

Pantheon Report

Generated at 2018-09-11 20:02:22 (UTC).

Data path: GCE Iowa on *ens4 (remote)* → GCE London on *ens4 (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 `time.google.com` and have been applied to correct the timestamps in logs.

System info:

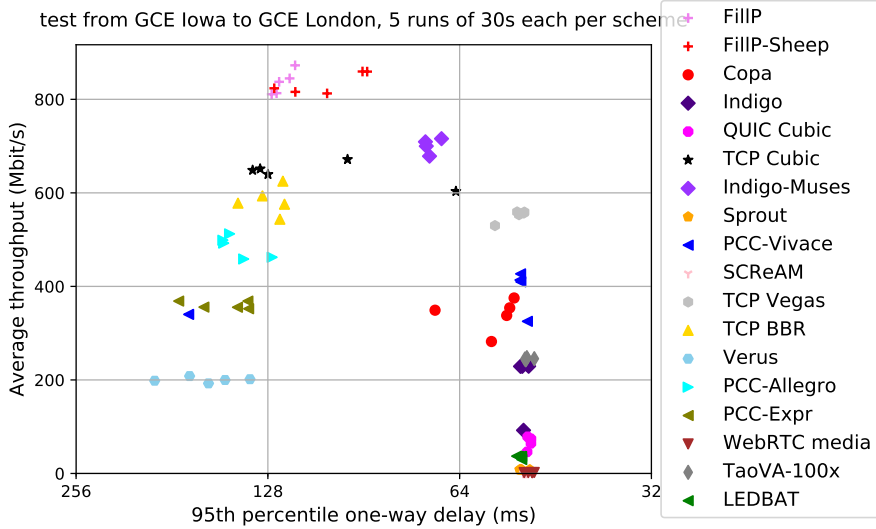
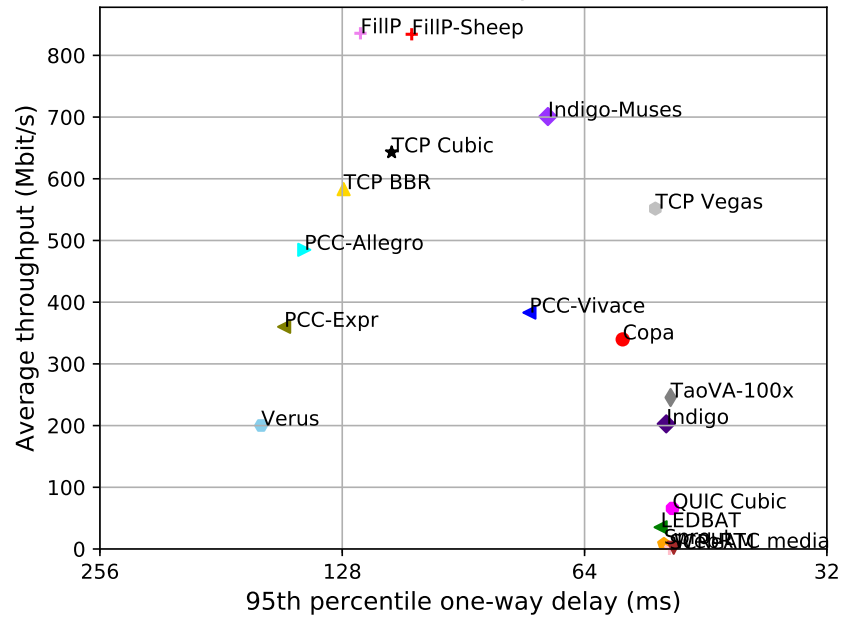
```
Linux 4.15.0-1018-gcp
net.core.default_qdisc = fq
net.core.rmem_default = 16777216
net.core.rmem_max = 536870912
net.core.wmem_default = 16777216
net.core.wmem_max = 536870912
net.ipv4.tcp_rmem = 4096 16777216 536870912
net.ipv4.tcp_wmem = 4096 16777216 536870912
net.ipv4.tcp_mem = 190986 254651 381972
```

Git summary:

```
branch: muses @ f30bceca2aec2ef14a3cf71e25642f4a30905a03
third_party/fillp @ d47f4fa1b454a5e3c0537115c5a28436dbd4b834
third_party/fillp-sheep @ daed0c84f98531712514b2231f43ec6901114ffe
third_party/genericCC @ d0153f8e594aa89e93b032143cedbdf58e562f4
third_party/indigo @ 2601c92e4aa9d58d38dc4dfe0ecd90c077e64d
third_party/libutp @ b3465b942e2826f2b179eaab4a906ce6bb7cf3cf
third_party/muses @ 65ac1b19bbefed0c6349ae986009b4fa8643c40a
third_party/pantheon-tunnel @ cbfce6db5ff5740dafa1771f813cd646339e1952
third_party/pcc @ 1afc958fa0d66d18b623c091a55fec872b4981e1
M receiver/src/buffer.h
M receiver/src/core.cpp
M sender/src/buffer.h
M sender/src/core.cpp
third_party/pcc-experimental @ cd43e34e3f5f5613e8acd08fab92c4eb24f974ab
third_party/proto-quick @ 77961f1a82733a86b42f1bc8143ebc978f3cff42
third_party/scream-reproduce @ f099118d1421aa3131bf11ff1964974e1da3bdb2
M src/ScreamClient
M src/ScreamServer
third_party/sprout @ 366e35c6178b01e31d4a46ad18c74f9415f19a26
M src/examples/cellsim.cc
M src/examples/sproutbt2.cc
M src/network/sproutconn.cc
third_party/verus @ d4b447ea74c6c60a261149af2629562939f9a494
M src/verus.hpp
M tools/plot.py
```

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

test from GCE Iowa to GCE London, 5 runs of 30s each per scheme
(mean of all runs by scheme)



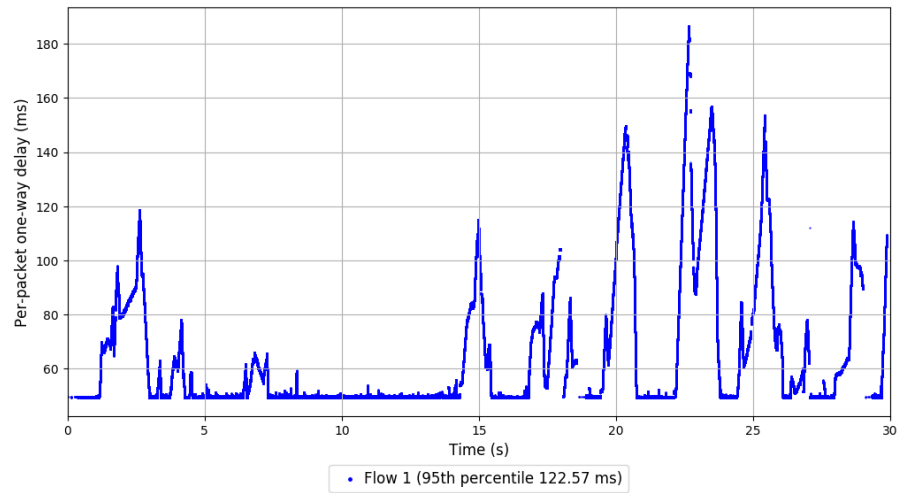
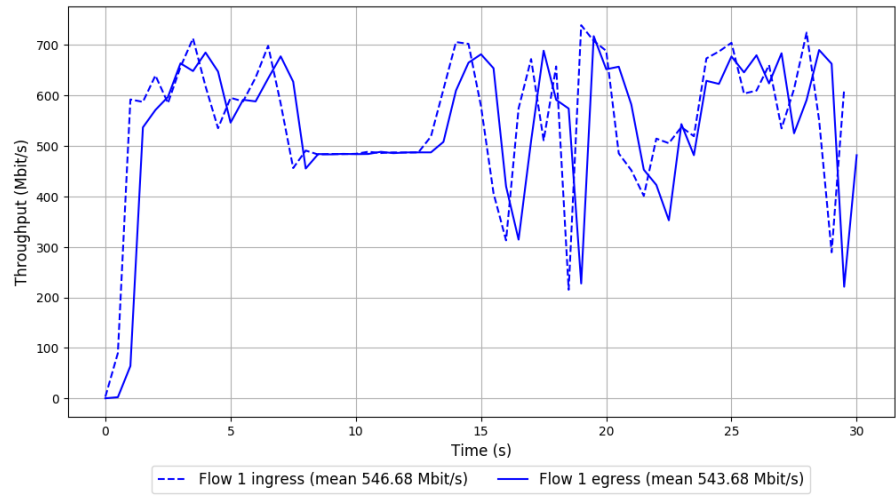
scheme	# runs	mean avg tput (Mbit/s) flow 1	mean 95th-%ile delay (ms) flow 1	mean loss rate (%) flow 1
TCP BBR	5	583.21	127.50	0.81
Copa	5	339.69	57.39	0.33
TCP Cubic	5	642.86	111.14	0.45
FillP	5	835.78	121.50	3.44
FillP-Sheep	5	834.19	104.93	1.01
Indigo	5	202.77	50.67	0.36
LEDBAT	5	35.23	51.49	0.59
Indigo-Muses	4	700.86	71.08	0.36
PCC-Allegro	5	484.89	142.68	1.24
PCC-Expr	5	360.08	151.15	2.63
QUIC Cubic	4	65.77	49.78	0.43
SCReAM	5	0.22	50.21	0.33
Sprout	5	8.18	51.01	0.30
TaoVA-100x	5	245.50	50.04	0.35
TCP Vegas	5	551.65	52.27	0.31
Verus	5	200.13	161.42	1.69
PCC-Vivace	5	383.12	74.94	0.44
WebRTC media	5	1.89	49.59	0.43

Run 1: Statistics of TCP BBR

Start at: 2018-09-11 16:17:59
End at: 2018-09-11 16:18:29
Local clock offset: -0.086 ms
Remote clock offset: -0.139 ms

Below is generated by plot.py at 2018-09-11 18:42:32
Datalink statistics
-- Total of 1 flow:
Average throughput: 543.68 Mbit/s
95th percentile per-packet one-way delay: 122.568 ms
Loss rate: 0.89%
-- Flow 1:
Average throughput: 543.68 Mbit/s
95th percentile per-packet one-way delay: 122.568 ms
Loss rate: 0.89%

Run 1: Report of TCP BBR — Data Link

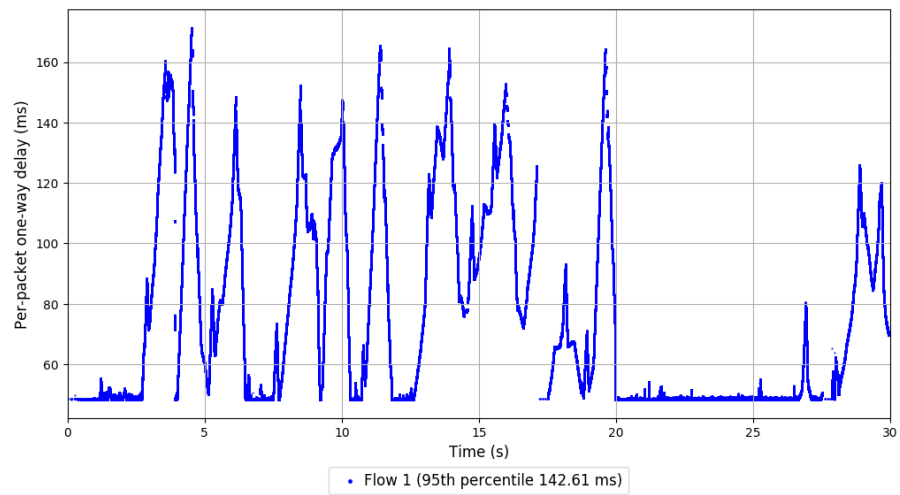
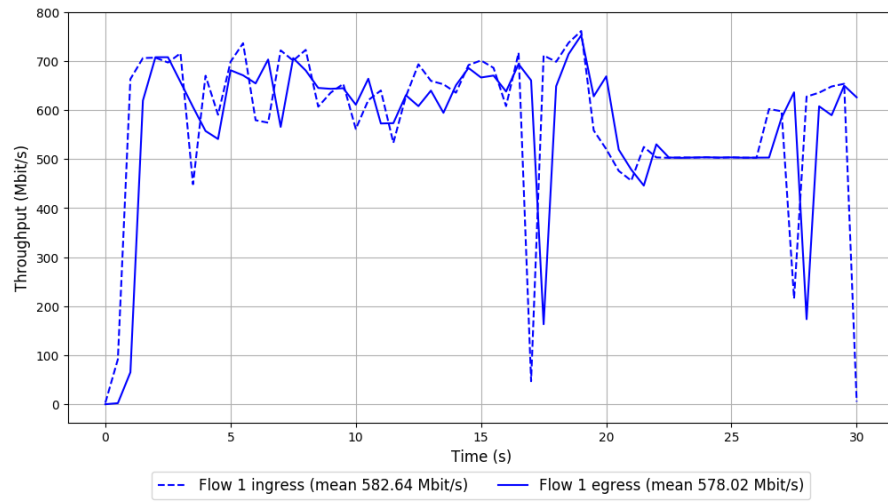


Run 2: Statistics of TCP BBR

Start at: 2018-09-11 16:43:18
End at: 2018-09-11 16:43:48
Local clock offset: -0.459 ms
Remote clock offset: -0.149 ms

Below is generated by plot.py at 2018-09-11 18:42:52
Datalink statistics
-- Total of 1 flow:
Average throughput: 578.02 Mbit/s
95th percentile per-packet one-way delay: 142.608 ms
Loss rate: 1.12%
-- Flow 1:
Average throughput: 578.02 Mbit/s
95th percentile per-packet one-way delay: 142.608 ms
Loss rate: 1.12%

Run 2: Report of TCP BBR — Data Link



Run 3: Statistics of TCP BBR

Start at: 2018-09-11 17:09:25

End at: 2018-09-11 17:09:55

Local clock offset: 0.254 ms

Remote clock offset: -0.004 ms

Below is generated by plot.py at 2018-09-11 18:43:02

Datalink statistics

-- Total of 1 flow:

Average throughput: 593.52 Mbit/s

95th percentile per-packet one-way delay: 130.535 ms

Loss rate: 0.53%

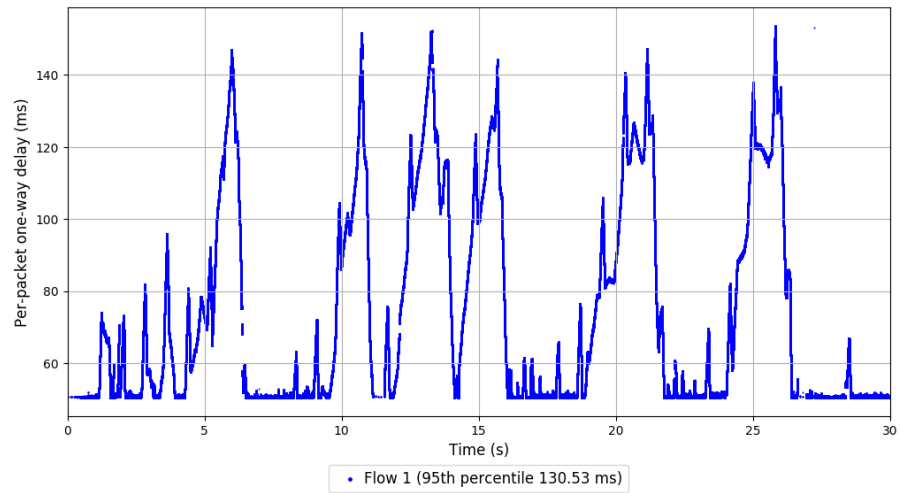
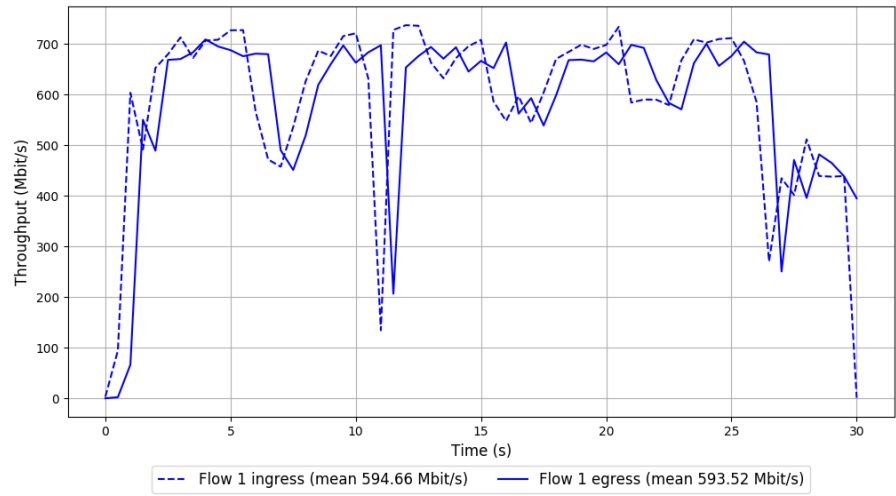
-- Flow 1:

Average throughput: 593.52 Mbit/s

95th percentile per-packet one-way delay: 130.535 ms

Loss rate: 0.53%

Run 3: Report of TCP BBR — Data Link

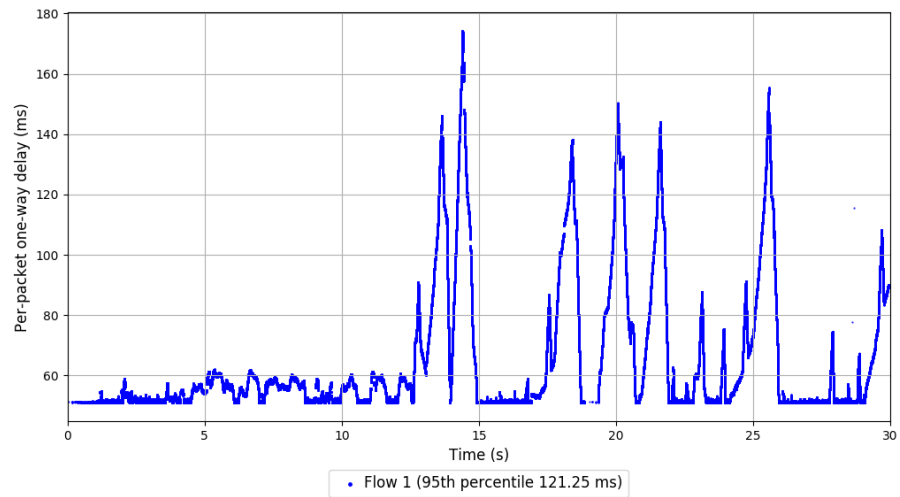
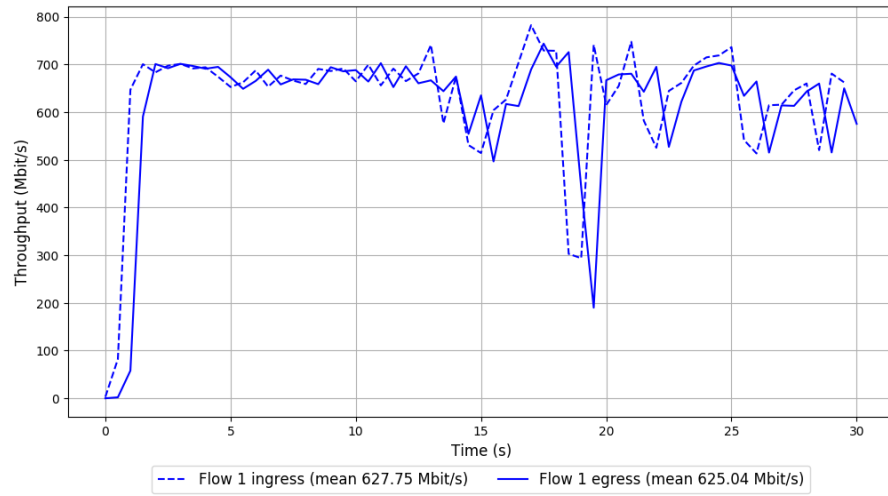


Run 4: Statistics of TCP BBR

Start at: 2018-09-11 17:35:27
End at: 2018-09-11 17:35:57
Local clock offset: 0.234 ms
Remote clock offset: -0.036 ms

Below is generated by plot.py at 2018-09-11 18:43:23
Datalink statistics
-- Total of 1 flow:
Average throughput: 625.04 Mbit/s
95th percentile per-packet one-way delay: 121.246 ms
Loss rate: 0.77%
-- Flow 1:
Average throughput: 625.04 Mbit/s
95th percentile per-packet one-way delay: 121.246 ms
Loss rate: 0.77%

Run 4: Report of TCP BBR — Data Link

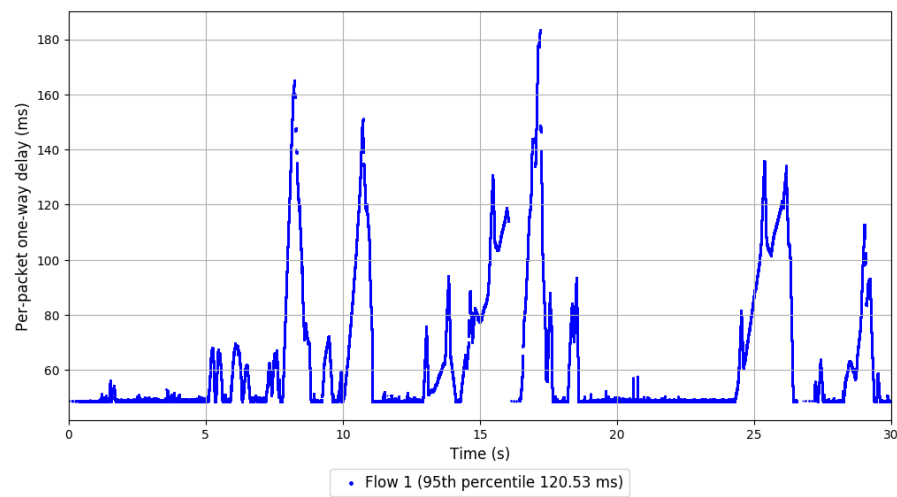
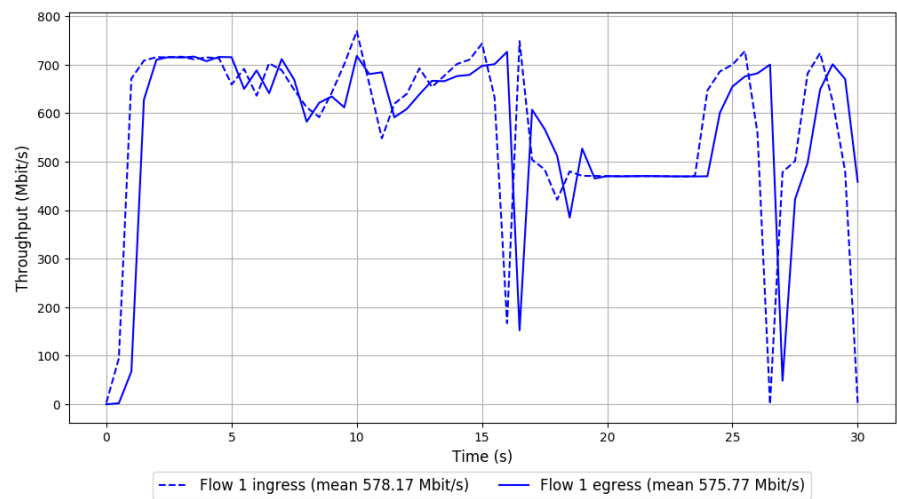


Run 5: Statistics of TCP BBR

Start at: 2018-09-11 18:01:19
End at: 2018-09-11 18:01:49
Local clock offset: -0.127 ms
Remote clock offset: -0.087 ms

Below is generated by plot.py at 2018-09-11 18:43:23
Datalink statistics
-- Total of 1 flow:
Average throughput: 575.77 Mbit/s
95th percentile per-packet one-way delay: 120.532 ms
Loss rate: 0.74%
-- Flow 1:
Average throughput: 575.77 Mbit/s
95th percentile per-packet one-way delay: 120.532 ms
Loss rate: 0.74%

Run 5: Report of TCP BBR — Data Link

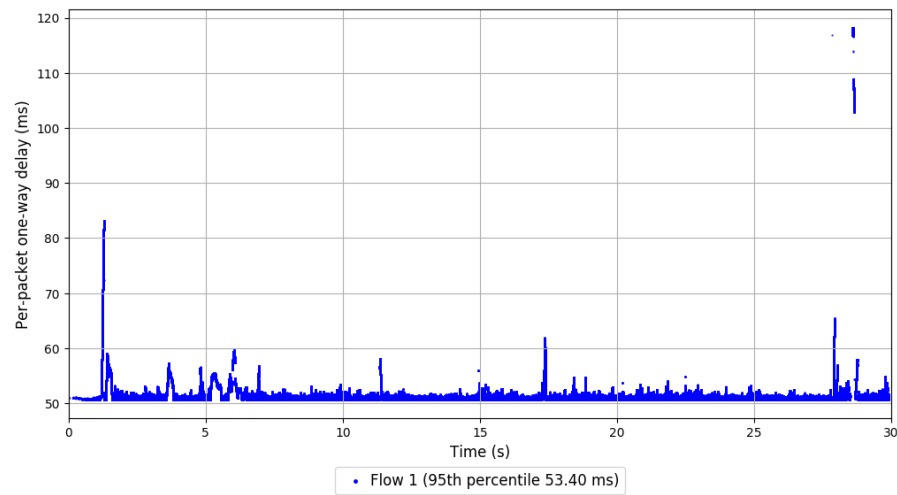
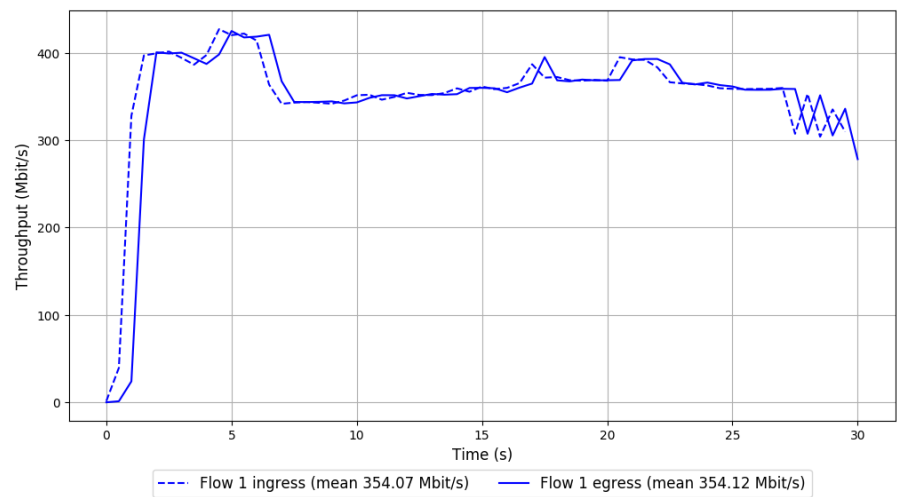


Run 1: Statistics of Copa

Start at: 2018-09-11 16:34:30
End at: 2018-09-11 16:35:00
Local clock offset: -0.106 ms
Remote clock offset: -0.153 ms

Below is generated by plot.py at 2018-09-11 18:43:50
Datalink statistics
-- Total of 1 flow:
Average throughput: 354.12 Mbit/s
95th percentile per-packet one-way delay: 53.404 ms
Loss rate: 0.32%
-- Flow 1:
Average throughput: 354.12 Mbit/s
95th percentile per-packet one-way delay: 53.404 ms
Loss rate: 0.32%

Run 1: Report of Copa — Data Link

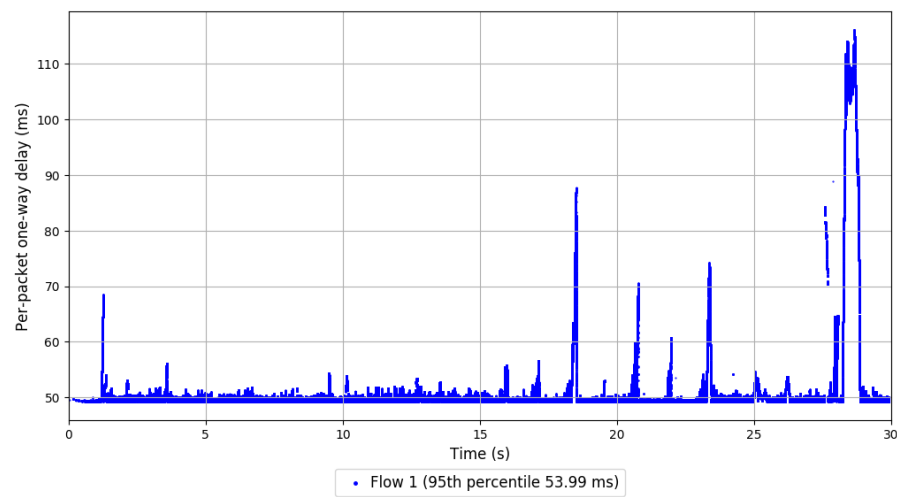
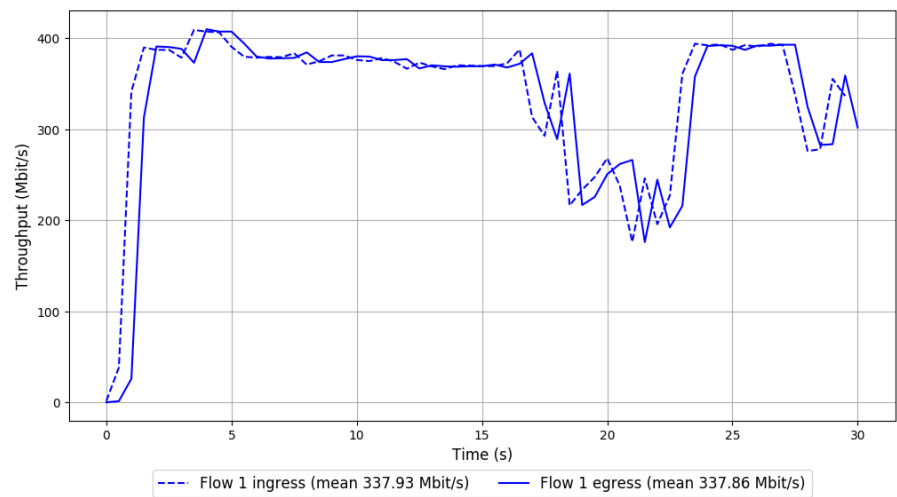


Run 2: Statistics of Copa

Start at: 2018-09-11 17:00:43
End at: 2018-09-11 17:01:13
Local clock offset: -0.086 ms
Remote clock offset: -0.032 ms

Below is generated by plot.py at 2018-09-11 18:43:50
Datalink statistics
-- Total of 1 flow:
Average throughput: 337.86 Mbit/s
95th percentile per-packet one-way delay: 53.994 ms
Loss rate: 0.35%
-- Flow 1:
Average throughput: 337.86 Mbit/s
95th percentile per-packet one-way delay: 53.994 ms
Loss rate: 0.35%

Run 2: Report of Copa — Data Link

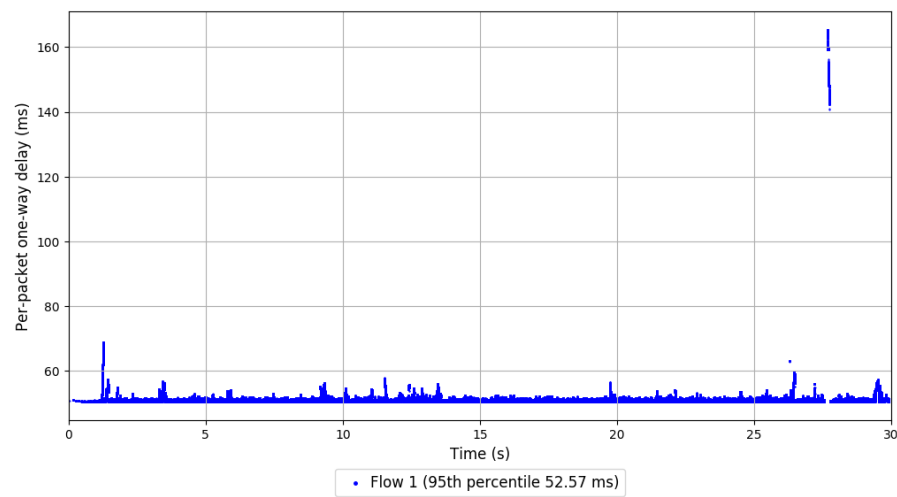
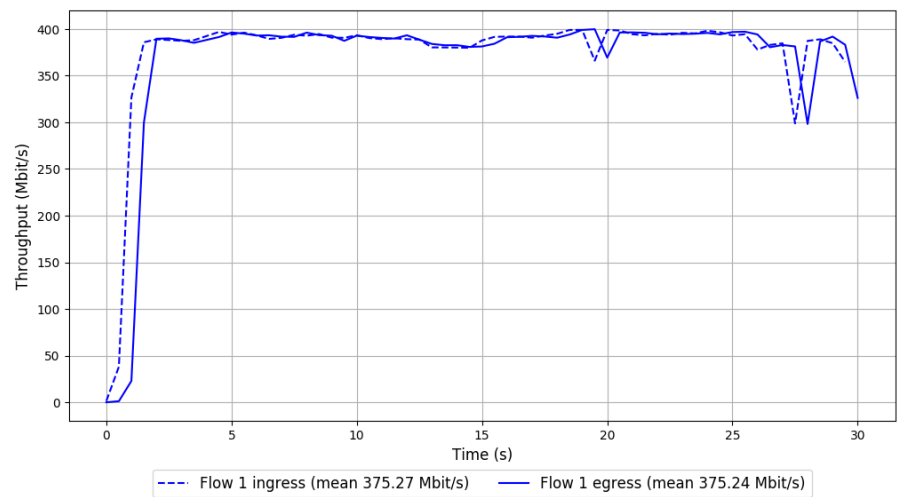


Run 3: Statistics of Copa

Start at: 2018-09-11 17:26:40
End at: 2018-09-11 17:27:10
Local clock offset: -0.073 ms
Remote clock offset: 0.061 ms

Below is generated by plot.py at 2018-09-11 18:44:29
Datalink statistics
-- Total of 1 flow:
Average throughput: 375.24 Mbit/s
95th percentile per-packet one-way delay: 52.566 ms
Loss rate: 0.35%
-- Flow 1:
Average throughput: 375.24 Mbit/s
95th percentile per-packet one-way delay: 52.566 ms
Loss rate: 0.35%

Run 3: Report of Copa — Data Link

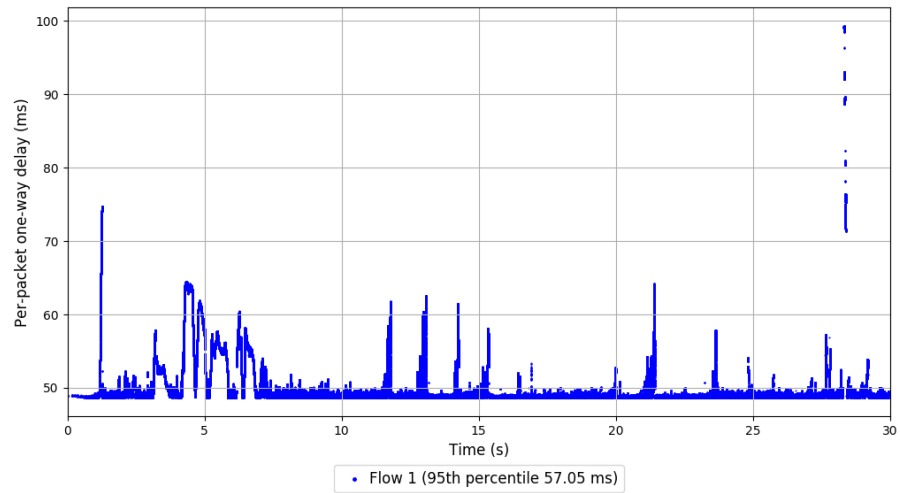
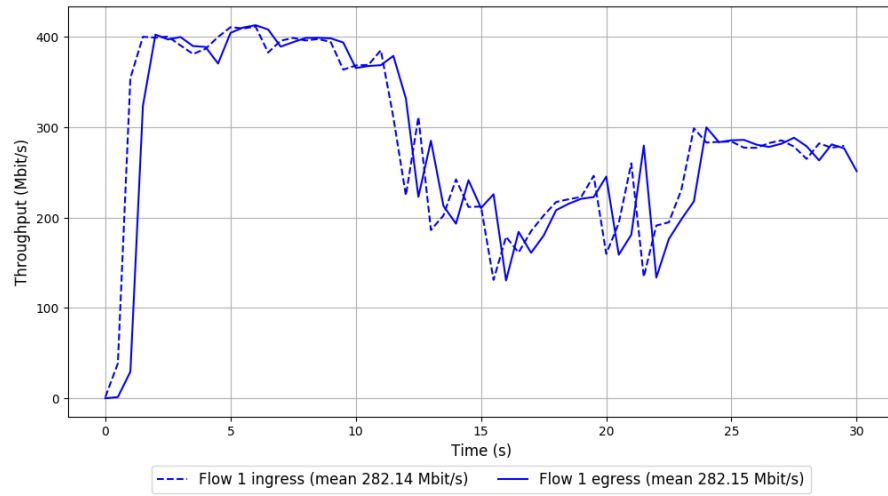


Run 4: Statistics of Copa

Start at: 2018-09-11 17:52:43
End at: 2018-09-11 17:53:13
Local clock offset: -0.062 ms
Remote clock offset: -0.071 ms

Below is generated by plot.py at 2018-09-11 18:51:01
Datalink statistics
-- Total of 1 flow:
Average throughput: 282.15 Mbit/s
95th percentile per-packet one-way delay: 57.050 ms
Loss rate: 0.33%
-- Flow 1:
Average throughput: 282.15 Mbit/s
95th percentile per-packet one-way delay: 57.050 ms
Loss rate: 0.33%

Run 4: Report of Copa — Data Link

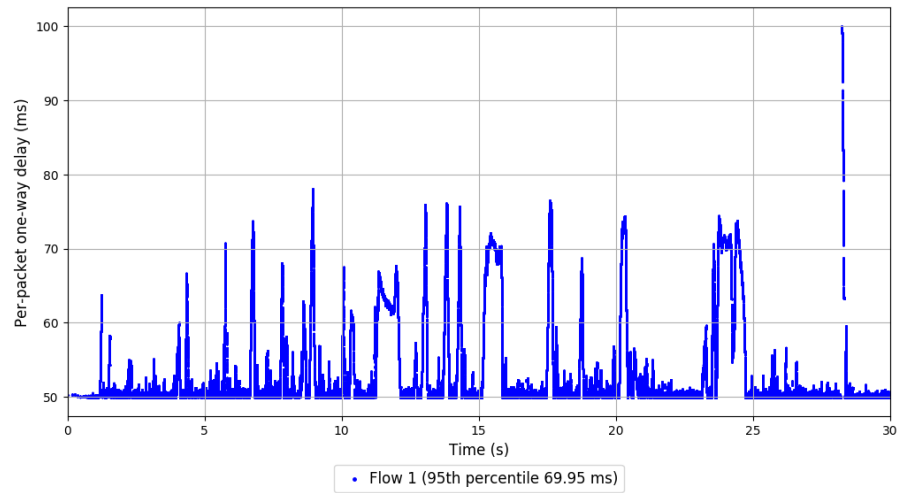
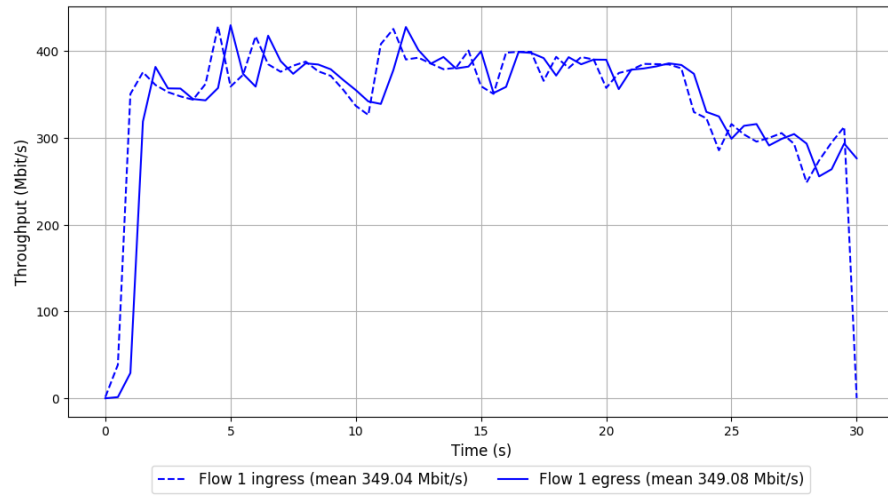


Run 5: Statistics of Copa

Start at: 2018-09-11 18:18:39
End at: 2018-09-11 18:19:09
Local clock offset: -0.1 ms
Remote clock offset: -0.031 ms

Below is generated by plot.py at 2018-09-11 18:53:14
Datalink statistics
-- Total of 1 flow:
Average throughput: 349.08 Mbit/s
95th percentile per-packet one-way delay: 69.949 ms
Loss rate: 0.32%
-- Flow 1:
Average throughput: 349.08 Mbit/s
95th percentile per-packet one-way delay: 69.949 ms
Loss rate: 0.32%

Run 5: Report of Copa — Data Link

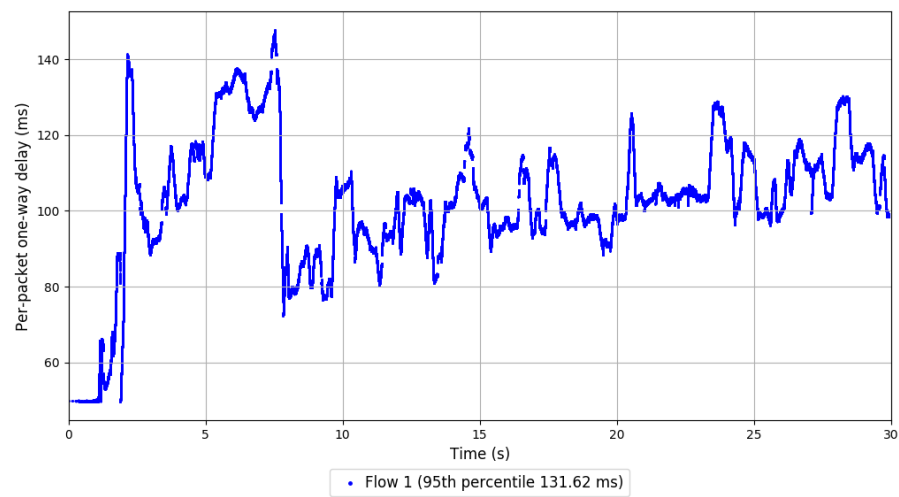
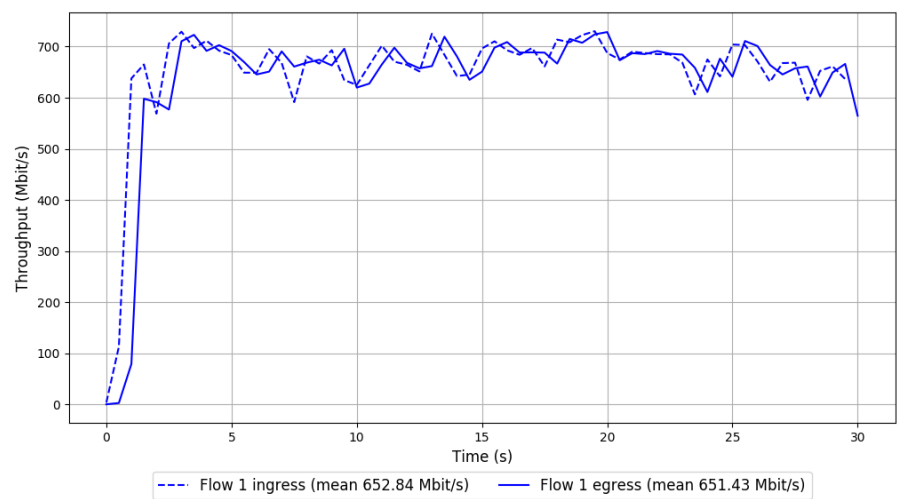


Run 1: Statistics of TCP Cubic

Start at: 2018-09-11 16:15:15
End at: 2018-09-11 16:15:45
Local clock offset: -0.468 ms
Remote clock offset: -0.114 ms

Below is generated by plot.py at 2018-09-11 18:53:19
Datalink statistics
-- Total of 1 flow:
Average throughput: 651.43 Mbit/s
95th percentile per-packet one-way delay: 131.619 ms
Loss rate: 0.55%
-- Flow 1:
Average throughput: 651.43 Mbit/s
95th percentile per-packet one-way delay: 131.619 ms
Loss rate: 0.55%

Run 1: Report of TCP Cubic — Data Link

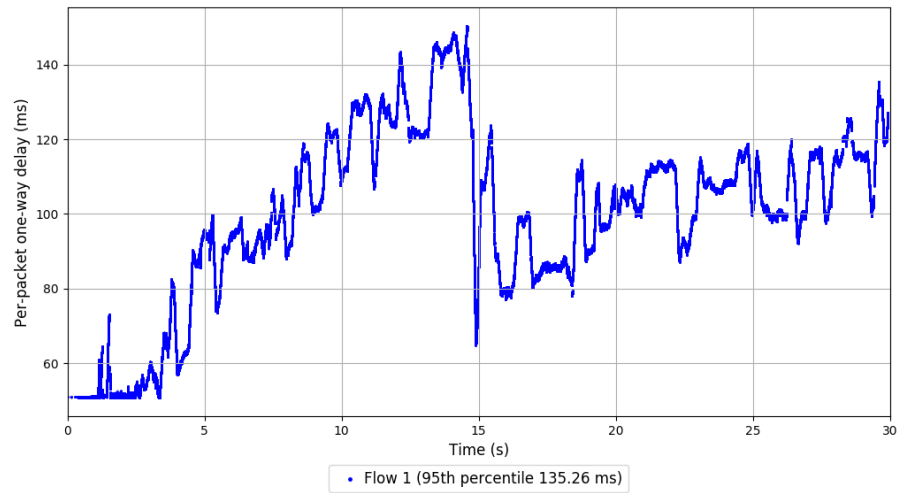
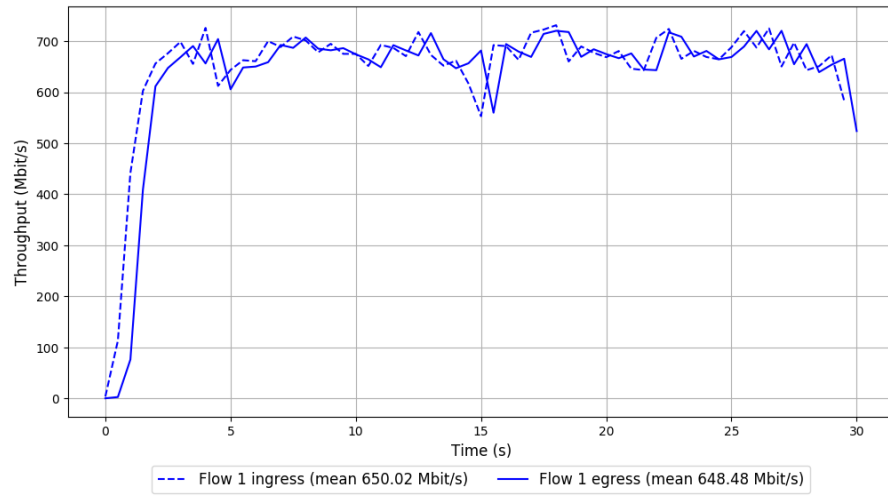


Run 2: Statistics of TCP Cubic

Start at: 2018-09-11 16:40:33
End at: 2018-09-11 16:41:03
Local clock offset: -0.064 ms
Remote clock offset: -0.149 ms

Below is generated by plot.py at 2018-09-11 18:53:26
Datalink statistics
-- Total of 1 flow:
Average throughput: 648.48 Mbit/s
95th percentile per-packet one-way delay: 135.259 ms
Loss rate: 0.57%
-- Flow 1:
Average throughput: 648.48 Mbit/s
95th percentile per-packet one-way delay: 135.259 ms
Loss rate: 0.57%

Run 2: Report of TCP Cubic — Data Link



Run 3: Statistics of TCP Cubic

Start at: 2018-09-11 17:06:41

End at: 2018-09-11 17:07:11

Local clock offset: -0.467 ms

Remote clock offset: 0.006 ms

Below is generated by plot.py at 2018-09-11 18:53:47

Datalink statistics

-- Total of 1 flow:

Average throughput: 639.49 Mbit/s

95th percentile per-packet one-way delay: 127.954 ms

Loss rate: 0.42%

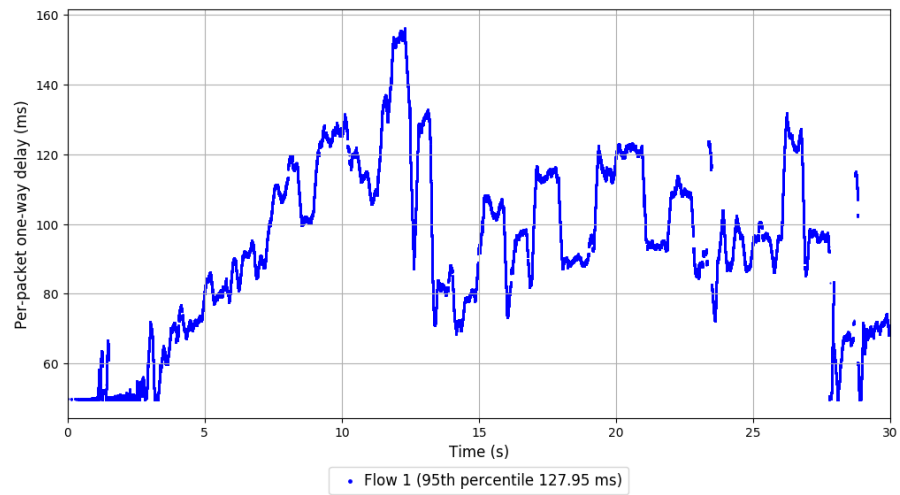
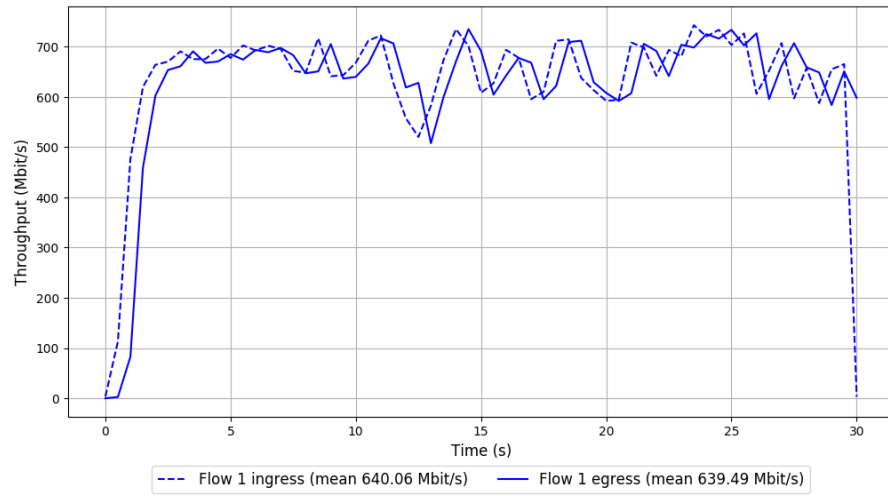
-- Flow 1:

Average throughput: 639.49 Mbit/s

95th percentile per-packet one-way delay: 127.954 ms

Loss rate: 0.42%

Run 3: Report of TCP Cubic — Data Link

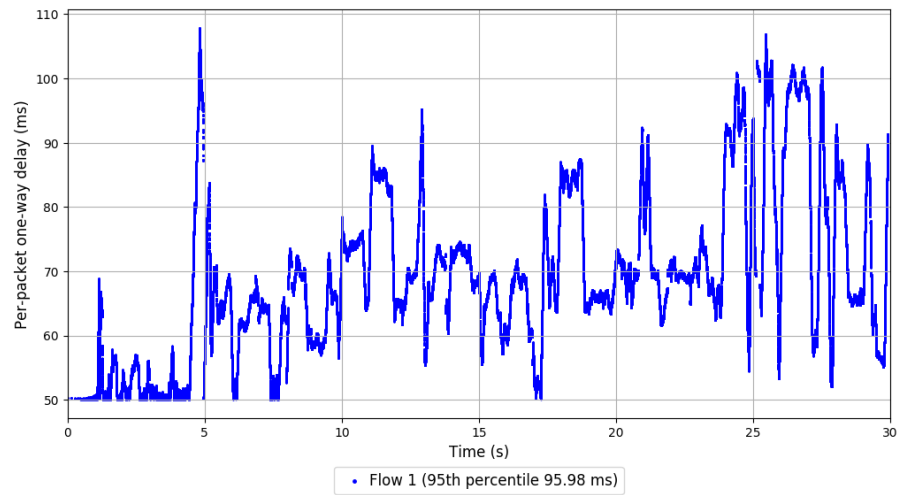
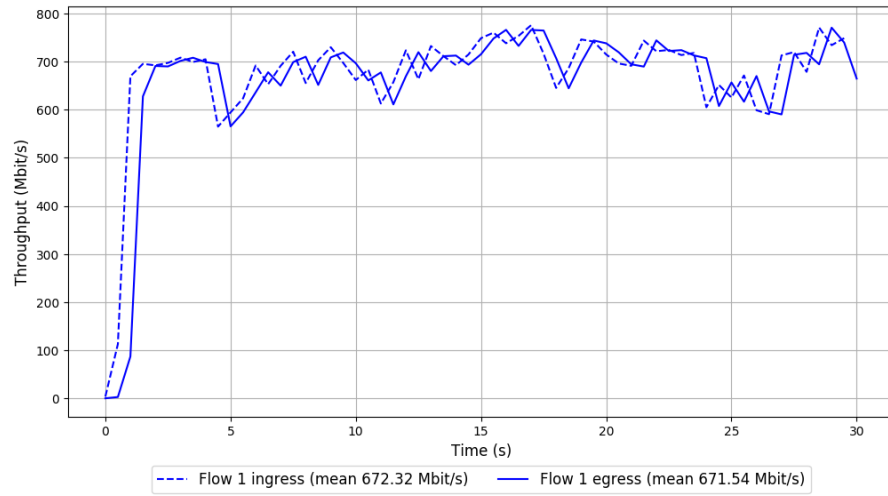


Run 4: Statistics of TCP Cubic

Start at: 2018-09-11 17:32:41
End at: 2018-09-11 17:33:11
Local clock offset: -0.073 ms
Remote clock offset: -0.016 ms

Below is generated by plot.py at 2018-09-11 18:54:19
Datalink statistics
-- Total of 1 flow:
Average throughput: 671.54 Mbit/s
95th percentile per-packet one-way delay: 95.976 ms
Loss rate: 0.45%
-- Flow 1:
Average throughput: 671.54 Mbit/s
95th percentile per-packet one-way delay: 95.976 ms
Loss rate: 0.45%

Run 4: Report of TCP Cubic — Data Link

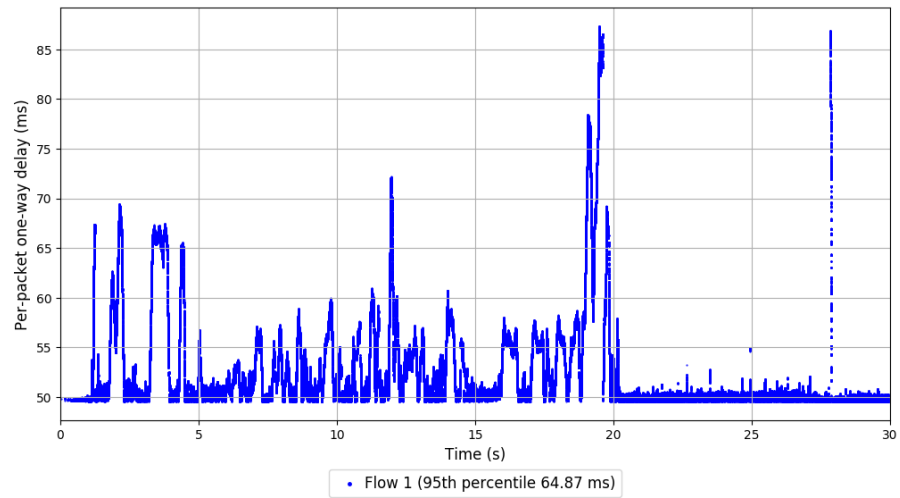
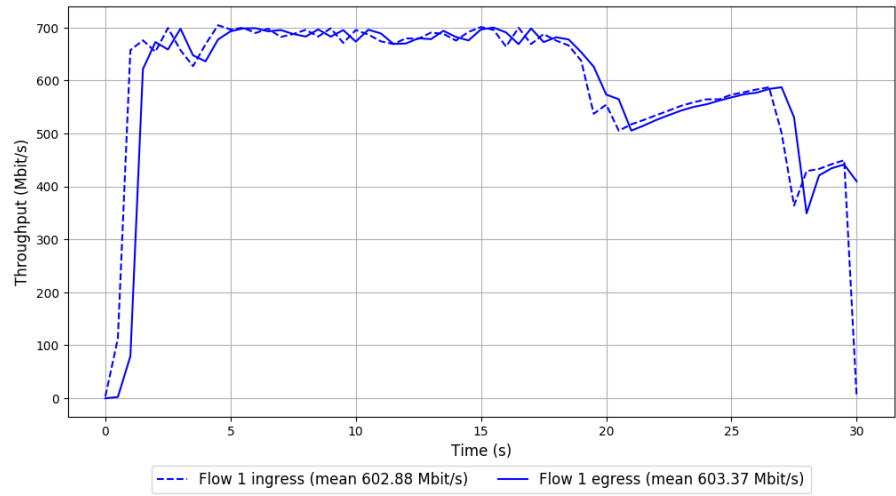


Run 5: Statistics of TCP Cubic

Start at: 2018-09-11 17:58:37
End at: 2018-09-11 17:59:07
Local clock offset: -0.465 ms
Remote clock offset: -0.084 ms

Below is generated by plot.py at 2018-09-11 18:54:19
Datalink statistics
-- Total of 1 flow:
Average throughput: 603.37 Mbit/s
95th percentile per-packet one-way delay: 64.872 ms
Loss rate: 0.25%
-- Flow 1:
Average throughput: 603.37 Mbit/s
95th percentile per-packet one-way delay: 64.872 ms
Loss rate: 0.25%

Run 5: Report of TCP Cubic — Data Link

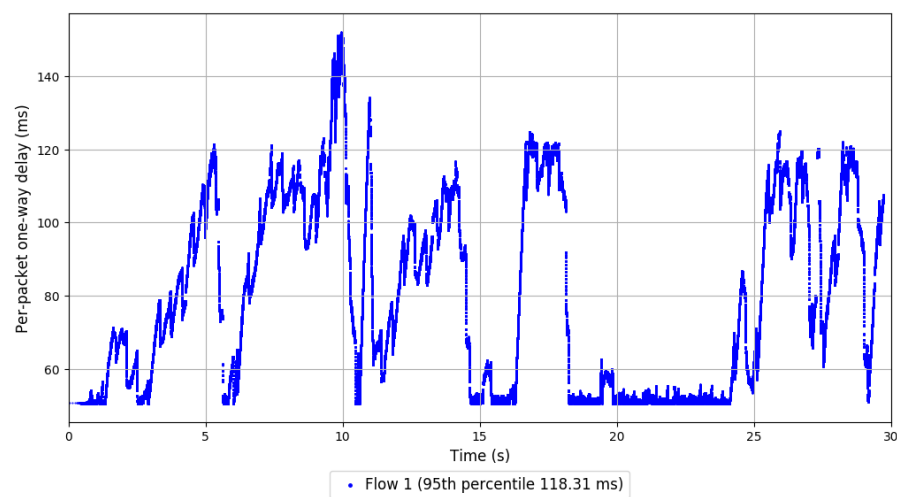
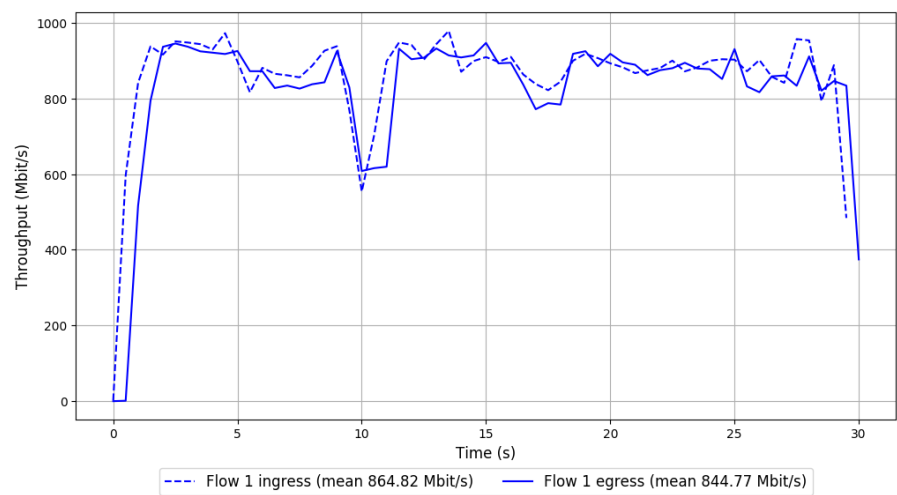


Run 1: Statistics of FillP

Start at: 2018-09-11 16:30:13
End at: 2018-09-11 16:30:43
Local clock offset: -0.086 ms
Remote clock offset: -0.136 ms

Below is generated by plot.py at 2018-09-11 19:00:13
Datalink statistics
-- Total of 1 flow:
Average throughput: 844.77 Mbit/s
95th percentile per-packet one-way delay: 118.315 ms
Loss rate: 2.65%
-- Flow 1:
Average throughput: 844.77 Mbit/s
95th percentile per-packet one-way delay: 118.315 ms
Loss rate: 2.65%

Run 1: Report of FillP — Data Link

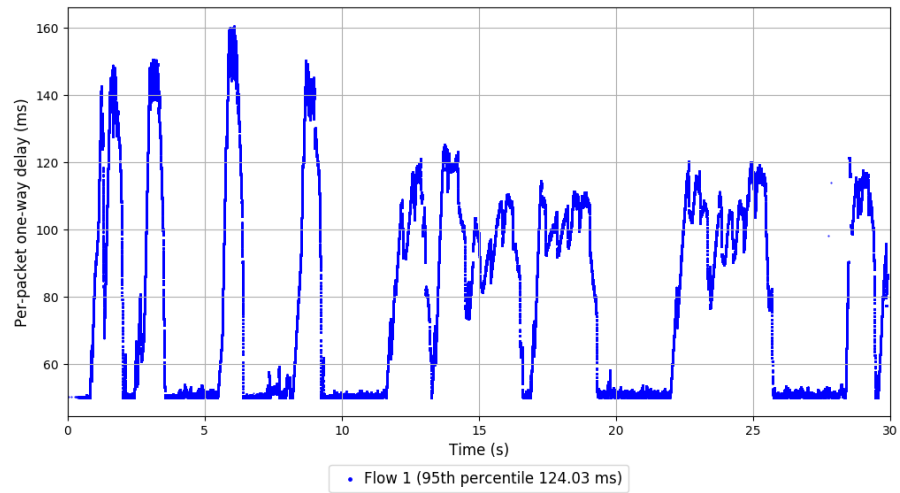
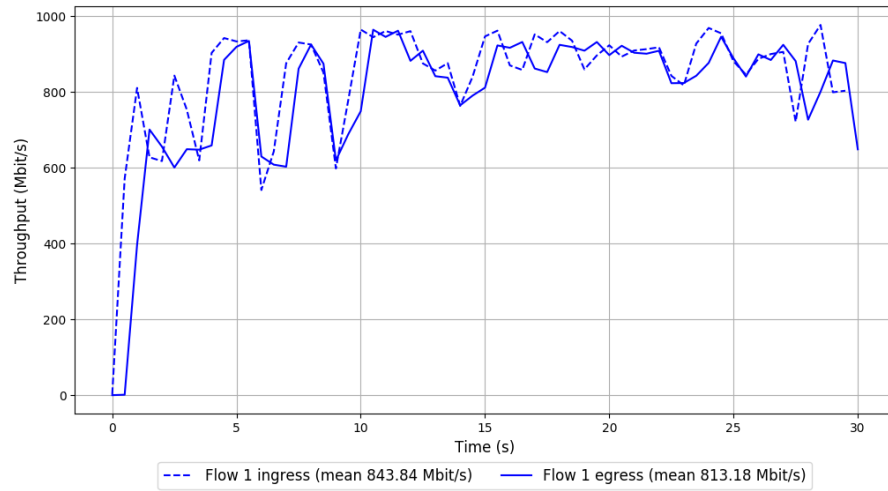


Run 2: Statistics of FillP

Start at: 2018-09-11 16:56:12
End at: 2018-09-11 16:56:42
Local clock offset: 0.247 ms
Remote clock offset: -0.075 ms

Below is generated by plot.py at 2018-09-11 19:08:52
Datalink statistics
-- Total of 1 flow:
Average throughput: 813.18 Mbit/s
95th percentile per-packet one-way delay: 124.035 ms
Loss rate: 3.96%
-- Flow 1:
Average throughput: 813.18 Mbit/s
95th percentile per-packet one-way delay: 124.035 ms
Loss rate: 3.96%

Run 2: Report of FillP — Data Link



Run 3: Statistics of FillP

Start at: 2018-09-11 17:22:10

End at: 2018-09-11 17:22:40

Local clock offset: -0.084 ms

Remote clock offset: 0.044 ms

Below is generated by plot.py at 2018-09-11 19:09:52

Datalink statistics

-- Total of 1 flow:

Average throughput: 810.83 Mbit/s

95th percentile per-packet one-way delay: 126.257 ms

Loss rate: 3.62%

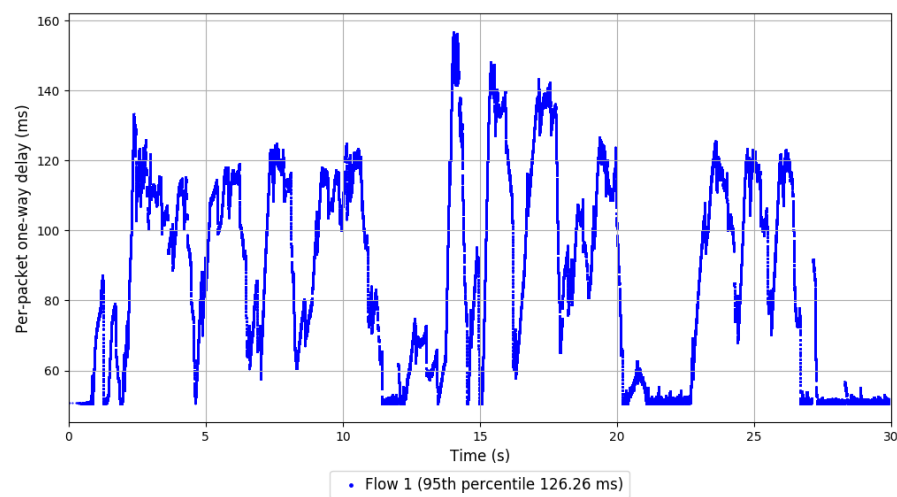
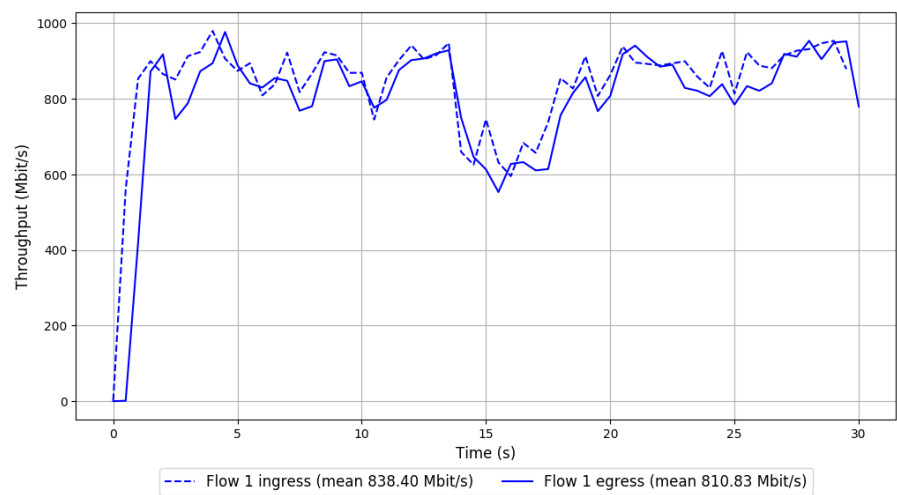
-- Flow 1:

Average throughput: 810.83 Mbit/s

95th percentile per-packet one-way delay: 126.257 ms

Loss rate: 3.62%

Run 3: Report of FillP — Data Link

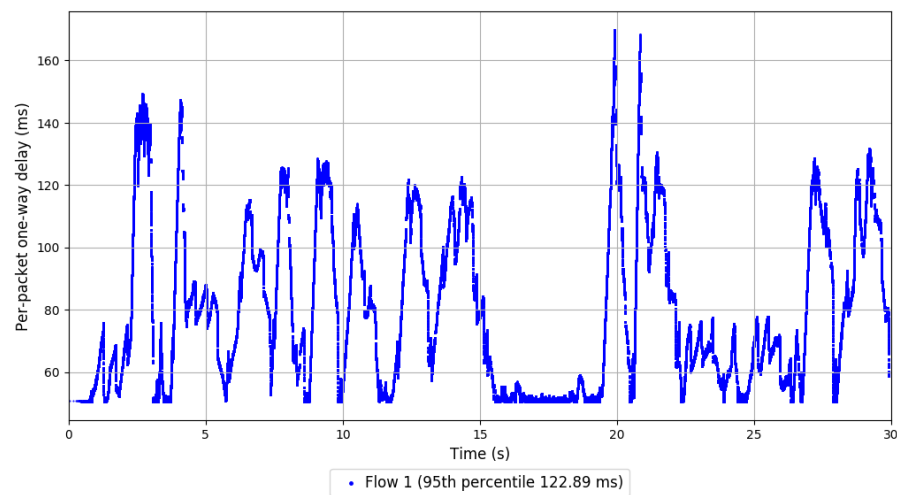
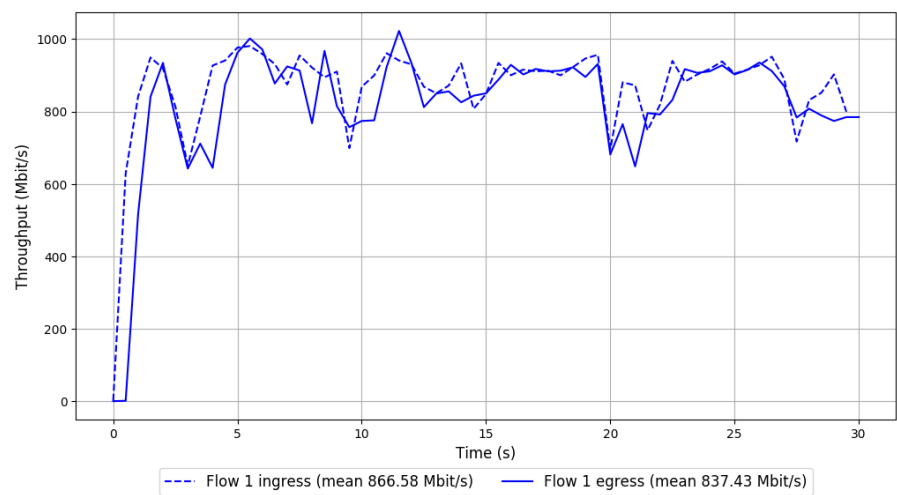


Run 4: Statistics of FillP

Start at: 2018-09-11 17:48:14
End at: 2018-09-11 17:48:44
Local clock offset: -0.091 ms
Remote clock offset: -0.058 ms

Below is generated by plot.py at 2018-09-11 19:10:16
Datalink statistics
-- Total of 1 flow:
Average throughput: 837.43 Mbit/s
95th percentile per-packet one-way delay: 122.891 ms
Loss rate: 3.69%
-- Flow 1:
Average throughput: 837.43 Mbit/s
95th percentile per-packet one-way delay: 122.891 ms
Loss rate: 3.69%

Run 4: Report of FillP — Data Link

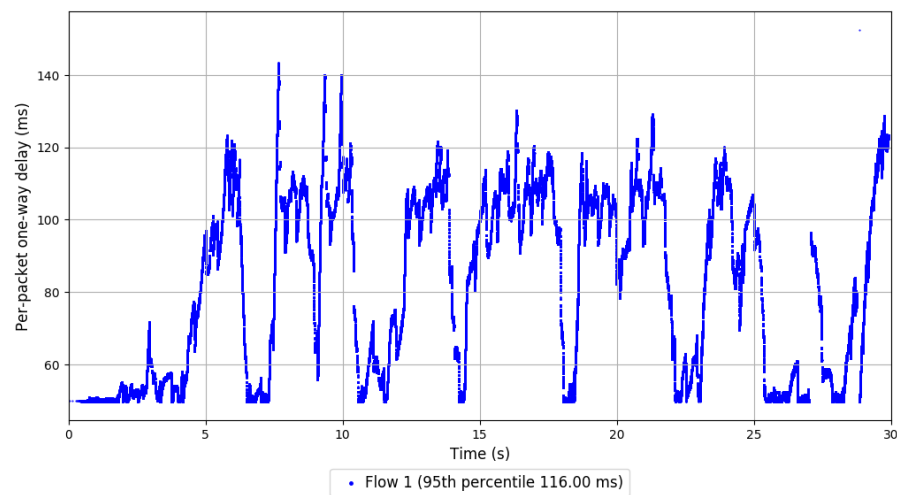
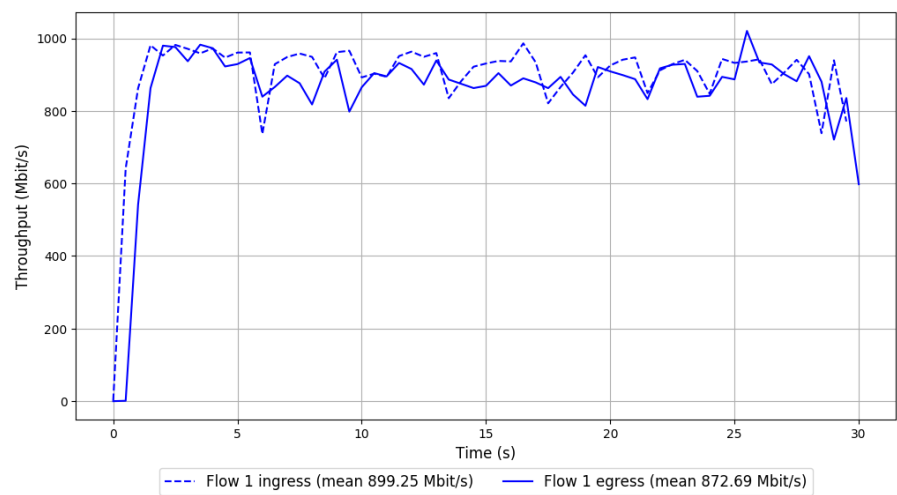


Run 5: Statistics of FillP

Start at: 2018-09-11 18:14:10
End at: 2018-09-11 18:14:40
Local clock offset: -0.411 ms
Remote clock offset: -0.041 ms

Below is generated by plot.py at 2018-09-11 19:10:54
Datalink statistics
-- Total of 1 flow:
Average throughput: 872.69 Mbit/s
95th percentile per-packet one-way delay: 115.999 ms
Loss rate: 3.28%
-- Flow 1:
Average throughput: 872.69 Mbit/s
95th percentile per-packet one-way delay: 115.999 ms
Loss rate: 3.28%

Run 5: Report of FillP — Data Link

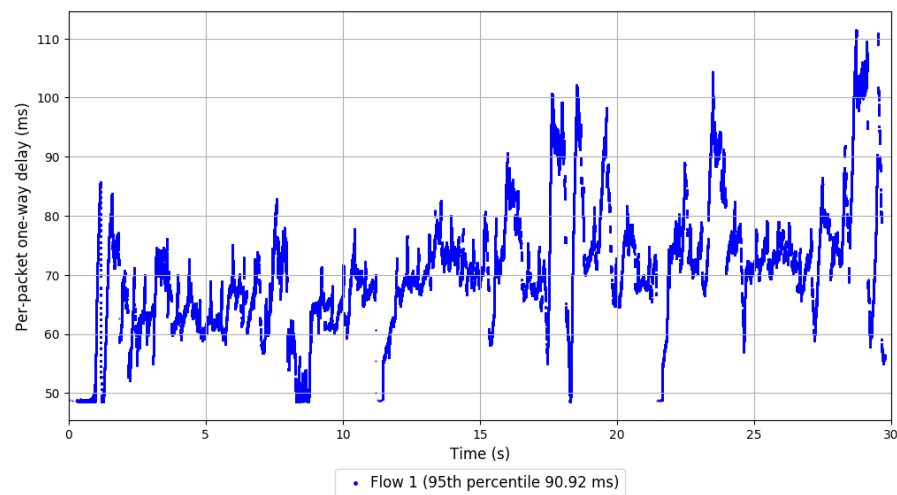
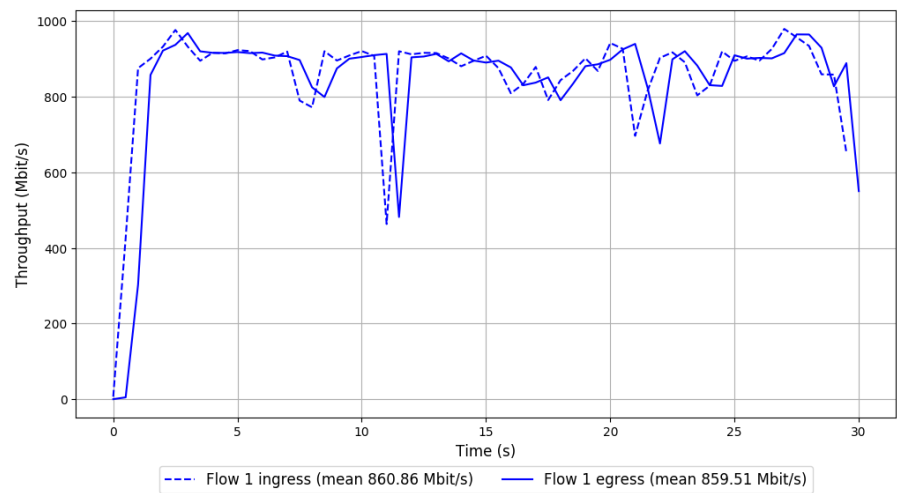


Run 1: Statistics of FillP-Sheep

Start at: 2018-09-11 16:36:09
End at: 2018-09-11 16:36:39
Local clock offset: -0.099 ms
Remote clock offset: -0.079 ms

Below is generated by plot.py at 2018-09-11 19:10:54
Datalink statistics
-- Total of 1 flow:
Average throughput: 859.51 Mbit/s
95th percentile per-packet one-way delay: 90.923 ms
Loss rate: 0.49%
-- Flow 1:
Average throughput: 859.51 Mbit/s
95th percentile per-packet one-way delay: 90.923 ms
Loss rate: 0.49%

Run 1: Report of FillP-Sheep — Data Link

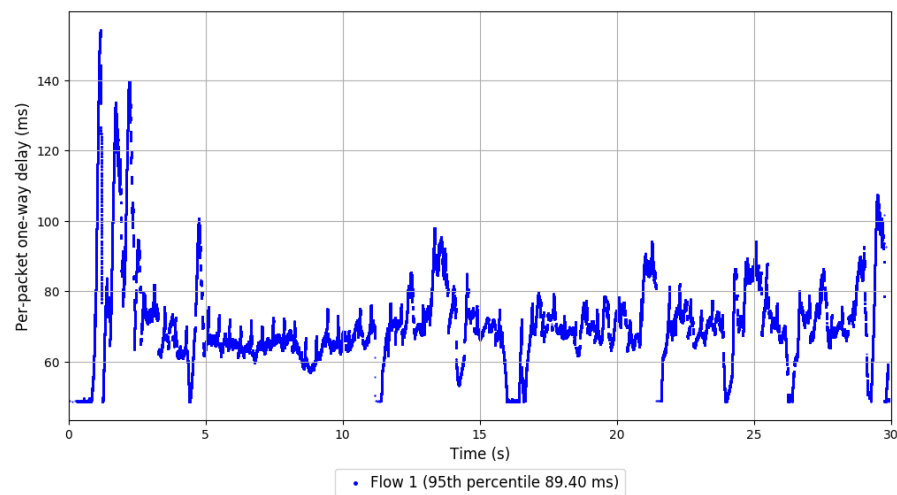
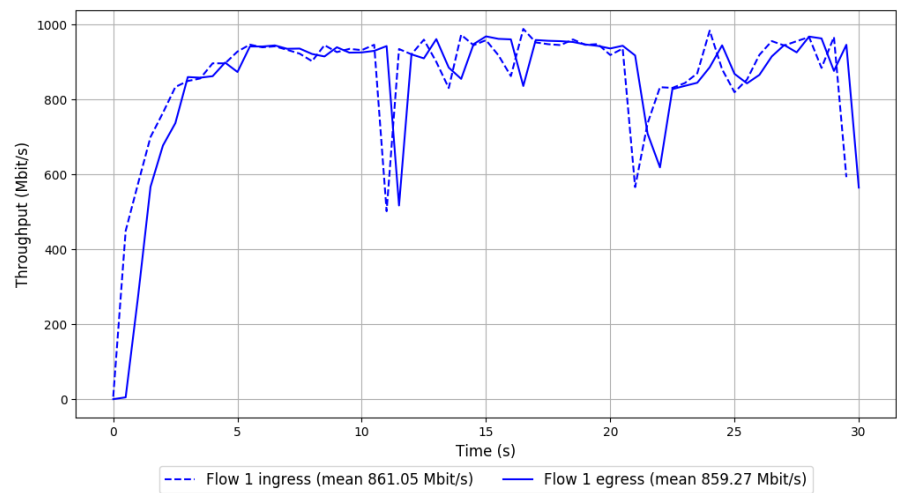


Run 2: Statistics of FillP-Sheep

Start at: 2018-09-11 17:02:20
End at: 2018-09-11 17:02:50
Local clock offset: -0.087 ms
Remote clock offset: -0.059 ms

Below is generated by plot.py at 2018-09-11 19:11:01
Datalink statistics
-- Total of 1 flow:
Average throughput: 859.27 Mbit/s
95th percentile per-packet one-way delay: 89.402 ms
Loss rate: 0.54%
-- Flow 1:
Average throughput: 859.27 Mbit/s
95th percentile per-packet one-way delay: 89.402 ms
Loss rate: 0.54%

Run 2: Report of FillP-Sheep — Data Link



Run 3: Statistics of FillP-Sheep

Start at: 2018-09-11 17:28:19

End at: 2018-09-11 17:28:49

Local clock offset: -0.063 ms

Remote clock offset: 0.026 ms

Below is generated by plot.py at 2018-09-11 19:11:01

Datalink statistics

-- Total of 1 flow:

Average throughput: 812.62 Mbit/s

95th percentile per-packet one-way delay: 103.328 ms

Loss rate: 0.55%

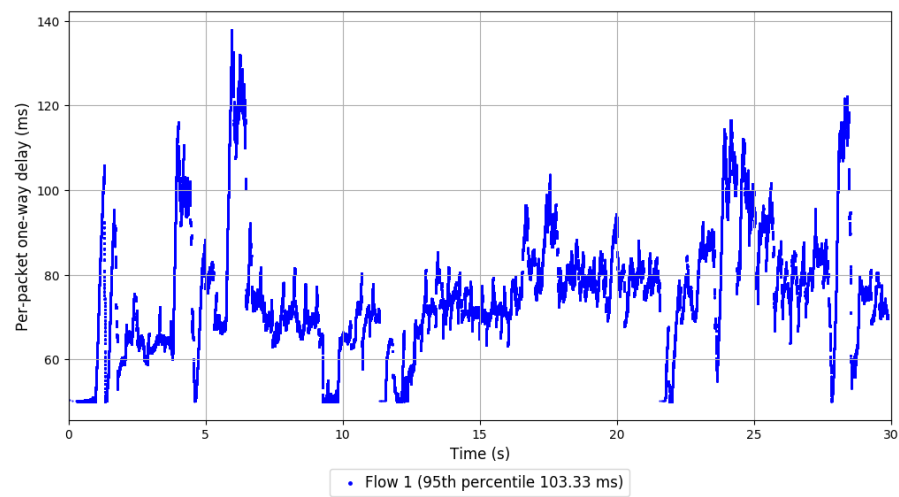
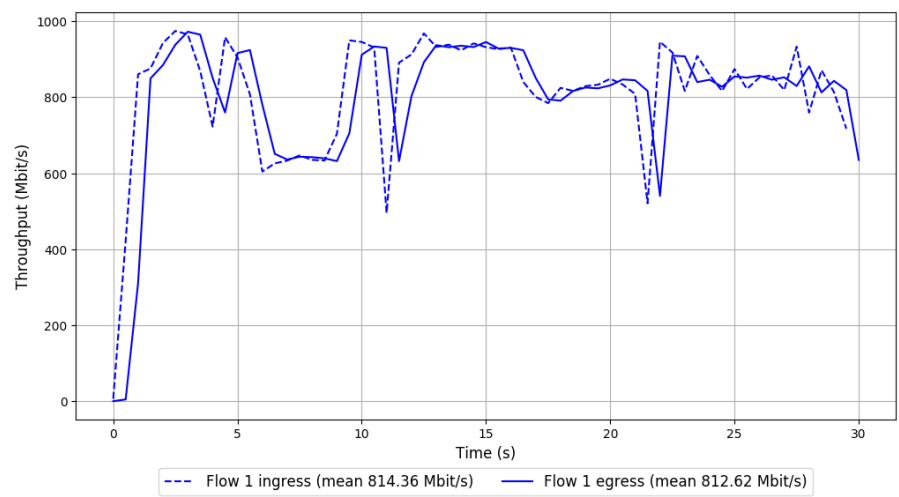
-- Flow 1:

Average throughput: 812.62 Mbit/s

95th percentile per-packet one-way delay: 103.328 ms

Loss rate: 0.55%

Run 3: Report of FillP-Sheep — Data Link

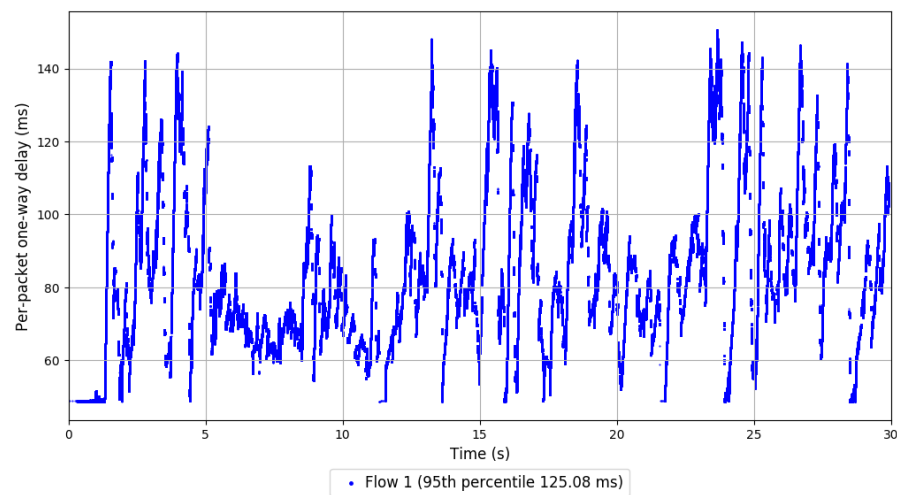
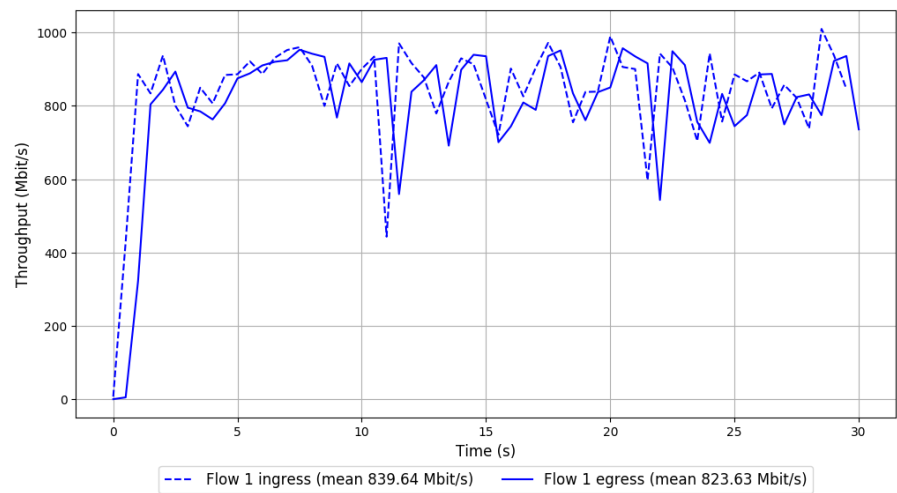


Run 4: Statistics of FillP-Sheep

Start at: 2018-09-11 17:54:14
End at: 2018-09-11 17:54:44
Local clock offset: -0.082 ms
Remote clock offset: -0.079 ms

Below is generated by plot.py at 2018-09-11 19:19:11
Datalink statistics
-- Total of 1 flow:
Average throughput: 823.63 Mbit/s
95th percentile per-packet one-way delay: 125.081 ms
Loss rate: 2.23%
-- Flow 1:
Average throughput: 823.63 Mbit/s
95th percentile per-packet one-way delay: 125.081 ms
Loss rate: 2.23%

Run 4: Report of FillP-Sheep — Data Link

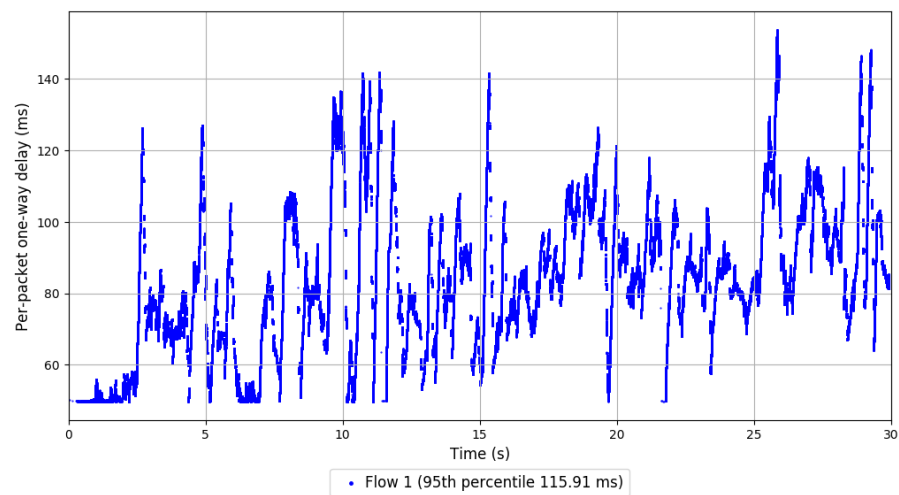
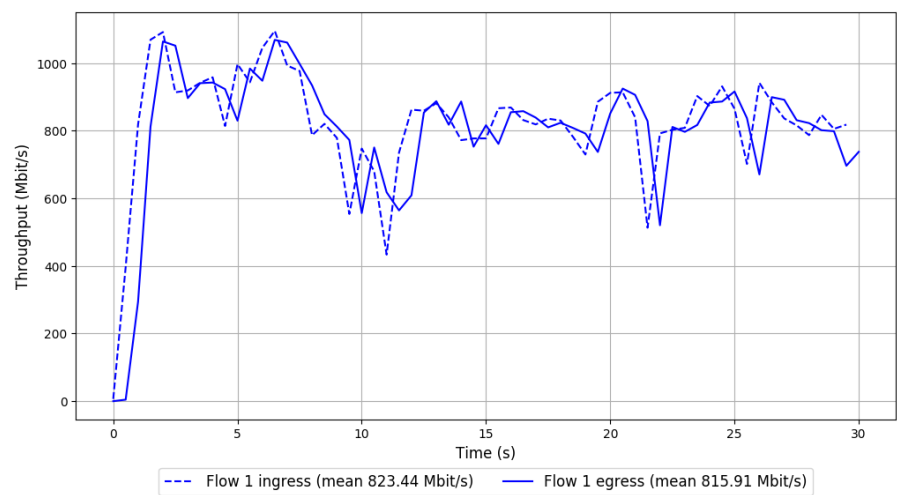


Run 5: Statistics of FillP-Sheep

Start at: 2018-09-11 18:20:16
End at: 2018-09-11 18:20:46
Local clock offset: -0.436 ms
Remote clock offset: -0.027 ms

Below is generated by plot.py at 2018-09-11 19:24:28
Datalink statistics
-- Total of 1 flow:
Average throughput: 815.91 Mbit/s
95th percentile per-packet one-way delay: 115.910 ms
Loss rate: 1.24%
-- Flow 1:
Average throughput: 815.91 Mbit/s
95th percentile per-packet one-way delay: 115.910 ms
Loss rate: 1.24%

Run 5: Report of FillP-Sheep — Data Link

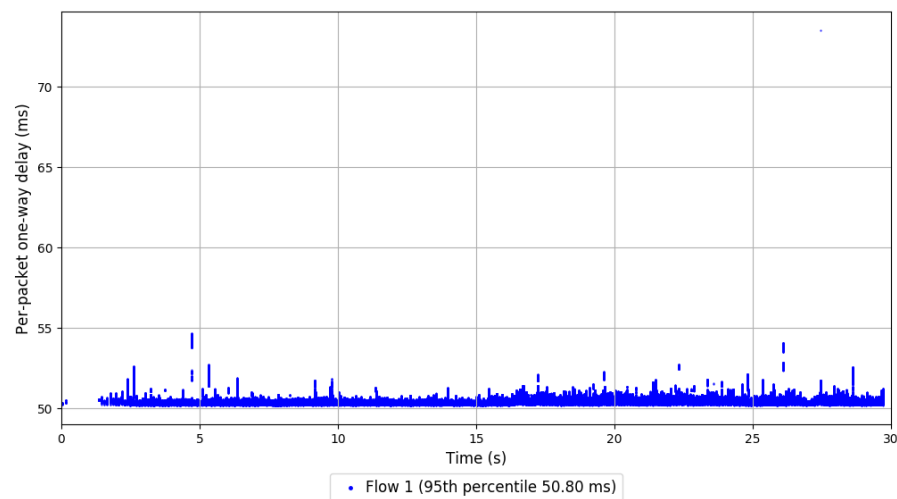
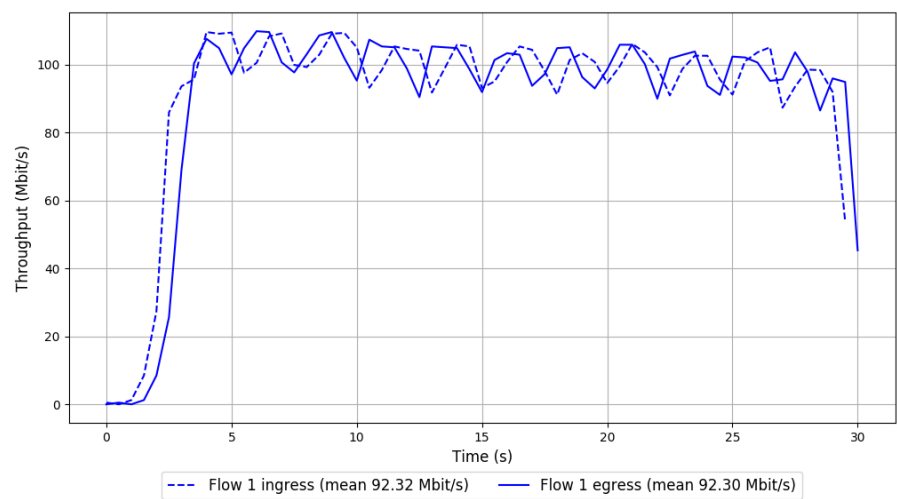


Run 1: Statistics of Indigo

Start at: 2018-09-11 16:31:52
End at: 2018-09-11 16:32:22
Local clock offset: -0.464 ms
Remote clock offset: -0.141 ms

Below is generated by plot.py at 2018-09-11 19:24:28
Datalink statistics
-- Total of 1 flow:
Average throughput: 92.30 Mbit/s
95th percentile per-packet one-way delay: 50.805 ms
Loss rate: 0.37%
-- Flow 1:
Average throughput: 92.30 Mbit/s
95th percentile per-packet one-way delay: 50.805 ms
Loss rate: 0.37%

Run 1: Report of Indigo — Data Link

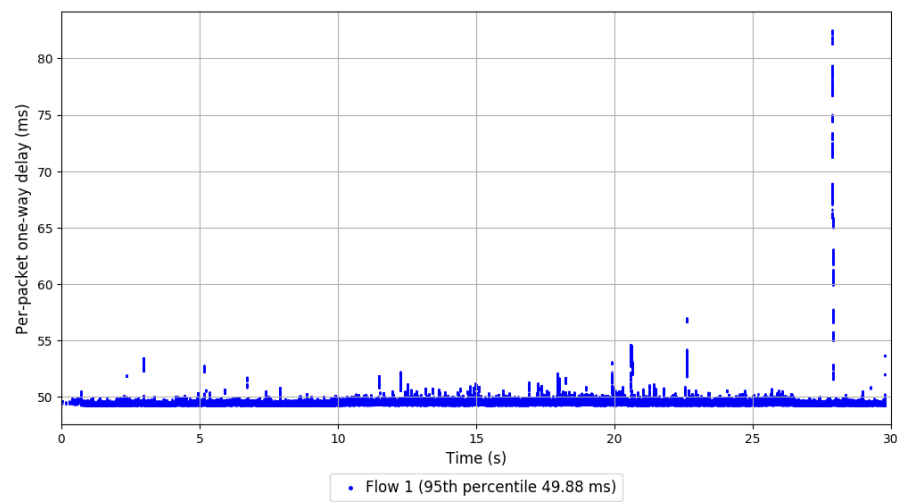
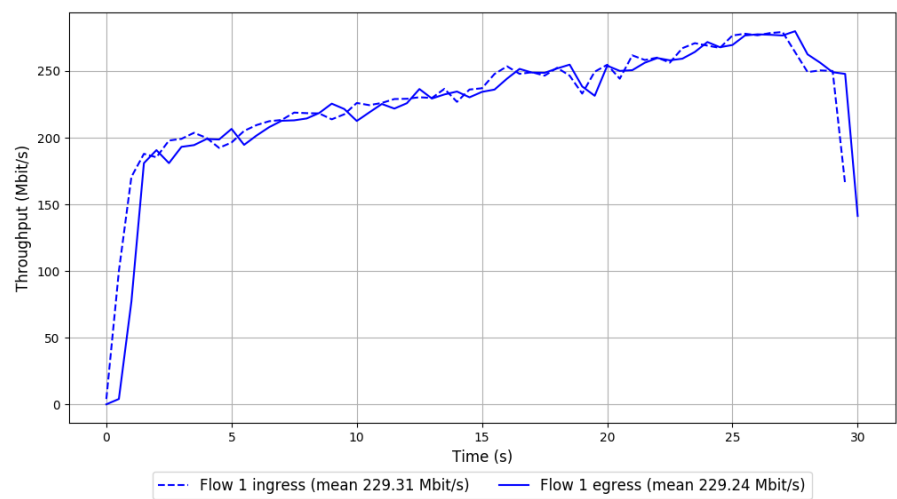


Run 2: Statistics of Indigo

Start at: 2018-09-11 16:57:52
End at: 2018-09-11 16:58:22
Local clock offset: -0.144 ms
Remote clock offset: -0.073 ms

Below is generated by plot.py at 2018-09-11 19:24:28
Datalink statistics
-- Total of 1 flow:
Average throughput: 229.24 Mbit/s
95th percentile per-packet one-way delay: 49.875 ms
Loss rate: 0.36%
-- Flow 1:
Average throughput: 229.24 Mbit/s
95th percentile per-packet one-way delay: 49.875 ms
Loss rate: 0.36%

Run 2: Report of Indigo — Data Link



Run 3: Statistics of Indigo

Start at: 2018-09-11 17:23:48

End at: 2018-09-11 17:24:18

Local clock offset: -0.44 ms

Remote clock offset: 0.072 ms

Below is generated by plot.py at 2018-09-11 19:24:28

Datalink statistics

-- Total of 1 flow:

Average throughput: 234.25 Mbit/s

95th percentile per-packet one-way delay: 50.266 ms

Loss rate: 0.34%

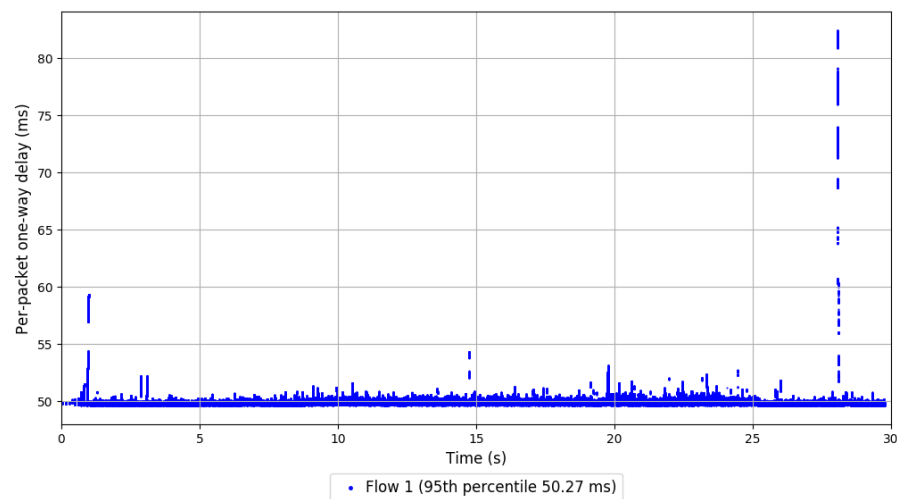
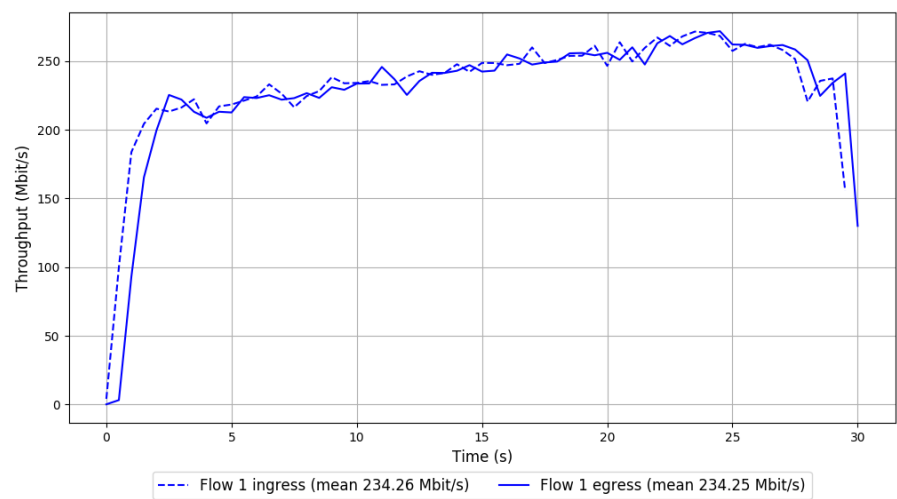
-- Flow 1:

Average throughput: 234.25 Mbit/s

95th percentile per-packet one-way delay: 50.266 ms

Loss rate: 0.34%

Run 3: Report of Indigo — Data Link



Run 4: Statistics of Indigo

Start at: 2018-09-11 17:49:53

End at: 2018-09-11 17:50:23

Local clock offset: 0.286 ms

Remote clock offset: -0.061 ms

Below is generated by plot.py at 2018-09-11 19:24:28

Datalink statistics

-- Total of 1 flow:

Average throughput: 228.99 Mbit/s

95th percentile per-packet one-way delay: 51.362 ms

Loss rate: 0.35%

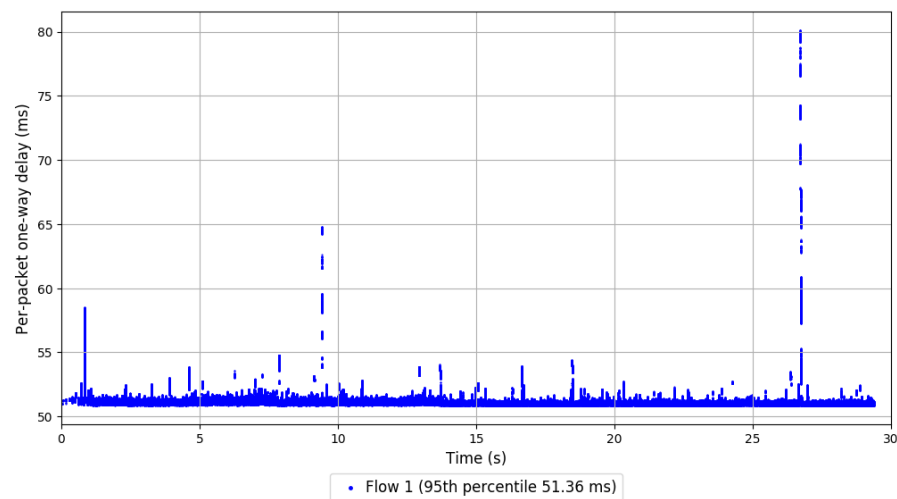
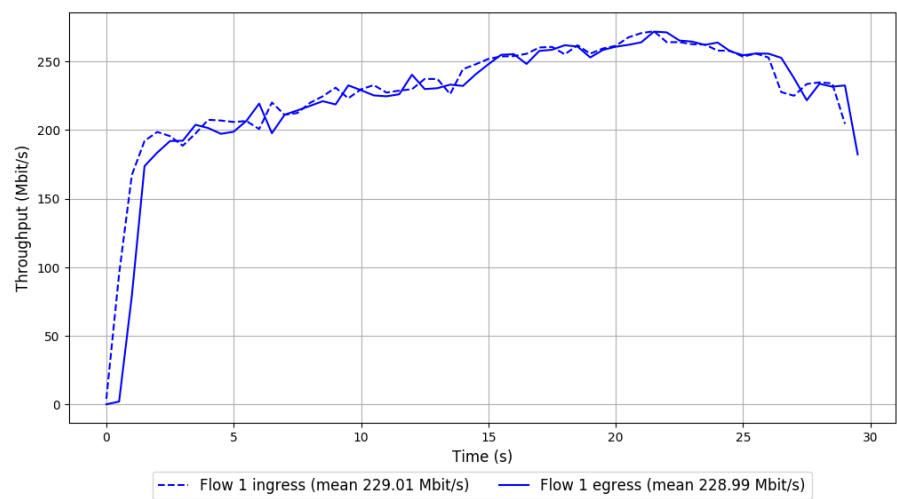
-- Flow 1:

Average throughput: 228.99 Mbit/s

95th percentile per-packet one-way delay: 51.362 ms

Loss rate: 0.35%

Run 4: Report of Indigo — Data Link

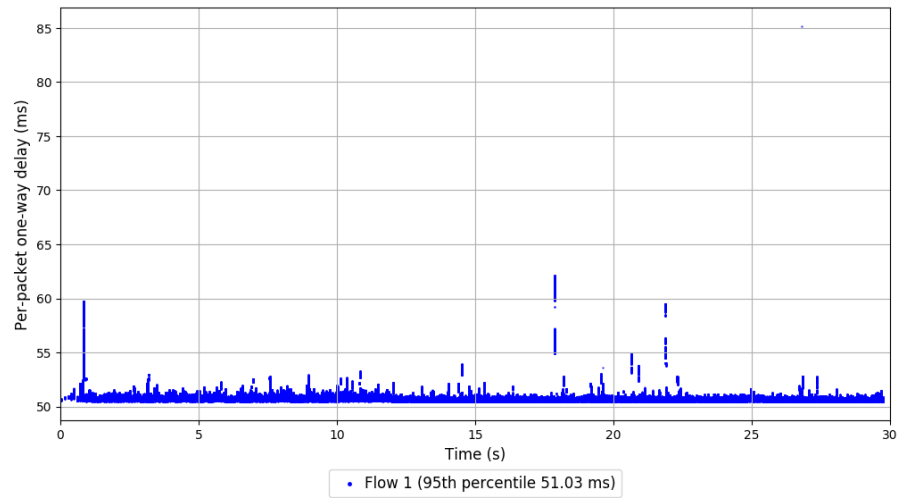
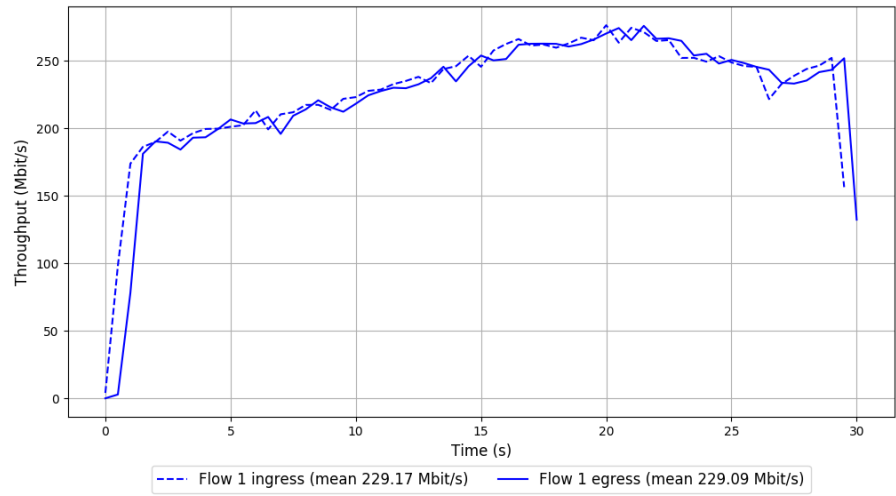


Run 5: Statistics of Indigo

Start at: 2018-09-11 18:15:49
End at: 2018-09-11 18:16:19
Local clock offset: -0.079 ms
Remote clock offset: -0.011 ms

Below is generated by plot.py at 2018-09-11 19:24:28
Datalink statistics
-- Total of 1 flow:
Average throughput: 229.09 Mbit/s
95th percentile per-packet one-way delay: 51.026 ms
Loss rate: 0.37%
-- Flow 1:
Average throughput: 229.09 Mbit/s
95th percentile per-packet one-way delay: 51.026 ms
Loss rate: 0.37%

Run 5: Report of Indigo — Data Link

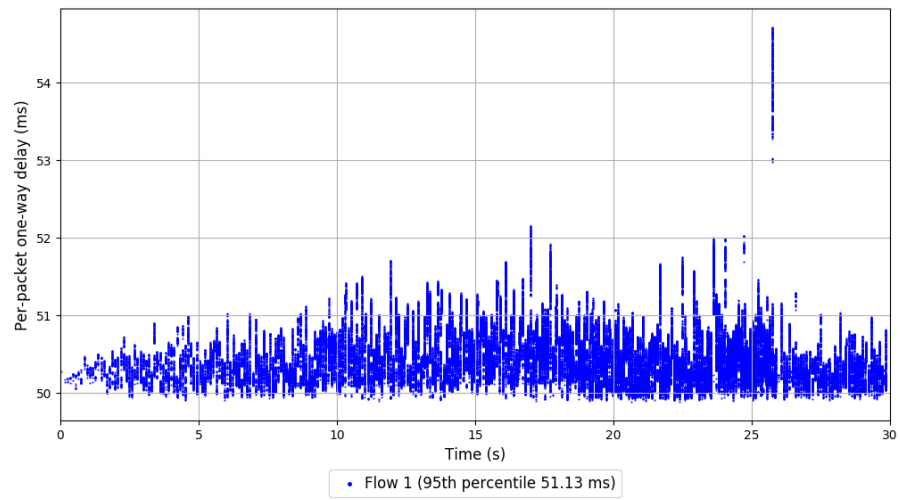
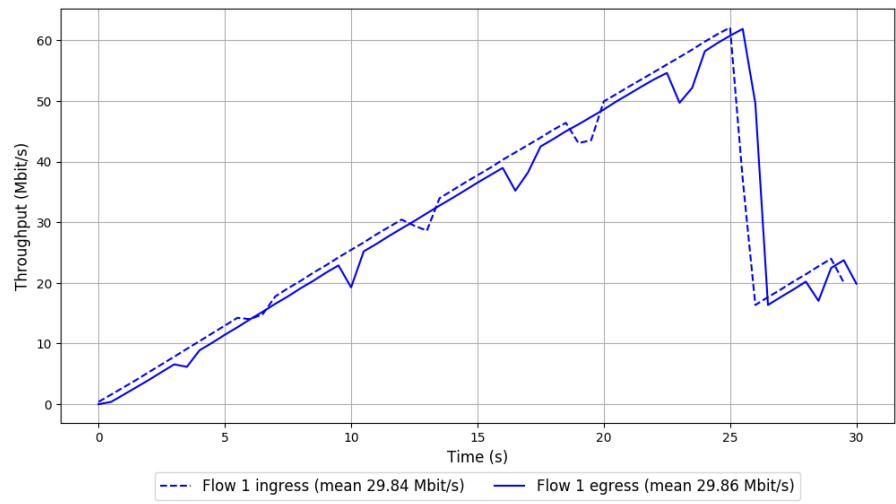


Run 1: Statistics of LEDBAT

Start at: 2018-09-11 16:27:57
End at: 2018-09-11 16:28:28
Local clock offset: -0.12 ms
Remote clock offset: -0.079 ms

Below is generated by plot.py at 2018-09-11 19:24:28
Datalink statistics
-- Total of 1 flow:
Average throughput: 29.86 Mbit/s
95th percentile per-packet one-way delay: 51.133 ms
Loss rate: 0.29%
-- Flow 1:
Average throughput: 29.86 Mbit/s
95th percentile per-packet one-way delay: 51.133 ms
Loss rate: 0.29%

Run 1: Report of LEDBAT — Data Link



Run 2: Statistics of LEDBAT

Start at: 2018-09-11 16:53:22

End at: 2018-09-11 16:53:52

Local clock offset: -0.154 ms

Remote clock offset: -0.09 ms

Below is generated by plot.py at 2018-09-11 19:24:28

Datalink statistics

-- Total of 1 flow:

Average throughput: 36.28 Mbit/s

95th percentile per-packet one-way delay: 51.156 ms

Loss rate: 0.67%

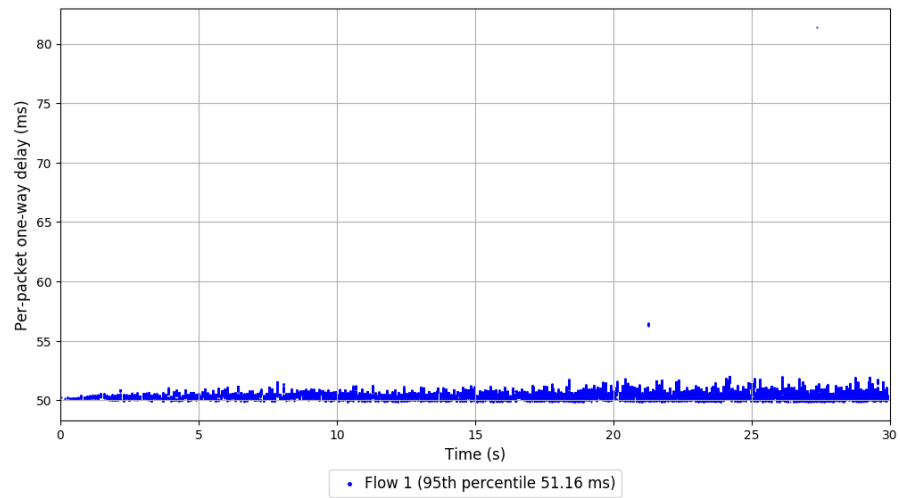
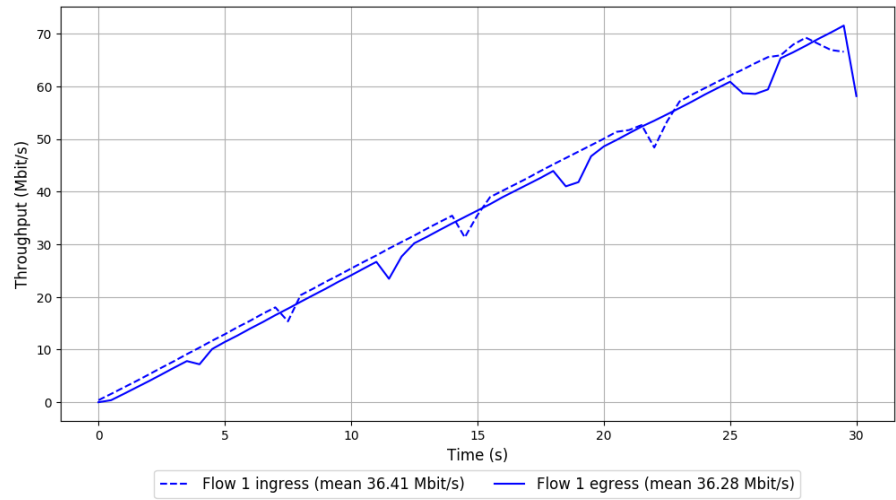
-- Flow 1:

Average throughput: 36.28 Mbit/s

95th percentile per-packet one-way delay: 51.156 ms

Loss rate: 0.67%

Run 2: Report of LEDBAT — Data Link



Run 3: Statistics of LEDBAT

Start at: 2018-09-11 17:19:21

End at: 2018-09-11 17:19:51

Local clock offset: -0.121 ms

Remote clock offset: 0.04 ms

Below is generated by plot.py at 2018-09-11 19:24:28

Datalink statistics

-- Total of 1 flow:

Average throughput: 36.47 Mbit/s

95th percentile per-packet one-way delay: 51.302 ms

Loss rate: 0.67%

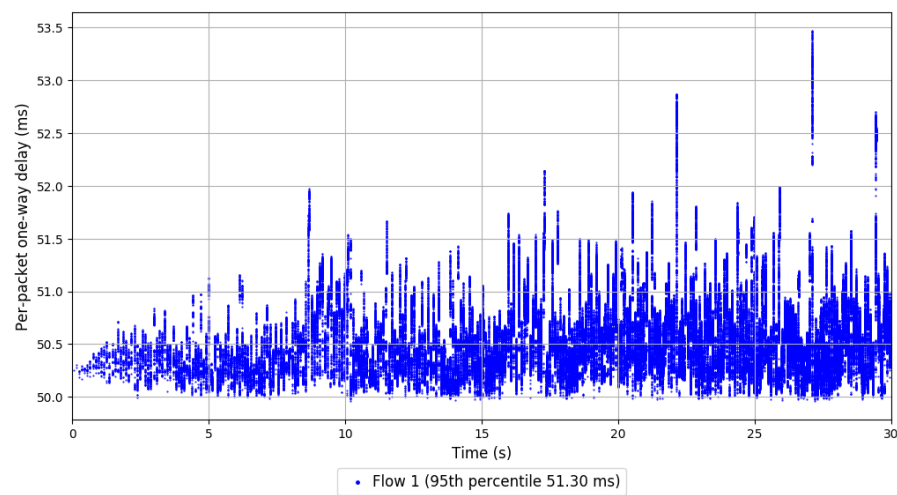
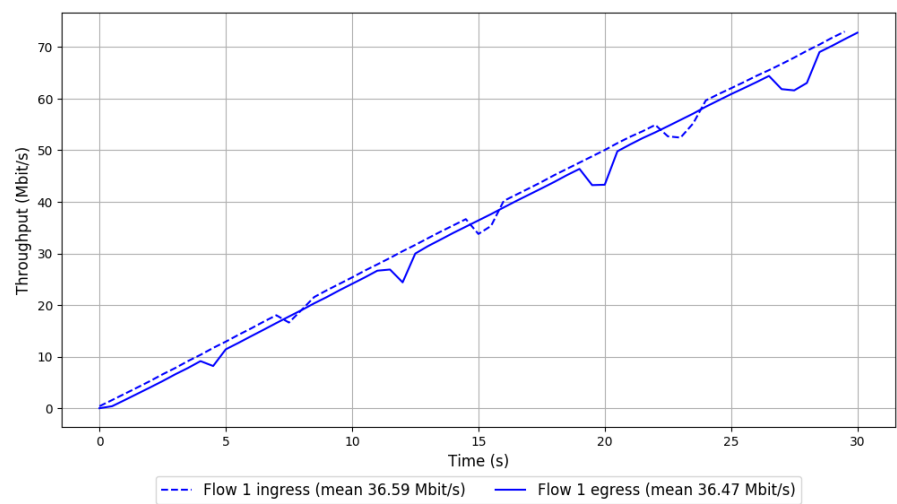
-- Flow 1:

Average throughput: 36.47 Mbit/s

95th percentile per-packet one-way delay: 51.302 ms

Loss rate: 0.67%

Run 3: Report of LEDBAT — Data Link

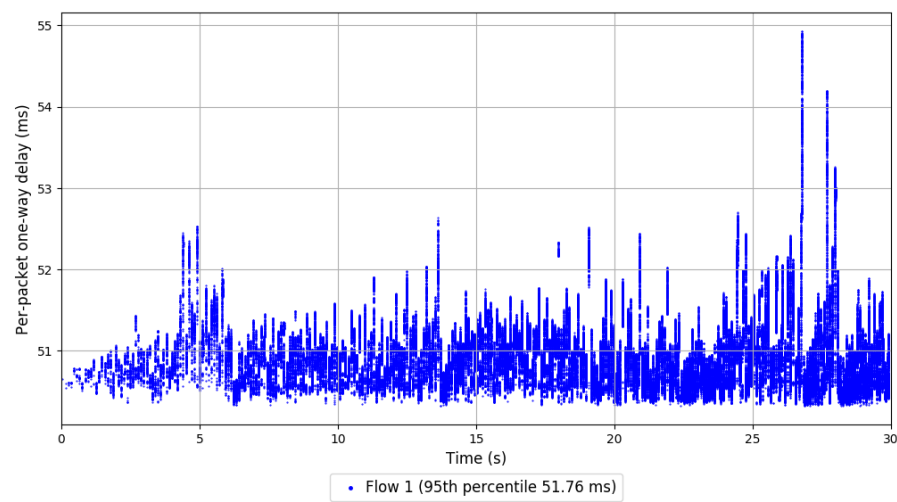
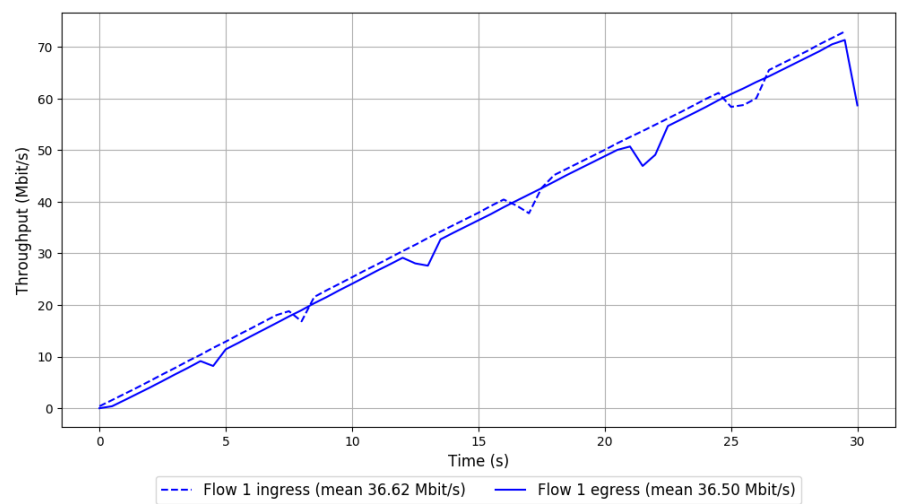


Run 4: Statistics of LEDBAT

Start at: 2018-09-11 17:45:25
End at: 2018-09-11 17:45:55
Local clock offset: 0.238 ms
Remote clock offset: -0.058 ms

Below is generated by plot.py at 2018-09-11 19:24:28
Datalink statistics
-- Total of 1 flow:
Average throughput: 36.50 Mbit/s
95th percentile per-packet one-way delay: 51.756 ms
Loss rate: 0.67%
-- Flow 1:
Average throughput: 36.50 Mbit/s
95th percentile per-packet one-way delay: 51.756 ms
Loss rate: 0.67%

Run 4: Report of LEDBAT — Data Link

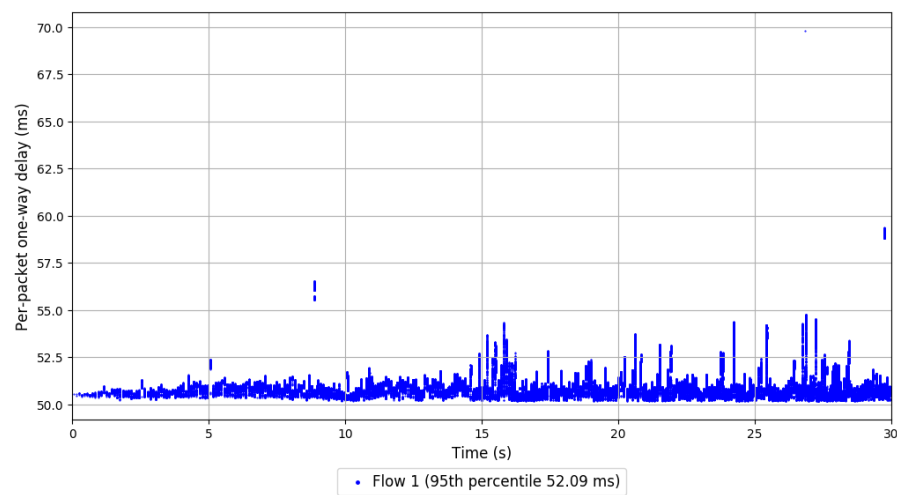
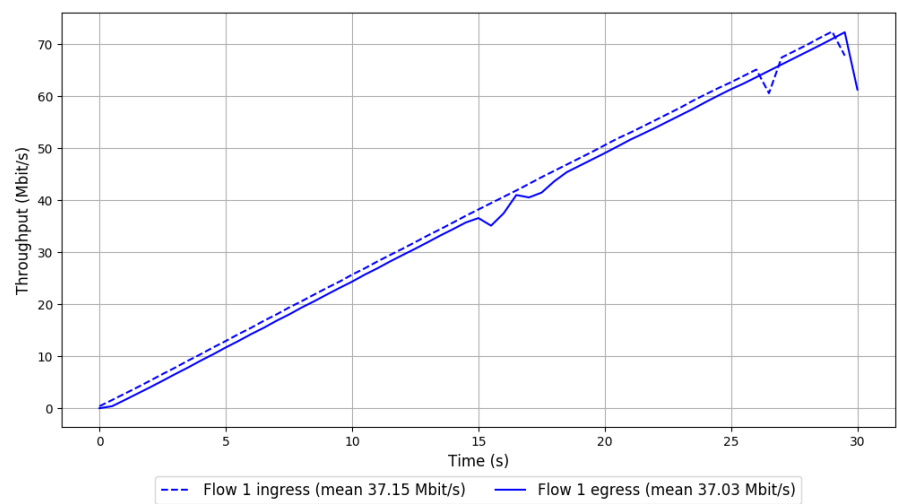


Run 5: Statistics of LEDBAT

Start at: 2018-09-11 18:11:21
End at: 2018-09-11 18:11:51
Local clock offset: -0.423 ms
Remote clock offset: -0.064 ms

Below is generated by plot.py at 2018-09-11 19:24:28
Datalink statistics
-- Total of 1 flow:
Average throughput: 37.03 Mbit/s
95th percentile per-packet one-way delay: 52.094 ms
Loss rate: 0.66%
-- Flow 1:
Average throughput: 37.03 Mbit/s
95th percentile per-packet one-way delay: 52.094 ms
Loss rate: 0.66%

Run 5: Report of LEDBAT — Data Link



Run 1: Statistics of Indigo-Muses

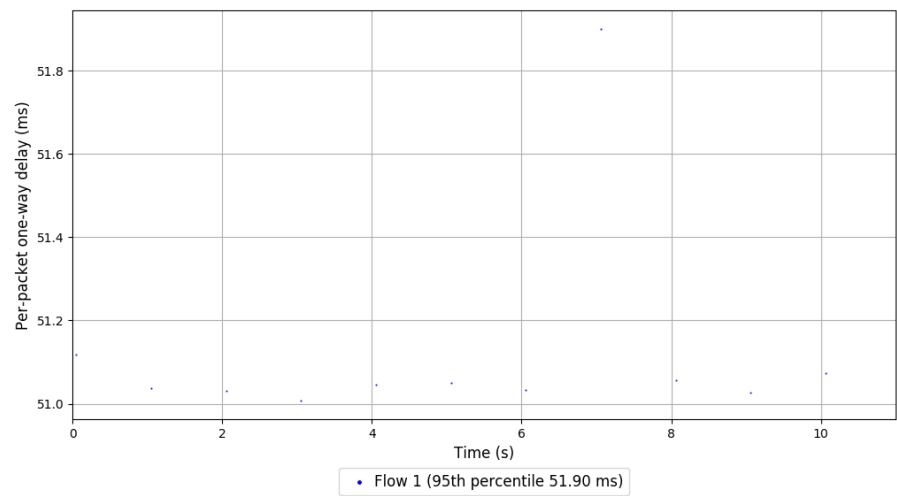
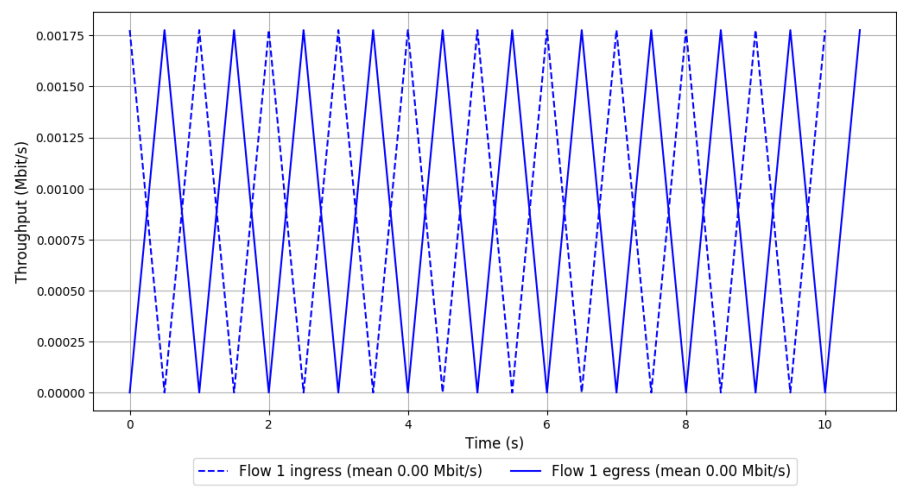
Start at: 2018-09-11 16:29:07

End at: 2018-09-11 16:29:37

Local clock offset: 0.247 ms

Remote clock offset: -0.112 ms

Run 1: Report of Indigo-Muses — Data Link

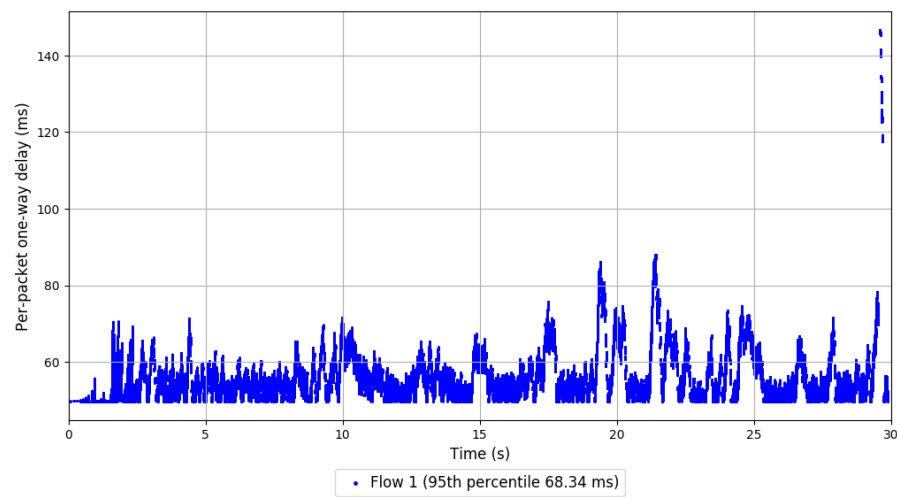
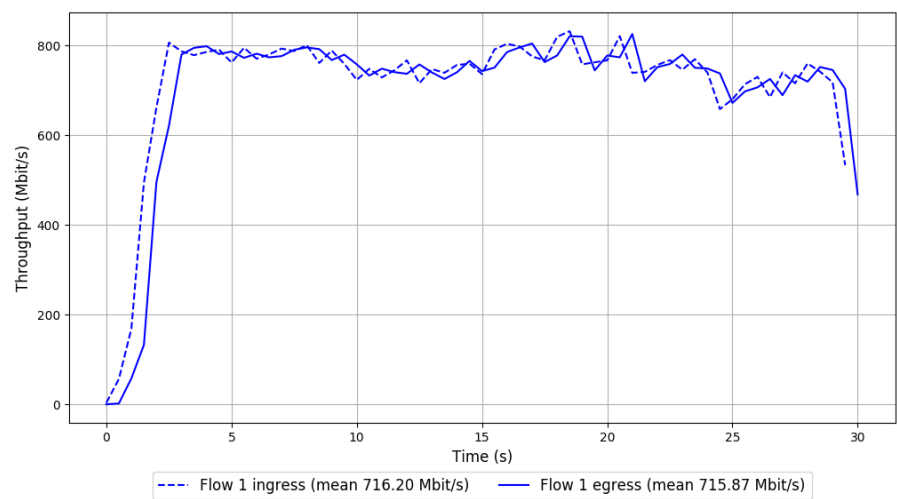


Run 2: Statistics of Indigo-Muses

Start at: 2018-09-11 16:54:32
End at: 2018-09-11 16:55:02
Local clock offset: 0.263 ms
Remote clock offset: -0.093 ms

Below is generated by plot.py at 2018-09-11 19:26:45
Datalink statistics
-- Total of 1 flow:
Average throughput: 715.87 Mbit/s
95th percentile per-packet one-way delay: 68.336 ms
Loss rate: 0.37%
-- Flow 1:
Average throughput: 715.87 Mbit/s
95th percentile per-packet one-way delay: 68.336 ms
Loss rate: 0.37%

Run 2: Report of Indigo-Muses — Data Link



Run 3: Statistics of Indigo-Muses

Start at: 2018-09-11 17:20:31

End at: 2018-09-11 17:21:01

Local clock offset: -0.085 ms

Remote clock offset: 0.056 ms

Below is generated by plot.py at 2018-09-11 19:27:03

Datalink statistics

-- Total of 1 flow:

Average throughput: 709.20 Mbit/s

95th percentile per-packet one-way delay: 72.422 ms

Loss rate: 0.40%

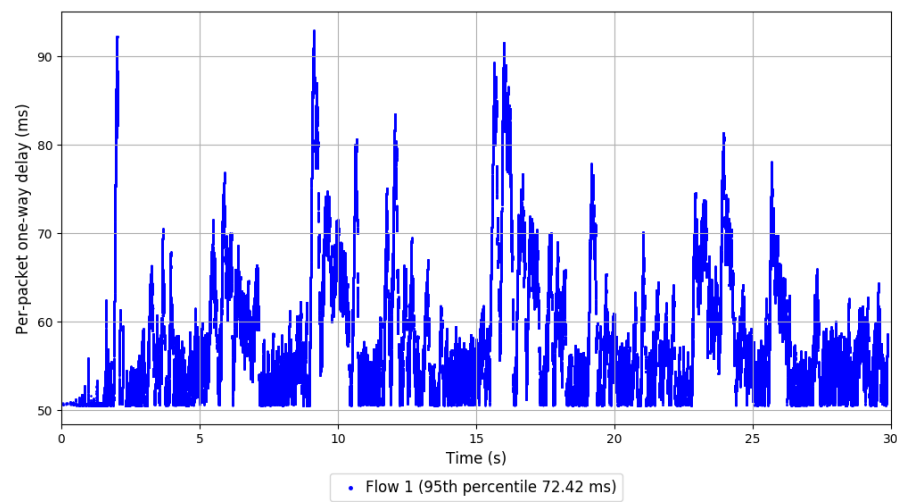
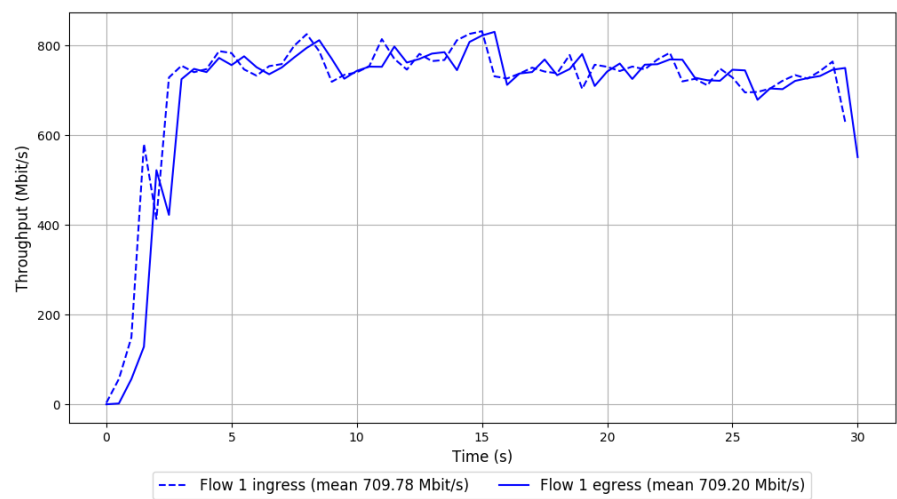
-- Flow 1:

Average throughput: 709.20 Mbit/s

95th percentile per-packet one-way delay: 72.422 ms

Loss rate: 0.40%

Run 3: Report of Indigo-Muses — Data Link

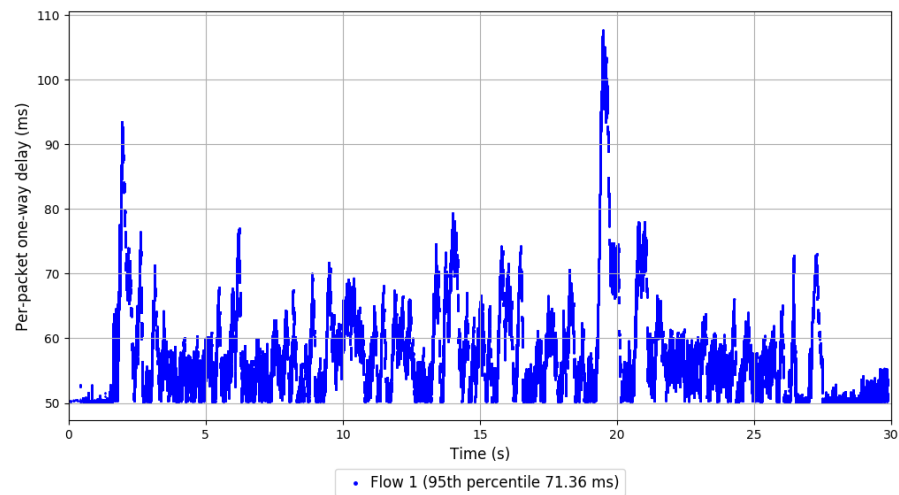
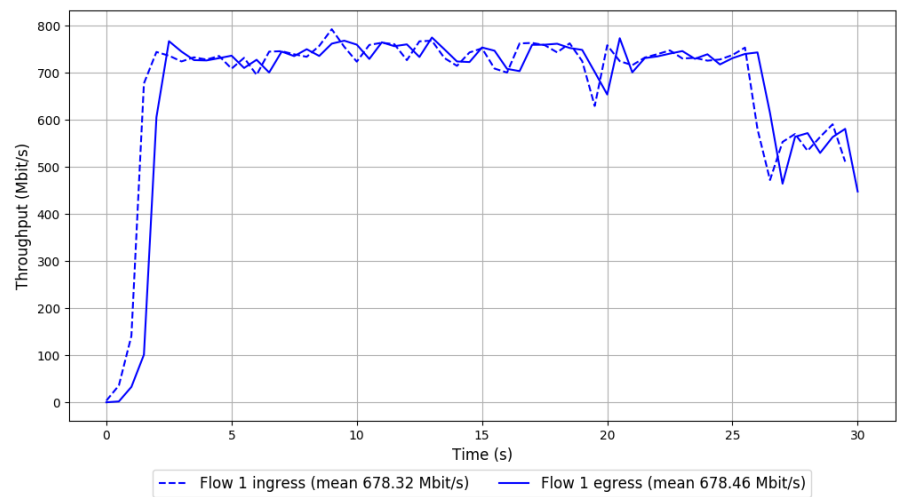


Run 4: Statistics of Indigo-Muses

Start at: 2018-09-11 17:46:35
End at: 2018-09-11 17:47:05
Local clock offset: -0.415 ms
Remote clock offset: -0.089 ms

Below is generated by plot.py at 2018-09-11 19:28:57
Datalink statistics
-- Total of 1 flow:
Average throughput: 678.46 Mbit/s
95th percentile per-packet one-way delay: 71.363 ms
Loss rate: 0.32%
-- Flow 1:
Average throughput: 678.46 Mbit/s
95th percentile per-packet one-way delay: 71.363 ms
Loss rate: 0.32%

Run 4: Report of Indigo-Muses — Data Link

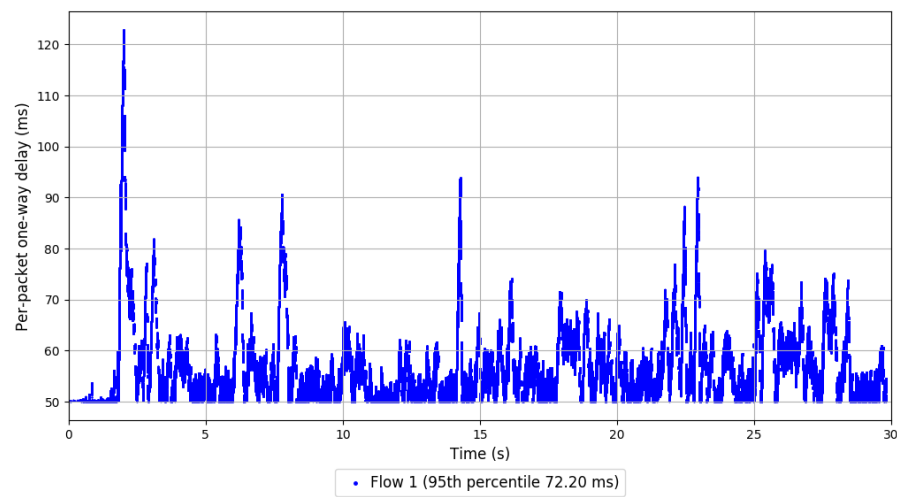
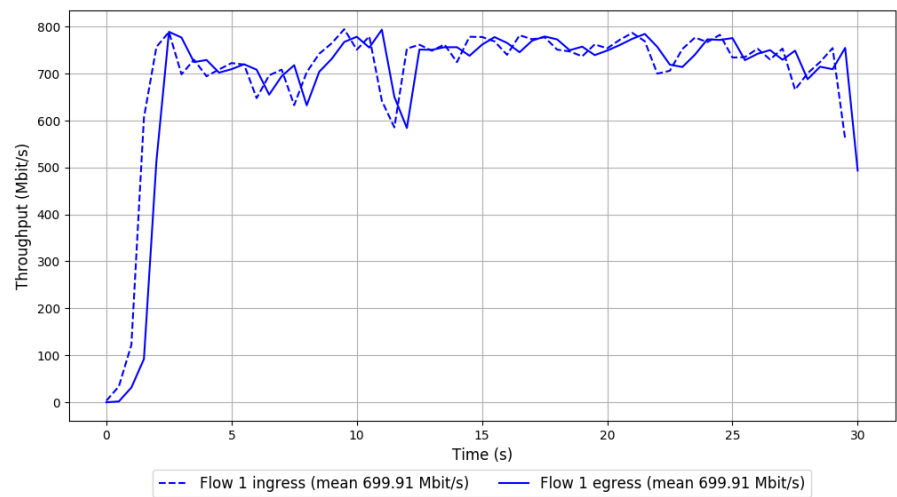


Run 5: Statistics of Indigo-Muses

Start at: 2018-09-11 18:12:31
End at: 2018-09-11 18:13:01
Local clock offset: -0.089 ms
Remote clock offset: -0.034 ms

Below is generated by plot.py at 2018-09-11 19:30:17
Datalink statistics
-- Total of 1 flow:
Average throughput: 699.91 Mbit/s
95th percentile per-packet one-way delay: 72.200 ms
Loss rate: 0.34%
-- Flow 1:
Average throughput: 699.91 Mbit/s
95th percentile per-packet one-way delay: 72.200 ms
Loss rate: 0.34%

Run 5: Report of Indigo-Muses — Data Link

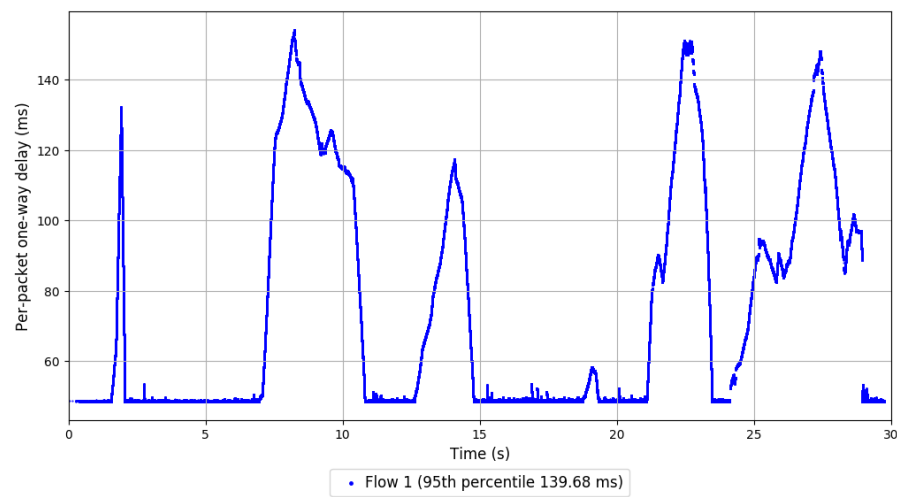
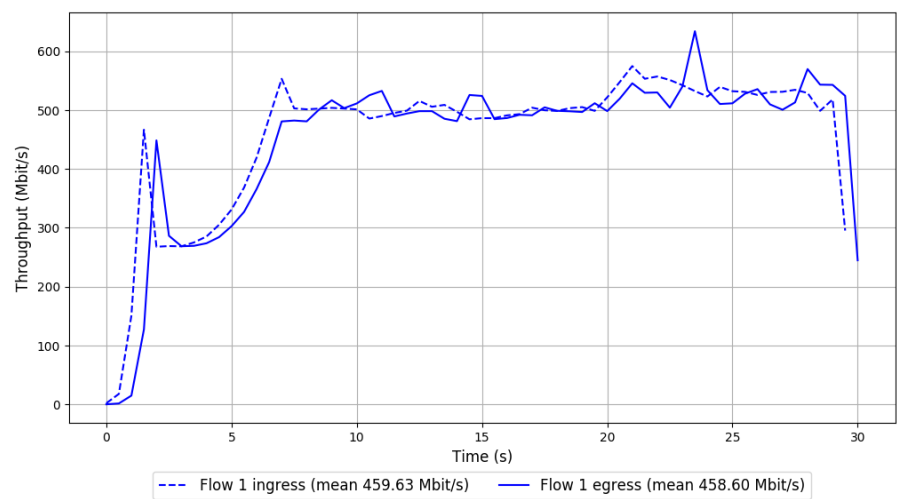


```
Run 1: Statistics of PCC-Allegro

Start at: 2018-09-11 16:13:39
End at: 2018-09-11 16:14:09
Local clock offset: -0.137 ms
Remote clock offset: -0.116 ms

# Below is generated by plot.py at 2018-09-11 19:32:49
# Datalink statistics
-- Total of 1 flow:
Average throughput: 458.60 Mbit/s
95th percentile per-packet one-way delay: 139.675 ms
Loss rate: 0.56%
-- Flow 1:
Average throughput: 458.60 Mbit/s
95th percentile per-packet one-way delay: 139.675 ms
Loss rate: 0.56%
```

Run 1: Report of PCC-Allegro — Data Link

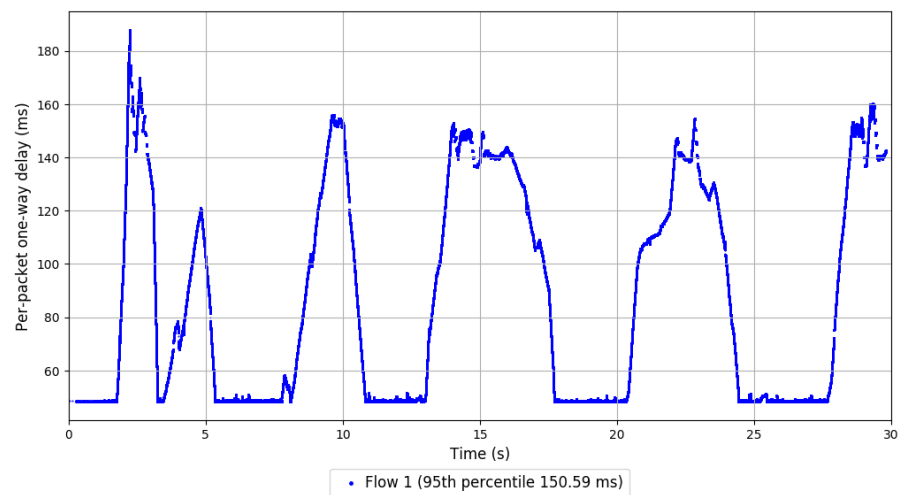
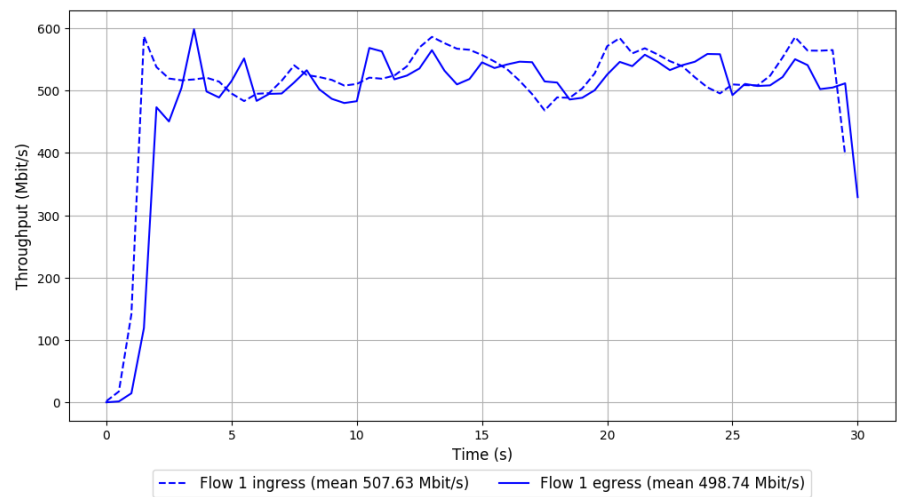


Run 2: Statistics of PCC-Allegro

Start at: 2018-09-11 16:38:55
End at: 2018-09-11 16:39:25
Local clock offset: -0.452 ms
Remote clock offset: -0.162 ms

Below is generated by plot.py at 2018-09-11 19:33:53
Datalink statistics
-- Total of 1 flow:
Average throughput: 498.74 Mbit/s
95th percentile per-packet one-way delay: 150.589 ms
Loss rate: 2.08%
-- Flow 1:
Average throughput: 498.74 Mbit/s
95th percentile per-packet one-way delay: 150.589 ms
Loss rate: 2.08%

Run 2: Report of PCC-Allegro — Data Link



Run 3: Statistics of PCC-Allegro

Start at: 2018-09-11 17:05:06

End at: 2018-09-11 17:05:36

Local clock offset: -0.067 ms

Remote clock offset: 0.022 ms

Below is generated by plot.py at 2018-09-11 19:33:57

Datalink statistics

-- Total of 1 flow:

Average throughput: 462.28 Mbit/s

95th percentile per-packet one-way delay: 126.028 ms

Loss rate: 0.50%

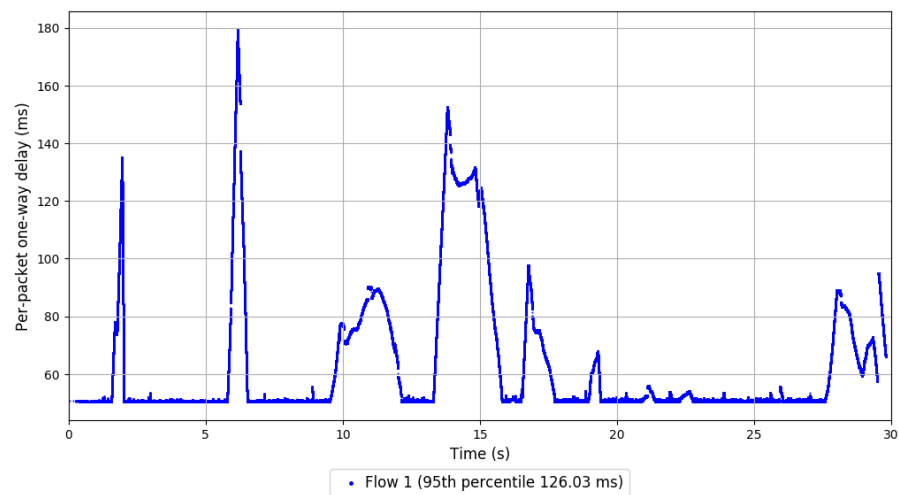
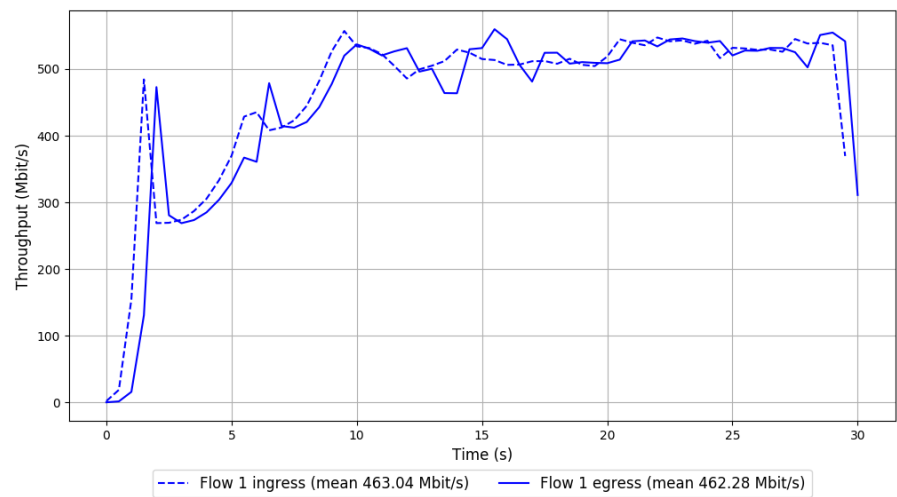
-- Flow 1:

Average throughput: 462.28 Mbit/s

95th percentile per-packet one-way delay: 126.028 ms

Loss rate: 0.50%

Run 3: Report of PCC-Allegro — Data Link



Run 4: Statistics of PCC-Allegro

Start at: 2018-09-11 17:31:04

End at: 2018-09-11 17:31:34

Local clock offset: -0.468 ms

Remote clock offset: -0.012 ms

Below is generated by plot.py at 2018-09-11 19:42:24

Datalink statistics

-- Total of 1 flow:

Average throughput: 512.32 Mbit/s

95th percentile per-packet one-way delay: 146.987 ms

Loss rate: 1.65%

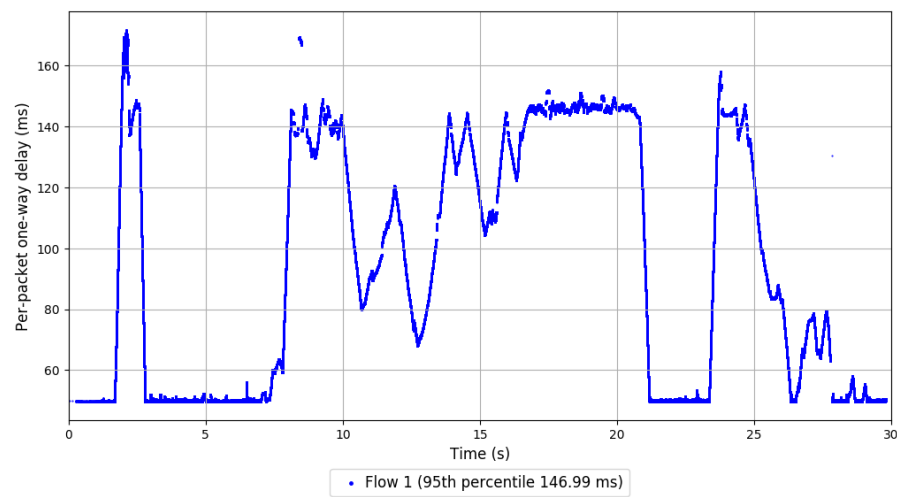
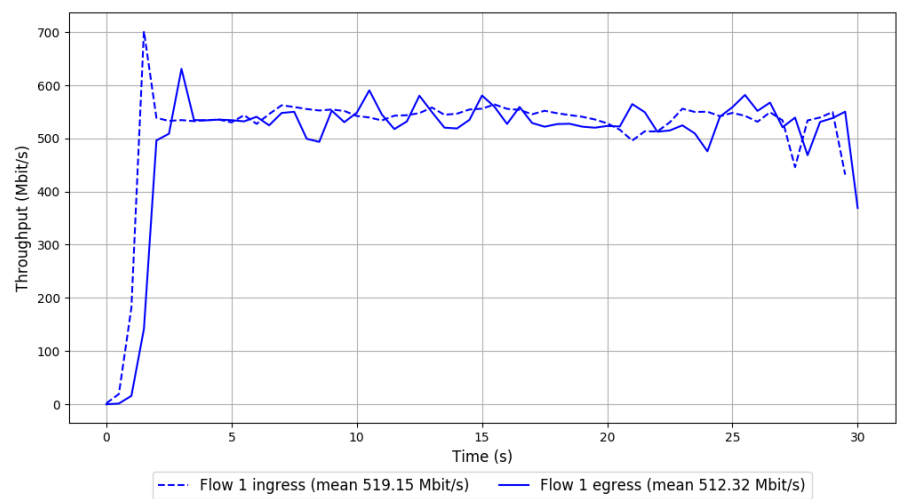
-- Flow 1:

Average throughput: 512.32 Mbit/s

95th percentile per-packet one-way delay: 146.987 ms

Loss rate: 1.65%

Run 4: Report of PCC-Allegro — Data Link

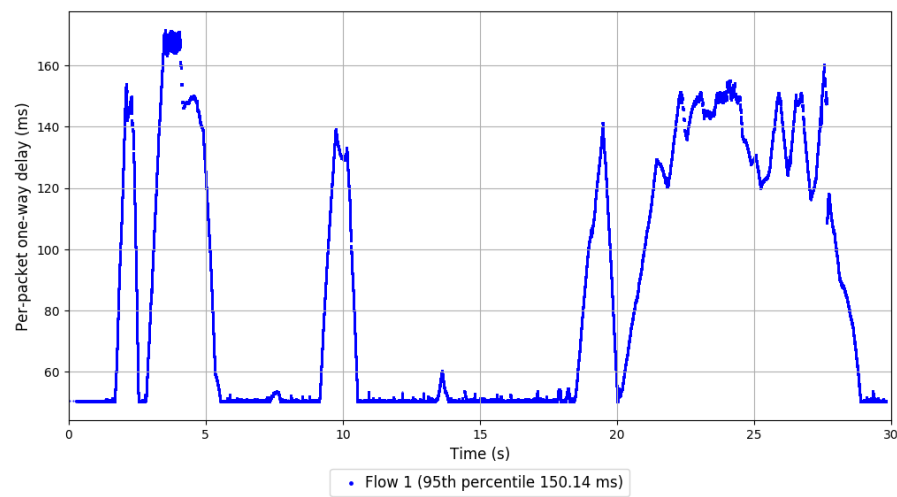
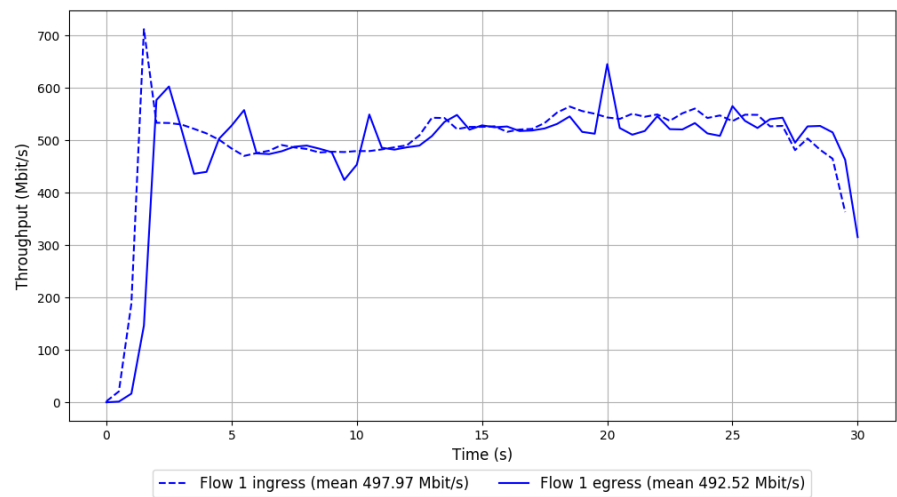


Run 5: Statistics of PCC-Allegro

Start at: 2018-09-11 17:57:00
End at: 2018-09-11 17:57:30
Local clock offset: -0.436 ms
Remote clock offset: -0.024 ms

Below is generated by plot.py at 2018-09-11 19:43:52
Datalink statistics
-- Total of 1 flow:
Average throughput: 492.52 Mbit/s
95th percentile per-packet one-way delay: 150.136 ms
Loss rate: 1.43%
-- Flow 1:
Average throughput: 492.52 Mbit/s
95th percentile per-packet one-way delay: 150.136 ms
Loss rate: 1.43%

Run 5: Report of PCC-Allegro — Data Link

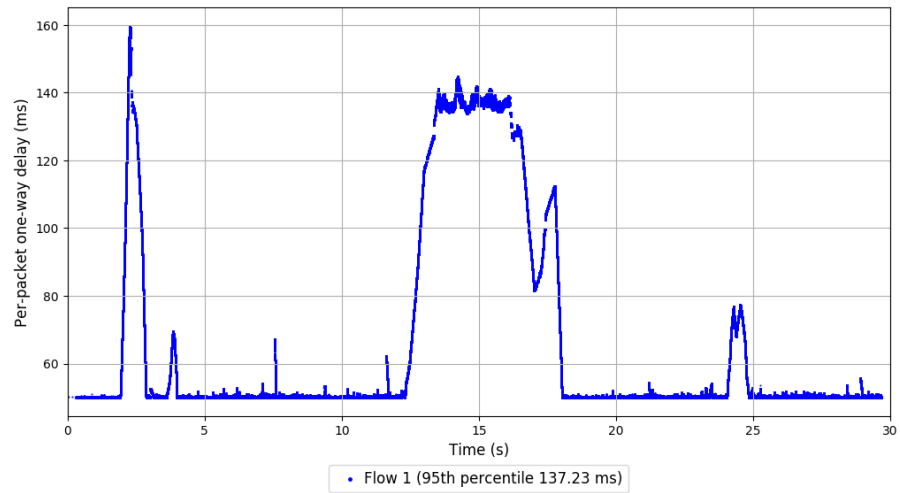
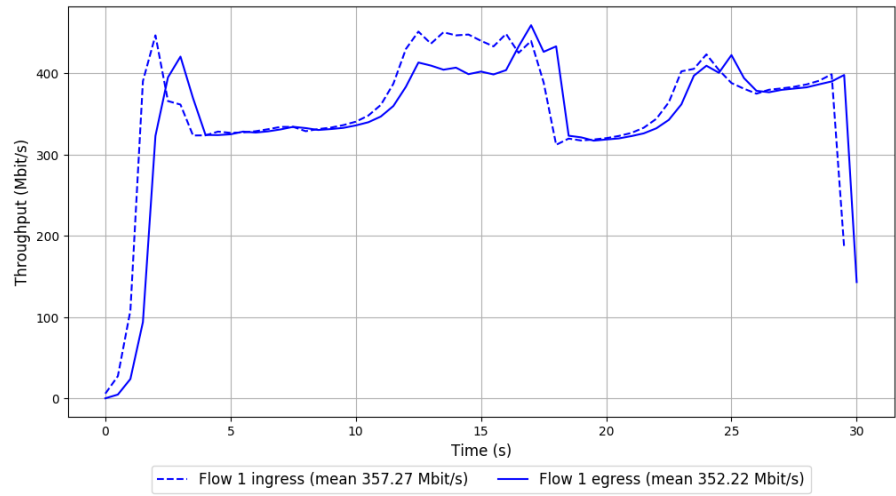


```
Run 1: Statistics of PCC-Expr

Start at: 2018-09-11 16:19:34
End at: 2018-09-11 16:20:04
Local clock offset: -0.133 ms
Remote clock offset: -0.12 ms

# Below is generated by plot.py at 2018-09-11 19:43:52
# Datalink statistics
-- Total of 1 flow:
Average throughput: 352.22 Mbit/s
95th percentile per-packet one-way delay: 137.233 ms
Loss rate: 1.75%
-- Flow 1:
Average throughput: 352.22 Mbit/s
95th percentile per-packet one-way delay: 137.233 ms
Loss rate: 1.75%
```

Run 1: Report of PCC-Expr — Data Link

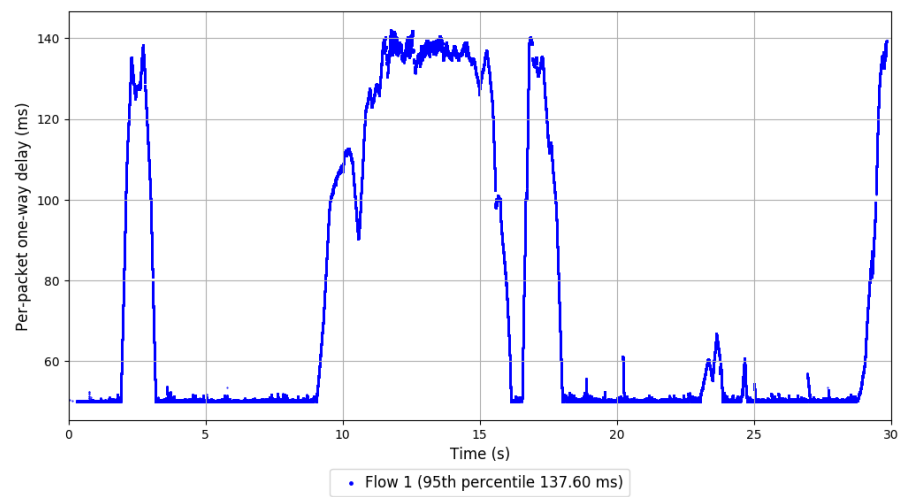
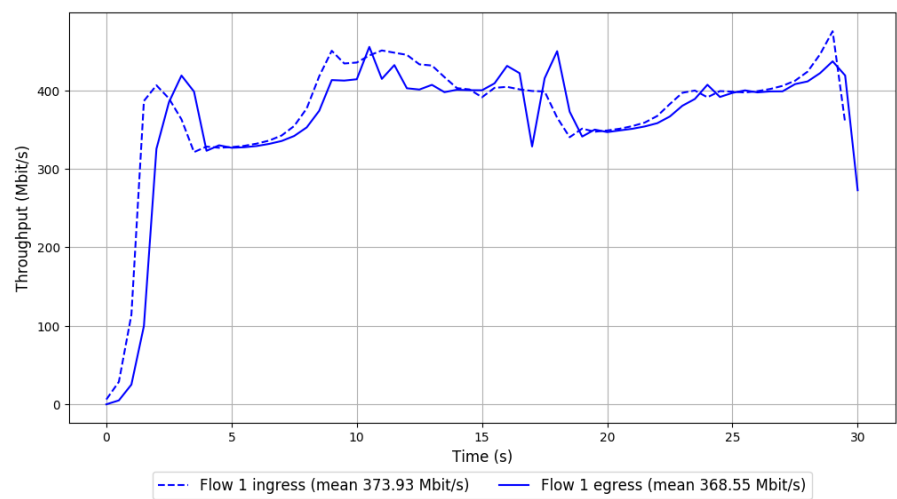


Run 2: Statistics of PCC-Expr

Start at: 2018-09-11 16:44:53
End at: 2018-09-11 16:45:23
Local clock offset: -0.115 ms
Remote clock offset: -0.121 ms

Below is generated by plot.py at 2018-09-11 19:43:52
Datalink statistics
-- Total of 1 flow:
Average throughput: 368.55 Mbit/s
95th percentile per-packet one-way delay: 137.604 ms
Loss rate: 1.77%
-- Flow 1:
Average throughput: 368.55 Mbit/s
95th percentile per-packet one-way delay: 137.604 ms
Loss rate: 1.77%

Run 2: Report of PCC-Expr — Data Link



Run 3: Statistics of PCC-Expr

Start at: 2018-09-11 17:11:01

End at: 2018-09-11 17:11:31

Local clock offset: -0.428 ms

Remote clock offset: 0.038 ms

Below is generated by plot.py at 2018-09-11 19:43:52

Datalink statistics

-- Total of 1 flow:

Average throughput: 355.36 Mbit/s

95th percentile per-packet one-way delay: 142.891 ms

Loss rate: 1.75%

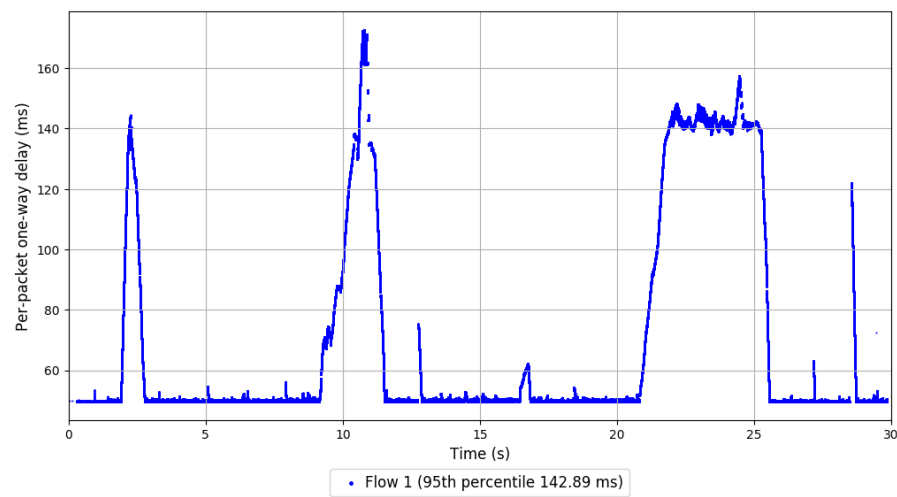
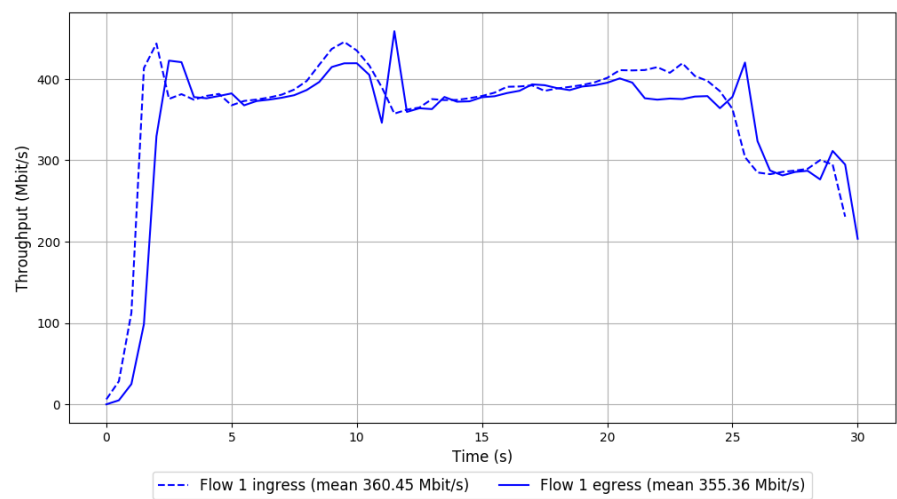
-- Flow 1:

Average throughput: 355.36 Mbit/s

95th percentile per-packet one-way delay: 142.891 ms

Loss rate: 1.75%

Run 3: Report of PCC-Expr — Data Link



Run 4: Statistics of PCC-Expr

Start at: 2018-09-11 17:37:04

End at: 2018-09-11 17:37:34

Local clock offset: -0.08 ms

Remote clock offset: -0.054 ms

Below is generated by plot.py at 2018-09-11 19:45:09

Datalink statistics

-- Total of 1 flow:

Average throughput: 368.59 Mbit/s

95th percentile per-packet one-way delay: 176.702 ms

Loss rate: 4.08%

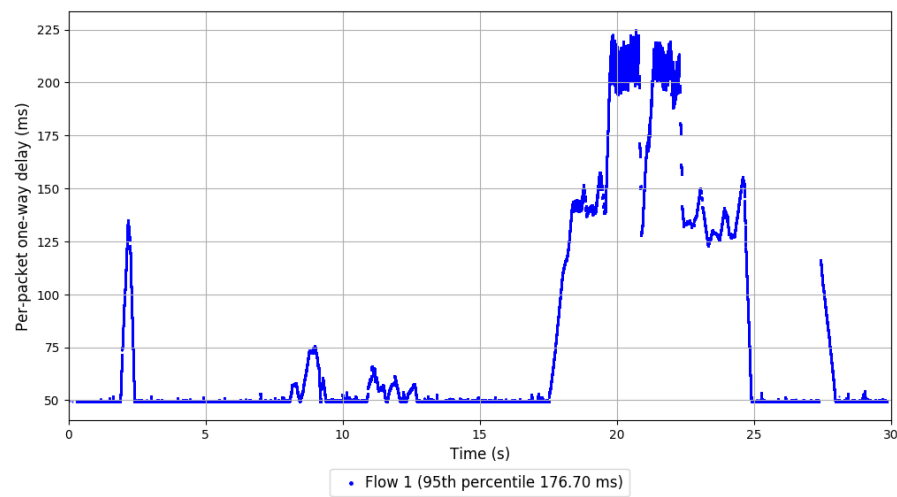
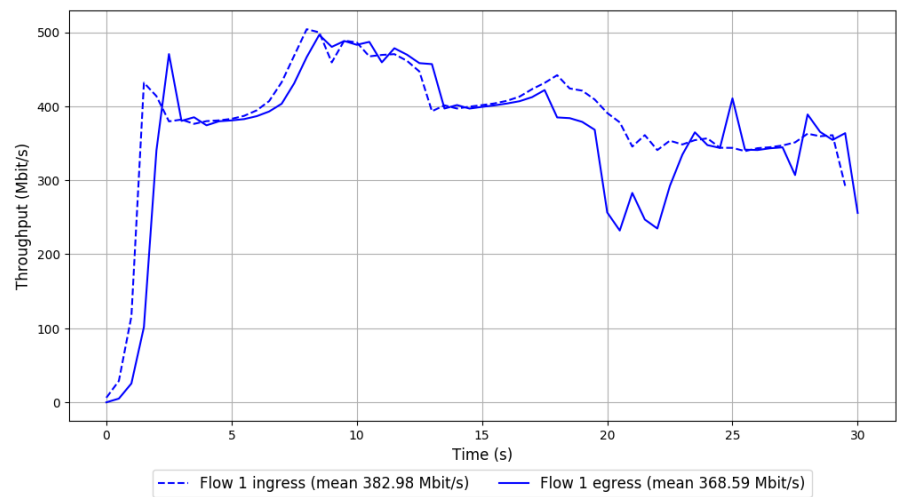
-- Flow 1:

Average throughput: 368.59 Mbit/s

95th percentile per-packet one-way delay: 176.702 ms

Loss rate: 4.08%

Run 4: Report of PCC-Expr — Data Link

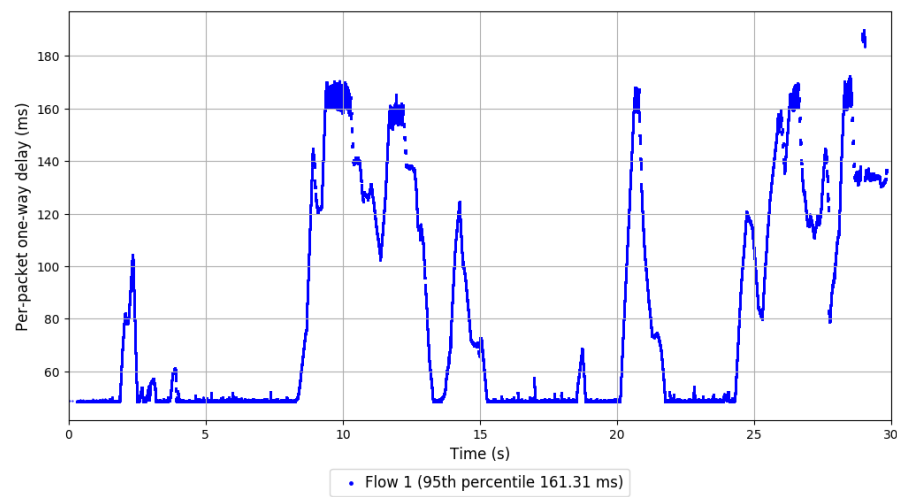
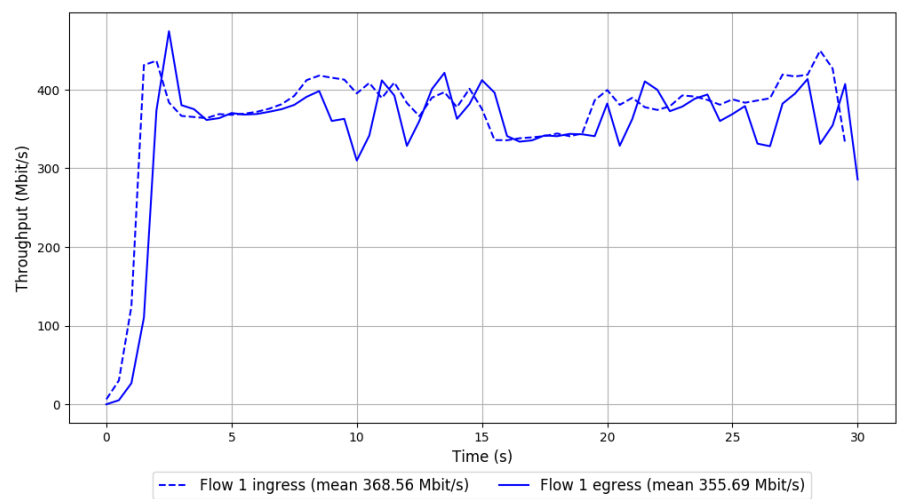


Run 5: Statistics of PCC-Expr

Start at: 2018-09-11 18:02:54
End at: 2018-09-11 18:03:24
Local clock offset: -0.127 ms
Remote clock offset: -0.076 ms

Below is generated by plot.py at 2018-09-11 19:46:50
Datalink statistics
-- Total of 1 flow:
Average throughput: 355.69 Mbit/s
95th percentile per-packet one-way delay: 161.314 ms
Loss rate: 3.81%
-- Flow 1:
Average throughput: 355.69 Mbit/s
95th percentile per-packet one-way delay: 161.314 ms
Loss rate: 3.81%

Run 5: Report of PCC-Expr — Data Link



Run 1: Statistics of QUIC Cubic

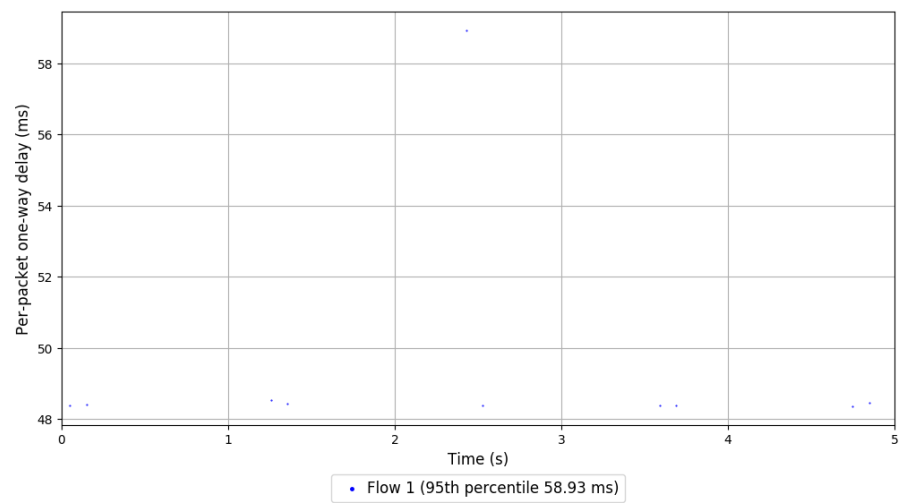
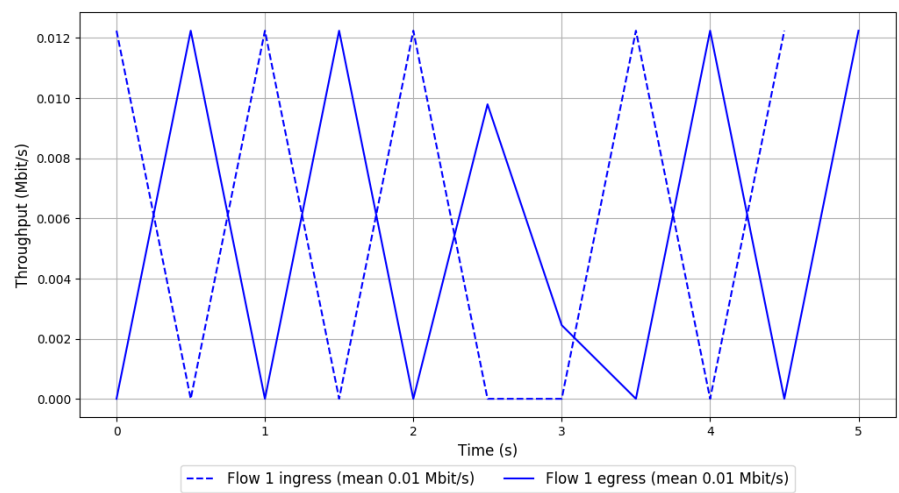
Start at: 2018-09-11 16:25:23

End at: 2018-09-11 16:25:53

Local clock offset: -0.488 ms

Remote clock offset: -0.133 ms

Run 1: Report of QUIC Cubic — Data Link

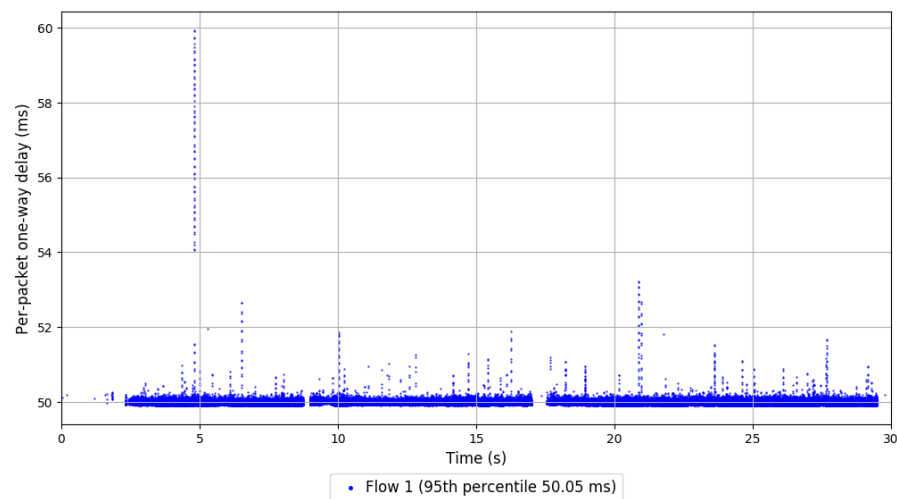
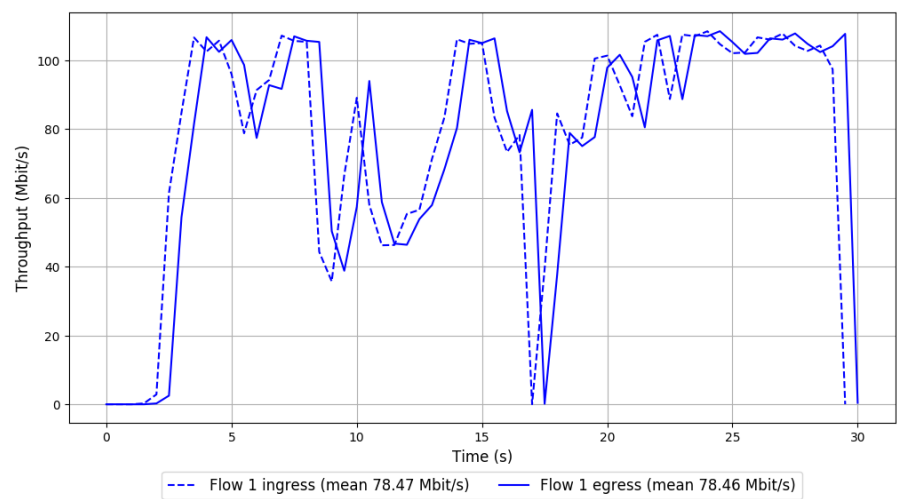


Run 2: Statistics of QUIC Cubic

Start at: 2018-09-11 16:50:43
End at: 2018-09-11 16:51:13
Local clock offset: -0.147 ms
Remote clock offset: -0.155 ms

Below is generated by plot.py at 2018-09-11 19:46:50
Datalink statistics
-- Total of 1 flow:
Average throughput: 78.46 Mbit/s
95th percentile per-packet one-way delay: 50.054 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 78.46 Mbit/s
95th percentile per-packet one-way delay: 50.054 ms
Loss rate: 0.00%

Run 2: Report of QUIC Cubic — Data Link



Run 3: Statistics of QUIC Cubic

Start at: 2018-09-11 17:16:43

End at: 2018-09-11 17:17:13

Local clock offset: -0.065 ms

Remote clock offset: 0.038 ms

Below is generated by plot.py at 2018-09-11 19:46:50

Datalink statistics

-- Total of 1 flow:

Average throughput: 74.03 Mbit/s

95th percentile per-packet one-way delay: 49.452 ms

Loss rate: 0.48%

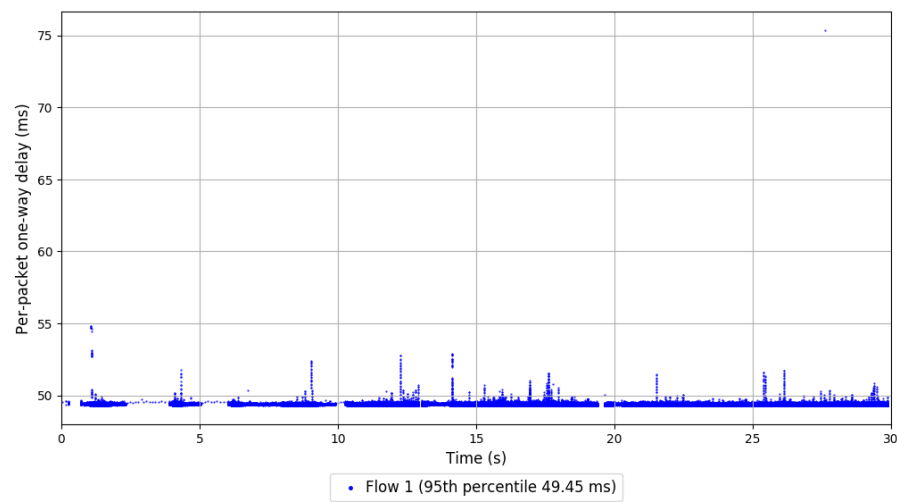
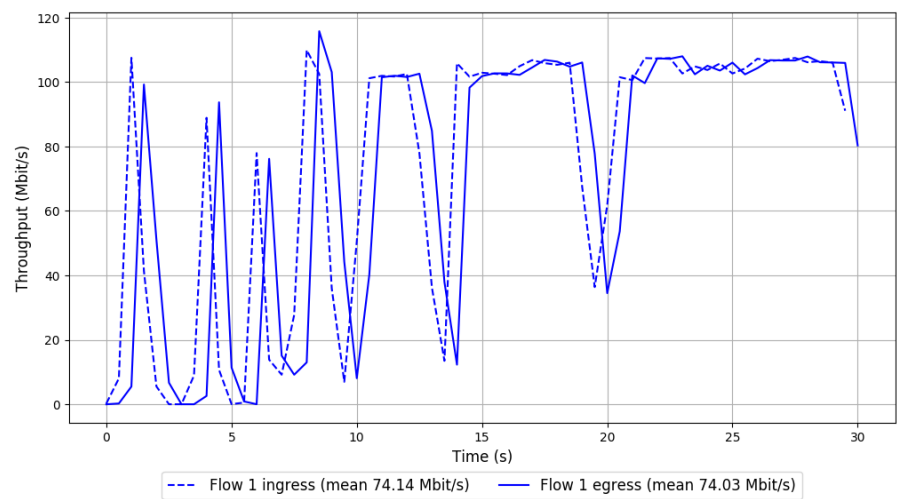
-- Flow 1:

Average throughput: 74.03 Mbit/s

95th percentile per-packet one-way delay: 49.452 ms

Loss rate: 0.48%

Run 3: Report of QUIC Cubic — Data Link



Run 4: Statistics of QUIC Cubic

Start at: 2018-09-11 17:42:48

End at: 2018-09-11 17:43:18

Local clock offset: -0.077 ms

Remote clock offset: -0.051 ms

Below is generated by plot.py at 2018-09-11 19:46:50

Datalink statistics

-- Total of 1 flow:

Average throughput: 46.21 Mbit/s

95th percentile per-packet one-way delay: 50.148 ms

Loss rate: 0.70%

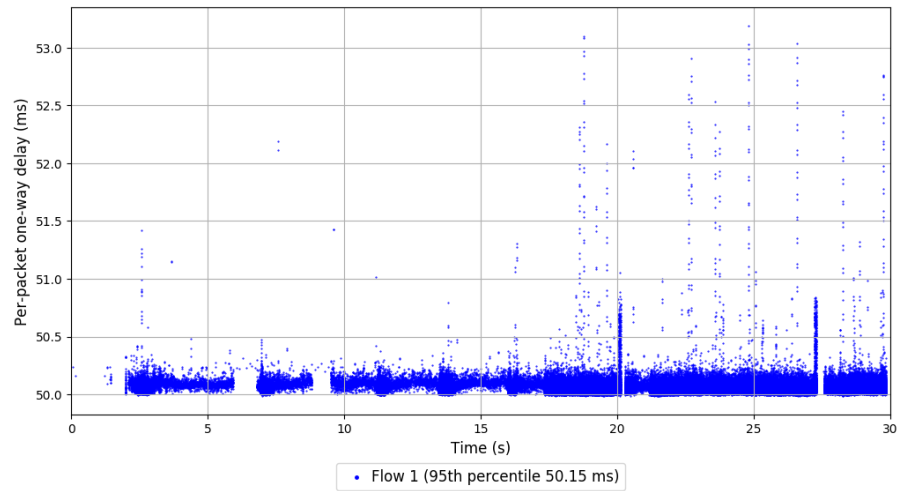
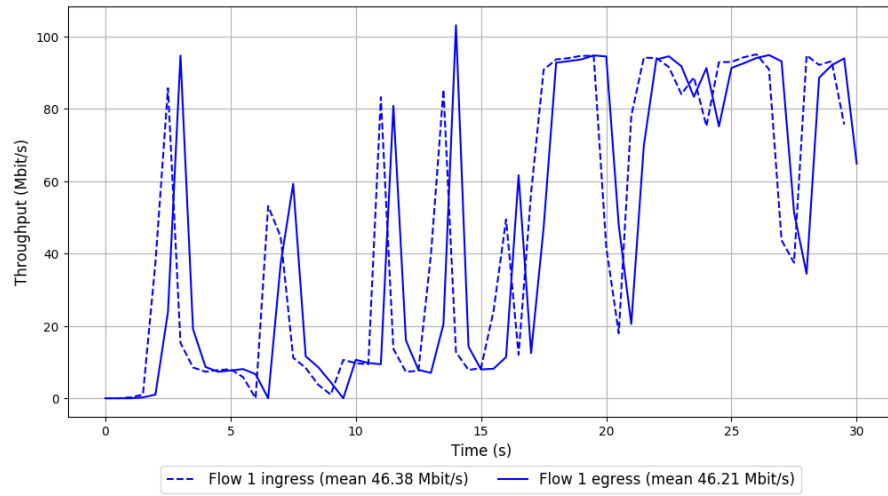
-- Flow 1:

Average throughput: 46.21 Mbit/s

95th percentile per-packet one-way delay: 50.148 ms

Loss rate: 0.70%

Run 4: Report of QUIC Cubic — Data Link

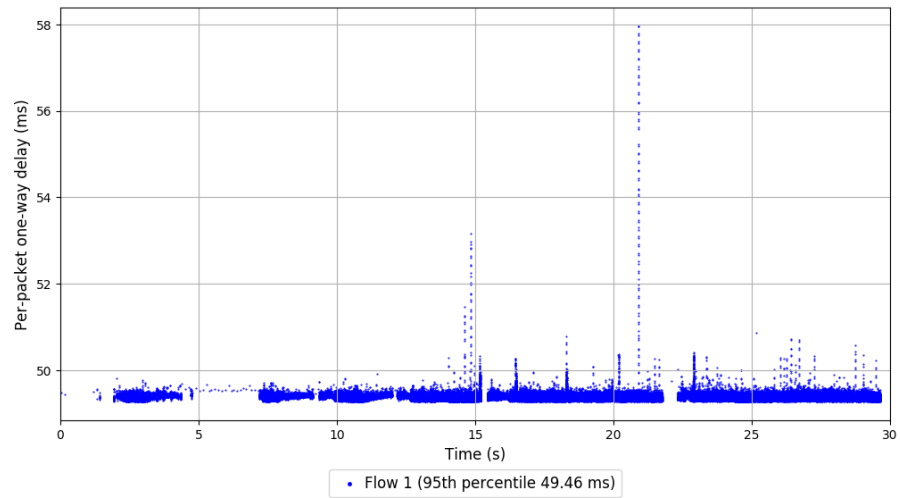
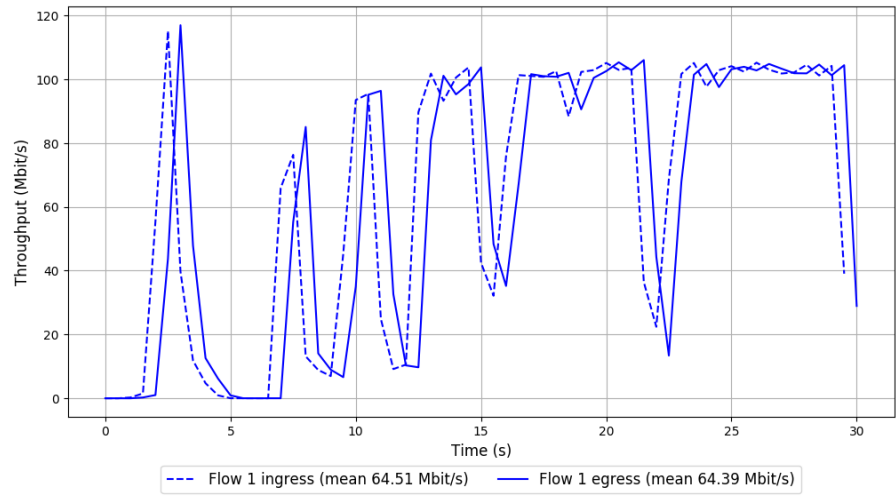


Run 5: Statistics of QUIC Cubic

Start at: 2018-09-11 18:08:43
End at: 2018-09-11 18:09:13
Local clock offset: -0.068 ms
Remote clock offset: -0.064 ms

Below is generated by plot.py at 2018-09-11 19:46:50
Datalink statistics
-- Total of 1 flow:
Average throughput: 64.39 Mbit/s
95th percentile per-packet one-way delay: 49.461 ms
Loss rate: 0.53%
-- Flow 1:
Average throughput: 64.39 Mbit/s
95th percentile per-packet one-way delay: 49.461 ms
Loss rate: 0.53%

Run 5: Report of QUIC Cubic — Data Link

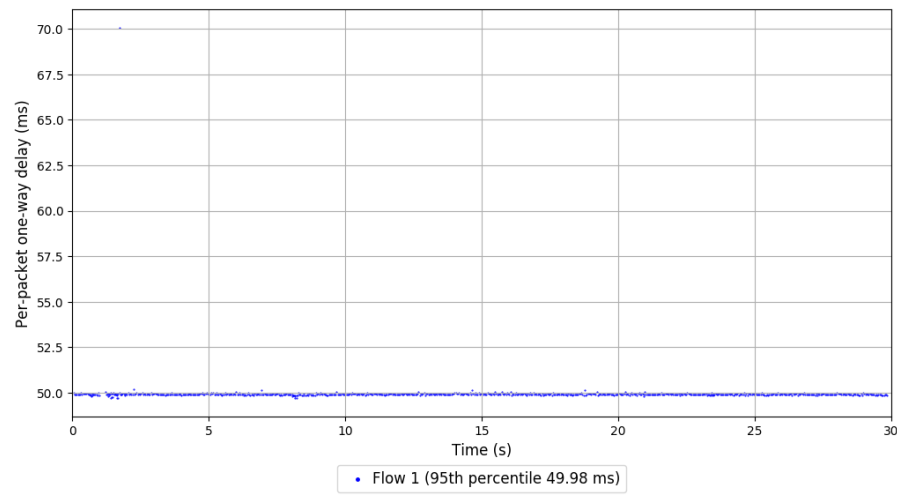
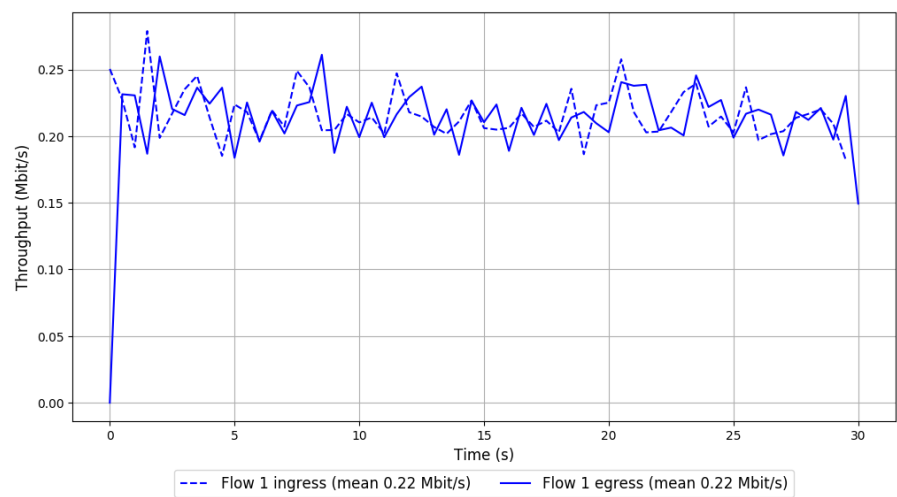


```
Run 1: Statistics of SCReAM

Start at: 2018-09-11 16:21:10
End at: 2018-09-11 16:21:40
Local clock offset: -0.476 ms
Remote clock offset: -0.147 ms

# Below is generated by plot.py at 2018-09-11 19:46:50
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 49.982 ms
Loss rate: 0.38%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 49.982 ms
Loss rate: 0.38%
```

Run 1: Report of SReAM — Data Link

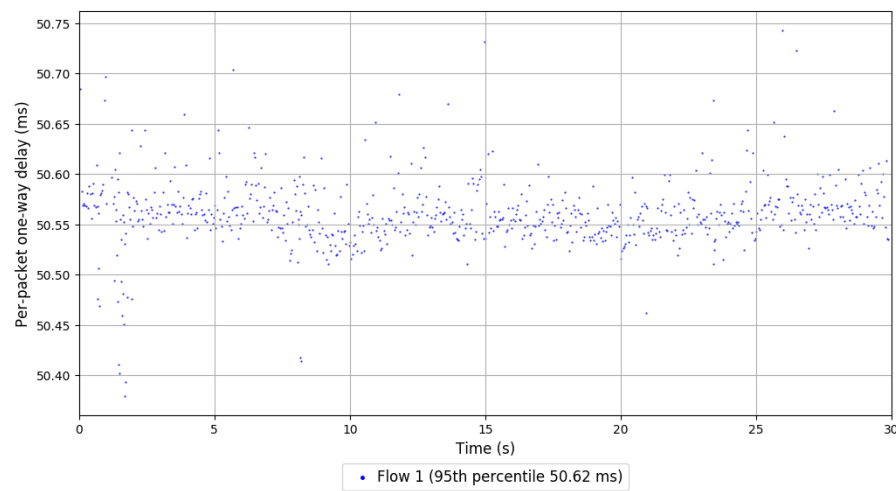
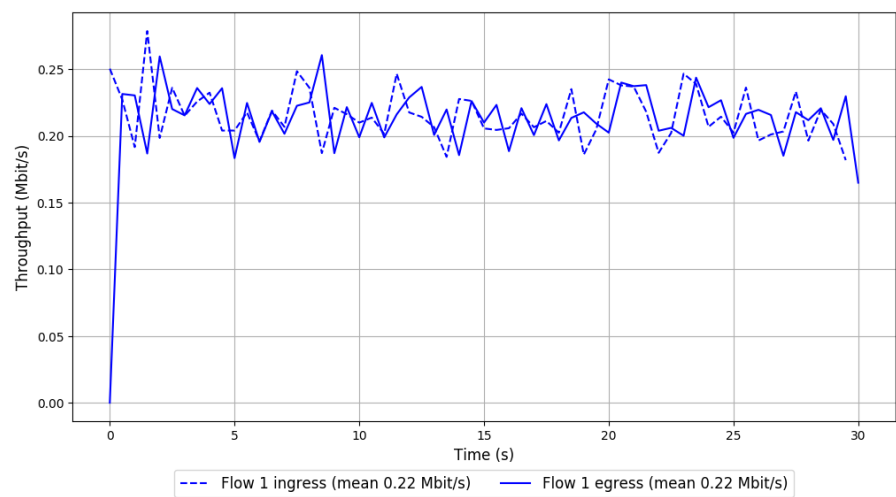


Run 2: Statistics of SCReAM

Start at: 2018-09-11 16:46:32
End at: 2018-09-11 16:47:02
Local clock offset: 0.26 ms
Remote clock offset: -0.142 ms

Below is generated by plot.py at 2018-09-11 19:46:50
Datalink statistics
-- Total of 1 flow:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 50.616 ms
Loss rate: 0.26%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 50.616 ms
Loss rate: 0.26%

Run 2: Report of SReAM — Data Link



Run 3: Statistics of SCReAM

Start at: 2018-09-11 17:12:37

End at: 2018-09-11 17:13:07

Local clock offset: -0.086 ms

Remote clock offset: 0.039 ms

Below is generated by plot.py at 2018-09-11 19:46:50

Datalink statistics

-- Total of 1 flow:

Average throughput: 0.22 Mbit/s

95th percentile per-packet one-way delay: 50.860 ms

Loss rate: 0.39%

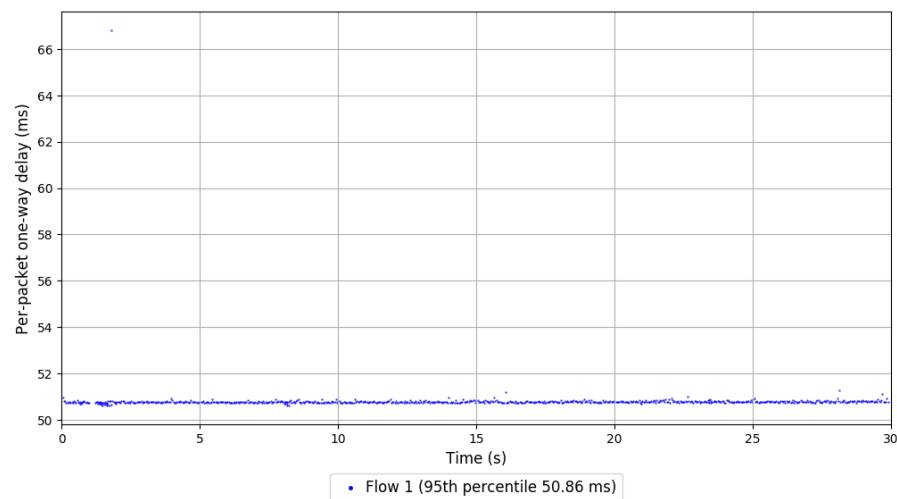
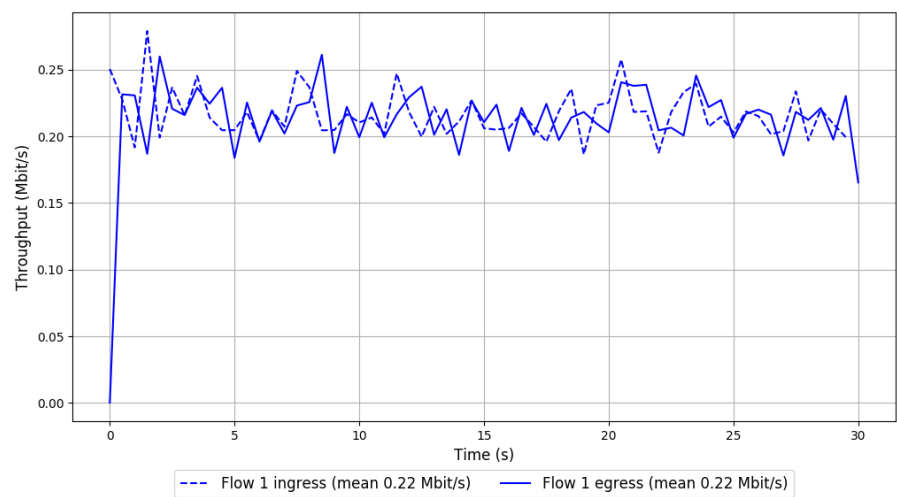
-- Flow 1:

Average throughput: 0.22 Mbit/s

95th percentile per-packet one-way delay: 50.860 ms

Loss rate: 0.39%

Run 3: Report of SReAM — Data Link

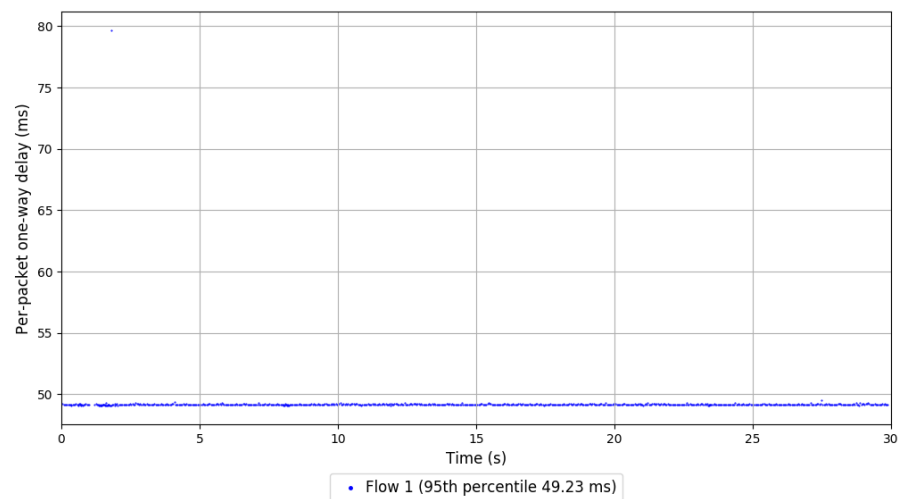
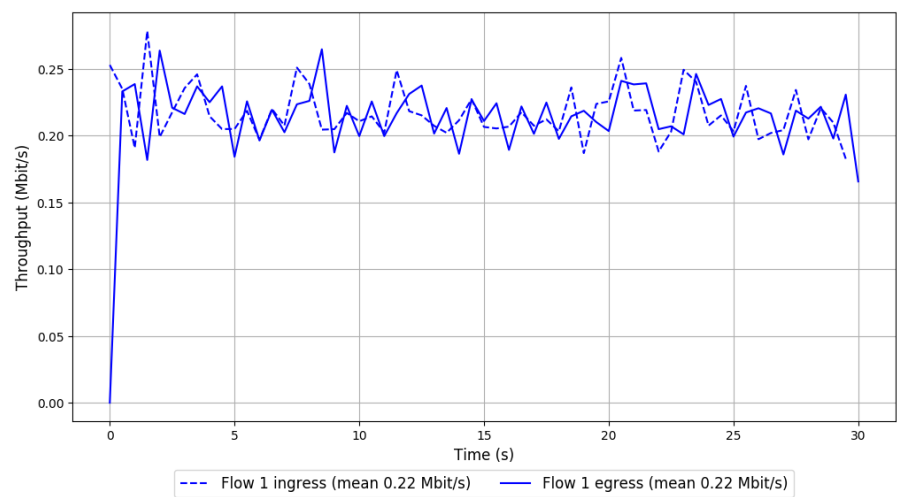


Run 4: Statistics of SCReAM

Start at: 2018-09-11 17:38:42
End at: 2018-09-11 17:39:12
Local clock offset: 0.275 ms
Remote clock offset: -0.053 ms

Below is generated by plot.py at 2018-09-11 19:46:50
Datalink statistics
-- Total of 1 flow:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 49.230 ms
Loss rate: 0.26%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 49.230 ms
Loss rate: 0.26%

Run 4: Report of SReAM — Data Link

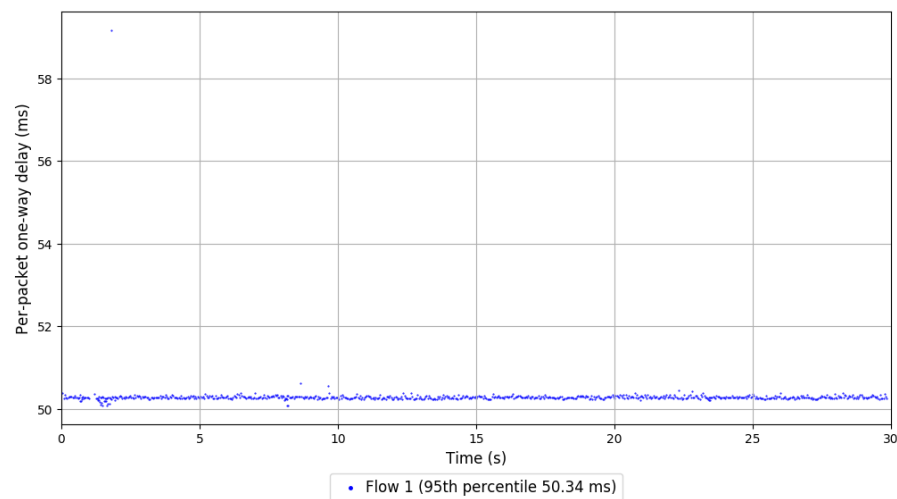
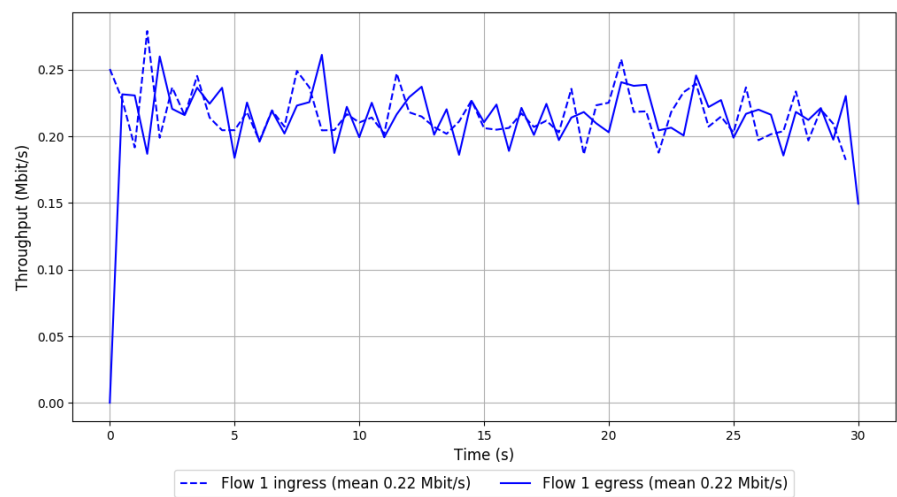


Run 5: Statistics of SCReAM

Start at: 2018-09-11 18:04:31
End at: 2018-09-11 18:05:01
Local clock offset: -0.074 ms
Remote clock offset: -0.078 ms

Below is generated by plot.py at 2018-09-11 19:46:50
Datalink statistics
-- Total of 1 flow:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 50.343 ms
Loss rate: 0.38%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 50.343 ms
Loss rate: 0.38%

Run 5: Report of SReAM — Data Link

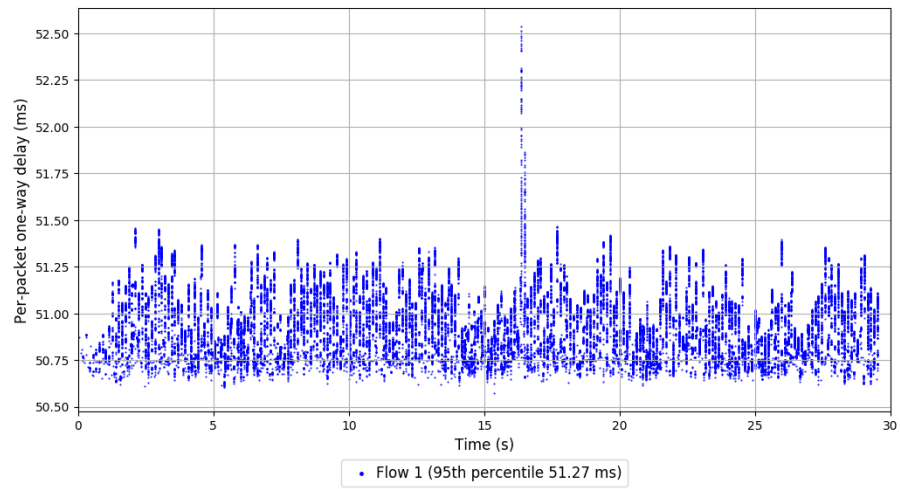
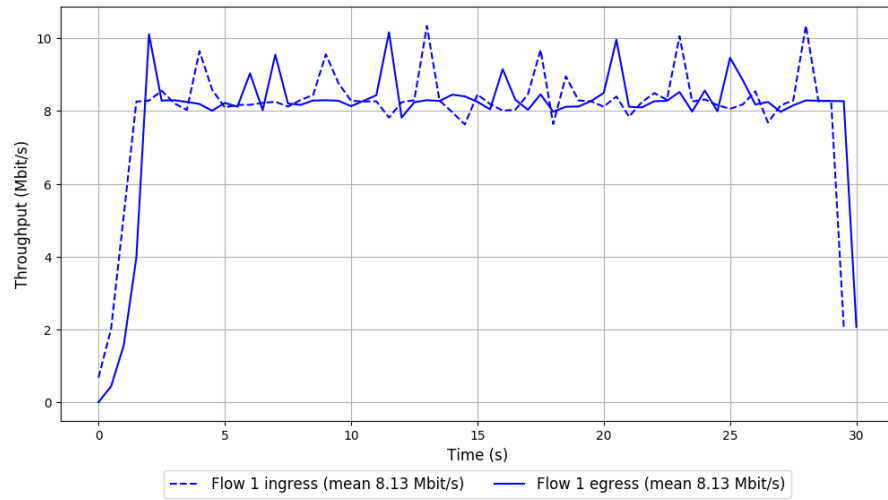


Run 1: Statistics of Sprout

Start at: 2018-09-11 16:16:52
End at: 2018-09-11 16:17:22
Local clock offset: -0.088 ms
Remote clock offset: -0.113 ms

Below is generated by plot.py at 2018-09-11 19:46:50
Datalink statistics
-- Total of 1 flow:
Average throughput: 8.13 Mbit/s
95th percentile per-packet one-way delay: 51.270 ms
Loss rate: 0.43%
-- Flow 1:
Average throughput: 8.13 Mbit/s
95th percentile per-packet one-way delay: 51.270 ms
Loss rate: 0.43%

Run 1: Report of Sprout — Data Link

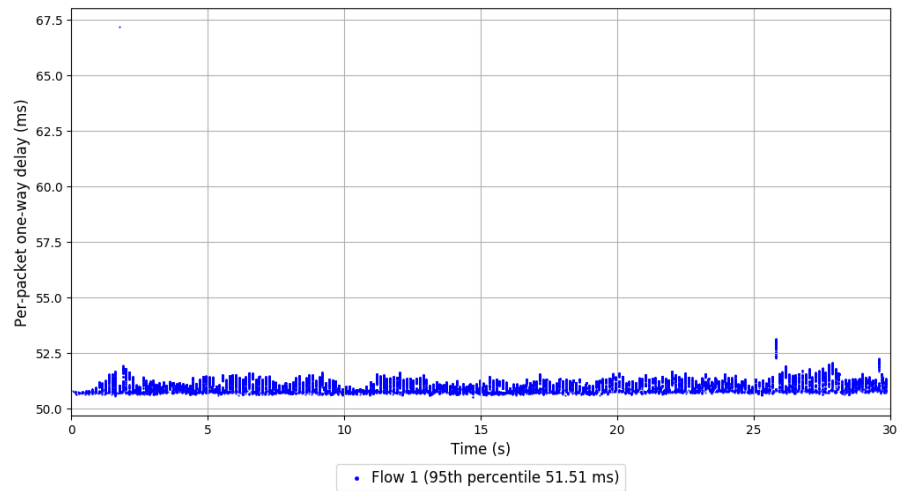
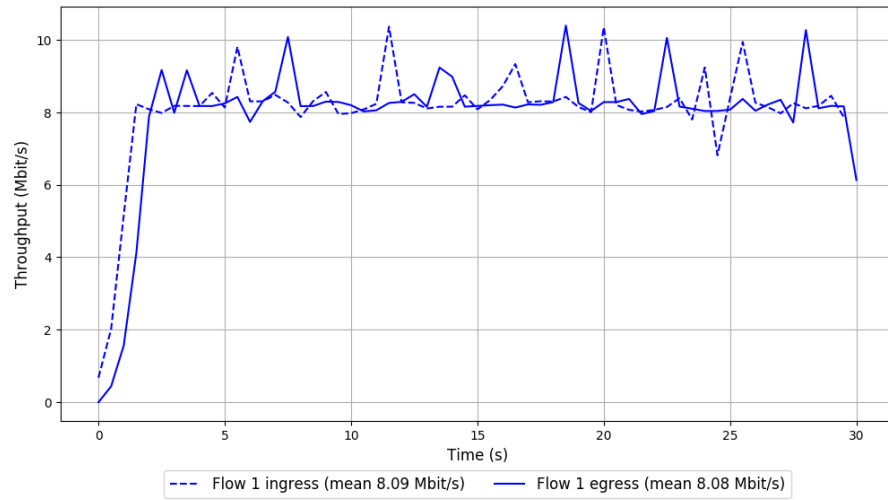


Run 2: Statistics of Sprout

Start at: 2018-09-11 16:42:10
End at: 2018-09-11 16:42:40
Local clock offset: -0.104 ms
Remote clock offset: -0.127 ms

Below is generated by plot.py at 2018-09-11 19:46:51
Datalink statistics
-- Total of 1 flow:
Average throughput: 8.08 Mbit/s
95th percentile per-packet one-way delay: 51.509 ms
Loss rate: 0.42%
-- Flow 1:
Average throughput: 8.08 Mbit/s
95th percentile per-packet one-way delay: 51.509 ms
Loss rate: 0.42%

Run 2: Report of Sprout — Data Link

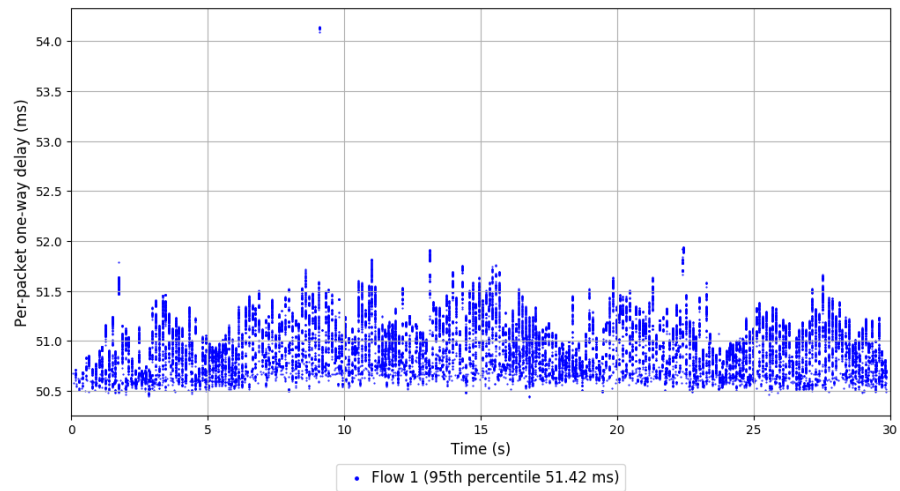
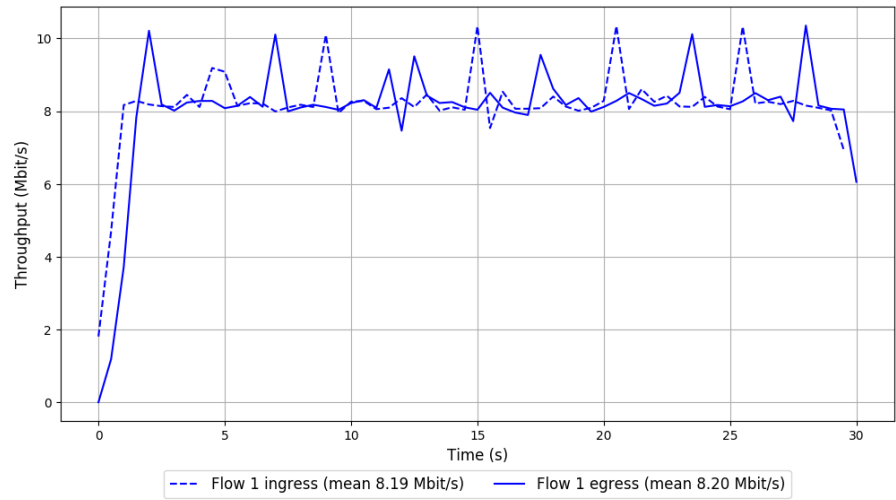


Run 3: Statistics of Sprout

Start at: 2018-09-11 17:08:18
End at: 2018-09-11 17:08:48
Local clock offset: 0.279 ms
Remote clock offset: -0.044 ms

Below is generated by plot.py at 2018-09-11 19:46:51
Datalink statistics
-- Total of 1 flow:
Average throughput: 8.20 Mbit/s
95th percentile per-packet one-way delay: 51.425 ms
Loss rate: 0.18%
-- Flow 1:
Average throughput: 8.20 Mbit/s
95th percentile per-packet one-way delay: 51.425 ms
Loss rate: 0.18%

Run 3: Report of Sprout — Data Link



Run 4: Statistics of Sprout

Start at: 2018-09-11 17:34:20

End at: 2018-09-11 17:34:50

Local clock offset: -0.061 ms

Remote clock offset: 0.009 ms

Below is generated by plot.py at 2018-09-11 19:46:51

Datalink statistics

-- Total of 1 flow:

Average throughput: 8.28 Mbit/s

95th percentile per-packet one-way delay: 49.675 ms

Loss rate: 0.04%

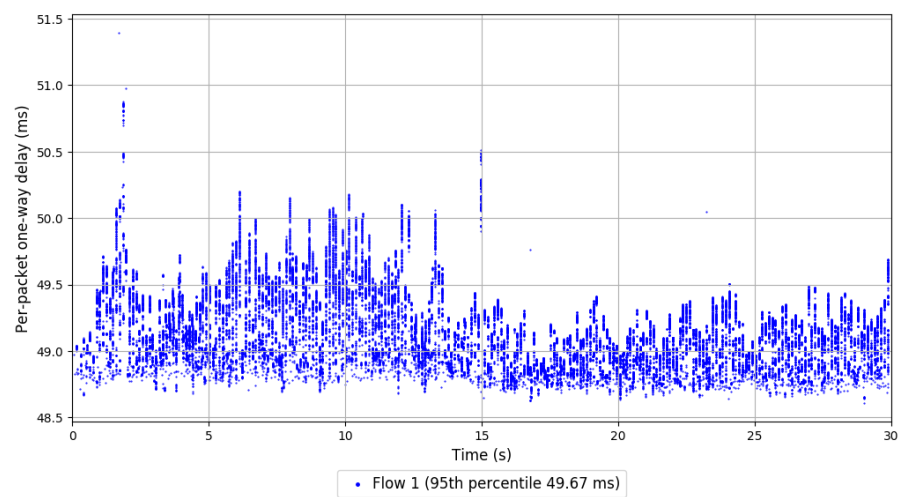
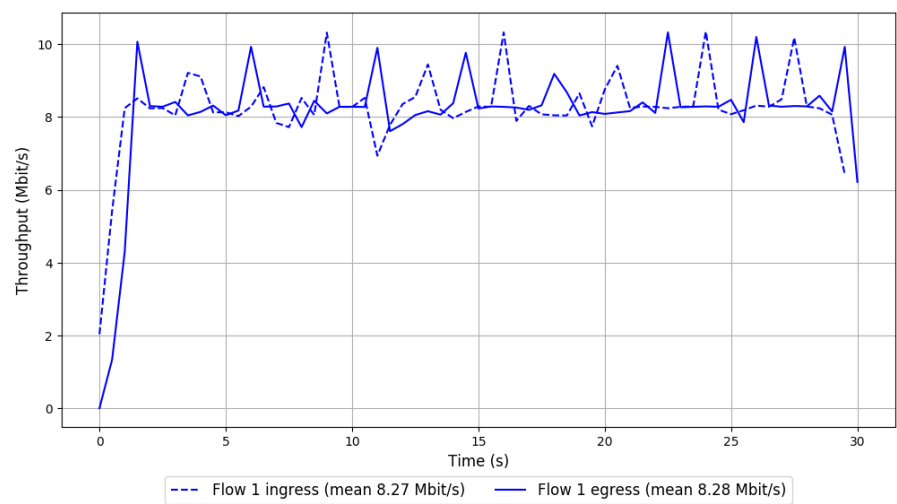
-- Flow 1:

Average throughput: 8.28 Mbit/s

95th percentile per-packet one-way delay: 49.675 ms

Loss rate: 0.04%

Run 4: Report of Sprout — Data Link

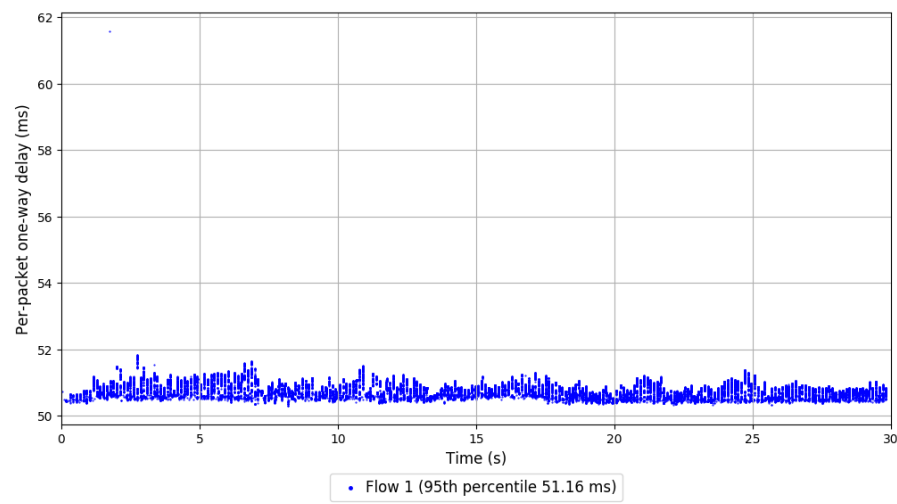
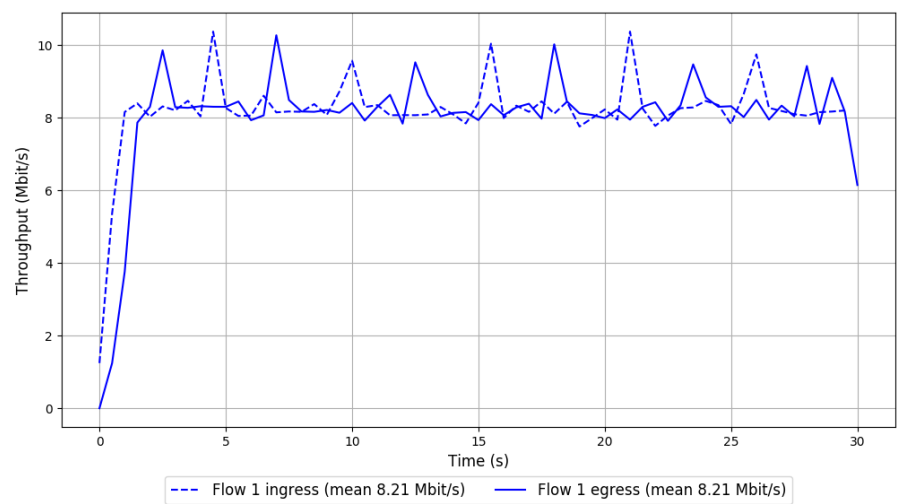


Run 5: Statistics of Sprout

Start at: 2018-09-11 18:00:11
End at: 2018-09-11 18:00:41
Local clock offset: -0.445 ms
Remote clock offset: -0.087 ms

Below is generated by plot.py at 2018-09-11 19:46:51
Datalink statistics
-- Total of 1 flow:
Average throughput: 8.21 Mbit/s
95th percentile per-packet one-way delay: 51.155 ms
Loss rate: 0.42%
-- Flow 1:
Average throughput: 8.21 Mbit/s
95th percentile per-packet one-way delay: 51.155 ms
Loss rate: 0.42%

Run 5: Report of Sprout — Data Link

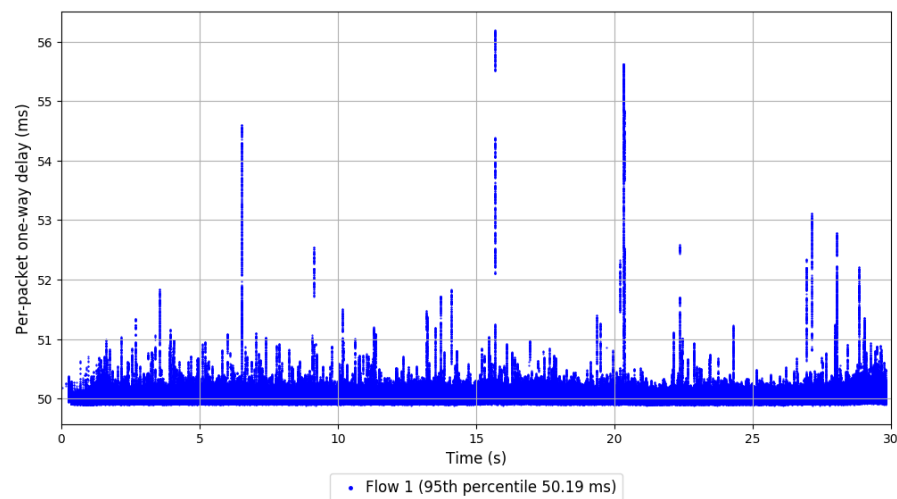
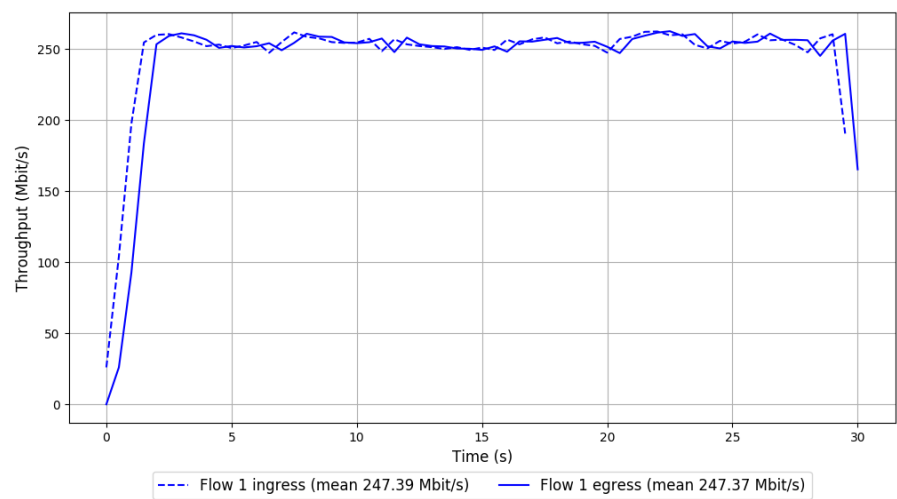


```
Run 1: Statistics of TaoVA-100x

Start at: 2018-09-11 16:26:29
End at: 2018-09-11 16:26:59
Local clock offset: -0.056 ms
Remote clock offset: -0.02 ms

# Below is generated by plot.py at 2018-09-11 19:48:36
# Datalink statistics
-- Total of 1 flow:
Average throughput: 247.37 Mbit/s
95th percentile per-packet one-way delay: 50.189 ms
Loss rate: 0.35%
-- Flow 1:
Average throughput: 247.37 Mbit/s
95th percentile per-packet one-way delay: 50.189 ms
Loss rate: 0.35%
```

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



Run 2: Statistics of TaoVA-100x

Start at: 2018-09-11 16:51:54

End at: 2018-09-11 16:52:24

Local clock offset: -0.151 ms

Remote clock offset: -0.141 ms

Below is generated by plot.py at 2018-09-11 19:48:39

Datalink statistics

-- Total of 1 flow:

Average throughput: 246.93 Mbit/s

95th percentile per-packet one-way delay: 50.201 ms

Loss rate: 0.36%

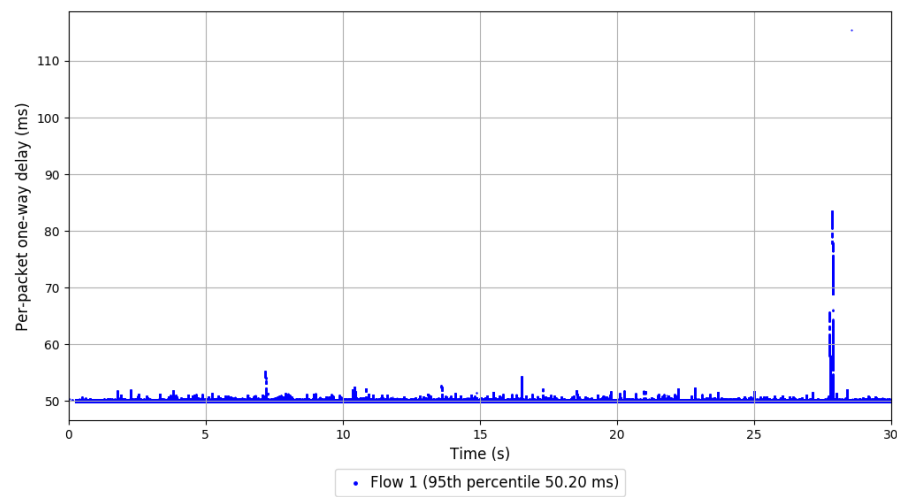
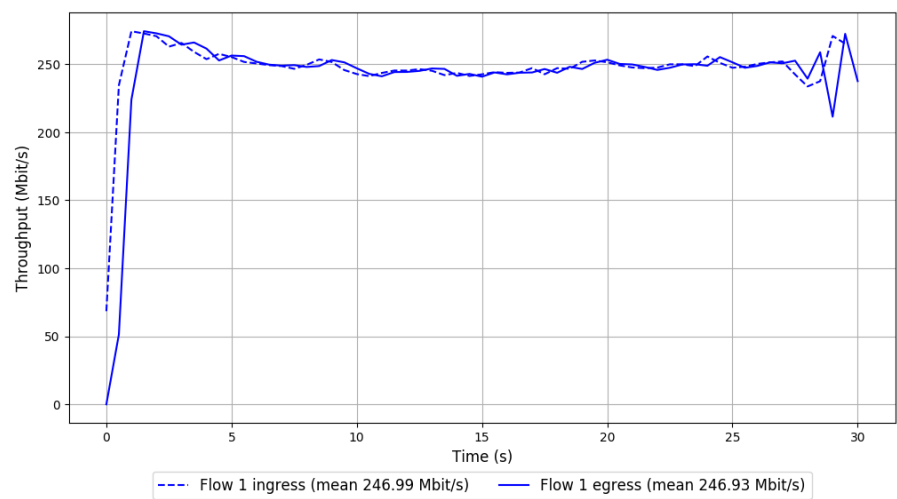
-- Flow 1:

Average throughput: 246.93 Mbit/s

95th percentile per-packet one-way delay: 50.201 ms

Loss rate: 0.36%

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



Run 3: Statistics of TaoVA-100x

Start at: 2018-09-11 17:17:53

End at: 2018-09-11 17:18:23

Local clock offset: -0.463 ms

Remote clock offset: 0.052 ms

Below is generated by plot.py at 2018-09-11 19:49:13

Datalink statistics

-- Total of 1 flow:

Average throughput: 242.95 Mbit/s

95th percentile per-packet one-way delay: 50.390 ms

Loss rate: 0.37%

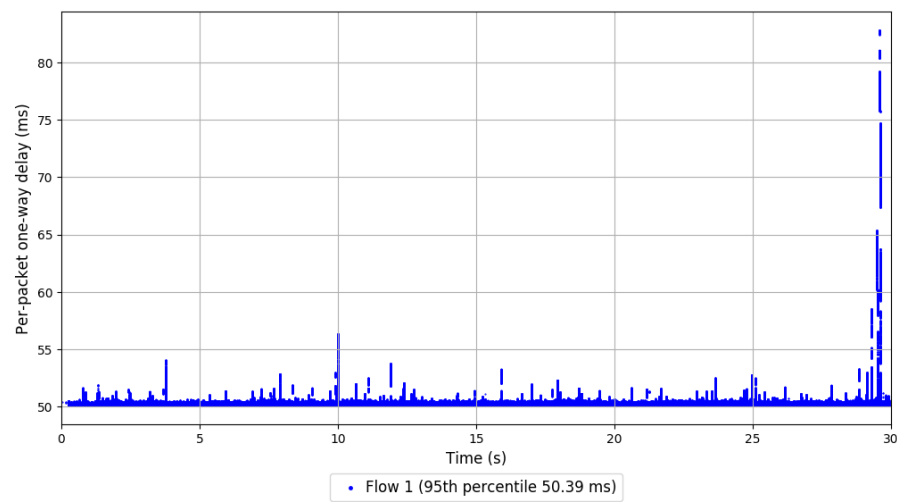
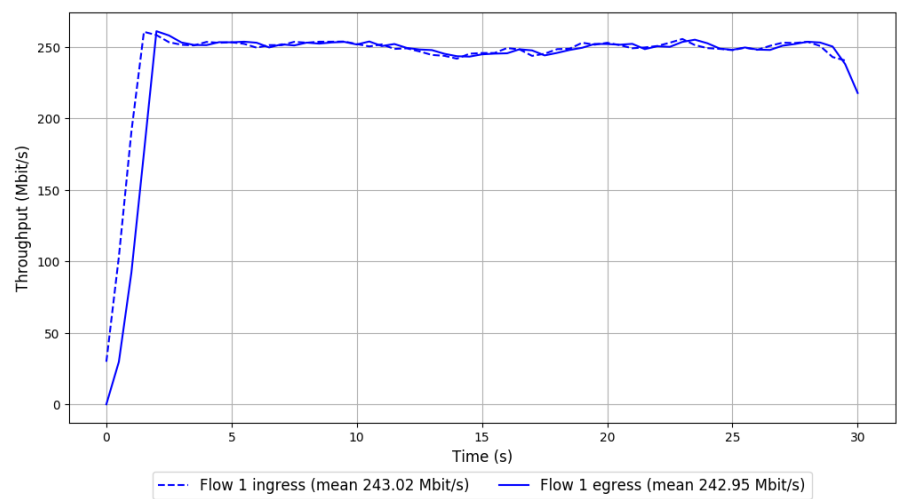
-- Flow 1:

Average throughput: 242.95 Mbit/s

95th percentile per-packet one-way delay: 50.390 ms

Loss rate: 0.37%

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

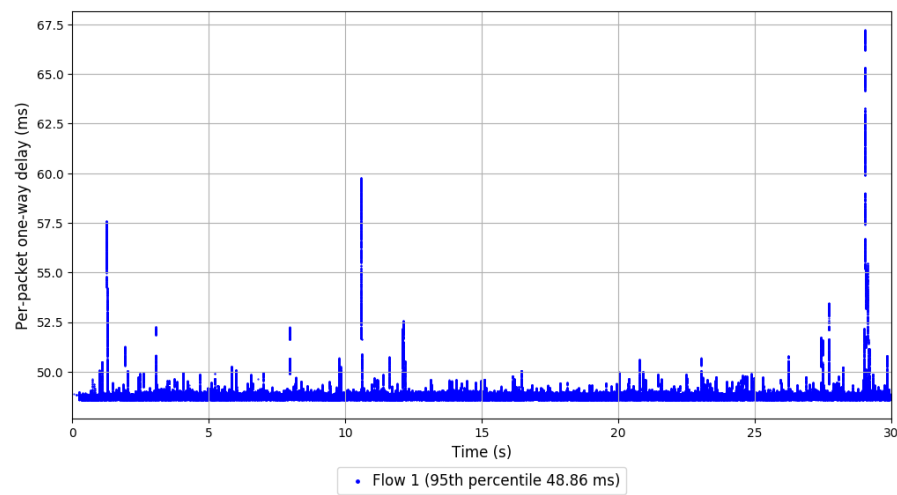
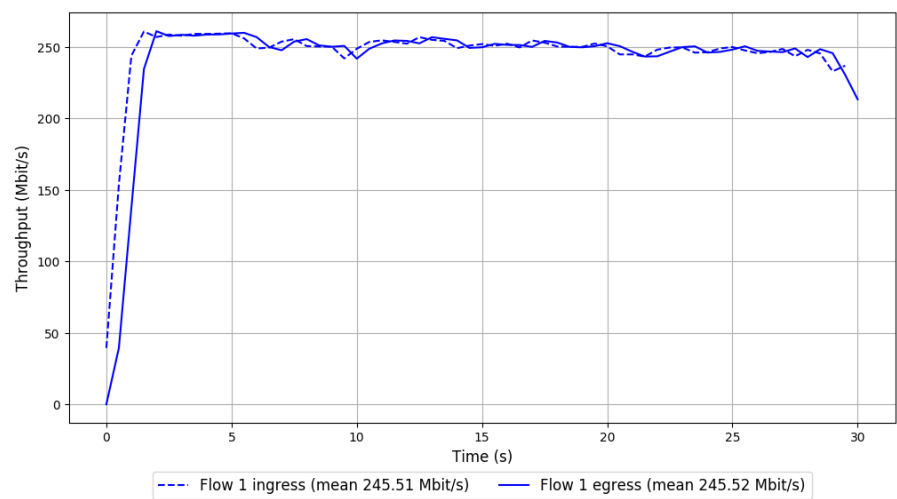


Run 4: Statistics of TaoVA-100x

Start at: 2018-09-11 17:43:57
End at: 2018-09-11 17:44:27
Local clock offset: -0.076 ms
Remote clock offset: -0.078 ms

Below is generated by plot.py at 2018-09-11 19:49:38
Datalink statistics
-- Total of 1 flow:
Average throughput: 245.52 Mbit/s
95th percentile per-packet one-way delay: 48.863 ms
Loss rate: 0.33%
-- Flow 1:
Average throughput: 245.52 Mbit/s
95th percentile per-packet one-way delay: 48.863 ms
Loss rate: 0.33%

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

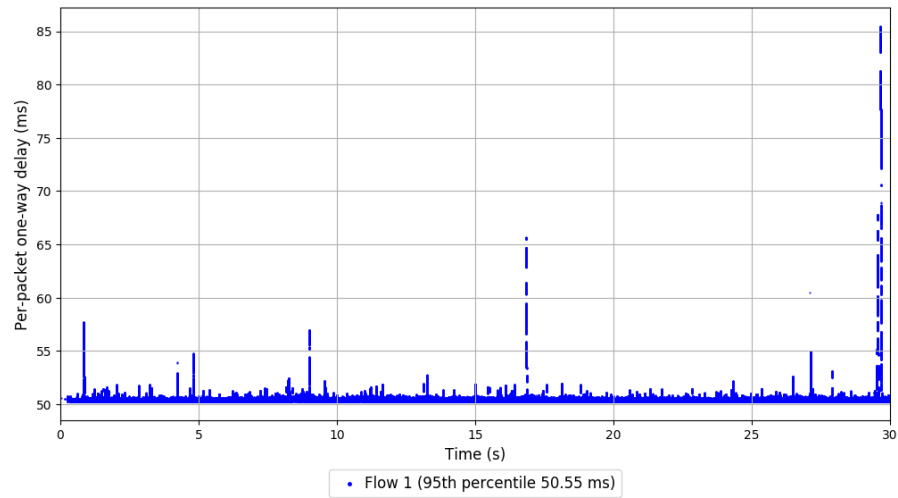
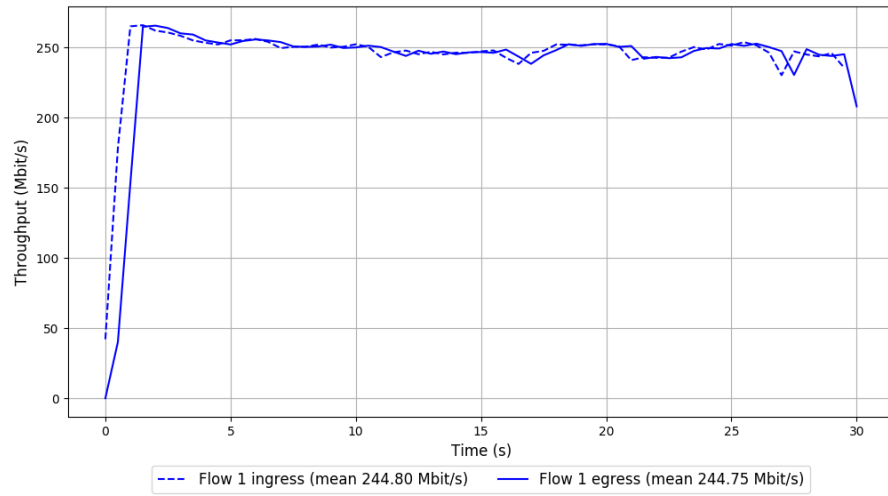


Run 5: Statistics of TaoVA-100x

Start at: 2018-09-11 18:09:53
End at: 2018-09-11 18:10:23
Local clock offset: -0.412 ms
Remote clock offset: -0.042 ms

Below is generated by plot.py at 2018-09-11 19:49:57
Datalink statistics
-- Total of 1 flow:
Average throughput: 244.75 Mbit/s
95th percentile per-packet one-way delay: 50.550 ms
Loss rate: 0.35%
-- Flow 1:
Average throughput: 244.75 Mbit/s
95th percentile per-packet one-way delay: 50.550 ms
Loss rate: 0.35%

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

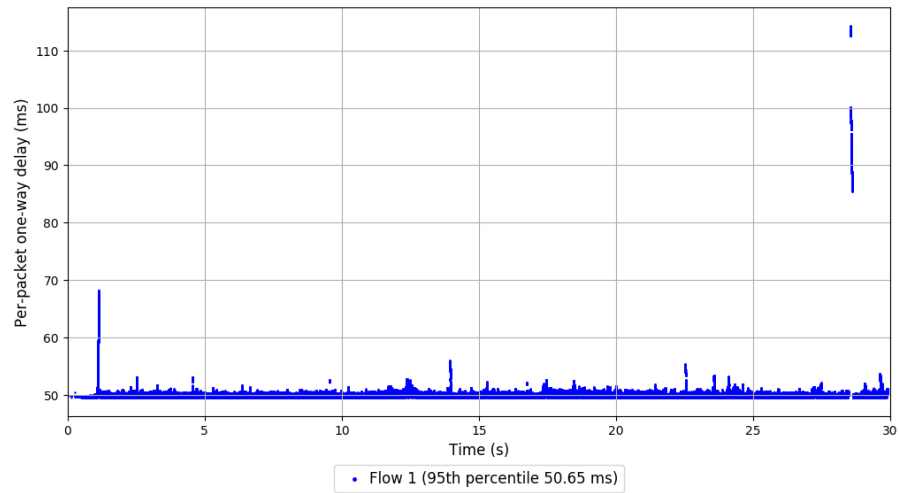
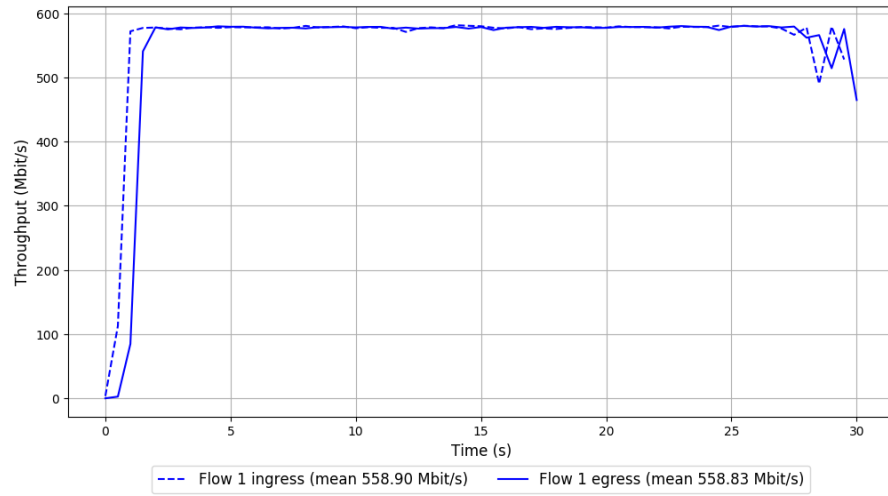


Run 1: Statistics of TCP Vegas

Start at: 2018-09-11 16:22:17
End at: 2018-09-11 16:22:47
Local clock offset: 0.158 ms
Remote clock offset: -0.086 ms

Below is generated by plot.py at 2018-09-11 19:53:00
Datalink statistics
-- Total of 1 flow:
Average throughput: 558.83 Mbit/s
95th percentile per-packet one-way delay: 50.648 ms
Loss rate: 0.35%
-- Flow 1:
Average throughput: 558.83 Mbit/s
95th percentile per-packet one-way delay: 50.648 ms
Loss rate: 0.35%

Run 1: Report of TCP Vegas — Data Link

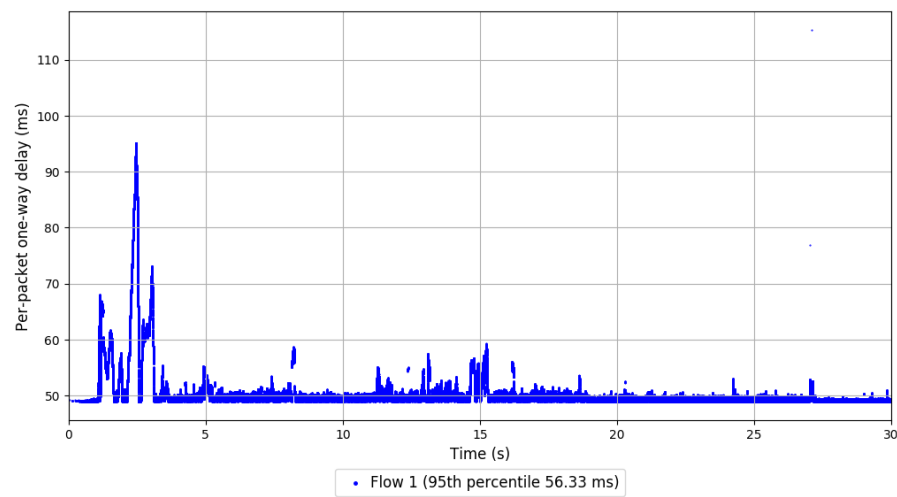
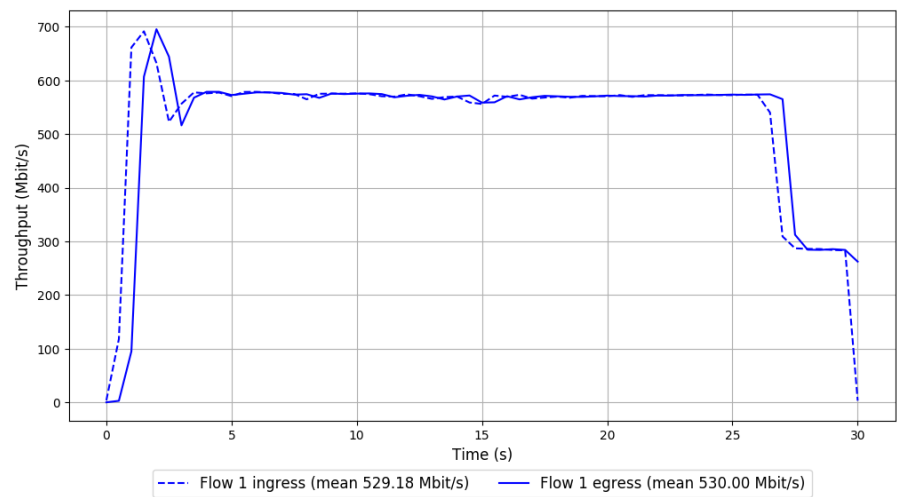


Run 2: Statistics of TCP Vegas

Start at: 2018-09-11 16:47:38
End at: 2018-09-11 16:48:08
Local clock offset: 0.241 ms
Remote clock offset: -0.124 ms

Below is generated by plot.py at 2018-09-11 19:55:11
Datalink statistics
-- Total of 1 flow:
Average throughput: 530.00 Mbit/s
95th percentile per-packet one-way delay: 56.329 ms
Loss rate: 0.18%
-- Flow 1:
Average throughput: 530.00 Mbit/s
95th percentile per-packet one-way delay: 56.329 ms
Loss rate: 0.18%

Run 2: Report of TCP Vegas — Data Link



Run 3: Statistics of TCP Vegas

Start at: 2018-09-11 17:13:44

End at: 2018-09-11 17:14:14

Local clock offset: 0.299 ms

Remote clock offset: 0.055 ms

Below is generated by plot.py at 2018-09-11 19:57:01

Datalink statistics

-- Total of 1 flow:

Average throughput: 559.20 Mbit/s

95th percentile per-packet one-way delay: 51.993 ms

Loss rate: 0.34%

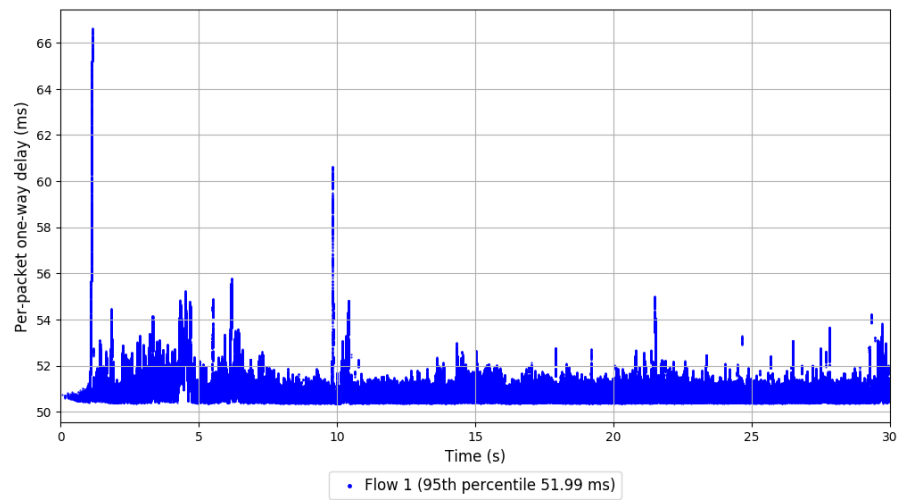
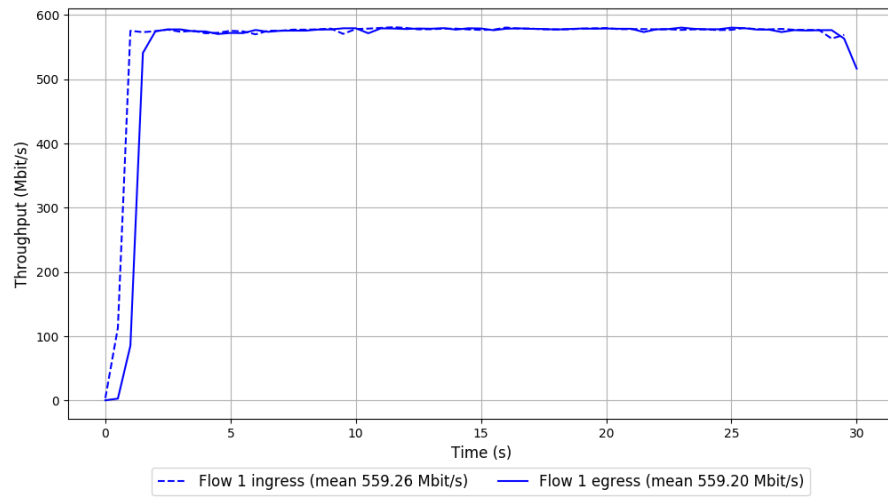
-- Flow 1:

Average throughput: 559.20 Mbit/s

95th percentile per-packet one-way delay: 51.993 ms

Loss rate: 0.34%

Run 3: Report of TCP Vegas — Data Link

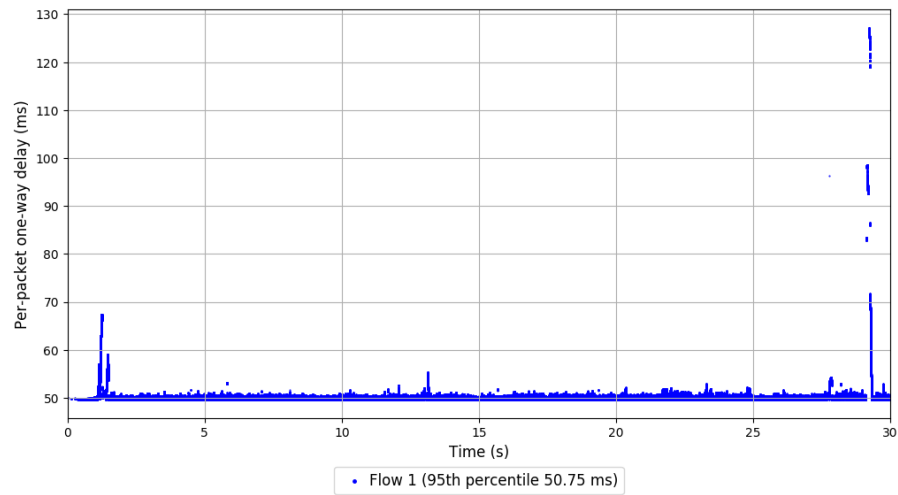
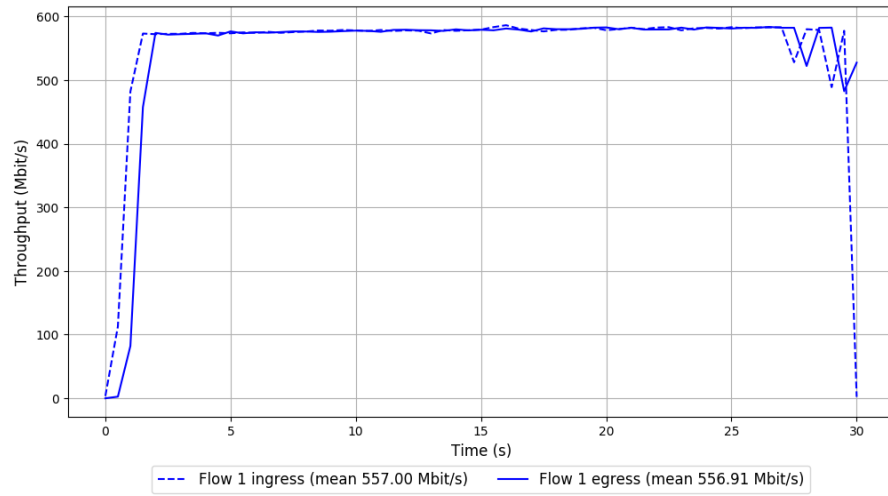


Run 4: Statistics of TCP Vegas

Start at: 2018-09-11 17:39:48
End at: 2018-09-11 17:40:18
Local clock offset: -0.435 ms
Remote clock offset: -0.088 ms

Below is generated by plot.py at 2018-09-11 19:57:59
Datalink statistics
-- Total of 1 flow:
Average throughput: 556.91 Mbit/s
95th percentile per-packet one-way delay: 50.746 ms
Loss rate: 0.35%
-- Flow 1:
Average throughput: 556.91 Mbit/s
95th percentile per-packet one-way delay: 50.746 ms
Loss rate: 0.35%

Run 4: Report of TCP Vegas — Data Link

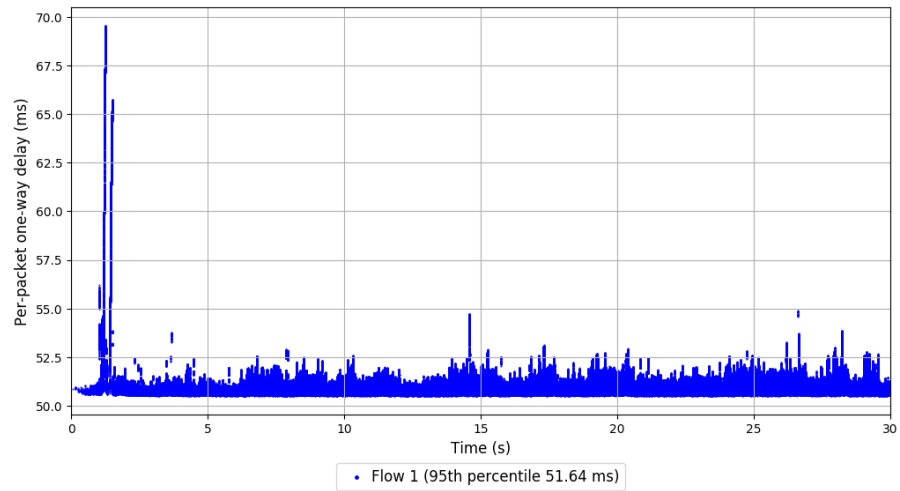
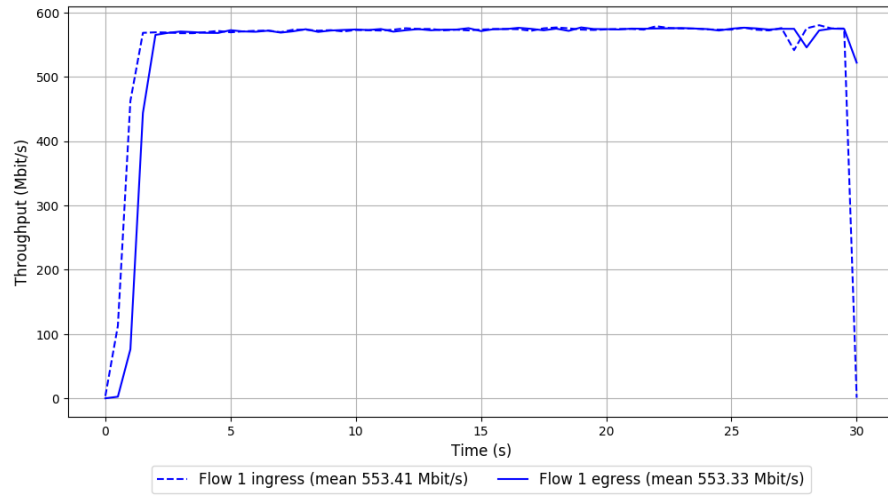


Run 5: Statistics of TCP Vegas

Start at: 2018-09-11 18:05:38
End at: 2018-09-11 18:06:08
Local clock offset: -0.069 ms
Remote clock offset: -0.027 ms

Below is generated by plot.py at 2018-09-11 19:57:59
Datalink statistics
-- Total of 1 flow:
Average throughput: 553.33 Mbit/s
95th percentile per-packet one-way delay: 51.639 ms
Loss rate: 0.35%
-- Flow 1:
Average throughput: 553.33 Mbit/s
95th percentile per-packet one-way delay: 51.639 ms
Loss rate: 0.35%

Run 5: Report of TCP Vegas — Data Link

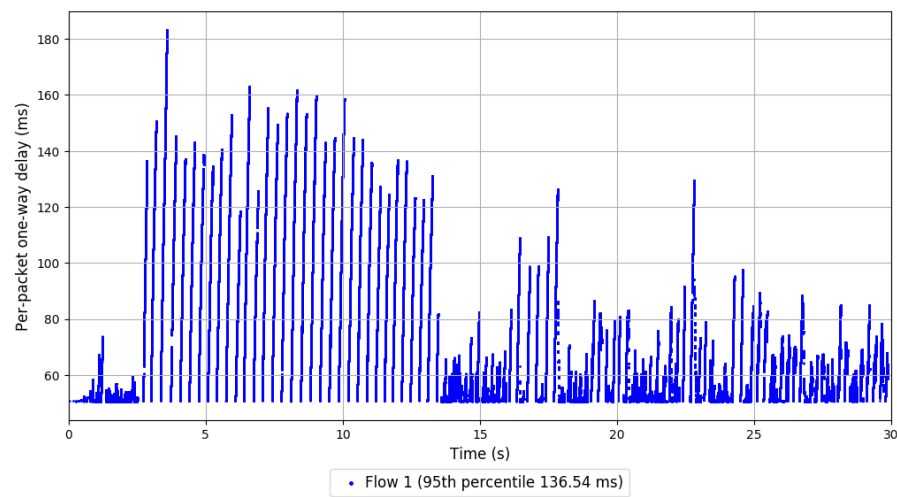
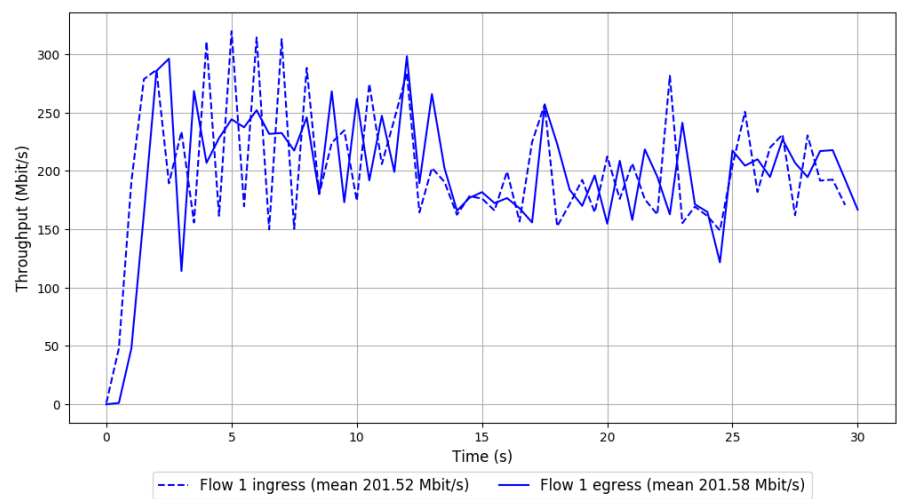


Run 1: Statistics of Verus

Start at: 2018-09-11 16:33:06
End at: 2018-09-11 16:33:36
Local clock offset: -0.131 ms
Remote clock offset: -0.116 ms

Below is generated by plot.py at 2018-09-11 19:57:59
Datalink statistics
-- Total of 1 flow:
Average throughput: 201.58 Mbit/s
95th percentile per-packet one-way delay: 136.542 ms
Loss rate: 0.03%
-- Flow 1:
Average throughput: 201.58 Mbit/s
95th percentile per-packet one-way delay: 136.542 ms
Loss rate: 0.03%

Run 1: Report of Verus — Data Link

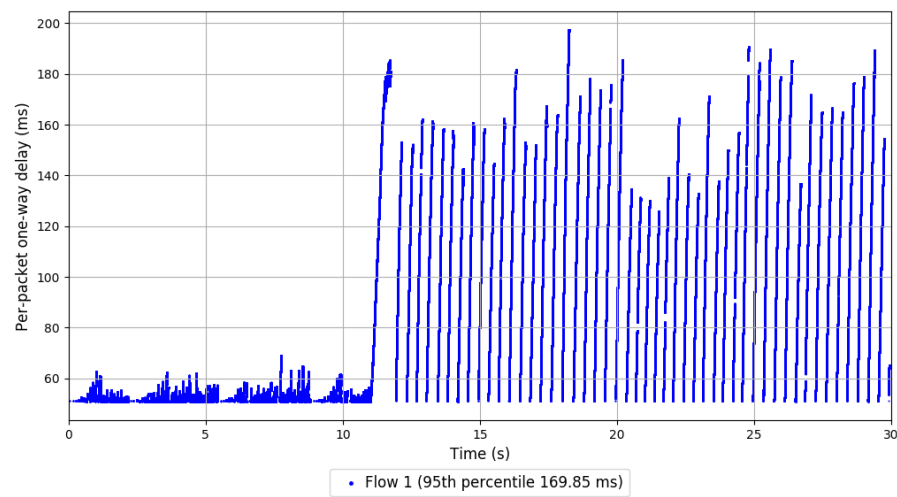
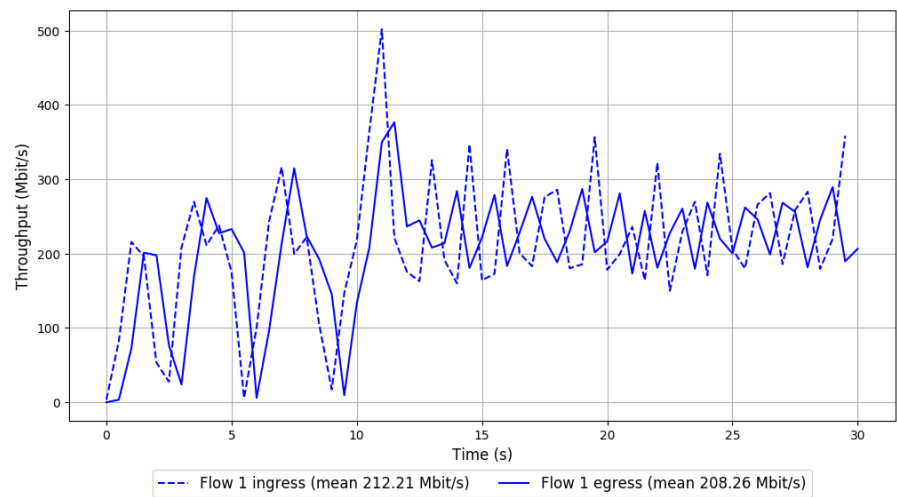


Run 2: Statistics of Verus

Start at: 2018-09-11 16:59:18
End at: 2018-09-11 16:59:48
Local clock offset: 0.261 ms
Remote clock offset: -0.031 ms

Below is generated by plot.py at 2018-09-11 19:57:59
Datalink statistics
-- Total of 1 flow:
Average throughput: 208.26 Mbit/s
95th percentile per-packet one-way delay: 169.852 ms
Loss rate: 2.20%
-- Flow 1:
Average throughput: 208.26 Mbit/s
95th percentile per-packet one-way delay: 169.852 ms
Loss rate: 2.20%

Run 2: Report of Verus — Data Link



Run 3: Statistics of Verus

Start at: 2018-09-11 17:25:15

End at: 2018-09-11 17:25:45

Local clock offset: -0.472 ms

Remote clock offset: 0.079 ms

Below is generated by plot.py at 2018-09-11 19:57:59

Datalink statistics

-- Total of 1 flow:

Average throughput: 198.30 Mbit/s

95th percentile per-packet one-way delay: 192.702 ms

Loss rate: 4.21%

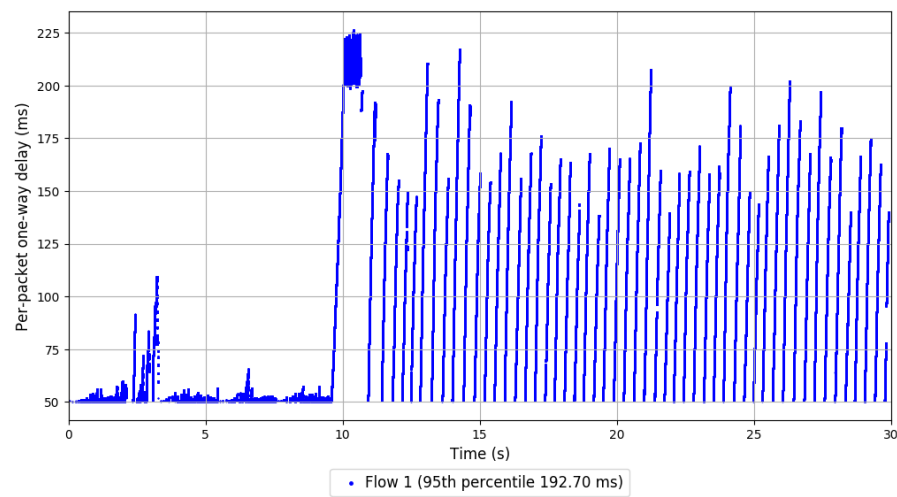
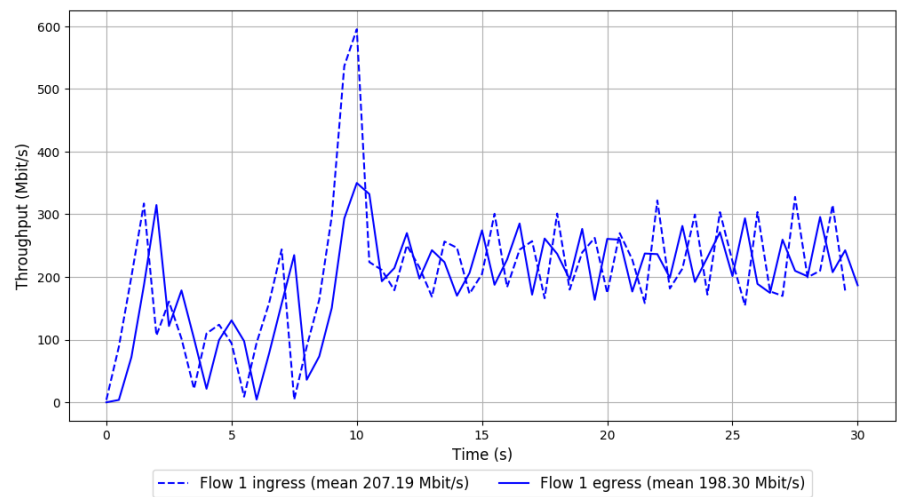
-- Flow 1:

Average throughput: 198.30 Mbit/s

95th percentile per-packet one-way delay: 192.702 ms

Loss rate: 4.21%

Run 3: Report of Verus — Data Link

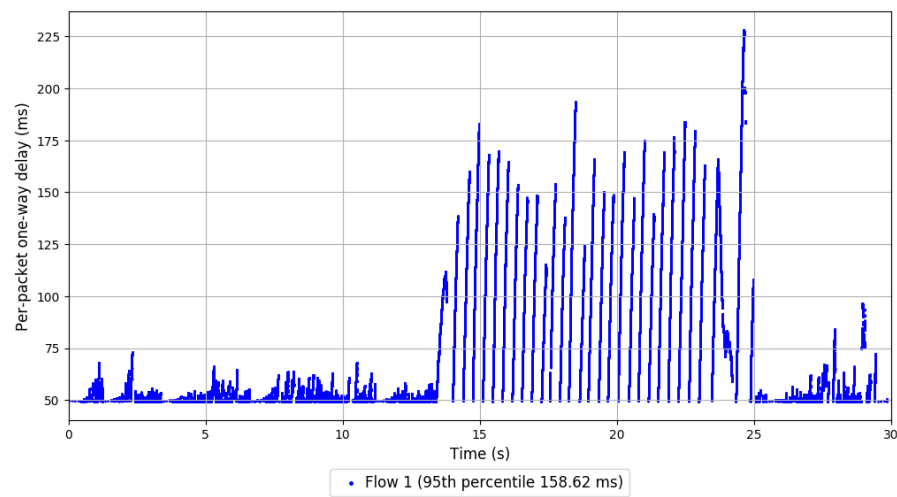
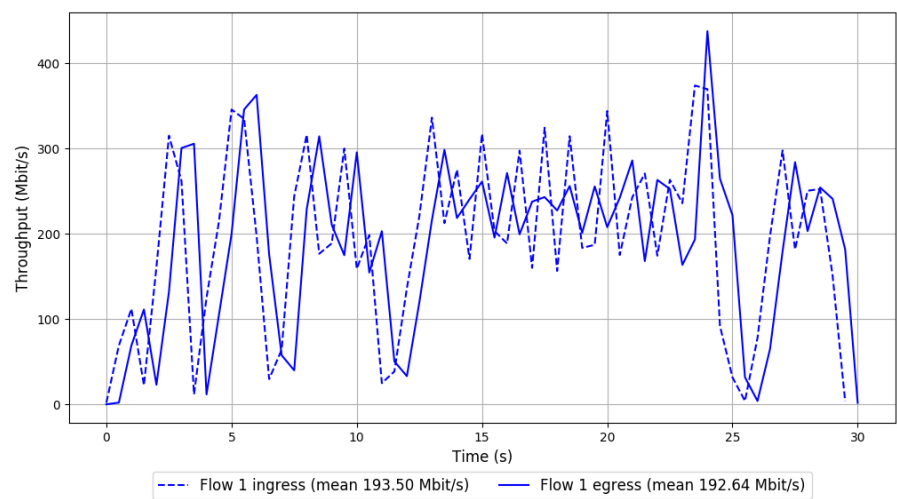


Run 4: Statistics of Verus

Start at: 2018-09-11 17:51:19
End at: 2018-09-11 17:51:49
Local clock offset: -0.107 ms
Remote clock offset: -0.086 ms

Below is generated by plot.py at 2018-09-11 19:59:50
Datalink statistics
-- Total of 1 flow:
Average throughput: 192.64 Mbit/s
95th percentile per-packet one-way delay: 158.621 ms
Loss rate: 0.78%
-- Flow 1:
Average throughput: 192.64 Mbit/s
95th percentile per-packet one-way delay: 158.621 ms
Loss rate: 0.78%

Run 4: Report of Verus — Data Link

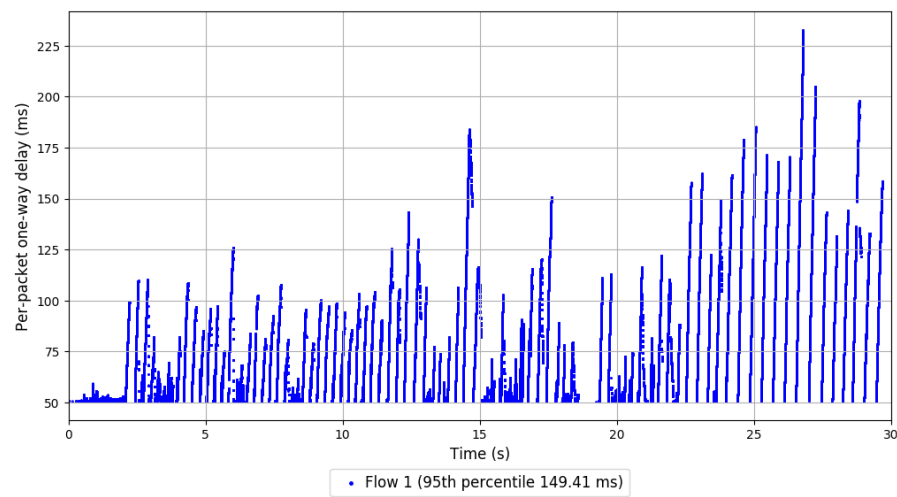
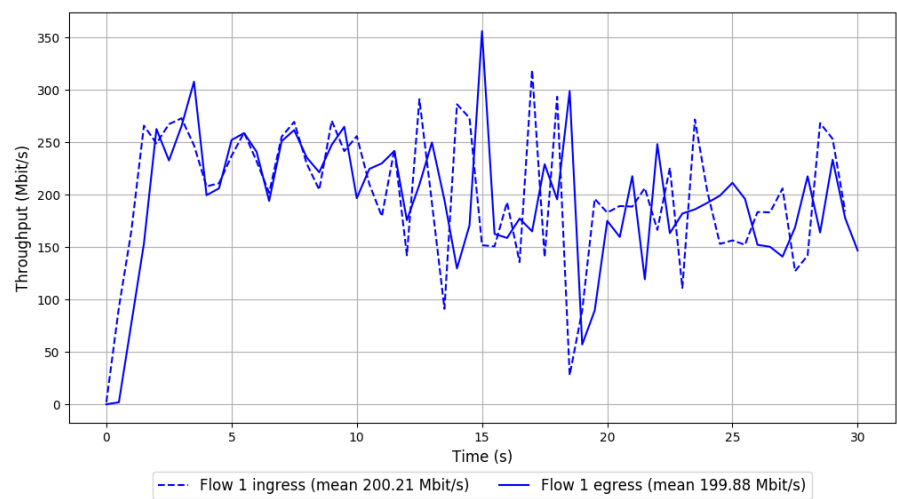


Run 5: Statistics of Verus

Start at: 2018-09-11 18:17:15
End at: 2018-09-11 18:17:45
Local clock offset: 0.287 ms
Remote clock offset: -0.032 ms

Below is generated by plot.py at 2018-09-11 20:01:16
Datalink statistics
-- Total of 1 flow:
Average throughput: 199.88 Mbit/s
95th percentile per-packet one-way delay: 149.406 ms
Loss rate: 1.23%
-- Flow 1:
Average throughput: 199.88 Mbit/s
95th percentile per-packet one-way delay: 149.406 ms
Loss rate: 1.23%

Run 5: Report of Verus — Data Link



Run 1: Statistics of PCC-Vivace

Start at: 2018-09-11 16:23:50

End at: 2018-09-11 16:24:20

Local clock offset: -0.1 ms

Remote clock offset: -0.103 ms

Below is generated by plot.py at 2018-09-11 20:01:57

Datalink statistics

-- Total of 1 flow:

Average throughput: 413.60 Mbit/s

95th percentile per-packet one-way delay: 51.473 ms

Loss rate: 0.33%

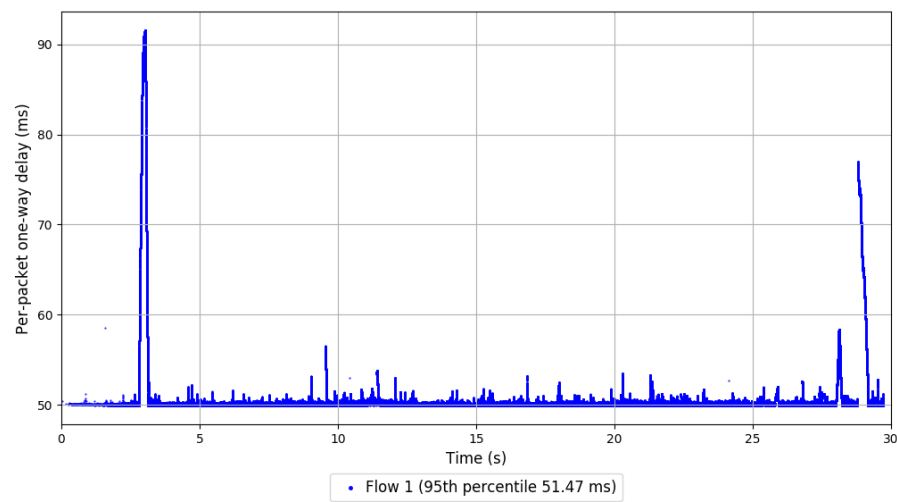
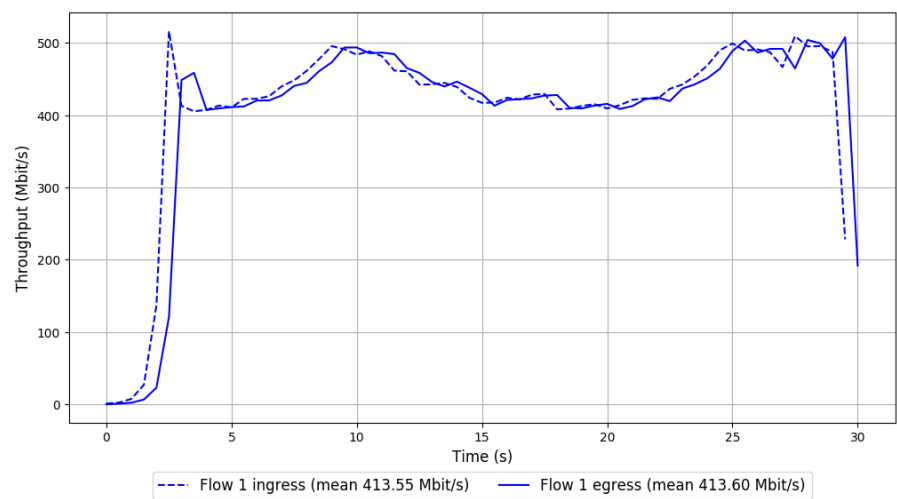
-- Flow 1:

Average throughput: 413.60 Mbit/s

95th percentile per-packet one-way delay: 51.473 ms

Loss rate: 0.33%

Run 1: Report of PCC-Vivace — Data Link

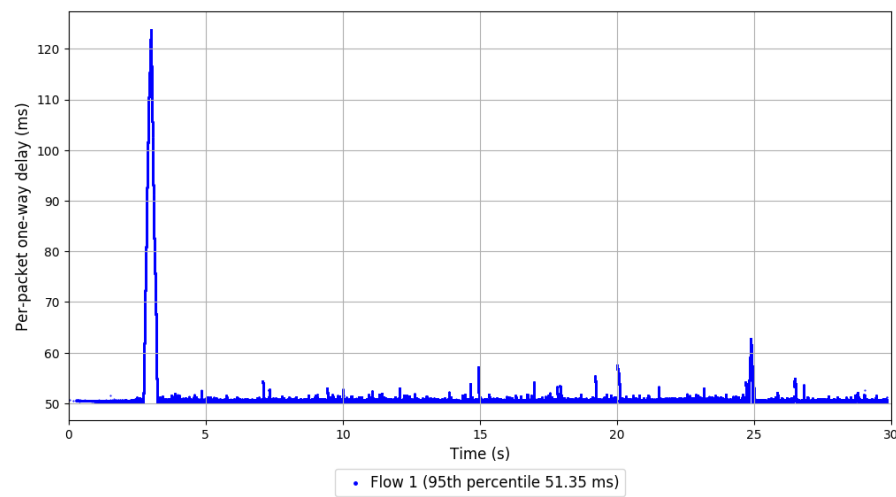
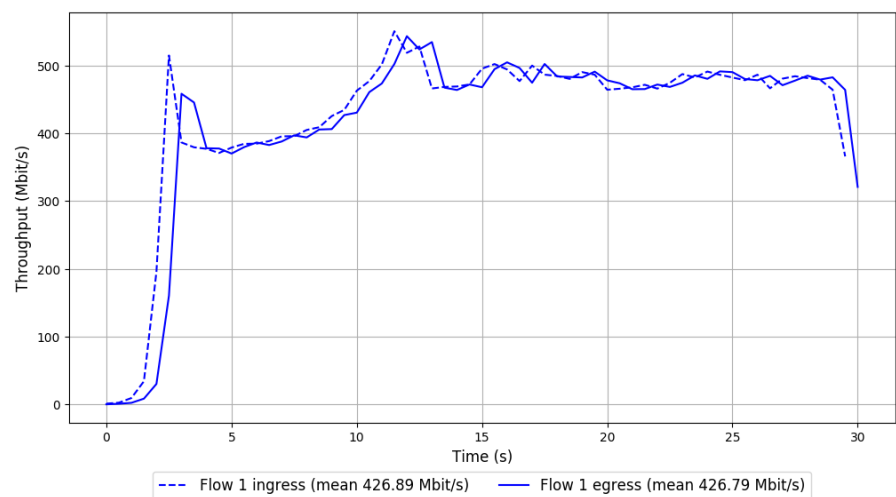


Run 2: Statistics of PCC-Vivace

Start at: 2018-09-11 16:49:09
End at: 2018-09-11 16:49:39
Local clock offset: -0.068 ms
Remote clock offset: -0.169 ms

Below is generated by plot.py at 2018-09-11 20:02:16
Datalink statistics
-- Total of 1 flow:
Average throughput: 426.79 Mbit/s
95th percentile per-packet one-way delay: 51.353 ms
Loss rate: 0.36%
-- Flow 1:
Average throughput: 426.79 Mbit/s
95th percentile per-packet one-way delay: 51.353 ms
Loss rate: 0.36%

Run 2: Report of PCC-Vivace — Data Link

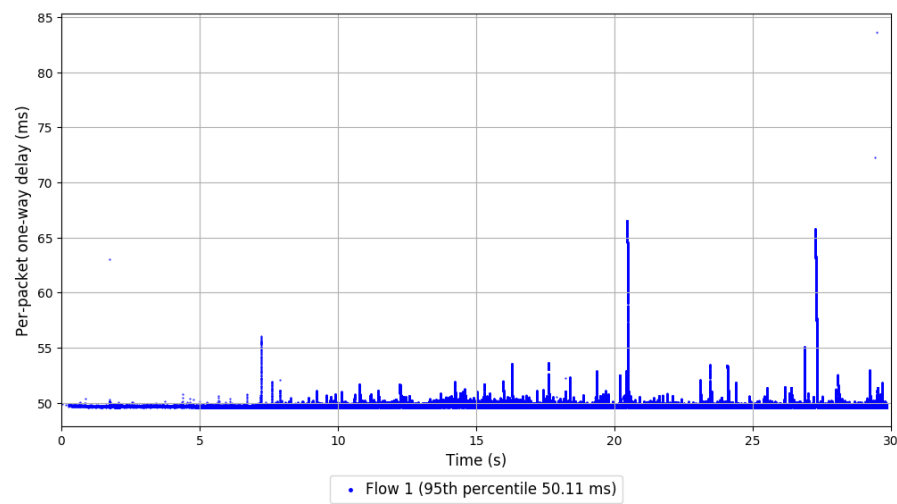
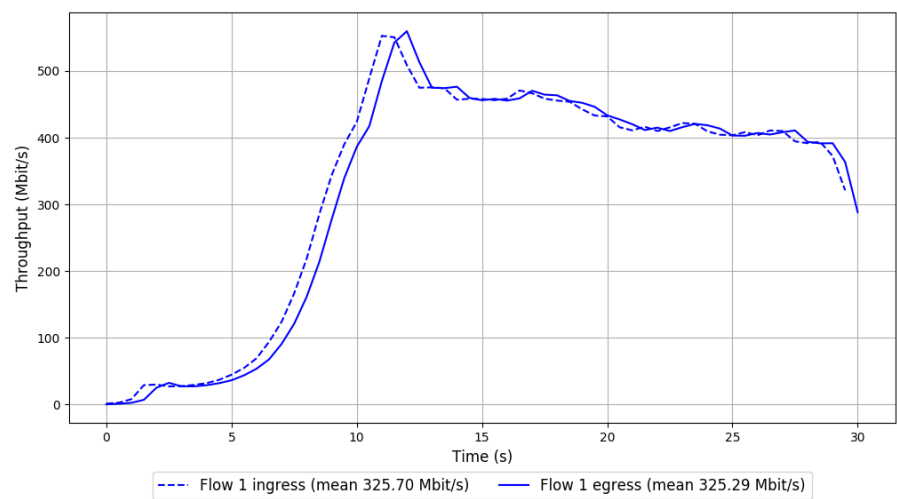


Run 3: Statistics of PCC-Vivace

Start at: 2018-09-11 17:15:16
End at: 2018-09-11 17:15:46
Local clock offset: -0.079 ms
Remote clock offset: -0.004 ms

Below is generated by plot.py at 2018-09-11 20:02:16
Datalink statistics
-- Total of 1 flow:
Average throughput: 325.29 Mbit/s
95th percentile per-packet one-way delay: 50.106 ms
Loss rate: 0.46%
-- Flow 1:
Average throughput: 325.29 Mbit/s
95th percentile per-packet one-way delay: 50.106 ms
Loss rate: 0.46%

Run 3: Report of PCC-Vivace — Data Link

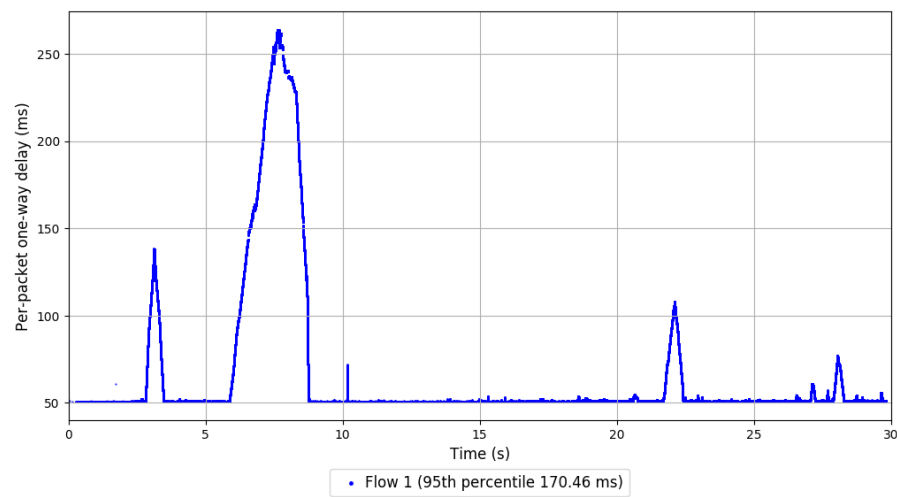
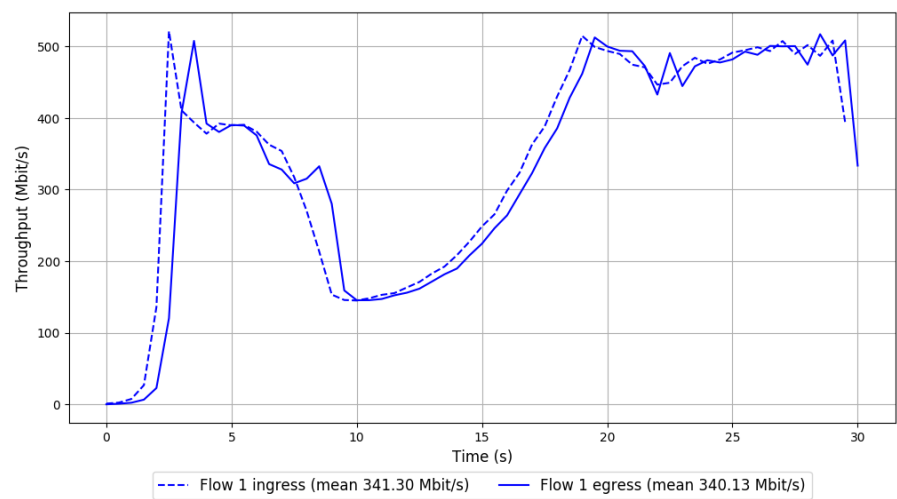


Run 4: Statistics of PCC-Vivace

Start at: 2018-09-11 17:41:21
End at: 2018-09-11 17:41:51
Local clock offset: -0.073 ms
Remote clock offset: -0.076 ms

Below is generated by plot.py at 2018-09-11 20:02:16
Datalink statistics
-- Total of 1 flow:
Average throughput: 340.13 Mbit/s
95th percentile per-packet one-way delay: 170.455 ms
Loss rate: 0.70%
-- Flow 1:
Average throughput: 340.13 Mbit/s
95th percentile per-packet one-way delay: 170.455 ms
Loss rate: 0.70%

Run 4: Report of PCC-Vivace — Data Link

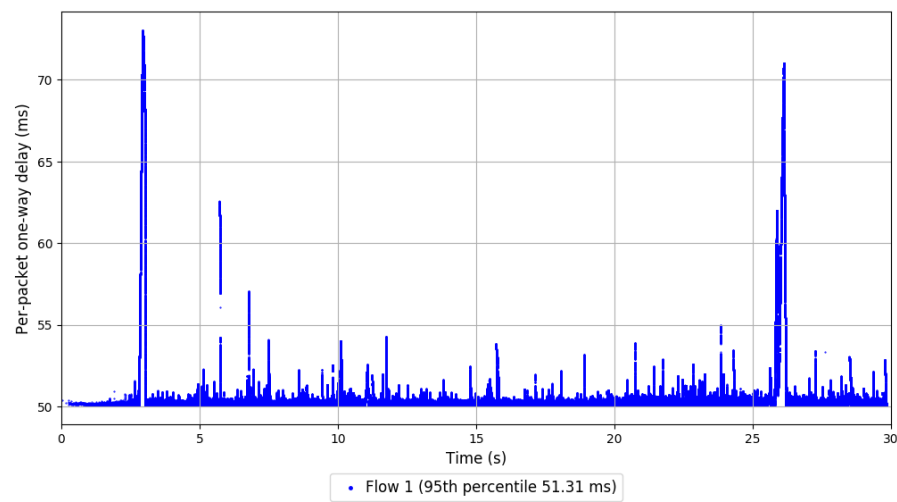
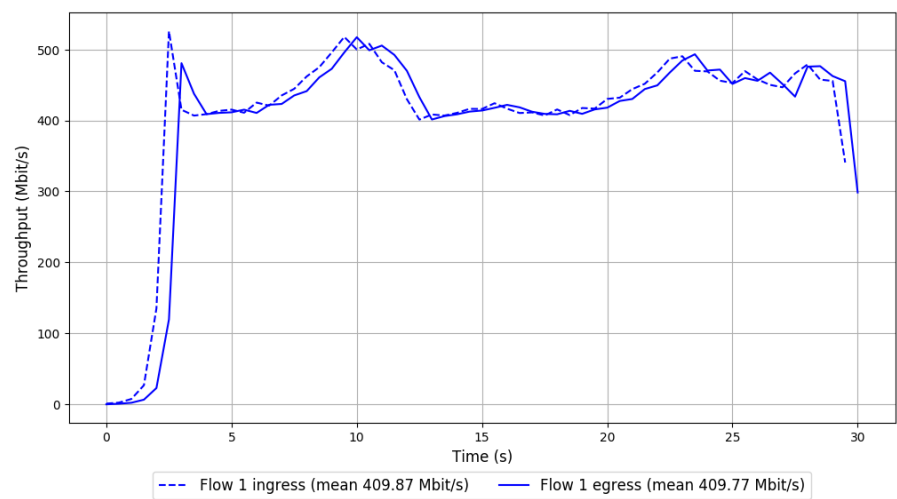


Run 5: Statistics of PCC-Vivace

Start at: 2018-09-11 18:07:10
End at: 2018-09-11 18:07:40
Local clock offset: -0.09 ms
Remote clock offset: -0.106 ms

Below is generated by plot.py at 2018-09-11 20:02:18
Datalink statistics
-- Total of 1 flow:
Average throughput: 409.77 Mbit/s
95th percentile per-packet one-way delay: 51.309 ms
Loss rate: 0.36%
-- Flow 1:
Average throughput: 409.77 Mbit/s
95th percentile per-packet one-way delay: 51.309 ms
Loss rate: 0.36%

Run 5: Report of PCC-Vivace — Data Link



Run 1: Statistics of WebRTC media

Start at: 2018-09-11 16:37:48

End at: 2018-09-11 16:38:19

Local clock offset: 0.208 ms

Remote clock offset: -0.109 ms

Below is generated by plot.py at 2018-09-11 20:02:18

Datalink statistics

-- Total of 1 flow:

Average throughput: 1.63 Mbit/s

95th percentile per-packet one-way delay: 49.191 ms

Loss rate: 0.63%

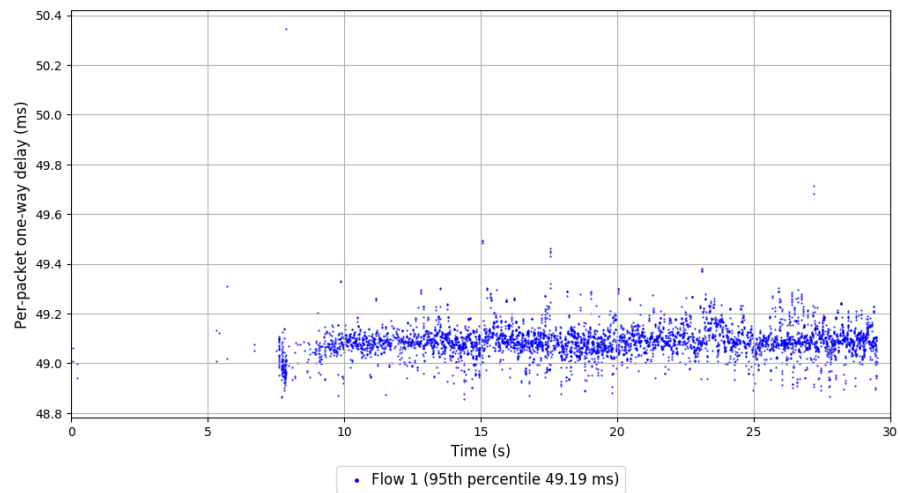
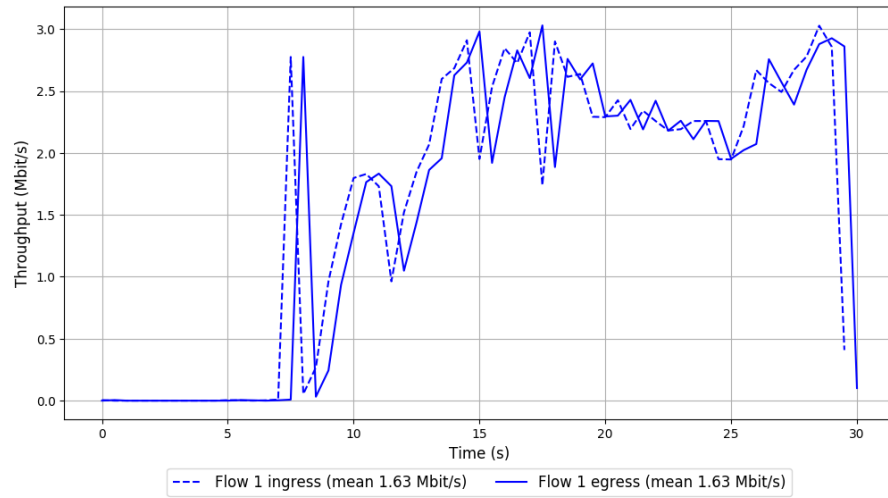
-- Flow 1:

Average throughput: 1.63 Mbit/s

95th percentile per-packet one-way delay: 49.191 ms

Loss rate: 0.63%

Run 1: Report of WebRTC media — Data Link



Run 2: Statistics of WebRTC media

Start at: 2018-09-11 17:04:00

End at: 2018-09-11 17:04:30

Local clock offset: -0.103 ms

Remote clock offset: 0.011 ms

Below is generated by plot.py at 2018-09-11 20:02:18

Datalink statistics

-- Total of 1 flow:

Average throughput: 2.12 Mbit/s

95th percentile per-packet one-way delay: 48.873 ms

Loss rate: 0.35%

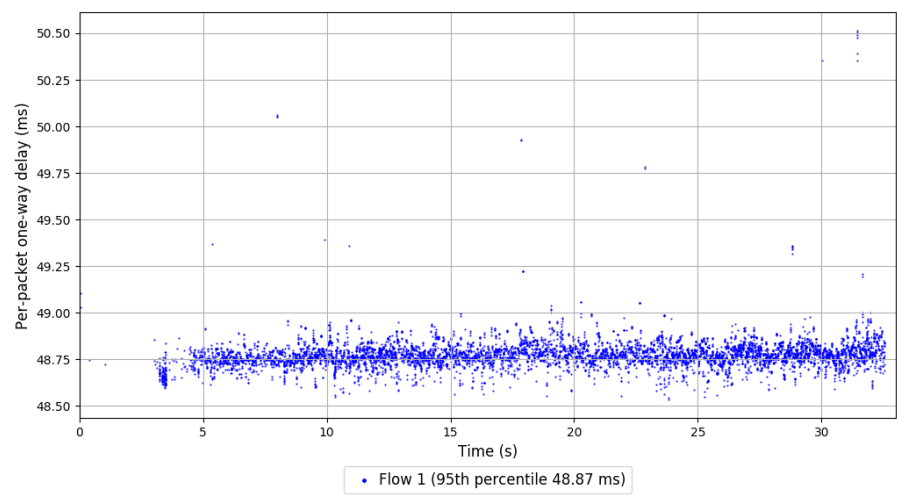
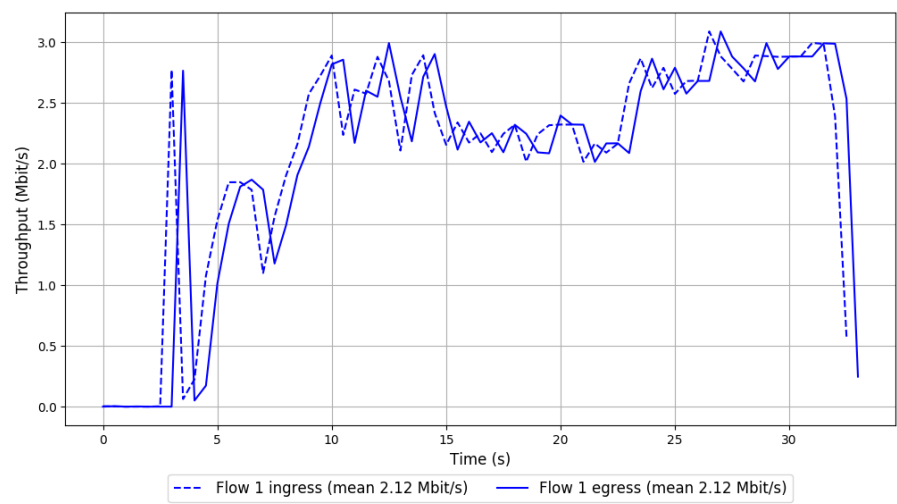
-- Flow 1:

Average throughput: 2.12 Mbit/s

95th percentile per-packet one-way delay: 48.873 ms

Loss rate: 0.35%

Run 2: Report of WebRTC media — Data Link



Run 3: Statistics of WebRTC media

Start at: 2018-09-11 17:29:57

End at: 2018-09-11 17:30:27

Local clock offset: -0.438 ms

Remote clock offset: 0.02 ms

Below is generated by plot.py at 2018-09-11 20:02:18

Datalink statistics

-- Total of 1 flow:

Average throughput: 1.87 Mbit/s

95th percentile per-packet one-way delay: 49.271 ms

Loss rate: 0.38%

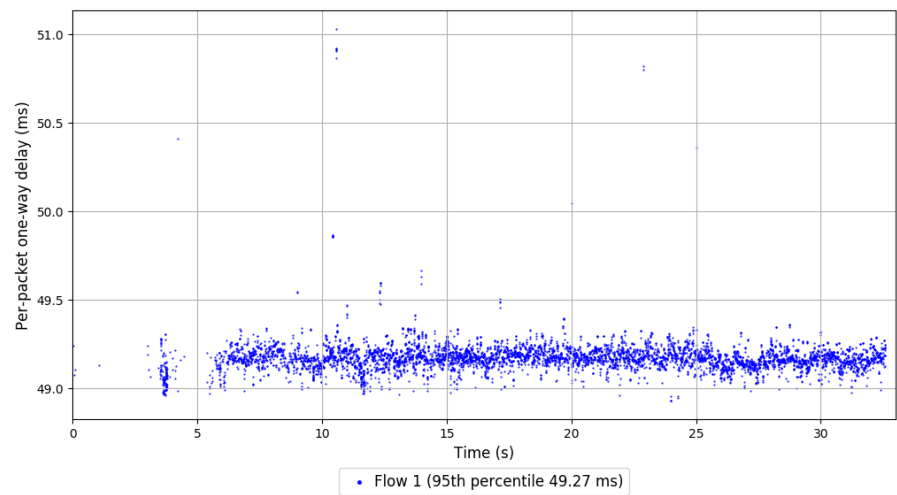
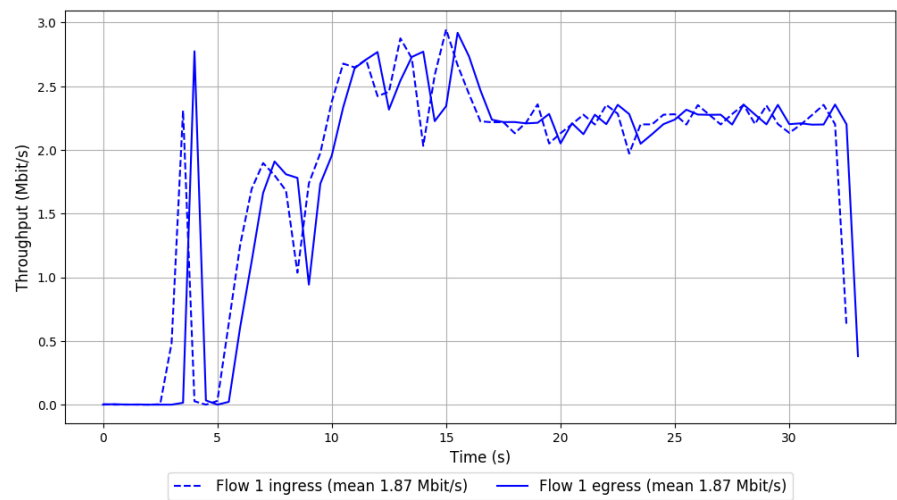
-- Flow 1:

Average throughput: 1.87 Mbit/s

95th percentile per-packet one-way delay: 49.271 ms

Loss rate: 0.38%

Run 3: Report of WebRTC media — Data Link

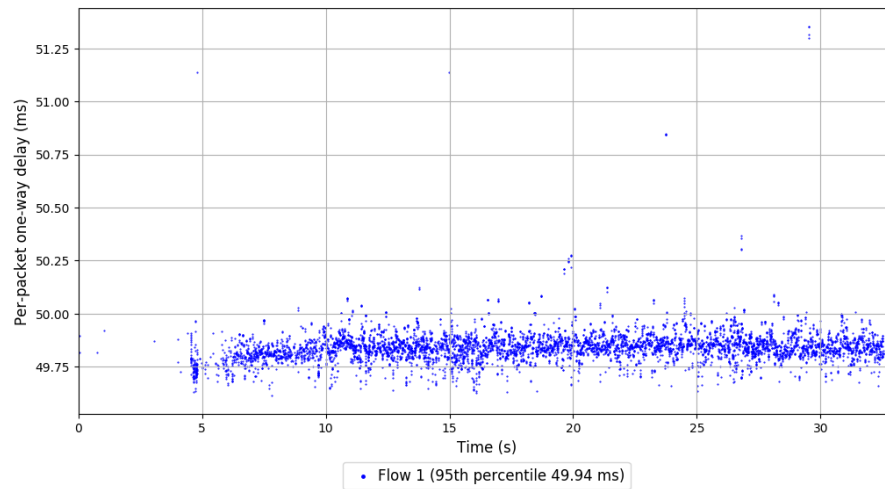
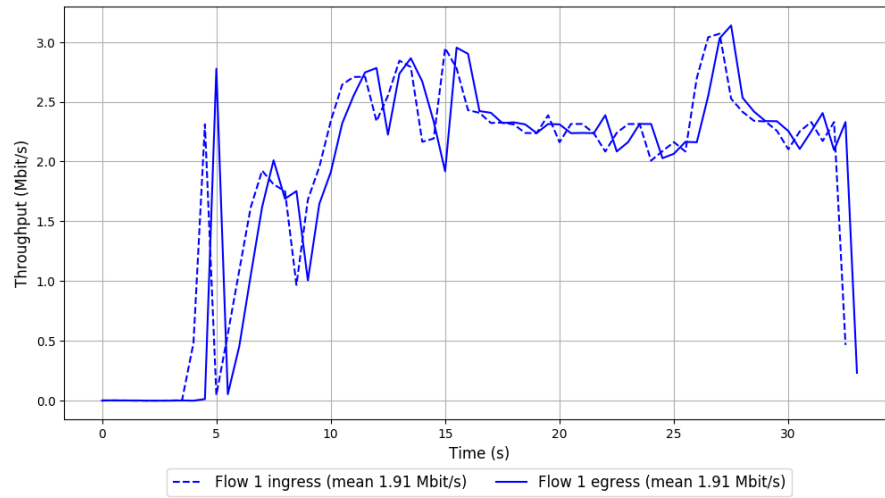


Run 4: Statistics of WebRTC media

Start at: 2018-09-11 17:55:53
End at: 2018-09-11 17:56:23
Local clock offset: -0.44 ms
Remote clock offset: -0.092 ms

Below is generated by plot.py at 2018-09-11 20:02:18
Datalink statistics
-- Total of 1 flow:
Average throughput: 1.91 Mbit/s
95th percentile per-packet one-way delay: 49.943 ms
Loss rate: 0.37%
-- Flow 1:
Average throughput: 1.91 Mbit/s
95th percentile per-packet one-way delay: 49.943 ms
Loss rate: 0.37%

Run 4: Report of WebRTC media — Data Link



Run 5: Statistics of WebRTC media

Start at: 2018-09-11 18:21:55

End at: 2018-09-11 18:22:25

Local clock offset: -0.426 ms

Remote clock offset: -0.05 ms

Below is generated by plot.py at 2018-09-11 20:02:18

Datalink statistics

-- Total of 1 flow:

Average throughput: 1.91 Mbit/s

95th percentile per-packet one-way delay: 50.690 ms

Loss rate: 0.41%

-- Flow 1:

Average throughput: 1.91 Mbit/s

95th percentile per-packet one-way delay: 50.690 ms

Loss rate: 0.41%

Run 5: Report of WebRTC media — Data Link

