

Pantheon Report

Generated at 2018-09-25 18:39:29 (UTC).

Data path: GCE Sydney on **ens4** (*local*) → GCE London on **ens4** (*remote*).

Repeated the test of 19 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:

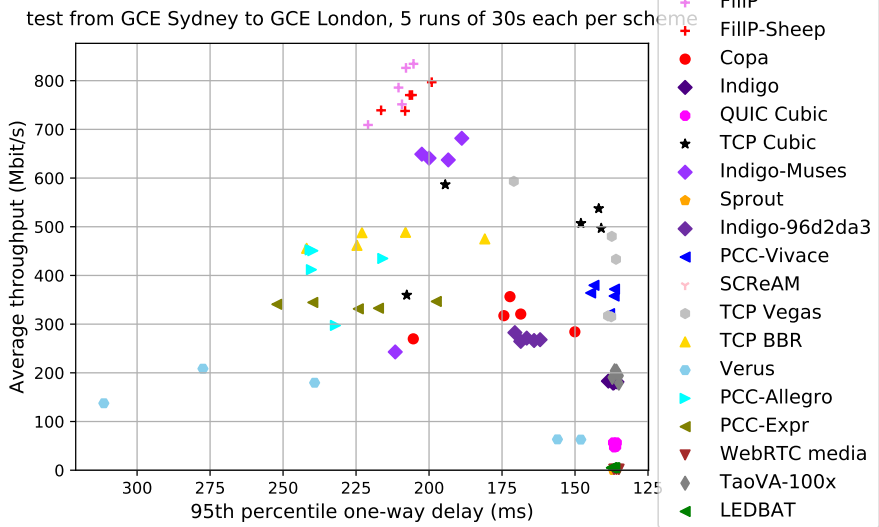
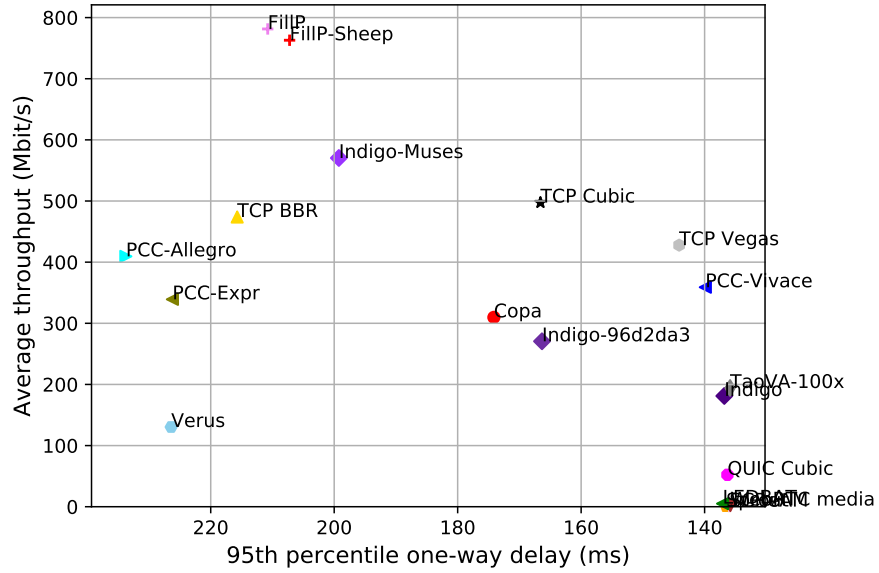
```
Linux 4.15.0-1019-gcp
net.core.default_qdisc = fq
net.core.rmem_default = 16777216
net.core.rmem_max = 536870912
net.core.wmem_default = 16777216
net.core.wmem_max = 536870912
net.ipv4.tcp_rmem = 4096 16777216 536870912
net.ipv4.tcp_wmem = 4096 16777216 536870912
net.ipv4.tcp_mem = 190986 254651 381972
```

Git summary:

```
branch: muses @ 90192f6b64ce1a1191dcca0e9ff9ee24950674d7
third_party/fillp @ d47f4fa1b454a5e3c0537115c5a28436dbd4b834
third_party/fillp-sheep @ daed0c84f98531712514b2231f43ec6901114ffe
third_party/genericCC @ d0153f8e594aa89e93b032143cedbdf58e562f4
third_party/indigo @ 2601c92e4aa9d58d38dc4dfe0ecdbf90c077e64d
third_party/indigo-96d2da3 @ 8413272d46f8aa0bcb967ed7048b6a8f994abb95
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 Sydney 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	473.84	215.71	0.77
Copa	5	309.71	174.14	0.04
TCP Cubic	5	497.48	166.59	0.07
FillP	5	781.42	210.77	3.91
FillP-Sheep	5	762.95	207.22	5.04
Indigo	5	181.15	136.81	0.00
Indigo-96d2da3	5	270.58	166.34	0.15
LEDBAT	5	5.04	137.09	0.00
Indigo-Muses	5	570.37	199.25	0.38
PCC-Allegro	5	409.49	233.74	1.66
PCC-Expr	5	339.18	226.21	2.78
QUIC Cubic	4	52.20	136.30	0.00
SCReAM	5	0.19	135.99	0.33
Sprout	5	0.41	136.50	0.00
TaoVA-100x	5	194.21	135.88	0.00
TCP Vegas	5	427.79	144.12	0.00
Verus	5	130.37	226.41	4.89
PCC-Vivace	5	358.97	139.89	0.04
WebRTC media	5	1.93	135.83	0.00

Run 1: Statistics of TCP BBR

Start at: 2018-09-25 14:56:30

End at: 2018-09-25 14:57:00

Local clock offset: -0.311 ms

Remote clock offset: 0.297 ms

Below is generated by plot.py at 2018-09-25 17:19:25

Datalink statistics

-- Total of 1 flow:

Average throughput: 461.88 Mbit/s

95th percentile per-packet one-way delay: 224.681 ms

Loss rate: 0.88%

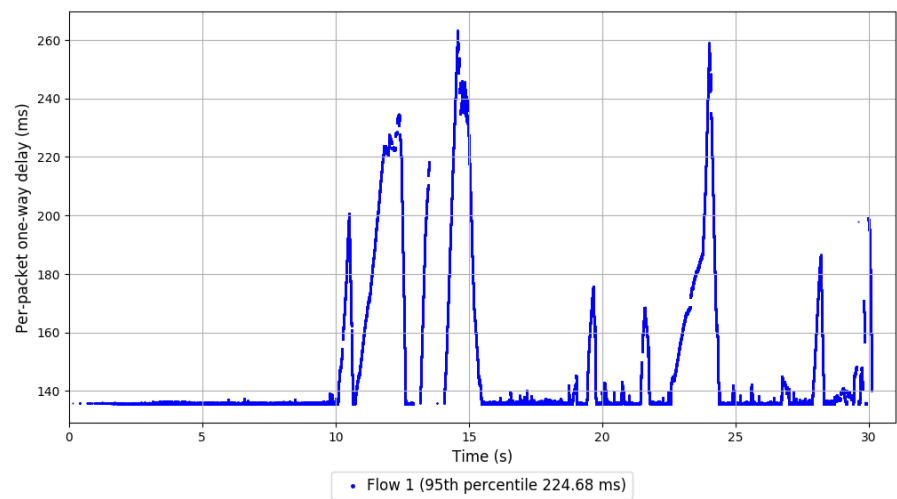
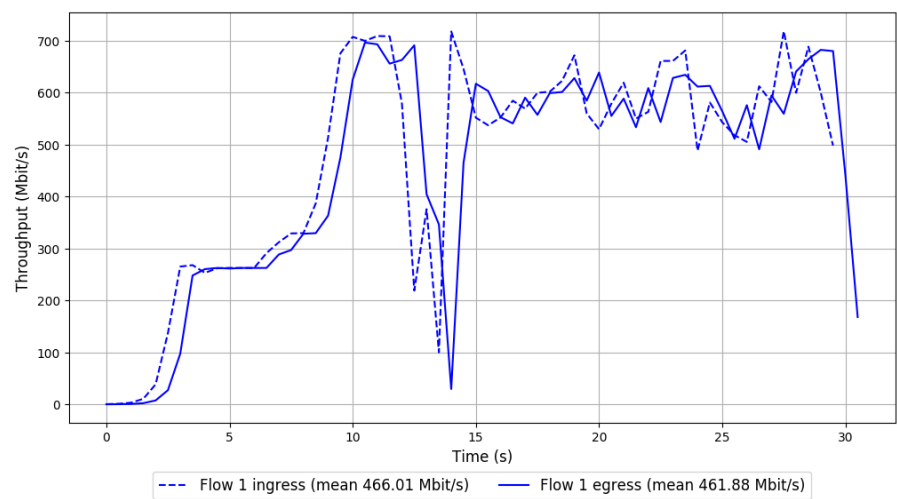
-- Flow 1:

Average throughput: 461.88 Mbit/s

95th percentile per-packet one-way delay: 224.681 ms

Loss rate: 0.88%

Run 1: Report of TCP BBR — Data Link

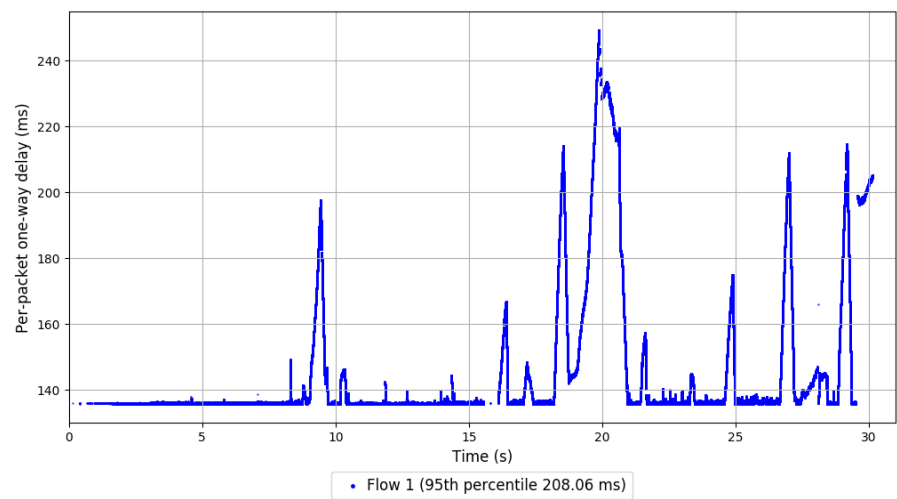
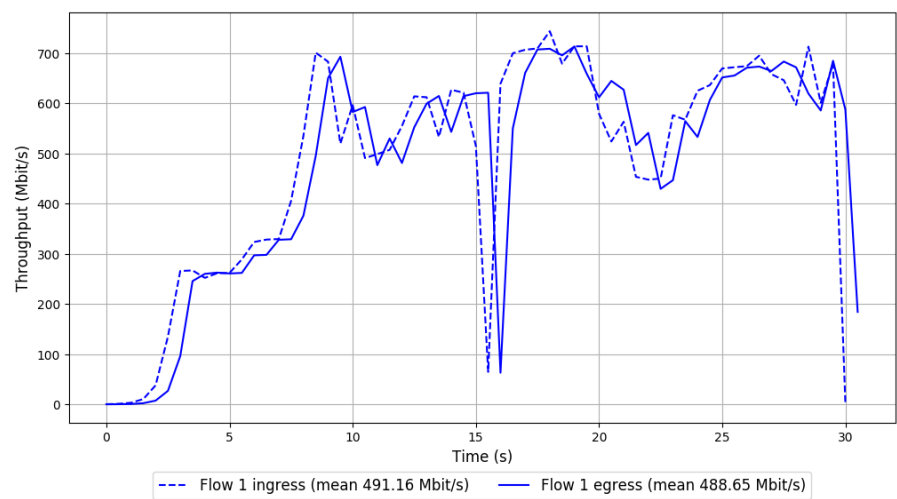


Run 2: Statistics of TCP BBR

Start at: 2018-09-25 15:25:26
End at: 2018-09-25 15:25:56
Local clock offset: -0.179 ms
Remote clock offset: -0.046 ms

Below is generated by plot.py at 2018-09-25 17:20:07
Datalink statistics
-- Total of 1 flow:
Average throughput: 488.65 Mbit/s
95th percentile per-packet one-way delay: 208.057 ms
Loss rate: 0.51%
-- Flow 1:
Average throughput: 488.65 Mbit/s
95th percentile per-packet one-way delay: 208.057 ms
Loss rate: 0.51%

Run 2: Report of TCP BBR — Data Link



Run 3: Statistics of TCP BBR

Start at: 2018-09-25 15:54:07

End at: 2018-09-25 15:54:37

Local clock offset: -0.234 ms

Remote clock offset: 0.002 ms

Below is generated by plot.py at 2018-09-25 17:20:07

Datalink statistics

-- Total of 1 flow:

Average throughput: 455.75 Mbit/s

95th percentile per-packet one-way delay: 241.936 ms

Loss rate: 1.79%

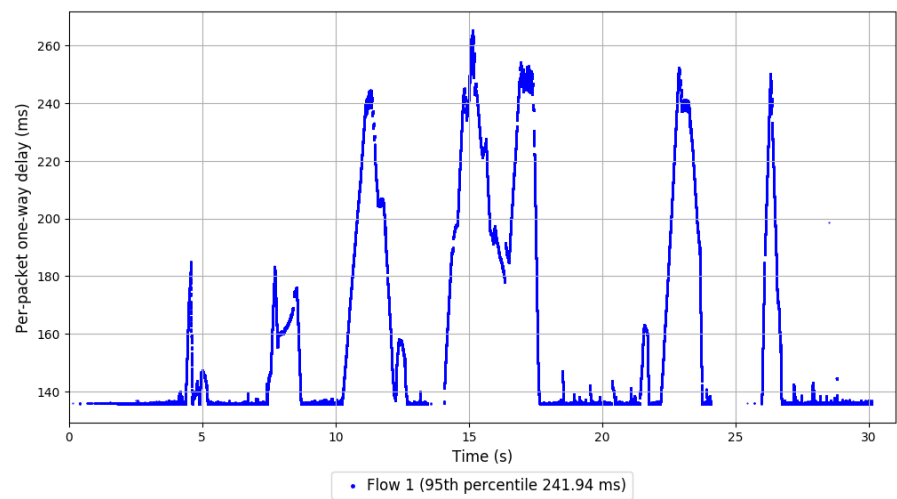
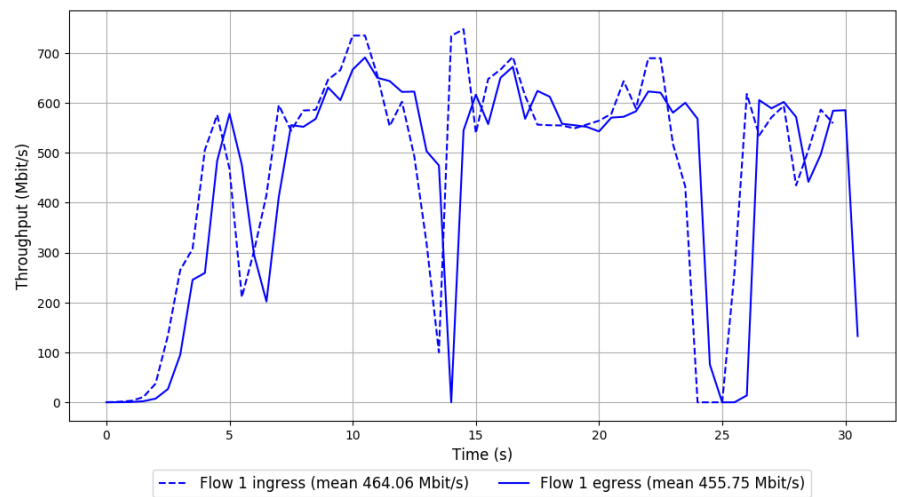
-- Flow 1:

Average throughput: 455.75 Mbit/s

95th percentile per-packet one-way delay: 241.936 ms

Loss rate: 1.79%

Run 3: Report of TCP BBR — Data Link



Run 4: Statistics of TCP BBR

Start at: 2018-09-25 16:22:41

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

Local clock offset: -0.274 ms

Remote clock offset: 0.318 ms

Below is generated by plot.py at 2018-09-25 17:20:07

Datalink statistics

-- Total of 1 flow:

Average throughput: 487.86 Mbit/s

95th percentile per-packet one-way delay: 222.970 ms

Loss rate: 0.68%

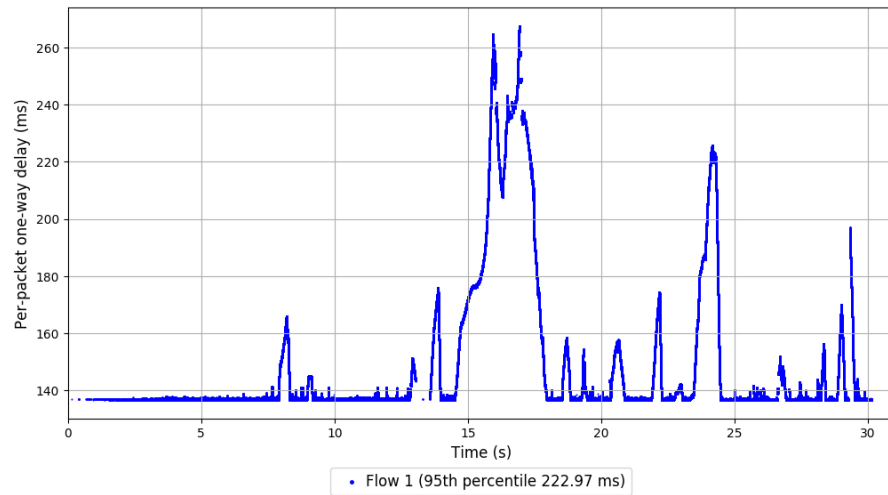
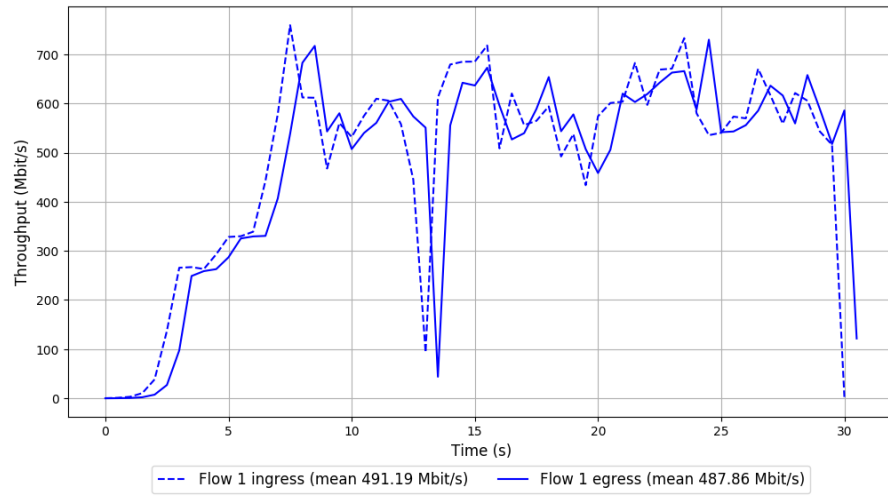
-- Flow 1:

Average throughput: 487.86 Mbit/s

95th percentile per-packet one-way delay: 222.970 ms

Loss rate: 0.68%

Run 4: Report of TCP BBR — Data Link



Run 5: Statistics of TCP BBR

Start at: 2018-09-25 16:51:26

End at: 2018-09-25 16:51:56

Local clock offset: -0.32 ms

Remote clock offset: 0.046 ms

Below is generated by plot.py at 2018-09-25 17:20:07

Datalink statistics

-- Total of 1 flow:

Average throughput: 475.08 Mbit/s

95th percentile per-packet one-way delay: 180.901 ms

Loss rate: 0.01%

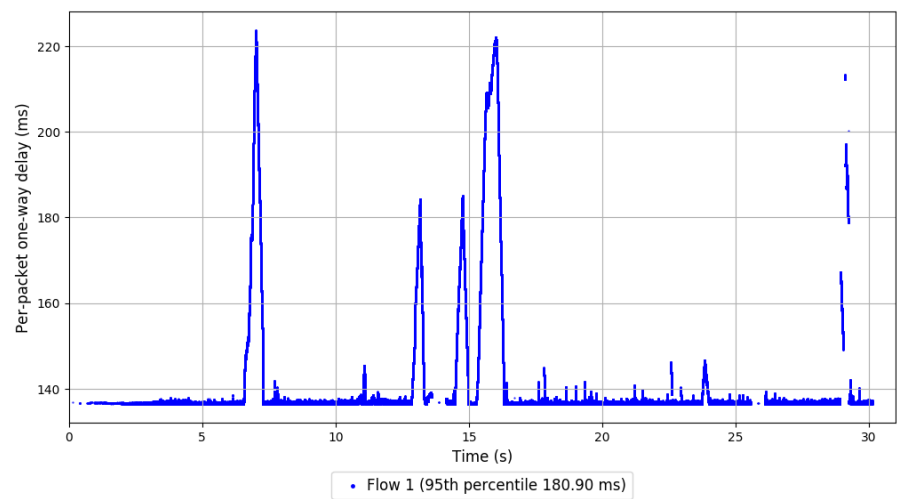
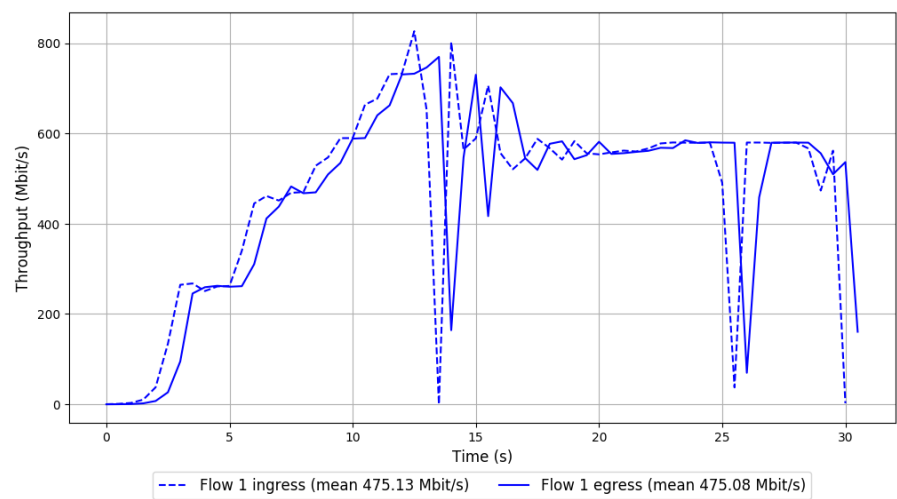
-- Flow 1:

Average throughput: 475.08 Mbit/s

95th percentile per-packet one-way delay: 180.901 ms

Loss rate: 0.01%

Run 5: Report of TCP BBR — Data Link



Run 1: Statistics of Copa

Start at: 2018-09-25 14:53:34

End at: 2018-09-25 14:54:04

Local clock offset: -0.212 ms

Remote clock offset: 0.266 ms

Below is generated by plot.py at 2018-09-25 17:22:50

Datalink statistics

-- Total of 1 flow:

Average throughput: 356.45 Mbit/s

95th percentile per-packet one-way delay: 172.279 ms

Loss rate: 0.00%

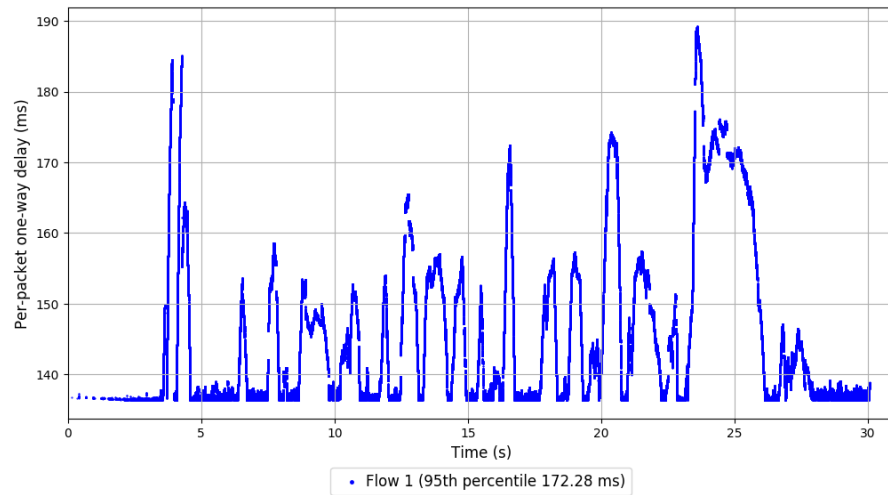
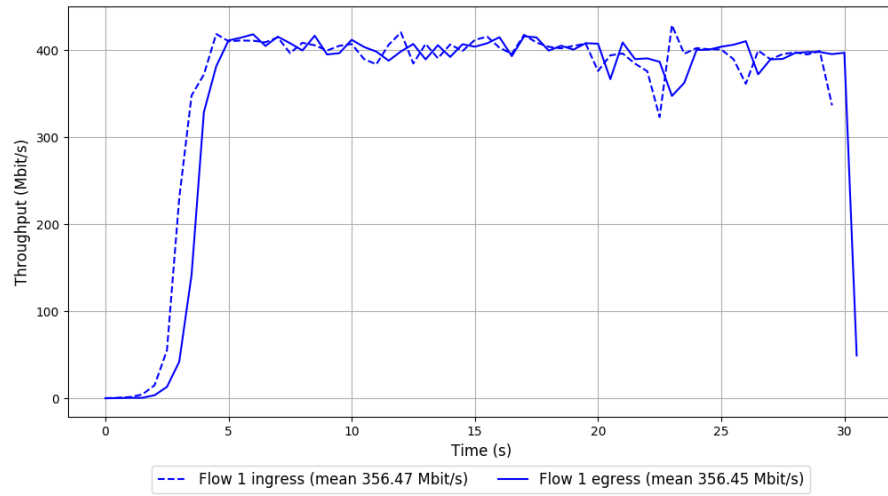
-- Flow 1:

Average throughput: 356.45 Mbit/s

95th percentile per-packet one-way delay: 172.279 ms

Loss rate: 0.00%

Run 1: Report of Copa — Data Link

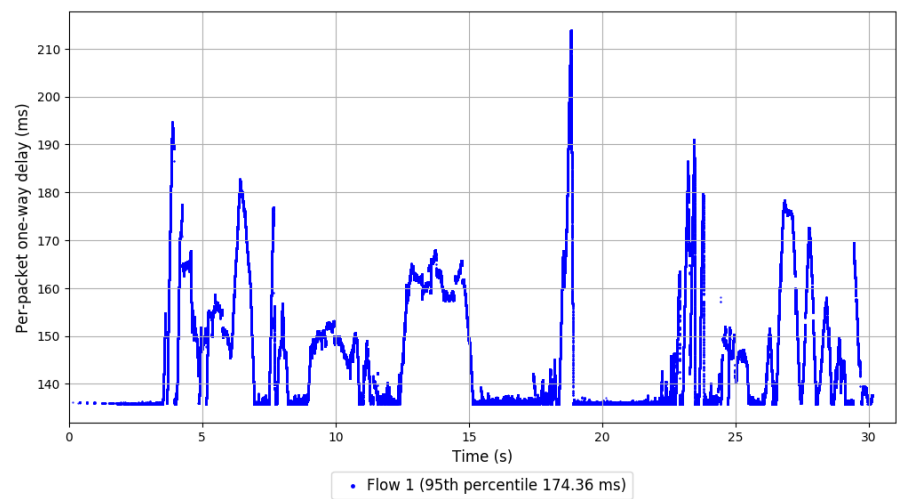
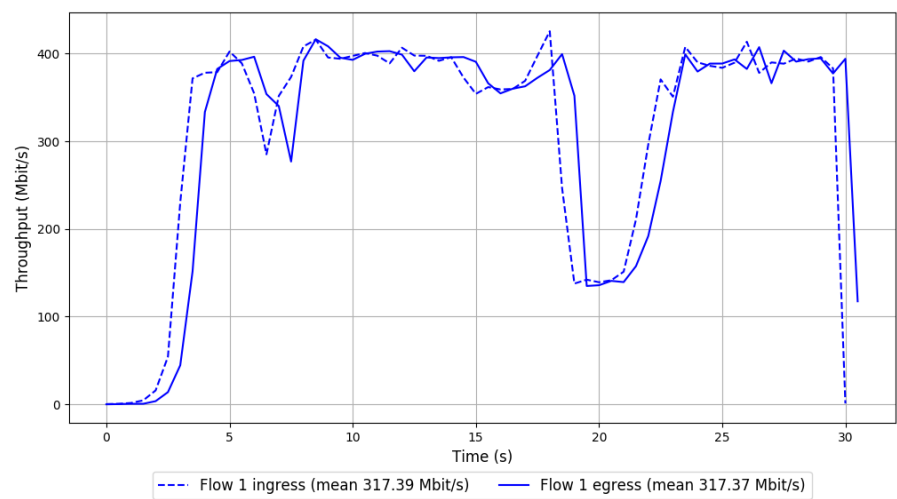


Run 2: Statistics of Copa

Start at: 2018-09-25 15:22:33
End at: 2018-09-25 15:23:03
Local clock offset: -0.353 ms
Remote clock offset: -0.032 ms

Below is generated by plot.py at 2018-09-25 17:22:50
Datalink statistics
-- Total of 1 flow:
Average throughput: 317.37 Mbit/s
95th percentile per-packet one-way delay: 174.362 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 317.37 Mbit/s
95th percentile per-packet one-way delay: 174.362 ms
Loss rate: 0.01%

Run 2: Report of Copa — Data Link

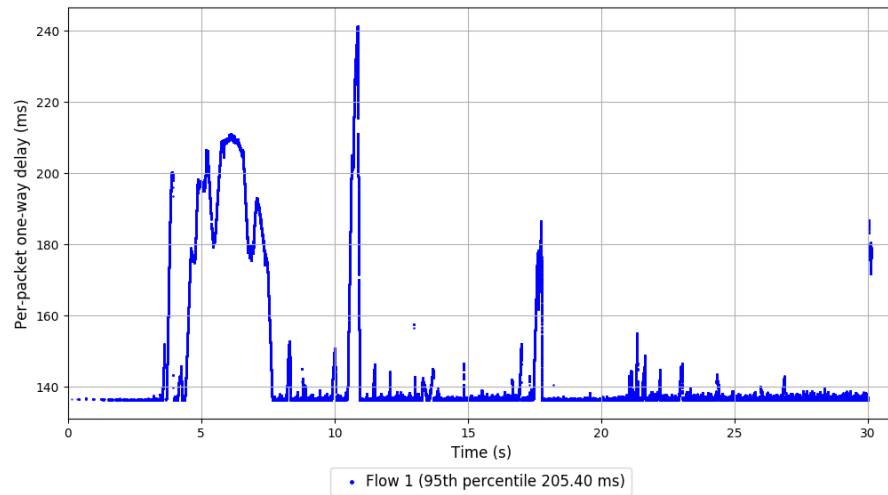
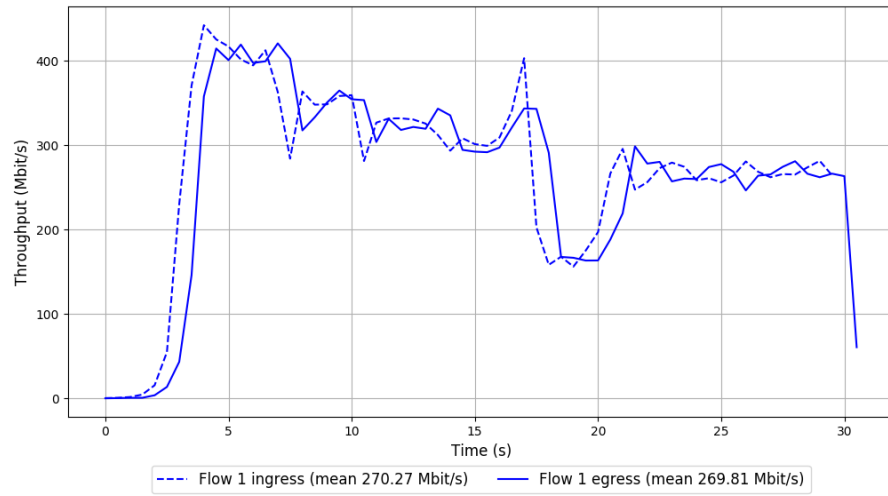


Run 3: Statistics of Copa

Start at: 2018-09-25 15:51:19
End at: 2018-09-25 15:51:49
Local clock offset: -0.192 ms
Remote clock offset: 0.048 ms

Below is generated by plot.py at 2018-09-25 17:22:50
Datalink statistics
-- Total of 1 flow:
Average throughput: 269.81 Mbit/s
95th percentile per-packet one-way delay: 205.397 ms
Loss rate: 0.17%
-- Flow 1:
Average throughput: 269.81 Mbit/s
95th percentile per-packet one-way delay: 205.397 ms
Loss rate: 0.17%

Run 3: Report of Copa — Data Link

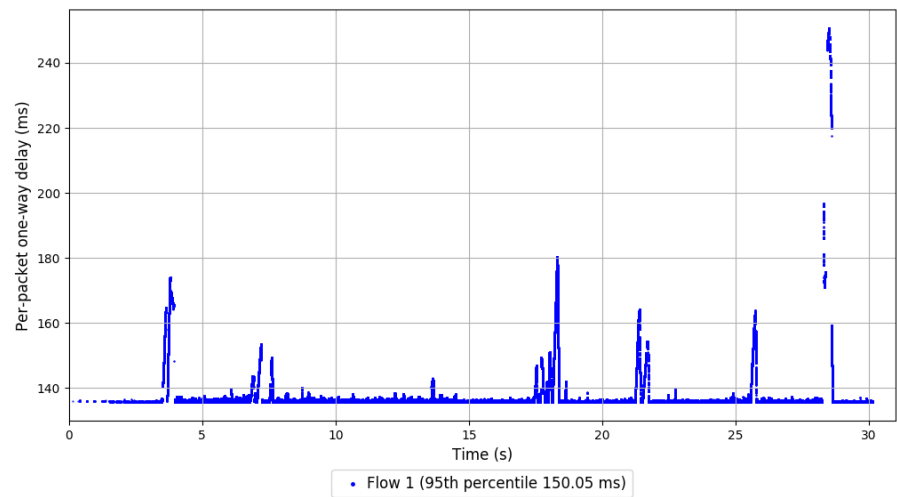
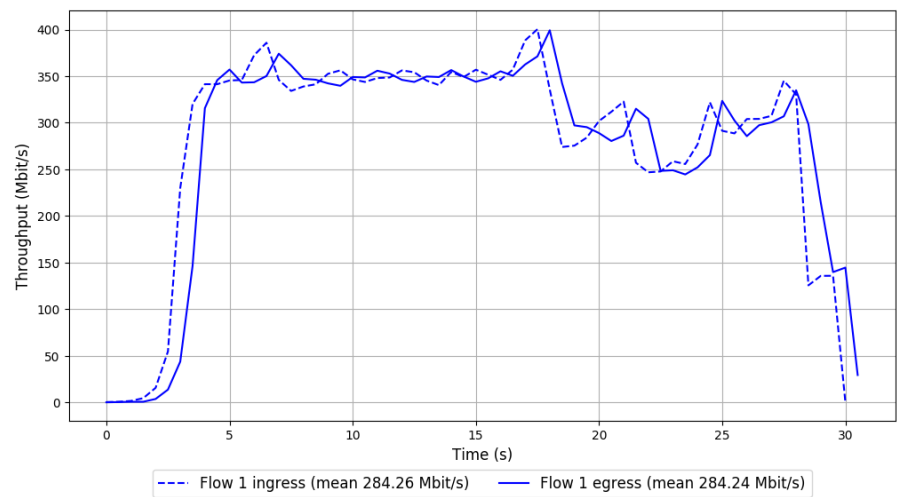


Run 4: Statistics of Copa

Start at: 2018-09-25 16:19:51
End at: 2018-09-25 16:20:21
Local clock offset: -0.236 ms
Remote clock offset: -0.04 ms

Below is generated by plot.py at 2018-09-25 17:29:05
Datalink statistics
-- Total of 1 flow:
Average throughput: 284.24 Mbit/s
95th percentile per-packet one-way delay: 150.054 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 284.24 Mbit/s
95th percentile per-packet one-way delay: 150.054 ms
Loss rate: 0.01%

Run 4: Report of Copa — Data Link



Run 5: Statistics of Copa

Start at: 2018-09-25 16:48:33

End at: 2018-09-25 16:49:03

Local clock offset: -0.233 ms

Remote clock offset: 0.035 ms

Below is generated by plot.py at 2018-09-25 17:30:20

Datalink statistics

-- Total of 1 flow:

Average throughput: 320.69 Mbit/s

95th percentile per-packet one-way delay: 168.591 ms

Loss rate: 0.00%

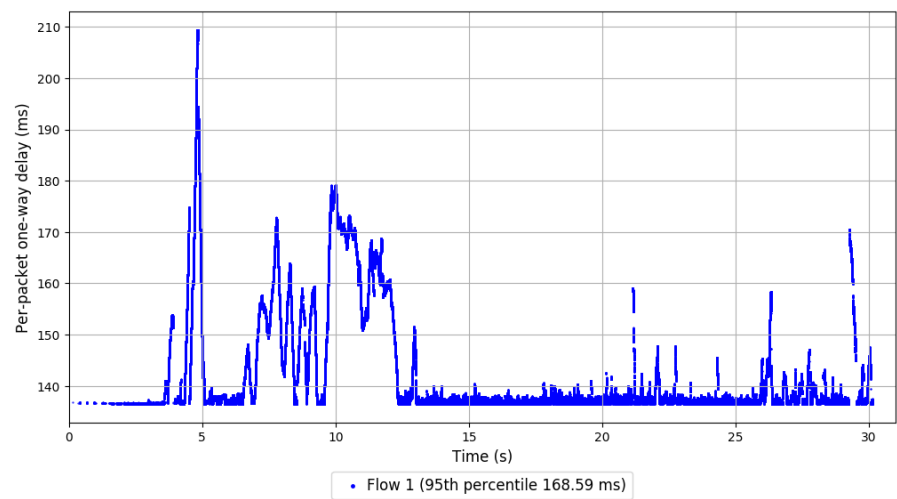
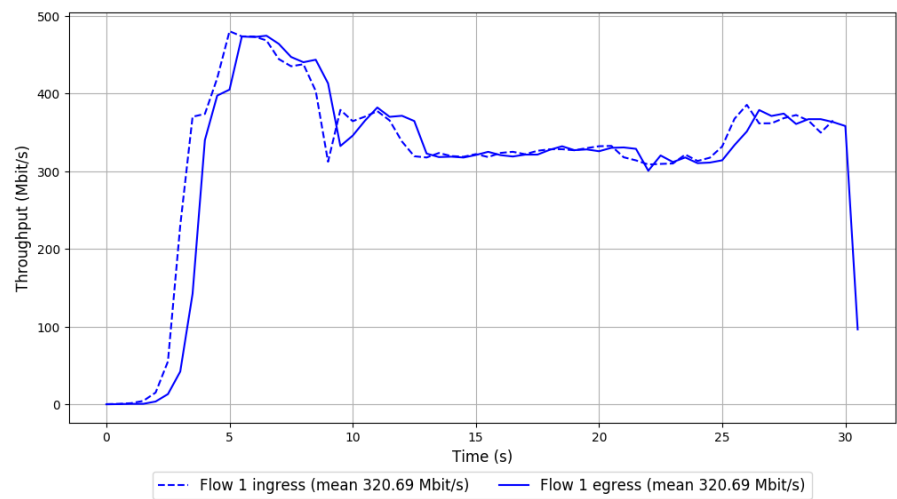
-- Flow 1:

Average throughput: 320.69 Mbit/s

95th percentile per-packet one-way delay: 168.591 ms

Loss rate: 0.00%

Run 5: Report of Copa — Data Link



Run 1: Statistics of TCP Cubic

Start at: 2018-09-25 14:47:47

End at: 2018-09-25 14:48:17

Local clock offset: -0.28 ms

Remote clock offset: 0.272 ms

Below is generated by plot.py at 2018-09-25 17:30:20

Datalink statistics

-- Total of 1 flow:

Average throughput: 496.90 Mbit/s

95th percentile per-packet one-way delay: 141.018 ms

Loss rate: 0.00%

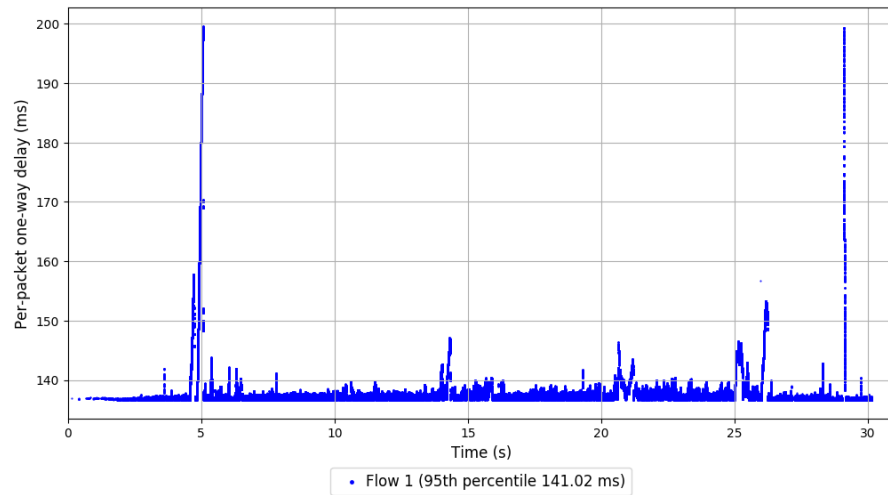
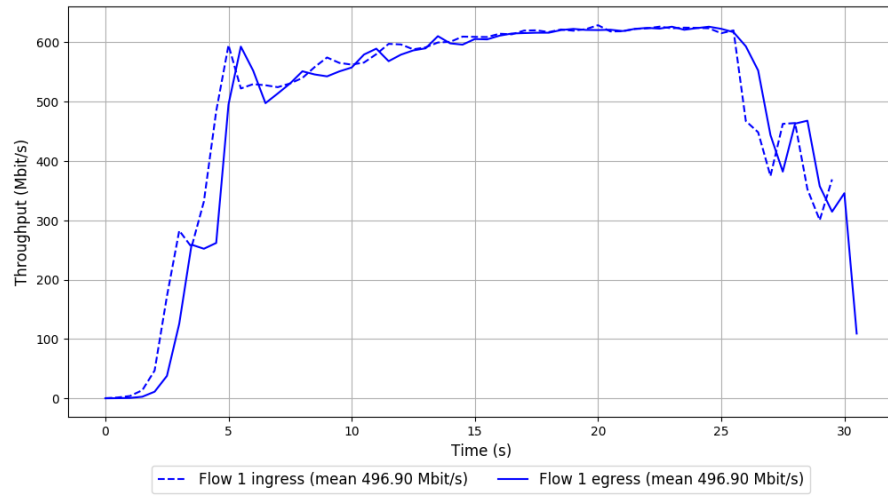
-- Flow 1:

Average throughput: 496.90 Mbit/s

95th percentile per-packet one-way delay: 141.018 ms

Loss rate: 0.00%

Run 1: Report of TCP Cubic — Data Link

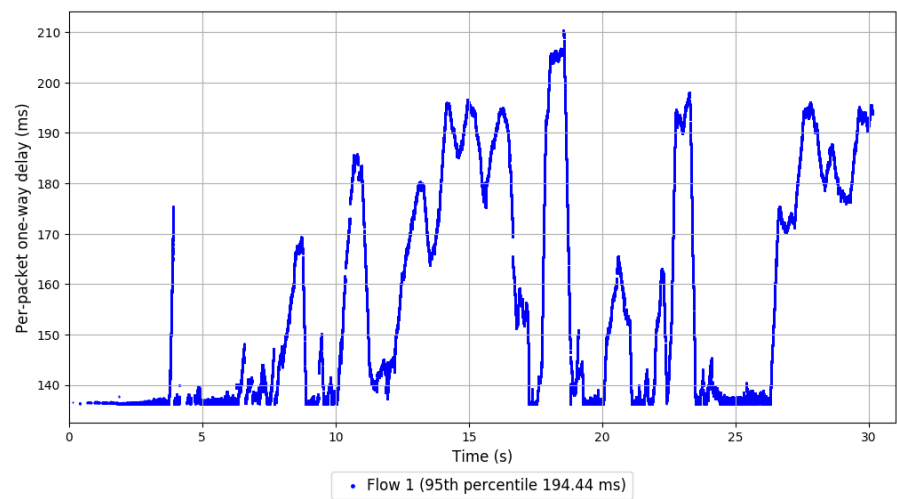
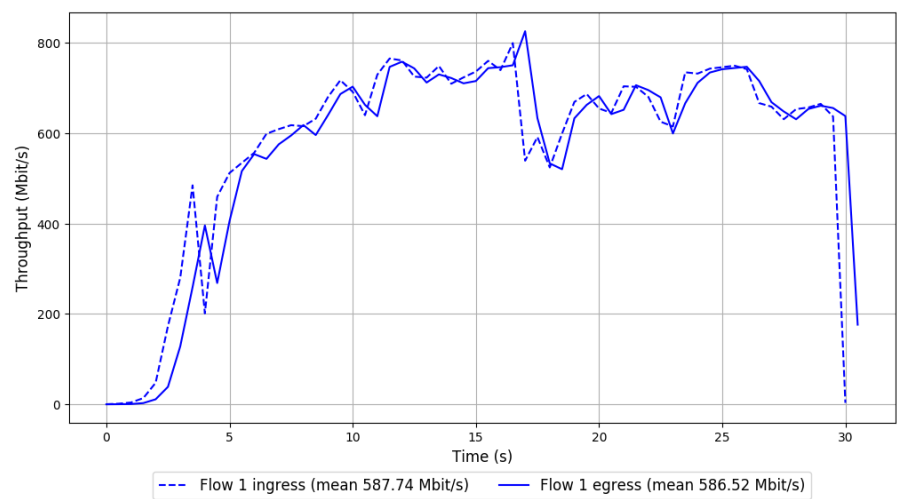


Run 2: Statistics of TCP Cubic

Start at: 2018-09-25 15:16:13
End at: 2018-09-25 15:16:43
Local clock offset: -0.3 ms
Remote clock offset: -0.016 ms

Below is generated by plot.py at 2018-09-25 17:30:32
Datalink statistics
-- Total of 1 flow:
Average throughput: 586.52 Mbit/s
95th percentile per-packet one-way delay: 194.438 ms
Loss rate: 0.21%
-- Flow 1:
Average throughput: 586.52 Mbit/s
95th percentile per-packet one-way delay: 194.438 ms
Loss rate: 0.21%

Run 2: Report of TCP Cubic — Data Link



Run 3: Statistics of TCP Cubic

Start at: 2018-09-25 15:45:13

End at: 2018-09-25 15:45:43

Local clock offset: -0.383 ms

Remote clock offset: 0.033 ms

Below is generated by plot.py at 2018-09-25 17:30:32

Datalink statistics

-- Total of 1 flow:

Average throughput: 359.66 Mbit/s

95th percentile per-packet one-way delay: 207.634 ms

Loss rate: 0.13%

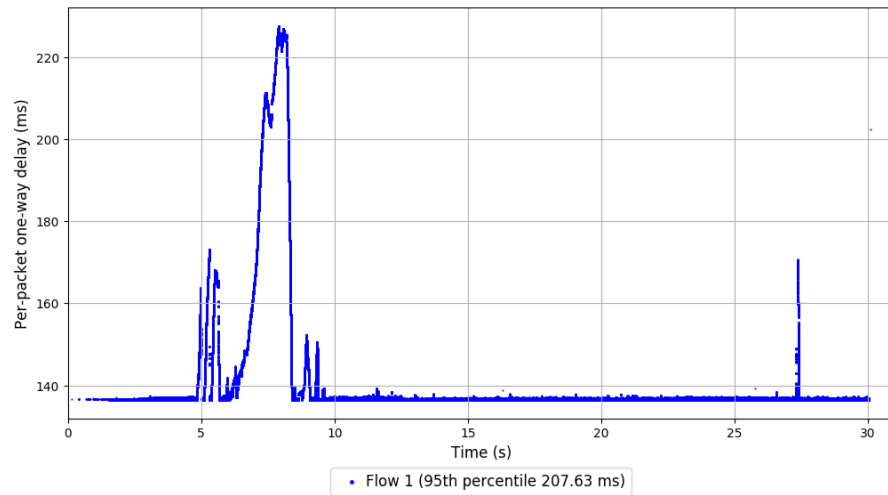
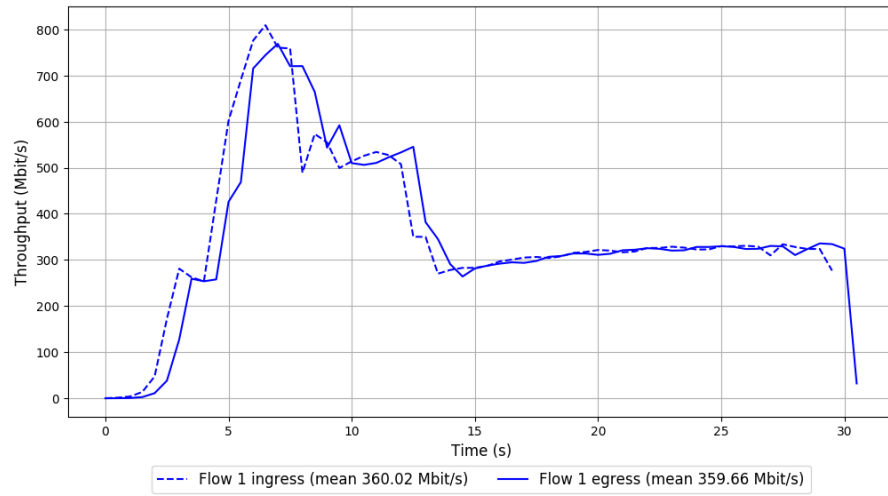
-- Flow 1:

Average throughput: 359.66 Mbit/s

95th percentile per-packet one-way delay: 207.634 ms

Loss rate: 0.13%

Run 3: Report of TCP Cubic — Data Link



Run 4: Statistics of TCP Cubic

Start at: 2018-09-25 16:13:39

End at: 2018-09-25 16:14:09

Local clock offset: -0.264 ms

Remote clock offset: -0.03 ms

Below is generated by plot.py at 2018-09-25 17:30:32

Datalink statistics

-- Total of 1 flow:

Average throughput: 506.92 Mbit/s

95th percentile per-packet one-way delay: 147.983 ms

Loss rate: 0.02%

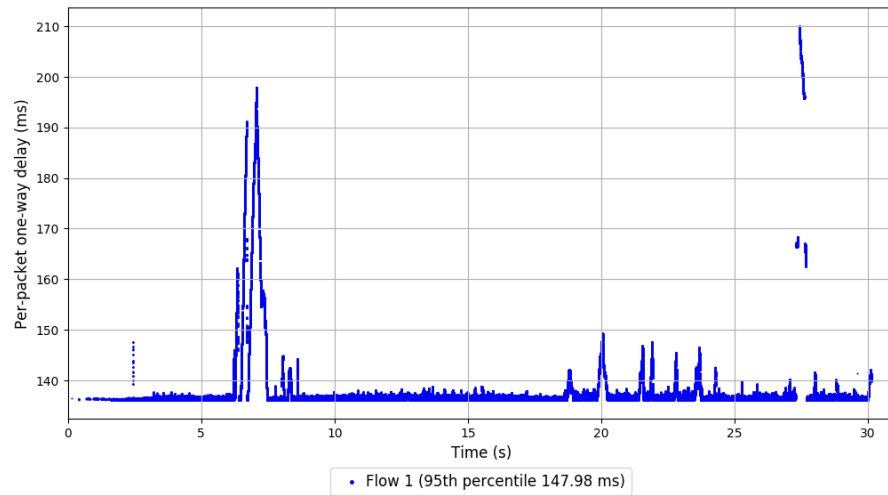
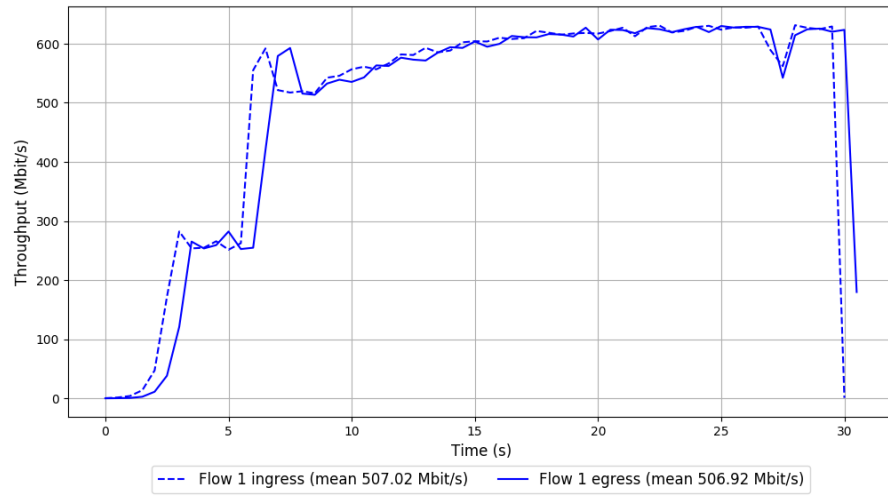
-- Flow 1:

Average throughput: 506.92 Mbit/s

95th percentile per-packet one-way delay: 147.983 ms

Loss rate: 0.02%

Run 4: Report of TCP Cubic — Data Link



Run 5: Statistics of TCP Cubic

Start at: 2018-09-25 16:42:19

End at: 2018-09-25 16:42:49

Local clock offset: -0.153 ms

Remote clock offset: 0.351 ms

Below is generated by plot.py at 2018-09-25 17:31:29

Datalink statistics

-- Total of 1 flow:

Average throughput: 537.39 Mbit/s

95th percentile per-packet one-way delay: 141.883 ms

Loss rate: 0.01%

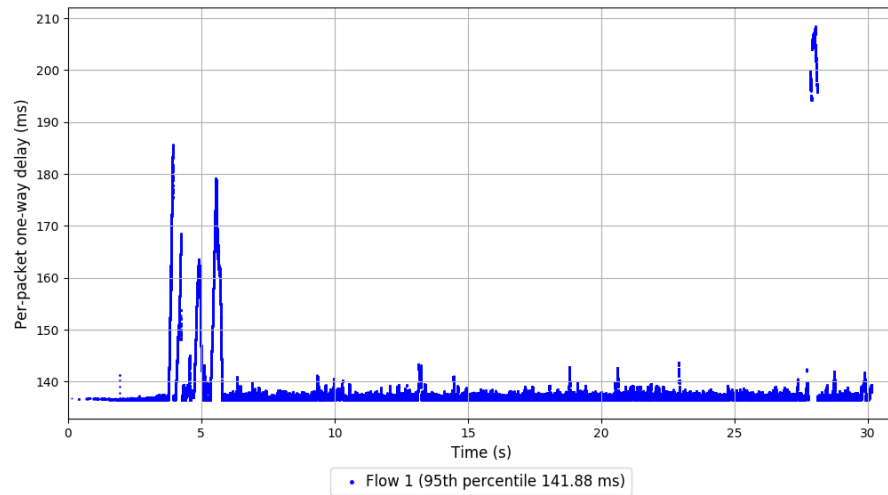
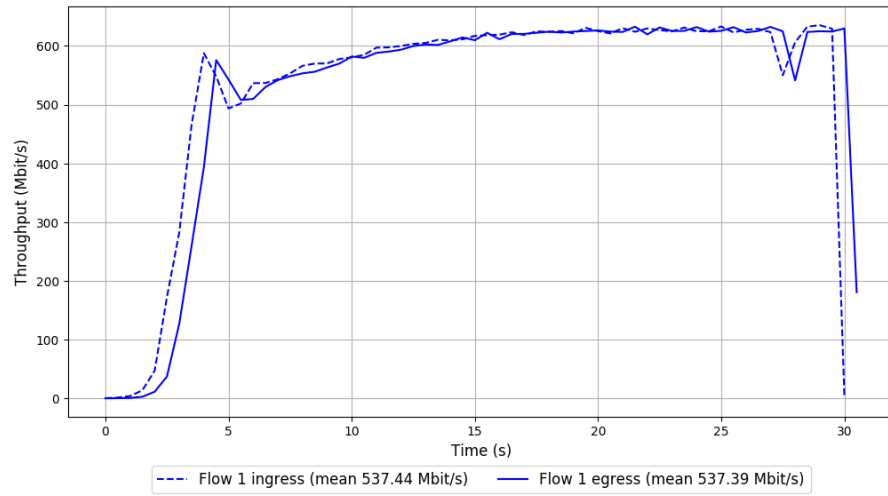
-- Flow 1:

Average throughput: 537.39 Mbit/s

95th percentile per-packet one-way delay: 141.883 ms

Loss rate: 0.01%

Run 5: Report of TCP Cubic — Data Link

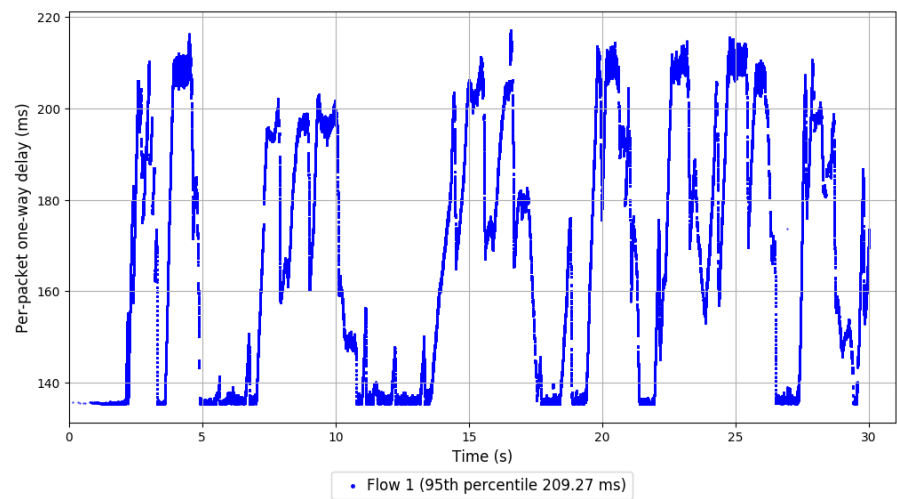
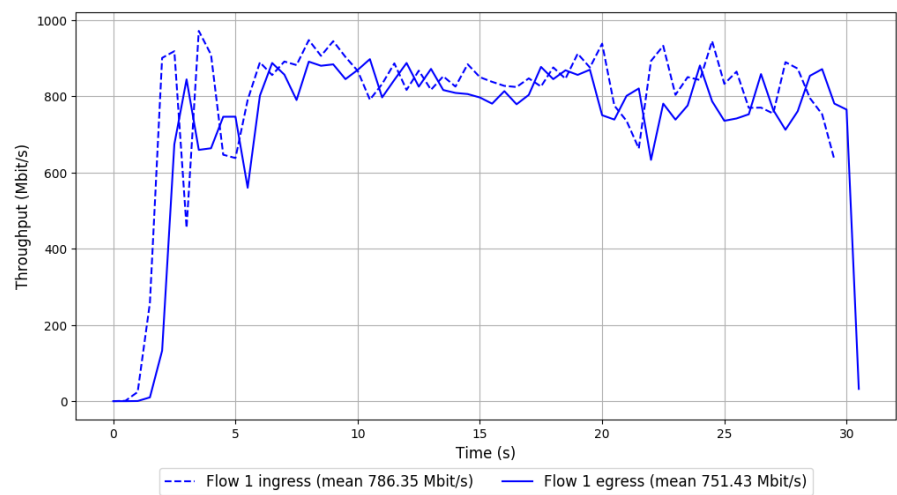


Run 1: Statistics of FillP

Start at: 2018-09-25 14:38:43
End at: 2018-09-25 14:39:13
Local clock offset: -0.169 ms
Remote clock offset: -0.067 ms

Below is generated by plot.py at 2018-09-25 17:39:37
Datalink statistics
-- Total of 1 flow:
Average throughput: 751.43 Mbit/s
95th percentile per-packet one-way delay: 209.270 ms
Loss rate: 4.44%
-- Flow 1:
Average throughput: 751.43 Mbit/s
95th percentile per-packet one-way delay: 209.270 ms
Loss rate: 4.44%

Run 1: Report of FillP — Data Link



Run 2: Statistics of FillP

Start at: 2018-09-25 15:06:48

End at: 2018-09-25 15:07:18

Local clock offset: -0.364 ms

Remote clock offset: -0.04 ms

Below is generated by plot.py at 2018-09-25 17:46:06

Datalink statistics

-- Total of 1 flow:

Average throughput: 834.57 Mbit/s

95th percentile per-packet one-way delay: 205.323 ms

Loss rate: 2.27%

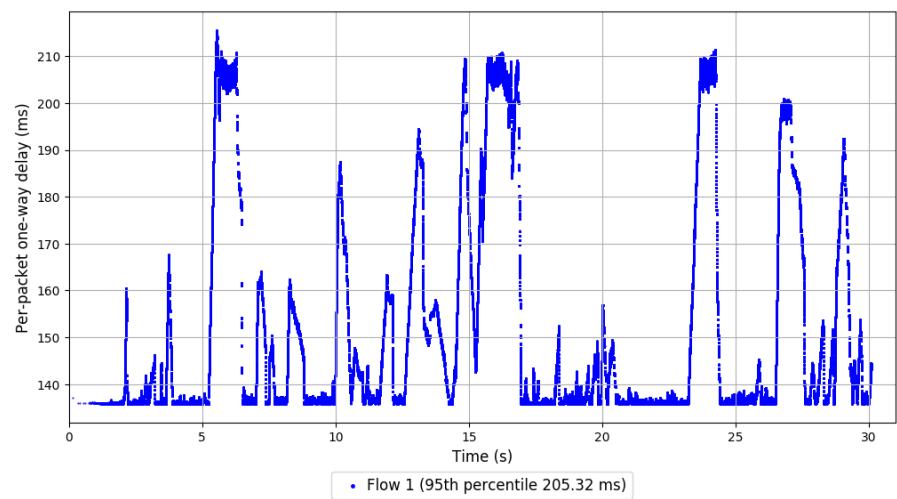
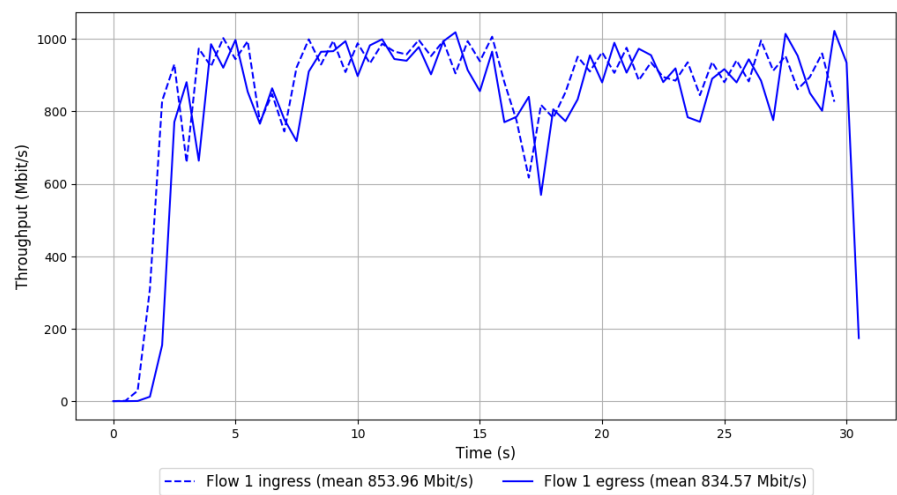
-- Flow 1:

Average throughput: 834.57 Mbit/s

95th percentile per-packet one-way delay: 205.323 ms

Loss rate: 2.27%

Run 2: Report of FillP — Data Link

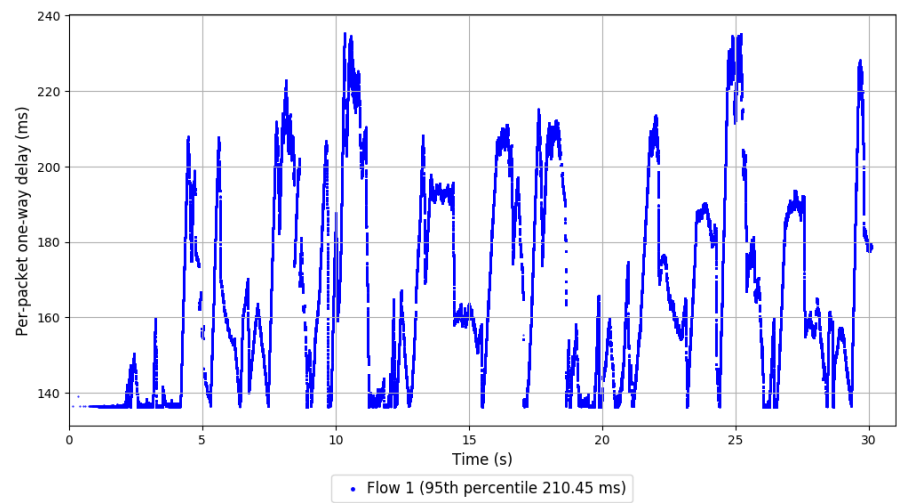
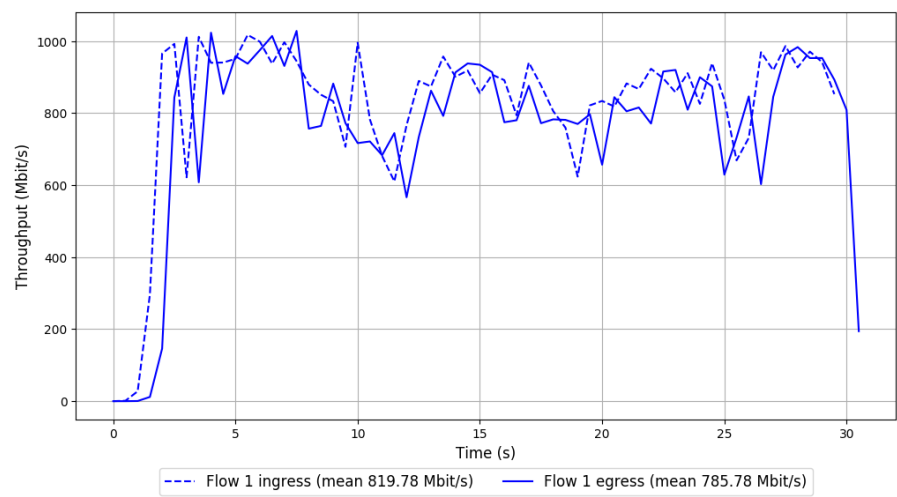


Run 3: Statistics of FillP

Start at: 2018-09-25 15:35:58
End at: 2018-09-25 15:36:28
Local clock offset: -0.216 ms
Remote clock offset: -0.006 ms

Below is generated by plot.py at 2018-09-25 17:46:43
Datalink statistics
-- Total of 1 flow:
Average throughput: 785.78 Mbit/s
95th percentile per-packet one-way delay: 210.453 ms
Loss rate: 4.15%
-- Flow 1:
Average throughput: 785.78 Mbit/s
95th percentile per-packet one-way delay: 210.453 ms
Loss rate: 4.15%

Run 3: Report of FillP — Data Link



Run 4: Statistics of FillP

Start at: 2018-09-25 16:04:31

End at: 2018-09-25 16:05:01

Local clock offset: -0.358 ms

Remote clock offset: 0.016 ms

Below is generated by plot.py at 2018-09-25 17:46:43

Datalink statistics

-- Total of 1 flow:

Average throughput: 709.06 Mbit/s

95th percentile per-packet one-way delay: 220.893 ms

Loss rate: 5.92%

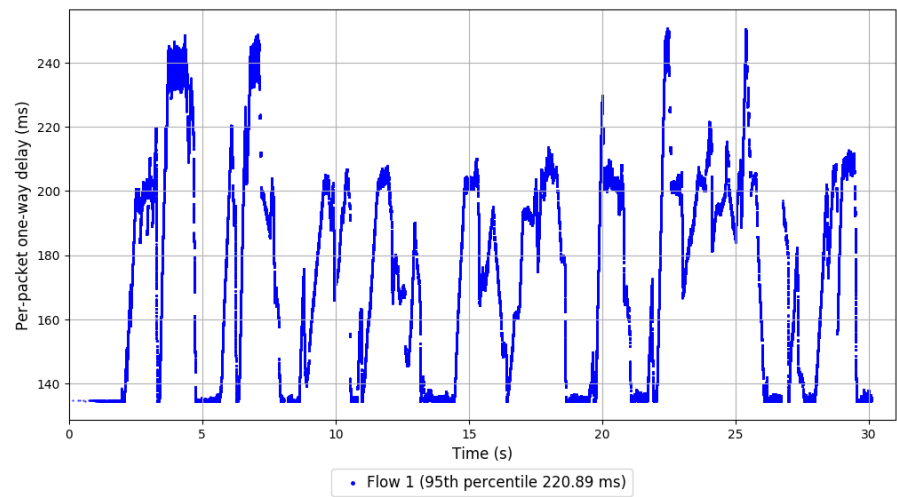
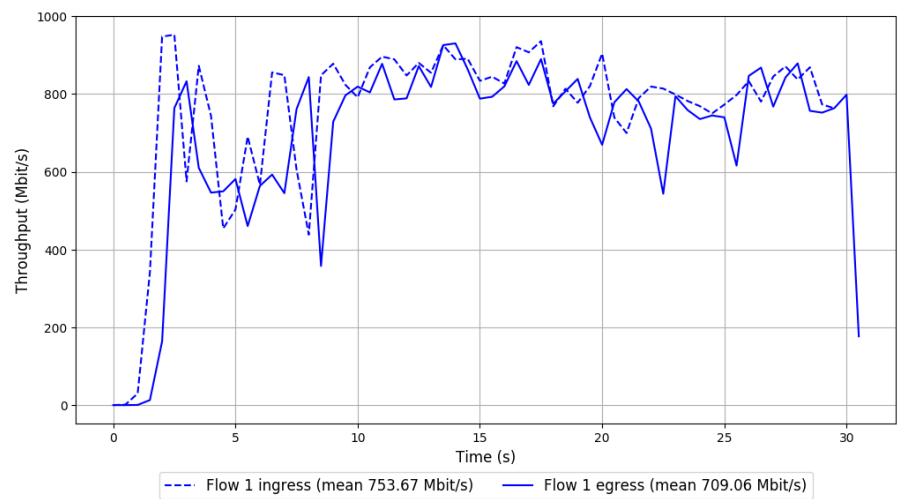
-- Flow 1:

Average throughput: 709.06 Mbit/s

95th percentile per-packet one-way delay: 220.893 ms

Loss rate: 5.92%

Run 4: Report of FillP — Data Link

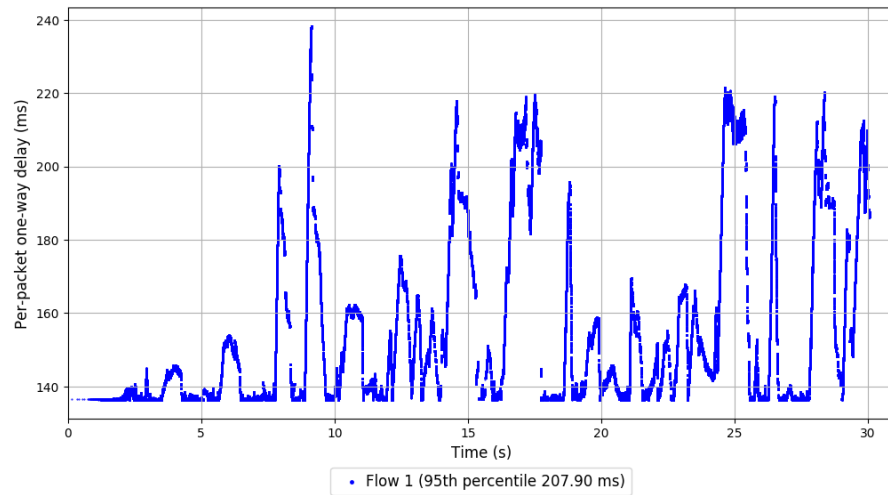
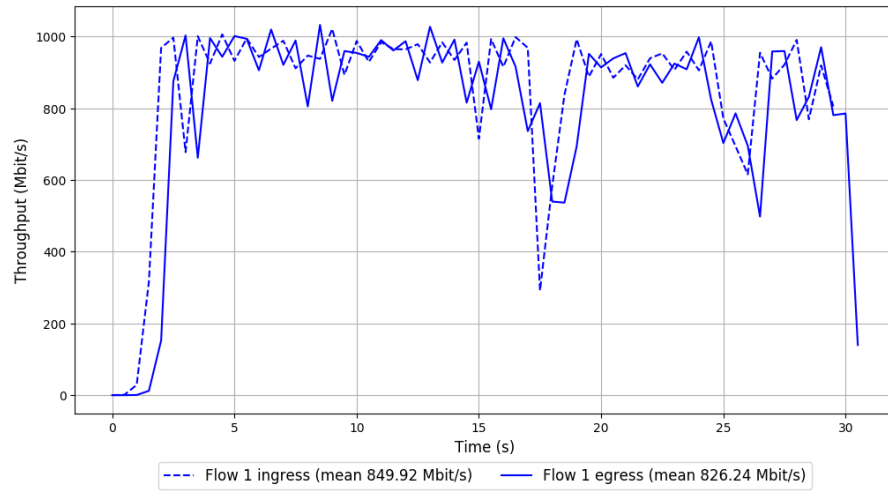


Run 5: Statistics of FillP

Start at: 2018-09-25 16:32:57
End at: 2018-09-25 16:33:27
Local clock offset: -0.225 ms
Remote clock offset: -0.029 ms

Below is generated by plot.py at 2018-09-25 17:47:41
Datalink statistics
-- Total of 1 flow:
Average throughput: 826.24 Mbit/s
95th percentile per-packet one-way delay: 207.896 ms
Loss rate: 2.79%
-- Flow 1:
Average throughput: 826.24 Mbit/s
95th percentile per-packet one-way delay: 207.896 ms
Loss rate: 2.79%

Run 5: Report of FillP — Data Link

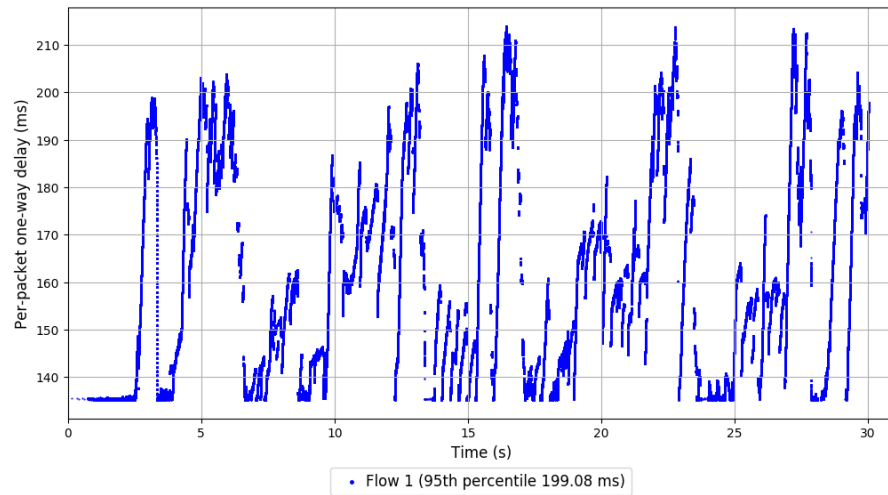
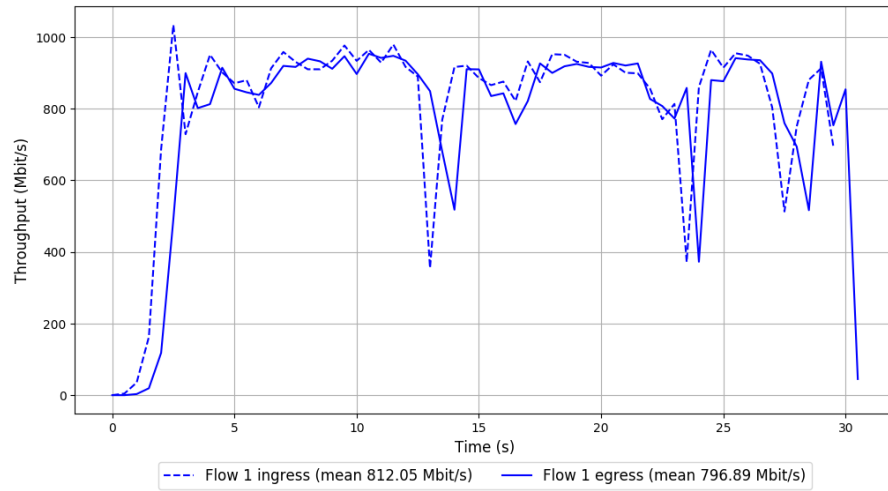


Run 1: Statistics of FillP-Sheep

Start at: 2018-09-25 14:40:28
End at: 2018-09-25 14:40:58
Local clock offset: -0.307 ms
Remote clock offset: -0.047 ms

Below is generated by plot.py at 2018-09-25 17:48:04
Datalink statistics
-- Total of 1 flow:
Average throughput: 796.89 Mbit/s
95th percentile per-packet one-way delay: 199.077 ms
Loss rate: 1.87%
-- Flow 1:
Average throughput: 796.89 Mbit/s
95th percentile per-packet one-way delay: 199.077 ms
Loss rate: 1.87%

Run 1: Report of FillP-Sheep — Data Link



Run 2: Statistics of FillP-Sheep

Start at: 2018-09-25 15:08:35

End at: 2018-09-25 15:09:05

Local clock offset: -0.19 ms

Remote clock offset: -0.04 ms

Below is generated by plot.py at 2018-09-25 17:48:04

Datalink statistics

-- Total of 1 flow:

Average throughput: 770.50 Mbit/s

95th percentile per-packet one-way delay: 205.826 ms

Loss rate: 4.07%

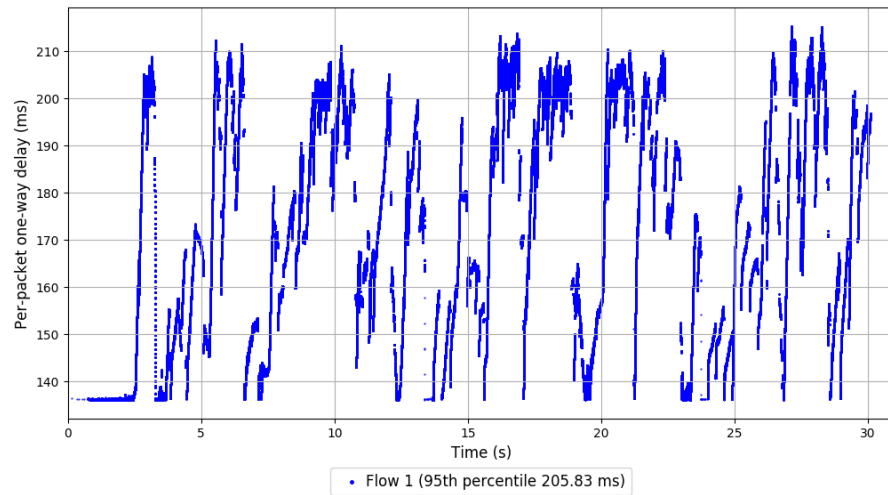
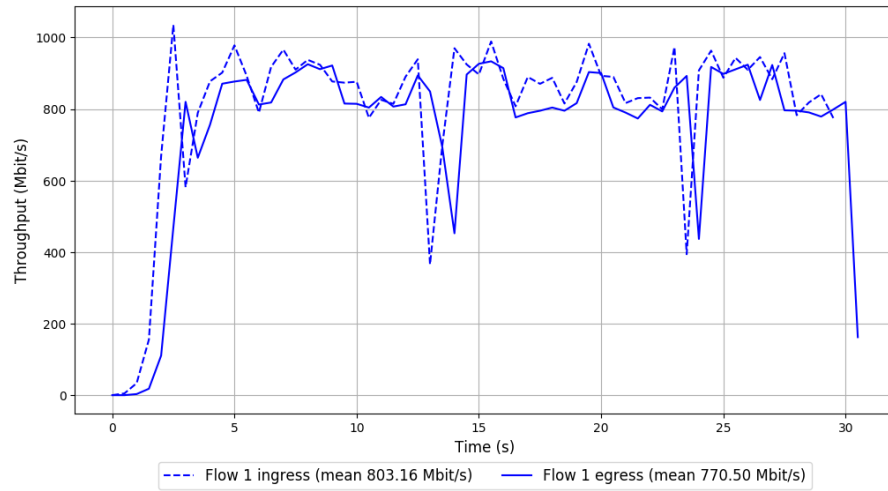
-- Flow 1:

Average throughput: 770.50 Mbit/s

95th percentile per-packet one-way delay: 205.826 ms

Loss rate: 4.07%

Run 2: Report of FillP-Sheep — Data Link

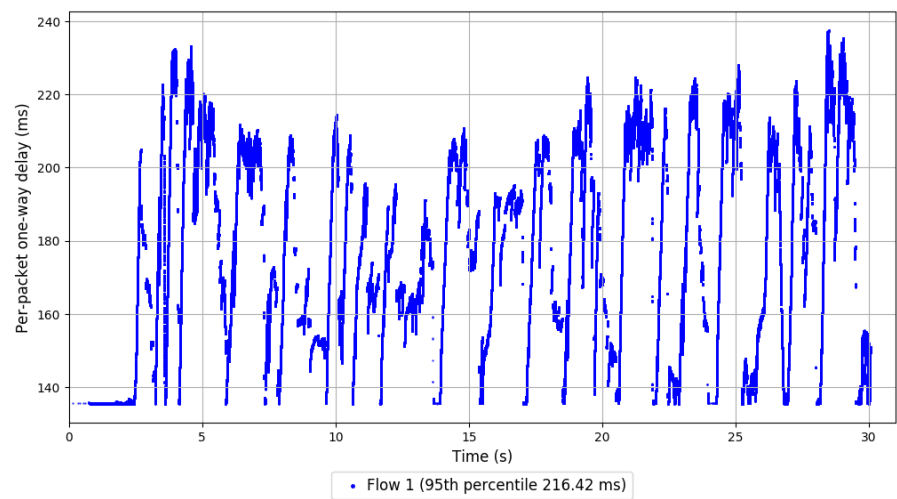
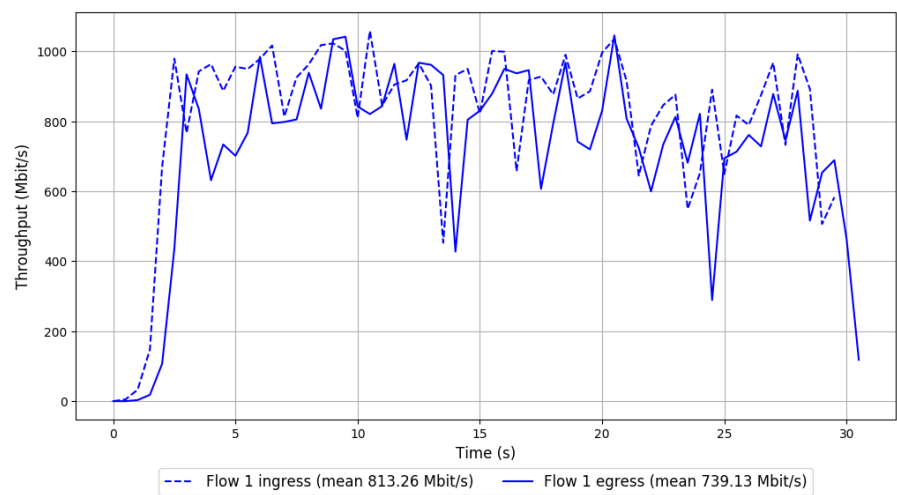


Run 3: Statistics of FillP-Sheep

Start at: 2018-09-25 15:37:45
End at: 2018-09-25 15:38:15
Local clock offset: -0.281 ms
Remote clock offset: -0.332 ms

Below is generated by plot.py at 2018-09-25 17:48:47
Datalink statistics
-- Total of 1 flow:
Average throughput: 739.13 Mbit/s
95th percentile per-packet one-way delay: 216.422 ms
Loss rate: 9.11%
-- Flow 1:
Average throughput: 739.13 Mbit/s
95th percentile per-packet one-way delay: 216.422 ms
Loss rate: 9.11%

Run 3: Report of FillP-Sheep — Data Link



Run 4: Statistics of FillP-Sheep

Start at: 2018-09-25 16:06:16

End at: 2018-09-25 16:06:46

Local clock offset: -0.101 ms

Remote clock offset: 0.044 ms

Below is generated by plot.py at 2018-09-25 17:58:58

Datalink statistics

-- Total of 1 flow:

Average throughput: 737.85 Mbit/s

95th percentile per-packet one-way delay: 208.200 ms

Loss rate: 5.19%

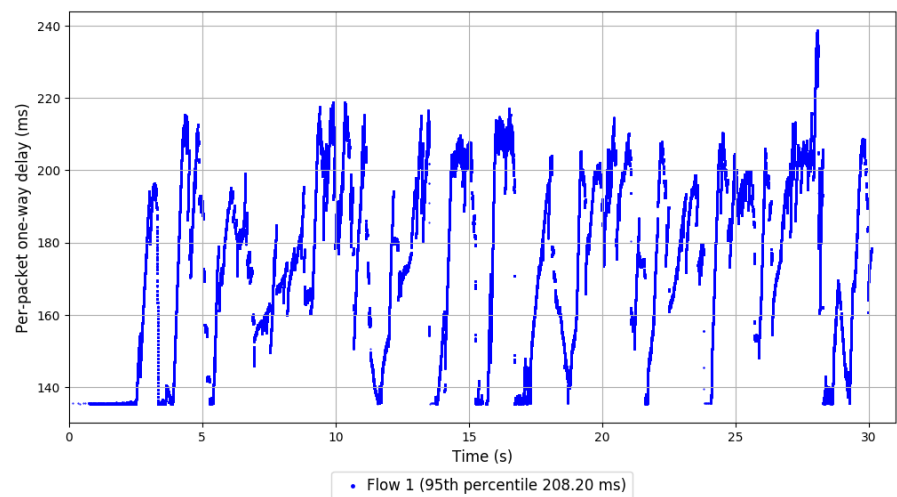
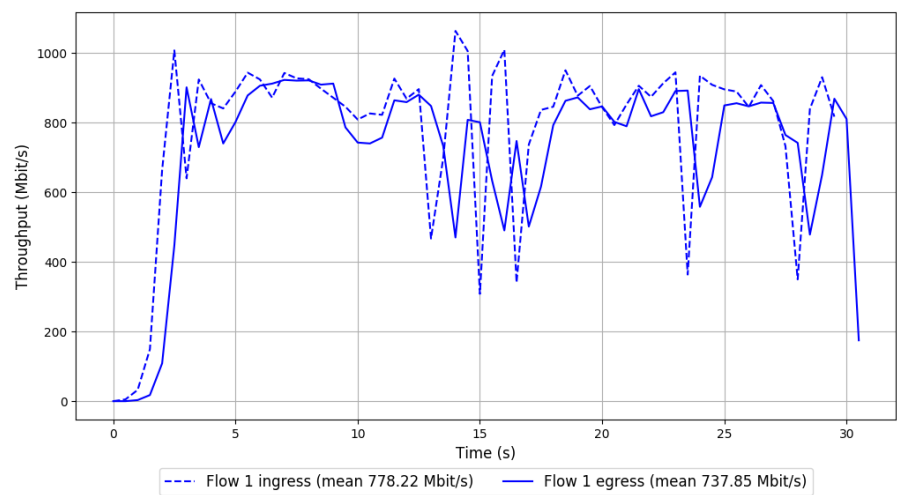
-- Flow 1:

Average throughput: 737.85 Mbit/s

95th percentile per-packet one-way delay: 208.200 ms

Loss rate: 5.19%

Run 4: Report of FillP-Sheep — Data Link

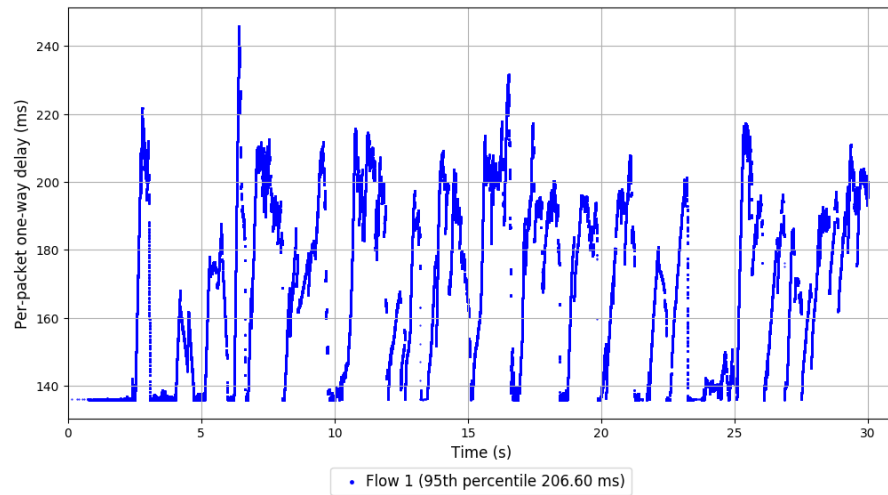
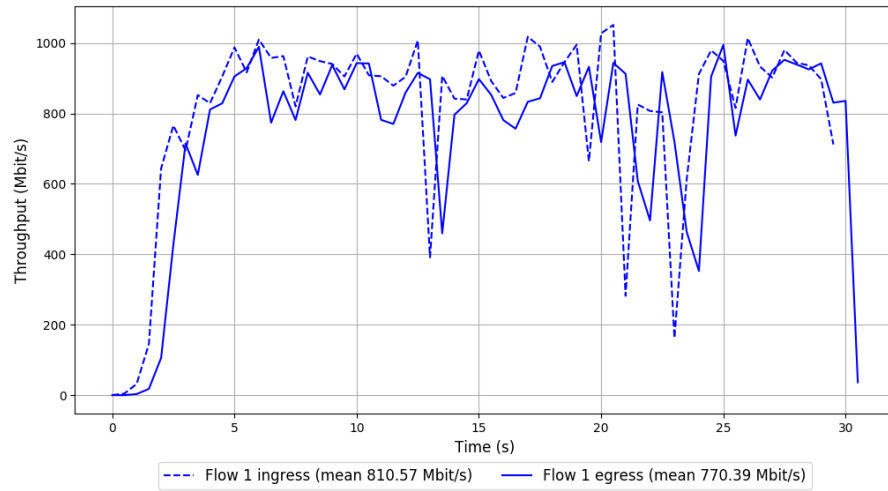


Run 5: Statistics of FillP-Sheep

Start at: 2018-09-25 16:34:46
End at: 2018-09-25 16:35:16
Local clock offset: -0.332 ms
Remote clock offset: -0.059 ms

Below is generated by plot.py at 2018-09-25 18:02:29
Datalink statistics
-- Total of 1 flow:
Average throughput: 770.39 Mbit/s
95th percentile per-packet one-way delay: 206.597 ms
Loss rate: 4.95%
-- Flow 1:
Average throughput: 770.39 Mbit/s
95th percentile per-packet one-way delay: 206.597 ms
Loss rate: 4.95%

Run 5: Report of FillP-Sheep — Data Link



Run 1: Statistics of Indigo

Start at: 2018-09-25 14:59:39

End at: 2018-09-25 15:00:09

Local clock offset: -0.182 ms

Remote clock offset: 0.307 ms

Below is generated by plot.py at 2018-09-25 18:02:29

Datalink statistics

-- Total of 1 flow:

Average throughput: 183.04 Mbit/s

95th percentile per-packet one-way delay: 138.571 ms

Loss rate: 0.00%

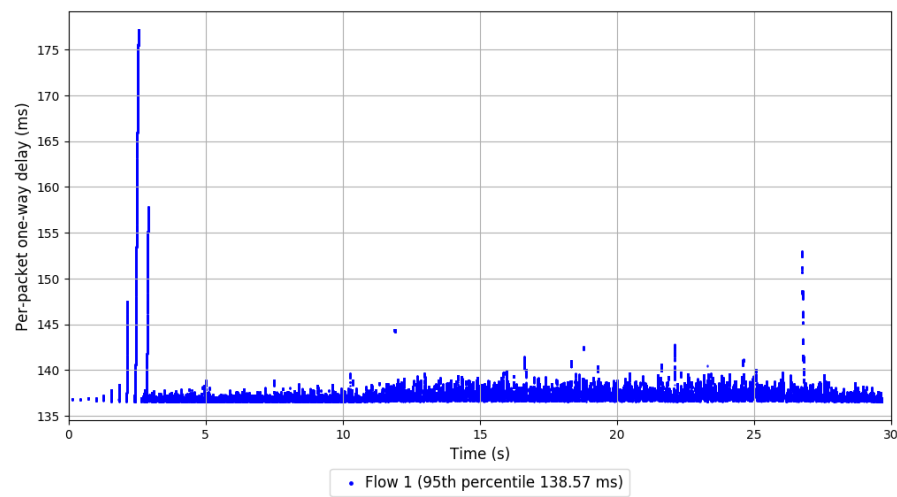
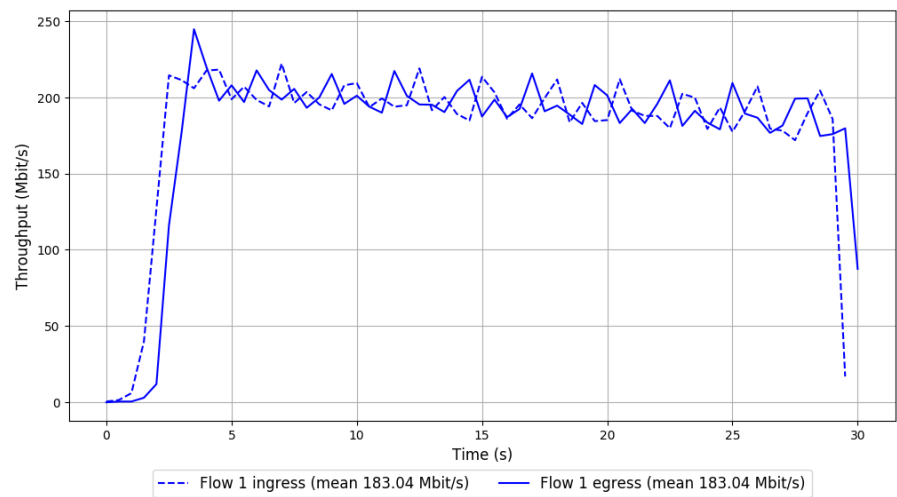
-- Flow 1:

Average throughput: 183.04 Mbit/s

95th percentile per-packet one-way delay: 138.571 ms

Loss rate: 0.00%

Run 1: Report of Indigo — Data Link



Run 2: Statistics of Indigo

Start at: 2018-09-25 15:28:39

End at: 2018-09-25 15:29:09

Local clock offset: -0.112 ms

Remote clock offset: 0.012 ms

Below is generated by plot.py at 2018-09-25 18:02:29

Datalink statistics

-- Total of 1 flow:

Average throughput: 181.32 Mbit/s

95th percentile per-packet one-way delay: 135.639 ms

Loss rate: 0.00%

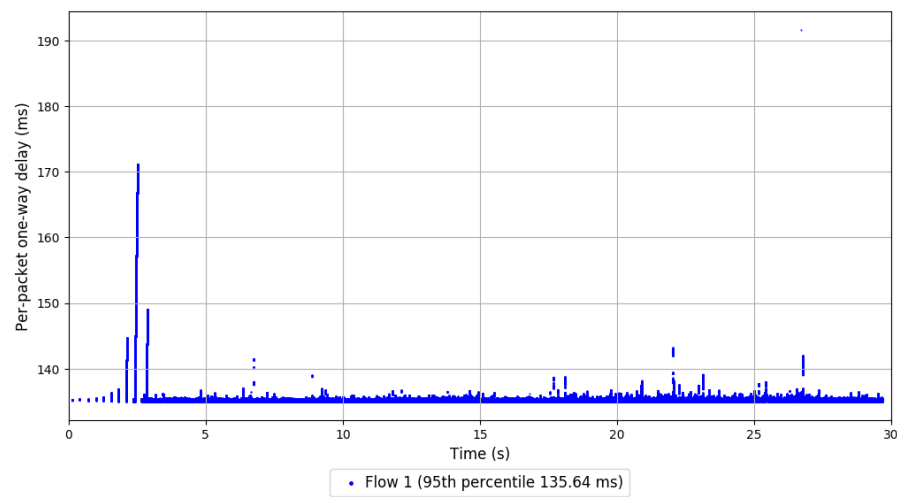
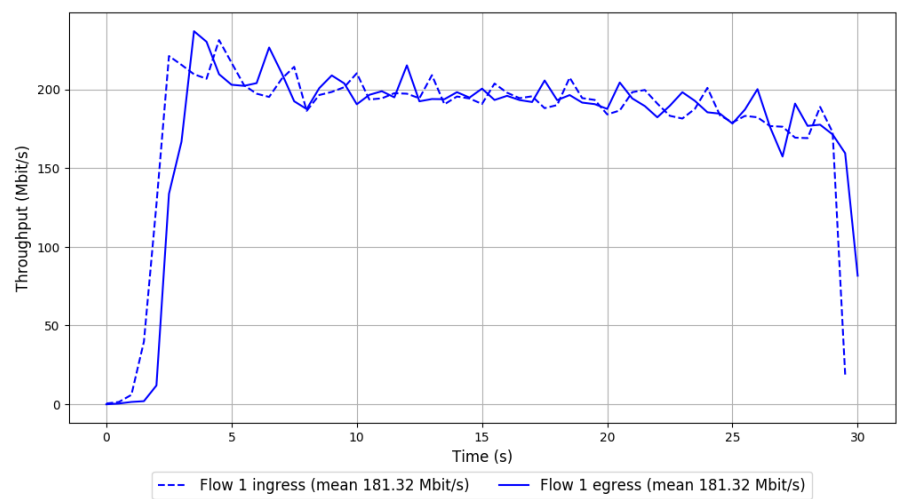
-- Flow 1:

Average throughput: 181.32 Mbit/s

95th percentile per-packet one-way delay: 135.639 ms

Loss rate: 0.00%

Run 2: Report of Indigo — Data Link

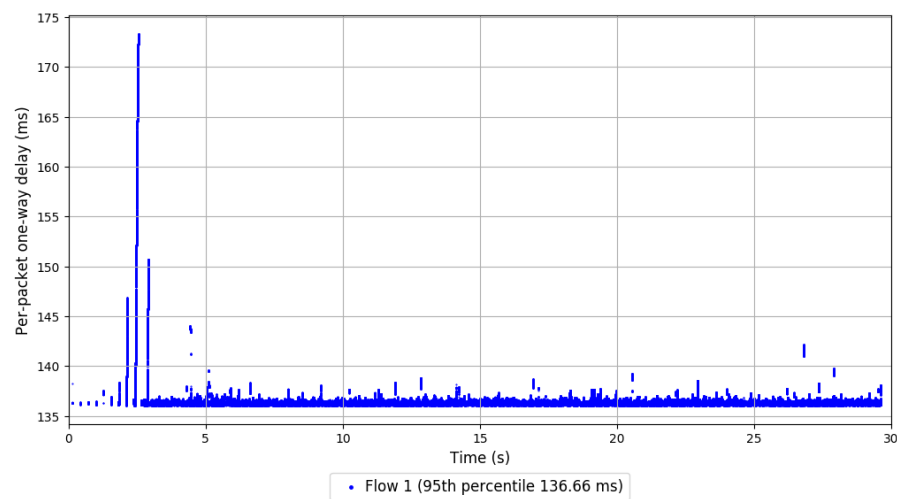
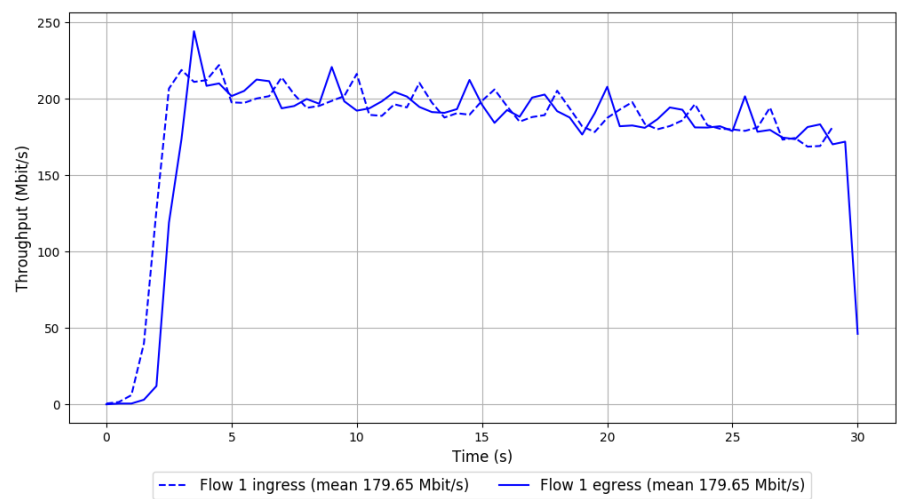


Run 3: Statistics of Indigo

Start at: 2018-09-25 15:57:15
End at: 2018-09-25 15:57:45
Local clock offset: -0.352 ms
Remote clock offset: -0.353 ms

Below is generated by plot.py at 2018-09-25 18:02:29
Datalink statistics
-- Total of 1 flow:
Average throughput: 179.65 Mbit/s
95th percentile per-packet one-way delay: 136.663 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 179.65 Mbit/s
95th percentile per-packet one-way delay: 136.663 ms
Loss rate: 0.00%

Run 3: Report of Indigo — Data Link

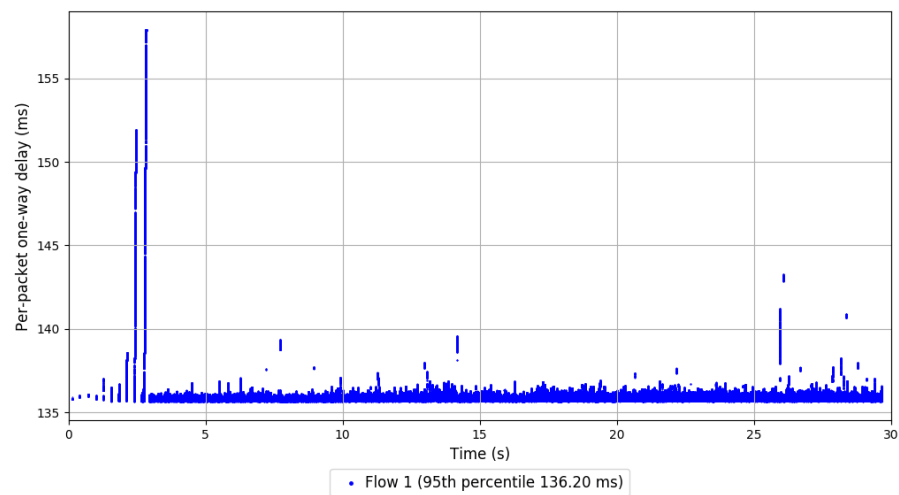
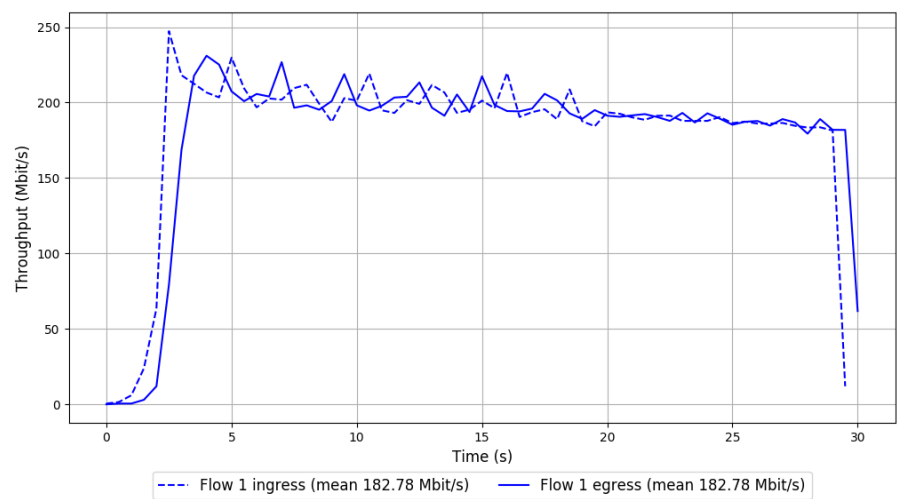


Run 4: Statistics of Indigo

Start at: 2018-09-25 16:25:40
End at: 2018-09-25 16:26:10
Local clock offset: -0.312 ms
Remote clock offset: -0.051 ms

Below is generated by plot.py at 2018-09-25 18:02:29
Datalink statistics
-- Total of 1 flow:
Average throughput: 182.78 Mbit/s
95th percentile per-packet one-way delay: 136.199 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 182.78 Mbit/s
95th percentile per-packet one-way delay: 136.199 ms
Loss rate: 0.00%

Run 4: Report of Indigo — Data Link



Run 5: Statistics of Indigo

Start at: 2018-09-25 16:54:22

End at: 2018-09-25 16:54:52

Local clock offset: -0.466 ms

Remote clock offset: 0.062 ms

Below is generated by plot.py at 2018-09-25 18:02:29

Datalink statistics

-- Total of 1 flow:

Average throughput: 178.96 Mbit/s

95th percentile per-packet one-way delay: 136.977 ms

Loss rate: 0.00%

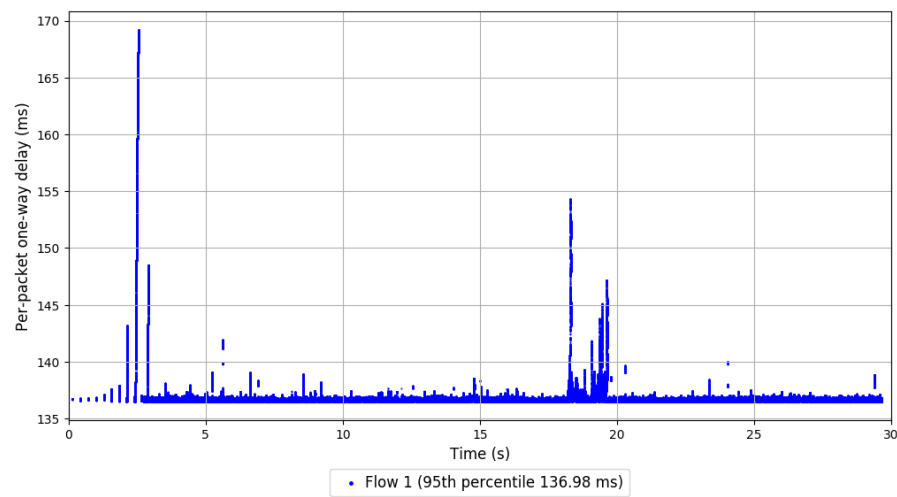
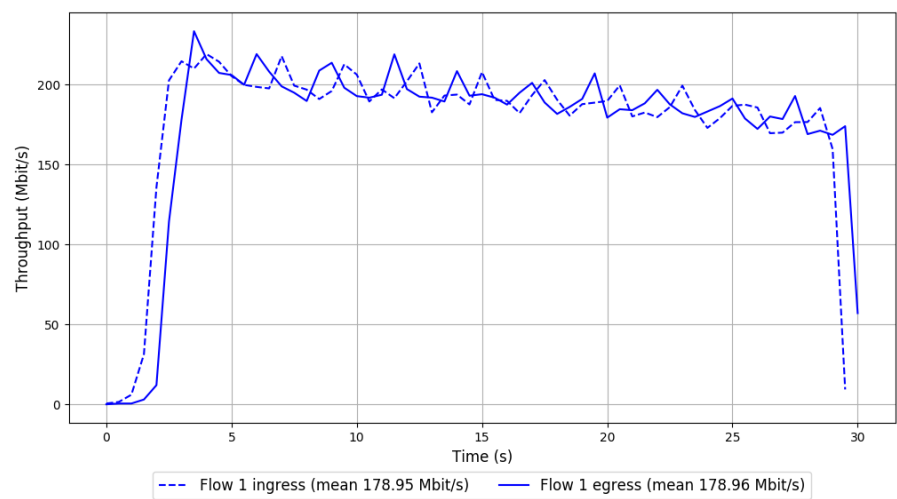
-- Flow 1:

Average throughput: 178.96 Mbit/s

95th percentile per-packet one-way delay: 136.977 ms

Loss rate: 0.00%

Run 5: Report of Indigo — Data Link



Run 1: Statistics of Indigo-96d2da3

Start at: 2018-09-25 15:01:08

End at: 2018-09-25 15:01:38

Local clock offset: -0.256 ms

Remote clock offset: -0.044 ms

Below is generated by plot.py at 2018-09-25 18:02:29

Datalink statistics

-- Total of 1 flow:

Average throughput: 271.31 Mbit/s

95th percentile per-packet one-way delay: 166.550 ms

Loss rate: 0.42%

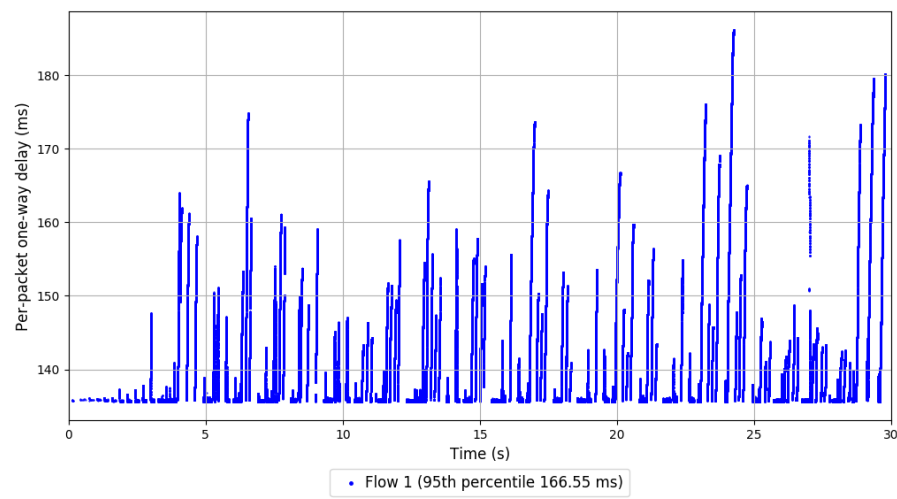
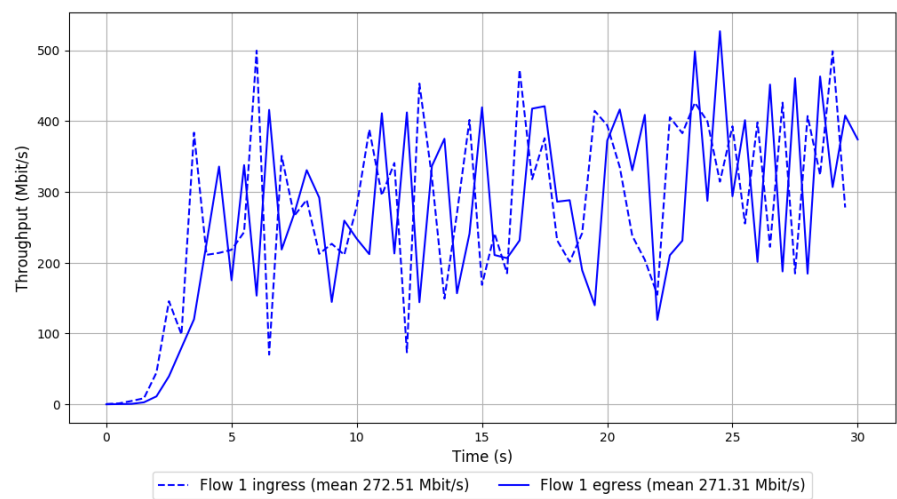
-- Flow 1:

Average throughput: 271.31 Mbit/s

95th percentile per-packet one-way delay: 166.550 ms

Loss rate: 0.42%

Run 1: Report of Indigo-96d2da3 — Data Link



Run 2: Statistics of Indigo-96d2da3

Start at: 2018-09-25 15:30:08

End at: 2018-09-25 15:30:38

Local clock offset: -0.265 ms

Remote clock offset: 0.348 ms

Below is generated by plot.py at 2018-09-25 18:02:29

Datalink statistics

-- Total of 1 flow:

Average throughput: 268.07 Mbit/s

95th percentile per-packet one-way delay: 161.955 ms

Loss rate: 0.22%

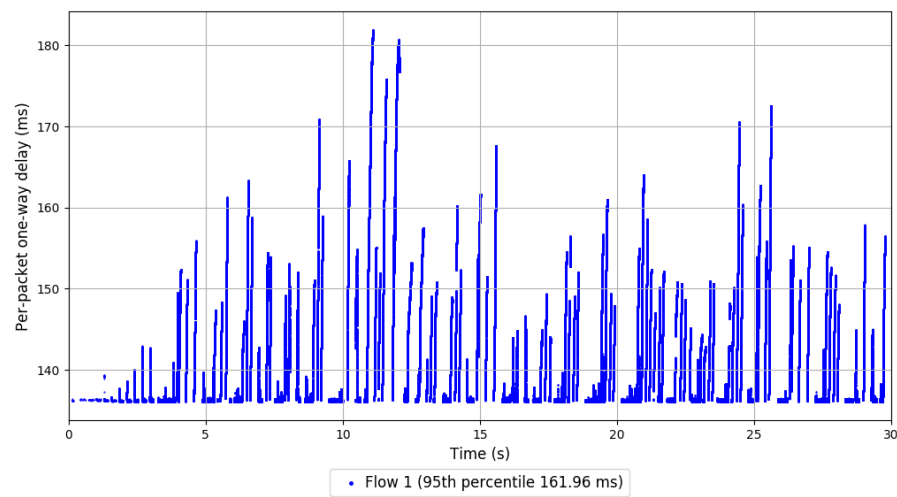
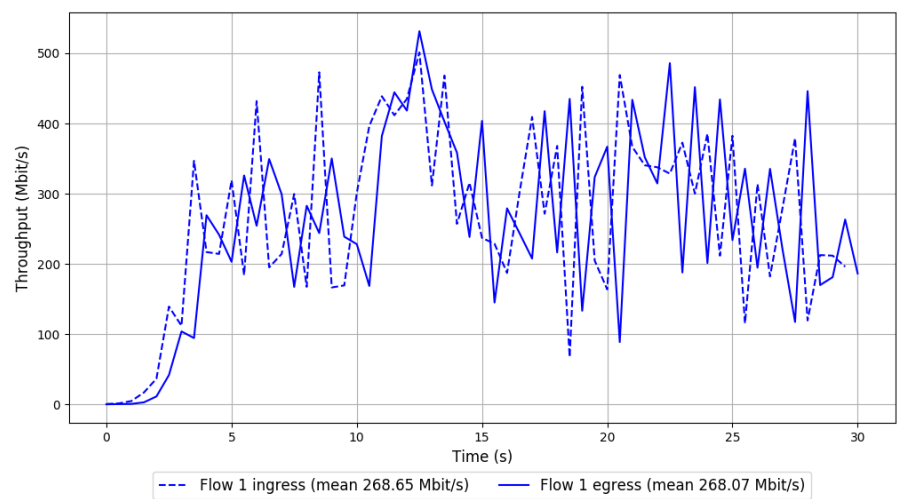
-- Flow 1:

Average throughput: 268.07 Mbit/s

95th percentile per-packet one-way delay: 161.955 ms

Loss rate: 0.22%

Run 2: Report of Indigo-96d2da3 — Data Link

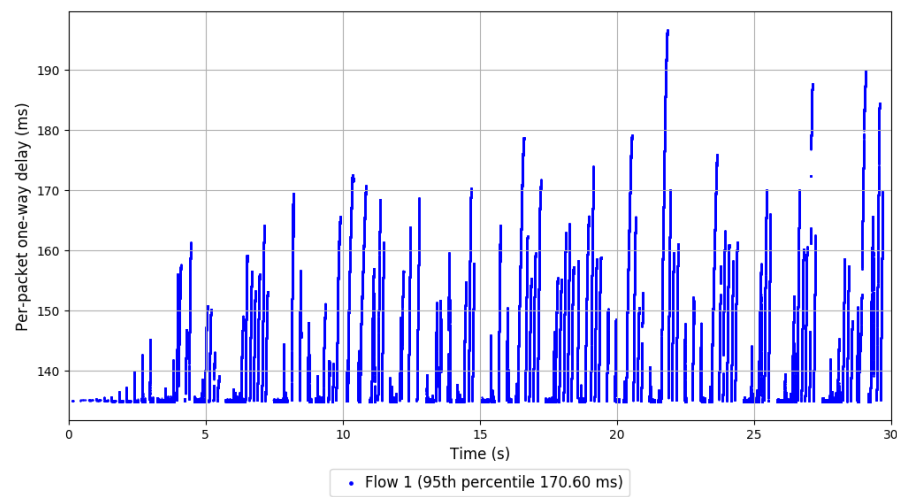
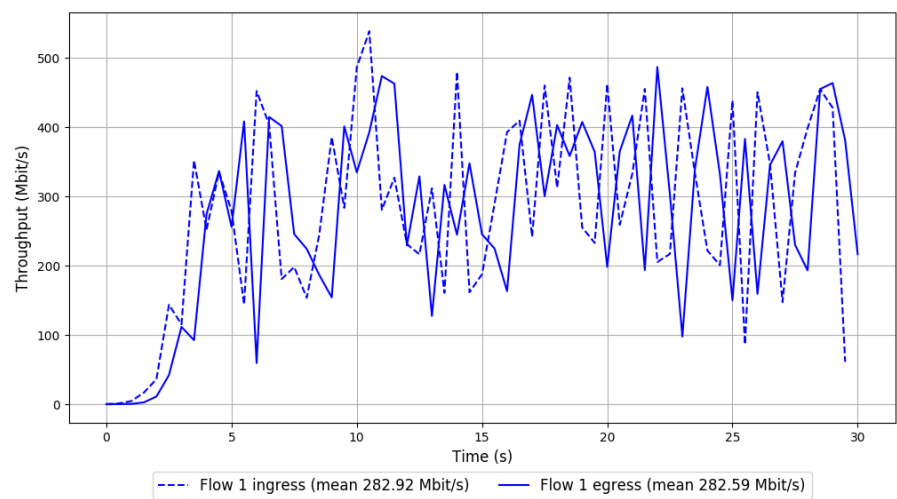


Run 3: Statistics of Indigo-96d2da3

Start at: 2018-09-25 15:58:44
End at: 2018-09-25 15:59:14
Local clock offset: -0.052 ms
Remote clock offset: -0.319 ms

Below is generated by plot.py at 2018-09-25 18:02:29
Datalink statistics
-- Total of 1 flow:
Average throughput: 282.59 Mbit/s
95th percentile per-packet one-way delay: 170.598 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 282.59 Mbit/s
95th percentile per-packet one-way delay: 170.598 ms
Loss rate: 0.00%

Run 3: Report of Indigo-96d2da3 — Data Link



Run 4: Statistics of Indigo-96d2da3

Start at: 2018-09-25 16:27:09

End at: 2018-09-25 16:27:39

Local clock offset: -0.415 ms

Remote clock offset: 0.02 ms

Below is generated by plot.py at 2018-09-25 18:02:29

Datalink statistics

-- Total of 1 flow:

Average throughput: 266.37 Mbit/s

95th percentile per-packet one-way delay: 164.019 ms

Loss rate: 0.00%

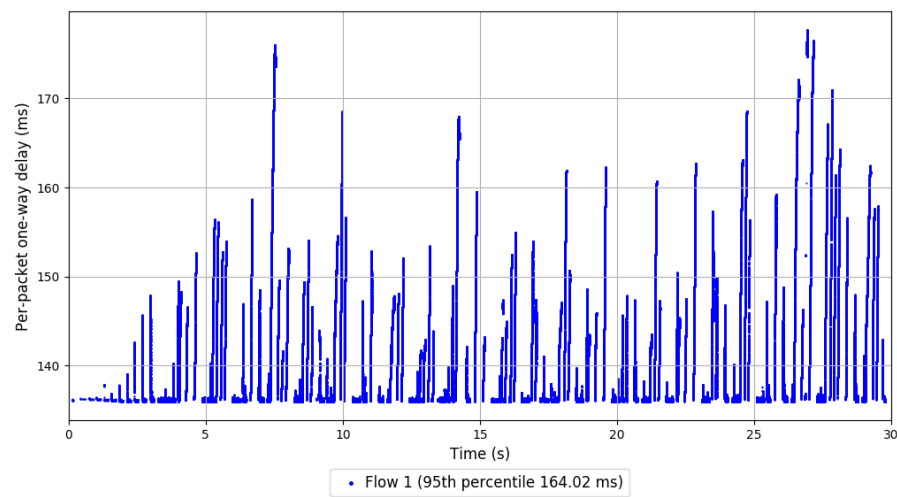
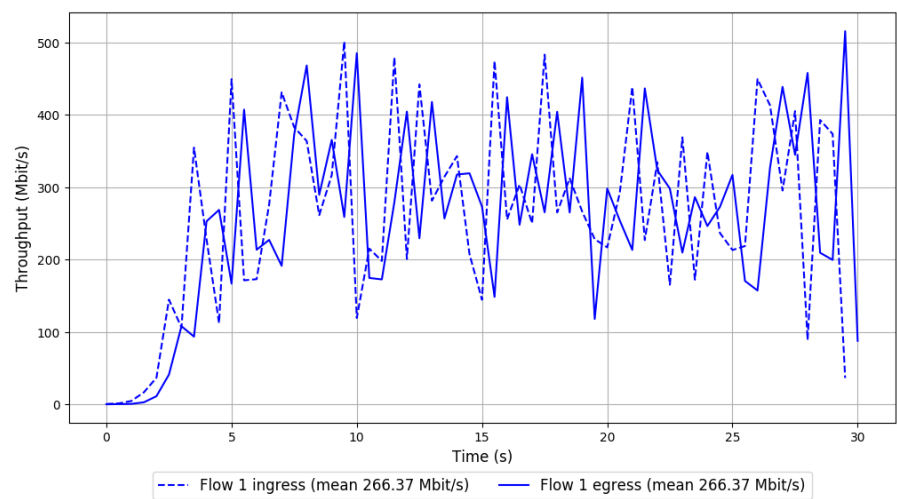
-- Flow 1:

Average throughput: 266.37 Mbit/s

95th percentile per-packet one-way delay: 164.019 ms

Loss rate: 0.00%

Run 4: Report of Indigo-96d2da3 — Data Link



Run 5: Statistics of Indigo-96d2da3

Start at: 2018-09-25 16:55:51

End at: 2018-09-25 16:56:21

Local clock offset: -0.071 ms

Remote clock offset: 0.398 ms

Below is generated by plot.py at 2018-09-25 18:02:29

Datalink statistics

-- Total of 1 flow:

Average throughput: 264.58 Mbit/s

95th percentile per-packet one-way delay: 168.587 ms

Loss rate: 0.10%

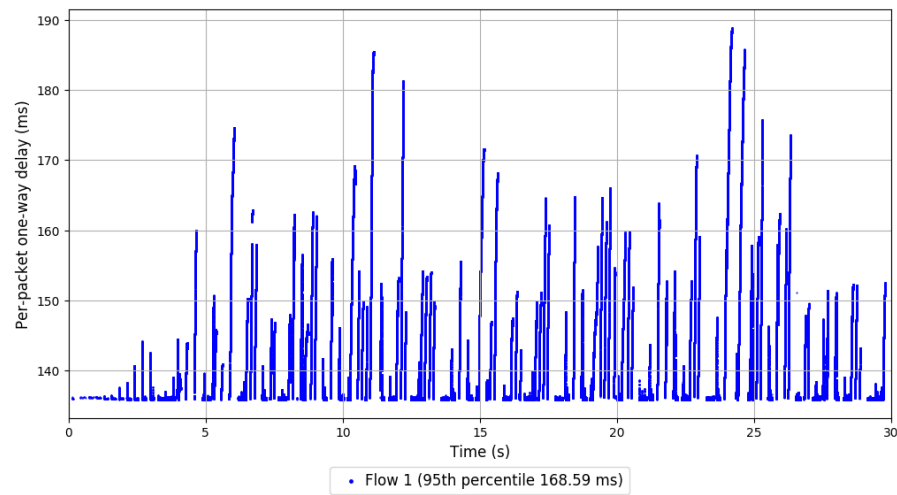
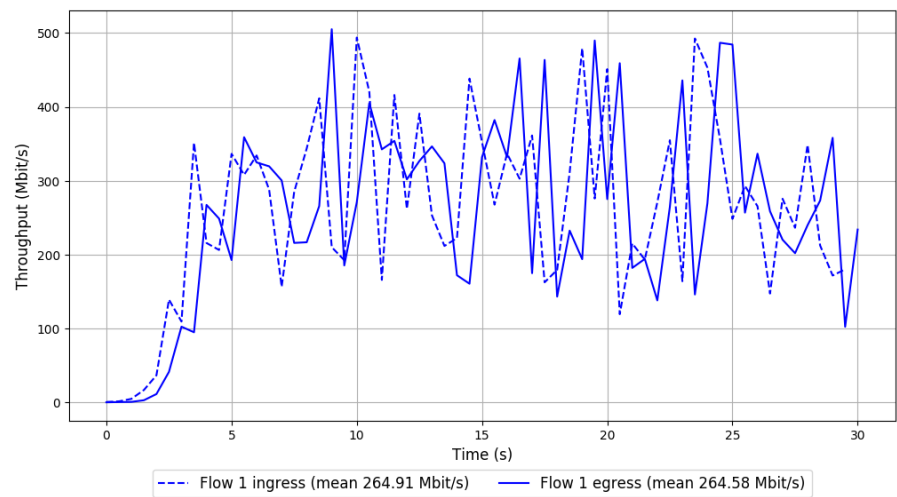
-- Flow 1:

Average throughput: 264.58 Mbit/s

95th percentile per-packet one-way delay: 168.587 ms

Loss rate: 0.10%

Run 5: Report of Indigo-96d2da3 — Data Link

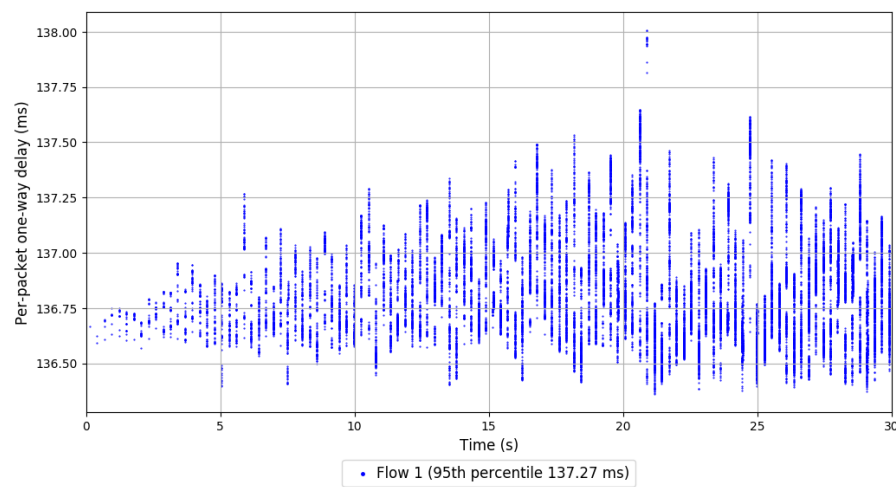
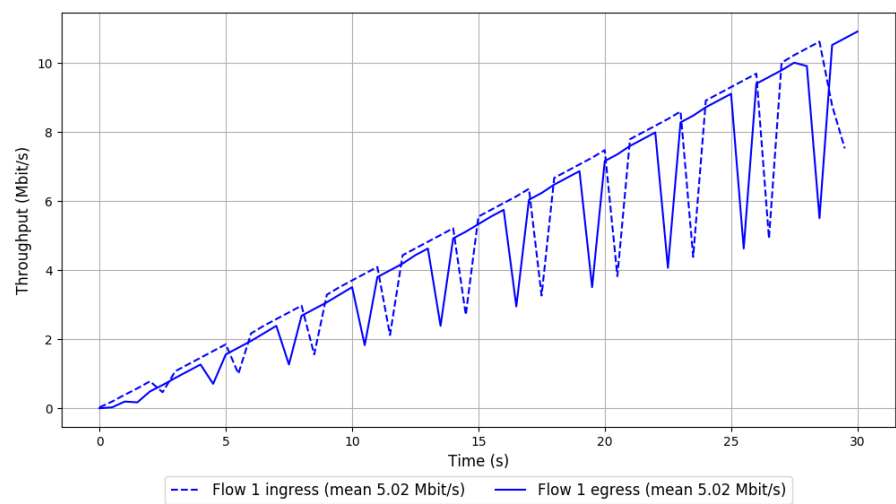


```
Run 1: Statistics of LEDBAT

Start at: 2018-09-25 15:05:37
End at: 2018-09-25 15:06:07
Local clock offset: -0.234 ms
Remote clock offset: -0.062 ms

# Below is generated by plot.py at 2018-09-25 18:02:29
# Datalink statistics
-- Total of 1 flow:
Average throughput: 5.02 Mbit/s
95th percentile per-packet one-way delay: 137.273 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 5.02 Mbit/s
95th percentile per-packet one-way delay: 137.273 ms
Loss rate: 0.00%
```

Run 1: Report of LEDBAT — Data Link



Run 2: Statistics of LEDBAT

Start at: 2018-09-25 15:34:47

End at: 2018-09-25 15:35:17

Local clock offset: -0.129 ms

Remote clock offset: 0.003 ms

Below is generated by plot.py at 2018-09-25 18:02:29

Datalink statistics

-- Total of 1 flow:

Average throughput: 5.08 Mbit/s

95th percentile per-packet one-way delay: 136.771 ms

Loss rate: 0.00%

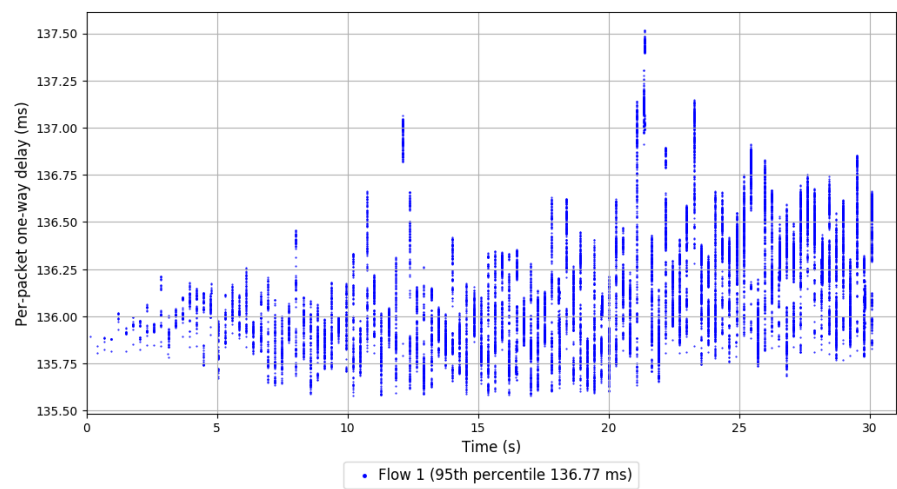
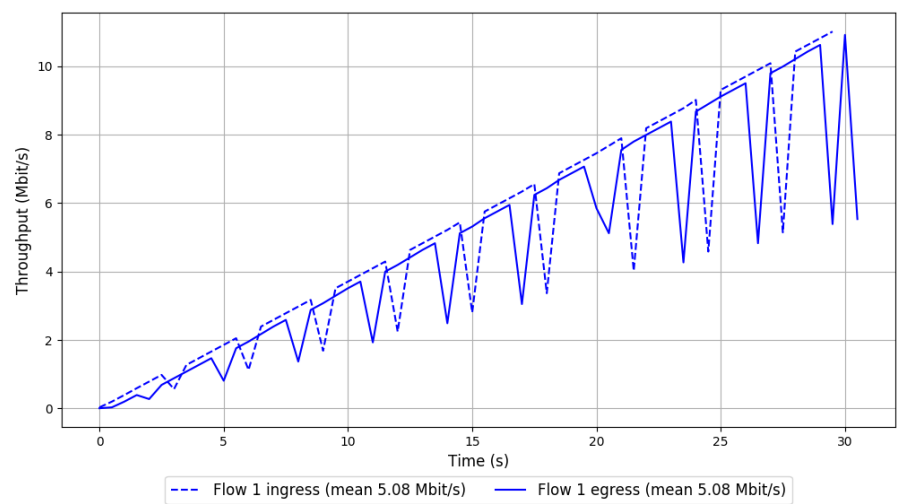
-- Flow 1:

Average throughput: 5.08 Mbit/s

95th percentile per-packet one-way delay: 136.771 ms

Loss rate: 0.00%

Run 2: Report of LEDBAT — Data Link



Run 3: Statistics of LEDBAT

Start at: 2018-09-25 16:03:20

End at: 2018-09-25 16:03:50

Local clock offset: -0.187 ms

Remote clock offset: 0.029 ms

Below is generated by plot.py at 2018-09-25 18:02:29

Datalink statistics

-- Total of 1 flow:

Average throughput: 5.08 Mbit/s

95th percentile per-packet one-way delay: 136.383 ms

Loss rate: 0.00%

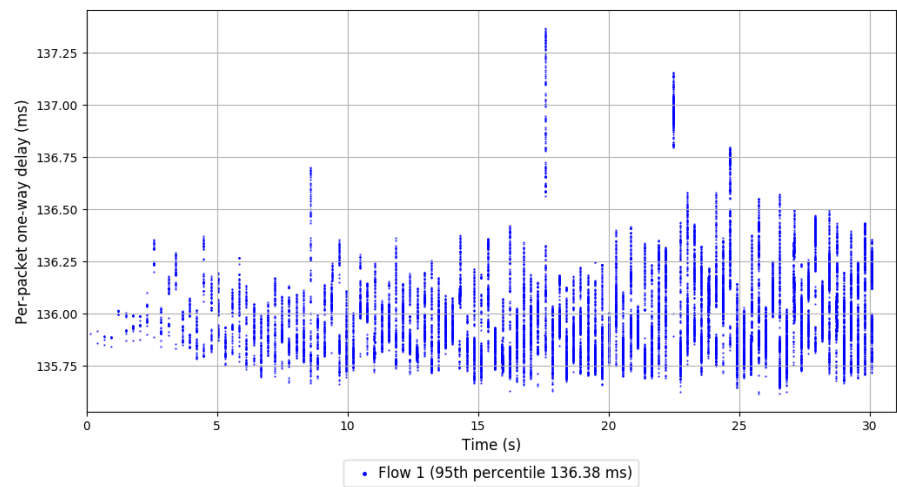
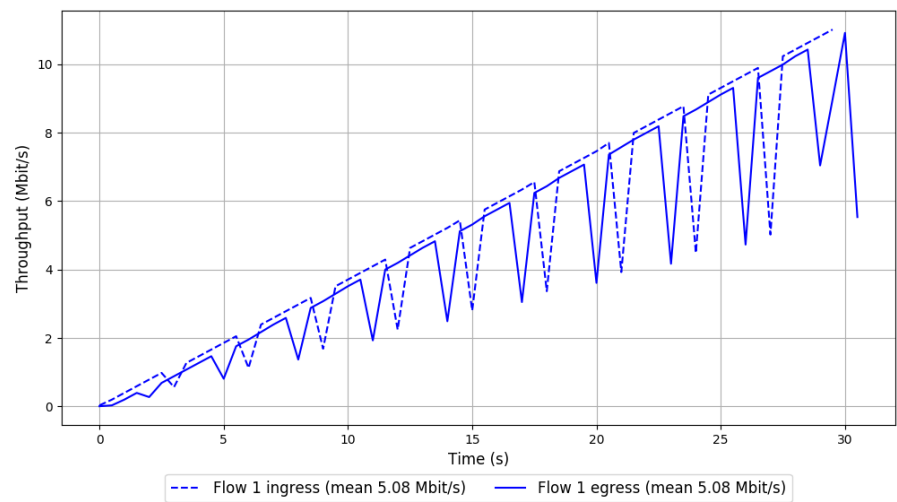
-- Flow 1:

Average throughput: 5.08 Mbit/s

95th percentile per-packet one-way delay: 136.383 ms

Loss rate: 0.00%

Run 3: Report of LEDBAT — Data Link

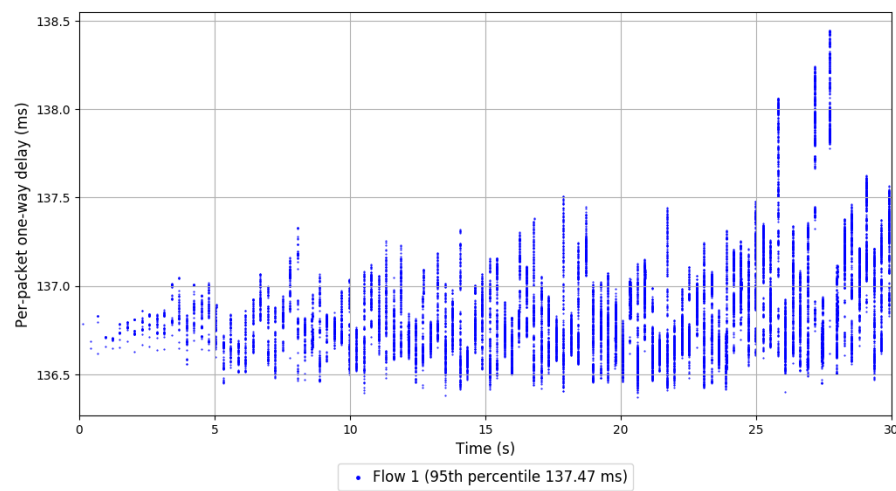
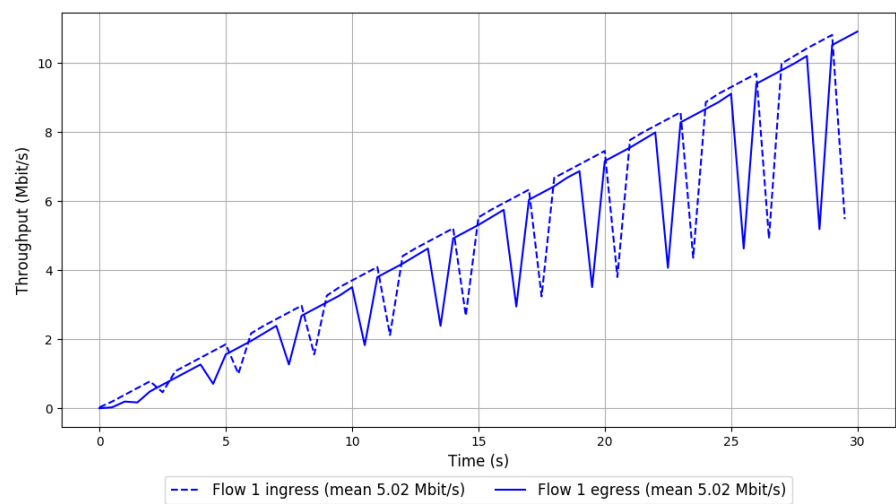


Run 4: Statistics of LEDBAT

Start at: 2018-09-25 16:31:46
End at: 2018-09-25 16:32:16
Local clock offset: -0.37 ms
Remote clock offset: -0.101 ms

Below is generated by plot.py at 2018-09-25 18:02:29
Datalink statistics
-- Total of 1 flow:
Average throughput: 5.02 Mbit/s
95th percentile per-packet one-way delay: 137.468 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 5.02 Mbit/s
95th percentile per-packet one-way delay: 137.468 ms
Loss rate: 0.00%

Run 4: Report of LEDBAT — Data Link



Run 5: Statistics of LEDBAT

Start at: 2018-09-25 17:00:30

End at: 2018-09-25 17:01:00

Local clock offset: -0.202 ms

Remote clock offset: 0.01 ms

Below is generated by plot.py at 2018-09-25 18:02:29

Datalink statistics

-- Total of 1 flow:

Average throughput: 5.02 Mbit/s

95th percentile per-packet one-way delay: 137.559 ms

Loss rate: 0.00%

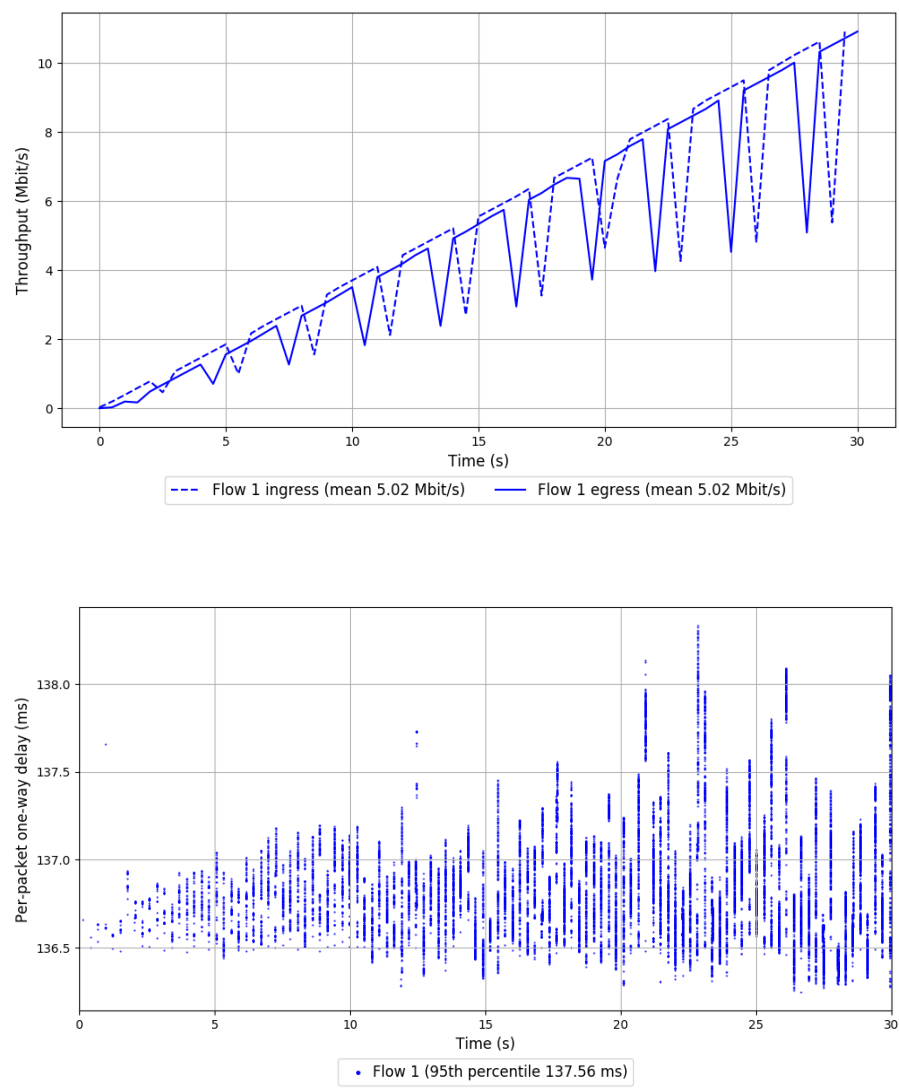
-- Flow 1:

Average throughput: 5.02 Mbit/s

95th percentile per-packet one-way delay: 137.559 ms

Loss rate: 0.00%

Run 5: Report of LEDBAT — Data Link

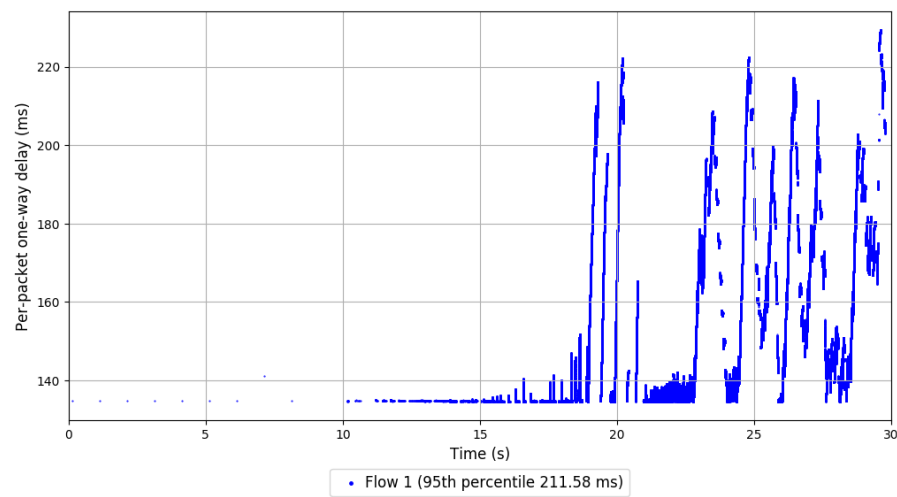
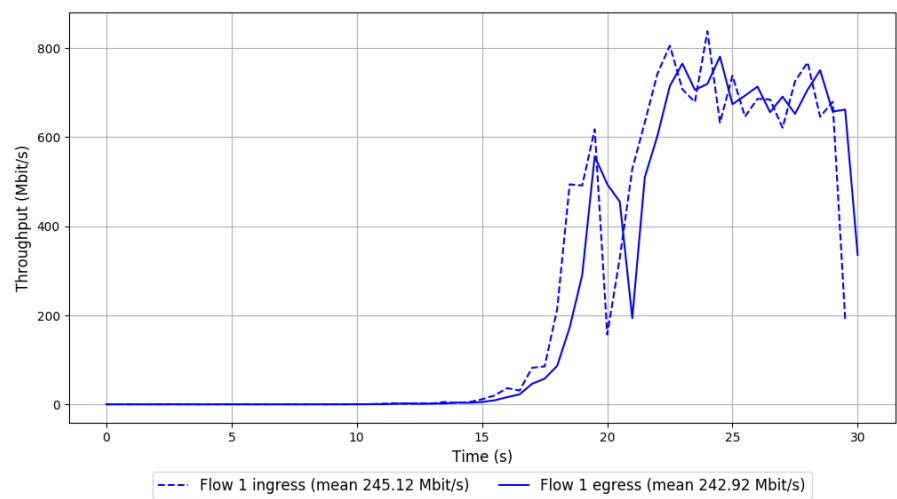



```
Run 1: Statistics of Indigo-Muses

Start at: 2018-09-25 14:51:00
End at: 2018-09-25 14:51:30
Local clock offset: -0.165 ms
Remote clock offset: -0.079 ms

# Below is generated by plot.py at 2018-09-25 18:02:29
# Datalink statistics
-- Total of 1 flow:
Average throughput: 242.92 Mbit/s
95th percentile per-packet one-way delay: 211.576 ms
Loss rate: 0.89%
-- Flow 1:
Average throughput: 242.92 Mbit/s
95th percentile per-packet one-way delay: 211.576 ms
Loss rate: 0.89%
```

Run 1: Report of Indigo-Muses — Data Link

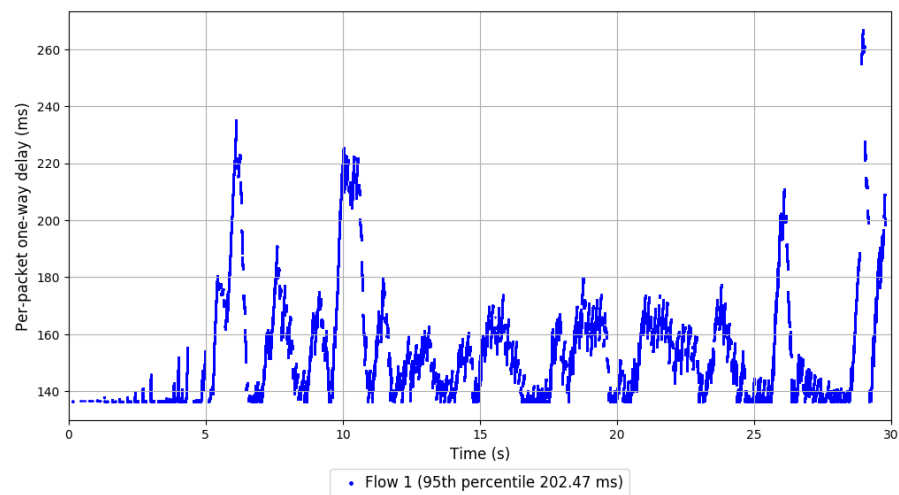
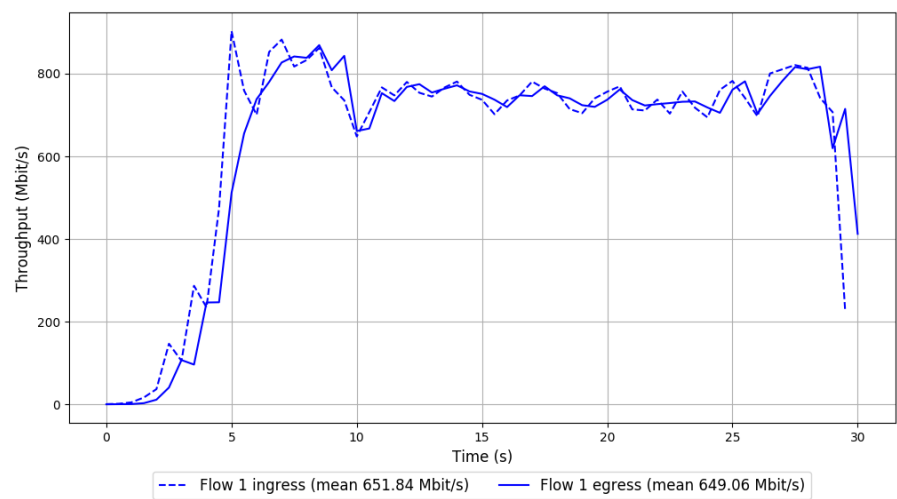


Run 2: Statistics of Indigo-Muses

Start at: 2018-09-25 15:19:36
End at: 2018-09-25 15:20:06
Local clock offset: -0.201 ms
Remote clock offset: -0.005 ms

Below is generated by plot.py at 2018-09-25 18:07:32
Datalink statistics
-- Total of 1 flow:
Average throughput: 649.06 Mbit/s
95th percentile per-packet one-way delay: 202.471 ms
Loss rate: 0.43%
-- Flow 1:
Average throughput: 649.06 Mbit/s
95th percentile per-packet one-way delay: 202.471 ms
Loss rate: 0.43%

Run 2: Report of Indigo-Muses — Data Link



Run 3: Statistics of Indigo-Muses

Start at: 2018-09-25 15:48:22

End at: 2018-09-25 15:48:52

Local clock offset: -0.365 ms

Remote clock offset: 0.396 ms

Below is generated by plot.py at 2018-09-25 18:08:59

Datalink statistics

-- Total of 1 flow:

Average throughput: 681.72 Mbit/s

95th percentile per-packet one-way delay: 188.785 ms

Loss rate: 0.22%

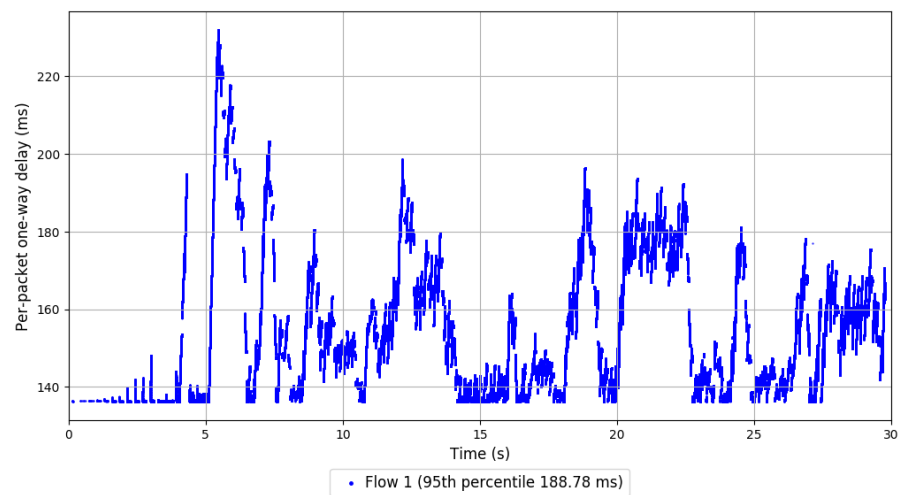
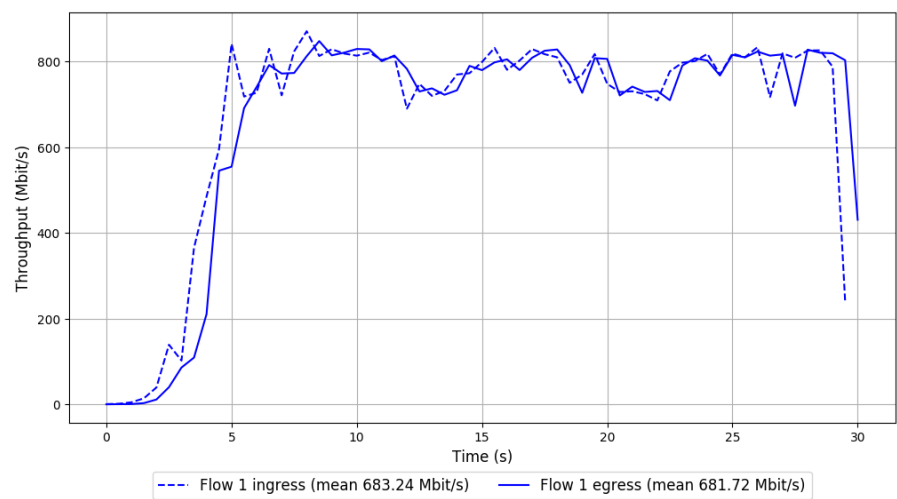
-- Flow 1:

Average throughput: 681.72 Mbit/s

95th percentile per-packet one-way delay: 188.785 ms

Loss rate: 0.22%

Run 3: Report of Indigo-Muses — Data Link



Run 4: Statistics of Indigo-Muses

Start at: 2018-09-25 16:16:55

End at: 2018-09-25 16:17:25

Local clock offset: -0.36 ms

Remote clock offset: 0.266 ms

Below is generated by plot.py at 2018-09-25 18:09:14

Datalink statistics

-- Total of 1 flow:

Average throughput: 640.89 Mbit/s

95th percentile per-packet one-way delay: 199.997 ms

Loss rate: 0.28%

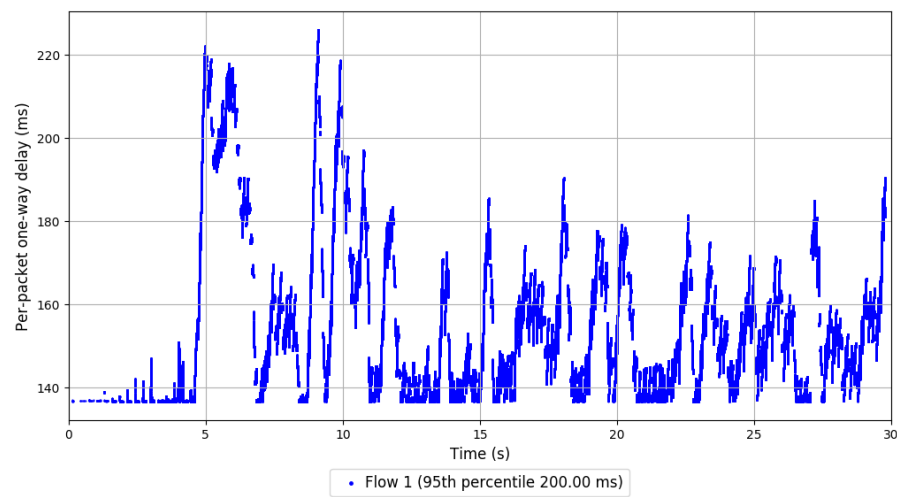
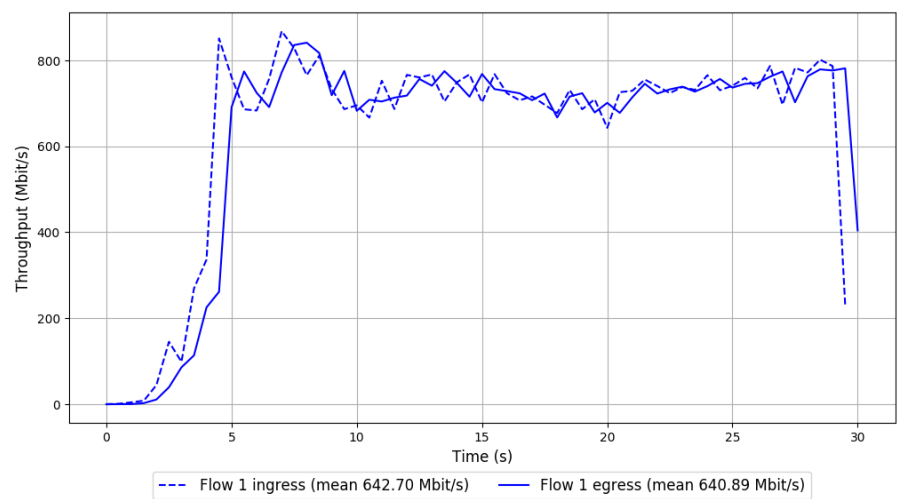
-- Flow 1:

Average throughput: 640.89 Mbit/s

95th percentile per-packet one-way delay: 199.997 ms

Loss rate: 0.28%

Run 4: Report of Indigo-Muses — Data Link



Run 5: Statistics of Indigo-Muses

Start at: 2018-09-25 16:45:37

End at: 2018-09-25 16:46:07

Local clock offset: -0.231 ms

Remote clock offset: 0.021 ms

Below is generated by plot.py at 2018-09-25 18:09:22

Datalink statistics

-- Total of 1 flow:

Average throughput: 637.25 Mbit/s

95th percentile per-packet one-way delay: 193.408 ms

Loss rate: 0.07%

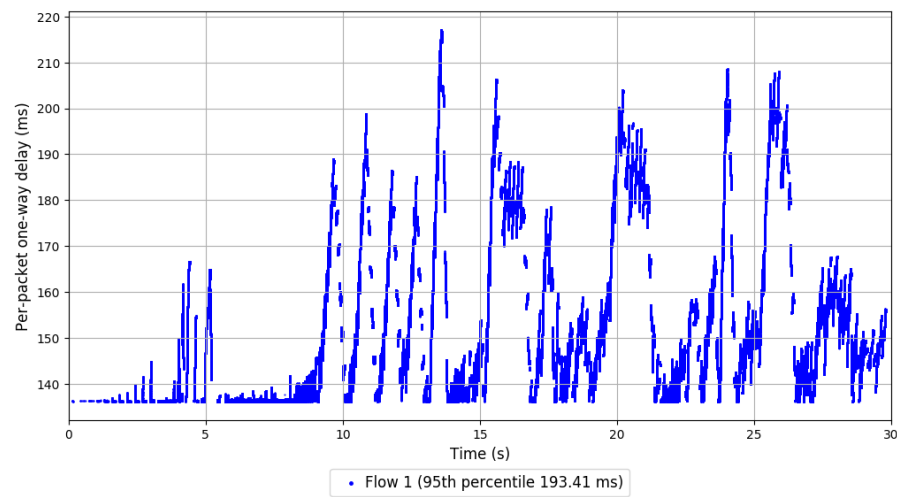
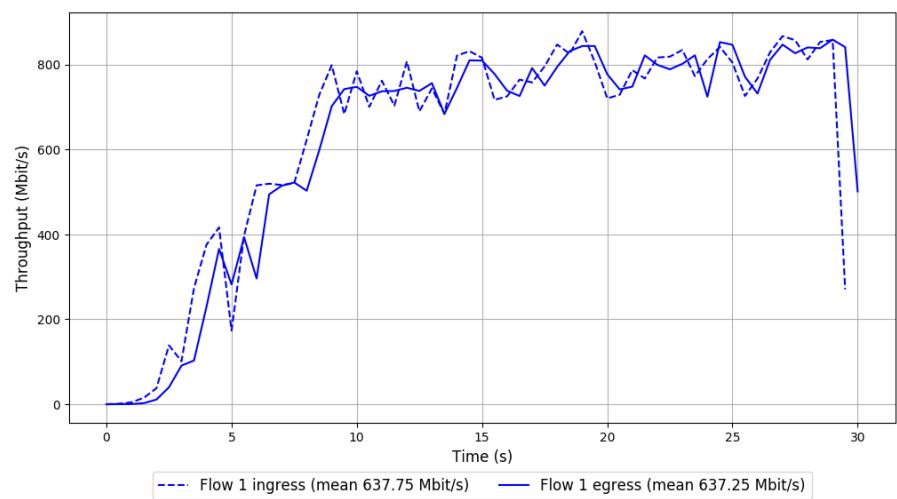
-- Flow 1:

Average throughput: 637.25 Mbit/s

95th percentile per-packet one-way delay: 193.408 ms

Loss rate: 0.07%

Run 5: Report of Indigo-Muses — Data Link

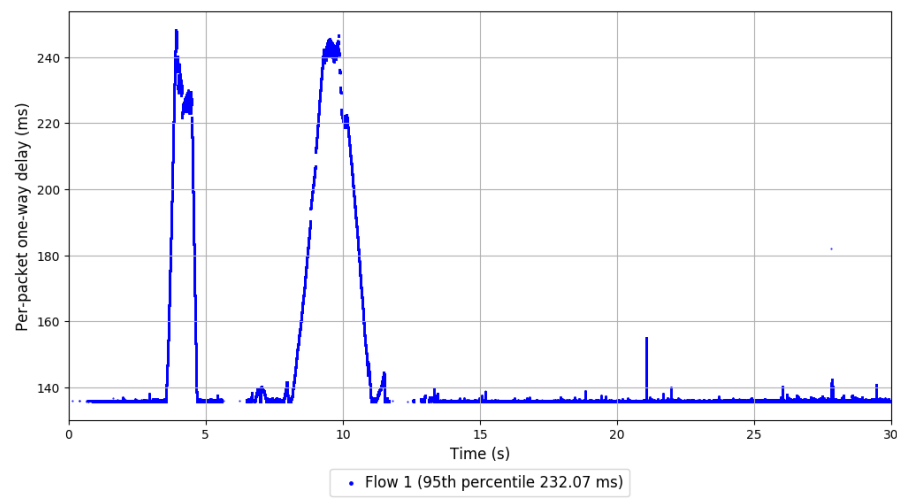
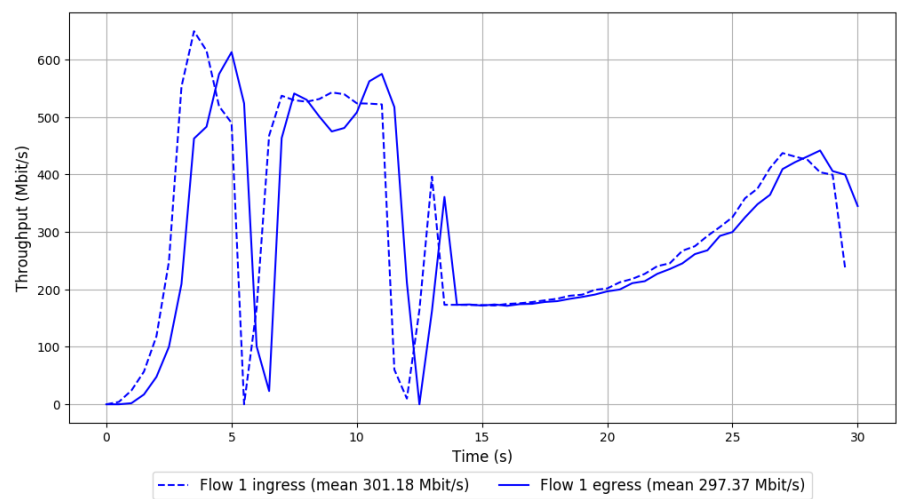


```
Run 1: Statistics of PCC-Allegro

Start at: 2018-09-25 15:02:33
End at: 2018-09-25 15:03:03
Local clock offset: -0.349 ms
Remote clock offset: -0.05 ms

# Below is generated by plot.py at 2018-09-25 18:09:22
# Datalink statistics
-- Total of 1 flow:
Average throughput: 297.37 Mbit/s
95th percentile per-packet one-way delay: 232.068 ms
Loss rate: 1.26%
-- Flow 1:
Average throughput: 297.37 Mbit/s
95th percentile per-packet one-way delay: 232.068 ms
Loss rate: 1.26%
```

Run 1: Report of PCC-Allegro — Data Link



Run 2: Statistics of PCC-Allegro

Start at: 2018-09-25 15:31:33

End at: 2018-09-25 15:32:03

Local clock offset: -0.259 ms

Remote clock offset: 0.336 ms

Below is generated by plot.py at 2018-09-25 18:14:57

Datalink statistics

-- Total of 1 flow:

Average throughput: 452.56 Mbit/s

95th percentile per-packet one-way delay: 240.718 ms

Loss rate: 2.44%

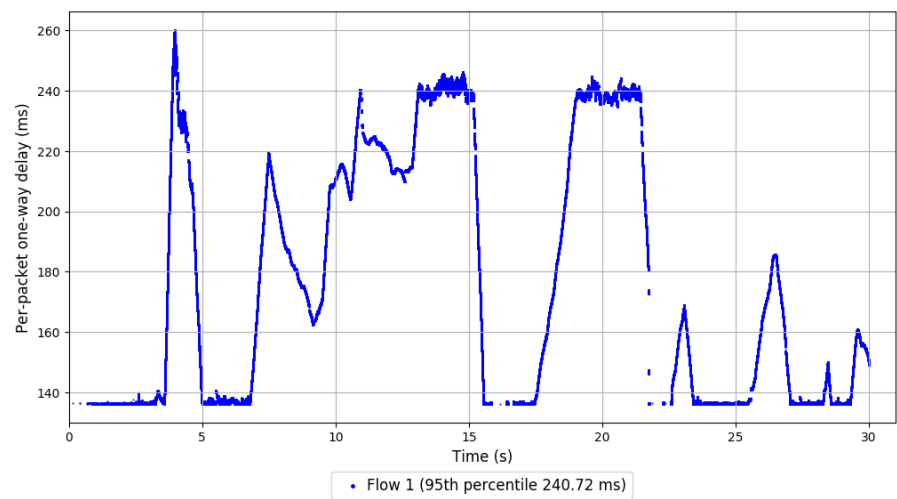
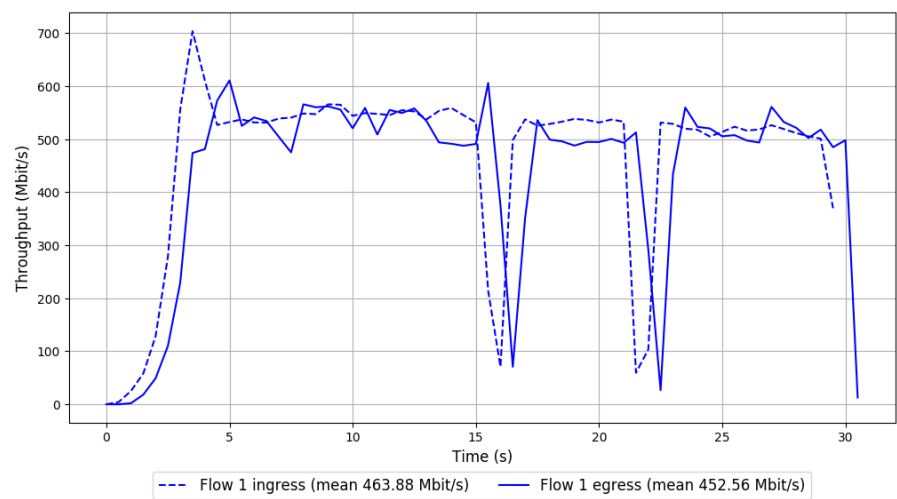
-- Flow 1:

Average throughput: 452.56 Mbit/s

95th percentile per-packet one-way delay: 240.718 ms

Loss rate: 2.44%

Run 2: Report of PCC-Allegro — Data Link



Run 3: Statistics of PCC-Allegro

Start at: 2018-09-25 16:00:10

End at: 2018-09-25 16:00:40

Local clock offset: -0.325 ms

Remote clock offset: 0.022 ms

Below is generated by plot.py at 2018-09-25 18:14:57

Datalink statistics

-- Total of 1 flow:

Average throughput: 434.86 Mbit/s

95th percentile per-packet one-way delay: 215.835 ms

Loss rate: 0.12%

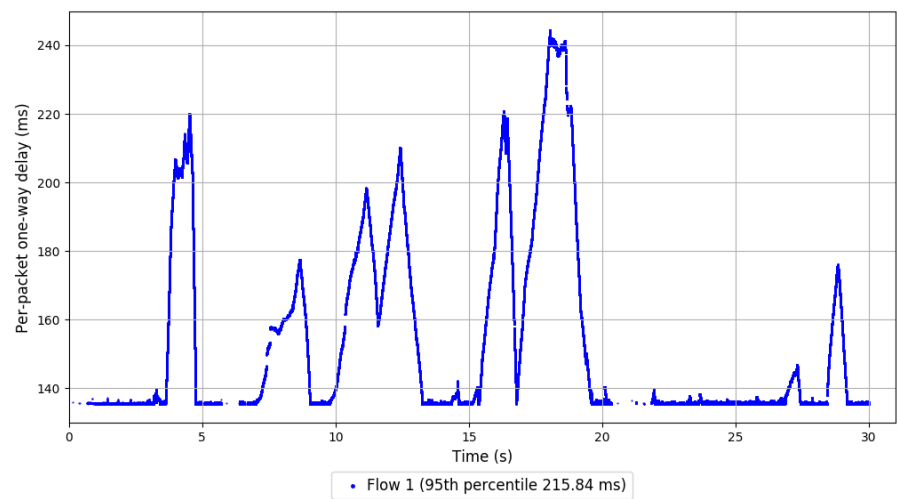
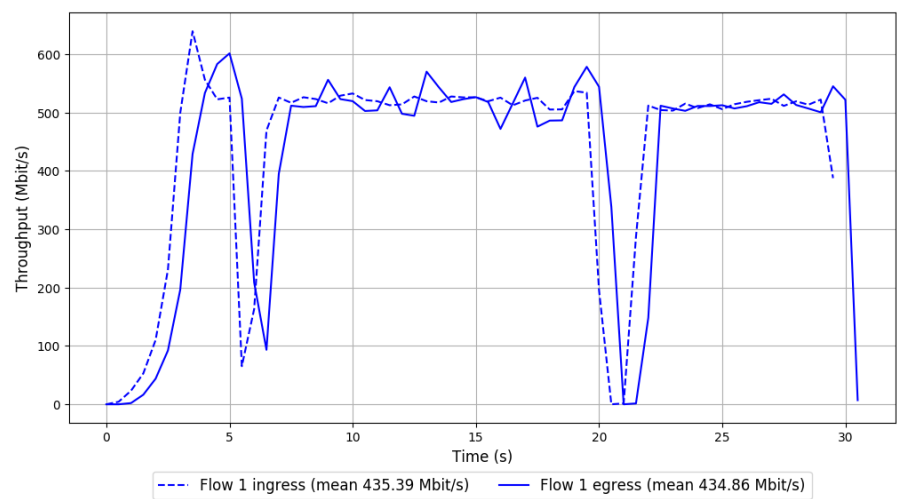
-- Flow 1:

Average throughput: 434.86 Mbit/s

95th percentile per-packet one-way delay: 215.835 ms

Loss rate: 0.12%

Run 3: Report of PCC-Allegro — Data Link



Run 4: Statistics of PCC-Allegro

Start at: 2018-09-25 16:28:34

End at: 2018-09-25 16:29:04

Local clock offset: -0.107 ms

Remote clock offset: 0.317 ms

Below is generated by plot.py at 2018-09-25 18:18:30

Datalink statistics

-- Total of 1 flow:

Average throughput: 411.86 Mbit/s

95th percentile per-packet one-way delay: 240.290 ms

Loss rate: 1.05%

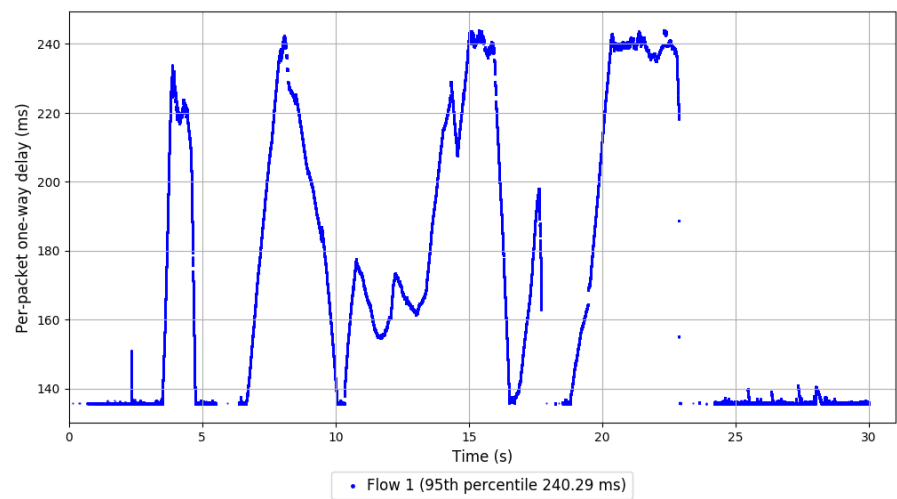
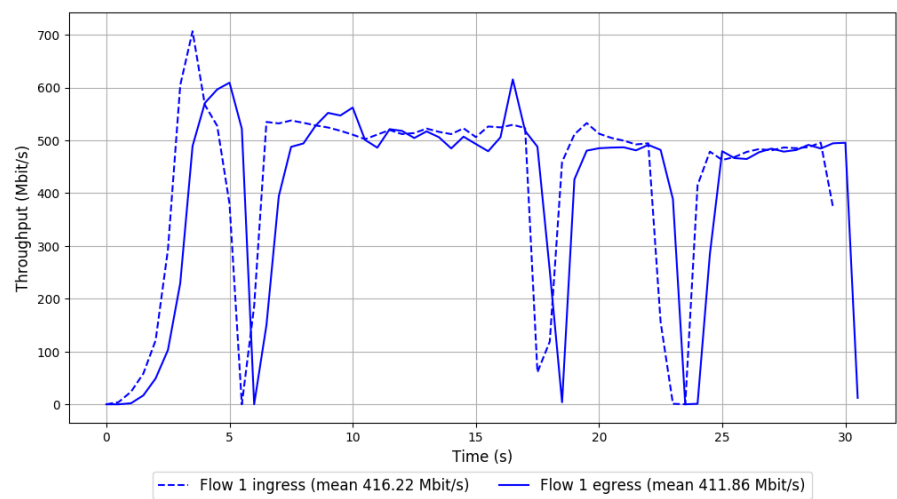
-- Flow 1:

Average throughput: 411.86 Mbit/s

95th percentile per-packet one-way delay: 240.290 ms

Loss rate: 1.05%

Run 4: Report of PCC-Allegro — Data Link



Run 5: Statistics of PCC-Allegro

Start at: 2018-09-25 16:57:16

End at: 2018-09-25 16:57:46

Local clock offset: -0.286 ms

Remote clock offset: 0.039 ms

Below is generated by plot.py at 2018-09-25 18:24:26

Datalink statistics

-- Total of 1 flow:

Average throughput: 450.80 Mbit/s

95th percentile per-packet one-way delay: 239.795 ms

Loss rate: 3.44%

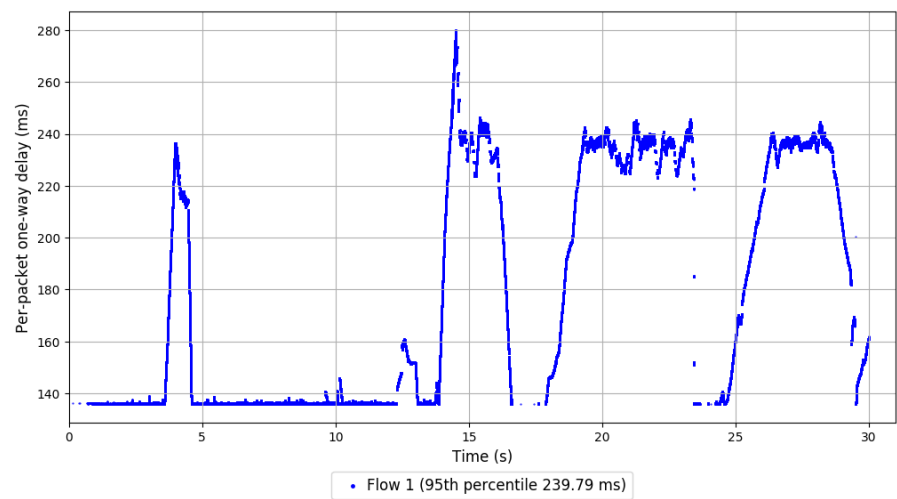
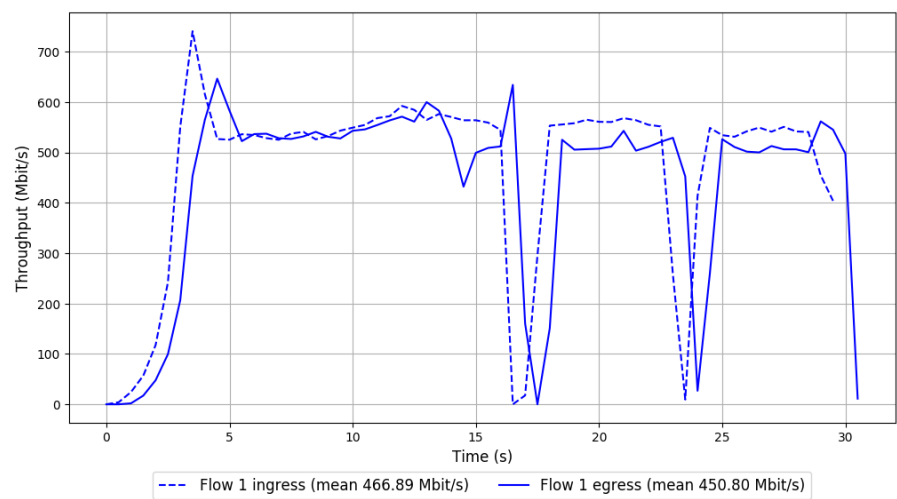
-- Flow 1:

Average throughput: 450.80 Mbit/s

95th percentile per-packet one-way delay: 239.795 ms

Loss rate: 3.44%

Run 5: Report of PCC-Allegro — Data Link

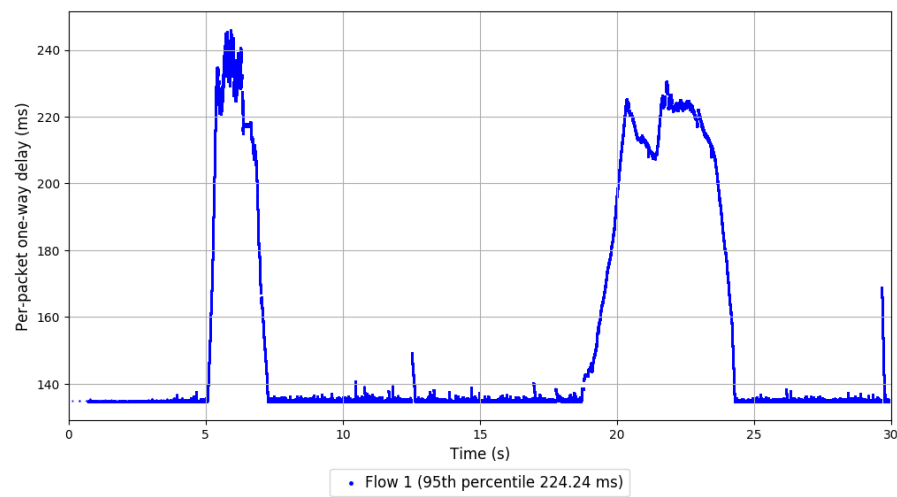
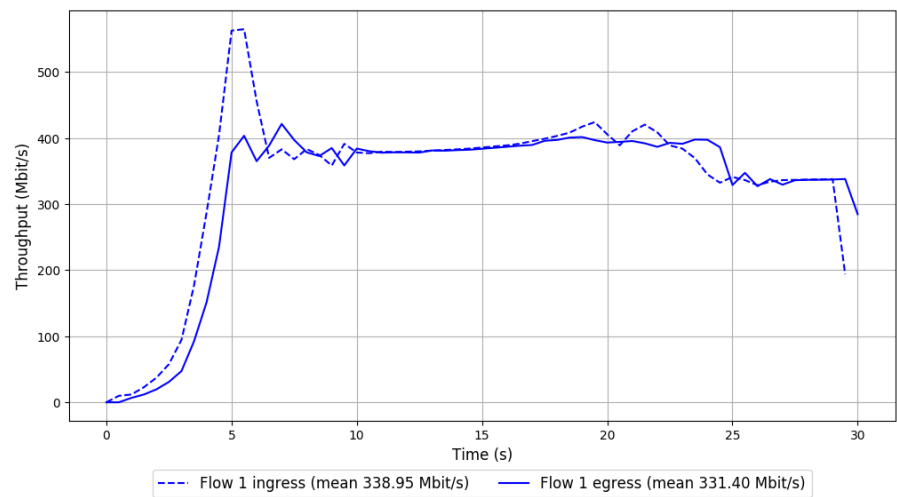


Run 1: Statistics of PCC-Expr

Start at: 2018-09-25 14:46:03
End at: 2018-09-25 14:46:33
Local clock offset: -0.284 ms
Remote clock offset: -0.484 ms

Below is generated by plot.py at 2018-09-25 18:24:26
Datalink statistics
-- Total of 1 flow:
Average throughput: 331.40 Mbit/s
95th percentile per-packet one-way delay: 224.235 ms
Loss rate: 2.23%
-- Flow 1:
Average throughput: 331.40 Mbit/s
95th percentile per-packet one-way delay: 224.235 ms
Loss rate: 2.23%

Run 1: Report of PCC-Expr — Data Link

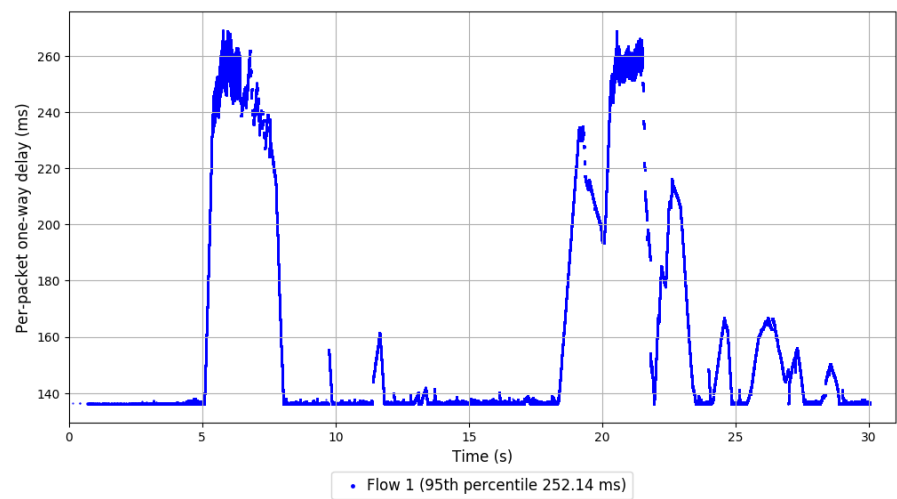
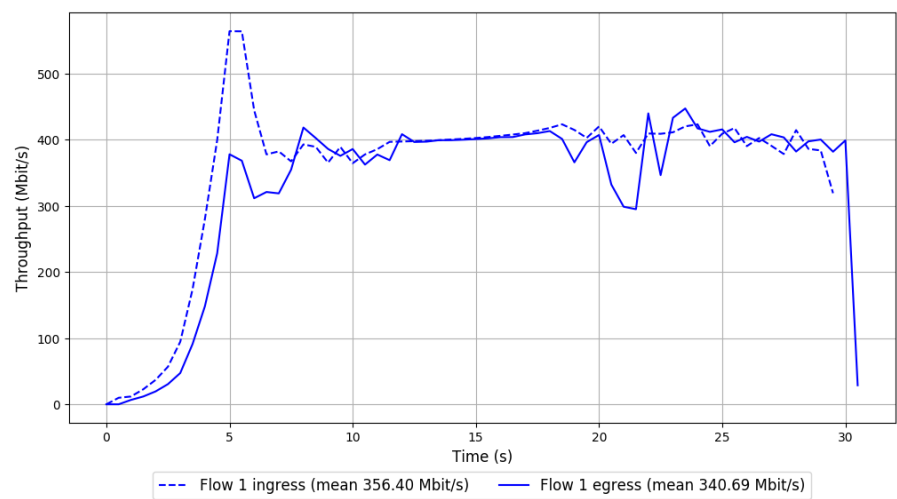


Run 2: Statistics of PCC-Expr

Start at: 2018-09-25 15:14:28
End at: 2018-09-25 15:14:58
Local clock offset: -0.183 ms
Remote clock offset: -0.046 ms

Below is generated by plot.py at 2018-09-25 18:24:26
Datalink statistics
-- Total of 1 flow:
Average throughput: 340.69 Mbit/s
95th percentile per-packet one-way delay: 252.137 ms
Loss rate: 4.41%
-- Flow 1:
Average throughput: 340.69 Mbit/s
95th percentile per-packet one-way delay: 252.137 ms
Loss rate: 4.41%

Run 2: Report of PCC-Expr — Data Link



Run 3: Statistics of PCC-Expr

Start at: 2018-09-25 15:43:29

End at: 2018-09-25 15:43:59

Local clock offset: -0.15 ms

Remote clock offset: 0.031 ms

Below is generated by plot.py at 2018-09-25 18:24:26

Datalink statistics

-- Total of 1 flow:

Average throughput: 332.67 Mbit/s

95th percentile per-packet one-way delay: 217.330 ms

Loss rate: 1.16%

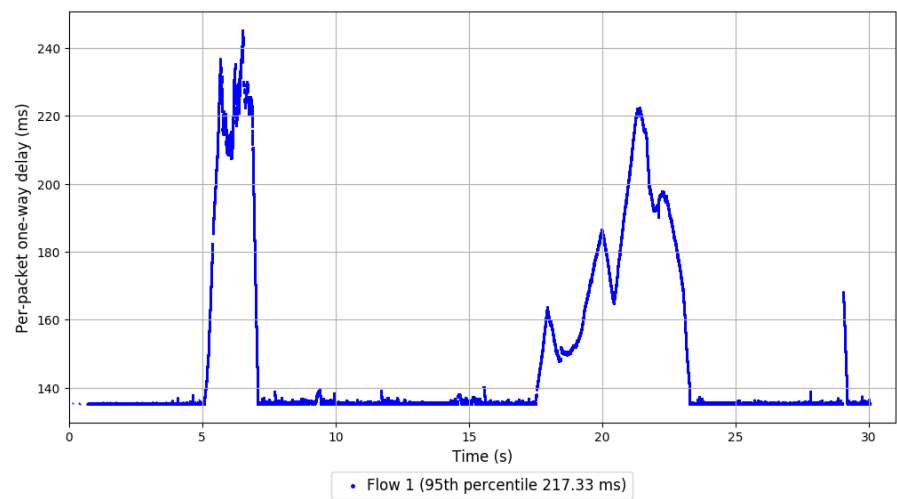
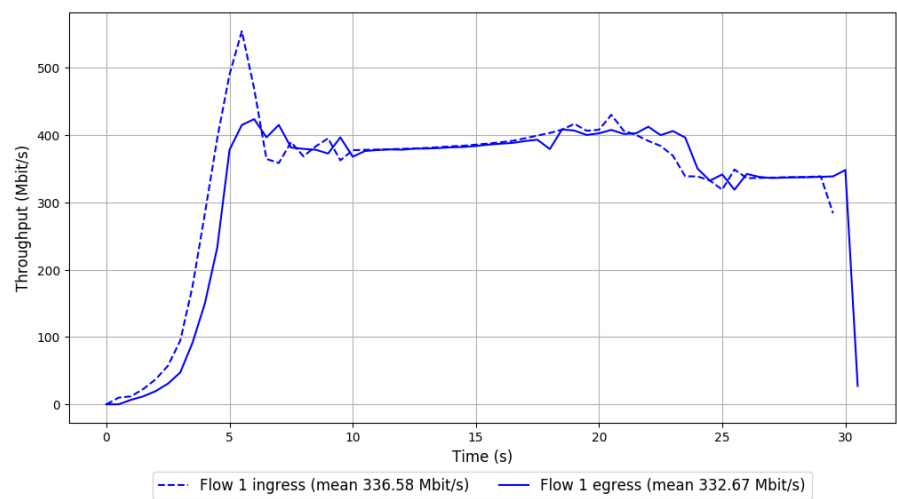
-- Flow 1:

Average throughput: 332.67 Mbit/s

95th percentile per-packet one-way delay: 217.330 ms

Loss rate: 1.16%

Run 3: Report of PCC-Expr — Data Link



Run 4: Statistics of PCC-Expr

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

End at: 2018-09-25 16:12:23

Local clock offset: -0.384 ms

Remote clock offset: 0.314 ms

Below is generated by plot.py at 2018-09-25 18:24:26

Datalink statistics

-- Total of 1 flow:

Average throughput: 346.59 Mbit/s

95th percentile per-packet one-way delay: 197.525 ms

Loss rate: 0.71%

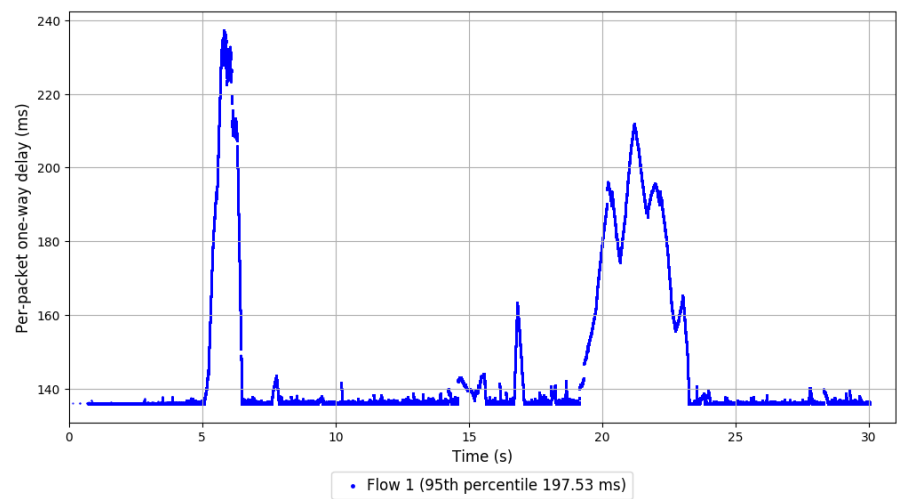
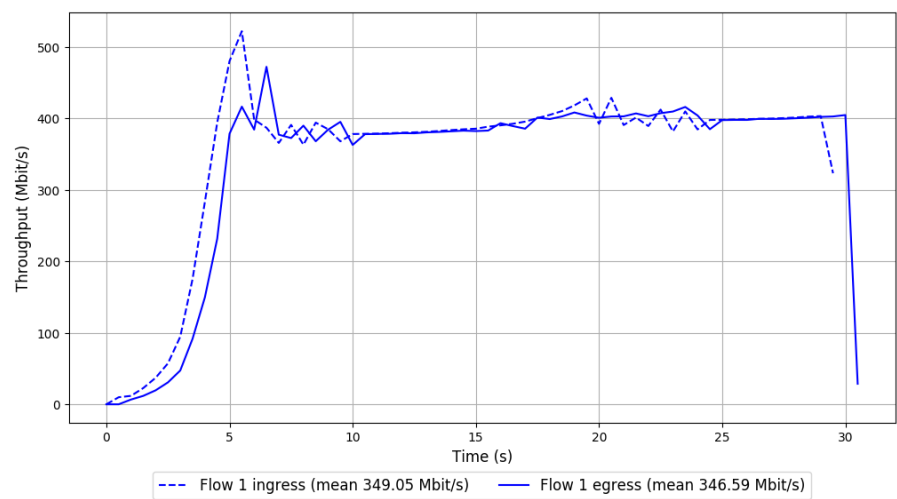
-- Flow 1:

Average throughput: 346.59 Mbit/s

95th percentile per-packet one-way delay: 197.525 ms

Loss rate: 0.71%

Run 4: Report of PCC-Expr — Data Link



Run 5: Statistics of PCC-Expr

Start at: 2018-09-25 16:40:32

End at: 2018-09-25 16:41:02

Local clock offset: -0.339 ms

Remote clock offset: 0.321 ms

Below is generated by plot.py at 2018-09-25 18:28:07

Datalink statistics

-- Total of 1 flow:

Average throughput: 344.54 Mbit/s

95th percentile per-packet one-way delay: 239.821 ms

Loss rate: 5.40%

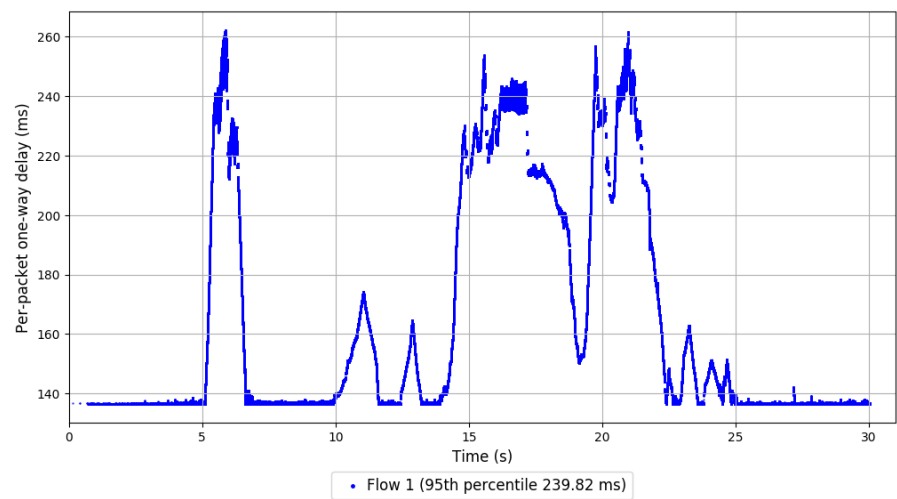
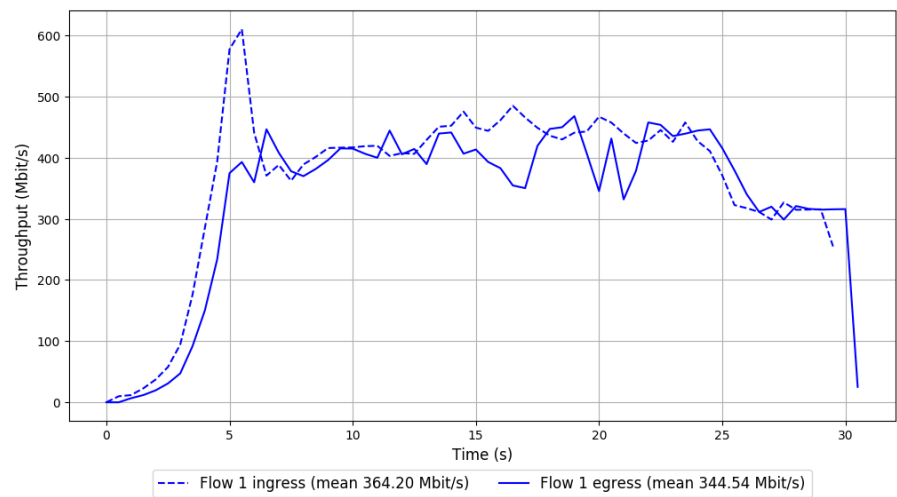
-- Flow 1:

Average throughput: 344.54 Mbit/s

95th percentile per-packet one-way delay: 239.821 ms

Loss rate: 5.40%

Run 5: Report of PCC-Expr — Data Link



Run 1: Statistics of QUIC Cubic

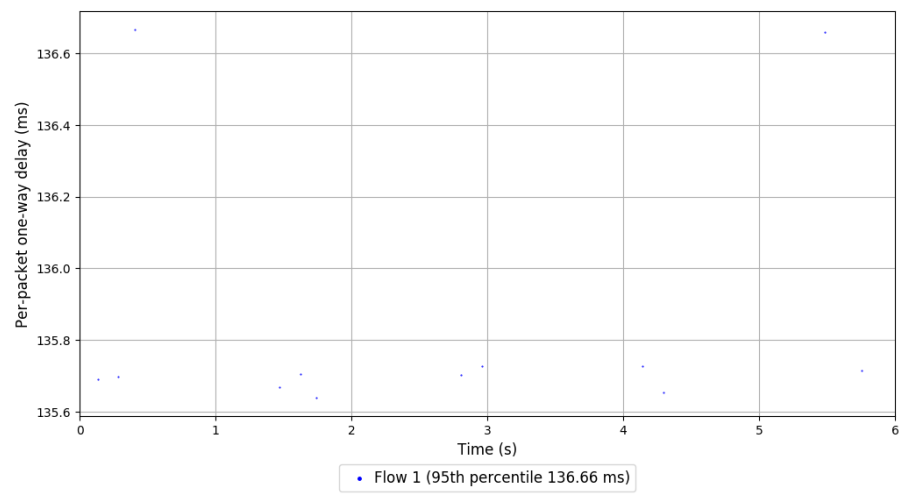
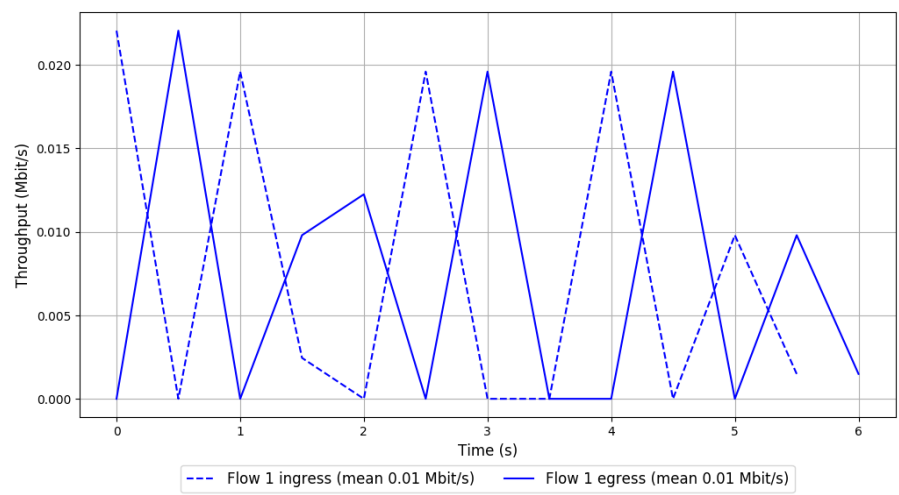
Start at: 2018-09-25 14:43:44

End at: 2018-09-25 14:44:14

Local clock offset: -0.175 ms

Remote clock offset: -0.09 ms

Run 1: Report of QUIC Cubic — Data Link

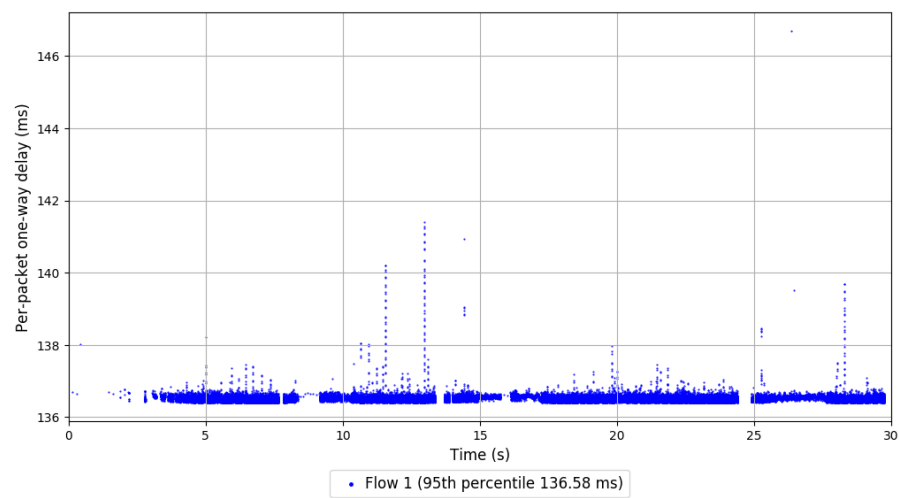
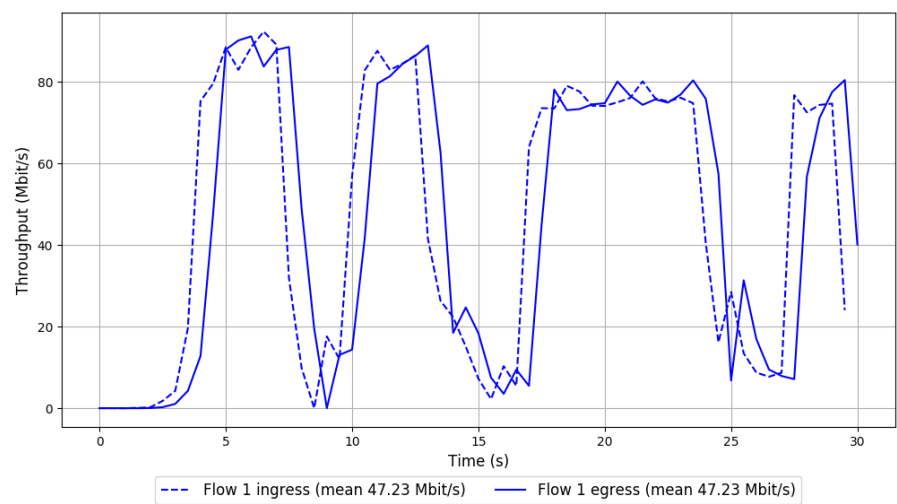


Run 2: Statistics of QUIC Cubic

Start at: 2018-09-25 15:12:05
End at: 2018-09-25 15:12:35
Local clock offset: -0.355 ms
Remote clock offset: -0.027 ms

Below is generated by plot.py at 2018-09-25 18:28:07
Datalink statistics
-- Total of 1 flow:
Average throughput: 47.23 Mbit/s
95th percentile per-packet one-way delay: 136.578 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 47.23 Mbit/s
95th percentile per-packet one-way delay: 136.578 ms
Loss rate: 0.00%

Run 2: Report of QUIC Cubic — Data Link



Run 3: Statistics of QUIC Cubic

Start at: 2018-09-25 15:41:05

End at: 2018-09-25 15:41:35

Local clock offset: -0.308 ms

Remote clock offset: 0.397 ms

Below is generated by plot.py at 2018-09-25 18:28:07

Datalink statistics

-- Total of 1 flow:

Average throughput: 56.68 Mbit/s

95th percentile per-packet one-way delay: 136.909 ms

Loss rate: 0.00%

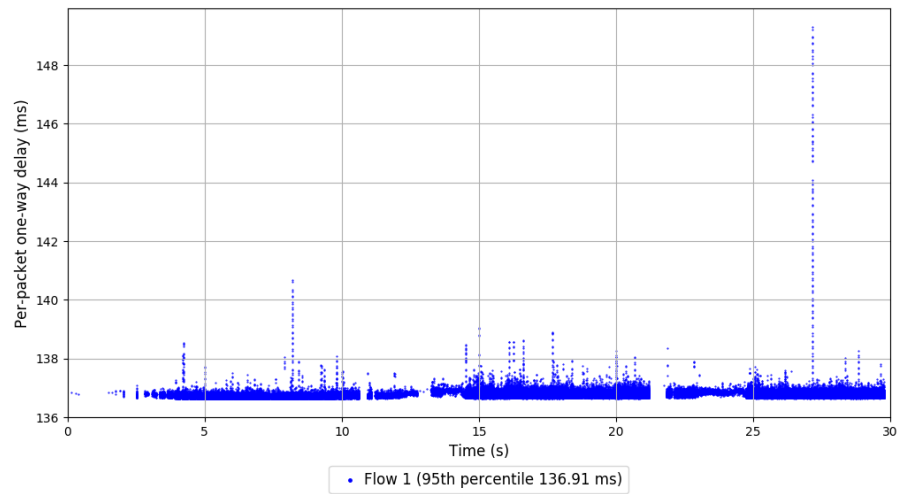
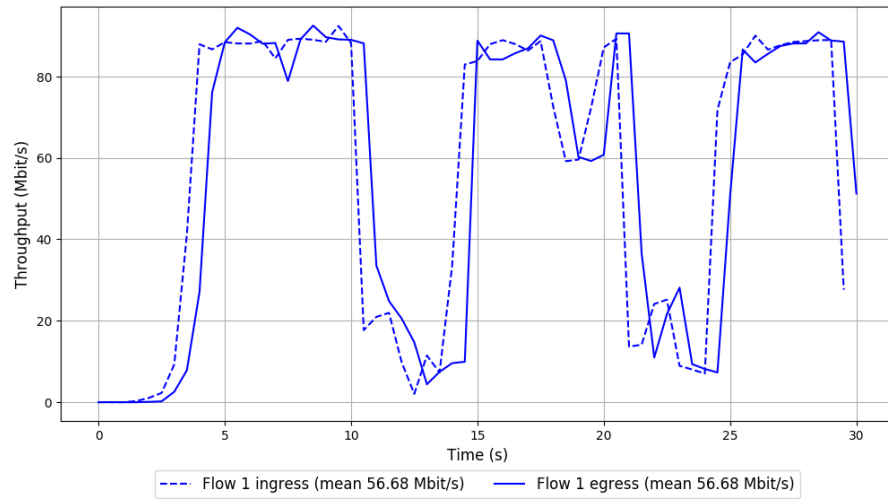
-- Flow 1:

Average throughput: 56.68 Mbit/s

95th percentile per-packet one-way delay: 136.909 ms

Loss rate: 0.00%

Run 3: Report of QUIC Cubic — Data Link



Run 4: Statistics of QUIC Cubic

Start at: 2018-09-25 16:09:29

End at: 2018-09-25 16:09:59

Local clock offset: -0.177 ms

Remote clock offset: 0.0 ms

Below is generated by plot.py at 2018-09-25 18:28:07

Datalink statistics

-- Total of 1 flow:

Average throughput: 56.66 Mbit/s

95th percentile per-packet one-way delay: 135.760 ms

Loss rate: 0.00%

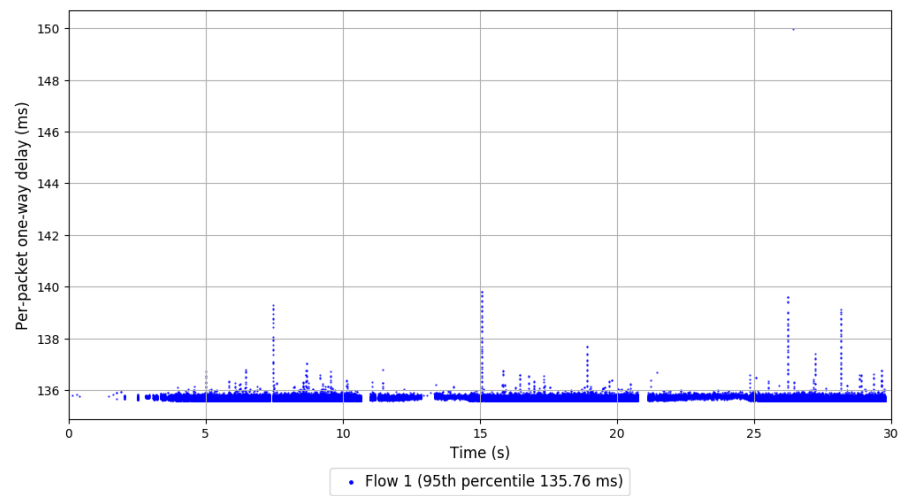
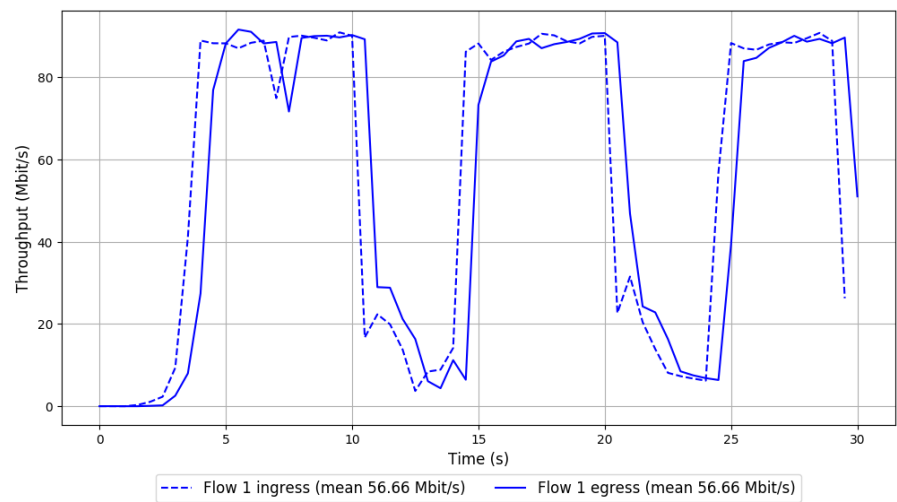
-- Flow 1:

Average throughput: 56.66 Mbit/s

95th percentile per-packet one-way delay: 135.760 ms

Loss rate: 0.00%

Run 4: Report of QUIC Cubic — Data Link

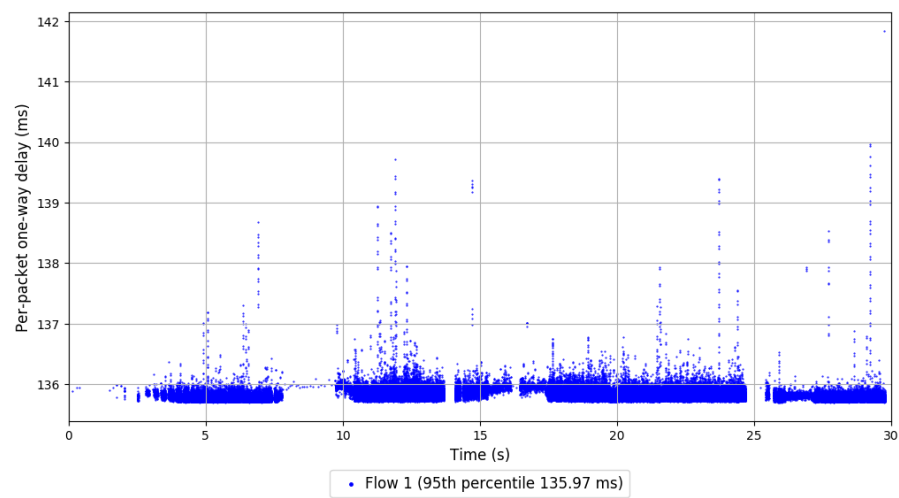
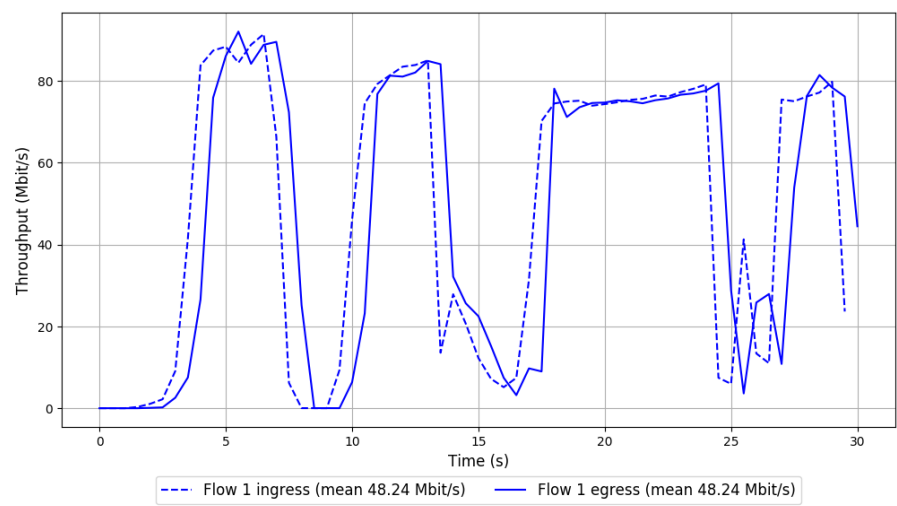


Run 5: Statistics of QUIC Cubic

Start at: 2018-09-25 16:38:08
End at: 2018-09-25 16:38:38
Local clock offset: -0.318 ms
Remote clock offset: -0.065 ms

Below is generated by plot.py at 2018-09-25 18:28:07
Datalink statistics
-- Total of 1 flow:
Average throughput: 48.24 Mbit/s
95th percentile per-packet one-way delay: 135.967 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 48.24 Mbit/s
95th percentile per-packet one-way delay: 135.967 ms
Loss rate: 0.00%

Run 5: Report of QUIC Cubic — Data Link



Run 1: Statistics of SCReAM

Start at: 2018-09-25 14:55:20

End at: 2018-09-25 14:55:50

Local clock offset: -0.398 ms

Remote clock offset: 0.299 ms

Below is generated by plot.py at 2018-09-25 18:28:07

Datalink statistics

-- Total of 1 flow:

Average throughput: 0.22 Mbit/s

95th percentile per-packet one-way delay: 135.197 ms

Loss rate: 0.00%

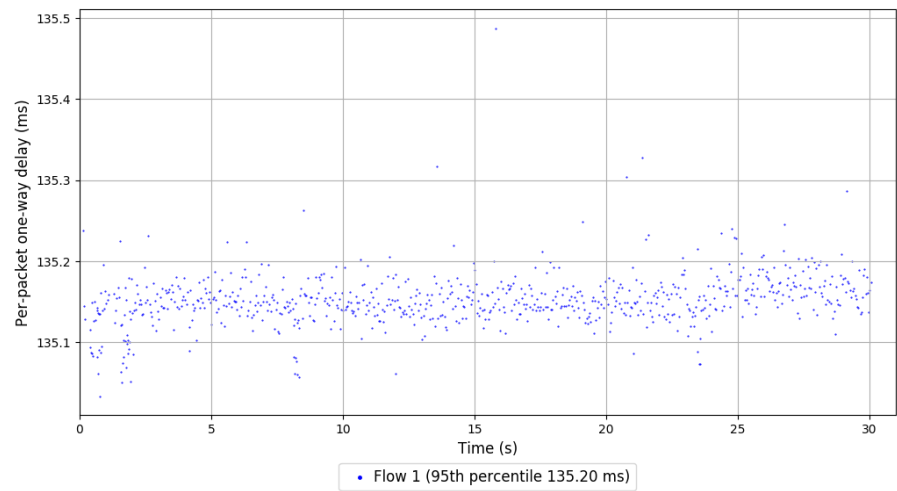
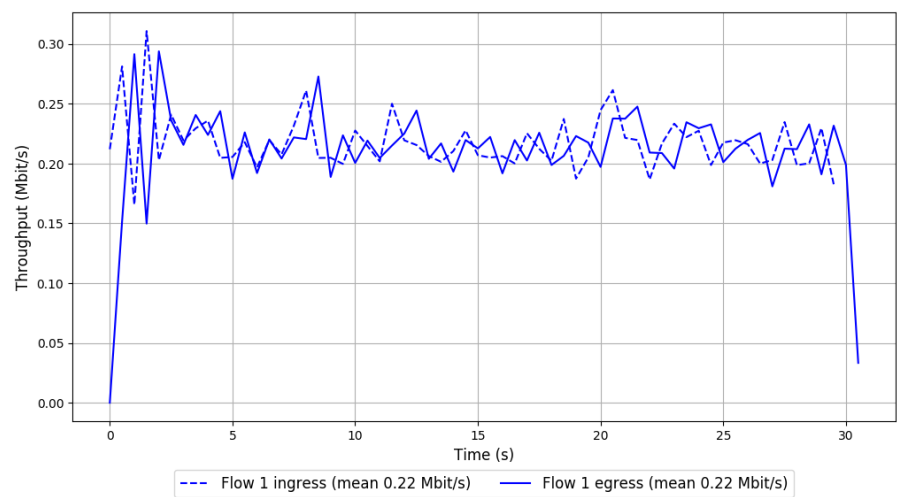
-- Flow 1:

Average throughput: 0.22 Mbit/s

95th percentile per-packet one-way delay: 135.197 ms

Loss rate: 0.00%

Run 1: Report of SReAM — Data Link

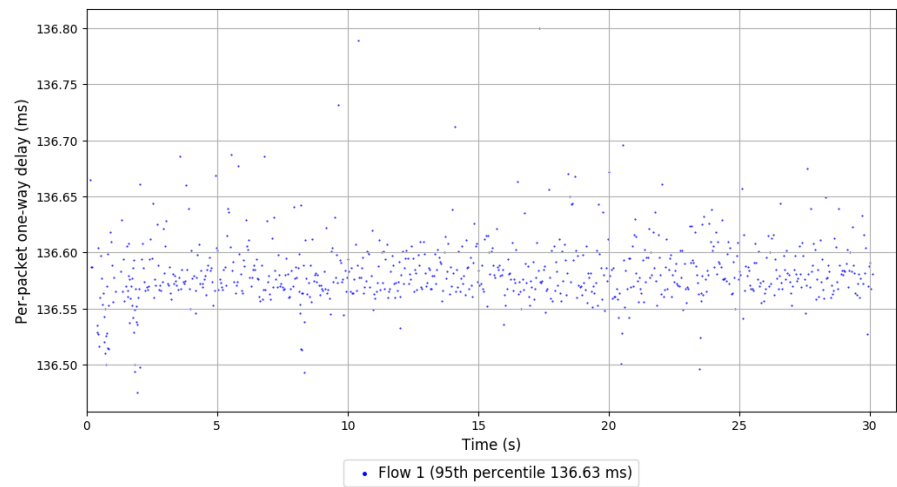
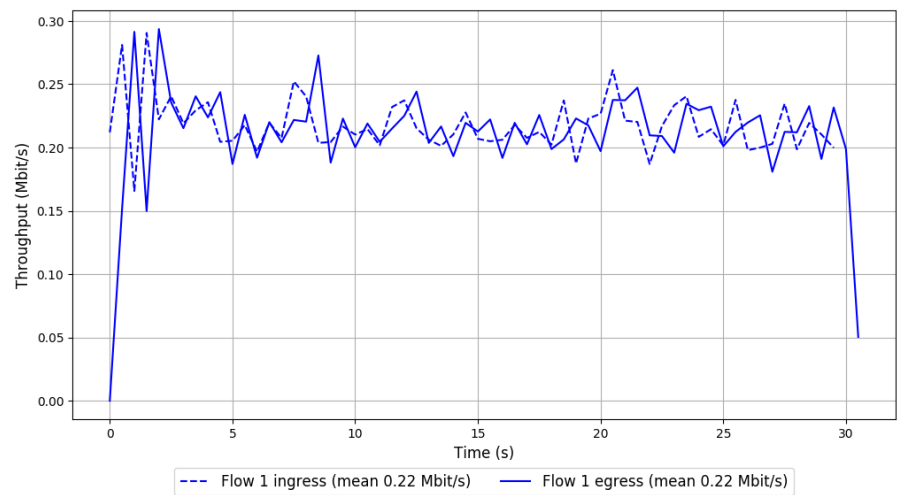


Run 2: Statistics of SCReAM

Start at: 2018-09-25 15:24:17
End at: 2018-09-25 15:24:47
Local clock offset: -0.274 ms
Remote clock offset: -0.017 ms

Below is generated by plot.py at 2018-09-25 18:28:07
Datalink statistics
-- Total of 1 flow:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 136.635 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 136.635 ms
Loss rate: 0.00%

Run 2: Report of SReAM — Data Link



Run 3: Statistics of SCReAM

Start at: 2018-09-25 15:52:57

End at: 2018-09-25 15:53:27

Local clock offset: -0.09 ms

Remote clock offset: 0.037 ms

Below is generated by plot.py at 2018-09-25 18:28:07

Datalink statistics

-- Total of 1 flow:

Average throughput: 0.22 Mbit/s

95th percentile per-packet one-way delay: 135.266 ms

Loss rate: 0.00%

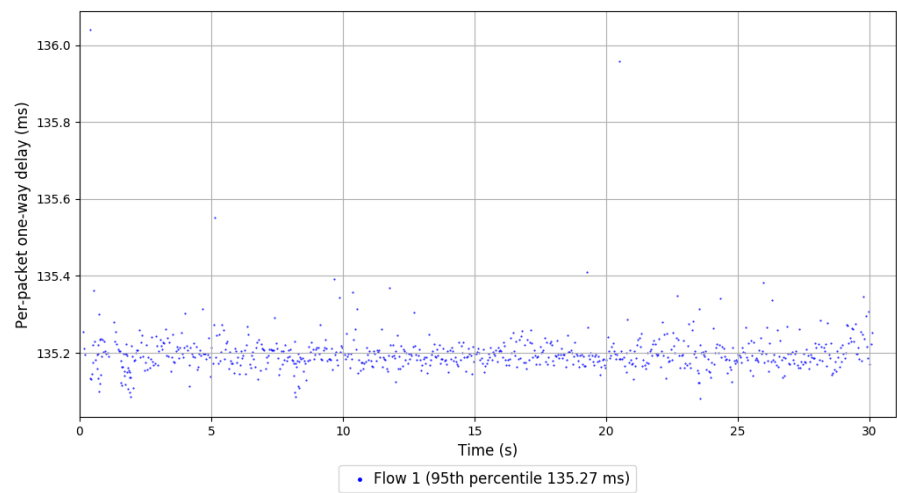
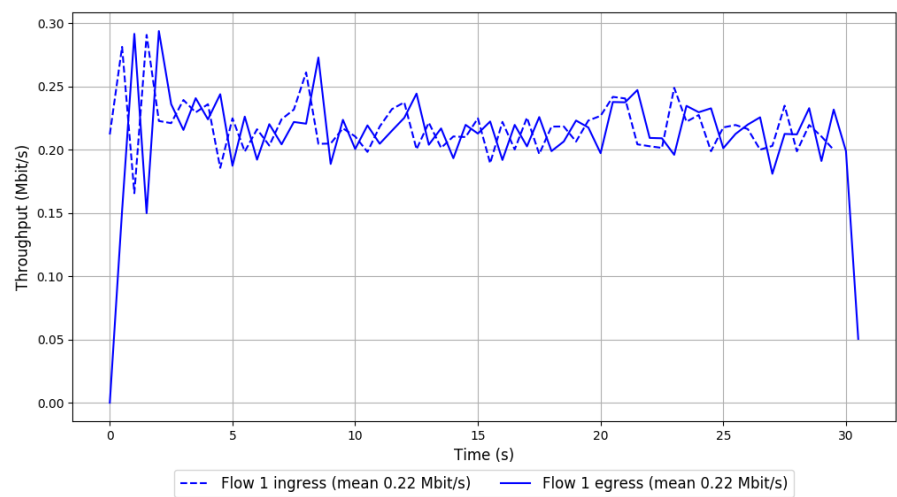
-- Flow 1:

Average throughput: 0.22 Mbit/s

95th percentile per-packet one-way delay: 135.266 ms

Loss rate: 0.00%

Run 3: Report of SReAM — Data Link



Run 4: Statistics of SCReAM

Start at: 2018-09-25 16:21:31

End at: 2018-09-25 16:22:01

Local clock offset: -0.103 ms

Remote clock offset: 0.319 ms

Below is generated by plot.py at 2018-09-25 18:28:07

Datalink statistics

-- Total of 1 flow:

Average throughput: 0.09 Mbit/s

95th percentile per-packet one-way delay: 136.388 ms

Loss rate: 1.64%

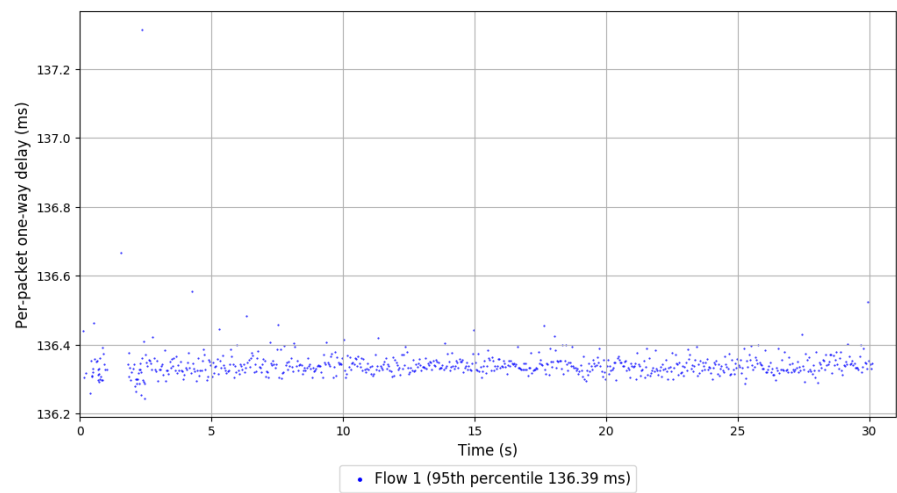
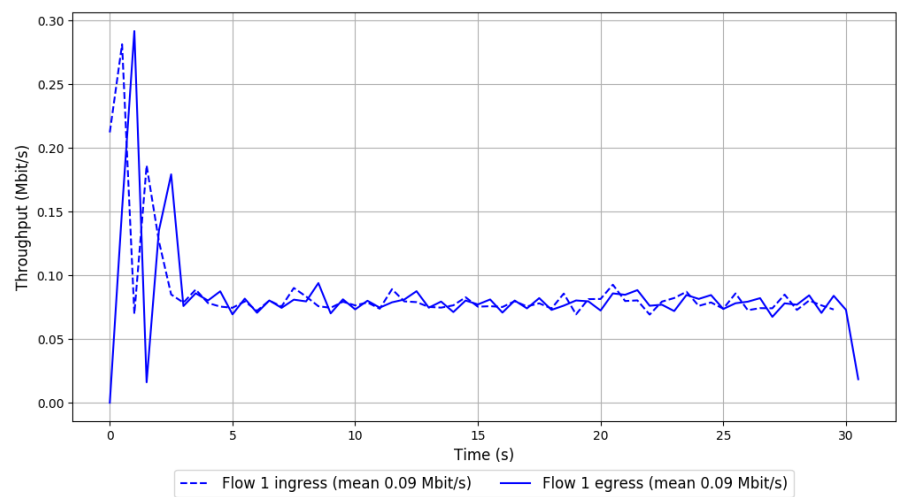
-- Flow 1:

Average throughput: 0.09 Mbit/s

95th percentile per-packet one-way delay: 136.388 ms

Loss rate: 1.64%

Run 4: Report of SReAM — Data Link



Run 5: Statistics of SCReAM

Start at: 2018-09-25 16:50:16

End at: 2018-09-25 16:50:46

Local clock offset: -0.148 ms

Remote clock offset: 0.026 ms

Below is generated by plot.py at 2018-09-25 18:28:07

Datalink statistics

-- Total of 1 flow:

Average throughput: 0.22 Mbit/s

95th percentile per-packet one-way delay: 136.465 ms

Loss rate: 0.00%

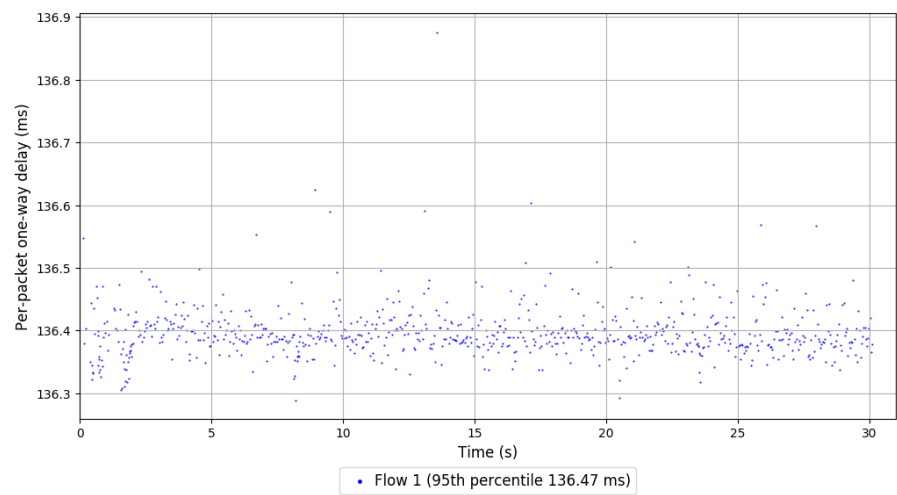
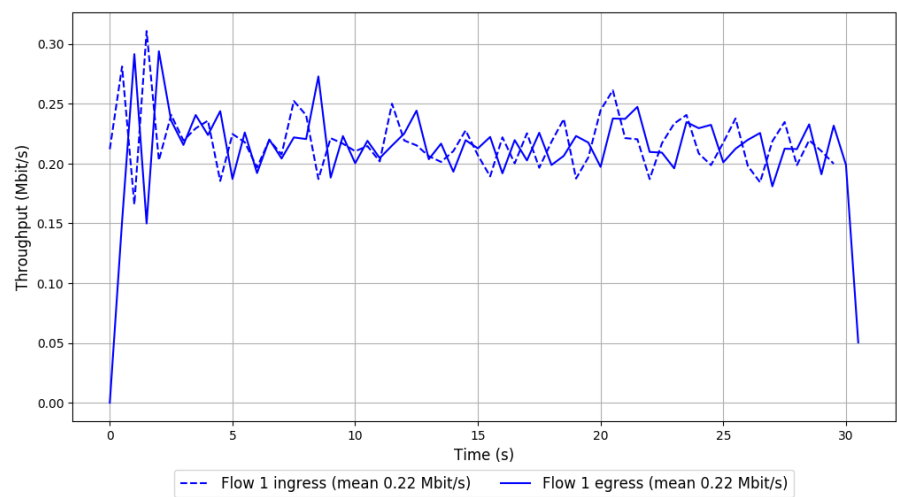
-- Flow 1:

Average throughput: 0.22 Mbit/s

95th percentile per-packet one-way delay: 136.465 ms

Loss rate: 0.00%

Run 5: Report of SReAM — Data Link

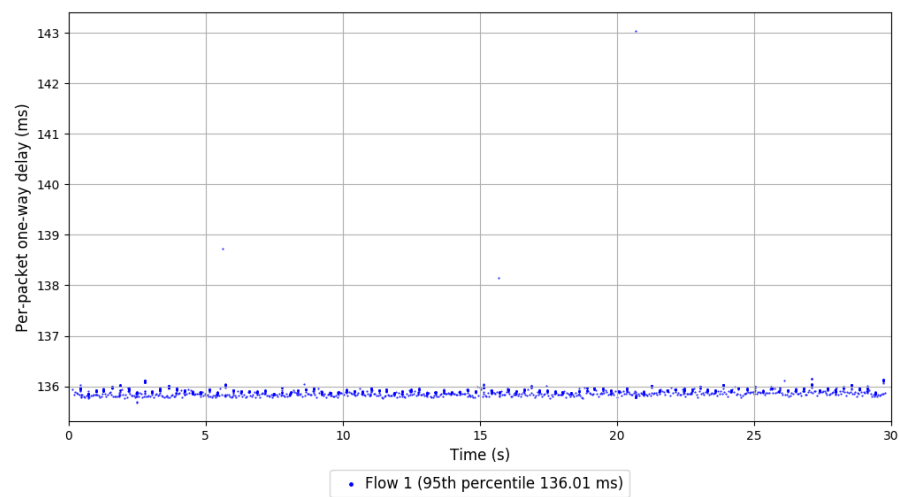
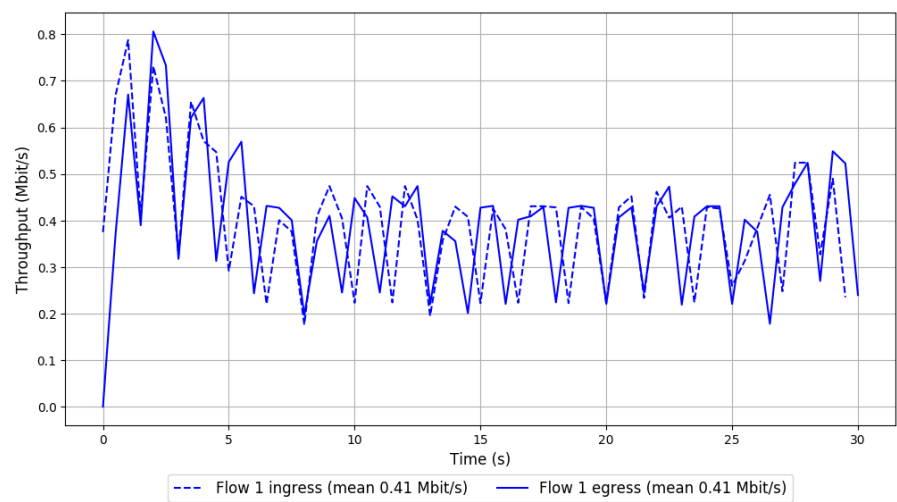


Run 1: Statistics of Sprout

Start at: 2018-09-25 14:52:24
End at: 2018-09-25 14:52:54
Local clock offset: -0.202 ms
Remote clock offset: -0.509 ms

Below is generated by plot.py at 2018-09-25 18:28:07
Datalink statistics
-- Total of 1 flow:
Average throughput: 0.41 Mbit/s
95th percentile per-packet one-way delay: 136.014 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.41 Mbit/s
95th percentile per-packet one-way delay: 136.014 ms
Loss rate: 0.00%

Run 1: Report of Sprout — Data Link

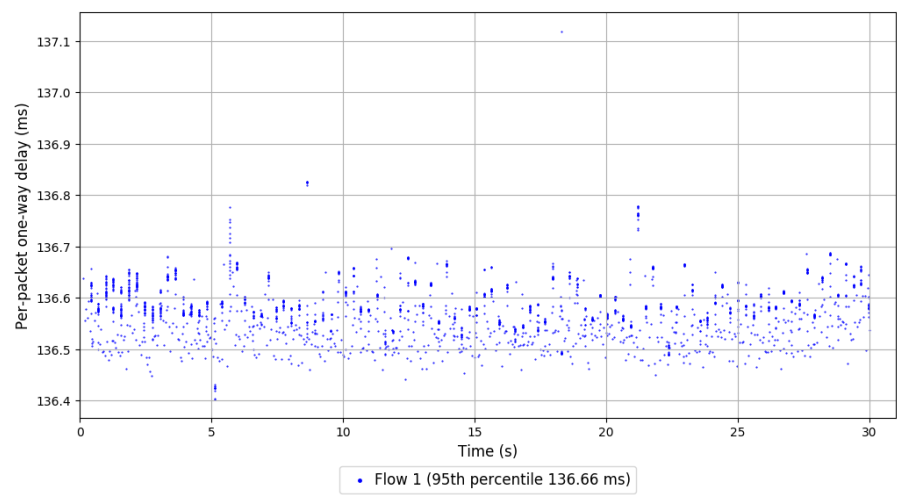
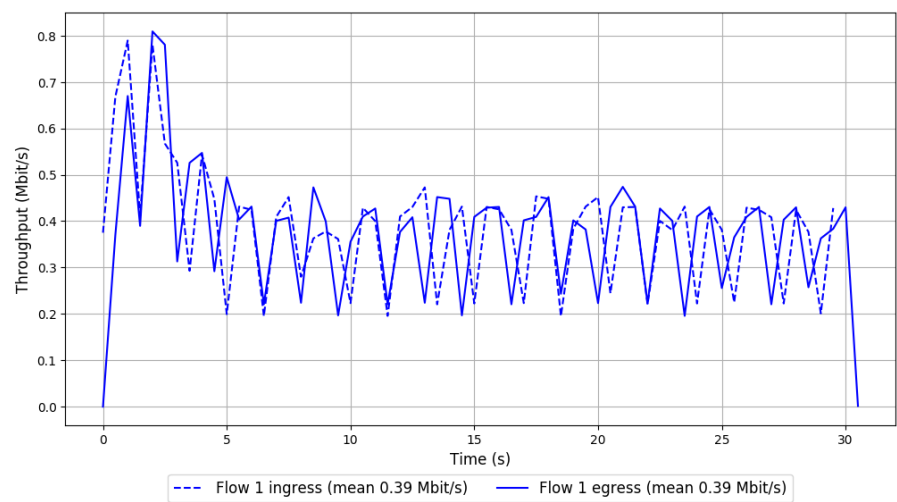


Run 2: Statistics of Sprout

Start at: 2018-09-25 15:21:23
End at: 2018-09-25 15:21:53
Local clock offset: -0.257 ms
Remote clock offset: -0.023 ms

Below is generated by plot.py at 2018-09-25 18:28:07
Datalink statistics
-- Total of 1 flow:
Average throughput: 0.39 Mbit/s
95th percentile per-packet one-way delay: 136.660 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.39 Mbit/s
95th percentile per-packet one-way delay: 136.660 ms
Loss rate: 0.00%

Run 2: Report of Sprout — Data Link

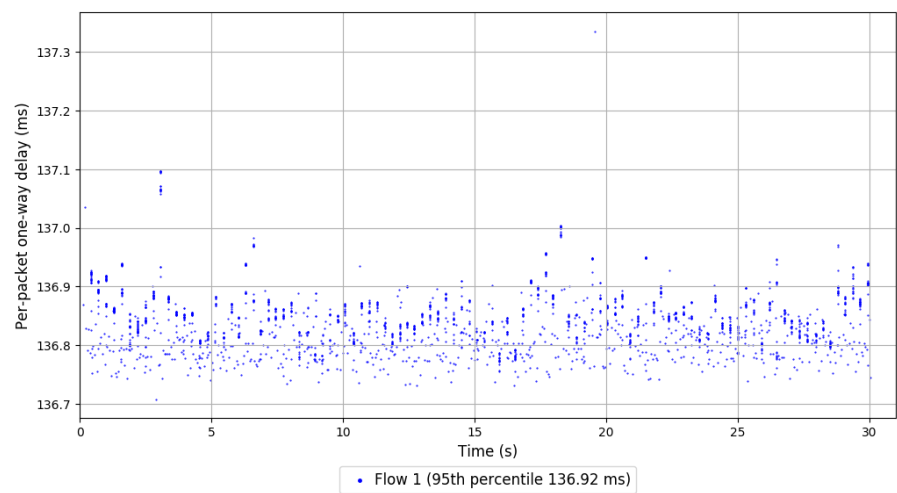
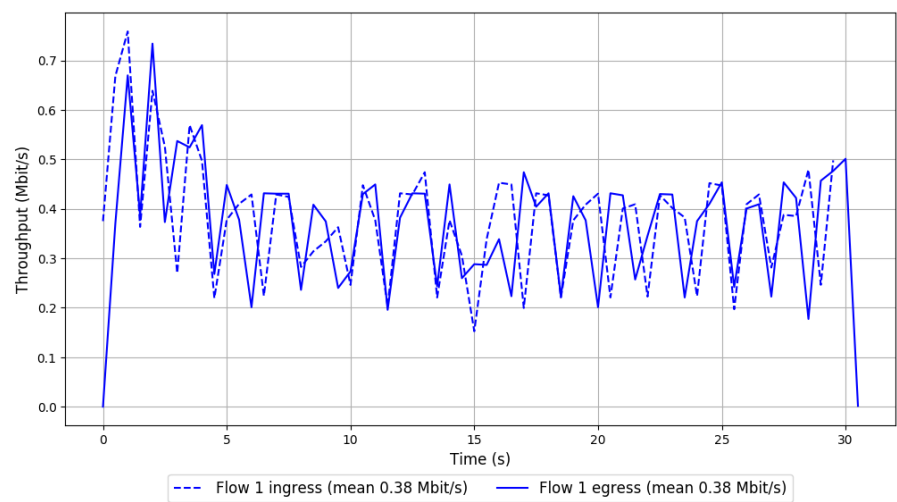


Run 3: Statistics of Sprout

Start at: 2018-09-25 15:50:09
End at: 2018-09-25 15:50:39
Local clock offset: -0.293 ms
Remote clock offset: 0.376 ms

Below is generated by plot.py at 2018-09-25 18:28:07
Datalink statistics
-- Total of 1 flow:
Average throughput: 0.38 Mbit/s
95th percentile per-packet one-way delay: 136.924 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.38 Mbit/s
95th percentile per-packet one-way delay: 136.924 ms
Loss rate: 0.00%

Run 3: Report of Sprout — Data Link

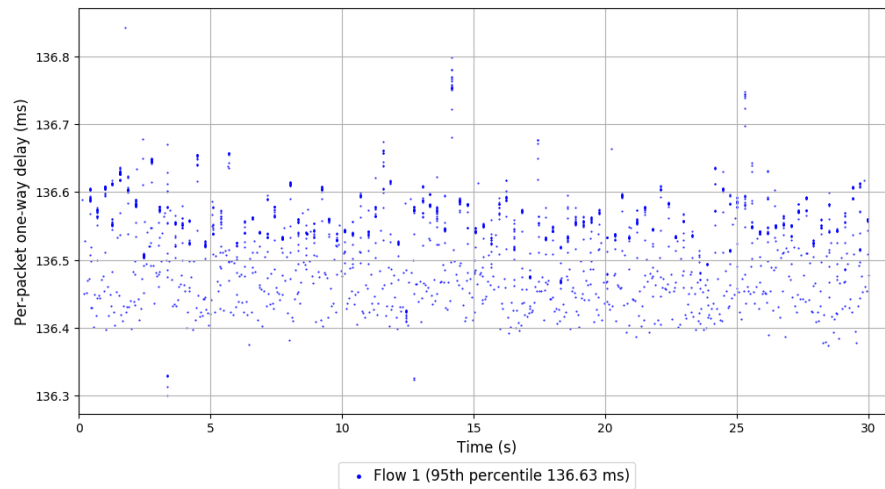
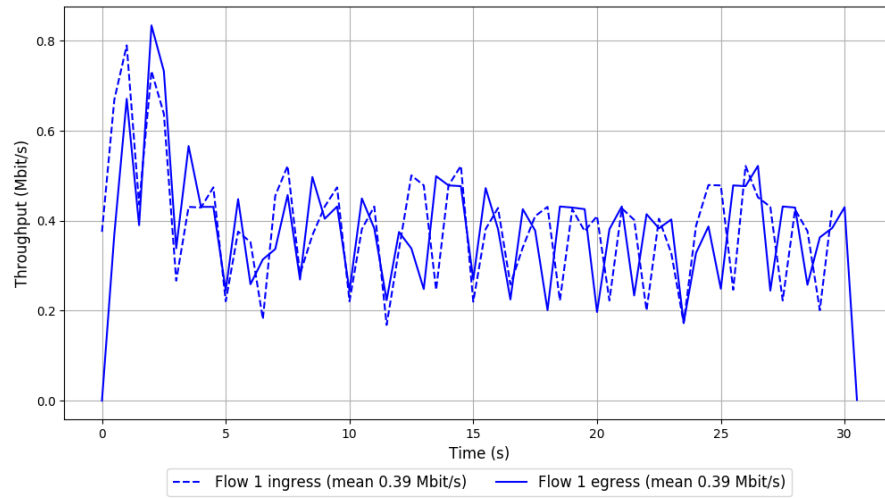


Run 4: Statistics of Sprout

Start at: 2018-09-25 16:18:41
End at: 2018-09-25 16:19:11
Local clock offset: -0.159 ms
Remote clock offset: -0.025 ms

Below is generated by plot.py at 2018-09-25 18:28:07
Datalink statistics
-- Total of 1 flow:
Average throughput: 0.39 Mbit/s
95th percentile per-packet one-way delay: 136.629 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.39 Mbit/s
95th percentile per-packet one-way delay: 136.629 ms
Loss rate: 0.00%

Run 4: Report of Sprout — Data Link



Run 5: Statistics of Sprout

Start at: 2018-09-25 16:47:23

End at: 2018-09-25 16:47:53

Local clock offset: -0.065 ms

Remote clock offset: 0.393 ms

Below is generated by plot.py at 2018-09-25 18:28:07

Datalink statistics

-- Total of 1 flow:

Average throughput: 0.46 Mbit/s

95th percentile per-packet one-way delay: 136.275 ms

Loss rate: 0.00%

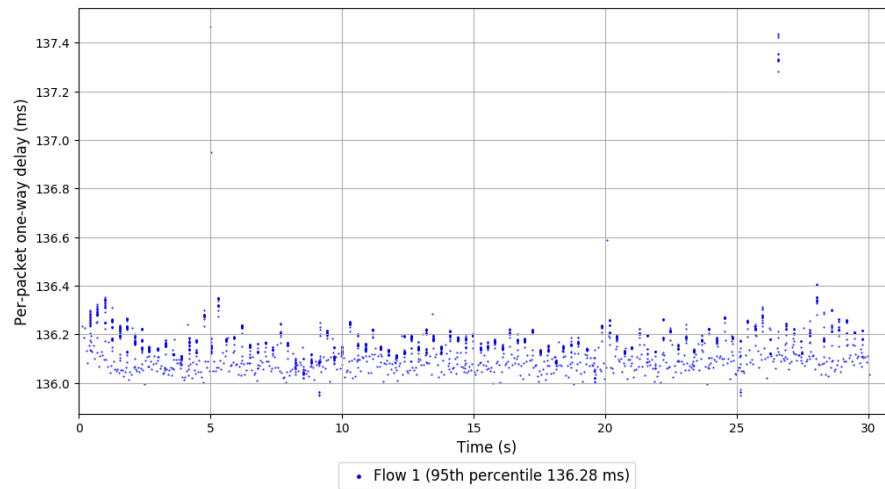
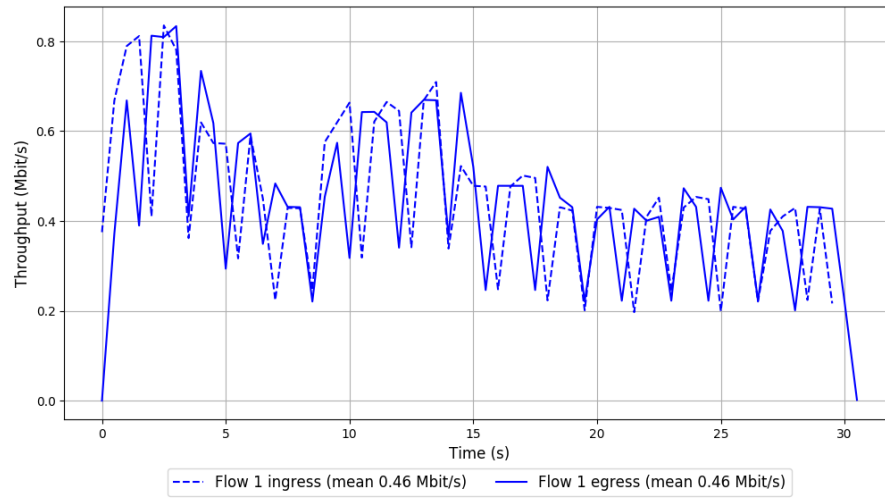
-- Flow 1:

Average throughput: 0.46 Mbit/s

95th percentile per-packet one-way delay: 136.275 ms

Loss rate: 0.00%

Run 5: Report of Sprout — Data Link



Run 1: Statistics of TaoVA-100x

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

End at: 2018-09-25 15:04:36

Local clock offset: -0.119 ms

Remote clock offset: 0.003 ms

Below is generated by plot.py at 2018-09-25 18:28:07

Datalink statistics

-- Total of 1 flow:

Average throughput: 194.02 Mbit/s

95th percentile per-packet one-way delay: 134.919 ms

Loss rate: 0.00%

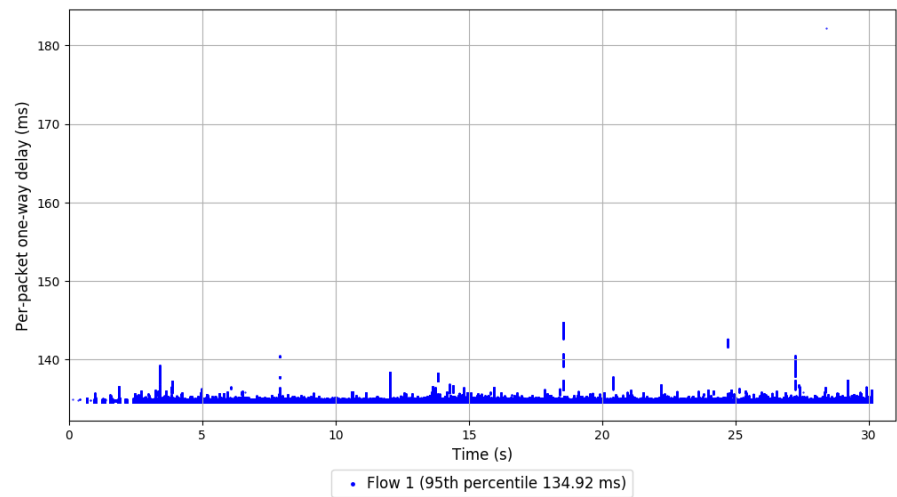
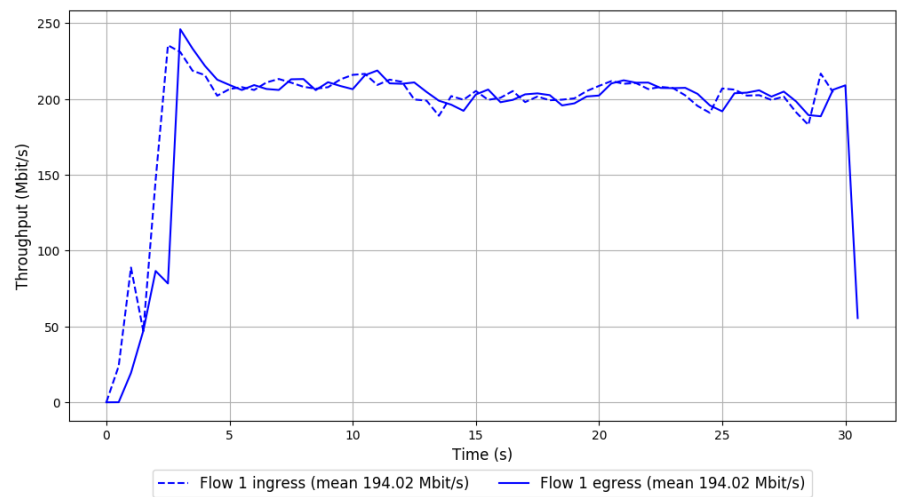
-- Flow 1:

Average throughput: 194.02 Mbit/s

95th percentile per-packet one-way delay: 134.919 ms

Loss rate: 0.00%

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



Run 2: Statistics of TaoVA-100x

Start at: 2018-09-25 15:33:16

End at: 2018-09-25 15:33:46

Local clock offset: -0.082 ms

Remote clock offset: -0.01 ms

Below is generated by plot.py at 2018-09-25 18:28:07

Datalink statistics

-- Total of 1 flow:

Average throughput: 203.46 Mbit/s

95th percentile per-packet one-way delay: 135.805 ms

Loss rate: 0.00%

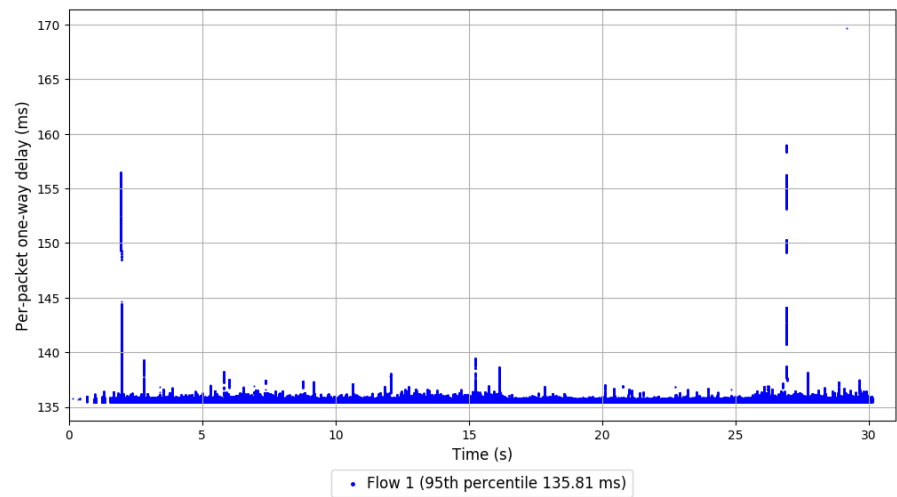
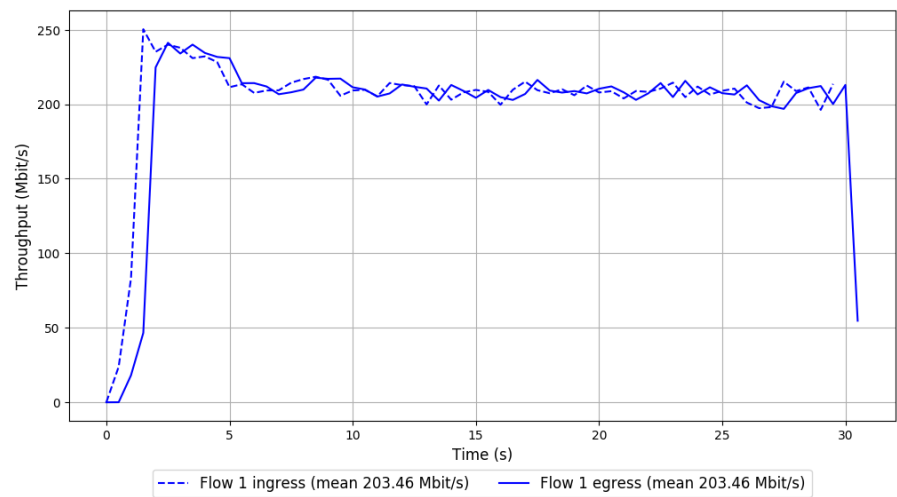
-- Flow 1:

Average throughput: 203.46 Mbit/s

95th percentile per-packet one-way delay: 135.805 ms

Loss rate: 0.00%

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



Run 3: Statistics of TaoVA-100x

Start at: 2018-09-25 16:01:52

End at: 2018-09-25 16:02:22

Local clock offset: 0.028 ms

Remote clock offset: -0.014 ms

Below is generated by plot.py at 2018-09-25 18:28:07

Datalink statistics

-- Total of 1 flow:

Average throughput: 178.77 Mbit/s

95th percentile per-packet one-way delay: 134.985 ms

Loss rate: 0.00%

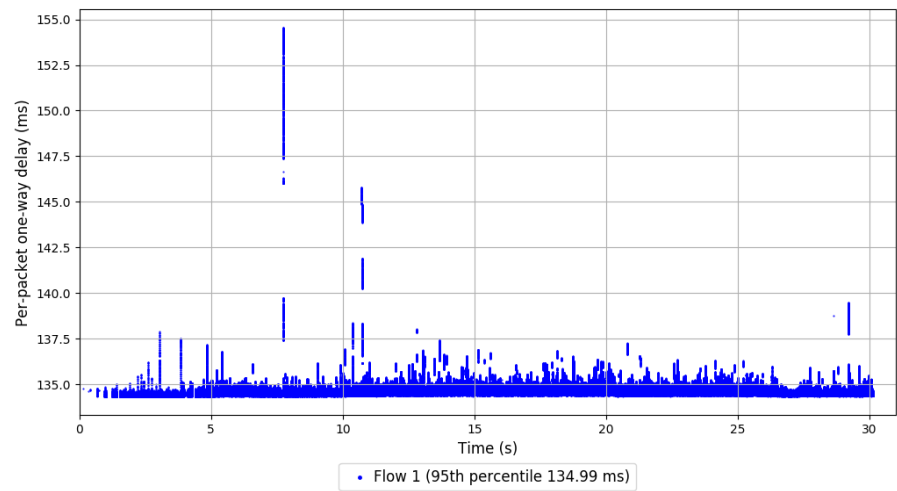
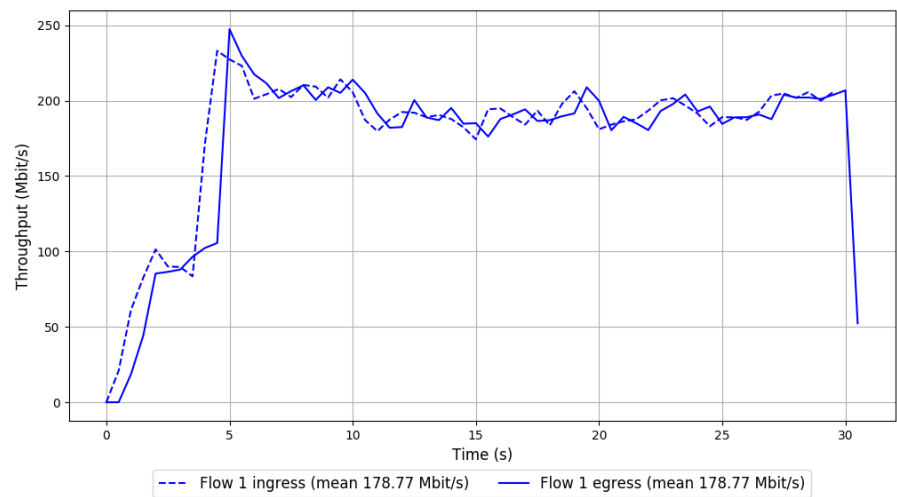
-- Flow 1:

Average throughput: 178.77 Mbit/s

95th percentile per-packet one-way delay: 134.985 ms

Loss rate: 0.00%

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

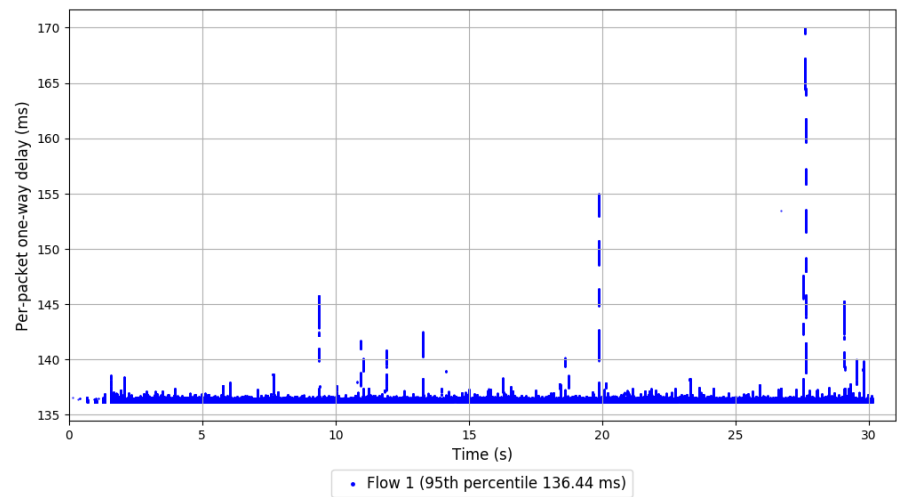
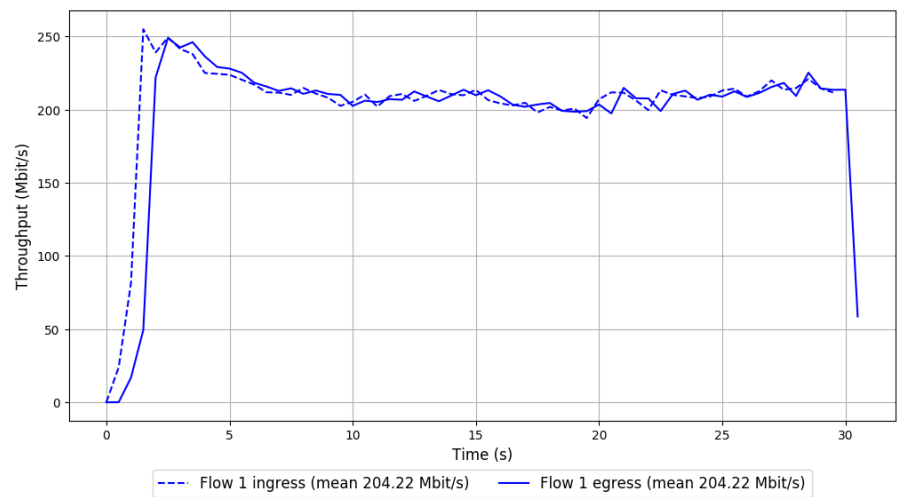


Run 4: Statistics of TaoVA-100x

Start at: 2018-09-25 16:30:15
End at: 2018-09-25 16:30:45
Local clock offset: -0.116 ms
Remote clock offset: -0.064 ms

Below is generated by plot.py at 2018-09-25 18:29:07
Datalink statistics
-- Total of 1 flow:
Average throughput: 204.22 Mbit/s
95th percentile per-packet one-way delay: 136.442 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 204.22 Mbit/s
95th percentile per-packet one-way delay: 136.442 ms
Loss rate: 0.00%

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



Run 5: Statistics of TaoVA-100x

Start at: 2018-09-25 16:59:00

End at: 2018-09-25 16:59:30

Local clock offset: -0.267 ms

Remote clock offset: 0.422 ms

Below is generated by plot.py at 2018-09-25 18:29:07

Datalink statistics

-- Total of 1 flow:

Average throughput: 190.60 Mbit/s

95th percentile per-packet one-way delay: 137.224 ms

Loss rate: 0.00%

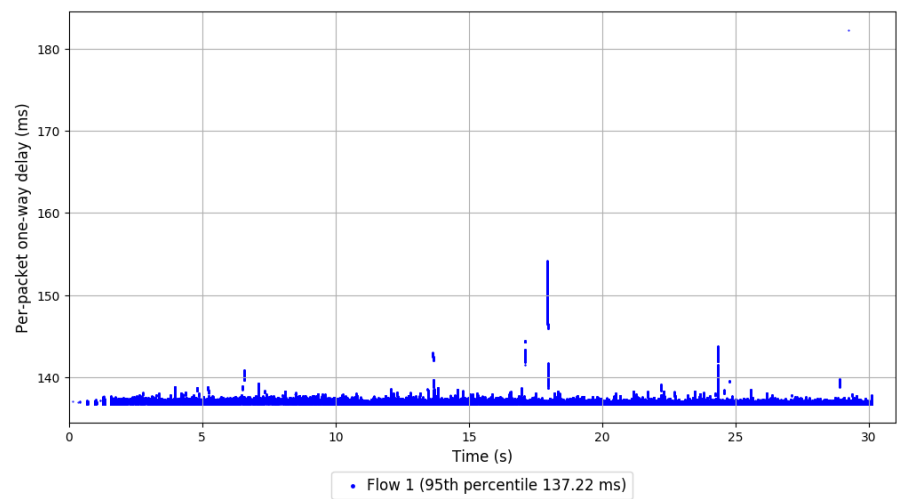
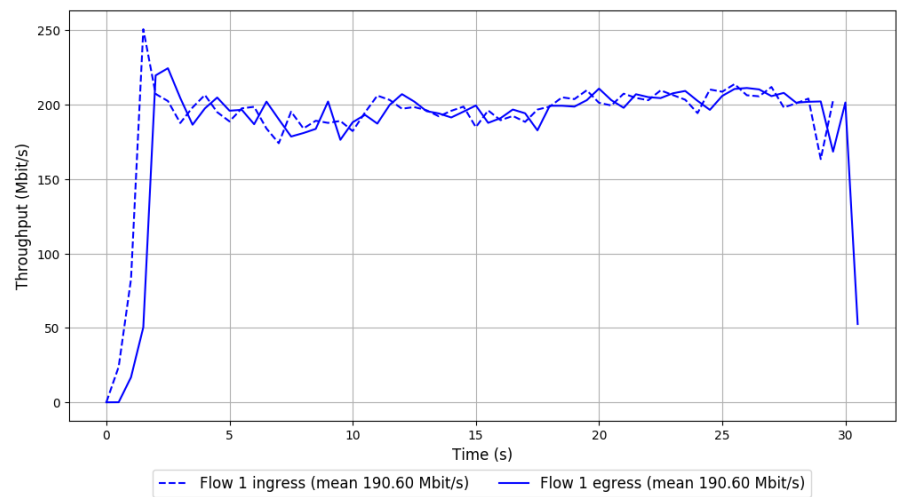
-- Flow 1:

Average throughput: 190.60 Mbit/s

95th percentile per-packet one-way delay: 137.224 ms

Loss rate: 0.00%

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

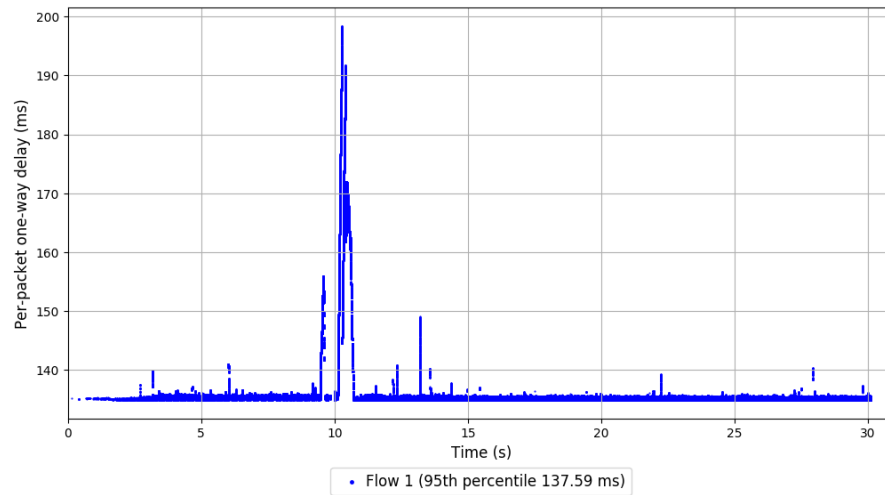
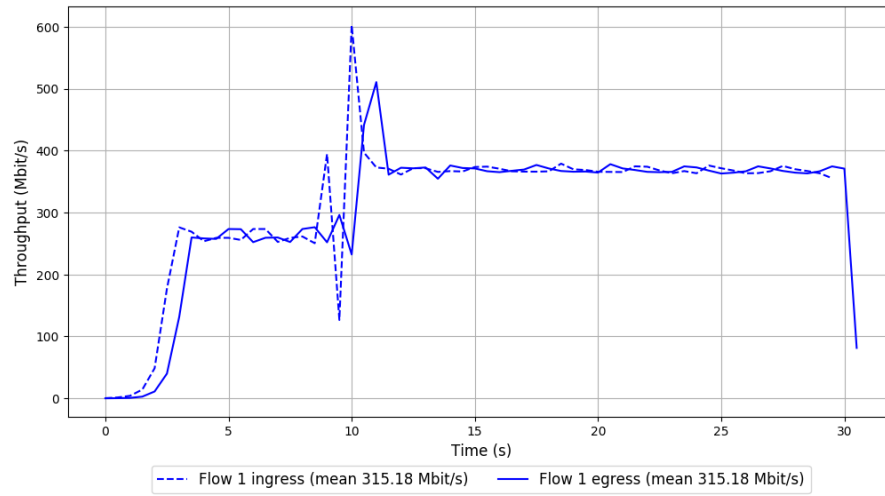


Run 1: Statistics of TCP Vegas

Start at: 2018-09-25 14:42:15
End at: 2018-09-25 14:42:45
Local clock offset: -0.14 ms
Remote clock offset: -0.084 ms

Below is generated by plot.py at 2018-09-25 18:29:07
Datalink statistics
-- Total of 1 flow:
Average throughput: 315.18 Mbit/s
95th percentile per-packet one-way delay: 137.593 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 315.18 Mbit/s
95th percentile per-packet one-way delay: 137.593 ms
Loss rate: 0.00%

Run 1: Report of TCP Vegas — Data Link

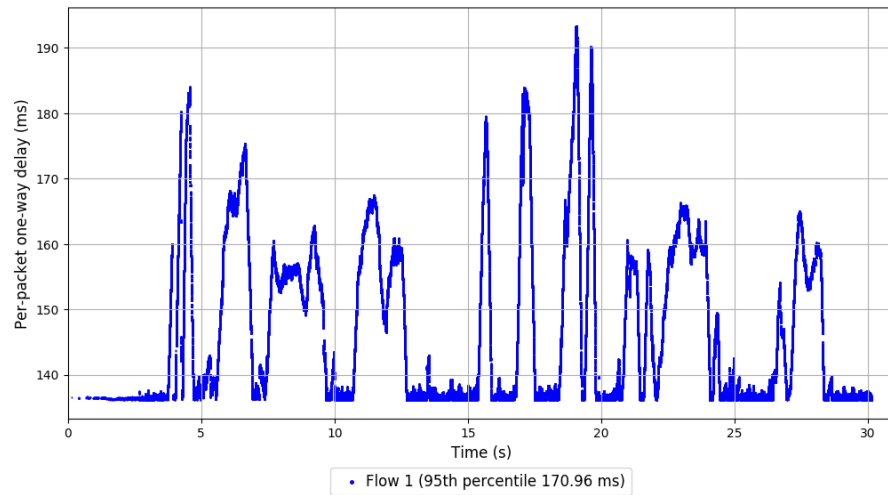
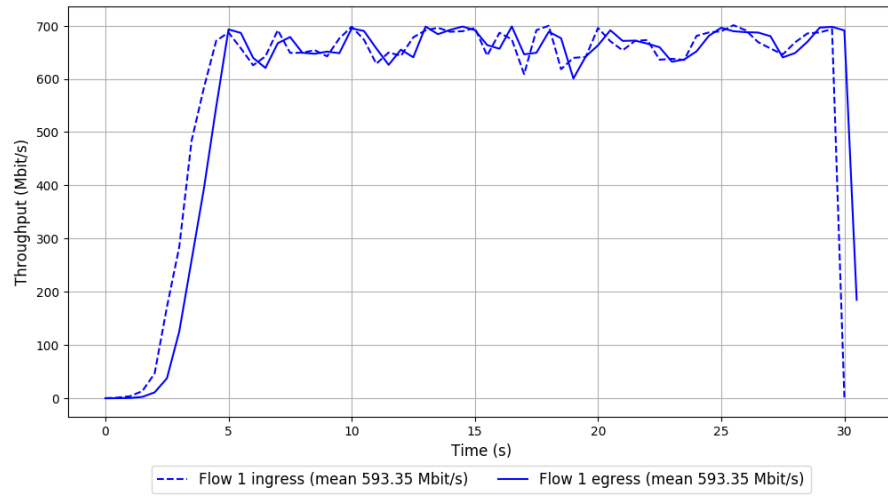


Run 2: Statistics of TCP Vegas

Start at: 2018-09-25 15:10:21
End at: 2018-09-25 15:10:51
Local clock offset: -0.258 ms
Remote clock offset: -0.018 ms

Below is generated by plot.py at 2018-09-25 18:35:55
Datalink statistics
-- Total of 1 flow:
Average throughput: 593.35 Mbit/s
95th percentile per-packet one-way delay: 170.959 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 593.35 Mbit/s
95th percentile per-packet one-way delay: 170.959 ms
Loss rate: 0.00%

Run 2: Report of TCP Vegas — Data Link



Run 3: Statistics of TCP Vegas

Start at: 2018-09-25 15:39:30

End at: 2018-09-25 15:40:00

Local clock offset: -0.364 ms

Remote clock offset: 0.004 ms

Below is generated by plot.py at 2018-09-25 18:35:55

Datalink statistics

-- Total of 1 flow:

Average throughput: 433.21 Mbit/s

95th percentile per-packet one-way delay: 135.958 ms

Loss rate: 0.00%

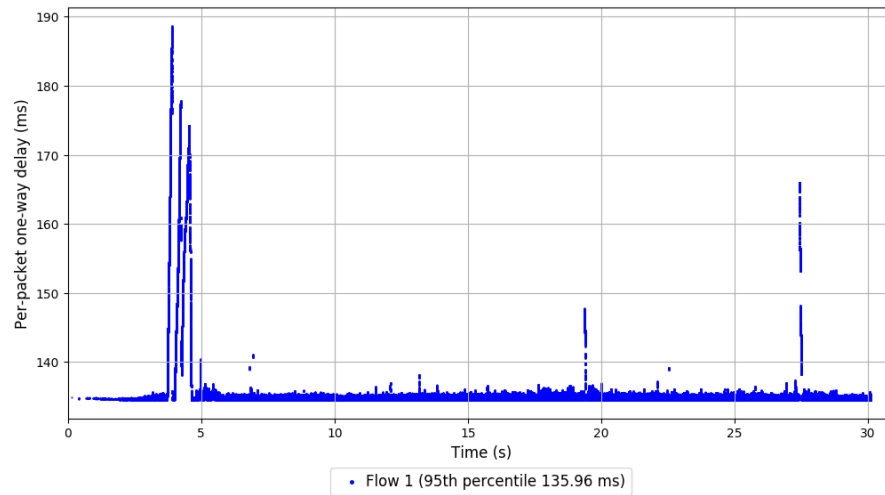
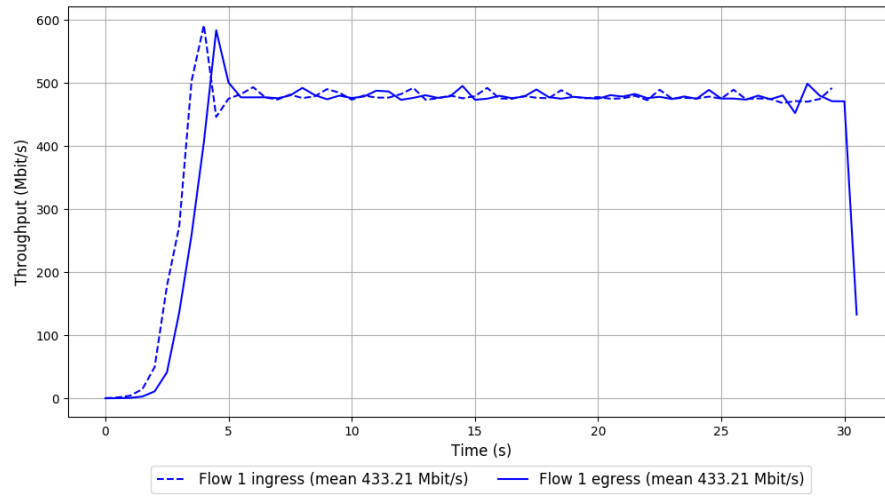
-- Flow 1:

Average throughput: 433.21 Mbit/s

95th percentile per-packet one-way delay: 135.958 ms

Loss rate: 0.00%

Run 3: Report of TCP Vegas — Data Link

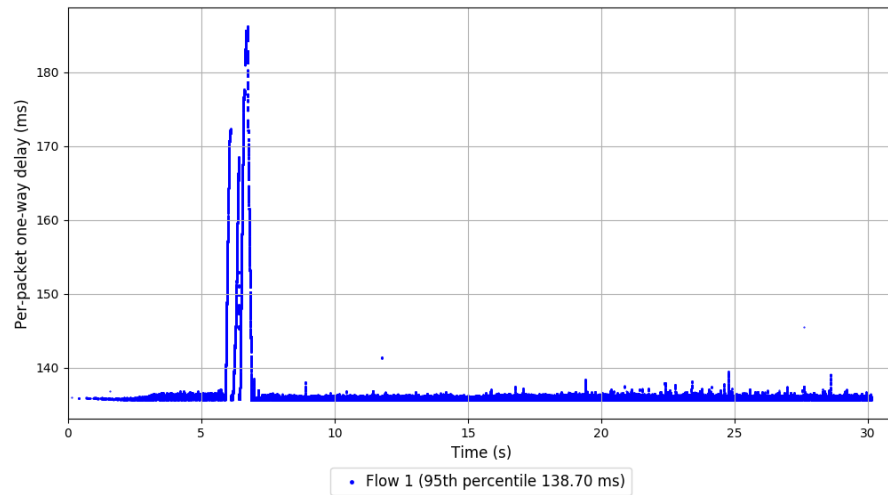
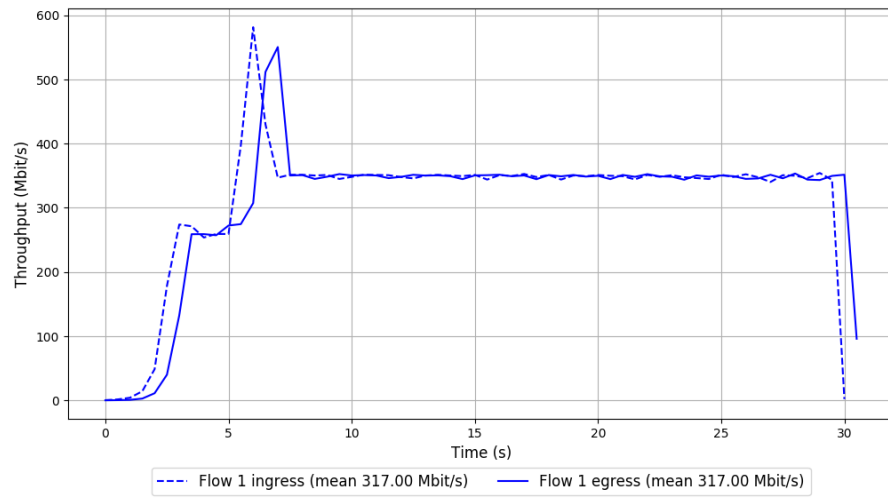


Run 4: Statistics of TCP Vegas

Start at: 2018-09-25 16:08:01
End at: 2018-09-25 16:08:31
Local clock offset: -0.147 ms
Remote clock offset: 0.026 ms

Below is generated by plot.py at 2018-09-25 18:35:55
Datalink statistics
-- Total of 1 flow:
Average throughput: 317.00 Mbit/s
95th percentile per-packet one-way delay: 138.700 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 317.00 Mbit/s
95th percentile per-packet one-way delay: 138.700 ms
Loss rate: 0.00%

Run 4: Report of TCP Vegas — Data Link

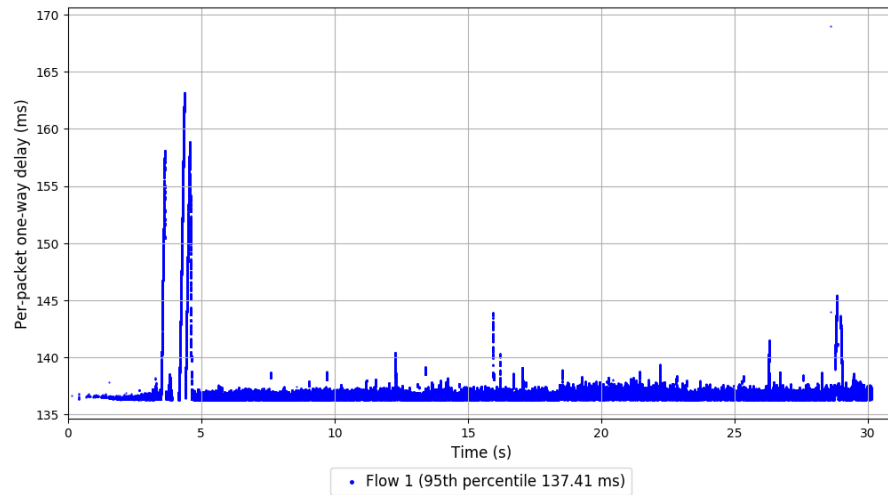
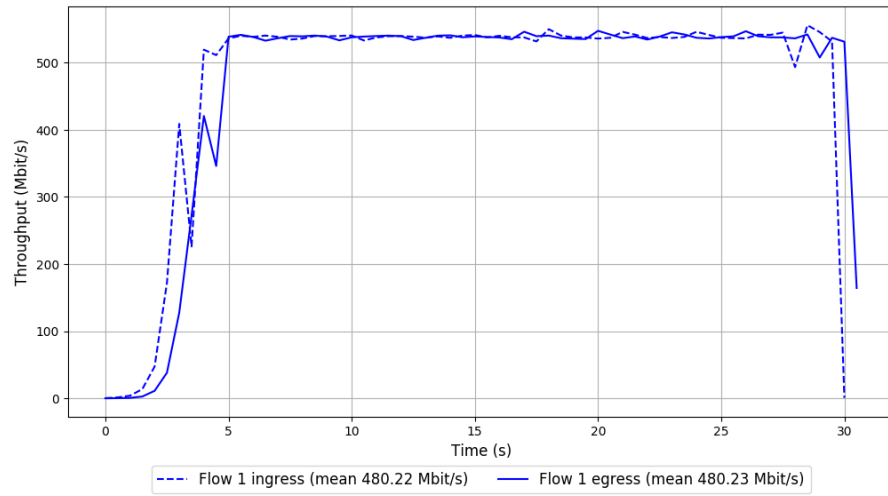


Run 5: Statistics of TCP Vegas

Start at: 2018-09-25 16:36:32
End at: 2018-09-25 16:37:02
Local clock offset: -0.243 ms
Remote clock offset: -0.004 ms

Below is generated by plot.py at 2018-09-25 18:36:46
Datalink statistics
-- Total of 1 flow:
Average throughput: 480.23 Mbit/s
95th percentile per-packet one-way delay: 137.408 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 480.23 Mbit/s
95th percentile per-packet one-way delay: 137.408 ms
Loss rate: 0.00%

Run 5: Report of TCP Vegas — Data Link

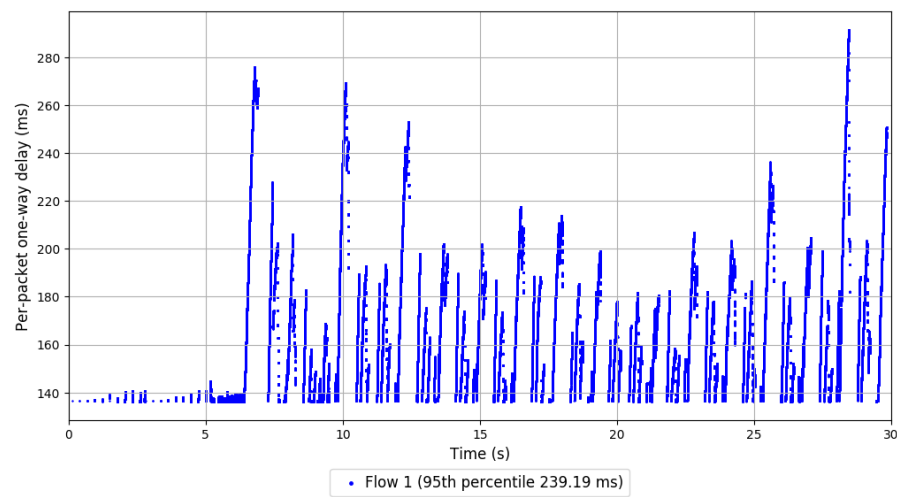
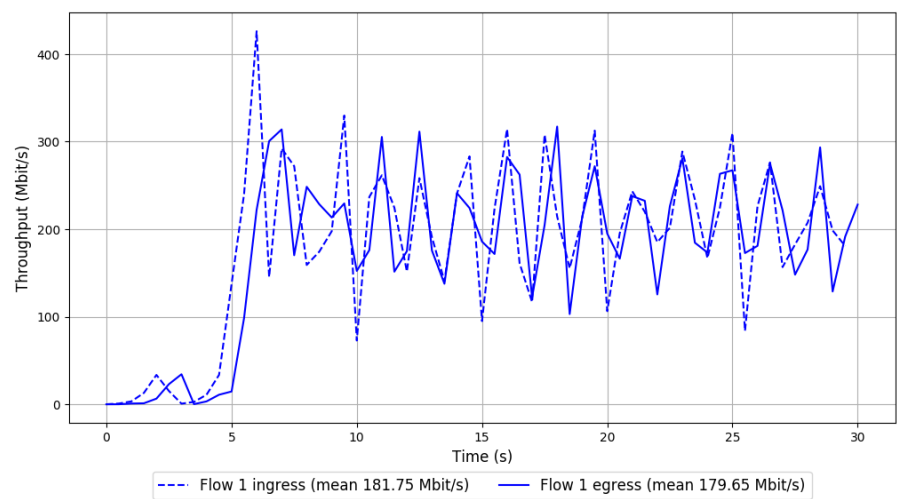


Run 1: Statistics of Verus

Start at: 2018-09-25 14:58:10
End at: 2018-09-25 14:58:40
Local clock offset: -0.069 ms
Remote clock offset: -0.079 ms

Below is generated by plot.py at 2018-09-25 18:36:46
Datalink statistics
-- Total of 1 flow:
Average throughput: 179.65 Mbit/s
95th percentile per-packet one-way delay: 239.190 ms
Loss rate: 1.15%
-- Flow 1:
Average throughput: 179.65 Mbit/s
95th percentile per-packet one-way delay: 239.190 ms
Loss rate: 1.15%

Run 1: Report of Verus — Data Link



Run 2: Statistics of Verus

Start at: 2018-09-25 15:27:06

End at: 2018-09-25 15:27:36

Local clock offset: -0.141 ms

Remote clock offset: -0.02 ms

Below is generated by plot.py at 2018-09-25 18:36:46

Datalink statistics

-- Total of 1 flow:

Average throughput: 208.51 Mbit/s

95th percentile per-packet one-way delay: 277.444 ms

Loss rate: 6.13%

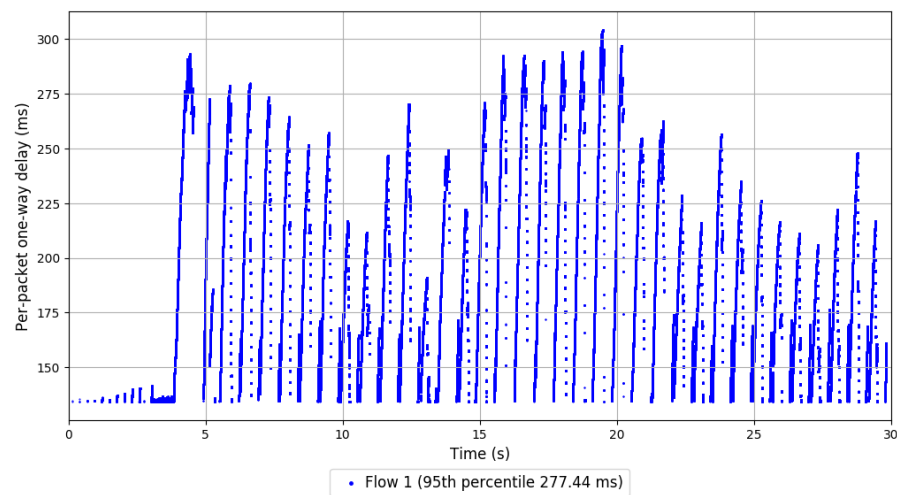
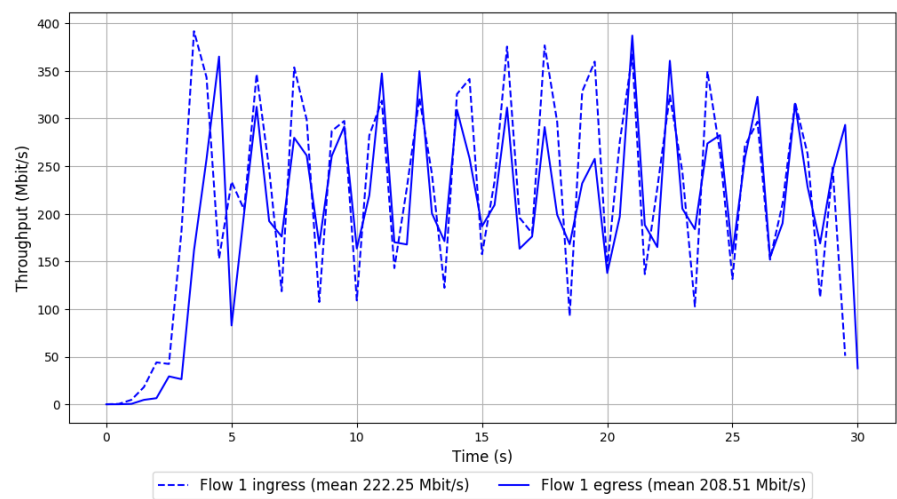
-- Flow 1:

Average throughput: 208.51 Mbit/s

95th percentile per-packet one-way delay: 277.444 ms

Loss rate: 6.13%

Run 2: Report of Verus — Data Link



Run 3: Statistics of Verus

Start at: 2018-09-25 15:55:49

End at: 2018-09-25 15:56:19

Local clock offset: -0.233 ms

Remote clock offset: 0.011 ms

Below is generated by plot.py at 2018-09-25 18:36:46

Datalink statistics

-- Total of 1 flow:

Average throughput: 137.48 Mbit/s

95th percentile per-packet one-way delay: 311.389 ms

Loss rate: 17.15%

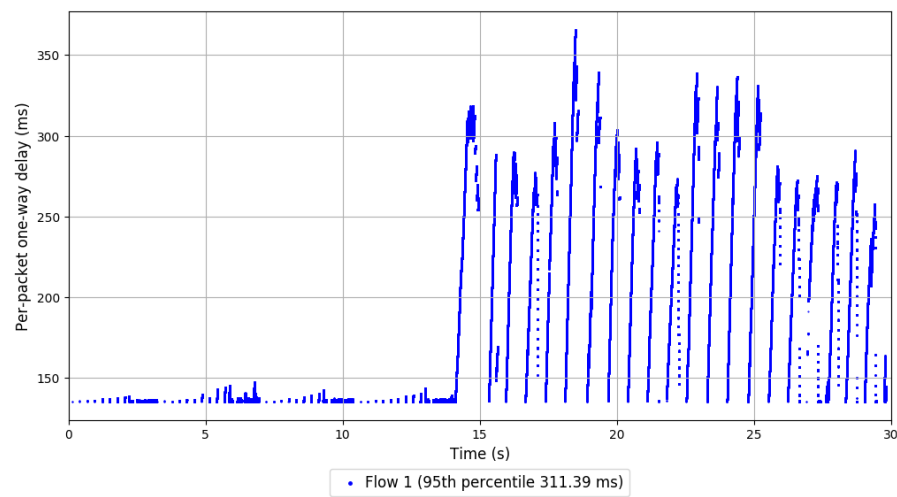
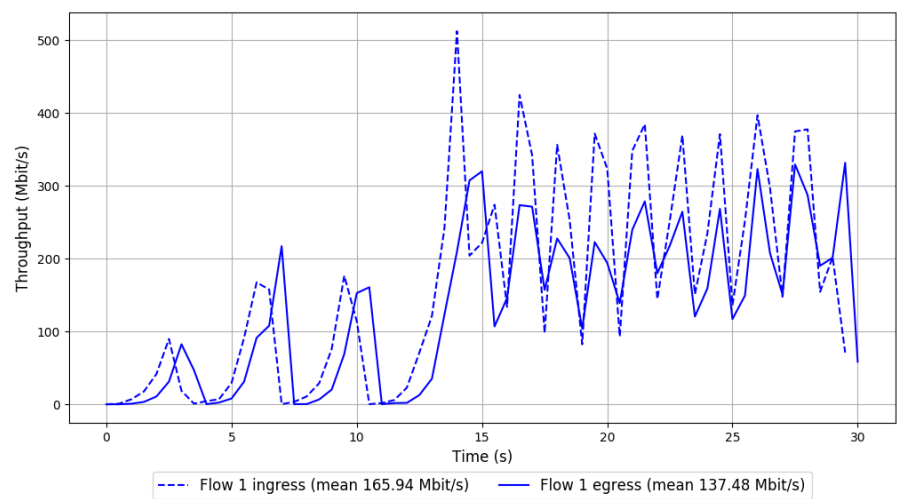
-- Flow 1:

Average throughput: 137.48 Mbit/s

95th percentile per-packet one-way delay: 311.389 ms

Loss rate: 17.15%

Run 3: Report of Verus — Data Link



Run 4: Statistics of Verus

Start at: 2018-09-25 16:24:23

End at: 2018-09-25 16:24:53

Local clock offset: -0.164 ms

Remote clock offset: 0.306 ms

Below is generated by plot.py at 2018-09-25 18:36:46

Datalink statistics

-- Total of 1 flow:

Average throughput: 63.34 Mbit/s

95th percentile per-packet one-way delay: 156.017 ms

Loss rate: 0.00%

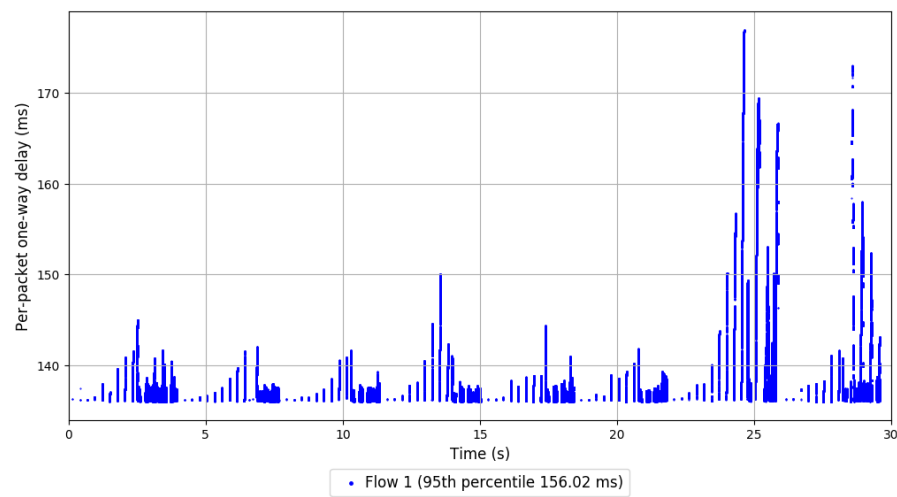
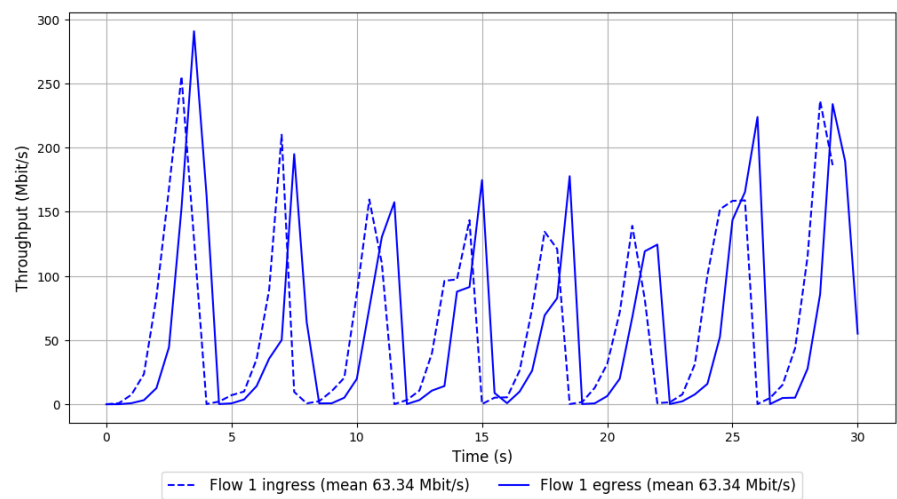
-- Flow 1:

Average throughput: 63.34 Mbit/s

95th percentile per-packet one-way delay: 156.017 ms

Loss rate: 0.00%

Run 4: Report of Verus — Data Link



Run 5: Statistics of Verus

Start at: 2018-09-25 16:53:06

End at: 2018-09-25 16:53:36

Local clock offset: -0.194 ms

Remote clock offset: 0.022 ms

Below is generated by plot.py at 2018-09-25 18:36:46

Datalink statistics

-- Total of 1 flow:

Average throughput: 62.89 Mbit/s

95th percentile per-packet one-way delay: 148.018 ms

Loss rate: 0.00%

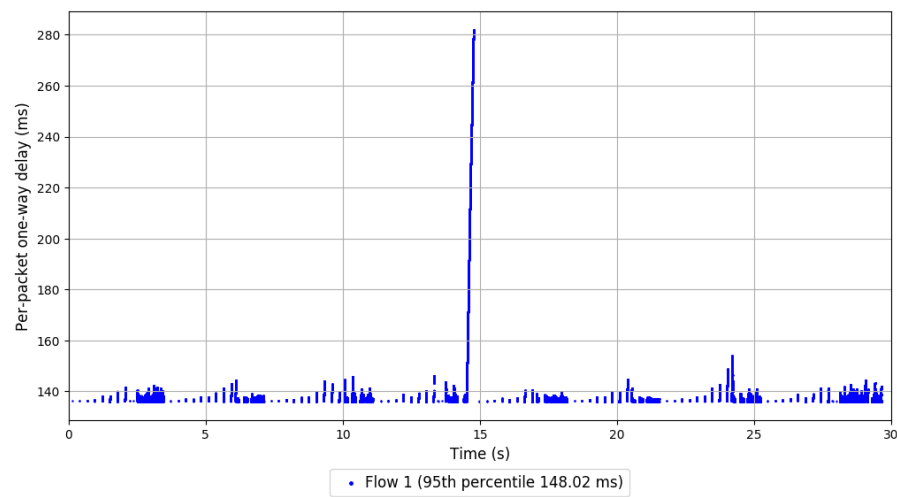
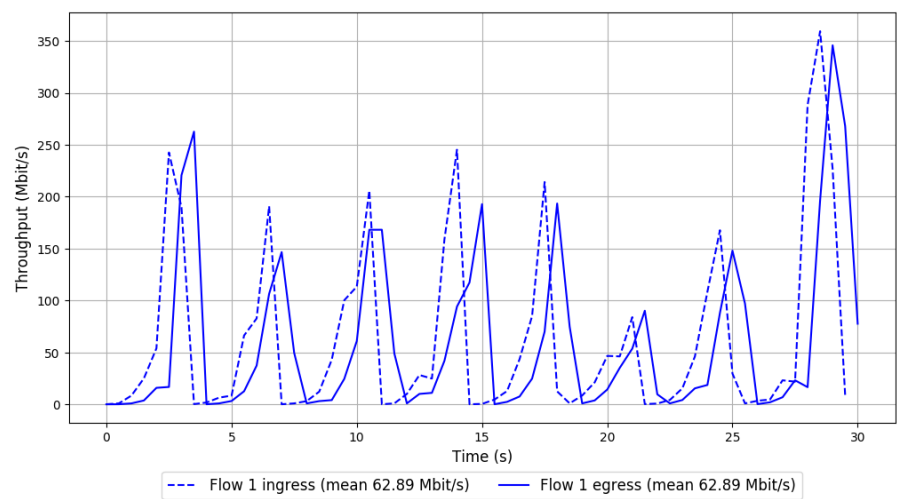
-- Flow 1:

Average throughput: 62.89 Mbit/s

95th percentile per-packet one-way delay: 148.018 ms

Loss rate: 0.00%

Run 5: Report of Verus — Data Link



Run 1: Statistics of PCC-Vivace

Start at: 2018-09-25 14:49:25

End at: 2018-09-25 14:49:55

Local clock offset: -0.14 ms

Remote clock offset: -0.476 ms

Below is generated by plot.py at 2018-09-25 18:38:42

Datalink statistics

-- Total of 1 flow:

Average throughput: 321.54 Mbit/s

95th percentile per-packet one-way delay: 138.162 ms

Loss rate: 0.00%

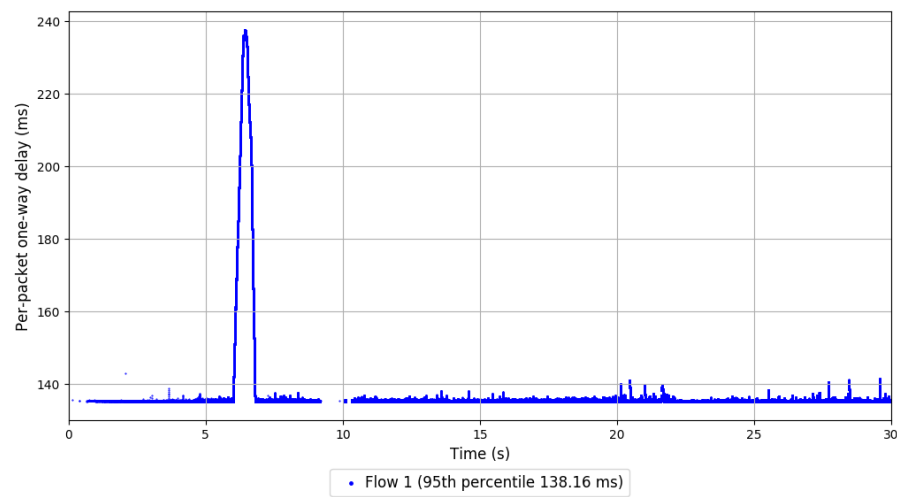
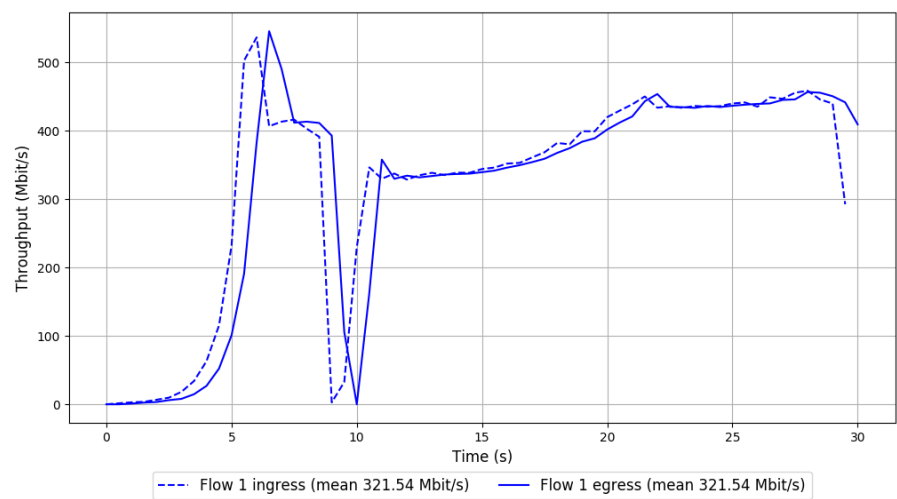
-- Flow 1:

Average throughput: 321.54 Mbit/s

95th percentile per-packet one-way delay: 138.162 ms

Loss rate: 0.00%

Run 1: Report of PCC-Vivace — Data Link



Run 2: Statistics of PCC-Vivace

Start at: 2018-09-25 15:17:56

End at: 2018-09-25 15:18:26

Local clock offset: -0.402 ms

Remote clock offset: 0.341 ms

Below is generated by plot.py at 2018-09-25 18:39:23

Datalink statistics

-- Total of 1 flow:

Average throughput: 379.71 Mbit/s

95th percentile per-packet one-way delay: 143.518 ms

Loss rate: 0.00%

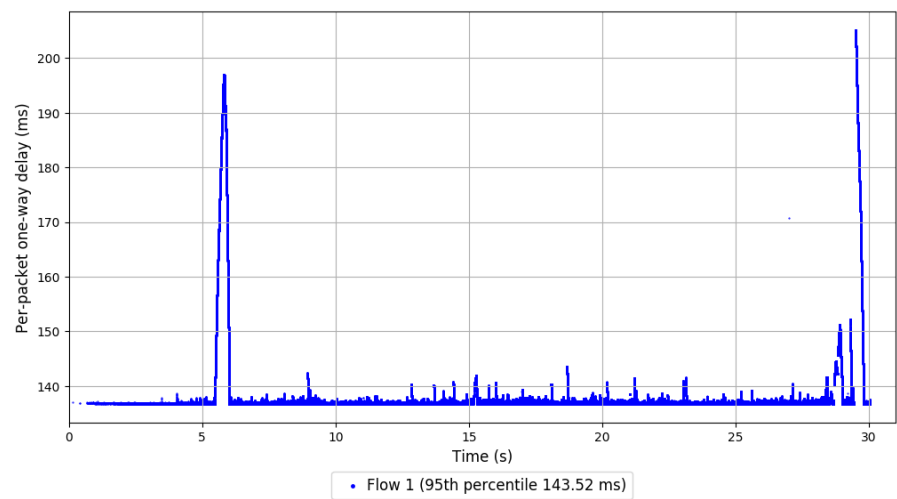
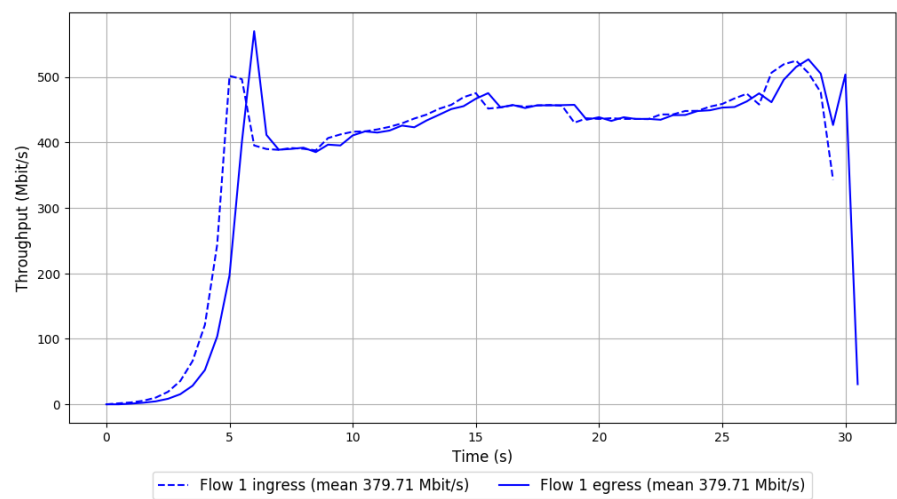
-- Flow 1:

Average throughput: 379.71 Mbit/s

95th percentile per-packet one-way delay: 143.518 ms

Loss rate: 0.00%

Run 2: Report of PCC-Vivace — Data Link



Run 3: Statistics of PCC-Vivace

Start at: 2018-09-25 15:46:44

End at: 2018-09-25 15:47:14

Local clock offset: -0.142 ms

Remote clock offset: 0.007 ms

Below is generated by plot.py at 2018-09-25 18:39:25

Datalink statistics

-- Total of 1 flow:

Average throughput: 371.87 Mbit/s

95th percentile per-packet one-way delay: 136.481 ms

Loss rate: 0.00%

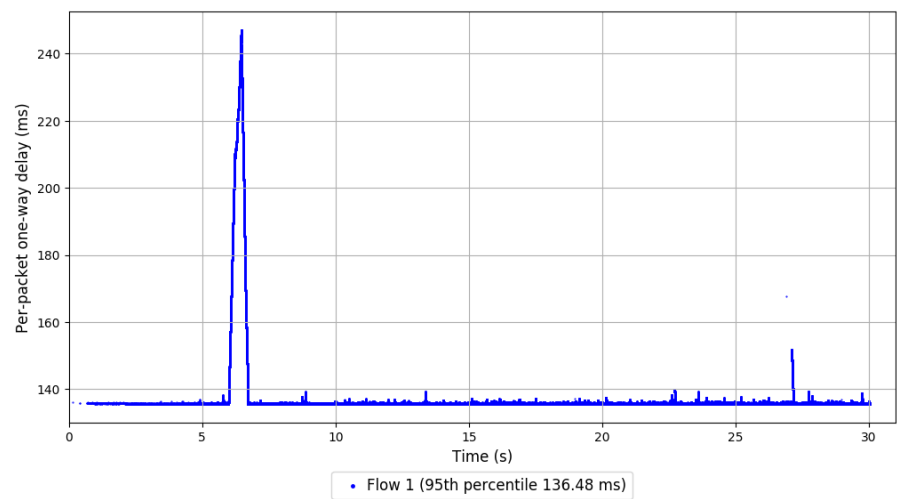
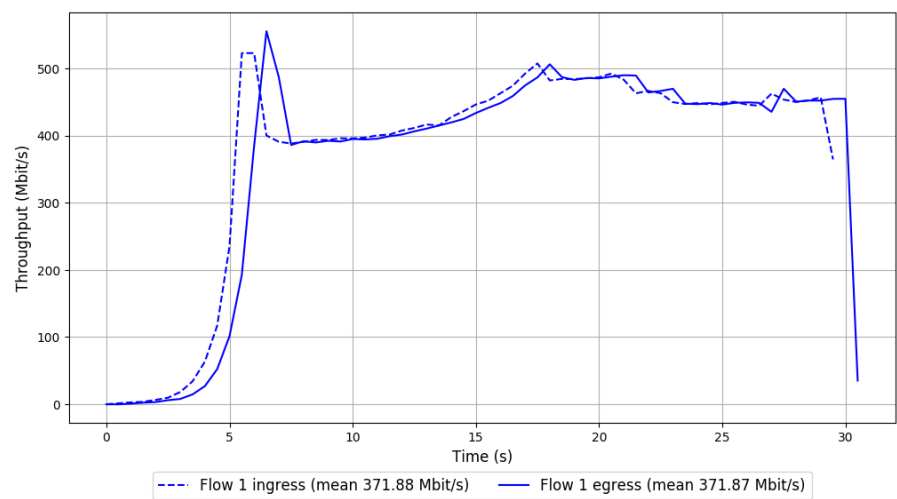
-- Flow 1:

Average throughput: 371.87 Mbit/s

95th percentile per-packet one-way delay: 136.481 ms

Loss rate: 0.00%

Run 3: Report of PCC-Vivace — Data Link

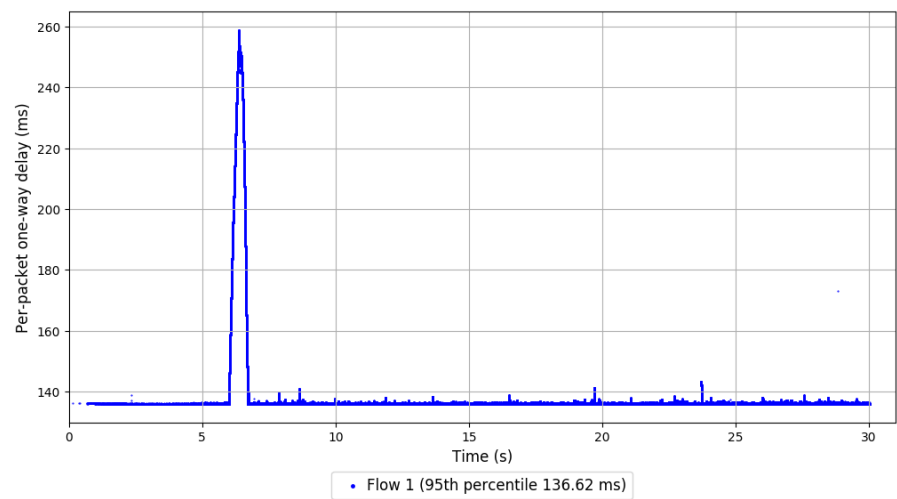
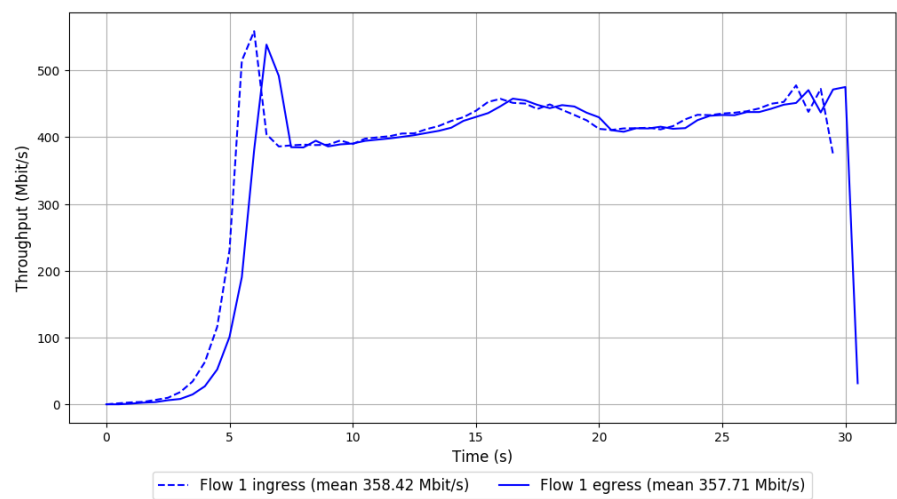


Run 4: Statistics of PCC-Vivace

Start at: 2018-09-25 16:15:18
End at: 2018-09-25 16:15:48
Local clock offset: -0.482 ms
Remote clock offset: -0.025 ms

Below is generated by plot.py at 2018-09-25 18:39:25
Datalink statistics
-- Total of 1 flow:
Average throughput: 357.71 Mbit/s
95th percentile per-packet one-way delay: 136.617 ms
Loss rate: 0.20%
-- Flow 1:
Average throughput: 357.71 Mbit/s
95th percentile per-packet one-way delay: 136.617 ms
Loss rate: 0.20%

Run 4: Report of PCC-Vivace — Data Link



Run 5: Statistics of PCC-Vivace

Start at: 2018-09-25 16:43:59

End at: 2018-09-25 16:44:29

Local clock offset: -0.385 ms

Remote clock offset: 0.016 ms

Below is generated by plot.py at 2018-09-25 18:39:27

Datalink statistics

-- Total of 1 flow:

Average throughput: 364.03 Mbit/s

95th percentile per-packet one-way delay: 144.658 ms

Loss rate: 0.00%

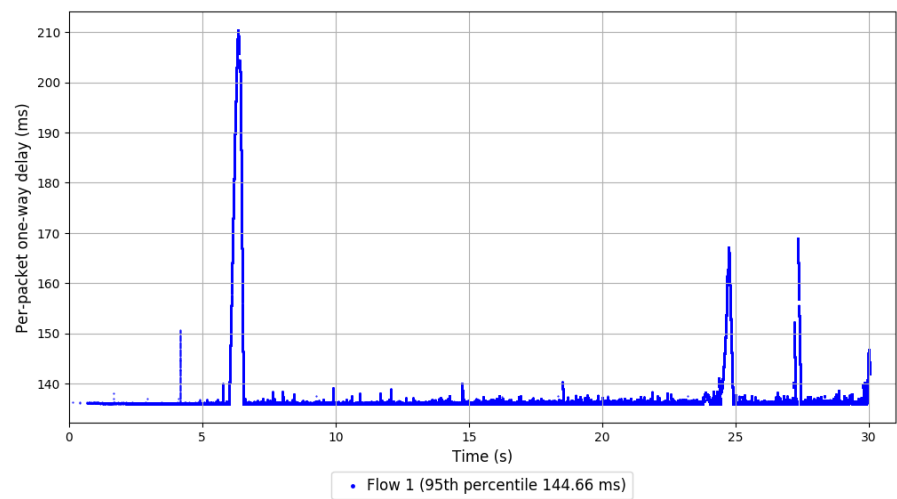
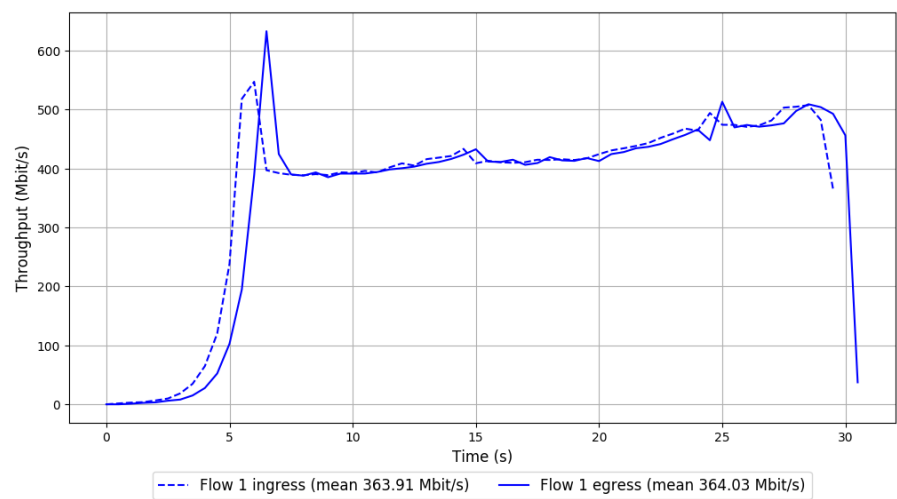
-- Flow 1:

Average throughput: 364.03 Mbit/s

95th percentile per-packet one-way delay: 144.658 ms

Loss rate: 0.00%

Run 5: Report of PCC-Vivace — Data Link

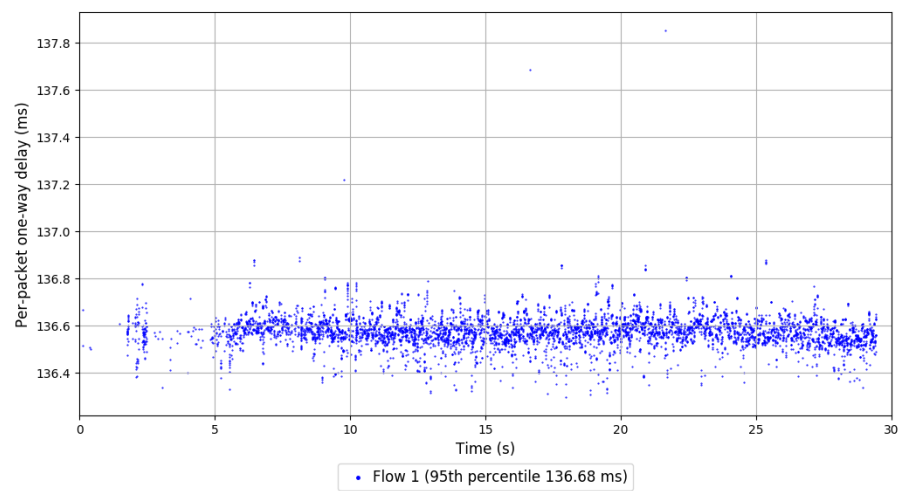
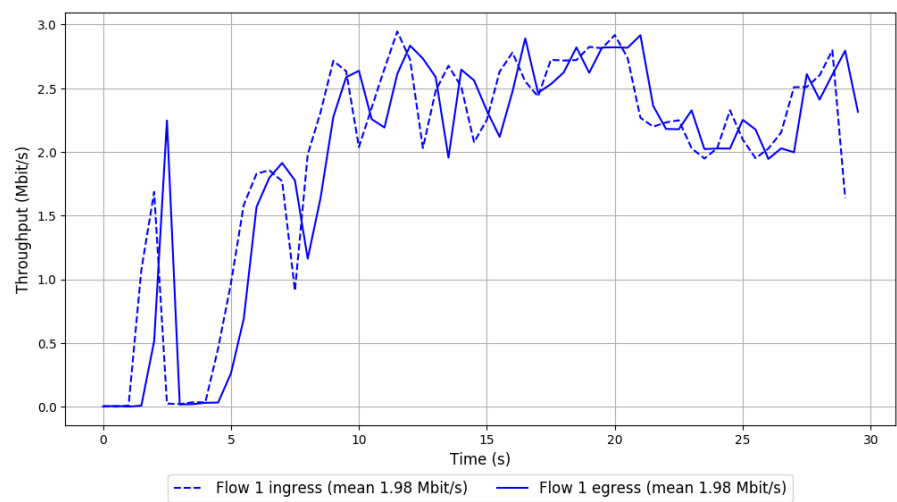


Run 1: Statistics of WebRTC media

Start at: 2018-09-25 14:44:53
End at: 2018-09-25 14:45:23
Local clock offset: -0.411 ms
Remote clock offset: -0.084 ms

Below is generated by plot.py at 2018-09-25 18:39:27
Datalink statistics
-- Total of 1 flow:
Average throughput: 1.98 Mbit/s
95th percentile per-packet one-way delay: 136.675 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 1.98 Mbit/s
95th percentile per-packet one-way delay: 136.675 ms
Loss rate: 0.00%

Run 1: Report of WebRTC media — Data Link

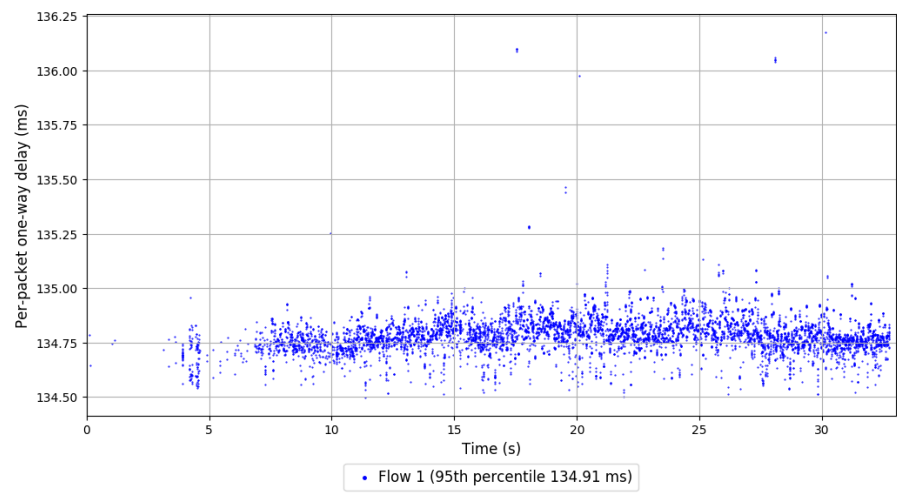
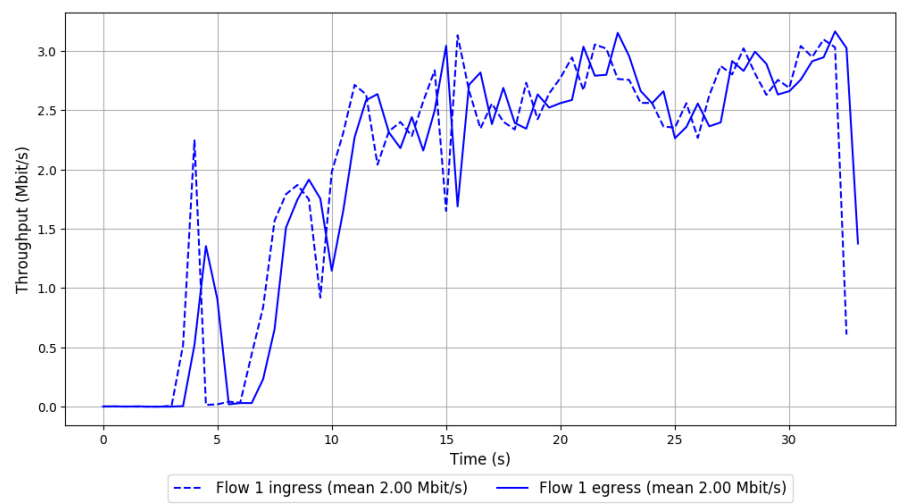


Run 2: Statistics of WebRTC media

Start at: 2018-09-25 15:13:18
End at: 2018-09-25 15:13:48
Local clock offset: -0.365 ms
Remote clock offset: -0.024 ms

Below is generated by plot.py at 2018-09-25 18:39:27
Datalink statistics
-- Total of 1 flow:
Average throughput: 2.00 Mbit/s
95th percentile per-packet one-way delay: 134.910 ms
Loss rate: 0.02%
-- Flow 1:
Average throughput: 2.00 Mbit/s
95th percentile per-packet one-way delay: 134.910 ms
Loss rate: 0.02%

Run 2: Report of WebRTC media — Data Link

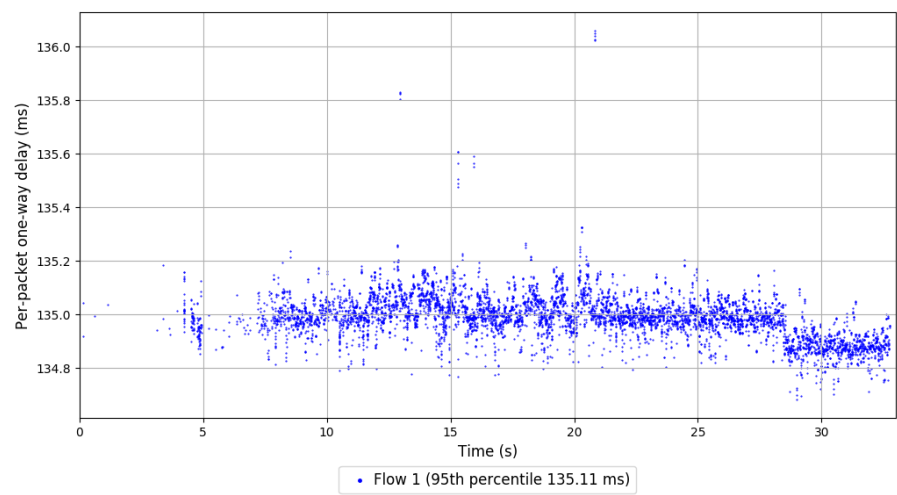
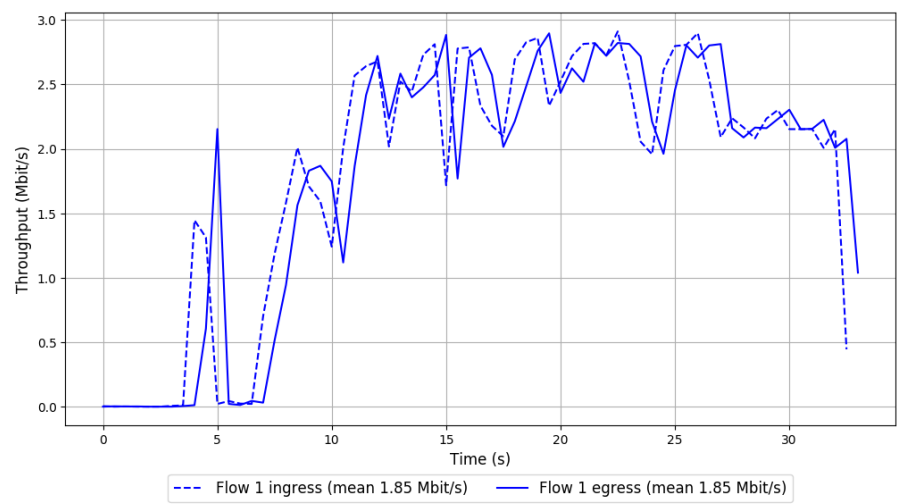


Run 3: Statistics of WebRTC media

Start at: 2018-09-25 15:42:19
End at: 2018-09-25 15:42:49
Local clock offset: -0.326 ms
Remote clock offset: -0.009 ms

Below is generated by plot.py at 2018-09-25 18:39:27
Datalink statistics
-- Total of 1 flow:
Average throughput: 1.85 Mbit/s
95th percentile per-packet one-way delay: 135.114 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 1.85 Mbit/s
95th percentile per-packet one-way delay: 135.114 ms
Loss rate: 0.00%

Run 3: Report of WebRTC media — Data Link



Run 4: Statistics of WebRTC media

Start at: 2018-09-25 16:10:43

End at: 2018-09-25 16:11:13

Local clock offset: -0.333 ms

Remote clock offset: 0.325 ms

Below is generated by plot.py at 2018-09-25 18:39:27

Datalink statistics

-- Total of 1 flow:

Average throughput: 1.86 Mbit/s

95th percentile per-packet one-way delay: 135.840 ms

Loss rate: 0.00%

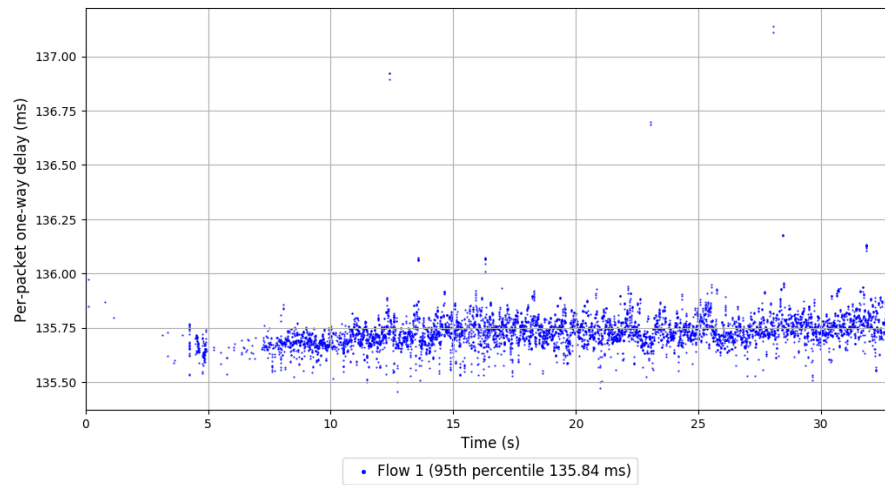
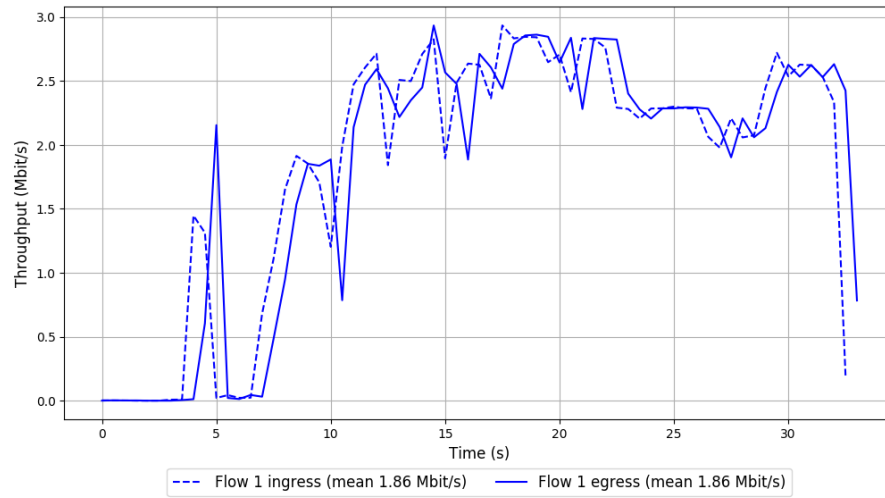
-- Flow 1:

Average throughput: 1.86 Mbit/s

95th percentile per-packet one-way delay: 135.840 ms

Loss rate: 0.00%

Run 4: Report of WebRTC media — Data Link



Run 5: Statistics of WebRTC media

Start at: 2018-09-25 16:39:21
End at: 2018-09-25 16:39:51
Local clock offset: -0.1 ms
Remote clock offset: -0.011 ms

Below is generated by plot.py at 2018-09-25 18:39:27
Datalink statistics
-- Total of 1 flow:
Average throughput: 1.94 Mbit/s
95th percentile per-packet one-way delay: 136.602 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 1.94 Mbit/s
95th percentile per-packet one-way delay: 136.602 ms
Loss rate: 0.00%

Run 5: Report of WebRTC media — Data Link

