

Pantheon Report

Generated at 2018-12-02 11:42:18 (UTC).

Data path: China on **eno1** (*remote*) → AWS Korea on **ens5** (*local*).

Repeated the test of 19 congestion control schemes 5 times.

Each test lasted for 30 seconds running 1 flow.

NTP offsets were measured against **ntp.nict.jp** and have been applied to correct the timestamps in logs.

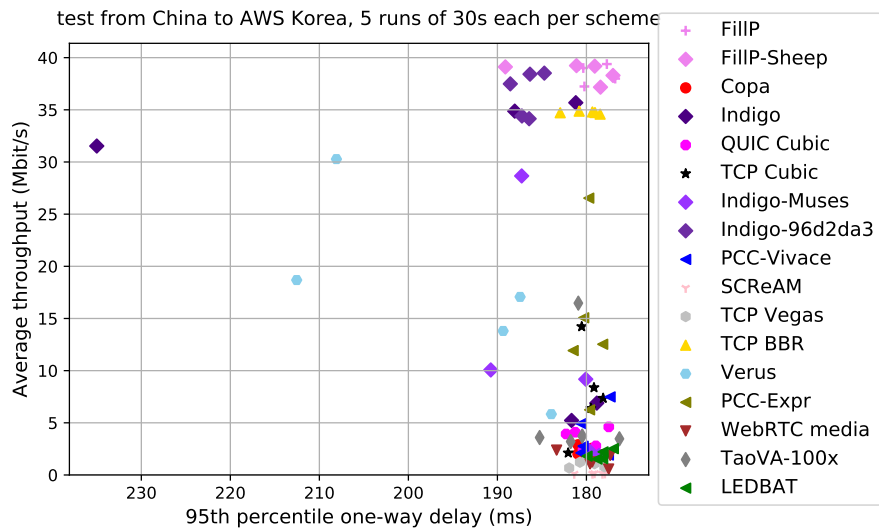
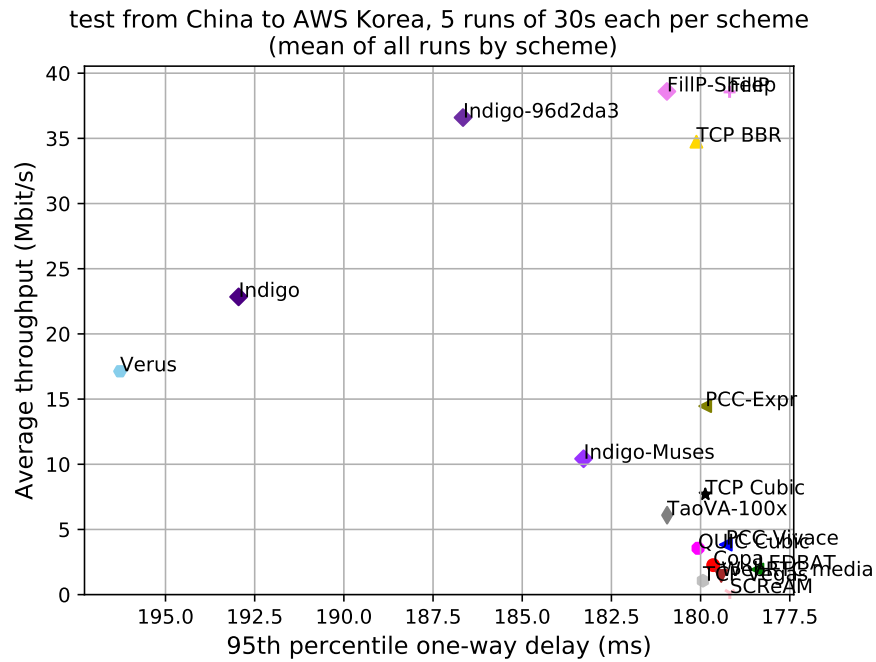
System info:

Linux 4.15.0-1027-aws
net.core.default_qdisc = fq
net.core.rmem_default = 16777216
net.core.rmem_max = 536870912
net.core.wmem_default = 16777216
net.core.wmem_max = 536870912
net.ipv4.tcp_rmem = 4096 16777216 536870912
net.ipv4.tcp_wmem = 4096 16777216 536870912

Git summary:

branch: muses @ 7b6dad87cde3ab65f7c4052140eb54098aa58e9d
third_party/fillp @ d6da1459332fcee56963885d7eba17e6a32d4519
third_party/fillp-sheep @ 0e5bb722943babcd2b090d2c64fcd45e12e923f9
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 @ f866d3f58d27afd942717625ee3a354cc2e802bd
third_party/pcc @ 1afc958fa0d66d18b623c091a55fec872b4981e1
M receiver/src/buffer.h
M receiver/src/core.cpp
M sender/src/buffer.h
M sender/src/core.cpp
third_party/pcc-experimental @ cd43e34e3f5f5613e8acd08fab92c4eb24f974ab
third_party/proto-quick @ 77961f1a82733a86b42f1bc8143ebc978f3cff42
third_party/scream-reproduce @ f099118d1421aa3131bf11ff1964974e1da3bdb2
M src/ScreamClient
M src/ScreamServer
third_party/sprout @ 366e35c6178b01e31d4a46ad18c74f9415f19a26
M src/examples/cellsim.cc
M src/examples/sproutbt2.cc
M src/network/sproutconn.cc
third_party/verus @ d4b447ea74c6c60a261149af2629562939f9a494
M src/verus.hpp
M tools/plot.py

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



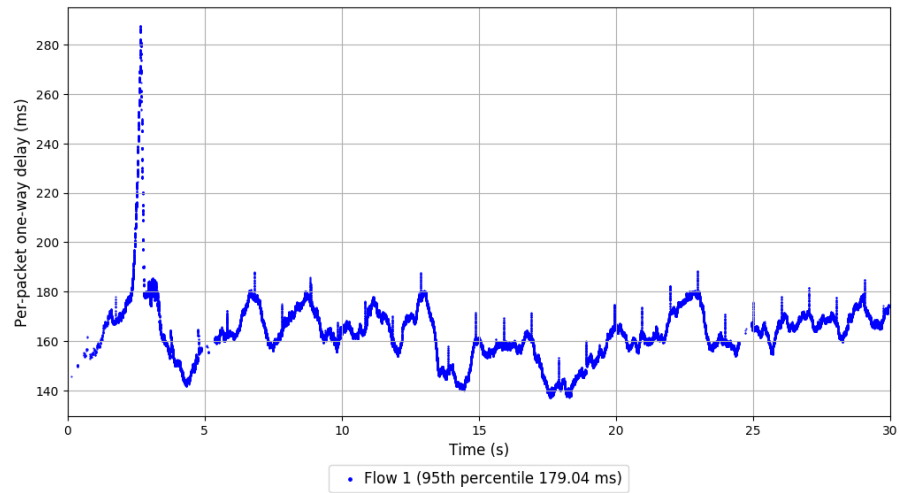
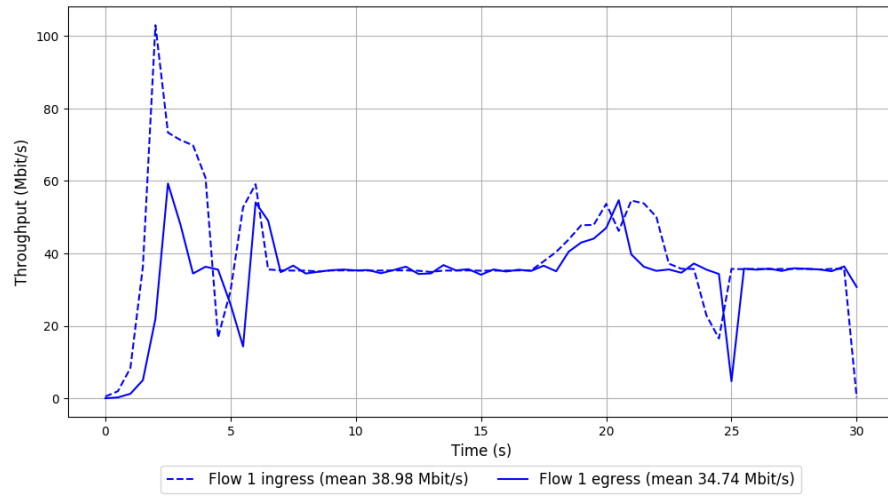
scheme	# runs	mean avg tput (Mbit/s) flow 1	mean 95th-%ile delay (ms) flow 1	mean loss rate (%) flow 1
TCP BBR	5	34.74	180.12	13.81
Copa	5	2.27	179.65	0.86
TCP Cubic	5	7.69	179.87	2.16
FillP	5	38.56	179.19	19.35
FillP-Sheep	5	38.60	180.94	13.33
Indigo	5	22.84	192.95	24.79
Indigo-96d2da3	5	36.60	186.66	53.32
LEDBAT	5	1.93	178.41	1.40
Indigo-Muses	5	10.42	183.28	1.24
PCC-Allegro	0	N/A	N/A	N/A
PCC-Expr	5	14.46	179.87	3.23
QUIC Cubic	5	3.56	180.07	1.36
SCReAM	5	0.13	179.18	1.09
Sprout	0	N/A	N/A	N/A
TaoVA-100x	5	6.09	180.94	0.94
TCP Vegas	5	1.07	179.93	0.98
Verus	5	17.13	196.27	58.61
PCC-Vivace	5	3.84	179.29	1.31
WebRTC media	5	1.43	179.42	0.86

Run 1: Statistics of TCP BBR

Start at: 2018-12-02 09:42:23
End at: 2018-12-02 09:42:53
Local clock offset: -14.501 ms
Remote clock offset: 26.908 ms

Below is generated by plot.py at 2018-12-02 11:39:47
Datalink statistics
-- Total of 1 flow:
Average throughput: 34.74 Mbit/s
95th percentile per-packet one-way delay: 179.041 ms
Loss rate: 11.50%
-- Flow 1:
Average throughput: 34.74 Mbit/s
95th percentile per-packet one-way delay: 179.041 ms
Loss rate: 11.50%

Run 1: Report of TCP BBR — Data Link

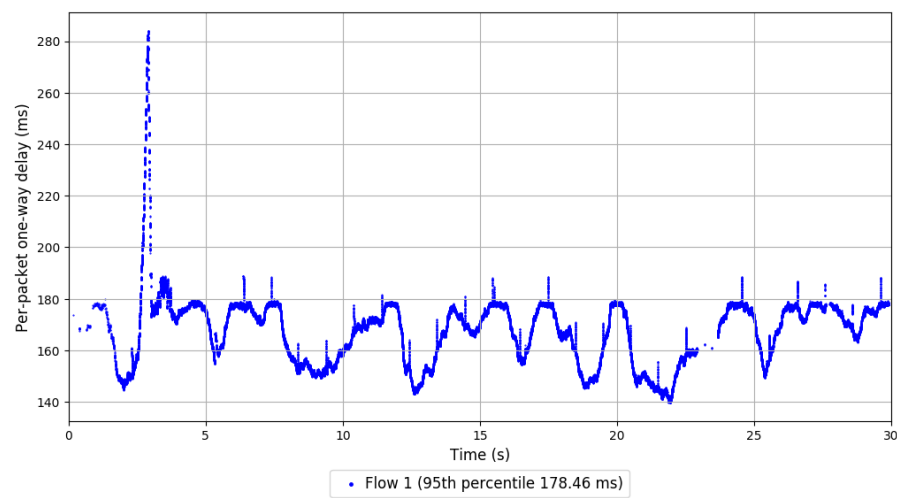
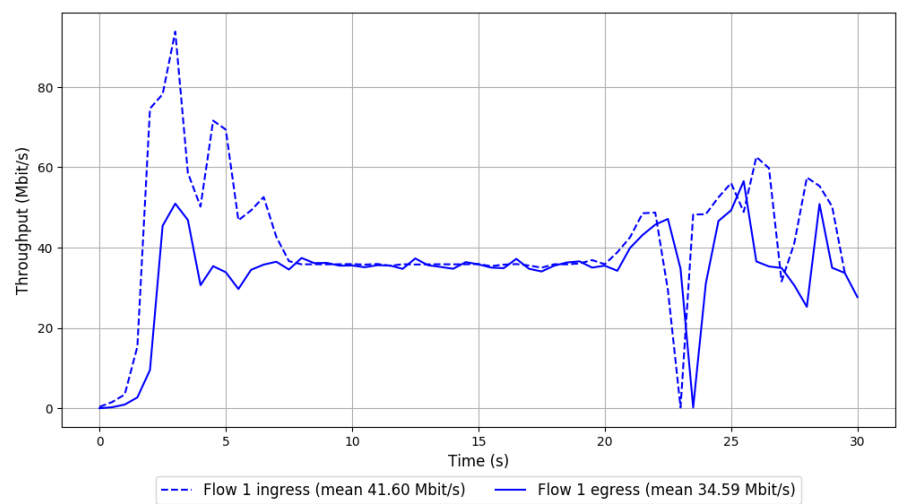


Run 2: Statistics of TCP BBR

Start at: 2018-12-02 10:06:23
End at: 2018-12-02 10:06:53
Local clock offset: -14.795 ms
Remote clock offset: 26.606 ms

Below is generated by plot.py at 2018-12-02 11:39:49
Datalink statistics
-- Total of 1 flow:
Average throughput: 34.59 Mbit/s
95th percentile per-packet one-way delay: 178.462 ms
Loss rate: 17.52%
-- Flow 1:
Average throughput: 34.59 Mbit/s
95th percentile per-packet one-way delay: 178.462 ms
Loss rate: 17.52%

Run 2: Report of TCP BBR — Data Link

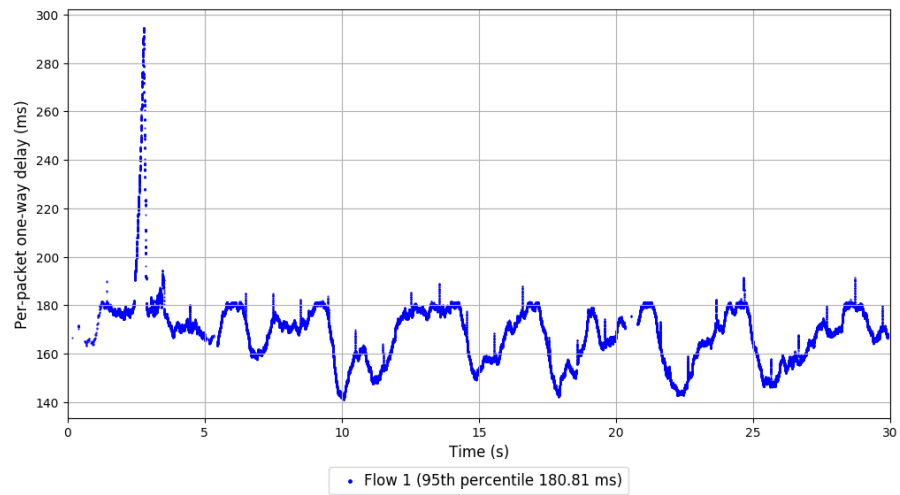
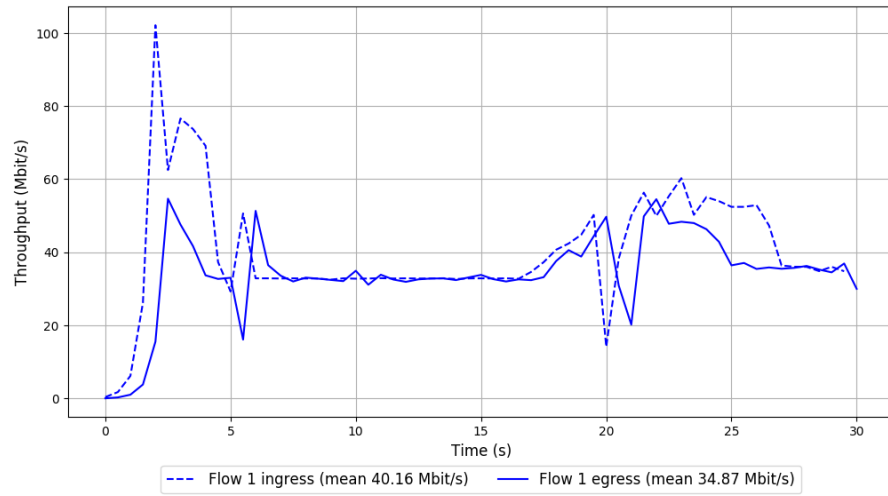


Run 3: Statistics of TCP BBR

Start at: 2018-12-02 10:33:28
End at: 2018-12-02 10:33:58
Local clock offset: -10.893 ms
Remote clock offset: 24.164 ms

Below is generated by plot.py at 2018-12-02 11:39:49
Datalink statistics
-- Total of 1 flow:
Average throughput: 34.87 Mbit/s
95th percentile per-packet one-way delay: 180.813 ms
Loss rate: 13.84%
-- Flow 1:
Average throughput: 34.87 Mbit/s
95th percentile per-packet one-way delay: 180.813 ms
Loss rate: 13.84%

Run 3: Report of TCP BBR — Data Link

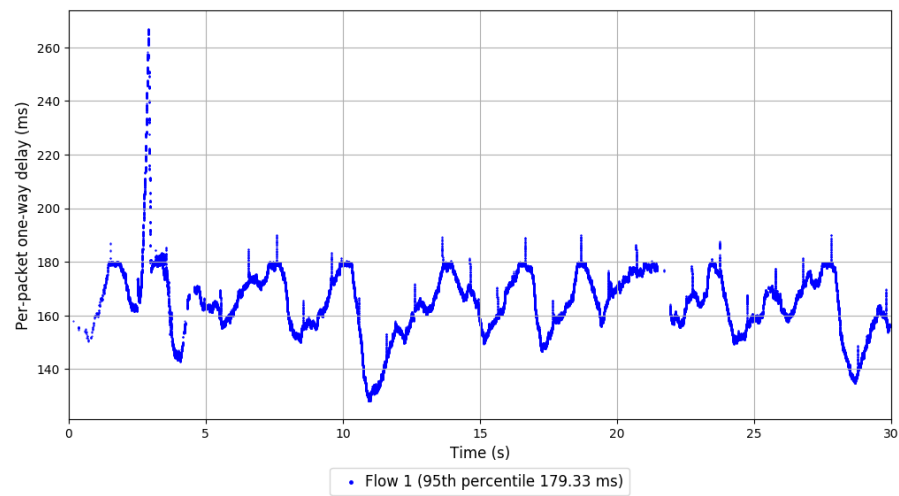
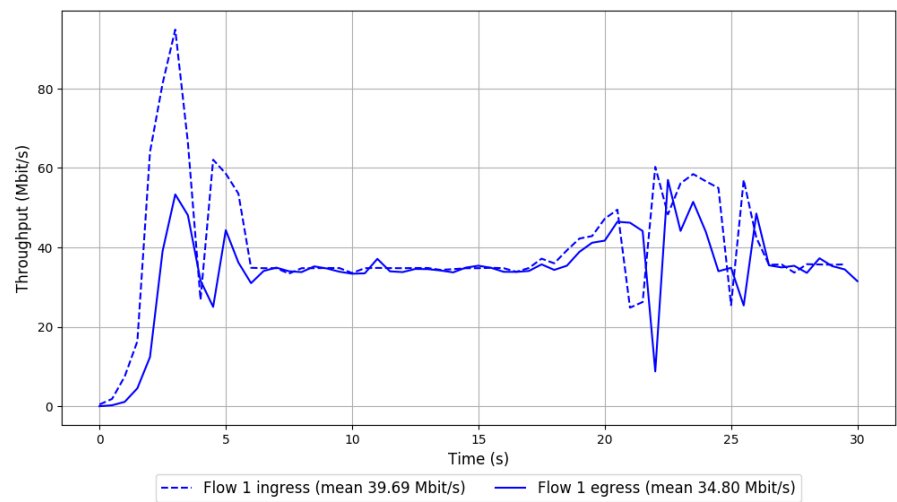


Run 4: Statistics of TCP BBR

Start at: 2018-12-02 10:57:57
End at: 2018-12-02 10:58:27
Local clock offset: -2.102 ms
Remote clock offset: 11.517 ms

Below is generated by plot.py at 2018-12-02 11:39:49
Datalink statistics
-- Total of 1 flow:
Average throughput: 34.80 Mbit/s
95th percentile per-packet one-way delay: 179.326 ms
Loss rate: 12.99%
-- Flow 1:
Average throughput: 34.80 Mbit/s
95th percentile per-packet one-way delay: 179.326 ms
Loss rate: 12.99%

Run 4: Report of TCP BBR — Data Link

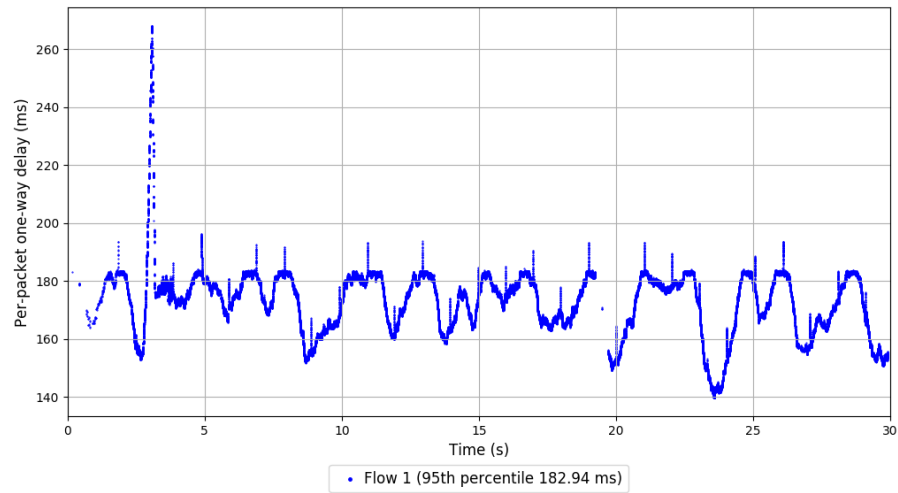
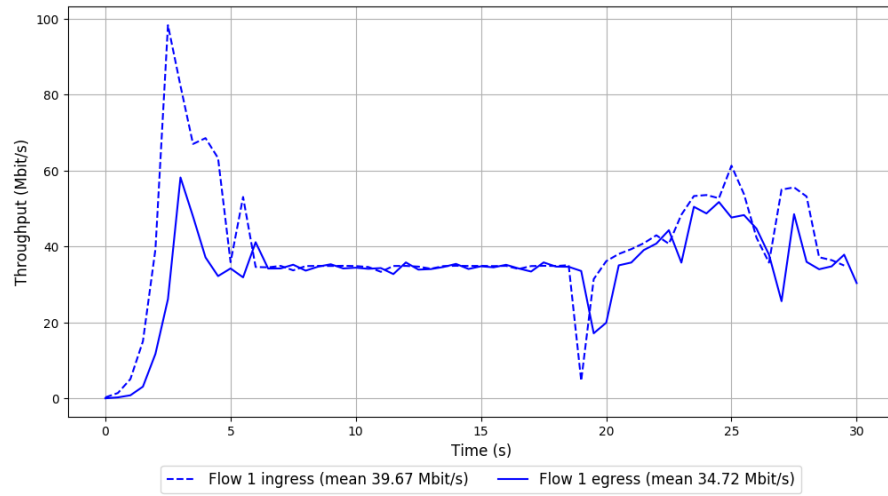


Run 5: Statistics of TCP BBR

Start at: 2018-12-02 11:23:19
End at: 2018-12-02 11:23:49
Local clock offset: 2.514 ms
Remote clock offset: 10.105 ms

Below is generated by plot.py at 2018-12-02 11:39:49
Datalink statistics
-- Total of 1 flow:
Average throughput: 34.72 Mbit/s
95th percentile per-packet one-way delay: 182.945 ms
Loss rate: 13.21%
-- Flow 1:
Average throughput: 34.72 Mbit/s
95th percentile per-packet one-way delay: 182.945 ms
Loss rate: 13.21%

Run 5: Report of TCP BBR — Data Link

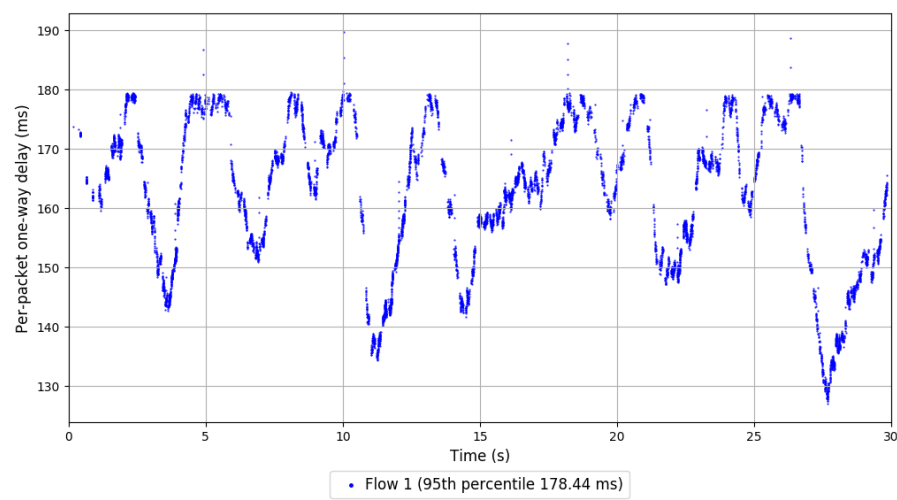
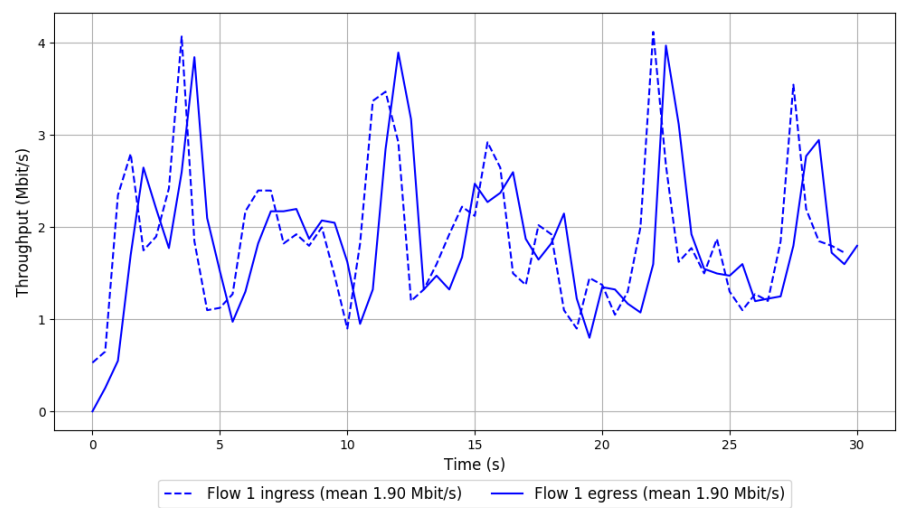


Run 1: Statistics of Copa

Start at: 2018-12-02 09:52:59
End at: 2018-12-02 09:53:29
Local clock offset: -14.721 ms
Remote clock offset: 25.415 ms

Below is generated by plot.py at 2018-12-02 11:39:49
Datalink statistics
-- Total of 1 flow:
Average throughput: 1.90 Mbit/s
95th percentile per-packet one-way delay: 178.445 ms
Loss rate: 0.88%
-- Flow 1:
Average throughput: 1.90 Mbit/s
95th percentile per-packet one-way delay: 178.445 ms
Loss rate: 0.88%

Run 1: Report of Copa — Data Link

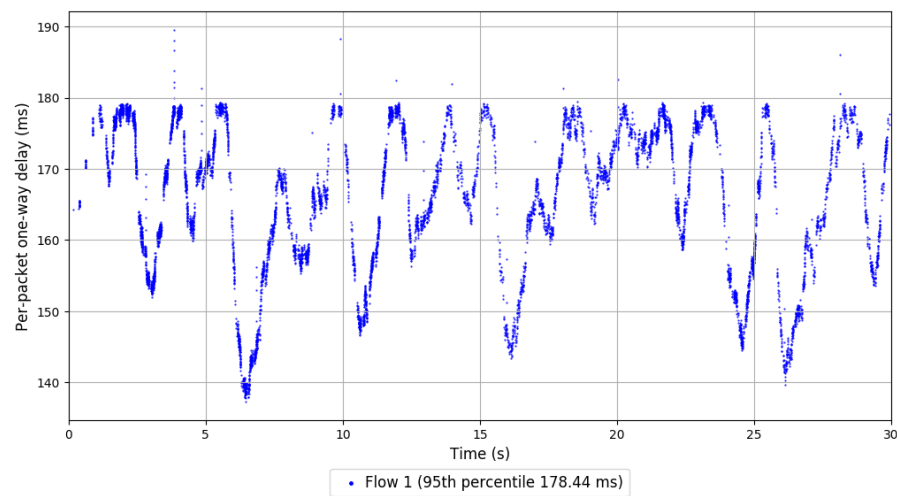
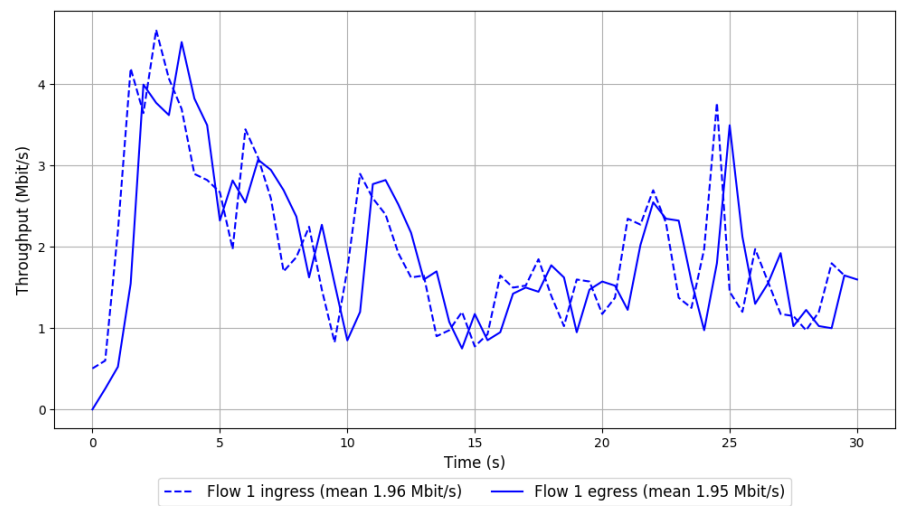


Run 2: Statistics of Copa

Start at: 2018-12-02 10:19:21
End at: 2018-12-02 10:19:51
Local clock offset: -14.734 ms
Remote clock offset: 26.312 ms

Below is generated by plot.py at 2018-12-02 11:39:49
Datalink statistics
-- Total of 1 flow:
Average throughput: 1.95 Mbit/s
95th percentile per-packet one-way delay: 178.444 ms
Loss rate: 1.14%
-- Flow 1:
Average throughput: 1.95 Mbit/s
95th percentile per-packet one-way delay: 178.444 ms
Loss rate: 1.14%

Run 2: Report of Copa — Data Link

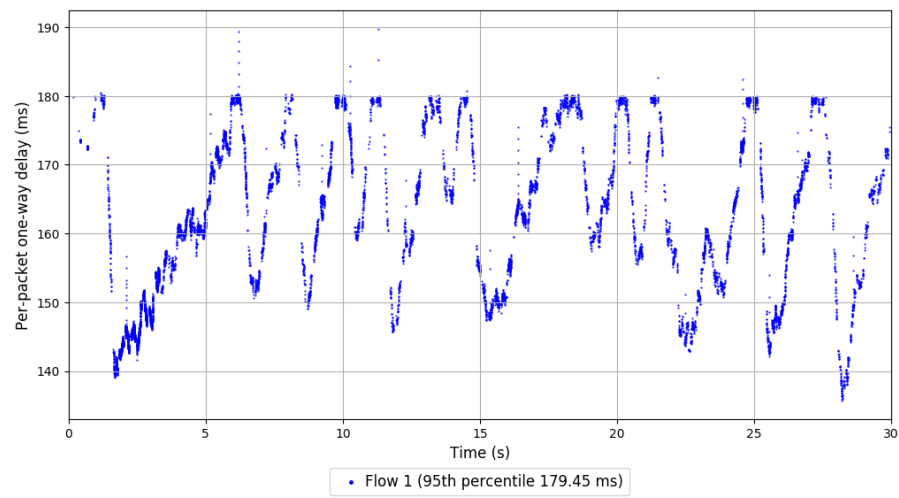
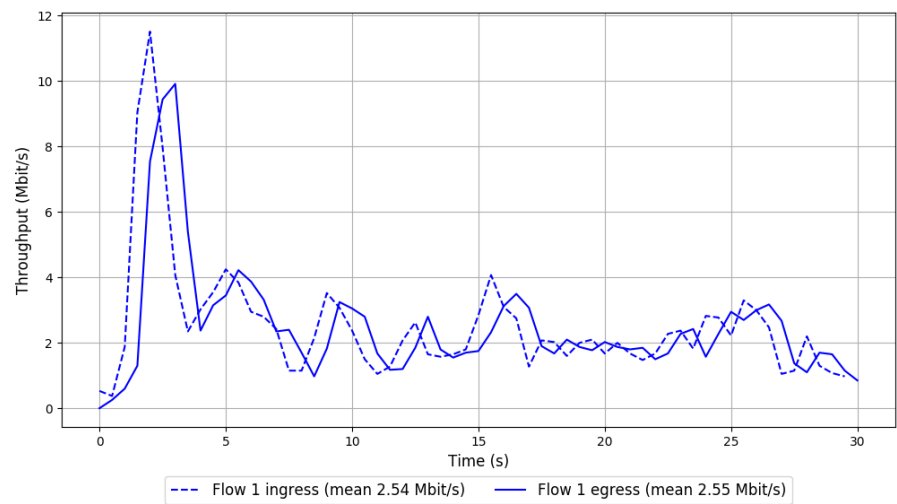


Run 3: Statistics of Copa

Start at: 2018-12-02 10:43:58
End at: 2018-12-02 10:44:28
Local clock offset: -10.334 ms
Remote clock offset: 17.578 ms

Below is generated by plot.py at 2018-12-02 11:39:49
Datalink statistics
-- Total of 1 flow:
Average throughput: 2.55 Mbit/s
95th percentile per-packet one-way delay: 179.448 ms
Loss rate: 0.48%
-- Flow 1:
Average throughput: 2.55 Mbit/s
95th percentile per-packet one-way delay: 179.448 ms
Loss rate: 0.48%

Run 3: Report of Copa — Data Link



Run 4: Statistics of Copa

Start at: 2018-12-02 11:09:09

End at: 2018-12-02 11:09:39

Local clock offset: 1.709 ms

Remote clock offset: 6.681 ms

Below is generated by plot.py at 2018-12-02 11:39:49

Datalink statistics

-- Total of 1 flow:

Average throughput: 2.03 Mbit/s

95th percentile per-packet one-way delay: 180.953 ms

Loss rate: 0.90%

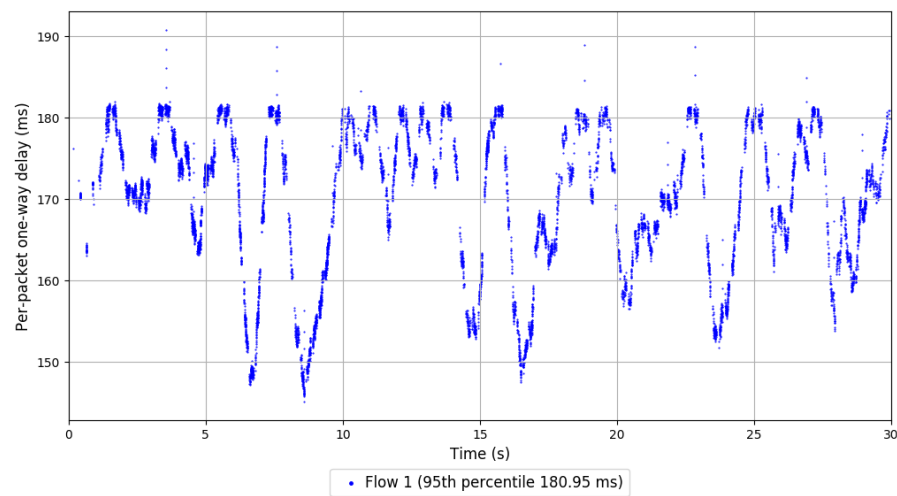
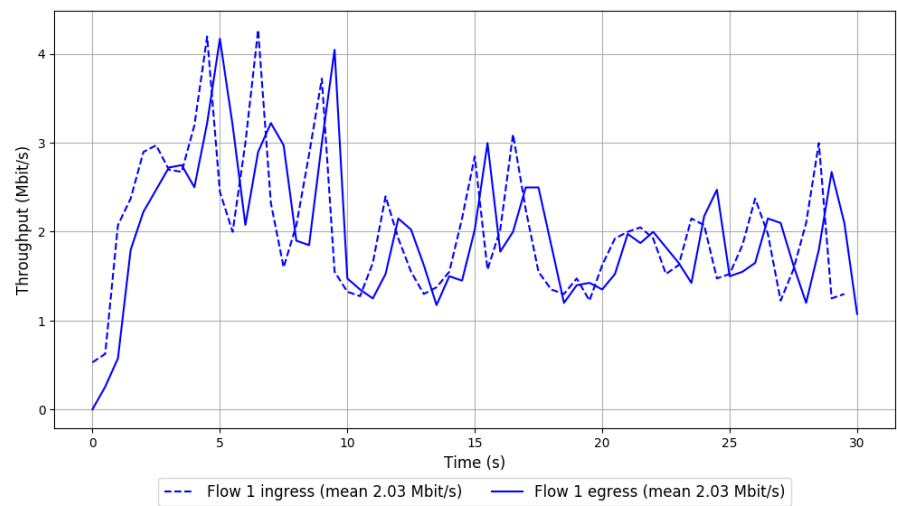
-- Flow 1:

Average throughput: 2.03 Mbit/s

95th percentile per-packet one-way delay: 180.953 ms

Loss rate: 0.90%

Run 4: Report of Copa — Data Link

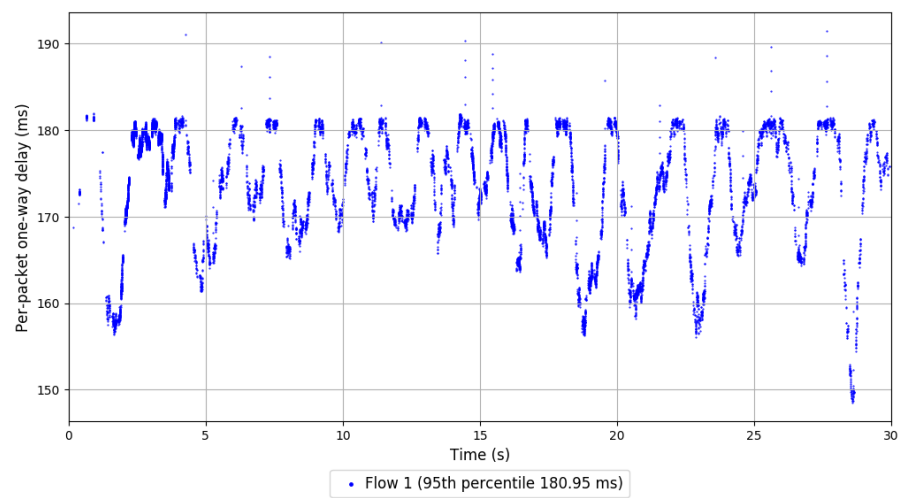
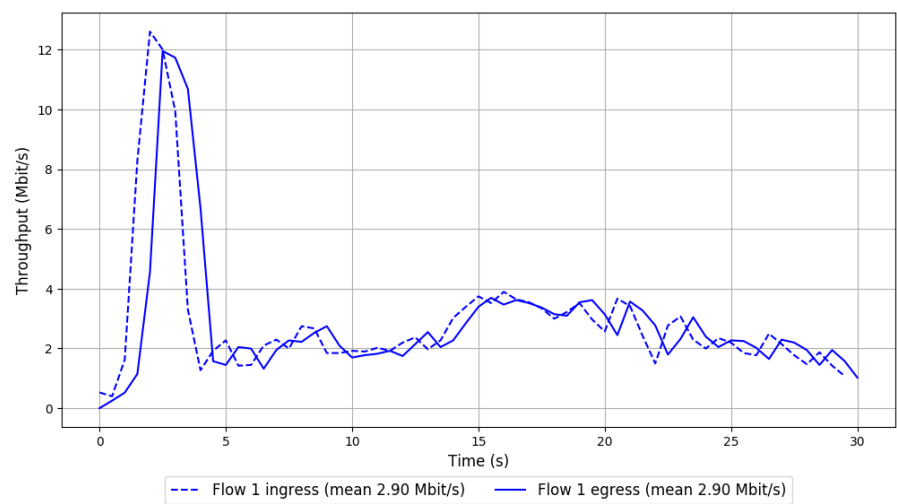


Run 5: Statistics of Copa

Start at: 2018-12-02 11:34:12
End at: 2018-12-02 11:34:42
Local clock offset: 2.574 ms
Remote clock offset: 12.058 ms

Below is generated by plot.py at 2018-12-02 11:39:49
Datalink statistics
-- Total of 1 flow:
Average throughput: 2.90 Mbit/s
95th percentile per-packet one-way delay: 180.947 ms
Loss rate: 0.90%
-- Flow 1:
Average throughput: 2.90 Mbit/s
95th percentile per-packet one-way delay: 180.947 ms
Loss rate: 0.90%

Run 5: Report of Copa — Data Link

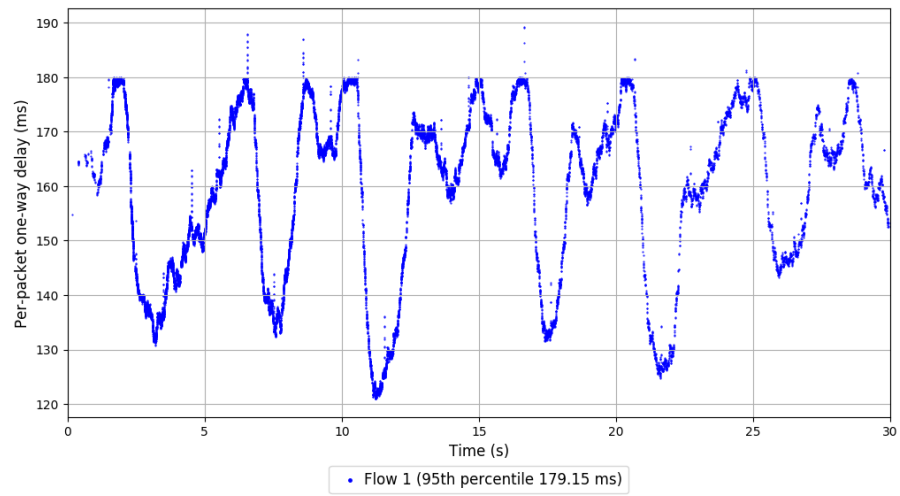
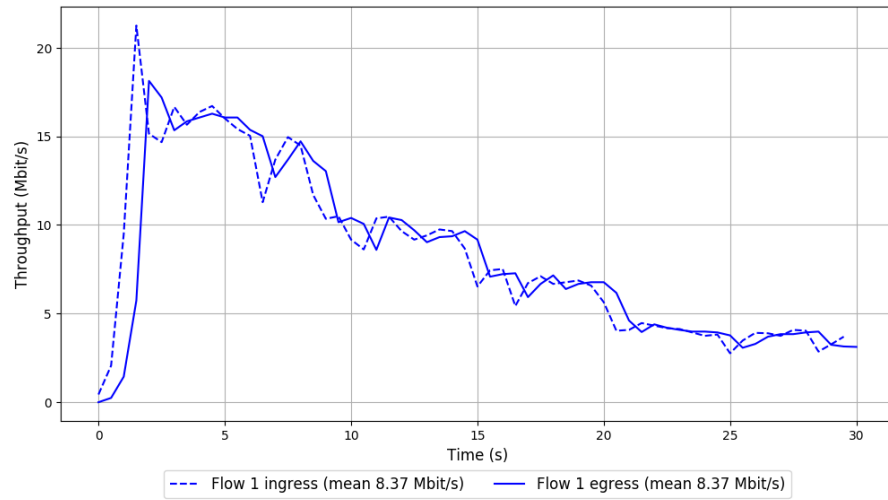


Run 1: Statistics of TCP Cubic

Start at: 2018-12-02 09:48:45
End at: 2018-12-02 09:49:15
Local clock offset: -15.59 ms
Remote clock offset: 25.474 ms

Below is generated by plot.py at 2018-12-02 11:39:49
Datalink statistics
-- Total of 1 flow:
Average throughput: 8.37 Mbit/s
95th percentile per-packet one-way delay: 179.151 ms
Loss rate: 0.72%
-- Flow 1:
Average throughput: 8.37 Mbit/s
95th percentile per-packet one-way delay: 179.151 ms
Loss rate: 0.72%

Run 1: Report of TCP Cubic — Data Link

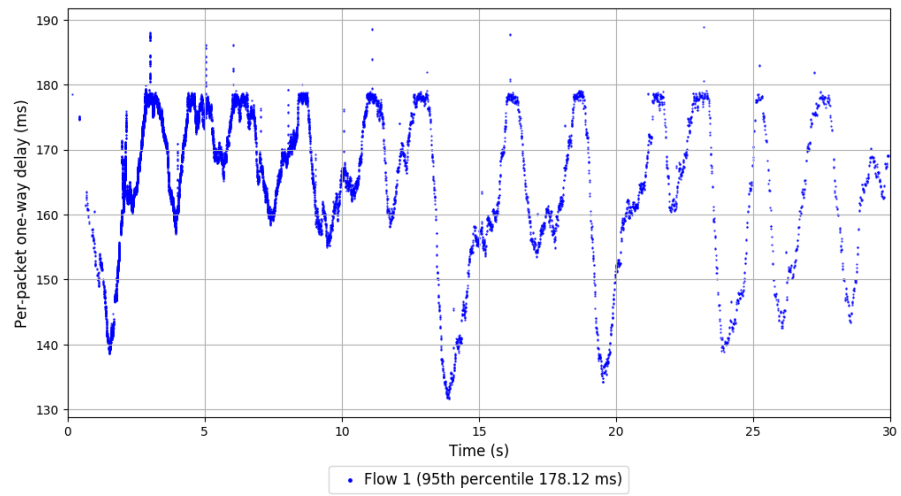
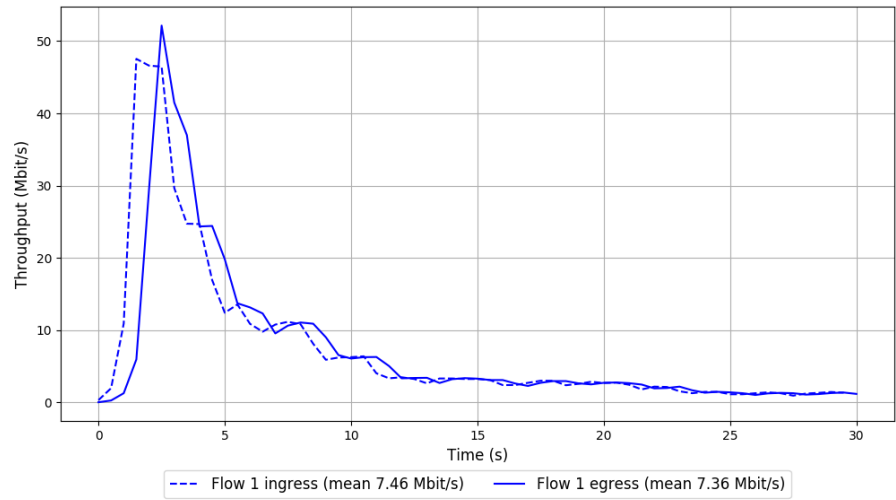


Run 2: Statistics of TCP Cubic

Start at: 2018-12-02 10:14:44
End at: 2018-12-02 10:15:14
Local clock offset: -15.137 ms
Remote clock offset: 27.481 ms

Below is generated by plot.py at 2018-12-02 11:39:49
Datalink statistics
-- Total of 1 flow:
Average throughput: 7.36 Mbit/s
95th percentile per-packet one-way delay: 178.116 ms
Loss rate: 2.13%
-- Flow 1:
Average throughput: 7.36 Mbit/s
95th percentile per-packet one-way delay: 178.116 ms
Loss rate: 2.13%

Run 2: Report of TCP Cubic — Data Link

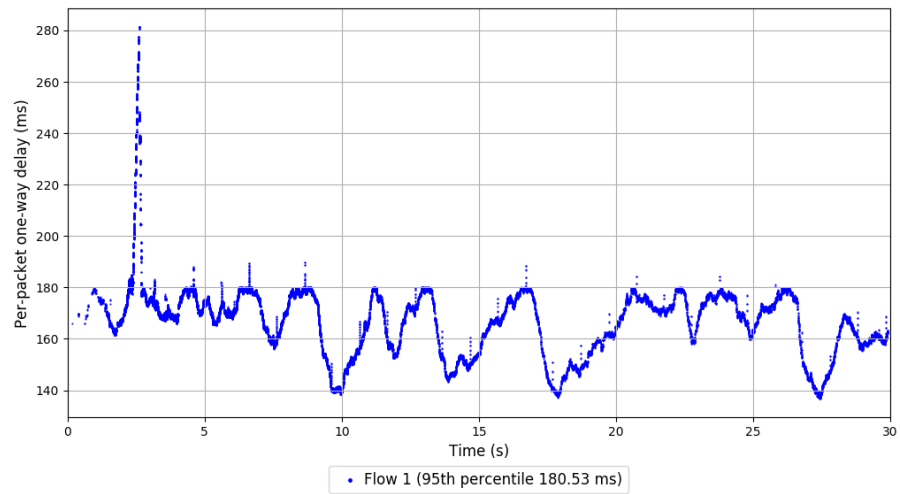
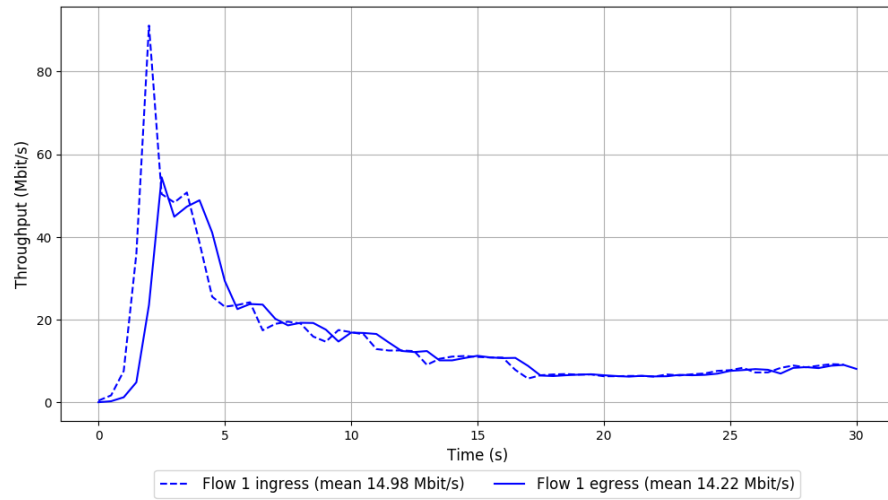


Run 3: Statistics of TCP Cubic

Start at: 2018-12-02 10:40:13
End at: 2018-12-02 10:40:43
Local clock offset: -10.461 ms
Remote clock offset: 20.936 ms

Below is generated by plot.py at 2018-12-02 11:39:49
Datalink statistics
-- Total of 1 flow:
Average throughput: 14.22 Mbit/s
95th percentile per-packet one-way delay: 180.529 ms
Loss rate: 5.78%
-- Flow 1:
Average throughput: 14.22 Mbit/s
95th percentile per-packet one-way delay: 180.529 ms
Loss rate: 5.78%

Run 3: Report of TCP Cubic — Data Link



Run 4: Statistics of TCP Cubic

Start at: 2018-12-02 11:04:54

End at: 2018-12-02 11:05:24

Local clock offset: 0.555 ms

Remote clock offset: 9.629 ms

Below is generated by plot.py at 2018-12-02 11:39:49

Datalink statistics

-- Total of 1 flow:

Average throughput: 6.38 Mbit/s

95th percentile per-packet one-way delay: 179.499 ms

Loss rate: 0.91%

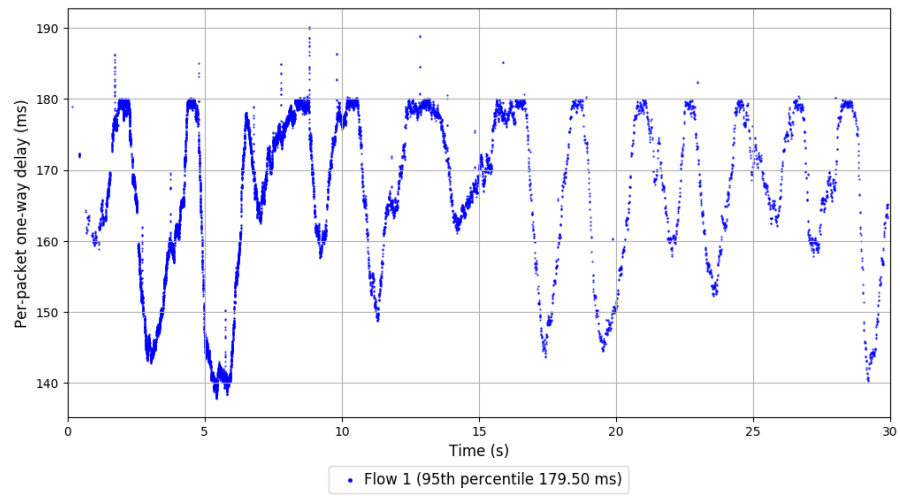
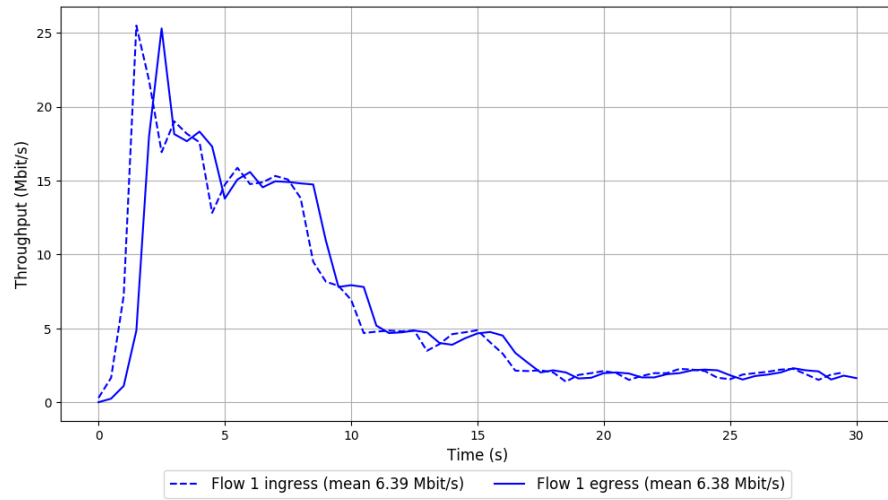
-- Flow 1:

Average throughput: 6.38 Mbit/s

95th percentile per-packet one-way delay: 179.499 ms

Loss rate: 0.91%

Run 4: Report of TCP Cubic — Data Link



Run 5: Statistics of TCP Cubic

Start at: 2018-12-02 11:30:13

End at: 2018-12-02 11:30:43

Local clock offset: 2.5 ms

Remote clock offset: 11.78 ms

Below is generated by plot.py at 2018-12-02 11:39:49

Datalink statistics

-- Total of 1 flow:

Average throughput: 2.12 Mbit/s

95th percentile per-packet one-way delay: 182.045 ms

Loss rate: 1.26%

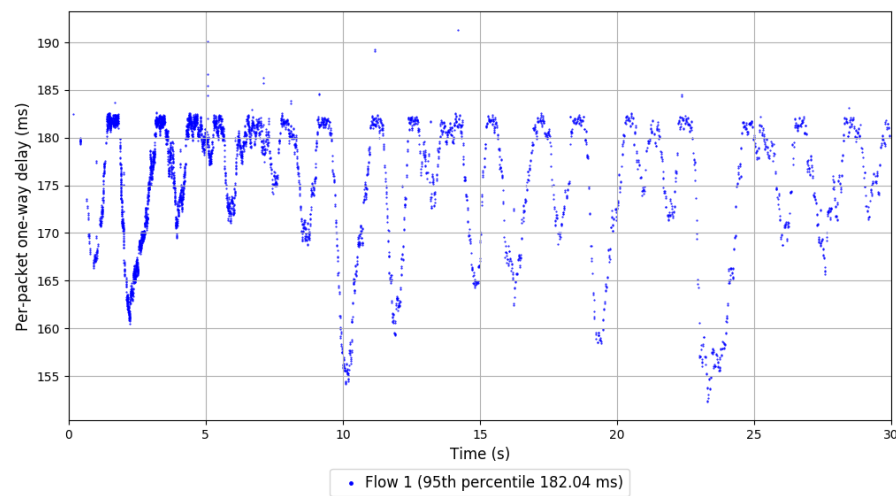
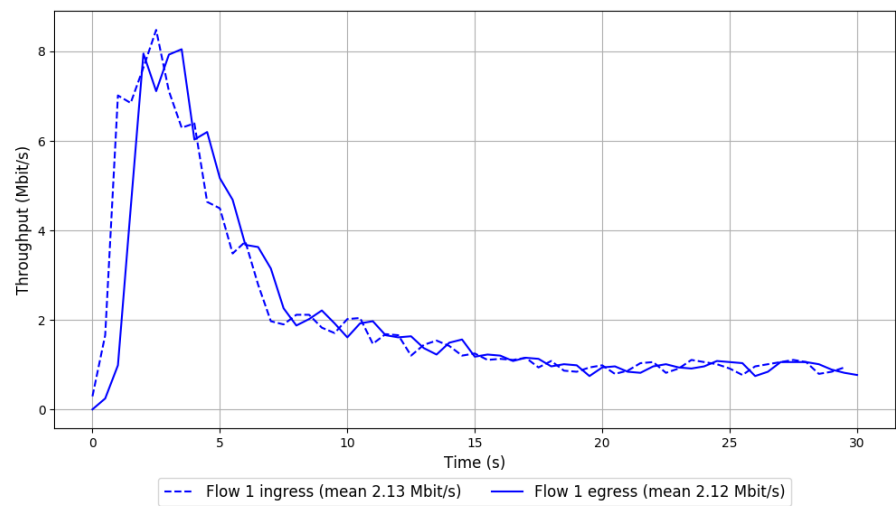
-- Flow 1:

Average throughput: 2.12 Mbit/s

95th percentile per-packet one-way delay: 182.045 ms

Loss rate: 1.26%

Run 5: Report of TCP Cubic — Data Link

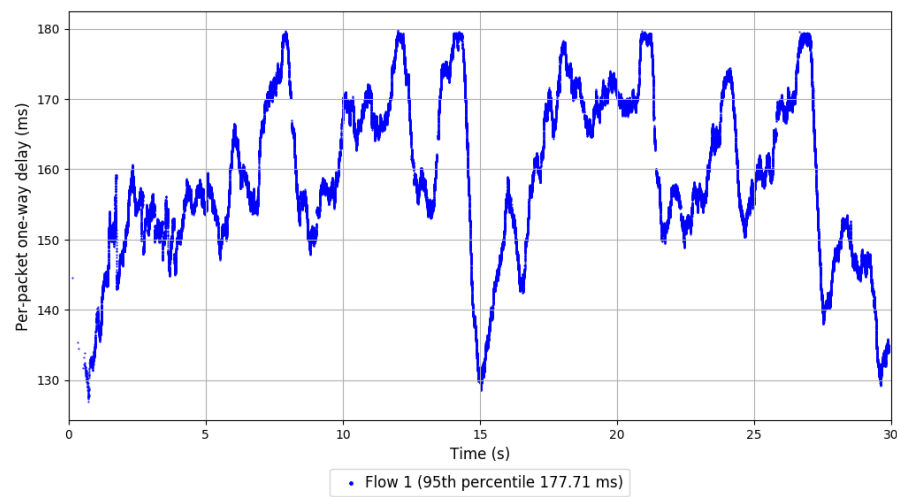
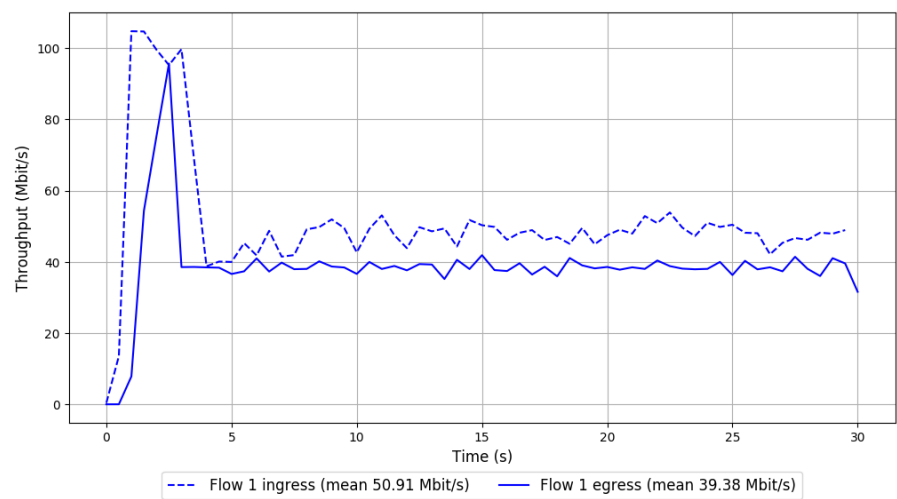


Run 1: Statistics of FillP

Start at: 2018-12-02 09:46:16
End at: 2018-12-02 09:46:46
Local clock offset: -15.535 ms
Remote clock offset: 26.187 ms

Below is generated by plot.py at 2018-12-02 11:40:13
Datalink statistics
-- Total of 1 flow:
Average throughput: 39.38 Mbit/s
95th percentile per-packet one-way delay: 177.705 ms
Loss rate: 23.17%
-- Flow 1:
Average throughput: 39.38 Mbit/s
95th percentile per-packet one-way delay: 177.705 ms
Loss rate: 23.17%

Run 1: Report of FillP — Data Link

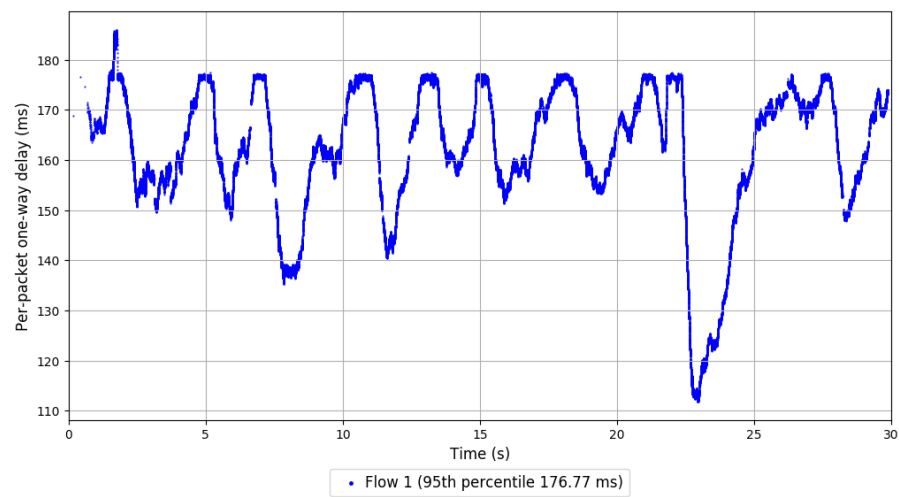
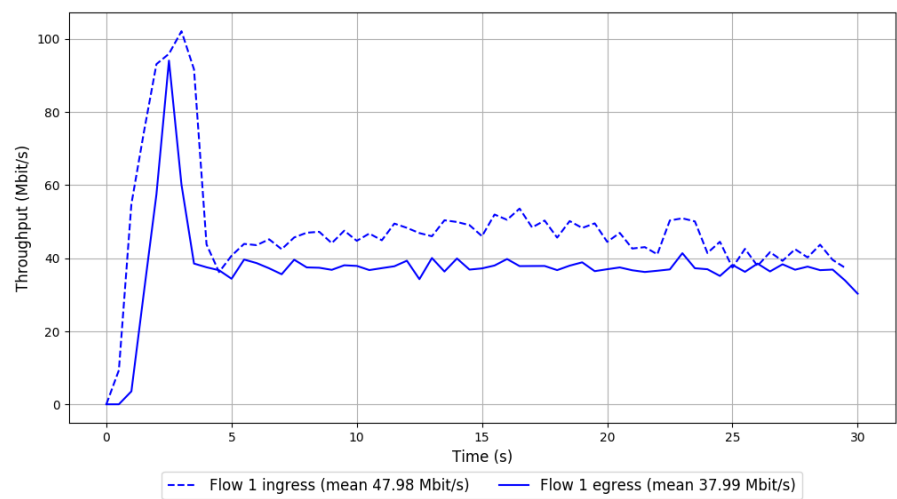


Run 2: Statistics of FillP

Start at: 2018-12-02 10:12:15
End at: 2018-12-02 10:12:45
Local clock offset: -15.392 ms
Remote clock offset: 28.177 ms

Below is generated by plot.py at 2018-12-02 11:40:13
Datalink statistics
-- Total of 1 flow:
Average throughput: 37.99 Mbit/s
95th percentile per-packet one-way delay: 176.767 ms
Loss rate: 21.45%
-- Flow 1:
Average throughput: 37.99 Mbit/s
95th percentile per-packet one-way delay: 176.767 ms
Loss rate: 21.45%

Run 2: Report of FillP — Data Link

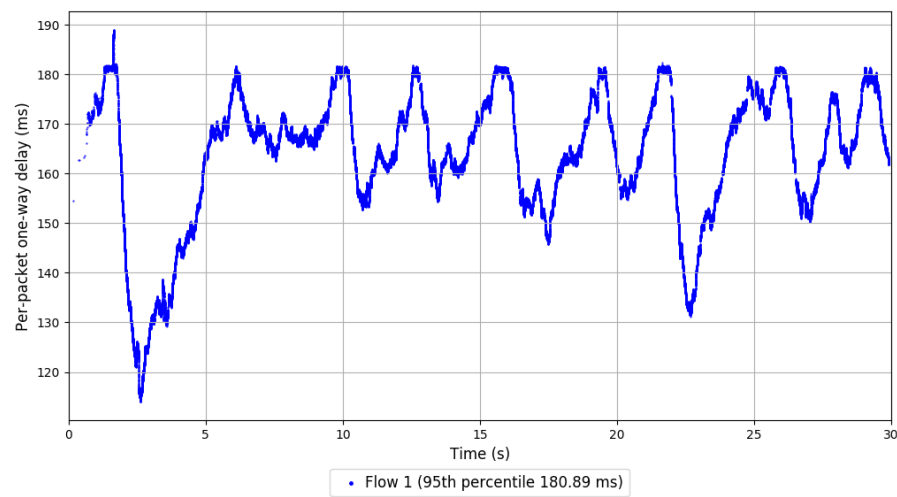
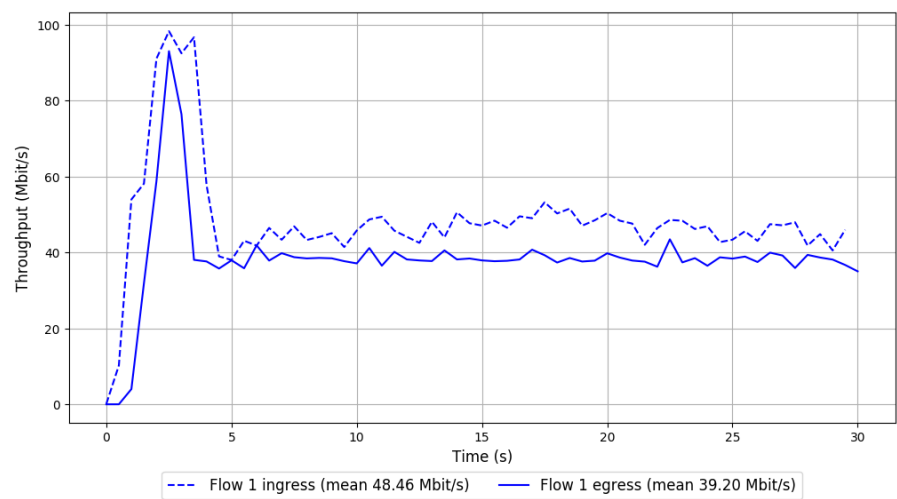


Run 3: Statistics of FillP

Start at: 2018-12-02 10:37:39
End at: 2018-12-02 10:38:09
Local clock offset: -10.708 ms
Remote clock offset: 21.37 ms

Below is generated by plot.py at 2018-12-02 11:40:19
Datalink statistics
-- Total of 1 flow:
Average throughput: 39.20 Mbit/s
95th percentile per-packet one-way delay: 180.889 ms
Loss rate: 19.70%
-- Flow 1:
Average throughput: 39.20 Mbit/s
95th percentile per-packet one-way delay: 180.889 ms
Loss rate: 19.70%

Run 3: Report of FillP — Data Link



Run 4: Statistics of FillP

Start at: 2018-12-02 11:02:25

End at: 2018-12-02 11:02:55

Local clock offset: -0.432 ms

Remote clock offset: 8.99 ms

Below is generated by plot.py at 2018-12-02 11:40:22

Datalink statistics

-- Total of 1 flow:

Average throughput: 37.24 Mbit/s

95th percentile per-packet one-way delay: 180.225 ms

Loss rate: 13.89%

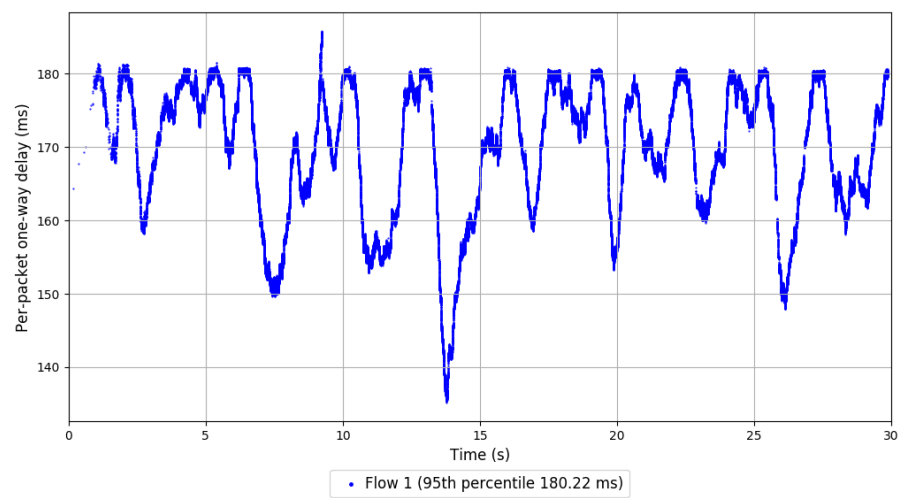
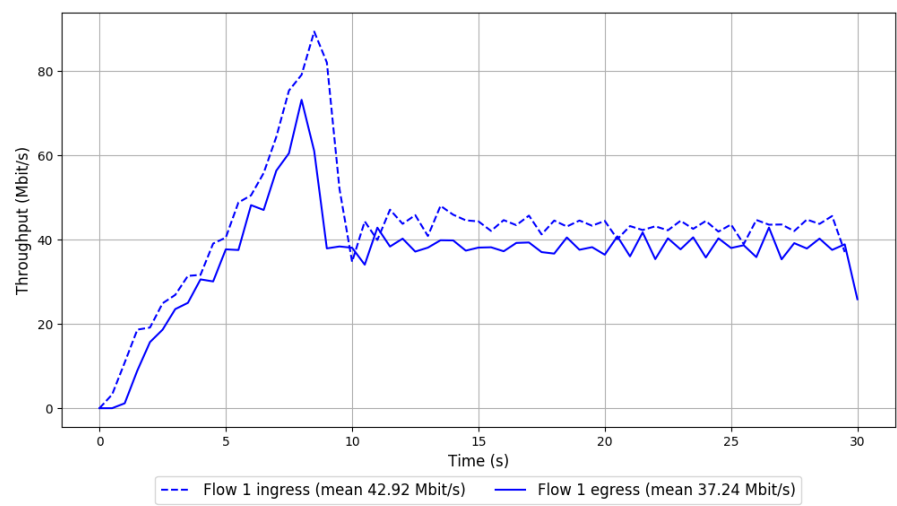
-- Flow 1:

Average throughput: 37.24 Mbit/s

95th percentile per-packet one-way delay: 180.225 ms

Loss rate: 13.89%

Run 4: Report of FillP — Data Link

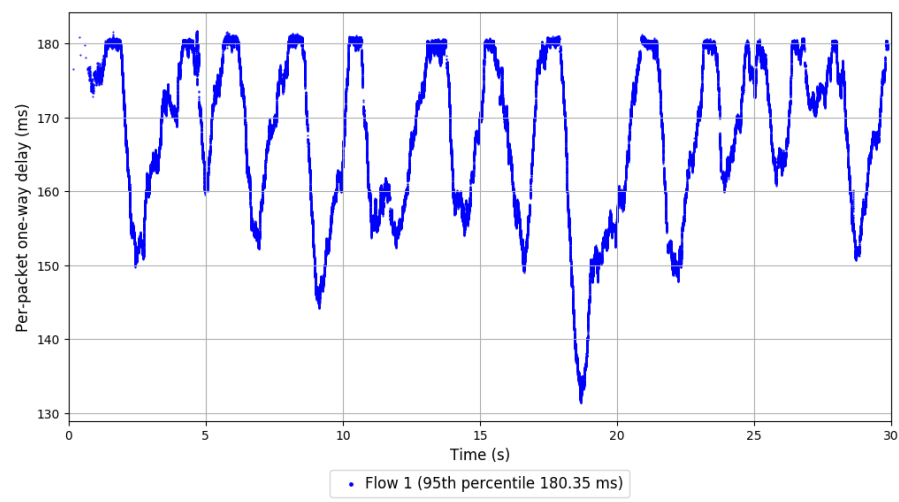
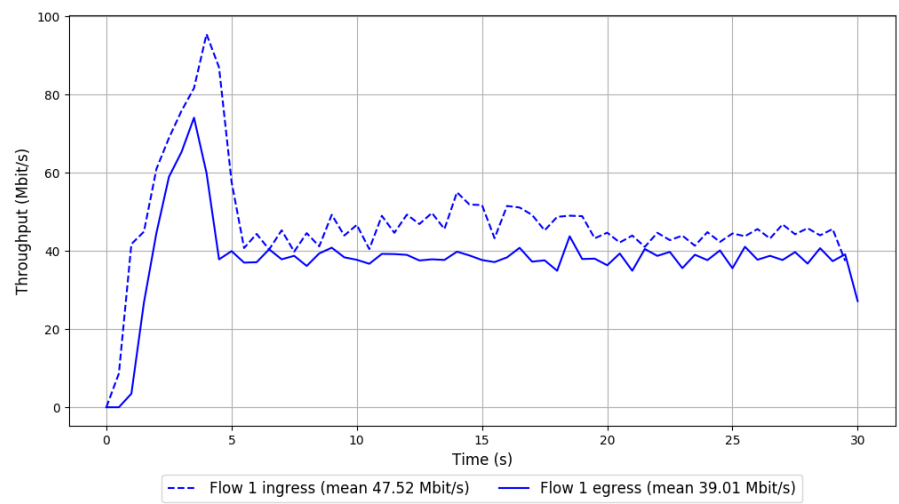


Run 5: Statistics of FillP

Start at: 2018-12-02 11:27:37
End at: 2018-12-02 11:28:07
Local clock offset: 2.602 ms
Remote clock offset: 12.278 ms

Below is generated by plot.py at 2018-12-02 11:40:25
Datalink statistics
-- Total of 1 flow:
Average throughput: 39.01 Mbit/s
95th percentile per-packet one-way delay: 180.351 ms
Loss rate: 18.56%
-- Flow 1:
Average throughput: 39.01 Mbit/s
95th percentile per-packet one-way delay: 180.351 ms
Loss rate: 18.56%

Run 5: Report of FillP — Data Link

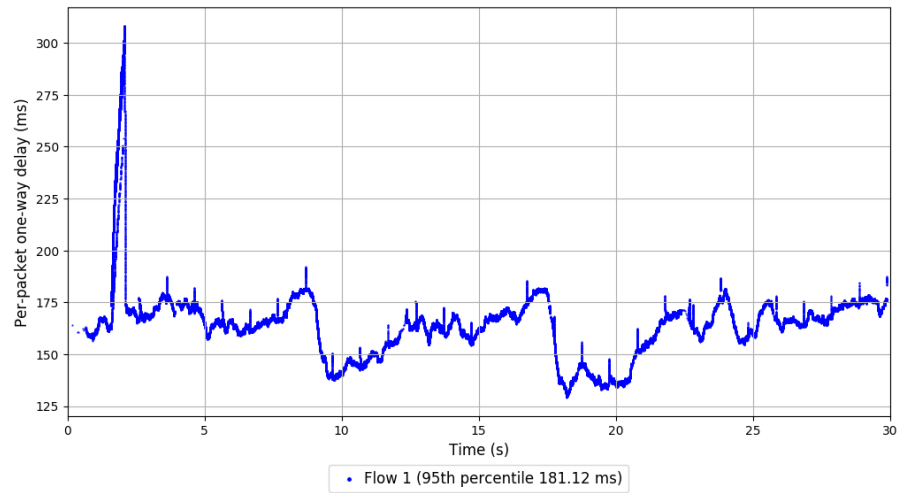
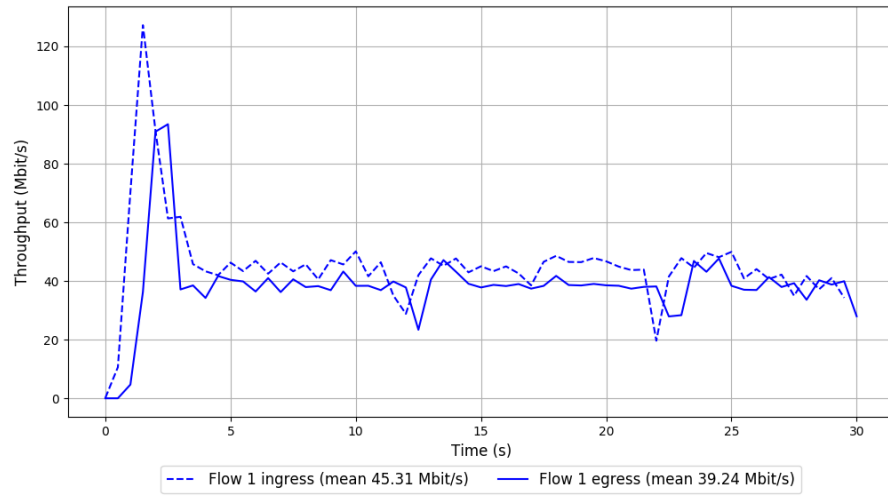


Run 1: Statistics of FillP-Sheep

Start at: 2018-12-02 09:43:39
End at: 2018-12-02 09:44:09
Local clock offset: -14.635 ms
Remote clock offset: 25.027 ms

Below is generated by plot.py at 2018-12-02 11:40:25
Datalink statistics
-- Total of 1 flow:
Average throughput: 39.24 Mbit/s
95th percentile per-packet one-way delay: 181.118 ms
Loss rate: 14.04%
-- Flow 1:
Average throughput: 39.24 Mbit/s
95th percentile per-packet one-way delay: 181.118 ms
Loss rate: 14.04%

Run 1: Report of FillP-Sheep — Data Link

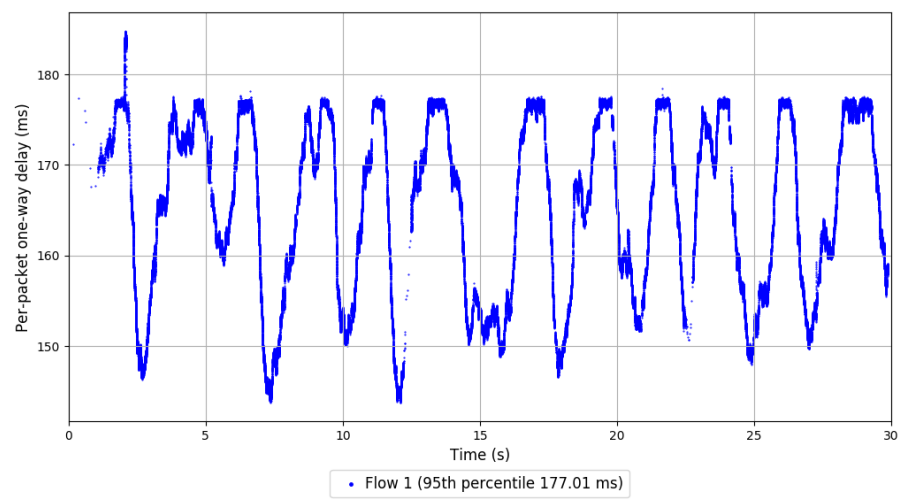
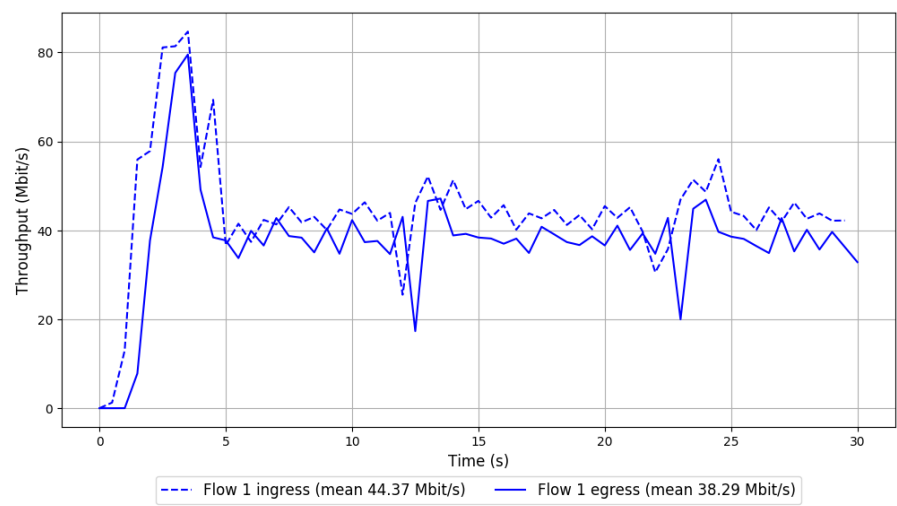


Run 2: Statistics of FillP-Sheep

Start at: 2018-12-02 10:07:47
End at: 2018-12-02 10:08:17
Local clock offset: -14.872 ms
Remote clock offset: 27.628 ms

Below is generated by plot.py at 2018-12-02 11:40:25
Datalink statistics
-- Total of 1 flow:
Average throughput: 38.29 Mbit/s
95th percentile per-packet one-way delay: 177.013 ms
Loss rate: 14.41%
-- Flow 1:
Average throughput: 38.29 Mbit/s
95th percentile per-packet one-way delay: 177.013 ms
Loss rate: 14.41%

Run 2: Report of FillP-Sheep — Data Link

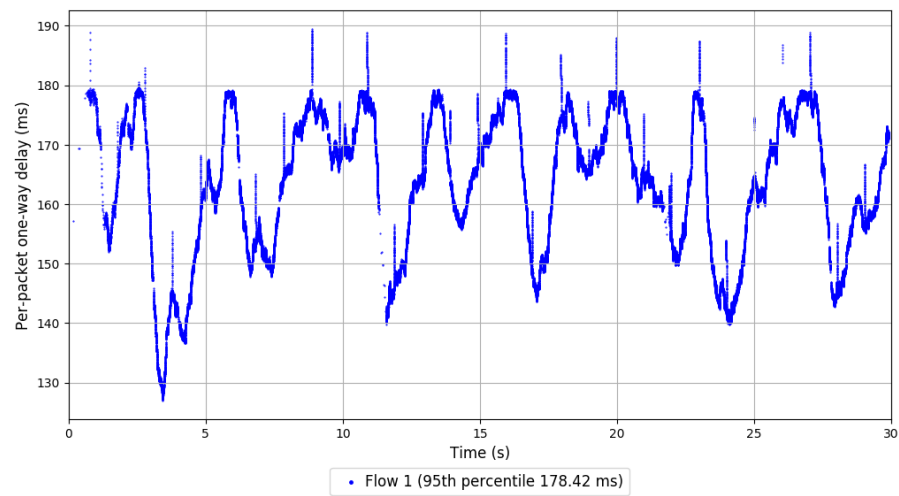
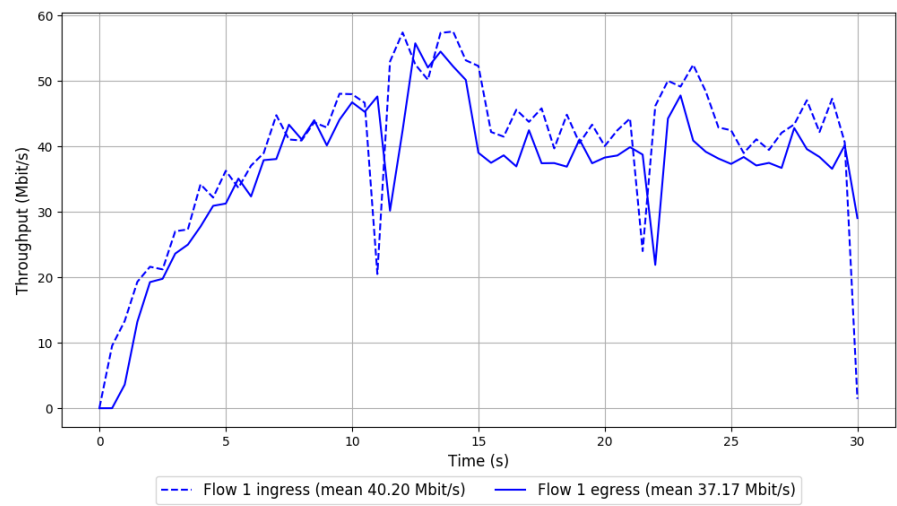


Run 3: Statistics of FillP-Sheep

Start at: 2018-12-02 10:34:59
End at: 2018-12-02 10:35:29
Local clock offset: -10.637 ms
Remote clock offset: 26.351 ms

Below is generated by plot.py at 2018-12-02 11:40:25
Datalink statistics
-- Total of 1 flow:
Average throughput: 37.17 Mbit/s
95th percentile per-packet one-way delay: 178.420 ms
Loss rate: 8.33%
-- Flow 1:
Average throughput: 37.17 Mbit/s
95th percentile per-packet one-way delay: 178.420 ms
Loss rate: 8.33%

Run 3: Report of FillP-Sheep — Data Link

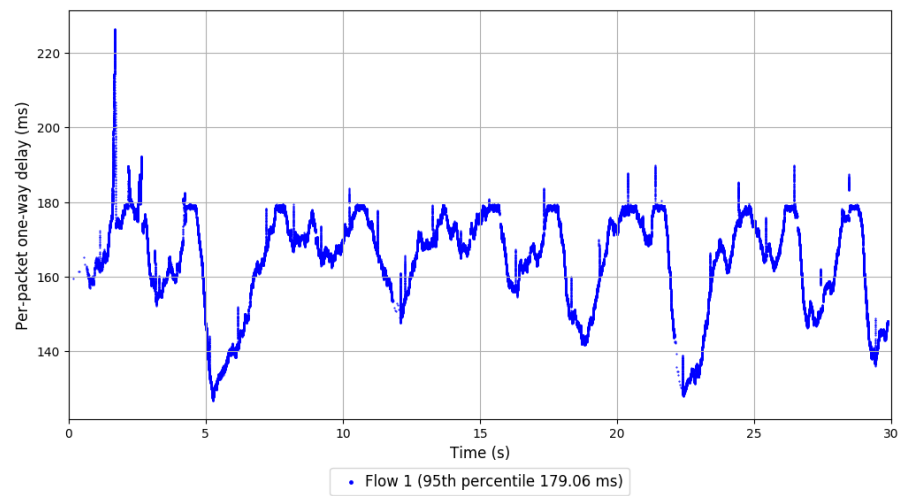
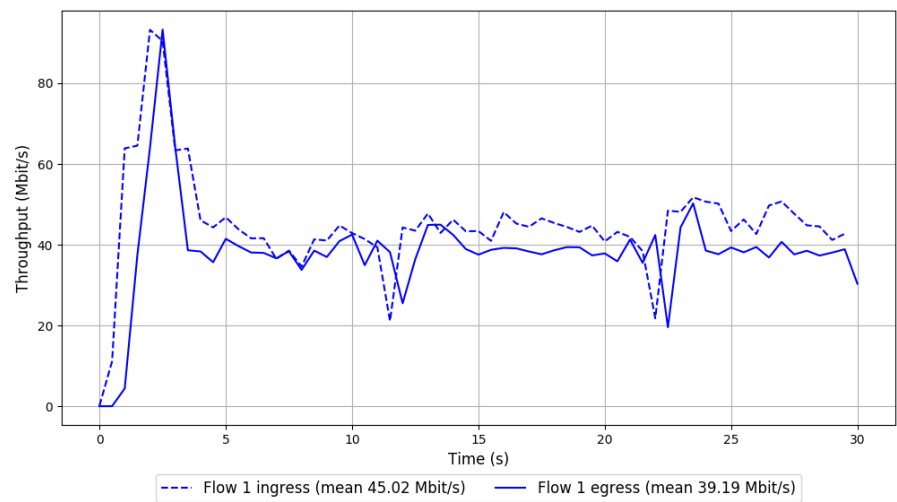


Run 4: Statistics of FillP-Sheep

Start at: 2018-12-02 10:59:34
End at: 2018-12-02 11:00:04
Local clock offset: -1.467 ms
Remote clock offset: 10.998 ms

Below is generated by plot.py at 2018-12-02 11:40:49
Datalink statistics
-- Total of 1 flow:
Average throughput: 39.19 Mbit/s
95th percentile per-packet one-way delay: 179.065 ms
Loss rate: 13.62%
-- Flow 1:
Average throughput: 39.19 Mbit/s
95th percentile per-packet one-way delay: 179.065 ms
Loss rate: 13.62%

Run 4: Report of FillP-Sheep — Data Link

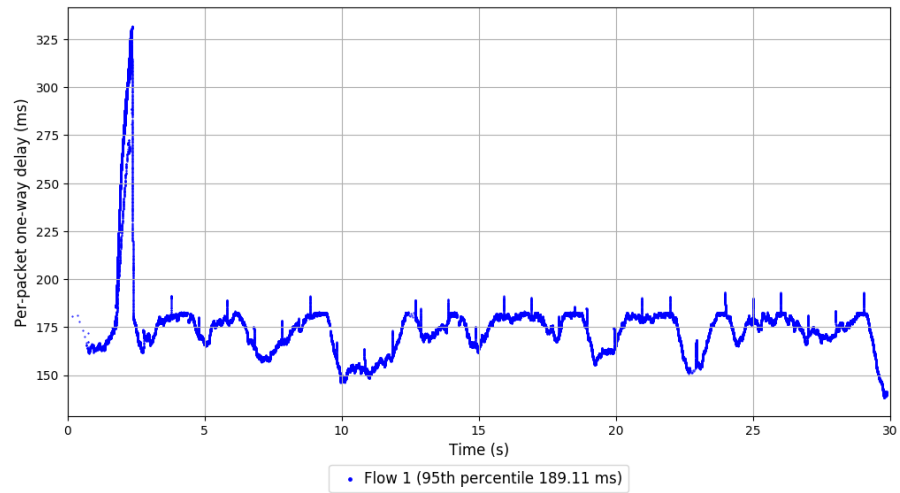
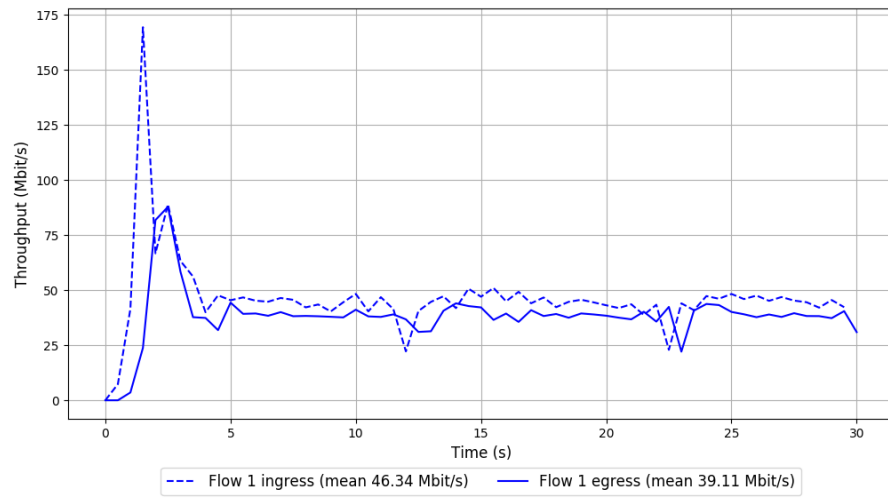


Run 5: Statistics of FillP-Sheep

Start at: 2018-12-02 11:24:51
End at: 2018-12-02 11:25:21
Local clock offset: 2.649 ms
Remote clock offset: 10.774 ms

Below is generated by plot.py at 2018-12-02 11:40:50
Datalink statistics
-- Total of 1 flow:
Average throughput: 39.11 Mbit/s
95th percentile per-packet one-way delay: 189.106 ms
Loss rate: 16.27%
-- Flow 1:
Average throughput: 39.11 Mbit/s
95th percentile per-packet one-way delay: 189.106 ms
Loss rate: 16.27%

Run 5: Report of FillP-Sheep — Data Link

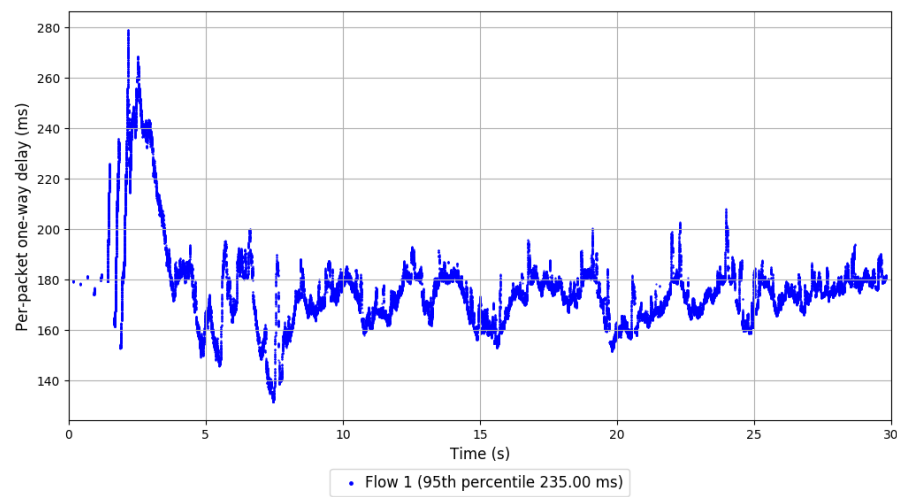
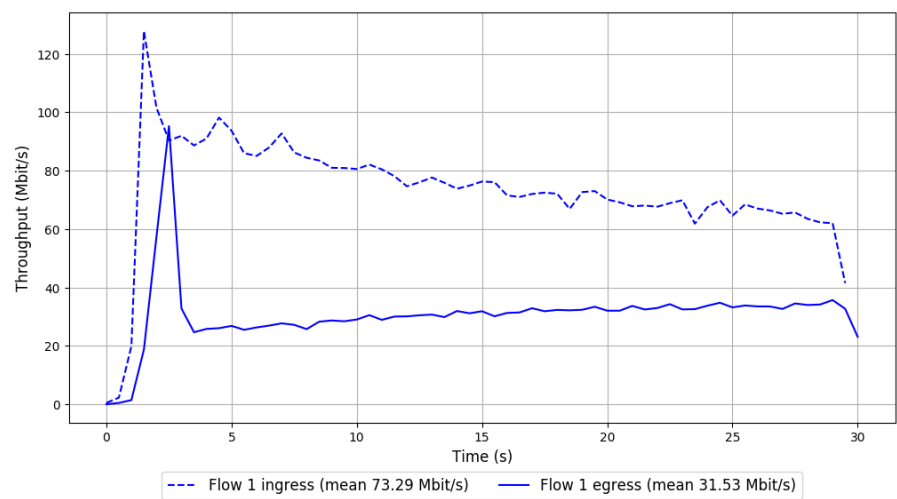


Run 1: Statistics of Indigo

Start at: 2018-12-02 09:38:42
End at: 2018-12-02 09:39:12
Local clock offset: -13.729 ms
Remote clock offset: 26.138 ms

Below is generated by plot.py at 2018-12-02 11:40:50
Datalink statistics
-- Total of 1 flow:
Average throughput: 31.53 Mbit/s
95th percentile per-packet one-way delay: 235.005 ms
Loss rate: 57.32%
-- Flow 1:
Average throughput: 31.53 Mbit/s
95th percentile per-packet one-way delay: 235.005 ms
Loss rate: 57.32%

Run 1: Report of Indigo — Data Link

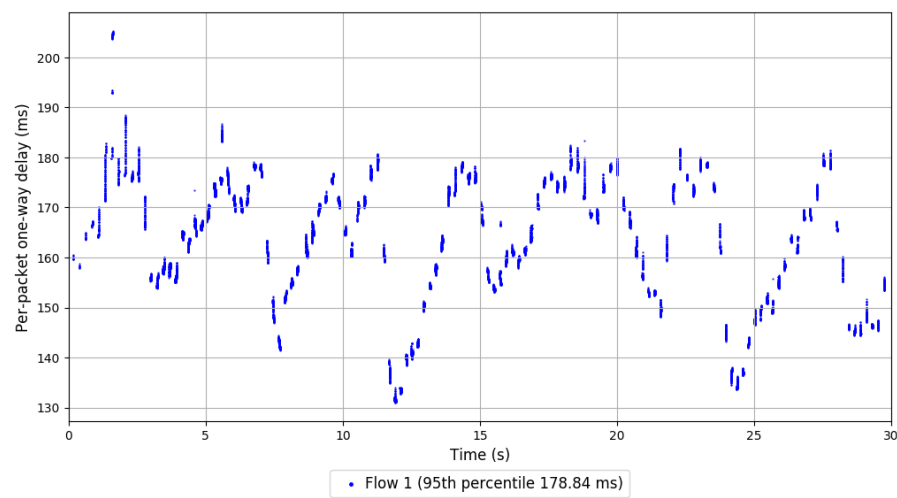
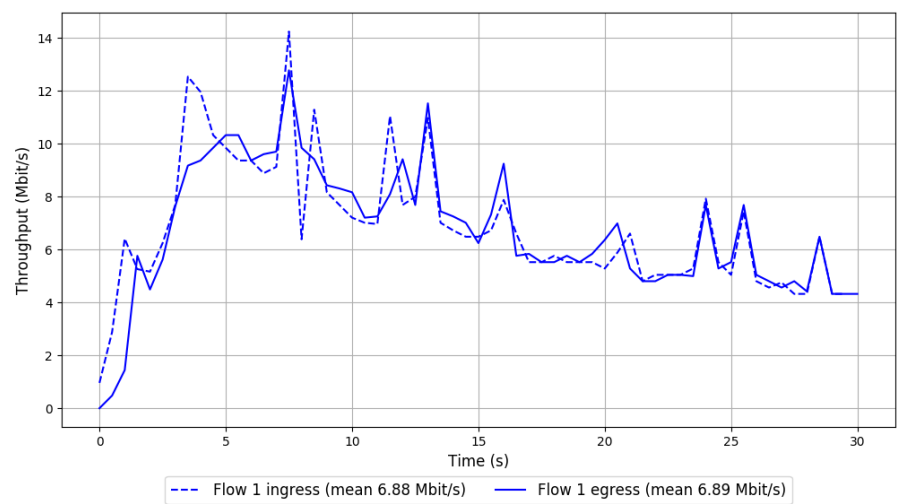


Run 2: Statistics of Indigo

Start at: 2018-12-02 10:02:46
End at: 2018-12-02 10:03:16
Local clock offset: -14.731 ms
Remote clock offset: 25.003 ms

Below is generated by plot.py at 2018-12-02 11:40:50
Datalink statistics
-- Total of 1 flow:
Average throughput: 6.89 Mbit/s
95th percentile per-packet one-way delay: 178.835 ms
Loss rate: 0.64%
-- Flow 1:
Average throughput: 6.89 Mbit/s
95th percentile per-packet one-way delay: 178.835 ms
Loss rate: 0.64%

Run 2: Report of Indigo — Data Link

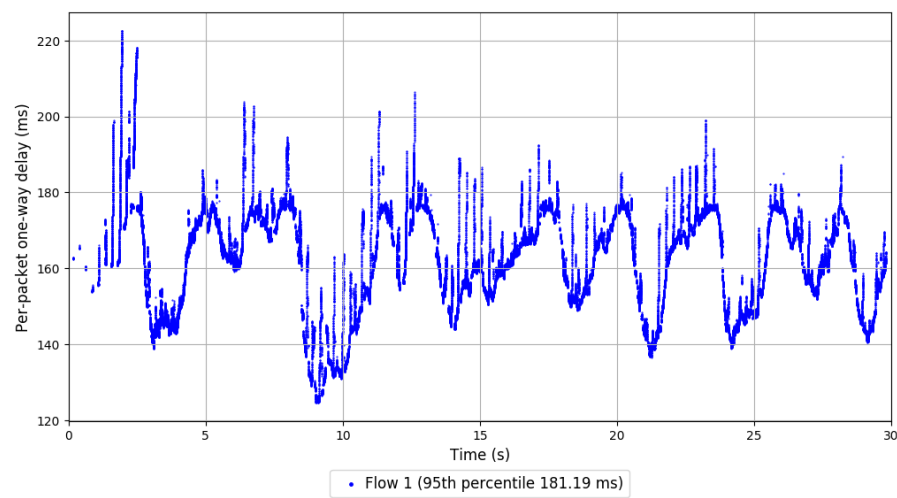
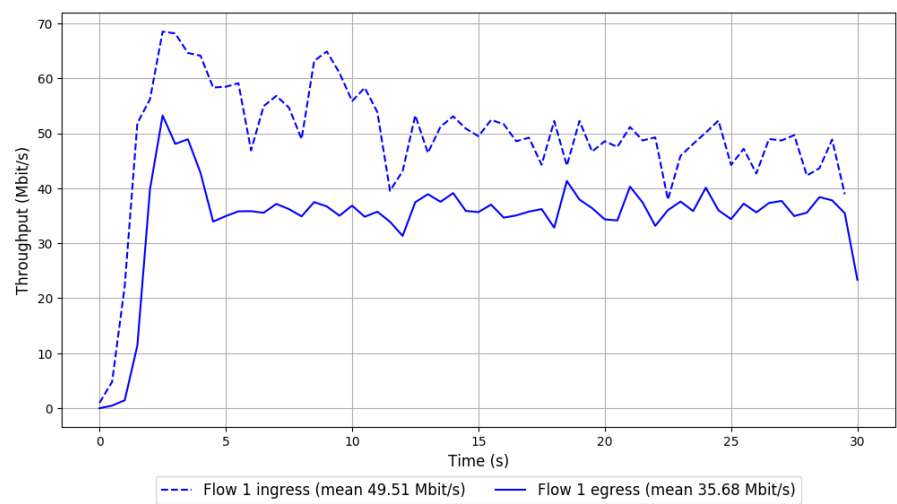


Run 3: Statistics of Indigo

Start at: 2018-12-02 10:29:23
End at: 2018-12-02 10:29:53
Local clock offset: -11.531 ms
Remote clock offset: 28.624 ms

Below is generated by plot.py at 2018-12-02 11:40:50
Datalink statistics
-- Total of 1 flow:
Average throughput: 35.68 Mbit/s
95th percentile per-packet one-way delay: 181.194 ms
Loss rate: 28.47%
-- Flow 1:
Average throughput: 35.68 Mbit/s
95th percentile per-packet one-way delay: 181.194 ms
Loss rate: 28.47%

Run 3: Report of Indigo — Data Link

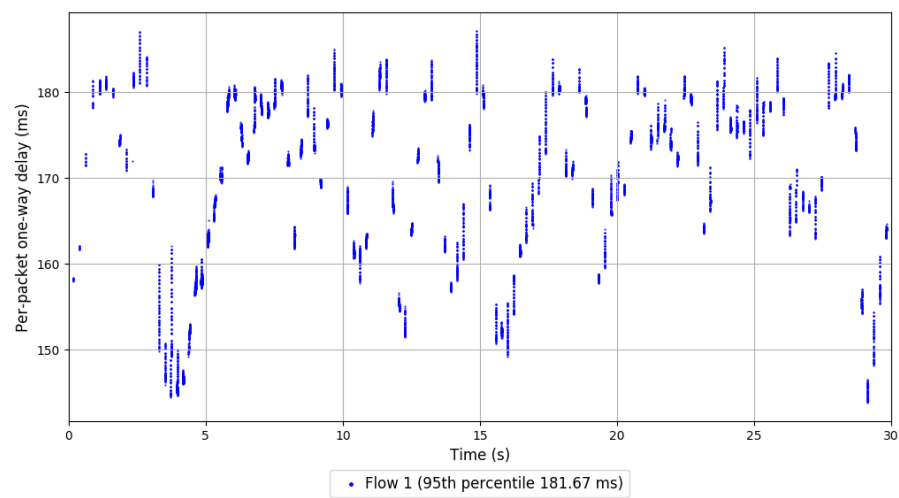
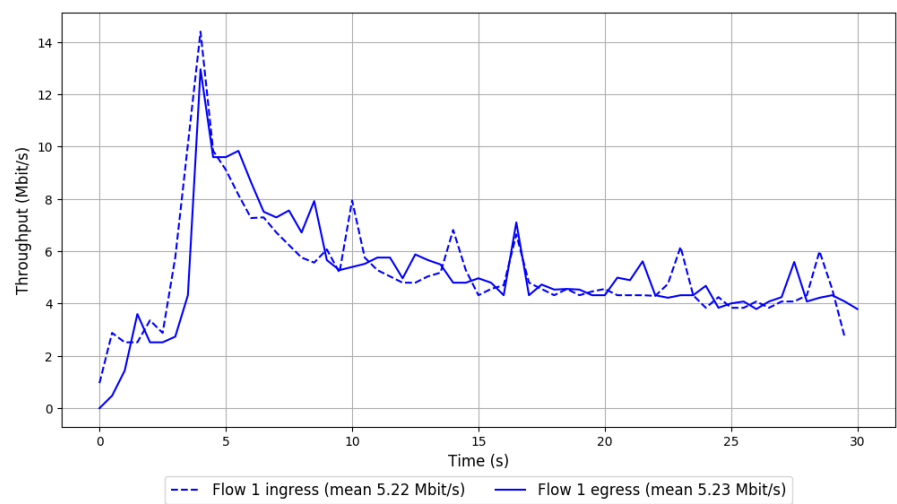


Run 4: Statistics of Indigo

Start at: 2018-12-02 10:54:06
End at: 2018-12-02 10:54:36
Local clock offset: -4.636 ms
Remote clock offset: 10.935 ms

Below is generated by plot.py at 2018-12-02 11:40:50
Datalink statistics
-- Total of 1 flow:
Average throughput: 5.23 Mbit/s
95th percentile per-packet one-way delay: 181.668 ms
Loss rate: 0.65%
-- Flow 1:
Average throughput: 5.23 Mbit/s
95th percentile per-packet one-way delay: 181.668 ms
Loss rate: 0.65%

Run 4: Report of Indigo — Data Link



Run 5: Statistics of Indigo

Start at: 2018-12-02 11:19:16

End at: 2018-12-02 11:19:46

Local clock offset: 2.918 ms

Remote clock offset: 9.95 ms

Below is generated by plot.py at 2018-12-02 11:40:54

Datalink statistics

-- Total of 1 flow:

Average throughput: 34.87 Mbit/s

95th percentile per-packet one-way delay: 188.054 ms

Loss rate: 36.85%

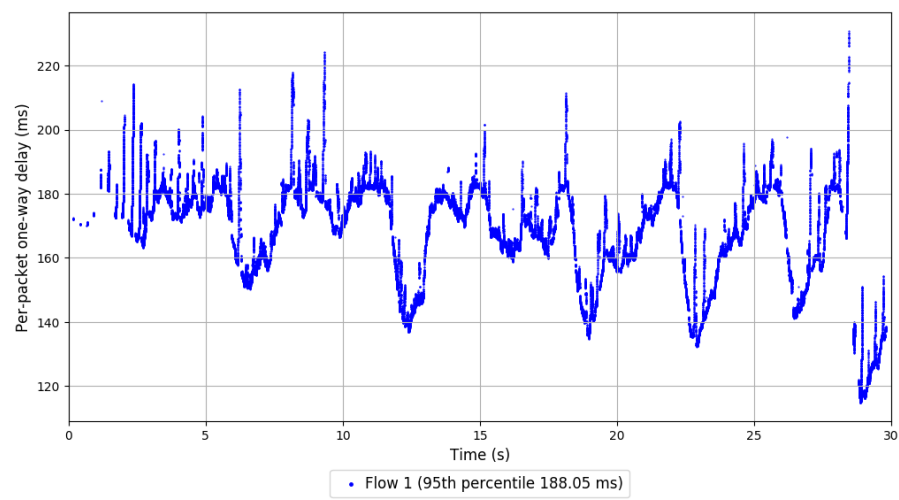
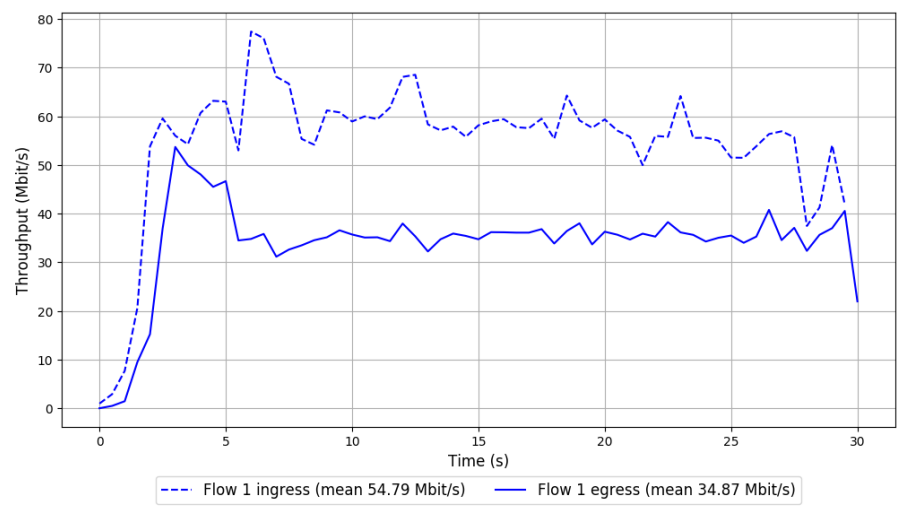
-- Flow 1:

Average throughput: 34.87 Mbit/s

95th percentile per-packet one-way delay: 188.054 ms

Loss rate: 36.85%

Run 5: Report of Indigo — Data Link

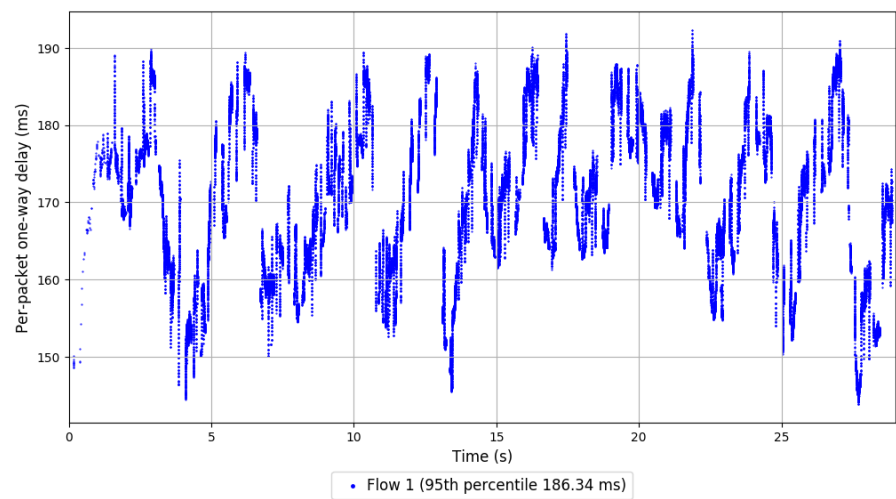
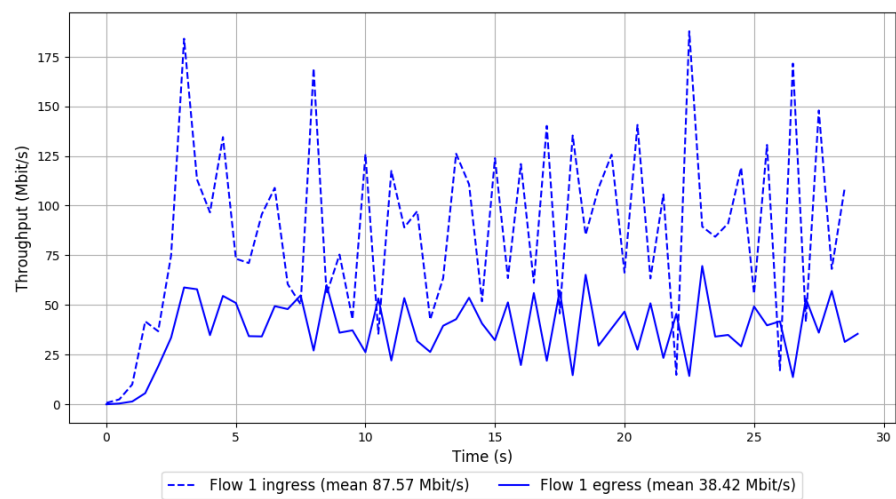


Run 1: Statistics of Indigo-96d2da3

Start at: 2018-12-02 09:33:37
End at: 2018-12-02 09:34:07
Local clock offset: -11.93 ms
Remote clock offset: 31.321 ms

Below is generated by plot.py at 2018-12-02 11:41:11
Datalink statistics
-- Total of 1 flow:
Average throughput: 38.42 Mbit/s
95th percentile per-packet one-way delay: 186.340 ms
Loss rate: 56.48%
-- Flow 1:
Average throughput: 38.42 Mbit/s
95th percentile per-packet one-way delay: 186.340 ms
Loss rate: 56.48%

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

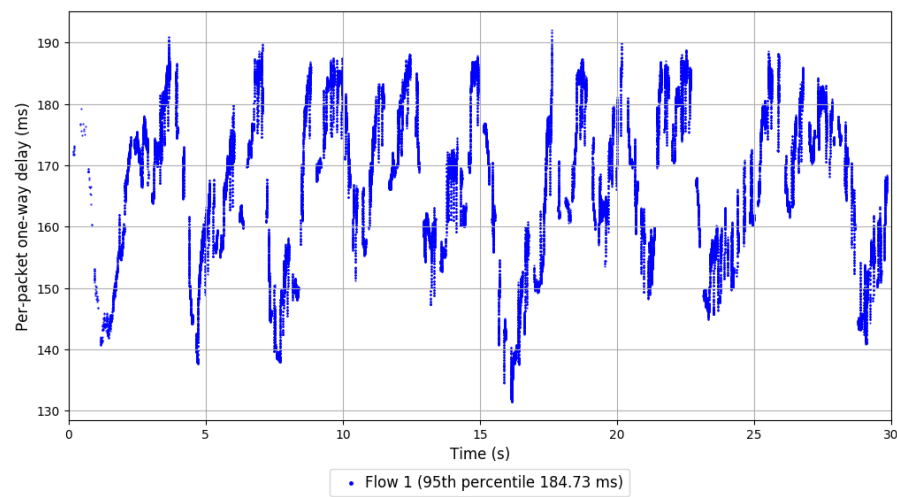
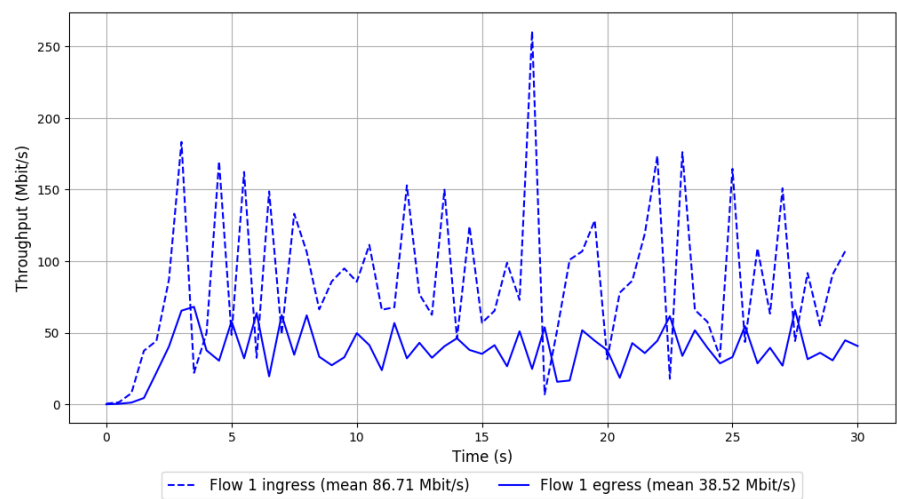


Run 2: Statistics of Indigo-96d2da3

Start at: 2018-12-02 09:57:48
End at: 2018-12-02 09:58:18
Local clock offset: -14.593 ms
Remote clock offset: 26.668 ms

Below is generated by plot.py at 2018-12-02 11:41:13
Datalink statistics
-- Total of 1 flow:
Average throughput: 38.52 Mbit/s
95th percentile per-packet one-way delay: 184.729 ms
Loss rate: 55.86%
-- Flow 1:
Average throughput: 38.52 Mbit/s
95th percentile per-packet one-way delay: 184.729 ms
Loss rate: 55.86%

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

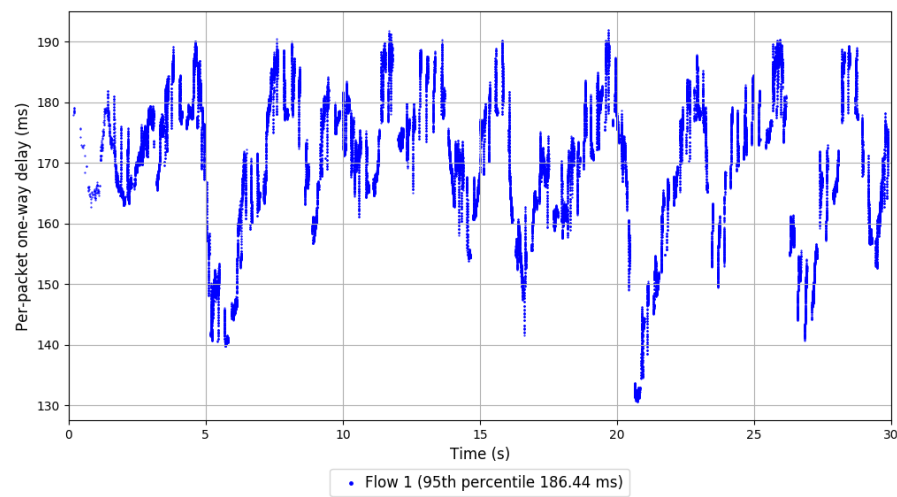
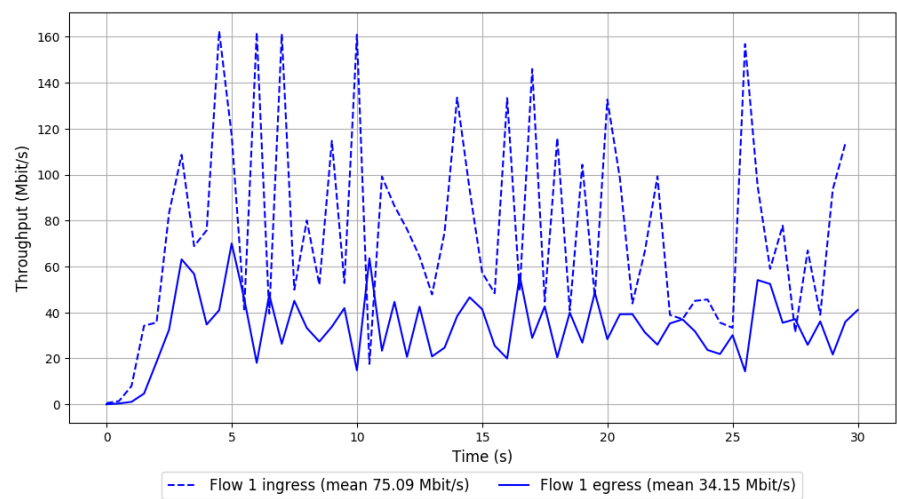


Run 3: Statistics of Indigo-96d2da3

Start at: 2018-12-02 10:24:18
End at: 2018-12-02 10:24:48
Local clock offset: -12.754 ms
Remote clock offset: 26.531 ms

Below is generated by plot.py at 2018-12-02 11:41:13
Datalink statistics
-- Total of 1 flow:
Average throughput: 34.15 Mbit/s
95th percentile per-packet one-way delay: 186.435 ms
Loss rate: 54.89%
-- Flow 1:
Average throughput: 34.15 Mbit/s
95th percentile per-packet one-way delay: 186.435 ms
Loss rate: 54.89%

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

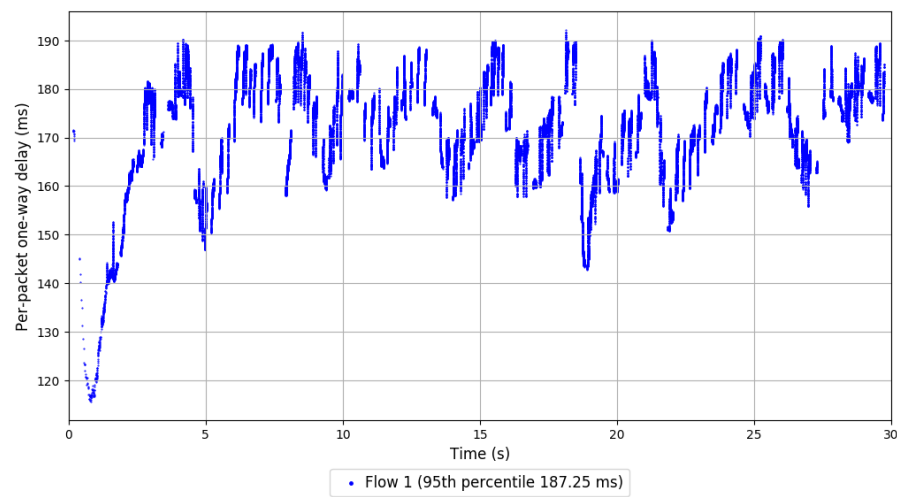
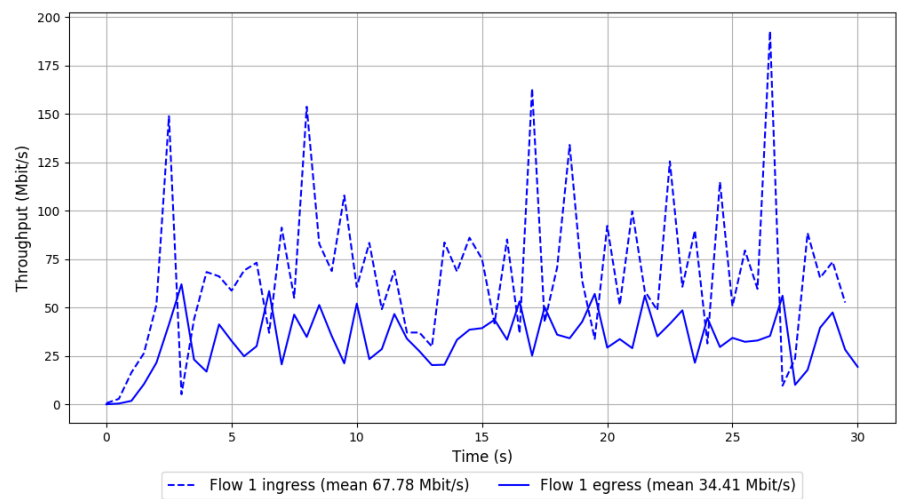


Run 4: Statistics of Indigo-96d2da3

Start at: 2018-12-02 10:48:57
End at: 2018-12-02 10:49:27
Local clock offset: -8.975 ms
Remote clock offset: 14.318 ms

Below is generated by plot.py at 2018-12-02 11:41:36
Datalink statistics
-- Total of 1 flow:
Average throughput: 34.41 Mbit/s
95th percentile per-packet one-way delay: 187.245 ms
Loss rate: 49.69%
-- Flow 1:
Average throughput: 34.41 Mbit/s
95th percentile per-packet one-way delay: 187.245 ms
Loss rate: 49.69%

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

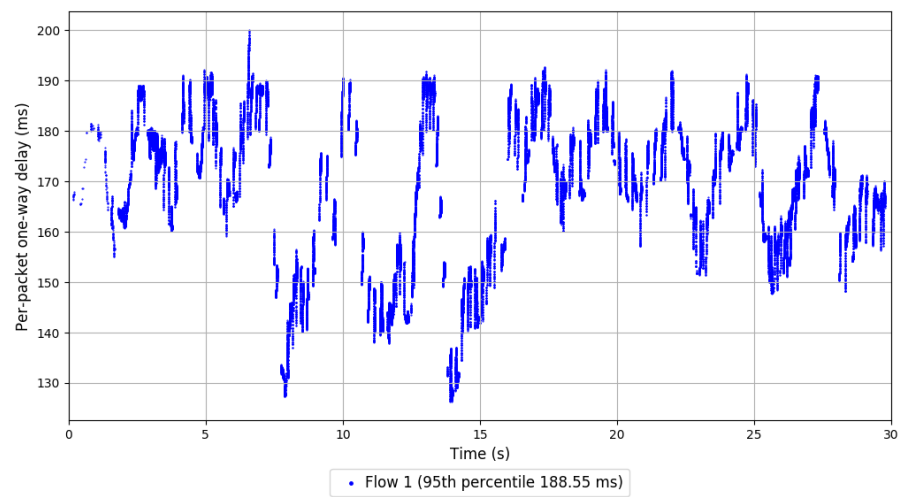
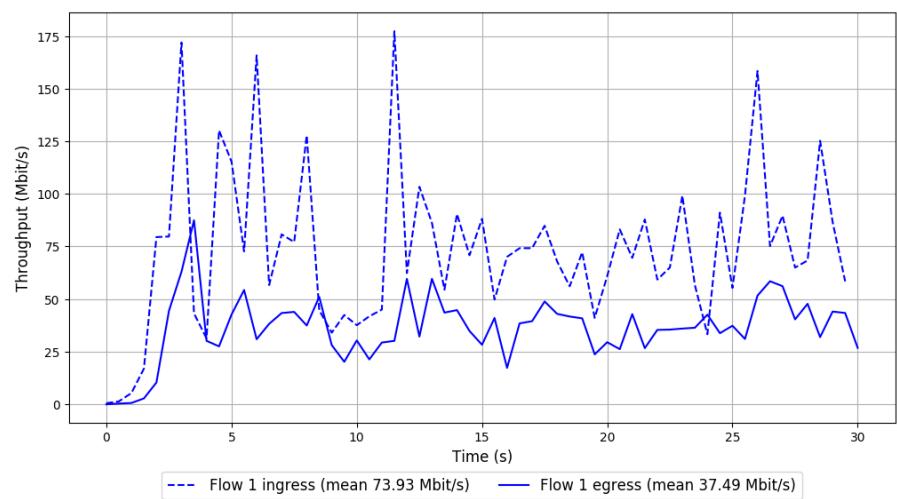


Run 5: Statistics of Indigo-96d2da3

Start at: 2018-12-02 11:14:15
End at: 2018-12-02 11:14:45
Local clock offset: 2.657 ms
Remote clock offset: 10.112 ms

Below is generated by plot.py at 2018-12-02 11:41:42
Datalink statistics
-- Total of 1 flow:
Average throughput: 37.49 Mbit/s
95th percentile per-packet one-way delay: 188.550 ms
Loss rate: 49.70%
-- Flow 1:
Average throughput: 37.49 Mbit/s
95th percentile per-packet one-way delay: 188.550 ms
Loss rate: 49.70%

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

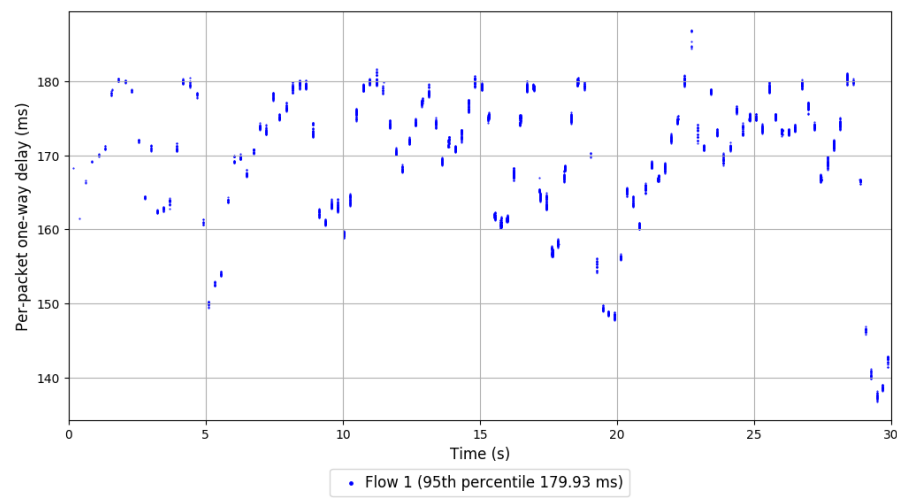
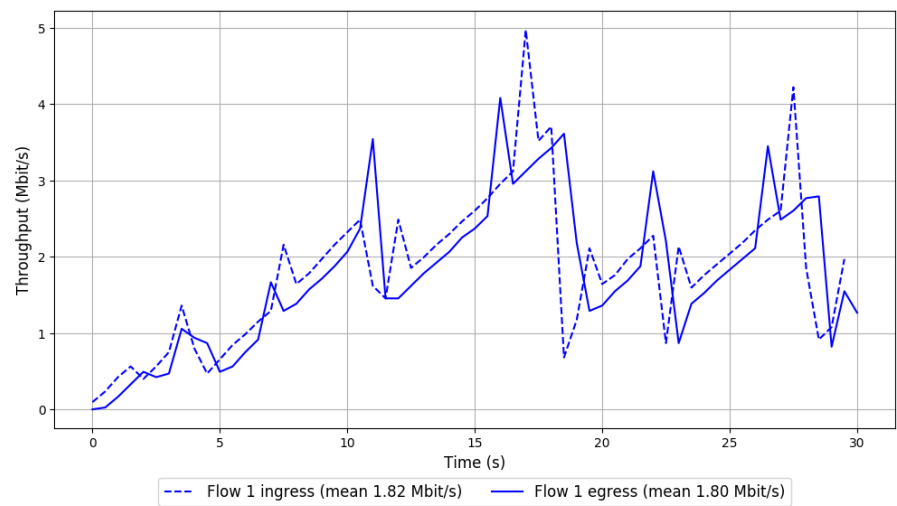


```
Run 1: Statistics of LEDBAT

Start at: 2018-12-02 09:54:11
End at: 2018-12-02 09:54:42
Local clock offset: -14.831 ms
Remote clock offset: 23.96 ms

# Below is generated by plot.py at 2018-12-02 11:41:42
# Datalink statistics
-- Total of 1 flow:
Average throughput: 1.80 Mbit/s
95th percentile per-packet one-way delay: 179.933 ms
Loss rate: 1.36%
-- Flow 1:
Average throughput: 1.80 Mbit/s
95th percentile per-packet one-way delay: 179.933 ms
Loss rate: 1.36%
```

Run 1: Report of LEDBAT — Data Link

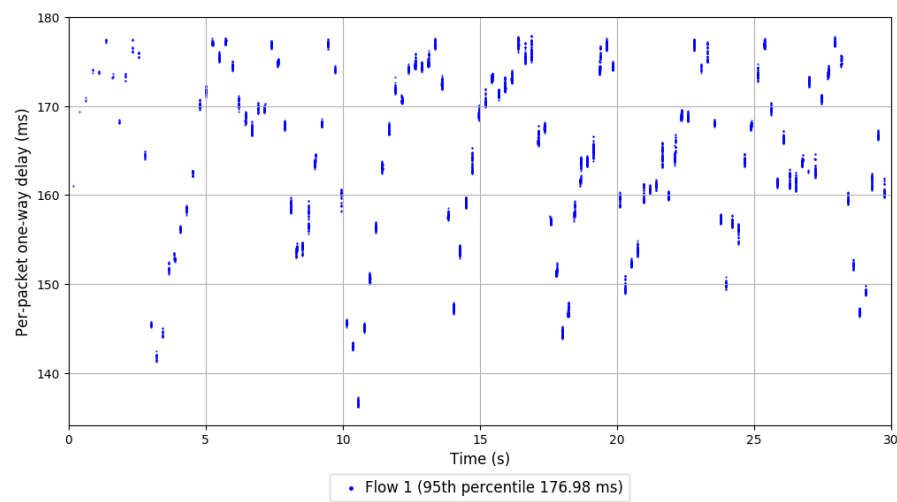
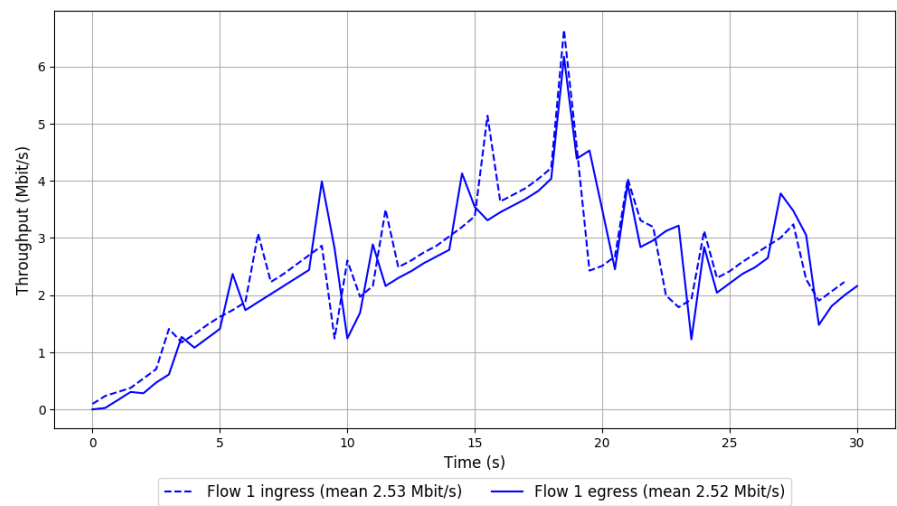


Run 2: Statistics of LEDBAT

Start at: 2018-12-02 10:20:36
End at: 2018-12-02 10:21:06
Local clock offset: -13.976 ms
Remote clock offset: 28.119 ms

Below is generated by plot.py at 2018-12-02 11:41:42
Datalink statistics
-- Total of 1 flow:
Average throughput: 2.52 Mbit/s
95th percentile per-packet one-way delay: 176.979 ms
Loss rate: 0.92%
-- Flow 1:
Average throughput: 2.52 Mbit/s
95th percentile per-packet one-way delay: 176.979 ms
Loss rate: 0.92%

Run 2: Report of LEDBAT — Data Link

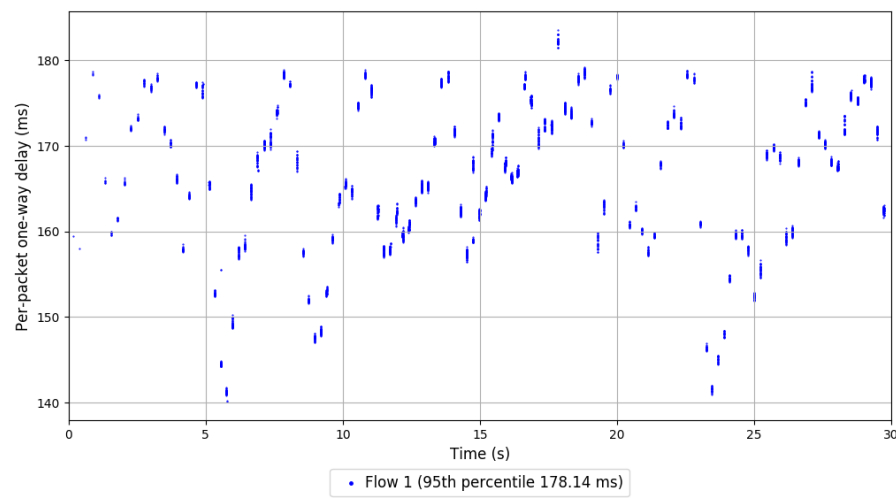
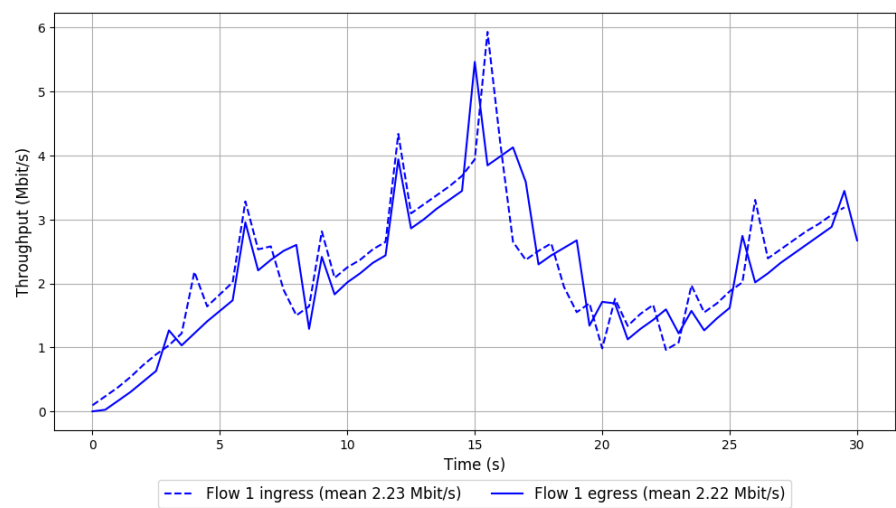


Run 3: Statistics of LEDBAT

Start at: 2018-12-02 10:45:10
End at: 2018-12-02 10:45:41
Local clock offset: -10.309 ms
Remote clock offset: 18.274 ms

Below is generated by plot.py at 2018-12-02 11:41:42
Datalink statistics
-- Total of 1 flow:
Average throughput: 2.22 Mbit/s
95th percentile per-packet one-way delay: 178.137 ms
Loss rate: 1.43%
-- Flow 1:
Average throughput: 2.22 Mbit/s
95th percentile per-packet one-way delay: 178.137 ms
Loss rate: 1.43%

Run 3: Report of LEDBAT — Data Link



Run 4: Statistics of LEDBAT

Start at: 2018-12-02 11:10:23

End at: 2018-12-02 11:10:53

Local clock offset: 1.62 ms

Remote clock offset: 9.248 ms

Below is generated by plot.py at 2018-12-02 11:41:42

Datalink statistics

-- Total of 1 flow:

Average throughput: 1.57 Mbit/s

95th percentile per-packet one-way delay: 178.178 ms

Loss rate: 1.27%

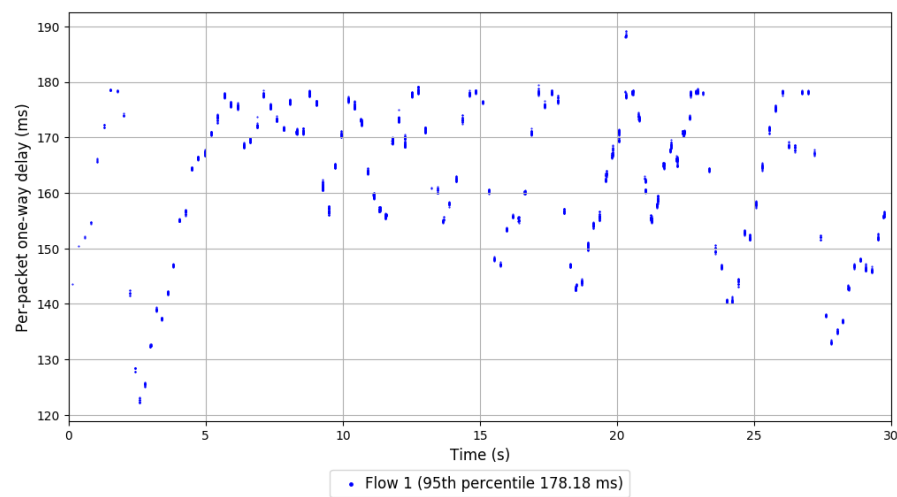
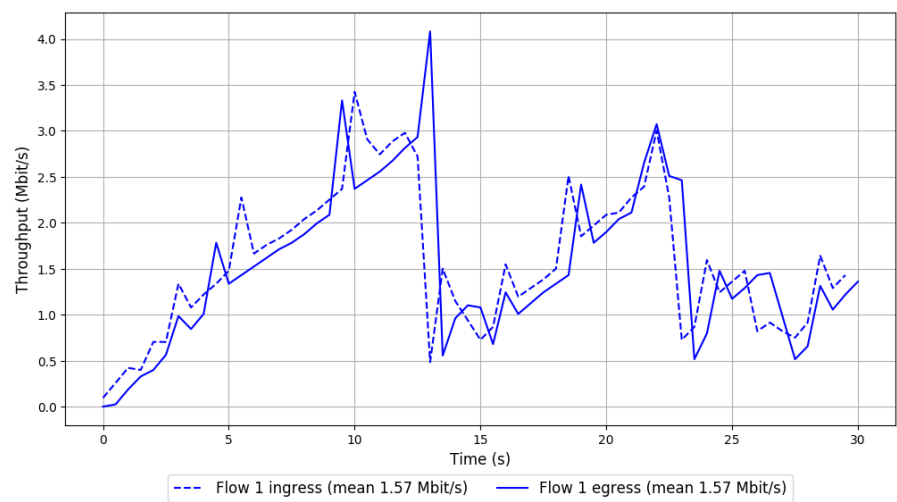
-- Flow 1:

Average throughput: 1.57 Mbit/s

95th percentile per-packet one-way delay: 178.178 ms

Loss rate: 1.27%

Run 4: Report of LEDBAT — Data Link

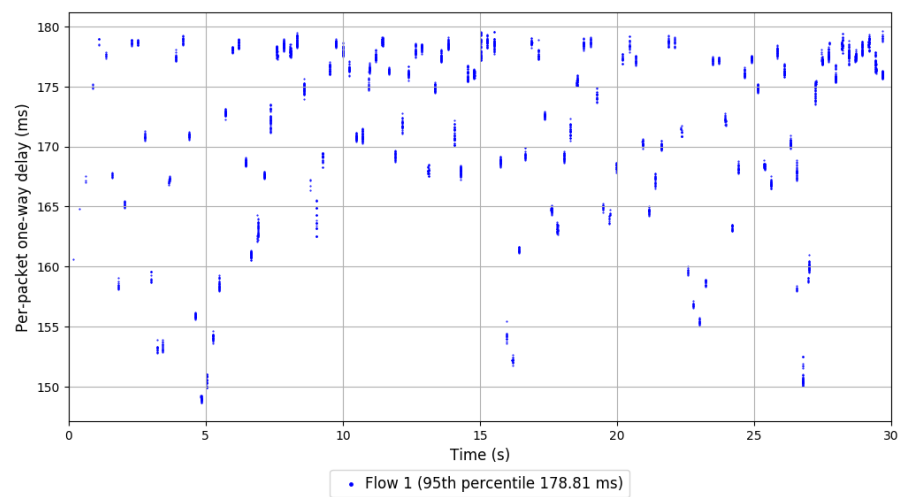
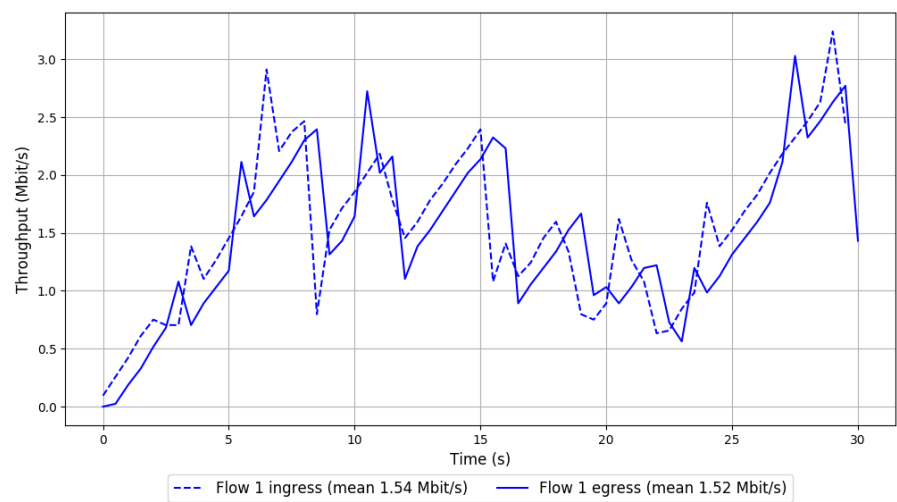


Run 5: Statistics of LEDBAT

Start at: 2018-12-02 11:35:30
End at: 2018-12-02 11:36:00
Local clock offset: 2.658 ms
Remote clock offset: 14.349 ms

Below is generated by plot.py at 2018-12-02 11:41:42
Datalink statistics
-- Total of 1 flow:
Average throughput: 1.52 Mbit/s
95th percentile per-packet one-way delay: 178.811 ms
Loss rate: 2.02%
-- Flow 1:
Average throughput: 1.52 Mbit/s
95th percentile per-packet one-way delay: 178.811 ms
Loss rate: 2.02%

Run 5: Report of LEDBAT — Data Link

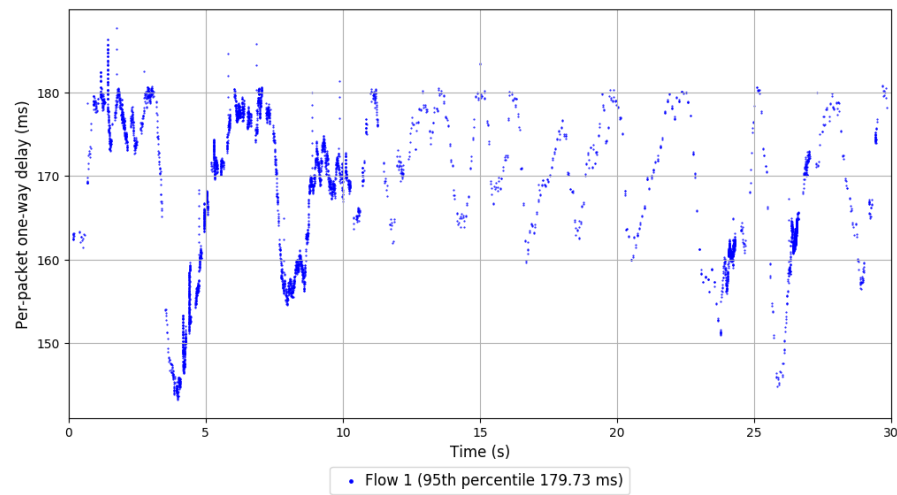
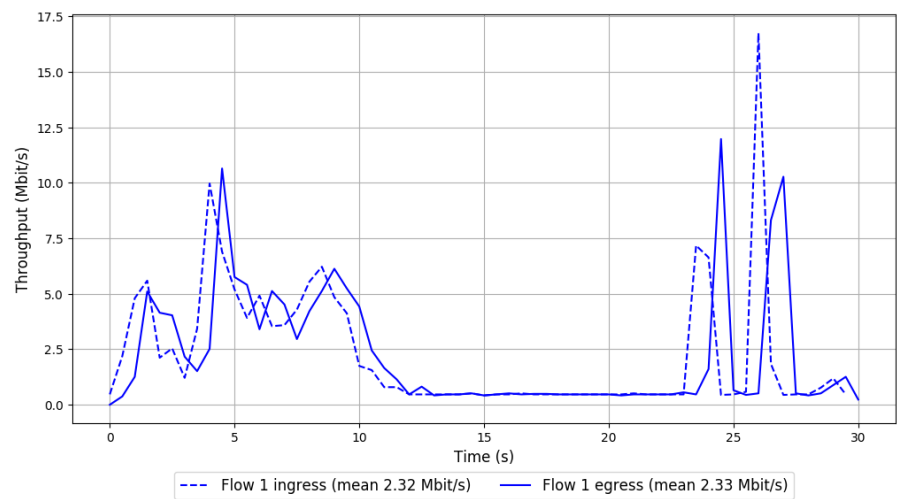


Run 1: Statistics of Indigo-Muses

Start at: 2018-12-02 09:56:37
End at: 2018-12-02 09:57:07
Local clock offset: -14.642 ms
Remote clock offset: 23.97 ms

Below is generated by plot.py at 2018-12-02 11:41:42
Datalink statistics
-- Total of 1 flow:
Average throughput: 2.33 Mbit/s
95th percentile per-packet one-way delay: 179.727 ms
Loss rate: 0.18%
-- Flow 1:
Average throughput: 2.33 Mbit/s
95th percentile per-packet one-way delay: 179.727 ms
Loss rate: 0.18%

Run 1: Report of Indigo-Muses — Data Link

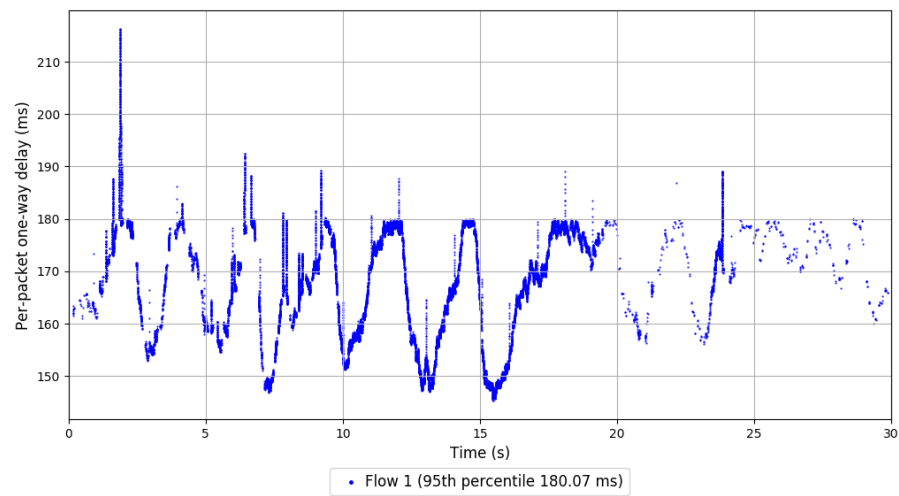
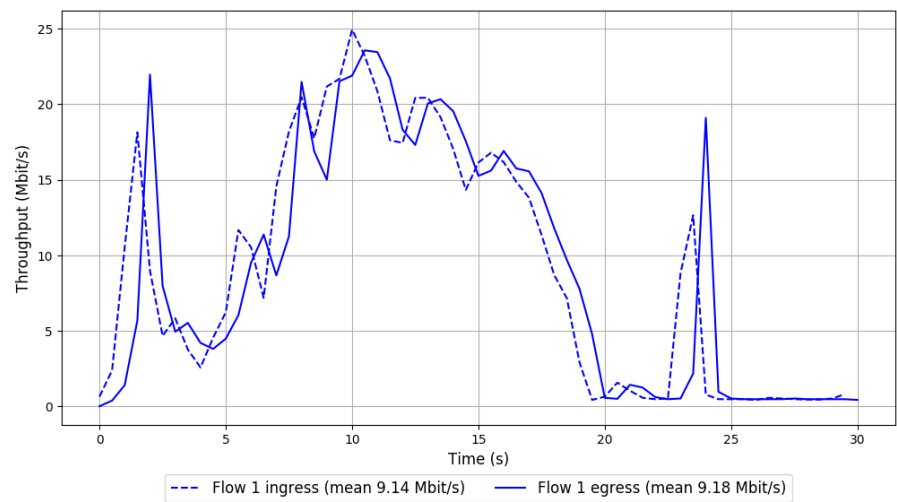


Run 2: Statistics of Indigo-Muses

Start at: 2018-12-02 10:23:05
End at: 2018-12-02 10:23:35
Local clock offset: -13.105 ms
Remote clock offset: 25.921 ms

Below is generated by plot.py at 2018-12-02 11:41:42
Datalink statistics
-- Total of 1 flow:
Average throughput: 9.18 Mbit/s
95th percentile per-packet one-way delay: 180.075 ms
Loss rate: 0.37%
-- Flow 1:
Average throughput: 9.18 Mbit/s
95th percentile per-packet one-way delay: 180.075 ms
Loss rate: 0.37%

Run 2: Report of Indigo-Muses — Data Link

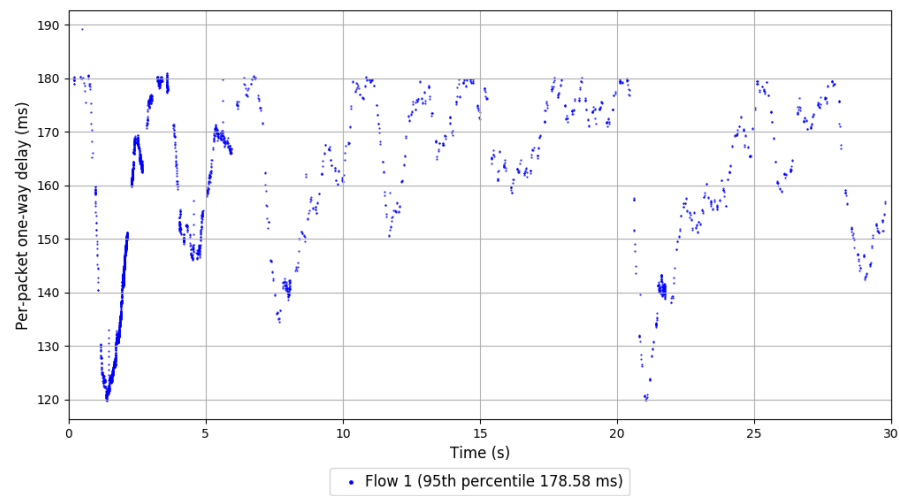
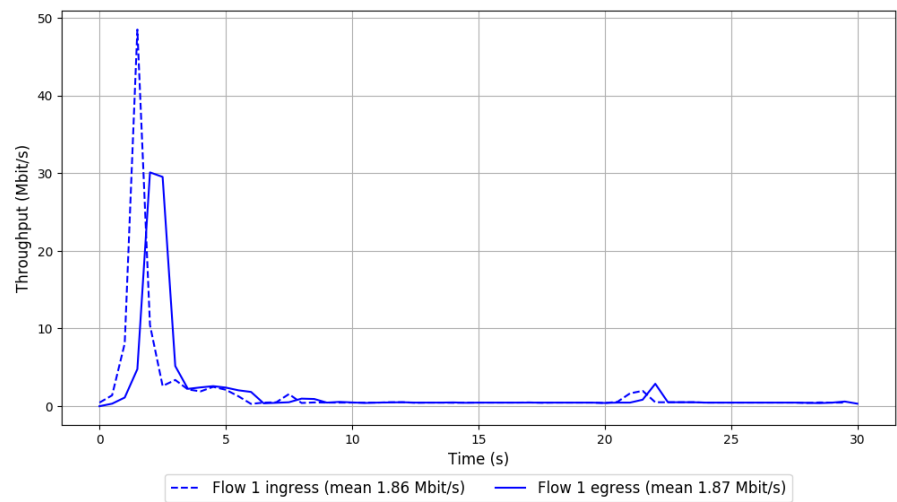


Run 3: Statistics of Indigo-Muses

Start at: 2018-12-02 10:47:43
End at: 2018-12-02 10:48:13
Local clock offset: -10.28 ms
Remote clock offset: 14.919 ms

Below is generated by plot.py at 2018-12-02 11:41:42
Datalink statistics
-- Total of 1 flow:
Average throughput: 1.87 Mbit/s
95th percentile per-packet one-way delay: 178.583 ms
Loss rate: 0.31%
-- Flow 1:
Average throughput: 1.87 Mbit/s
95th percentile per-packet one-way delay: 178.583 ms
Loss rate: 0.31%

Run 3: Report of Indigo-Muses — Data Link



Run 4: Statistics of Indigo-Muses

Start at: 2018-12-02 11:12:49

End at: 2018-12-02 11:13:19

Local clock offset: 2.237 ms

Remote clock offset: 7.793 ms

Below is generated by plot.py at 2018-12-02 11:41:42

Datalink statistics

-- Total of 1 flow:

Average throughput: 28.66 Mbit/s

95th percentile per-packet one-way delay: 187.274 ms

Loss rate: 4.30%

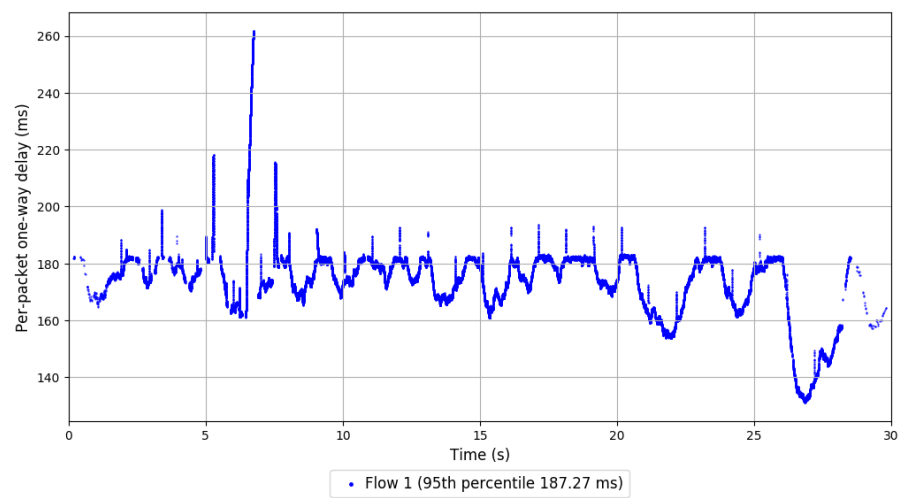
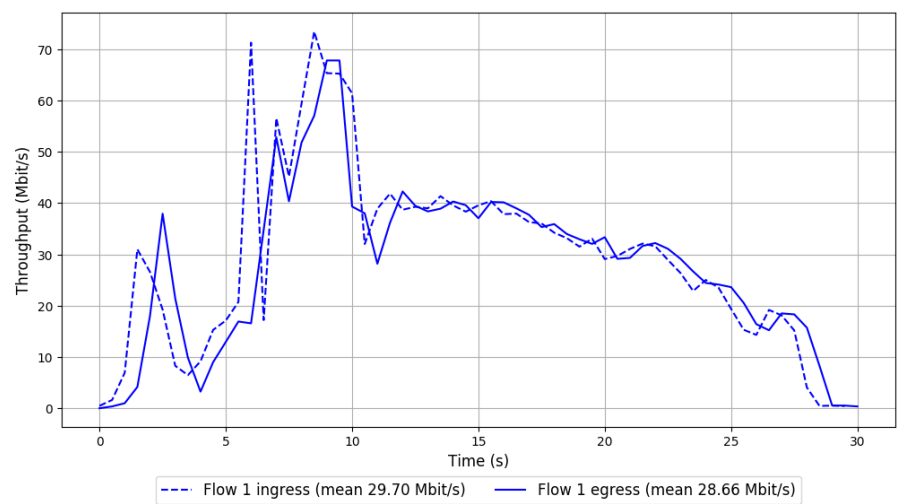
-- Flow 1:

Average throughput: 28.66 Mbit/s

95th percentile per-packet one-way delay: 187.274 ms

Loss rate: 4.30%

Run 4: Report of Indigo-Muses — Data Link

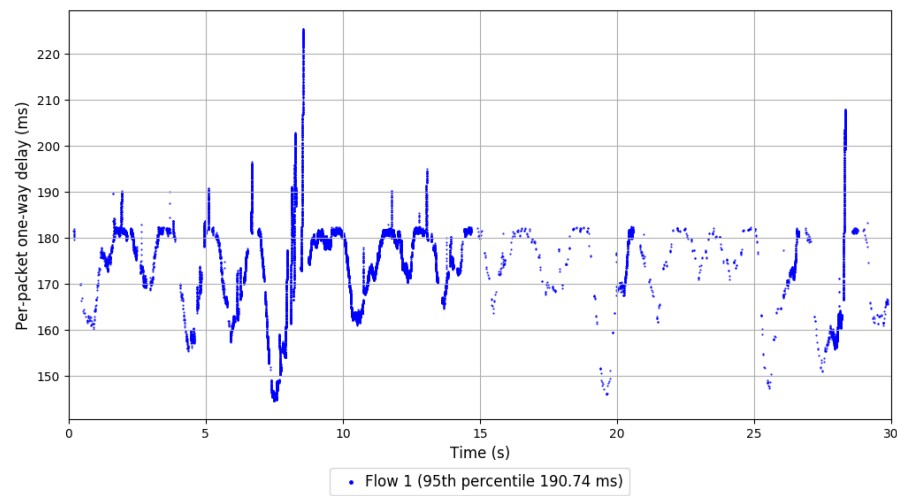
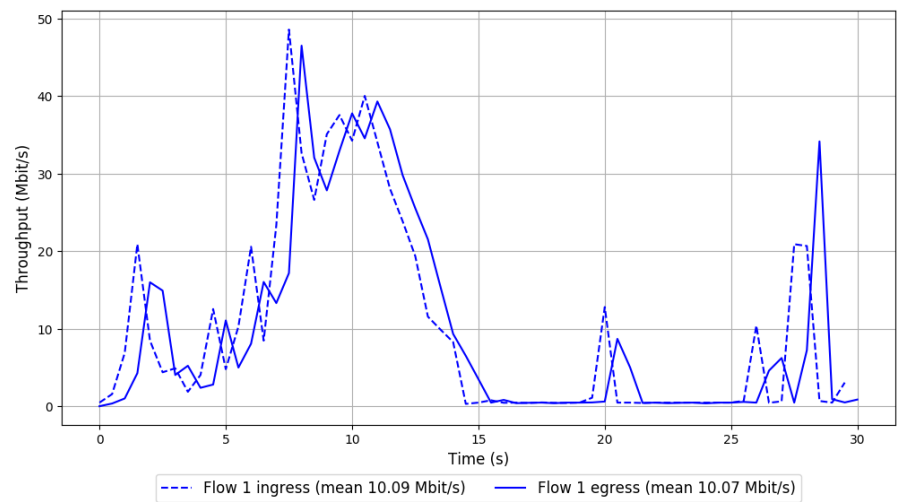


Run 5: Statistics of Indigo-Muses

Start at: 2018-12-02 11:37:57
End at: 2018-12-02 11:38:27
Local clock offset: 2.877 ms
Remote clock offset: 11.418 ms

Below is generated by plot.py at 2018-12-02 11:41:42
Datalink statistics
-- Total of 1 flow:
Average throughput: 10.07 Mbit/s
95th percentile per-packet one-way delay: 190.744 ms
Loss rate: 1.04%
-- Flow 1:
Average throughput: 10.07 Mbit/s
95th percentile per-packet one-way delay: 190.744 ms
Loss rate: 1.04%

Run 5: Report of Indigo-Muses — Data Link



Run 1: Statistics of PCC-Allegro

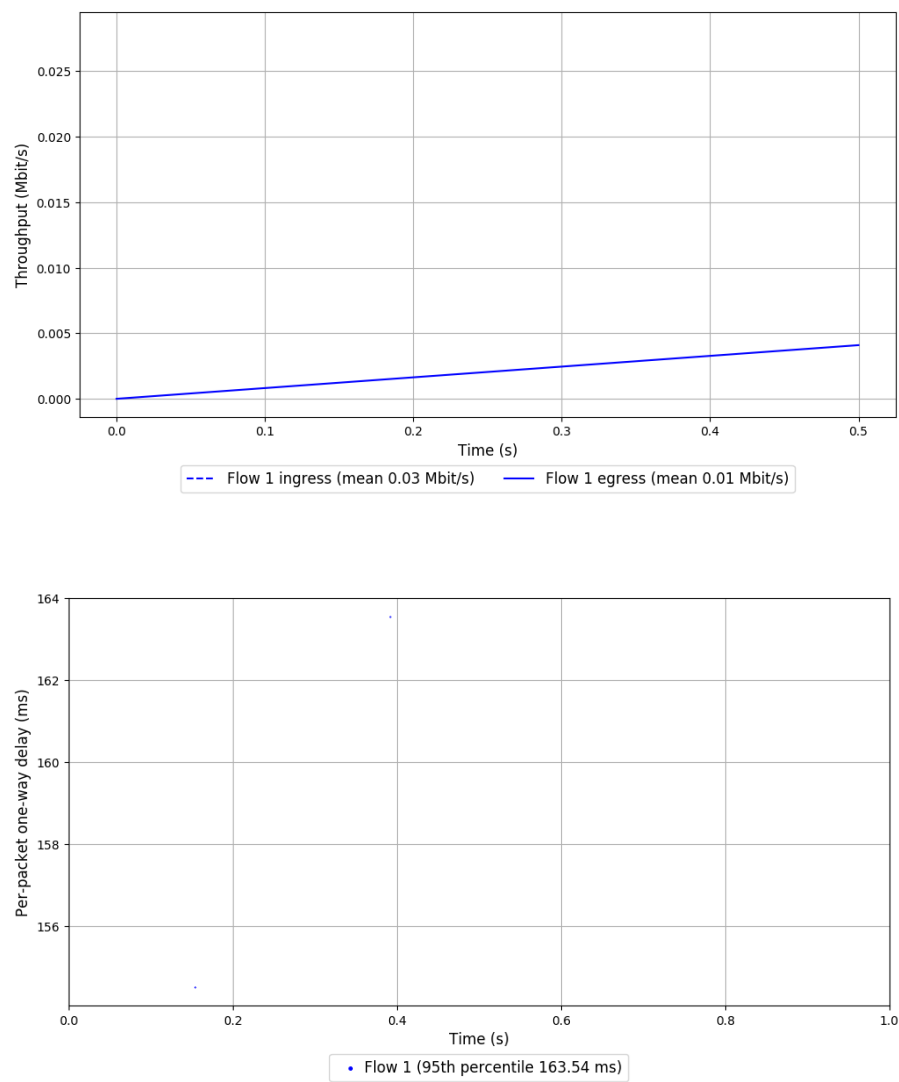
Start at: 2018-12-02 09:47:34

End at: 2018-12-02 09:48:04

Local clock offset: -15.66 ms

Remote clock offset: 23.78 ms

Run 1: Report of PCC-Allegro — Data Link



Run 2: Statistics of PCC-Allegro

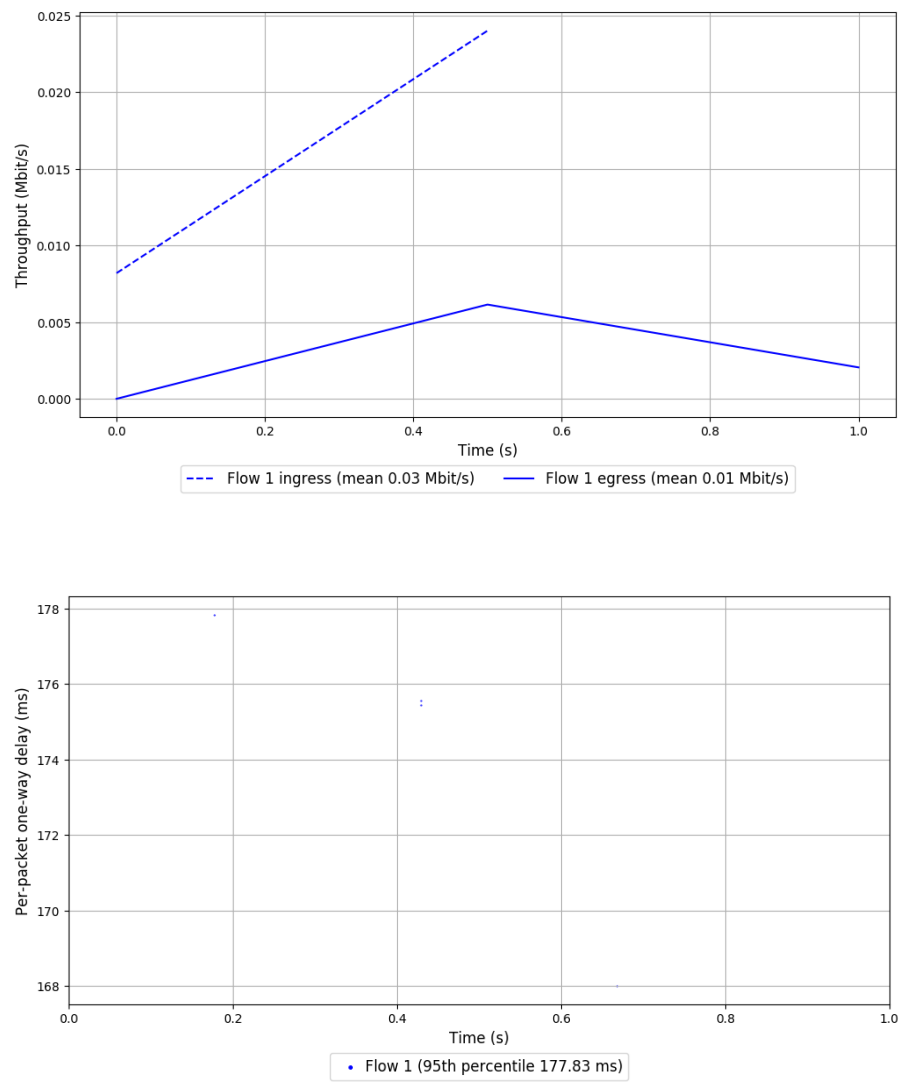
Start at: 2018-12-02 10:13:33

End at: 2018-12-02 10:14:04

Local clock offset: -15.204 ms

Remote clock offset: 27.244 ms

Run 2: Report of PCC-Allegro — Data Link



Run 3: Statistics of PCC-Allegro

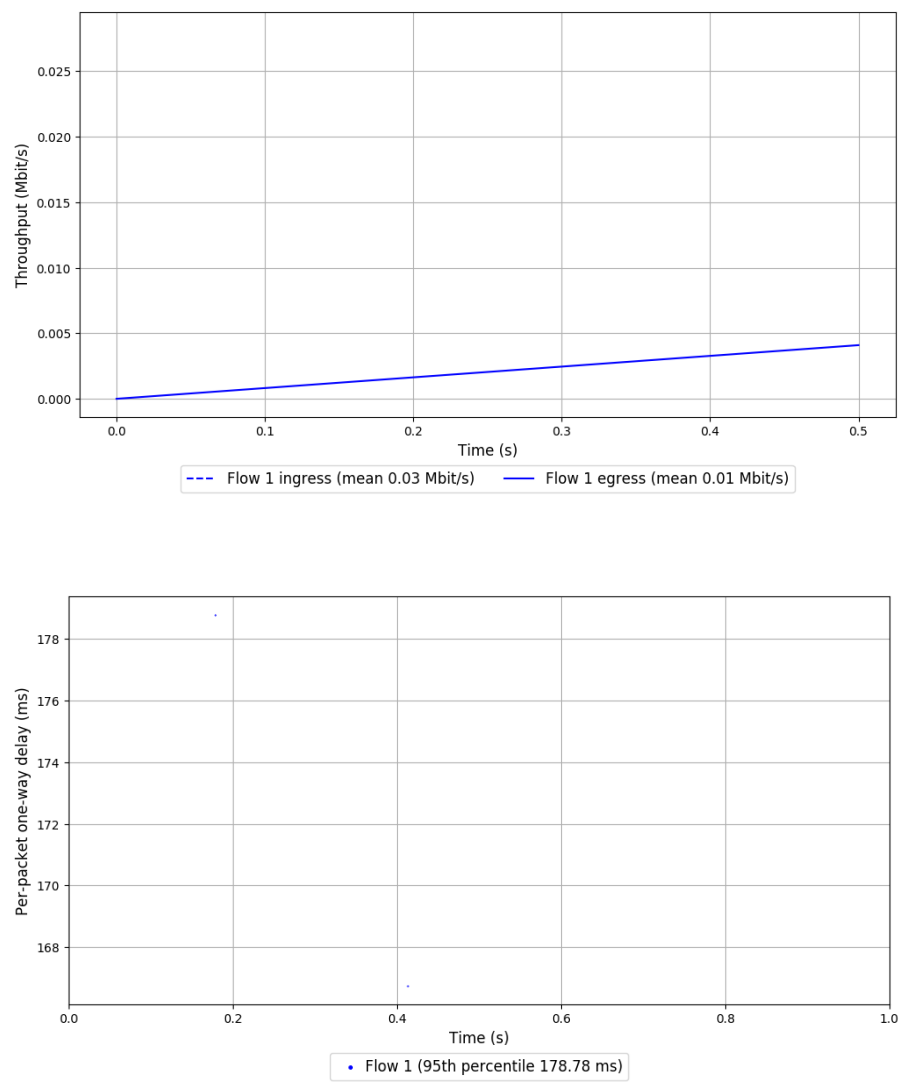
Start at: 2018-12-02 10:38:57

End at: 2018-12-02 10:39:27

Local clock offset: -10.572 ms

Remote clock offset: 22.832 ms

Run 3: Report of PCC-Allegro — Data Link



Run 4: Statistics of PCC-Allegro

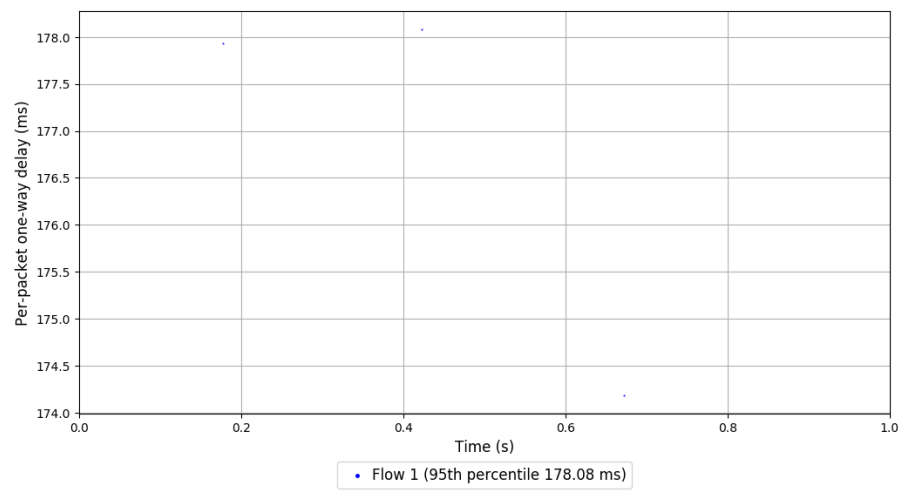
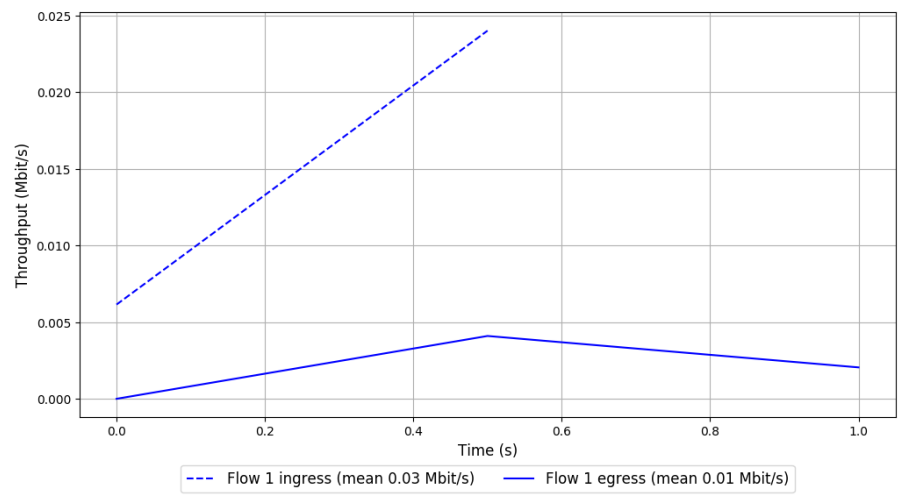
Start at: 2018-12-02 11:03:43

End at: 2018-12-02 11:04:13

Local clock offset: 0.085 ms

Remote clock offset: 11.04 ms

Run 4: Report of PCC-Allegro — Data Link



Run 5: Statistics of PCC-Allegro

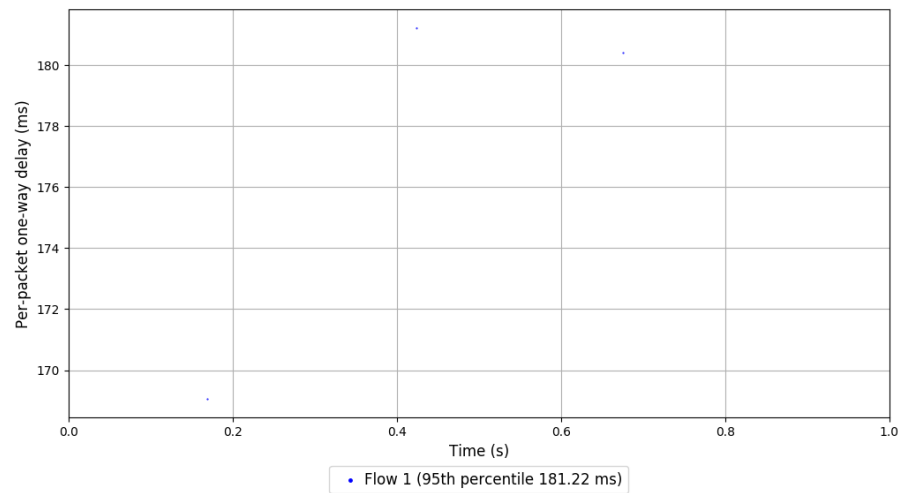
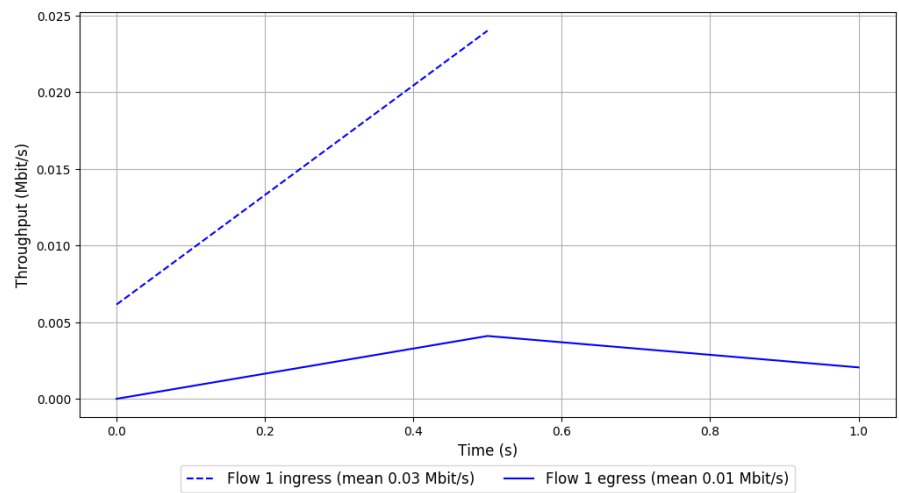
Start at: 2018-12-02 11:29:02

End at: 2018-12-02 11:29:32

Local clock offset: 2.606 ms

Remote clock offset: 12.473 ms

Run 5: Report of PCC-Allegro — Data Link

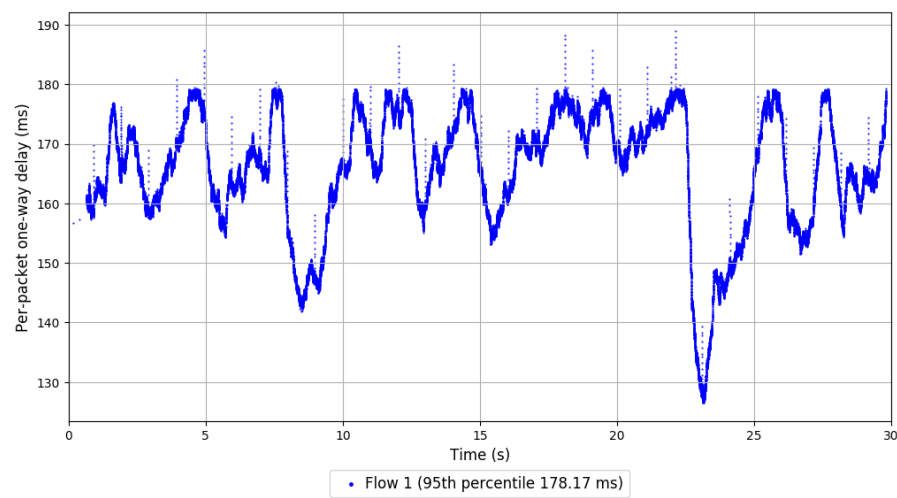
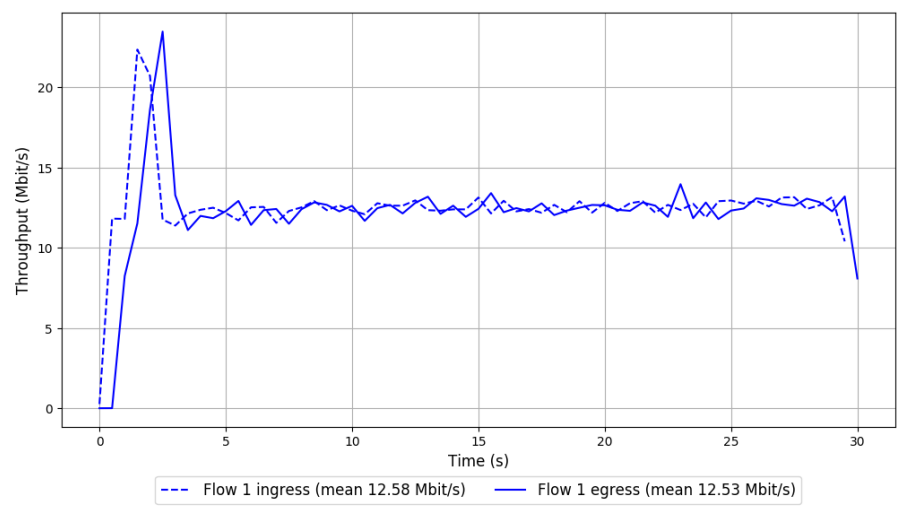


```
Run 1: Statistics of PCC-Expr

Start at: 2018-12-02 09:51:10
End at: 2018-12-02 09:51:41
Local clock offset: -14.908 ms
Remote clock offset: 25.783 ms

# Below is generated by plot.py at 2018-12-02 11:41:42
# Datalink statistics
-- Total of 1 flow:
Average throughput: 12.53 Mbit/s
95th percentile per-packet one-way delay: 178.173 ms
Loss rate: 1.14%
-- Flow 1:
Average throughput: 12.53 Mbit/s
95th percentile per-packet one-way delay: 178.173 ms
Loss rate: 1.14%
```

Run 1: Report of PCC-Expr — Data Link

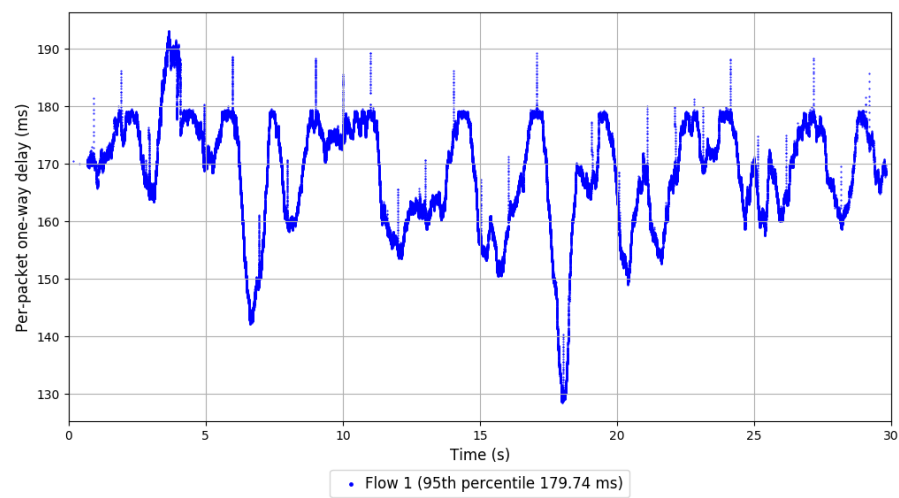
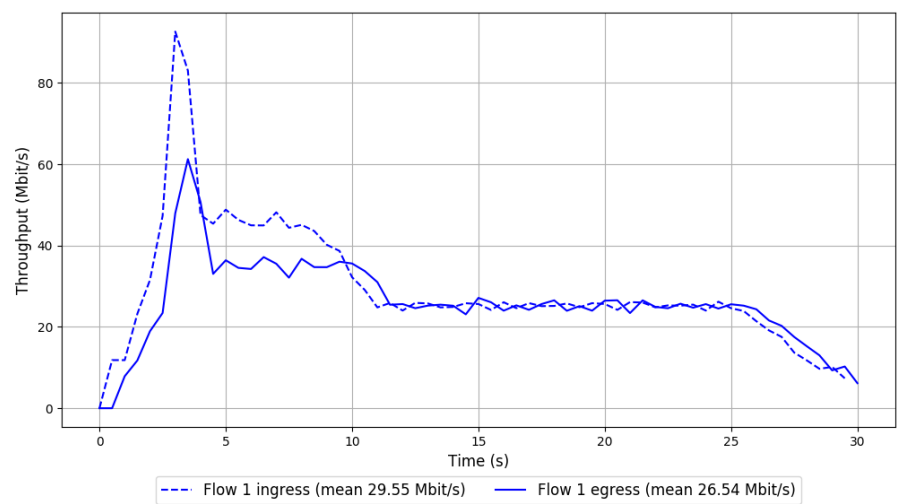


Run 2: Statistics of PCC-Expr

Start at: 2018-12-02 10:17:20
End at: 2018-12-02 10:17:50
Local clock offset: -15.408 ms
Remote clock offset: 26.585 ms

Below is generated by plot.py at 2018-12-02 11:42:04
Datalink statistics
-- Total of 1 flow:
Average throughput: 26.54 Mbit/s
95th percentile per-packet one-way delay: 179.738 ms
Loss rate: 10.89%
-- Flow 1:
Average throughput: 26.54 Mbit/s
95th percentile per-packet one-way delay: 179.738 ms
Loss rate: 10.89%

Run 2: Report of PCC-Expr — Data Link

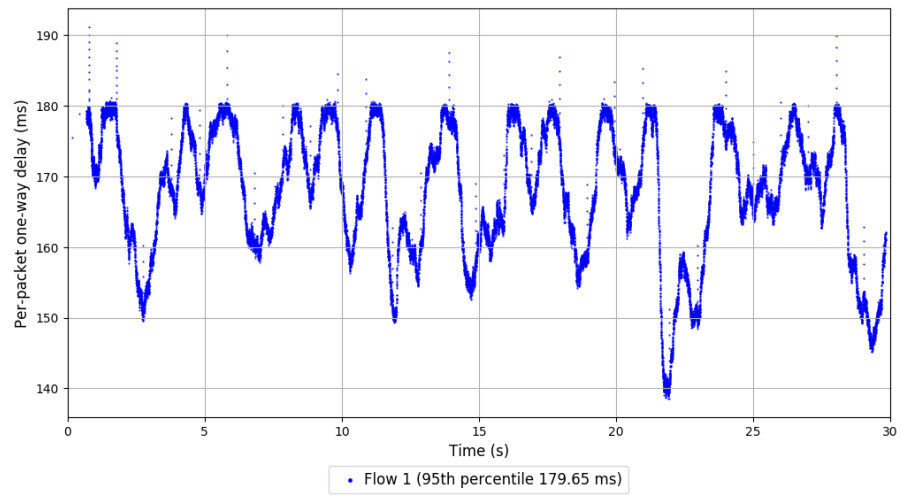
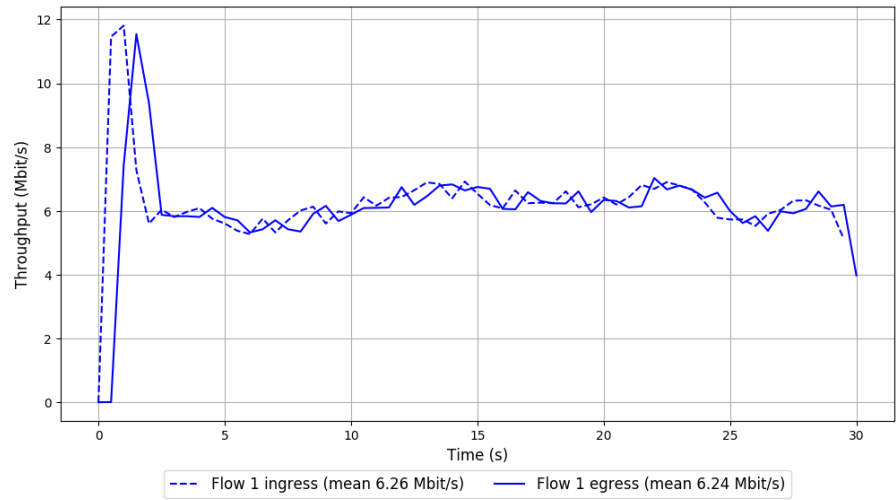


Run 3: Statistics of PCC-Expr

Start at: 2018-12-02 10:42:43
End at: 2018-12-02 10:43:13
Local clock offset: -10.34 ms
Remote clock offset: 18.135 ms

Below is generated by plot.py at 2018-12-02 11:42:04
Datalink statistics
-- Total of 1 flow:
Average throughput: 6.24 Mbit/s
95th percentile per-packet one-way delay: 179.645 ms
Loss rate: 1.13%
-- Flow 1:
Average throughput: 6.24 Mbit/s
95th percentile per-packet one-way delay: 179.645 ms
Loss rate: 1.13%

Run 3: Report of PCC-Expr — Data Link



Run 4: Statistics of PCC-Expr

Start at: 2018-12-02 11:07:24

End at: 2018-12-02 11:07:54

Local clock offset: 1.102 ms

Remote clock offset: 7.478 ms

Below is generated by plot.py at 2018-12-02 11:42:04

Datalink statistics

-- Total of 1 flow:

Average throughput: 15.07 Mbit/s

95th percentile per-packet one-way delay: 180.306 ms

Loss rate: 1.00%

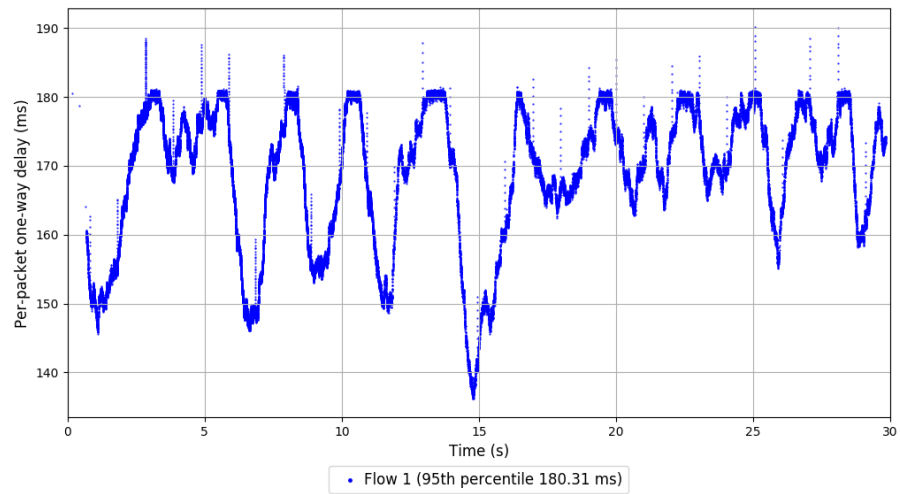
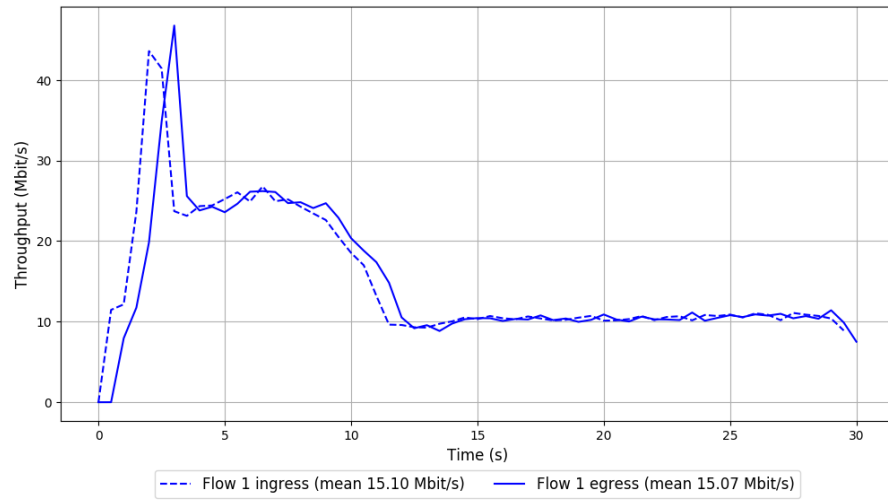
-- Flow 1:

Average throughput: 15.07 Mbit/s

95th percentile per-packet one-way delay: 180.306 ms

Loss rate: 1.00%

Run 4: Report of PCC-Expr — Data Link



Run 5: Statistics of PCC-Expr

Start at: 2018-12-02 11:32:38

End at: 2018-12-02 11:33:08

Local clock offset: 2.632 ms

Remote clock offset: 11.73 ms

Below is generated by plot.py at 2018-12-02 11:42:04

Datalink statistics

-- Total of 1 flow:

Average throughput: 11.92 Mbit/s

95th percentile per-packet one-way delay: 181.494 ms

Loss rate: 1.97%

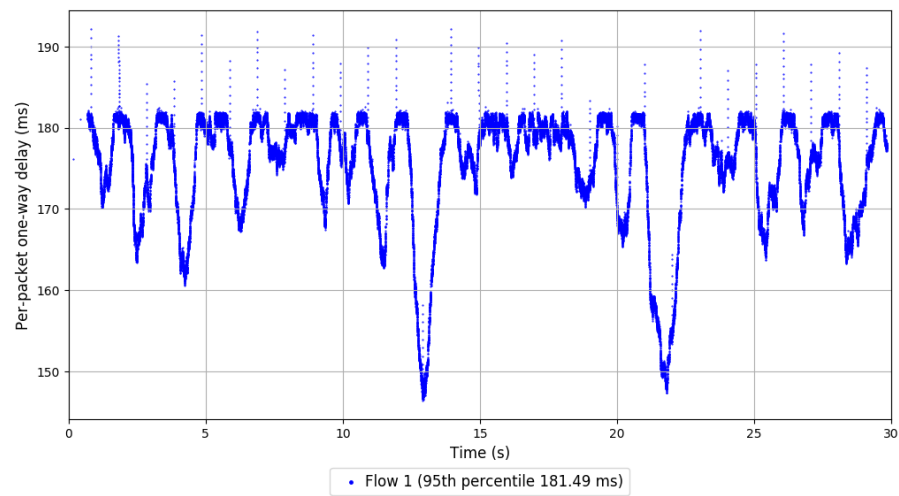
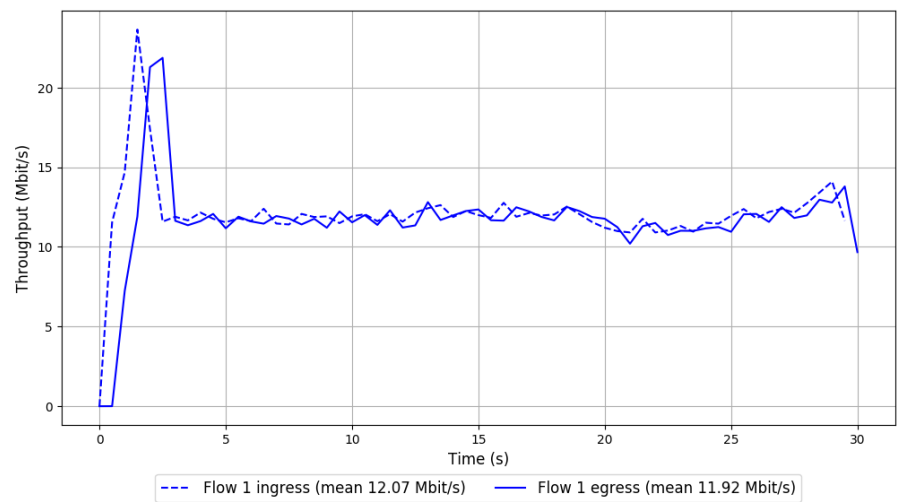
-- Flow 1:

Average throughput: 11.92 Mbit/s

95th percentile per-packet one-way delay: 181.494 ms

Loss rate: 1.97%

Run 5: Report of PCC-Expr — Data Link

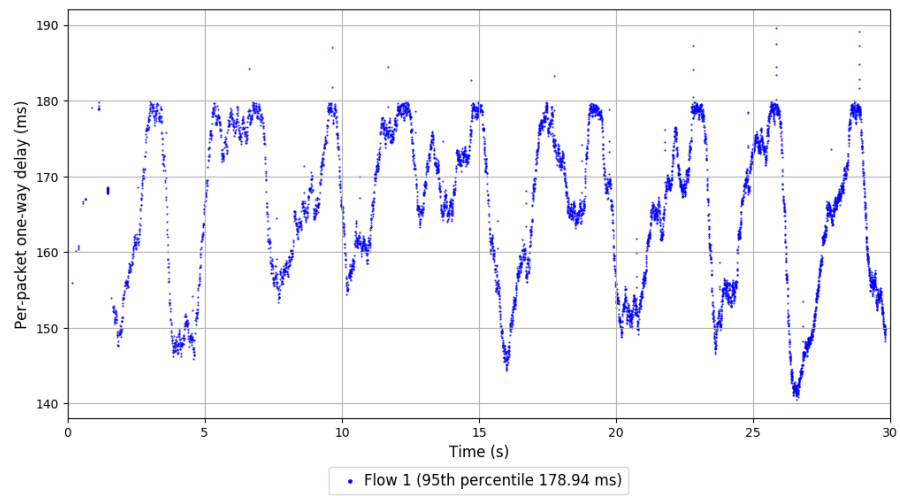
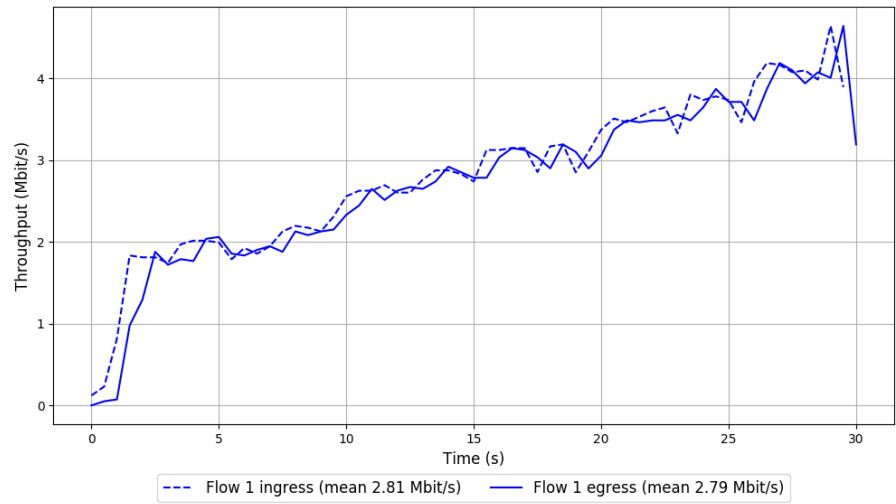


Run 1: Statistics of QUIC Cubic

Start at: 2018-12-02 09:55:25
End at: 2018-12-02 09:55:55
Local clock offset: -14.672 ms
Remote clock offset: 25.197 ms

Below is generated by plot.py at 2018-12-02 11:42:04
Datalink statistics
-- Total of 1 flow:
Average throughput: 2.79 Mbit/s
95th percentile per-packet one-way delay: 178.944 ms
Loss rate: 1.49%
-- Flow 1:
Average throughput: 2.79 Mbit/s
95th percentile per-packet one-way delay: 178.944 ms
Loss rate: 1.49%

Run 1: Report of QUIC Cubic — Data Link

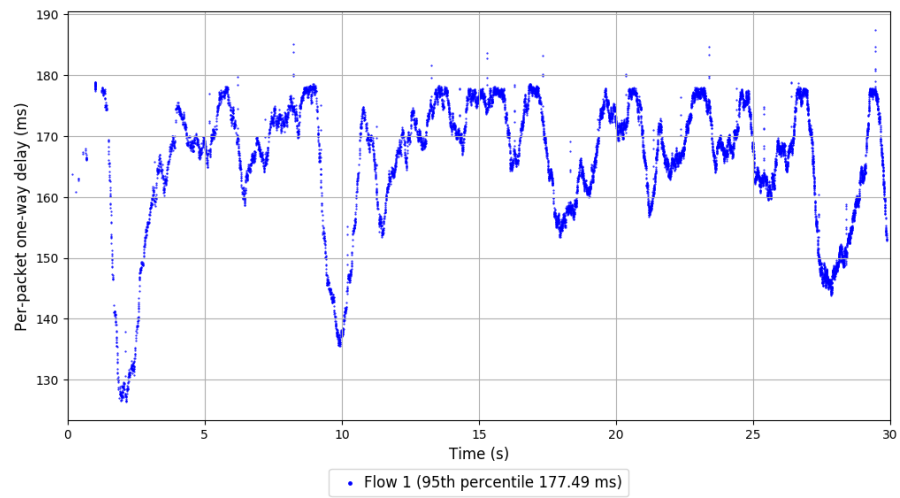
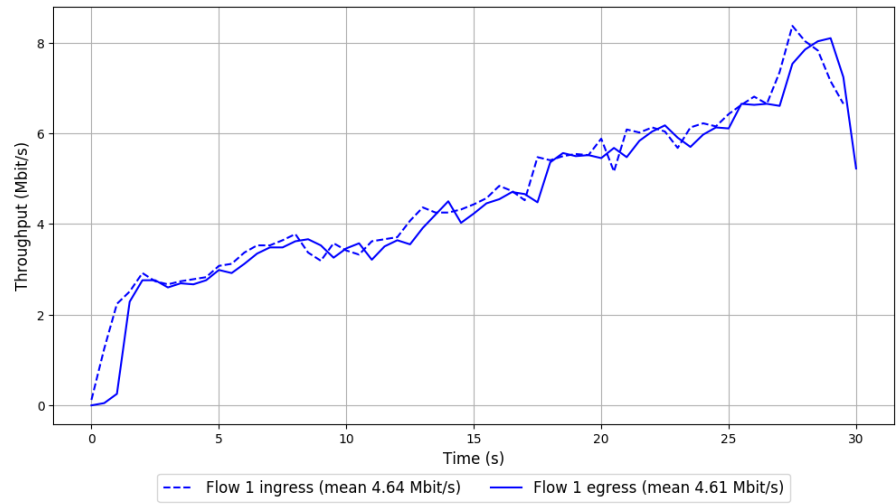


Run 2: Statistics of QUIC Cubic

Start at: 2018-12-02 10:21:49
End at: 2018-12-02 10:22:19
Local clock offset: -13.499 ms
Remote clock offset: 27.62 ms

Below is generated by plot.py at 2018-12-02 11:42:04
Datalink statistics
-- Total of 1 flow:
Average throughput: 4.61 Mbit/s
95th percentile per-packet one-way delay: 177.488 ms
Loss rate: 1.46%
-- Flow 1:
Average throughput: 4.61 Mbit/s
95th percentile per-packet one-way delay: 177.488 ms
Loss rate: 1.46%

Run 2: Report of QUIC Cubic — Data Link

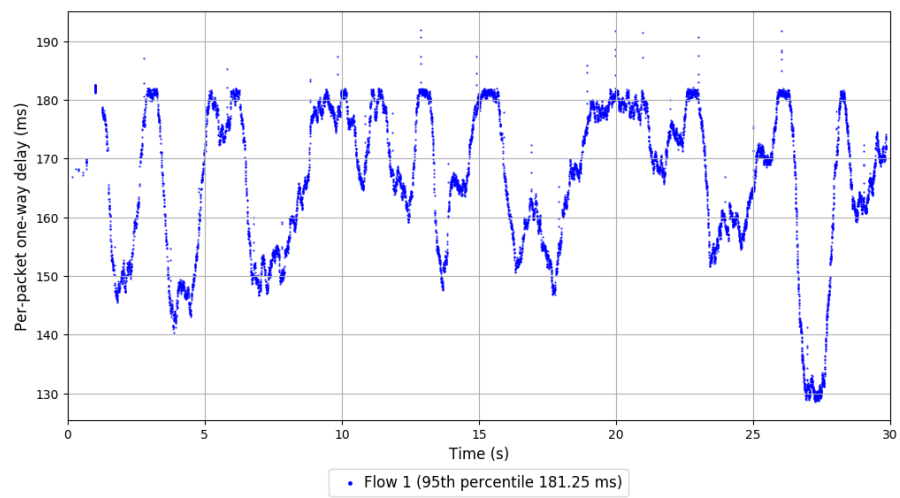
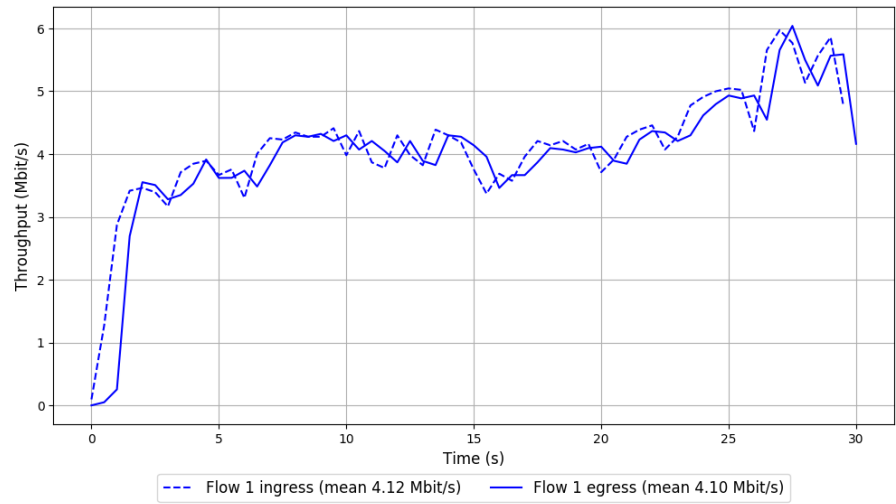


Run 3: Statistics of QUIC Cubic

Start at: 2018-12-02 10:46:24
End at: 2018-12-02 10:46:54
Local clock offset: -10.266 ms
Remote clock offset: 14.707 ms

Below is generated by plot.py at 2018-12-02 11:42:04
Datalink statistics
-- Total of 1 flow:
Average throughput: 4.10 Mbit/s
95th percentile per-packet one-way delay: 181.253 ms
Loss rate: 1.36%
-- Flow 1:
Average throughput: 4.10 Mbit/s
95th percentile per-packet one-way delay: 181.253 ms
Loss rate: 1.36%

Run 3: Report of QUIC Cubic — Data Link



Run 4: Statistics of QUIC Cubic

Start at: 2018-12-02 11:11:36

End at: 2018-12-02 11:12:06

Local clock offset: 2.227 ms

Remote clock offset: 6.961 ms

Below is generated by plot.py at 2018-12-02 11:42:04

Datalink statistics

-- Total of 1 flow:

Average throughput: 3.93 Mbit/s

95th percentile per-packet one-way delay: 182.282 ms

Loss rate: 1.10%

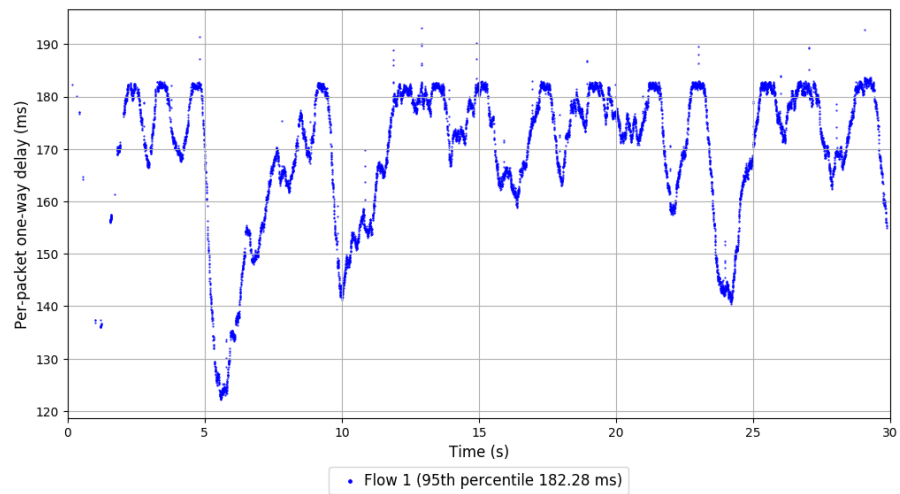
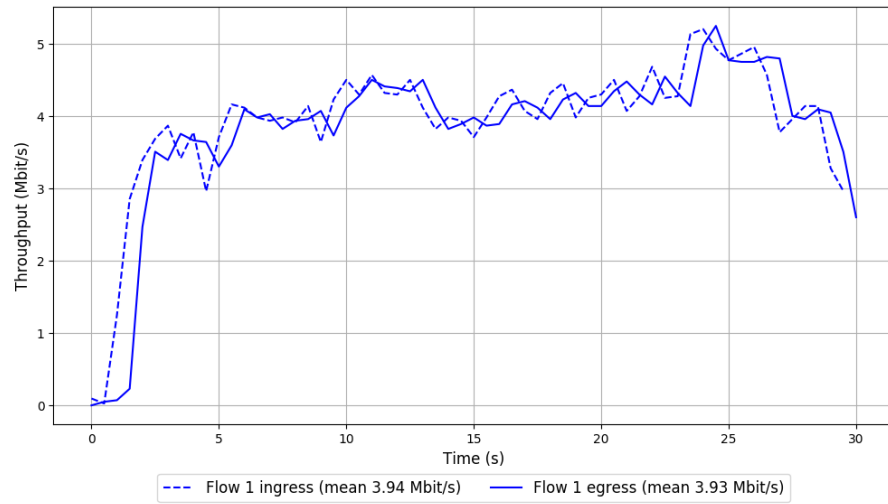
-- Flow 1:

Average throughput: 3.93 Mbit/s

95th percentile per-packet one-way delay: 182.282 ms

Loss rate: 1.10%

Run 4: Report of QUIC Cubic — Data Link



Run 5: Statistics of QUIC Cubic

Start at: 2018-12-02 11:36:42

End at: 2018-12-02 11:37:12

Local clock offset: 2.729 ms

Remote clock offset: 12.674 ms

Below is generated by plot.py at 2018-12-02 11:42:04

Datalink statistics

-- Total of 1 flow:

Average throughput: 2.35 Mbit/s

95th percentile per-packet one-way delay: 180.389 ms

Loss rate: 1.40%

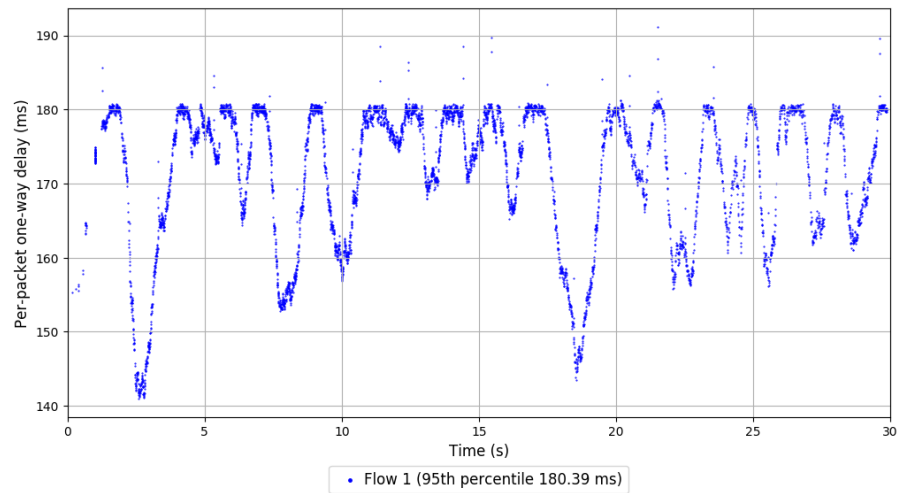
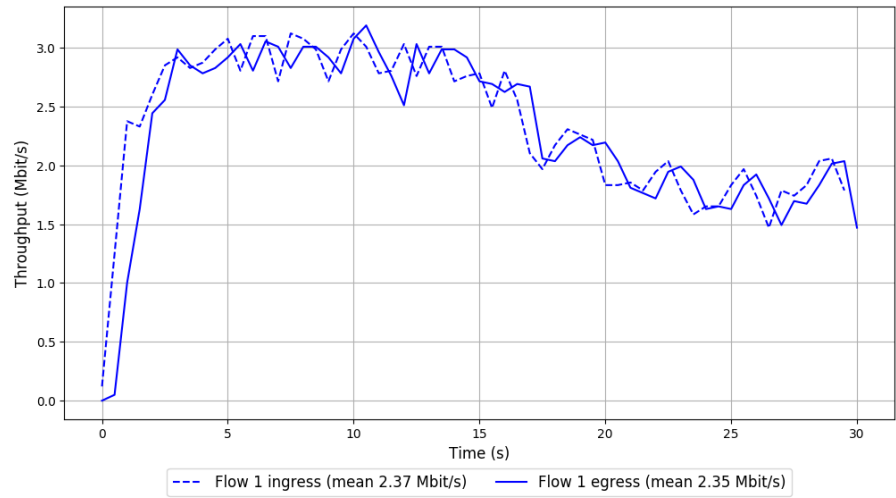
-- Flow 1:

Average throughput: 2.35 Mbit/s

95th percentile per-packet one-way delay: 180.389 ms

Loss rate: 1.40%

Run 5: Report of QUIC Cubic — Data Link

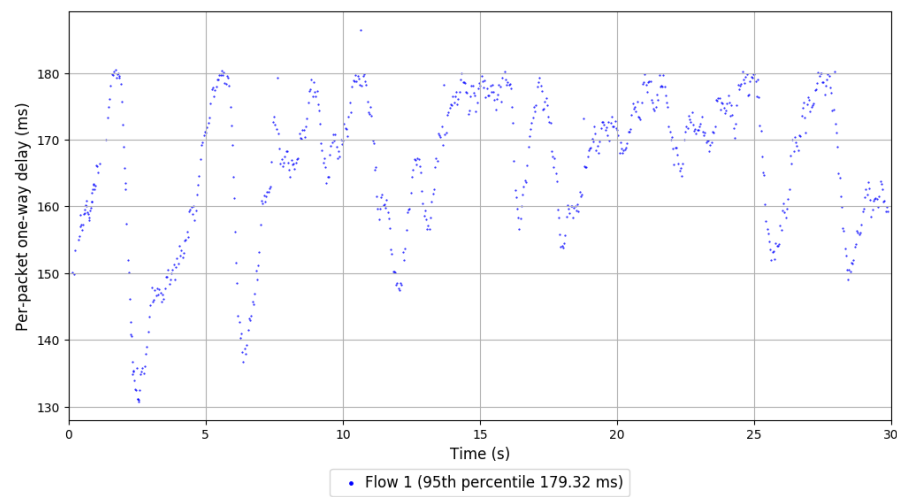
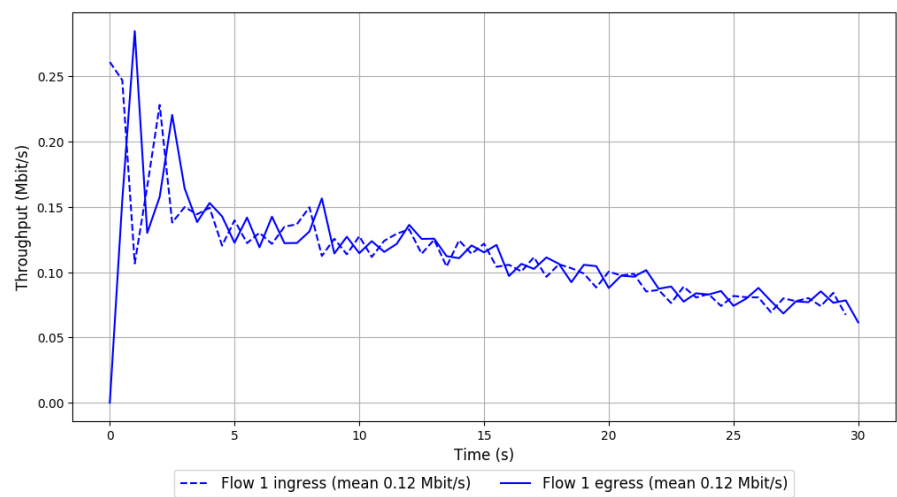


Run 1: Statistics of SCReAM

Start at: 2018-12-02 09:49:59
End at: 2018-12-02 09:50:29
Local clock offset: -15.358 ms
Remote clock offset: 24.397 ms

Below is generated by plot.py at 2018-12-02 11:42:04
Datalink statistics
-- Total of 1 flow:
Average throughput: 0.12 Mbit/s
95th percentile per-packet one-way delay: 179.321 ms
Loss rate: 0.58%
-- Flow 1:
Average throughput: 0.12 Mbit/s
95th percentile per-packet one-way delay: 179.321 ms
Loss rate: 0.58%

Run 1: Report of SReAM — Data Link

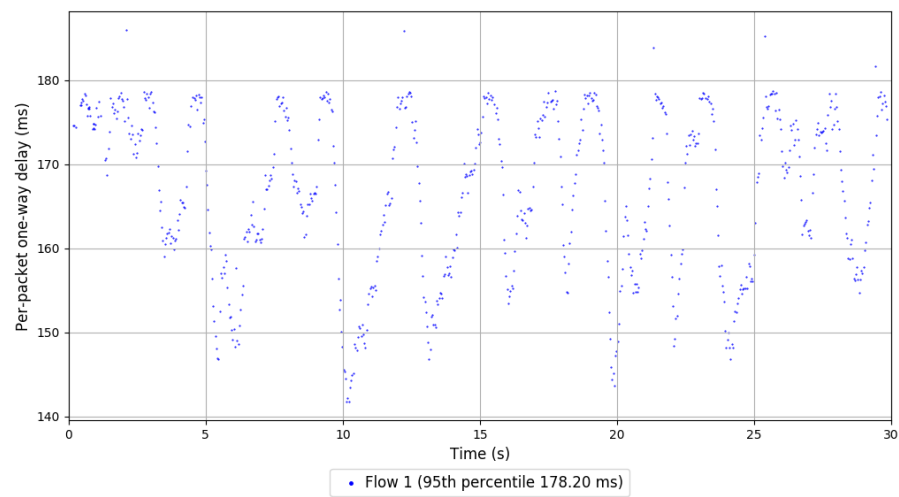
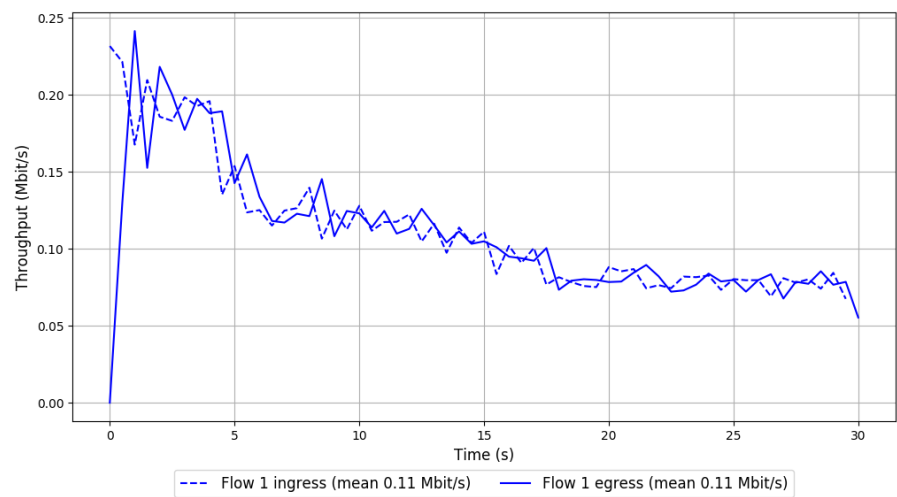


Run 2: Statistics of SCReAM

Start at: 2018-12-02 10:16:08
End at: 2018-12-02 10:16:38
Local clock offset: -15.674 ms
Remote clock offset: 27.629 ms

Below is generated by plot.py at 2018-12-02 11:42:04
Datalink statistics
-- Total of 1 flow:
Average throughput: 0.11 Mbit/s
95th percentile per-packet one-way delay: 178.197 ms
Loss rate: 1.42%
-- Flow 1:
Average throughput: 0.11 Mbit/s
95th percentile per-packet one-way delay: 178.197 ms
Loss rate: 1.42%

Run 2: Report of SReAM — Data Link

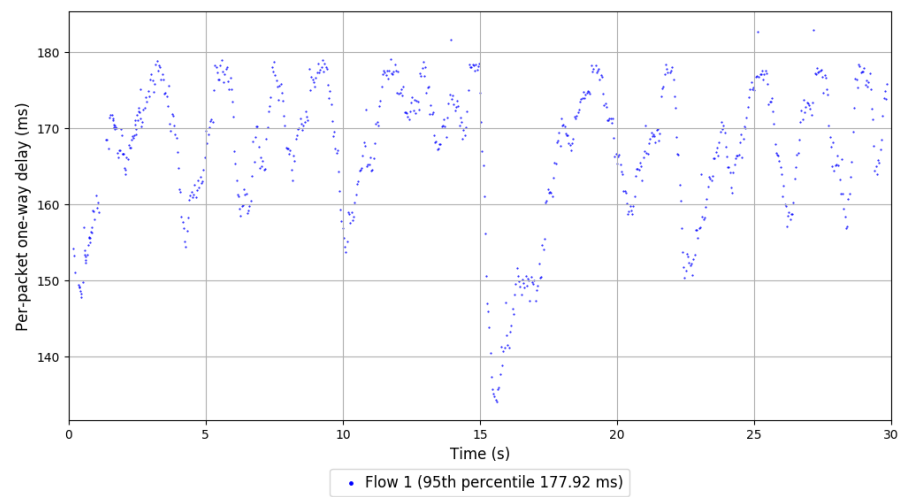
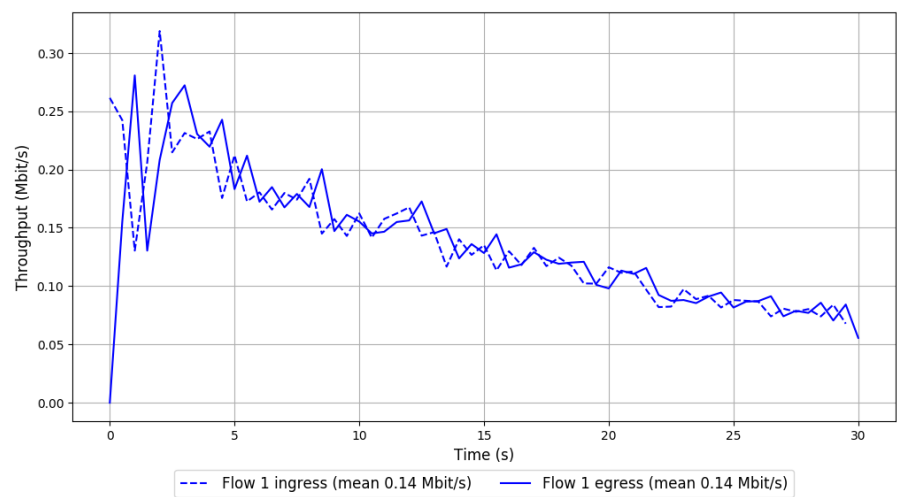


Run 3: Statistics of SCReAM

Start at: 2018-12-02 10:41:31
End at: 2018-12-02 10:42:01
Local clock offset: -10.346 ms
Remote clock offset: 21.039 ms

Below is generated by plot.py at 2018-12-02 11:42:04
Datalink statistics
-- Total of 1 flow:
Average throughput: 0.14 Mbit/s
95th percentile per-packet one-way delay: 177.924 ms
Loss rate: 0.66%
-- Flow 1:
Average throughput: 0.14 Mbit/s
95th percentile per-packet one-way delay: 177.924 ms
Loss rate: 0.66%

Run 3: Report of SReAM — Data Link



Run 4: Statistics of SCReAM

Start at: 2018-12-02 11:06:13

End at: 2018-12-02 11:06:43

Local clock offset: 0.937 ms

Remote clock offset: 9.862 ms

Below is generated by plot.py at 2018-12-02 11:42:04

Datalink statistics

-- Total of 1 flow:

Average throughput: 0.16 Mbit/s

95th percentile per-packet one-way delay: 179.087 ms

Loss rate: 1.09%

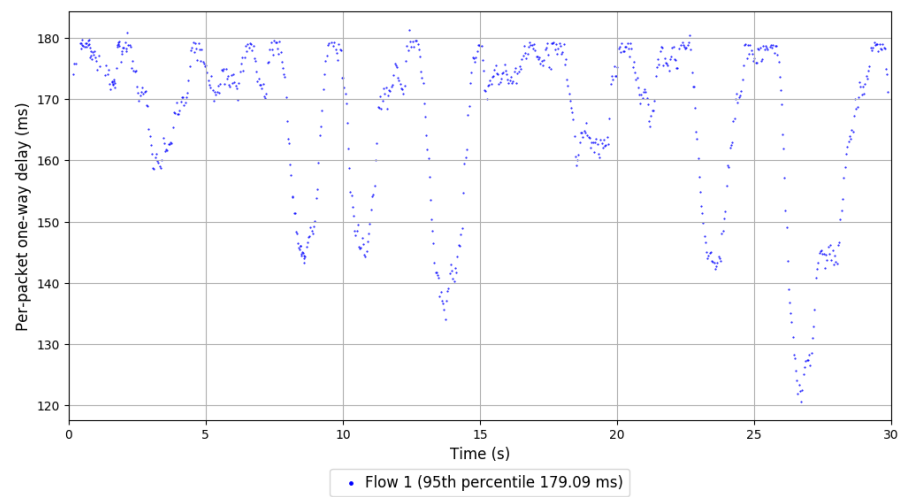
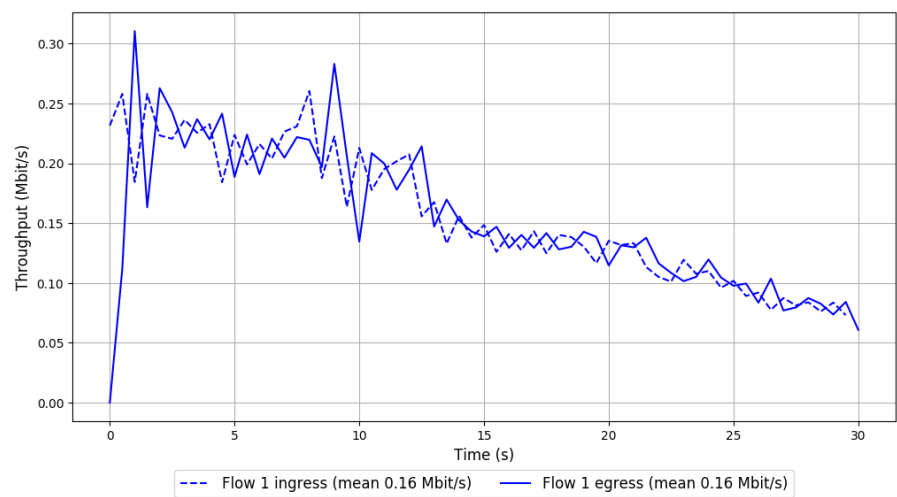
-- Flow 1:

Average throughput: 0.16 Mbit/s

95th percentile per-packet one-way delay: 179.087 ms

Loss rate: 1.09%

Run 4: Report of SReAM — Data Link

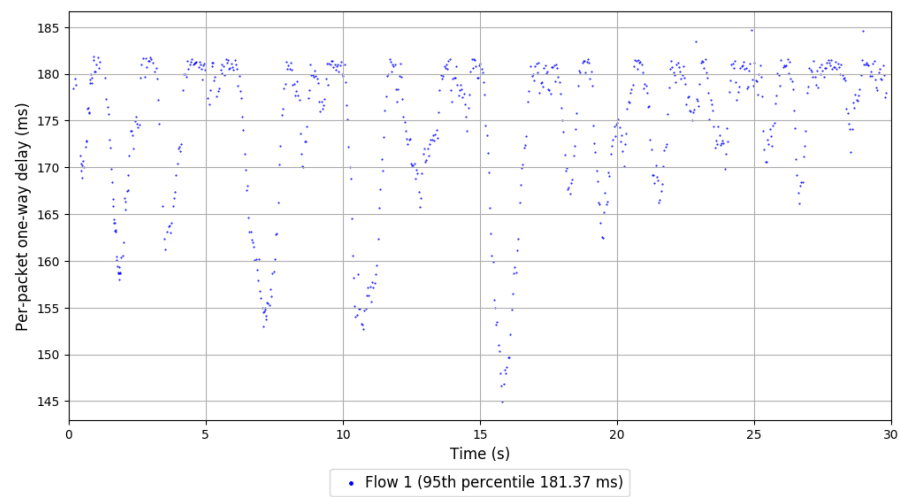
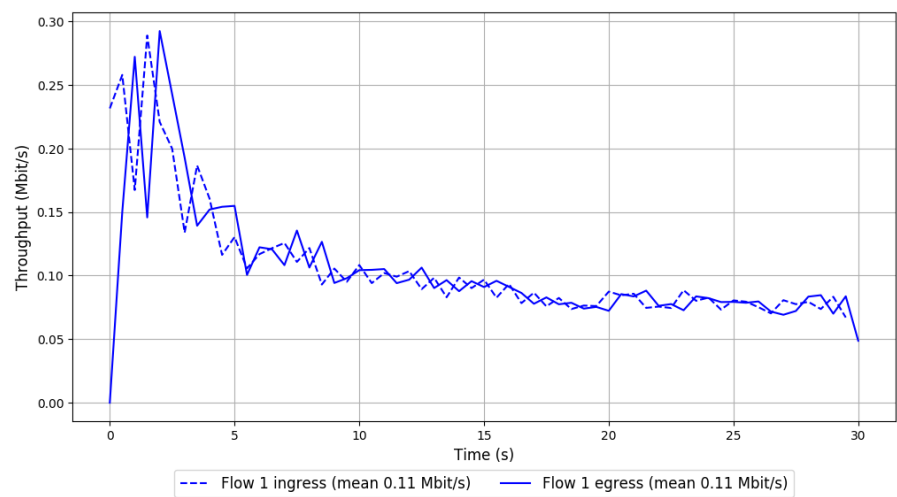


Run 5: Statistics of SCReAM

Start at: 2018-12-02 11:31:27
End at: 2018-12-02 11:31:57
Local clock offset: 2.603 ms
Remote clock offset: 12.465 ms

Below is generated by plot.py at 2018-12-02 11:42:04
Datalink statistics
-- Total of 1 flow:
Average throughput: 0.11 Mbit/s
95th percentile per-packet one-way delay: 181.370 ms
Loss rate: 1.70%
-- Flow 1:
Average throughput: 0.11 Mbit/s
95th percentile per-packet one-way delay: 181.370 ms
Loss rate: 1.70%

Run 5: Report of SReAM — Data Link



Run 1: Statistics of Sprout

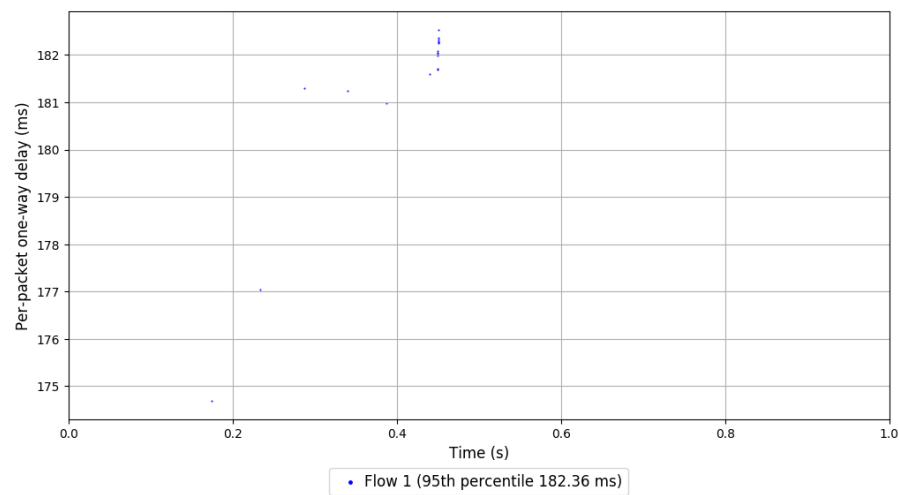
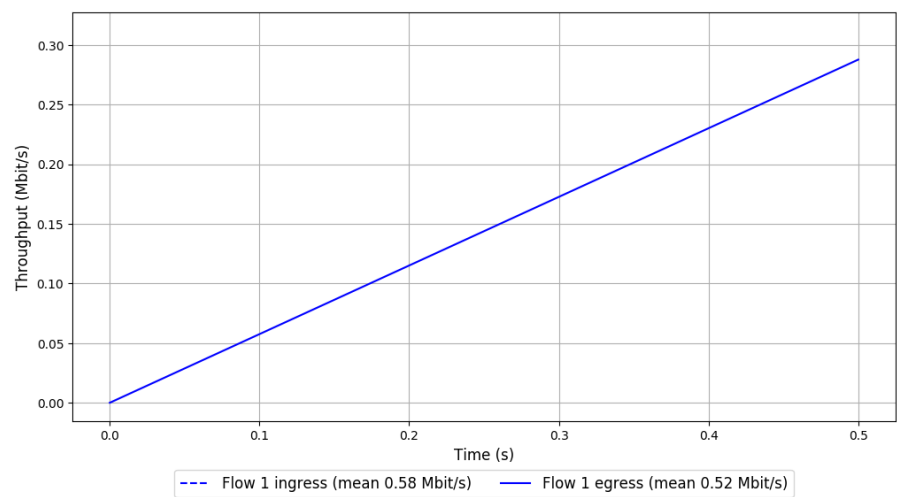
Start at: 2018-12-02 09:35:00

End at: 2018-12-02 09:35:30

Local clock offset: -12.249 ms

Remote clock offset: 27.233 ms

Run 1: Report of Sprout — Data Link



Run 2: Statistics of Sprout

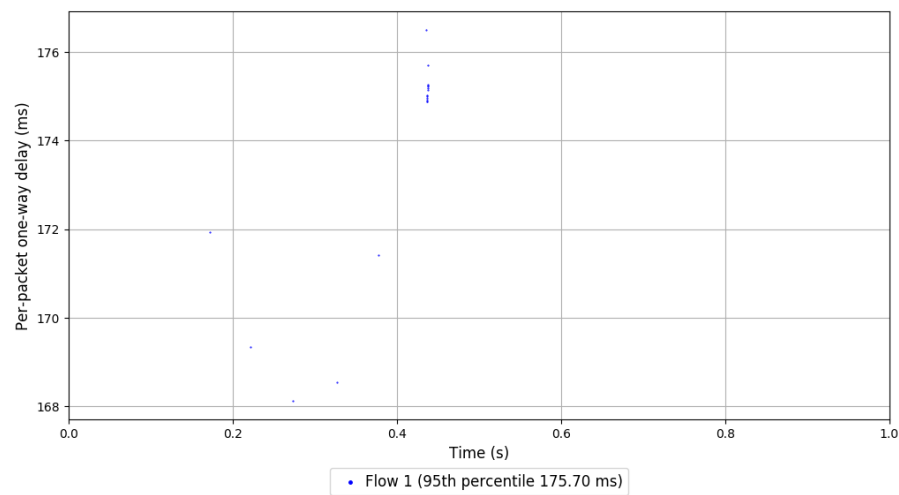
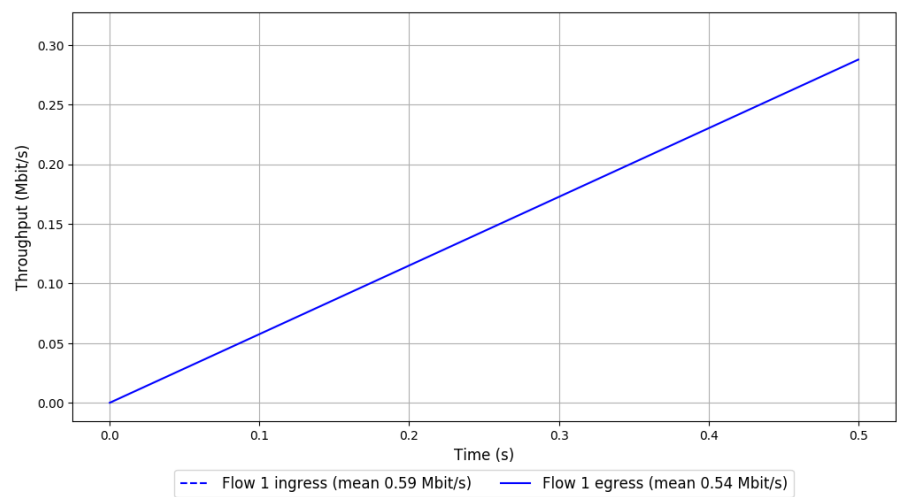
Start at: 2018-12-02 09:59:10

End at: 2018-12-02 09:59:40

Local clock offset: -14.592 ms

Remote clock offset: 22.873 ms

Run 2: Report of Sprout — Data Link



Run 3: Statistics of Sprout

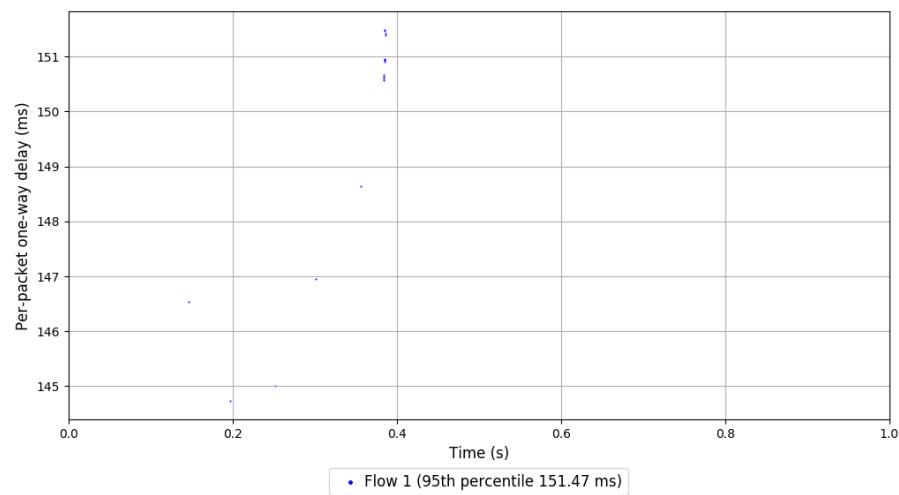
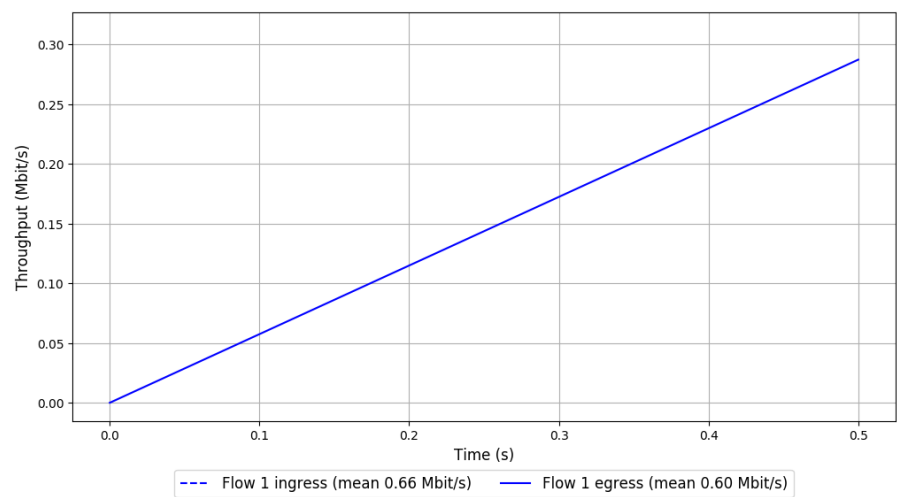
Start at: 2018-12-02 10:25:42

End at: 2018-12-02 10:26:12

Local clock offset: -12.128 ms

Remote clock offset: 28.523 ms

Run 3: Report of Sprout — Data Link



Run 4: Statistics of Sprout

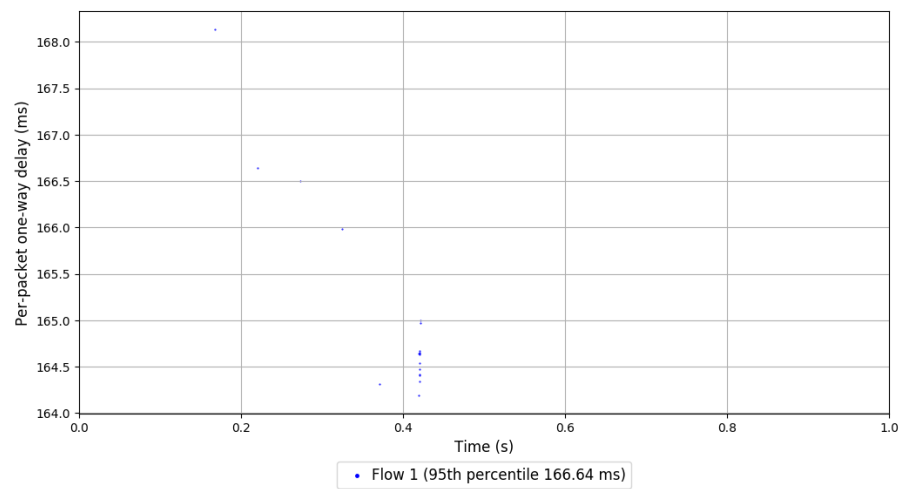
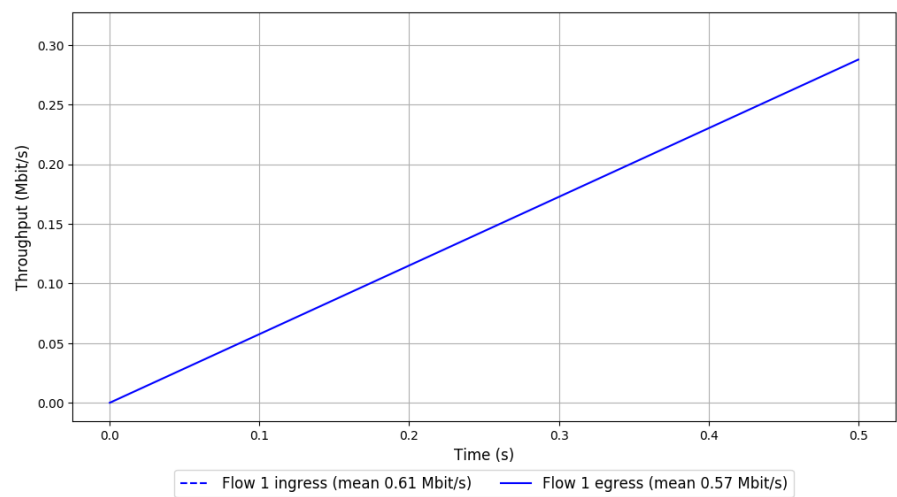
Start at: 2018-12-02 10:50:18

End at: 2018-12-02 10:50:48

Local clock offset: -7.506 ms

Remote clock offset: 16.217 ms

Run 4: Report of Sprout — Data Link



Run 5: Statistics of Sprout

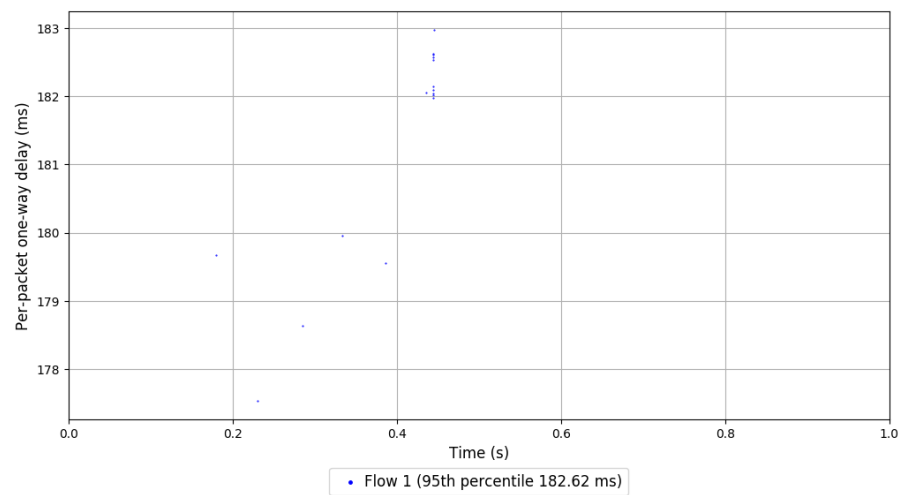
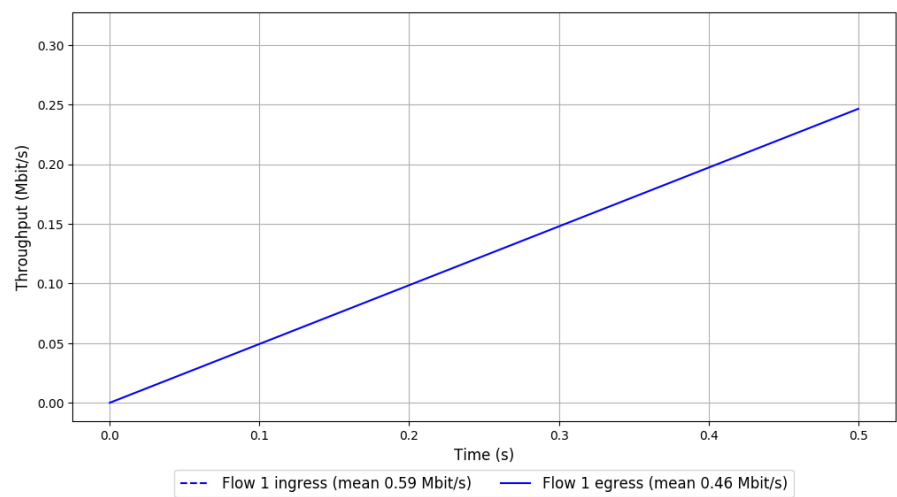
Start at: 2018-12-02 11:15:38

End at: 2018-12-02 11:16:08

Local clock offset: 2.703 ms

Remote clock offset: 9.047 ms

Run 5: Report of Sprout — Data Link

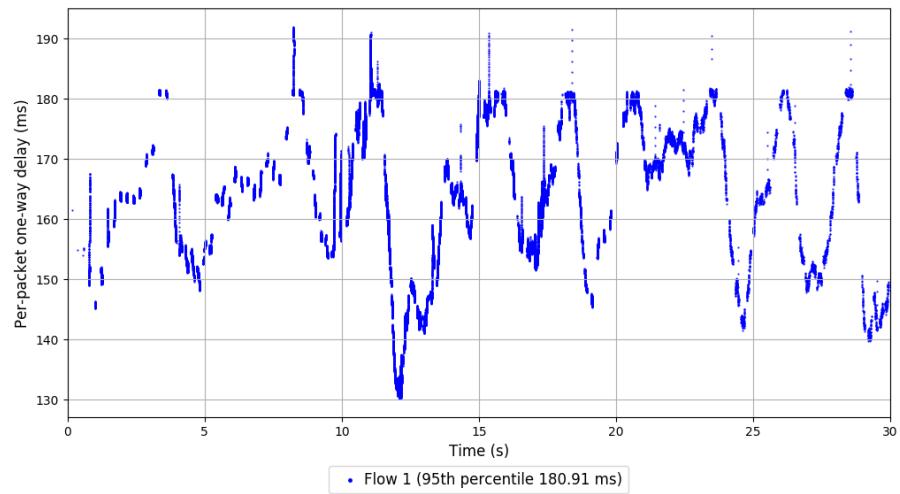
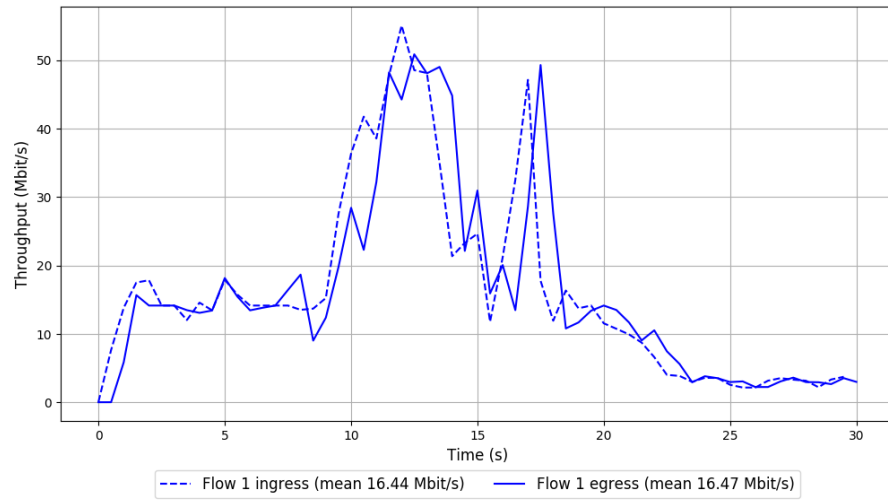


Run 1: Statistics of TaoVA-100x

Start at: 2018-12-02 09:37:24
End at: 2018-12-02 09:37:54
Local clock offset: -13.225 ms
Remote clock offset: 26.859 ms

Below is generated by plot.py at 2018-12-02 11:42:11
Datalink statistics
-- Total of 1 flow:
Average throughput: 16.47 Mbit/s
95th percentile per-packet one-way delay: 180.908 ms
Loss rate: 0.56%
-- Flow 1:
Average throughput: 16.47 Mbit/s
95th percentile per-packet one-way delay: 180.908 ms
Loss rate: 0.56%

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

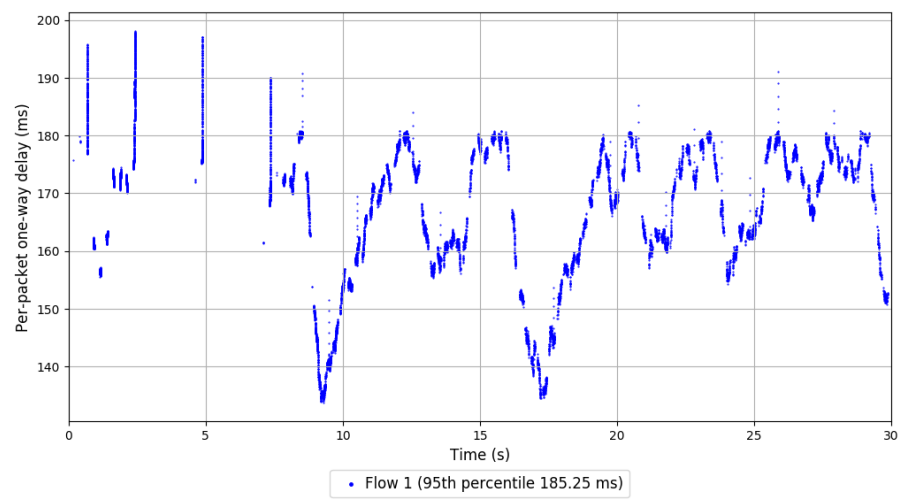
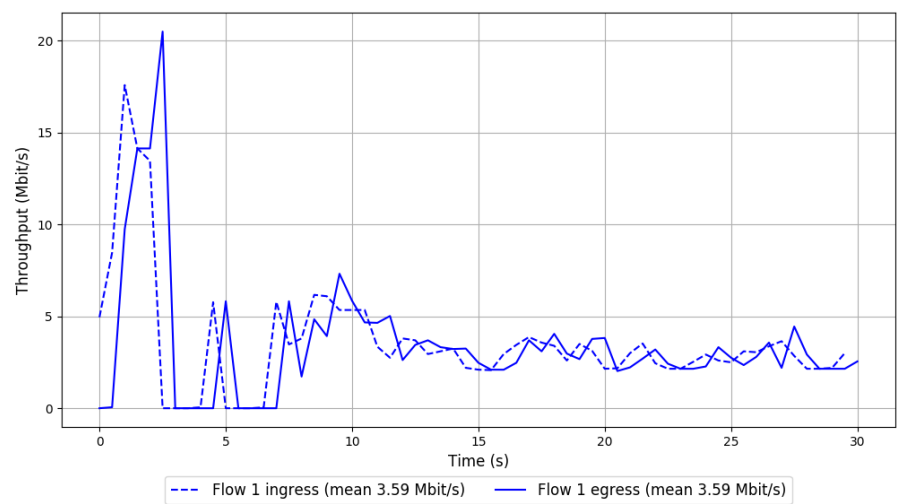


Run 2: Statistics of TaoVA-100x

Start at: 2018-12-02 10:01:33
End at: 2018-12-02 10:02:03
Local clock offset: -14.607 ms
Remote clock offset: 22.967 ms

Below is generated by plot.py at 2018-12-02 11:42:11
Datalink statistics
-- Total of 1 flow:
Average throughput: 3.59 Mbit/s
95th percentile per-packet one-way delay: 185.255 ms
Loss rate: 0.80%
-- Flow 1:
Average throughput: 3.59 Mbit/s
95th percentile per-packet one-way delay: 185.255 ms
Loss rate: 0.80%

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

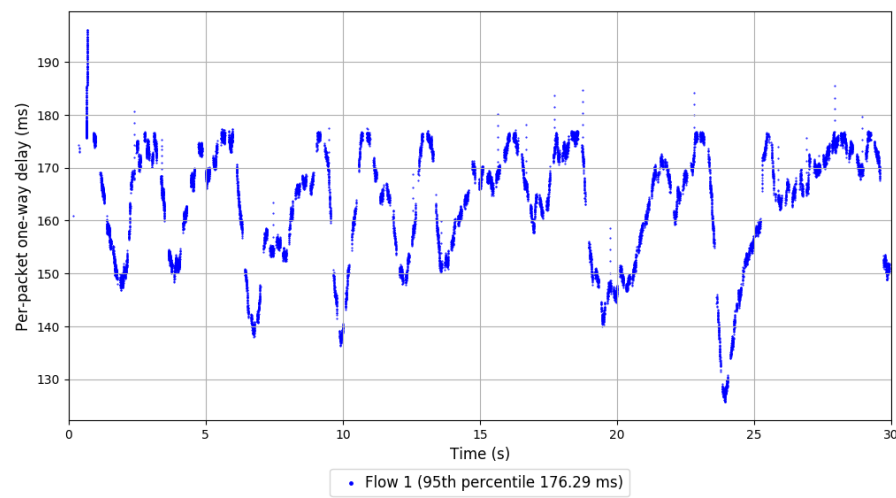
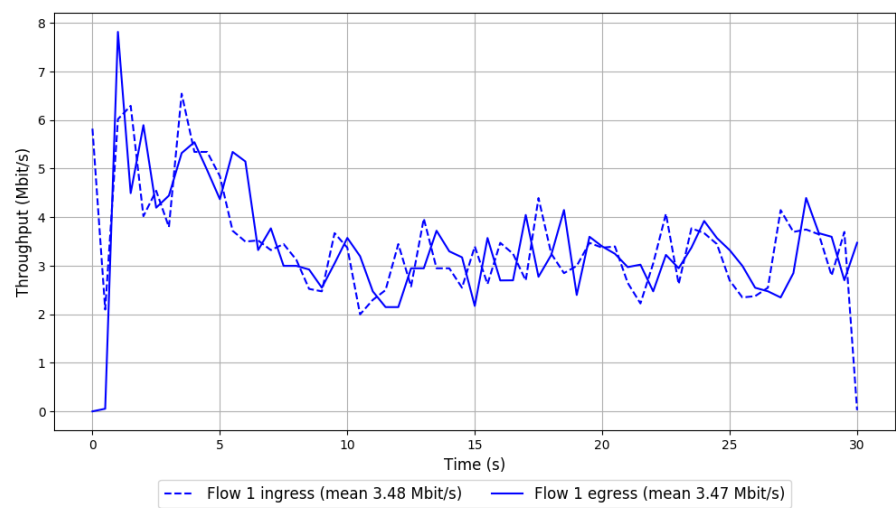


Run 3: Statistics of TaoVA-100x

Start at: 2018-12-02 10:28:08
End at: 2018-12-02 10:28:38
Local clock offset: -11.788 ms
Remote clock offset: 28.557 ms

Below is generated by plot.py at 2018-12-02 11:42:11
Datalink statistics
-- Total of 1 flow:
Average throughput: 3.47 Mbit/s
95th percentile per-packet one-way delay: 176.293 ms
Loss rate: 1.09%
-- Flow 1:
Average throughput: 3.47 Mbit/s
95th percentile per-packet one-way delay: 176.293 ms
Loss rate: 1.09%

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

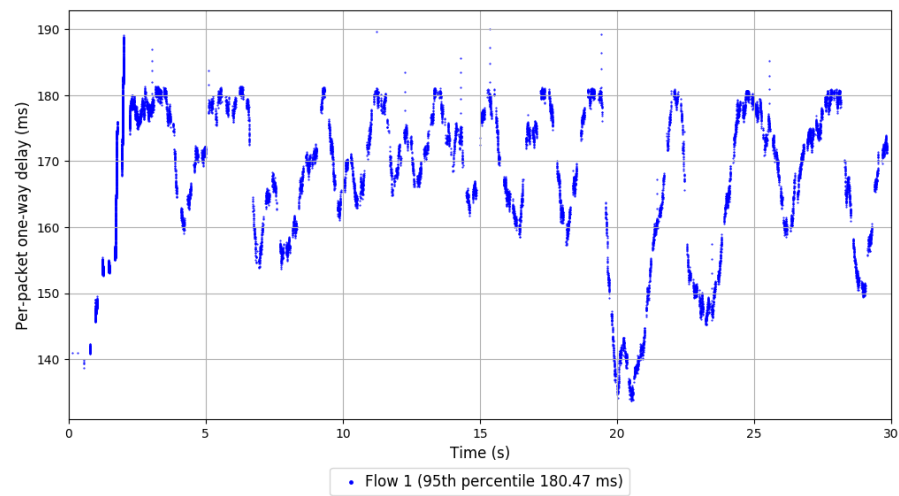
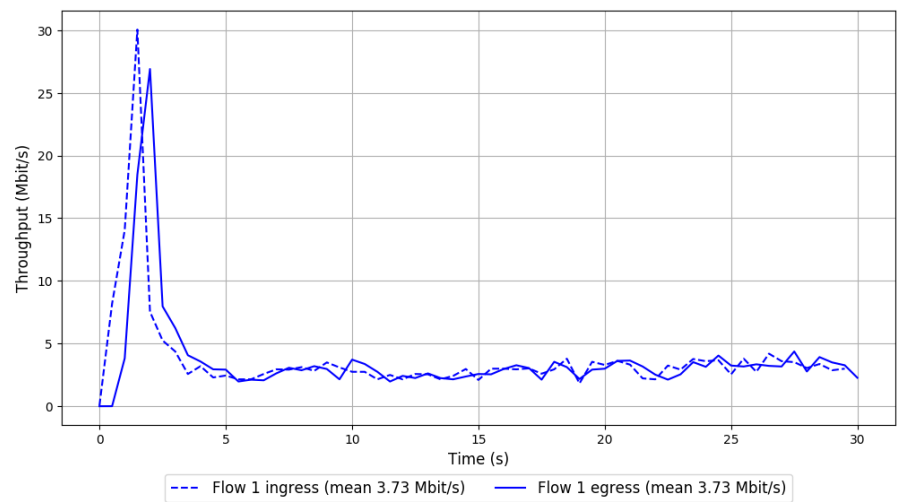


Run 4: Statistics of TaoVA-100x

Start at: 2018-12-02 10:52:46
End at: 2018-12-02 10:53:16
Local clock offset: -5.514 ms
Remote clock offset: 11.517 ms

Below is generated by plot.py at 2018-12-02 11:42:11
Datalink statistics
-- Total of 1 flow:
Average throughput: 3.73 Mbit/s
95th percentile per-packet one-way delay: 180.468 ms
Loss rate: 0.80%
-- Flow 1:
Average throughput: 3.73 Mbit/s
95th percentile per-packet one-way delay: 180.468 ms
Loss rate: 0.80%

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



Run 5: Statistics of TaoVA-100x

Start at: 2018-12-02 11:18:02

End at: 2018-12-02 11:18:32

Local clock offset: 3.405 ms

Remote clock offset: 10.321 ms

Below is generated by plot.py at 2018-12-02 11:42:11

Datalink statistics

-- Total of 1 flow:

Average throughput: 3.21 Mbit/s

95th percentile per-packet one-way delay: 181.768 ms

Loss rate: 1.43%

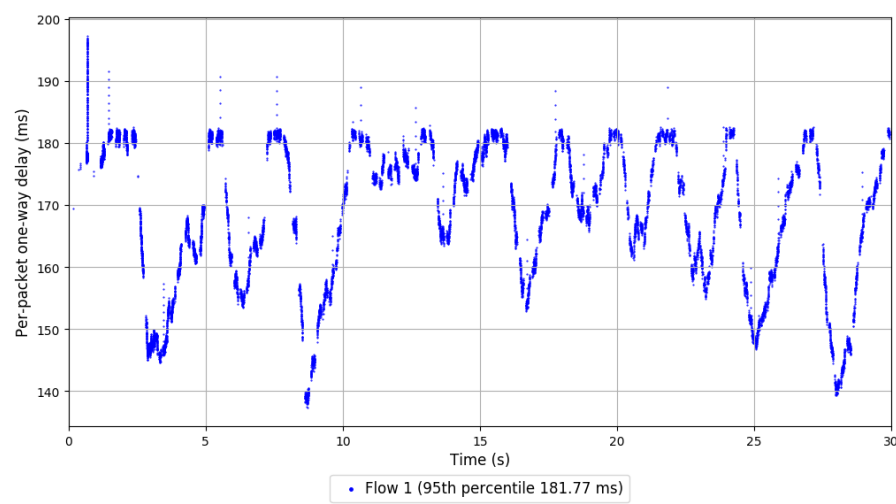
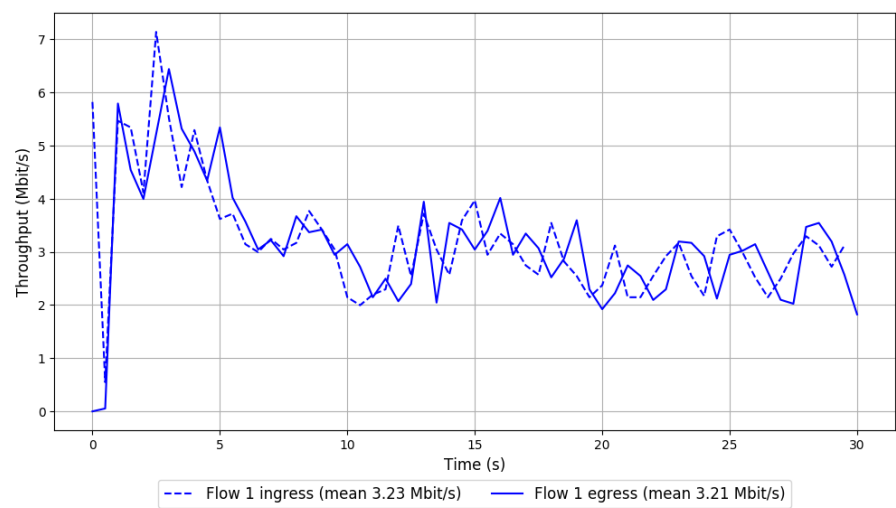
-- Flow 1:

Average throughput: 3.21 Mbit/s

95th percentile per-packet one-way delay: 181.768 ms

Loss rate: 1.43%

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

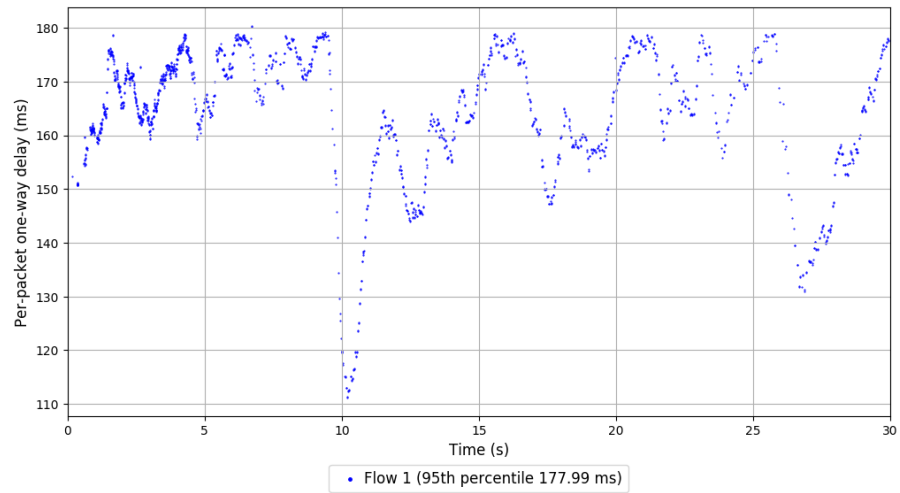
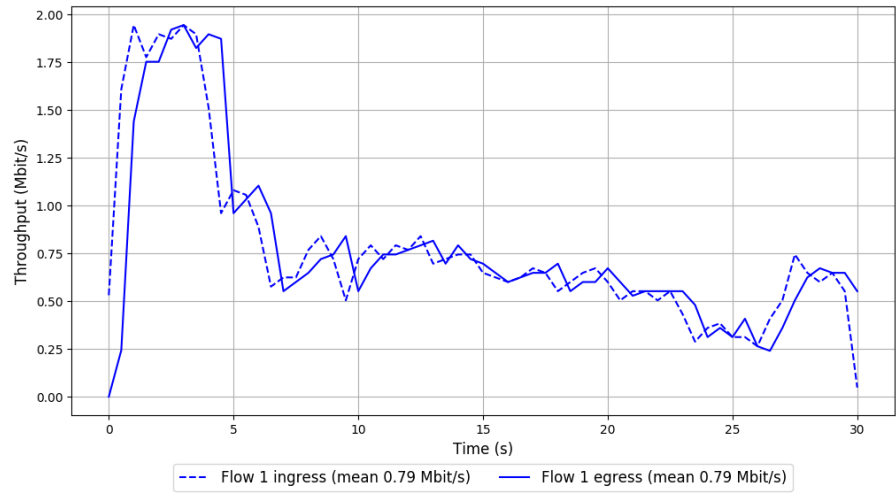


Run 1: Statistics of TCP Vegas

Start at: 2018-12-02 09:40:00
End at: 2018-12-02 09:40:30
Local clock offset: -13.996 ms
Remote clock offset: 28.753 ms

Below is generated by plot.py at 2018-12-02 11:42:11
Datalink statistics
-- Total of 1 flow:
Average throughput: 0.79 Mbit/s
95th percentile per-packet one-way delay: 177.988 ms
Loss rate: 0.86%
-- Flow 1:
Average throughput: 0.79 Mbit/s
95th percentile per-packet one-way delay: 177.988 ms
Loss rate: 0.86%

Run 1: Report of TCP Vegas — Data Link



Run 2: Statistics of TCP Vegas

Start at: 2018-12-02 10:03:59

End at: 2018-12-02 10:04:29

Local clock offset: -14.55 ms

Remote clock offset: 24.94 ms

Below is generated by plot.py at 2018-12-02 11:42:11

Datalink statistics

-- Total of 1 flow:

Average throughput: 1.08 Mbit/s

95th percentile per-packet one-way delay: 179.091 ms

Loss rate: 0.81%

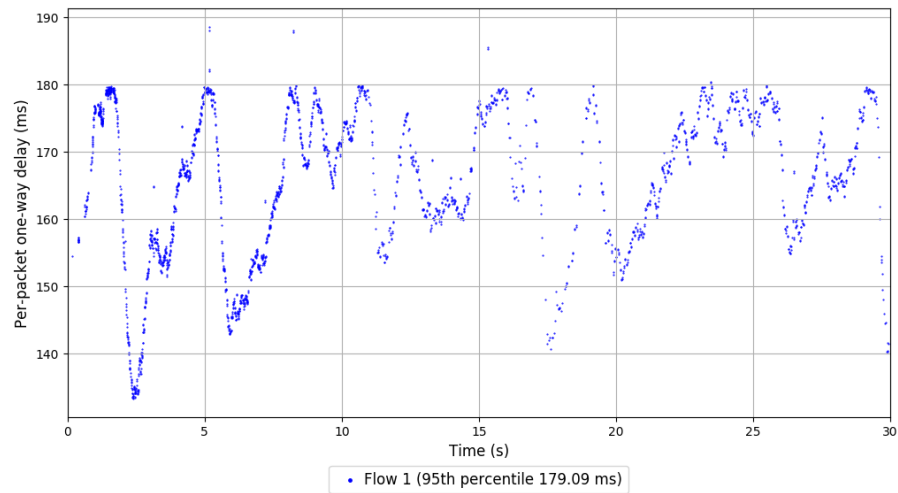
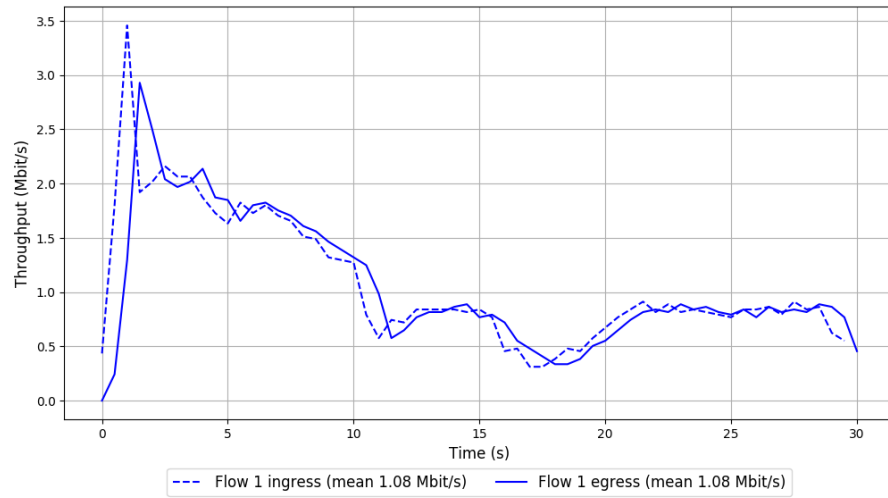
-- Flow 1:

Average throughput: 1.08 Mbit/s

95th percentile per-packet one-way delay: 179.091 ms

Loss rate: 0.81%

Run 2: Report of TCP Vegas — Data Link

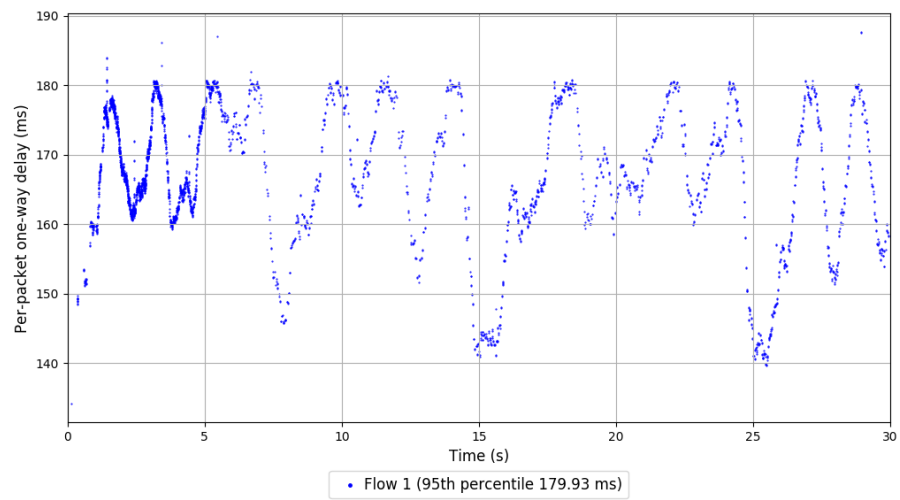
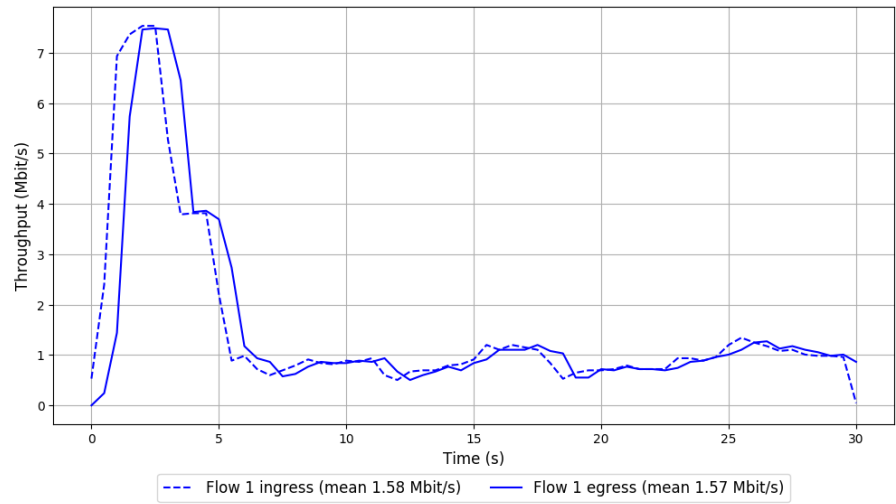


Run 3: Statistics of TCP Vegas

Start at: 2018-12-02 10:31:01
End at: 2018-12-02 10:31:31
Local clock offset: -10.965 ms
Remote clock offset: 25.288 ms

Below is generated by plot.py at 2018-12-02 11:42:11
Datalink statistics
-- Total of 1 flow:
Average throughput: 1.57 Mbit/s
95th percentile per-packet one-way delay: 179.927 ms
Loss rate: 0.86%
-- Flow 1:
Average throughput: 1.57 Mbit/s
95th percentile per-packet one-way delay: 179.927 ms
Loss rate: 0.86%

Run 3: Report of TCP Vegas — Data Link

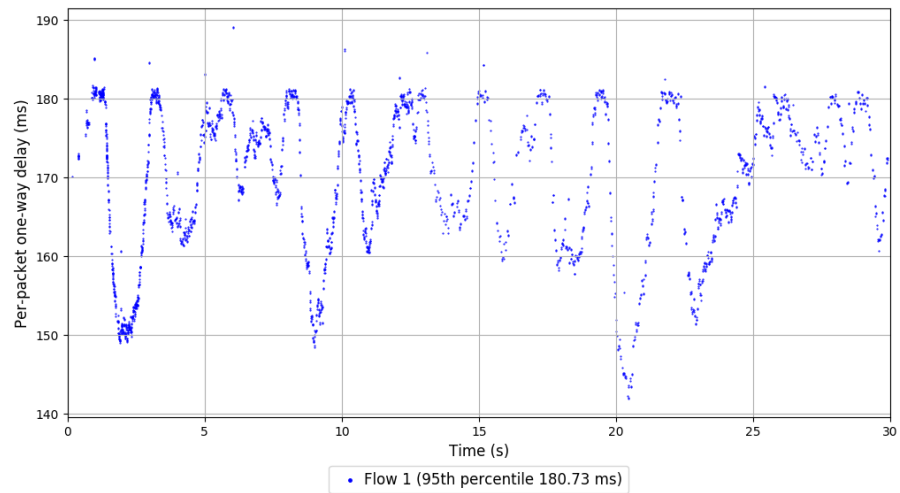
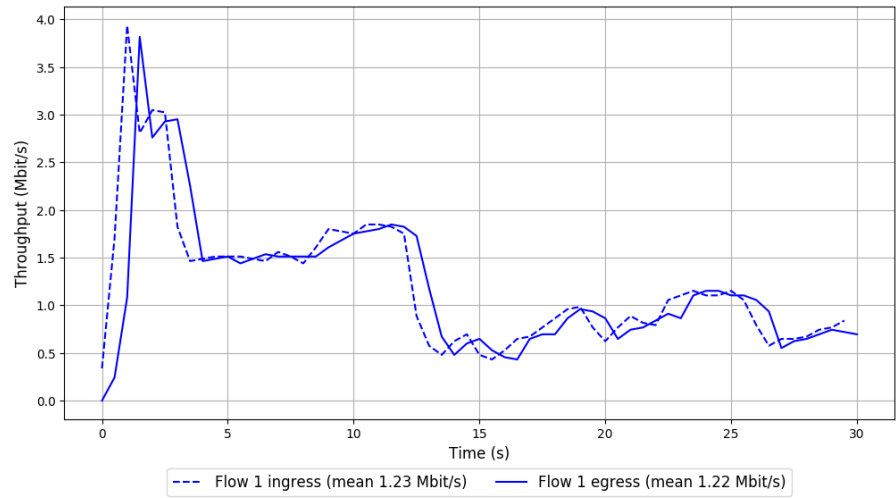


Run 4: Statistics of TCP Vegas

Start at: 2018-12-02 10:55:22
End at: 2018-12-02 10:55:52
Local clock offset: -3.488 ms
Remote clock offset: 11.164 ms

Below is generated by plot.py at 2018-12-02 11:42:11
Datalink statistics
-- Total of 1 flow:
Average throughput: 1.22 Mbit/s
95th percentile per-packet one-way delay: 180.730 ms
Loss rate: 1.04%
-- Flow 1:
Average throughput: 1.22 Mbit/s
95th percentile per-packet one-way delay: 180.730 ms
Loss rate: 1.04%

Run 4: Report of TCP Vegas — Data Link

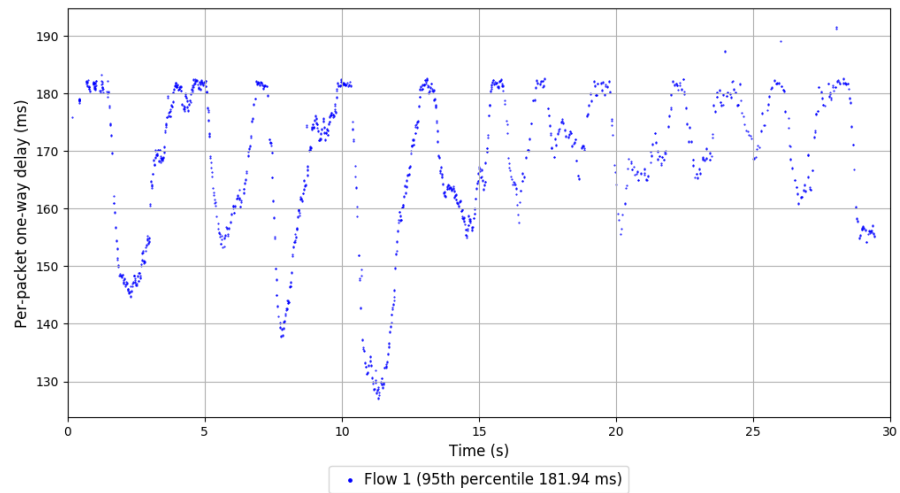
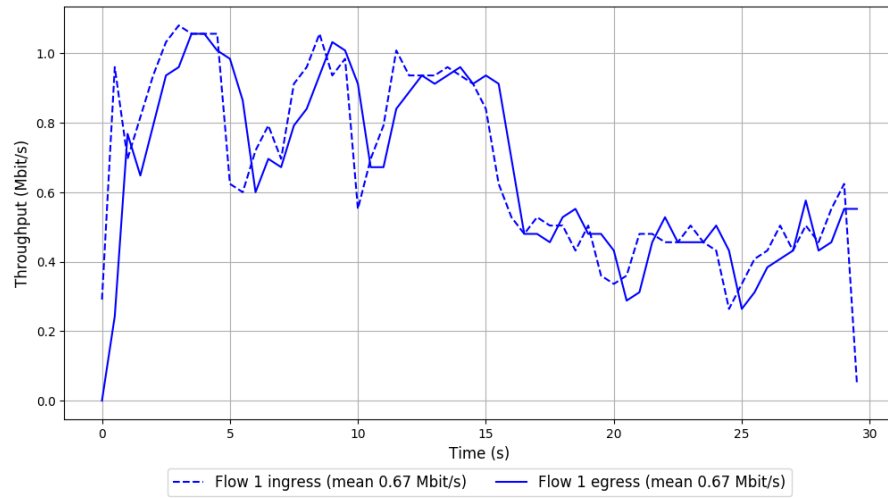


Run 5: Statistics of TCP Vegas

Start at: 2018-12-02 11:20:48
End at: 2018-12-02 11:21:18
Local clock offset: 2.853 ms
Remote clock offset: 11.144 ms

Below is generated by plot.py at 2018-12-02 11:42:11
Datalink statistics
-- Total of 1 flow:
Average throughput: 0.67 Mbit/s
95th percentile per-packet one-way delay: 181.937 ms
Loss rate: 1.33%
-- Flow 1:
Average throughput: 0.67 Mbit/s
95th percentile per-packet one-way delay: 181.937 ms
Loss rate: 1.33%

Run 5: Report of TCP Vegas — Data Link

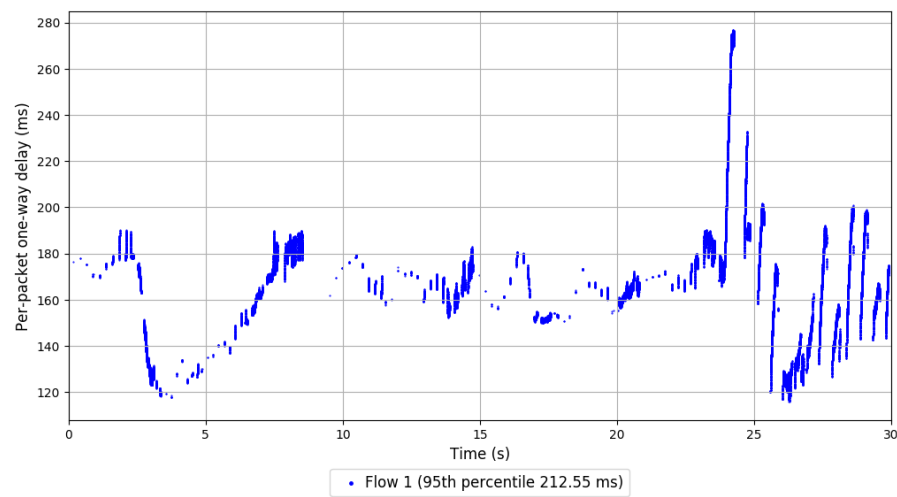
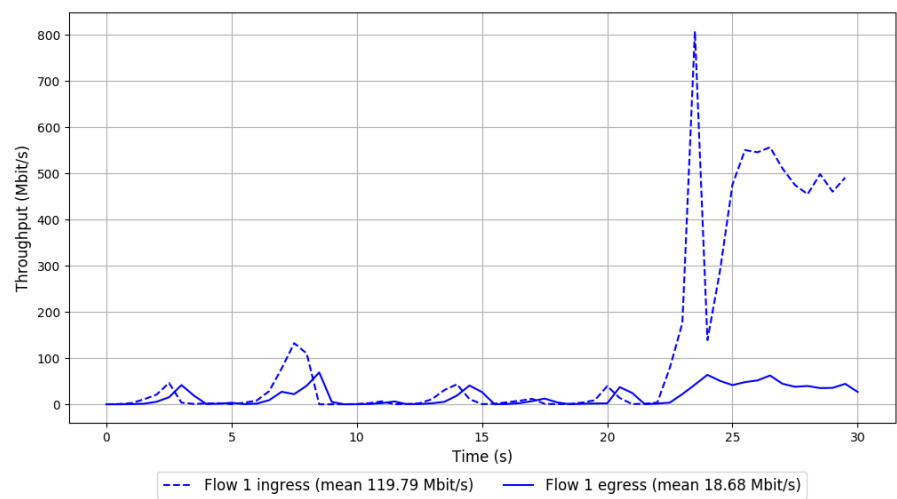


Run 1: Statistics of Verus

Start at: 2018-12-02 09:44:59
End at: 2018-12-02 09:45:29
Local clock offset: -15.167 ms
Remote clock offset: 27.075 ms

Below is generated by plot.py at 2018-12-02 11:42:15
Datalink statistics
-- Total of 1 flow:
Average throughput: 18.68 Mbit/s
95th percentile per-packet one-way delay: 212.547 ms
Loss rate: 84.49%
-- Flow 1:
Average throughput: 18.68 Mbit/s
95th percentile per-packet one-way delay: 212.547 ms
Loss rate: 84.49%

Run 1: Report of Verus — Data Link

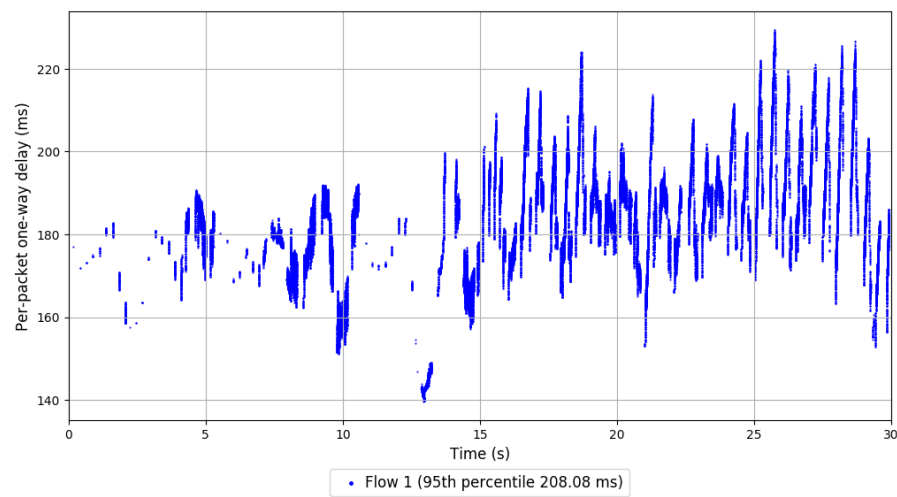
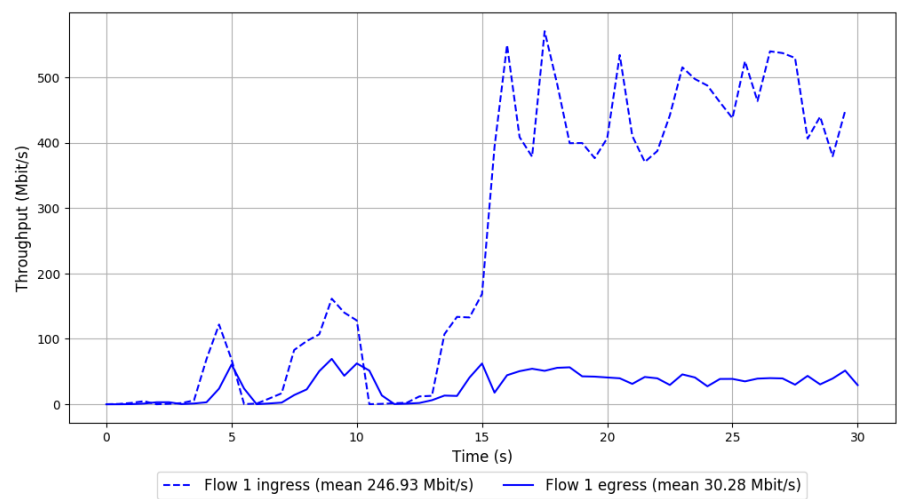


Run 2: Statistics of Verus

Start at: 2018-12-02 10:09:07
End at: 2018-12-02 10:09:37
Local clock offset: -14.957 ms
Remote clock offset: 25.354 ms

Below is generated by plot.py at 2018-12-02 11:42:17
Datalink statistics
-- Total of 1 flow:
Average throughput: 30.28 Mbit/s
95th percentile per-packet one-way delay: 208.082 ms
Loss rate: 87.81%
-- Flow 1:
Average throughput: 30.28 Mbit/s
95th percentile per-packet one-way delay: 208.082 ms
Loss rate: 87.81%

Run 2: Report of Verus — Data Link

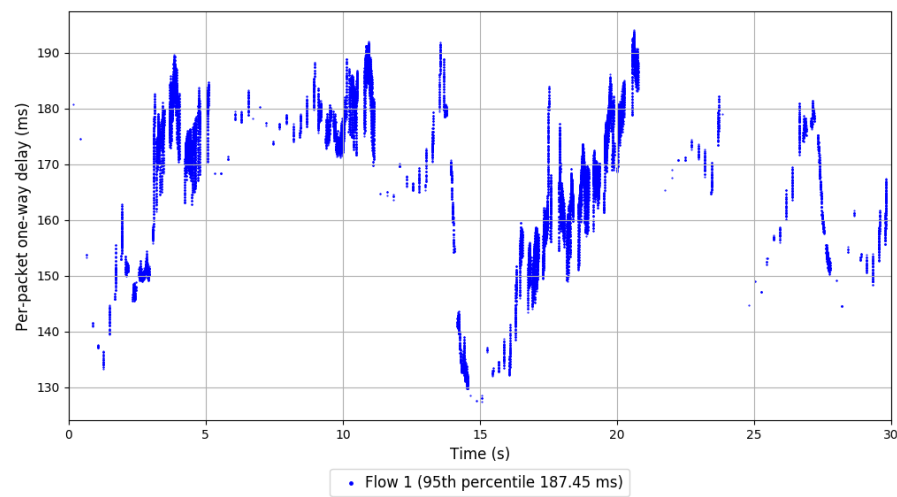
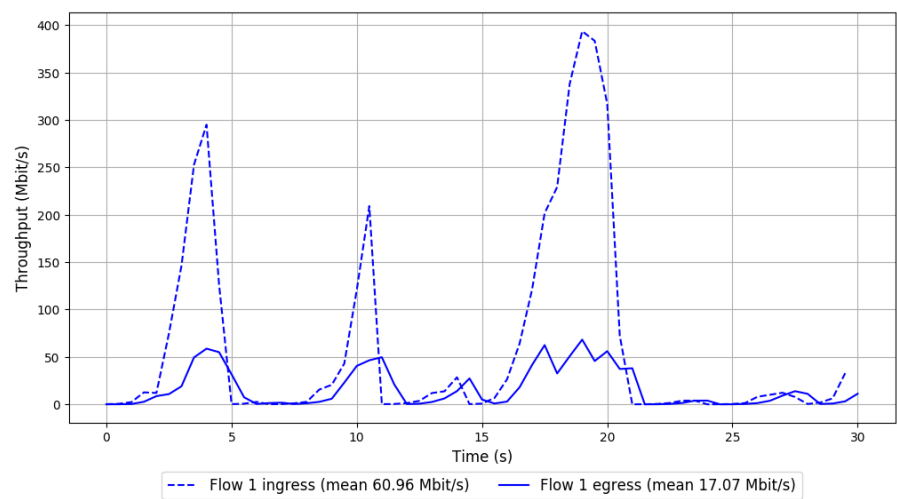


Run 3: Statistics of Verus

Start at: 2018-12-02 10:36:23
End at: 2018-12-02 10:36:53
Local clock offset: -10.609 ms
Remote clock offset: 24.12 ms

Below is generated by plot.py at 2018-12-02 11:42:17
Datalink statistics
-- Total of 1 flow:
Average throughput: 17.07 Mbit/s
95th percentile per-packet one-way delay: 187.449 ms
Loss rate: 72.24%
-- Flow 1:
Average throughput: 17.07 Mbit/s
95th percentile per-packet one-way delay: 187.449 ms
Loss rate: 72.24%

Run 3: Report of Verus — Data Link



Run 4: Statistics of Verus

Start at: 2018-12-02 11:01:04

End at: 2018-12-02 11:01:34

Local clock offset: -0.761 ms

Remote clock offset: 8.345 ms

Below is generated by plot.py at 2018-12-02 11:42:17

Datalink statistics

-- Total of 1 flow:

Average throughput: 13.80 Mbit/s

95th percentile per-packet one-way delay: 189.354 ms

Loss rate: 43.52%

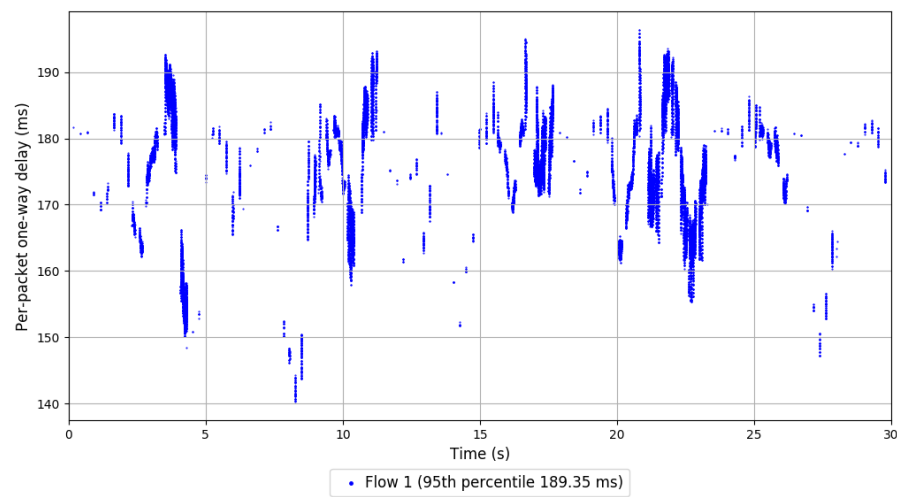
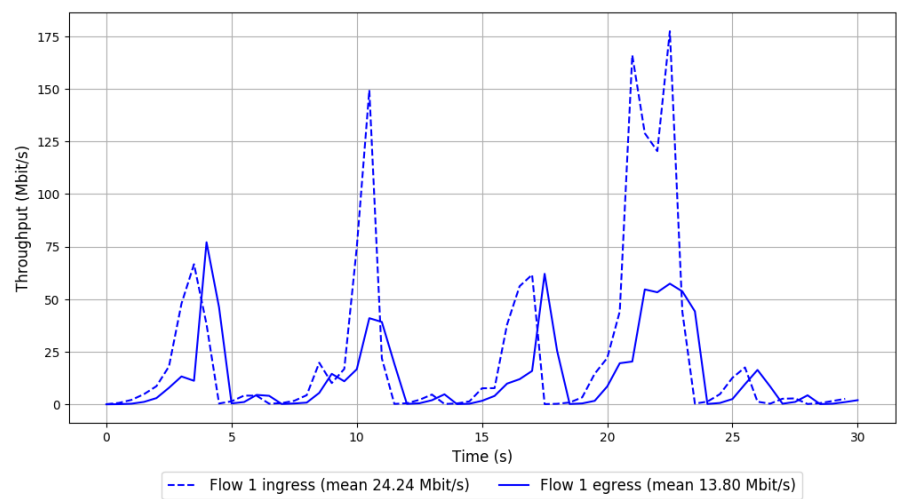
-- Flow 1:

Average throughput: 13.80 Mbit/s

95th percentile per-packet one-way delay: 189.354 ms

Loss rate: 43.52%

Run 4: Report of Verus — Data Link

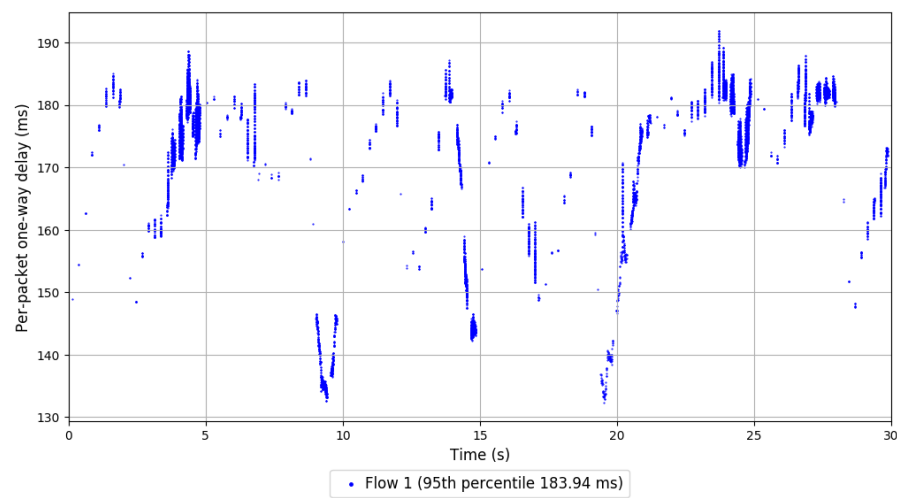
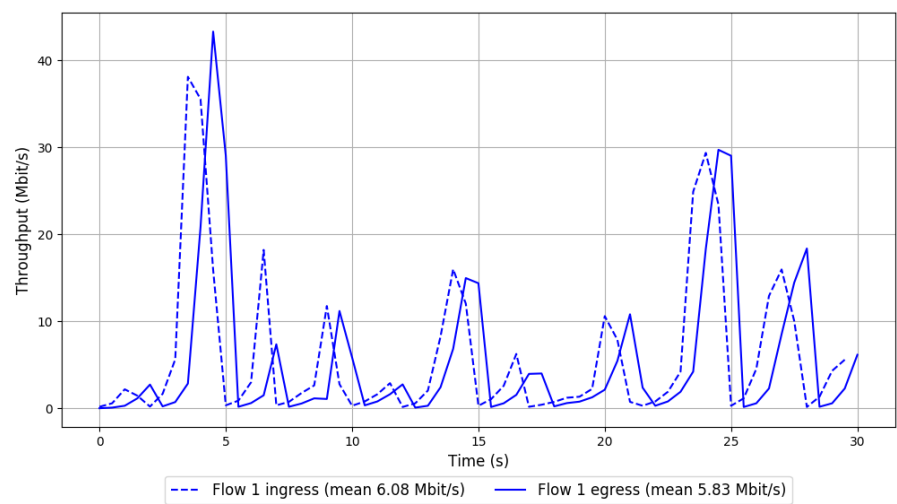


Run 5: Statistics of Verus

Start at: 2018-12-02 11:26:24
End at: 2018-12-02 11:26:54
Local clock offset: 2.596 ms
Remote clock offset: 11.967 ms

Below is generated by plot.py at 2018-12-02 11:42:17
Datalink statistics
-- Total of 1 flow:
Average throughput: 5.83 Mbit/s
95th percentile per-packet one-way delay: 183.942 ms
Loss rate: 5.00%
-- Flow 1:
Average throughput: 5.83 Mbit/s
95th percentile per-packet one-way delay: 183.942 ms
Loss rate: 5.00%

Run 5: Report of Verus — Data Link

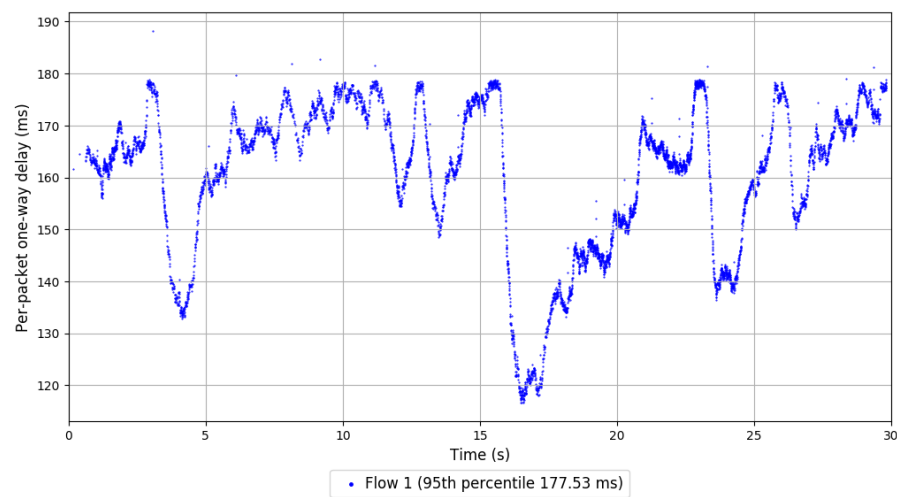
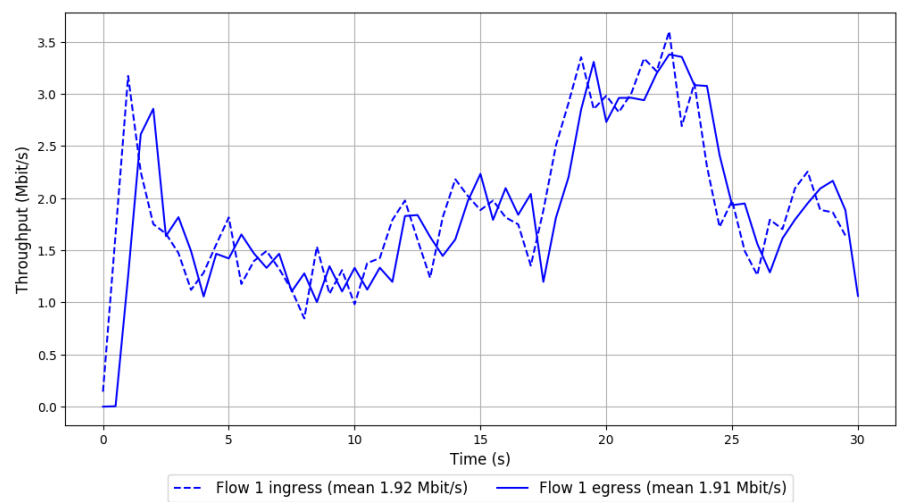


Run 1: Statistics of PCC-Vivace

Start at: 2018-12-02 09:41:11
End at: 2018-12-02 09:41:41
Local clock offset: -14.201 ms
Remote clock offset: 28.297 ms

Below is generated by plot.py at 2018-12-02 11:42:17
Datalink statistics
-- Total of 1 flow:
Average throughput: 1.91 Mbit/s
95th percentile per-packet one-way delay: 177.533 ms
Loss rate: 1.03%
-- Flow 1:
Average throughput: 1.91 Mbit/s
95th percentile per-packet one-way delay: 177.533 ms
Loss rate: 1.03%

Run 1: Report of PCC-Vivace — Data Link

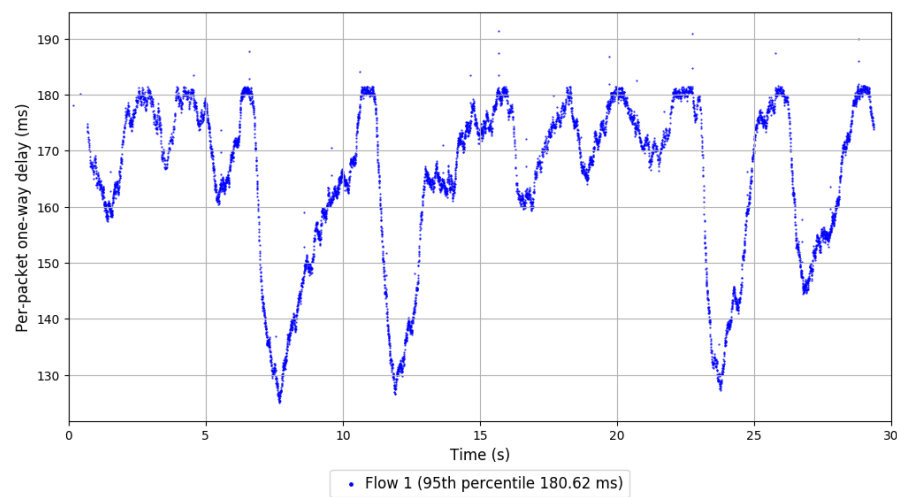
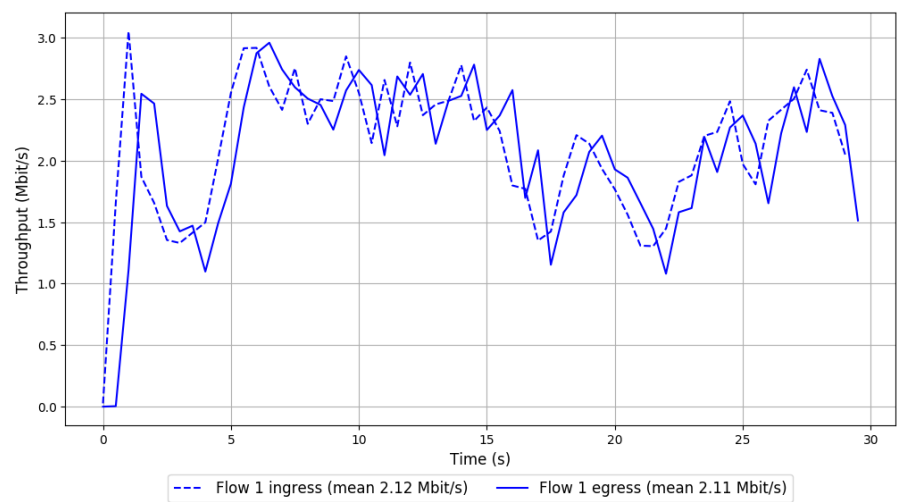


Run 2: Statistics of PCC-Vivace

Start at: 2018-12-02 10:05:10
End at: 2018-12-02 10:05:40
Local clock offset: -14.72 ms
Remote clock offset: 23.407 ms

Below is generated by plot.py at 2018-12-02 11:42:17
Datalink statistics
-- Total of 1 flow:
Average throughput: 2.11 Mbit/s
95th percentile per-packet one-way delay: 180.622 ms
Loss rate: 1.21%
-- Flow 1:
Average throughput: 2.11 Mbit/s
95th percentile per-packet one-way delay: 180.622 ms
Loss rate: 1.21%

Run 2: Report of PCC-Vivace — Data Link

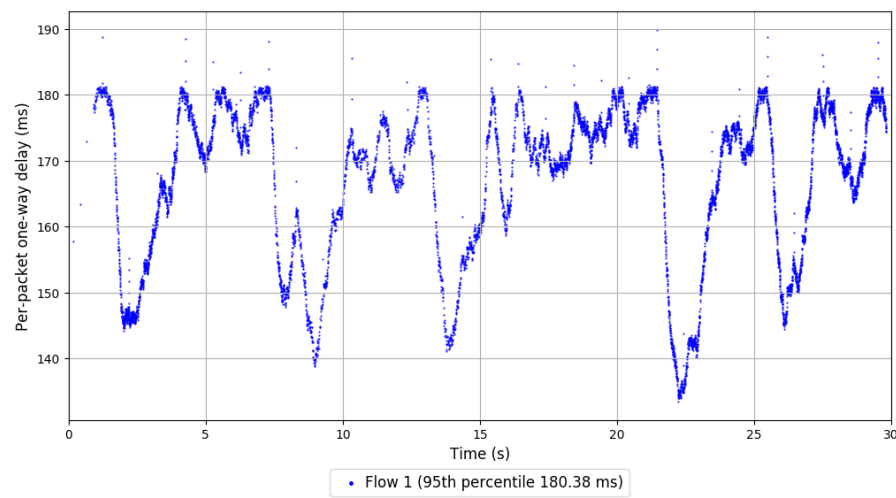
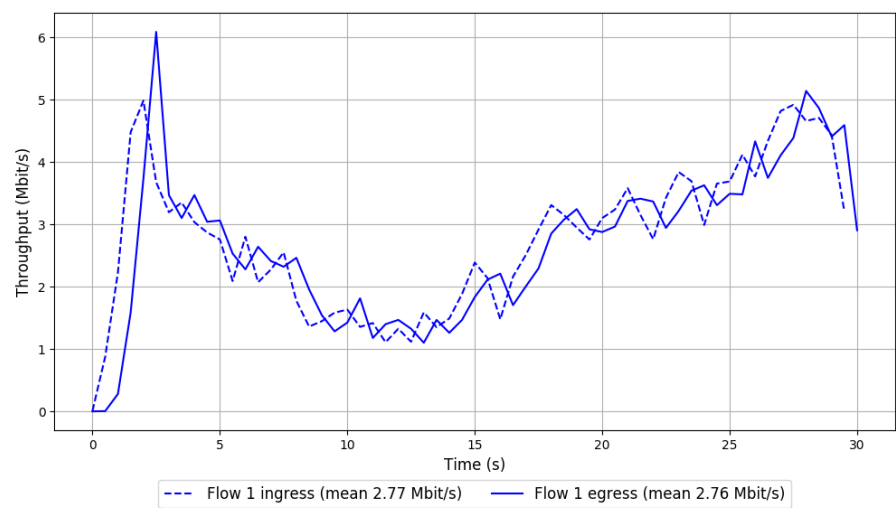


Run 3: Statistics of PCC-Vivace

Start at: 2018-12-02 10:32:14
End at: 2018-12-02 10:32:44
Local clock offset: -10.919 ms
Remote clock offset: 24.321 ms

Below is generated by plot.py at 2018-12-02 11:42:17
Datalink statistics
-- Total of 1 flow:
Average throughput: 2.76 Mbit/s
95th percentile per-packet one-way delay: 180.379 ms
Loss rate: 1.22%
-- Flow 1:
Average throughput: 2.76 Mbit/s
95th percentile per-packet one-way delay: 180.379 ms
Loss rate: 1.22%

Run 3: Report of PCC-Vivace — Data Link

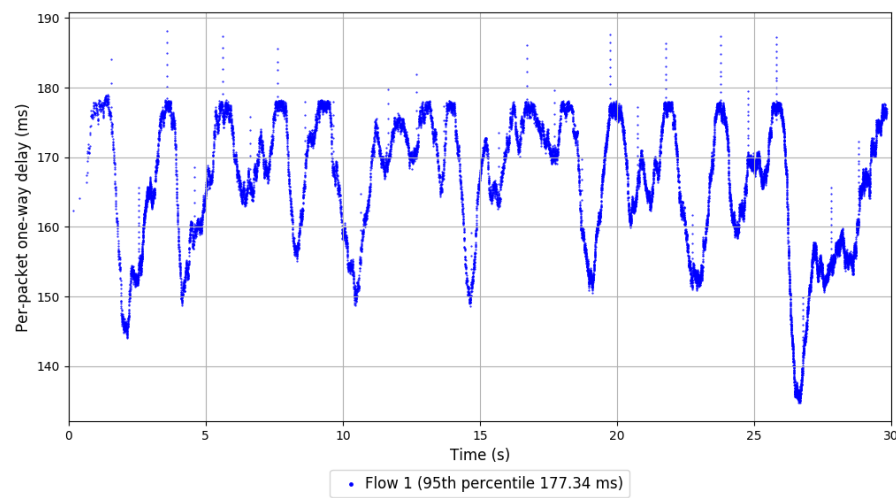
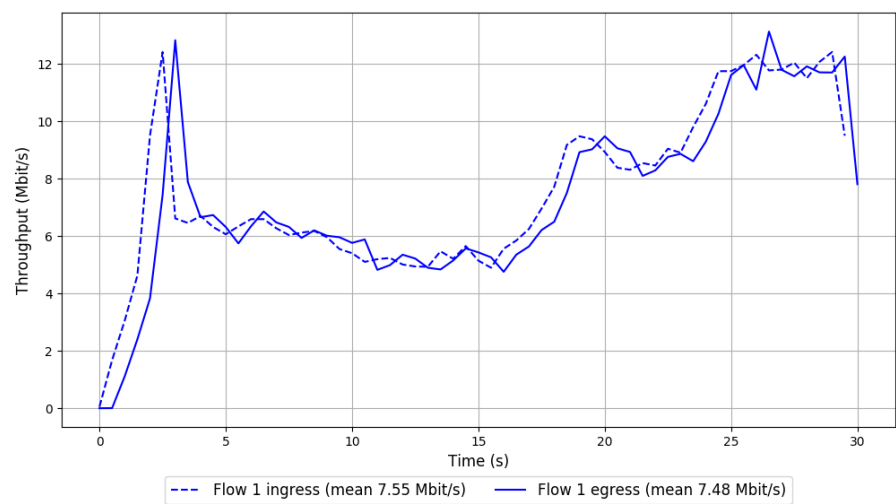


Run 4: Statistics of PCC-Vivace

Start at: 2018-12-02 10:56:34
End at: 2018-12-02 10:57:04
Local clock offset: -2.804 ms
Remote clock offset: 14.041 ms

Below is generated by plot.py at 2018-12-02 11:42:17
Datalink statistics
-- Total of 1 flow:
Average throughput: 7.48 Mbit/s
95th percentile per-packet one-way delay: 177.343 ms
Loss rate: 1.60%
-- Flow 1:
Average throughput: 7.48 Mbit/s
95th percentile per-packet one-way delay: 177.343 ms
Loss rate: 1.60%

Run 4: Report of PCC-Vivace — Data Link

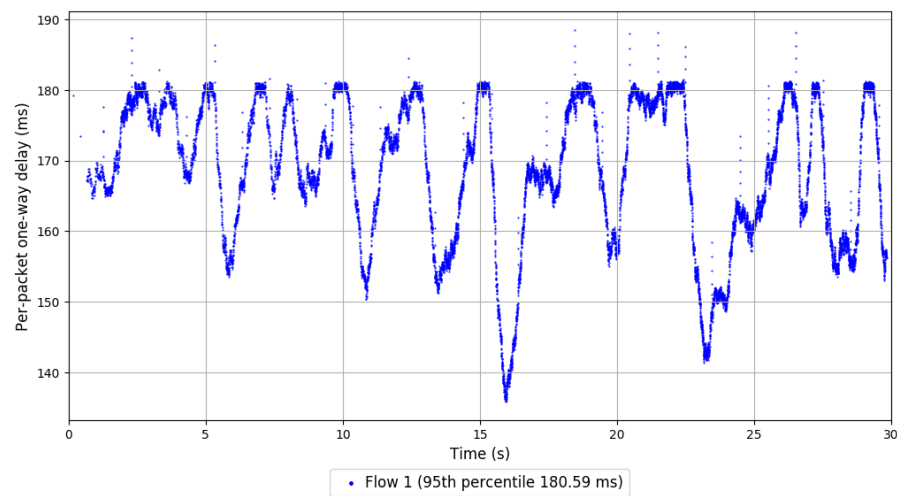
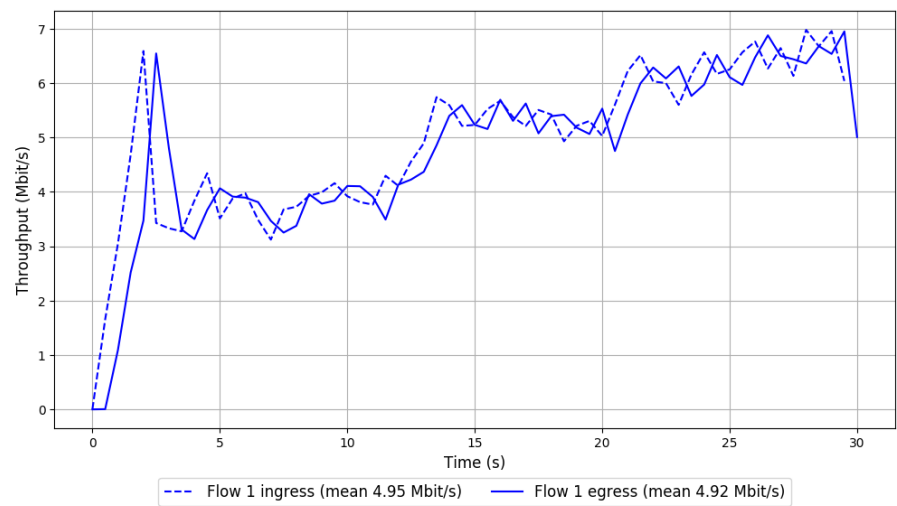


Run 5: Statistics of PCC-Vivace

Start at: 2018-12-02 11:21:59
End at: 2018-12-02 11:22:29
Local clock offset: 2.631 ms
Remote clock offset: 12.362 ms

Below is generated by plot.py at 2018-12-02 11:42:17
Datalink statistics
-- Total of 1 flow:
Average throughput: 4.92 Mbit/s
95th percentile per-packet one-way delay: 180.594 ms
Loss rate: 1.47%
-- Flow 1:
Average throughput: 4.92 Mbit/s
95th percentile per-packet one-way delay: 180.594 ms
Loss rate: 1.47%

Run 5: Report of PCC-Vivace — Data Link

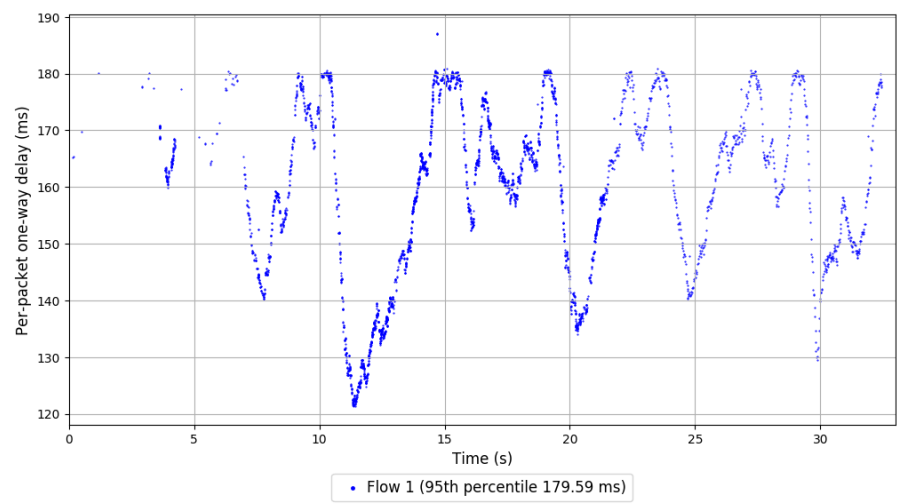
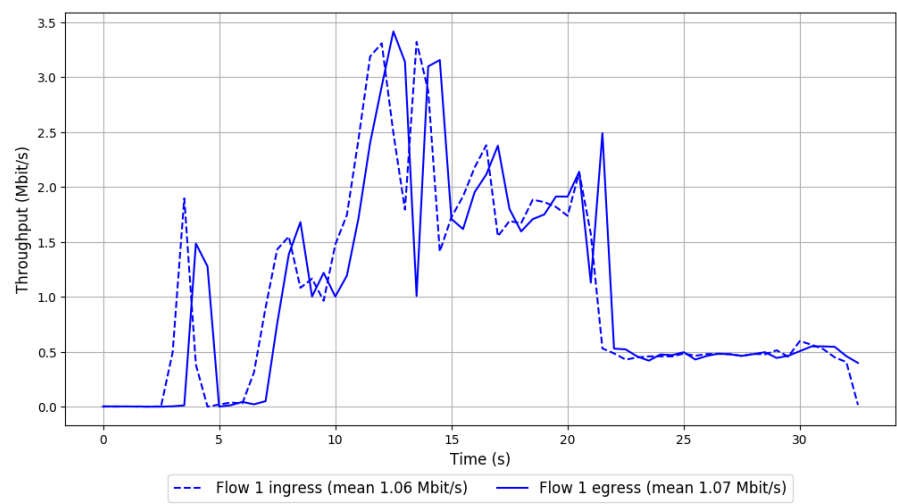


Run 1: Statistics of WebRTC media

Start at: 2018-12-02 09:36:12
End at: 2018-12-02 09:36:42
Local clock offset: -12.733 ms
Remote clock offset: 28.671 ms

Below is generated by plot.py at 2018-12-02 11:42:17
Datalink statistics
-- Total of 1 flow:
Average throughput: 1.07 Mbit/s
95th percentile per-packet one-way delay: 179.586 ms
Loss rate: 0.38%
-- Flow 1:
Average throughput: 1.07 Mbit/s
95th percentile per-packet one-way delay: 179.586 ms
Loss rate: 0.38%

Run 1: Report of WebRTC media — Data Link

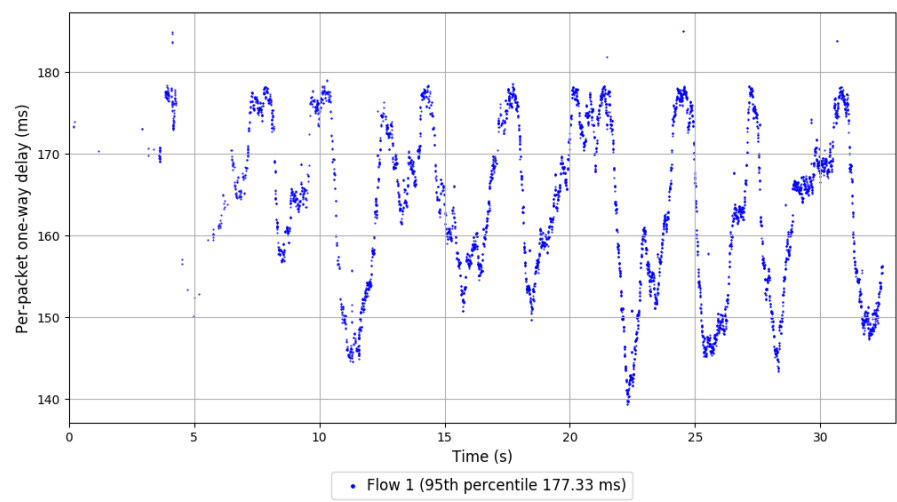
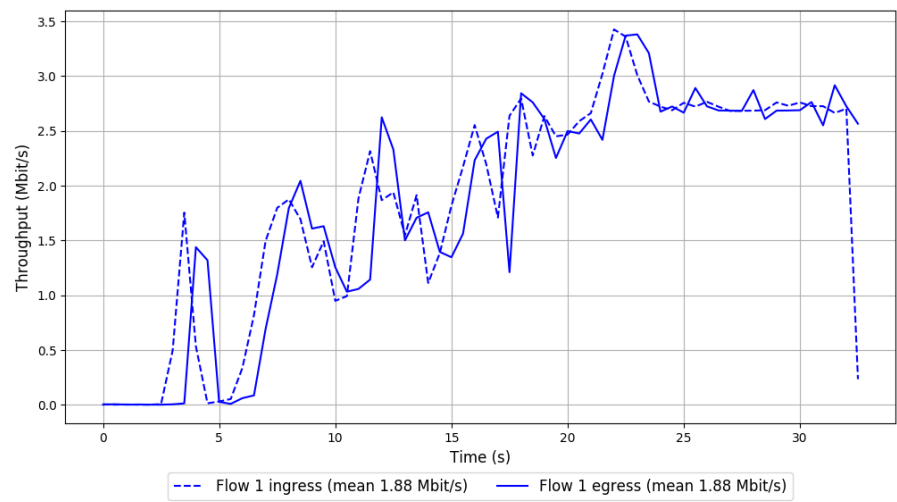


Run 2: Statistics of WebRTC media

Start at: 2018-12-02 10:00:21
End at: 2018-12-02 10:00:51
Local clock offset: -14.551 ms
Remote clock offset: 25.672 ms

Below is generated by plot.py at 2018-12-02 11:42:17
Datalink statistics
-- Total of 1 flow:
Average throughput: 1.88 Mbit/s
95th percentile per-packet one-way delay: 177.328 ms
Loss rate: 1.06%
-- Flow 1:
Average throughput: 1.88 Mbit/s
95th percentile per-packet one-way delay: 177.328 ms
Loss rate: 1.06%

Run 2: Report of WebRTC media — Data Link

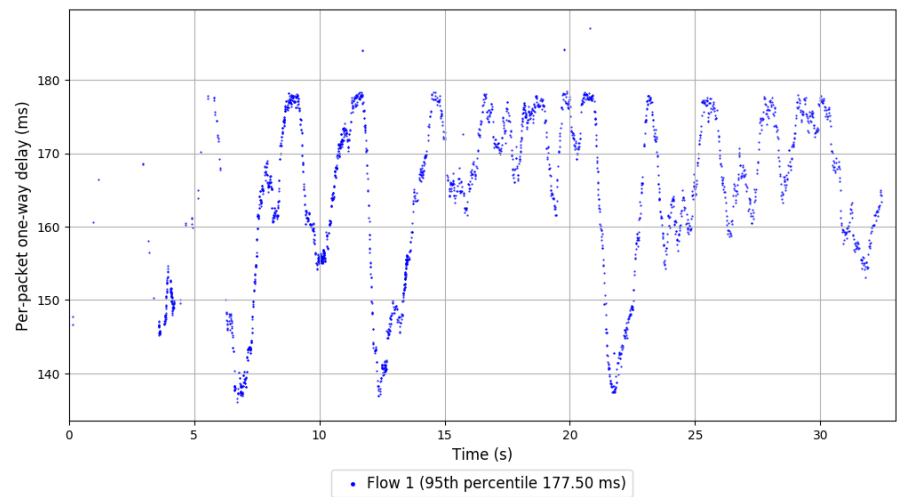
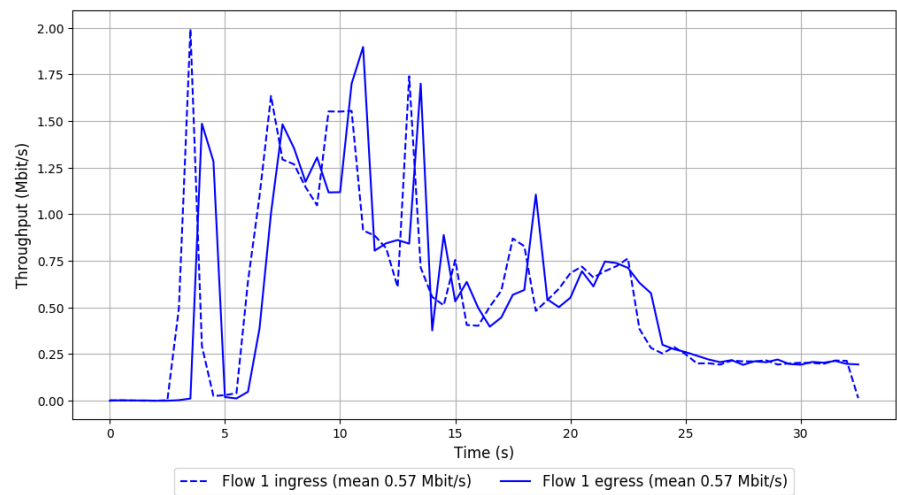


Run 3: Statistics of WebRTC media

Start at: 2018-12-02 10:26:52
End at: 2018-12-02 10:27:22
Local clock offset: -11.949 ms
Remote clock offset: 27.256 ms

Below is generated by plot.py at 2018-12-02 11:42:17
Datalink statistics
-- Total of 1 flow:
Average throughput: 0.57 Mbit/s
95th percentile per-packet one-way delay: 177.503 ms
Loss rate: 0.55%
-- Flow 1:
Average throughput: 0.57 Mbit/s
95th percentile per-packet one-way delay: 177.503 ms
Loss rate: 0.55%

Run 3: Report of WebRTC media — Data Link

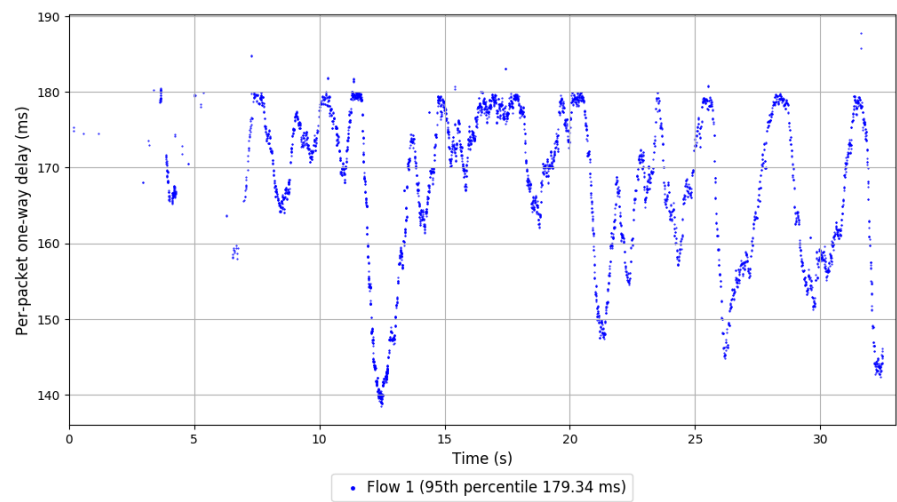
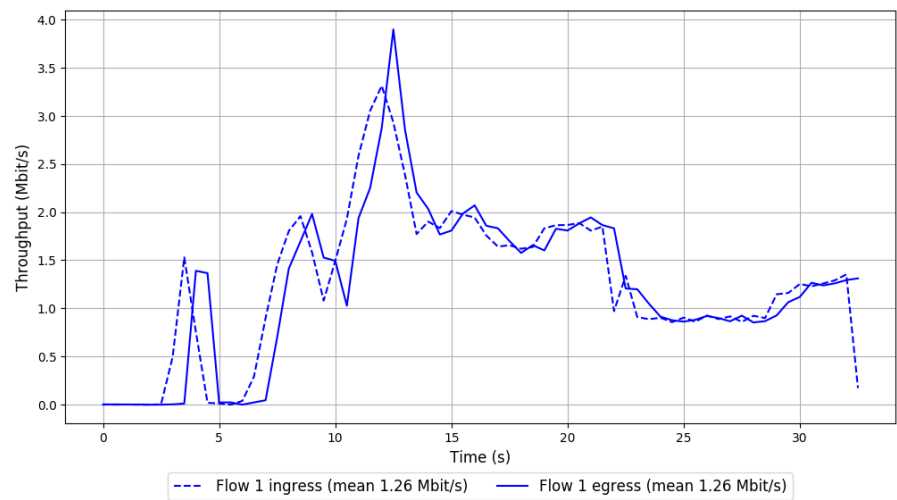


Run 4: Statistics of WebRTC media

Start at: 2018-12-02 10:51:34
End at: 2018-12-02 10:52:04
Local clock offset: -6.431 ms
Remote clock offset: 13.332 ms

Below is generated by plot.py at 2018-12-02 11:42:17
Datalink statistics
-- Total of 1 flow:
Average throughput: 1.26 Mbit/s
95th percentile per-packet one-way delay: 179.339 ms
Loss rate: 0.96%
-- Flow 1:
Average throughput: 1.26 Mbit/s
95th percentile per-packet one-way delay: 179.339 ms
Loss rate: 0.96%

Run 4: Report of WebRTC media — Data Link



Run 5: Statistics of WebRTC media

Start at: 2018-12-02 11:16:49

End at: 2018-12-02 11:17:19

Local clock offset: 3.079 ms

Remote clock offset: 8.222 ms

Below is generated by plot.py at 2018-12-02 11:42:17

Datalink statistics

-- Total of 1 flow:

Average throughput: 2.39 Mbit/s

95th percentile per-packet one-way delay: 183.349 ms

Loss rate: 1.35%

-- Flow 1:

Average throughput: 2.39 Mbit/s

95th percentile per-packet one-way delay: 183.349 ms

Loss rate: 1.35%

Run 5: Report of WebRTC media — Data Link

