

Pantheon Report

Generated at 2017-11-20 23:20:46 (UTC).

Data path: AWS Brazil 2 Ethernet (*local*) → Colombia ppp0 (*remote*).

Repeated the test of 14 congestion control schemes 3 times.

Each test lasted for 30 seconds running 1 flow.

Increased UDP receive buffer to 16 MB (default) and 32 MB (max).

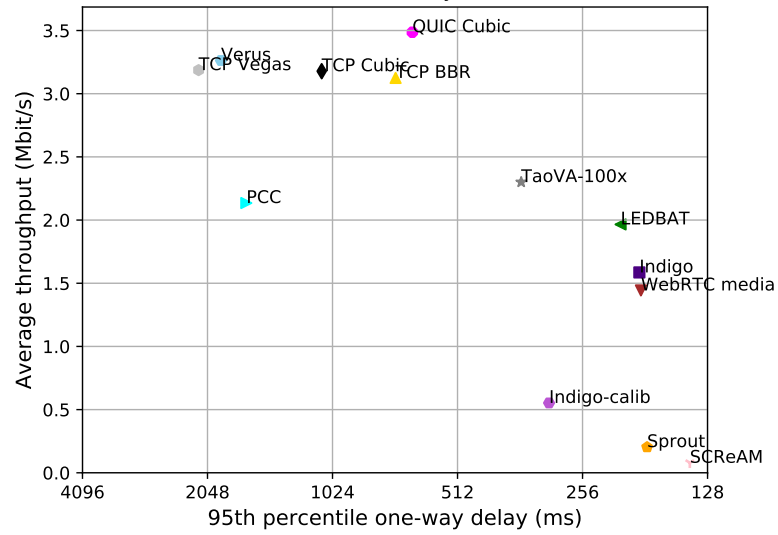
Tested BBR with qdisc of Fair Queuing (**fq**), and other schemes with the default Linux qdisc (**pfifo_fast**).

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

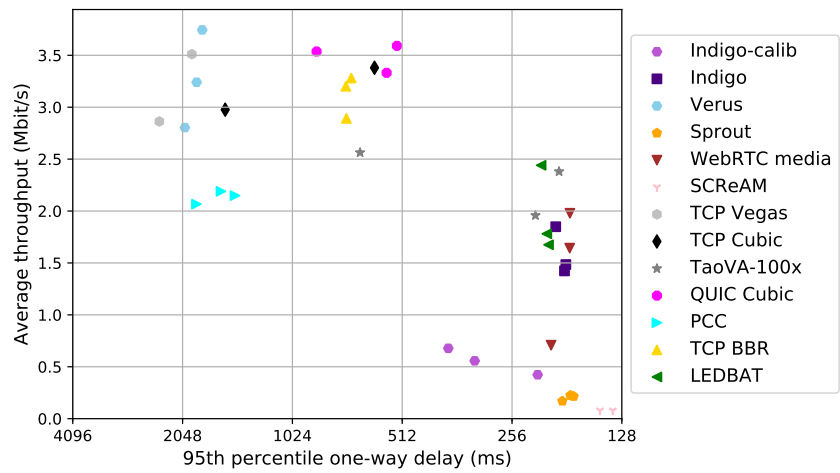
Git summary:

```
branch: indigos @ e3a57ad5ac5cfcaca0e3f983c8dd4cc3509e0262
third_party/calibrated_koho @ 3cb73c0d1c0322cdfae446ea37a522e53227db50
  M datagrump/sender.cc
third_party/genericCC @ b5b7c38e8391001927dc41c6cfa2627d03dde737
third_party/indigo @ b19f3730105f9aa95452552af924e3719b03cc55
third_party/indigo-cellular @ aee99e8eb842cb053f8c9a80e28cd256a930bbc2
third_party/indigo-no-calib @ 7224f2202e8a044d8306fa0b983ad84360c53d89
third_party/indigo-no-cwnd @ 3e58442c04028a11d7b02456e137604633ba2d6c
third_party/indigo-no-delivery-rate @ 57caa40858b964906edff4876d5a7e5bfff666c5
third_party/indigo-no-queuing-delay @ 03455460fd1a8ffbdad86fab936fdca204b80db
third_party/indigo-no-send-rate @ b39dfa6b2c5f19cb7cd89626cb4f5bb81f9fecda
third_party/koho_cc @ f0f2e693303aee82ea808e6928eac4f1083a6681
  M datagrump/sender.cc
third_party/libutp @ b3465b942e2826f2b179eaab4a906ce6bb7cf3cf
third_party/pantheon-tunnel @ baf443516dea3eeddeccaf9b916cc313273ca4f4
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/proto-quic @ 77961f1a82733a86b42f1bc8143ebc978f3cff42
third_party/scream @ c3370fd7bd17265a79aeb34e4016ad23f5965885
third_party/sourdough @ f1a14bffe749737437f61b1eaaeb30b267cde681
third_party/sprout @ 6f2efe6e088d91066a9f023df375eee2665089ce
  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/webrtc @ a488197ddd041ace68a42849b2540ad834825f42
```

test from AWS Brazil 2 Ethernet to Colombia ppp0, 3 runs of 30s each per scheme
(mean of all runs by scheme)



test from AWS Brazil 2 Ethernet to Colombia ppp0, 3 runs of 30s each per scheme



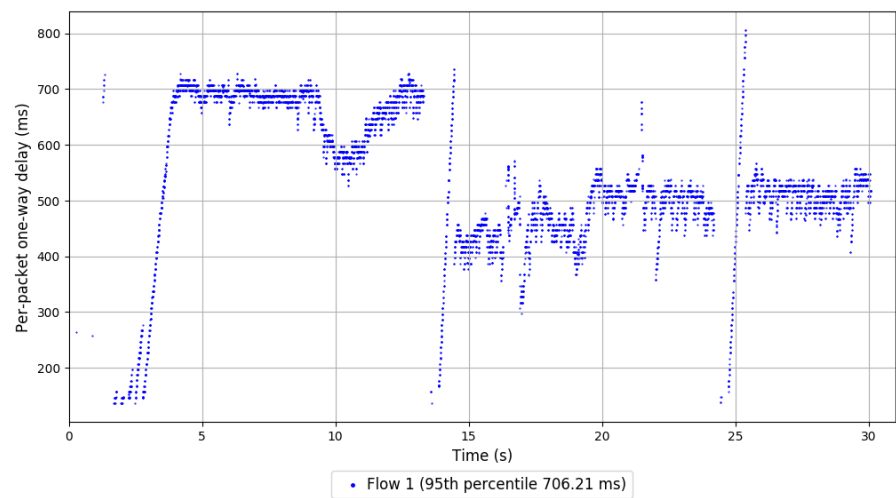
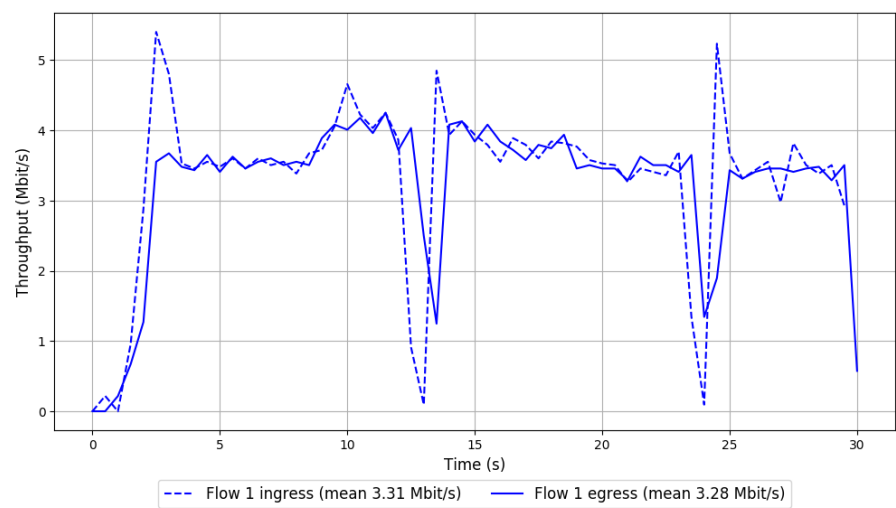
scheme	# runs	mean avg tput (Mbit/s) flow 1	mean 95th-%ile delay (ms) flow 1	mean loss rate (%) flow 1
TCP BBR	3	3.12	721.70	1.30
TCP Cubic	2	3.18	1087.36	4.41
LEDBAT	3	1.96	207.35	0.44
PCC	3	2.14	1651.12	41.38
QUIC Cubic	3	3.49	657.77	2.28
SCReAM	2	0.08	141.22	0.33
WebRTC media	3	1.44	185.20	0.37
Sprout	3	0.20	179.00	0.39
TaoVA-100x	3	2.30	359.72	0.38
TCP Vegas	2	3.18	2151.55	9.00
Verus	3	3.26	1900.73	2.78
Copa	0	N/A	N/A	N/A
Indigo	3	1.58	186.81	0.32
Indigo-calib	3	0.55	308.22	0.07

Run 1: Statistics of TCP BBR

Start at: 2017-11-20 22:42:15
End at: 2017-11-20 22:42:46
Local clock offset: -0.029 ms
Remote clock offset: 10.986 ms

Below is generated by plot.py at 2017-11-20 23:20:18
Datalink statistics
-- Total of 1 flow:
Average throughput: 3.28 Mbit/s
95th percentile per-packet one-way delay: 706.207 ms
Loss rate: 1.36%
-- Flow 1:
Average throughput: 3.28 Mbit/s
95th percentile per-packet one-way delay: 706.207 ms
Loss rate: 1.36%

Run 1: Report of TCP BBR — Data Link

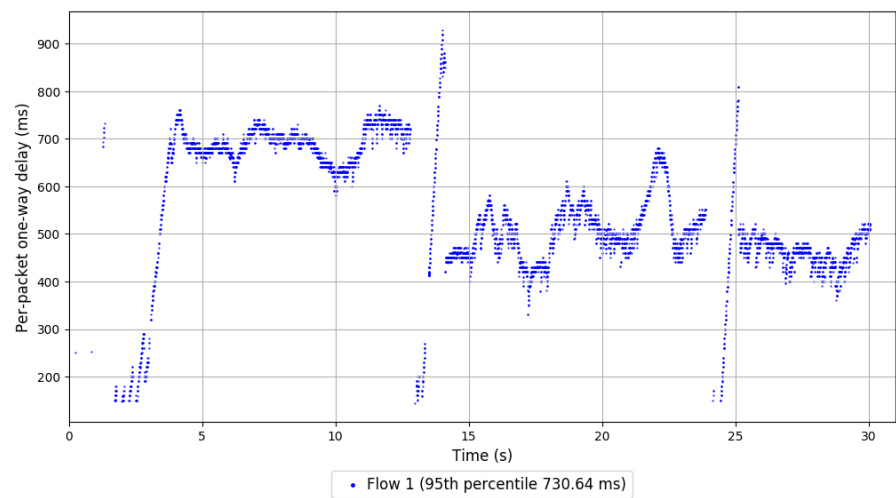
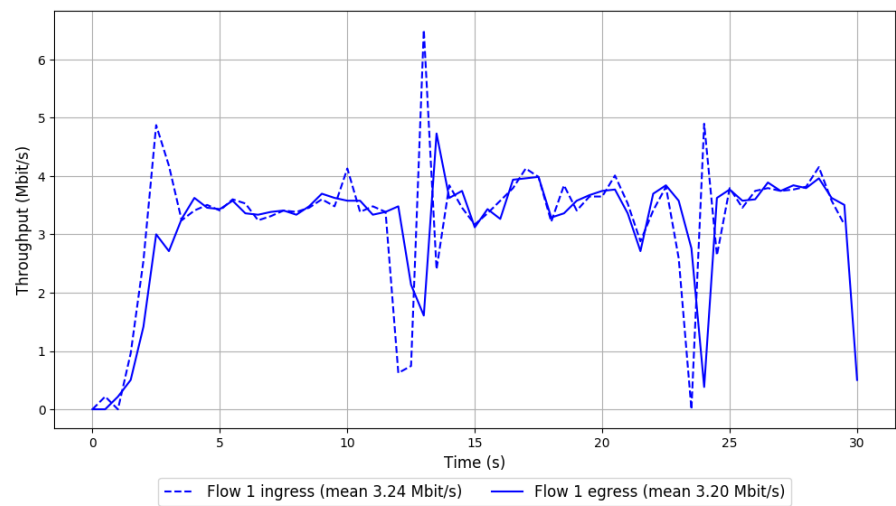


Run 2: Statistics of TCP BBR

Start at: 2017-11-20 22:58:43
End at: 2017-11-20 22:59:13
Local clock offset: -0.016 ms
Remote clock offset: 15.898 ms

Below is generated by plot.py at 2017-11-20 23:20:18
Datalink statistics
-- Total of 1 flow:
Average throughput: 3.20 Mbit/s
95th percentile per-packet one-way delay: 730.643 ms
Loss rate: 1.52%
-- Flow 1:
Average throughput: 3.20 Mbit/s
95th percentile per-packet one-way delay: 730.643 ms
Loss rate: 1.52%

Run 2: Report of TCP BBR — Data Link

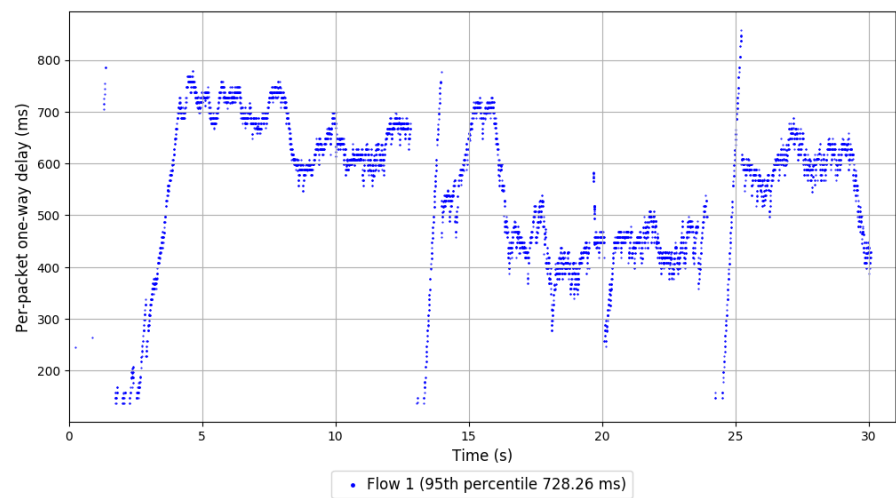
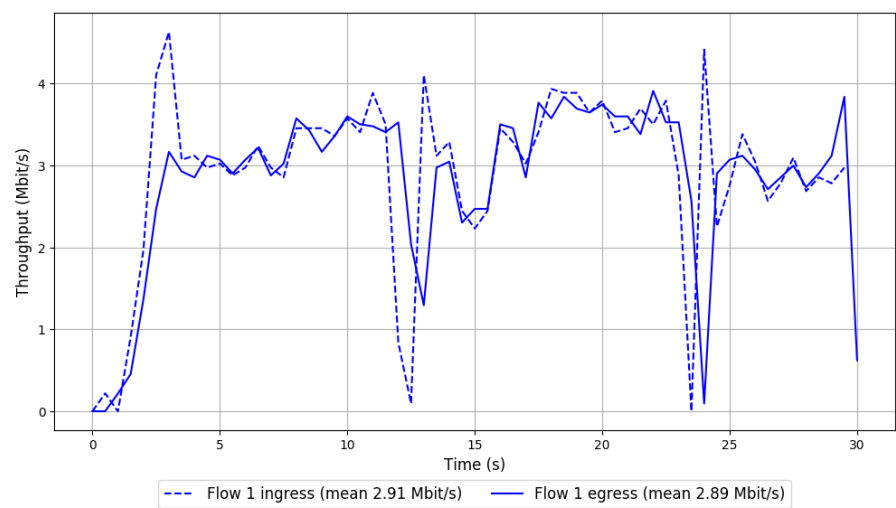


Run 3: Statistics of TCP BBR

Start at: 2017-11-20 23:15:21
End at: 2017-11-20 23:15:51
Local clock offset: -0.137 ms
Remote clock offset: 10.898 ms

Below is generated by plot.py at 2017-11-20 23:20:18
Datalink statistics
-- Total of 1 flow:
Average throughput: 2.89 Mbit/s
95th percentile per-packet one-way delay: 728.262 ms
Loss rate: 1.01%
-- Flow 1:
Average throughput: 2.89 Mbit/s
95th percentile per-packet one-way delay: 728.262 ms
Loss rate: 1.01%

Run 3: Report of TCP BBR — Data Link

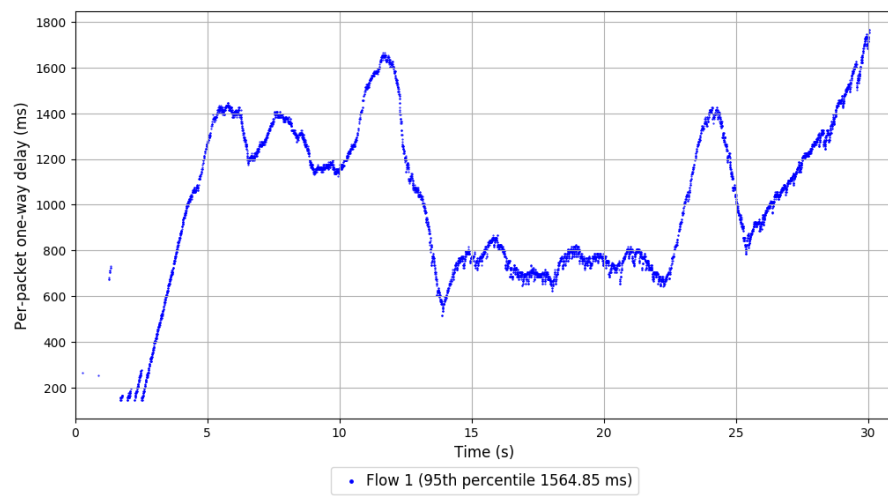
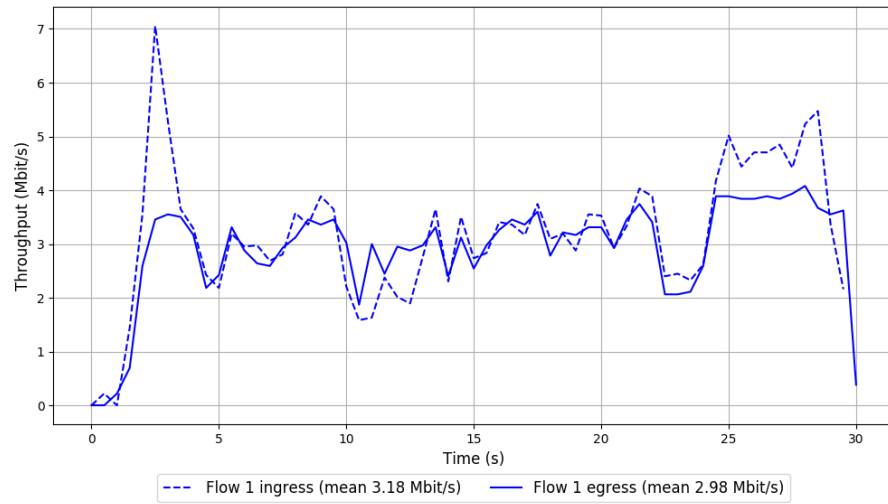


Run 1: Statistics of TCP Cubic

Start at: 2017-11-20 22:39:54
End at: 2017-11-20 22:40:24
Local clock offset: -0.128 ms
Remote clock offset: 11.695 ms

Below is generated by plot.py at 2017-11-20 23:20:18
Datalink statistics
-- Total of 1 flow:
Average throughput: 2.98 Mbit/s
95th percentile per-packet one-way delay: 1564.849 ms
Loss rate: 6.73%
-- Flow 1:
Average throughput: 2.98 Mbit/s
95th percentile per-packet one-way delay: 1564.849 ms
Loss rate: 6.73%

Run 1: Report of TCP Cubic — Data Link



Run 2: Statistics of TCP Cubic

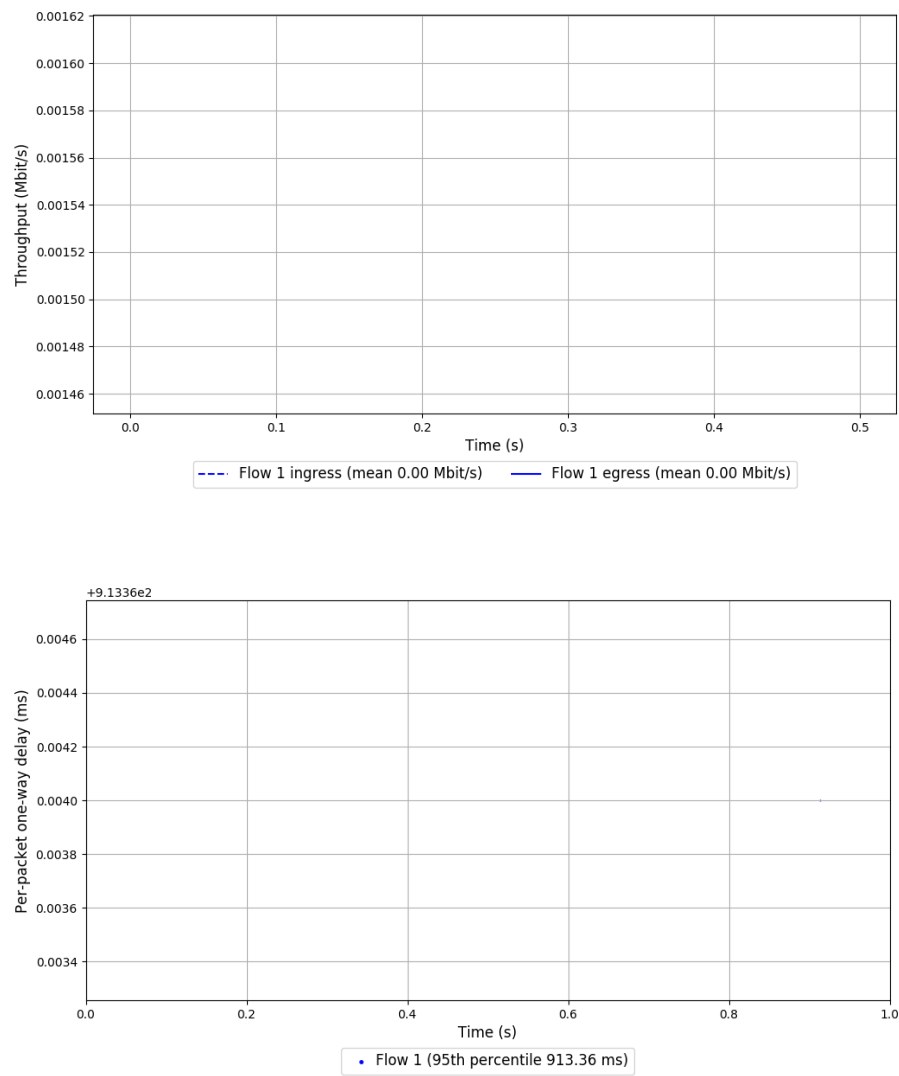
Start at: 2017-11-20 22:56:22

End at: 2017-11-20 22:56:52

Local clock offset: -0.05 ms

Remote clock offset: 9.997 ms

Run 2: Report of TCP Cubic — Data Link

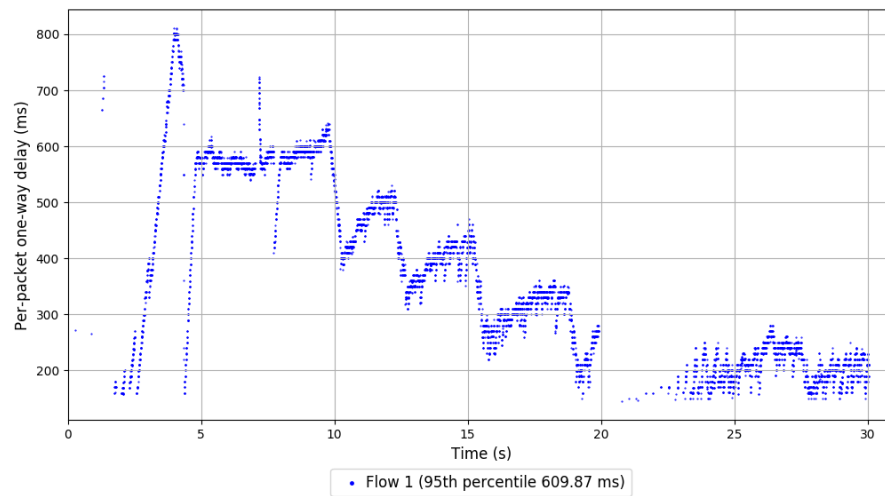
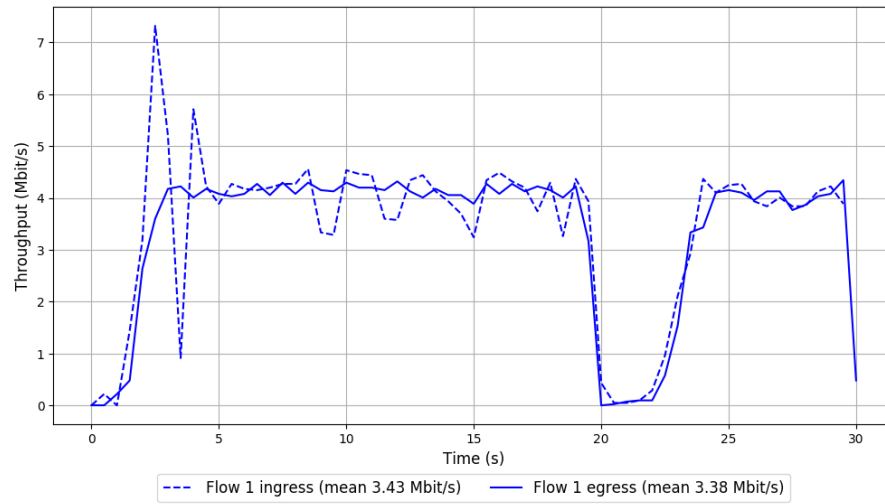


Run 3: Statistics of TCP Cubic

Start at: 2017-11-20 23:13:00
End at: 2017-11-20 23:13:30
Local clock offset: -0.226 ms
Remote clock offset: 15.707 ms

Below is generated by plot.py at 2017-11-20 23:20:19
Datalink statistics
-- Total of 1 flow:
Average throughput: 3.38 Mbit/s
95th percentile per-packet one-way delay: 609.869 ms
Loss rate: 2.09%
-- Flow 1:
Average throughput: 3.38 Mbit/s
95th percentile per-packet one-way delay: 609.869 ms
Loss rate: 2.09%

Run 3: Report of TCP Cubic — Data Link

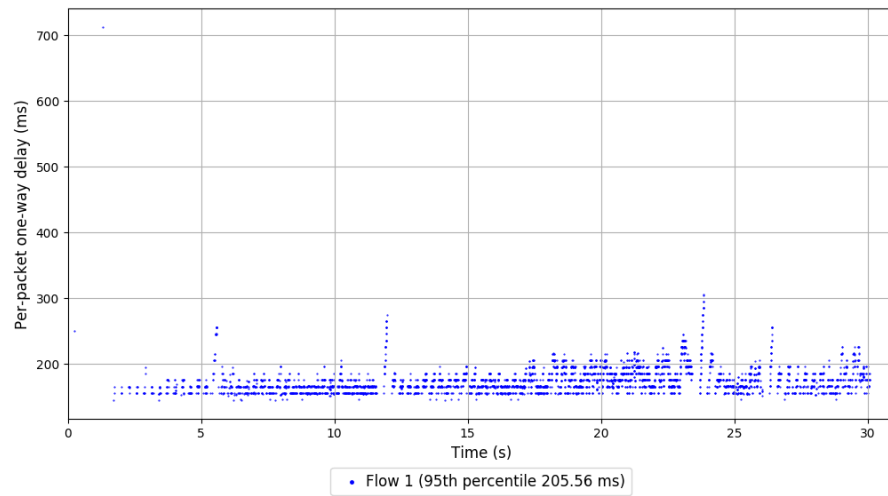
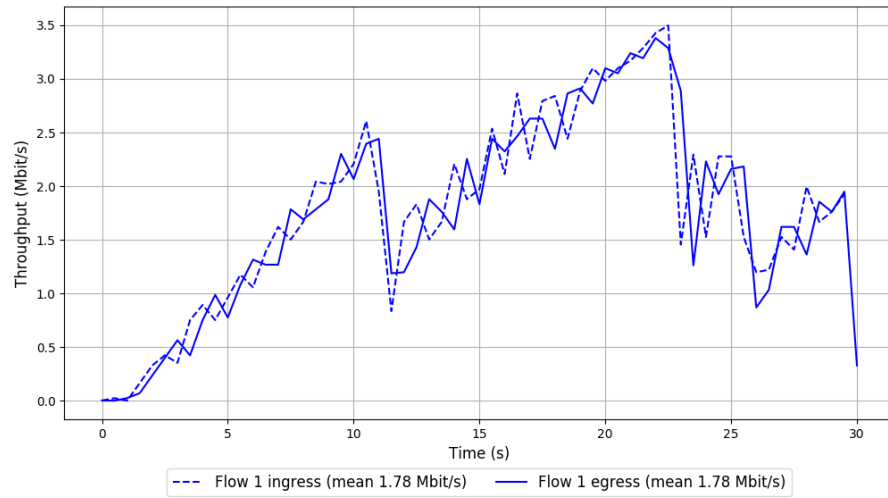


Run 1: Statistics of LEDBAT

Start at: 2017-11-20 22:36:23
End at: 2017-11-20 22:36:53
Local clock offset: -0.099 ms
Remote clock offset: 16.363 ms

Below is generated by plot.py at 2017-11-20 23:20:19
Datalink statistics
-- Total of 1 flow:
Average throughput: 1.78 Mbit/s
95th percentile per-packet one-way delay: 205.564 ms
Loss rate: 0.48%
-- Flow 1:
Average throughput: 1.78 Mbit/s
95th percentile per-packet one-way delay: 205.564 ms
Loss rate: 0.48%

Run 1: Report of LEDBAT — Data Link

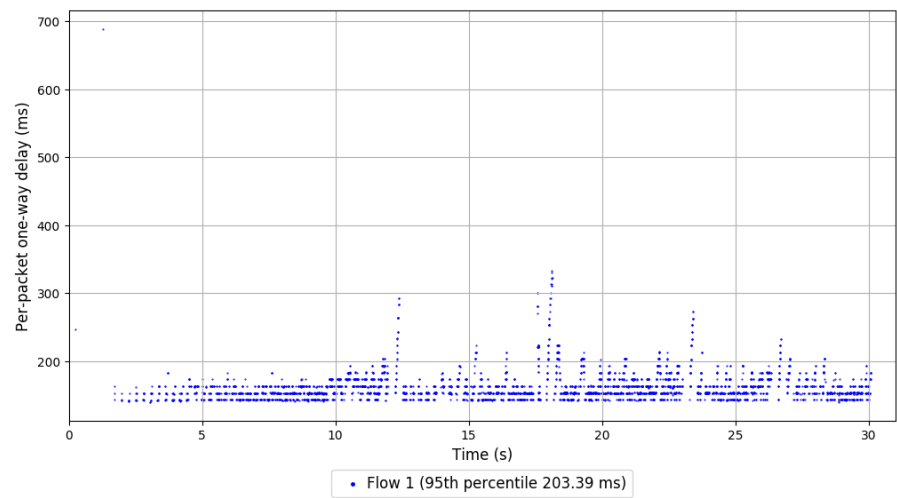
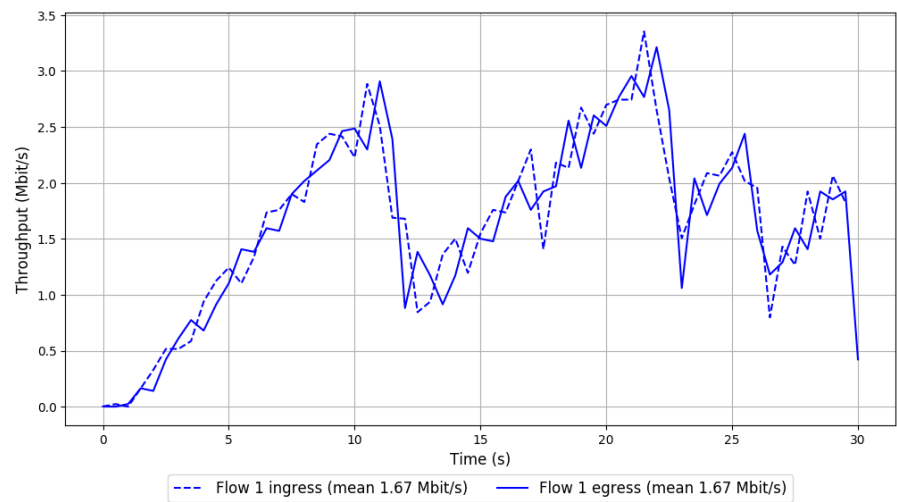


Run 2: Statistics of LEDBAT

Start at: 2017-11-20 22:52:50
End at: 2017-11-20 22:53:20
Local clock offset: -0.017 ms
Remote clock offset: 10.831 ms

Below is generated by plot.py at 2017-11-20 23:20:19
Datalink statistics
-- Total of 1 flow:
Average throughput: 1.67 Mbit/s
95th percentile per-packet one-way delay: 203.387 ms
Loss rate: 0.16%
-- Flow 1:
Average throughput: 1.67 Mbit/s
95th percentile per-packet one-way delay: 203.387 ms
Loss rate: 0.16%

Run 2: Report of LEDBAT — Data Link



Run 3: Statistics of LEDBAT

Start at: 2017-11-20 23:09:28

End at: 2017-11-20 23:09:58

Local clock offset: -0.108 ms

Remote clock offset: 5.113 ms

Below is generated by plot.py at 2017-11-20 23:20:19

Datalink statistics

-- Total of 1 flow:

Average throughput: 2.44 Mbit/s

95th percentile per-packet one-way delay: 213.092 ms

Loss rate: 0.69%

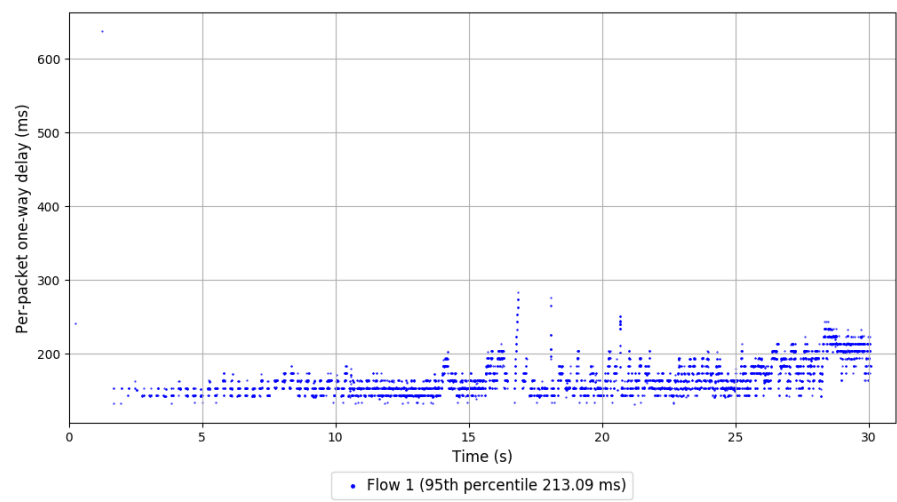
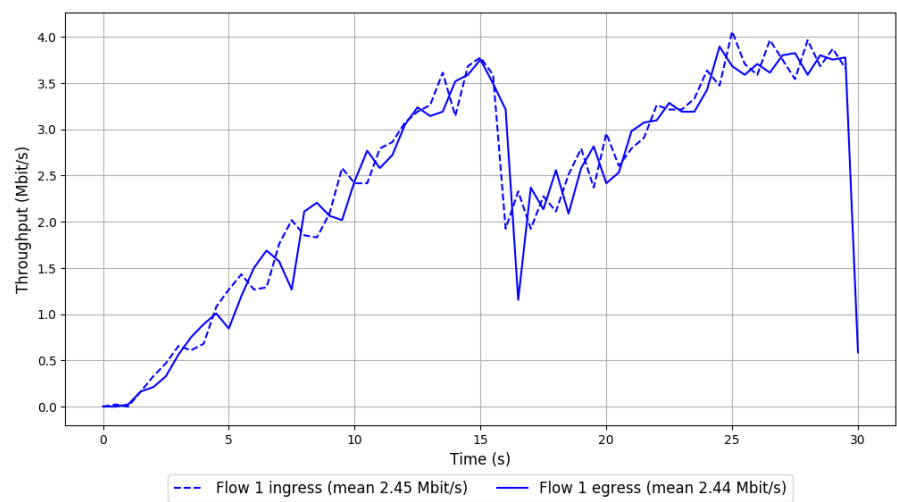
-- Flow 1:

Average throughput: 2.44 Mbit/s

95th percentile per-packet one-way delay: 213.092 ms

Loss rate: 0.69%

Run 3: Report of LEDBAT — Data Link

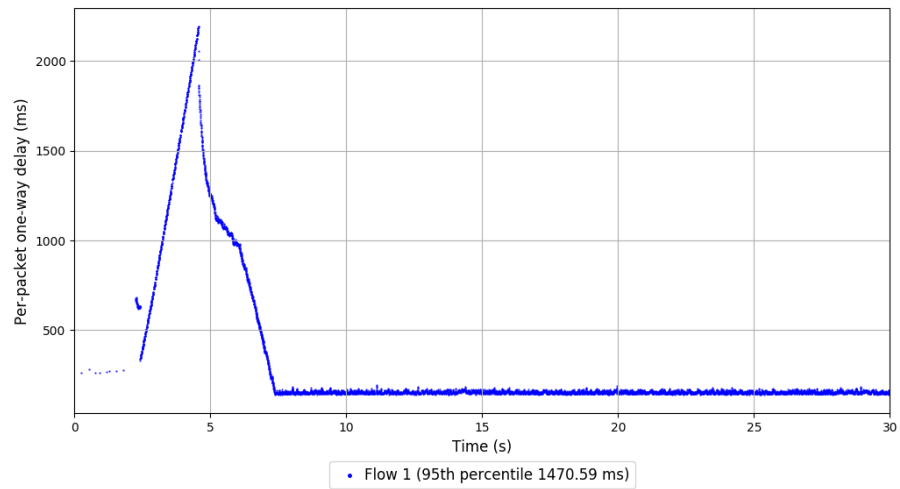
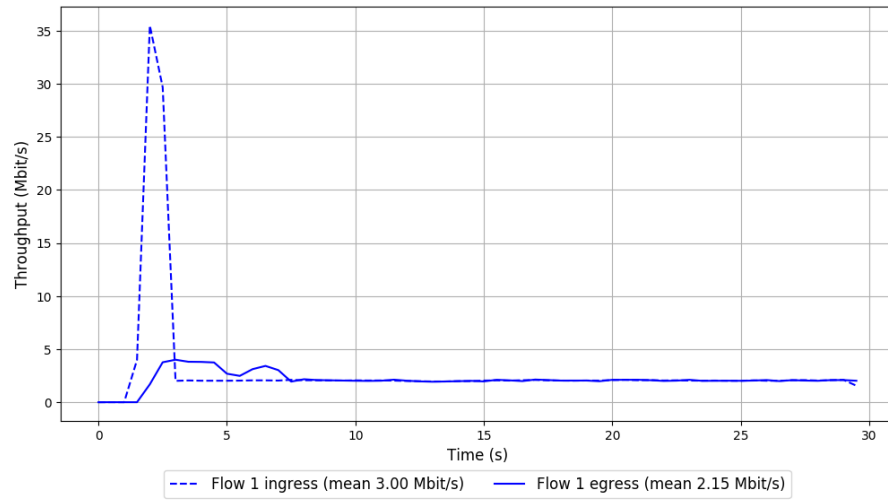


Run 1: Statistics of PCC

Start at: 2017-11-20 22:41:05
End at: 2017-11-20 22:41:35
Local clock offset: -0.066 ms
Remote clock offset: 15.531 ms

Below is generated by plot.py at 2017-11-20 23:20:21
Datalink statistics
-- Total of 1 flow:
Average throughput: 2.15 Mbit/s
95th percentile per-packet one-way delay: 1470.592 ms
Loss rate: 28.80%
-- Flow 1:
Average throughput: 2.15 Mbit/s
95th percentile per-packet one-way delay: 1470.592 ms
Loss rate: 28.80%

Run 1: Report of PCC — Data Link

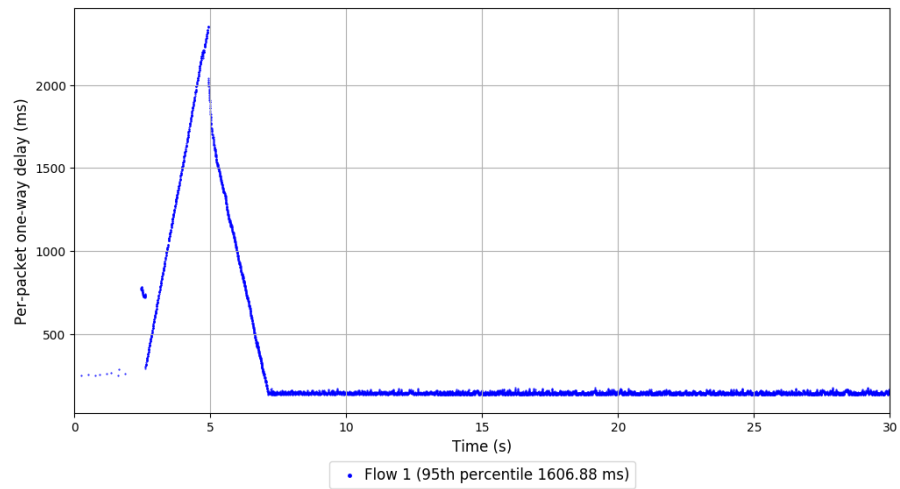
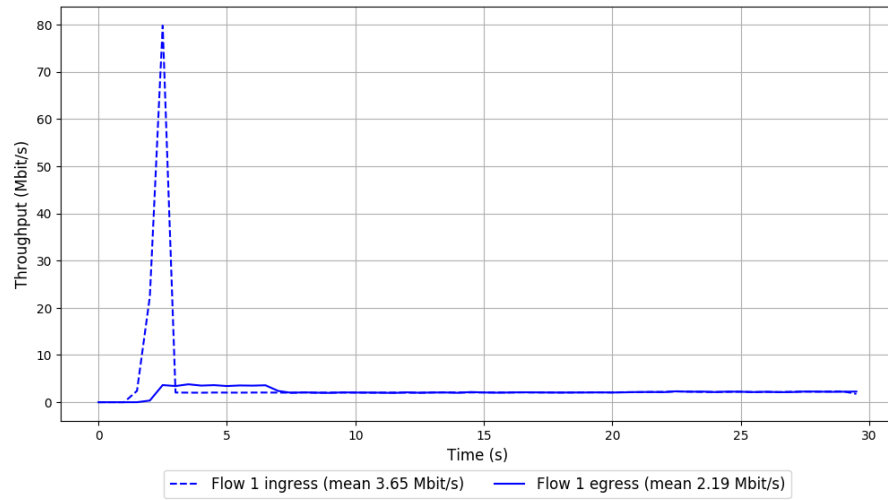


Run 2: Statistics of PCC

Start at: 2017-11-20 22:57:32
End at: 2017-11-20 22:58:02
Local clock offset: -0.003 ms
Remote clock offset: 10.985 ms

Below is generated by plot.py at 2017-11-20 23:20:22
Datalink statistics
-- Total of 1 flow:
Average throughput: 2.19 Mbit/s
95th percentile per-packet one-way delay: 1606.875 ms
Loss rate: 40.28%
-- Flow 1:
Average throughput: 2.19 Mbit/s
95th percentile per-packet one-way delay: 1606.875 ms
Loss rate: 40.28%

Run 2: Report of PCC — Data Link

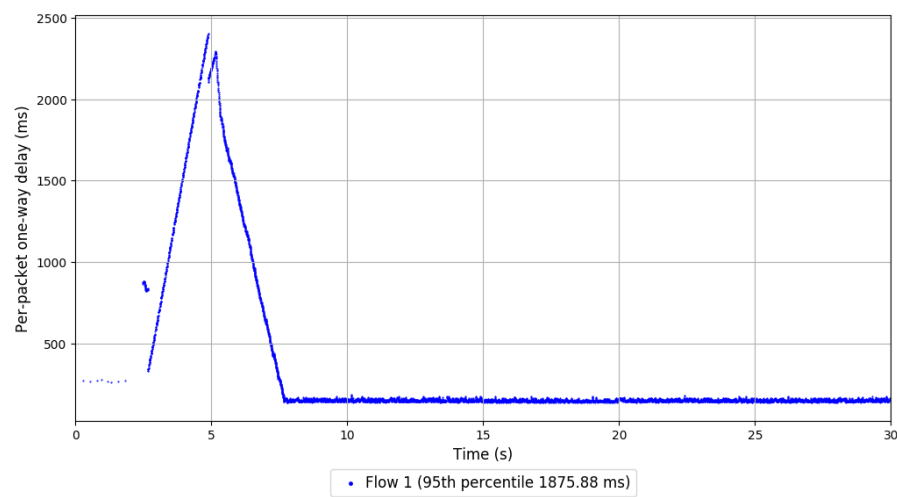
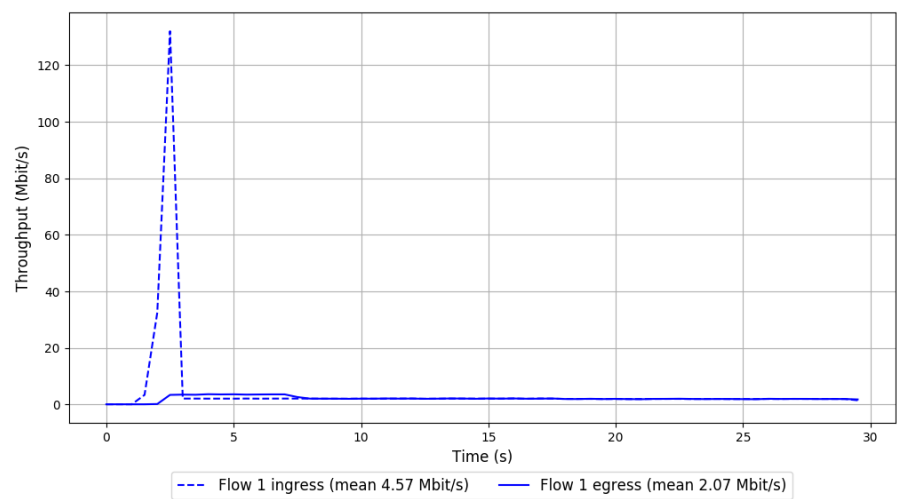


Run 3: Statistics of PCC

Start at: 2017-11-20 23:14:10
End at: 2017-11-20 23:14:40
Local clock offset: -0.206 ms
Remote clock offset: 10.309 ms

Below is generated by plot.py at 2017-11-20 23:20:26
Datalink statistics
-- Total of 1 flow:
Average throughput: 2.07 Mbit/s
95th percentile per-packet one-way delay: 1875.879 ms
Loss rate: 55.05%
-- Flow 1:
Average throughput: 2.07 Mbit/s
95th percentile per-packet one-way delay: 1875.879 ms
Loss rate: 55.05%

Run 3: Report of PCC — Data Link



Run 1: Statistics of QUIC Cubic

Start at: 2017-11-20 22:37:33

End at: 2017-11-20 22:38:03

Local clock offset: -0.138 ms

Remote clock offset: 11.363 ms

Below is generated by plot.py at 2017-11-20 23:20:28

Datalink statistics

-- Total of 1 flow:

Average throughput: 3.54 Mbit/s

95th percentile per-packet one-way delay: 878.996 ms

Loss rate: 2.89%

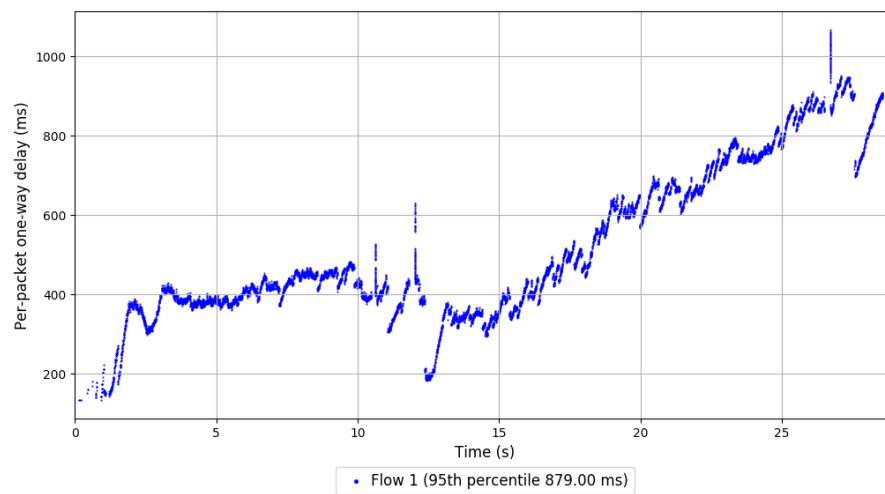
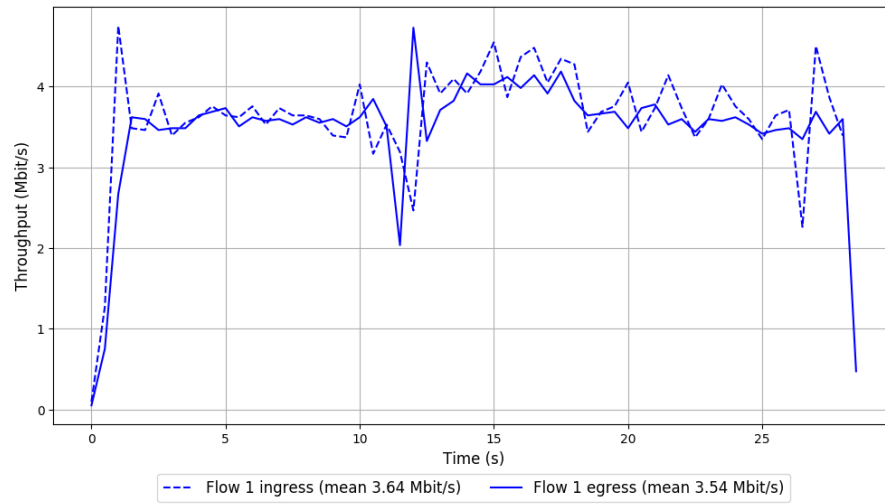
-- Flow 1:

Average throughput: 3.54 Mbit/s

95th percentile per-packet one-way delay: 878.996 ms

Loss rate: 2.89%

Run 1: Report of QUIC Cubic — Data Link



Run 2: Statistics of QUIC Cubic

Start at: 2017-11-20 22:54:01

End at: 2017-11-20 22:54:31

Local clock offset: 0.01 ms

Remote clock offset: 16.08 ms

Below is generated by plot.py at 2017-11-20 23:20:28

Datalink statistics

-- Total of 1 flow:

Average throughput: 3.33 Mbit/s

95th percentile per-packet one-way delay: 564.974 ms

Loss rate: 2.02%

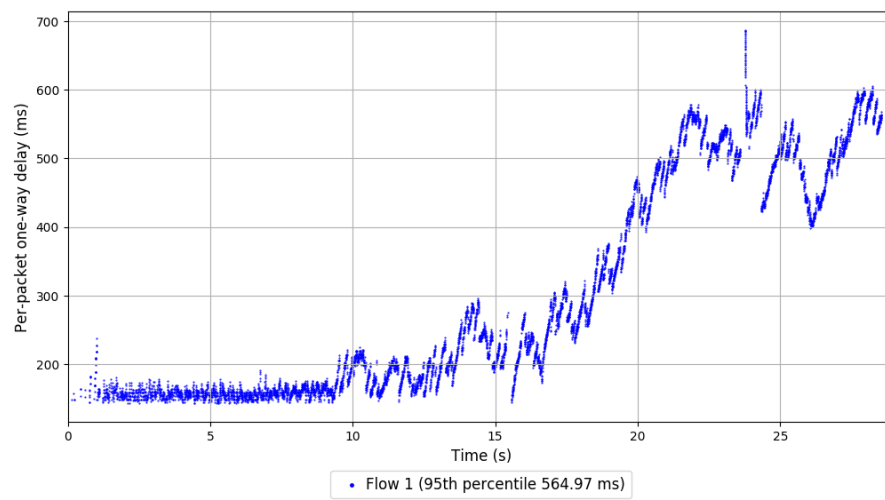
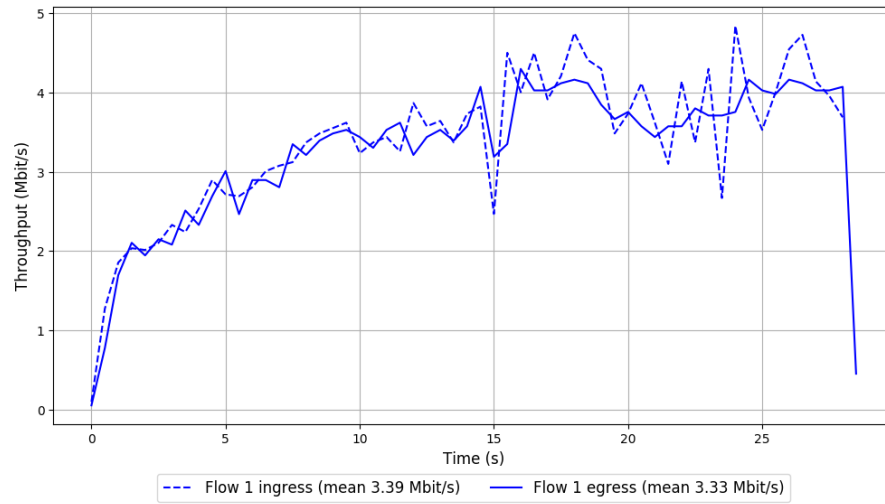
-- Flow 1:

Average throughput: 3.33 Mbit/s

95th percentile per-packet one-way delay: 564.974 ms

Loss rate: 2.02%

Run 2: Report of QUIC Cubic — Data Link

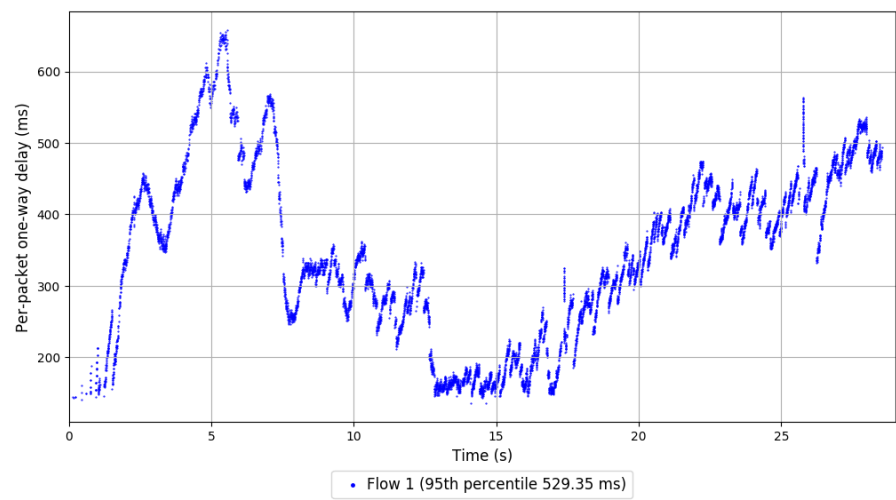
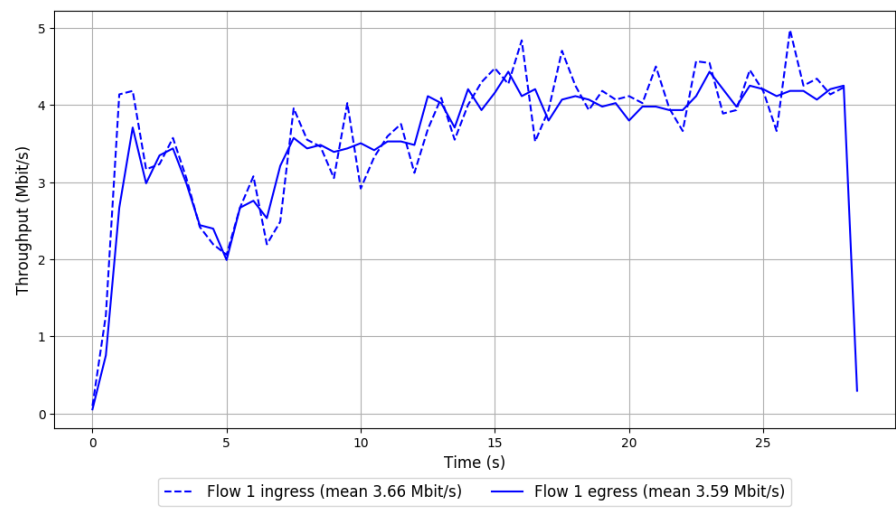


Run 3: Statistics of QUIC Cubic

Start at: 2017-11-20 23:10:39
End at: 2017-11-20 23:11:09
Local clock offset: -0.196 ms
Remote clock offset: 14.331 ms

Below is generated by plot.py at 2017-11-20 23:20:29
Datalink statistics
-- Total of 1 flow:
Average throughput: 3.59 Mbit/s
95th percentile per-packet one-way delay: 529.351 ms
Loss rate: 1.94%
-- Flow 1:
Average throughput: 3.59 Mbit/s
95th percentile per-packet one-way delay: 529.351 ms
Loss rate: 1.94%

Run 3: Report of QUIC Cubic — Data Link



Run 1: Statistics of SCReAM

Start at: 2017-11-20 22:38:44

End at: 2017-11-20 22:39:14

Local clock offset: -0.079 ms

Remote clock offset: 16.619 ms

Run 1: Report of SReAM — Data Link

Figure is missing

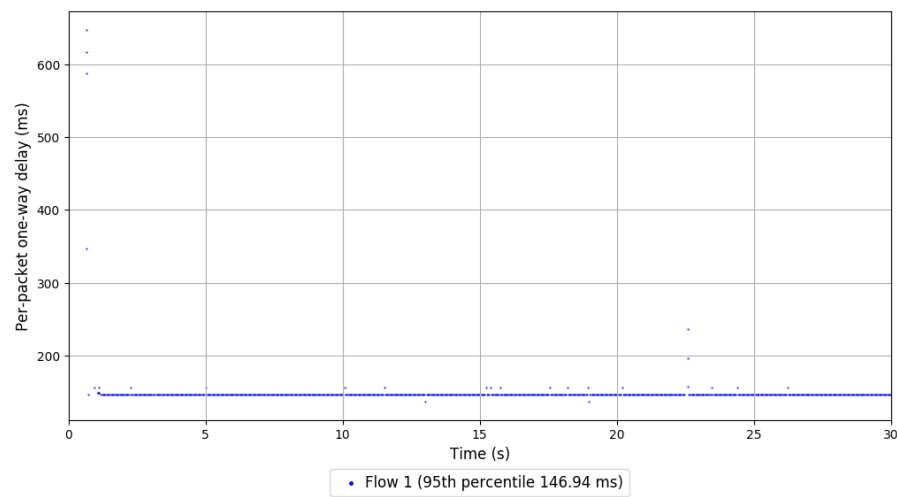
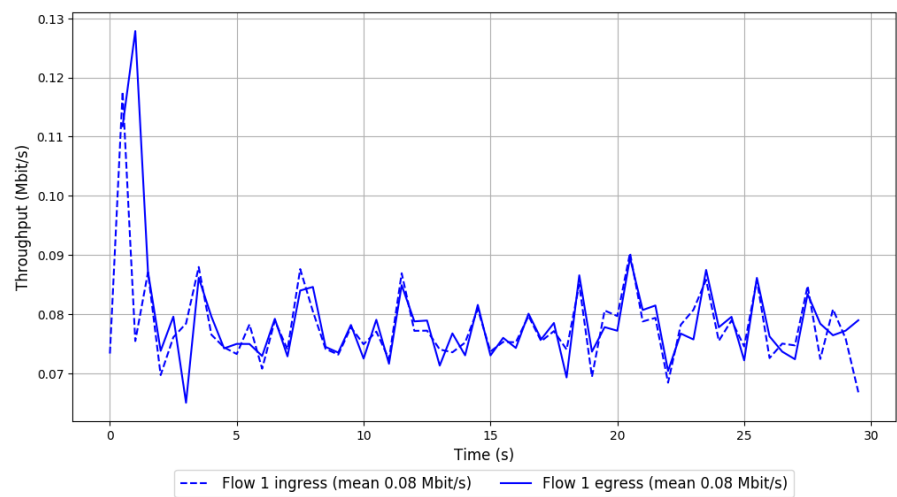
Figure is missing

Run 2: Statistics of SCReAM

Start at: 2017-11-20 22:55:12
End at: 2017-11-20 22:55:42
Local clock offset: -0.026 ms
Remote clock offset: 14.958 ms

Below is generated by plot.py at 2017-11-20 23:20:29
Datalink statistics
-- Total of 1 flow:
Average throughput: 0.08 Mbit/s
95th percentile per-packet one-way delay: 146.943 ms
Loss rate: 0.41%
-- Flow 1:
Average throughput: 0.08 Mbit/s
95th percentile per-packet one-way delay: 146.943 ms
Loss rate: 0.41%

Run 2: Report of SReAM — Data Link

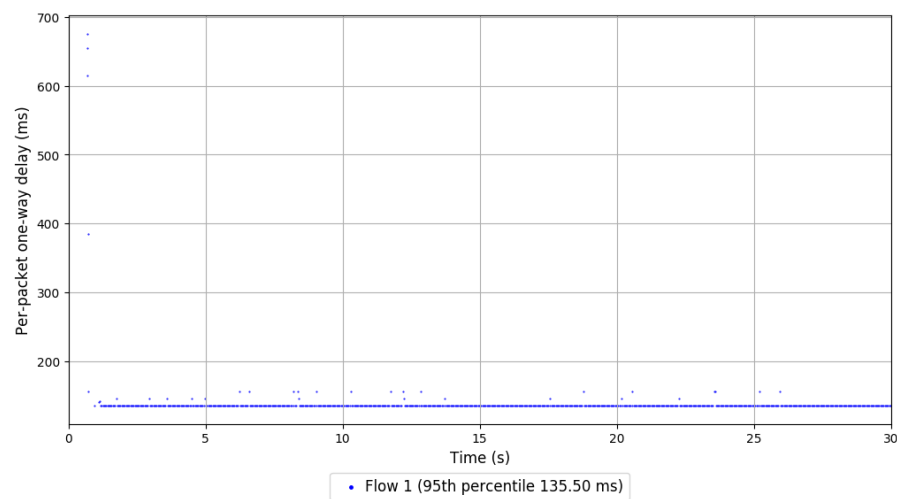
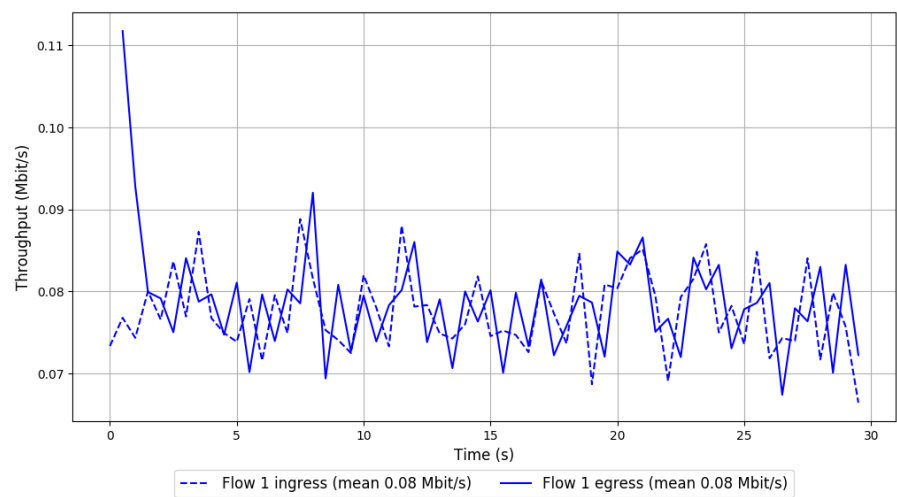


Run 3: Statistics of SCReAM

Start at: 2017-11-20 23:11:49
End at: 2017-11-20 23:12:19
Local clock offset: -0.135 ms
Remote clock offset: 11.044 ms

Below is generated by plot.py at 2017-11-20 23:20:29
Datalink statistics
-- Total of 1 flow:
Average throughput: 0.08 Mbit/s
95th percentile per-packet one-way delay: 135.500 ms
Loss rate: 0.26%
-- Flow 1:
Average throughput: 0.08 Mbit/s
95th percentile per-packet one-way delay: 135.500 ms
Loss rate: 0.26%

Run 3: Report of SCReAM — Data Link

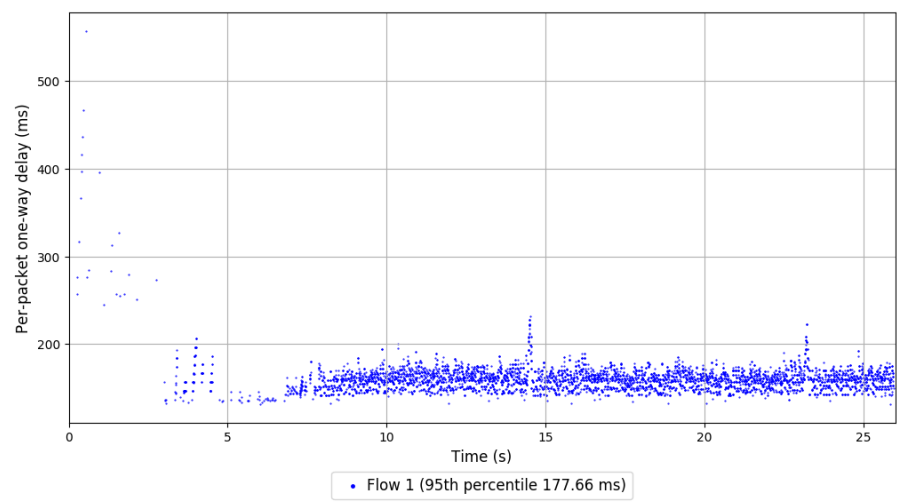
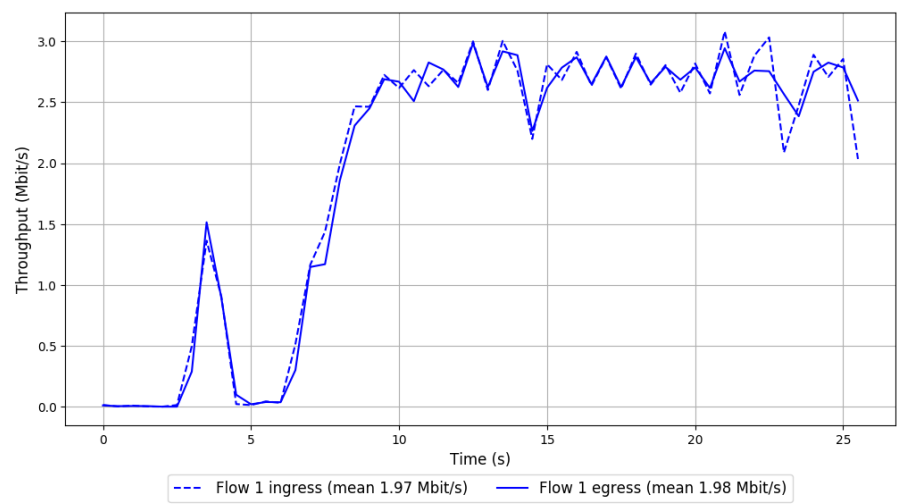


Run 1: Statistics of WebRTC media

Start at: 2017-11-20 22:32:51
End at: 2017-11-20 22:33:21
Local clock offset: -0.176 ms
Remote clock offset: 11.873 ms

Below is generated by plot.py at 2017-11-20 23:20:29
Datalink statistics
-- Total of 1 flow:
Average throughput: 1.98 Mbit/s
95th percentile per-packet one-way delay: 177.665 ms
Loss rate: 0.42%
-- Flow 1:
Average throughput: 1.98 Mbit/s
95th percentile per-packet one-way delay: 177.665 ms
Loss rate: 0.42%

Run 1: Report of WebRTC media — Data Link

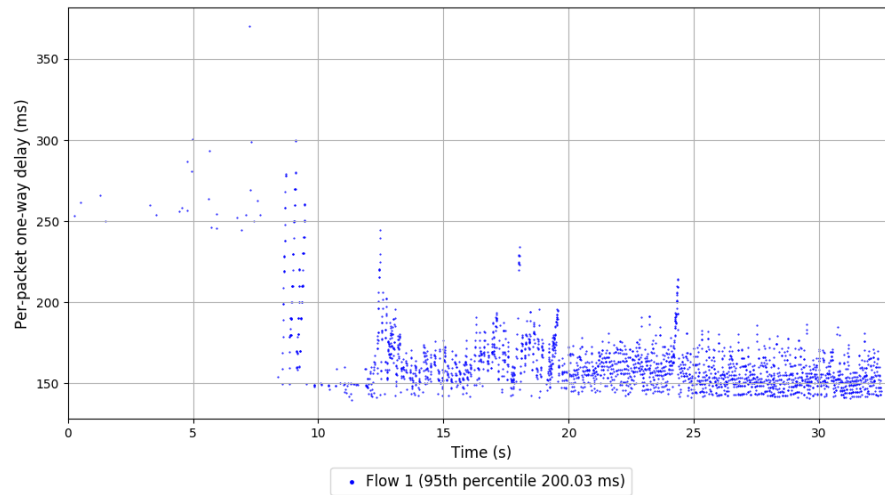
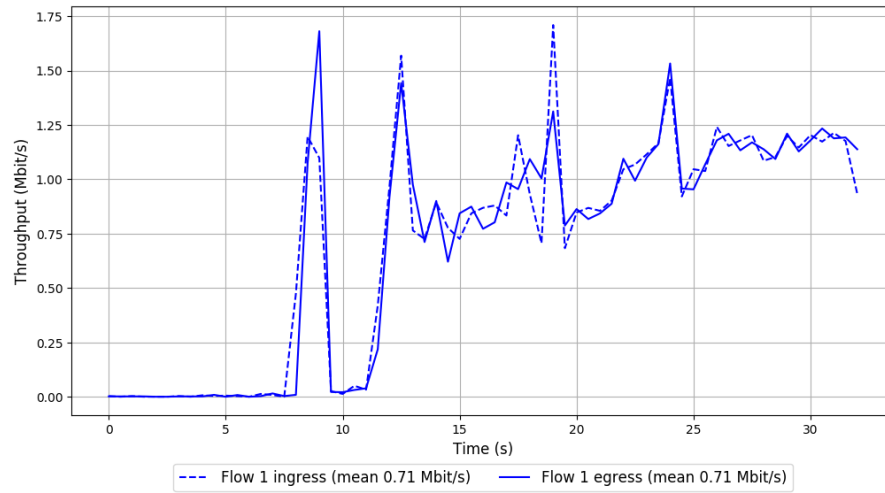


Run 2: Statistics of WebRTC media

Start at: 2017-11-20 22:49:19
End at: 2017-11-20 22:49:49
Local clock offset: 0.004 ms
Remote clock offset: 11.335 ms

Below is generated by plot.py at 2017-11-20 23:20:29
Datalink statistics
-- Total of 1 flow:
Average throughput: 0.71 Mbit/s
95th percentile per-packet one-way delay: 200.026 ms
Loss rate: 0.39%
-- Flow 1:
Average throughput: 0.71 Mbit/s
95th percentile per-packet one-way delay: 200.026 ms
Loss rate: 0.39%

Run 2: Report of WebRTC media — Data Link

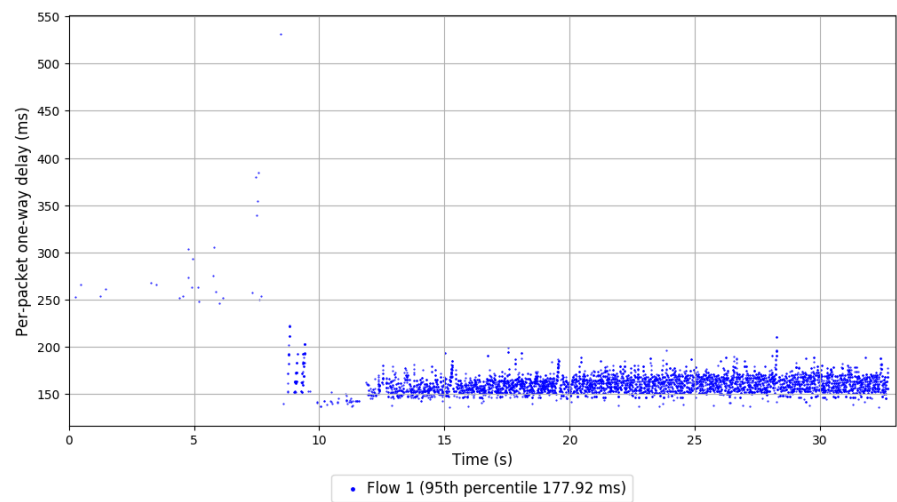
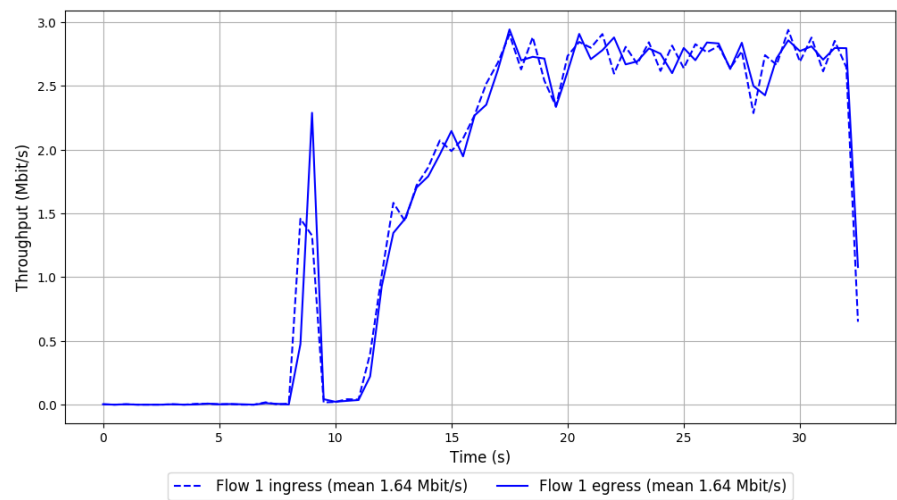


Run 3: Statistics of WebRTC media

Start at: 2017-11-20 23:05:57
End at: 2017-11-20 23:06:27
Local clock offset: -0.096 ms
Remote clock offset: 15.444 ms

Below is generated by plot.py at 2017-11-20 23:20:29
Datalink statistics
-- Total of 1 flow:
Average throughput: 1.64 Mbit/s
95th percentile per-packet one-way delay: 177.920 ms
Loss rate: 0.31%
-- Flow 1:
Average throughput: 1.64 Mbit/s
95th percentile per-packet one-way delay: 177.920 ms
Loss rate: 0.31%

Run 3: Report of WebRTC media — Data Link

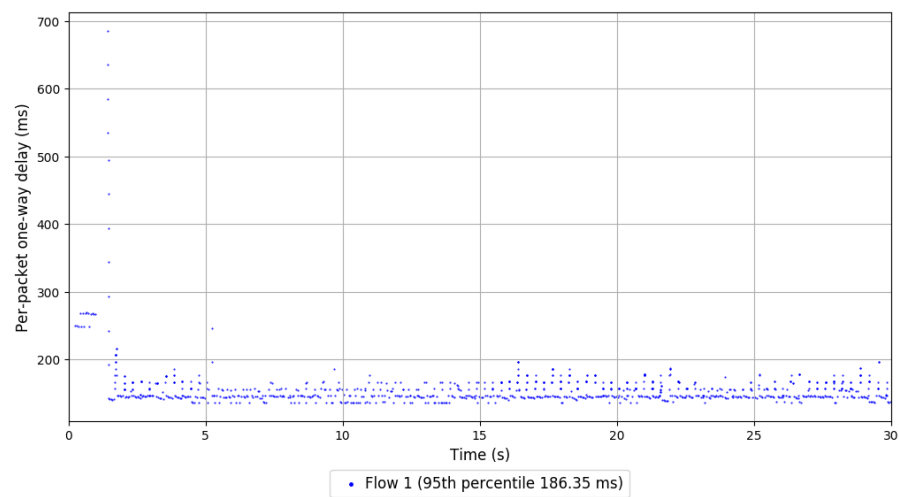
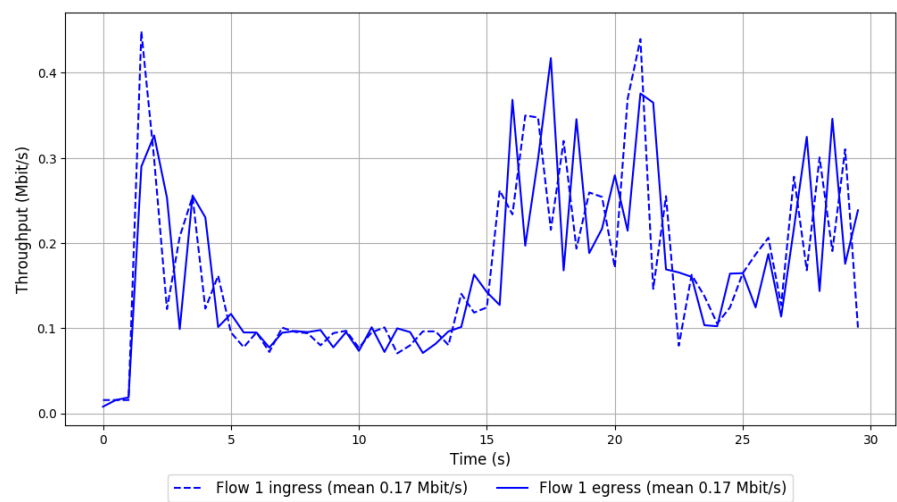


Run 1: Statistics of Sprout

Start at: 2017-11-20 22:31:41
End at: 2017-11-20 22:32:11
Local clock offset: -0.174 ms
Remote clock offset: 16.676 ms

Below is generated by plot.py at 2017-11-20 23:20:29
Datalink statistics
-- Total of 1 flow:
Average throughput: 0.17 Mbit/s
95th percentile per-packet one-way delay: 186.354 ms
Loss rate: 0.03%
-- Flow 1:
Average throughput: 0.17 Mbit/s
95th percentile per-packet one-way delay: 186.354 ms
Loss rate: 0.03%

Run 1: Report of Sprout — Data Link

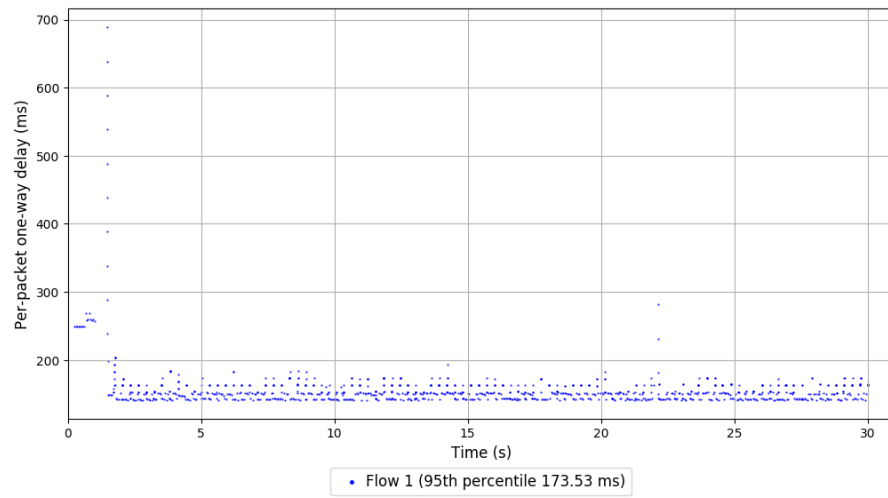
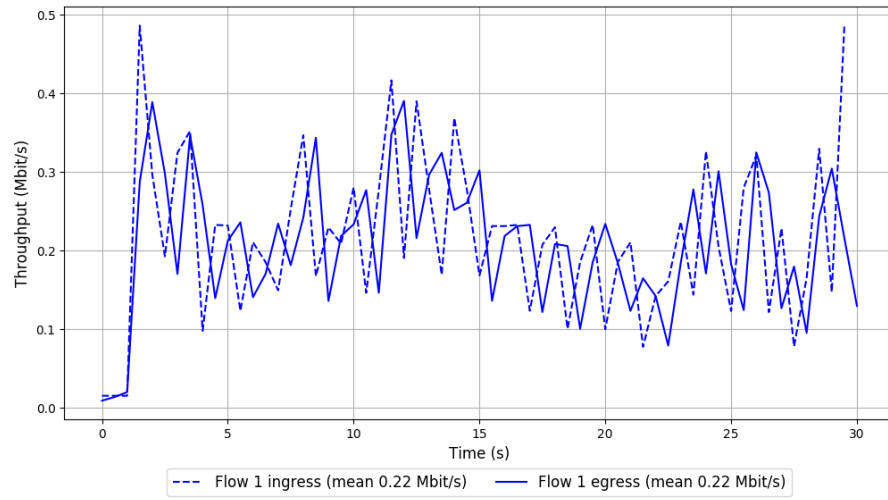


Run 2: Statistics of Sprout

Start at: 2017-11-20 22:48:09
End at: 2017-11-20 22:48:39
Local clock offset: 0.027 ms
Remote clock offset: 16.789 ms

Below is generated by plot.py at 2017-11-20 23:20:29
Datalink statistics
-- Total of 1 flow:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 173.529 ms
Loss rate: 1.12%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 173.529 ms
Loss rate: 1.12%

Run 2: Report of Sprout — Data Link

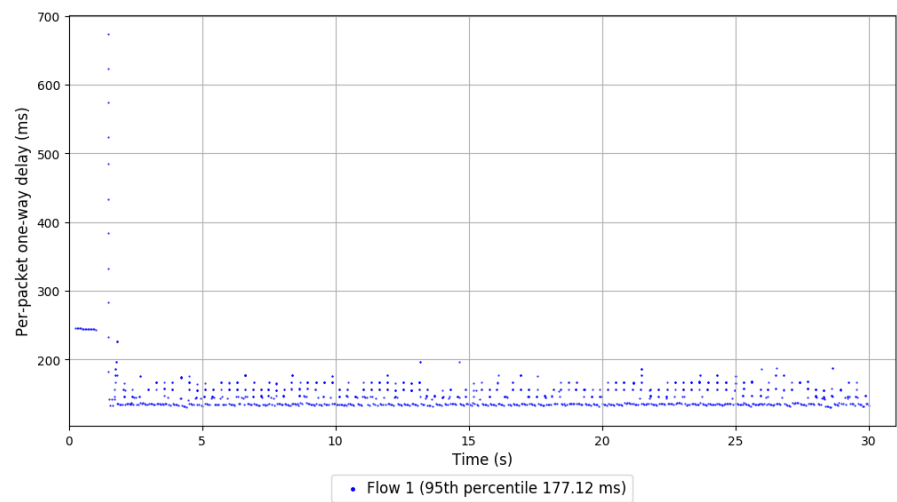
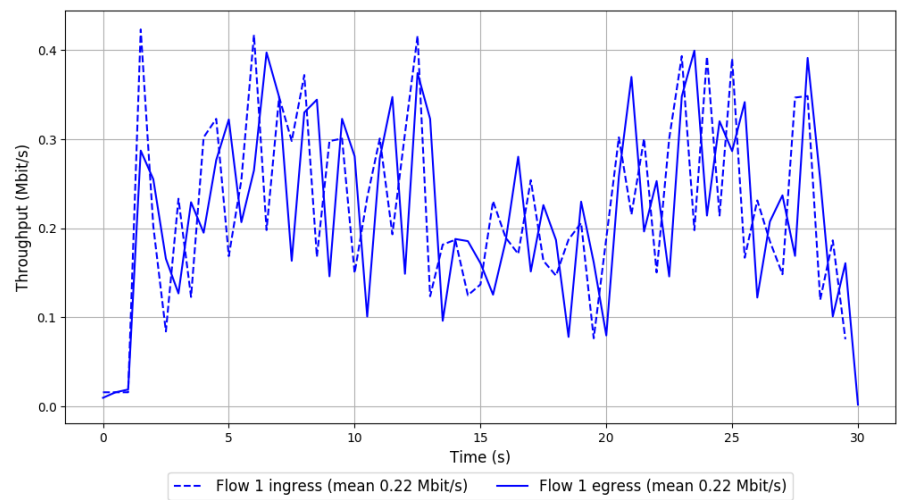


Run 3: Statistics of Sprout

Start at: 2017-11-20 23:04:46
End at: 2017-11-20 23:05:16
Local clock offset: -0.06 ms
Remote clock offset: 11.283 ms

Below is generated by plot.py at 2017-11-20 23:20:29
Datalink statistics
-- Total of 1 flow:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 177.119 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 177.119 ms
Loss rate: 0.01%

Run 3: Report of Sprout — Data Link

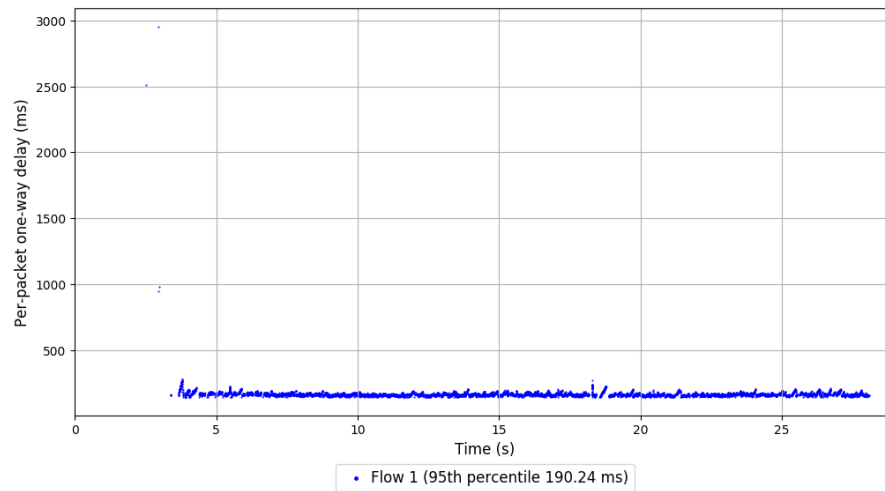
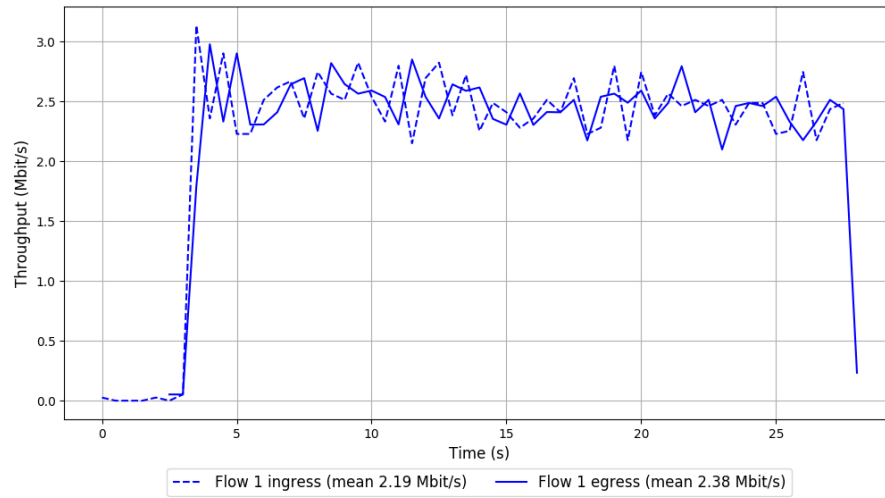


```
Run 1: Statistics of TaoVA-100x

Start at: 2017-11-20 22:34:02
End at: 2017-11-20 22:34:32
Local clock offset: -0.125 ms
Remote clock offset: 15.1 ms

# Below is generated by plot.py at 2017-11-20 23:20:36
# Datalink statistics
-- Total of 1 flow:
Average throughput: 2.38 Mbit/s
95th percentile per-packet one-way delay: 190.239 ms
Loss rate: 0.58%
-- Flow 1:
Average throughput: 2.38 Mbit/s
95th percentile per-packet one-way delay: 190.239 ms
Loss rate: 0.58%
```

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

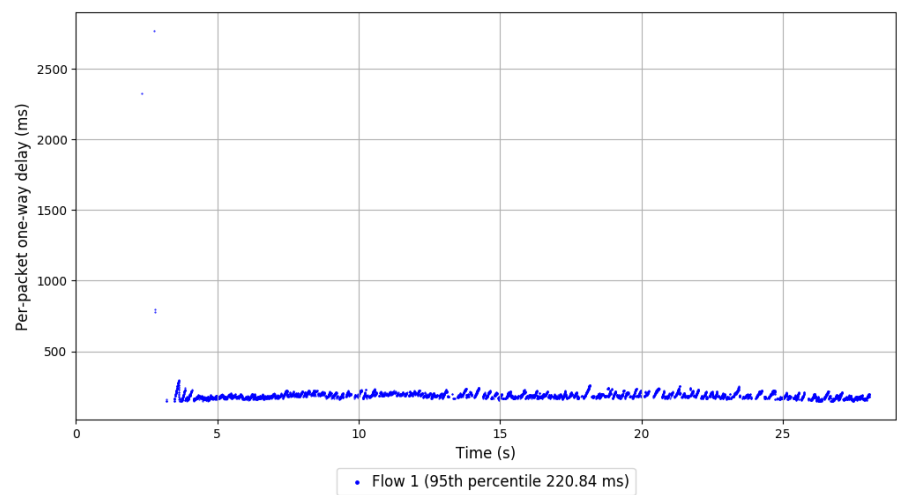
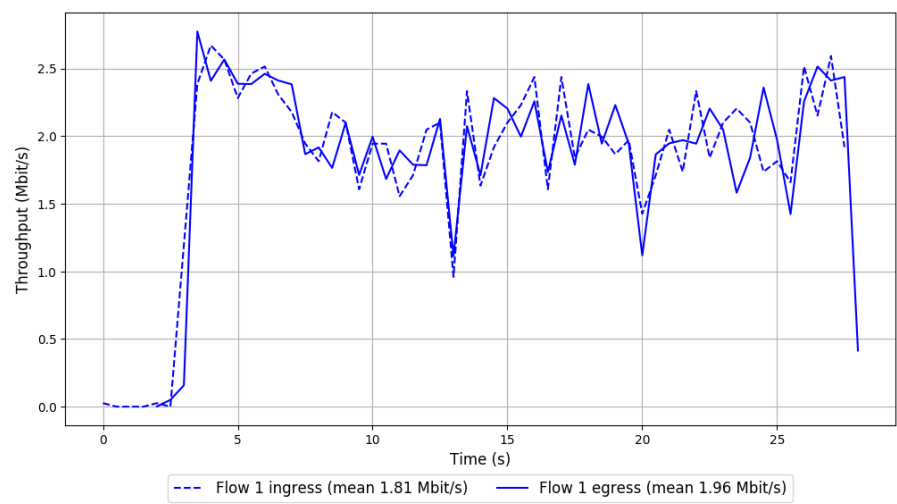


Run 2: Statistics of TaoVA-100x

Start at: 2017-11-20 22:50:30
End at: 2017-11-20 22:51:00
Local clock offset: -0.027 ms
Remote clock offset: 11.302 ms

Below is generated by plot.py at 2017-11-20 23:20:36
Datalink statistics
-- Total of 1 flow:
Average throughput: 1.96 Mbit/s
95th percentile per-packet one-way delay: 220.844 ms
Loss rate: 0.08%
-- Flow 1:
Average throughput: 1.96 Mbit/s
95th percentile per-packet one-way delay: 220.844 ms
Loss rate: 0.08%

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



Run 3: Statistics of TaoVA-100x

Start at: 2017-11-20 23:07:07

End at: 2017-11-20 23:07:37

Local clock offset: -0.069 ms

Remote clock offset: 11.11 ms

Below is generated by plot.py at 2017-11-20 23:20:39

Datalink statistics

-- Total of 1 flow:

Average throughput: 2.56 Mbit/s

95th percentile per-packet one-way delay: 668.068 ms

Loss rate: 0.49%

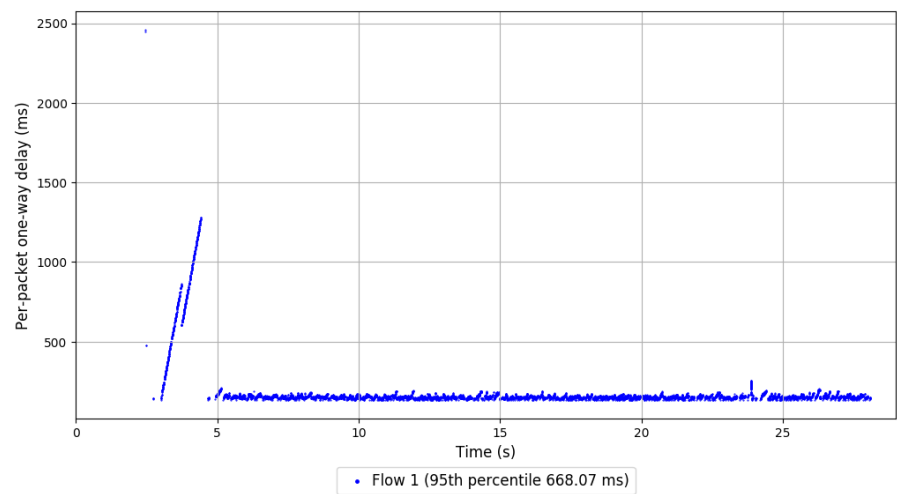
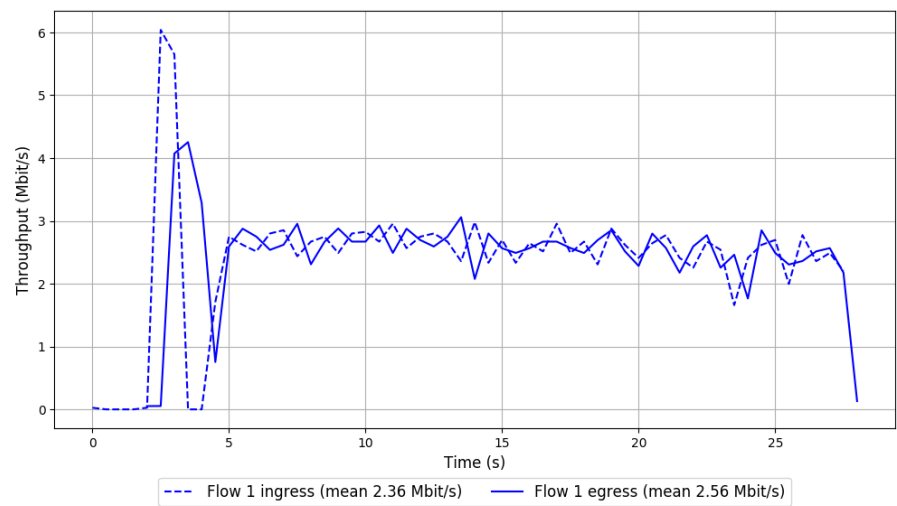
-- Flow 1:

Average throughput: 2.56 Mbit/s

95th percentile per-packet one-way delay: 668.068 ms

Loss rate: 0.49%

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

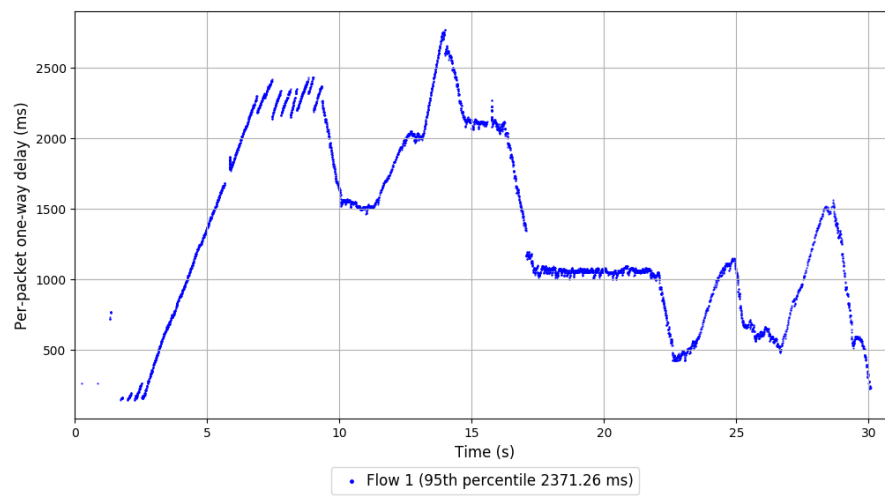
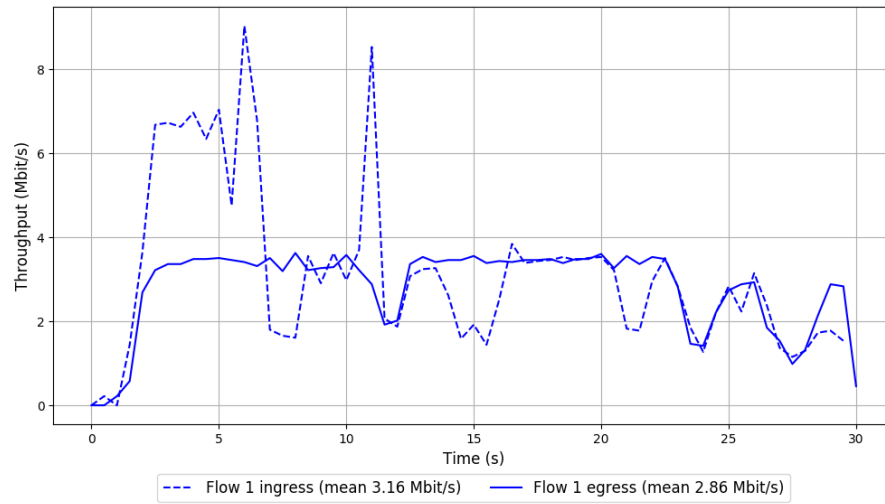


Run 1: Statistics of TCP Vegas

Start at: 2017-11-20 22:44:36
End at: 2017-11-20 22:45:06
Local clock offset: -0.013 ms
Remote clock offset: 11.605 ms

Below is generated by plot.py at 2017-11-20 23:20:39
Datalink statistics
-- Total of 1 flow:
Average throughput: 2.86 Mbit/s
95th percentile per-packet one-way delay: 2371.263 ms
Loss rate: 9.73%
-- Flow 1:
Average throughput: 2.86 Mbit/s
95th percentile per-packet one-way delay: 2371.263 ms
Loss rate: 9.73%

Run 1: Report of TCP Vegas — Data Link

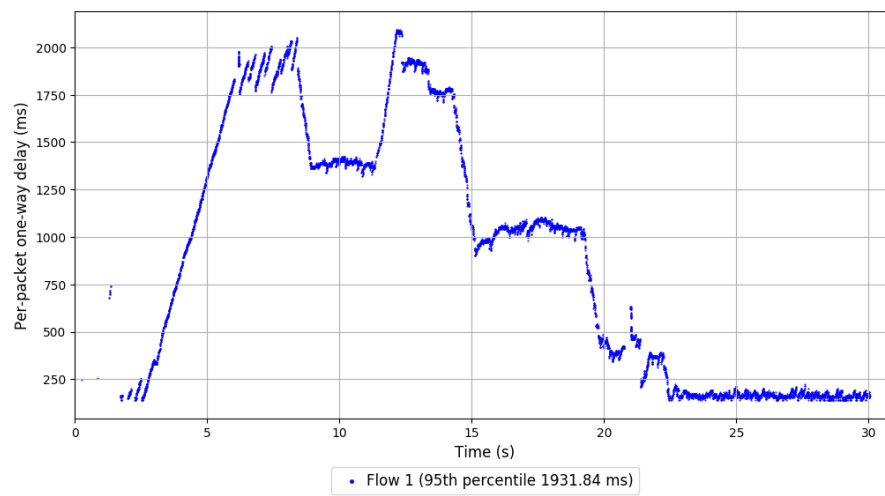
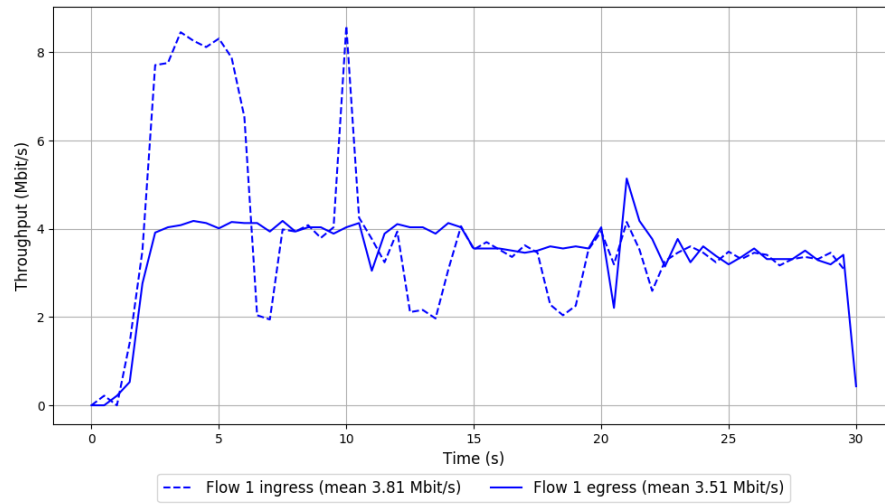


Run 2: Statistics of TCP Vegas

Start at: 2017-11-20 23:01:09
End at: 2017-11-20 23:01:39
Local clock offset: -0.052 ms
Remote clock offset: 11.491 ms

Below is generated by plot.py at 2017-11-20 23:20:39
Datalink statistics
-- Total of 1 flow:
Average throughput: 3.51 Mbit/s
95th percentile per-packet one-way delay: 1931.844 ms
Loss rate: 8.26%
-- Flow 1:
Average throughput: 3.51 Mbit/s
95th percentile per-packet one-way delay: 1931.844 ms
Loss rate: 8.26%

Run 2: Report of TCP Vegas — Data Link



Run 3: Statistics of TCP Vegas

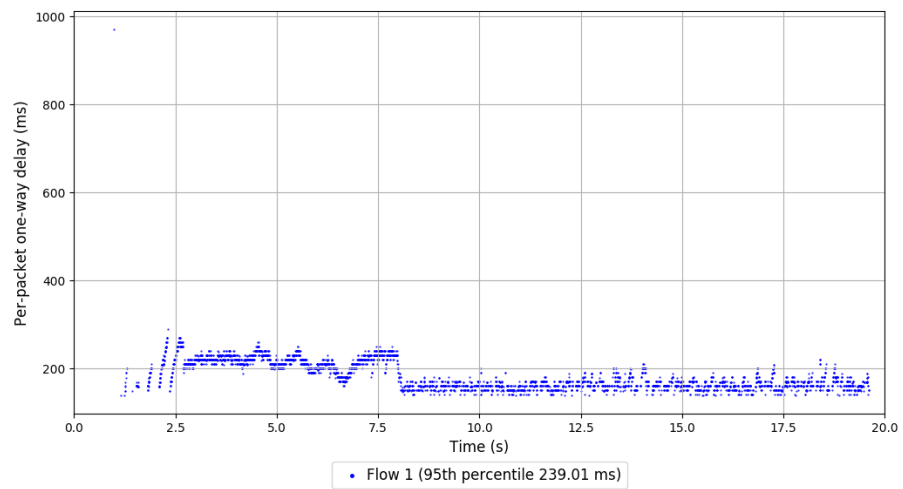
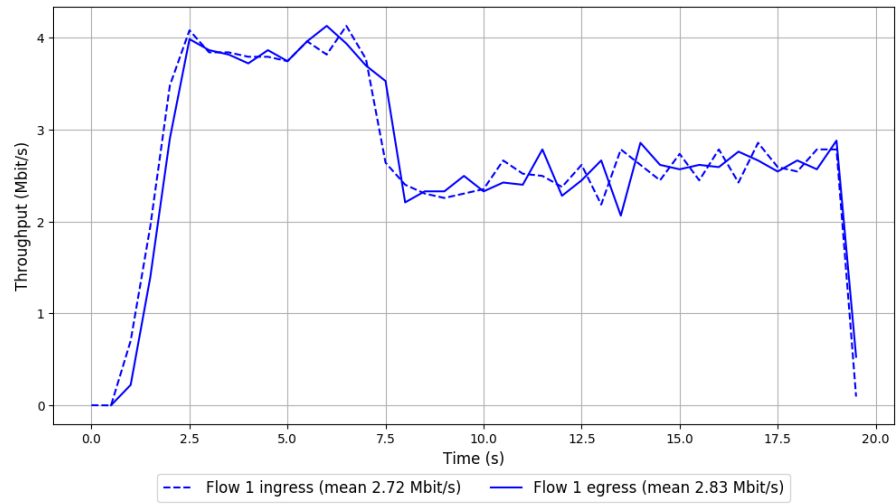
Start at: 2017-11-20 23:17:42

End at: 2017-11-20 23:18:12

Local clock offset: -0.231 ms

Remote clock offset: 15.457 ms

Run 3: Report of TCP Vegas — Data Link

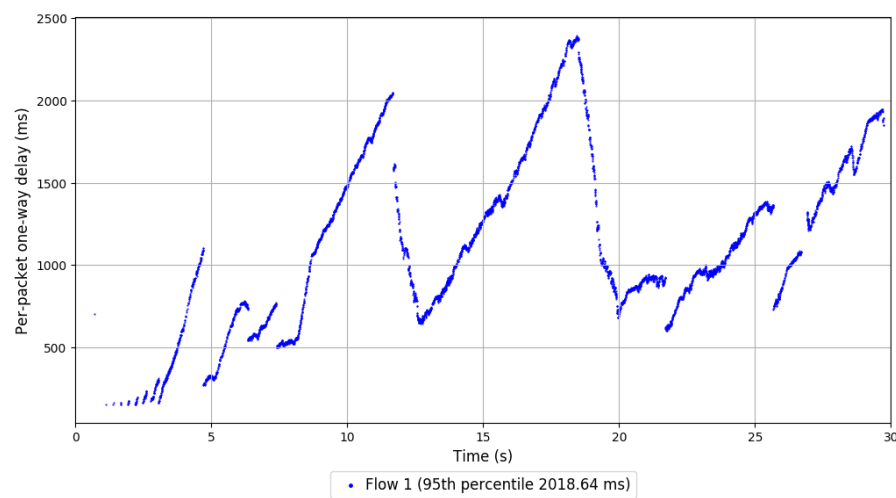
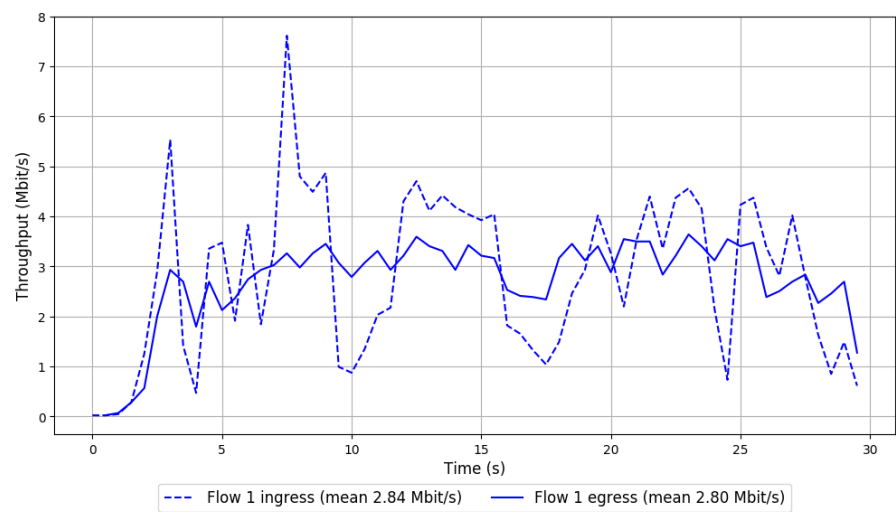


Run 1: Statistics of Verus

Start at: 2017-11-20 22:30:30
End at: 2017-11-20 22:31:00
Local clock offset: -0.183 ms
Remote clock offset: 17.084 ms

Below is generated by plot.py at 2017-11-20 23:20:39
Datalink statistics
-- Total of 1 flow:
Average throughput: 2.80 Mbit/s
95th percentile per-packet one-way delay: 2018.642 ms
Loss rate: 3.36%
-- Flow 1:
Average throughput: 2.80 Mbit/s
95th percentile per-packet one-way delay: 2018.642 ms
Loss rate: 3.36%

Run 1: Report of Verus — Data Link



Run 2: Statistics of Verus

Start at: 2017-11-20 22:46:58

End at: 2017-11-20 22:47:28

Local clock offset: -0.0 ms

Remote clock offset: 9.75 ms

Below is generated by plot.py at 2017-11-20 23:20:39

Datalink statistics

-- Total of 1 flow:

Average throughput: 3.24 Mbit/s

95th percentile per-packet one-way delay: 1874.261 ms

Loss rate: 2.80%

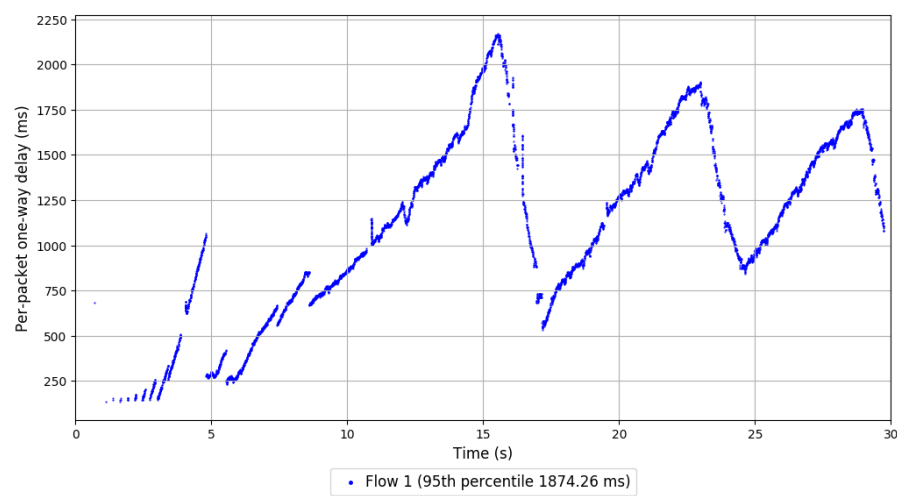
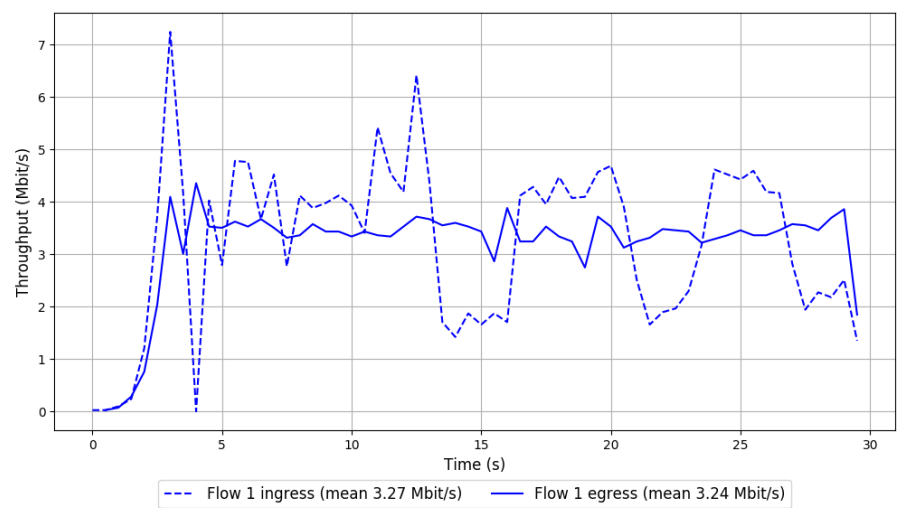
-- Flow 1:

Average throughput: 3.24 Mbit/s

95th percentile per-packet one-way delay: 1874.261 ms

Loss rate: 2.80%

Run 2: Report of Verus — Data Link

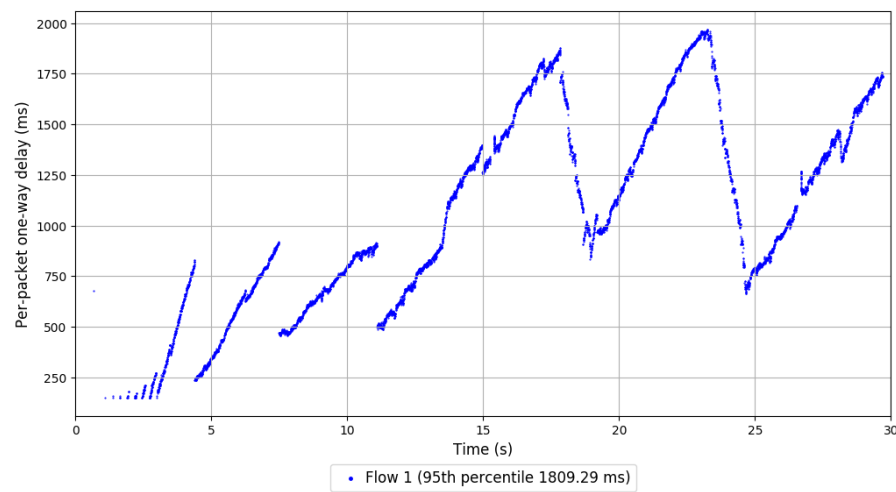
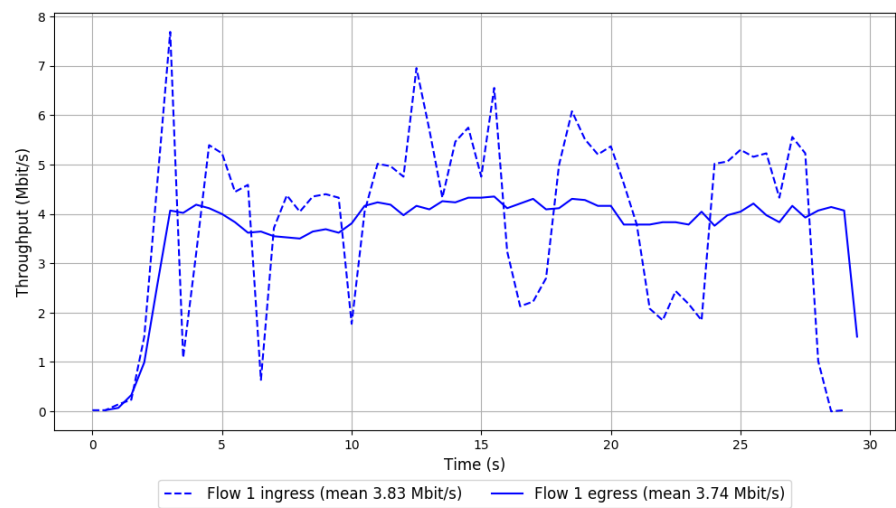


Run 3: Statistics of Verus

Start at: 2017-11-20 23:03:35
End at: 2017-11-20 23:04:05
Local clock offset: -0.057 ms
Remote clock offset: 16.063 ms

Below is generated by plot.py at 2017-11-20 23:20:43
Datalink statistics
-- Total of 1 flow:
Average throughput: 3.74 Mbit/s
95th percentile per-packet one-way delay: 1809.294 ms
Loss rate: 2.18%
-- Flow 1:
Average throughput: 3.74 Mbit/s
95th percentile per-packet one-way delay: 1809.294 ms
Loss rate: 2.18%

Run 3: Report of Verus — Data Link



Run 1: Statistics of Copa

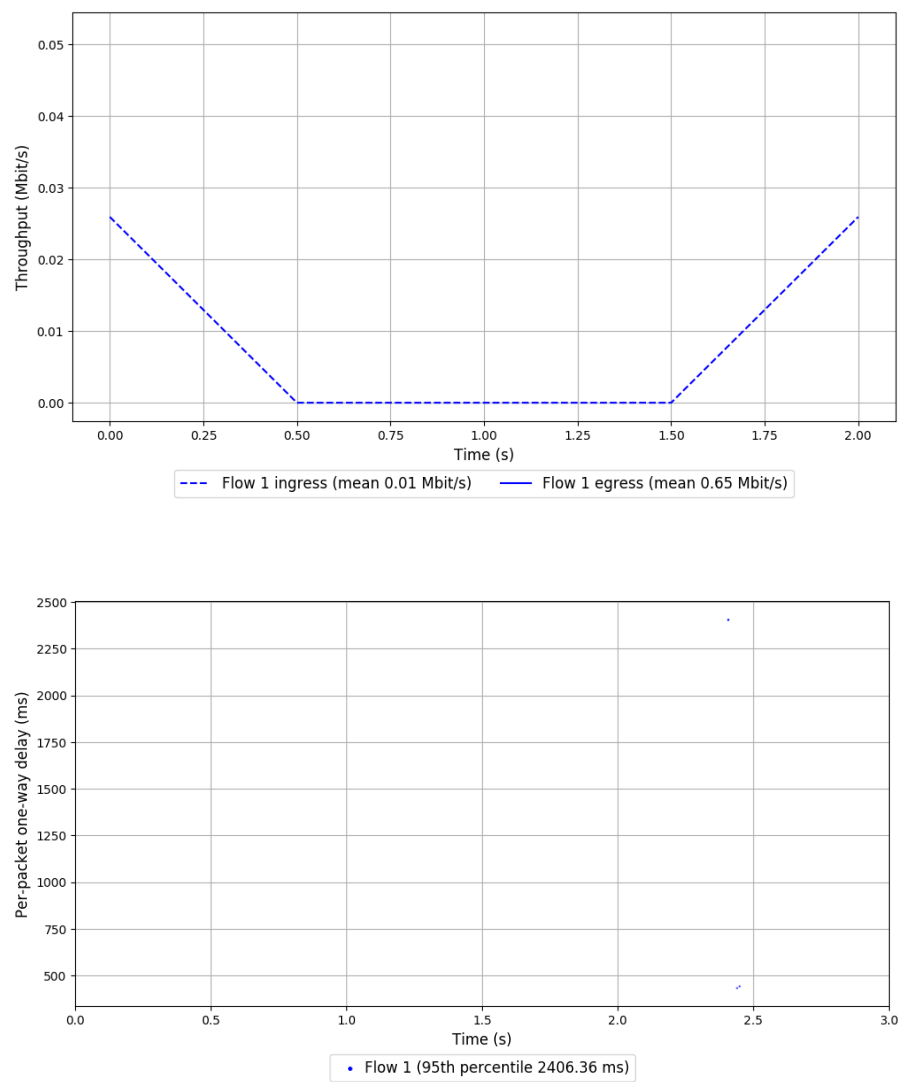
Start at: 2017-11-20 22:35:13

End at: 2017-11-20 22:35:43

Local clock offset: -0.105 ms

Remote clock offset: 14.258 ms

Run 1: Report of Copa — Data Link



Run 2: Statistics of Copa

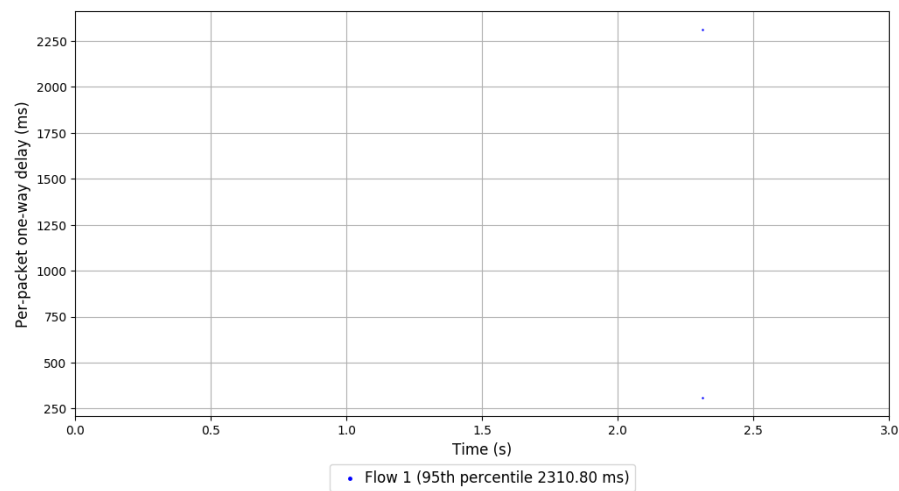
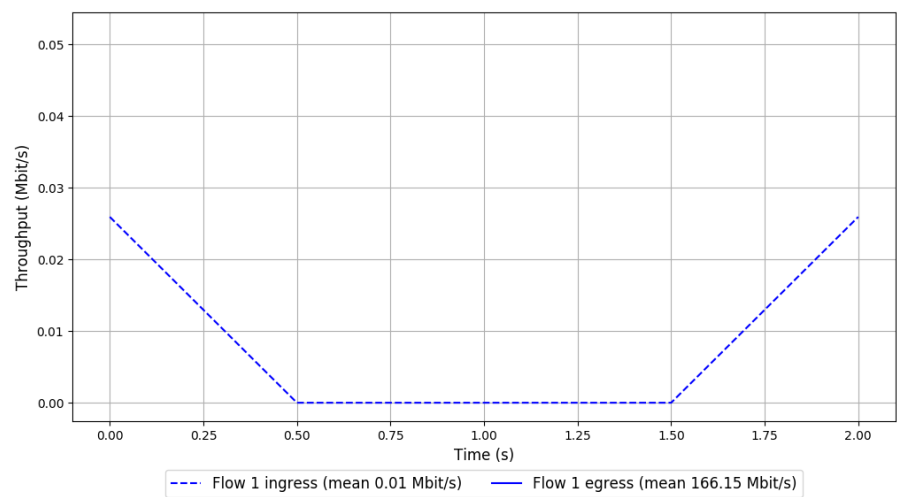
Start at: 2017-11-20 22:51:40

End at: 2017-11-20 22:52:10

Local clock offset: -0.05 ms

Remote clock offset: 11.167 ms

Run 2: Report of Copa — Data Link



Run 3: Statistics of Copa

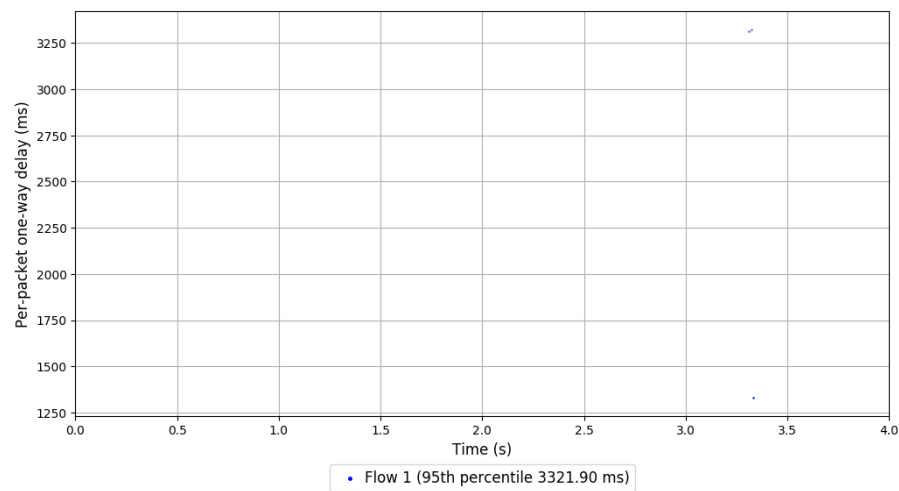
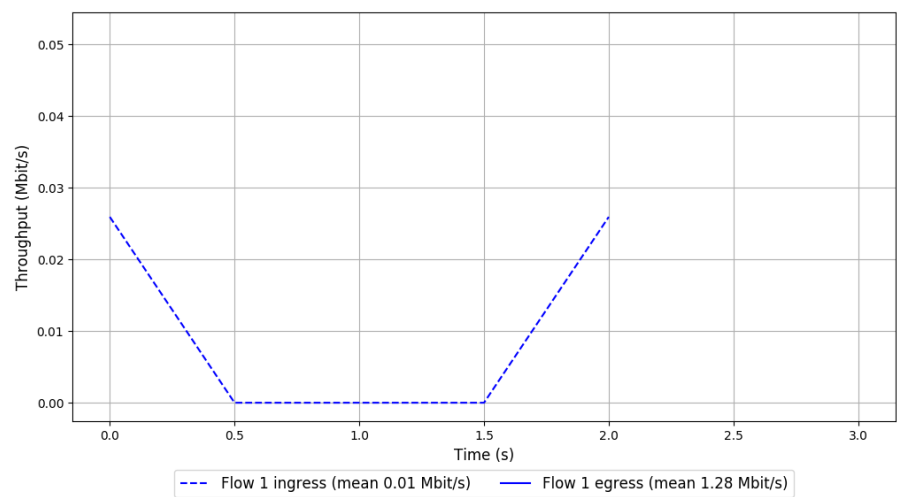
Start at: 2017-11-20 23:08:18

End at: 2017-11-20 23:08:48

Local clock offset: -0.089 ms

Remote clock offset: 11.2 ms

Run 3: Report of Copa — Data Link

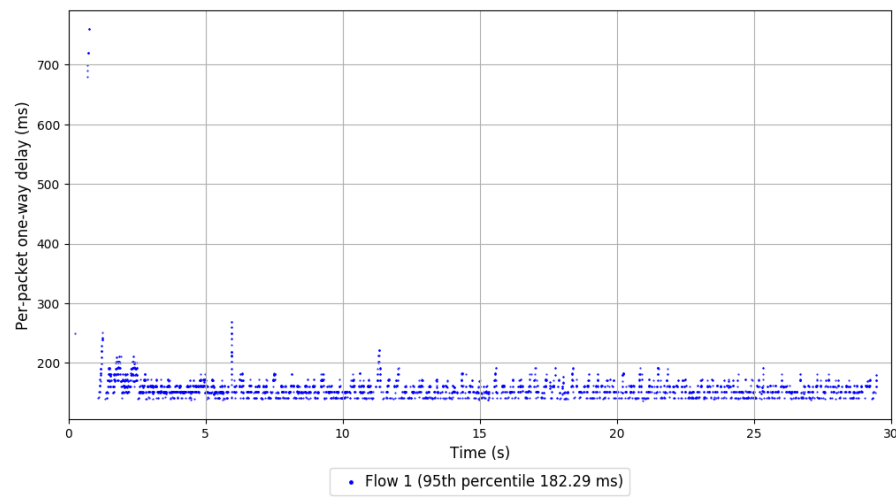
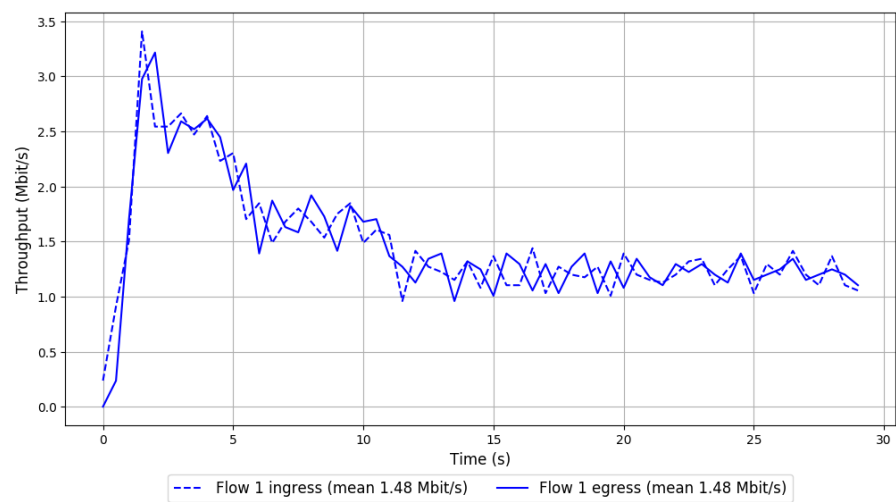


```
Run 1: Statistics of Indigo

Start at: 2017-11-20 22:45:47
End at: 2017-11-20 22:46:17
Local clock offset: -0.004 ms
Remote clock offset: 12.003 ms

# Below is generated by plot.py at 2017-11-20 23:20:43
# Datalink statistics
-- Total of 1 flow:
Average throughput: 1.48 Mbit/s
95th percentile per-packet one-way delay: 182.289 ms
Loss rate: 0.39%
-- Flow 1:
Average throughput: 1.48 Mbit/s
95th percentile per-packet one-way delay: 182.289 ms
Loss rate: 0.39%
```

Run 1: Report of Indigo — Data Link



Run 2: Statistics of Indigo

Start at: 2017-11-20 23:02:24

End at: 2017-11-20 23:02:54

Local clock offset: -0.059 ms

Remote clock offset: 15.865 ms

Below is generated by plot.py at 2017-11-20 23:20:44

Datalink statistics

-- Total of 1 flow:

Average throughput: 1.85 Mbit/s

95th percentile per-packet one-way delay: 194.291 ms

Loss rate: 0.07%

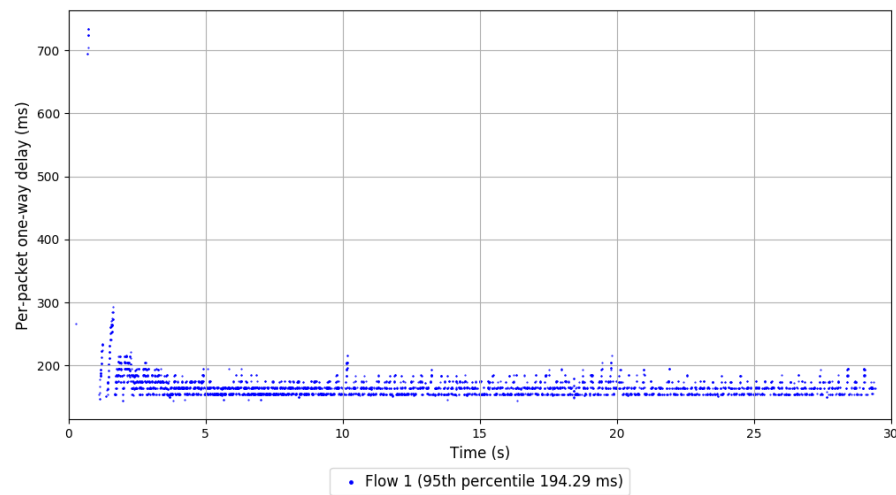
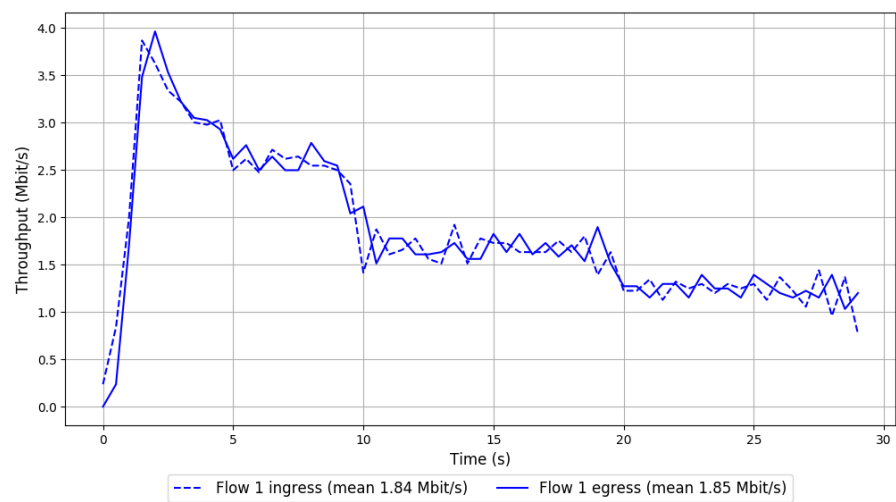
-- Flow 1:

Average throughput: 1.85 Mbit/s

95th percentile per-packet one-way delay: 194.291 ms

Loss rate: 0.07%

Run 2: Report of Indigo — Data Link

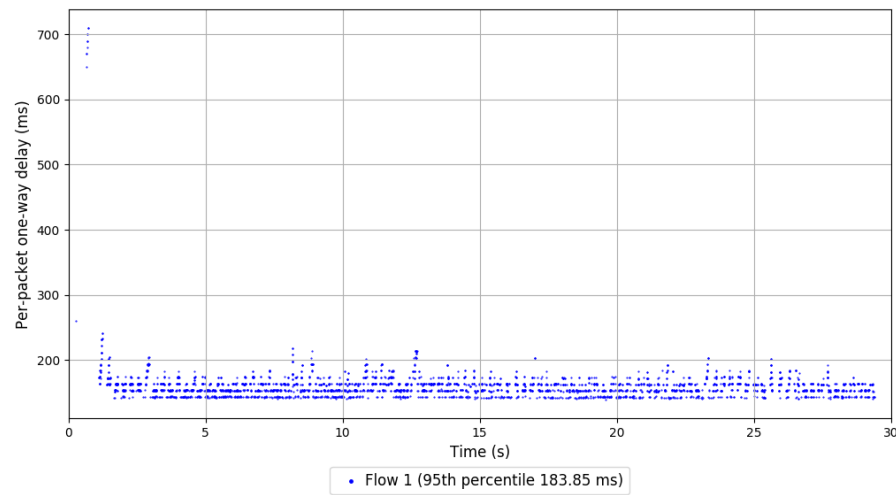
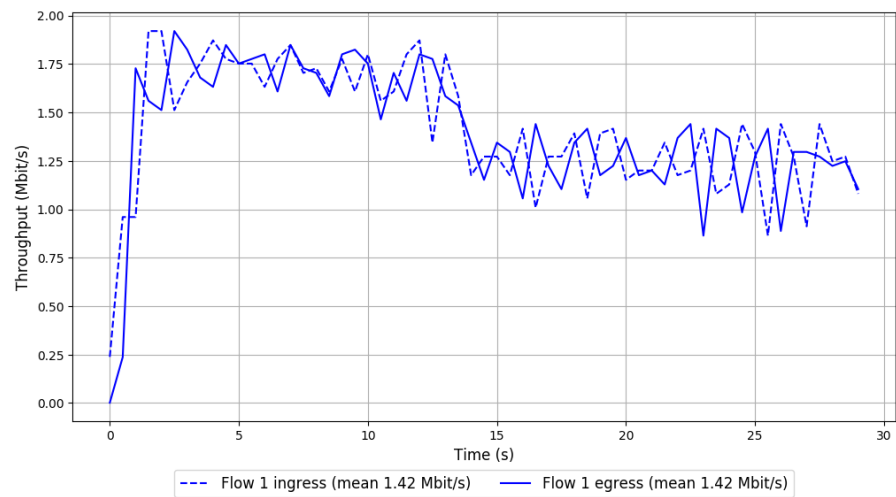


Run 3: Statistics of Indigo

Start at: 2017-11-20 23:18:53
End at: 2017-11-20 23:19:23
Local clock offset: -0.175 ms
Remote clock offset: 13.627 ms

Below is generated by plot.py at 2017-11-20 23:20:44
Datalink statistics
-- Total of 1 flow:
Average throughput: 1.42 Mbit/s
95th percentile per-packet one-way delay: 183.847 ms
Loss rate: 0.49%
-- Flow 1:
Average throughput: 1.42 Mbit/s
95th percentile per-packet one-way delay: 183.847 ms
Loss rate: 0.49%

Run 3: Report of Indigo — Data Link

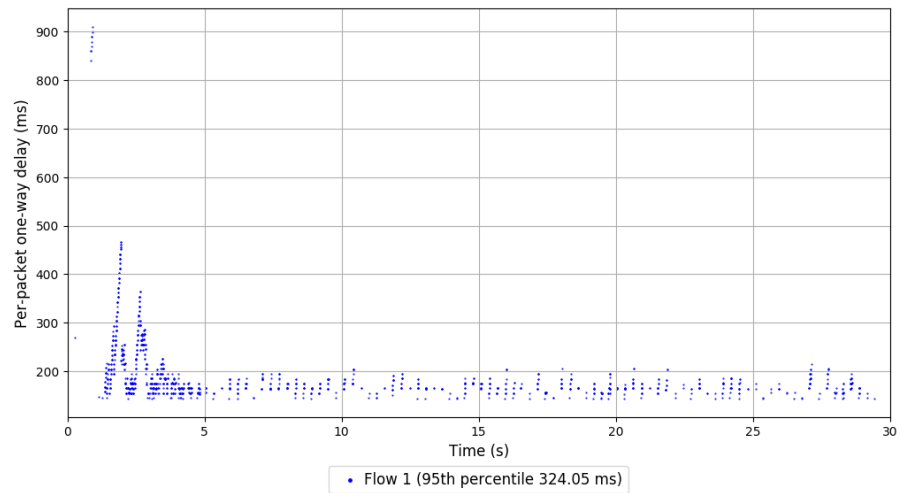
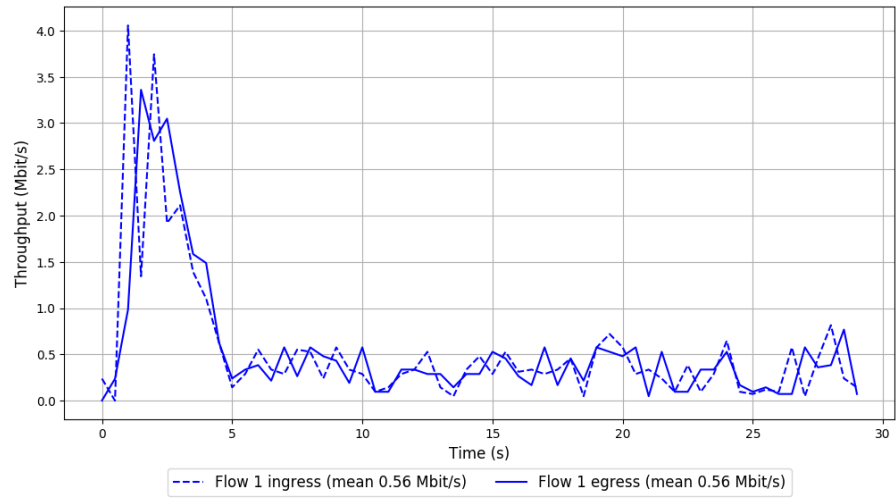


```
Run 1: Statistics of Indigo-calib

Start at: 2017-11-20 22:43:26
End at: 2017-11-20 22:43:56
Local clock offset: -0.052 ms
Remote clock offset: 16.085 ms

# Below is generated by plot.py at 2017-11-20 23:20:44
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.56 Mbit/s
95th percentile per-packet one-way delay: 324.049 ms
Loss rate: 0.22%
-- Flow 1:
Average throughput: 0.56 Mbit/s
95th percentile per-packet one-way delay: 324.049 ms
Loss rate: 0.22%
```

Run 1: Report of Indigo-calib — Data Link

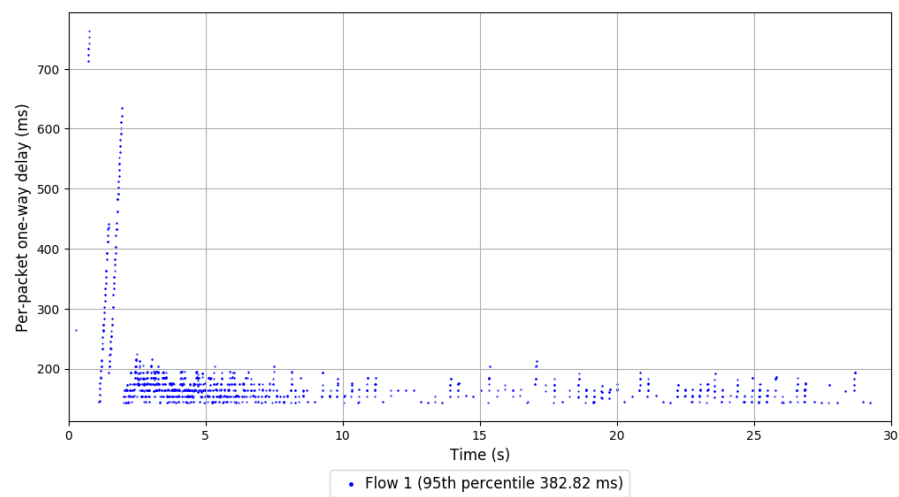
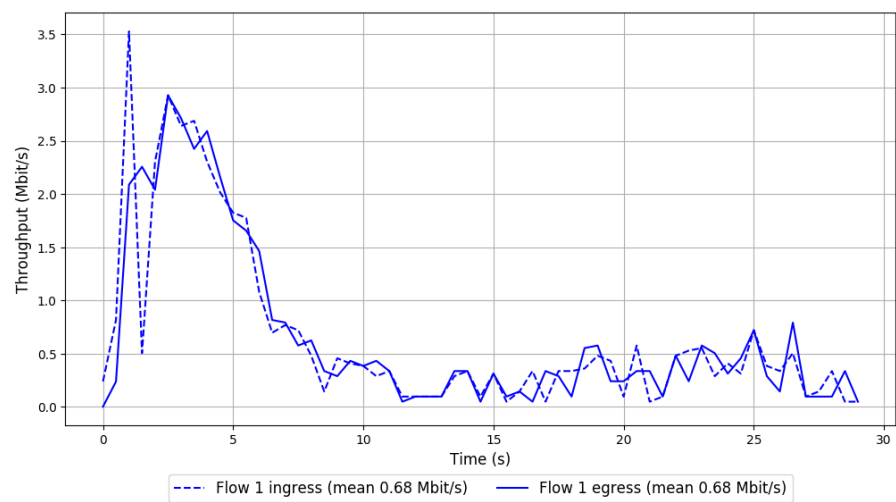


```
Run 2: Statistics of Indigo-calib

Start at: 2017-11-20 22:59:59
End at: 2017-11-20 23:00:29
Local clock offset: -0.044 ms
Remote clock offset: 16.293 ms

# Below is generated by plot.py at 2017-11-20 23:20:44
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.68 Mbit/s
95th percentile per-packet one-way delay: 382.822 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.68 Mbit/s
95th percentile per-packet one-way delay: 382.822 ms
Loss rate: 0.00%
```

Run 2: Report of Indigo-calib — Data Link



Run 3: Statistics of Indigo-calib

Start at: 2017-11-20 23:16:32
End at: 2017-11-20 23:17:02
Local clock offset: -0.247 ms
Remote clock offset: 10.876 ms

Below is generated by plot.py at 2017-11-20 23:20:44
Datalink statistics
-- Total of 1 flow:
Average throughput: 0.42 Mbit/s
95th percentile per-packet one-way delay: 217.775 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.42 Mbit/s
95th percentile per-packet one-way delay: 217.775 ms
Loss rate: 0.00%

Run 3: Report of Indigo-calib — Data Link

