

Pantheon Report

Generated at 2018-11-02 20:57:45 (UTC).

Data path: AWS California 1 on `ens5` (*local*) → Stanford on `eno1` (*remote*).

Repeated the test of 18 congestion control schemes 5 times.

Each test lasted for 30 seconds running 1 flow.

NTP offsets were measured against `time.stanford.edu` and have been applied to correct the timestamps in logs.

System info:

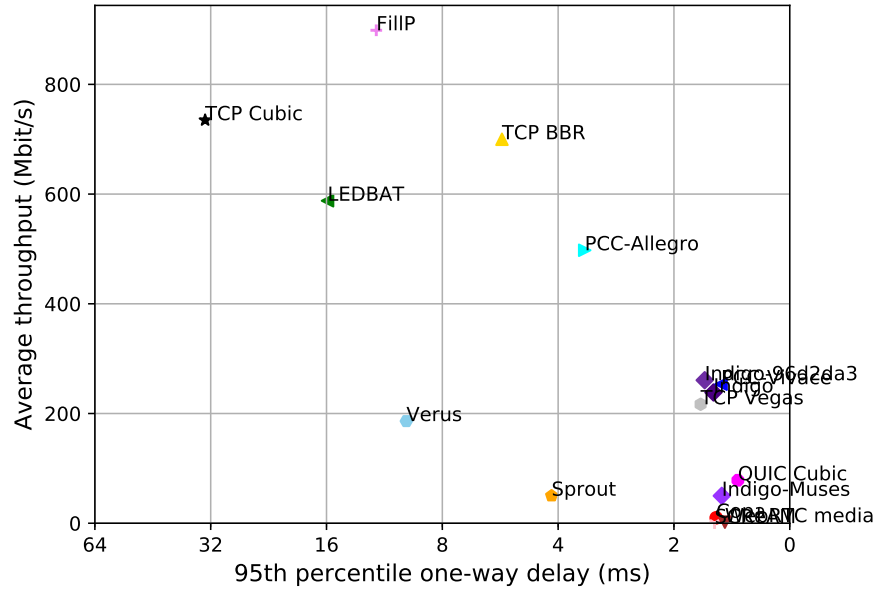
```
Linux 4.15.0-1023-aws
net.core.default_qdisc = fq
net.core.rmem_default = 16777216
net.core.rmem_max = 536870912
net.core.wmem_default = 16777216
net.core.wmem_max = 536870912
net.ipv4.tcp_rmem = 4096 16777216 536870912
net.ipv4.tcp_wmem = 4096 16777216 536870912
```

Git summary:

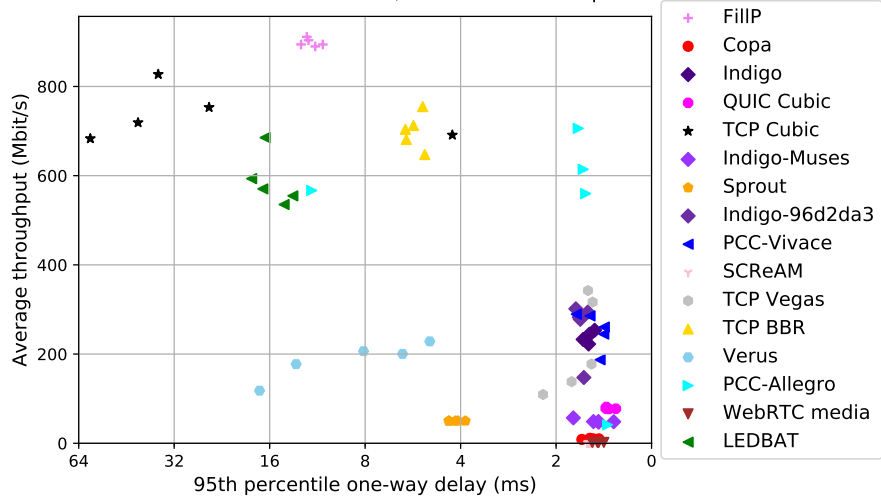
```
branch: muses @ 794ca3866981572cb73700a276691acf79c60f2b
third_party/fillp @ d6da1459332fcee56963885d7eba17e6a32d4519
third_party/genericCC @ d0153f8e594aa89e93b032143cedbdf58e562f4
third_party/indigo @ 2601c92e4aa9d58d38dc4dfe0ecdbf90c077e64d
third_party/indigo-96d2da3 @ 8413272d46f8aa0bcb967ed7048b6a8f994abb95
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-quic @ 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 AWS California 1 to Stanford, 5 runs of 30s each per scheme
(mean of all runs by scheme)



test from AWS California 1 to Stanford, 5 runs of 30s each per 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	699.95	5.60	0.04
Copa	5	9.88	1.27	51.08
TCP Cubic	5	734.73	33.09	0.08
FillP	5	898.60	11.88	3.35
Indigo	5	238.39	1.32	0.00
Indigo-96d2da3	5	260.69	1.47	0.01
LEDBAT	5	587.82	15.90	0.05
Indigo-Muses	5	49.96	1.17	0.01
PCC-Allegro	5	497.58	3.41	0.03
PCC-Expr	0	N/A	N/A	N/A
QUIC Cubic	5	78.32	0.90	0.00
SCReAM	5	0.22	1.30	0.00
Sprout	5	50.12	4.16	0.03
TaoVA-100x	0	N/A	N/A	N/A
TCP Vegas	5	216.80	1.54	0.00
Verus	5	186.17	9.92	0.96
PCC-Vivace	5	253.47	1.19	0.01
WebRTC media	5	1.93	1.12	0.00

Run 1: Statistics of TCP BBR

Start at: 2018-11-02 18:13:16

End at: 2018-11-02 18:13:46

Local clock offset: 5.548 ms

Remote clock offset: -0.162 ms

Below is generated by plot.py at 2018-11-02 20:27:42

Datalink statistics

-- Total of 1 flow:

Average throughput: 647.33 Mbit/s

95th percentile per-packet one-way delay: 5.188 ms

Loss rate: 0.02%

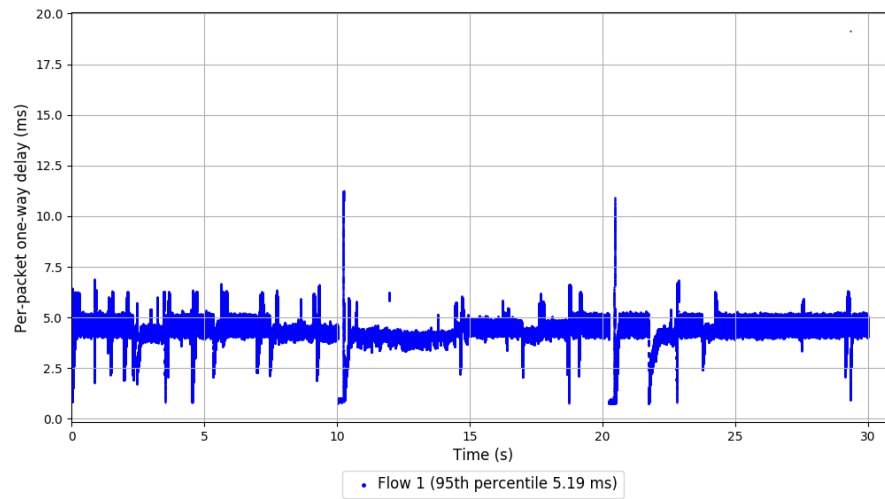
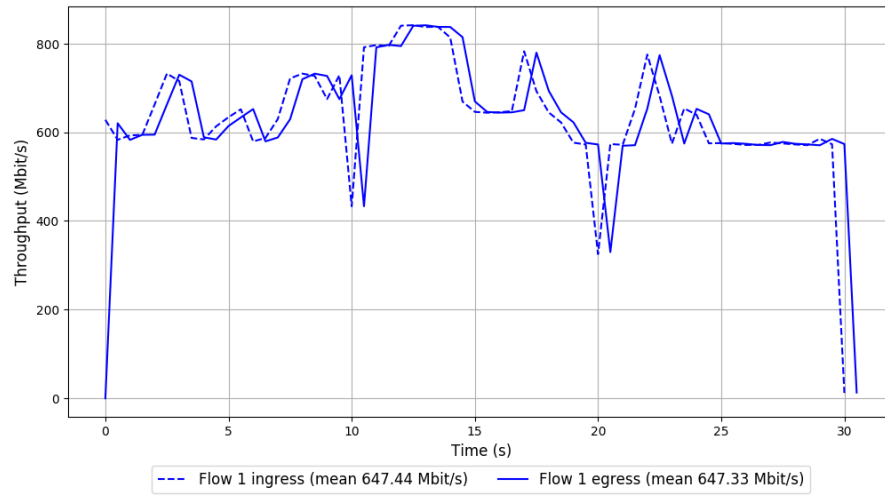
-- Flow 1:

Average throughput: 647.33 Mbit/s

95th percentile per-packet one-way delay: 5.188 ms

Loss rate: 0.02%

Run 1: Report of TCP BBR — Data Link

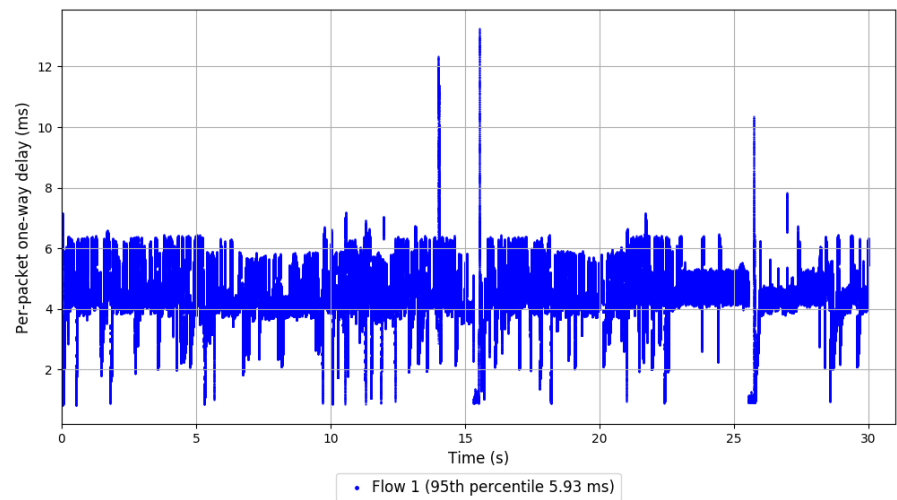
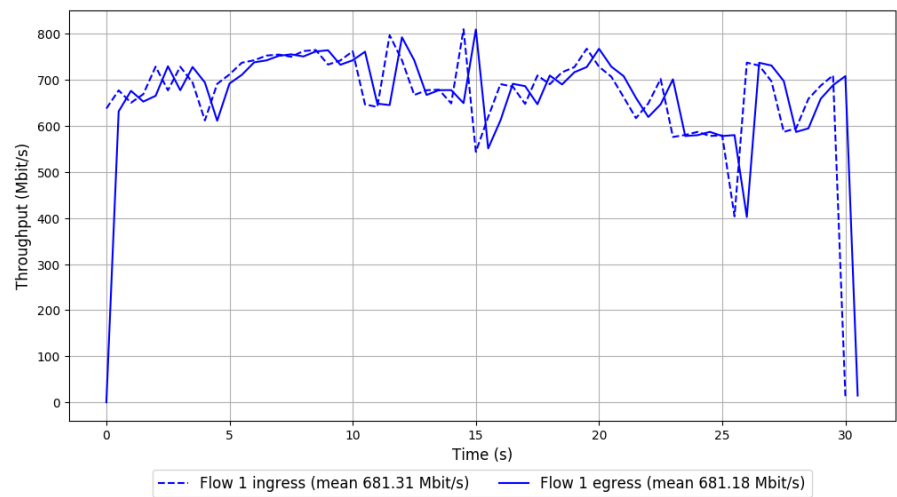


Run 2: Statistics of TCP BBR

Start at: 2018-11-02 18:39:14
End at: 2018-11-02 18:39:44
Local clock offset: 5.531 ms
Remote clock offset: -1.588 ms

Below is generated by plot.py at 2018-11-02 20:28:00
Datalink statistics
-- Total of 1 flow:
Average throughput: 681.18 Mbit/s
95th percentile per-packet one-way delay: 5.933 ms
Loss rate: 0.02%
-- Flow 1:
Average throughput: 681.18 Mbit/s
95th percentile per-packet one-way delay: 5.933 ms
Loss rate: 0.02%

Run 2: Report of TCP BBR — Data Link

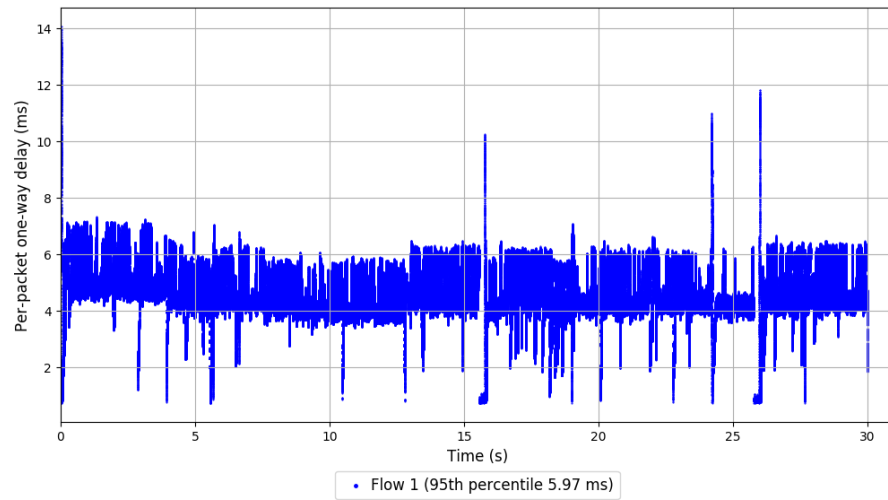
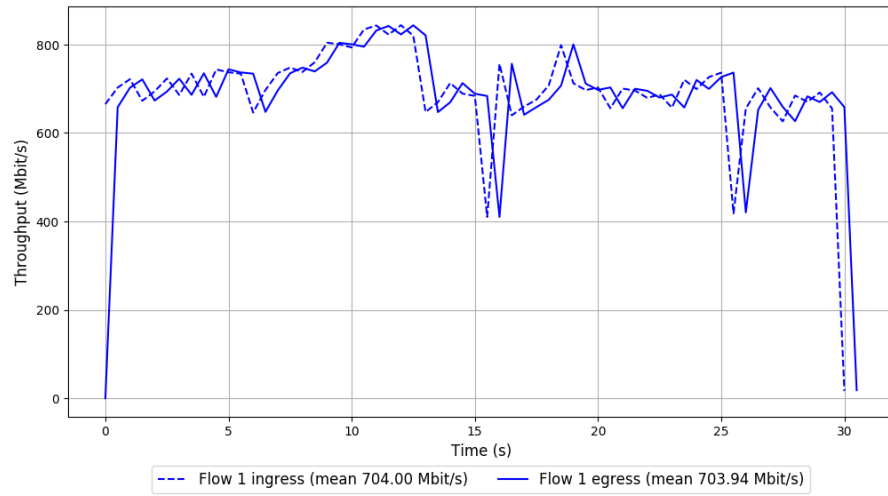


Run 3: Statistics of TCP BBR

Start at: 2018-11-02 19:05:19
End at: 2018-11-02 19:05:49
Local clock offset: 5.654 ms
Remote clock offset: -4.559 ms

Below is generated by plot.py at 2018-11-02 20:28:13
Datalink statistics
-- Total of 1 flow:
Average throughput: 703.94 Mbit/s
95th percentile per-packet one-way delay: 5.974 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 703.94 Mbit/s
95th percentile per-packet one-way delay: 5.974 ms
Loss rate: 0.01%

Run 3: Report of TCP BBR — Data Link

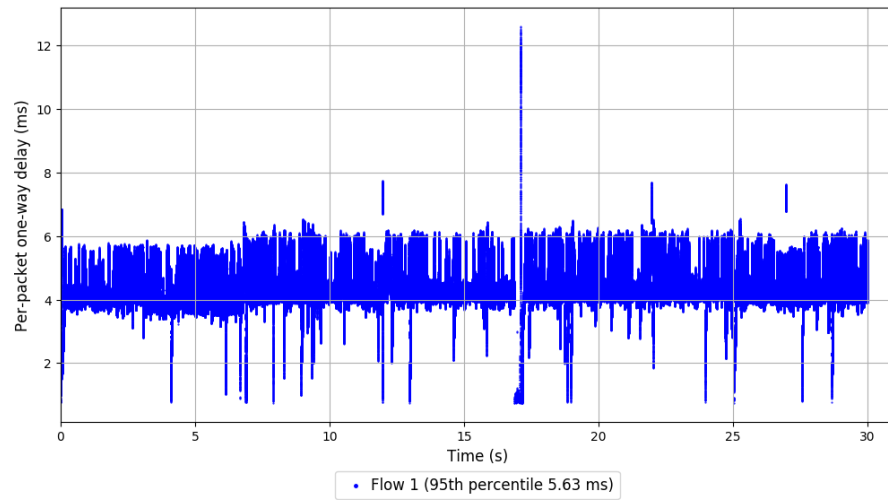
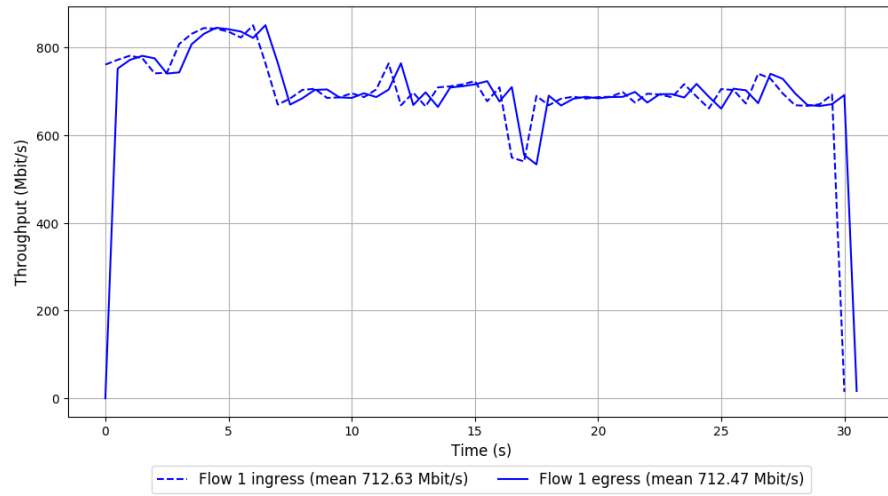


Run 4: Statistics of TCP BBR

Start at: 2018-11-02 19:31:21
End at: 2018-11-02 19:31:51
Local clock offset: 5.369 ms
Remote clock offset: -5.976 ms

Below is generated by plot.py at 2018-11-02 20:28:18
Datalink statistics
-- Total of 1 flow:
Average throughput: 712.47 Mbit/s
95th percentile per-packet one-way delay: 5.632 ms
Loss rate: 0.02%
-- Flow 1:
Average throughput: 712.47 Mbit/s
95th percentile per-packet one-way delay: 5.632 ms
Loss rate: 0.02%

Run 4: Report of TCP BBR — Data Link

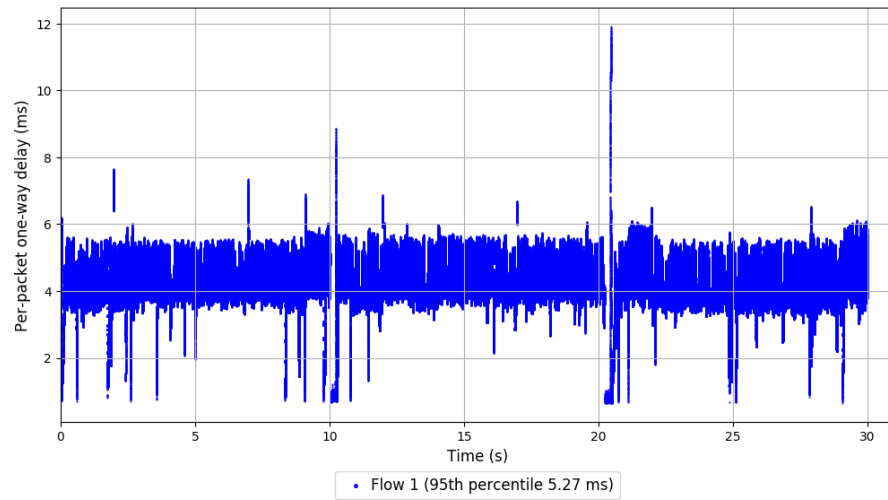
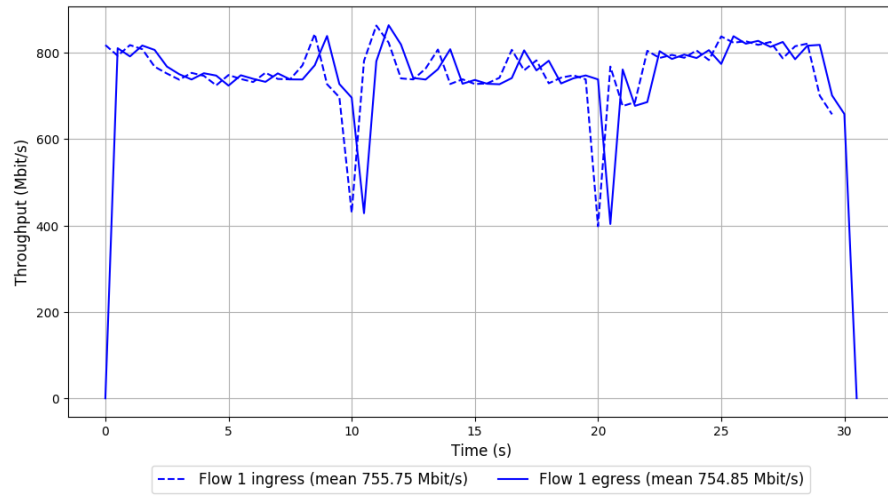


Run 5: Statistics of TCP BBR

Start at: 2018-11-02 19:57:31
End at: 2018-11-02 19:58:01
Local clock offset: 5.034 ms
Remote clock offset: -0.471 ms

Below is generated by plot.py at 2018-11-02 20:28:43
Datalink statistics
-- Total of 1 flow:
Average throughput: 754.85 Mbit/s
95th percentile per-packet one-way delay: 5.266 ms
Loss rate: 0.12%
-- Flow 1:
Average throughput: 754.85 Mbit/s
95th percentile per-packet one-way delay: 5.266 ms
Loss rate: 0.12%

Run 5: Report of TCP BBR — Data Link



Run 1: Statistics of Copa

Start at: 2018-11-02 18:27:39

End at: 2018-11-02 18:28:09

Local clock offset: 5.588 ms

Remote clock offset: 0.078 ms

Below is generated by plot.py at 2018-11-02 20:28:43

Datalink statistics

-- Total of 1 flow:

Average throughput: 9.76 Mbit/s

95th percentile per-packet one-way delay: 1.219 ms

Loss rate: 52.97%

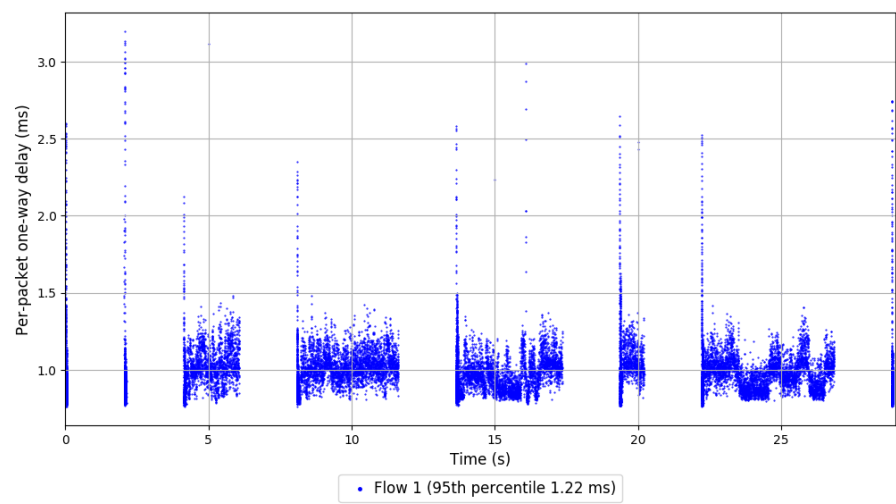
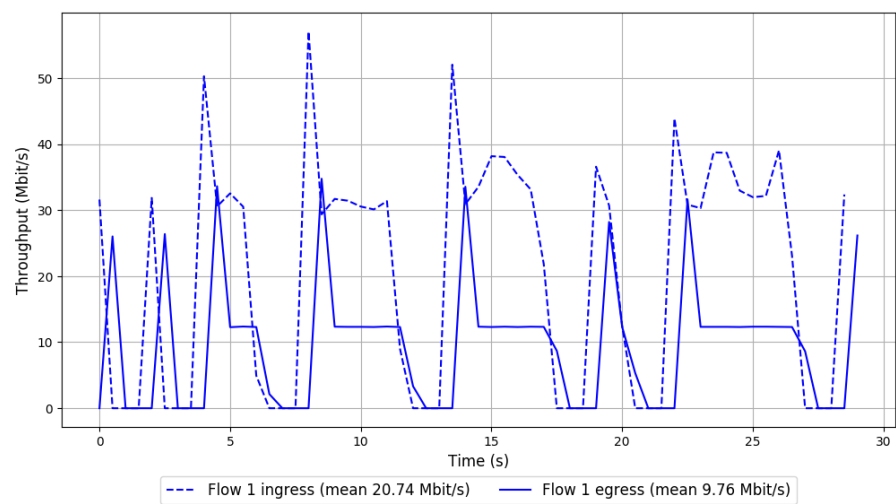
-- Flow 1:

Average throughput: 9.76 Mbit/s

95th percentile per-packet one-way delay: 1.219 ms

Loss rate: 52.97%

Run 1: Report of Copa — Data Link

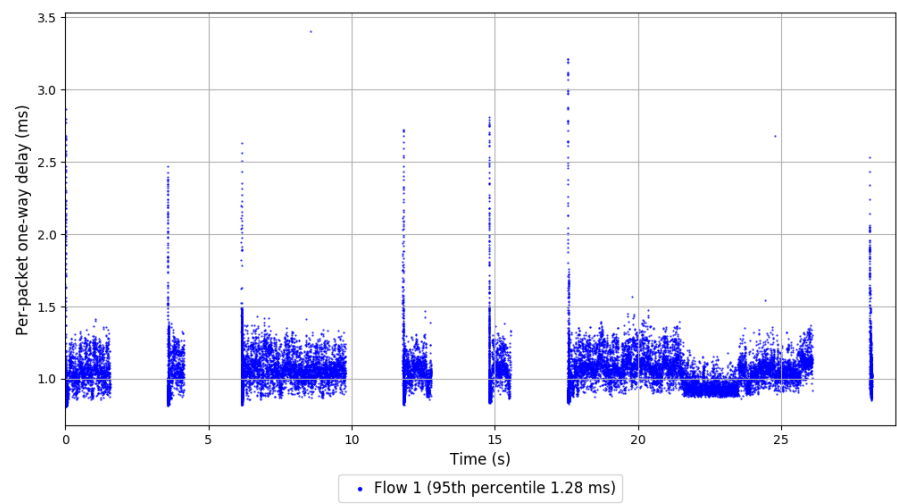
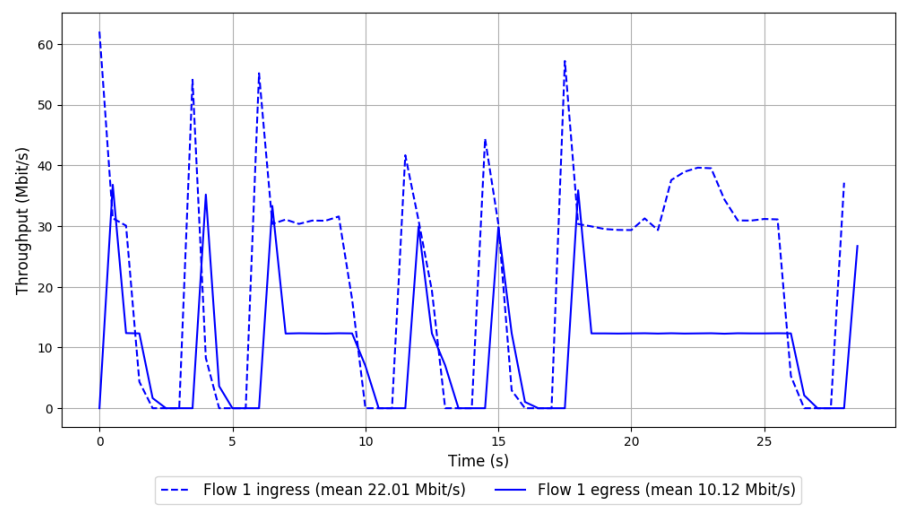


Run 2: Statistics of Copa

Start at: 2018-11-02 18:53:42
End at: 2018-11-02 18:54:12
Local clock offset: 5.507 ms
Remote clock offset: -3.724 ms

Below is generated by plot.py at 2018-11-02 20:28:43
Datalink statistics
-- Total of 1 flow:
Average throughput: 10.12 Mbit/s
95th percentile per-packet one-way delay: 1.279 ms
Loss rate: 54.01%
-- Flow 1:
Average throughput: 10.12 Mbit/s
95th percentile per-packet one-way delay: 1.279 ms
Loss rate: 54.01%

Run 2: Report of Copa — Data Link

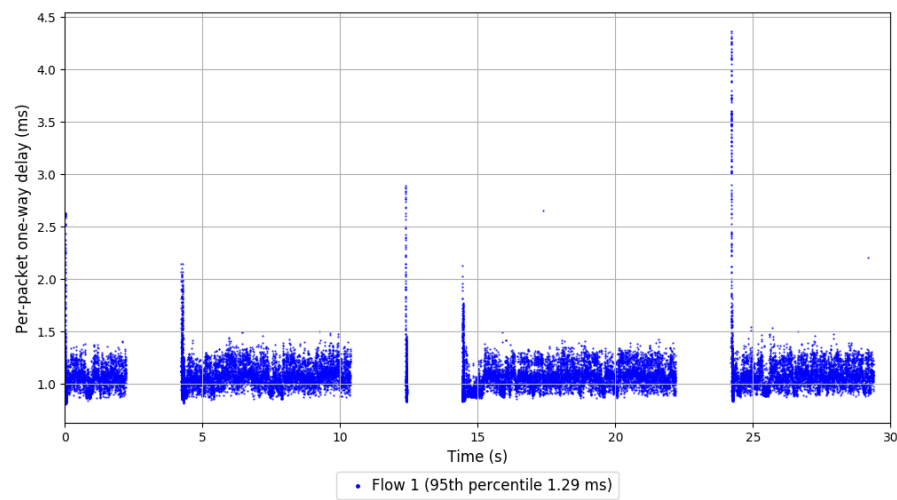
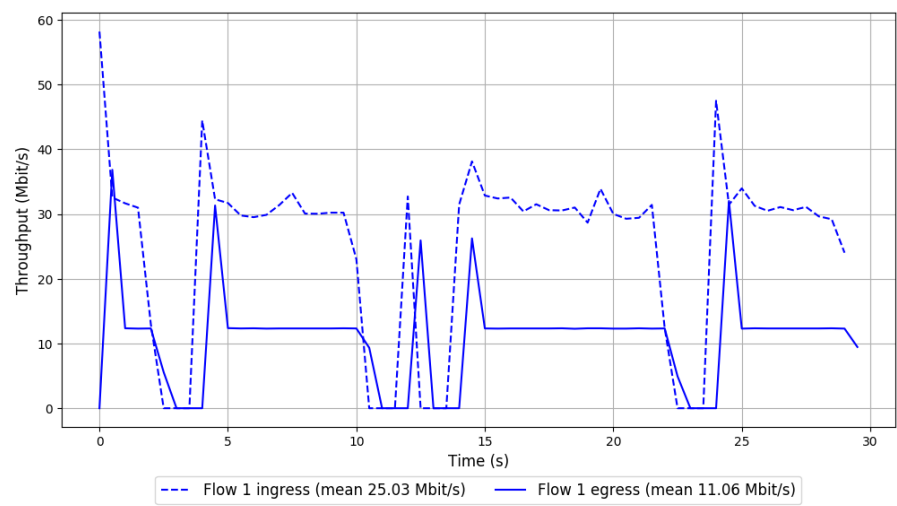


Run 3: Statistics of Copa

Start at: 2018-11-02 19:19:44
End at: 2018-11-02 19:20:14
Local clock offset: 5.367 ms
Remote clock offset: -5.293 ms

Below is generated by plot.py at 2018-11-02 20:28:43
Datalink statistics
-- Total of 1 flow:
Average throughput: 11.06 Mbit/s
95th percentile per-packet one-way delay: 1.292 ms
Loss rate: 55.83%
-- Flow 1:
Average throughput: 11.06 Mbit/s
95th percentile per-packet one-way delay: 1.292 ms
Loss rate: 55.83%

Run 3: Report of Copa — Data Link

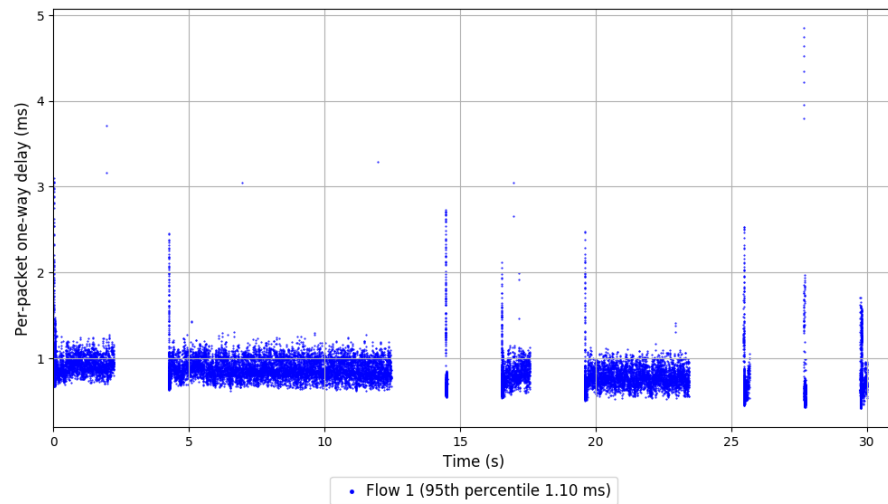
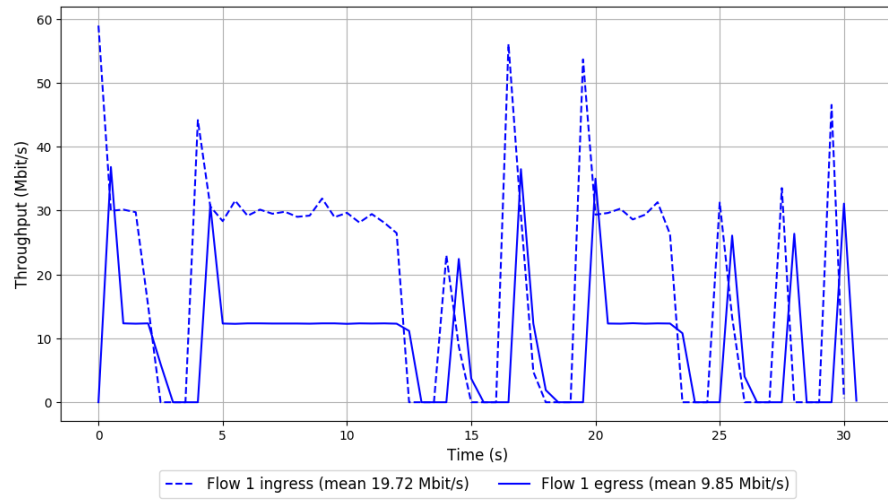


Run 4: Statistics of Copa

Start at: 2018-11-02 19:45:53
End at: 2018-11-02 19:46:23
Local clock offset: 5.101 ms
Remote clock offset: -4.044 ms

Below is generated by plot.py at 2018-11-02 20:28:43
Datalink statistics
-- Total of 1 flow:
Average throughput: 9.85 Mbit/s
95th percentile per-packet one-way delay: 1.103 ms
Loss rate: 50.07%
-- Flow 1:
Average throughput: 9.85 Mbit/s
95th percentile per-packet one-way delay: 1.103 ms
Loss rate: 50.07%

Run 4: Report of Copa — Data Link



Run 5: Statistics of Copa

Start at: 2018-11-02 20:11:43

End at: 2018-11-02 20:12:13

Local clock offset: 4.96 ms

Remote clock offset: 1.082 ms

Below is generated by plot.py at 2018-11-02 20:28:43

Datalink statistics

-- Total of 1 flow:

Average throughput: 8.61 Mbit/s

95th percentile per-packet one-way delay: 1.460 ms

Loss rate: 42.51%

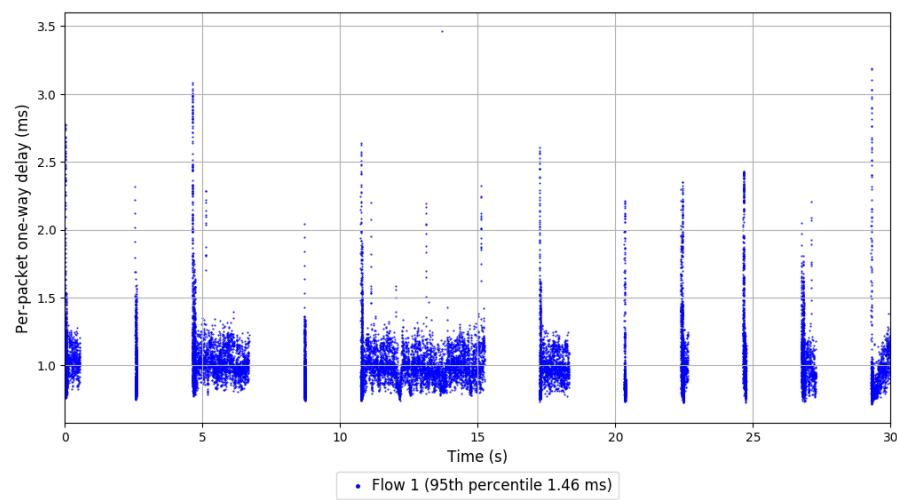
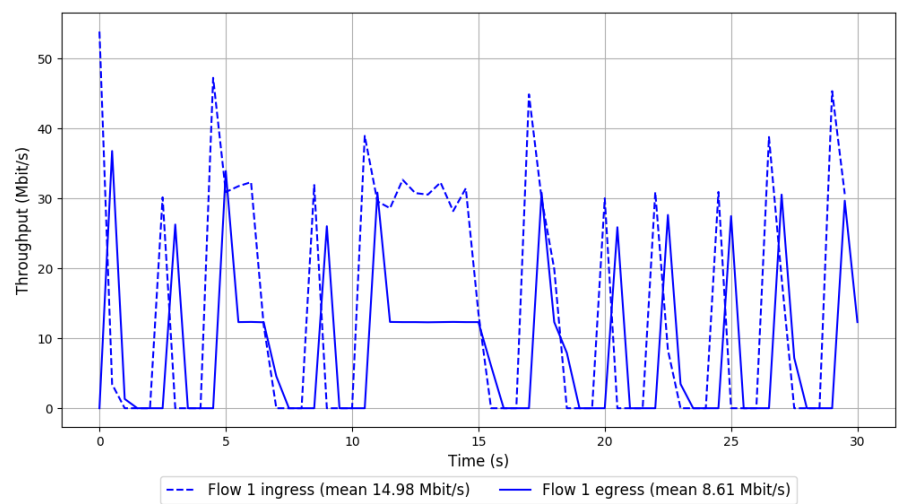
-- Flow 1:

Average throughput: 8.61 Mbit/s

95th percentile per-packet one-way delay: 1.460 ms

Loss rate: 42.51%

Run 5: Report of Copa — Data Link



Run 1: Statistics of TCP Cubic

Start at: 2018-11-02 18:23:21

End at: 2018-11-02 18:23:51

Local clock offset: 5.599 ms

Remote clock offset: 0.01 ms

Below is generated by plot.py at 2018-11-02 20:28:43

Datalink statistics

-- Total of 1 flow:

Average throughput: 683.15 Mbit/s

95th percentile per-packet one-way delay: 58.826 ms

Loss rate: 0.11%

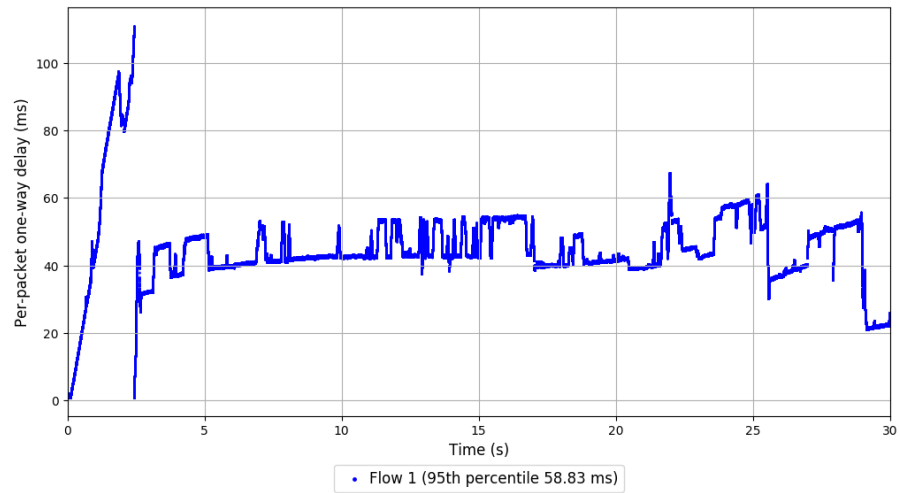
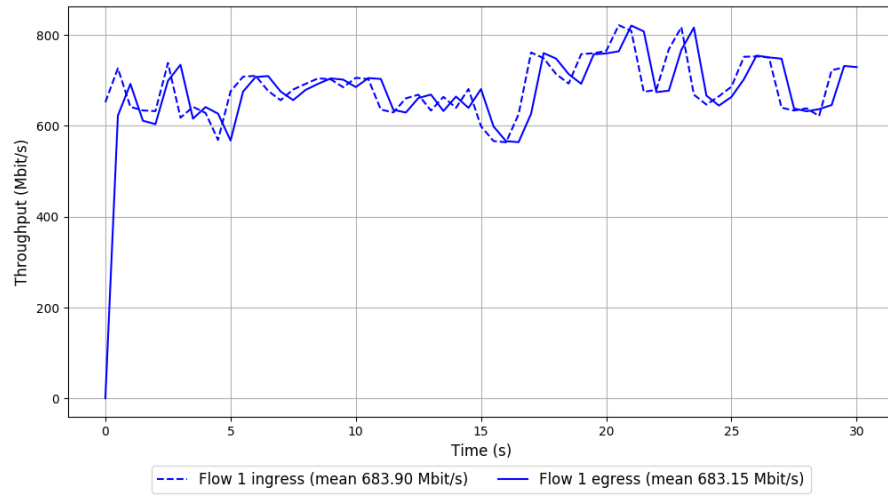
-- Flow 1:

Average throughput: 683.15 Mbit/s

95th percentile per-packet one-way delay: 58.826 ms

Loss rate: 0.11%

Run 1: Report of TCP Cubic — Data Link

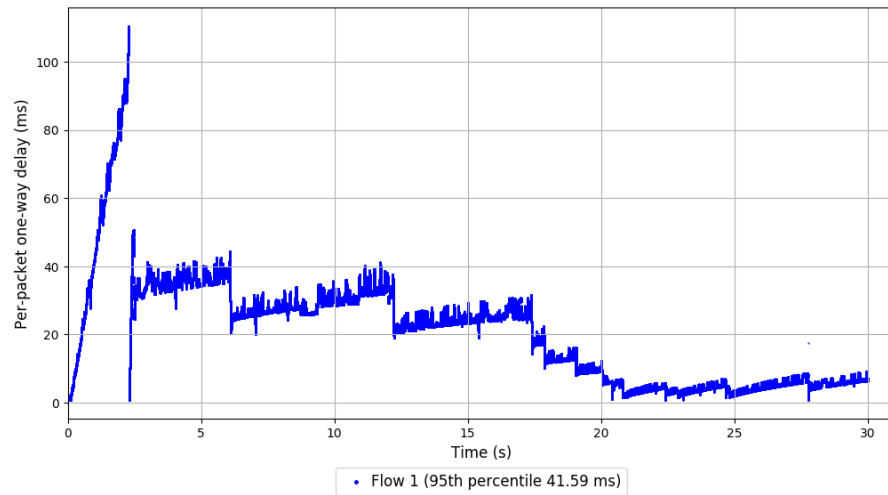
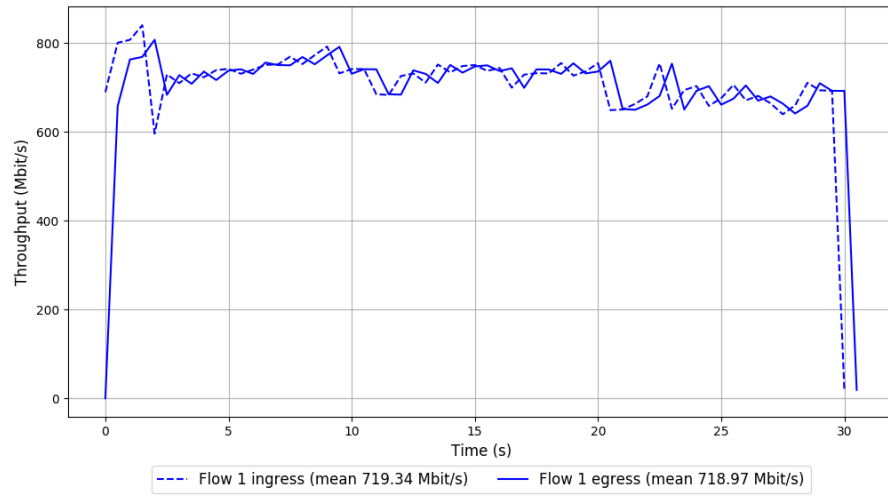


Run 2: Statistics of TCP Cubic

Start at: 2018-11-02 18:49:24
End at: 2018-11-02 18:49:54
Local clock offset: 5.479 ms
Remote clock offset: -3.336 ms

Below is generated by plot.py at 2018-11-02 20:28:43
Datalink statistics
-- Total of 1 flow:
Average throughput: 718.97 Mbit/s
95th percentile per-packet one-way delay: 41.594 ms
Loss rate: 0.05%
-- Flow 1:
Average throughput: 718.97 Mbit/s
95th percentile per-packet one-way delay: 41.594 ms
Loss rate: 0.05%

Run 2: Report of TCP Cubic — Data Link

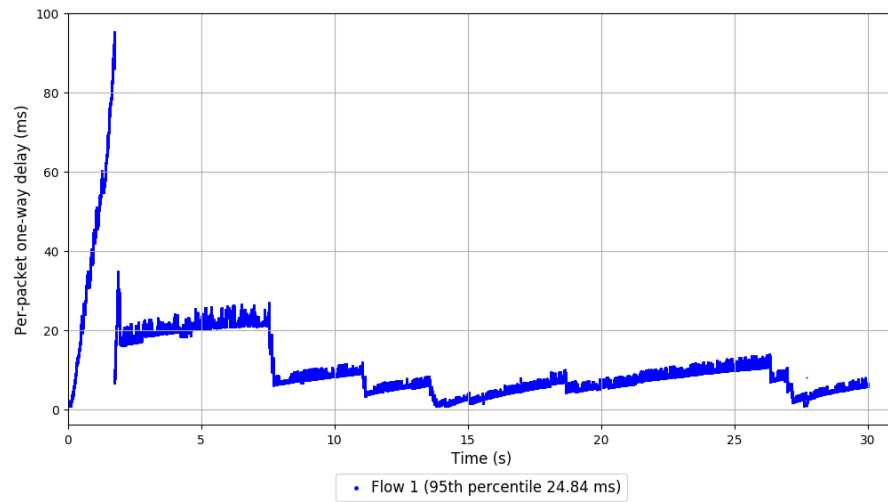
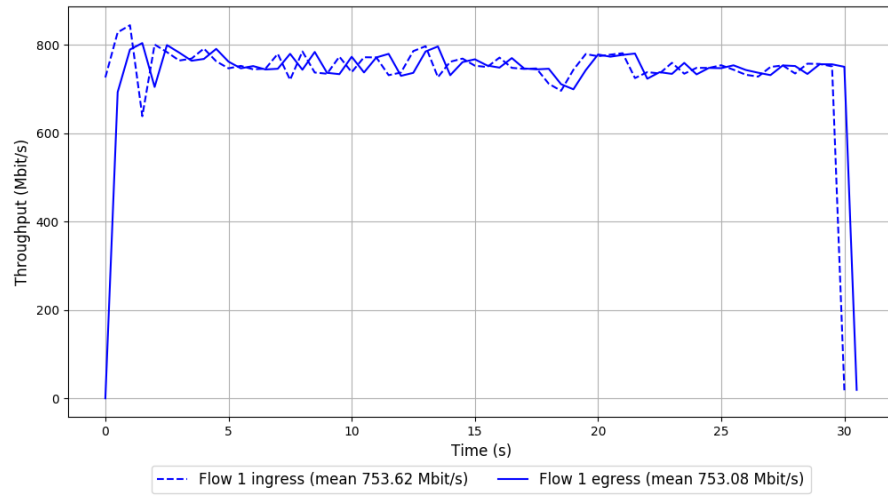


Run 3: Statistics of TCP Cubic

Start at: 2018-11-02 19:15:26
End at: 2018-11-02 19:15:56
Local clock offset: 5.38 ms
Remote clock offset: -5.079 ms

Below is generated by plot.py at 2018-11-02 20:28:56
Datalink statistics
-- Total of 1 flow:
Average throughput: 753.08 Mbit/s
95th percentile per-packet one-way delay: 24.837 ms
Loss rate: 0.07%
-- Flow 1:
Average throughput: 753.08 Mbit/s
95th percentile per-packet one-way delay: 24.837 ms
Loss rate: 0.07%

Run 3: Report of TCP Cubic — Data Link

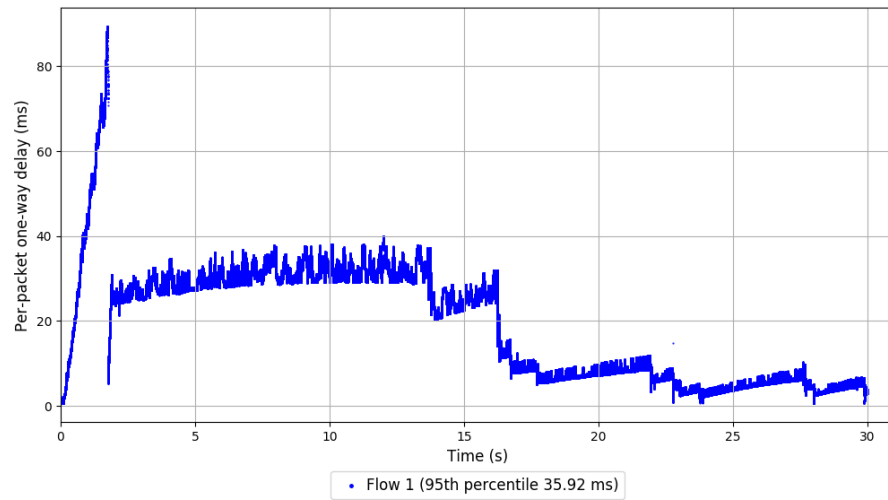
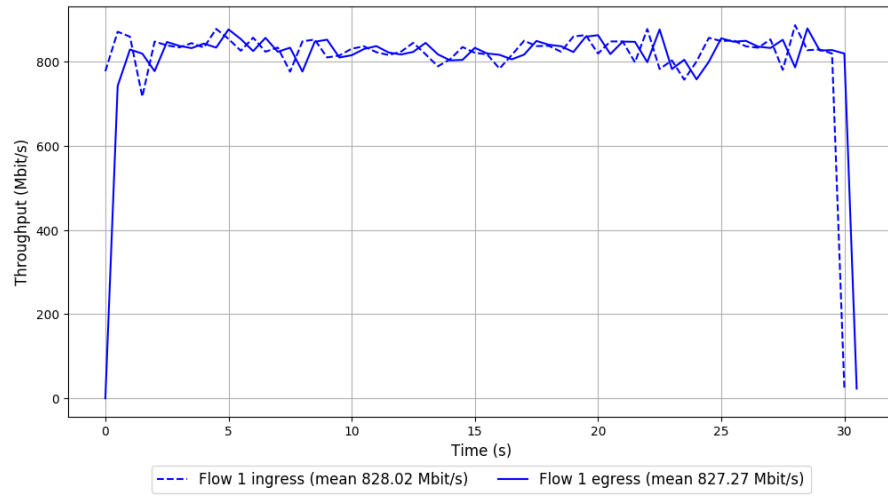


Run 4: Statistics of TCP Cubic

Start at: 2018-11-02 19:41:32
End at: 2018-11-02 19:42:02
Local clock offset: 5.173 ms
Remote clock offset: -6.486 ms

Below is generated by plot.py at 2018-11-02 20:35:45
Datalink statistics
-- Total of 1 flow:
Average throughput: 827.27 Mbit/s
95th percentile per-packet one-way delay: 35.921 ms
Loss rate: 0.09%
-- Flow 1:
Average throughput: 827.27 Mbit/s
95th percentile per-packet one-way delay: 35.921 ms
Loss rate: 0.09%

Run 4: Report of TCP Cubic — Data Link



Run 5: Statistics of TCP Cubic

Start at: 2018-11-02 20:07:26

End at: 2018-11-02 20:07:56

Local clock offset: 4.979 ms

Remote clock offset: 0.715 ms

Below is generated by plot.py at 2018-11-02 20:35:45

Datalink statistics

-- Total of 1 flow:

Average throughput: 691.19 Mbit/s

95th percentile per-packet one-way delay: 4.247 ms

Loss rate: 0.08%

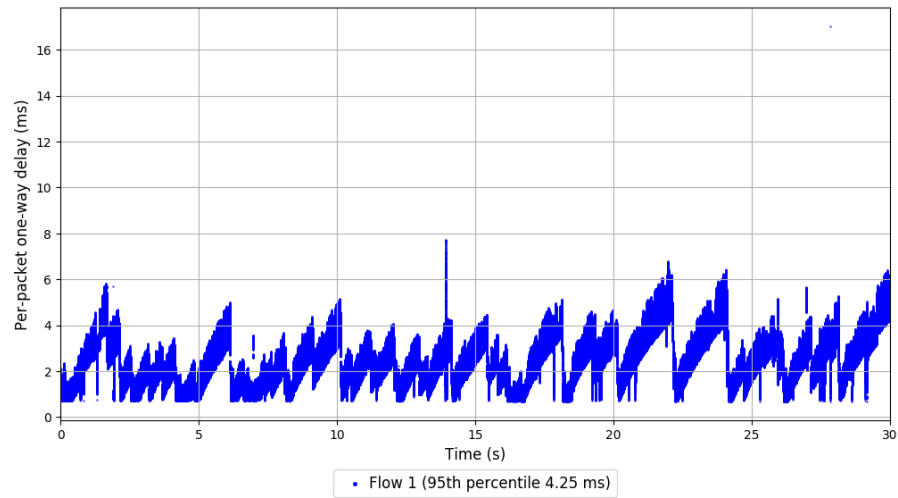
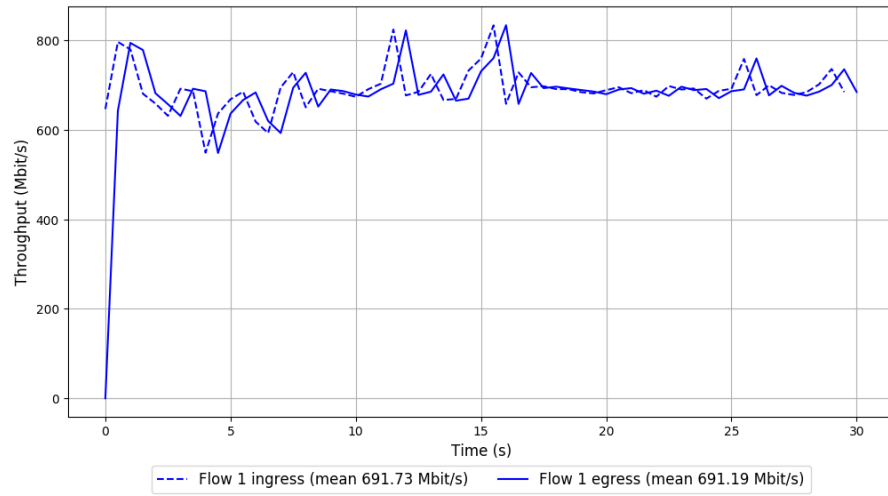
-- Flow 1:

Average throughput: 691.19 Mbit/s

95th percentile per-packet one-way delay: 4.247 ms

Loss rate: 0.08%

Run 5: Report of TCP Cubic — Data Link

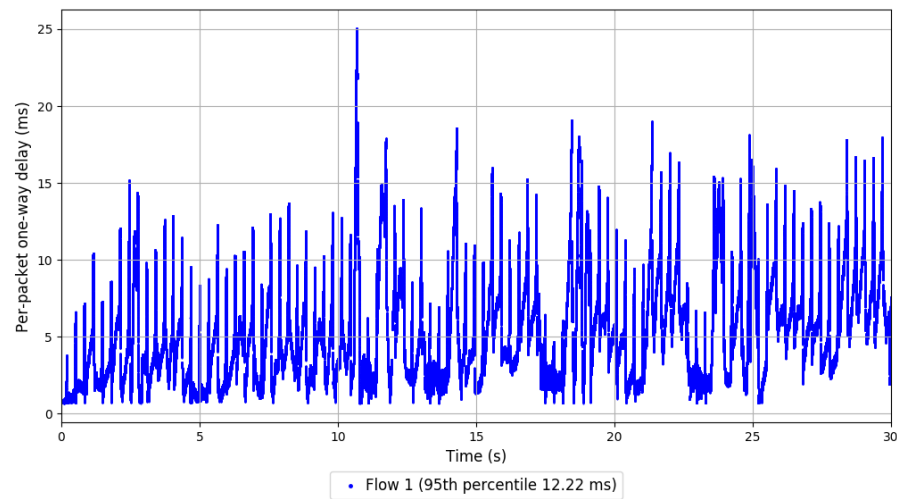
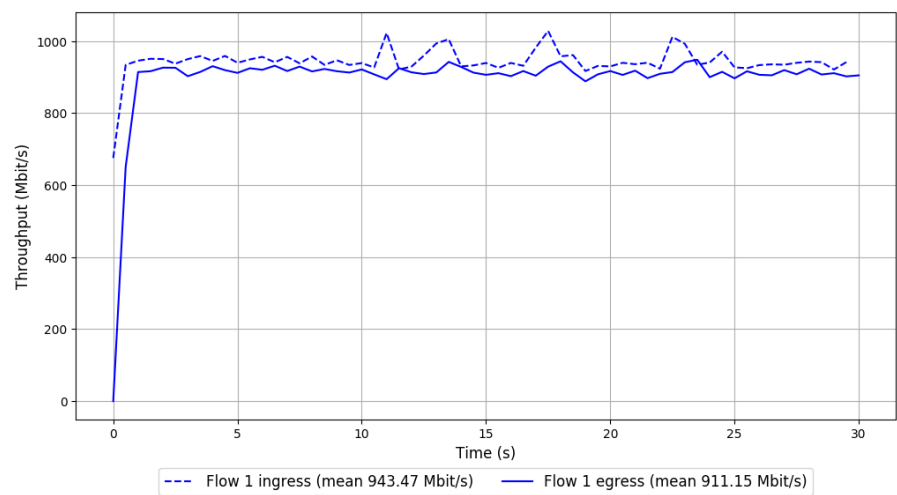


Run 1: Statistics of FillP

Start at: 2018-11-02 18:10:15
End at: 2018-11-02 18:10:45
Local clock offset: 5.511 ms
Remote clock offset: -0.302 ms

Below is generated by plot.py at 2018-11-02 20:41:25
Datalink statistics
-- Total of 1 flow:
Average throughput: 911.15 Mbit/s
95th percentile per-packet one-way delay: 12.217 ms
Loss rate: 3.42%
-- Flow 1:
Average throughput: 911.15 Mbit/s
95th percentile per-packet one-way delay: 12.217 ms
Loss rate: 3.42%

Run 1: Report of FillP — Data Link

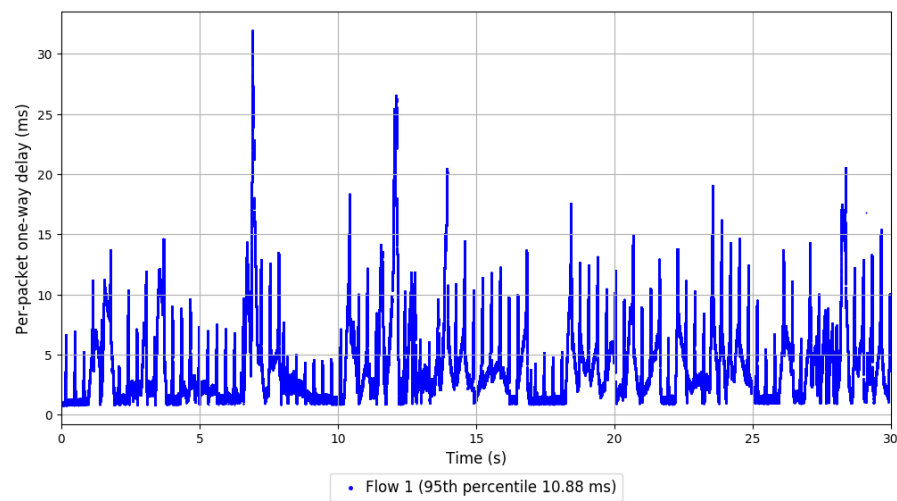
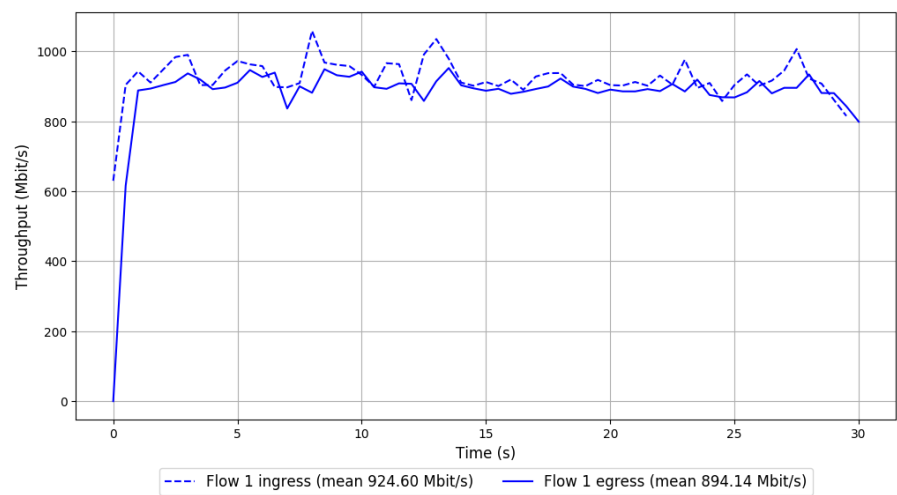


Run 2: Statistics of FillP

Start at: 2018-11-02 18:36:14
End at: 2018-11-02 18:36:44
Local clock offset: 5.613 ms
Remote clock offset: -0.726 ms

Below is generated by plot.py at 2018-11-02 20:41:25
Datalink statistics
-- Total of 1 flow:
Average throughput: 894.14 Mbit/s
95th percentile per-packet one-way delay: 10.878 ms
Loss rate: 3.29%
-- Flow 1:
Average throughput: 894.14 Mbit/s
95th percentile per-packet one-way delay: 10.878 ms
Loss rate: 3.29%

Run 2: Report of FillP — Data Link



Run 3: Statistics of FillP

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

End at: 2018-11-02 19:02:49

Local clock offset: 5.645 ms

Remote clock offset: -4.3 ms

Below is generated by plot.py at 2018-11-02 20:41:28

Datalink statistics

-- Total of 1 flow:

Average throughput: 903.62 Mbit/s

95th percentile per-packet one-way delay: 12.066 ms

Loss rate: 3.11%

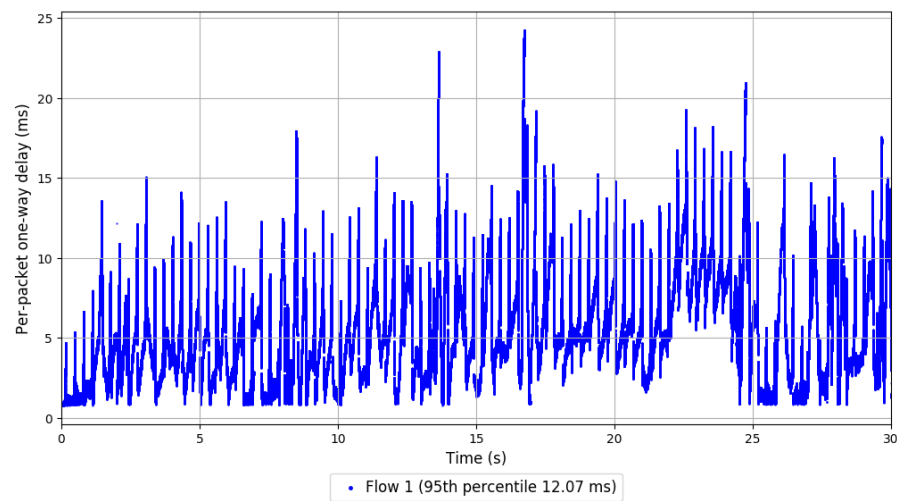
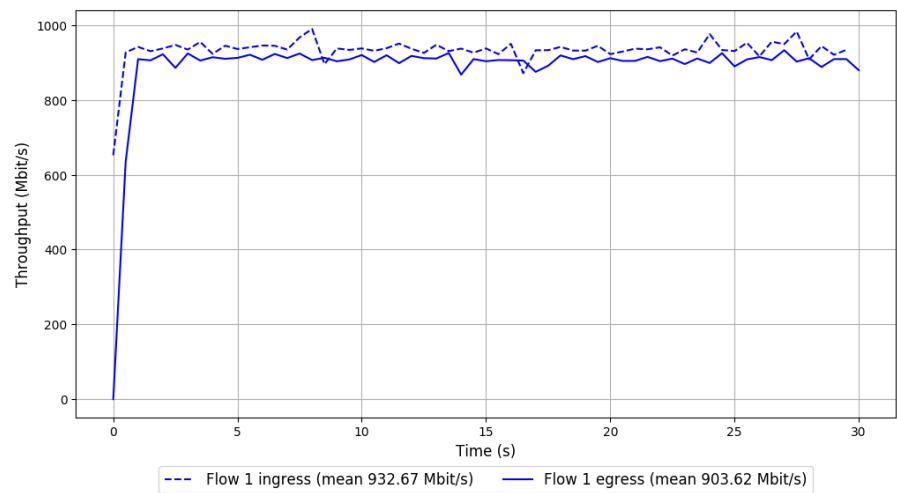
-- Flow 1:

Average throughput: 903.62 Mbit/s

95th percentile per-packet one-way delay: 12.066 ms

Loss rate: 3.11%

Run 3: Report of FillP — Data Link

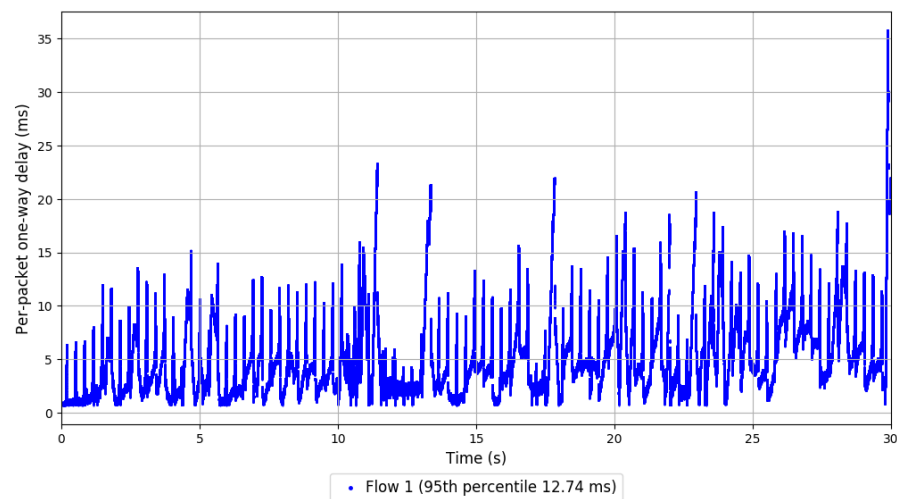
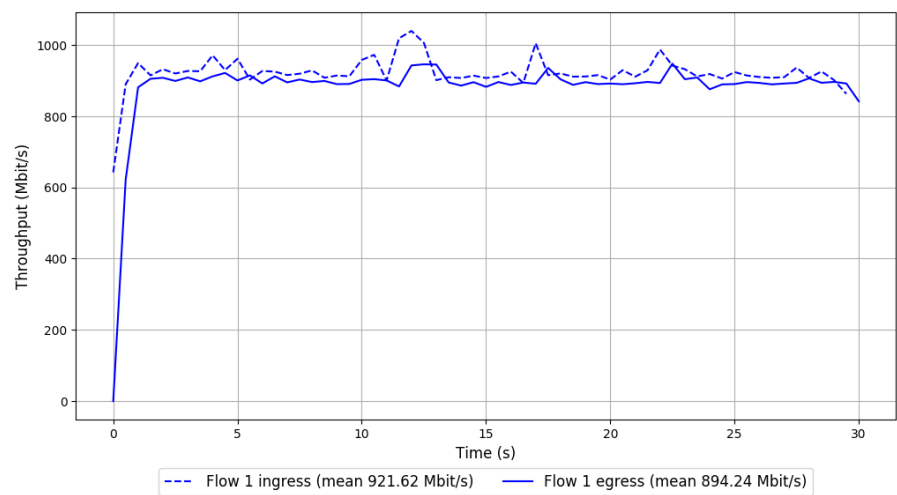


Run 4: Statistics of FillP

Start at: 2018-11-02 19:28:21
End at: 2018-11-02 19:28:51
Local clock offset: 5.356 ms
Remote clock offset: -5.827 ms

Below is generated by plot.py at 2018-11-02 20:41:40
Datalink statistics
-- Total of 1 flow:
Average throughput: 894.24 Mbit/s
95th percentile per-packet one-way delay: 12.739 ms
Loss rate: 2.97%
-- Flow 1:
Average throughput: 894.24 Mbit/s
95th percentile per-packet one-way delay: 12.739 ms
Loss rate: 2.97%

Run 4: Report of FillP — Data Link

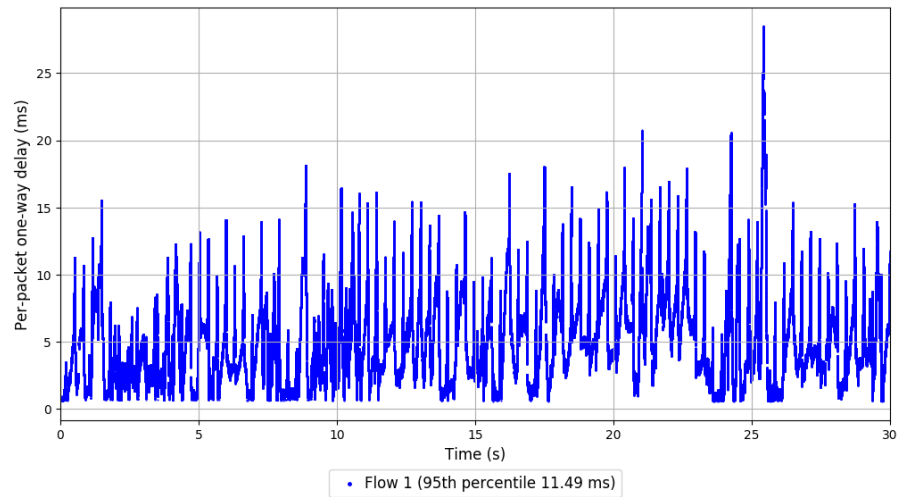
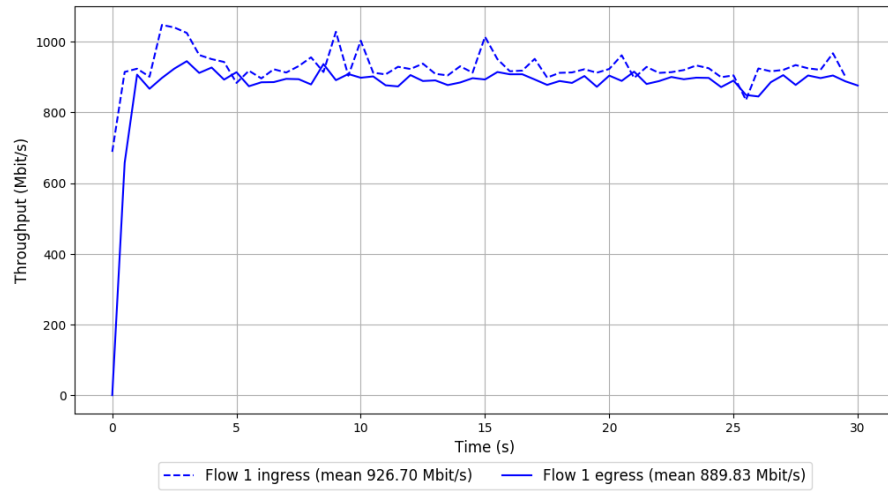


Run 5: Statistics of FillP

Start at: 2018-11-02 19:54:30
End at: 2018-11-02 19:55:00
Local clock offset: 5.056 ms
Remote clock offset: -1.053 ms

Below is generated by plot.py at 2018-11-02 20:41:49
Datalink statistics
-- Total of 1 flow:
Average throughput: 889.83 Mbit/s
95th percentile per-packet one-way delay: 11.488 ms
Loss rate: 3.98%
-- Flow 1:
Average throughput: 889.83 Mbit/s
95th percentile per-packet one-way delay: 11.488 ms
Loss rate: 3.98%

Run 5: Report of FillP — Data Link

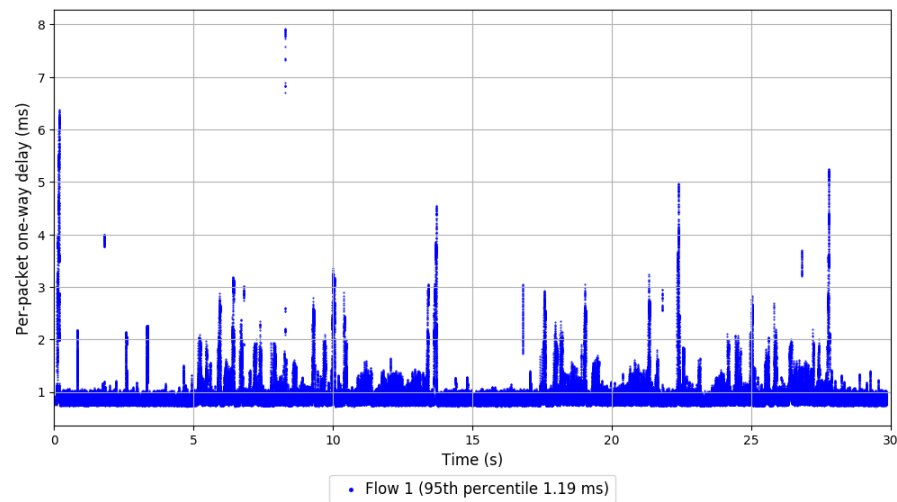
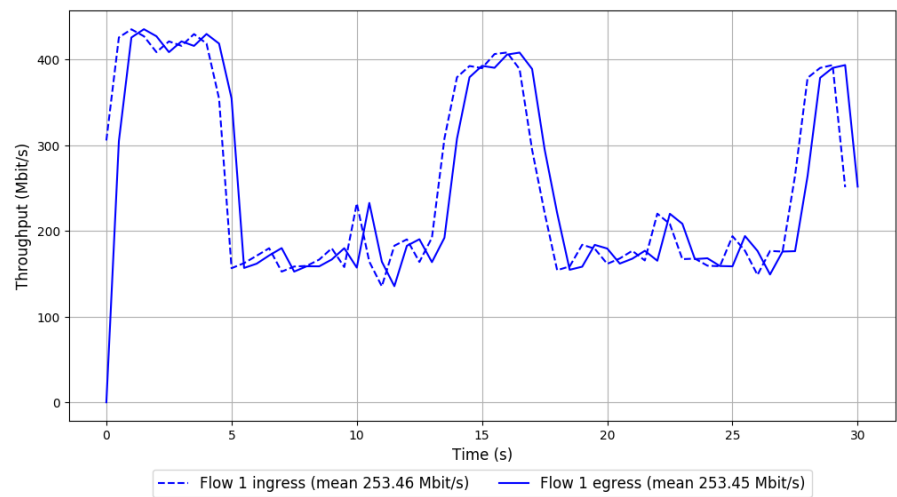


Run 1: Statistics of Indigo

Start at: 2018-11-02 18:16:14
End at: 2018-11-02 18:16:44
Local clock offset: 5.523 ms
Remote clock offset: -0.164 ms

Below is generated by plot.py at 2018-11-02 20:41:49
Datalink statistics
-- Total of 1 flow:
Average throughput: 253.45 Mbit/s
95th percentile per-packet one-way delay: 1.192 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 253.45 Mbit/s
95th percentile per-packet one-way delay: 1.192 ms
Loss rate: 0.00%

Run 1: Report of Indigo — Data Link

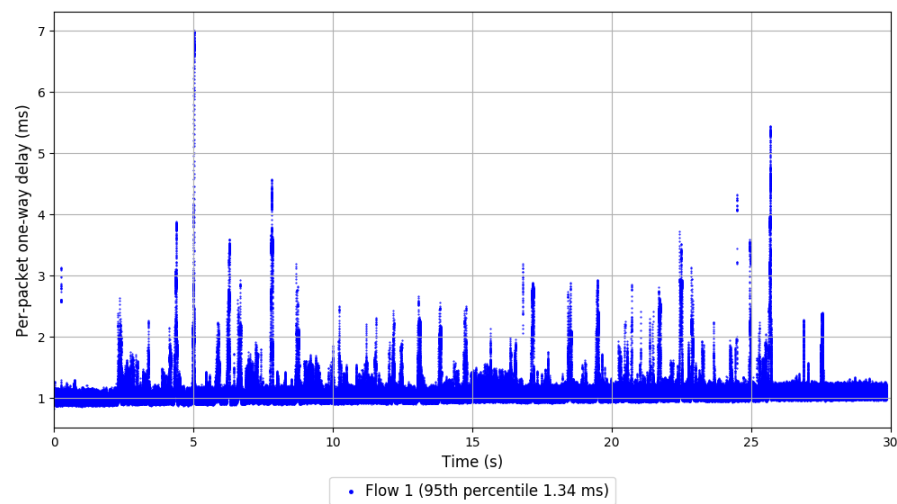
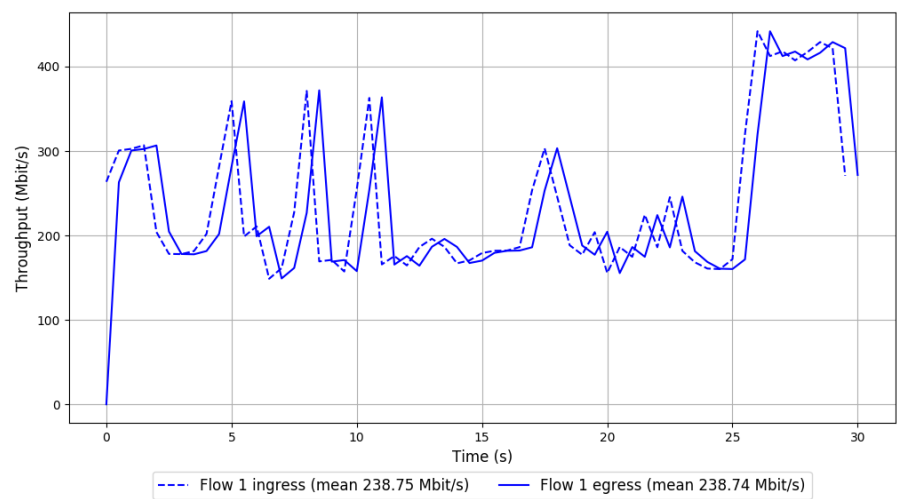


Run 2: Statistics of Indigo

Start at: 2018-11-02 18:42:13
End at: 2018-11-02 18:42:43
Local clock offset: 5.484 ms
Remote clock offset: -2.167 ms

Below is generated by plot.py at 2018-11-02 20:41:49
Datalink statistics
-- Total of 1 flow:
Average throughput: 238.74 Mbit/s
95th percentile per-packet one-way delay: 1.344 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 238.74 Mbit/s
95th percentile per-packet one-way delay: 1.344 ms
Loss rate: 0.00%

Run 2: Report of Indigo — Data Link

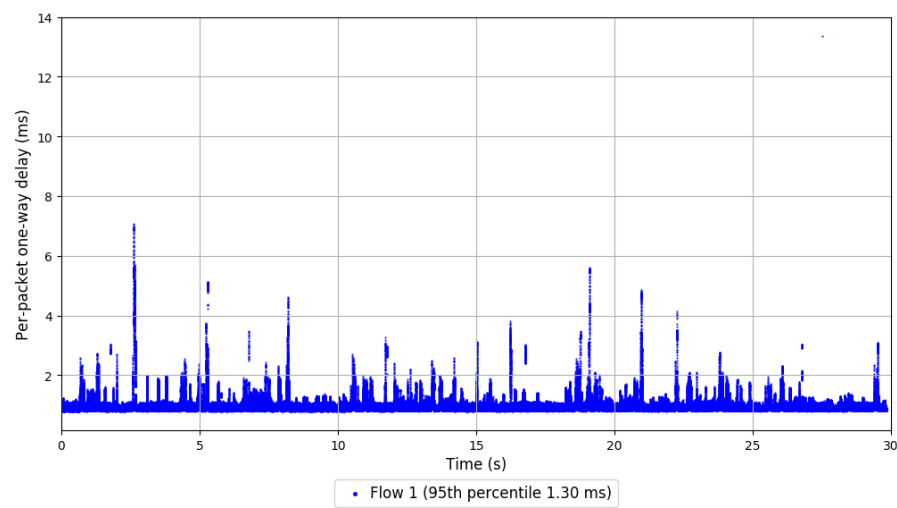
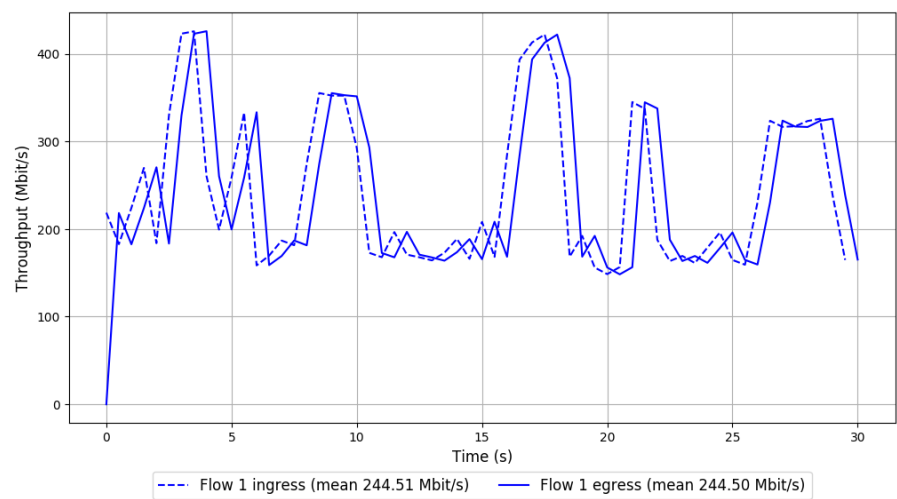


Run 3: Statistics of Indigo

Start at: 2018-11-02 19:08:18
End at: 2018-11-02 19:08:48
Local clock offset: 5.513 ms
Remote clock offset: -4.682 ms

Below is generated by plot.py at 2018-11-02 20:41:49
Datalink statistics
-- Total of 1 flow:
Average throughput: 244.50 Mbit/s
95th percentile per-packet one-way delay: 1.301 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 244.50 Mbit/s
95th percentile per-packet one-way delay: 1.301 ms
Loss rate: 0.00%

Run 3: Report of Indigo — Data Link

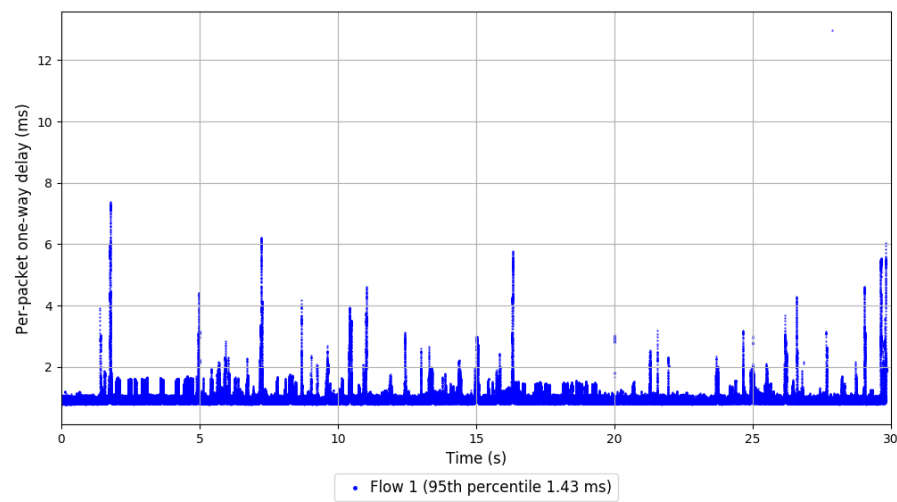
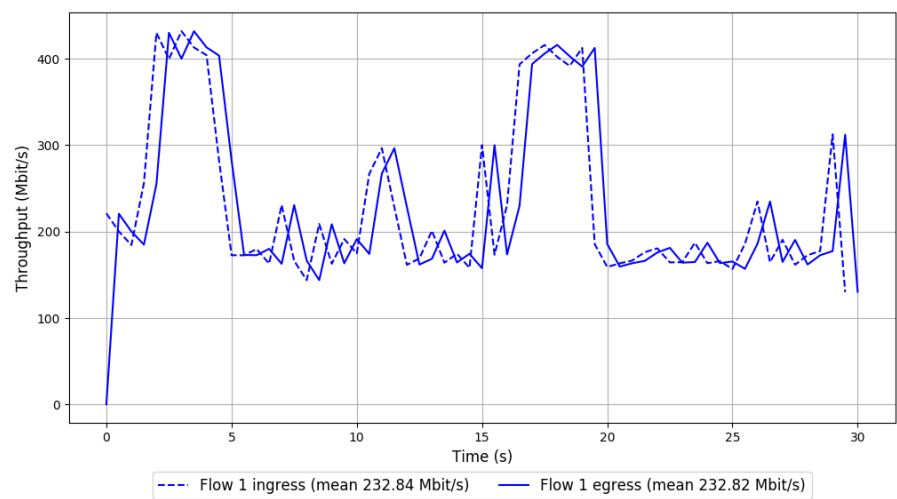


Run 4: Statistics of Indigo

Start at: 2018-11-02 19:34:21
End at: 2018-11-02 19:34:51
Local clock offset: 5.365 ms
Remote clock offset: -6.062 ms

Below is generated by plot.py at 2018-11-02 20:41:49
Datalink statistics
-- Total of 1 flow:
Average throughput: 232.82 Mbit/s
95th percentile per-packet one-way delay: 1.433 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 232.82 Mbit/s
95th percentile per-packet one-way delay: 1.433 ms
Loss rate: 0.00%

Run 4: Report of Indigo — Data Link

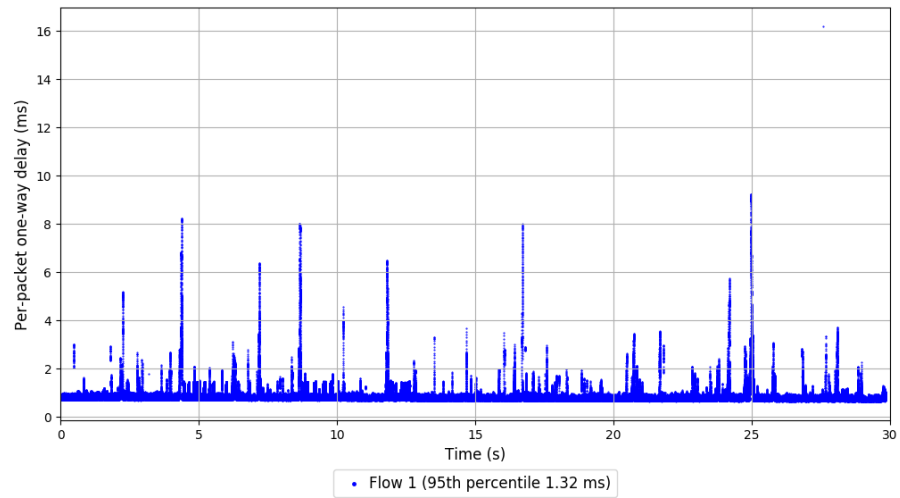
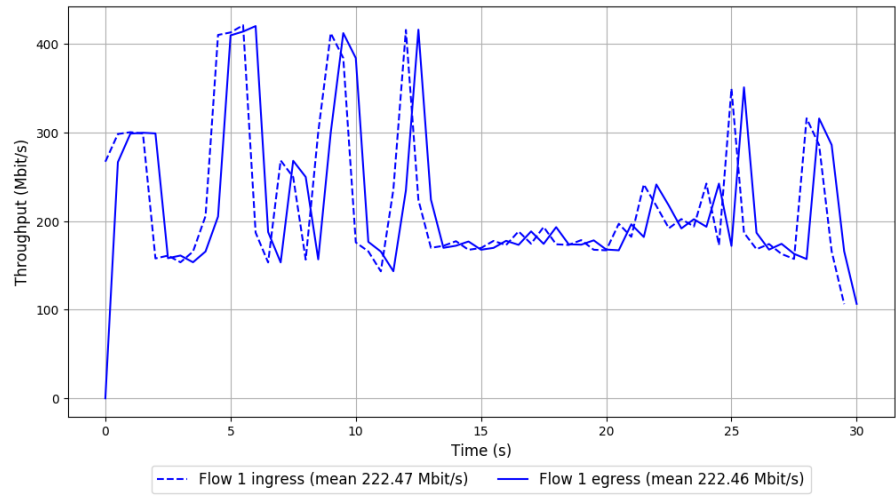


Run 5: Statistics of Indigo

Start at: 2018-11-02 20:00:32
End at: 2018-11-02 20:01:02
Local clock offset: 5.038 ms
Remote clock offset: -0.014 ms

Below is generated by plot.py at 2018-11-02 20:41:49
Datalink statistics
-- Total of 1 flow:
Average throughput: 222.46 Mbit/s
95th percentile per-packet one-way delay: 1.319 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 222.46 Mbit/s
95th percentile per-packet one-way delay: 1.319 ms
Loss rate: 0.01%

Run 5: Report of Indigo — Data Link



Run 1: Statistics of Indigo-96d2da3

Start at: 2018-11-02 18:17:43

End at: 2018-11-02 18:18:13

Local clock offset: 5.566 ms

Remote clock offset: -0.121 ms

Below is generated by plot.py at 2018-11-02 20:41:49

Datalink statistics

-- Total of 1 flow:

Average throughput: 282.54 Mbit/s

95th percentile per-packet one-way delay: 1.513 ms

Loss rate: 0.00%

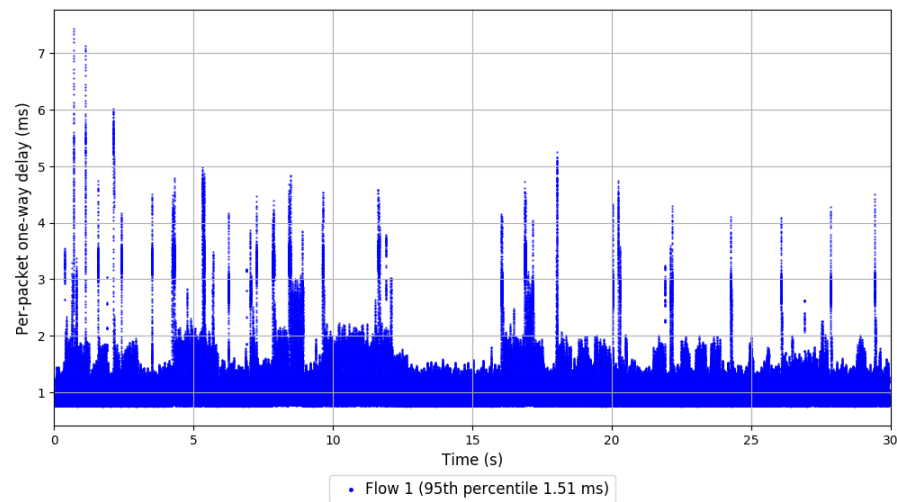
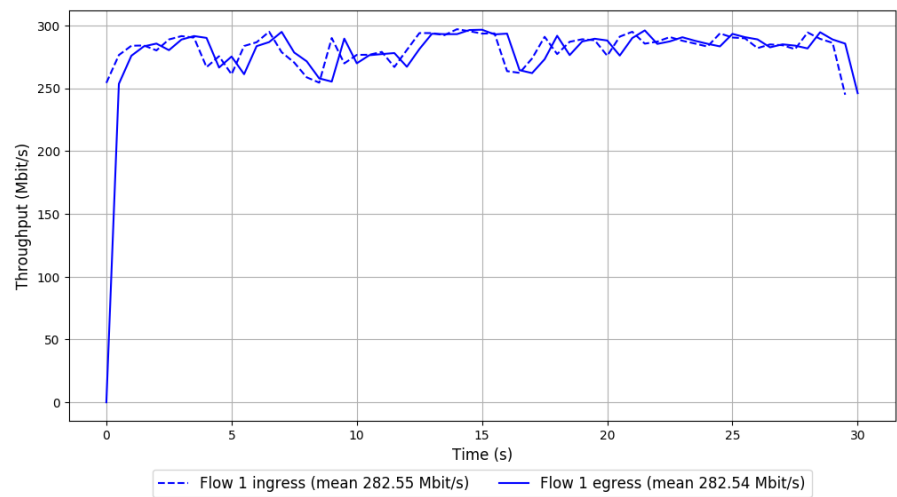
-- Flow 1:

Average throughput: 282.54 Mbit/s

95th percentile per-packet one-way delay: 1.513 ms

Loss rate: 0.00%

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

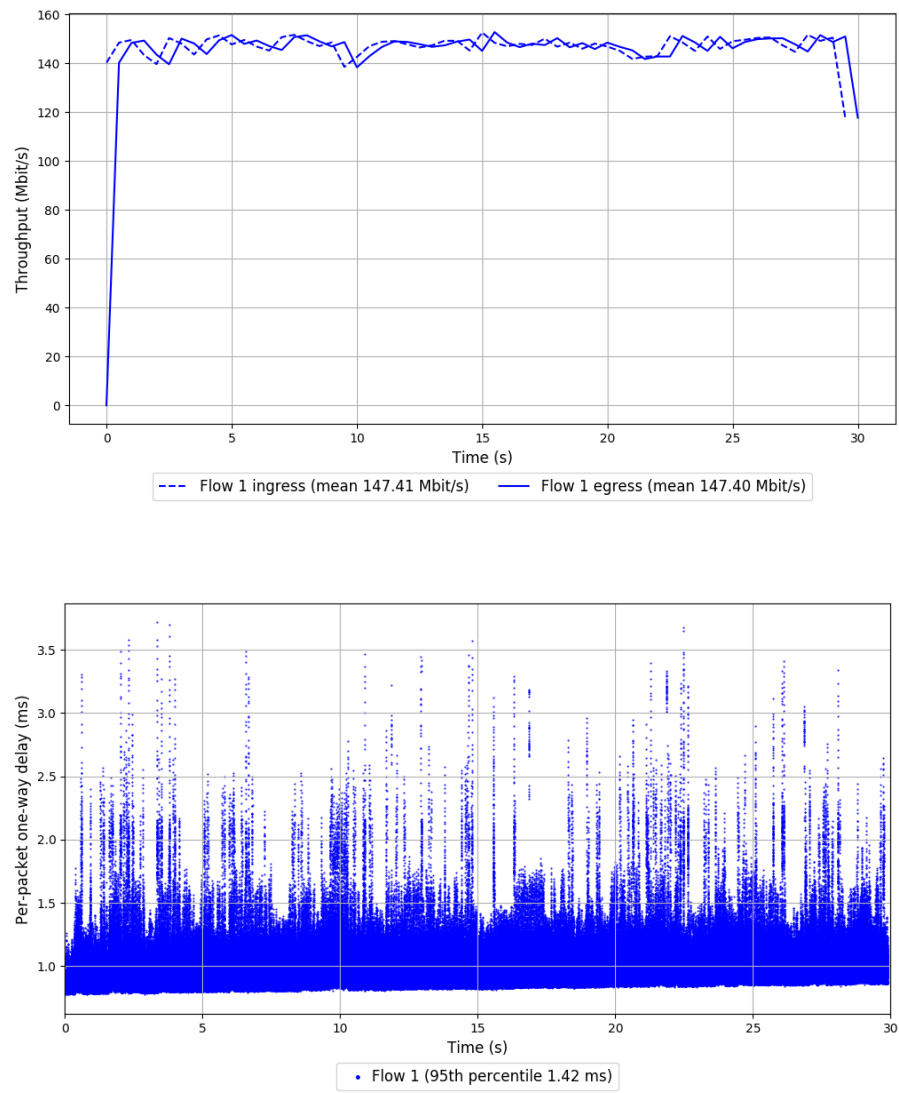


Run 2: Statistics of Indigo-96d2da3

Start at: 2018-11-02 18:43:41
End at: 2018-11-02 18:44:11
Local clock offset: 5.464 ms
Remote clock offset: -2.535 ms

Below is generated by plot.py at 2018-11-02 20:41:49
Datalink statistics
-- Total of 1 flow:
Average throughput: 147.40 Mbit/s
95th percentile per-packet one-way delay: 1.418 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 147.40 Mbit/s
95th percentile per-packet one-way delay: 1.418 ms
Loss rate: 0.00%

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

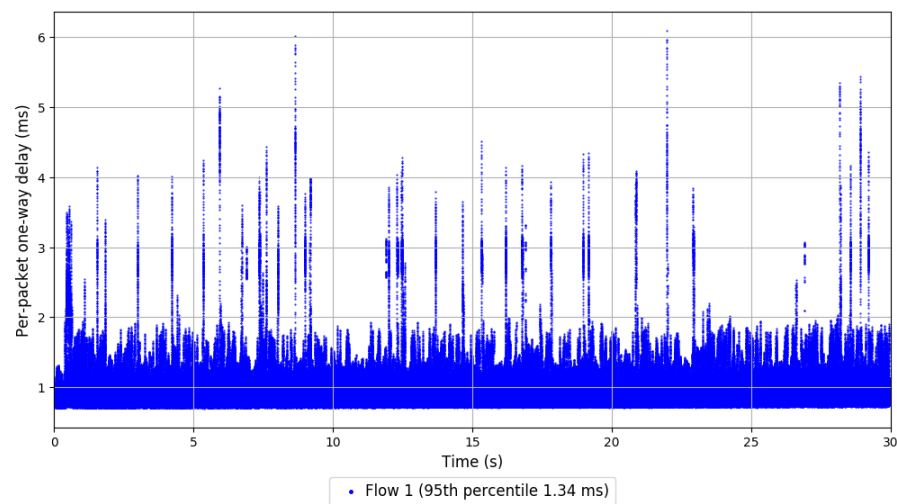
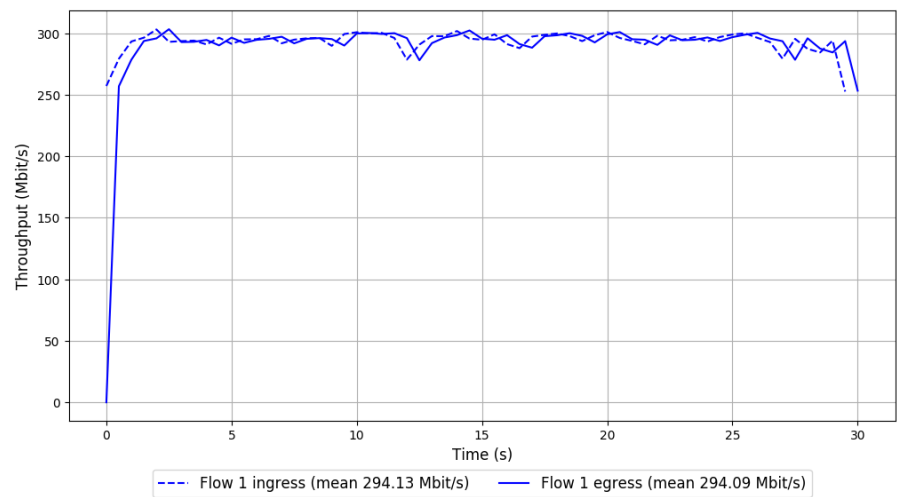


Run 3: Statistics of Indigo-96d2da3

Start at: 2018-11-02 19:09:46
End at: 2018-11-02 19:10:16
Local clock offset: 5.469 ms
Remote clock offset: -4.841 ms

Below is generated by plot.py at 2018-11-02 20:43:10
Datalink statistics
-- Total of 1 flow:
Average throughput: 294.09 Mbit/s
95th percentile per-packet one-way delay: 1.336 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 294.09 Mbit/s
95th percentile per-packet one-way delay: 1.336 ms
Loss rate: 0.01%

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

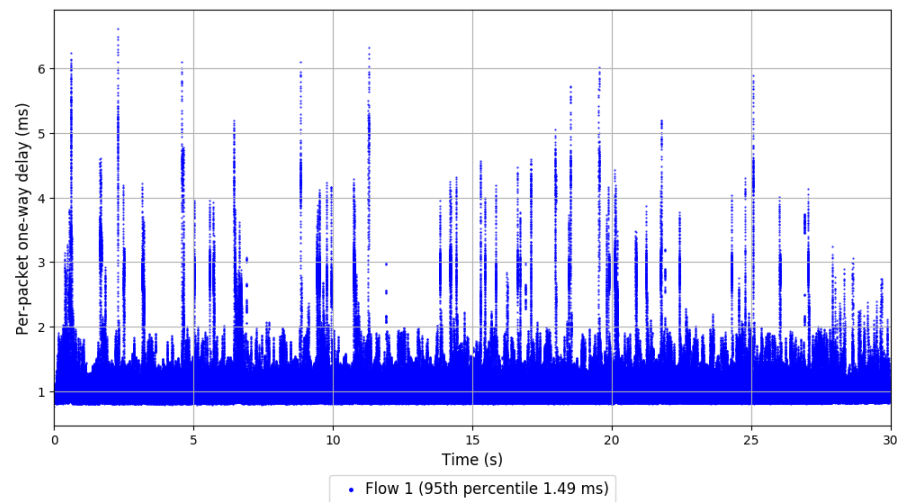
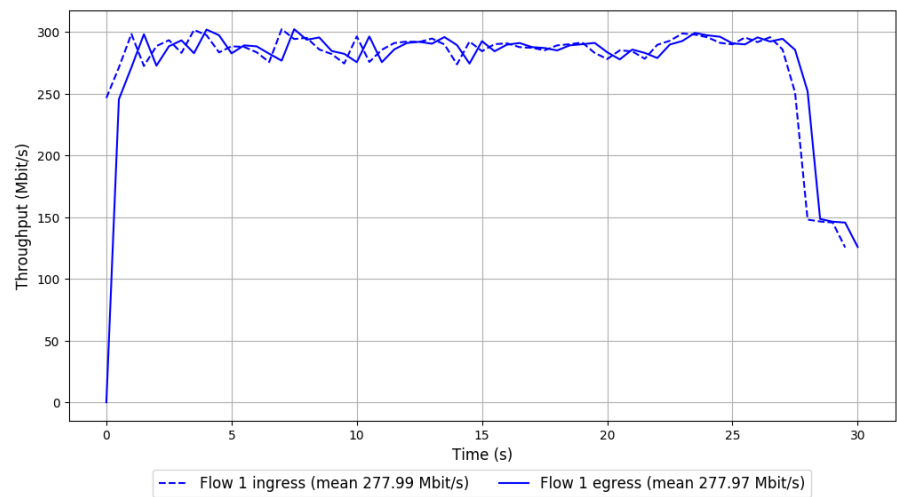


Run 4: Statistics of Indigo-96d2da3

Start at: 2018-11-02 19:35:49
End at: 2018-11-02 19:36:19
Local clock offset: 5.319 ms
Remote clock offset: -6.127 ms

Below is generated by plot.py at 2018-11-02 20:43:43
Datalink statistics
-- Total of 1 flow:
Average throughput: 277.97 Mbit/s
95th percentile per-packet one-way delay: 1.493 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 277.97 Mbit/s
95th percentile per-packet one-way delay: 1.493 ms
Loss rate: 0.01%

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



Run 5: Statistics of Indigo-96d2da3

Start at: 2018-11-02 20:01:59

End at: 2018-11-02 20:02:29

Local clock offset: 5.039 ms

Remote clock offset: 0.304 ms

Below is generated by plot.py at 2018-11-02 20:44:25

Datalink statistics

-- Total of 1 flow:

Average throughput: 301.46 Mbit/s

95th percentile per-packet one-way delay: 1.586 ms

Loss rate: 0.02%

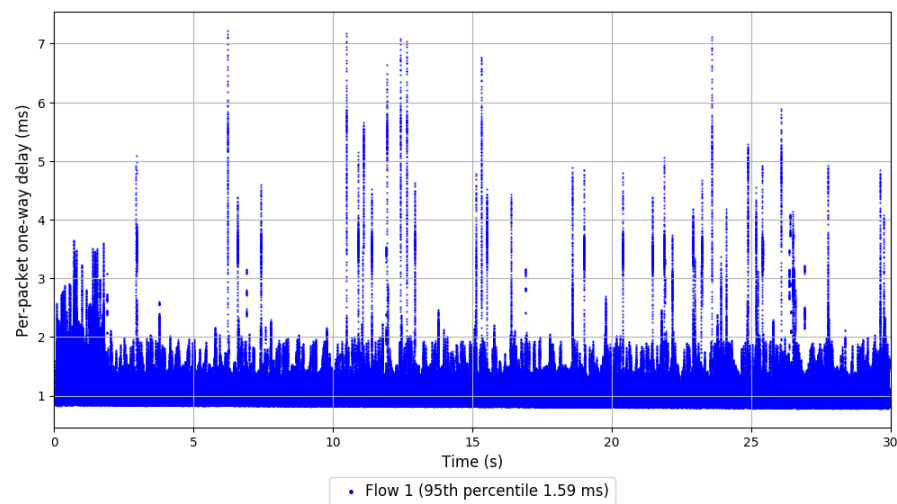
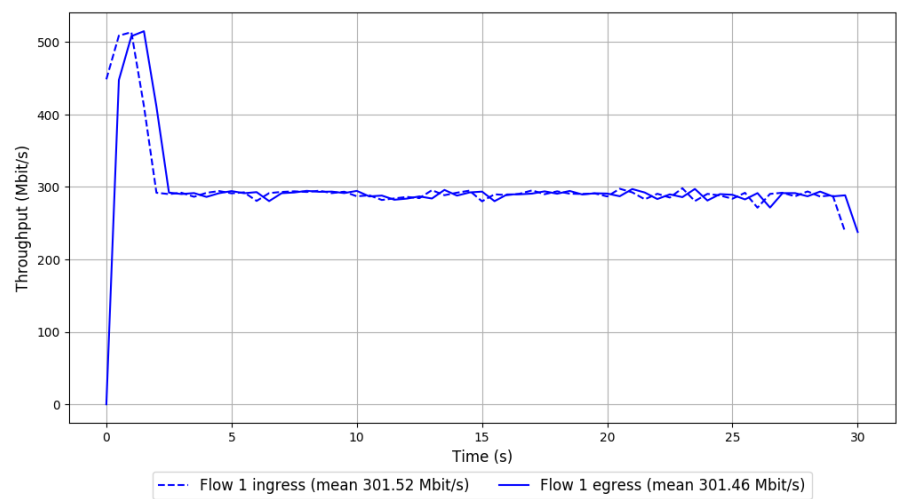
-- Flow 1:

Average throughput: 301.46 Mbit/s

95th percentile per-packet one-way delay: 1.586 ms

Loss rate: 0.02%

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

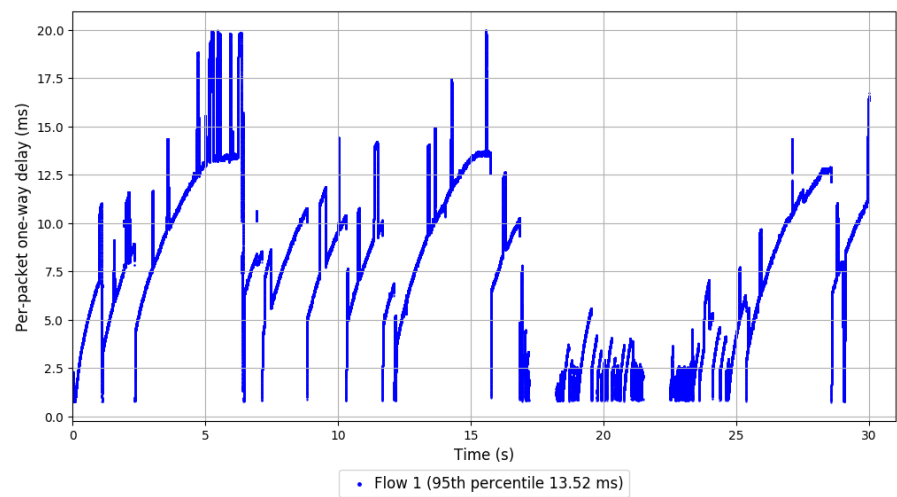
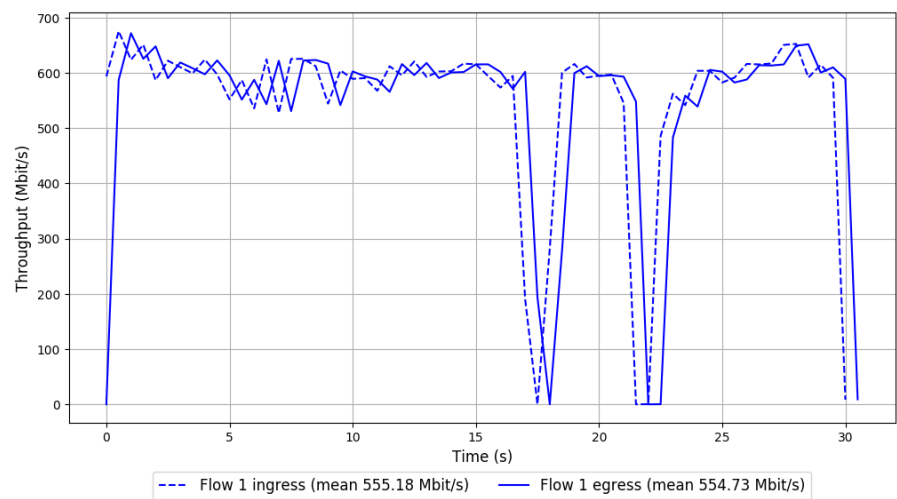


Run 1: Statistics of LEDBAT

Start at: 2018-11-02 18:05:46
End at: 2018-11-02 18:06:16
Local clock offset: 5.834 ms
Remote clock offset: -0.392 ms

Below is generated by plot.py at 2018-11-02 20:48:01
Datalink statistics
-- Total of 1 flow:
Average throughput: 554.73 Mbit/s
95th percentile per-packet one-way delay: 13.522 ms
Loss rate: 0.08%
-- Flow 1:
Average throughput: 554.73 Mbit/s
95th percentile per-packet one-way delay: 13.522 ms
Loss rate: 0.08%

Run 1: Report of LEDBAT — Data Link



Run 2: Statistics of LEDBAT

Start at: 2018-11-02 18:31:49

End at: 2018-11-02 18:32:19

Local clock offset: 5.627 ms

Remote clock offset: 0.106 ms

Below is generated by plot.py at 2018-11-02 20:48:02

Datalink statistics

-- Total of 1 flow:

Average throughput: 535.34 Mbit/s

95th percentile per-packet one-way delay: 14.408 ms

Loss rate: 0.04%

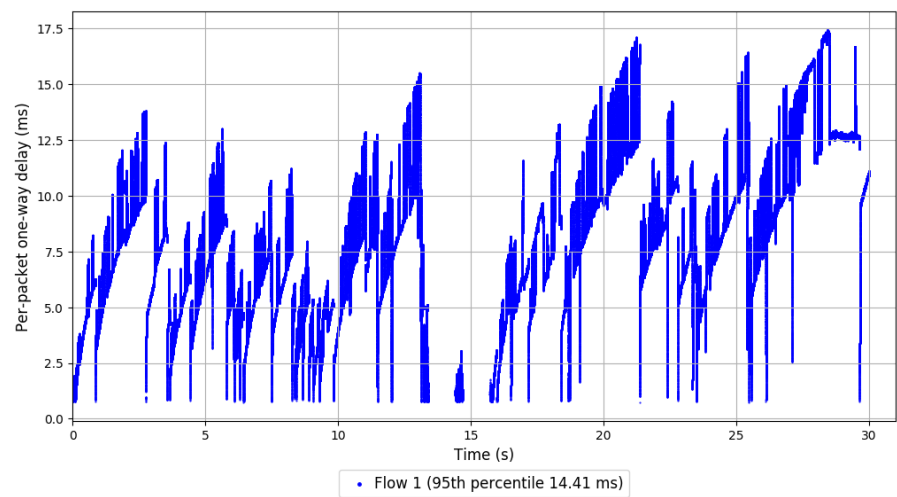
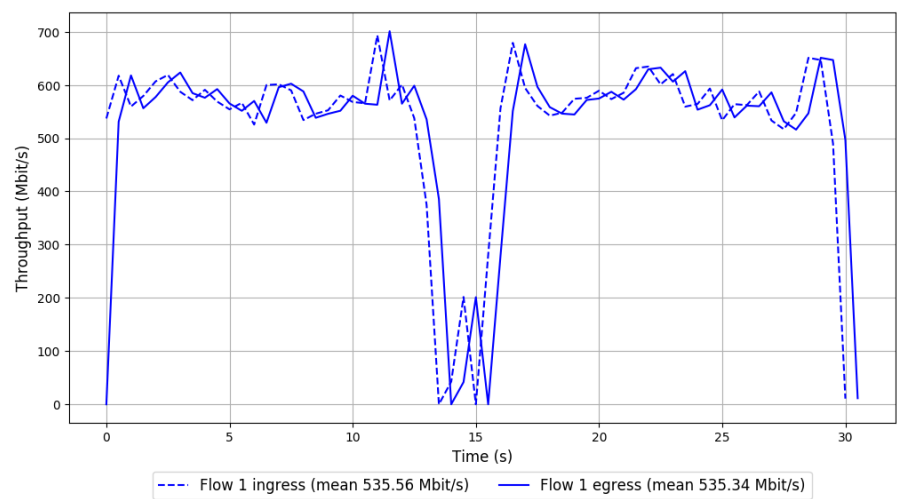
-- Flow 1:

Average throughput: 535.34 Mbit/s

95th percentile per-packet one-way delay: 14.408 ms

Loss rate: 0.04%

Run 2: Report of LEDBAT — Data Link

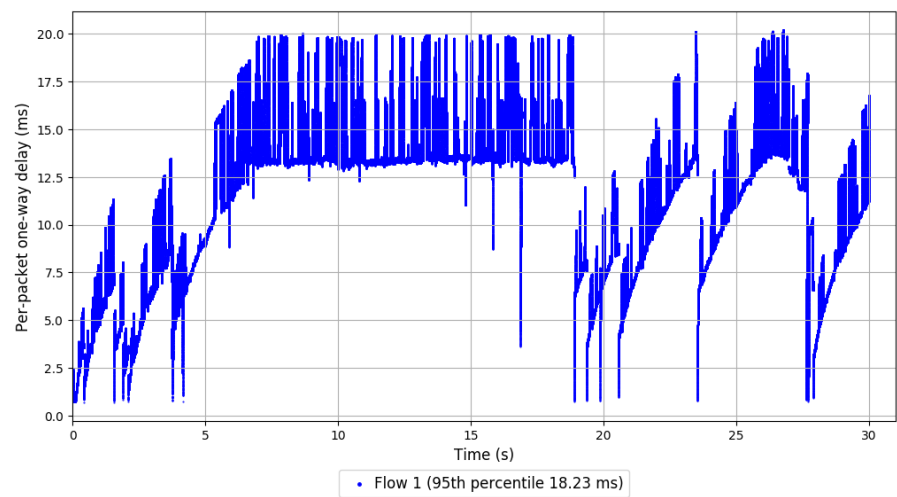
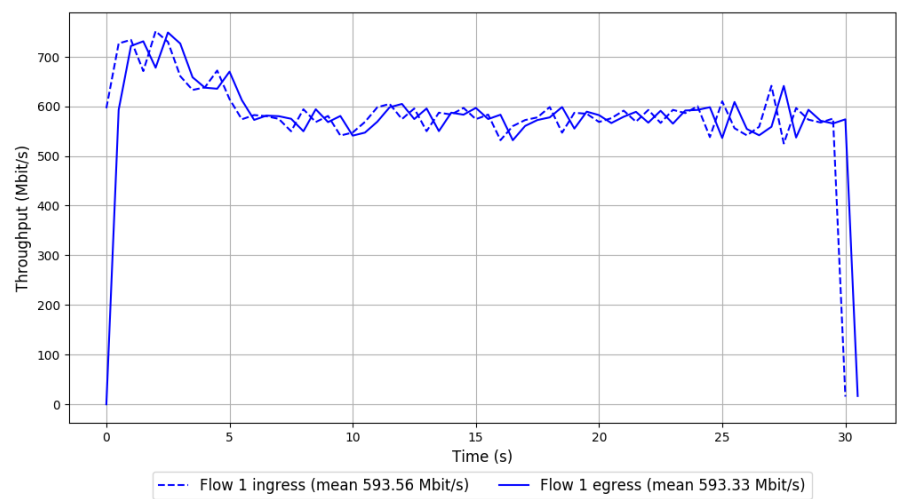


Run 3: Statistics of LEDBAT

Start at: 2018-11-02 18:57:46
End at: 2018-11-02 18:58:16
Local clock offset: 5.571 ms
Remote clock offset: -4.088 ms

Below is generated by plot.py at 2018-11-02 20:48:39
Datalink statistics
-- Total of 1 flow:
Average throughput: 593.33 Mbit/s
95th percentile per-packet one-way delay: 18.235 ms
Loss rate: 0.04%
-- Flow 1:
Average throughput: 593.33 Mbit/s
95th percentile per-packet one-way delay: 18.235 ms
Loss rate: 0.04%

Run 3: Report of LEDBAT — Data Link

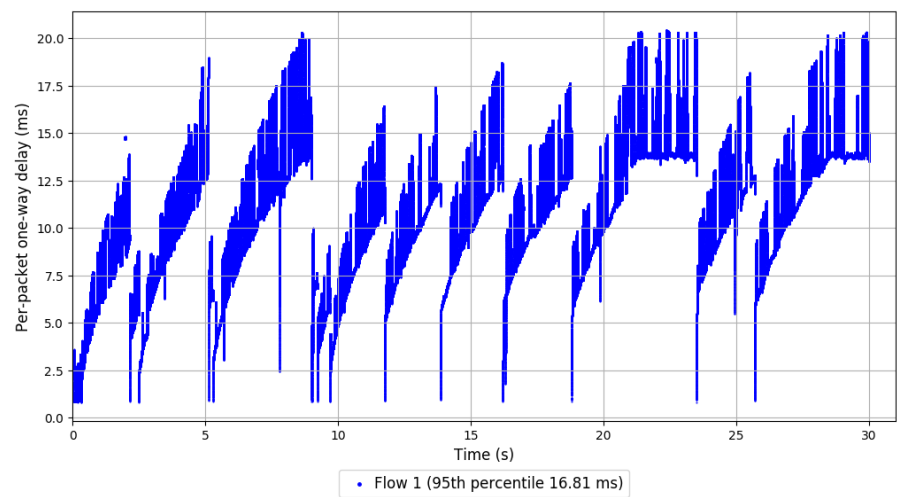
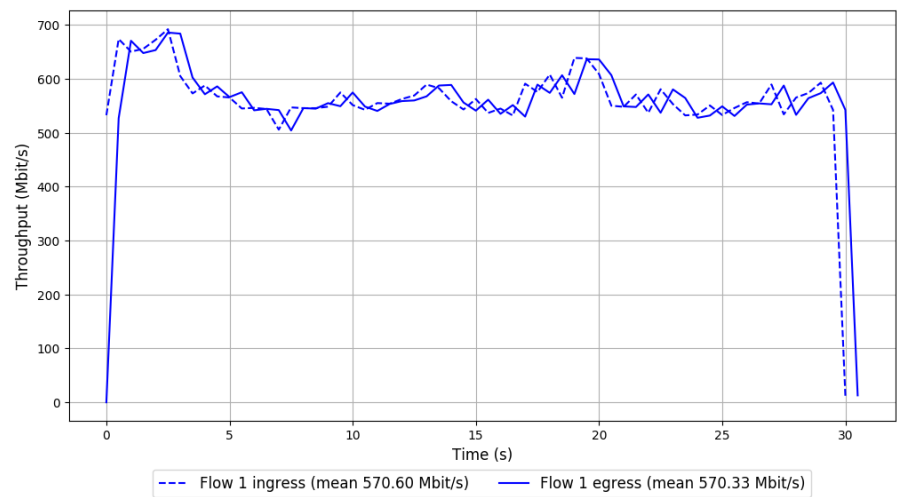


Run 4: Statistics of LEDBAT

Start at: 2018-11-02 19:23:54
End at: 2018-11-02 19:24:24
Local clock offset: 5.351 ms
Remote clock offset: -5.537 ms

Below is generated by plot.py at 2018-11-02 20:48:39
Datalink statistics
-- Total of 1 flow:
Average throughput: 570.33 Mbit/s
95th percentile per-packet one-way delay: 16.814 ms
Loss rate: 0.05%
-- Flow 1:
Average throughput: 570.33 Mbit/s
95th percentile per-packet one-way delay: 16.814 ms
Loss rate: 0.05%

Run 4: Report of LEDBAT — Data Link

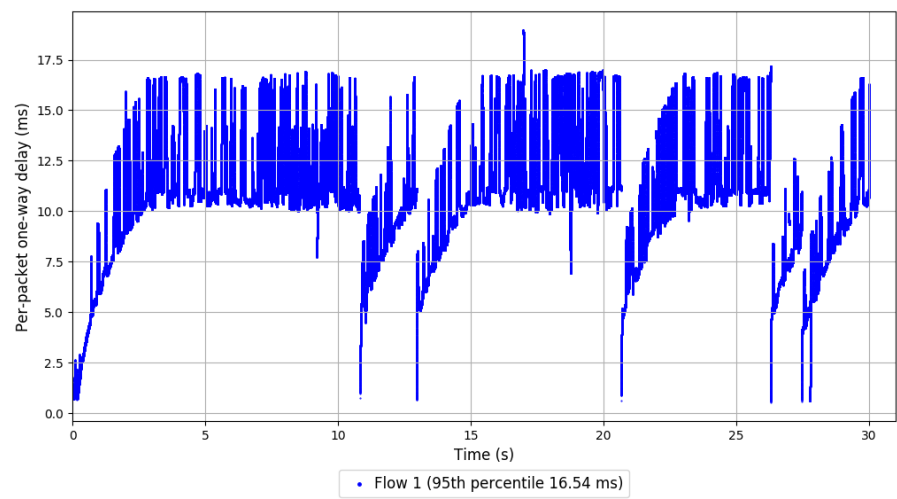
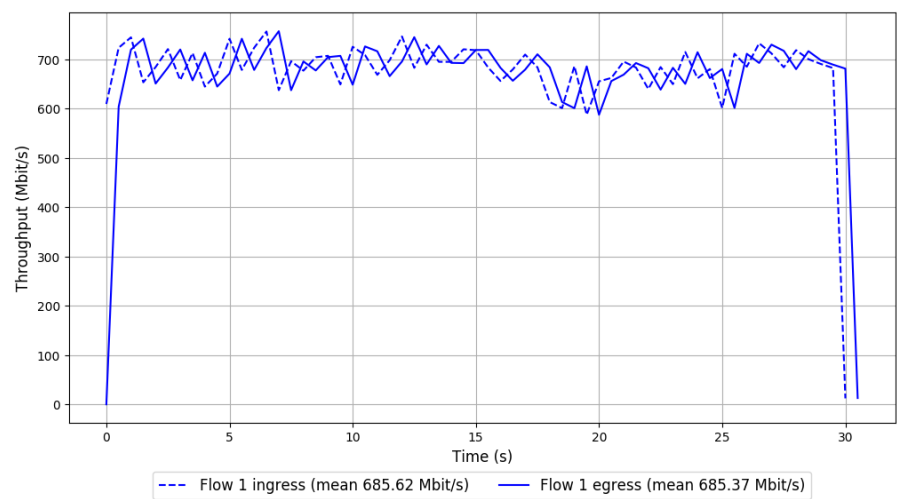


Run 5: Statistics of LEDBAT

Start at: 2018-11-02 19:50:03
End at: 2018-11-02 19:50:33
Local clock offset: 5.079 ms
Remote clock offset: -2.273 ms

Below is generated by plot.py at 2018-11-02 20:50:13
Datalink statistics
-- Total of 1 flow:
Average throughput: 685.37 Mbit/s
95th percentile per-packet one-way delay: 16.536 ms
Loss rate: 0.04%
-- Flow 1:
Average throughput: 685.37 Mbit/s
95th percentile per-packet one-way delay: 16.536 ms
Loss rate: 0.04%

Run 5: Report of LEDBAT — Data Link



Run 1: Statistics of Indigo-Muses

Start at: 2018-11-02 18:26:19

End at: 2018-11-02 18:26:50

Local clock offset: 5.568 ms

Remote clock offset: 0.027 ms

Below is generated by plot.py at 2018-11-02 20:50:13

Datalink statistics

-- Total of 1 flow:

Average throughput: 47.35 Mbit/s

95th percentile per-packet one-way delay: 1.109 ms

Loss rate: 0.00%

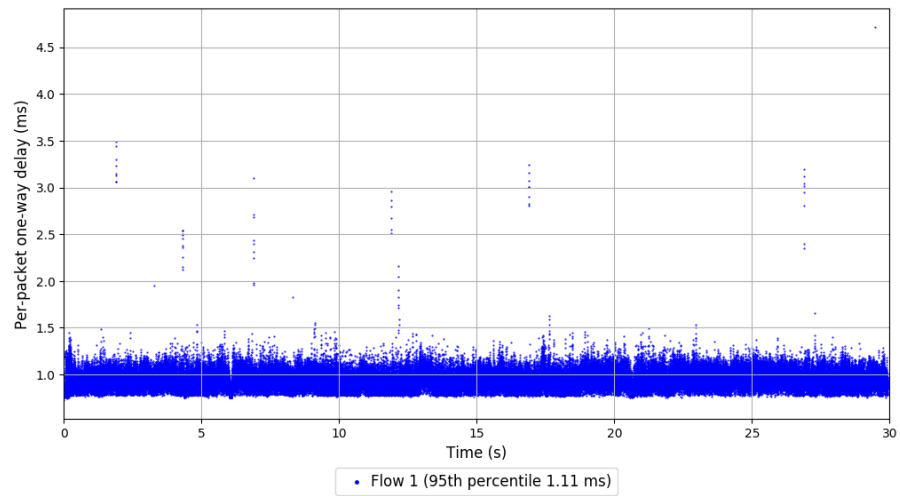
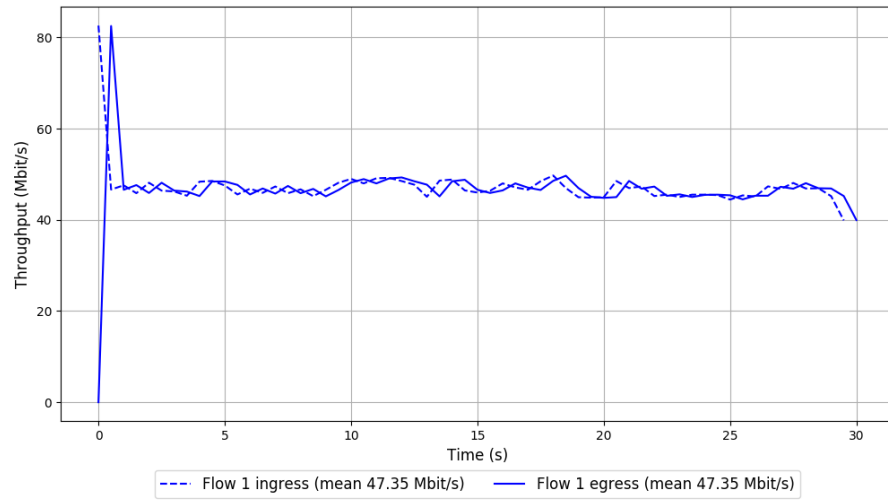
-- Flow 1:

Average throughput: 47.35 Mbit/s

95th percentile per-packet one-way delay: 1.109 ms

Loss rate: 0.00%

Run 1: Report of Indigo-Muses — Data Link



Run 2: Statistics of Indigo-Muses

Start at: 2018-11-02 18:52:22

End at: 2018-11-02 18:52:52

Local clock offset: 5.517 ms

Remote clock offset: -3.53 ms

Below is generated by plot.py at 2018-11-02 20:50:13

Datalink statistics

-- Total of 1 flow:

Average throughput: 48.62 Mbit/s

95th percentile per-packet one-way delay: 1.217 ms

Loss rate: 0.00%

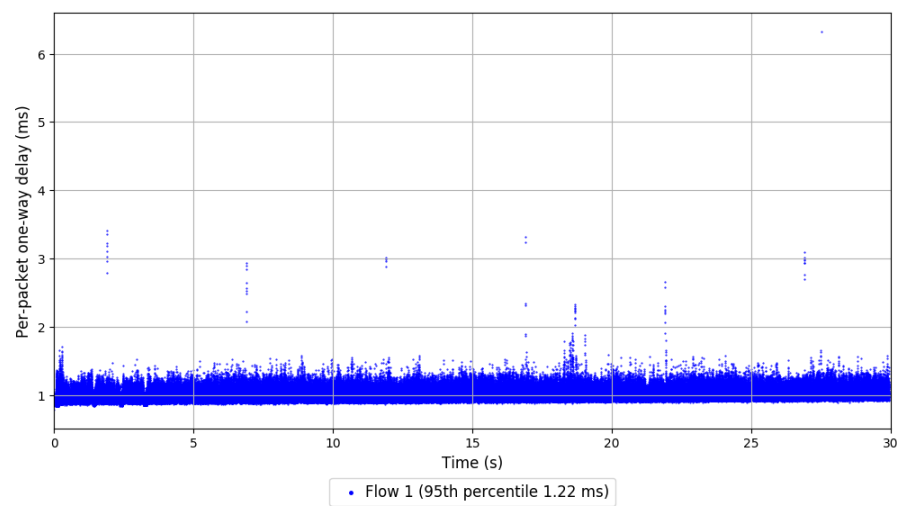
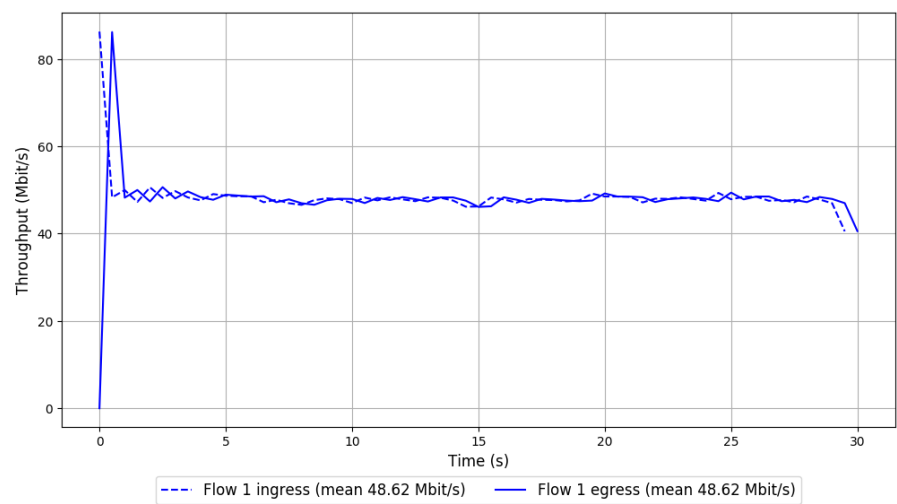
-- Flow 1:

Average throughput: 48.62 Mbit/s

95th percentile per-packet one-way delay: 1.217 ms

Loss rate: 0.00%

Run 2: Report of Indigo-Muses — Data Link

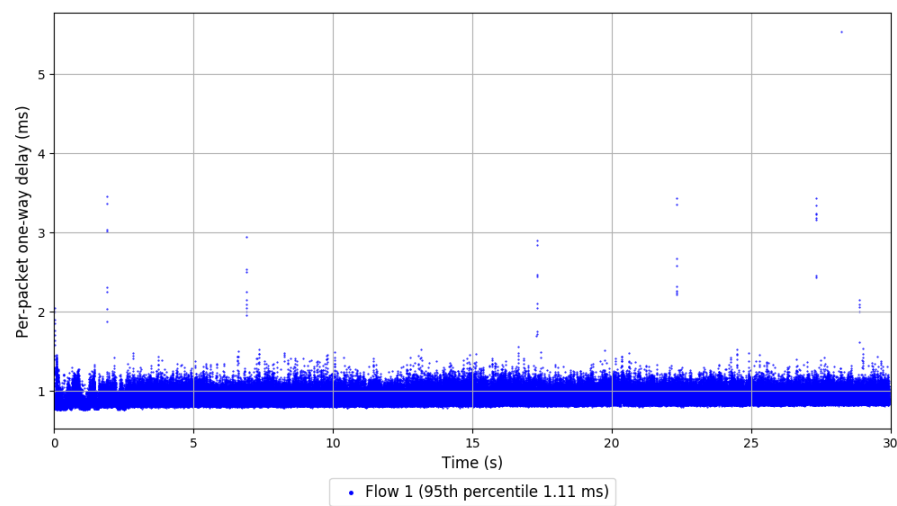
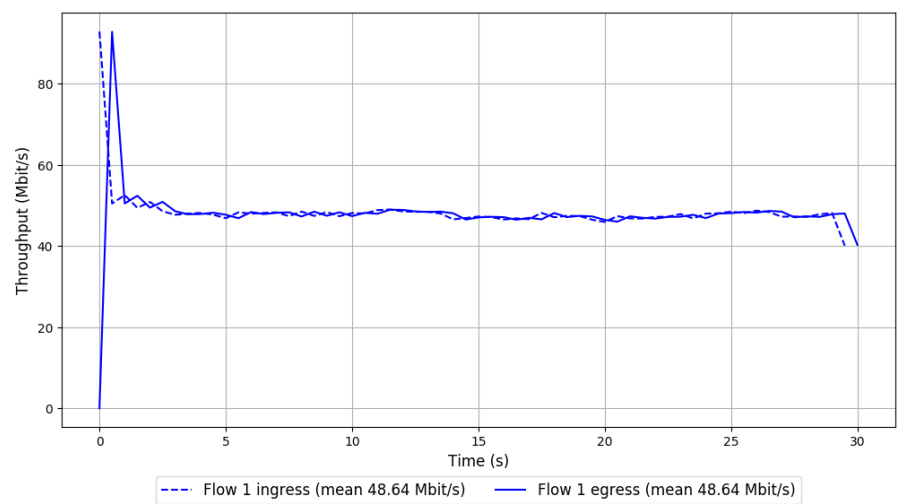


Run 3: Statistics of Indigo-Muses

Start at: 2018-11-02 19:18:25
End at: 2018-11-02 19:18:55
Local clock offset: 5.362 ms
Remote clock offset: -5.266 ms

Below is generated by plot.py at 2018-11-02 20:50:13
Datalink statistics
-- Total of 1 flow:
Average throughput: 48.64 Mbit/s
95th percentile per-packet one-way delay: 1.114 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 48.64 Mbit/s
95th percentile per-packet one-way delay: 1.114 ms
Loss rate: 0.00%

Run 3: Report of Indigo-Muses — Data Link

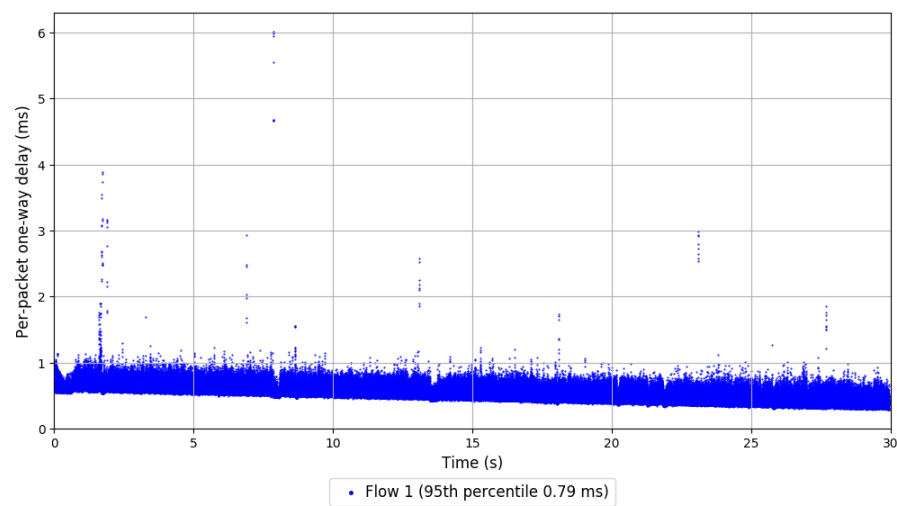
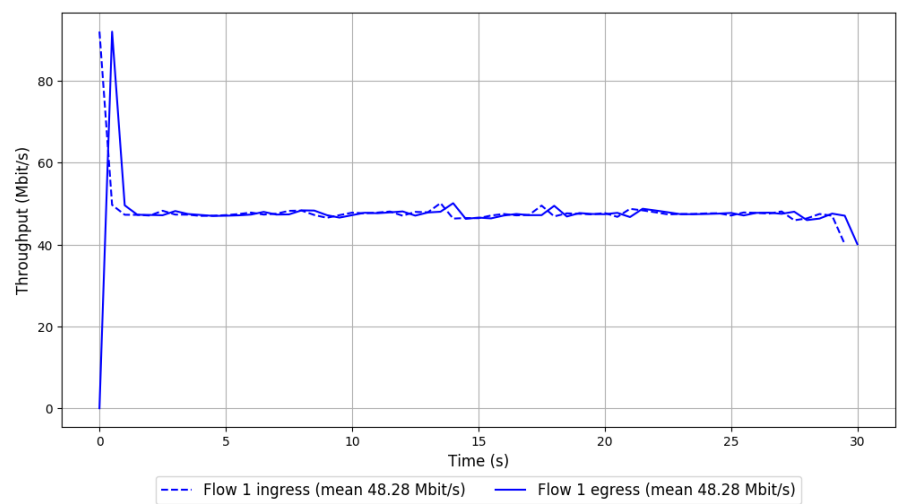


Run 4: Statistics of Indigo-Muses

Start at: 2018-11-02 19:44:34
End at: 2018-11-02 19:45:04
Local clock offset: 5.111 ms
Remote clock offset: -4.885 ms

Below is generated by plot.py at 2018-11-02 20:50:13
Datalink statistics
-- Total of 1 flow:
Average throughput: 48.28 Mbit/s
95th percentile per-packet one-way delay: 0.793 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 48.28 Mbit/s
95th percentile per-packet one-way delay: 0.793 ms
Loss rate: 0.00%

Run 4: Report of Indigo-Muses — Data Link



Run 5: Statistics of Indigo-Muses

Start at: 2018-11-02 20:10:24

End at: 2018-11-02 20:10:54

Local clock offset: 4.953 ms

Remote clock offset: 0.987 ms

Below is generated by plot.py at 2018-11-02 20:50:13

Datalink statistics

-- Total of 1 flow:

Average throughput: 56.91 Mbit/s

95th percentile per-packet one-way delay: 1.638 ms

Loss rate: 0.05%

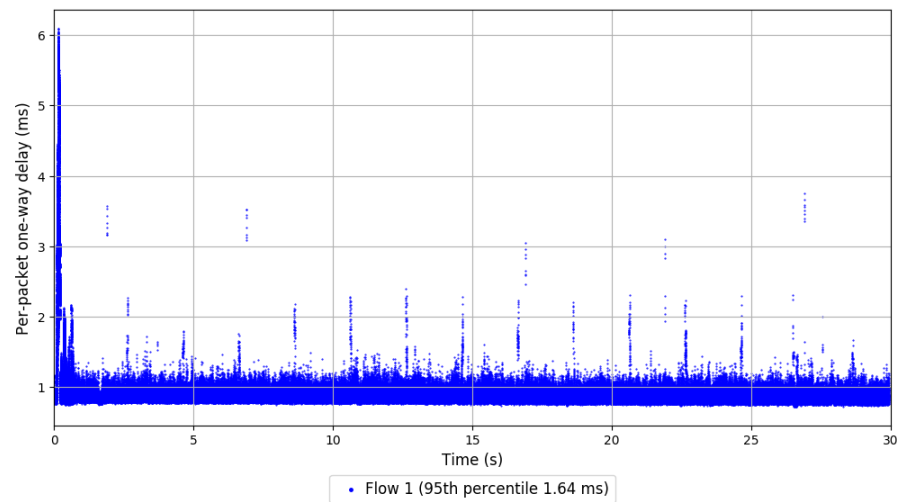
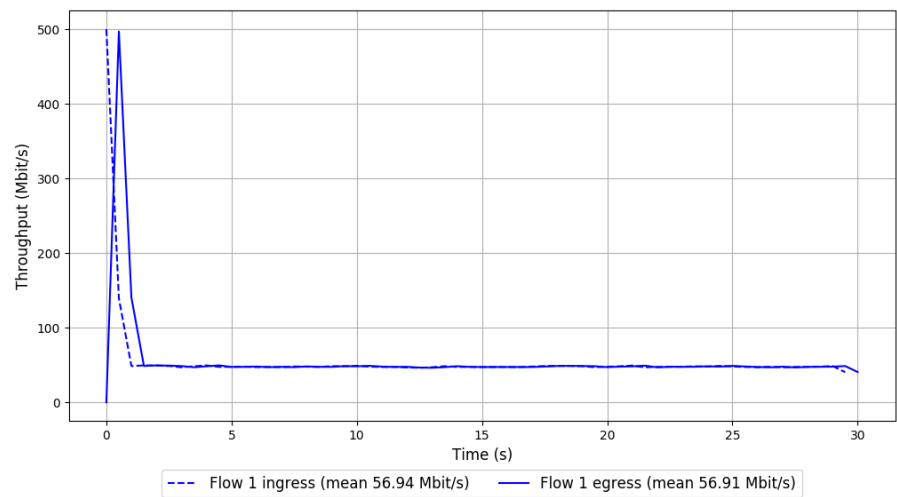
-- Flow 1:

Average throughput: 56.91 Mbit/s

95th percentile per-packet one-way delay: 1.638 ms

Loss rate: 0.05%

Run 5: Report of Indigo-Muses — Data Link

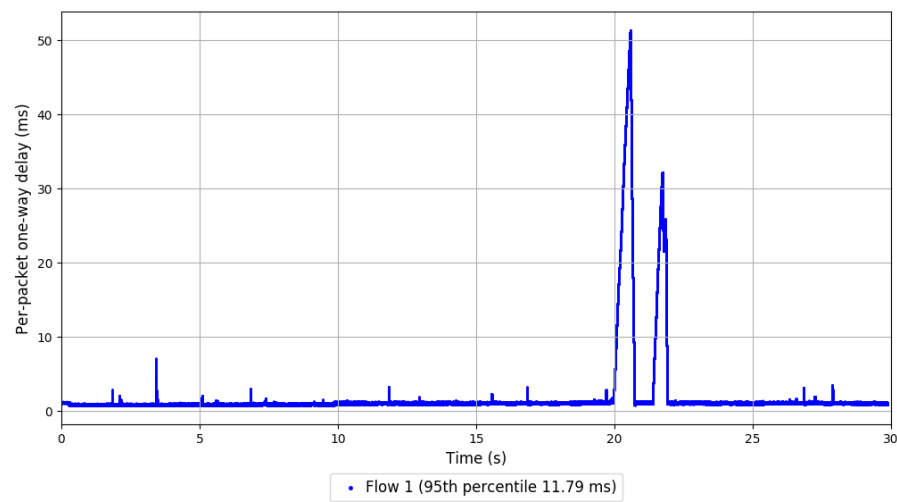
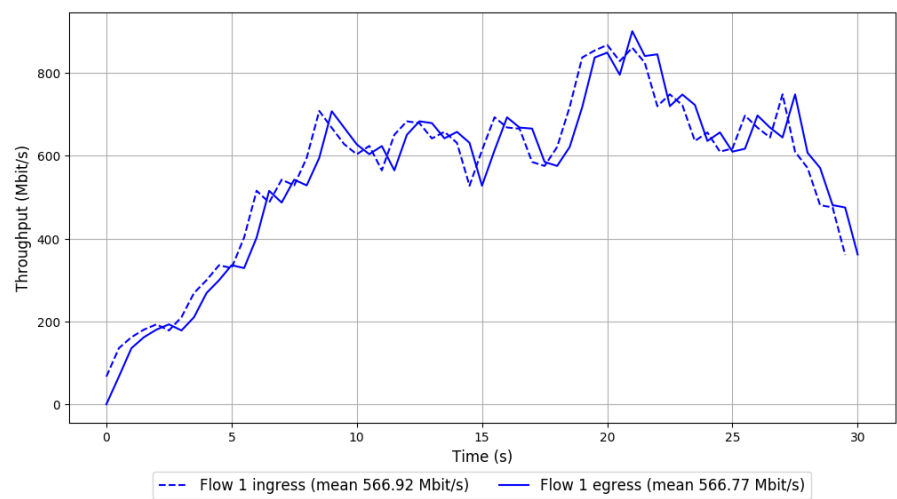


```
Run 1: Statistics of PCC-Allegro

Start at: 2018-11-02 18:20:32
End at: 2018-11-02 18:21:02
Local clock offset: 5.623 ms
Remote clock offset: -0.034 ms

# Below is generated by plot.py at 2018-11-02 20:52:04
# Datalink statistics
-- Total of 1 flow:
Average throughput: 566.77 Mbit/s
95th percentile per-packet one-way delay: 11.789 ms
Loss rate: 0.03%
-- Flow 1:
Average throughput: 566.77 Mbit/s
95th percentile per-packet one-way delay: 11.789 ms
Loss rate: 0.03%
```

Run 1: Report of PCC-Allegro — Data Link



Run 2: Statistics of PCC-Allegro

Start at: 2018-11-02 18:46:32

End at: 2018-11-02 18:47:02

Local clock offset: 5.468 ms

Remote clock offset: -2.973 ms

Below is generated by plot.py at 2018-11-02 20:53:58

Datalink statistics

-- Total of 1 flow:

Average throughput: 705.99 Mbit/s

95th percentile per-packet one-way delay: 1.536 ms

Loss rate: 0.02%

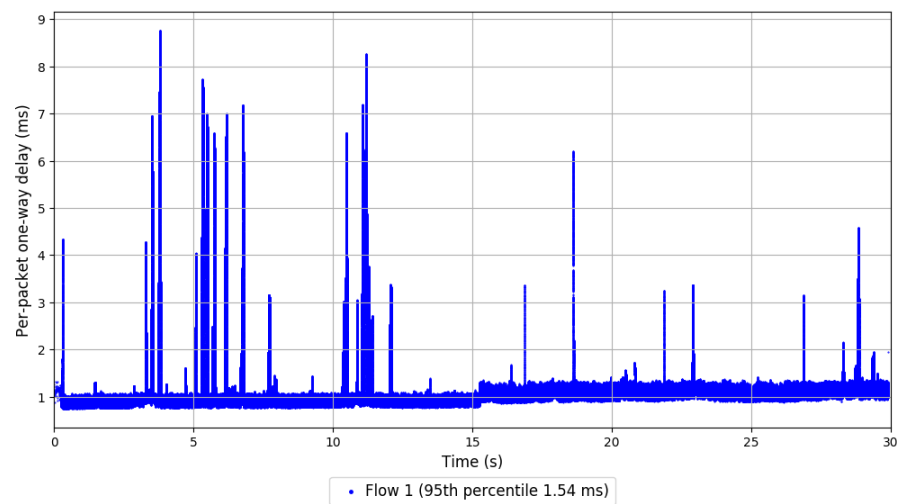
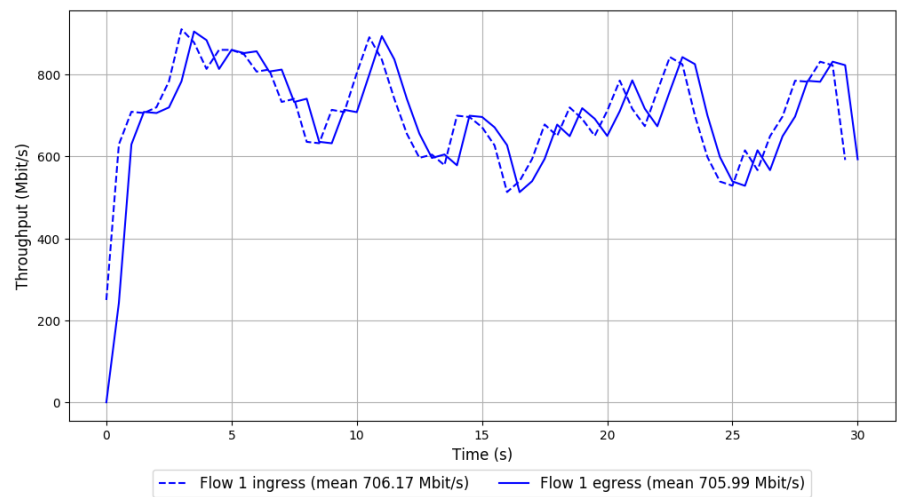
-- Flow 1:

Average throughput: 705.99 Mbit/s

95th percentile per-packet one-way delay: 1.536 ms

Loss rate: 0.02%

Run 2: Report of PCC-Allegro — Data Link



Run 3: Statistics of PCC-Allegro

Start at: 2018-11-02 19:12:35

End at: 2018-11-02 19:13:06

Local clock offset: 5.424 ms

Remote clock offset: -4.863 ms

Below is generated by plot.py at 2018-11-02 20:53:58

Datalink statistics

-- Total of 1 flow:

Average throughput: 614.17 Mbit/s

95th percentile per-packet one-way delay: 1.432 ms

Loss rate: 0.07%

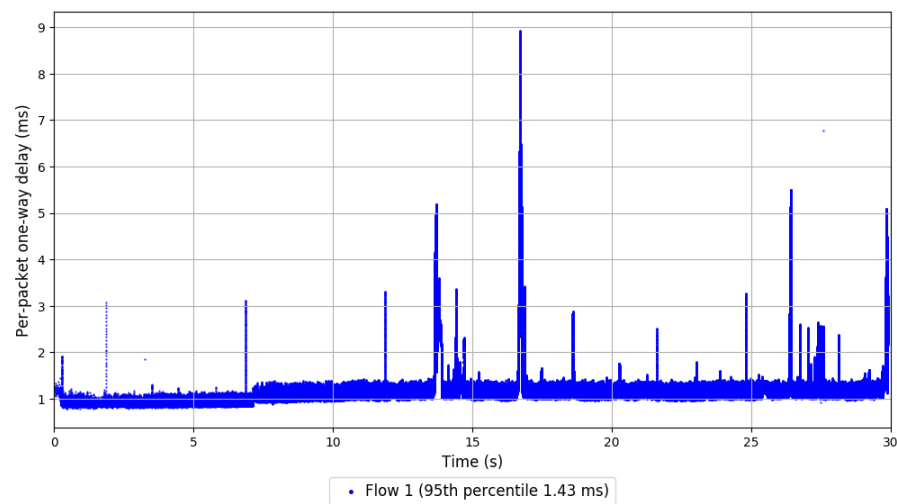
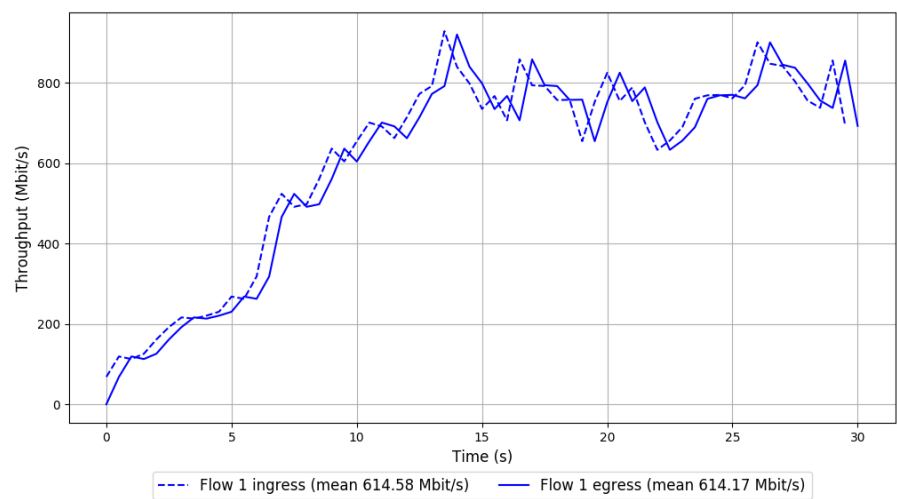
-- Flow 1:

Average throughput: 614.17 Mbit/s

95th percentile per-packet one-way delay: 1.432 ms

Loss rate: 0.07%

Run 3: Report of PCC-Allegro — Data Link



Run 4: Statistics of PCC-Allegro

Start at: 2018-11-02 19:38:43

End at: 2018-11-02 19:39:13

Local clock offset: 5.232 ms

Remote clock offset: -6.36 ms

Below is generated by plot.py at 2018-11-02 20:55:14

Datalink statistics

-- Total of 1 flow:

Average throughput: 559.76 Mbit/s

95th percentile per-packet one-way delay: 1.379 ms

Loss rate: 0.05%

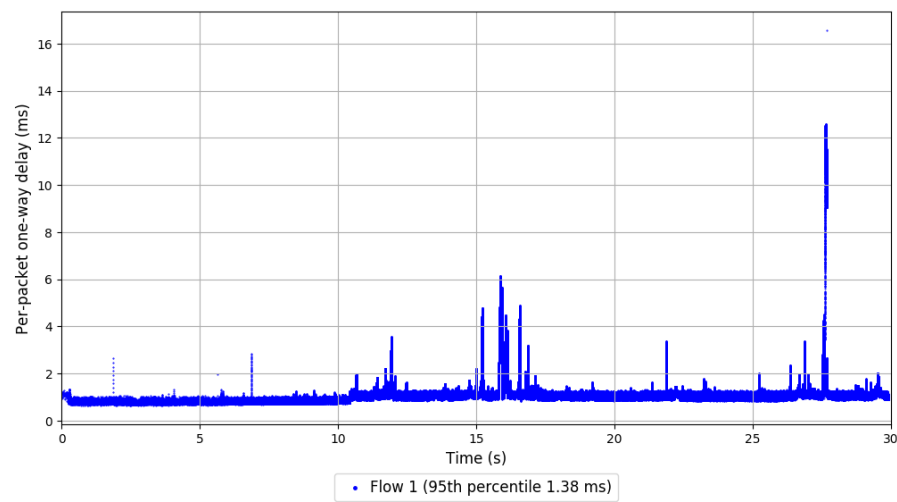
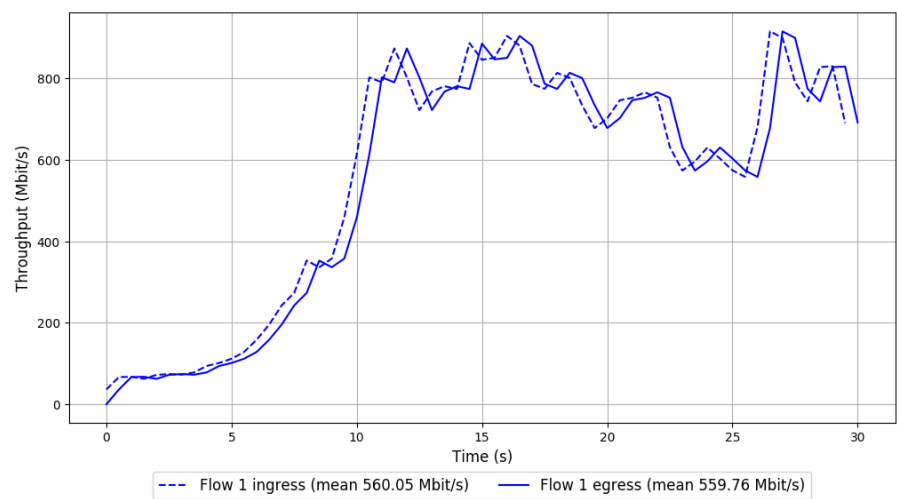
-- Flow 1:

Average throughput: 559.76 Mbit/s

95th percentile per-packet one-way delay: 1.379 ms

Loss rate: 0.05%

Run 4: Report of PCC-Allegro — Data Link



Run 5: Statistics of PCC-Allegro

Start at: 2018-11-02 20:04:50

End at: 2018-11-02 20:05:20

Local clock offset: 5.045 ms

Remote clock offset: 0.472 ms

Below is generated by plot.py at 2018-11-02 20:55:14

Datalink statistics

-- Total of 1 flow:

Average throughput: 41.21 Mbit/s

95th percentile per-packet one-way delay: 0.922 ms

Loss rate: 0.00%

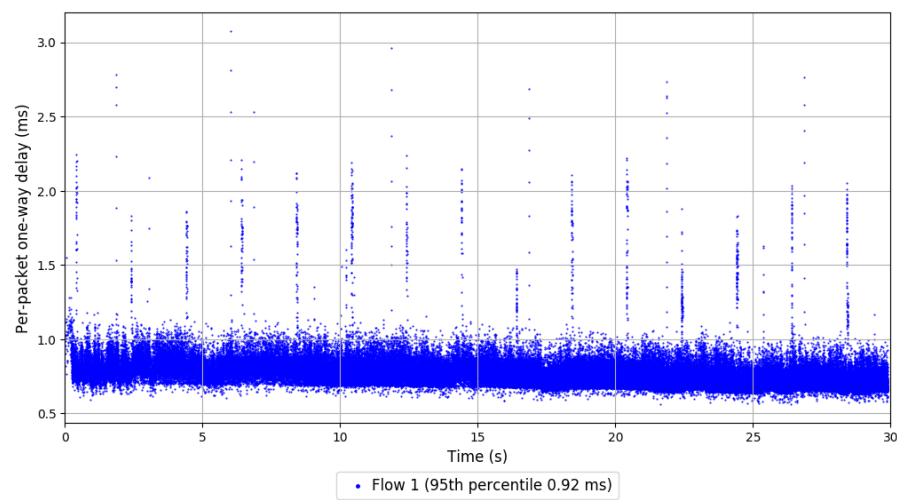
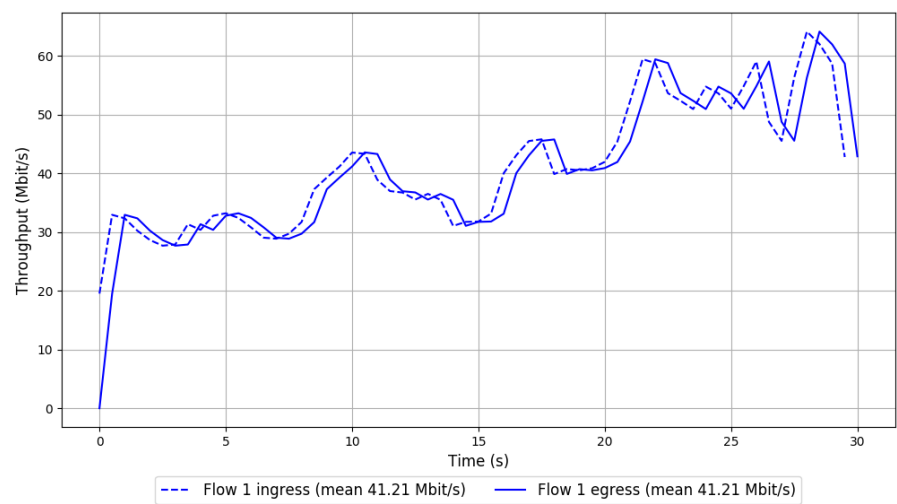
-- Flow 1:

Average throughput: 41.21 Mbit/s

95th percentile per-packet one-way delay: 0.922 ms

Loss rate: 0.00%

Run 5: Report of PCC-Allegro — Data Link



Run 1: Statistics of PCC-Expr

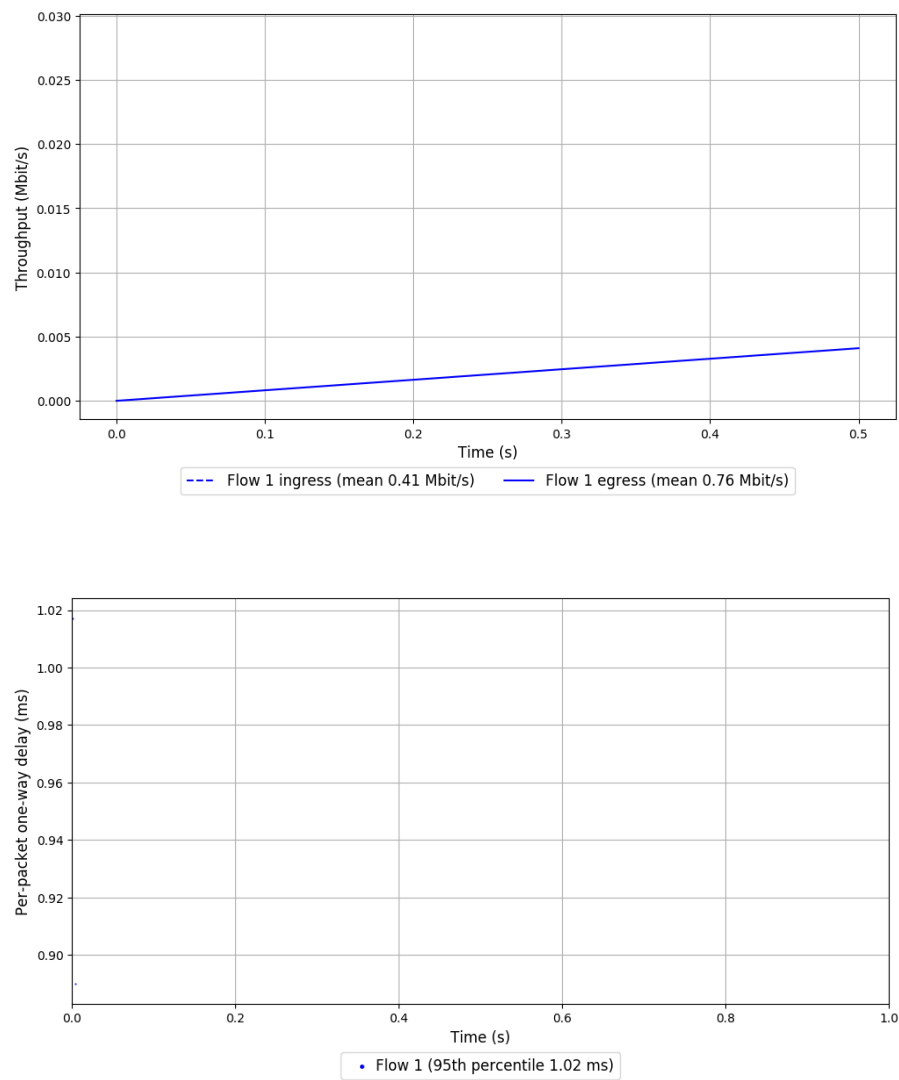
Start at: 2018-11-02 18:08:57

End at: 2018-11-02 18:09:27

Local clock offset: 5.641 ms

Remote clock offset: -0.343 ms

Run 1: Report of PCC-Expr — Data Link



Run 2: Statistics of PCC-Expr

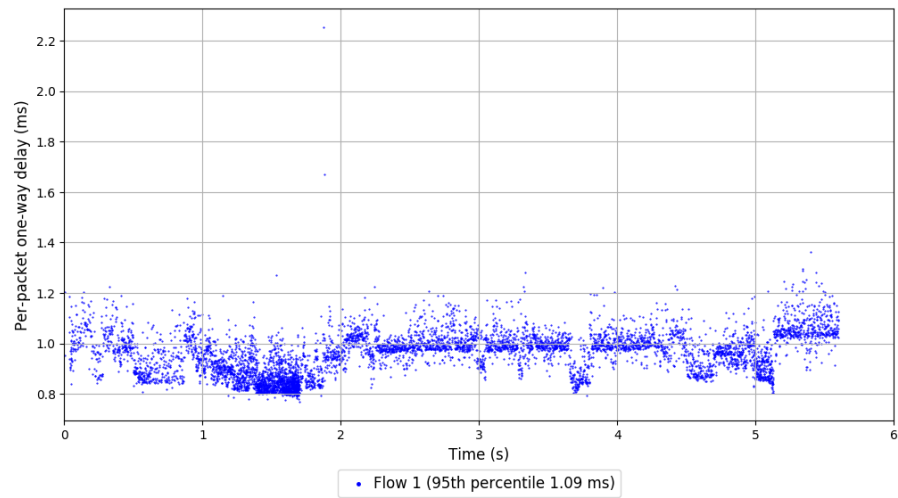
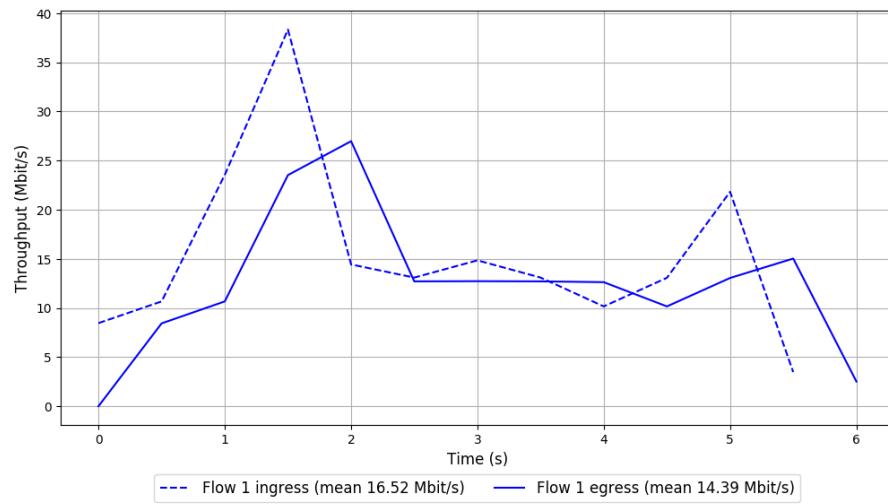
Start at: 2018-11-02 18:34:56

End at: 2018-11-02 18:35:26

Local clock offset: 5.666 ms

Remote clock offset: -0.339 ms

Run 2: Report of PCC-Expr — Data Link



Run 3: Statistics of PCC-Expr

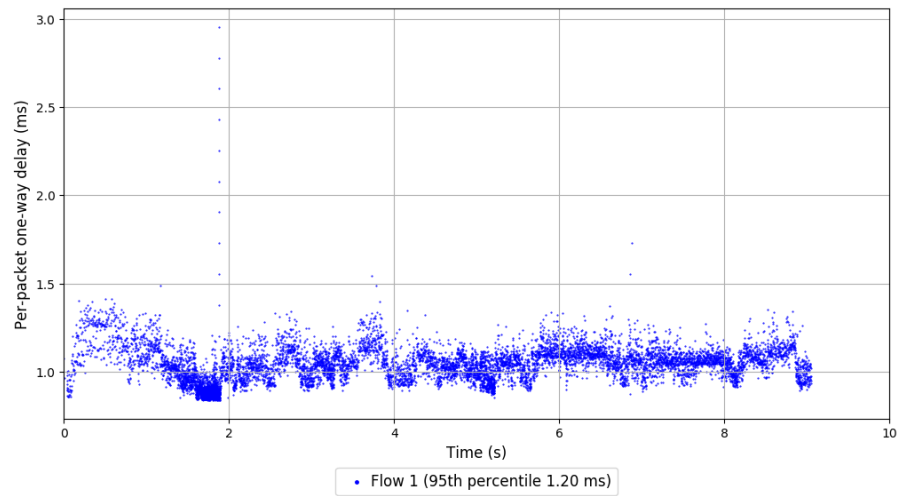
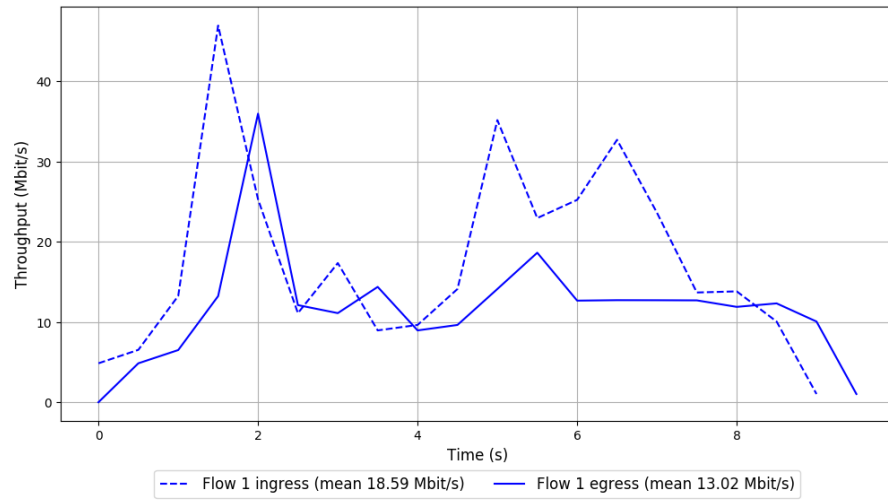
Start at: 2018-11-02 19:00:55

End at: 2018-11-02 19:01:25

Local clock offset: 5.624 ms

Remote clock offset: -4.217 ms

Run 3: Report of PCC-Expr — Data Link



Run 4: Statistics of PCC-Expr

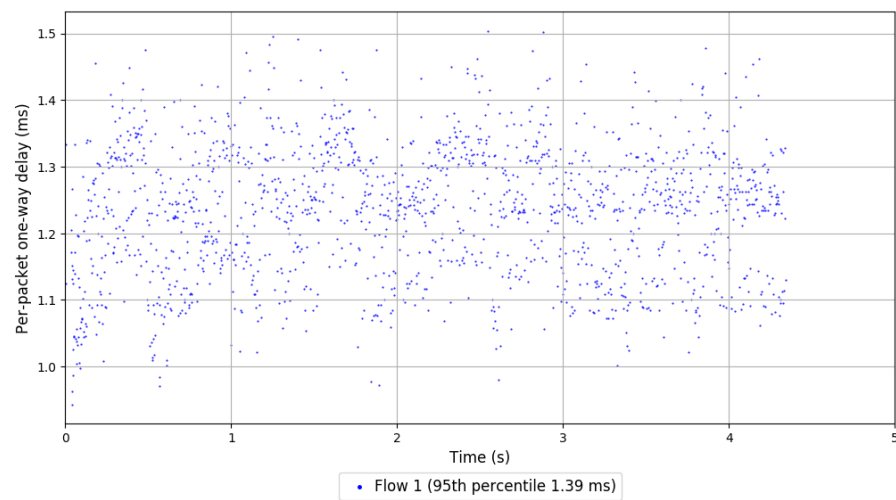
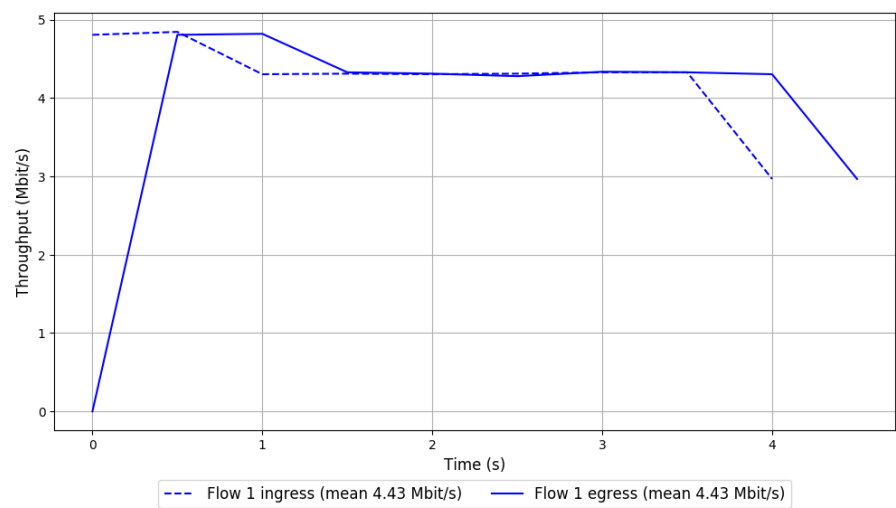
Start at: 2018-11-02 19:27:03

End at: 2018-11-02 19:27:33

Local clock offset: 5.353 ms

Remote clock offset: -5.625 ms

Run 4: Report of PCC-Expr — Data Link



Run 5: Statistics of PCC-Expr

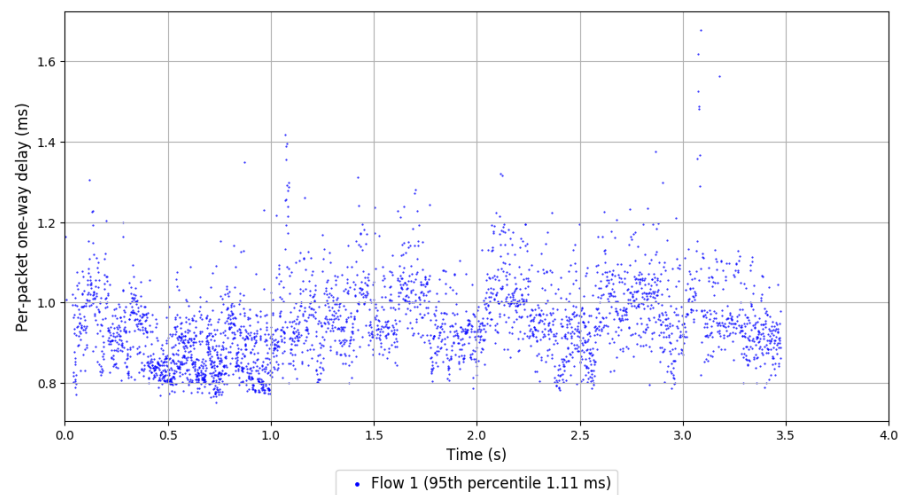
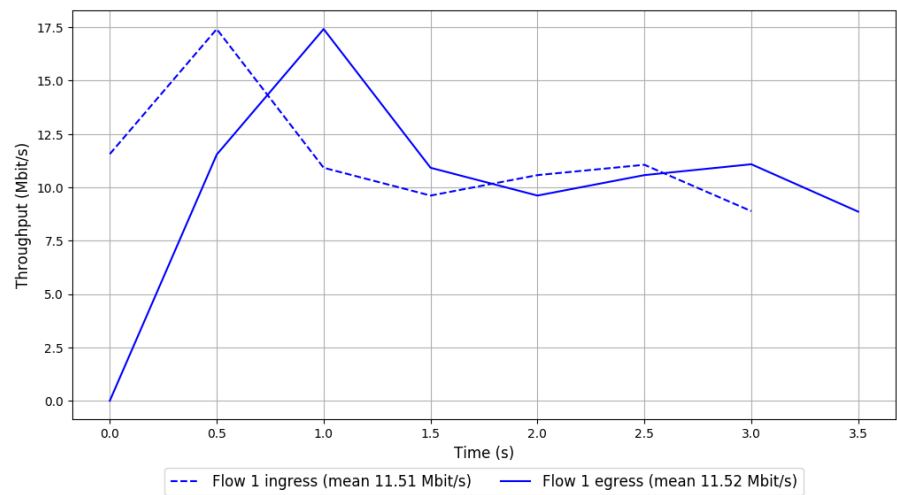
Start at: 2018-11-02 19:53:12

End at: 2018-11-02 19:53:42

Local clock offset: 5.056 ms

Remote clock offset: -1.331 ms

Run 5: Report of PCC-Expr — Data Link



Run 1: Statistics of QUIC Cubic

Start at: 2018-11-02 18:28:58

End at: 2018-11-02 18:29:28

Local clock offset: 5.584 ms

Remote clock offset: 0.061 ms

Below is generated by plot.py at 2018-11-02 20:55:14

Datalink statistics

-- Total of 1 flow:

Average throughput: 77.35 Mbit/s

95th percentile per-packet one-way delay: 0.933 ms

Loss rate: 0.00%

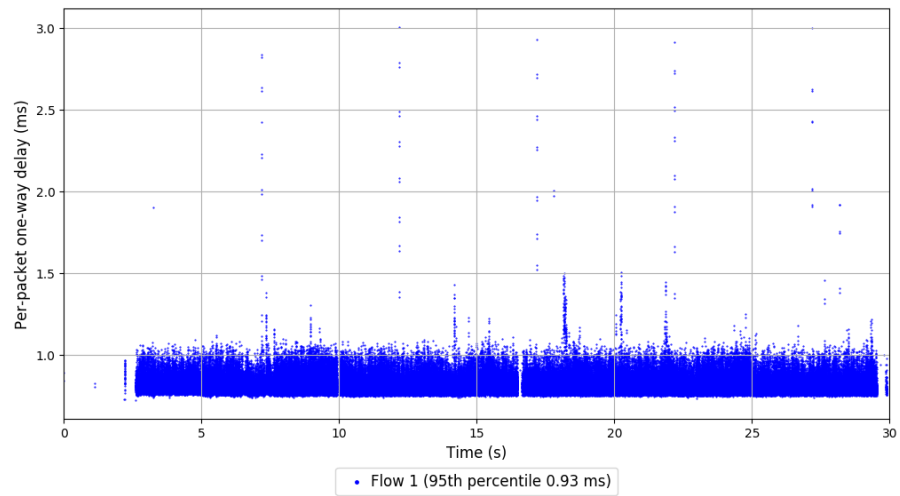
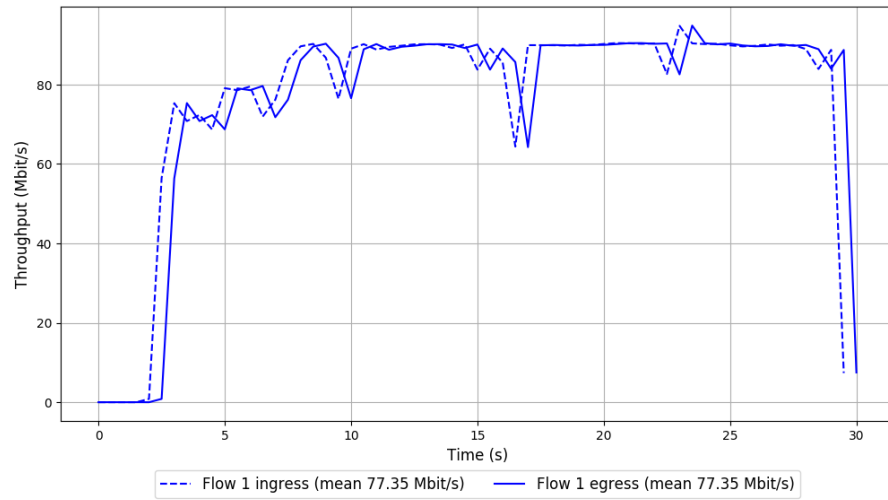
-- Flow 1:

Average throughput: 77.35 Mbit/s

95th percentile per-packet one-way delay: 0.933 ms

Loss rate: 0.00%

Run 1: Report of QUIC Cubic — Data Link



Run 2: Statistics of QUIC Cubic

Start at: 2018-11-02 18:55:00

End at: 2018-11-02 18:55:30

Local clock offset: 5.531 ms

Remote clock offset: -3.826 ms

Below is generated by plot.py at 2018-11-02 20:55:14

Datalink statistics

-- Total of 1 flow:

Average throughput: 78.50 Mbit/s

95th percentile per-packet one-way delay: 0.961 ms

Loss rate: 0.00%

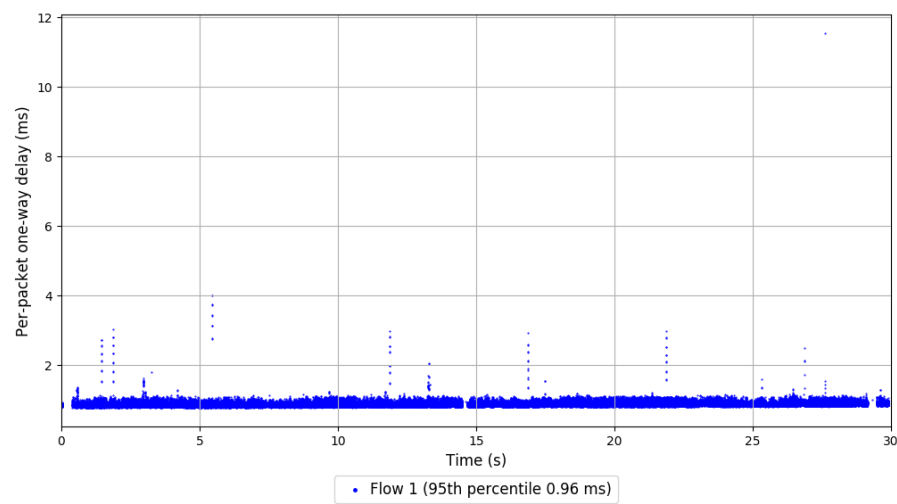
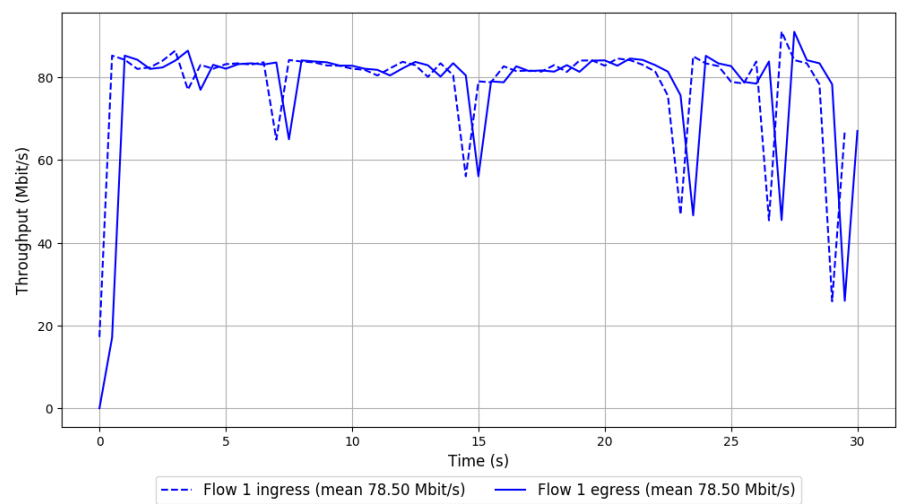
-- Flow 1:

Average throughput: 78.50 Mbit/s

95th percentile per-packet one-way delay: 0.961 ms

Loss rate: 0.00%

Run 2: Report of QUIC Cubic — Data Link



Run 3: Statistics of QUIC Cubic

Start at: 2018-11-02 19:21:03

End at: 2018-11-02 19:21:33

Local clock offset: 5.363 ms

Remote clock offset: -5.434 ms

Below is generated by plot.py at 2018-11-02 20:55:14

Datalink statistics

-- Total of 1 flow:

Average throughput: 76.88 Mbit/s

95th percentile per-packet one-way delay: 0.893 ms

Loss rate: 0.00%

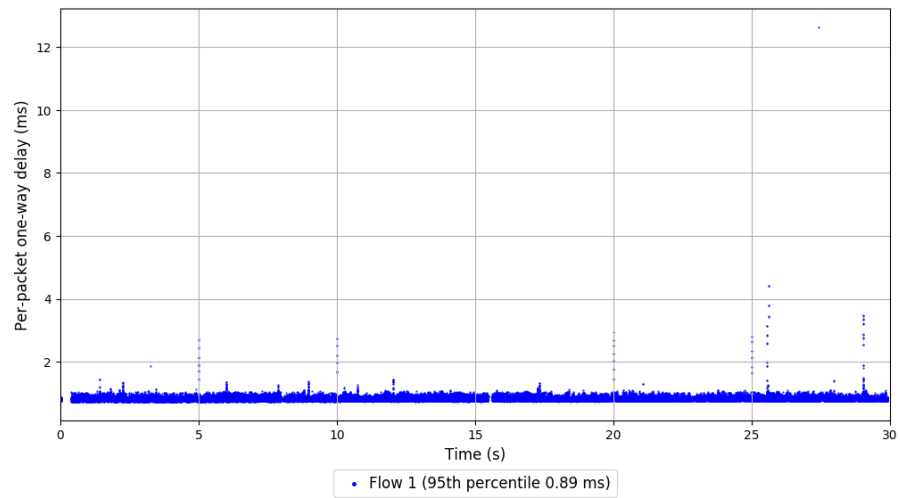
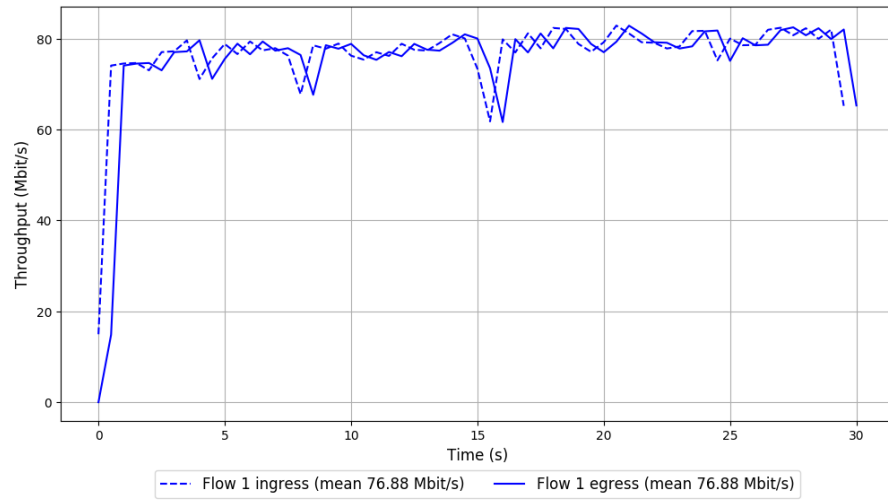
-- Flow 1:

Average throughput: 76.88 Mbit/s

95th percentile per-packet one-way delay: 0.893 ms

Loss rate: 0.00%

Run 3: Report of QUIC Cubic — Data Link



Run 4: Statistics of QUIC Cubic

Start at: 2018-11-02 19:47:11

End at: 2018-11-02 19:47:41

Local clock offset: 5.09 ms

Remote clock offset: -3.454 ms

Below is generated by plot.py at 2018-11-02 20:55:14

Datalink statistics

-- Total of 1 flow:

Average throughput: 77.52 Mbit/s

95th percentile per-packet one-way delay: 0.748 ms

Loss rate: 0.00%

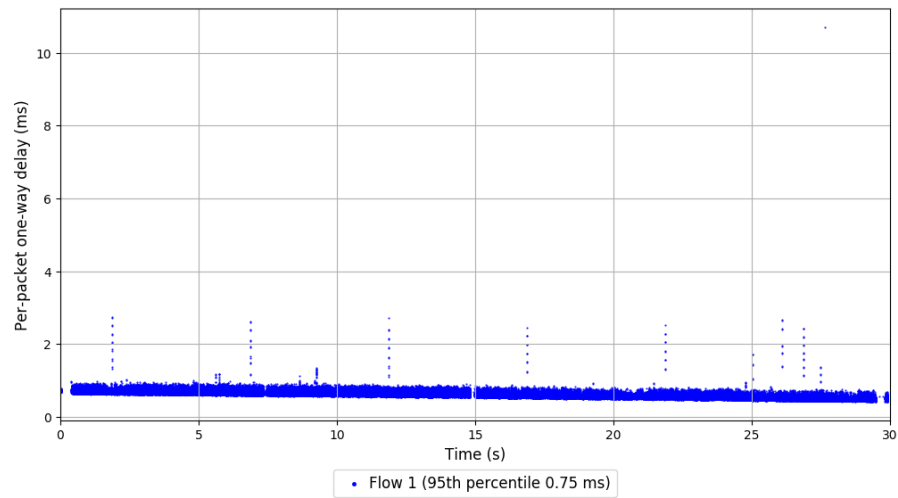
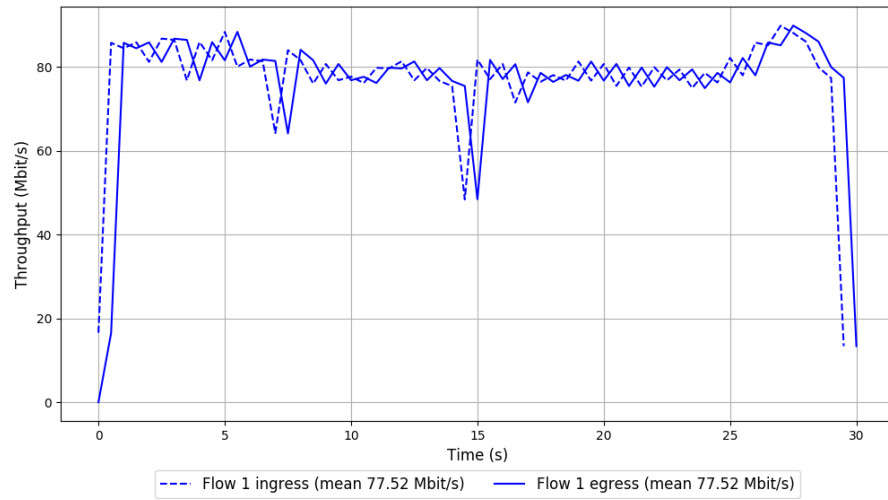
-- Flow 1:

Average throughput: 77.52 Mbit/s

95th percentile per-packet one-way delay: 0.748 ms

Loss rate: 0.00%

Run 4: Report of QUIC Cubic — Data Link



Run 5: Statistics of QUIC Cubic

Start at: 2018-11-02 20:13:02

End at: 2018-11-02 20:13:32

Local clock offset: 4.932 ms

Remote clock offset: 1.181 ms

Below is generated by plot.py at 2018-11-02 20:55:14

Datalink statistics

-- Total of 1 flow:

Average throughput: 81.33 Mbit/s

95th percentile per-packet one-way delay: 0.947 ms

Loss rate: 0.00%

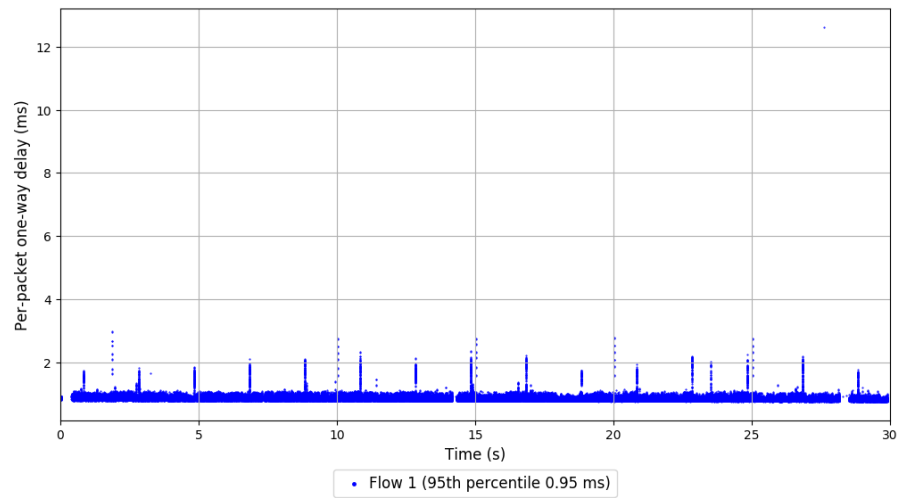
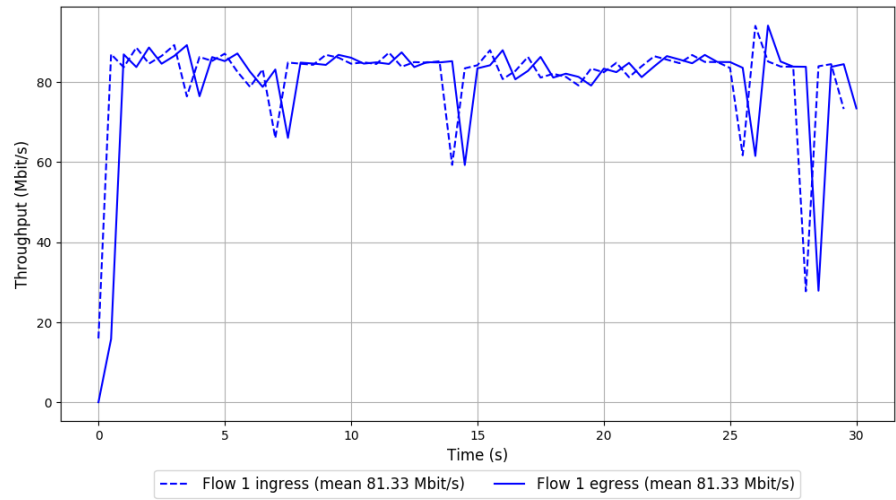
-- Flow 1:

Average throughput: 81.33 Mbit/s

95th percentile per-packet one-way delay: 0.947 ms

Loss rate: 0.00%

Run 5: Report of QUIC Cubic — Data Link

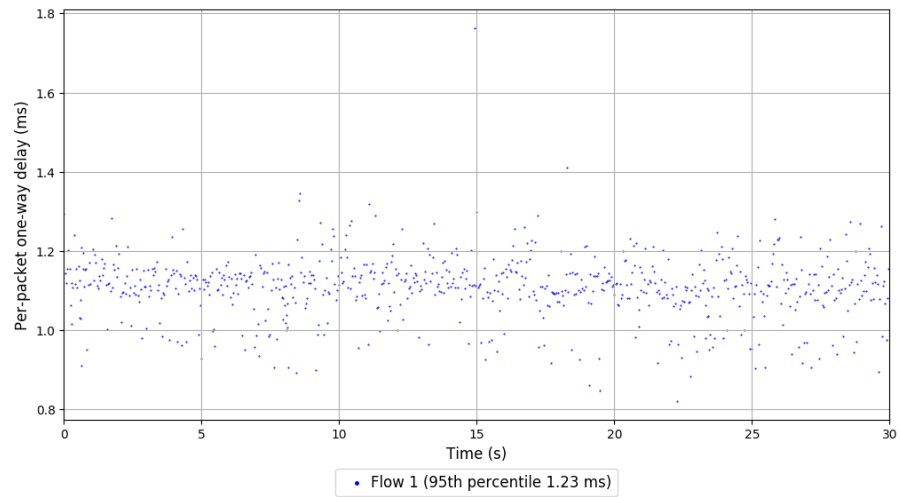
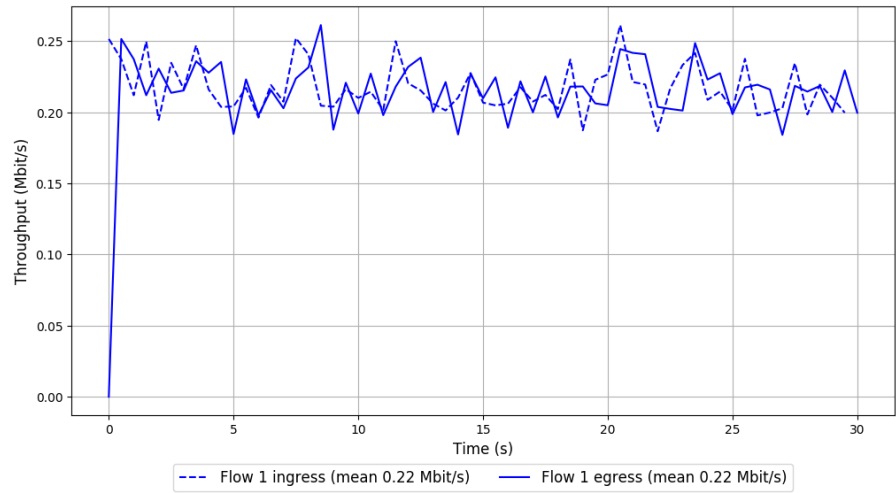


```
Run 1: Statistics of SCReAM

Start at: 2018-11-02 18:22:03
End at: 2018-11-02 18:22:33
Local clock offset: 5.67 ms
Remote clock offset: 0.019 ms

# Below is generated by plot.py at 2018-11-02 20:55:14
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 1.226 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 1.226 ms
Loss rate: 0.00%
```

Run 1: Report of SReAM — Data Link

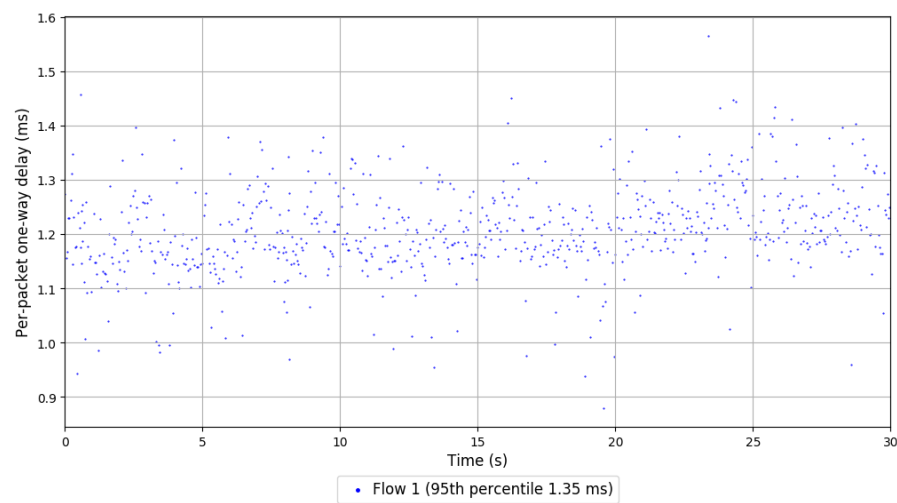
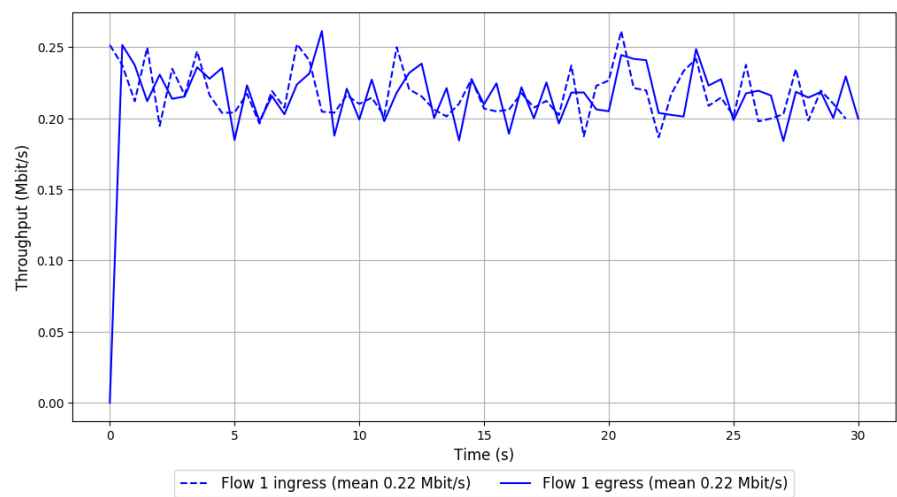


Run 2: Statistics of SCReAM

Start at: 2018-11-02 18:48:06
End at: 2018-11-02 18:48:36
Local clock offset: 5.465 ms
Remote clock offset: -3.132 ms

Below is generated by plot.py at 2018-11-02 20:55:14
Datalink statistics
-- Total of 1 flow:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 1.346 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 1.346 ms
Loss rate: 0.00%

Run 2: Report of SReAM — Data Link

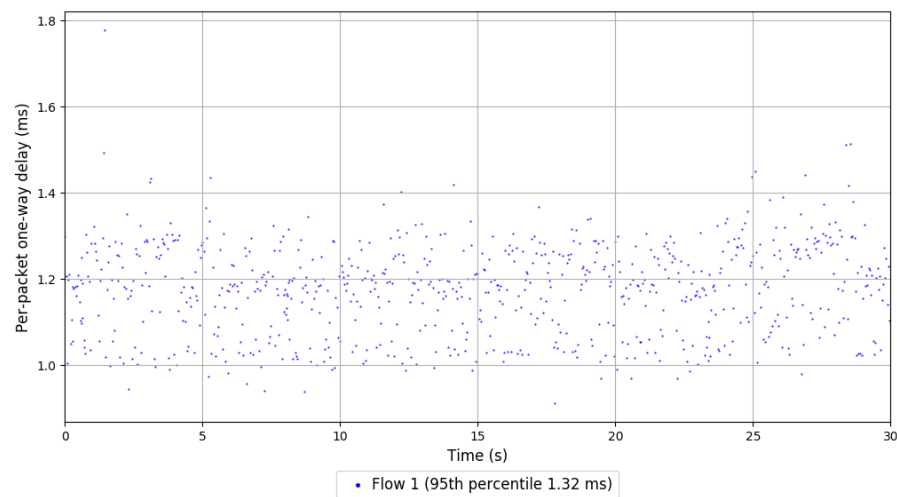
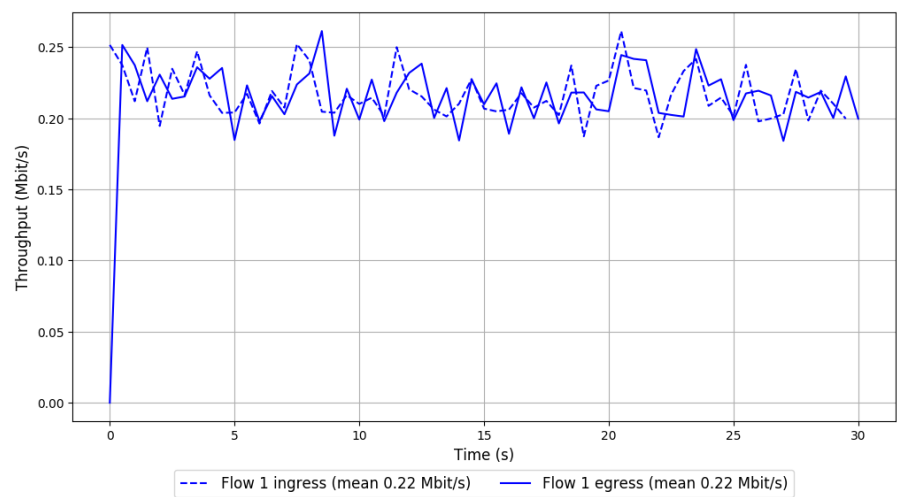


Run 3: Statistics of SCReAM

Start at: 2018-11-02 19:14:08
End at: 2018-11-02 19:14:38
Local clock offset: 5.39 ms
Remote clock offset: -4.997 ms

Below is generated by plot.py at 2018-11-02 20:55:14
Datalink statistics
-- Total of 1 flow:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 1.324 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 1.324 ms
Loss rate: 0.00%

Run 3: Report of SReAM — Data Link

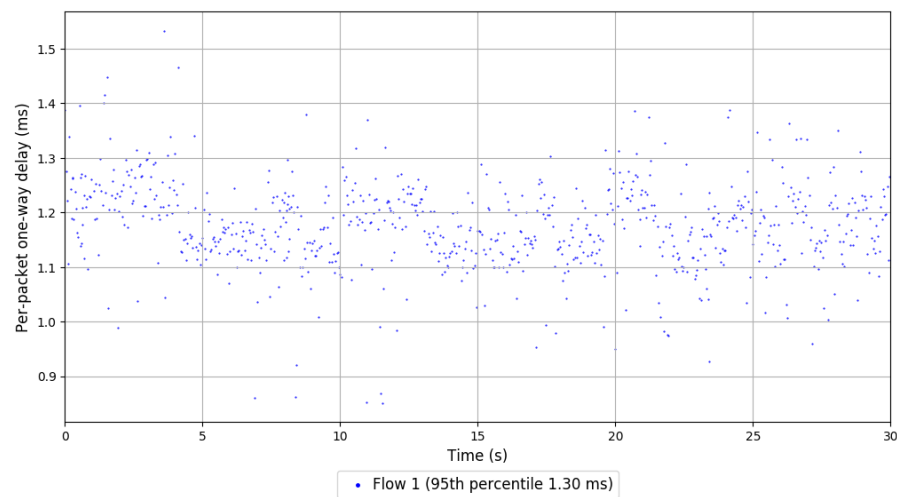
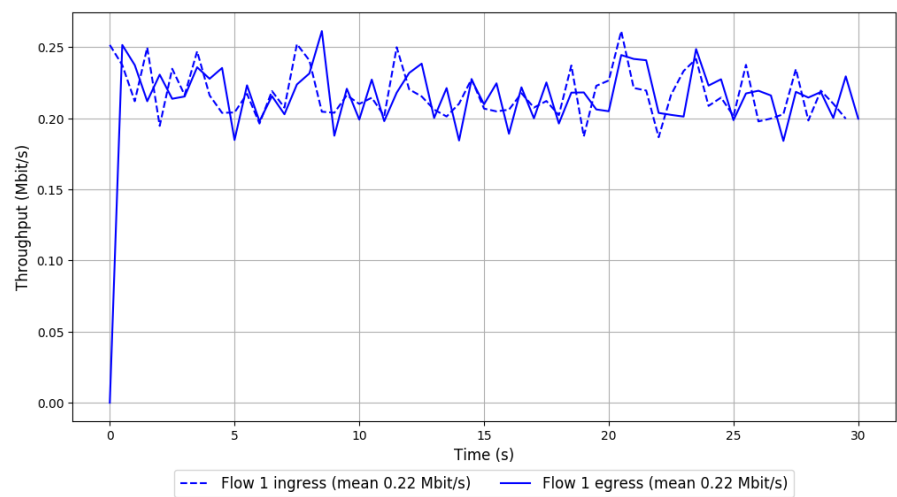


Run 4: Statistics of SCReAM

Start at: 2018-11-02 19:40:14
End at: 2018-11-02 19:40:44
Local clock offset: 5.201 ms
Remote clock offset: -6.407 ms

Below is generated by plot.py at 2018-11-02 20:55:14
Datalink statistics
-- Total of 1 flow:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 1.297 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 1.297 ms
Loss rate: 0.00%

Run 4: Report of SReAM — Data Link



Run 5: Statistics of SCReAM

Start at: 2018-11-02 20:06:09

End at: 2018-11-02 20:06:39

Local clock offset: 5.023 ms

Remote clock offset: 0.72 ms

Below is generated by plot.py at 2018-11-02 20:55:14

Datalink statistics

-- Total of 1 flow:

Average throughput: 0.22 Mbit/s

95th percentile per-packet one-way delay: 1.301 ms

Loss rate: 0.00%

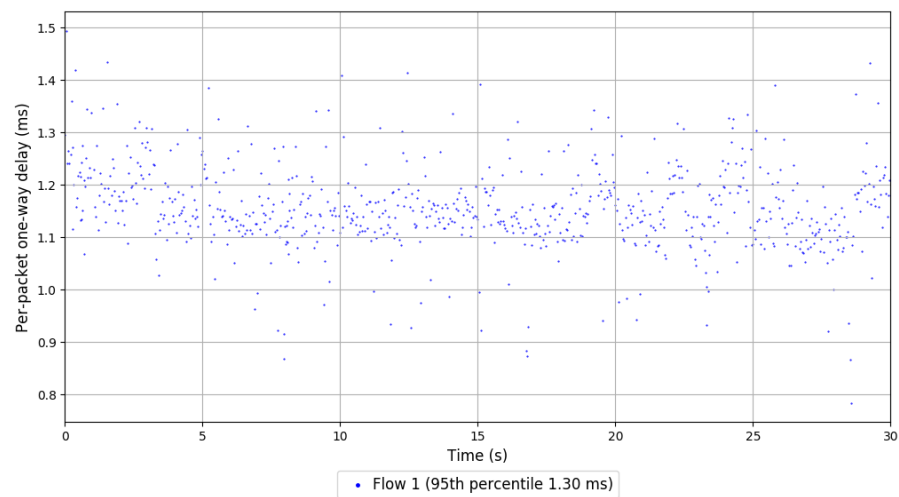
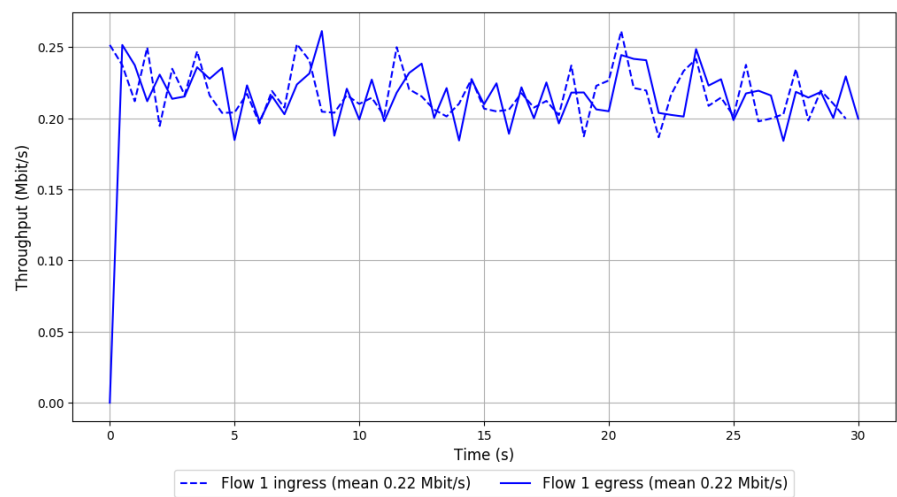
-- Flow 1:

Average throughput: 0.22 Mbit/s

95th percentile per-packet one-way delay: 1.301 ms

Loss rate: 0.00%

Run 5: Report of SReAM — Data Link



Run 1: Statistics of Sprout

Start at: 2018-11-02 18:14:55

End at: 2018-11-02 18:15:25

Local clock offset: 5.508 ms

Remote clock offset: -0.11 ms

Below is generated by plot.py at 2018-11-02 20:55:14

Datalink statistics

-- Total of 1 flow:

Average throughput: 50.15 Mbit/s

95th percentile per-packet one-way delay: 4.362 ms

Loss rate: 0.02%

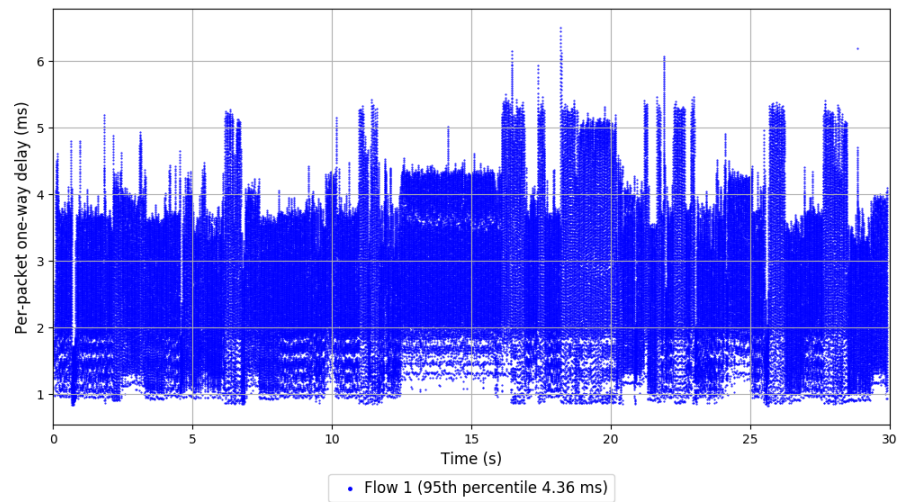
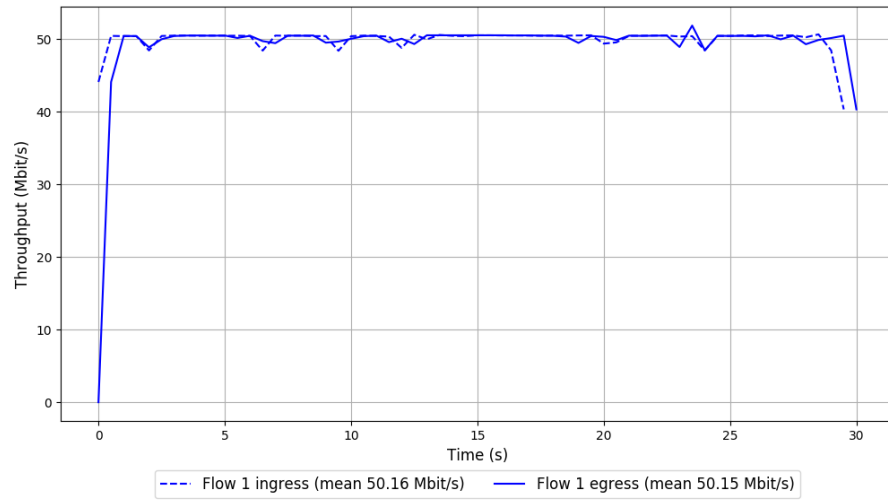
-- Flow 1:

Average throughput: 50.15 Mbit/s

95th percentile per-packet one-way delay: 4.362 ms

Loss rate: 0.02%

Run 1: Report of Sprout — Data Link

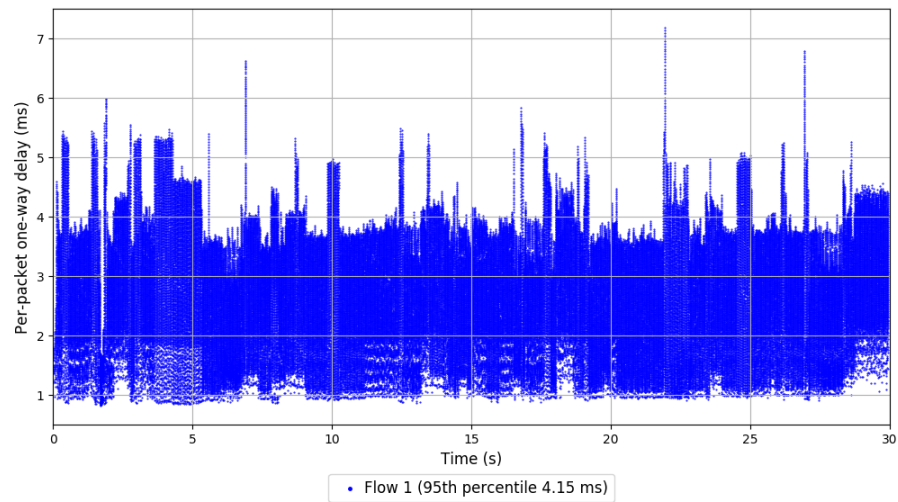
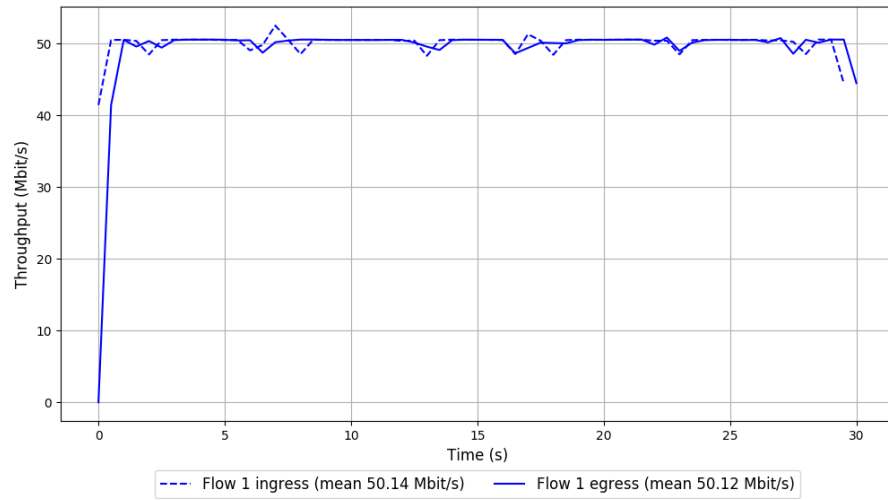


Run 2: Statistics of Sprout

Start at: 2018-11-02 18:40:54
End at: 2018-11-02 18:41:24
Local clock offset: 5.492 ms
Remote clock offset: -1.982 ms

Below is generated by plot.py at 2018-11-02 20:55:14
Datalink statistics
-- Total of 1 flow:
Average throughput: 50.12 Mbit/s
95th percentile per-packet one-way delay: 4.150 ms
Loss rate: 0.04%
-- Flow 1:
Average throughput: 50.12 Mbit/s
95th percentile per-packet one-way delay: 4.150 ms
Loss rate: 0.04%

Run 2: Report of Sprout — Data Link

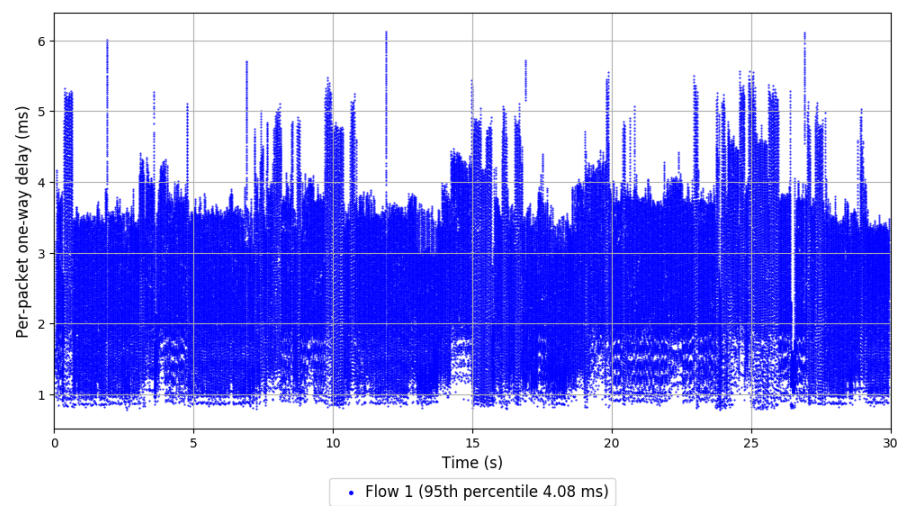
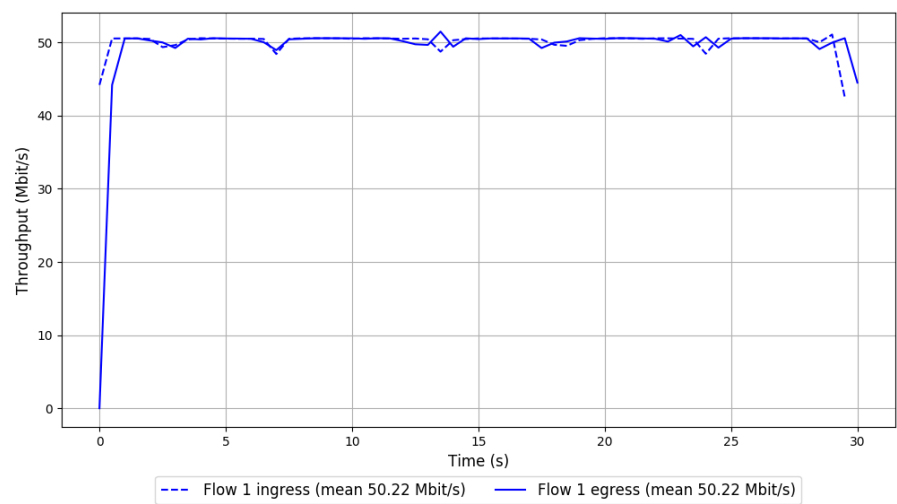


Run 3: Statistics of Sprout

Start at: 2018-11-02 19:06:59
End at: 2018-11-02 19:07:29
Local clock offset: 5.57 ms
Remote clock offset: -4.639 ms

Below is generated by plot.py at 2018-11-02 20:55:14
Datalink statistics
-- Total of 1 flow:
Average throughput: 50.22 Mbit/s
95th percentile per-packet one-way delay: 4.082 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 50.22 Mbit/s
95th percentile per-packet one-way delay: 4.082 ms
Loss rate: 0.00%

Run 3: Report of Sprout — Data Link

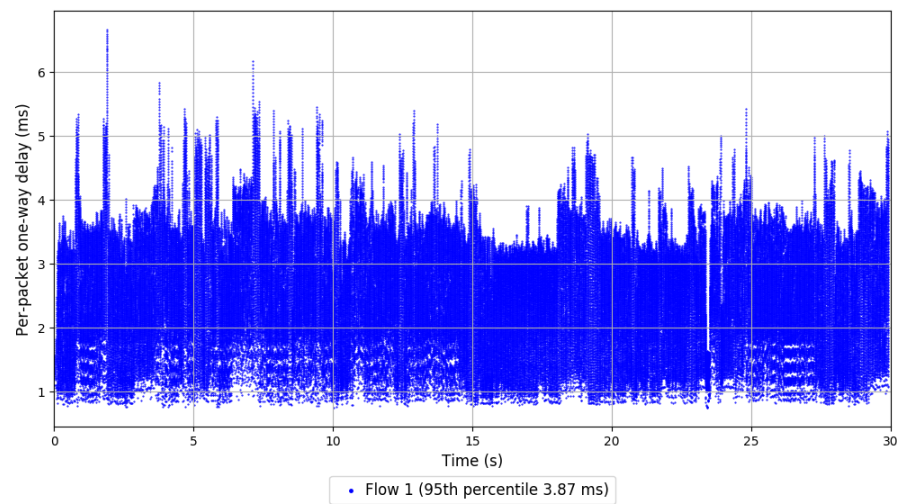
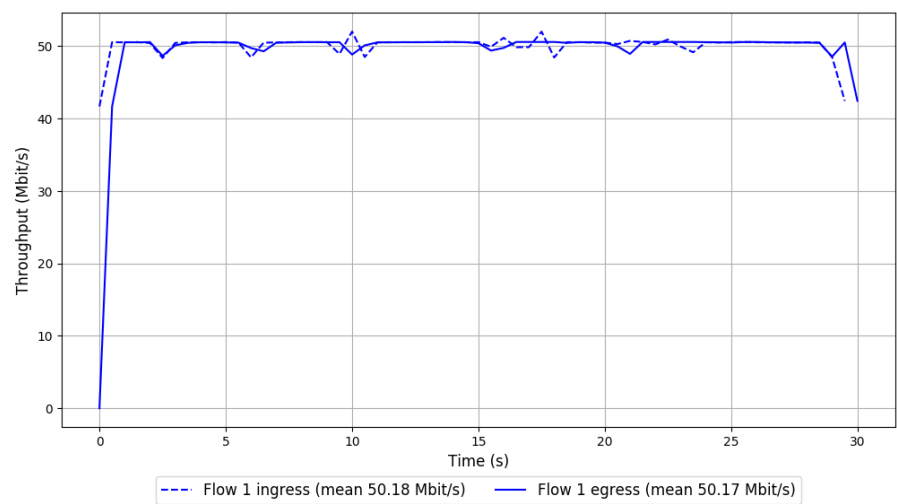


Run 4: Statistics of Sprout

Start at: 2018-11-02 19:33:02
End at: 2018-11-02 19:33:32
Local clock offset: 5.39 ms
Remote clock offset: -6.061 ms

Below is generated by plot.py at 2018-11-02 20:55:14
Datalink statistics
-- Total of 1 flow:
Average throughput: 50.17 Mbit/s
95th percentile per-packet one-way delay: 3.865 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 50.17 Mbit/s
95th percentile per-packet one-way delay: 3.865 ms
Loss rate: 0.00%

Run 4: Report of Sprout — Data Link



Run 5: Statistics of Sprout

Start at: 2018-11-02 19:59:13

End at: 2018-11-02 19:59:43

Local clock offset: 5.034 ms

Remote clock offset: -0.13 ms

Below is generated by plot.py at 2018-11-02 20:55:14

Datalink statistics

-- Total of 1 flow:

Average throughput: 49.94 Mbit/s

95th percentile per-packet one-way delay: 4.344 ms

Loss rate: 0.10%

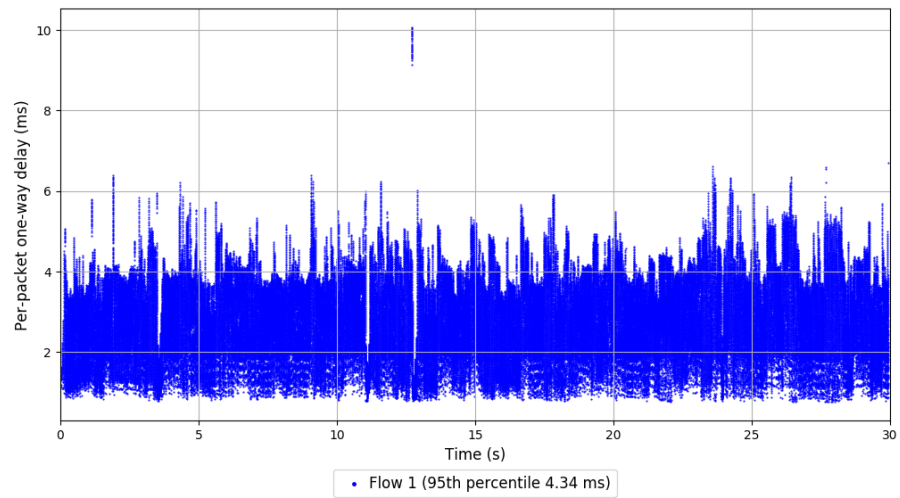
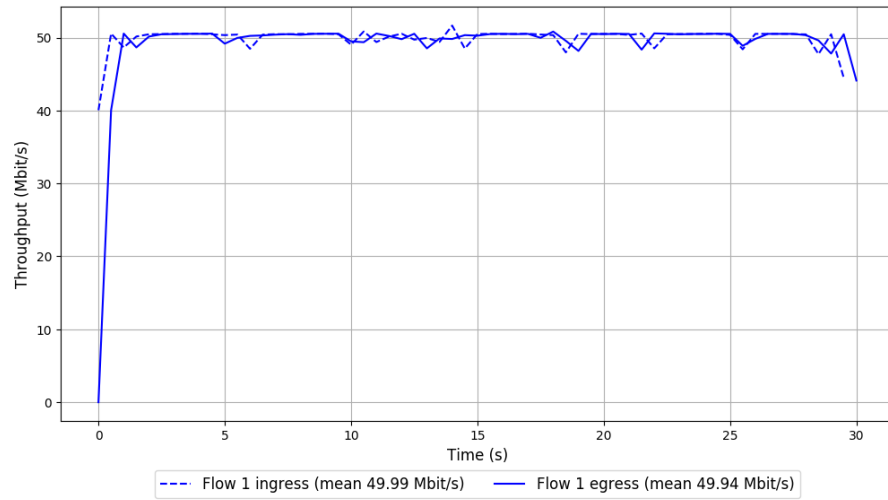
-- Flow 1:

Average throughput: 49.94 Mbit/s

95th percentile per-packet one-way delay: 4.344 ms

Loss rate: 0.10%

Run 5: Report of Sprout — Data Link



Run 1: Statistics of TaoVA-100x

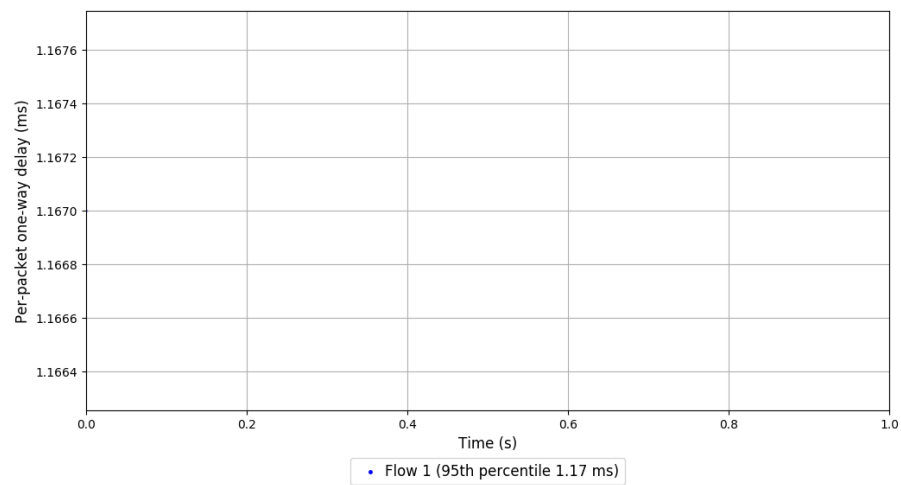
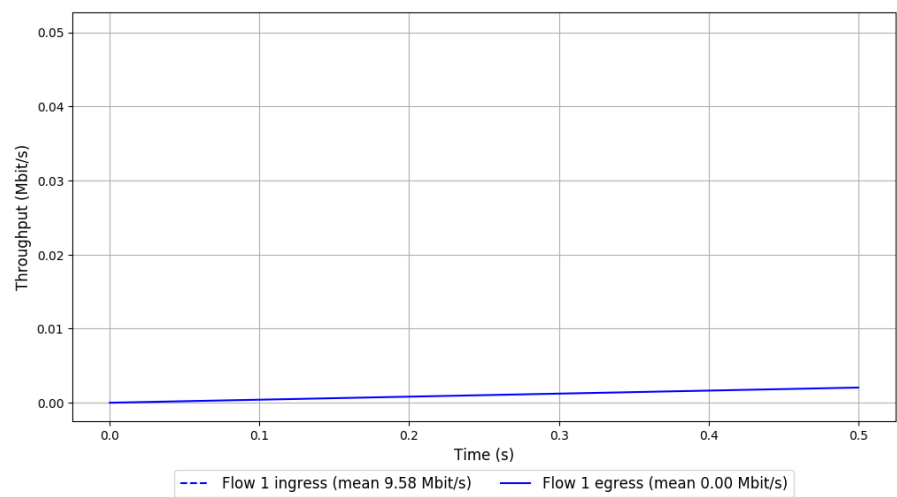
Start at: 2018-11-02 18:25:01

End at: 2018-11-02 18:25:31

Local clock offset: 5.573 ms

Remote clock offset: 0.038 ms

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



Run 2: Statistics of TaoVA-100x

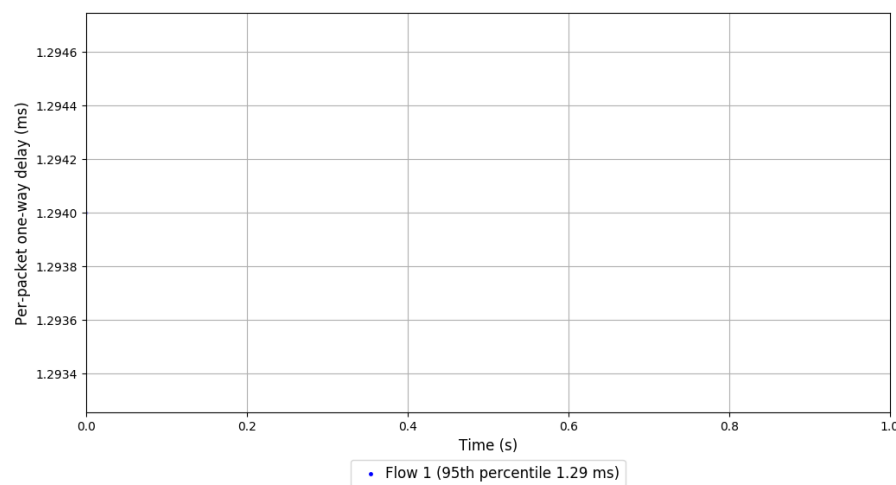
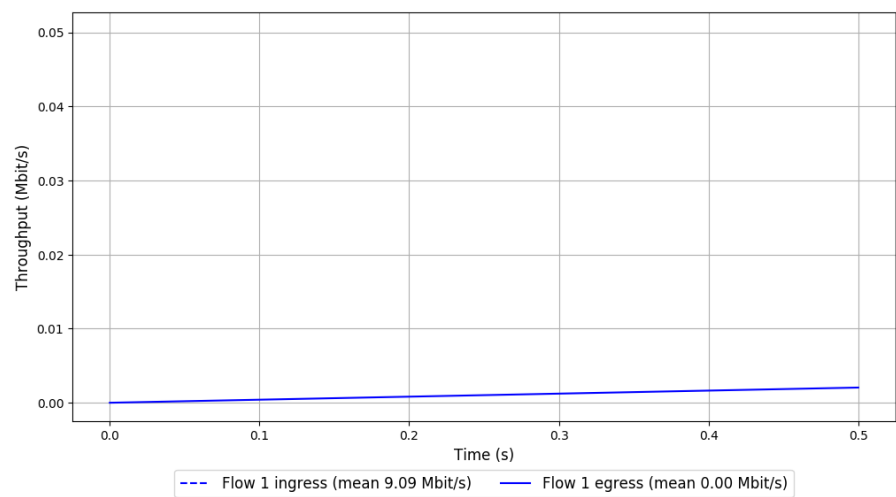
Start at: 2018-11-02 18:51:05

End at: 2018-11-02 18:51:35

Local clock offset: 5.496 ms

Remote clock offset: -3.428 ms

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



Run 3: Statistics of TaoVA-100x

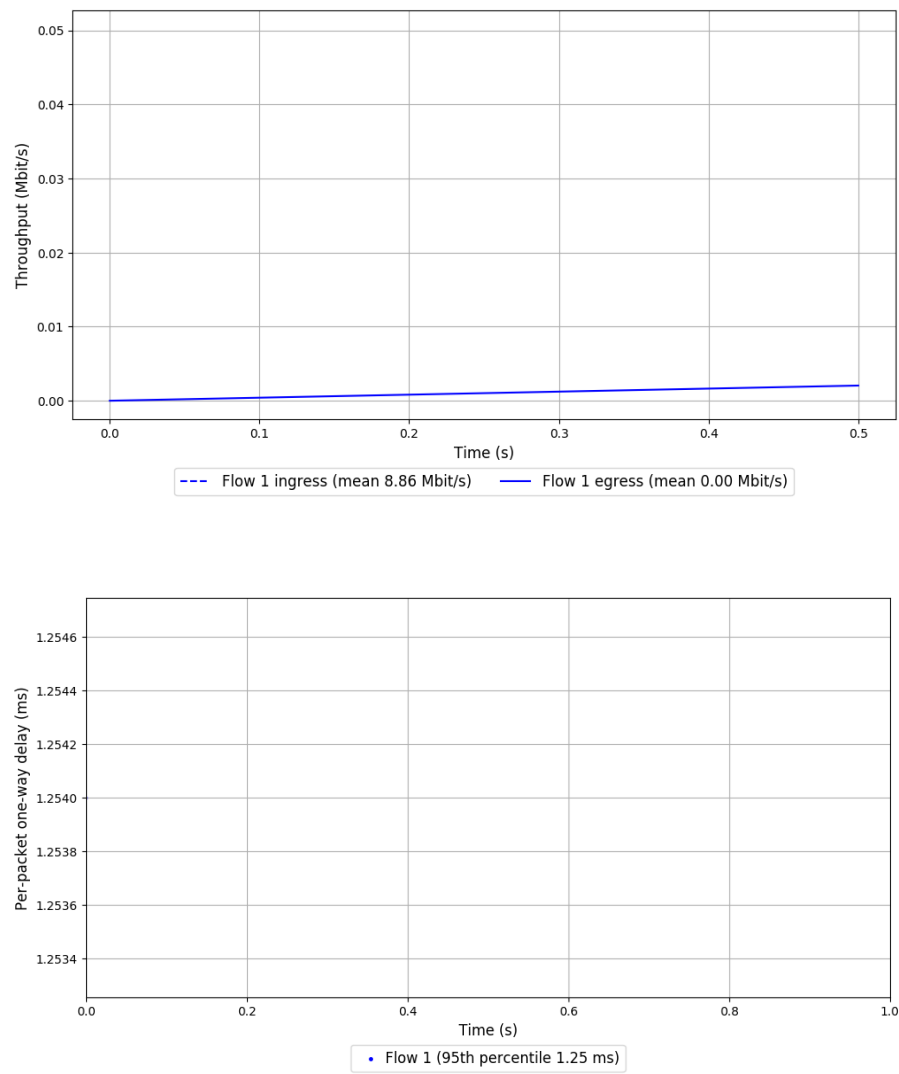
Start at: 2018-11-02 19:17:07

End at: 2018-11-02 19:17:37

Local clock offset: 5.38 ms

Remote clock offset: -5.182 ms

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



Run 4: Statistics of TaoVA-100x

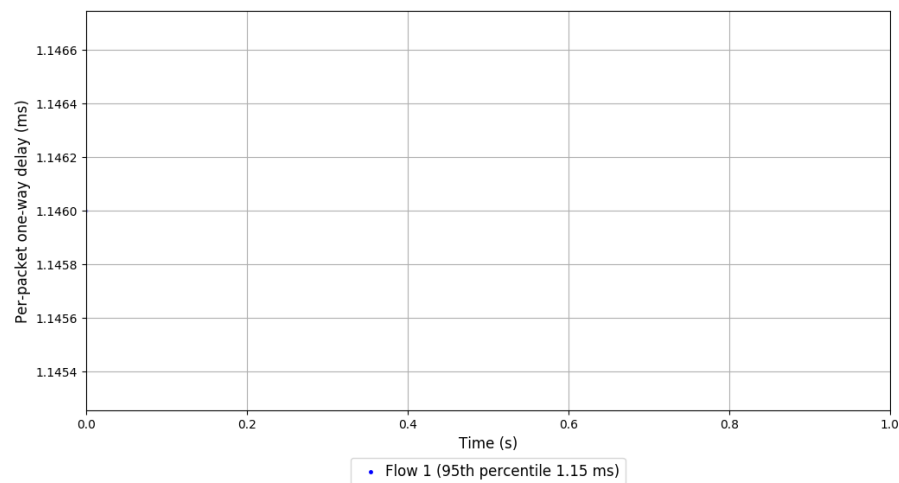
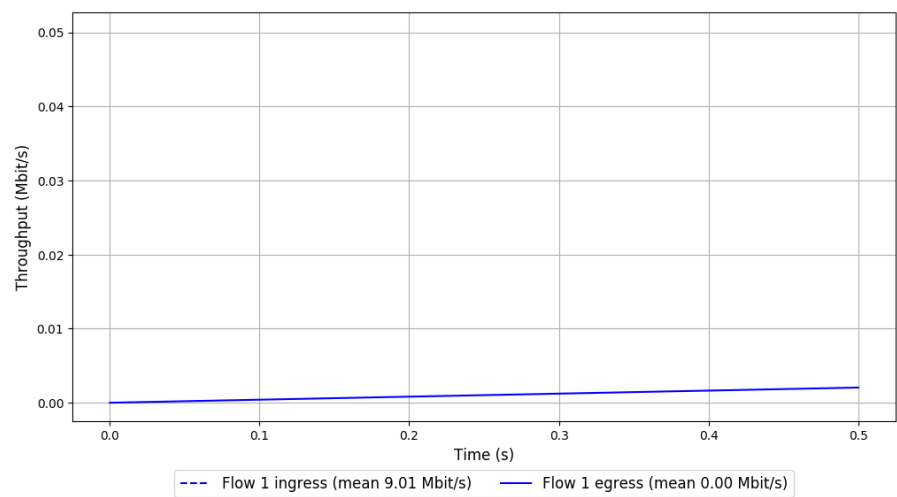
Start at: 2018-11-02 19:43:16

End at: 2018-11-02 19:43:46

Local clock offset: 5.136 ms

Remote clock offset: -5.505 ms

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



Run 5: Statistics of TaoVA-100x

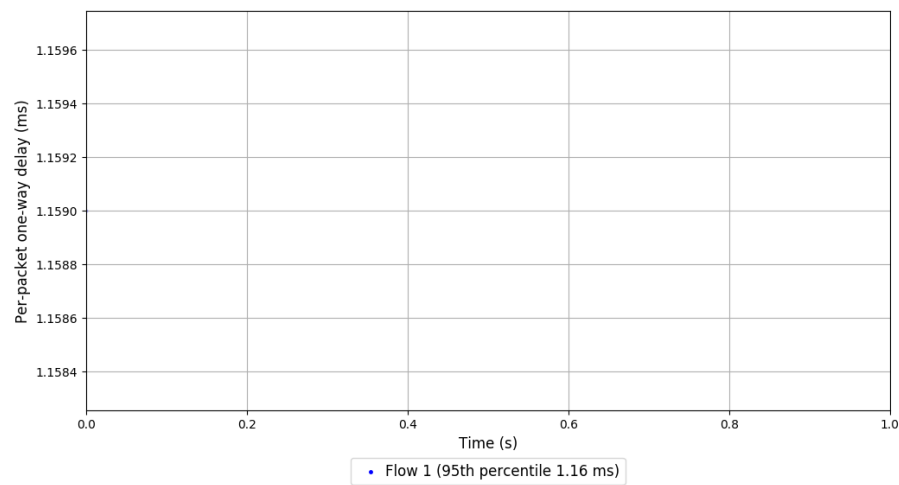
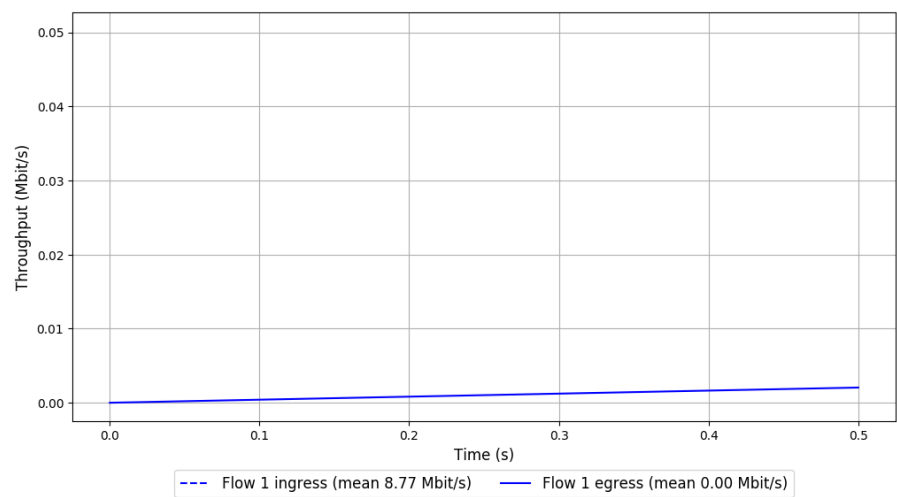
Start at: 2018-11-02 20:09:06

End at: 2018-11-02 20:09:36

Local clock offset: 4.971 ms

Remote clock offset: 0.867 ms

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

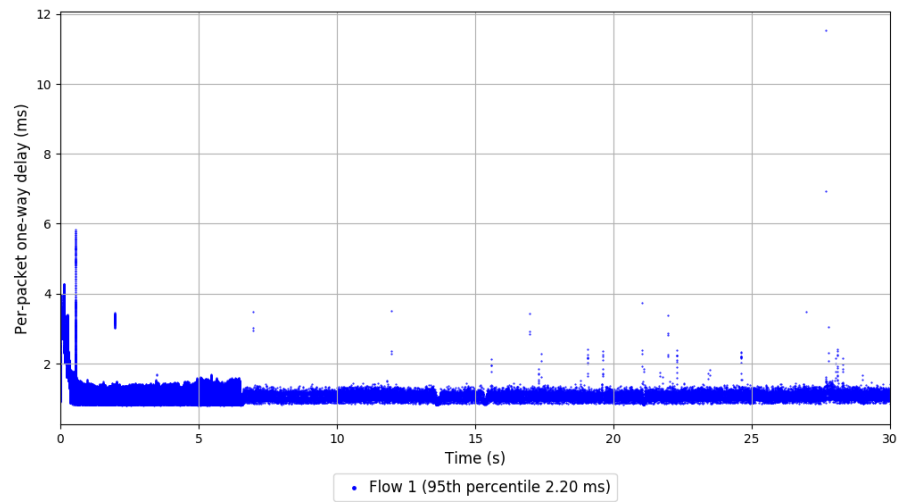
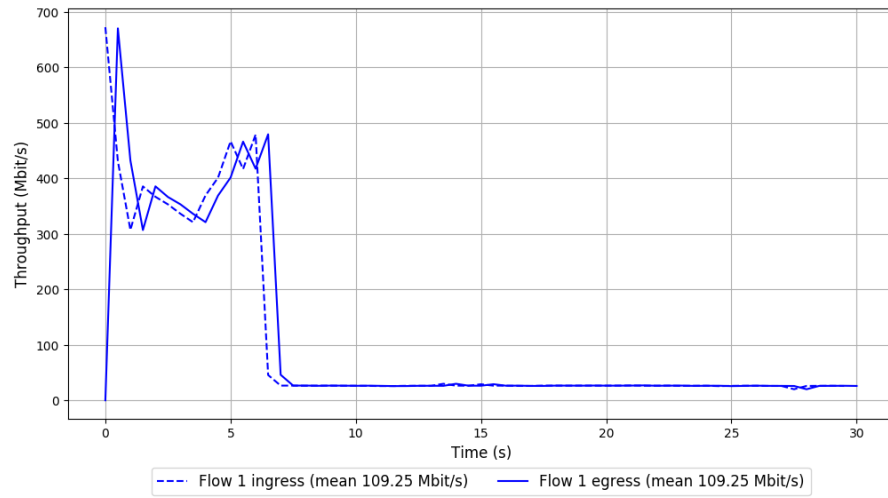


Run 1: Statistics of TCP Vegas

Start at: 2018-11-02 18:19:10
End at: 2018-11-02 18:19:40
Local clock offset: 5.592 ms
Remote clock offset: -0.055 ms

Below is generated by plot.py at 2018-11-02 20:55:14
Datalink statistics
-- Total of 1 flow:
Average throughput: 109.25 Mbit/s
95th percentile per-packet one-way delay: 2.199 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 109.25 Mbit/s
95th percentile per-packet one-way delay: 2.199 ms
Loss rate: 0.00%

Run 1: Report of TCP Vegas — Data Link

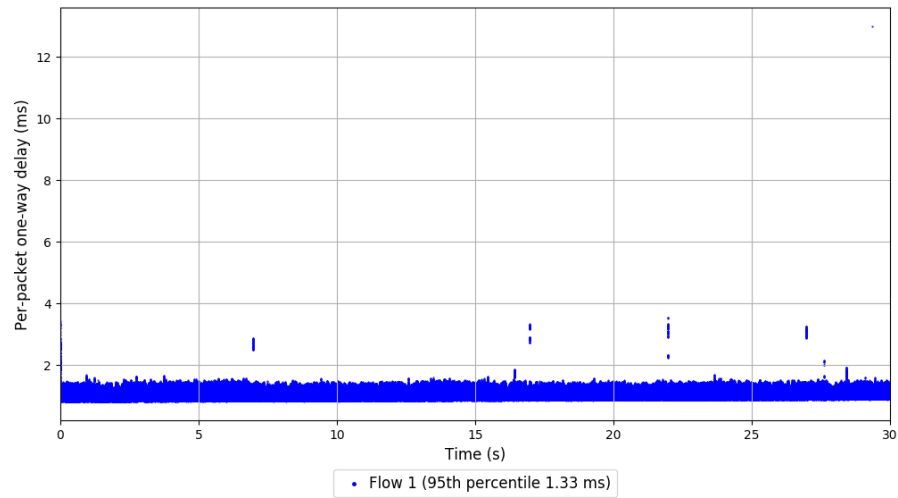
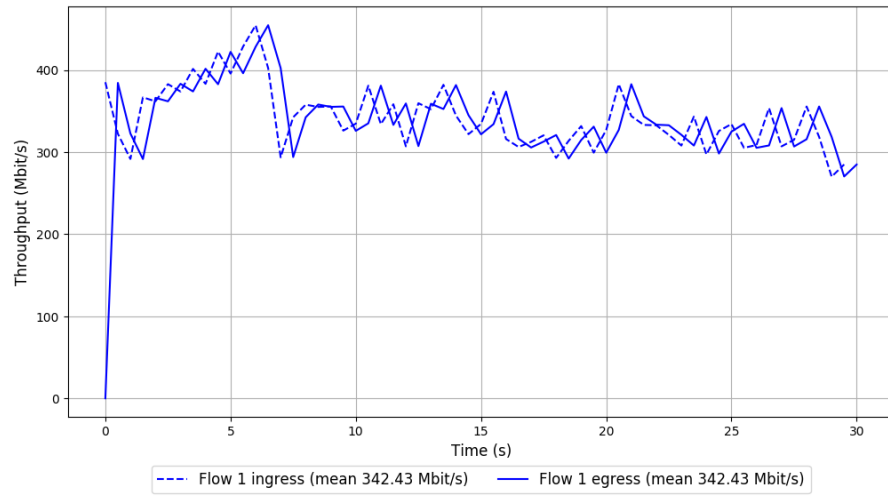


Run 2: Statistics of TCP Vegas

Start at: 2018-11-02 18:45:03
End at: 2018-11-02 18:45:33
Local clock offset: 5.453 ms
Remote clock offset: -2.727 ms

Below is generated by plot.py at 2018-11-02 20:55:28
Datalink statistics
-- Total of 1 flow:
Average throughput: 342.43 Mbit/s
95th percentile per-packet one-way delay: 1.332 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 342.43 Mbit/s
95th percentile per-packet one-way delay: 1.332 ms
Loss rate: 0.00%

Run 2: Report of TCP Vegas — Data Link

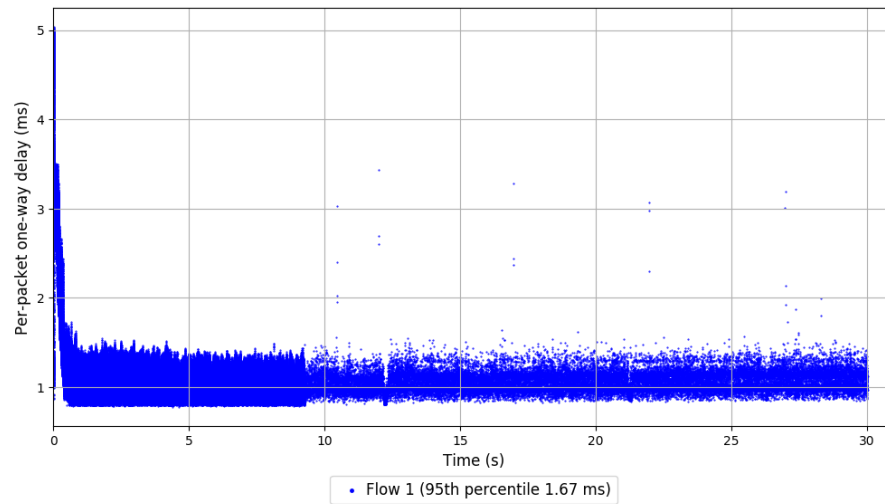
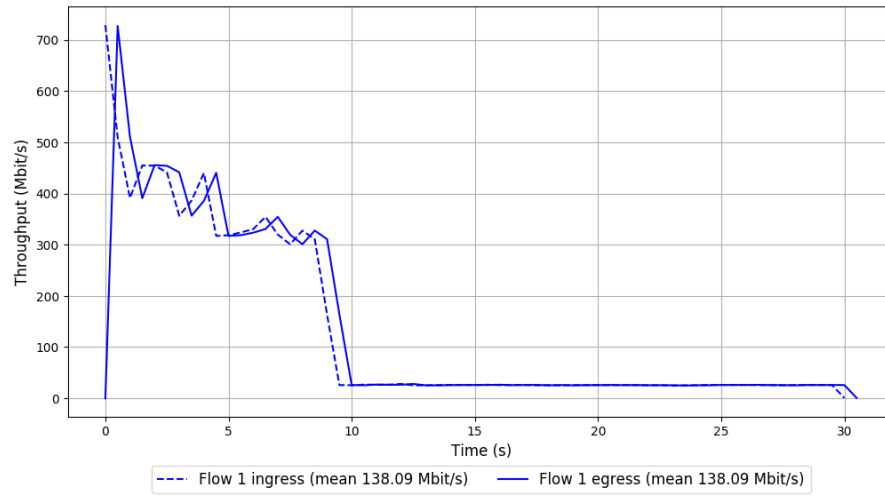


Run 3: Statistics of TCP Vegas

Start at: 2018-11-02 19:11:13
End at: 2018-11-02 19:11:43
Local clock offset: 5.437 ms
Remote clock offset: -4.836 ms

Below is generated by plot.py at 2018-11-02 20:55:28
Datalink statistics
-- Total of 1 flow:
Average throughput: 138.09 Mbit/s
95th percentile per-packet one-way delay: 1.674 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 138.09 Mbit/s
95th percentile per-packet one-way delay: 1.674 ms
Loss rate: 0.00%

Run 3: Report of TCP Vegas — Data Link

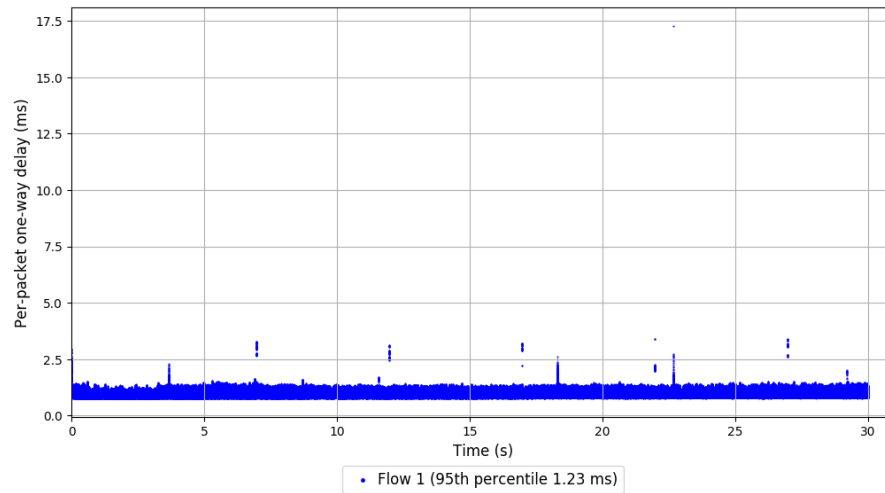
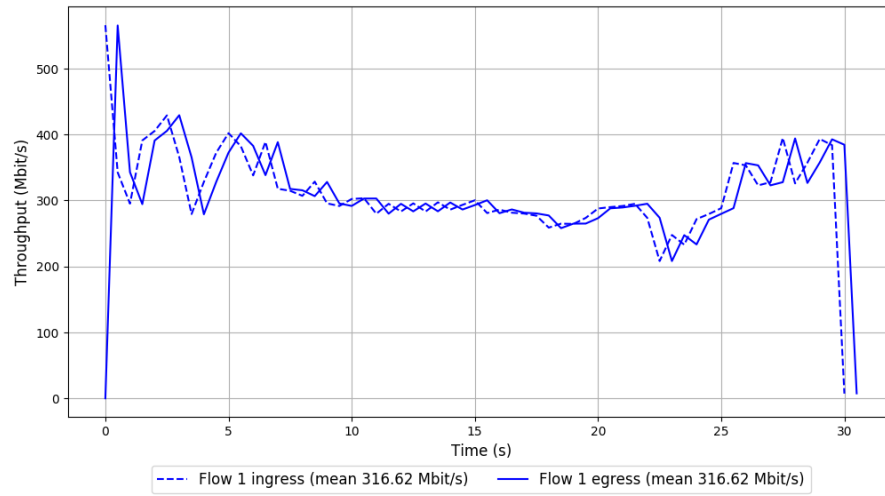


Run 4: Statistics of TCP Vegas

Start at: 2018-11-02 19:37:15
End at: 2018-11-02 19:37:45
Local clock offset: 5.272 ms
Remote clock offset: -6.236 ms

Below is generated by plot.py at 2018-11-02 20:55:29
Datalink statistics
-- Total of 1 flow:
Average throughput: 316.62 Mbit/s
95th percentile per-packet one-way delay: 1.234 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 316.62 Mbit/s
95th percentile per-packet one-way delay: 1.234 ms
Loss rate: 0.00%

Run 4: Report of TCP Vegas — Data Link



Run 5: Statistics of TCP Vegas

Start at: 2018-11-02 20:03:27

End at: 2018-11-02 20:03:57

Local clock offset: 5.027 ms

Remote clock offset: 0.404 ms

Below is generated by plot.py at 2018-11-02 20:55:29

Datalink statistics

-- Total of 1 flow:

Average throughput: 177.62 Mbit/s

95th percentile per-packet one-way delay: 1.258 ms

Loss rate: 0.01%

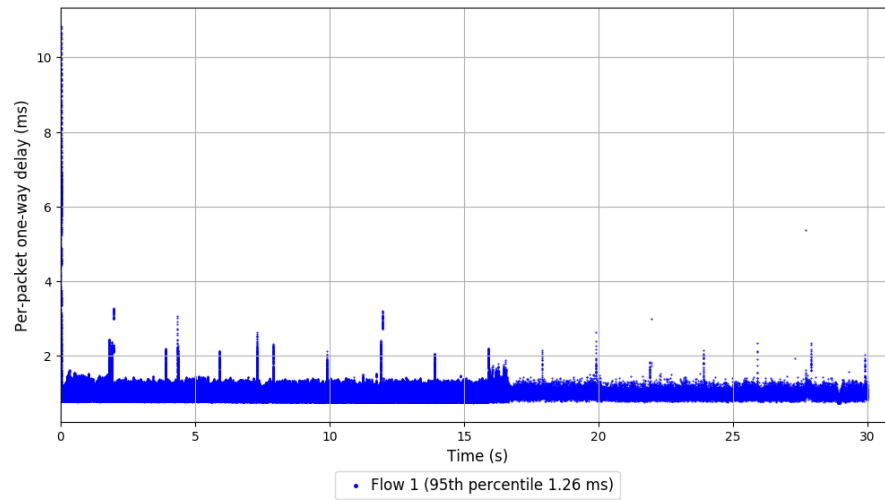
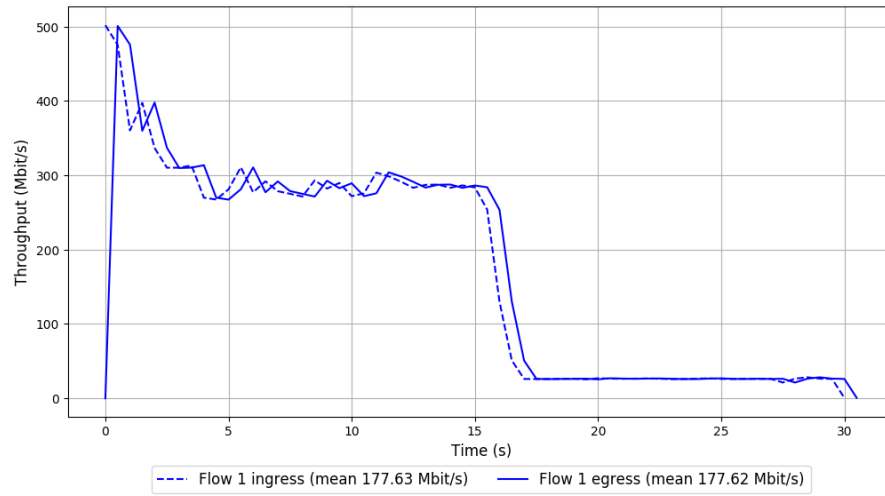
-- Flow 1:

Average throughput: 177.62 Mbit/s

95th percentile per-packet one-way delay: 1.258 ms

Loss rate: 0.01%

Run 5: Report of TCP Vegas — Data Link

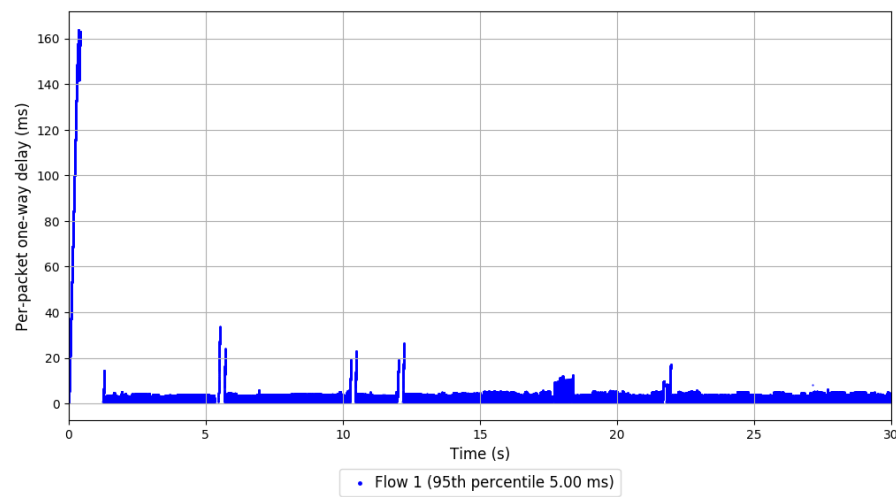
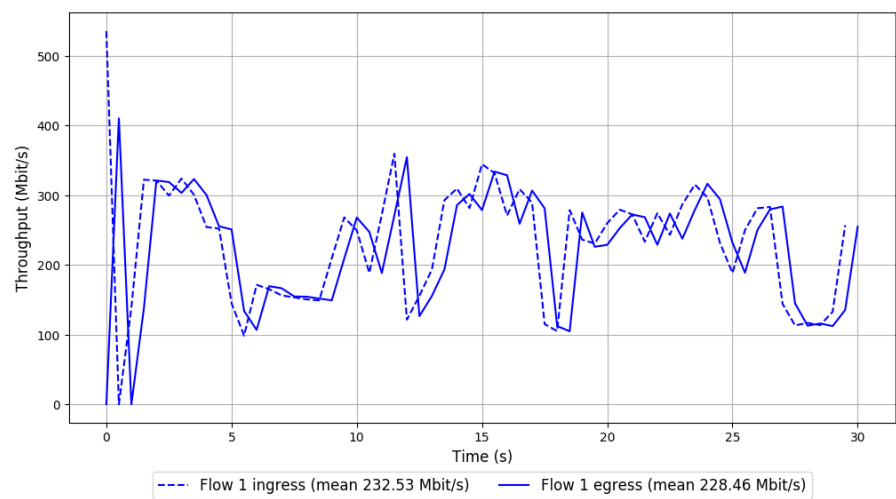


Run 1: Statistics of Verus

Start at: 2018-11-02 18:07:29
End at: 2018-11-02 18:07:59
Local clock offset: 5.686 ms
Remote clock offset: -0.266 ms

Below is generated by plot.py at 2018-11-02 20:55:29
Datalink statistics
-- Total of 1 flow:
Average throughput: 228.46 Mbit/s
95th percentile per-packet one-way delay: 5.003 ms
Loss rate: 1.75%
-- Flow 1:
Average throughput: 228.46 Mbit/s
95th percentile per-packet one-way delay: 5.003 ms
Loss rate: 1.75%

Run 1: Report of Verus — Data Link



Run 2: Statistics of Verus

Start at: 2018-11-02 18:33:29

End at: 2018-11-02 18:33:59

Local clock offset: 5.682 ms

Remote clock offset: 0.137 ms

Below is generated by plot.py at 2018-11-02 20:55:36

Datalink statistics

-- Total of 1 flow:

Average throughput: 200.37 Mbit/s

95th percentile per-packet one-way delay: 6.095 ms

Loss rate: 0.36%

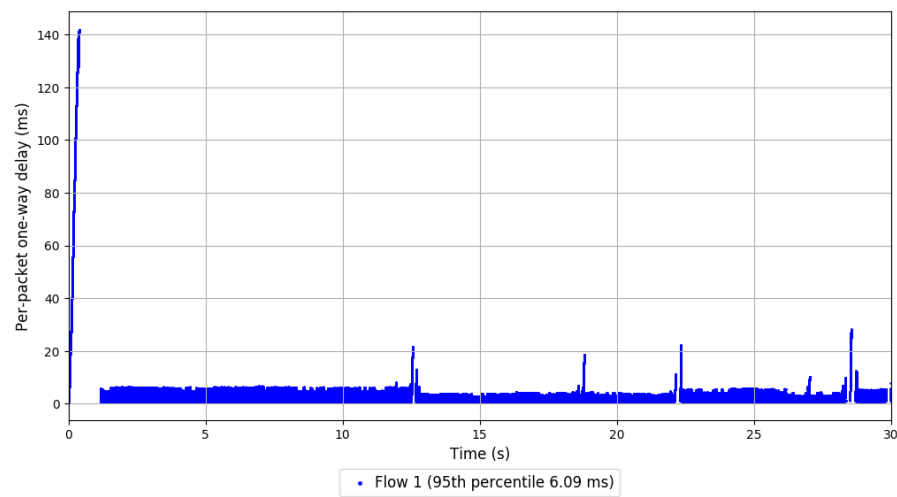
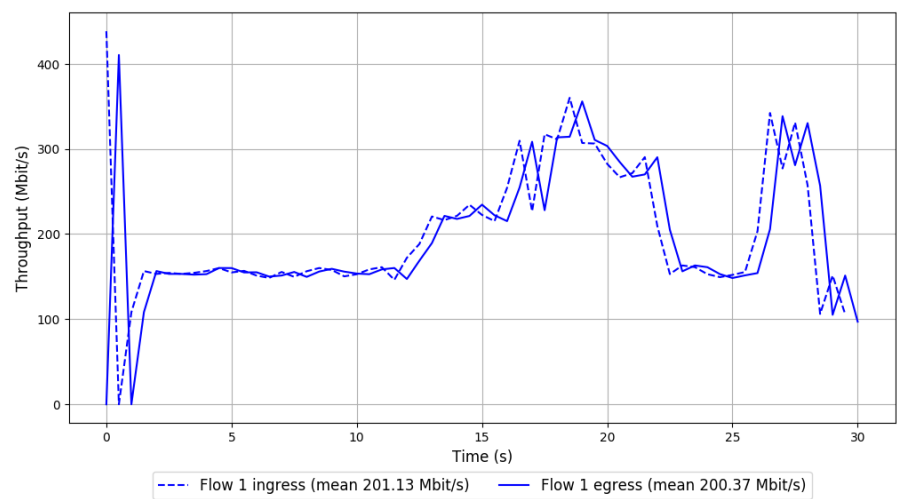
-- Flow 1:

Average throughput: 200.37 Mbit/s

95th percentile per-packet one-way delay: 6.095 ms

Loss rate: 0.36%

Run 2: Report of Verus — Data Link

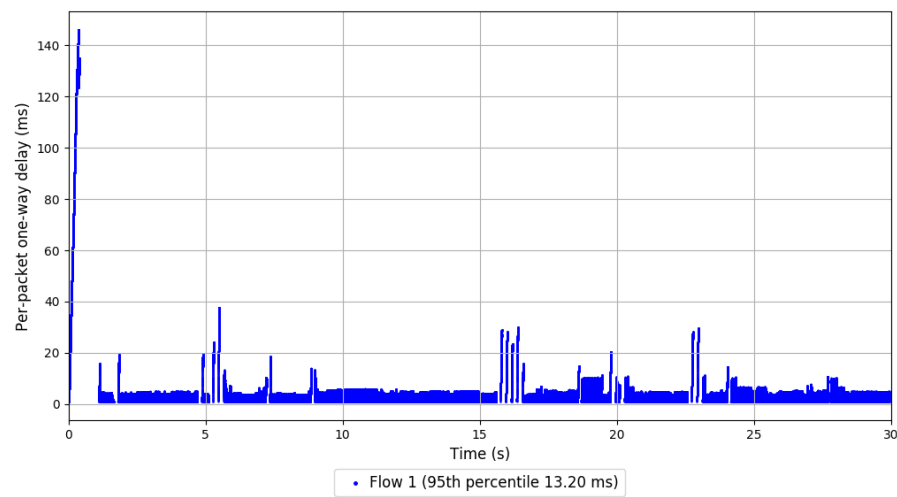
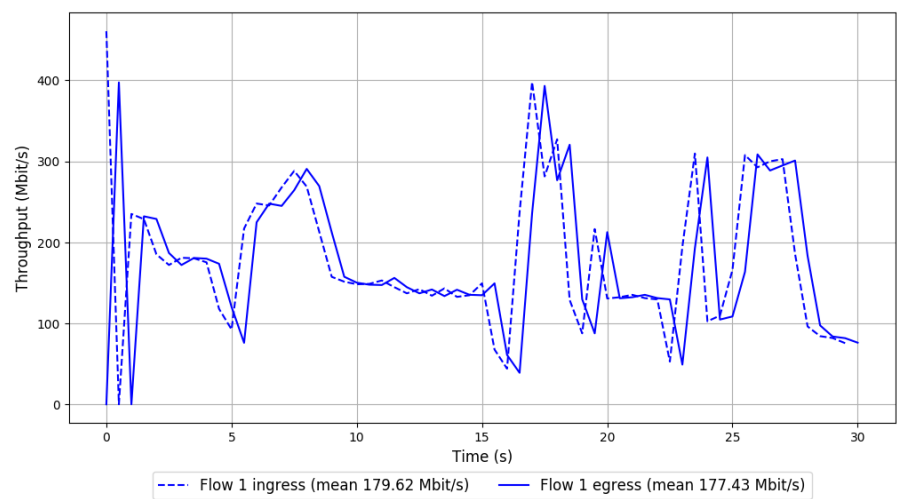


Run 3: Statistics of Verus

Start at: 2018-11-02 18:59:30
End at: 2018-11-02 19:00:00
Local clock offset: 5.587 ms
Remote clock offset: -4.143 ms

Below is generated by plot.py at 2018-11-02 20:55:36
Datalink statistics
-- Total of 1 flow:
Average throughput: 177.43 Mbit/s
95th percentile per-packet one-way delay: 13.202 ms
Loss rate: 1.20%
-- Flow 1:
Average throughput: 177.43 Mbit/s
95th percentile per-packet one-way delay: 13.202 ms
Loss rate: 1.20%

Run 3: Report of Verus — Data Link

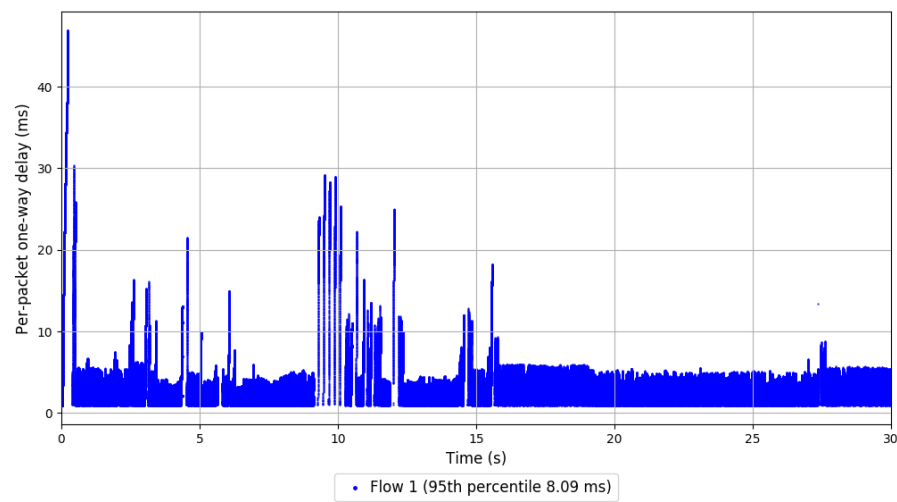
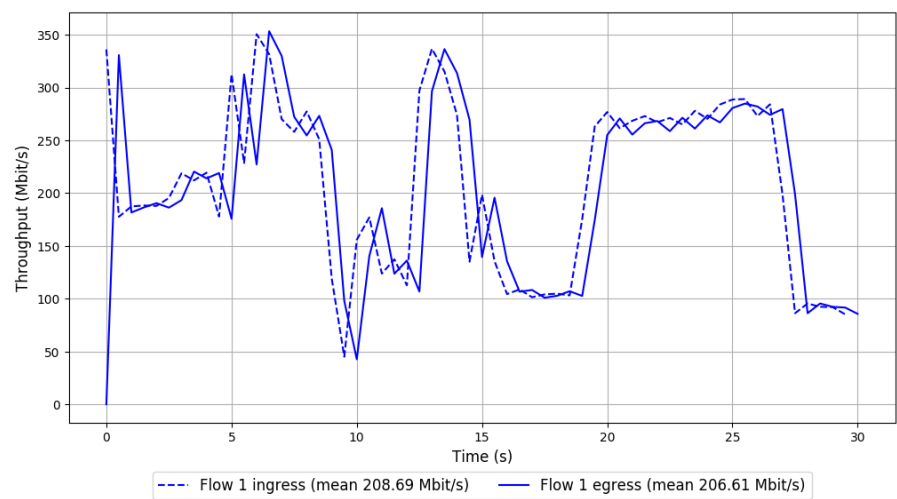


Run 4: Statistics of Verus

Start at: 2018-11-02 19:25:36
End at: 2018-11-02 19:26:06
Local clock offset: 5.356 ms
Remote clock offset: -5.581 ms

Below is generated by plot.py at 2018-11-02 20:56:21
Datalink statistics
-- Total of 1 flow:
Average throughput: 206.61 Mbit/s
95th percentile per-packet one-way delay: 8.092 ms
Loss rate: 1.00%
-- Flow 1:
Average throughput: 206.61 Mbit/s
95th percentile per-packet one-way delay: 8.092 ms
Loss rate: 1.00%

Run 4: Report of Verus — Data Link

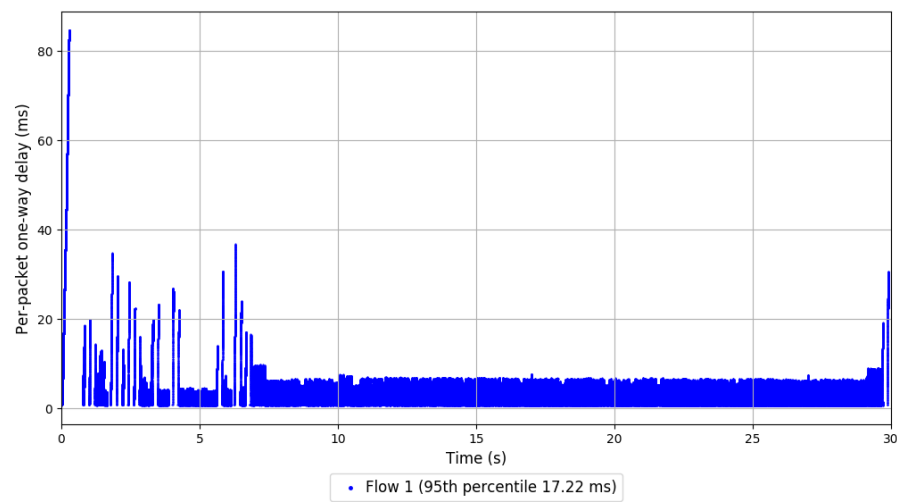
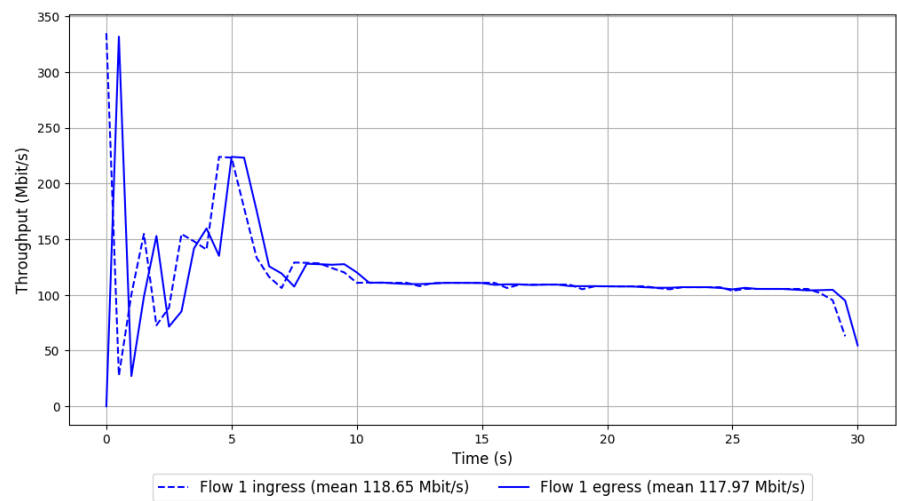


Run 5: Statistics of Verus

Start at: 2018-11-02 19:51:50
End at: 2018-11-02 19:52:20
Local clock offset: 5.076 ms
Remote clock offset: -1.698 ms

Below is generated by plot.py at 2018-11-02 20:56:21
Datalink statistics
-- Total of 1 flow:
Average throughput: 117.97 Mbit/s
95th percentile per-packet one-way delay: 17.217 ms
Loss rate: 0.48%
-- Flow 1:
Average throughput: 117.97 Mbit/s
95th percentile per-packet one-way delay: 17.217 ms
Loss rate: 0.48%

Run 5: Report of Verus — Data Link



Run 1: Statistics of PCC-Vivace

Start at: 2018-11-02 18:30:19

End at: 2018-11-02 18:30:49

Local clock offset: 5.605 ms

Remote clock offset: 0.085 ms

Below is generated by plot.py at 2018-11-02 20:57:40

Datalink statistics

-- Total of 1 flow:

Average throughput: 260.60 Mbit/s

95th percentile per-packet one-way delay: 0.990 ms

Loss rate: 0.02%

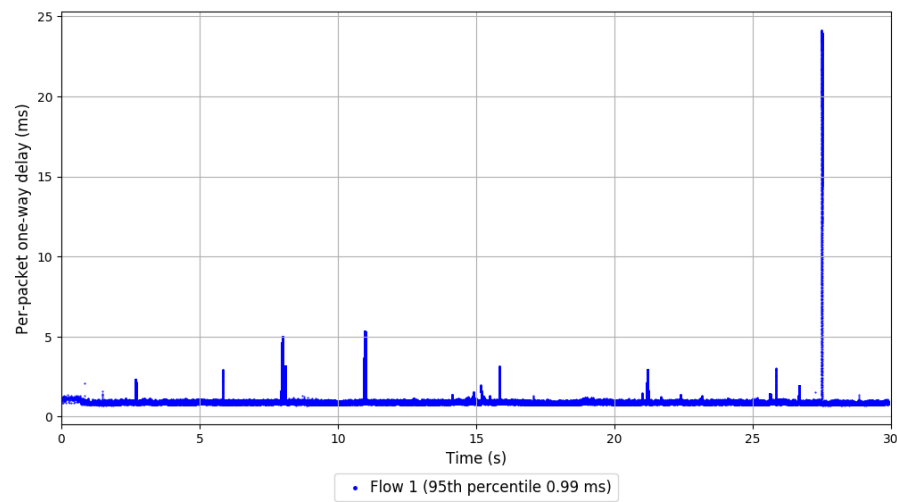
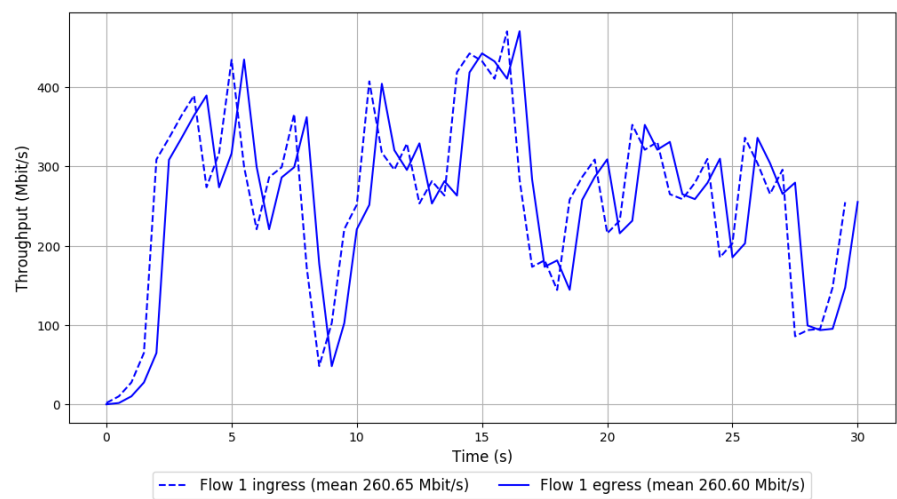
-- Flow 1:

Average throughput: 260.60 Mbit/s

95th percentile per-packet one-way delay: 0.990 ms

Loss rate: 0.02%

Run 1: Report of PCC-Vivace — Data Link



Run 2: Statistics of PCC-Vivace

Start at: 2018-11-02 18:56:20

End at: 2018-11-02 18:56:50

Local clock offset: 5.545 ms

Remote clock offset: -3.922 ms

Below is generated by plot.py at 2018-11-02 20:57:40

Datalink statistics

-- Total of 1 flow:

Average throughput: 187.17 Mbit/s

95th percentile per-packet one-way delay: 1.078 ms

Loss rate: 0.00%

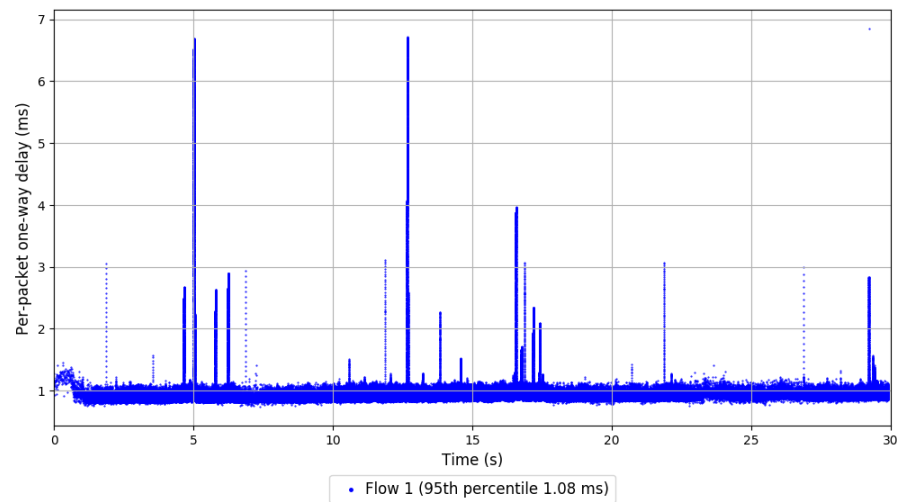
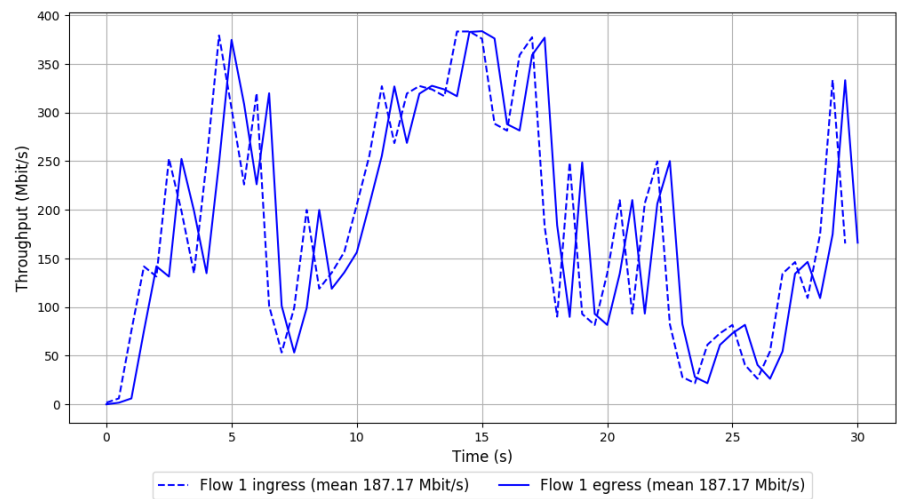
-- Flow 1:

Average throughput: 187.17 Mbit/s

95th percentile per-packet one-way delay: 1.078 ms

Loss rate: 0.00%

Run 2: Report of PCC-Vivace — Data Link



Run 3: Statistics of PCC-Vivace

Start at: 2018-11-02 19:22:23

End at: 2018-11-02 19:22:53

Local clock offset: 5.361 ms

Remote clock offset: -5.43 ms

Below is generated by plot.py at 2018-11-02 20:57:43

Datalink statistics

-- Total of 1 flow:

Average throughput: 285.54 Mbit/s

95th percentile per-packet one-way delay: 1.289 ms

Loss rate: 0.00%

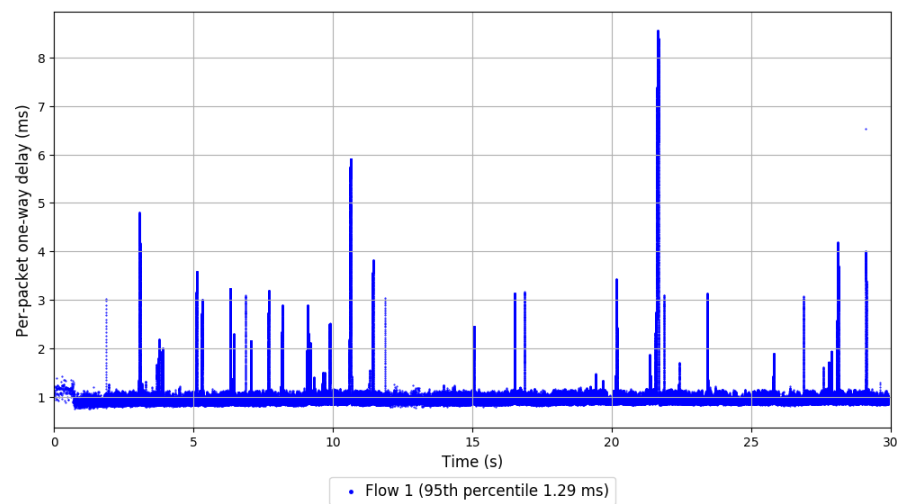
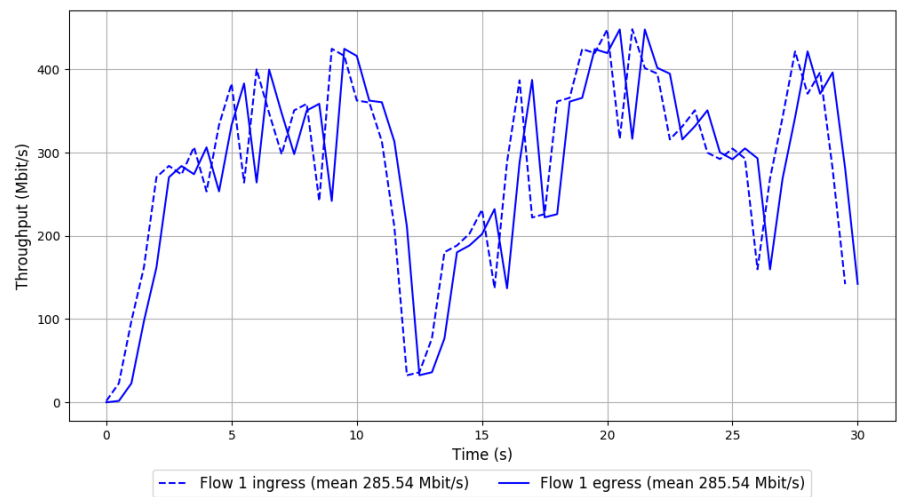
-- Flow 1:

Average throughput: 285.54 Mbit/s

95th percentile per-packet one-way delay: 1.289 ms

Loss rate: 0.00%

Run 3: Report of PCC-Vivace — Data Link

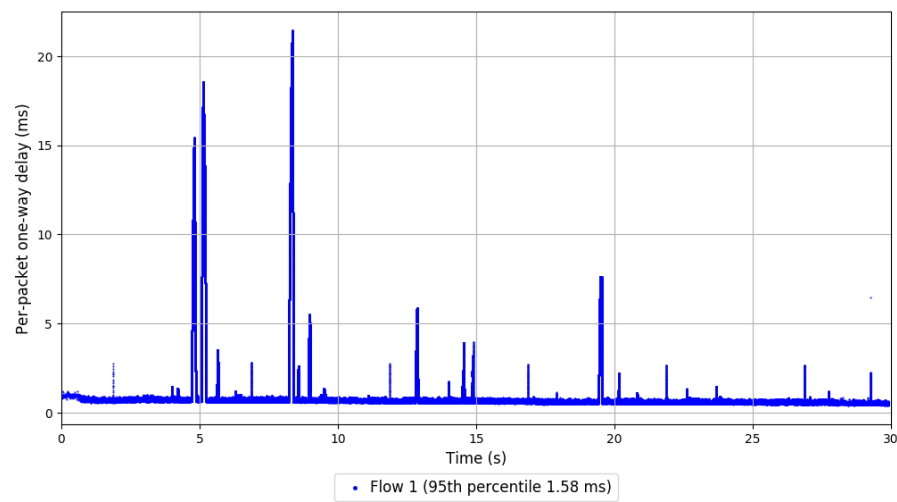
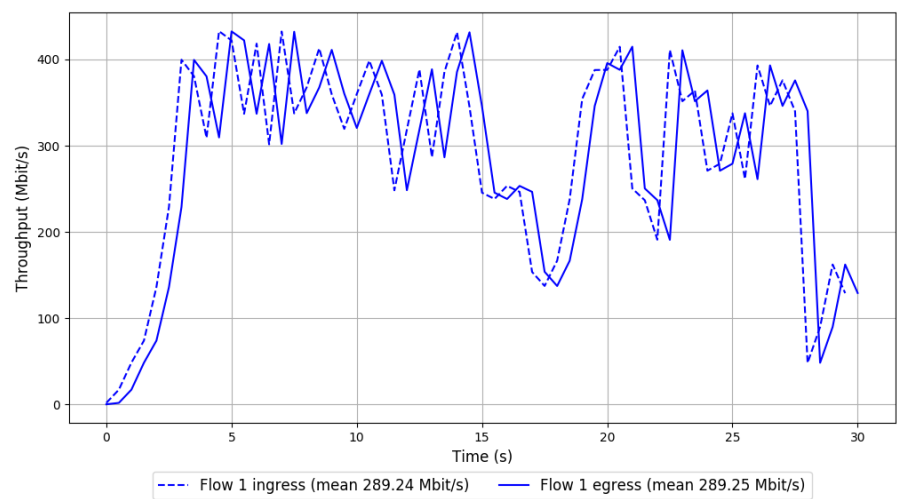


Run 4: Statistics of PCC-Vivace

Start at: 2018-11-02 19:48:32
End at: 2018-11-02 19:49:02
Local clock offset: 5.085 ms
Remote clock offset: -2.895 ms

Below is generated by plot.py at 2018-11-02 20:57:43
Datalink statistics
-- Total of 1 flow:
Average throughput: 289.25 Mbit/s
95th percentile per-packet one-way delay: 1.577 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 289.25 Mbit/s
95th percentile per-packet one-way delay: 1.577 ms
Loss rate: 0.00%

Run 4: Report of PCC-Vivace — Data Link



Run 5: Statistics of PCC-Vivace

Start at: 2018-11-02 20:14:22

End at: 2018-11-02 20:14:52

Local clock offset: 4.929 ms

Remote clock offset: 1.164 ms

Below is generated by plot.py at 2018-11-02 20:57:43

Datalink statistics

-- Total of 1 flow:

Average throughput: 244.77 Mbit/s

95th percentile per-packet one-way delay: 1.001 ms

Loss rate: 0.03%

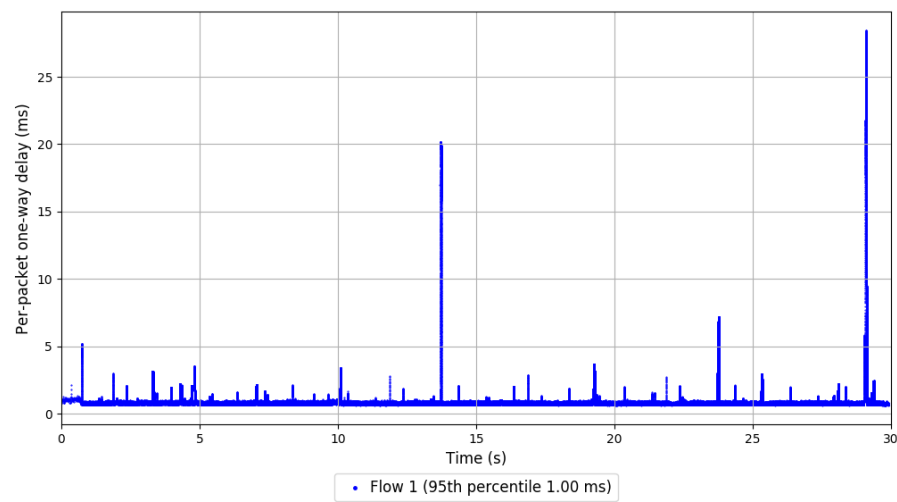
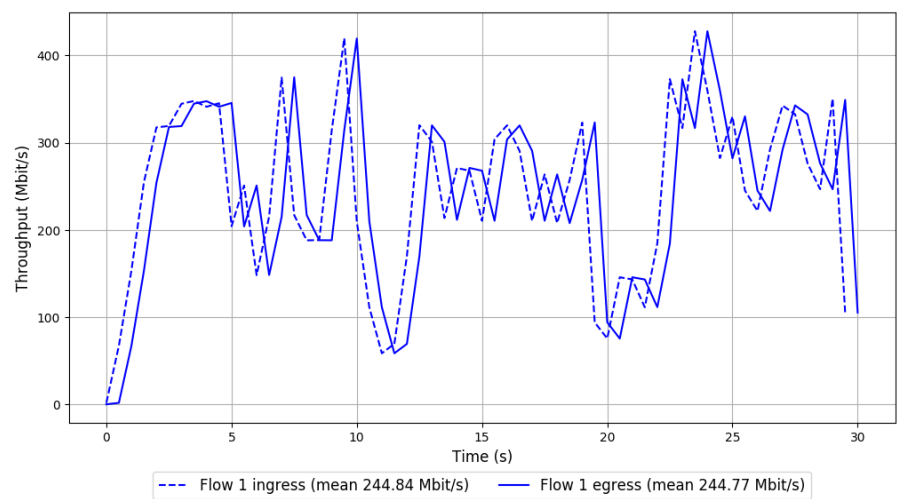
-- Flow 1:

Average throughput: 244.77 Mbit/s

95th percentile per-packet one-way delay: 1.001 ms

Loss rate: 0.03%

Run 5: Report of PCC-Vivace — Data Link



Run 1: Statistics of WebRTC media

Start at: 2018-11-02 18:11:58

End at: 2018-11-02 18:12:28

Local clock offset: 5.498 ms

Remote clock offset: -0.27 ms

Below is generated by plot.py at 2018-11-02 20:57:43

Datalink statistics

-- Total of 1 flow:

Average throughput: 1.92 Mbit/s

95th percentile per-packet one-way delay: 1.113 ms

Loss rate: 0.00%

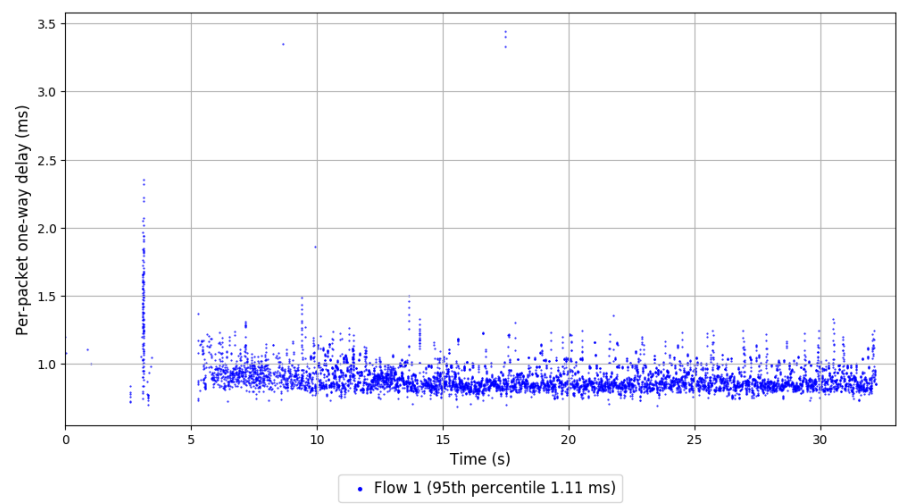
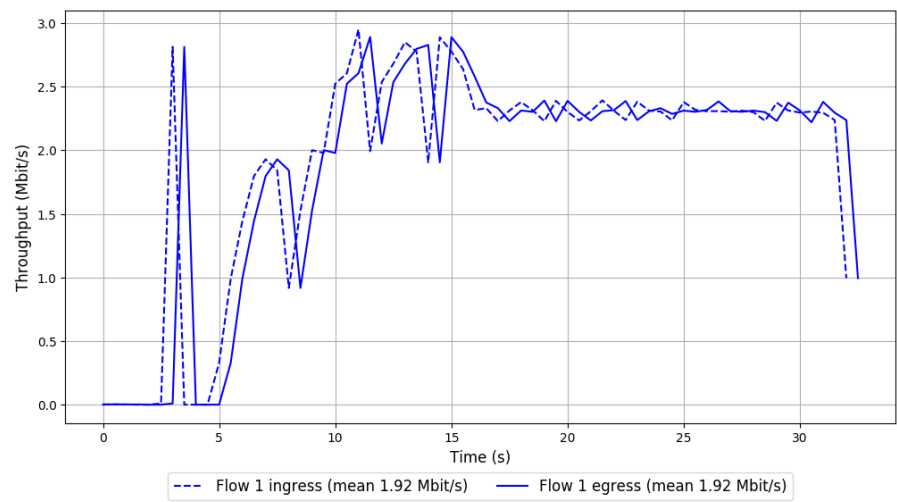
-- Flow 1:

Average throughput: 1.92 Mbit/s

95th percentile per-packet one-way delay: 1.113 ms

Loss rate: 0.00%

Run 1: Report of WebRTC media — Data Link

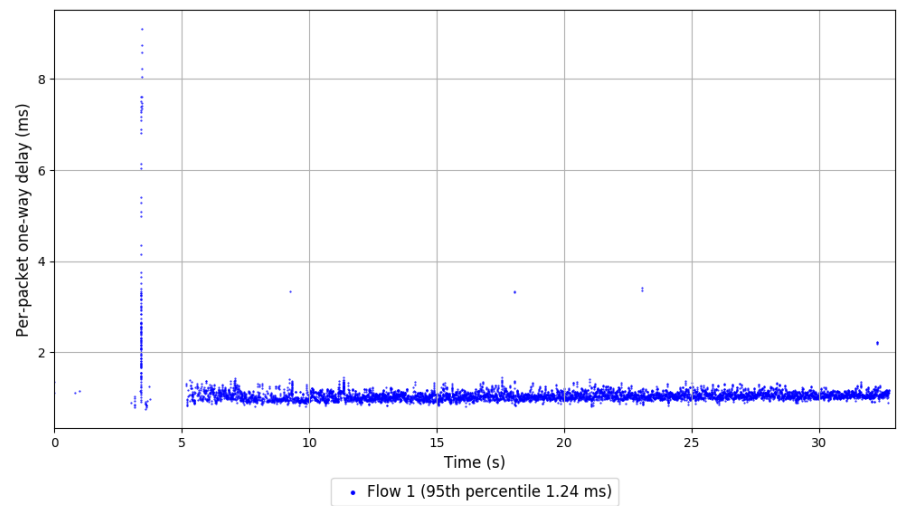
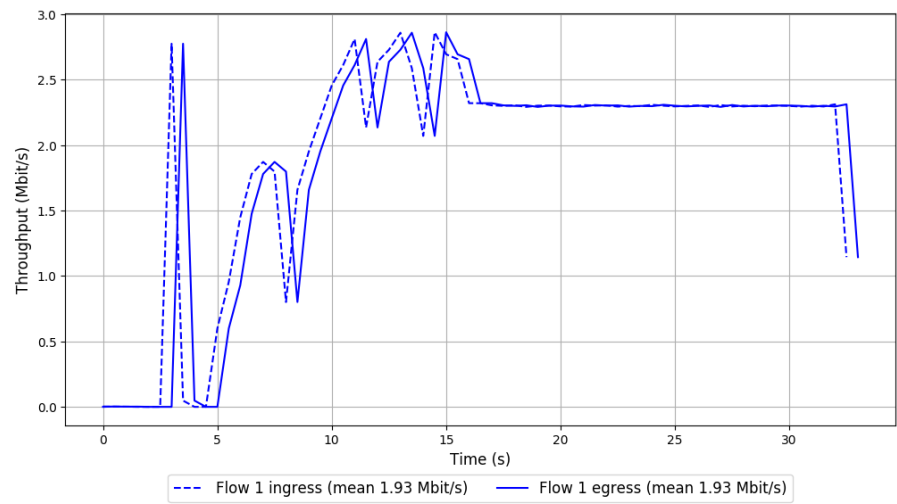


Run 2: Statistics of WebRTC media

Start at: 2018-11-02 18:37:56
End at: 2018-11-02 18:38:26
Local clock offset: 5.561 ms
Remote clock offset: -1.279 ms

Below is generated by plot.py at 2018-11-02 20:57:43
Datalink statistics
-- Total of 1 flow:
Average throughput: 1.93 Mbit/s
95th percentile per-packet one-way delay: 1.242 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 1.93 Mbit/s
95th percentile per-packet one-way delay: 1.242 ms
Loss rate: 0.00%

Run 2: Report of WebRTC media — Data Link

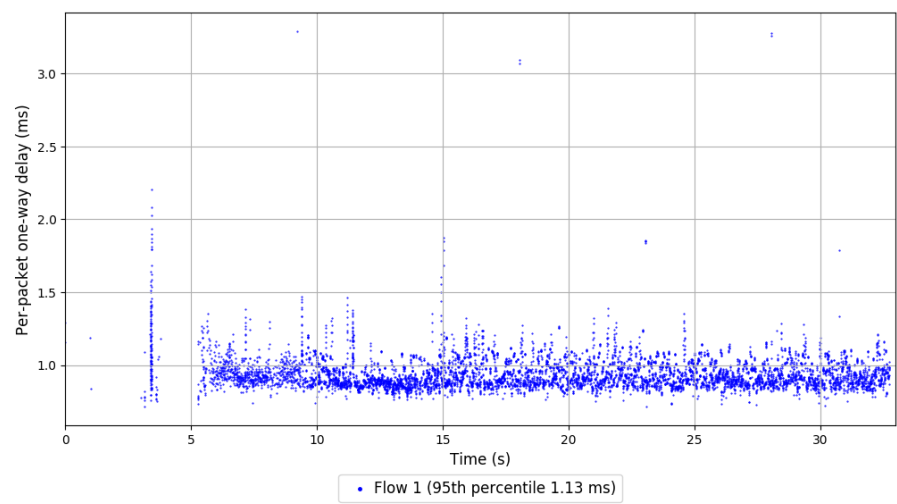
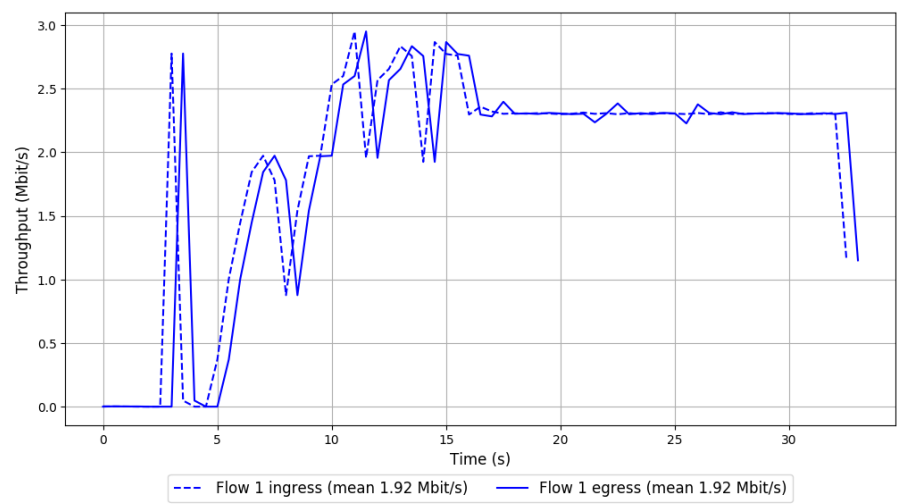


Run 3: Statistics of WebRTC media

Start at: 2018-11-02 19:04:01
End at: 2018-11-02 19:04:31
Local clock offset: 5.67 ms
Remote clock offset: -4.472 ms

Below is generated by plot.py at 2018-11-02 20:57:43
Datalink statistics
-- Total of 1 flow:
Average throughput: 1.92 Mbit/s
95th percentile per-packet one-way delay: 1.133 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 1.92 Mbit/s
95th percentile per-packet one-way delay: 1.133 ms
Loss rate: 0.00%

Run 3: Report of WebRTC media — Data Link

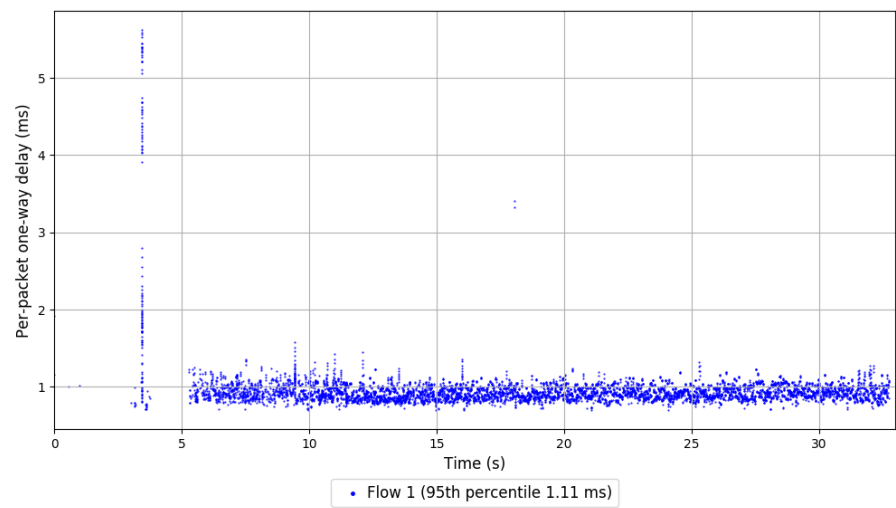
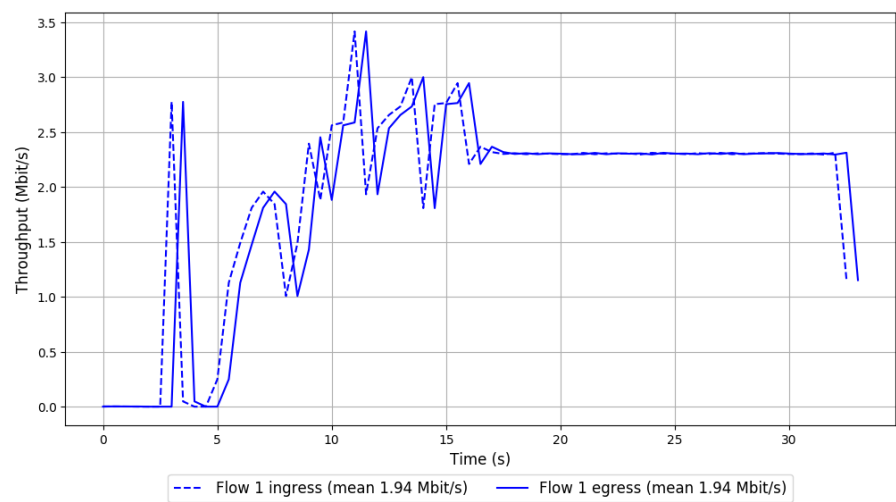


Run 4: Statistics of WebRTC media

Start at: 2018-11-02 19:30:03
End at: 2018-11-02 19:30:33
Local clock offset: 5.349 ms
Remote clock offset: -5.938 ms

Below is generated by plot.py at 2018-11-02 20:57:43
Datalink statistics
-- Total of 1 flow:
Average throughput: 1.94 Mbit/s
95th percentile per-packet one-way delay: 1.112 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 1.94 Mbit/s
95th percentile per-packet one-way delay: 1.112 ms
Loss rate: 0.01%

Run 4: Report of WebRTC media — Data Link



Run 5: Statistics of WebRTC media

Start at: 2018-11-02 19:56:13
End at: 2018-11-02 19:56:43
Local clock offset: 5.05 ms
Remote clock offset: -0.766 ms

Below is generated by plot.py at 2018-11-02 20:57:43
Datalink statistics
-- Total of 1 flow:
Average throughput: 1.93 Mbit/s
95th percentile per-packet one-way delay: 1.000 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 1.93 Mbit/s
95th percentile per-packet one-way delay: 1.000 ms
Loss rate: 0.00%

Run 5: Report of WebRTC media — Data Link

