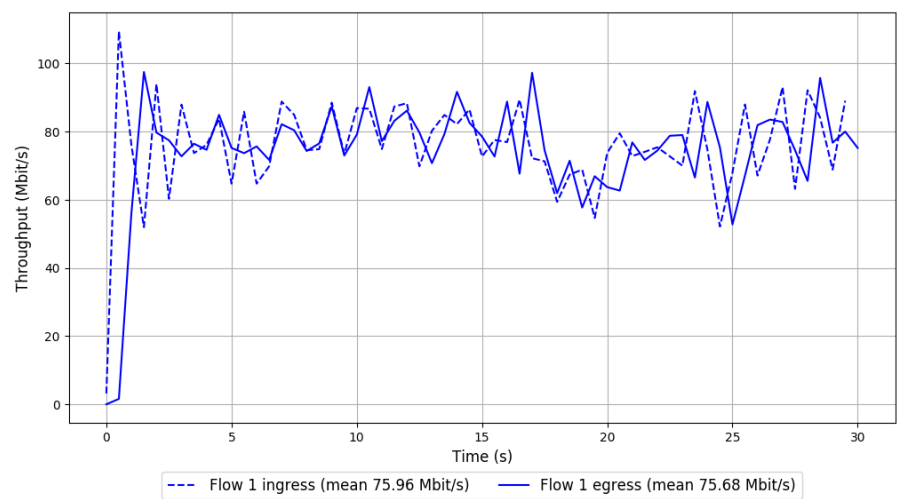


Run 4: Statistics of Verus

Start at: 2018-12-20 06:15:41
End at: 2018-12-20 06:16:11
Local clock offset: 2.124 ms
Remote clock offset: -1.957 ms

Below is generated by plot.py at 2018-12-20 06:55:18
Datalink statistics
-- Total of 1 flow:
Average throughput: 75.68 Mbit/s
95th percentile per-packet one-way delay: 117.673 ms
Loss rate: 0.61%
-- Flow 1:
Average throughput: 75.68 Mbit/s
95th percentile per-packet one-way delay: 117.673 ms
Loss rate: 0.61%

Run 4: Report of Verus — Data Link

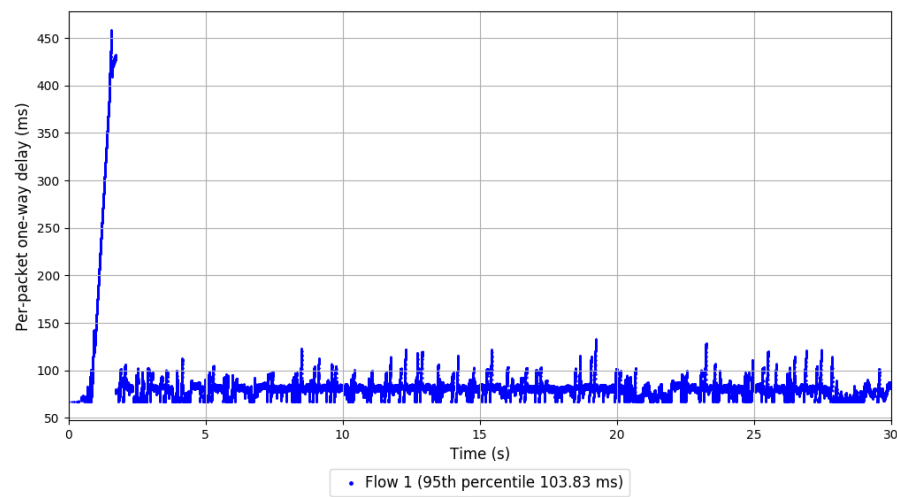
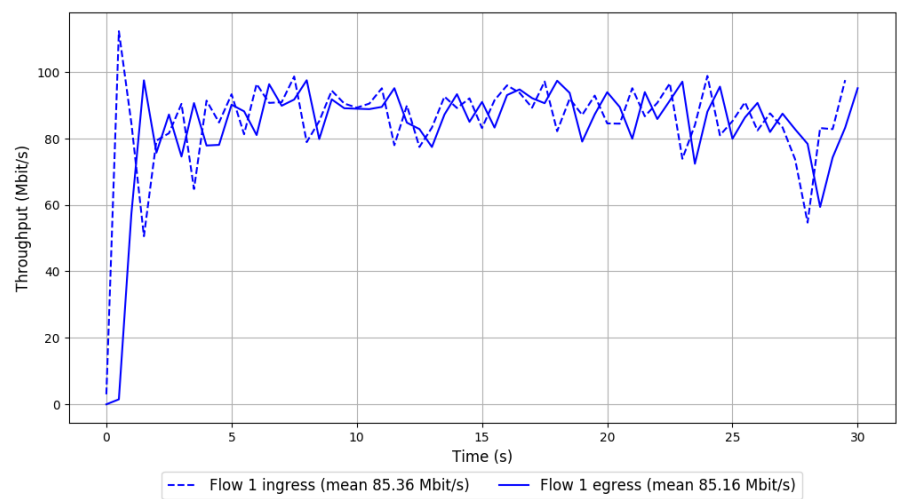


Run 5: Statistics of Verus

Start at: 2018-12-20 06:39:53
End at: 2018-12-20 06:40:23
Local clock offset: 0.815 ms
Remote clock offset: -2.791 ms

Below is generated by plot.py at 2018-12-20 06:55:21
Datalink statistics
-- Total of 1 flow:
Average throughput: 85.16 Mbit/s
95th percentile per-packet one-way delay: 103.835 ms
Loss rate: 0.47%
-- Flow 1:
Average throughput: 85.16 Mbit/s
95th percentile per-packet one-way delay: 103.835 ms
Loss rate: 0.47%

Run 5: Report of Verus — Data Link



Run 1: Statistics of PCC-Vivace

Start at: 2018-12-20 04:51:34

End at: 2018-12-20 04:52:04

Local clock offset: 0.421 ms

Remote clock offset: -5.025 ms

Below is generated by plot.py at 2018-12-20 06:55:21

Datalink statistics

-- Total of 1 flow:

Average throughput: 31.33 Mbit/s

95th percentile per-packet one-way delay: 70.258 ms

Loss rate: 0.45%

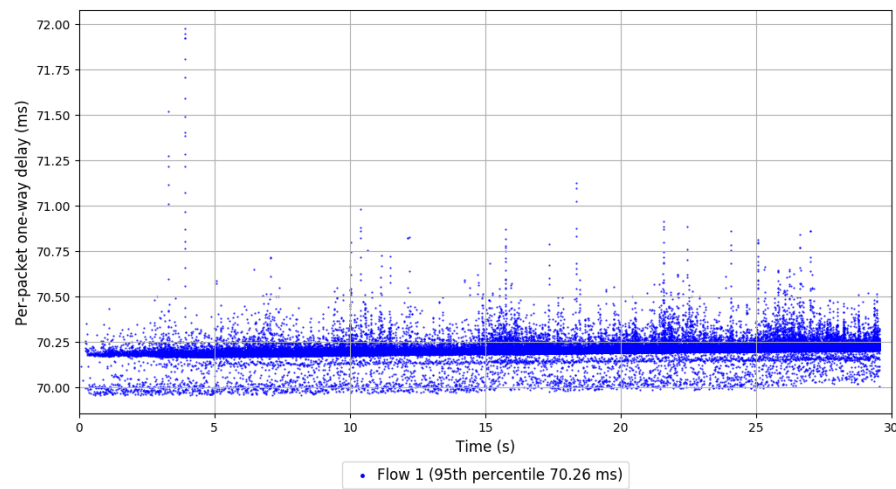
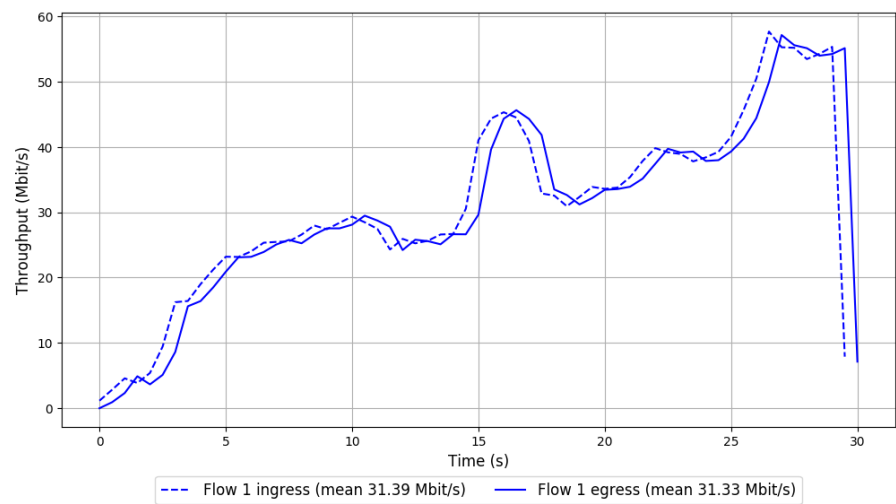
-- Flow 1:

Average throughput: 31.33 Mbit/s

95th percentile per-packet one-way delay: 70.258 ms

Loss rate: 0.45%

Run 1: Report of PCC-Vivace — Data Link

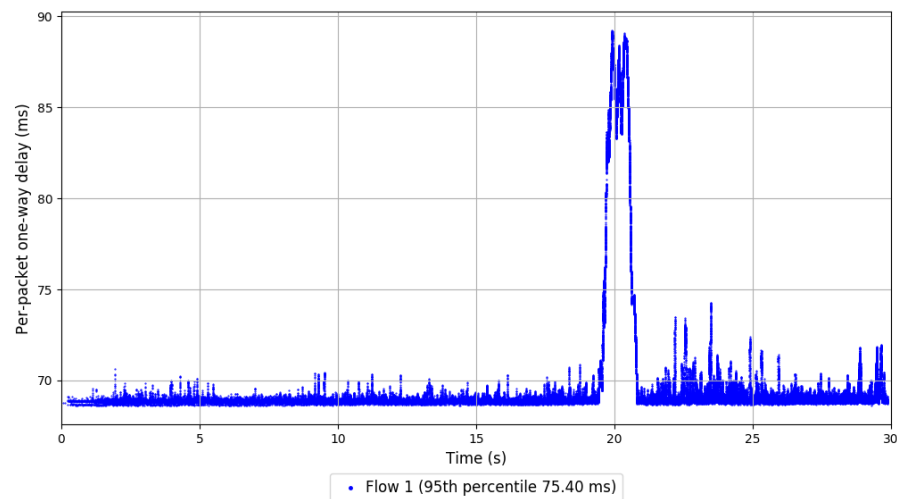
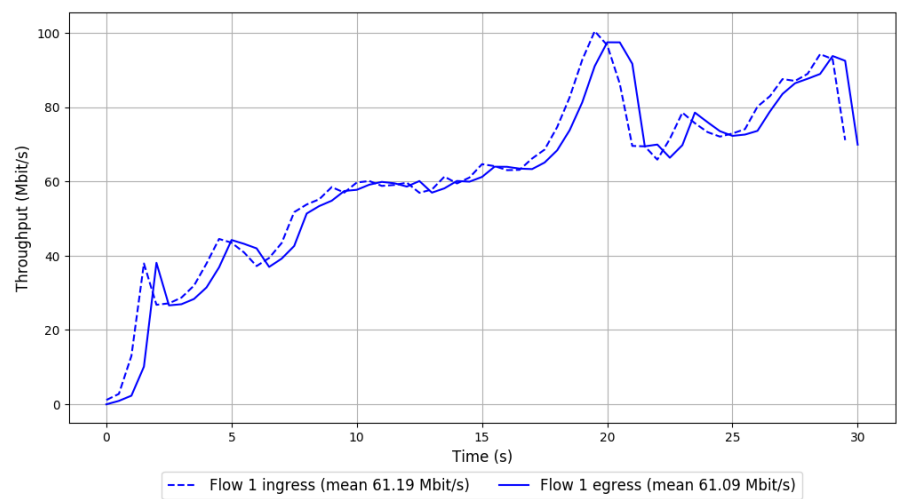


Run 2: Statistics of PCC-Vivace

Start at: 2018-12-20 05:19:01
End at: 2018-12-20 05:19:31
Local clock offset: 1.608 ms
Remote clock offset: -4.003 ms

Below is generated by plot.py at 2018-12-20 06:55:21
Datalink statistics
-- Total of 1 flow:
Average throughput: 61.09 Mbit/s
95th percentile per-packet one-way delay: 75.401 ms
Loss rate: 0.40%
-- Flow 1:
Average throughput: 61.09 Mbit/s
95th percentile per-packet one-way delay: 75.401 ms
Loss rate: 0.40%

Run 2: Report of PCC-Vivace — Data Link

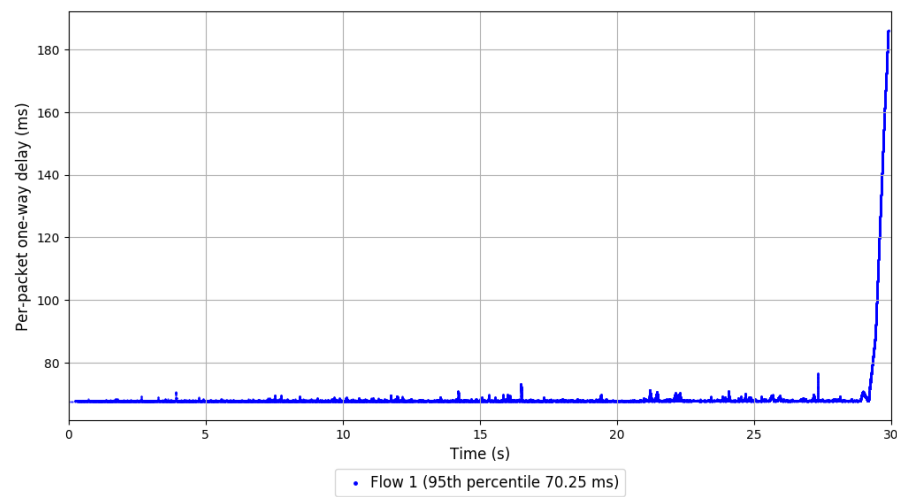
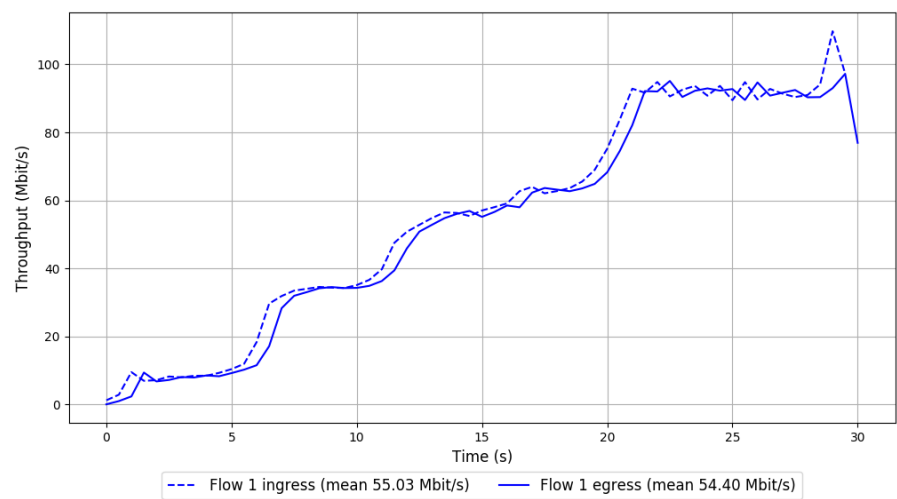


Run 3: Statistics of PCC-Vivace

Start at: 2018-12-20 05:46:39
End at: 2018-12-20 05:47:09
Local clock offset: -0.124 ms
Remote clock offset: -3.324 ms

Below is generated by plot.py at 2018-12-20 06:55:21
Datalink statistics
-- Total of 1 flow:
Average throughput: 54.40 Mbit/s
95th percentile per-packet one-way delay: 70.250 ms
Loss rate: 1.41%
-- Flow 1:
Average throughput: 54.40 Mbit/s
95th percentile per-packet one-way delay: 70.250 ms
Loss rate: 1.41%

Run 3: Report of PCC-Vivace — Data Link

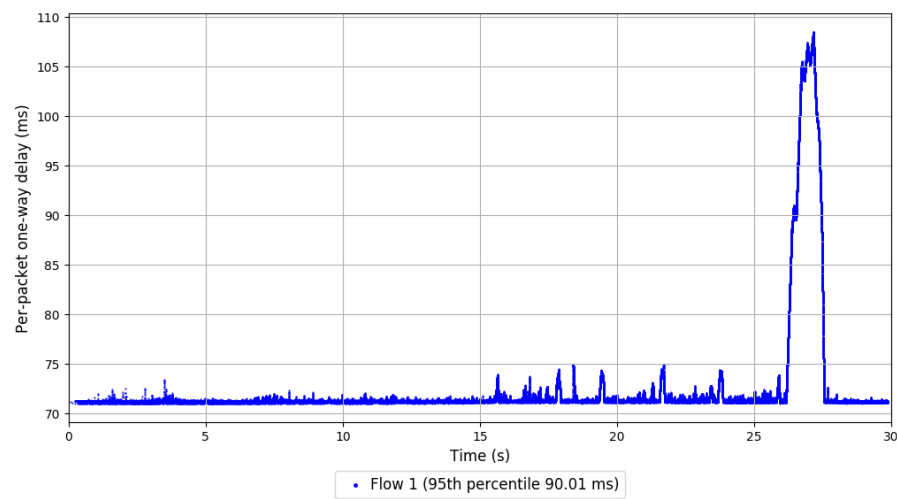
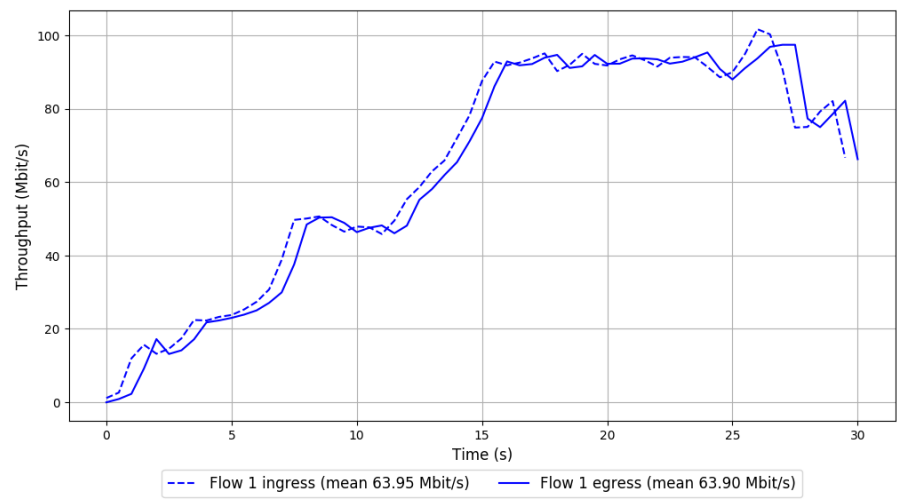


Run 4: Statistics of PCC-Vivace

Start at: 2018-12-20 06:10:28
End at: 2018-12-20 06:10:59
Local clock offset: -0.287 ms
Remote clock offset: -2.545 ms

Below is generated by plot.py at 2018-12-20 06:55:21
Datalink statistics
-- Total of 1 flow:
Average throughput: 63.90 Mbit/s
95th percentile per-packet one-way delay: 90.009 ms
Loss rate: 0.35%
-- Flow 1:
Average throughput: 63.90 Mbit/s
95th percentile per-packet one-way delay: 90.009 ms
Loss rate: 0.35%

Run 4: Report of PCC-Vivace — Data Link



Run 5: Statistics of PCC-Vivace

Start at: 2018-12-20 06:34:44

End at: 2018-12-20 06:35:14

Local clock offset: 2.168 ms

Remote clock offset: -2.231 ms

Below is generated by plot.py at 2018-12-20 06:55:22

Datalink statistics

-- Total of 1 flow:

Average throughput: 74.59 Mbit/s

95th percentile per-packet one-way delay: 73.168 ms

Loss rate: 0.32%

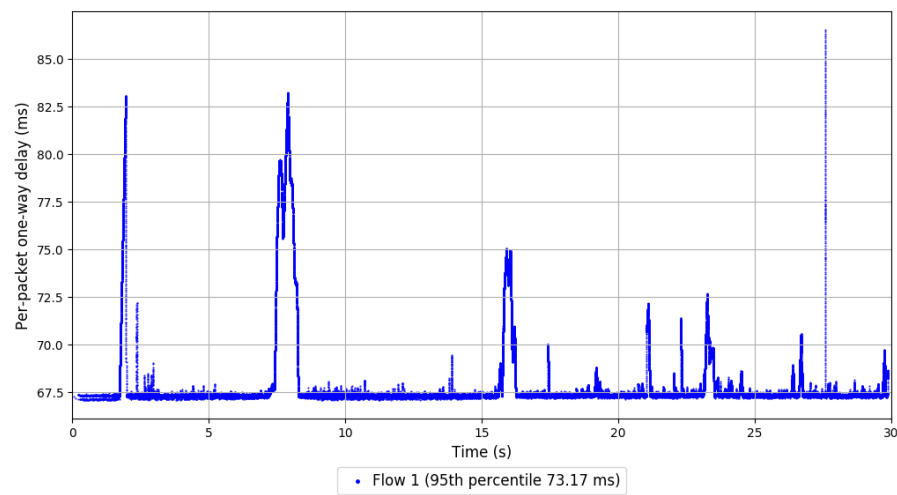
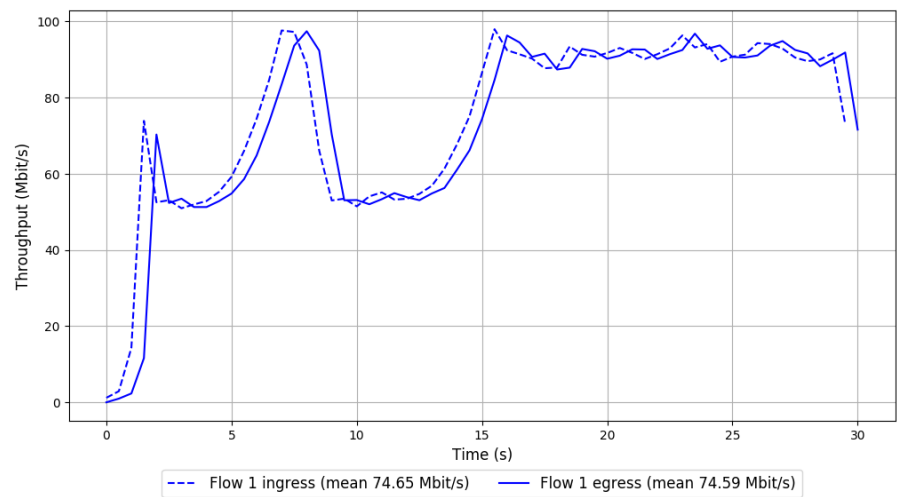
-- Flow 1:

Average throughput: 74.59 Mbit/s

95th percentile per-packet one-way delay: 73.168 ms

Loss rate: 0.32%

Run 5: Report of PCC-Vivace — Data Link

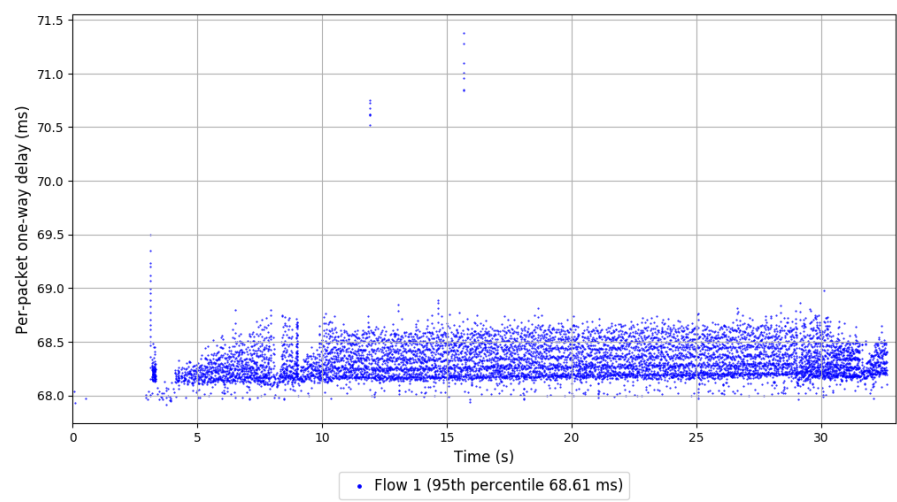
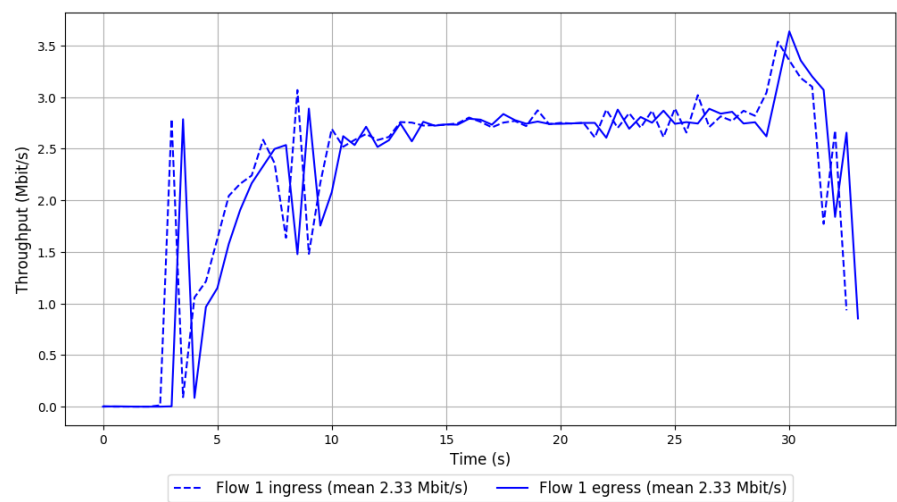


Run 1: Statistics of WebRTC media

Start at: 2018-12-20 04:49:10
End at: 2018-12-20 04:49:40
Local clock offset: -1.784 ms
Remote clock offset: -4.911 ms

Below is generated by plot.py at 2018-12-20 06:55:22
Datalink statistics
-- Total of 1 flow:
Average throughput: 2.33 Mbit/s
95th percentile per-packet one-way delay: 68.611 ms
Loss rate: 0.31%
-- Flow 1:
Average throughput: 2.33 Mbit/s
95th percentile per-packet one-way delay: 68.611 ms
Loss rate: 0.31%

Run 1: Report of WebRTC media — Data Link

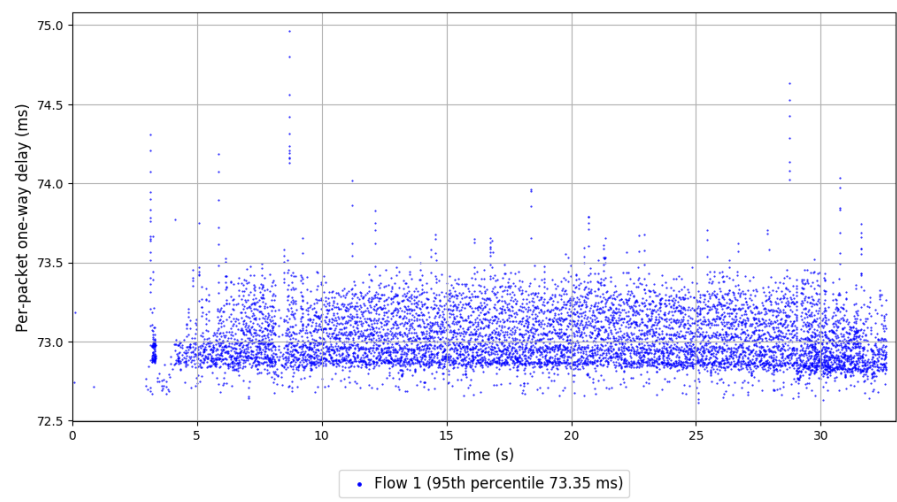
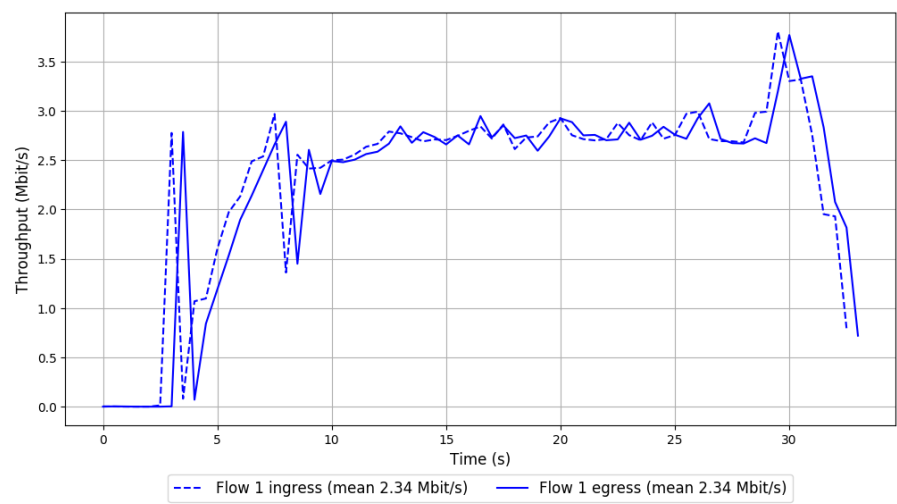


Run 2: Statistics of WebRTC media

Start at: 2018-12-20 05:16:21
End at: 2018-12-20 05:16:51
Local clock offset: 1.388 ms
Remote clock offset: -4.282 ms

Below is generated by plot.py at 2018-12-20 06:55:22
Datalink statistics
-- Total of 1 flow:
Average throughput: 2.34 Mbit/s
95th percentile per-packet one-way delay: 73.350 ms
Loss rate: 0.31%
-- Flow 1:
Average throughput: 2.34 Mbit/s
95th percentile per-packet one-way delay: 73.350 ms
Loss rate: 0.31%

Run 2: Report of WebRTC media — Data Link

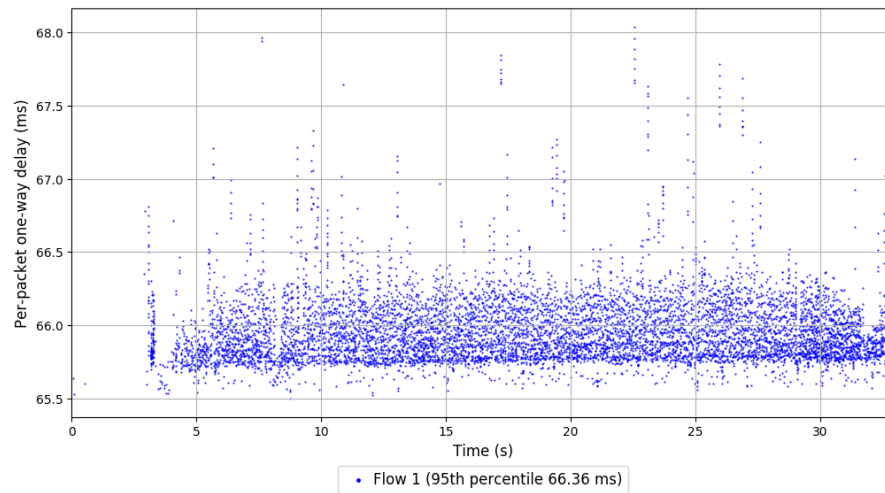
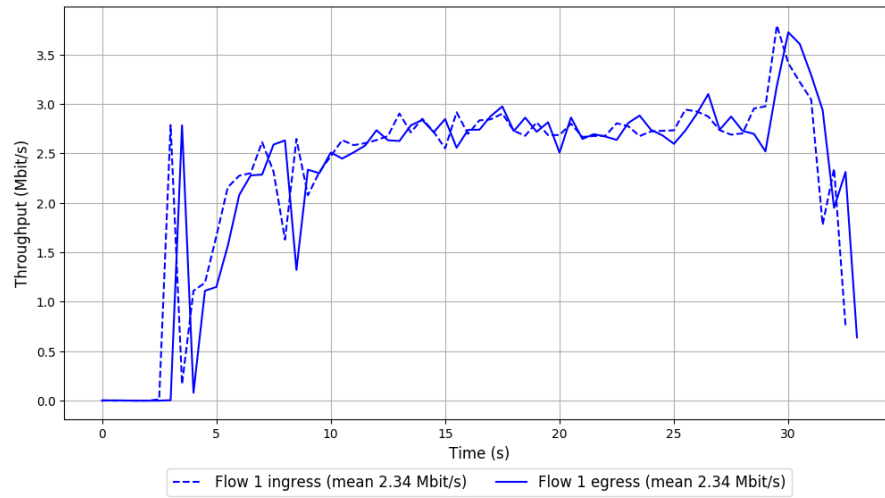


Run 3: Statistics of WebRTC media

Start at: 2018-12-20 05:44:13
End at: 2018-12-20 05:44:43
Local clock offset: -3.021 ms
Remote clock offset: -3.527 ms

Below is generated by plot.py at 2018-12-20 06:55:22
Datalink statistics
-- Total of 1 flow:
Average throughput: 2.34 Mbit/s
95th percentile per-packet one-way delay: 66.356 ms
Loss rate: 0.25%
-- Flow 1:
Average throughput: 2.34 Mbit/s
95th percentile per-packet one-way delay: 66.356 ms
Loss rate: 0.25%

Run 3: Report of WebRTC media — Data Link



Run 4: Statistics of WebRTC media

Start at: 2018-12-20 06:08:04

End at: 2018-12-20 06:08:34

Local clock offset: 1.124 ms

Remote clock offset: -3.026 ms

Below is generated by plot.py at 2018-12-20 06:55:22

Datalink statistics

-- Total of 1 flow:

Average throughput: 2.34 Mbit/s

95th percentile per-packet one-way delay: 73.783 ms

Loss rate: 0.24%

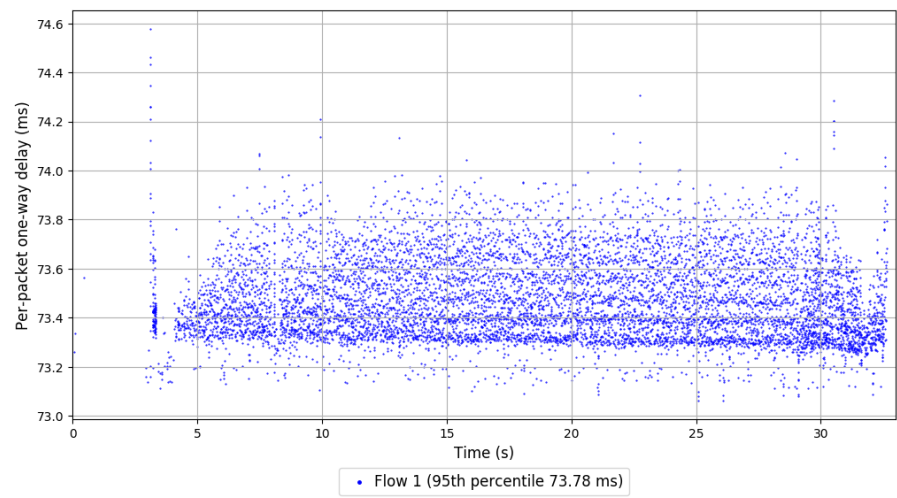
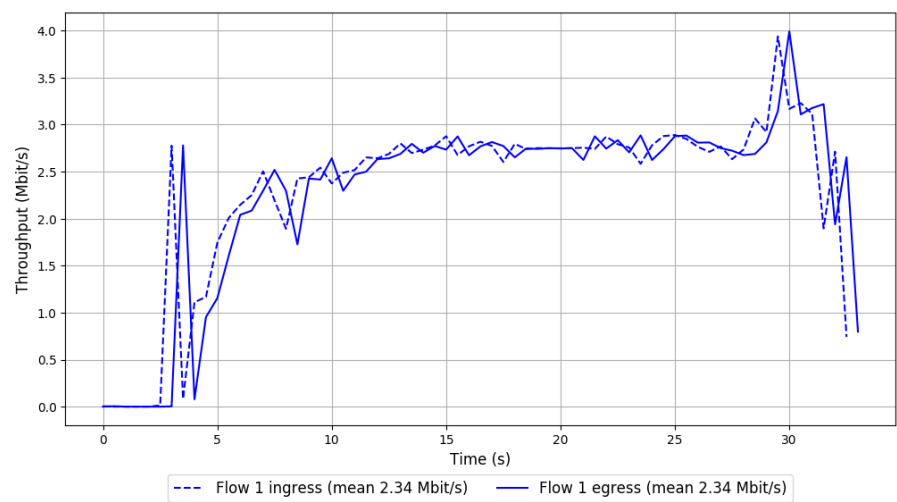
-- Flow 1:

Average throughput: 2.34 Mbit/s

95th percentile per-packet one-way delay: 73.783 ms

Loss rate: 0.24%

Run 4: Report of WebRTC media — Data Link



Run 5: Statistics of WebRTC media

Start at: 2018-12-20 06:32:24

End at: 2018-12-20 06:32:54

Local clock offset: 1.876 ms

Remote clock offset: -3.07 ms

Below is generated by plot.py at 2018-12-20 06:55:22

Datalink statistics

-- Total of 1 flow:

Average throughput: 2.34 Mbit/s

95th percentile per-packet one-way delay: 69.796 ms

Loss rate: 0.25%

-- Flow 1:

Average throughput: 2.34 Mbit/s

95th percentile per-packet one-way delay: 69.796 ms

Loss rate: 0.25%

Run 5: Report of WebRTC media — Data Link

