

Pantheon Report

Generated at 2018-09-11 09:02:51 (UTC).

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

Repeated the test of 18 congestion control schemes 5 times.

Each test lasted for 30 seconds running 1 flow.

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

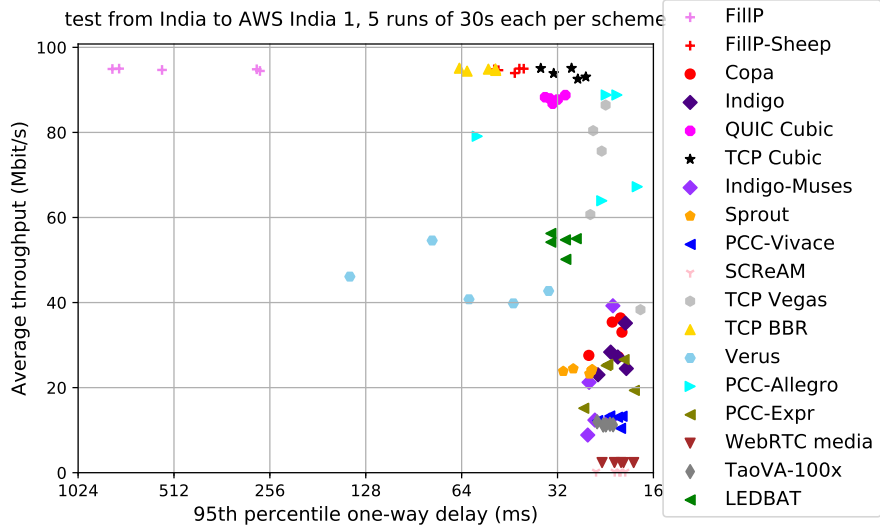
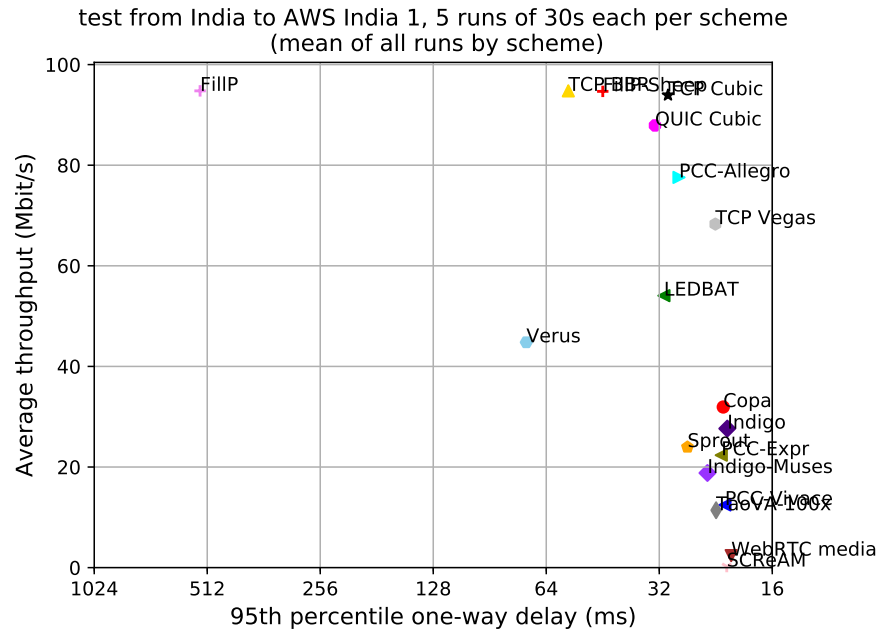
System info:

```
Linux 4.15.0-1020-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
net.ipv4.tcp_mem = 184101 245469 368202
```

Git summary:

```
branch: muses @ f30bceca2aec2ef14a3cf71e25642f4a30905a03
third_party/fillp @ d47f4fa1b454a5e3c0537115c5a28436dbd4b834
third_party/fillp-sheep @ daed0c84f98531712514b2231f43ec6901114ffe
third_party/genericCC @ d0153f8e594aa89e93b032143cedbdf58e562f4
third_party/indigo @ 2601c92e4aa9d58d38dc4dfe0ecd90c077e64d
third_party/libutp @ b3465b942e2826f2b179eaab4a906ce6bb7cf3cf
third_party/muses @ 65ac1b19bbefed0c6349ae986009b4fa8643c40a
third_party/pantheon-tunnel @ cbfce6db5ff5740dafa1771f813cd646339e1952
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	94.78	55.89	2.77
Copa	5	31.93	21.61	0.11
TCP Cubic	5	93.93	30.33	0.11
FillP	5	94.78	535.01	3.86
FillP-Sheep	5	94.68	45.25	1.16
Indigo	5	27.65	21.09	0.08
LEDBAT	5	54.07	31.10	0.16
Indigo-Muses	5	18.82	23.81	0.12
PCC-Allegro	5	77.57	28.35	0.14
PCC-Expr	5	22.35	21.88	0.16
QUIC Cubic	5	87.90	32.85	0.11
SCReAM	5	0.22	21.15	0.13
Sprout	5	23.97	26.92	0.10
TaoVA-100x	5	11.41	22.58	0.10
TCP Vegas	5	68.29	22.68	0.10
Verus	5	44.80	72.33	0.22
PCC-Vivace	5	12.46	21.40	0.10
WebRTC media	5	2.38	20.59	0.07

Run 1: Statistics of TCP BBR

Start at: 2018-09-11 07:15:29

End at: 2018-09-11 07:15:59

Local clock offset: 1.447 ms

Remote clock offset: -4.212 ms

Below is generated by plot.py at 2018-09-11 08:56:21

Datalink statistics

-- Total of 1 flow:

Average throughput: 95.10 Mbit/s

95th percentile per-packet one-way delay: 65.045 ms

Loss rate: 2.69%

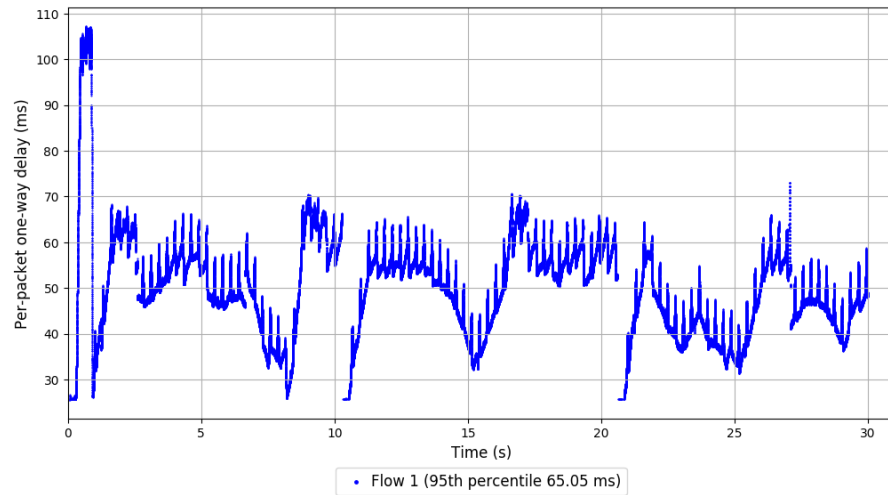
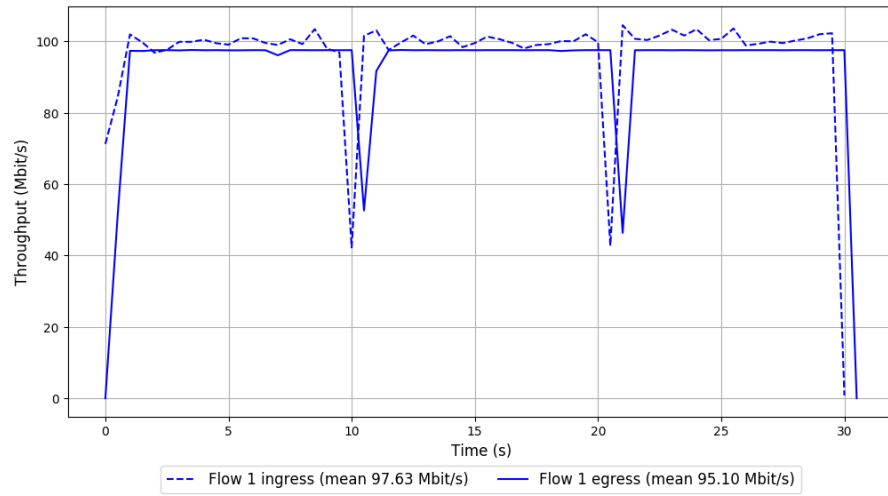
-- Flow 1:

Average throughput: 95.10 Mbit/s

95th percentile per-packet one-way delay: 65.045 ms

Loss rate: 2.69%

Run 1: Report of TCP BBR — Data Link

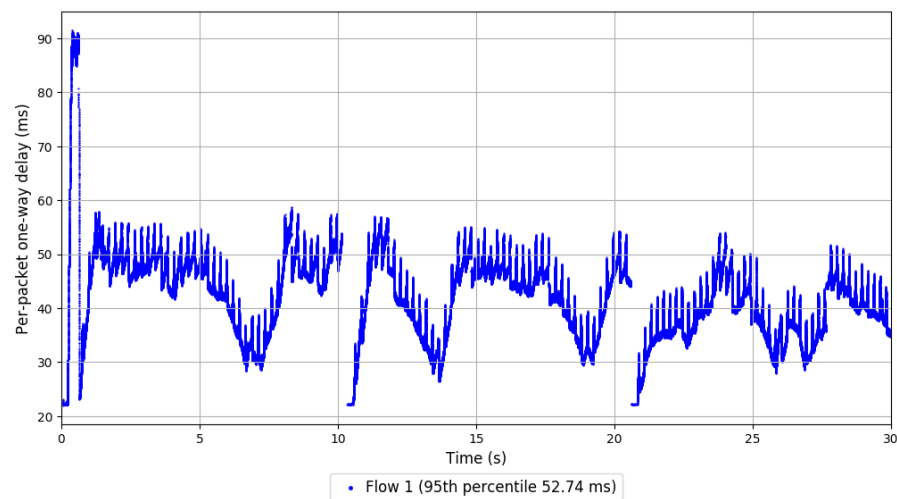
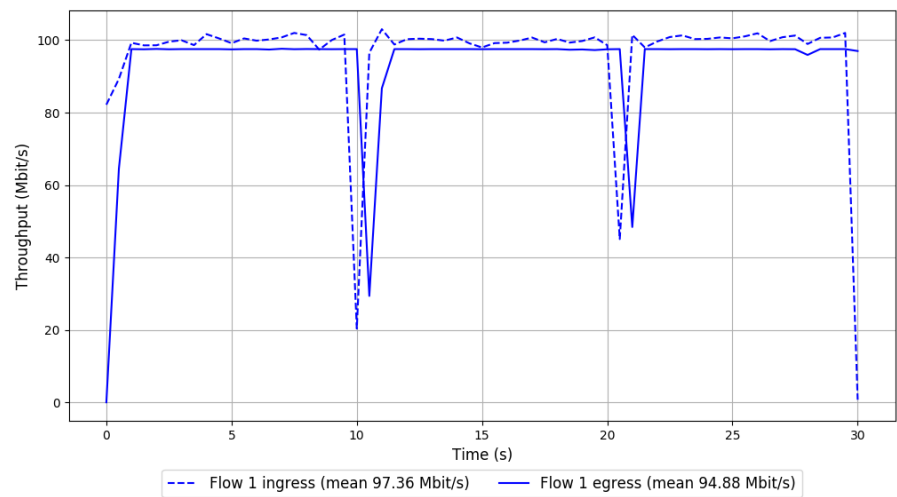


Run 2: Statistics of TCP BBR

Start at: 2018-09-11 07:36:11
End at: 2018-09-11 07:36:41
Local clock offset: 1.468 ms
Remote clock offset: -3.307 ms

Below is generated by plot.py at 2018-09-11 08:56:21
Datalink statistics
-- Total of 1 flow:
Average throughput: 94.88 Mbit/s
95th percentile per-packet one-way delay: 52.745 ms
Loss rate: 2.64%
-- Flow 1:
Average throughput: 94.88 Mbit/s
95th percentile per-packet one-way delay: 52.745 ms
Loss rate: 2.64%

Run 2: Report of TCP BBR — Data Link



Run 3: Statistics of TCP BBR

Start at: 2018-09-11 07:56:43

End at: 2018-09-11 07:57:13

Local clock offset: 1.804 ms

Remote clock offset: -2.993 ms

Below is generated by plot.py at 2018-09-11 08:56:21

Datalink statistics

-- Total of 1 flow:

Average throughput: 94.41 Mbit/s

95th percentile per-packet one-way delay: 61.522 ms

Loss rate: 3.01%

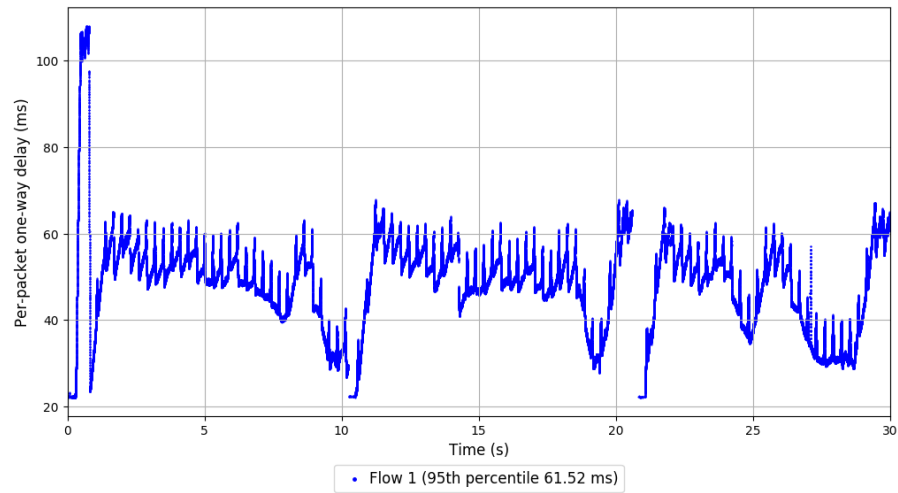
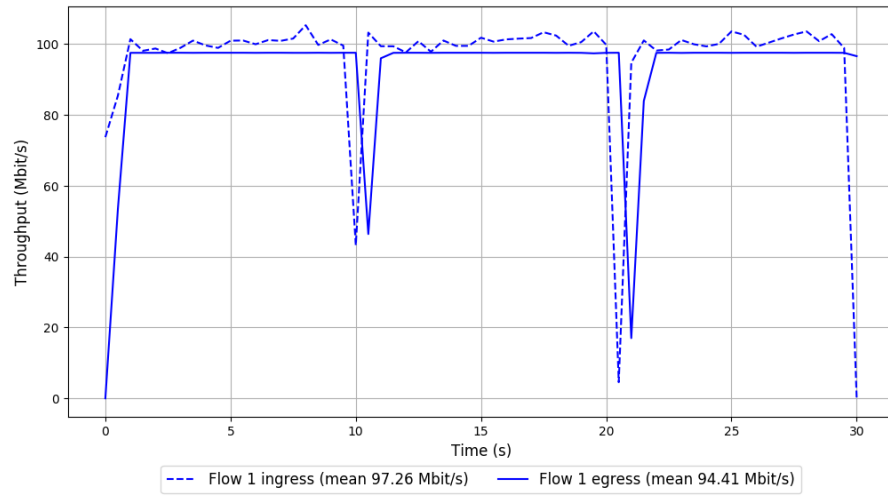
-- Flow 1:

Average throughput: 94.41 Mbit/s

95th percentile per-packet one-way delay: 61.522 ms

Loss rate: 3.01%

Run 3: Report of TCP BBR — Data Link

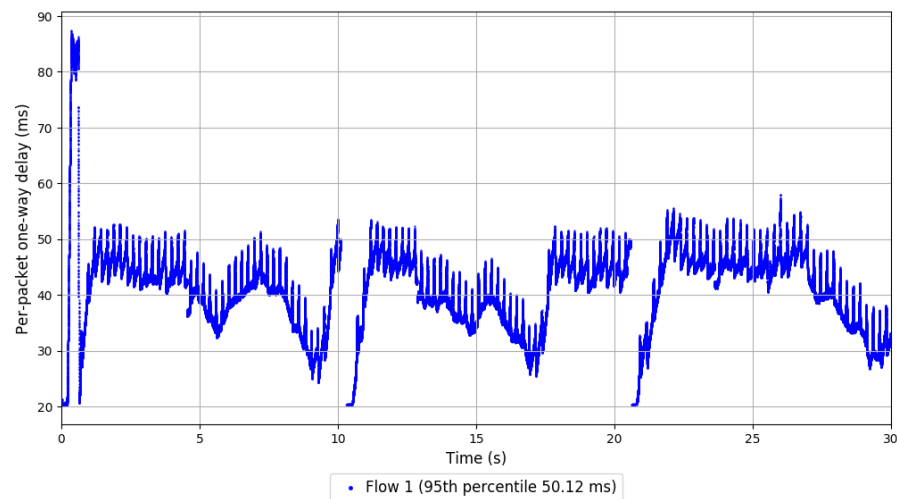
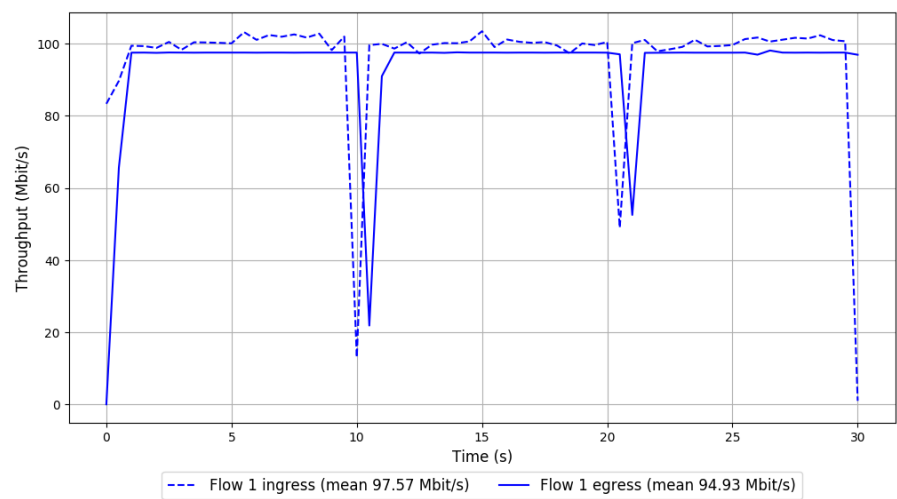


Run 4: Statistics of TCP BBR

Start at: 2018-09-11 08:17:08
End at: 2018-09-11 08:17:38
Local clock offset: 2.034 ms
Remote clock offset: -0.921 ms

Below is generated by plot.py at 2018-09-11 08:56:21
Datalink statistics
-- Total of 1 flow:
Average throughput: 94.93 Mbit/s
95th percentile per-packet one-way delay: 50.119 ms
Loss rate: 2.80%
-- Flow 1:
Average throughput: 94.93 Mbit/s
95th percentile per-packet one-way delay: 50.119 ms
Loss rate: 2.80%

Run 4: Report of TCP BBR — Data Link



Run 5: Statistics of TCP BBR

Start at: 2018-09-11 08:37:48

End at: 2018-09-11 08:38:19

Local clock offset: 1.712 ms

Remote clock offset: -2.645 ms

Below is generated by plot.py at 2018-09-11 08:56:21

Datalink statistics

-- Total of 1 flow:

Average throughput: 94.58 Mbit/s

95th percentile per-packet one-way delay: 50.030 ms

Loss rate: 2.71%

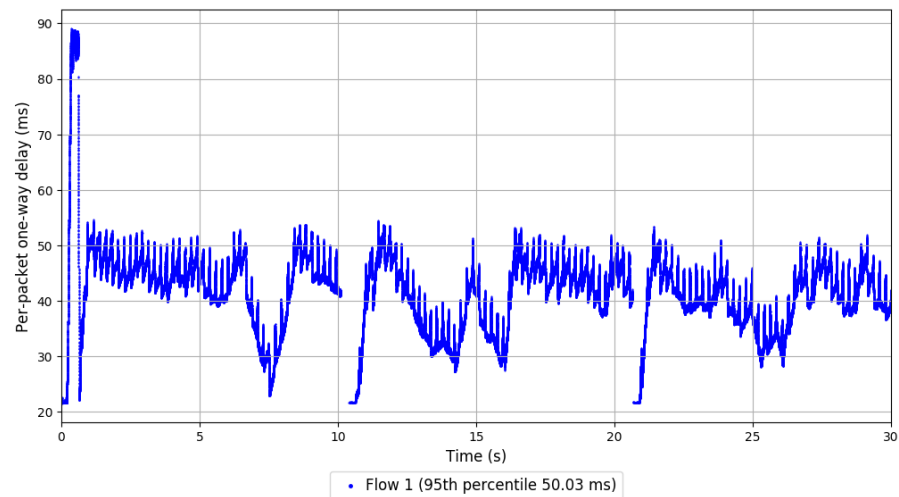
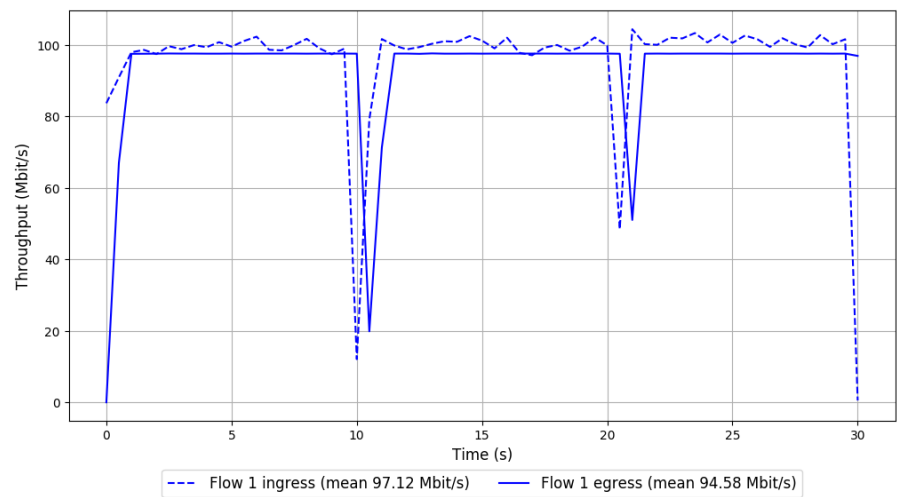
-- Flow 1:

Average throughput: 94.58 Mbit/s

95th percentile per-packet one-way delay: 50.030 ms

Loss rate: 2.71%

Run 5: Report of TCP BBR — Data Link

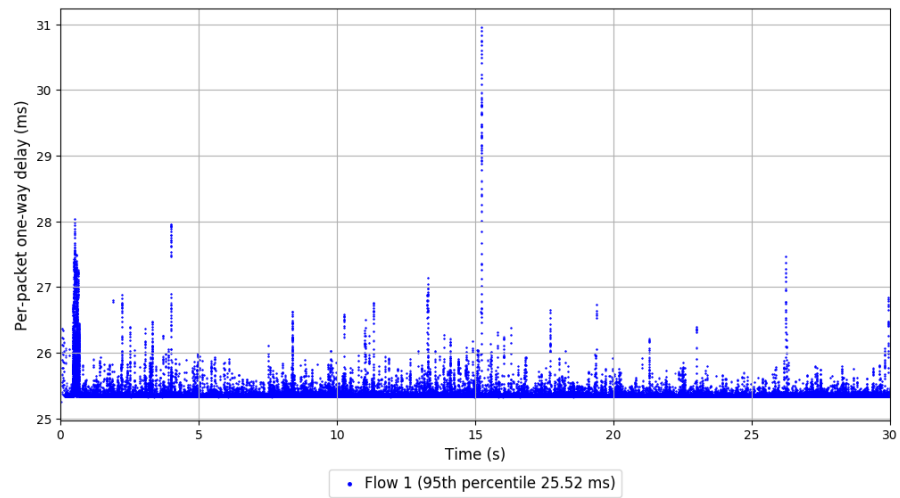
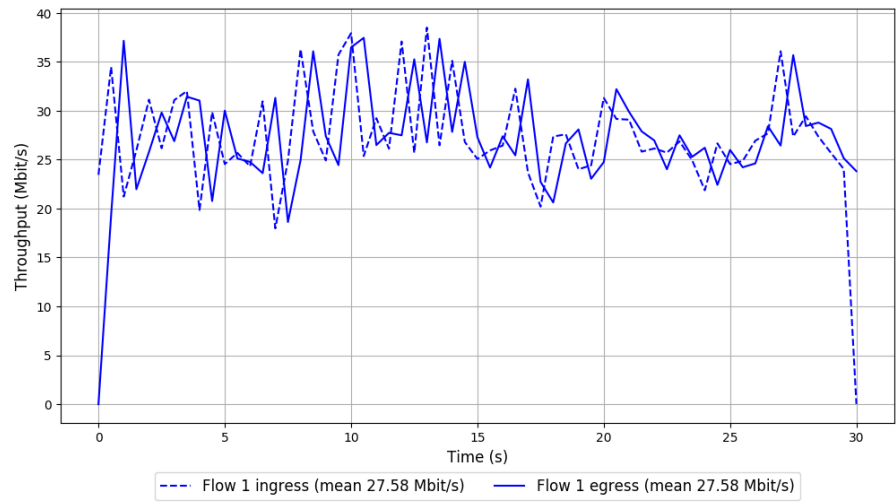


Run 1: Statistics of Copa

Start at: 2018-09-11 07:11:57
End at: 2018-09-11 07:12:27
Local clock offset: 1.456 ms
Remote clock offset: -3.938 ms

Below is generated by plot.py at 2018-09-11 08:56:21
Datalink statistics
-- Total of 1 flow:
Average throughput: 27.58 Mbit/s
95th percentile per-packet one-way delay: 25.522 ms
Loss rate: 0.09%
-- Flow 1:
Average throughput: 27.58 Mbit/s
95th percentile per-packet one-way delay: 25.522 ms
Loss rate: 0.09%

Run 1: Report of Copa — Data Link

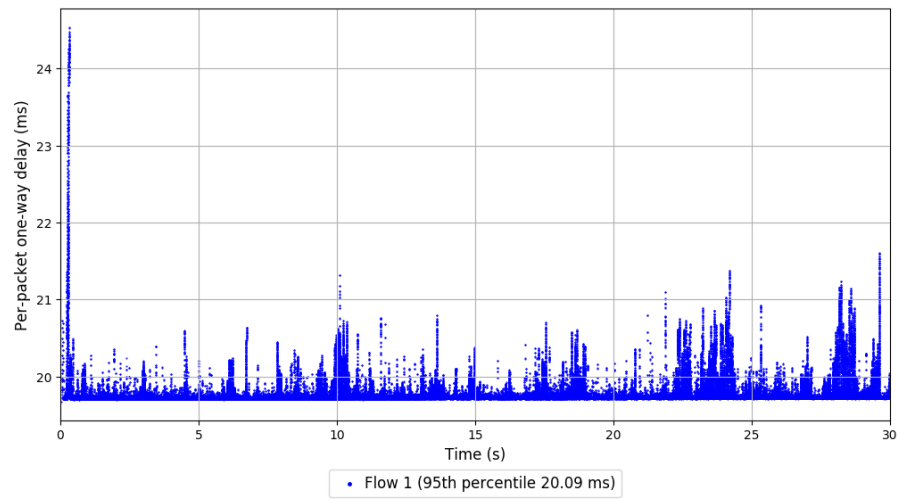
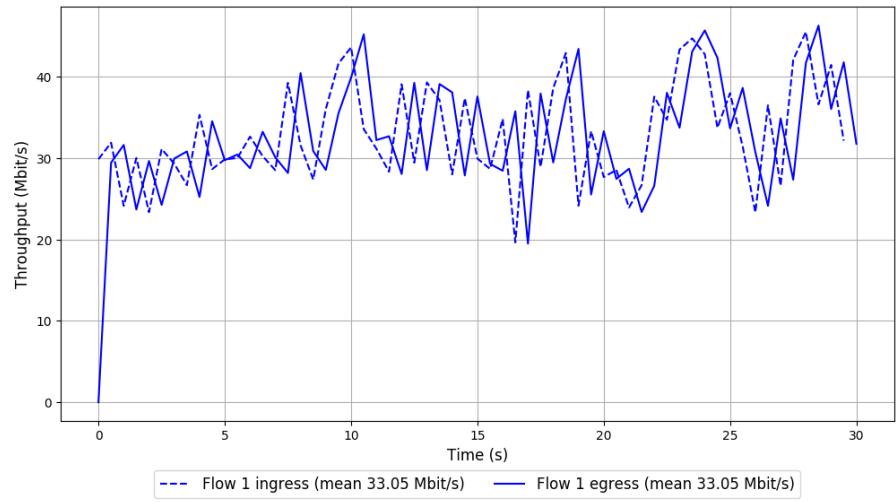


Run 2: Statistics of Copa

Start at: 2018-09-11 07:32:44
End at: 2018-09-11 07:33:14
Local clock offset: -1.851 ms
Remote clock offset: -4.329 ms

Below is generated by plot.py at 2018-09-11 08:56:21
Datalink statistics
-- Total of 1 flow:
Average throughput: 33.05 Mbit/s
95th percentile per-packet one-way delay: 20.086 ms
Loss rate: 0.09%
-- Flow 1:
Average throughput: 33.05 Mbit/s
95th percentile per-packet one-way delay: 20.086 ms
Loss rate: 0.09%

Run 2: Report of Copa — Data Link



Run 3: Statistics of Copa

Start at: 2018-09-11 07:53:19

End at: 2018-09-11 07:53:49

Local clock offset: 1.435 ms

Remote clock offset: -1.63 ms

Below is generated by plot.py at 2018-09-11 08:56:21

Datalink statistics

-- Total of 1 flow:

Average throughput: 27.23 Mbit/s

95th percentile per-packet one-way delay: 20.597 ms

Loss rate: 0.15%

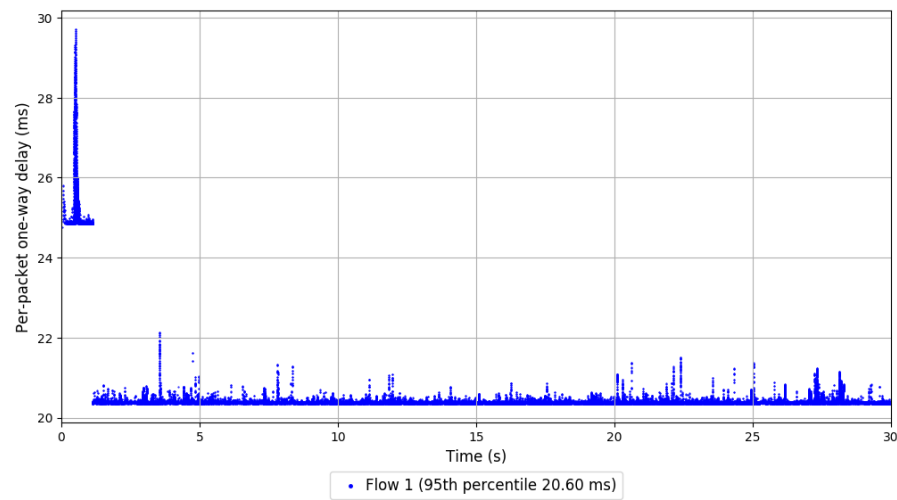
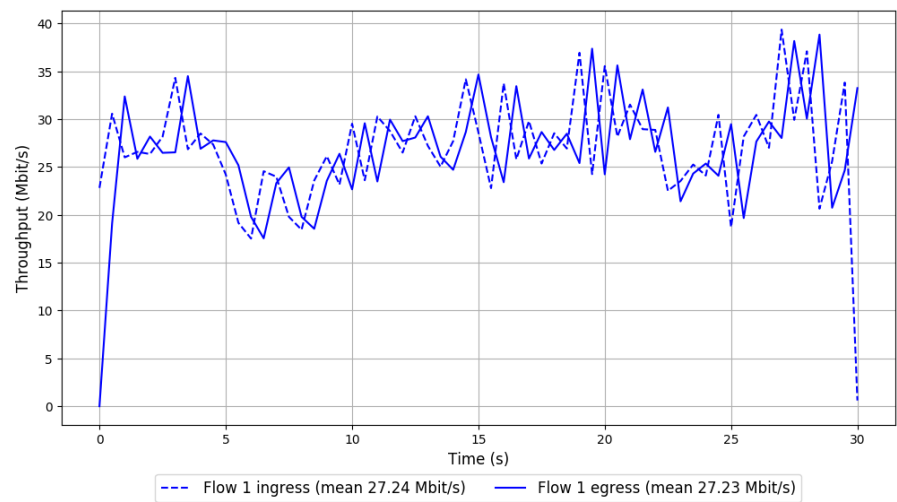
-- Flow 1:

Average throughput: 27.23 Mbit/s

95th percentile per-packet one-way delay: 20.597 ms

Loss rate: 0.15%

Run 3: Report of Copa — Data Link



Run 4: Statistics of Copa

Start at: 2018-09-11 08:13:38

End at: 2018-09-11 08:14:08

Local clock offset: 2.107 ms

Remote clock offset: -0.21 ms

Below is generated by plot.py at 2018-09-11 08:56:39

Datalink statistics

-- Total of 1 flow:

Average throughput: 36.38 Mbit/s

95th percentile per-packet one-way delay: 20.305 ms

Loss rate: 0.12%

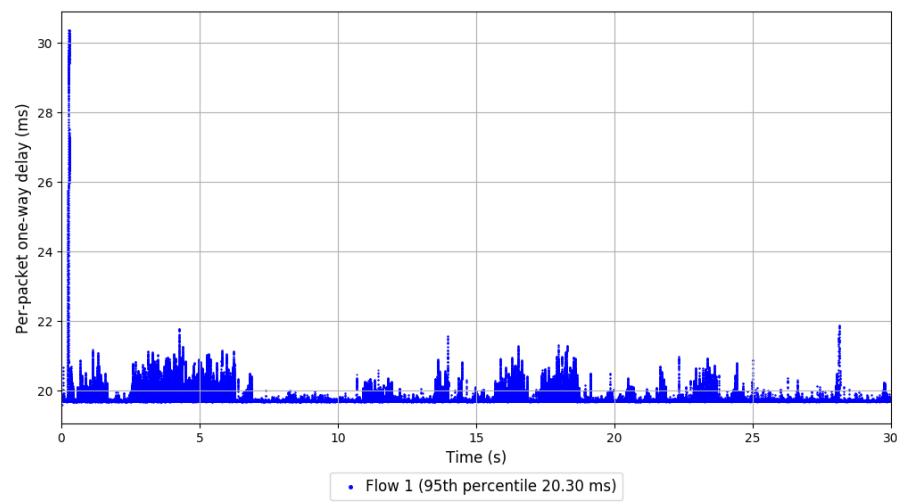
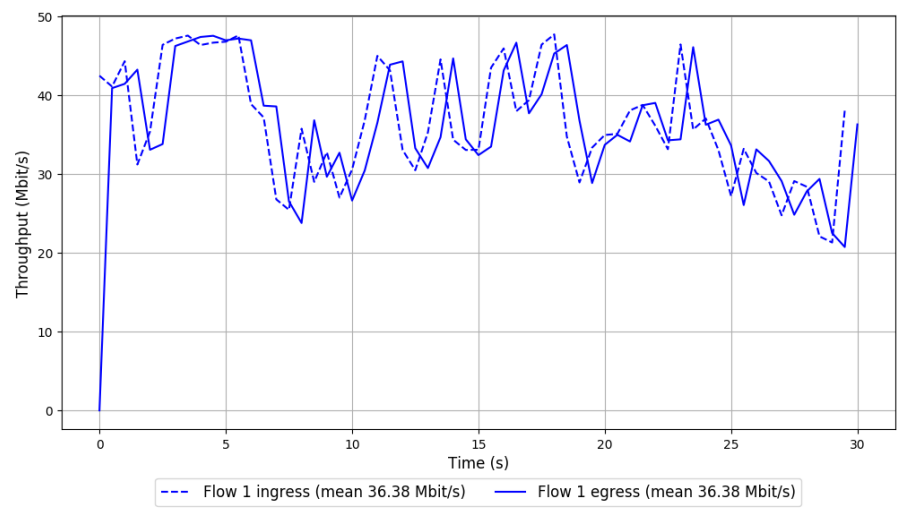
-- Flow 1:

Average throughput: 36.38 Mbit/s

95th percentile per-packet one-way delay: 20.305 ms

Loss rate: 0.12%

Run 4: Report of Copa — Data Link

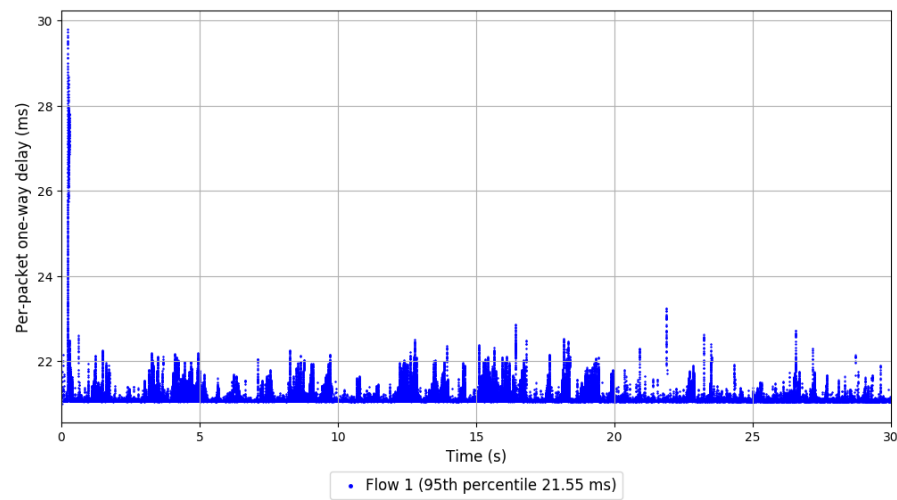
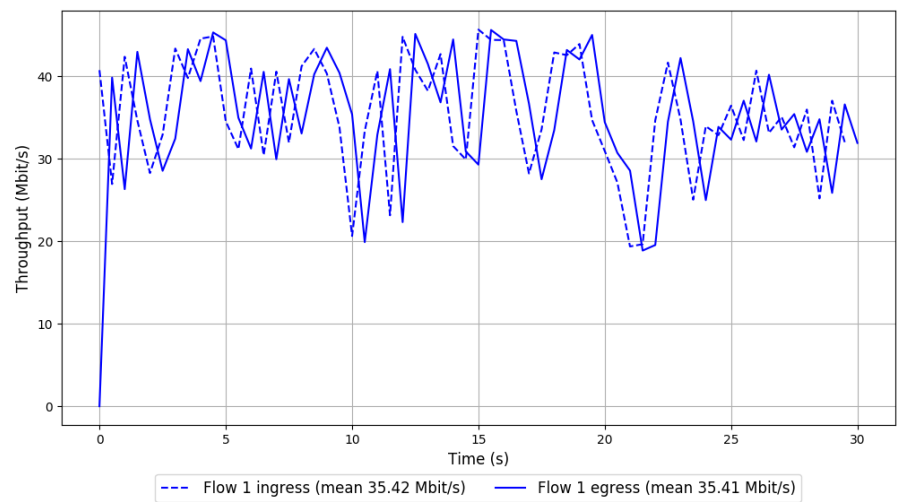


Run 5: Statistics of Copa

Start at: 2018-09-11 08:34:10
End at: 2018-09-11 08:34:40
Local clock offset: 3.28 ms
Remote clock offset: -0.462 ms

Below is generated by plot.py at 2018-09-11 08:56:39
Datalink statistics
-- Total of 1 flow:
Average throughput: 35.41 Mbit/s
95th percentile per-packet one-way delay: 21.546 ms
Loss rate: 0.11%
-- Flow 1:
Average throughput: 35.41 Mbit/s
95th percentile per-packet one-way delay: 21.546 ms
Loss rate: 0.11%

Run 5: Report of Copa — Data Link

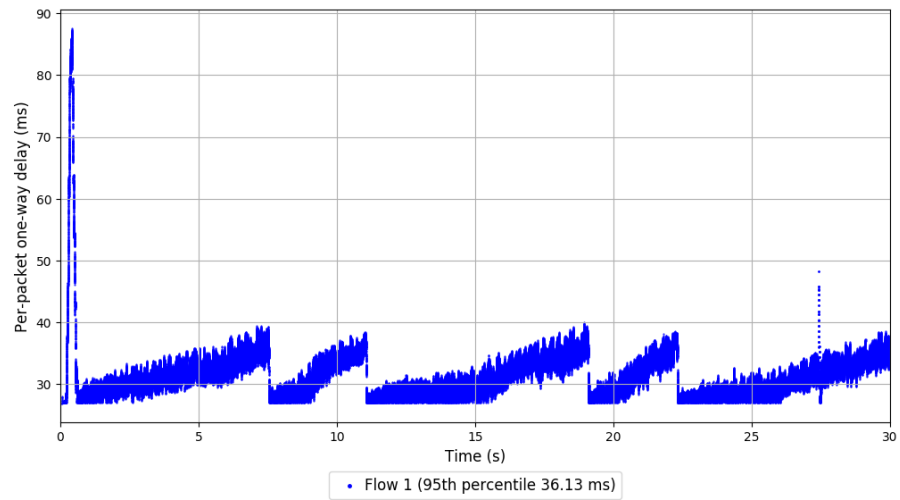
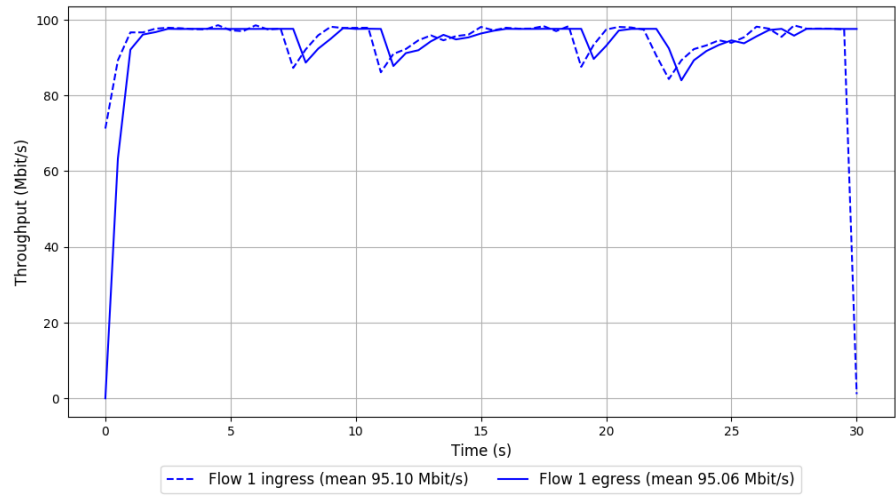


Run 1: Statistics of TCP Cubic

Start at: 2018-09-11 07:23:36
End at: 2018-09-11 07:24:06
Local clock offset: 2.156 ms
Remote clock offset: -4.623 ms

Below is generated by plot.py at 2018-09-11 08:57:04
Datalink statistics
-- Total of 1 flow:
Average throughput: 95.06 Mbit/s
95th percentile per-packet one-way delay: 36.133 ms
Loss rate: 0.14%
-- Flow 1:
Average throughput: 95.06 Mbit/s
95th percentile per-packet one-way delay: 36.133 ms
Loss rate: 0.14%

Run 1: Report of TCP Cubic — Data Link



Run 2: Statistics of TCP Cubic

Start at: 2018-09-11 07:44:08

End at: 2018-09-11 07:44:38

Local clock offset: 1.43 ms

Remote clock offset: -5.1 ms

Below is generated by plot.py at 2018-09-11 08:57:24

Datalink statistics

-- Total of 1 flow:

Average throughput: 93.87 Mbit/s

95th percentile per-packet one-way delay: 32.901 ms

Loss rate: 0.10%

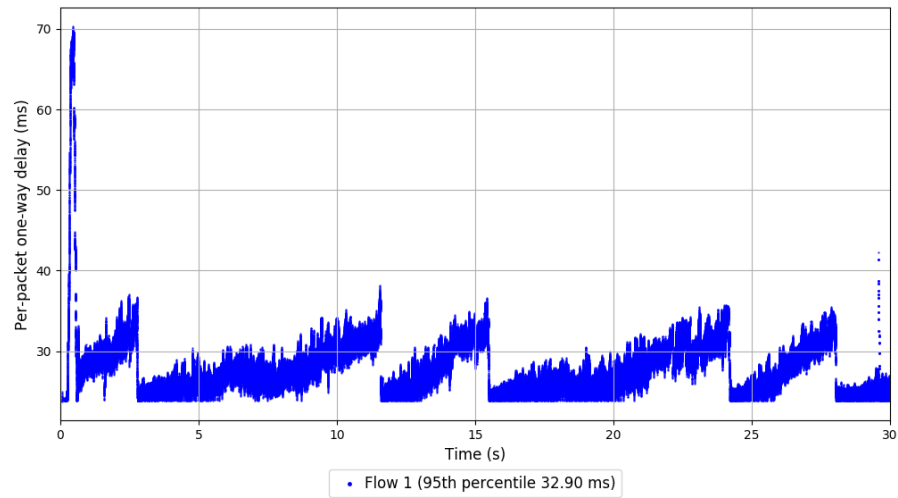
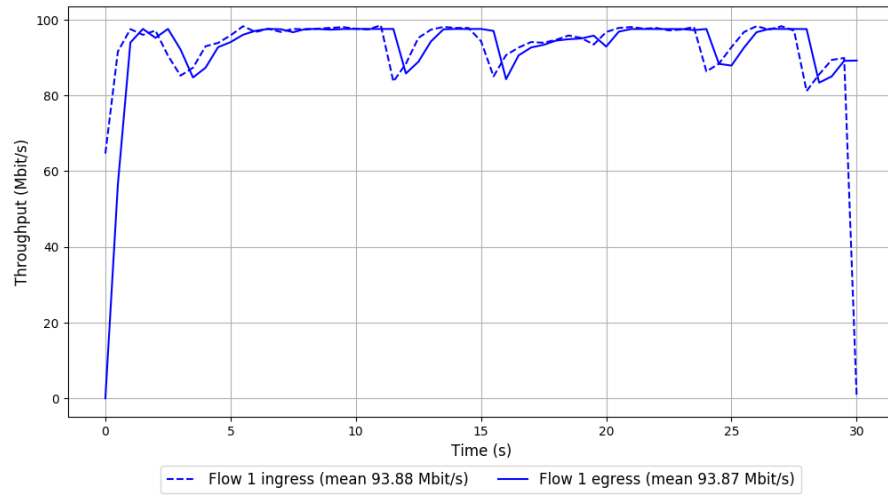
-- Flow 1:

Average throughput: 93.87 Mbit/s

95th percentile per-packet one-way delay: 32.901 ms

Loss rate: 0.10%

Run 2: Report of TCP Cubic — Data Link

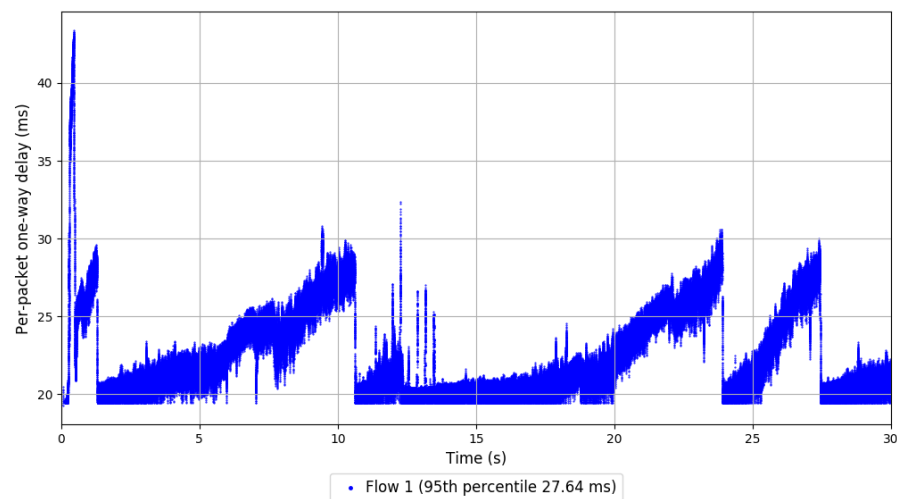
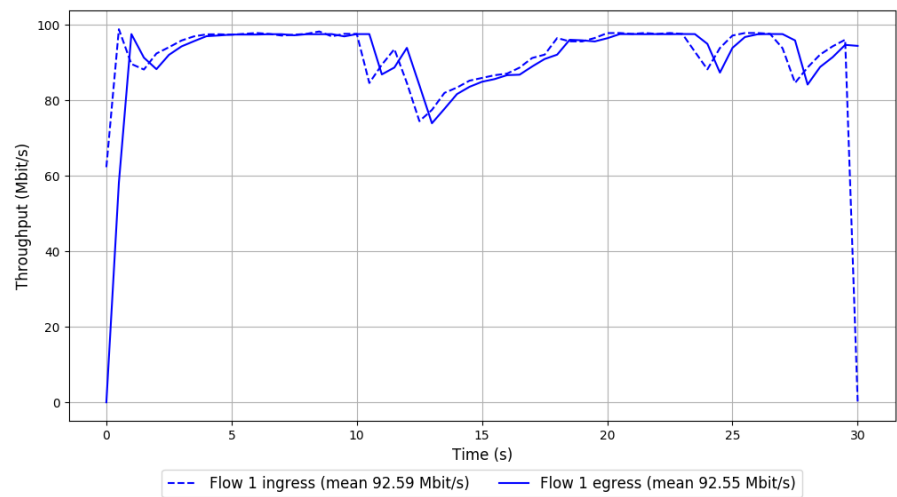


Run 3: Statistics of TCP Cubic

Start at: 2018-09-11 08:04:36
End at: 2018-09-11 08:05:06
Local clock offset: 0.579 ms
Remote clock offset: -1.495 ms

Below is generated by plot.py at 2018-09-11 08:57:24
Datalink statistics
-- Total of 1 flow:
Average throughput: 92.55 Mbit/s
95th percentile per-packet one-way delay: 27.640 ms
Loss rate: 0.13%
-- Flow 1:
Average throughput: 92.55 Mbit/s
95th percentile per-packet one-way delay: 27.640 ms
Loss rate: 0.13%

Run 3: Report of TCP Cubic — Data Link

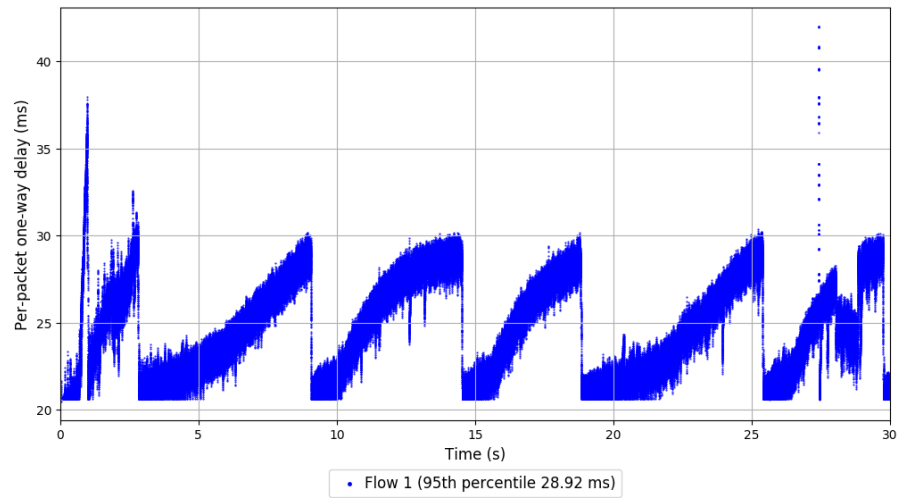
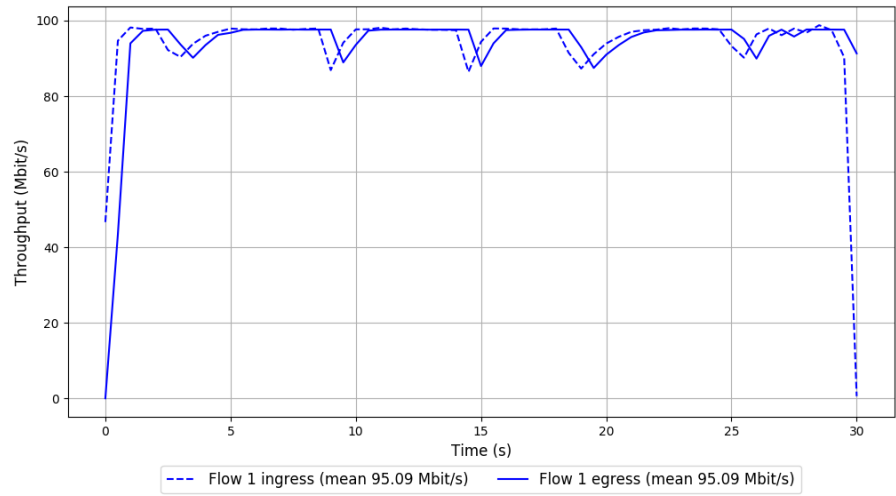


Run 4: Statistics of TCP Cubic

Start at: 2018-09-11 08:25:03
End at: 2018-09-11 08:25:33
Local clock offset: 2.892 ms
Remote clock offset: -0.436 ms

Below is generated by plot.py at 2018-09-11 08:57:25
Datalink statistics
-- Total of 1 flow:
Average throughput: 95.09 Mbit/s
95th percentile per-packet one-way delay: 28.917 ms
Loss rate: 0.09%
-- Flow 1:
Average throughput: 95.09 Mbit/s
95th percentile per-packet one-way delay: 28.917 ms
Loss rate: 0.09%

Run 4: Report of TCP Cubic — Data Link

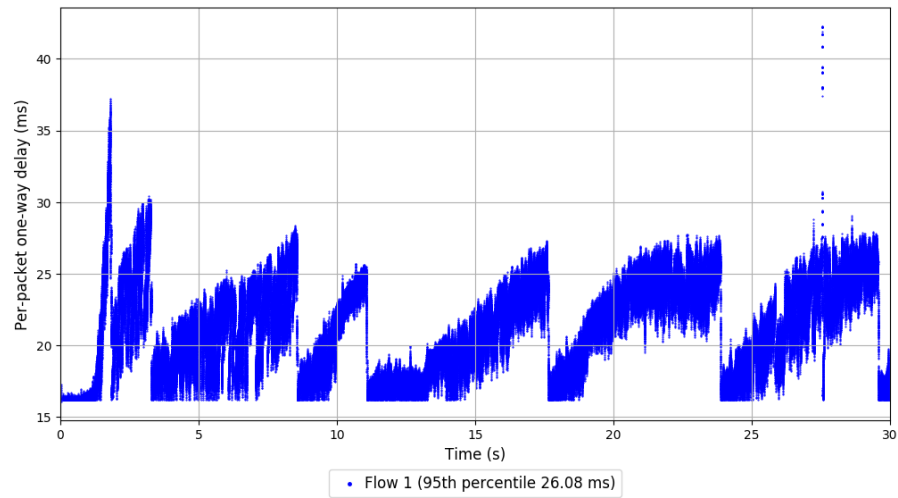
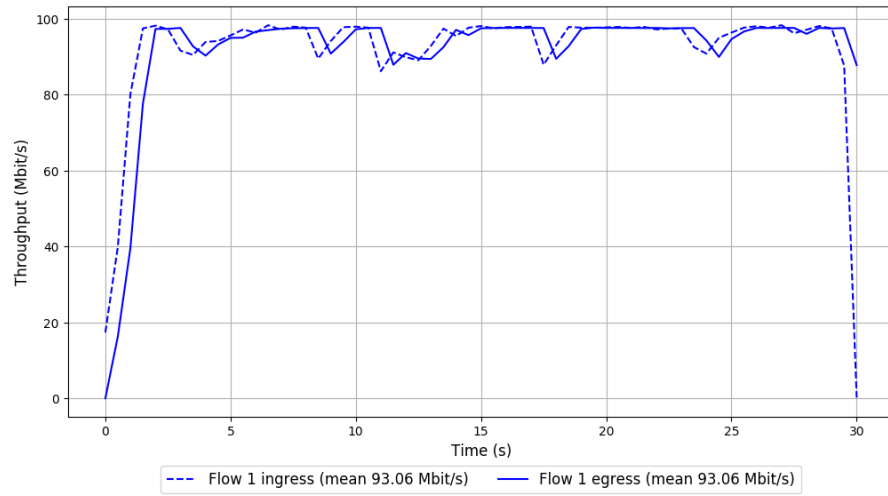


Run 5: Statistics of TCP Cubic

Start at: 2018-09-11 08:45:48
End at: 2018-09-11 08:46:18
Local clock offset: -1.199 ms
Remote clock offset: -0.232 ms

Below is generated by plot.py at 2018-09-11 08:57:25
Datalink statistics
-- Total of 1 flow:
Average throughput: 93.06 Mbit/s
95th percentile per-packet one-way delay: 26.078 ms
Loss rate: 0.10%
-- Flow 1:
Average throughput: 93.06 Mbit/s
95th percentile per-packet one-way delay: 26.078 ms
Loss rate: 0.10%

Run 5: Report of TCP Cubic — Data Link

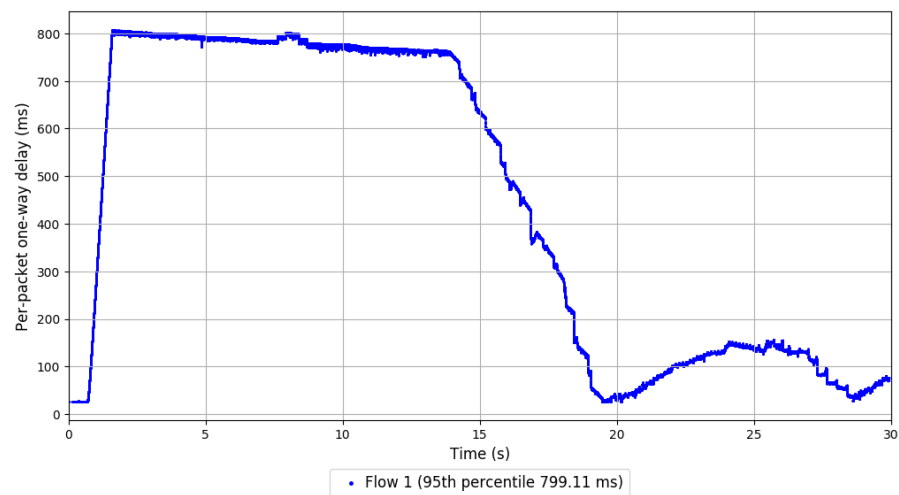
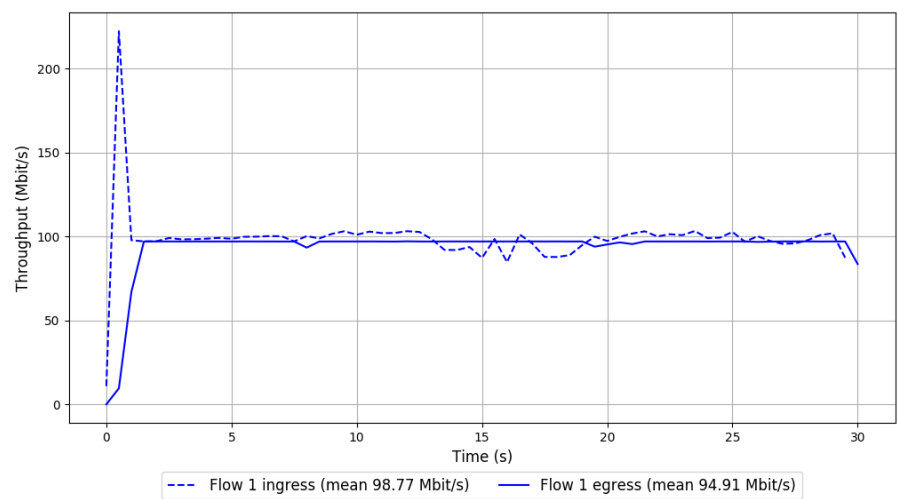


Run 1: Statistics of FillP

Start at: 2018-09-11 07:22:17
End at: 2018-09-11 07:22:47
Local clock offset: 1.937 ms
Remote clock offset: -4.134 ms

Below is generated by plot.py at 2018-09-11 08:57:44
Datalink statistics
-- Total of 1 flow:
Average throughput: 94.91 Mbit/s
95th percentile per-packet one-way delay: 799.111 ms
Loss rate: 4.00%
-- Flow 1:
Average throughput: 94.91 Mbit/s
95th percentile per-packet one-way delay: 799.111 ms
Loss rate: 4.00%

Run 1: Report of FillP — Data Link

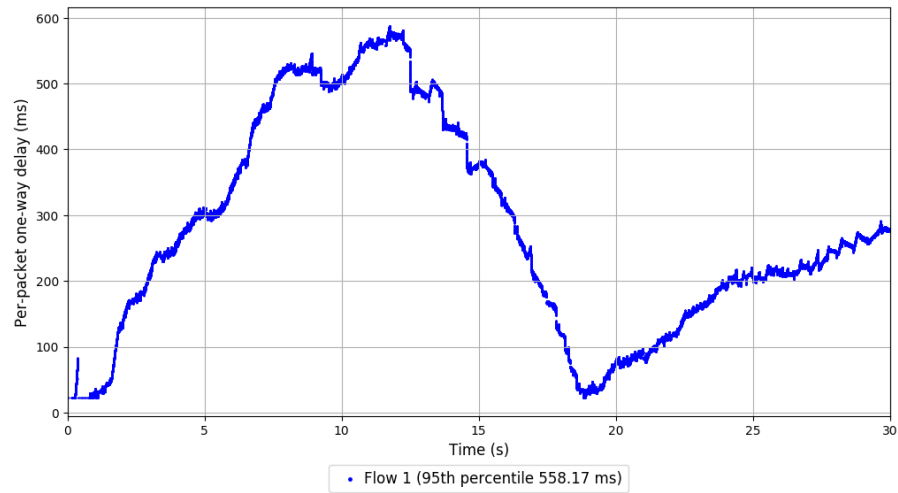
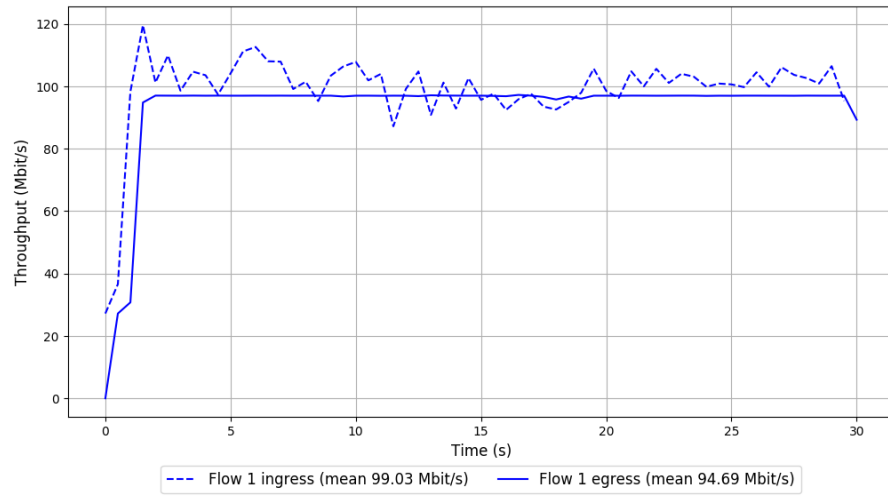


Run 2: Statistics of FillP

Start at: 2018-09-11 07:42:55
End at: 2018-09-11 07:43:26
Local clock offset: 1.299 ms
Remote clock offset: -4.104 ms

Below is generated by plot.py at 2018-09-11 08:57:57
Datalink statistics
-- Total of 1 flow:
Average throughput: 94.69 Mbit/s
95th percentile per-packet one-way delay: 558.166 ms
Loss rate: 4.48%
-- Flow 1:
Average throughput: 94.69 Mbit/s
95th percentile per-packet one-way delay: 558.166 ms
Loss rate: 4.48%

Run 2: Report of FillP — Data Link

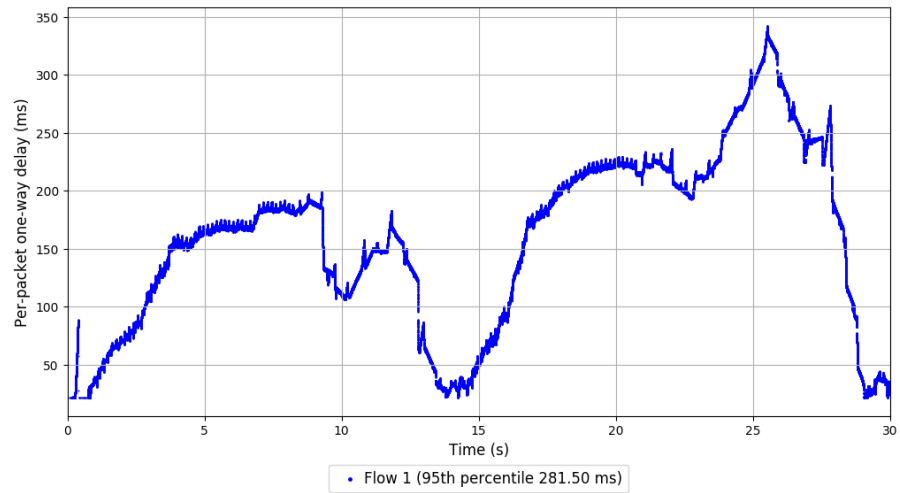
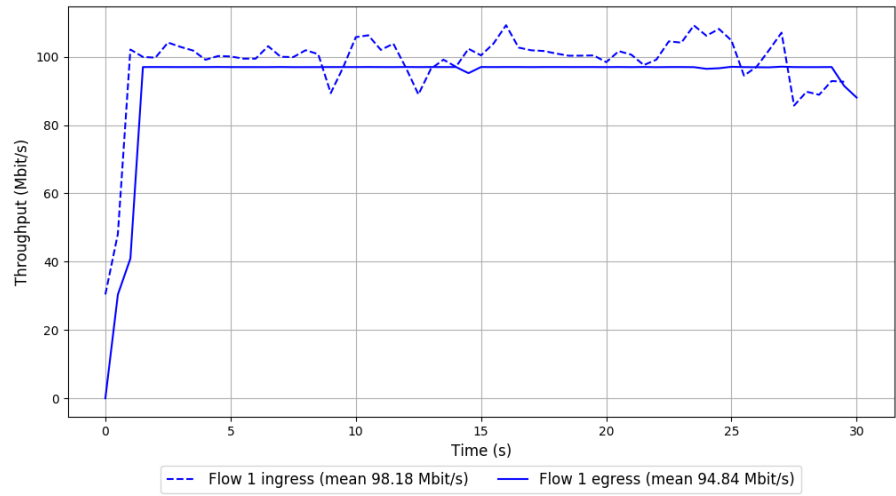


Run 3: Statistics of FillP

Start at: 2018-09-11 08:03:23
End at: 2018-09-11 08:03:53
Local clock offset: 2.426 ms
Remote clock offset: -1.805 ms

Below is generated by plot.py at 2018-09-11 08:57:58
Datalink statistics
-- Total of 1 flow:
Average throughput: 94.84 Mbit/s
95th percentile per-packet one-way delay: 281.504 ms
Loss rate: 3.49%
-- Flow 1:
Average throughput: 94.84 Mbit/s
95th percentile per-packet one-way delay: 281.504 ms
Loss rate: 3.49%

Run 3: Report of FillP — Data Link



Run 4: Statistics of FillP

Start at: 2018-09-11 08:23:51

End at: 2018-09-11 08:24:21

Local clock offset: 0.783 ms

Remote clock offset: 0.471 ms

Below is generated by plot.py at 2018-09-11 08:58:31

Datalink statistics

-- Total of 1 flow:

Average throughput: 94.45 Mbit/s

95th percentile per-packet one-way delay: 275.051 ms

Loss rate: 3.27%

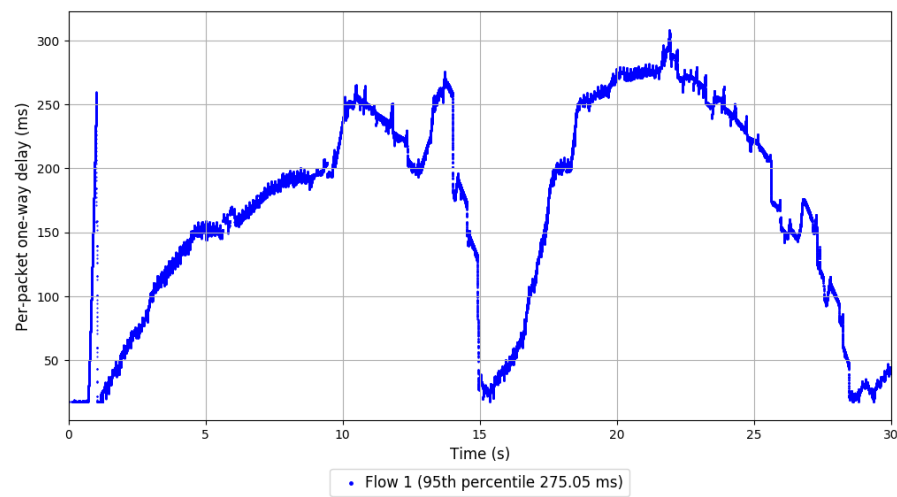
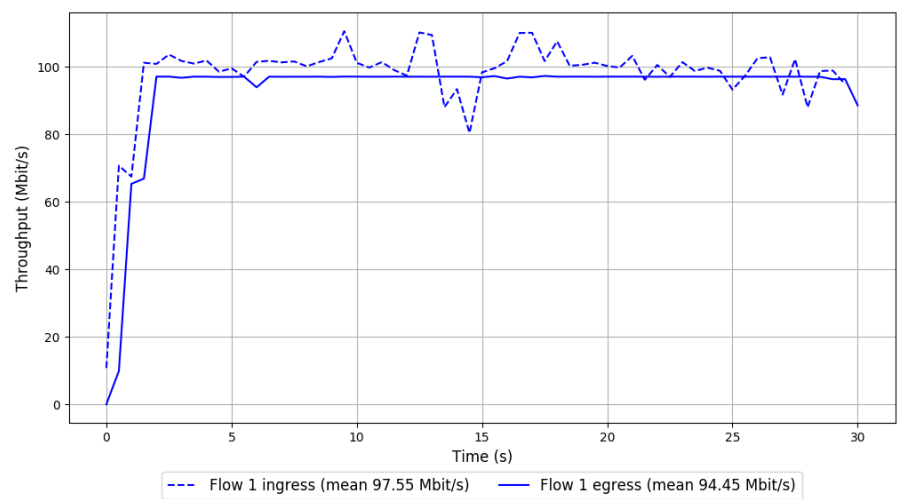
-- Flow 1:

Average throughput: 94.45 Mbit/s

95th percentile per-packet one-way delay: 275.051 ms

Loss rate: 3.27%

Run 4: Report of FillP — Data Link

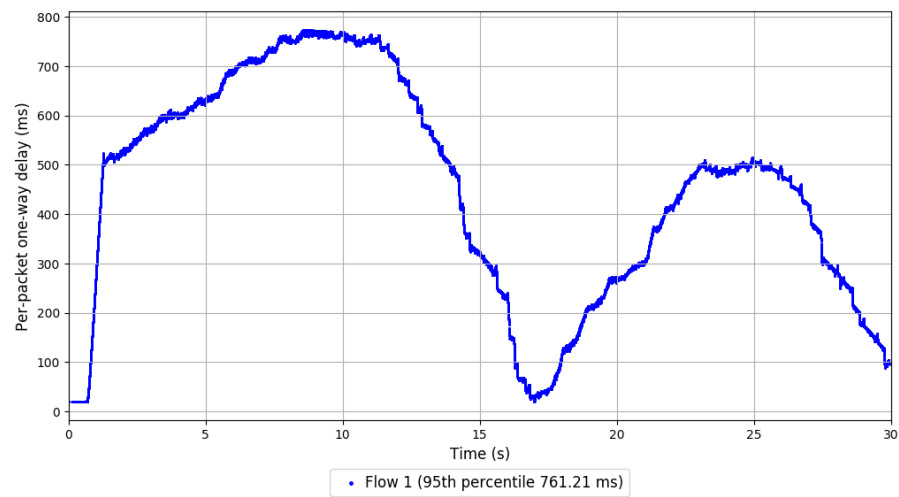
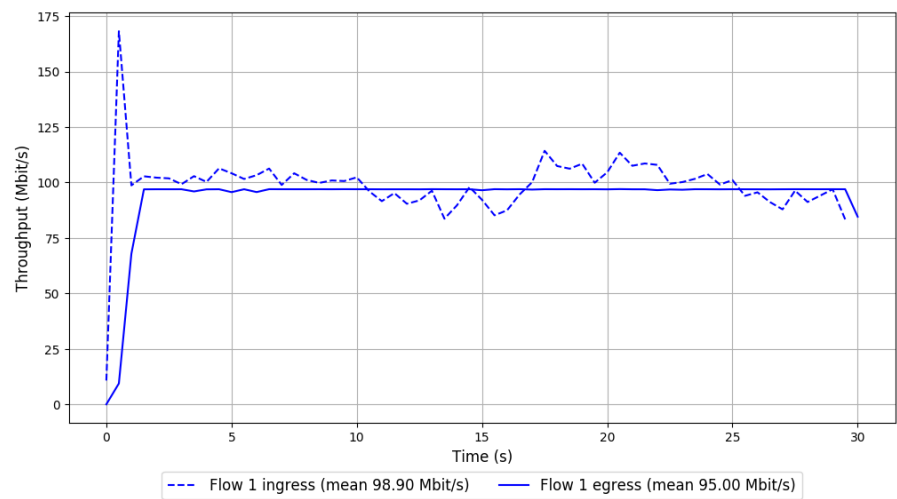


Run 5: Statistics of FillP

Start at: 2018-09-11 08:44:36
End at: 2018-09-11 08:45:06
Local clock offset: 0.556 ms
Remote clock offset: -1.959 ms

Below is generated by plot.py at 2018-09-11 08:58:47
Datalink statistics
-- Total of 1 flow:
Average throughput: 95.00 Mbit/s
95th percentile per-packet one-way delay: 761.205 ms
Loss rate: 4.04%
-- Flow 1:
Average throughput: 95.00 Mbit/s
95th percentile per-packet one-way delay: 761.205 ms
Loss rate: 4.04%

Run 5: Report of FillP — Data Link



Run 1: Statistics of FillP-Sheep

Start at: 2018-09-11 07:30:25

End at: 2018-09-11 07:30:55

Local clock offset: 2.237 ms

Remote clock offset: -4.526 ms

Below is generated by plot.py at 2018-09-11 08:58:47

Datalink statistics

-- Total of 1 flow:

Average throughput: 94.82 Mbit/s

95th percentile per-packet one-way delay: 50.592 ms

Loss rate: 1.37%

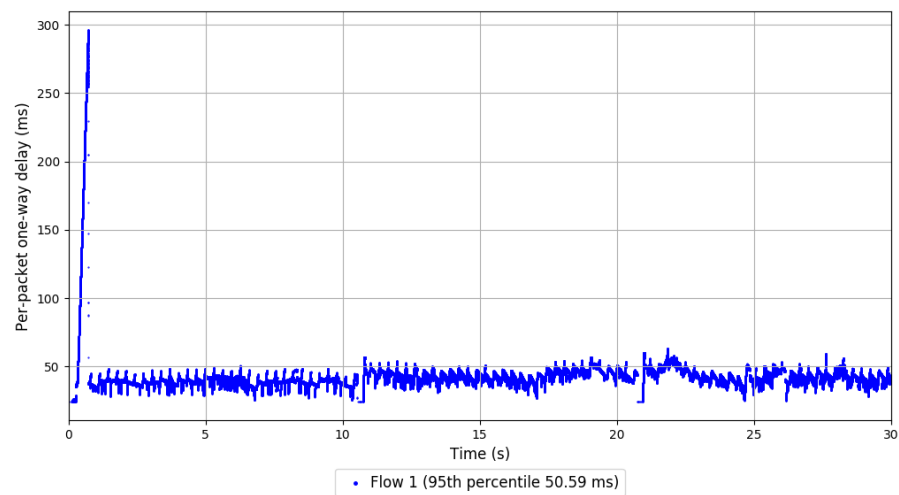
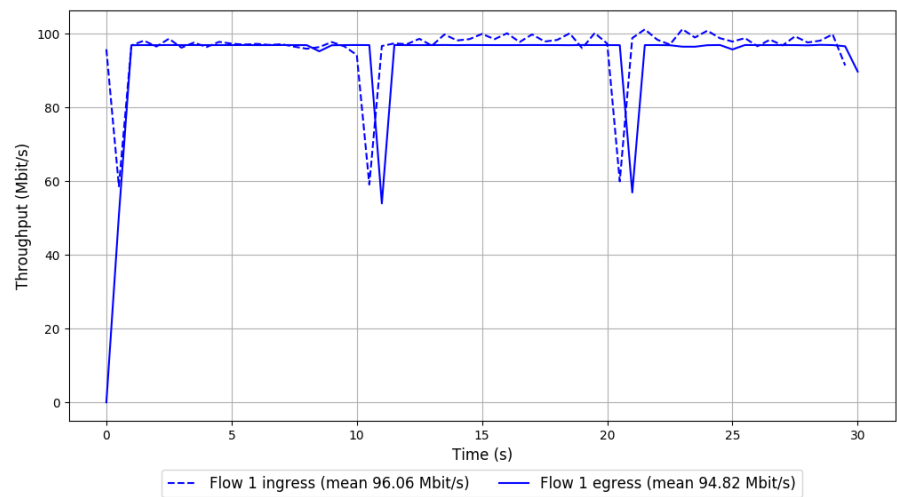
-- Flow 1:

Average throughput: 94.82 Mbit/s

95th percentile per-packet one-way delay: 50.592 ms

Loss rate: 1.37%

Run 1: Report of FillP-Sheep — Data Link

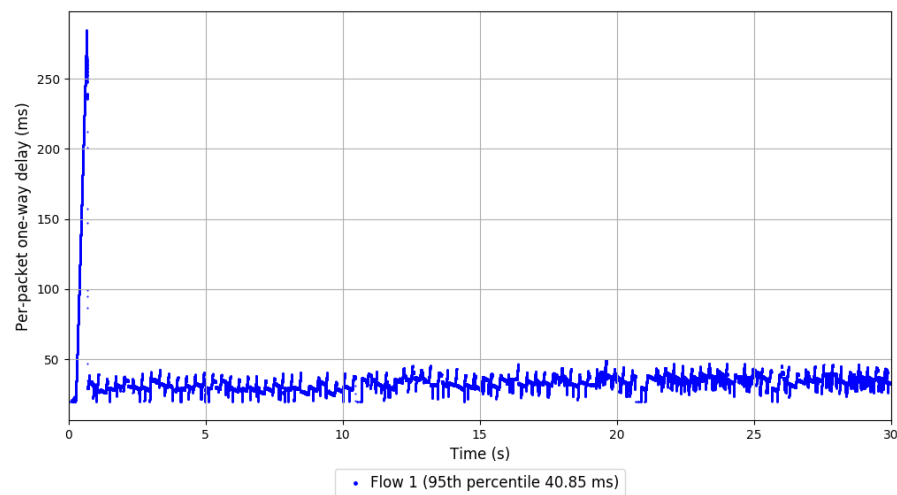
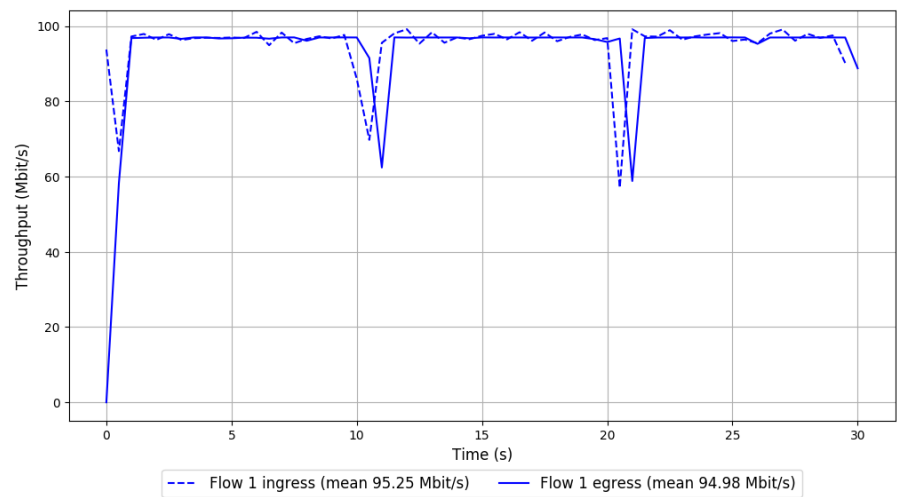


Run 2: Statistics of FillP-Sheep

Start at: 2018-09-11 07:51:01
End at: 2018-09-11 07:51:31
Local clock offset: 1.461 ms
Remote clock offset: -0.789 ms

Below is generated by plot.py at 2018-09-11 08:58:47
Datalink statistics
-- Total of 1 flow:
Average throughput: 94.98 Mbit/s
95th percentile per-packet one-way delay: 40.853 ms
Loss rate: 0.38%
-- Flow 1:
Average throughput: 94.98 Mbit/s
95th percentile per-packet one-way delay: 40.853 ms
Loss rate: 0.38%

Run 2: Report of FillP-Sheep — Data Link

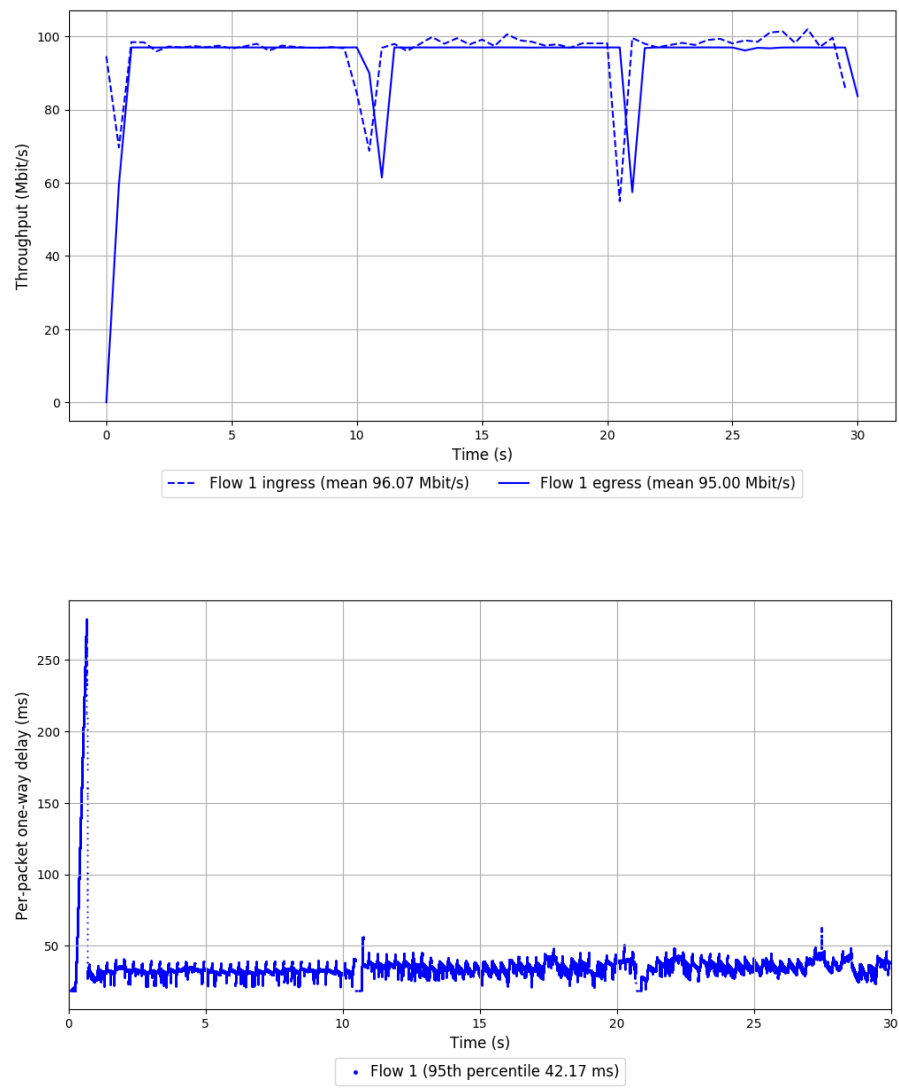


Run 3: Statistics of FillP-Sheep

Start at: 2018-09-11 08:11:19
End at: 2018-09-11 08:11:49
Local clock offset: 1.15 ms
Remote clock offset: -0.285 ms

Below is generated by plot.py at 2018-09-11 08:58:48
Datalink statistics
-- Total of 1 flow:
Average throughput: 95.00 Mbit/s
95th percentile per-packet one-way delay: 42.167 ms
Loss rate: 1.21%
-- Flow 1:
Average throughput: 95.00 Mbit/s
95th percentile per-packet one-way delay: 42.167 ms
Loss rate: 1.21%

Run 3: Report of FillP-Sheep — Data Link



Run 4: Statistics of FillP-Sheep

Start at: 2018-09-11 08:31:50

End at: 2018-09-11 08:32:20

Local clock offset: 0.35 ms

Remote clock offset: -2.42 ms

Below is generated by plot.py at 2018-09-11 08:59:08

Datalink statistics

-- Total of 1 flow:

Average throughput: 94.63 Mbit/s

95th percentile per-packet one-way delay: 49.047 ms

Loss rate: 1.70%

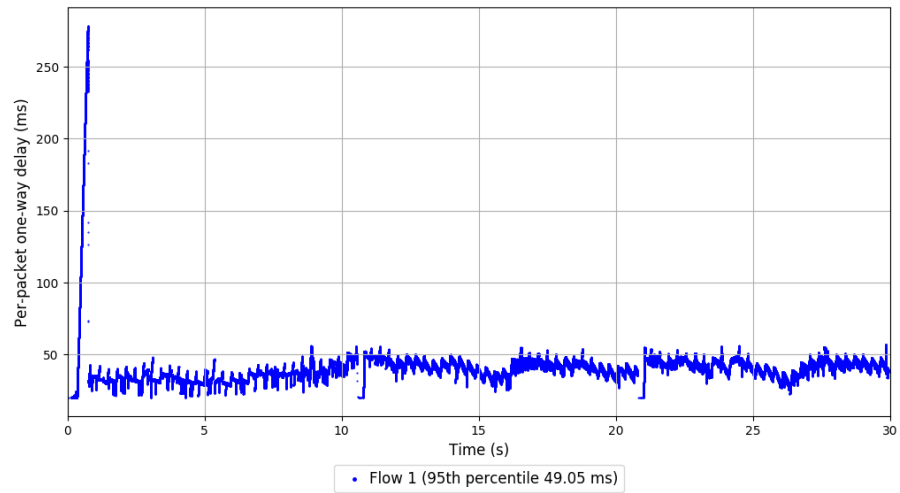
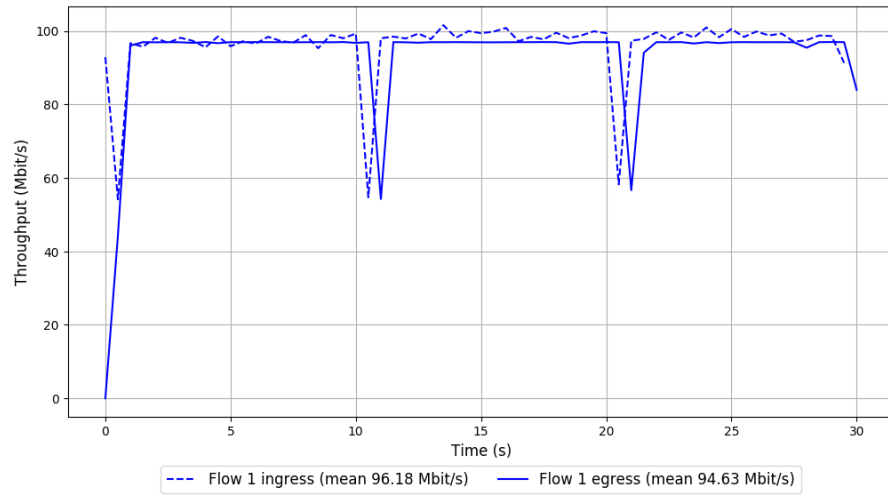
-- Flow 1:

Average throughput: 94.63 Mbit/s

95th percentile per-packet one-way delay: 49.047 ms

Loss rate: 1.70%

Run 4: Report of FillP-Sheep — Data Link



Run 5: Statistics of FillP-Sheep

Start at: 2018-09-11 08:52:35

End at: 2018-09-11 08:53:05

Local clock offset: 2.581 ms

Remote clock offset: 0.331 ms

Below is generated by plot.py at 2018-09-11 08:59:29

Datalink statistics

-- Total of 1 flow:

Average throughput: 93.95 Mbit/s

95th percentile per-packet one-way delay: 43.587 ms

Loss rate: 1.15%

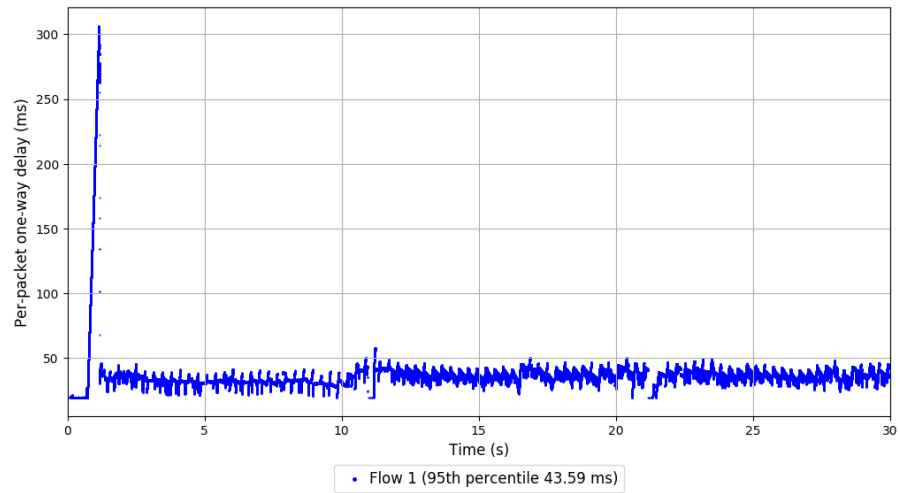
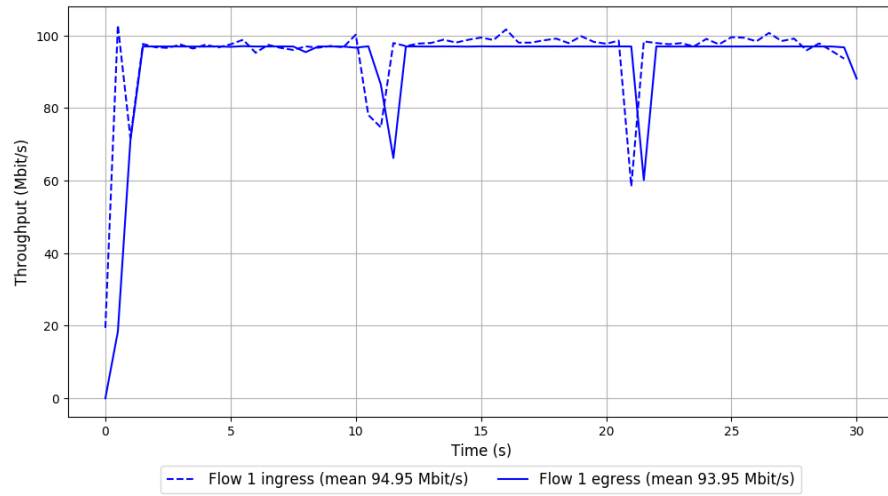
-- Flow 1:

Average throughput: 93.95 Mbit/s

95th percentile per-packet one-way delay: 43.587 ms

Loss rate: 1.15%

Run 5: Report of FillP-Sheep — Data Link



Run 1: Statistics of Indigo

Start at: 2018-09-11 07:27:07

End at: 2018-09-11 07:27:37

Local clock offset: 0.932 ms

Remote clock offset: -3.953 ms

Below is generated by plot.py at 2018-09-11 08:59:29

Datalink statistics

-- Total of 1 flow:

Average throughput: 23.03 Mbit/s

95th percentile per-packet one-way delay: 23.884 ms

Loss rate: 0.06%

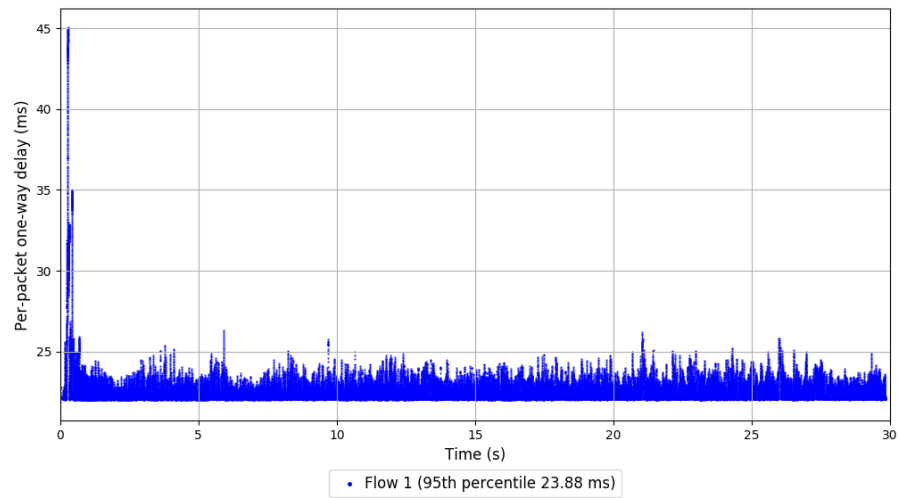
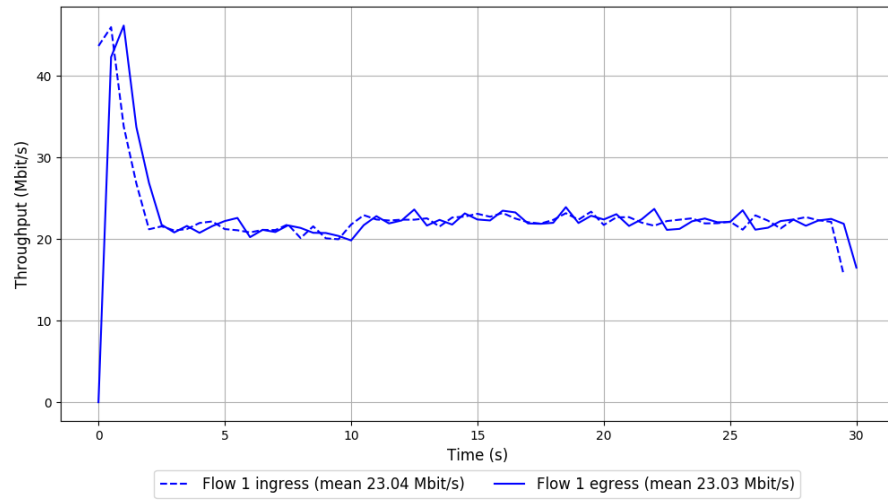
-- Flow 1:

Average throughput: 23.03 Mbit/s

95th percentile per-packet one-way delay: 23.884 ms

Loss rate: 0.06%

Run 1: Report of Indigo — Data Link

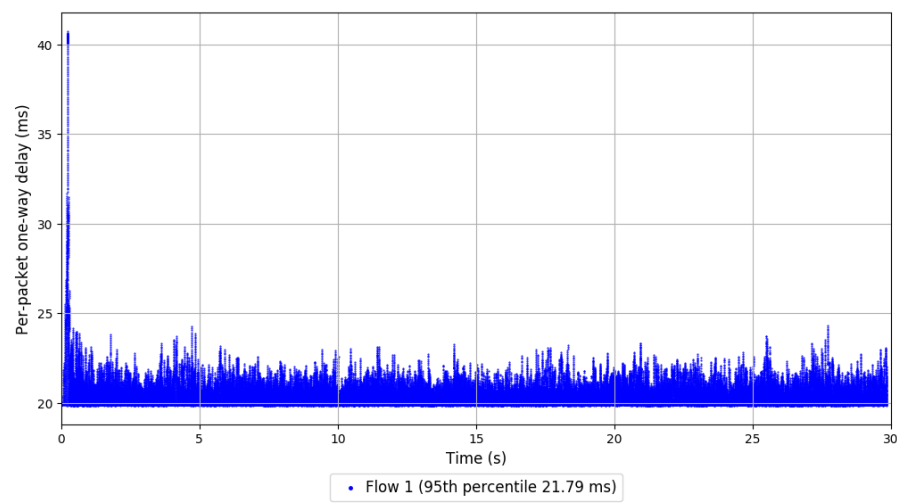
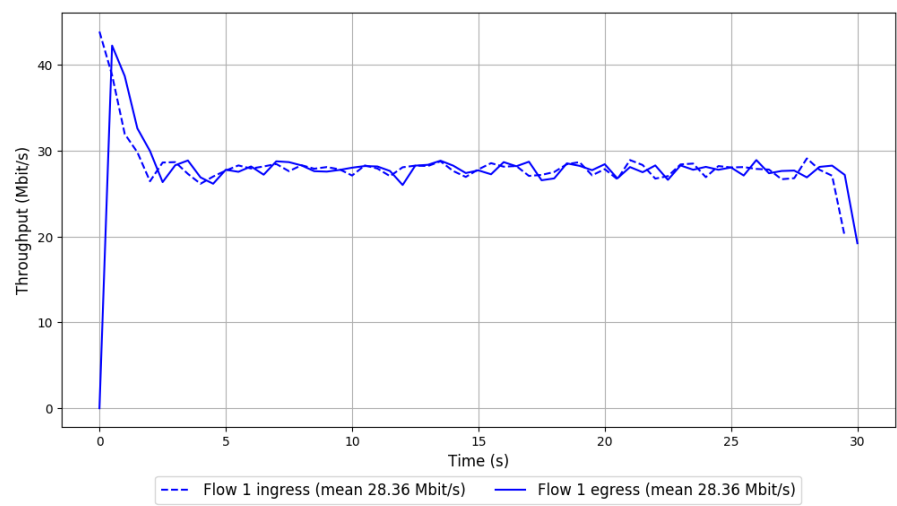


Run 2: Statistics of Indigo

Start at: 2018-09-11 07:47:43
End at: 2018-09-11 07:48:13
Local clock offset: 0.918 ms
Remote clock offset: -1.608 ms

Below is generated by plot.py at 2018-09-11 08:59:29
Datalink statistics
-- Total of 1 flow:
Average throughput: 28.36 Mbit/s
95th percentile per-packet one-way delay: 21.794 ms
Loss rate: 0.10%
-- Flow 1:
Average throughput: 28.36 Mbit/s
95th percentile per-packet one-way delay: 21.794 ms
Loss rate: 0.10%

Run 2: Report of Indigo — Data Link

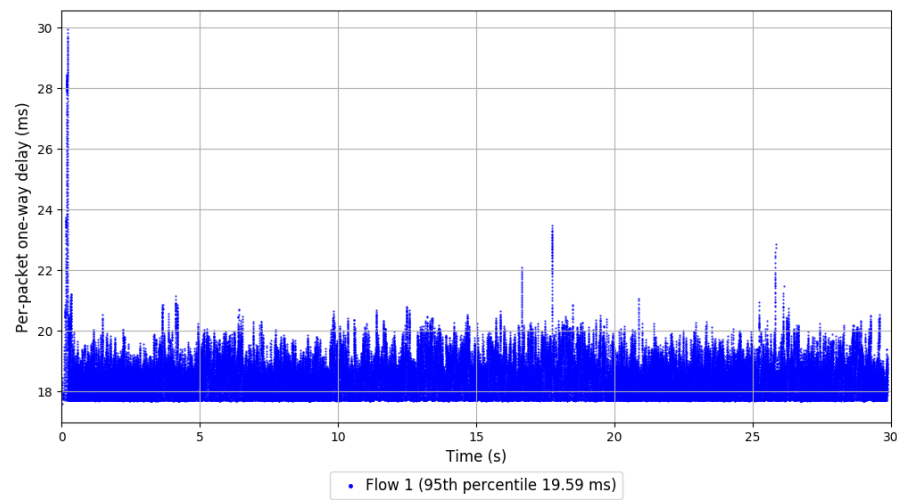
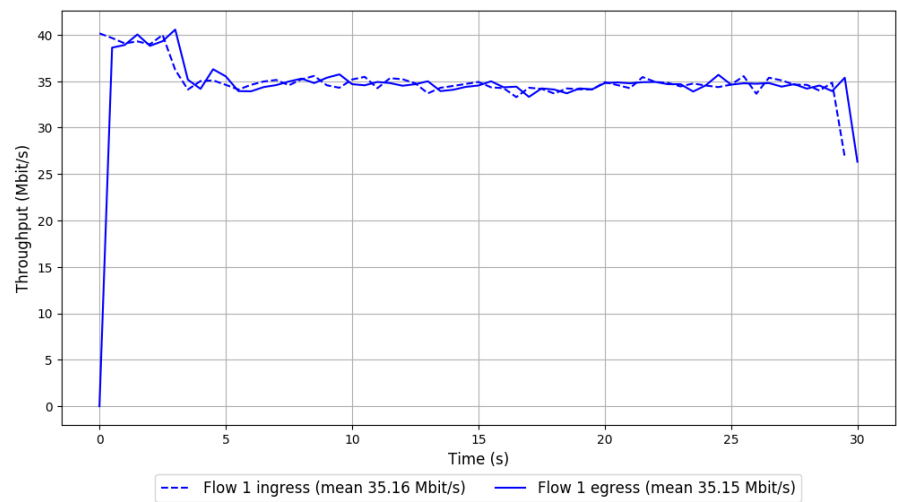


Run 3: Statistics of Indigo

Start at: 2018-09-11 08:08:01
End at: 2018-09-11 08:08:31
Local clock offset: -1.066 ms
Remote clock offset: -1.412 ms

Below is generated by plot.py at 2018-09-11 08:59:29
Datalink statistics
-- Total of 1 flow:
Average throughput: 35.15 Mbit/s
95th percentile per-packet one-way delay: 19.587 ms
Loss rate: 0.10%
-- Flow 1:
Average throughput: 35.15 Mbit/s
95th percentile per-packet one-way delay: 19.587 ms
Loss rate: 0.10%

Run 3: Report of Indigo — Data Link

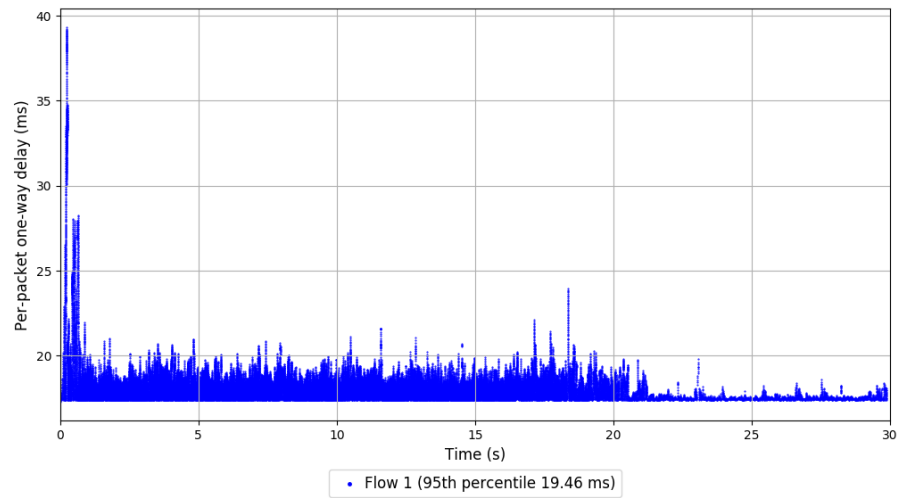
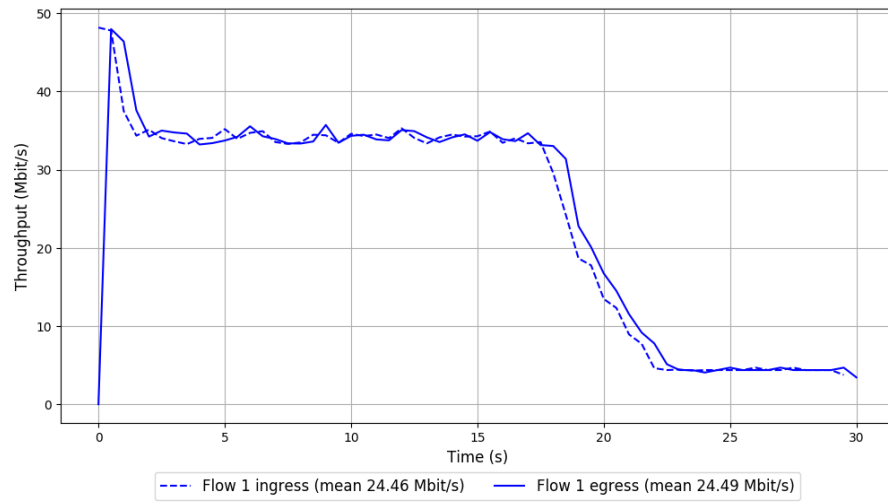


Run 4: Statistics of Indigo

Start at: 2018-09-11 08:28:31
End at: 2018-09-11 08:29:01
Local clock offset: -1.035 ms
Remote clock offset: -1.151 ms

Below is generated by plot.py at 2018-09-11 08:59:29
Datalink statistics
-- Total of 1 flow:
Average throughput: 24.49 Mbit/s
95th percentile per-packet one-way delay: 19.460 ms
Loss rate: 0.02%
-- Flow 1:
Average throughput: 24.49 Mbit/s
95th percentile per-packet one-way delay: 19.460 ms
Loss rate: 0.02%

Run 4: Report of Indigo — Data Link

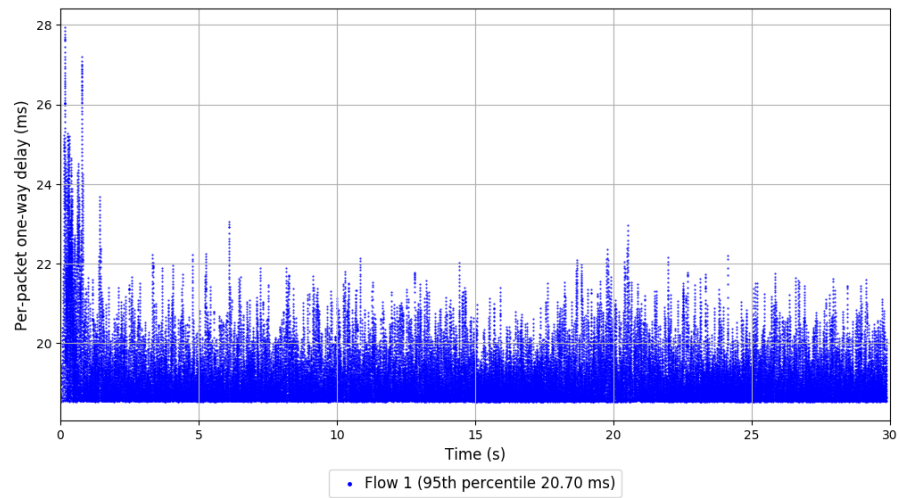
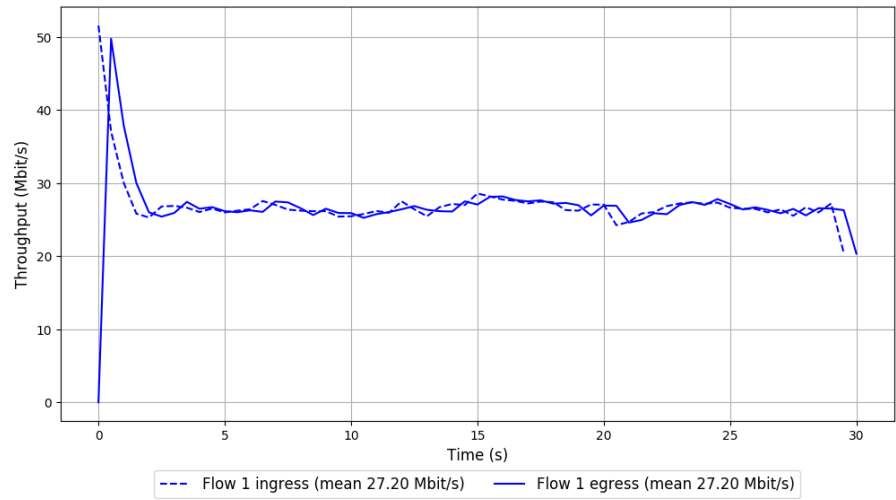


Run 5: Statistics of Indigo

Start at: 2018-09-11 08:49:16
End at: 2018-09-11 08:49:46
Local clock offset: -0.632 ms
Remote clock offset: -2.036 ms

Below is generated by plot.py at 2018-09-11 08:59:29
Datalink statistics
-- Total of 1 flow:
Average throughput: 27.20 Mbit/s
95th percentile per-packet one-way delay: 20.702 ms
Loss rate: 0.10%
-- Flow 1:
Average throughput: 27.20 Mbit/s
95th percentile per-packet one-way delay: 20.702 ms
Loss rate: 0.10%

Run 5: Report of Indigo — Data Link

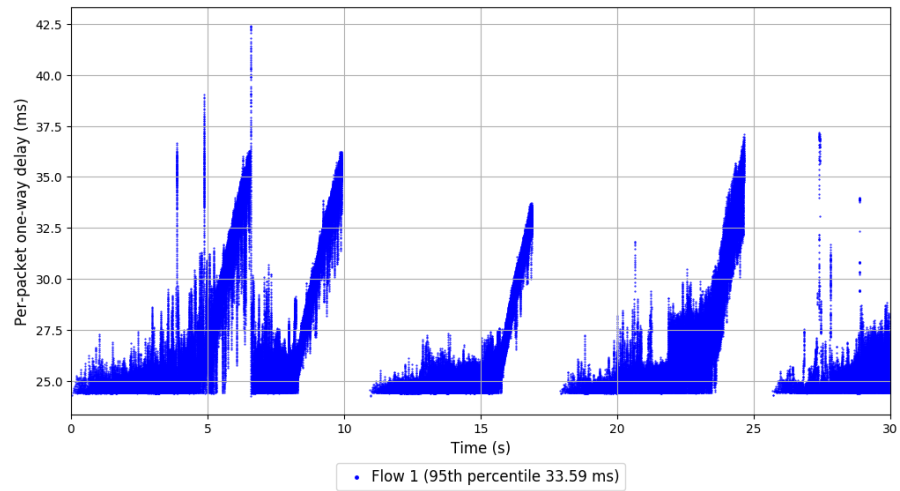
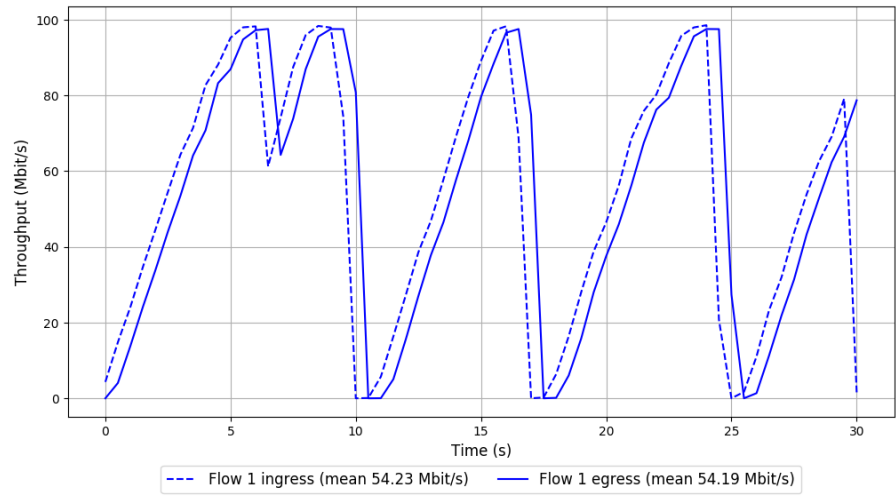


Run 1: Statistics of LEDBAT

Start at: 2018-09-11 07:31:36
End at: 2018-09-11 07:32:06
Local clock offset: 2.131 ms
Remote clock offset: -5.052 ms

Below is generated by plot.py at 2018-09-11 08:59:29
Datalink statistics
-- Total of 1 flow:
Average throughput: 54.19 Mbit/s
95th percentile per-packet one-way delay: 33.591 ms
Loss rate: 0.18%
-- Flow 1:
Average throughput: 54.19 Mbit/s
95th percentile per-packet one-way delay: 33.591 ms
Loss rate: 0.18%

Run 1: Report of LEDBAT — Data Link

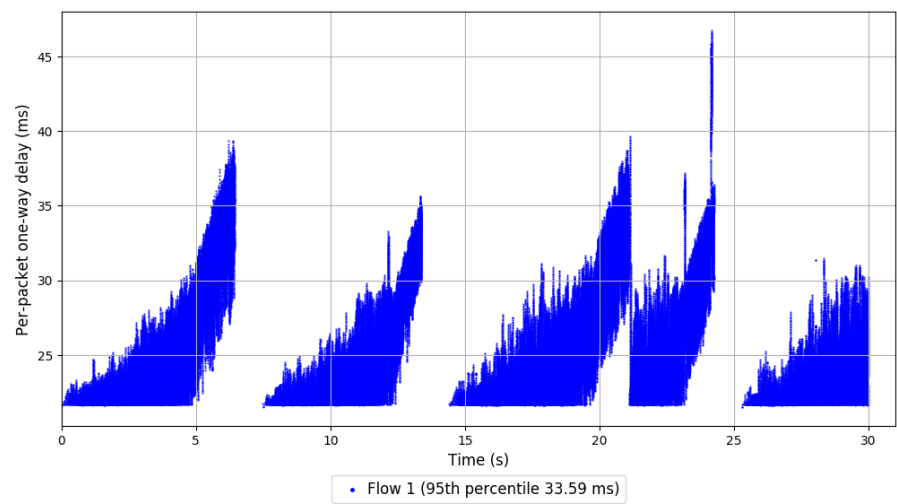
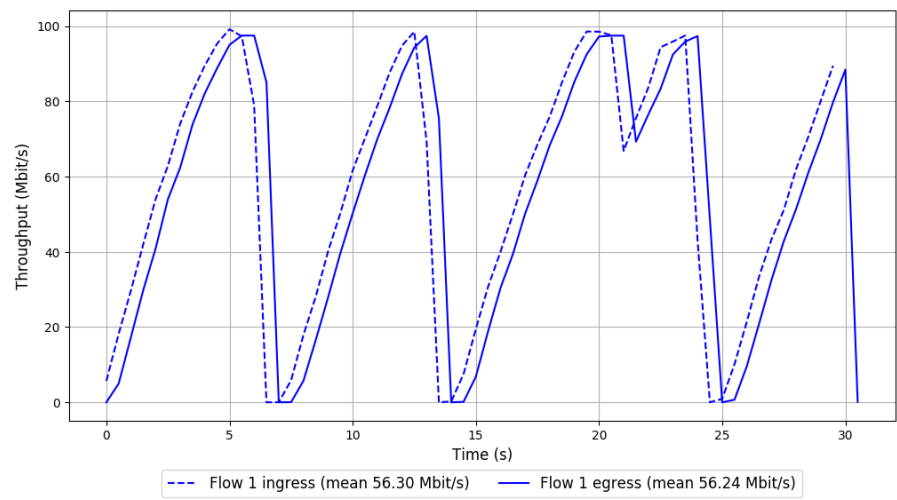


Run 2: Statistics of LEDBAT

Start at: 2018-09-11 07:52:11
End at: 2018-09-11 07:52:41
Local clock offset: 1.93 ms
Remote clock offset: -2.418 ms

Below is generated by plot.py at 2018-09-11 08:59:31
Datalink statistics
-- Total of 1 flow:
Average throughput: 56.24 Mbit/s
95th percentile per-packet one-way delay: 33.585 ms
Loss rate: 0.16%
-- Flow 1:
Average throughput: 56.24 Mbit/s
95th percentile per-packet one-way delay: 33.585 ms
Loss rate: 0.16%

Run 2: Report of LEDBAT — Data Link

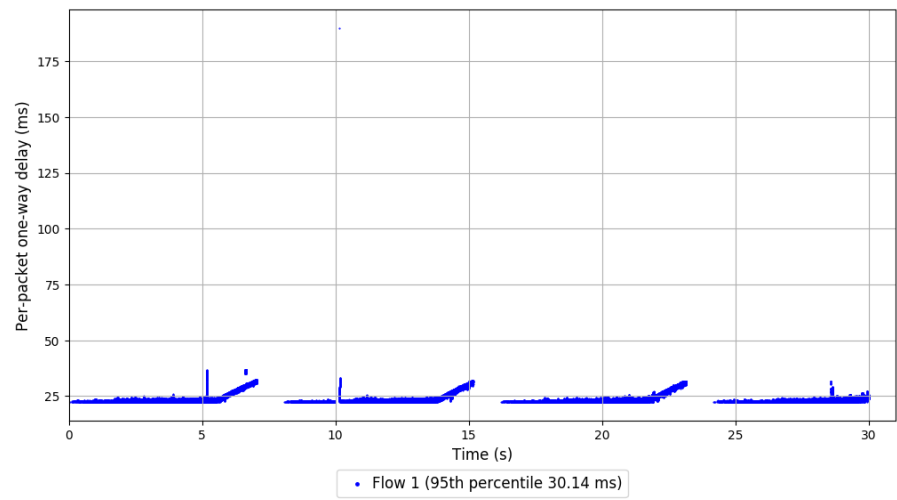
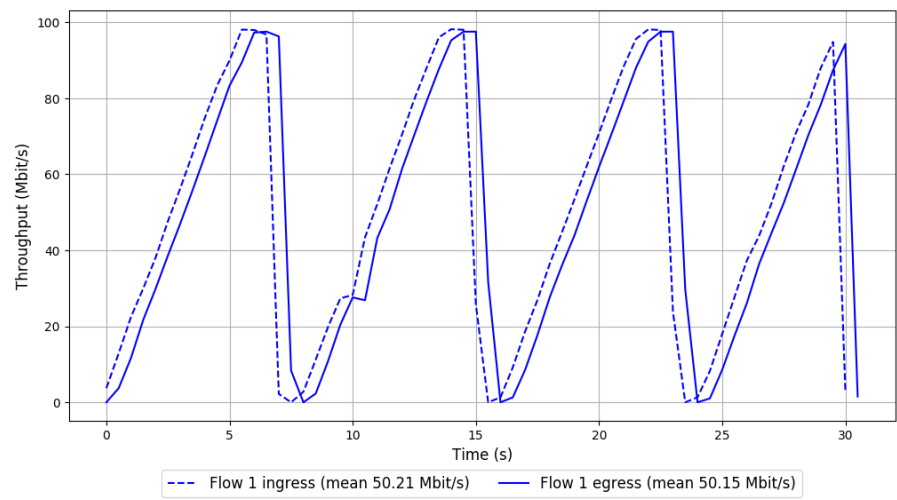


Run 3: Statistics of LEDBAT

Start at: 2018-09-11 08:12:29
End at: 2018-09-11 08:12:59
Local clock offset: 2.336 ms
Remote clock offset: -2.771 ms

Below is generated by plot.py at 2018-09-11 08:59:31
Datalink statistics
-- Total of 1 flow:
Average throughput: 50.15 Mbit/s
95th percentile per-packet one-way delay: 30.139 ms
Loss rate: 0.20%
-- Flow 1:
Average throughput: 50.15 Mbit/s
95th percentile per-packet one-way delay: 30.139 ms
Loss rate: 0.20%

Run 3: Report of LEDBAT — Data Link

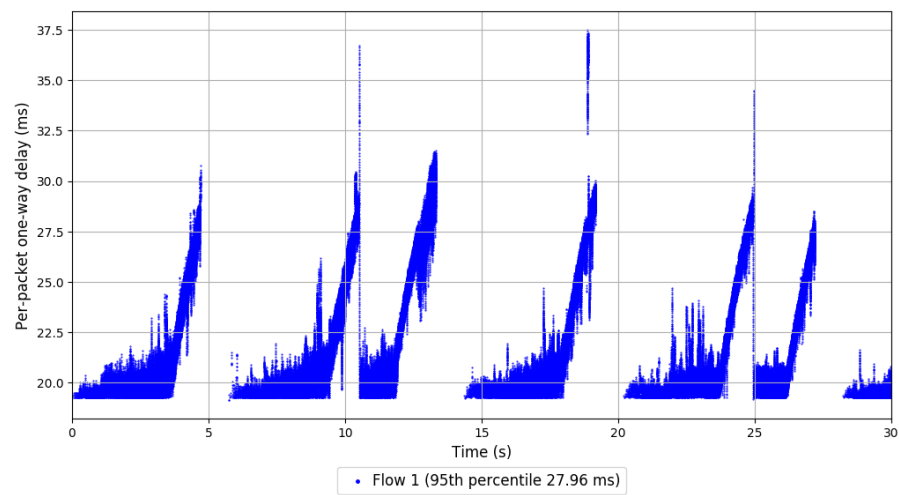
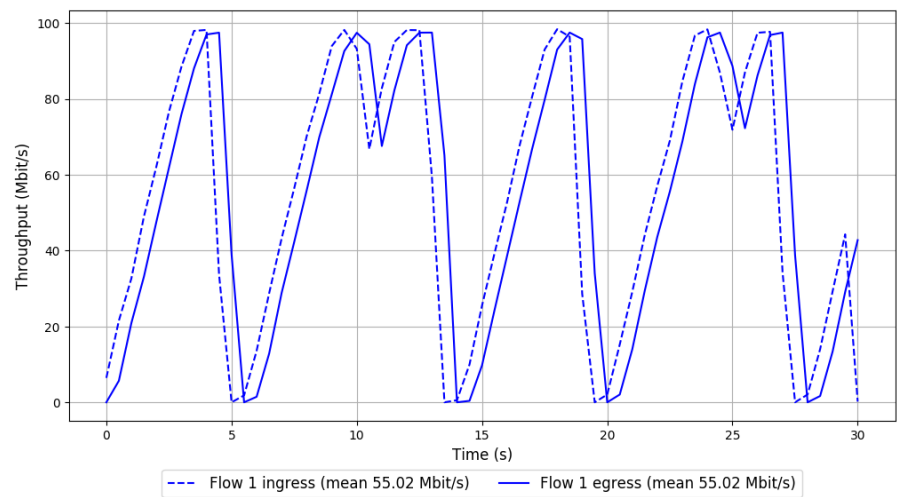


Run 4: Statistics of LEDBAT

Start at: 2018-09-11 08:33:01
End at: 2018-09-11 08:33:31
Local clock offset: 0.923 ms
Remote clock offset: -1.028 ms

Below is generated by plot.py at 2018-09-11 08:59:40
Datalink statistics
-- Total of 1 flow:
Average throughput: 55.02 Mbit/s
95th percentile per-packet one-way delay: 27.961 ms
Loss rate: 0.09%
-- Flow 1:
Average throughput: 55.02 Mbit/s
95th percentile per-packet one-way delay: 27.961 ms
Loss rate: 0.09%

Run 4: Report of LEDBAT — Data Link

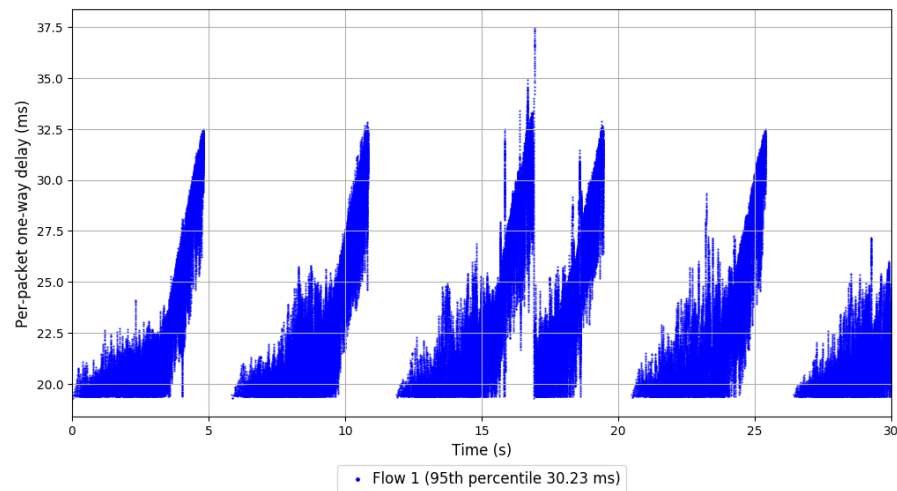
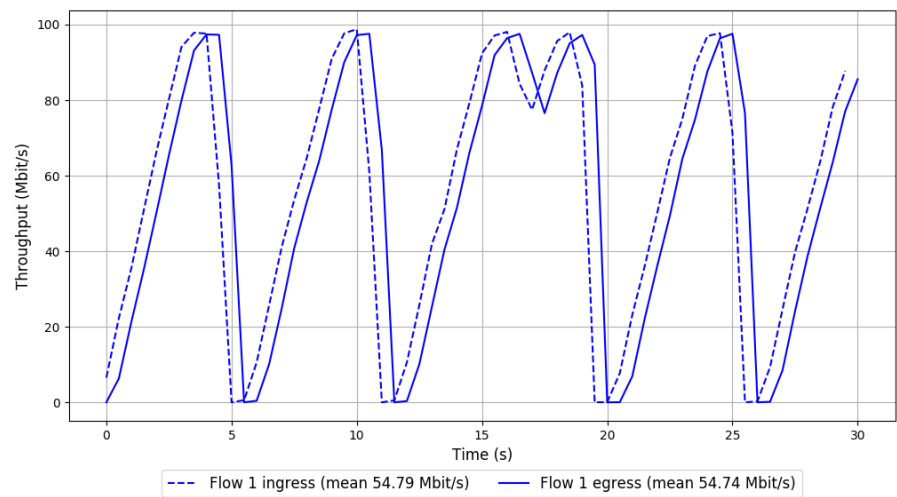


Run 5: Statistics of LEDBAT

Start at: 2018-09-11 08:53:45
End at: 2018-09-11 08:54:15
Local clock offset: 1.015 ms
Remote clock offset: -1.328 ms

Below is generated by plot.py at 2018-09-11 08:59:43
Datalink statistics
-- Total of 1 flow:
Average throughput: 54.74 Mbit/s
95th percentile per-packet one-way delay: 30.225 ms
Loss rate: 0.18%
-- Flow 1:
Average throughput: 54.74 Mbit/s
95th percentile per-packet one-way delay: 30.225 ms
Loss rate: 0.18%

Run 5: Report of LEDBAT — Data Link

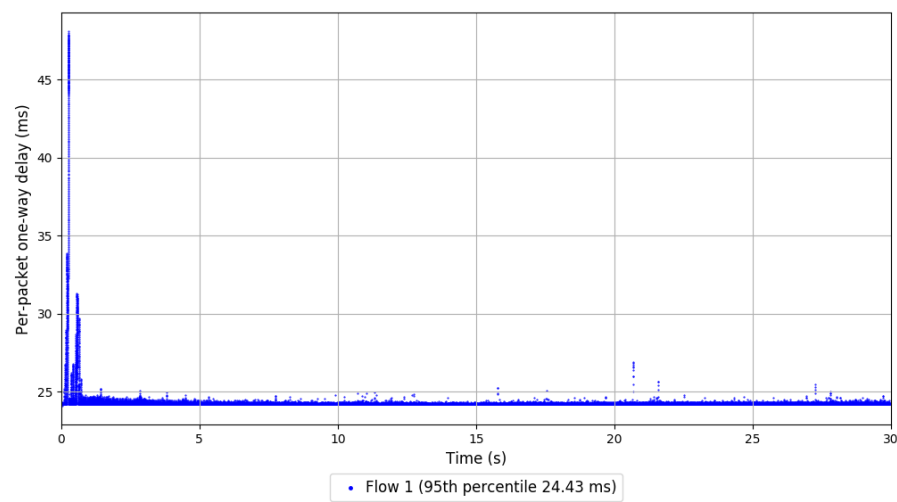
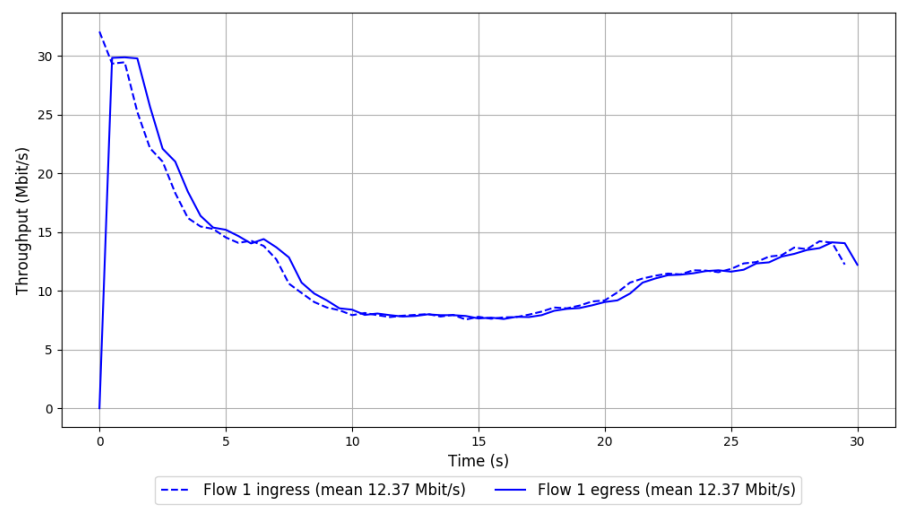


```
Run 1: Statistics of Indigo-Muses

Start at: 2018-09-11 07:20:01
End at: 2018-09-11 07:20:31
Local clock offset: 0.991 ms
Remote clock offset: -3.112 ms

# Below is generated by plot.py at 2018-09-11 08:59:43
# Datalink statistics
-- Total of 1 flow:
Average throughput: 12.37 Mbit/s
95th percentile per-packet one-way delay: 24.429 ms
Loss rate: 0.10%
-- Flow 1:
Average throughput: 12.37 Mbit/s
95th percentile per-packet one-way delay: 24.429 ms
Loss rate: 0.10%
```

Run 1: Report of Indigo-Muses — Data Link

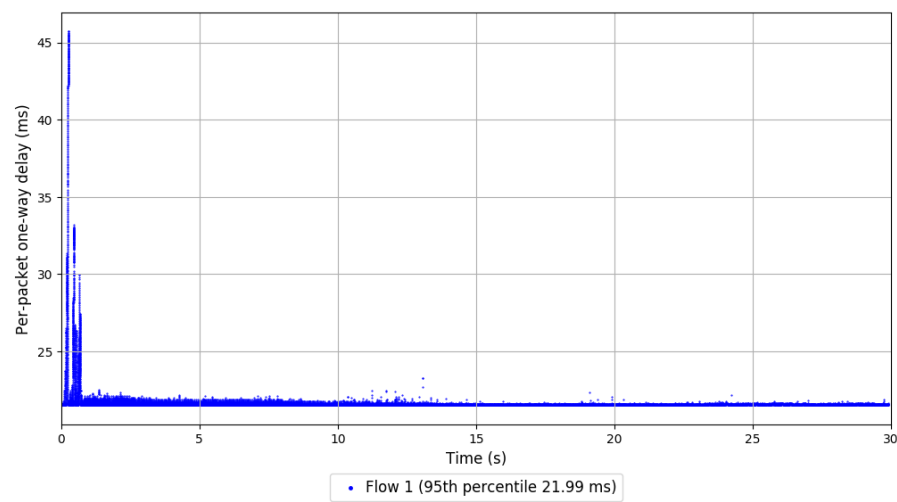
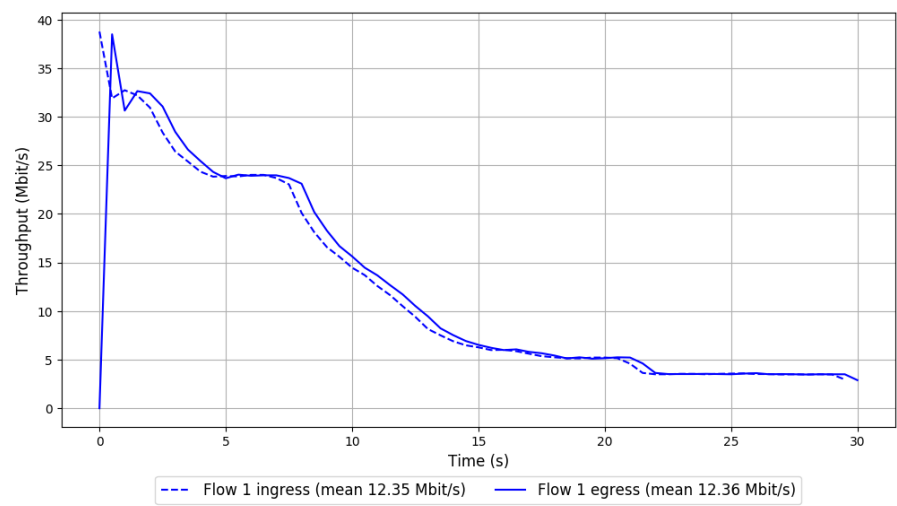


Run 2: Statistics of Indigo-Muses

Start at: 2018-09-11 07:40:41
End at: 2018-09-11 07:41:11
Local clock offset: 1.973 ms
Remote clock offset: -2.211 ms

Below is generated by plot.py at 2018-09-11 08:59:43
Datalink statistics
-- Total of 1 flow:
Average throughput: 12.36 Mbit/s
95th percentile per-packet one-way delay: 21.991 ms
Loss rate: 0.03%
-- Flow 1:
Average throughput: 12.36 Mbit/s
95th percentile per-packet one-way delay: 21.991 ms
Loss rate: 0.03%

Run 2: Report of Indigo-Muses — Data Link

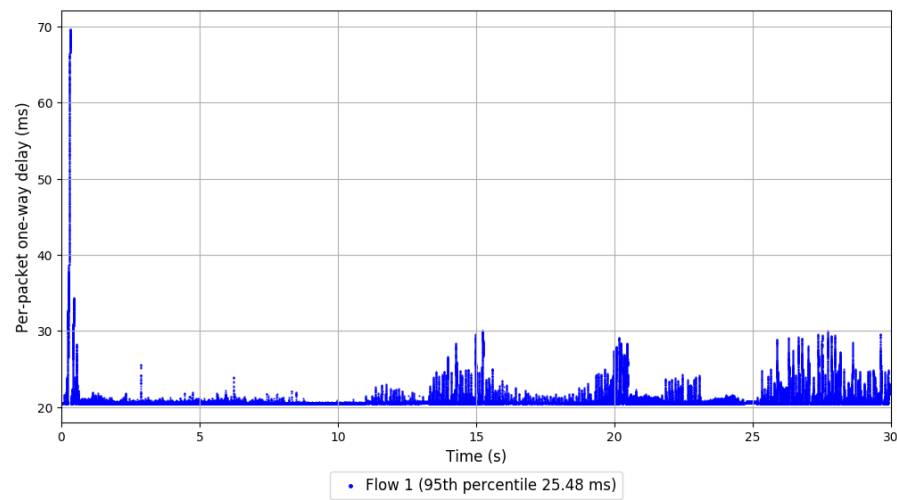
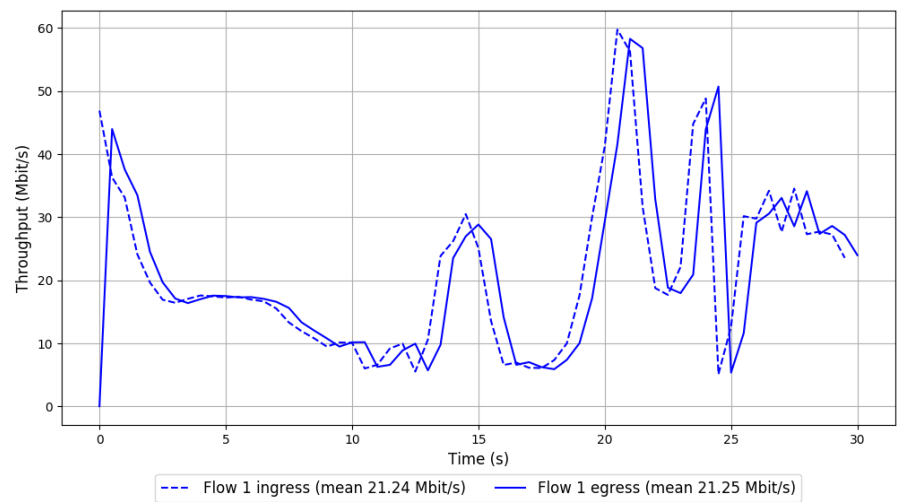


Run 3: Statistics of Indigo-Muses

Start at: 2018-09-11 08:01:09
End at: 2018-09-11 08:01:39
Local clock offset: 0.665 ms
Remote clock offset: -2.519 ms

Below is generated by plot.py at 2018-09-11 08:59:43
Datalink statistics
-- Total of 1 flow:
Average throughput: 21.25 Mbit/s
95th percentile per-packet one-way delay: 25.479 ms
Loss rate: 0.07%
-- Flow 1:
Average throughput: 21.25 Mbit/s
95th percentile per-packet one-way delay: 25.479 ms
Loss rate: 0.07%

Run 3: Report of Indigo-Muses — Data Link

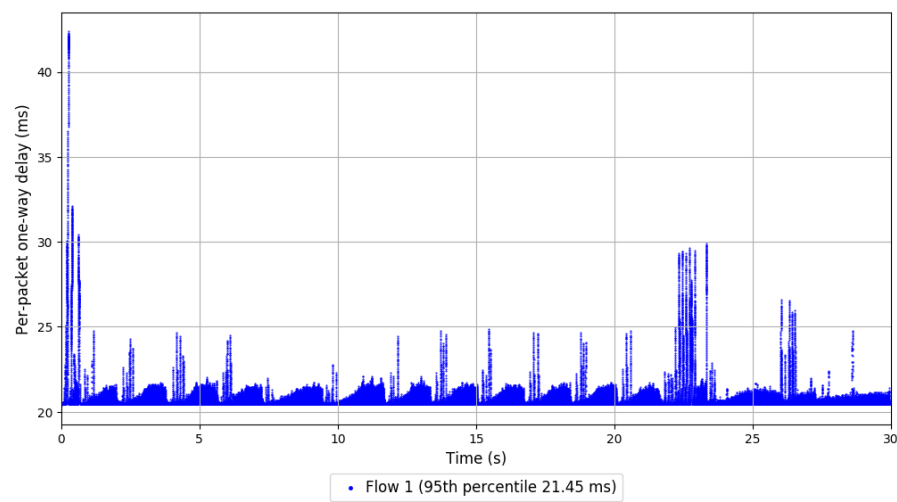
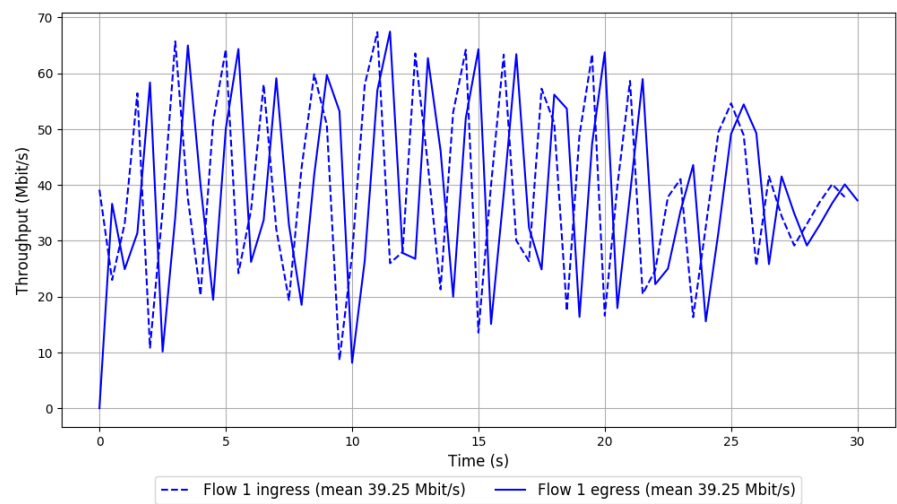


Run 4: Statistics of Indigo-Muses

Start at: 2018-09-11 08:21:34
End at: 2018-09-11 08:22:05
Local clock offset: 1.567 ms
Remote clock offset: -1.582 ms

Below is generated by plot.py at 2018-09-11 08:59:49
Datalink statistics
-- Total of 1 flow:
Average throughput: 39.25 Mbit/s
95th percentile per-packet one-way delay: 21.446 ms
Loss rate: 0.10%
-- Flow 1:
Average throughput: 39.25 Mbit/s
95th percentile per-packet one-way delay: 21.446 ms
Loss rate: 0.10%

Run 4: Report of Indigo-Muses — Data Link

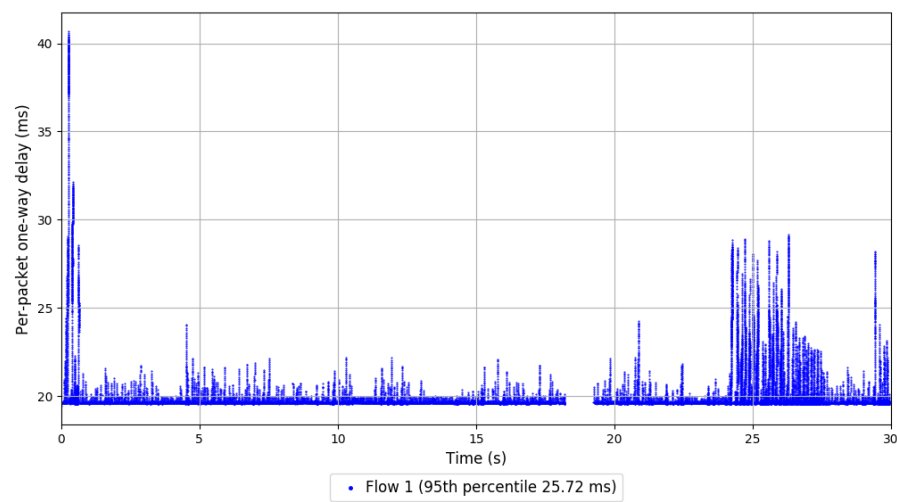
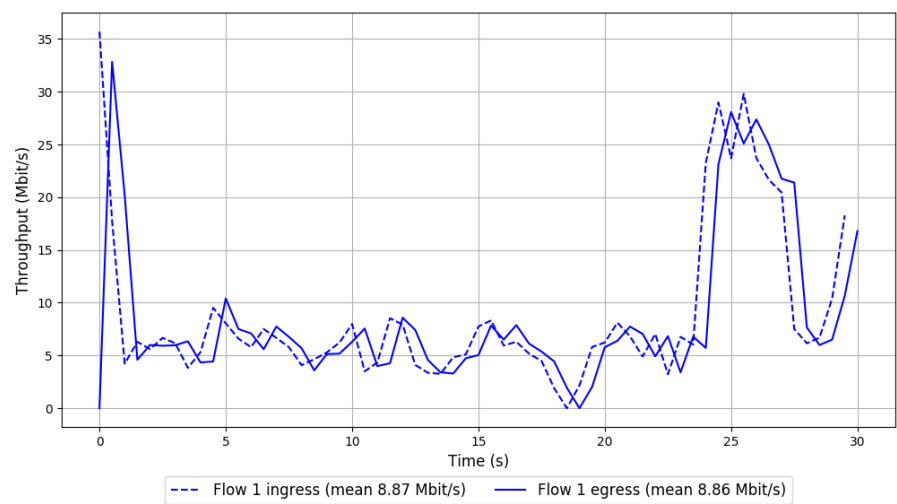


Run 5: Statistics of Indigo-Muses

Start at: 2018-09-11 08:42:19
End at: 2018-09-11 08:42:49
Local clock offset: 0.771 ms
Remote clock offset: -1.606 ms

Below is generated by plot.py at 2018-09-11 08:59:49
Datalink statistics
-- Total of 1 flow:
Average throughput: 8.86 Mbit/s
95th percentile per-packet one-way delay: 25.723 ms
Loss rate: 0.31%
-- Flow 1:
Average throughput: 8.86 Mbit/s
95th percentile per-packet one-way delay: 25.723 ms
Loss rate: 0.31%

Run 5: Report of Indigo-Muses — Data Link



Run 1: Statistics of PCC-Allegro

Start at: 2018-09-11 07:25:52

End at: 2018-09-11 07:26:22

Local clock offset: 0.666 ms

Remote clock offset: -4.227 ms

Below is generated by plot.py at 2018-09-11 09:00:30

Datalink statistics

-- Total of 1 flow:

Average throughput: 79.09 Mbit/s

95th percentile per-packet one-way delay: 57.189 ms

Loss rate: 0.27%

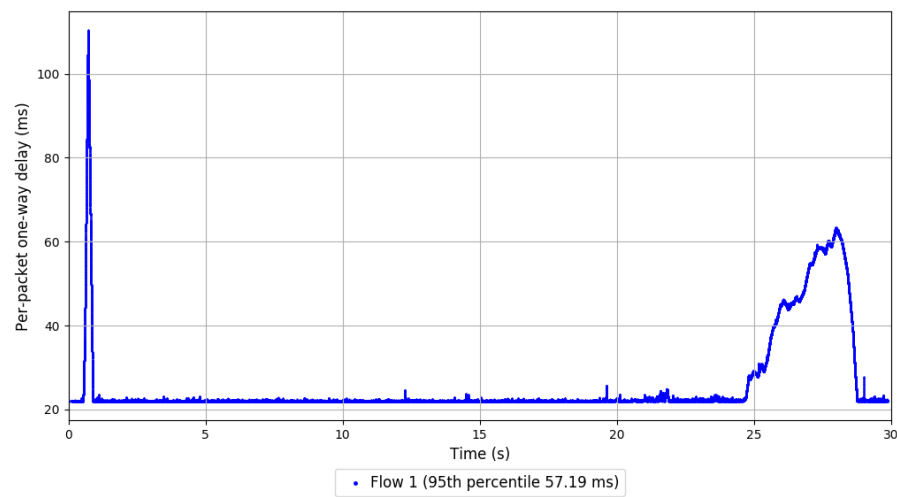
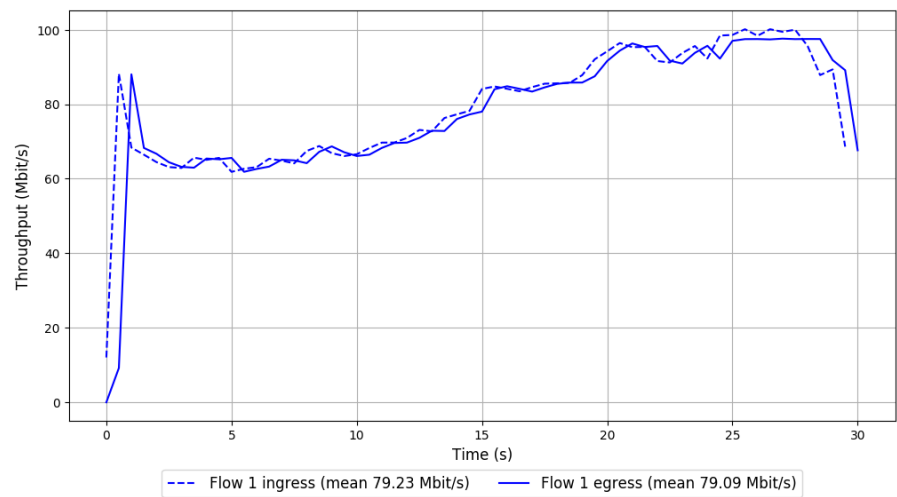
-- Flow 1:

Average throughput: 79.09 Mbit/s

95th percentile per-packet one-way delay: 57.189 ms

Loss rate: 0.27%

Run 1: Report of PCC-Allegro — Data Link



Run 2: Statistics of PCC-Allegro

Start at: 2018-09-11 07:46:35

End at: 2018-09-11 07:47:05

Local clock offset: 1.39 ms

Remote clock offset: -4.451 ms

Below is generated by plot.py at 2018-09-11 09:00:30

Datalink statistics

-- Total of 1 flow:

Average throughput: 63.93 Mbit/s

95th percentile per-packet one-way delay: 23.240 ms

Loss rate: 0.11%

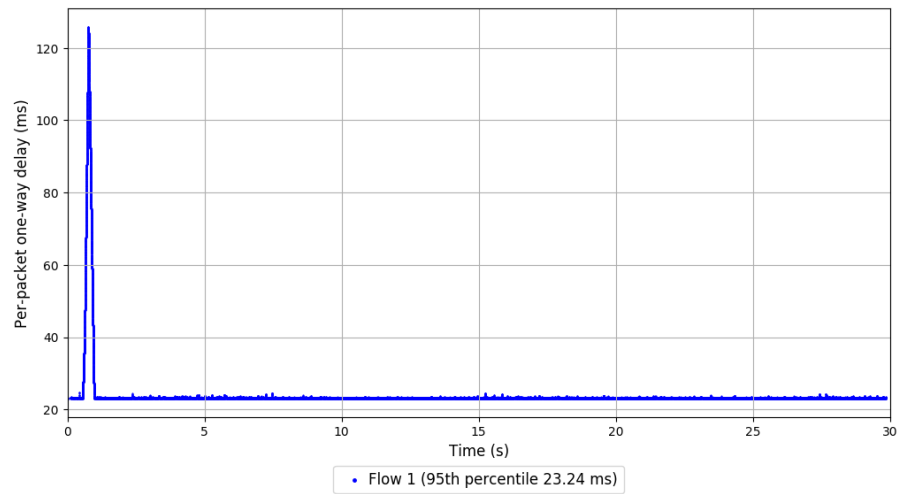
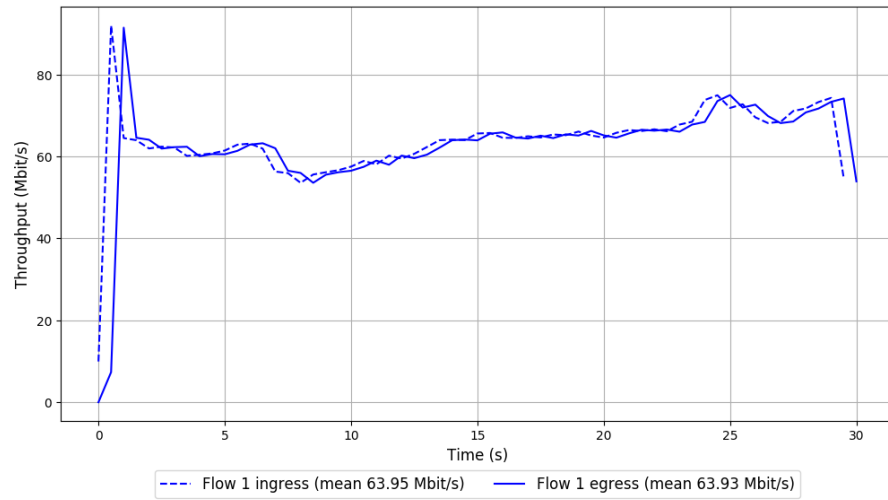
-- Flow 1:

Average throughput: 63.93 Mbit/s

95th percentile per-packet one-way delay: 23.240 ms

Loss rate: 0.11%

Run 2: Report of PCC-Allegro — Data Link



Run 3: Statistics of PCC-Allegro

Start at: 2018-09-11 08:06:53

End at: 2018-09-11 08:07:23

Local clock offset: -1.295 ms

Remote clock offset: -2.018 ms

Below is generated by plot.py at 2018-09-11 09:00:38

Datalink statistics

-- Total of 1 flow:

Average throughput: 88.80 Mbit/s

95th percentile per-packet one-way delay: 22.507 ms

Loss rate: 0.10%

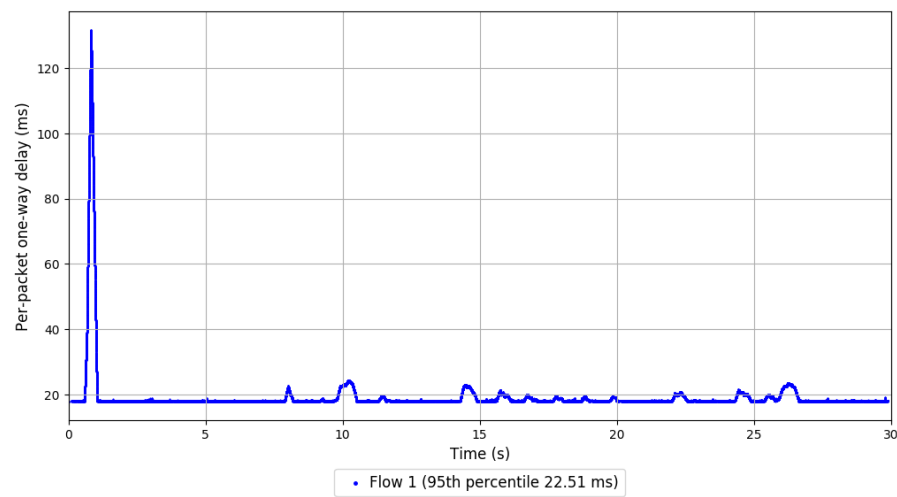
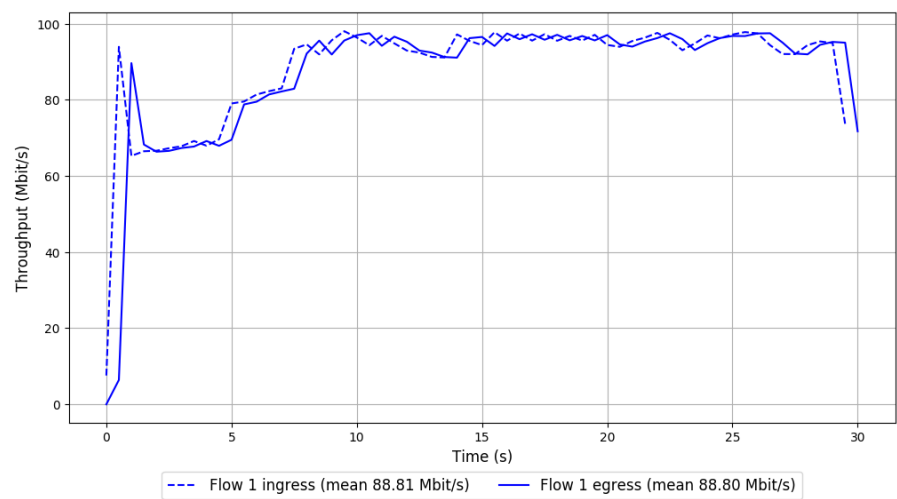
-- Flow 1:

Average throughput: 88.80 Mbit/s

95th percentile per-packet one-way delay: 22.507 ms

Loss rate: 0.10%

Run 3: Report of PCC-Allegro — Data Link



Run 4: Statistics of PCC-Allegro

Start at: 2018-09-11 08:27:21

End at: 2018-09-11 08:27:51

Local clock offset: 1.244 ms

Remote clock offset: -1.18 ms

Below is generated by plot.py at 2018-09-11 09:00:44

Datalink statistics

-- Total of 1 flow:

Average throughput: 88.80 Mbit/s

95th percentile per-packet one-way delay: 20.832 ms

Loss rate: 0.12%

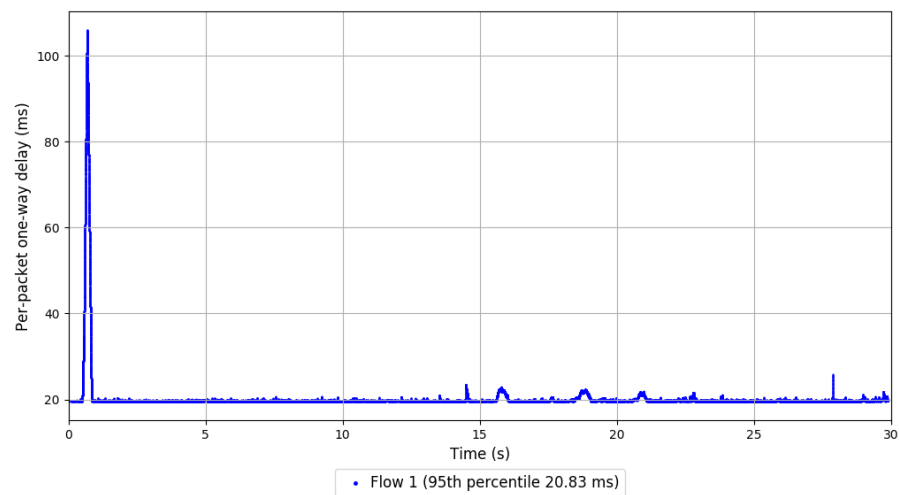
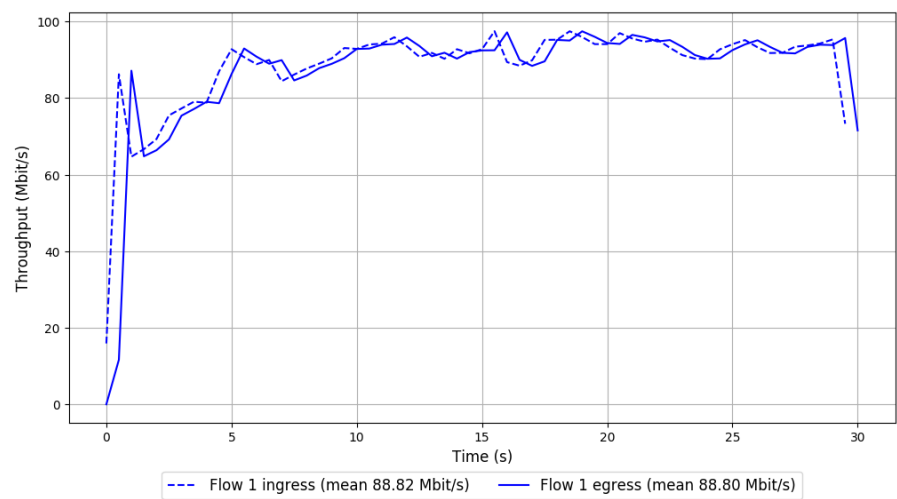
-- Flow 1:

Average throughput: 88.80 Mbit/s

95th percentile per-packet one-way delay: 20.832 ms

Loss rate: 0.12%

Run 4: Report of PCC-Allegro — Data Link



Run 5: Statistics of PCC-Allegro

Start at: 2018-09-11 08:48:08

End at: 2018-09-11 08:48:38

Local clock offset: -0.635 ms

Remote clock offset: -1.4 ms

Below is generated by plot.py at 2018-09-11 09:00:44

Datalink statistics

-- Total of 1 flow:

Average throughput: 67.23 Mbit/s

95th percentile per-packet one-way delay: 17.984 ms

Loss rate: 0.10%

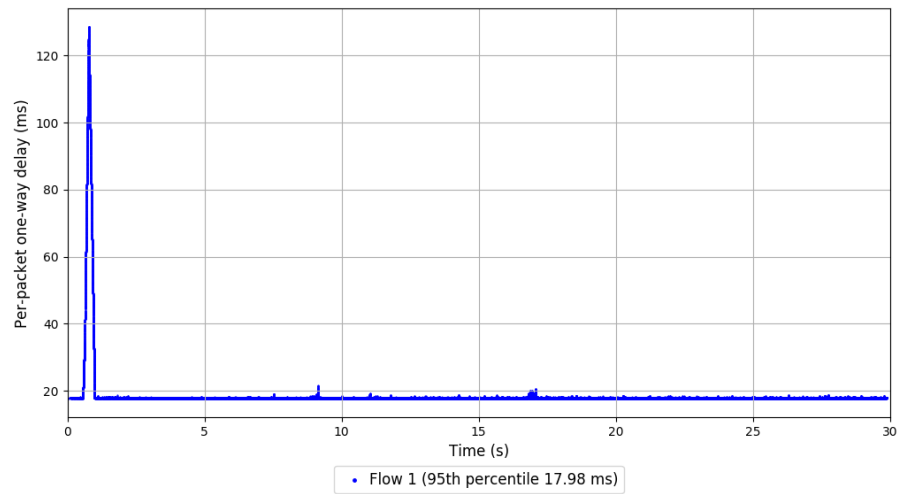
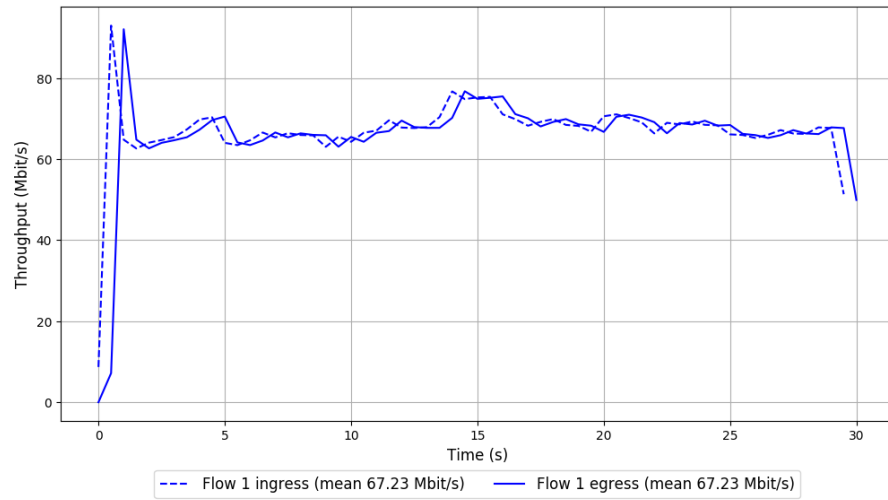
-- Flow 1:

Average throughput: 67.23 Mbit/s

95th percentile per-packet one-way delay: 17.984 ms

Loss rate: 0.10%

Run 5: Report of PCC-Allegro — Data Link



Run 1: Statistics of PCC-Expr

Start at: 2018-09-11 07:24:46

End at: 2018-09-11 07:25:16

Local clock offset: 0.472 ms

Remote clock offset: -5.711 ms

Below is generated by plot.py at 2018-09-11 09:00:44

Datalink statistics

-- Total of 1 flow:

Average throughput: 15.15 Mbit/s

95th percentile per-packet one-way delay: 26.476 ms

Loss rate: 0.11%

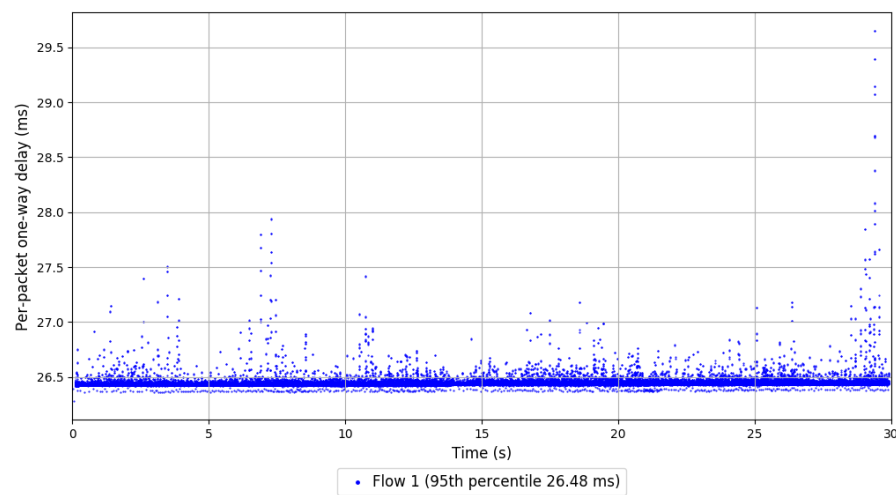
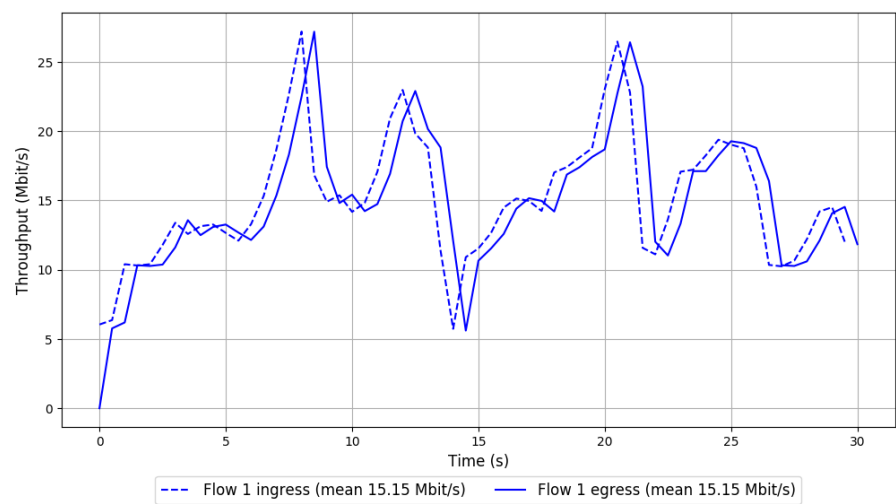
-- Flow 1:

Average throughput: 15.15 Mbit/s

95th percentile per-packet one-way delay: 26.476 ms

Loss rate: 0.11%

Run 1: Report of PCC-Expr — Data Link

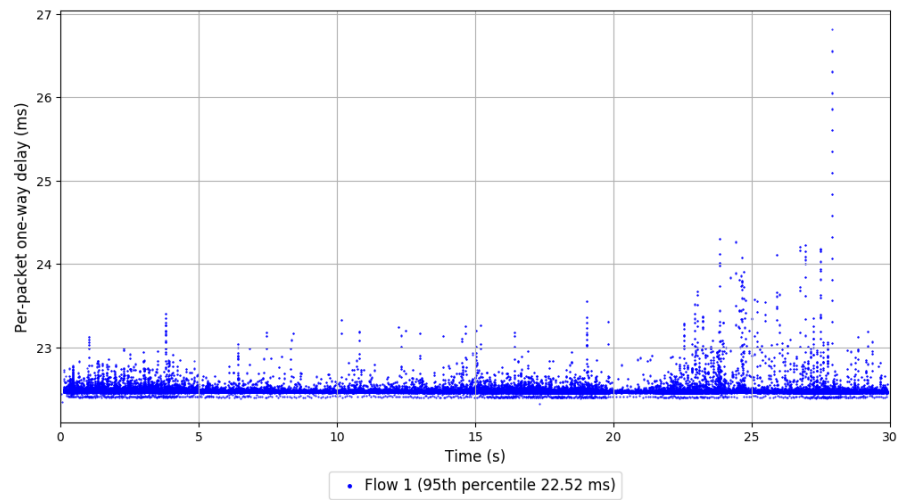
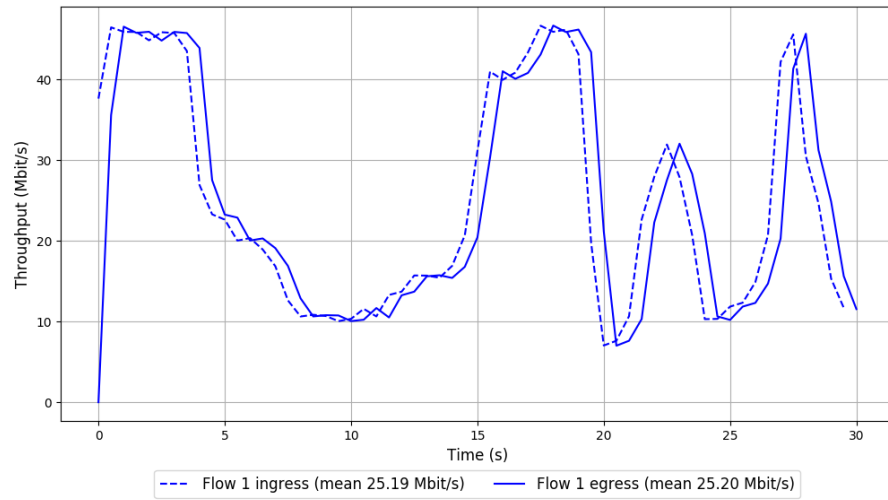


Run 2: Statistics of PCC-Expr

Start at: 2018-09-11 07:45:26
End at: 2018-09-11 07:45:56
Local clock offset: 1.619 ms
Remote clock offset: -3.501 ms

Below is generated by plot.py at 2018-09-11 09:00:44
Datalink statistics
-- Total of 1 flow:
Average throughput: 25.20 Mbit/s
95th percentile per-packet one-way delay: 22.516 ms
Loss rate: 0.05%
-- Flow 1:
Average throughput: 25.20 Mbit/s
95th percentile per-packet one-way delay: 22.516 ms
Loss rate: 0.05%

Run 2: Report of PCC-Expr — Data Link



Run 3: Statistics of PCC-Expr

Start at: 2018-09-11 08:05:46

End at: 2018-09-11 08:06:16

Local clock offset: 2.785 ms

Remote clock offset: -2.1 ms

Below is generated by plot.py at 2018-09-11 09:00:44

Datalink statistics

-- Total of 1 flow:

Average throughput: 25.48 Mbit/s

95th percentile per-packet one-way delay: 22.253 ms

Loss rate: 0.24%

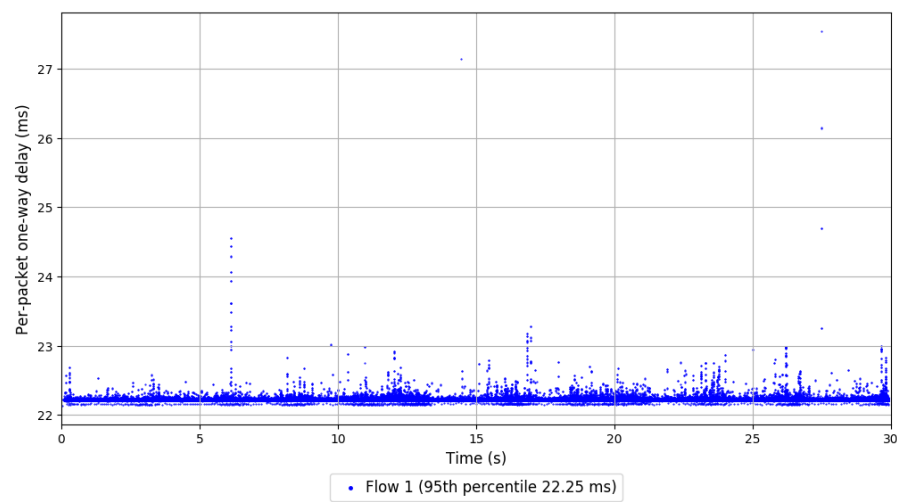
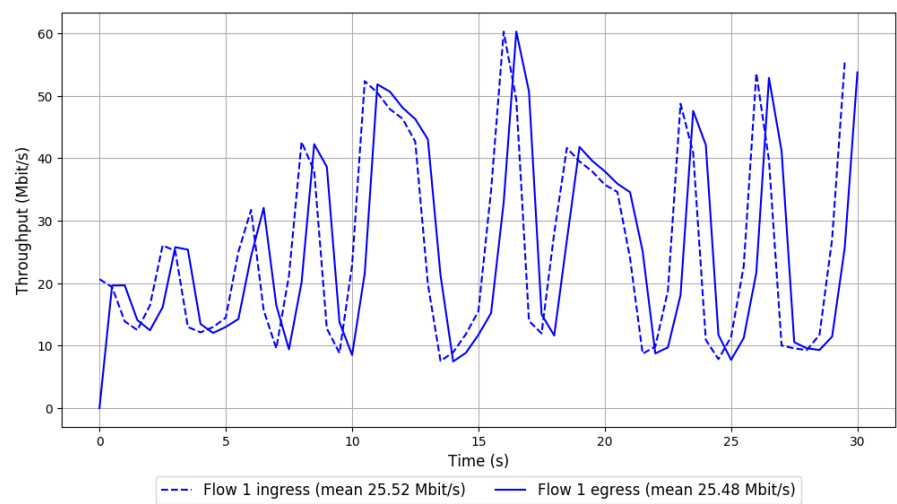
-- Flow 1:

Average throughput: 25.48 Mbit/s

95th percentile per-packet one-way delay: 22.253 ms

Loss rate: 0.24%

Run 3: Report of PCC-Expr — Data Link

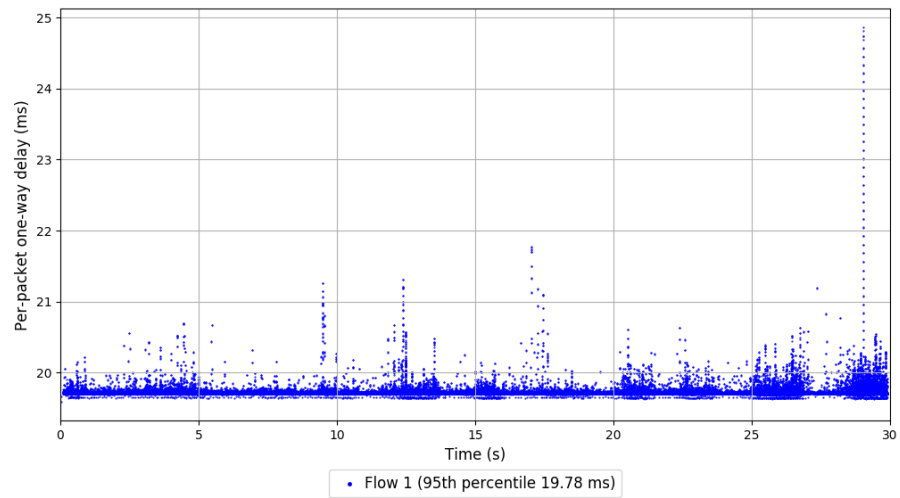
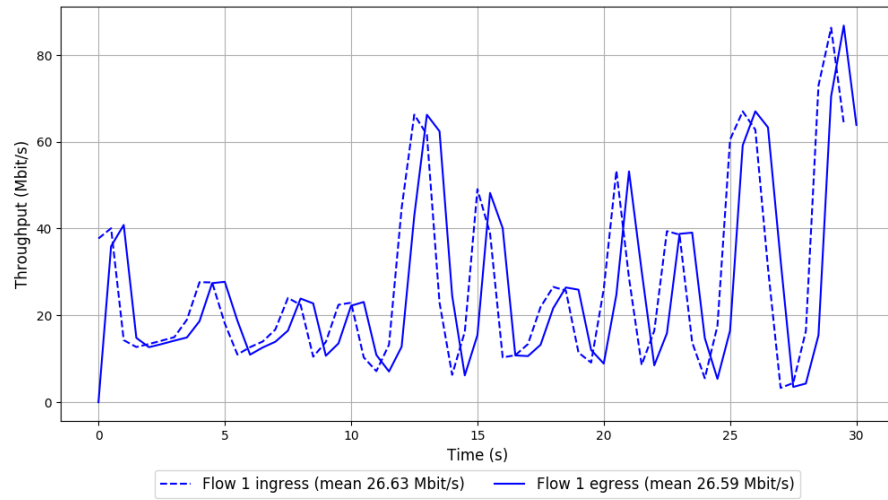


Run 4: Statistics of PCC-Expr

Start at: 2018-09-11 08:26:13
End at: 2018-09-11 08:26:43
Local clock offset: 1.332 ms
Remote clock offset: -1.108 ms

Below is generated by plot.py at 2018-09-11 09:00:44
Datalink statistics
-- Total of 1 flow:
Average throughput: 26.59 Mbit/s
95th percentile per-packet one-way delay: 19.784 ms
Loss rate: 0.23%
-- Flow 1:
Average throughput: 26.59 Mbit/s
95th percentile per-packet one-way delay: 19.784 ms
Loss rate: 0.23%

Run 4: Report of PCC-Expr — Data Link

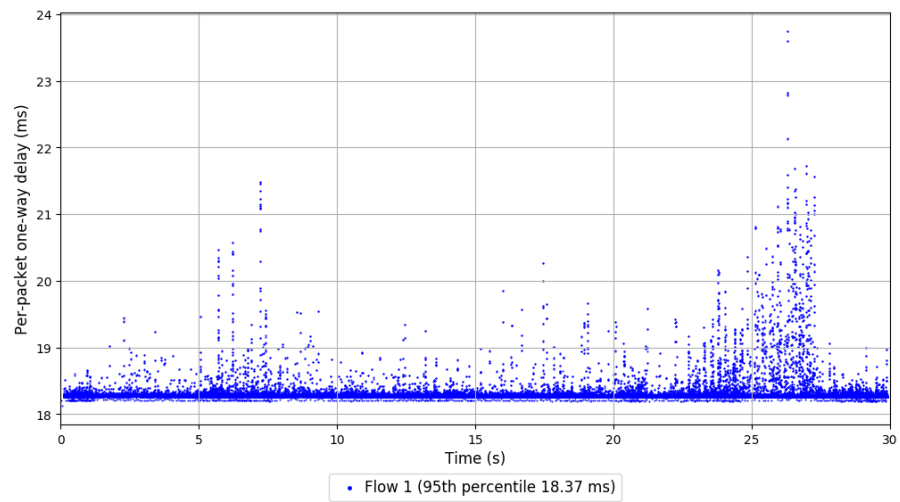
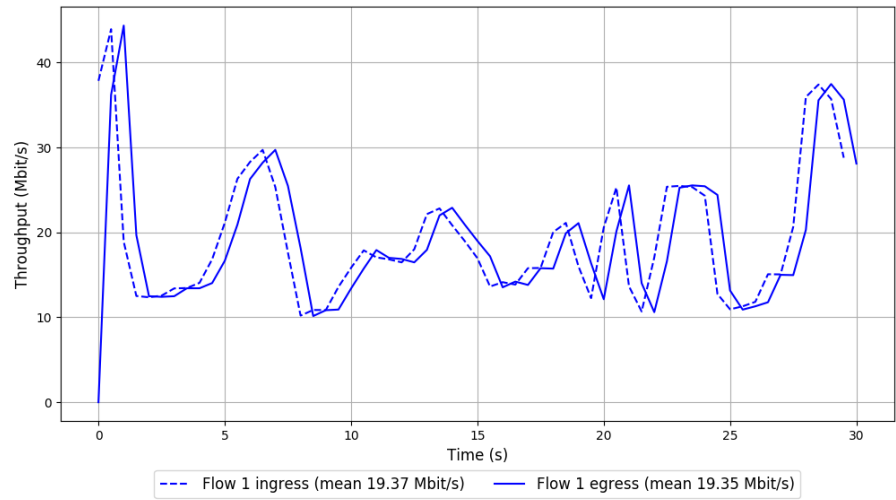


Run 5: Statistics of PCC-Expr

Start at: 2018-09-11 08:47:00
End at: 2018-09-11 08:47:30
Local clock offset: 0.315 ms
Remote clock offset: -0.792 ms

Below is generated by plot.py at 2018-09-11 09:00:45
Datalink statistics
-- Total of 1 flow:
Average throughput: 19.35 Mbit/s
95th percentile per-packet one-way delay: 18.370 ms
Loss rate: 0.18%
-- Flow 1:
Average throughput: 19.35 Mbit/s
95th percentile per-packet one-way delay: 18.370 ms
Loss rate: 0.18%

Run 5: Report of PCC-Expr — Data Link



Run 1: Statistics of QUIC Cubic

Start at: 2018-09-11 07:13:06

End at: 2018-09-11 07:13:36

Local clock offset: 0.708 ms

Remote clock offset: -3.809 ms

Below is generated by plot.py at 2018-09-11 09:01:33

Datalink statistics

-- Total of 1 flow:

Average throughput: 88.27 Mbit/s

95th percentile per-packet one-way delay: 35.011 ms

Loss rate: 0.14%

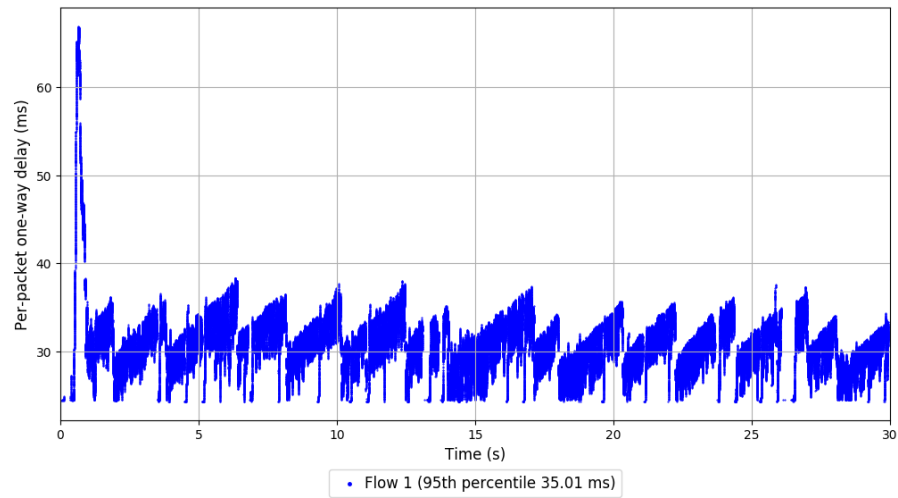
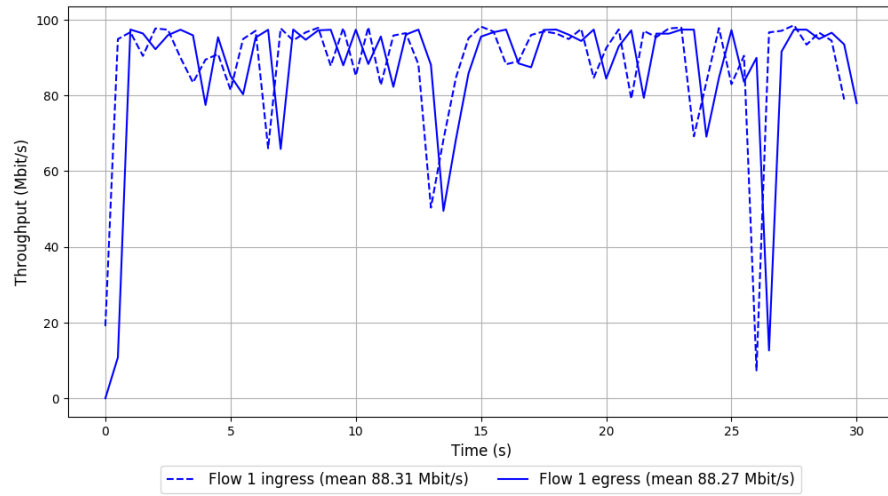
-- Flow 1:

Average throughput: 88.27 Mbit/s

95th percentile per-packet one-way delay: 35.011 ms

Loss rate: 0.14%

Run 1: Report of QUIC Cubic — Data Link



Run 2: Statistics of QUIC Cubic

Start at: 2018-09-11 07:33:52

End at: 2018-09-11 07:34:22

Local clock offset: 2.213 ms

Remote clock offset: -4.115 ms

Below is generated by plot.py at 2018-09-11 09:01:41

Datalink statistics

-- Total of 1 flow:

Average throughput: 87.98 Mbit/s

95th percentile per-packet one-way delay: 33.890 ms

Loss rate: 0.01%

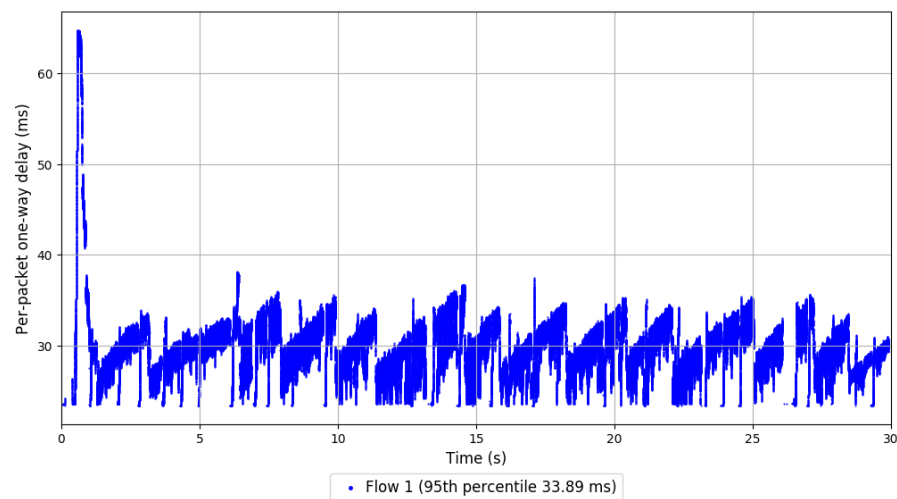
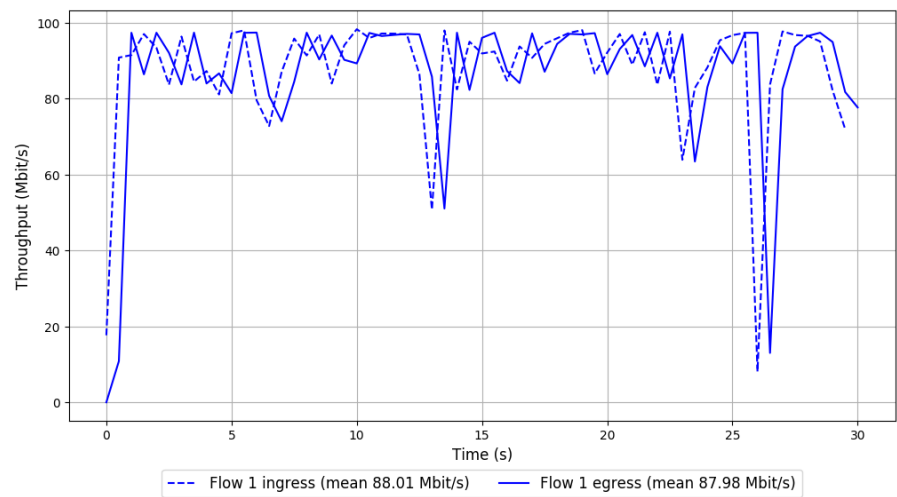
-- Flow 1:

Average throughput: 87.98 Mbit/s

95th percentile per-packet one-way delay: 33.890 ms

Loss rate: 0.01%

Run 2: Report of QUIC Cubic — Data Link



Run 3: Statistics of QUIC Cubic

Start at: 2018-09-11 07:54:27

End at: 2018-09-11 07:54:57

Local clock offset: 2.471 ms

Remote clock offset: -1.651 ms

Below is generated by plot.py at 2018-09-11 09:01:41

Datalink statistics

-- Total of 1 flow:

Average throughput: 86.75 Mbit/s

95th percentile per-packet one-way delay: 33.133 ms

Loss rate: 0.14%

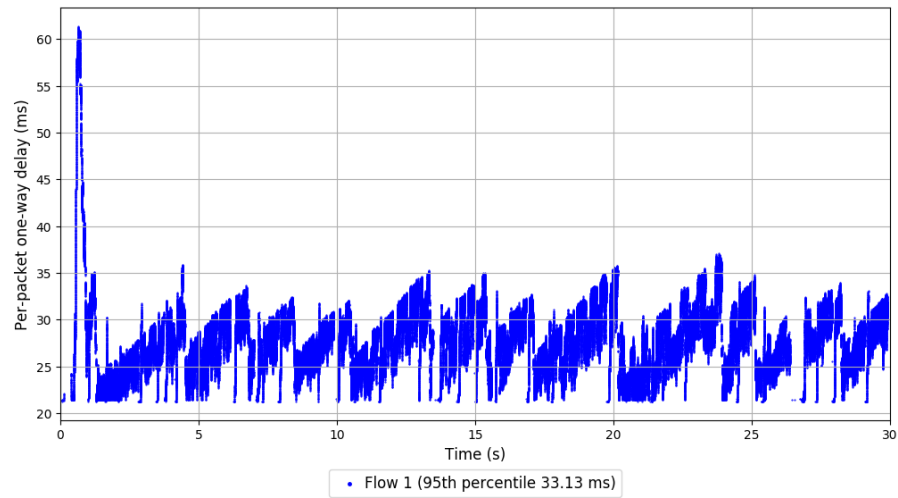
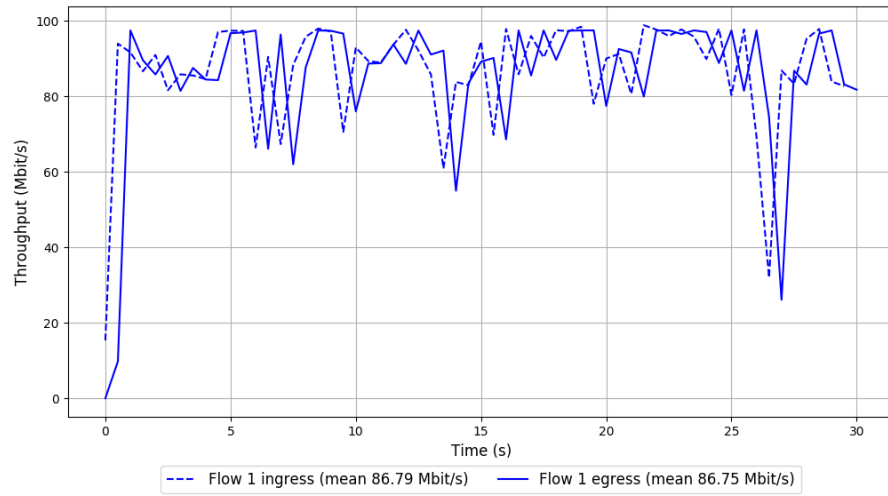
-- Flow 1:

Average throughput: 86.75 Mbit/s

95th percentile per-packet one-way delay: 33.133 ms

Loss rate: 0.14%

Run 3: Report of QUIC Cubic — Data Link



Run 4: Statistics of QUIC Cubic

Start at: 2018-09-11 08:14:46

End at: 2018-09-11 08:15:16

Local clock offset: 2.487 ms

Remote clock offset: -2.452 ms

Below is generated by plot.py at 2018-09-11 09:01:43

Datalink statistics

-- Total of 1 flow:

Average throughput: 87.73 Mbit/s

95th percentile per-packet one-way delay: 31.983 ms

Loss rate: 0.12%

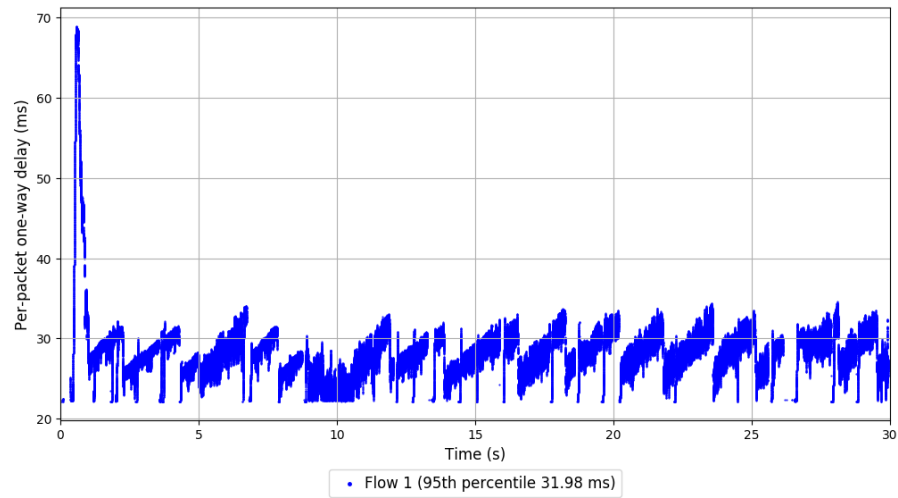
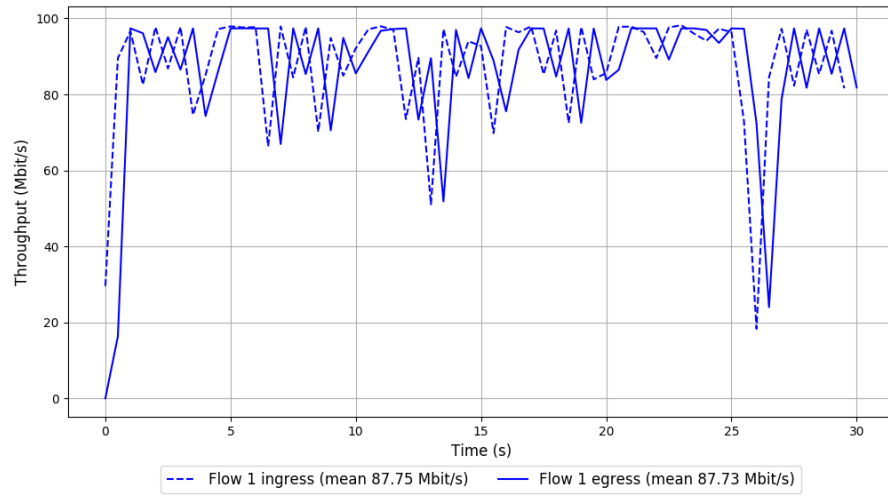
-- Flow 1:

Average throughput: 87.73 Mbit/s

95th percentile per-packet one-way delay: 31.983 ms

Loss rate: 0.12%

Run 4: Report of QUIC Cubic — Data Link



Run 5: Statistics of QUIC Cubic

Start at: 2018-09-11 08:35:20

End at: 2018-09-11 08:35:50

Local clock offset: 3.038 ms

Remote clock offset: -1.21 ms

Below is generated by plot.py at 2018-09-11 09:01:51

Datalink statistics

-- Total of 1 flow:

Average throughput: 88.77 Mbit/s

95th percentile per-packet one-way delay: 30.247 ms

Loss rate: 0.13%

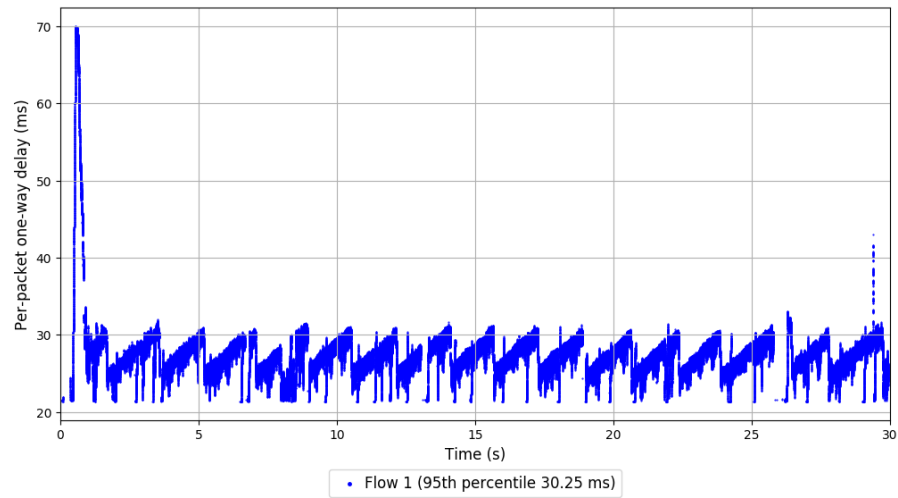
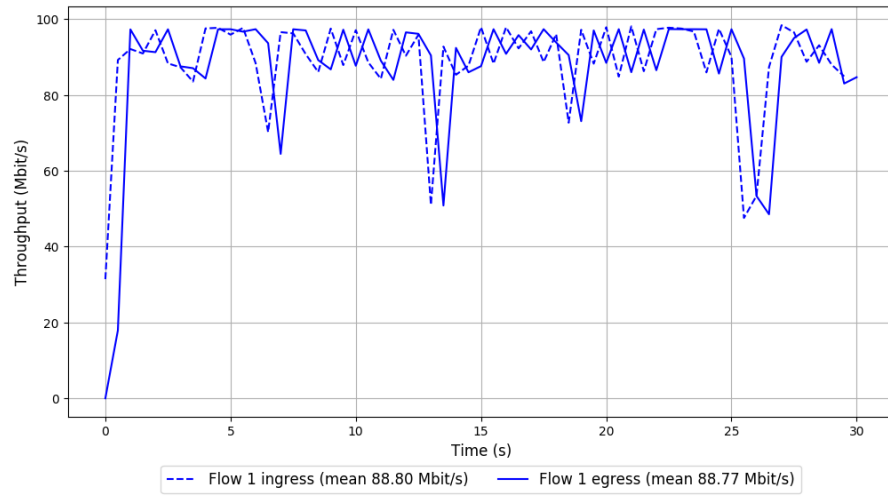
-- Flow 1:

Average throughput: 88.77 Mbit/s

95th percentile per-packet one-way delay: 30.247 ms

Loss rate: 0.13%

Run 5: Report of QUIC Cubic — Data Link

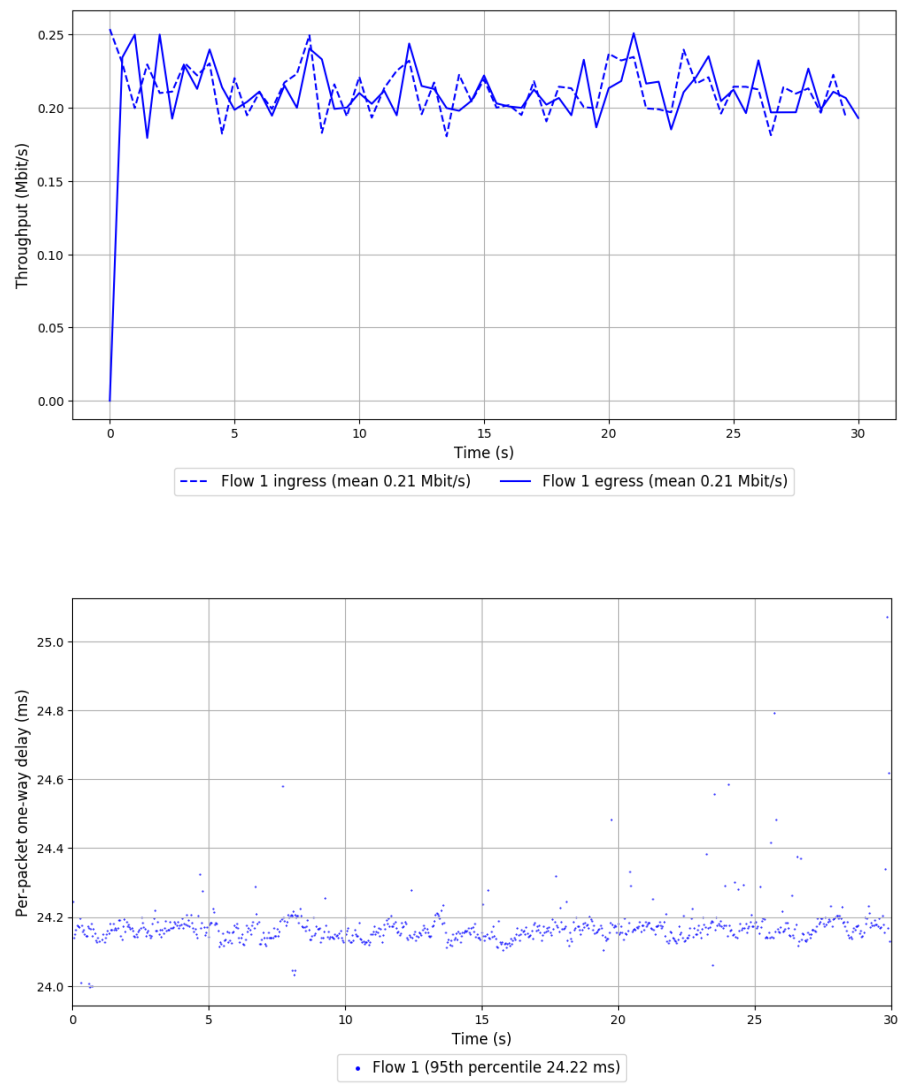


```
Run 1: Statistics of SCReAM

Start at: 2018-09-11 07:28:14
End at: 2018-09-11 07:28:44
Local clock offset: 2.426 ms
Remote clock offset: -4.574 ms

# Below is generated by plot.py at 2018-09-11 09:01:51
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 24.224 ms
Loss rate: 0.13%
-- Flow 1:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 24.224 ms
Loss rate: 0.13%
```

Run 1: Report of SReAM — Data Link

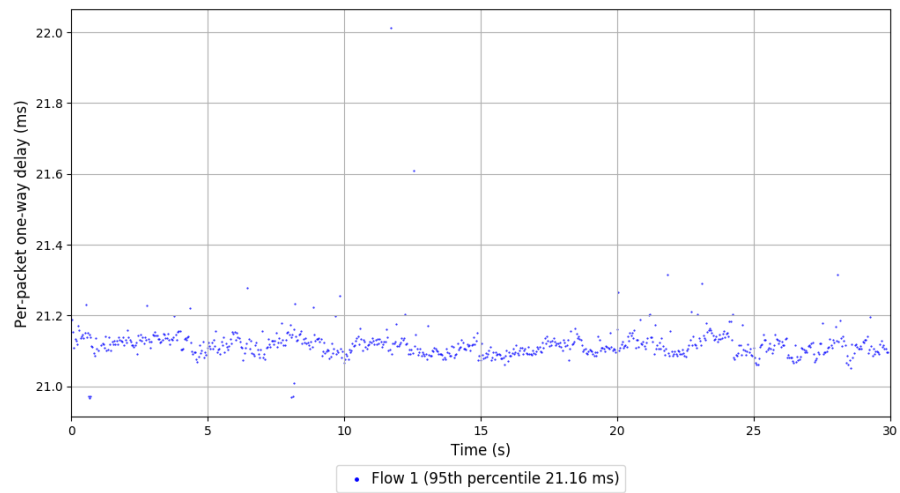
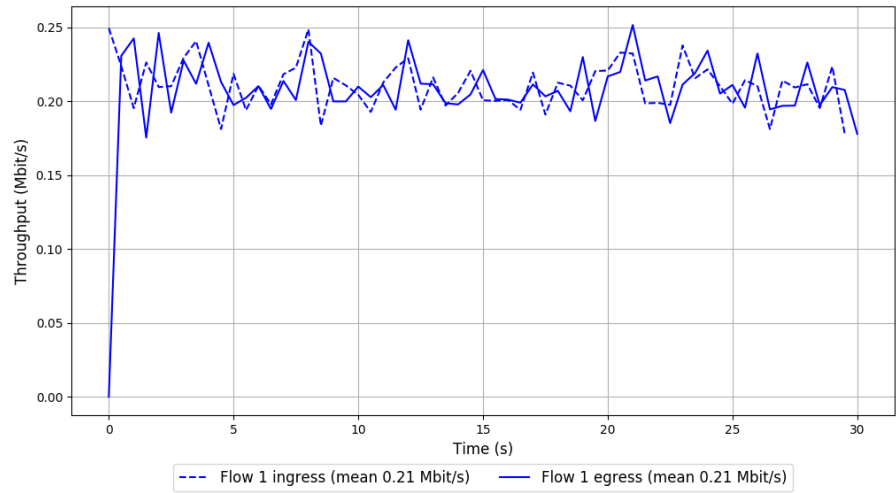


Run 2: Statistics of SCReAM

Start at: 2018-09-11 07:48:50
End at: 2018-09-11 07:49:20
Local clock offset: 1.414 ms
Remote clock offset: -2.373 ms

Below is generated by plot.py at 2018-09-11 09:01:51
Datalink statistics
-- Total of 1 flow:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 21.163 ms
Loss rate: 0.13%
-- Flow 1:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 21.163 ms
Loss rate: 0.13%

Run 2: Report of SReAM — Data Link

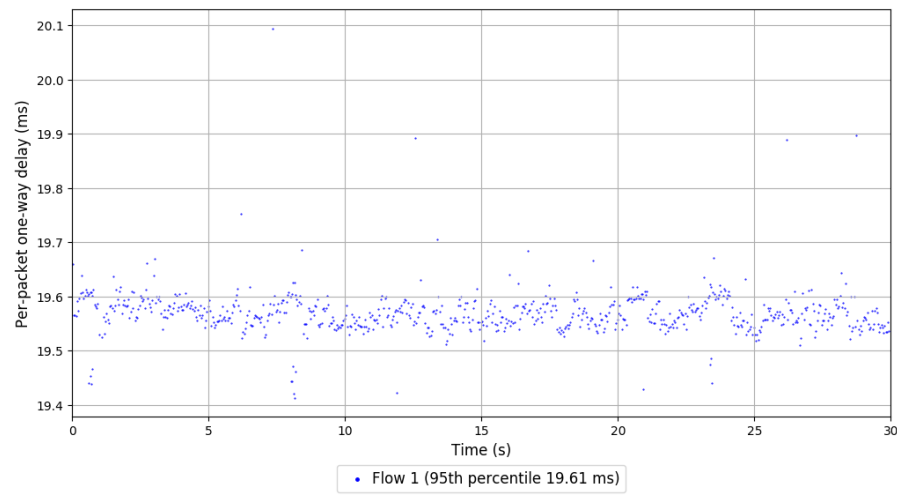
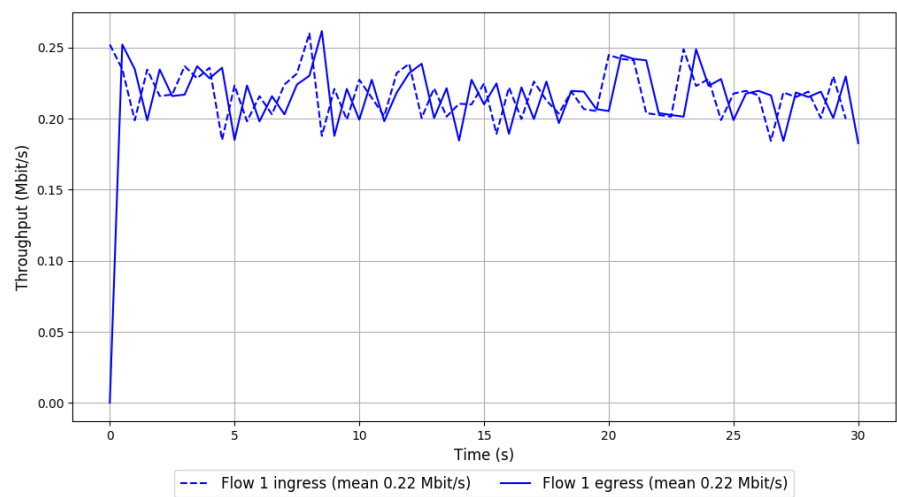


Run 3: Statistics of SCReAM

Start at: 2018-09-11 08:09:08
End at: 2018-09-11 08:09:38
Local clock offset: 1.227 ms
Remote clock offset: -0.994 ms

Below is generated by plot.py at 2018-09-11 09:01:51
Datalink statistics
-- Total of 1 flow:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 19.613 ms
Loss rate: 0.13%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 19.613 ms
Loss rate: 0.13%

Run 3: Report of SReAM — Data Link

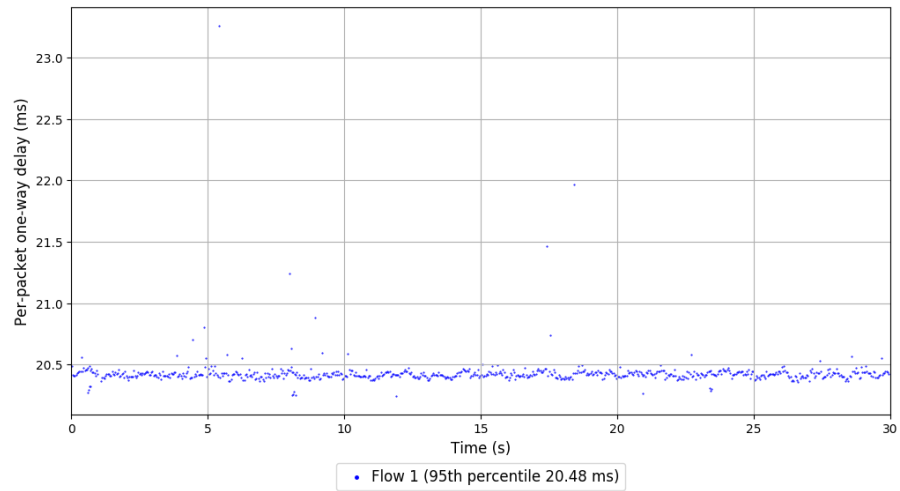
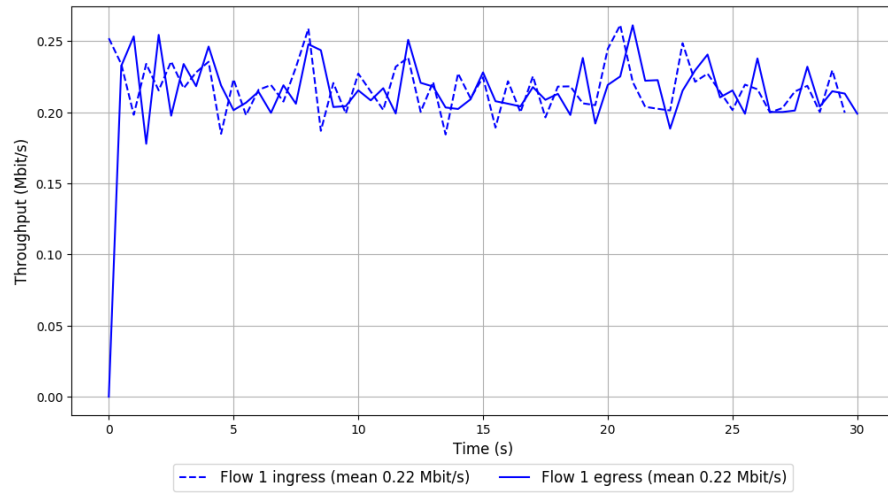


Run 4: Statistics of SCReAM

Start at: 2018-09-11 08:29:38
End at: 2018-09-11 08:30:08
Local clock offset: 1.123 ms
Remote clock offset: -1.992 ms

Below is generated by plot.py at 2018-09-11 09:01:51
Datalink statistics
-- Total of 1 flow:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 20.476 ms
Loss rate: 0.13%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 20.476 ms
Loss rate: 0.13%

Run 4: Report of SReAM — Data Link

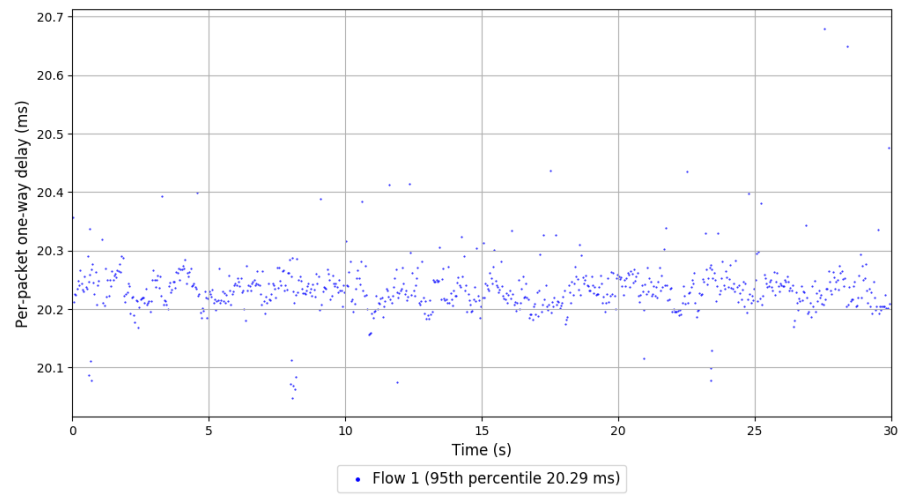
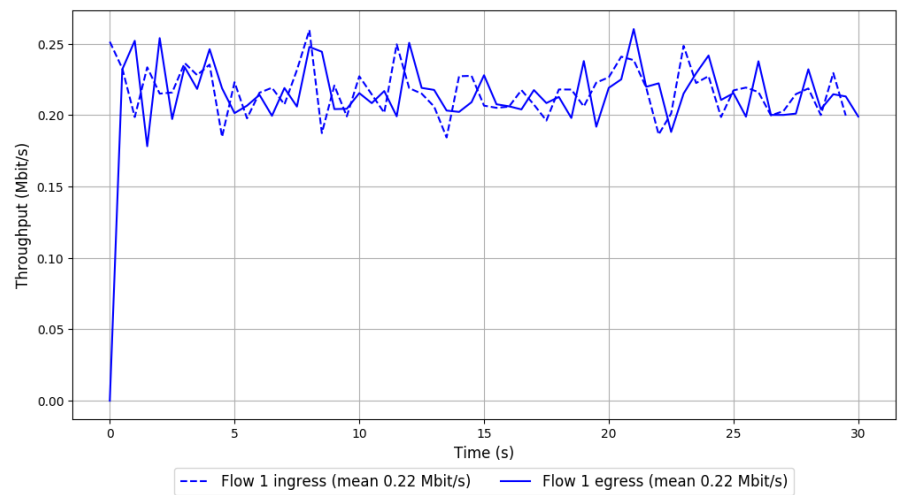


Run 5: Statistics of SCReAM

Start at: 2018-09-11 08:50:23
End at: 2018-09-11 08:50:53
Local clock offset: 1.988 ms
Remote clock offset: -1.118 ms

Below is generated by plot.py at 2018-09-11 09:01:51
Datalink statistics
-- Total of 1 flow:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 20.291 ms
Loss rate: 0.13%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 20.291 ms
Loss rate: 0.13%

Run 5: Report of SReAM — Data Link

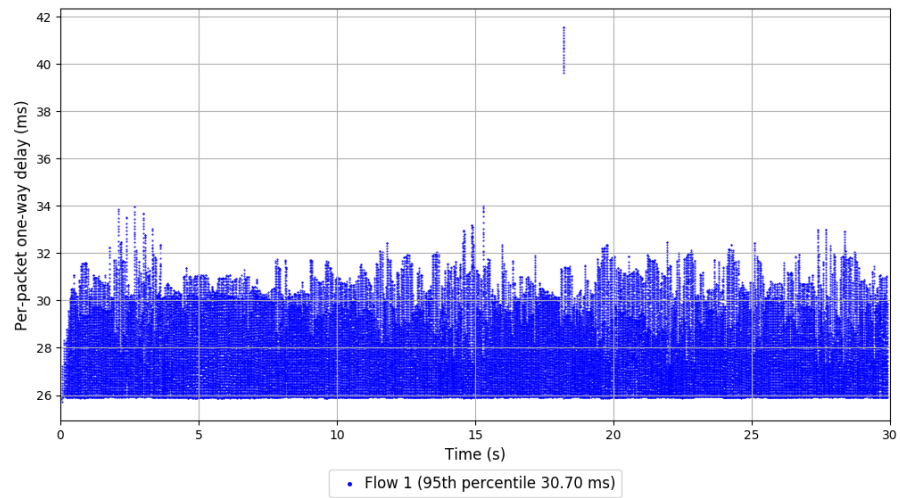
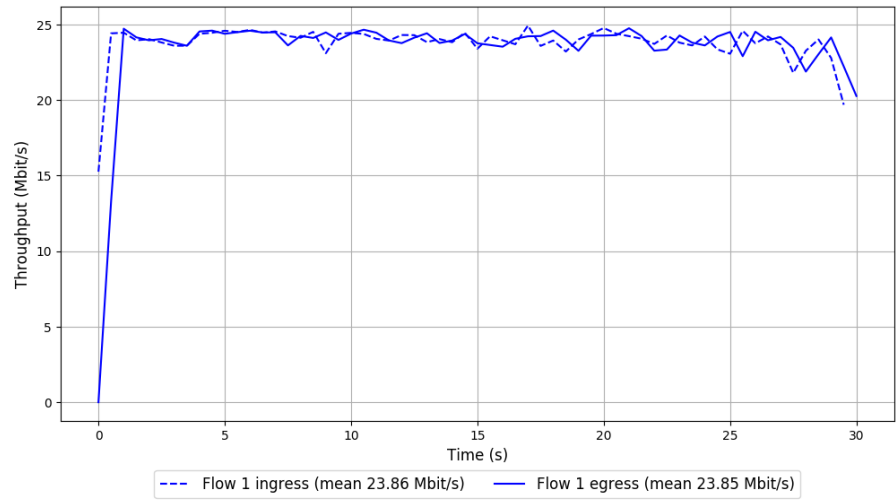


Run 1: Statistics of Sprout

Start at: 2018-09-11 07:16:42
End at: 2018-09-11 07:17:12
Local clock offset: 1.285 ms
Remote clock offset: -4.568 ms

Below is generated by plot.py at 2018-09-11 09:01:51
Datalink statistics
-- Total of 1 flow:
Average throughput: 23.85 Mbit/s
95th percentile per-packet one-way delay: 30.699 ms
Loss rate: 0.08%
-- Flow 1:
Average throughput: 23.85 Mbit/s
95th percentile per-packet one-way delay: 30.699 ms
Loss rate: 0.08%

Run 1: Report of Sprout — Data Link

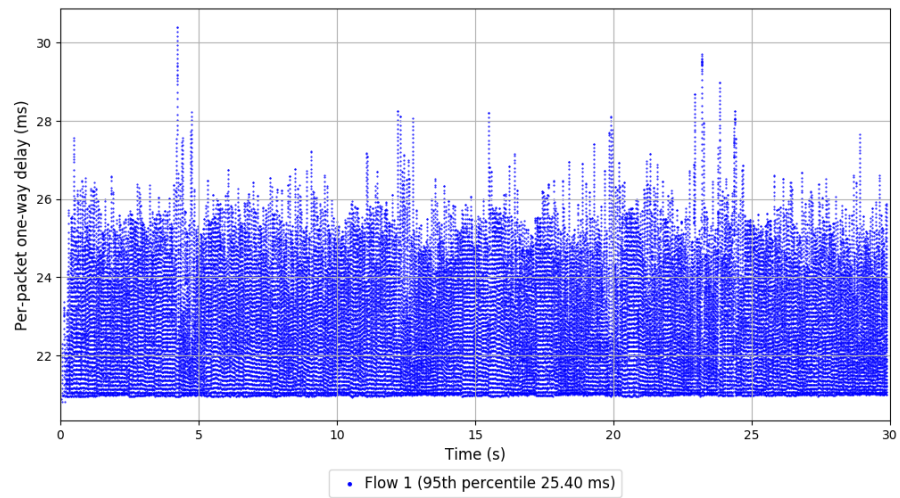
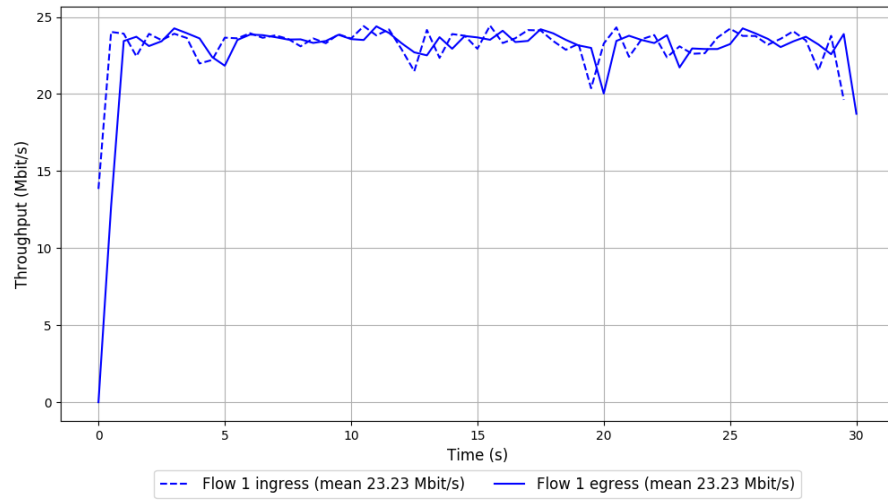


Run 2: Statistics of Sprout

Start at: 2018-09-11 07:37:23
End at: 2018-09-11 07:37:53
Local clock offset: -0.441 ms
Remote clock offset: -4.053 ms

Below is generated by plot.py at 2018-09-11 09:01:51
Datalink statistics
-- Total of 1 flow:
Average throughput: 23.23 Mbit/s
95th percentile per-packet one-way delay: 25.397 ms
Loss rate: 0.16%
-- Flow 1:
Average throughput: 23.23 Mbit/s
95th percentile per-packet one-way delay: 25.397 ms
Loss rate: 0.16%

Run 2: Report of Sprout — Data Link

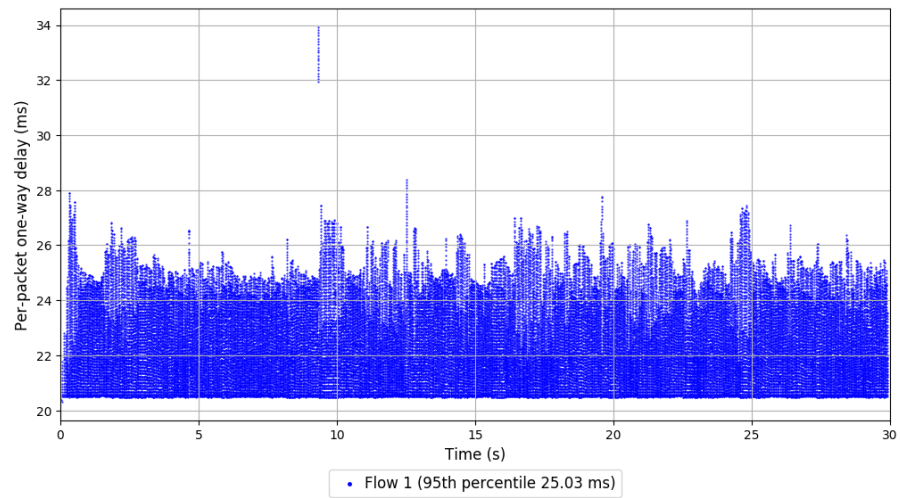
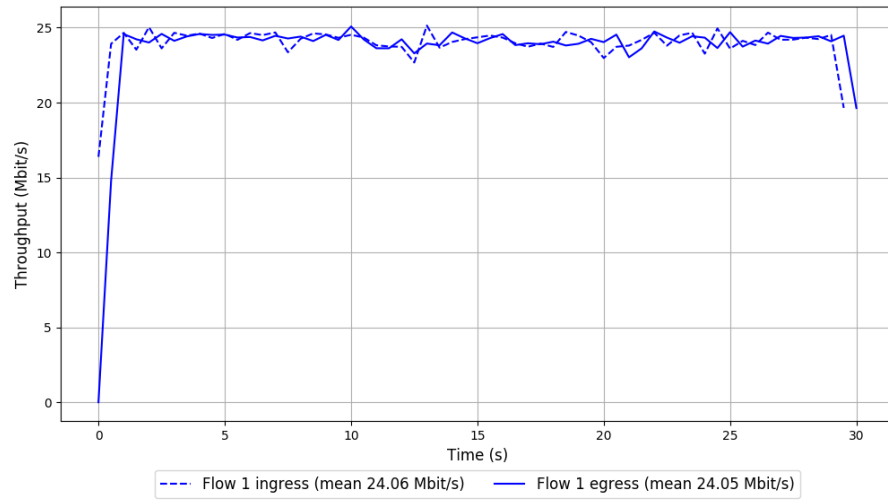


Run 3: Statistics of Sprout

Start at: 2018-09-11 07:57:53
End at: 2018-09-11 07:58:23
Local clock offset: 2.115 ms
Remote clock offset: -1.053 ms

Below is generated by plot.py at 2018-09-11 09:01:51
Datalink statistics
-- Total of 1 flow:
Average throughput: 24.05 Mbit/s
95th percentile per-packet one-way delay: 25.026 ms
Loss rate: 0.07%
-- Flow 1:
Average throughput: 24.05 Mbit/s
95th percentile per-packet one-way delay: 25.026 ms
Loss rate: 0.07%

Run 3: Report of Sprout — Data Link

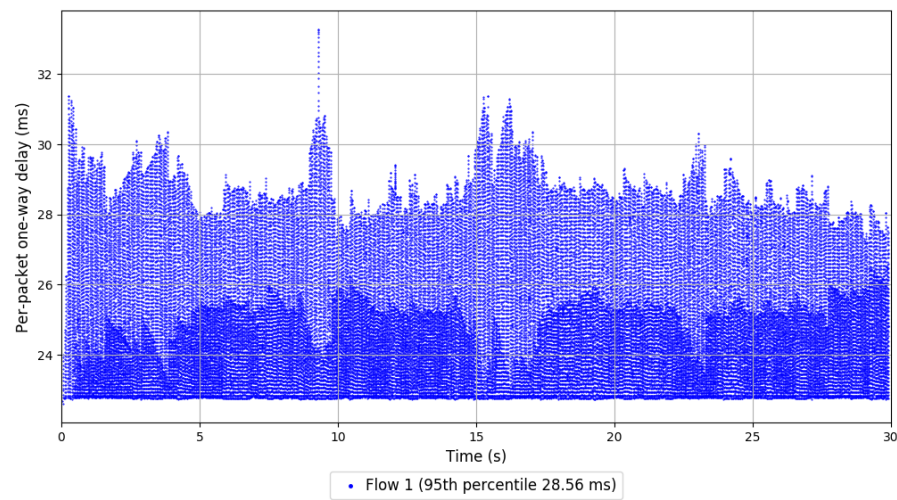
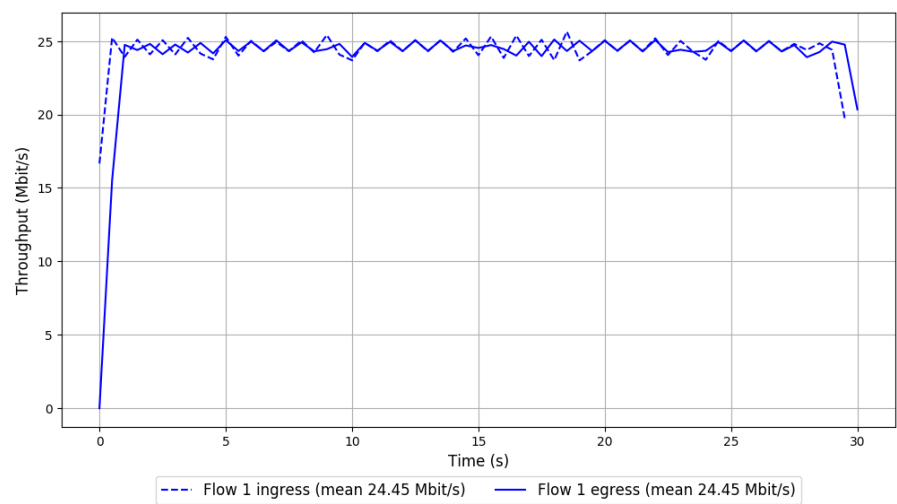


Run 4: Statistics of Sprout

Start at: 2018-09-11 08:18:18
End at: 2018-09-11 08:18:48
Local clock offset: 3.933 ms
Remote clock offset: -1.458 ms

Below is generated by plot.py at 2018-09-11 09:01:51
Datalink statistics
-- Total of 1 flow:
Average throughput: 24.45 Mbit/s
95th percentile per-packet one-way delay: 28.560 ms
Loss rate: 0.06%
-- Flow 1:
Average throughput: 24.45 Mbit/s
95th percentile per-packet one-way delay: 28.560 ms
Loss rate: 0.06%

Run 4: Report of Sprout — Data Link



Run 5: Statistics of Sprout

Start at: 2018-09-11 08:39:00

End at: 2018-09-11 08:39:30

Local clock offset: 0.684 ms

Remote clock offset: -1.62 ms

Below is generated by plot.py at 2018-09-11 09:01:51

Datalink statistics

-- Total of 1 flow:

Average throughput: 24.27 Mbit/s

95th percentile per-packet one-way delay: 24.912 ms

Loss rate: 0.11%

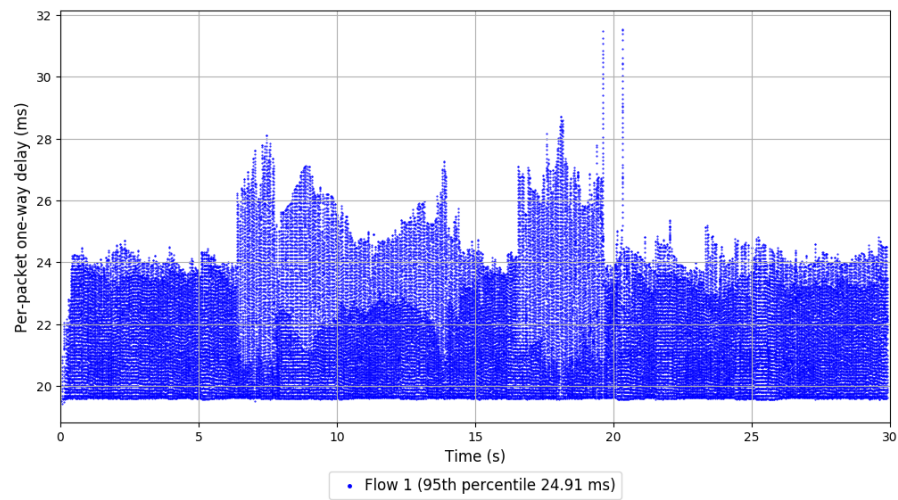
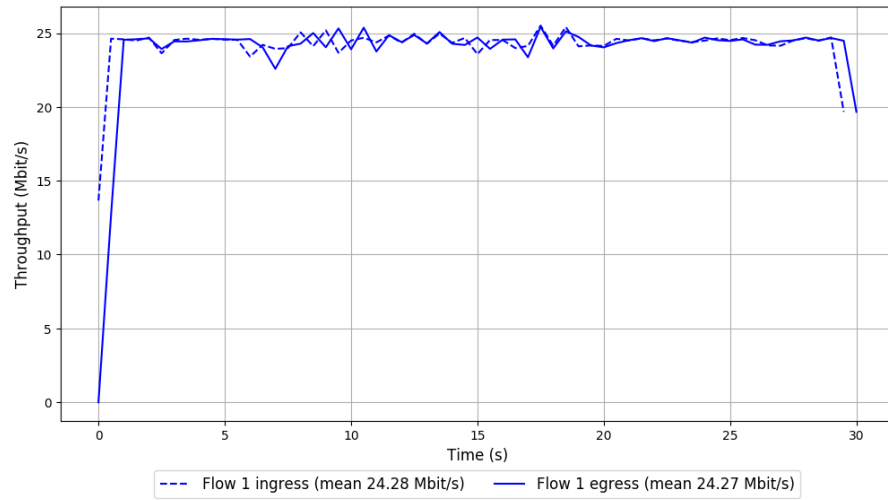
-- Flow 1:

Average throughput: 24.27 Mbit/s

95th percentile per-packet one-way delay: 24.912 ms

Loss rate: 0.11%

Run 5: Report of Sprout — Data Link



Run 1: Statistics of TaoVA-100x

Start at: 2018-09-11 07:17:49

End at: 2018-09-11 07:18:19

Local clock offset: 0.411 ms

Remote clock offset: -3.238 ms

Below is generated by plot.py at 2018-09-11 09:01:51

Datalink statistics

-- Total of 1 flow:

Average throughput: 11.97 Mbit/s

95th percentile per-packet one-way delay: 24.030 ms

Loss rate: 0.12%

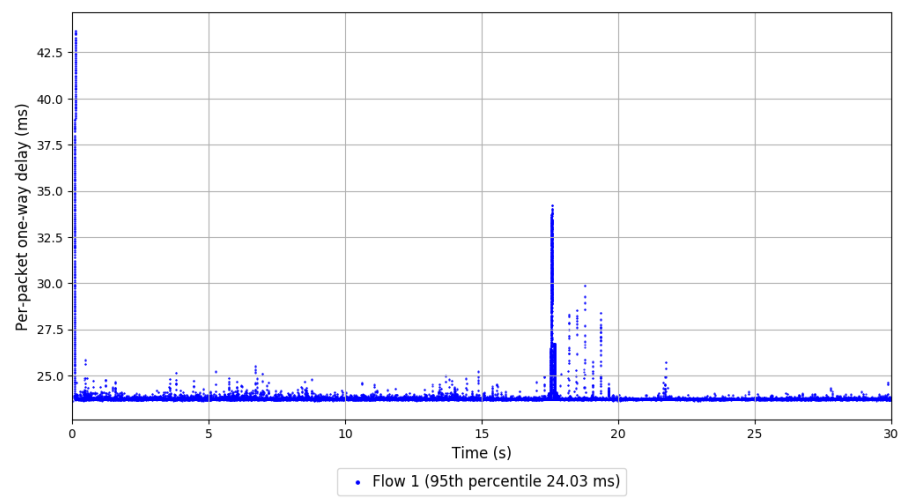
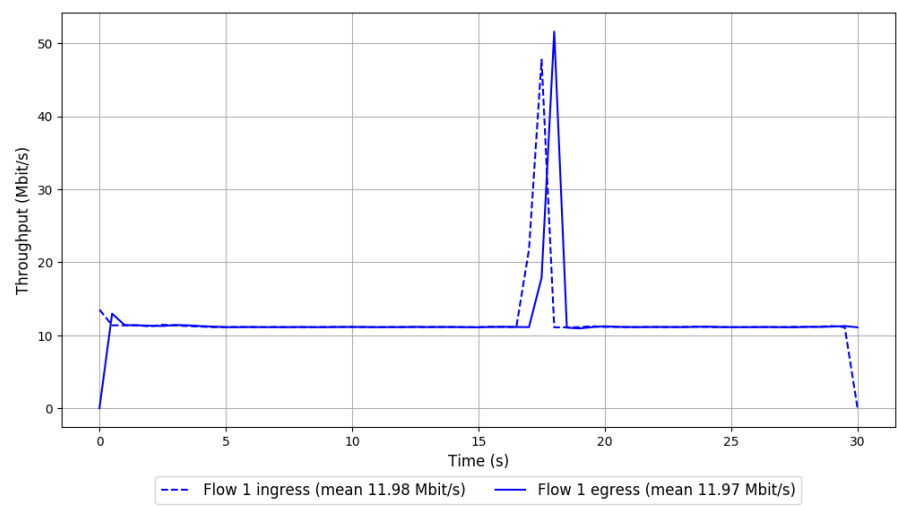
-- Flow 1:

Average throughput: 11.97 Mbit/s

95th percentile per-packet one-way delay: 24.030 ms

Loss rate: 0.12%

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



Run 2: Statistics of TaoVA-100x

Start at: 2018-09-11 07:38:29

End at: 2018-09-11 07:38:59

Local clock offset: 2.3 ms

Remote clock offset: -3.259 ms

Below is generated by plot.py at 2018-09-11 09:01:51

Datalink statistics

-- Total of 1 flow:

Average throughput: 11.19 Mbit/s

95th percentile per-packet one-way delay: 22.989 ms

Loss rate: 0.09%

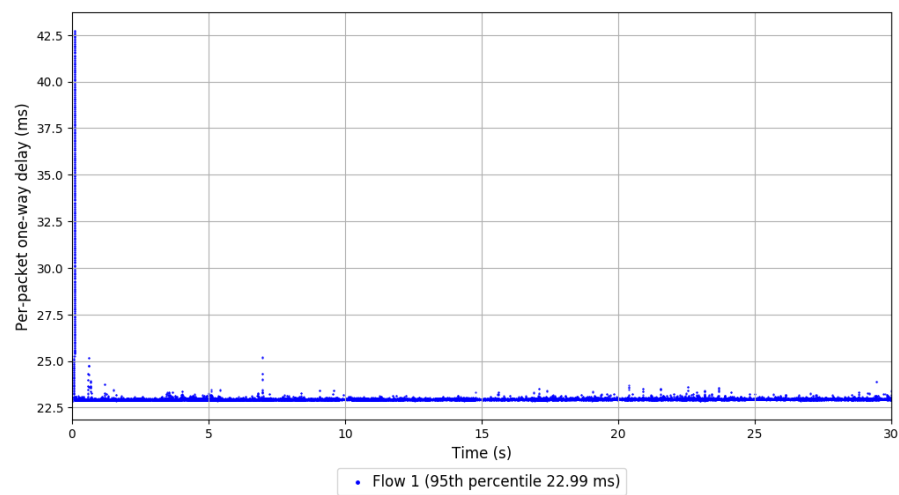
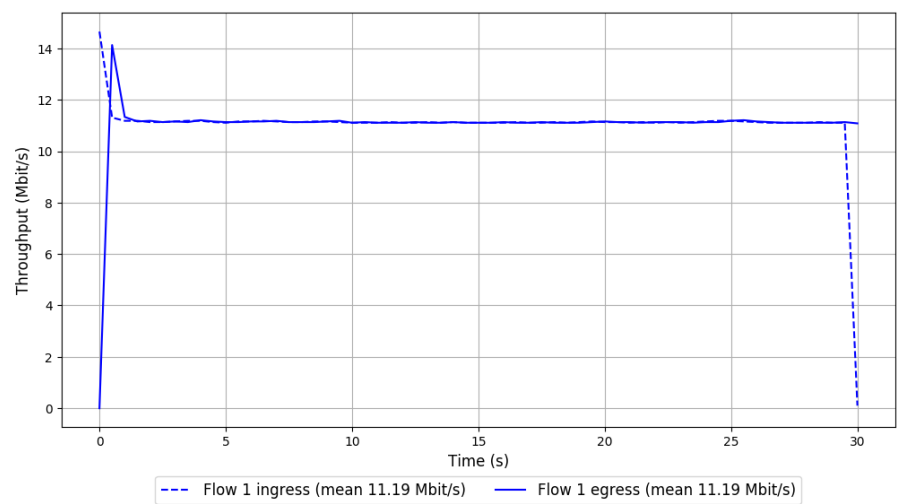
-- Flow 1:

Average throughput: 11.19 Mbit/s

95th percentile per-packet one-way delay: 22.989 ms

Loss rate: 0.09%

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



Run 3: Statistics of TaoVA-100x

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

End at: 2018-09-11 07:59:29

Local clock offset: 2.481 ms

Remote clock offset: -1.556 ms

Below is generated by plot.py at 2018-09-11 09:01:51

Datalink statistics

-- Total of 1 flow:

Average throughput: 11.26 Mbit/s

95th percentile per-packet one-way delay: 21.410 ms

Loss rate: 0.09%

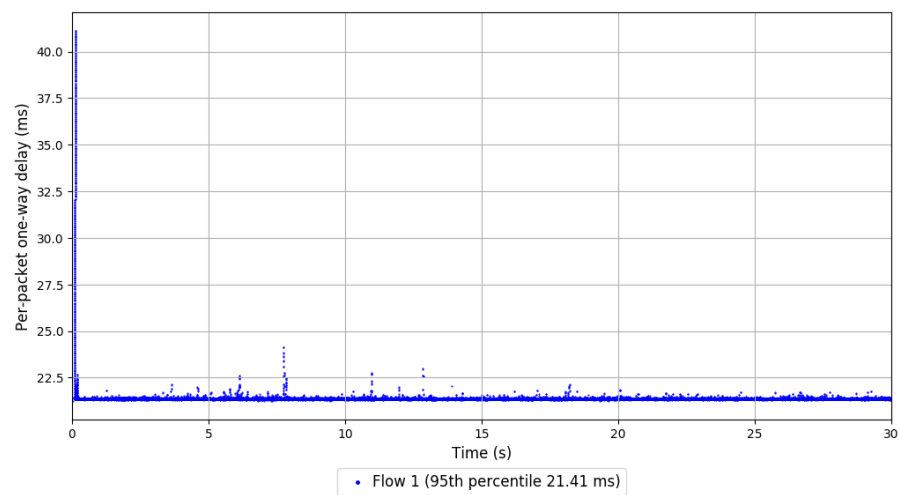
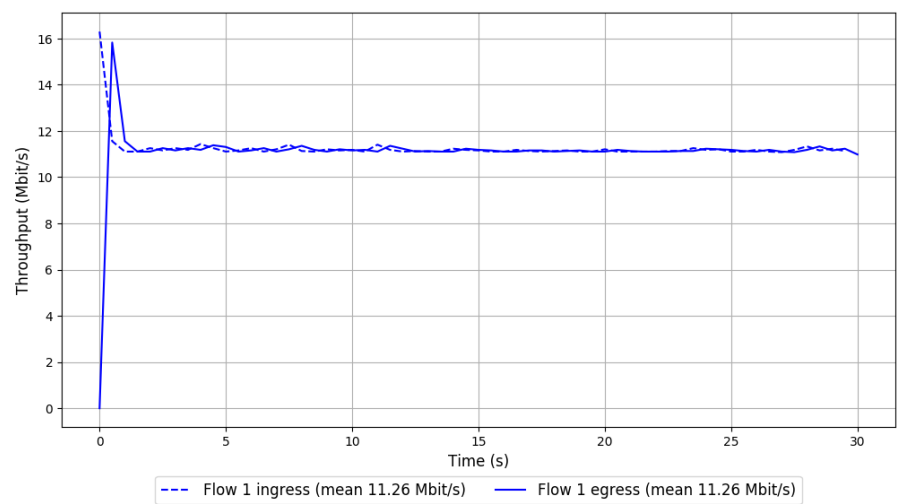
-- Flow 1:

Average throughput: 11.26 Mbit/s

95th percentile per-packet one-way delay: 21.410 ms

Loss rate: 0.09%

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



Run 4: Statistics of TaoVA-100x

Start at: 2018-09-11 08:19:23

End at: 2018-09-11 08:19:53

Local clock offset: 3.074 ms

Remote clock offset: -2.118 ms

Below is generated by plot.py at 2018-09-11 09:01:51

Datalink statistics

-- Total of 1 flow:

Average throughput: 11.23 Mbit/s

95th percentile per-packet one-way delay: 22.577 ms

Loss rate: 0.09%

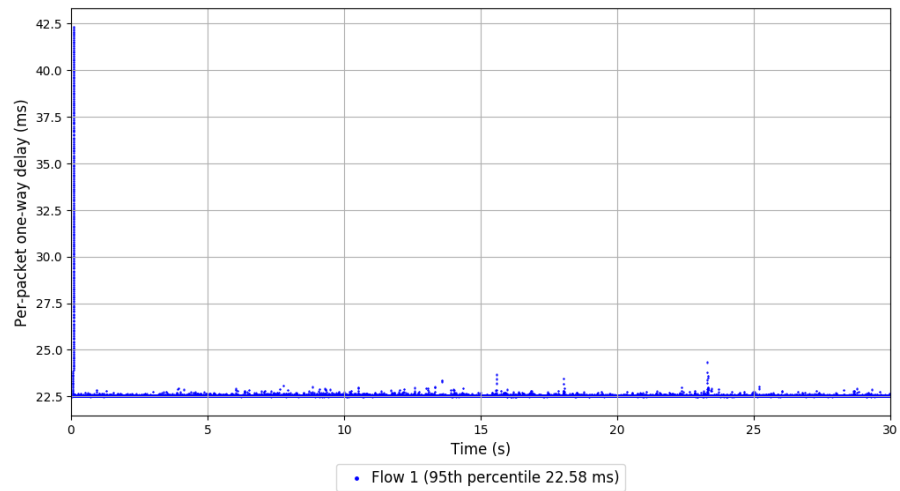
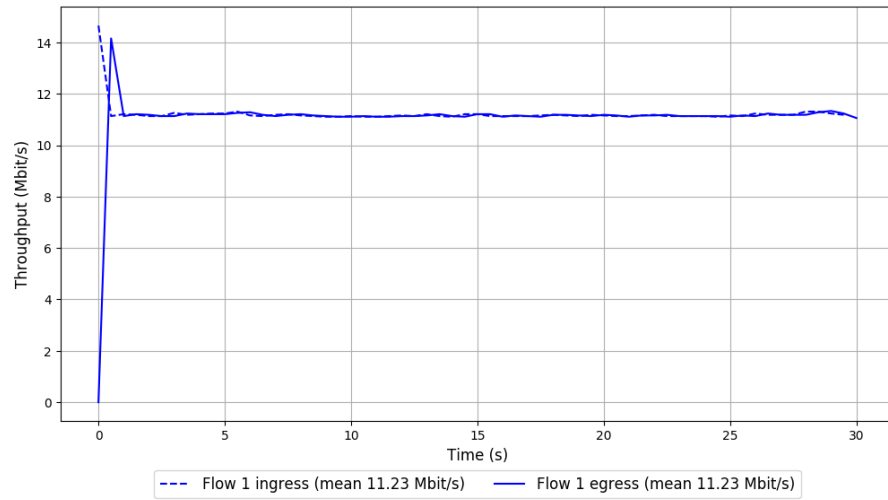
-- Flow 1:

Average throughput: 11.23 Mbit/s

95th percentile per-packet one-way delay: 22.577 ms

Loss rate: 0.09%

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



Run 5: Statistics of TaoVA-100x

Start at: 2018-09-11 08:40:06

End at: 2018-09-11 08:40:36

Local clock offset: 1.467 ms

Remote clock offset: -3.095 ms

Below is generated by plot.py at 2018-09-11 09:01:51

Datalink statistics

-- Total of 1 flow:

Average throughput: 11.39 Mbit/s

95th percentile per-packet one-way delay: 21.897 ms

Loss rate: 0.10%

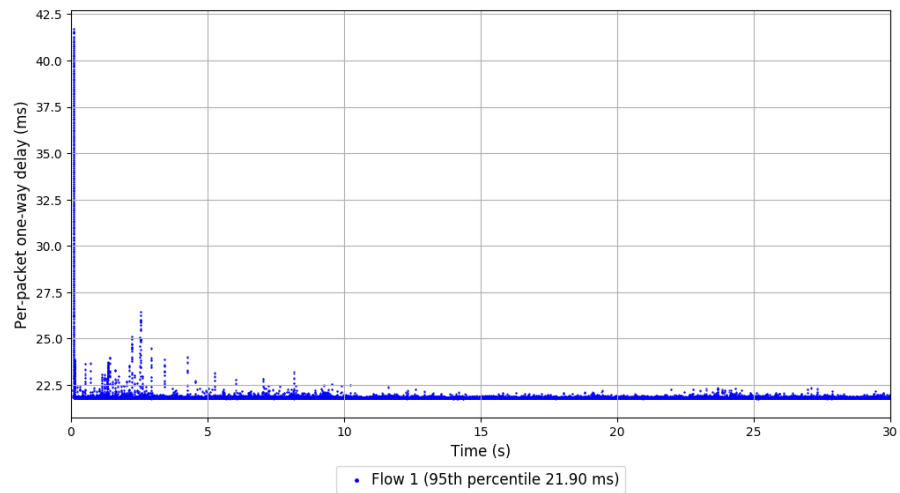
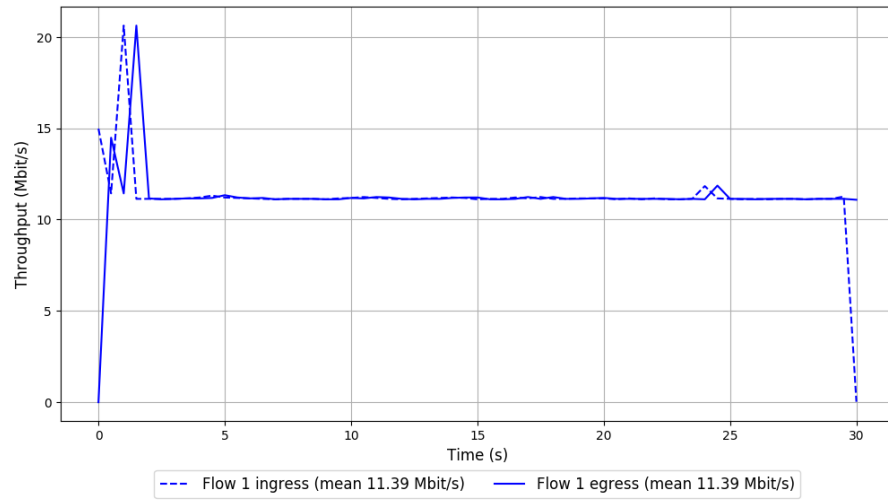
-- Flow 1:

Average throughput: 11.39 Mbit/s

95th percentile per-packet one-way delay: 21.897 ms

Loss rate: 0.10%

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

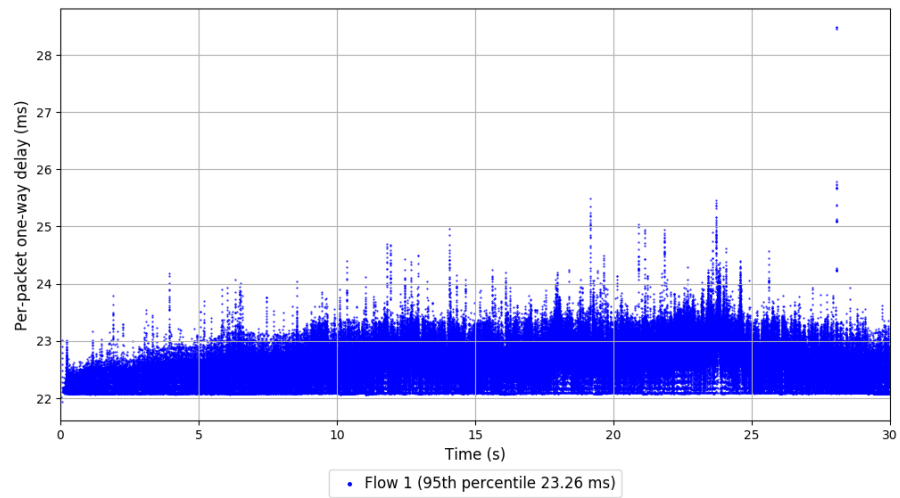
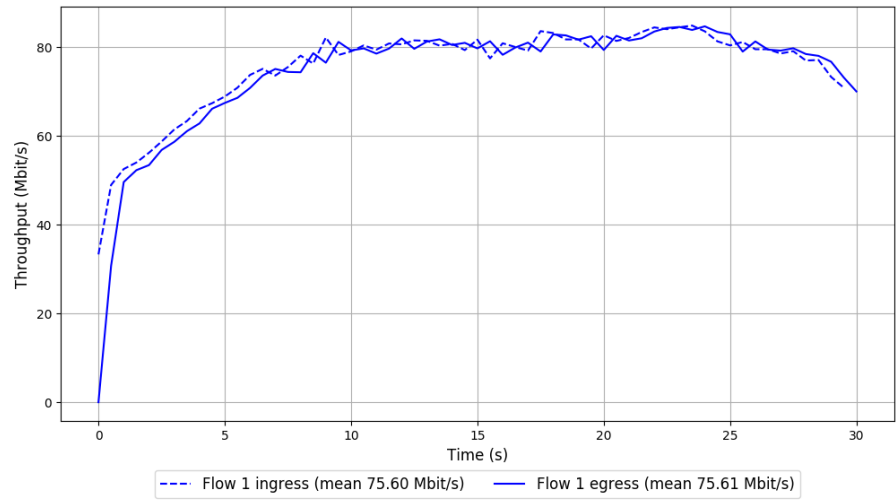


Run 1: Statistics of TCP Vegas

Start at: 2018-09-11 07:14:16
End at: 2018-09-11 07:14:46
Local clock offset: -1.802 ms
Remote clock offset: -3.888 ms

Below is generated by plot.py at 2018-09-11 09:02:36
Datalink statistics
-- Total of 1 flow:
Average throughput: 75.61 Mbit/s
95th percentile per-packet one-way delay: 23.257 ms
Loss rate: 0.09%
-- Flow 1:
Average throughput: 75.61 Mbit/s
95th percentile per-packet one-way delay: 23.257 ms
Loss rate: 0.09%

Run 1: Report of TCP Vegas — Data Link

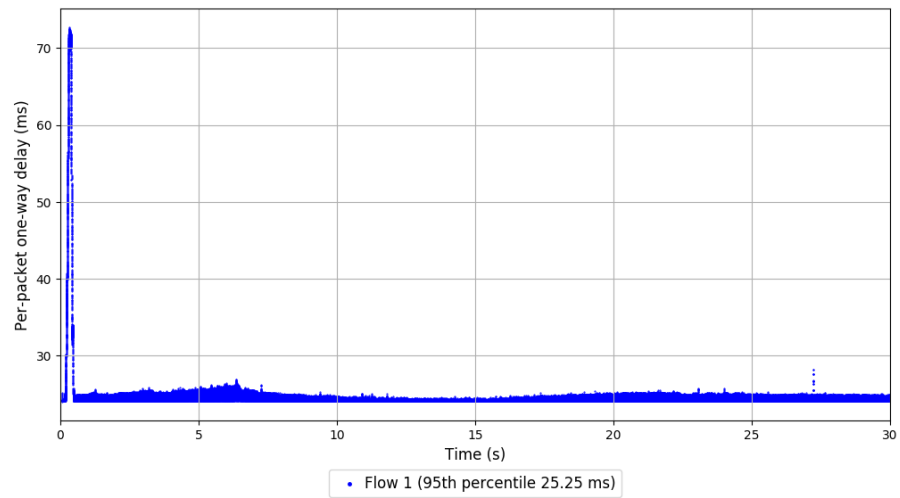
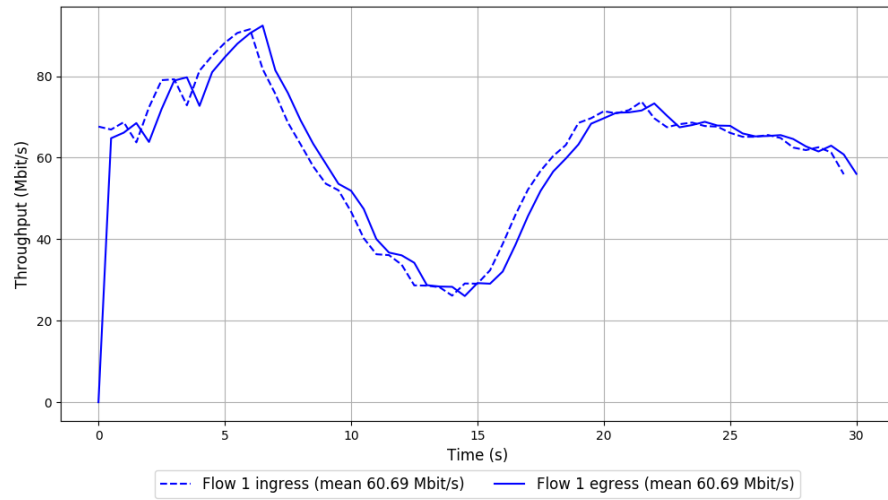


Run 2: Statistics of TCP Vegas

Start at: 2018-09-11 07:35:02
End at: 2018-09-11 07:35:32
Local clock offset: 2.407 ms
Remote clock offset: -4.471 ms

Below is generated by plot.py at 2018-09-11 09:02:36
Datalink statistics
-- Total of 1 flow:
Average throughput: 60.69 Mbit/s
95th percentile per-packet one-way delay: 25.245 ms
Loss rate: 0.10%
-- Flow 1:
Average throughput: 60.69 Mbit/s
95th percentile per-packet one-way delay: 25.245 ms
Loss rate: 0.10%

Run 2: Report of TCP Vegas — Data Link

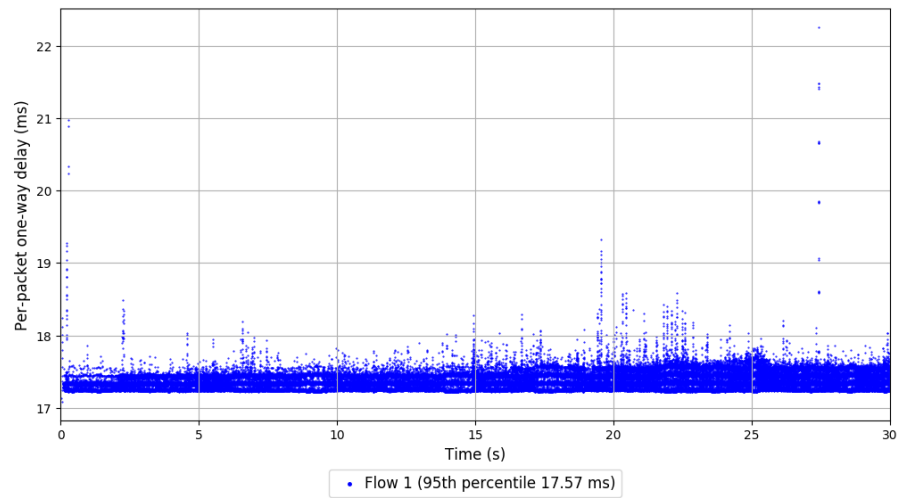
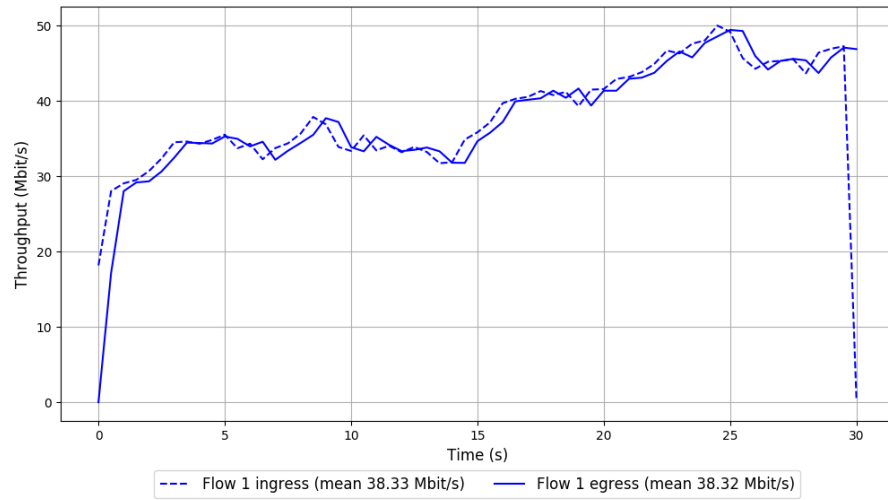


Run 3: Statistics of TCP Vegas

Start at: 2018-09-11 07:55:36
End at: 2018-09-11 07:56:06
Local clock offset: -1.044 ms
Remote clock offset: -0.974 ms

Below is generated by plot.py at 2018-09-11 09:02:36
Datalink statistics
-- Total of 1 flow:
Average throughput: 38.32 Mbit/s
95th percentile per-packet one-way delay: 17.570 ms
Loss rate: 0.12%
-- Flow 1:
Average throughput: 38.32 Mbit/s
95th percentile per-packet one-way delay: 17.570 ms
Loss rate: 0.12%

Run 3: Report of TCP Vegas — Data Link

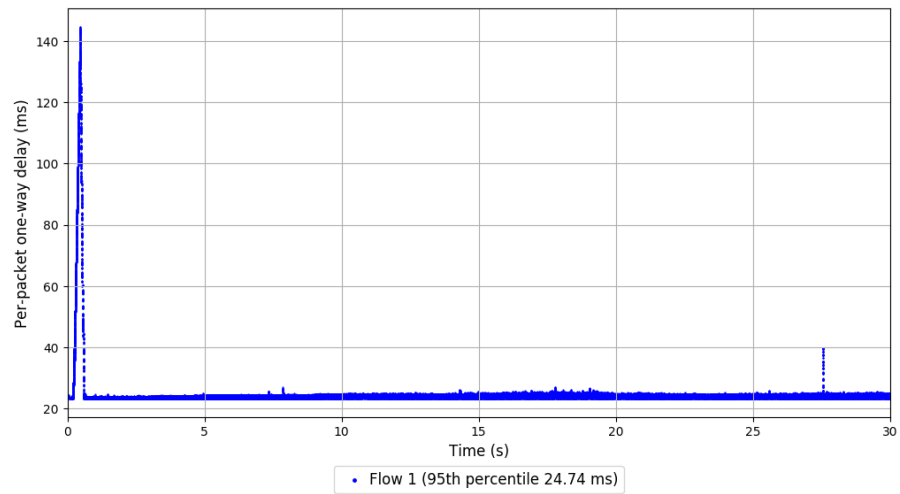
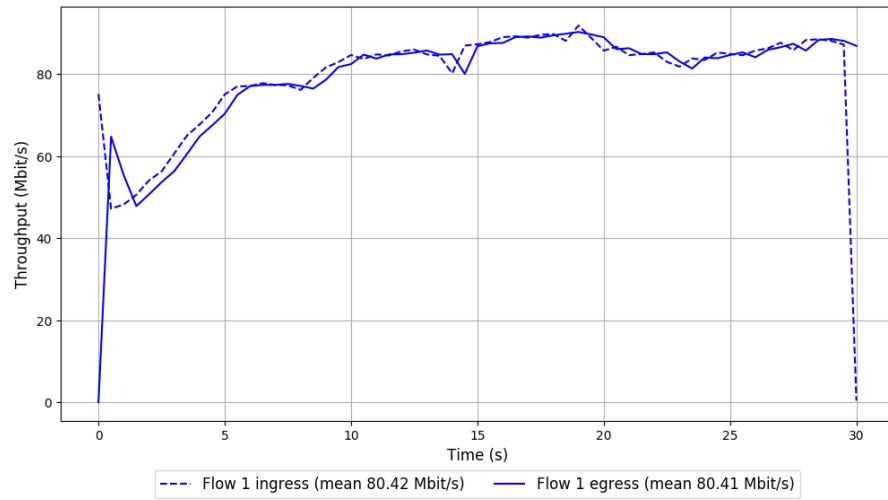


Run 4: Statistics of TCP Vegas

Start at: 2018-09-11 08:16:00
End at: 2018-09-11 08:16:30
Local clock offset: 4.305 ms
Remote clock offset: -1.651 ms

Below is generated by plot.py at 2018-09-11 09:02:41
Datalink statistics
-- Total of 1 flow:
Average throughput: 80.41 Mbit/s
95th percentile per-packet one-way delay: 24.736 ms
Loss rate: 0.10%
-- Flow 1:
Average throughput: 80.41 Mbit/s
95th percentile per-packet one-way delay: 24.736 ms
Loss rate: 0.10%

Run 4: Report of TCP Vegas — Data Link

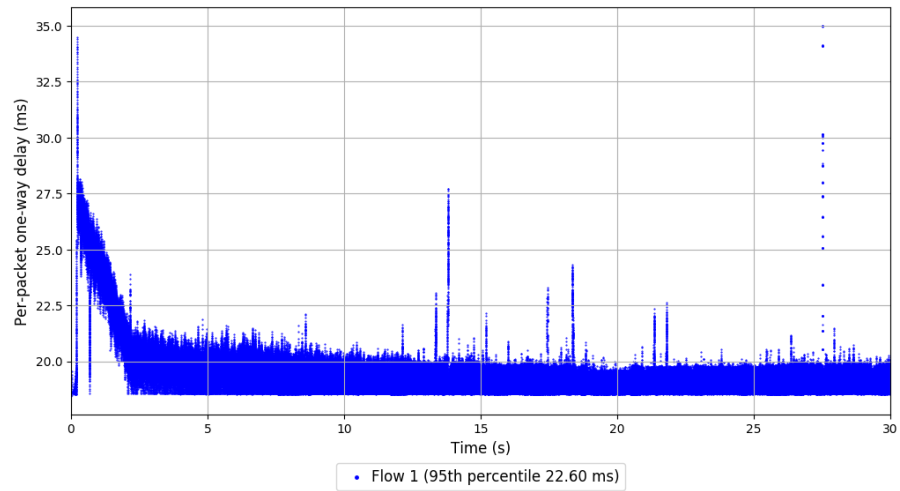
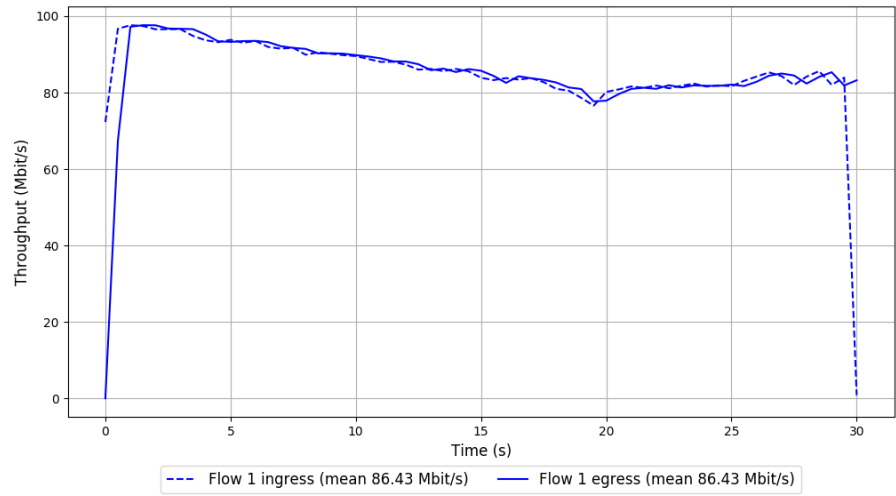


Run 5: Statistics of TCP Vegas

Start at: 2018-09-11 08:36:35
End at: 2018-09-11 08:37:05
Local clock offset: 0.721 ms
Remote clock offset: -0.522 ms

Below is generated by plot.py at 2018-09-11 09:02:49
Datalink statistics
-- Total of 1 flow:
Average throughput: 86.43 Mbit/s
95th percentile per-packet one-way delay: 22.601 ms
Loss rate: 0.09%
-- Flow 1:
Average throughput: 86.43 Mbit/s
95th percentile per-packet one-way delay: 22.601 ms
Loss rate: 0.09%

Run 5: Report of TCP Vegas — Data Link

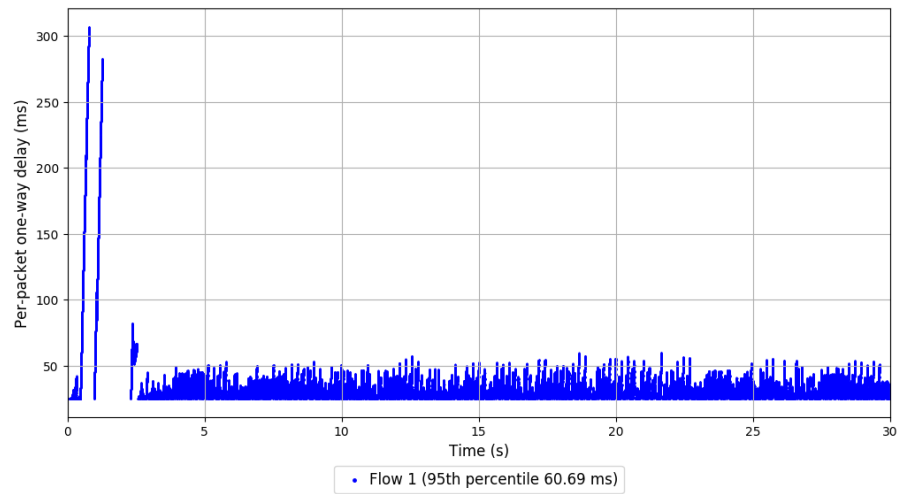
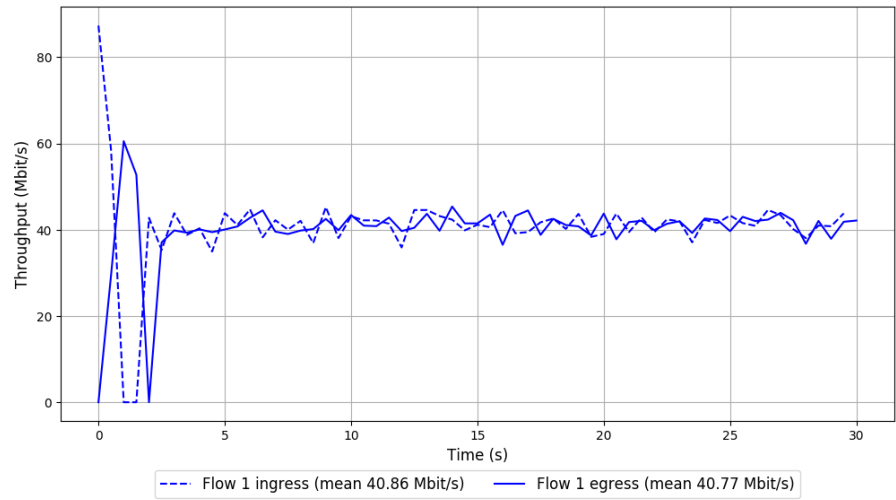


Run 1: Statistics of Verus

Start at: 2018-09-11 07:21:07
End at: 2018-09-11 07:21:37
Local clock offset: 1.07 ms
Remote clock offset: -3.725 ms

Below is generated by plot.py at 2018-09-11 09:02:49
Datalink statistics
-- Total of 1 flow:
Average throughput: 40.77 Mbit/s
95th percentile per-packet one-way delay: 60.689 ms
Loss rate: 0.34%
-- Flow 1:
Average throughput: 40.77 Mbit/s
95th percentile per-packet one-way delay: 60.689 ms
Loss rate: 0.34%

Run 1: Report of Verus — Data Link

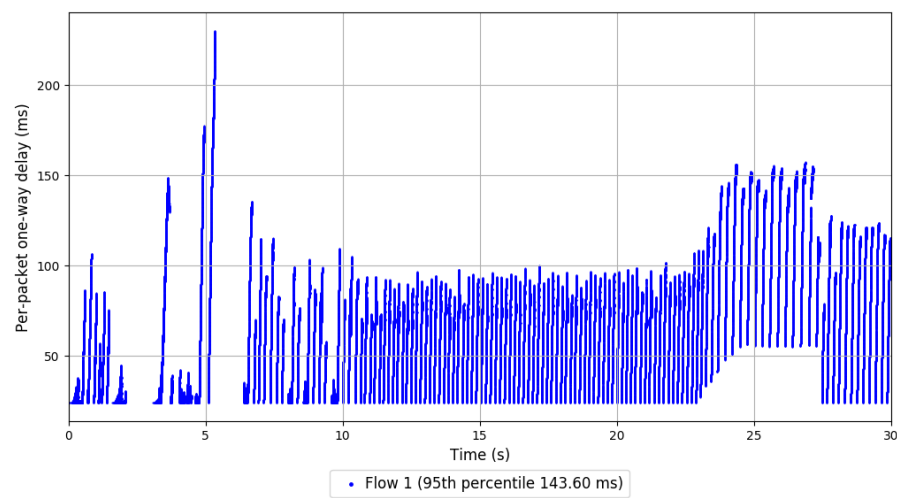
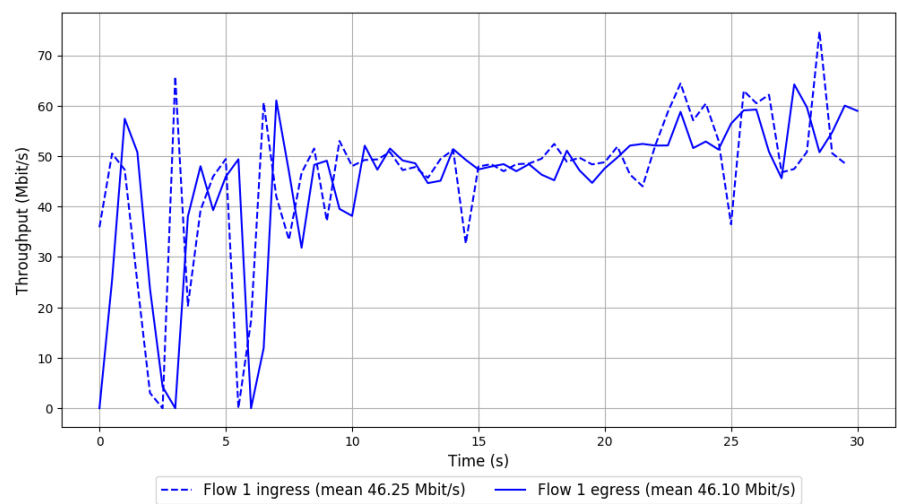


Run 2: Statistics of Verus

Start at: 2018-09-11 07:41:47
End at: 2018-09-11 07:42:17
Local clock offset: 1.817 ms
Remote clock offset: -4.944 ms

Below is generated by plot.py at 2018-09-11 09:02:49
Datalink statistics
-- Total of 1 flow:
Average throughput: 46.10 Mbit/s
95th percentile per-packet one-way delay: 143.599 ms
Loss rate: 0.03%
-- Flow 1:
Average throughput: 46.10 Mbit/s
95th percentile per-packet one-way delay: 143.599 ms
Loss rate: 0.03%

Run 2: Report of Verus — Data Link

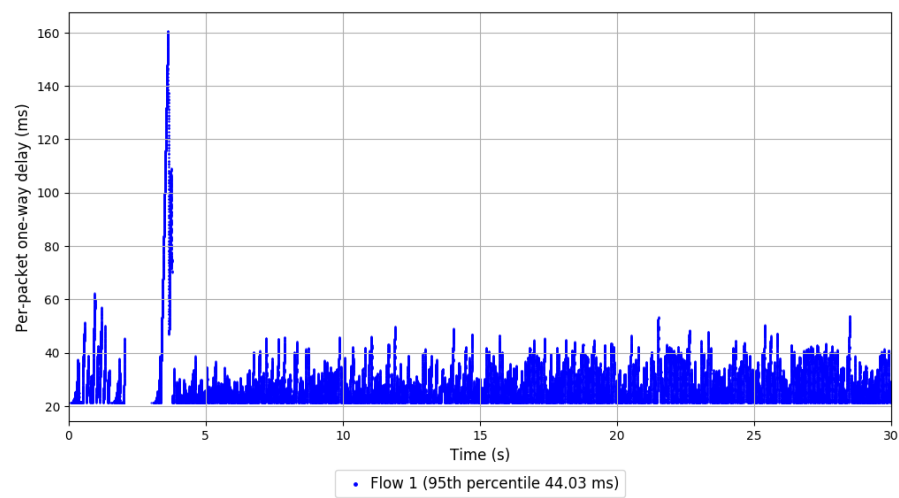
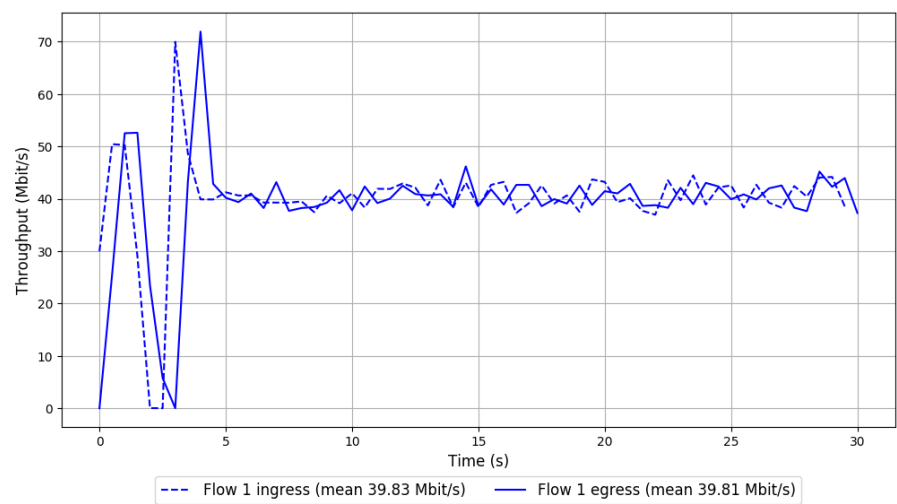


Run 3: Statistics of Verus

Start at: 2018-09-11 08:02:15
End at: 2018-09-11 08:02:45
Local clock offset: 2.23 ms
Remote clock offset: -1.711 ms

Below is generated by plot.py at 2018-09-11 09:02:49
Datalink statistics
-- Total of 1 flow:
Average throughput: 39.81 Mbit/s
95th percentile per-packet one-way delay: 44.035 ms
Loss rate: 0.14%
-- Flow 1:
Average throughput: 39.81 Mbit/s
95th percentile per-packet one-way delay: 44.035 ms
Loss rate: 0.14%

Run 3: Report of Verus — Data Link

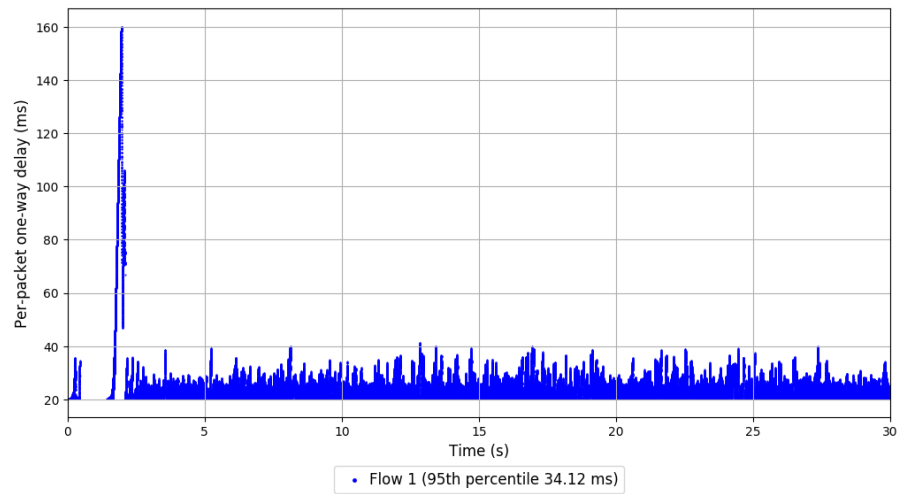
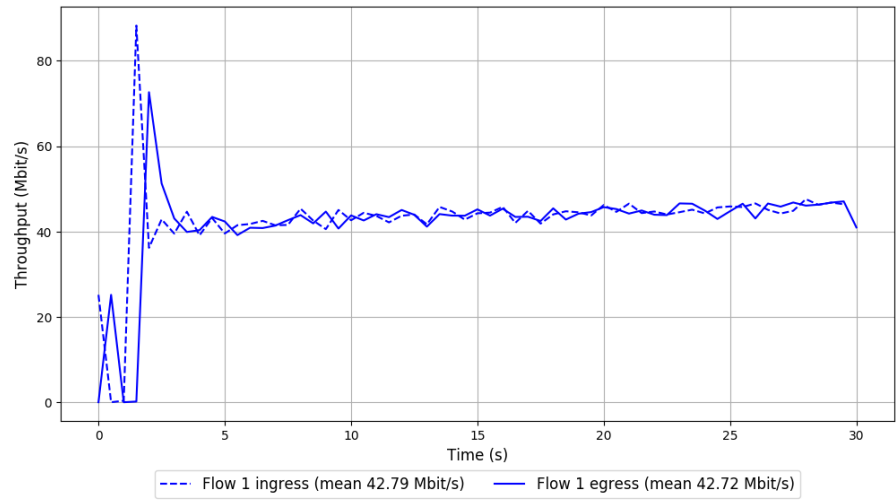


Run 4: Statistics of Verus

Start at: 2018-09-11 08:22:42
End at: 2018-09-11 08:23:12
Local clock offset: 2.484 ms
Remote clock offset: -0.434 ms

Below is generated by plot.py at 2018-09-11 09:02:49
Datalink statistics
-- Total of 1 flow:
Average throughput: 42.72 Mbit/s
95th percentile per-packet one-way delay: 34.125 ms
Loss rate: 0.24%
-- Flow 1:
Average throughput: 42.72 Mbit/s
95th percentile per-packet one-way delay: 34.125 ms
Loss rate: 0.24%

Run 4: Report of Verus — Data Link

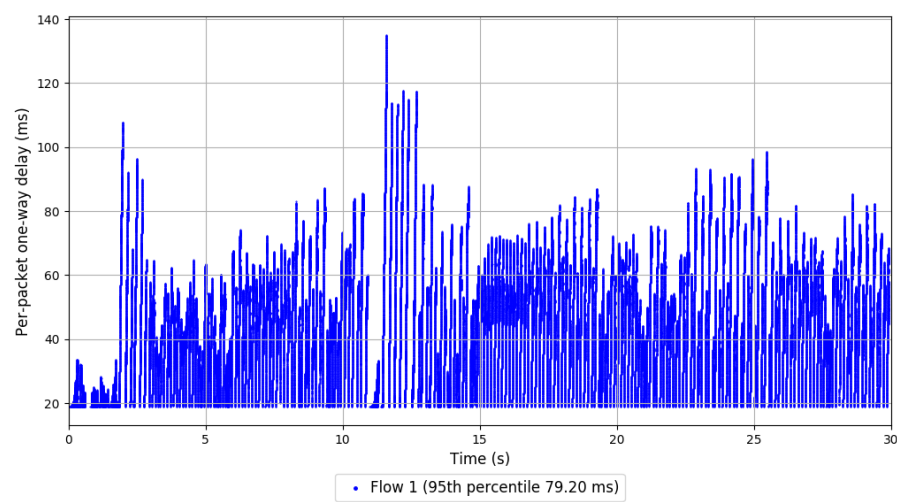
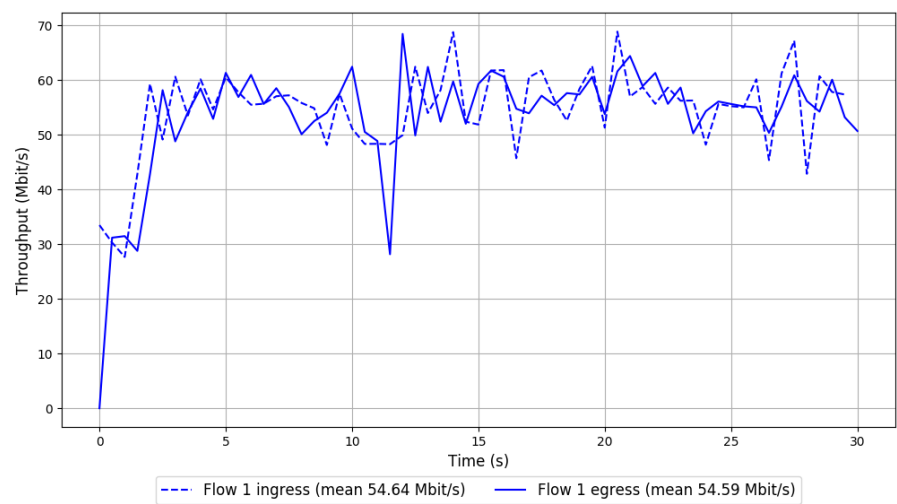


Run 5: Statistics of Verus

Start at: 2018-09-11 08:43:25
End at: 2018-09-11 08:43:55
Local clock offset: 0.766 ms
Remote clock offset: -0.875 ms

Below is generated by plot.py at 2018-09-11 09:02:50
Datalink statistics
-- Total of 1 flow:
Average throughput: 54.59 Mbit/s
95th percentile per-packet one-way delay: 79.198 ms
Loss rate: 0.37%
-- Flow 1:
Average throughput: 54.59 Mbit/s
95th percentile per-packet one-way delay: 79.198 ms
Loss rate: 0.37%

Run 5: Report of Verus — Data Link



Run 1: Statistics of PCC-Vivace

Start at: 2018-09-11 07:29:19

End at: 2018-09-11 07:29:49

Local clock offset: 2.204 ms

Remote clock offset: -4.511 ms

Below is generated by plot.py at 2018-09-11 09:02:50

Datalink statistics

-- Total of 1 flow:

Average throughput: 12.25 Mbit/s

95th percentile per-packet one-way delay: 23.937 ms

Loss rate: 0.11%

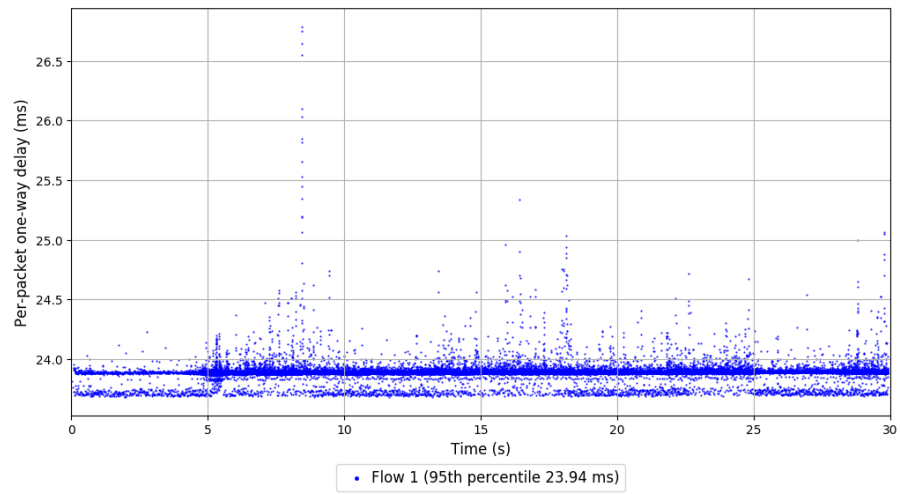
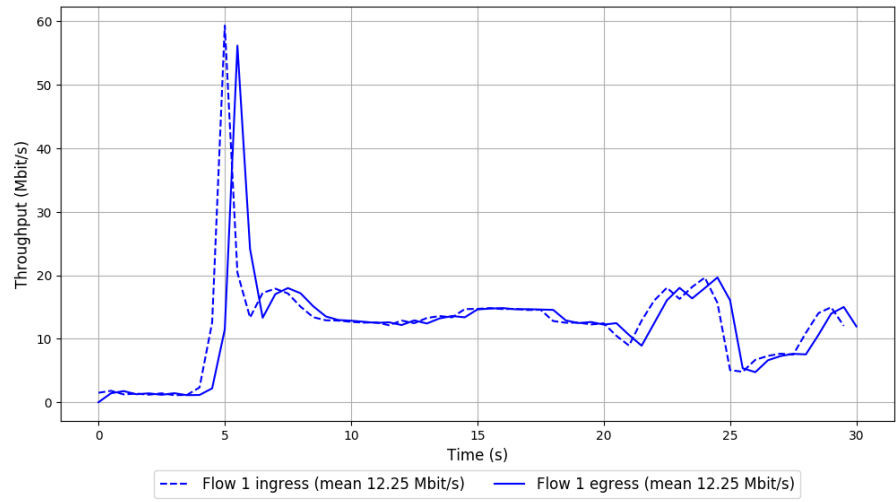
-- Flow 1:

Average throughput: 12.25 Mbit/s

95th percentile per-packet one-way delay: 23.937 ms

Loss rate: 0.11%

Run 1: Report of PCC-Vivace — Data Link



Run 2: Statistics of PCC-Vivace

Start at: 2018-09-11 07:49:55

End at: 2018-09-11 07:50:25

Local clock offset: 2.811 ms

Remote clock offset: -1.798 ms

Below is generated by plot.py at 2018-09-11 09:02:50

Datalink statistics

-- Total of 1 flow:

Average throughput: 13.33 Mbit/s

95th percentile per-packet one-way delay: 21.935 ms

Loss rate: 0.11%

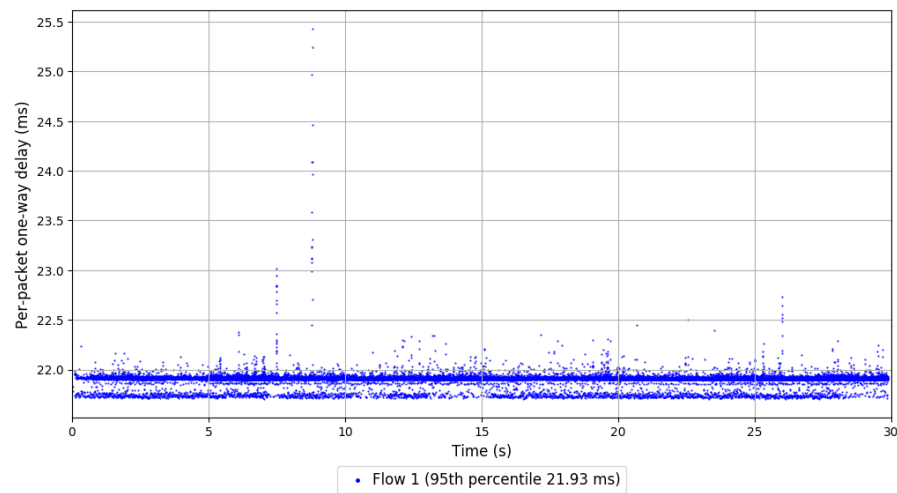
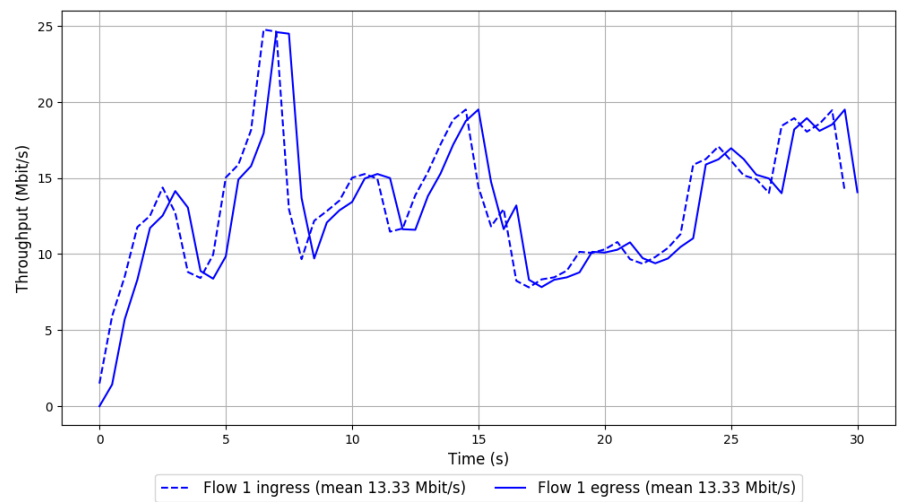
-- Flow 1:

Average throughput: 13.33 Mbit/s

95th percentile per-packet one-way delay: 21.935 ms

Loss rate: 0.11%

Run 2: Report of PCC-Vivace — Data Link



Run 3: Statistics of PCC-Vivace

Start at: 2018-09-11 08:10:13

End at: 2018-09-11 08:10:43

Local clock offset: -3.962 ms

Remote clock offset: -6.65 ms

Below is generated by plot.py at 2018-09-11 09:02:50

Datalink statistics

-- Total of 1 flow:

Average throughput: 13.26 Mbit/s

95th percentile per-packet one-way delay: 20.075 ms

Loss rate: 0.08%

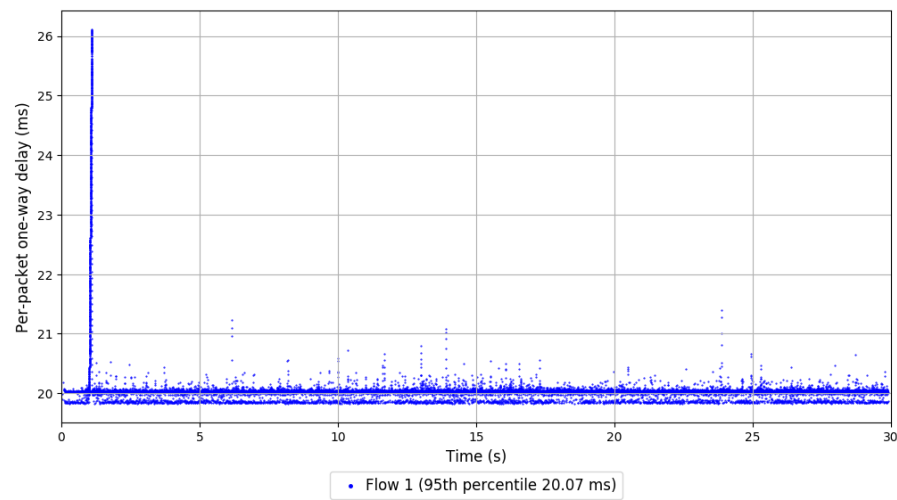
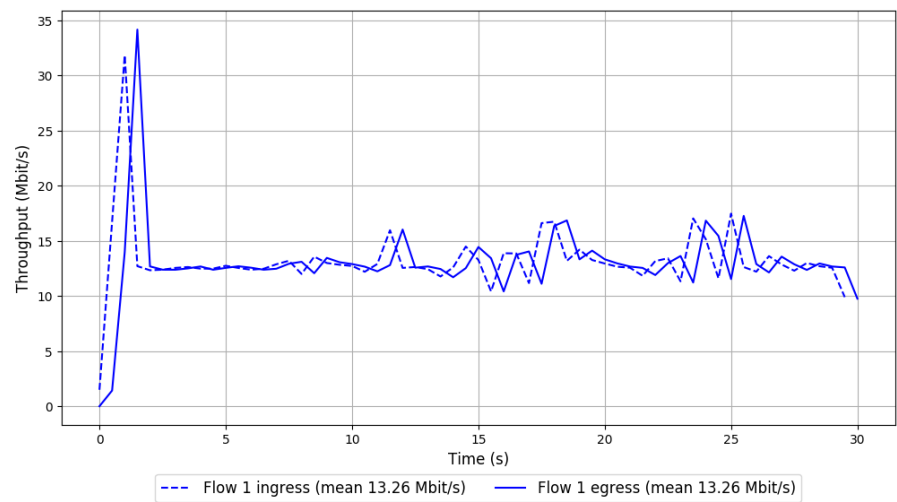
-- Flow 1:

Average throughput: 13.26 Mbit/s

95th percentile per-packet one-way delay: 20.075 ms

Loss rate: 0.08%

Run 3: Report of PCC-Vivace — Data Link



Run 4: Statistics of PCC-Vivace

Start at: 2018-09-11 08:30:43

End at: 2018-09-11 08:31:13

Local clock offset: 1.731 ms

Remote clock offset: -1.672 ms

Below is generated by plot.py at 2018-09-11 09:02:50

Datalink statistics

-- Total of 1 flow:

Average throughput: 13.04 Mbit/s

95th percentile per-packet one-way delay: 20.742 ms

Loss rate: 0.13%

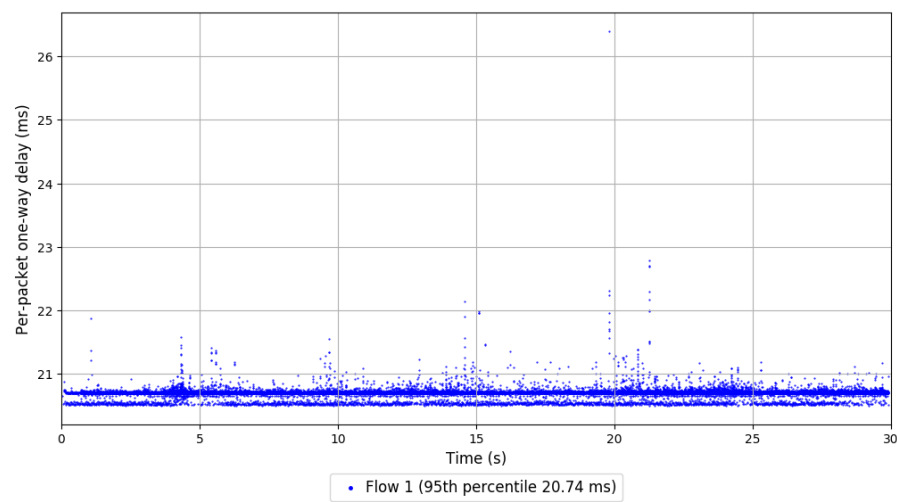
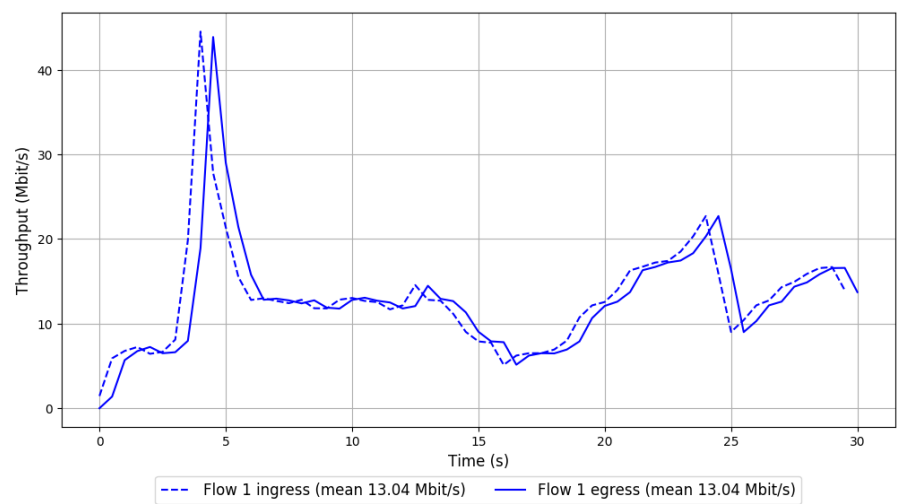
-- Flow 1:

Average throughput: 13.04 Mbit/s

95th percentile per-packet one-way delay: 20.742 ms

Loss rate: 0.13%

Run 4: Report of PCC-Vivace — Data Link

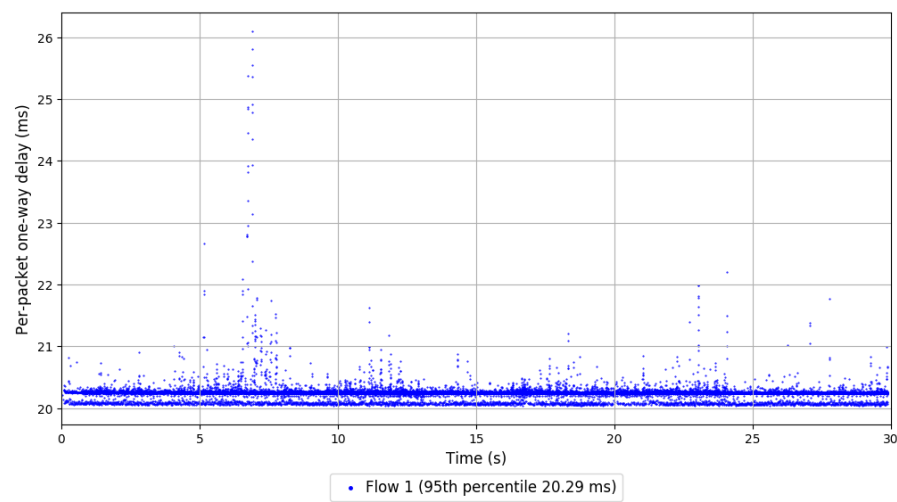
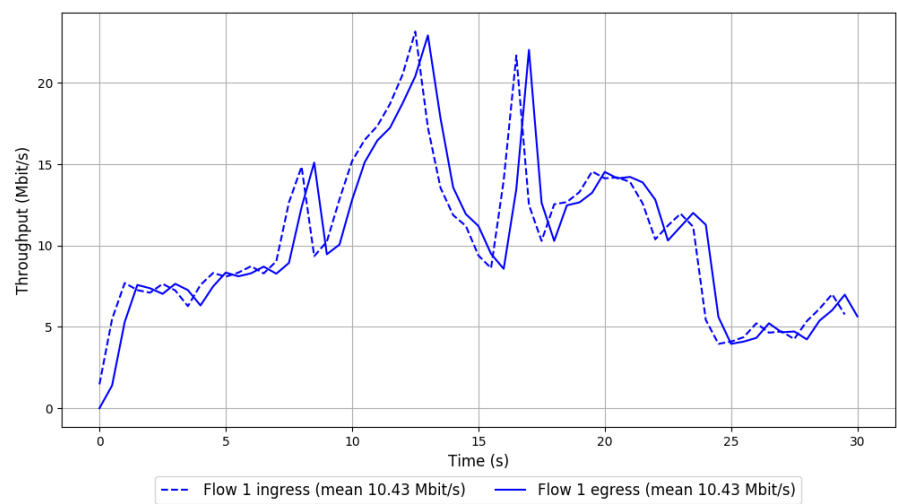


Run 5: Statistics of PCC-Vivace

Start at: 2018-09-11 08:51:28
End at: 2018-09-11 08:51:58
Local clock offset: 1.239 ms
Remote clock offset: -1.923 ms

Below is generated by plot.py at 2018-09-11 09:02:50
Datalink statistics
-- Total of 1 flow:
Average throughput: 10.43 Mbit/s
95th percentile per-packet one-way delay: 20.293 ms
Loss rate: 0.08%
-- Flow 1:
Average throughput: 10.43 Mbit/s
95th percentile per-packet one-way delay: 20.293 ms
Loss rate: 0.08%

Run 5: Report of PCC-Vivace — Data Link

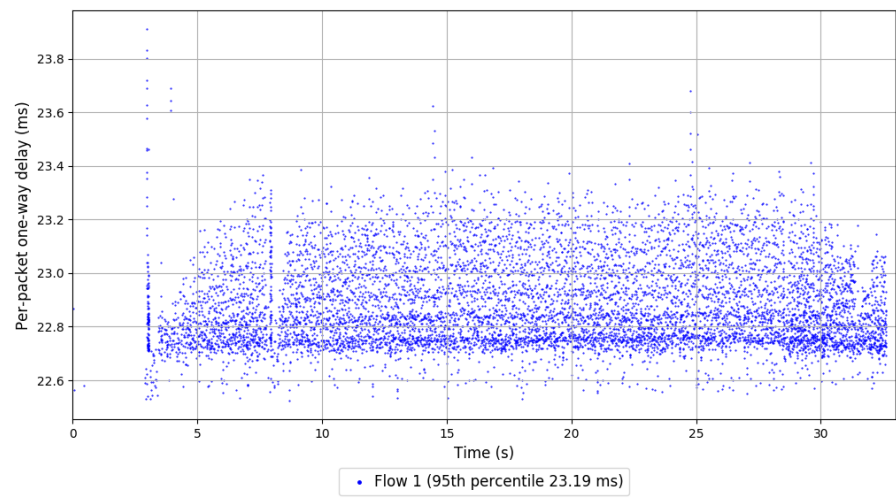
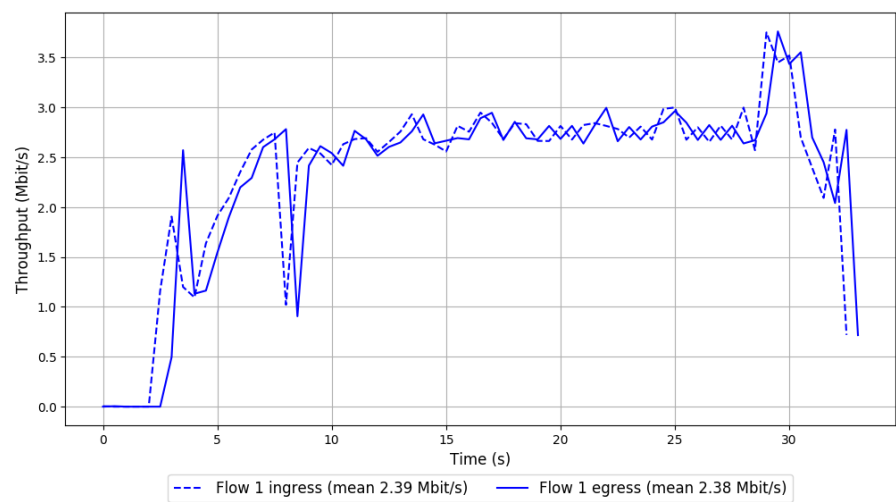


Run 1: Statistics of WebRTC media

Start at: 2018-09-11 07:18:56
End at: 2018-09-11 07:19:26
Local clock offset: -1.015 ms
Remote clock offset: -3.645 ms

Below is generated by plot.py at 2018-09-11 09:02:50
Datalink statistics
-- Total of 1 flow:
Average throughput: 2.38 Mbit/s
95th percentile per-packet one-way delay: 23.190 ms
Loss rate: 0.07%
-- Flow 1:
Average throughput: 2.38 Mbit/s
95th percentile per-packet one-way delay: 23.190 ms
Loss rate: 0.07%

Run 1: Report of WebRTC media — Data Link

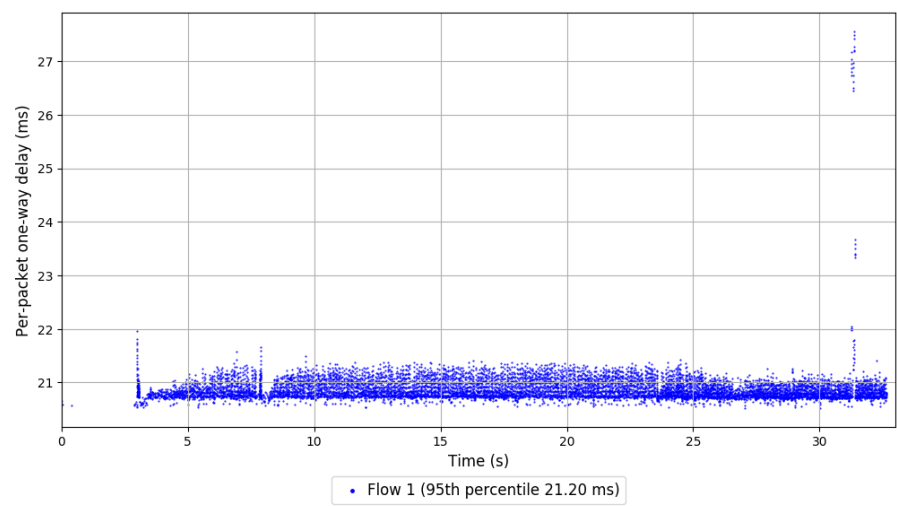
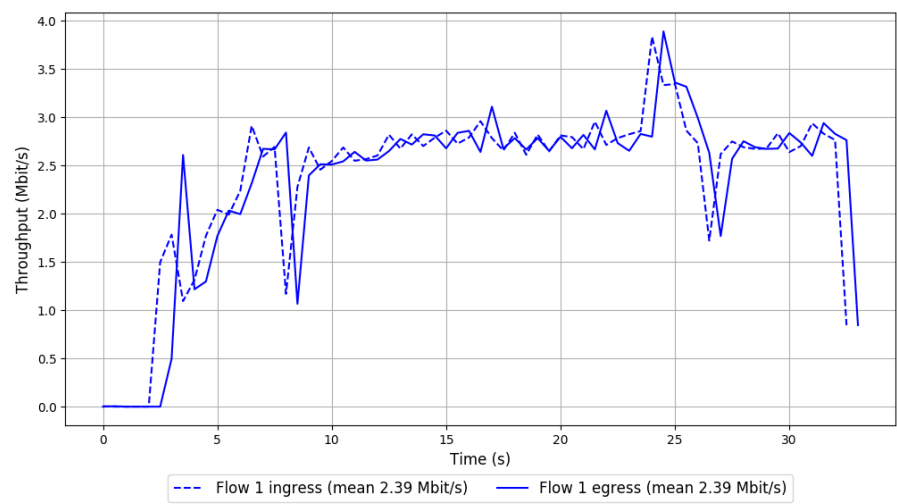


Run 2: Statistics of WebRTC media

Start at: 2018-09-11 07:39:36
End at: 2018-09-11 07:40:06
Local clock offset: -1.034 ms
Remote clock offset: -4.366 ms

Below is generated by plot.py at 2018-09-11 09:02:50
Datalink statistics
-- Total of 1 flow:
Average throughput: 2.39 Mbit/s
95th percentile per-packet one-way delay: 21.200 ms
Loss rate: 0.06%
-- Flow 1:
Average throughput: 2.39 Mbit/s
95th percentile per-packet one-way delay: 21.200 ms
Loss rate: 0.06%

Run 2: Report of WebRTC media — Data Link

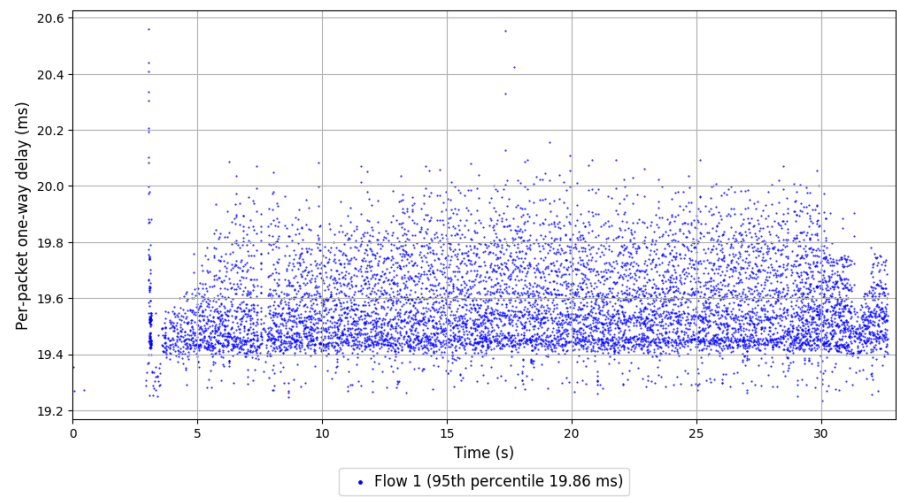
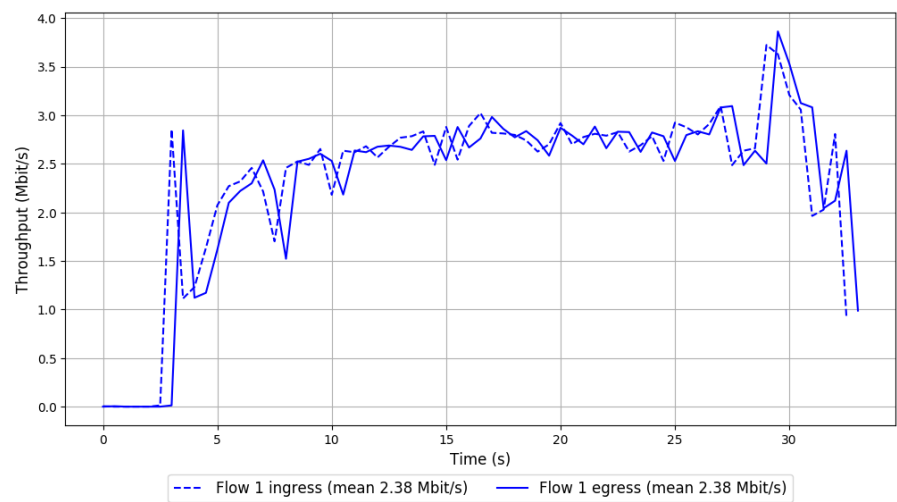


Run 3: Statistics of WebRTC media

Start at: 2018-09-11 08:00:04
End at: 2018-09-11 08:00:34
Local clock offset: 1.954 ms
Remote clock offset: -0.157 ms

Below is generated by plot.py at 2018-09-11 09:02:50
Datalink statistics
-- Total of 1 flow:
Average throughput: 2.38 Mbit/s
95th percentile per-packet one-way delay: 19.864 ms
Loss rate: 0.06%
-- Flow 1:
Average throughput: 2.38 Mbit/s
95th percentile per-packet one-way delay: 19.864 ms
Loss rate: 0.06%

Run 3: Report of WebRTC media — Data Link

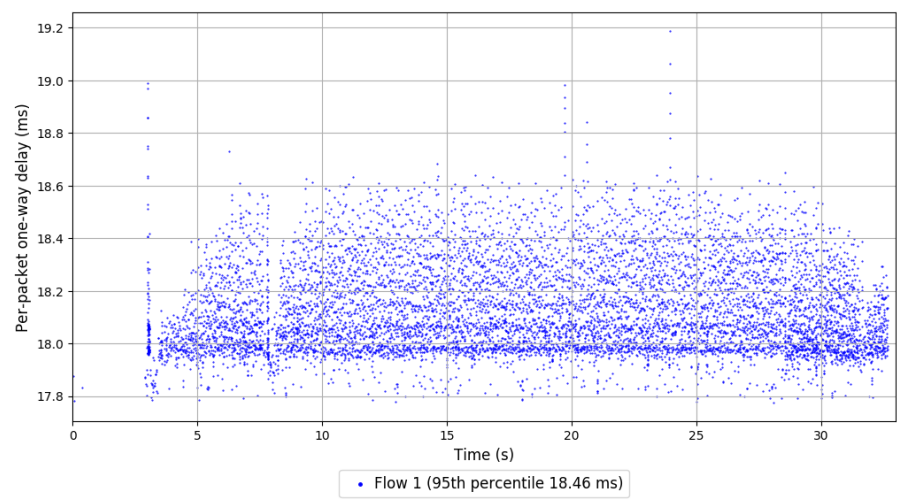
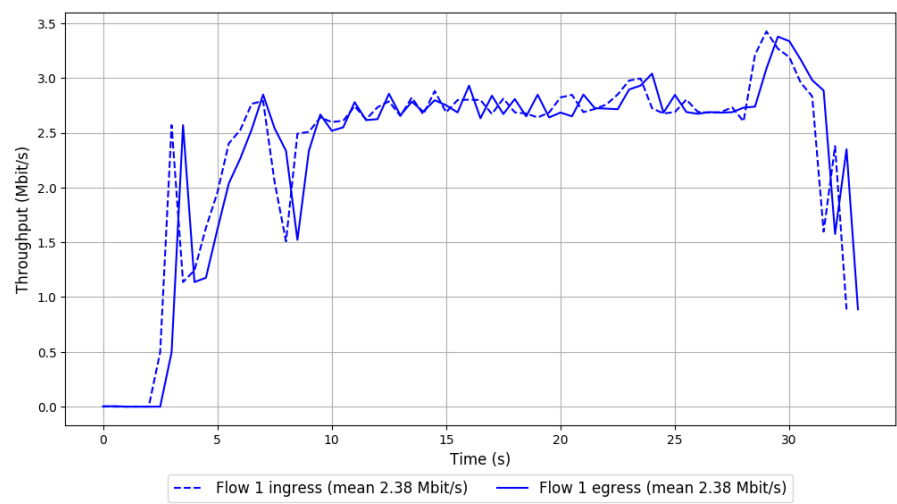


Run 4: Statistics of WebRTC media

Start at: 2018-09-11 08:20:29
End at: 2018-09-11 08:20:59
Local clock offset: -0.658 ms
Remote clock offset: -1.281 ms

Below is generated by plot.py at 2018-09-11 09:02:50
Datalink statistics
-- Total of 1 flow:
Average throughput: 2.38 Mbit/s
95th percentile per-packet one-way delay: 18.458 ms
Loss rate: 0.06%
-- Flow 1:
Average throughput: 2.38 Mbit/s
95th percentile per-packet one-way delay: 18.458 ms
Loss rate: 0.06%

Run 4: Report of WebRTC media — Data Link



Run 5: Statistics of WebRTC media

Start at: 2018-09-11 08:41:13

End at: 2018-09-11 08:41:43

Local clock offset: 0.647 ms

Remote clock offset: -1.86 ms

Below is generated by plot.py at 2018-09-11 09:02:50

Datalink statistics

-- Total of 1 flow:

Average throughput: 2.39 Mbit/s

95th percentile per-packet one-way delay: 20.213 ms

Loss rate: 0.12%

-- Flow 1:

Average throughput: 2.39 Mbit/s

95th percentile per-packet one-way delay: 20.213 ms

Loss rate: 0.12%

Run 5: Report of WebRTC media — Data Link

