

Pantheon Report

Generated at 2019-02-19 22:07:24 (UTC).

Data path: AWS Korea on `ens5` (*local*) → China on `eno1` (*remote*).

Repeated the test of 21 congestion control schemes 5 times.

Each test lasted for 30 seconds running 1 flow.

NTP offsets were measured against `ntp.nict.jp` and have been applied to correct the timestamps in logs.

System info:

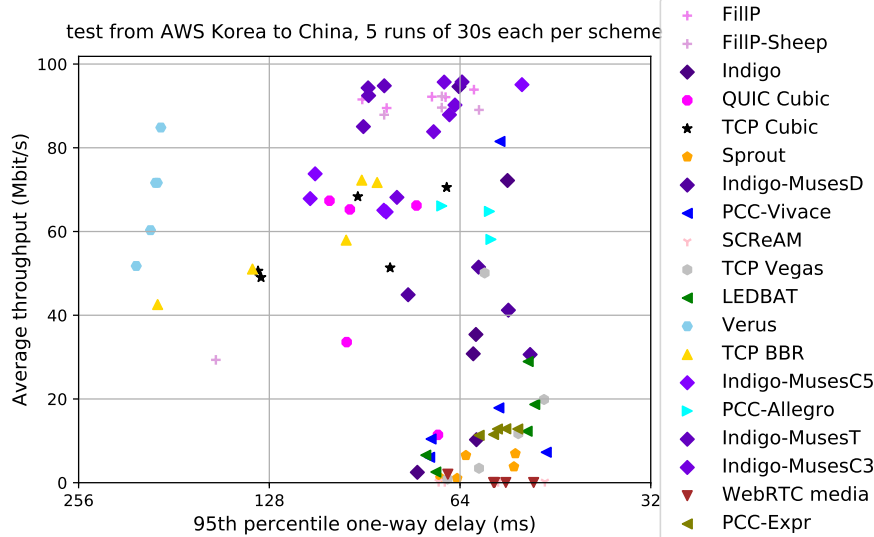
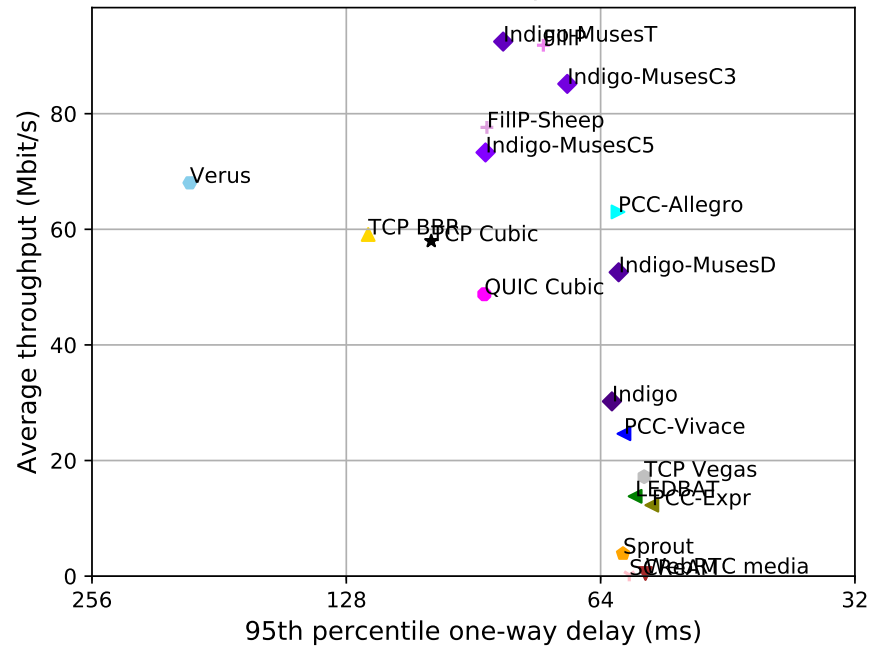
```
Linux 4.15.0-1031-aws
net.core.default_qdisc = fq
net.core.rmem_default = 16777216
net.core.rmem_max = 536870912
net.core.wmem_default = 16777216
net.core.wmem_max = 536870912
net.ipv4.tcp_rmem = 4096 16777216 536870912
net.ipv4.tcp_wmem = 4096 16777216 536870912
```

Git summary:

```
branch: muses @ 7a686f7c2ed0a333082c0bab1fa5c921ab47e6ee
third_party/fillp @ d6da1459332fcee56963885d7eba17e6a32d4519
third_party/fillp-sheep @ 0e5bb722943babcd2b090d2c64fcd45e12e923f9
third_party/genericCC @ d0153f8e594aa89e93b032143cedbdf58e562f4
third_party/indigo @ 2601c92e4aa9d58d38dc4dfe0ecd90c077e64d
third_party/libutp @ b3465b942e2826f2b179eaab4a906ce6bb7cf3cf
third_party/muses @ 5ce721187ad823da20955337730c746486ca4966
third_party/pantheon-tunnel @ f866d3f58d27afd942717625ee3a354cc2e802bd
third_party/pcc @ 1afc958fa0d66d18b623c091a55fec872b4981e1
  M receiver/src/buffer.h
  M receiver/src/core.cpp
  M sender/src/buffer.h
  M sender/src/core.cpp
third_party/pcc-experimental @ cd43e34e3f5f5613e8acd08fab92c4eb24f974ab
third_party/proto-quick @ 77961f1a82733a86b42f1bc8143ebc978f3cff42
third_party/scream-reproduce @ f099118d1421aa3131bf11ff1964974e1da3bdb2
  M src/ScreamClient
  M src/ScreamServer
third_party/sprout @ 366e35c6178b01e31d4a46ad18c74f9415f19a26
  M src/examples/cellsim.cc
  M src/examples/sproutbt2.cc
  M src/network/sproutconn.cc
third_party/verus @ d4b447ea74c6c60a261149af2629562939f9a494
  M src/verus.hpp
  M tools/plot.py
third_party/vivace @ 2baf86211435ae071a32f96b7d8c504587f5d7f4
```

third_party/webrtc @ 3f0cc2a9061a41b6f9dde4735770d143a1fa2851

test from AWS Korea to China, 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	59.11	120.59	12.47
Copa	0	N/A	N/A	N/A
TCP Cubic	5	57.96	101.55	1.32
FillP	5	91.84	74.81	1.06
FillP-Sheep	5	77.63	87.25	1.57
Indigo	5	30.23	62.06	1.49
Indigo-MusesC3	5	85.16	70.09	0.01
Indigo-MusesC5	5	73.30	87.59	0.03
Indigo-MusesD	5	52.56	60.93	0.03
Indigo-MusesT	5	92.47	83.47	0.46
LEDBAT	5	13.81	58.26	0.03
PCC-Allegro	3	63.01	61.04	7.37
PCC-Expr	5	12.28	55.66	24.28
QUIC Cubic	5	48.77	87.87	0.03
SCReAM	5	0.22	59.19	0.00
Sprout	5	3.90	60.21	0.00
TaoVA-100x	0	N/A	N/A	N/A
TCP Vegas	5	17.20	56.84	0.16
Verus	5	68.04	196.08	13.83
PCC-Vivace	5	24.63	60.06	0.03
WebRTC media	5	0.45	56.64	0.03

Run 1: Statistics of TCP BBR

Start at: 2019-02-19 20:08:05

End at: 2019-02-19 20:08:35

Local clock offset: 2.833 ms

Remote clock offset: -1.81 ms

Below is generated by plot.py at 2019-02-19 22:00:46

Datalink statistics

-- Total of 1 flow:

Average throughput: 42.56 Mbit/s

95th percentile per-packet one-way delay: 192.086 ms

Loss rate: 23.60%

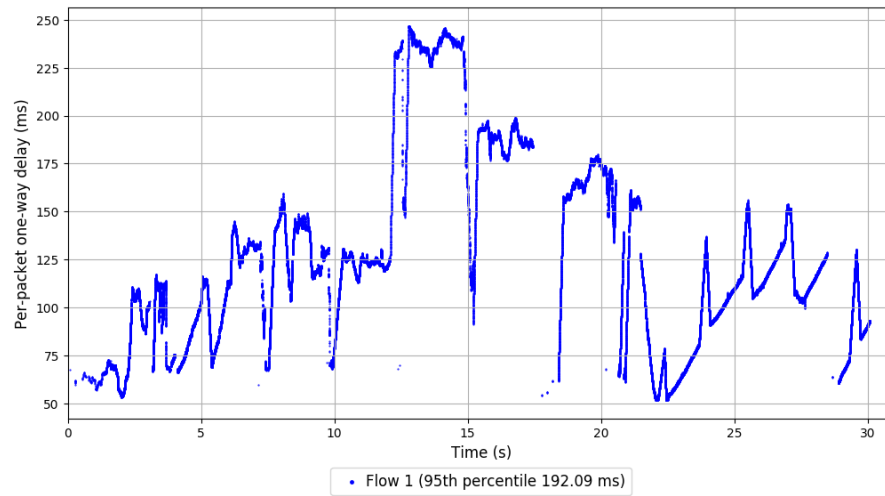
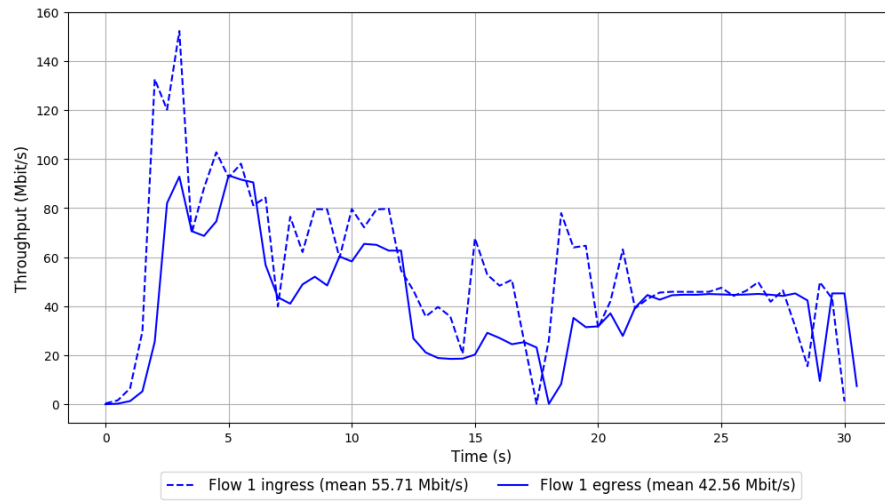
-- Flow 1:

Average throughput: 42.56 Mbit/s

95th percentile per-packet one-way delay: 192.086 ms

Loss rate: 23.60%

Run 1: Report of TCP BBR — Data Link

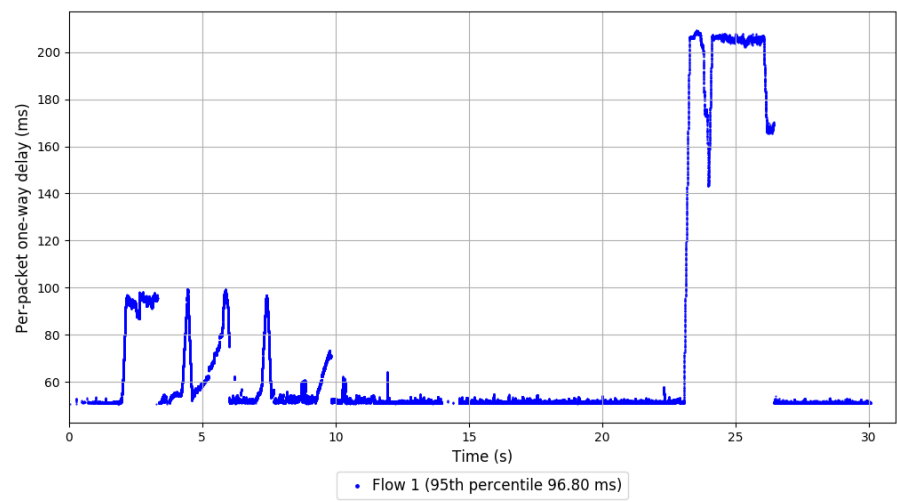
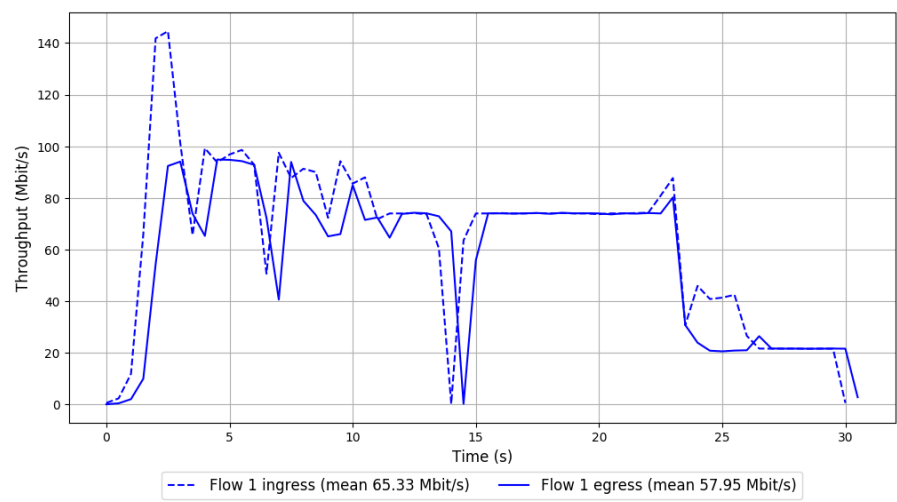


Run 2: Statistics of TCP BBR

Start at: 2019-02-19 20:35:00
End at: 2019-02-19 20:35:30
Local clock offset: 1.296 ms
Remote clock offset: -5.899 ms

Below is generated by plot.py at 2019-02-19 22:00:58
Datalink statistics
-- Total of 1 flow:
Average throughput: 57.95 Mbit/s
95th percentile per-packet one-way delay: 96.795 ms
Loss rate: 11.31%
-- Flow 1:
Average throughput: 57.95 Mbit/s
95th percentile per-packet one-way delay: 96.795 ms
Loss rate: 11.31%

Run 2: Report of TCP BBR — Data Link



Run 3: Statistics of TCP BBR

Start at: 2019-02-19 21:01:33

End at: 2019-02-19 21:02:03

Local clock offset: 4.208 ms

Remote clock offset: -2.247 ms

Below is generated by plot.py at 2019-02-19 22:01:06

Datalink statistics

-- Total of 1 flow:

Average throughput: 72.27 Mbit/s

95th percentile per-packet one-way delay: 91.478 ms

Loss rate: 10.41%

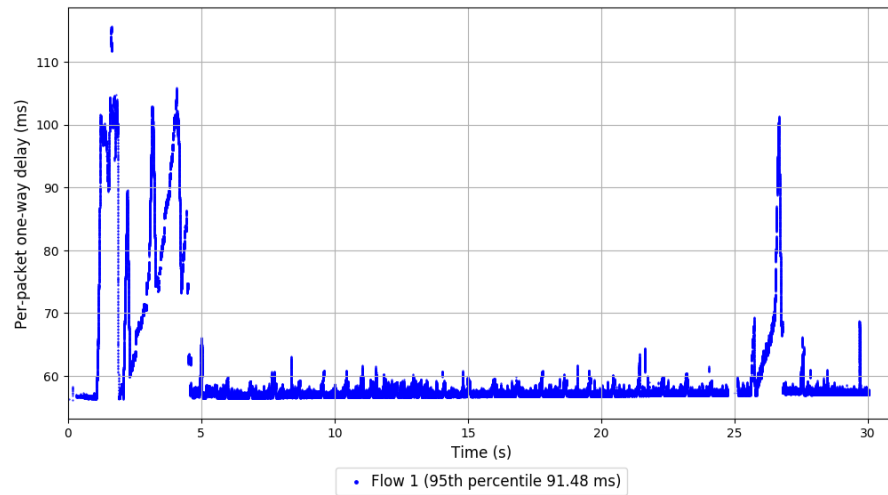
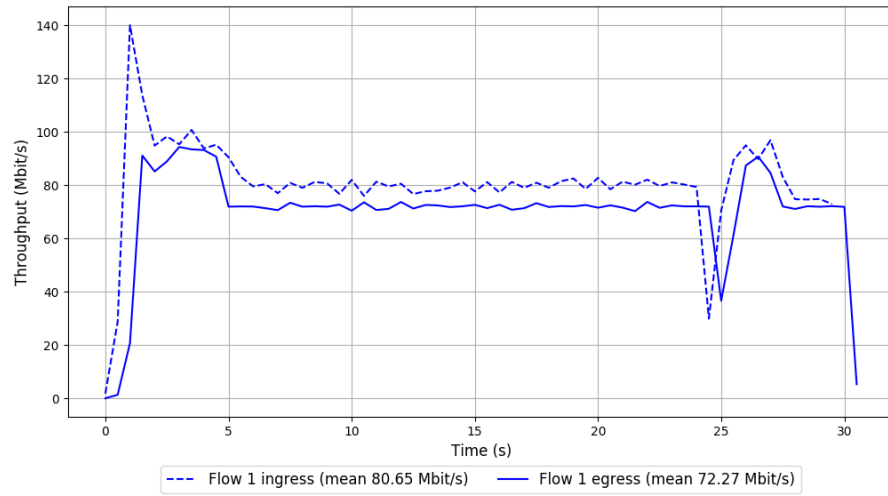
-- Flow 1:

Average throughput: 72.27 Mbit/s

95th percentile per-packet one-way delay: 91.478 ms

Loss rate: 10.41%

Run 3: Report of TCP BBR — Data Link



Run 4: Statistics of TCP BBR

Start at: 2019-02-19 21:27:28

End at: 2019-02-19 21:27:58

Local clock offset: 19.76 ms

Remote clock offset: -2.492 ms

Below is generated by plot.py at 2019-02-19 22:01:06

Datalink statistics

-- Total of 1 flow:

Average throughput: 51.03 Mbit/s

95th percentile per-packet one-way delay: 136.072 ms

Loss rate: 8.70%

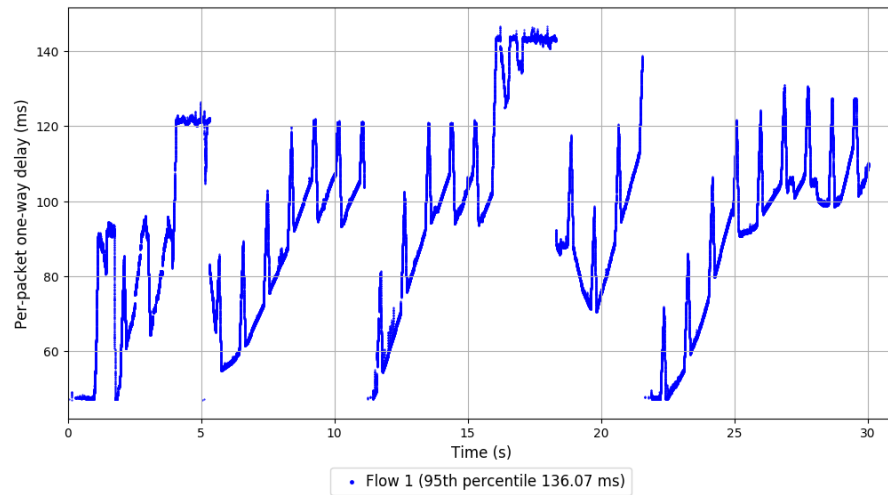
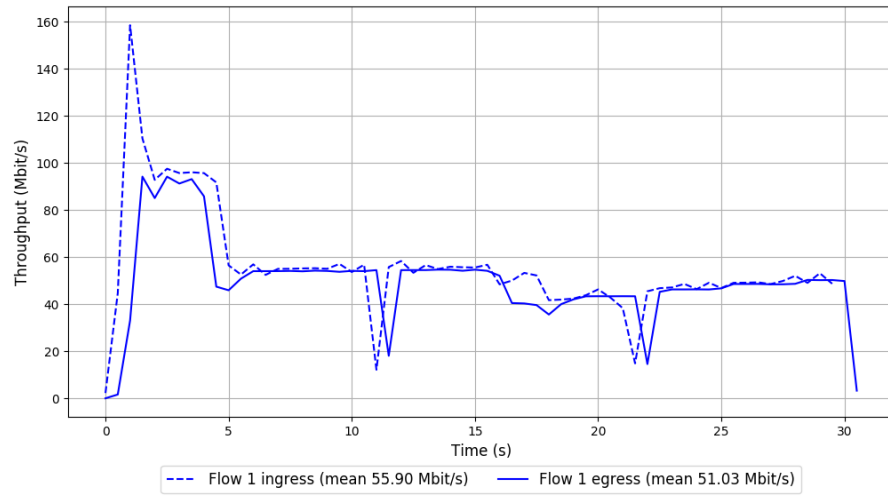
-- Flow 1:

Average throughput: 51.03 Mbit/s

95th percentile per-packet one-way delay: 136.072 ms

Loss rate: 8.70%

Run 4: Report of TCP BBR — Data Link



Run 5: Statistics of TCP BBR

Start at: 2019-02-19 21:53:45

End at: 2019-02-19 21:54:15

Local clock offset: 0.704 ms

Remote clock offset: -1.9 ms

Below is generated by plot.py at 2019-02-19 22:01:06

Datalink statistics

-- Total of 1 flow:

Average throughput: 71.72 Mbit/s

95th percentile per-packet one-way delay: 86.502 ms

Loss rate: 8.33%

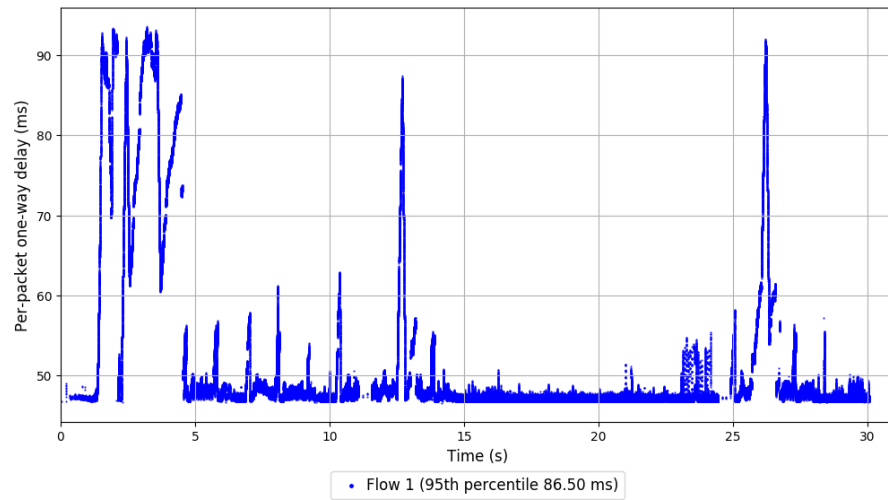
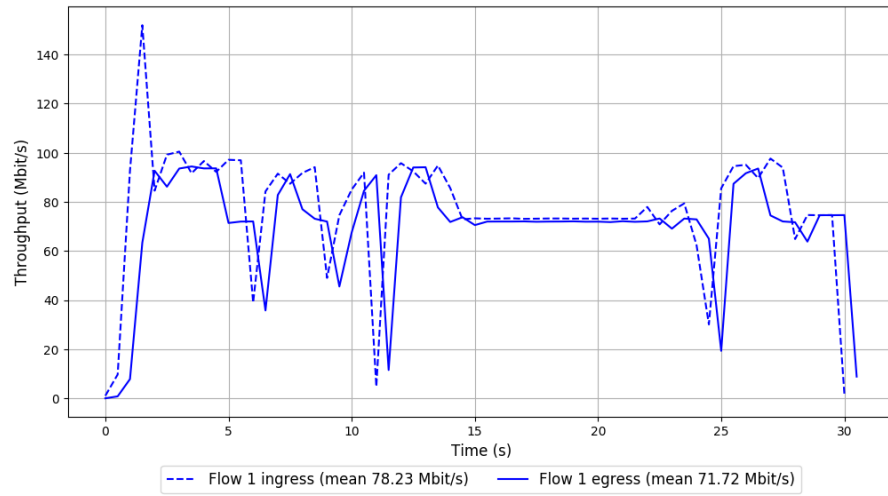
-- Flow 1:

Average throughput: 71.72 Mbit/s

95th percentile per-packet one-way delay: 86.502 ms

Loss rate: 8.33%

Run 5: Report of TCP BBR — Data Link



Run 1: Statistics of Copa

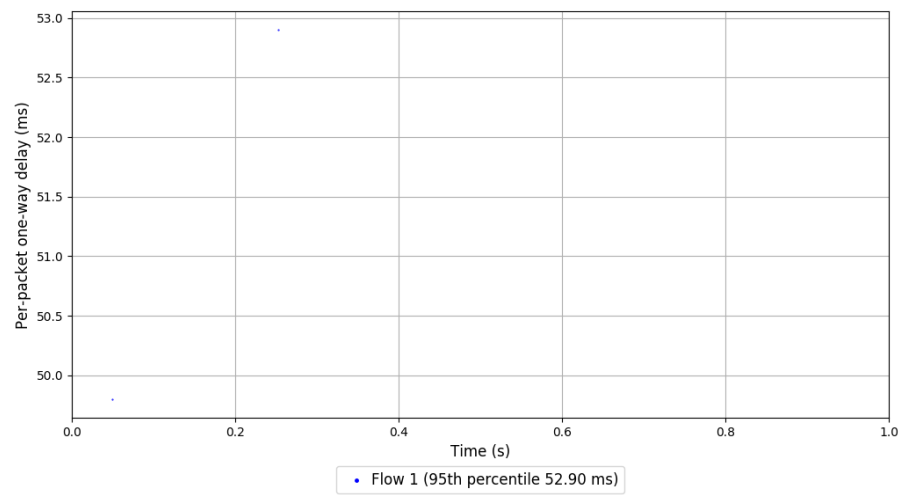
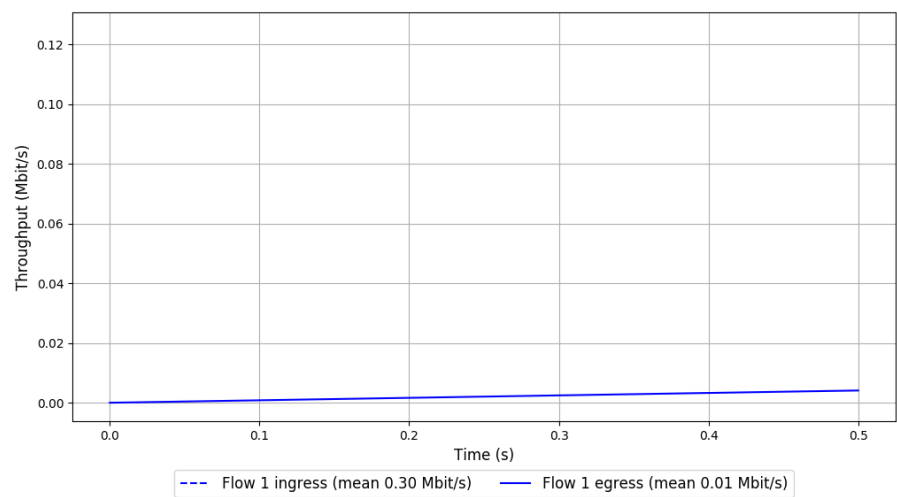
Start at: 2019-02-19 20:12:04

End at: 2019-02-19 20:12:34

Local clock offset: 2.046 ms

Remote clock offset: -3.924 ms

Run 1: Report of Copa — Data Link



Run 2: Statistics of Copa

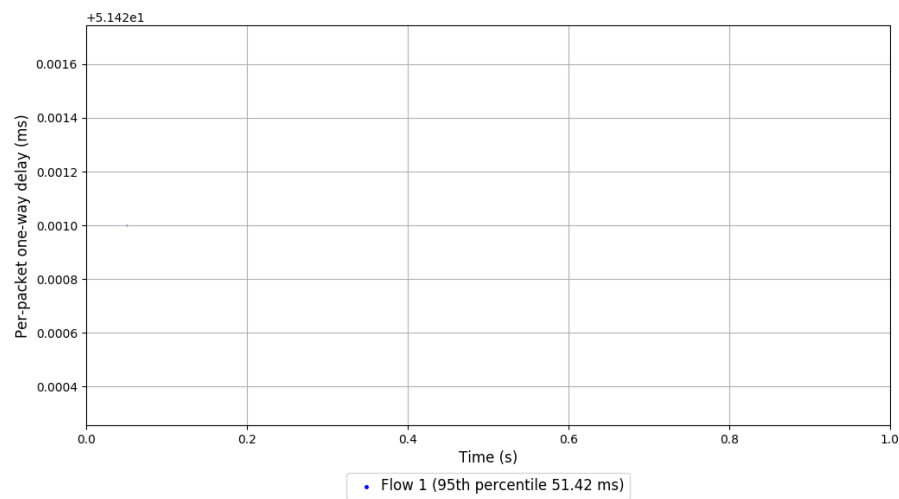
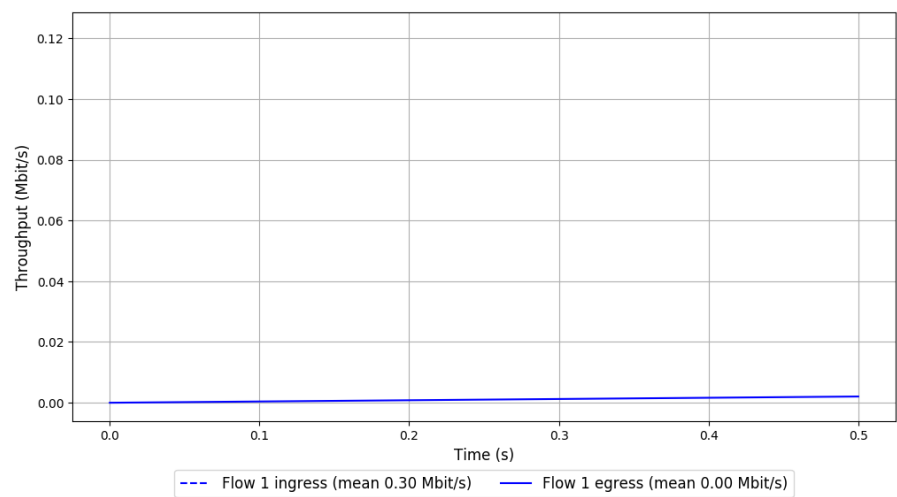
Start at: 2019-02-19 20:38:58

End at: 2019-02-19 20:39:28

Local clock offset: 1.239 ms

Remote clock offset: -6.079 ms

Run 2: Report of Copa — Data Link



Run 3: Statistics of Copa

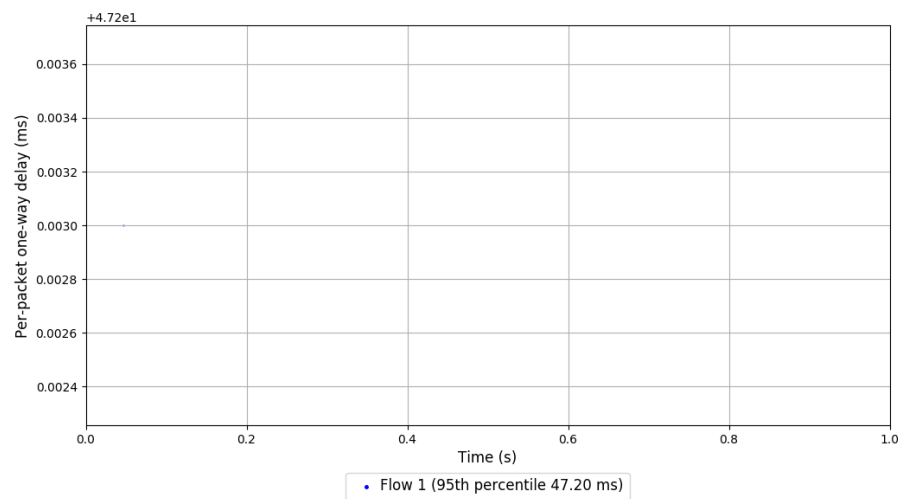
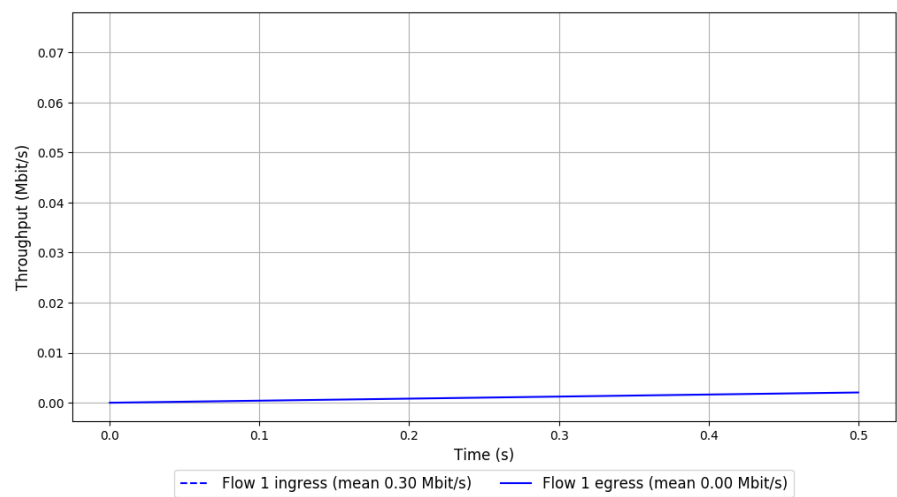
Start at: 2019-02-19 21:05:25

End at: 2019-02-19 21:05:55

Local clock offset: 8.691 ms

Remote clock offset: -2.457 ms

Run 3: Report of Copa — Data Link



Run 4: Statistics of Copa

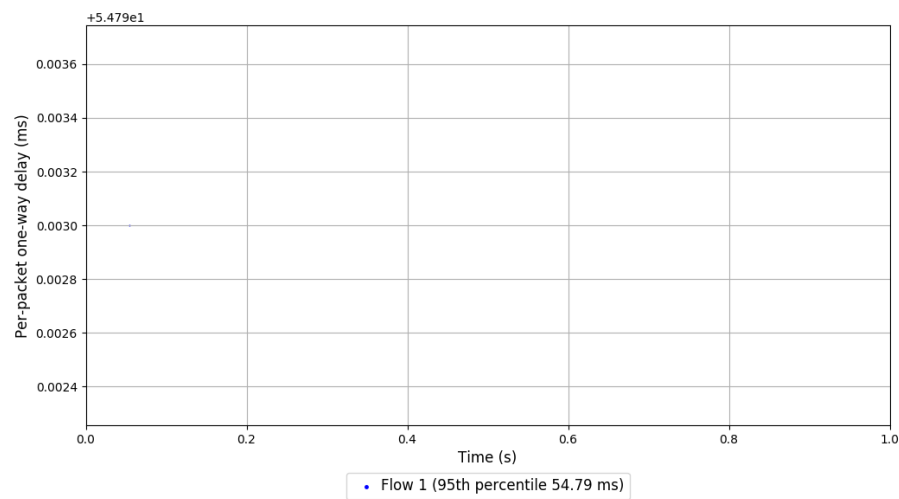
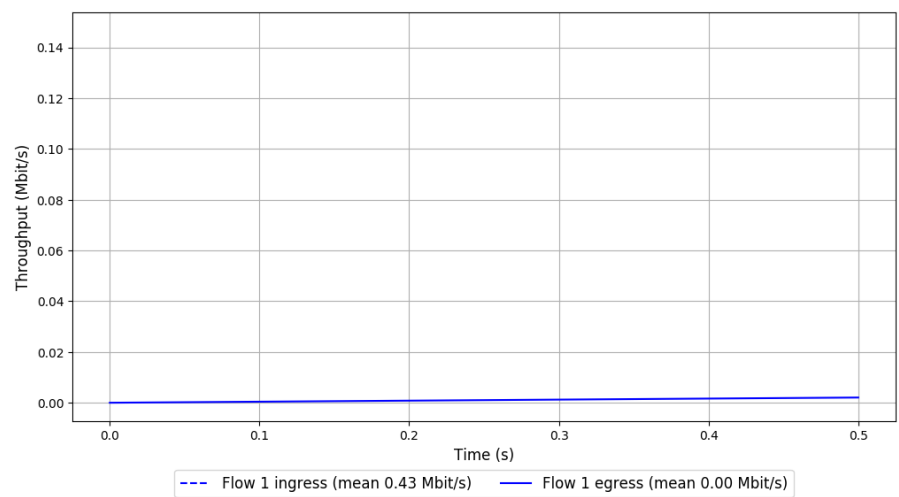
Start at: 2019-02-19 21:31:17

End at: 2019-02-19 21:31:47

Local clock offset: 18.144 ms

Remote clock offset: -1.931 ms

Run 4: Report of Copa — Data Link



Run 5: Statistics of Copa

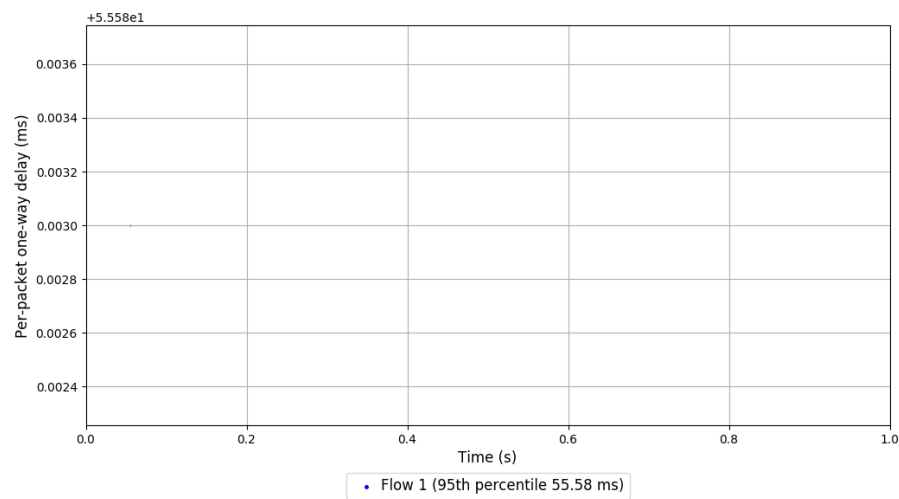
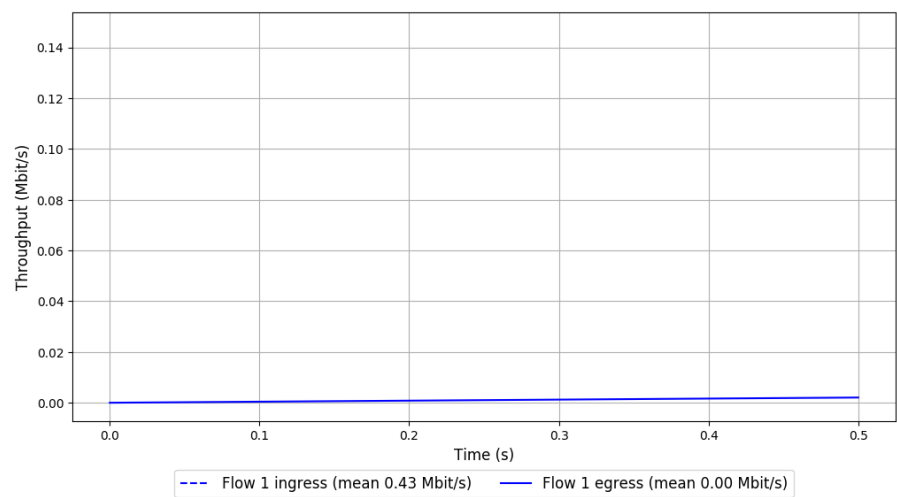
Start at: 2019-02-19 21:57:30

End at: 2019-02-19 21:58:00

Local clock offset: 0.04 ms

Remote clock offset: -1.597 ms

Run 5: Report of Copa — Data Link

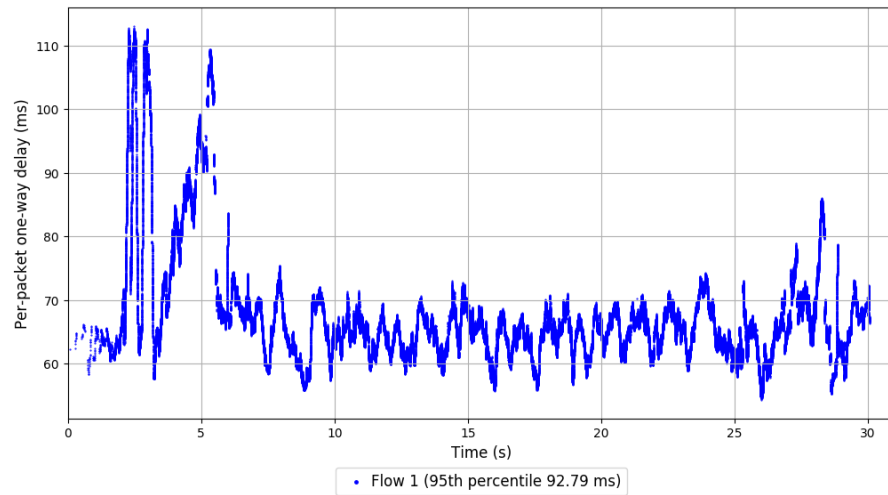
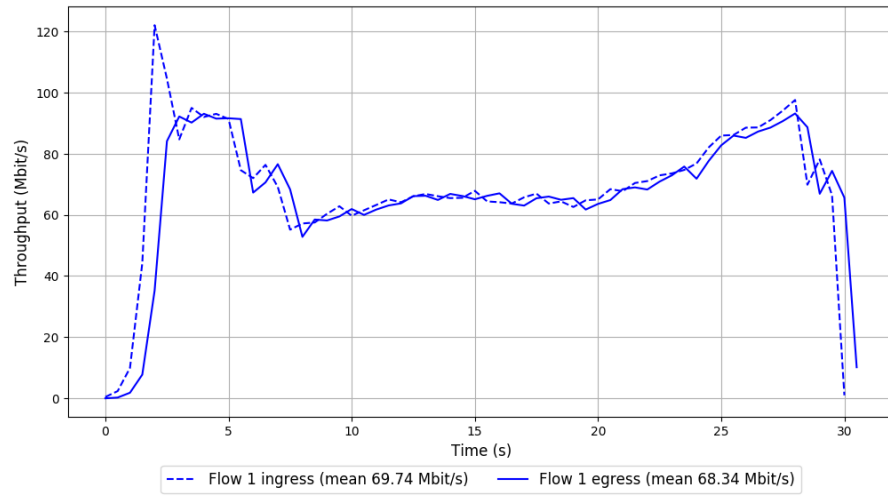


Run 1: Statistics of TCP Cubic

Start at: 2019-02-19 20:03:10
End at: 2019-02-19 20:03:40
Local clock offset: 4.963 ms
Remote clock offset: -7.136 ms

Below is generated by plot.py at 2019-02-19 22:01:06
Datalink statistics
-- Total of 1 flow:
Average throughput: 68.34 Mbit/s
95th percentile per-packet one-way delay: 92.793 ms
Loss rate: 2.01%
-- Flow 1:
Average throughput: 68.34 Mbit/s
95th percentile per-packet one-way delay: 92.793 ms
Loss rate: 2.01%

Run 1: Report of TCP Cubic — Data Link



Run 2: Statistics of TCP Cubic

Start at: 2019-02-19 20:29:58

End at: 2019-02-19 20:30:28

Local clock offset: 1.218 ms

Remote clock offset: -4.29 ms

Below is generated by plot.py at 2019-02-19 22:01:06

Datalink statistics

-- Total of 1 flow:

Average throughput: 51.34 Mbit/s

95th percentile per-packet one-way delay: 82.513 ms

Loss rate: 0.68%

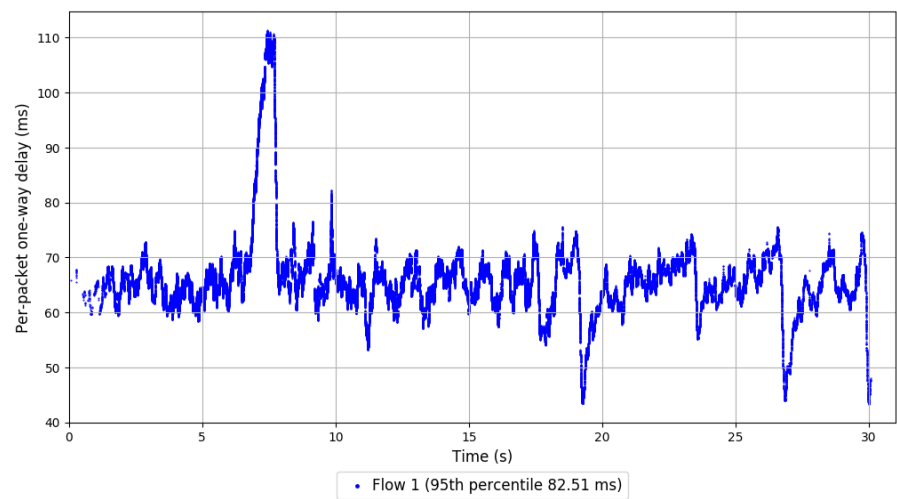
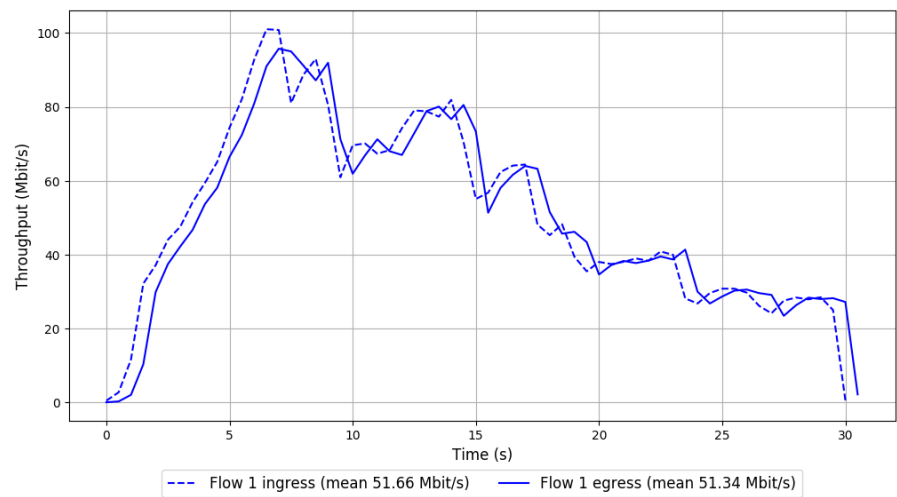
-- Flow 1:

Average throughput: 51.34 Mbit/s

95th percentile per-packet one-way delay: 82.513 ms

Loss rate: 0.68%

Run 2: Report of TCP Cubic — Data Link

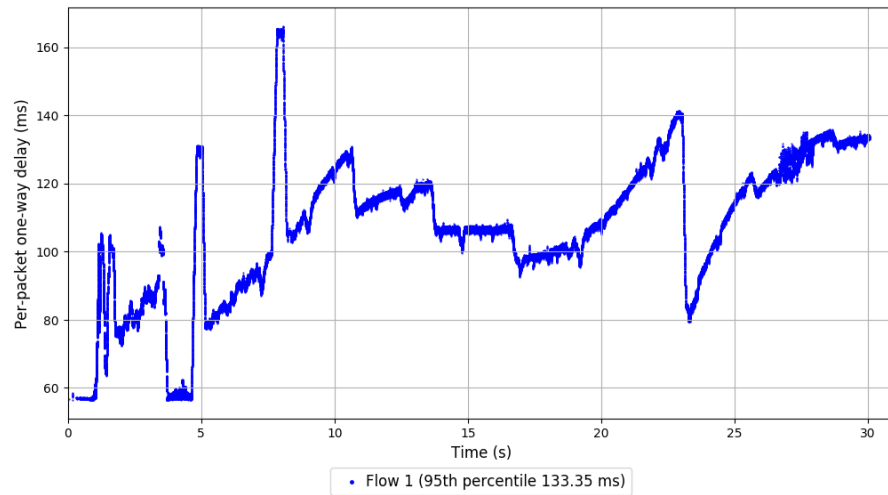
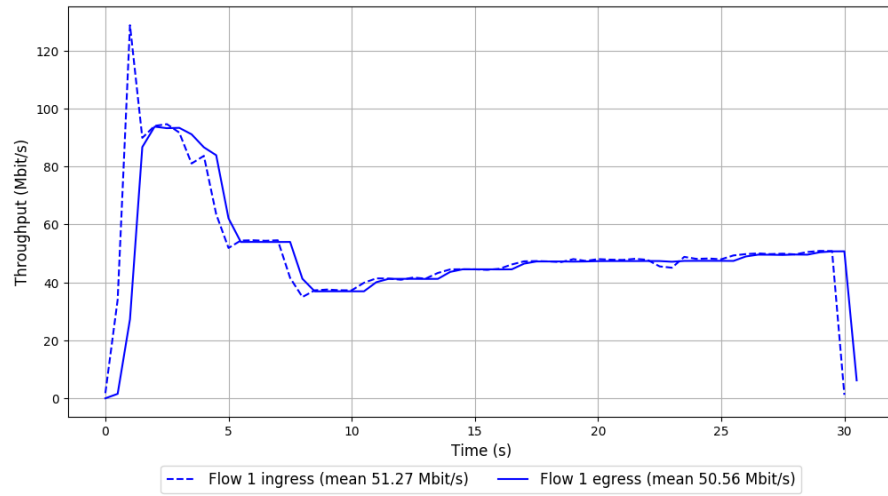


Run 3: Statistics of TCP Cubic

Start at: 2019-02-19 20:56:40
End at: 2019-02-19 20:57:10
Local clock offset: 1.936 ms
Remote clock offset: -1.444 ms

Below is generated by plot.py at 2019-02-19 22:01:06
Datalink statistics
-- Total of 1 flow:
Average throughput: 50.56 Mbit/s
95th percentile per-packet one-way delay: 133.352 ms
Loss rate: 1.41%
-- Flow 1:
Average throughput: 50.56 Mbit/s
95th percentile per-packet one-way delay: 133.352 ms
Loss rate: 1.41%

Run 3: Report of TCP Cubic — Data Link

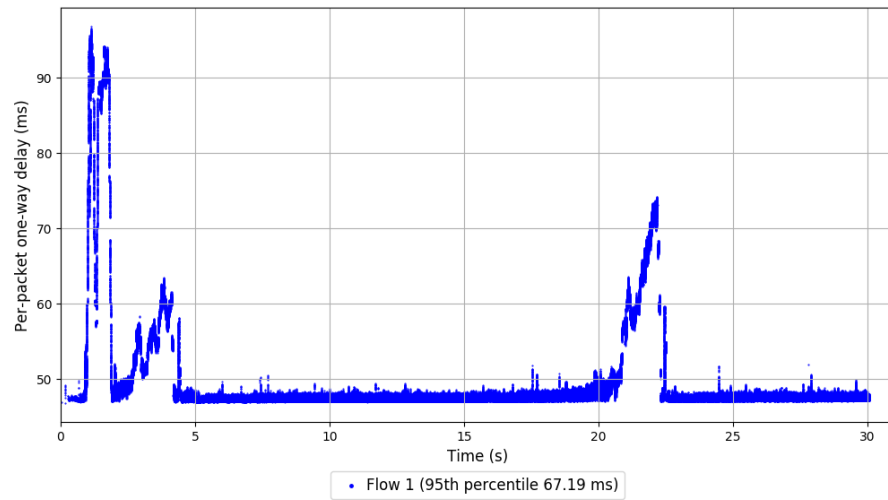
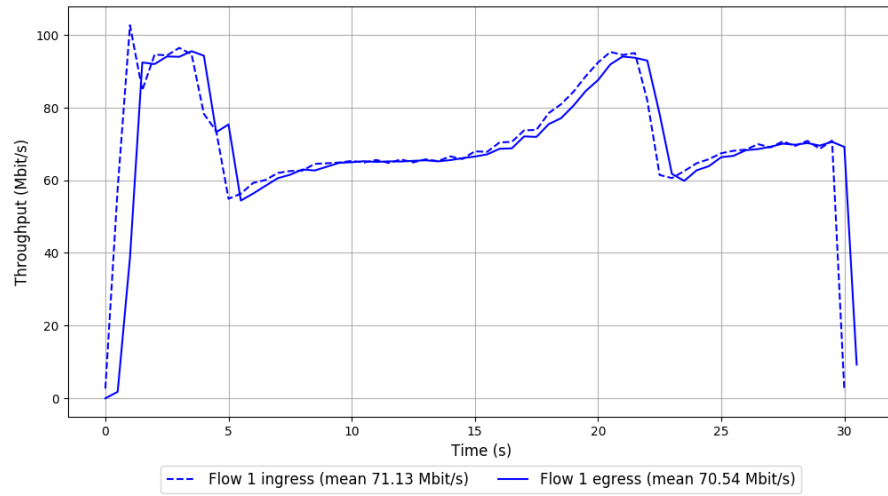


Run 4: Statistics of TCP Cubic

Start at: 2019-02-19 21:22:30
End at: 2019-02-19 21:23:00
Local clock offset: 18.356 ms
Remote clock offset: -2.461 ms

Below is generated by plot.py at 2019-02-19 22:01:31
Datalink statistics
-- Total of 1 flow:
Average throughput: 70.54 Mbit/s
95th percentile per-packet one-way delay: 67.186 ms
Loss rate: 0.83%
-- Flow 1:
Average throughput: 70.54 Mbit/s
95th percentile per-packet one-way delay: 67.186 ms
Loss rate: 0.83%

Run 4: Report of TCP Cubic — Data Link

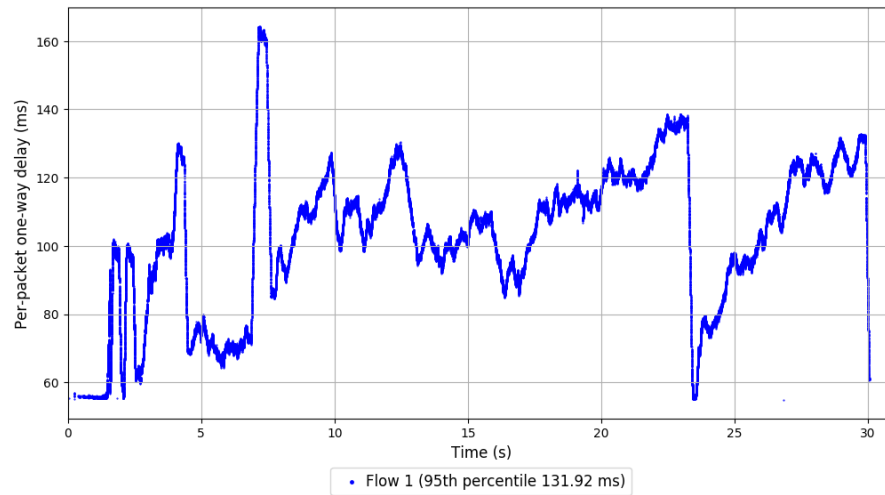
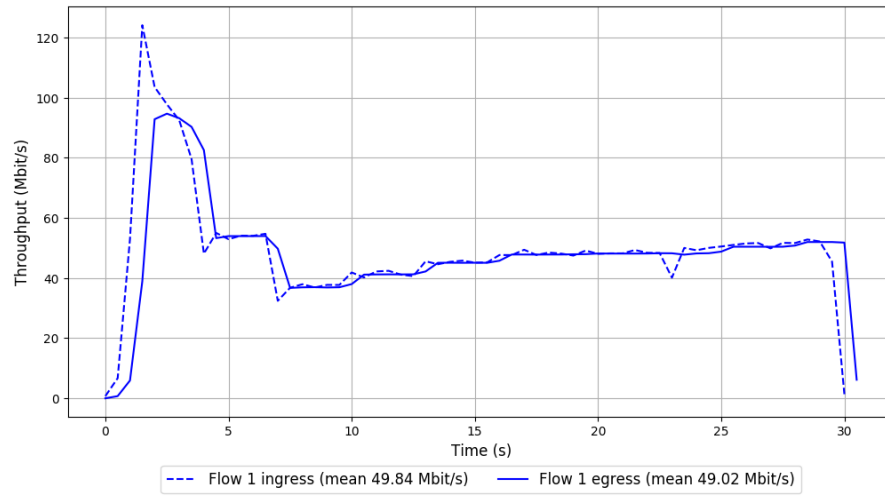


Run 5: Statistics of TCP Cubic

Start at: 2019-02-19 21:48:55
End at: 2019-02-19 21:49:25
Local clock offset: 2.043 ms
Remote clock offset: -1.926 ms

Below is generated by plot.py at 2019-02-19 22:01:31
Datalink statistics
-- Total of 1 flow:
Average throughput: 49.02 Mbit/s
95th percentile per-packet one-way delay: 131.917 ms
Loss rate: 1.67%
-- Flow 1:
Average throughput: 49.02 Mbit/s
95th percentile per-packet one-way delay: 131.917 ms
Loss rate: 1.67%

Run 5: Report of TCP Cubic — Data Link

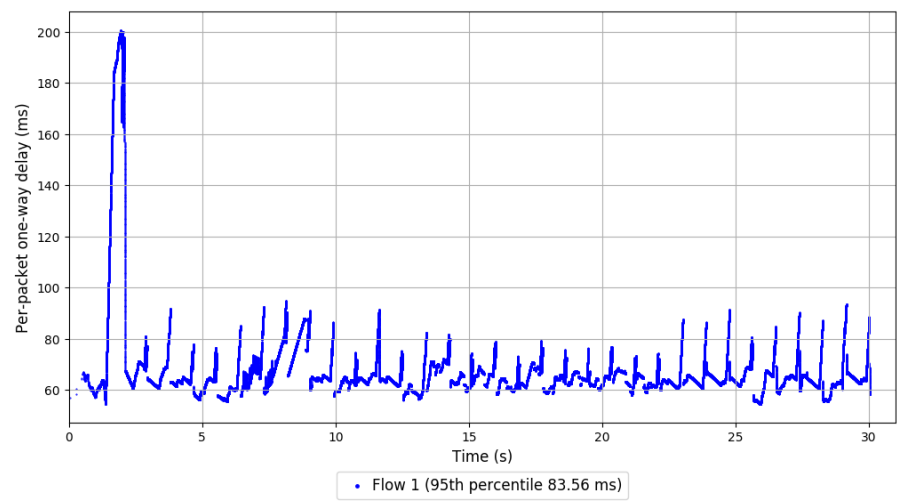
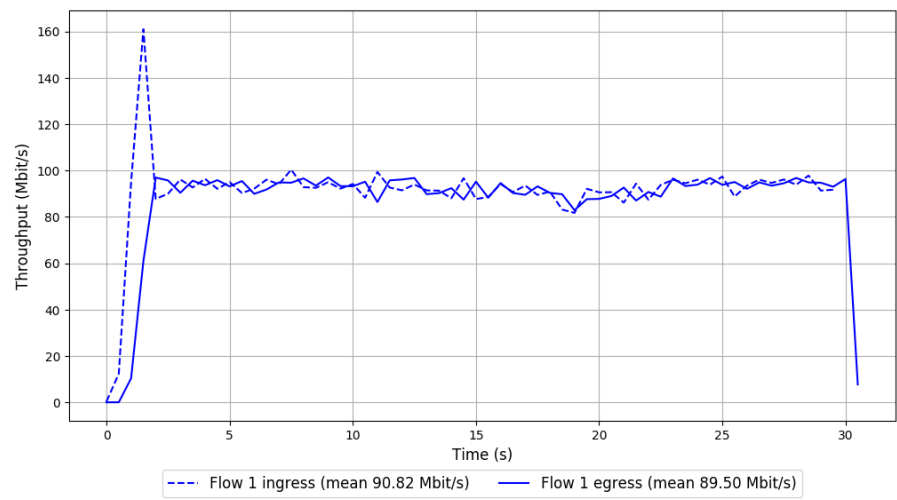


Run 1: Statistics of FillP

Start at: 2019-02-19 19:57:56
End at: 2019-02-19 19:58:26
Local clock offset: 5.989 ms
Remote clock offset: -7.734 ms

Below is generated by plot.py at 2019-02-19 22:02:11
Datalink statistics
-- Total of 1 flow:
Average throughput: 89.50 Mbit/s
95th percentile per-packet one-way delay: 83.562 ms
Loss rate: 1.46%
-- Flow 1:
Average throughput: 89.50 Mbit/s
95th percentile per-packet one-way delay: 83.562 ms
Loss rate: 1.46%

Run 1: Report of FillP — Data Link

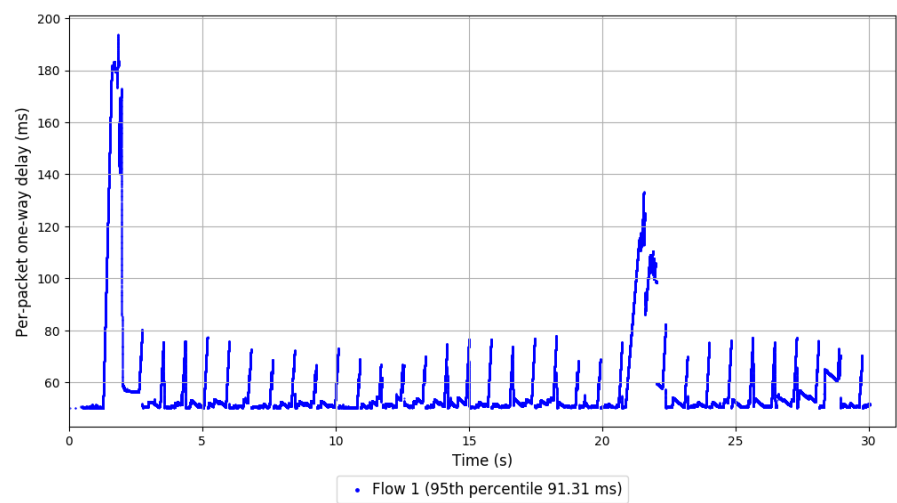
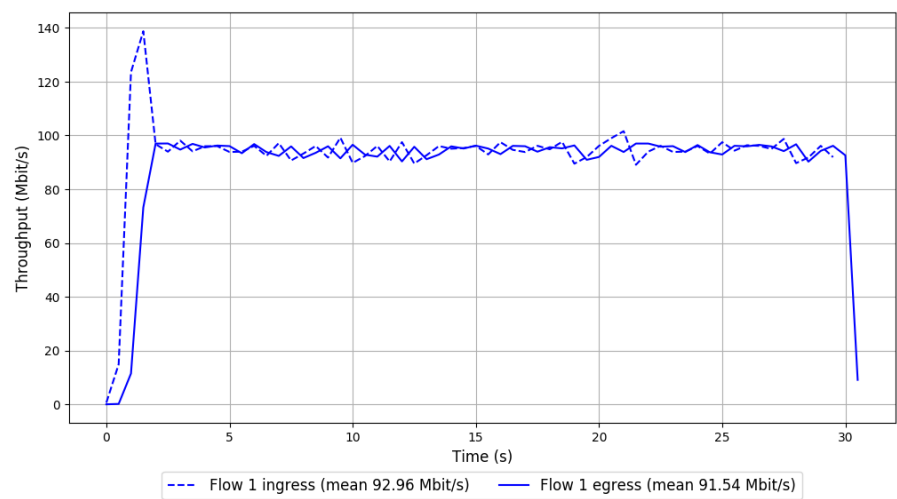


Run 2: Statistics of FillP

Start at: 2019-02-19 20:24:49
End at: 2019-02-19 20:25:19
Local clock offset: 1.345 ms
Remote clock offset: -3.549 ms

Below is generated by plot.py at 2019-02-19 22:02:12
Datalink statistics
-- Total of 1 flow:
Average throughput: 91.54 Mbit/s
95th percentile per-packet one-way delay: 91.310 ms
Loss rate: 1.52%
-- Flow 1:
Average throughput: 91.54 Mbit/s
95th percentile per-packet one-way delay: 91.310 ms
Loss rate: 1.52%

Run 2: Report of FillP — Data Link

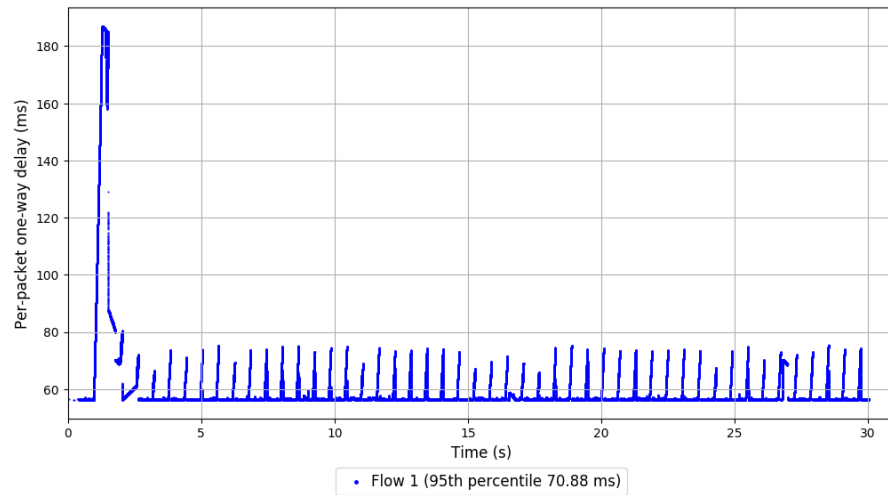
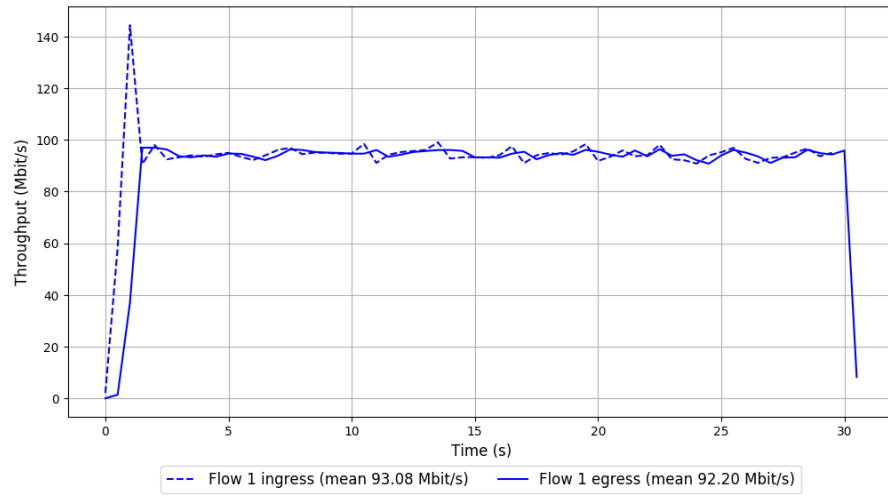


Run 3: Statistics of FillP

Start at: 2019-02-19 20:51:37
End at: 2019-02-19 20:52:07
Local clock offset: 1.612 ms
Remote clock offset: -2.022 ms

Below is generated by plot.py at 2019-02-19 22:02:16
Datalink statistics
-- Total of 1 flow:
Average throughput: 92.20 Mbit/s
95th percentile per-packet one-way delay: 70.882 ms
Loss rate: 0.98%
-- Flow 1:
Average throughput: 92.20 Mbit/s
95th percentile per-packet one-way delay: 70.882 ms
Loss rate: 0.98%

Run 3: Report of FillP — Data Link

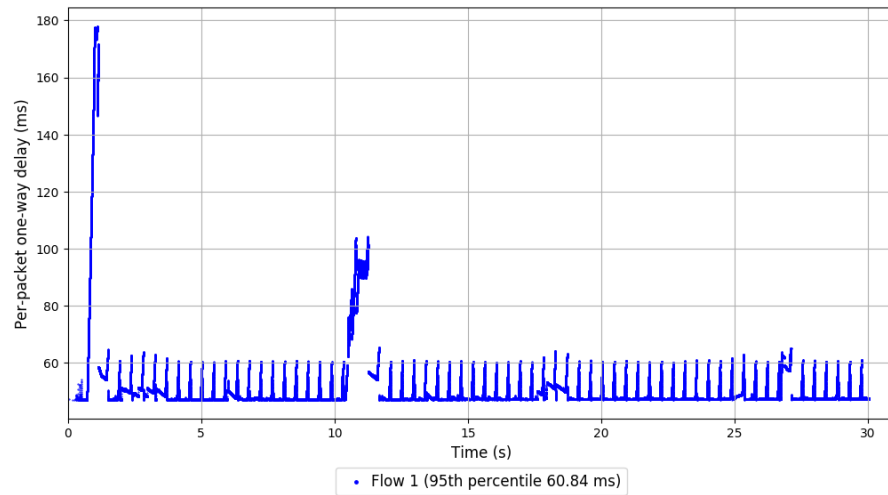
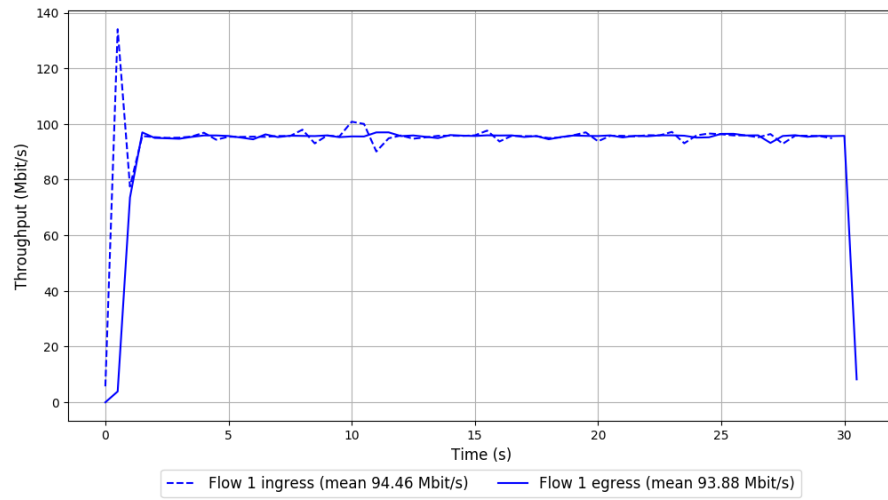


Run 4: Statistics of FillP

Start at: 2019-02-19 21:17:29
End at: 2019-02-19 21:17:59
Local clock offset: 16.536 ms
Remote clock offset: -2.173 ms

Below is generated by plot.py at 2019-02-19 22:02:23
Datalink statistics
-- Total of 1 flow:
Average throughput: 93.88 Mbit/s
95th percentile per-packet one-way delay: 60.845 ms
Loss rate: 0.61%
-- Flow 1:
Average throughput: 93.88 Mbit/s
95th percentile per-packet one-way delay: 60.845 ms
Loss rate: 0.61%

Run 4: Report of FillP — Data Link



Run 5: Statistics of FillP

Start at: 2019-02-19 21:43:36

End at: 2019-02-19 21:44:06

Local clock offset: 4.366 ms

Remote clock offset: -2.41 ms

Below is generated by plot.py at 2019-02-19 22:02:24

Datalink statistics

-- Total of 1 flow:

Average throughput: 92.10 Mbit/s

95th percentile per-packet one-way delay: 67.454 ms

Loss rate: 0.74%

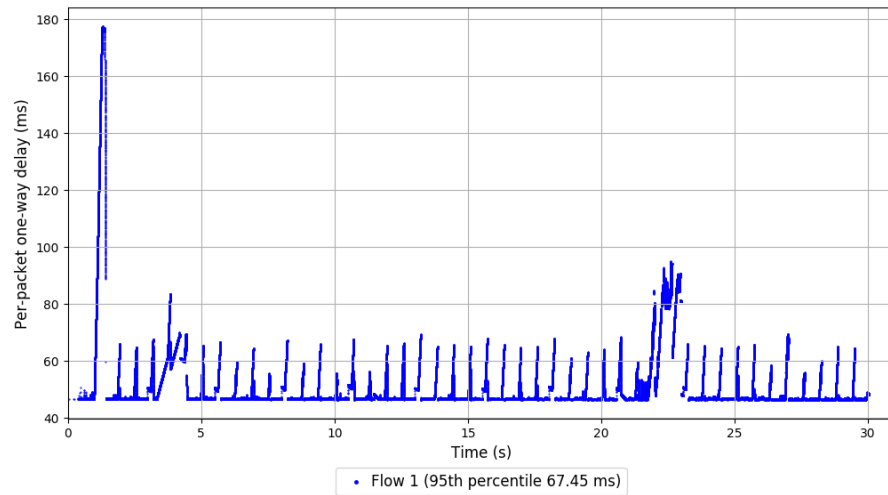
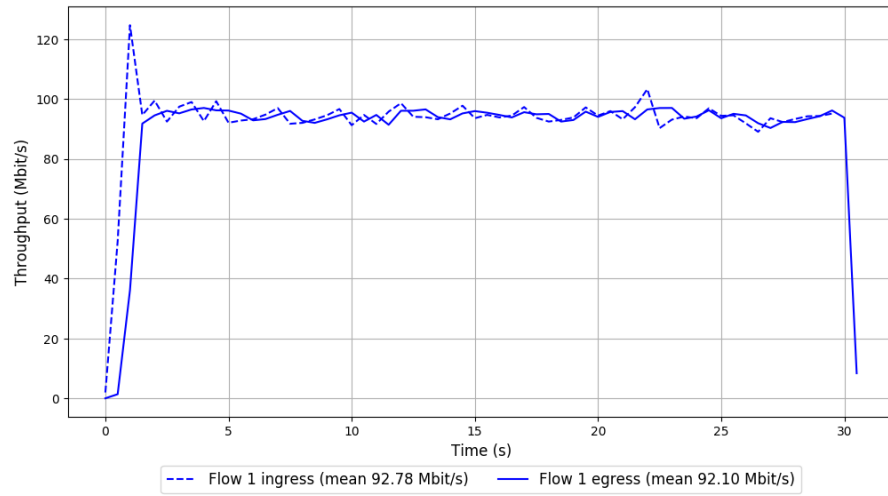
-- Flow 1:

Average throughput: 92.10 Mbit/s

95th percentile per-packet one-way delay: 67.454 ms

Loss rate: 0.74%

Run 5: Report of FillP — Data Link

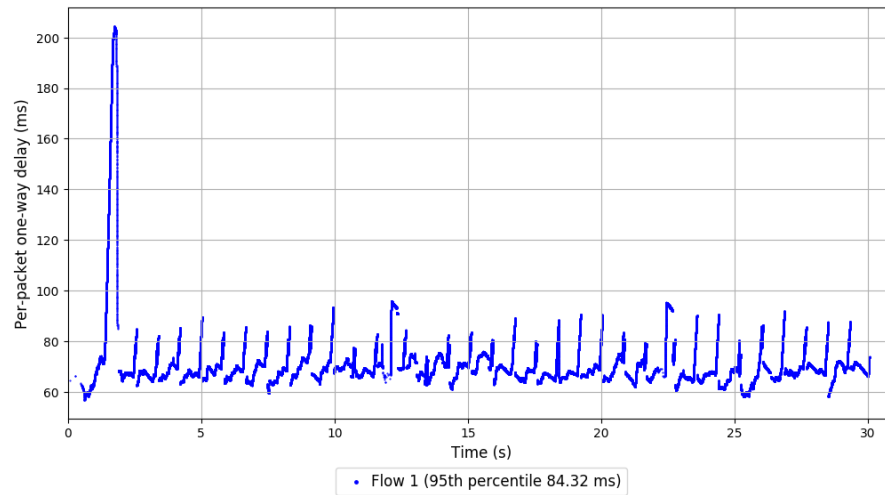
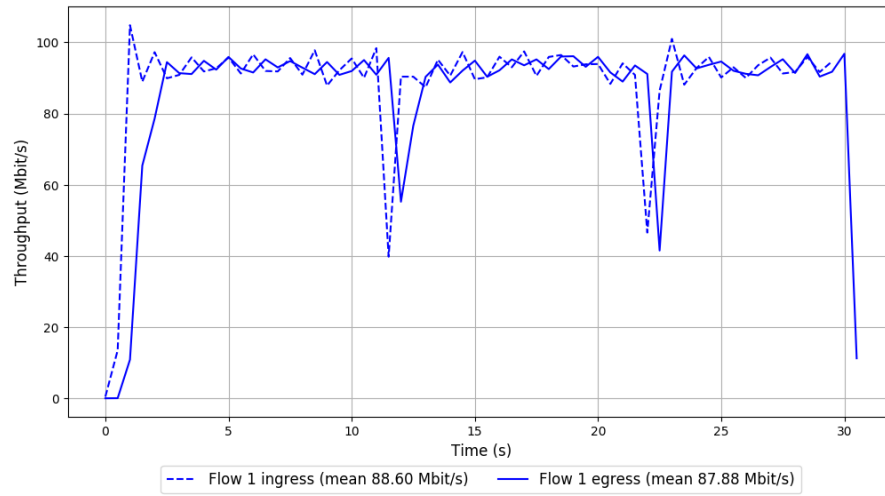


Run 1: Statistics of FillP-Sheep

Start at: 2019-02-19 19:56:36
End at: 2019-02-19 19:57:06
Local clock offset: 5.26 ms
Remote clock offset: -4.817 ms

Below is generated by plot.py at 2019-02-19 22:02:24
Datalink statistics
-- Total of 1 flow:
Average throughput: 87.88 Mbit/s
95th percentile per-packet one-way delay: 84.320 ms
Loss rate: 0.79%
-- Flow 1:
Average throughput: 87.88 Mbit/s
95th percentile per-packet one-way delay: 84.320 ms
Loss rate: 0.79%

Run 1: Report of FillP-Sheep — Data Link

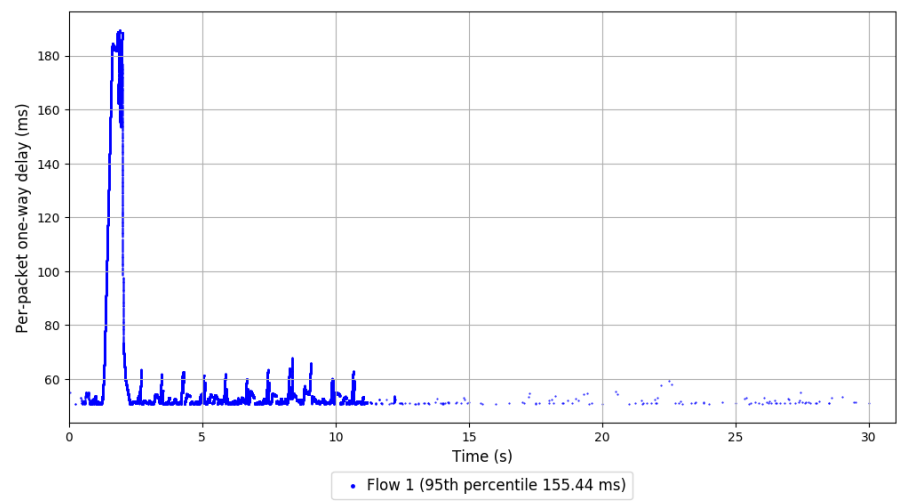
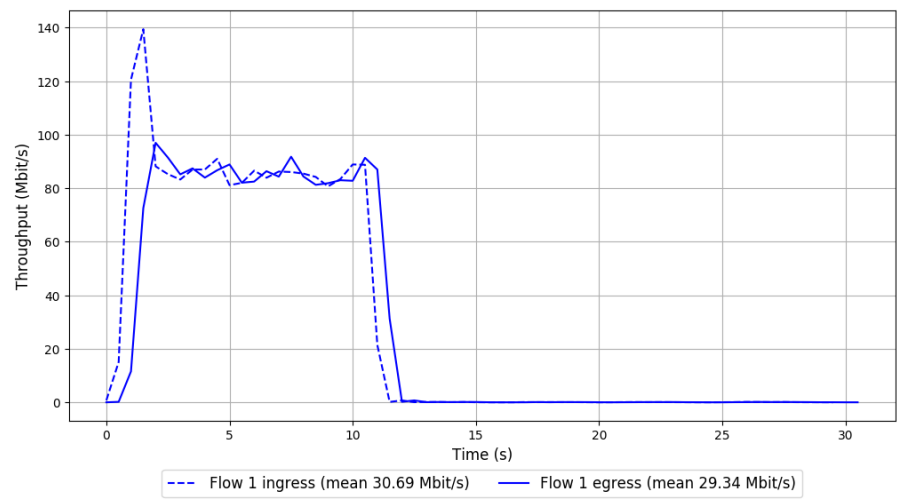


Run 2: Statistics of FillP-Sheep

Start at: 2019-02-19 20:23:36
End at: 2019-02-19 20:24:06
Local clock offset: 1.053 ms
Remote clock offset: -2.789 ms

Below is generated by plot.py at 2019-02-19 22:02:24
Datalink statistics
-- Total of 1 flow:
Average throughput: 29.34 Mbit/s
95th percentile per-packet one-way delay: 155.442 ms
Loss rate: 4.42%
-- Flow 1:
Average throughput: 29.34 Mbit/s
95th percentile per-packet one-way delay: 155.442 ms
Loss rate: 4.42%

Run 2: Report of FillP-Sheep — Data Link

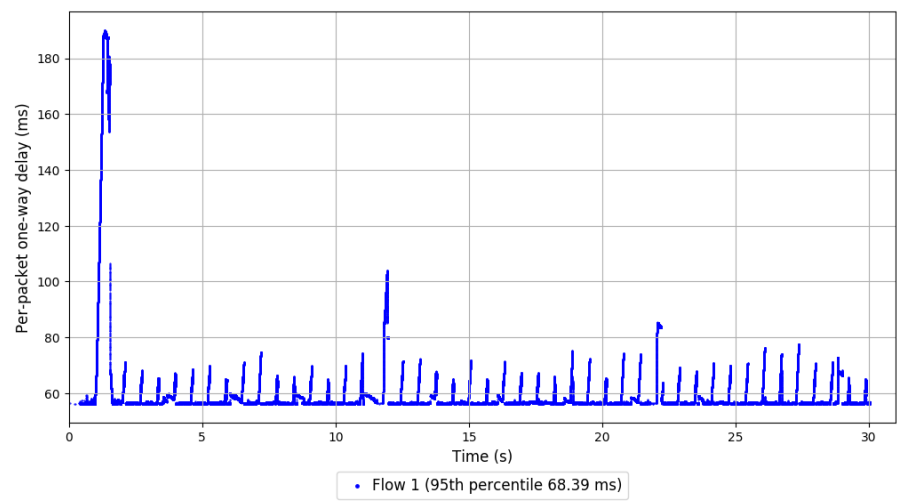
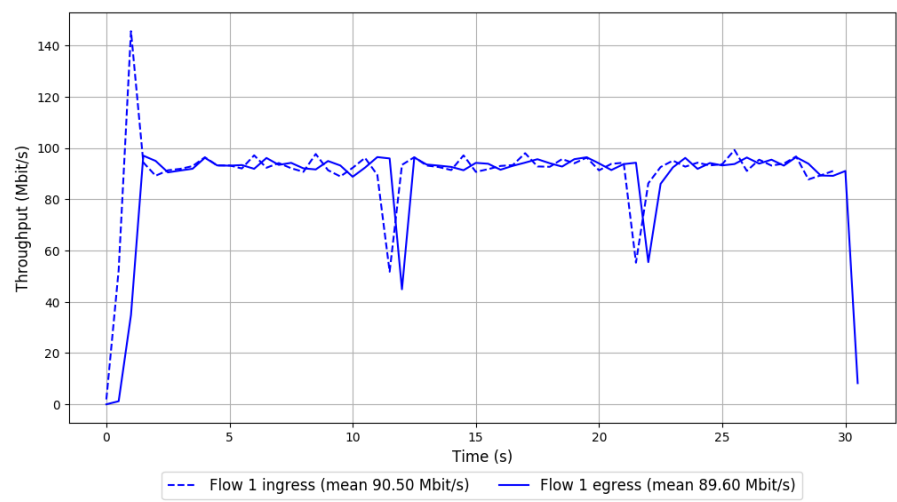


Run 3: Statistics of FillP-Sheep

Start at: 2019-02-19 20:50:20
End at: 2019-02-19 20:50:50
Local clock offset: 1.788 ms
Remote clock offset: -1.384 ms

Below is generated by plot.py at 2019-02-19 22:02:53
Datalink statistics
-- Total of 1 flow:
Average throughput: 89.60 Mbit/s
95th percentile per-packet one-way delay: 68.395 ms
Loss rate: 1.02%
-- Flow 1:
Average throughput: 89.60 Mbit/s
95th percentile per-packet one-way delay: 68.395 ms
Loss rate: 1.02%

Run 3: Report of FillP-Sheep — Data Link

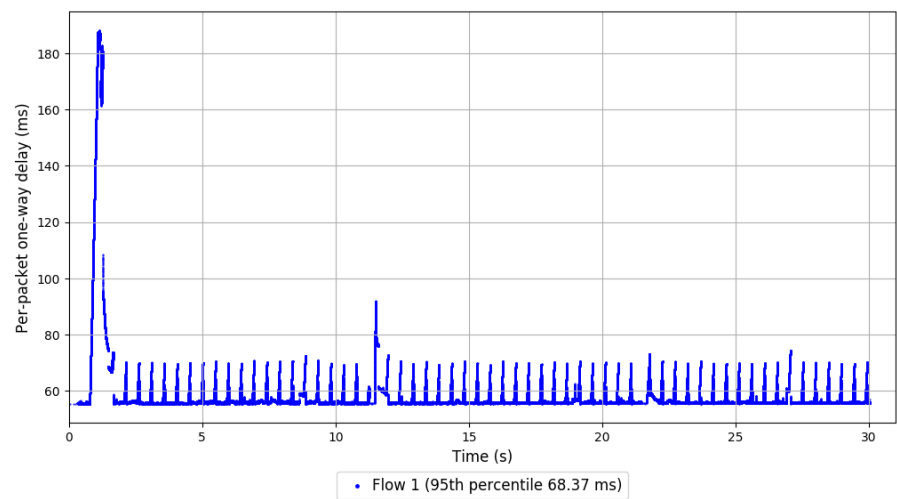
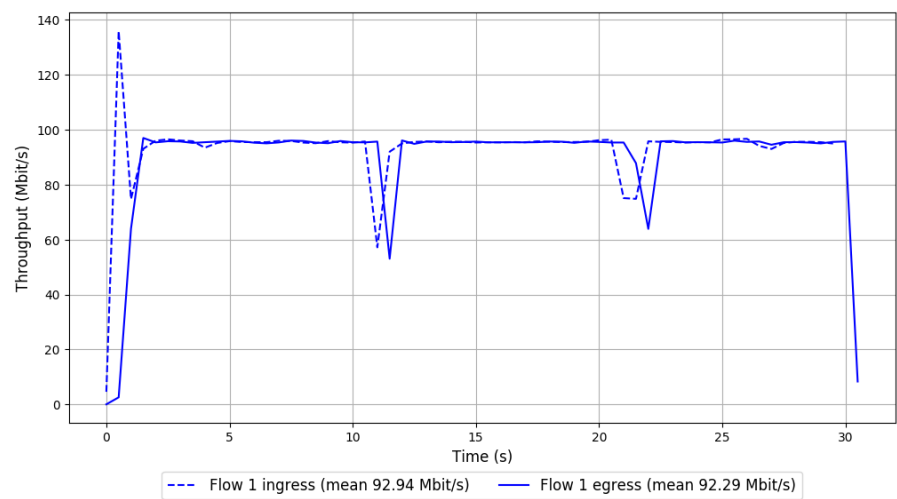


Run 4: Statistics of FillP-Sheep

Start at: 2019-02-19 21:16:17
End at: 2019-02-19 21:16:47
Local clock offset: 16.073 ms
Remote clock offset: -2.298 ms

Below is generated by plot.py at 2019-02-19 22:03:13
Datalink statistics
-- Total of 1 flow:
Average throughput: 92.29 Mbit/s
95th percentile per-packet one-way delay: 68.369 ms
Loss rate: 0.72%
-- Flow 1:
Average throughput: 92.29 Mbit/s
95th percentile per-packet one-way delay: 68.369 ms
Loss rate: 0.72%

Run 4: Report of FillP-Sheep — Data Link



Run 5: Statistics of FillP-Sheep

Start at: 2019-02-19 21:42:18

End at: 2019-02-19 21:42:48

Local clock offset: 4.904 ms

Remote clock offset: -2.025 ms

Below is generated by plot.py at 2019-02-19 22:03:28

Datalink statistics

-- Total of 1 flow:

Average throughput: 89.04 Mbit/s

95th percentile per-packet one-way delay: 59.741 ms

Loss rate: 0.91%

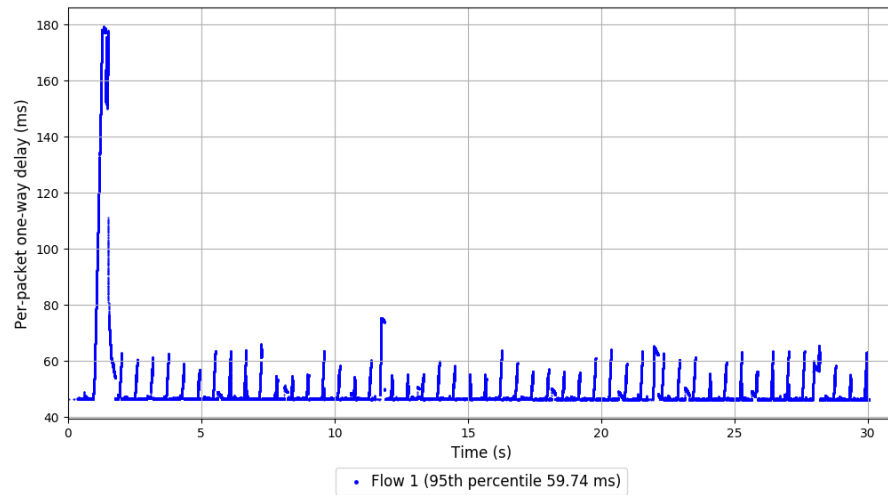
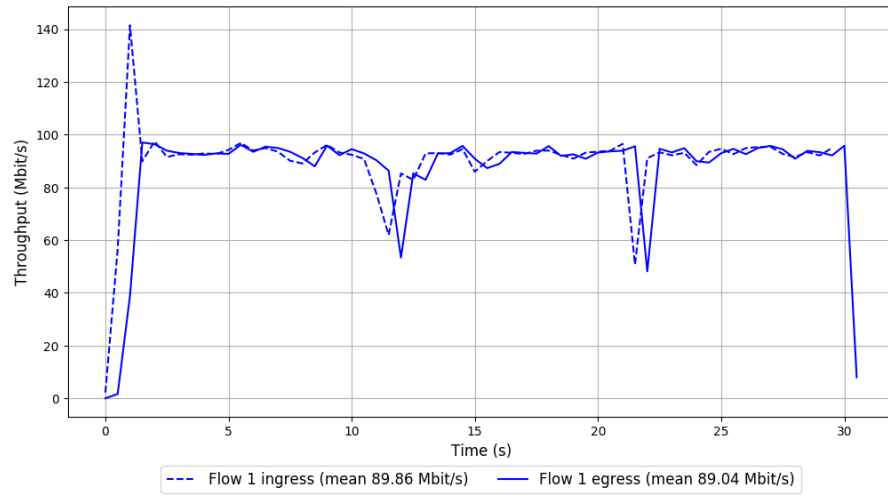
-- Flow 1:

Average throughput: 89.04 Mbit/s

95th percentile per-packet one-way delay: 59.741 ms

Loss rate: 0.91%

Run 5: Report of FillP-Sheep — Data Link

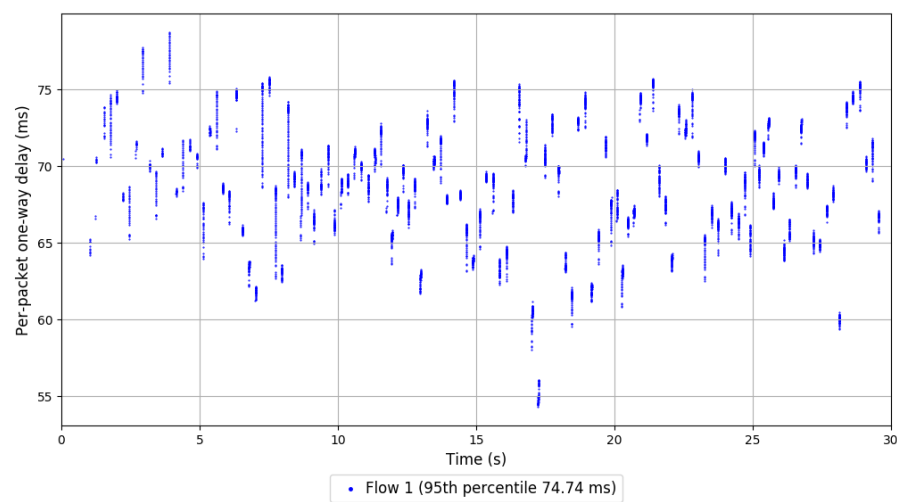
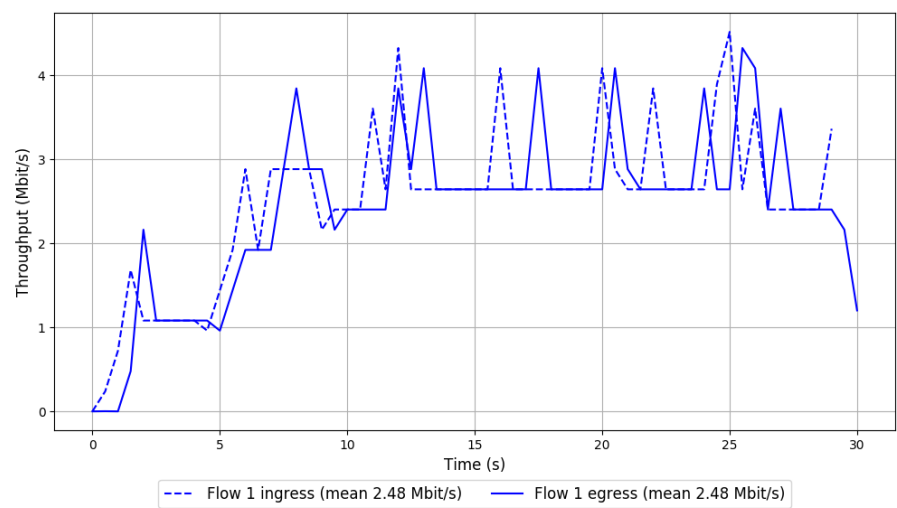


Run 1: Statistics of Indigo

Start at: 2019-02-19 19:49:10
End at: 2019-02-19 19:49:40
Local clock offset: 1.622 ms
Remote clock offset: -7.512 ms

Below is generated by plot.py at 2019-02-19 22:03:28
Datalink statistics
-- Total of 1 flow:
Average throughput: 2.48 Mbit/s
95th percentile per-packet one-way delay: 74.741 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 2.48 Mbit/s
95th percentile per-packet one-way delay: 74.741 ms
Loss rate: 0.00%

Run 1: Report of Indigo — Data Link

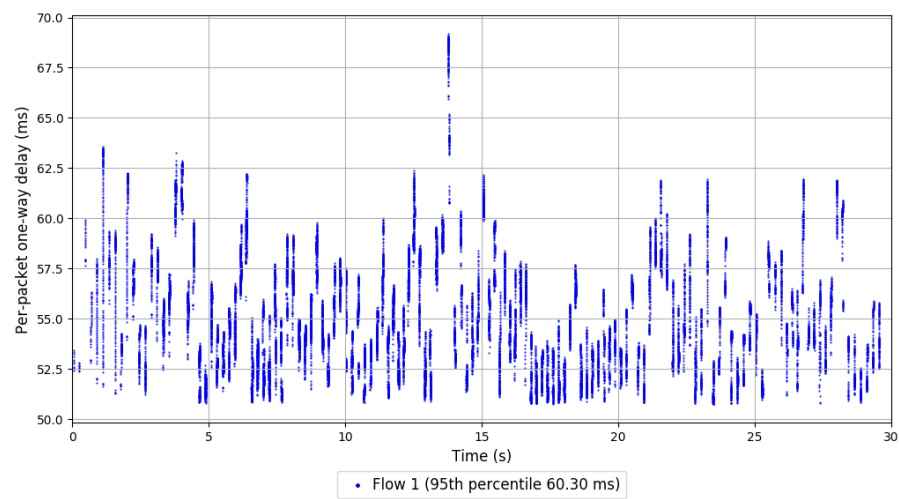
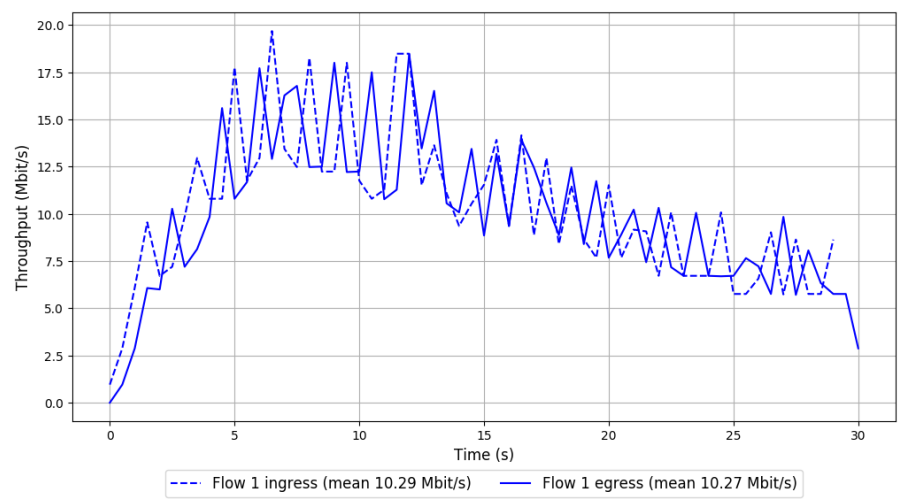


Run 2: Statistics of Indigo

Start at: 2019-02-19 20:15:53
End at: 2019-02-19 20:16:23
Local clock offset: 1.452 ms
Remote clock offset: -2.413 ms

Below is generated by plot.py at 2019-02-19 22:03:28
Datalink statistics
-- Total of 1 flow:
Average throughput: 10.27 Mbit/s
95th percentile per-packet one-way delay: 60.296 ms
Loss rate: 0.11%
-- Flow 1:
Average throughput: 10.27 Mbit/s
95th percentile per-packet one-way delay: 60.296 ms
Loss rate: 0.11%

Run 2: Report of Indigo — Data Link

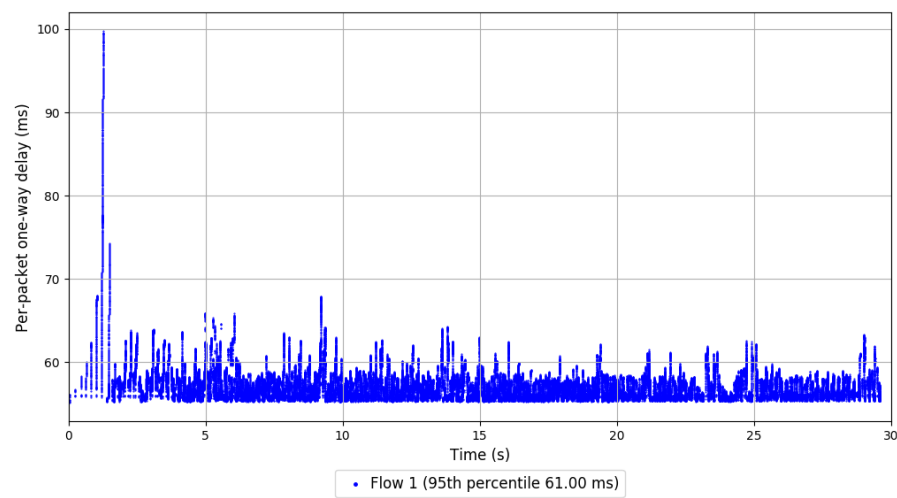
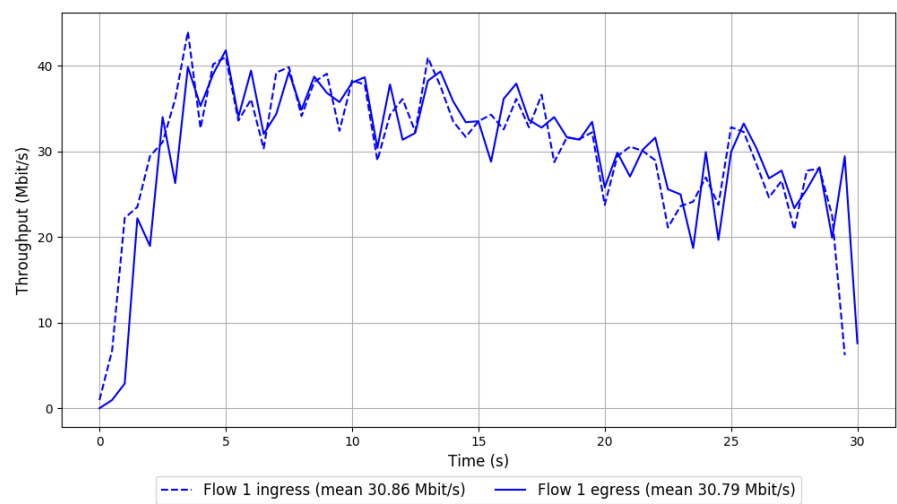


Run 3: Statistics of Indigo

Start at: 2019-02-19 20:42:46
End at: 2019-02-19 20:43:16
Local clock offset: 1.491 ms
Remote clock offset: -2.407 ms

Below is generated by plot.py at 2019-02-19 22:03:28
Datalink statistics
-- Total of 1 flow:
Average throughput: 30.79 Mbit/s
95th percentile per-packet one-way delay: 60.998 ms
Loss rate: 0.21%
-- Flow 1:
Average throughput: 30.79 Mbit/s
95th percentile per-packet one-way delay: 60.998 ms
Loss rate: 0.21%

Run 3: Report of Indigo — Data Link

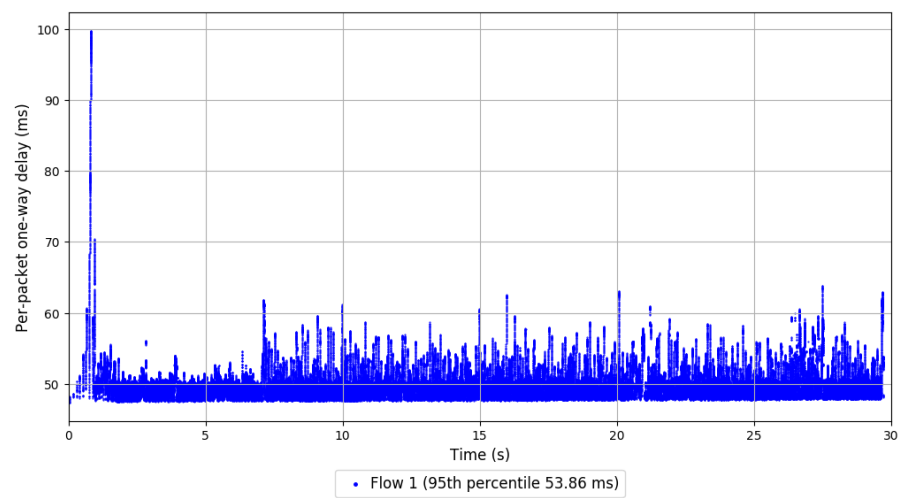
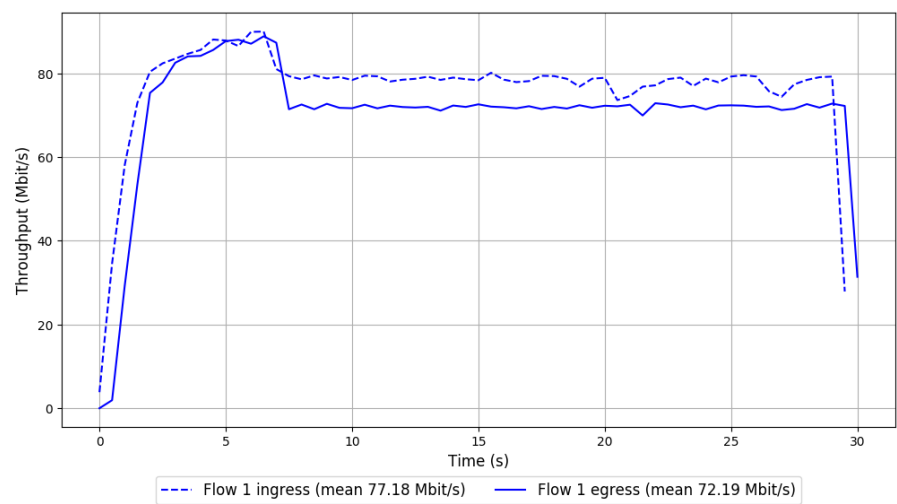


Run 4: Statistics of Indigo

Start at: 2019-02-19 21:08:53
End at: 2019-02-19 21:09:23
Local clock offset: 11.785 ms
Remote clock offset: -2.176 ms

Below is generated by plot.py at 2019-02-19 22:03:28
Datalink statistics
-- Total of 1 flow:
Average throughput: 72.19 Mbit/s
95th percentile per-packet one-way delay: 53.858 ms
Loss rate: 6.47%
-- Flow 1:
Average throughput: 72.19 Mbit/s
95th percentile per-packet one-way delay: 53.858 ms
Loss rate: 6.47%

Run 4: Report of Indigo — Data Link

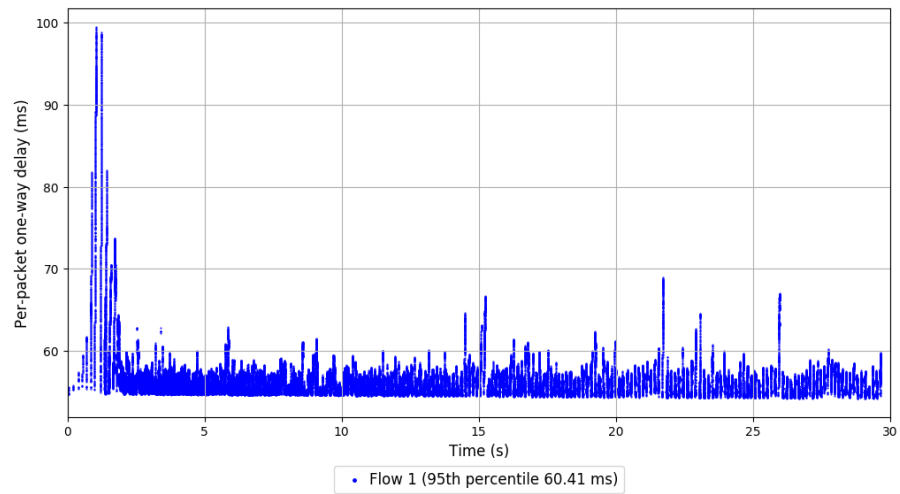
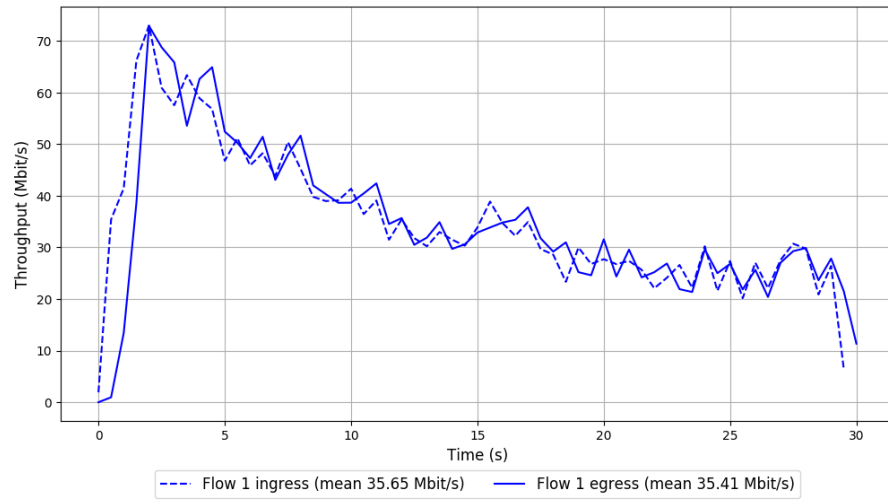


Run 5: Statistics of Indigo

Start at: 2019-02-19 21:34:55
End at: 2019-02-19 21:35:25
Local clock offset: 11.92 ms
Remote clock offset: -2.104 ms

Below is generated by plot.py at 2019-02-19 22:03:28
Datalink statistics
-- Total of 1 flow:
Average throughput: 35.41 Mbit/s
95th percentile per-packet one-way delay: 60.409 ms
Loss rate: 0.66%
-- Flow 1:
Average throughput: 35.41 Mbit/s
95th percentile per-packet one-way delay: 60.409 ms
Loss rate: 0.66%

Run 5: Report of Indigo — Data Link



Run 1: Statistics of Indigo-MusesC3

Start at: 2019-02-19 20:09:24

End at: 2019-02-19 20:09:54

Local clock offset: 2.595 ms

Remote clock offset: -2.682 ms

Below is generated by plot.py at 2019-02-19 22:03:28

Datalink statistics

-- Total of 1 flow:

Average throughput: 68.16 Mbit/s

95th percentile per-packet one-way delay: 80.505 ms

Loss rate: 0.00%

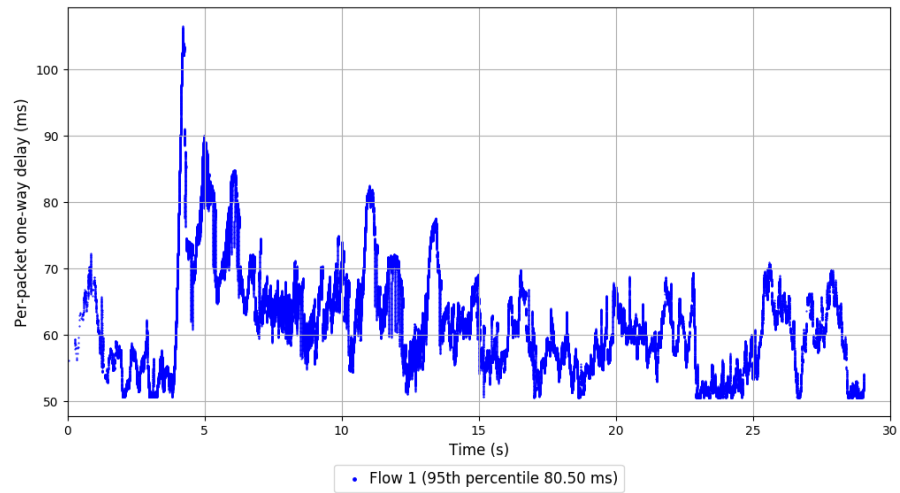
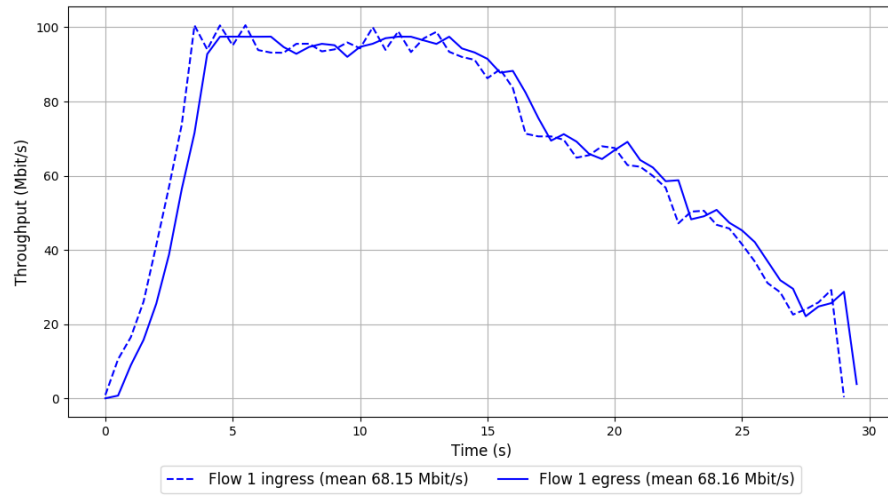
-- Flow 1:

Average throughput: 68.16 Mbit/s

95th percentile per-packet one-way delay: 80.505 ms

Loss rate: 0.00%

Run 1: Report of Indigo-MusesC3 — Data Link

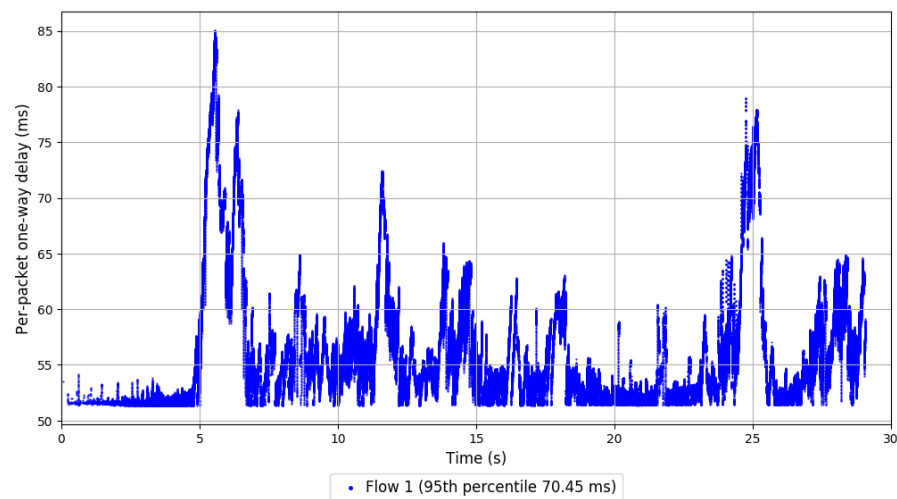
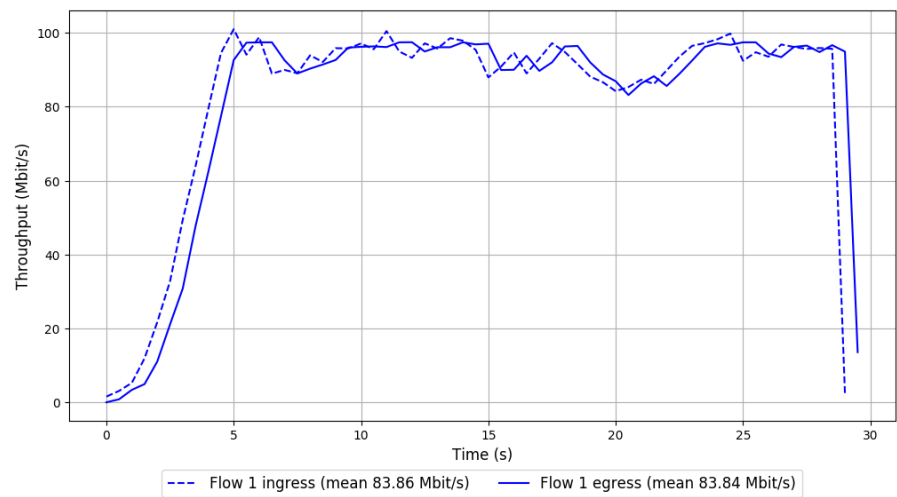


Run 2: Statistics of Indigo-MusesC3

Start at: 2019-02-19 20:36:20
End at: 2019-02-19 20:36:50
Local clock offset: 1.327 ms
Remote clock offset: -5.798 ms

Below is generated by plot.py at 2019-02-19 22:03:28
Datalink statistics
-- Total of 1 flow:
Average throughput: 83.84 Mbit/s
95th percentile per-packet one-way delay: 70.453 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 83.84 Mbit/s
95th percentile per-packet one-way delay: 70.453 ms
Loss rate: 0.00%

Run 2: Report of Indigo-MusesC3 — Data Link

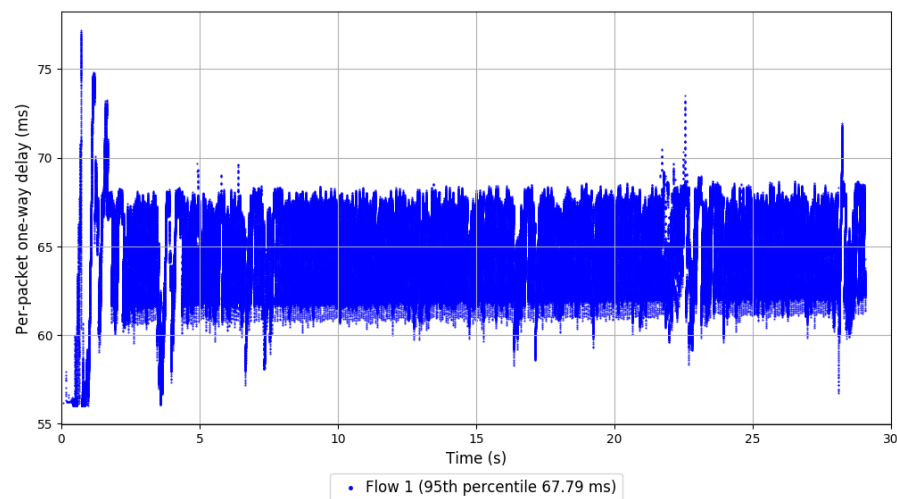
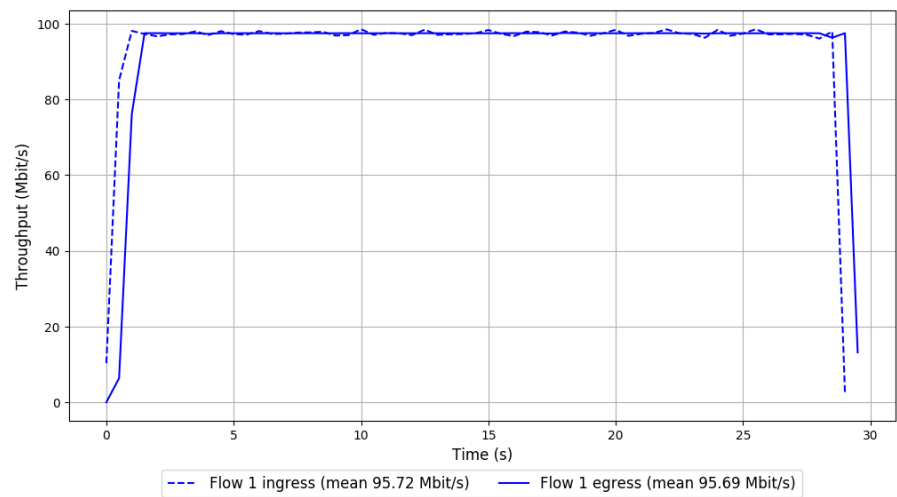


Run 3: Statistics of Indigo-MusesC3

Start at: 2019-02-19 21:02:50
End at: 2019-02-19 21:03:20
Local clock offset: 5.84 ms
Remote clock offset: -2.429 ms

Below is generated by plot.py at 2019-02-19 22:03:47
Datalink statistics
-- Total of 1 flow:
Average throughput: 95.69 Mbit/s
95th percentile per-packet one-way delay: 67.794 ms
Loss rate: 0.03%
-- Flow 1:
Average throughput: 95.69 Mbit/s
95th percentile per-packet one-way delay: 67.794 ms
Loss rate: 0.03%

Run 3: Report of Indigo-MusesC3 — Data Link

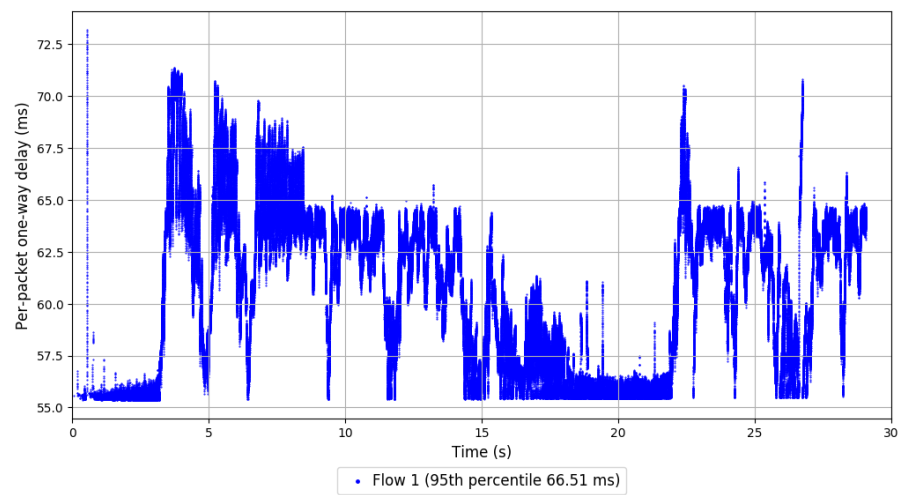
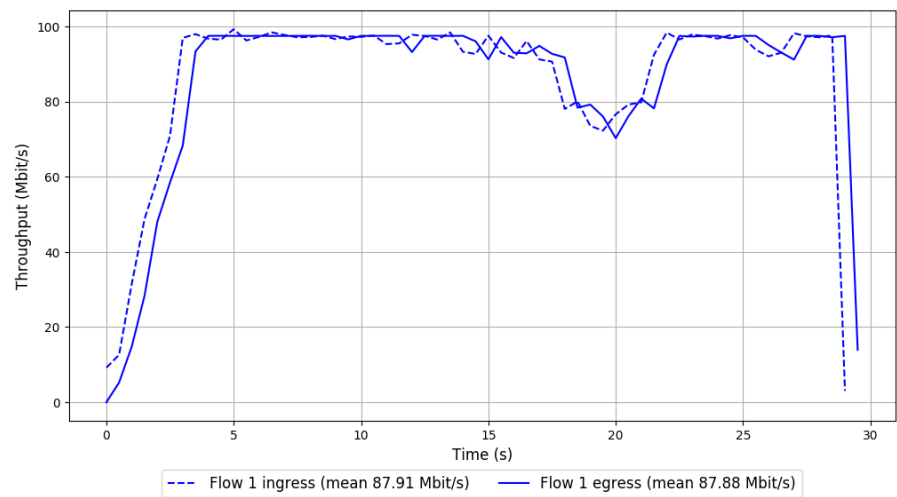


Run 4: Statistics of Indigo-MusesC3

Start at: 2019-02-19 21:28:44
End at: 2019-02-19 21:29:14
Local clock offset: 20.194 ms
Remote clock offset: -2.127 ms

Below is generated by plot.py at 2019-02-19 22:03:50
Datalink statistics
-- Total of 1 flow:
Average throughput: 87.88 Mbit/s
95th percentile per-packet one-way delay: 66.514 ms
Loss rate: 0.03%
-- Flow 1:
Average throughput: 87.88 Mbit/s
95th percentile per-packet one-way delay: 66.514 ms
Loss rate: 0.03%

Run 4: Report of Indigo-MusesC3 — Data Link

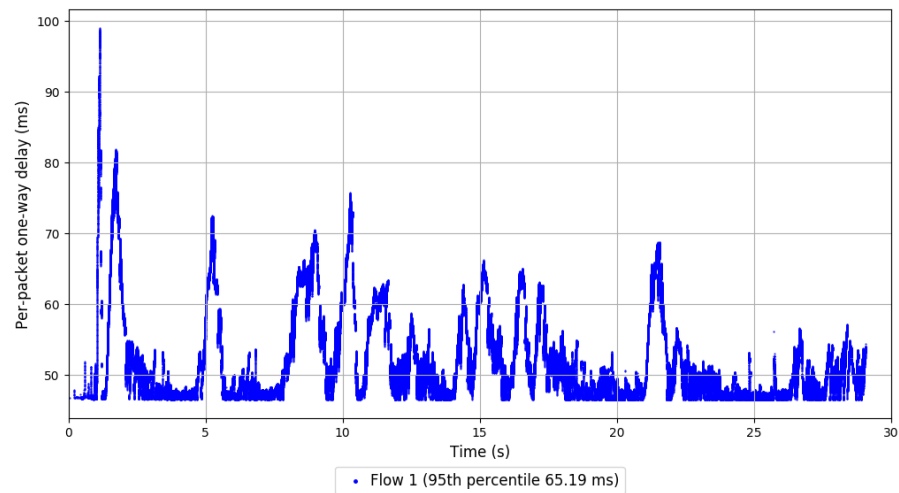
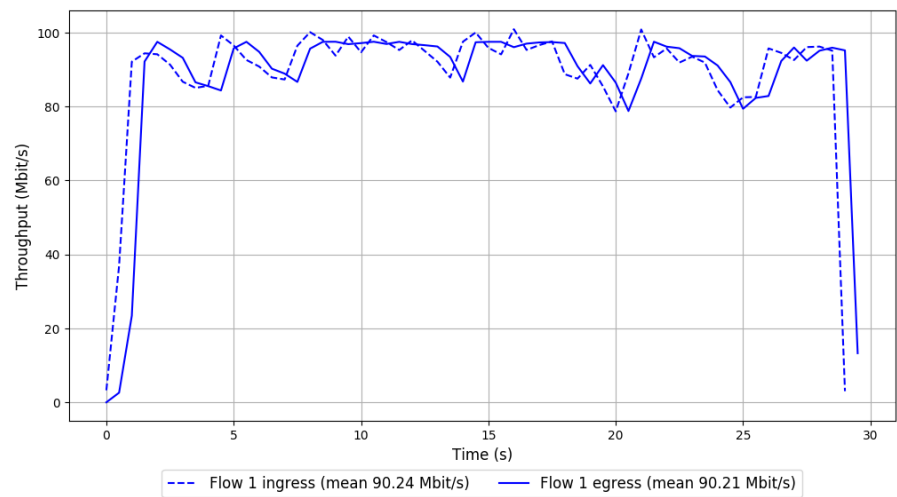


Run 5: Statistics of Indigo-MusesC3

Start at: 2019-02-19 21:55:04
End at: 2019-02-19 21:55:34
Local clock offset: 0.351 ms
Remote clock offset: -2.114 ms

Below is generated by plot.py at 2019-02-19 22:03:59
Datalink statistics
-- Total of 1 flow:
Average throughput: 90.21 Mbit/s
95th percentile per-packet one-way delay: 65.189 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 90.21 Mbit/s
95th percentile per-packet one-way delay: 65.189 ms
Loss rate: 0.00%

Run 5: Report of Indigo-MusesC3 — Data Link

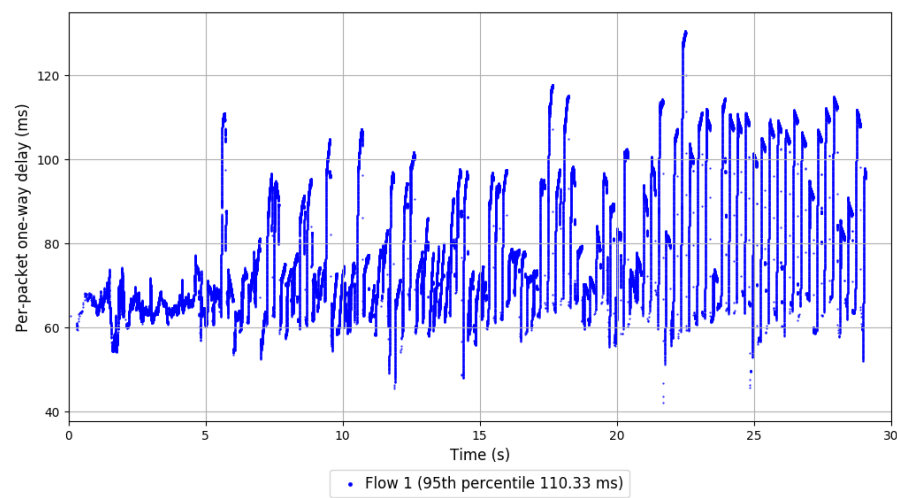
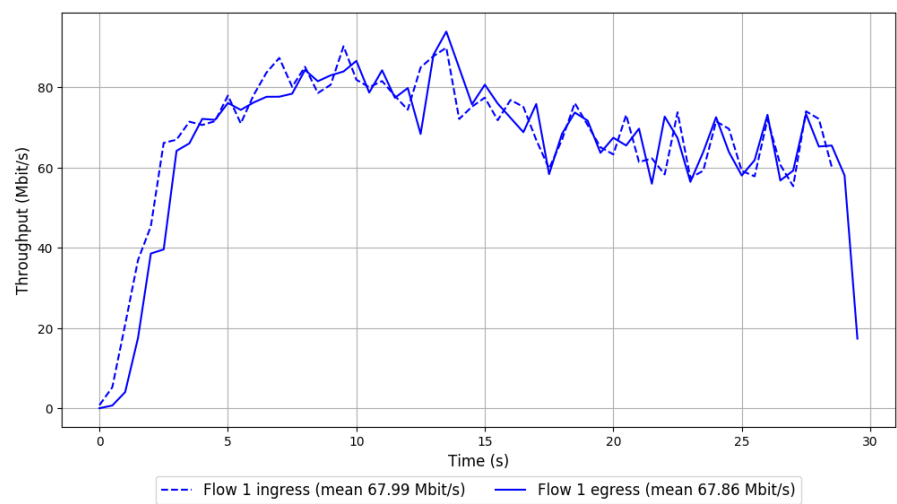


Run 1: Statistics of Indigo-MusesC5

Start at: 2019-02-19 19:59:16
End at: 2019-02-19 19:59:46
Local clock offset: 6.404 ms
Remote clock offset: -7.418 ms

Below is generated by plot.py at 2019-02-19 22:03:59
Datalink statistics
-- Total of 1 flow:
Average throughput: 67.86 Mbit/s
95th percentile per-packet one-way delay: 110.333 ms
Loss rate: 0.08%
-- Flow 1:
Average throughput: 67.86 Mbit/s
95th percentile per-packet one-way delay: 110.333 ms
Loss rate: 0.08%

Run 1: Report of Indigo-MusesC5 — Data Link



Run 2: Statistics of Indigo-MusesC5

Start at: 2019-02-19 20:26:04

End at: 2019-02-19 20:26:34

Local clock offset: 1.116 ms

Remote clock offset: -3.528 ms

Below is generated by plot.py at 2019-02-19 22:04:05

Datalink statistics

-- Total of 1 flow:

Average throughput: 73.78 Mbit/s

95th percentile per-packet one-way delay: 108.365 ms

Loss rate: 0.03%

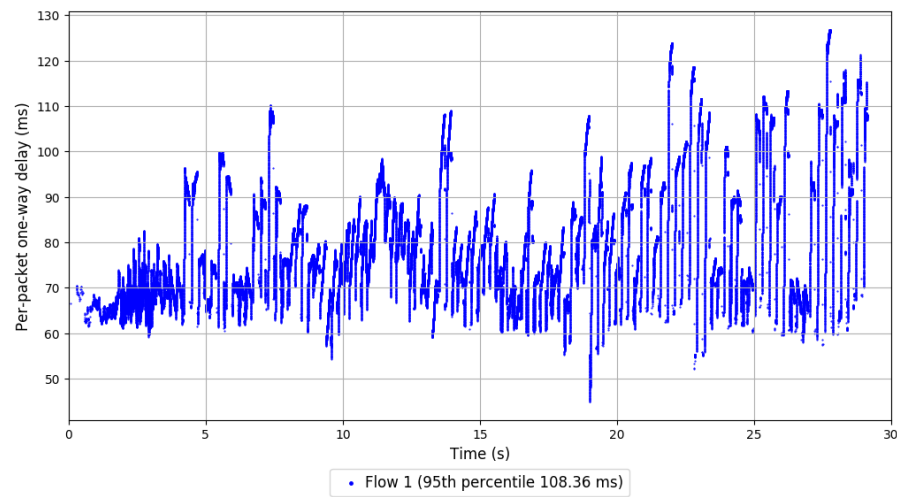
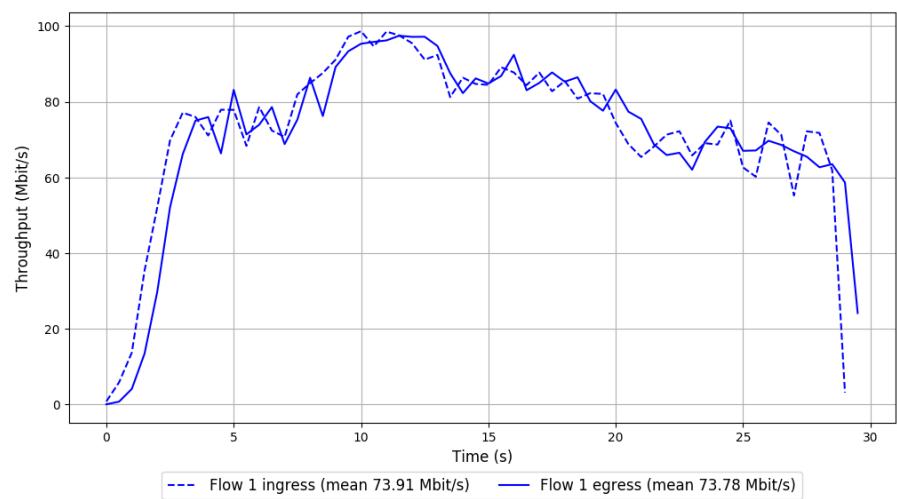
-- Flow 1:

Average throughput: 73.78 Mbit/s

95th percentile per-packet one-way delay: 108.365 ms

Loss rate: 0.03%

Run 2: Report of Indigo-MusesC5 — Data Link

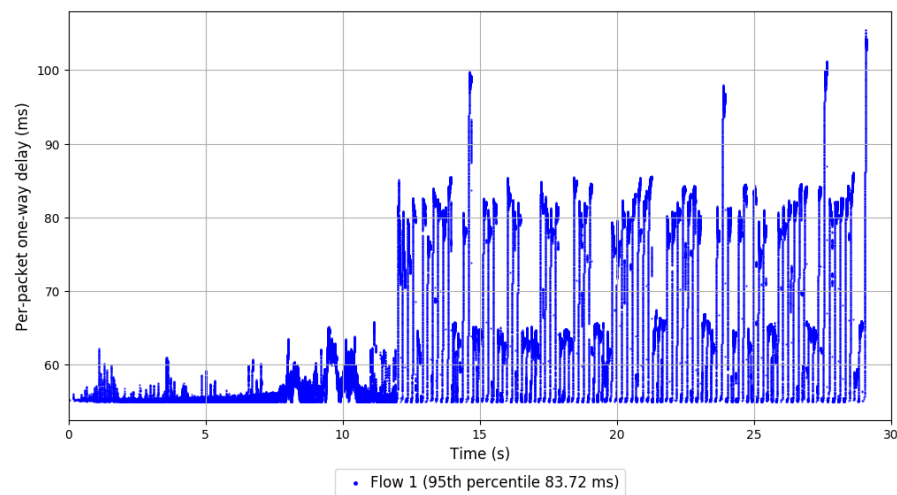
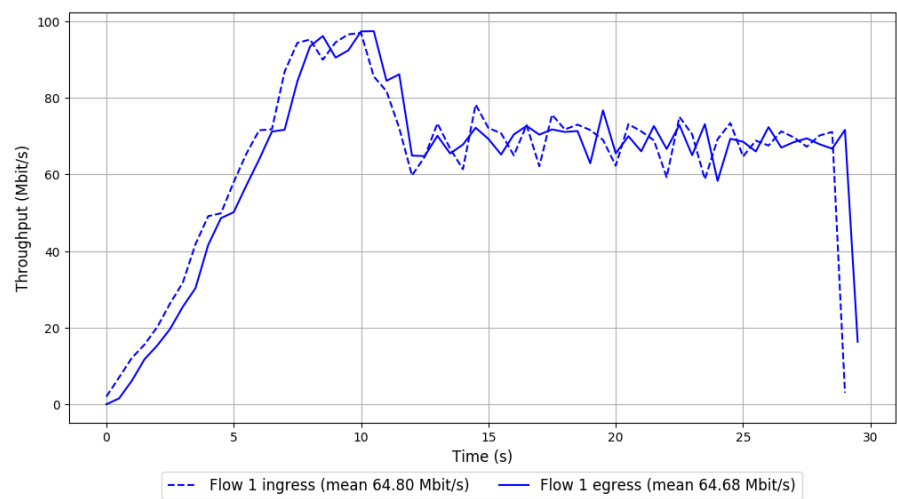


Run 3: Statistics of Indigo-MusesC5

Start at: 2019-02-19 20:52:50
End at: 2019-02-19 20:53:20
Local clock offset: 1.851 ms
Remote clock offset: -2.692 ms

Below is generated by plot.py at 2019-02-19 22:04:05
Datalink statistics
-- Total of 1 flow:
Average throughput: 64.68 Mbit/s
95th percentile per-packet one-way delay: 83.725 ms
Loss rate: 0.05%
-- Flow 1:
Average throughput: 64.68 Mbit/s
95th percentile per-packet one-way delay: 83.725 ms
Loss rate: 0.05%

Run 3: Report of Indigo-MusesC5 — Data Link

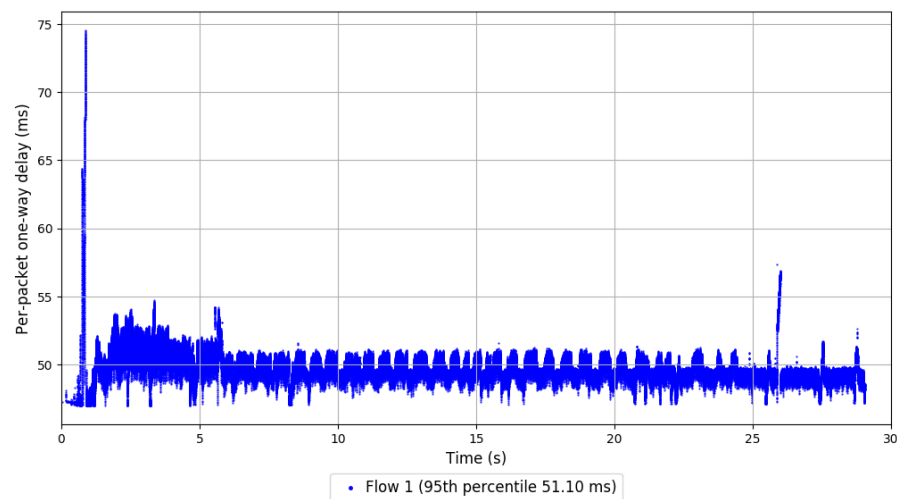
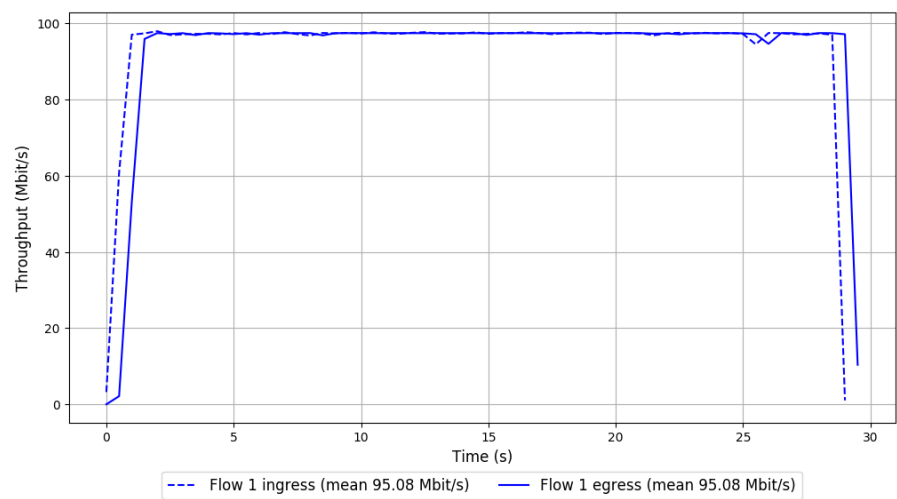


Run 4: Statistics of Indigo-MusesC5

Start at: 2019-02-19 21:18:46
End at: 2019-02-19 21:19:16
Local clock offset: 17.095 ms
Remote clock offset: -2.258 ms

Below is generated by plot.py at 2019-02-19 22:04:32
Datalink statistics
-- Total of 1 flow:
Average throughput: 95.08 Mbit/s
95th percentile per-packet one-way delay: 51.101 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 95.08 Mbit/s
95th percentile per-packet one-way delay: 51.101 ms
Loss rate: 0.00%

Run 4: Report of Indigo-MusesC5 — Data Link

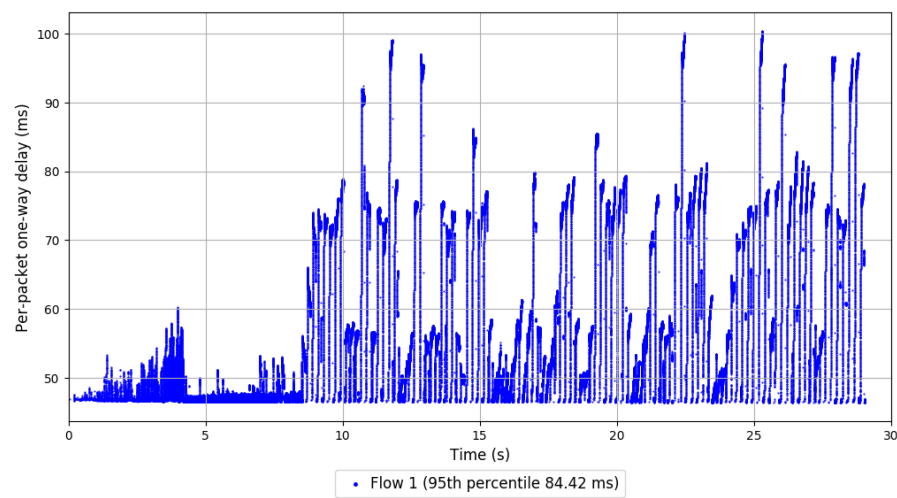
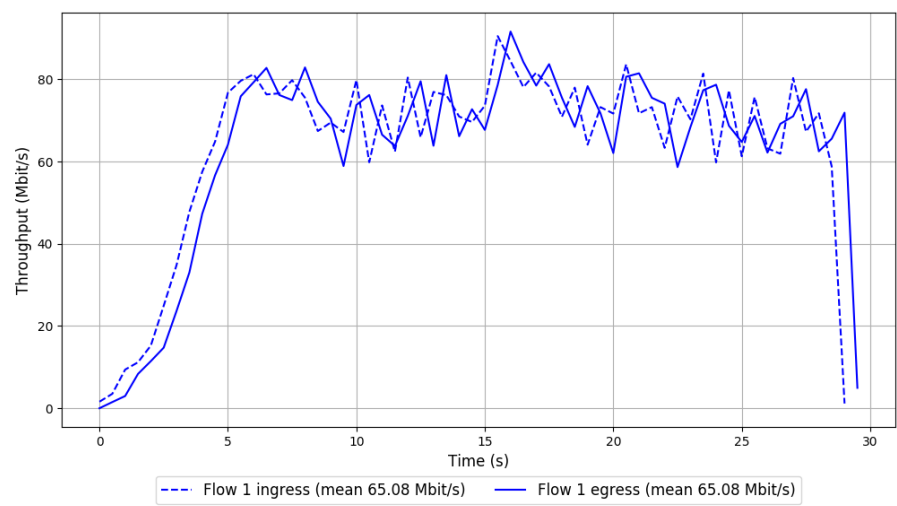


Run 5: Statistics of Indigo-MusesC5

Start at: 2019-02-19 21:44:54
End at: 2019-02-19 21:45:24
Local clock offset: 3.535 ms
Remote clock offset: -2.117 ms

Below is generated by plot.py at 2019-02-19 22:04:32
Datalink statistics
-- Total of 1 flow:
Average throughput: 65.08 Mbit/s
95th percentile per-packet one-way delay: 84.418 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 65.08 Mbit/s
95th percentile per-packet one-way delay: 84.418 ms
Loss rate: 0.00%

Run 5: Report of Indigo-MusesC5 — Data Link

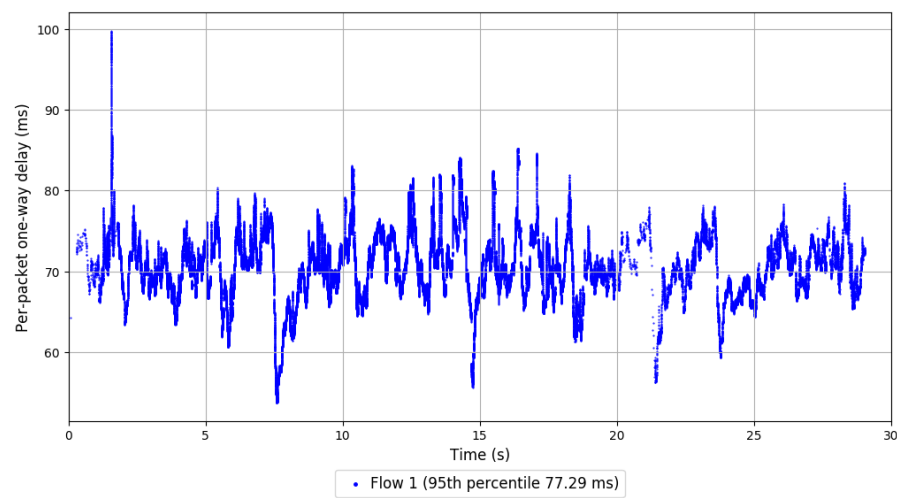
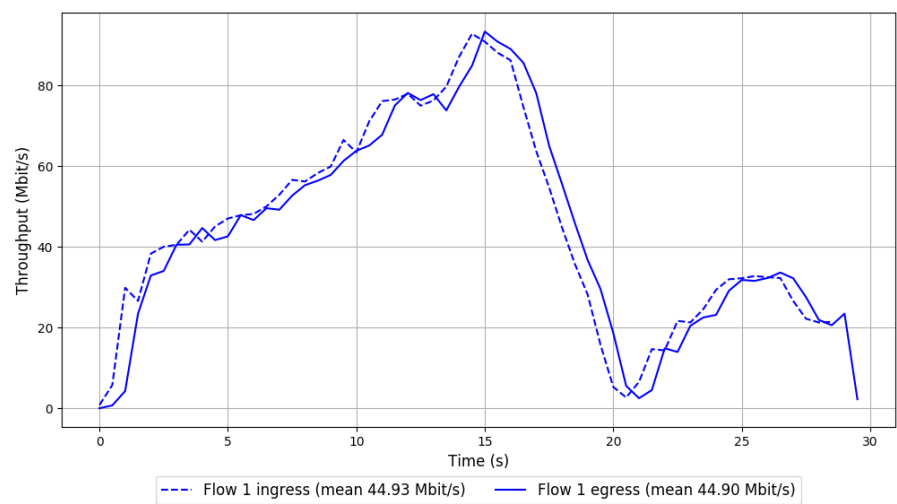



```
Run 1: Statistics of Indigo-MusesD

Start at: 2019-02-19 20:10:44
End at: 2019-02-19 20:11:14
Local clock offset: 2.512 ms
Remote clock offset: 1.617 ms

# Below is generated by plot.py at 2019-02-19 22:04:32
# Datalink statistics
-- Total of 1 flow:
Average throughput: 44.90 Mbit/s
95th percentile per-packet one-way delay: 77.289 ms
Loss rate: 0.05%
-- Flow 1:
Average throughput: 44.90 Mbit/s
95th percentile per-packet one-way delay: 77.289 ms
Loss rate: 0.05%
```

Run 1: Report of Indigo-MusesD — Data Link



Run 2: Statistics of Indigo-MusesD

Start at: 2019-02-19 20:37:39

End at: 2019-02-19 20:38:09

Local clock offset: 1.477 ms

Remote clock offset: -5.759 ms

Below is generated by plot.py at 2019-02-19 22:04:32

Datalink statistics

-- Total of 1 flow:

Average throughput: 41.21 Mbit/s

95th percentile per-packet one-way delay: 53.688 ms

Loss rate: 0.00%

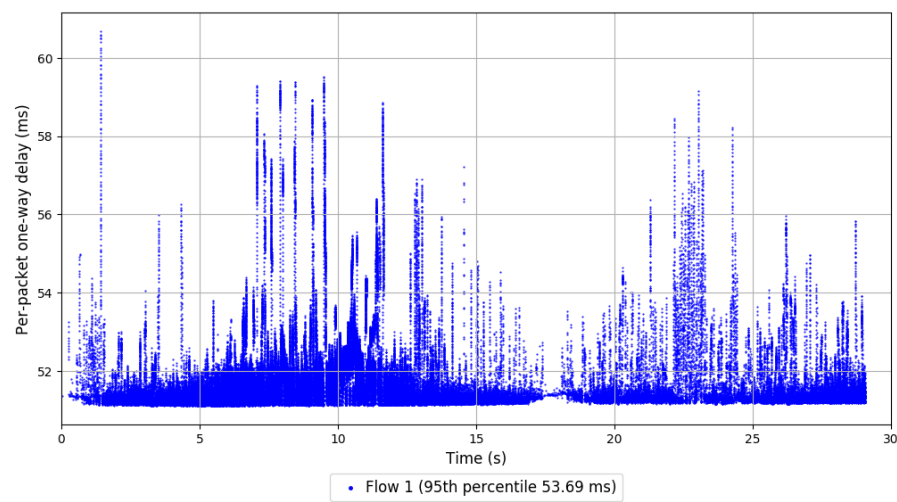
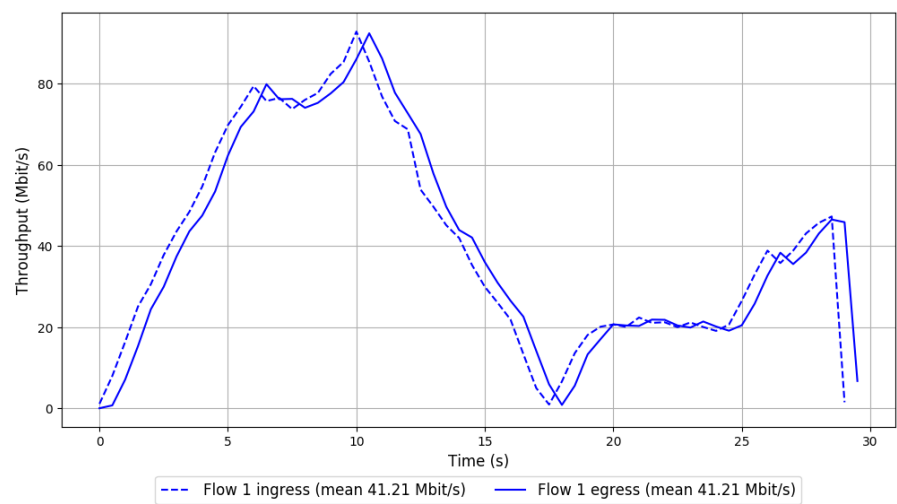
-- Flow 1:

Average throughput: 41.21 Mbit/s

95th percentile per-packet one-way delay: 53.688 ms

Loss rate: 0.00%

Run 2: Report of Indigo-MusesD — Data Link



Run 3: Statistics of Indigo-MusesD

Start at: 2019-02-19 21:04:08

End at: 2019-02-19 21:04:38

Local clock offset: 7.221 ms

Remote clock offset: -2.346 ms

Below is generated by plot.py at 2019-02-19 22:05:06

Datalink statistics

-- Total of 1 flow:

Average throughput: 94.61 Mbit/s

95th percentile per-packet one-way delay: 64.246 ms

Loss rate: 0.02%

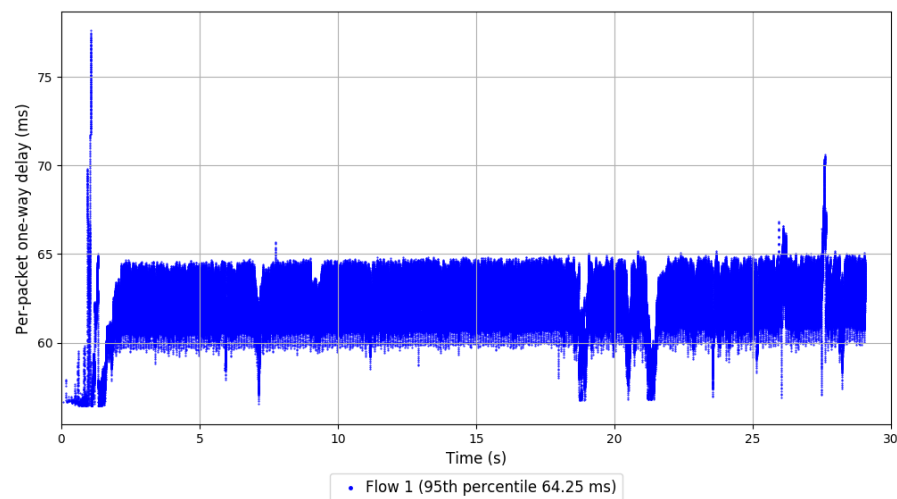
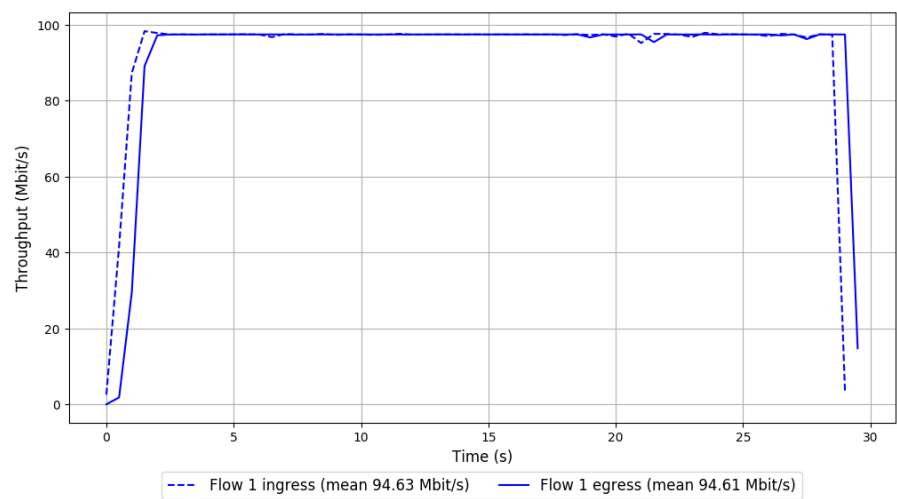
-- Flow 1:

Average throughput: 94.61 Mbit/s

95th percentile per-packet one-way delay: 64.246 ms

Loss rate: 0.02%

Run 3: Report of Indigo-MusesD — Data Link

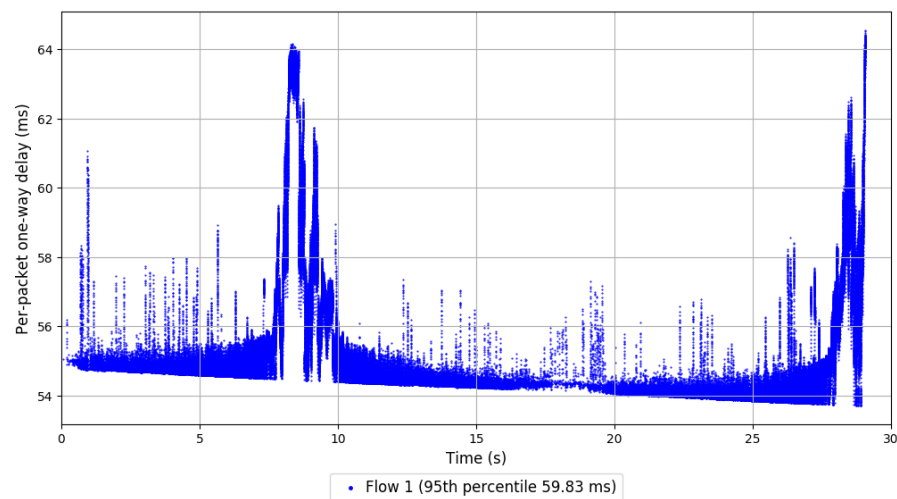
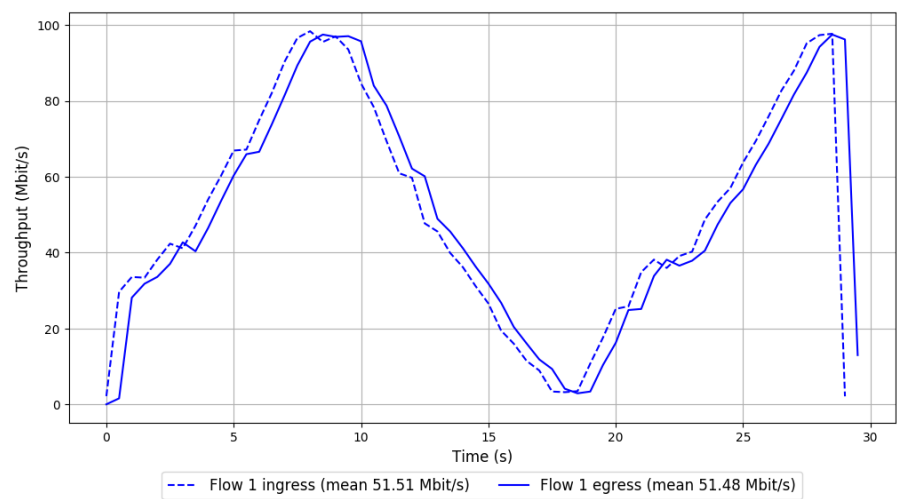


Run 4: Statistics of Indigo-MusesD

Start at: 2019-02-19 21:30:01
End at: 2019-02-19 21:30:31
Local clock offset: 20.298 ms
Remote clock offset: -2.313 ms

Below is generated by plot.py at 2019-02-19 22:05:06
Datalink statistics
-- Total of 1 flow:
Average throughput: 51.48 Mbit/s
95th percentile per-packet one-way delay: 59.831 ms
Loss rate: 0.06%
-- Flow 1:
Average throughput: 51.48 Mbit/s
95th percentile per-packet one-way delay: 59.831 ms
Loss rate: 0.06%

Run 4: Report of Indigo-MusesD — Data Link



Run 5: Statistics of Indigo-MusesD

Start at: 2019-02-19 21:56:18

End at: 2019-02-19 21:56:48

Local clock offset: 0.33 ms

Remote clock offset: -2.087 ms

Below is generated by plot.py at 2019-02-19 22:05:06

Datalink statistics

-- Total of 1 flow:

Average throughput: 30.62 Mbit/s

95th percentile per-packet one-way delay: 49.606 ms

Loss rate: 0.00%

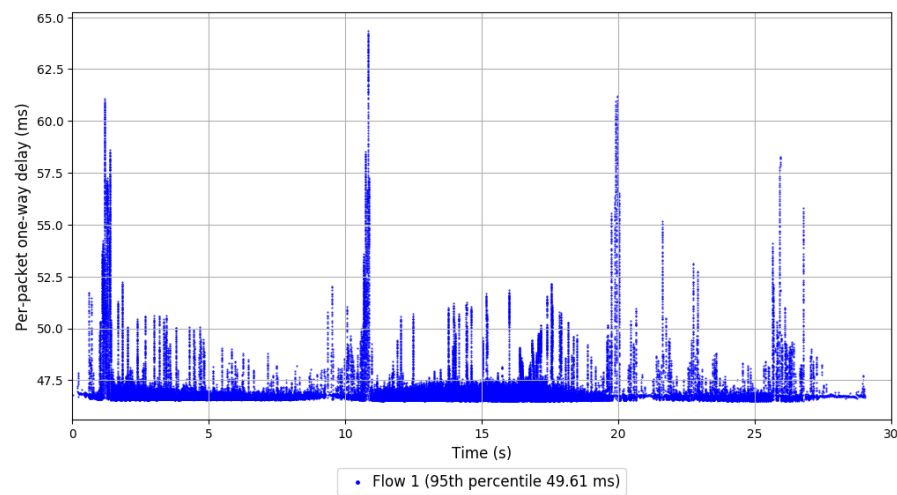
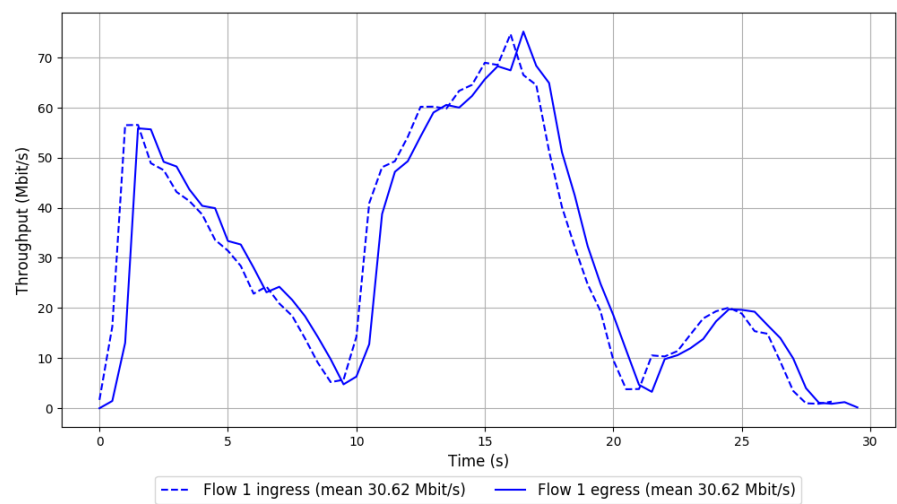
-- Flow 1:

Average throughput: 30.62 Mbit/s

95th percentile per-packet one-way delay: 49.606 ms

Loss rate: 0.00%

Run 5: Report of Indigo-MusesD — Data Link



Run 1: Statistics of Indigo-MusesT

Start at: 2019-02-19 19:51:39

End at: 2019-02-19 19:52:09

Local clock offset: 3.386 ms

Remote clock offset: -4.733 ms

Below is generated by plot.py at 2019-02-19 22:05:17

Datalink statistics

-- Total of 1 flow:

Average throughput: 92.46 Mbit/s

95th percentile per-packet one-way delay: 89.225 ms

Loss rate: 0.28%

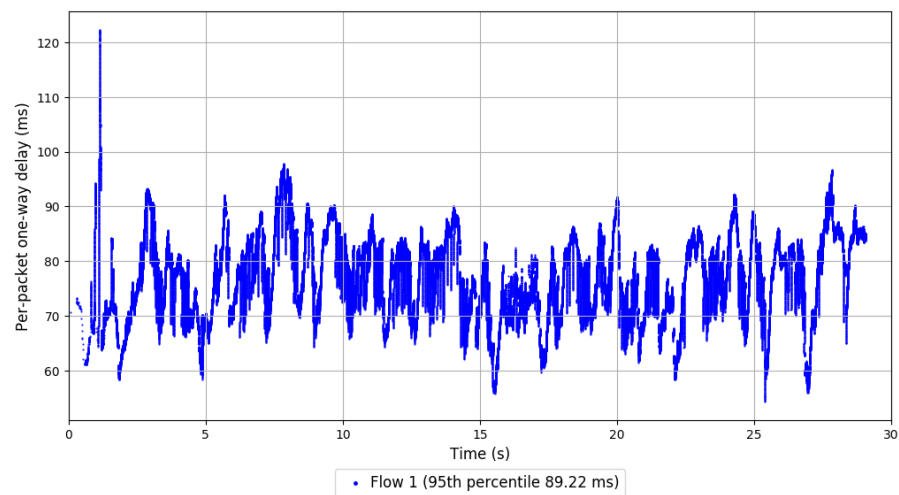
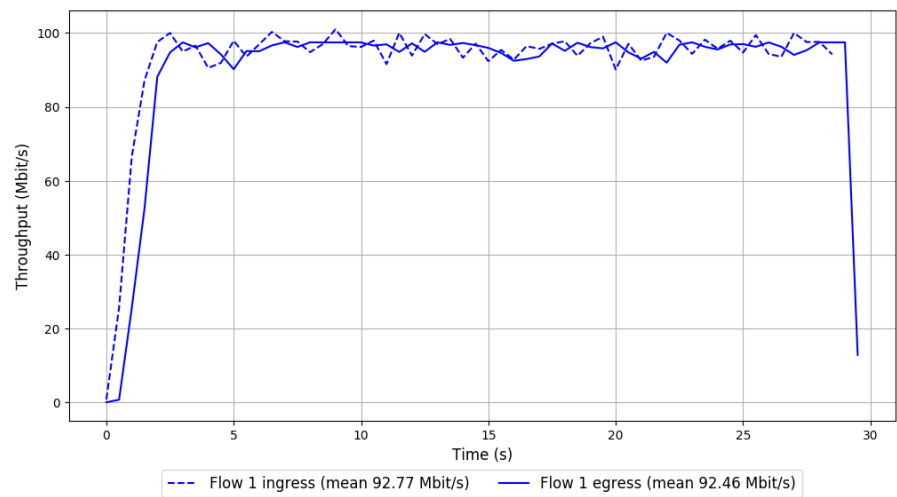
-- Flow 1:

Average throughput: 92.46 Mbit/s

95th percentile per-packet one-way delay: 89.225 ms

Loss rate: 0.28%

Run 1: Report of Indigo-MusesT — Data Link



Run 2: Statistics of Indigo-MusesT

Start at: 2019-02-19 20:18:27

End at: 2019-02-19 20:18:57

Local clock offset: 1.439 ms

Remote clock offset: -1.764 ms

Below is generated by plot.py at 2019-02-19 22:05:21

Datalink statistics

-- Total of 1 flow:

Average throughput: 85.06 Mbit/s

95th percentile per-packet one-way delay: 90.936 ms

Loss rate: 0.62%

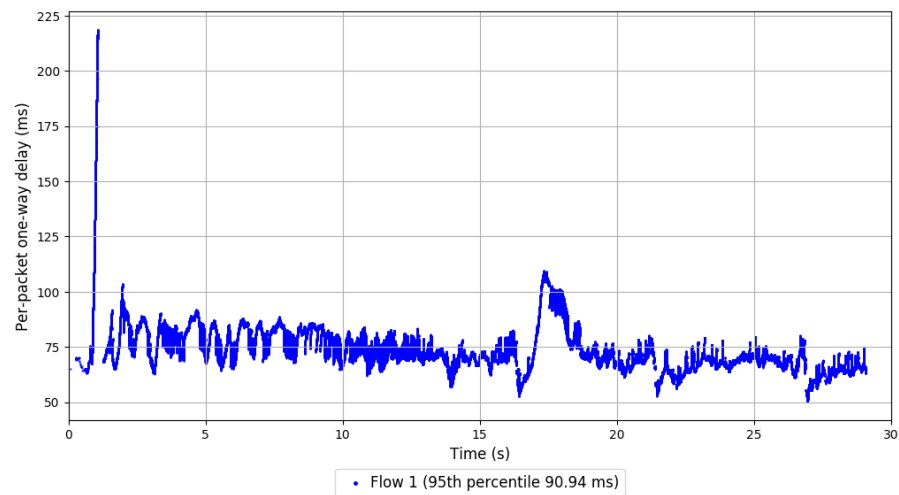
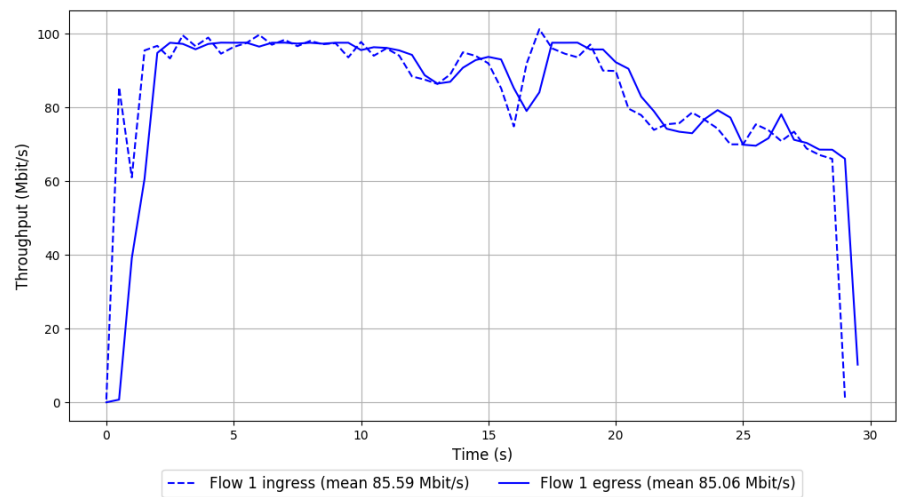
-- Flow 1:

Average throughput: 85.06 Mbit/s

95th percentile per-packet one-way delay: 90.936 ms

Loss rate: 0.62%

Run 2: Report of Indigo-MusesT — Data Link

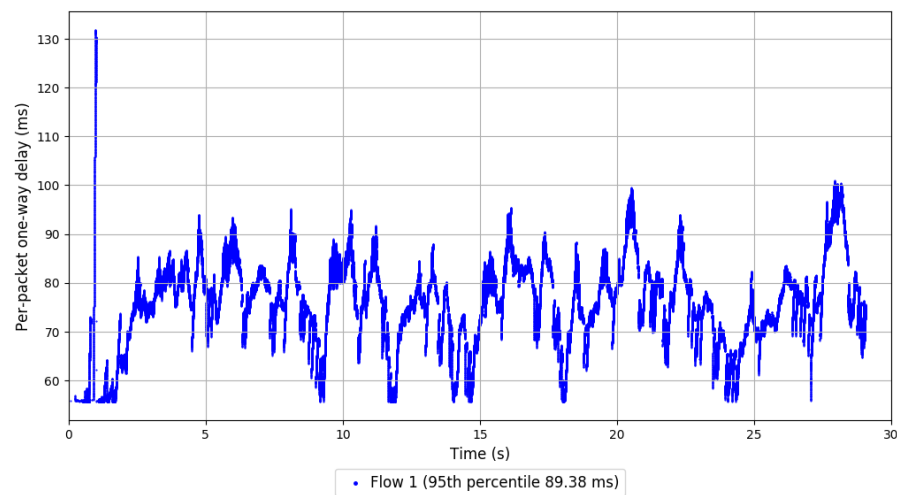
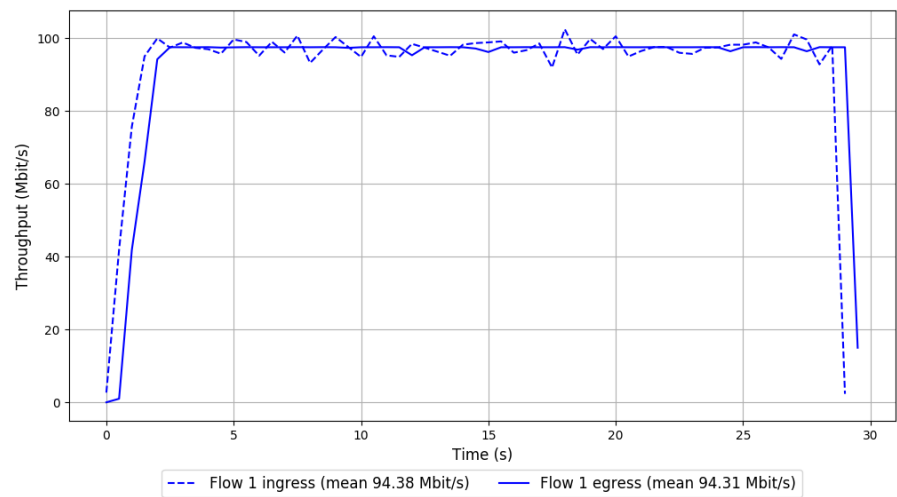


Run 3: Statistics of Indigo-MusesT

Start at: 2019-02-19 20:45:18
End at: 2019-02-19 20:45:48
Local clock offset: 1.788 ms
Remote clock offset: -1.947 ms

Below is generated by plot.py at 2019-02-19 22:05:27
Datalink statistics
-- Total of 1 flow:
Average throughput: 94.31 Mbit/s
95th percentile per-packet one-way delay: 89.383 ms
Loss rate: 0.04%
-- Flow 1:
Average throughput: 94.31 Mbit/s
95th percentile per-packet one-way delay: 89.383 ms
Loss rate: 0.04%

Run 3: Report of Indigo-MusesT — Data Link

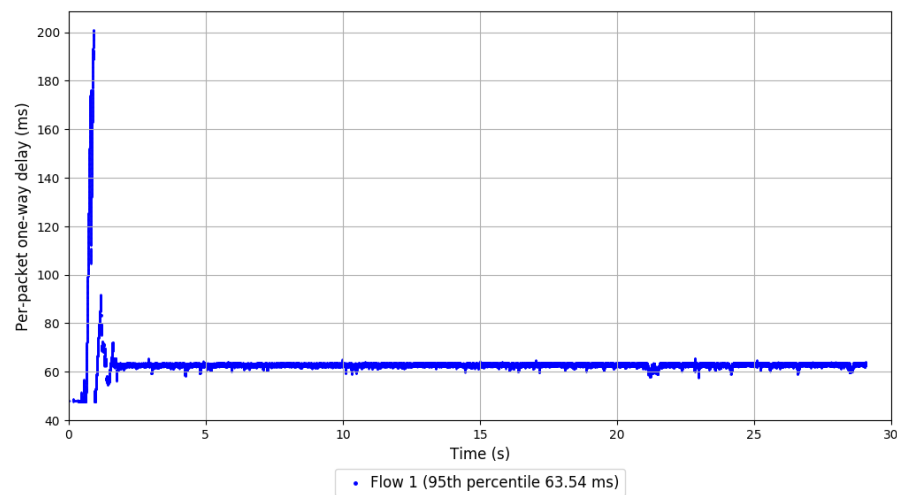
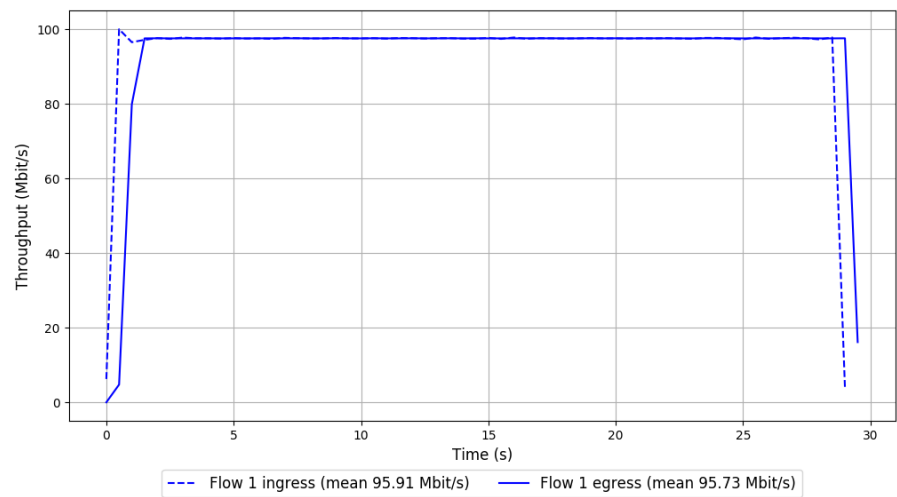


Run 4: Statistics of Indigo-MusesT

Start at: 2019-02-19 21:11:25
End at: 2019-02-19 21:11:55
Local clock offset: 13.338 ms
Remote clock offset: -2.005 ms

Below is generated by plot.py at 2019-02-19 22:05:29
Datalink statistics
-- Total of 1 flow:
Average throughput: 95.73 Mbit/s
95th percentile per-packet one-way delay: 63.537 ms
Loss rate: 0.14%
-- Flow 1:
Average throughput: 95.73 Mbit/s
95th percentile per-packet one-way delay: 63.537 ms
Loss rate: 0.14%

Run 4: Report of Indigo-MusesT — Data Link



Run 5: Statistics of Indigo-MusesT

Start at: 2019-02-19 21:37:26

End at: 2019-02-19 21:37:56

Local clock offset: 8.81 ms

Remote clock offset: -2.089 ms

Below is generated by plot.py at 2019-02-19 22:05:30

Datalink statistics

-- Total of 1 flow:

Average throughput: 94.81 Mbit/s

95th percentile per-packet one-way delay: 84.287 ms

Loss rate: 1.22%

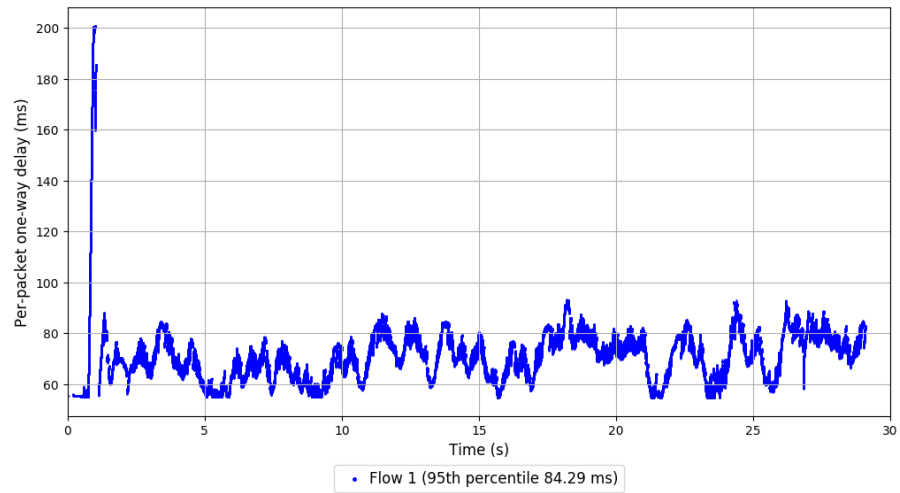
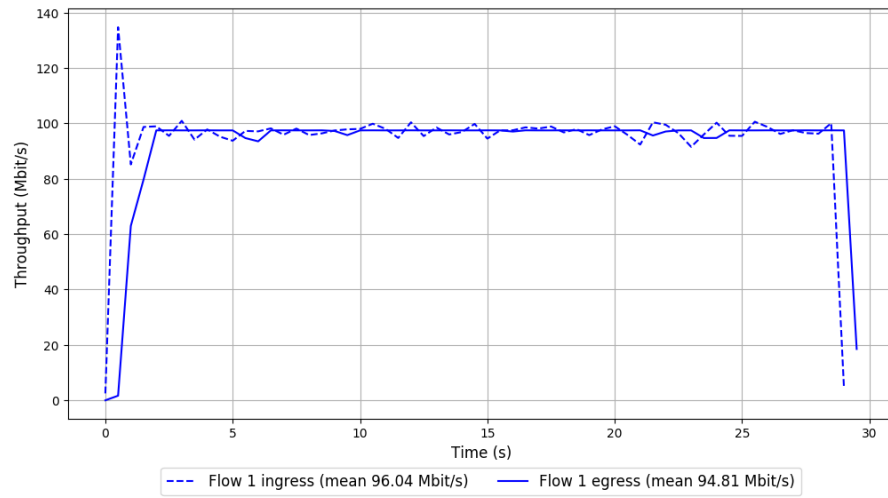
-- Flow 1:

Average throughput: 94.81 Mbit/s

95th percentile per-packet one-way delay: 84.287 ms

Loss rate: 1.22%

Run 5: Report of Indigo-MusesT — Data Link



Run 1: Statistics of LEDBAT

Start at: 2019-02-19 19:50:27

End at: 2019-02-19 19:50:57

Local clock offset: 2.54 ms

Remote clock offset: -8.23 ms

Below is generated by plot.py at 2019-02-19 22:05:30

Datalink statistics

-- Total of 1 flow:

Average throughput: 2.56 Mbit/s

95th percentile per-packet one-way delay: 69.890 ms

Loss rate: 0.14%

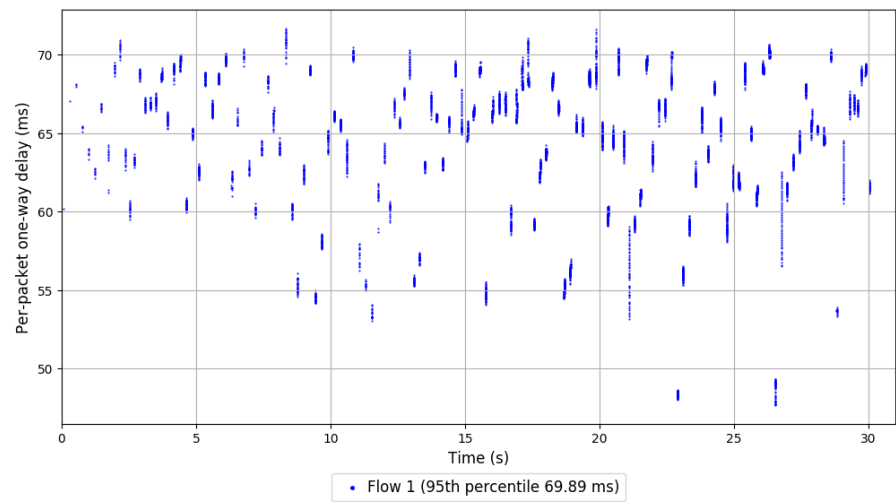
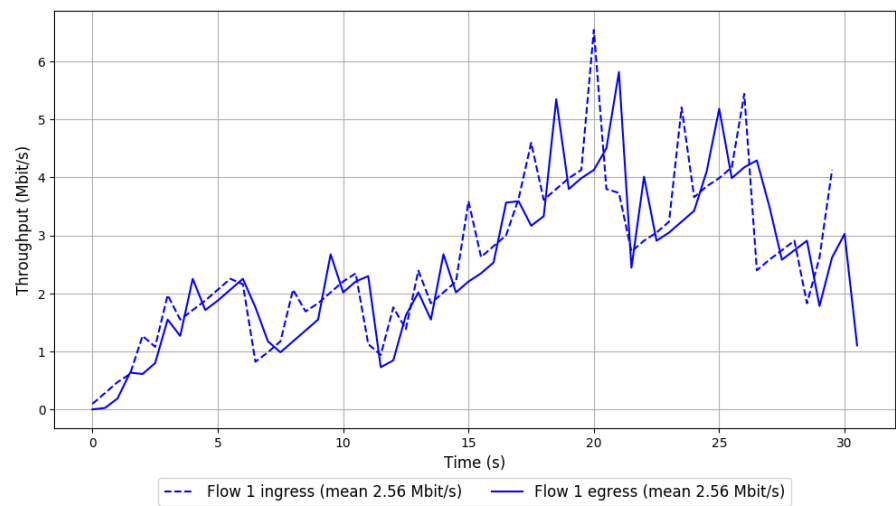
-- Flow 1:

Average throughput: 2.56 Mbit/s

95th percentile per-packet one-way delay: 69.890 ms

Loss rate: 0.14%

Run 1: Report of LEDBAT — Data Link

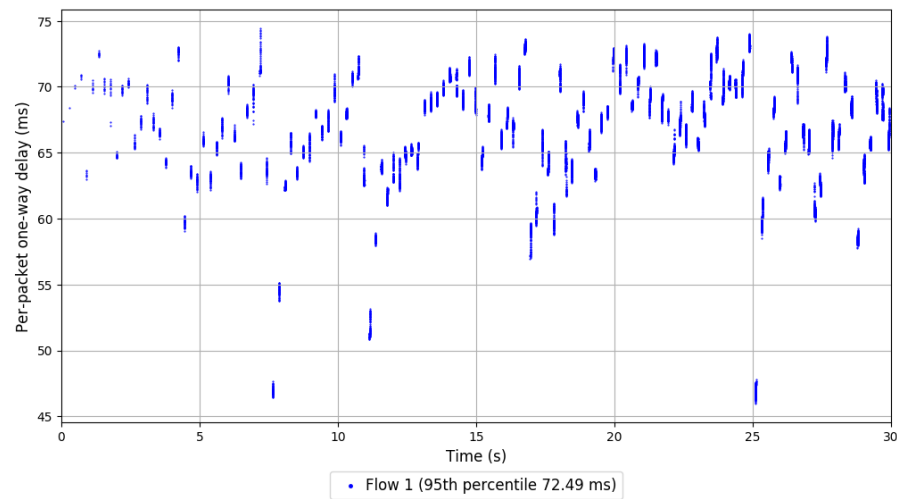
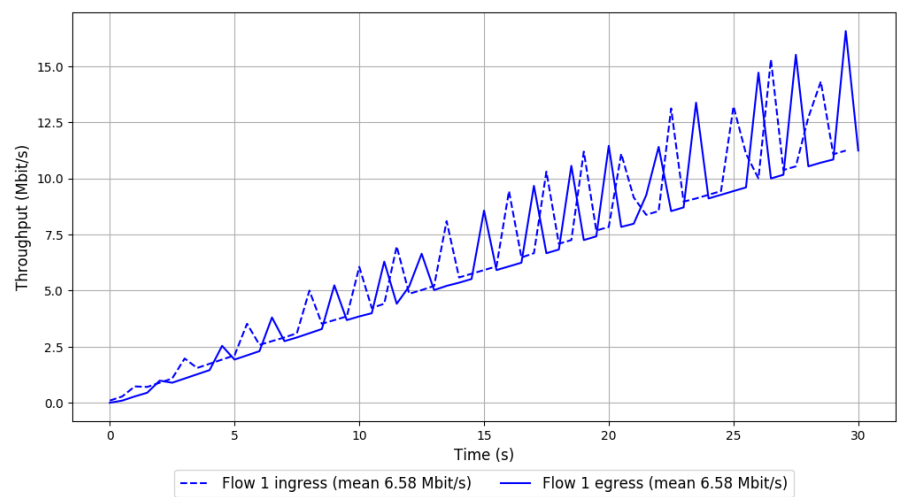


Run 2: Statistics of LEDBAT

Start at: 2019-02-19 20:17:10
End at: 2019-02-19 20:17:40
Local clock offset: 1.658 ms
Remote clock offset: -1.583 ms

Below is generated by plot.py at 2019-02-19 22:05:30
Datalink statistics
-- Total of 1 flow:
Average throughput: 6.58 Mbit/s
95th percentile per-packet one-way delay: 72.492 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 6.58 Mbit/s
95th percentile per-packet one-way delay: 72.492 ms
Loss rate: 0.00%

Run 2: Report of LEDBAT — Data Link



Run 3: Statistics of LEDBAT

Start at: 2019-02-19 20:44:02

End at: 2019-02-19 20:44:32

Local clock offset: 1.655 ms

Remote clock offset: -1.59 ms

Below is generated by plot.py at 2019-02-19 22:05:30

Datalink statistics

-- Total of 1 flow:

Average throughput: 12.29 Mbit/s

95th percentile per-packet one-way delay: 50.156 ms

Loss rate: 0.00%

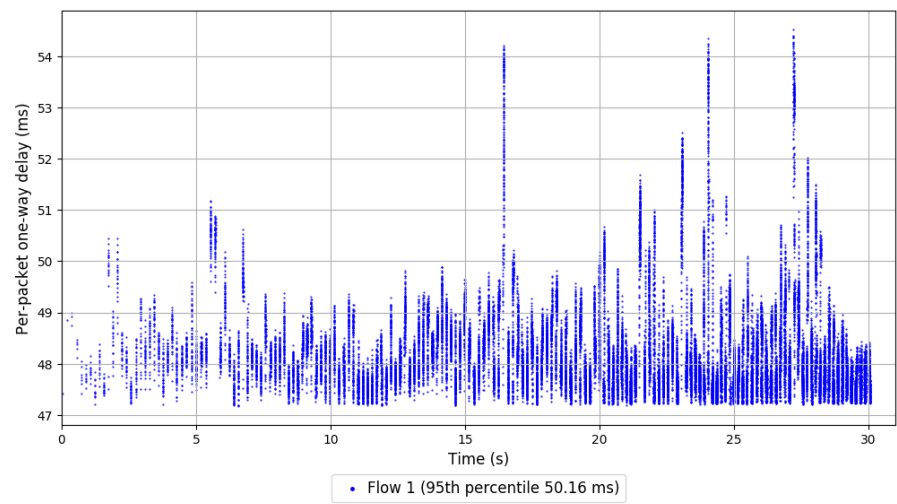
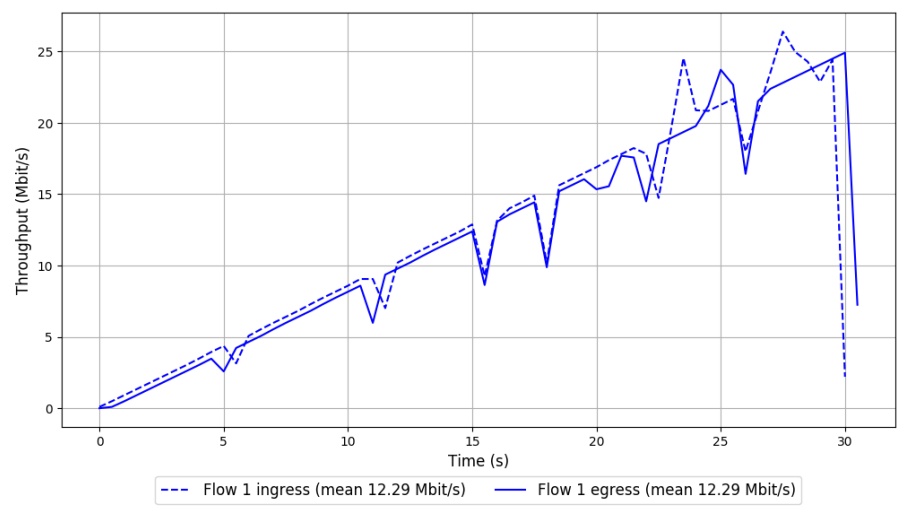
-- Flow 1:

Average throughput: 12.29 Mbit/s

95th percentile per-packet one-way delay: 50.156 ms

Loss rate: 0.00%

Run 3: Report of LEDBAT — Data Link

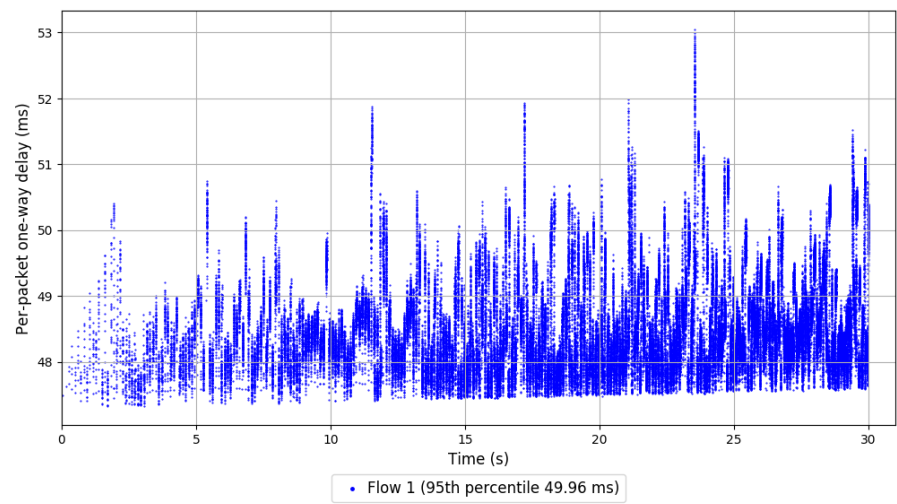
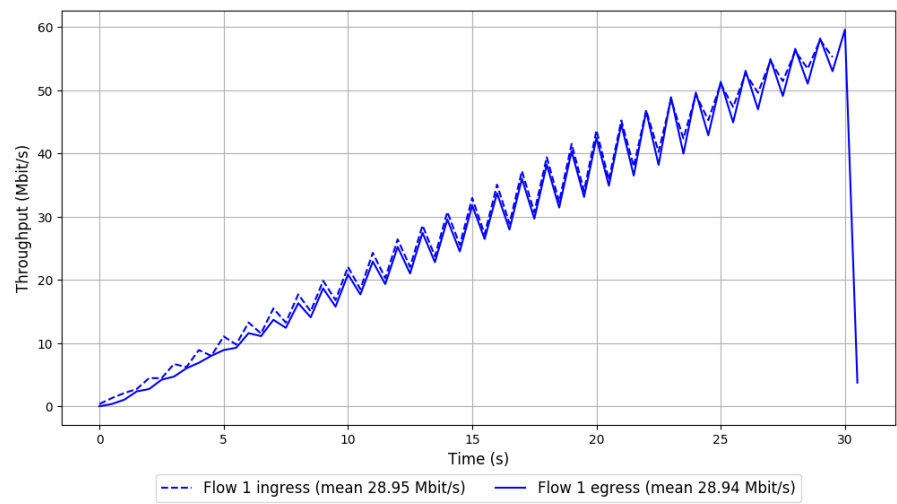


Run 4: Statistics of LEDBAT

Start at: 2019-02-19 21:10:10
End at: 2019-02-19 21:10:40
Local clock offset: 12.558 ms
Remote clock offset: -2.317 ms

Below is generated by plot.py at 2019-02-19 22:05:30
Datalink statistics
-- Total of 1 flow:
Average throughput: 28.94 Mbit/s
95th percentile per-packet one-way delay: 49.964 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 28.94 Mbit/s
95th percentile per-packet one-way delay: 49.964 ms
Loss rate: 0.00%

Run 4: Report of LEDBAT — Data Link

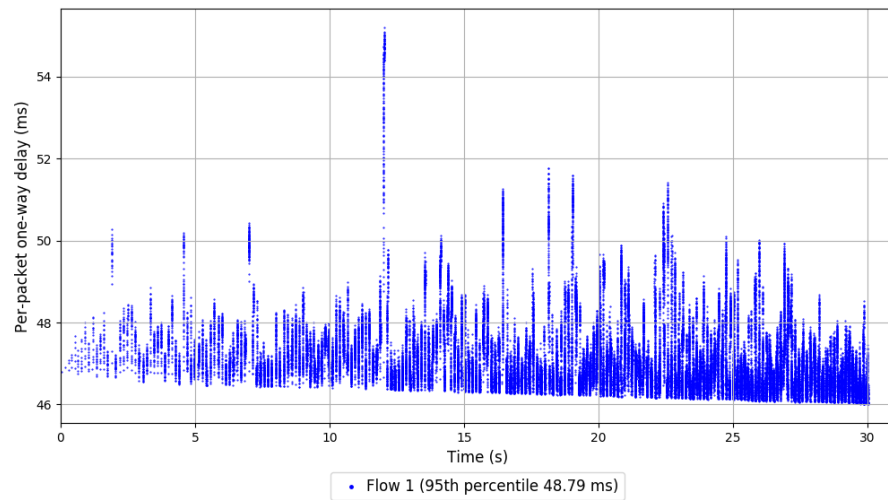
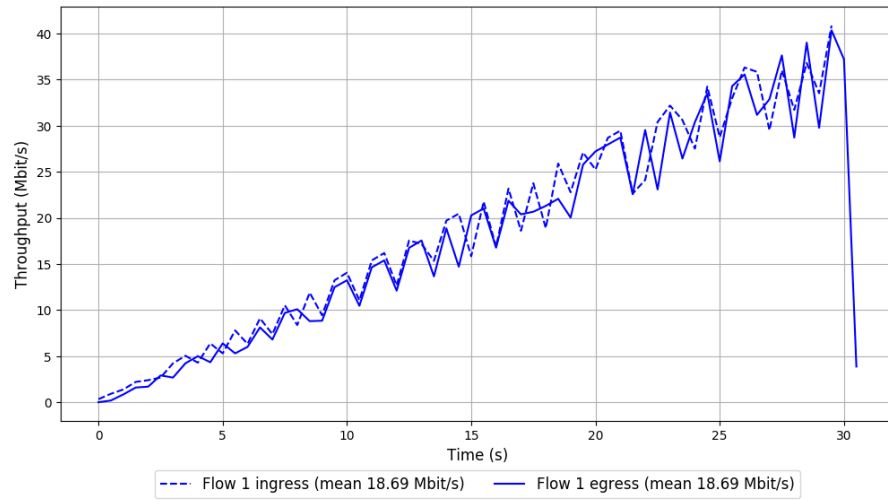


Run 5: Statistics of LEDBAT

Start at: 2019-02-19 21:36:11
End at: 2019-02-19 21:36:41
Local clock offset: 10.442 ms
Remote clock offset: -1.882 ms

Below is generated by plot.py at 2019-02-19 22:05:30
Datalink statistics
-- Total of 1 flow:
Average throughput: 18.69 Mbit/s
95th percentile per-packet one-way delay: 48.786 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 18.69 Mbit/s
95th percentile per-packet one-way delay: 48.786 ms
Loss rate: 0.00%

Run 5: Report of LEDBAT — Data Link

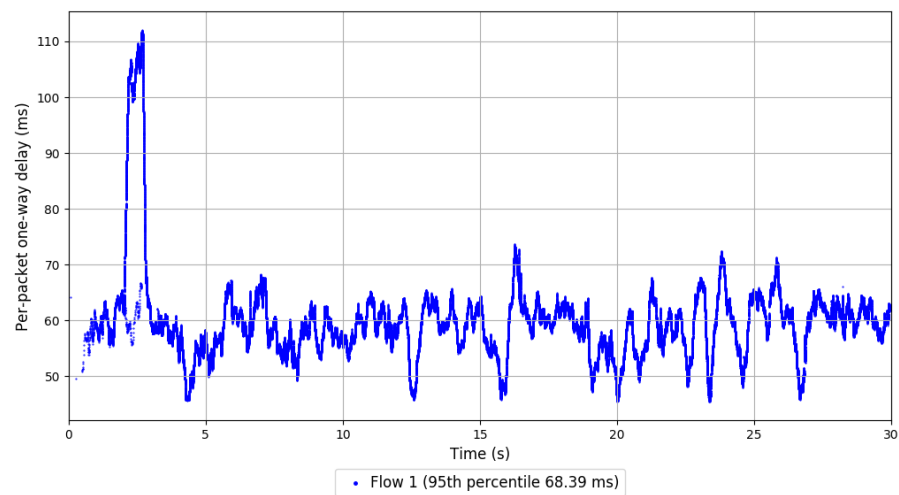
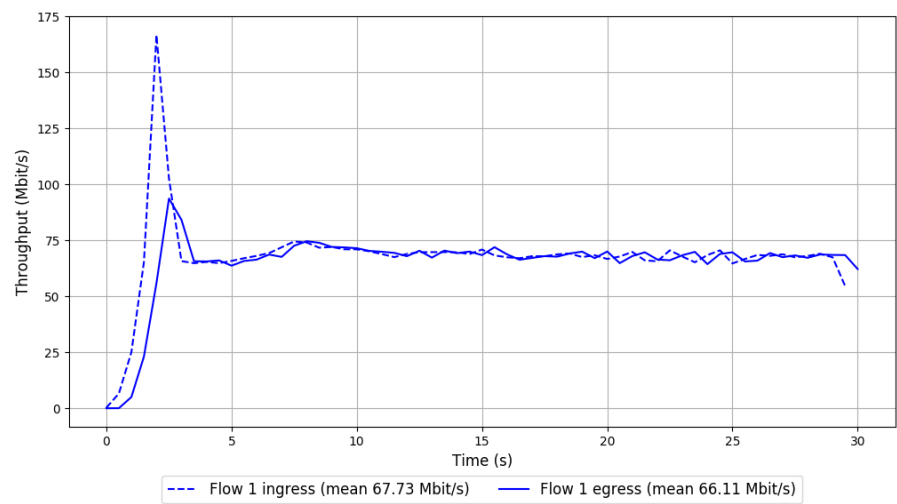


```
Run 1: Statistics of PCC-Allegro

Start at: 2019-02-19 20:00:35
End at: 2019-02-19 20:01:05
Local clock offset: 6.517 ms
Remote clock offset: -7.549 ms

# Below is generated by plot.py at 2019-02-19 22:05:56
# Datalink statistics
-- Total of 1 flow:
Average throughput: 66.11 Mbit/s
95th percentile per-packet one-way delay: 68.392 ms
Loss rate: 2.39%
-- Flow 1:
Average throughput: 66.11 Mbit/s
95th percentile per-packet one-way delay: 68.392 ms
Loss rate: 2.39%
```

Run 1: Report of PCC-Allegro — Data Link



Run 2: Statistics of PCC-Allegro

Start at: 2019-02-19 20:27:24

End at: 2019-02-19 20:27:54

Local clock offset: 1.032 ms

Remote clock offset: -3.984 ms

Below is generated by plot.py at 2019-02-19 22:05:57

Datalink statistics

-- Total of 1 flow:

Average throughput: 64.80 Mbit/s

95th percentile per-packet one-way delay: 57.522 ms

Loss rate: 2.93%

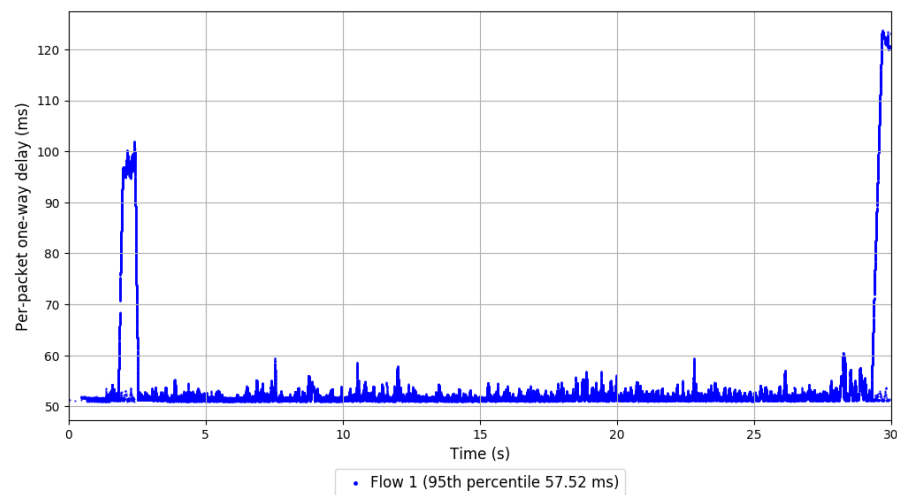
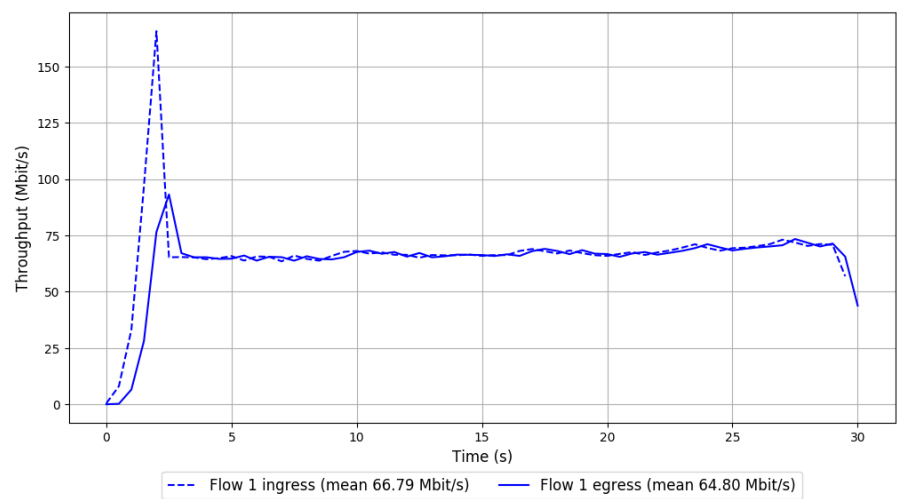
-- Flow 1:

Average throughput: 64.80 Mbit/s

95th percentile per-packet one-way delay: 57.522 ms

Loss rate: 2.93%

Run 2: Report of PCC-Allegro — Data Link



Run 3: Statistics of PCC-Allegro

Start at: 2019-02-19 20:54:07

End at: 2019-02-19 20:54:37

Local clock offset: 1.836 ms

Remote clock offset: -2.271 ms

Below is generated by plot.py at 2019-02-19 22:05:59

Datalink statistics

-- Total of 1 flow:

Average throughput: 58.11 Mbit/s

95th percentile per-packet one-way delay: 57.198 ms

Loss rate: 16.80%

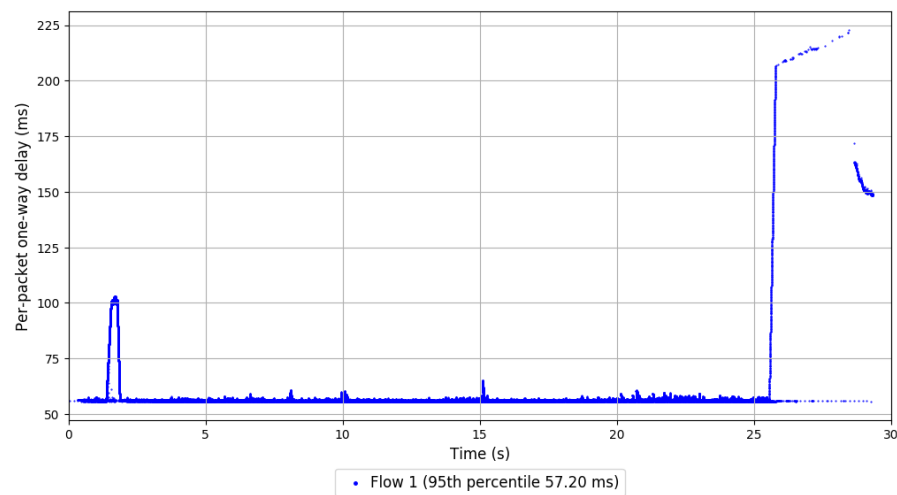
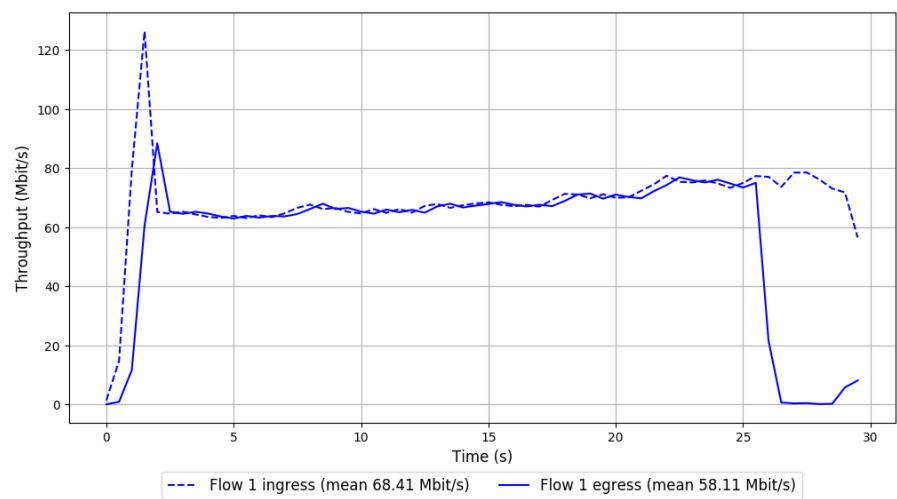
-- Flow 1:

Average throughput: 58.11 Mbit/s

95th percentile per-packet one-way delay: 57.198 ms

Loss rate: 16.80%

Run 3: Report of PCC-Allegro — Data Link



Run 4: Statistics of PCC-Allegro

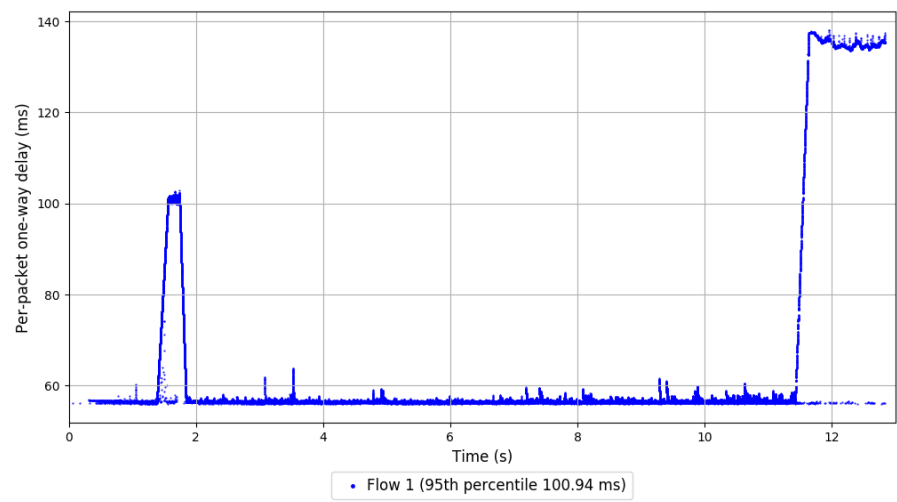
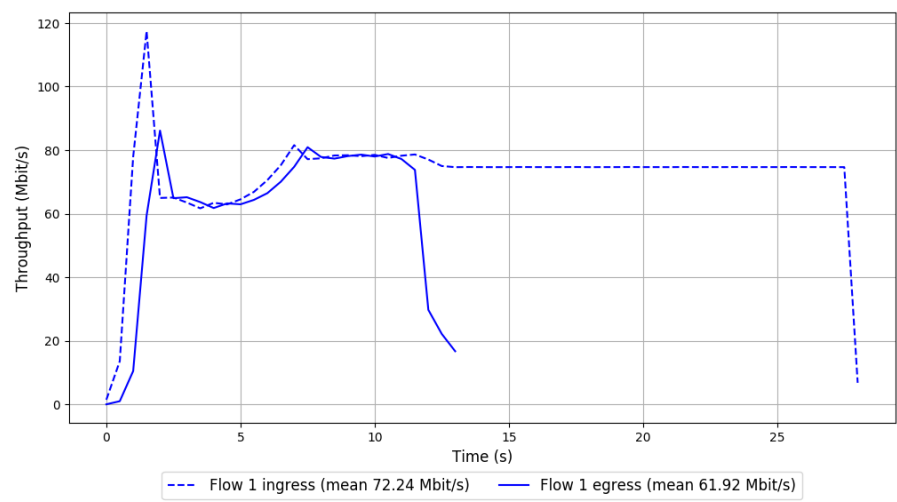
Start at: 2019-02-19 21:20:03

End at: 2019-02-19 21:20:33

Local clock offset: 17.32 ms

Remote clock offset: -2.078 ms

Run 4: Report of PCC-Allegro — Data Link



Run 5: Statistics of PCC-Allegro

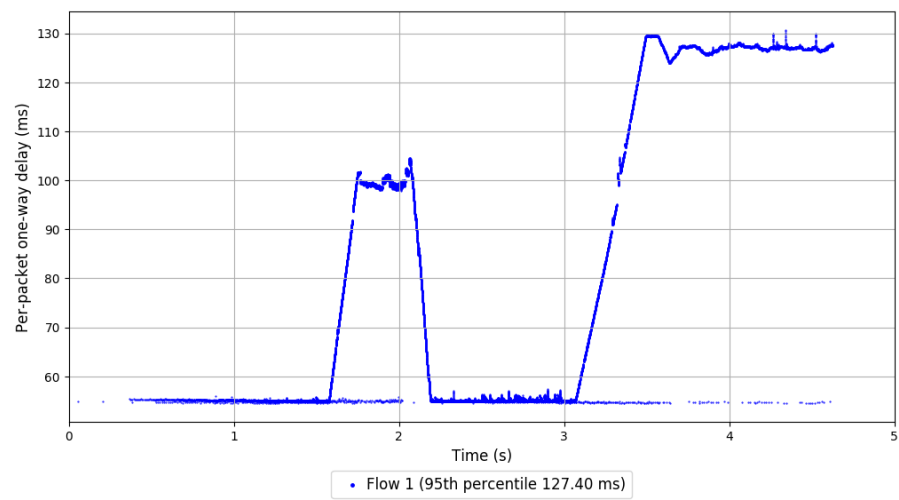
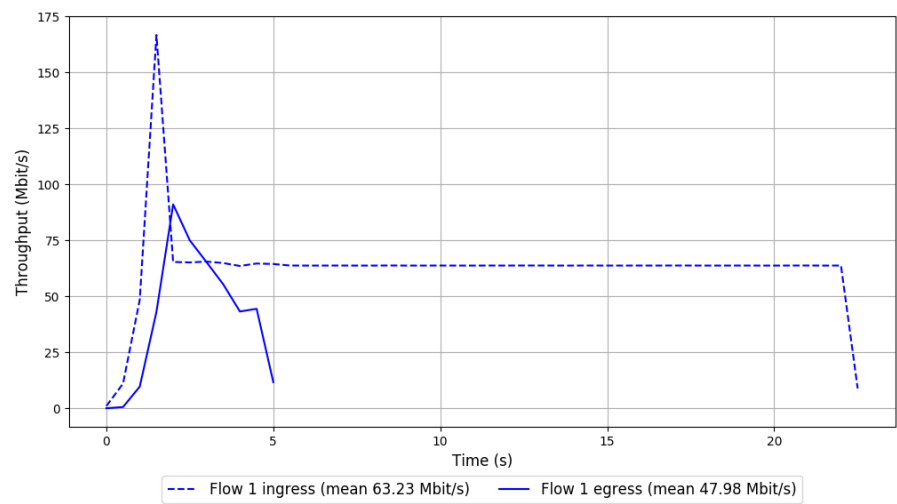
Start at: 2019-02-19 21:46:11

End at: 2019-02-19 21:46:41

Local clock offset: 3.06 ms

Remote clock offset: -2.04 ms

Run 5: Report of PCC-Allegro — Data Link

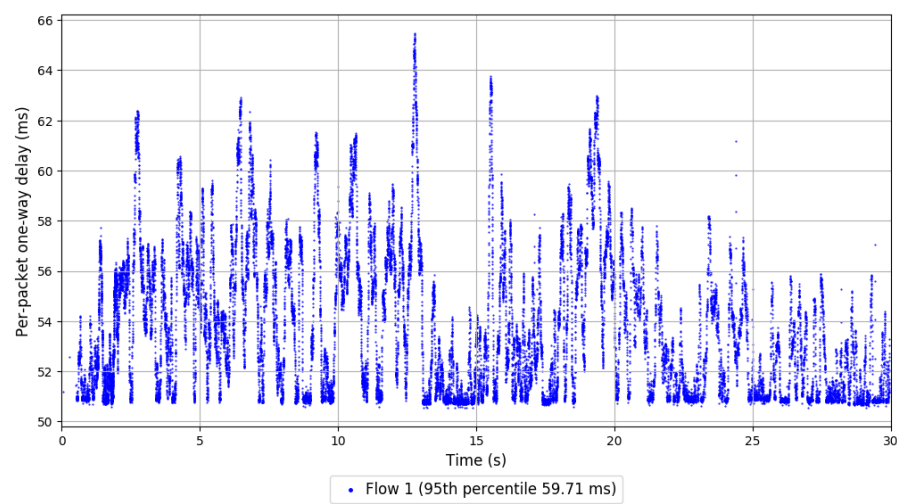
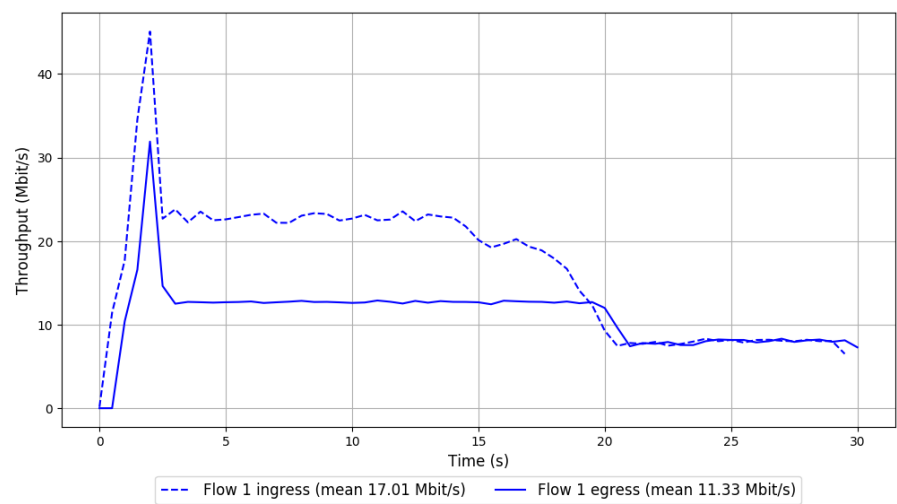


Run 1: Statistics of PCC-Expr

Start at: 2019-02-19 20:13:19
End at: 2019-02-19 20:13:49
Local clock offset: 2.087 ms
Remote clock offset: -2.101 ms

Below is generated by plot.py at 2019-02-19 22:05:59
Datalink statistics
-- Total of 1 flow:
Average throughput: 11.33 Mbit/s
95th percentile per-packet one-way delay: 59.707 ms
Loss rate: 33.39%
-- Flow 1:
Average throughput: 11.33 Mbit/s
95th percentile per-packet one-way delay: 59.707 ms
Loss rate: 33.39%

Run 1: Report of PCC-Expr — Data Link

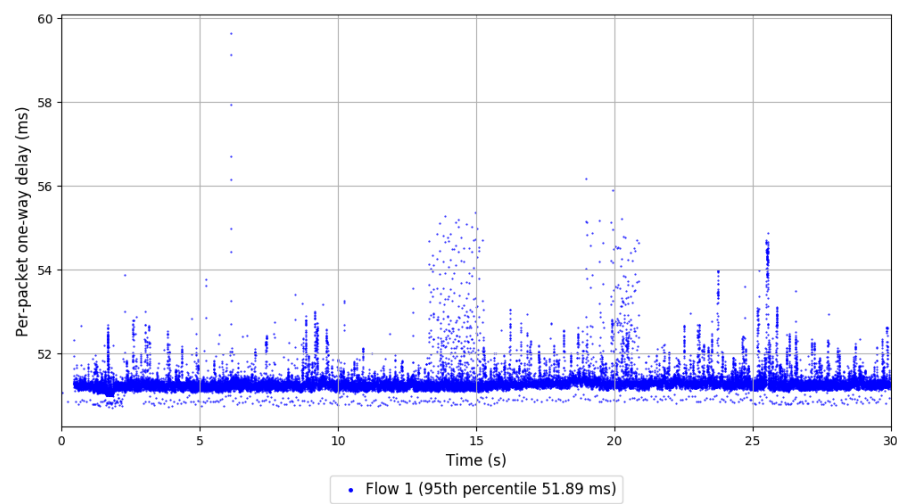
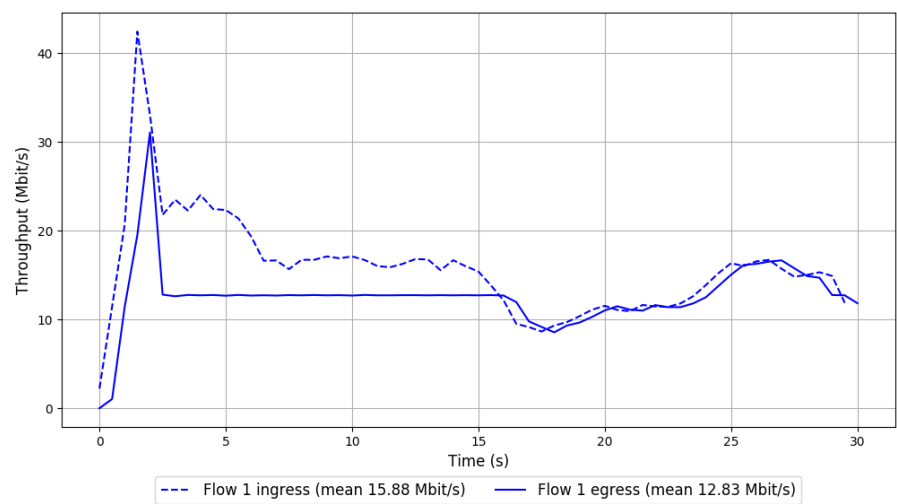


Run 2: Statistics of PCC-Expr

Start at: 2019-02-19 20:40:12
End at: 2019-02-19 20:40:42
Local clock offset: 1.618 ms
Remote clock offset: -5.792 ms

Below is generated by plot.py at 2019-02-19 22:05:59
Datalink statistics
-- Total of 1 flow:
Average throughput: 12.83 Mbit/s
95th percentile per-packet one-way delay: 51.893 ms
Loss rate: 19.19%
-- Flow 1:
Average throughput: 12.83 Mbit/s
95th percentile per-packet one-way delay: 51.893 ms
Loss rate: 19.19%

Run 2: Report of PCC-Expr — Data Link



Run 3: Statistics of PCC-Expr

Start at: 2019-02-19 21:06:33

End at: 2019-02-19 21:07:03

Local clock offset: 9.919 ms

Remote clock offset: -2.2 ms

Below is generated by plot.py at 2019-02-19 22:05:59

Datalink statistics

-- Total of 1 flow:

Average throughput: 11.52 Mbit/s

95th percentile per-packet one-way delay: 56.662 ms

Loss rate: 48.05%

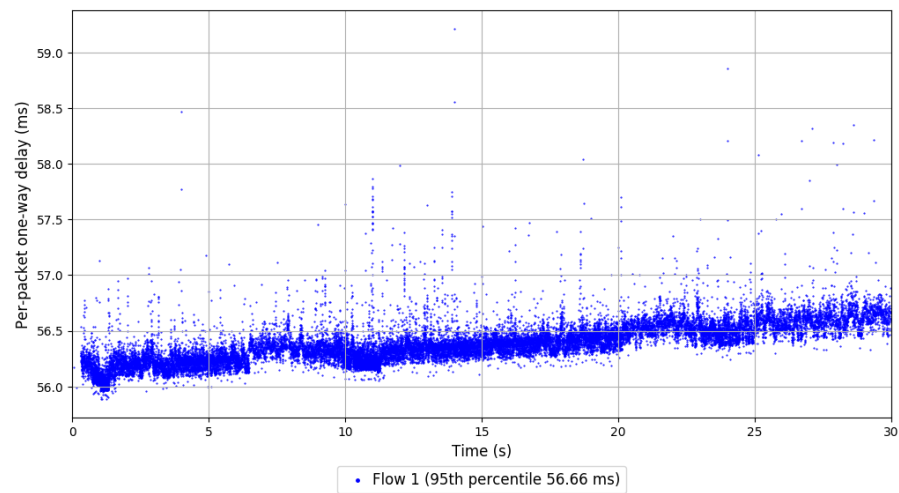
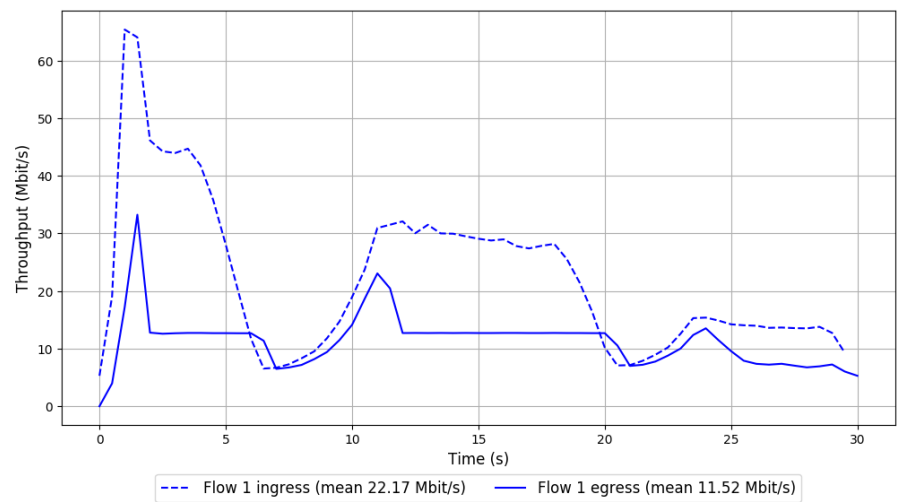
-- Flow 1:

Average throughput: 11.52 Mbit/s

95th percentile per-packet one-way delay: 56.662 ms

Loss rate: 48.05%

Run 3: Report of PCC-Expr — Data Link

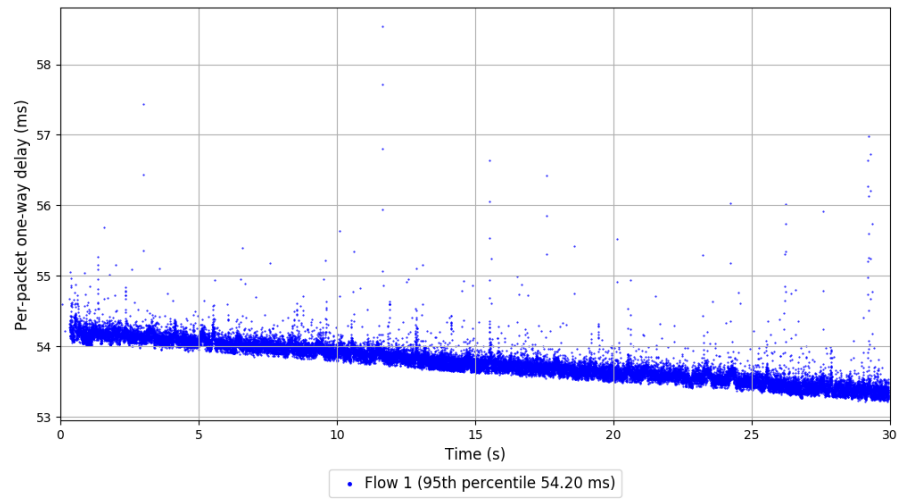
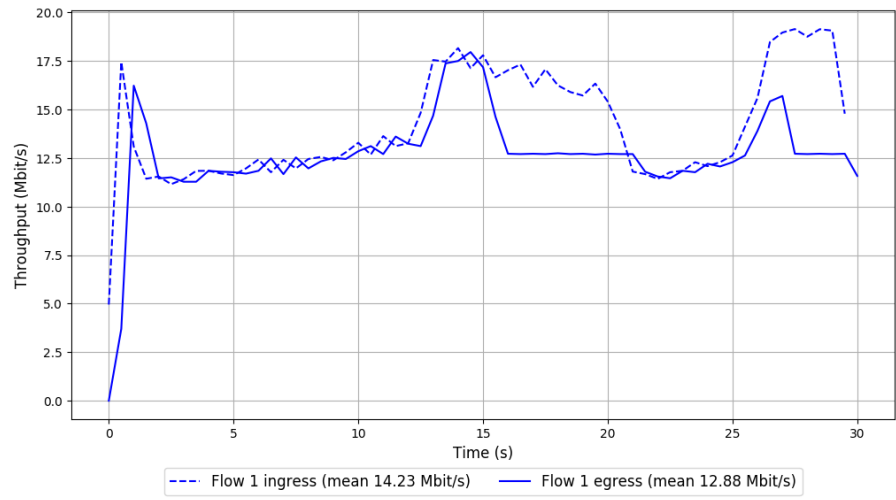


Run 4: Statistics of PCC-Expr

Start at: 2019-02-19 21:32:30
End at: 2019-02-19 21:33:00
Local clock offset: 16.071 ms
Remote clock offset: -2.121 ms

Below is generated by plot.py at 2019-02-19 22:05:59
Datalink statistics
-- Total of 1 flow:
Average throughput: 12.88 Mbit/s
95th percentile per-packet one-way delay: 54.195 ms
Loss rate: 9.53%
-- Flow 1:
Average throughput: 12.88 Mbit/s
95th percentile per-packet one-way delay: 54.195 ms
Loss rate: 9.53%

Run 4: Report of PCC-Expr — Data Link



Run 5: Statistics of PCC-Expr

Start at: 2019-02-19 21:58:39

End at: 2019-02-19 21:59:09

Local clock offset: -0.081 ms

Remote clock offset: -1.64 ms

Below is generated by plot.py at 2019-02-19 22:05:59

Datalink statistics

-- Total of 1 flow:

Average throughput: 12.82 Mbit/s

95th percentile per-packet one-way delay: 55.868 ms

Loss rate: 11.23%

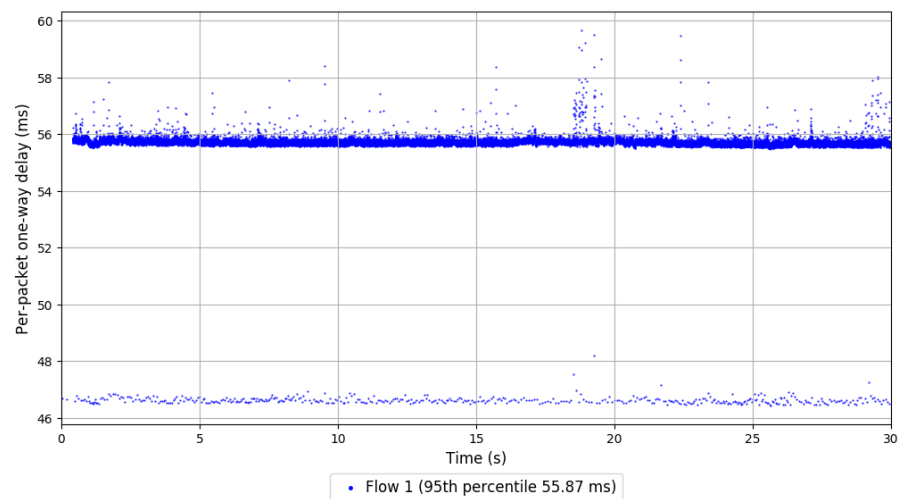
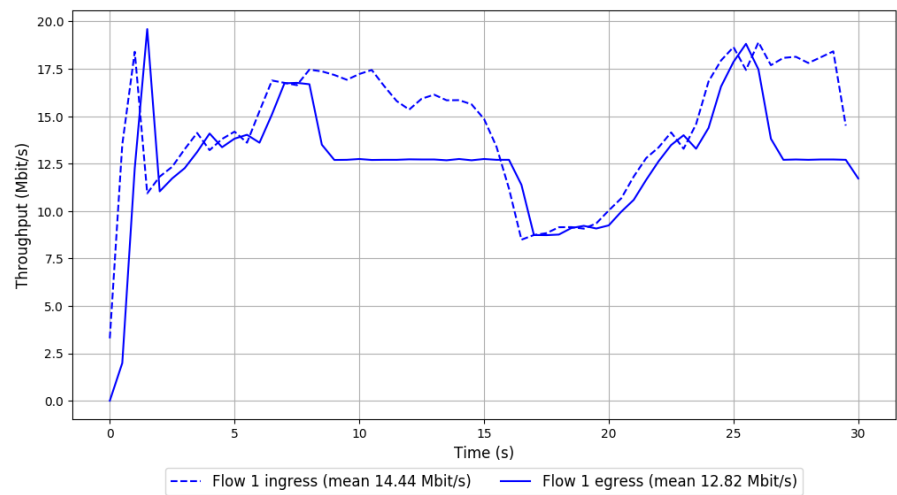
-- Flow 1:

Average throughput: 12.82 Mbit/s

95th percentile per-packet one-way delay: 55.868 ms

Loss rate: 11.23%

Run 5: Report of PCC-Expr — Data Link

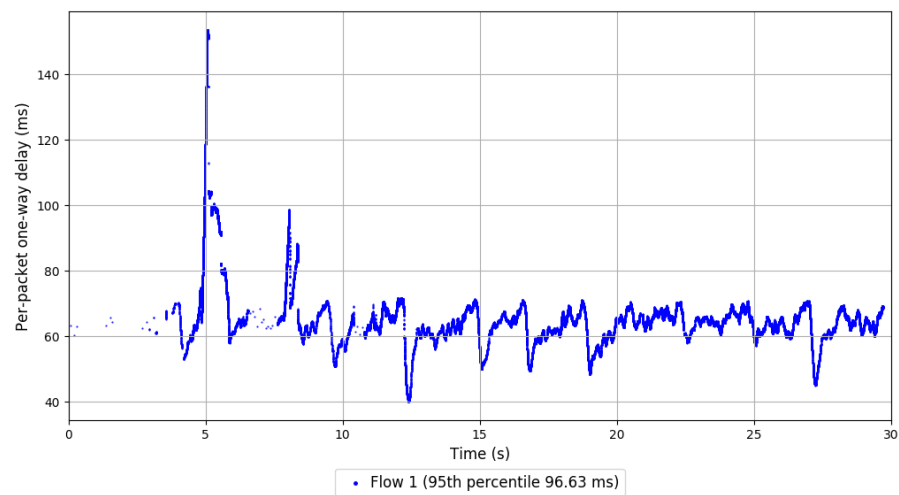
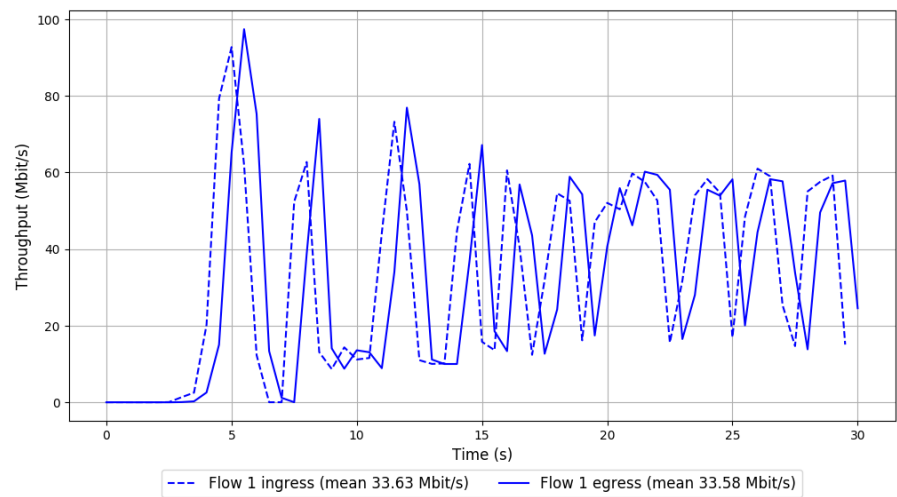


```
Run 1: Statistics of QUIC Cubic

Start at: 2019-02-19 20:04:26
End at: 2019-02-19 20:04:56
Local clock offset: 4.153 ms
Remote clock offset: -5.014 ms

# Below is generated by plot.py at 2019-02-19 22:06:18
# Datalink statistics
-- Total of 1 flow:
Average throughput: 33.58 Mbit/s
95th percentile per-packet one-way delay: 96.632 ms
Loss rate: 0.12%
-- Flow 1:
Average throughput: 33.58 Mbit/s
95th percentile per-packet one-way delay: 96.632 ms
Loss rate: 0.12%
```

Run 1: Report of QUIC Cubic — Data Link



Run 2: Statistics of QUIC Cubic

Start at: 2019-02-19 20:31:18

End at: 2019-02-19 20:31:48

Local clock offset: 1.148 ms

Remote clock offset: -4.746 ms

Below is generated by plot.py at 2019-02-19 22:06:18

Datalink statistics

-- Total of 1 flow:

Average throughput: 11.43 Mbit/s

95th percentile per-packet one-way delay: 69.349 ms

Loss rate: 0.00%

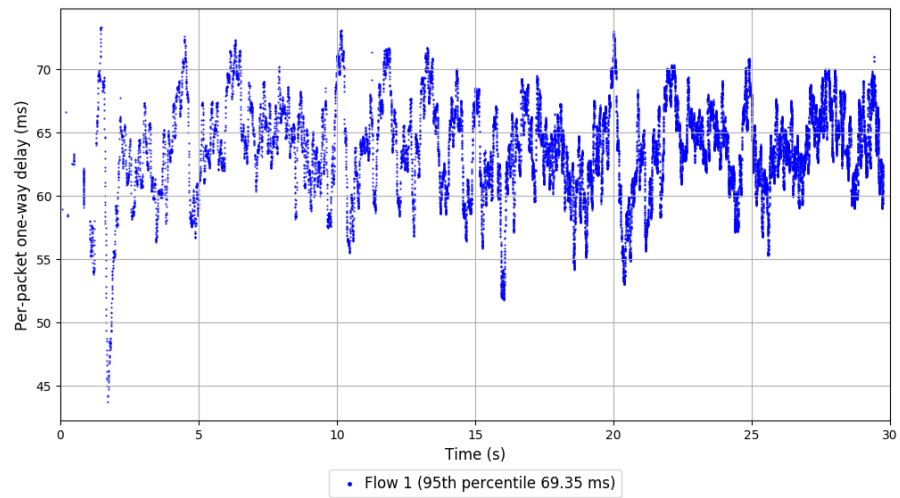
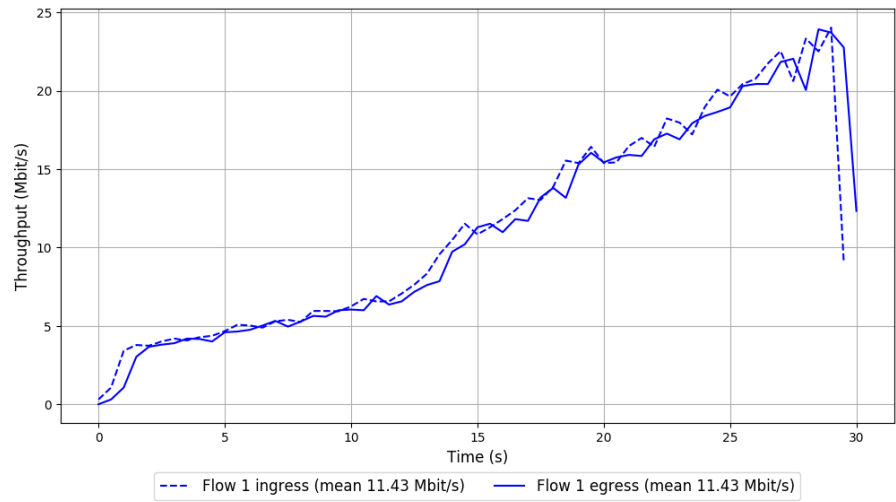
-- Flow 1:

Average throughput: 11.43 Mbit/s

95th percentile per-packet one-way delay: 69.349 ms

Loss rate: 0.00%

Run 2: Report of QUIC Cubic — Data Link



Run 3: Statistics of QUIC Cubic

Start at: 2019-02-19 20:57:55

End at: 2019-02-19 20:58:26

Local clock offset: 1.974 ms

Remote clock offset: -2.336 ms

Below is generated by plot.py at 2019-02-19 22:06:46

Datalink statistics

-- Total of 1 flow:

Average throughput: 67.35 Mbit/s

95th percentile per-packet one-way delay: 102.860 ms

Loss rate: 0.03%

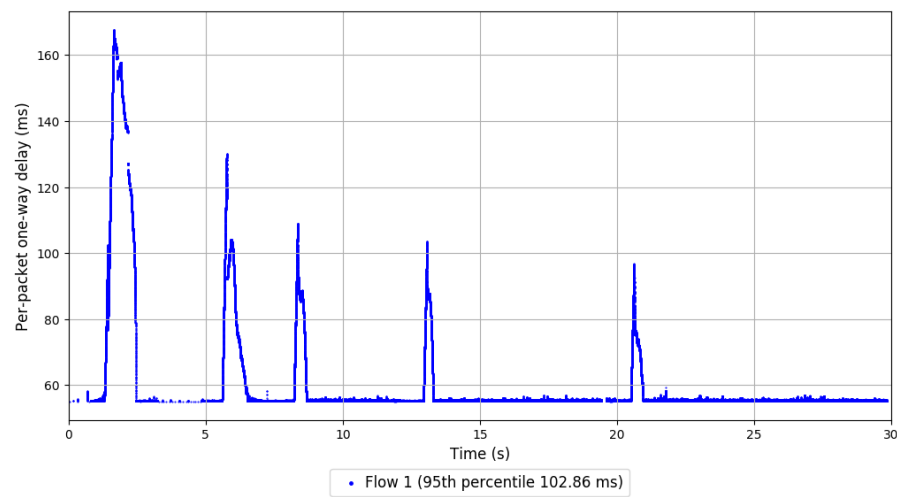
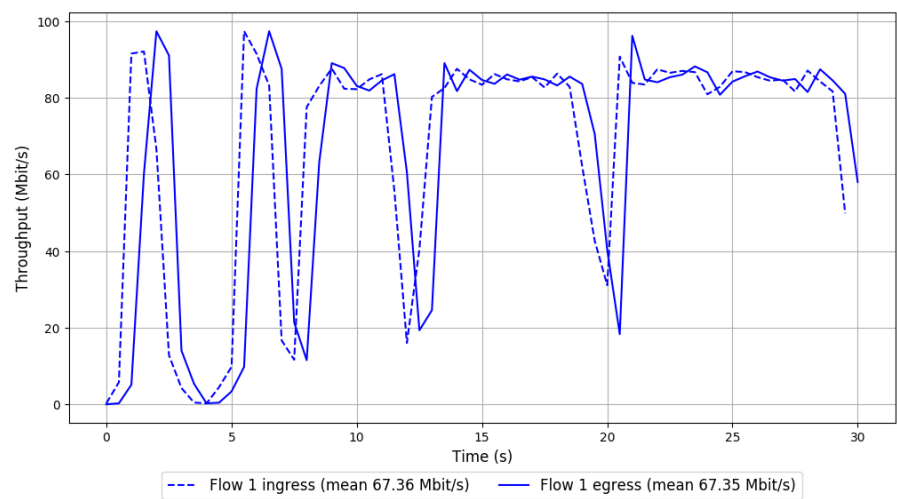
-- Flow 1:

Average throughput: 67.35 Mbit/s

95th percentile per-packet one-way delay: 102.860 ms

Loss rate: 0.03%

Run 3: Report of QUIC Cubic — Data Link



Run 4: Statistics of QUIC Cubic

Start at: 2019-02-19 21:23:46

End at: 2019-02-19 21:24:16

Local clock offset: 18.766 ms

Remote clock offset: -2.27 ms

Below is generated by plot.py at 2019-02-19 22:06:46

Datalink statistics

-- Total of 1 flow:

Average throughput: 65.27 Mbit/s

95th percentile per-packet one-way delay: 95.521 ms

Loss rate: 0.00%

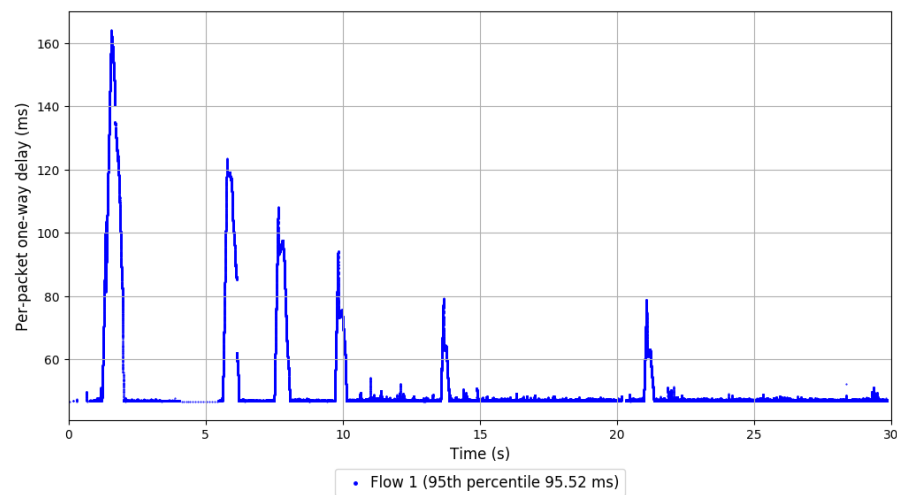
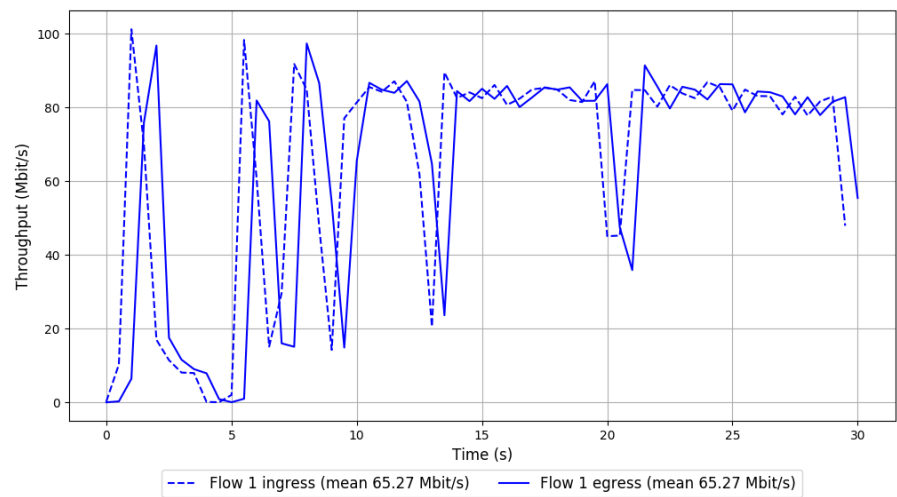
-- Flow 1:

Average throughput: 65.27 Mbit/s

95th percentile per-packet one-way delay: 95.521 ms

Loss rate: 0.00%

Run 4: Report of QUIC Cubic — Data Link



Run 5: Statistics of QUIC Cubic

Start at: 2019-02-19 21:50:08

End at: 2019-02-19 21:50:38

Local clock offset: 1.701 ms

Remote clock offset: -2.096 ms

Below is generated by plot.py at 2019-02-19 22:06:49

Datalink statistics

-- Total of 1 flow:

Average throughput: 66.21 Mbit/s

95th percentile per-packet one-way delay: 74.981 ms

Loss rate: 0.00%

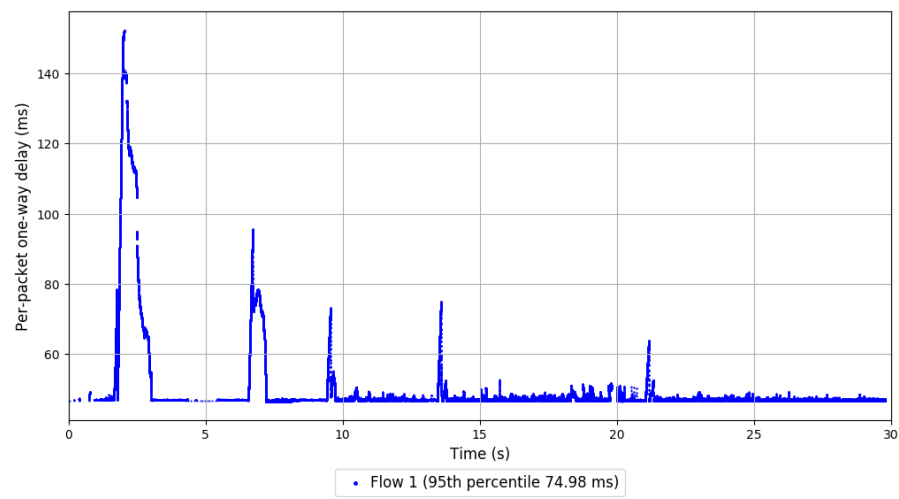
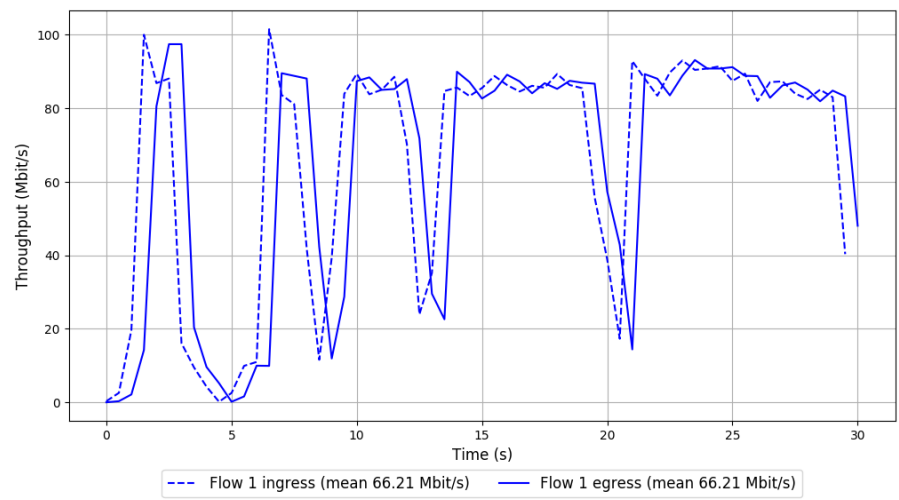
-- Flow 1:

Average throughput: 66.21 Mbit/s

95th percentile per-packet one-way delay: 74.981 ms

Loss rate: 0.00%

Run 5: Report of QUIC Cubic — Data Link

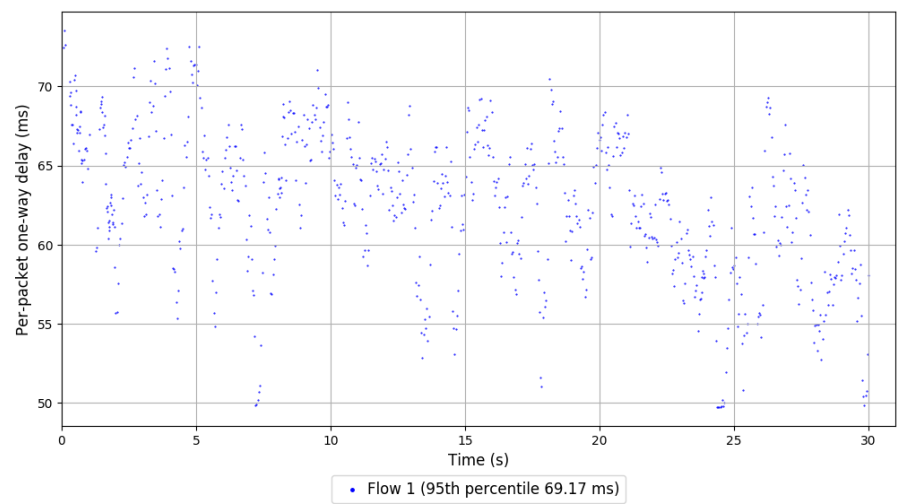
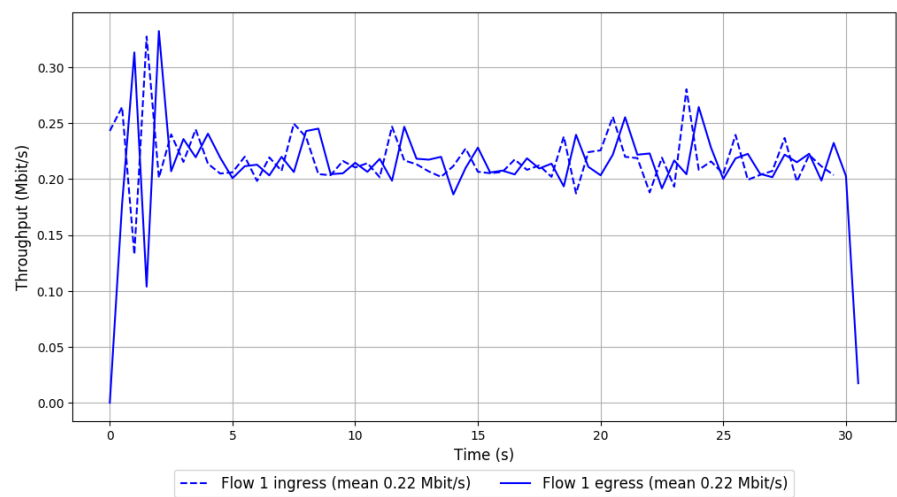


Run 1: Statistics of SCReAM

Start at: 2019-02-19 20:05:39
End at: 2019-02-19 20:06:09
Local clock offset: 3.937 ms
Remote clock offset: -3.748 ms

Below is generated by plot.py at 2019-02-19 22:06:49
Datalink statistics
-- Total of 1 flow:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 69.171 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 69.171 ms
Loss rate: 0.00%

Run 1: Report of SReAM — Data Link

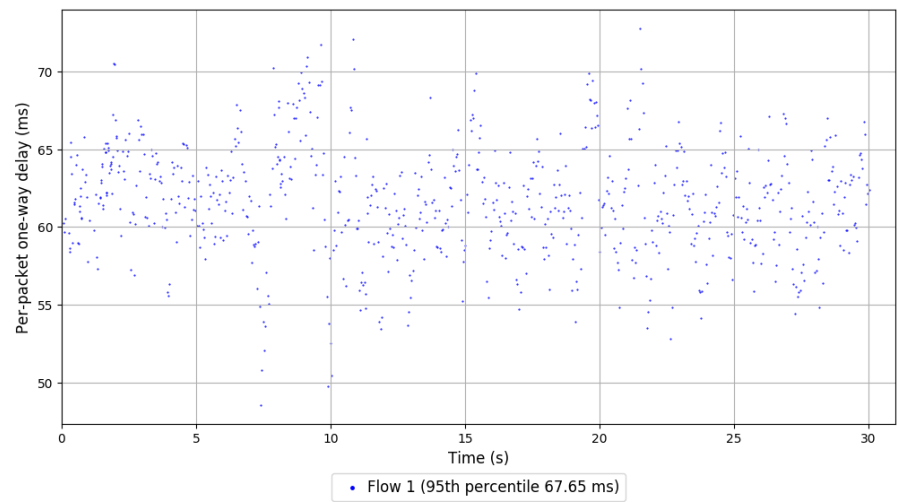
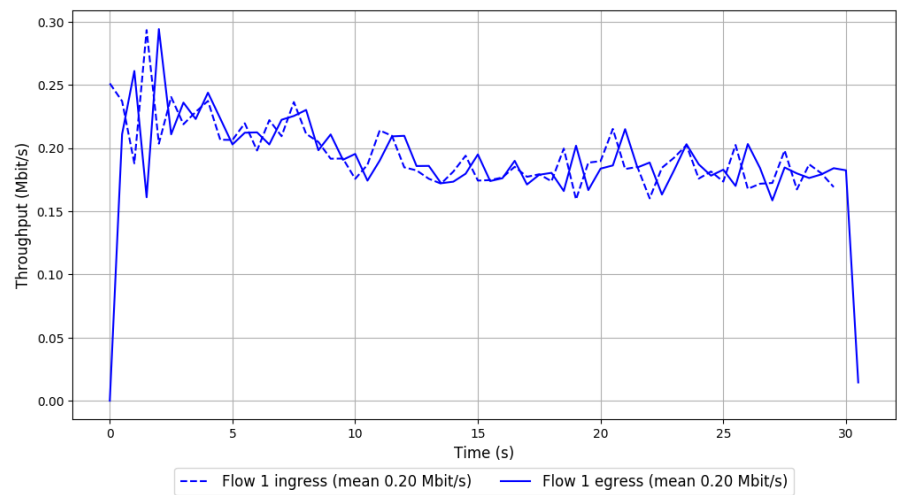


Run 2: Statistics of SCReAM

Start at: 2019-02-19 20:32:30
End at: 2019-02-19 20:33:00
Local clock offset: 1.269 ms
Remote clock offset: -5.131 ms

Below is generated by plot.py at 2019-02-19 22:06:49
Datalink statistics
-- Total of 1 flow:
Average throughput: 0.20 Mbit/s
95th percentile per-packet one-way delay: 67.649 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.20 Mbit/s
95th percentile per-packet one-way delay: 67.649 ms
Loss rate: 0.00%

Run 2: Report of SReAM — Data Link

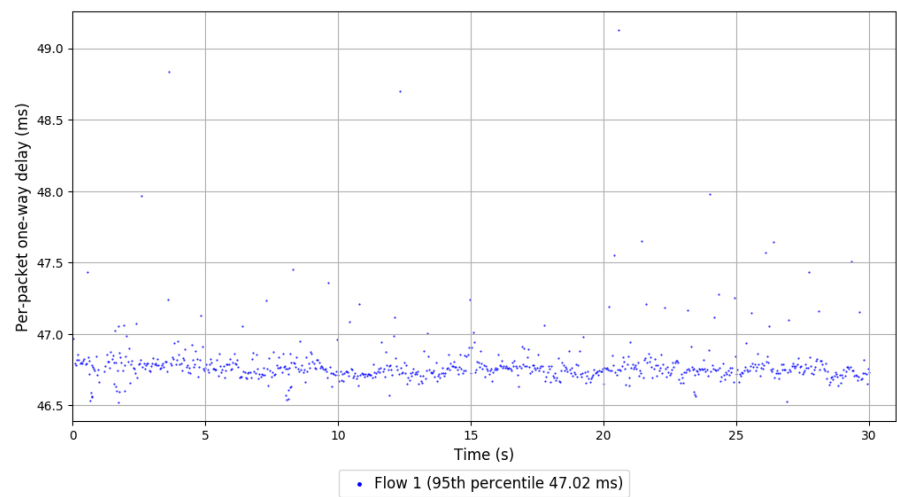
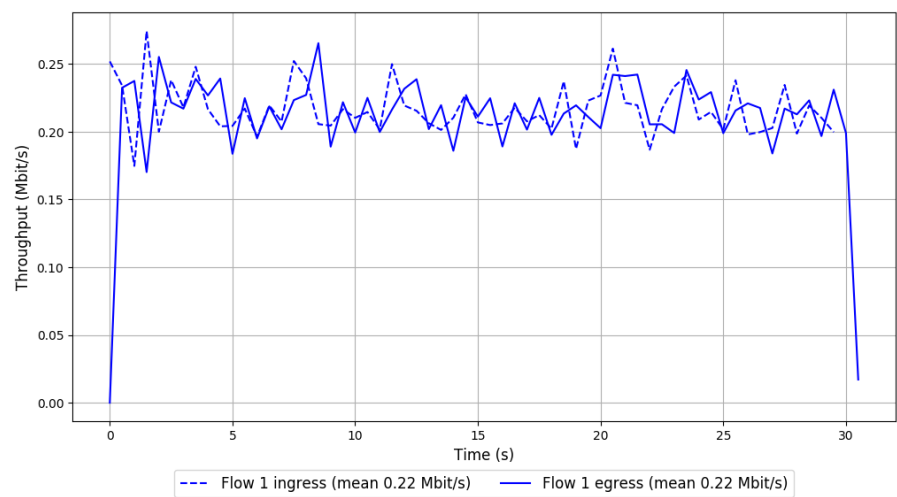


Run 3: Statistics of SCReAM

Start at: 2019-02-19 20:59:07
End at: 2019-02-19 20:59:37
Local clock offset: 2.022 ms
Remote clock offset: -2.605 ms

Below is generated by plot.py at 2019-02-19 22:06:49
Datalink statistics
-- Total of 1 flow:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 47.021 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 47.021 ms
Loss rate: 0.00%

Run 3: Report of SReAM — Data Link

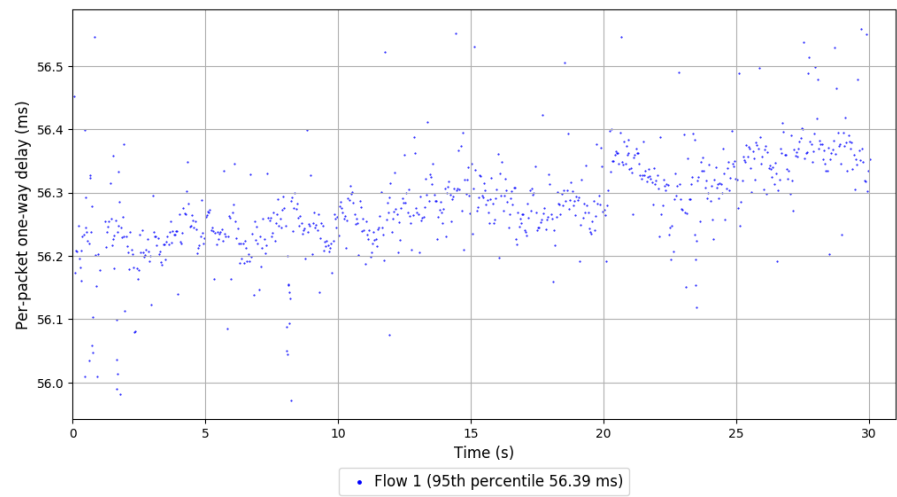
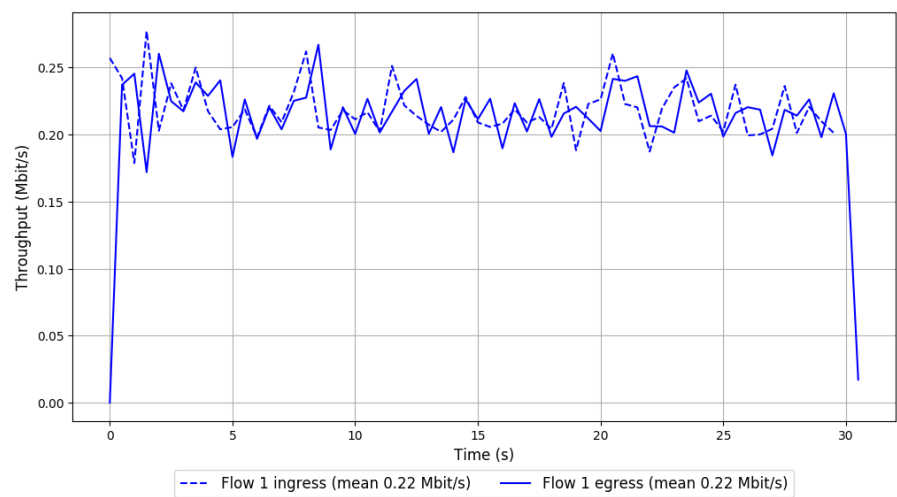


Run 4: Statistics of SCReAM

Start at: 2019-02-19 21:25:02
End at: 2019-02-19 21:25:32
Local clock offset: 18.984 ms
Remote clock offset: -1.993 ms

Below is generated by plot.py at 2019-02-19 22:06:49
Datalink statistics
-- Total of 1 flow:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 56.393 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 56.393 ms
Loss rate: 0.00%

Run 4: Report of SReAM — Data Link



Run 5: Statistics of SCReAM

Start at: 2019-02-19 21:51:22

End at: 2019-02-19 21:51:52

Local clock offset: 1.375 ms

Remote clock offset: -1.99 ms

Below is generated by plot.py at 2019-02-19 22:06:49

Datalink statistics

-- Total of 1 flow:

Average throughput: 0.22 Mbit/s

95th percentile per-packet one-way delay: 55.737 ms

Loss rate: 0.00%

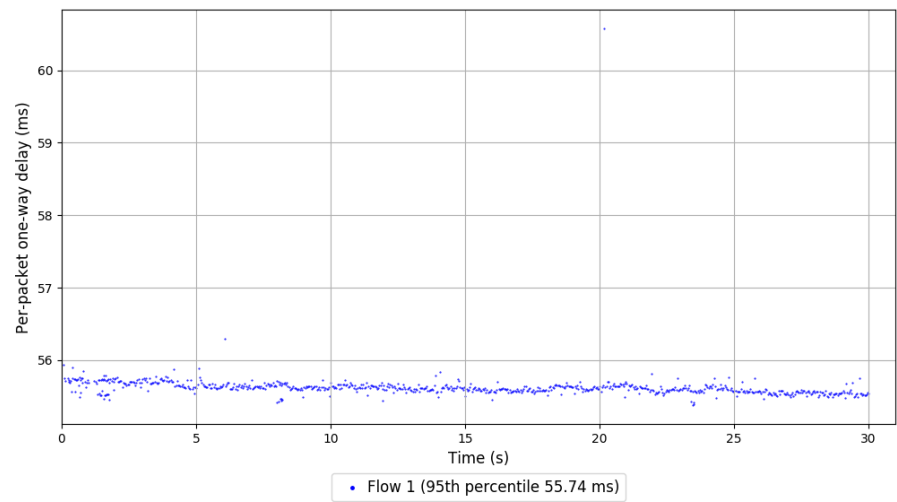
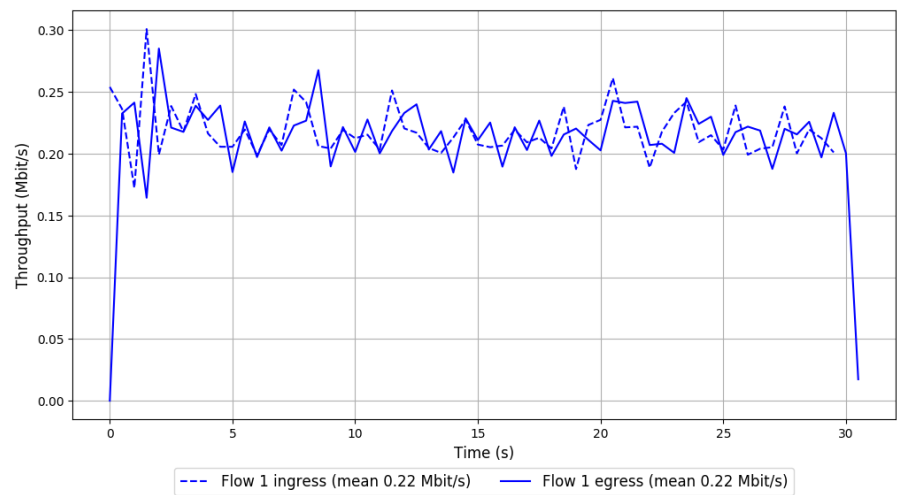
-- Flow 1:

Average throughput: 0.22 Mbit/s

95th percentile per-packet one-way delay: 55.737 ms

Loss rate: 0.00%

Run 5: Report of SReAM — Data Link

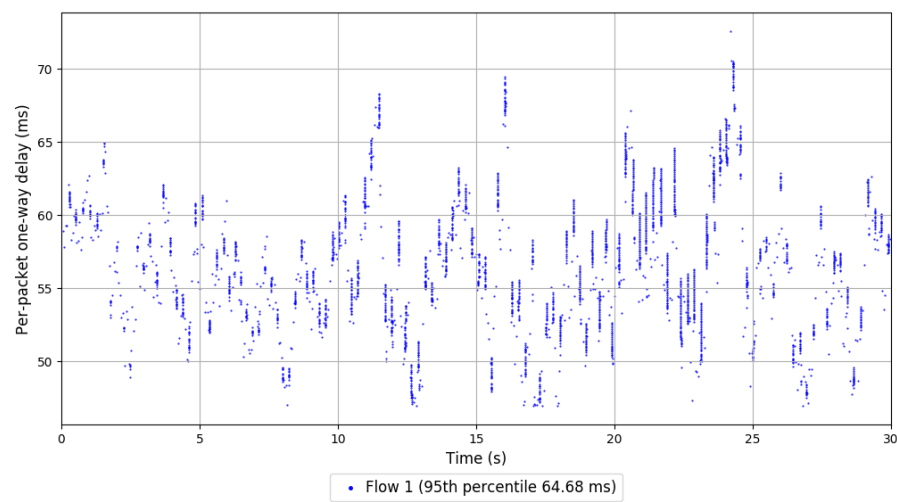
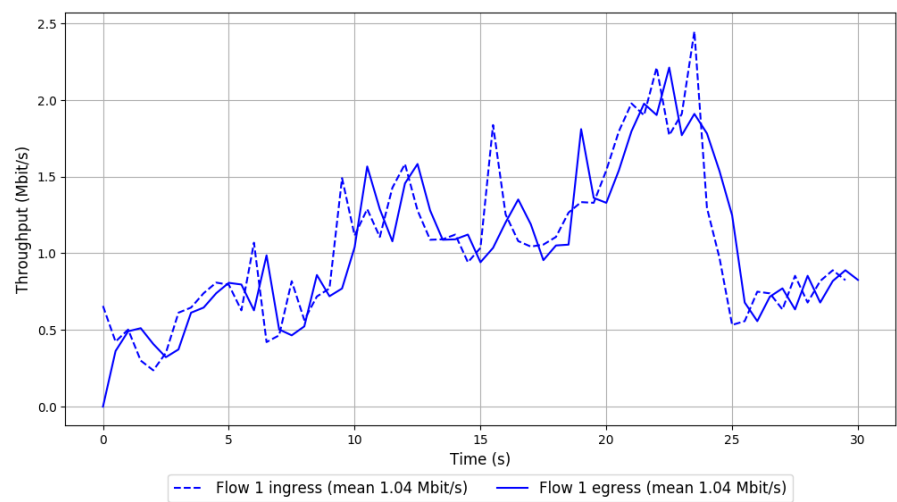


Run 1: Statistics of Sprout

Start at: 2019-02-19 20:06:54
End at: 2019-02-19 20:07:24
Local clock offset: 3.384 ms
Remote clock offset: -6.264 ms

Below is generated by plot.py at 2019-02-19 22:06:49
Datalink statistics
-- Total of 1 flow:
Average throughput: 1.04 Mbit/s
95th percentile per-packet one-way delay: 64.683 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 1.04 Mbit/s
95th percentile per-packet one-way delay: 64.683 ms
Loss rate: 0.00%

Run 1: Report of Sprout — Data Link

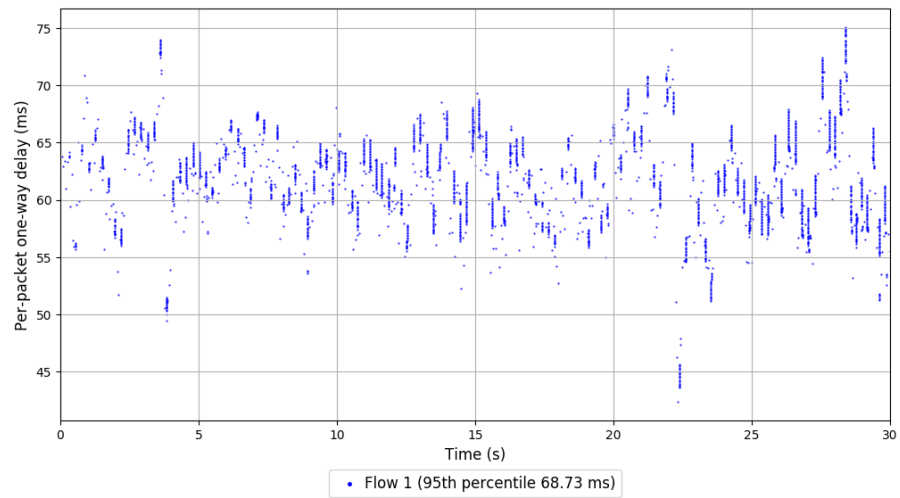
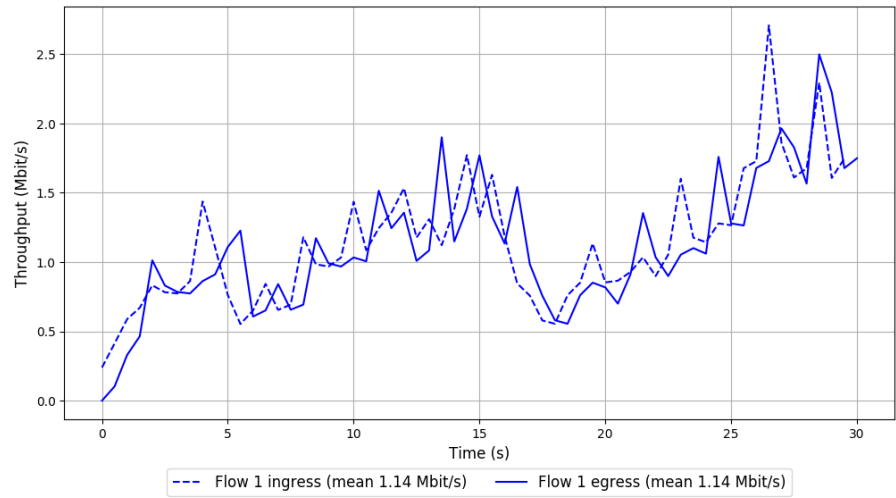


Run 2: Statistics of Sprout

Start at: 2019-02-19 20:33:45
End at: 2019-02-19 20:34:15
Local clock offset: 1.119 ms
Remote clock offset: -5.586 ms

Below is generated by plot.py at 2019-02-19 22:06:49
Datalink statistics
-- Total of 1 flow:
Average throughput: 1.14 Mbit/s
95th percentile per-packet one-way delay: 68.729 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 1.14 Mbit/s
95th percentile per-packet one-way delay: 68.729 ms
Loss rate: 0.00%

Run 2: Report of Sprout — Data Link

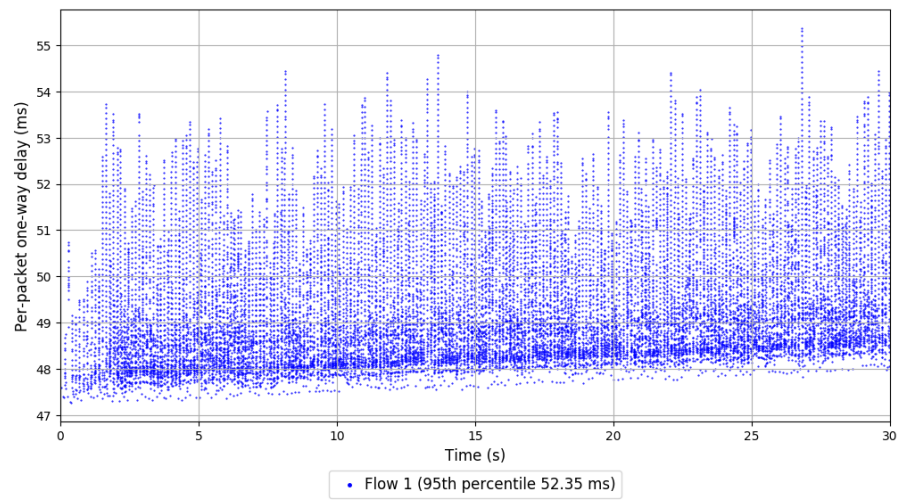
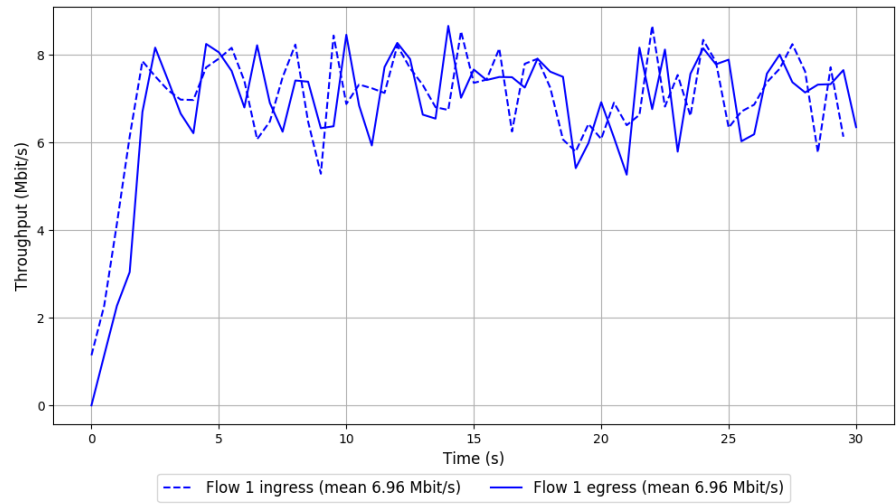


Run 3: Statistics of Sprout

Start at: 2019-02-19 21:00:20
End at: 2019-02-19 21:00:50
Local clock offset: 1.949 ms
Remote clock offset: -2.771 ms

Below is generated by plot.py at 2019-02-19 22:06:49
Datalink statistics
-- Total of 1 flow:
Average throughput: 6.96 Mbit/s
95th percentile per-packet one-way delay: 52.346 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 6.96 Mbit/s
95th percentile per-packet one-way delay: 52.346 ms
Loss rate: 0.00%

Run 3: Report of Sprout — Data Link



Run 4: Statistics of Sprout

Start at: 2019-02-19 21:26:15

End at: 2019-02-19 21:26:45

Local clock offset: 19.396 ms

Remote clock offset: -2.18 ms

Below is generated by plot.py at 2019-02-19 22:06:49

Datalink statistics

-- Total of 1 flow:

Average throughput: 6.52 Mbit/s

95th percentile per-packet one-way delay: 62.658 ms

Loss rate: 0.00%

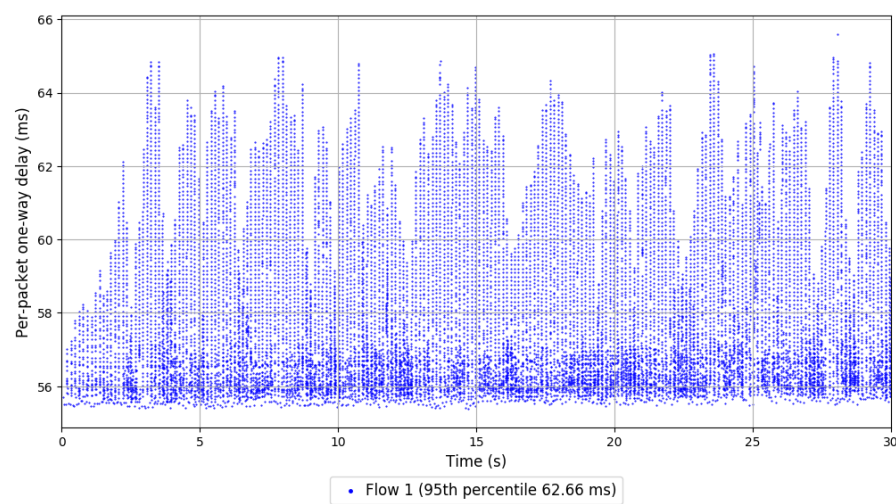
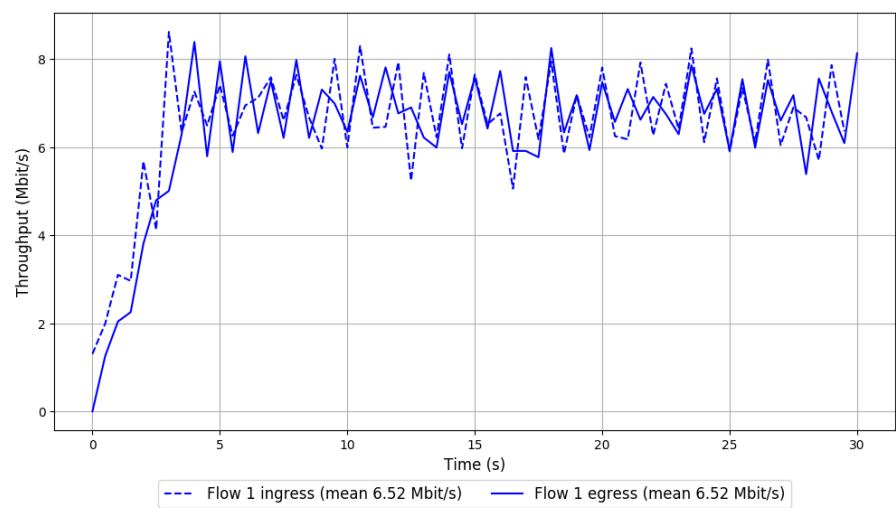
-- Flow 1:

Average throughput: 6.52 Mbit/s

95th percentile per-packet one-way delay: 62.658 ms

Loss rate: 0.00%

Run 4: Report of Sprout — Data Link

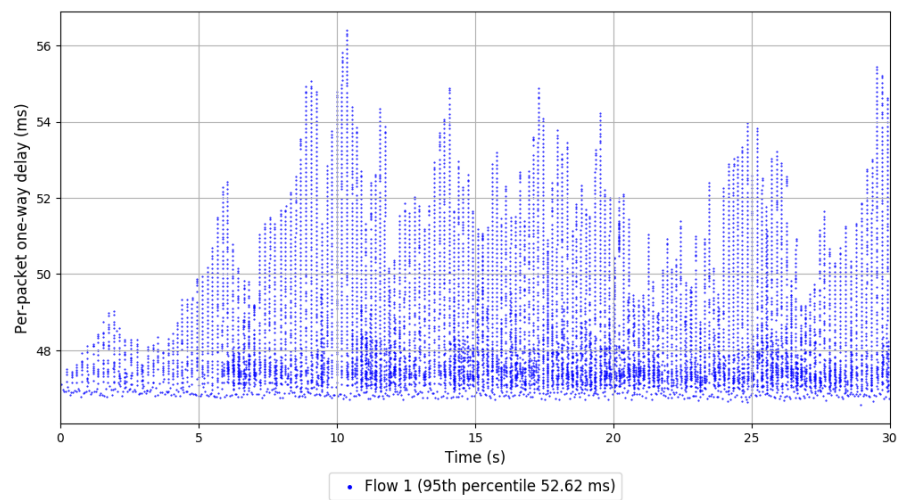
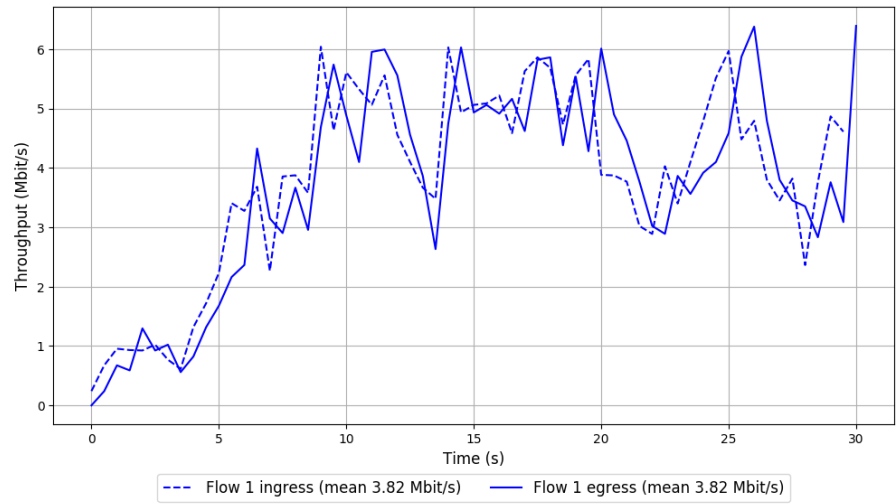


Run 5: Statistics of Sprout

Start at: 2019-02-19 21:52:35
End at: 2019-02-19 21:53:05
Local clock offset: 0.985 ms
Remote clock offset: -2.154 ms

Below is generated by plot.py at 2019-02-19 22:06:49
Datalink statistics
-- Total of 1 flow:
Average throughput: 3.82 Mbit/s
95th percentile per-packet one-way delay: 52.619 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 3.82 Mbit/s
95th percentile per-packet one-way delay: 52.619 ms
Loss rate: 0.00%

Run 5: Report of Sprout — Data Link



Run 1: Statistics of TaoVA-100x

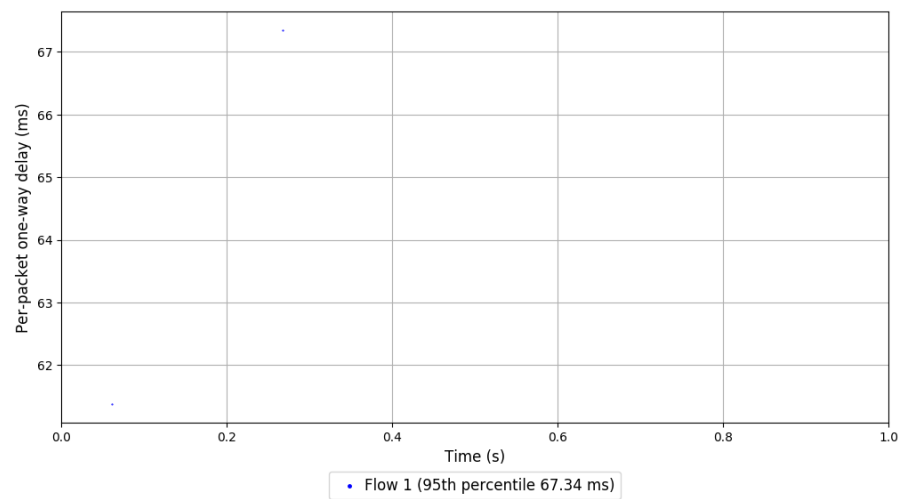
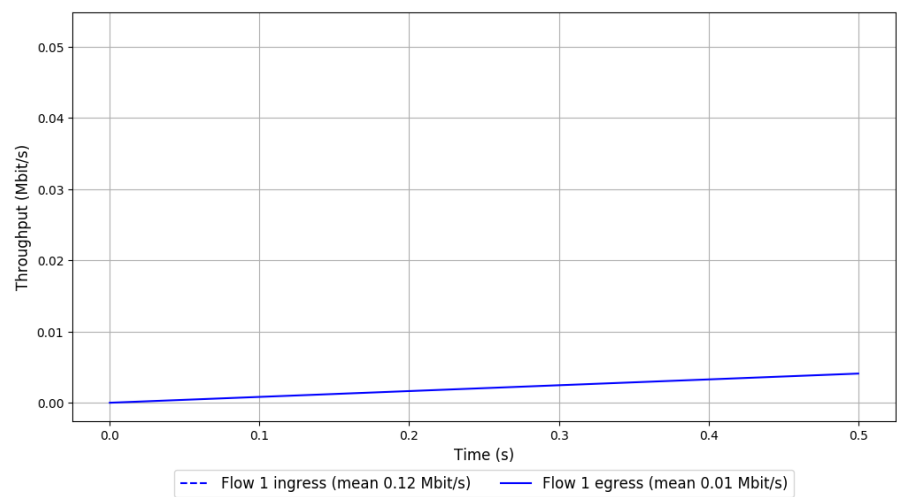
Start at: 2019-02-19 19:55:22

End at: 2019-02-19 19:55:52

Local clock offset: 5.231 ms

Remote clock offset: -7.833 ms

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



Run 2: Statistics of TaoVA-100x

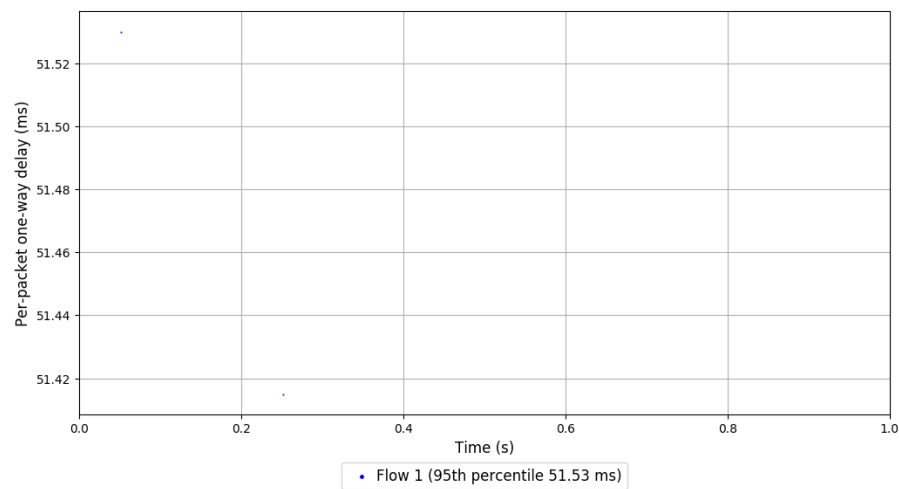
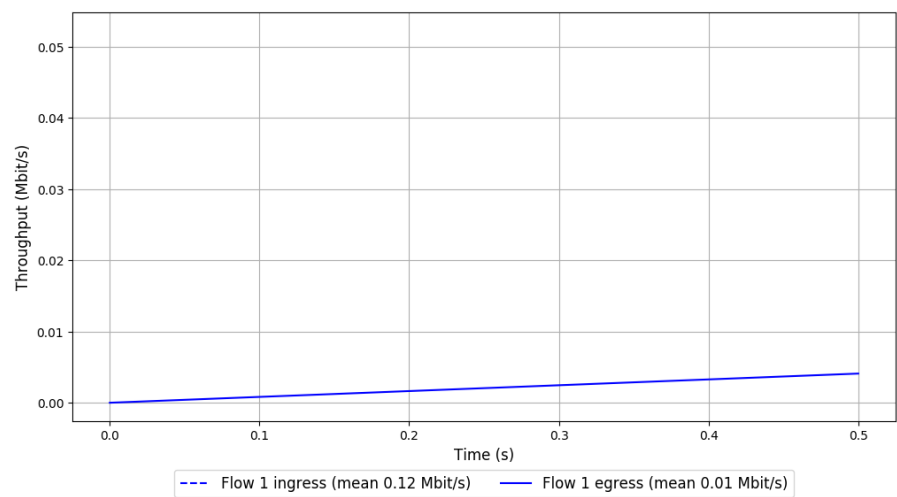
Start at: 2019-02-19 20:22:21

End at: 2019-02-19 20:22:51

Local clock offset: 1.275 ms

Remote clock offset: -1.733 ms

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



Run 3: Statistics of TaoVA-100x

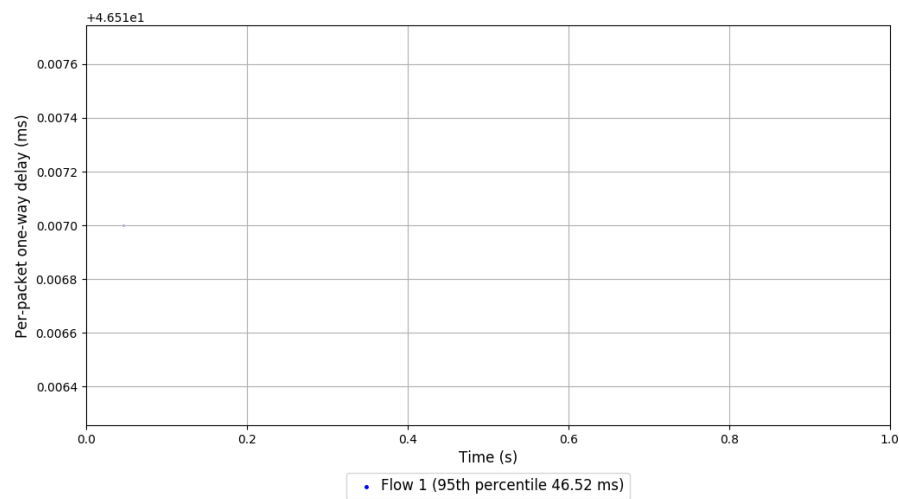
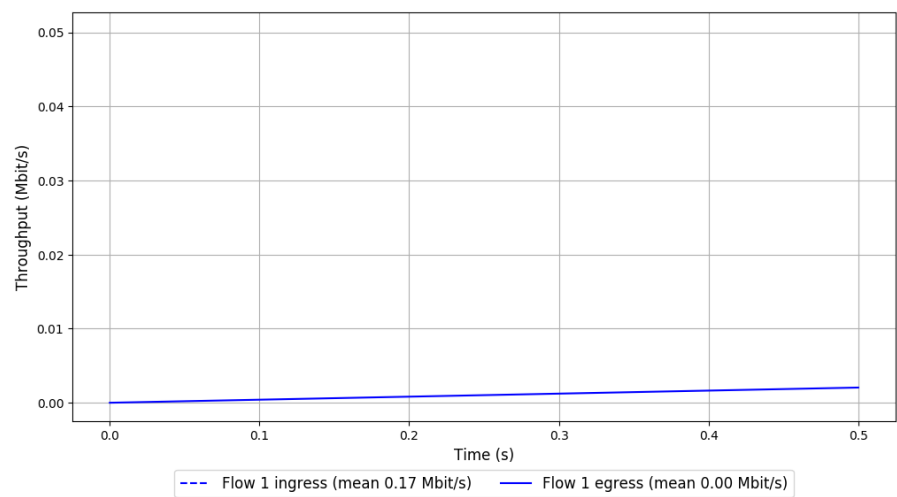
Start at: 2019-02-19 20:49:06

End at: 2019-02-19 20:49:36

Local clock offset: 1.779 ms

Remote clock offset: -2.416 ms

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



Run 4: Statistics of TaoVA-100x

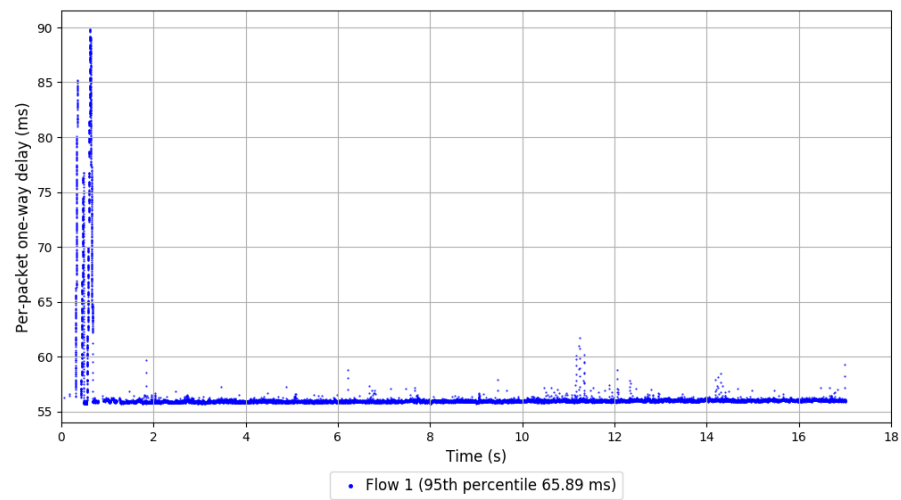
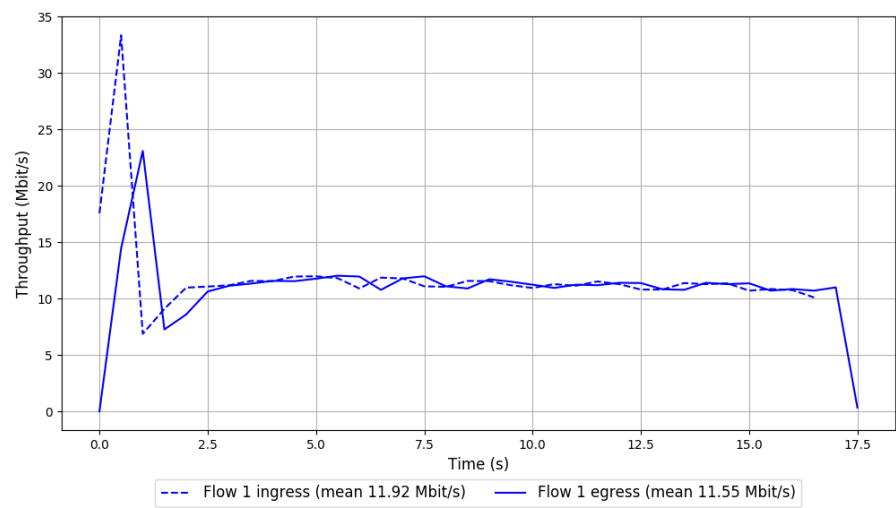
Start at: 2019-02-19 21:15:08

End at: 2019-02-19 21:15:38

Local clock offset: 15.507 ms

Remote clock offset: -2.31 ms

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



Run 5: Statistics of TaoVA-100x

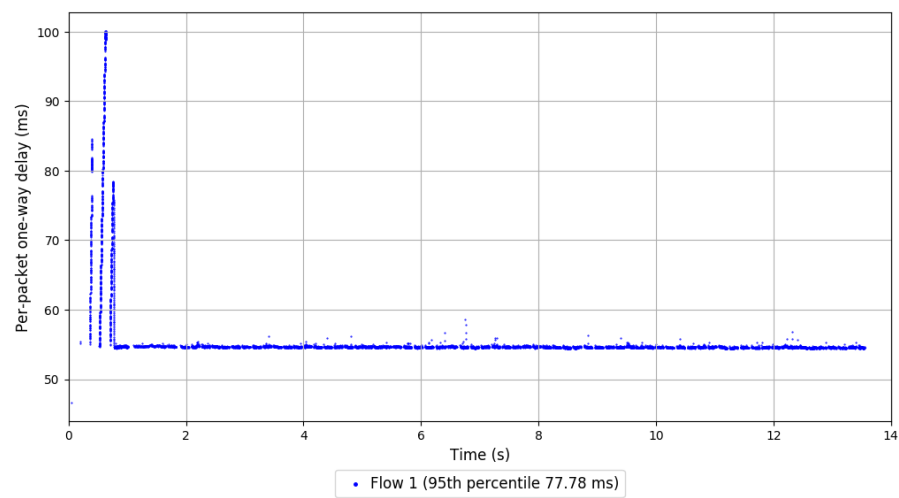
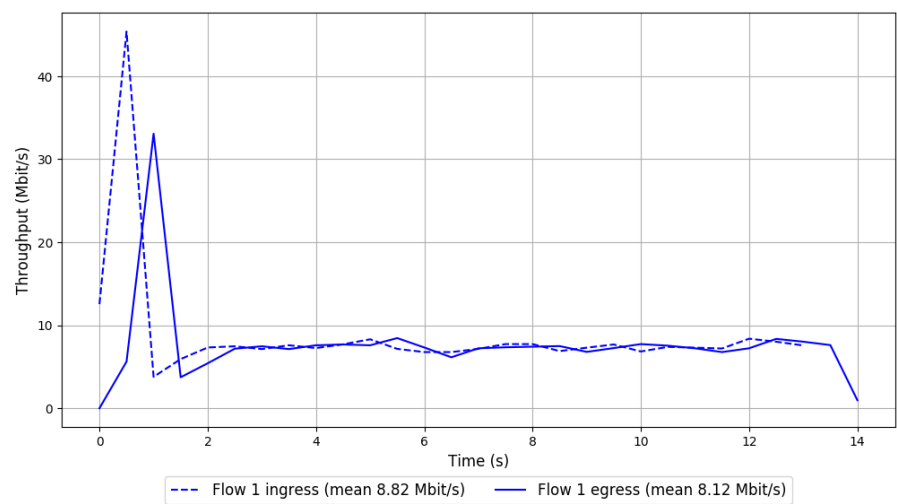
Start at: 2019-02-19 21:41:04

End at: 2019-02-19 21:41:34

Local clock offset: 5.975 ms

Remote clock offset: -2.294 ms

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

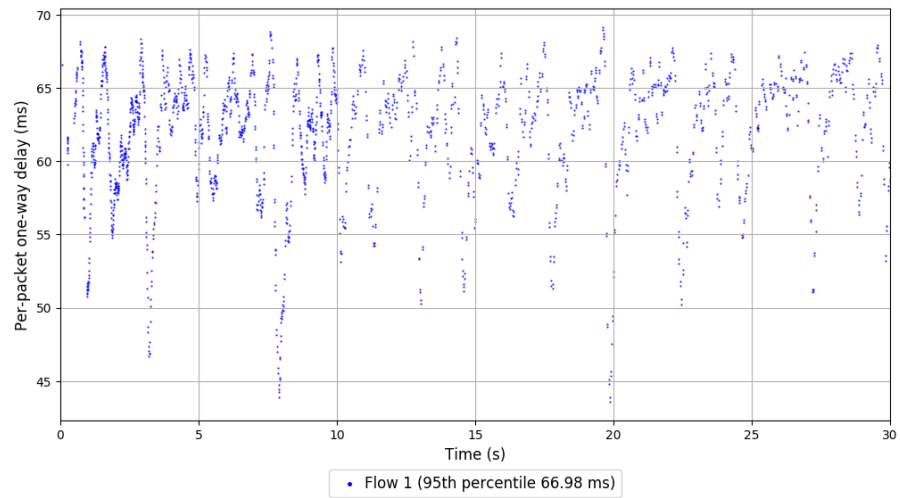
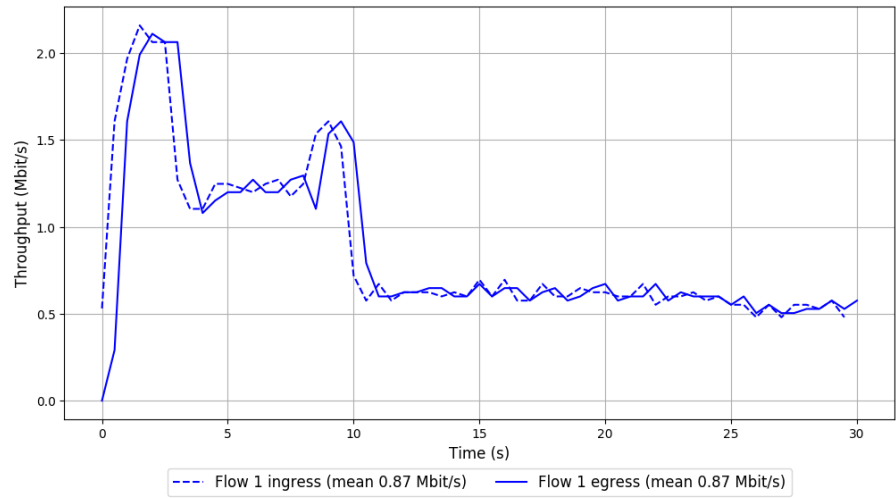


Run 1: Statistics of TCP Vegas

Start at: 2019-02-19 19:47:59
End at: 2019-02-19 19:48:29
Local clock offset: 0.726 ms
Remote clock offset: -12.097 ms

Below is generated by plot.py at 2019-02-19 22:06:49
Datalink statistics
-- Total of 1 flow:
Average throughput: 0.87 Mbit/s
95th percentile per-packet one-way delay: 66.984 ms
Loss rate: 0.14%
-- Flow 1:
Average throughput: 0.87 Mbit/s
95th percentile per-packet one-way delay: 66.984 ms
Loss rate: 0.14%

Run 1: Report of TCP Vegas — Data Link



Run 2: Statistics of TCP Vegas

Start at: 2019-02-19 20:14:37

End at: 2019-02-19 20:15:07

Local clock offset: 1.872 ms

Remote clock offset: 0.624 ms

Below is generated by plot.py at 2019-02-19 22:06:49

Datalink statistics

-- Total of 1 flow:

Average throughput: 3.45 Mbit/s

95th percentile per-packet one-way delay: 59.731 ms

Loss rate: 0.00%

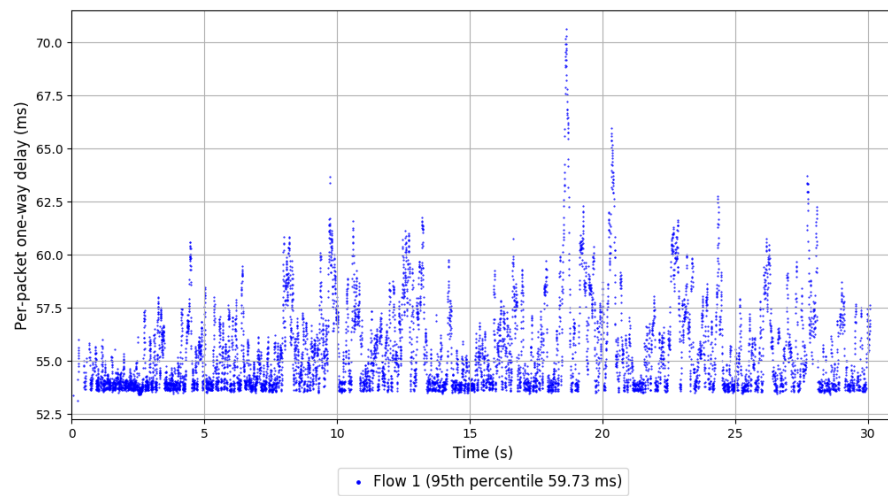
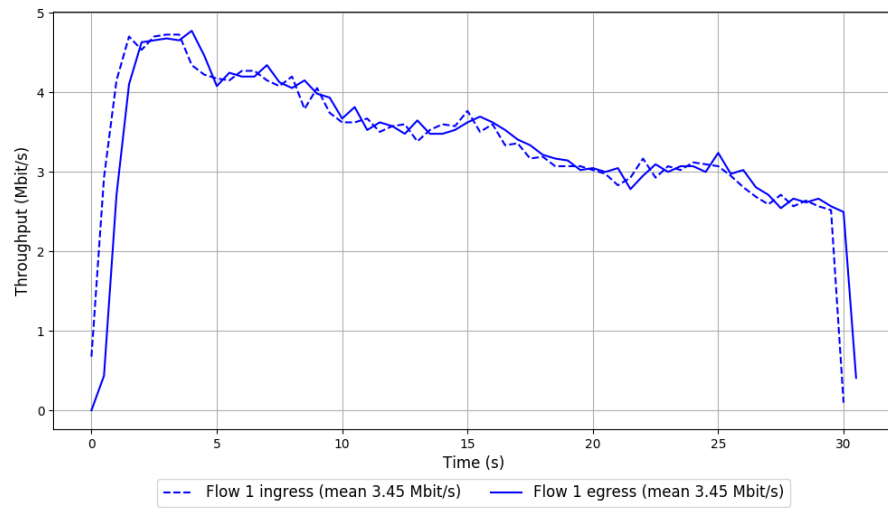
-- Flow 1:

Average throughput: 3.45 Mbit/s

95th percentile per-packet one-way delay: 59.731 ms

Loss rate: 0.00%

Run 2: Report of TCP Vegas — Data Link

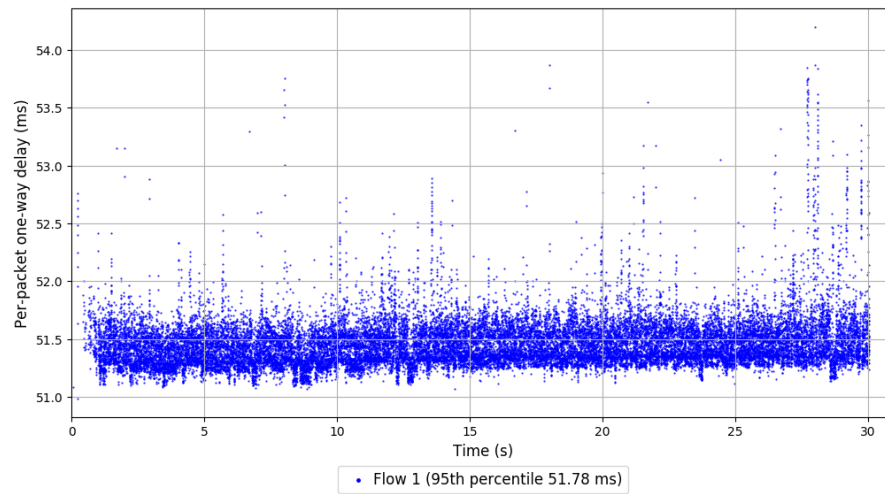
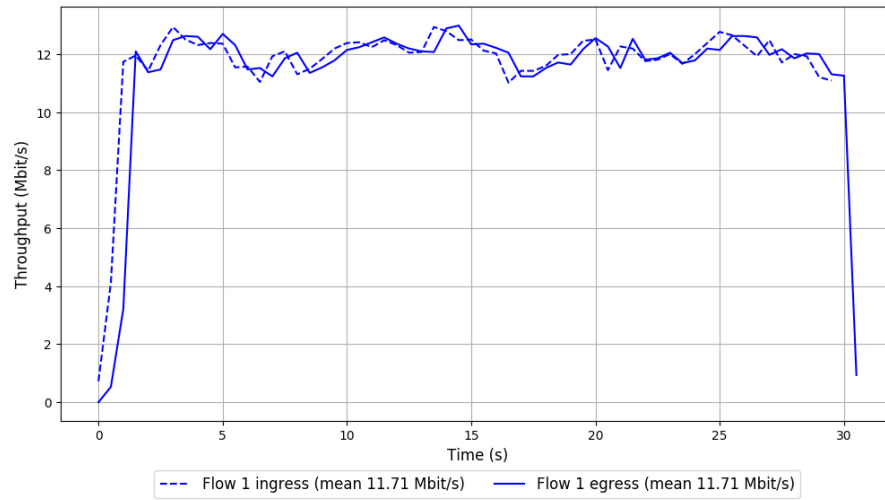


Run 3: Statistics of TCP Vegas

Start at: 2019-02-19 20:41:29
End at: 2019-02-19 20:41:59
Local clock offset: 1.546 ms
Remote clock offset: -6.552 ms

Below is generated by plot.py at 2019-02-19 22:06:49
Datalink statistics
-- Total of 1 flow:
Average throughput: 11.71 Mbit/s
95th percentile per-packet one-way delay: 51.782 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 11.71 Mbit/s
95th percentile per-packet one-way delay: 51.782 ms
Loss rate: 0.00%

Run 3: Report of TCP Vegas — Data Link

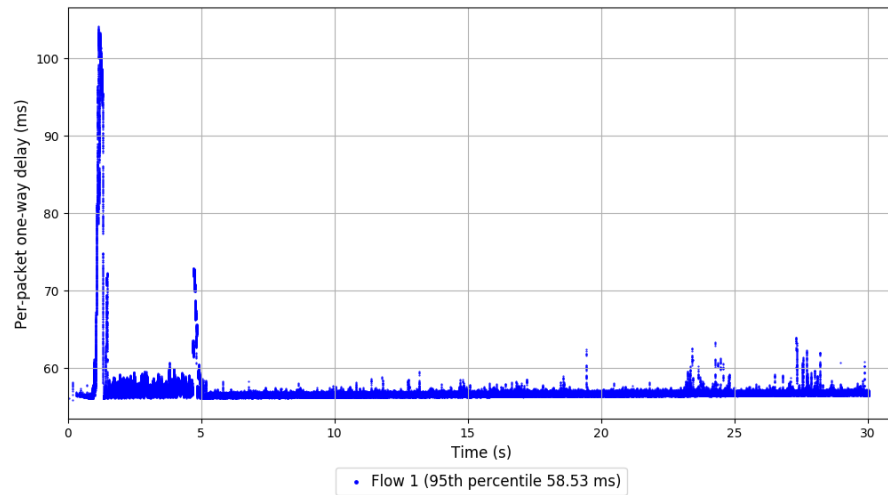
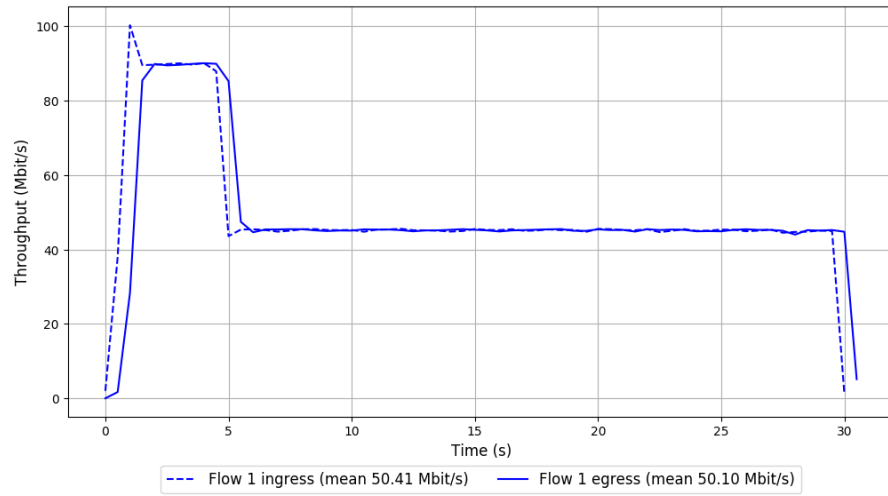


Run 4: Statistics of TCP Vegas

Start at: 2019-02-19 21:07:42
End at: 2019-02-19 21:08:12
Local clock offset: 10.97 ms
Remote clock offset: -2.404 ms

Below is generated by plot.py at 2019-02-19 22:06:49
Datalink statistics
-- Total of 1 flow:
Average throughput: 50.10 Mbit/s
95th percentile per-packet one-way delay: 58.526 ms
Loss rate: 0.65%
-- Flow 1:
Average throughput: 50.10 Mbit/s
95th percentile per-packet one-way delay: 58.526 ms
Loss rate: 0.65%

Run 4: Report of TCP Vegas — Data Link

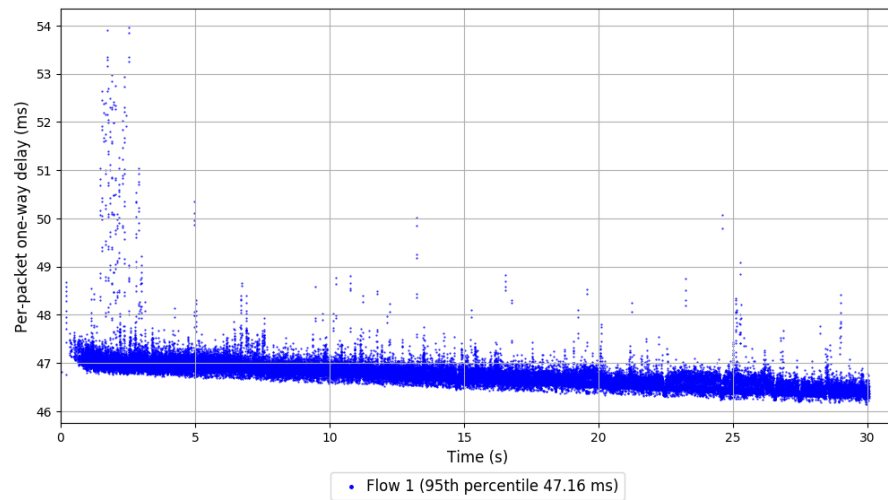
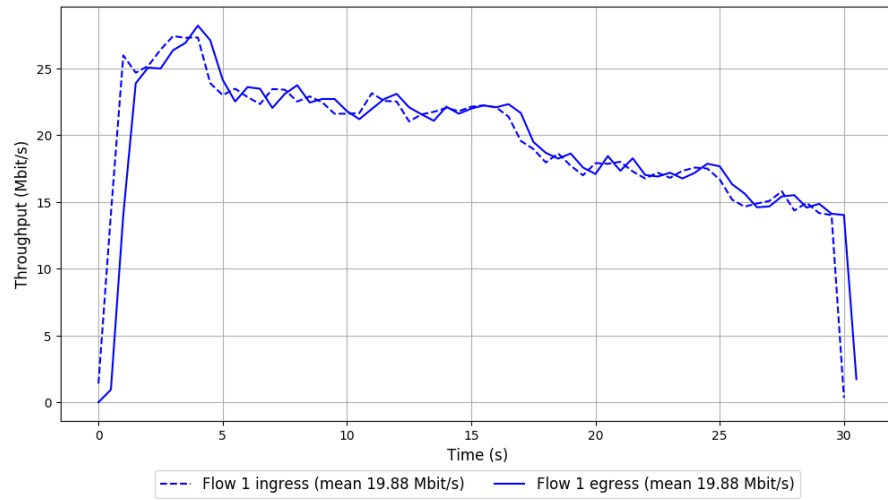


Run 5: Statistics of TCP Vegas

Start at: 2019-02-19 21:33:45
End at: 2019-02-19 21:34:15
Local clock offset: 13.651 ms
Remote clock offset: -1.701 ms

Below is generated by plot.py at 2019-02-19 22:06:49
Datalink statistics
-- Total of 1 flow:
Average throughput: 19.88 Mbit/s
95th percentile per-packet one-way delay: 47.163 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 19.88 Mbit/s
95th percentile per-packet one-way delay: 47.163 ms
Loss rate: 0.00%

Run 5: Report of TCP Vegas — Data Link

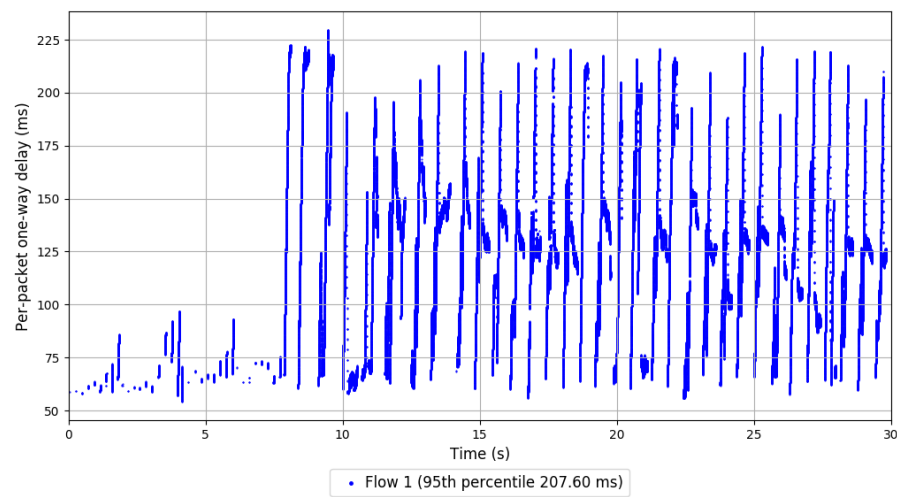
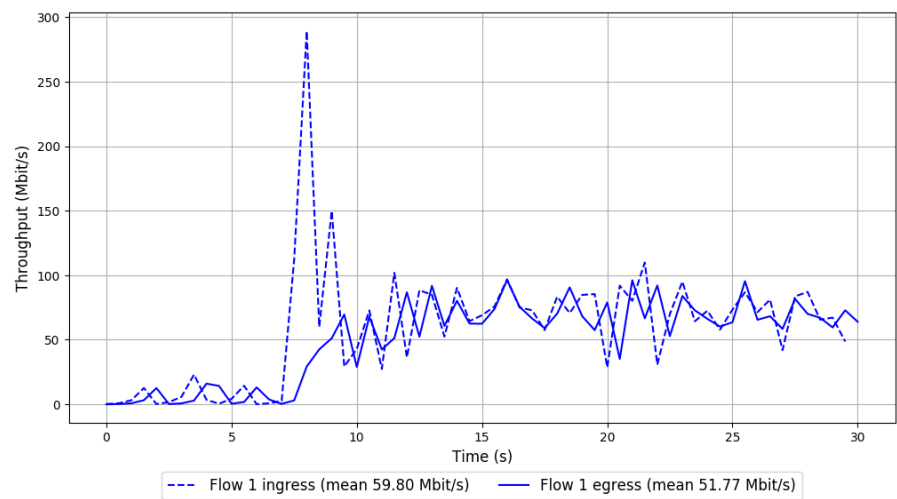


Run 1: Statistics of Verus

Start at: 2019-02-19 20:01:50
End at: 2019-02-19 20:02:20
Local clock offset: 5.749 ms
Remote clock offset: -4.974 ms

Below is generated by plot.py at 2019-02-19 22:06:54
Datalink statistics
-- Total of 1 flow:
Average throughput: 51.77 Mbit/s
95th percentile per-packet one-way delay: 207.600 ms
Loss rate: 13.30%
-- Flow 1:
Average throughput: 51.77 Mbit/s
95th percentile per-packet one-way delay: 207.600 ms
Loss rate: 13.30%

Run 1: Report of Verus — Data Link

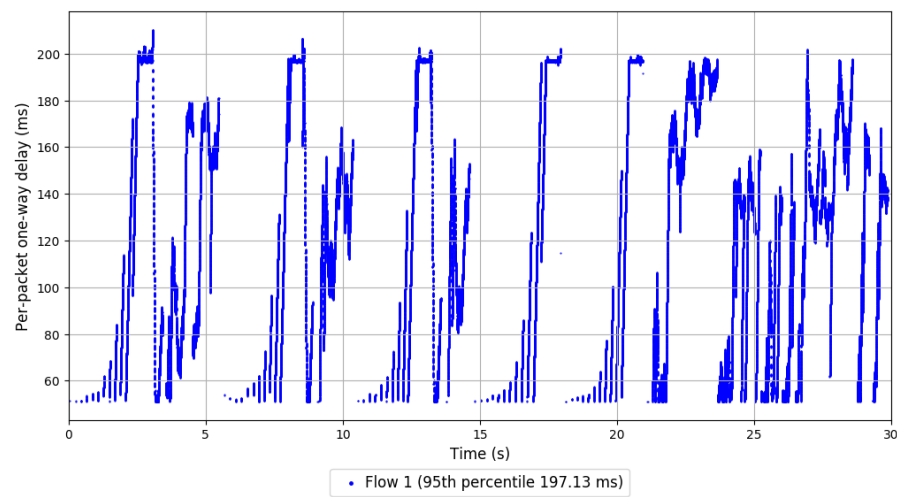
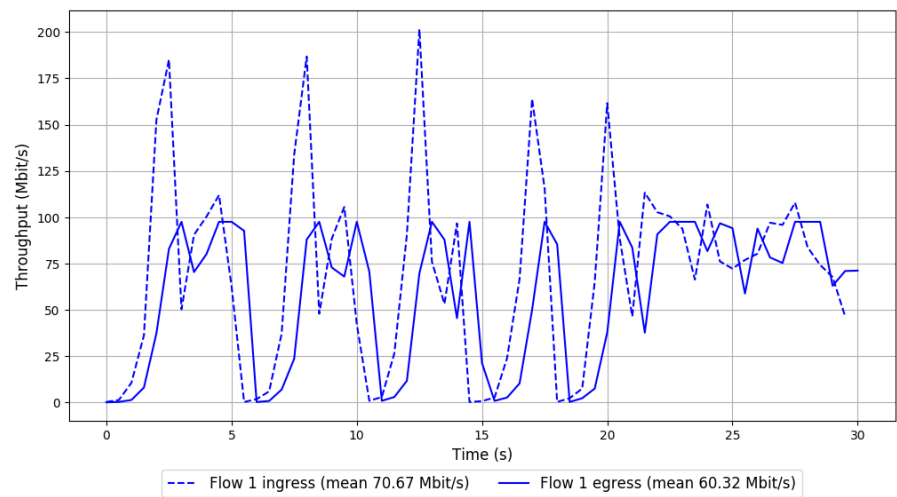


Run 2: Statistics of Verus

Start at: 2019-02-19 20:28:38
End at: 2019-02-19 20:29:08
Local clock offset: 1.006 ms
Remote clock offset: -4.447 ms

Below is generated by plot.py at 2019-02-19 22:07:08
Datalink statistics
-- Total of 1 flow:
Average throughput: 60.32 Mbit/s
95th percentile per-packet one-way delay: 197.130 ms
Loss rate: 14.45%
-- Flow 1:
Average throughput: 60.32 Mbit/s
95th percentile per-packet one-way delay: 197.130 ms
Loss rate: 14.45%

Run 2: Report of Verus — Data Link

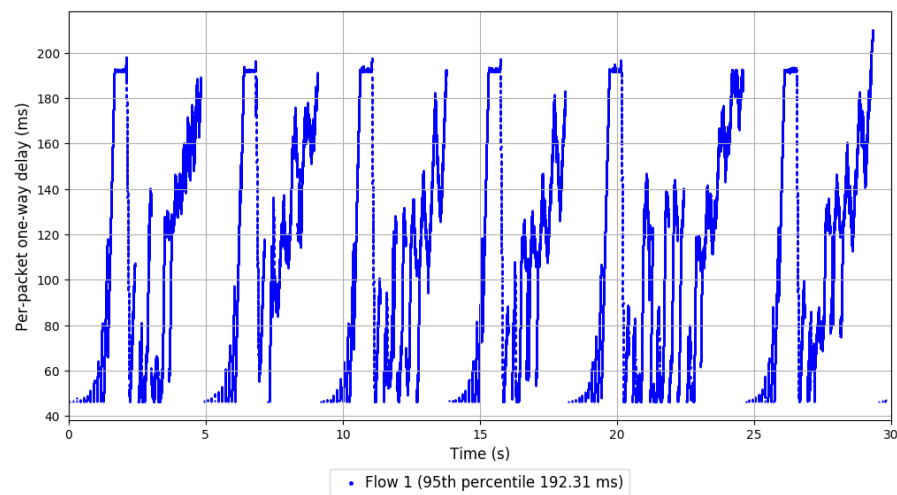
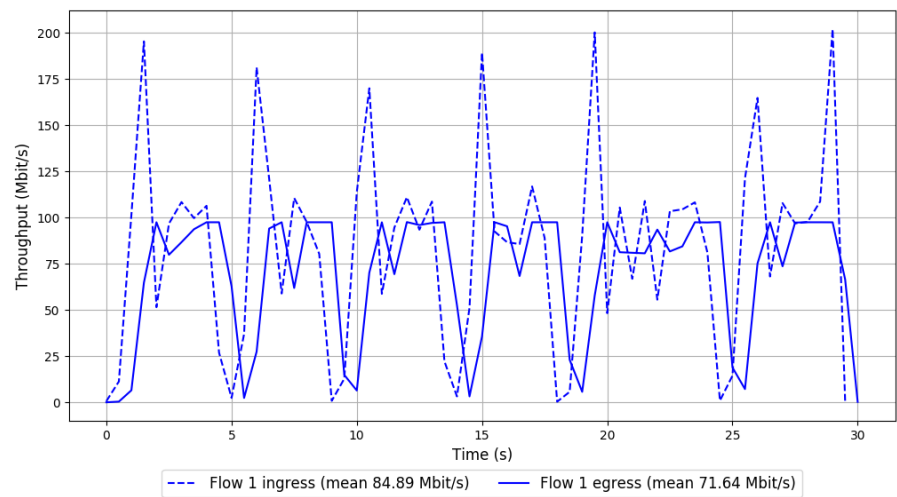


Run 3: Statistics of Verus

Start at: 2019-02-19 20:55:22
End at: 2019-02-19 20:55:52
Local clock offset: 2.063 ms
Remote clock offset: -2.774 ms

Below is generated by plot.py at 2019-02-19 22:07:14
Datalink statistics
-- Total of 1 flow:
Average throughput: 71.64 Mbit/s
95th percentile per-packet one-way delay: 192.312 ms
Loss rate: 15.60%
-- Flow 1:
Average throughput: 71.64 Mbit/s
95th percentile per-packet one-way delay: 192.312 ms
Loss rate: 15.60%

Run 3: Report of Verus — Data Link



Run 4: Statistics of Verus

Start at: 2019-02-19 21:21:17

End at: 2019-02-19 21:21:47

Local clock offset: 17.746 ms

Remote clock offset: -1.97 ms

Below is generated by plot.py at 2019-02-19 22:07:15

Datalink statistics

-- Total of 1 flow:

Average throughput: 71.62 Mbit/s

95th percentile per-packet one-way delay: 193.515 ms

Loss rate: 14.66%

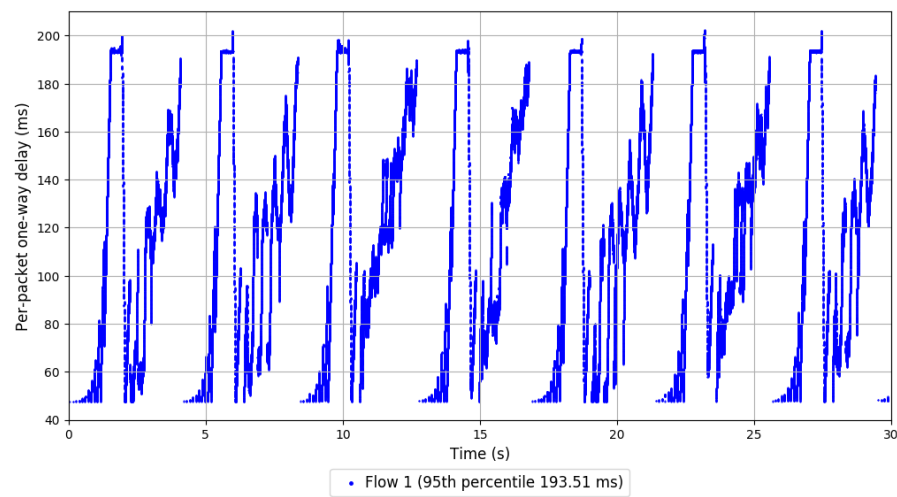
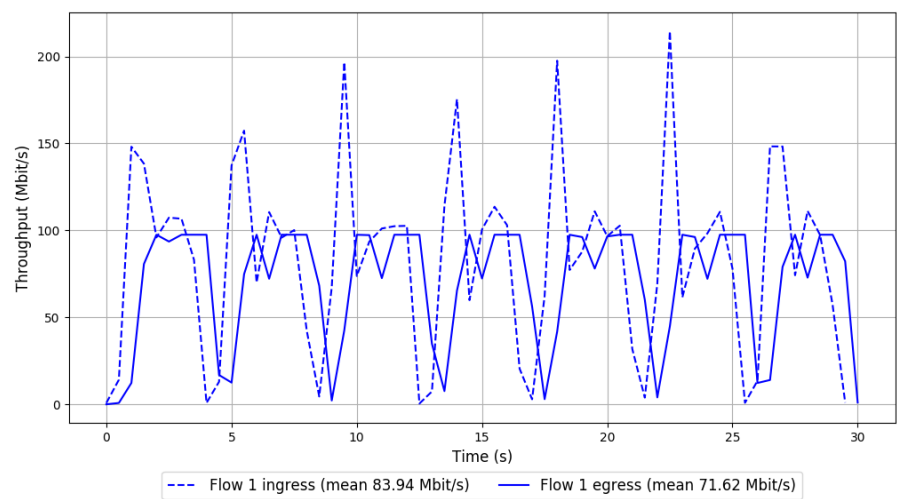
-- Flow 1:

Average throughput: 71.62 Mbit/s

95th percentile per-packet one-way delay: 193.515 ms

Loss rate: 14.66%

Run 4: Report of Verus — Data Link

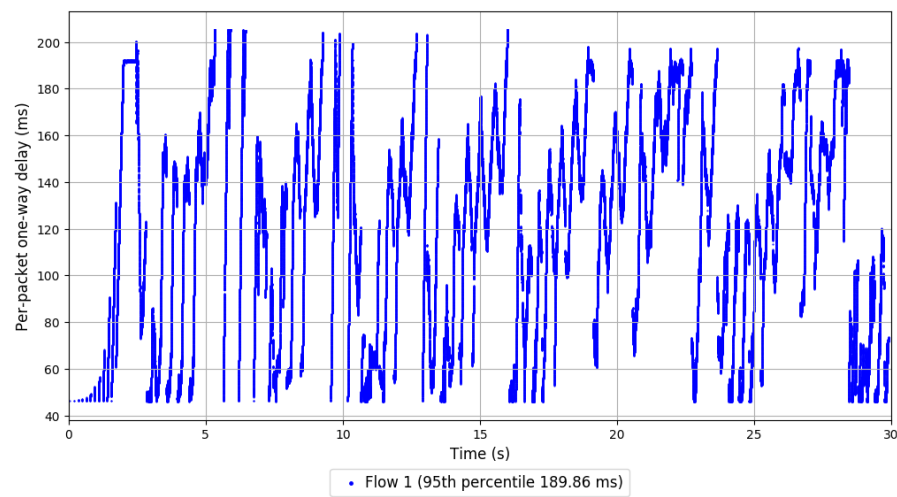
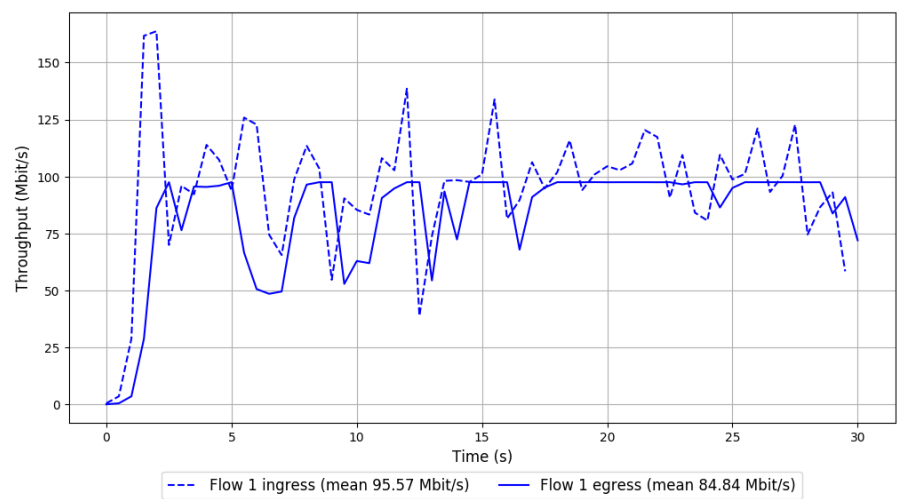


Run 5: Statistics of Verus

Start at: 2019-02-19 21:47:26
End at: 2019-02-19 21:47:57
Local clock offset: 2.55 ms
Remote clock offset: -2.318 ms

Below is generated by plot.py at 2019-02-19 22:07:22
Datalink statistics
-- Total of 1 flow:
Average throughput: 84.84 Mbit/s
95th percentile per-packet one-way delay: 189.856 ms
Loss rate: 11.14%
-- Flow 1:
Average throughput: 84.84 Mbit/s
95th percentile per-packet one-way delay: 189.856 ms
Loss rate: 11.14%

Run 5: Report of Verus — Data Link



Run 1: Statistics of PCC-Vivace

Start at: 2019-02-19 19:52:58

End at: 2019-02-19 19:53:28

Local clock offset: 3.88 ms

Remote clock offset: -5.718 ms

Below is generated by plot.py at 2019-02-19 22:07:22

Datalink statistics

-- Total of 1 flow:

Average throughput: 6.07 Mbit/s

95th percentile per-packet one-way delay: 71.472 ms

Loss rate: 0.09%

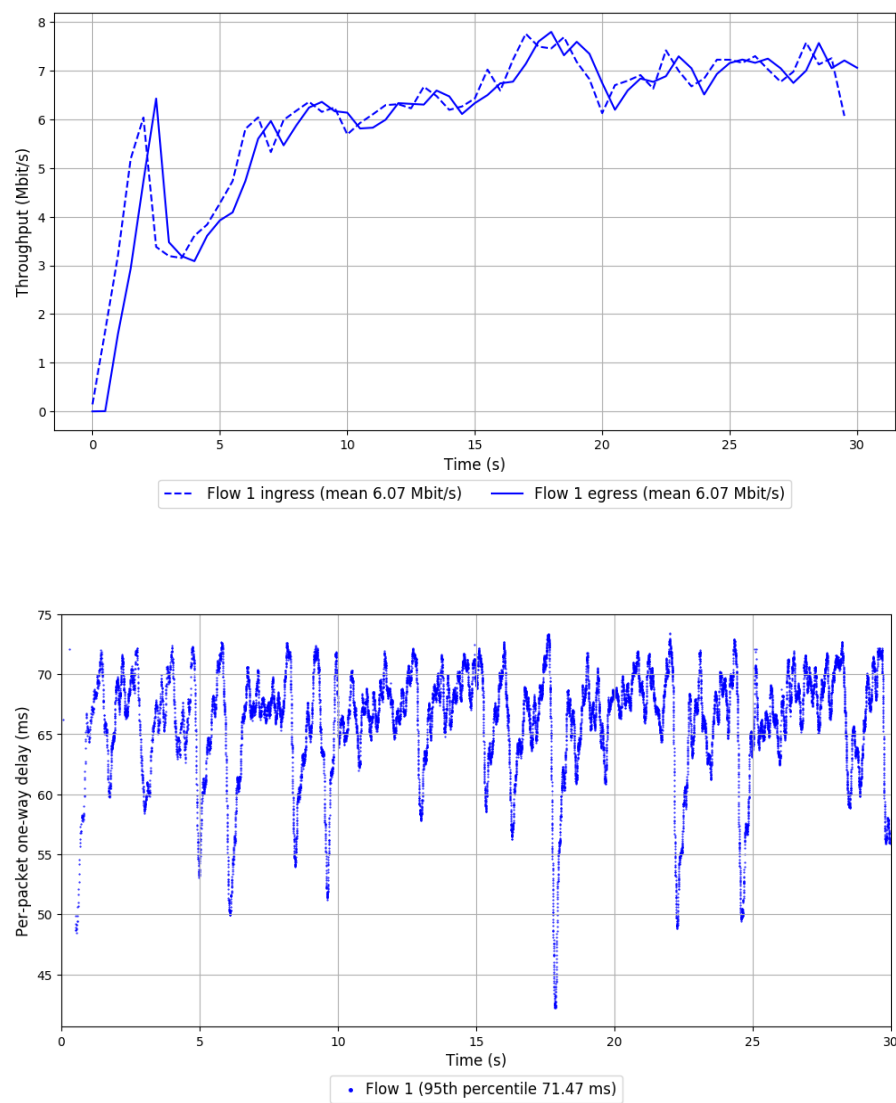
-- Flow 1:

Average throughput: 6.07 Mbit/s

95th percentile per-packet one-way delay: 71.472 ms

Loss rate: 0.09%

Run 1: Report of PCC-Vivace — Data Link



Run 2: Statistics of PCC-Vivace

Start at: 2019-02-19 20:19:48

End at: 2019-02-19 20:20:18

Local clock offset: 1.345 ms

Remote clock offset: -1.672 ms

Below is generated by plot.py at 2019-02-19 22:07:22

Datalink statistics

-- Total of 1 flow:

Average throughput: 10.44 Mbit/s

95th percentile per-packet one-way delay: 71.108 ms

Loss rate: 0.03%

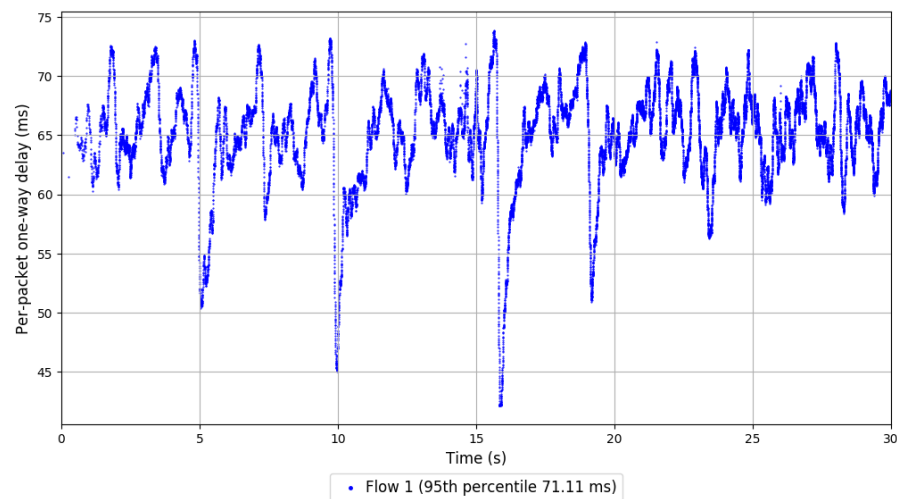
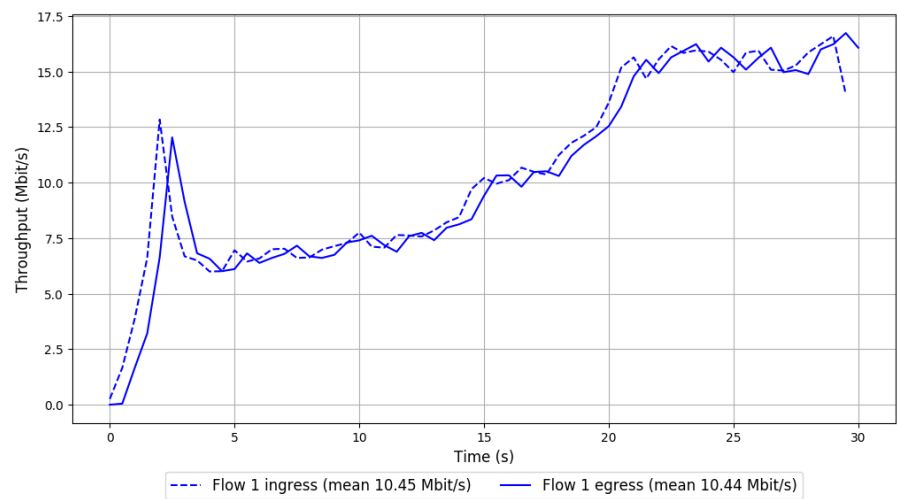
-- Flow 1:

Average throughput: 10.44 Mbit/s

95th percentile per-packet one-way delay: 71.108 ms

Loss rate: 0.03%

Run 2: Report of PCC-Vivace — Data Link

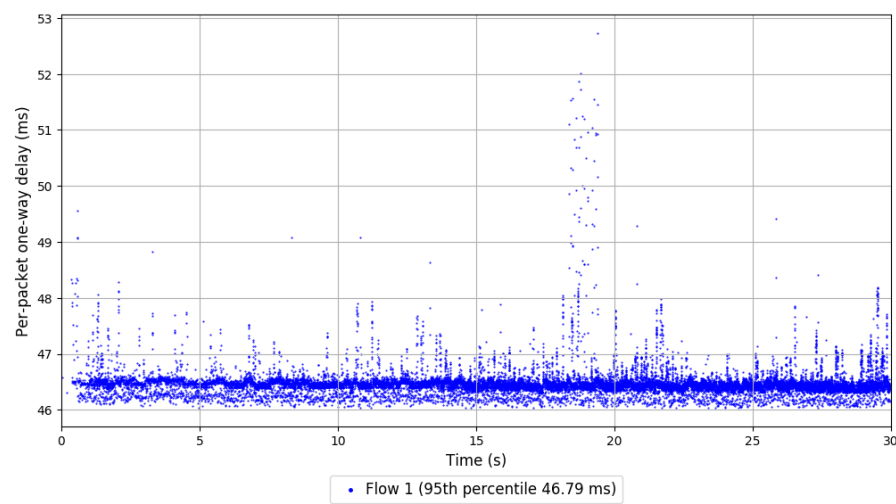
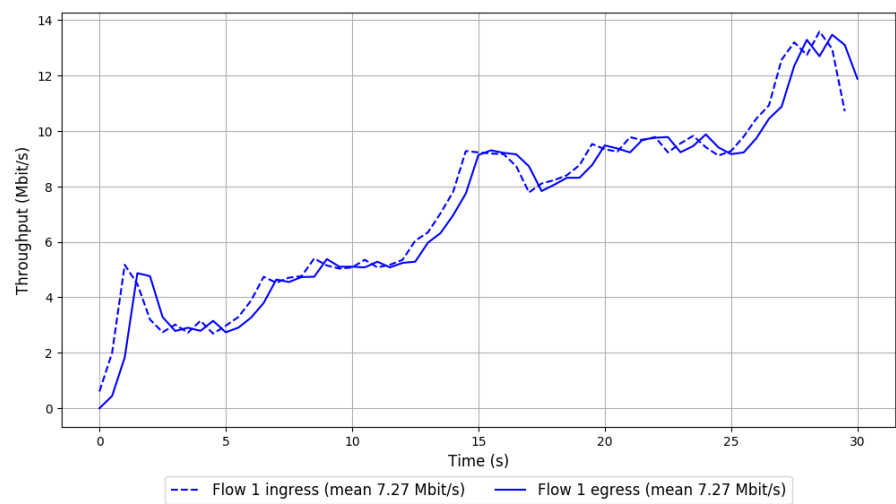


Run 3: Statistics of PCC-Vivace

Start at: 2019-02-19 20:46:37
End at: 2019-02-19 20:47:07
Local clock offset: 1.616 ms
Remote clock offset: -2.625 ms

Below is generated by plot.py at 2019-02-19 22:07:22
Datalink statistics
-- Total of 1 flow:
Average throughput: 7.27 Mbit/s
95th percentile per-packet one-way delay: 46.789 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 7.27 Mbit/s
95th percentile per-packet one-way delay: 46.789 ms
Loss rate: 0.00%

Run 3: Report of PCC-Vivace — Data Link

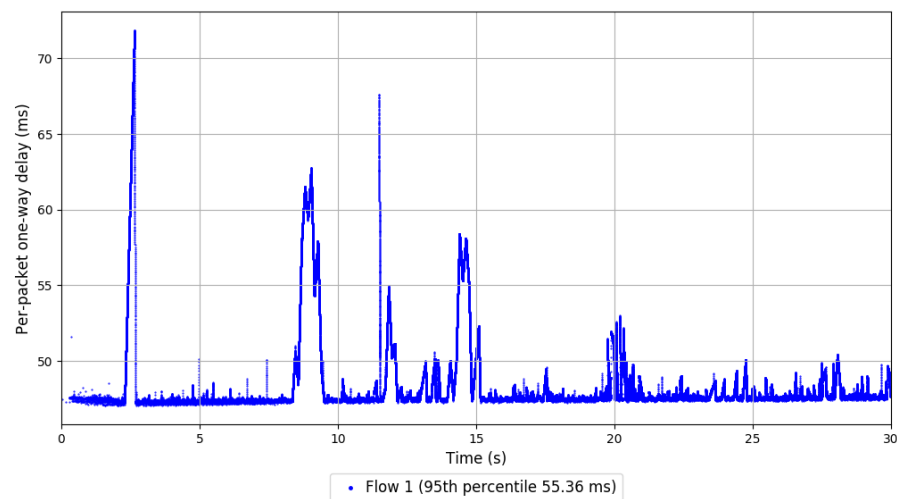
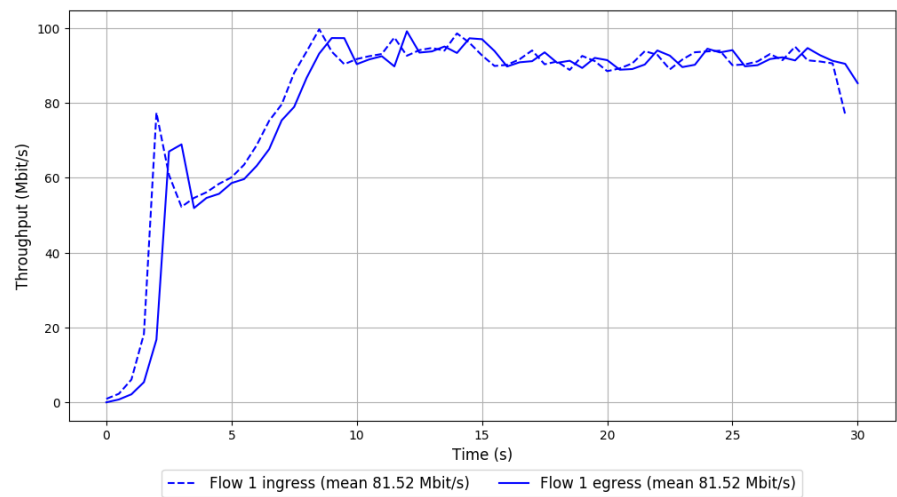


Run 4: Statistics of PCC-Vivace

Start at: 2019-02-19 21:12:42
End at: 2019-02-19 21:13:12
Local clock offset: 13.994 ms
Remote clock offset: -2.147 ms

Below is generated by plot.py at 2019-02-19 22:07:23
Datalink statistics
-- Total of 1 flow:
Average throughput: 81.52 Mbit/s
95th percentile per-packet one-way delay: 55.359 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 81.52 Mbit/s
95th percentile per-packet one-way delay: 55.359 ms
Loss rate: 0.00%

Run 4: Report of PCC-Vivace — Data Link

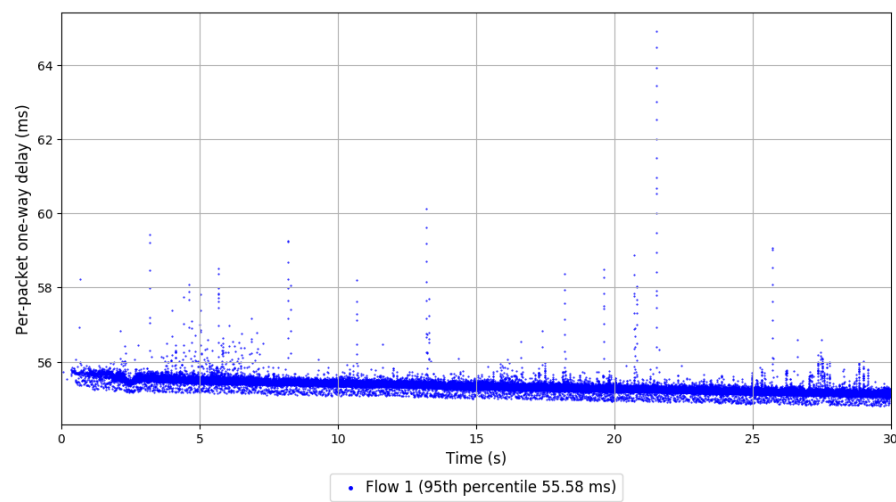
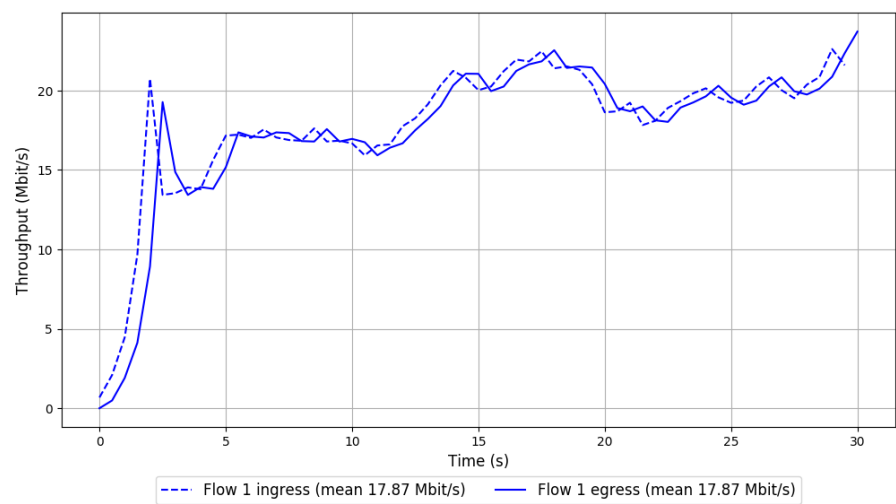


Run 5: Statistics of PCC-Vivace

Start at: 2019-02-19 21:38:40
End at: 2019-02-19 21:39:10
Local clock offset: 7.699 ms
Remote clock offset: -1.762 ms

Below is generated by plot.py at 2019-02-19 22:07:23
Datalink statistics
-- Total of 1 flow:
Average throughput: 17.87 Mbit/s
95th percentile per-packet one-way delay: 55.582 ms
Loss rate: 0.04%
-- Flow 1:
Average throughput: 17.87 Mbit/s
95th percentile per-packet one-way delay: 55.582 ms
Loss rate: 0.04%

Run 5: Report of PCC-Vivace — Data Link

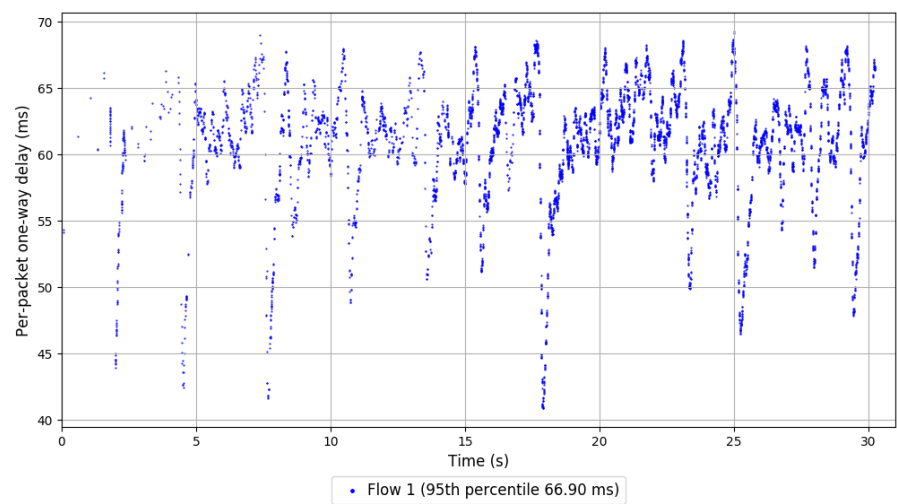
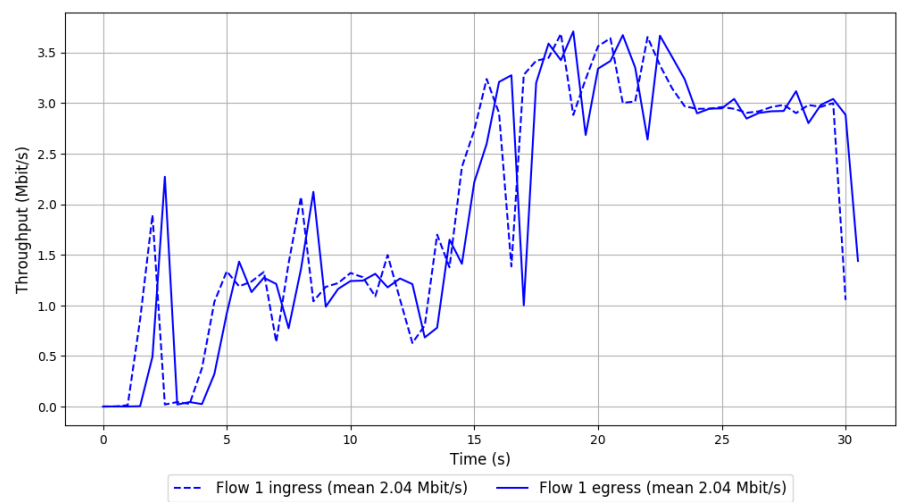


Run 1: Statistics of WebRTC media

Start at: 2019-02-19 19:54:11
End at: 2019-02-19 19:54:41
Local clock offset: 4.374 ms
Remote clock offset: -9.323 ms

Below is generated by plot.py at 2019-02-19 22:07:23
Datalink statistics
-- Total of 1 flow:
Average throughput: 2.04 Mbit/s
95th percentile per-packet one-way delay: 66.901 ms
Loss rate: 0.15%
-- Flow 1:
Average throughput: 2.04 Mbit/s
95th percentile per-packet one-way delay: 66.901 ms
Loss rate: 0.15%

Run 1: Report of WebRTC media — Data Link

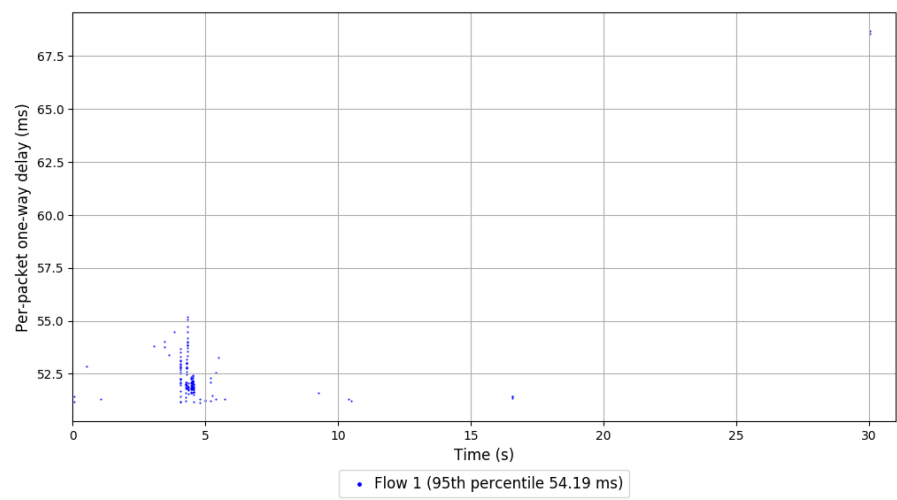
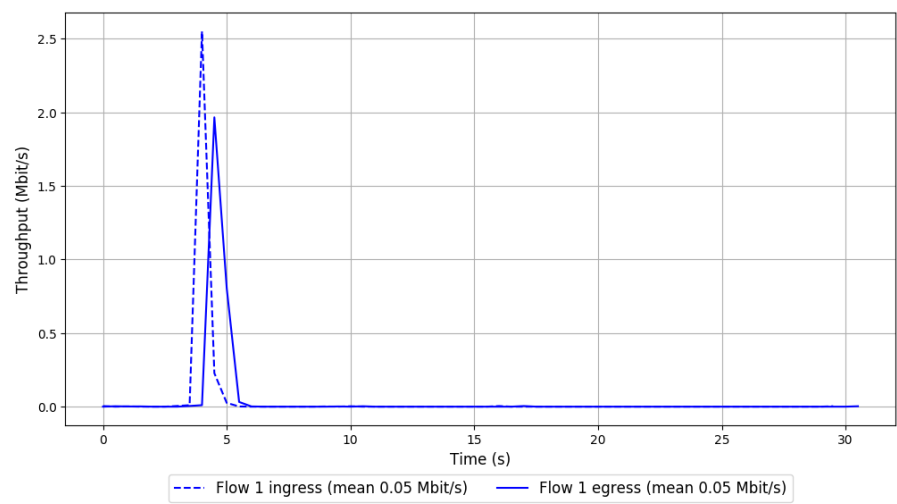


Run 2: Statistics of WebRTC media

Start at: 2019-02-19 20:21:06
End at: 2019-02-19 20:21:36
Local clock offset: 1.263 ms
Remote clock offset: -1.239 ms

Below is generated by plot.py at 2019-02-19 22:07:23
Datalink statistics
-- Total of 1 flow:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 54.192 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 54.192 ms
Loss rate: 0.00%

Run 2: Report of WebRTC media — Data Link

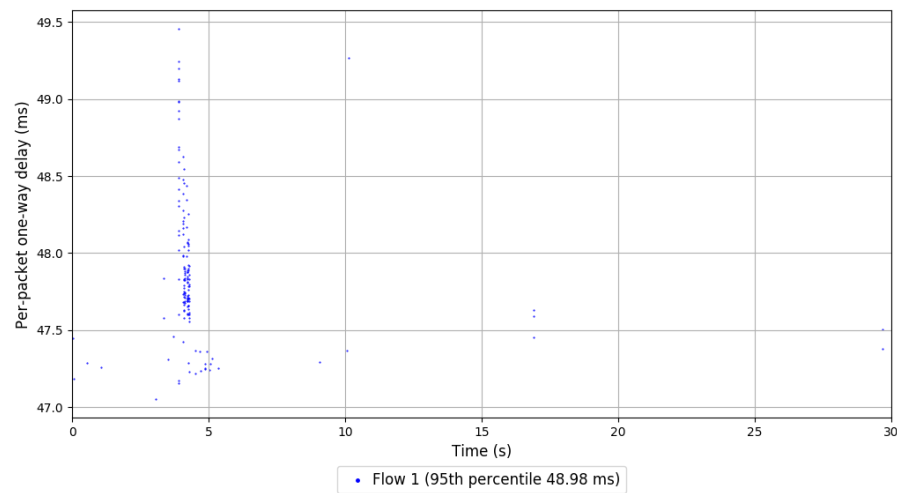
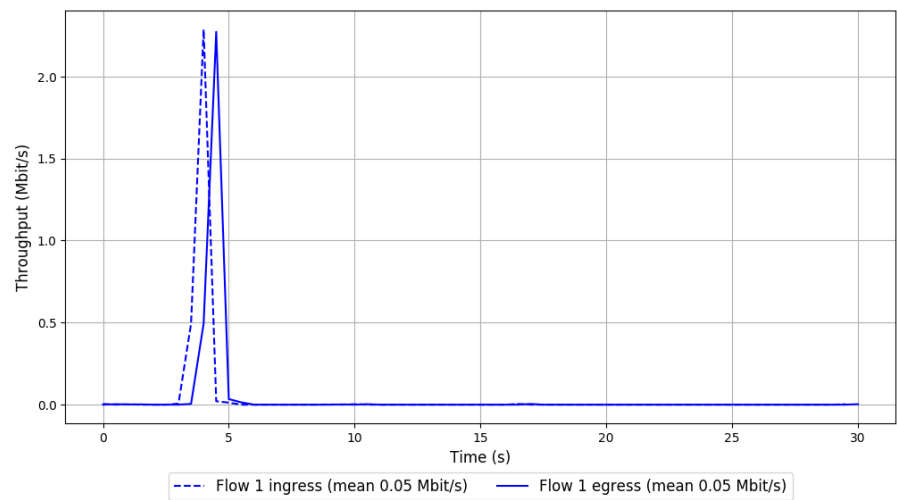


Run 3: Statistics of WebRTC media

Start at: 2019-02-19 20:47:52
End at: 2019-02-19 20:48:22
Local clock offset: 1.508 ms
Remote clock offset: -1.788 ms

Below is generated by plot.py at 2019-02-19 22:07:23
Datalink statistics
-- Total of 1 flow:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 48.980 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 48.980 ms
Loss rate: 0.00%

Run 3: Report of WebRTC media — Data Link

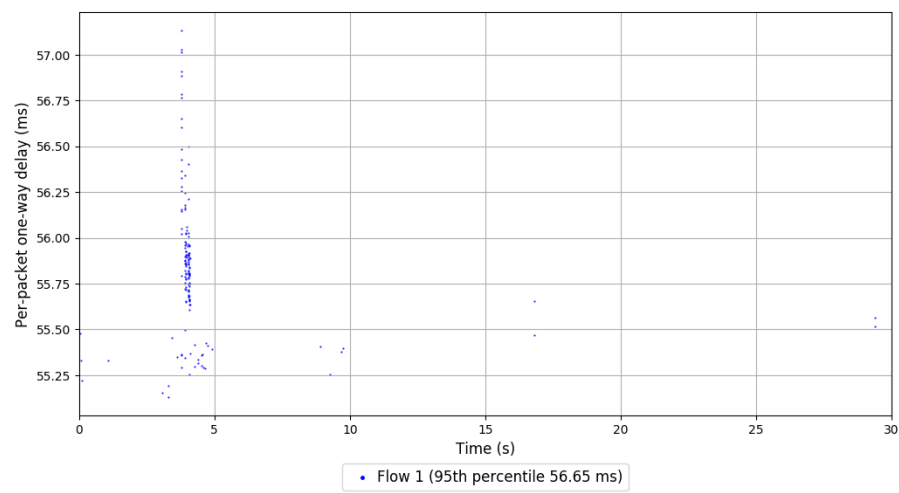
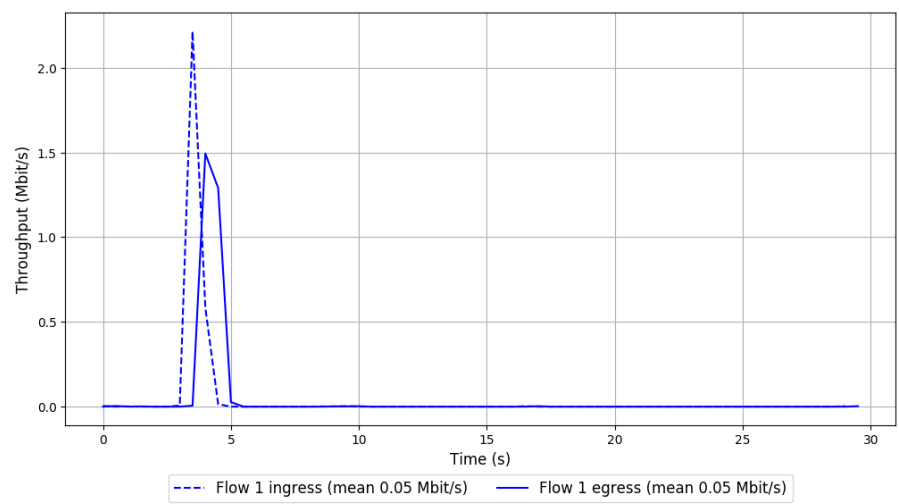


Run 4: Statistics of WebRTC media

Start at: 2019-02-19 21:14:00
End at: 2019-02-19 21:14:30
Local clock offset: 14.992 ms
Remote clock offset: -2.785 ms

Below is generated by plot.py at 2019-02-19 22:07:23
Datalink statistics
-- Total of 1 flow:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 56.653 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 56.653 ms
Loss rate: 0.00%

Run 4: Report of WebRTC media — Data Link



Run 5: Statistics of WebRTC media

Start at: 2019-02-19 21:39:55
End at: 2019-02-19 21:40:25
Local clock offset: 6.758 ms
Remote clock offset: -2.109 ms

Below is generated by plot.py at 2019-02-19 22:07:23
Datalink statistics
-- Total of 1 flow:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 56.455 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 56.455 ms
Loss rate: 0.00%

Run 5: Report of WebRTC media — Data Link

