

Pantheon Report

Generated at 2018-09-06 16:07:00 (UTC).

Data path: Colombia on **p4p1** (*remote*) → AWS Brazil 2 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 **gps.ntp.br** and have been applied to correct the timestamps in logs.

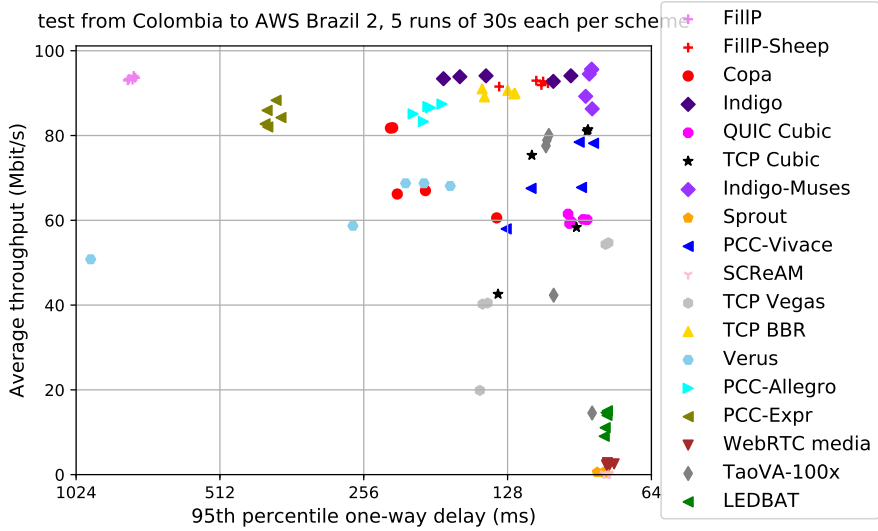
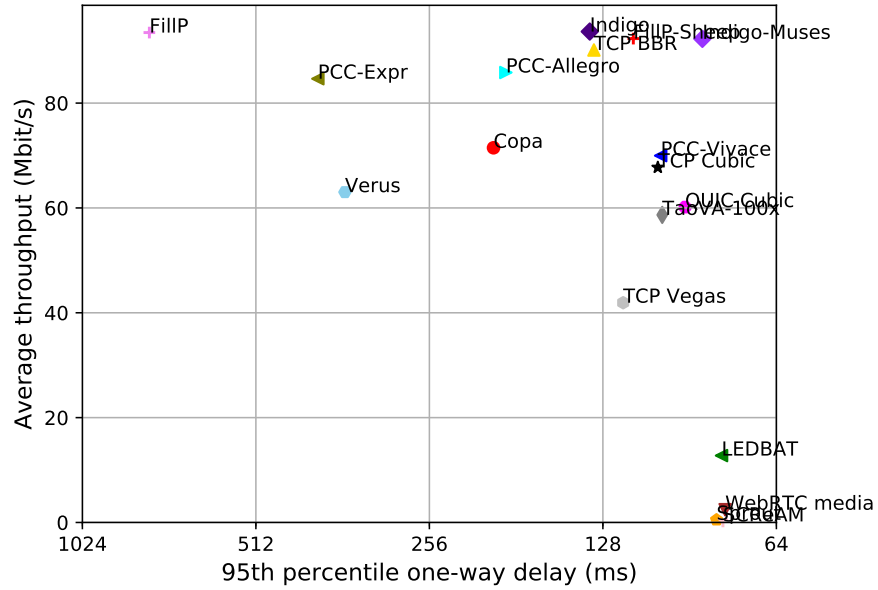
System info:

```
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 @ d0153f8e594aa89e93b032143cedbdf5e562f4
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 Colombia to AWS Brazil 2, 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	90.13	132.67	1.13
Copa	5	71.48	198.14	0.78
TCP Cubic	5	67.73	102.78	0.77
FillP	5	93.45	783.59	4.35
FillP-Sheep	5	92.30	113.34	1.89
Indigo	5	93.65	134.90	1.48
LEDBAT	5	12.76	79.69	0.79
Indigo-Muses	5	92.25	86.02	0.93
PCC-Allegro	5	85.84	188.58	1.10
PCC-Expr	5	84.65	399.76	1.58
QUIC Cubic	5	60.16	92.20	0.81
SCReAM	5	0.20	79.24	0.52
Sprout	3	0.51	81.30	0.42
TaoVA-100x	5	58.67	100.98	0.84
TCP Vegas	5	41.92	118.04	0.59
Verus	5	63.02	358.74	0.89
PCC-Vivace	5	69.98	101.63	1.08
WebRTC media	5	2.43	78.55	0.50

Run 1: Statistics of TCP BBR

Start at: 2018-09-06 14:22:30

End at: 2018-09-06 14:23:00

Local clock offset: 4.844 ms

Remote clock offset: 0.712 ms

Below is generated by plot.py at 2018-09-06 15:57:59

Datalink statistics

-- Total of 1 flow:

Average throughput: 89.15 Mbit/s

95th percentile per-packet one-way delay: 143.049 ms

Loss rate: 2.01%

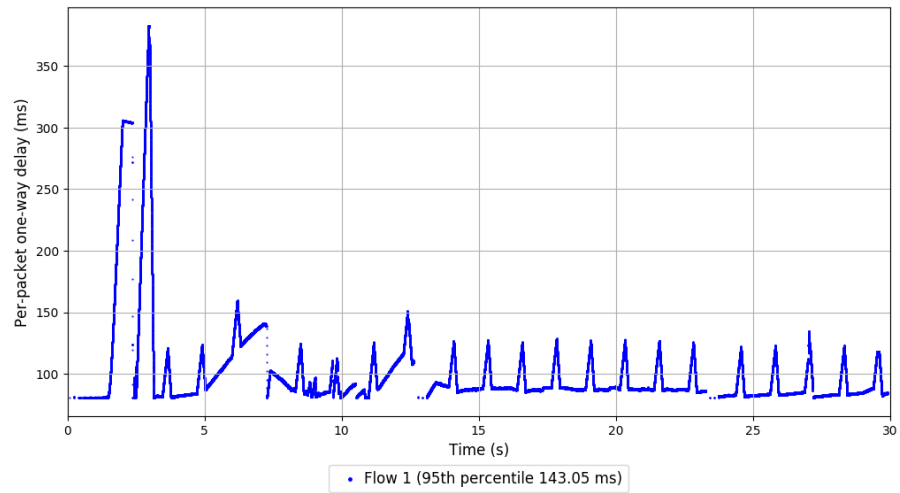
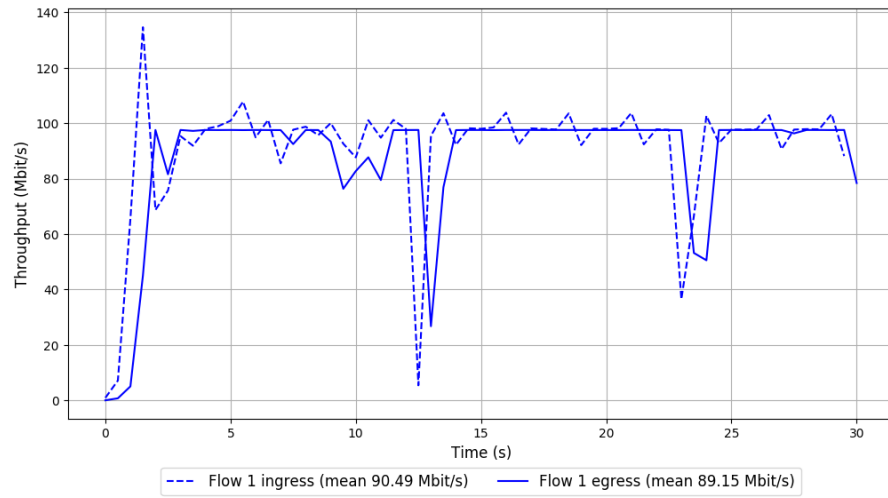
-- Flow 1:

Average throughput: 89.15 Mbit/s

95th percentile per-packet one-way delay: 143.049 ms

Loss rate: 2.01%

Run 1: Report of TCP BBR — Data Link



Run 2: Statistics of TCP BBR

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

End at: 2018-09-06 14:44:23

Local clock offset: 4.38 ms

Remote clock offset: 1.39 ms

Below is generated by plot.py at 2018-09-06 15:57:59

Datalink statistics

-- Total of 1 flow:

Average throughput: 91.03 Mbit/s

95th percentile per-packet one-way delay: 144.692 ms

Loss rate: 0.73%

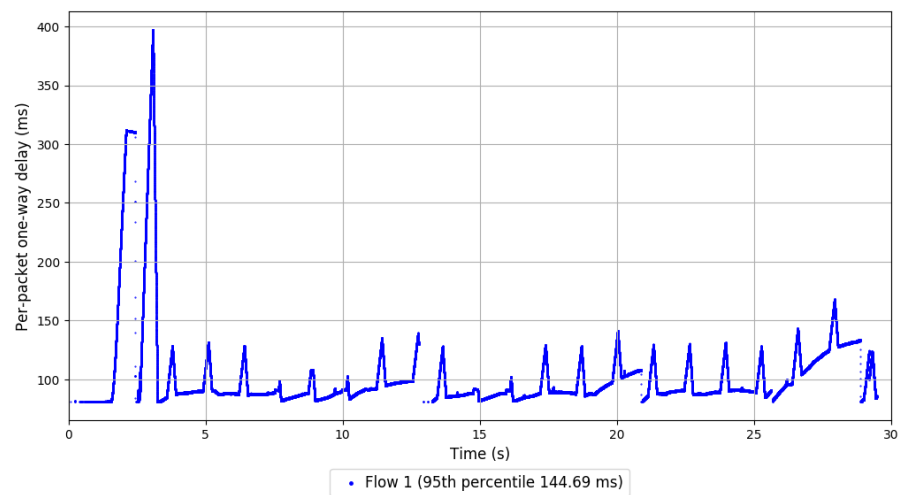
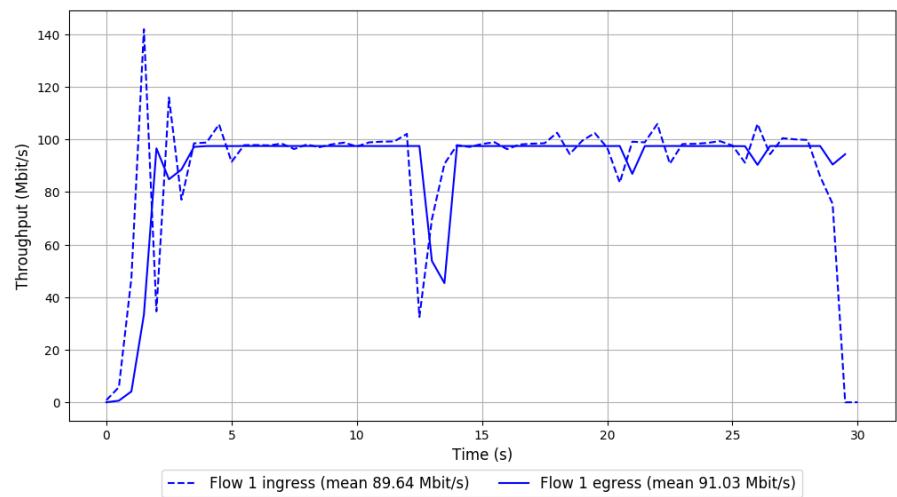
-- Flow 1:

Average throughput: 91.03 Mbit/s

95th percentile per-packet one-way delay: 144.692 ms

Loss rate: 0.73%

Run 2: Report of TCP BBR — Data Link



Run 3: Statistics of TCP BBR

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

End at: 2018-09-06 15:05:35

Local clock offset: 3.798 ms

Remote clock offset: 0.577 ms

Below is generated by plot.py at 2018-09-06 15:58:07

Datalink statistics

-- Total of 1 flow:

Average throughput: 90.68 Mbit/s

95th percentile per-packet one-way delay: 127.794 ms

Loss rate: 1.27%

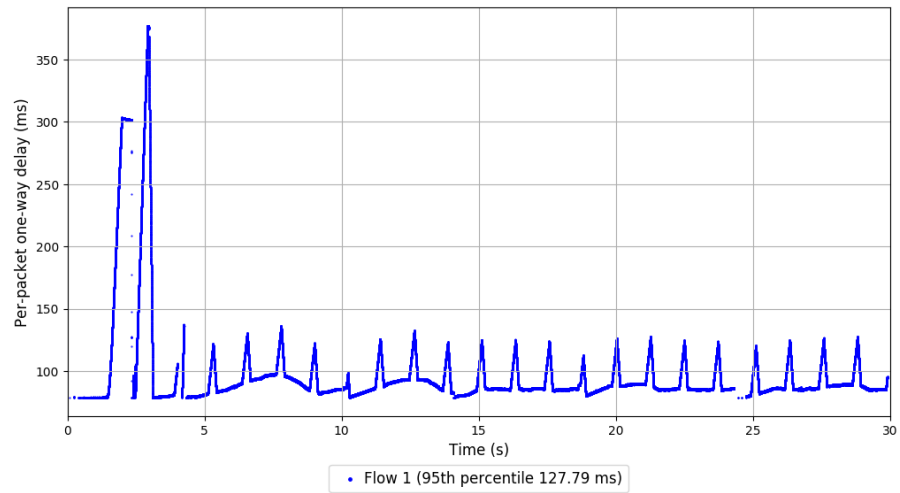
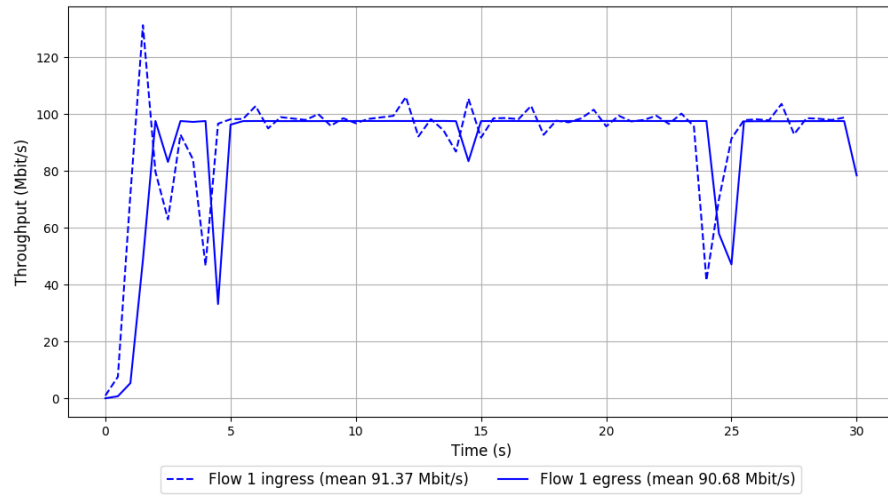
-- Flow 1:

Average throughput: 90.68 Mbit/s

95th percentile per-packet one-way delay: 127.794 ms

Loss rate: 1.27%

Run 3: Report of TCP BBR — Data Link



Run 4: Statistics of TCP BBR

Start at: 2018-09-06 15:26:47

End at: 2018-09-06 15:27:17

Local clock offset: 4.537 ms

Remote clock offset: 3.17 ms

Below is generated by plot.py at 2018-09-06 15:58:07

Datalink statistics

-- Total of 1 flow:

Average throughput: 89.82 Mbit/s

95th percentile per-packet one-way delay: 124.246 ms

Loss rate: 0.86%

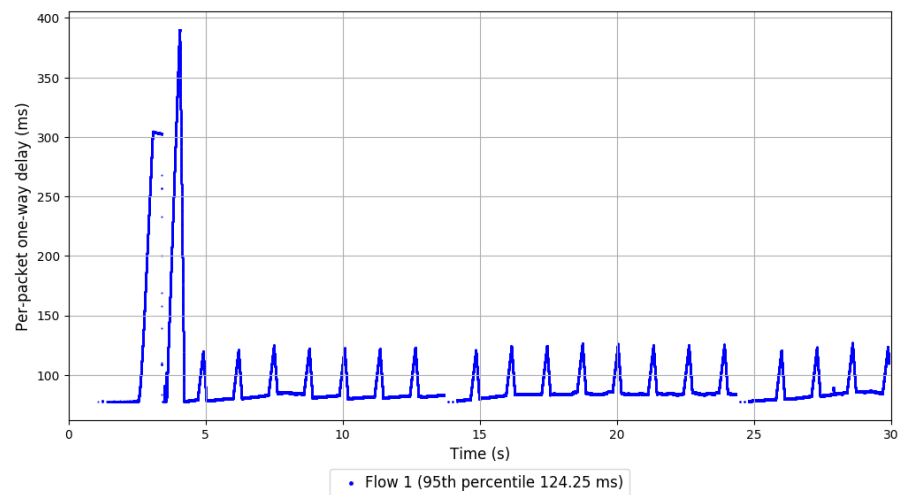
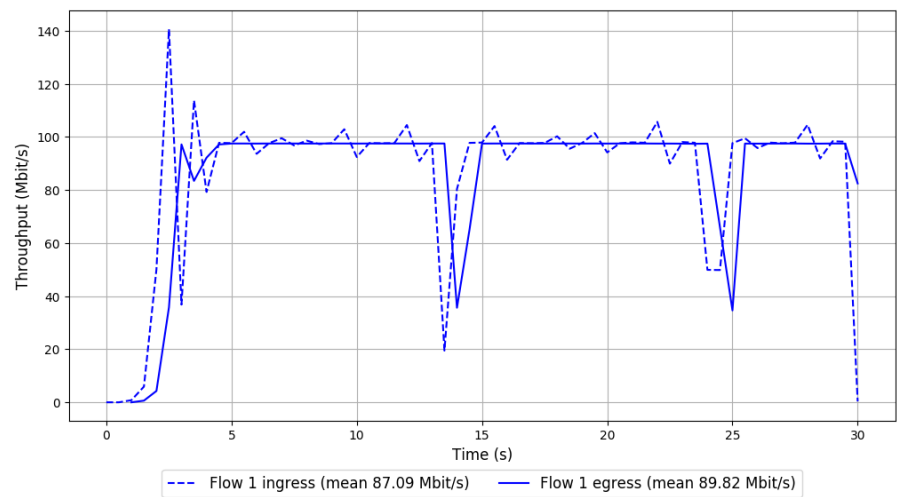
-- Flow 1:

Average throughput: 89.82 Mbit/s

95th percentile per-packet one-way delay: 124.246 ms

Loss rate: 0.86%

Run 4: Report of TCP BBR — Data Link



Run 5: Statistics of TCP BBR

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

End at: 2018-09-06 15:48:33

Local clock offset: 4.42 ms

Remote clock offset: 3.422 ms

Below is generated by plot.py at 2018-09-06 15:58:07

Datalink statistics

-- Total of 1 flow:

Average throughput: 89.98 Mbit/s

95th percentile per-packet one-way delay: 123.561 ms

Loss rate: 0.77%

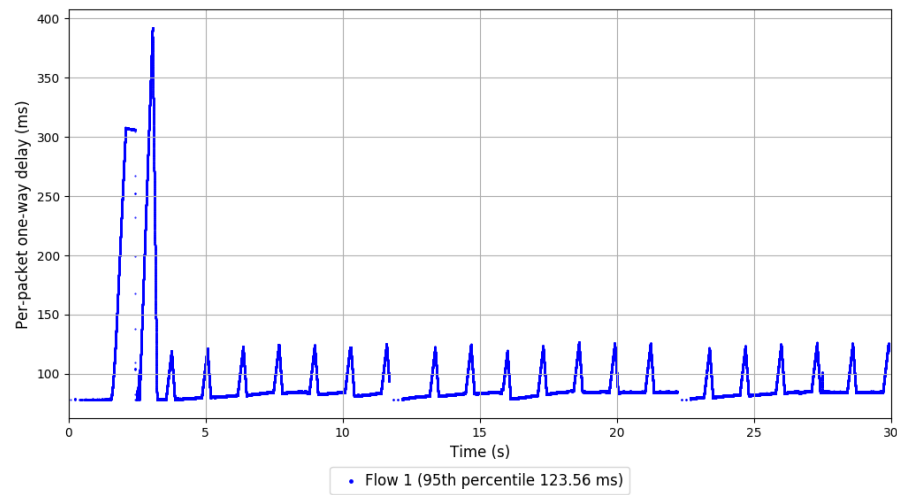
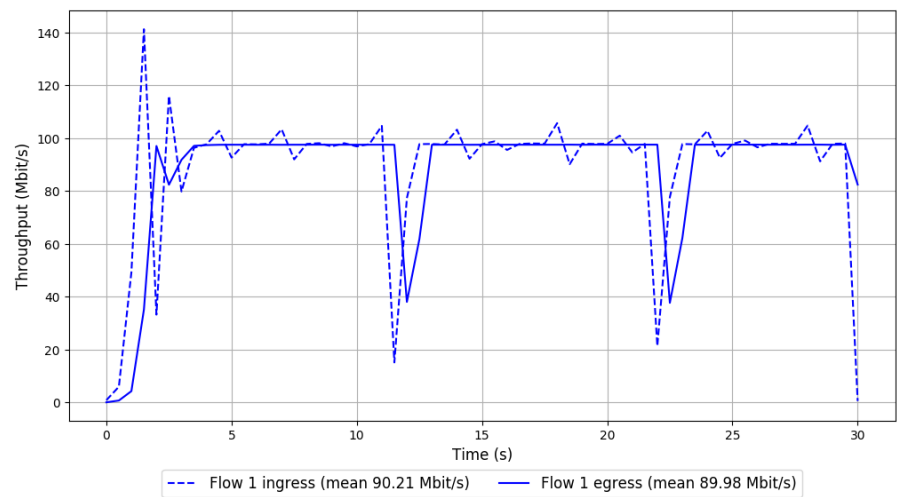
-- Flow 1:

Average throughput: 89.98 Mbit/s

95th percentile per-packet one-way delay: 123.561 ms

Loss rate: 0.77%

Run 5: Report of TCP BBR — Data Link



Run 1: Statistics of Copa

Start at: 2018-09-06 14:20:05

End at: 2018-09-06 14:20:36

Local clock offset: 4.162 ms

Remote clock offset: 0.747 ms

Below is generated by plot.py at 2018-09-06 15:58:47

Datalink statistics

-- Total of 1 flow:

Average throughput: 81.84 Mbit/s

95th percentile per-packet one-way delay: 222.663 ms

Loss rate: 0.66%

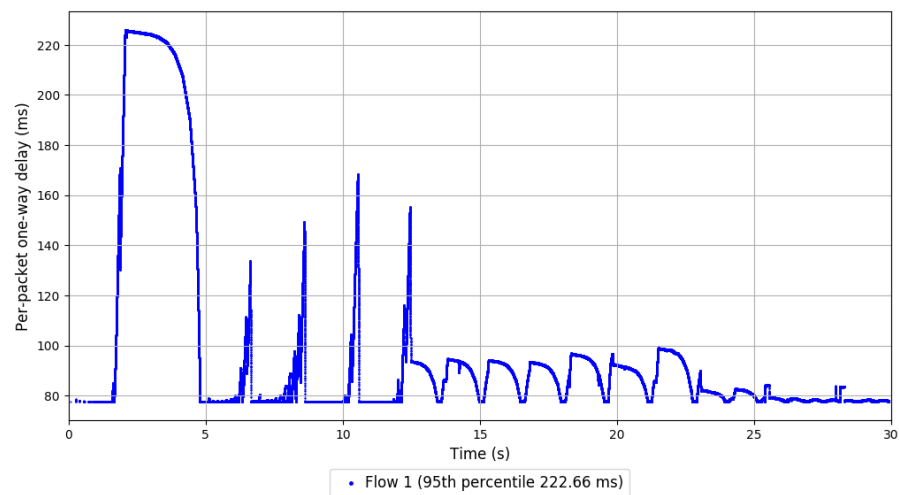
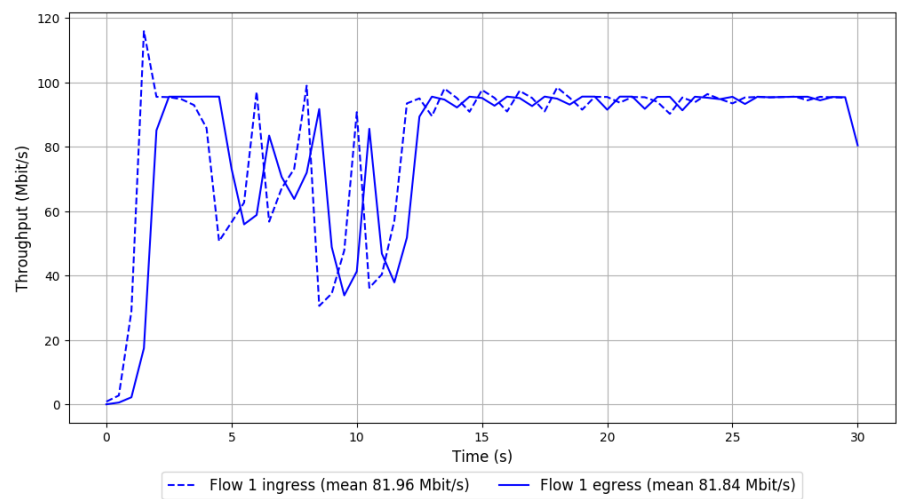
-- Flow 1:

Average throughput: 81.84 Mbit/s

95th percentile per-packet one-way delay: 222.663 ms

Loss rate: 0.66%

Run 1: Report of Copa — Data Link



Run 2: Statistics of Copa

Start at: 2018-09-06 14:41:29

End at: 2018-09-06 14:41:59

Local clock offset: 4.333 ms

Remote clock offset: 1.216 ms

Below is generated by plot.py at 2018-09-06 15:58:47

Datalink statistics

-- Total of 1 flow:

Average throughput: 66.20 Mbit/s

95th percentile per-packet one-way delay: 217.817 ms

Loss rate: 0.99%

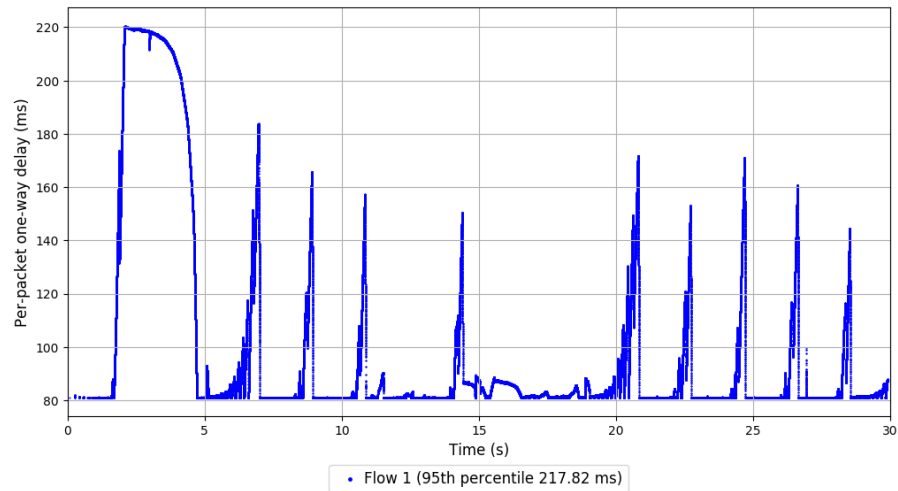
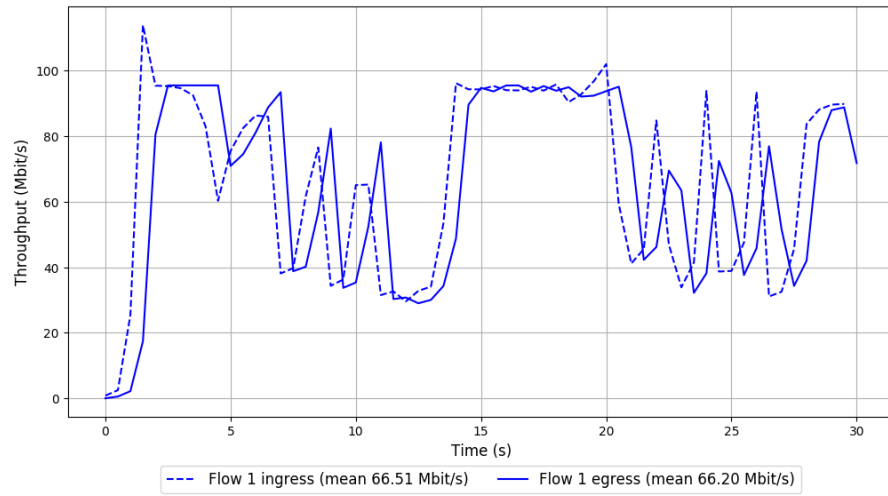
-- Flow 1:

Average throughput: 66.20 Mbit/s

95th percentile per-packet one-way delay: 217.817 ms

Loss rate: 0.99%

Run 2: Report of Copa — Data Link



Run 3: Statistics of Copa

Start at: 2018-09-06 15:02:42

End at: 2018-09-06 15:03:12

Local clock offset: 3.847 ms

Remote clock offset: 2.5 ms

Below is generated by plot.py at 2018-09-06 15:58:47

Datalink statistics

-- Total of 1 flow:

Average throughput: 67.01 Mbit/s

95th percentile per-packet one-way delay: 190.182 ms

Loss rate: 0.75%

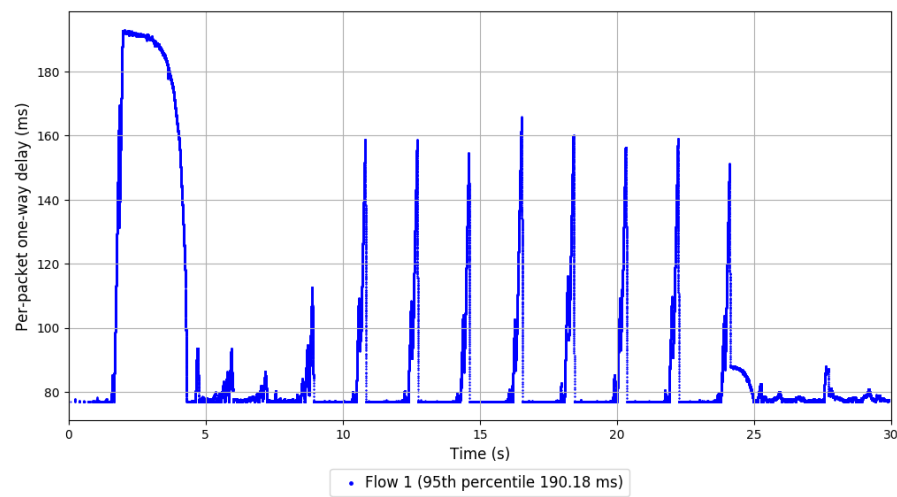
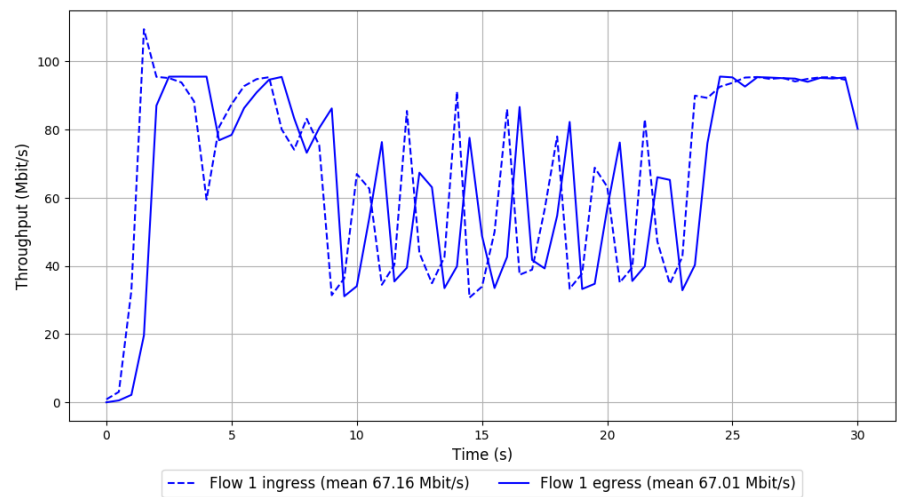
-- Flow 1:

Average throughput: 67.01 Mbit/s

95th percentile per-packet one-way delay: 190.182 ms

Loss rate: 0.75%

Run 3: Report of Copa — Data Link



Run 4: Statistics of Copa

Start at: 2018-09-06 15:24:05

End at: 2018-09-06 15:24:35

Local clock offset: 3.783 ms

Remote clock offset: 0.745 ms

Below is generated by plot.py at 2018-09-06 15:59:45

Datalink statistics

-- Total of 1 flow:

Average throughput: 81.76 Mbit/s

95th percentile per-packet one-way delay: 225.105 ms

Loss rate: 0.55%

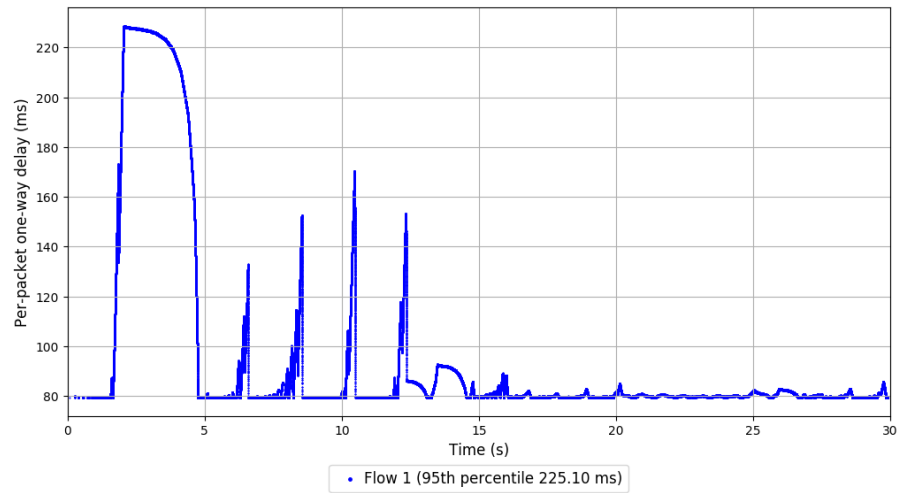
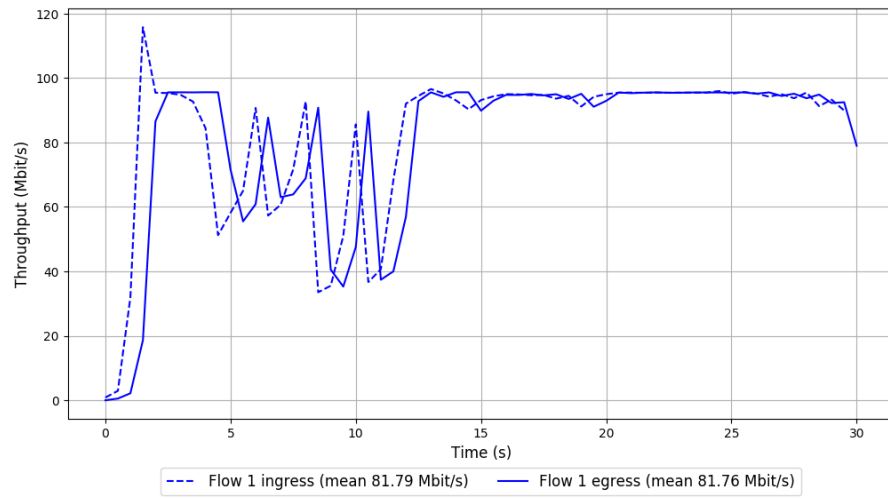
-- Flow 1:

Average throughput: 81.76 Mbit/s

95th percentile per-packet one-way delay: 225.105 ms

Loss rate: 0.55%

Run 4: Report of Copa — Data Link



Run 5: Statistics of Copa

Start at: 2018-09-06 15:45:39

End at: 2018-09-06 15:46:09

Local clock offset: 3.751 ms

Remote clock offset: 2.088 ms

Below is generated by plot.py at 2018-09-06 15:59:45

Datalink statistics

-- Total of 1 flow:

Average throughput: 60.57 Mbit/s

95th percentile per-packet one-way delay: 134.913 ms

Loss rate: 0.93%

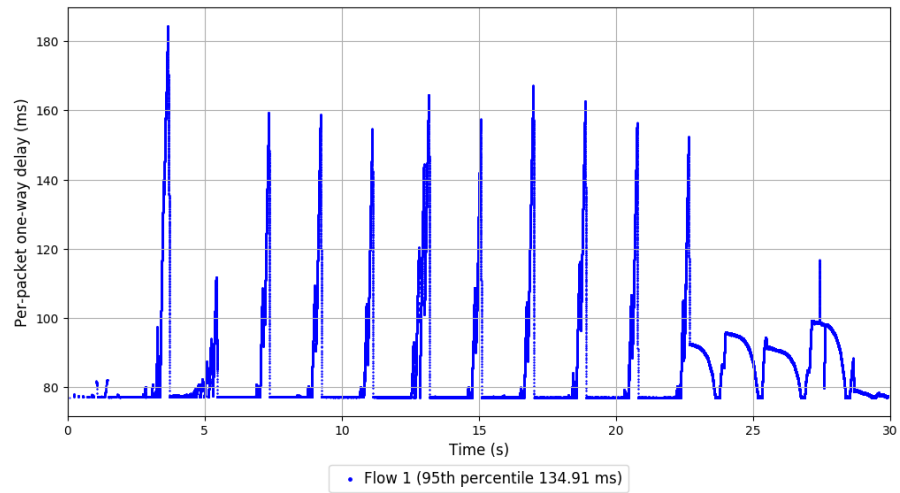
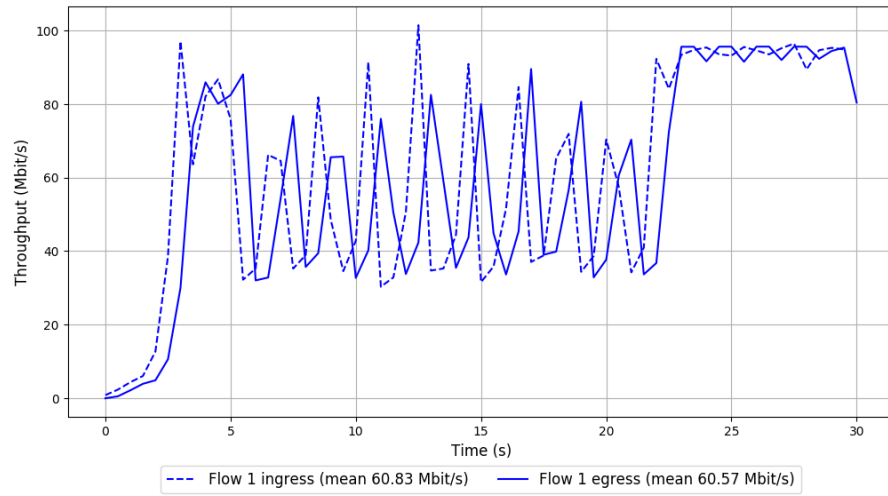
-- Flow 1:

Average throughput: 60.57 Mbit/s

95th percentile per-packet one-way delay: 134.913 ms

Loss rate: 0.93%

Run 5: Report of Copa — Data Link



Run 1: Statistics of TCP Cubic

Start at: 2018-09-06 14:21:20

End at: 2018-09-06 14:21:50

Local clock offset: 4.142 ms

Remote clock offset: 0.801 ms

Below is generated by plot.py at 2018-09-06 15:59:45

Datalink statistics

-- Total of 1 flow:

Average throughput: 58.35 Mbit/s

95th percentile per-packet one-way delay: 91.845 ms

Loss rate: 0.73%

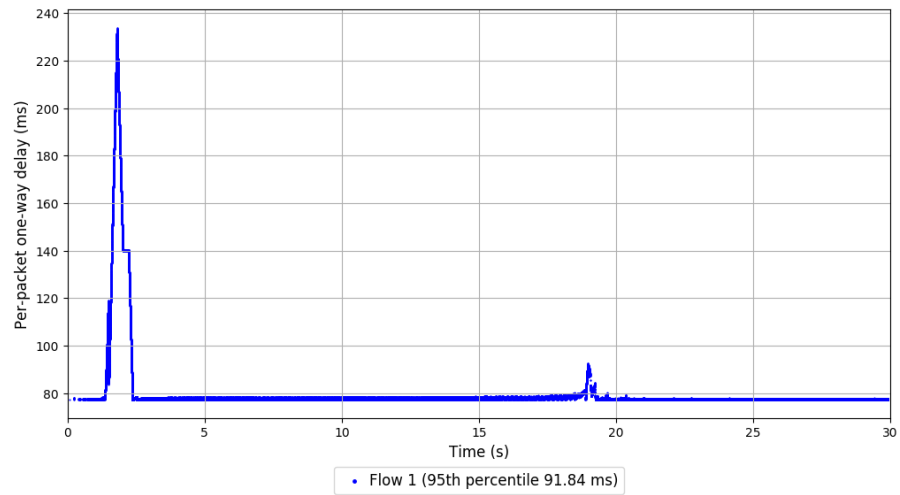
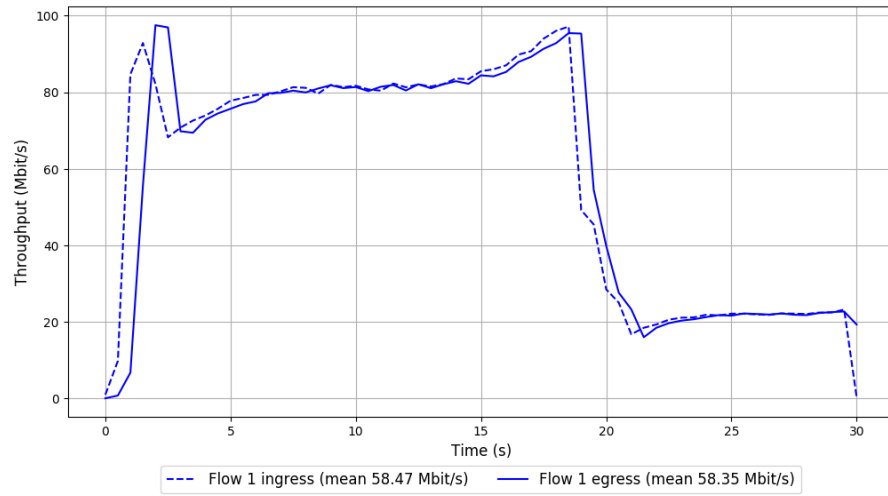
-- Flow 1:

Average throughput: 58.35 Mbit/s

95th percentile per-packet one-way delay: 91.845 ms

Loss rate: 0.73%

Run 1: Report of TCP Cubic — Data Link



Run 2: Statistics of TCP Cubic

Start at: 2018-09-06 14:42:42

End at: 2018-09-06 14:43:12

Local clock offset: 4.38 ms

Remote clock offset: 2.268 ms

Below is generated by plot.py at 2018-09-06 15:59:45

Datalink statistics

-- Total of 1 flow:

Average throughput: 80.94 Mbit/s

95th percentile per-packet one-way delay: 87.270 ms

Loss rate: 0.55%

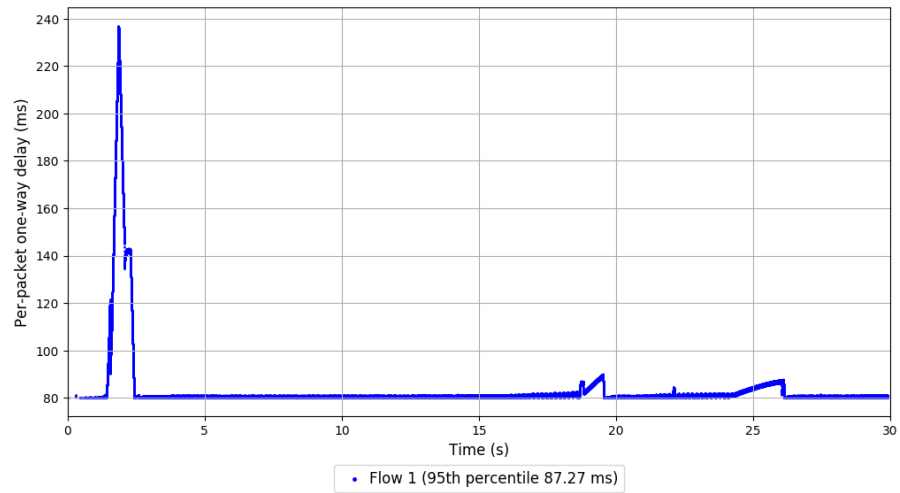
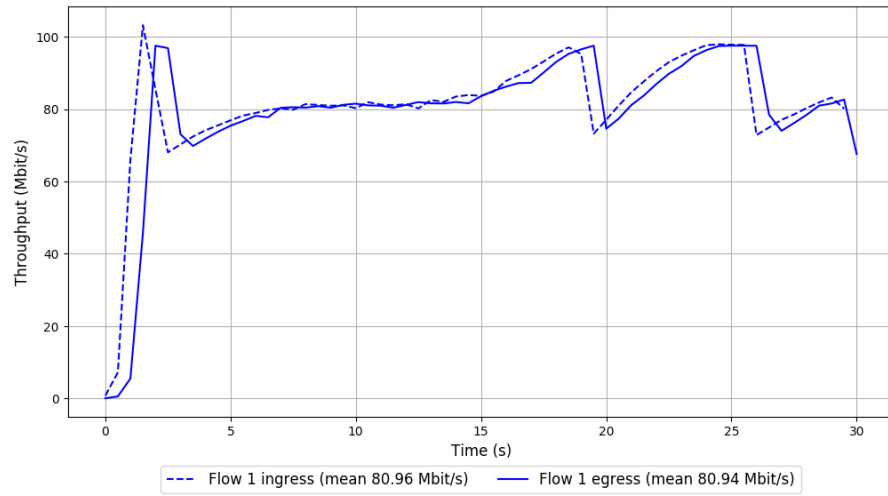
-- Flow 1:

Average throughput: 80.94 Mbit/s

95th percentile per-packet one-way delay: 87.270 ms

Loss rate: 0.55%

Run 2: Report of TCP Cubic — Data Link



Run 3: Statistics of TCP Cubic

Start at: 2018-09-06 15:03:54

End at: 2018-09-06 15:04:25

Local clock offset: 4.635 ms

Remote clock offset: 0.323 ms

Below is generated by plot.py at 2018-09-06 15:59:45

Datalink statistics

-- Total of 1 flow:

Average throughput: 75.35 Mbit/s

95th percentile per-packet one-way delay: 113.874 ms

Loss rate: 0.60%

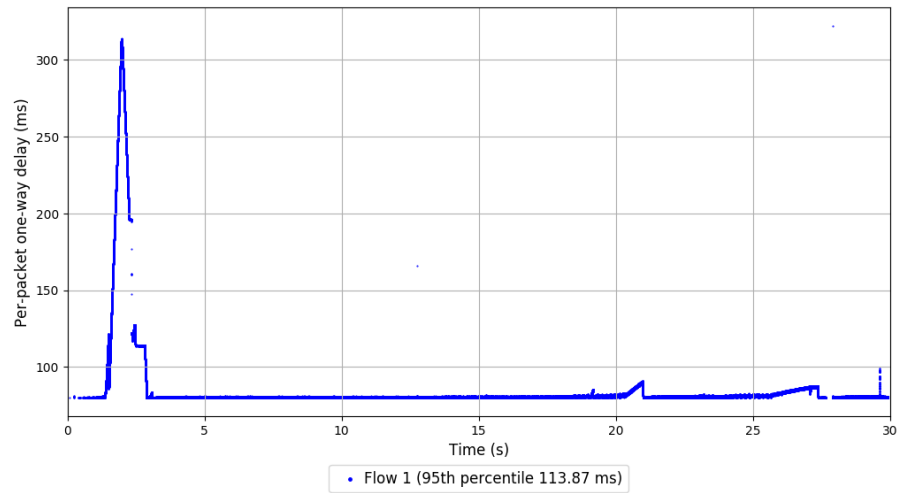
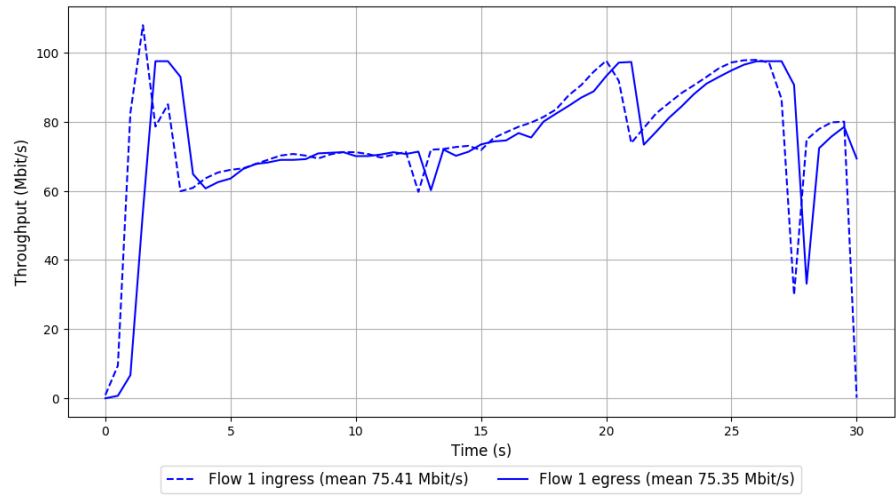
-- Flow 1:

Average throughput: 75.35 Mbit/s

95th percentile per-packet one-way delay: 113.874 ms

Loss rate: 0.60%

Run 3: Report of TCP Cubic — Data Link



Run 4: Statistics of TCP Cubic

Start at: 2018-09-06 15:25:37

End at: 2018-09-06 15:26:07

Local clock offset: 4.535 ms

Remote clock offset: 0.723 ms

Below is generated by plot.py at 2018-09-06 15:59:45

Datalink statistics

-- Total of 1 flow:

Average throughput: 42.59 Mbit/s

95th percentile per-packet one-way delay: 134.023 ms

Loss rate: 1.42%

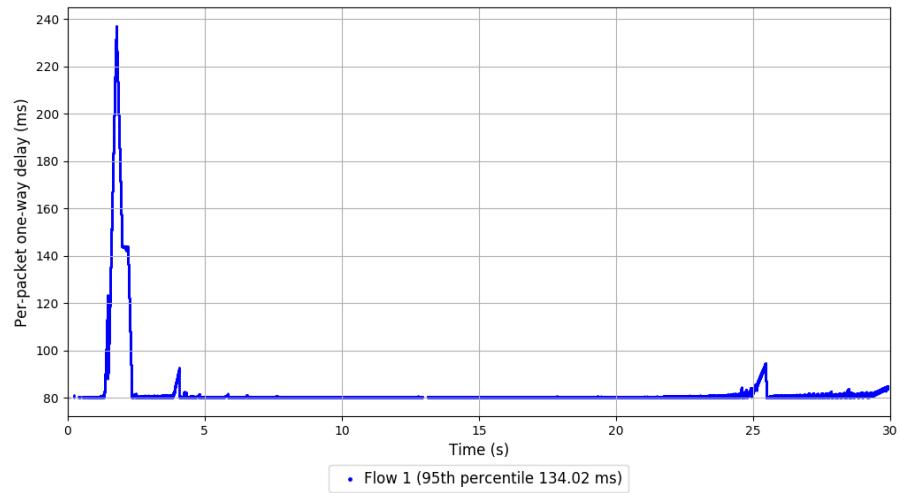
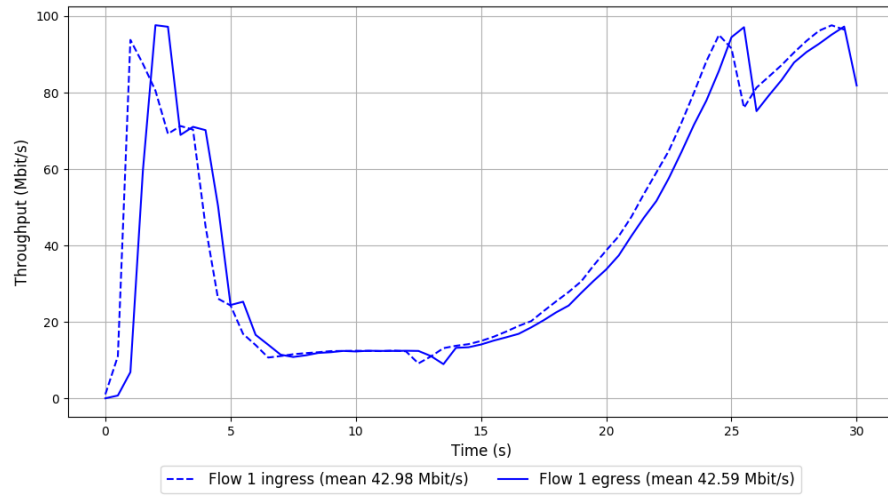
-- Flow 1:

Average throughput: 42.59 Mbit/s

95th percentile per-packet one-way delay: 134.023 ms

Loss rate: 1.42%

Run 4: Report of TCP Cubic — Data Link



Run 5: Statistics of TCP Cubic

Start at: 2018-09-06 15:46:52

End at: 2018-09-06 15:47:22

Local clock offset: 4.875 ms

Remote clock offset: 1.013 ms

Below is generated by plot.py at 2018-09-06 15:59:45

Datalink statistics

-- Total of 1 flow:

Average throughput: 81.41 Mbit/s

95th percentile per-packet one-way delay: 86.889 ms

Loss rate: 0.55%

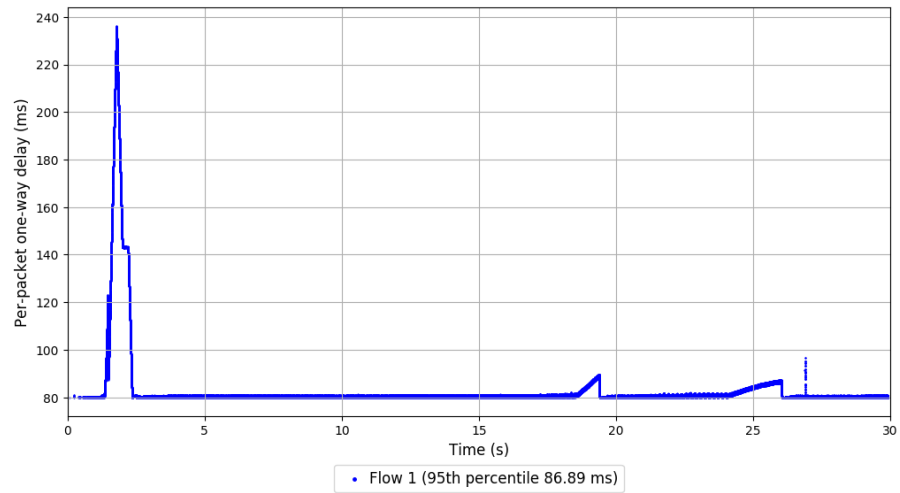
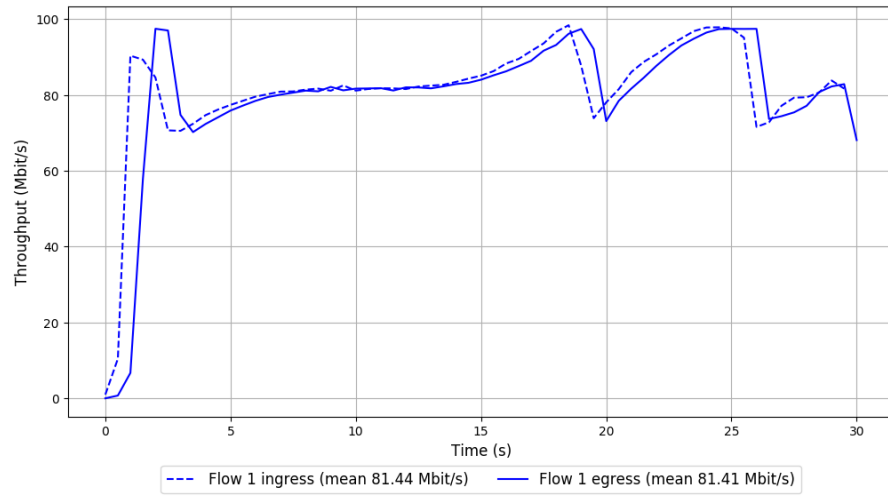
-- Flow 1:

Average throughput: 81.41 Mbit/s

95th percentile per-packet one-way delay: 86.889 ms

Loss rate: 0.55%

Run 5: Report of TCP Cubic — Data Link



Run 1: Statistics of FillP

Start at: 2018-09-06 14:17:43

End at: 2018-09-06 14:18:13

Local clock offset: 4.426 ms

Remote clock offset: 0.603 ms

Below is generated by plot.py at 2018-09-06 16:00:05

Datalink statistics

-- Total of 1 flow:

Average throughput: 93.65 Mbit/s

95th percentile per-packet one-way delay: 770.097 ms

Loss rate: 4.41%

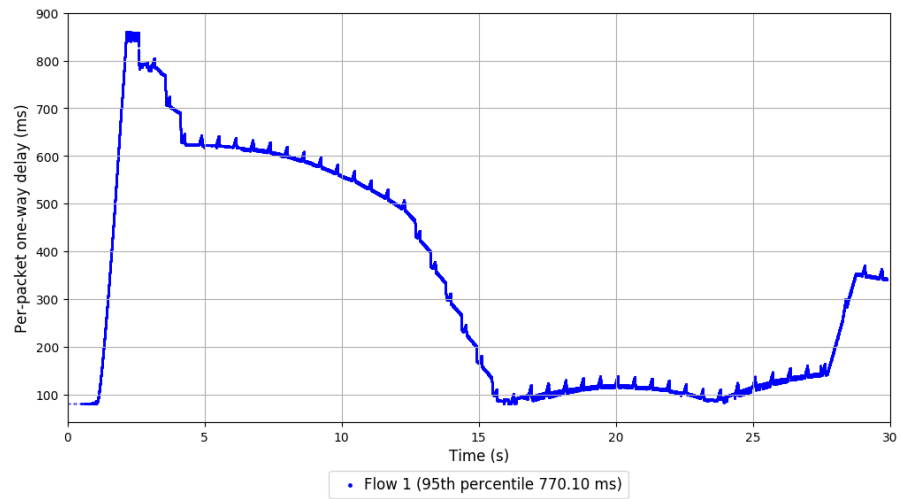
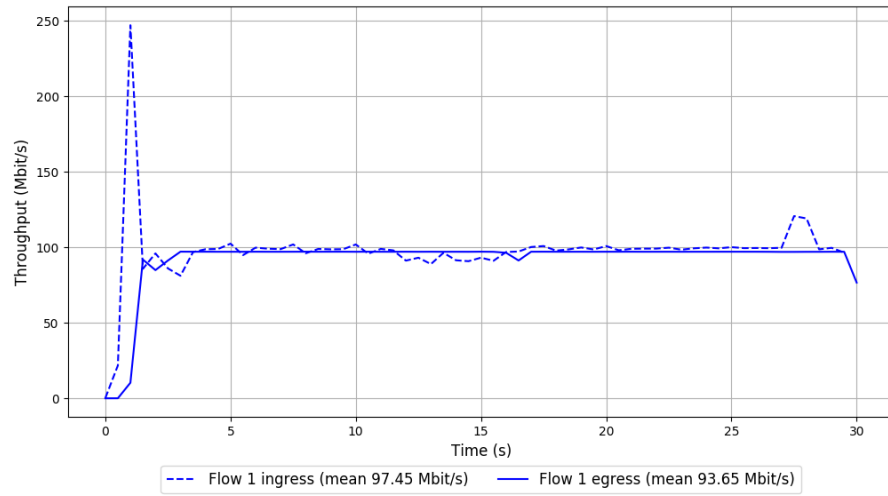
-- Flow 1:

Average throughput: 93.65 Mbit/s

95th percentile per-packet one-way delay: 770.097 ms

Loss rate: 4.41%

Run 1: Report of FillP — Data Link



Run 2: Statistics of FillP

Start at: 2018-09-06 14:39:06

End at: 2018-09-06 14:39:36

Local clock offset: 3.652 ms

Remote clock offset: 1.166 ms

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

Datalink statistics

-- Total of 1 flow:

Average throughput: 94.06 Mbit/s

95th percentile per-packet one-way delay: 775.610 ms

Loss rate: 3.54%

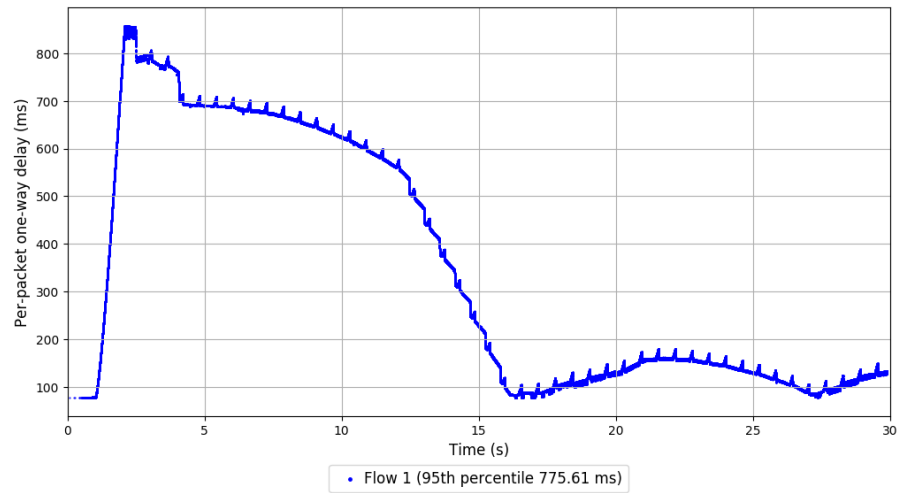
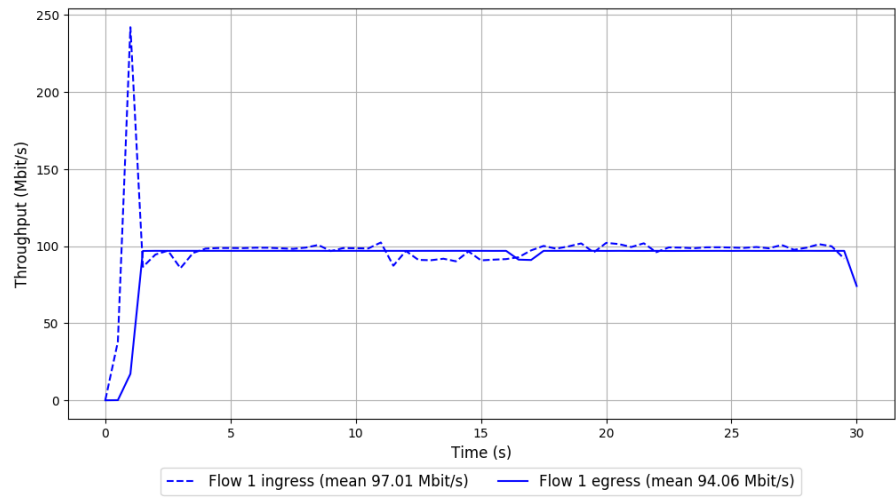
-- Flow 1:

Average throughput: 94.06 Mbit/s

95th percentile per-packet one-way delay: 775.610 ms

Loss rate: 3.54%

Run 2: Report of FillP — Data Link



Run 3: Statistics of FillP

Start at: 2018-09-06 15:00:19

End at: 2018-09-06 15:00:49

Local clock offset: 4.602 ms

Remote clock offset: 1.631 ms

Below is generated by plot.py at 2018-09-06 16:00:15

Datalink statistics

-- Total of 1 flow:

Average throughput: 93.35 Mbit/s

95th percentile per-packet one-way delay: 794.099 ms

Loss rate: 4.32%

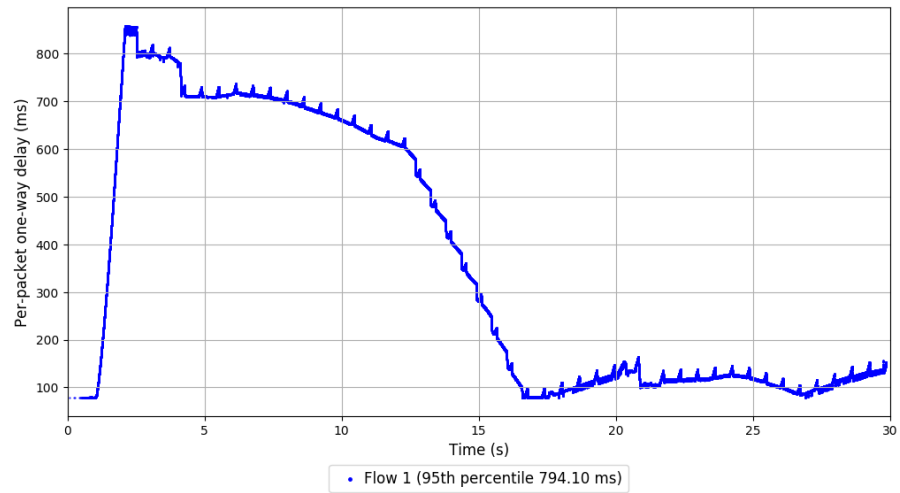
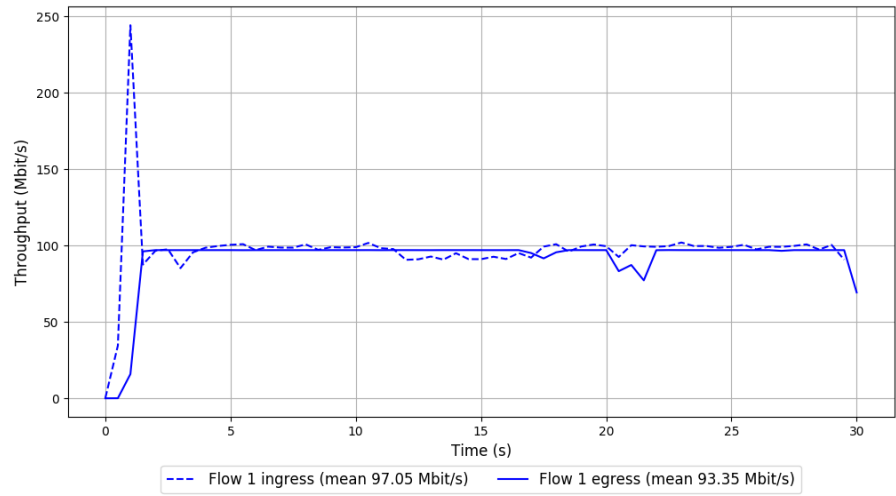
-- Flow 1:

Average throughput: 93.35 Mbit/s

95th percentile per-packet one-way delay: 794.099 ms

Loss rate: 4.32%

Run 3: Report of FillP — Data Link



Run 4: Statistics of FillP

Start at: 2018-09-06 15:21:37

End at: 2018-09-06 15:22:07

Local clock offset: 4.568 ms

Remote clock offset: 1.83 ms

Below is generated by plot.py at 2018-09-06 16:00:15

Datalink statistics

-- Total of 1 flow:

Average throughput: 93.03 Mbit/s

95th percentile per-packet one-way delay: 798.189 ms

Loss rate: 4.51%

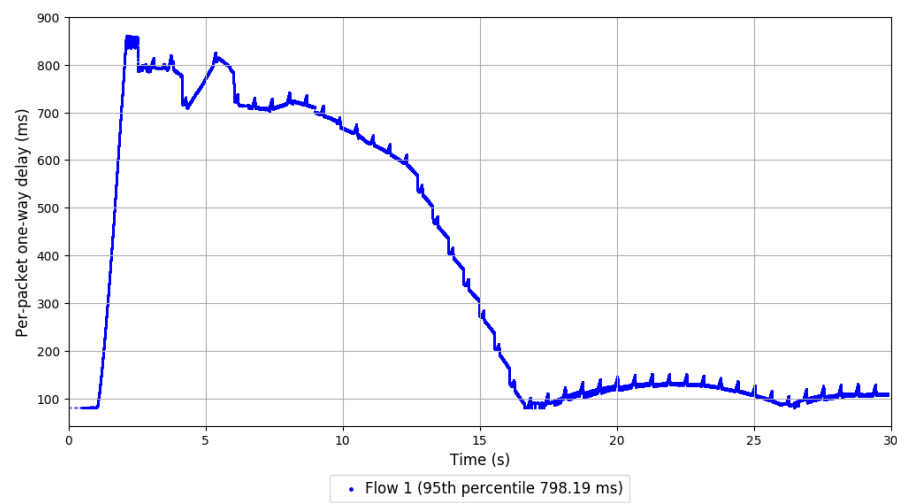
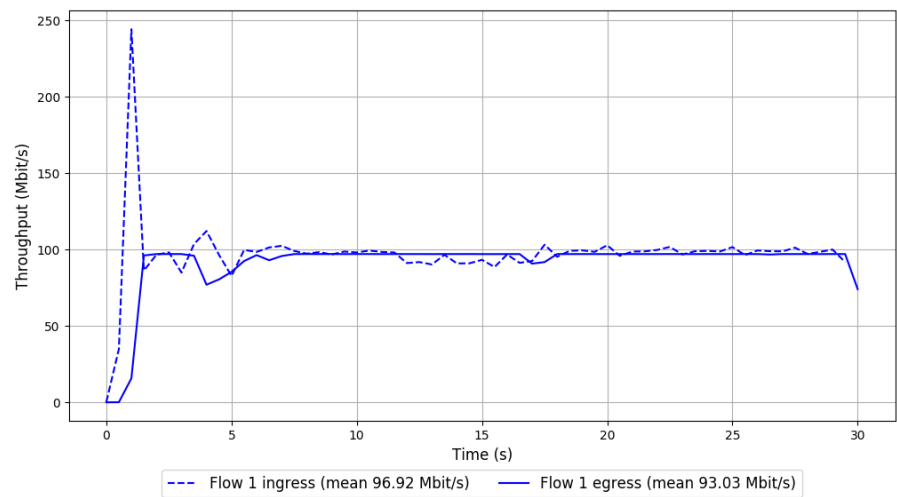
-- Flow 1:

Average throughput: 93.03 Mbit/s

95th percentile per-packet one-way delay: 798.189 ms

Loss rate: 4.51%

Run 4: Report of FillP — Data Link



Run 5: Statistics of FillP

Start at: 2018-09-06 15:43:17

End at: 2018-09-06 15:43:47

Local clock offset: 3.645 ms

Remote clock offset: 3.273 ms

Below is generated by plot.py at 2018-09-06 16:00:21

Datalink statistics

-- Total of 1 flow:

Average throughput: 93.18 Mbit/s

95th percentile per-packet one-way delay: 779.957 ms

Loss rate: 4.97%

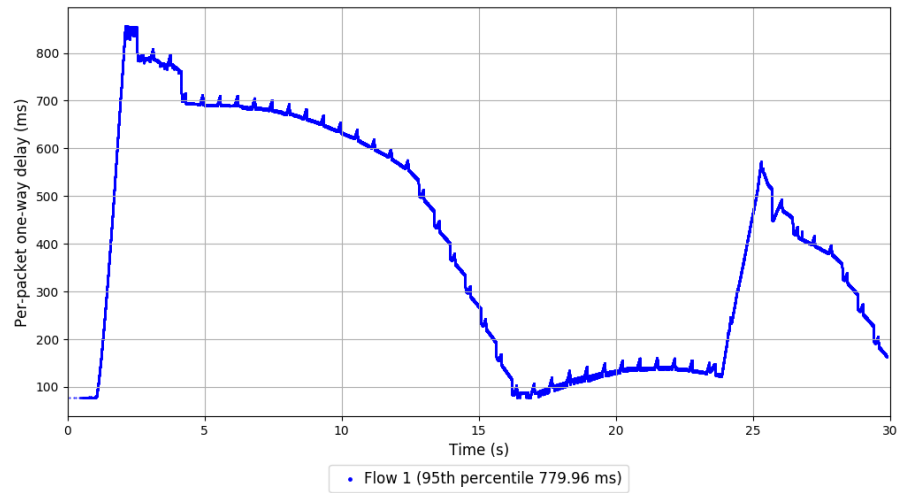
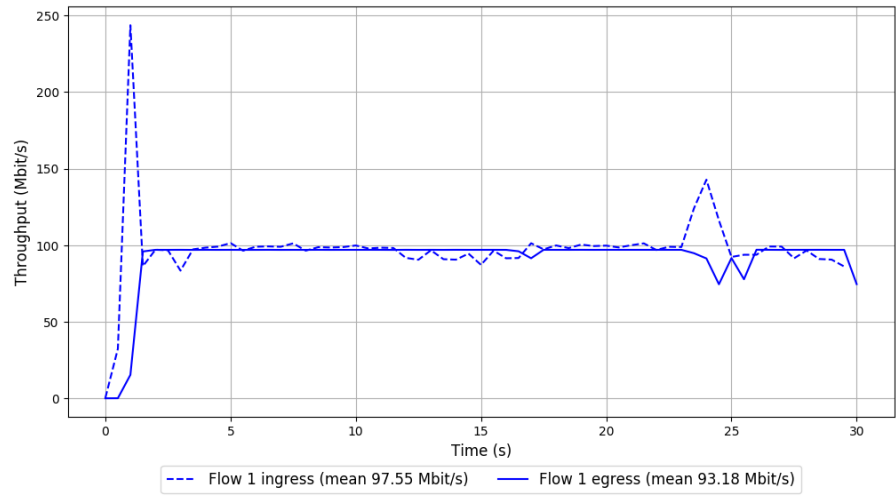
-- Flow 1:

Average throughput: 93.18 Mbit/s

95th percentile per-packet one-way delay: 779.957 ms

Loss rate: 4.97%

Run 5: Report of FillP — Data Link



Run 1: Statistics of FillP-Sheep

Start at: 2018-09-06 14:15:18

End at: 2018-09-06 14:15:48

Local clock offset: 4.575 ms

Remote clock offset: 0.677 ms

Below is generated by plot.py at 2018-09-06 16:00:37

Datalink statistics

-- Total of 1 flow:

Average throughput: 91.55 Mbit/s

95th percentile per-packet one-way delay: 133.301 ms

Loss rate: 2.87%

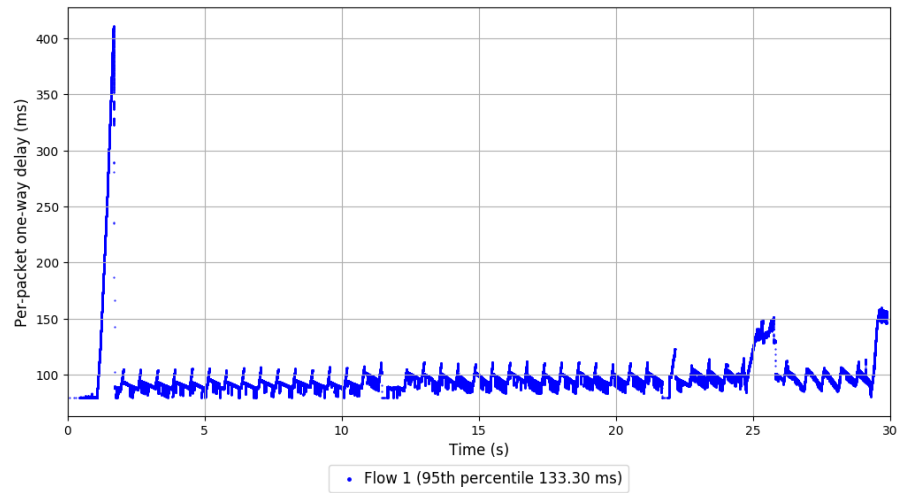
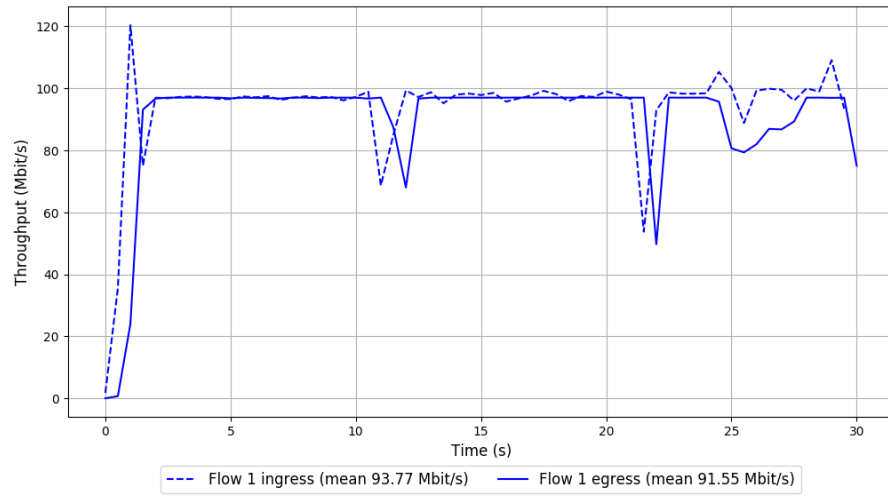
-- Flow 1:

Average throughput: 91.55 Mbit/s

95th percentile per-packet one-way delay: 133.301 ms

Loss rate: 2.87%

Run 1: Report of FillP-Sheep — Data Link



Run 2: Statistics of FillP-Sheep

Start at: 2018-09-06 14:36:40

End at: 2018-09-06 14:37:10

Local clock offset: 4.37 ms

Remote clock offset: 2.498 ms

Below is generated by plot.py at 2018-09-06 16:00:44

Datalink statistics

-- Total of 1 flow:

Average throughput: 91.92 Mbit/s

95th percentile per-packet one-way delay: 108.744 ms

Loss rate: 1.91%

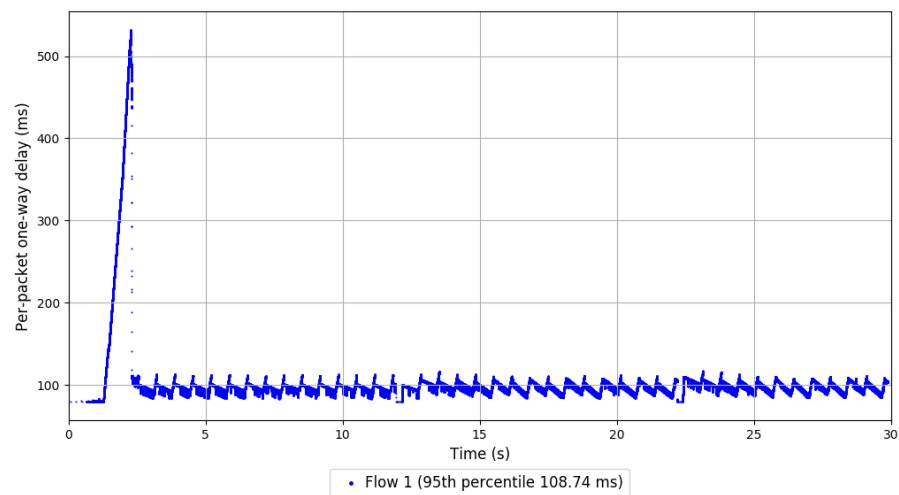
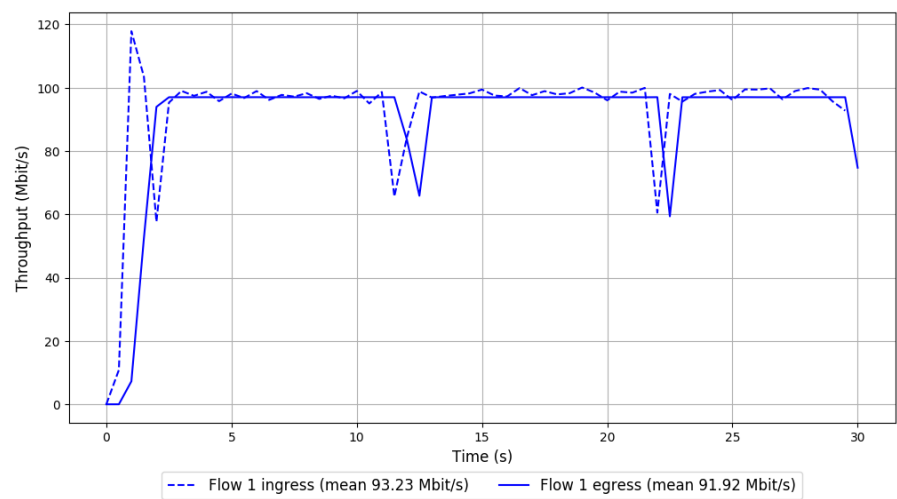
-- Flow 1:

Average throughput: 91.92 Mbit/s

95th percentile per-packet one-way delay: 108.744 ms

Loss rate: 1.91%

Run 2: Report of FillP-Sheep — Data Link



Run 3: Statistics of FillP-Sheep

Start at: 2018-09-06 14:57:55

End at: 2018-09-06 14:58:25

Local clock offset: 3.811 ms

Remote clock offset: 1.468 ms

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

Datalink statistics

-- Total of 1 flow:

Average throughput: 92.75 Mbit/s

95th percentile per-packet one-way delay: 107.850 ms

Loss rate: 1.38%

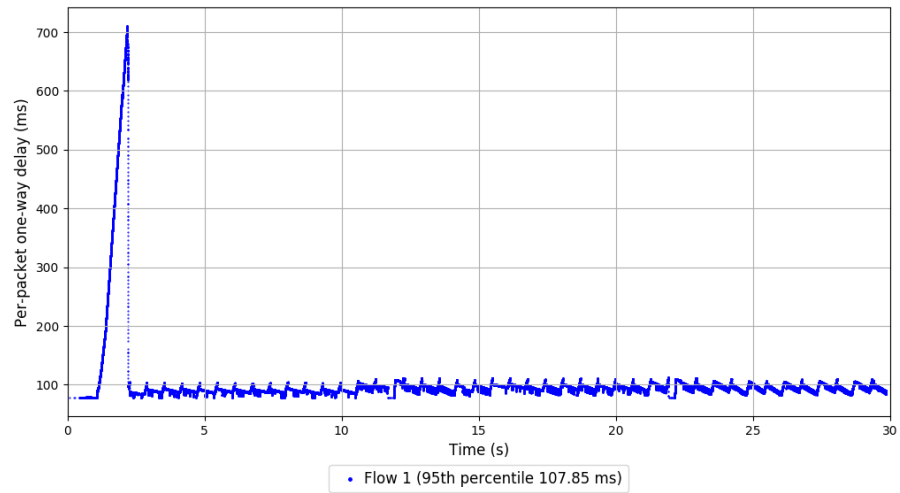
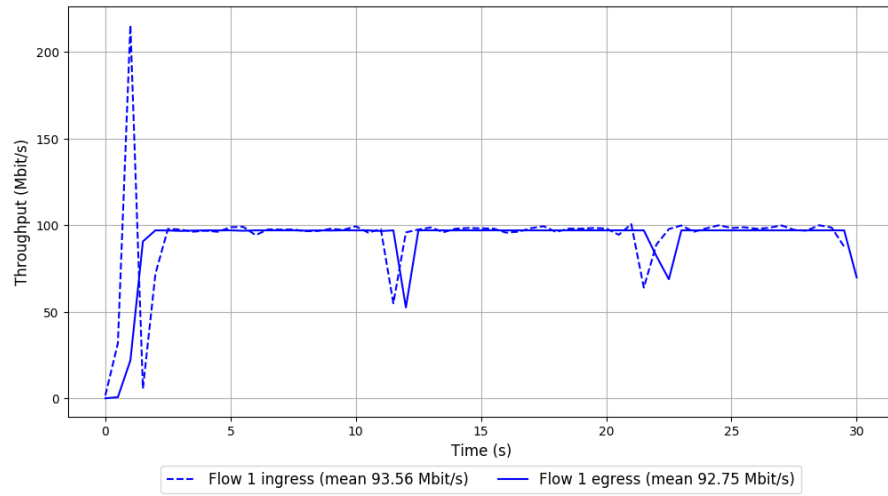
-- Flow 1:

Average throughput: 92.75 Mbit/s

95th percentile per-packet one-way delay: 107.850 ms

Loss rate: 1.38%

Run 3: Report of FillP-Sheep — Data Link



Run 4: Statistics of FillP-Sheep

Start at: 2018-09-06 15:19:12

End at: 2018-09-06 15:19:42

Local clock offset: 4.622 ms

Remote clock offset: 1.79 ms

Below is generated by plot.py at 2018-09-06 16:01:24

Datalink statistics

-- Total of 1 flow:

Average throughput: 92.34 Mbit/s

95th percentile per-packet one-way delay: 105.356 ms

Loss rate: 1.92%

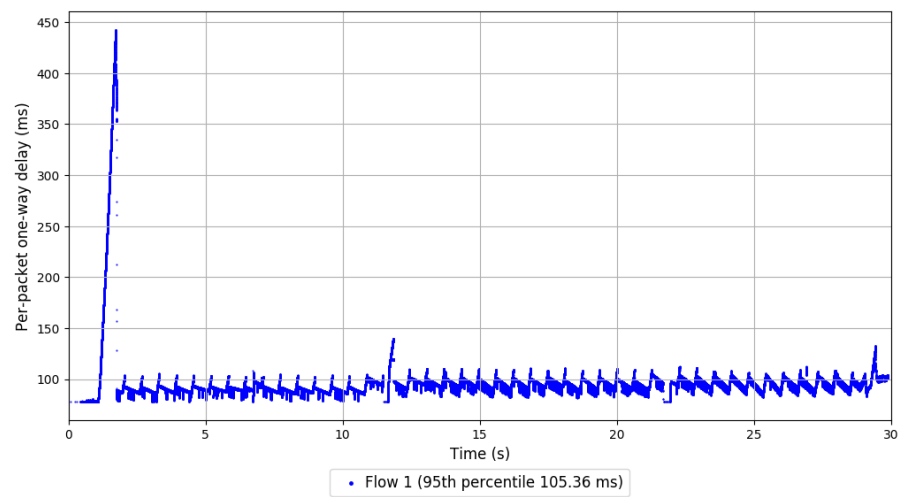
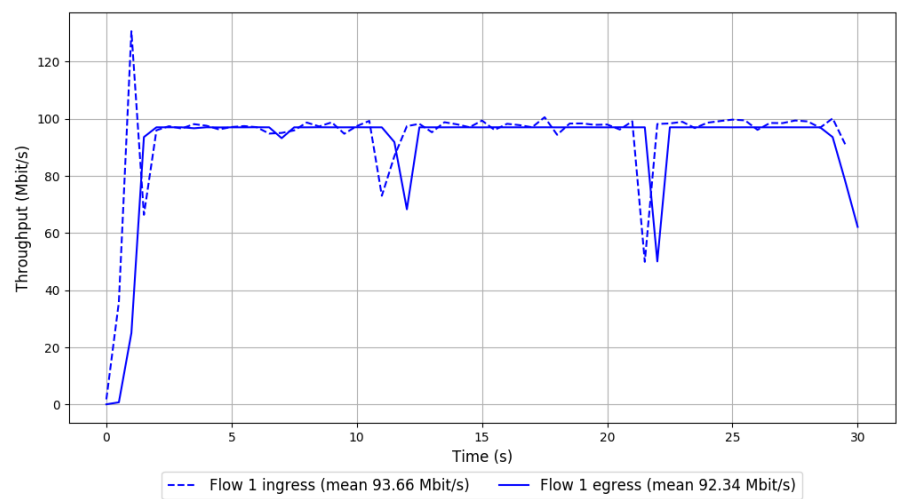
-- Flow 1:

Average throughput: 92.34 Mbit/s

95th percentile per-packet one-way delay: 105.356 ms

Loss rate: 1.92%

Run 4: Report of FillP-Sheep — Data Link



Run 5: Statistics of FillP-Sheep

Start at: 2018-09-06 15:40:52

End at: 2018-09-06 15:41:22

Local clock offset: 4.437 ms

Remote clock offset: 0.918 ms

Below is generated by plot.py at 2018-09-06 16:01:30

Datalink statistics

-- Total of 1 flow:

Average throughput: 92.95 Mbit/s

95th percentile per-packet one-way delay: 111.472 ms

Loss rate: 1.39%

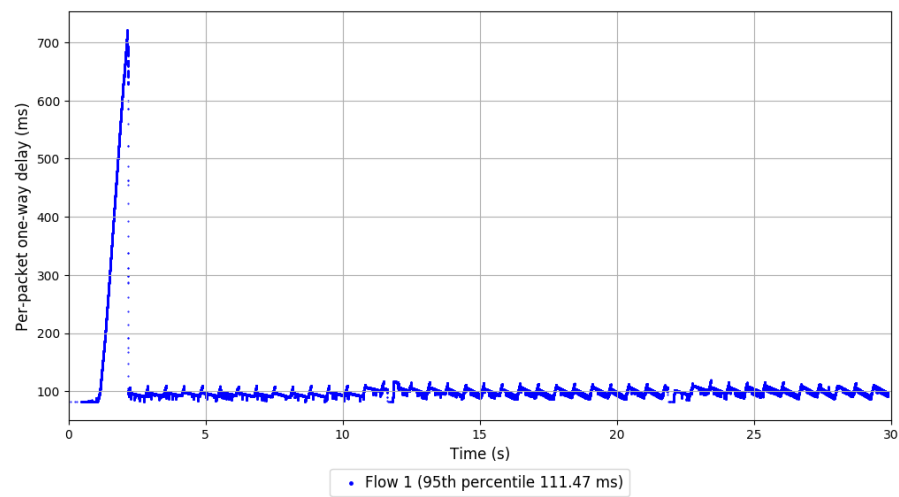
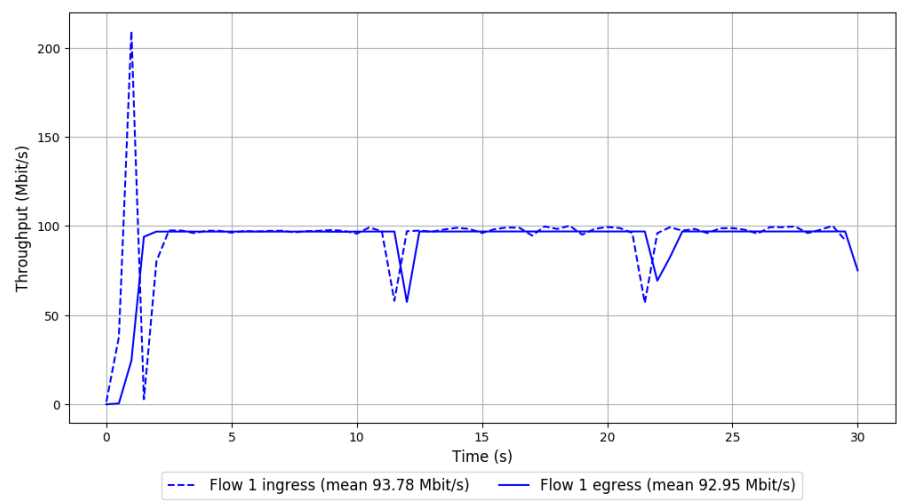
-- Flow 1:

Average throughput: 92.95 Mbit/s

95th percentile per-packet one-way delay: 111.472 ms

Loss rate: 1.39%

Run 5: Report of FillP-Sheep — Data Link



Run 1: Statistics of Indigo

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

End at: 2018-09-06 14:09:52

Local clock offset: 5.27 ms

Remote clock offset: -0.586 ms

Below is generated by plot.py at 2018-09-06 16:01:30

Datalink statistics

-- Total of 1 flow:

Average throughput: 92.78 Mbit/s

95th percentile per-packet one-way delay: 102.683 ms

Loss rate: 1.32%

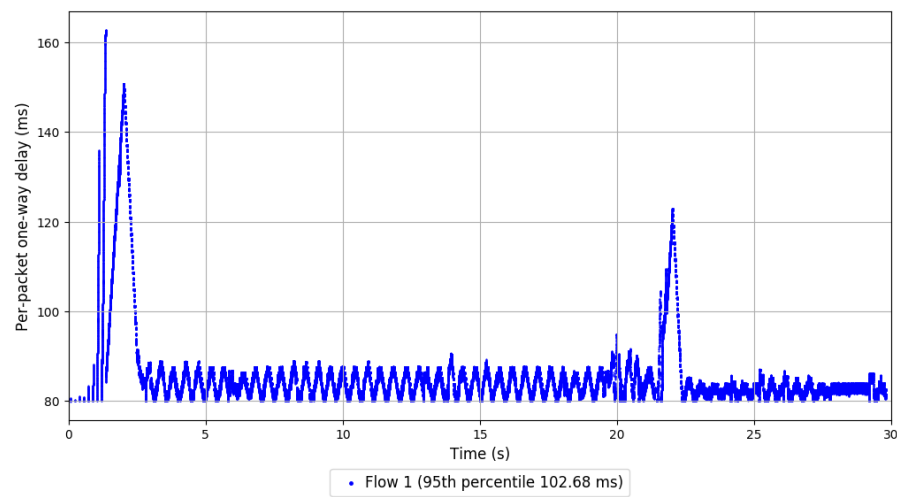
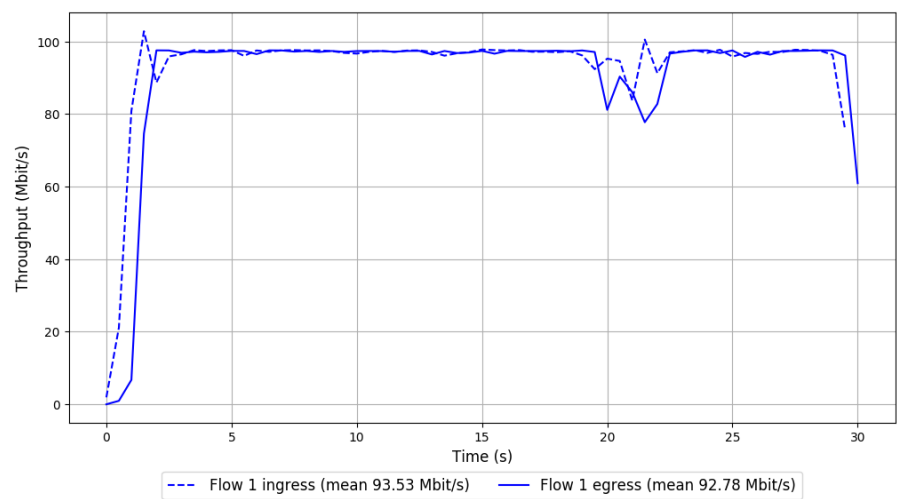
-- Flow 1:

Average throughput: 92.78 Mbit/s

95th percentile per-packet one-way delay: 102.683 ms

Loss rate: 1.32%

Run 1: Report of Indigo — Data Link



Run 2: Statistics of Indigo

Start at: 2018-09-06 14:30:48

End at: 2018-09-06 14:31:18

Local clock offset: 3.778 ms

Remote clock offset: 0.93 ms

Below is generated by plot.py at 2018-09-06 16:01:30

Datalink statistics

-- Total of 1 flow:

Average throughput: 94.09 Mbit/s

95th percentile per-packet one-way delay: 142.017 ms

Loss rate: 1.04%

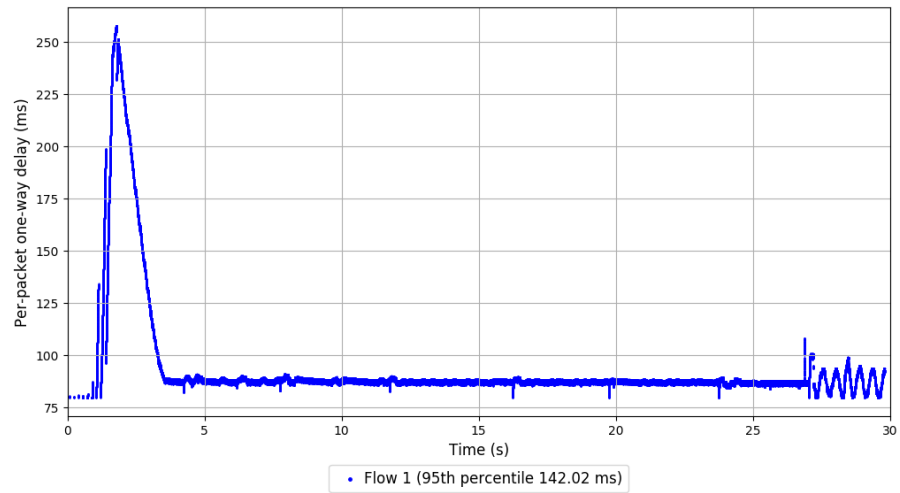
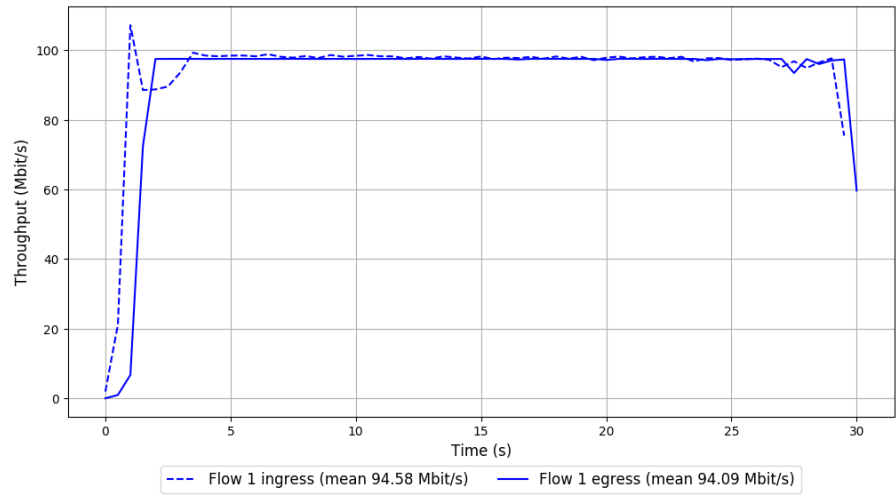
-- Flow 1:

Average throughput: 94.09 Mbit/s

95th percentile per-packet one-way delay: 142.017 ms

Loss rate: 1.04%

Run 2: Report of Indigo — Data Link



Run 3: Statistics of Indigo

Start at: 2018-09-06 14:52:04

End at: 2018-09-06 14:52:34

Local clock offset: 3.739 ms

Remote clock offset: 0.191 ms

Below is generated by plot.py at 2018-09-06 16:01:30

Datalink statistics

-- Total of 1 flow:

Average throughput: 93.87 Mbit/s

95th percentile per-packet one-way delay: 161.097 ms

Loss rate: 1.69%

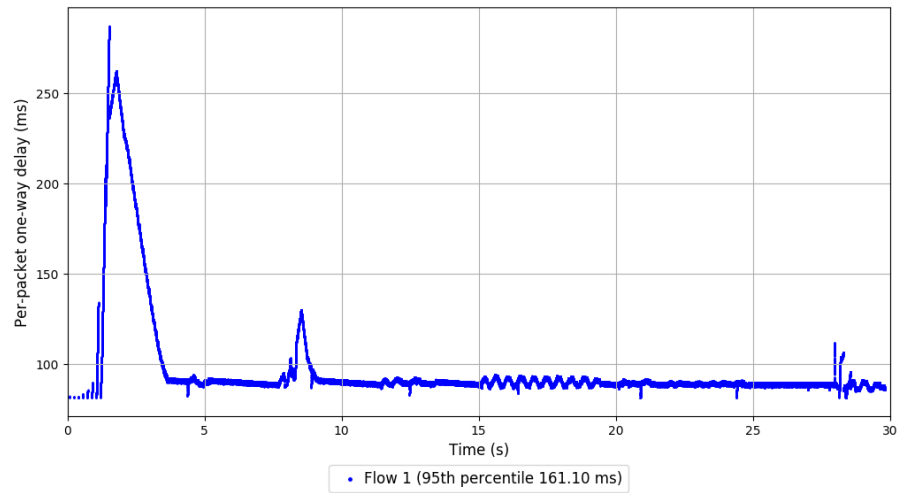
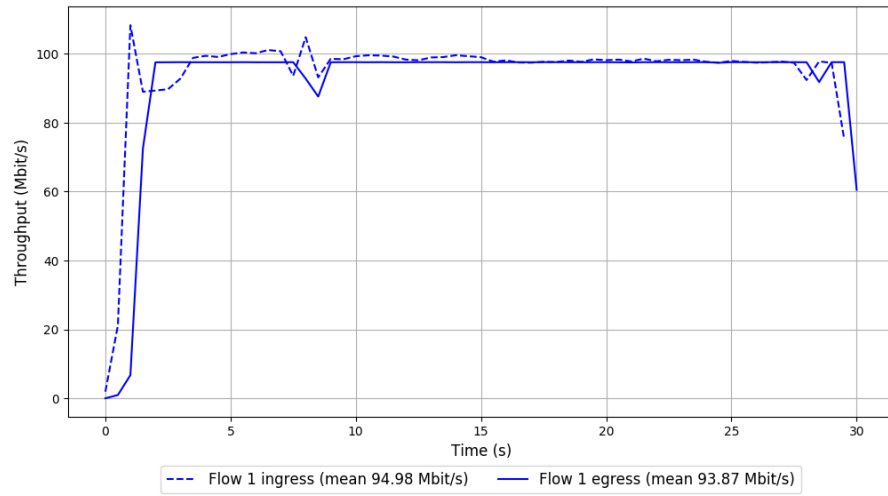
-- Flow 1:

Average throughput: 93.87 Mbit/s

95th percentile per-packet one-way delay: 161.097 ms

Loss rate: 1.69%

Run 3: Report of Indigo — Data Link



Run 4: Statistics of Indigo

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

End at: 2018-09-06 15:13:44

Local clock offset: 3.914 ms

Remote clock offset: 1.859 ms

Below is generated by plot.py at 2018-09-06 16:01:51

Datalink statistics

-- Total of 1 flow:

Average throughput: 93.41 Mbit/s

95th percentile per-packet one-way delay: 174.341 ms

Loss rate: 2.78%

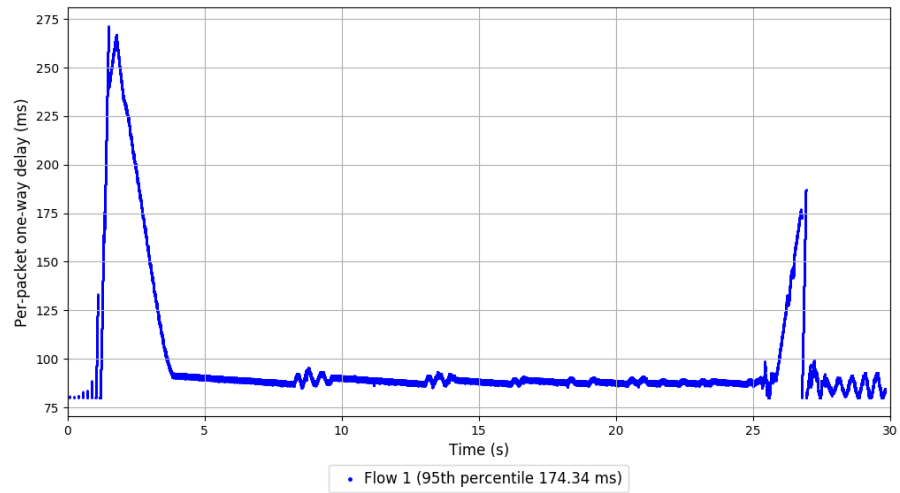
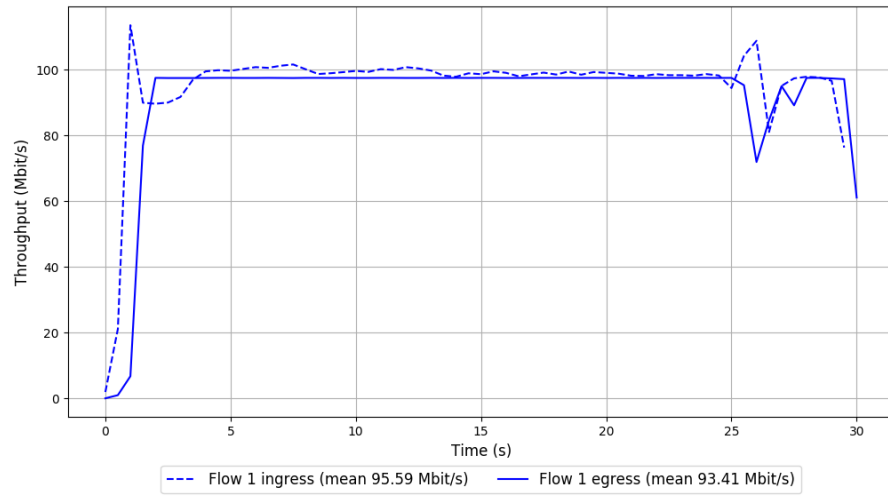
-- Flow 1:

Average throughput: 93.41 Mbit/s

95th percentile per-packet one-way delay: 174.341 ms

Loss rate: 2.78%

Run 4: Report of Indigo — Data Link



Run 5: Statistics of Indigo

Start at: 2018-09-06 15:34:59

End at: 2018-09-06 15:35:29

Local clock offset: 3.709 ms

Remote clock offset: 2.351 ms

Below is generated by plot.py at 2018-09-06 16:01:54

Datalink statistics

-- Total of 1 flow:

Average throughput: 94.09 Mbit/s

95th percentile per-packet one-way delay: 94.348 ms

Loss rate: 0.58%

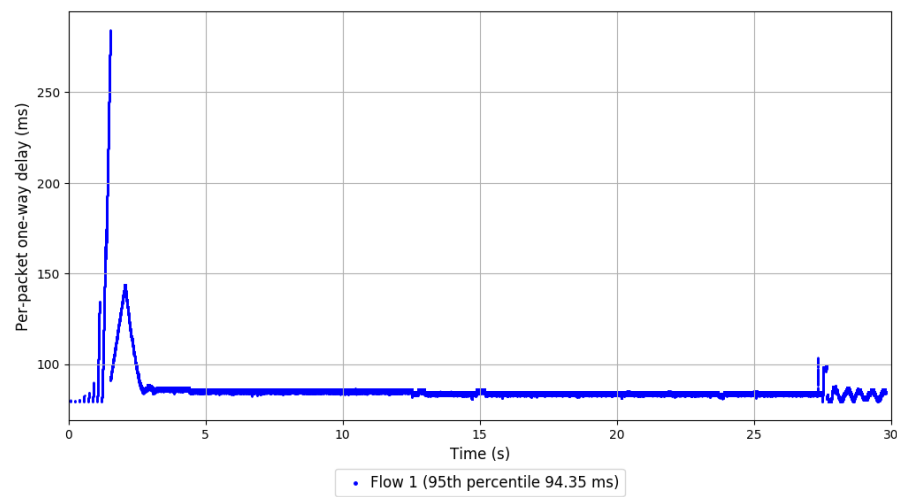
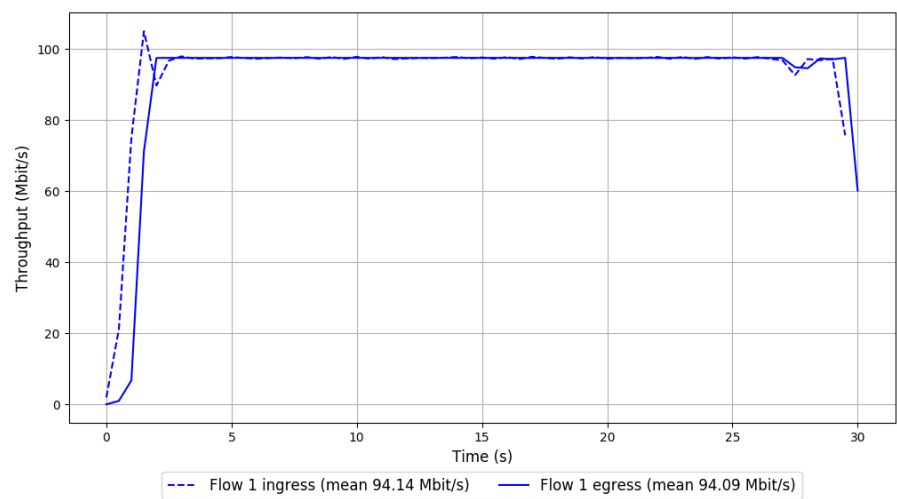
-- Flow 1:

Average throughput: 94.09 Mbit/s

95th percentile per-packet one-way delay: 94.348 ms

Loss rate: 0.58%

Run 5: Report of Indigo — Data Link

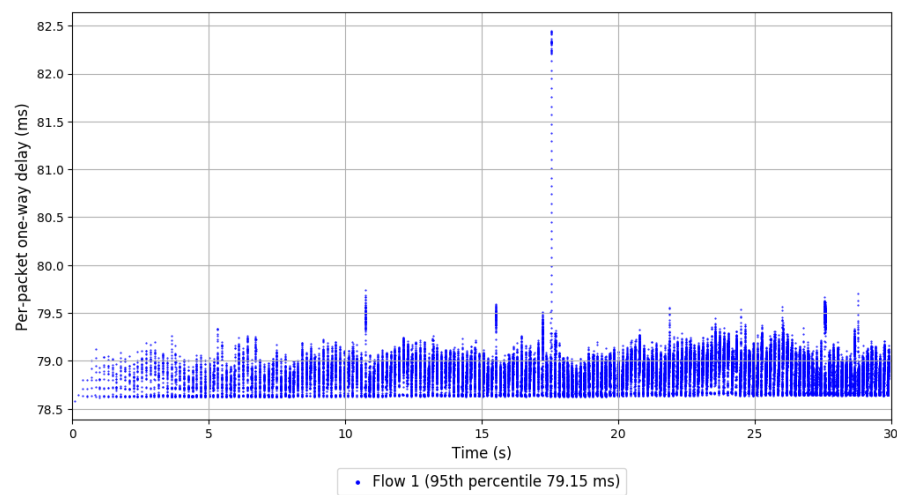
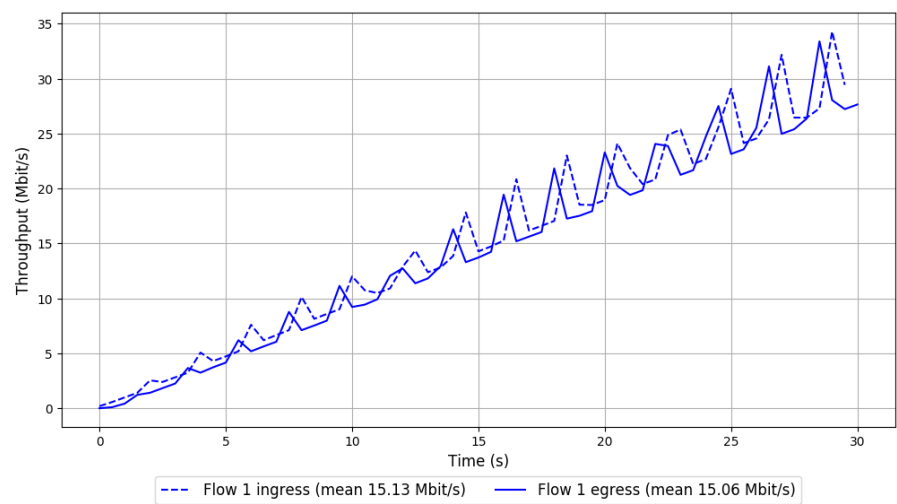


```
Run 1: Statistics of LEDBAT

Start at: 2018-09-06 14:23:44
End at: 2018-09-06 14:24:14
Local clock offset: 4.772 ms
Remote clock offset: 0.734 ms

# Below is generated by plot.py at 2018-09-06 16:01:54
# Datalink statistics
-- Total of 1 flow:
Average throughput: 15.06 Mbit/s
95th percentile per-packet one-way delay: 79.148 ms
Loss rate: 1.03%
-- Flow 1:
Average throughput: 15.06 Mbit/s
95th percentile per-packet one-way delay: 79.148 ms
Loss rate: 1.03%
```


Run 1: Report of LEDBAT — Data Link



Run 2: Statistics of LEDBAT

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

End at: 2018-09-06 14:45:36

Local clock offset: 3.597 ms

Remote clock offset: 2.307 ms

Below is generated by plot.py at 2018-09-06 16:01:54

Datalink statistics

-- Total of 1 flow:

Average throughput: 13.99 Mbit/s

95th percentile per-packet one-way delay: 79.297 ms

Loss rate: 1.07%

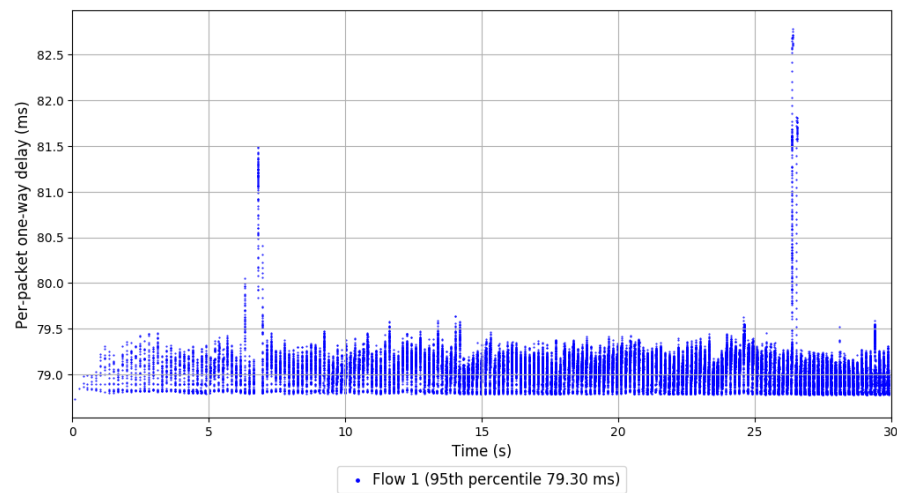
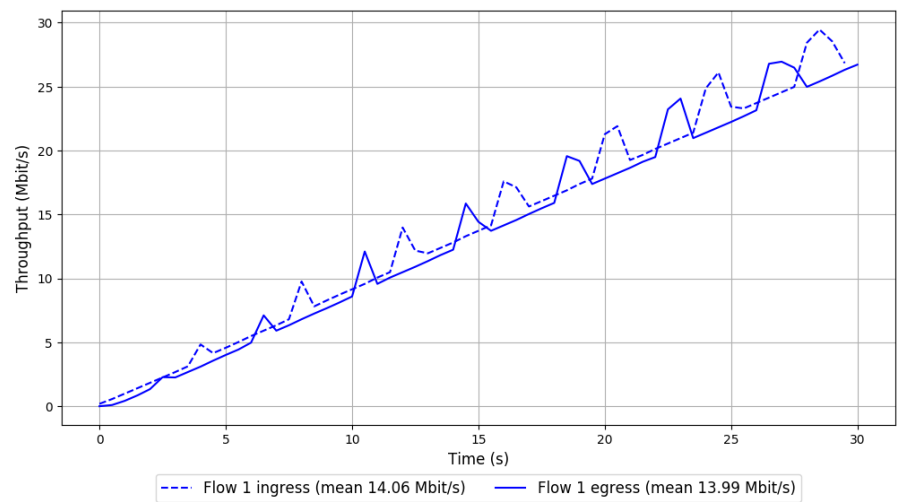
-- Flow 1:

Average throughput: 13.99 Mbit/s

95th percentile per-packet one-way delay: 79.297 ms

Loss rate: 1.07%

Run 2: Report of LEDBAT — Data Link



Run 3: Statistics of LEDBAT

Start at: 2018-09-06 15:06:17

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

Local clock offset: 3.885 ms

Remote clock offset: 1.478 ms

Below is generated by plot.py at 2018-09-06 16:01:54

Datalink statistics

-- Total of 1 flow:

Average throughput: 9.05 Mbit/s

95th percentile per-packet one-way delay: 80.359 ms

Loss rate: 0.54%

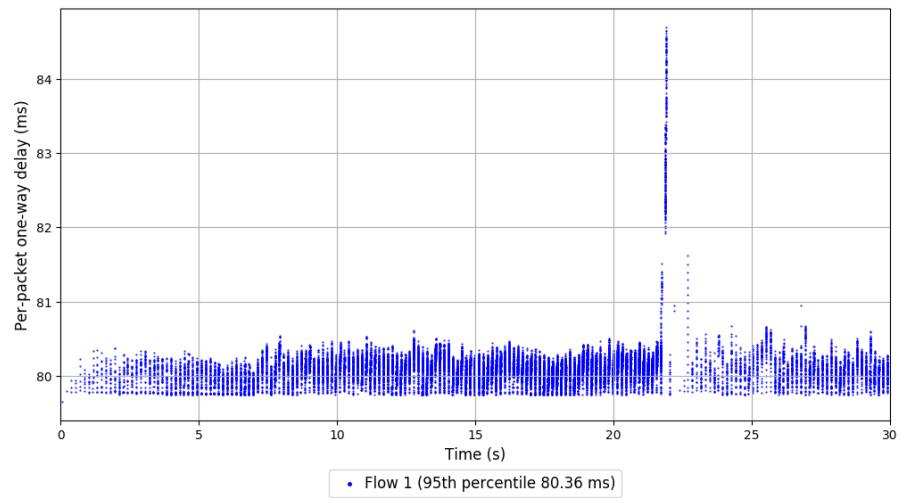
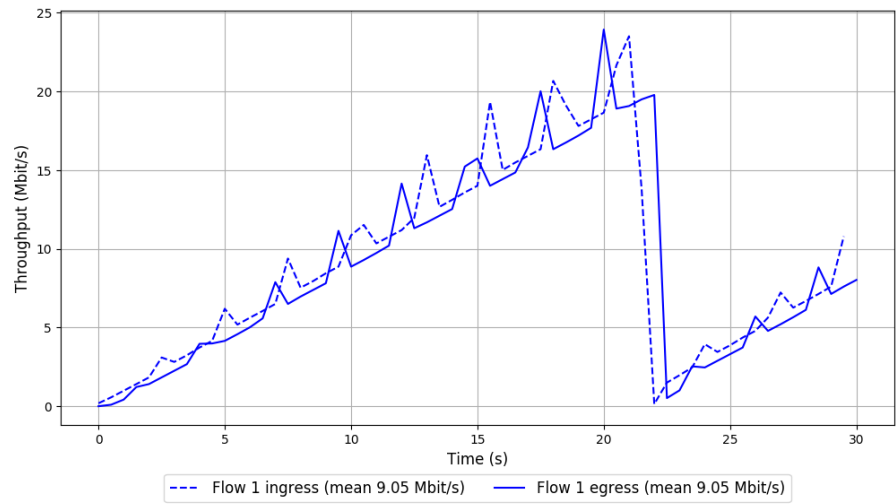
-- Flow 1:

Average throughput: 9.05 Mbit/s

95th percentile per-packet one-way delay: 80.359 ms

Loss rate: 0.54%

Run 3: Report of LEDBAT — Data Link



Run 4: Statistics of LEDBAT

Start at: 2018-09-06 15:28:00

End at: 2018-09-06 15:28:30

Local clock offset: 3.686 ms

Remote clock offset: 3.226 ms

Below is generated by plot.py at 2018-09-06 16:01:54

Datalink statistics

-- Total of 1 flow:

Average throughput: 14.63 Mbit/s

95th percentile per-packet one-way delay: 79.656 ms

Loss rate: 1.04%

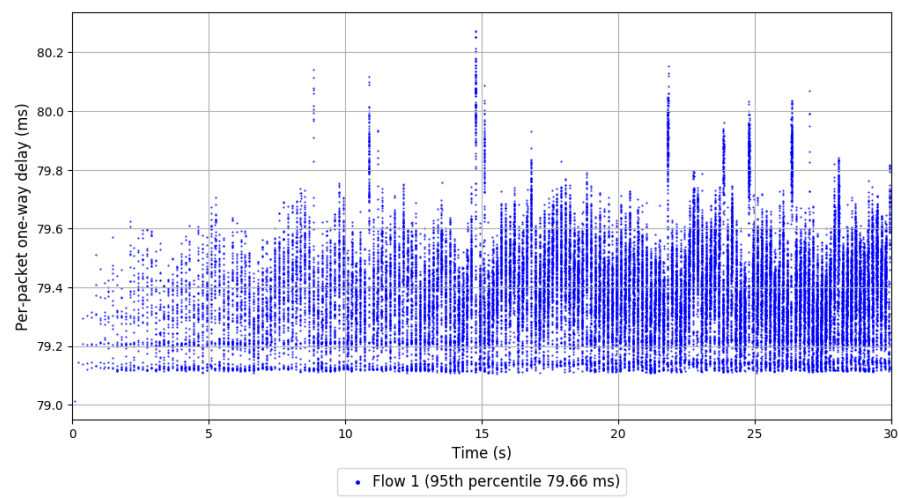
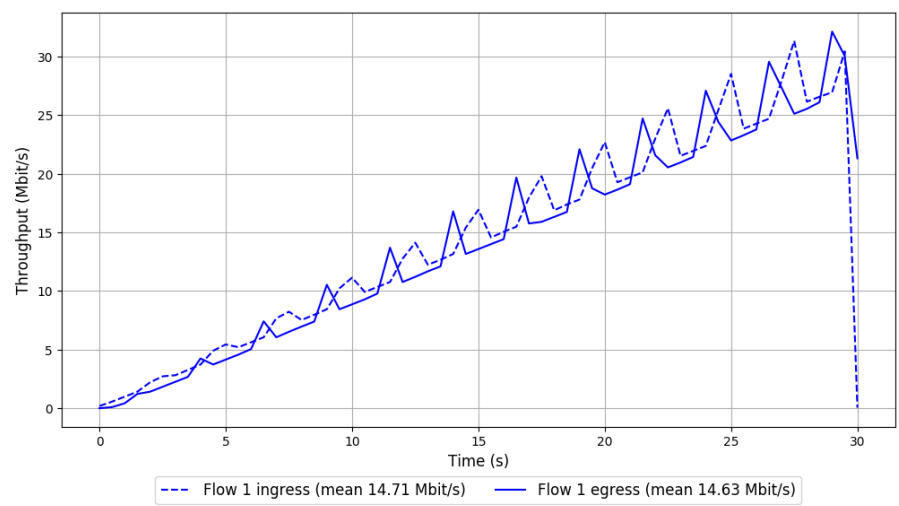
-- Flow 1:

Average throughput: 14.63 Mbit/s

95th percentile per-packet one-way delay: 79.656 ms

Loss rate: 1.04%

Run 4: Report of LEDBAT — Data Link



Run 5: Statistics of LEDBAT

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

End at: 2018-09-06 15:49:45

Local clock offset: 5.526 ms

Remote clock offset: 3.39 ms

Below is generated by plot.py at 2018-09-06 16:01:54

Datalink statistics

-- Total of 1 flow:

Average throughput: 11.07 Mbit/s

95th percentile per-packet one-way delay: 79.994 ms

Loss rate: 0.28%

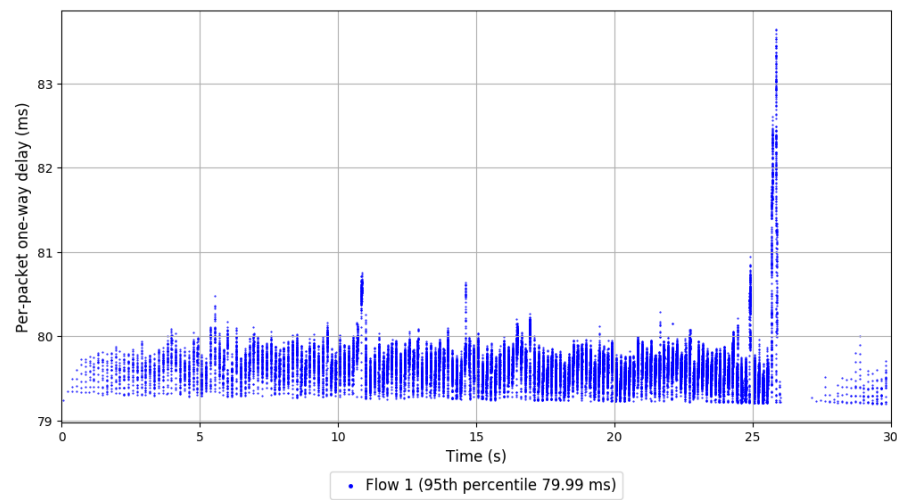
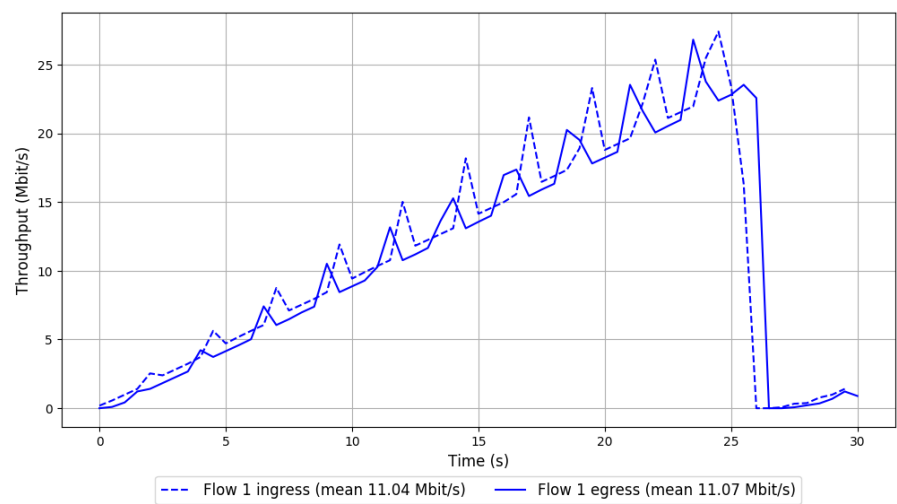
-- Flow 1:

Average throughput: 11.07 Mbit/s

95th percentile per-packet one-way delay: 79.994 ms

Loss rate: 0.28%

Run 5: Report of LEDBAT — Data Link

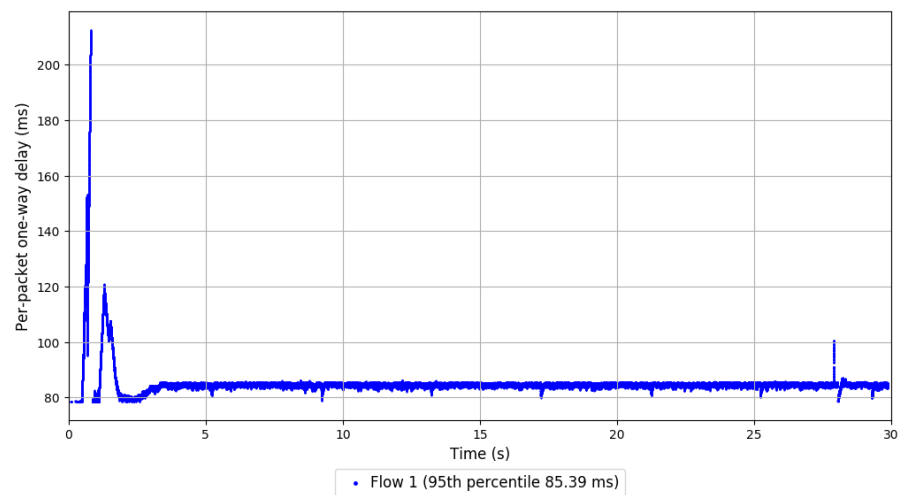
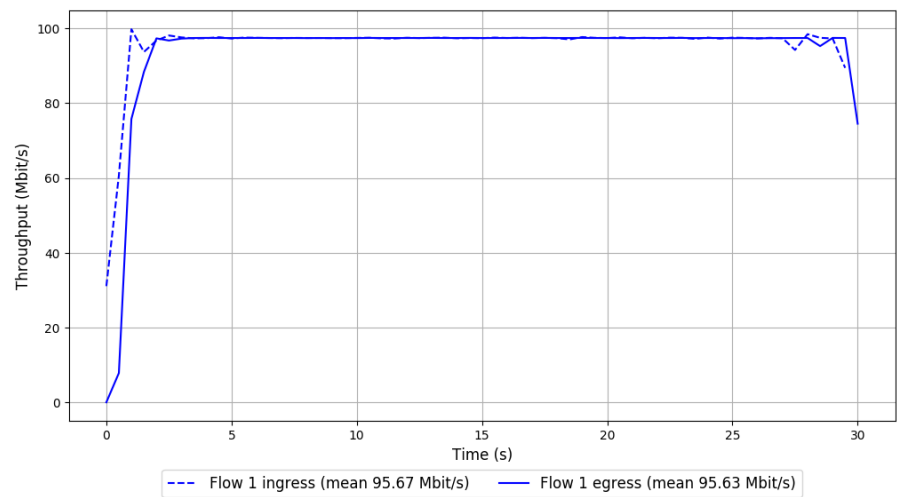


```
Run 1: Statistics of Indigo-Muses

Start at: 2018-09-06 14:18:54
End at: 2018-09-06 14:19:24
Local clock offset: 5.02 ms
Remote clock offset: 0.795 ms

# Below is generated by plot.py at 2018-09-06 16:02:39
# Datalink statistics
-- Total of 1 flow:
Average throughput: 95.63 Mbit/s
95th percentile per-packet one-way delay: 85.386 ms
Loss rate: 0.55%
-- Flow 1:
Average throughput: 95.63 Mbit/s
95th percentile per-packet one-way delay: 85.386 ms
Loss rate: 0.55%
```

Run 1: Report of Indigo-Muses — Data Link



Run 2: Statistics of Indigo-Muses

Start at: 2018-09-06 14:40:18

End at: 2018-09-06 14:40:48

Local clock offset: 3.629 ms

Remote clock offset: 1.211 ms

Below is generated by plot.py at 2018-09-06 16:02:39

Datalink statistics

-- Total of 1 flow:

Average throughput: 86.30 Mbit/s

95th percentile per-packet one-way delay: 85.136 ms

Loss rate: 1.17%

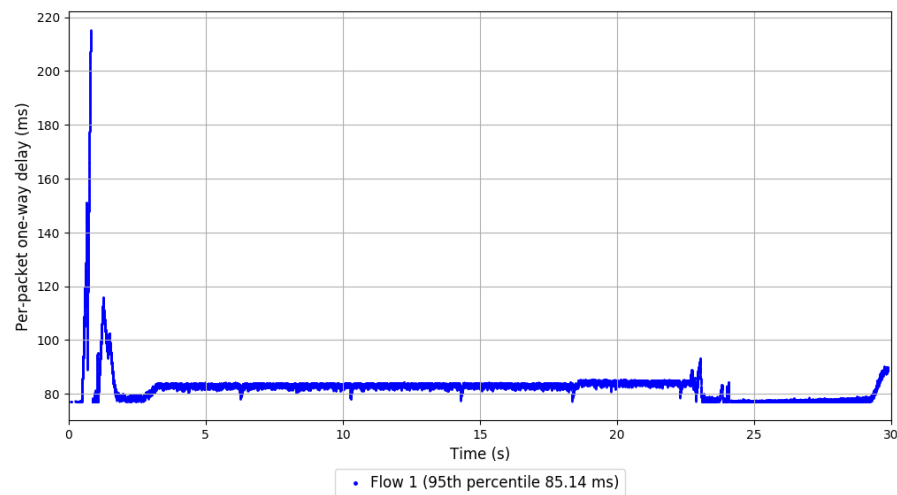
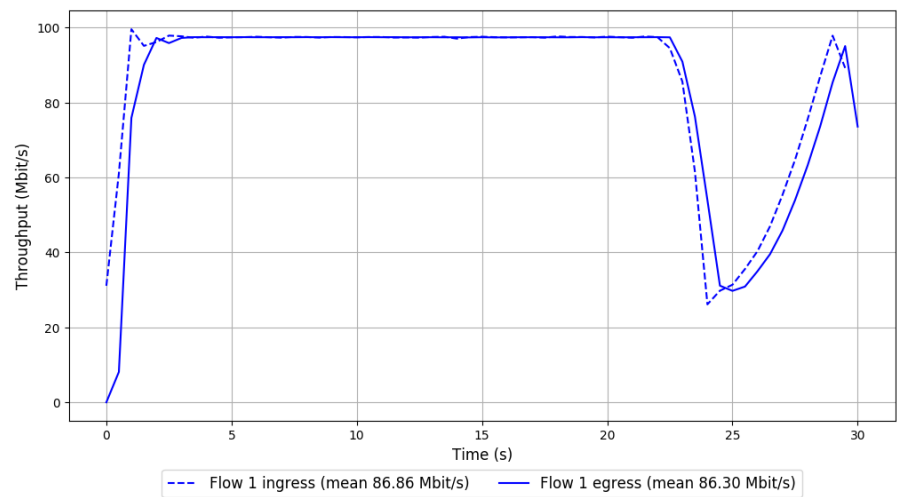
-- Flow 1:

Average throughput: 86.30 Mbit/s

95th percentile per-packet one-way delay: 85.136 ms

Loss rate: 1.17%

Run 2: Report of Indigo-Muses — Data Link



Run 3: Statistics of Indigo-Muses

Start at: 2018-09-06 15:01:30

End at: 2018-09-06 15:02:00

Local clock offset: 3.833 ms

Remote clock offset: 2.727 ms

Below is generated by plot.py at 2018-09-06 16:02:41

Datalink statistics

-- Total of 1 flow:

Average throughput: 94.50 Mbit/s

95th percentile per-packet one-way delay: 86.341 ms

Loss rate: 1.08%

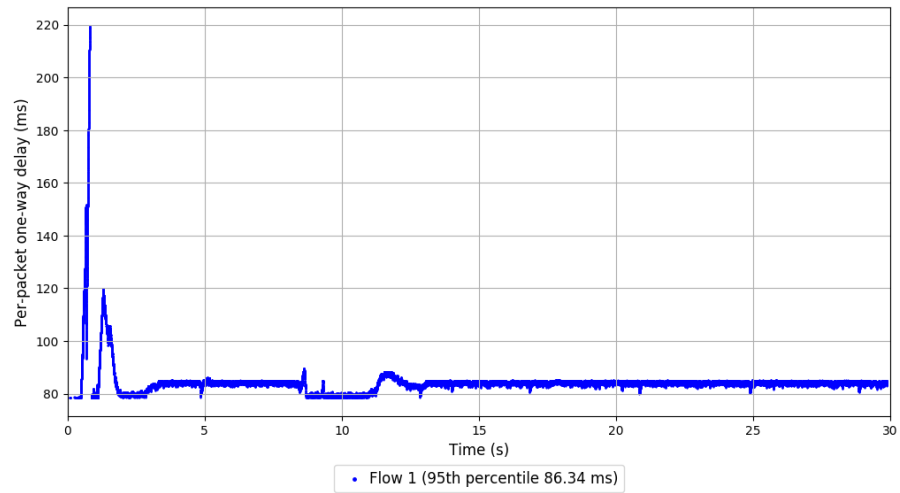
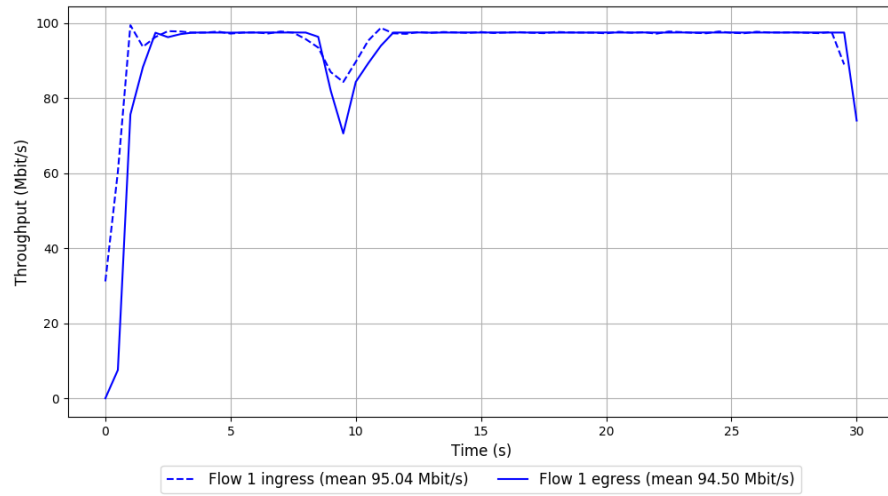
-- Flow 1:

Average throughput: 94.50 Mbit/s

95th percentile per-packet one-way delay: 86.341 ms

Loss rate: 1.08%

Run 3: Report of Indigo-Muses — Data Link



Run 4: Statistics of Indigo-Muses

Start at: 2018-09-06 15:22:48

End at: 2018-09-06 15:23:18

Local clock offset: 4.492 ms

Remote clock offset: 0.968 ms

Below is generated by plot.py at 2018-09-06 16:02:42

Datalink statistics

-- Total of 1 flow:

Average throughput: 95.59 Mbit/s

95th percentile per-packet one-way delay: 85.358 ms

Loss rate: 0.55%

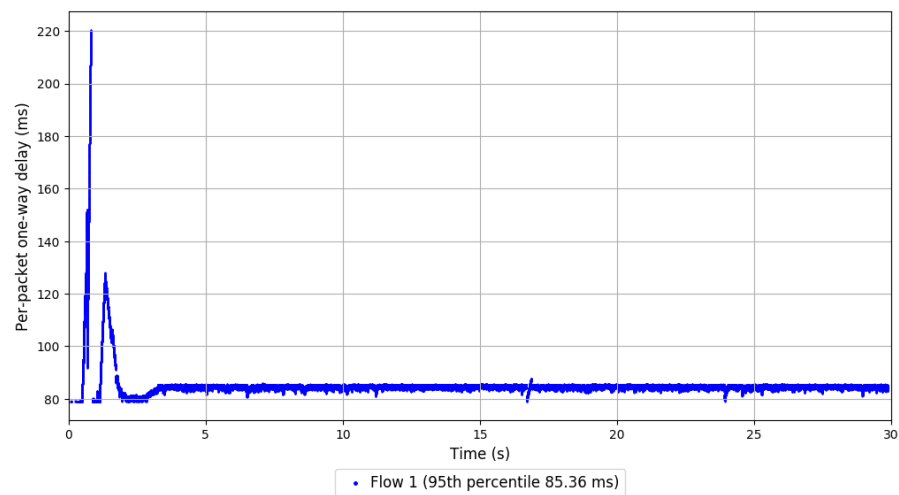
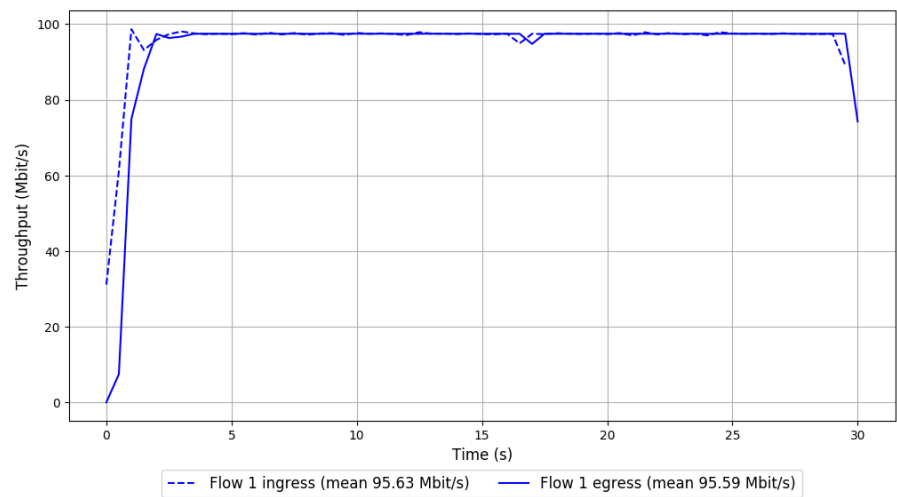
-- Flow 1:

Average throughput: 95.59 Mbit/s

95th percentile per-packet one-way delay: 85.358 ms

Loss rate: 0.55%

Run 4: Report of Indigo-Muses — Data Link



Run 5: Statistics of Indigo-Muses

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

End at: 2018-09-06 15:44:58

Local clock offset: 3.64 ms

Remote clock offset: 2.324 ms

Below is generated by plot.py at 2018-09-06 16:02:42

Datalink statistics

-- Total of 1 flow:

Average throughput: 89.25 Mbit/s

95th percentile per-packet one-way delay: 87.857 ms

Loss rate: 1.31%

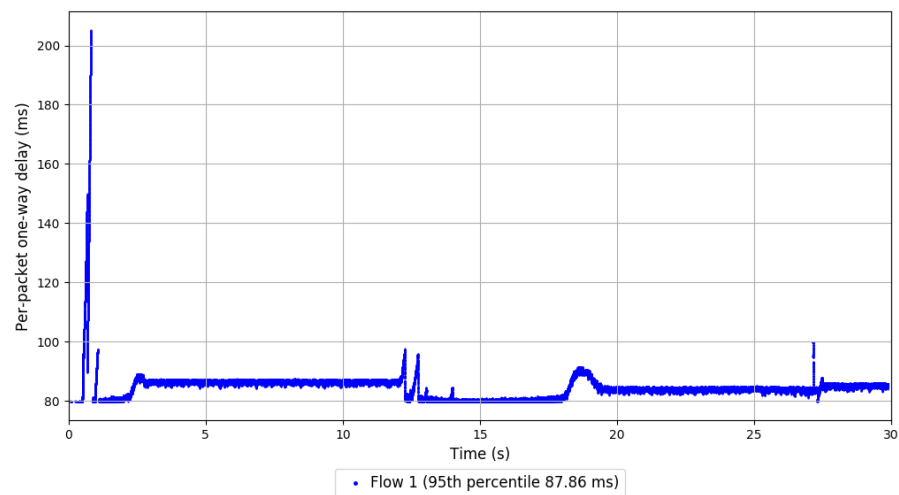
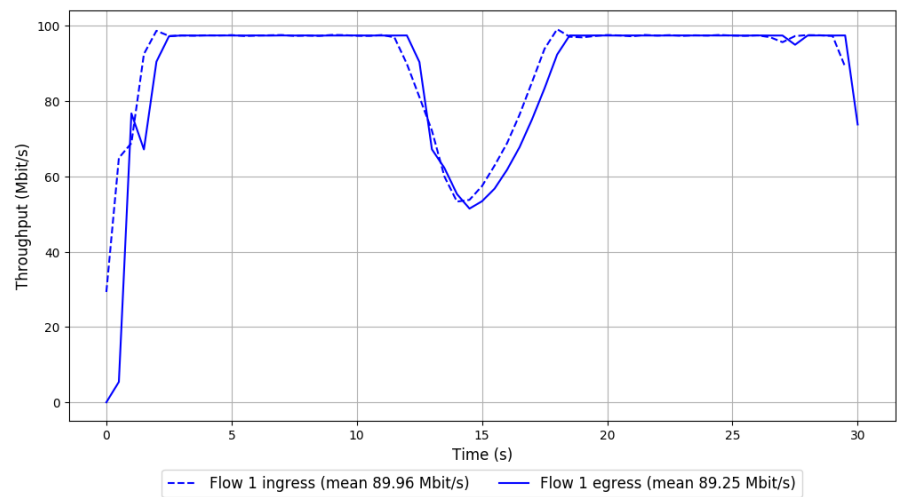
-- Flow 1:

Average throughput: 89.25 Mbit/s

95th percentile per-packet one-way delay: 87.857 ms

Loss rate: 1.31%

Run 5: Report of Indigo-Muses — Data Link

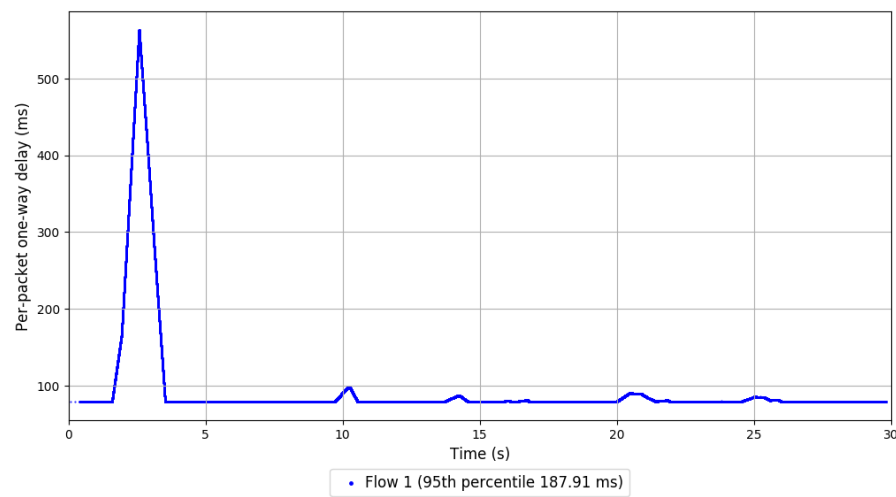
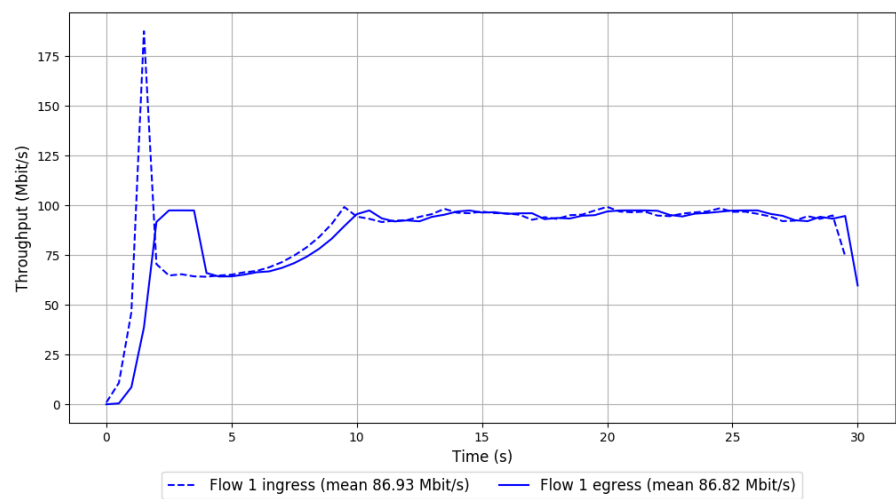


```
Run 1: Statistics of PCC-Allegro

Start at: 2018-09-06 14:12:57
End at: 2018-09-06 14:13:27
Local clock offset: 5.32 ms
Remote clock offset: -0.489 ms

# Below is generated by plot.py at 2018-09-06 16:02:42
# Datalink statistics
-- Total of 1 flow:
Average throughput: 86.82 Mbit/s
95th percentile per-packet one-way delay: 187.909 ms
Loss rate: 0.64%
-- Flow 1:
Average throughput: 86.82 Mbit/s
95th percentile per-packet one-way delay: 187.909 ms
Loss rate: 0.64%
```

Run 1: Report of PCC-Allegro — Data Link



Run 2: Statistics of PCC-Allegro

Start at: 2018-09-06 14:34:21

End at: 2018-09-06 14:34:51

Local clock offset: 3.69 ms

Remote clock offset: -0.035 ms

Below is generated by plot.py at 2018-09-06 16:02:54

Datalink statistics

-- Total of 1 flow:

Average throughput: 85.10 Mbit/s

95th percentile per-packet one-way delay: 201.770 ms

Loss rate: 1.77%

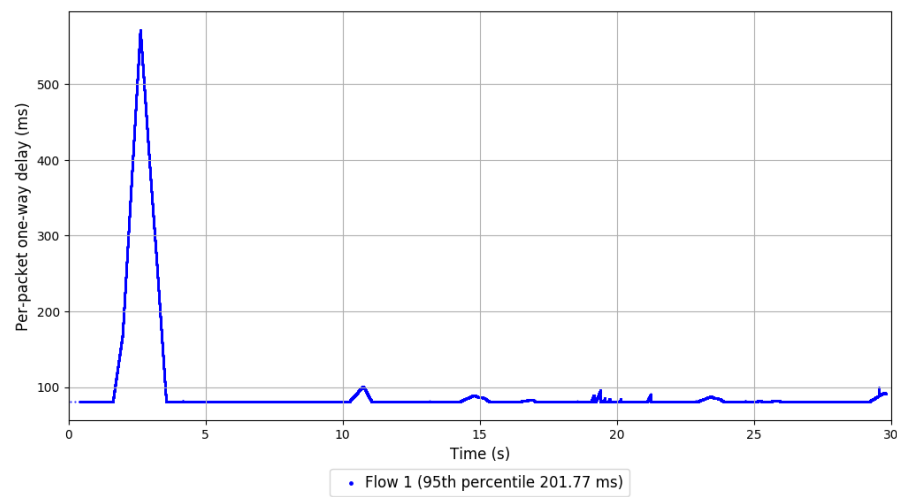
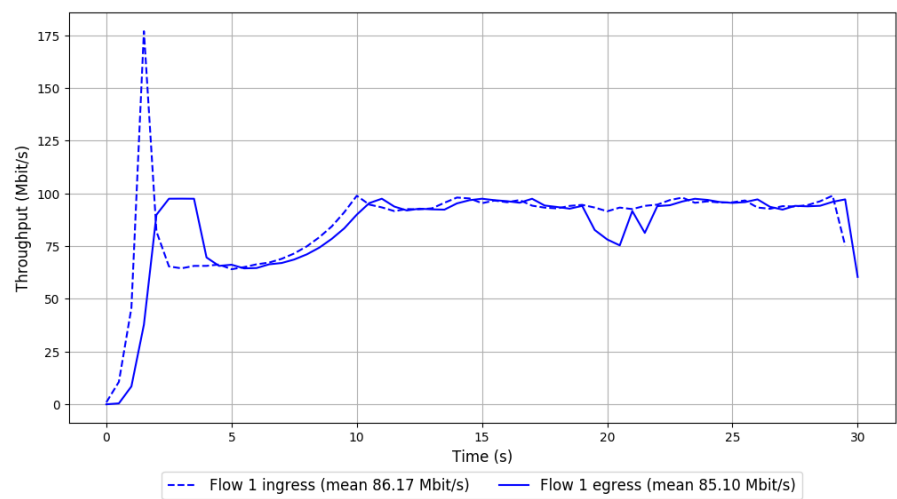
-- Flow 1:

Average throughput: 85.10 Mbit/s

95th percentile per-packet one-way delay: 201.770 ms

Loss rate: 1.77%

Run 2: Report of PCC-Allegro — Data Link



Run 3: Statistics of PCC-Allegro

Start at: 2018-09-06 14:55:35

End at: 2018-09-06 14:56:05

Local clock offset: 3.793 ms

Remote clock offset: 1.482 ms

Below is generated by plot.py at 2018-09-06 16:02:57

Datalink statistics

-- Total of 1 flow:

Average throughput: 83.29 Mbit/s

95th percentile per-packet one-way delay: 192.005 ms

Loss rate: 1.25%

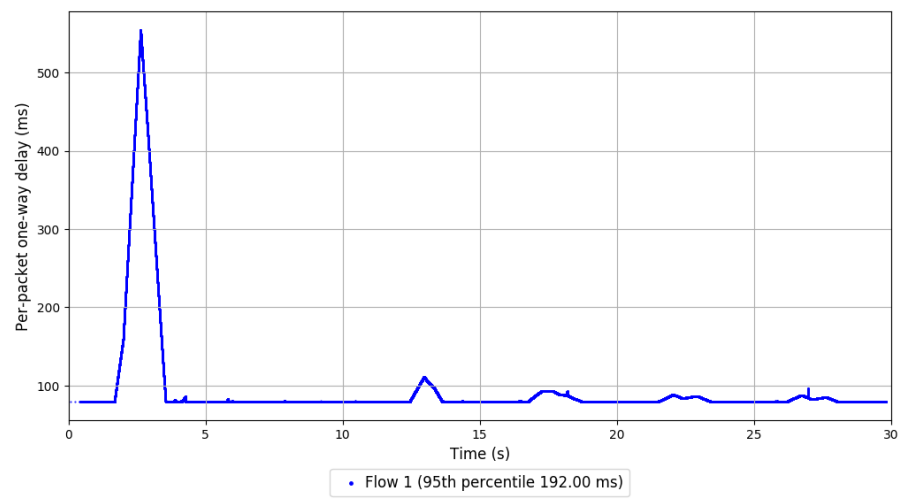
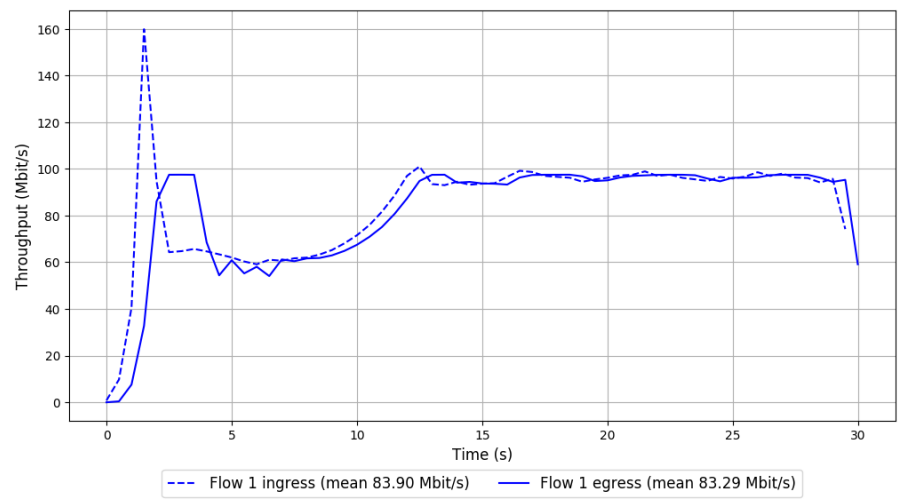
-- Flow 1:

Average throughput: 83.29 Mbit/s

95th percentile per-packet one-way delay: 192.005 ms

Loss rate: 1.25%

Run 3: Report of PCC-Allegro — Data Link



Run 4: Statistics of PCC-Allegro

Start at: 2018-09-06 15:16:50

End at: 2018-09-06 15:17:20

Local clock offset: 4.658 ms

Remote clock offset: 1.688 ms

Below is generated by plot.py at 2018-09-06 16:03:30

Datalink statistics

-- Total of 1 flow:

Average throughput: 87.42 Mbit/s

95th percentile per-packet one-way delay: 175.618 ms

Loss rate: 0.65%

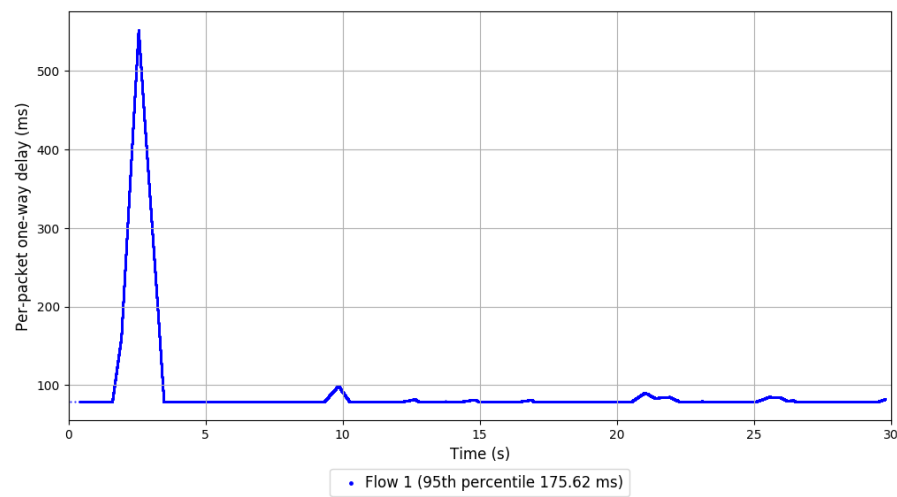
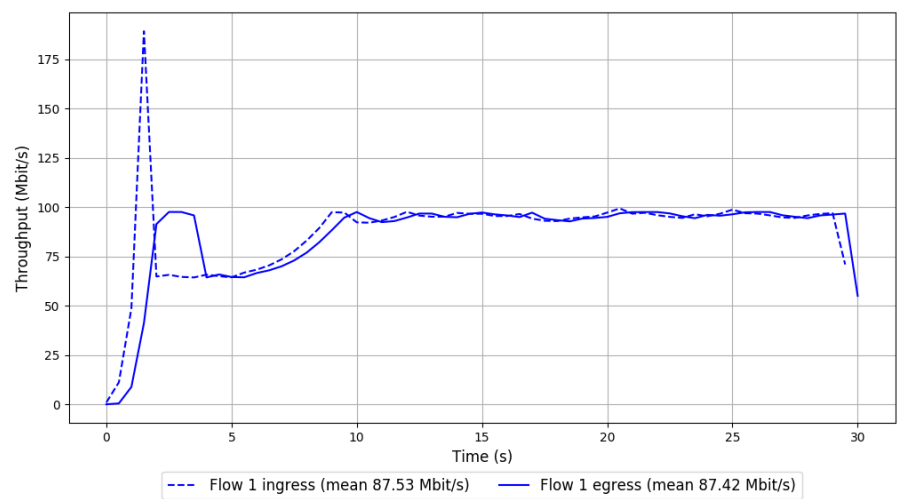
-- Flow 1:

Average throughput: 87.42 Mbit/s

95th percentile per-packet one-way delay: 175.618 ms

Loss rate: 0.65%

Run 4: Report of PCC-Allegro — Data Link



Run 5: Statistics of PCC-Allegro

Start at: 2018-09-06 15:38:31

End at: 2018-09-06 15:39:01

Local clock offset: 3.629 ms

Remote clock offset: 1.982 ms

Below is generated by plot.py at 2018-09-06 16:03:33

Datalink statistics

-- Total of 1 flow:

Average throughput: 86.55 Mbit/s

95th percentile per-packet one-way delay: 185.620 ms

Loss rate: 1.21%

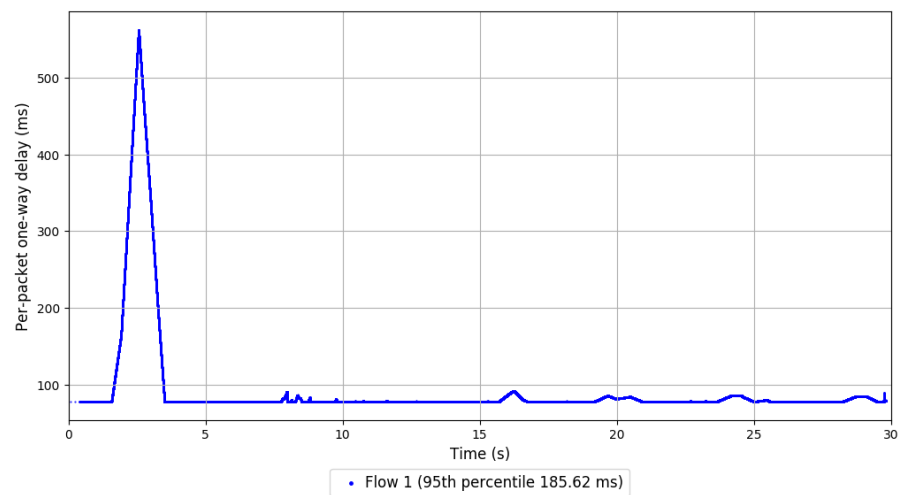
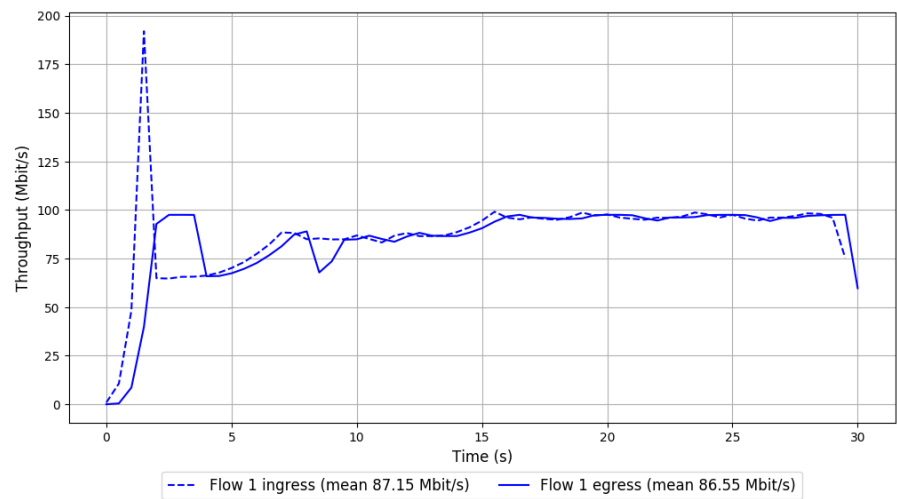
-- Flow 1:

Average throughput: 86.55 Mbit/s

95th percentile per-packet one-way delay: 185.620 ms

Loss rate: 1.21%

Run 5: Report of PCC-Allegro — Data Link

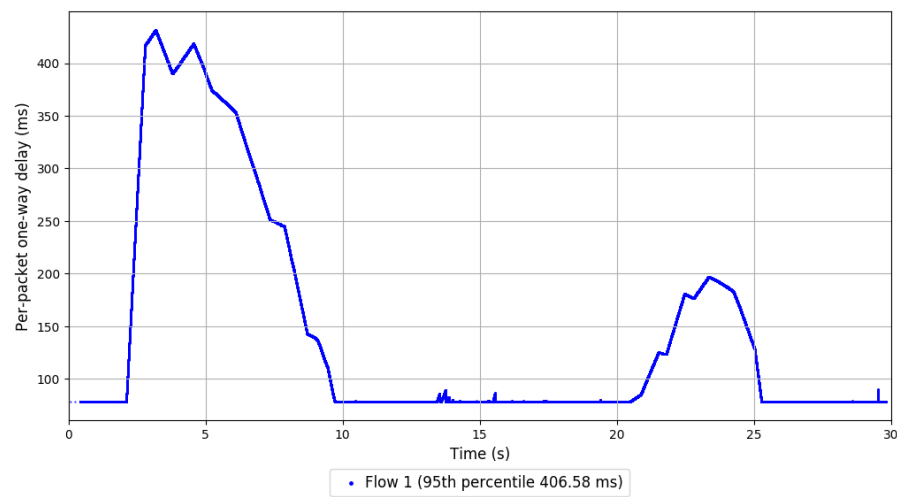
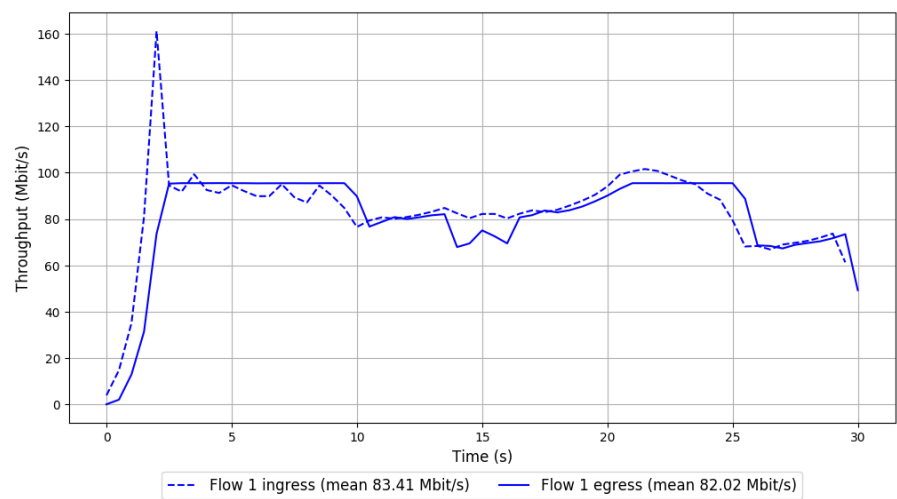


Run 1: Statistics of PCC-Expr

Start at: 2018-09-06 14:16:29
End at: 2018-09-06 14:16:59
Local clock offset: 4.477 ms
Remote clock offset: -0.412 ms

Below is generated by plot.py at 2018-09-06 16:04:28
Datalink statistics
-- Total of 1 flow:
Average throughput: 82.02 Mbit/s
95th percentile per-packet one-way delay: 406.581 ms
Loss rate: 2.17%
-- Flow 1:
Average throughput: 82.02 Mbit/s
95th percentile per-packet one-way delay: 406.581 ms
Loss rate: 2.17%

Run 1: Report of PCC-Expr — Data Link

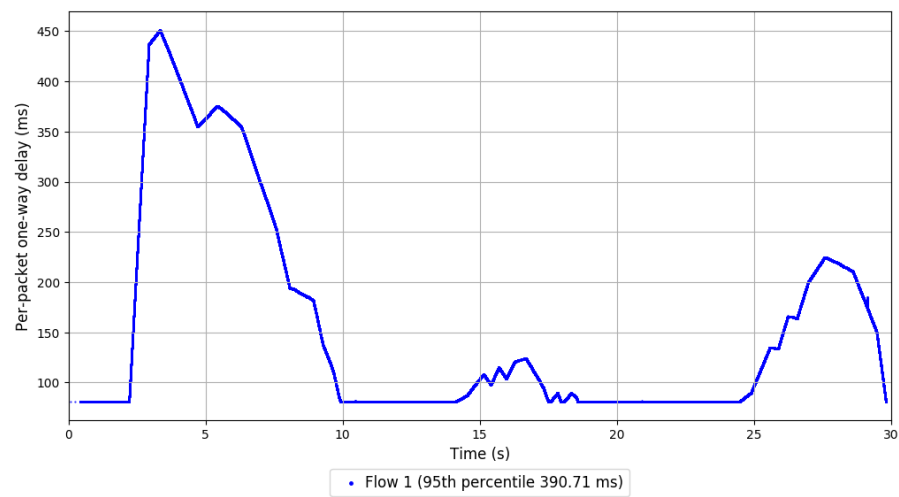
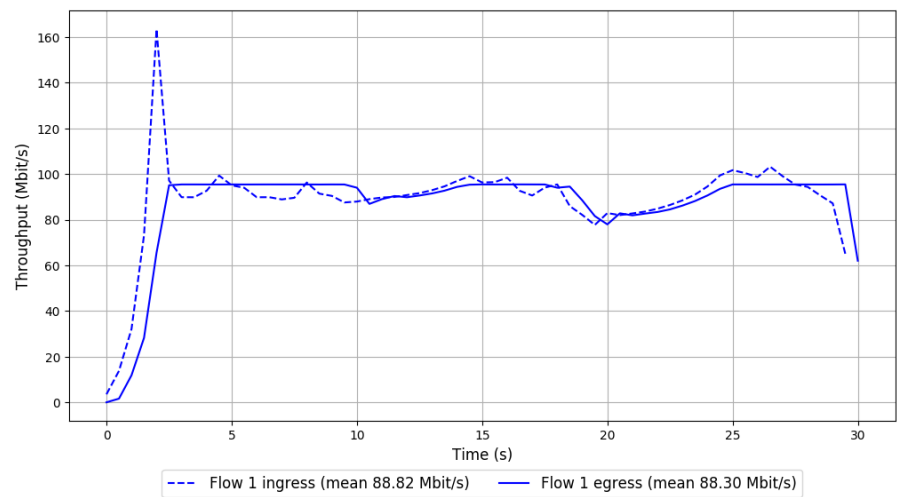


Run 2: Statistics of PCC-Expr

Start at: 2018-09-06 14:37:51
End at: 2018-09-06 14:38:21
Local clock offset: 3.604 ms
Remote clock offset: -0.077 ms

Below is generated by plot.py at 2018-09-06 16:04:41
Datalink statistics
-- Total of 1 flow:
Average throughput: 88.30 Mbit/s
95th percentile per-packet one-way delay: 390.710 ms
Loss rate: 1.11%
-- Flow 1:
Average throughput: 88.30 Mbit/s
95th percentile per-packet one-way delay: 390.710 ms
Loss rate: 1.11%

Run 2: Report of PCC-Expr — Data Link



Run 3: Statistics of PCC-Expr

Start at: 2018-09-06 14:59:05

End at: 2018-09-06 14:59:35

Local clock offset: 3.749 ms

Remote clock offset: 1.498 ms

Below is generated by plot.py at 2018-09-06 16:04:41

Datalink statistics

-- Total of 1 flow:

Average throughput: 84.24 Mbit/s

95th percentile per-packet one-way delay: 381.614 ms

Loss rate: 1.66%

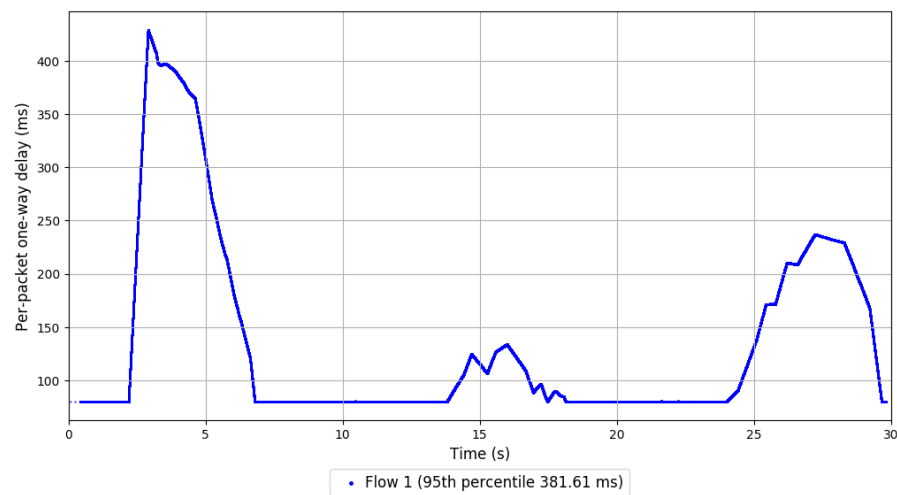
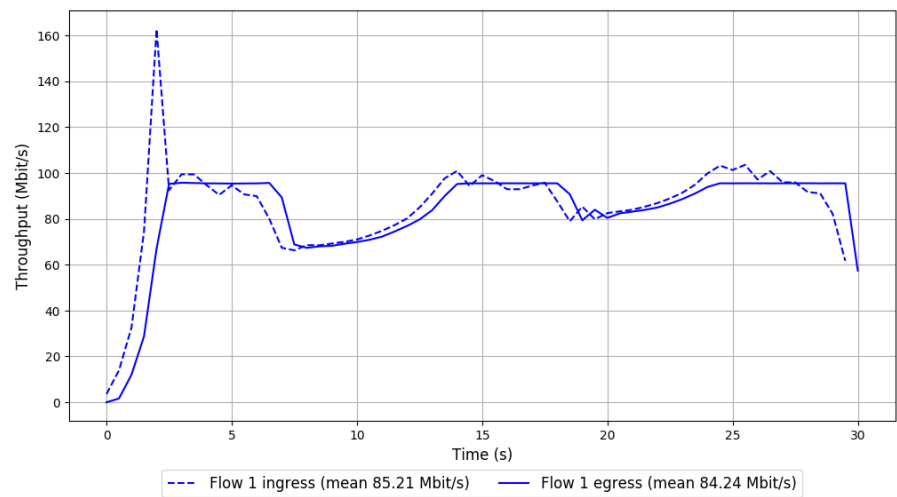
-- Flow 1:

Average throughput: 84.24 Mbit/s

95th percentile per-packet one-way delay: 381.614 ms

Loss rate: 1.66%

Run 3: Report of PCC-Expr — Data Link



Run 4: Statistics of PCC-Expr

Start at: 2018-09-06 15:20:23

End at: 2018-09-06 15:20:53

Local clock offset: 4.587 ms

Remote clock offset: 0.636 ms

Below is generated by plot.py at 2018-09-06 16:04:41

Datalink statistics

-- Total of 1 flow:

Average throughput: 85.93 Mbit/s

95th percentile per-packet one-way delay: 407.985 ms

Loss rate: 2.08%

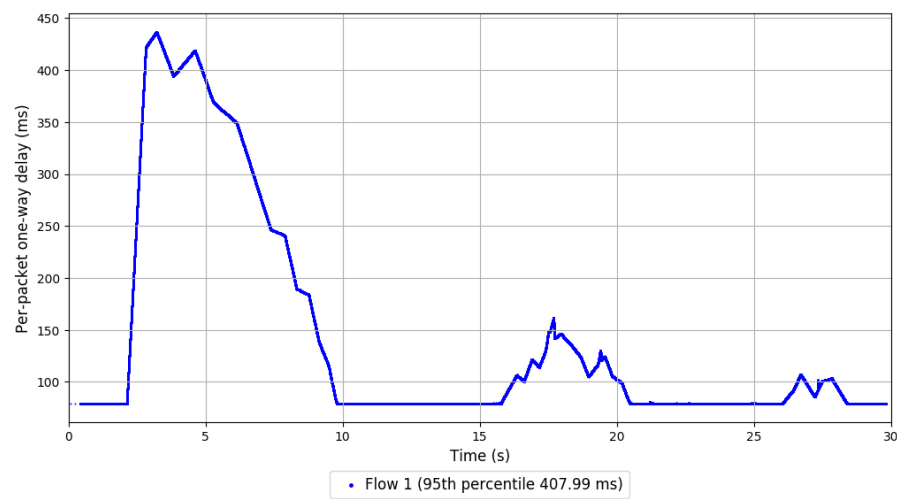
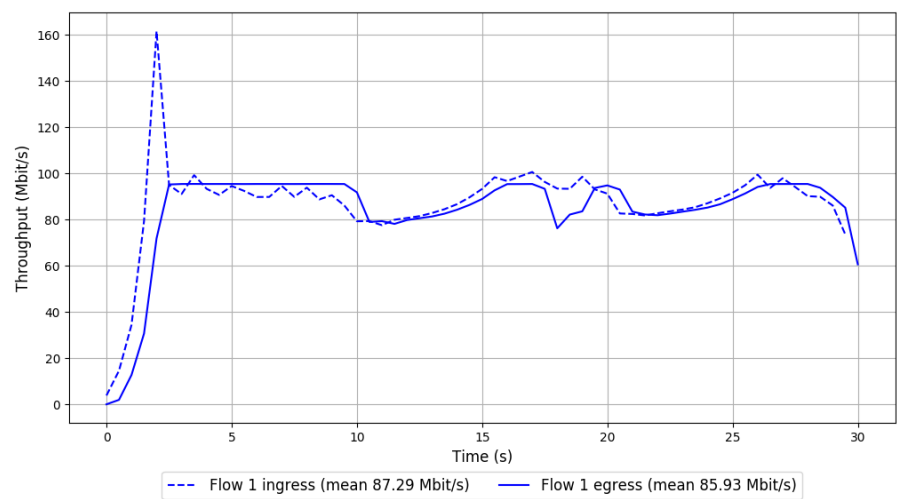
-- Flow 1:

Average throughput: 85.93 Mbit/s

95th percentile per-packet one-way delay: 407.985 ms

Loss rate: 2.08%

Run 4: Report of PCC-Expr — Data Link



Run 5: Statistics of PCC-Expr

Start at: 2018-09-06 15:42:03

End at: 2018-09-06 15:42:33

Local clock offset: 4.434 ms

Remote clock offset: 0.969 ms

Below is generated by plot.py at 2018-09-06 16:04:47

Datalink statistics

-- Total of 1 flow:

Average throughput: 82.76 Mbit/s

95th percentile per-packet one-way delay: 411.899 ms

Loss rate: 0.87%

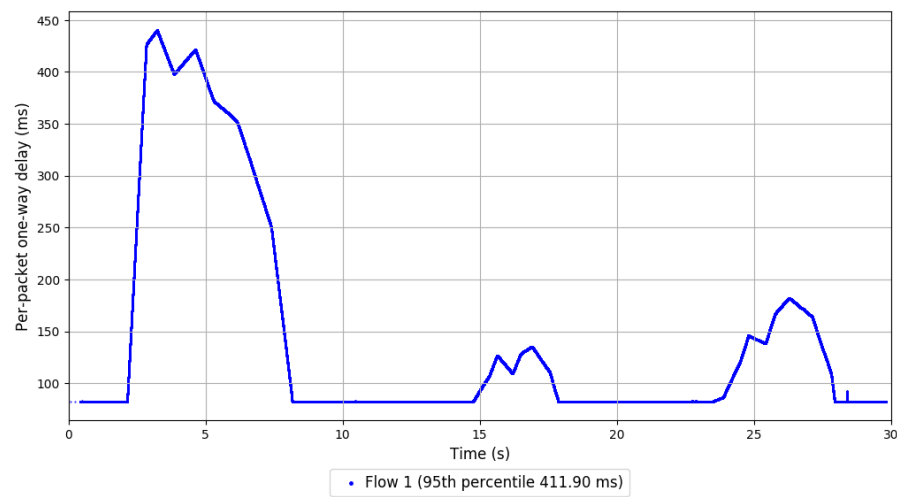
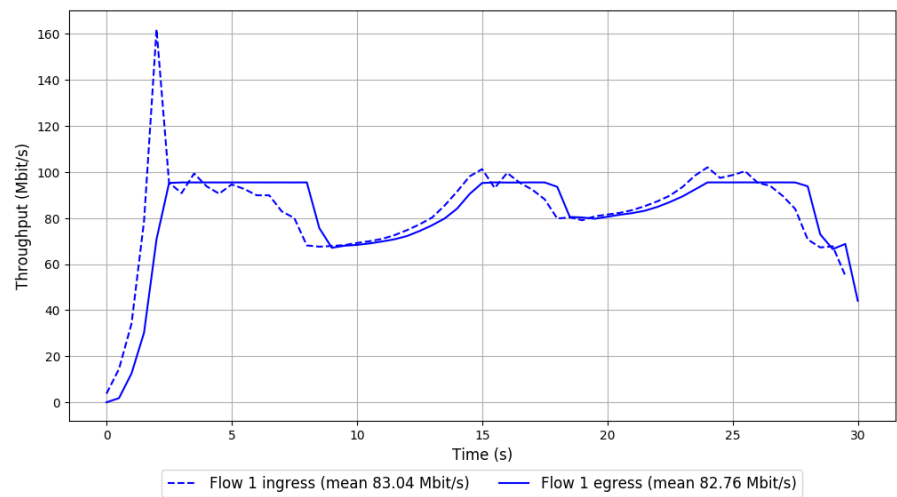
-- Flow 1:

Average throughput: 82.76 Mbit/s

95th percentile per-packet one-way delay: 411.899 ms

Loss rate: 0.87%

Run 5: Report of PCC-Expr — Data Link



Run 1: Statistics of QUIC Cubic

Start at: 2018-09-06 14:29:38

End at: 2018-09-06 14:30:08

Local clock offset: 3.808 ms

Remote clock offset: 0.993 ms

Below is generated by plot.py at 2018-09-06 16:04:47

Datalink statistics

-- Total of 1 flow:

Average throughput: 60.13 Mbit/s

95th percentile per-packet one-way delay: 87.216 ms

Loss rate: 0.82%

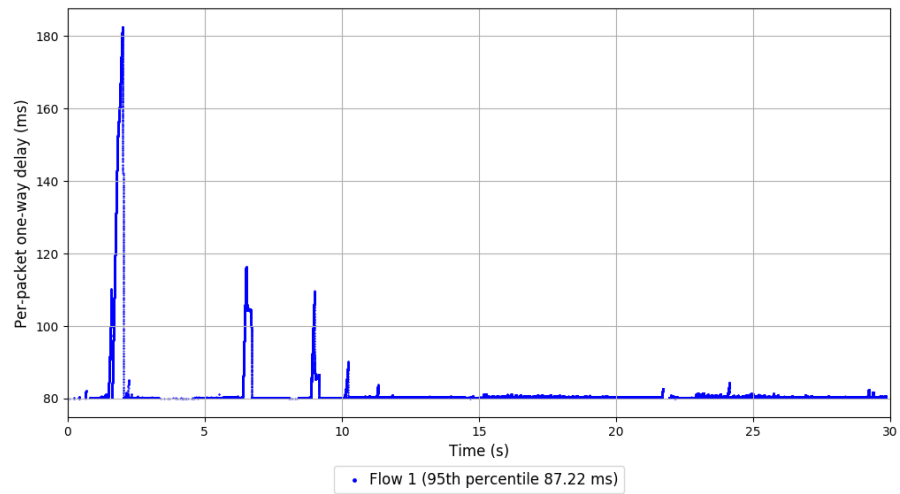
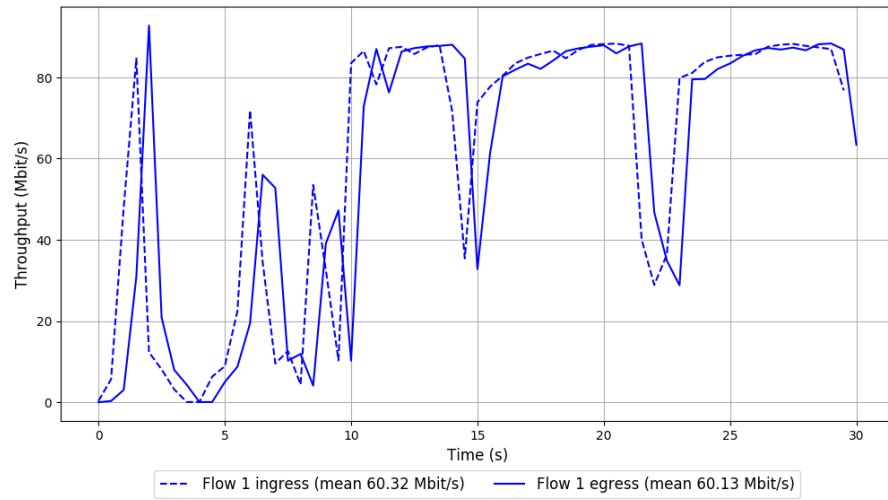
-- Flow 1:

Average throughput: 60.13 Mbit/s

95th percentile per-packet one-way delay: 87.216 ms

Loss rate: 0.82%

Run 1: Report of QUIC Cubic — Data Link



Run 2: Statistics of QUIC Cubic

Start at: 2018-09-06 14:50:54

End at: 2018-09-06 14:51:24

Local clock offset: 4.417 ms

Remote clock offset: 0.214 ms

Below is generated by plot.py at 2018-09-06 16:04:47

Datalink statistics

-- Total of 1 flow:

Average throughput: 60.22 Mbit/s

95th percentile per-packet one-way delay: 88.931 ms

Loss rate: 0.80%

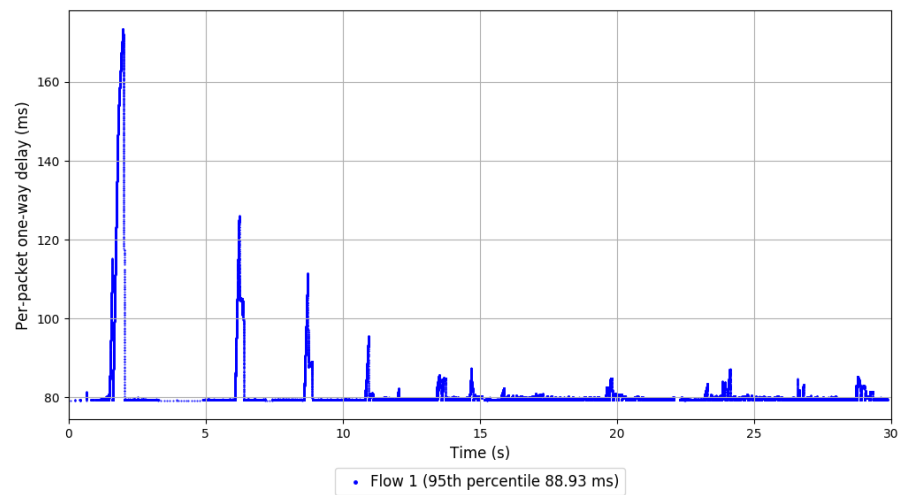
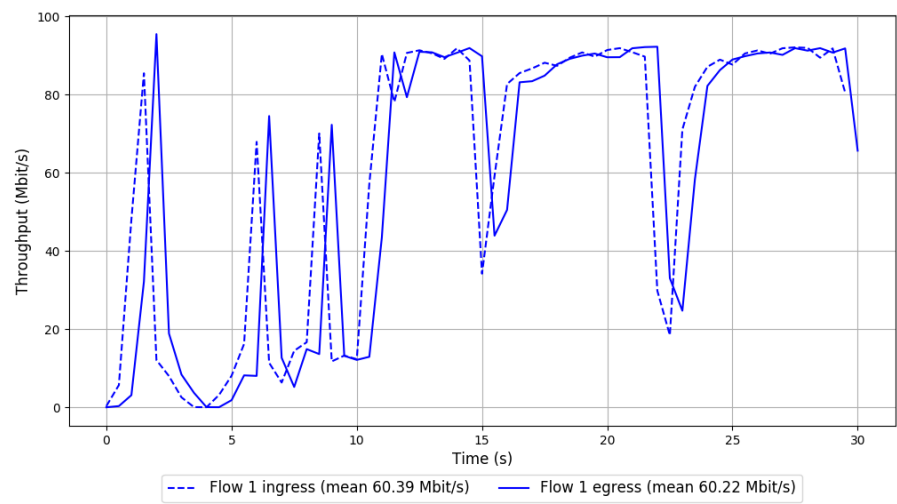
-- Flow 1:

Average throughput: 60.22 Mbit/s

95th percentile per-packet one-way delay: 88.931 ms

Loss rate: 0.80%

Run 2: Report of QUIC Cubic — Data Link



Run 3: Statistics of QUIC Cubic

Start at: 2018-09-06 15:12:04

End at: 2018-09-06 15:12:34

Local clock offset: 3.91 ms

Remote clock offset: 0.604 ms

Below is generated by plot.py at 2018-09-06 16:04:47

Datalink statistics

-- Total of 1 flow:

Average throughput: 61.49 Mbit/s

95th percentile per-packet one-way delay: 95.642 ms

Loss rate: 0.80%

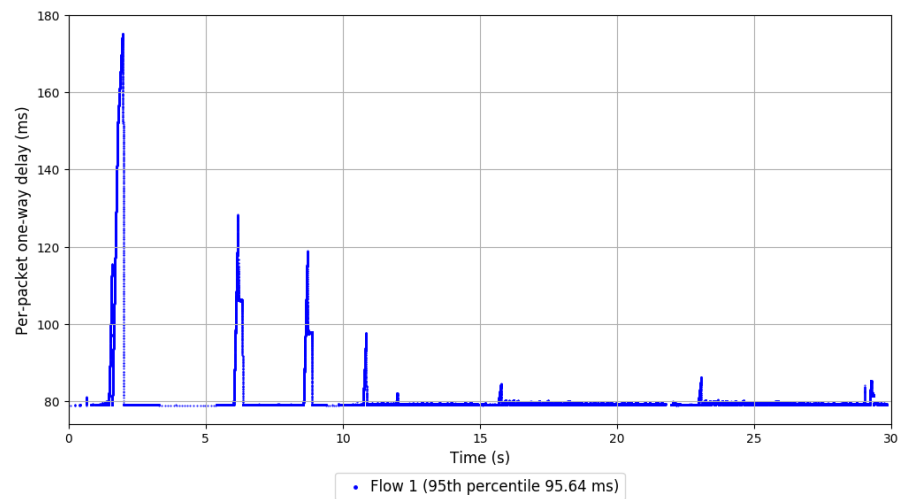
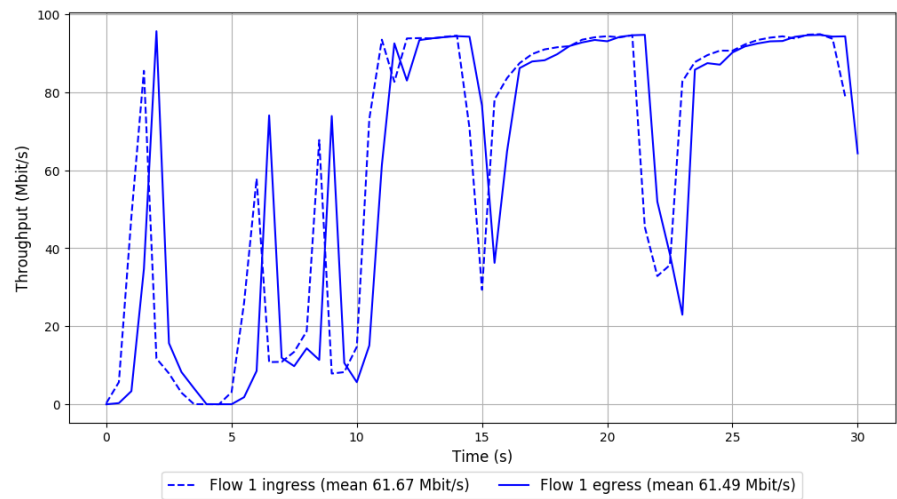
-- Flow 1:

Average throughput: 61.49 Mbit/s

95th percentile per-packet one-way delay: 95.642 ms

Loss rate: 0.80%

Run 3: Report of QUIC Cubic — Data Link



Run 4: Statistics of QUIC Cubic

Start at: 2018-09-06 15:33:48

End at: 2018-09-06 15:34:18

Local clock offset: 3.72 ms

Remote clock offset: 1.003 ms

Below is generated by plot.py at 2018-09-06 16:04:47

Datalink statistics

-- Total of 1 flow:

Average throughput: 59.22 Mbit/s

95th percentile per-packet one-way delay: 94.964 ms

Loss rate: 0.83%

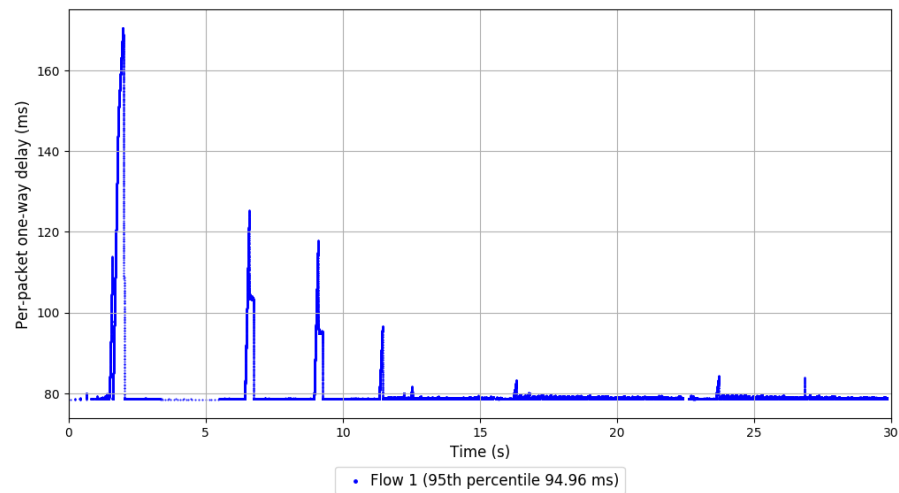
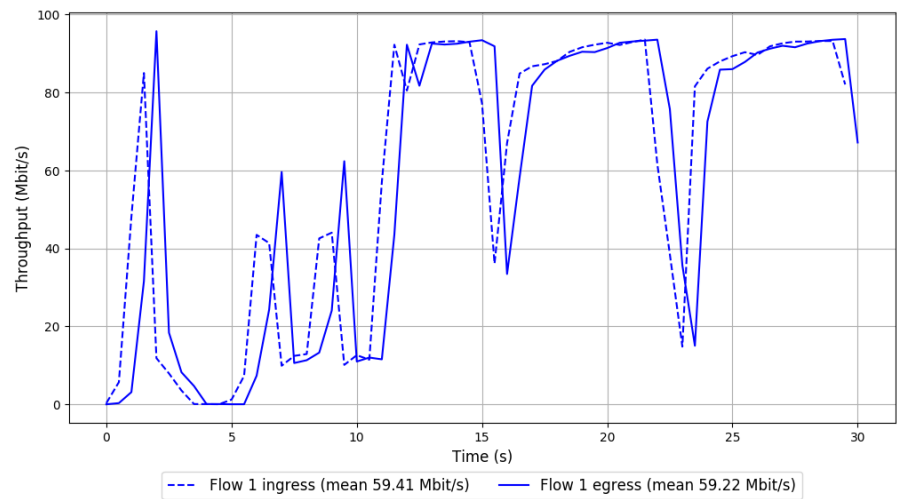
-- Flow 1:

Average throughput: 59.22 Mbit/s

95th percentile per-packet one-way delay: 94.964 ms

Loss rate: 0.83%

Run 4: Report of QUIC Cubic — Data Link



Run 5: Statistics of QUIC Cubic

Start at: 2018-09-06 15:55:02

End at: 2018-09-06 15:55:32

Local clock offset: 5.812 ms

Remote clock offset: 2.094 ms

Below is generated by plot.py at 2018-09-06 16:05:12

Datalink statistics

-- Total of 1 flow:

Average throughput: 59.73 Mbit/s

95th percentile per-packet one-way delay: 94.236 ms

Loss rate: 0.82%

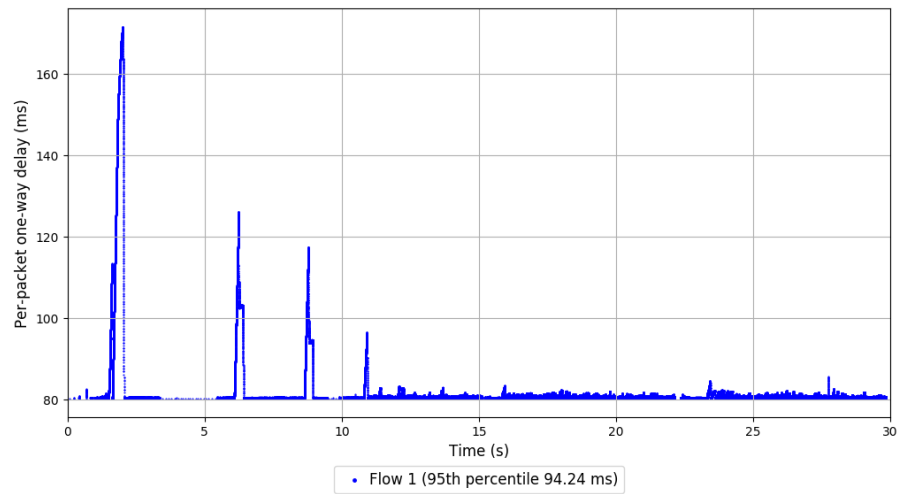
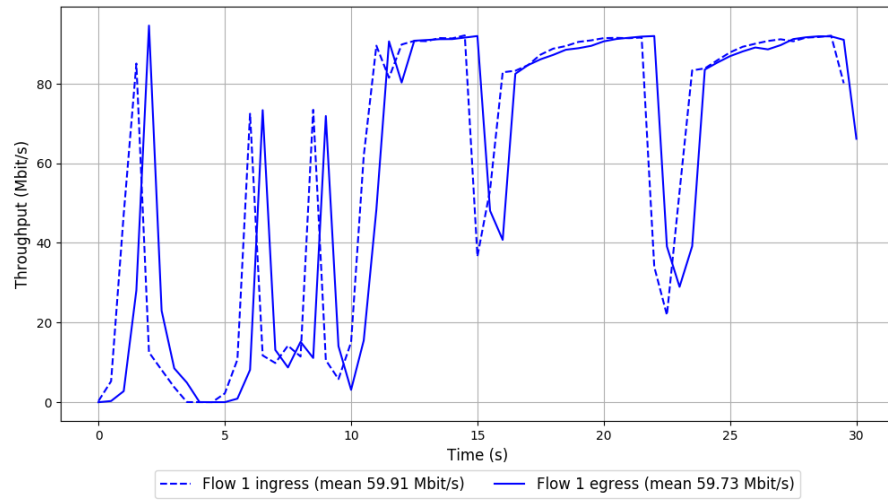
-- Flow 1:

Average throughput: 59.73 Mbit/s

95th percentile per-packet one-way delay: 94.236 ms

Loss rate: 0.82%

Run 5: Report of QUIC Cubic — Data Link

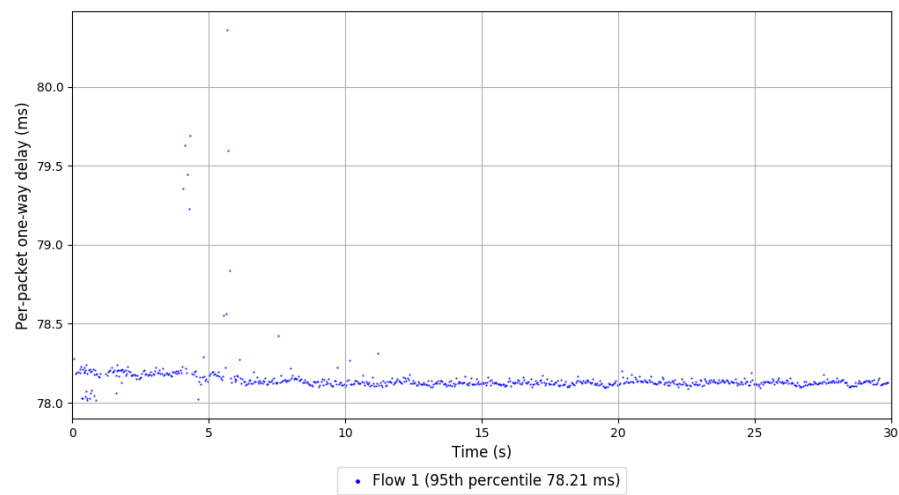
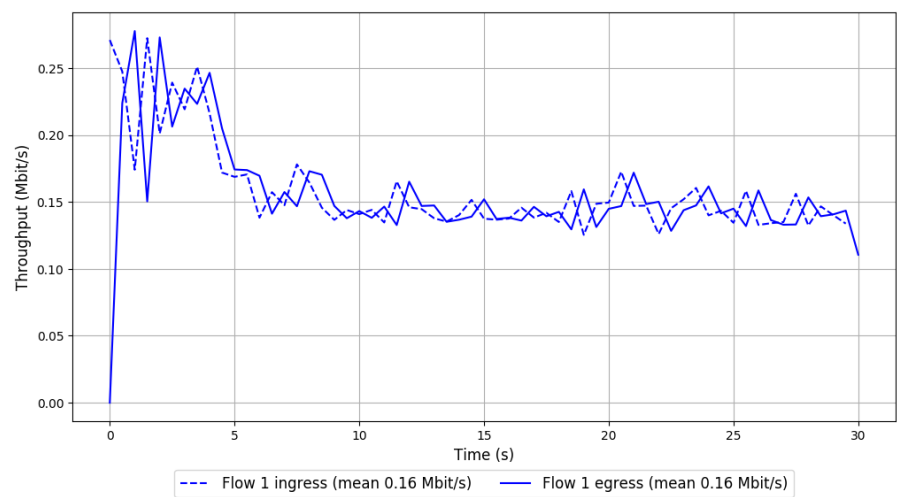


```
Run 1: Statistics of SCReAM

Start at: 2018-09-06 14:10:37
End at: 2018-09-06 14:11:07
Local clock offset: 4.581 ms
Remote clock offset: 0.614 ms

# Below is generated by plot.py at 2018-09-06 16:05:12
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.16 Mbit/s
95th percentile per-packet one-way delay: 78.206 ms
Loss rate: 0.66%
-- Flow 1:
Average throughput: 0.16 Mbit/s
95th percentile per-packet one-way delay: 78.206 ms
Loss rate: 0.66%
```

Run 1: Report of SReAM — Data Link

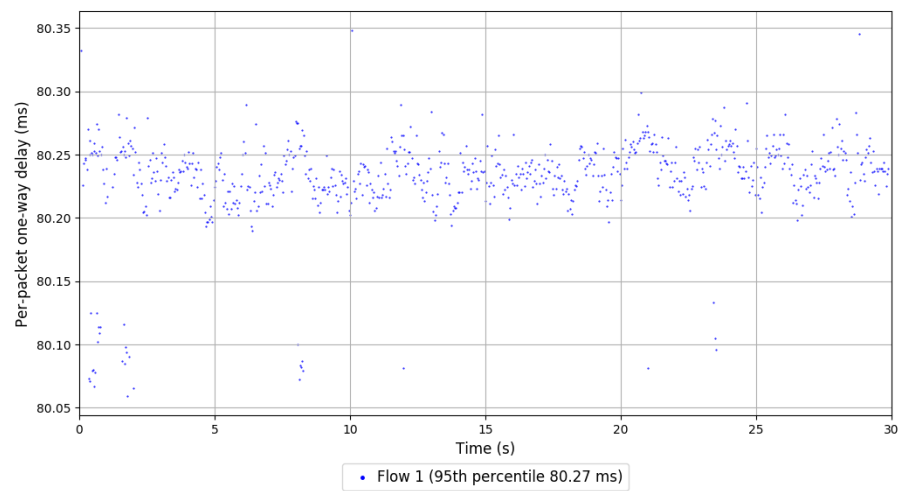
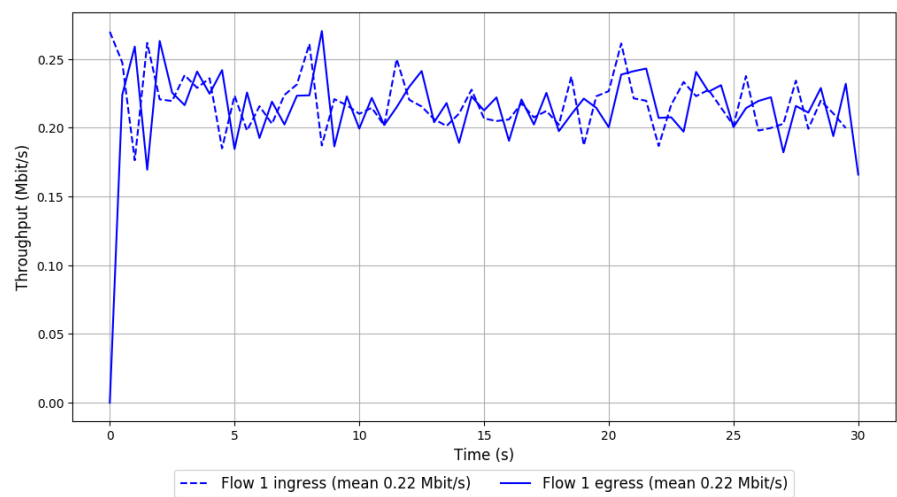


```
Run 2: Statistics of SCReAM

Start at: 2018-09-06 14:32:01
End at: 2018-09-06 14:32:31
Local clock offset: 4.513 ms
Remote clock offset: 1.143 ms

# Below is generated by plot.py at 2018-09-06 16:05:12
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 80.266 ms
Loss rate: 0.51%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 80.266 ms
Loss rate: 0.51%
```

Run 2: Report of SReAM — Data Link



Run 3: Statistics of SCReAM

Start at: 2018-09-06 14:53:16

End at: 2018-09-06 14:53:46

Local clock offset: 3.745 ms

Remote clock offset: 0.411 ms

Below is generated by plot.py at 2018-09-06 16:05:12

Datalink statistics

-- Total of 1 flow:

Average throughput: 0.19 Mbit/s

95th percentile per-packet one-way delay: 78.492 ms

Loss rate: 0.31%

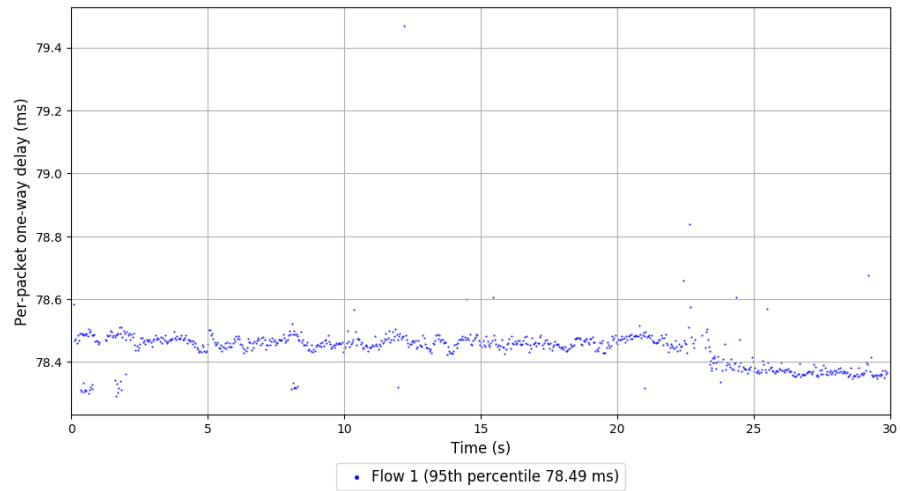
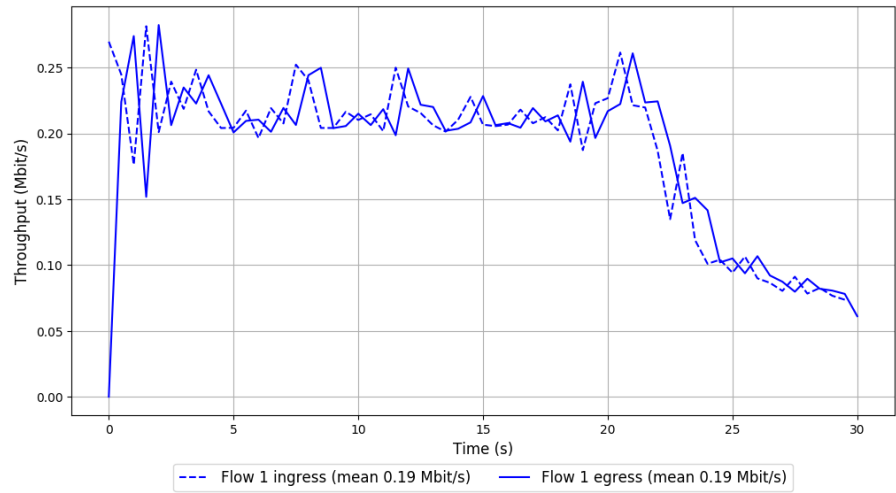
-- Flow 1:

Average throughput: 0.19 Mbit/s

95th percentile per-packet one-way delay: 78.492 ms

Loss rate: 0.31%

Run 3: Report of SReAM — Data Link



Run 4: Statistics of SCReAM

Start at: 2018-09-06 15:14:27

End at: 2018-09-06 15:14:57

Local clock offset: 3.916 ms

Remote clock offset: 0.509 ms

Below is generated by plot.py at 2018-09-06 16:05:12

Datalink statistics

-- Total of 1 flow:

Average throughput: 0.22 Mbit/s

95th percentile per-packet one-way delay: 78.740 ms

Loss rate: 0.51%

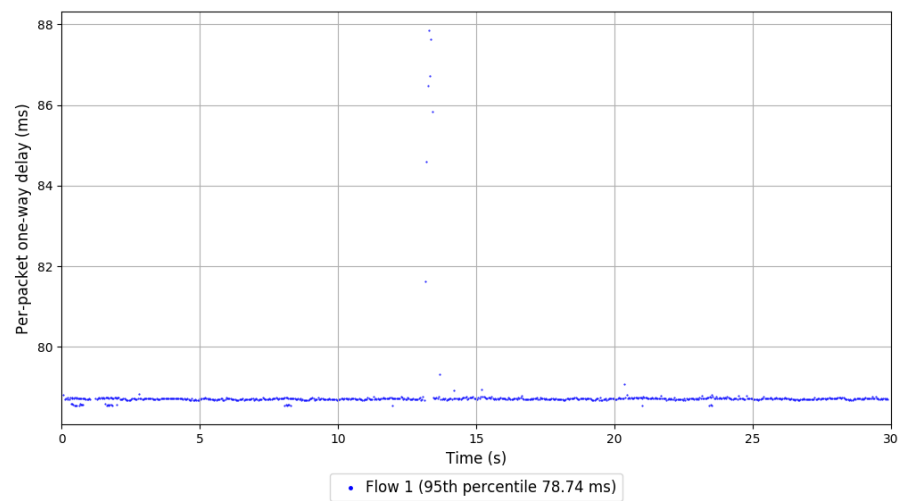
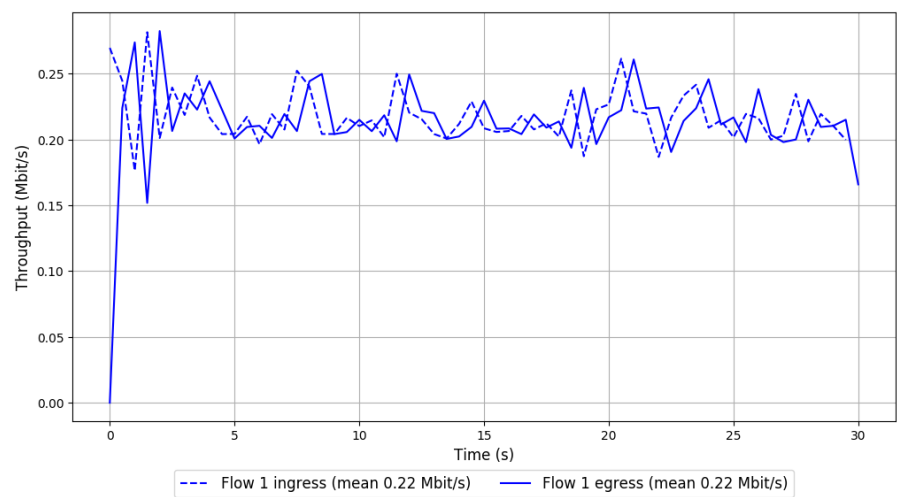
-- Flow 1:

Average throughput: 0.22 Mbit/s

95th percentile per-packet one-way delay: 78.740 ms

Loss rate: 0.51%

Run 4: Report of SReAM — Data Link



Run 5: Statistics of SCReAM

Start at: 2018-09-06 15:36:12

End at: 2018-09-06 15:36:42

Local clock offset: 4.48 ms

Remote clock offset: 2.249 ms

Below is generated by plot.py at 2018-09-06 16:05:12

Datalink statistics

-- Total of 1 flow:

Average throughput: 0.22 Mbit/s

95th percentile per-packet one-way delay: 80.499 ms

Loss rate: 0.61%

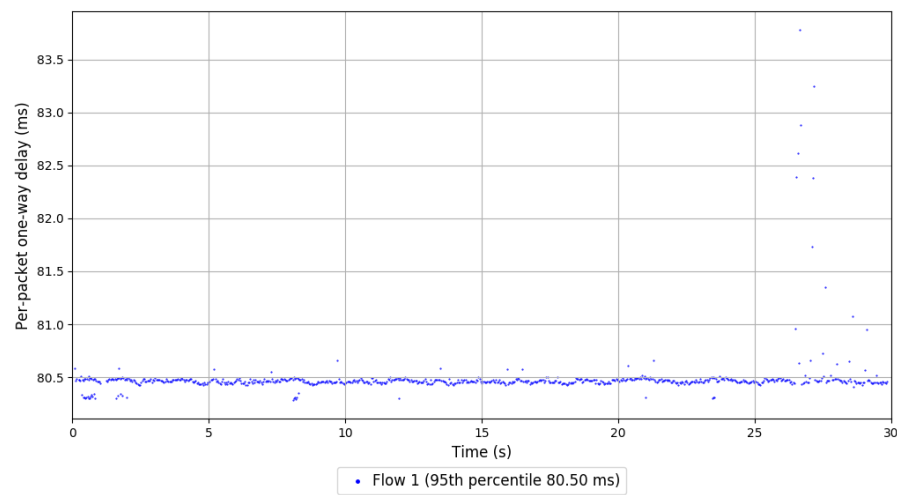
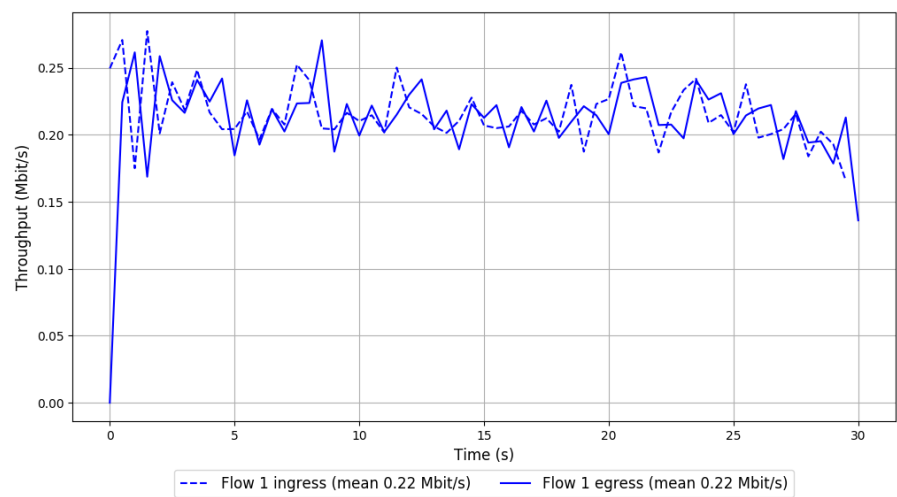
-- Flow 1:

Average throughput: 0.22 Mbit/s

95th percentile per-packet one-way delay: 80.499 ms

Loss rate: 0.61%

Run 5: Report of SReAM — Data Link



Run 1: Statistics of Sprout

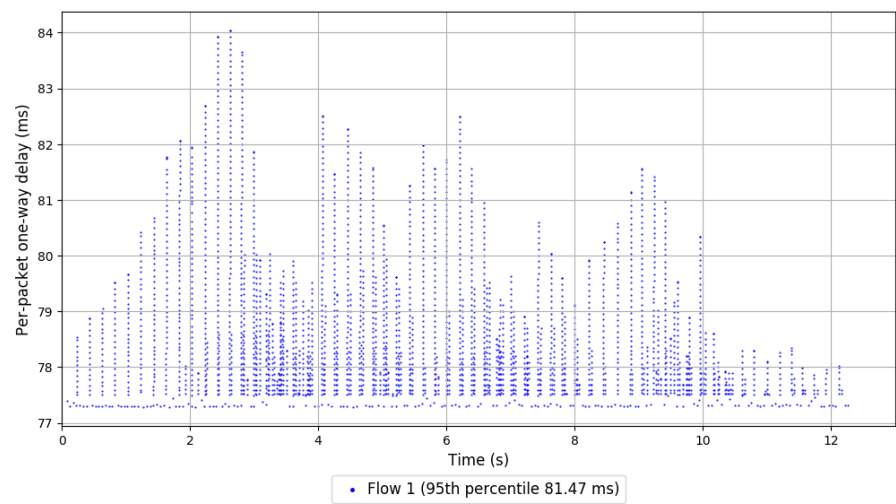
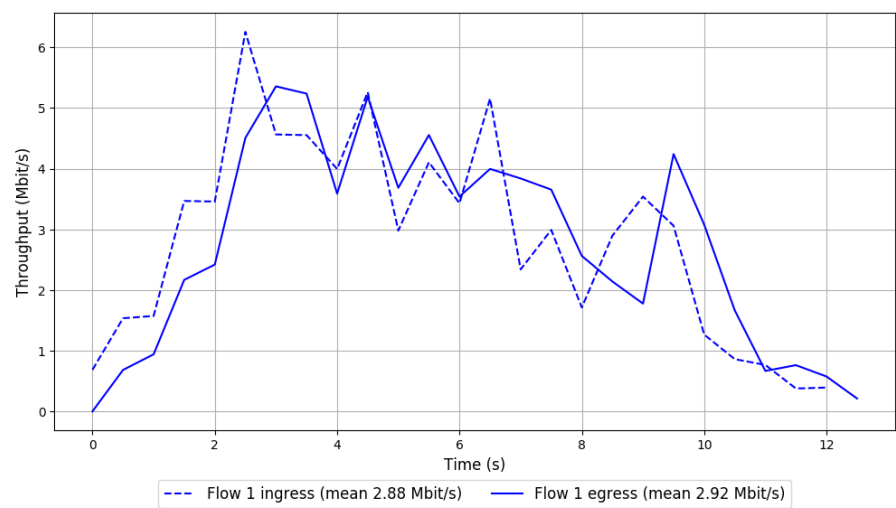
Start at: 2018-09-06 14:26:06

End at: 2018-09-06 14:26:36

Local clock offset: 3.89 ms

Remote clock offset: 0.893 ms

Run 1: Report of Sprout — Data Link



Run 2: Statistics of Sprout

Start at: 2018-09-06 14:47:21

End at: 2018-09-06 14:47:51

Local clock offset: 4.428 ms

Remote clock offset: 1.448 ms

Below is generated by plot.py at 2018-09-06 16:05:12

Datalink statistics

-- Total of 1 flow:

Average throughput: 0.57 Mbit/s

95th percentile per-packet one-way delay: 83.113 ms

Loss rate: 0.27%

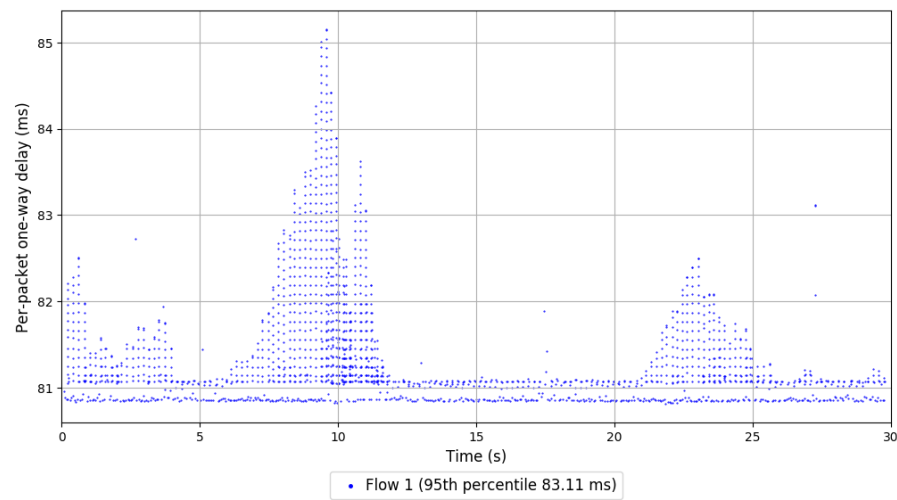
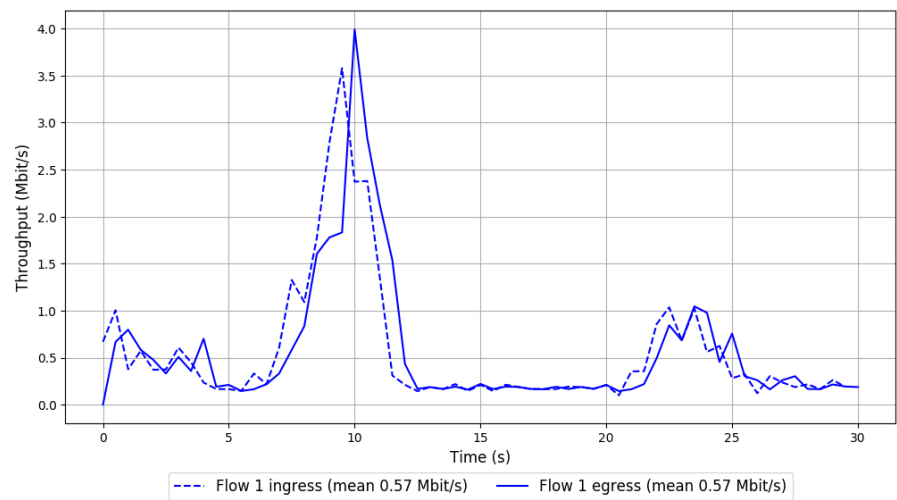
-- Flow 1:

Average throughput: 0.57 Mbit/s

95th percentile per-packet one-way delay: 83.113 ms

Loss rate: 0.27%

Run 2: Report of Sprout — Data Link



Run 3: Statistics of Sprout

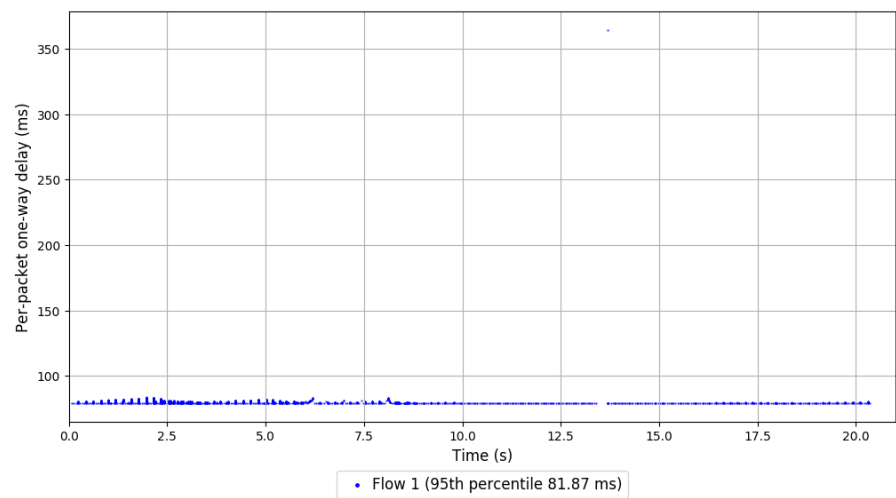
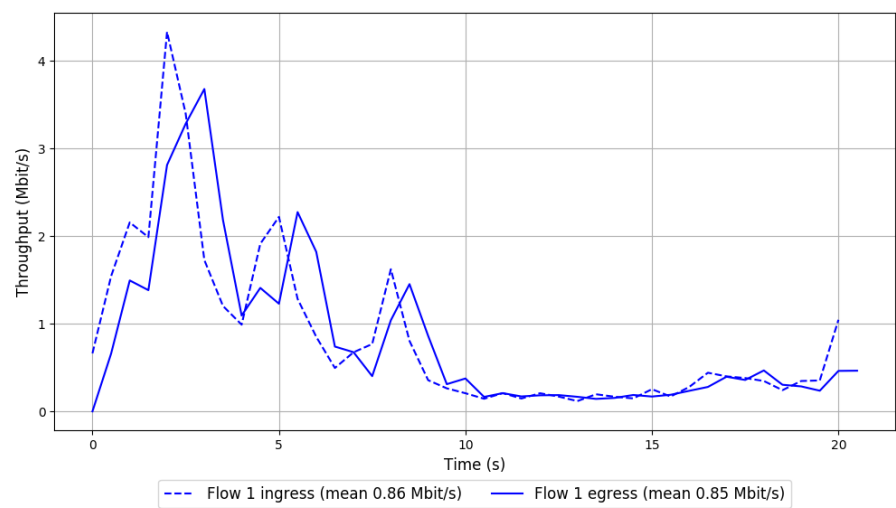
Start at: 2018-09-06 15:08:33

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

Local clock offset: 4.6 ms

Remote clock offset: 0.596 ms

Run 3: Report of Sprout — Data Link



Run 4: Statistics of Sprout

Start at: 2018-09-06 15:30:17

End at: 2018-09-06 15:30:47

Local clock offset: 4.426 ms

Remote clock offset: 0.963 ms

Below is generated by plot.py at 2018-09-06 16:05:12

Datalink statistics

-- Total of 1 flow:

Average throughput: 0.39 Mbit/s

95th percentile per-packet one-way delay: 80.180 ms

Loss rate: 0.57%

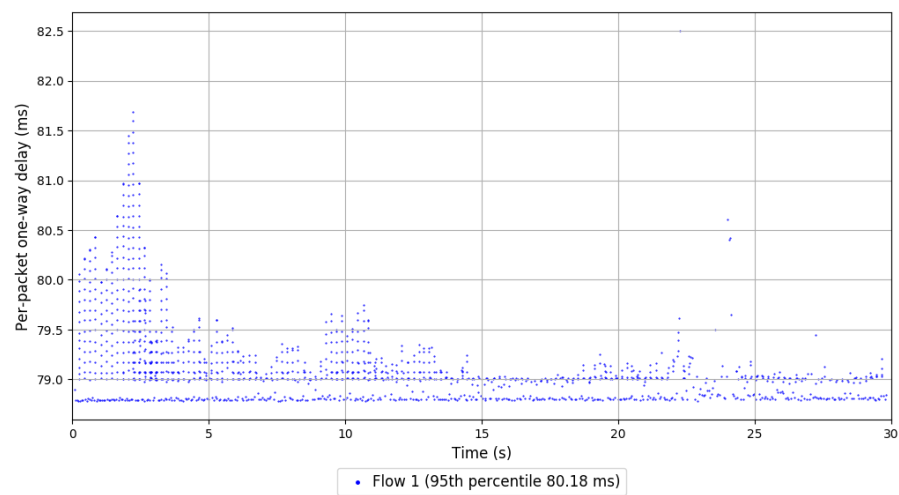
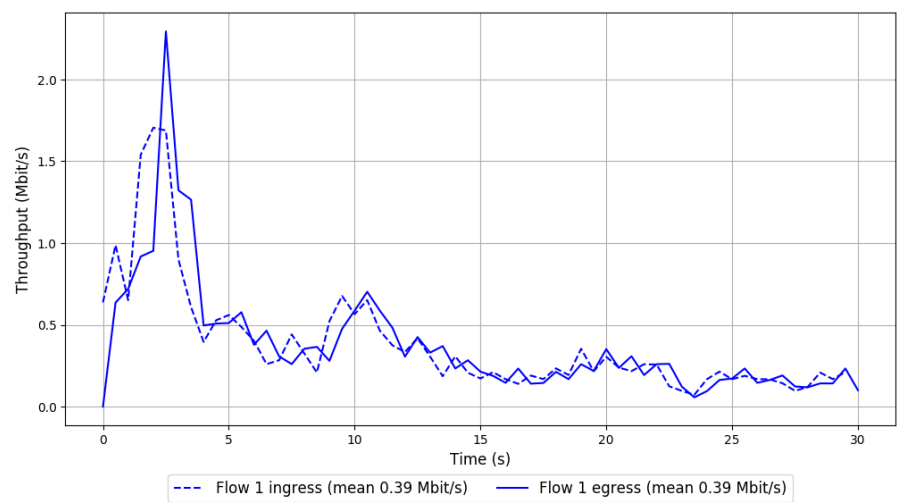
-- Flow 1:

Average throughput: 0.39 Mbit/s

95th percentile per-packet one-way delay: 80.180 ms

Loss rate: 0.57%

Run 4: Report of Sprout — Data Link



Run 5: Statistics of Sprout

Start at: 2018-09-06 15:51:31

End at: 2018-09-06 15:52:01

Local clock offset: 5.96 ms

Remote clock offset: 2.229 ms

Below is generated by plot.py at 2018-09-06 16:05:12

Datalink statistics

-- Total of 1 flow:

Average throughput: 0.57 Mbit/s

95th percentile per-packet one-way delay: 80.594 ms

Loss rate: 0.41%

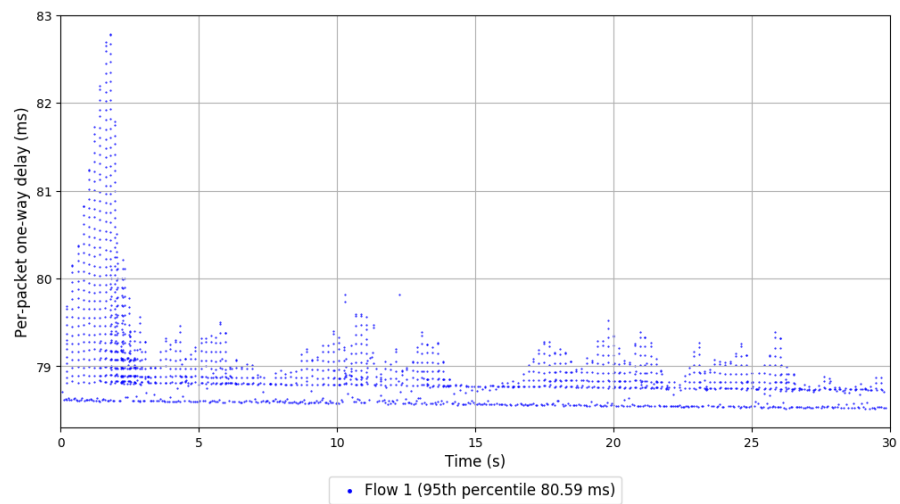
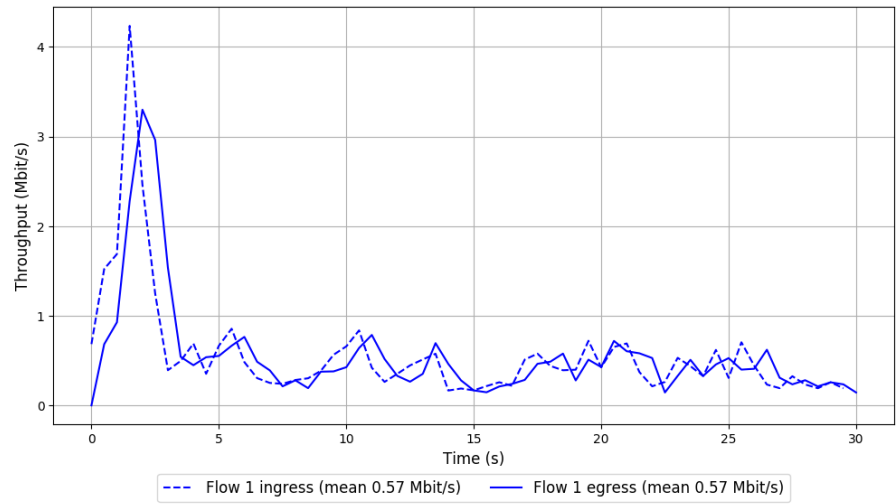
-- Flow 1:

Average throughput: 0.57 Mbit/s

95th percentile per-packet one-way delay: 80.594 ms

Loss rate: 0.41%

Run 5: Report of Sprout — Data Link

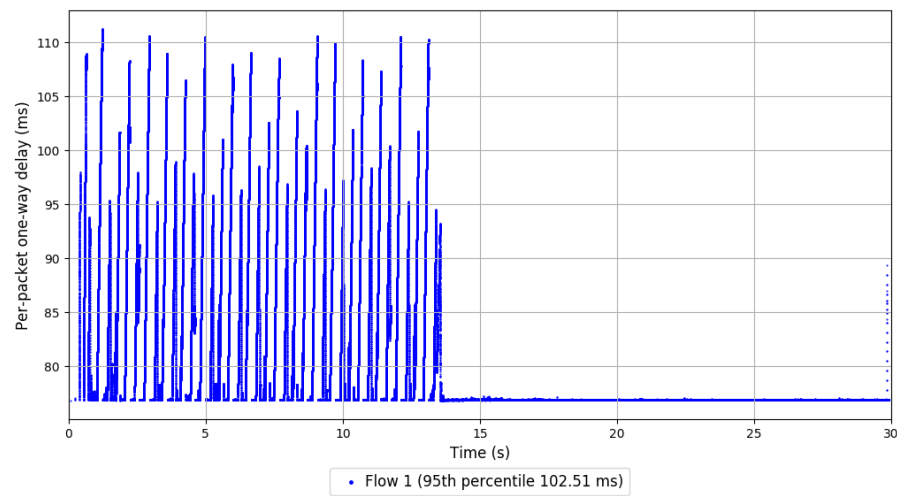
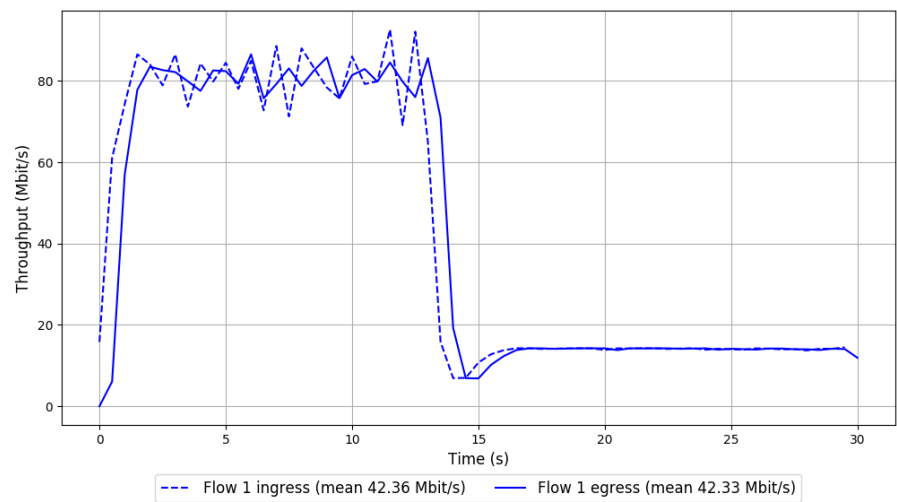


```
Run 1: Statistics of TaoVA-100x

Start at: 2018-09-06 14:28:26
End at: 2018-09-06 14:28:56
Local clock offset: 3.834 ms
Remote clock offset: 1.948 ms

# Below is generated by plot.py at 2018-09-06 16:05:26
# Datalink statistics
-- Total of 1 flow:
Average throughput: 42.33 Mbit/s
95th percentile per-packet one-way delay: 102.514 ms
Loss rate: 0.59%
-- Flow 1:
Average throughput: 42.33 Mbit/s
95th percentile per-packet one-way delay: 102.514 ms
Loss rate: 0.59%
```

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



Run 2: Statistics of TaoVA-100x

Start at: 2018-09-06 14:49:40

End at: 2018-09-06 14:50:10

Local clock offset: 3.707 ms

Remote clock offset: 2.506 ms

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

Datalink statistics

-- Total of 1 flow:

Average throughput: 78.89 Mbit/s

95th percentile per-packet one-way delay: 105.917 ms

Loss rate: 0.66%

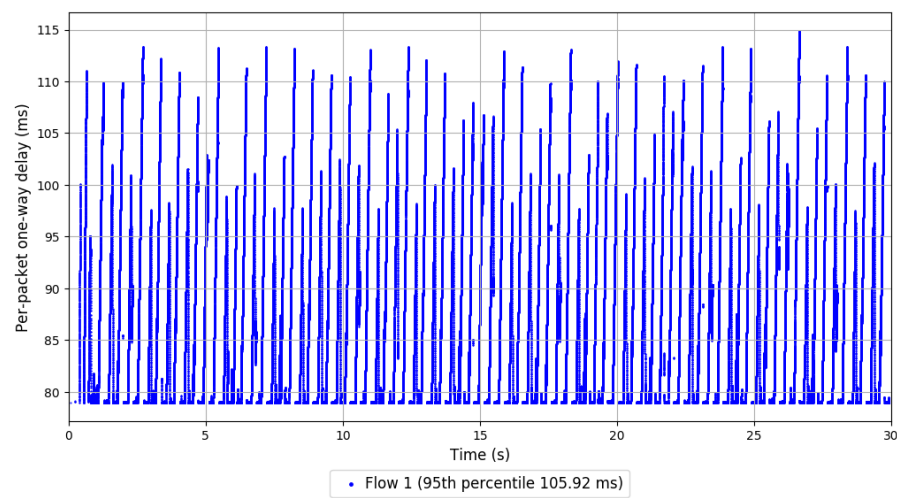
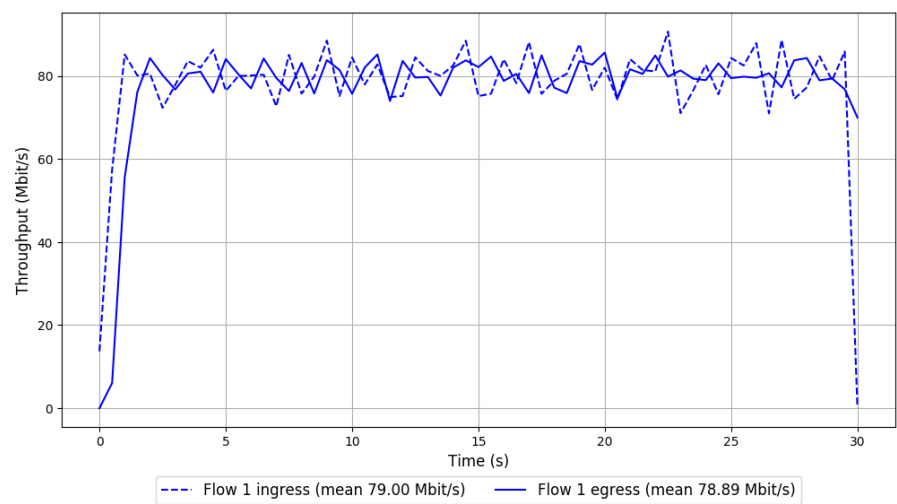
-- Flow 1:

Average throughput: 78.89 Mbit/s

95th percentile per-packet one-way delay: 105.917 ms

Loss rate: 0.66%

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



Run 3: Statistics of TaoVA-100x

Start at: 2018-09-06 15:10:51

End at: 2018-09-06 15:11:21

Local clock offset: 4.668 ms

Remote clock offset: 1.641 ms

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

Datalink statistics

-- Total of 1 flow:

Average throughput: 77.58 Mbit/s

95th percentile per-packet one-way delay: 106.400 ms

Loss rate: 0.54%

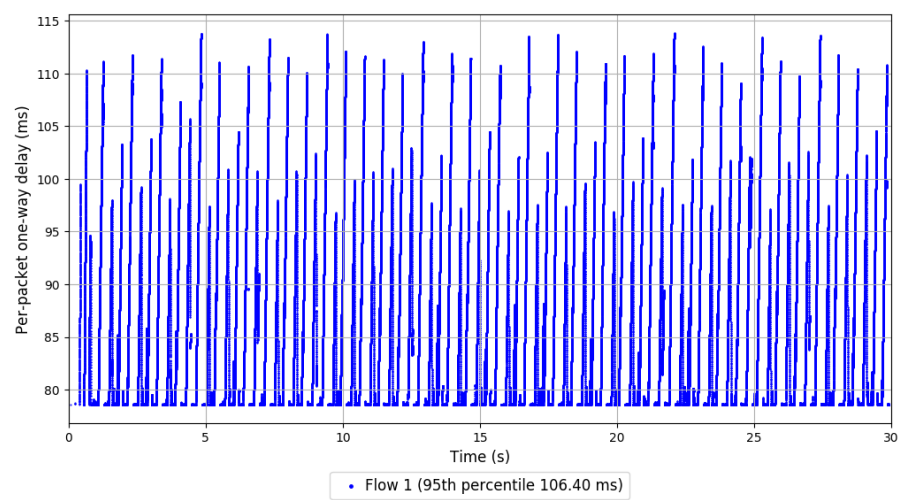
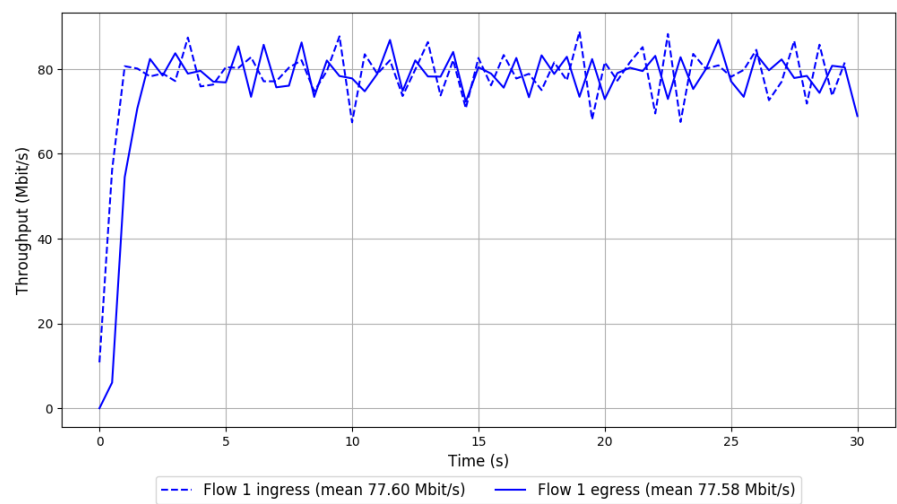
-- Flow 1:

Average throughput: 77.58 Mbit/s

95th percentile per-packet one-way delay: 106.400 ms

Loss rate: 0.54%

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



Run 4: Statistics of TaoVA-100x

Start at: 2018-09-06 15:32:39

End at: 2018-09-06 15:33:09

Local clock offset: 4.476 ms

Remote clock offset: 1.015 ms

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

Datalink statistics

-- Total of 1 flow:

Average throughput: 14.54 Mbit/s

95th percentile per-packet one-way delay: 85.157 ms

Loss rate: 1.91%

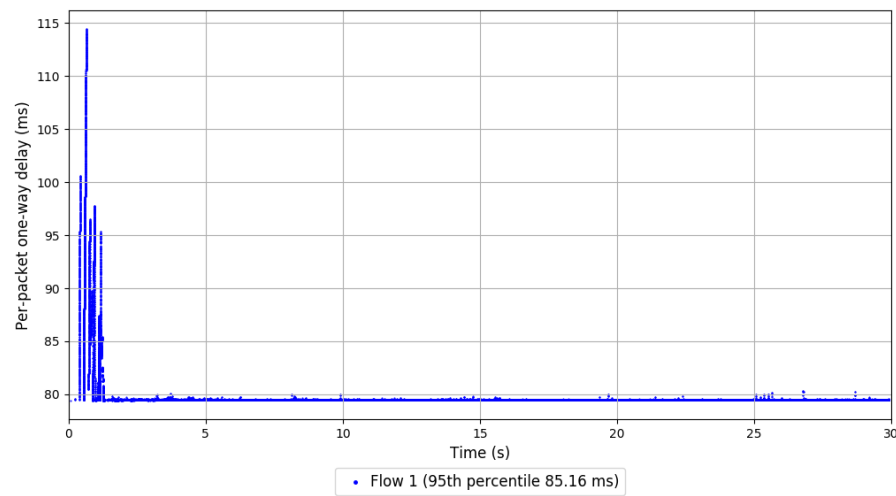
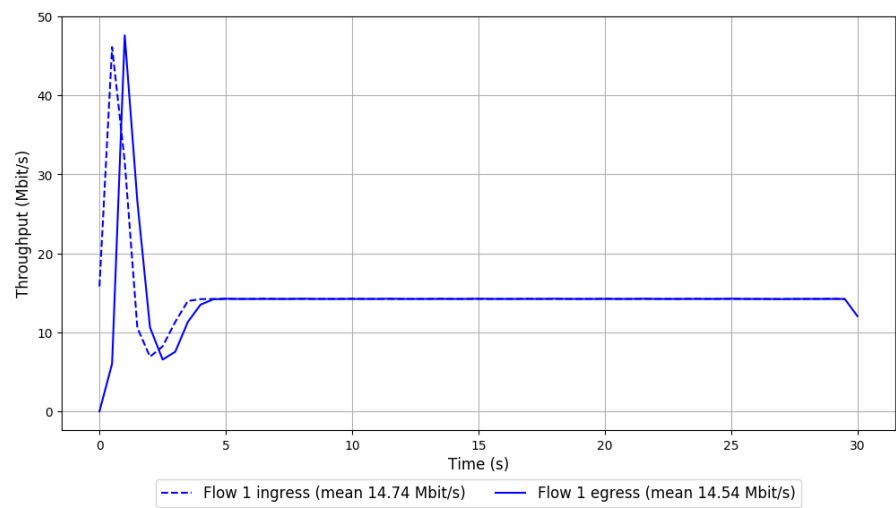
-- Flow 1:

Average throughput: 14.54 Mbit/s

95th percentile per-packet one-way delay: 85.157 ms

Loss rate: 1.91%

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



Run 5: Statistics of TaoVA-100x

Start at: 2018-09-06 15:53:49

End at: 2018-09-06 15:54:19

Local clock offset: 5.59 ms

Remote clock offset: 1.073 ms

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

Datalink statistics

-- Total of 1 flow:

Average throughput: 80.03 Mbit/s

95th percentile per-packet one-way delay: 104.935 ms

Loss rate: 0.51%

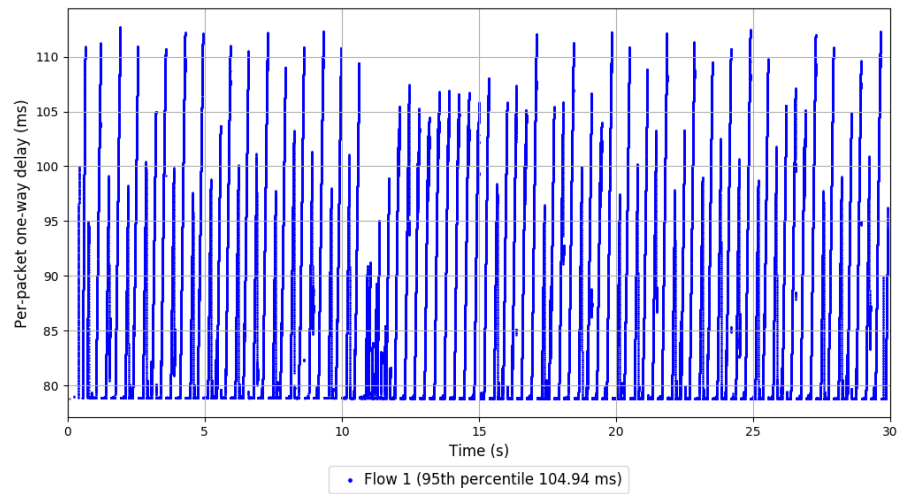
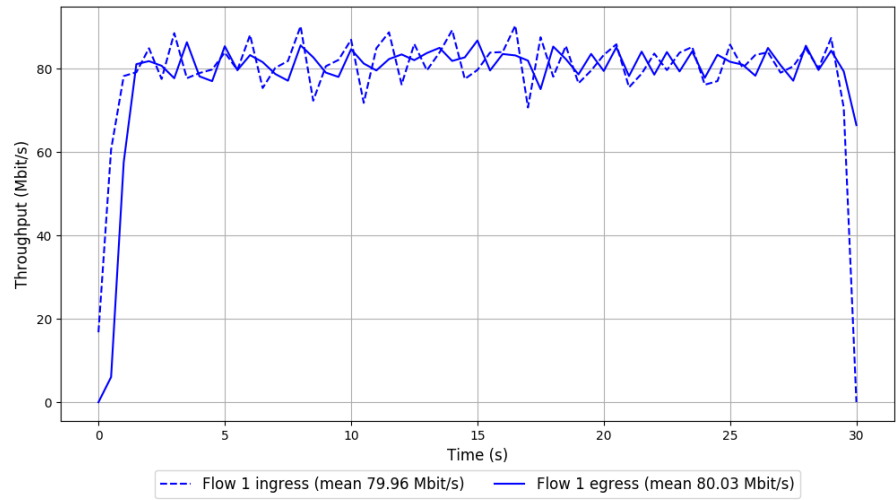
-- Flow 1:

Average throughput: 80.03 Mbit/s

95th percentile per-packet one-way delay: 104.935 ms

Loss rate: 0.51%

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



Run 1: Statistics of TCP Vegas

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

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

Local clock offset: 4.628 ms

Remote clock offset: 0.641 ms

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

Datalink statistics

-- Total of 1 flow:

Average throughput: 40.48 Mbit/s

95th percentile per-packet one-way delay: 140.903 ms

Loss rate: 0.62%

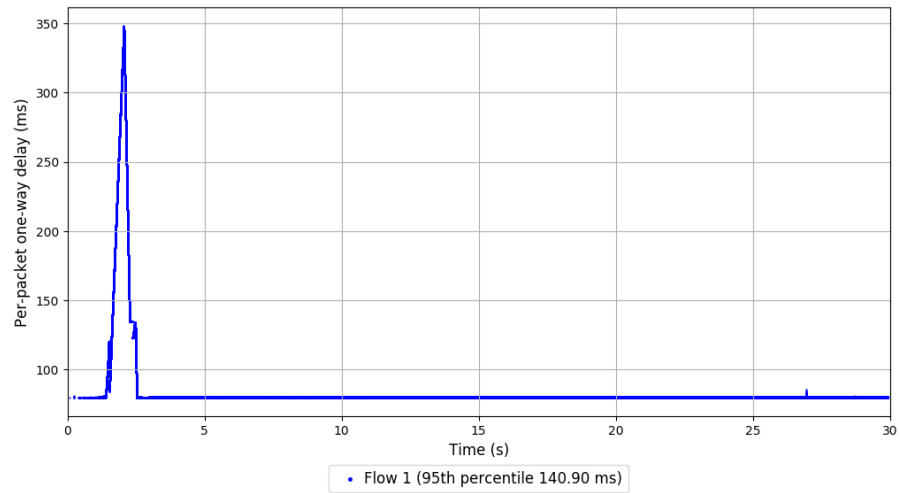
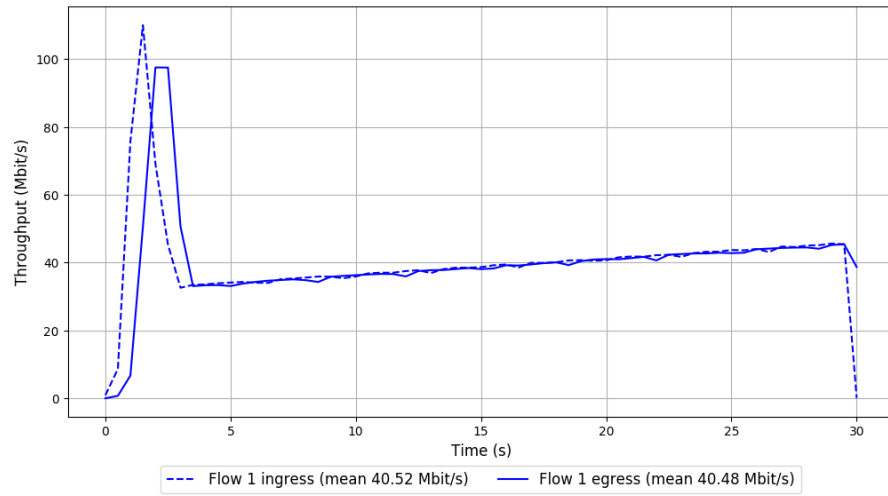
-- Flow 1:

Average throughput: 40.48 Mbit/s

95th percentile per-packet one-way delay: 140.903 ms

Loss rate: 0.62%

Run 1: Report of TCP Vegas — Data Link



Run 2: Statistics of TCP Vegas

Start at: 2018-09-06 14:35:31

End at: 2018-09-06 14:36:01

Local clock offset: 3.694 ms

Remote clock offset: 1.207 ms

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

Datalink statistics

-- Total of 1 flow:

Average throughput: 19.87 Mbit/s

95th percentile per-packet one-way delay: 146.304 ms

Loss rate: 0.51%

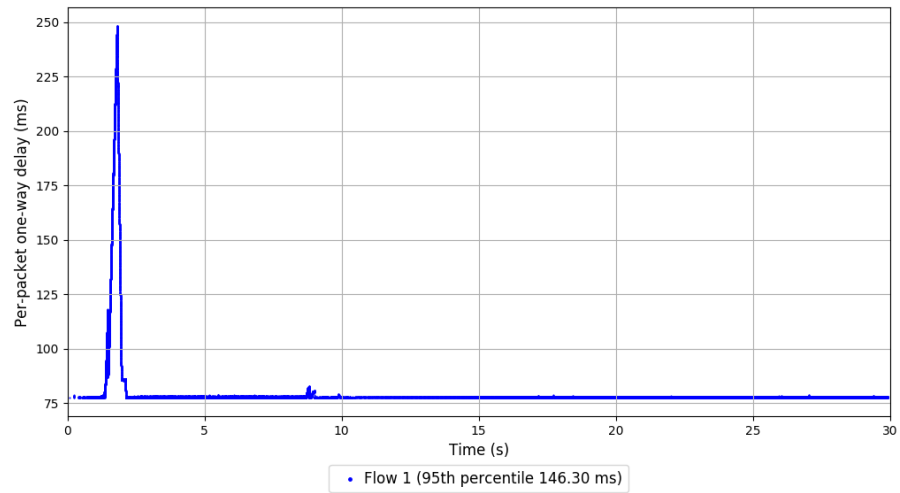
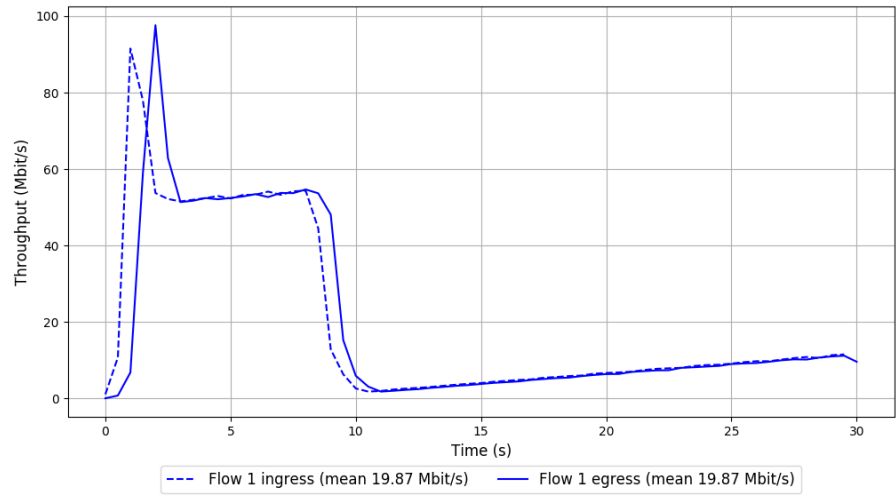
-- Flow 1:

Average throughput: 19.87 Mbit/s

95th percentile per-packet one-way delay: 146.304 ms

Loss rate: 0.51%

Run 2: Report of TCP Vegas — Data Link



Run 3: Statistics of TCP Vegas

Start at: 2018-09-06 14:56:45

End at: 2018-09-06 14:57:15

Local clock offset: 4.572 ms

Remote clock offset: 2.569 ms

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

Datalink statistics

-- Total of 1 flow:

Average throughput: 40.23 Mbit/s

95th percentile per-packet one-way delay: 144.435 ms

Loss rate: 0.62%

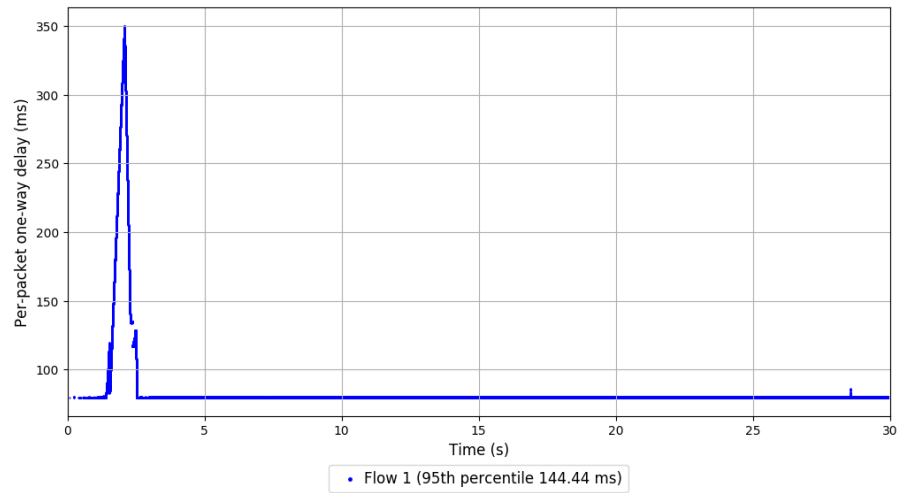
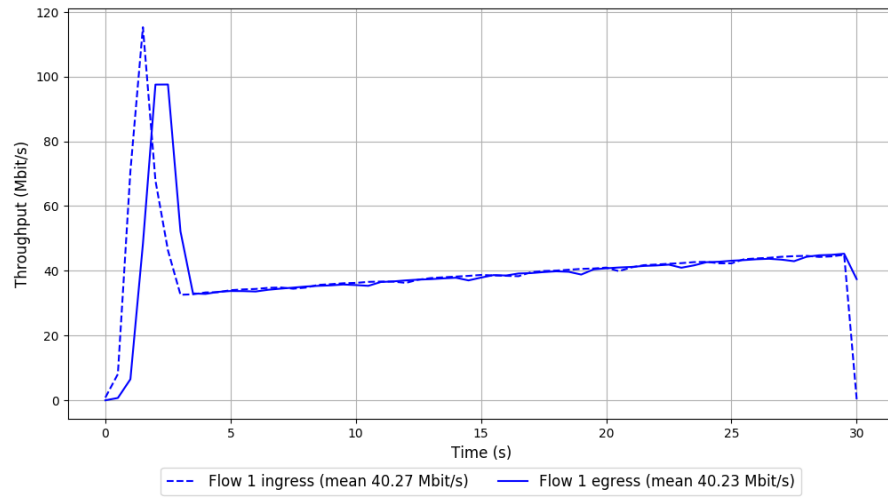
-- Flow 1:

Average throughput: 40.23 Mbit/s

95th percentile per-packet one-way delay: 144.435 ms

Loss rate: 0.62%

Run 3: Report of TCP Vegas — Data Link



Run 4: Statistics of TCP Vegas

Start at: 2018-09-06 15:18:02

End at: 2018-09-06 15:18:32

Local clock offset: 4.621 ms

Remote clock offset: 1.807 ms

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

Datalink statistics

-- Total of 1 flow:

Average throughput: 54.70 Mbit/s

95th percentile per-packet one-way delay: 78.742 ms

Loss rate: 0.59%

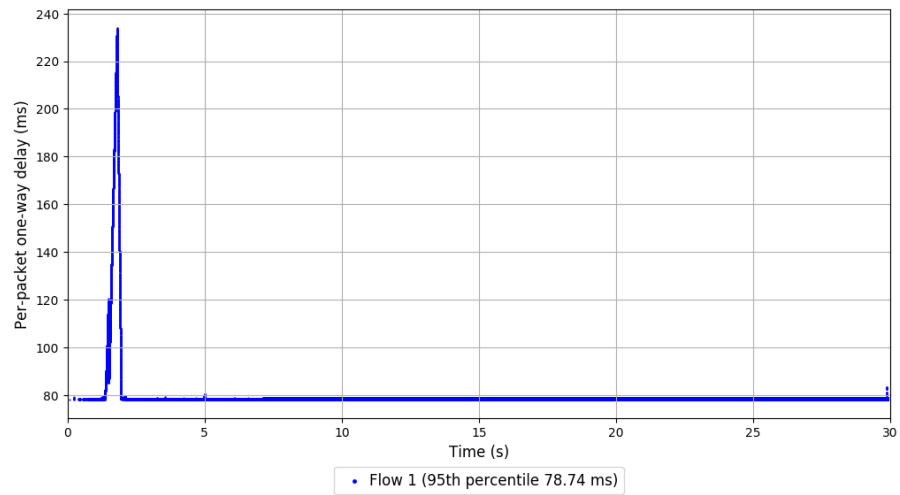
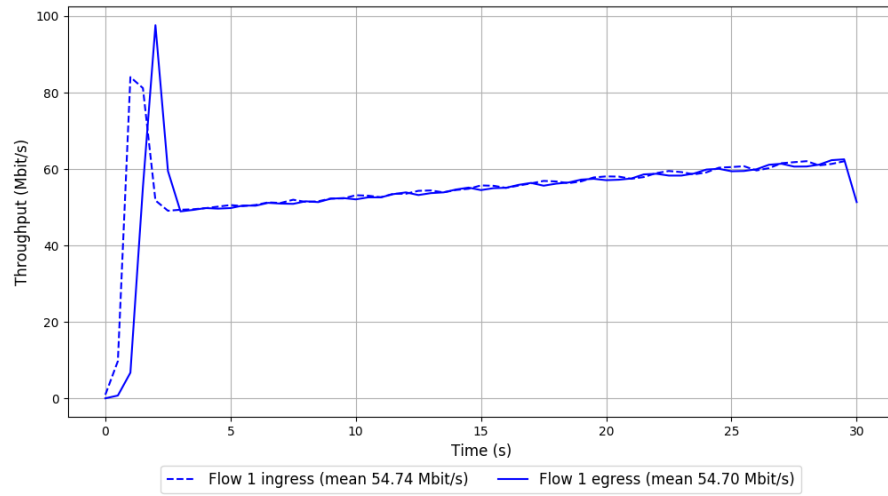
-- Flow 1:

Average throughput: 54.70 Mbit/s

95th percentile per-packet one-way delay: 78.742 ms

Loss rate: 0.59%

Run 4: Report of TCP Vegas — Data Link



Run 5: Statistics of TCP Vegas

Start at: 2018-09-06 15:39:42

End at: 2018-09-06 15:40:12

Local clock offset: 4.394 ms

Remote clock offset: 3.193 ms

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

Datalink statistics

-- Total of 1 flow:

Average throughput: 54.31 Mbit/s

95th percentile per-packet one-way delay: 79.818 ms

Loss rate: 0.60%

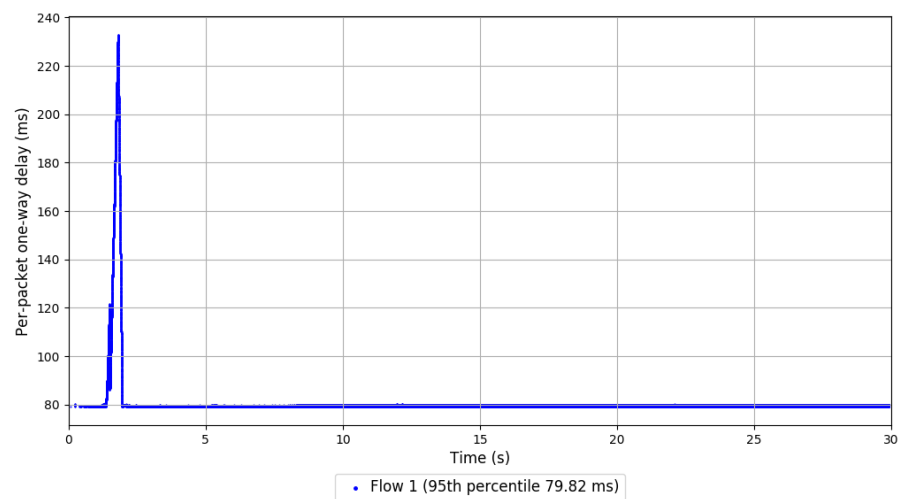
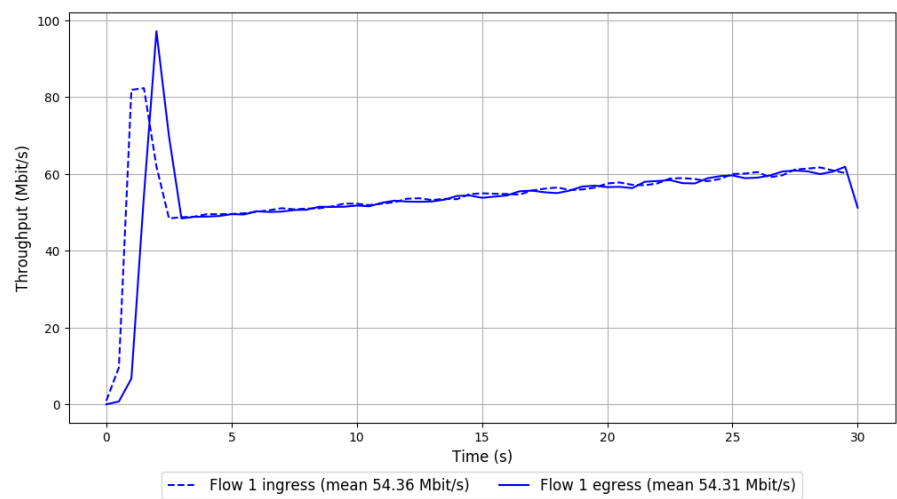
-- Flow 1:

Average throughput: 54.31 Mbit/s

95th percentile per-packet one-way delay: 79.818 ms

Loss rate: 0.60%

Run 5: Report of TCP Vegas — Data Link

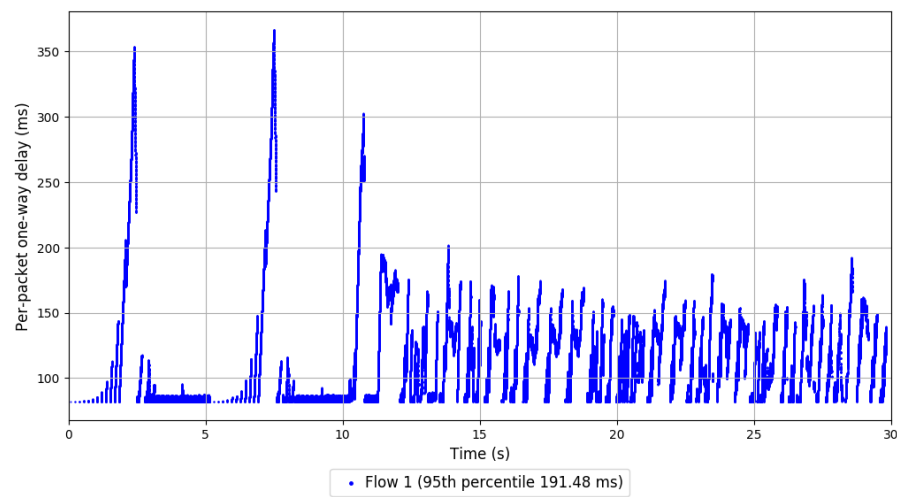
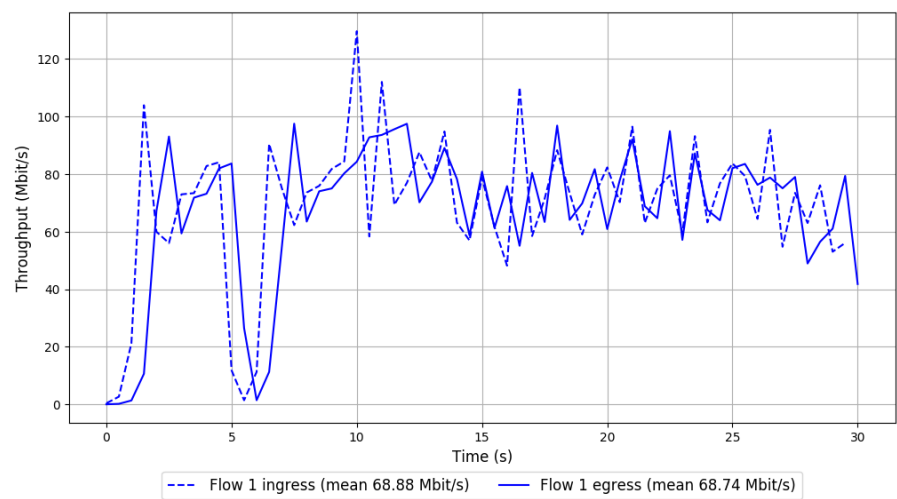


Run 1: Statistics of Verus

Start at: 2018-09-06 14:27:13
End at: 2018-09-06 14:27:43
Local clock offset: 4.572 ms
Remote clock offset: -0.165 ms

Below is generated by plot.py at 2018-09-06 16:06:24
Datalink statistics
-- Total of 1 flow:
Average throughput: 68.74 Mbit/s
95th percentile per-packet one-way delay: 191.484 ms
Loss rate: 1.03%
-- Flow 1:
Average throughput: 68.74 Mbit/s
95th percentile per-packet one-way delay: 191.484 ms
Loss rate: 1.03%

Run 1: Report of Verus — Data Link



Run 2: Statistics of Verus

Start at: 2018-09-06 14:48:29

End at: 2018-09-06 14:48:59

Local clock offset: 4.45 ms

Remote clock offset: 2.591 ms

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

Datalink statistics

-- Total of 1 flow:

Average throughput: 68.74 Mbit/s

95th percentile per-packet one-way delay: 209.208 ms

Loss rate: 1.14%

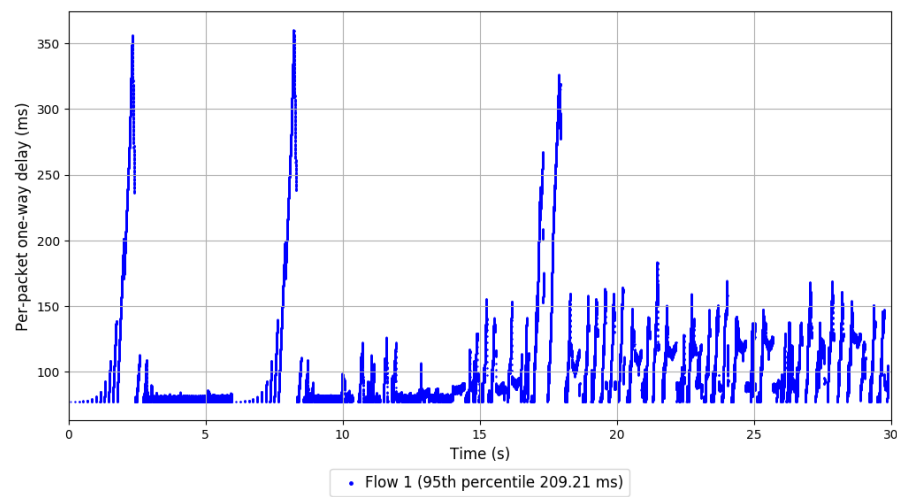
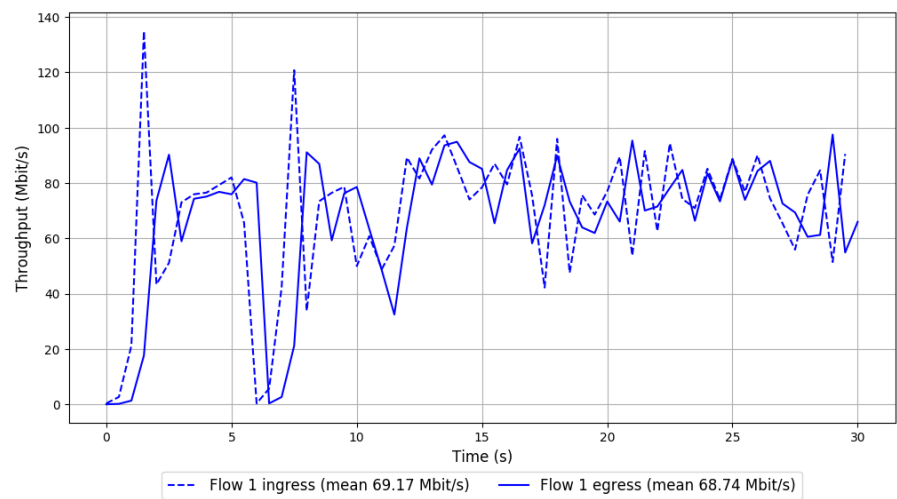
-- Flow 1:

Average throughput: 68.74 Mbit/s

95th percentile per-packet one-way delay: 209.208 ms

Loss rate: 1.14%

Run 2: Report of Verus — Data Link



Run 3: Statistics of Verus

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

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

Local clock offset: 3.838 ms

Remote clock offset: 1.579 ms

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

Datalink statistics

-- Total of 1 flow:

Average throughput: 50.80 Mbit/s

95th percentile per-packet one-way delay: 954.522 ms

Loss rate: 0.36%

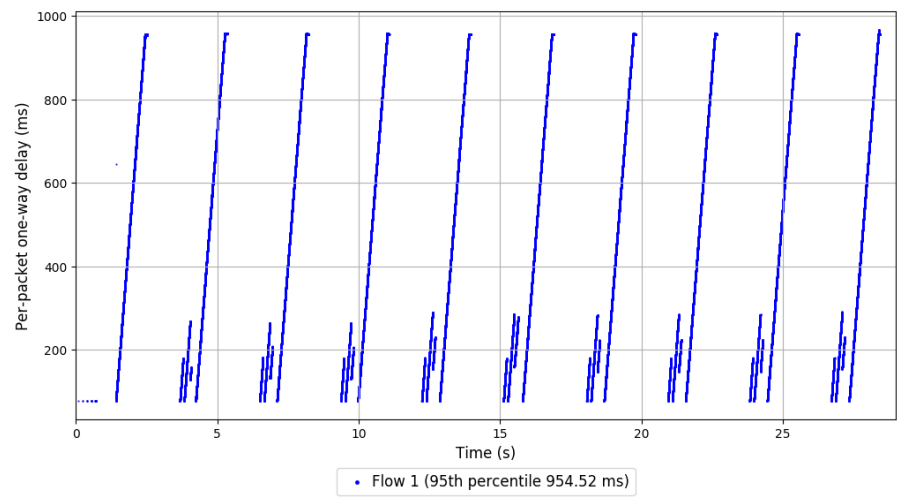
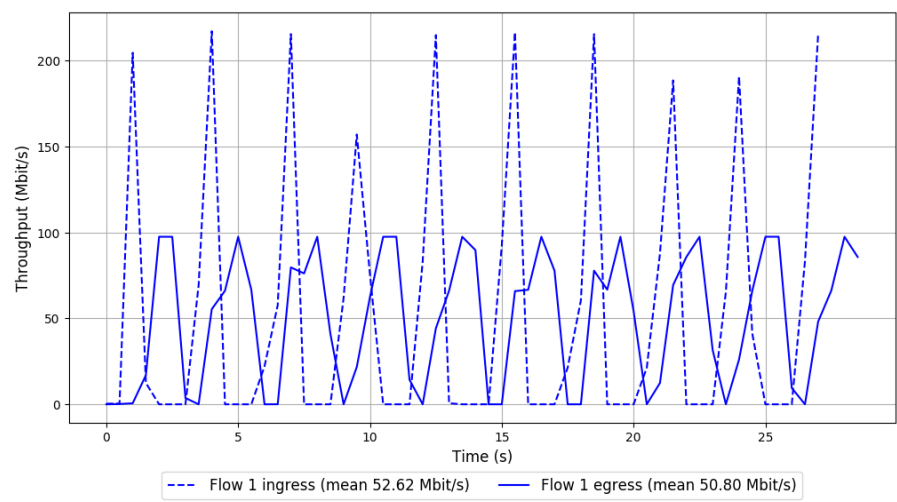
-- Flow 1:

Average throughput: 50.80 Mbit/s

95th percentile per-packet one-way delay: 954.522 ms

Loss rate: 0.36%

Run 3: Report of Verus — Data Link



Run 4: Statistics of Verus

Start at: 2018-09-06 15:31:24

End at: 2018-09-06 15:31:54

Local clock offset: 3.726 ms

Remote clock offset: 0.899 ms

Below is generated by plot.py at 2018-09-06 16:06:32

Datalink statistics

-- Total of 1 flow:

Average throughput: 68.10 Mbit/s

95th percentile per-packet one-way delay: 168.758 ms

Loss rate: 1.11%

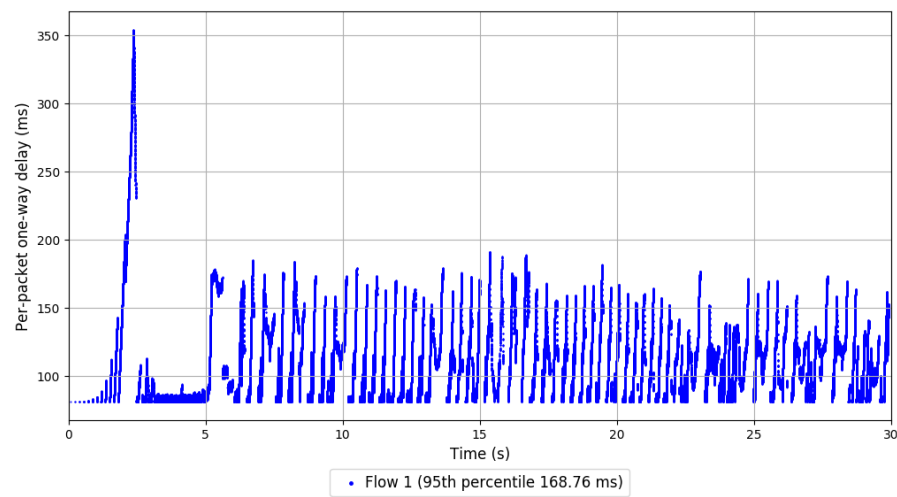
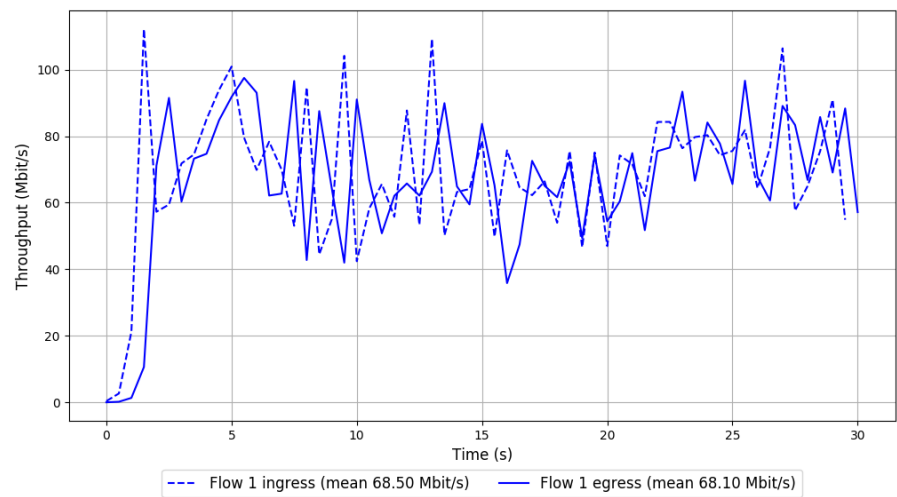
-- Flow 1:

Average throughput: 68.10 Mbit/s

95th percentile per-packet one-way delay: 168.758 ms

Loss rate: 1.11%

Run 4: Report of Verus — Data Link



Run 5: Statistics of Verus

Start at: 2018-09-06 15:52:38

End at: 2018-09-06 15:53:08

Local clock offset: 6.241 ms

Remote clock offset: 3.244 ms

Below is generated by plot.py at 2018-09-06 16:06:32

Datalink statistics

-- Total of 1 flow:

Average throughput: 58.70 Mbit/s

95th percentile per-packet one-way delay: 269.726 ms

Loss rate: 0.83%

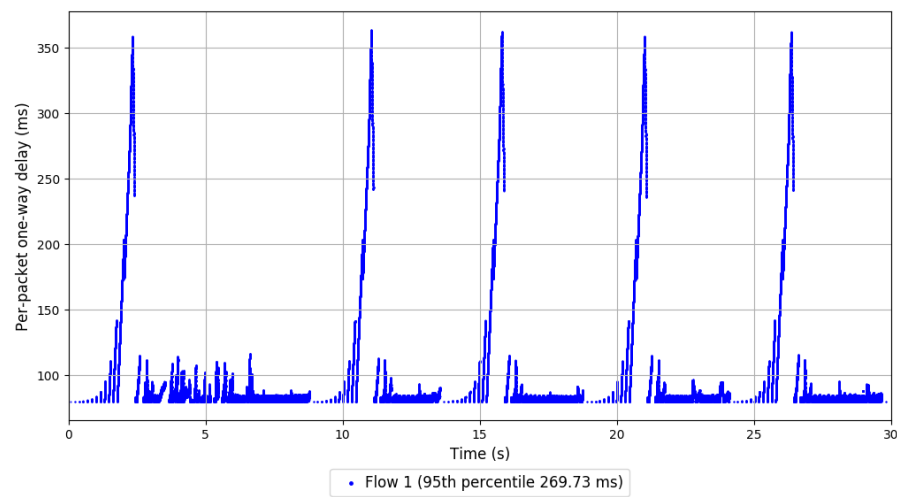
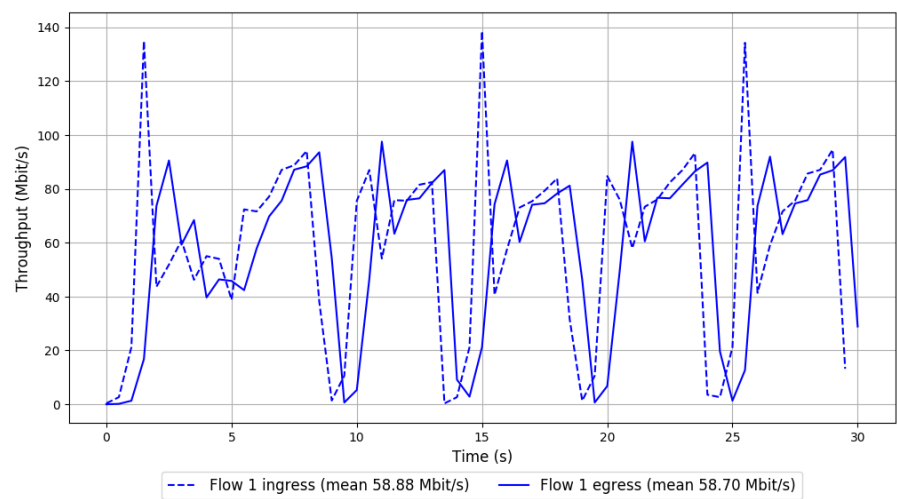
-- Flow 1:

Average throughput: 58.70 Mbit/s

95th percentile per-packet one-way delay: 269.726 ms

Loss rate: 0.83%

Run 5: Report of Verus — Data Link



Run 1: Statistics of PCC-Vivace

Start at: 2018-09-06 14:11:44

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

Local clock offset: 5.368 ms

Remote clock offset: 0.615 ms

Below is generated by plot.py at 2018-09-06 16:06:58

Datalink statistics

-- Total of 1 flow:

Average throughput: 78.17 Mbit/s

95th percentile per-packet one-way delay: 84.596 ms

Loss rate: 0.61%

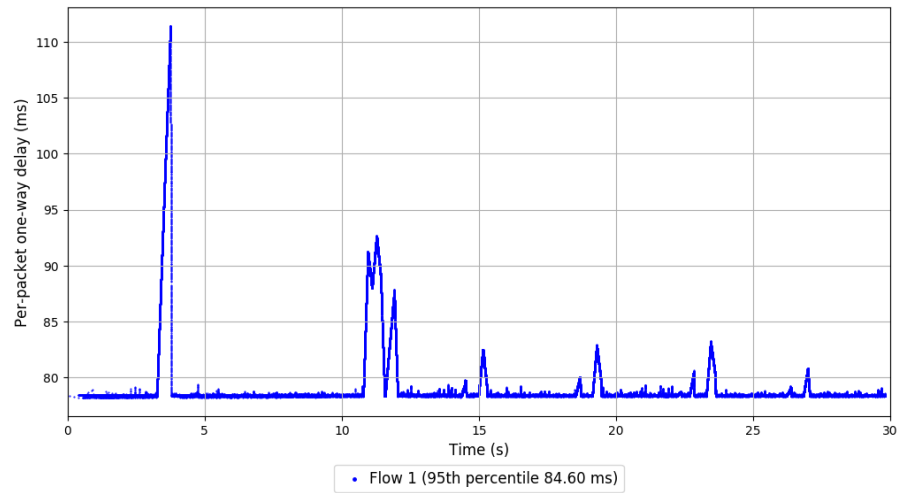
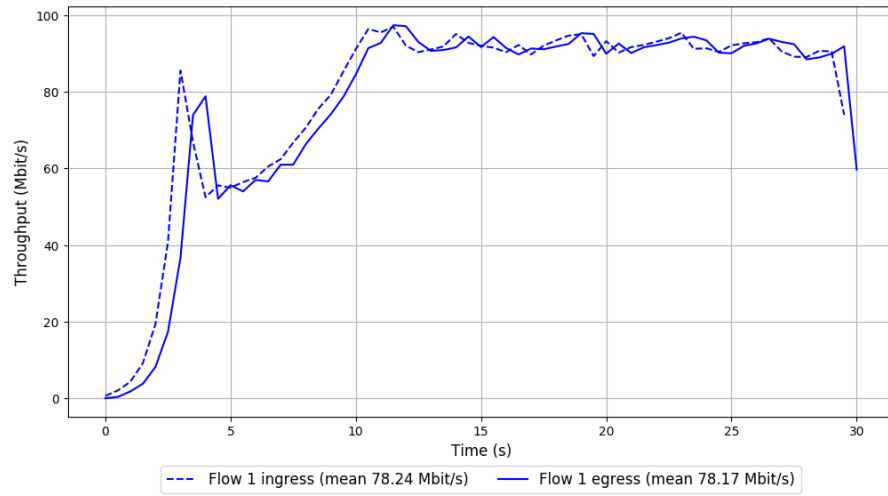
-- Flow 1:

Average throughput: 78.17 Mbit/s

95th percentile per-packet one-way delay: 84.596 ms

Loss rate: 0.61%

Run 1: Report of PCC-Vivace — Data Link



Run 2: Statistics of PCC-Vivace

Start at: 2018-09-06 14:33:08

End at: 2018-09-06 14:33:38

Local clock offset: 4.494 ms

Remote clock offset: 0.037 ms

Below is generated by plot.py at 2018-09-06 16:06:58

Datalink statistics

-- Total of 1 flow:

Average throughput: 78.44 Mbit/s

95th percentile per-packet one-way delay: 90.665 ms

Loss rate: 0.67%

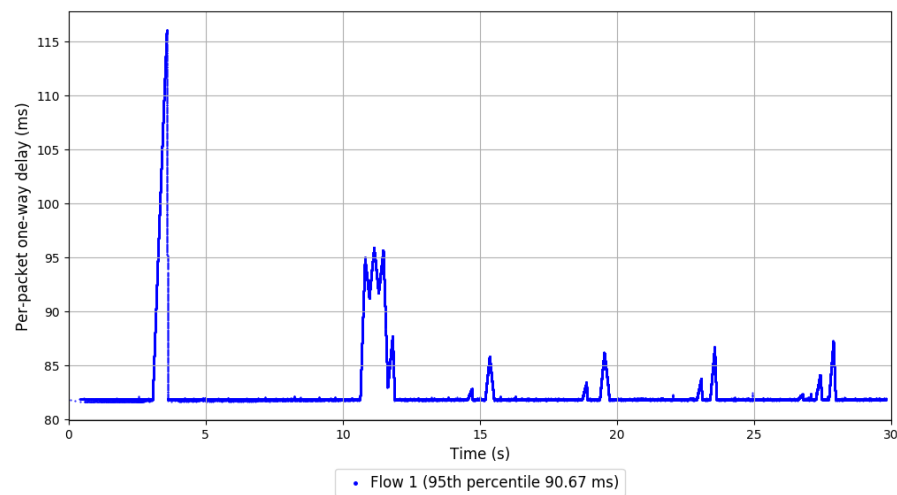
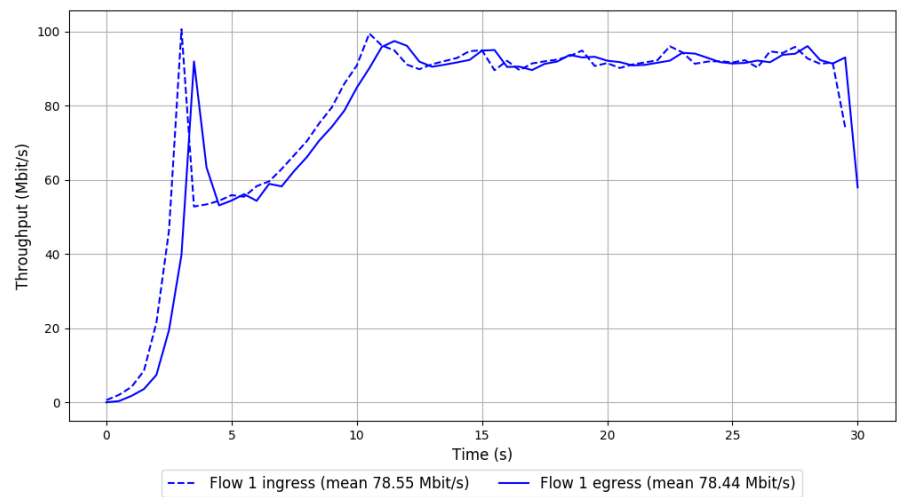
-- Flow 1:

Average throughput: 78.44 Mbit/s

95th percentile per-packet one-way delay: 90.665 ms

Loss rate: 0.67%

Run 2: Report of PCC-Vivace — Data Link



Run 3: Statistics of PCC-Vivace

Start at: 2018-09-06 14:54:23

End at: 2018-09-06 14:54:53

Local clock offset: 4.547 ms

Remote clock offset: 1.316 ms

Below is generated by plot.py at 2018-09-06 16:06:58

Datalink statistics

-- Total of 1 flow:

Average throughput: 67.75 Mbit/s

95th percentile per-packet one-way delay: 89.652 ms

Loss rate: 1.25%

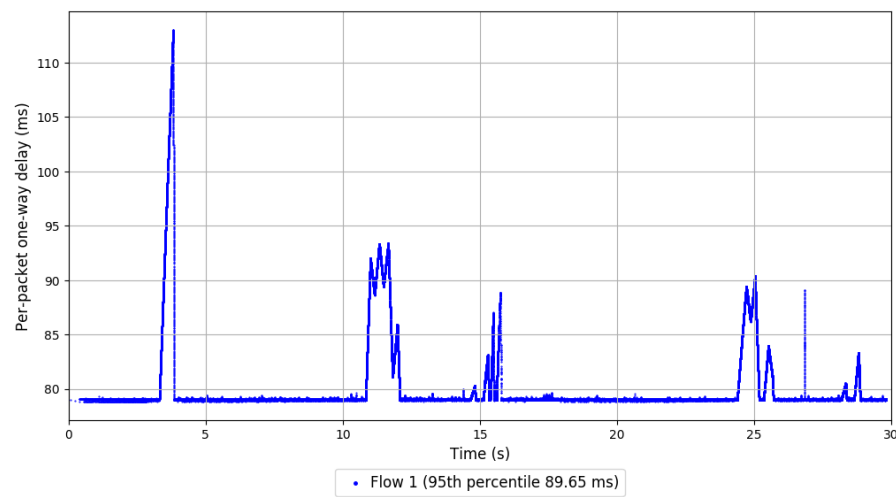
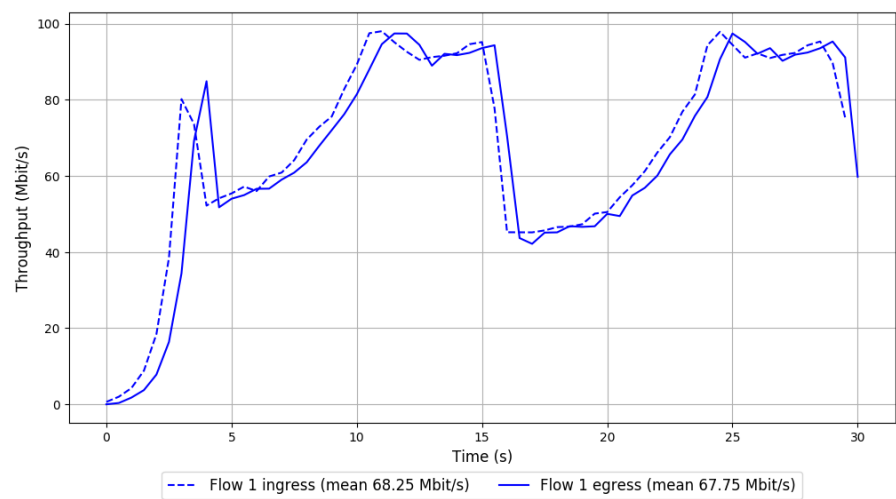
-- Flow 1:

Average throughput: 67.75 Mbit/s

95th percentile per-packet one-way delay: 89.652 ms

Loss rate: 1.25%

Run 3: Report of PCC-Vivace — Data Link



Run 4: Statistics of PCC-Vivace

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

End at: 2018-09-06 15:16:04

Local clock offset: 3.853 ms

Remote clock offset: 2.954 ms

Below is generated by plot.py at 2018-09-06 16:06:58

Datalink statistics

-- Total of 1 flow:

Average throughput: 57.98 Mbit/s

95th percentile per-packet one-way delay: 128.887 ms

Loss rate: 1.27%

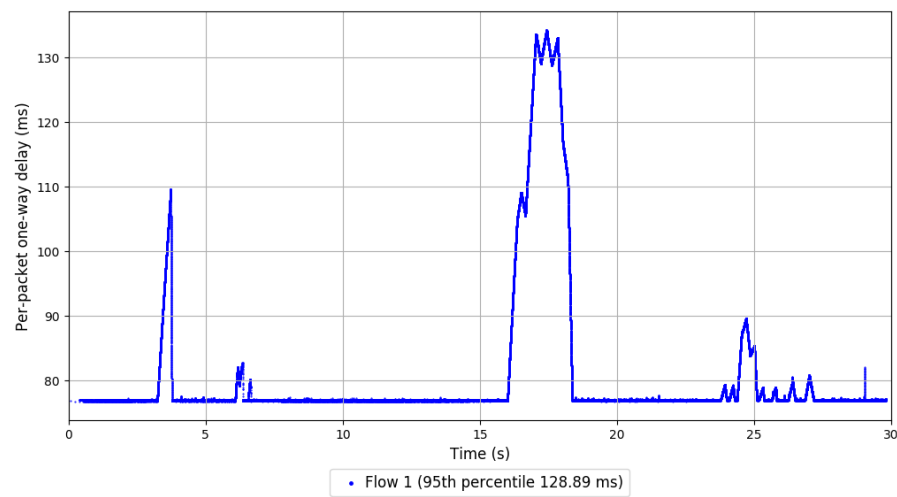
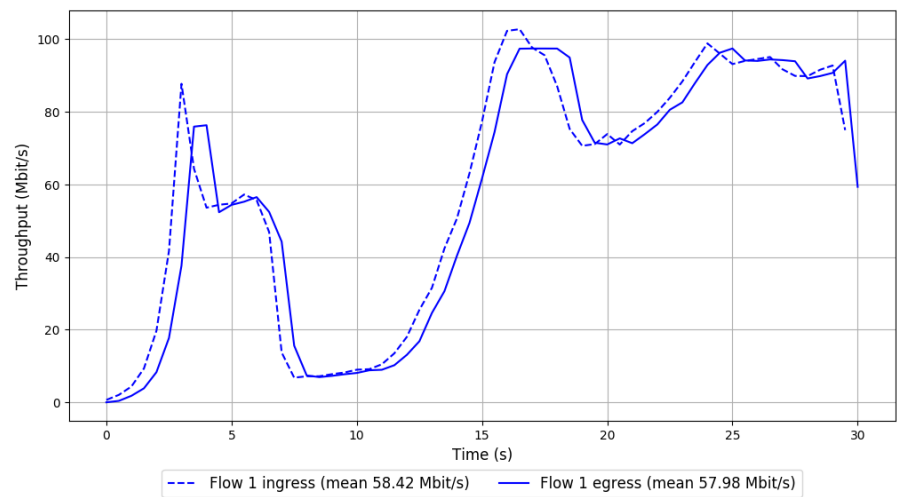
-- Flow 1:

Average throughput: 57.98 Mbit/s

95th percentile per-packet one-way delay: 128.887 ms

Loss rate: 1.27%

Run 4: Report of PCC-Vivace — Data Link



Run 5: Statistics of PCC-Vivace

Start at: 2018-09-06 15:37:19

End at: 2018-09-06 15:37:50

Local clock offset: 3.707 ms

Remote clock offset: 0.952 ms

Below is generated by plot.py at 2018-09-06 16:06:58

Datalink statistics

-- Total of 1 flow:

Average throughput: 67.54 Mbit/s

95th percentile per-packet one-way delay: 114.331 ms

Loss rate: 1.61%

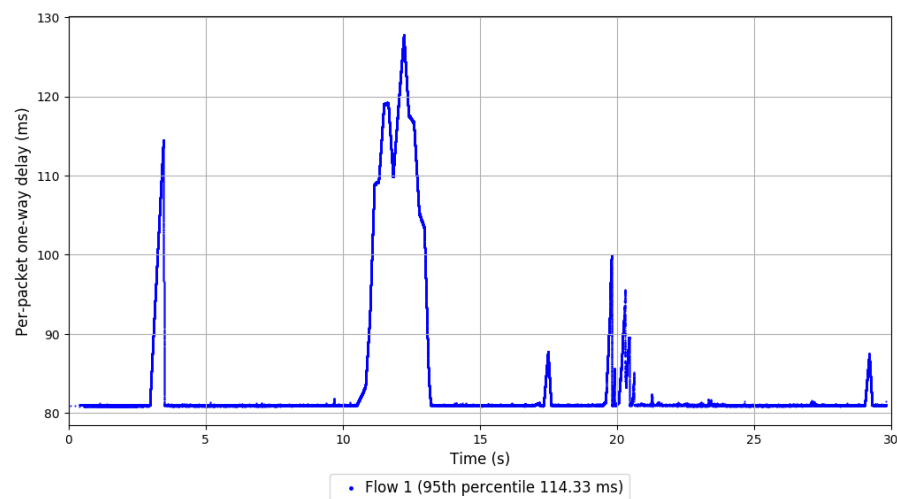
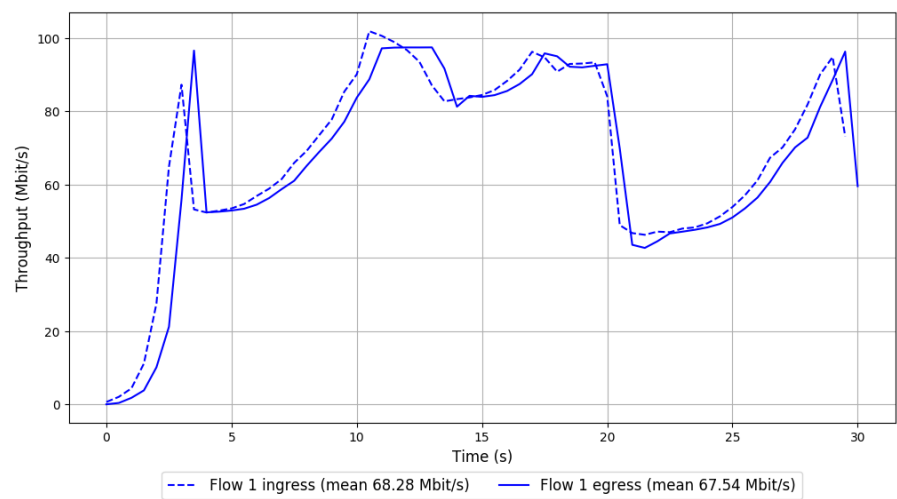
-- Flow 1:

Average throughput: 67.54 Mbit/s

95th percentile per-packet one-way delay: 114.331 ms

Loss rate: 1.61%

Run 5: Report of PCC-Vivace — Data Link

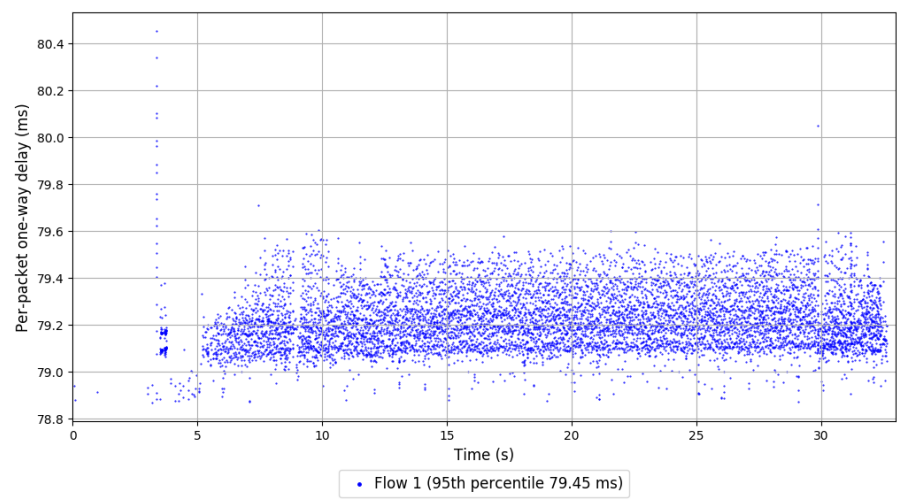
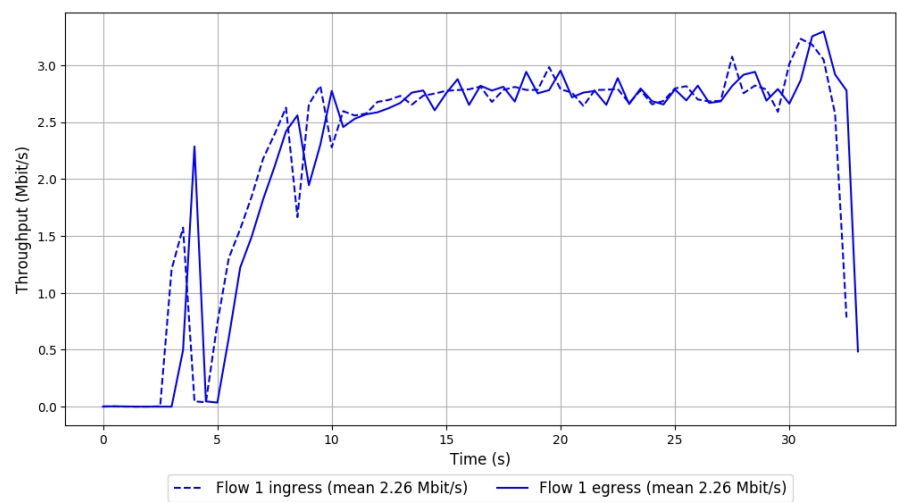


Run 1: Statistics of WebRTC media

Start at: 2018-09-06 14:24:59
End at: 2018-09-06 14:25:29
Local clock offset: 3.951 ms
Remote clock offset: -0.253 ms

Below is generated by plot.py at 2018-09-06 16:06:58
Datalink statistics
-- Total of 1 flow:
Average throughput: 2.26 Mbit/s
95th percentile per-packet one-way delay: 79.451 ms
Loss rate: 0.41%
-- Flow 1:
Average throughput: 2.26 Mbit/s
95th percentile per-packet one-way delay: 79.451 ms
Loss rate: 0.41%

Run 1: Report of WebRTC media — Data Link



Run 2: Statistics of WebRTC media

Start at: 2018-09-06 14:46:14

End at: 2018-09-06 14:46:44

Local clock offset: 4.397 ms

Remote clock offset: 1.318 ms

Below is generated by plot.py at 2018-09-06 16:06:58

Datalink statistics

-- Total of 1 flow:

Average throughput: 2.29 Mbit/s

95th percentile per-packet one-way delay: 78.323 ms

Loss rate: 0.63%

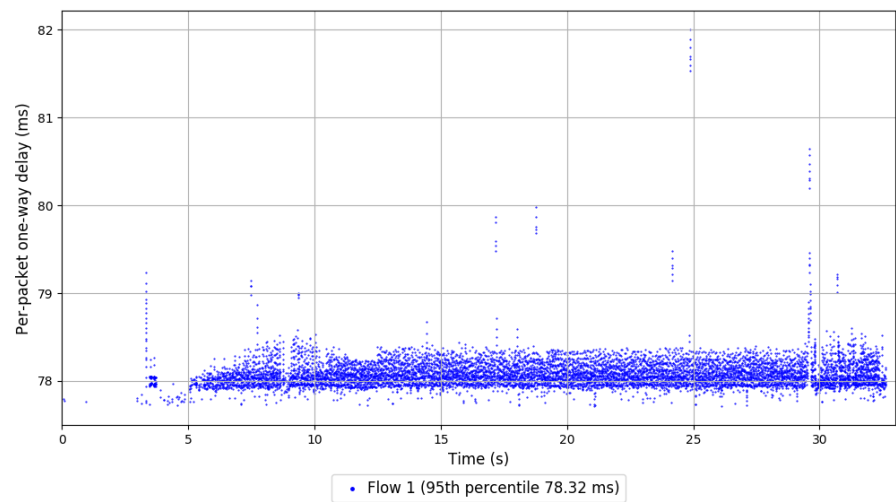
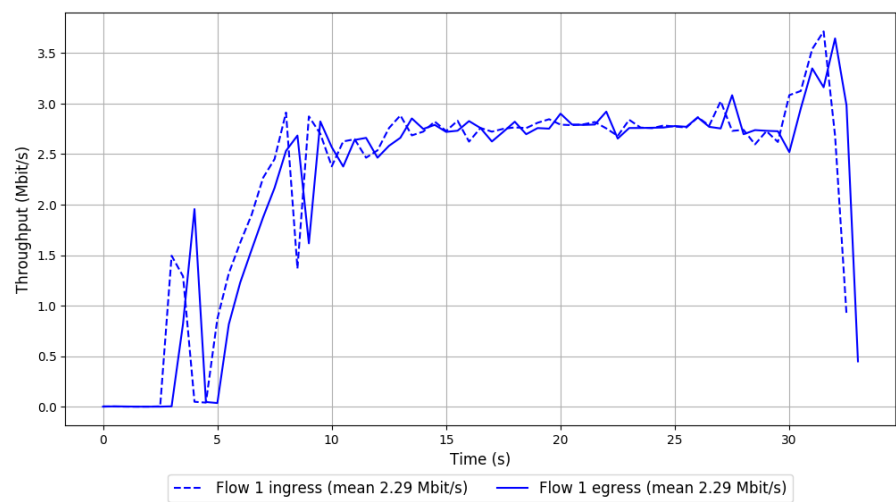
-- Flow 1:

Average throughput: 2.29 Mbit/s

95th percentile per-packet one-way delay: 78.323 ms

Loss rate: 0.63%

Run 2: Report of WebRTC media — Data Link



Run 3: Statistics of WebRTC media

Start at: 2018-09-06 15:07:26

End at: 2018-09-06 15:07:56

Local clock offset: 4.66 ms

Remote clock offset: 1.508 ms

Below is generated by plot.py at 2018-09-06 16:06:58

Datalink statistics

-- Total of 1 flow:

Average throughput: 2.80 Mbit/s

95th percentile per-packet one-way delay: 79.087 ms

Loss rate: 0.41%

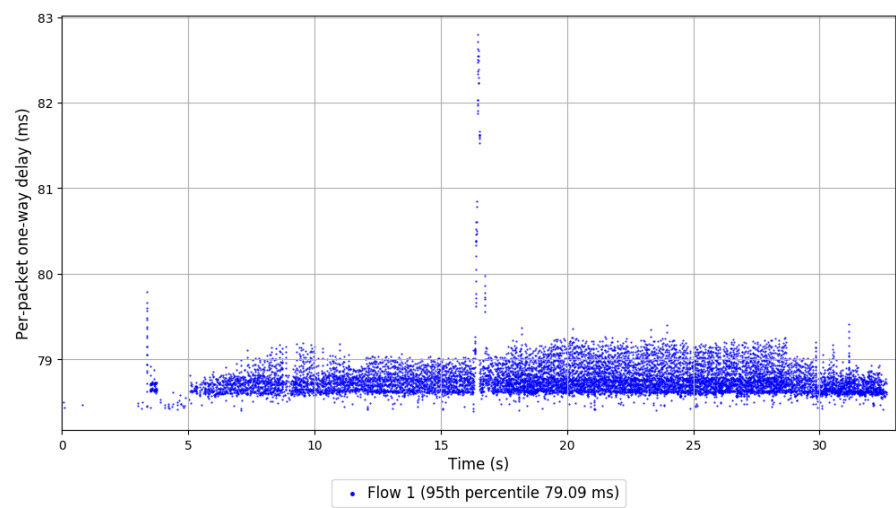
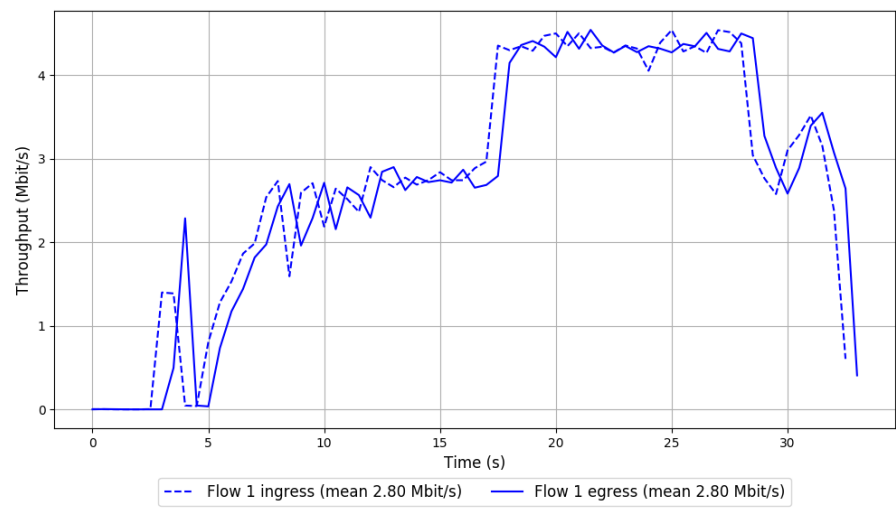
-- Flow 1:

Average throughput: 2.80 Mbit/s

95th percentile per-packet one-way delay: 79.087 ms

Loss rate: 0.41%

Run 3: Report of WebRTC media — Data Link



Run 4: Statistics of WebRTC media

Start at: 2018-09-06 15:29:08

End at: 2018-09-06 15:29:38

Local clock offset: 4.508 ms

Remote clock offset: 2.114 ms

Below is generated by plot.py at 2018-09-06 16:06:58

Datalink statistics

-- Total of 1 flow:

Average throughput: 2.26 Mbit/s

95th percentile per-packet one-way delay: 79.268 ms

Loss rate: 0.30%

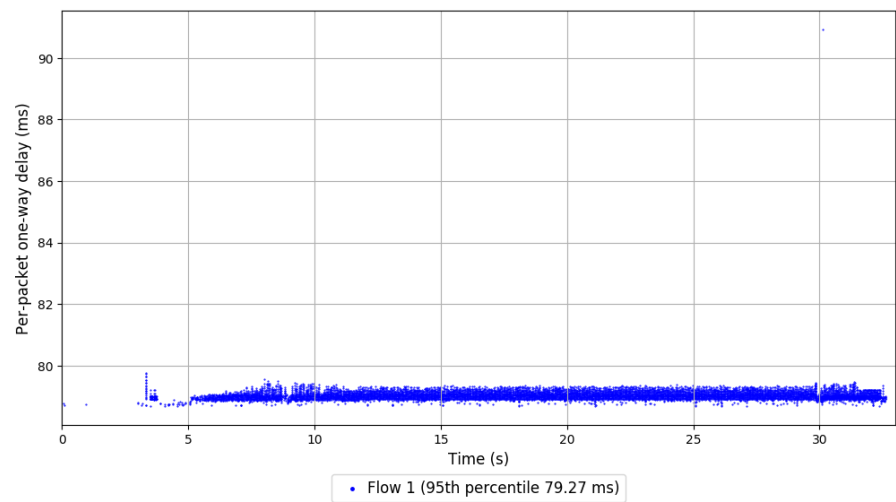
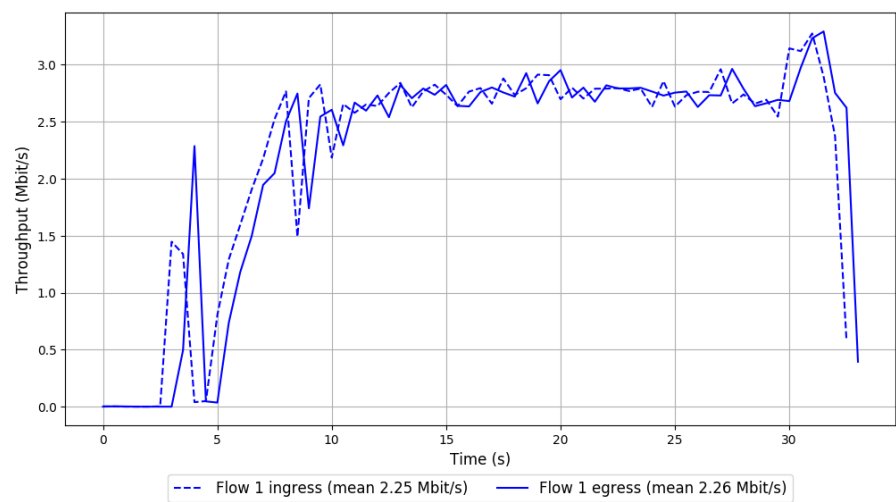
-- Flow 1:

Average throughput: 2.26 Mbit/s

95th percentile per-packet one-way delay: 79.268 ms

Loss rate: 0.30%

Run 4: Report of WebRTC media — Data Link



Run 5: Statistics of WebRTC media

Start at: 2018-09-06 15:50:23

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

Local clock offset: 4.994 ms

Remote clock offset: 3.238 ms

Below is generated by plot.py at 2018-09-06 16:06:58

Datalink statistics

-- Total of 1 flow:

Average throughput: 2.54 Mbit/s

95th percentile per-packet one-way delay: 76.609 ms

Loss rate: 0.73%

-- Flow 1:

Average throughput: 2.54 Mbit/s

95th percentile per-packet one-way delay: 76.609 ms

Loss rate: 0.73%

Run 5: Report of WebRTC media — Data Link

