

Pantheon Report

Generated at 2018-09-07 21:15:20 (UTC).

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

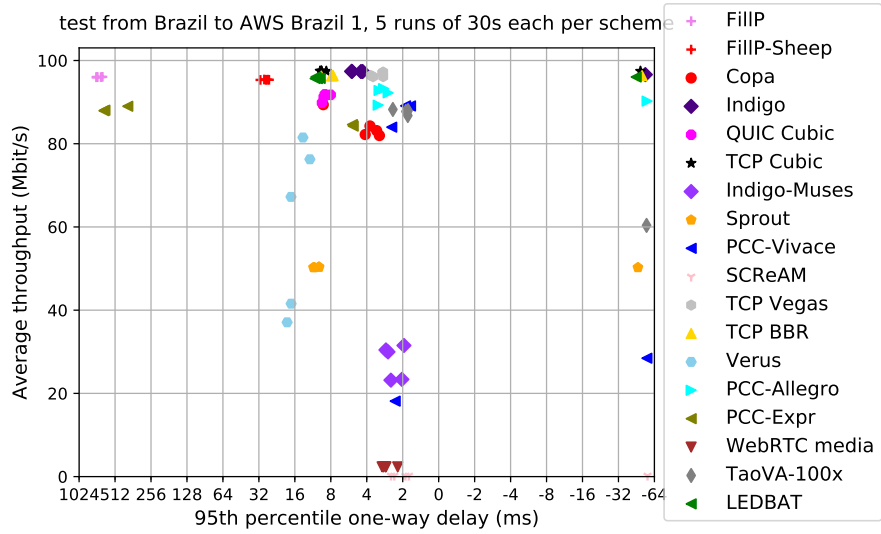
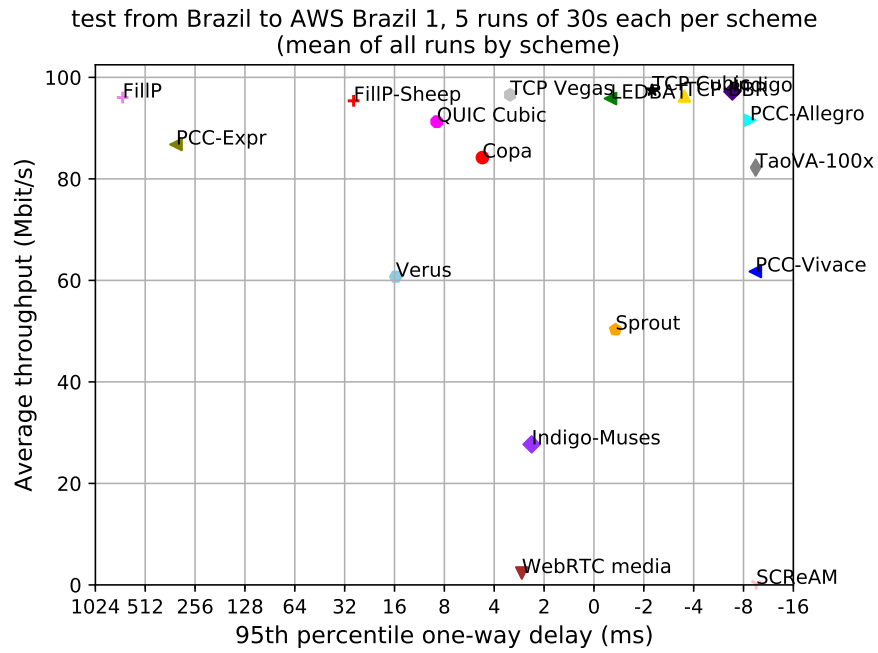
System info:

```
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 @ e0a9b05ad97d268013b7cc9a9c95637b593a1b4c
third_party/fillp @ d47f4fa1b454a5e3c0537115c5a28436dbd4b834
third_party/fillp-sheep @ daed0c84f98531712514b2231f43ec6901114ffe
third_party/genericCC @ d0153f8e594aa89e93b032143cedbdf5e58e562f4
third_party/indigo @ 2601c92e4aa9d58d38dc4dfe0ecdbf90c077e64d
third_party/libutp @ b3465b942e2826f2b179eaab4a906ce6bb7cf3cf
third_party/muses @ 7631aea3923a3598767c87765ae5103aca0678d3
third_party/pantheon-tunnel @ cbfce6db5ff5740dafa1771f813cd646339e1952
third_party/pcc @ 1afc958fa0d66d18b623c091a55fec872b4981e1
M receiver/src/buffer.h
M receiver/src/core.cpp
M sender/src/buffer.h
M sender/src/core.cpp
third_party/pcc-experimental @ cd43e34e3f5f5613e8acd08fab92c4eb24f974ab
third_party/proto-quick @ 77961f1a82733a86b42f1bc8143ebc978f3cff42
third_party/scream-reproduce @ f099118d1421aa3131bf11ff1964974e1da3bdb2
M src/ScreamClient
M src/ScreamServer
third_party/sprout @ 366e35c6178b01e31d4a46ad18c74f9415f19a26
M src/examples/cellsim.cc
M src/examples/sproutbt2.cc
M src/network/sproutconn.cc
third_party/verus @ d4b447ea74c6c60a261149af2629562939f9a494
M src/verus.hpp
M tools/plot.py
```

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



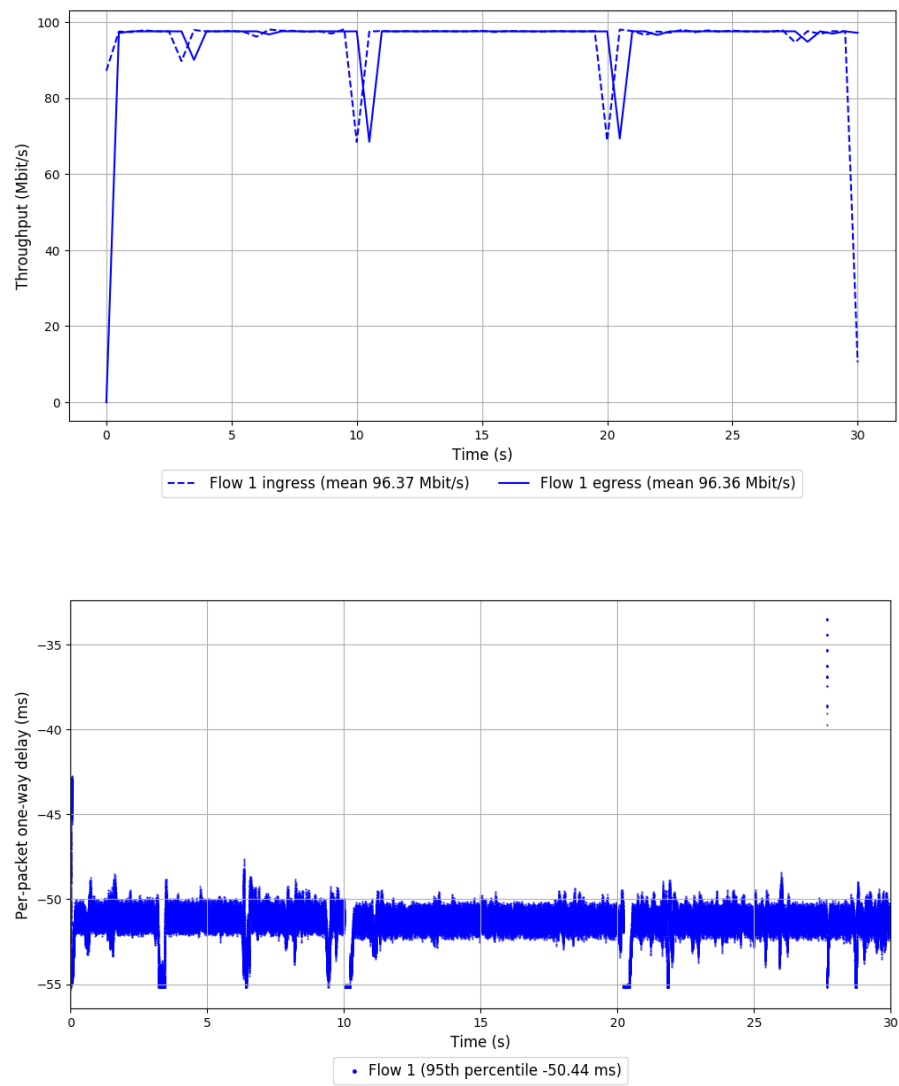
scheme	# runs	mean avg tput (Mbit/s) flow 1	mean 95th-%ile delay (ms) flow 1	mean loss rate (%) flow 1
TCP BBR	5	96.33	-3.52	0.05
Copa	5	84.20	4.71	0.02
TCP Cubic	5	97.46	-2.24	0.06
FillP	5	96.03	700.98	3.73
FillP-Sheep	5	95.38	28.25	1.52
Indigo	5	97.21	-6.85	0.02
LEDBAT	5	95.83	-0.66	0.07
Indigo-Muses	5	27.70	2.38	0.01
PCC-Allegro	5	91.55	-8.74	0.02
PCC-Expr	5	86.77	333.82	3.73
QUIC Cubic	5	91.27	8.89	0.02
SCReAM	5	0.22	-9.54	0.08
Sprout	5	50.30	-0.86	0.04
TaoVA-100x	5	82.22	-9.47	0.02
TCP Vegas	5	96.56	3.21	0.01
Verus	5	60.73	15.73	0.02
PCC-Vivace	5	61.75	-9.43	0.02
WebRTC media	5	2.34	2.73	0.01

Run 1: Statistics of TCP BBR

Start at: 2018-09-07 19:28:30
End at: 2018-09-07 19:29:00
Local clock offset: -57.017 ms
Remote clock offset: 0.028 ms

Below is generated by plot.py at 2018-09-07 21:04:25
Datalink statistics
-- Total of 1 flow:
Average throughput: 96.36 Mbit/s
95th percentile per-packet one-way delay: -50.438 ms
Loss rate: 0.02%
-- Flow 1:
Average throughput: 96.36 Mbit/s
95th percentile per-packet one-way delay: -50.438 ms
Loss rate: 0.02%

Run 1: Report of TCP BBR — Data Link



Run 2: Statistics of TCP BBR

Start at: 2018-09-07 19:48:46

End at: 2018-09-07 19:49:16

Local clock offset: -0.21 ms

Remote clock offset: 0.311 ms

Below is generated by plot.py at 2018-09-07 21:04:26

Datalink statistics

-- Total of 1 flow:

Average throughput: 96.35 Mbit/s

95th percentile per-packet one-way delay: 7.654 ms

Loss rate: 0.03%

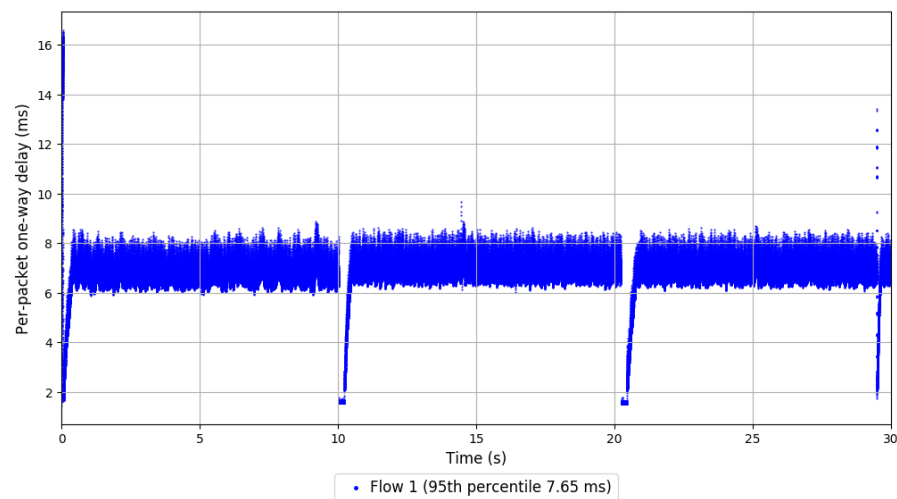
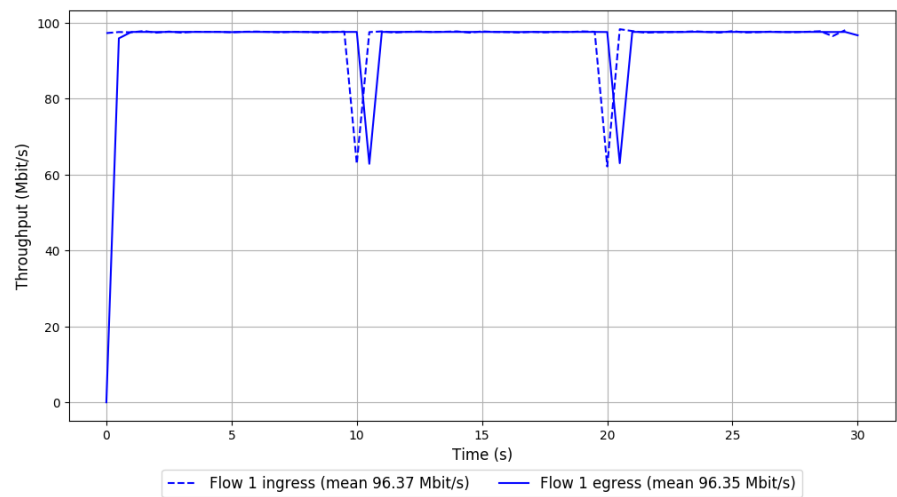
-- Flow 1:

Average throughput: 96.35 Mbit/s

95th percentile per-packet one-way delay: 7.654 ms

Loss rate: 0.03%

Run 2: Report of TCP BBR — Data Link



Run 3: Statistics of TCP BBR

Start at: 2018-09-07 20:09:08

End at: 2018-09-07 20:09:38

Local clock offset: 2.444 ms

Remote clock offset: 0.666 ms

Below is generated by plot.py at 2018-09-07 21:04:26

Datalink statistics

-- Total of 1 flow:

Average throughput: 96.36 Mbit/s

95th percentile per-packet one-way delay: 7.726 ms

Loss rate: 0.03%

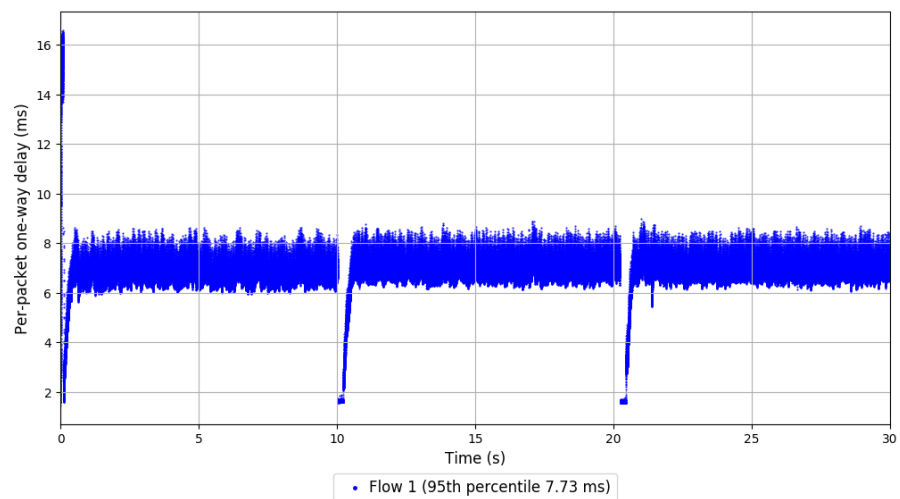
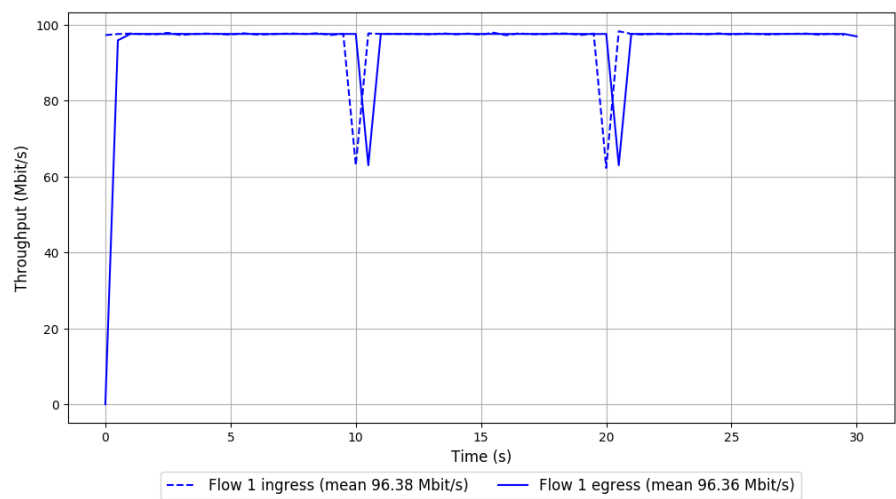
-- Flow 1:

Average throughput: 96.36 Mbit/s

95th percentile per-packet one-way delay: 7.726 ms

Loss rate: 0.03%

Run 3: Report of TCP BBR — Data Link



Run 4: Statistics of TCP BBR

Start at: 2018-09-07 20:29:27

End at: 2018-09-07 20:29:57

Local clock offset: 0.528 ms

Remote clock offset: 0.833 ms

Below is generated by plot.py at 2018-09-07 21:04:26

Datalink statistics

-- Total of 1 flow:

Average throughput: 96.32 Mbit/s

95th percentile per-packet one-way delay: 7.866 ms

Loss rate: 0.03%

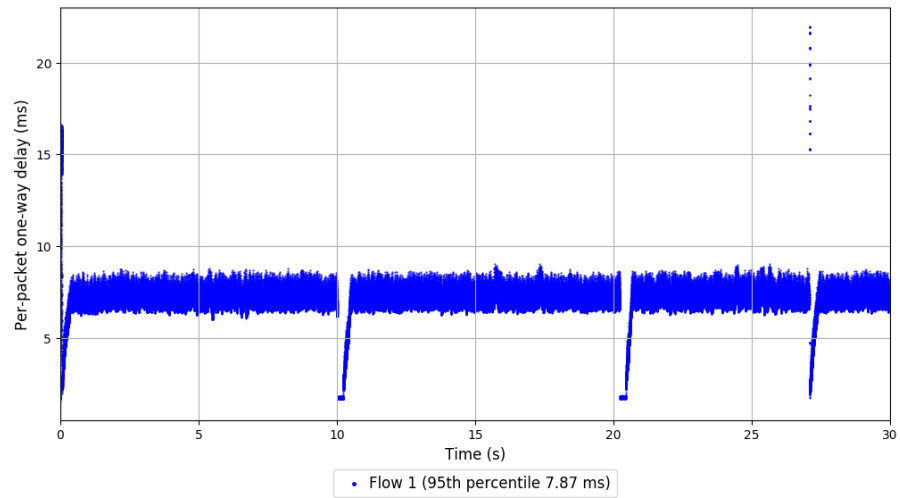
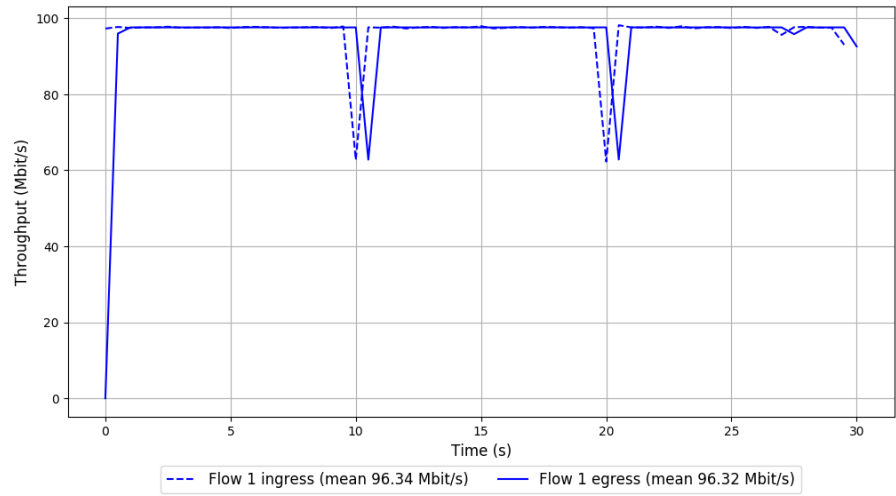
-- Flow 1:

Average throughput: 96.32 Mbit/s

95th percentile per-packet one-way delay: 7.866 ms

Loss rate: 0.03%

Run 4: Report of TCP BBR — Data Link



Run 5: Statistics of TCP BBR

Start at: 2018-09-07 20:49:49

End at: 2018-09-07 20:50:19

Local clock offset: -1.593 ms

Remote clock offset: 0.881 ms

Below is generated by plot.py at 2018-09-07 21:04:26

Datalink statistics

-- Total of 1 flow:

Average throughput: 96.25 Mbit/s

95th percentile per-packet one-way delay: 9.615 ms

Loss rate: 0.16%

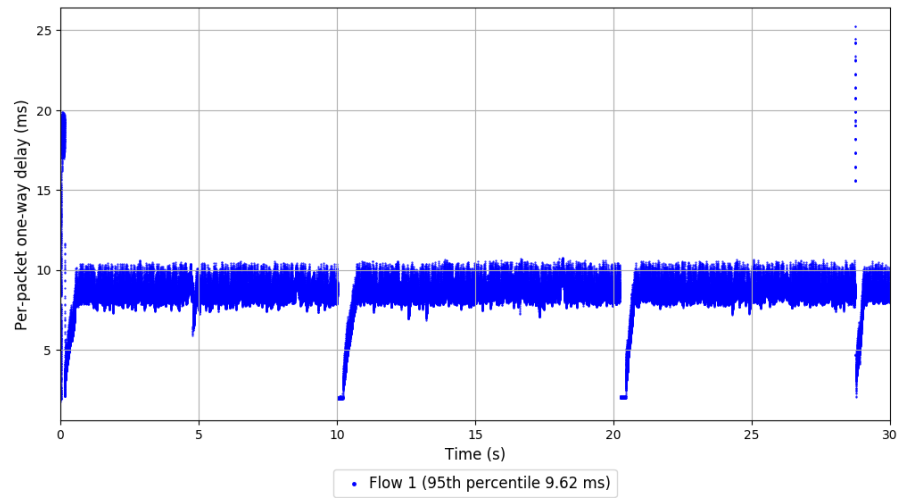
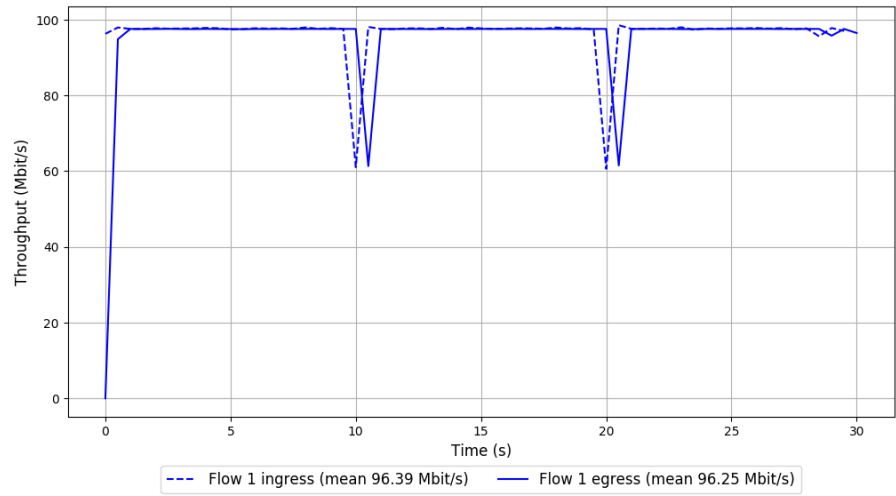
-- Flow 1:

Average throughput: 96.25 Mbit/s

95th percentile per-packet one-way delay: 9.615 ms

Loss rate: 0.16%

Run 5: Report of TCP BBR — Data Link



Run 1: Statistics of Copa

Start at: 2018-09-07 19:31:51

End at: 2018-09-07 19:32:21

Local clock offset: -0.871 ms

Remote clock offset: 0.018 ms

Below is generated by plot.py at 2018-09-07 21:05:08

Datalink statistics

-- Total of 1 flow:

Average throughput: 82.21 Mbit/s

95th percentile per-packet one-way delay: 4.119 ms

Loss rate: 0.02%

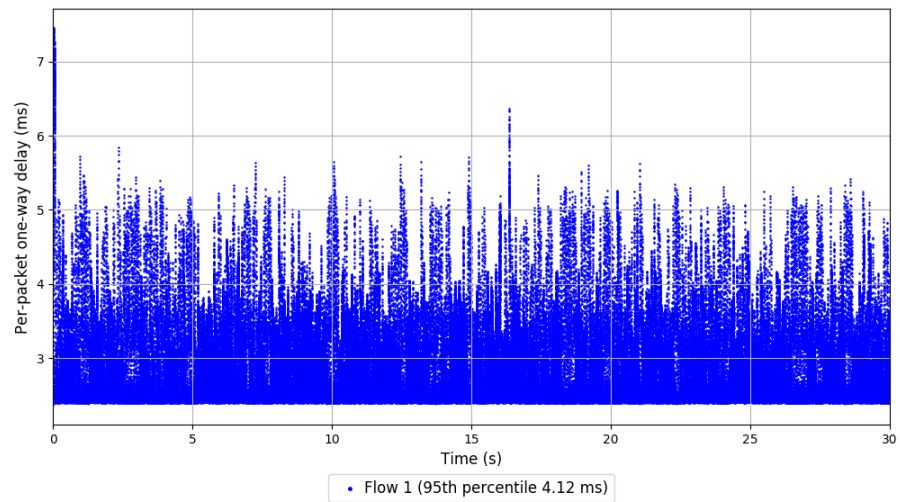
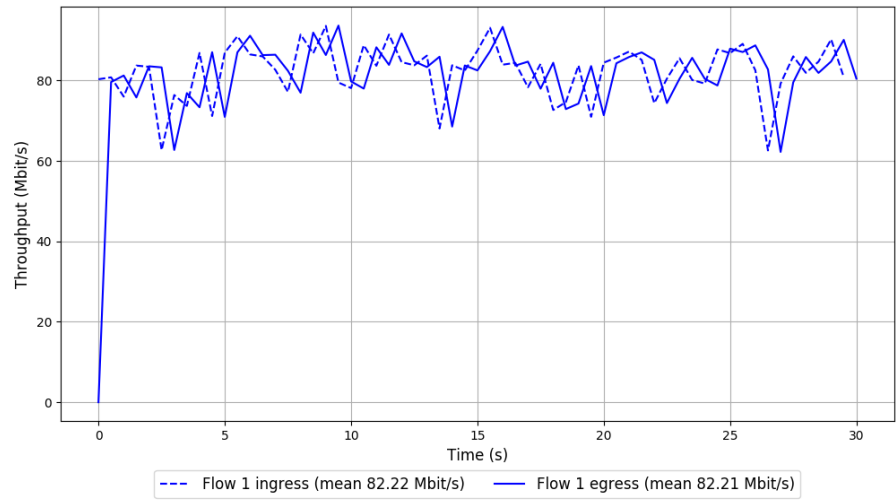
-- Flow 1:

Average throughput: 82.21 Mbit/s

95th percentile per-packet one-way delay: 4.119 ms

Loss rate: 0.02%

Run 1: Report of Copa — Data Link



Run 2: Statistics of Copa

Start at: 2018-09-07 19:52:10

End at: 2018-09-07 19:52:40

Local clock offset: 0.437 ms

Remote clock offset: 0.422 ms

Below is generated by plot.py at 2018-09-07 21:05:08

Datalink statistics

-- Total of 1 flow:

Average throughput: 81.97 Mbit/s

95th percentile per-packet one-way delay: 3.134 ms

Loss rate: 0.01%

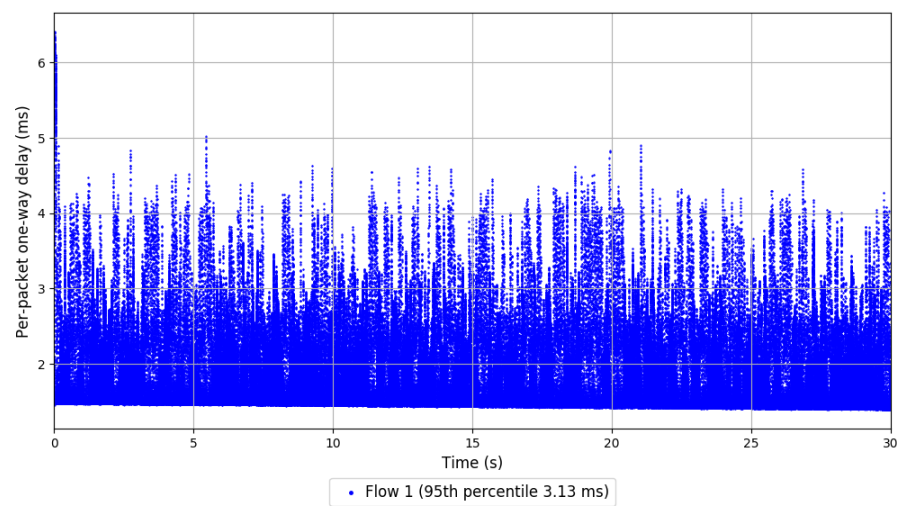
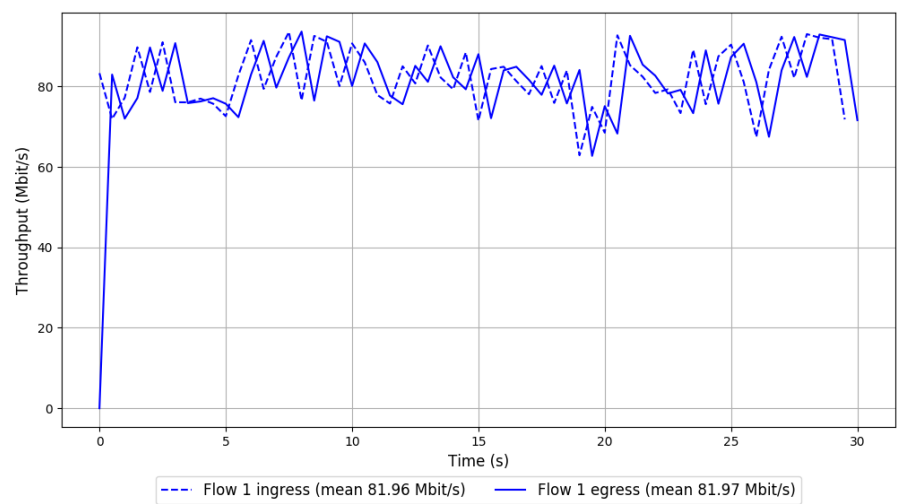
-- Flow 1:

Average throughput: 81.97 Mbit/s

95th percentile per-packet one-way delay: 3.134 ms

Loss rate: 0.01%

Run 2: Report of Copa — Data Link



Run 3: Statistics of Copa

Start at: 2018-09-07 20:12:28

End at: 2018-09-07 20:12:58

Local clock offset: 3.492 ms

Remote clock offset: 0.757 ms

Below is generated by plot.py at 2018-09-07 21:05:11

Datalink statistics

-- Total of 1 flow:

Average throughput: 84.27 Mbit/s

95th percentile per-packet one-way delay: 3.760 ms

Loss rate: 0.01%

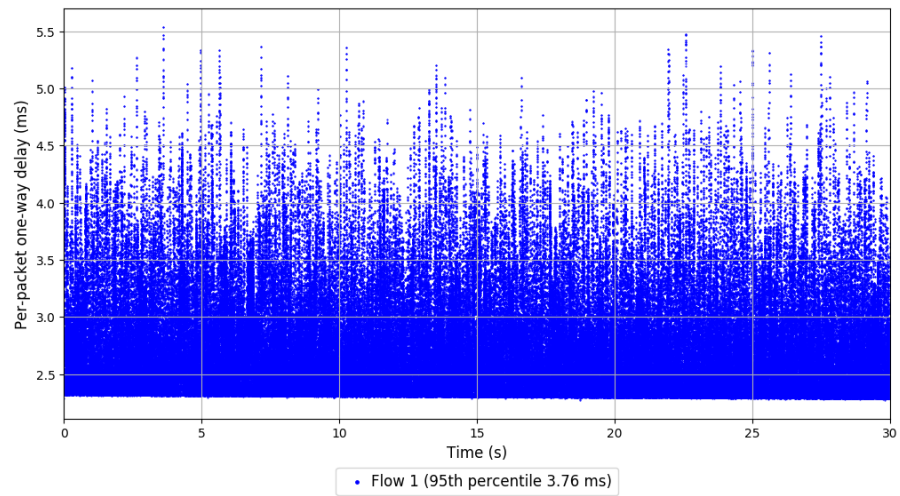
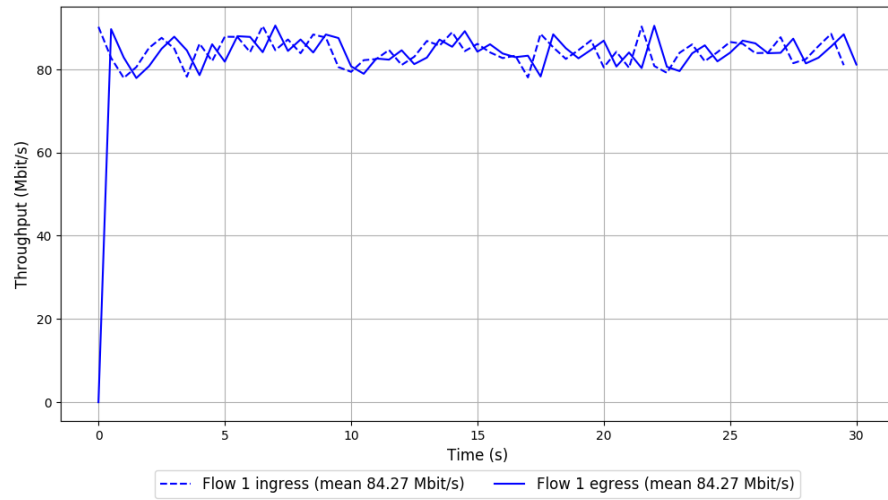
-- Flow 1:

Average throughput: 84.27 Mbit/s

95th percentile per-packet one-way delay: 3.760 ms

Loss rate: 0.01%

Run 3: Report of Copa — Data Link



Run 4: Statistics of Copa

Start at: 2018-09-07 20:32:50

End at: 2018-09-07 20:33:20

Local clock offset: 0.411 ms

Remote clock offset: 0.866 ms

Below is generated by plot.py at 2018-09-07 21:06:19

Datalink statistics

-- Total of 1 flow:

Average throughput: 83.15 Mbit/s

95th percentile per-packet one-way delay: 3.307 ms

Loss rate: 0.02%

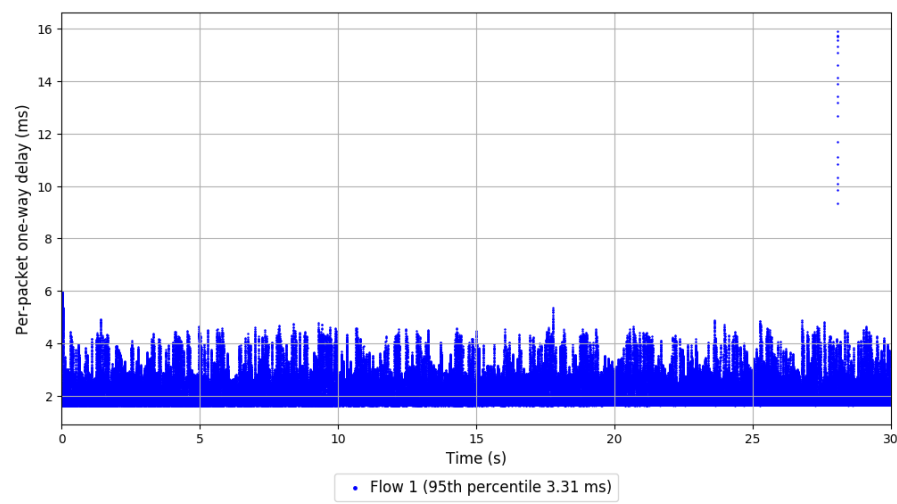
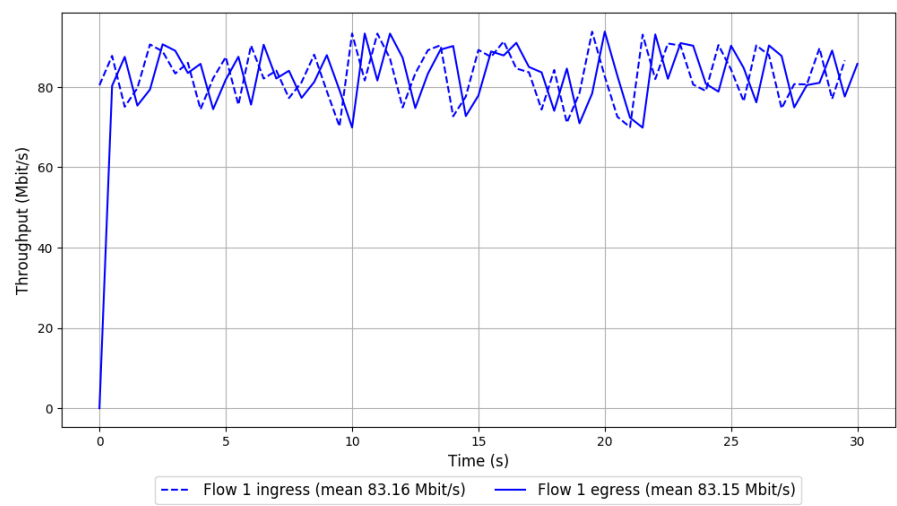
-- Flow 1:

Average throughput: 83.15 Mbit/s

95th percentile per-packet one-way delay: 3.307 ms

Loss rate: 0.02%

Run 4: Report of Copa — Data Link



Run 5: Statistics of Copa

Start at: 2018-09-07 20:53:13

End at: 2018-09-07 20:53:43

Local clock offset: -2.516 ms

Remote clock offset: 0.989 ms

Below is generated by plot.py at 2018-09-07 21:06:25

Datalink statistics

-- Total of 1 flow:

Average throughput: 89.39 Mbit/s

95th percentile per-packet one-way delay: 9.252 ms

Loss rate: 0.03%

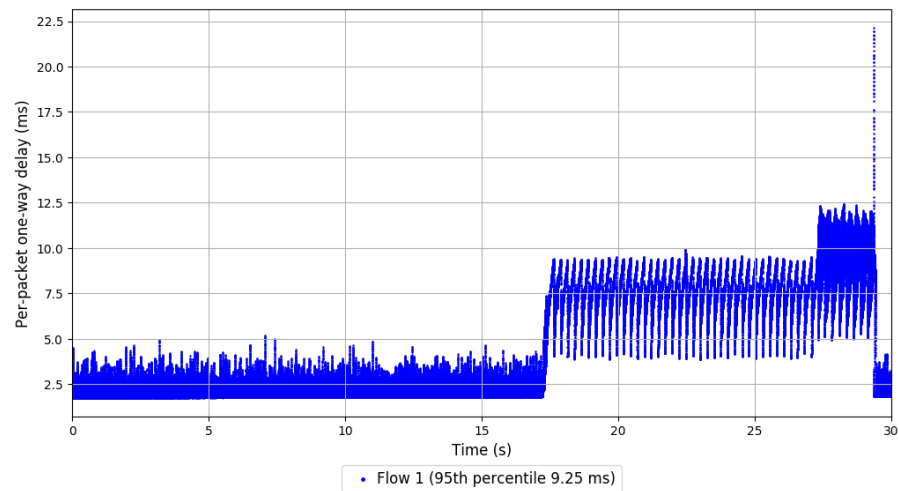
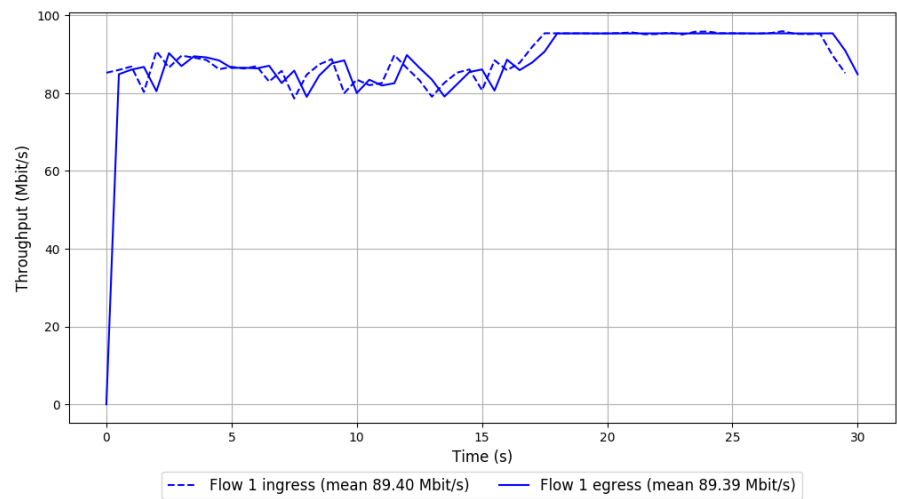
-- Flow 1:

Average throughput: 89.39 Mbit/s

95th percentile per-packet one-way delay: 9.252 ms

Loss rate: 0.03%

Run 5: Report of Copa — Data Link

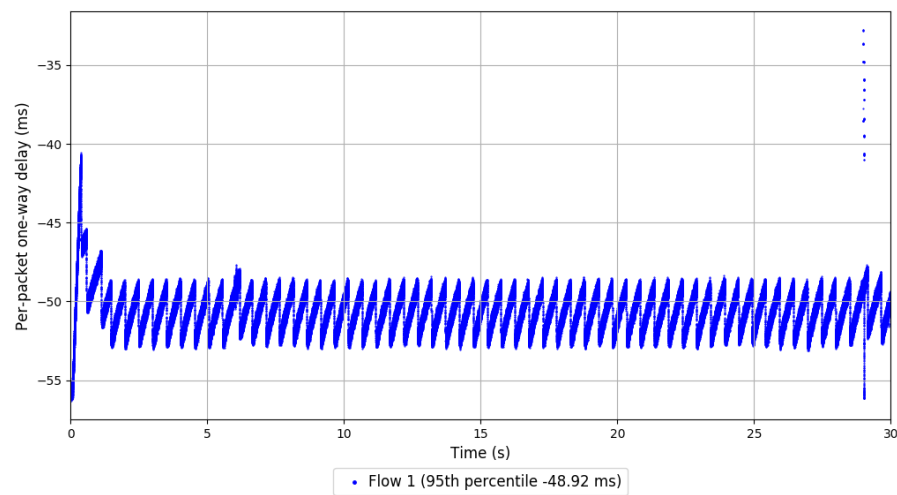
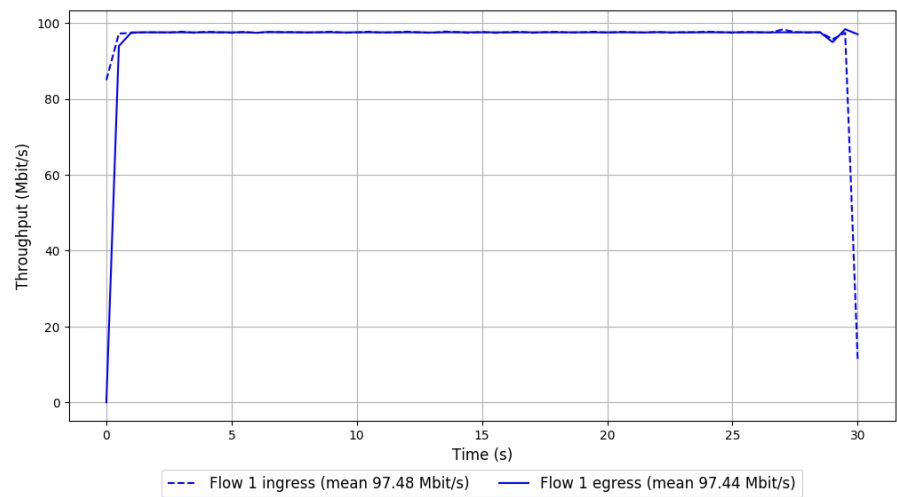


Run 1: Statistics of TCP Cubic

Start at: 2018-09-07 19:27:21
End at: 2018-09-07 19:27:51
Local clock offset: -58.024 ms
Remote clock offset: 0.004 ms

Below is generated by plot.py at 2018-09-07 21:06:25
Datalink statistics
-- Total of 1 flow:
Average throughput: 97.44 Mbit/s
95th percentile per-packet one-way delay: -48.918 ms
Loss rate: 0.06%
-- Flow 1:
Average throughput: 97.44 Mbit/s
95th percentile per-packet one-way delay: -48.918 ms
Loss rate: 0.06%

Run 1: Report of TCP Cubic — Data Link



Run 2: Statistics of TCP Cubic

Start at: 2018-09-07 19:47:38

End at: 2018-09-07 19:48:08

Local clock offset: 0.238 ms

Remote clock offset: 0.302 ms

Below is generated by plot.py at 2018-09-07 21:06:25

Datalink statistics

-- Total of 1 flow:

Average throughput: 97.47 Mbit/s

95th percentile per-packet one-way delay: 9.561 ms

Loss rate: 0.05%

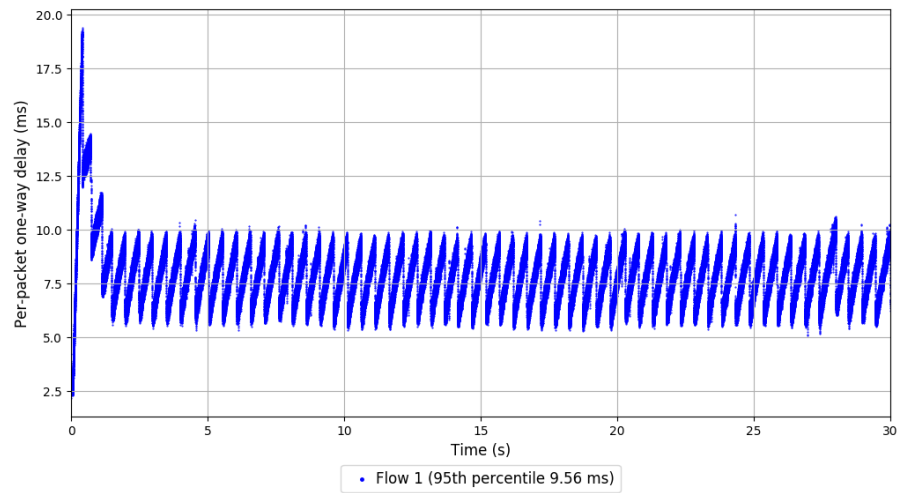
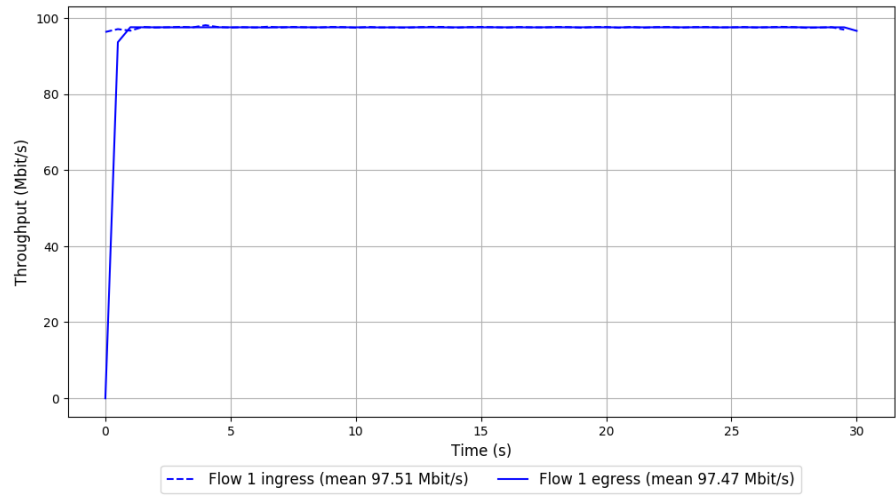
-- Flow 1:

Average throughput: 97.47 Mbit/s

95th percentile per-packet one-way delay: 9.561 ms

Loss rate: 0.05%

Run 2: Report of TCP Cubic — Data Link



Run 3: Statistics of TCP Cubic

Start at: 2018-09-07 20:08:00

End at: 2018-09-07 20:08:30

Local clock offset: 2.422 ms

Remote clock offset: 0.707 ms

Below is generated by plot.py at 2018-09-07 21:06:25

Datalink statistics

-- Total of 1 flow:

Average throughput: 97.43 Mbit/s

95th percentile per-packet one-way delay: 8.717 ms

Loss rate: 0.06%

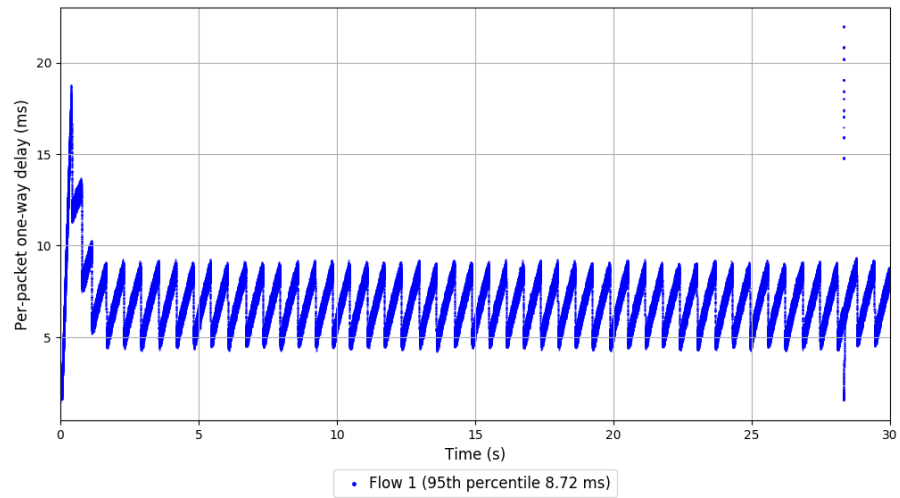
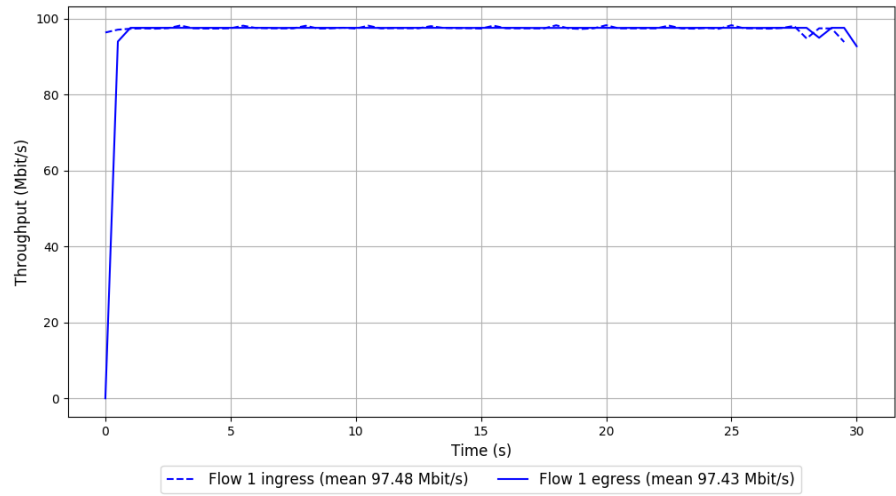
-- Flow 1:

Average throughput: 97.43 Mbit/s

95th percentile per-packet one-way delay: 8.717 ms

Loss rate: 0.06%

Run 3: Report of TCP Cubic — Data Link



Run 4: Statistics of TCP Cubic

Start at: 2018-09-07 20:28:18

End at: 2018-09-07 20:28:49

Local clock offset: 1.323 ms

Remote clock offset: 0.916 ms

Below is generated by plot.py at 2018-09-07 21:06:25

Datalink statistics

-- Total of 1 flow:

Average throughput: 97.47 Mbit/s

95th percentile per-packet one-way delay: 9.588 ms

Loss rate: 0.06%

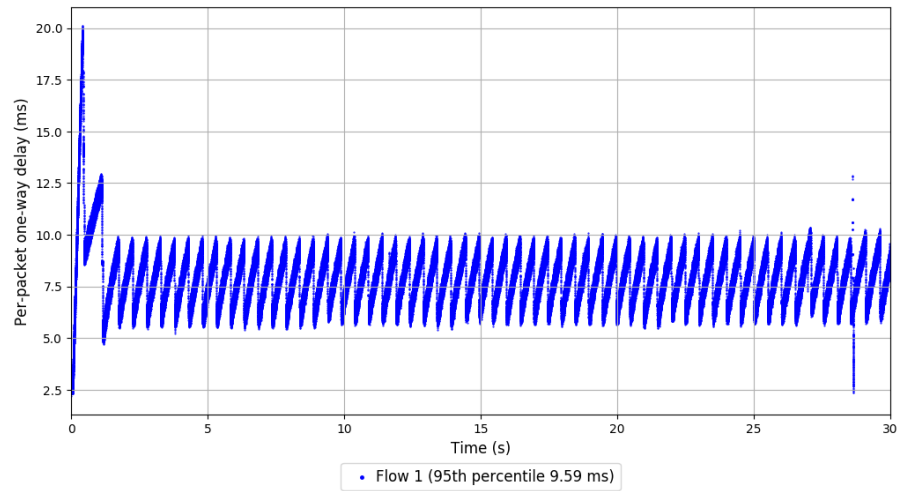
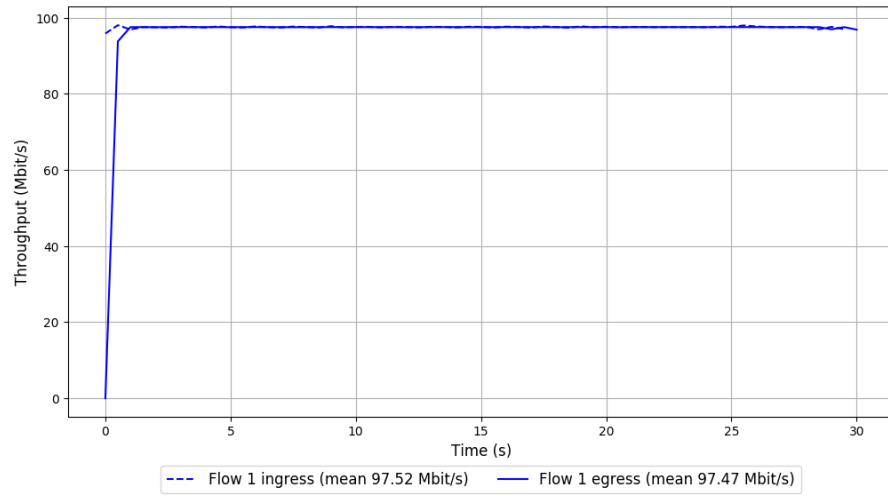
-- Flow 1:

Average throughput: 97.47 Mbit/s

95th percentile per-packet one-way delay: 9.588 ms

Loss rate: 0.06%

Run 4: Report of TCP Cubic — Data Link



Run 5: Statistics of TCP Cubic

Start at: 2018-09-07 20:48:41

End at: 2018-09-07 20:49:11

Local clock offset: -0.435 ms

Remote clock offset: 0.9 ms

Below is generated by plot.py at 2018-09-07 21:06:25

Datalink statistics

-- Total of 1 flow:

Average throughput: 97.47 Mbit/s

95th percentile per-packet one-way delay: 9.829 ms

Loss rate: 0.05%

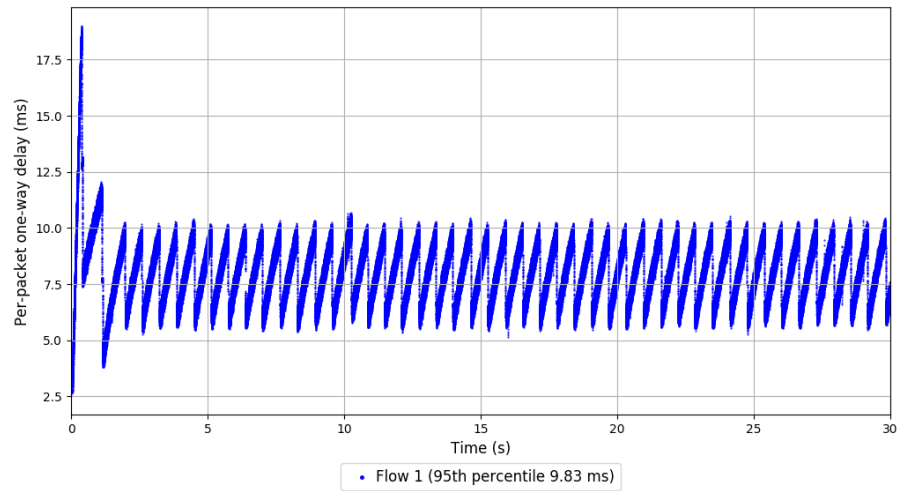
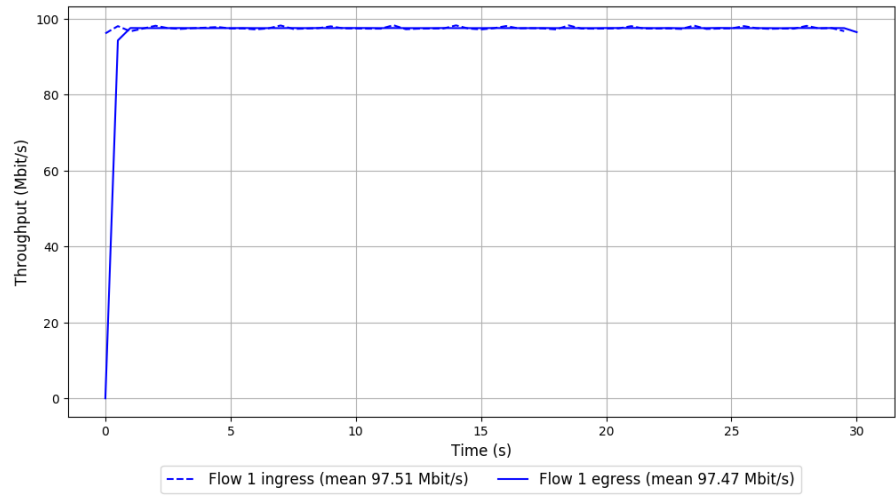
-- Flow 1:

Average throughput: 97.47 Mbit/s

95th percentile per-packet one-way delay: 9.829 ms

Loss rate: 0.05%

Run 5: Report of TCP Cubic — Data Link

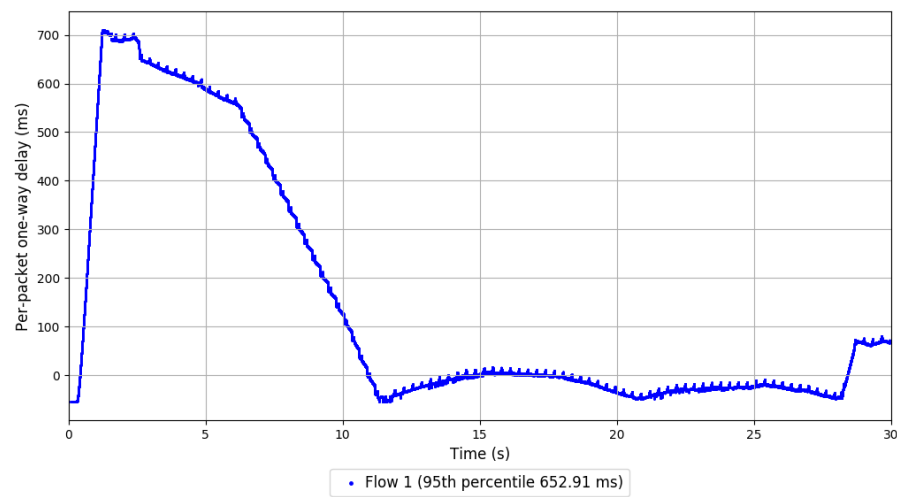
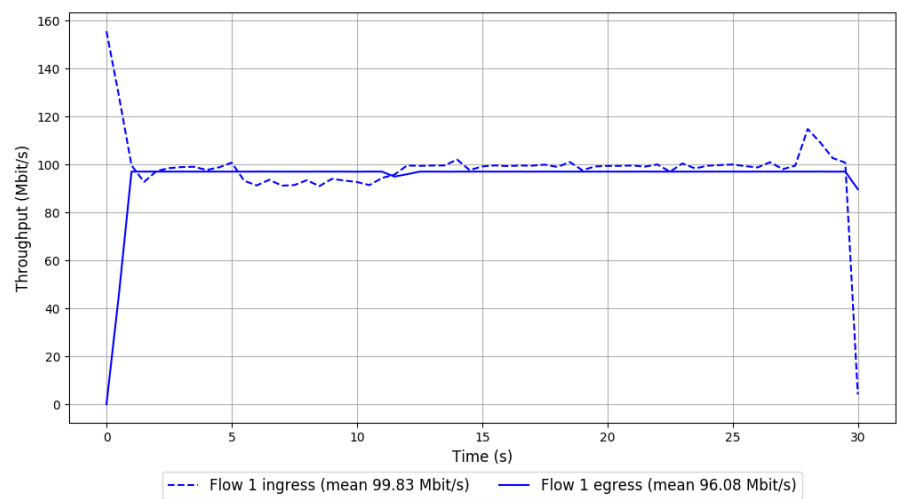


Run 1: Statistics of FillP

Start at: 2018-09-07 19:25:04
End at: 2018-09-07 19:25:34
Local clock offset: -58.093 ms
Remote clock offset: -0.096 ms

Below is generated by plot.py at 2018-09-07 21:06:43
Datalink statistics
-- Total of 1 flow:
Average throughput: 96.08 Mbit/s
95th percentile per-packet one-way delay: 652.906 ms
Loss rate: 3.78%
-- Flow 1:
Average throughput: 96.08 Mbit/s
95th percentile per-packet one-way delay: 652.906 ms
Loss rate: 3.78%

Run 1: Report of FillP — Data Link



Run 2: Statistics of FillP

Start at: 2018-09-07 19:45:21

End at: 2018-09-07 19:45:51

Local clock offset: -0.527 ms

Remote clock offset: 0.316 ms

Below is generated by plot.py at 2018-09-07 21:06:56

Datalink statistics

-- Total of 1 flow:

Average throughput: 96.03 Mbit/s

95th percentile per-packet one-way delay: 728.844 ms

Loss rate: 3.25%

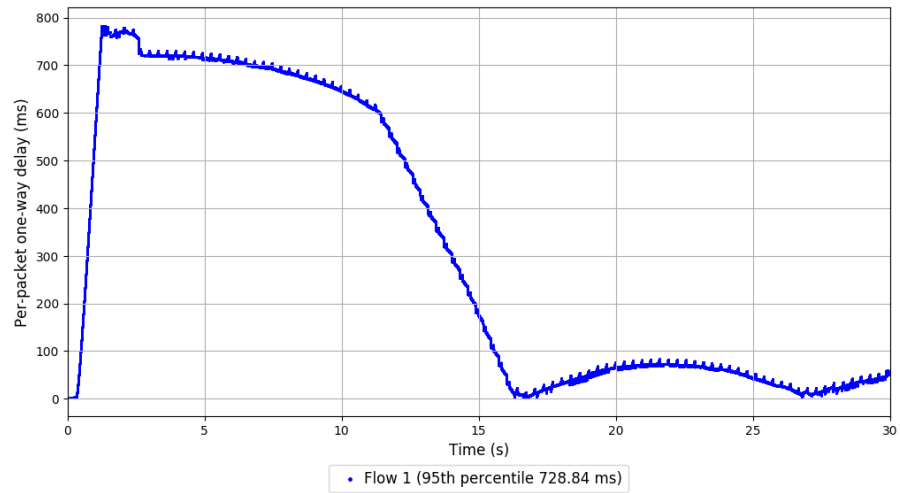
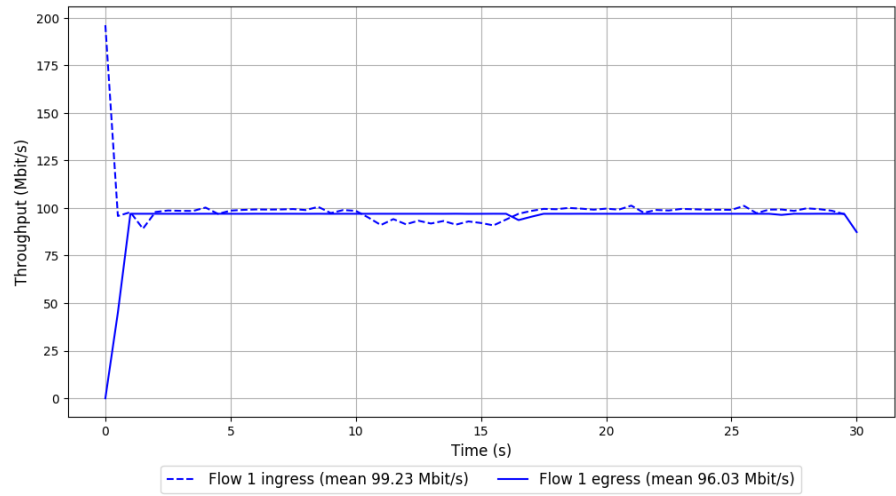
-- Flow 1:

Average throughput: 96.03 Mbit/s

95th percentile per-packet one-way delay: 728.844 ms

Loss rate: 3.25%

Run 2: Report of FillP — Data Link



Run 3: Statistics of FillP

Start at: 2018-09-07 20:05:42

End at: 2018-09-07 20:06:12

Local clock offset: 2.162 ms

Remote clock offset: 0.676 ms

Below is generated by plot.py at 2018-09-07 21:06:57

Datalink statistics

-- Total of 1 flow:

Average throughput: 96.02 Mbit/s

95th percentile per-packet one-way delay: 671.008 ms

Loss rate: 4.40%

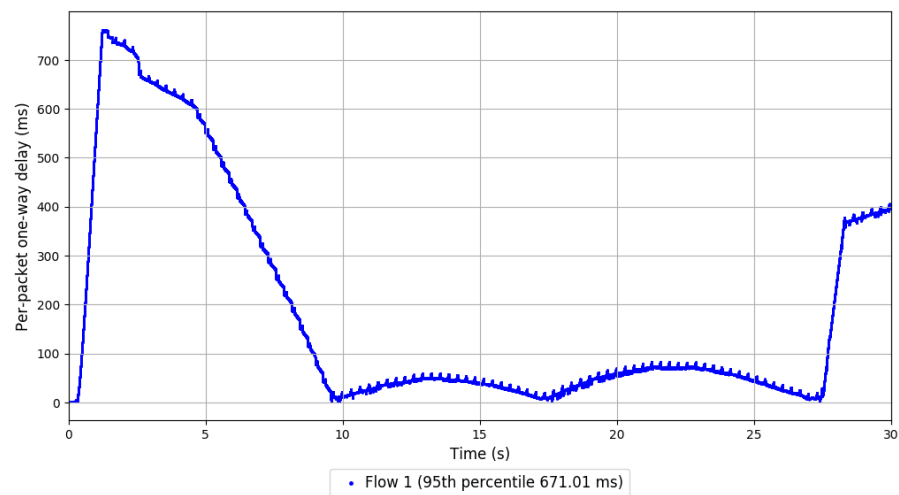
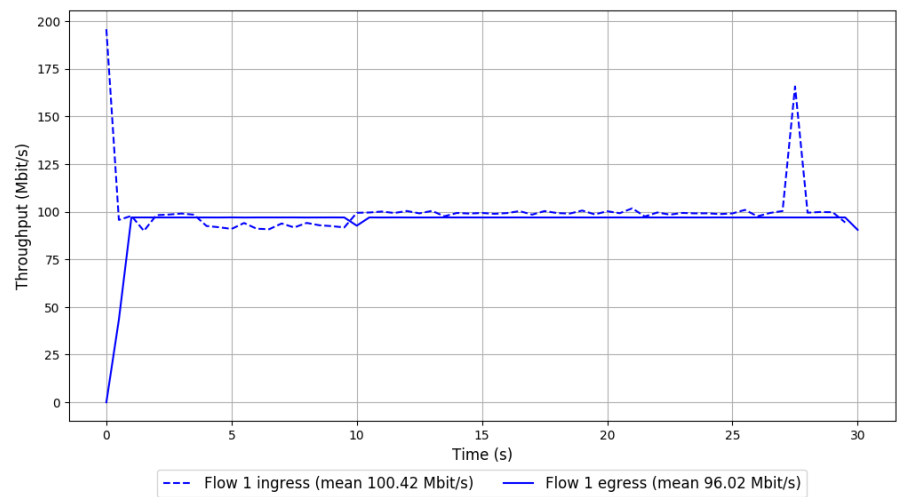
-- Flow 1:

Average throughput: 96.02 Mbit/s

95th percentile per-packet one-way delay: 671.008 ms

Loss rate: 4.40%

Run 3: Report of FillP — Data Link



Run 4: Statistics of FillP

Start at: 2018-09-07 20:26:01

End at: 2018-09-07 20:26:31

Local clock offset: 0.837 ms

Remote clock offset: 0.926 ms

Below is generated by plot.py at 2018-09-07 21:06:57

Datalink statistics

-- Total of 1 flow:

Average throughput: 96.03 Mbit/s

95th percentile per-packet one-way delay: 719.026 ms

Loss rate: 3.62%

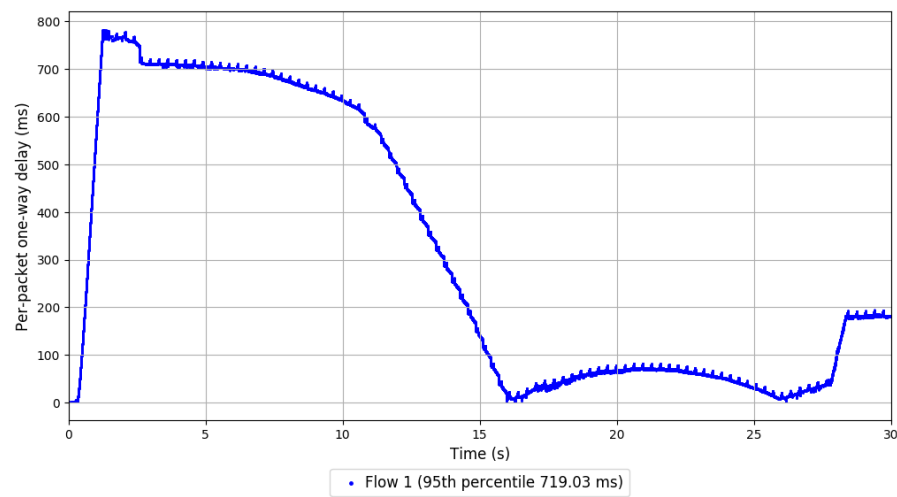
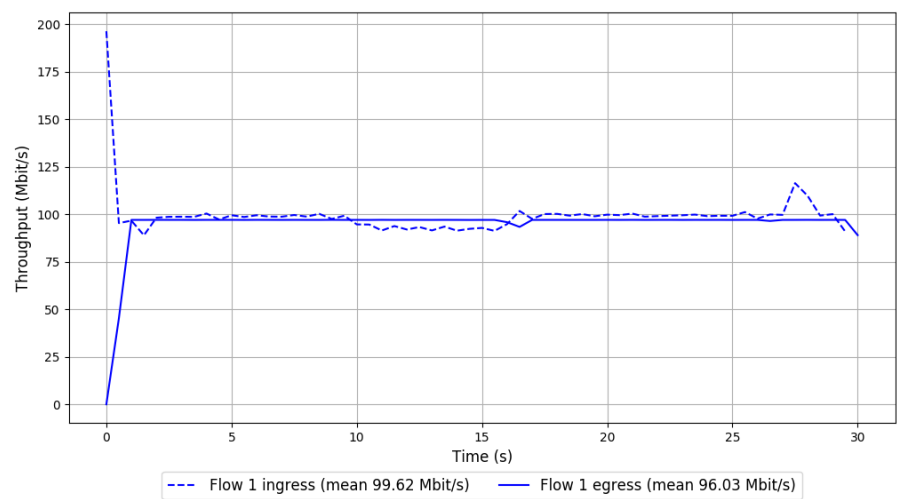
-- Flow 1:

Average throughput: 96.03 Mbit/s

95th percentile per-packet one-way delay: 719.026 ms

Loss rate: 3.62%

Run 4: Report of FillP — Data Link



Run 5: Statistics of FillP

Start at: 2018-09-07 20:46:24

End at: 2018-09-07 20:46:54

Local clock offset: 0.495 ms

Remote clock offset: 0.93 ms

Below is generated by plot.py at 2018-09-07 21:07:41

Datalink statistics

-- Total of 1 flow:

Average throughput: 95.97 Mbit/s

95th percentile per-packet one-way delay: 733.117 ms

Loss rate: 3.60%

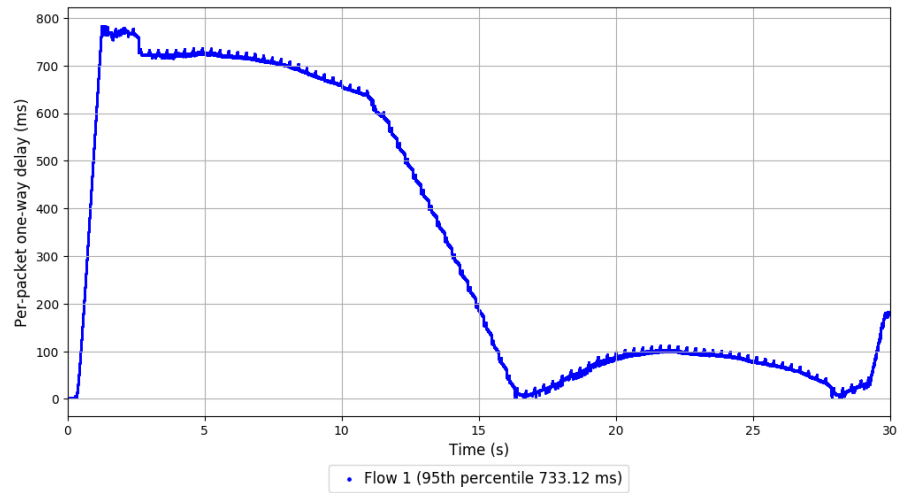
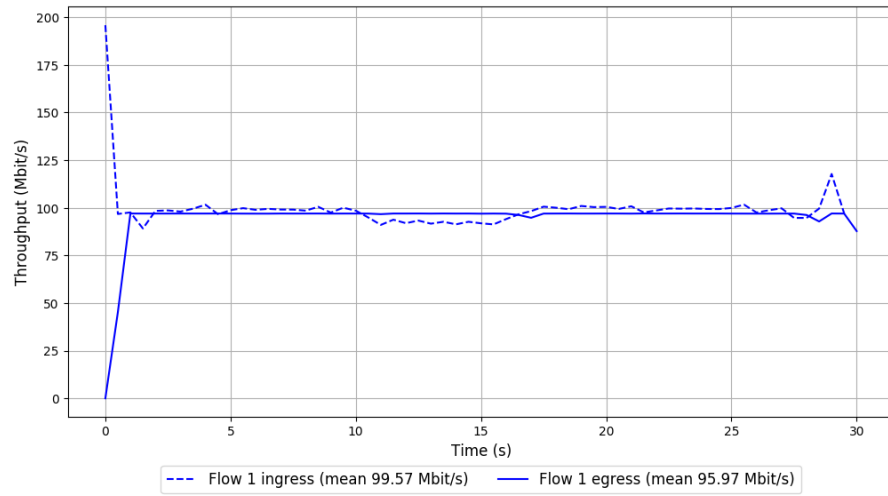
-- Flow 1:

Average throughput: 95.97 Mbit/s

95th percentile per-packet one-way delay: 733.117 ms

Loss rate: 3.60%

Run 5: Report of FillP — Data Link

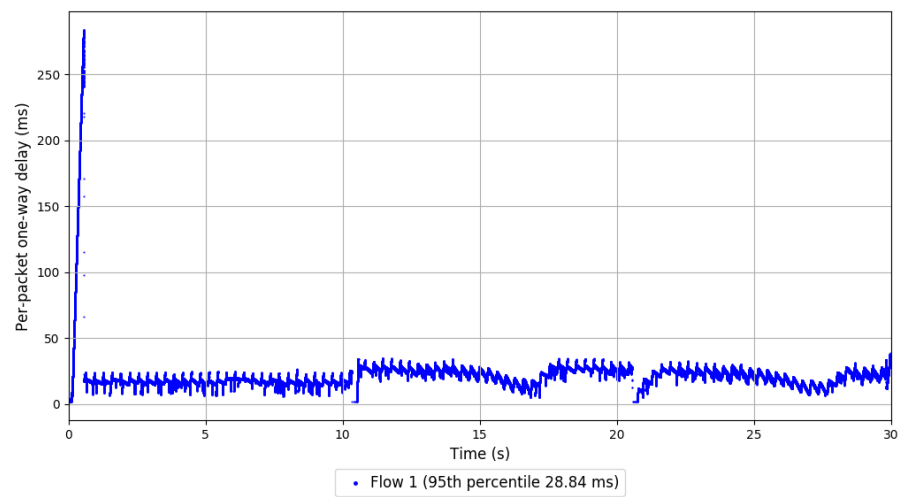
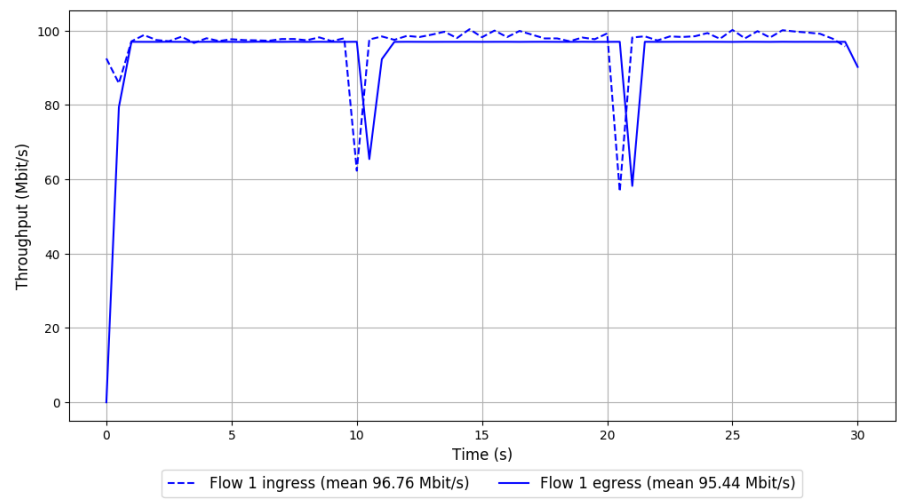


Run 1: Statistics of FillP-Sheep

Start at: 2018-09-07 19:35:17
End at: 2018-09-07 19:35:47
Local clock offset: -1.53 ms
Remote clock offset: -0.022 ms

Below is generated by plot.py at 2018-09-07 21:07:41
Datalink statistics
-- Total of 1 flow:
Average throughput: 95.44 Mbit/s
95th percentile per-packet one-way delay: 28.838 ms
Loss rate: 1.38%
-- Flow 1:
Average throughput: 95.44 Mbit/s
95th percentile per-packet one-way delay: 28.838 ms
Loss rate: 1.38%

Run 1: Report of FillP-Sheep — Data Link



Run 2: Statistics of FillP-Sheep

Start at: 2018-09-07 19:55:38

End at: 2018-09-07 19:56:08

Local clock offset: 1.066 ms

Remote clock offset: 0.404 ms

Below is generated by plot.py at 2018-09-07 21:07:42

Datalink statistics

-- Total of 1 flow:

Average throughput: 95.36 Mbit/s

95th percentile per-packet one-way delay: 27.920 ms

Loss rate: 1.38%

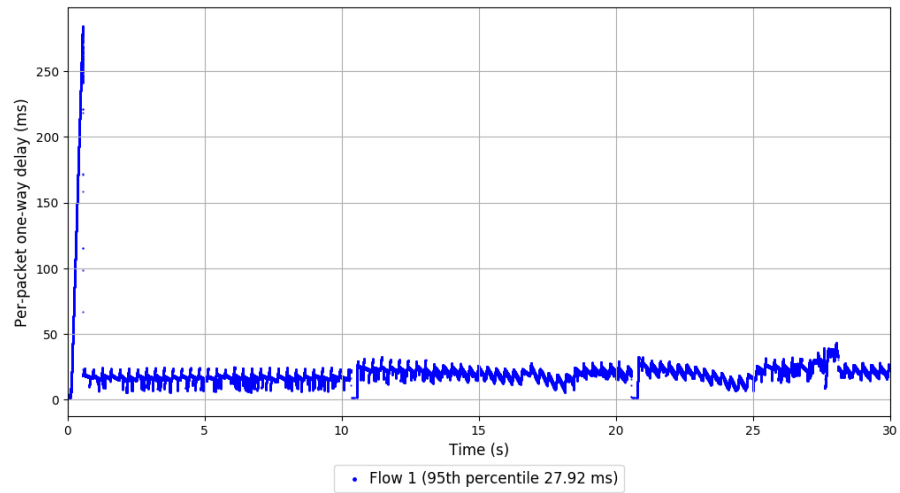
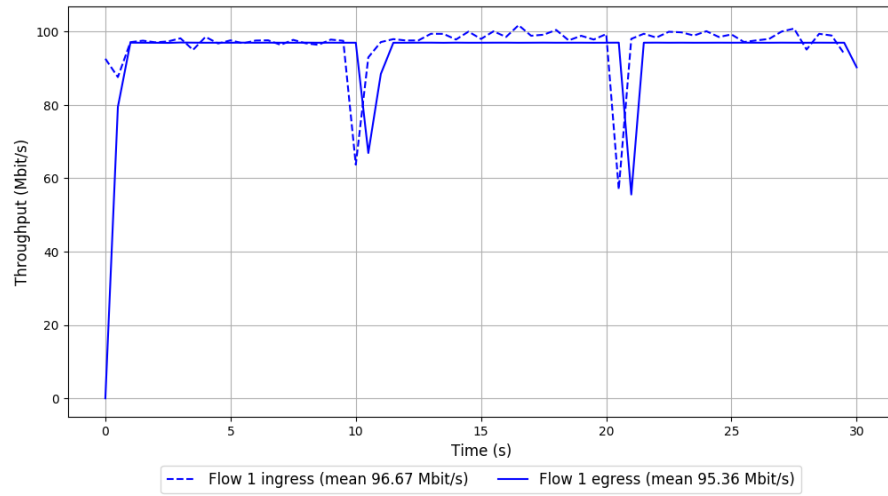
-- Flow 1:

Average throughput: 95.36 Mbit/s

95th percentile per-packet one-way delay: 27.920 ms

Loss rate: 1.38%

Run 2: Report of FillP-Sheep — Data Link



Run 3: Statistics of FillP-Sheep

Start at: 2018-09-07 20:15:55

End at: 2018-09-07 20:16:25

Local clock offset: 2.576 ms

Remote clock offset: 0.829 ms

Below is generated by plot.py at 2018-09-07 21:07:47

Datalink statistics

-- Total of 1 flow:

Average throughput: 95.37 Mbit/s

95th percentile per-packet one-way delay: 26.324 ms

Loss rate: 1.34%

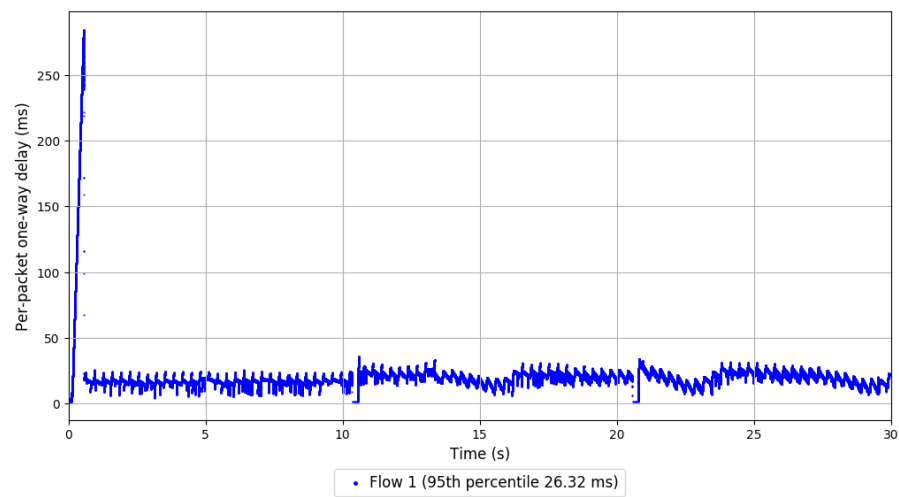
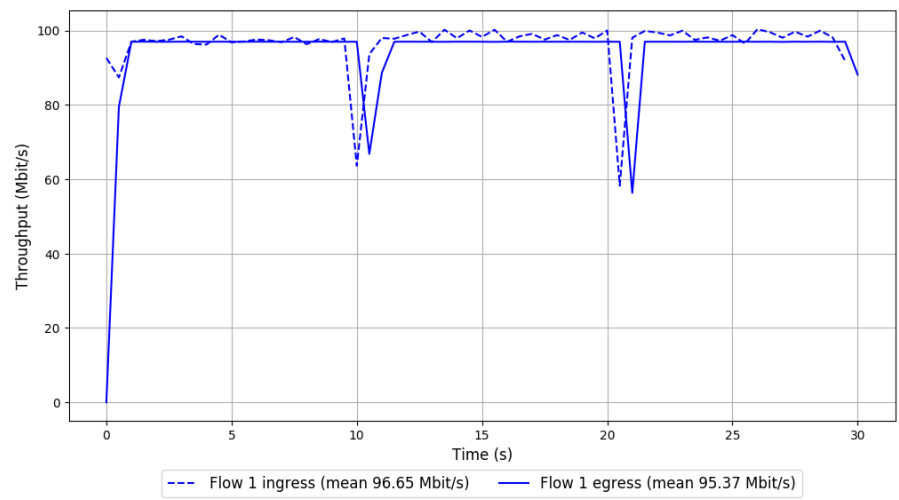
-- Flow 1:

Average throughput: 95.37 Mbit/s

95th percentile per-packet one-way delay: 26.324 ms

Loss rate: 1.34%

Run 3: Report of FillP-Sheep — Data Link



Run 4: Statistics of FillP-Sheep

Start at: 2018-09-07 20:36:17

End at: 2018-09-07 20:36:47

Local clock offset: 1.098 ms

Remote clock offset: 0.945 ms

Below is generated by plot.py at 2018-09-07 21:08:05

Datalink statistics

-- Total of 1 flow:

Average throughput: 95.34 Mbit/s

95th percentile per-packet one-way delay: 31.111 ms

Loss rate: 2.03%

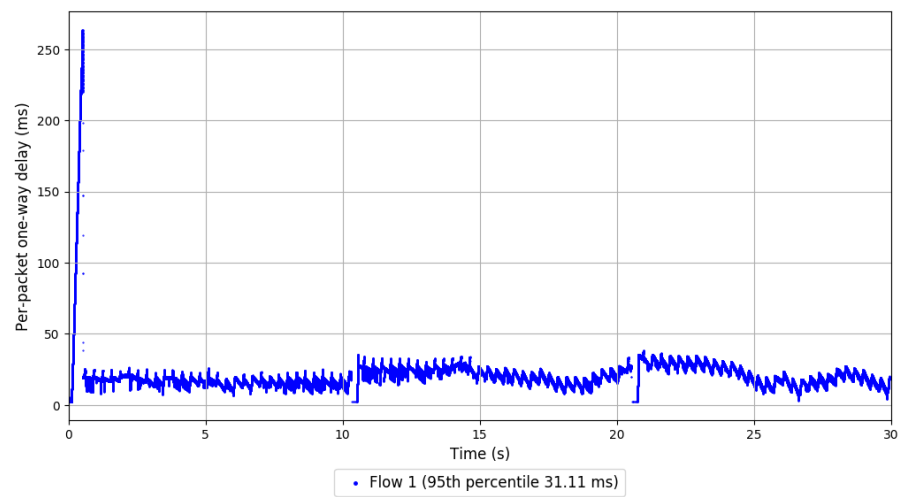
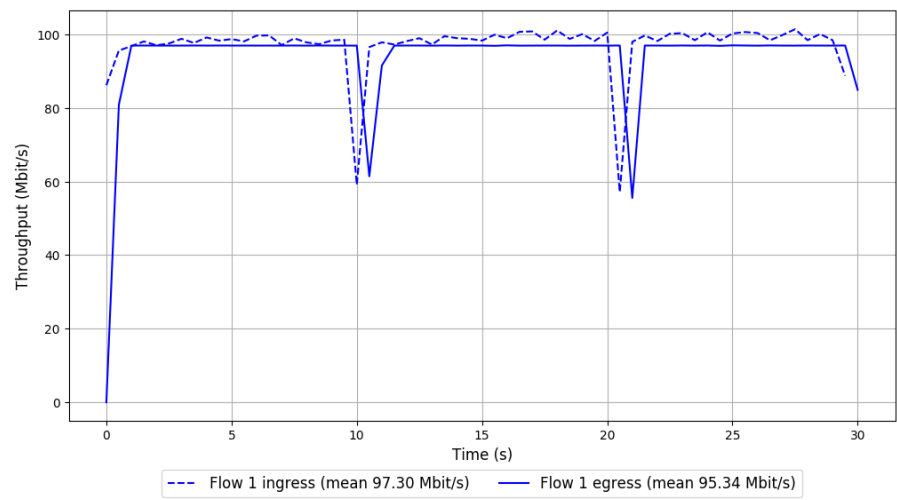
-- Flow 1:

Average throughput: 95.34 Mbit/s

95th percentile per-packet one-way delay: 31.111 ms

Loss rate: 2.03%

Run 4: Report of FillP-Sheep — Data Link



Run 5: Statistics of FillP-Sheep

Start at: 2018-09-07 20:56:40

End at: 2018-09-07 20:57:10

Local clock offset: -3.23 ms

Remote clock offset: 1.0 ms

Below is generated by plot.py at 2018-09-07 21:08:19

Datalink statistics

-- Total of 1 flow:

Average throughput: 95.40 Mbit/s

95th percentile per-packet one-way delay: 27.056 ms

Loss rate: 1.45%

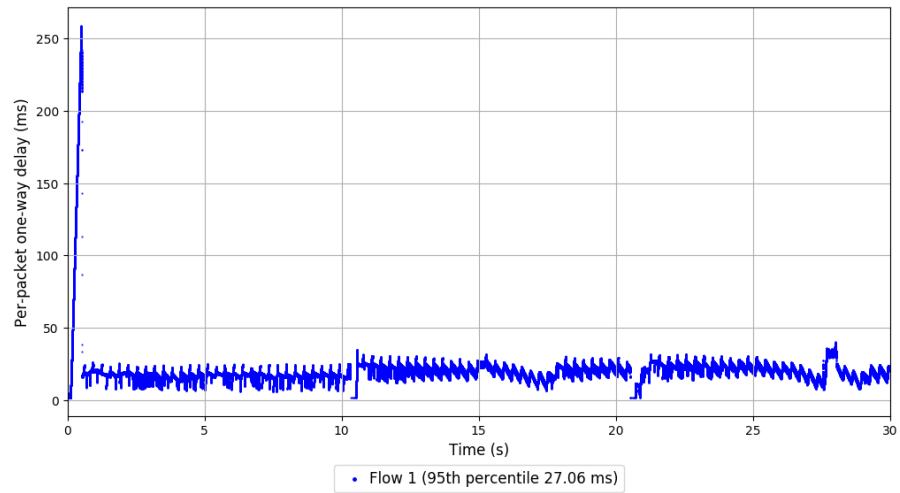
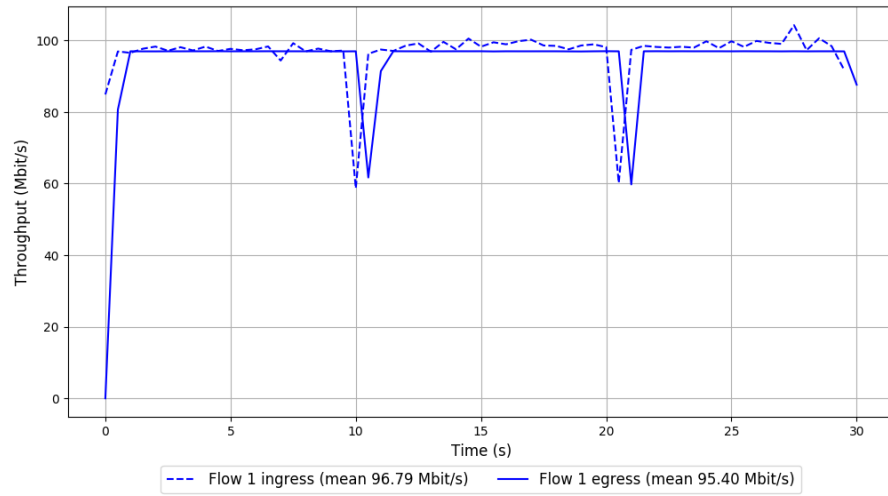
-- Flow 1:

Average throughput: 95.40 Mbit/s

95th percentile per-packet one-way delay: 27.056 ms

Loss rate: 1.45%

Run 5: Report of FillP-Sheep — Data Link

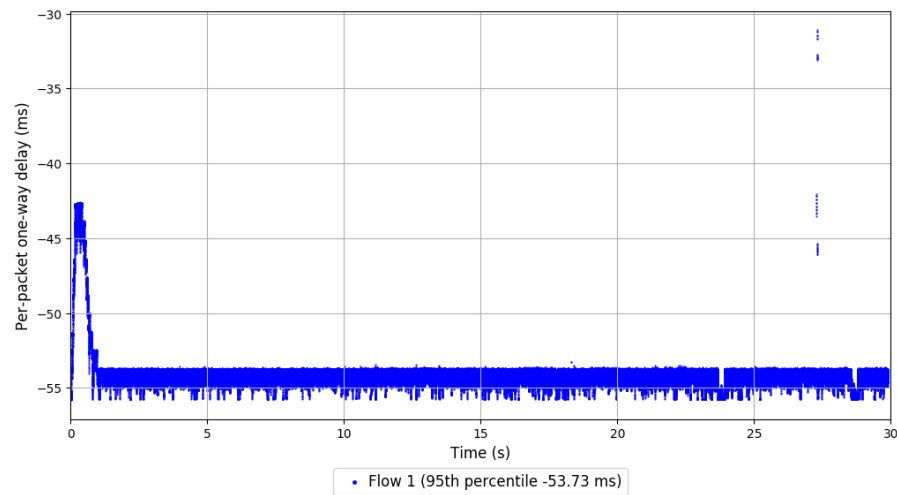
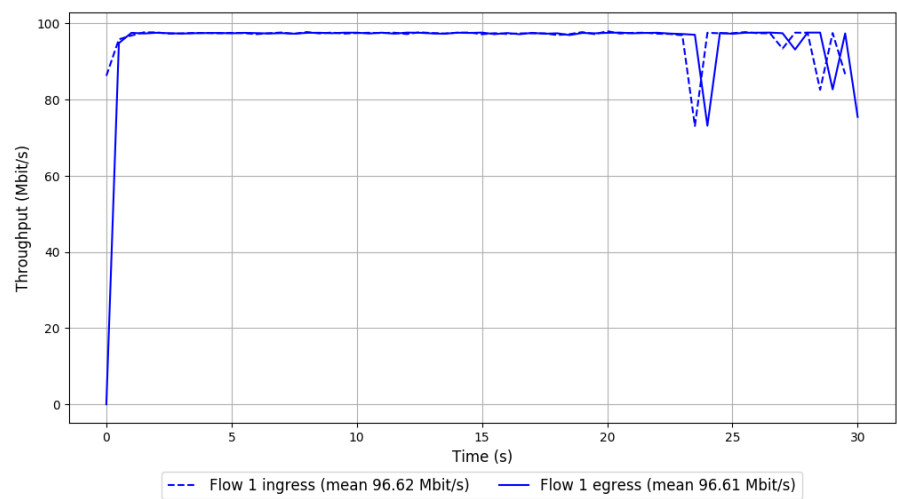


Run 1: Statistics of Indigo

Start at: 2018-09-07 19:21:40
End at: 2018-09-07 19:22:10
Local clock offset: -57.711 ms
Remote clock offset: -0.056 ms

Below is generated by plot.py at 2018-09-07 21:08:19
Datalink statistics
-- Total of 1 flow:
Average throughput: 96.61 Mbit/s
95th percentile per-packet one-way delay: -53.733 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 96.61 Mbit/s
95th percentile per-packet one-way delay: -53.733 ms
Loss rate: 0.01%

Run 1: Report of Indigo — Data Link



Run 2: Statistics of Indigo

Start at: 2018-09-07 19:41:55

End at: 2018-09-07 19:42:25

Local clock offset: -1.372 ms

Remote clock offset: 0.098 ms

Below is generated by plot.py at 2018-09-07 21:08:19

Datalink statistics

-- Total of 1 flow:

Average throughput: 97.34 Mbit/s

95th percentile per-packet one-way delay: 4.473 ms

Loss rate: 0.02%

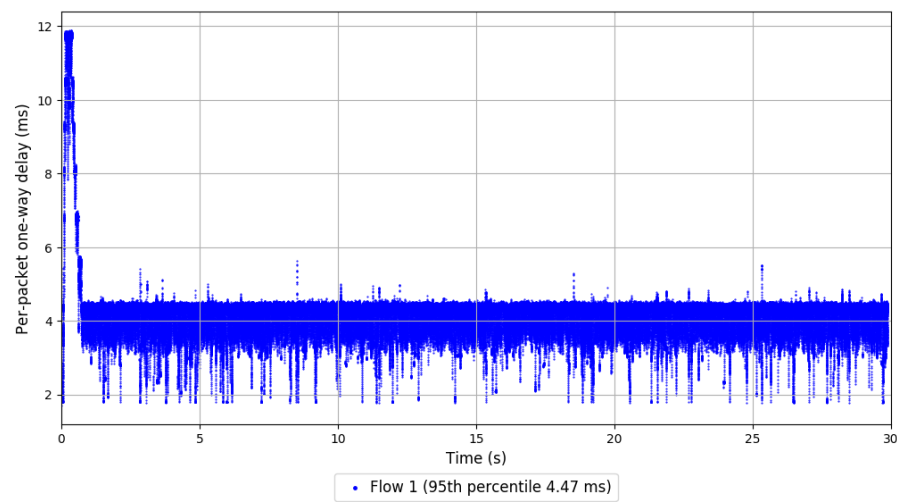
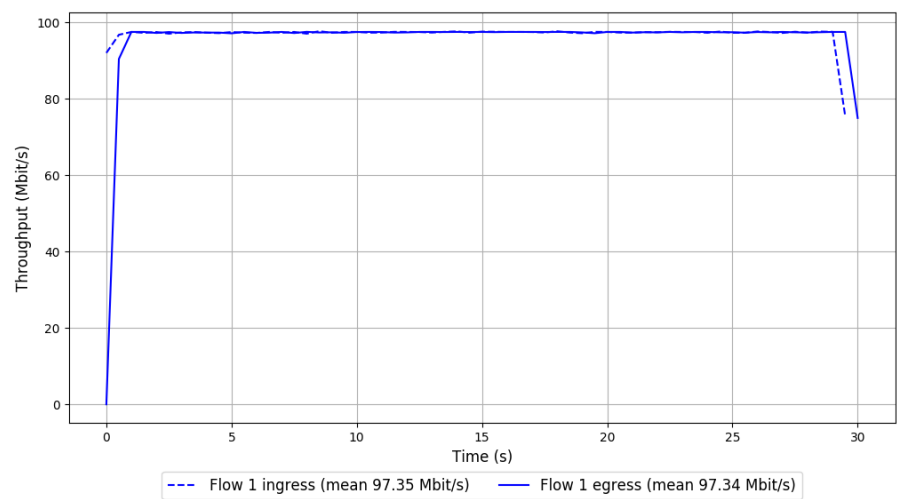
-- Flow 1:

Average throughput: 97.34 Mbit/s

95th percentile per-packet one-way delay: 4.473 ms

Loss rate: 0.02%

Run 2: Report of Indigo — Data Link



Run 3: Statistics of Indigo

Start at: 2018-09-07 20:02:17

End at: 2018-09-07 20:02:47

Local clock offset: 1.883 ms

Remote clock offset: 0.52 ms

Below is generated by plot.py at 2018-09-07 21:08:47

Datalink statistics

-- Total of 1 flow:

Average throughput: 97.35 Mbit/s

95th percentile per-packet one-way delay: 4.332 ms

Loss rate: 0.03%

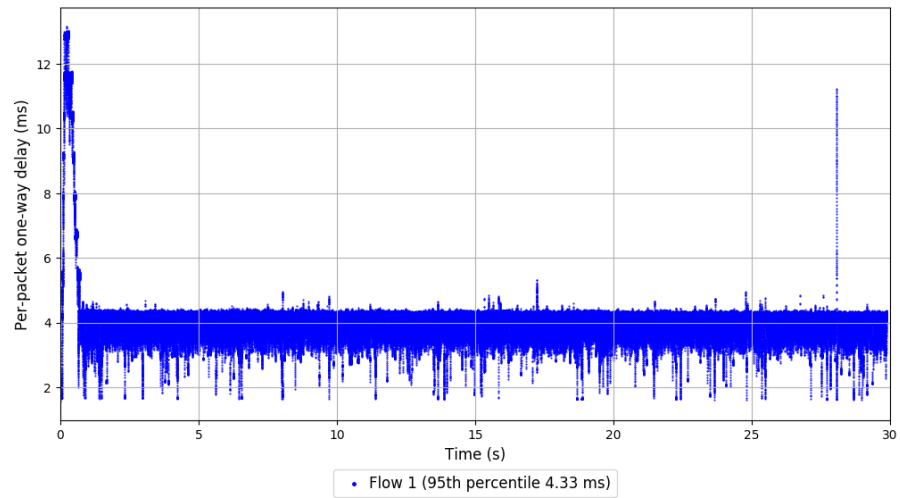
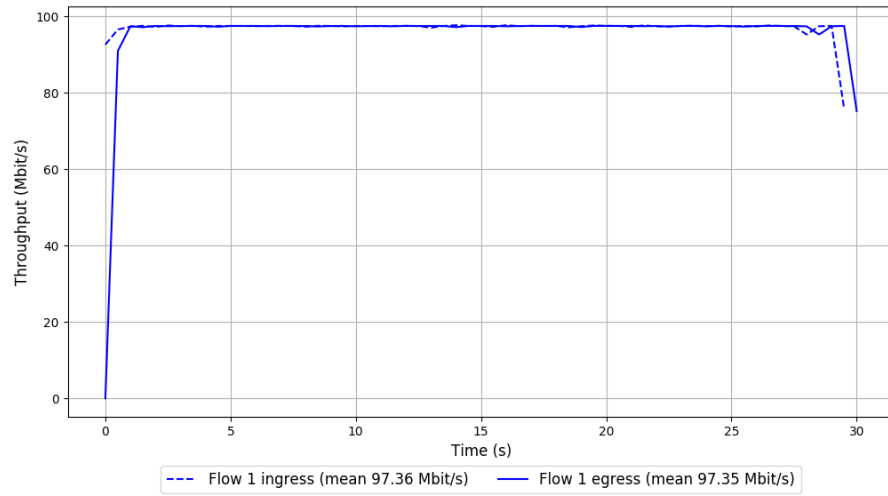
-- Flow 1:

Average throughput: 97.35 Mbit/s

95th percentile per-packet one-way delay: 4.332 ms

Loss rate: 0.03%

Run 3: Report of Indigo — Data Link



Run 4: Statistics of Indigo

Start at: 2018-09-07 20:22:35

End at: 2018-09-07 20:23:05

Local clock offset: 1.932 ms

Remote clock offset: 0.894 ms

Below is generated by plot.py at 2018-09-07 21:08:48

Datalink statistics

-- Total of 1 flow:

Average throughput: 97.39 Mbit/s

95th percentile per-packet one-way delay: 5.351 ms

Loss rate: 0.02%

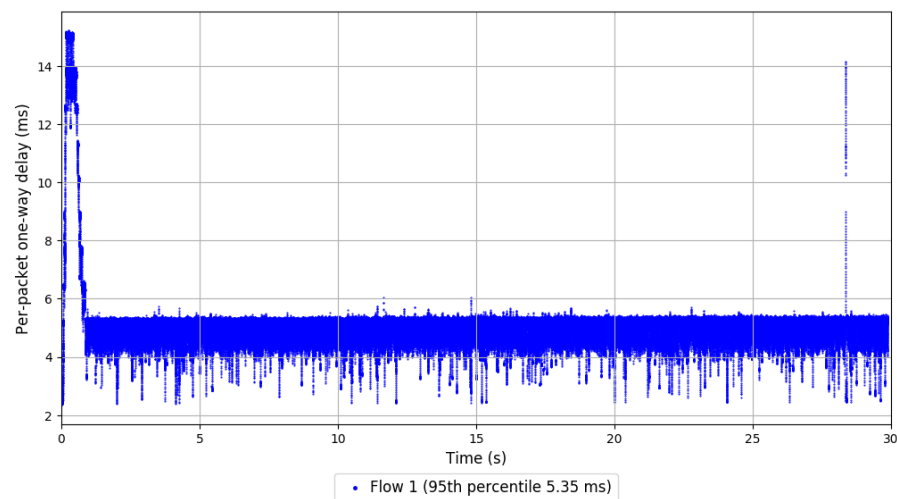
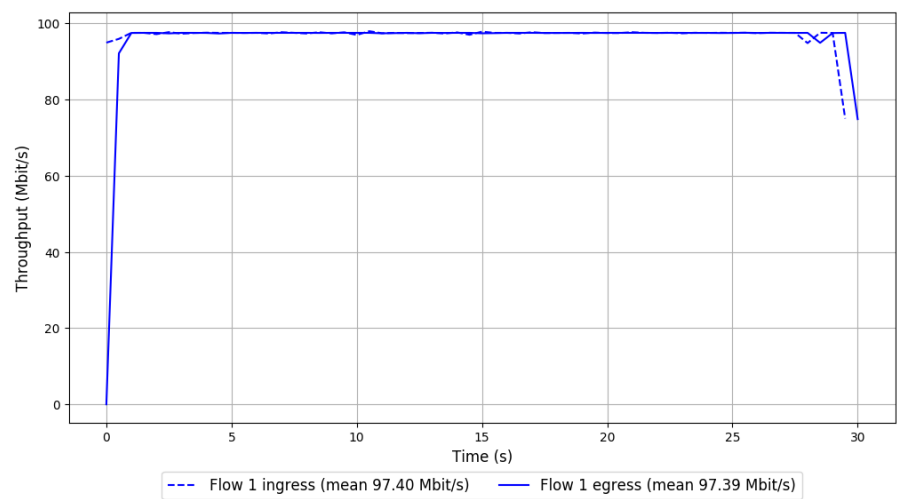
-- Flow 1:

Average throughput: 97.39 Mbit/s

95th percentile per-packet one-way delay: 5.351 ms

Loss rate: 0.02%

Run 4: Report of Indigo — Data Link



Run 5: Statistics of Indigo

Start at: 2018-09-07 20:42:58

End at: 2018-09-07 20:43:28

Local clock offset: 1.105 ms

Remote clock offset: 0.941 ms

Below is generated by plot.py at 2018-09-07 21:08:49

Datalink statistics

-- Total of 1 flow:

Average throughput: 97.38 Mbit/s

95th percentile per-packet one-way delay: 5.319 ms

Loss rate: 0.02%

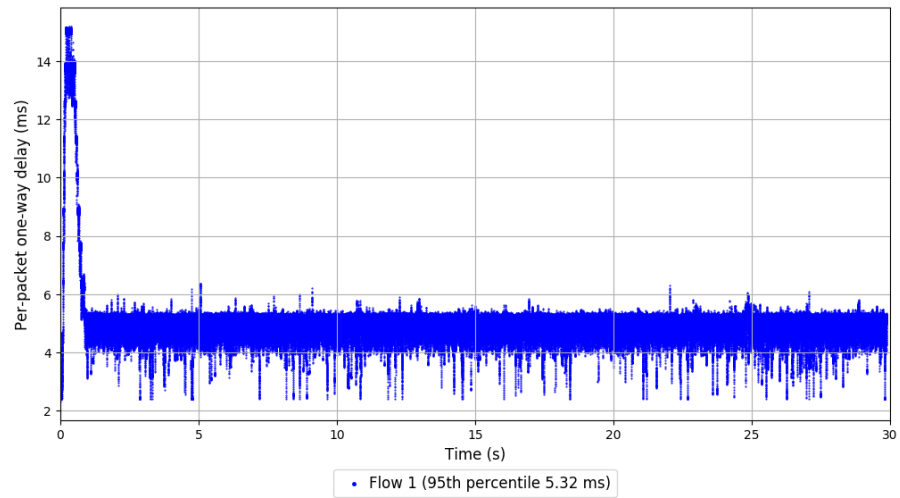
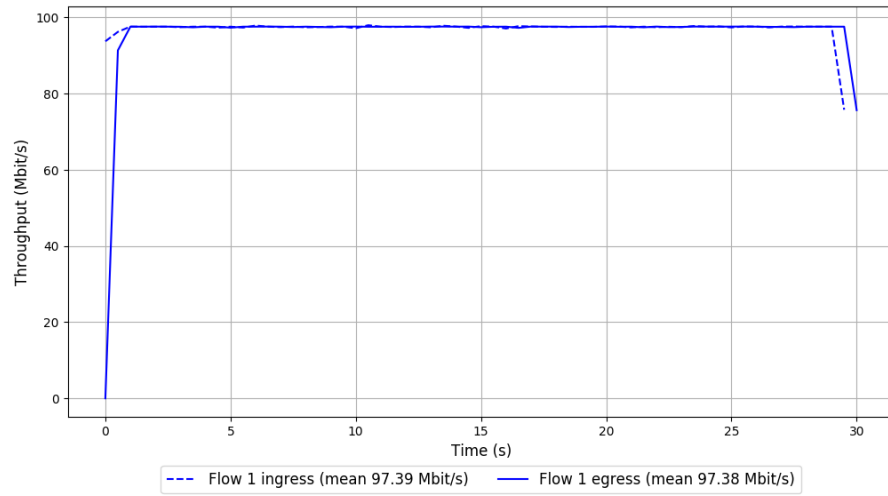
-- Flow 1:

Average throughput: 97.38 Mbit/s

95th percentile per-packet one-way delay: 5.319 ms

Loss rate: 0.02%

Run 5: Report of Indigo — Data Link

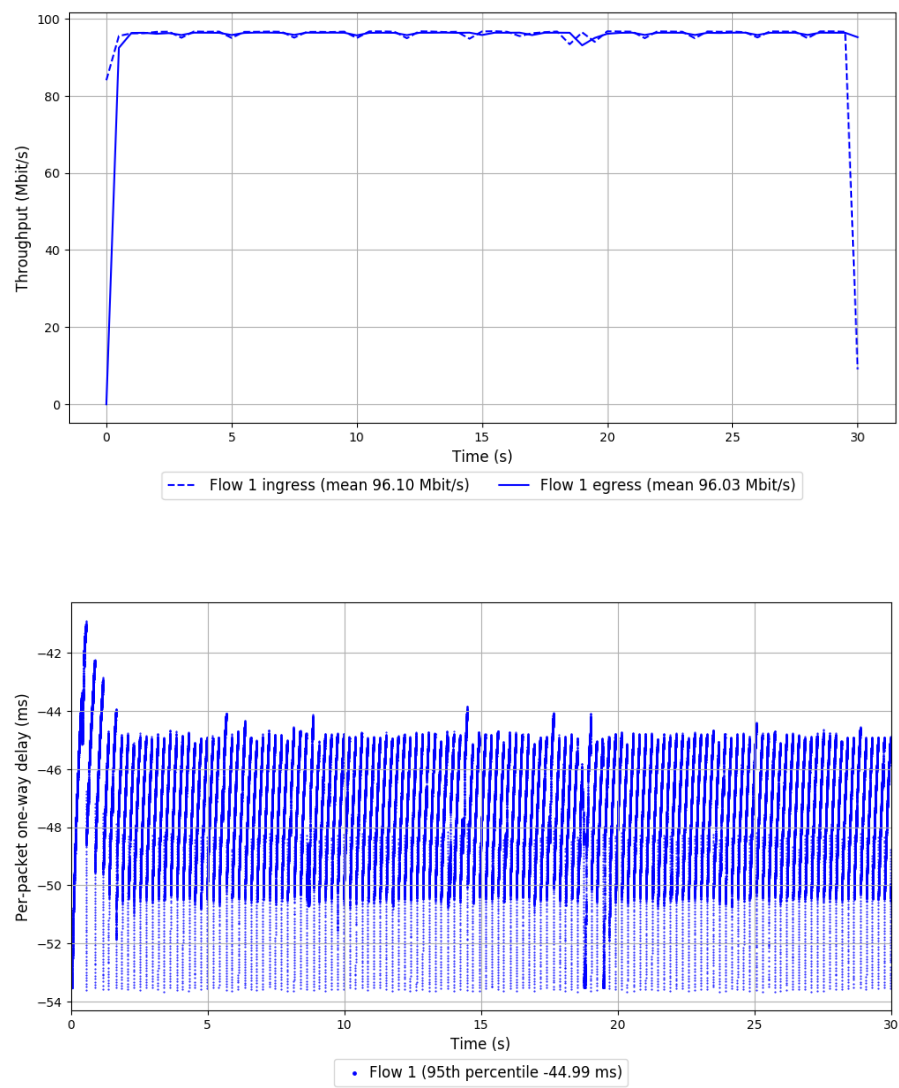


```
Run 1: Statistics of LEDBAT

Start at: 2018-09-07 19:26:12
End at: 2018-09-07 19:26:42
Local clock offset: -56.931 ms
Remote clock offset: -0.104 ms

# Below is generated by plot.py at 2018-09-07 21:09:02
# Datalink statistics
-- Total of 1 flow:
Average throughput: 96.03 Mbit/s
95th percentile per-packet one-way delay: -44.994 ms
Loss rate: 0.08%
-- Flow 1:
Average throughput: 96.03 Mbit/s
95th percentile per-packet one-way delay: -44.994 ms
Loss rate: 0.08%
```

Run 1: Report of LEDBAT — Data Link



Run 2: Statistics of LEDBAT

Start at: 2018-09-07 19:46:29

End at: 2018-09-07 19:46:59

Local clock offset: -0.142 ms

Remote clock offset: 0.327 ms

Below is generated by plot.py at 2018-09-07 21:09:15

Datalink statistics

-- Total of 1 flow:

Average throughput: 95.66 Mbit/s

95th percentile per-packet one-way delay: 10.347 ms

Loss rate: 0.09%

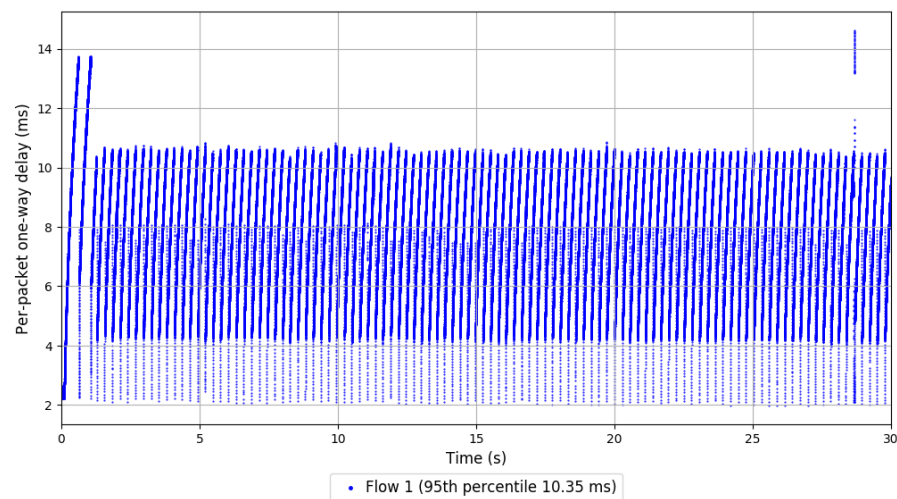
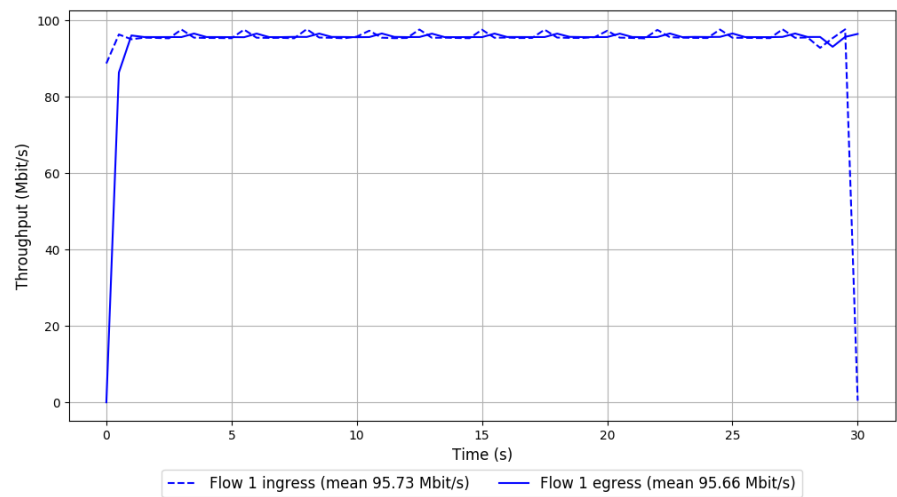
-- Flow 1:

Average throughput: 95.66 Mbit/s

95th percentile per-packet one-way delay: 10.347 ms

Loss rate: 0.09%

Run 2: Report of LEDBAT — Data Link



Run 3: Statistics of LEDBAT

Start at: 2018-09-07 20:06:50

End at: 2018-09-07 20:07:20

Local clock offset: 2.959 ms

Remote clock offset: 0.678 ms

Below is generated by plot.py at 2018-09-07 21:09:23

Datalink statistics

-- Total of 1 flow:

Average throughput: 96.06 Mbit/s

95th percentile per-packet one-way delay: 10.667 ms

Loss rate: 0.05%

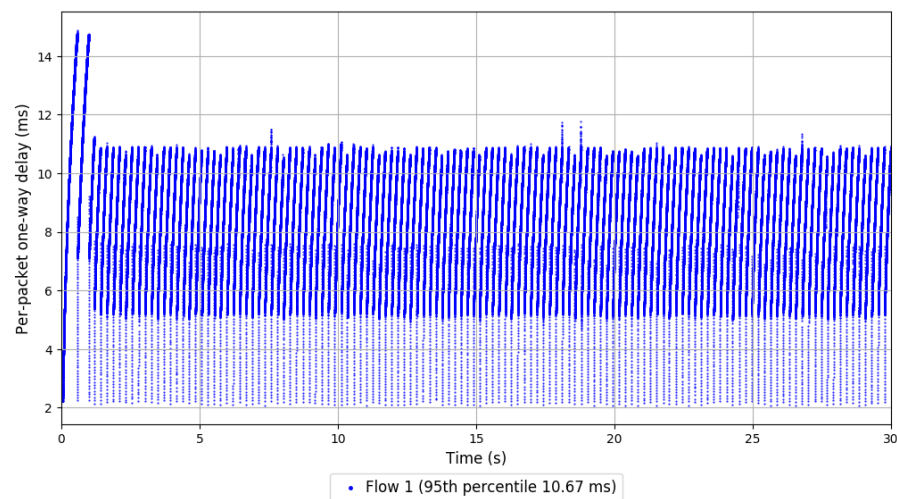
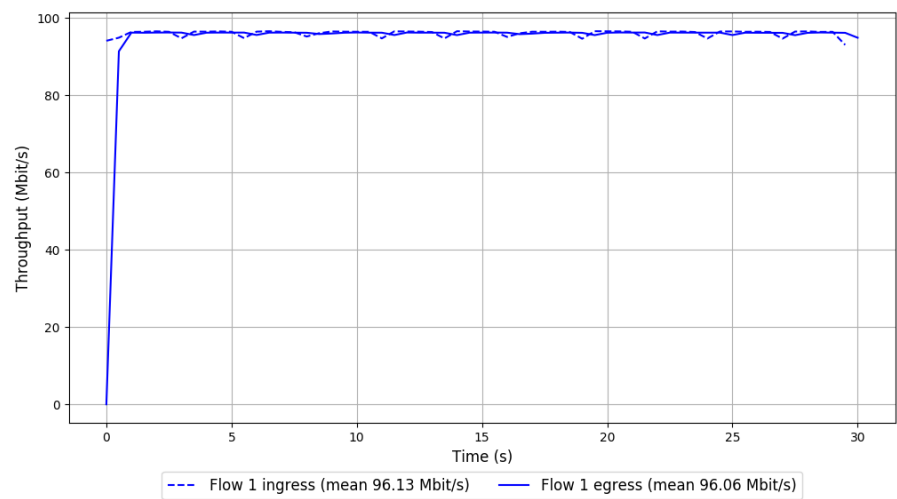
-- Flow 1:

Average throughput: 96.06 Mbit/s

95th percentile per-packet one-way delay: 10.667 ms

Loss rate: 0.05%

Run 3: Report of LEDBAT — Data Link



Run 4: Statistics of LEDBAT

Start at: 2018-09-07 20:27:09

End at: 2018-09-07 20:27:39

Local clock offset: 0.687 ms

Remote clock offset: 0.917 ms

Below is generated by plot.py at 2018-09-07 21:09:23

Datalink statistics

-- Total of 1 flow:

Average throughput: 95.71 Mbit/s

95th percentile per-packet one-way delay: 9.826 ms

Loss rate: 0.08%

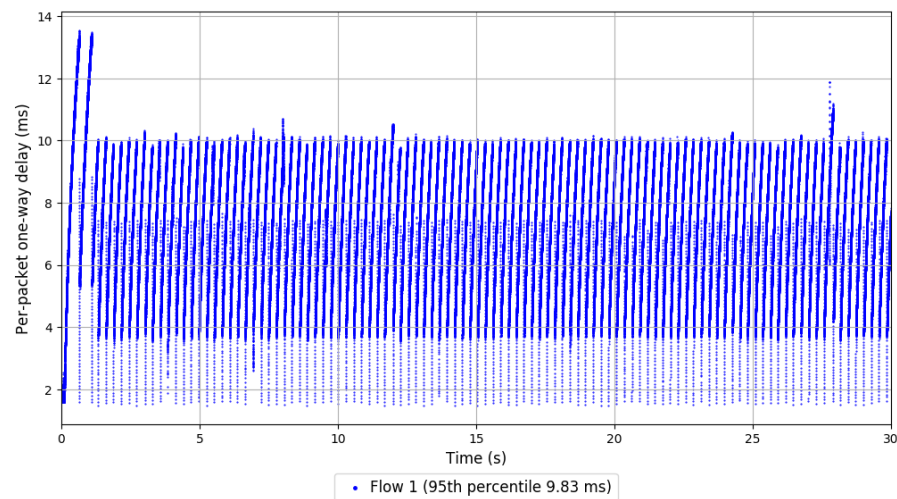
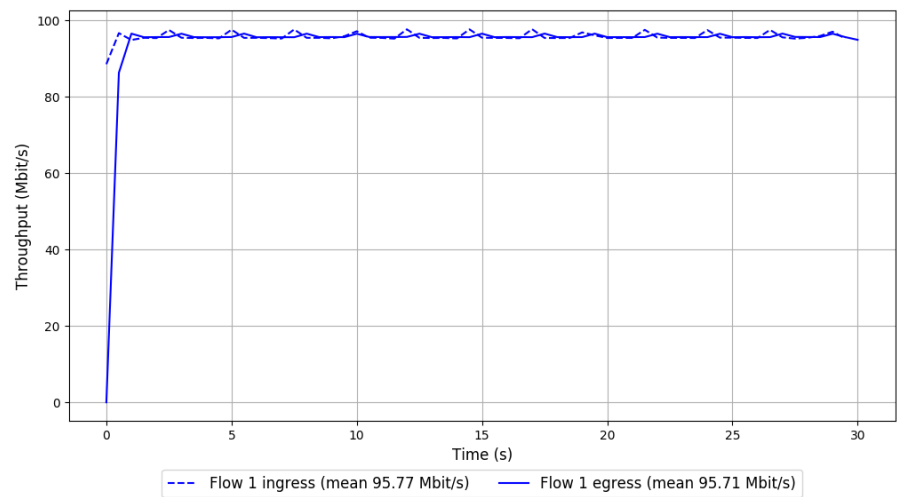
-- Flow 1:

Average throughput: 95.71 Mbit/s

95th percentile per-packet one-way delay: 9.826 ms

Loss rate: 0.08%

Run 4: Report of LEDBAT — Data Link



Run 5: Statistics of LEDBAT

Start at: 2018-09-07 20:47:31

End at: 2018-09-07 20:48:01

Local clock offset: -0.024 ms

Remote clock offset: 0.965 ms

Below is generated by plot.py at 2018-09-07 21:09:35

Datalink statistics

-- Total of 1 flow:

Average throughput: 95.67 Mbit/s

95th percentile per-packet one-way delay: 10.837 ms

Loss rate: 0.07%

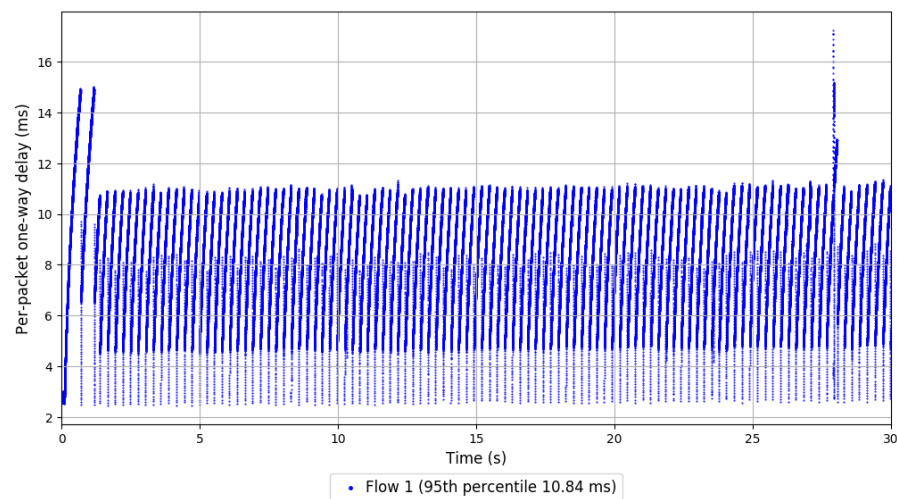
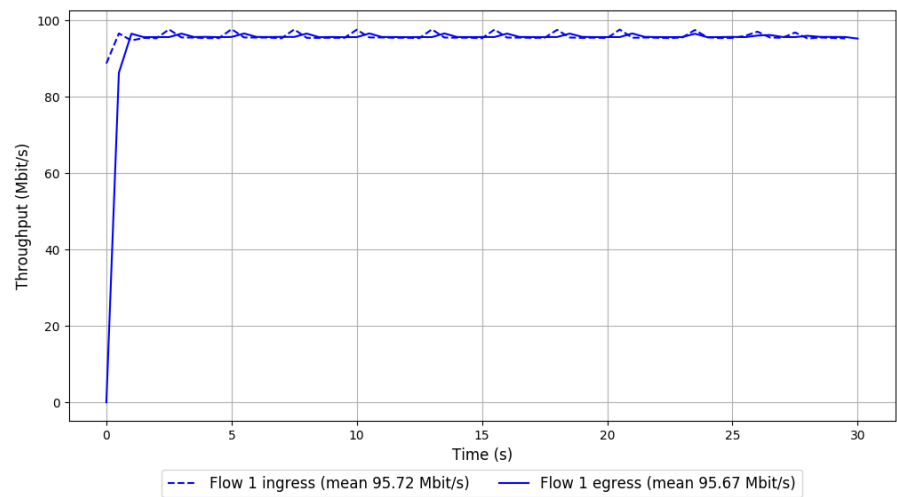
-- Flow 1:

Average throughput: 95.67 Mbit/s

95th percentile per-packet one-way delay: 10.837 ms

Loss rate: 0.07%

Run 5: Report of LEDBAT — Data Link

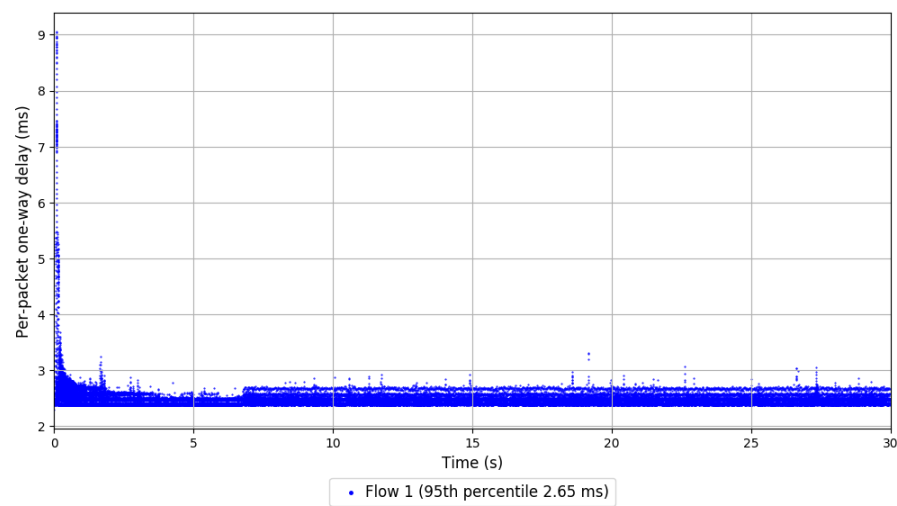
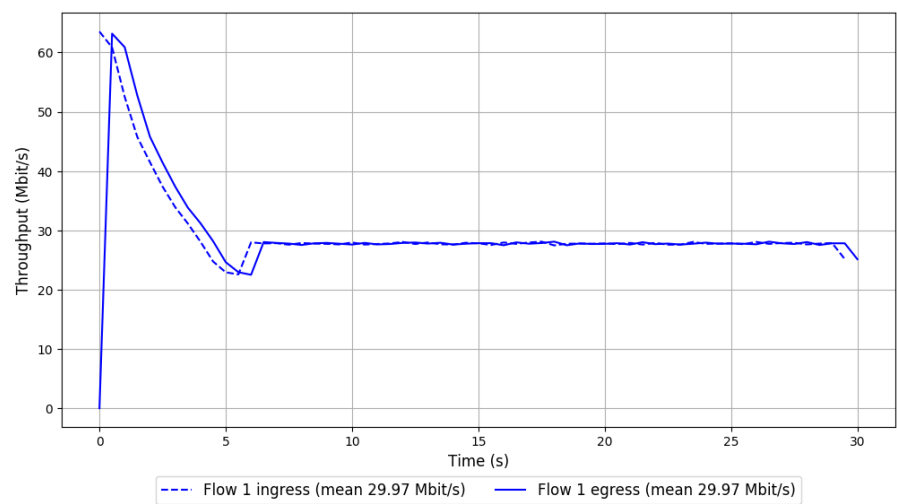


```
Run 1: Statistics of Indigo-Muses

Start at: 2018-09-07 19:34:11
End at: 2018-09-07 19:34:41
Local clock offset: -0.889 ms
Remote clock offset: 0.016 ms

# Below is generated by plot.py at 2018-09-07 21:09:35
# Datalink statistics
-- Total of 1 flow:
Average throughput: 29.97 Mbit/s
95th percentile per-packet one-way delay: 2.655 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 29.97 Mbit/s
95th percentile per-packet one-way delay: 2.655 ms
Loss rate: 0.01%
```

Run 1: Report of Indigo-Muses — Data Link



Run 2: Statistics of Indigo-Muses

Start at: 2018-09-07 19:54:33

End at: 2018-09-07 19:55:03

Local clock offset: 1.622 ms

Remote clock offset: 0.466 ms

Below is generated by plot.py at 2018-09-07 21:09:35

Datalink statistics

-- Total of 1 flow:

Average throughput: 23.18 Mbit/s

95th percentile per-packet one-way delay: 2.511 ms

Loss rate: 0.01%

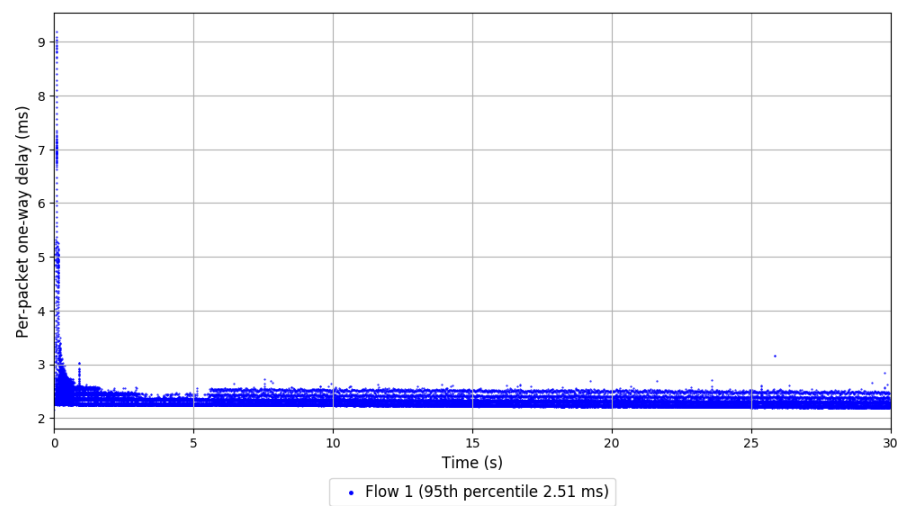
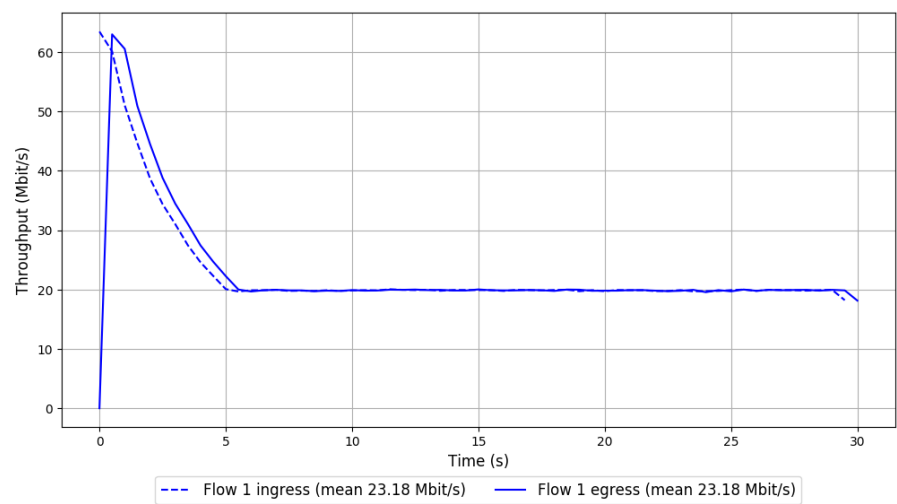
-- Flow 1:

Average throughput: 23.18 Mbit/s

95th percentile per-packet one-way delay: 2.511 ms

Loss rate: 0.01%

Run 2: Report of Indigo-Muses — Data Link



Run 3: Statistics of Indigo-Muses

Start at: 2018-09-07 20:14:49

End at: 2018-09-07 20:15:19

Local clock offset: 3.675 ms

Remote clock offset: 0.749 ms

Below is generated by plot.py at 2018-09-07 21:09:35

Datalink statistics

-- Total of 1 flow:

Average throughput: 30.44 Mbit/s

95th percentile per-packet one-way delay: 2.764 ms

Loss rate: 0.01%

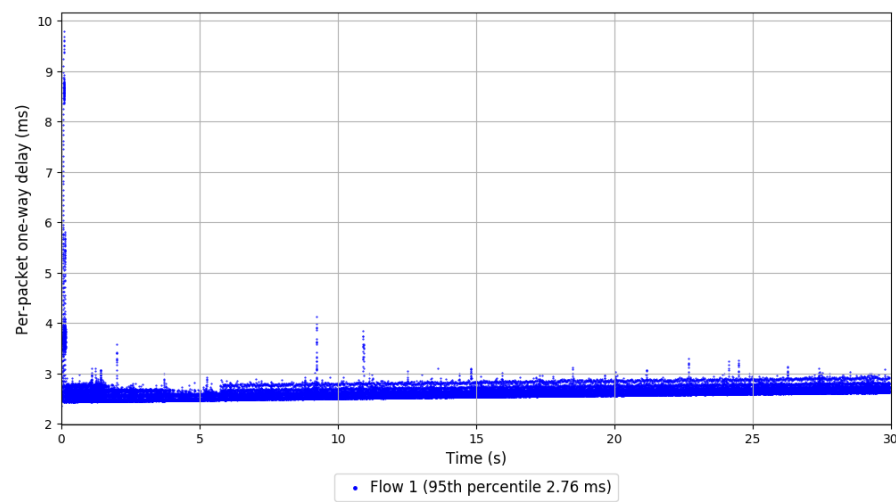
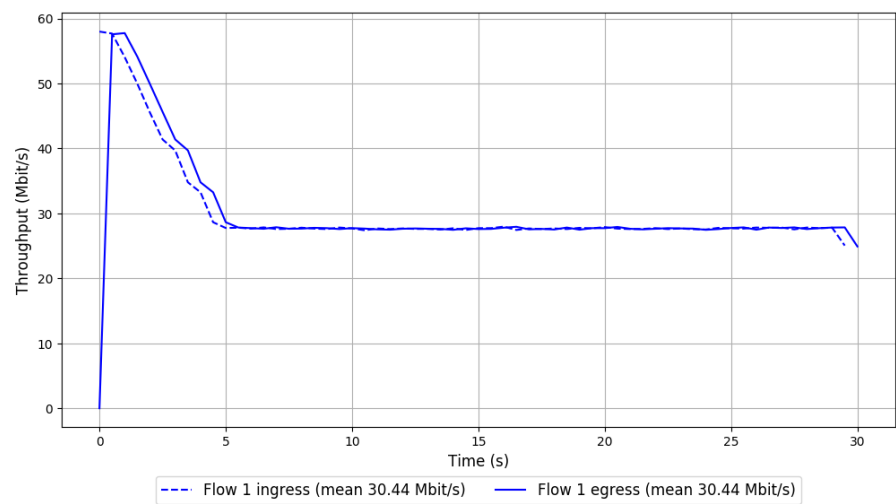
-- Flow 1:

Average throughput: 30.44 Mbit/s

95th percentile per-packet one-way delay: 2.764 ms

Loss rate: 0.01%

Run 3: Report of Indigo-Muses — Data Link



Run 4: Statistics of Indigo-Muses

Start at: 2018-09-07 20:35:11

End at: 2018-09-07 20:35:41

Local clock offset: 0.405 ms

Remote clock offset: 0.955 ms

Below is generated by plot.py at 2018-09-07 21:09:35

Datalink statistics

-- Total of 1 flow:

Average throughput: 31.52 Mbit/s

95th percentile per-packet one-way delay: 1.931 ms

Loss rate: 0.01%

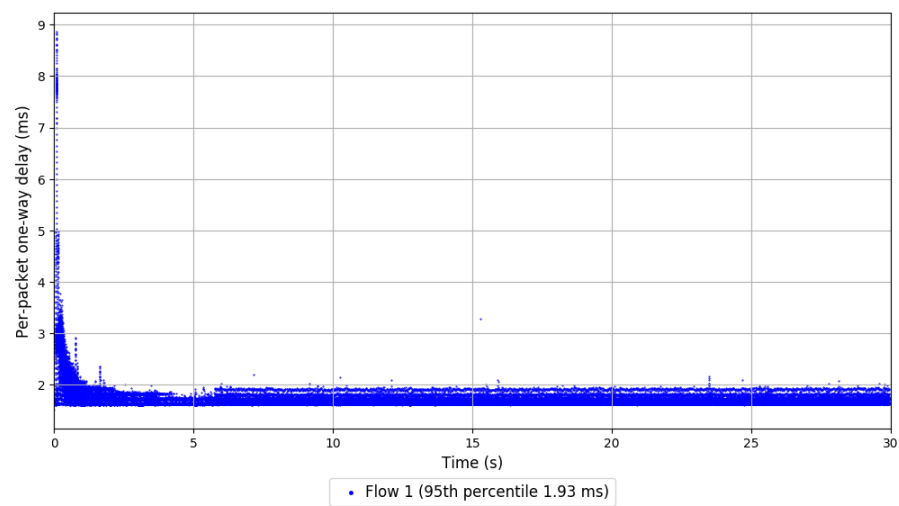
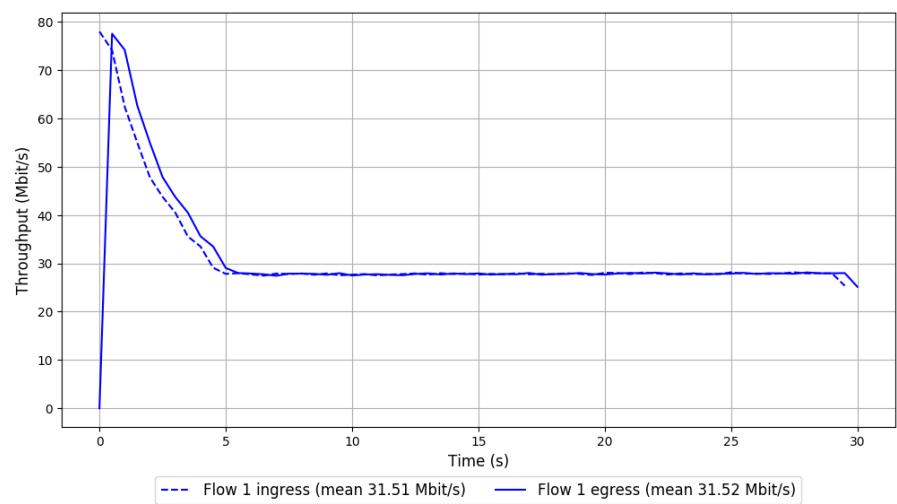
-- Flow 1:

Average throughput: 31.52 Mbit/s

95th percentile per-packet one-way delay: 1.931 ms

Loss rate: 0.01%

Run 4: Report of Indigo-Muses — Data Link



Run 5: Statistics of Indigo-Muses

Start at: 2018-09-07 20:55:35

End at: 2018-09-07 20:56:05

Local clock offset: -3.147 ms

Remote clock offset: 0.888 ms

Below is generated by plot.py at 2018-09-07 21:09:35

Datalink statistics

-- Total of 1 flow:

Average throughput: 23.37 Mbit/s

95th percentile per-packet one-way delay: 2.032 ms

Loss rate: 0.02%

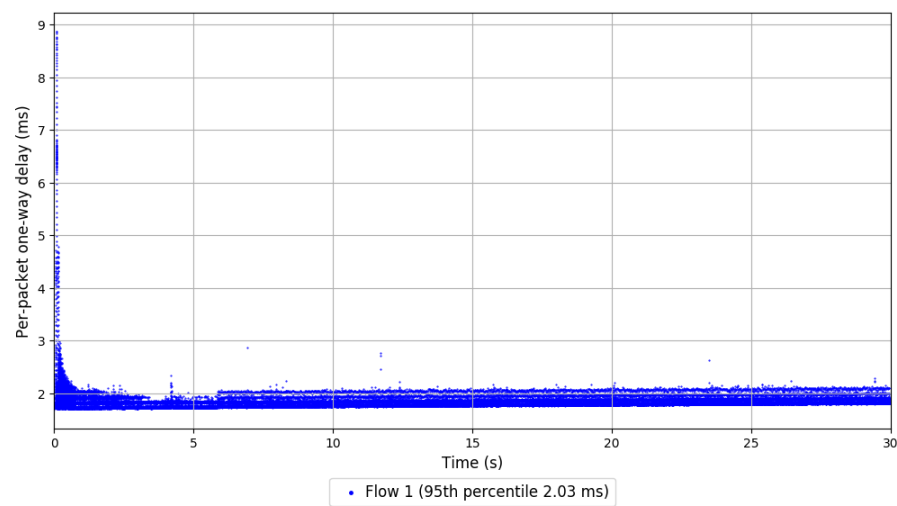
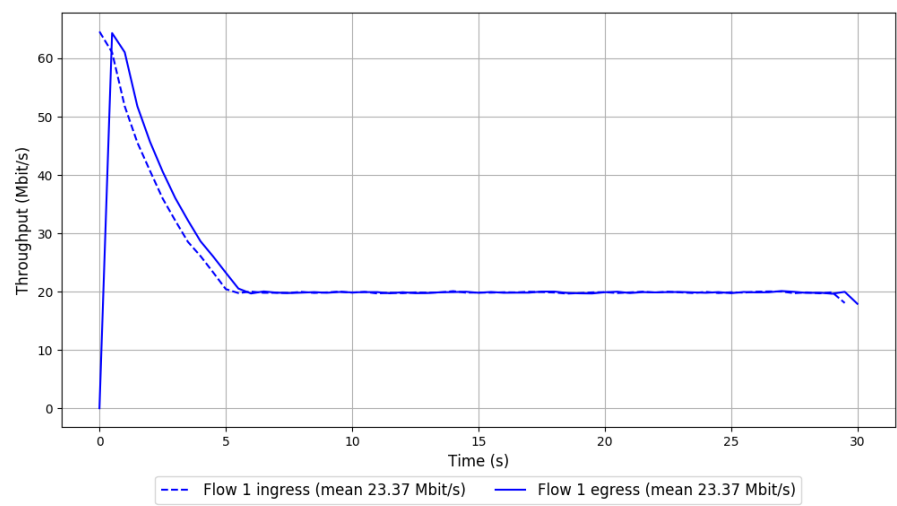
-- Flow 1:

Average throughput: 23.37 Mbit/s

95th percentile per-packet one-way delay: 2.032 ms

Loss rate: 0.02%

Run 5: Report of Indigo-Muses — Data Link



Run 1: Statistics of PCC-Allegro

Start at: 2018-09-07 19:29:38

End at: 2018-09-07 19:30:08

Local clock offset: -58.15 ms

Remote clock offset: -0.037 ms

Below is generated by plot.py at 2018-09-07 21:10:17

Datalink statistics

-- Total of 1 flow:

Average throughput: 90.24 Mbit/s

95th percentile per-packet one-way delay: -55.593 ms

Loss rate: 0.01%

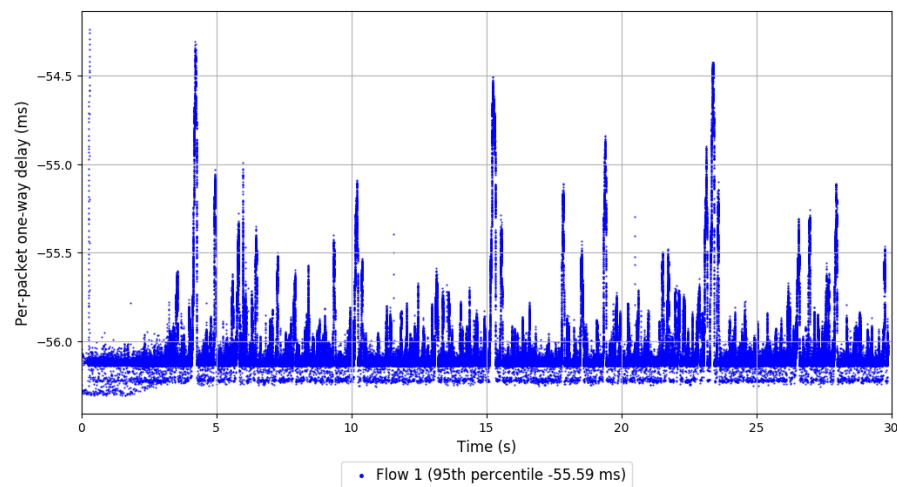
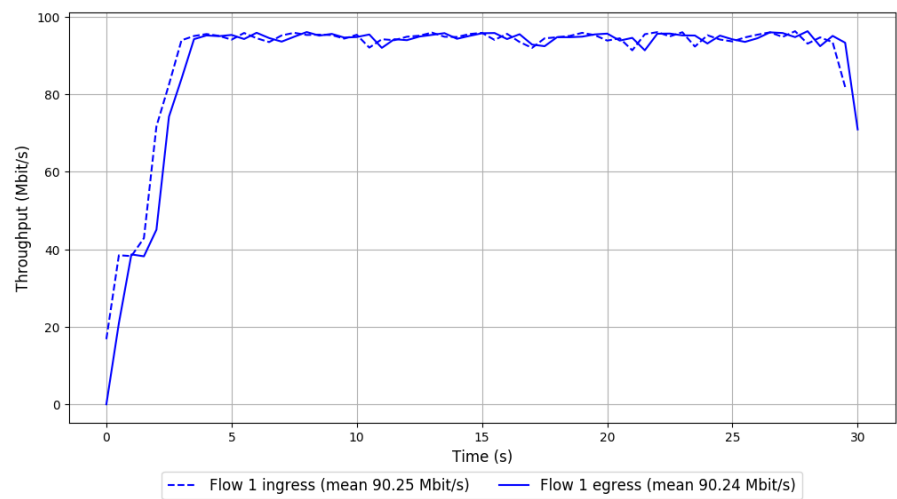
-- Flow 1:

Average throughput: 90.24 Mbit/s

95th percentile per-packet one-way delay: -55.593 ms

Loss rate: 0.01%

Run 1: Report of PCC-Allegro — Data Link



Run 2: Statistics of PCC-Allegro

Start at: 2018-09-07 19:49:54

End at: 2018-09-07 19:50:24

Local clock offset: 0.763 ms

Remote clock offset: 0.378 ms

Below is generated by plot.py at 2018-09-07 21:10:20

Datalink statistics

-- Total of 1 flow:

Average throughput: 93.25 Mbit/s

95th percentile per-packet one-way delay: 2.888 ms

Loss rate: 0.02%

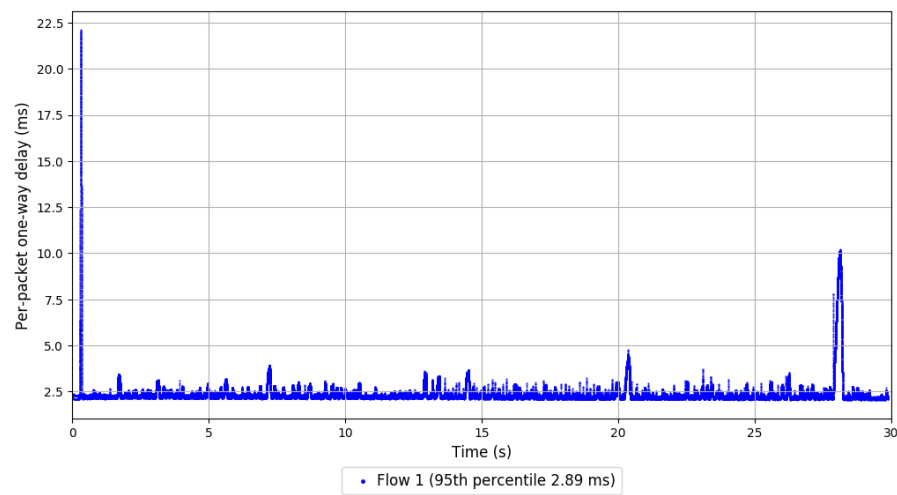
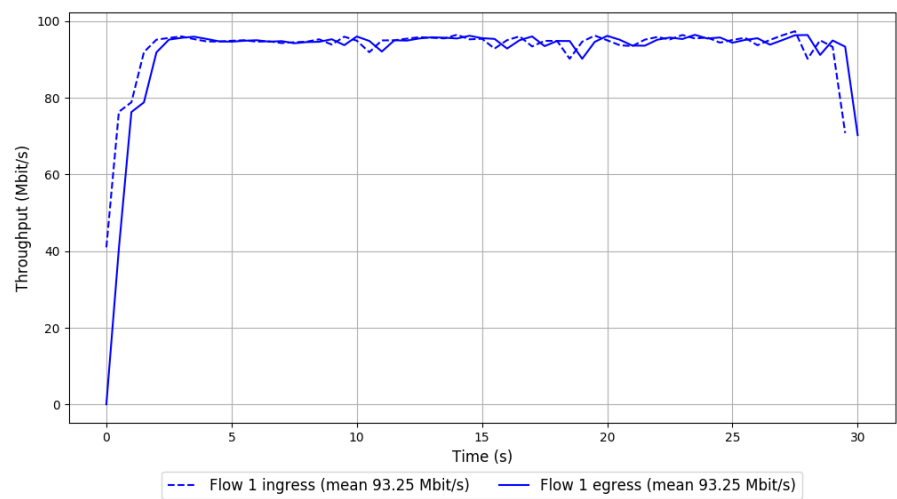
-- Flow 1:

Average throughput: 93.25 Mbit/s

95th percentile per-packet one-way delay: 2.888 ms

Loss rate: 0.02%

Run 2: Report of PCC-Allegro — Data Link



Run 3: Statistics of PCC-Allegro

Start at: 2018-09-07 20:10:16

End at: 2018-09-07 20:10:46

Local clock offset: 3.313 ms

Remote clock offset: 0.566 ms

Below is generated by plot.py at 2018-09-07 21:10:20

Datalink statistics

-- Total of 1 flow:

Average throughput: 89.26 Mbit/s

95th percentile per-packet one-way delay: 3.209 ms

Loss rate: 0.02%

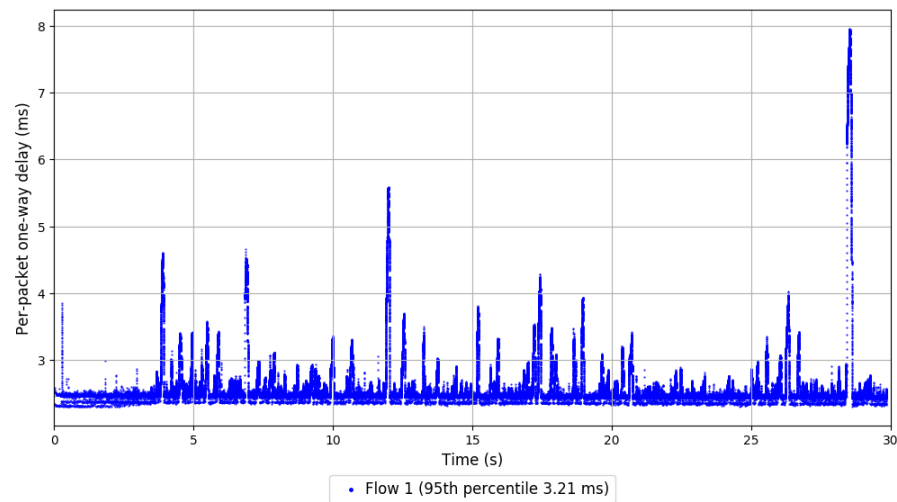
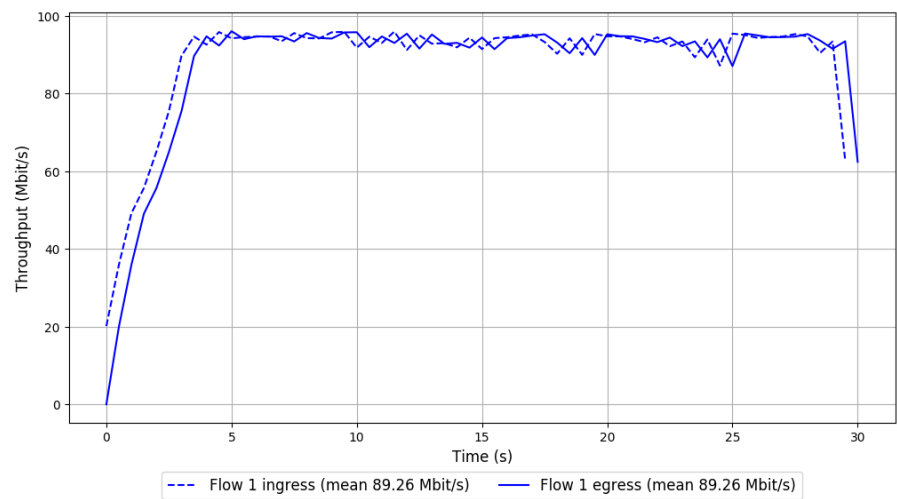
-- Flow 1:

Average throughput: 89.26 Mbit/s

95th percentile per-packet one-way delay: 3.209 ms

Loss rate: 0.02%

Run 3: Report of PCC-Allegro — Data Link



Run 4: Statistics of PCC-Allegro

Start at: 2018-09-07 20:30:35

End at: 2018-09-07 20:31:05

Local clock offset: 0.541 ms

Remote clock offset: 0.921 ms

Below is generated by plot.py at 2018-09-07 21:10:24

Datalink statistics

-- Total of 1 flow:

Average throughput: 92.22 Mbit/s

95th percentile per-packet one-way delay: 2.648 ms

Loss rate: 0.02%

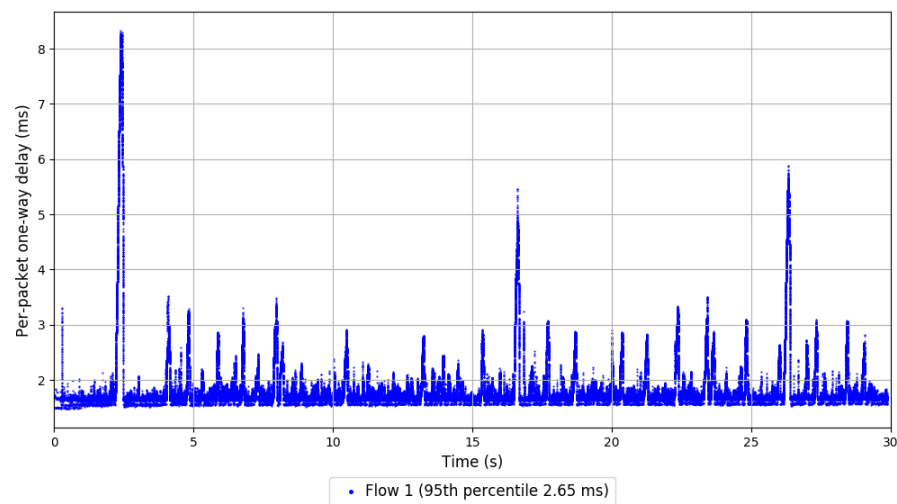
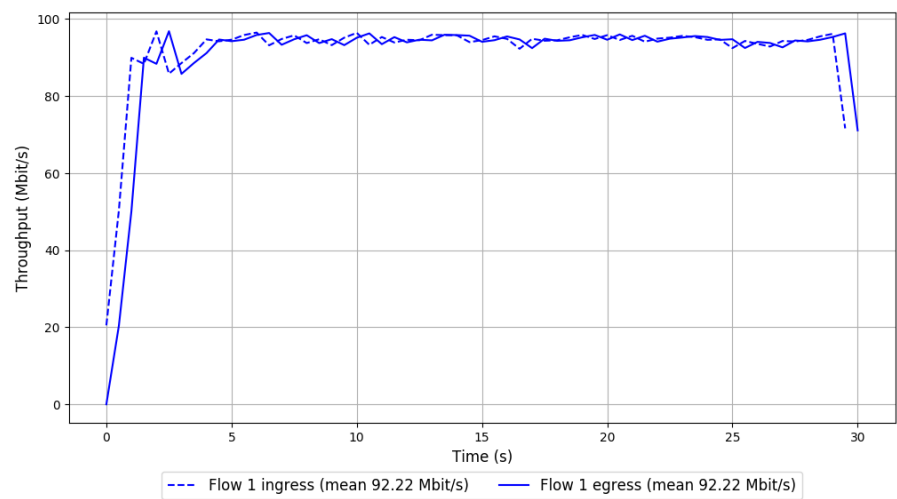
-- Flow 1:

Average throughput: 92.22 Mbit/s

95th percentile per-packet one-way delay: 2.648 ms

Loss rate: 0.02%

Run 4: Report of PCC-Allegro — Data Link



Run 5: Statistics of PCC-Allegro

Start at: 2018-09-07 20:50:57

End at: 2018-09-07 20:51:27

Local clock offset: -1.331 ms

Remote clock offset: 0.98 ms

Below is generated by plot.py at 2018-09-07 21:10:24

Datalink statistics

-- Total of 1 flow:

Average throughput: 92.80 Mbit/s

95th percentile per-packet one-way delay: 3.154 ms

Loss rate: 0.02%

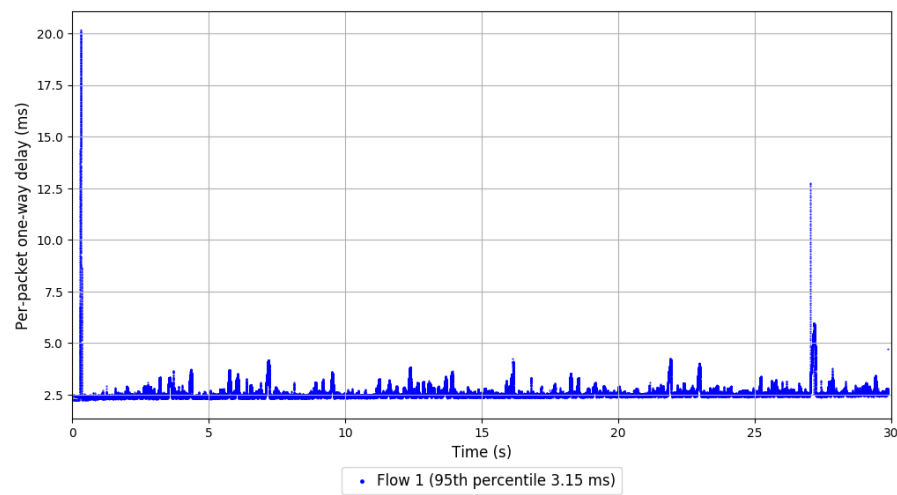
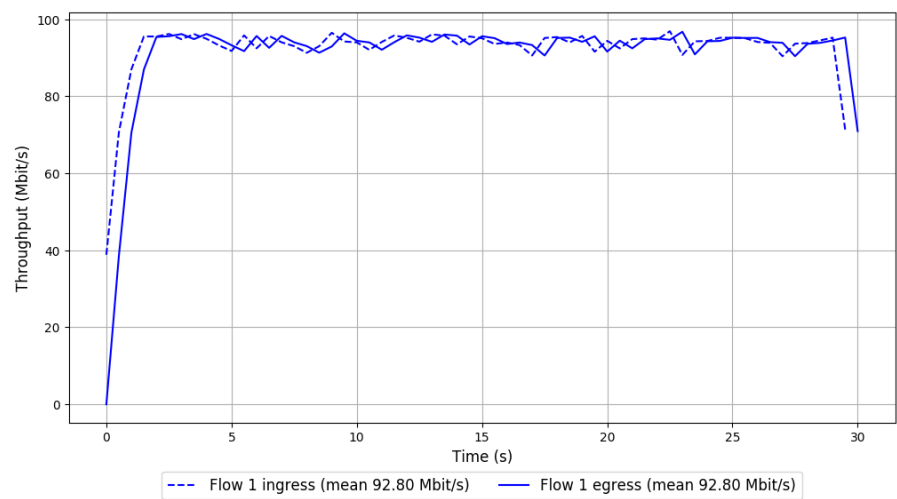
-- Flow 1:

Average throughput: 92.80 Mbit/s

95th percentile per-packet one-way delay: 3.154 ms

Loss rate: 0.02%

Run 5: Report of PCC-Allegro — Data Link

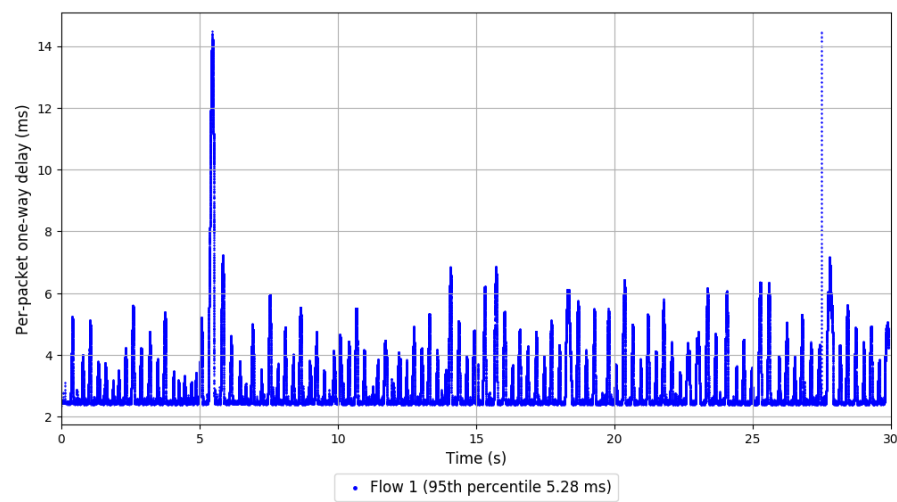
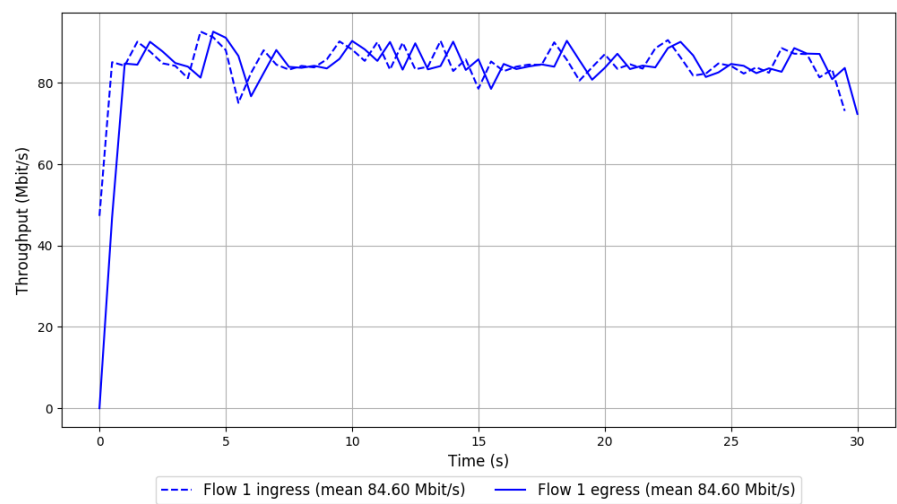


```
Run 1: Statistics of PCC-Expr

Start at: 2018-09-07 19:33:01
End at: 2018-09-07 19:33:31
Local clock offset: -0.847 ms
Remote clock offset: -0.014 ms

# Below is generated by plot.py at 2018-09-07 21:11:12
# Datalink statistics
-- Total of 1 flow:
Average throughput: 84.60 Mbit/s
95th percentile per-packet one-way delay: 5.277 ms
Loss rate: 0.02%
-- Flow 1:
Average throughput: 84.60 Mbit/s
95th percentile per-packet one-way delay: 5.277 ms
Loss rate: 0.02%
```

Run 1: Report of PCC-Expr — Data Link



Run 2: Statistics of PCC-Expr

Start at: 2018-09-07 19:53:21

End at: 2018-09-07 19:53:51

Local clock offset: 0.694 ms

Remote clock offset: 0.302 ms

Below is generated by plot.py at 2018-09-07 21:11:23

Datalink statistics

-- Total of 1 flow:

Average throughput: 88.07 Mbit/s

95th percentile per-packet one-way delay: 622.757 ms

Loss rate: 9.15%

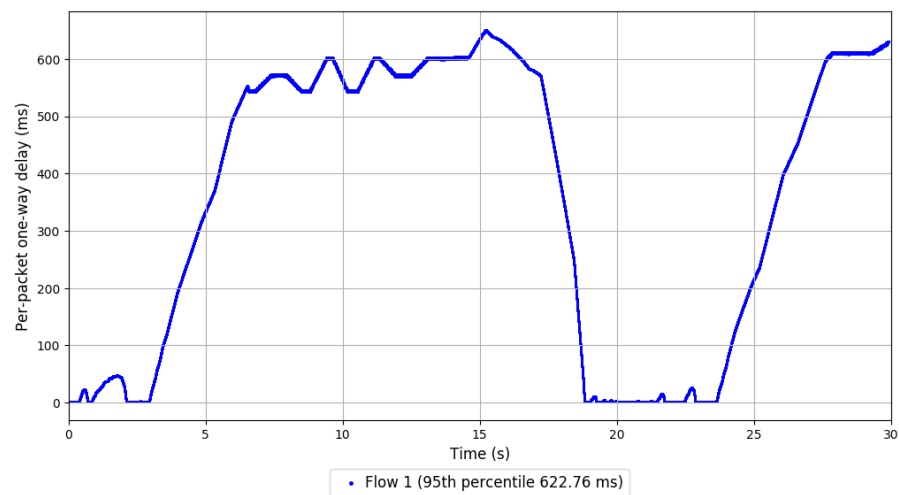
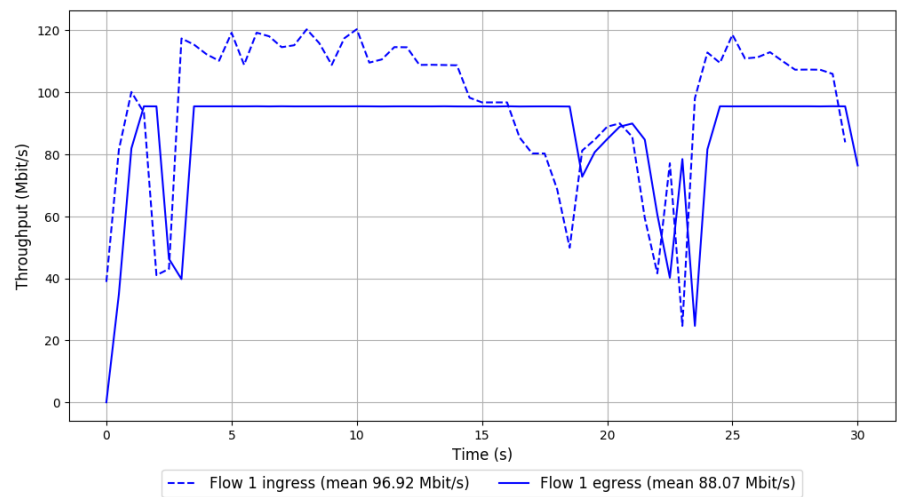
-- Flow 1:

Average throughput: 88.07 Mbit/s

95th percentile per-packet one-way delay: 622.757 ms

Loss rate: 9.15%

Run 2: Report of PCC-Expr — Data Link



Run 3: Statistics of PCC-Expr

Start at: 2018-09-07 20:13:39

End at: 2018-09-07 20:14:09

Local clock offset: 3.582 ms

Remote clock offset: 0.784 ms

Below is generated by plot.py at 2018-09-07 21:11:31

Datalink statistics

-- Total of 1 flow:

Average throughput: 89.00 Mbit/s

95th percentile per-packet one-way delay: 400.761 ms

Loss rate: 1.13%

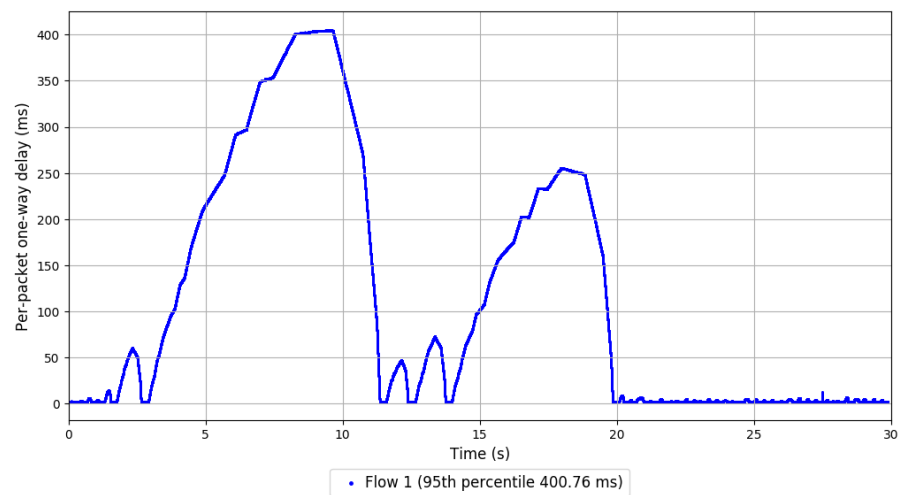
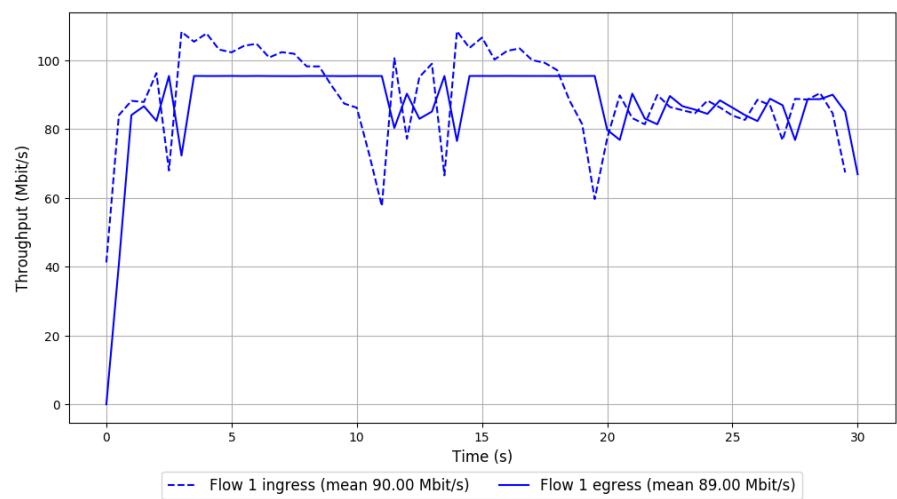
-- Flow 1:

Average throughput: 89.00 Mbit/s

95th percentile per-packet one-way delay: 400.761 ms

Loss rate: 1.13%

Run 3: Report of PCC-Expr — Data Link



Run 4: Statistics of PCC-Expr

Start at: 2018-09-07 20:34:01

End at: 2018-09-07 20:34:31

Local clock offset: 1.179 ms

Remote clock offset: 0.944 ms

Below is generated by plot.py at 2018-09-07 21:12:15

Datalink statistics

-- Total of 1 flow:

Average throughput: 84.24 Mbit/s

95th percentile per-packet one-way delay: 5.198 ms

Loss rate: 0.02%

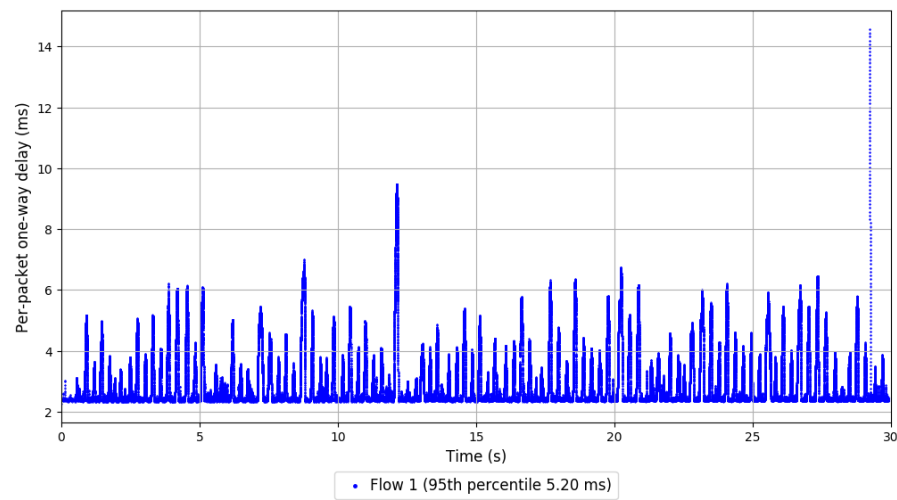
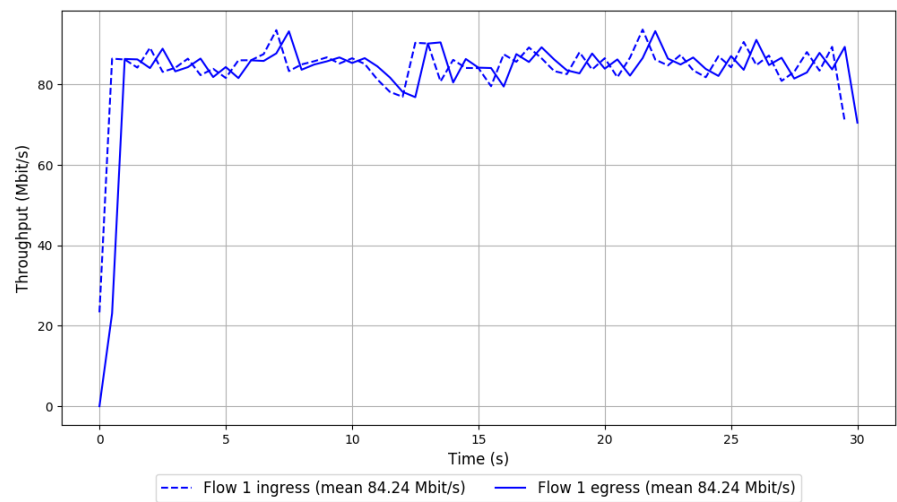
-- Flow 1:

Average throughput: 84.24 Mbit/s

95th percentile per-packet one-way delay: 5.198 ms

Loss rate: 0.02%

Run 4: Report of PCC-Expr — Data Link



Run 5: Statistics of PCC-Expr

Start at: 2018-09-07 20:54:24

End at: 2018-09-07 20:54:54

Local clock offset: -2.807 ms

Remote clock offset: 0.916 ms

Below is generated by plot.py at 2018-09-07 21:12:25

Datalink statistics

-- Total of 1 flow:

Average throughput: 87.94 Mbit/s

95th percentile per-packet one-way delay: 635.105 ms

Loss rate: 8.31%

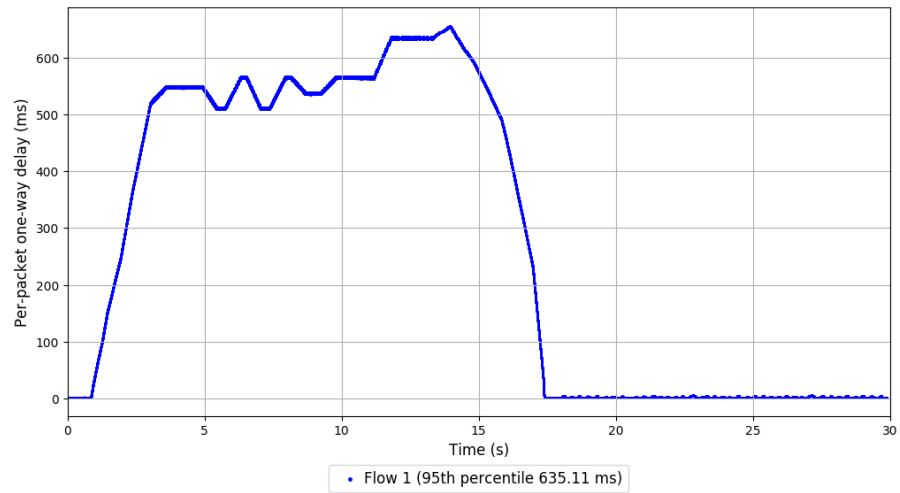
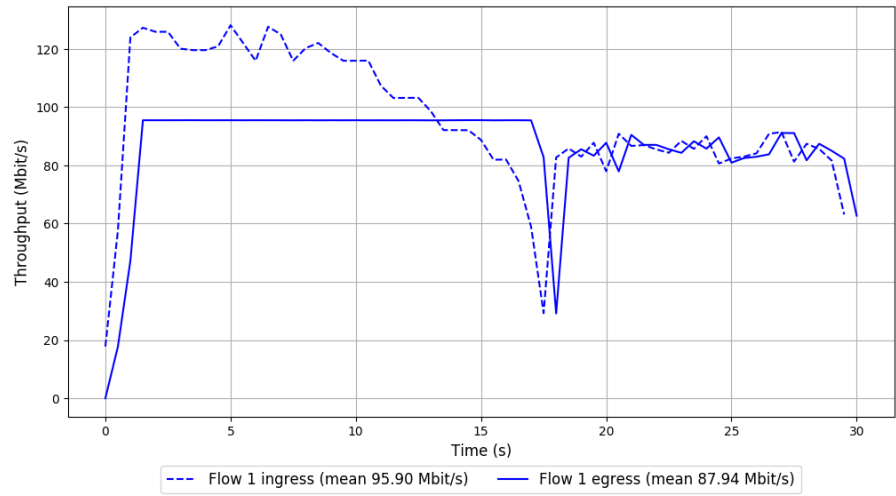
-- Flow 1:

Average throughput: 87.94 Mbit/s

95th percentile per-packet one-way delay: 635.105 ms

Loss rate: 8.31%

Run 5: Report of PCC-Expr — Data Link



Run 1: Statistics of QUIC Cubic

Start at: 2018-09-07 19:38:35

End at: 2018-09-07 19:39:05

Local clock offset: -0.735 ms

Remote clock offset: 0.182 ms

Below is generated by plot.py at 2018-09-07 21:12:25

Datalink statistics

-- Total of 1 flow:

Average throughput: 91.69 Mbit/s

95th percentile per-packet one-way delay: 8.801 ms

Loss rate: 0.02%

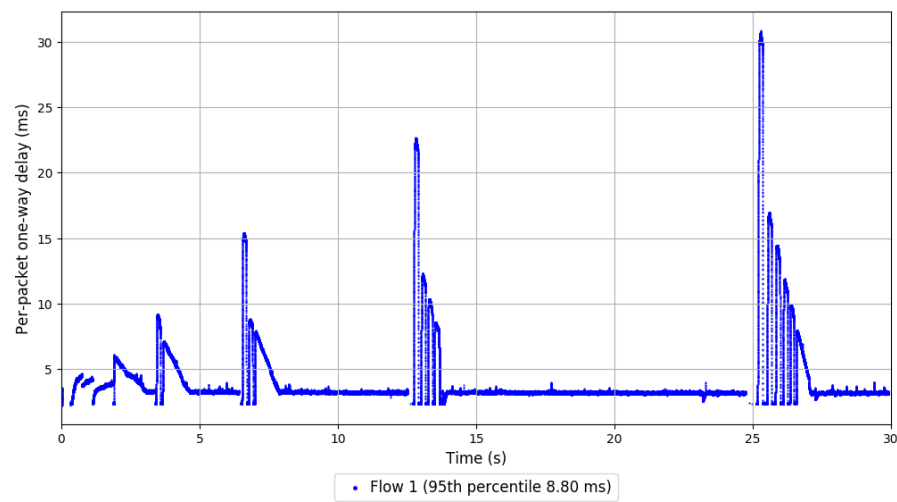
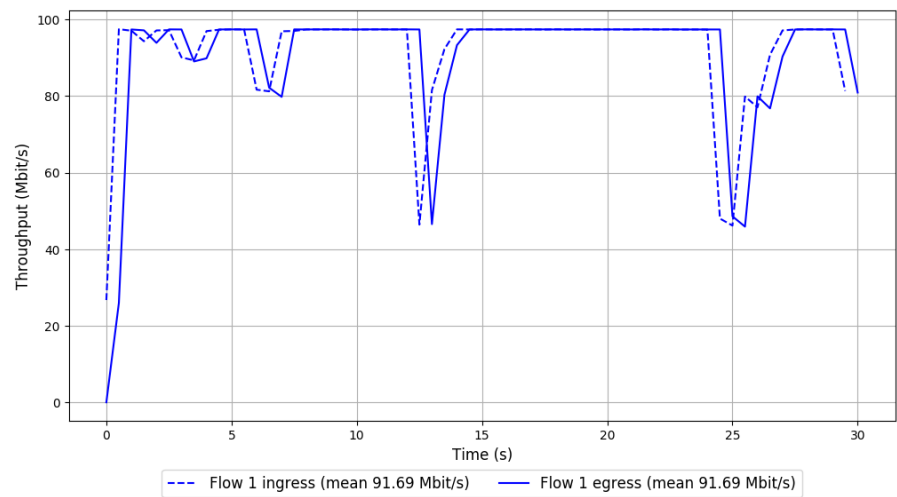
-- Flow 1:

Average throughput: 91.69 Mbit/s

95th percentile per-packet one-way delay: 8.801 ms

Loss rate: 0.02%

Run 1: Report of QUIC Cubic — Data Link



Run 2: Statistics of QUIC Cubic

Start at: 2018-09-07 19:58:56

End at: 2018-09-07 19:59:26

Local clock offset: 2.242 ms

Remote clock offset: 0.537 ms

Below is generated by plot.py at 2018-09-07 21:12:25

Datalink statistics

-- Total of 1 flow:

Average throughput: 91.21 Mbit/s

95th percentile per-packet one-way delay: 9.173 ms

Loss rate: 0.02%

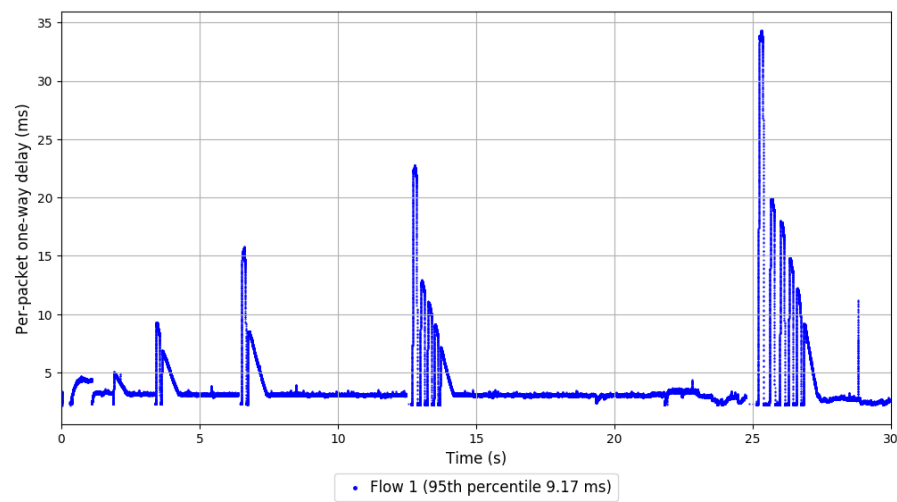
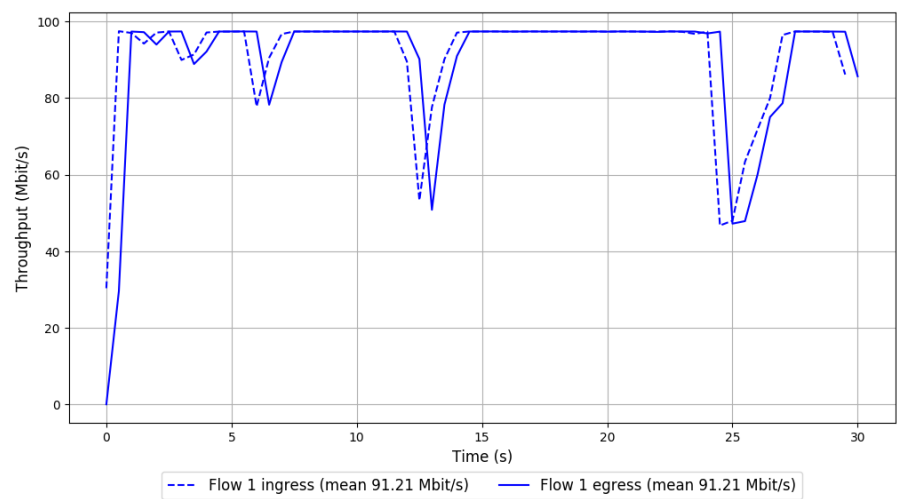
-- Flow 1:

Average throughput: 91.21 Mbit/s

95th percentile per-packet one-way delay: 9.173 ms

Loss rate: 0.02%

Run 2: Report of QUIC Cubic — Data Link



Run 3: Statistics of QUIC Cubic

Start at: 2018-09-07 20:19:15

End at: 2018-09-07 20:19:45

Local clock offset: 2.509 ms

Remote clock offset: 0.861 ms

Below is generated by plot.py at 2018-09-07 21:12:25

Datalink statistics

-- Total of 1 flow:

Average throughput: 91.86 Mbit/s

95th percentile per-packet one-way delay: 8.979 ms

Loss rate: 0.02%

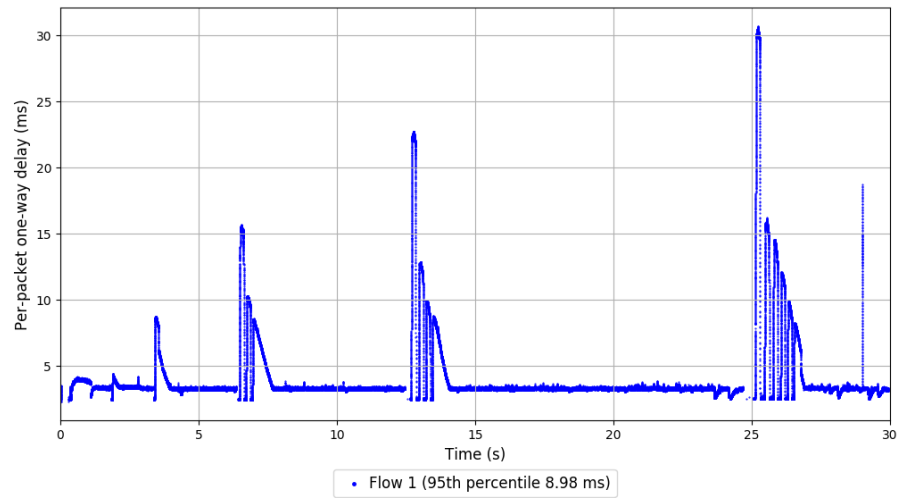
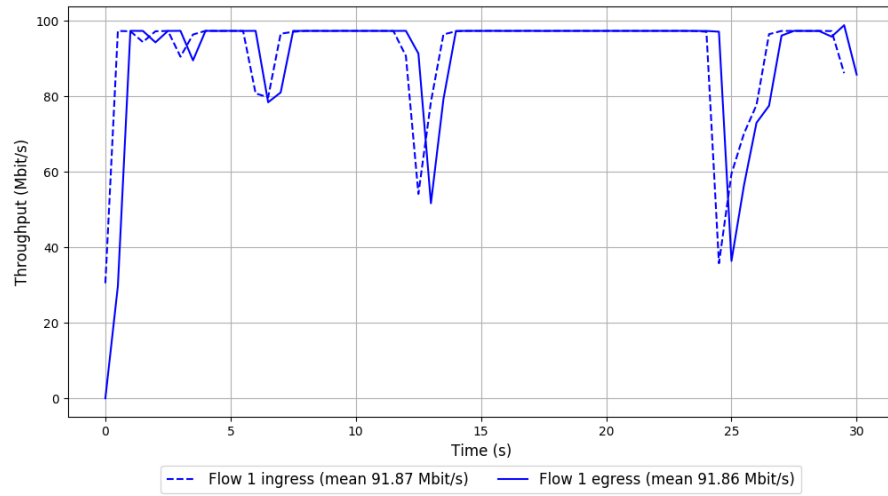
-- Flow 1:

Average throughput: 91.86 Mbit/s

95th percentile per-packet one-way delay: 8.979 ms

Loss rate: 0.02%

Run 3: Report of QUIC Cubic — Data Link



Run 4: Statistics of QUIC Cubic

Start at: 2018-09-07 20:39:37

End at: 2018-09-07 20:40:07

Local clock offset: 0.368 ms

Remote clock offset: 0.866 ms

Below is generated by plot.py at 2018-09-07 21:12:30

Datalink statistics

-- Total of 1 flow:

Average throughput: 91.76 Mbit/s

95th percentile per-packet one-way delay: 8.020 ms

Loss rate: 0.02%

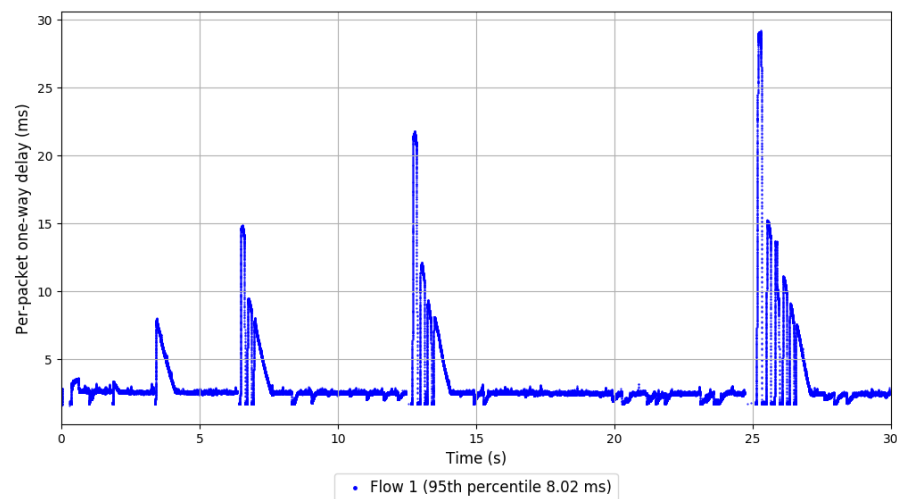
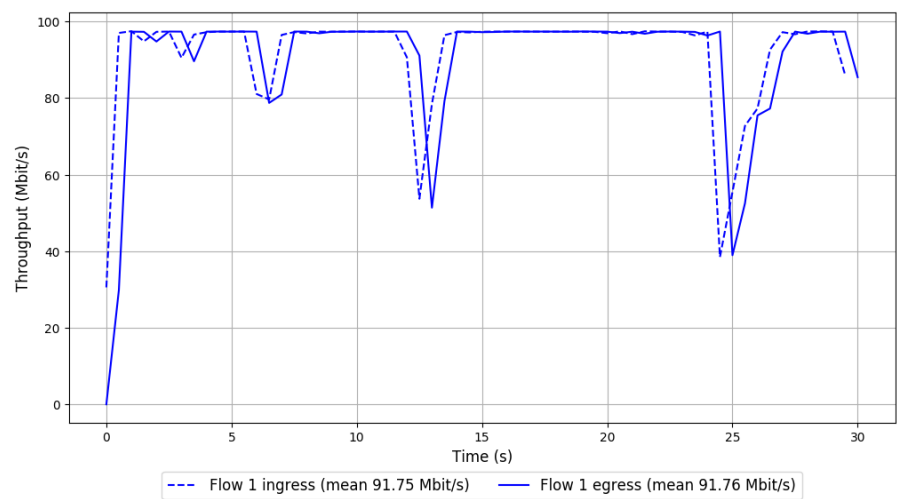
-- Flow 1:

Average throughput: 91.76 Mbit/s

95th percentile per-packet one-way delay: 8.020 ms

Loss rate: 0.02%

Run 4: Report of QUIC Cubic — Data Link



Run 5: Statistics of QUIC Cubic

Start at: 2018-09-07 21:00:00

End at: 2018-09-07 21:00:30

Local clock offset: -3.75 ms

Remote clock offset: 0.92 ms

Below is generated by plot.py at 2018-09-07 21:12:35

Datalink statistics

-- Total of 1 flow:

Average throughput: 89.84 Mbit/s

95th percentile per-packet one-way delay: 9.478 ms

Loss rate: 0.02%

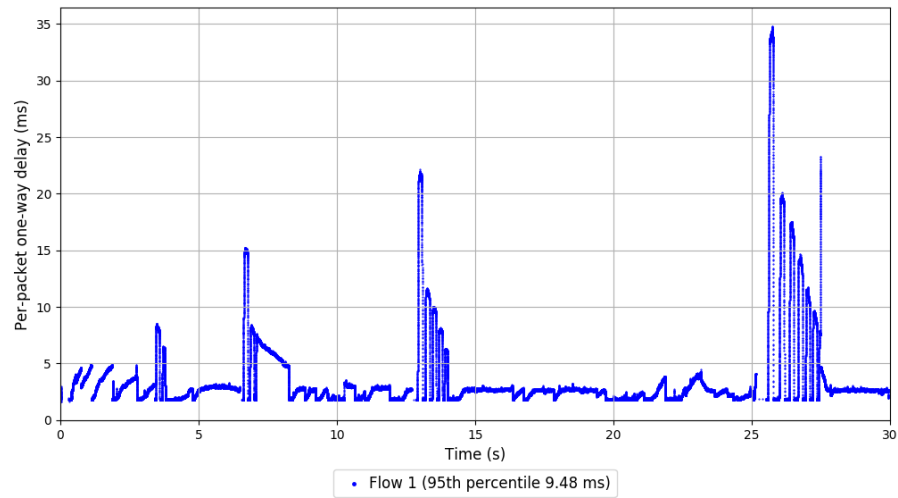
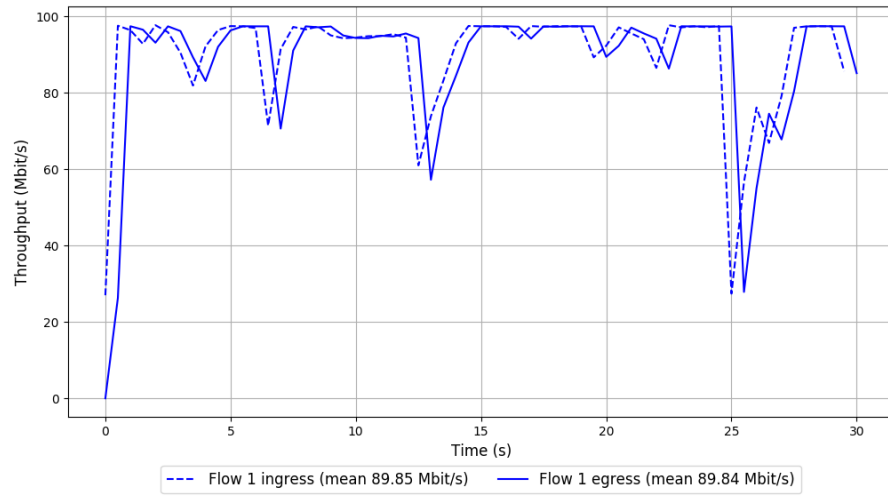
-- Flow 1:

Average throughput: 89.84 Mbit/s

95th percentile per-packet one-way delay: 9.478 ms

Loss rate: 0.02%

Run 5: Report of QUIC Cubic — Data Link

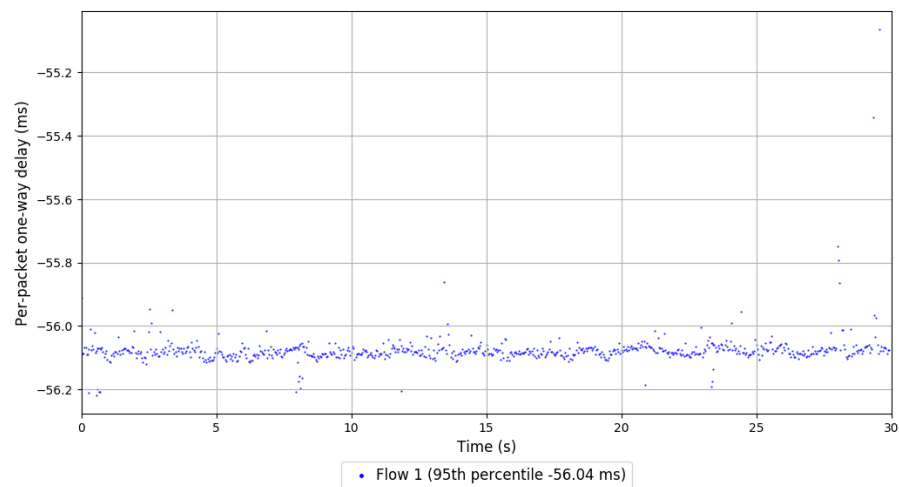
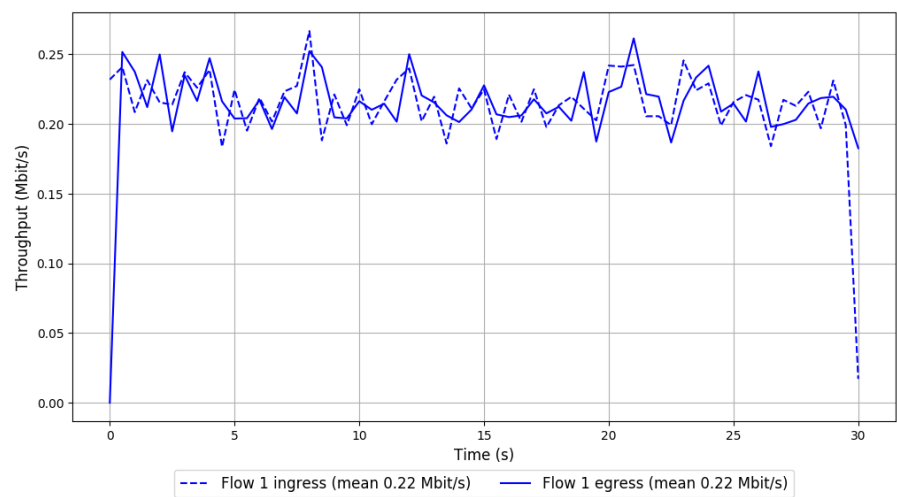


```
Run 1: Statistics of SCReAM

Start at: 2018-09-07 19:20:36
End at: 2018-09-07 19:21:06
Local clock offset: -57.913 ms
Remote clock offset: -0.11 ms

# Below is generated by plot.py at 2018-09-07 21:12:35
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: -56.039 ms
Loss rate: 0.13%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: -56.039 ms
Loss rate: 0.13%
```

Run 1: Report of SReAM — Data Link



Run 2: Statistics of SCReAM

Start at: 2018-09-07 19:40:51

End at: 2018-09-07 19:41:21

Local clock offset: -0.673 ms

Remote clock offset: 0.244 ms

Below is generated by plot.py at 2018-09-07 21:12:35

Datalink statistics

-- Total of 1 flow:

Average throughput: 0.22 Mbit/s

95th percentile per-packet one-way delay: 2.354 ms

Loss rate: 0.00%

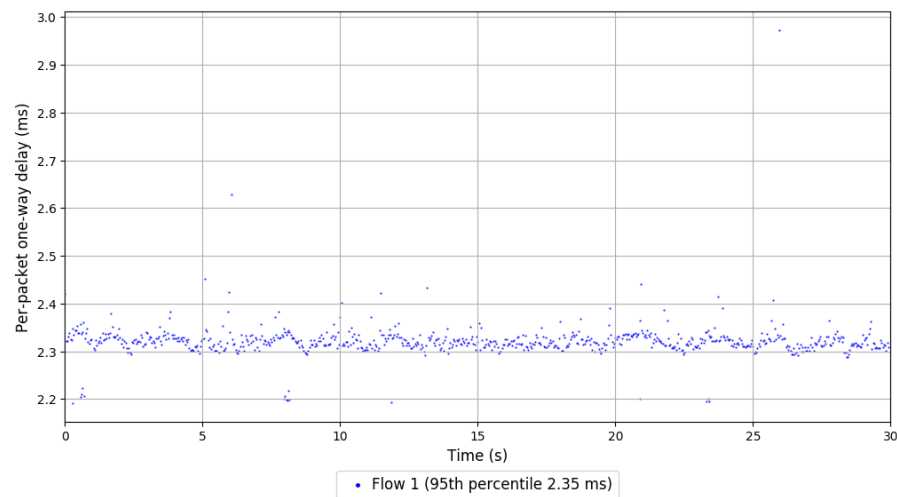
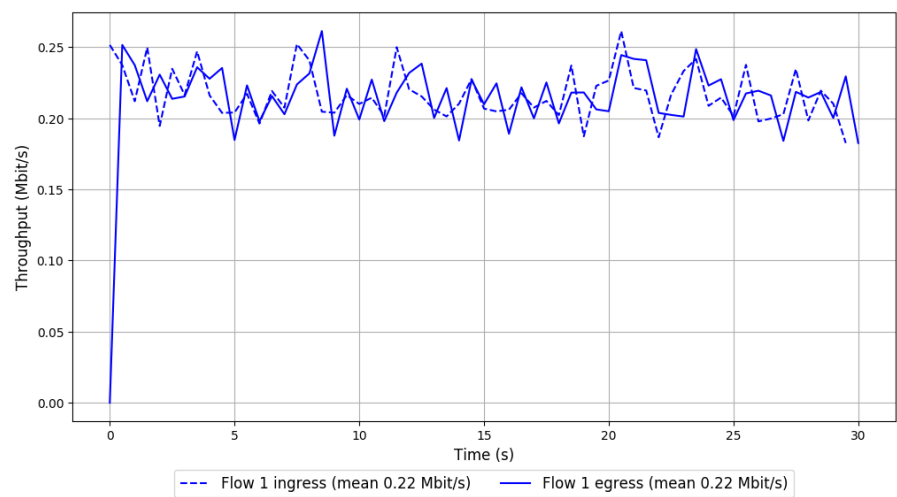
-- Flow 1:

Average throughput: 0.22 Mbit/s

95th percentile per-packet one-way delay: 2.354 ms

Loss rate: 0.00%

Run 2: Report of SReAM — Data Link



Run 3: Statistics of SCReAM

Start at: 2018-09-07 20:01:12

End at: 2018-09-07 20:01:42

Local clock offset: 1.779 ms

Remote clock offset: 0.524 ms

Below is generated by plot.py at 2018-09-07 21:12:35

Datalink statistics

-- Total of 1 flow:

Average throughput: 0.22 Mbit/s

95th percentile per-packet one-way delay: 1.654 ms

Loss rate: 0.13%

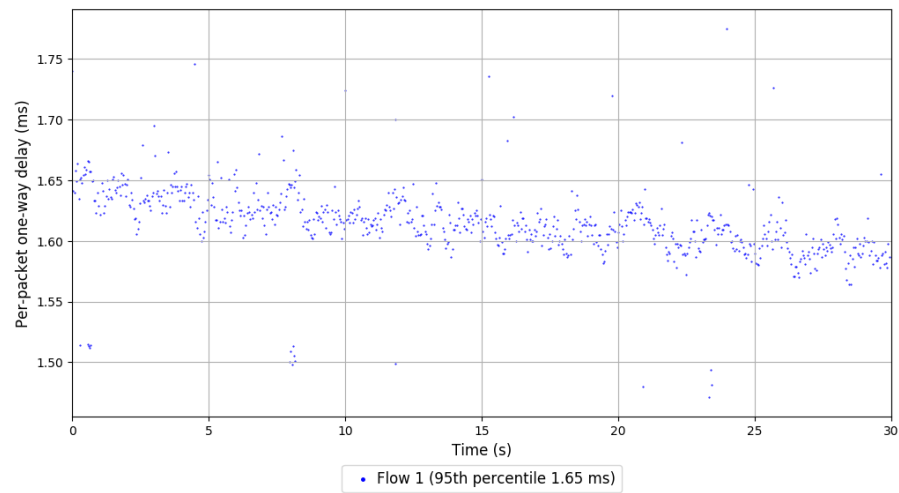
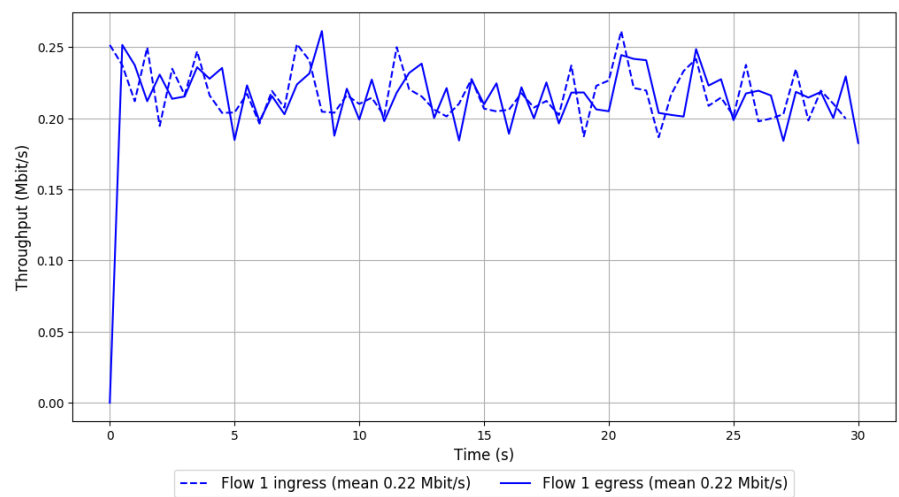
-- Flow 1:

Average throughput: 0.22 Mbit/s

95th percentile per-packet one-way delay: 1.654 ms

Loss rate: 0.13%

Run 3: Report of SReAM — Data Link



Run 4: Statistics of SCReAM

Start at: 2018-09-07 20:21:31

End at: 2018-09-07 20:22:01

Local clock offset: 1.403 ms

Remote clock offset: 0.82 ms

Below is generated by plot.py at 2018-09-07 21:12:35

Datalink statistics

-- Total of 1 flow:

Average throughput: 0.22 Mbit/s

95th percentile per-packet one-way delay: 1.851 ms

Loss rate: 0.00%

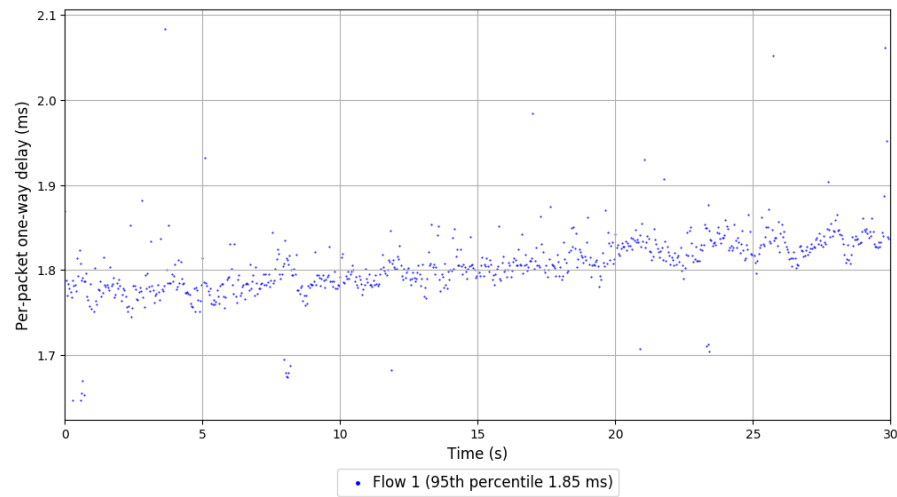
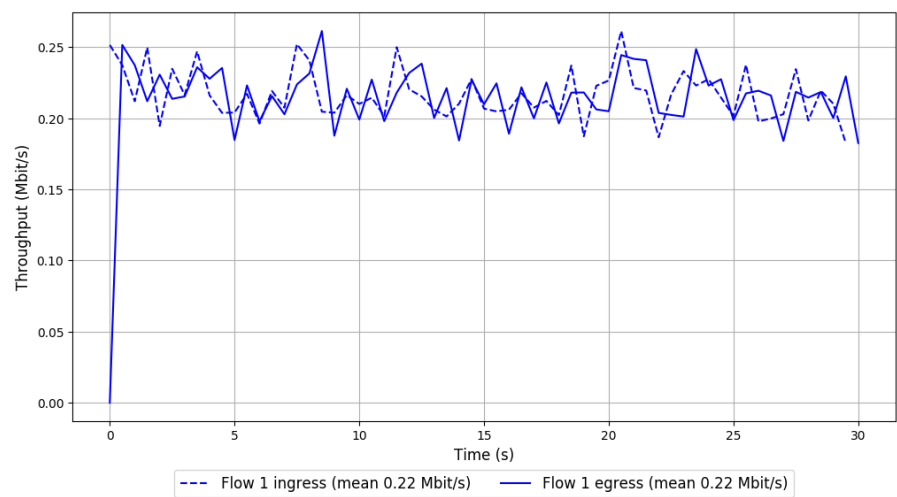
-- Flow 1:

Average throughput: 0.22 Mbit/s

95th percentile per-packet one-way delay: 1.851 ms

Loss rate: 0.00%

Run 4: Report of SReAM — Data Link



Run 5: Statistics of SCReAM

Start at: 2018-09-07 20:41:54

End at: 2018-09-07 20:42:24

Local clock offset: 1.088 ms

Remote clock offset: 0.82 ms

Below is generated by plot.py at 2018-09-07 21:12:35

Datalink statistics

-- Total of 1 flow:

Average throughput: 0.22 Mbit/s

95th percentile per-packet one-way delay: 2.504 ms

Loss rate: 0.13%

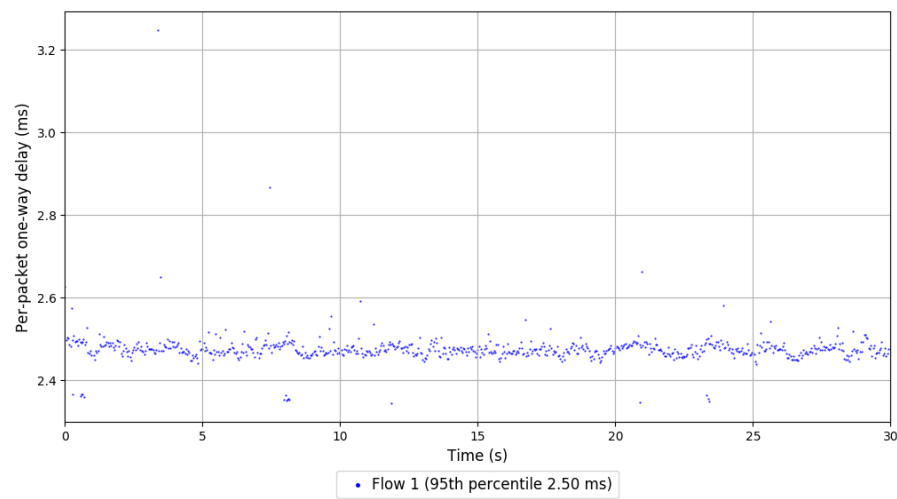
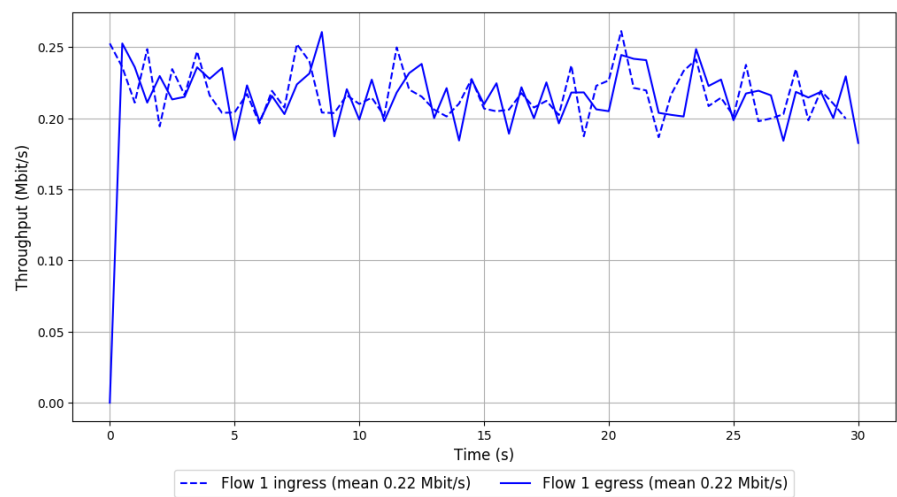
-- Flow 1:

Average throughput: 0.22 Mbit/s

95th percentile per-packet one-way delay: 2.504 ms

Loss rate: 0.13%

Run 5: Report of SReAM — Data Link

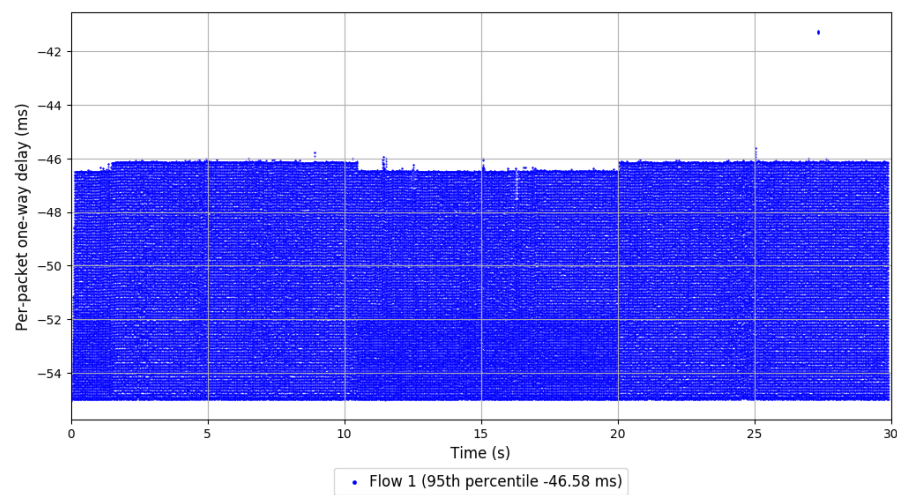
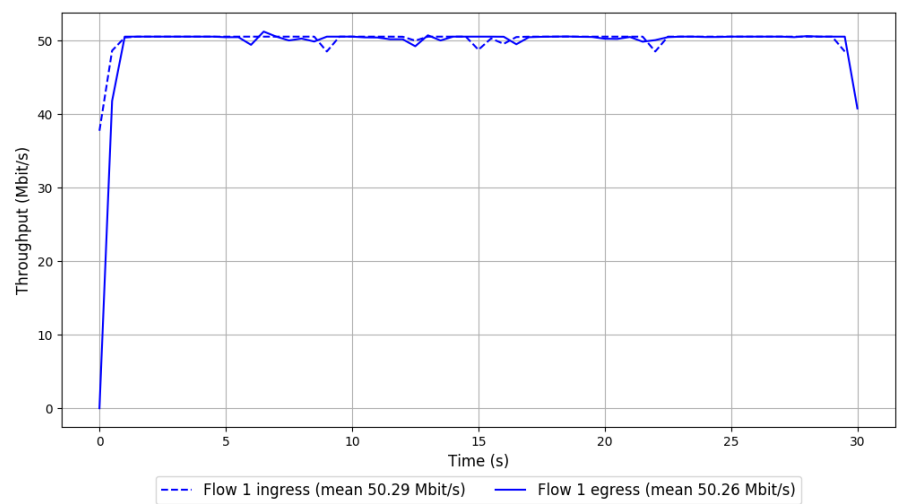


Run 1: Statistics of Sprout

Start at: 2018-09-07 19:23:58
End at: 2018-09-07 19:24:28
Local clock offset: -57.056 ms
Remote clock offset: -0.121 ms

Below is generated by plot.py at 2018-09-07 21:12:35
Datalink statistics
-- Total of 1 flow:
Average throughput: 50.26 Mbit/s
95th percentile per-packet one-way delay: -46.580 ms
Loss rate: 0.06%
-- Flow 1:
Average throughput: 50.26 Mbit/s
95th percentile per-packet one-way delay: -46.580 ms
Loss rate: 0.06%

Run 1: Report of Sprout — Data Link



Run 2: Statistics of Sprout

Start at: 2018-09-07 19:44:16

End at: 2018-09-07 19:44:46

Local clock offset: -1.369 ms

Remote clock offset: 0.304 ms

Below is generated by plot.py at 2018-09-07 21:12:35

Datalink statistics

-- Total of 1 flow:

Average throughput: 50.37 Mbit/s

95th percentile per-packet one-way delay: 10.084 ms

Loss rate: 0.00%

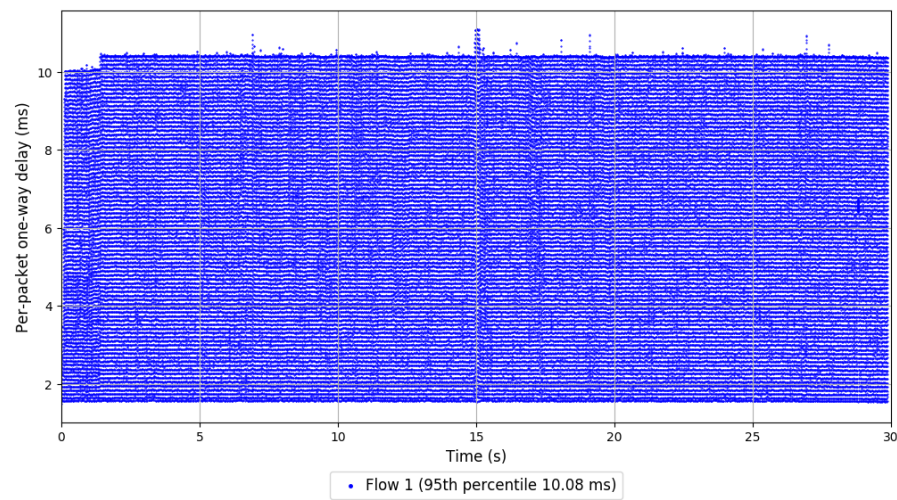
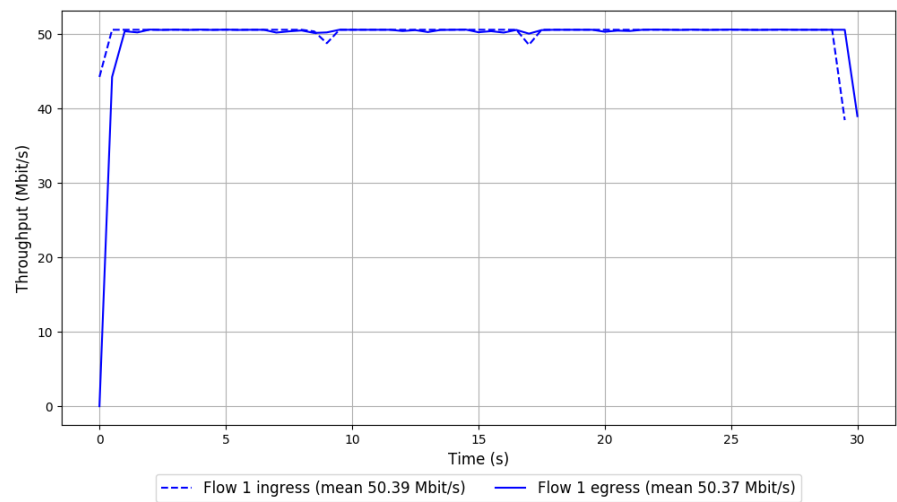
-- Flow 1:

Average throughput: 50.37 Mbit/s

95th percentile per-packet one-way delay: 10.084 ms

Loss rate: 0.00%

Run 2: Report of Sprout — Data Link



Run 3: Statistics of Sprout

Start at: 2018-09-07 20:04:37

End at: 2018-09-07 20:05:07

Local clock offset: 2.072 ms

Remote clock offset: 0.632 ms

Below is generated by plot.py at 2018-09-07 21:12:35

Datalink statistics

-- Total of 1 flow:

Average throughput: 50.36 Mbit/s

95th percentile per-packet one-way delay: 10.026 ms

Loss rate: 0.07%

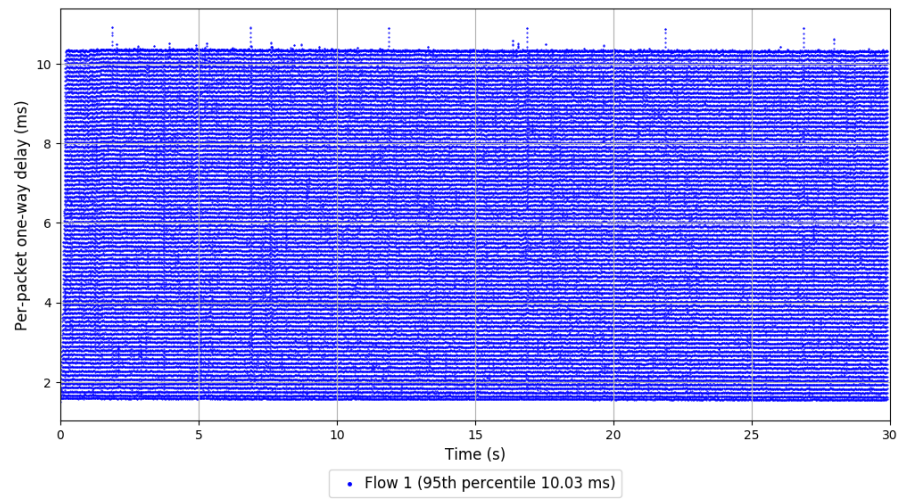
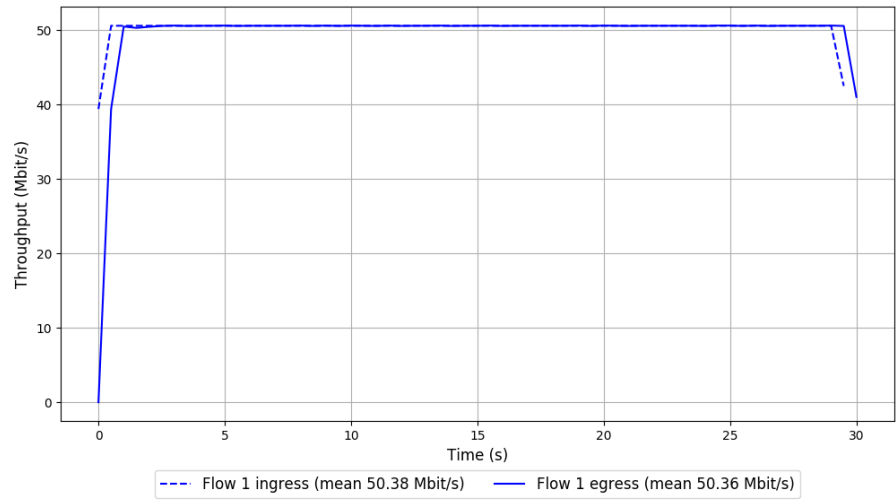
-- Flow 1:

Average throughput: 50.36 Mbit/s

95th percentile per-packet one-way delay: 10.026 ms

Loss rate: 0.07%

Run 3: Report of Sprout — Data Link



Run 4: Statistics of Sprout

Start at: 2018-09-07 20:24:55

End at: 2018-09-07 20:25:25

Local clock offset: 1.671 ms

Remote clock offset: 0.854 ms

Below is generated by plot.py at 2018-09-07 21:12:35

Datalink statistics

-- Total of 1 flow:

Average throughput: 50.26 Mbit/s

95th percentile per-packet one-way delay: 10.984 ms

Loss rate: 0.06%

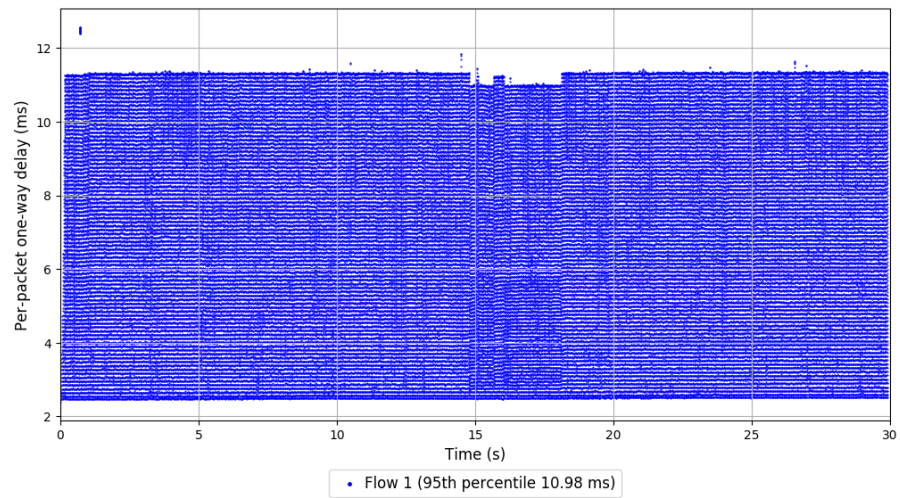
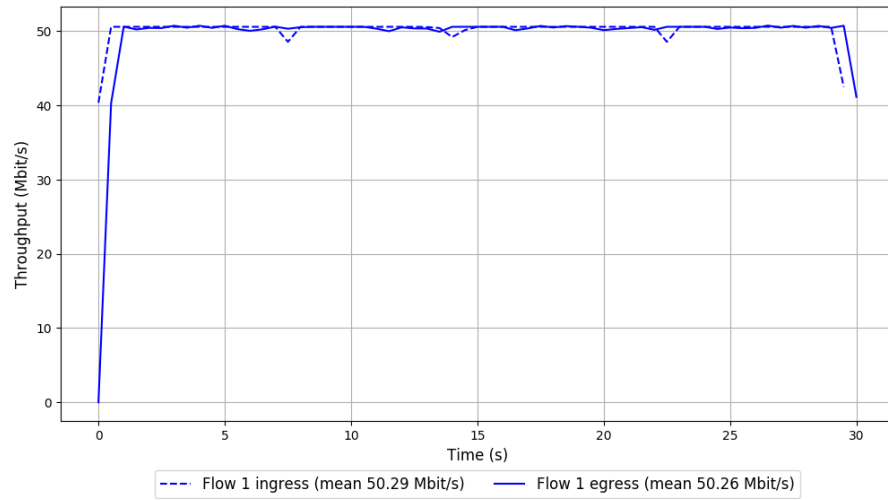
-- Flow 1:

Average throughput: 50.26 Mbit/s

95th percentile per-packet one-way delay: 10.984 ms

Loss rate: 0.06%

Run 4: Report of Sprout — Data Link



Run 5: Statistics of Sprout

Start at: 2018-09-07 20:45:18

End at: 2018-09-07 20:45:48

Local clock offset: 0.877 ms

Remote clock offset: 0.833 ms

Below is generated by plot.py at 2018-09-07 21:12:45

Datalink statistics

-- Total of 1 flow:

Average throughput: 50.27 Mbit/s

95th percentile per-packet one-way delay: 11.172 ms

Loss rate: 0.00%

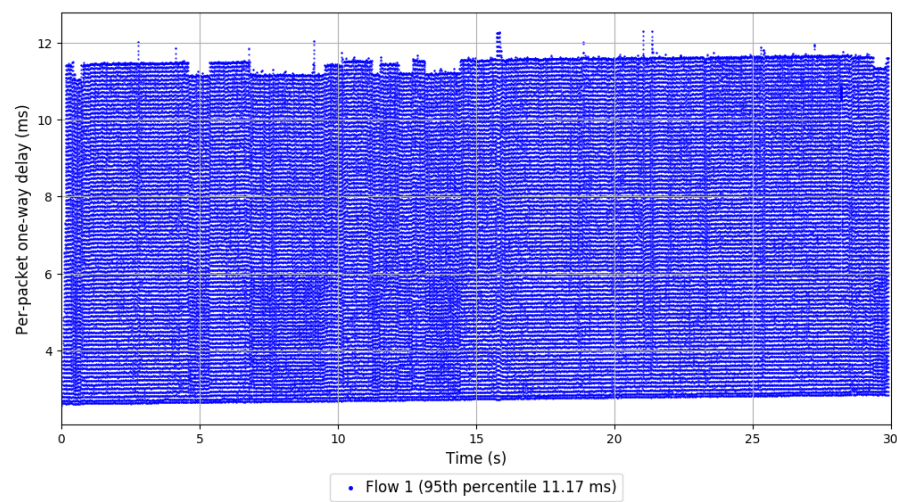
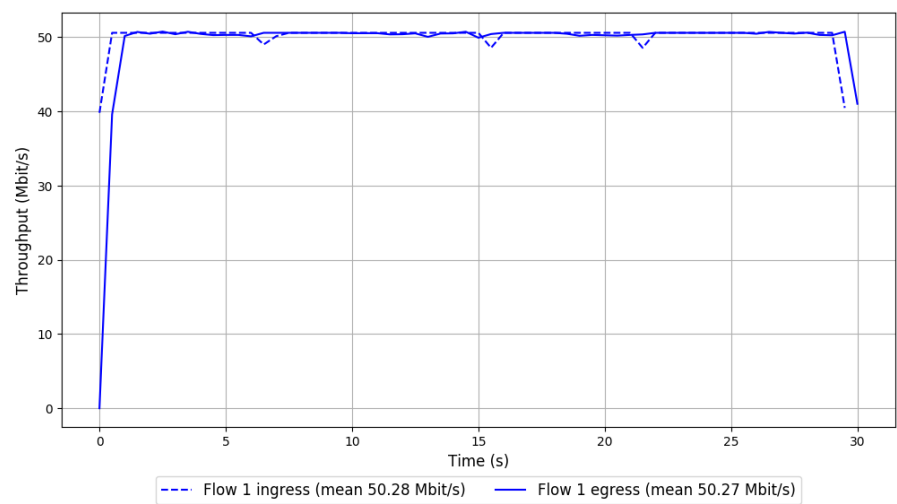
-- Flow 1:

Average throughput: 50.27 Mbit/s

95th percentile per-packet one-way delay: 11.172 ms

Loss rate: 0.00%

Run 5: Report of Sprout — Data Link

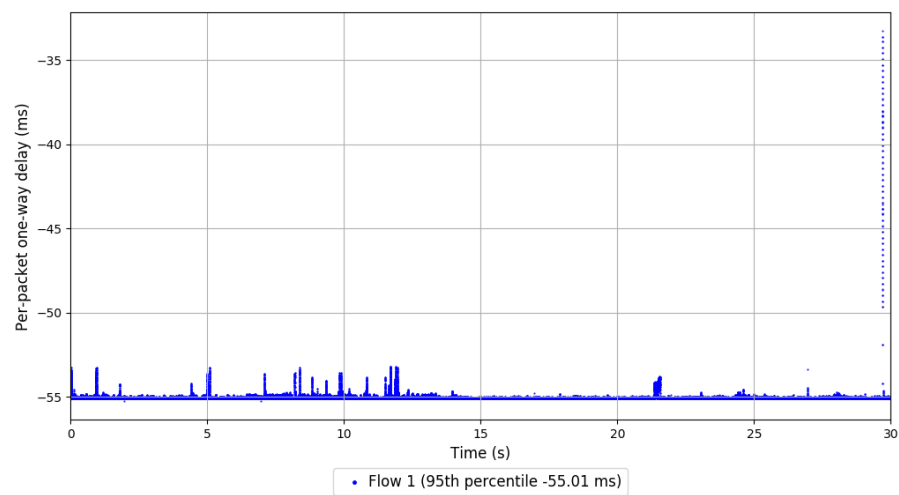
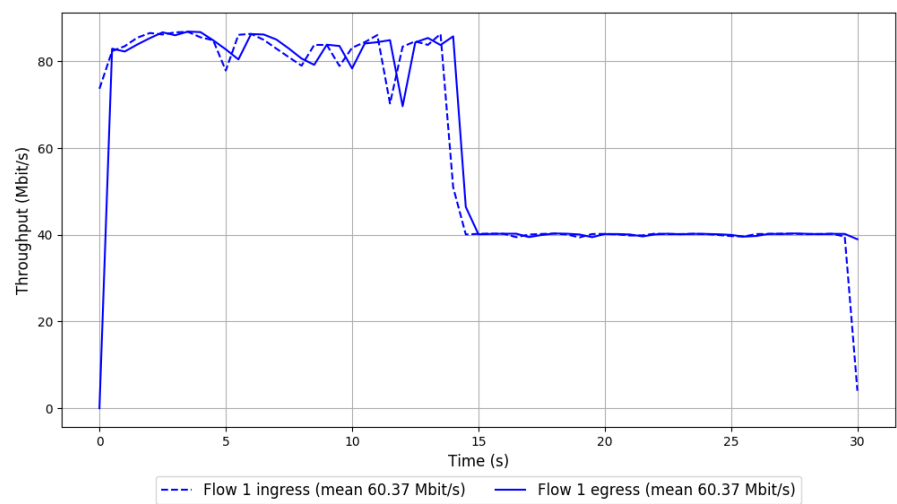


Run 1: Statistics of TaoVA-100x

Start at: 2018-09-07 19:22:49
End at: 2018-09-07 19:23:19
Local clock offset: -57.181 ms
Remote clock offset: -0.18 ms

Below is generated by plot.py at 2018-09-07 21:13:24
Datalink statistics
-- Total of 1 flow:
Average throughput: 60.37 Mbit/s
95th percentile per-packet one-way delay: -55.006 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 60.37 Mbit/s
95th percentile per-packet one-way delay: -55.006 ms
Loss rate: 0.01%

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



Run 2: Statistics of TaoVA-100x

Start at: 2018-09-07 19:43:05

End at: 2018-09-07 19:43:35

Local clock offset: -0.695 ms

Remote clock offset: 0.16 ms

Below is generated by plot.py at 2018-09-07 21:14:10

Datalink statistics

-- Total of 1 flow:

Average throughput: 88.24 Mbit/s

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

Loss rate: 0.02%

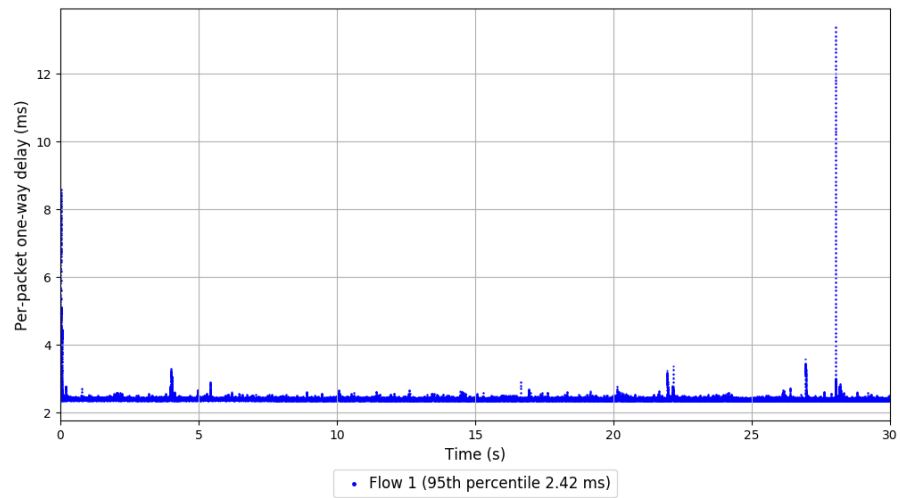
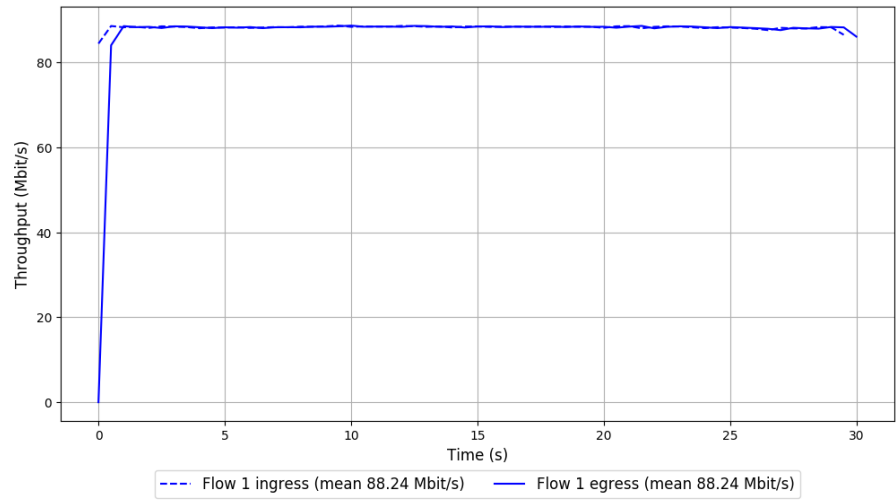
-- Flow 1:

Average throughput: 88.24 Mbit/s

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

Loss rate: 0.02%

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



Run 3: Statistics of TaoVA-100x

Start at: 2018-09-07 20:03:26

End at: 2018-09-07 20:03:56

Local clock offset: 2.022 ms

Remote clock offset: 0.526 ms

Below is generated by plot.py at 2018-09-07 21:14:11

Datalink statistics

-- Total of 1 flow:

Average throughput: 86.77 Mbit/s

95th percentile per-packet one-way delay: 1.717 ms

Loss rate: 0.02%

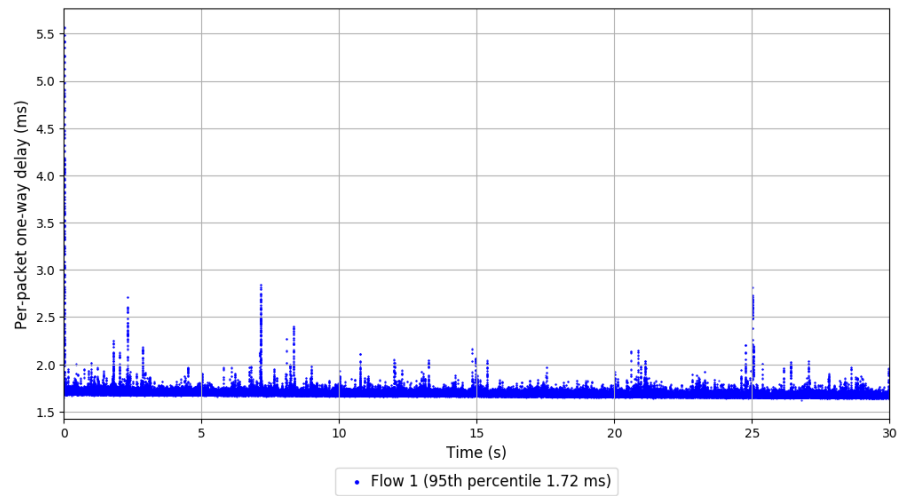
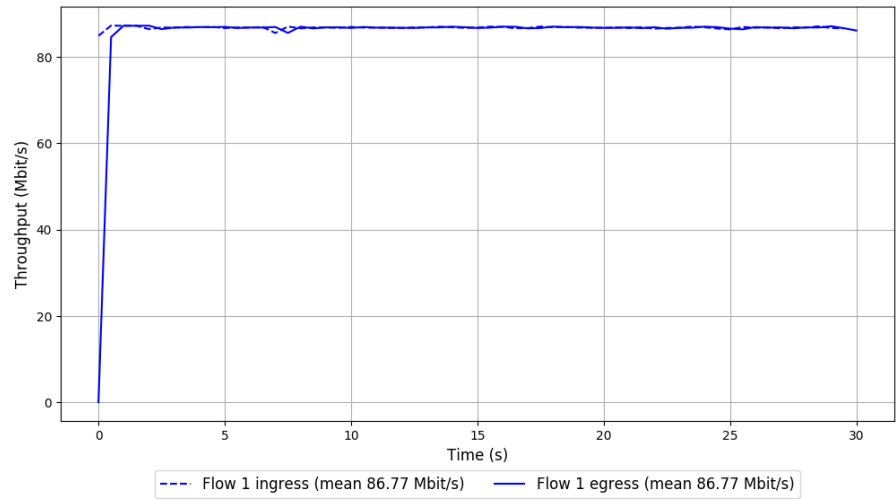
-- Flow 1:

Average throughput: 86.77 Mbit/s

95th percentile per-packet one-way delay: 1.717 ms

Loss rate: 0.02%

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



Run 4: Statistics of TaoVA-100x

Start at: 2018-09-07 20:23:45

End at: 2018-09-07 20:24:15

Local clock offset: 1.078 ms

Remote clock offset: 0.853 ms

Below is generated by plot.py at 2018-09-07 21:14:12

Datalink statistics

-- Total of 1 flow:

Average throughput: 87.75 Mbit/s

95th percentile per-packet one-way delay: 1.823 ms

Loss rate: 0.02%

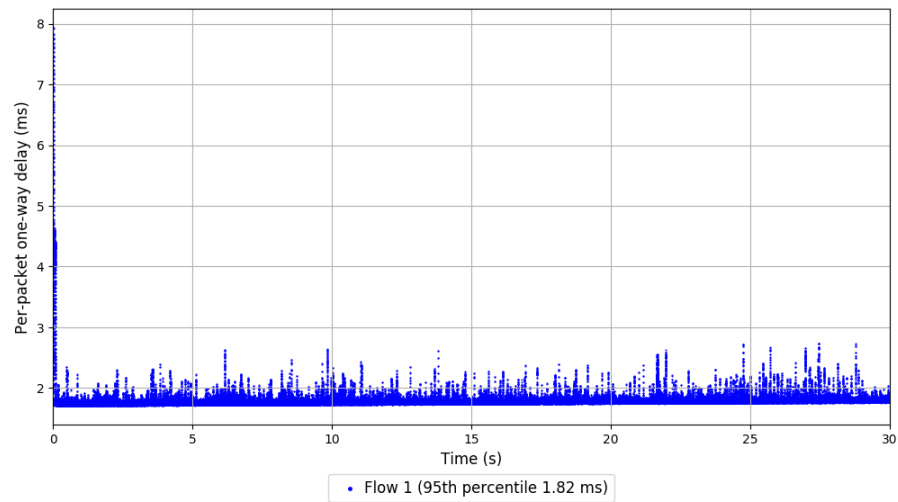
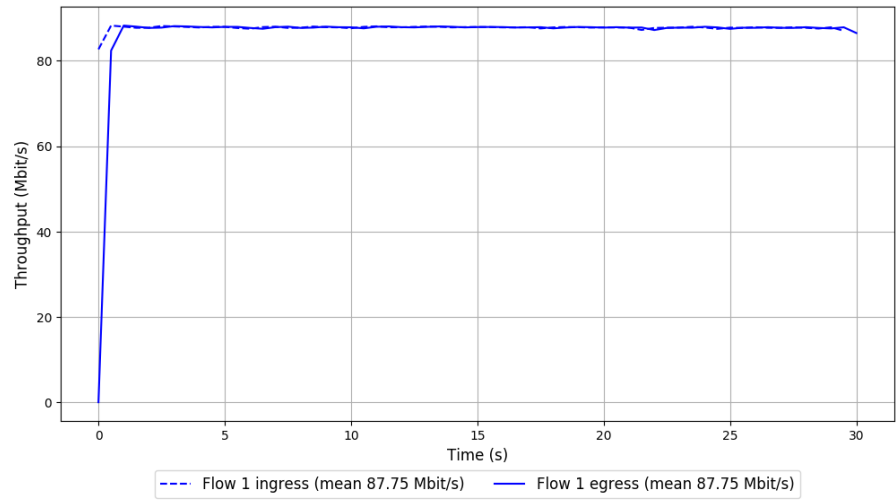
-- Flow 1:

Average throughput: 87.75 Mbit/s

95th percentile per-packet one-way delay: 1.823 ms

Loss rate: 0.02%

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



Run 5: Statistics of TaoVA-100x

Start at: 2018-09-07 20:44:07

End at: 2018-09-07 20:44:37

Local clock offset: 0.383 ms

Remote clock offset: 0.942 ms

Below is generated by plot.py at 2018-09-07 21:14:20

Datalink statistics

-- Total of 1 flow:

Average throughput: 87.96 Mbit/s

95th percentile per-packet one-way delay: 1.702 ms

Loss rate: 0.01%

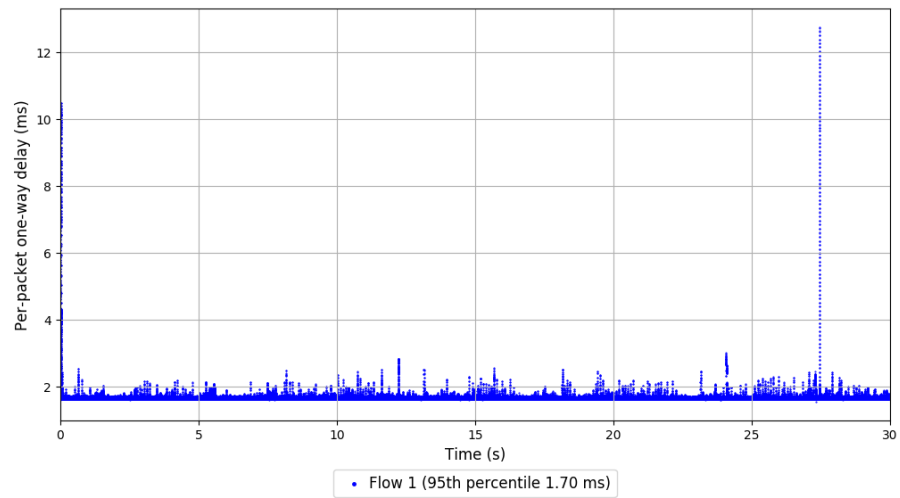
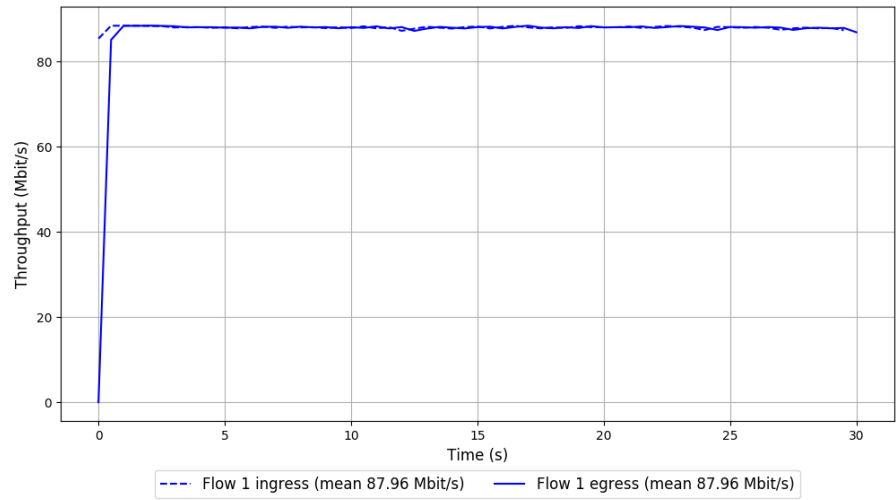
-- Flow 1:

Average throughput: 87.96 Mbit/s

95th percentile per-packet one-way delay: 1.702 ms

Loss rate: 0.01%

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



Run 1: Statistics of TCP Vegas

Start at: 2018-09-07 19:39:43

End at: 2018-09-07 19:40:13

Local clock offset: -1.422 ms

Remote clock offset: 0.159 ms

Below is generated by plot.py at 2018-09-07 21:14:20

Datalink statistics

-- Total of 1 flow:

Average throughput: 97.22 Mbit/s

95th percentile per-packet one-way delay: 2.917 ms

Loss rate: 0.02%

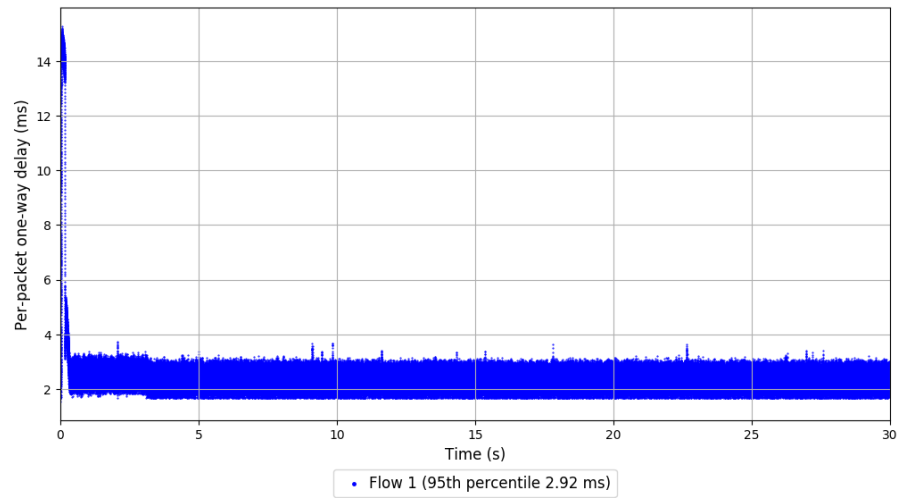
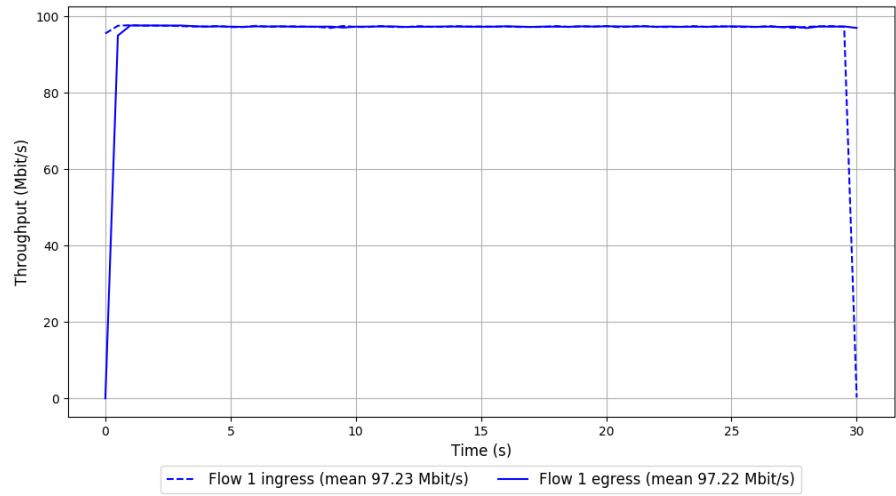
-- Flow 1:

Average throughput: 97.22 Mbit/s

95th percentile per-packet one-way delay: 2.917 ms

Loss rate: 0.02%

Run 1: Report of TCP Vegas — Data Link



Run 2: Statistics of TCP Vegas

Start at: 2018-09-07 20:00:04

End at: 2018-09-07 20:00:34

Local clock offset: 2.353 ms

Remote clock offset: 0.504 ms

Below is generated by plot.py at 2018-09-07 21:14:20

Datalink statistics

-- Total of 1 flow:

Average throughput: 96.11 Mbit/s

95th percentile per-packet one-way delay: 3.540 ms

Loss rate: 0.01%

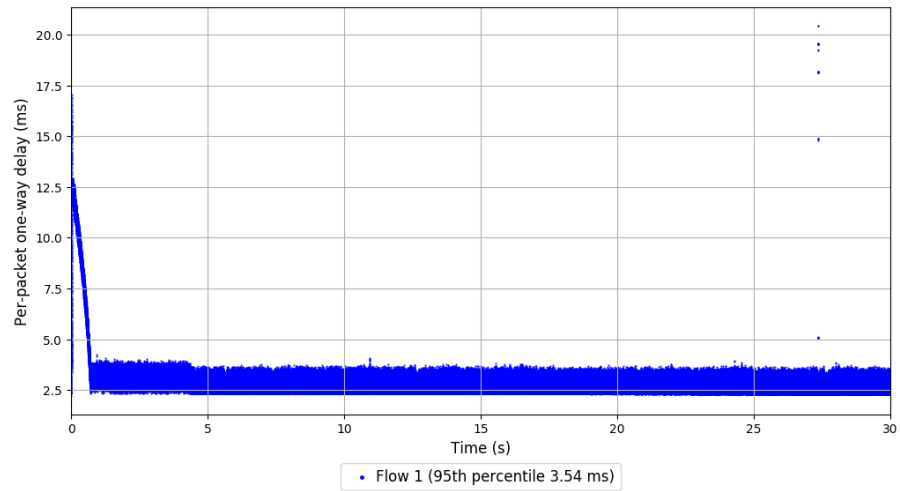
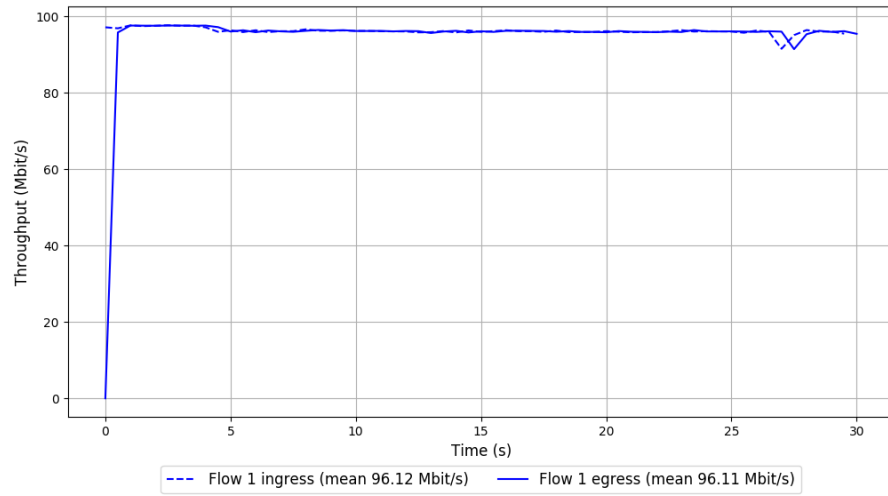
-- Flow 1:

Average throughput: 96.11 Mbit/s

95th percentile per-packet one-way delay: 3.540 ms

Loss rate: 0.01%

Run 2: Report of TCP Vegas — Data Link



Run 3: Statistics of TCP Vegas

Start at: 2018-09-07 20:20:23

End at: 2018-09-07 20:20:53

Local clock offset: 1.54 ms

Remote clock offset: 0.801 ms

Below is generated by plot.py at 2018-09-07 21:14:20

Datalink statistics

-- Total of 1 flow:

Average throughput: 96.95 Mbit/s

95th percentile per-packet one-way delay: 2.968 ms

Loss rate: 0.02%

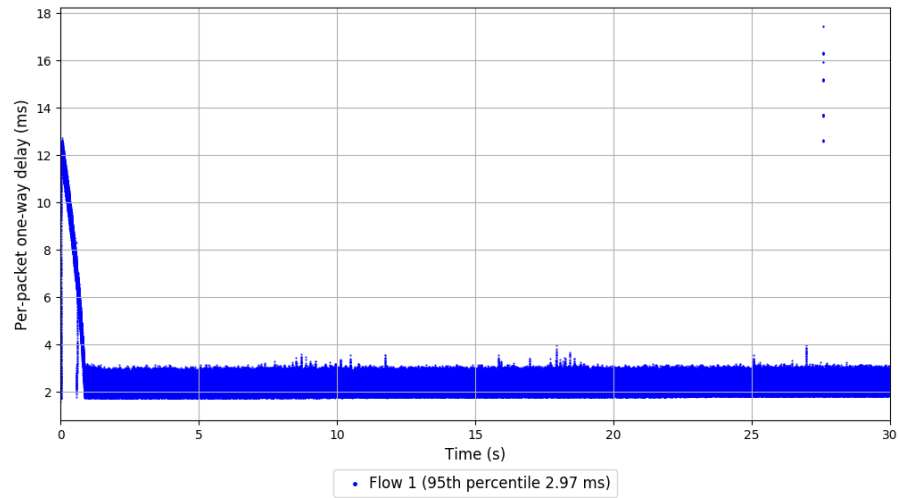
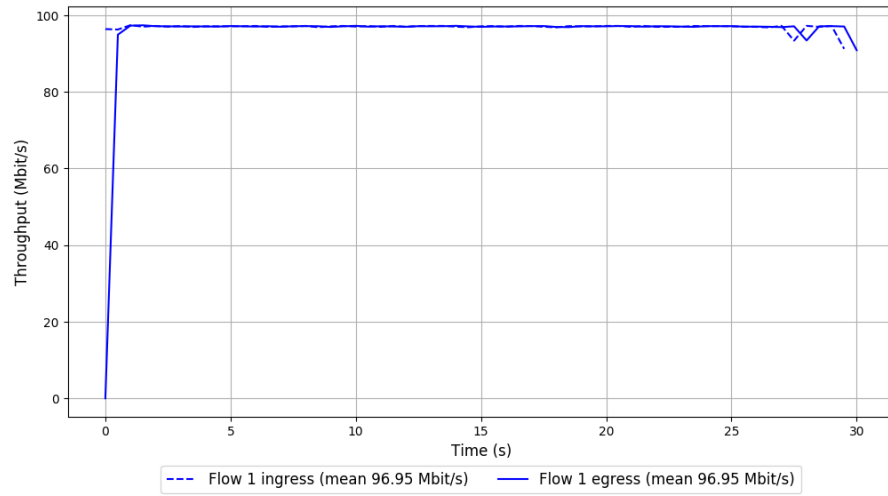
-- Flow 1:

Average throughput: 96.95 Mbit/s

95th percentile per-packet one-way delay: 2.968 ms

Loss rate: 0.02%

Run 3: Report of TCP Vegas — Data Link



Run 4: Statistics of TCP Vegas

Start at: 2018-09-07 20:40:46

End at: 2018-09-07 20:41:16

Local clock offset: 1.091 ms

Remote clock offset: 0.904 ms

Below is generated by plot.py at 2018-09-07 21:14:42

Datalink statistics

-- Total of 1 flow:

Average throughput: 96.39 Mbit/s

95th percentile per-packet one-way delay: 3.696 ms

Loss rate: 0.01%

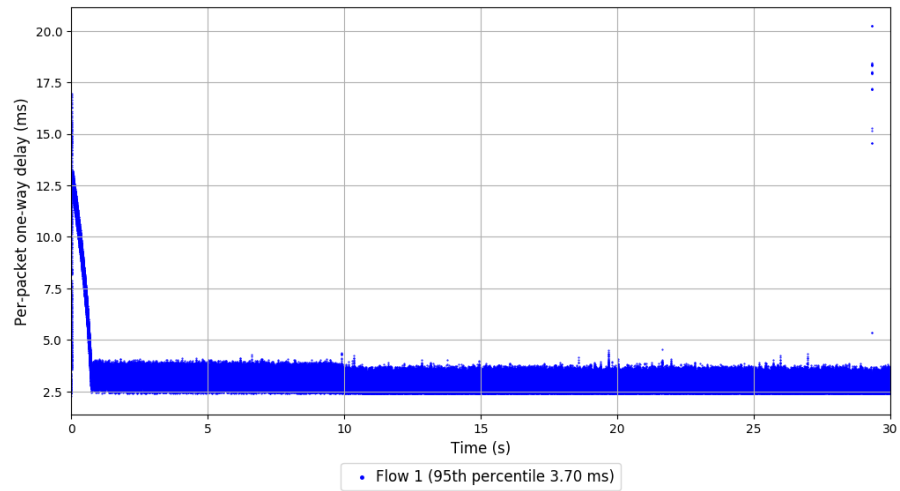
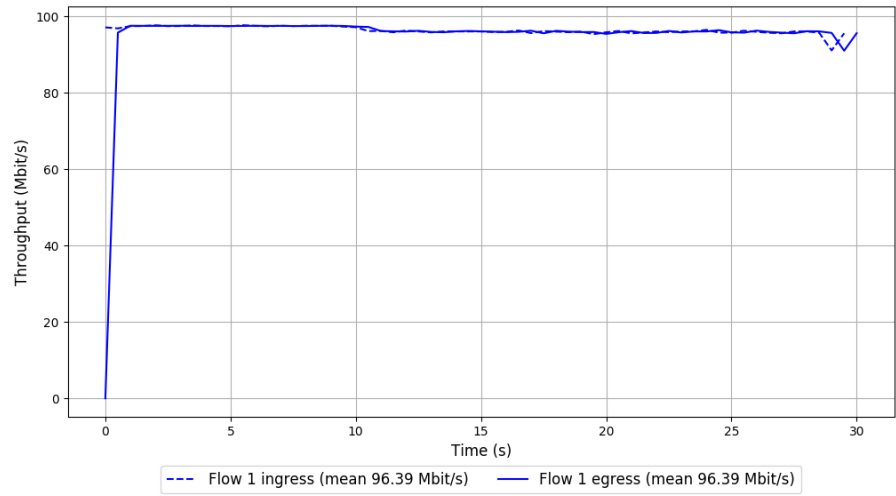
-- Flow 1:

Average throughput: 96.39 Mbit/s

95th percentile per-packet one-way delay: 3.696 ms

Loss rate: 0.01%

Run 4: Report of TCP Vegas — Data Link



Run 5: Statistics of TCP Vegas

Start at: 2018-09-07 21:01:08

End at: 2018-09-07 21:01:38

Local clock offset: -3.891 ms

Remote clock offset: 0.943 ms

Below is generated by plot.py at 2018-09-07 21:14:47

Datalink statistics

-- Total of 1 flow:

Average throughput: 96.12 Mbit/s

95th percentile per-packet one-way delay: 2.915 ms

Loss rate: 0.01%

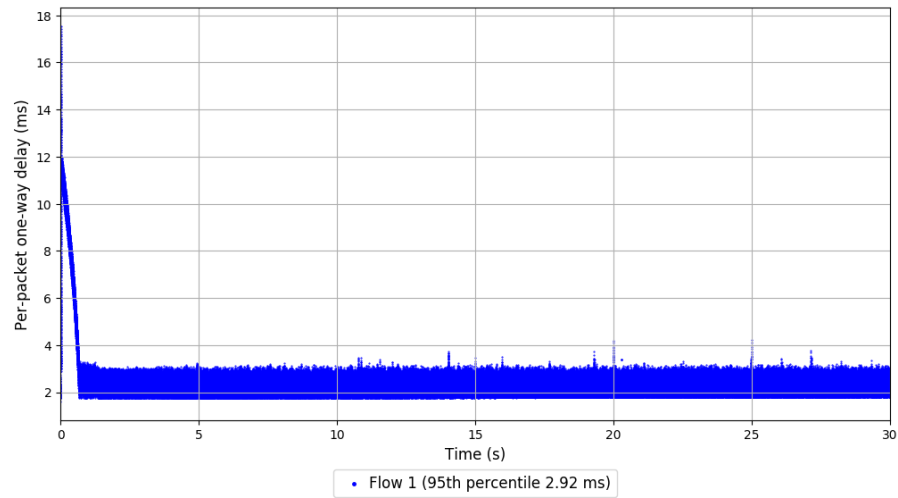
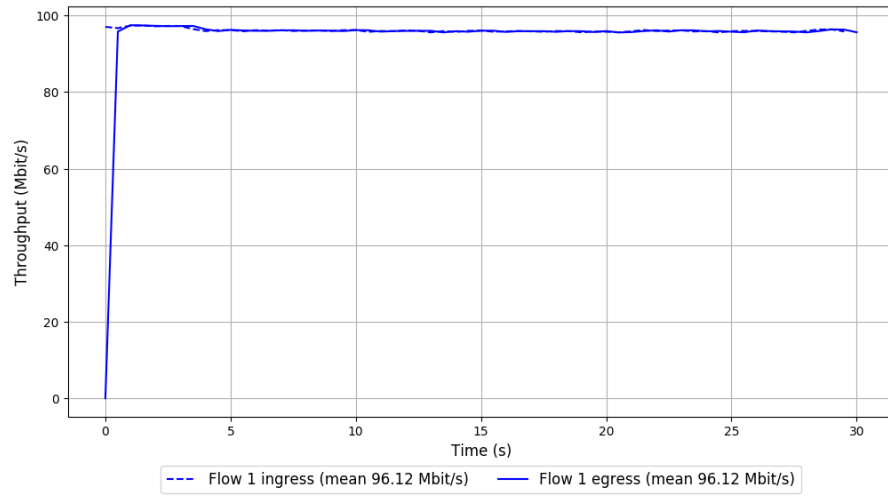
-- Flow 1:

Average throughput: 96.12 Mbit/s

95th percentile per-packet one-way delay: 2.915 ms

Loss rate: 0.01%

Run 5: Report of TCP Vegas — Data Link



Run 1: Statistics of Verus

Start at: 2018-09-07 19:36:25

End at: 2018-09-07 19:36:55

Local clock offset: -1.499 ms

Remote clock offset: 0.108 ms

Below is generated by plot.py at 2018-09-07 21:14:47

Datalink statistics

-- Total of 1 flow:

Average throughput: 37.08 Mbit/s

95th percentile per-packet one-way delay: 18.564 ms

Loss rate: 0.01%

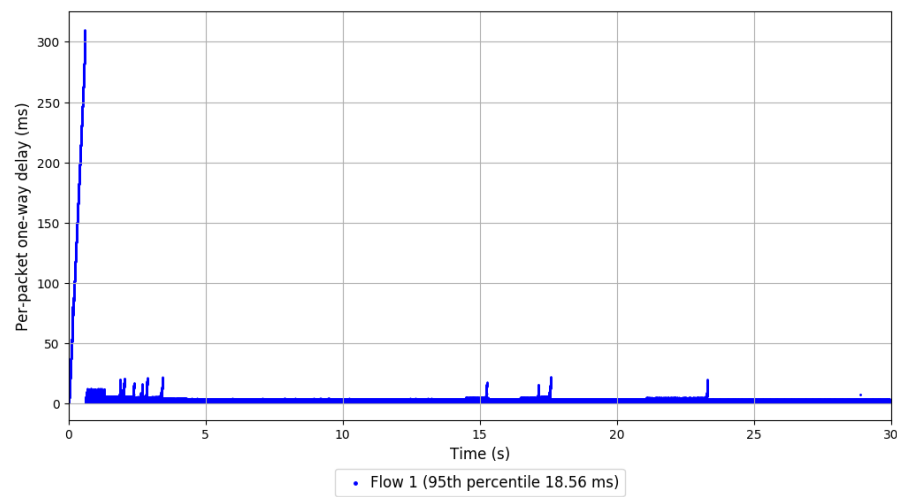
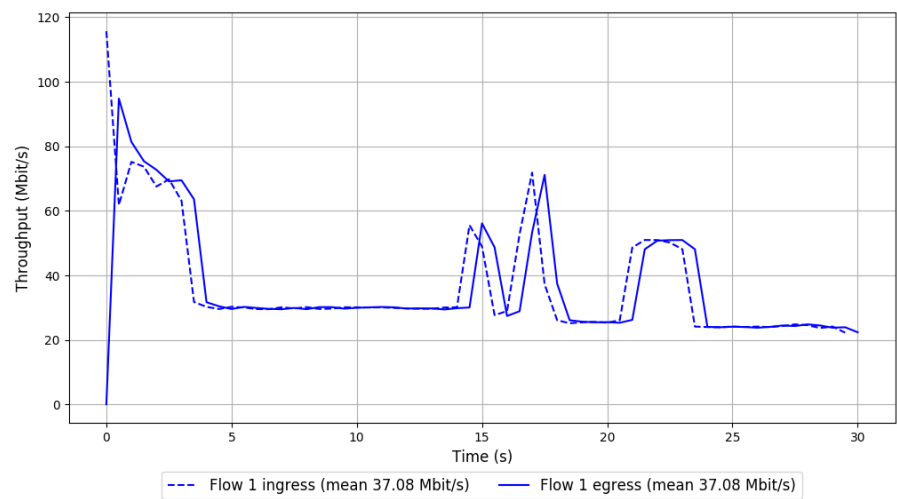
-- Flow 1:

Average throughput: 37.08 Mbit/s

95th percentile per-packet one-way delay: 18.564 ms

Loss rate: 0.01%

Run 1: Report of Verus — Data Link



Run 2: Statistics of Verus

Start at: 2018-09-07 19:56:45

End at: 2018-09-07 19:57:15

Local clock offset: 1.251 ms

Remote clock offset: 0.455 ms

Below is generated by plot.py at 2018-09-07 21:14:47

Datalink statistics

-- Total of 1 flow:

Average throughput: 41.56 Mbit/s

95th percentile per-packet one-way delay: 17.191 ms

Loss rate: 0.03%

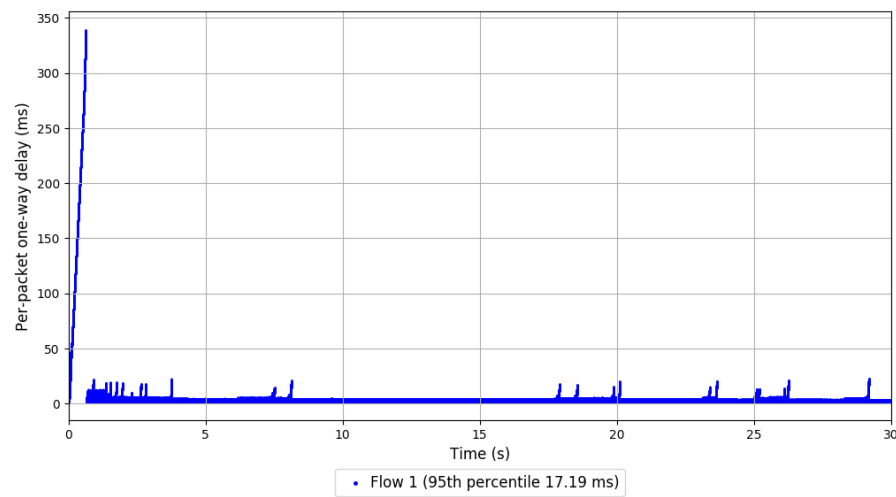
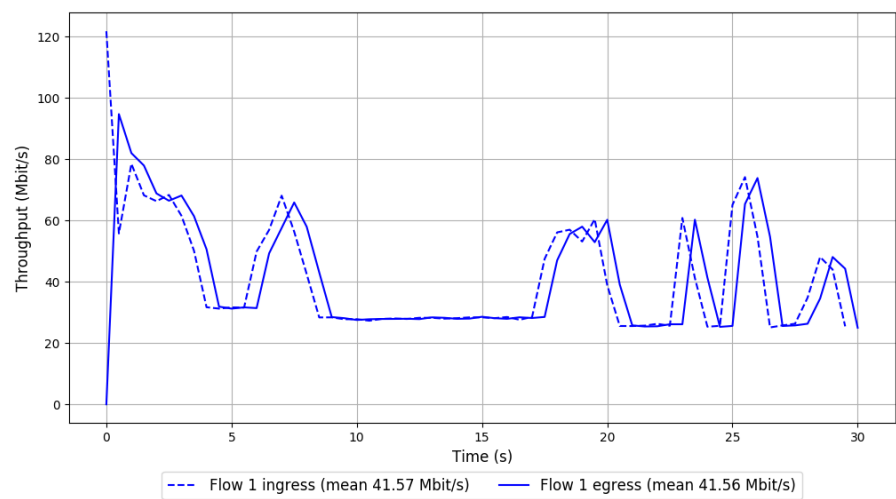
-- Flow 1:

Average throughput: 41.56 Mbit/s

95th percentile per-packet one-way delay: 17.191 ms

Loss rate: 0.03%

Run 2: Report of Verus — Data Link



Run 3: Statistics of Verus

Start at: 2018-09-07 20:17:02

End at: 2018-09-07 20:17:32

Local clock offset: 2.257 ms

Remote clock offset: 0.849 ms

Below is generated by plot.py at 2018-09-07 21:15:04

Datalink statistics

-- Total of 1 flow:

Average throughput: 76.27 Mbit/s

95th percentile per-packet one-way delay: 11.972 ms

Loss rate: 0.03%

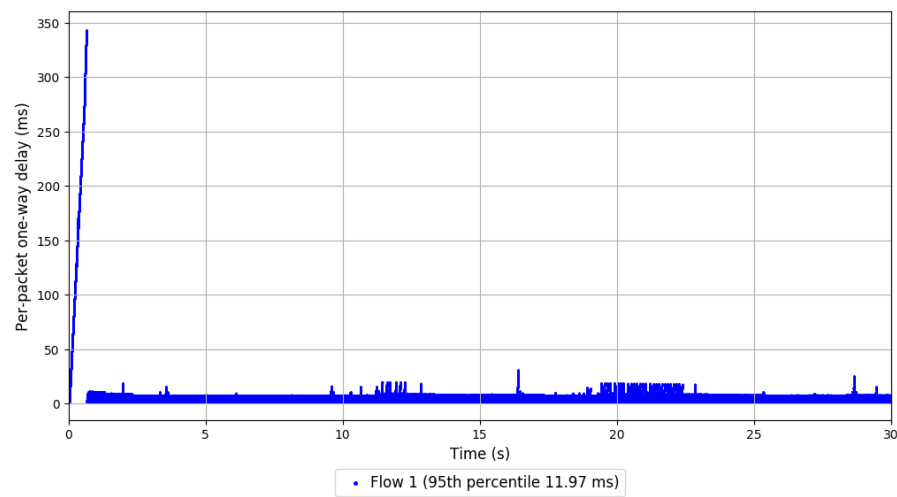
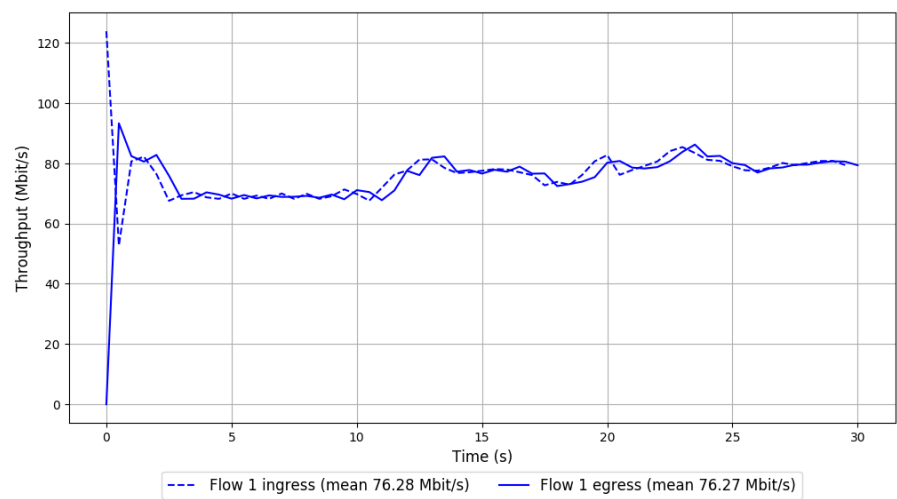
-- Flow 1:

Average throughput: 76.27 Mbit/s

95th percentile per-packet one-way delay: 11.972 ms

Loss rate: 0.03%

Run 3: Report of Verus — Data Link



Run 4: Statistics of Verus

Start at: 2018-09-07 20:37:24

End at: 2018-09-07 20:37:54

Local clock offset: 1.043 ms

Remote clock offset: 0.956 ms

Below is generated by plot.py at 2018-09-07 21:15:06

Datalink statistics

-- Total of 1 flow:

Average throughput: 81.50 Mbit/s

95th percentile per-packet one-way delay: 13.685 ms

Loss rate: 0.02%

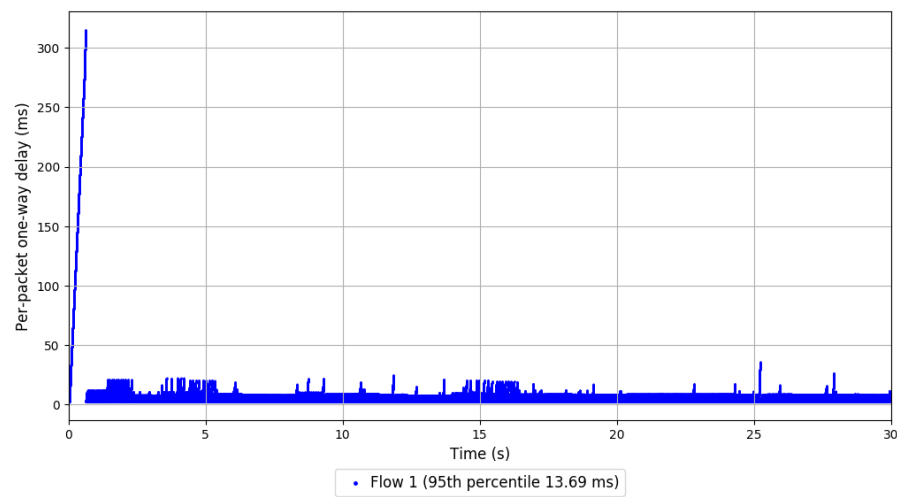
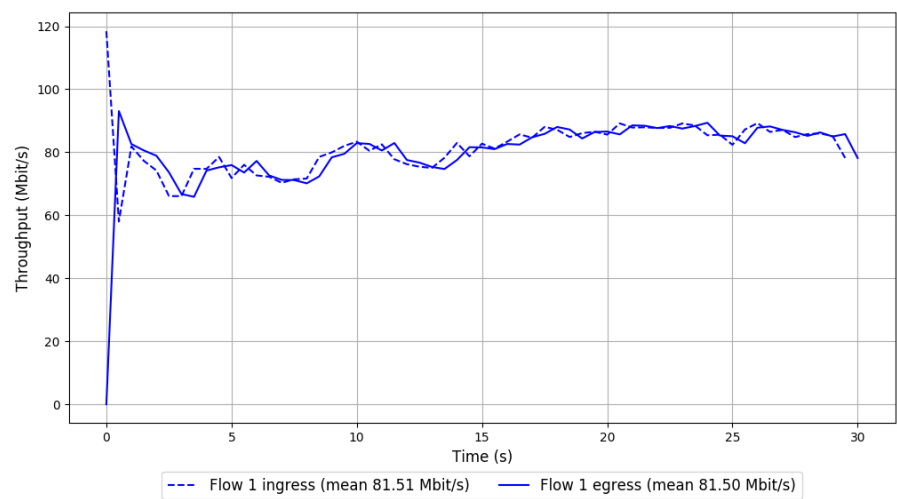
-- Flow 1:

Average throughput: 81.50 Mbit/s

95th percentile per-packet one-way delay: 13.685 ms

Loss rate: 0.02%

Run 4: Report of Verus — Data Link



Run 5: Statistics of Verus

Start at: 2018-09-07 20:57:48

End at: 2018-09-07 20:58:18

Local clock offset: -2.762 ms

Remote clock offset: 1.008 ms

Below is generated by plot.py at 2018-09-07 21:15:06

Datalink statistics

-- Total of 1 flow:

Average throughput: 67.22 Mbit/s

95th percentile per-packet one-way delay: 17.238 ms

Loss rate: 0.02%

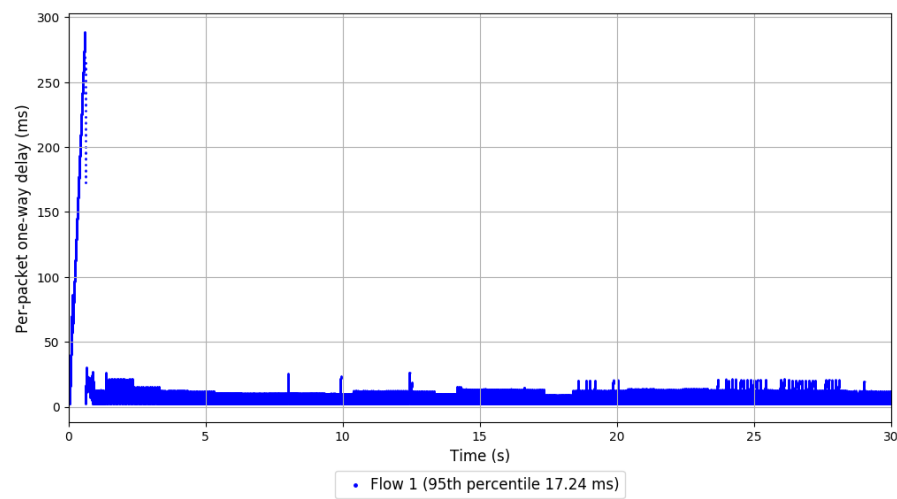
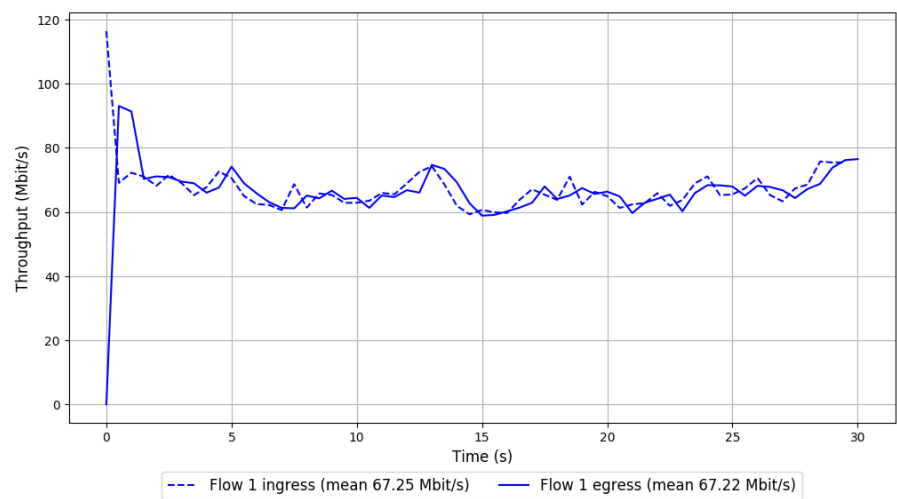
-- Flow 1:

Average throughput: 67.22 Mbit/s

95th percentile per-packet one-way delay: 17.238 ms

Loss rate: 0.02%

Run 5: Report of Verus — Data Link

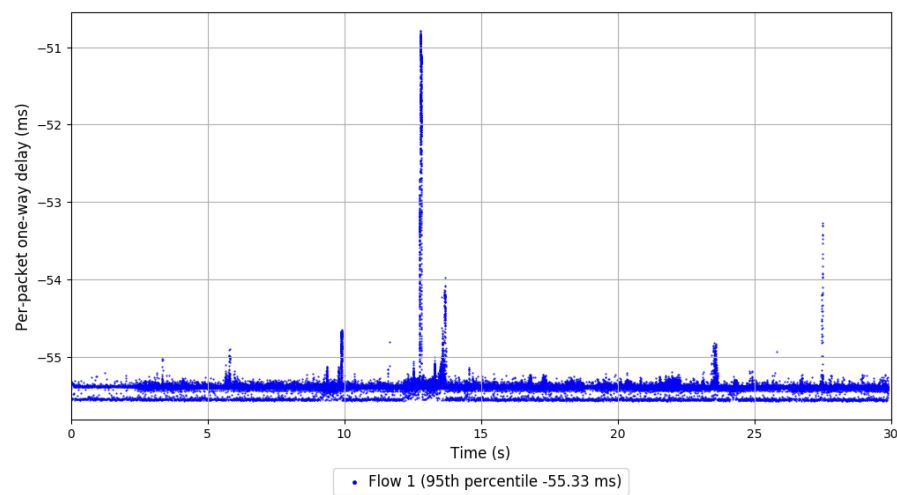
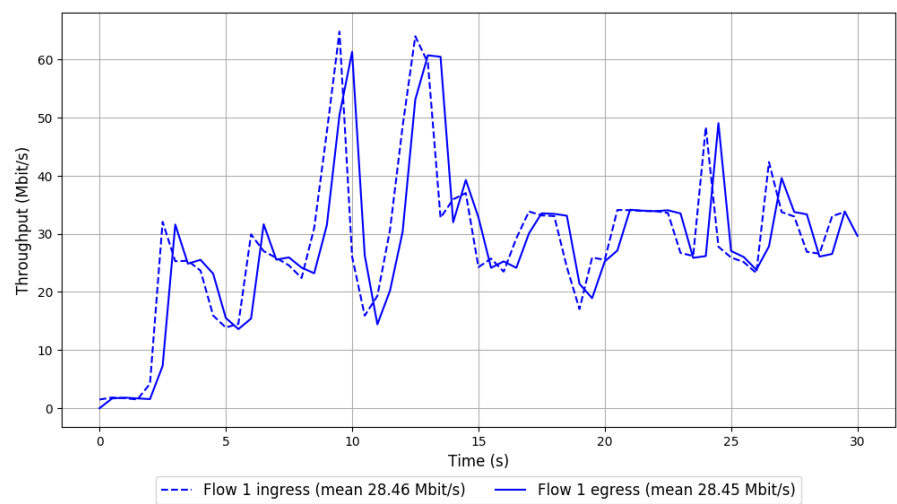


Run 1: Statistics of PCC-Vivace

Start at: 2018-09-07 19:30:45
End at: 2018-09-07 19:31:15
Local clock offset: -57.181 ms
Remote clock offset: 0.063 ms

Below is generated by plot.py at 2018-09-07 21:15:06
Datalink statistics
-- Total of 1 flow:
Average throughput: 28.45 Mbit/s
95th percentile per-packet one-way delay: -55.332 ms
Loss rate: 0.02%
-- Flow 1:
Average throughput: 28.45 Mbit/s
95th percentile per-packet one-way delay: -55.332 ms
Loss rate: 0.02%

Run 1: Report of PCC-Vivace — Data Link



Run 2: Statistics of PCC-Vivace

Start at: 2018-09-07 19:51:01

End at: 2018-09-07 19:51:31

Local clock offset: 0.248 ms

Remote clock offset: 0.405 ms

Below is generated by plot.py at 2018-09-07 21:15:14

Datalink statistics

-- Total of 1 flow:

Average throughput: 89.08 Mbit/s

95th percentile per-packet one-way delay: 1.568 ms

Loss rate: 0.02%

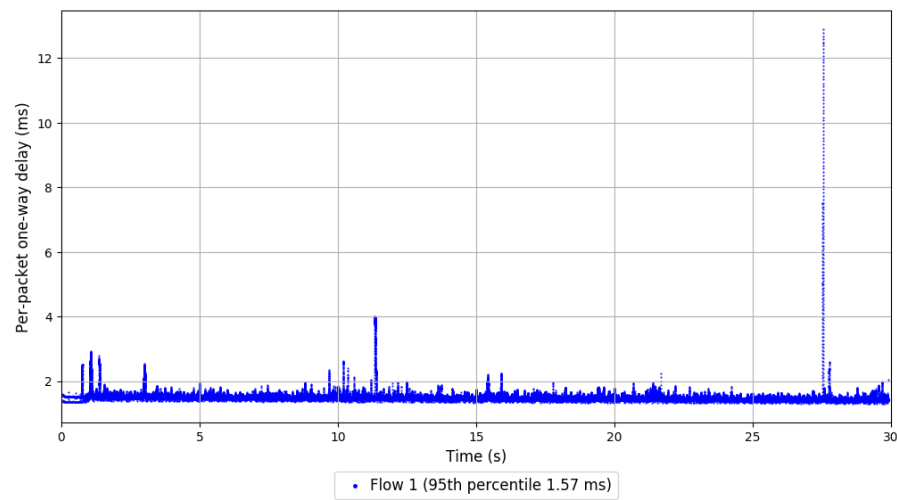
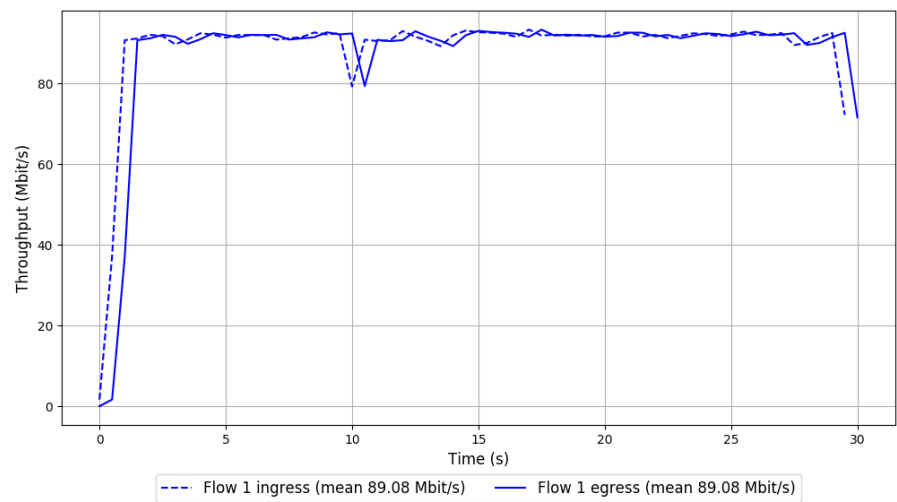
-- Flow 1:

Average throughput: 89.08 Mbit/s

95th percentile per-packet one-way delay: 1.568 ms

Loss rate: 0.02%

Run 2: Report of PCC-Vivace — Data Link



Run 3: Statistics of PCC-Vivace

Start at: 2018-09-07 20:11:23

End at: 2018-09-07 20:11:53

Local clock offset: 3.345 ms

Remote clock offset: 0.699 ms

Below is generated by plot.py at 2018-09-07 21:15:14

Datalink statistics

-- Total of 1 flow:

Average throughput: 18.14 Mbit/s

95th percentile per-packet one-way delay: 2.314 ms

Loss rate: 0.01%

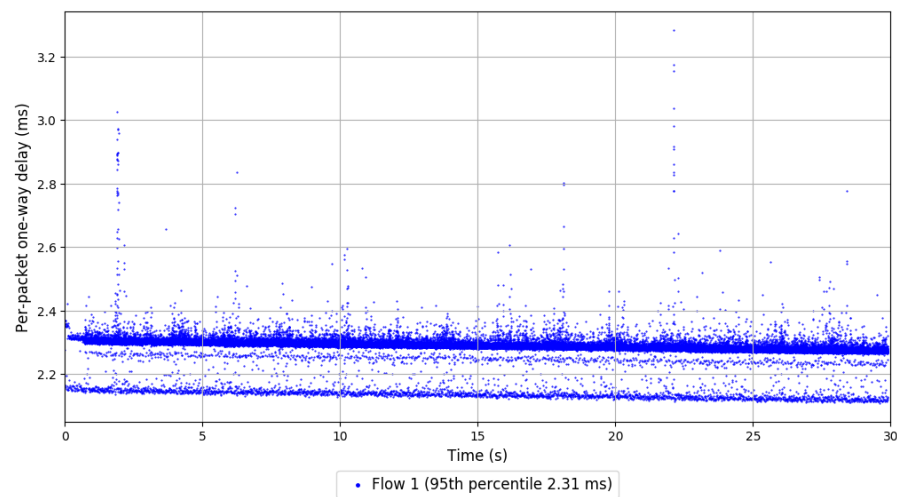
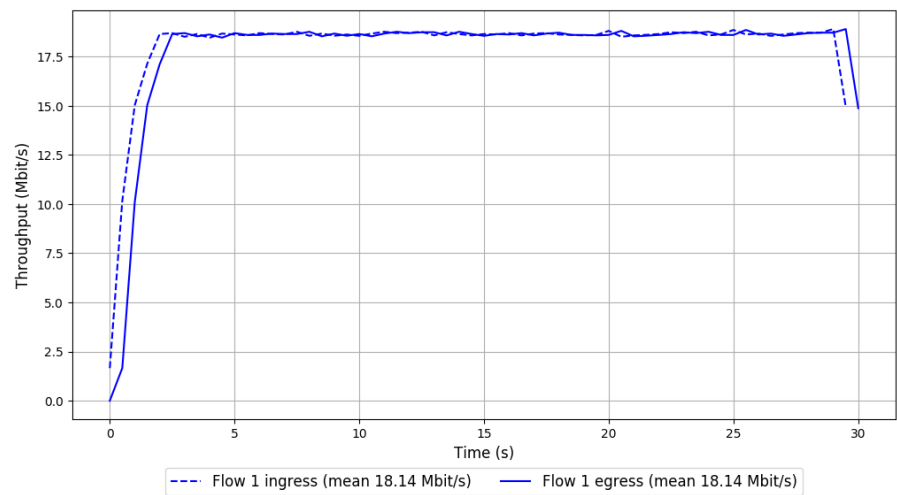
-- Flow 1:

Average throughput: 18.14 Mbit/s

95th percentile per-packet one-way delay: 2.314 ms

Loss rate: 0.01%

Run 3: Report of PCC-Vivace — Data Link



Run 4: Statistics of PCC-Vivace

Start at: 2018-09-07 20:31:41

End at: 2018-09-07 20:32:12

Local clock offset: 1.219 ms

Remote clock offset: 0.924 ms

Below is generated by plot.py at 2018-09-07 21:15:17

Datalink statistics

-- Total of 1 flow:

Average throughput: 83.98 Mbit/s

95th percentile per-packet one-way delay: 2.473 ms

Loss rate: 0.01%

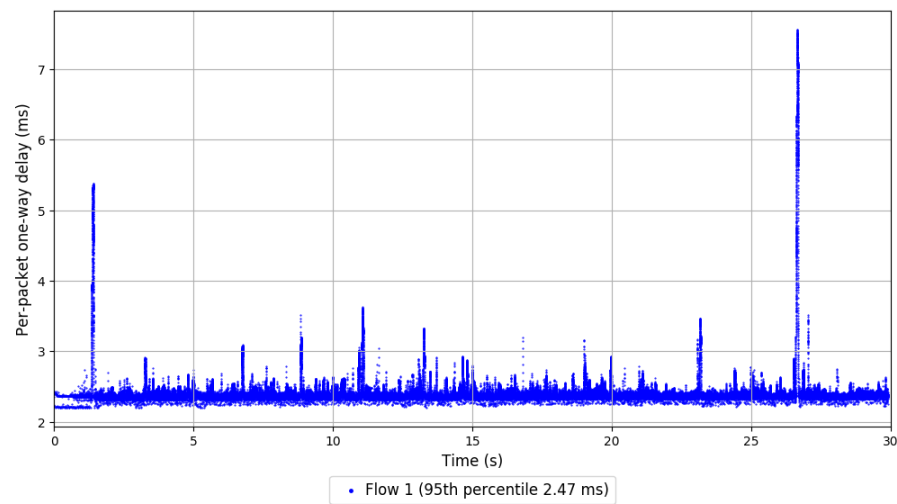
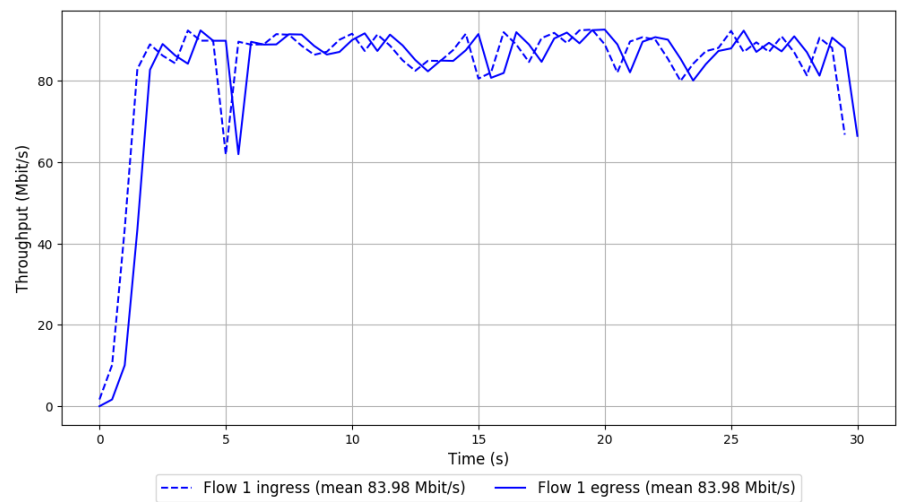
-- Flow 1:

Average throughput: 83.98 Mbit/s

95th percentile per-packet one-way delay: 2.473 ms

Loss rate: 0.01%

Run 4: Report of PCC-Vivace — Data Link



Run 5: Statistics of PCC-Vivace

Start at: 2018-09-07 20:52:04

End at: 2018-09-07 20:52:34

Local clock offset: -2.367 ms

Remote clock offset: 0.941 ms

Below is generated by plot.py at 2018-09-07 21:15:18

Datalink statistics

-- Total of 1 flow:

Average throughput: 89.10 Mbit/s

95th percentile per-packet one-way delay: 1.842 ms

Loss rate: 0.02%

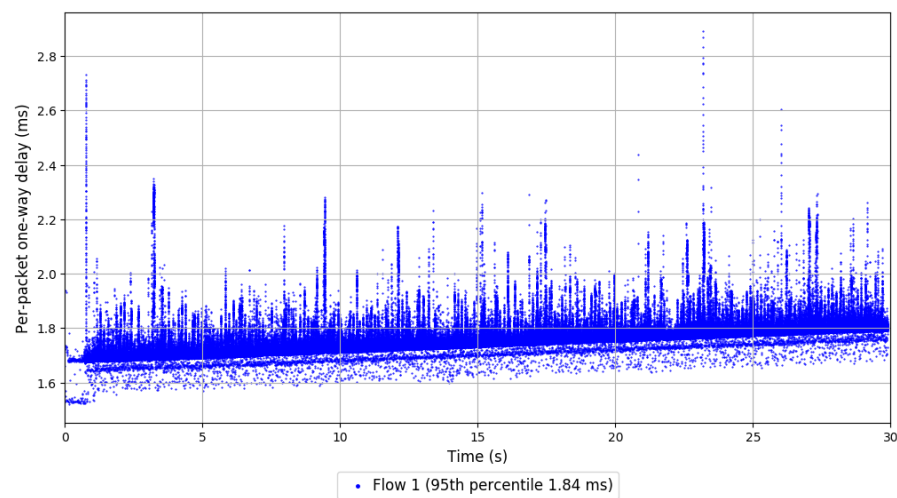
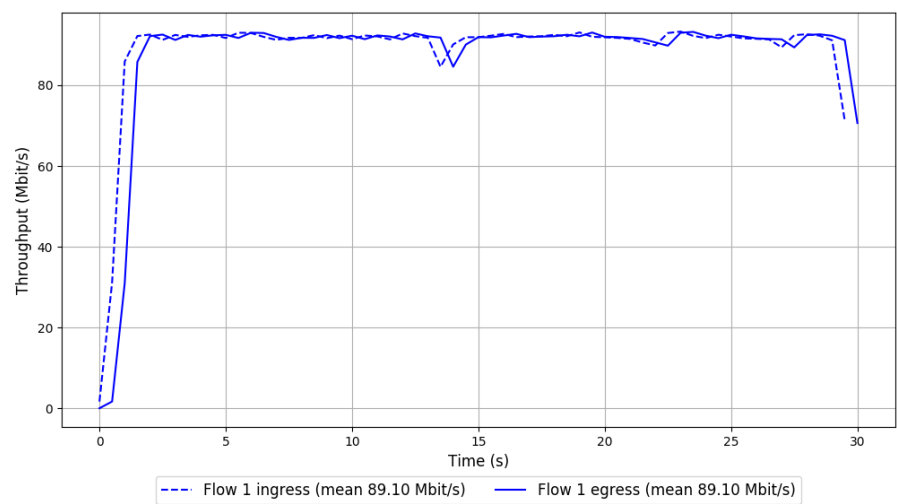
-- Flow 1:

Average throughput: 89.10 Mbit/s

95th percentile per-packet one-way delay: 1.842 ms

Loss rate: 0.02%

Run 5: Report of PCC-Vivace — Data Link



Run 1: Statistics of WebRTC media

Start at: 2018-09-07 19:37:31

End at: 2018-09-07 19:38:01

Local clock offset: -0.76 ms

Remote clock offset: 0.131 ms

Below is generated by plot.py at 2018-09-07 21:15:18

Datalink statistics

-- Total of 1 flow:

Average throughput: 2.34 Mbit/s

95th percentile per-packet one-way delay: 2.899 ms

Loss rate: 0.00%

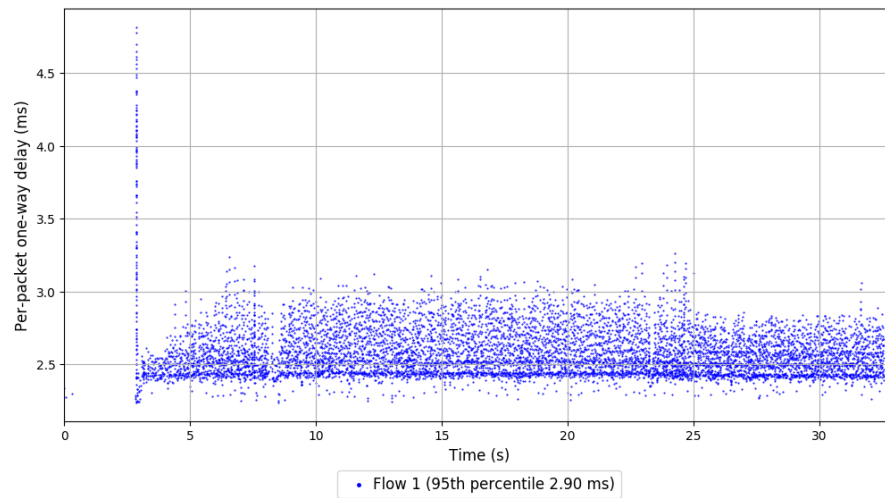
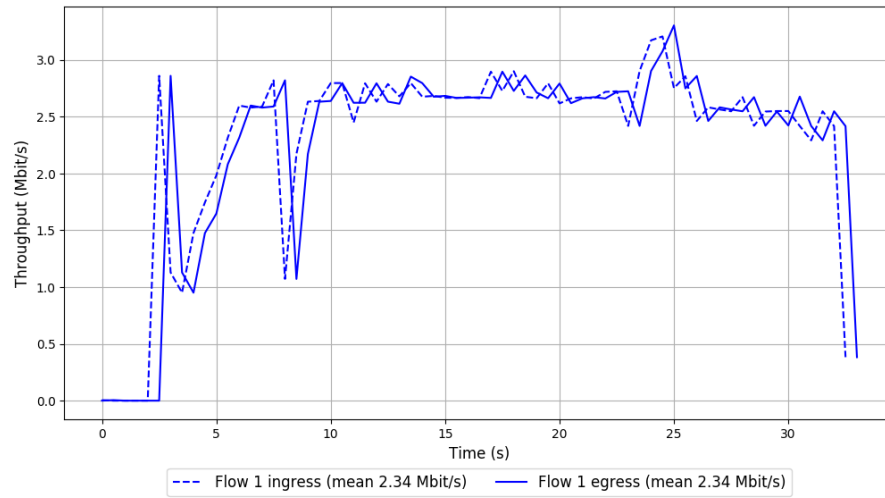
-- Flow 1:

Average throughput: 2.34 Mbit/s

95th percentile per-packet one-way delay: 2.899 ms

Loss rate: 0.00%

Run 1: Report of WebRTC media — Data Link



Run 2: Statistics of WebRTC media

Start at: 2018-09-07 19:57:52

End at: 2018-09-07 19:58:22

Local clock offset: 2.107 ms

Remote clock offset: 0.439 ms

Below is generated by plot.py at 2018-09-07 21:15:18

Datalink statistics

-- Total of 1 flow:

Average throughput: 2.35 Mbit/s

95th percentile per-packet one-way delay: 2.793 ms

Loss rate: 0.00%

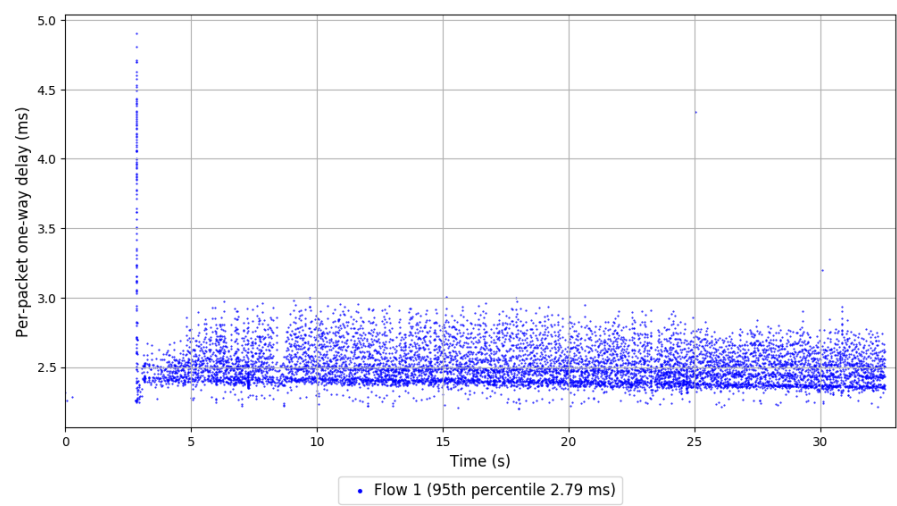
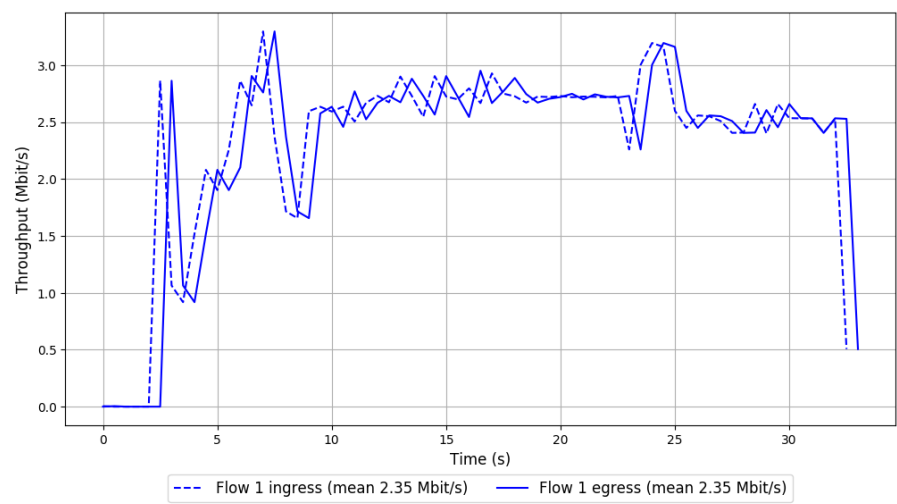
-- Flow 1:

Average throughput: 2.35 Mbit/s

95th percentile per-packet one-way delay: 2.793 ms

Loss rate: 0.00%

Run 2: Report of WebRTC media — Data Link



Run 3: Statistics of WebRTC media

Start at: 2018-09-07 20:18:11

End at: 2018-09-07 20:18:41

Local clock offset: 2.706 ms

Remote clock offset: 0.775 ms

Below is generated by plot.py at 2018-09-07 21:15:18

Datalink statistics

-- Total of 1 flow:

Average throughput: 2.35 Mbit/s

95th percentile per-packet one-way delay: 2.974 ms

Loss rate: 0.00%

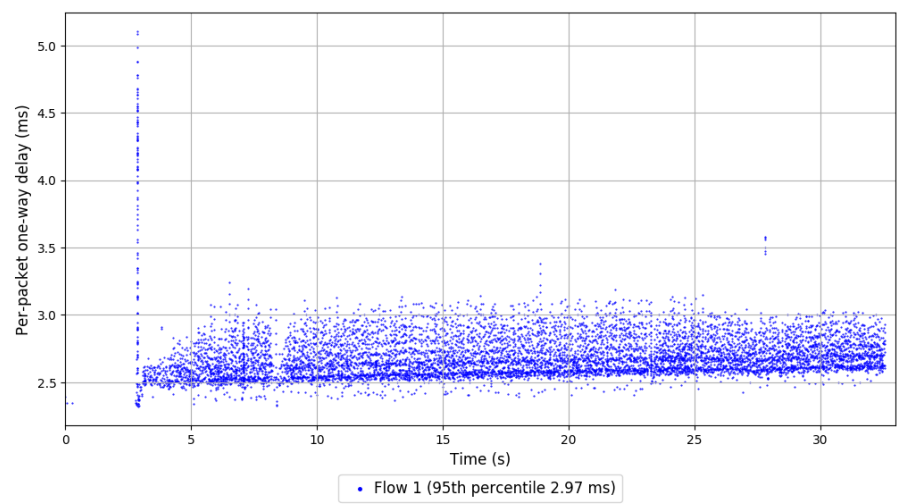
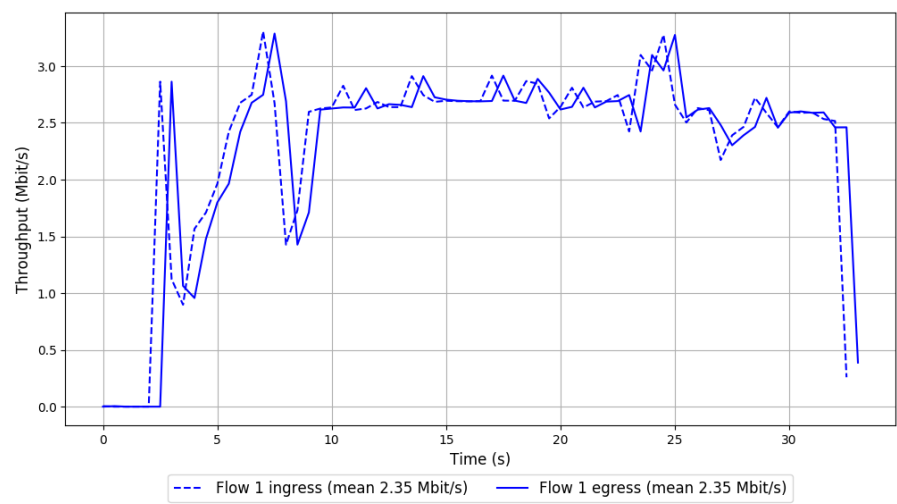
-- Flow 1:

Average throughput: 2.35 Mbit/s

95th percentile per-packet one-way delay: 2.974 ms

Loss rate: 0.00%

Run 3: Report of WebRTC media — Data Link



Run 4: Statistics of WebRTC media

Start at: 2018-09-07 20:38:33

End at: 2018-09-07 20:39:03

Local clock offset: 1.027 ms

Remote clock offset: 0.965 ms

Below is generated by plot.py at 2018-09-07 21:15:18

Datalink statistics

-- Total of 1 flow:

Average throughput: 2.34 Mbit/s

95th percentile per-packet one-way delay: 2.762 ms

Loss rate: 0.07%

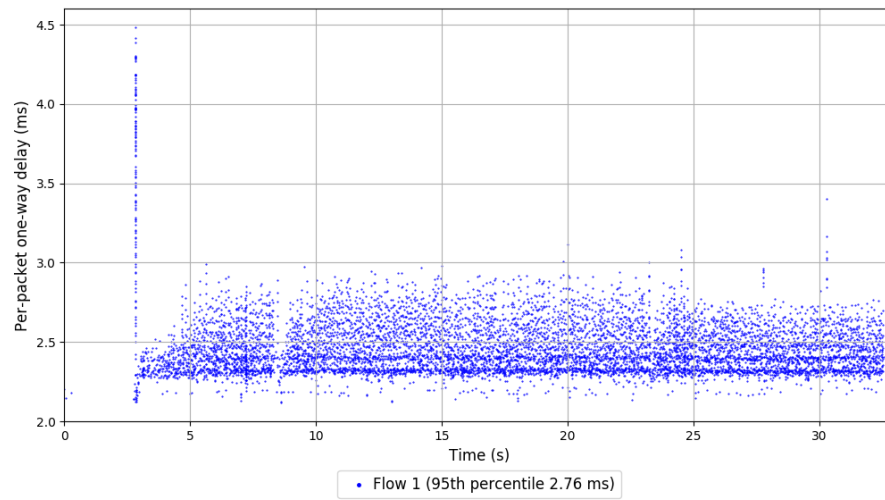
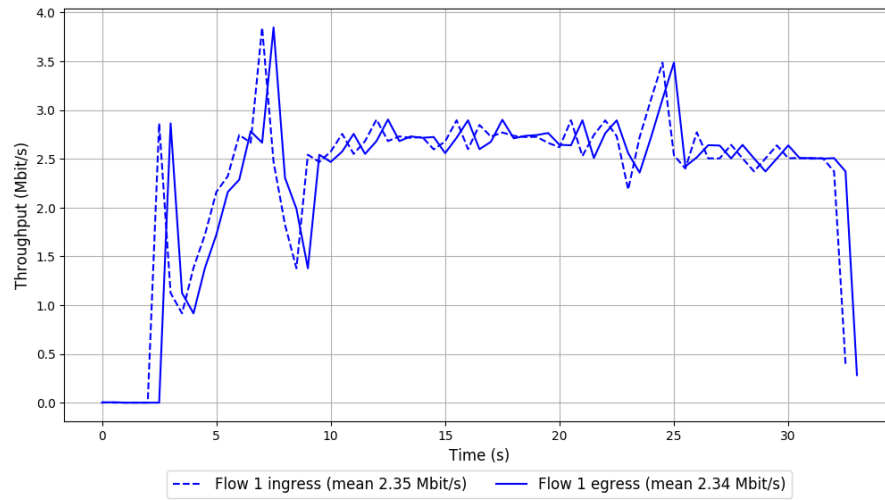
-- Flow 1:

Average throughput: 2.34 Mbit/s

95th percentile per-packet one-way delay: 2.762 ms

Loss rate: 0.07%

Run 4: Report of WebRTC media — Data Link



Run 5: Statistics of WebRTC media

Start at: 2018-09-07 20:58:55

End at: 2018-09-07 20:59:25

Local clock offset: -3.599 ms

Remote clock offset: 0.971 ms

Below is generated by plot.py at 2018-09-07 21:15:18

Datalink statistics

-- Total of 1 flow:

Average throughput: 2.34 Mbit/s

95th percentile per-packet one-way delay: 2.203 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 2.34 Mbit/s

95th percentile per-packet one-way delay: 2.203 ms

Loss rate: 0.00%

Run 5: Report of WebRTC media — Data Link

