

Pantheon Report

Generated at 2018-09-06 16:08:21 (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.

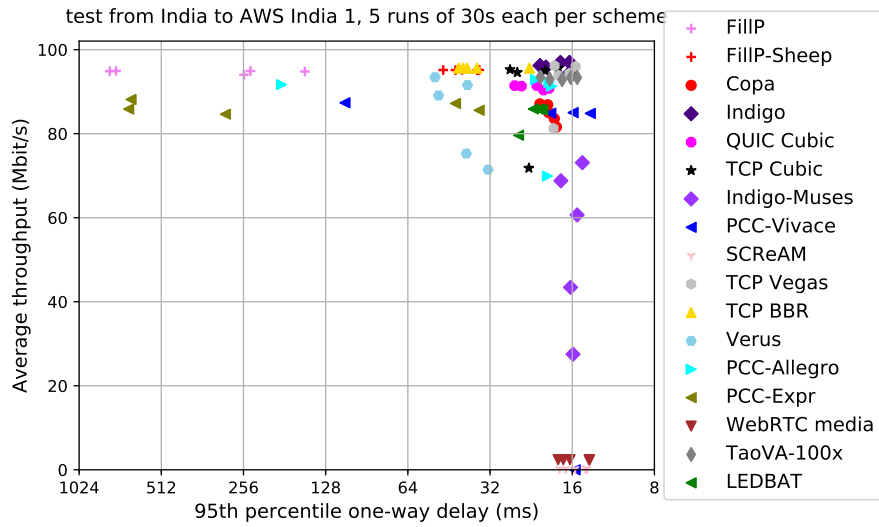
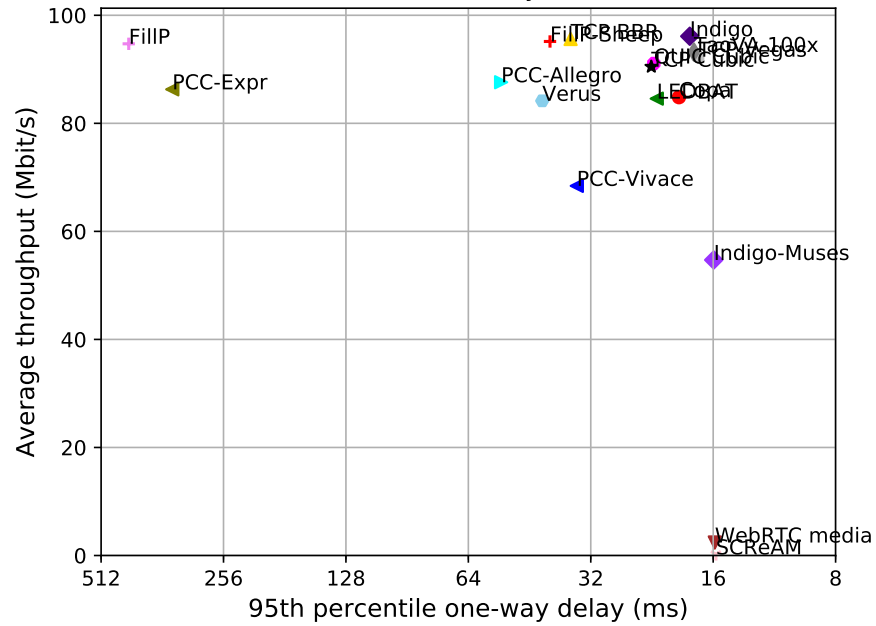
System info:

```
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 = 536870912 536870912 536870912
```

Git summary:

```
branch: muses @ f392ce15d580343f4432c3d7e068b3290f03eb4a
third_party/fillp @ d47f4fa1b454a5e3c0537115c5a28436dbd4b834
third_party/fillp-sheep @ daed0c84f98531712514b2231f43ec6901114ffe
third_party/genericCC @ d0153f8e594aa89e93b032143cedbdf58e562f4
third_party/indigo @ 2601c92e4aa9d58d38dc4dfe0ecd90c077e64d
third_party/libutp @ b3465b942e2826f2b179eaab4a906ce6bb7cf3cf
third_party/muses @ a28d20fb82a95a965a3da65fd1eb71b8994e9b84
third_party/pantheon-tunnel @ cbfce6db5ff5740d4fe1771f813cd646339e1952
third_party/pcc @ 1afc958fa0d66d18b623c091a55fec872b4981e1
M receiver/src/buffer.h
M receiver/src/core.cpp
M sender/src/buffer.h
M sender/src/core.cpp
third_party/pcc-experimental @ cd43e34e3f5f5613e8acd08fab92c4eb24f974ab
third_party/proto-quic @ 77961f1a82733a86b42f1bc8143ebc978f3cff42
third_party/scream-reproduce @ f099118d1421aa3131bf11ff1964974e1da3bdb2
M src/ScreamClient
M src/ScreamServer
third_party/sprout @ 366e35c6178b01e31d4a46ad18c74f9415f19a26
third_party/verus @ d4b447ea74c6c60a261149af2629562939f9a494
M src/verus.hpp
M tools/plot.py
third_party/vivace @ 2baf86211435ae071a32f96b7d8c504587f5d7f4
third_party/webrtc @ 3f0cc2a9061a41b6f9dde4735770d143a1fa2851
```

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



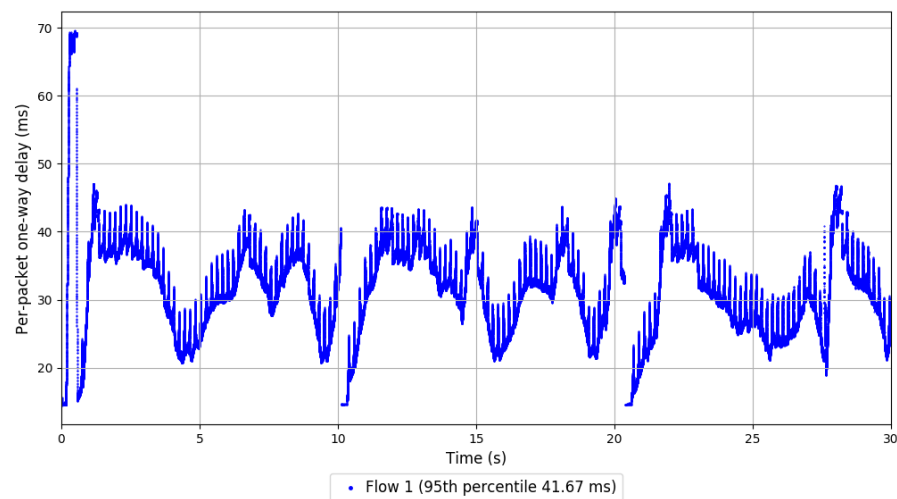
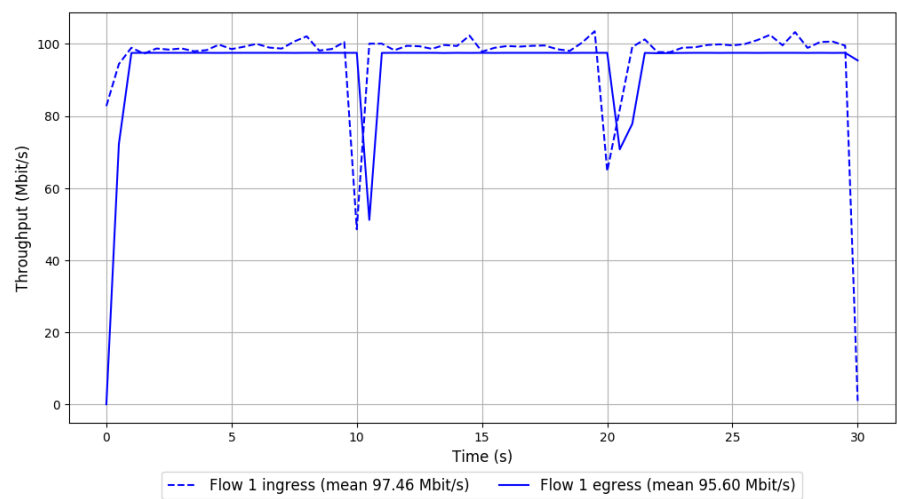
scheme	# runs	mean avg tput (Mbit/s) flow 1	mean 95th-%ile delay (ms) flow 1	mean loss rate (%) flow 1
TCP BBR	5	95.62	35.87	1.71
Copa	5	84.84	19.42	0.09
TCP Cubic	5	90.47	22.72	0.11
FillP	5	94.72	437.80	3.49
FillP-Sheep	5	95.15	40.31	1.40
Indigo	5	96.12	18.27	0.09
LEDBAT	5	84.57	22.03	0.11
Indigo-Muses	5	54.70	15.95	0.08
PCC-Allegro	5	87.61	53.16	0.34
PCC-Expr	5	86.29	342.21	2.10
QUIC Cubic	5	91.08	22.39	0.12
SCReAM	5	0.21	15.75	0.15
Sprout	0	N/A	N/A	N/A
TaoVA-100x	5	93.20	17.85	0.09
TCP Vegas	5	92.34	17.44	0.11
Verus	5	84.17	42.12	0.21
PCC-Vivace	5	68.42	34.64	0.08
WebRTC media	5	2.40	15.86	0.11

Run 1: Statistics of TCP BBR

Start at: 2018-09-06 14:20:21
End at: 2018-09-06 14:20:51
Local clock offset: -0.717 ms
Remote clock offset: -4.682 ms

Below is generated by plot.py at 2018-09-06 15:57:34
Datalink statistics
-- Total of 1 flow:
Average throughput: 95.60 Mbit/s
95th percentile per-packet one-way delay: 41.670 ms
Loss rate: 2.01%
-- Flow 1:
Average throughput: 95.60 Mbit/s
95th percentile per-packet one-way delay: 41.670 ms
Loss rate: 2.01%

Run 1: Report of TCP BBR — Data Link

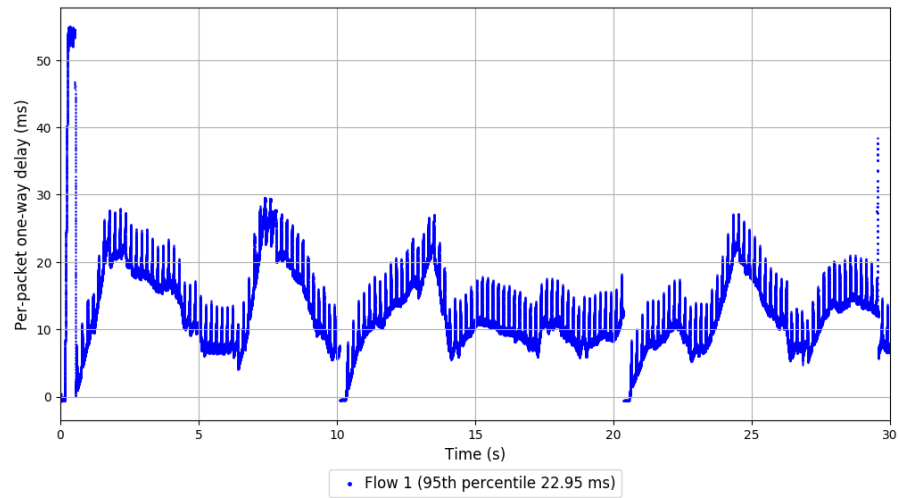
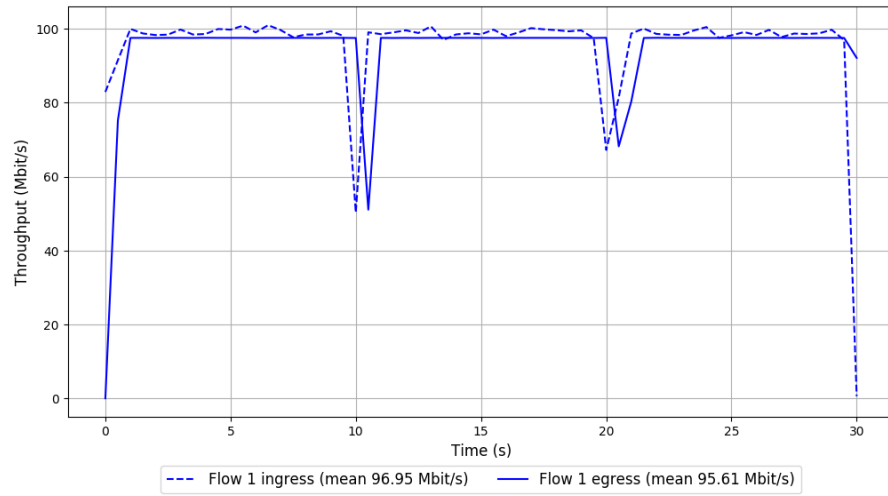


Run 2: Statistics of TCP BBR

Start at: 2018-09-06 14:42:10
End at: 2018-09-06 14:42:40
Local clock offset: 1.944 ms
Remote clock offset: 12.214 ms

Below is generated by plot.py at 2018-09-06 15:57:34
Datalink statistics
-- Total of 1 flow:
Average throughput: 95.61 Mbit/s
95th percentile per-packet one-way delay: 22.950 ms
Loss rate: 1.48%
-- Flow 1:
Average throughput: 95.61 Mbit/s
95th percentile per-packet one-way delay: 22.950 ms
Loss rate: 1.48%

Run 2: Report of TCP BBR — Data Link



Run 3: Statistics of TCP BBR

Start at: 2018-09-06 15:03:18

End at: 2018-09-06 15:03:48

Local clock offset: 2.827 ms

Remote clock offset: -4.471 ms

Below is generated by plot.py at 2018-09-06 15:57:34

Datalink statistics

-- Total of 1 flow:

Average throughput: 95.67 Mbit/s

95th percentile per-packet one-way delay: 40.180 ms

Loss rate: 1.71%

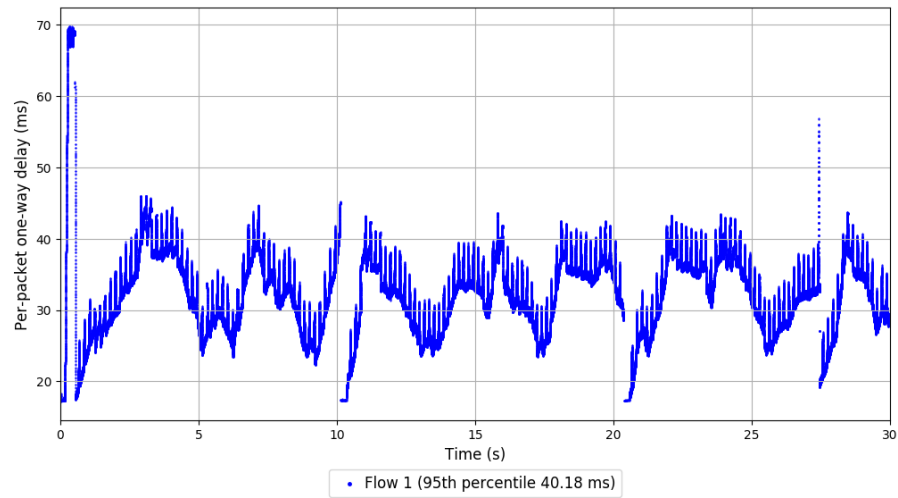
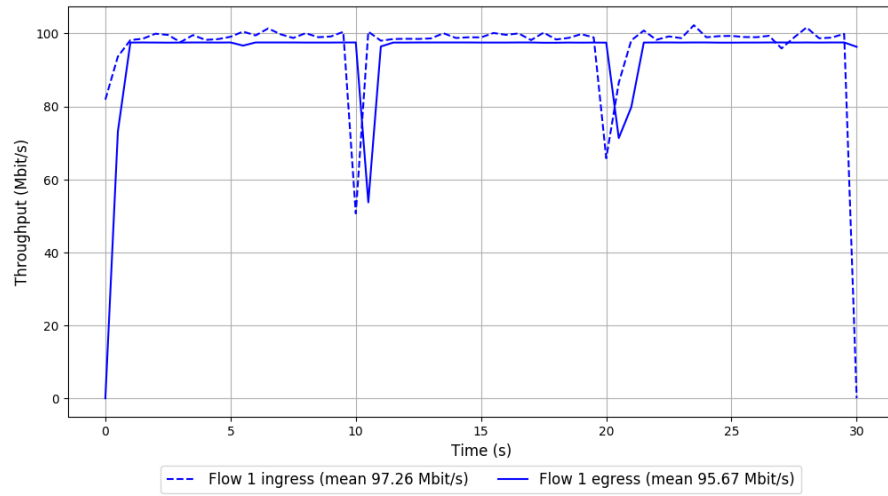
-- Flow 1:

Average throughput: 95.67 Mbit/s

95th percentile per-packet one-way delay: 40.180 ms

Loss rate: 1.71%

Run 3: Report of TCP BBR — Data Link



Run 4: Statistics of TCP BBR

Start at: 2018-09-06 15:24:04

End at: 2018-09-06 15:24:34

Local clock offset: 1.691 ms

Remote clock offset: -4.501 ms

Below is generated by plot.py at 2018-09-06 15:57:34

Datalink statistics

-- Total of 1 flow:

Average throughput: 95.61 Mbit/s

95th percentile per-packet one-way delay: 38.804 ms

Loss rate: 1.75%

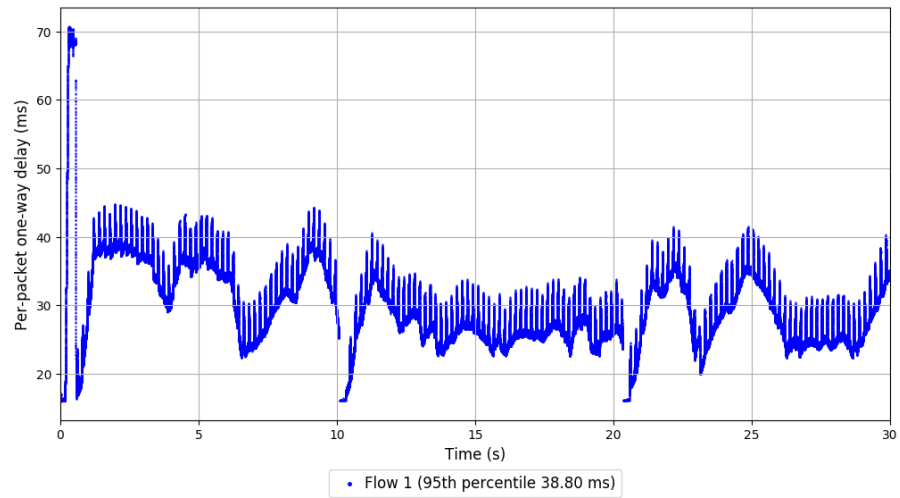
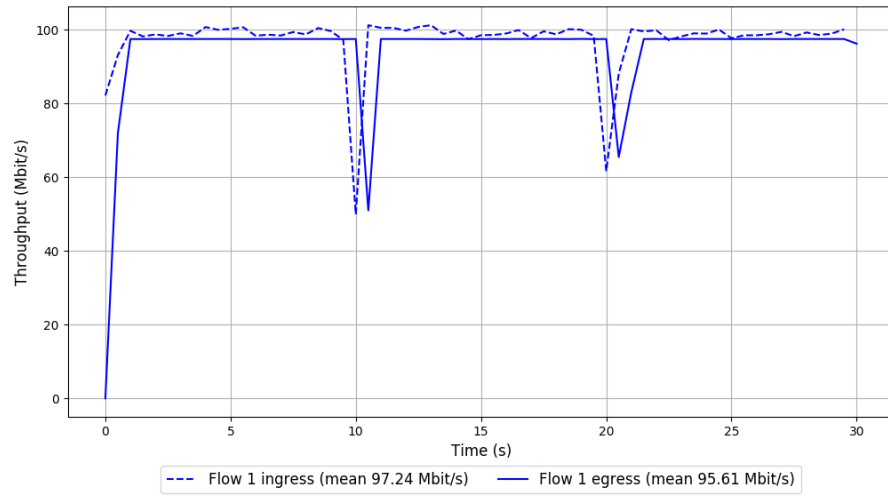
-- Flow 1:

Average throughput: 95.61 Mbit/s

95th percentile per-packet one-way delay: 38.804 ms

Loss rate: 1.75%

Run 4: Report of TCP BBR — Data Link

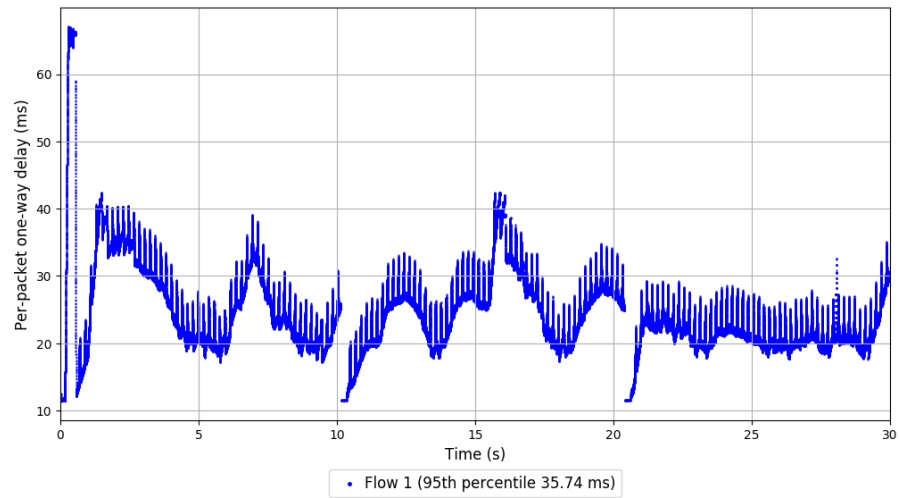
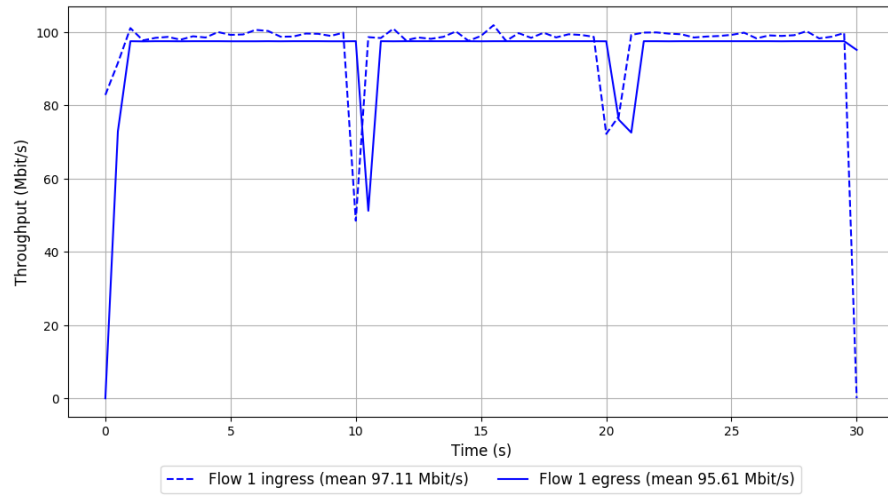


Run 5: Statistics of TCP BBR

Start at: 2018-09-06 15:45:07
End at: 2018-09-06 15:45:37
Local clock offset: -0.415 ms
Remote clock offset: -1.982 ms

Below is generated by plot.py at 2018-09-06 15:57:34
Datalink statistics
-- Total of 1 flow:
Average throughput: 95.61 Mbit/s
95th percentile per-packet one-way delay: 35.739 ms
Loss rate: 1.62%
-- Flow 1:
Average throughput: 95.61 Mbit/s
95th percentile per-packet one-way delay: 35.739 ms
Loss rate: 1.62%

Run 5: Report of TCP BBR — Data Link



Run 1: Statistics of Copa

Start at: 2018-09-06 14:12:45

End at: 2018-09-06 14:13:15

Local clock offset: 1.119 ms

Remote clock offset: -3.1 ms

Below is generated by plot.py at 2018-09-06 15:58:19

Datalink statistics

-- Total of 1 flow:

Average throughput: 87.09 Mbit/s

95th percentile per-packet one-way delay: 21.023 ms

Loss rate: 0.11%

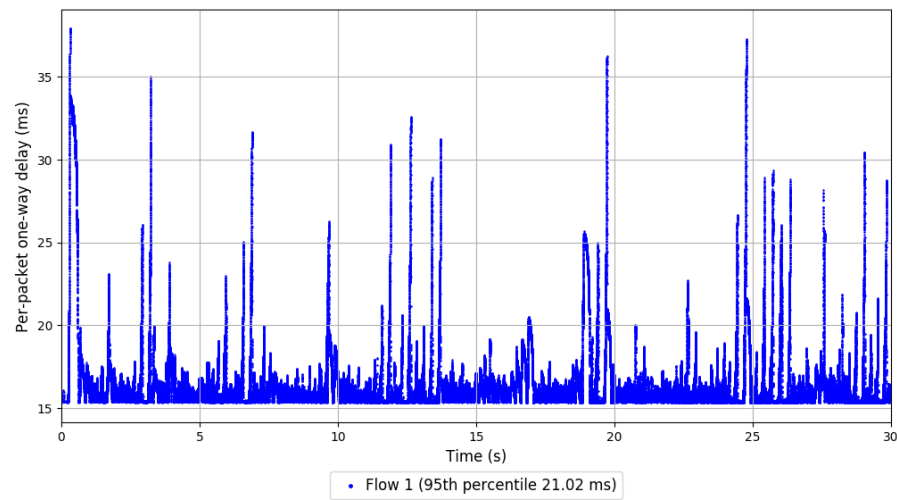
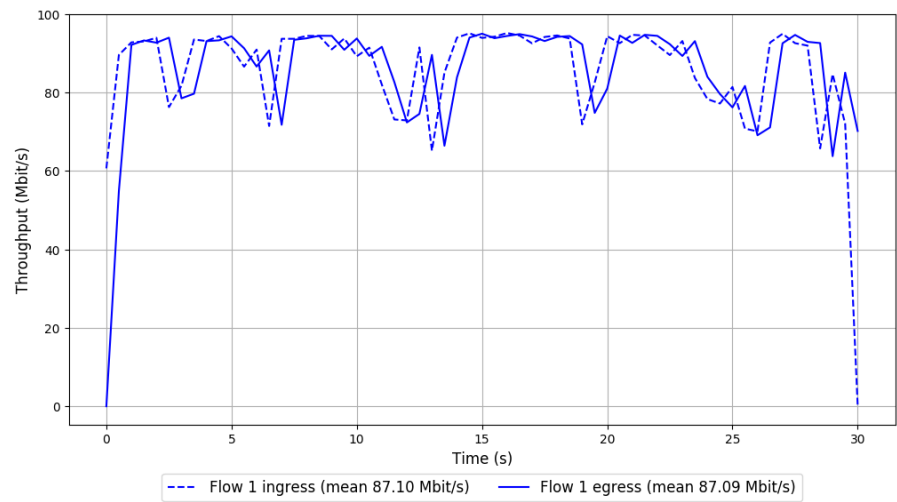
-- Flow 1:

Average throughput: 87.09 Mbit/s

95th percentile per-packet one-way delay: 21.023 ms

Loss rate: 0.11%

Run 1: Report of Copa — Data Link

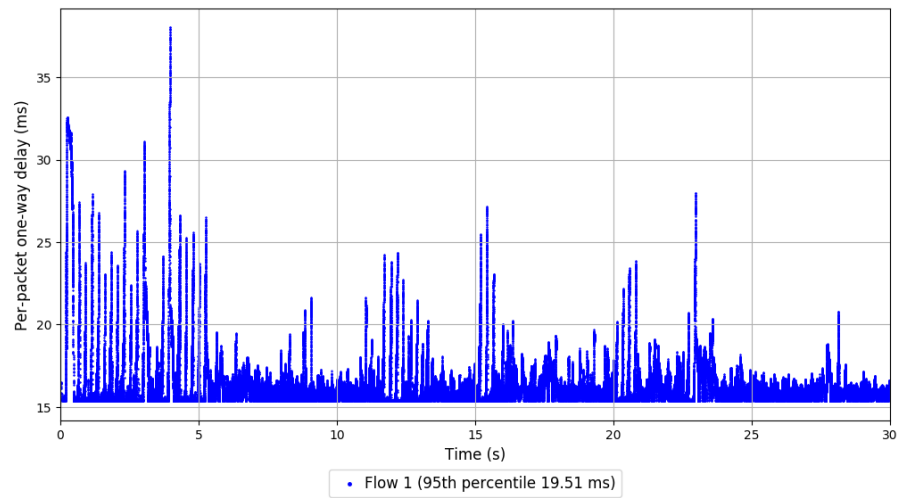
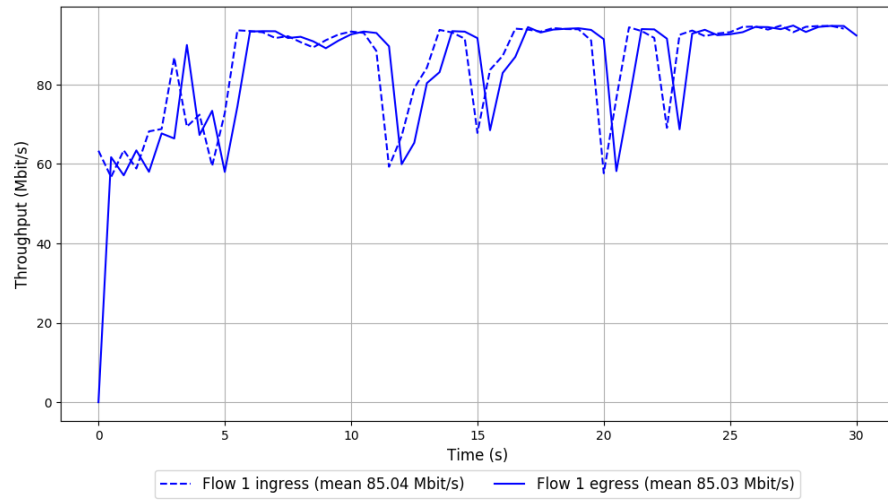


Run 2: Statistics of Copa

Start at: 2018-09-06 14:34:27
End at: 2018-09-06 14:34:57
Local clock offset: 1.711 ms
Remote clock offset: -3.738 ms

Below is generated by plot.py at 2018-09-06 15:58:19
Datalink statistics
-- Total of 1 flow:
Average throughput: 85.03 Mbit/s
95th percentile per-packet one-way delay: 19.506 ms
Loss rate: 0.09%
-- Flow 1:
Average throughput: 85.03 Mbit/s
95th percentile per-packet one-way delay: 19.506 ms
Loss rate: 0.09%

Run 2: Report of Copa — Data Link

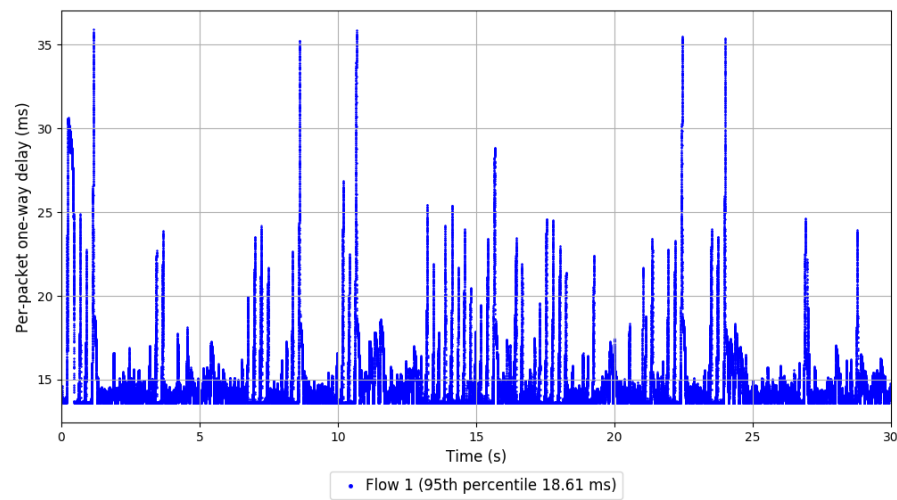
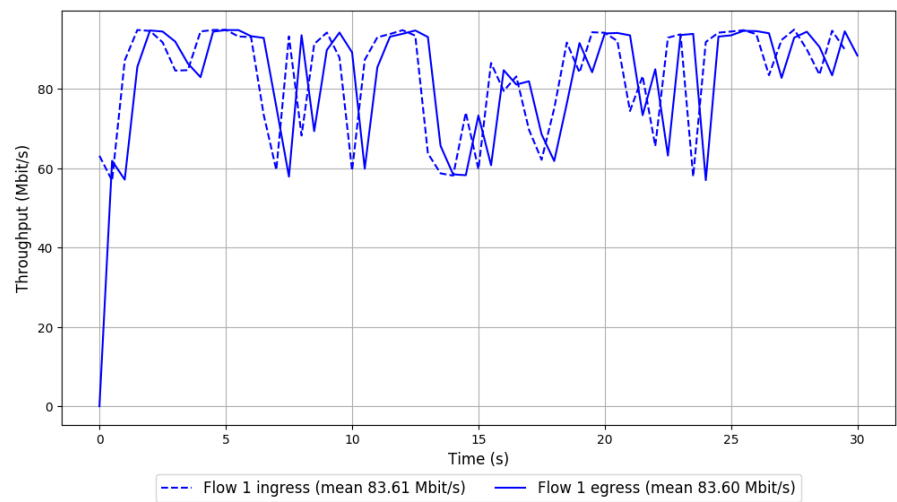


Run 3: Statistics of Copa

Start at: 2018-09-06 14:55:52
End at: 2018-09-06 14:56:22
Local clock offset: -0.705 ms
Remote clock offset: -4.289 ms

Below is generated by plot.py at 2018-09-06 15:58:19
Datalink statistics
-- Total of 1 flow:
Average throughput: 83.60 Mbit/s
95th percentile per-packet one-way delay: 18.614 ms
Loss rate: 0.09%
-- Flow 1:
Average throughput: 83.60 Mbit/s
95th percentile per-packet one-way delay: 18.614 ms
Loss rate: 0.09%

Run 3: Report of Copa — Data Link

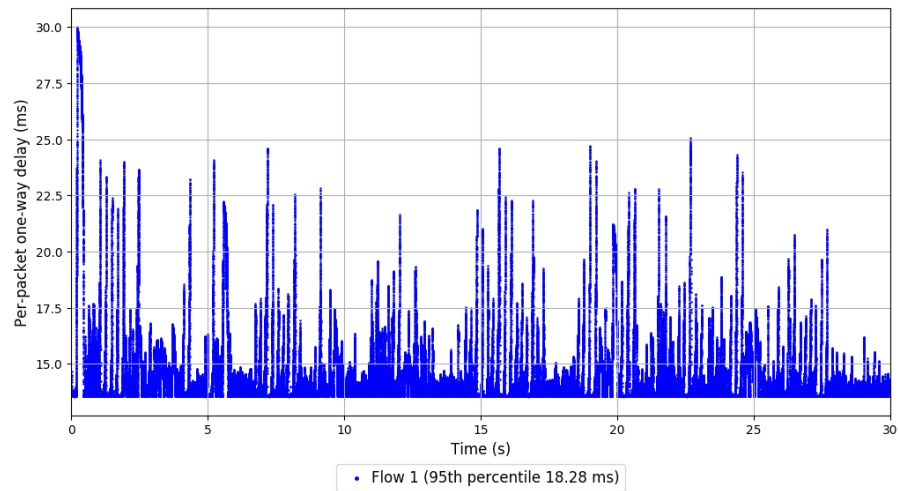
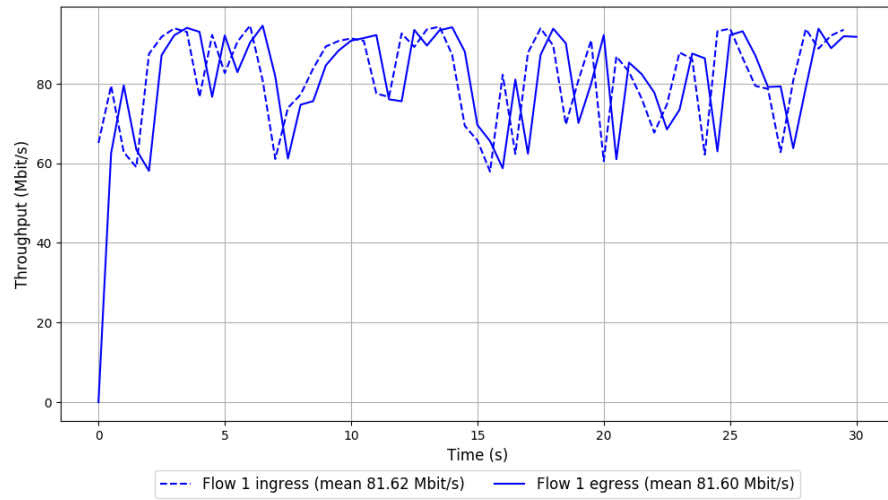


Run 4: Statistics of Copa

Start at: 2018-09-06 15:16:52
End at: 2018-09-06 15:17:22
Local clock offset: -0.662 ms
Remote clock offset: -4.353 ms

Below is generated by plot.py at 2018-09-06 15:59:18
Datalink statistics
-- Total of 1 flow:
Average throughput: 81.60 Mbit/s
95th percentile per-packet one-way delay: 18.276 ms
Loss rate: 0.09%
-- Flow 1:
Average throughput: 81.60 Mbit/s
95th percentile per-packet one-way delay: 18.276 ms
Loss rate: 0.09%

Run 4: Report of Copa — Data Link

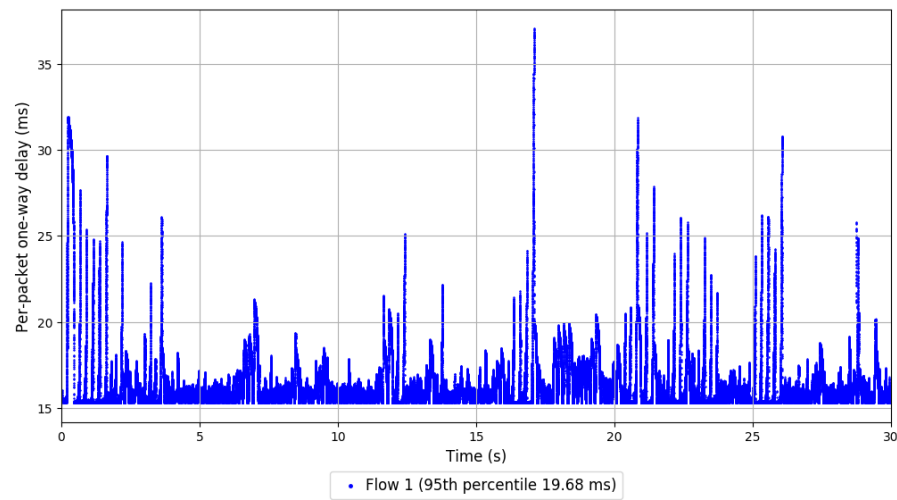
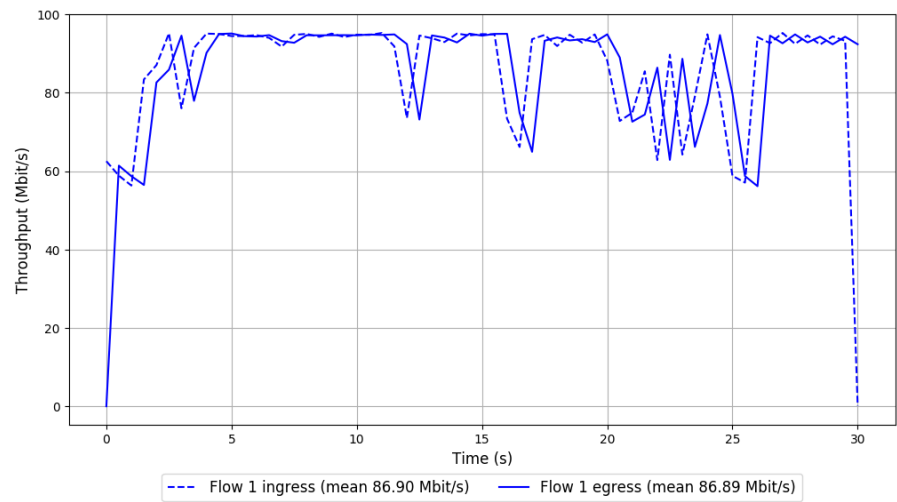


Run 5: Statistics of Copa

Start at: 2018-09-06 15:37:55
End at: 2018-09-06 15:38:25
Local clock offset: 3.551 ms
Remote clock offset: -1.849 ms

Below is generated by plot.py at 2018-09-06 15:59:29
Datalink statistics
-- Total of 1 flow:
Average throughput: 86.89 Mbit/s
95th percentile per-packet one-way delay: 19.677 ms
Loss rate: 0.08%
-- Flow 1:
Average throughput: 86.89 Mbit/s
95th percentile per-packet one-way delay: 19.677 ms
Loss rate: 0.08%

Run 5: Report of Copa — Data Link

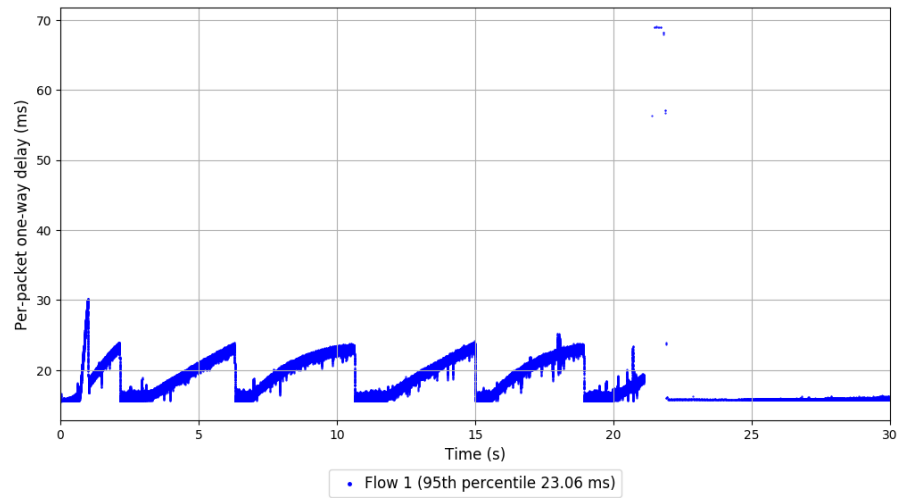
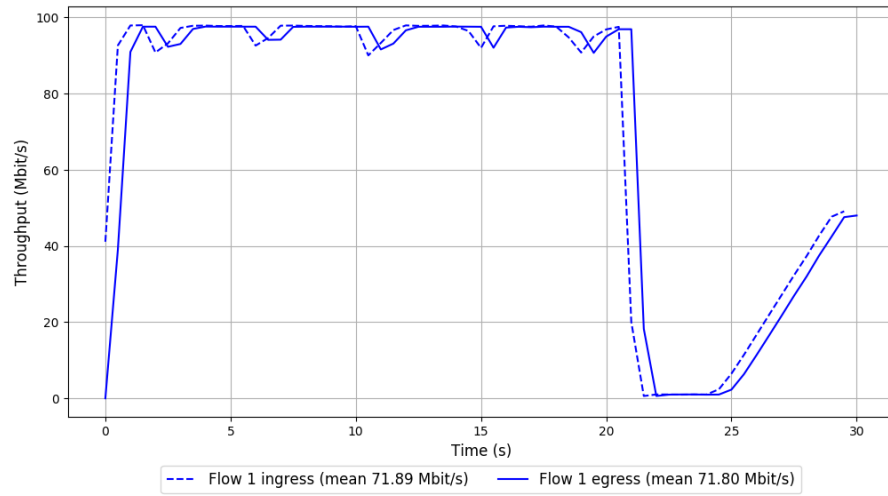


Run 1: Statistics of TCP Cubic

Start at: 2018-09-06 14:29:52
End at: 2018-09-06 14:30:22
Local clock offset: 1.214 ms
Remote clock offset: -4.325 ms

Below is generated by plot.py at 2018-09-06 15:59:29
Datalink statistics
-- Total of 1 flow:
Average throughput: 71.80 Mbit/s
95th percentile per-packet one-way delay: 23.063 ms
Loss rate: 0.19%
-- Flow 1:
Average throughput: 71.80 Mbit/s
95th percentile per-packet one-way delay: 23.063 ms
Loss rate: 0.19%

Run 1: Report of TCP Cubic — Data Link

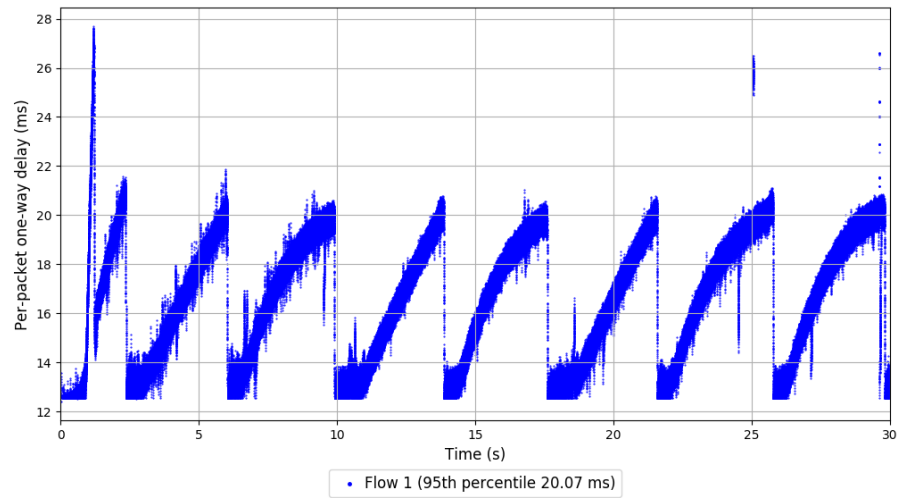
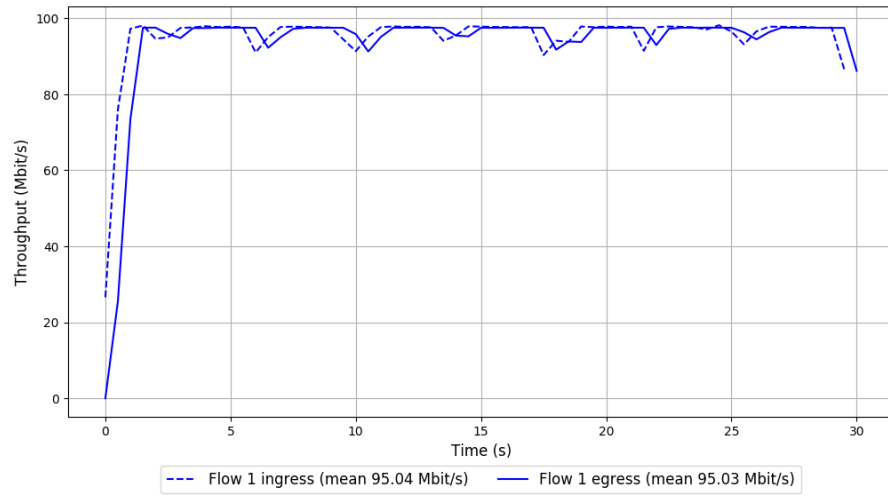


Run 2: Statistics of TCP Cubic

Start at: 2018-09-06 14:51:23
End at: 2018-09-06 14:51:53
Local clock offset: -0.931 ms
Remote clock offset: -3.547 ms

Below is generated by plot.py at 2018-09-06 15:59:29
Datalink statistics
-- Total of 1 flow:
Average throughput: 95.03 Mbit/s
95th percentile per-packet one-way delay: 20.075 ms
Loss rate: 0.08%
-- Flow 1:
Average throughput: 95.03 Mbit/s
95th percentile per-packet one-way delay: 20.075 ms
Loss rate: 0.08%

Run 2: Report of TCP Cubic — Data Link

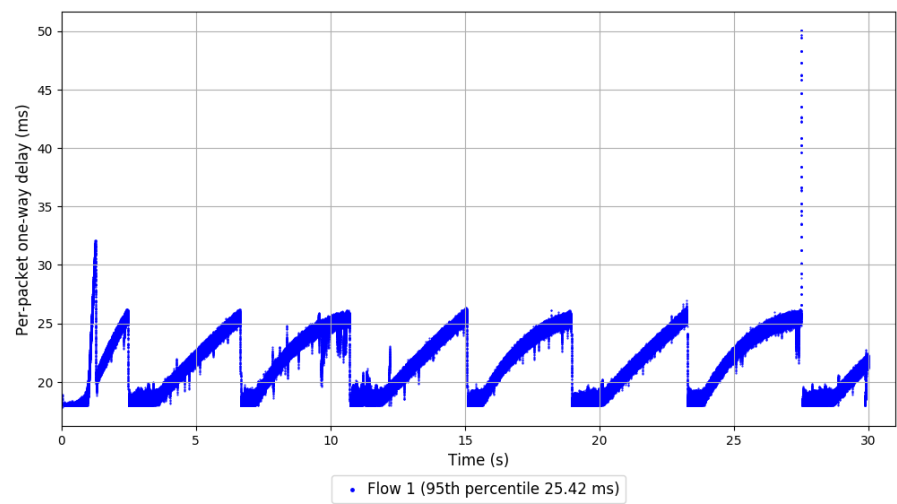
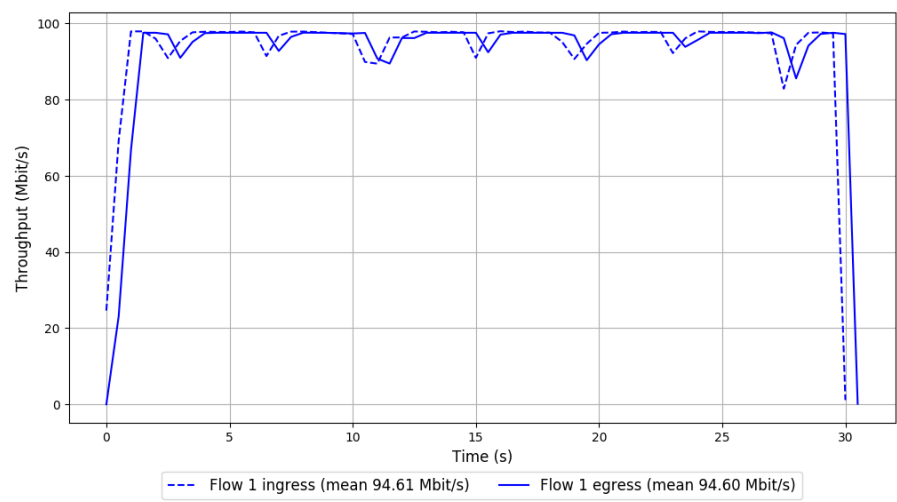


Run 3: Statistics of TCP Cubic

Start at: 2018-09-06 15:12:25
End at: 2018-09-06 15:12:55
Local clock offset: 4.224 ms
Remote clock offset: -3.885 ms

Below is generated by plot.py at 2018-09-06 15:59:29
Datalink statistics
-- Total of 1 flow:
Average throughput: 94.60 Mbit/s
95th percentile per-packet one-way delay: 25.424 ms
Loss rate: 0.09%
-- Flow 1:
Average throughput: 94.60 Mbit/s
95th percentile per-packet one-way delay: 25.424 ms
Loss rate: 0.09%

Run 3: Report of TCP Cubic — Data Link

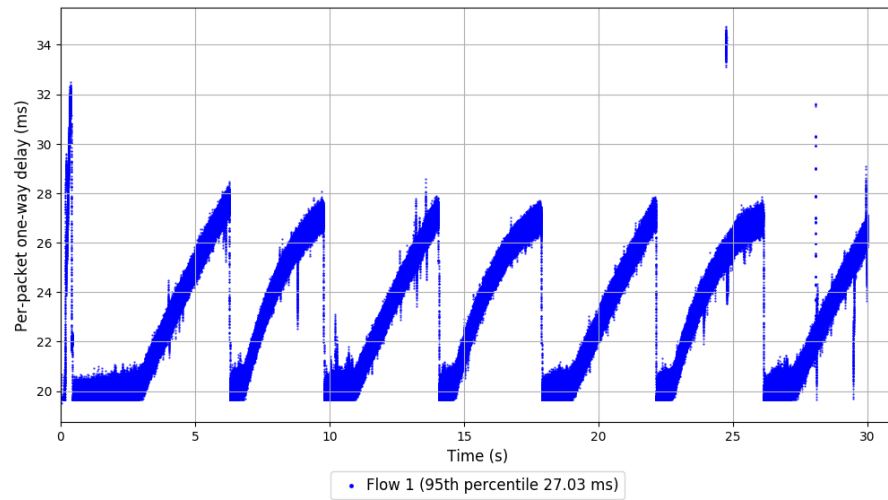
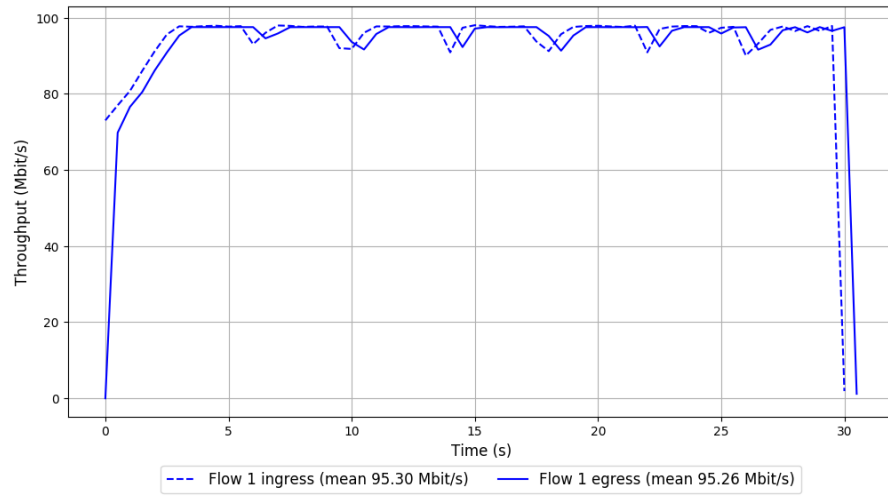


Run 4: Statistics of TCP Cubic

Start at: 2018-09-06 15:33:19
End at: 2018-09-06 15:33:49
Local clock offset: -0.669 ms
Remote clock offset: -10.394 ms

Below is generated by plot.py at 2018-09-06 15:59:29
Datalink statistics
-- Total of 1 flow:
Average throughput: 95.26 Mbit/s
95th percentile per-packet one-way delay: 27.028 ms
Loss rate: 0.11%
-- Flow 1:
Average throughput: 95.26 Mbit/s
95th percentile per-packet one-way delay: 27.028 ms
Loss rate: 0.11%

Run 4: Report of TCP Cubic — Data Link

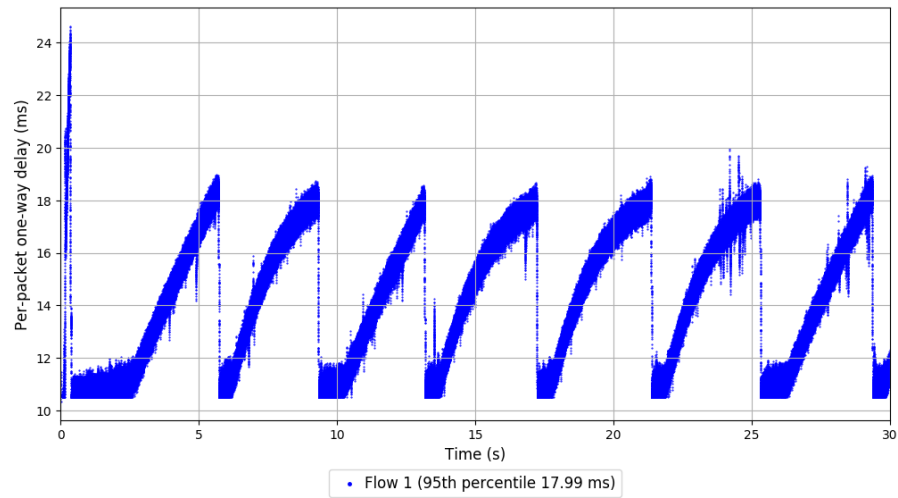
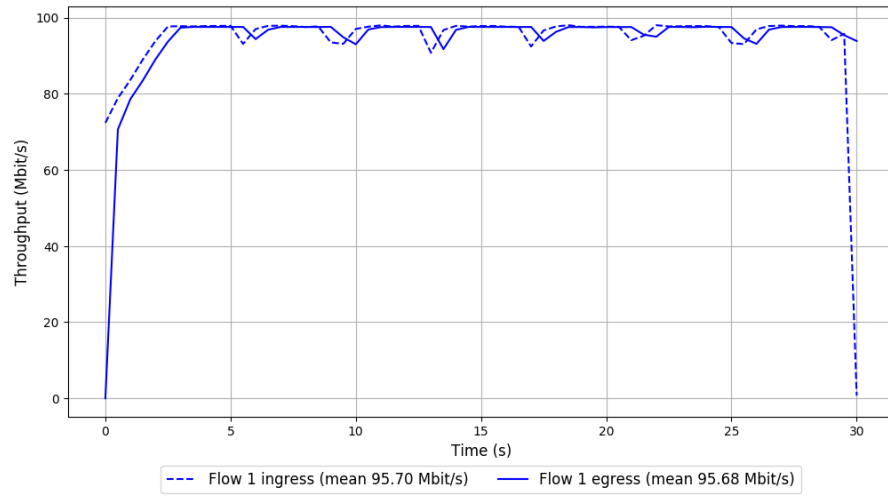


Run 5: Statistics of TCP Cubic

Start at: 2018-09-06 15:54:13
End at: 2018-09-06 15:54:43
Local clock offset: -1.344 ms
Remote clock offset: -1.821 ms

Below is generated by plot.py at 2018-09-06 15:59:29
Datalink statistics
-- Total of 1 flow:
Average throughput: 95.68 Mbit/s
95th percentile per-packet one-way delay: 17.987 ms
Loss rate: 0.09%
-- Flow 1:
Average throughput: 95.68 Mbit/s
95th percentile per-packet one-way delay: 17.987 ms
Loss rate: 0.09%

Run 5: Report of TCP Cubic — Data Link

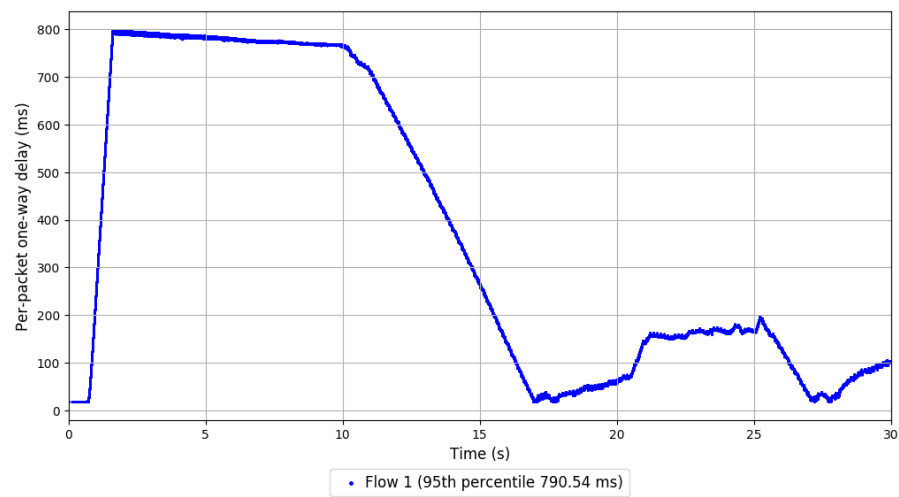
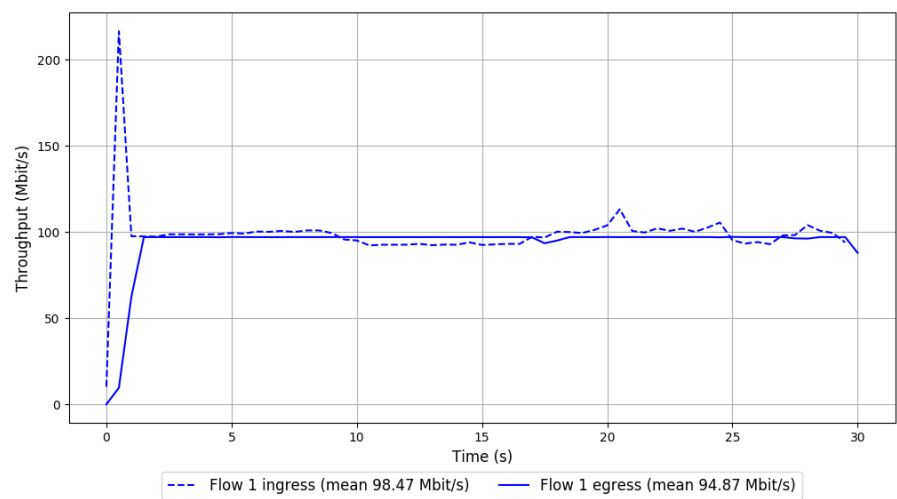


Run 1: Statistics of FillP

Start at: 2018-09-06 14:25:14
End at: 2018-09-06 14:25:44
Local clock offset: 3.225 ms
Remote clock offset: -4.531 ms

Below is generated by plot.py at 2018-09-06 15:59:47
Datalink statistics
-- Total of 1 flow:
Average throughput: 94.87 Mbit/s
95th percentile per-packet one-way delay: 790.540 ms
Loss rate: 3.74%
-- Flow 1:
Average throughput: 94.87 Mbit/s
95th percentile per-packet one-way delay: 790.540 ms
Loss rate: 3.74%

Run 1: Report of FillP — Data Link

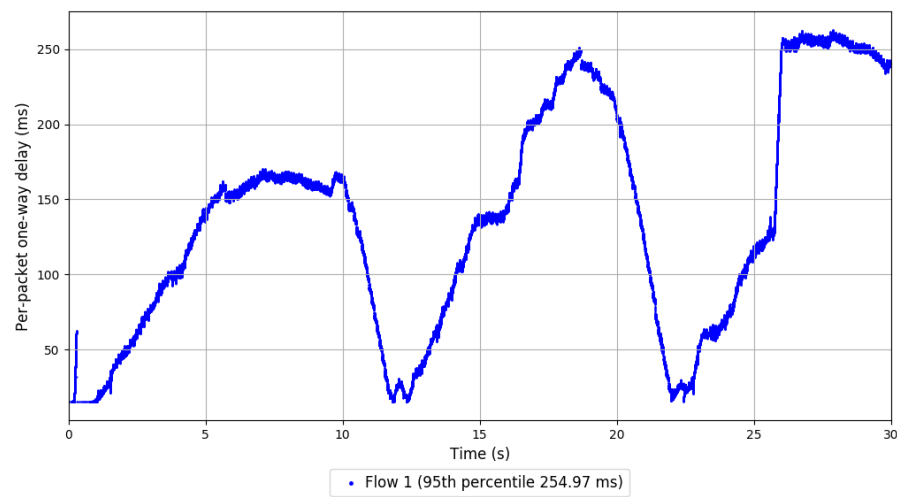
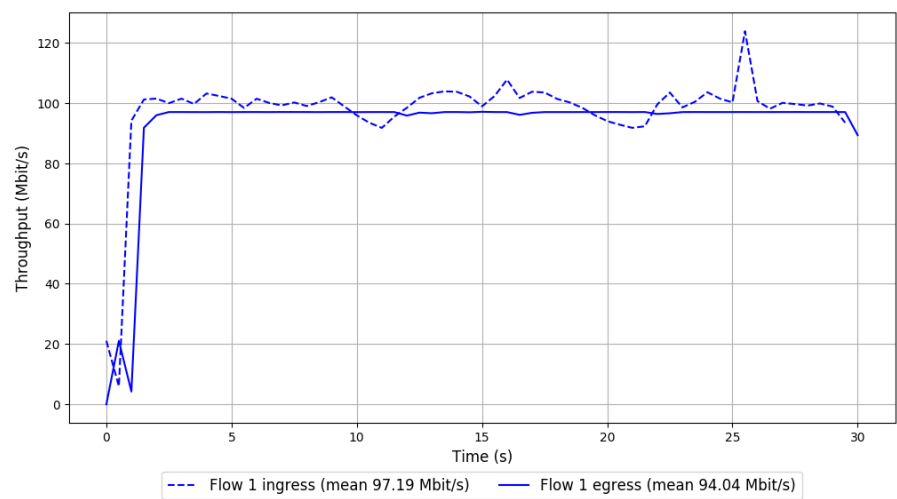


Run 2: Statistics of FillP

Start at: 2018-09-06 14:46:59
End at: 2018-09-06 14:47:29
Local clock offset: 2.319 ms
Remote clock offset: -3.475 ms

Below is generated by plot.py at 2018-09-06 15:59:49
Datalink statistics
-- Total of 1 flow:
Average throughput: 94.04 Mbit/s
95th percentile per-packet one-way delay: 254.973 ms
Loss rate: 3.31%
-- Flow 1:
Average throughput: 94.04 Mbit/s
95th percentile per-packet one-way delay: 254.973 ms
Loss rate: 3.31%

Run 2: Report of FillP — Data Link



Run 3: Statistics of FillP

Start at: 2018-09-06 15:07:57

End at: 2018-09-06 15:08:27

Local clock offset: 0.255 ms

Remote clock offset: -4.15 ms

Below is generated by plot.py at 2018-09-06 16:00:02

Datalink statistics

-- Total of 1 flow:

Average throughput: 94.80 Mbit/s

95th percentile per-packet one-way delay: 152.507 ms

Loss rate: 3.87%

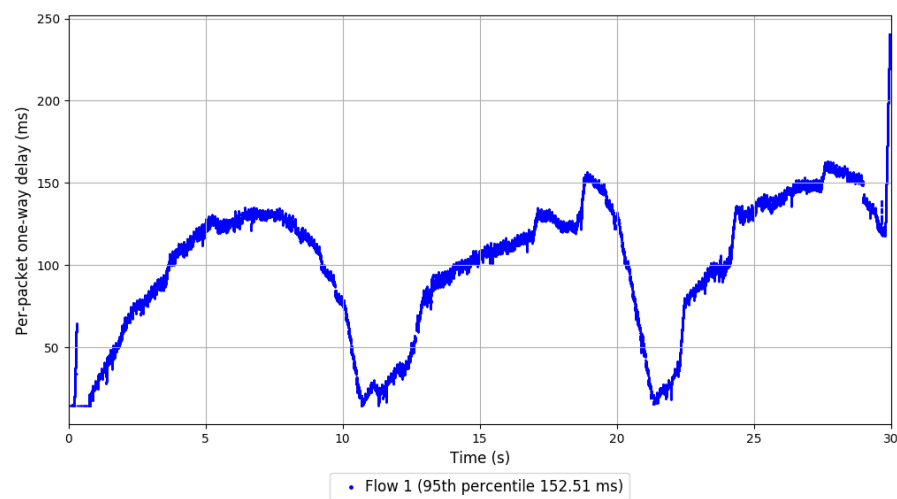
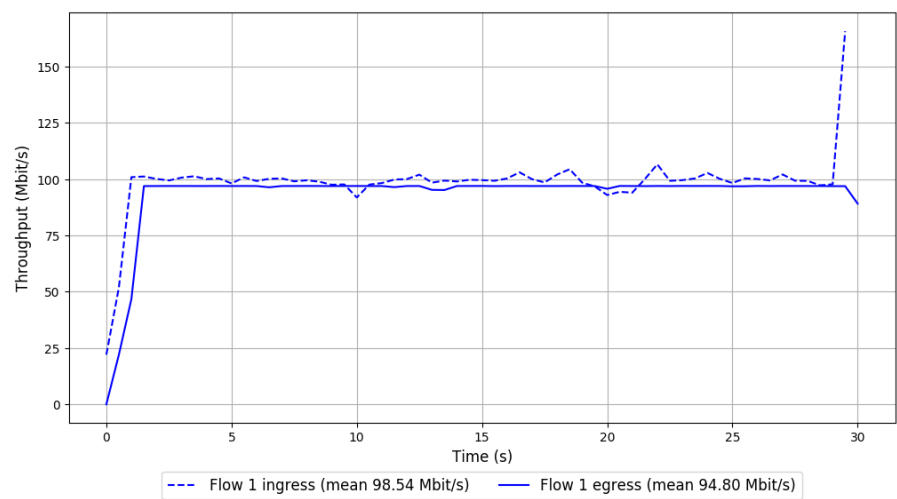
-- Flow 1:

Average throughput: 94.80 Mbit/s

95th percentile per-packet one-way delay: 152.507 ms

Loss rate: 3.87%

Run 3: Report of FillP — Data Link

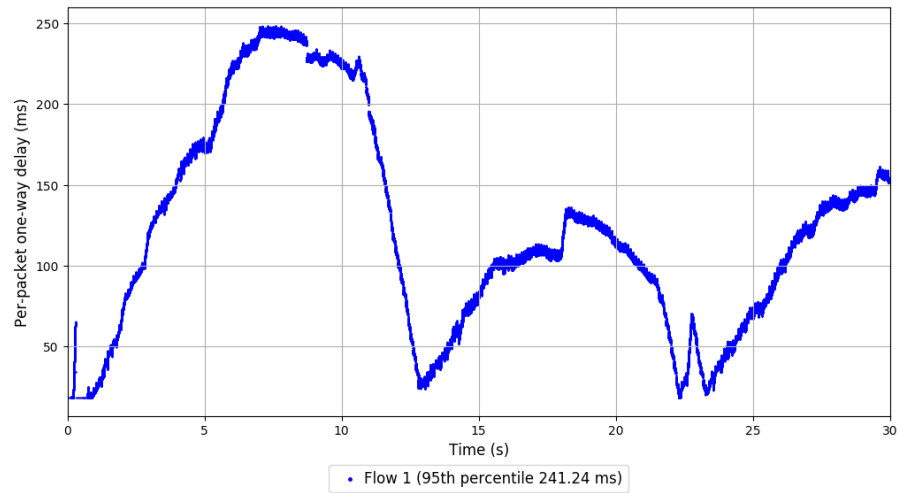
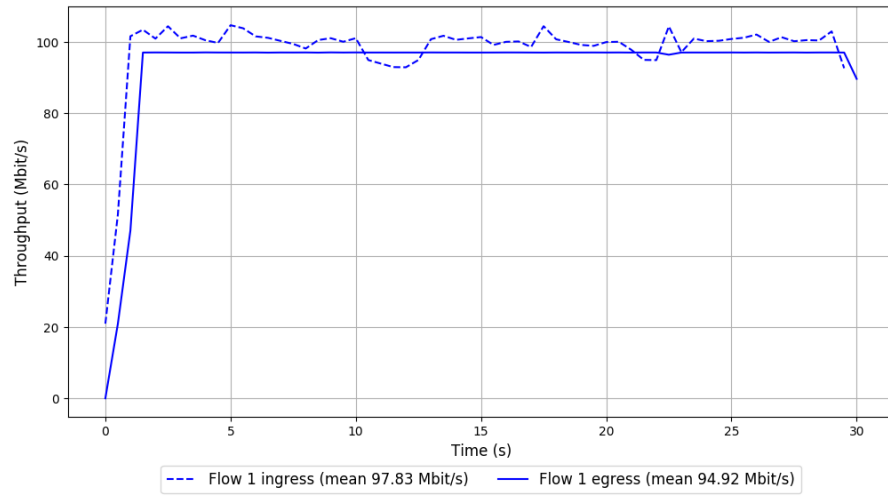


Run 4: Statistics of FillP

Start at: 2018-09-06 15:28:49
End at: 2018-09-06 15:29:19
Local clock offset: 4.169 ms
Remote clock offset: -4.315 ms

Below is generated by plot.py at 2018-09-06 16:00:02
Datalink statistics
-- Total of 1 flow:
Average throughput: 94.92 Mbit/s
95th percentile per-packet one-way delay: 241.236 ms
Loss rate: 3.05%
-- Flow 1:
Average throughput: 94.92 Mbit/s
95th percentile per-packet one-way delay: 241.236 ms
Loss rate: 3.05%

Run 4: Report of FillP — Data Link

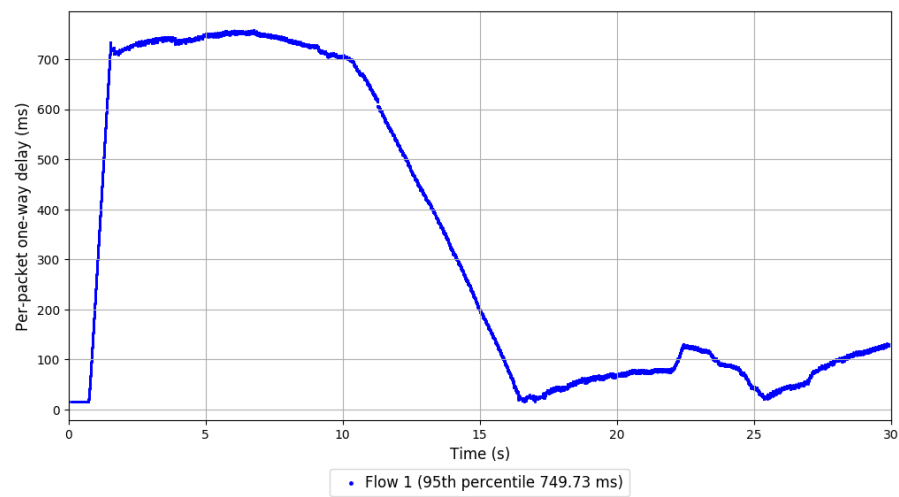
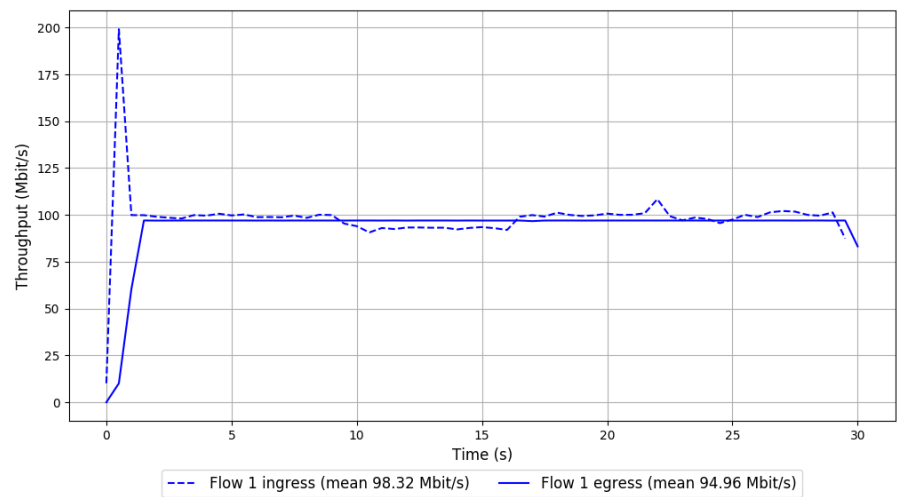


Run 5: Statistics of FillP

Start at: 2018-09-06 15:49:45
End at: 2018-09-06 15:50:15
Local clock offset: 3.387 ms
Remote clock offset: -2.152 ms

Below is generated by plot.py at 2018-09-06 16:00:39
Datalink statistics
-- Total of 1 flow:
Average throughput: 94.96 Mbit/s
95th percentile per-packet one-way delay: 749.732 ms
Loss rate: 3.49%
-- Flow 1:
Average throughput: 94.96 Mbit/s
95th percentile per-packet one-way delay: 749.732 ms
Loss rate: 3.49%

Run 5: Report of FillP — Data Link

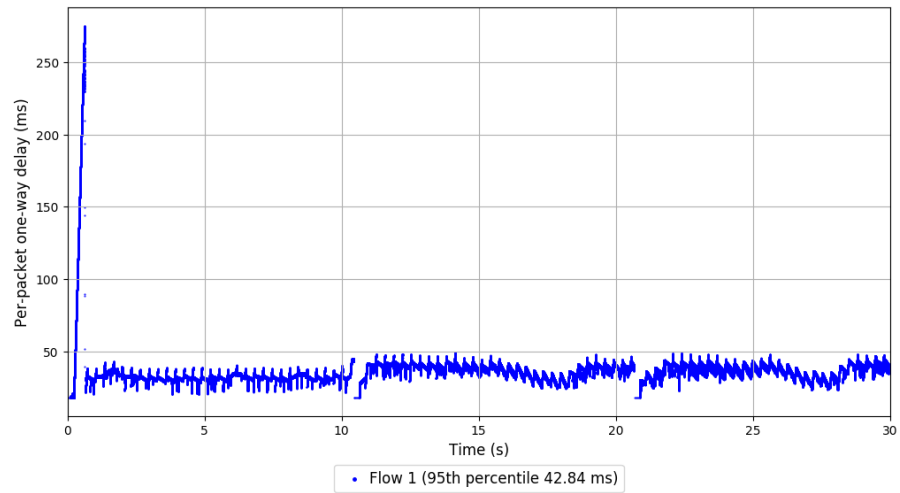
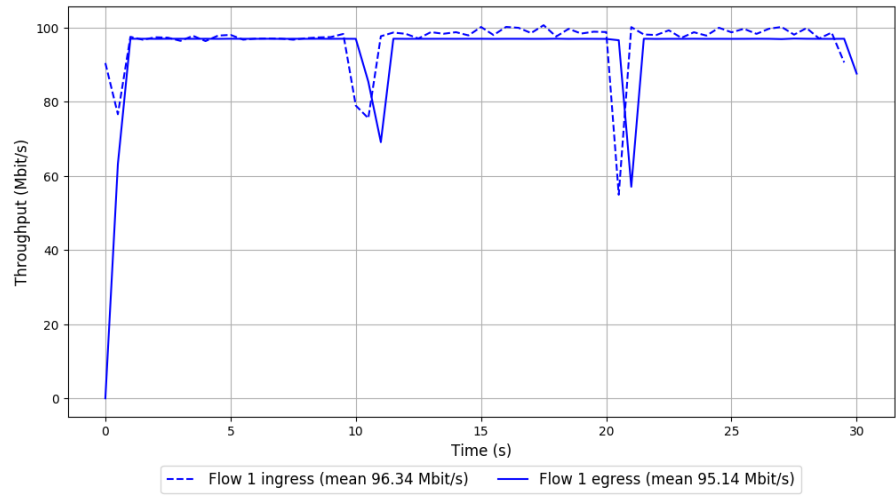


Run 1: Statistics of FillP-Sheep

Start at: 2018-09-06 14:19:10
End at: 2018-09-06 14:19:40
Local clock offset: -2.168 ms
Remote clock offset: -9.525 ms

Below is generated by plot.py at 2018-09-06 16:00:44
Datalink statistics
-- Total of 1 flow:
Average throughput: 95.14 Mbit/s
95th percentile per-packet one-way delay: 42.839 ms
Loss rate: 1.34%
-- Flow 1:
Average throughput: 95.14 Mbit/s
95th percentile per-packet one-way delay: 42.839 ms
Loss rate: 1.34%

Run 1: Report of FillP-Sheep — Data Link

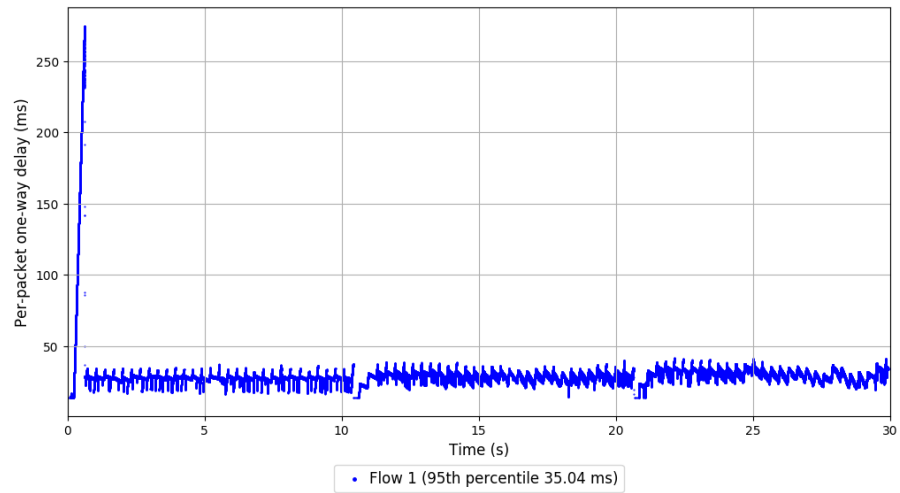
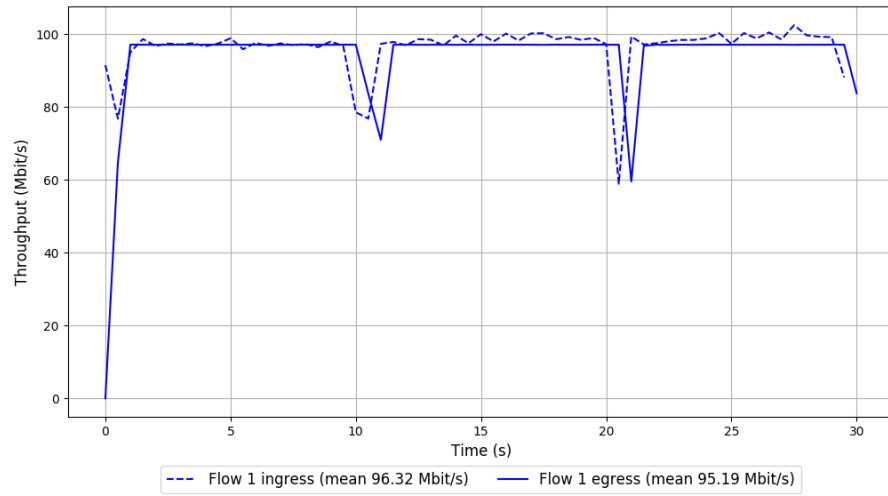


Run 2: Statistics of FillP-Sheep

Start at: 2018-09-06 14:40:58
End at: 2018-09-06 14:41:28
Local clock offset: 2.033 ms
Remote clock offset: -2.182 ms

Below is generated by plot.py at 2018-09-06 16:00:45
Datalink statistics
-- Total of 1 flow:
Average throughput: 95.19 Mbit/s
95th percentile per-packet one-way delay: 35.040 ms
Loss rate: 1.27%
-- Flow 1:
Average throughput: 95.19 Mbit/s
95th percentile per-packet one-way delay: 35.040 ms
Loss rate: 1.27%

Run 2: Report of FillP-Sheep — Data Link



Run 3: Statistics of FillP-Sheep

Start at: 2018-09-06 15:02:02

End at: 2018-09-06 15:02:32

Local clock offset: 1.651 ms

Remote clock offset: -4.13 ms

Below is generated by plot.py at 2018-09-06 16:00:50

Datalink statistics

-- Total of 1 flow:

Average throughput: 95.16 Mbit/s

95th percentile per-packet one-way delay: 47.483 ms

Loss rate: 1.67%

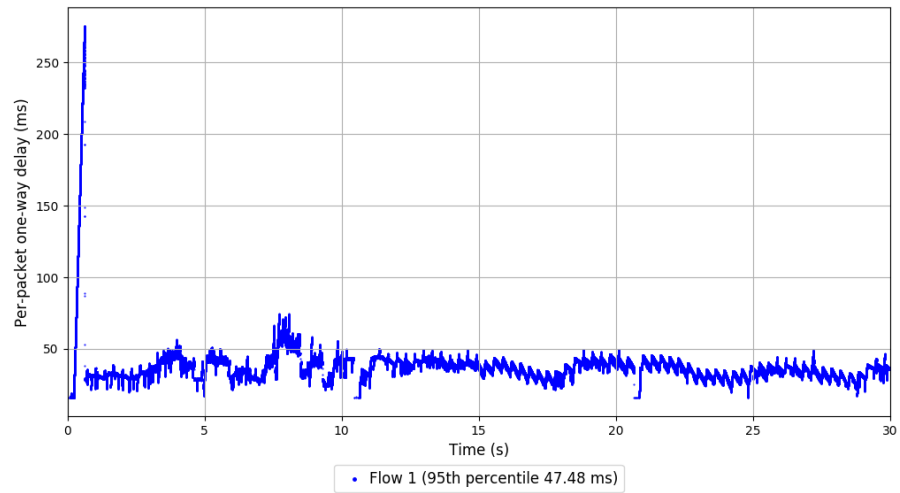
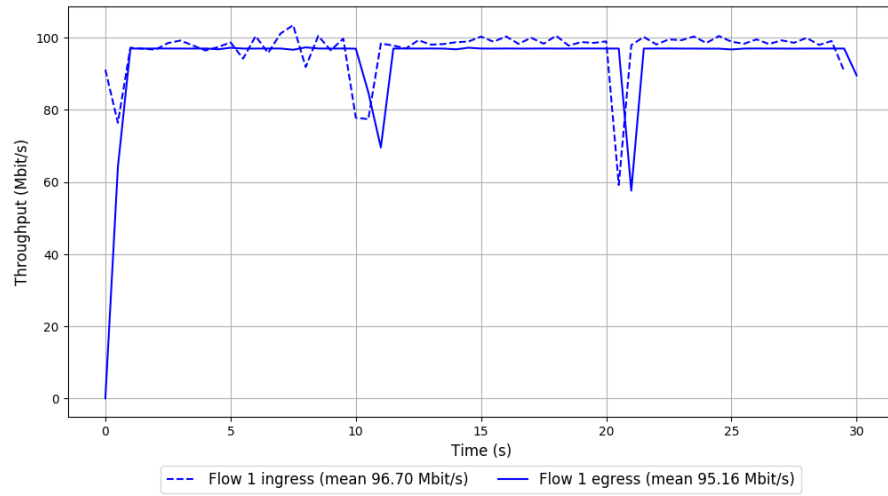
-- Flow 1:

Average throughput: 95.16 Mbit/s

95th percentile per-packet one-way delay: 47.483 ms

Loss rate: 1.67%

Run 3: Report of FillP-Sheep — Data Link

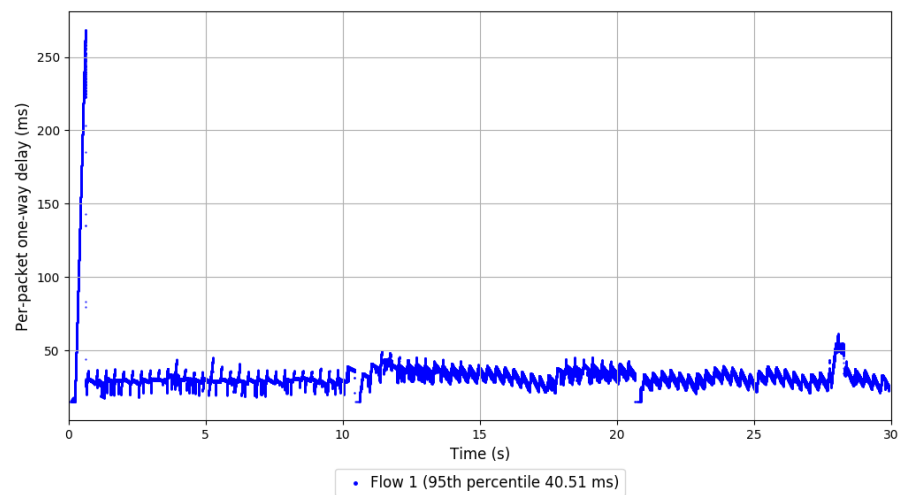
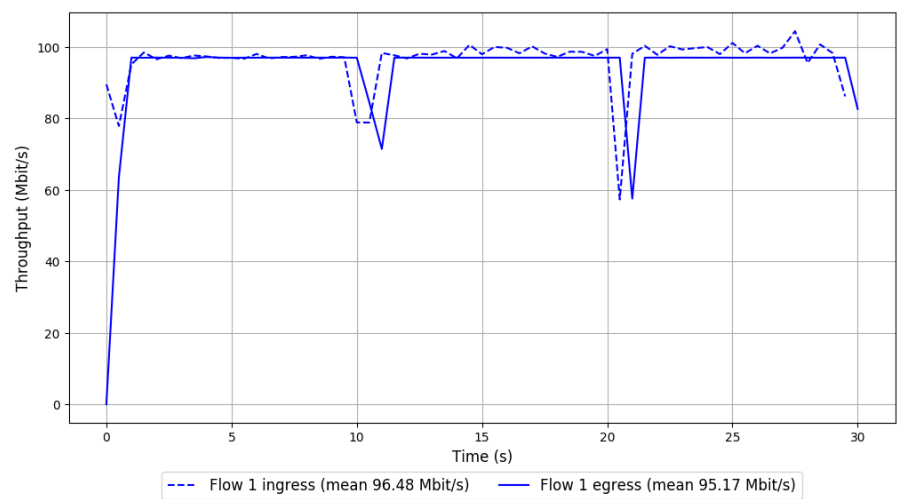


Run 4: Statistics of FillP-Sheep

Start at: 2018-09-06 15:22:55
End at: 2018-09-06 15:23:25
Local clock offset: 1.342 ms
Remote clock offset: -3.959 ms

Below is generated by plot.py at 2018-09-06 16:01:07
Datalink statistics
-- Total of 1 flow:
Average throughput: 95.17 Mbit/s
95th percentile per-packet one-way delay: 40.512 ms
Loss rate: 1.43%
-- Flow 1:
Average throughput: 95.17 Mbit/s
95th percentile per-packet one-way delay: 40.512 ms
Loss rate: 1.43%

Run 4: Report of FillP-Sheep — Data Link



Run 5: Statistics of FillP-Sheep

Start at: 2018-09-06 15:43:58

End at: 2018-09-06 15:44:28

Local clock offset: -0.806 ms

Remote clock offset: -2.053 ms

Below is generated by plot.py at 2018-09-06 16:01:10

Datalink statistics

-- Total of 1 flow:

Average throughput: 95.10 Mbit/s

95th percentile per-packet one-way delay: 35.657 ms

Loss rate: 1.30%

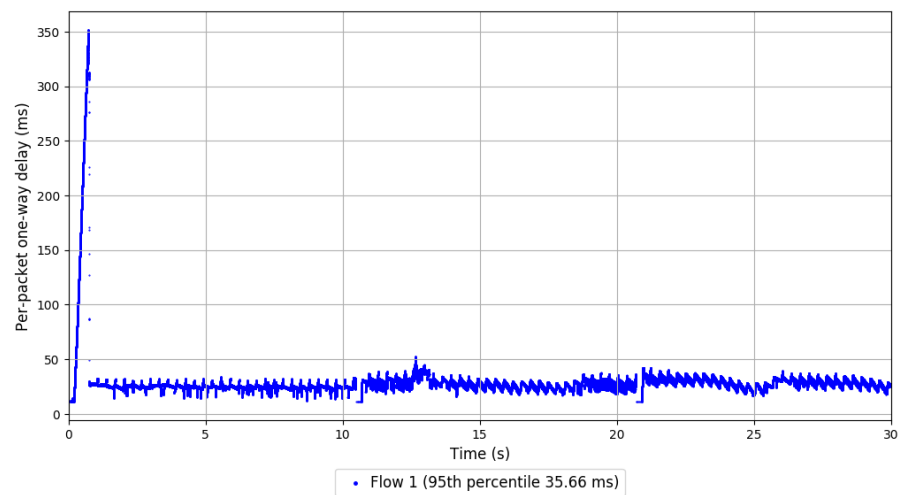
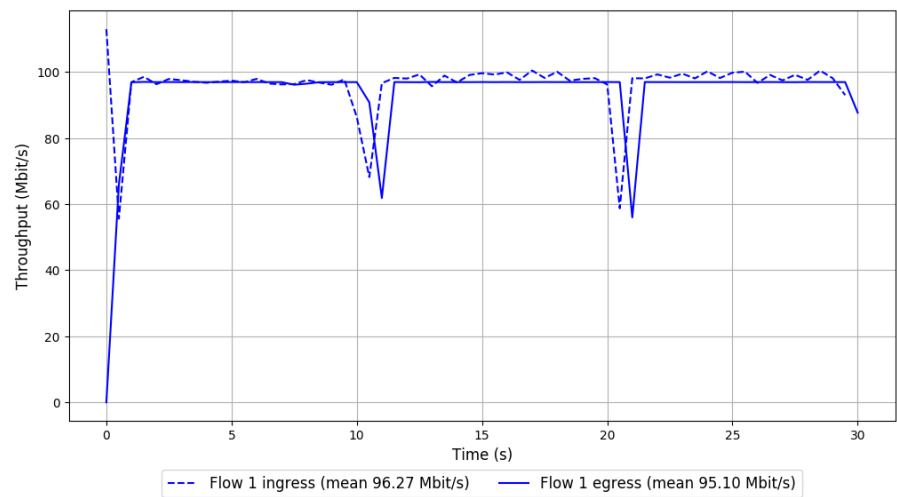
-- Flow 1:

Average throughput: 95.10 Mbit/s

95th percentile per-packet one-way delay: 35.657 ms

Loss rate: 1.30%

Run 5: Report of FillP-Sheep — Data Link

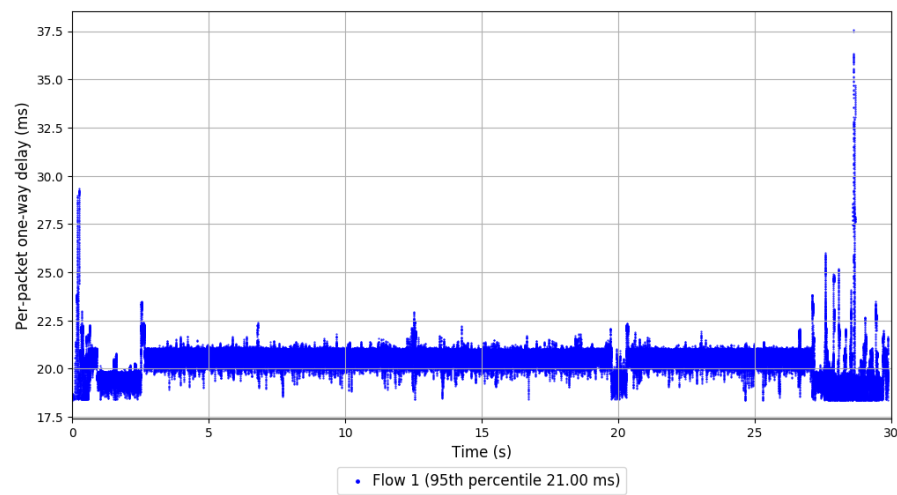
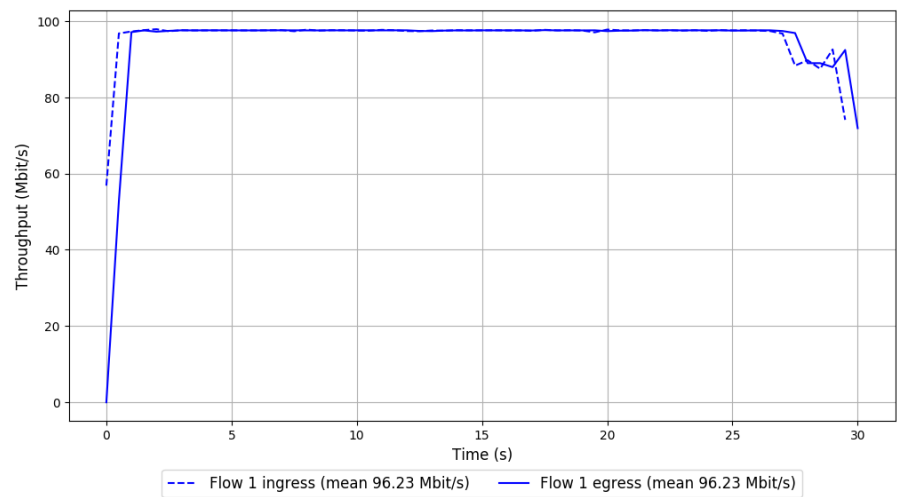


```
Run 1: Statistics of Indigo

Start at: 2018-09-06 14:21:37
End at: 2018-09-06 14:22:07
Local clock offset: 3.605 ms
Remote clock offset: -4.291 ms

# Below is generated by plot.py at 2018-09-06 16:01:13
# Datalink statistics
-- Total of 1 flow:
Average throughput: 96.23 Mbit/s
95th percentile per-packet one-way delay: 21.005 ms
Loss rate: 0.10%
-- Flow 1:
Average throughput: 96.23 Mbit/s
95th percentile per-packet one-way delay: 21.005 ms
Loss rate: 0.10%
```

Run 1: Report of Indigo — Data Link



Run 2: Statistics of Indigo

Start at: 2018-09-06 14:43:23

End at: 2018-09-06 14:43:53

Local clock offset: 2.281 ms

Remote clock offset: -4.591 ms

Below is generated by plot.py at 2018-09-06 16:01:13

Datalink statistics

-- Total of 1 flow:

Average throughput: 95.86 Mbit/s

95th percentile per-packet one-way delay: 19.981 ms

Loss rate: 0.11%

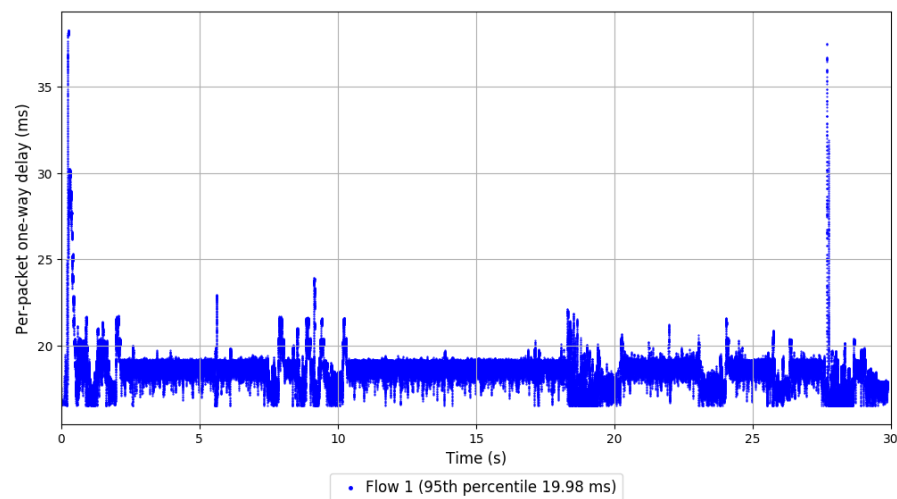
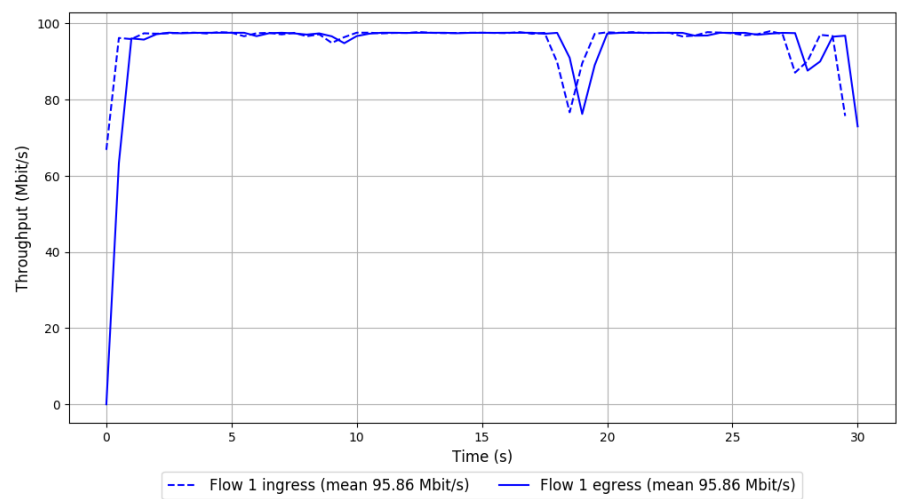
-- Flow 1:

Average throughput: 95.86 Mbit/s

95th percentile per-packet one-way delay: 19.981 ms

Loss rate: 0.11%

Run 2: Report of Indigo — Data Link

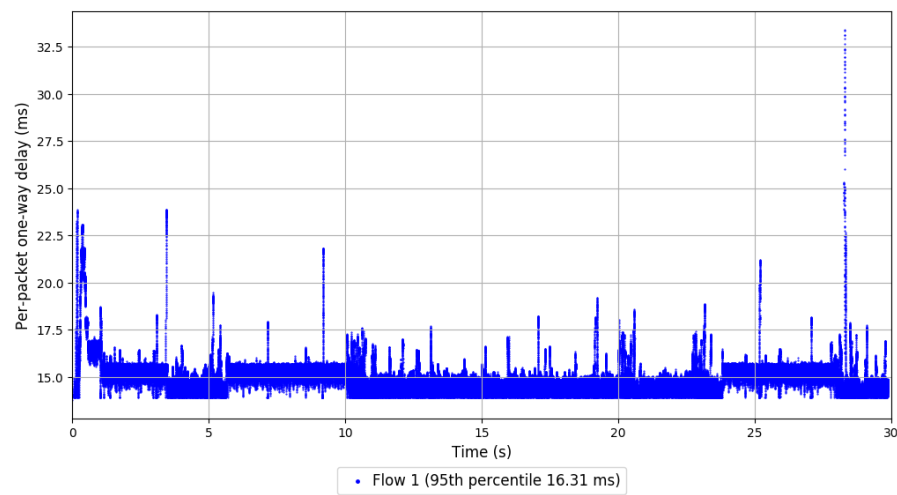
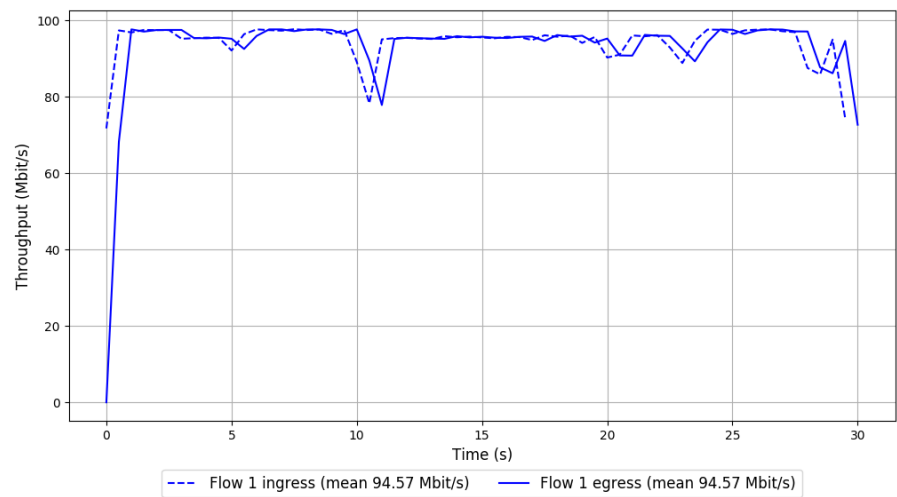


Run 3: Statistics of Indigo

Start at: 2018-09-06 15:04:28
End at: 2018-09-06 15:04:58
Local clock offset: -1.135 ms
Remote clock offset: -5.041 ms

Below is generated by plot.py at 2018-09-06 16:01:47
Datalink statistics
-- Total of 1 flow:
Average throughput: 94.57 Mbit/s
95th percentile per-packet one-way delay: 16.313 ms
Loss rate: 0.08%
-- Flow 1:
Average throughput: 94.57 Mbit/s
95th percentile per-packet one-way delay: 16.313 ms
Loss rate: 0.08%

Run 3: Report of Indigo — Data Link

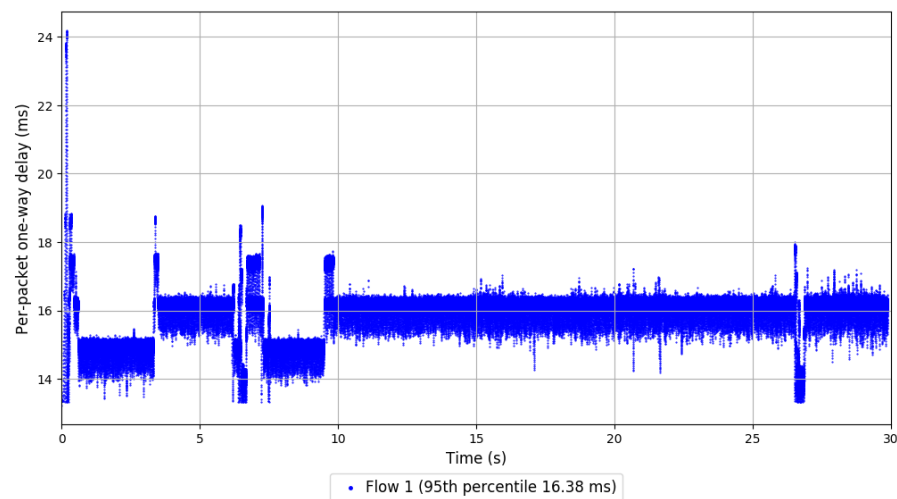
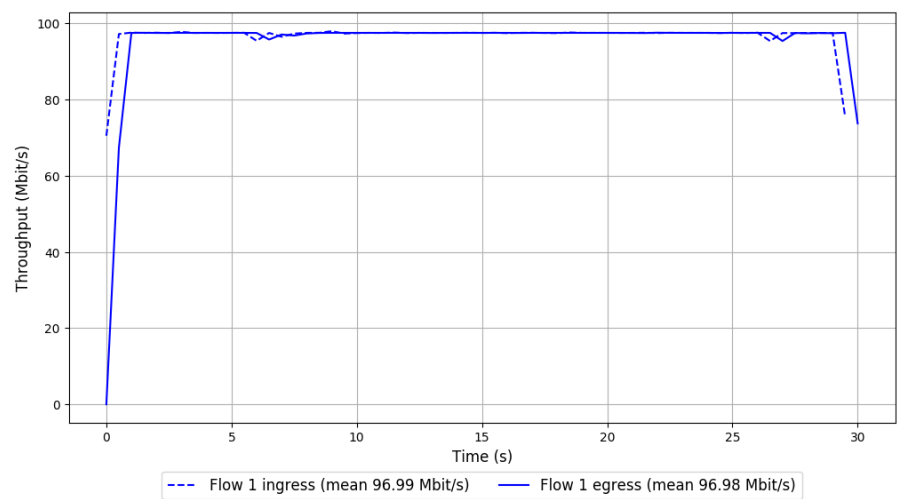


Run 4: Statistics of Indigo

Start at: 2018-09-06 15:25:15
End at: 2018-09-06 15:25:45
Local clock offset: -1.158 ms
Remote clock offset: -4.588 ms

Below is generated by plot.py at 2018-09-06 16:01:52
Datalink statistics
-- Total of 1 flow:
Average throughput: 96.98 Mbit/s
95th percentile per-packet one-way delay: 16.375 ms
Loss rate: 0.08%
-- Flow 1:
Average throughput: 96.98 Mbit/s
95th percentile per-packet one-way delay: 16.375 ms
Loss rate: 0.08%

Run 4: Report of Indigo — Data Link

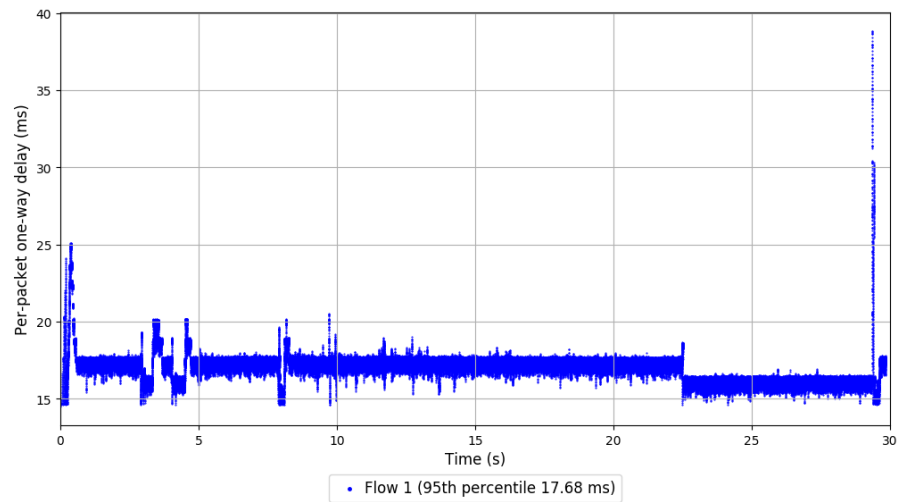
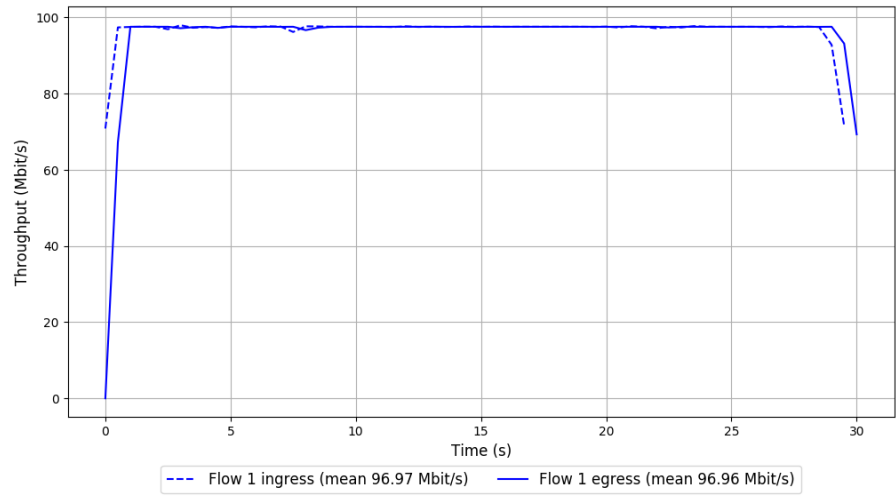


Run 5: Statistics of Indigo

Start at: 2018-09-06 15:46:17
End at: 2018-09-06 15:46:47
Local clock offset: 2.653 ms
Remote clock offset: -2.048 ms

Below is generated by plot.py at 2018-09-06 16:01:56
Datalink statistics
-- Total of 1 flow:
Average throughput: 96.96 Mbit/s
95th percentile per-packet one-way delay: 17.679 ms
Loss rate: 0.09%
-- Flow 1:
Average throughput: 96.96 Mbit/s
95th percentile per-packet one-way delay: 17.679 ms
Loss rate: 0.09%

Run 5: Report of Indigo — Data Link

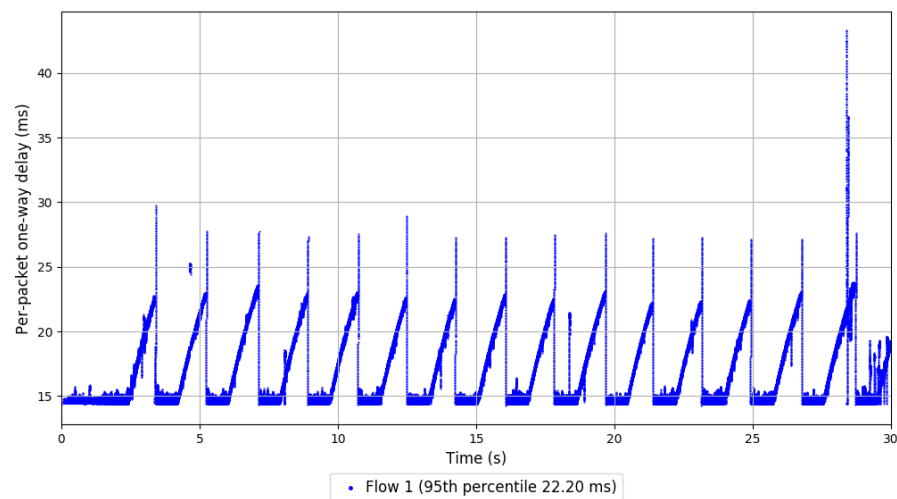
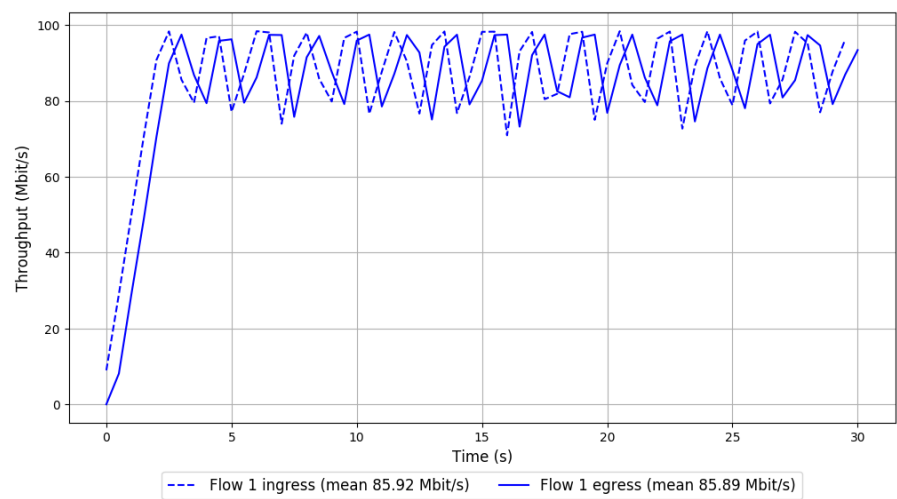


```
Run 1: Statistics of LEDBAT

Start at: 2018-09-06 14:16:30
End at: 2018-09-06 14:17:00
Local clock offset: 1.081 ms
Remote clock offset: -2.411 ms

# Below is generated by plot.py at 2018-09-06 16:01:56
# Datalink statistics
-- Total of 1 flow:
Average throughput: 85.89 Mbit/s
95th percentile per-packet one-way delay: 22.205 ms
Loss rate: 0.12%
-- Flow 1:
Average throughput: 85.89 Mbit/s
95th percentile per-packet one-way delay: 22.205 ms
Loss rate: 0.12%
```


Run 1: Report of LEDBAT — Data Link

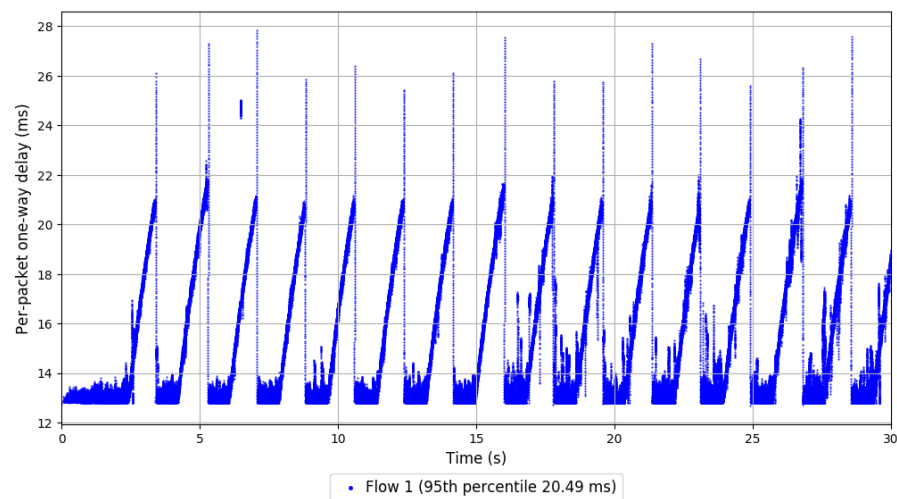
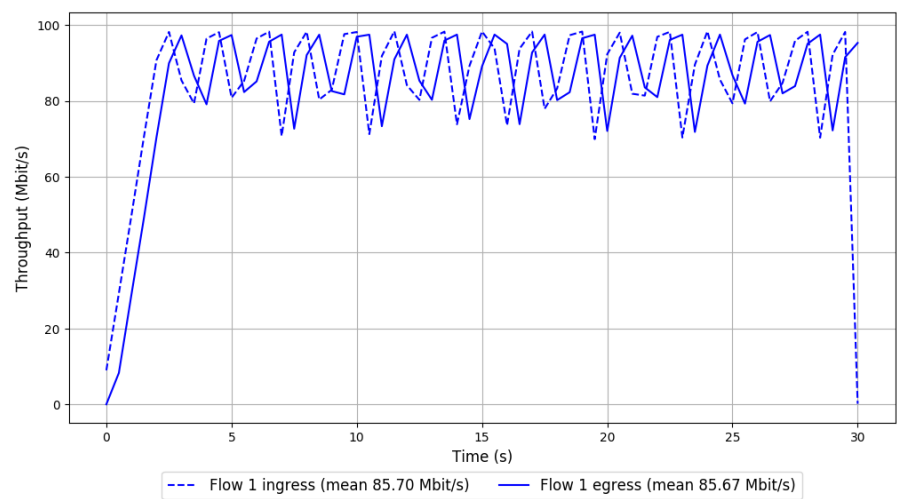


Run 2: Statistics of LEDBAT

Start at: 2018-09-06 14:38:27
End at: 2018-09-06 14:38:57
Local clock offset: 1.797 ms
Remote clock offset: -1.208 ms

Below is generated by plot.py at 2018-09-06 16:02:10
Datalink statistics
-- Total of 1 flow:
Average throughput: 85.67 Mbit/s
95th percentile per-packet one-way delay: 20.493 ms
Loss rate: 0.12%
-- Flow 1:
Average throughput: 85.67 Mbit/s
95th percentile per-packet one-way delay: 20.493 ms
Loss rate: 0.12%

Run 2: Report of LEDBAT — Data Link

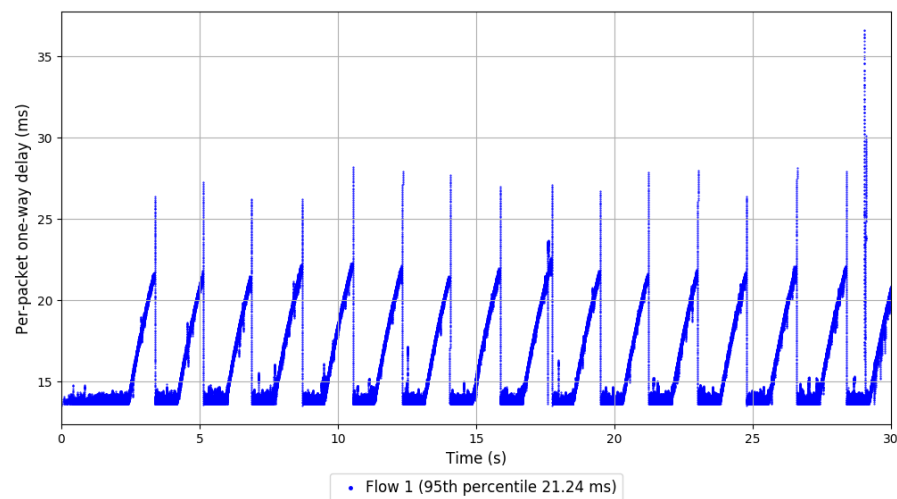
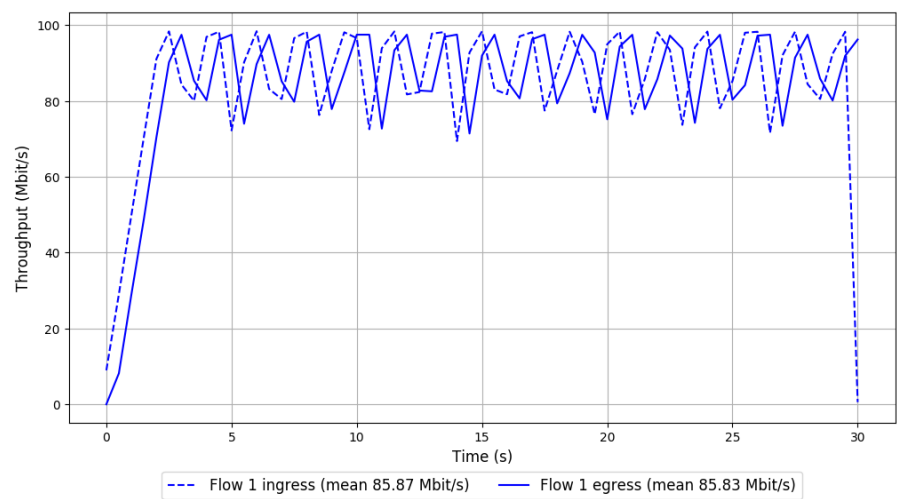


Run 3: Statistics of LEDBAT

Start at: 2018-09-06 14:59:30
End at: 2018-09-06 15:00:00
Local clock offset: -0.689 ms
Remote clock offset: -4.307 ms

Below is generated by plot.py at 2018-09-06 16:02:14
Datalink statistics
-- Total of 1 flow:
Average throughput: 85.83 Mbit/s
95th percentile per-packet one-way delay: 21.242 ms
Loss rate: 0.12%
-- Flow 1:
Average throughput: 85.83 Mbit/s
95th percentile per-packet one-way delay: 21.242 ms
Loss rate: 0.12%

Run 3: Report of LEDBAT — Data Link

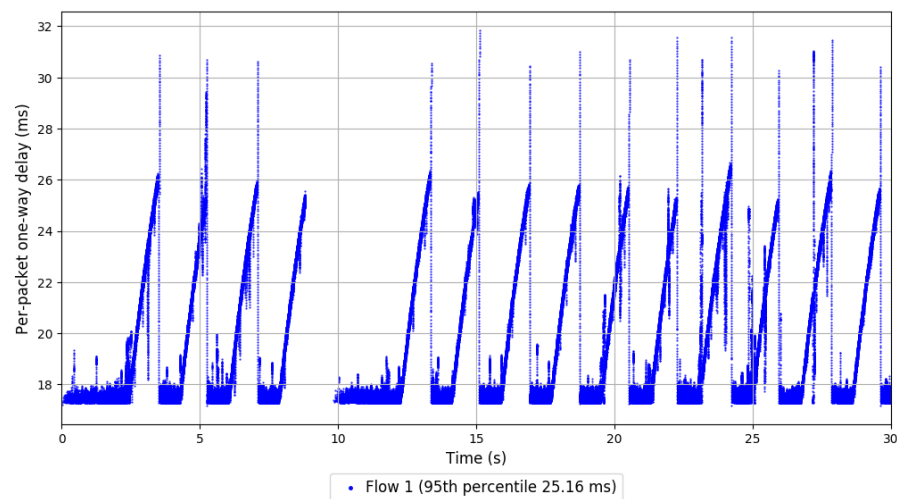
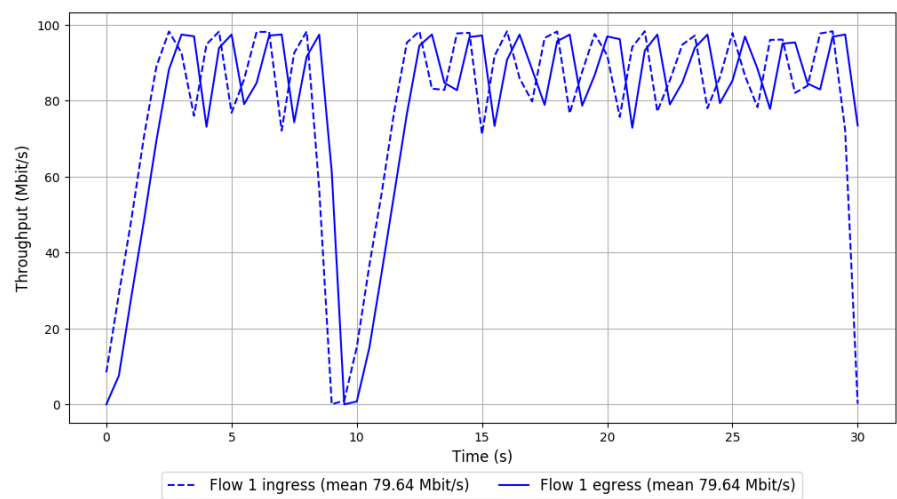


Run 4: Statistics of LEDBAT

Start at: 2018-09-06 15:20:28
End at: 2018-09-06 15:20:58
Local clock offset: 2.105 ms
Remote clock offset: -5.306 ms

Below is generated by plot.py at 2018-09-06 16:02:14
Datalink statistics
-- Total of 1 flow:
Average throughput: 79.64 Mbit/s
95th percentile per-packet one-way delay: 25.163 ms
Loss rate: 0.09%
-- Flow 1:
Average throughput: 79.64 Mbit/s
95th percentile per-packet one-way delay: 25.163 ms
Loss rate: 0.09%

Run 4: Report of LEDBAT — Data Link



Run 5: Statistics of LEDBAT

Start at: 2018-09-06 15:41:34

End at: 2018-09-06 15:42:04

Local clock offset: 1.493 ms

Remote clock offset: -1.96 ms

Below is generated by plot.py at 2018-09-06 16:02:17

Datalink statistics

-- Total of 1 flow:

Average throughput: 85.84 Mbit/s

95th percentile per-packet one-way delay: 21.028 ms

Loss rate: 0.12%

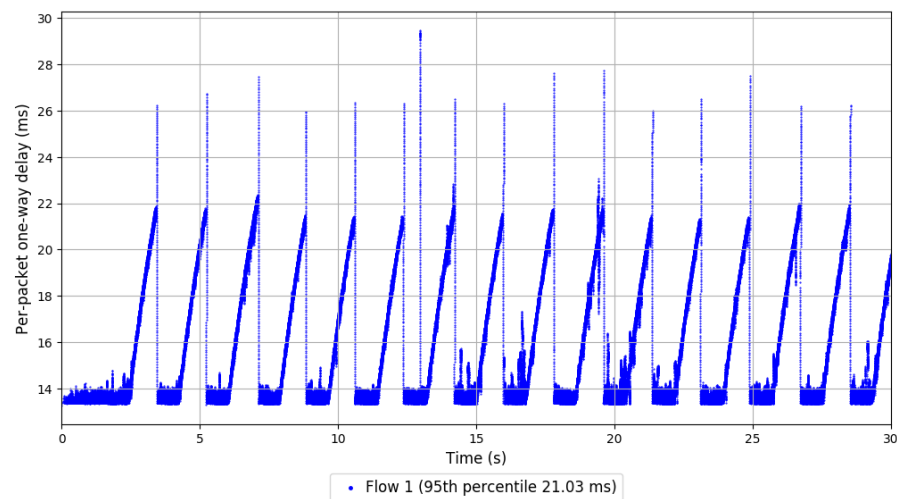
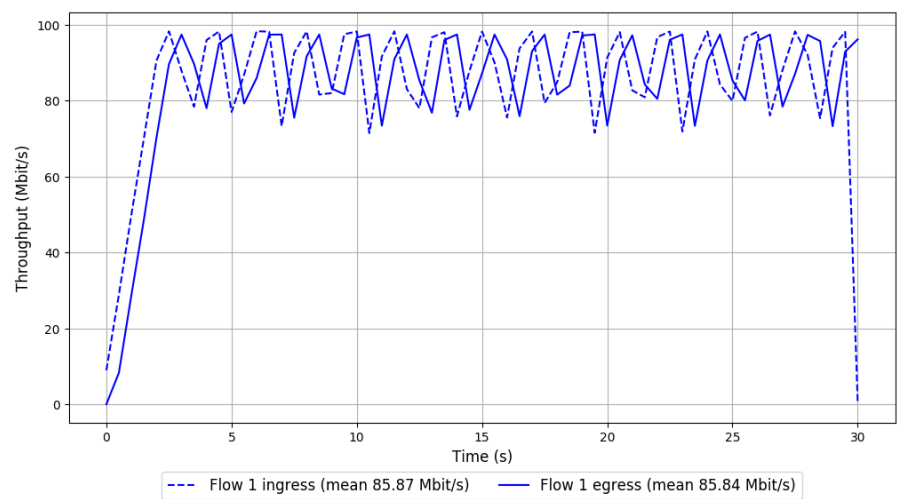
-- Flow 1:

Average throughput: 85.84 Mbit/s

95th percentile per-packet one-way delay: 21.028 ms

Loss rate: 0.12%

Run 5: Report of LEDBAT — Data Link



Run 1: Statistics of Indigo-Muses

Start at: 2018-09-06 14:11:37

End at: 2018-09-06 14:12:07

Local clock offset: 0.759 ms

Remote clock offset: -2.632 ms

Below is generated by plot.py at 2018-09-06 16:02:35

Datalink statistics

-- Total of 1 flow:

Average throughput: 60.66 Mbit/s

95th percentile per-packet one-way delay: 15.355 ms

Loss rate: 0.10%

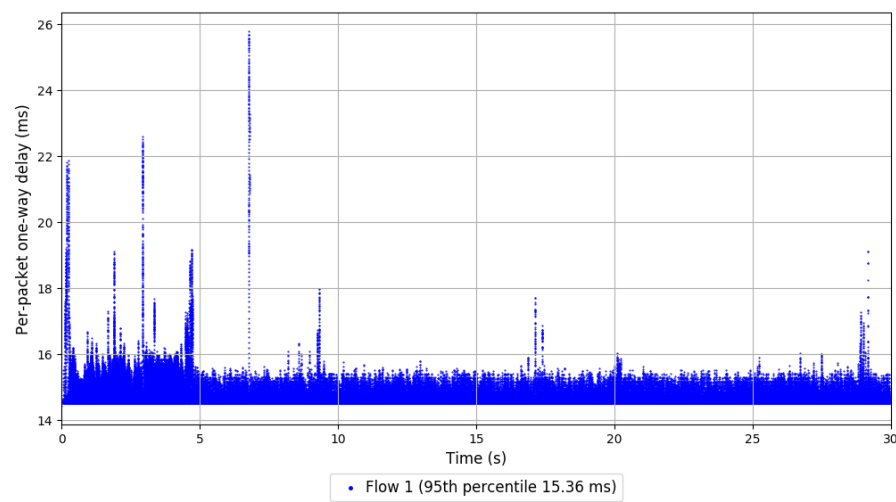
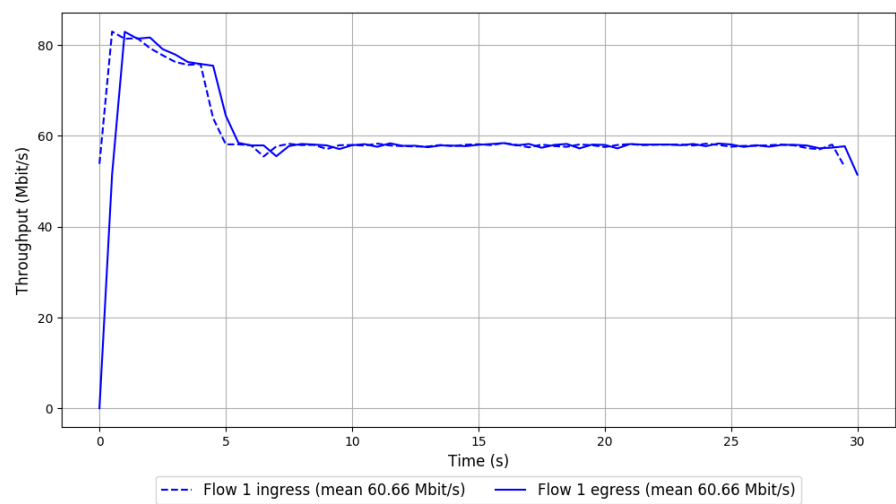
-- Flow 1:

Average throughput: 60.66 Mbit/s

95th percentile per-packet one-way delay: 15.355 ms

Loss rate: 0.10%

Run 1: Report of Indigo-Muses — Data Link

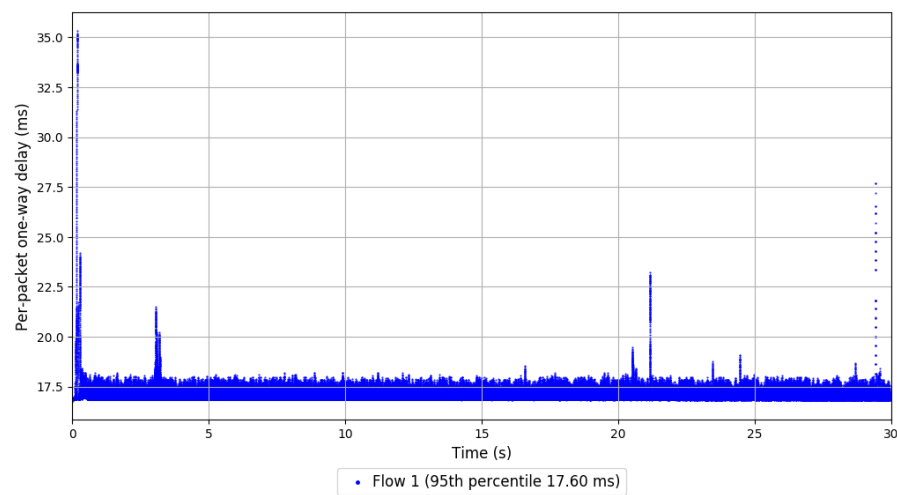
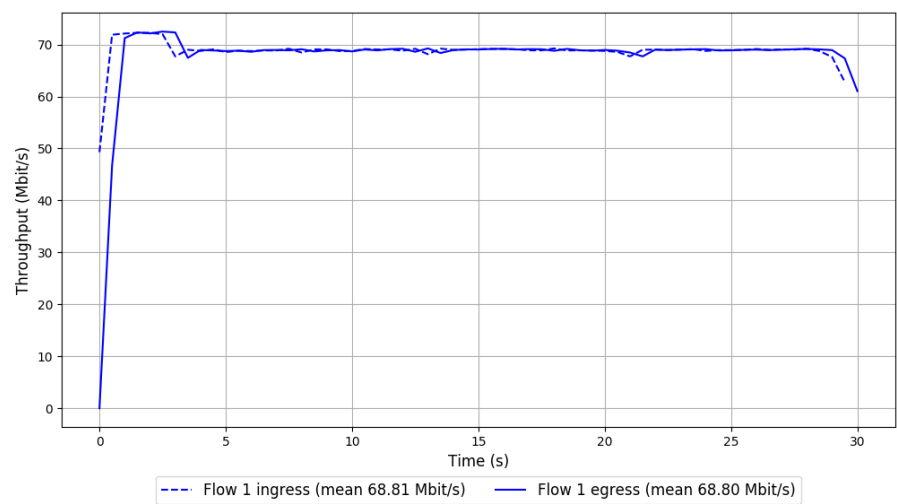


Run 2: Statistics of Indigo-Muses

Start at: 2018-09-06 14:33:17
End at: 2018-09-06 14:33:47
Local clock offset: 3.052 ms
Remote clock offset: -3.848 ms

Below is generated by plot.py at 2018-09-06 16:02:40
Datalink statistics
-- Total of 1 flow:
Average throughput: 68.80 Mbit/s
95th percentile per-packet one-way delay: 17.603 ms
Loss rate: 0.11%
-- Flow 1:
Average throughput: 68.80 Mbit/s
95th percentile per-packet one-way delay: 17.603 ms
Loss rate: 0.11%

Run 2: Report of Indigo-Muses — Data Link

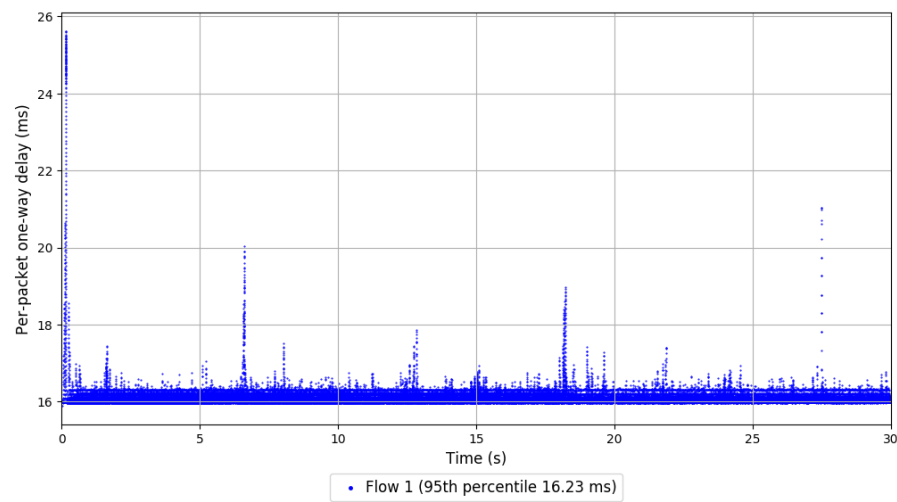
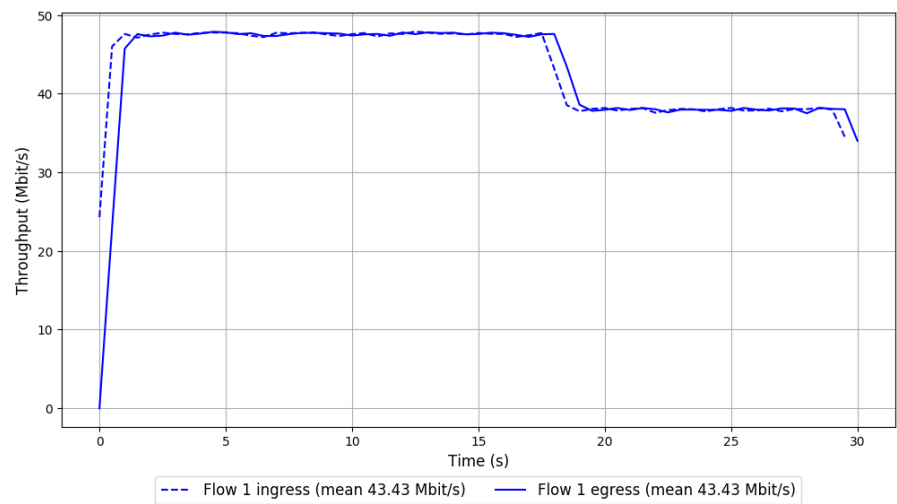


Run 3: Statistics of Indigo-Muses

Start at: 2018-09-06 14:54:45
End at: 2018-09-06 14:55:15
Local clock offset: 2.77 ms
Remote clock offset: -3.237 ms

Below is generated by plot.py at 2018-09-06 16:02:40
Datalink statistics
-- Total of 1 flow:
Average throughput: 43.43 Mbit/s
95th percentile per-packet one-way delay: 16.229 ms
Loss rate: 0.07%
-- Flow 1:
Average throughput: 43.43 Mbit/s
95th percentile per-packet one-way delay: 16.229 ms
Loss rate: 0.07%

Run 3: Report of Indigo-Muses — Data Link

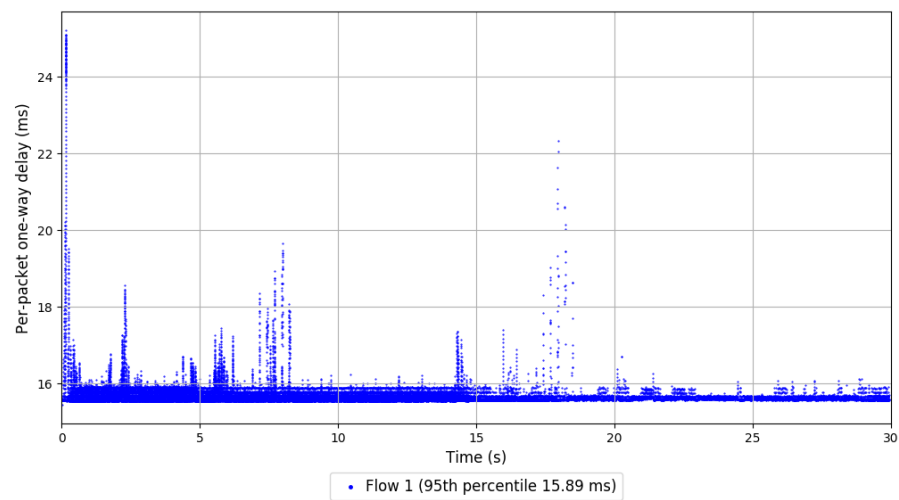
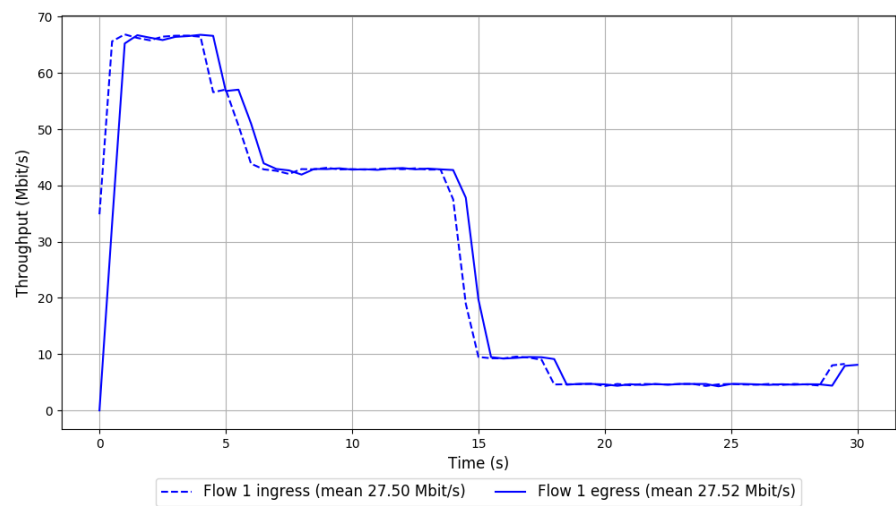


Run 4: Statistics of Indigo-Muses

Start at: 2018-09-06 15:15:46
End at: 2018-09-06 15:16:16
Local clock offset: 0.672 ms
Remote clock offset: -5.045 ms

Below is generated by plot.py at 2018-09-06 16:02:40
Datalink statistics
-- Total of 1 flow:
Average throughput: 27.52 Mbit/s
95th percentile per-packet one-way delay: 15.888 ms
Loss rate: 0.03%
-- Flow 1:
Average throughput: 27.52 Mbit/s
95th percentile per-packet one-way delay: 15.888 ms
Loss rate: 0.03%

Run 4: Report of Indigo-Muses — Data Link



Run 5: Statistics of Indigo-Muses

Start at: 2018-09-06 15:36:46

End at: 2018-09-06 15:37:16

Local clock offset: 0.033 ms

Remote clock offset: -4.379 ms

Below is generated by plot.py at 2018-09-06 16:03:01

Datalink statistics

-- Total of 1 flow:

Average throughput: 73.11 Mbit/s

95th percentile per-packet one-way delay: 14.689 ms

Loss rate: 0.08%

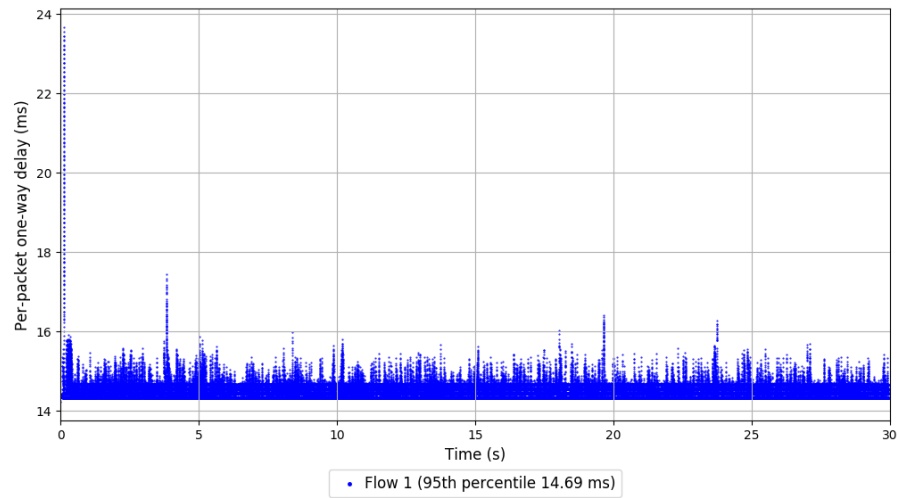
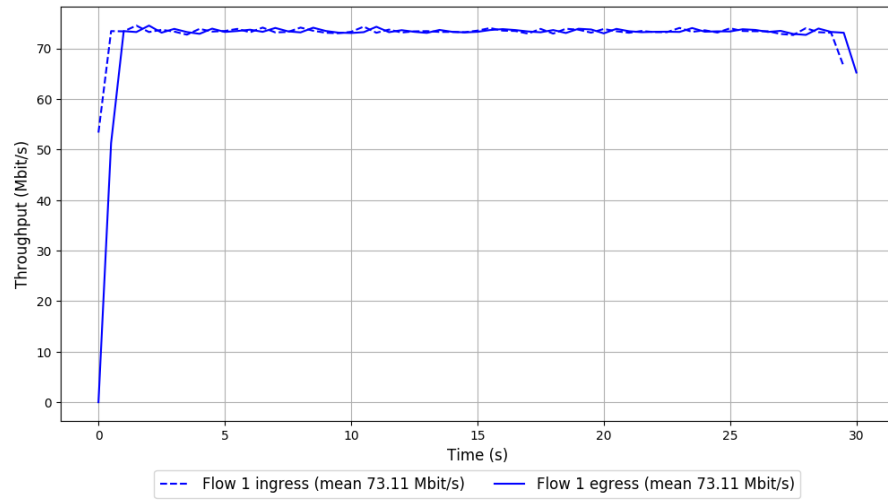
-- Flow 1:

Average throughput: 73.11 Mbit/s

95th percentile per-packet one-way delay: 14.689 ms

Loss rate: 0.08%

Run 5: Report of Indigo-Muses — Data Link

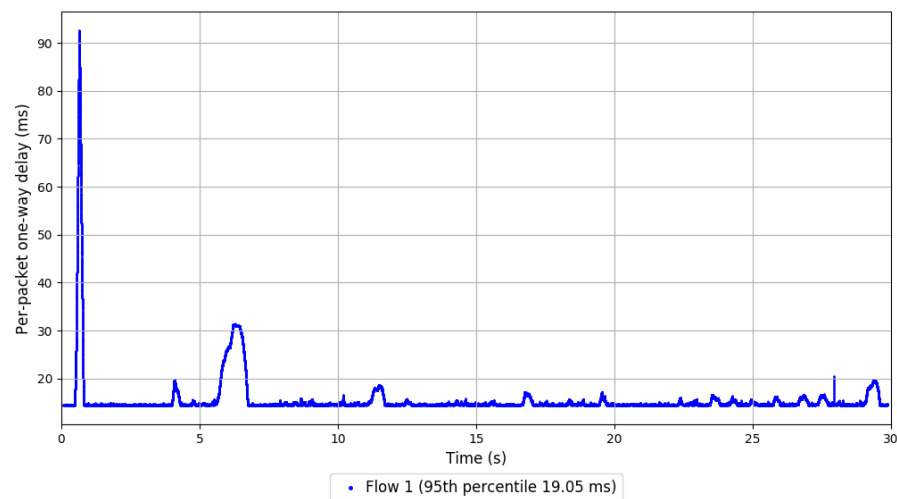
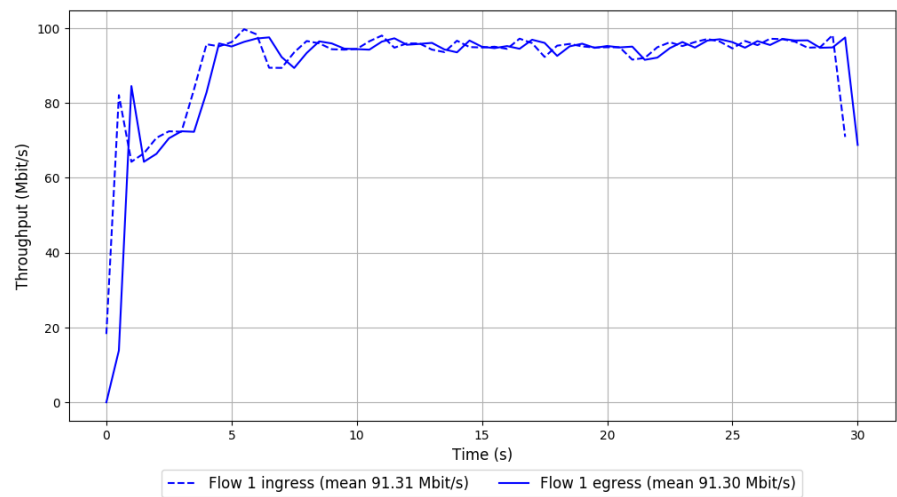


```
Run 1: Statistics of PCC-Allegro

Start at: 2018-09-06 14:10:26
End at: 2018-09-06 14:10:56
Local clock offset: 0.528 ms
Remote clock offset: -2.829 ms

# Below is generated by plot.py at 2018-09-06 16:03:18
# Datalink statistics
-- Total of 1 flow:
Average throughput: 91.30 Mbit/s
95th percentile per-packet one-way delay: 19.052 ms
Loss rate: 0.11%
-- Flow 1:
Average throughput: 91.30 Mbit/s
95th percentile per-packet one-way delay: 19.052 ms
Loss rate: 0.11%
```

Run 1: Report of PCC-Allegro — Data Link



Run 2: Statistics of PCC-Allegro

Start at: 2018-09-06 14:32:08

End at: 2018-09-06 14:32:38

Local clock offset: 2.318 ms

Remote clock offset: -4.232 ms

Below is generated by plot.py at 2018-09-06 16:03:20

Datalink statistics

-- Total of 1 flow:

Average throughput: 91.68 Mbit/s

95th percentile per-packet one-way delay: 185.747 ms

Loss rate: 1.30%

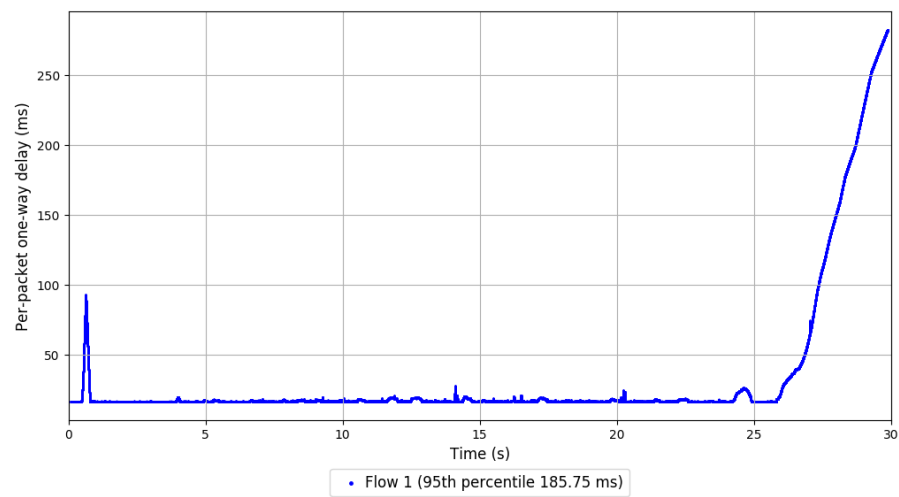
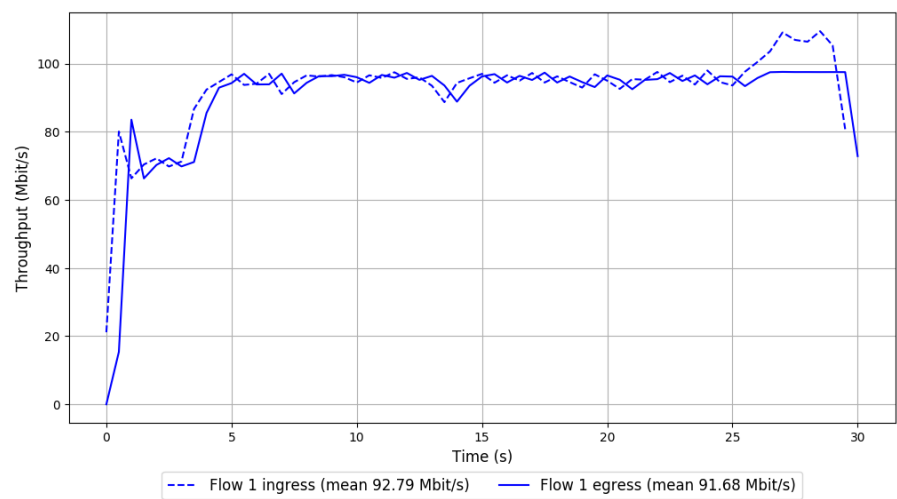
-- Flow 1:

Average throughput: 91.68 Mbit/s

95th percentile per-packet one-way delay: 185.747 ms

Loss rate: 1.30%

Run 2: Report of PCC-Allegro — Data Link



Run 3: Statistics of PCC-Allegro

Start at: 2018-09-06 14:53:37

End at: 2018-09-06 14:54:07

Local clock offset: 2.669 ms

Remote clock offset: -3.915 ms

Below is generated by plot.py at 2018-09-06 16:03:22

Datalink statistics

-- Total of 1 flow:

Average throughput: 92.23 Mbit/s

95th percentile per-packet one-way delay: 19.474 ms

Loss rate: 0.08%

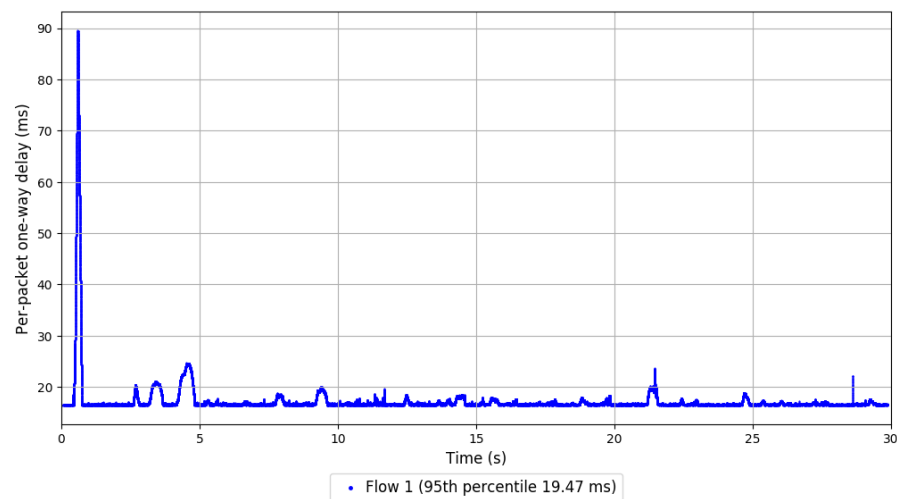
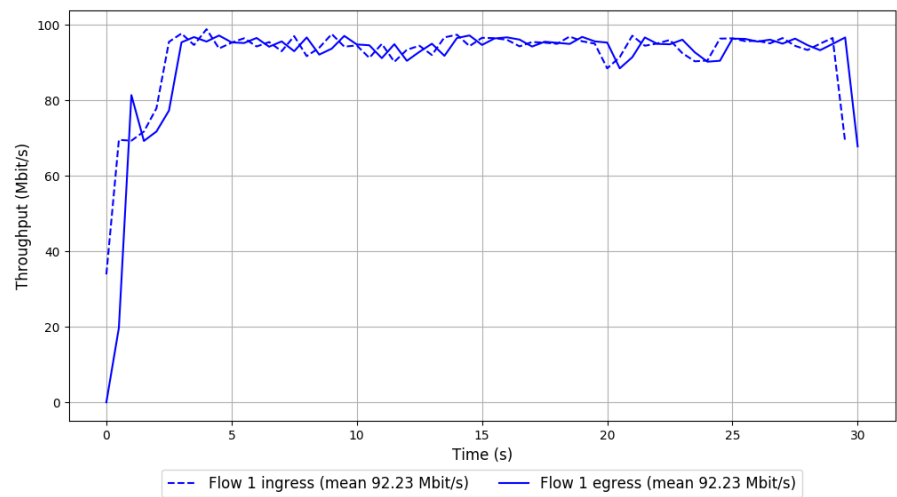
-- Flow 1:

Average throughput: 92.23 Mbit/s

95th percentile per-packet one-way delay: 19.474 ms

Loss rate: 0.08%

Run 3: Report of PCC-Allegro — Data Link

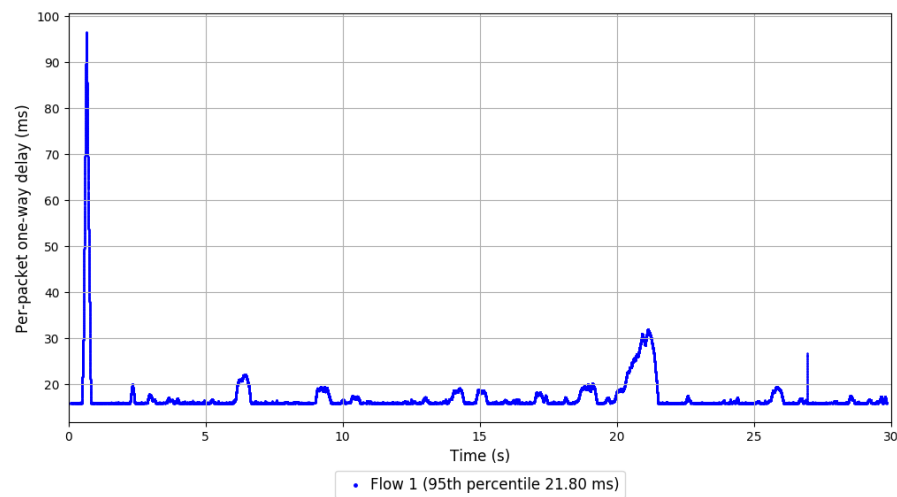
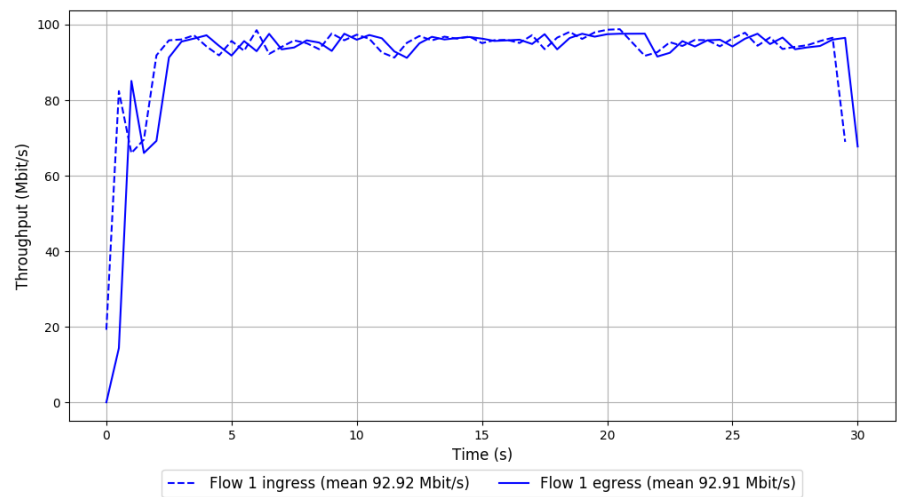


Run 4: Statistics of PCC-Allegro

Start at: 2018-09-06 15:14:39
End at: 2018-09-06 15:15:09
Local clock offset: 2.774 ms
Remote clock offset: -3.288 ms

Below is generated by plot.py at 2018-09-06 16:03:24
Datalink statistics
-- Total of 1 flow:
Average throughput: 92.91 Mbit/s
95th percentile per-packet one-way delay: 21.797 ms
Loss rate: 0.09%
-- Flow 1:
Average throughput: 92.91 Mbit/s
95th percentile per-packet one-way delay: 21.797 ms
Loss rate: 0.09%

Run 4: Report of PCC-Allegro — Data Link



Run 5: Statistics of PCC-Allegro

Start at: 2018-09-06 15:35:38

End at: 2018-09-06 15:36:08

Local clock offset: 2.257 ms

Remote clock offset: -4.914 ms

Below is generated by plot.py at 2018-09-06 16:03:24

Datalink statistics

-- Total of 1 flow:

Average throughput: 69.92 Mbit/s

95th percentile per-packet one-way delay: 19.713 ms

Loss rate: 0.10%

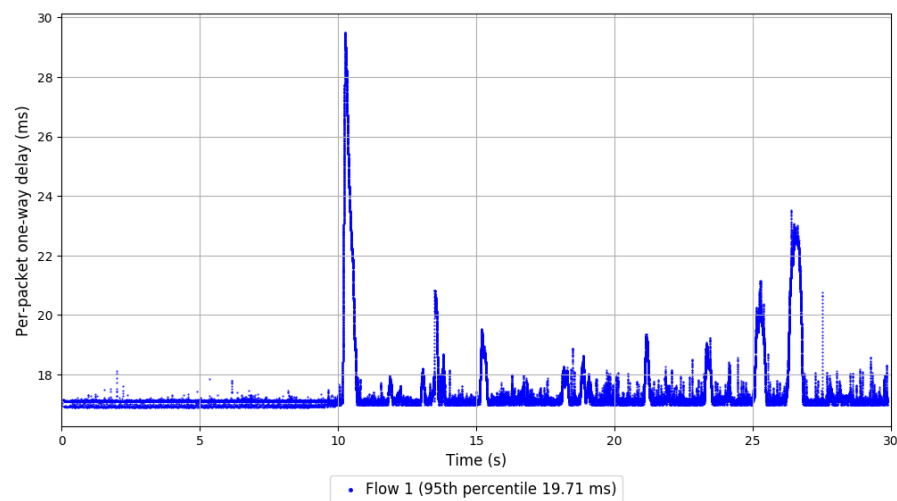
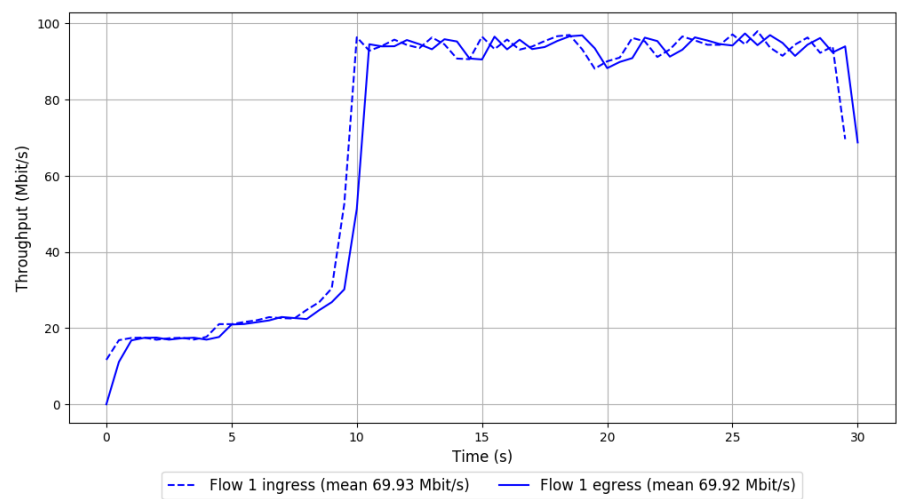
-- Flow 1:

Average throughput: 69.92 Mbit/s

95th percentile per-packet one-way delay: 19.713 ms

Loss rate: 0.10%

Run 5: Report of PCC-Allegro — Data Link

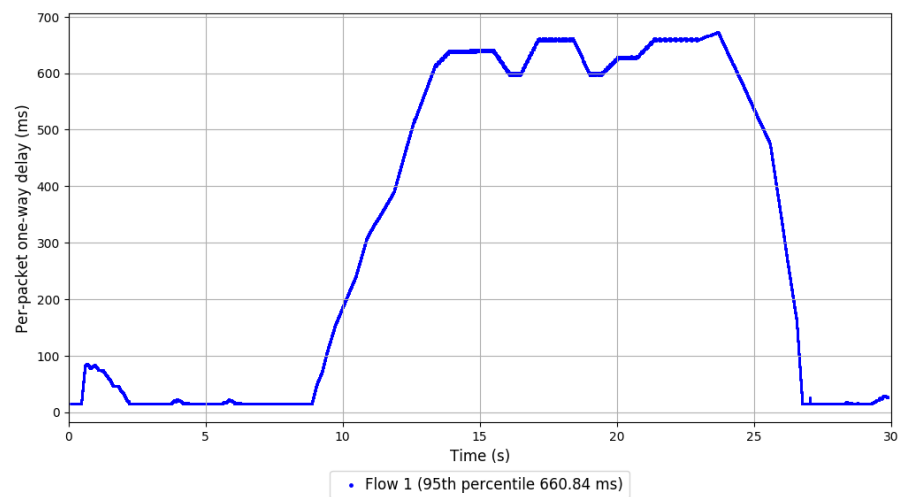
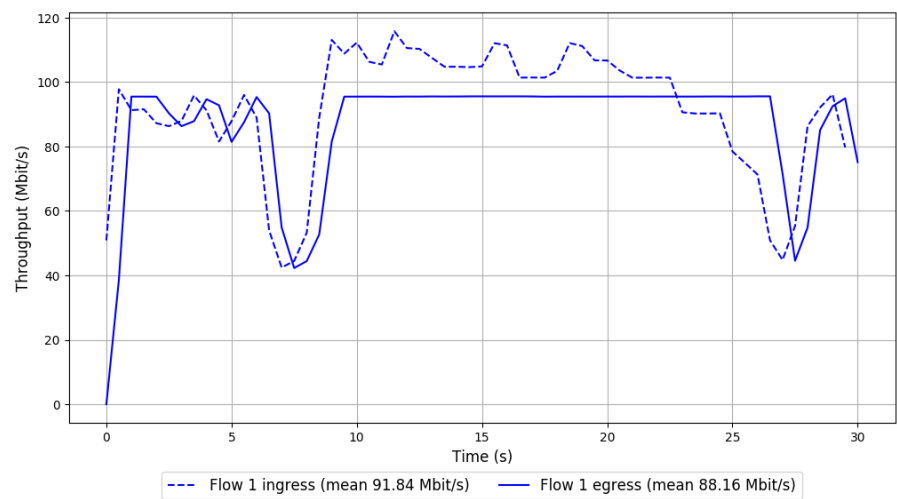


Run 1: Statistics of PCC-Expr

Start at: 2018-09-06 14:17:48
End at: 2018-09-06 14:18:18
Local clock offset: 0.584 ms
Remote clock offset: -3.418 ms

Below is generated by plot.py at 2018-09-06 16:04:30
Datalink statistics
-- Total of 1 flow:
Average throughput: 88.16 Mbit/s
95th percentile per-packet one-way delay: 660.839 ms
Loss rate: 4.10%
-- Flow 1:
Average throughput: 88.16 Mbit/s
95th percentile per-packet one-way delay: 660.839 ms
Loss rate: 4.10%

Run 1: Report of PCC-Expr — Data Link

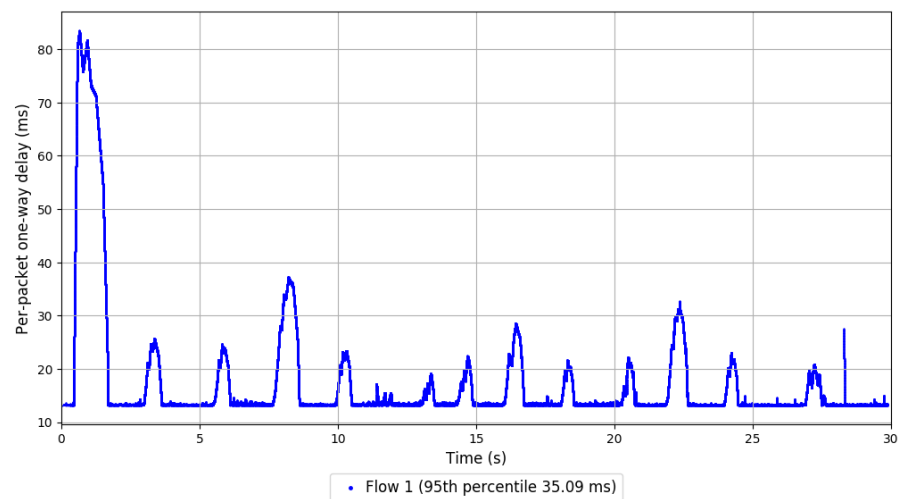
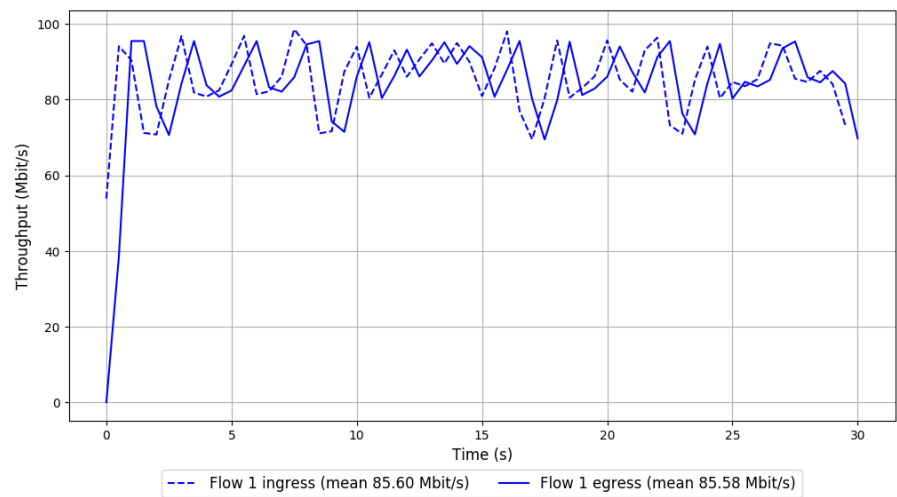


Run 2: Statistics of PCC-Expr

Start at: 2018-09-06 14:39:42
End at: 2018-09-06 14:40:13
Local clock offset: -0.114 ms
Remote clock offset: -3.587 ms

Below is generated by plot.py at 2018-09-06 16:04:34
Datalink statistics
-- Total of 1 flow:
Average throughput: 85.58 Mbit/s
95th percentile per-packet one-way delay: 35.086 ms
Loss rate: 0.13%
-- Flow 1:
Average throughput: 85.58 Mbit/s
95th percentile per-packet one-way delay: 35.086 ms
Loss rate: 0.13%

Run 2: Report of PCC-Expr — Data Link

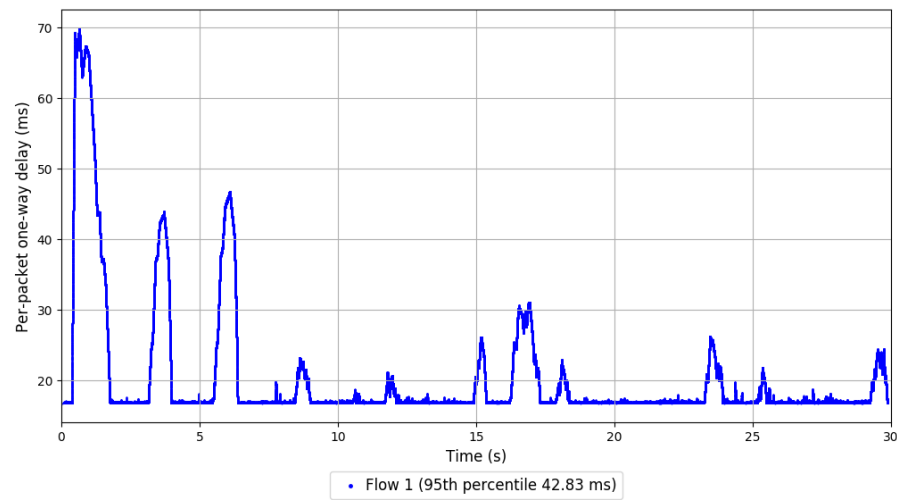
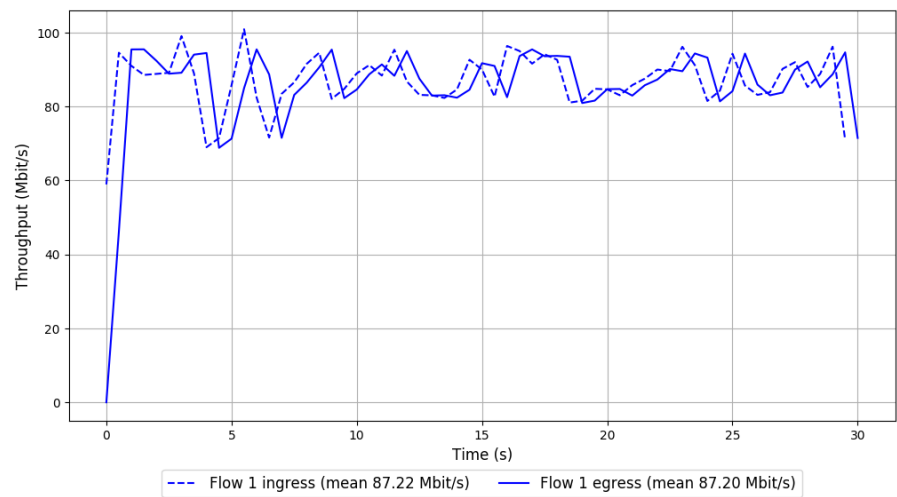


Run 3: Statistics of PCC-Expr

Start at: 2018-09-06 15:00:41
End at: 2018-09-06 15:01:11
Local clock offset: 2.094 ms
Remote clock offset: -4.695 ms

Below is generated by plot.py at 2018-09-06 16:05:02
Datalink statistics
-- Total of 1 flow:
Average throughput: 87.20 Mbit/s
95th percentile per-packet one-way delay: 42.831 ms
Loss rate: 0.10%
-- Flow 1:
Average throughput: 87.20 Mbit/s
95th percentile per-packet one-way delay: 42.831 ms
Loss rate: 0.10%

Run 3: Report of PCC-Expr — Data Link

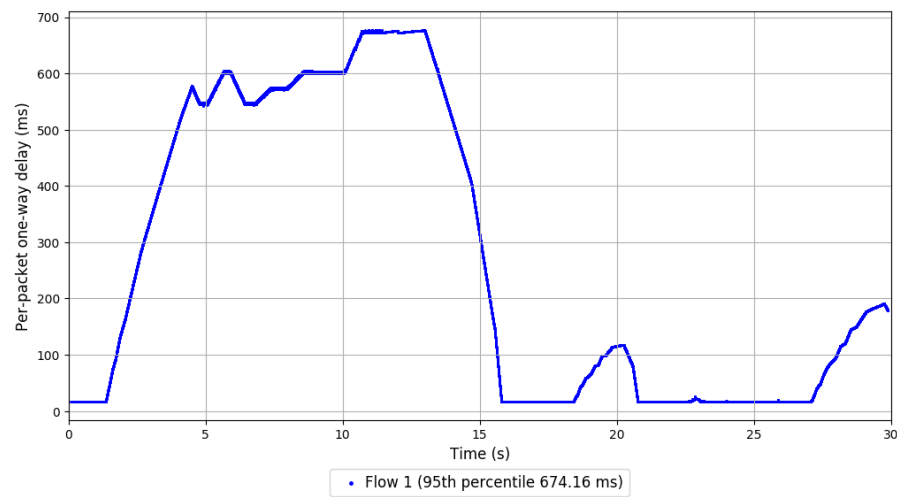
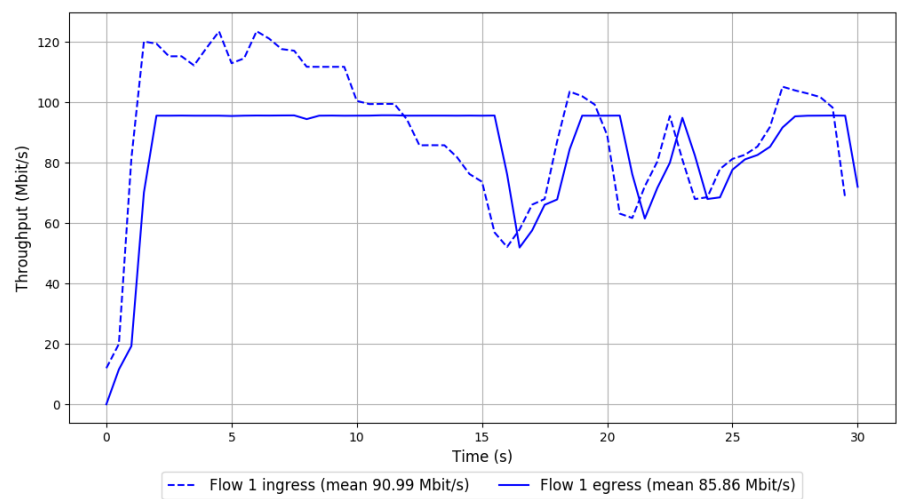


Run 4: Statistics of PCC-Expr

Start at: 2018-09-06 15:21:39
End at: 2018-09-06 15:22:09
Local clock offset: 1.714 ms
Remote clock offset: -5.124 ms

Below is generated by plot.py at 2018-09-06 16:05:13
Datalink statistics
-- Total of 1 flow:
Average throughput: 85.86 Mbit/s
95th percentile per-packet one-way delay: 674.158 ms
Loss rate: 5.71%
-- Flow 1:
Average throughput: 85.86 Mbit/s
95th percentile per-packet one-way delay: 674.158 ms
Loss rate: 5.71%

Run 4: Report of PCC-Expr — Data Link



Run 5: Statistics of PCC-Expr

Start at: 2018-09-06 15:42:45

End at: 2018-09-06 15:43:15

Local clock offset: 0.215 ms

Remote clock offset: -1.31 ms

Below is generated by plot.py at 2018-09-06 16:05:13

Datalink statistics

-- Total of 1 flow:

Average throughput: 84.65 Mbit/s

95th percentile per-packet one-way delay: 298.136 ms

Loss rate: 0.45%

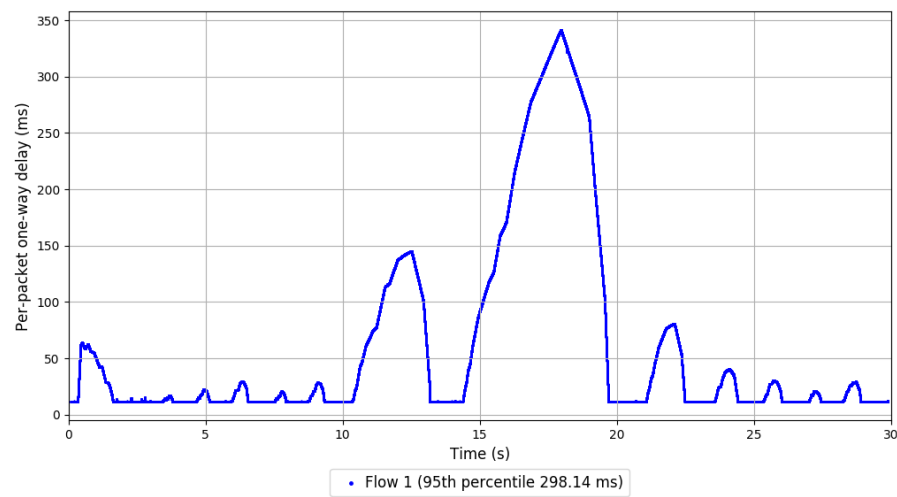
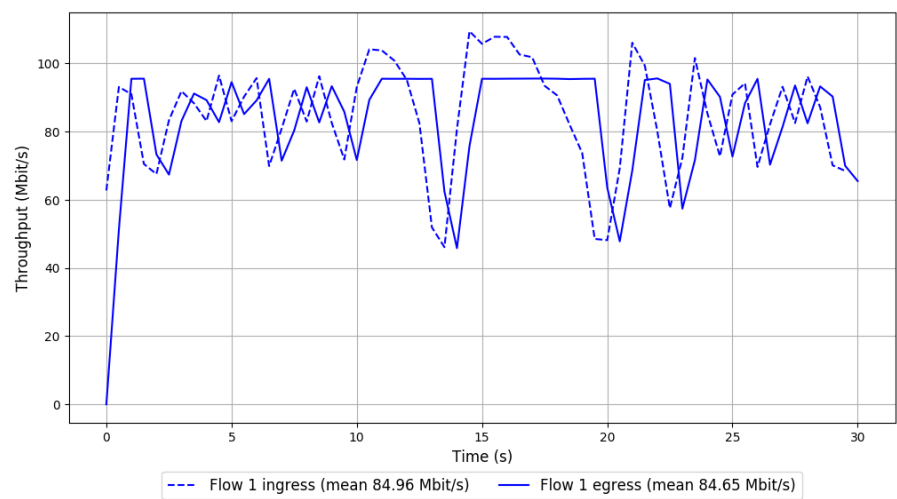
-- Flow 1:

Average throughput: 84.65 Mbit/s

95th percentile per-packet one-way delay: 298.136 ms

Loss rate: 0.45%

Run 5: Report of PCC-Expr — Data Link

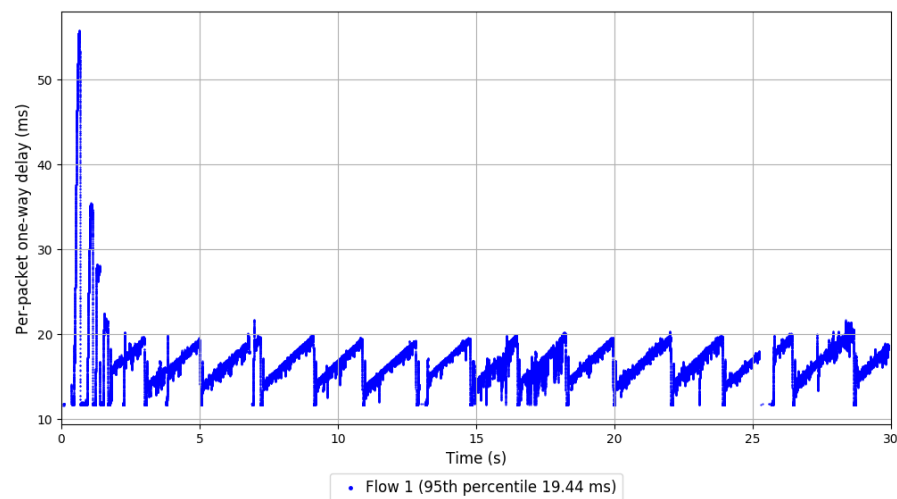
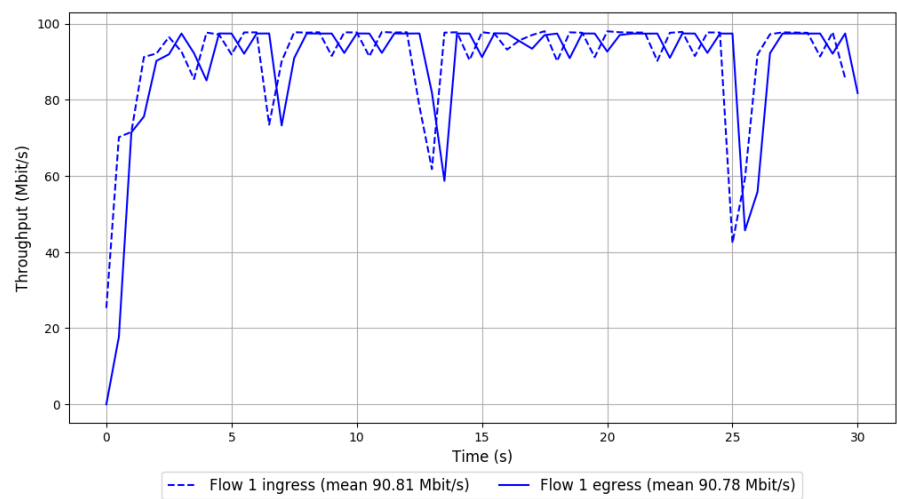


Run 1: Statistics of QUIC Cubic

Start at: 2018-09-06 14:24:03
End at: 2018-09-06 14:24:33
Local clock offset: -1.298 ms
Remote clock offset: -2.627 ms

Below is generated by plot.py at 2018-09-06 16:05:13
Datalink statistics
-- Total of 1 flow:
Average throughput: 90.78 Mbit/s
95th percentile per-packet one-way delay: 19.444 ms
Loss rate: 0.14%
-- Flow 1:
Average throughput: 90.78 Mbit/s
95th percentile per-packet one-way delay: 19.444 ms
Loss rate: 0.14%

Run 1: Report of QUIC Cubic — Data Link



Run 2: Statistics of QUIC Cubic

Start at: 2018-09-06 14:45:49

End at: 2018-09-06 14:46:19

Local clock offset: 0.513 ms

Remote clock offset: -3.742 ms

Below is generated by plot.py at 2018-09-06 16:05:13

Datalink statistics

-- Total of 1 flow:

Average throughput: 91.46 Mbit/s

95th percentile per-packet one-way delay: 21.581 ms

Loss rate: 0.12%

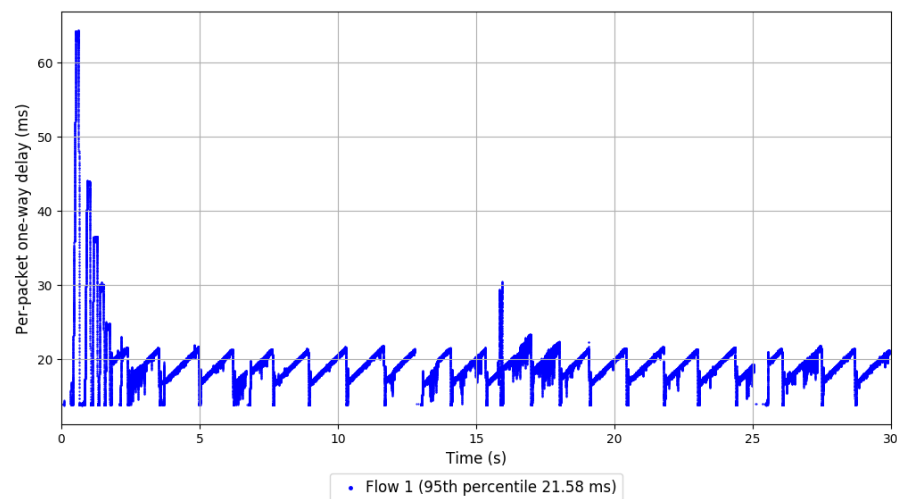
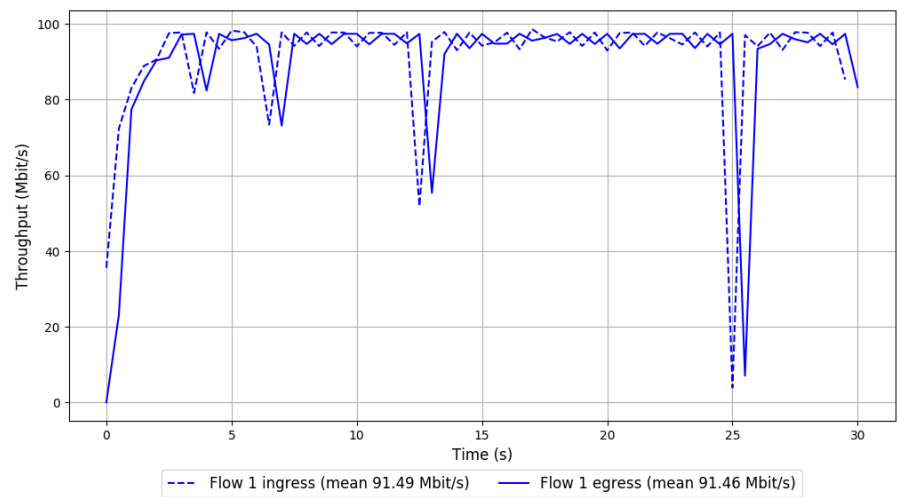
-- Flow 1:

Average throughput: 91.46 Mbit/s

95th percentile per-packet one-way delay: 21.581 ms

Loss rate: 0.12%

Run 2: Report of QUIC Cubic — Data Link



Run 3: Statistics of QUIC Cubic

Start at: 2018-09-06 15:06:48

End at: 2018-09-06 15:07:18

Local clock offset: 1.929 ms

Remote clock offset: -4.351 ms

Below is generated by plot.py at 2018-09-06 16:05:13

Datalink statistics

-- Total of 1 flow:

Average throughput: 91.32 Mbit/s

95th percentile per-packet one-way delay: 24.538 ms

Loss rate: 0.11%

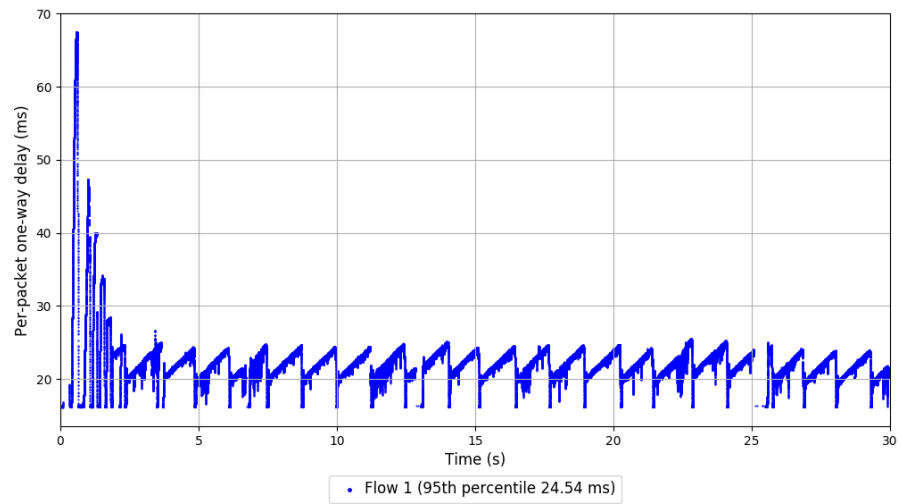
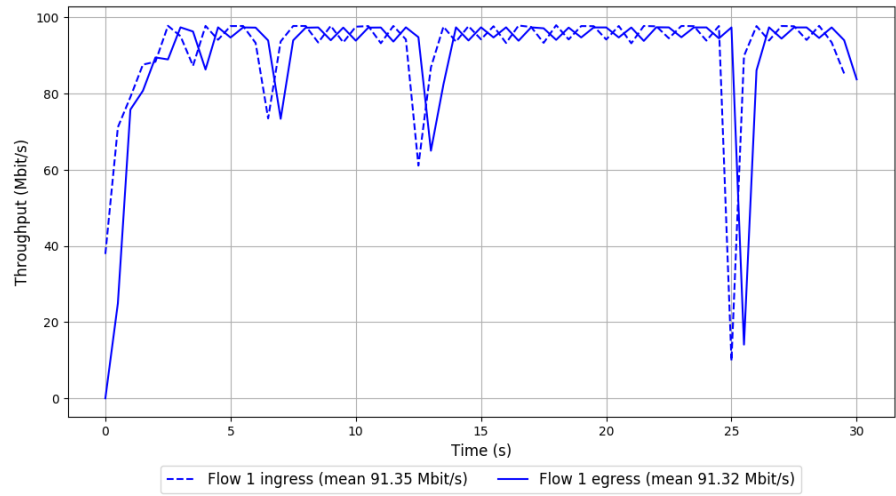
-- Flow 1:

Average throughput: 91.32 Mbit/s

95th percentile per-packet one-way delay: 24.538 ms

Loss rate: 0.11%

Run 3: Report of QUIC Cubic — Data Link



Run 4: Statistics of QUIC Cubic

Start at: 2018-09-06 15:27:40

End at: 2018-09-06 15:28:10

Local clock offset: 3.213 ms

Remote clock offset: -5.075 ms

Below is generated by plot.py at 2018-09-06 16:05:34

Datalink statistics

-- Total of 1 flow:

Average throughput: 91.45 Mbit/s

95th percentile per-packet one-way delay: 26.005 ms

Loss rate: 0.12%

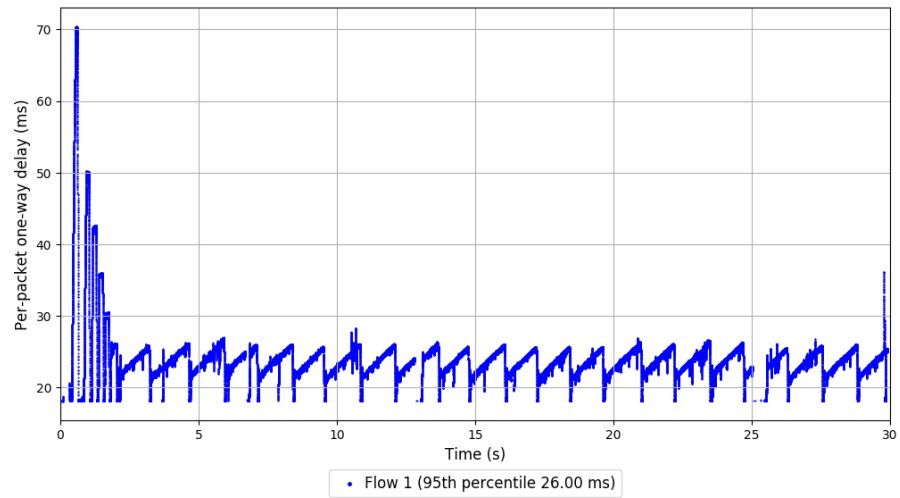
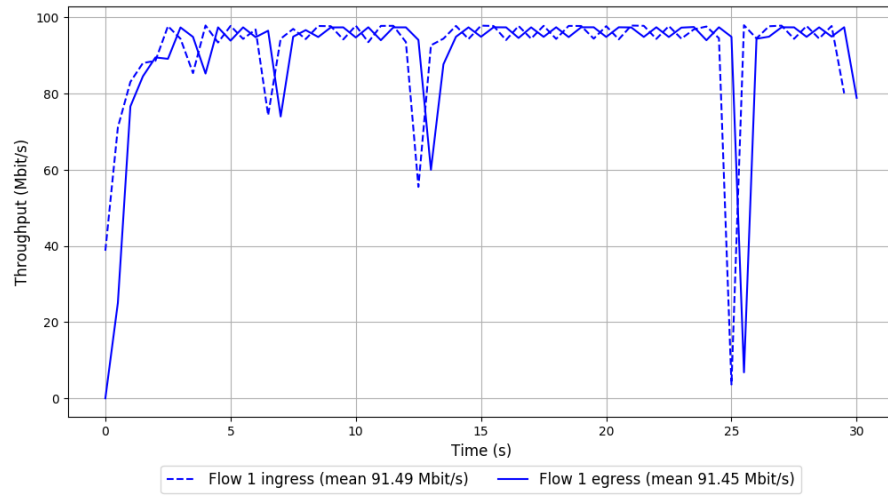
-- Flow 1:

Average throughput: 91.45 Mbit/s

95th percentile per-packet one-way delay: 26.005 ms

Loss rate: 0.12%

Run 4: Report of QUIC Cubic — Data Link



Run 5: Statistics of QUIC Cubic

Start at: 2018-09-06 15:48:36

End at: 2018-09-06 15:49:06

Local clock offset: 1.459 ms

Remote clock offset: -1.325 ms

Below is generated by plot.py at 2018-09-06 16:05:36

Datalink statistics

-- Total of 1 flow:

Average throughput: 90.37 Mbit/s

95th percentile per-packet one-way delay: 20.385 ms

Loss rate: 0.09%

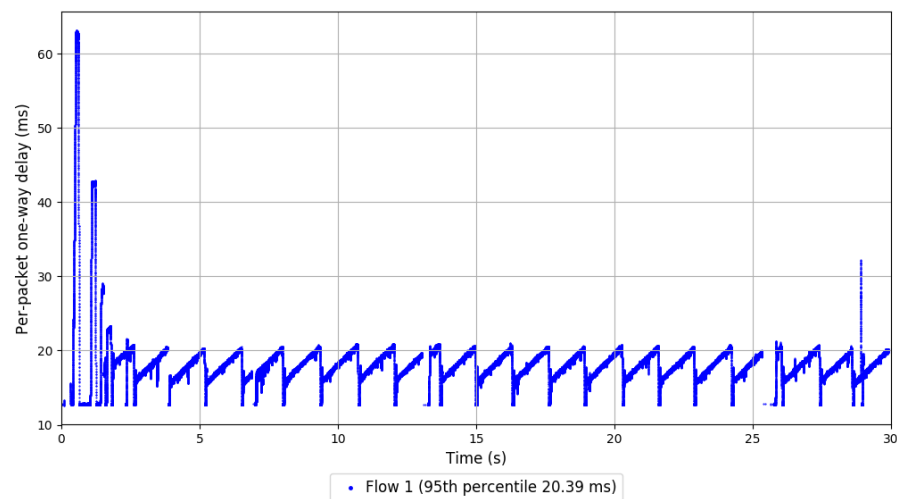
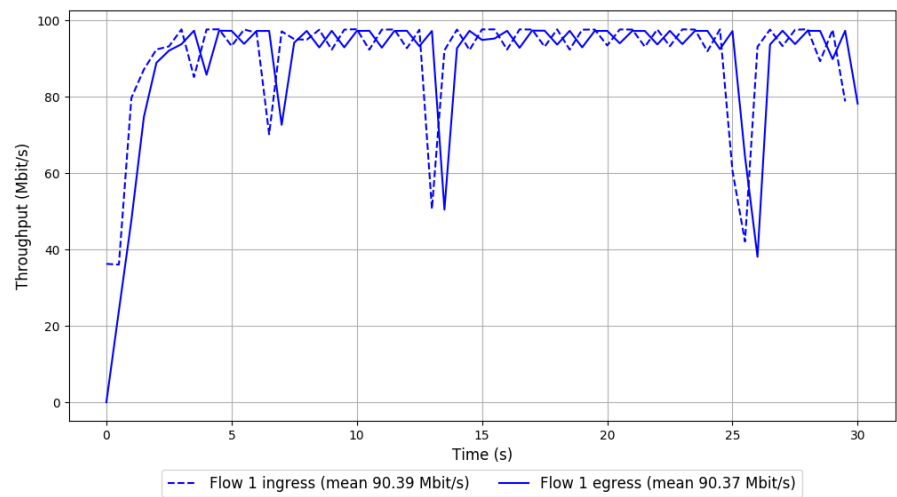
-- Flow 1:

Average throughput: 90.37 Mbit/s

95th percentile per-packet one-way delay: 20.385 ms

Loss rate: 0.09%

Run 5: Report of QUIC Cubic — Data Link

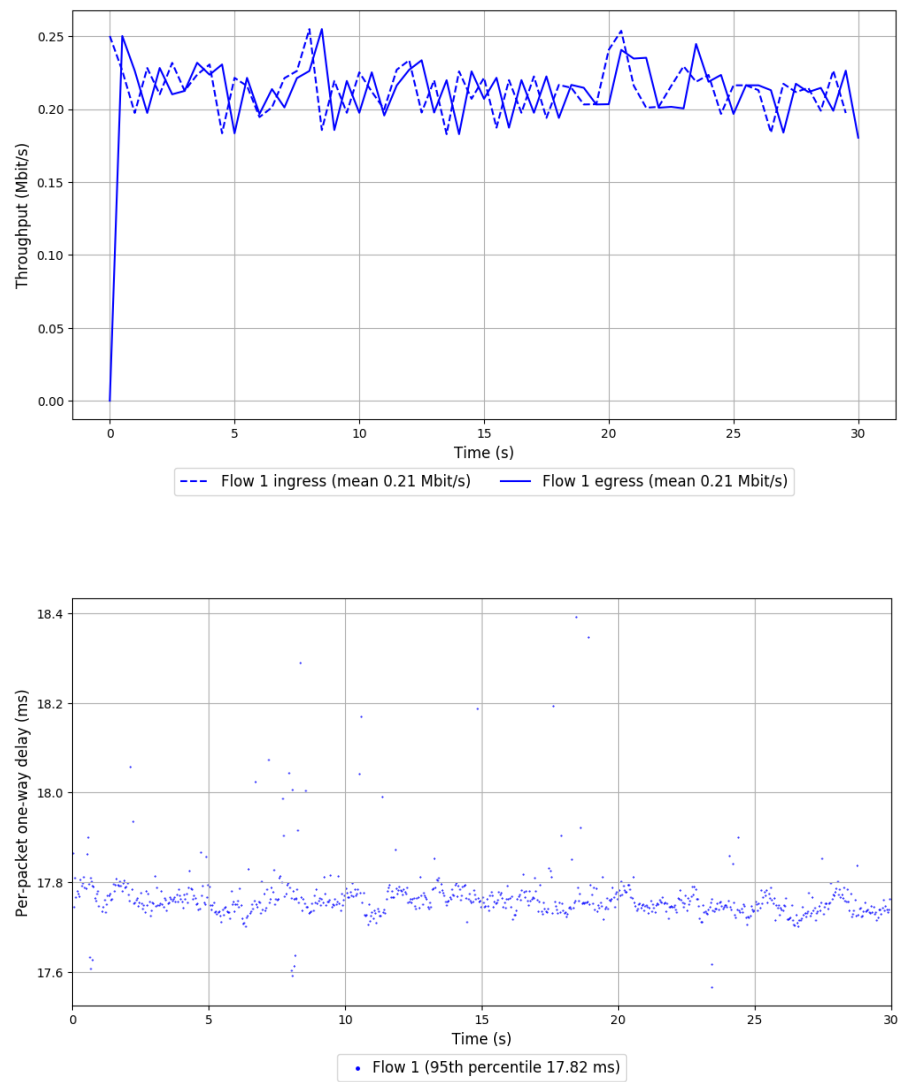


```
Run 1: Statistics of SCReAM

Start at: 2018-09-06 14:27:42
End at: 2018-09-06 14:28:12
Local clock offset: 3.019 ms
Remote clock offset: -4.557 ms

# Below is generated by plot.py at 2018-09-06 16:05:36
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 17.819 ms
Loss rate: 0.13%
-- Flow 1:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 17.819 ms
Loss rate: 0.13%
```

Run 1: Report of SReAM — Data Link

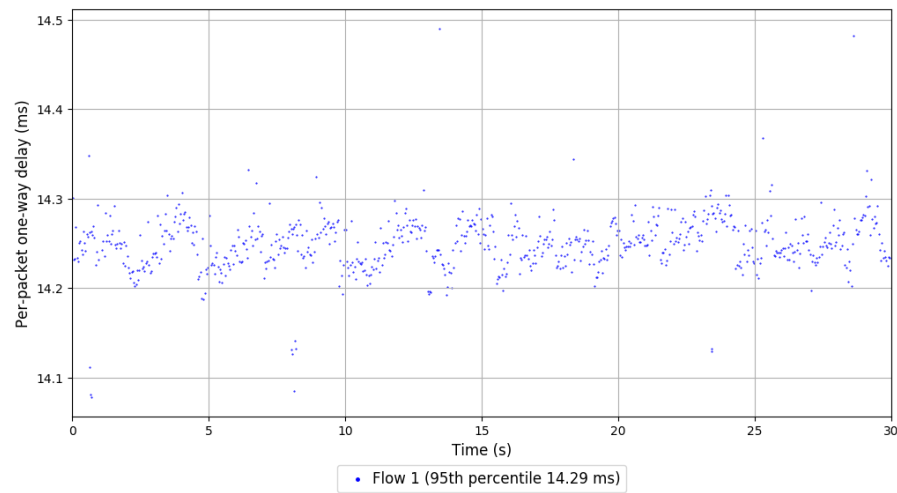
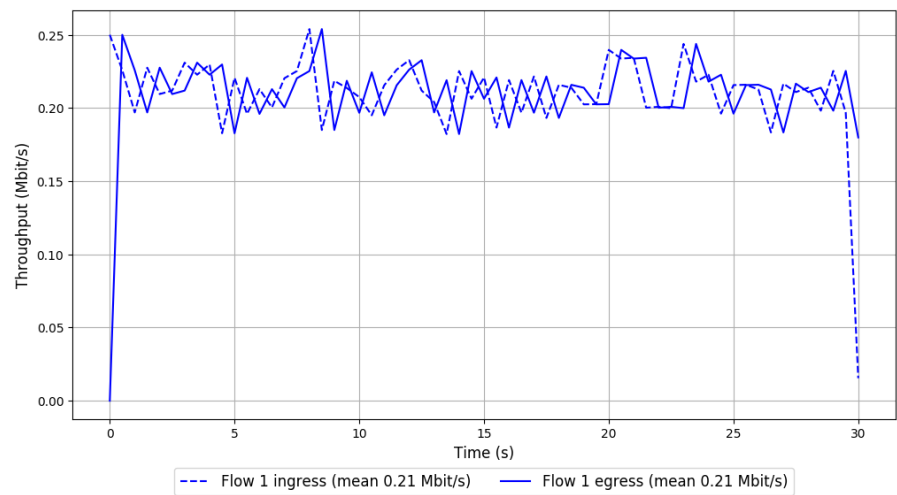


Run 2: Statistics of SCReAM

Start at: 2018-09-06 14:49:13
End at: 2018-09-06 14:49:43
Local clock offset: 0.836 ms
Remote clock offset: -3.558 ms

Below is generated by plot.py at 2018-09-06 16:05:36
Datalink statistics
-- Total of 1 flow:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 14.290 ms
Loss rate: 0.25%
-- Flow 1:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 14.290 ms
Loss rate: 0.25%

Run 2: Report of SReAM — Data Link

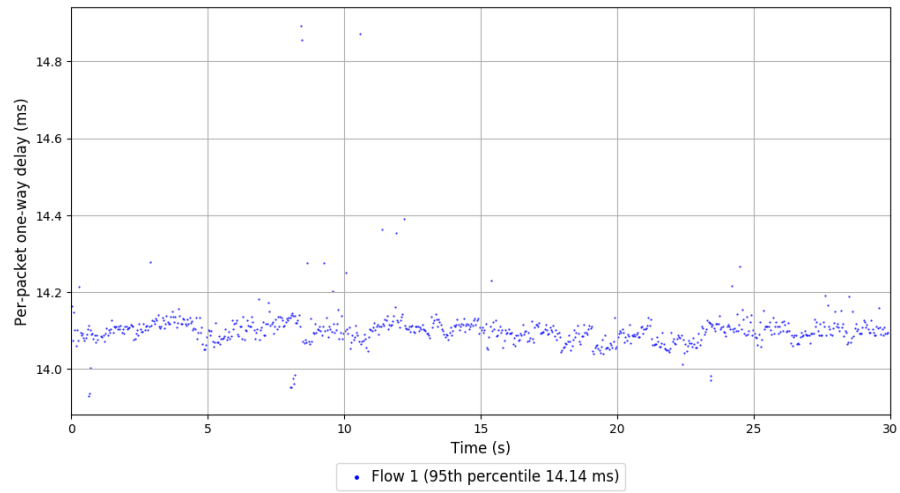
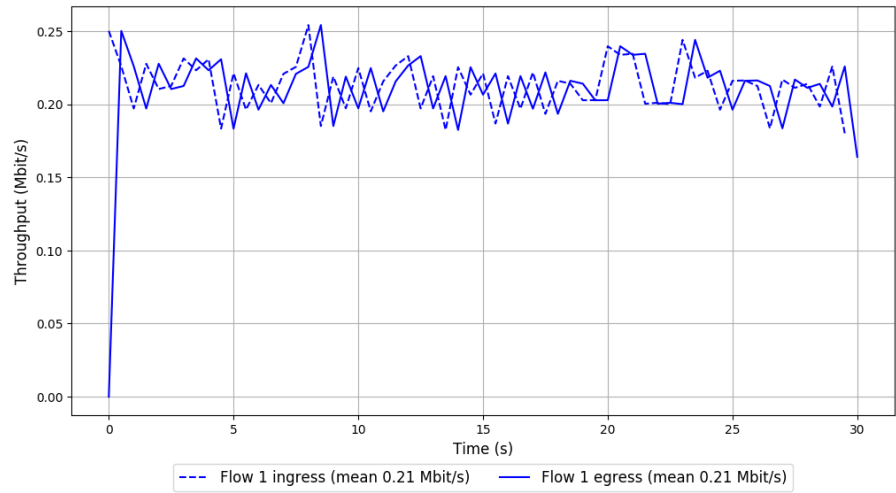


Run 3: Statistics of SCReAM

Start at: 2018-09-06 15:10:15
End at: 2018-09-06 15:10:45
Local clock offset: 1.0 ms
Remote clock offset: -3.161 ms

Below is generated by plot.py at 2018-09-06 16:05:36
Datalink statistics
-- Total of 1 flow:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 14.141 ms
Loss rate: 0.13%
-- Flow 1:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 14.141 ms
Loss rate: 0.13%

Run 3: Report of SReAM — Data Link

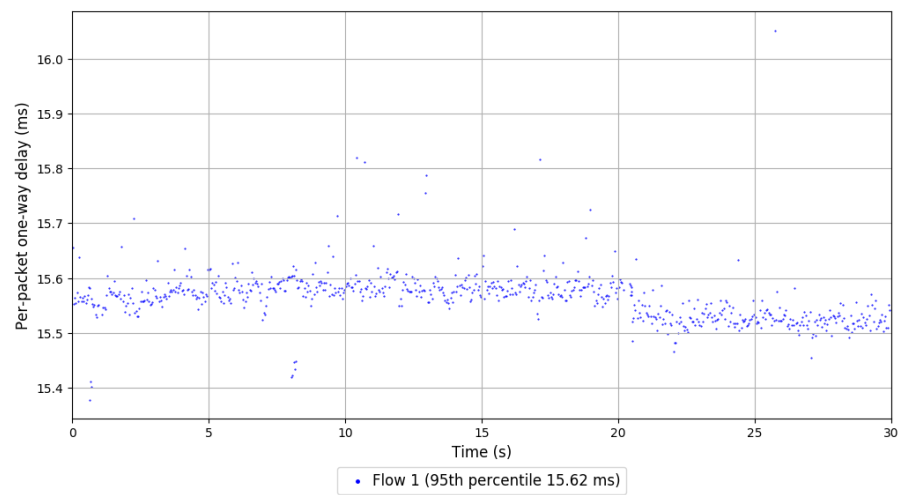
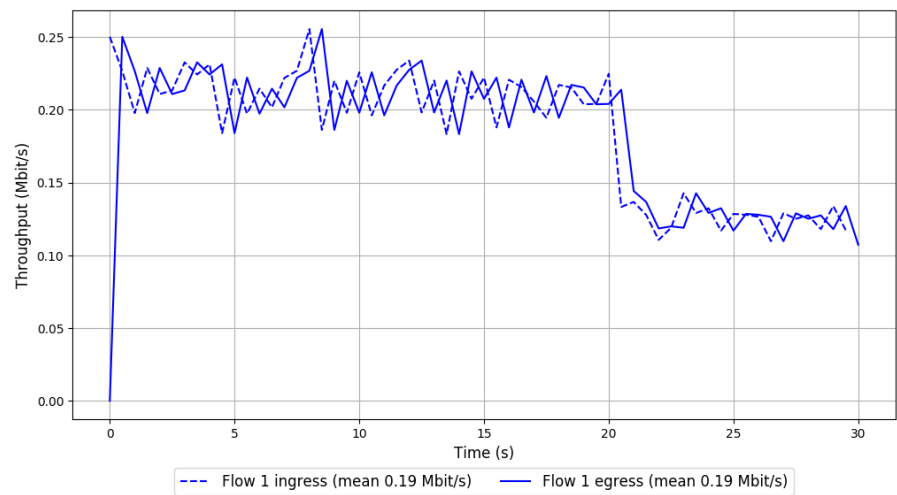


Run 4: Statistics of SCReAM

Start at: 2018-09-06 15:31:10
End at: 2018-09-06 15:31:40
Local clock offset: 0.864 ms
Remote clock offset: -4.774 ms

Below is generated by plot.py at 2018-09-06 16:05:36
Datalink statistics
-- Total of 1 flow:
Average throughput: 0.19 Mbit/s
95th percentile per-packet one-way delay: 15.616 ms
Loss rate: 0.09%
-- Flow 1:
Average throughput: 0.19 Mbit/s
95th percentile per-packet one-way delay: 15.616 ms
Loss rate: 0.09%

Run 4: Report of SReAM — Data Link

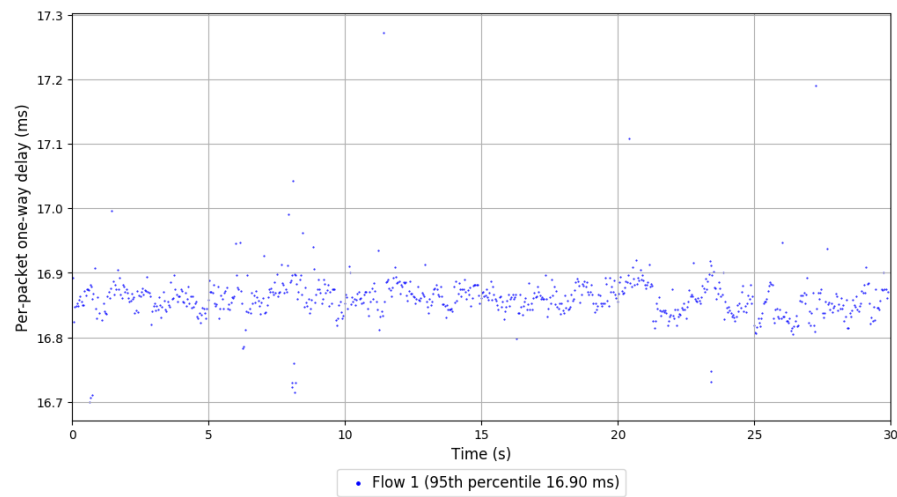
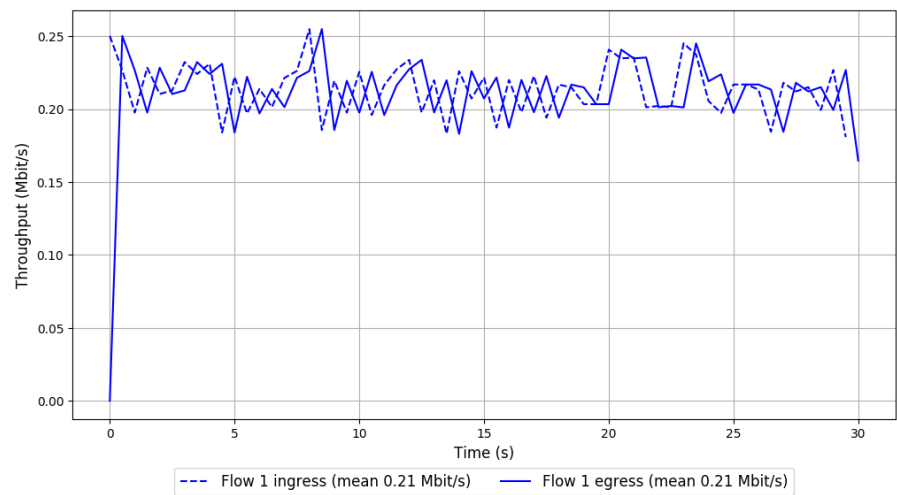


Run 5: Statistics of SCReAM

Start at: 2018-09-06 15:52:03
End at: 2018-09-06 15:52:33
Local clock offset: 2.528 ms
Remote clock offset: -4.316 ms

Below is generated by plot.py at 2018-09-06 16:05:36
Datalink statistics
-- Total of 1 flow:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 16.897 ms
Loss rate: 0.13%
-- Flow 1:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 16.897 ms
Loss rate: 0.13%

Run 5: Report of SReAM — Data Link



Run 1: Statistics of Sprout

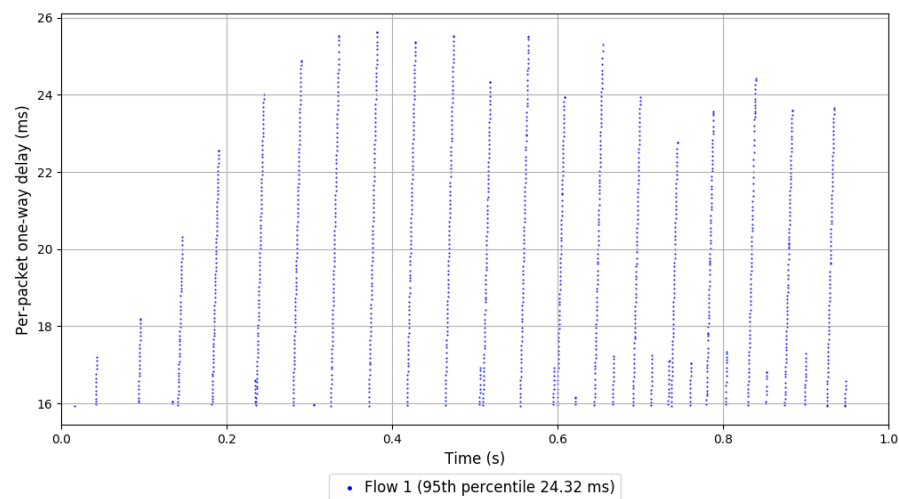
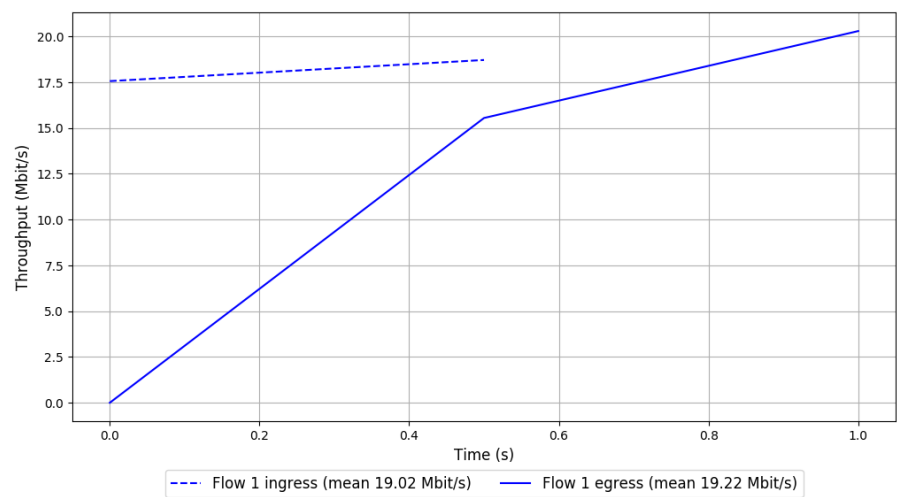
Start at: 2018-09-06 14:09:21

End at: 2018-09-06 14:09:51

Local clock offset: 1.226 ms

Remote clock offset: -3.53 ms

Run 1: Report of Sprout — Data Link



Run 2: Statistics of Sprout

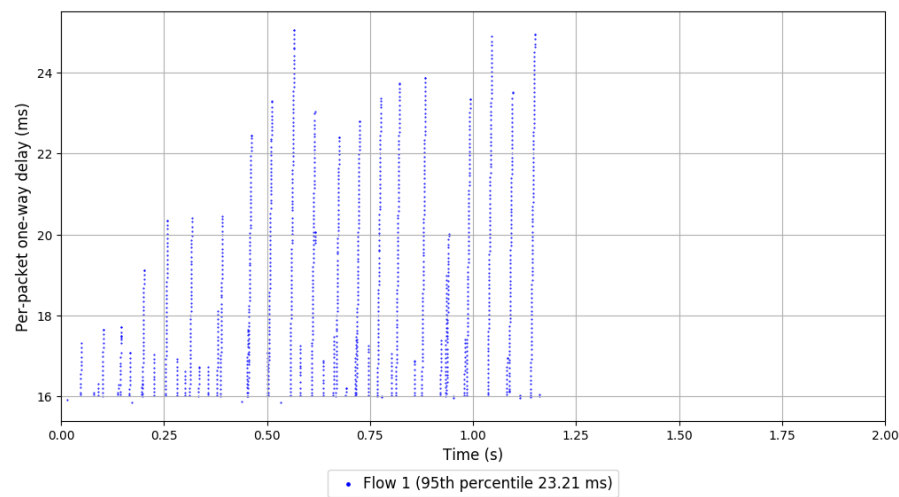
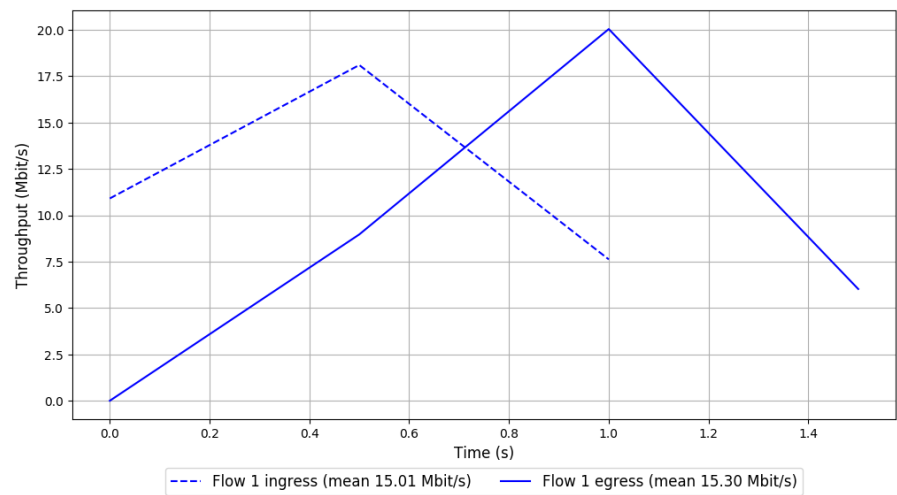
Start at: 2018-09-06 14:31:03

End at: 2018-09-06 14:31:33

Local clock offset: 2.081 ms

Remote clock offset: -3.857 ms

Run 2: Report of Sprout — Data Link



Run 3: Statistics of Sprout

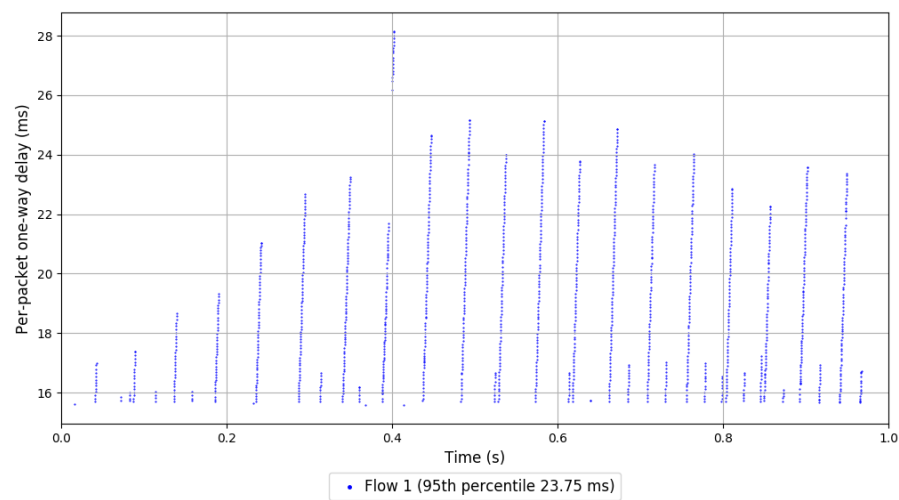
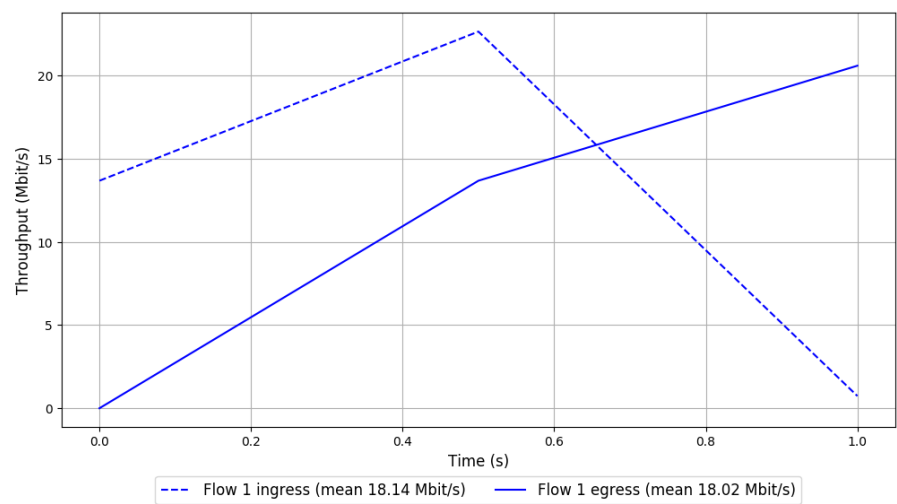
Start at: 2018-09-06 14:52:32

End at: 2018-09-06 14:53:02

Local clock offset: 1.941 ms

Remote clock offset: -3.814 ms

Run 3: Report of Sprout — Data Link



Run 4: Statistics of Sprout

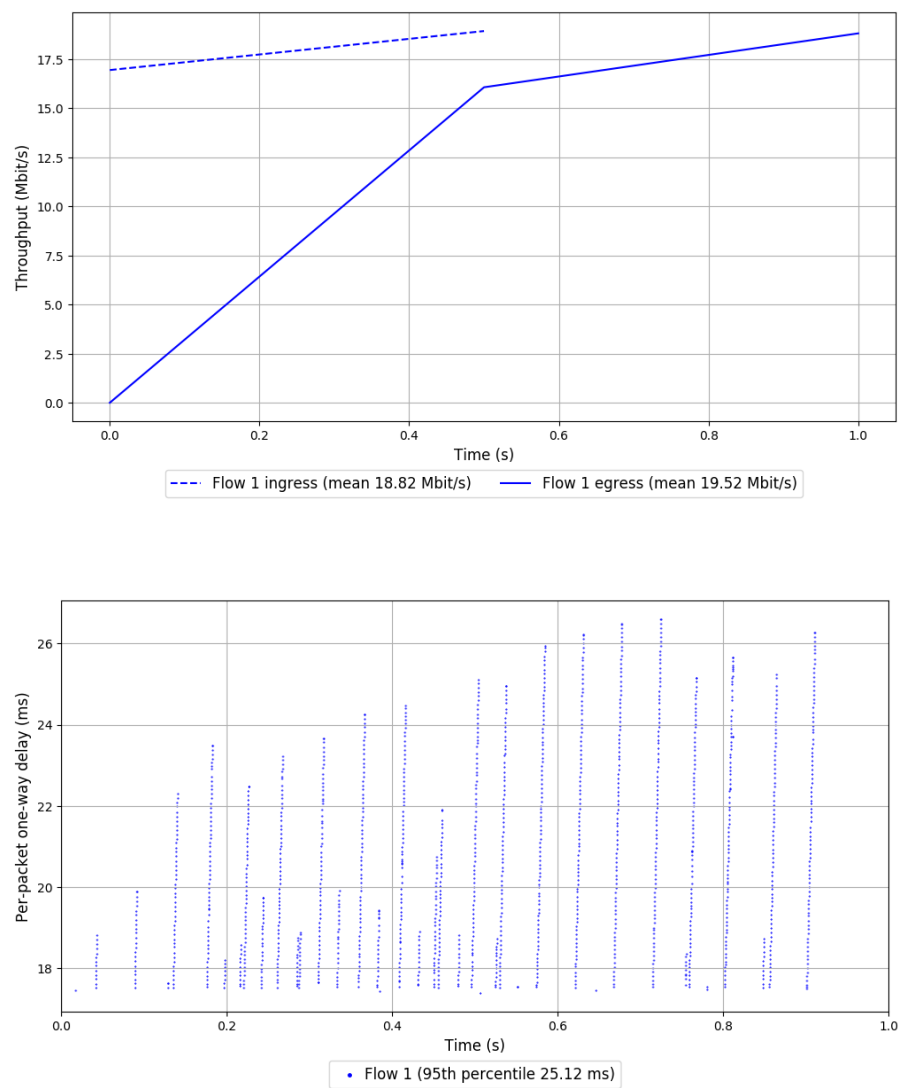
Start at: 2018-09-06 15:13:34

End at: 2018-09-06 15:14:04

Local clock offset: 3.086 ms

Remote clock offset: -4.556 ms

Run 4: Report of Sprout — Data Link



Run 5: Statistics of Sprout

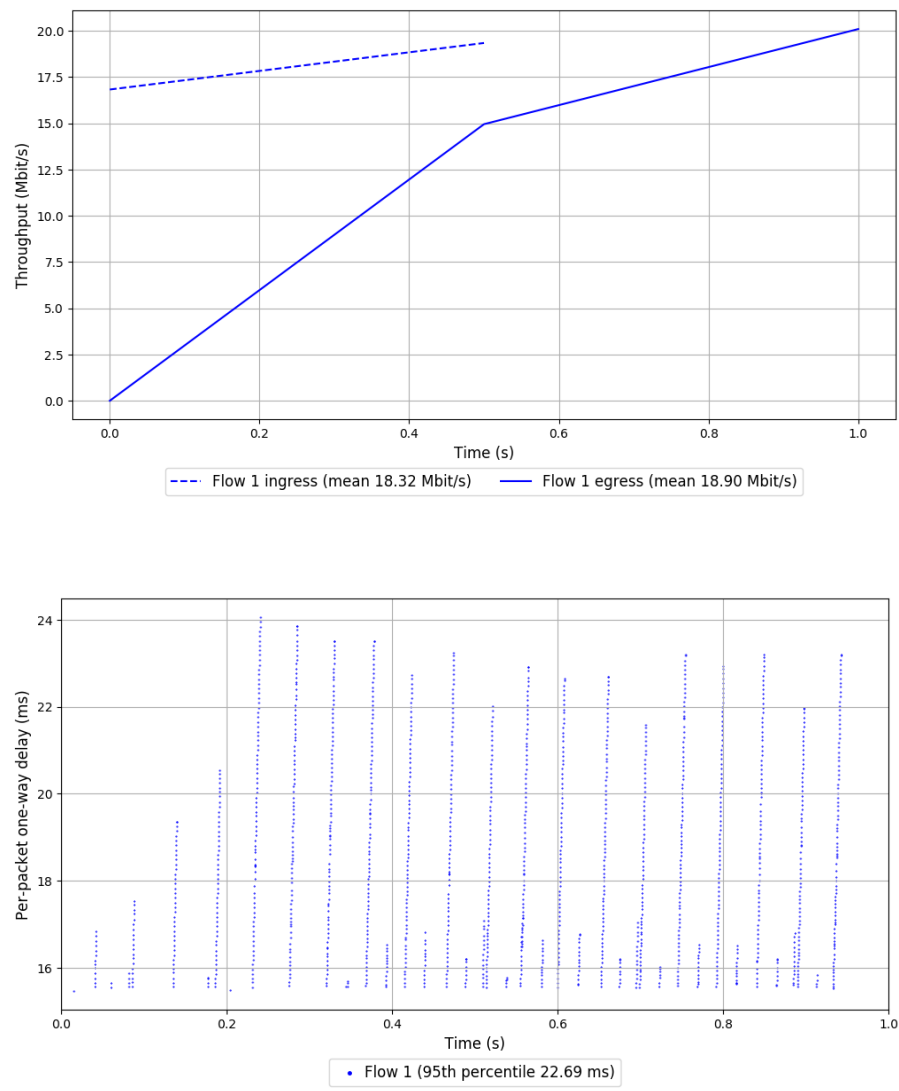
Start at: 2018-09-06 15:34:33

End at: 2018-09-06 15:35:03

Local clock offset: 1.171 ms

Remote clock offset: -4.439 ms

Run 5: Report of Sprout — Data Link

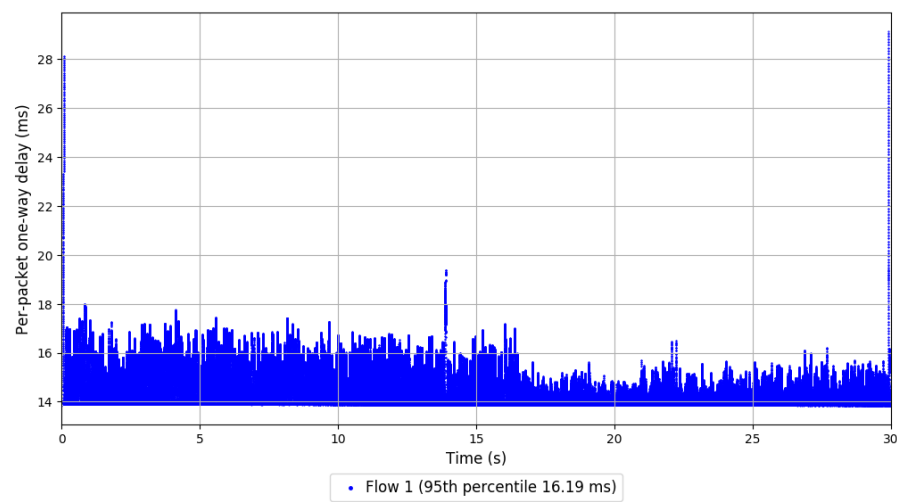
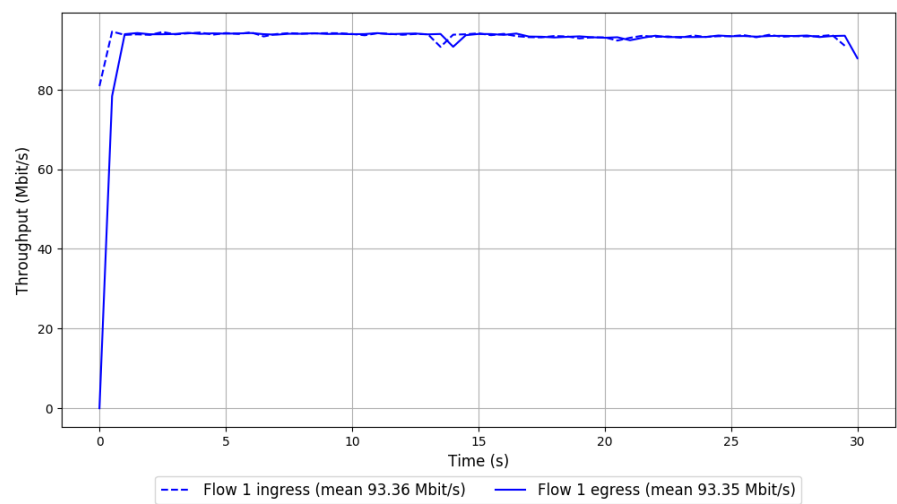


```
Run 1: Statistics of TaoVA-100x

Start at: 2018-09-06 14:15:11
End at: 2018-09-06 14:15:41
Local clock offset: -0.166 ms
Remote clock offset: -2.992 ms

# Below is generated by plot.py at 2018-09-06 16:06:38
# Datalink statistics
-- Total of 1 flow:
Average throughput: 93.35 Mbit/s
95th percentile per-packet one-way delay: 16.187 ms
Loss rate: 0.11%
-- Flow 1:
Average throughput: 93.35 Mbit/s
95th percentile per-packet one-way delay: 16.187 ms
Loss rate: 0.11%
```

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



Run 2: Statistics of TaoVA-100x

Start at: 2018-09-06 14:37:00

End at: 2018-09-06 14:37:30

Local clock offset: 2.175 ms

Remote clock offset: -4.812 ms

Below is generated by plot.py at 2018-09-06 16:06:39

Datalink statistics

-- Total of 1 flow:

Average throughput: 93.46 Mbit/s

95th percentile per-packet one-way delay: 20.930 ms

Loss rate: 0.11%

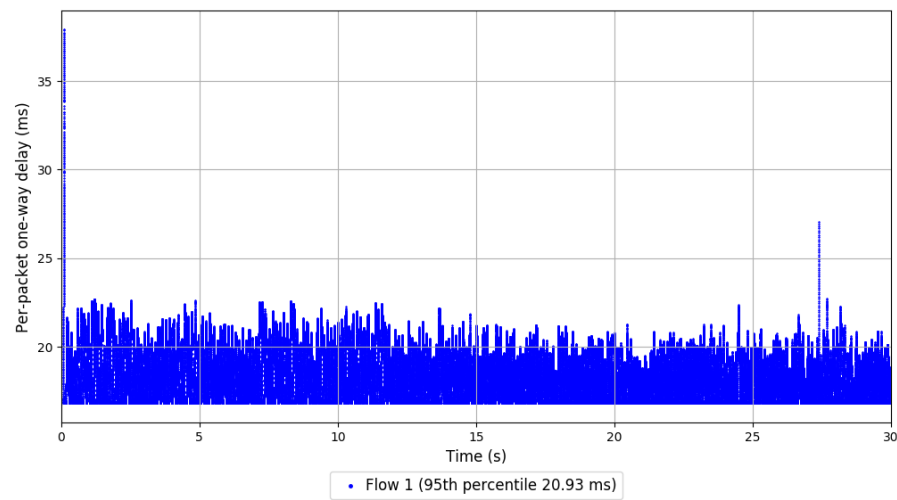
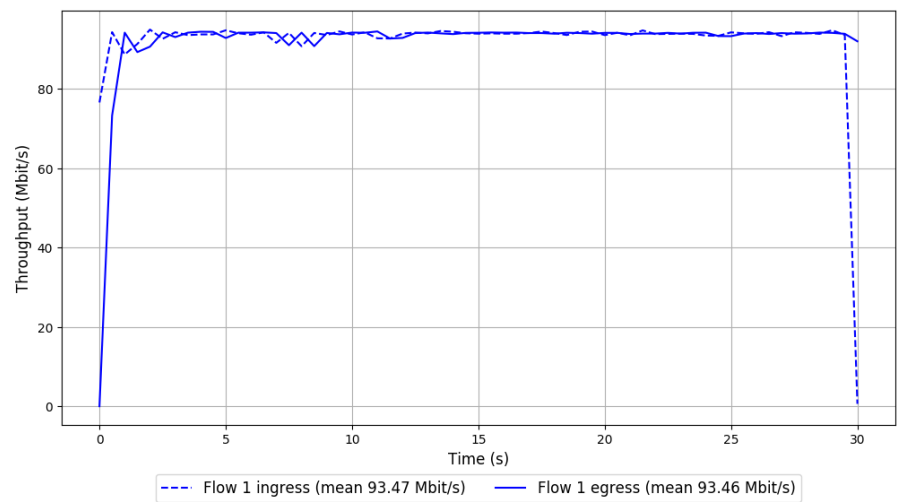
-- Flow 1:

Average throughput: 93.46 Mbit/s

95th percentile per-packet one-way delay: 20.930 ms

Loss rate: 0.11%

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



Run 3: Statistics of TaoVA-100x

Start at: 2018-09-06 14:58:15

End at: 2018-09-06 14:58:45

Local clock offset: 2.277 ms

Remote clock offset: -4.068 ms

Below is generated by plot.py at 2018-09-06 16:06:39

Datalink statistics

-- Total of 1 flow:

Average throughput: 92.87 Mbit/s

95th percentile per-packet one-way delay: 17.423 ms

Loss rate: 0.09%

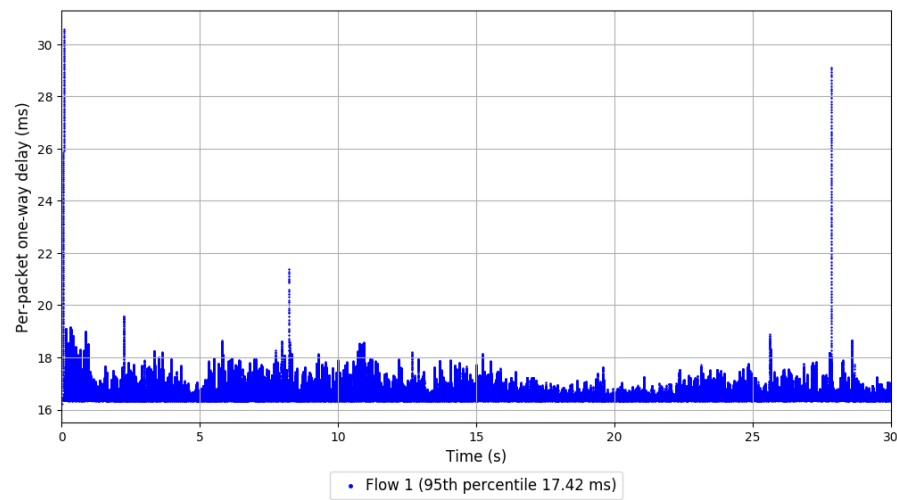
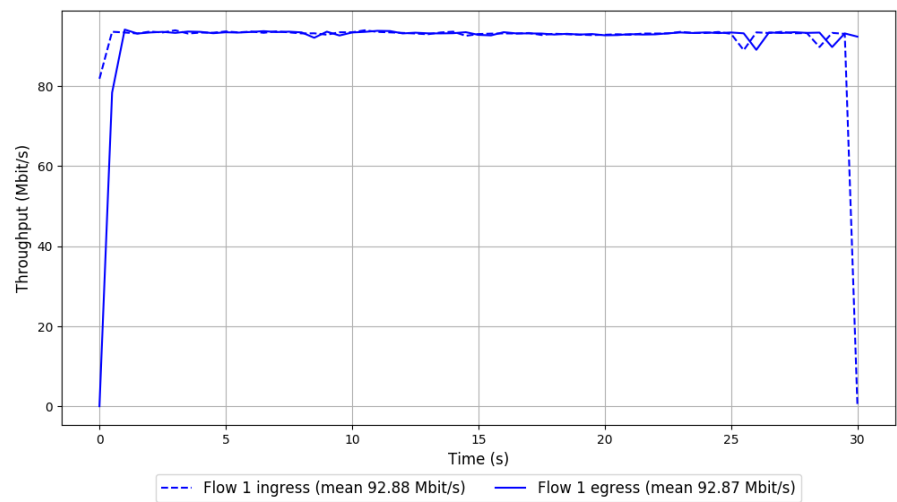
-- Flow 1:

Average throughput: 92.87 Mbit/s

95th percentile per-packet one-way delay: 17.423 ms

Loss rate: 0.09%

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



Run 4: Statistics of TaoVA-100x

Start at: 2018-09-06 15:19:13

End at: 2018-09-06 15:19:43

Local clock offset: 3.322 ms

Remote clock offset: -4.804 ms

Below is generated by plot.py at 2018-09-06 16:07:00

Datalink statistics

-- Total of 1 flow:

Average throughput: 92.95 Mbit/s

95th percentile per-packet one-way delay: 19.345 ms

Loss rate: 0.07%

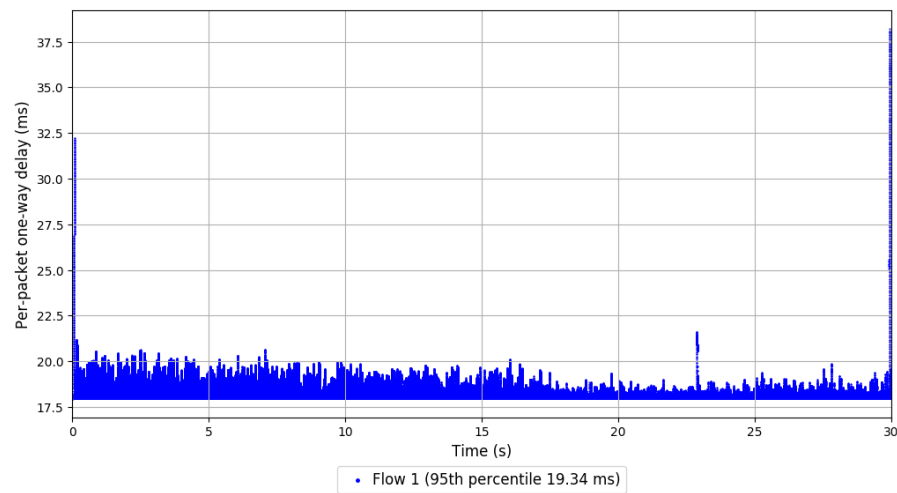
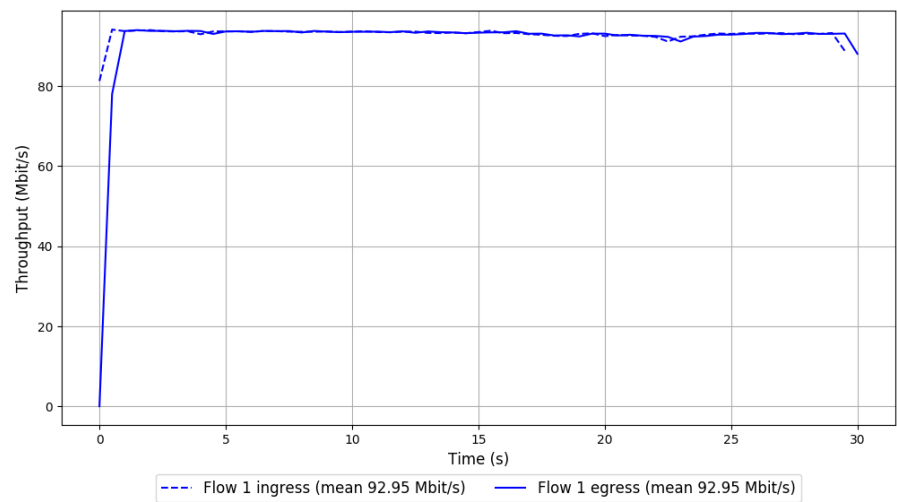
-- Flow 1:

Average throughput: 92.95 Mbit/s

95th percentile per-packet one-way delay: 19.345 ms

Loss rate: 0.07%

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

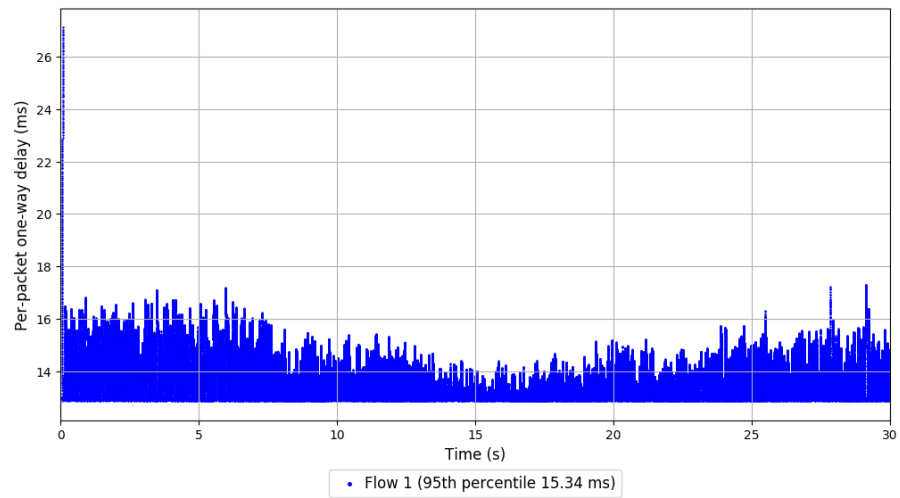
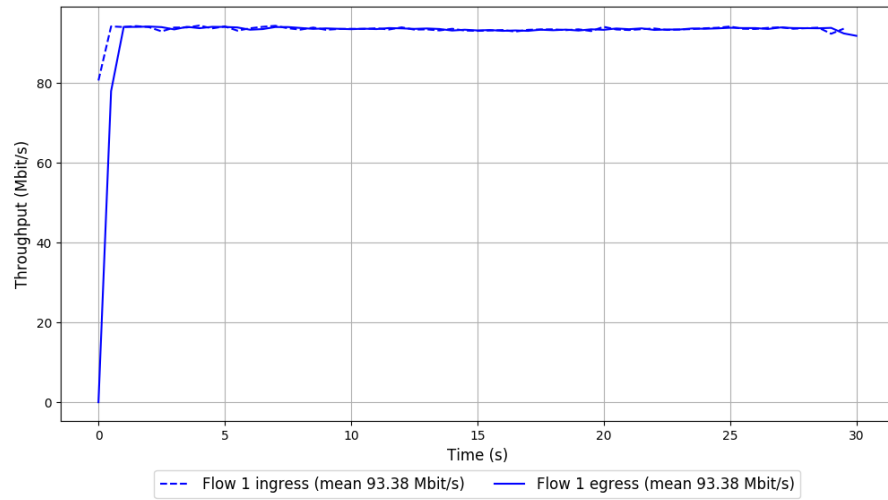


Run 5: Statistics of TaoVA-100x

Start at: 2018-09-06 15:40:21
End at: 2018-09-06 15:40:51
Local clock offset: 0.544 ms
Remote clock offset: -2.444 ms

Below is generated by plot.py at 2018-09-06 16:07:16
Datalink statistics
-- Total of 1 flow:
Average throughput: 93.38 Mbit/s
95th percentile per-packet one-way delay: 15.341 ms
Loss rate: 0.08%
-- Flow 1:
Average throughput: 93.38 Mbit/s
95th percentile per-packet one-way delay: 15.341 ms
Loss rate: 0.08%

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



Run 1: Statistics of TCP Vegas

Start at: 2018-09-06 14:22:52

End at: 2018-09-06 14:23:22

Local clock offset: 1.371 ms

Remote clock offset: -3.968 ms

Below is generated by plot.py at 2018-09-06 16:07:16

Datalink statistics

-- Total of 1 flow:

Average throughput: 93.89 Mbit/s

95th percentile per-packet one-way delay: 17.947 ms

Loss rate: 0.11%

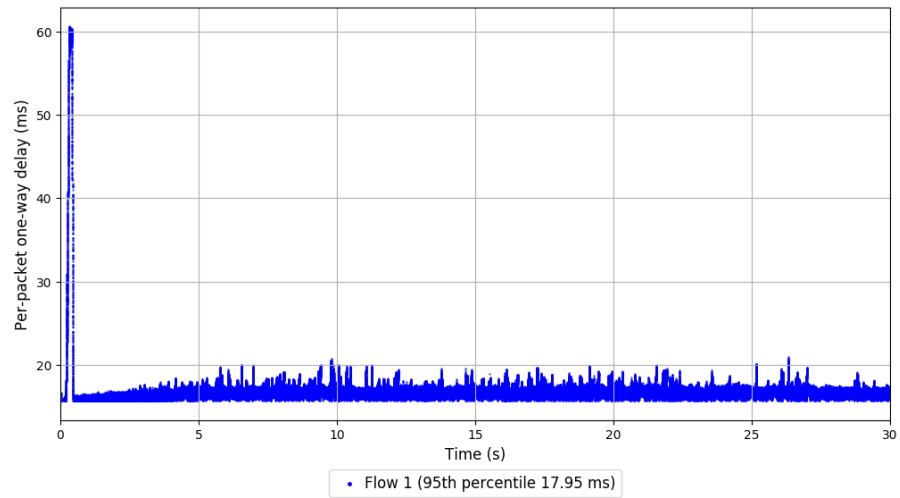
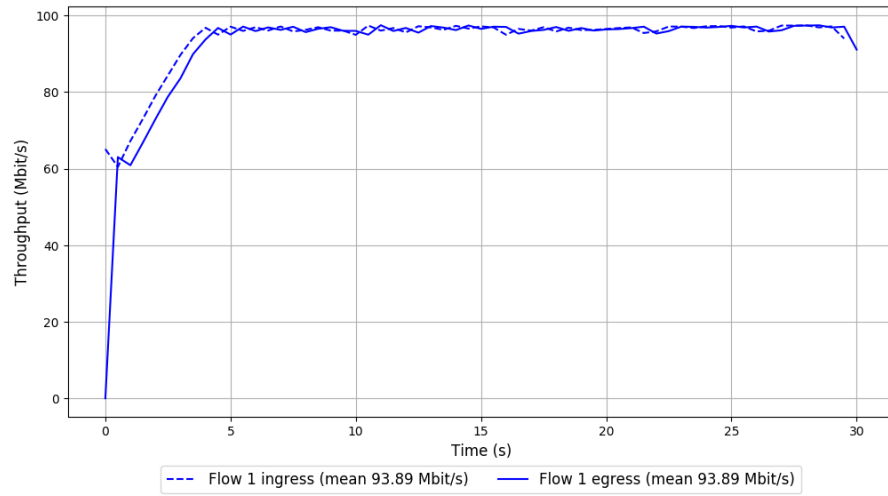
-- Flow 1:

Average throughput: 93.89 Mbit/s

95th percentile per-packet one-way delay: 17.947 ms

Loss rate: 0.11%

Run 1: Report of TCP Vegas — Data Link

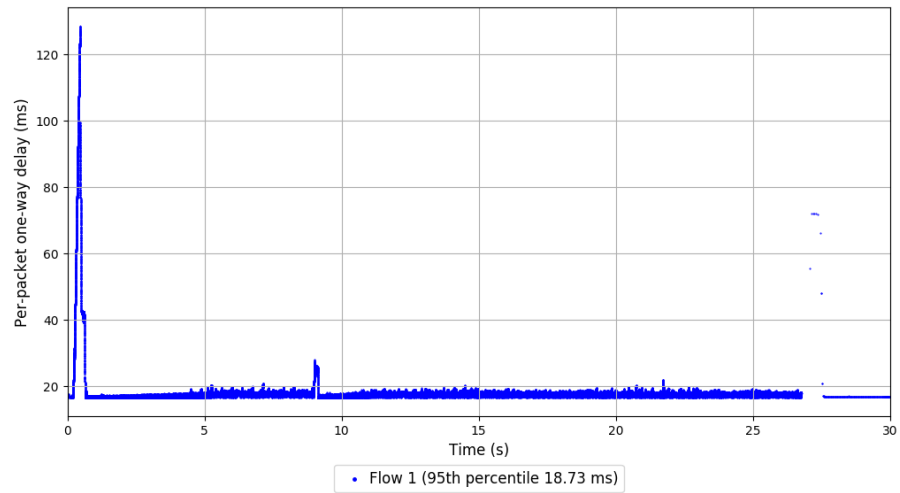
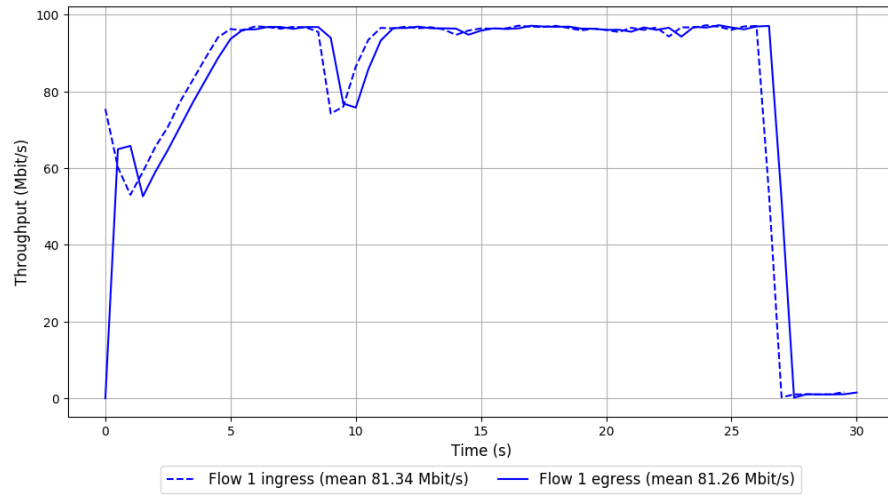


Run 2: Statistics of TCP Vegas

Start at: 2018-09-06 14:44:39
End at: 2018-09-06 14:45:09
Local clock offset: 2.853 ms
Remote clock offset: -4.254 ms

Below is generated by plot.py at 2018-09-06 16:07:16
Datalink statistics
-- Total of 1 flow:
Average throughput: 81.26 Mbit/s
95th percentile per-packet one-way delay: 18.732 ms
Loss rate: 0.17%
-- Flow 1:
Average throughput: 81.26 Mbit/s
95th percentile per-packet one-way delay: 18.732 ms
Loss rate: 0.17%

Run 2: Report of TCP Vegas — Data Link



Run 3: Statistics of TCP Vegas

Start at: 2018-09-06 15:05:40

End at: 2018-09-06 15:06:10

Local clock offset: -0.574 ms

Remote clock offset: -3.95 ms

Below is generated by plot.py at 2018-09-06 16:07:16

Datalink statistics

-- Total of 1 flow:

Average throughput: 96.00 Mbit/s

95th percentile per-packet one-way delay: 15.547 ms

Loss rate: 0.08%

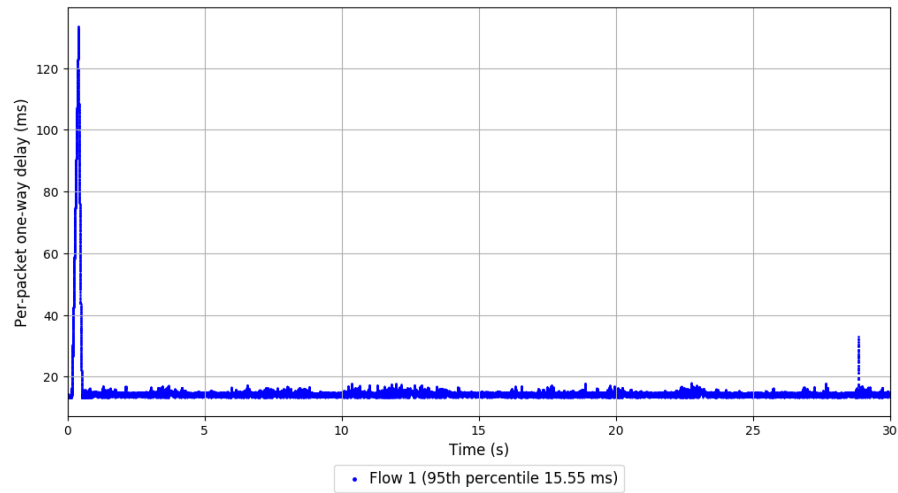
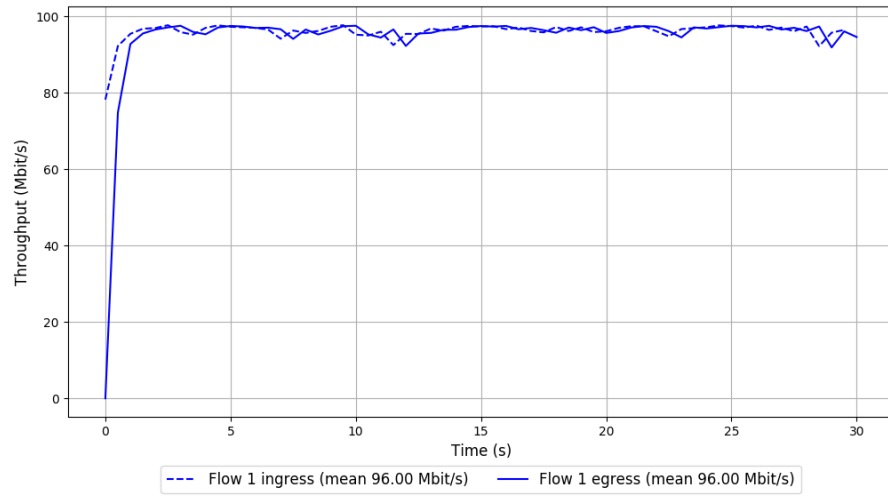
-- Flow 1:

Average throughput: 96.00 Mbit/s

95th percentile per-packet one-way delay: 15.547 ms

Loss rate: 0.08%

Run 3: Report of TCP Vegas — Data Link

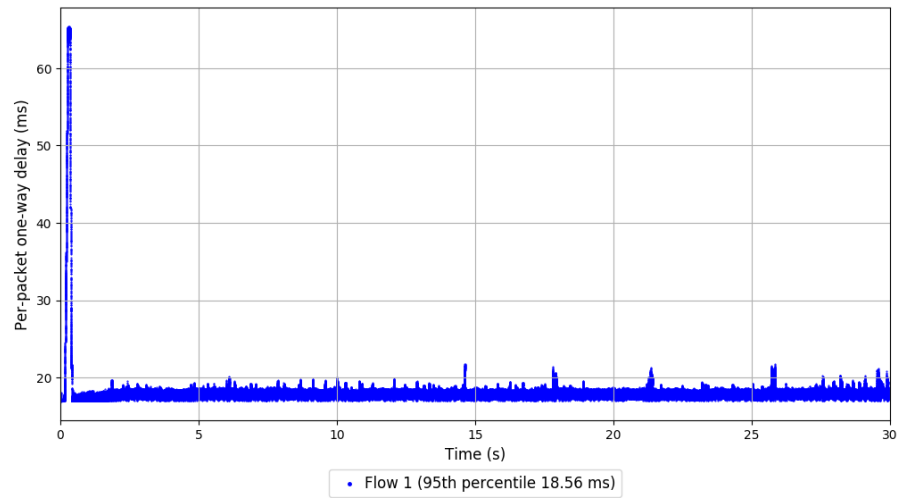
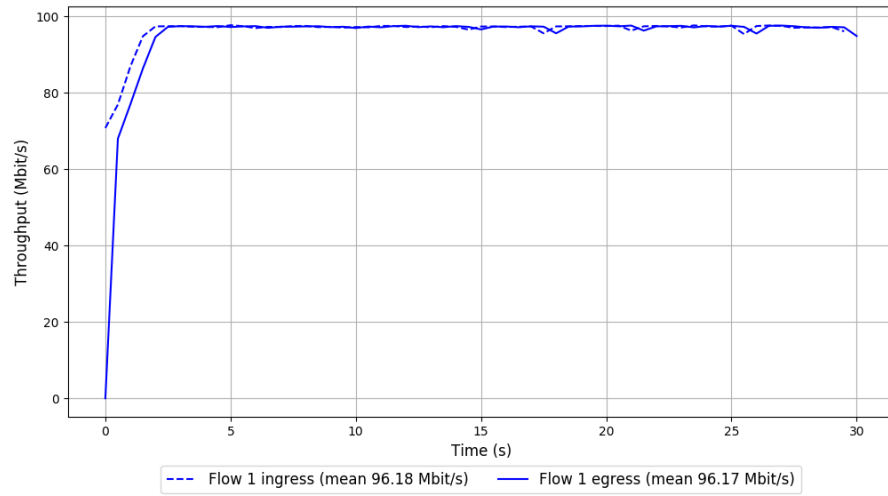


Run 4: Statistics of TCP Vegas

Start at: 2018-09-06 15:26:27
End at: 2018-09-06 15:26:57
Local clock offset: 2.597 ms
Remote clock offset: -4.525 ms

Below is generated by plot.py at 2018-09-06 16:07:34
Datalink statistics
-- Total of 1 flow:
Average throughput: 96.17 Mbit/s
95th percentile per-packet one-way delay: 18.564 ms
Loss rate: 0.08%
-- Flow 1:
Average throughput: 96.17 Mbit/s
95th percentile per-packet one-way delay: 18.564 ms
Loss rate: 0.08%

Run 4: Report of TCP Vegas — Data Link



Run 5: Statistics of TCP Vegas

Start at: 2018-09-06 15:47:27

End at: 2018-09-06 15:47:57

Local clock offset: 2.9 ms

Remote clock offset: -2.037 ms

Below is generated by plot.py at 2018-09-06 16:07:43

Datalink statistics

-- Total of 1 flow:

Average throughput: 94.36 Mbit/s

95th percentile per-packet one-way delay: 16.391 ms

Loss rate: 0.09%

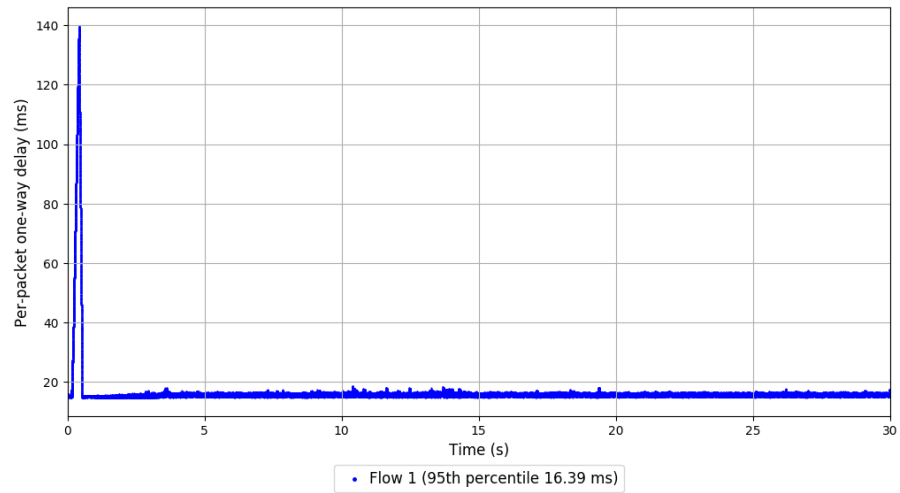
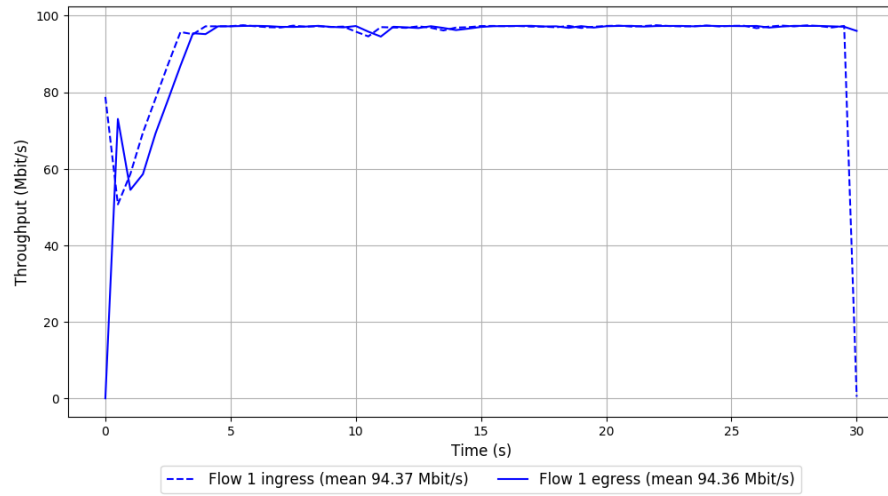
-- Flow 1:

Average throughput: 94.36 Mbit/s

95th percentile per-packet one-way delay: 16.391 ms

Loss rate: 0.09%

Run 5: Report of TCP Vegas — Data Link

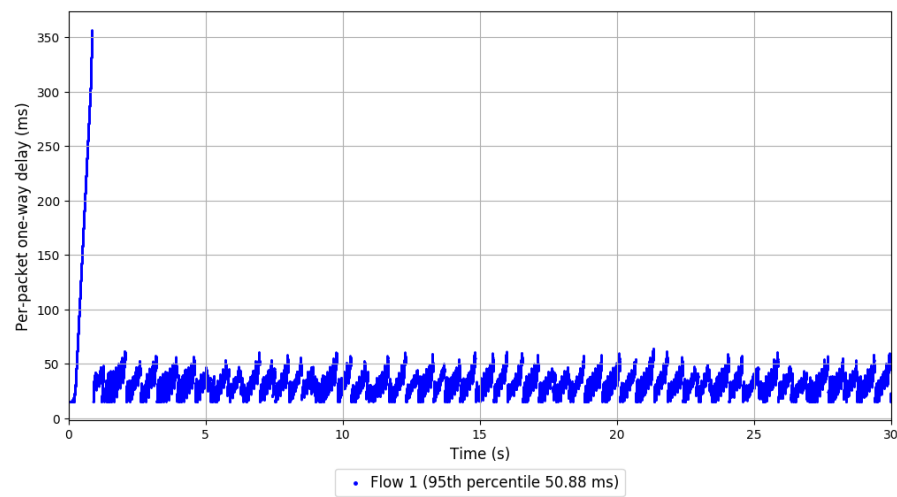
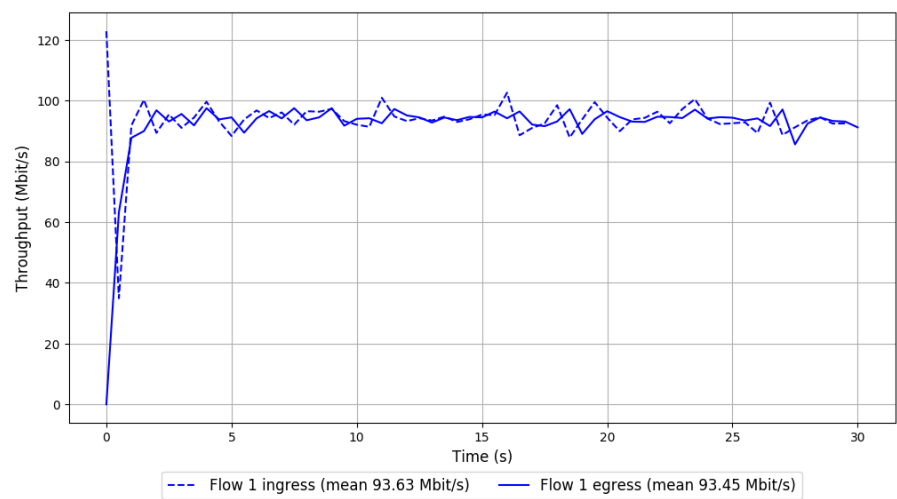


Run 1: Statistics of Verus

Start at: 2018-09-06 14:13:59
End at: 2018-09-06 14:14:29
Local clock offset: 1.519 ms
Remote clock offset: -2.429 ms

Below is generated by plot.py at 2018-09-06 16:07:44
Datalink statistics
-- Total of 1 flow:
Average throughput: 93.45 Mbit/s
95th percentile per-packet one-way delay: 50.884 ms
Loss rate: 0.27%
-- Flow 1:
Average throughput: 93.45 Mbit/s
95th percentile per-packet one-way delay: 50.884 ms
Loss rate: 0.27%

Run 1: Report of Verus — Data Link

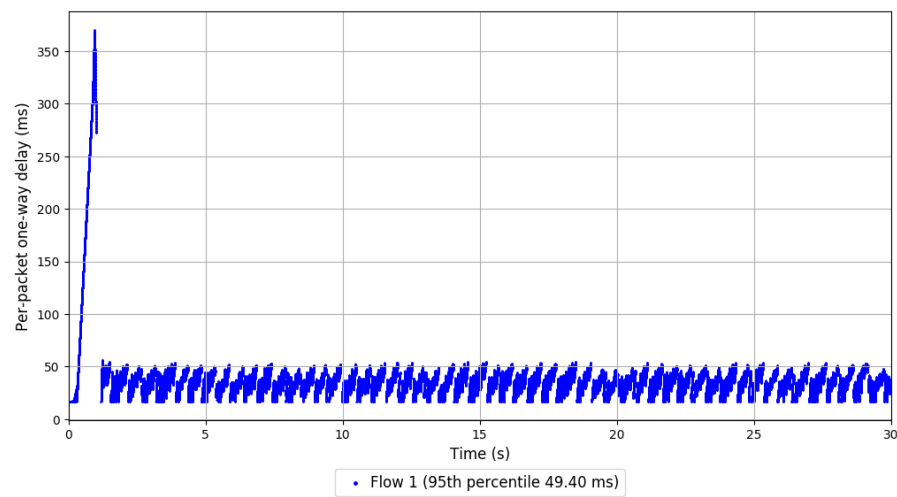
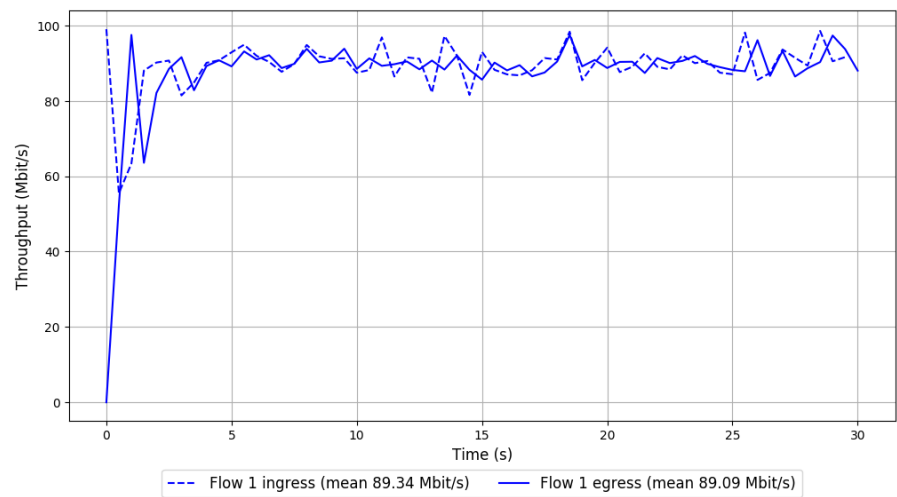


Run 2: Statistics of Verus

Start at: 2018-09-06 14:35:46
End at: 2018-09-06 14:36:17
Local clock offset: 2.488 ms
Remote clock offset: -4.199 ms

Below is generated by plot.py at 2018-09-06 16:07:44
Datalink statistics
-- Total of 1 flow:
Average throughput: 89.09 Mbit/s
95th percentile per-packet one-way delay: 49.404 ms
Loss rate: 0.37%
-- Flow 1:
Average throughput: 89.09 Mbit/s
95th percentile per-packet one-way delay: 49.404 ms
Loss rate: 0.37%

Run 2: Report of Verus — Data Link

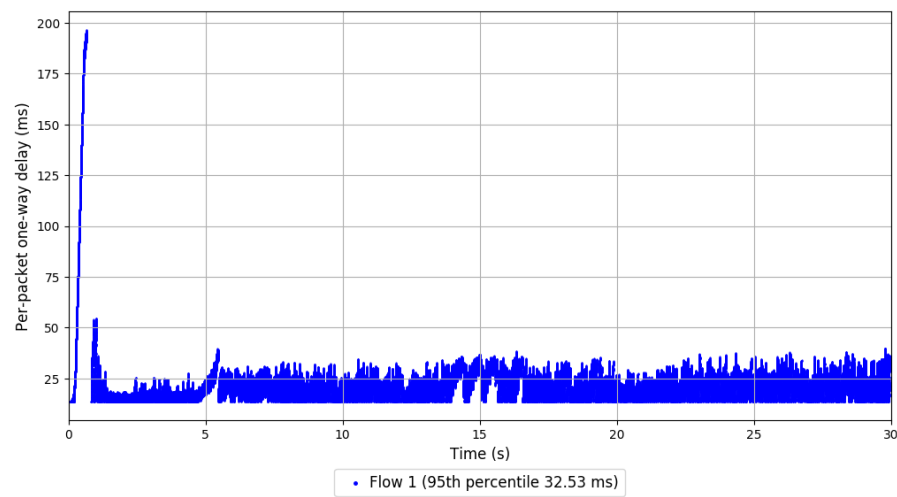
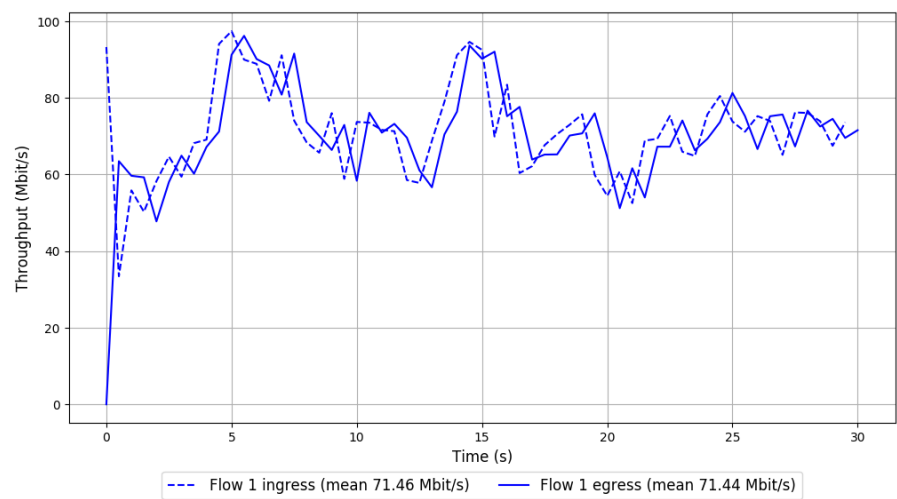


Run 3: Statistics of Verus

Start at: 2018-09-06 14:57:05
End at: 2018-09-06 14:57:35
Local clock offset: -1.191 ms
Remote clock offset: -4.672 ms

Below is generated by plot.py at 2018-09-06 16:07:44
Datalink statistics
-- Total of 1 flow:
Average throughput: 71.44 Mbit/s
95th percentile per-packet one-way delay: 32.531 ms
Loss rate: 0.10%
-- Flow 1:
Average throughput: 71.44 Mbit/s
95th percentile per-packet one-way delay: 32.531 ms
Loss rate: 0.10%

Run 3: Report of Verus — Data Link

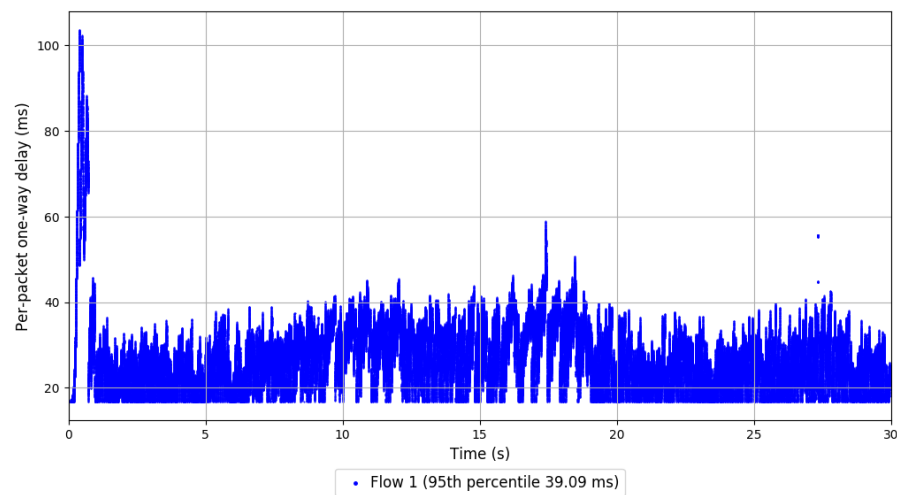
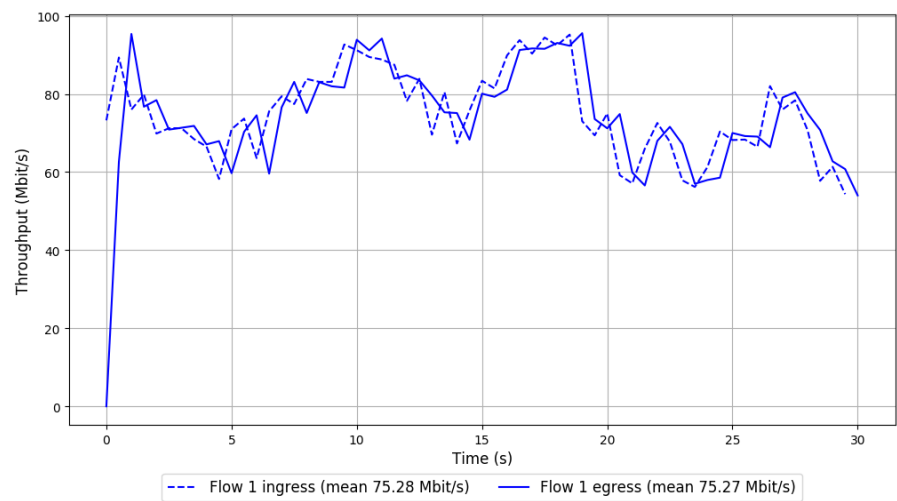


Run 4: Statistics of Verus

Start at: 2018-09-06 15:18:03
End at: 2018-09-06 15:18:33
Local clock offset: 1.695 ms
Remote clock offset: -5.187 ms

Below is generated by plot.py at 2018-09-06 16:07:44
Datalink statistics
-- Total of 1 flow:
Average throughput: 75.27 Mbit/s
95th percentile per-packet one-way delay: 39.085 ms
Loss rate: 0.06%
-- Flow 1:
Average throughput: 75.27 Mbit/s
95th percentile per-packet one-way delay: 39.085 ms
Loss rate: 0.06%

Run 4: Report of Verus — Data Link

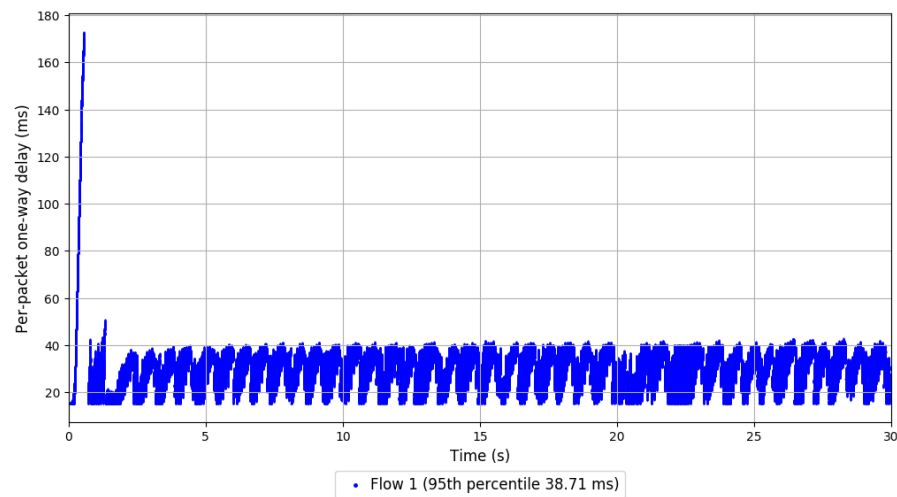
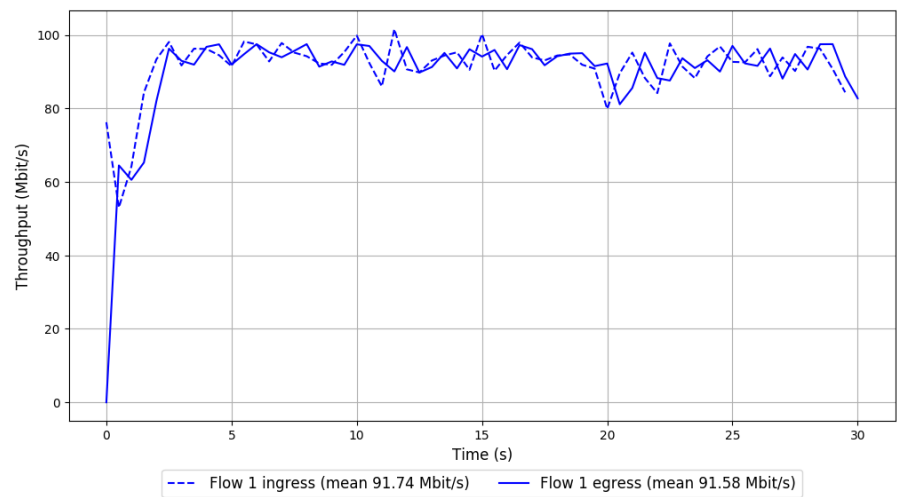


Run 5: Statistics of Verus

Start at: 2018-09-06 15:39:10
End at: 2018-09-06 15:39:40
Local clock offset: 3.184 ms
Remote clock offset: -2.079 ms

Below is generated by plot.py at 2018-09-06 16:08:04
Datalink statistics
-- Total of 1 flow:
Average throughput: 91.58 Mbit/s
95th percentile per-packet one-way delay: 38.711 ms
Loss rate: 0.25%
-- Flow 1:
Average throughput: 91.58 Mbit/s
95th percentile per-packet one-way delay: 38.711 ms
Loss rate: 0.25%

Run 5: Report of Verus — Data Link



Run 1: Statistics of PCC-Vivace

Start at: 2018-09-06 14:26:27

End at: 2018-09-06 14:26:57

Local clock offset: 2.339 ms

Remote clock offset: -3.995 ms

Below is generated by plot.py at 2018-09-06 16:08:13

Datalink statistics

-- Total of 1 flow:

Average throughput: 87.36 Mbit/s

95th percentile per-packet one-way delay: 108.772 ms

Loss rate: 0.16%

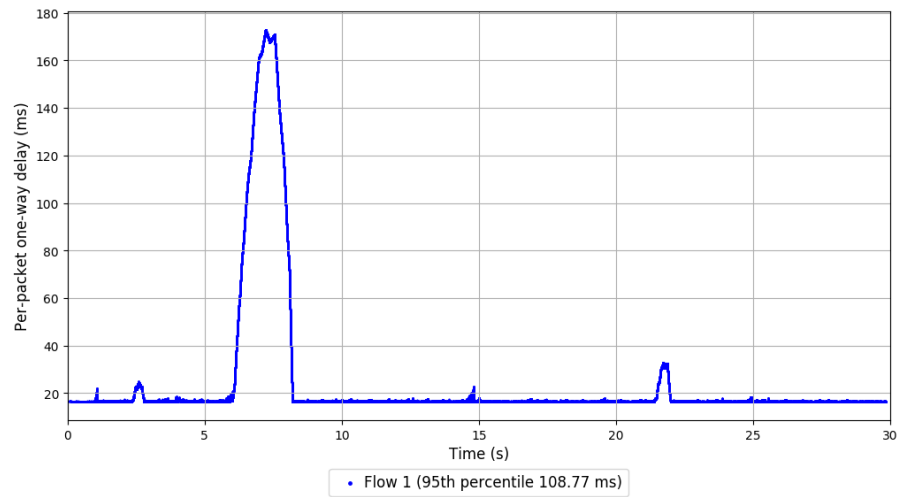
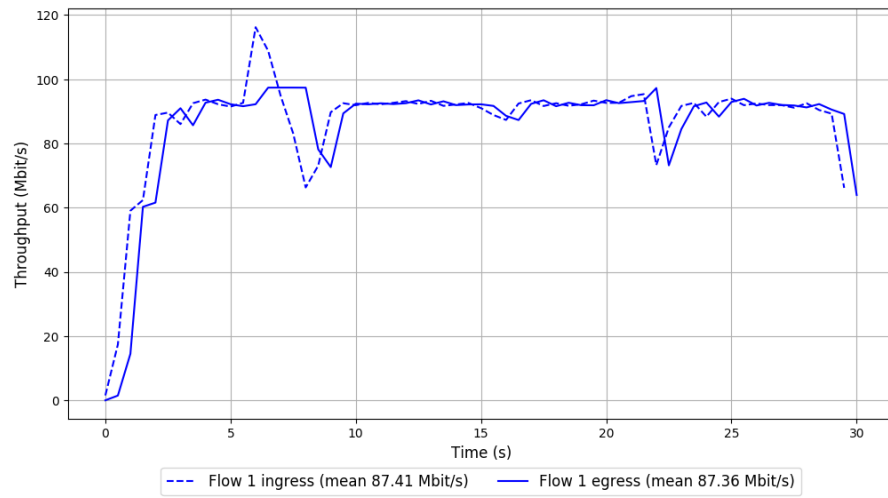
-- Flow 1:

Average throughput: 87.36 Mbit/s

95th percentile per-packet one-way delay: 108.772 ms

Loss rate: 0.16%

Run 1: Report of PCC-Vivace — Data Link

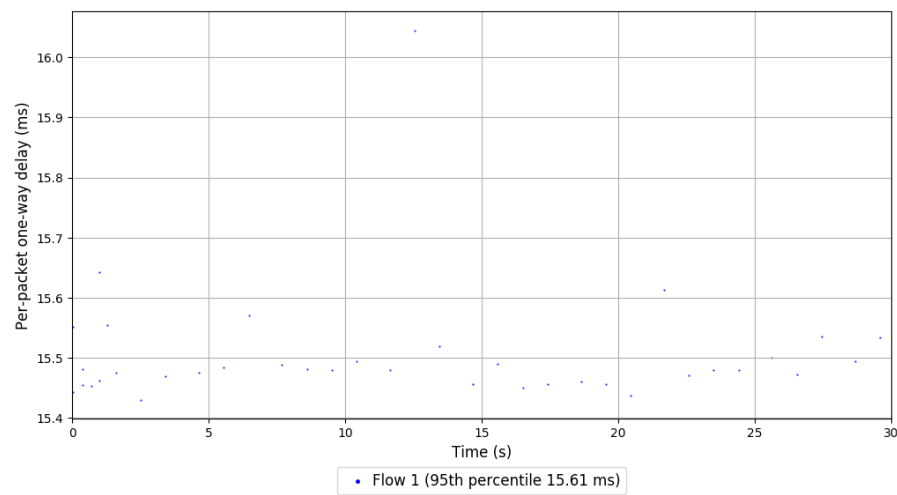
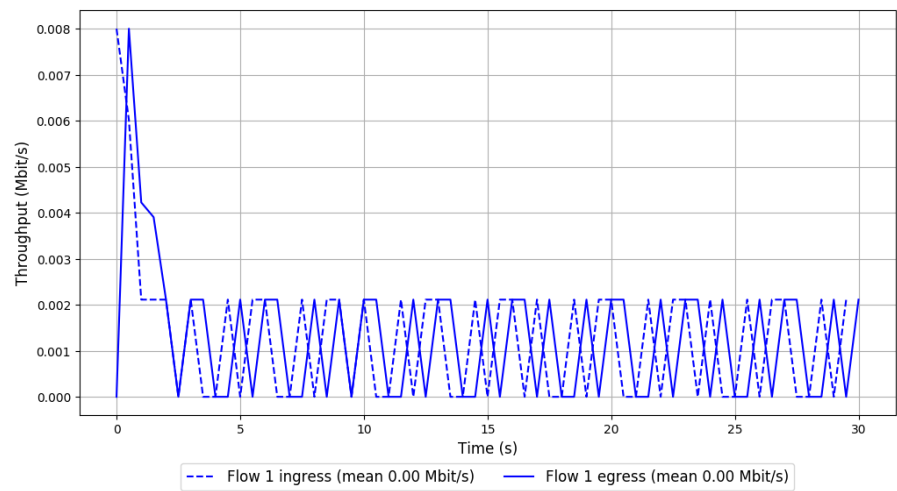


Run 2: Statistics of PCC-Vivace

Start at: 2018-09-06 14:48:08
End at: 2018-09-06 14:48:38
Local clock offset: 1.943 ms
Remote clock offset: -3.865 ms

Below is generated by plot.py at 2018-09-06 16:08:13
Datalink statistics
-- Total of 1 flow:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 15.613 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 15.613 ms
Loss rate: 0.00%

Run 2: Report of PCC-Vivace — Data Link



Run 3: Statistics of PCC-Vivace

Start at: 2018-09-06 15:09:06

End at: 2018-09-06 15:09:36

Local clock offset: 4.168 ms

Remote clock offset: -4.573 ms

Below is generated by plot.py at 2018-09-06 16:08:18

Datalink statistics

-- Total of 1 flow:

Average throughput: 84.89 Mbit/s

95th percentile per-packet one-way delay: 19.178 ms

Loss rate: 0.08%

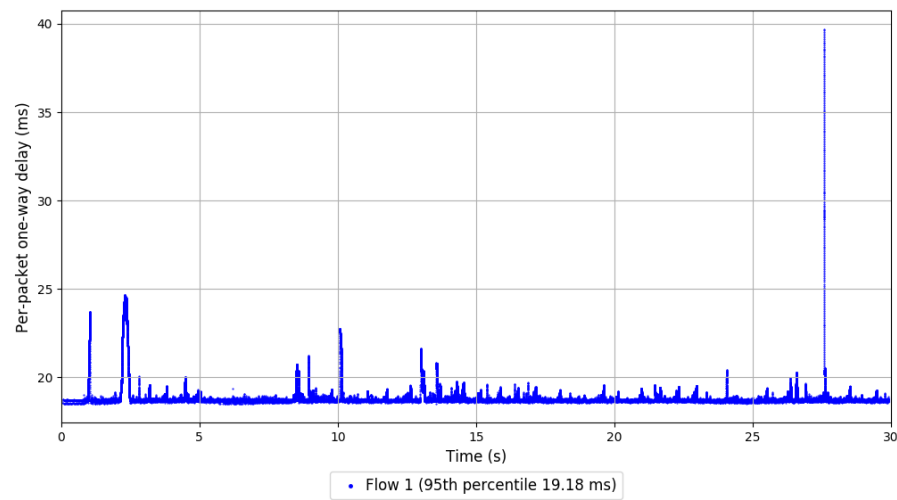
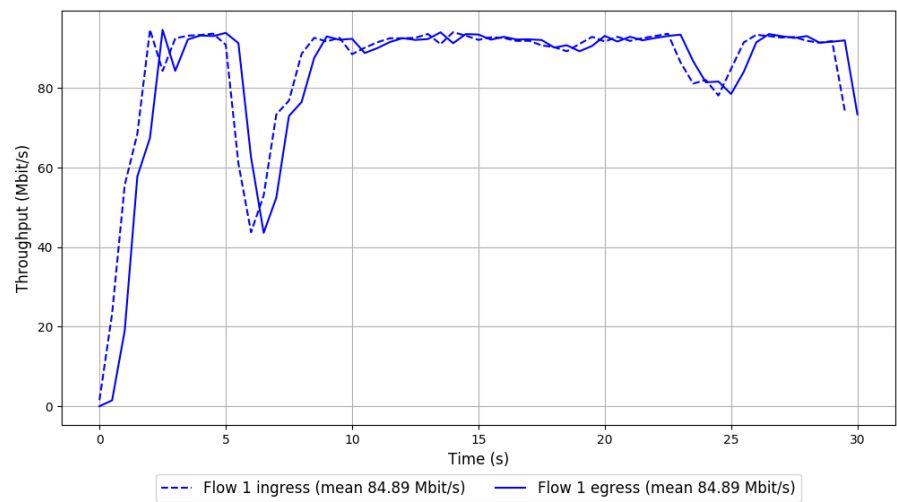
-- Flow 1:

Average throughput: 84.89 Mbit/s

95th percentile per-packet one-way delay: 19.178 ms

Loss rate: 0.08%

Run 3: Report of PCC-Vivace — Data Link

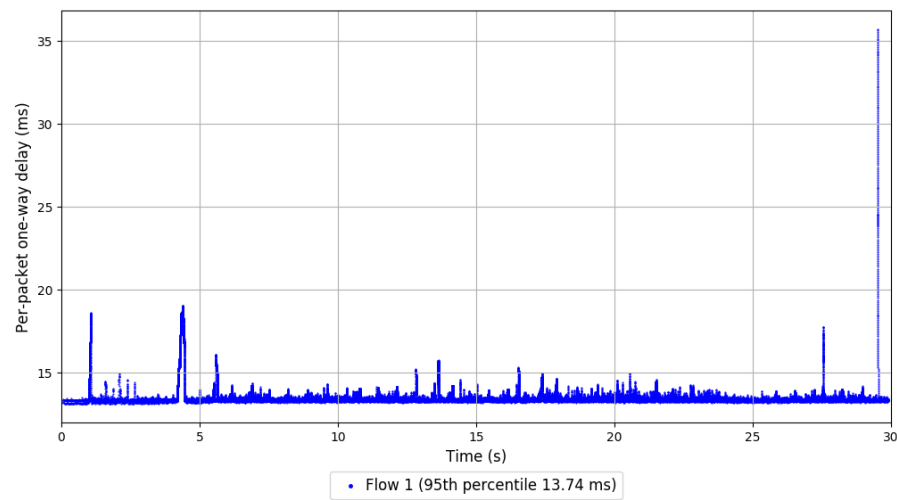
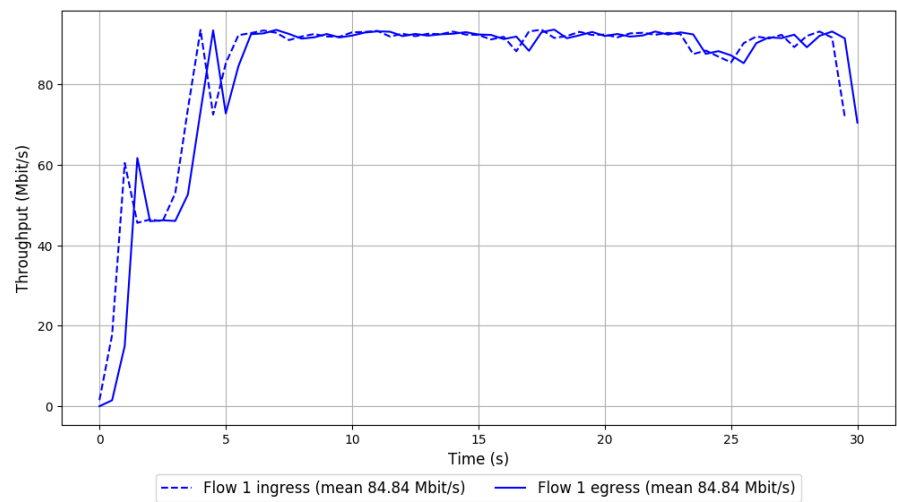


Run 4: Statistics of PCC-Vivace

Start at: 2018-09-06 15:29:58
End at: 2018-09-06 15:30:28
Local clock offset: -0.649 ms
Remote clock offset: -4.041 ms

Below is generated by plot.py at 2018-09-06 16:08:18
Datalink statistics
-- Total of 1 flow:
Average throughput: 84.84 Mbit/s
95th percentile per-packet one-way delay: 13.743 ms
Loss rate: 0.08%
-- Flow 1:
Average throughput: 84.84 Mbit/s
95th percentile per-packet one-way delay: 13.743 ms
Loss rate: 0.08%

Run 4: Report of PCC-Vivace — Data Link



Run 5: Statistics of PCC-Vivace

Start at: 2018-09-06 15:50:53

End at: 2018-09-06 15:51:23

Local clock offset: 0.53 ms

Remote clock offset: -4.819 ms

Below is generated by plot.py at 2018-09-06 16:08:19

Datalink statistics

-- Total of 1 flow:

Average throughput: 85.02 Mbit/s

95th percentile per-packet one-way delay: 15.882 ms

Loss rate: 0.09%

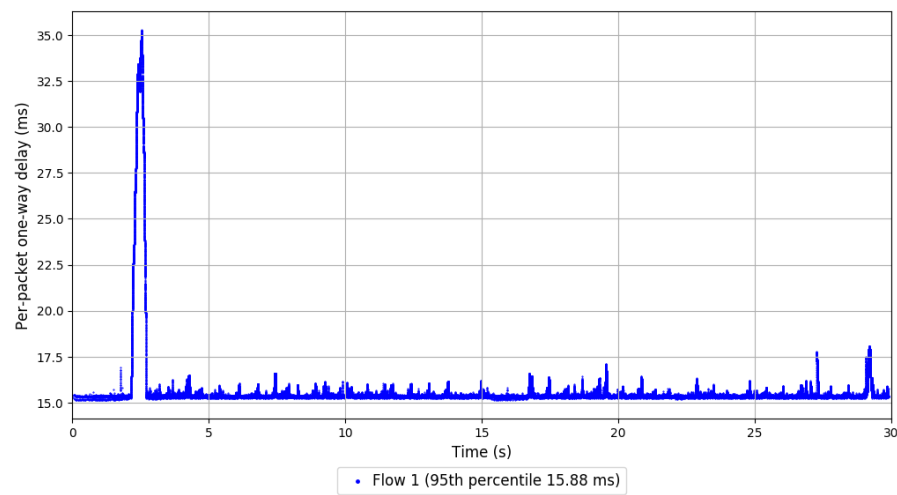
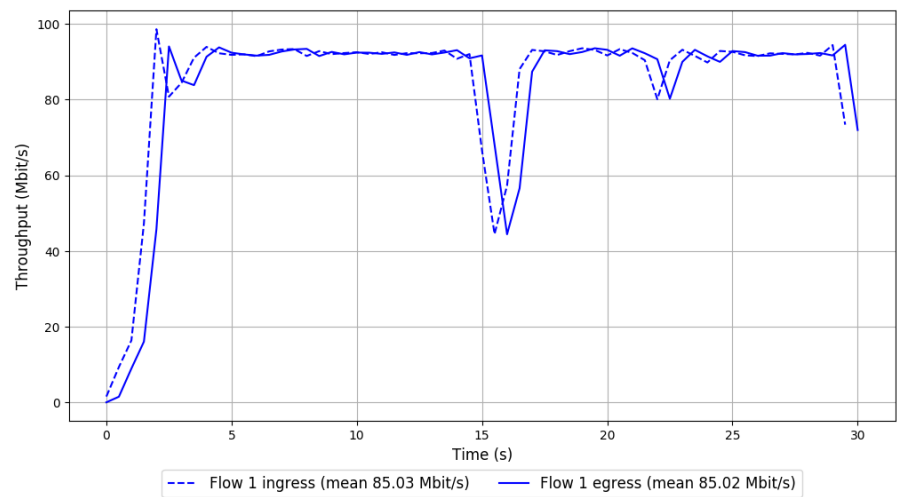
-- Flow 1:

Average throughput: 85.02 Mbit/s

95th percentile per-packet one-way delay: 15.882 ms

Loss rate: 0.09%

Run 5: Report of PCC-Vivace — Data Link



Run 1: Statistics of WebRTC media

Start at: 2018-09-06 14:28:47

End at: 2018-09-06 14:29:17

Local clock offset: 2.523 ms

Remote clock offset: -4.14 ms

Below is generated by plot.py at 2018-09-06 16:08:19

Datalink statistics

-- Total of 1 flow:

Average throughput: 2.42 Mbit/s

95th percentile per-packet one-way delay: 17.251 ms

Loss rate: 0.13%

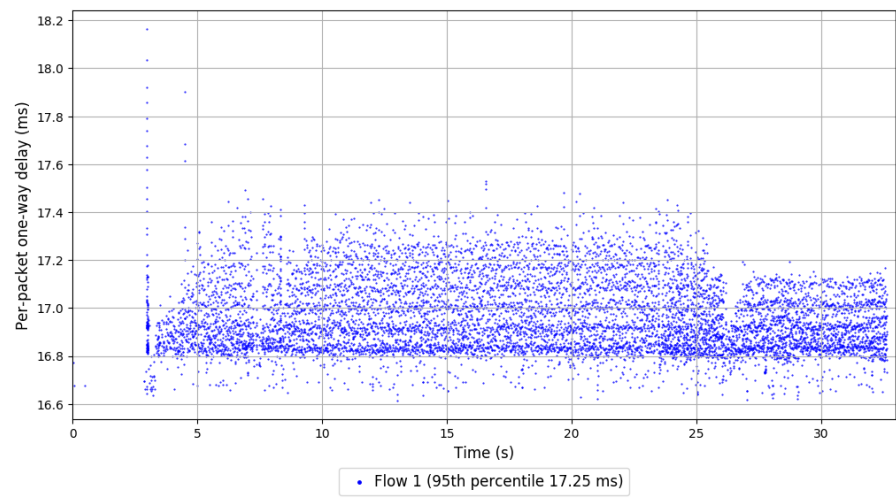
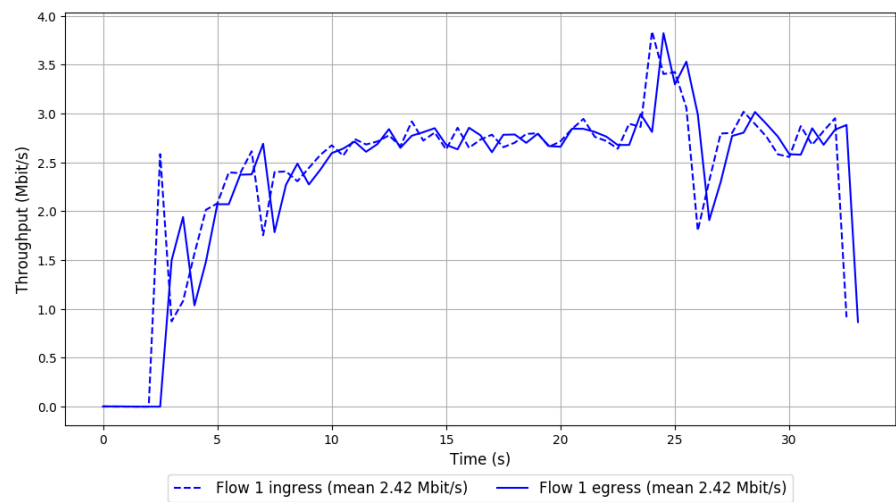
-- Flow 1:

Average throughput: 2.42 Mbit/s

95th percentile per-packet one-way delay: 17.251 ms

Loss rate: 0.13%

Run 1: Report of WebRTC media — Data Link

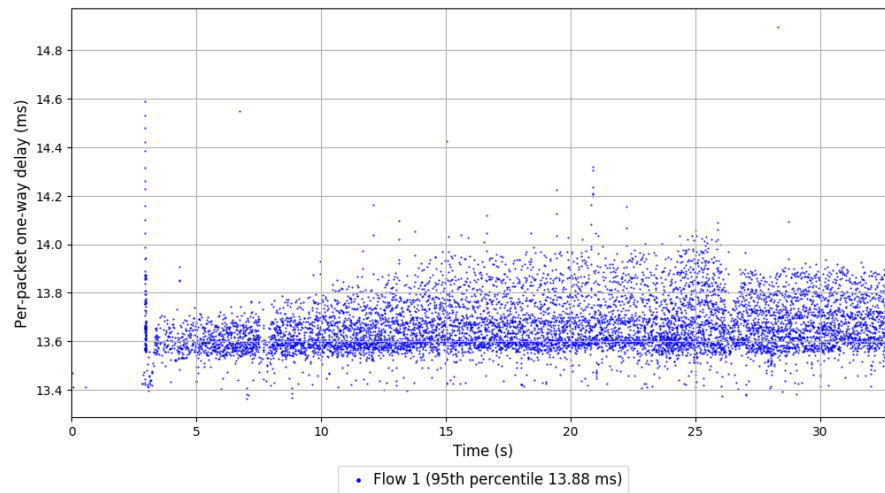
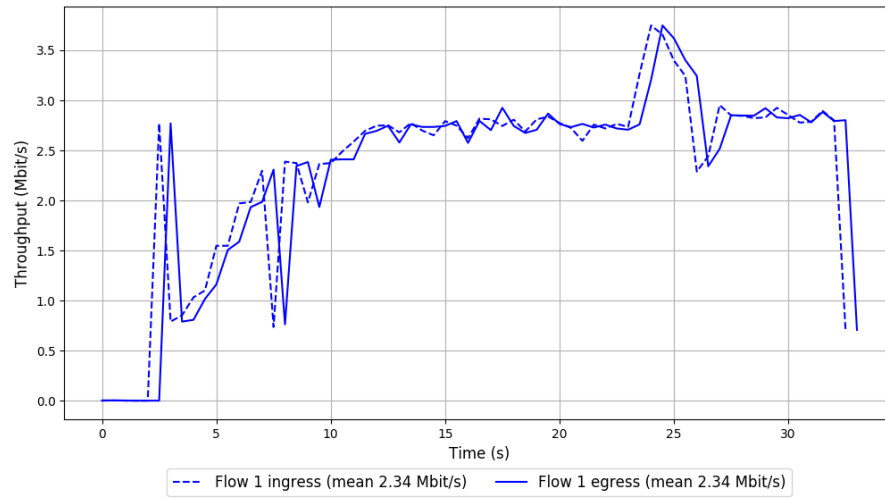


Run 2: Statistics of WebRTC media

Start at: 2018-09-06 14:50:18
End at: 2018-09-06 14:50:48
Local clock offset: -0.671 ms
Remote clock offset: -4.342 ms

Below is generated by plot.py at 2018-09-06 16:08:19
Datalink statistics
-- Total of 1 flow:
Average throughput: 2.34 Mbit/s
95th percentile per-packet one-way delay: 13.877 ms
Loss rate: 0.07%
-- Flow 1:
Average throughput: 2.34 Mbit/s
95th percentile per-packet one-way delay: 13.877 ms
Loss rate: 0.07%

Run 2: Report of WebRTC media — Data Link

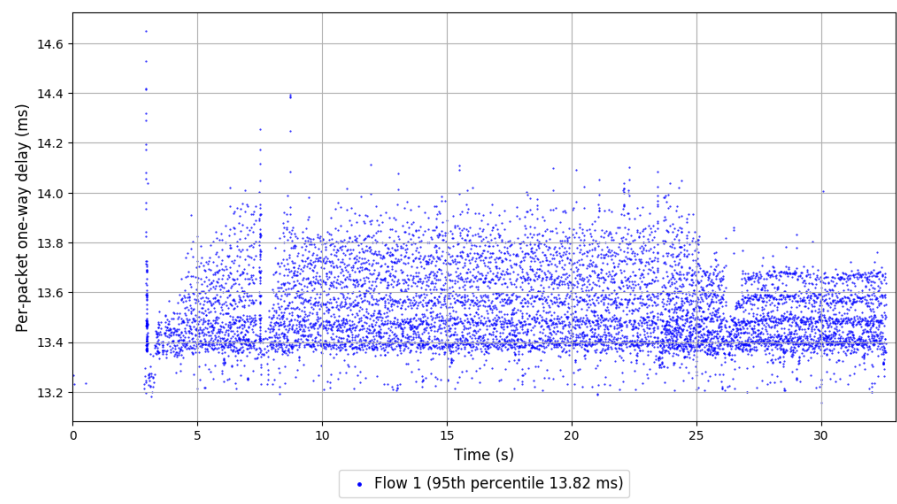
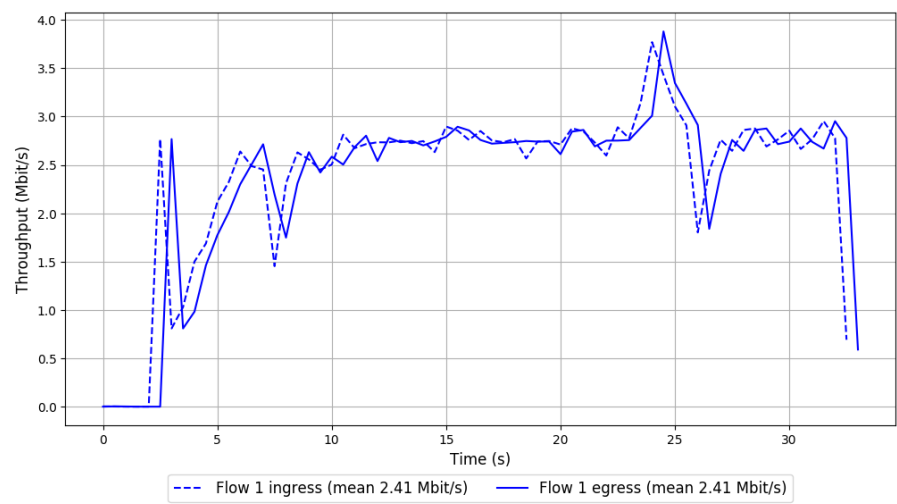


Run 3: Statistics of WebRTC media

Start at: 2018-09-06 15:11:20
End at: 2018-09-06 15:11:50
Local clock offset: -1.192 ms
Remote clock offset: -4.647 ms

Below is generated by plot.py at 2018-09-06 16:08:19
Datalink statistics
-- Total of 1 flow:
Average throughput: 2.41 Mbit/s
95th percentile per-packet one-way delay: 13.825 ms
Loss rate: 0.12%
-- Flow 1:
Average throughput: 2.41 Mbit/s
95th percentile per-packet one-way delay: 13.825 ms
Loss rate: 0.12%

Run 3: Report of WebRTC media — Data Link

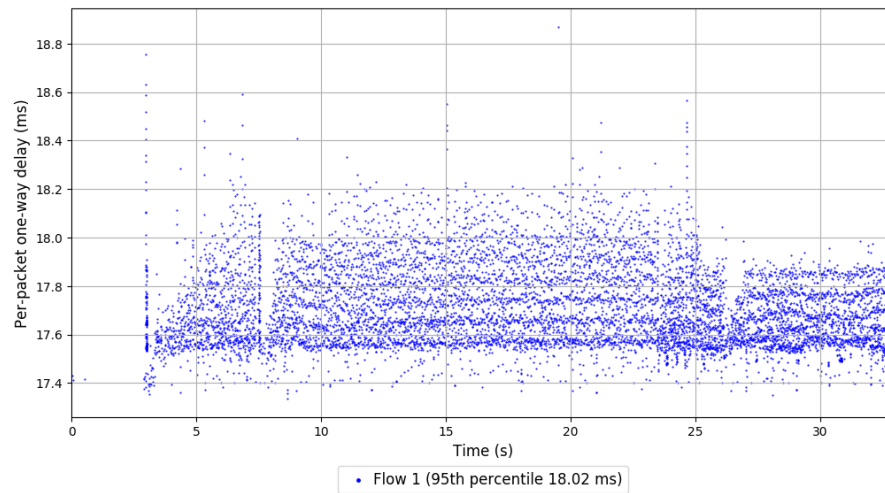
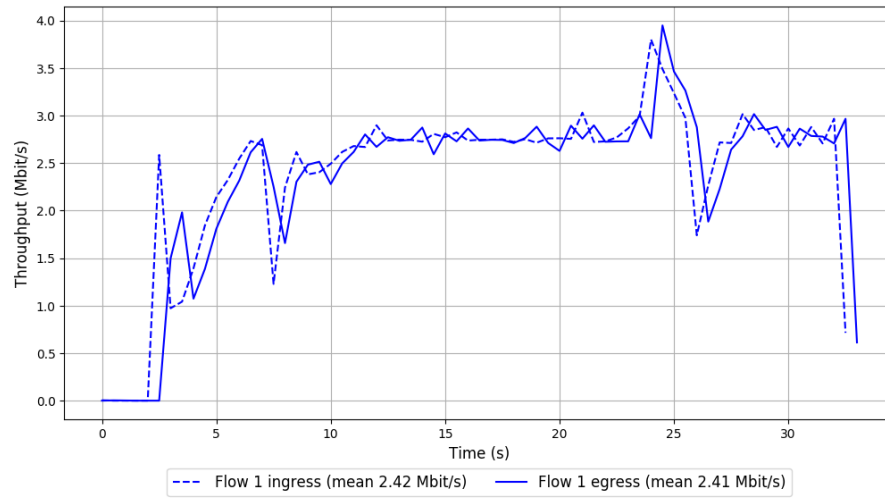


Run 4: Statistics of WebRTC media

Start at: 2018-09-06 15:32:15
End at: 2018-09-06 15:32:45
Local clock offset: 3.074 ms
Remote clock offset: -4.534 ms

Below is generated by plot.py at 2018-09-06 16:08:19
Datalink statistics
-- Total of 1 flow:
Average throughput: 2.41 Mbit/s
95th percentile per-packet one-way delay: 18.020 ms
Loss rate: 0.13%
-- Flow 1:
Average throughput: 2.41 Mbit/s
95th percentile per-packet one-way delay: 18.020 ms
Loss rate: 0.13%

Run 4: Report of WebRTC media — Data Link



Run 5: Statistics of WebRTC media

Start at: 2018-09-06 15:53:08
End at: 2018-09-06 15:53:38
Local clock offset: 1.972 ms
Remote clock offset: -3.868 ms

Below is generated by plot.py at 2018-09-06 16:08:19
Datalink statistics
-- Total of 1 flow:
Average throughput: 2.42 Mbit/s
95th percentile per-packet one-way delay: 16.304 ms
Loss rate: 0.12%
-- Flow 1:
Average throughput: 2.42 Mbit/s
95th percentile per-packet one-way delay: 16.304 ms
Loss rate: 0.12%

Run 5: Report of WebRTC media — Data Link

