

Pantheon Report

Generated at 2019-01-03 06:47:33 (UTC).

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

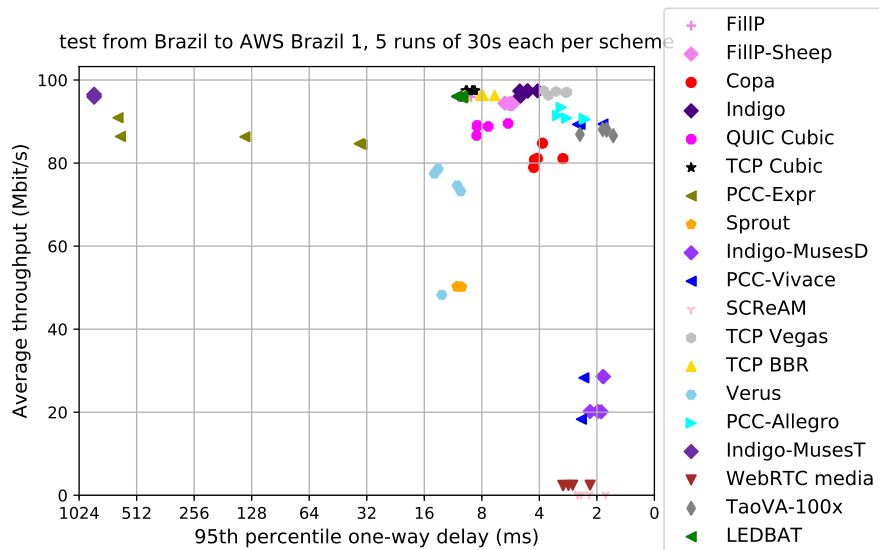
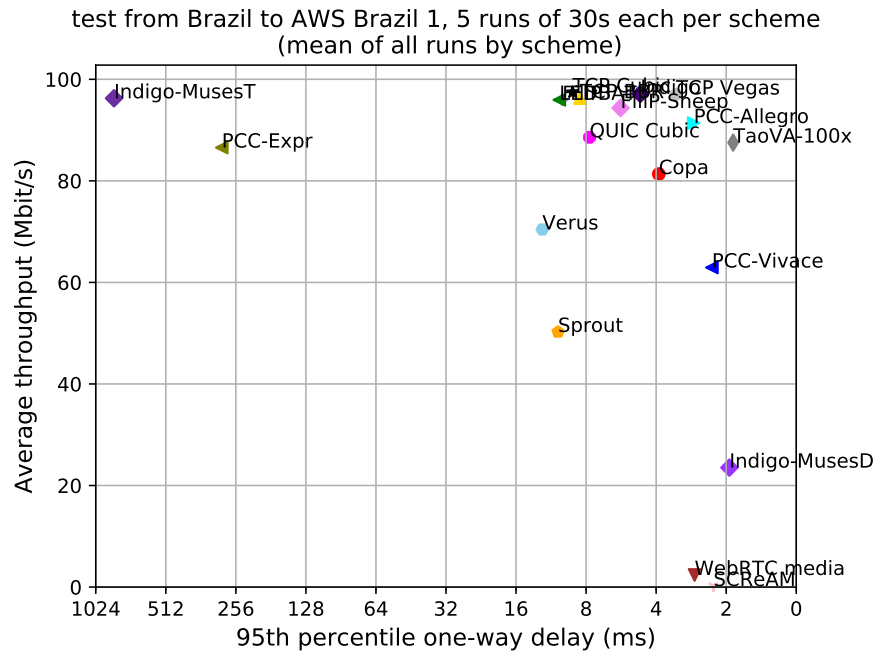
System info:

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

Git summary:

```
branch: muses @ c654af0b7d59d4ef4b914cfac404e1fc2e96dc68
third_party/fillp @ d6da1459332fcee56963885d7eba17e6a32d4519
third_party/fillp-sheep @ 0e5bb722943babcd2b090d2c64fcd45e12e923f9
third_party/genericCC @ d0153f8e594aa89e93b032143cedbdfc58e562f4
third_party/indigo @ 2601c92e4aa9d58d38dc4dfe0ecd90c077e64d
third_party/libutp @ b3465b942e2826f2b179eaab4a906ce6bb7cf3cf
third_party/muses @ 65ac1b19bbefed0c6349ae986009b4fa8643c40a
third_party/muses-refactored @ 31f8f0ba8ef8b1da76c2bc0cd0a7850c33ff64fb
third_party/pantheon-tunnel @ f866d3f58d27afd942717625ee3a354cc2e802bd
third_party/pcc @ 1afc958fa0d66d18b623c091a55fec872b4981e1
M receiver/src/buffer.h
M receiver/src/core.cpp
M sender/src/buffer.h
M sender/src/core.cpp
third_party/pcc-experimental @ cd43e34e3f5f5613e8acd08fab92c4eb24f974ab
third_party/proto-quick @ 77961f1a82733a86b42f1bc8143ebc978f3cff42
third_party/scream-reproduce @ f099118d1421aa3131bf11ff1964974e1da3bdb2
M src/ScreamClient
M src/ScreamServer
third_party/sprout @ 366e35c6178b01e31d4a46ad18c74f9415f19a26
M src/examples/cellsim.cc
M src/examples/sproutbt2.cc
M src/network/sproutconn.cc
third_party/verus @ d4b447ea74c6c60a261149af2629562939f9a494
M src/verus.hpp
M tools/plot.py
```

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



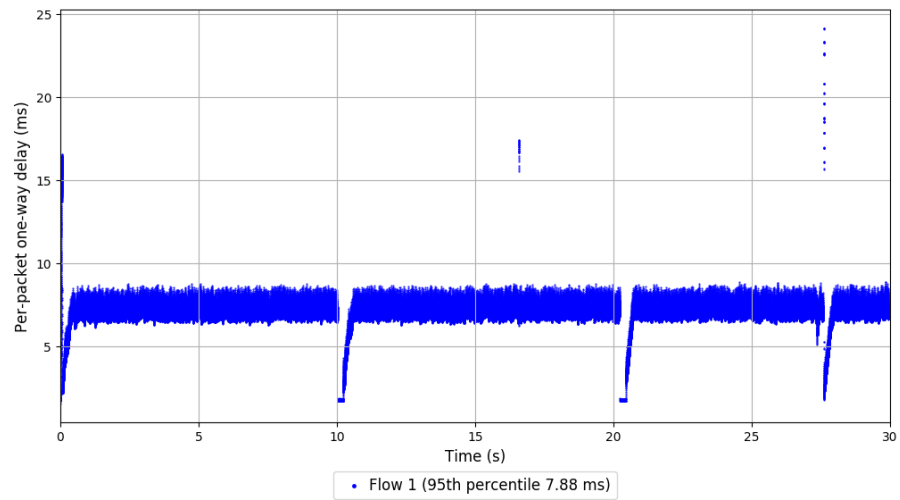
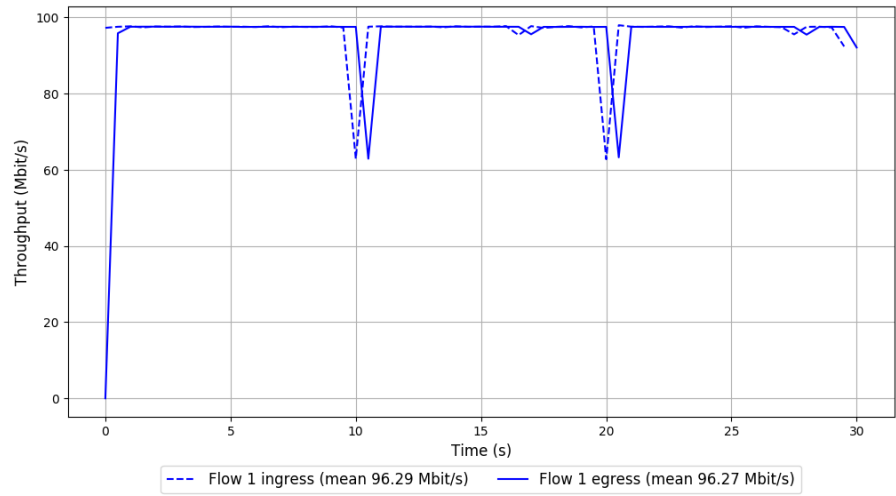
| scheme | # runs | mean avg tput (Mbit/s) flow 1 | mean 95th-%ile delay (ms) flow 1 | mean loss rate (%) flow 1 |
|---------------|--------|----------------------------------|-------------------------------------|------------------------------|
| TCP BBR | 5 | 96.28 | 8.50 | 0.06 |
| Copa | 5 | 81.34 | 3.90 | 0.01 |
| TCP Cubic | 5 | 97.44 | 9.15 | 0.05 |
| FillP | 5 | 95.93 | 10.13 | 0.03 |
| FillP-Sheep | 5 | 94.36 | 5.69 | 0.01 |
| Indigo | 5 | 97.12 | 4.68 | 0.02 |
| Indigo-MusesD | 5 | 23.52 | 1.91 | 0.01 |
| Indigo-MusesT | 5 | 96.26 | 854.67 | 2.70 |
| LEDBAT | 5 | 95.95 | 10.43 | 0.07 |
| PCC-Allegro | 5 | 91.39 | 2.76 | 0.01 |
| PCC-Expr | 5 | 86.55 | 294.28 | 3.04 |
| QUIC Cubic | 5 | 88.58 | 7.73 | 0.02 |
| SCReAM | 5 | 0.22 | 2.27 | 0.03 |
| Sprout | 5 | 50.25 | 10.56 | 0.04 |
| TaoVA-100x | 5 | 87.54 | 1.80 | 0.01 |
| TCP Vegas | 5 | 97.01 | 3.28 | 0.01 |
| Verus | 5 | 70.43 | 12.34 | 0.06 |
| PCC-Vivace | 5 | 62.93 | 2.30 | 0.02 |
| WebRTC media | 5 | 2.38 | 2.74 | 0.01 |

Run 1: Statistics of TCP BBR

Start at: 2019-01-03 05:03:25
End at: 2019-01-03 05:03:55
Local clock offset: -10.245 ms
Remote clock offset: -0.057 ms

Below is generated by plot.py at 2019-01-03 06:36:02
Datalink statistics
-- Total of 1 flow:
Average throughput: 96.27 Mbit/s
95th percentile per-packet one-way delay: 7.877 ms
Loss rate: 0.03%
-- Flow 1:
Average throughput: 96.27 Mbit/s
95th percentile per-packet one-way delay: 7.877 ms
Loss rate: 0.03%

Run 1: Report of TCP BBR — Data Link

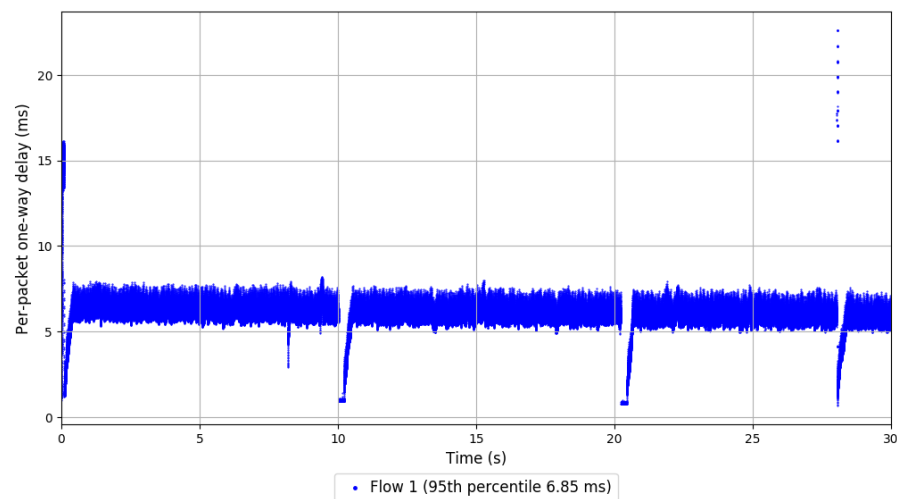
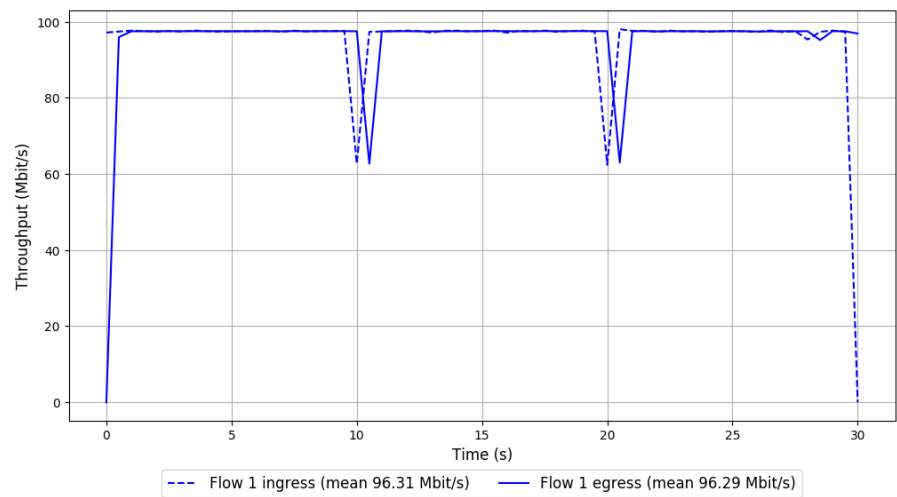


Run 2: Statistics of TCP BBR

Start at: 2019-01-03 05:24:55
End at: 2019-01-03 05:25:25
Local clock offset: -11.333 ms
Remote clock offset: 0.191 ms

Below is generated by plot.py at 2019-01-03 06:36:02
Datalink statistics
-- Total of 1 flow:
Average throughput: 96.29 Mbit/s
95th percentile per-packet one-way delay: 6.852 ms
Loss rate: 0.03%
-- Flow 1:
Average throughput: 96.29 Mbit/s
95th percentile per-packet one-way delay: 6.852 ms
Loss rate: 0.03%

Run 2: Report of TCP BBR — Data Link



Run 3: Statistics of TCP BBR

Start at: 2019-01-03 05:46:23

End at: 2019-01-03 05:46:53

Local clock offset: -0.901 ms

Remote clock offset: 0.392 ms

Below is generated by plot.py at 2019-01-03 06:36:02

Datalink statistics

-- Total of 1 flow:

Average throughput: 96.35 Mbit/s

95th percentile per-packet one-way delay: 8.113 ms

Loss rate: 0.03%

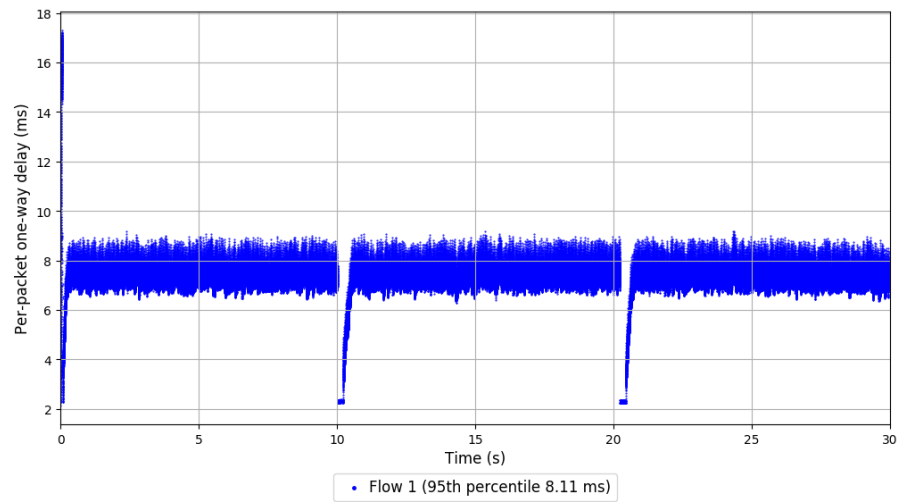
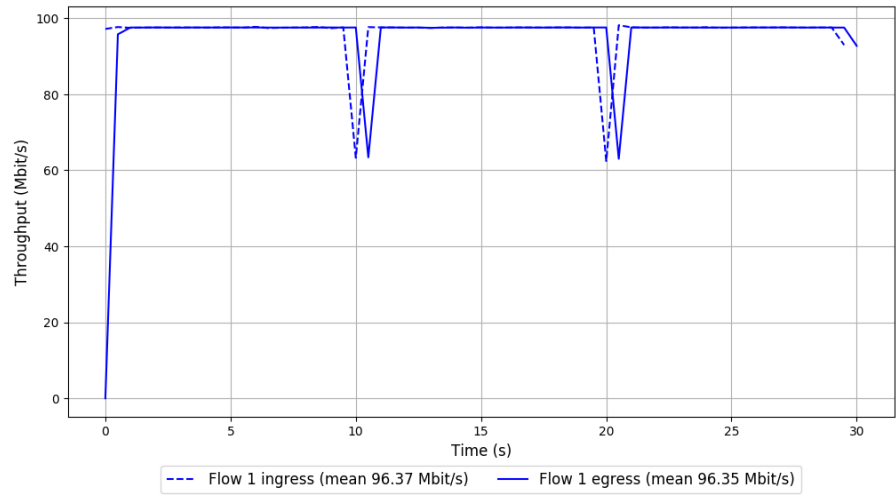
-- Flow 1:

Average throughput: 96.35 Mbit/s

95th percentile per-packet one-way delay: 8.113 ms

Loss rate: 0.03%

Run 3: Report of TCP BBR — Data Link



Run 4: Statistics of TCP BBR

Start at: 2019-01-03 06:07:49

End at: 2019-01-03 06:08:19

Local clock offset: -1.637 ms

Remote clock offset: 0.601 ms

Below is generated by plot.py at 2019-01-03 06:36:02

Datalink statistics

-- Total of 1 flow:

Average throughput: 96.24 Mbit/s

95th percentile per-packet one-way delay: 9.906 ms

Loss rate: 0.12%

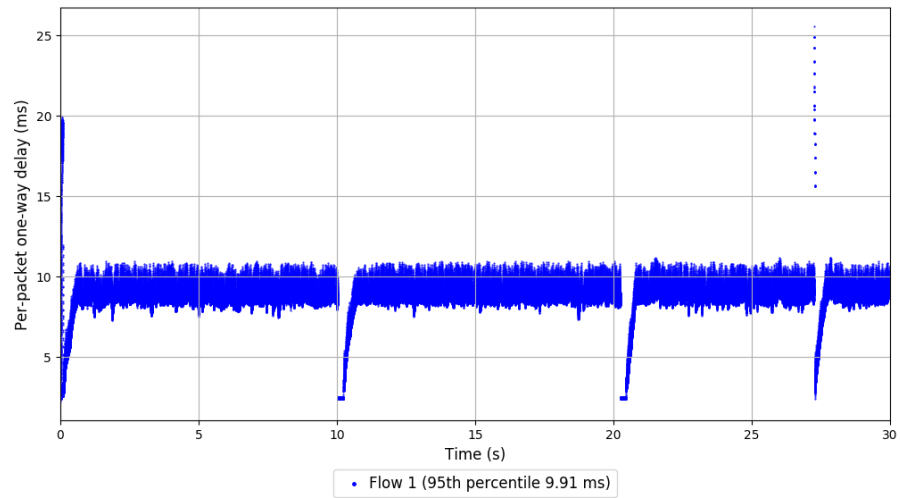
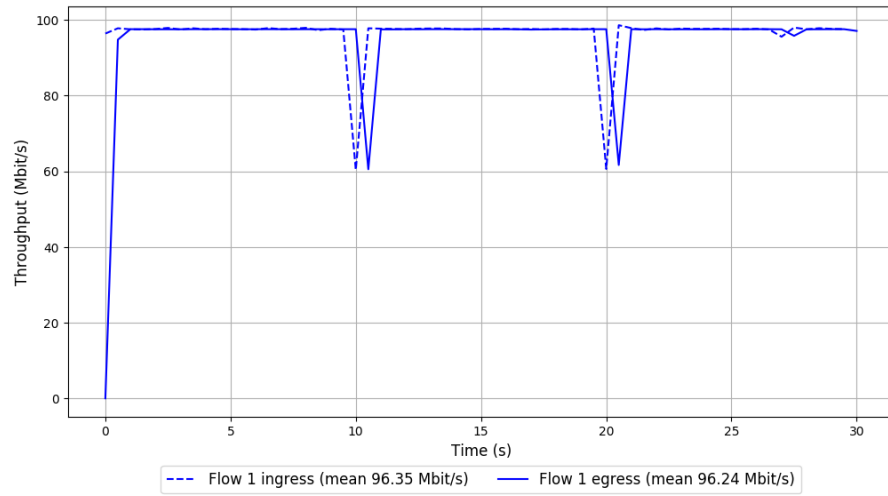
-- Flow 1:

Average throughput: 96.24 Mbit/s

95th percentile per-packet one-way delay: 9.906 ms

Loss rate: 0.12%

Run 4: Report of TCP BBR — Data Link



Run 5: Statistics of TCP BBR

Start at: 2019-01-03 06:29:21

End at: 2019-01-03 06:29:51

Local clock offset: -1.103 ms

Remote clock offset: 0.71 ms

Below is generated by plot.py at 2019-01-03 06:36:03

Datalink statistics

-- Total of 1 flow:

Average throughput: 96.25 Mbit/s

95th percentile per-packet one-way delay: 9.771 ms

Loss rate: 0.11%

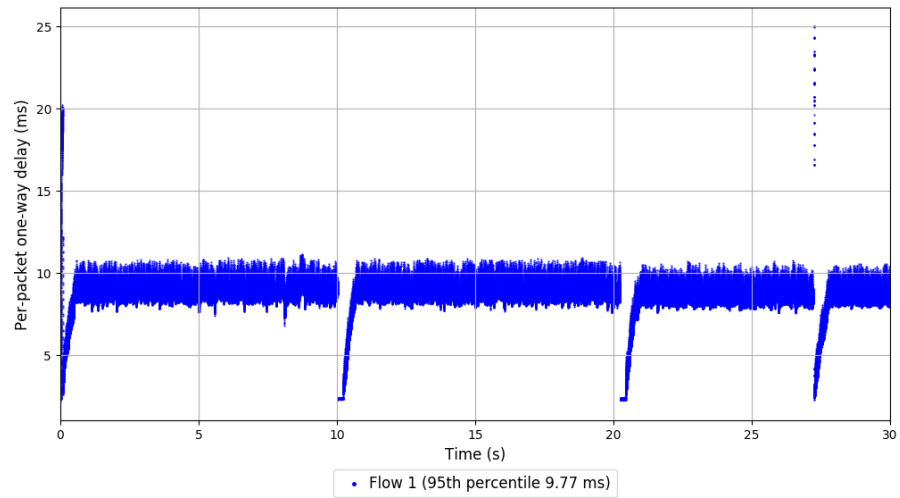
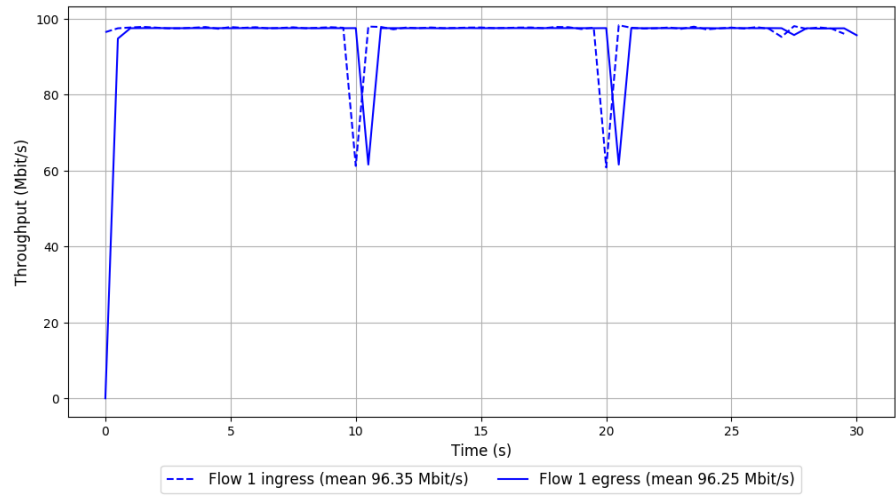
-- Flow 1:

Average throughput: 96.25 Mbit/s

95th percentile per-packet one-way delay: 9.771 ms

Loss rate: 0.11%

Run 5: Report of TCP BBR — Data Link



Run 1: Statistics of Copa

Start at: 2019-01-03 04:47:34

End at: 2019-01-03 04:48:04

Local clock offset: -8.061 ms

Remote clock offset: -0.18 ms

Below is generated by plot.py at 2019-01-03 06:36:41

Datalink statistics

-- Total of 1 flow:

Average throughput: 78.94 Mbit/s

95th percentile per-packet one-way delay: 4.281 ms

Loss rate: 0.00%

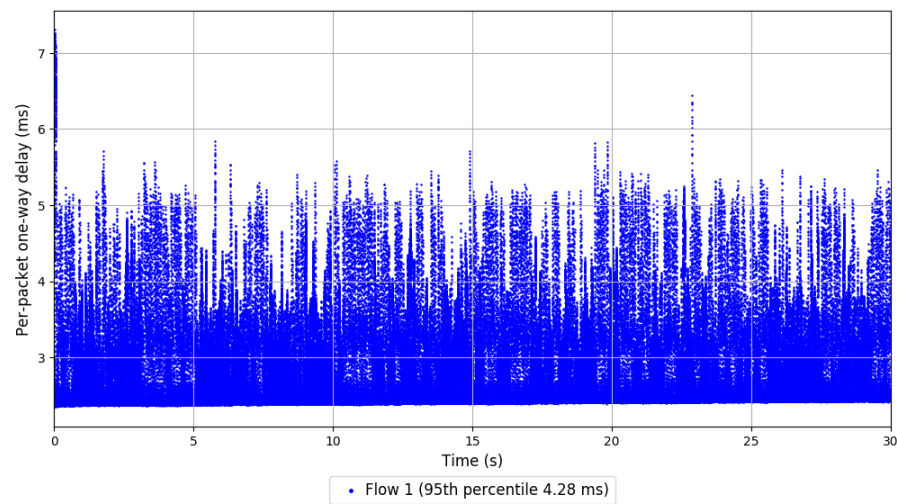
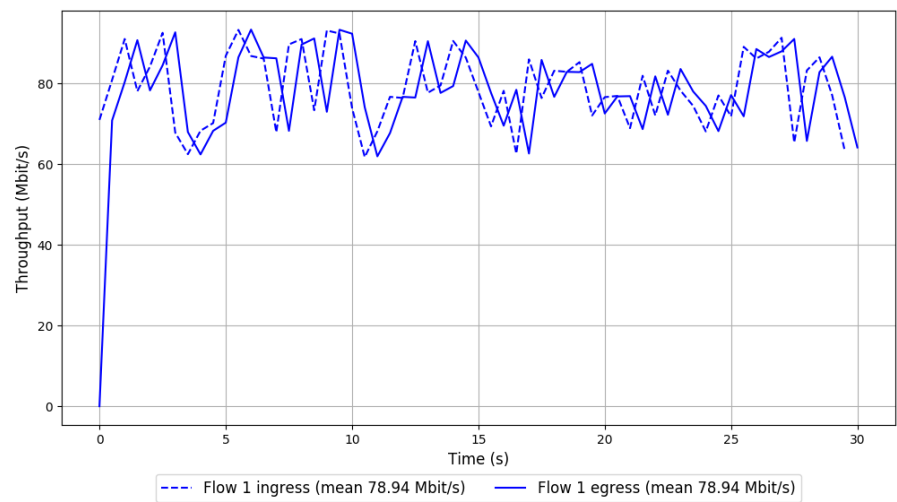
-- Flow 1:

Average throughput: 78.94 Mbit/s

95th percentile per-packet one-way delay: 4.281 ms

Loss rate: 0.00%

Run 1: Report of Copa — Data Link

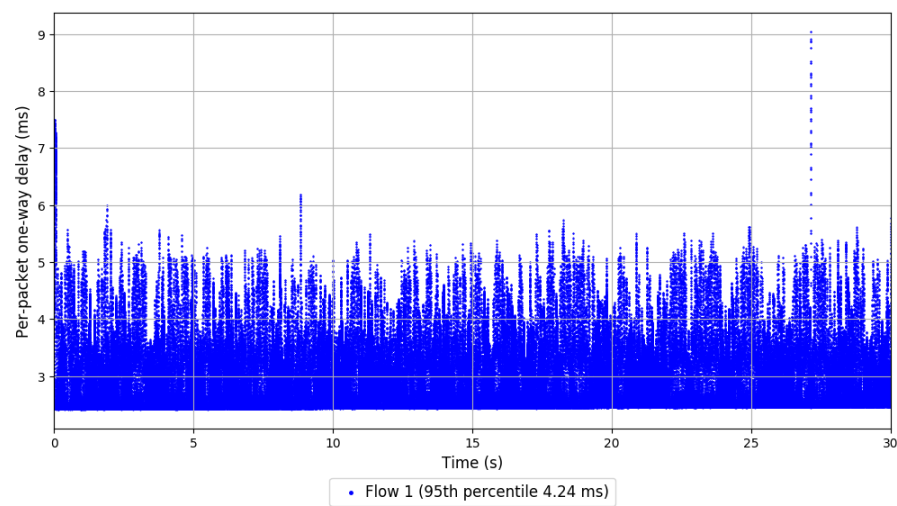
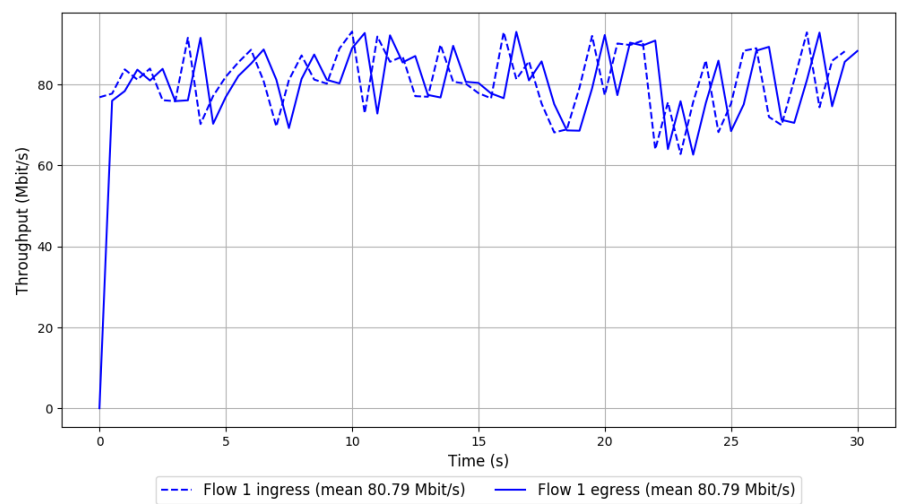


Run 2: Statistics of Copa

Start at: 2019-01-03 05:09:04
End at: 2019-01-03 05:09:34
Local clock offset: -10.009 ms
Remote clock offset: -0.028 ms

Below is generated by plot.py at 2019-01-03 06:36:43
Datalink statistics
-- Total of 1 flow:
Average throughput: 80.79 Mbit/s
95th percentile per-packet one-way delay: 4.242 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 80.79 Mbit/s
95th percentile per-packet one-way delay: 4.242 ms
Loss rate: 0.01%

Run 2: Report of Copa — Data Link



Run 3: Statistics of Copa

Start at: 2019-01-03 05:30:35

End at: 2019-01-03 05:31:05

Local clock offset: -6.725 ms

Remote clock offset: 0.183 ms

Below is generated by plot.py at 2019-01-03 06:36:44

Datalink statistics

-- Total of 1 flow:

Average throughput: 81.07 Mbit/s

95th percentile per-packet one-way delay: 3.011 ms

Loss rate: 0.01%

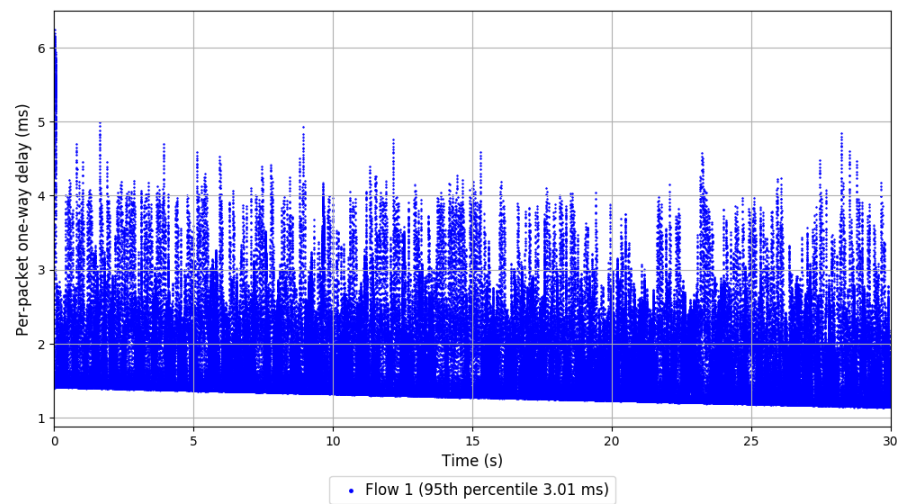
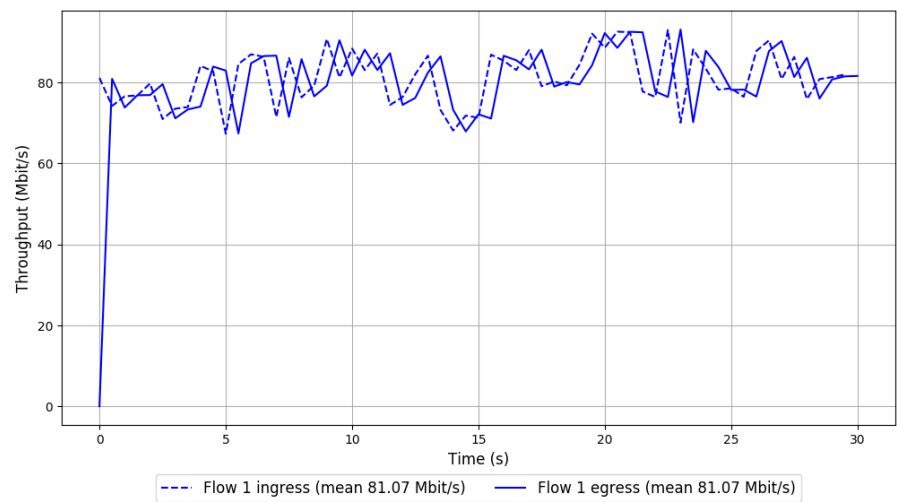
-- Flow 1:

Average throughput: 81.07 Mbit/s

95th percentile per-packet one-way delay: 3.011 ms

Loss rate: 0.01%

Run 3: Report of Copa — Data Link



Run 4: Statistics of Copa

Start at: 2019-01-03 05:52:02

End at: 2019-01-03 05:52:32

Local clock offset: 0.012 ms

Remote clock offset: 0.391 ms

Below is generated by plot.py at 2019-01-03 06:37:52

Datalink statistics

-- Total of 1 flow:

Average throughput: 81.10 Mbit/s

95th percentile per-packet one-way delay: 4.097 ms

Loss rate: 0.01%

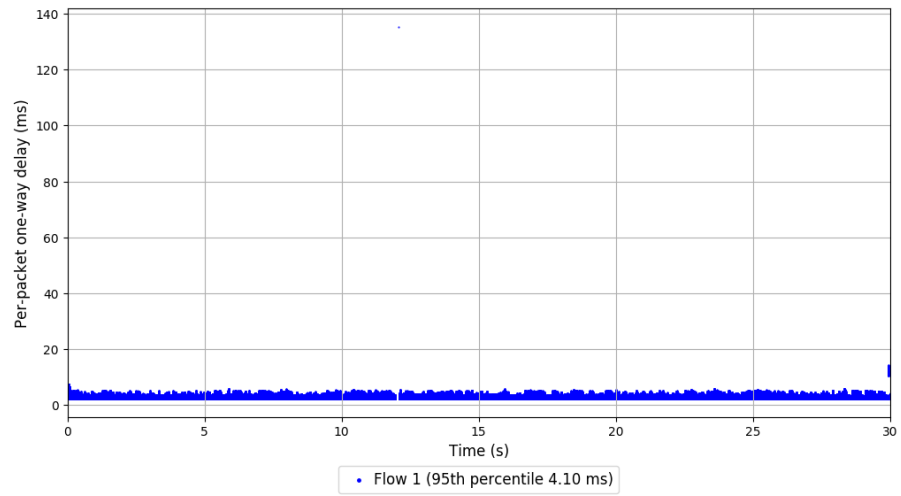
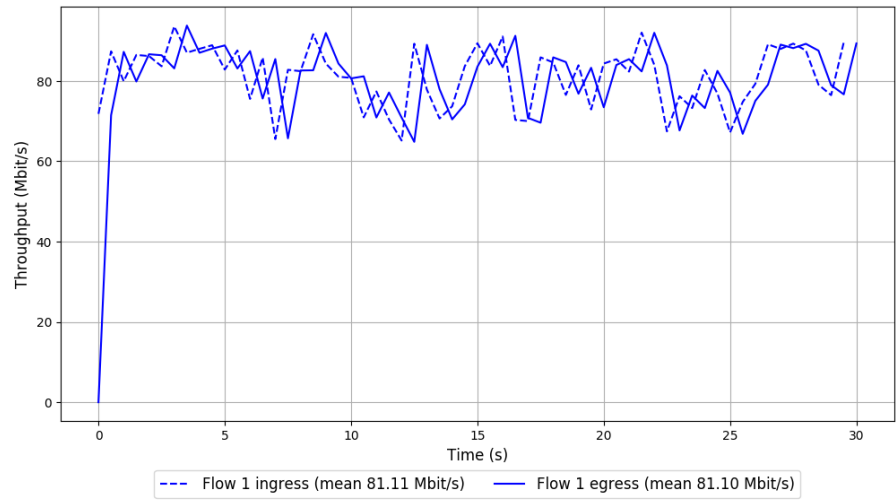
-- Flow 1:

Average throughput: 81.10 Mbit/s

95th percentile per-packet one-way delay: 4.097 ms

Loss rate: 0.01%

Run 4: Report of Copa — Data Link



Run 5: Statistics of Copa

Start at: 2019-01-03 06:13:28

End at: 2019-01-03 06:13:58

Local clock offset: -1.7 ms

Remote clock offset: 0.522 ms

Below is generated by plot.py at 2019-01-03 06:37:56

Datalink statistics

-- Total of 1 flow:

Average throughput: 84.79 Mbit/s

95th percentile per-packet one-way delay: 3.853 ms

Loss rate: 0.01%

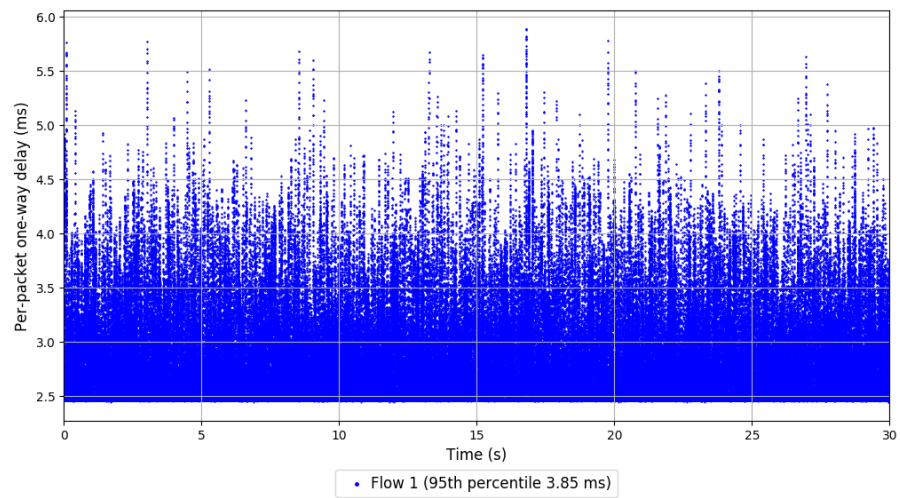
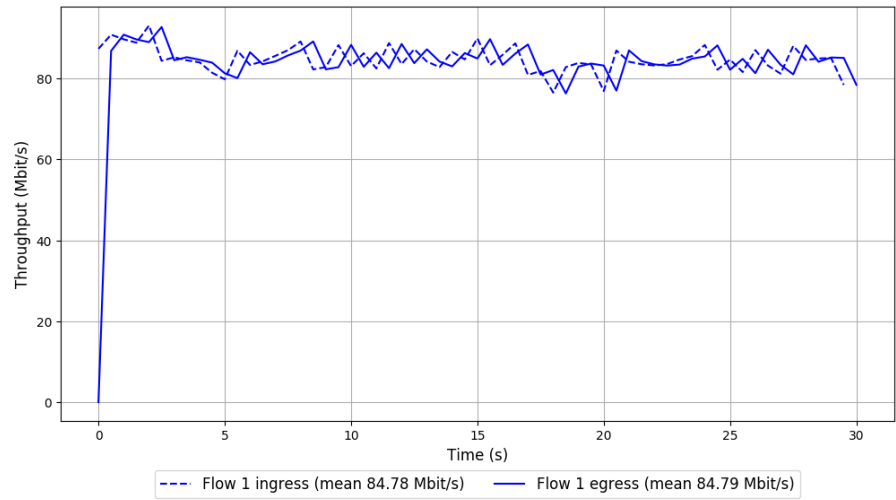
-- Flow 1:

Average throughput: 84.79 Mbit/s

95th percentile per-packet one-way delay: 3.853 ms

Loss rate: 0.01%

Run 5: Report of Copa — Data Link

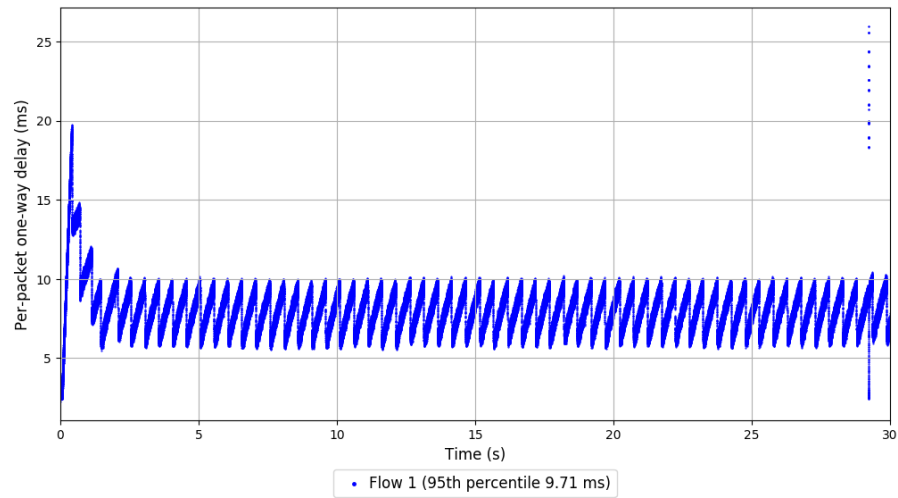
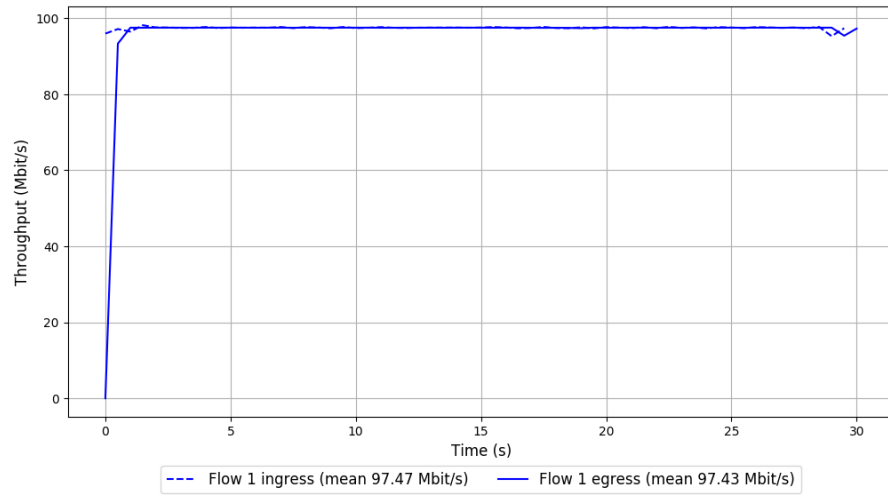


Run 1: Statistics of TCP Cubic

Start at: 2019-01-03 04:58:52
End at: 2019-01-03 04:59:22
Local clock offset: -9.108 ms
Remote clock offset: -0.042 ms

Below is generated by plot.py at 2019-01-03 06:37:56
Datalink statistics
-- Total of 1 flow:
Average throughput: 97.43 Mbit/s
95th percentile per-packet one-way delay: 9.712 ms
Loss rate: 0.05%
-- Flow 1:
Average throughput: 97.43 Mbit/s
95th percentile per-packet one-way delay: 9.712 ms
Loss rate: 0.05%

Run 1: Report of TCP Cubic — Data Link



Run 2: Statistics of TCP Cubic

Start at: 2019-01-03 05:20:23

End at: 2019-01-03 05:20:53

Local clock offset: -11.54 ms

Remote clock offset: 0.176 ms

Below is generated by plot.py at 2019-01-03 06:37:56

Datalink statistics

-- Total of 1 flow:

Average throughput: 97.46 Mbit/s

95th percentile per-packet one-way delay: 8.797 ms

Loss rate: 0.05%

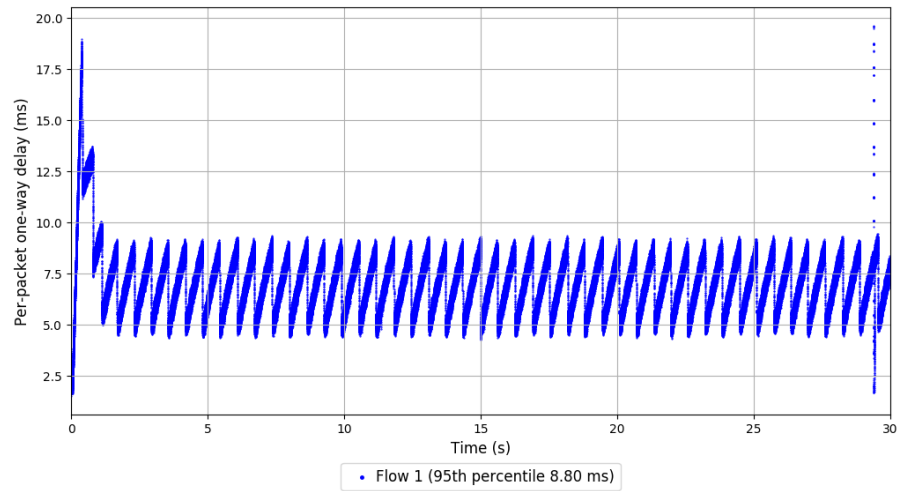
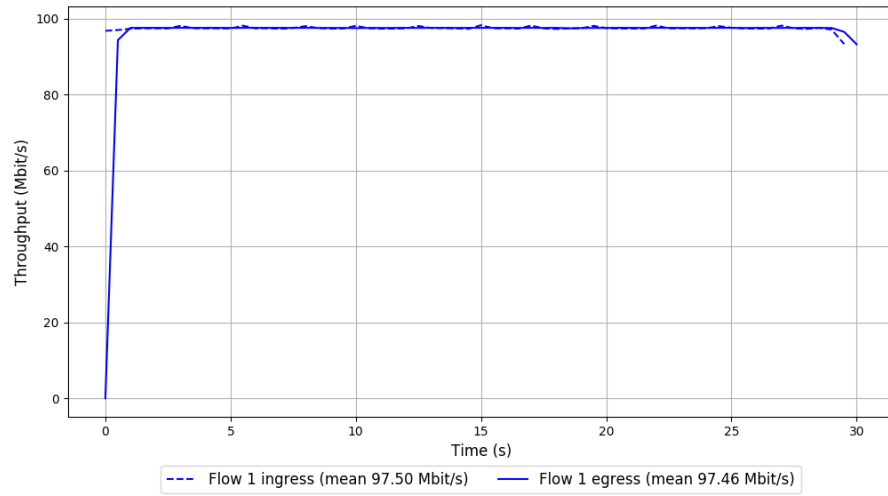
-- Flow 1:

Average throughput: 97.46 Mbit/s

95th percentile per-packet one-way delay: 8.797 ms

Loss rate: 0.05%

Run 2: Report of TCP Cubic — Data Link



Run 3: Statistics of TCP Cubic

Start at: 2019-01-03 05:41:54

End at: 2019-01-03 05:42:24

Local clock offset: -2.505 ms

Remote clock offset: 0.325 ms

Below is generated by plot.py at 2019-01-03 06:37:56

Datalink statistics

-- Total of 1 flow:

Average throughput: 97.41 Mbit/s

95th percentile per-packet one-way delay: 8.690 ms

Loss rate: 0.04%

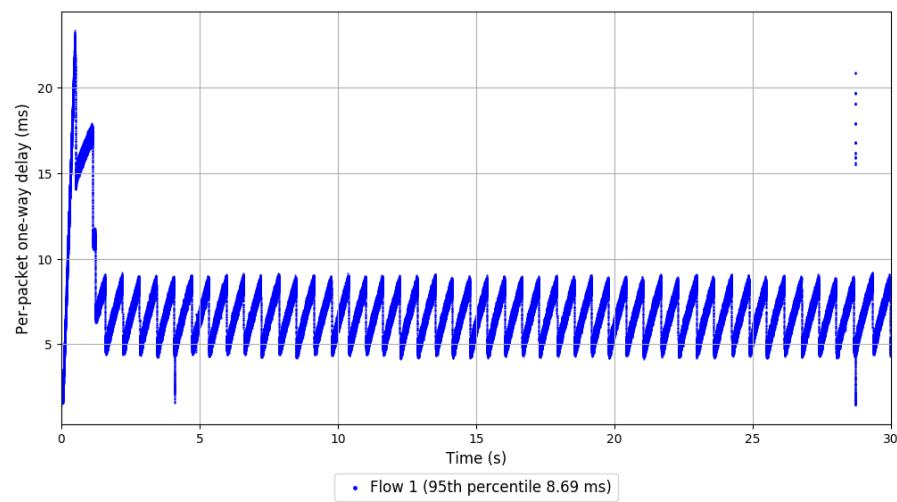
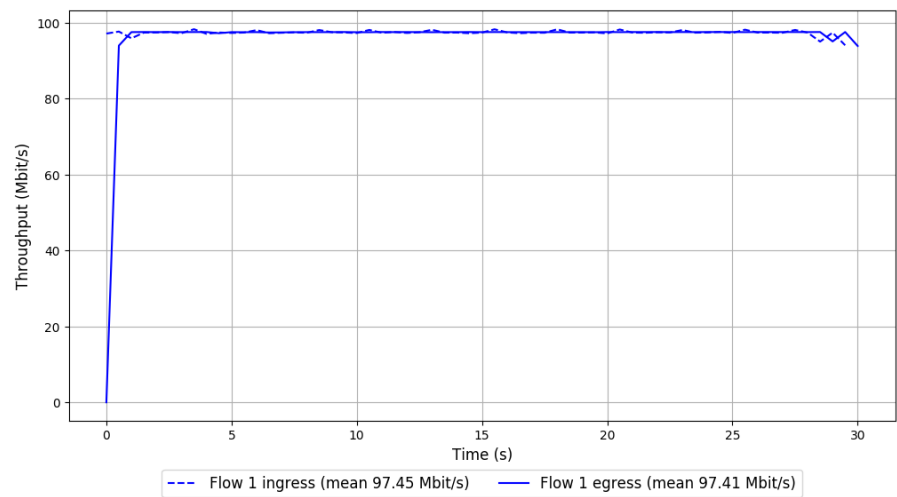
-- Flow 1:

Average throughput: 97.41 Mbit/s

95th percentile per-packet one-way delay: 8.690 ms

Loss rate: 0.04%

Run 3: Report of TCP Cubic — Data Link



Run 4: Statistics of TCP Cubic

Start at: 2019-01-03 06:03:19

End at: 2019-01-03 06:03:49

Local clock offset: -2.149 ms

Remote clock offset: 0.495 ms

Below is generated by plot.py at 2019-01-03 06:37:56

Datalink statistics

-- Total of 1 flow:

Average throughput: 97.47 Mbit/s

95th percentile per-packet one-way delay: 8.989 ms

Loss rate: 0.06%

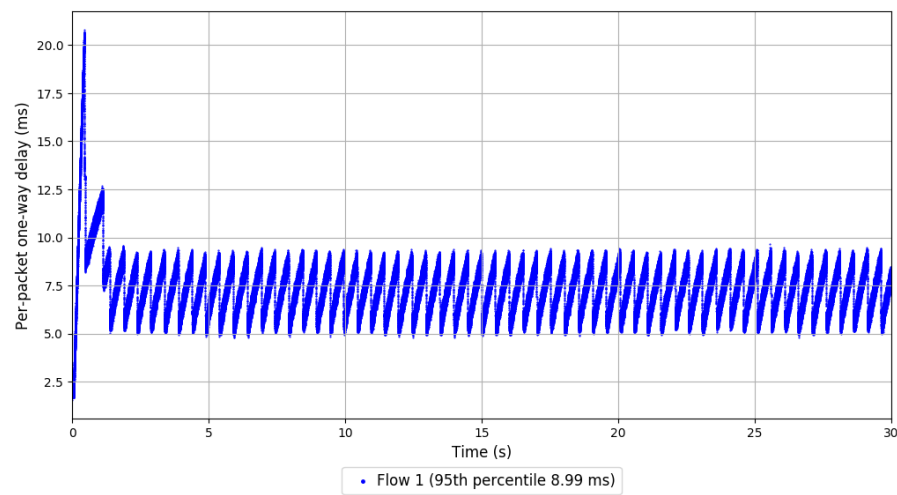
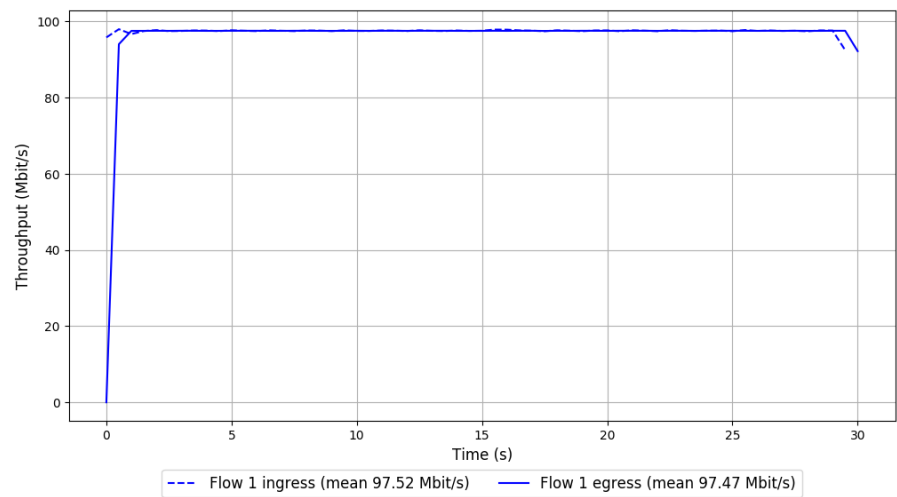
-- Flow 1:

Average throughput: 97.47 Mbit/s

95th percentile per-packet one-way delay: 8.989 ms

Loss rate: 0.06%

Run 4: Report of TCP Cubic — Data Link



Run 5: Statistics of TCP Cubic

Start at: 2019-01-03 06:24:48

End at: 2019-01-03 06:25:18

Local clock offset: -1.524 ms

Remote clock offset: 0.631 ms

Below is generated by plot.py at 2019-01-03 06:37:56

Datalink statistics

-- Total of 1 flow:

Average throughput: 97.44 Mbit/s

95th percentile per-packet one-way delay: 9.560 ms

Loss rate: 0.05%

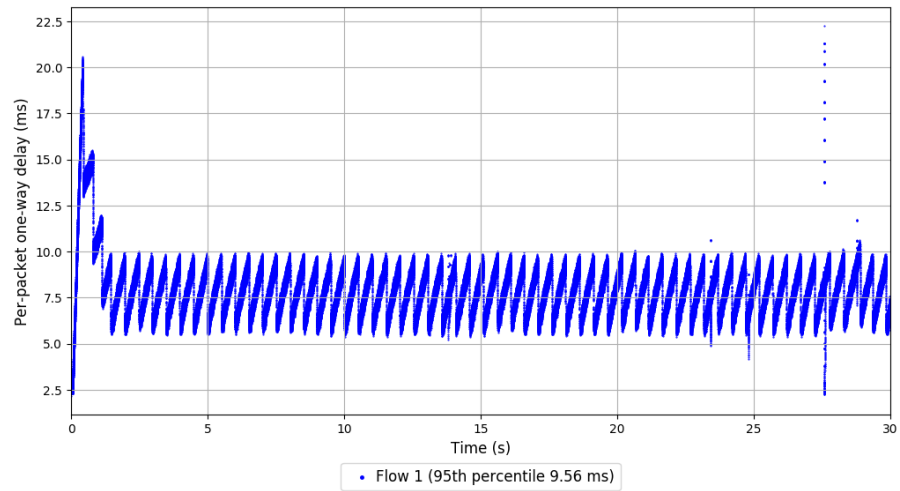
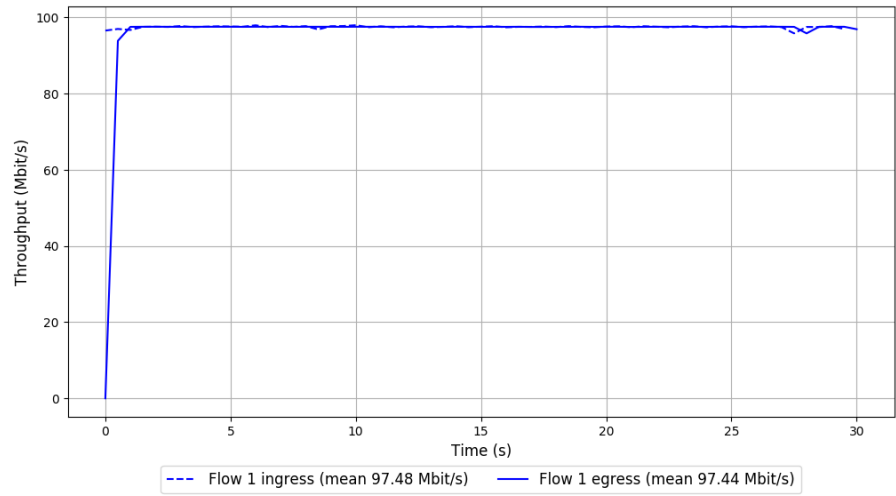
-- Flow 1:

Average throughput: 97.44 Mbit/s

95th percentile per-packet one-way delay: 9.560 ms

Loss rate: 0.05%

Run 5: Report of TCP Cubic — Data Link



Run 1: Statistics of FillP

Start at: 2019-01-03 04:54:22

End at: 2019-01-03 04:54:52

Local clock offset: -9.453 ms

Remote clock offset: -0.13 ms

Below is generated by plot.py at 2019-01-03 06:38:17

Datalink statistics

-- Total of 1 flow:

Average throughput: 95.93 Mbit/s

95th percentile per-packet one-way delay: 9.908 ms

Loss rate: 0.04%

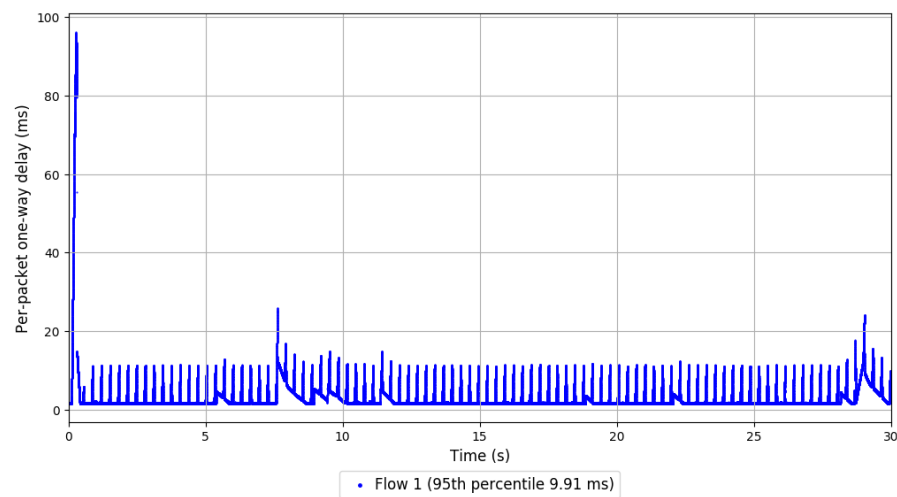
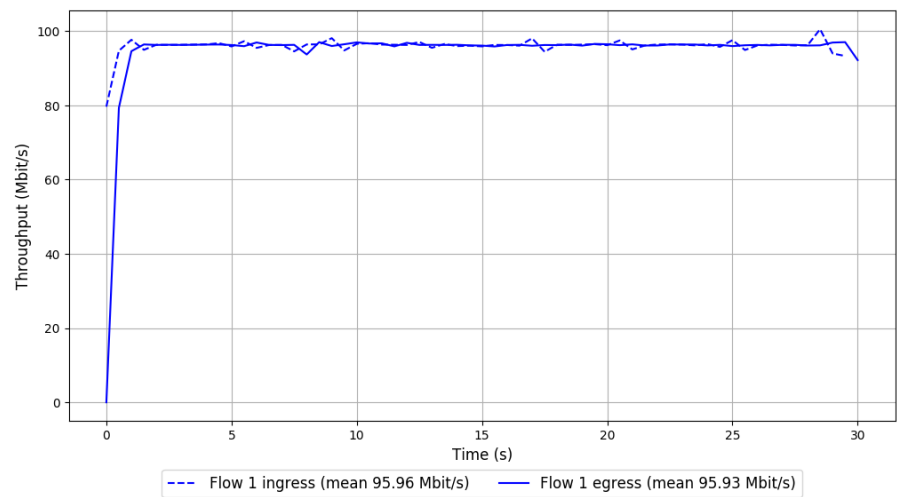
-- Flow 1:

Average throughput: 95.93 Mbit/s

95th percentile per-packet one-way delay: 9.908 ms

Loss rate: 0.04%

Run 1: Report of FillP — Data Link

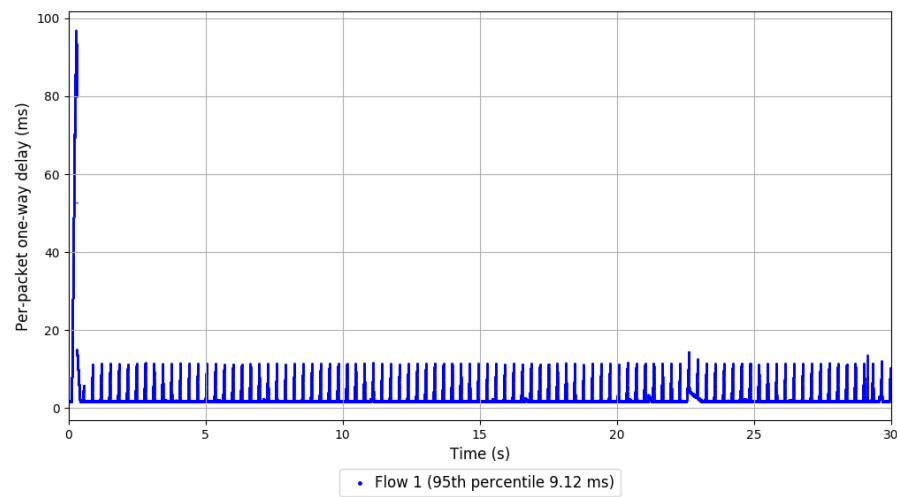
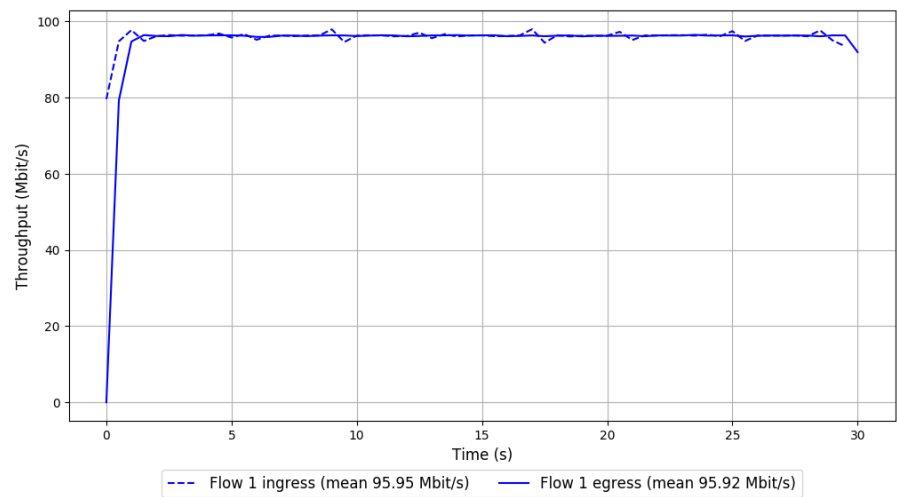


Run 2: Statistics of FillP

Start at: 2019-01-03 05:15:52
End at: 2019-01-03 05:16:22
Local clock offset: -11.211 ms
Remote clock offset: 0.111 ms

Below is generated by plot.py at 2019-01-03 06:38:31
Datalink statistics
-- Total of 1 flow:
Average throughput: 95.92 Mbit/s
95th percentile per-packet one-way delay: 9.123 ms
Loss rate: 0.03%
-- Flow 1:
Average throughput: 95.92 Mbit/s
95th percentile per-packet one-way delay: 9.123 ms
Loss rate: 0.03%

Run 2: Report of FillP — Data Link



Run 3: Statistics of FillP

Start at: 2019-01-03 05:37:23

End at: 2019-01-03 05:37:53

Local clock offset: -3.021 ms

Remote clock offset: 0.3 ms

Below is generated by plot.py at 2019-01-03 06:38:31

Datalink statistics

-- Total of 1 flow:

Average throughput: 95.94 Mbit/s

95th percentile per-packet one-way delay: 10.602 ms

Loss rate: 0.03%

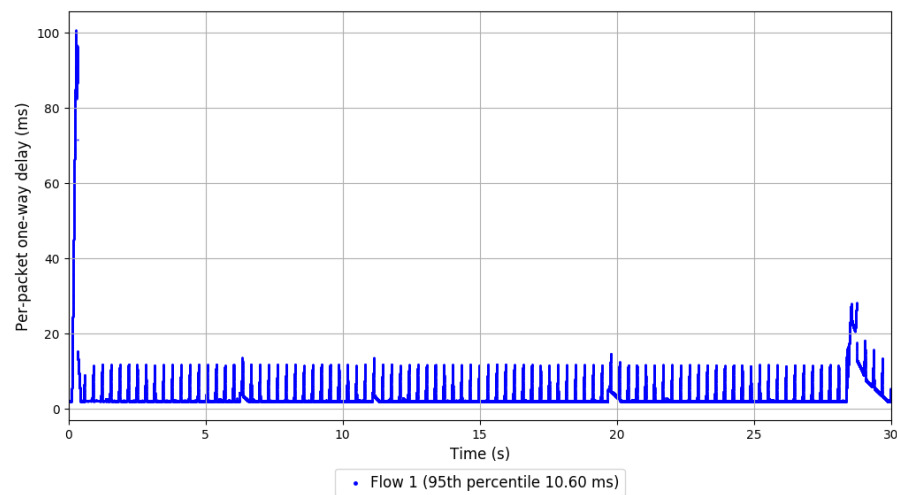
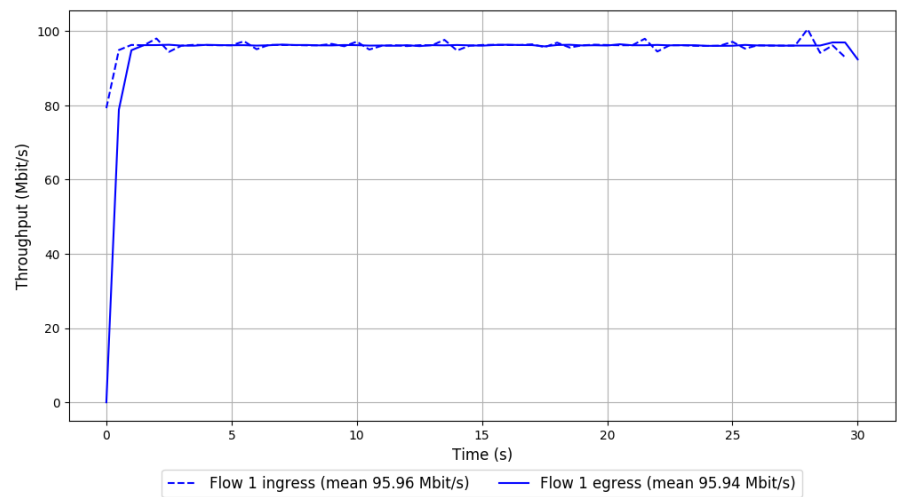
-- Flow 1:

Average throughput: 95.94 Mbit/s

95th percentile per-packet one-way delay: 10.602 ms

Loss rate: 0.03%

Run 3: Report of FillP — Data Link



Run 4: Statistics of FillP

Start at: 2019-01-03 05:58:48

End at: 2019-01-03 05:59:18

Local clock offset: -0.785 ms

Remote clock offset: 0.48 ms

Below is generated by plot.py at 2019-01-03 06:38:32

Datalink statistics

-- Total of 1 flow:

Average throughput: 95.91 Mbit/s

95th percentile per-packet one-way delay: 10.626 ms

Loss rate: 0.02%

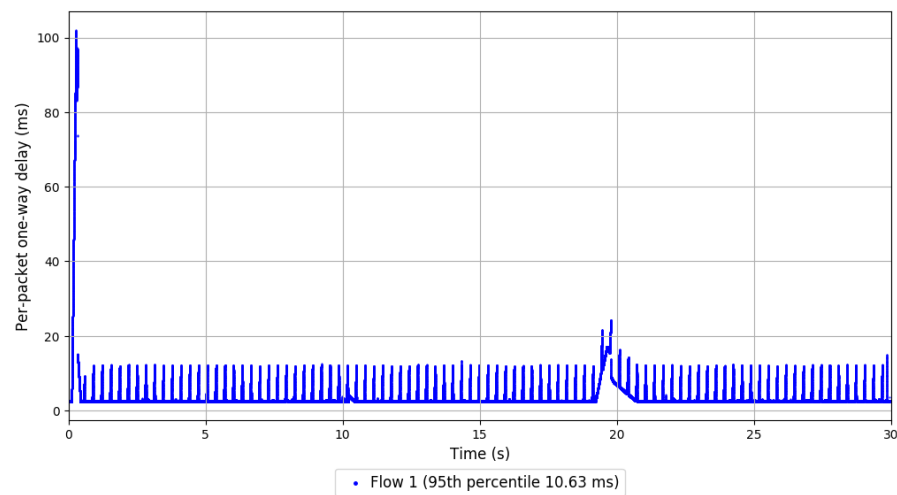
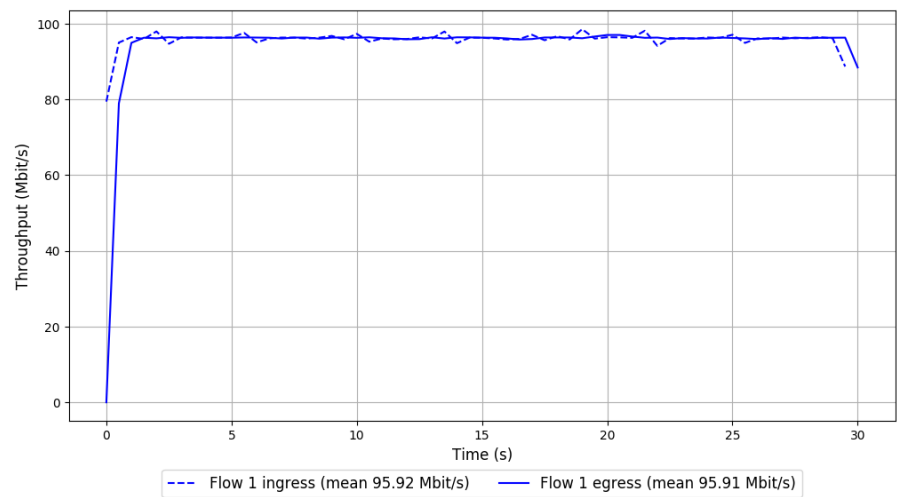
-- Flow 1:

Average throughput: 95.91 Mbit/s

95th percentile per-packet one-way delay: 10.626 ms

Loss rate: 0.02%

Run 4: Report of FillP — Data Link



Run 5: Statistics of FillP

Start at: 2019-01-03 06:20:16

End at: 2019-01-03 06:20:46

Local clock offset: -1.604 ms

Remote clock offset: 0.613 ms

Below is generated by plot.py at 2019-01-03 06:39:14

Datalink statistics

-- Total of 1 flow:

Average throughput: 95.96 Mbit/s

95th percentile per-packet one-way delay: 10.387 ms

Loss rate: 0.04%

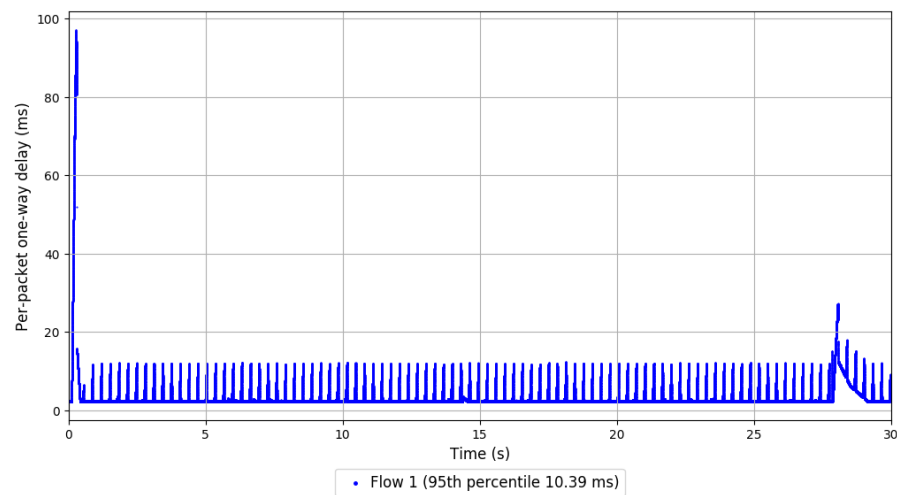
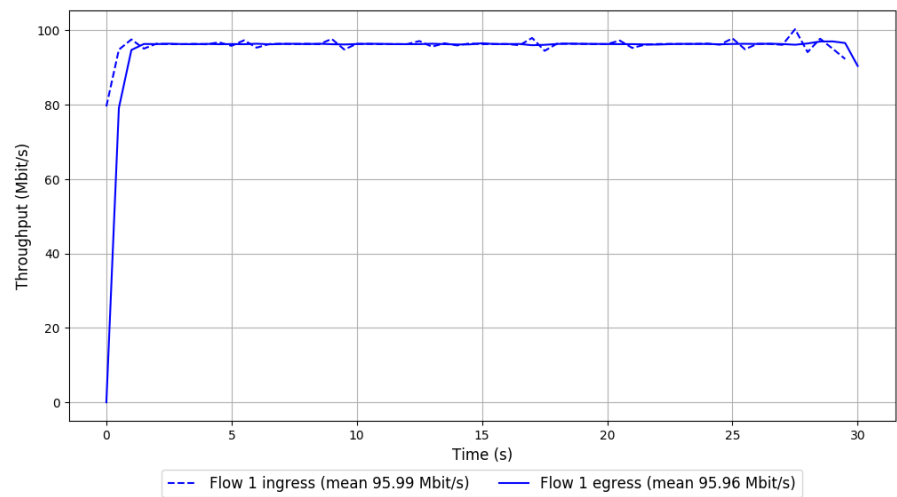
-- Flow 1:

Average throughput: 95.96 Mbit/s

95th percentile per-packet one-way delay: 10.387 ms

Loss rate: 0.04%

Run 5: Report of FillP — Data Link

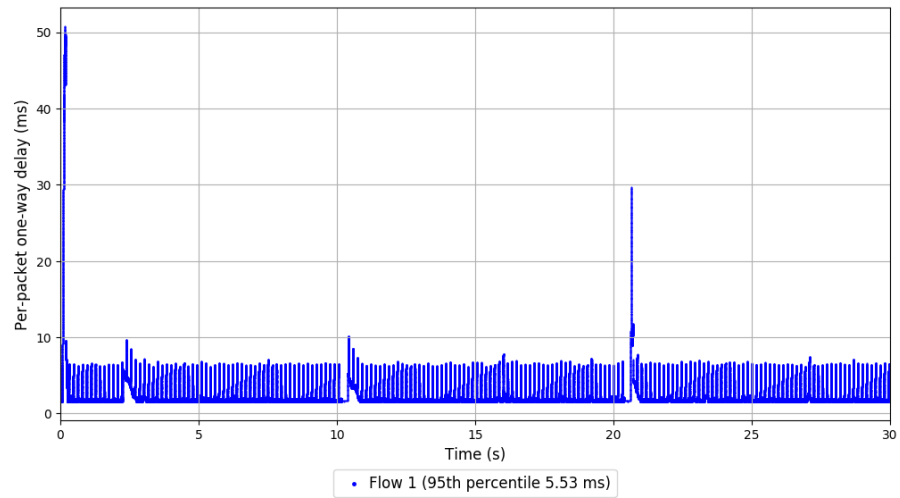
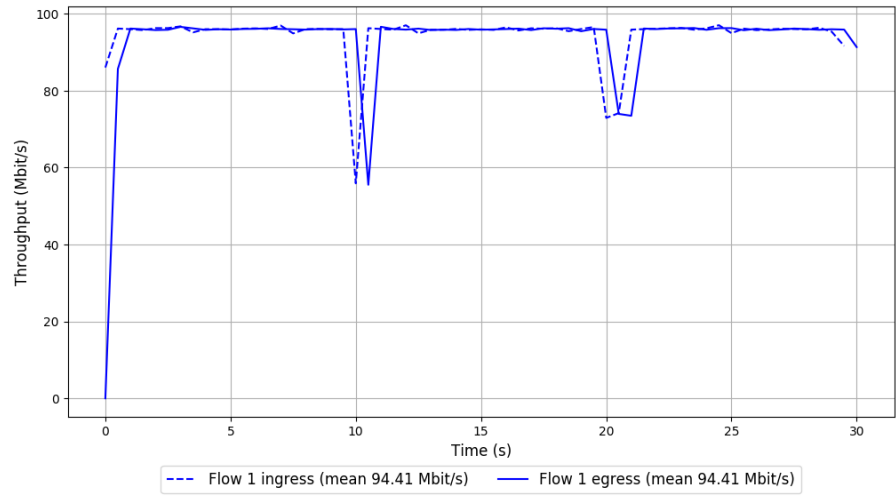


Run 1: Statistics of FillP-Sheep

Start at: 2019-01-03 05:01:09
End at: 2019-01-03 05:01:39
Local clock offset: -10.059 ms
Remote clock offset: -0.079 ms

Below is generated by plot.py at 2019-01-03 06:39:14
Datalink statistics
-- Total of 1 flow:
Average throughput: 94.41 Mbit/s
95th percentile per-packet one-way delay: 5.532 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 94.41 Mbit/s
95th percentile per-packet one-way delay: 5.532 ms
Loss rate: 0.01%

Run 1: Report of FillP-Sheep — Data Link

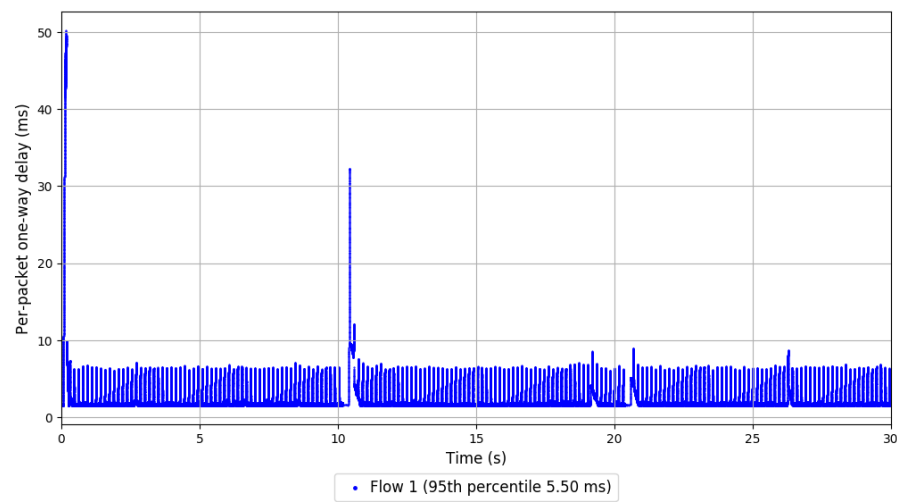
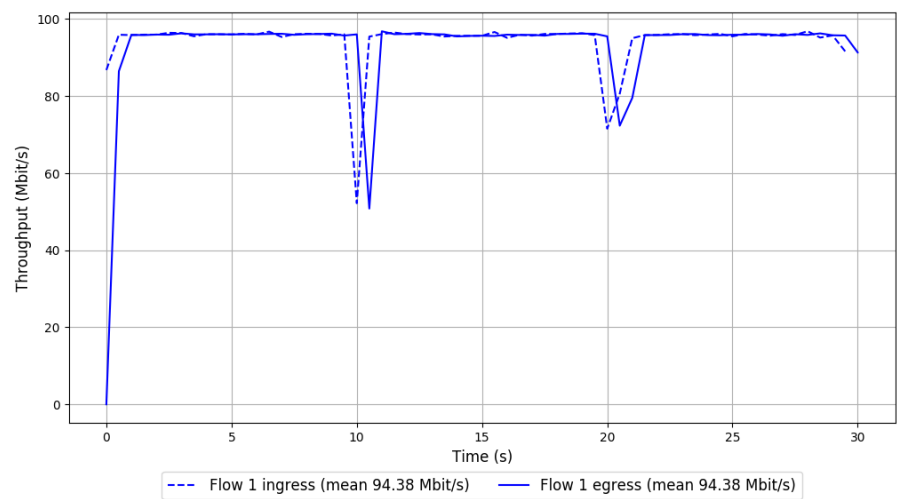


Run 2: Statistics of FillP-Sheep

Start at: 2019-01-03 05:22:39
End at: 2019-01-03 05:23:09
Local clock offset: -11.728 ms
Remote clock offset: 0.204 ms

Below is generated by plot.py at 2019-01-03 06:39:14
Datalink statistics
-- Total of 1 flow:
Average throughput: 94.38 Mbit/s
95th percentile per-packet one-way delay: 5.501 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 94.38 Mbit/s
95th percentile per-packet one-way delay: 5.501 ms
Loss rate: 0.01%

Run 2: Report of FillP-Sheep — Data Link

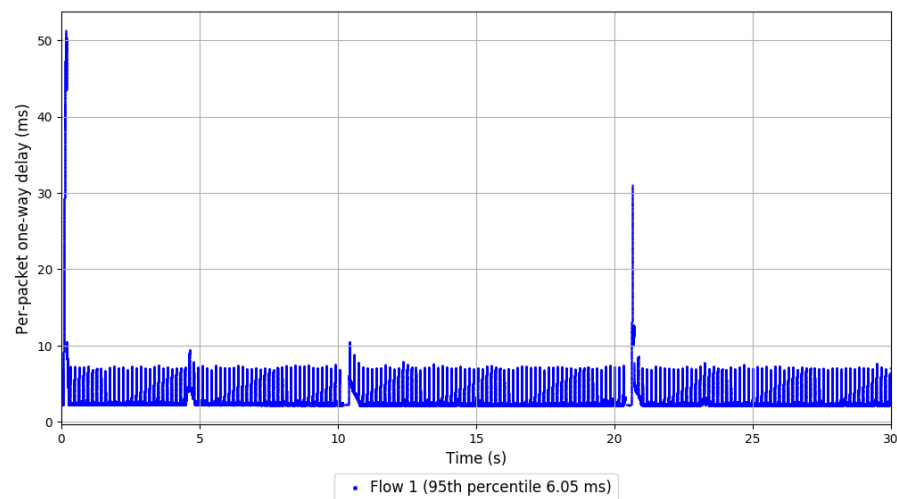
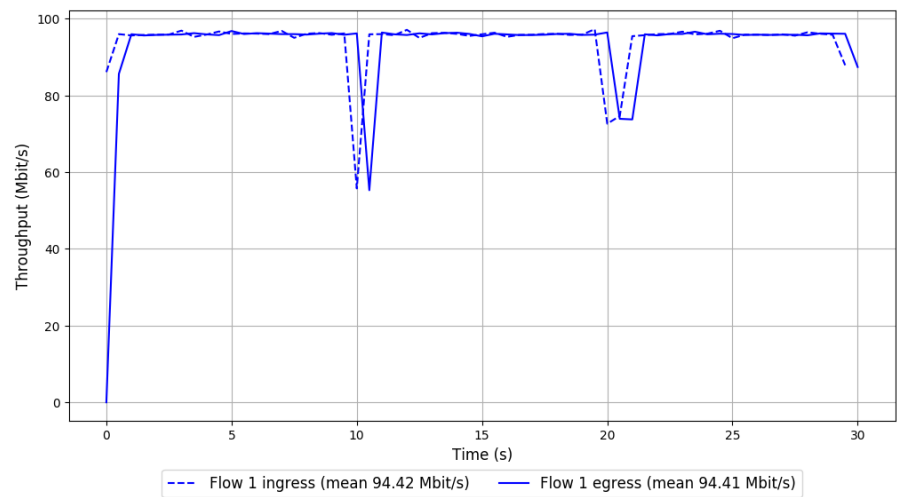


Run 3: Statistics of FillP-Sheep

Start at: 2019-01-03 05:44:10
End at: 2019-01-03 05:44:40
Local clock offset: -1.235 ms
Remote clock offset: 0.383 ms

Below is generated by plot.py at 2019-01-03 06:39:16
Datalink statistics
-- Total of 1 flow:
Average throughput: 94.41 Mbit/s
95th percentile per-packet one-way delay: 6.055 ms
Loss rate: 0.02%
-- Flow 1:
Average throughput: 94.41 Mbit/s
95th percentile per-packet one-way delay: 6.055 ms
Loss rate: 0.02%

Run 3: Report of FillP-Sheep — Data Link



Run 4: Statistics of FillP-Sheep

Start at: 2019-01-03 06:05:35

End at: 2019-01-03 06:06:05

Local clock offset: -2.297 ms

Remote clock offset: 0.555 ms

Below is generated by plot.py at 2019-01-03 06:39:37

Datalink statistics

-- Total of 1 flow:

Average throughput: 94.29 Mbit/s

95th percentile per-packet one-way delay: 5.747 ms

Loss rate: 0.01%

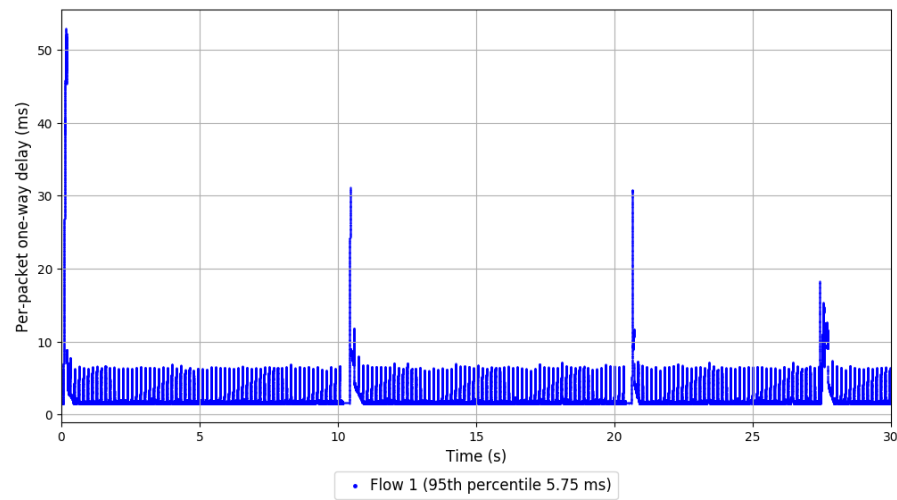
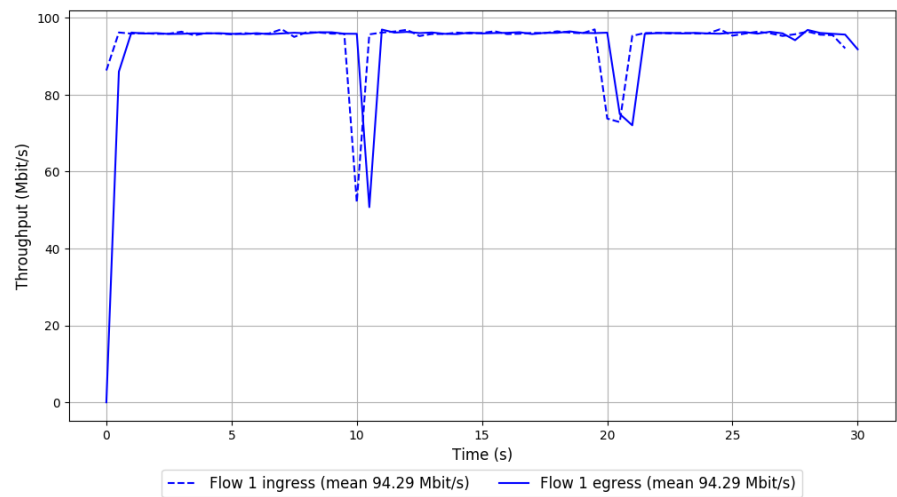
-- Flow 1:

Average throughput: 94.29 Mbit/s

95th percentile per-packet one-way delay: 5.747 ms

Loss rate: 0.01%

Run 4: Report of FillP-Sheep — Data Link



Run 5: Statistics of FillP-Sheep

Start at: 2019-01-03 06:27:04

End at: 2019-01-03 06:27:34

Local clock offset: -2.036 ms

Remote clock offset: 0.587 ms

Below is generated by plot.py at 2019-01-03 06:39:55

Datalink statistics

-- Total of 1 flow:

Average throughput: 94.30 Mbit/s

95th percentile per-packet one-way delay: 5.617 ms

Loss rate: 0.01%

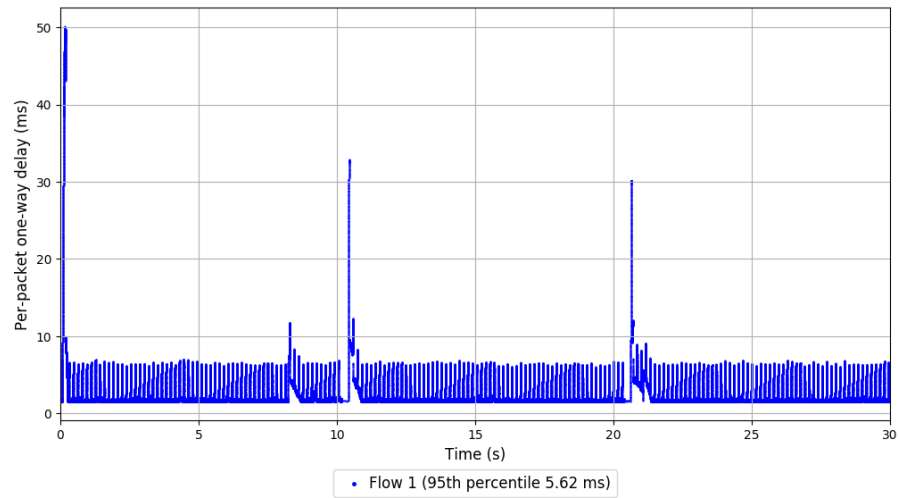
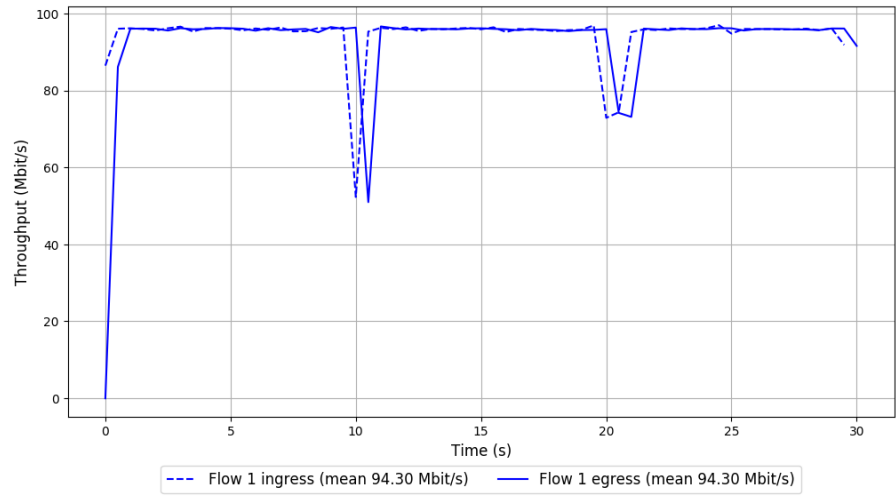
-- Flow 1:

Average throughput: 94.30 Mbit/s

95th percentile per-packet one-way delay: 5.617 ms

Loss rate: 0.01%

Run 5: Report of FillP-Sheep — Data Link

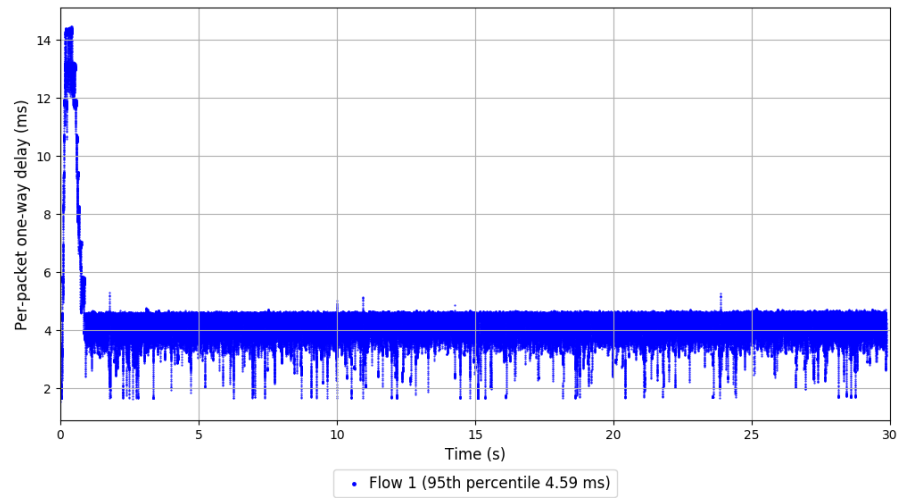
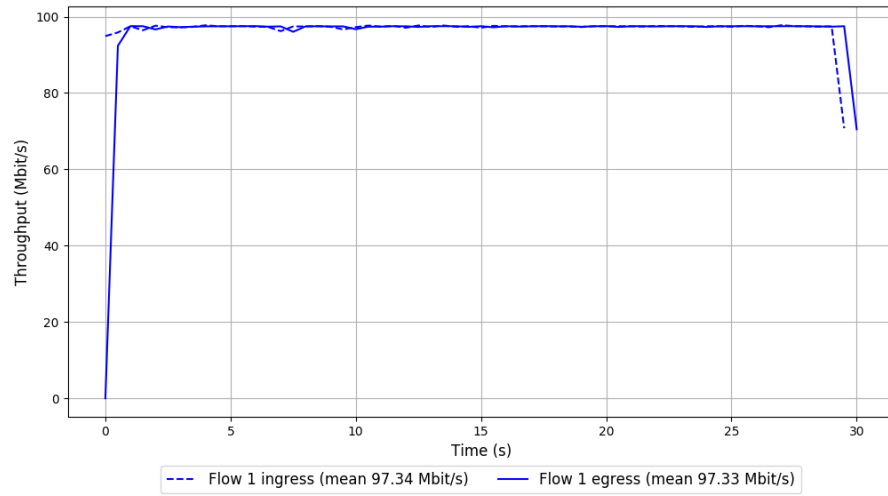


```
Run 1: Statistics of Indigo

Start at: 2019-01-03 05:04:33
End at: 2019-01-03 05:05:03
Local clock offset: -10.401 ms
Remote clock offset: -0.039 ms

# Below is generated by plot.py at 2019-01-03 06:39:55
# Datalink statistics
-- Total of 1 flow:
Average throughput: 97.33 Mbit/s
95th percentile per-packet one-way delay: 4.593 ms
Loss rate: 0.02%
-- Flow 1:
Average throughput: 97.33 Mbit/s
95th percentile per-packet one-way delay: 4.593 ms
Loss rate: 0.02%
```

Run 1: Report of Indigo — Data Link

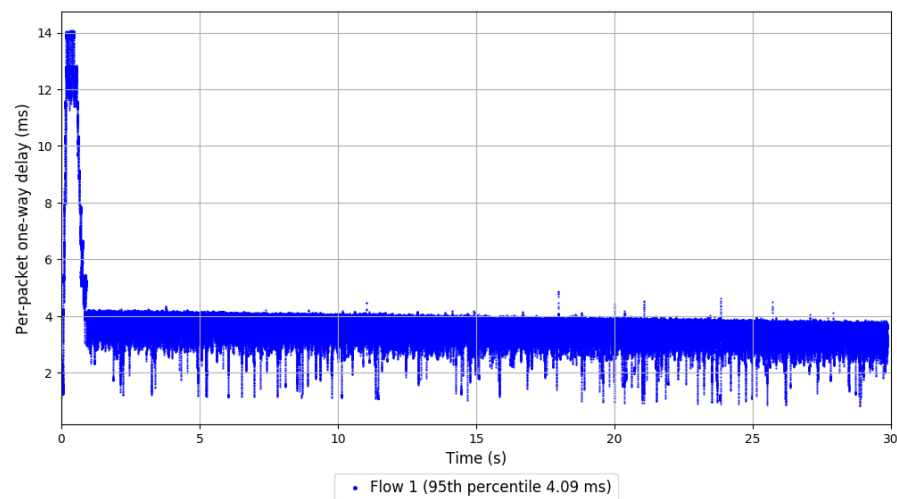
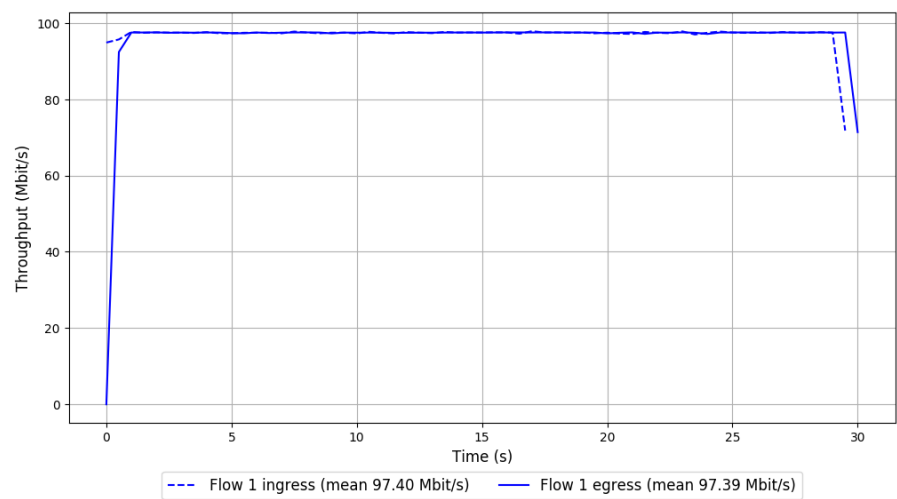


Run 2: Statistics of Indigo

Start at: 2019-01-03 05:26:03
End at: 2019-01-03 05:26:33
Local clock offset: -10.108 ms
Remote clock offset: 0.21 ms

Below is generated by plot.py at 2019-01-03 06:39:55
Datalink statistics
-- Total of 1 flow:
Average throughput: 97.39 Mbit/s
95th percentile per-packet one-way delay: 4.086 ms
Loss rate: 0.02%
-- Flow 1:
Average throughput: 97.39 Mbit/s
95th percentile per-packet one-way delay: 4.086 ms
Loss rate: 0.02%

Run 2: Report of Indigo — Data Link



Run 3: Statistics of Indigo

Start at: 2019-01-03 05:47:31

End at: 2019-01-03 05:48:01

Local clock offset: -0.666 ms

Remote clock offset: 0.321 ms

Below is generated by plot.py at 2019-01-03 06:40:20

Datalink statistics

-- Total of 1 flow:

Average throughput: 96.14 Mbit/s

95th percentile per-packet one-way delay: 5.016 ms

Loss rate: 0.01%

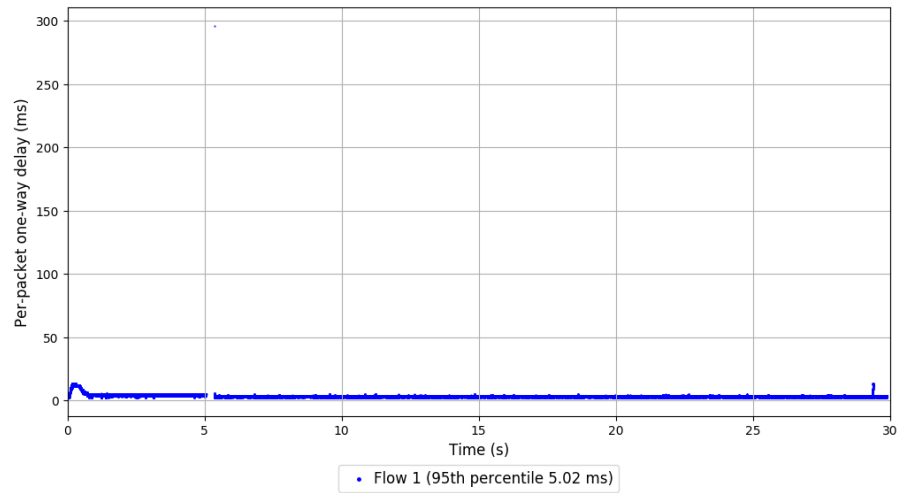
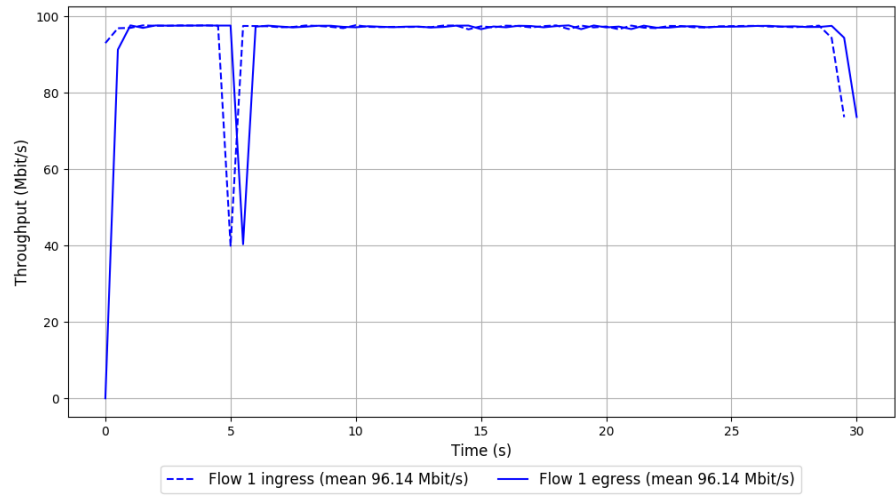
-- Flow 1:

Average throughput: 96.14 Mbit/s

95th percentile per-packet one-way delay: 5.016 ms

Loss rate: 0.01%

Run 3: Report of Indigo — Data Link



Run 4: Statistics of Indigo

Start at: 2019-01-03 06:08:57

End at: 2019-01-03 06:09:27

Local clock offset: -2.423 ms

Remote clock offset: 0.53 ms

Below is generated by plot.py at 2019-01-03 06:40:22

Datalink statistics

-- Total of 1 flow:

Average throughput: 97.39 Mbit/s

95th percentile per-packet one-way delay: 4.624 ms

Loss rate: 0.02%

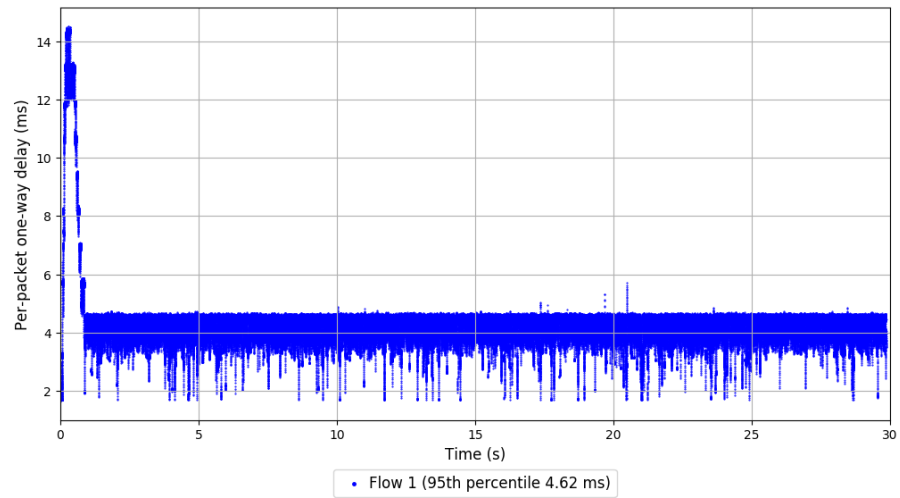
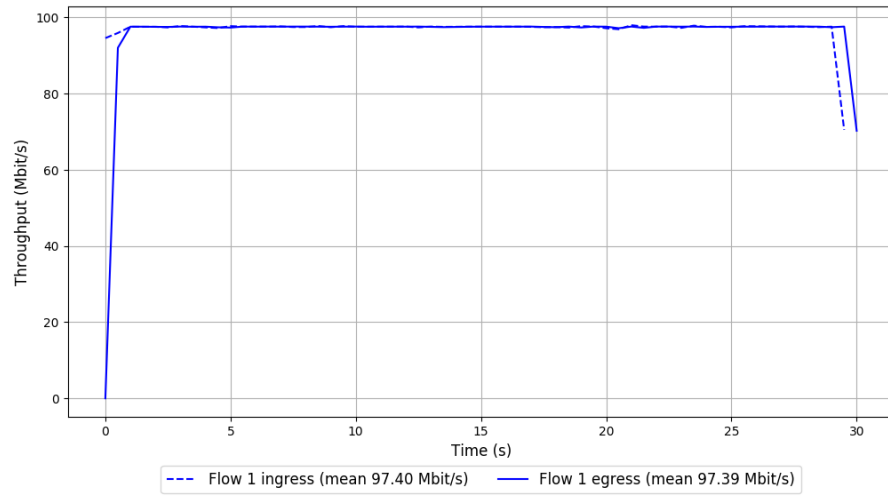
-- Flow 1:

Average throughput: 97.39 Mbit/s

95th percentile per-packet one-way delay: 4.624 ms

Loss rate: 0.02%

Run 4: Report of Indigo — Data Link



Run 5: Statistics of Indigo

Start at: 2019-01-03 06:30:29

End at: 2019-01-03 06:30:59

Local clock offset: -1.118 ms

Remote clock offset: 0.55 ms

Below is generated by plot.py at 2019-01-03 06:40:23

Datalink statistics

-- Total of 1 flow:

Average throughput: 97.37 Mbit/s

95th percentile per-packet one-way delay: 5.061 ms

Loss rate: 0.01%

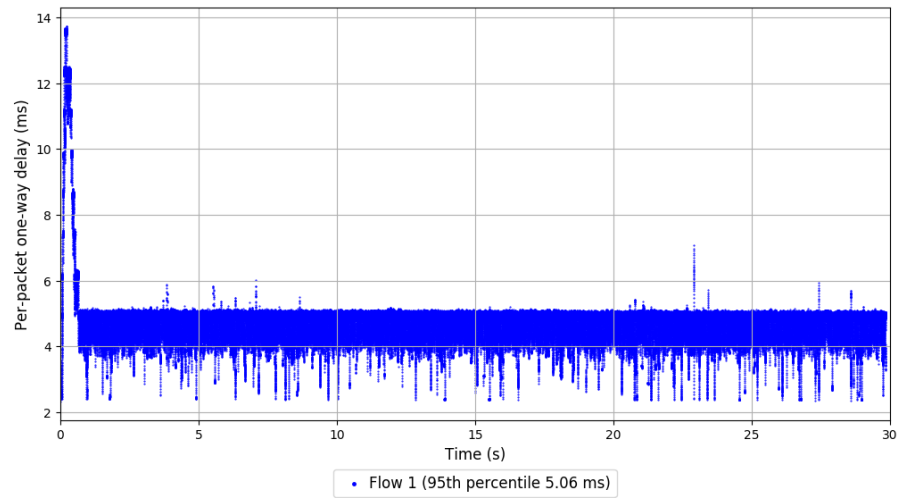
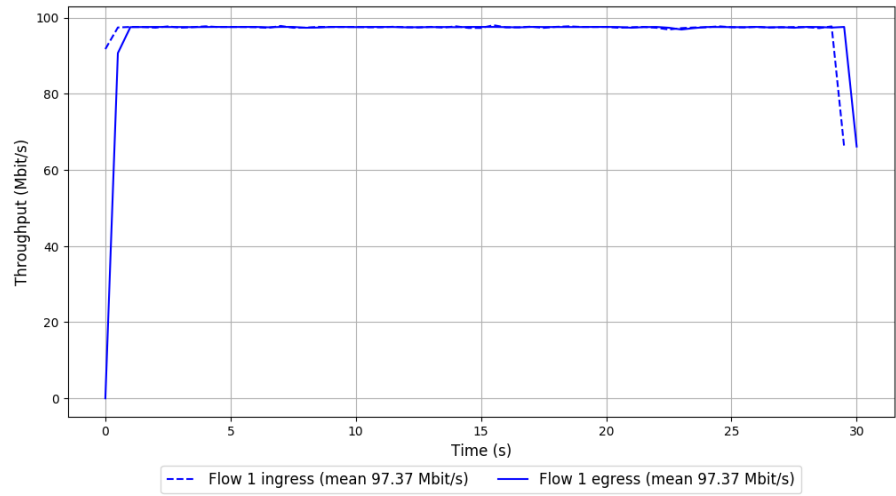
-- Flow 1:

Average throughput: 97.37 Mbit/s

95th percentile per-packet one-way delay: 5.061 ms

Loss rate: 0.01%

Run 5: Report of Indigo — Data Link

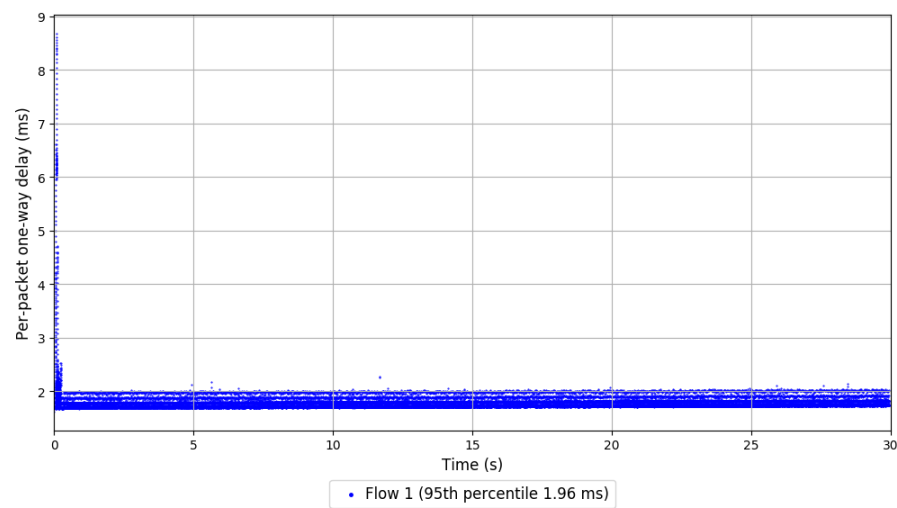
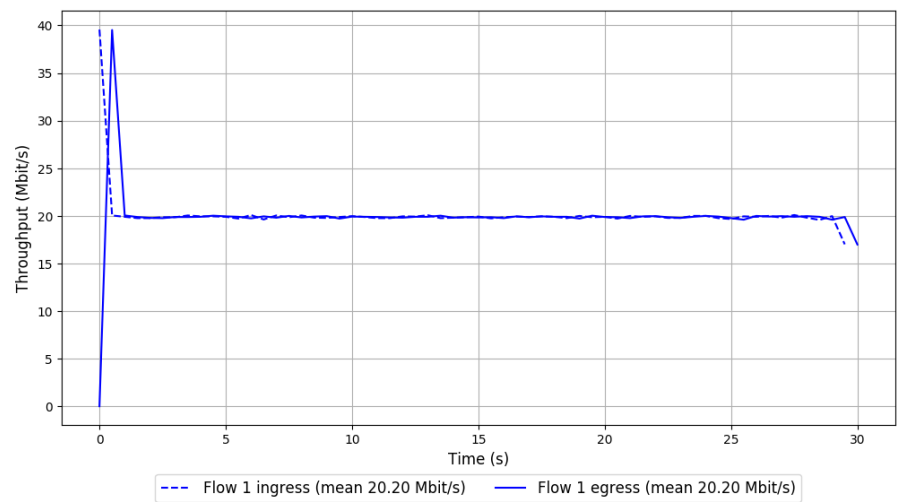


```
Run 1: Statistics of Indigo-MusesD

Start at: 2019-01-03 05:06:48
End at: 2019-01-03 05:07:18
Local clock offset: -10.519 ms
Remote clock offset: -0.013 ms

# Below is generated by plot.py at 2019-01-03 06:40:23
# Datalink statistics
-- Total of 1 flow:
Average throughput: 20.20 Mbit/s
95th percentile per-packet one-way delay: 1.963 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 20.20 Mbit/s
95th percentile per-packet one-way delay: 1.963 ms
Loss rate: 0.01%
```

Run 1: Report of Indigo-MusesD — Data Link



Run 2: Statistics of Indigo-MusesD

Start at: 2019-01-03 05:28:19

End at: 2019-01-03 05:28:49

Local clock offset: -7.516 ms

Remote clock offset: 0.189 ms

Below is generated by plot.py at 2019-01-03 06:40:23

Datalink statistics

-- Total of 1 flow:

Average throughput: 20.16 Mbit/s

95th percentile per-packet one-way delay: 2.171 ms

Loss rate: 0.01%

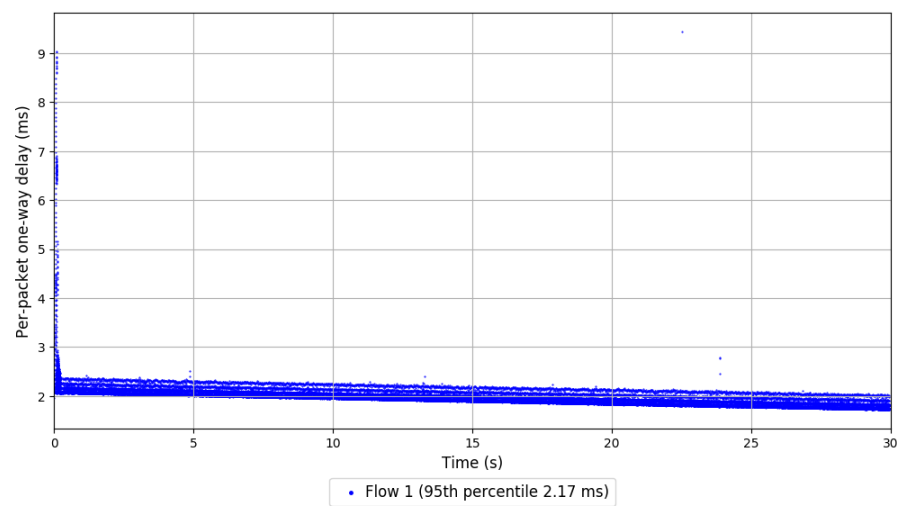
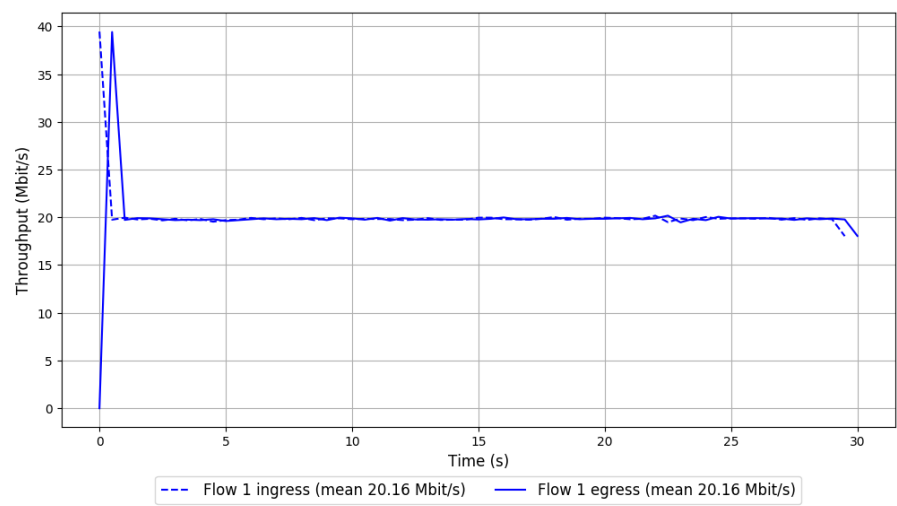
-- Flow 1:

Average throughput: 20.16 Mbit/s

95th percentile per-packet one-way delay: 2.171 ms

Loss rate: 0.01%

Run 2: Report of Indigo-MusesD — Data Link



Run 3: Statistics of Indigo-MusesD

Start at: 2019-01-03 05:49:46

End at: 2019-01-03 05:50:16

Local clock offset: -1.067 ms

Remote clock offset: 0.451 ms

Below is generated by plot.py at 2019-01-03 06:40:23

Datalink statistics

-- Total of 1 flow:

Average throughput: 28.56 Mbit/s

95th percentile per-packet one-way delay: 1.773 ms

Loss rate: 0.01%

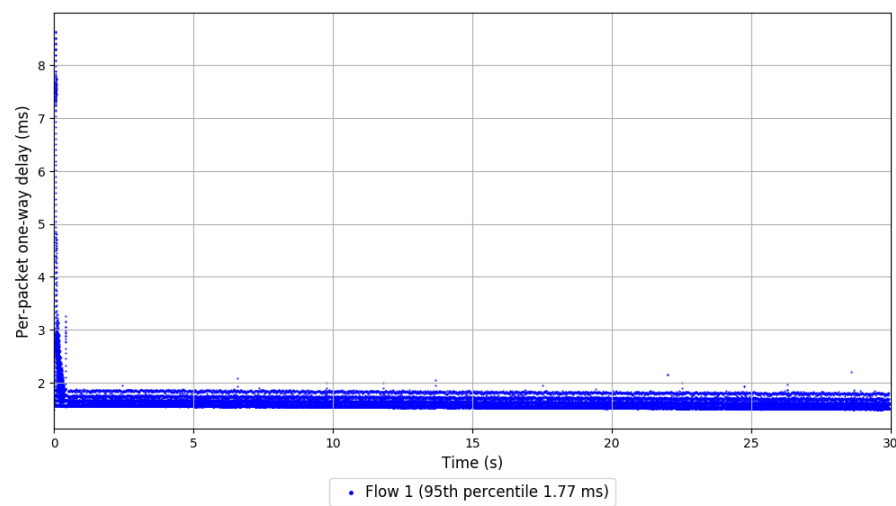
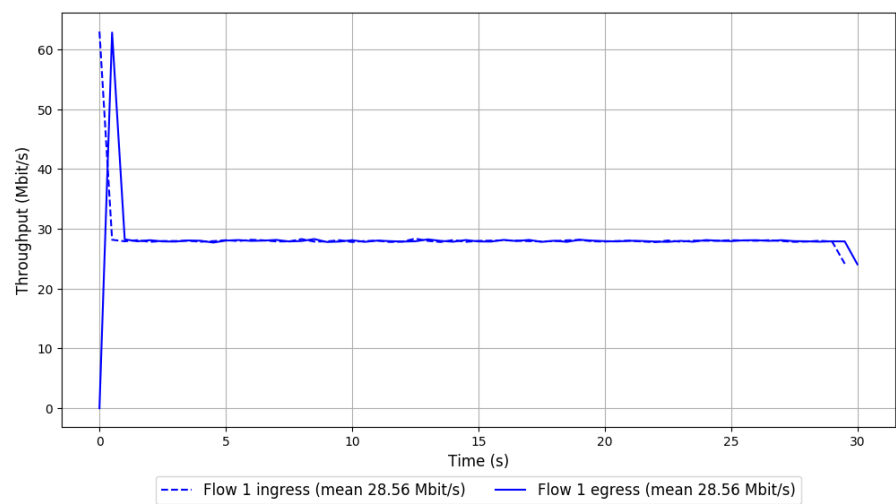
-- Flow 1:

Average throughput: 28.56 Mbit/s

95th percentile per-packet one-way delay: 1.773 ms

Loss rate: 0.01%

Run 3: Report of Indigo-MusesD — Data Link



Run 4: Statistics of Indigo-MusesD

Start at: 2019-01-03 06:11:12

End at: 2019-01-03 06:11:42

Local clock offset: -2.525 ms

Remote clock offset: 0.581 ms

Below is generated by plot.py at 2019-01-03 06:40:23

Datalink statistics

-- Total of 1 flow:

Average throughput: 28.59 Mbit/s

95th percentile per-packet one-way delay: 1.788 ms

Loss rate: 0.01%

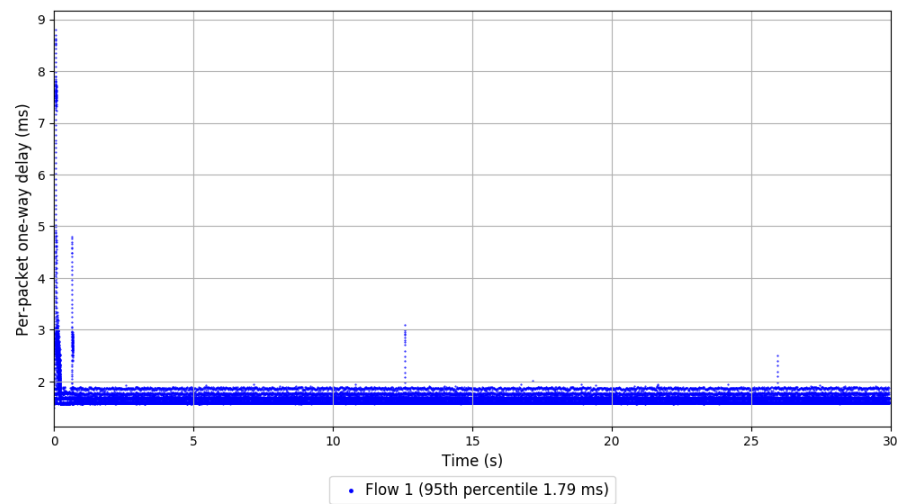
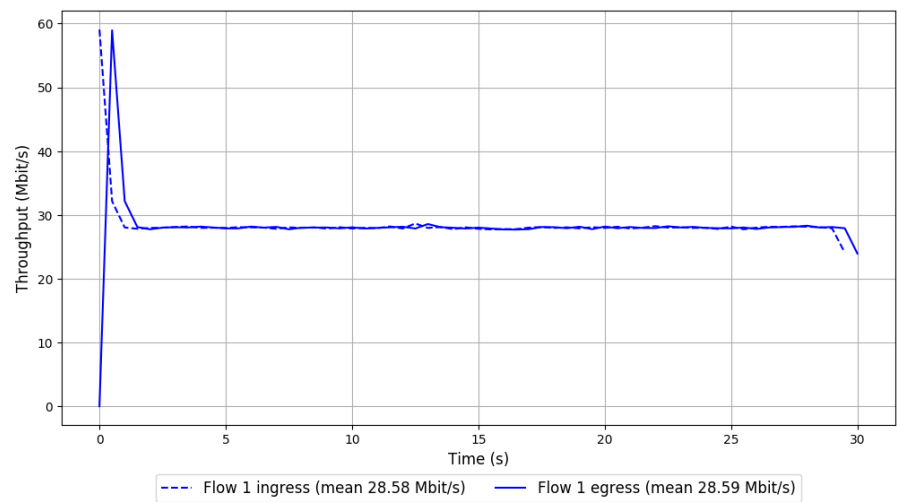
-- Flow 1:

Average throughput: 28.59 Mbit/s

95th percentile per-packet one-way delay: 1.788 ms

Loss rate: 0.01%

Run 4: Report of Indigo-MusesD — Data Link



Run 5: Statistics of Indigo-MusesD

Start at: 2019-01-03 06:32:44

End at: 2019-01-03 06:33:14

Local clock offset: -1.671 ms

Remote clock offset: 0.634 ms

Below is generated by plot.py at 2019-01-03 06:40:23

Datalink statistics

-- Total of 1 flow:

Average throughput: 20.11 Mbit/s

95th percentile per-packet one-way delay: 1.854 ms

Loss rate: 0.01%

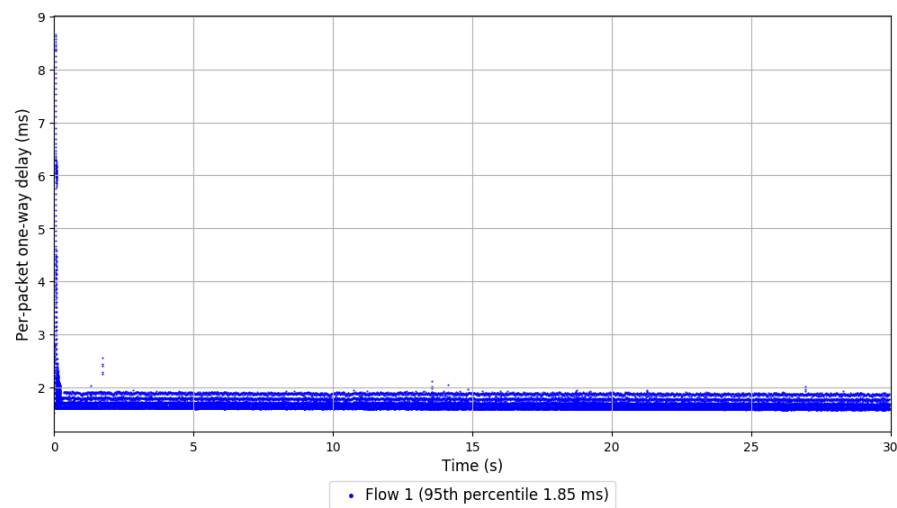
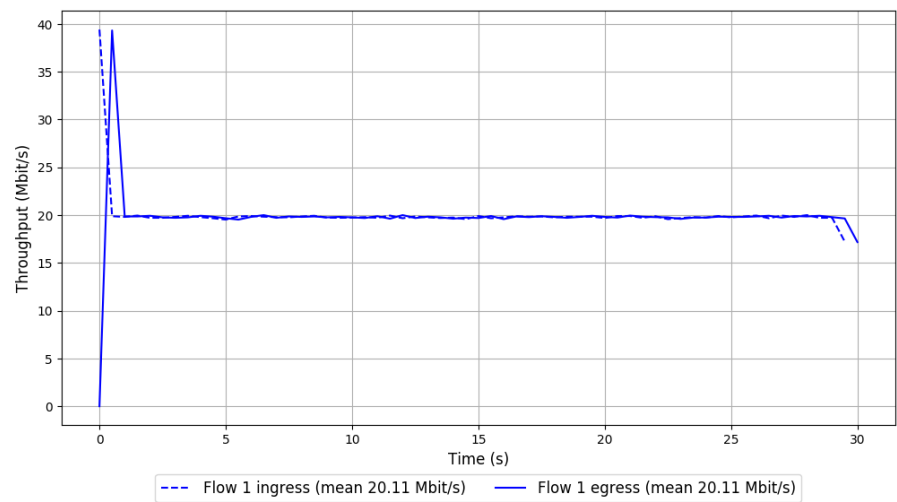
-- Flow 1:

Average throughput: 20.11 Mbit/s

95th percentile per-packet one-way delay: 1.854 ms

Loss rate: 0.01%

Run 5: Report of Indigo-MusesD — Data Link

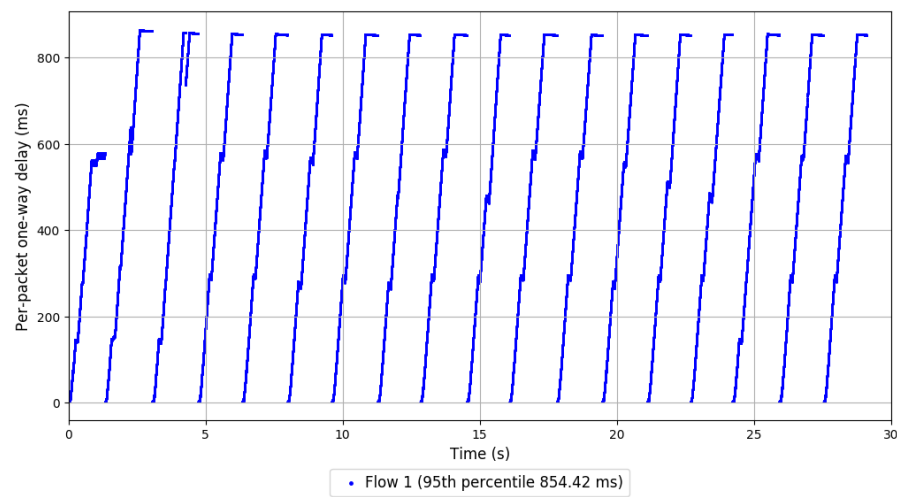
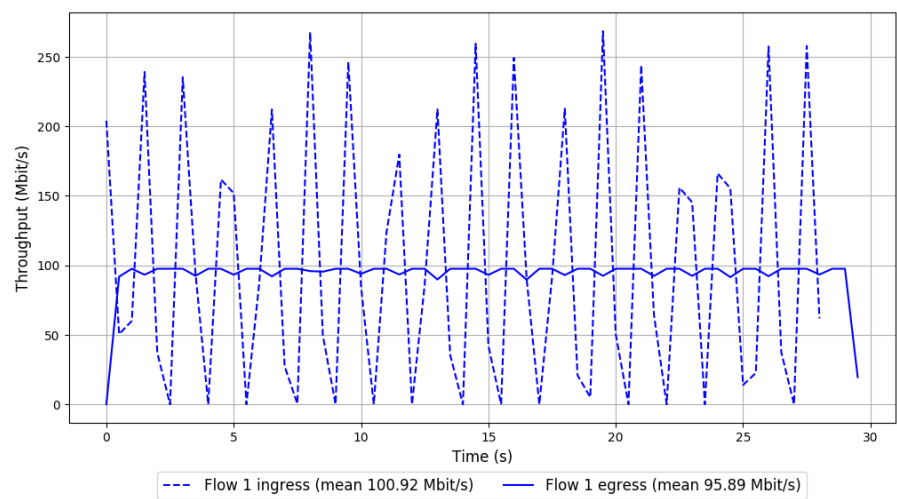


```
Run 1: Statistics of Indigo-MusesT

Start at: 2019-01-03 04:55:29
End at: 2019-01-03 04:55:59
Local clock offset: -8.802 ms
Remote clock offset: -0.117 ms

# Below is generated by plot.py at 2019-01-03 06:40:56
# Datalink statistics
-- Total of 1 flow:
Average throughput: 95.89 Mbit/s
95th percentile per-packet one-way delay: 854.422 ms
Loss rate: 2.34%
-- Flow 1:
Average throughput: 95.89 Mbit/s
95th percentile per-packet one-way delay: 854.422 ms
Loss rate: 2.34%
```

Run 1: Report of Indigo-MusesT — Data Link

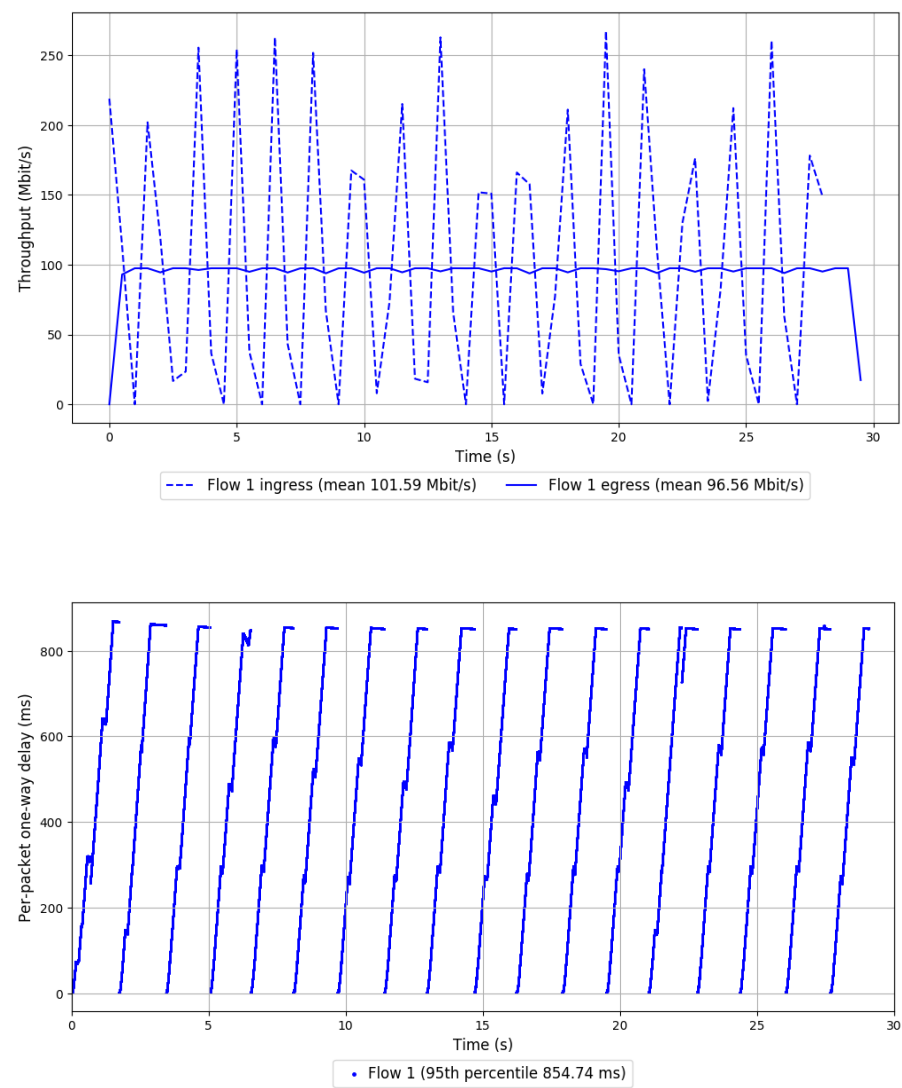


Run 2: Statistics of Indigo-MusesT

Start at: 2019-01-03 05:16:59
End at: 2019-01-03 05:17:29
Local clock offset: -11.304 ms
Remote clock offset: 0.093 ms

Below is generated by plot.py at 2019-01-03 06:41:02
Datalink statistics
-- Total of 1 flow:
Average throughput: 96.56 Mbit/s
95th percentile per-packet one-way delay: 854.744 ms
Loss rate: 2.87%
-- Flow 1:
Average throughput: 96.56 Mbit/s
95th percentile per-packet one-way delay: 854.744 ms
Loss rate: 2.87%

Run 2: Report of Indigo-MusesT — Data Link



Run 3: Statistics of Indigo-MusesT

Start at: 2019-01-03 05:38:30

End at: 2019-01-03 05:39:00

Local clock offset: -2.618 ms

Remote clock offset: 0.326 ms

Below is generated by plot.py at 2019-01-03 06:41:02

Datalink statistics

-- Total of 1 flow:

Average throughput: 95.98 Mbit/s

95th percentile per-packet one-way delay: 854.468 ms

Loss rate: 2.98%

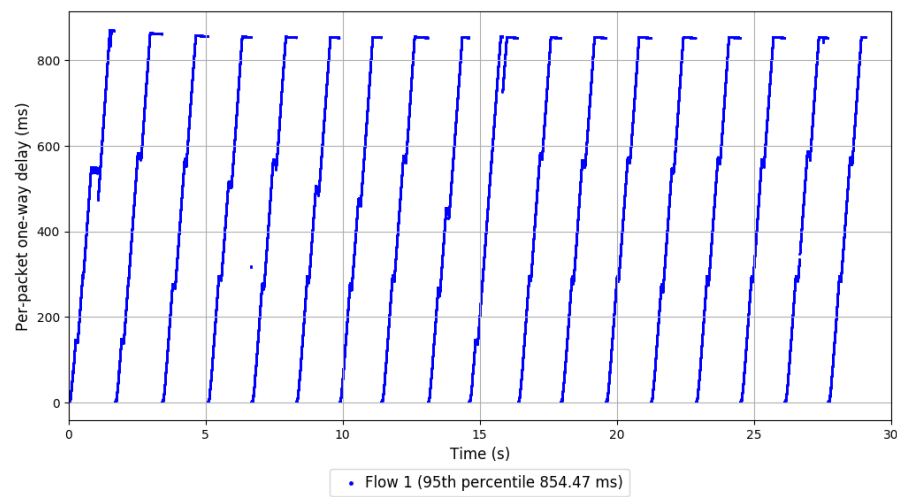
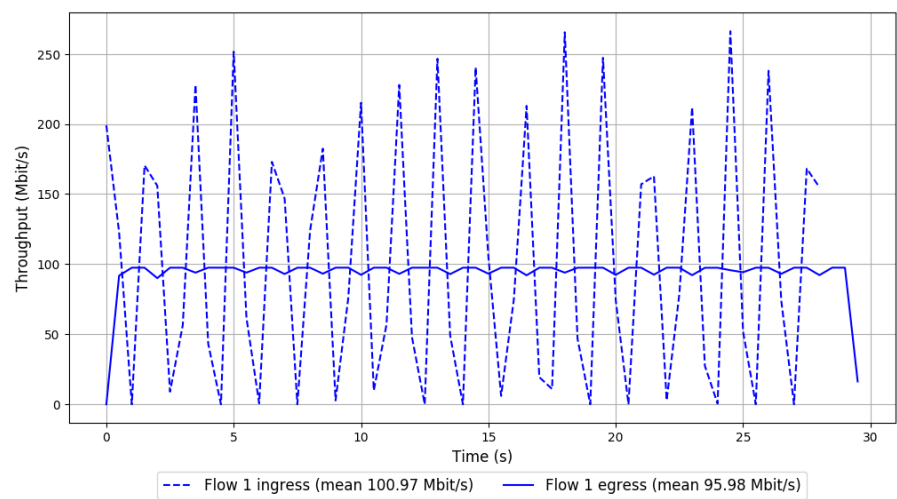
-- Flow 1:

Average throughput: 95.98 Mbit/s

95th percentile per-packet one-way delay: 854.468 ms

Loss rate: 2.98%

Run 3: Report of Indigo-MusesT — Data Link



Run 4: Statistics of Indigo-MusesT

Start at: 2019-01-03 05:59:56

End at: 2019-01-03 06:00:26

Local clock offset: -1.059 ms

Remote clock offset: 0.545 ms

Below is generated by plot.py at 2019-01-03 06:41:04

Datalink statistics

-- Total of 1 flow:

Average throughput: 96.36 Mbit/s

95th percentile per-packet one-way delay: 855.658 ms

Loss rate: 2.48%

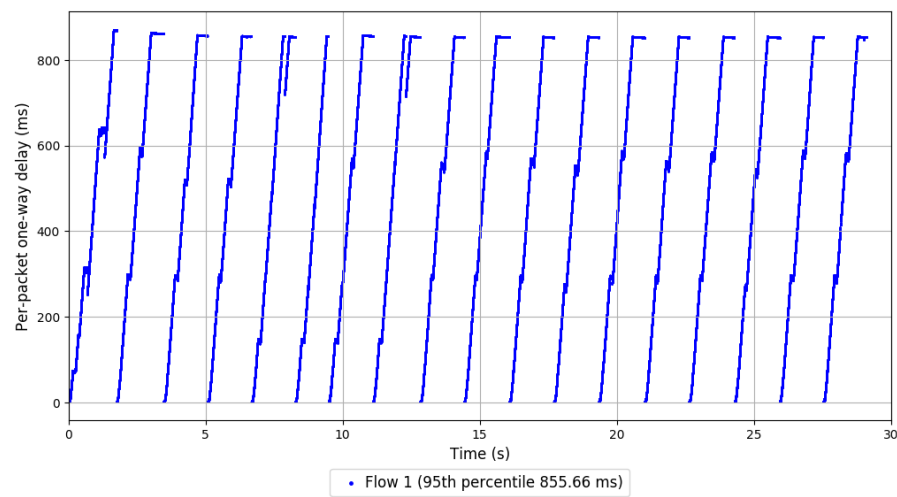
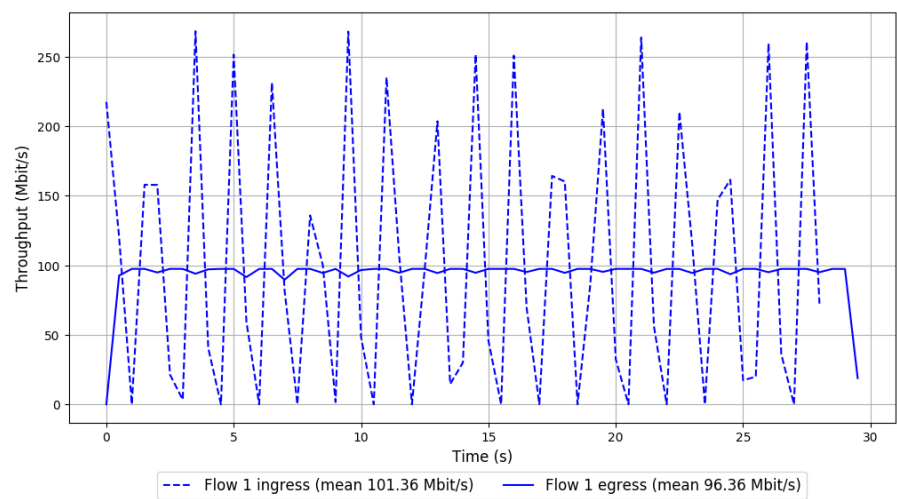
-- Flow 1:

Average throughput: 96.36 Mbit/s

95th percentile per-packet one-way delay: 855.658 ms

Loss rate: 2.48%

Run 4: Report of Indigo-MusesT — Data Link



Run 5: Statistics of Indigo-MusesT

Start at: 2019-01-03 06:21:24

End at: 2019-01-03 06:21:54

Local clock offset: -2.331 ms

Remote clock offset: 0.624 ms

Below is generated by plot.py at 2019-01-03 06:41:11

Datalink statistics

-- Total of 1 flow:

Average throughput: 96.50 Mbit/s

95th percentile per-packet one-way delay: 854.036 ms

Loss rate: 2.81%

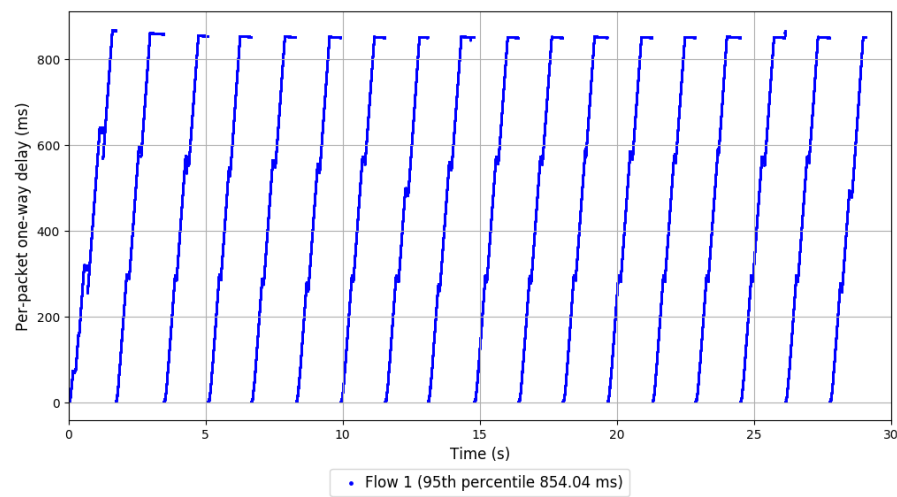
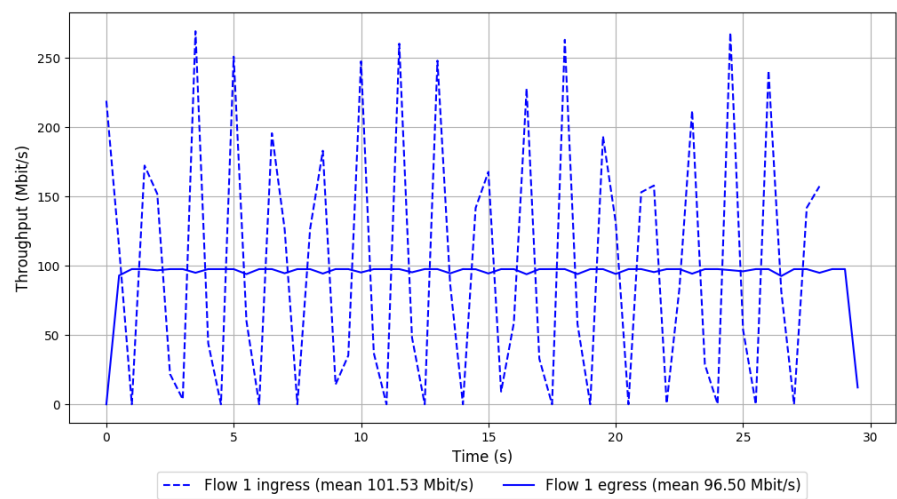
-- Flow 1:

Average throughput: 96.50 Mbit/s

95th percentile per-packet one-way delay: 854.036 ms

Loss rate: 2.81%

Run 5: Report of Indigo-MusesT — Data Link

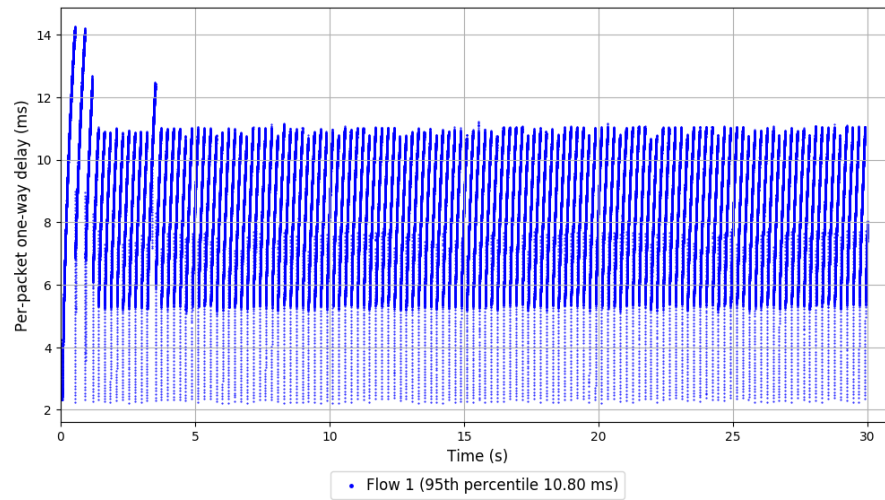
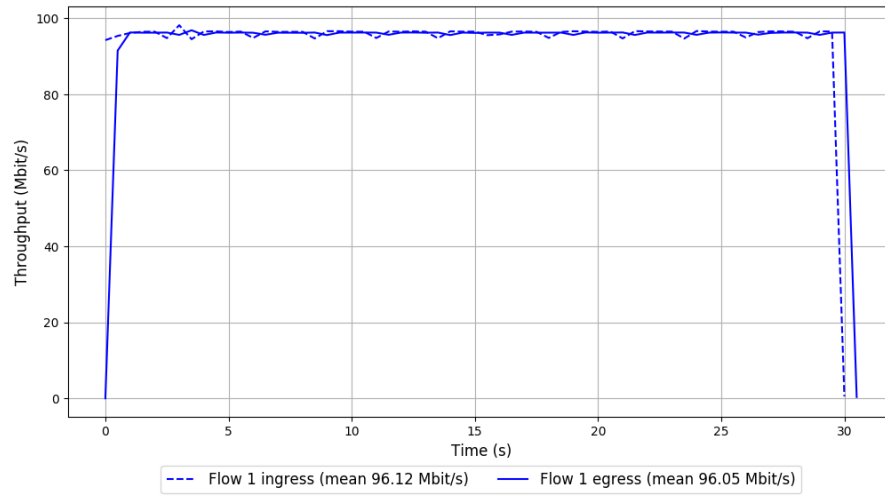


Run 1: Statistics of LEDBAT

Start at: 2019-01-03 04:49:53
End at: 2019-01-03 04:50:23
Local clock offset: -8.305 ms
Remote clock offset: -0.119 ms

Below is generated by plot.py at 2019-01-03 06:41:28
Datalink statistics
-- Total of 1 flow:
Average throughput: 96.05 Mbit/s
95th percentile per-packet one-way delay: 10.800 ms
Loss rate: 0.08%
-- Flow 1:
Average throughput: 96.05 Mbit/s
95th percentile per-packet one-way delay: 10.800 ms
Loss rate: 0.08%

Run 1: Report of LEDBAT — Data Link

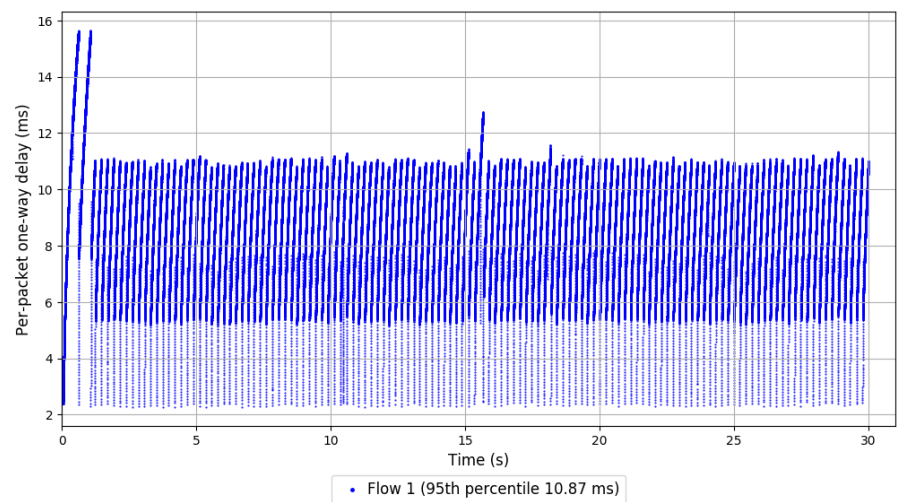
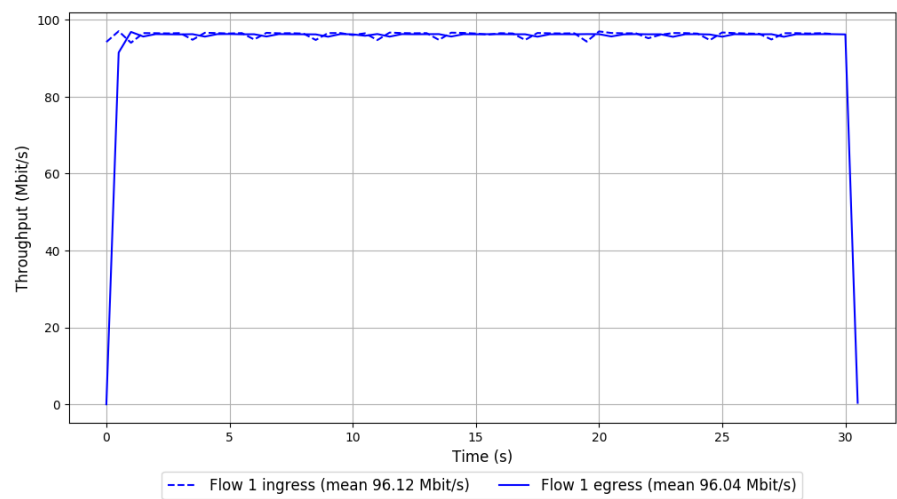


Run 2: Statistics of LEDBAT

Start at: 2019-01-03 05:11:23
End at: 2019-01-03 05:11:53
Local clock offset: -10.133 ms
Remote clock offset: 0.071 ms

Below is generated by plot.py at 2019-01-03 06:41:30
Datalink statistics
-- Total of 1 flow:
Average throughput: 96.04 Mbit/s
95th percentile per-packet one-way delay: 10.870 ms
Loss rate: 0.08%
-- Flow 1:
Average throughput: 96.04 Mbit/s
95th percentile per-packet one-way delay: 10.870 ms
Loss rate: 0.08%

Run 2: Report of LEDBAT — Data Link



Run 3: Statistics of LEDBAT

Start at: 2019-01-03 05:32:54

End at: 2019-01-03 05:33:24

Local clock offset: -4.836 ms

Remote clock offset: 0.32 ms

Below is generated by plot.py at 2019-01-03 06:41:31

Datalink statistics

-- Total of 1 flow:

Average throughput: 95.69 Mbit/s

95th percentile per-packet one-way delay: 10.124 ms

Loss rate: 0.06%

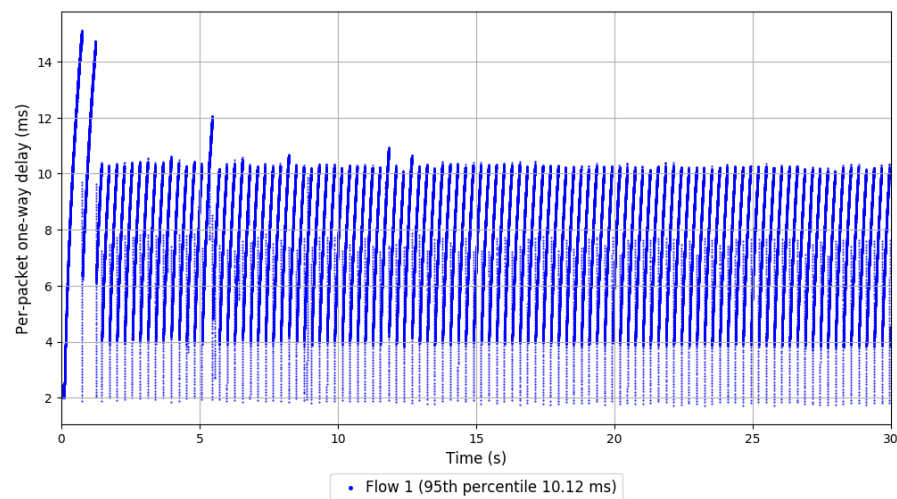
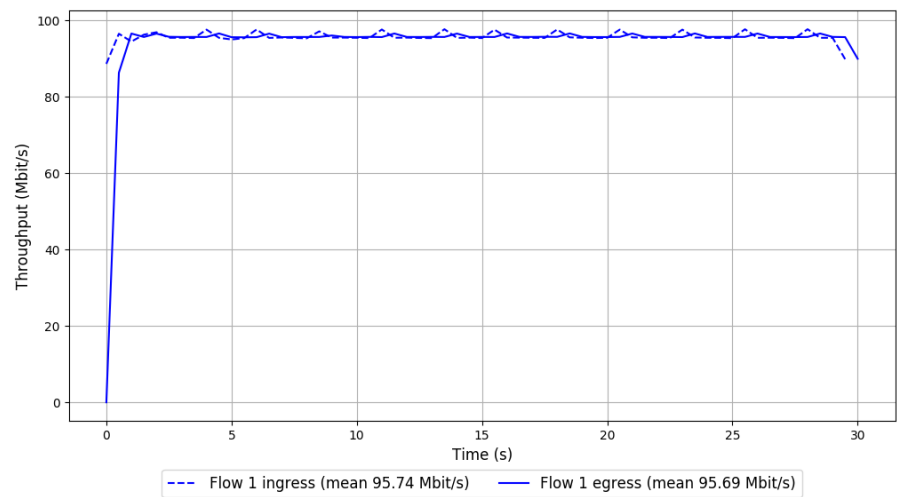
-- Flow 1:

Average throughput: 95.69 Mbit/s

95th percentile per-packet one-way delay: 10.124 ms

Loss rate: 0.06%

Run 3: Report of LEDBAT — Data Link



Run 4: Statistics of LEDBAT

Start at: 2019-01-03 05:54:19

End at: 2019-01-03 05:54:50

Local clock offset: -0.468 ms

Remote clock offset: 0.485 ms

Below is generated by plot.py at 2019-01-03 06:42:05

Datalink statistics

-- Total of 1 flow:

Average throughput: 95.99 Mbit/s

95th percentile per-packet one-way delay: 10.302 ms

Loss rate: 0.08%

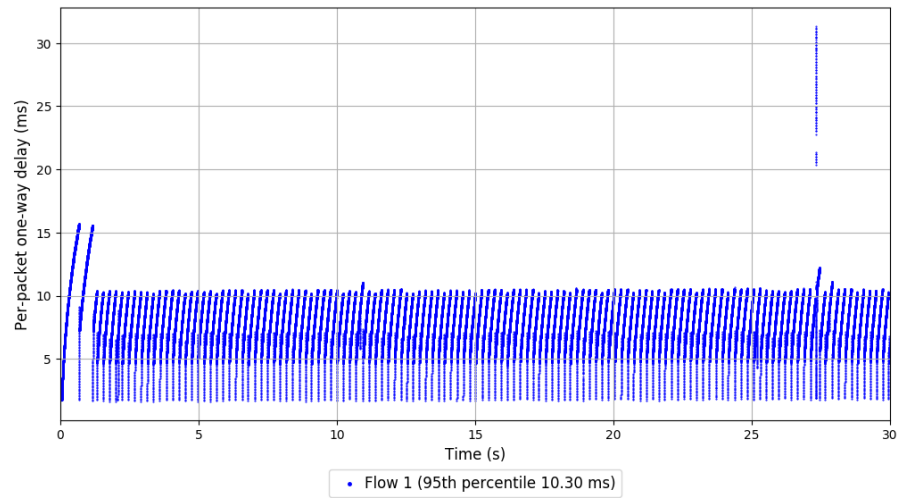
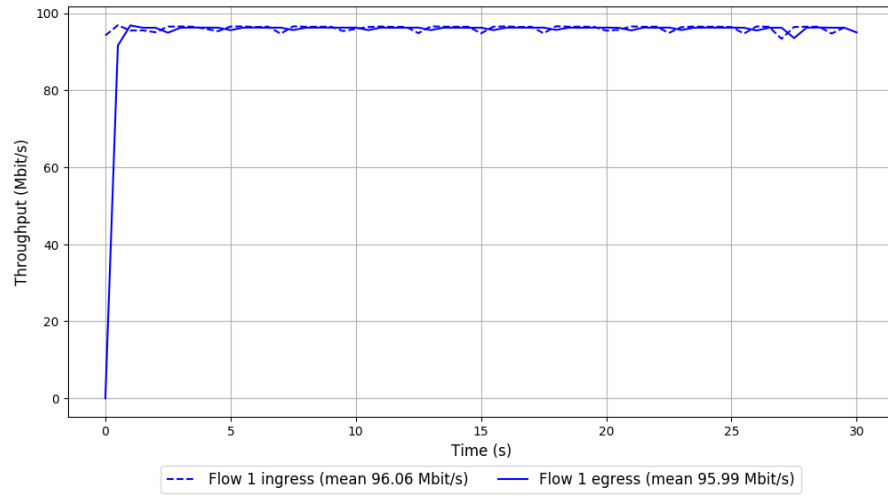
-- Flow 1:

Average throughput: 95.99 Mbit/s

95th percentile per-packet one-way delay: 10.302 ms

Loss rate: 0.08%

Run 4: Report of LEDBAT — Data Link



Run 5: Statistics of LEDBAT

Start at: 2019-01-03 06:15:47

End at: 2019-01-03 06:16:17

Local clock offset: -2.444 ms

Remote clock offset: 0.631 ms

Below is generated by plot.py at 2019-01-03 06:42:09

Datalink statistics

-- Total of 1 flow:

Average throughput: 95.97 Mbit/s

95th percentile per-packet one-way delay: 10.045 ms

Loss rate: 0.07%

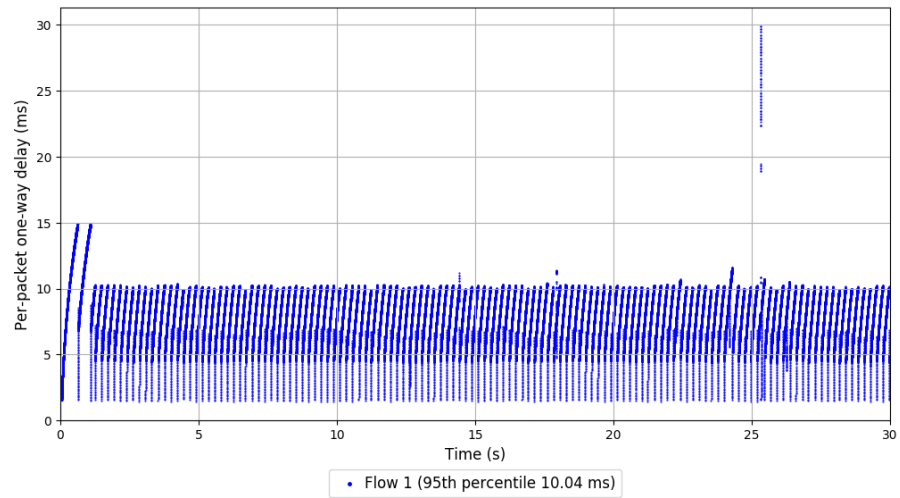
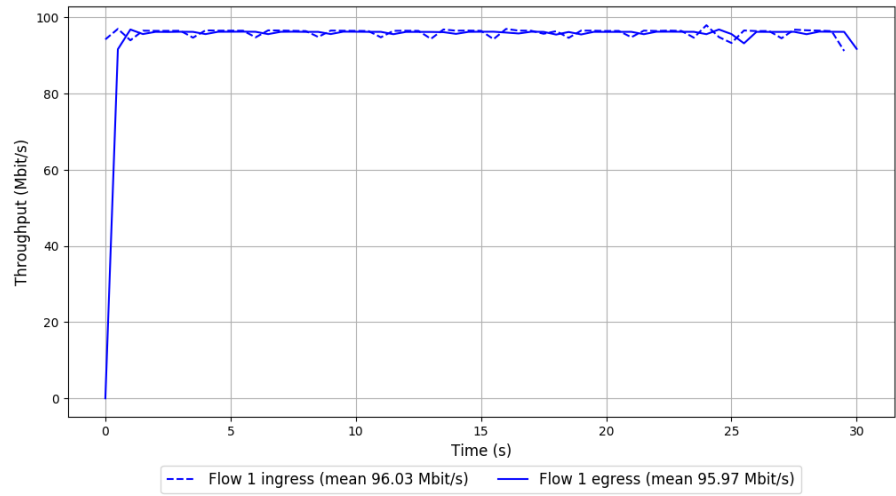
-- Flow 1:

Average throughput: 95.97 Mbit/s

95th percentile per-packet one-way delay: 10.045 ms

Loss rate: 0.07%

Run 5: Report of LEDBAT — Data Link

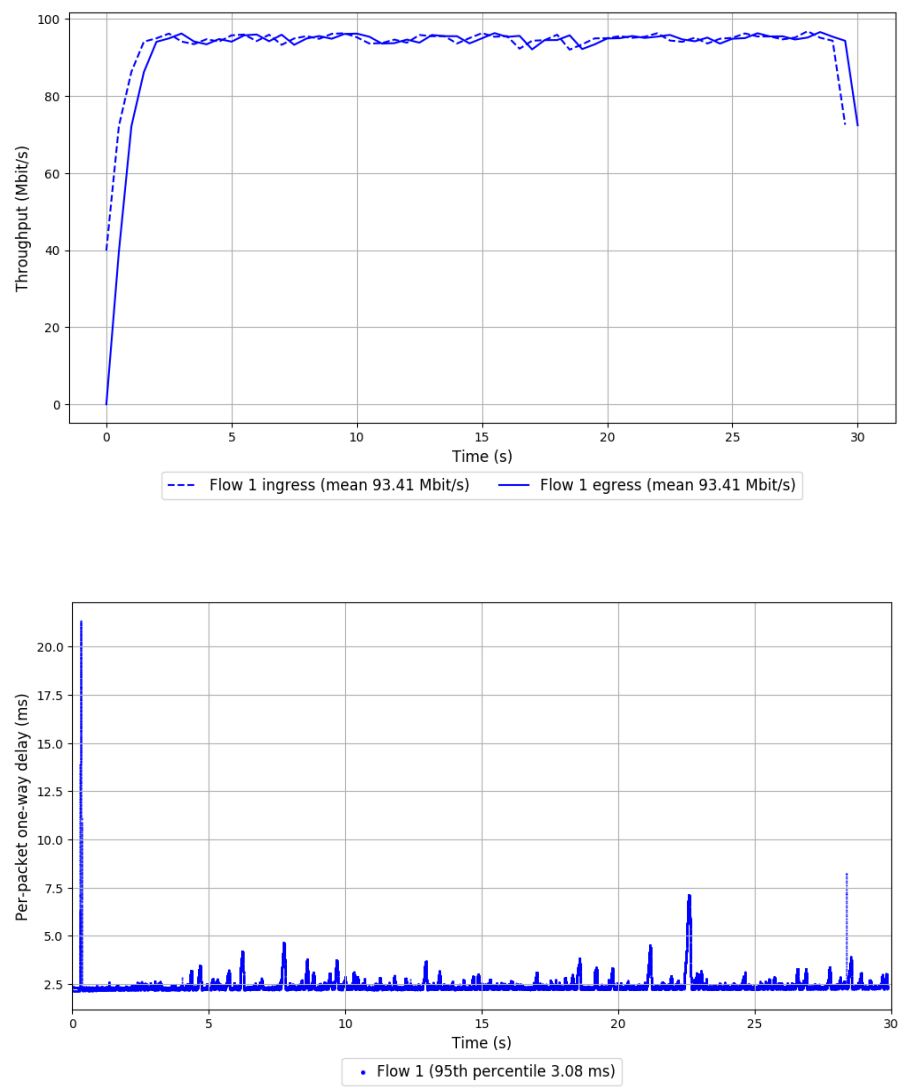


```
Run 1: Statistics of PCC-Allegro

Start at: 2019-01-03 04:51:02
End at: 2019-01-03 04:51:32
Local clock offset: -8.458 ms
Remote clock offset: -0.105 ms

# Below is generated by plot.py at 2019-01-03 06:42:09
# Datalink statistics
-- Total of 1 flow:
Average throughput: 93.41 Mbit/s
95th percentile per-packet one-way delay: 3.076 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 93.41 Mbit/s
95th percentile per-packet one-way delay: 3.076 ms
Loss rate: 0.01%
```

Run 1: Report of PCC-Allegro — Data Link

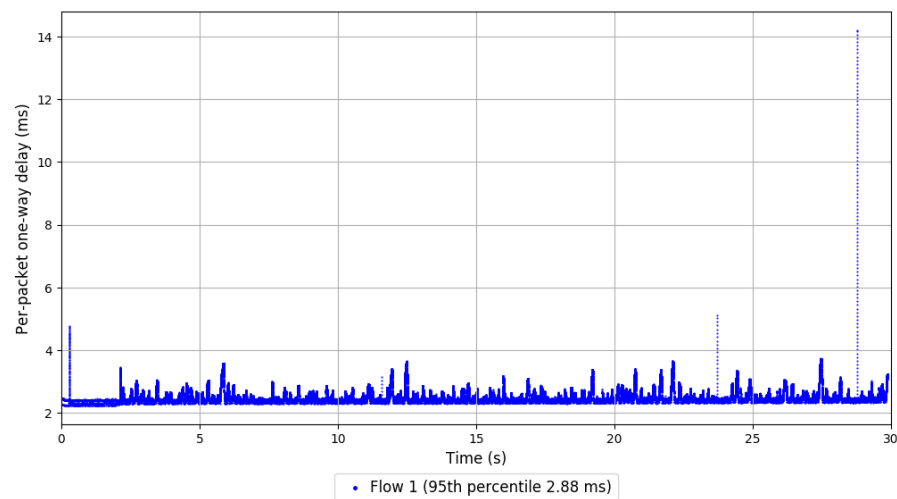
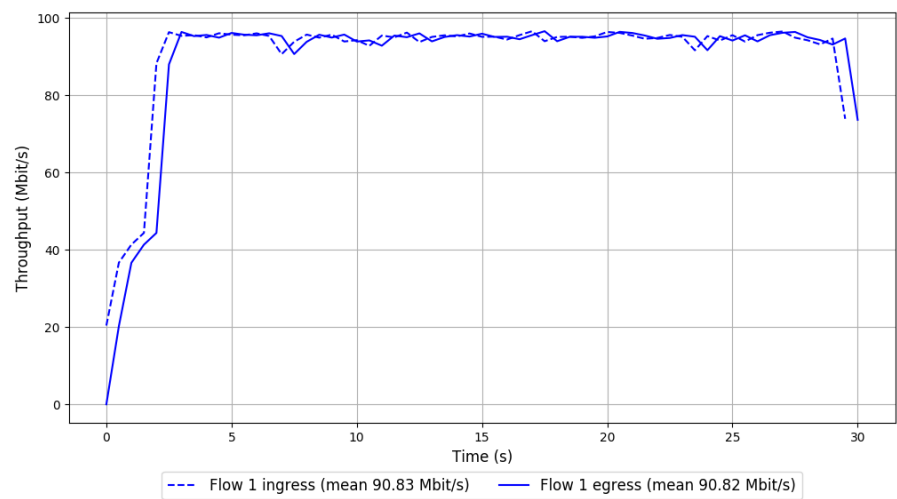


Run 2: Statistics of PCC-Allegro

Start at: 2019-01-03 05:12:32
End at: 2019-01-03 05:13:02
Local clock offset: -10.202 ms
Remote clock offset: 0.102 ms

Below is generated by plot.py at 2019-01-03 06:42:10
Datalink statistics
-- Total of 1 flow:
Average throughput: 90.82 Mbit/s
95th percentile per-packet one-way delay: 2.878 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 90.82 Mbit/s
95th percentile per-packet one-way delay: 2.878 ms
Loss rate: 0.01%

Run 2: Report of PCC-Allegro — Data Link



Run 3: Statistics of PCC-Allegro

Start at: 2019-01-03 05:34:04

End at: 2019-01-03 05:34:34

Local clock offset: -4.91 ms

Remote clock offset: 0.281 ms

Below is generated by plot.py at 2019-01-03 06:42:17

Datalink statistics

-- Total of 1 flow:

Average throughput: 90.55 Mbit/s

95th percentile per-packet one-way delay: 2.300 ms

Loss rate: 0.01%

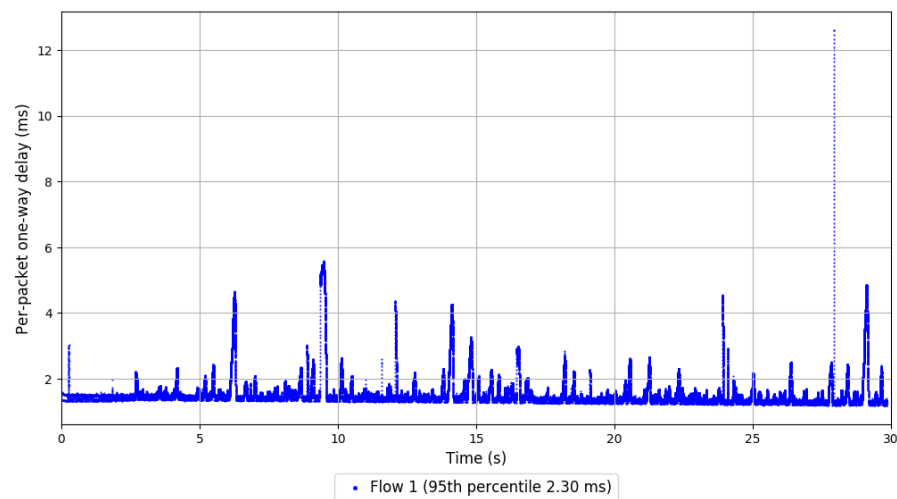
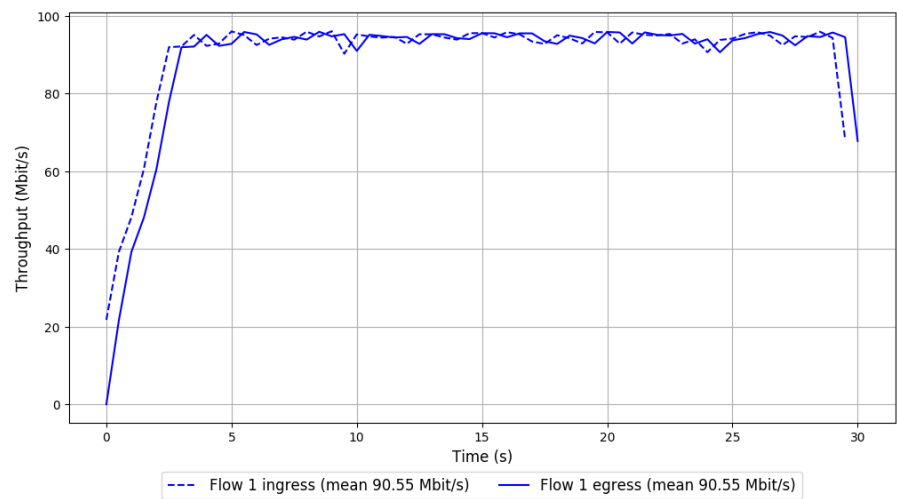
-- Flow 1:

Average throughput: 90.55 Mbit/s

95th percentile per-packet one-way delay: 2.300 ms

Loss rate: 0.01%

Run 3: Report of PCC-Allegro — Data Link



Run 4: Statistics of PCC-Allegro

Start at: 2019-01-03 05:55:29

End at: 2019-01-03 05:55:59

Local clock offset: -0.779 ms

Remote clock offset: 0.514 ms

Below is generated by plot.py at 2019-01-03 06:42:33

Datalink statistics

-- Total of 1 flow:

Average throughput: 90.71 Mbit/s

95th percentile per-packet one-way delay: 2.332 ms

Loss rate: 0.01%

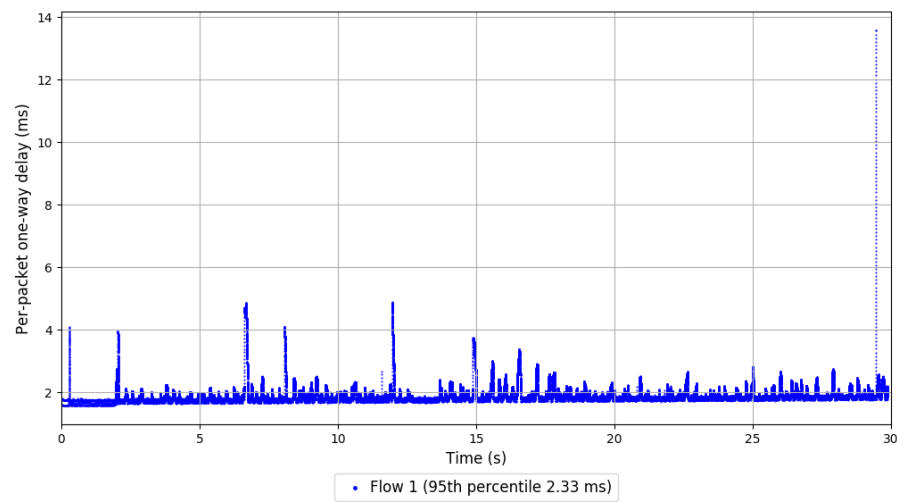
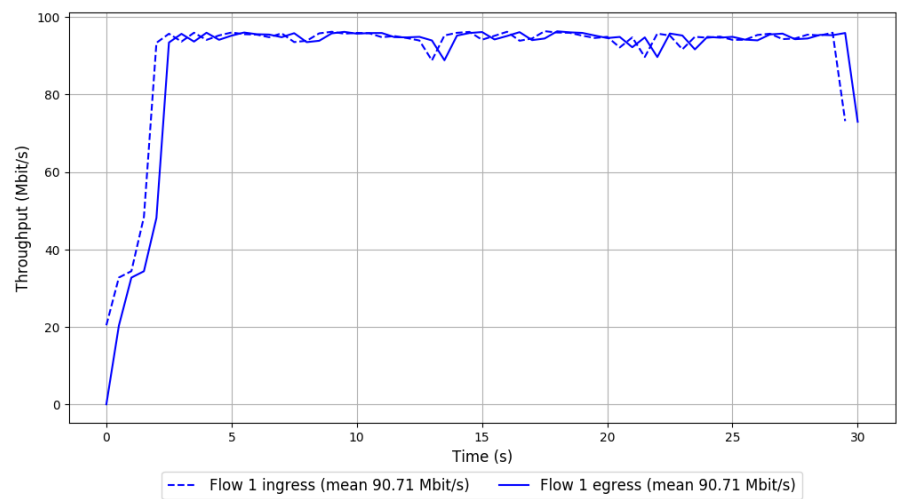
-- Flow 1:

Average throughput: 90.71 Mbit/s

95th percentile per-packet one-way delay: 2.332 ms

Loss rate: 0.01%

Run 4: Report of PCC-Allegro — Data Link



Run 5: Statistics of PCC-Allegro

Start at: 2019-01-03 06:16:57

End at: 2019-01-03 06:17:27

Local clock offset: -1.683 ms

Remote clock offset: 0.601 ms

Below is generated by plot.py at 2019-01-03 06:42:35

Datalink statistics

-- Total of 1 flow:

Average throughput: 91.45 Mbit/s

95th percentile per-packet one-way delay: 3.204 ms

Loss rate: 0.01%

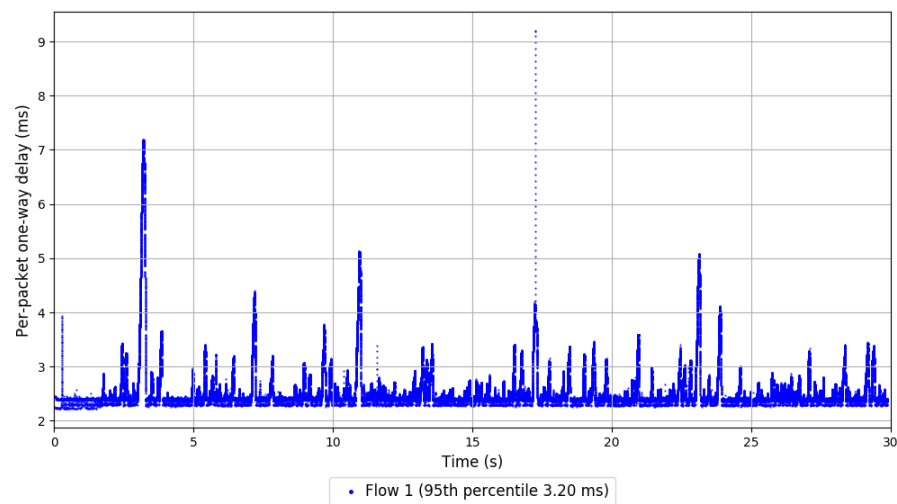
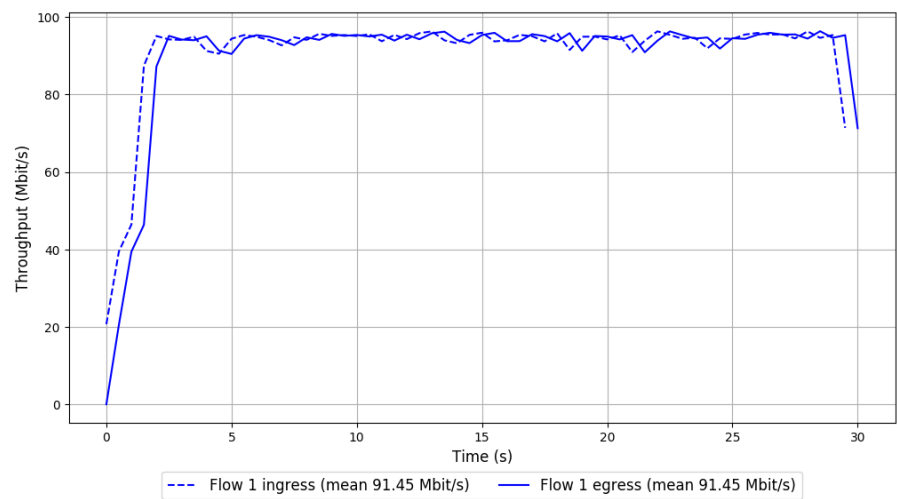
-- Flow 1:

Average throughput: 91.45 Mbit/s

95th percentile per-packet one-way delay: 3.204 ms

Loss rate: 0.01%

Run 5: Report of PCC-Allegro — Data Link



Run 1: Statistics of PCC-Expr

Start at: 2019-01-03 04:46:24

End at: 2019-01-03 04:46:54

Local clock offset: -8.603 ms

Remote clock offset: -0.273 ms

Below is generated by plot.py at 2019-01-03 06:43:19

Datalink statistics

-- Total of 1 flow:

Average throughput: 84.42 Mbit/s

95th percentile per-packet one-way delay: 33.912 ms

Loss rate: 0.04%

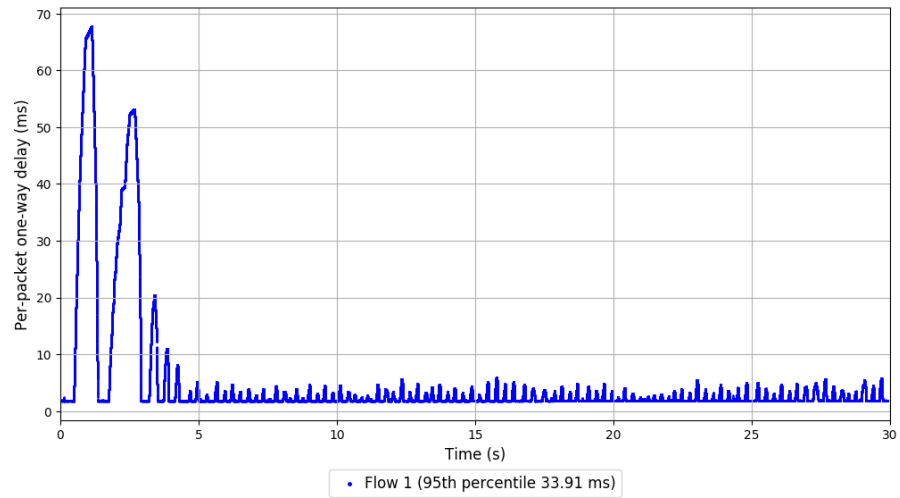
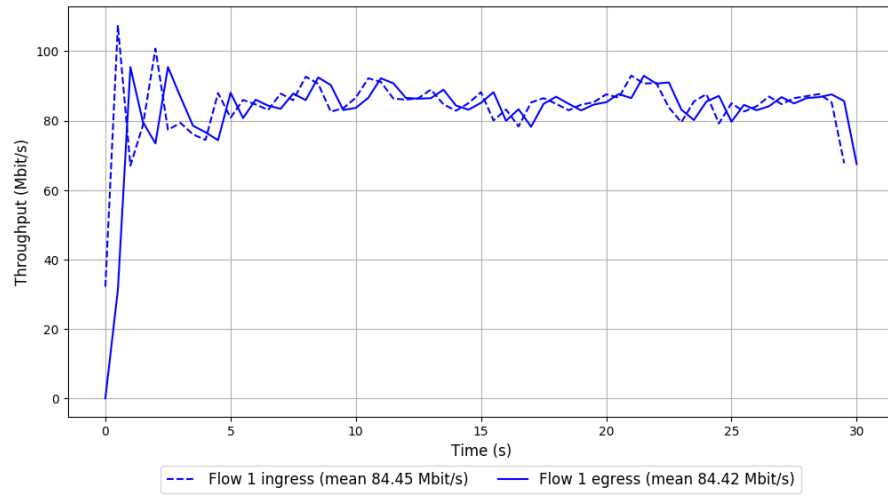
-- Flow 1:

Average throughput: 84.42 Mbit/s

95th percentile per-packet one-way delay: 33.912 ms

Loss rate: 0.04%

Run 1: Report of PCC-Expr — Data Link



Run 2: Statistics of PCC-Expr

Start at: 2019-01-03 05:07:54

End at: 2019-01-03 05:08:24

Local clock offset: -9.842 ms

Remote clock offset: -0.042 ms

Below is generated by plot.py at 2019-01-03 06:43:55

Datalink statistics

-- Total of 1 flow:

Average throughput: 84.68 Mbit/s

95th percentile per-packet one-way delay: 35.035 ms

Loss rate: 0.16%

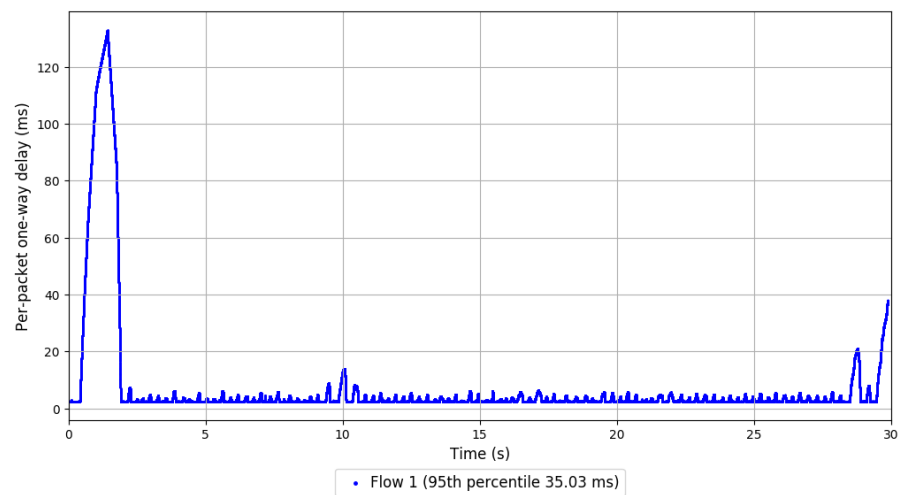
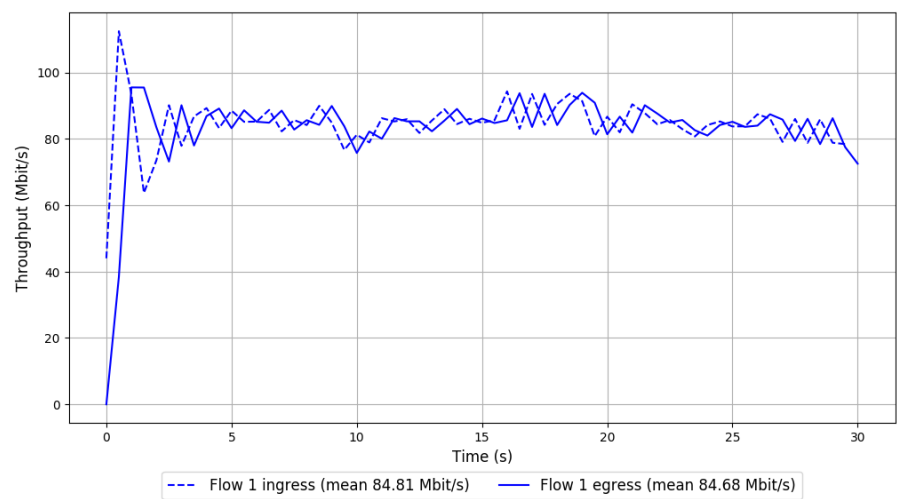
-- Flow 1:

Average throughput: 84.68 Mbit/s

95th percentile per-packet one-way delay: 35.035 ms

Loss rate: 0.16%

Run 2: Report of PCC-Expr — Data Link



Run 3: Statistics of PCC-Expr

Start at: 2019-01-03 05:29:24

End at: 2019-01-03 05:29:54

Local clock offset: -6.734 ms

Remote clock offset: 0.203 ms

Below is generated by plot.py at 2019-01-03 06:44:11

Datalink statistics

-- Total of 1 flow:

Average throughput: 90.92 Mbit/s

95th percentile per-packet one-way delay: 640.683 ms

Loss rate: 8.16%

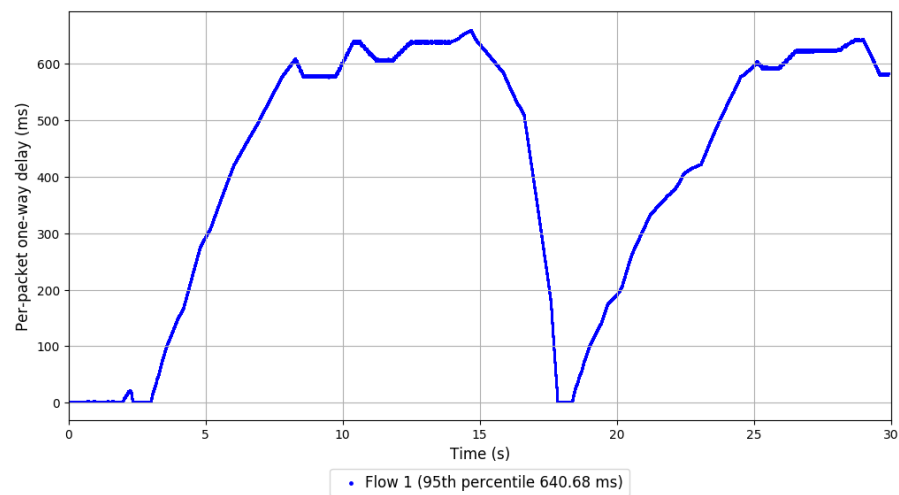
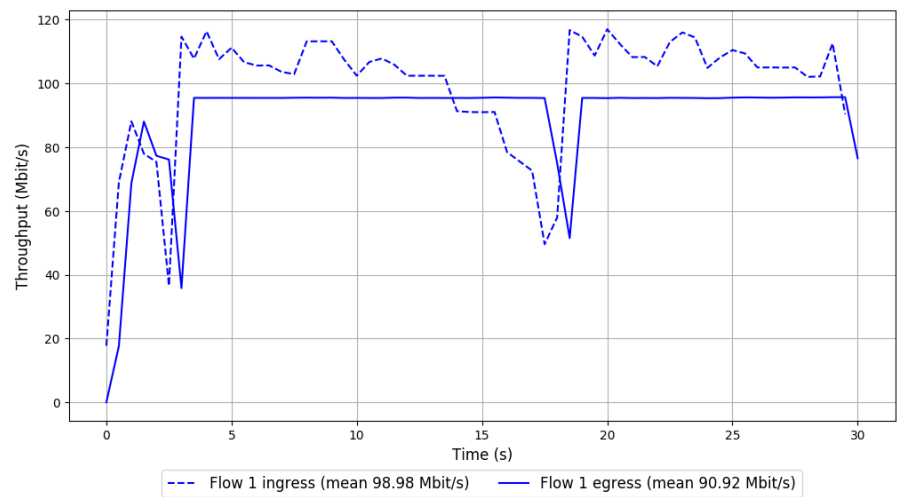
-- Flow 1:

Average throughput: 90.92 Mbit/s

95th percentile per-packet one-way delay: 640.683 ms

Loss rate: 8.16%

Run 3: Report of PCC-Expr — Data Link



Run 4: Statistics of PCC-Expr

Start at: 2019-01-03 05:50:51

End at: 2019-01-03 05:51:21

Local clock offset: -0.247 ms

Remote clock offset: 0.433 ms

Below is generated by plot.py at 2019-01-03 06:44:11

Datalink statistics

-- Total of 1 flow:

Average throughput: 86.41 Mbit/s

95th percentile per-packet one-way delay: 622.775 ms

Loss rate: 5.97%

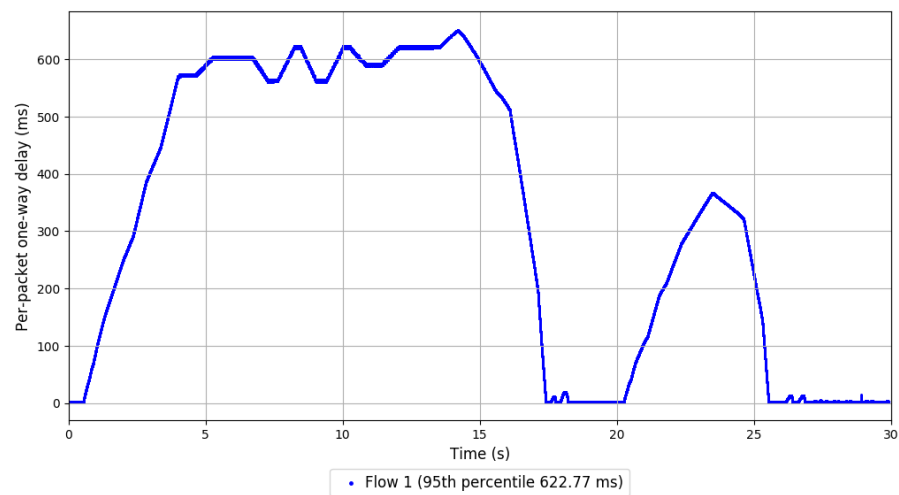
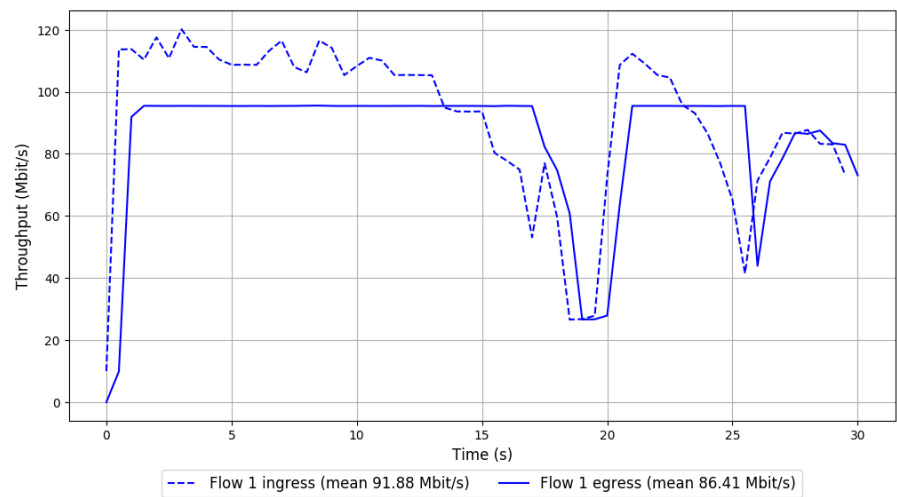
-- Flow 1:

Average throughput: 86.41 Mbit/s

95th percentile per-packet one-way delay: 622.775 ms

Loss rate: 5.97%

Run 4: Report of PCC-Expr — Data Link



Run 5: Statistics of PCC-Expr

Start at: 2019-01-03 06:12:17

End at: 2019-01-03 06:12:47

Local clock offset: -1.772 ms

Remote clock offset: 0.631 ms

Below is generated by plot.py at 2019-01-03 06:44:11

Datalink statistics

-- Total of 1 flow:

Average throughput: 86.33 Mbit/s

95th percentile per-packet one-way delay: 138.991 ms

Loss rate: 0.87%

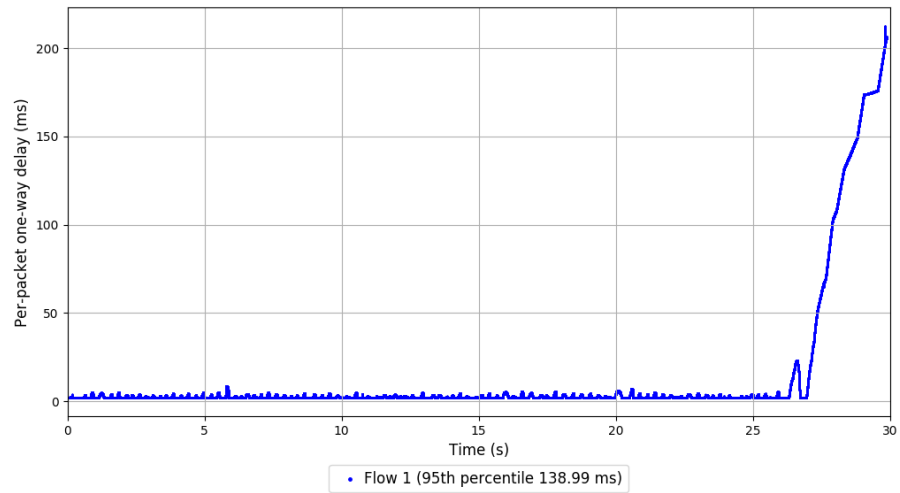
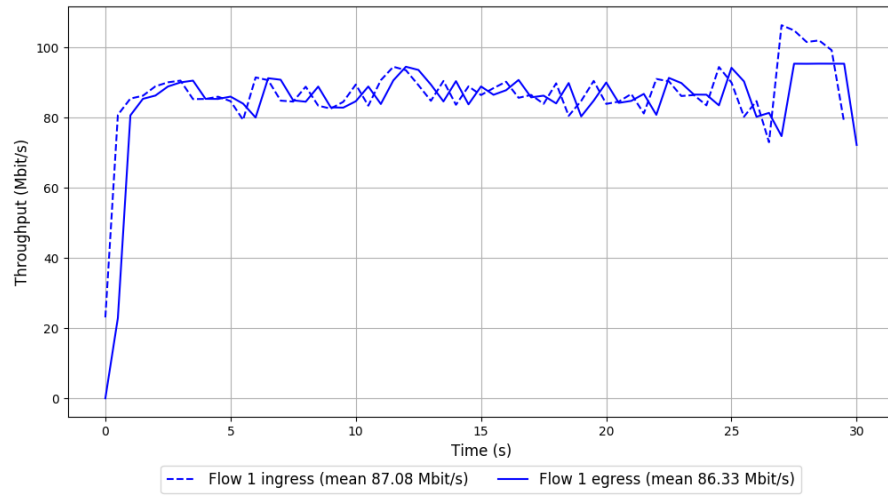
-- Flow 1:

Average throughput: 86.33 Mbit/s

95th percentile per-packet one-way delay: 138.991 ms

Loss rate: 0.87%

Run 5: Report of PCC-Expr — Data Link

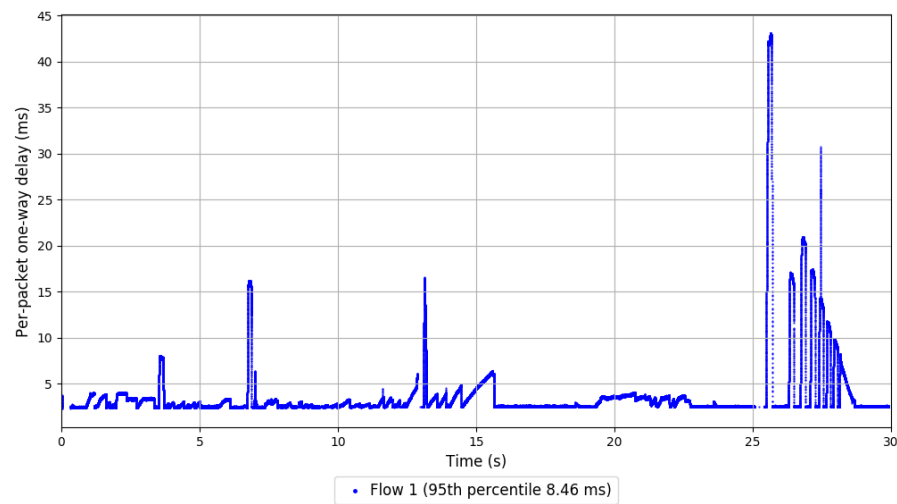
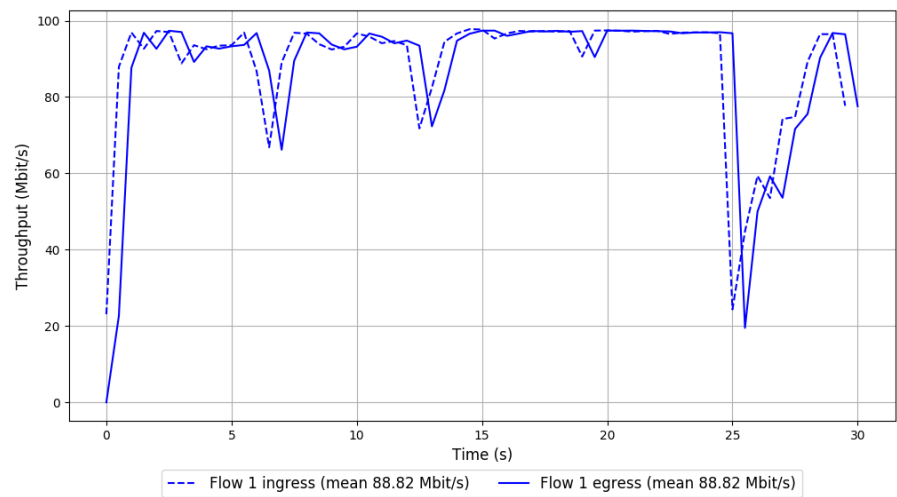


Run 1: Statistics of QUIC Cubic

Start at: 2019-01-03 05:00:01
End at: 2019-01-03 05:00:31
Local clock offset: -9.208 ms
Remote clock offset: -0.078 ms

Below is generated by plot.py at 2019-01-03 06:44:11
Datalink statistics
-- Total of 1 flow:
Average throughput: 88.82 Mbit/s
95th percentile per-packet one-way delay: 8.465 ms
Loss rate: 0.02%
-- Flow 1:
Average throughput: 88.82 Mbit/s
95th percentile per-packet one-way delay: 8.465 ms
Loss rate: 0.02%

Run 1: Report of QUIC Cubic — Data Link



Run 2: Statistics of QUIC Cubic

Start at: 2019-01-03 05:21:31

End at: 2019-01-03 05:22:01

Local clock offset: -10.89 ms

Remote clock offset: 0.2 ms

Below is generated by plot.py at 2019-01-03 06:44:11

Datalink statistics

-- Total of 1 flow:

Average throughput: 86.65 Mbit/s

95th percentile per-packet one-way delay: 8.510 ms

Loss rate: 0.02%

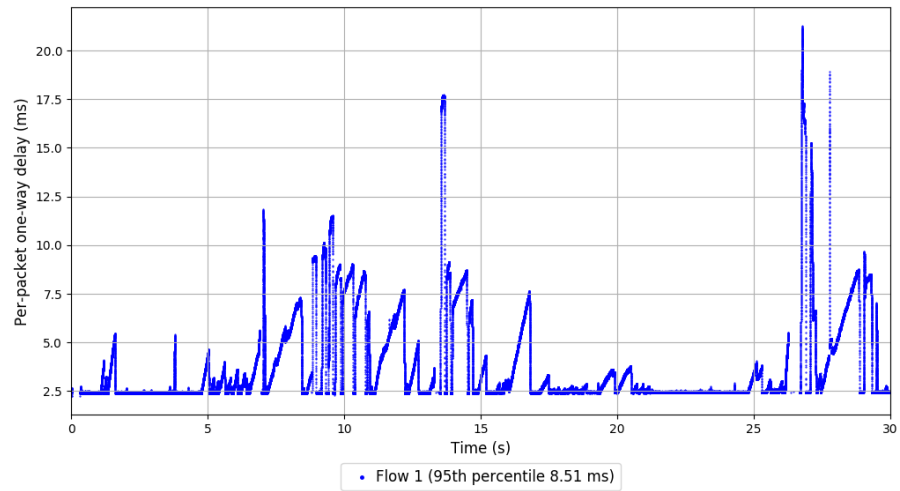
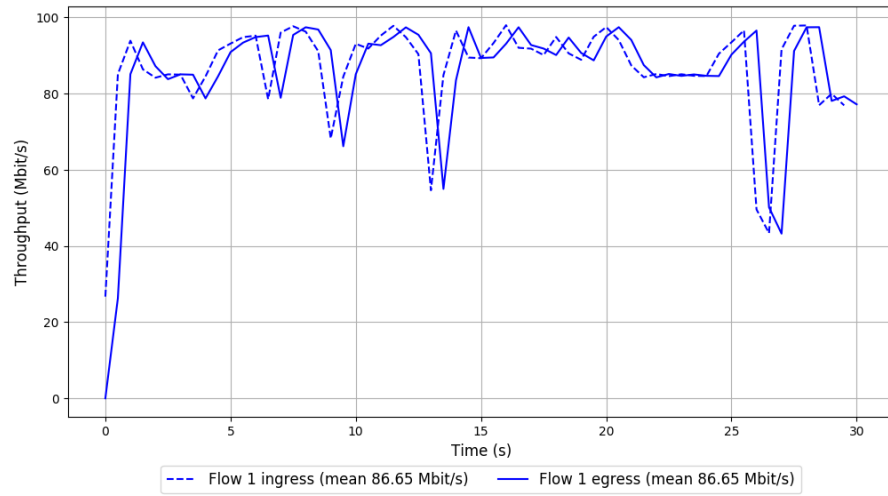
-- Flow 1:

Average throughput: 86.65 Mbit/s

95th percentile per-packet one-way delay: 8.510 ms

Loss rate: 0.02%

Run 2: Report of QUIC Cubic — Data Link



Run 3: Statistics of QUIC Cubic

Start at: 2019-01-03 05:43:02

End at: 2019-01-03 05:43:32

Local clock offset: -2.239 ms

Remote clock offset: 0.411 ms

Below is generated by plot.py at 2019-01-03 06:44:11

Datalink statistics

-- Total of 1 flow:

Average throughput: 89.53 Mbit/s

95th percentile per-packet one-way delay: 5.828 ms

Loss rate: 0.02%

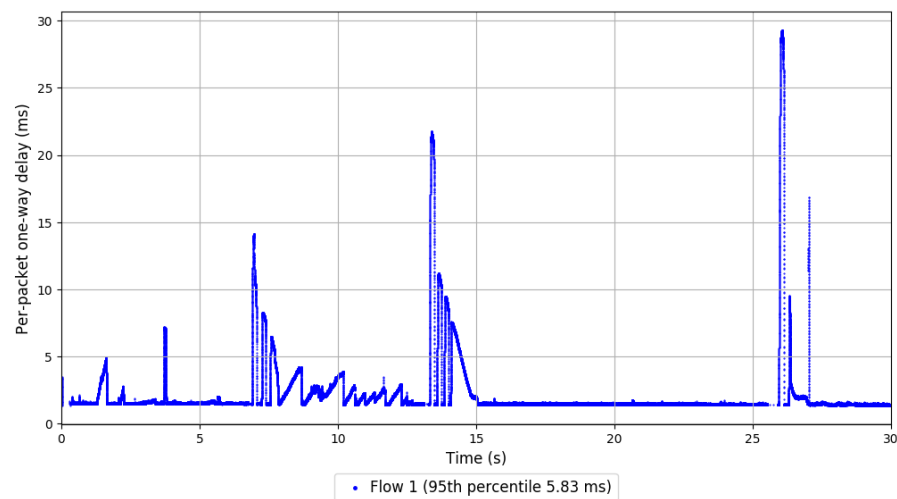
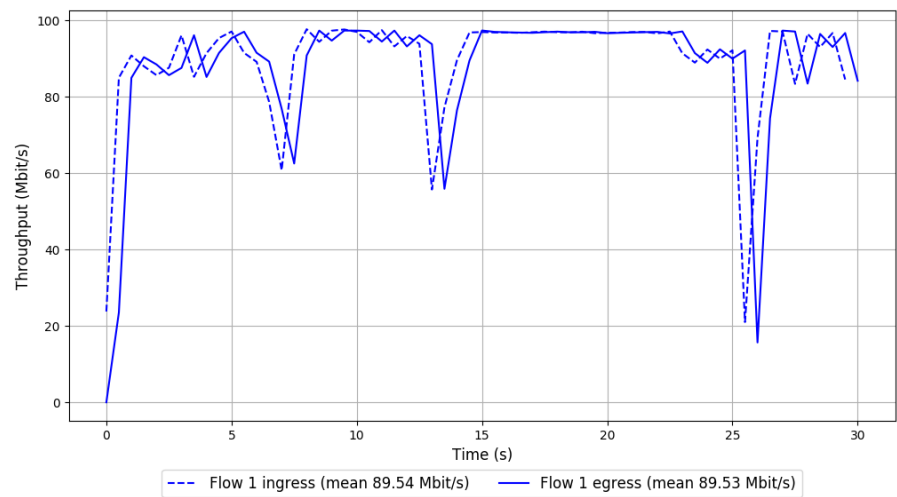
-- Flow 1:

Average throughput: 89.53 Mbit/s

95th percentile per-packet one-way delay: 5.828 ms

Loss rate: 0.02%

Run 3: Report of QUIC Cubic — Data Link



Run 4: Statistics of QUIC Cubic

Start at: 2019-01-03 06:04:27

End at: 2019-01-03 06:04:57

Local clock offset: -1.468 ms

Remote clock offset: 0.574 ms

Below is generated by plot.py at 2019-01-03 06:44:35

Datalink statistics

-- Total of 1 flow:

Average throughput: 89.08 Mbit/s

95th percentile per-packet one-way delay: 8.456 ms

Loss rate: 0.02%

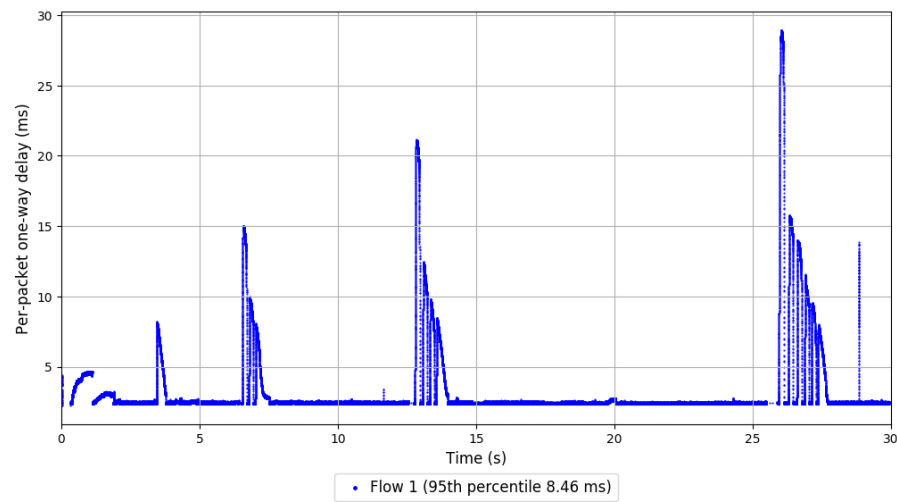
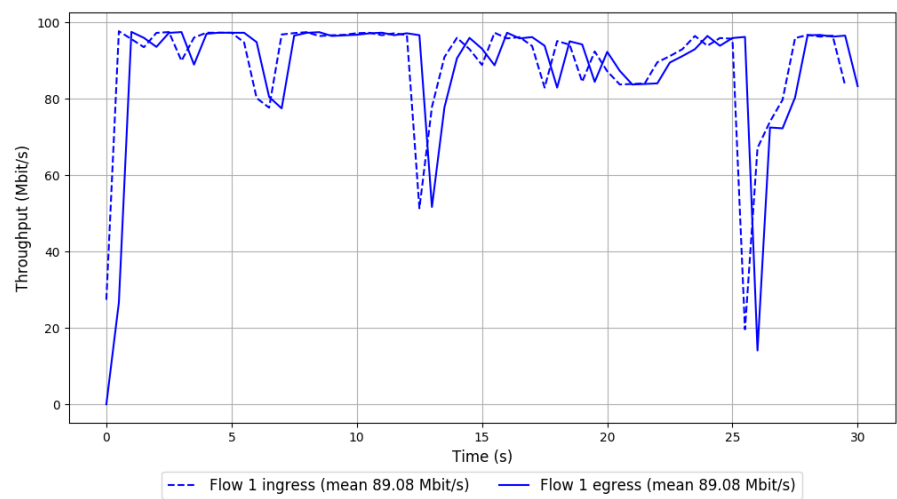
-- Flow 1:

Average throughput: 89.08 Mbit/s

95th percentile per-packet one-way delay: 8.456 ms

Loss rate: 0.02%

Run 4: Report of QUIC Cubic — Data Link



Run 5: Statistics of QUIC Cubic

Start at: 2019-01-03 06:25:56

End at: 2019-01-03 06:26:26

Local clock offset: -2.176 ms

Remote clock offset: 0.625 ms

Below is generated by plot.py at 2019-01-03 06:44:37

Datalink statistics

-- Total of 1 flow:

Average throughput: 88.81 Mbit/s

95th percentile per-packet one-way delay: 7.400 ms

Loss rate: 0.02%

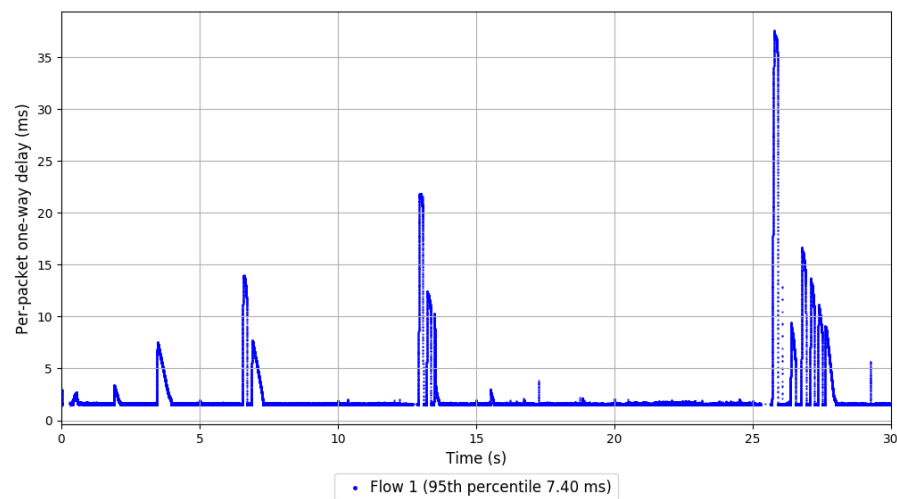
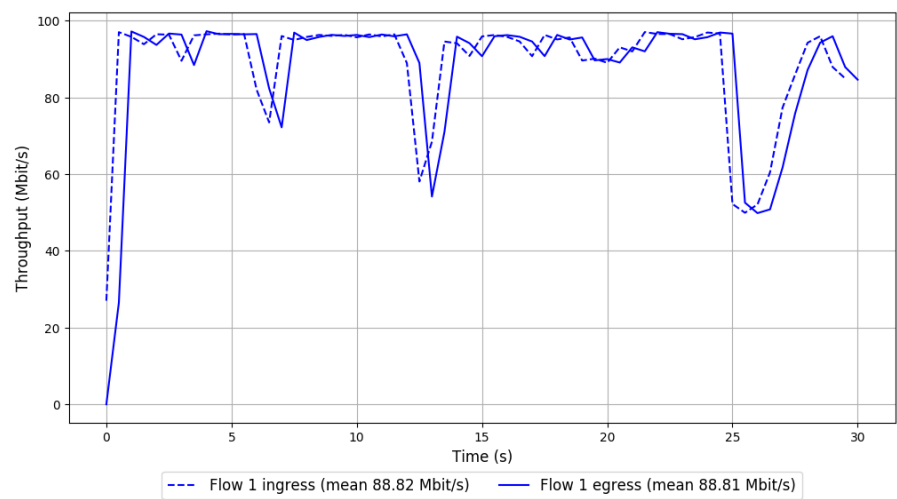
-- Flow 1:

Average throughput: 88.81 Mbit/s

95th percentile per-packet one-way delay: 7.400 ms

Loss rate: 0.02%

Run 5: Report of QUIC Cubic — Data Link

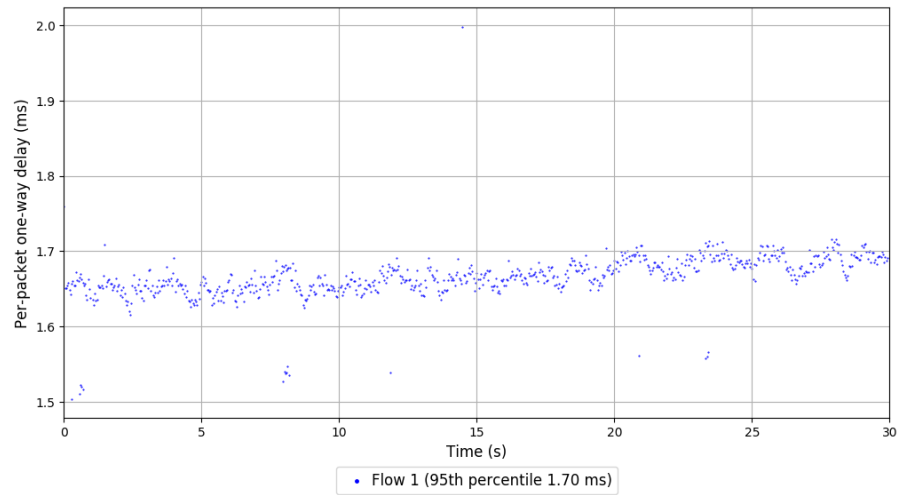
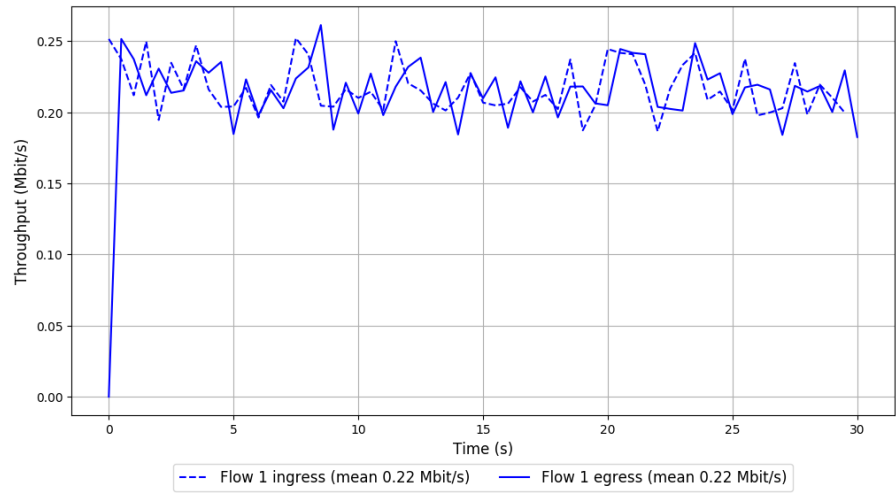


Run 1: Statistics of SCReAM

Start at: 2019-01-03 04:53:17
End at: 2019-01-03 04:53:47
Local clock offset: -9.346 ms
Remote clock offset: -0.088 ms

Below is generated by plot.py at 2019-01-03 06:44:37
Datalink statistics
-- Total of 1 flow:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 1.701 ms
Loss rate: 0.13%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 1.701 ms
Loss rate: 0.13%

Run 1: Report of SReAM — Data Link

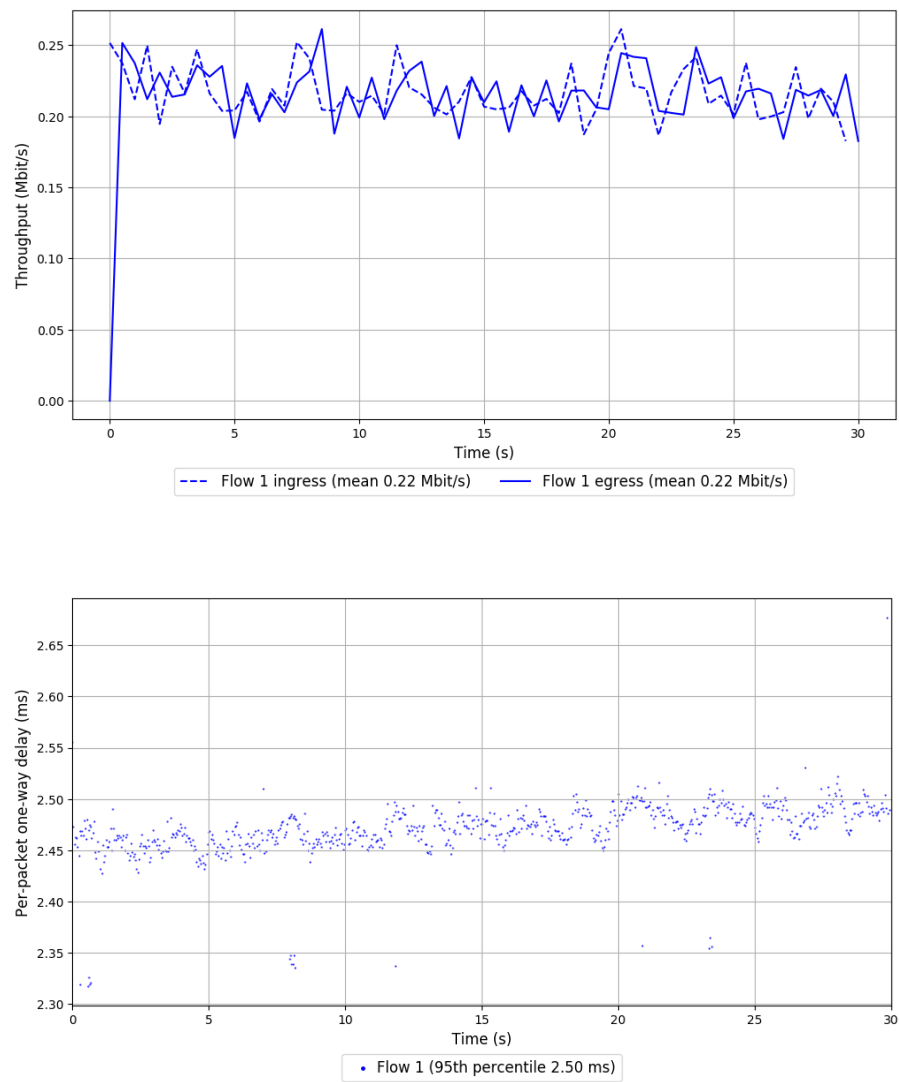


Run 2: Statistics of SCReAM

Start at: 2019-01-03 05:14:47
End at: 2019-01-03 05:15:17
Local clock offset: -10.388 ms
Remote clock offset: 0.06 ms

Below is generated by plot.py at 2019-01-03 06:44:37
Datalink statistics
-- Total of 1 flow:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 2.501 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 2.501 ms
Loss rate: 0.00%

Run 2: Report of SReAM — Data Link



Run 3: Statistics of SCReAM

Start at: 2019-01-03 05:36:19

End at: 2019-01-03 05:36:49

Local clock offset: -3.301 ms

Remote clock offset: 0.365 ms

Below is generated by plot.py at 2019-01-03 06:44:37

Datalink statistics

-- Total of 1 flow:

Average throughput: 0.22 Mbit/s

95th percentile per-packet one-way delay: 2.192 ms

Loss rate: 0.00%

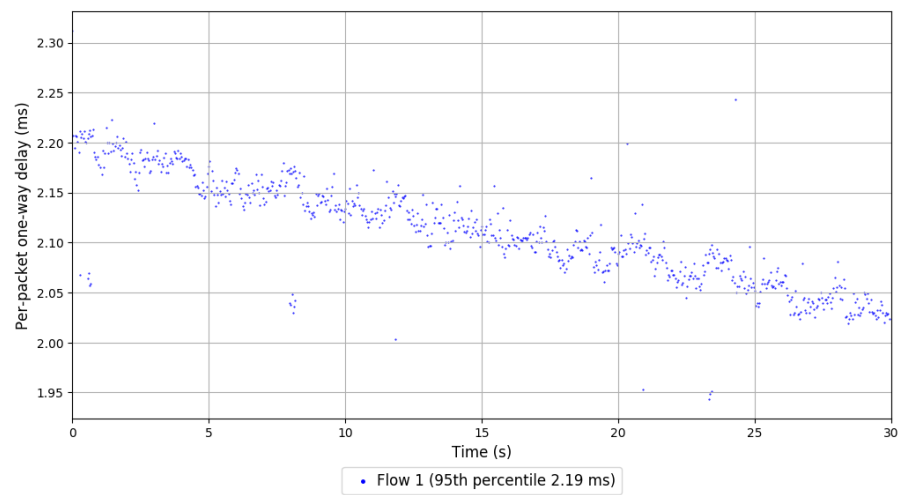
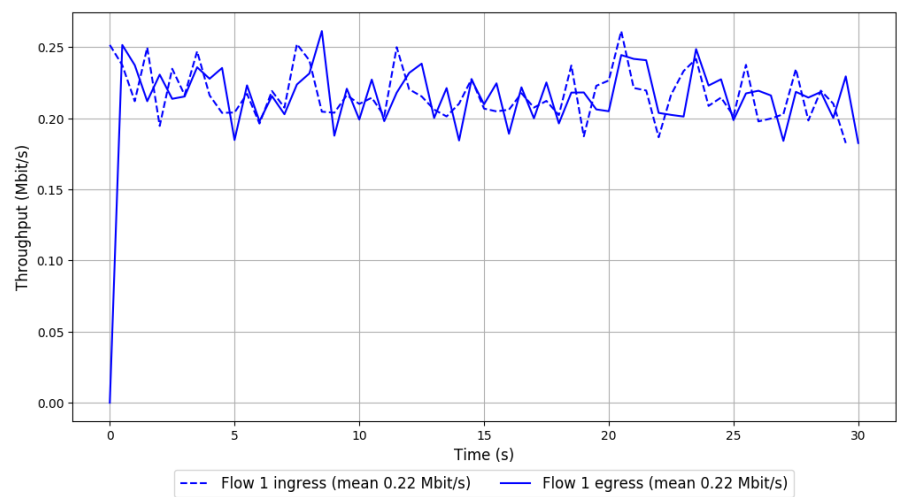
-- Flow 1:

Average throughput: 0.22 Mbit/s

95th percentile per-packet one-way delay: 2.192 ms

Loss rate: 0.00%

Run 3: Report of SReAM — Data Link



Run 4: Statistics of SCReAM

Start at: 2019-01-03 05:57:44

End at: 2019-01-03 05:58:14

Local clock offset: -0.587 ms

Remote clock offset: 0.541 ms

Below is generated by plot.py at 2019-01-03 06:44:37

Datalink statistics

-- Total of 1 flow:

Average throughput: 0.22 Mbit/s

95th percentile per-packet one-way delay: 2.528 ms

Loss rate: 0.00%

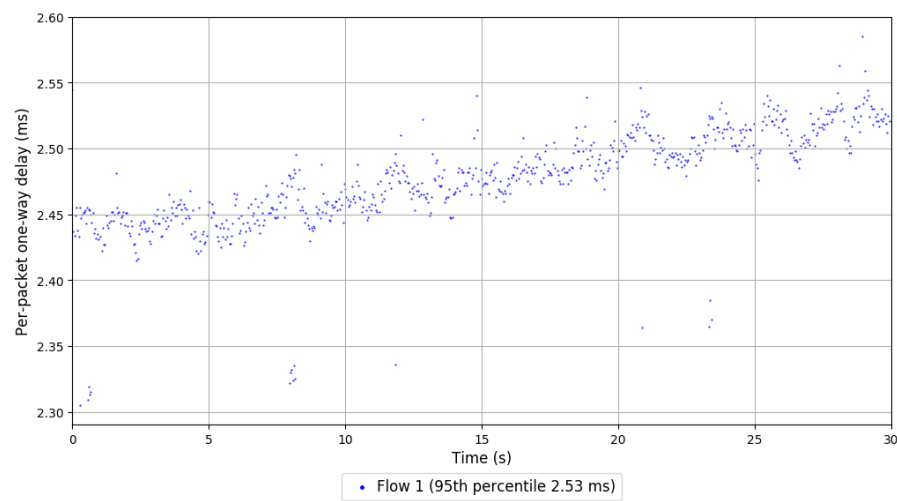
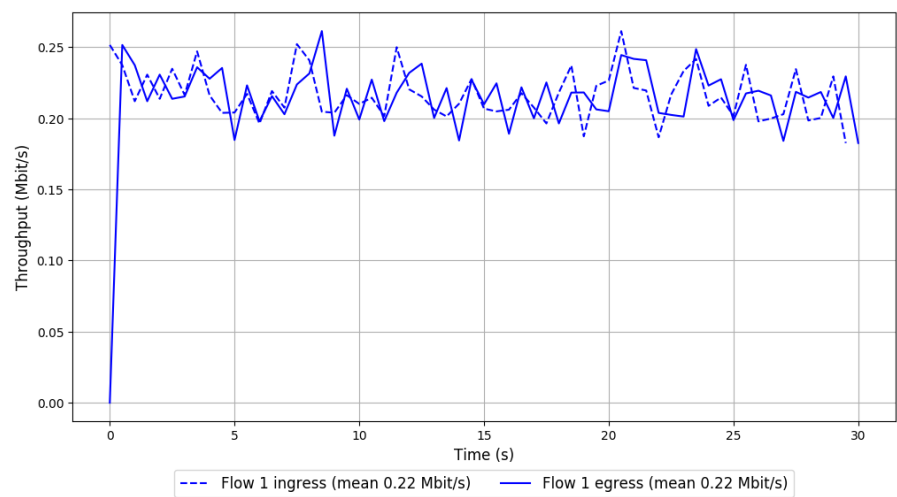
-- Flow 1:

Average throughput: 0.22 Mbit/s

95th percentile per-packet one-way delay: 2.528 ms

Loss rate: 0.00%

Run 4: Report of SReAM — Data Link



Run 5: Statistics of SCReAM

Start at: 2019-01-03 06:19:12

End at: 2019-01-03 06:19:42

Local clock offset: -1.631 ms

Remote clock offset: 0.61 ms

Below is generated by plot.py at 2019-01-03 06:44:37

Datalink statistics

-- Total of 1 flow:

Average throughput: 0.22 Mbit/s

95th percentile per-packet one-way delay: 2.418 ms

Loss rate: 0.00%

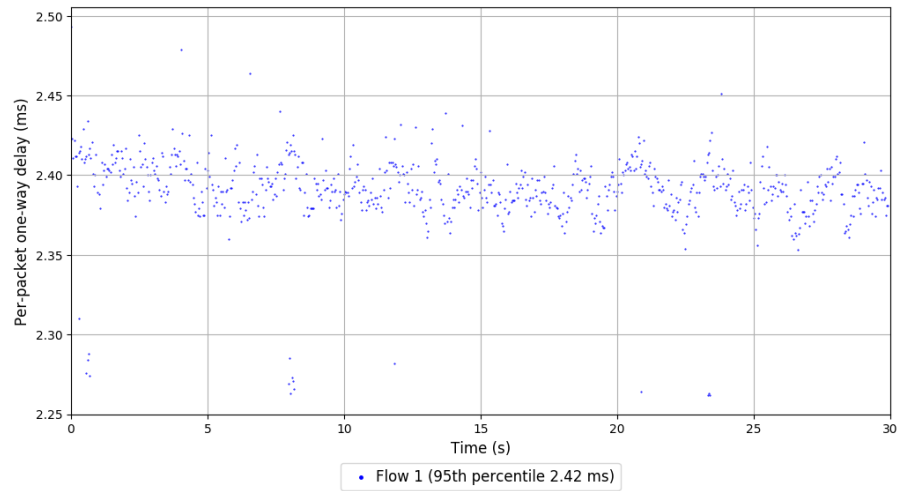
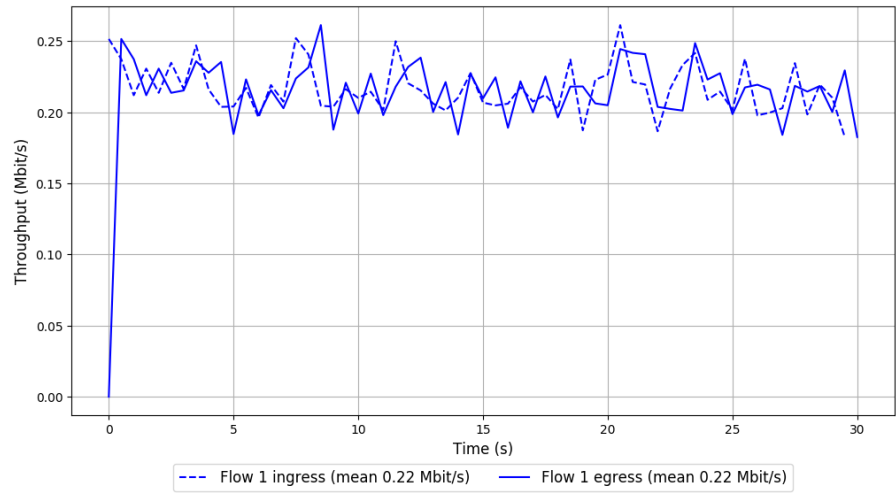
-- Flow 1:

Average throughput: 0.22 Mbit/s

95th percentile per-packet one-way delay: 2.418 ms

Loss rate: 0.00%

Run 5: Report of SReAM — Data Link

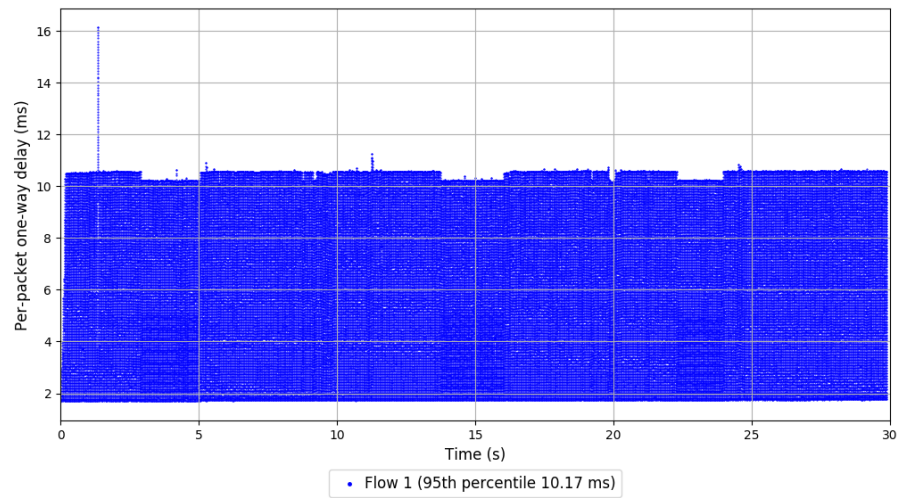
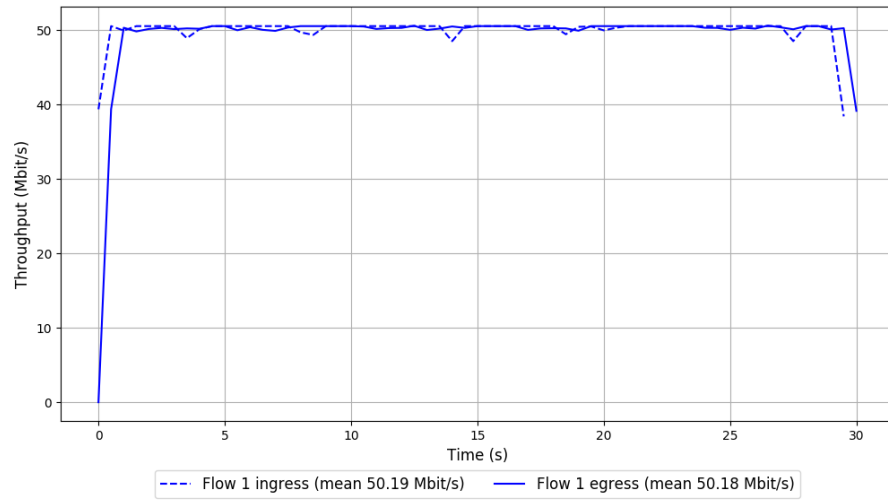


Run 1: Statistics of Sprout

Start at: 2019-01-03 05:05:43
End at: 2019-01-03 05:06:13
Local clock offset: -10.429 ms
Remote clock offset: -0.005 ms

Below is generated by plot.py at 2019-01-03 06:44:37
Datalink statistics
-- Total of 1 flow:
Average throughput: 50.18 Mbit/s
95th percentile per-packet one-way delay: 10.172 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 50.18 Mbit/s
95th percentile per-packet one-way delay: 10.172 ms
Loss rate: 0.00%

Run 1: Report of Sprout — Data Link

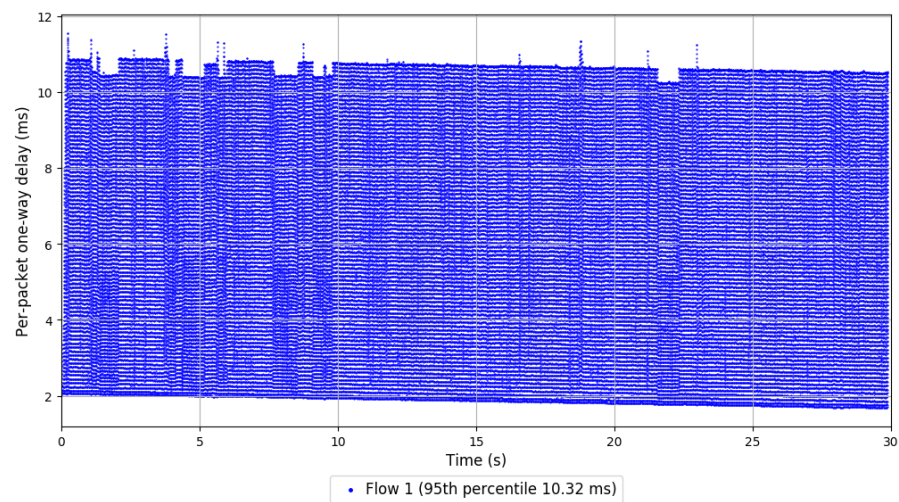
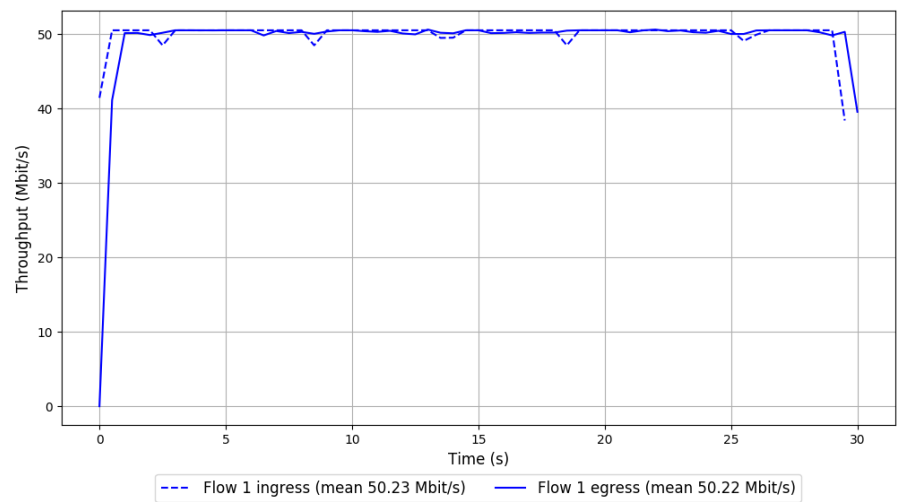


Run 2: Statistics of Sprout

Start at: 2019-01-03 05:27:13
End at: 2019-01-03 05:27:43
Local clock offset: -8.315 ms
Remote clock offset: 0.244 ms

Below is generated by plot.py at 2019-01-03 06:44:37
Datalink statistics
-- Total of 1 flow:
Average throughput: 50.22 Mbit/s
95th percentile per-packet one-way delay: 10.324 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 50.22 Mbit/s
95th percentile per-packet one-way delay: 10.324 ms
Loss rate: 0.00%

Run 2: Report of Sprout — Data Link

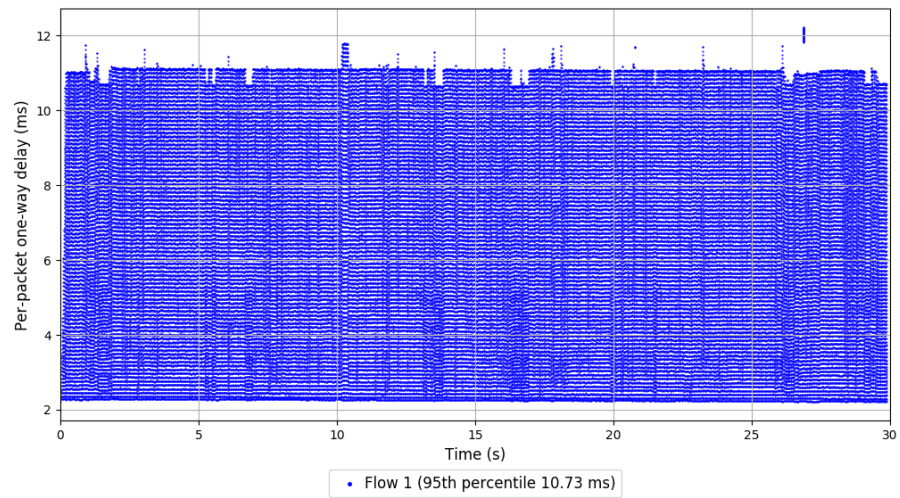
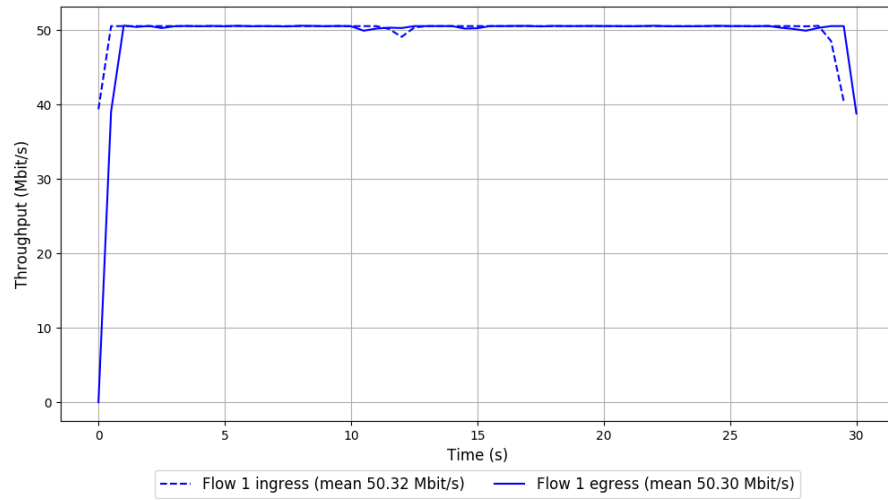


Run 3: Statistics of Sprout

Start at: 2019-01-03 05:48:40
End at: 2019-01-03 05:49:10
Local clock offset: -0.514 ms
Remote clock offset: 0.455 ms

Below is generated by plot.py at 2019-01-03 06:44:37
Datalink statistics
-- Total of 1 flow:
Average throughput: 50.30 Mbit/s
95th percentile per-packet one-way delay: 10.728 ms
Loss rate: 0.05%
-- Flow 1:
Average throughput: 50.30 Mbit/s
95th percentile per-packet one-way delay: 10.728 ms
Loss rate: 0.05%

Run 3: Report of Sprout — Data Link



Run 4: Statistics of Sprout

Start at: 2019-01-03 06:10:06

End at: 2019-01-03 06:10:36

Local clock offset: -1.703 ms

Remote clock offset: 0.543 ms

Below is generated by plot.py at 2019-01-03 06:44:41

Datalink statistics

-- Total of 1 flow:

Average throughput: 50.22 Mbit/s

95th percentile per-packet one-way delay: 10.818 ms

Loss rate: 0.06%

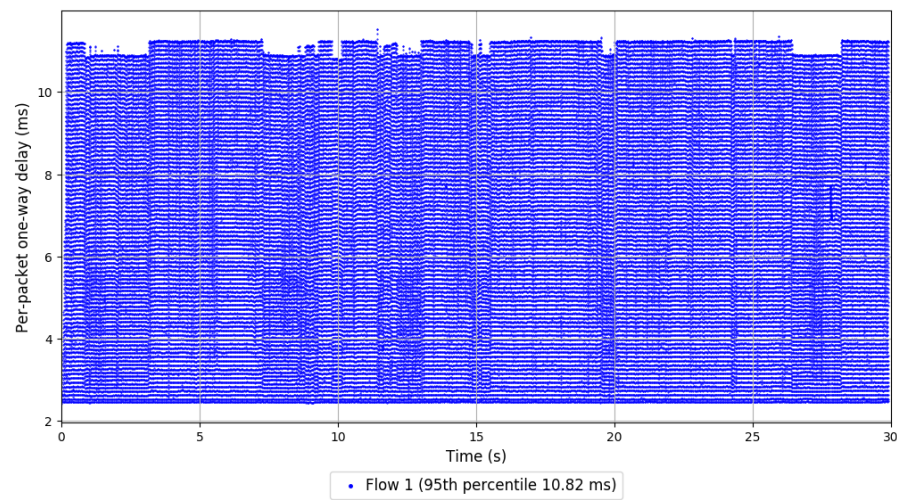
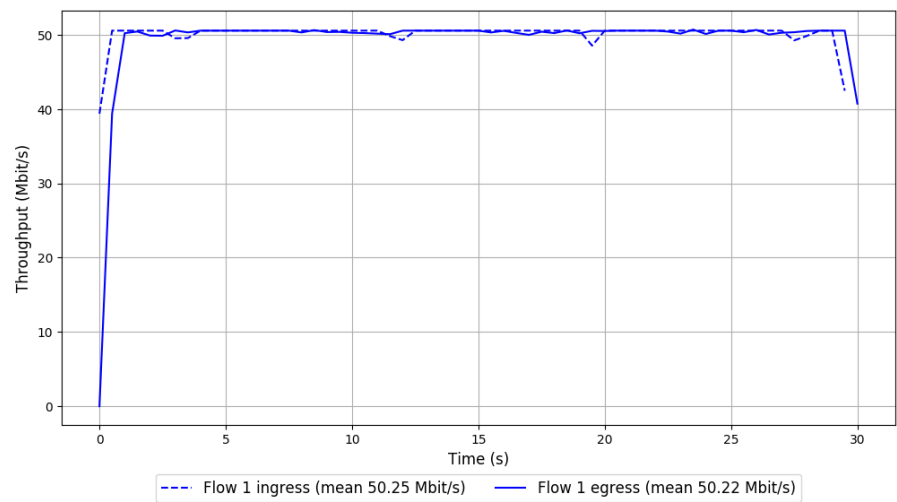
-- Flow 1:

Average throughput: 50.22 Mbit/s

95th percentile per-packet one-way delay: 10.818 ms

Loss rate: 0.06%

Run 4: Report of Sprout — Data Link



Run 5: Statistics of Sprout

Start at: 2019-01-03 06:31:38

End at: 2019-01-03 06:32:08

Local clock offset: -0.97 ms

Remote clock offset: 0.654 ms

Below is generated by plot.py at 2019-01-03 06:44:43

Datalink statistics

-- Total of 1 flow:

Average throughput: 50.31 Mbit/s

95th percentile per-packet one-way delay: 10.774 ms

Loss rate: 0.07%

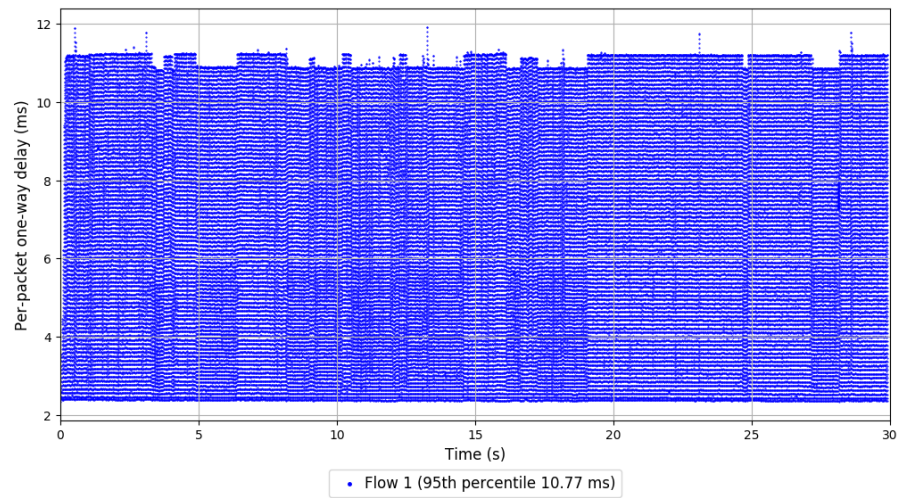
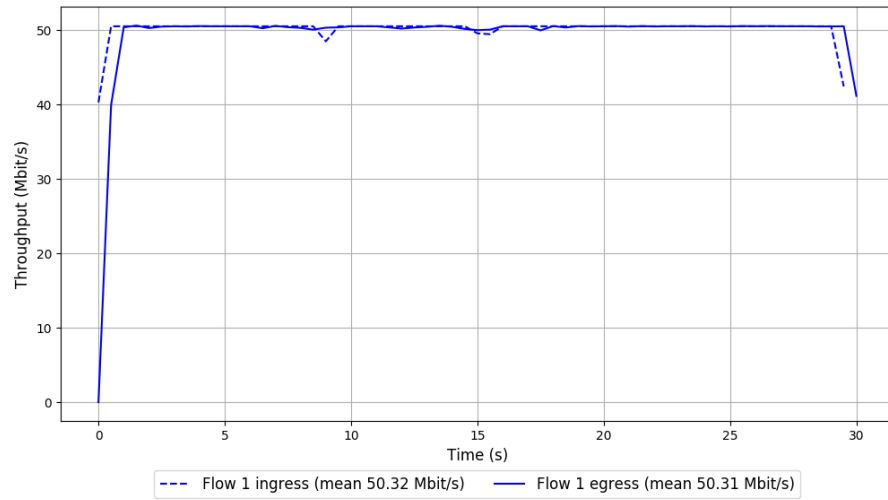
-- Flow 1:

Average throughput: 50.31 Mbit/s

95th percentile per-packet one-way delay: 10.774 ms

Loss rate: 0.07%

Run 5: Report of Sprout — Data Link



Run 1: Statistics of TaoVA-100x

Start at: 2019-01-03 04:57:42

End at: 2019-01-03 04:58:12

Local clock offset: -9.02 ms

Remote clock offset: -0.083 ms

Below is generated by plot.py at 2019-01-03 06:46:10

Datalink statistics

-- Total of 1 flow:

Average throughput: 86.90 Mbit/s

95th percentile per-packet one-way delay: 2.453 ms

Loss rate: 0.01%

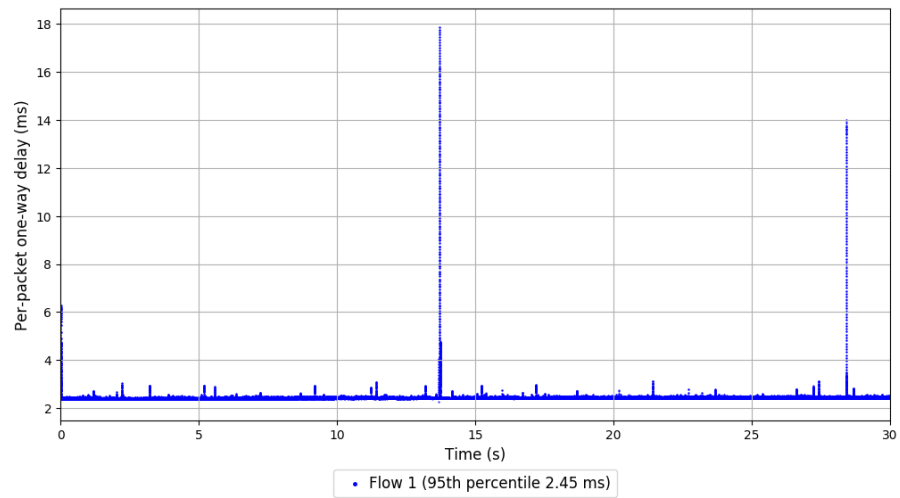
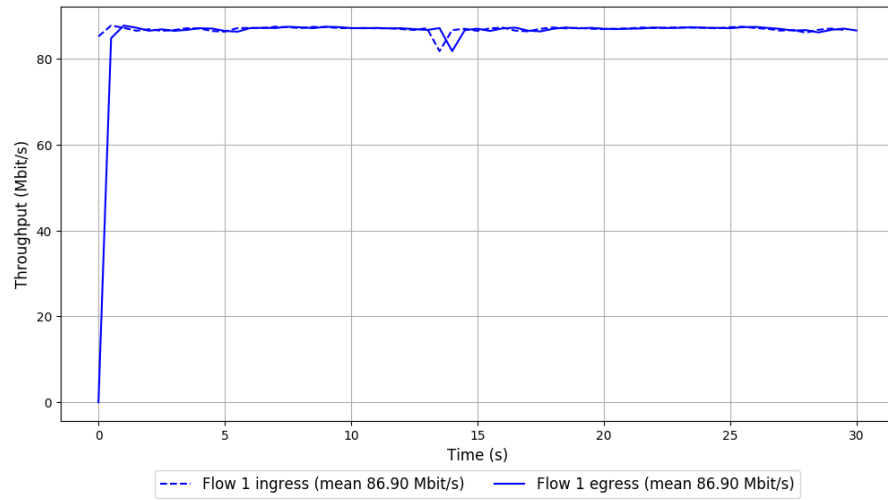
-- Flow 1:

Average throughput: 86.90 Mbit/s

95th percentile per-packet one-way delay: 2.453 ms

Loss rate: 0.01%

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

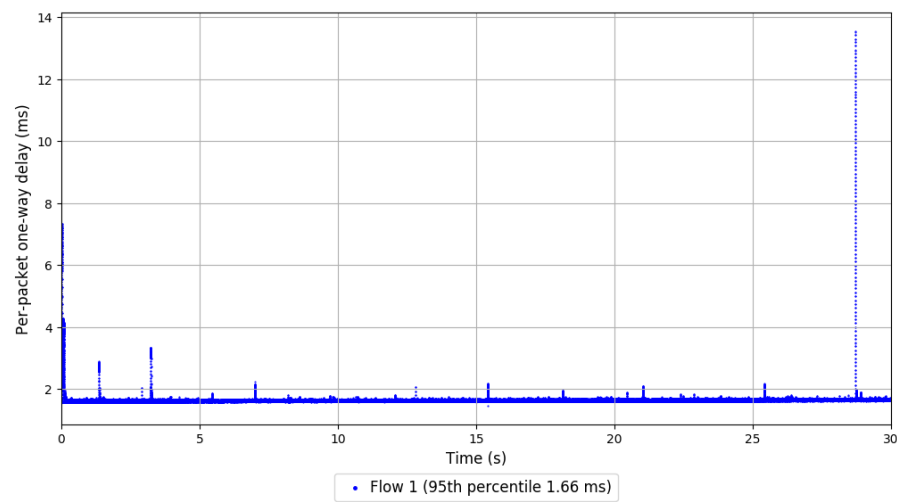
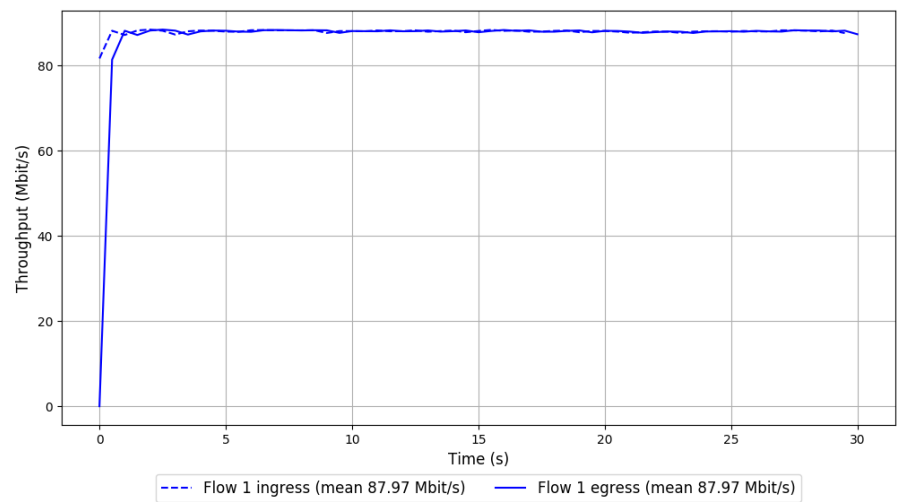


Run 2: Statistics of TaoVA-100x

Start at: 2019-01-03 05:19:12
End at: 2019-01-03 05:19:42
Local clock offset: -11.476 ms
Remote clock offset: 0.187 ms

Below is generated by plot.py at 2019-01-03 06:46:16
Datalink statistics
-- Total of 1 flow:
Average throughput: 87.97 Mbit/s
95th percentile per-packet one-way delay: 1.663 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 87.97 Mbit/s
95th percentile per-packet one-way delay: 1.663 ms
Loss rate: 0.01%

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



Run 3: Statistics of TaoVA-100x

Start at: 2019-01-03 05:40:43

End at: 2019-01-03 05:41:13

Local clock offset: -2.812 ms

Remote clock offset: 0.386 ms

Below is generated by plot.py at 2019-01-03 06:46:16

Datalink statistics

-- Total of 1 flow:

Average throughput: 86.59 Mbit/s

95th percentile per-packet one-way delay: 1.431 ms

Loss rate: 0.01%

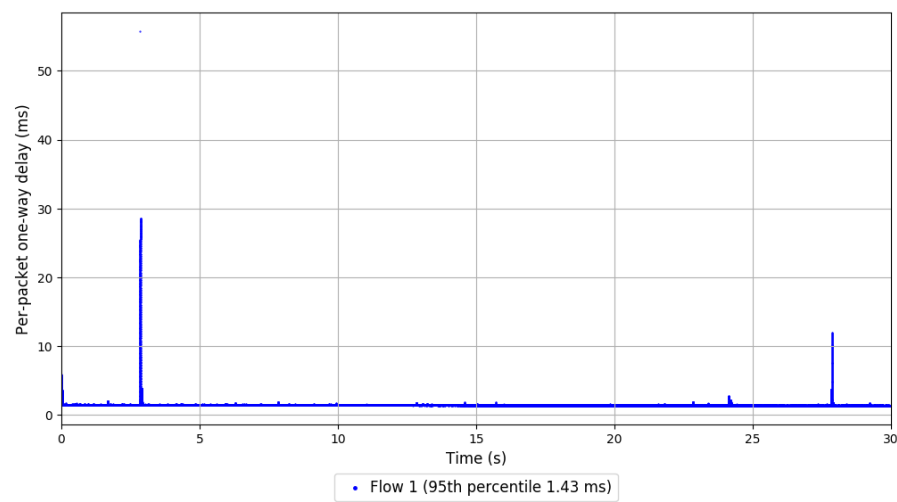
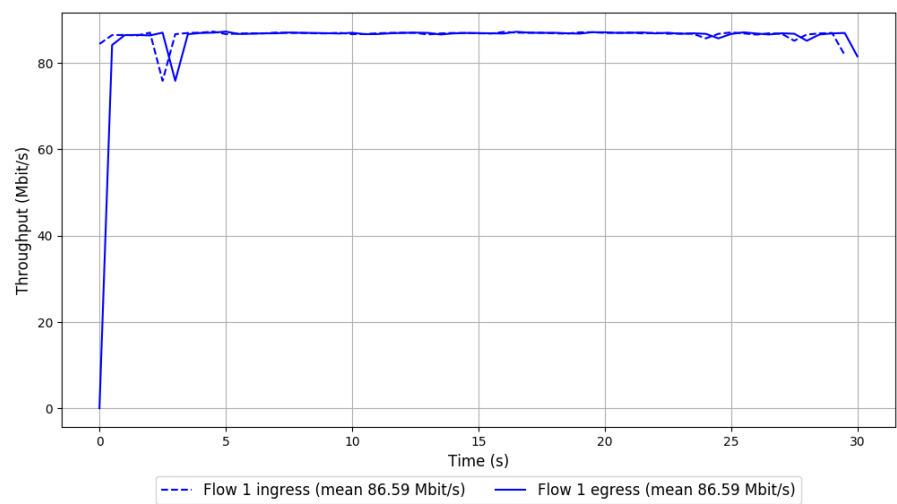
-- Flow 1:

Average throughput: 86.59 Mbit/s

95th percentile per-packet one-way delay: 1.431 ms

Loss rate: 0.01%

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



Run 4: Statistics of TaoVA-100x

Start at: 2019-01-03 06:02:08

End at: 2019-01-03 06:02:38

Local clock offset: -2.02 ms

Remote clock offset: 0.481 ms

Below is generated by plot.py at 2019-01-03 06:46:27

Datalink statistics

-- Total of 1 flow:

Average throughput: 88.08 Mbit/s

95th percentile per-packet one-way delay: 1.798 ms

Loss rate: 0.01%

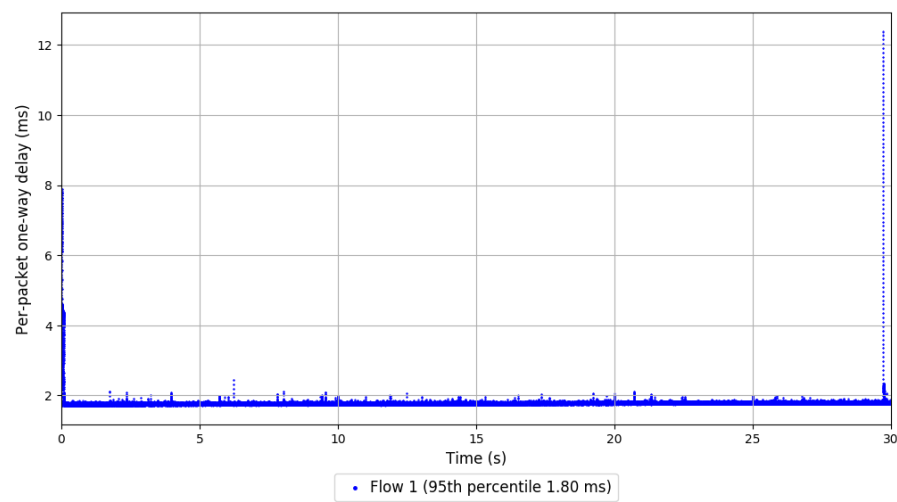
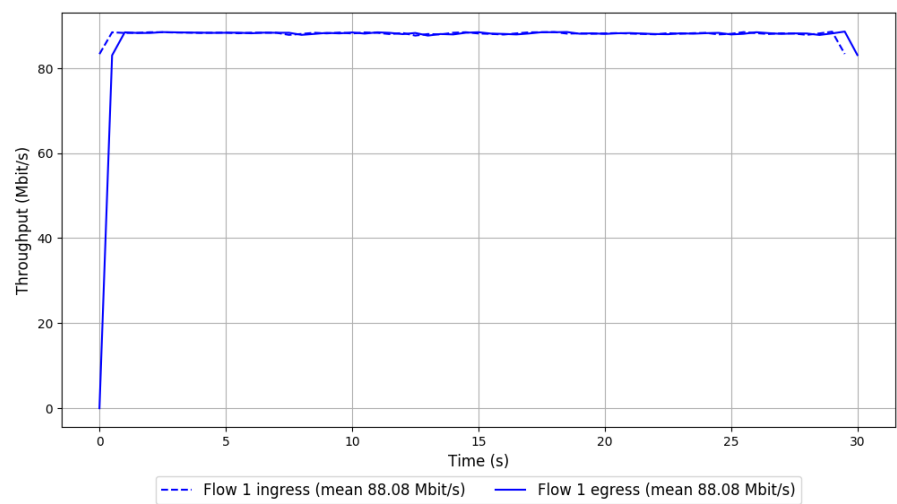
-- Flow 1:

Average throughput: 88.08 Mbit/s

95th percentile per-packet one-way delay: 1.798 ms

Loss rate: 0.01%

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



Run 5: Statistics of TaoVA-100x

Start at: 2019-01-03 06:23:37

End at: 2019-01-03 06:24:07

Local clock offset: -2.266 ms

Remote clock offset: 0.636 ms

Below is generated by plot.py at 2019-01-03 06:46:29

Datalink statistics

-- Total of 1 flow:

Average throughput: 88.14 Mbit/s

95th percentile per-packet one-way delay: 1.662 ms

Loss rate: 0.01%

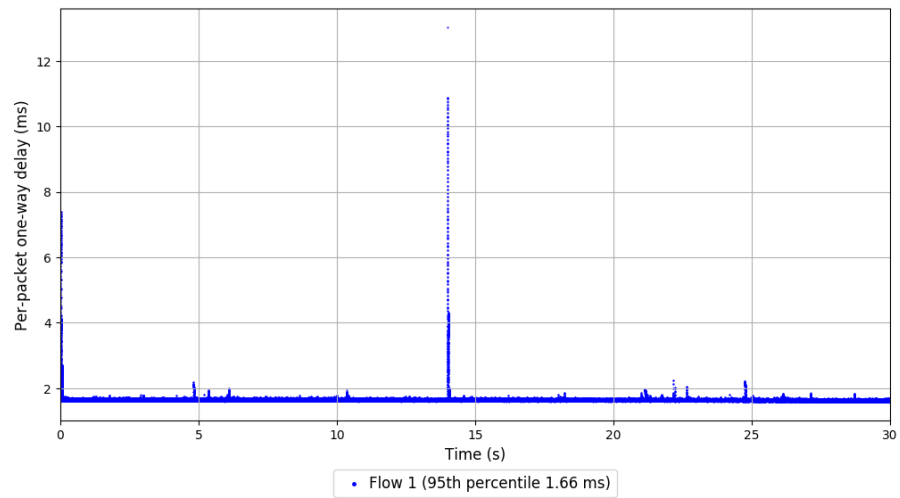
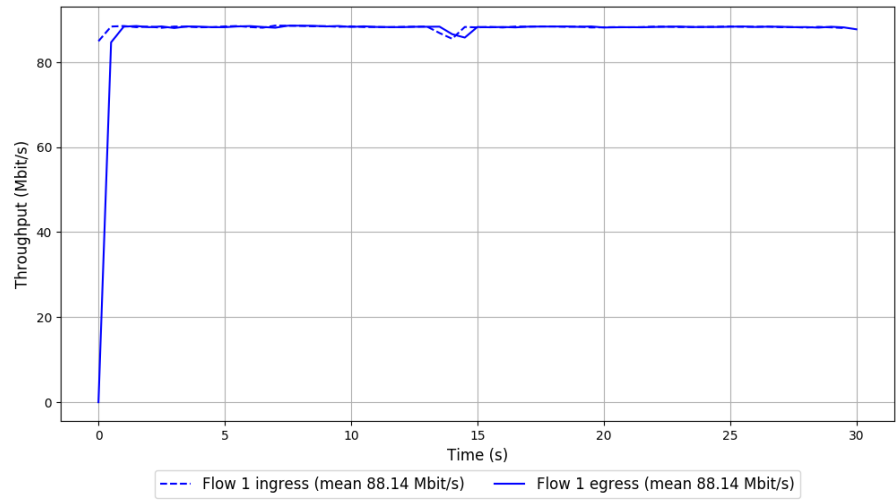
-- Flow 1:

Average throughput: 88.14 Mbit/s

95th percentile per-packet one-way delay: 1.662 ms

Loss rate: 0.01%

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



Run 1: Statistics of TCP Vegas

Start at: 2019-01-03 04:52:09
End at: 2019-01-03 04:52:39
Local clock offset: -9.239 ms
Remote clock offset: -0.093 ms

Below is generated by plot.py at 2019-01-03 06:46:29

Datalink statistics

-- Total of 1 flow:

Average throughput: 97.06 Mbit/s

95th percentile per-packet one-way delay: 2.864 ms

Loss rate: 0.01%

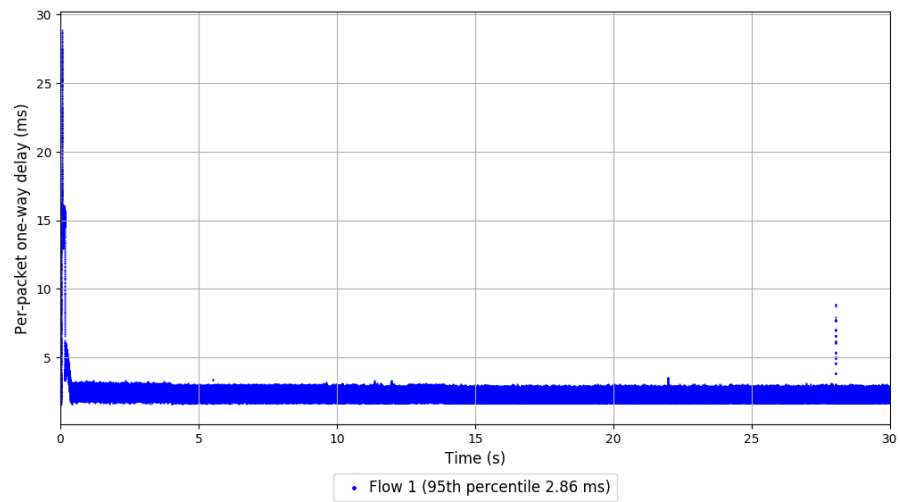
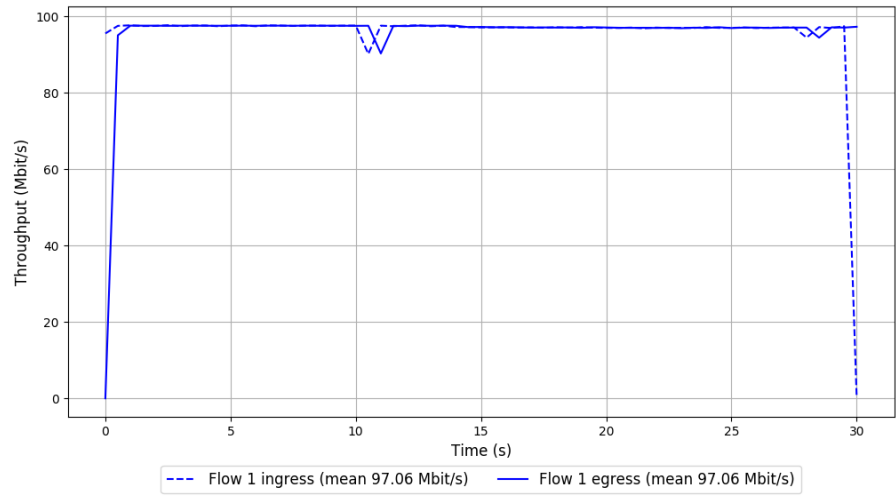
-- Flow 1:

Average throughput: 97.06 Mbit/s

95th percentile per-packet one-way delay: 2.864 ms

Loss rate: 0.01%

Run 1: Report of TCP Vegas — Data Link

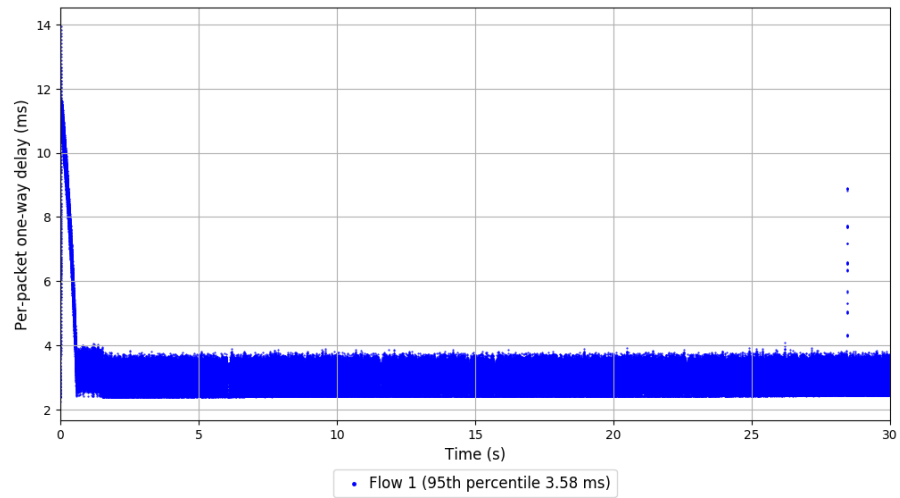
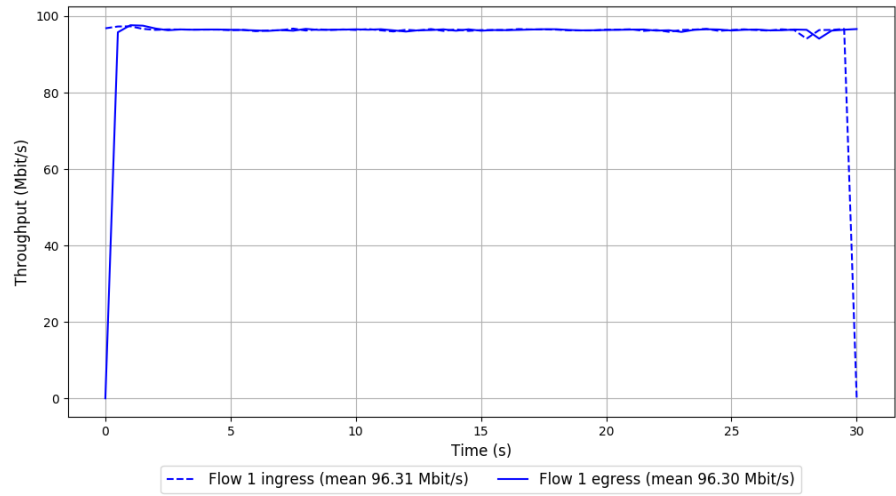


Run 2: Statistics of TCP Vegas

Start at: 2019-01-03 05:13:39
End at: 2019-01-03 05:14:09
Local clock offset: -10.282 ms
Remote clock offset: 0.124 ms

Below is generated by plot.py at 2019-01-03 06:46:29
Datalink statistics
-- Total of 1 flow:
Average throughput: 96.30 Mbit/s
95th percentile per-packet one-way delay: 3.583 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 96.30 Mbit/s
95th percentile per-packet one-way delay: 3.583 ms
Loss rate: 0.01%

Run 2: Report of TCP Vegas — Data Link

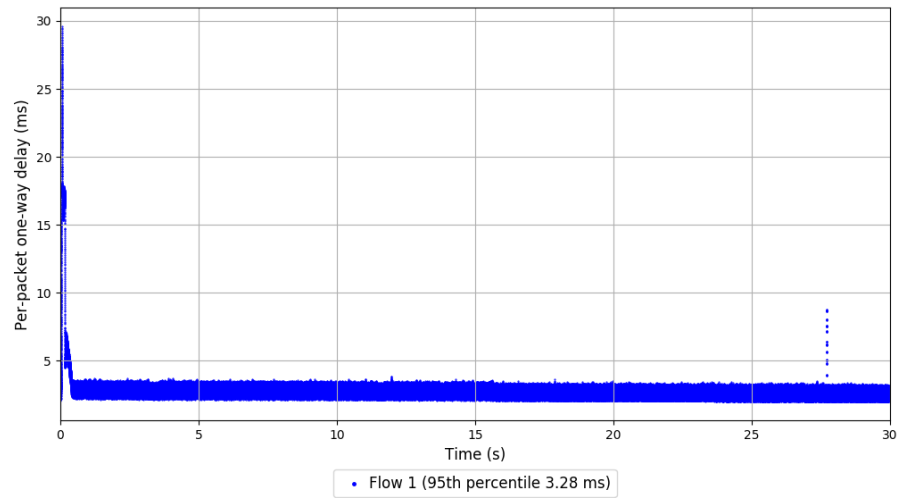
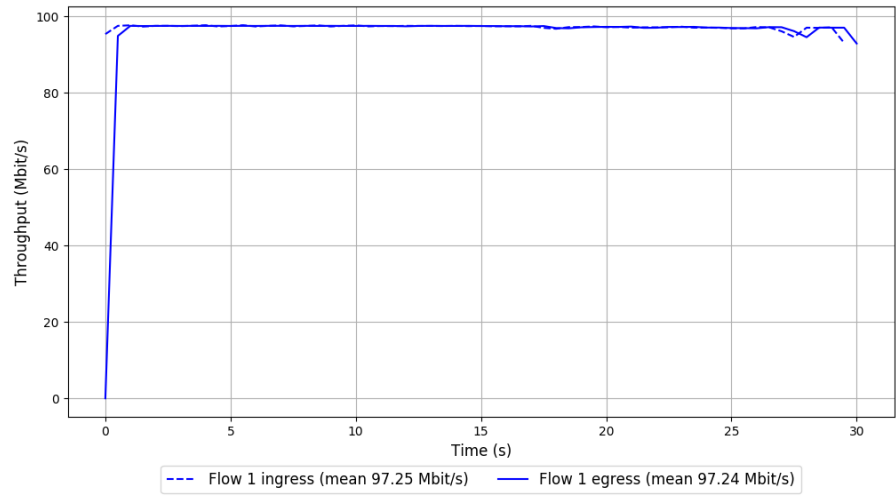


Run 3: Statistics of TCP Vegas

Start at: 2019-01-03 05:35:10
End at: 2019-01-03 05:35:40
Local clock offset: -3.774 ms
Remote clock offset: 0.345 ms

Below is generated by plot.py at 2019-01-03 06:46:29
Datalink statistics
-- Total of 1 flow:
Average throughput: 97.24 Mbit/s
95th percentile per-packet one-way delay: 3.276 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 97.24 Mbit/s
95th percentile per-packet one-way delay: 3.276 ms
Loss rate: 0.01%

Run 3: Report of TCP Vegas — Data Link



Run 4: Statistics of TCP Vegas

Start at: 2019-01-03 05:56:36

End at: 2019-01-03 05:57:06

Local clock offset: -1.124 ms

Remote clock offset: 0.455 ms

Below is generated by plot.py at 2019-01-03 06:46:51

Datalink statistics

-- Total of 1 flow:

Average throughput: 97.00 Mbit/s

95th percentile per-packet one-way delay: 2.919 ms

Loss rate: 0.01%

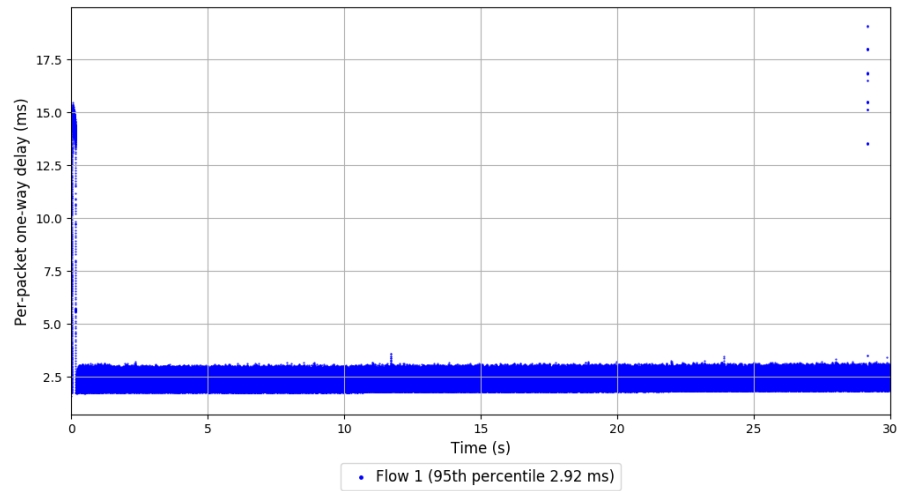
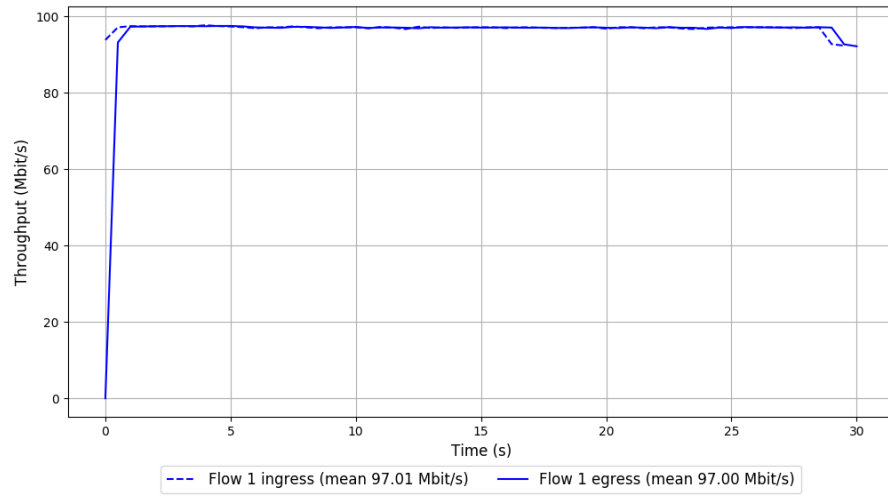
-- Flow 1:

Average throughput: 97.00 Mbit/s

95th percentile per-packet one-way delay: 2.919 ms

Loss rate: 0.01%

Run 4: Report of TCP Vegas — Data Link



Run 5: Statistics of TCP Vegas

Start at: 2019-01-03 06:18:04

End at: 2019-01-03 06:18:34

Local clock offset: -1.661 ms

Remote clock offset: 0.642 ms

Below is generated by plot.py at 2019-01-03 06:46:54

Datalink statistics

-- Total of 1 flow:

Average throughput: 97.43 Mbit/s

95th percentile per-packet one-way delay: 3.780 ms

Loss rate: 0.02%

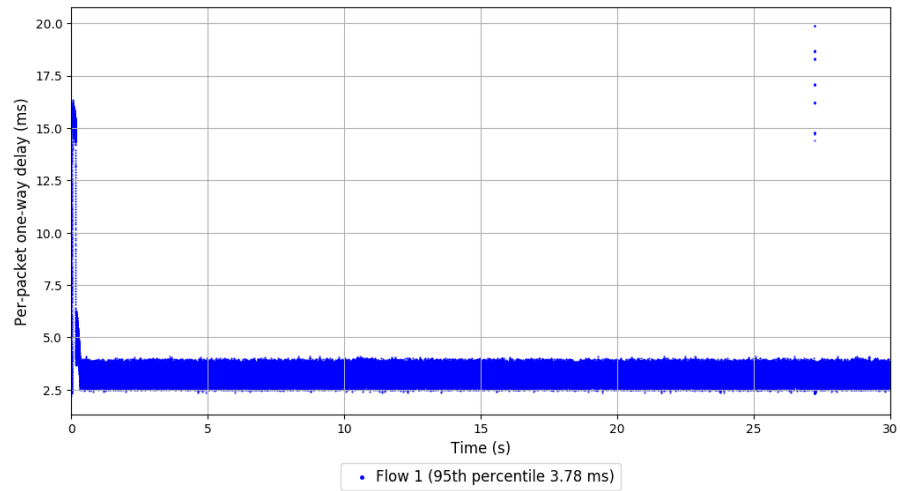
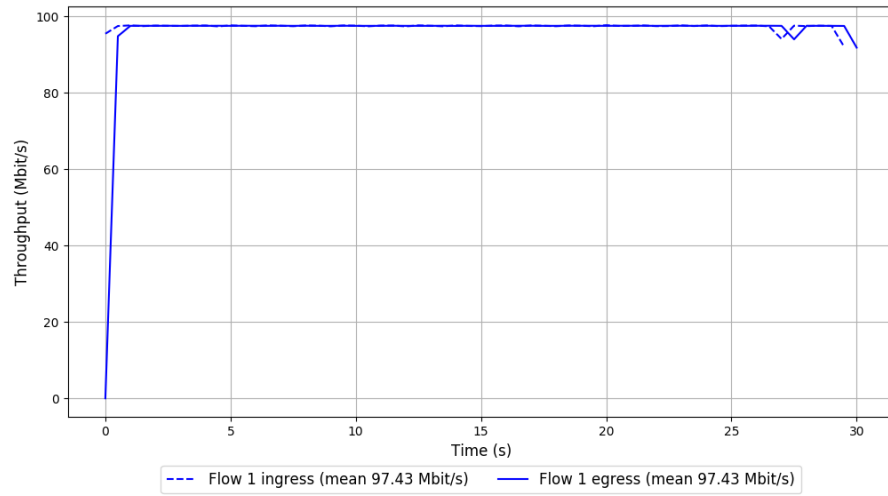
-- Flow 1:

Average throughput: 97.43 Mbit/s

95th percentile per-packet one-way delay: 3.780 ms

Loss rate: 0.02%

Run 5: Report of TCP Vegas — Data Link

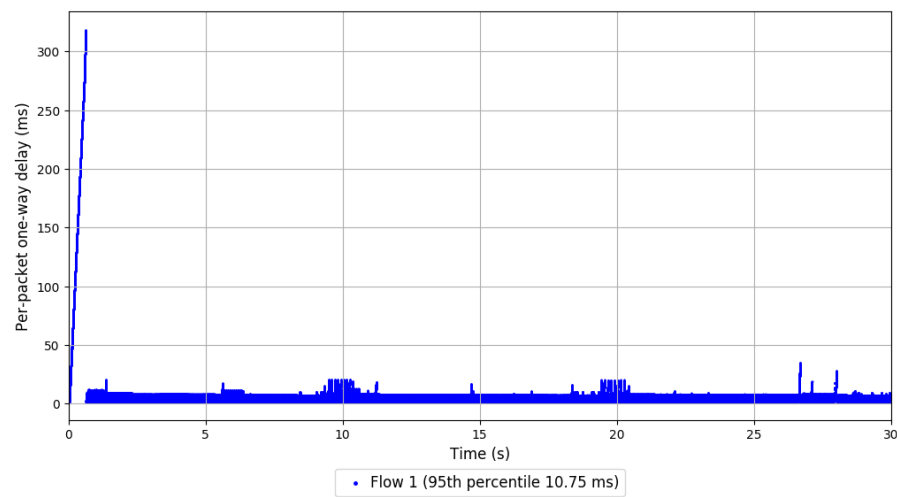
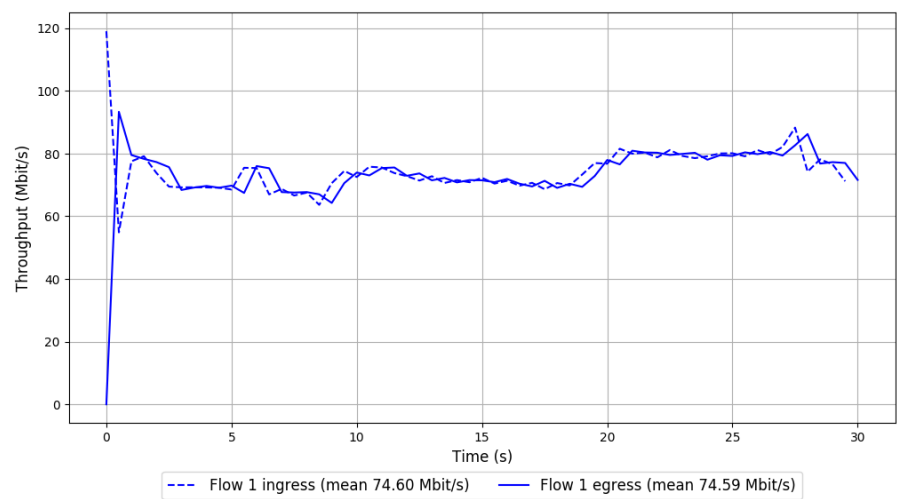


Run 1: Statistics of Verus

Start at: 2019-01-03 04:48:44
End at: 2019-01-03 04:49:14
Local clock offset: -8.876 ms
Remote clock offset: -0.275 ms

Below is generated by plot.py at 2019-01-03 06:46:54
Datalink statistics
-- Total of 1 flow:
Average throughput: 74.59 Mbit/s
95th percentile per-packet one-way delay: 10.747 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 74.59 Mbit/s
95th percentile per-packet one-way delay: 10.747 ms
Loss rate: 0.01%

Run 1: Report of Verus — Data Link

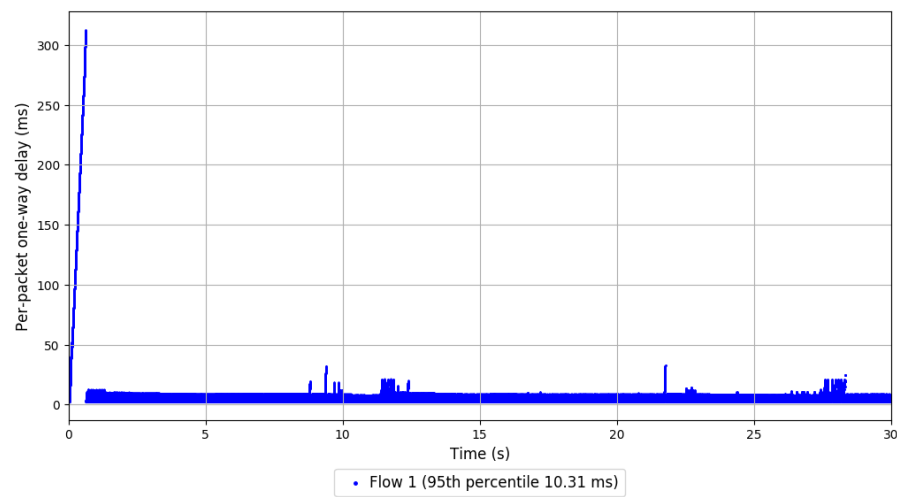
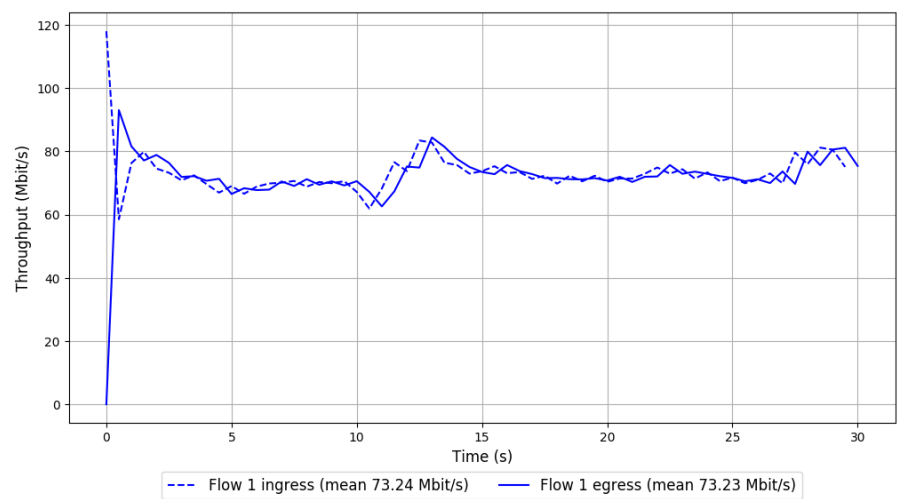


Run 2: Statistics of Verus

Start at: 2019-01-03 05:10:15
End at: 2019-01-03 05:10:45
Local clock offset: -10.017 ms
Remote clock offset: 0.045 ms

Below is generated by plot.py at 2019-01-03 06:47:00
Datalink statistics
-- Total of 1 flow:
Average throughput: 73.23 Mbit/s
95th percentile per-packet one-way delay: 10.310 ms
Loss rate: 0.02%
-- Flow 1:
Average throughput: 73.23 Mbit/s
95th percentile per-packet one-way delay: 10.310 ms
Loss rate: 0.02%

Run 2: Report of Verus — Data Link



Run 3: Statistics of Verus

Start at: 2019-01-03 05:31:46

End at: 2019-01-03 05:32:16

Local clock offset: -5.306 ms

Remote clock offset: 0.26 ms

Below is generated by plot.py at 2019-01-03 06:47:15

Datalink statistics

-- Total of 1 flow:

Average throughput: 78.61 Mbit/s

95th percentile per-packet one-way delay: 13.547 ms

Loss rate: 0.03%

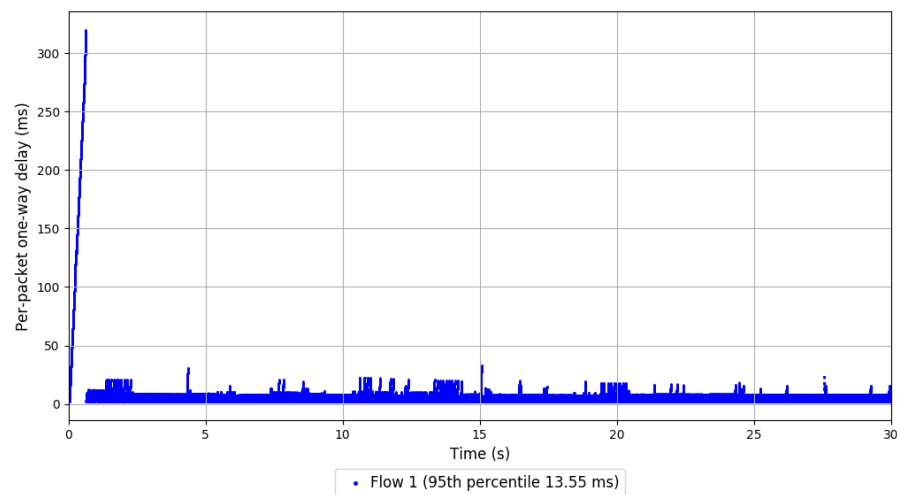
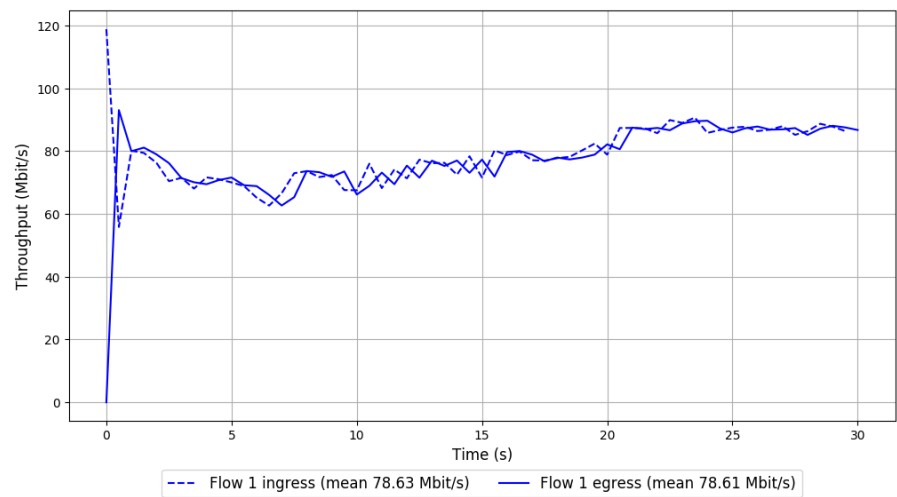
-- Flow 1:

Average throughput: 78.61 Mbit/s

95th percentile per-packet one-way delay: 13.547 ms

Loss rate: 0.03%

Run 3: Report of Verus — Data Link



Run 4: Statistics of Verus

Start at: 2019-01-03 05:53:13

End at: 2019-01-03 05:53:43

Local clock offset: 0.138 ms

Remote clock offset: 0.469 ms

Below is generated by plot.py at 2019-01-03 06:47:15

Datalink statistics

-- Total of 1 flow:

Average throughput: 48.25 Mbit/s

95th percentile per-packet one-way delay: 12.952 ms

Loss rate: 0.22%

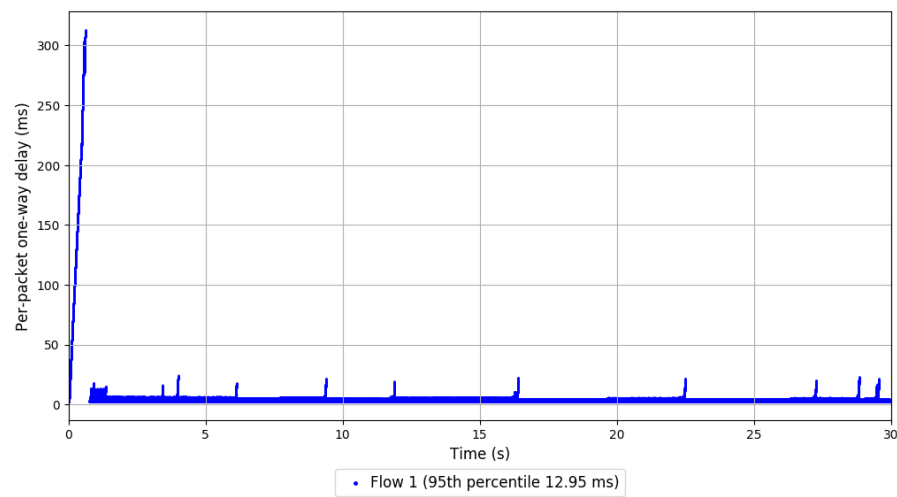
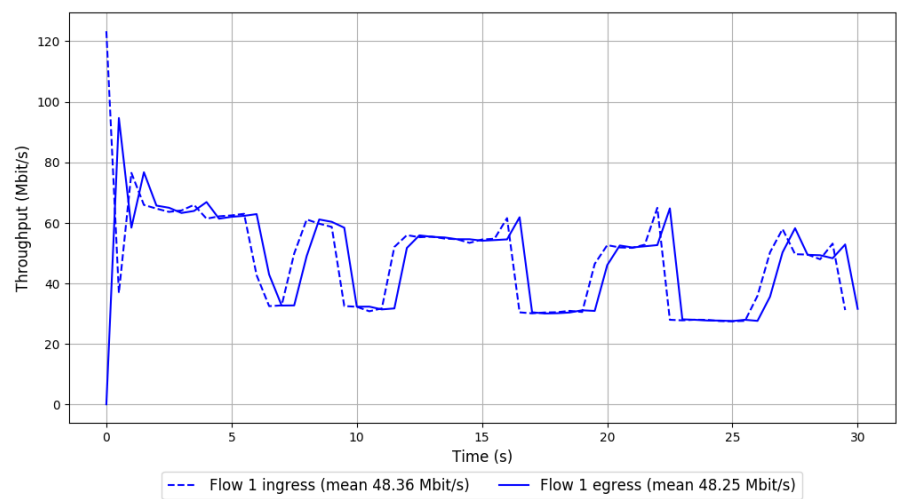
-- Flow 1:

Average throughput: 48.25 Mbit/s

95th percentile per-packet one-way delay: 12.952 ms

Loss rate: 0.22%

Run 4: Report of Verus — Data Link



Run 5: Statistics of Verus

Start at: 2019-01-03 06:14:39

End at: 2019-01-03 06:15:09

Local clock offset: -1.747 ms

Remote clock offset: 0.491 ms

Below is generated by plot.py at 2019-01-03 06:47:21

Datalink statistics

-- Total of 1 flow:

Average throughput: 77.47 Mbit/s

95th percentile per-packet one-way delay: 14.154 ms

Loss rate: 0.02%

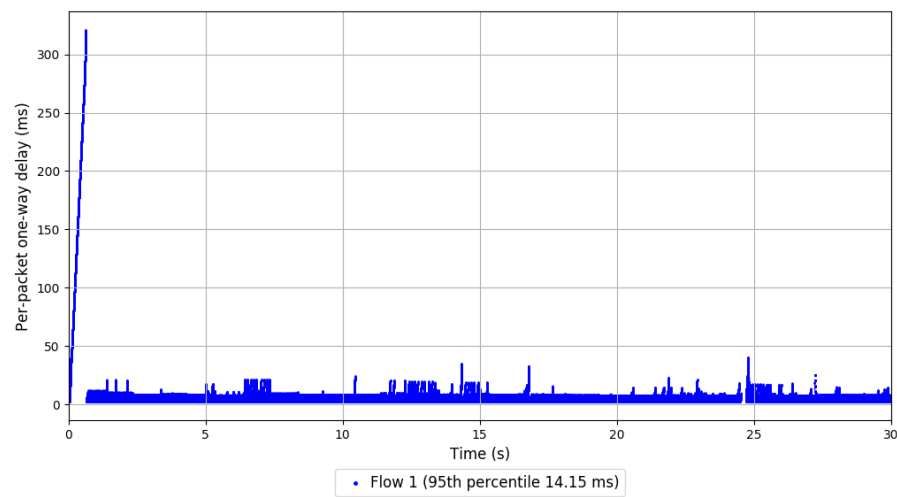
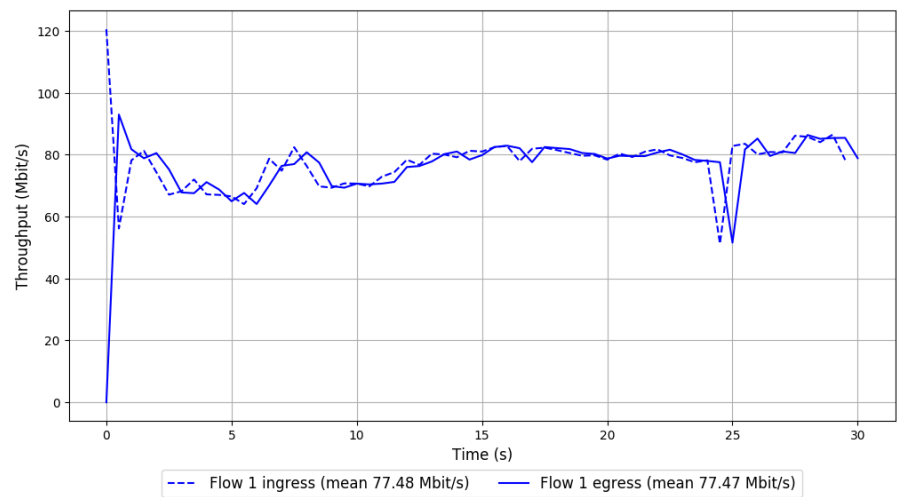
-- Flow 1:

Average throughput: 77.47 Mbit/s

95th percentile per-packet one-way delay: 14.154 ms

Loss rate: 0.02%

Run 5: Report of Verus — Data Link

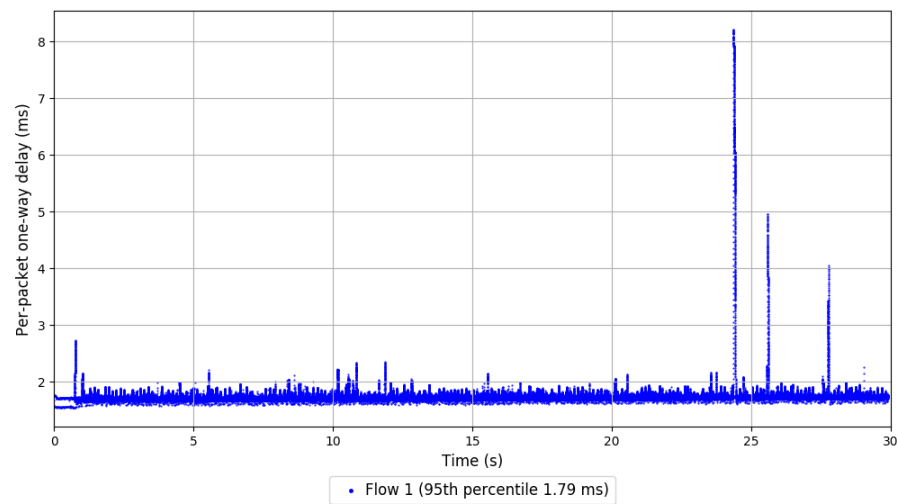
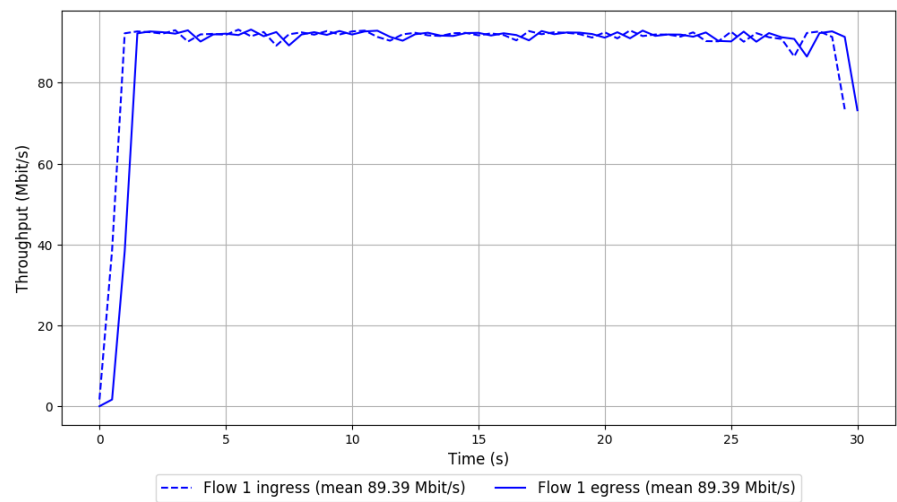


Run 1: Statistics of PCC-Vivace

Start at: 2019-01-03 05:02:16
End at: 2019-01-03 05:02:46
Local clock offset: -10.146 ms
Remote clock offset: -0.059 ms

Below is generated by plot.py at 2019-01-03 06:47:27
Datalink statistics
-- Total of 1 flow:
Average throughput: 89.39 Mbit/s
95th percentile per-packet one-way delay: 1.791 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 89.39 Mbit/s
95th percentile per-packet one-way delay: 1.791 ms
Loss rate: 0.01%

Run 1: Report of PCC-Vivace — Data Link

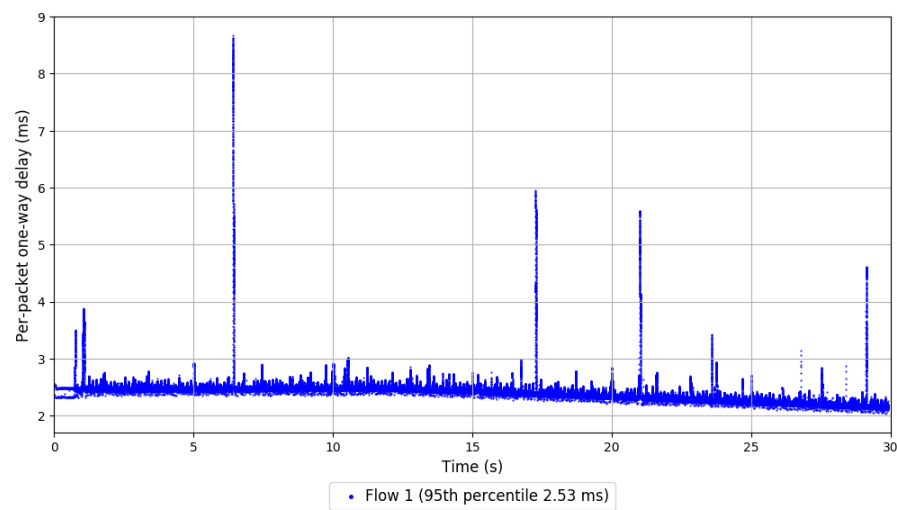
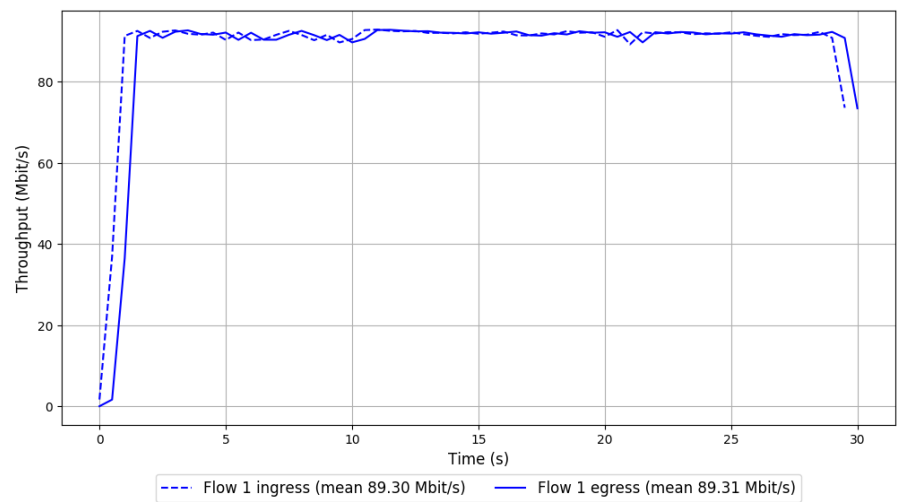


Run 2: Statistics of PCC-Vivace

Start at: 2019-01-03 05:23:46
End at: 2019-01-03 05:24:16
Local clock offset: -11.053 ms
Remote clock offset: 0.119 ms

Below is generated by plot.py at 2019-01-03 06:47:30
Datalink statistics
-- Total of 1 flow:
Average throughput: 89.31 Mbit/s
95th percentile per-packet one-way delay: 2.526 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 89.31 Mbit/s
95th percentile per-packet one-way delay: 2.526 ms
Loss rate: 0.01%

Run 2: Report of PCC-Vivace — Data Link



Run 3: Statistics of PCC-Vivace

Start at: 2019-01-03 05:45:18

End at: 2019-01-03 05:45:48

Local clock offset: -1.03 ms

Remote clock offset: 0.294 ms

Below is generated by plot.py at 2019-01-03 06:47:30

Datalink statistics

-- Total of 1 flow:

Average throughput: 18.31 Mbit/s

95th percentile per-packet one-way delay: 2.412 ms

Loss rate: 0.01%

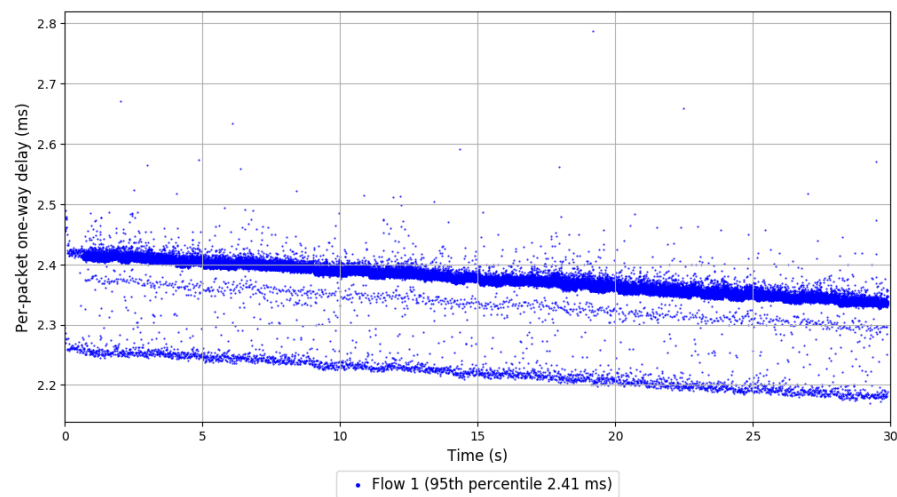
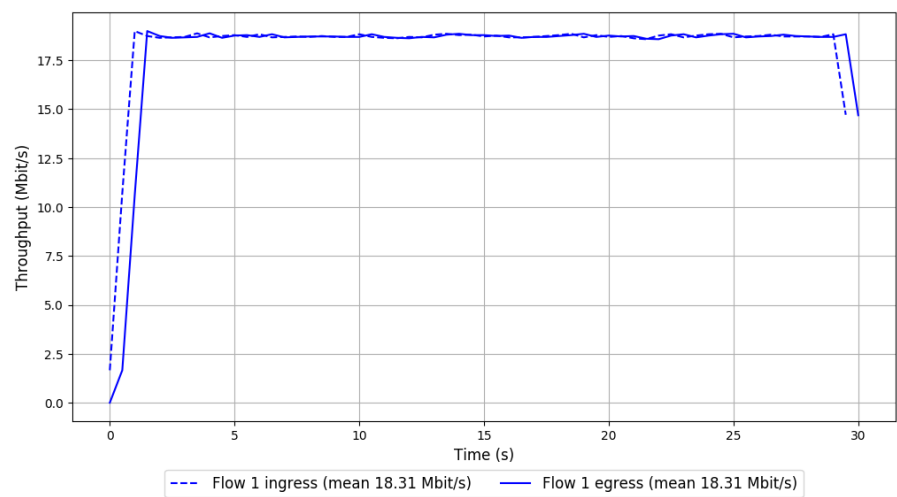
-- Flow 1:

Average throughput: 18.31 Mbit/s

95th percentile per-packet one-way delay: 2.412 ms

Loss rate: 0.01%

Run 3: Report of PCC-Vivace — Data Link



Run 4: Statistics of PCC-Vivace

Start at: 2019-01-03 06:06:43

End at: 2019-01-03 06:07:13

Local clock offset: -1.653 ms

Remote clock offset: 0.584 ms

Below is generated by plot.py at 2019-01-03 06:47:30

Datalink statistics

-- Total of 1 flow:

Average throughput: 28.29 Mbit/s

95th percentile per-packet one-way delay: 2.340 ms

Loss rate: 0.04%

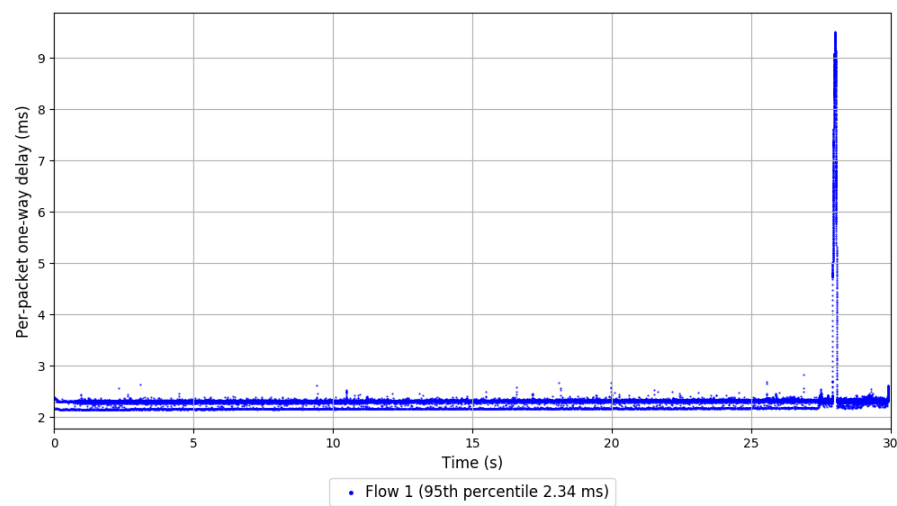
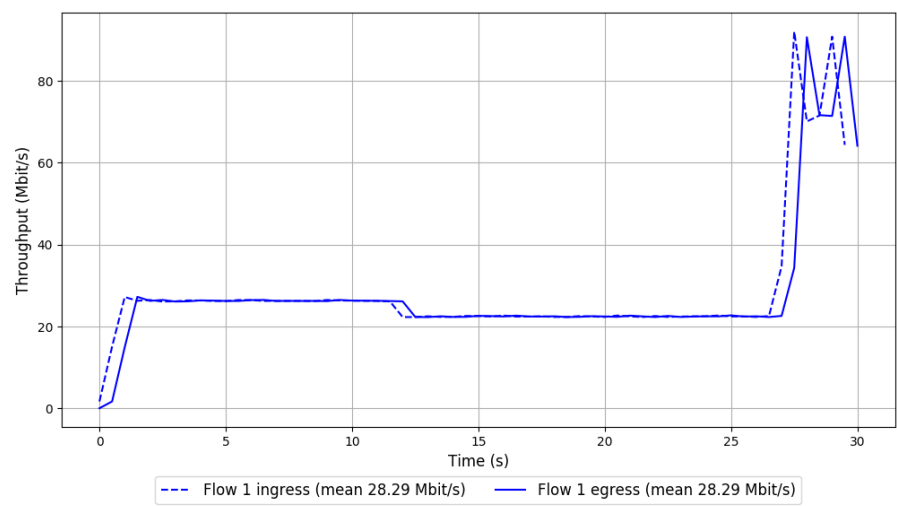
-- Flow 1:

Average throughput: 28.29 Mbit/s

95th percentile per-packet one-way delay: 2.340 ms

Loss rate: 0.04%

Run 4: Report of PCC-Vivace — Data Link



Run 5: Statistics of PCC-Vivace

Start at: 2019-01-03 06:28:11

End at: 2019-01-03 06:28:41

Local clock offset: -1.188 ms

Remote clock offset: 0.642 ms

Below is generated by plot.py at 2019-01-03 06:47:31

Datalink statistics

-- Total of 1 flow:

Average throughput: 89.35 Mbit/s

95th percentile per-packet one-way delay: 2.451 ms

Loss rate: 0.01%

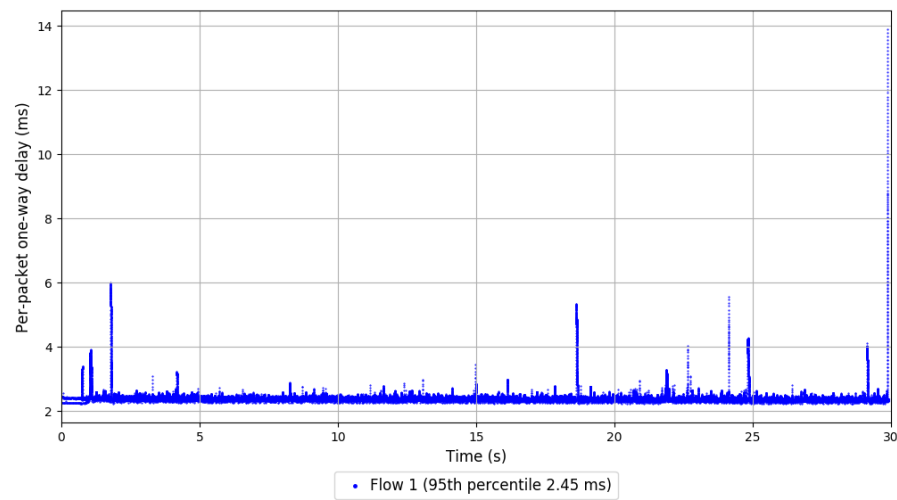
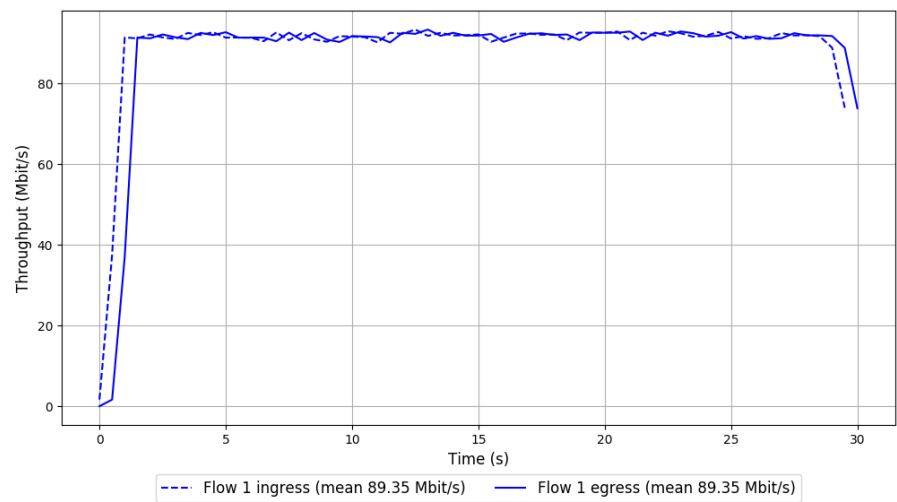
-- Flow 1:

Average throughput: 89.35 Mbit/s

95th percentile per-packet one-way delay: 2.451 ms

Loss rate: 0.01%

Run 5: Report of PCC-Vivace — Data Link

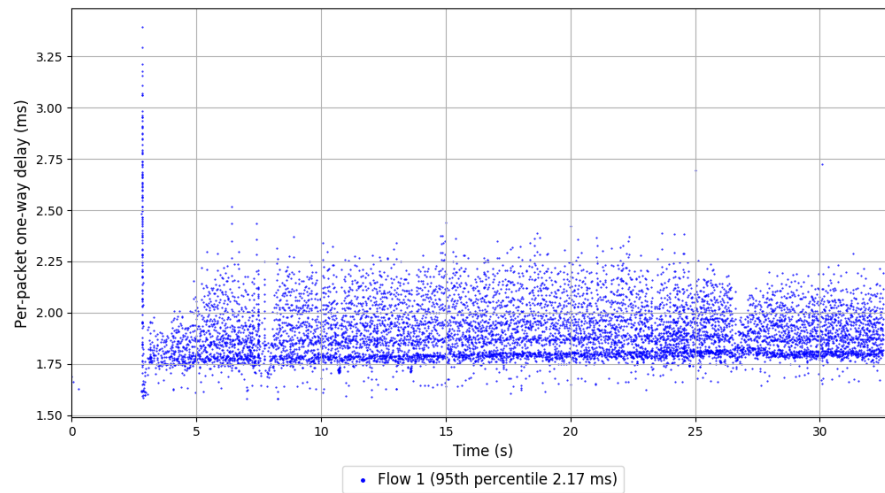
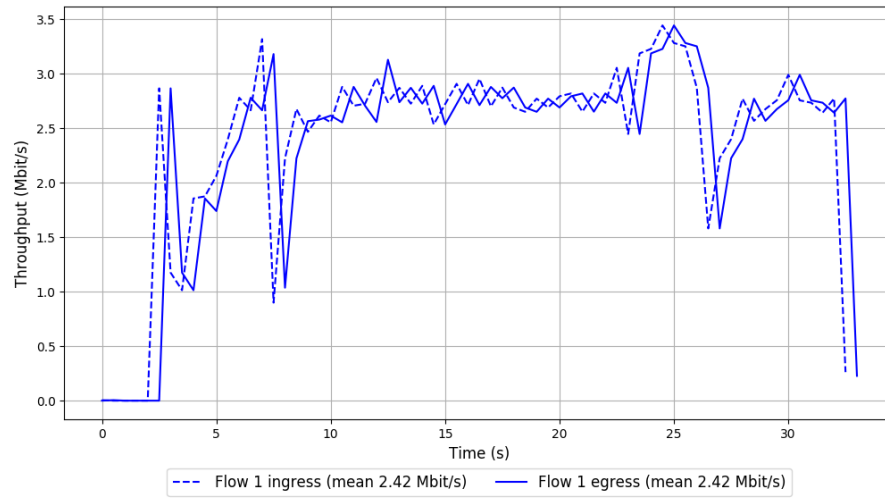


Run 1: Statistics of WebRTC media

Start at: 2019-01-03 04:56:37
End at: 2019-01-03 04:57:07
Local clock offset: -9.663 ms
Remote clock offset: -0.147 ms

Below is generated by plot.py at 2019-01-03 06:47:31
Datalink statistics
-- Total of 1 flow:
Average throughput: 2.42 Mbit/s
95th percentile per-packet one-way delay: 2.170 ms
Loss rate: 0.02%
-- Flow 1:
Average throughput: 2.42 Mbit/s
95th percentile per-packet one-way delay: 2.170 ms
Loss rate: 0.02%

Run 1: Report of WebRTC media — Data Link



Run 2: Statistics of WebRTC media

Start at: 2019-01-03 05:18:07

End at: 2019-01-03 05:18:37

Local clock offset: -10.62 ms

Remote clock offset: 0.049 ms

Below is generated by plot.py at 2019-01-03 06:47:31

Datalink statistics

-- Total of 1 flow:

Average throughput: 2.38 Mbit/s

95th percentile per-packet one-way delay: 3.010 ms

Loss rate: 0.00%

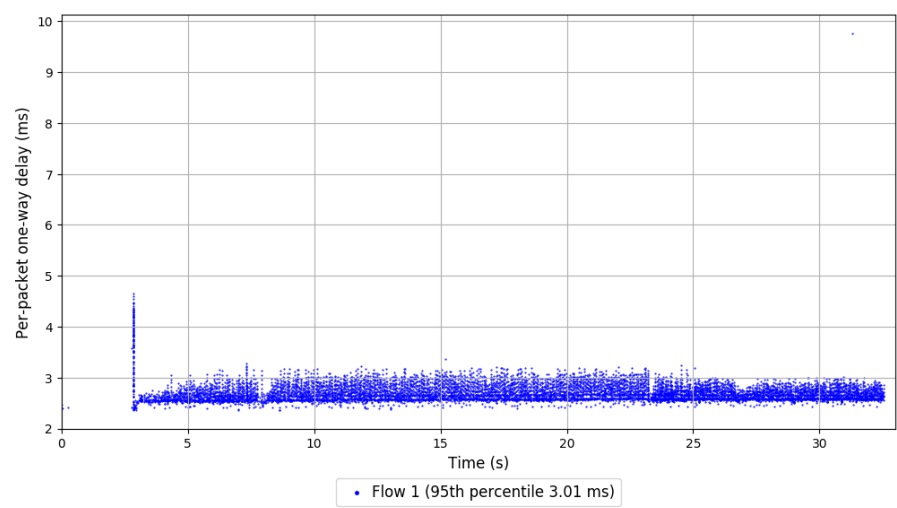
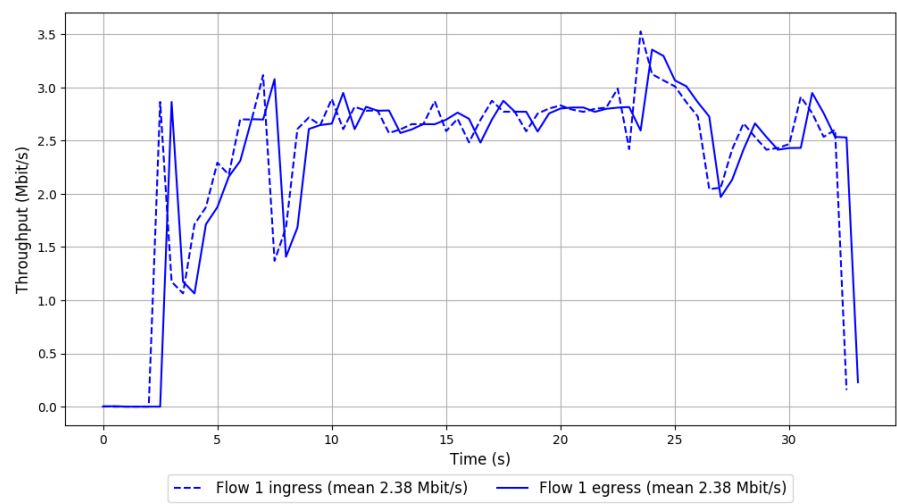
-- Flow 1:

Average throughput: 2.38 Mbit/s

95th percentile per-packet one-way delay: 3.010 ms

Loss rate: 0.00%

Run 2: Report of WebRTC media — Data Link



Run 3: Statistics of WebRTC media

Start at: 2019-01-03 05:39:39

End at: 2019-01-03 05:40:09

Local clock offset: -2.247 ms

Remote clock offset: 0.324 ms

Below is generated by plot.py at 2019-01-03 06:47:31

Datalink statistics

-- Total of 1 flow:

Average throughput: 2.42 Mbit/s

95th percentile per-packet one-way delay: 2.678 ms

Loss rate: 0.00%

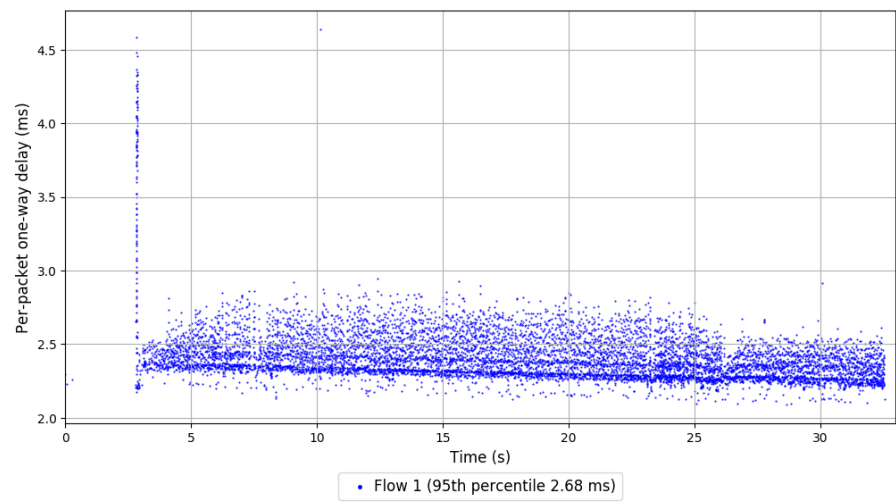
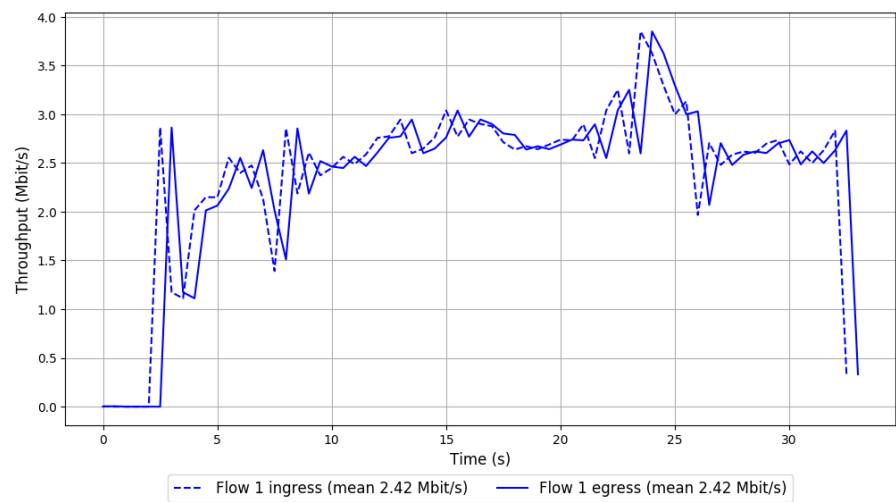
-- Flow 1:

Average throughput: 2.42 Mbit/s

95th percentile per-packet one-way delay: 2.678 ms

Loss rate: 0.00%

Run 3: Report of WebRTC media — Data Link



Run 4: Statistics of WebRTC media

Start at: 2019-01-03 06:01:04

End at: 2019-01-03 06:01:34

Local clock offset: -1.144 ms

Remote clock offset: 0.42 ms

Below is generated by plot.py at 2019-01-03 06:47:31

Datalink statistics

-- Total of 1 flow:

Average throughput: 2.33 Mbit/s

95th percentile per-packet one-way delay: 3.000 ms

Loss rate: 0.01%

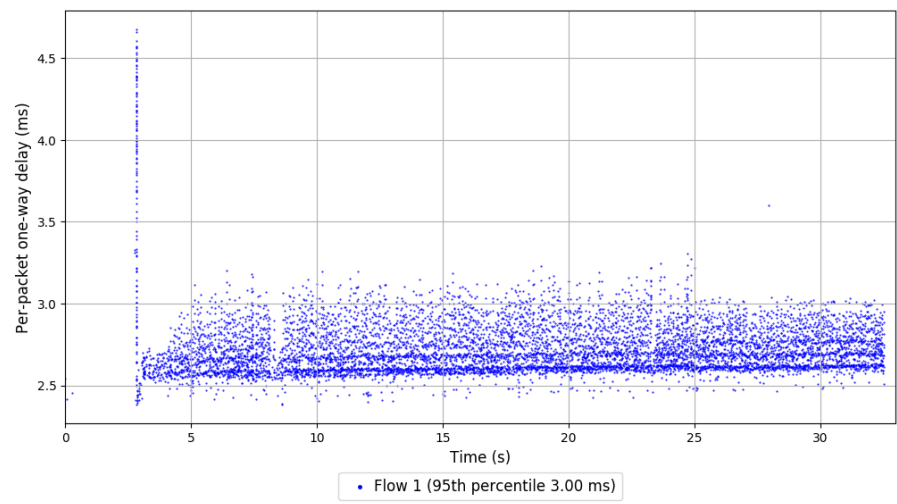
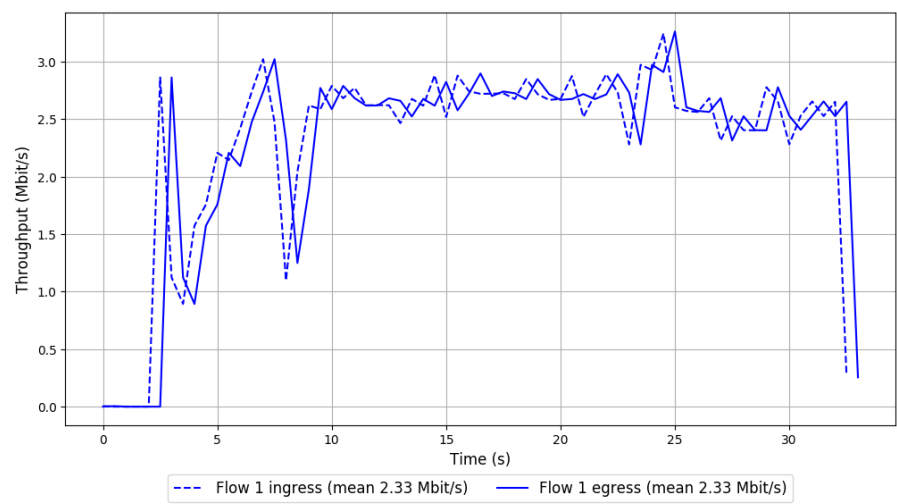
-- Flow 1:

Average throughput: 2.33 Mbit/s

95th percentile per-packet one-way delay: 3.000 ms

Loss rate: 0.01%

Run 4: Report of WebRTC media — Data Link



Run 5: Statistics of WebRTC media

Start at: 2019-01-03 06:22:32

End at: 2019-01-03 06:23:02

Local clock offset: -1.553 ms

Remote clock offset: 0.674 ms

Below is generated by plot.py at 2019-01-03 06:47:31

Datalink statistics

-- Total of 1 flow:

Average throughput: 2.35 Mbit/s

95th percentile per-packet one-way delay: 2.817 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 2.35 Mbit/s

95th percentile per-packet one-way delay: 2.817 ms

Loss rate: 0.00%

Run 5: Report of WebRTC media — Data Link

