

Pantheon Report

Generated at 2017-09-22 09:19:29 (UTC).

Data path: AWS India 1 Ethernet (*local*) → India ppp0 (*remote*).

Repeated the test of 13 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).

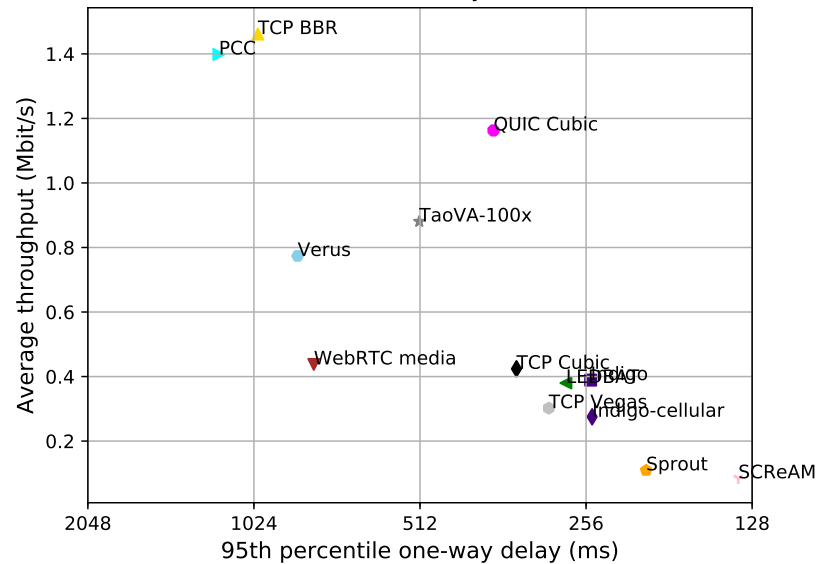
Tested BBR with qdisc of Fair Queuing (**fq**), and other schemes with the default Linux qdisc (**pfifo_fast**).

NTP offsets were measured against **nets.org.sg** and have been applied to correct the timestamps in logs.

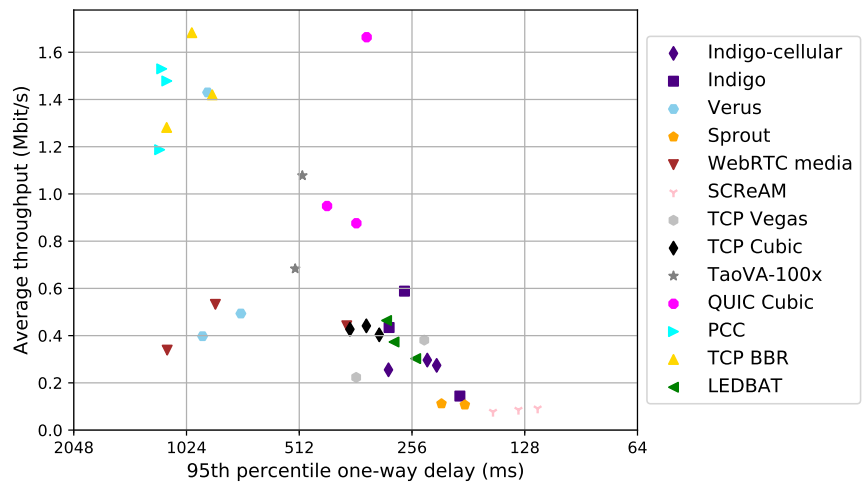
Git summary:

```
branch: indigos @ 46c7c812d4acb71eea4f5fb0b03b3657cea3062f
third_party/calibrated_koho @ 3cb73c0d1c0322cdfae446ea37a522e53227db50
  M datagrump/sender.cc
third_party/genericCC @ f7ca42f251bf49b432bb71de6d13fa903515c366
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 @ 03455460fd1a8ffbdad86fabb936fdca204b80db
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 India 1 Ethernet to India ppp0, 3 runs of 30s each per scheme
(mean of all runs by scheme)



test from AWS India 1 Ethernet to India 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	1.46	1007.34	10.90
TCP Cubic	3	0.42	342.29	2.39
LEDBAT	3	0.38	278.49	3.58
PCC	3	1.40	1185.46	42.74
QUIC Cubic	3	1.16	376.73	1.52
SCReAM	3	0.09	135.62	0.85
WebRTC media	3	0.44	797.60	5.40
Sprout	2	0.11	199.26	1.27
TaoVA-100x	2	0.88	513.59	1.06
TCP Vegas	2	0.30	299.12	2.56
Verus	3	0.77	853.42	11.57
Indigo	3	0.39	251.17	1.22
Indigo-cellular	3	0.28	249.59	1.67

Run 1: Statistics of TCP BBR

Start at: 2017-09-22 08:46:09

End at: 2017-09-22 08:46:39

Local clock offset: 1.311 ms

Remote clock offset: 6.194 ms

Below is generated by plot.py at 2017-09-22 09:19:07

Datalink statistics

-- Total of 1 flow:

Average throughput: 1.28 Mbit/s

95th percentile per-packet one-way delay: 1156.950 ms

Loss rate: 23.60%

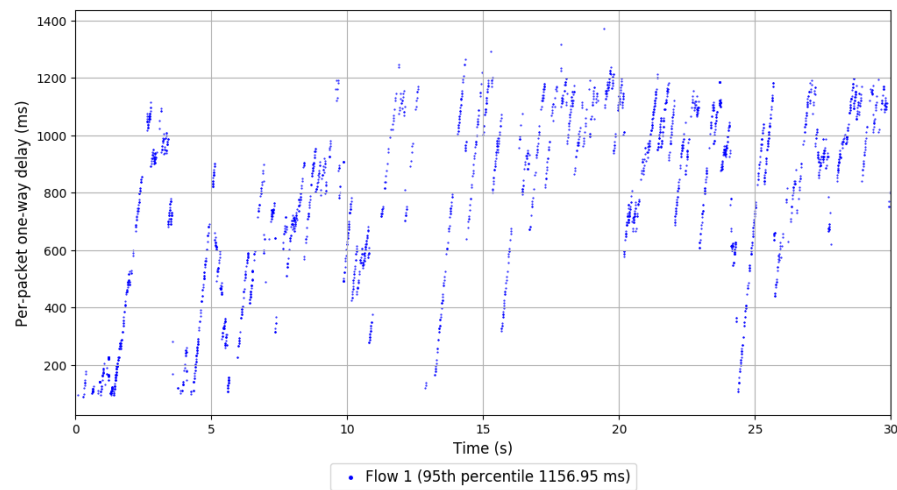
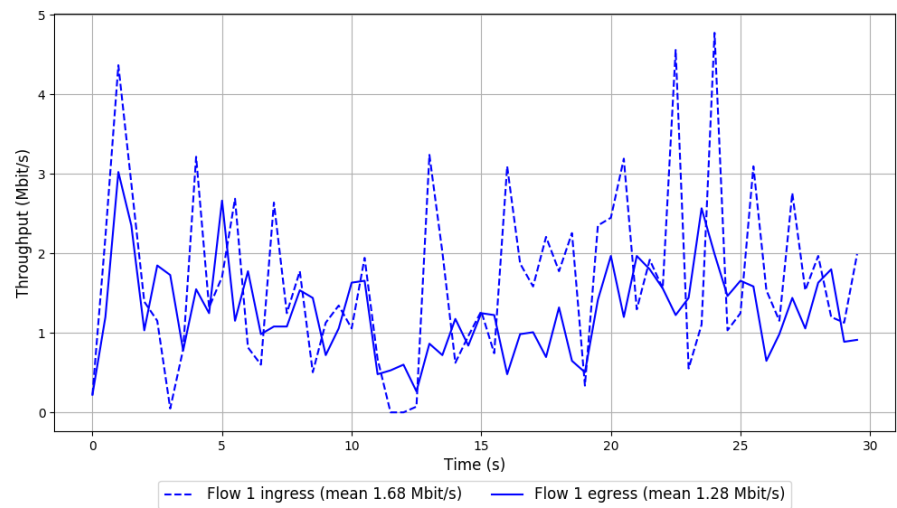
-- Flow 1:

Average throughput: 1.28 Mbit/s

95th percentile per-packet one-way delay: 1156.950 ms

Loss rate: 23.60%

Run 1: Report of TCP BBR — Data Link



Run 2: Statistics of TCP BBR

Start at: 2017-09-22 09:00:18

End at: 2017-09-22 09:00:48

Local clock offset: 1.375 ms

Remote clock offset: 9.589 ms

Below is generated by plot.py at 2017-09-22 09:19:07

Datalink statistics

-- Total of 1 flow:

Average throughput: 1.42 Mbit/s

95th percentile per-packet one-way delay: 873.883 ms

Loss rate: 4.76%

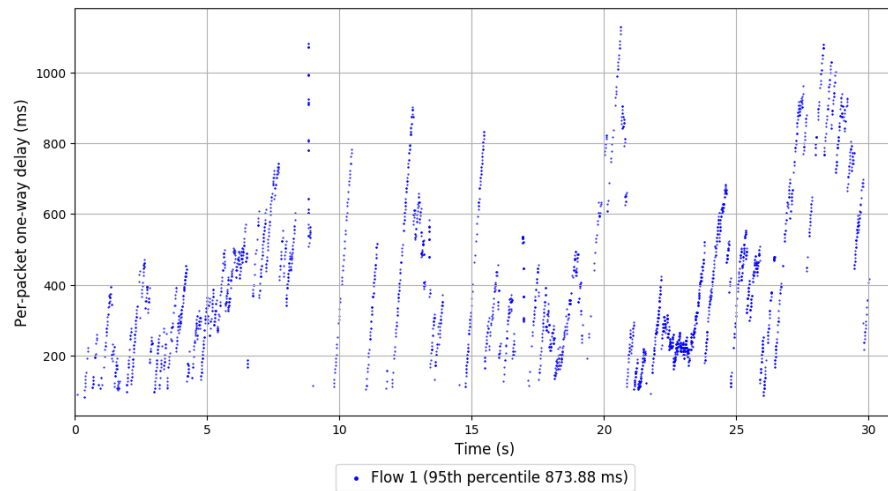
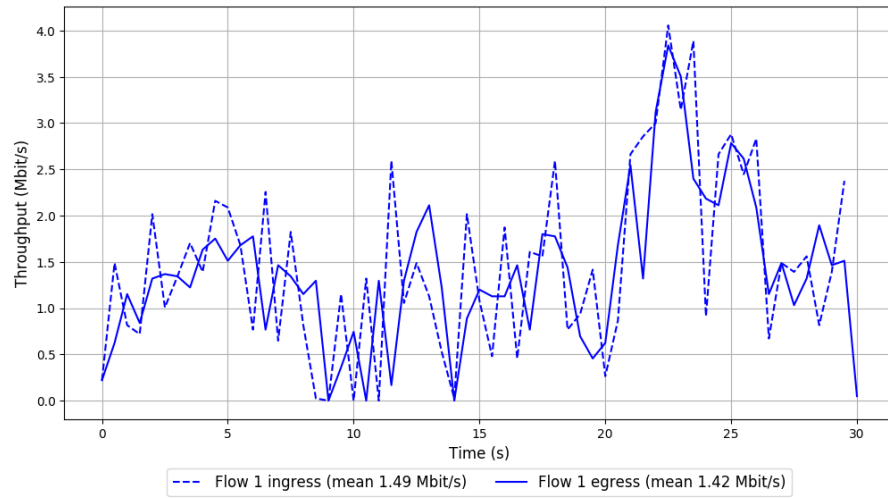
-- Flow 1:

Average throughput: 1.42 Mbit/s

95th percentile per-packet one-way delay: 873.883 ms

Loss rate: 4.76%

Run 2: Report of TCP BBR — Data Link



Run 3: Statistics of TCP BBR

Start at: 2017-09-22 09:14:34

End at: 2017-09-22 09:15:04

Local clock offset: -0.017 ms

Remote clock offset: 6.366 ms

Below is generated by plot.py at 2017-09-22 09:19:08

Datalink statistics

-- Total of 1 flow:

Average throughput: 1.68 Mbit/s

95th percentile per-packet one-way delay: 991.181 ms

Loss rate: 4.33%

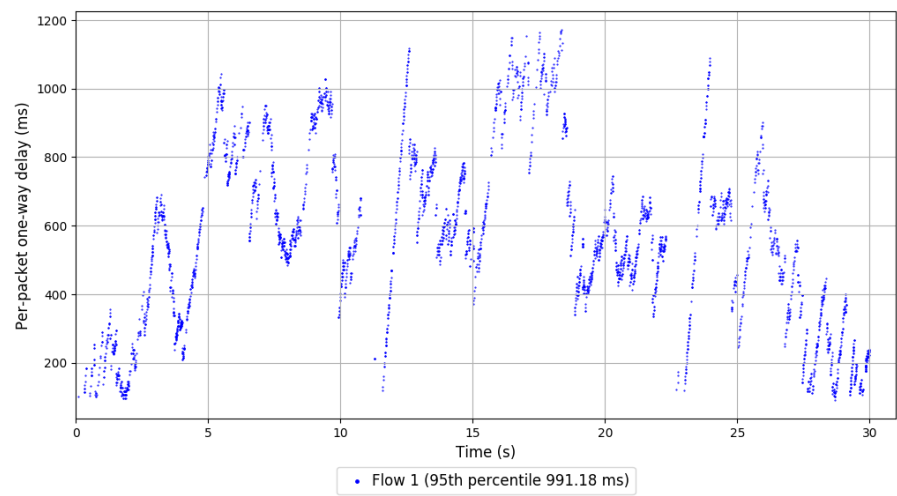
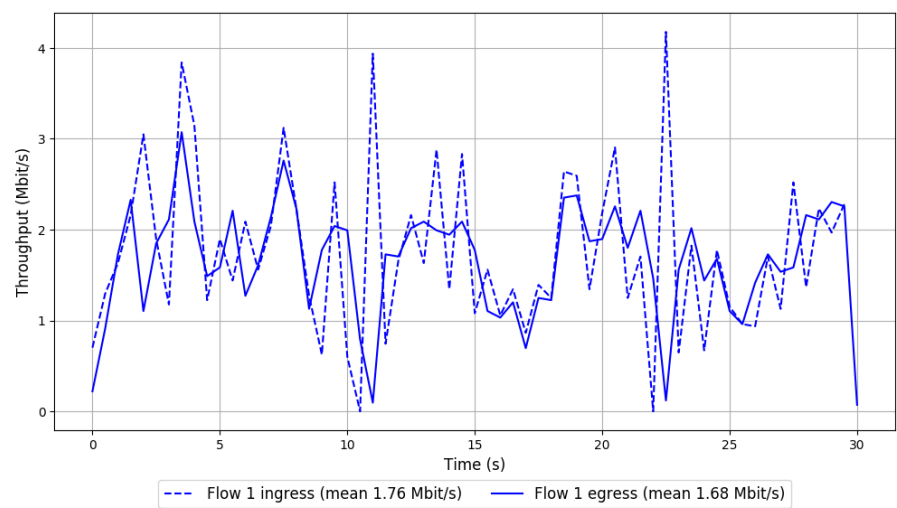
-- Flow 1:

Average throughput: 1.68 Mbit/s

95th percentile per-packet one-way delay: 991.181 ms

Loss rate: 4.33%

Run 3: Report of TCP BBR — Data Link



Run 1: Statistics of TCP Cubic

Start at: 2017-09-22 08:36:21

End at: 2017-09-22 08:36:51

Local clock offset: 0.475 ms

Remote clock offset: 4.917 ms

Below is generated by plot.py at 2017-09-22 09:19:08

Datalink statistics

-- Total of 1 flow:

Average throughput: 0.40 Mbit/s

95th percentile per-packet one-way delay: 313.045 ms

Loss rate: 2.63%

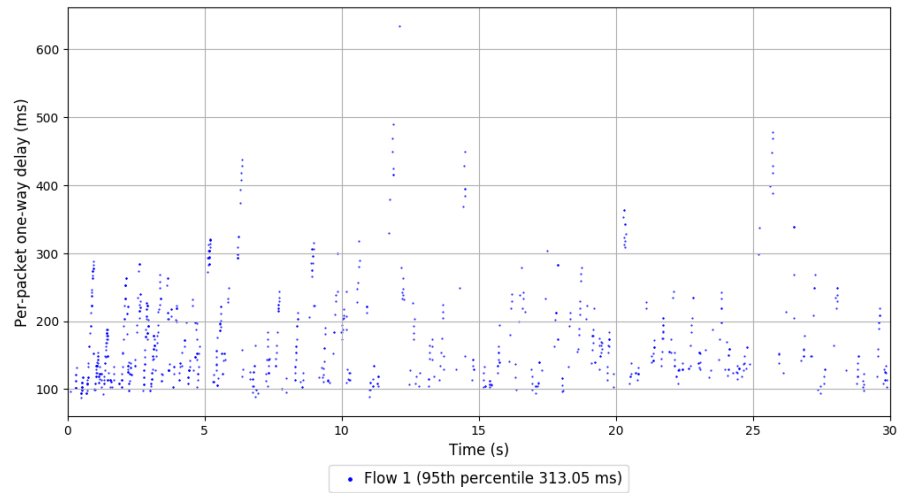
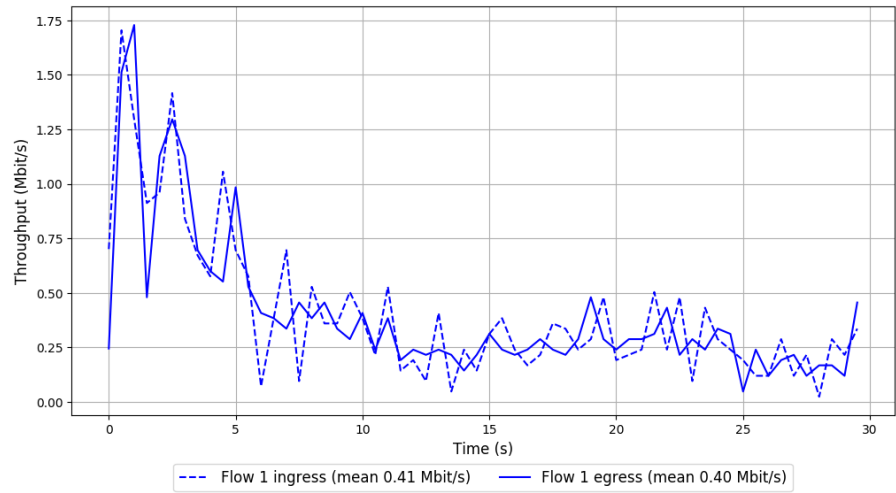
-- Flow 1:

Average throughput: 0.40 Mbit/s

95th percentile per-packet one-way delay: 313.045 ms

Loss rate: 2.63%

Run 1: Report of TCP Cubic — Data Link



Run 2: Statistics of TCP Cubic

Start at: 2017-09-22 08:50:30

End at: 2017-09-22 08:51:00

Local clock offset: -1.325 ms

Remote clock offset: 5.723 ms

Below is generated by plot.py at 2017-09-22 09:19:08

Datalink statistics

-- Total of 1 flow:

Average throughput: 0.43 Mbit/s

95th percentile per-packet one-way delay: 374.927 ms

Loss rate: 2.84%

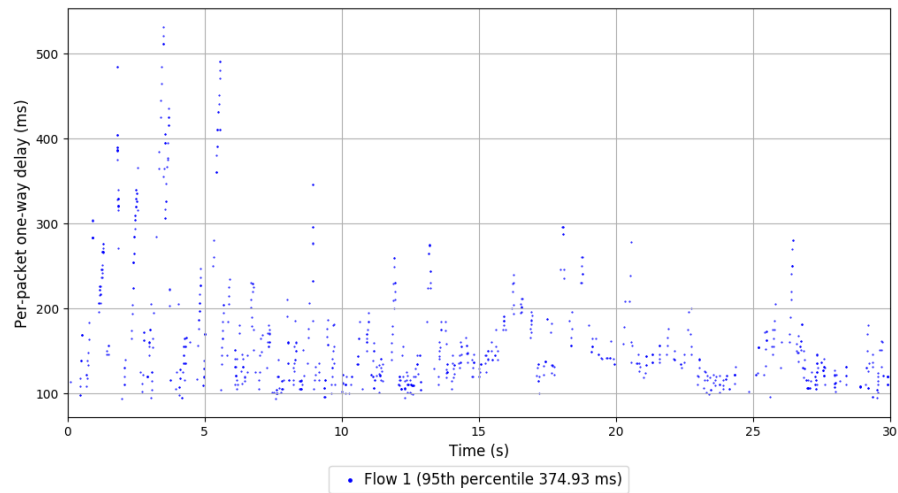
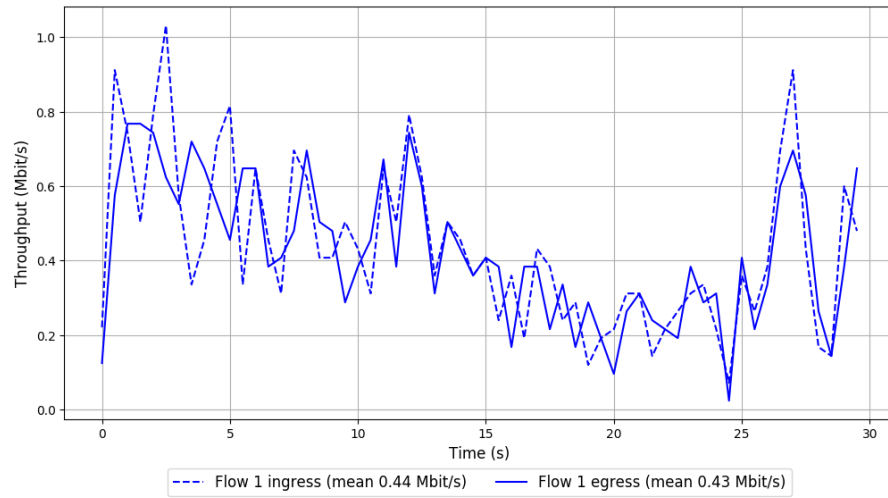
-- Flow 1:

Average throughput: 0.43 Mbit/s

95th percentile per-packet one-way delay: 374.927 ms

Loss rate: 2.84%

Run 2: Report of TCP Cubic — Data Link



Run 3: Statistics of TCP Cubic

Start at: 2017-09-22 09:04:41

End at: 2017-09-22 09:05:11

Local clock offset: -0.763 ms

Remote clock offset: 5.247 ms

Below is generated by plot.py at 2017-09-22 09:19:08

Datalink statistics

-- Total of 1 flow:

Average throughput: 0.44 Mbit/s

95th percentile per-packet one-way delay: 338.909 ms

Loss rate: 1.70%

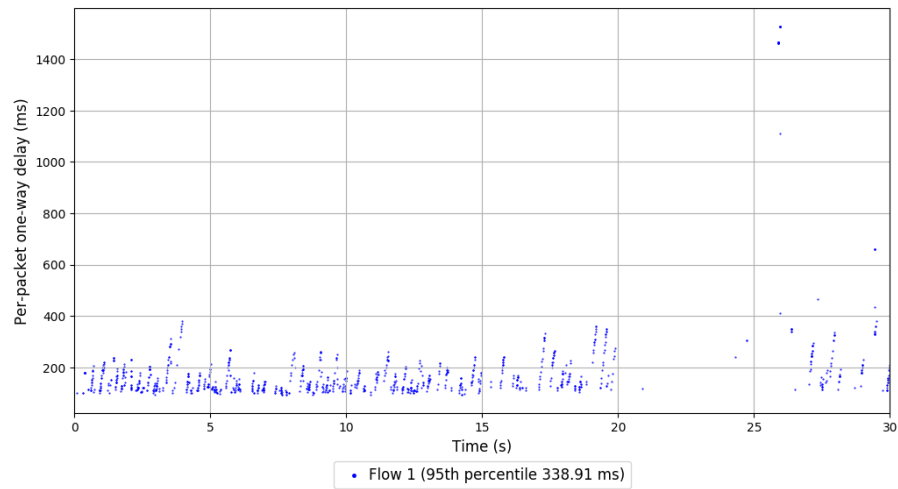
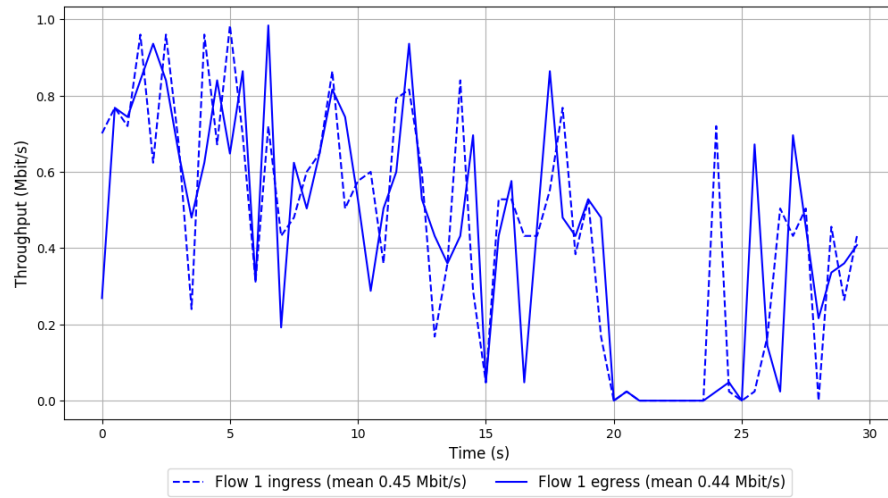
-- Flow 1:

Average throughput: 0.44 Mbit/s

95th percentile per-packet one-way delay: 338.909 ms

Loss rate: 1.70%

Run 3: Report of TCP Cubic — Data Link

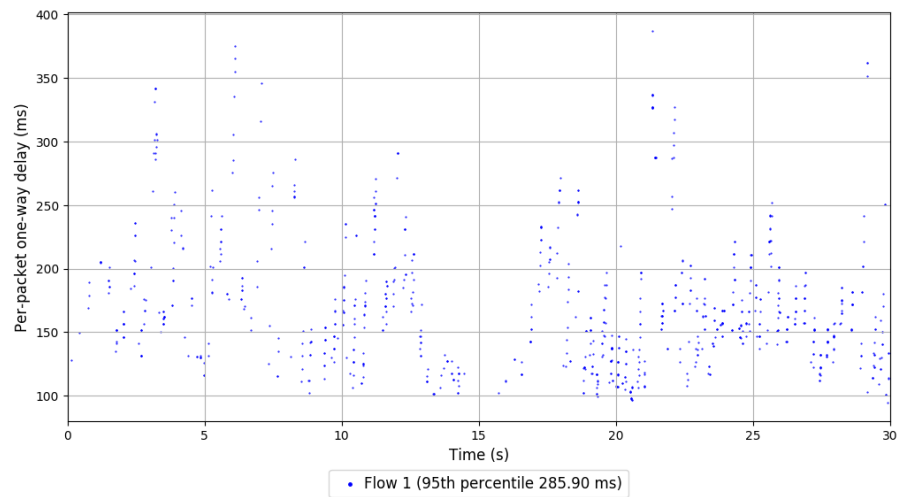
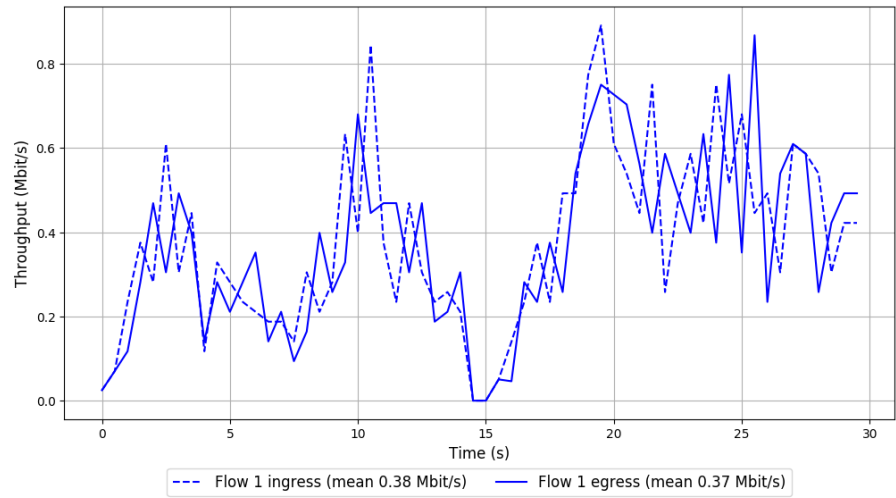


```
Run 1: Statistics of LEDBAT

Start at: 2017-09-22 08:43:58
End at: 2017-09-22 08:44:28
Local clock offset: 0.65 ms
Remote clock offset: 5.567 ms

# Below is generated by plot.py at 2017-09-22 09:19:08
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.37 Mbit/s
95th percentile per-packet one-way delay: 285.903 ms
Loss rate: 1.66%
-- Flow 1:
Average throughput: 0.37 Mbit/s
95th percentile per-packet one-way delay: 285.903 ms
Loss rate: 1.66%
```


Run 1: Report of LEDBAT — Data Link



Run 2: Statistics of LEDBAT

Start at: 2017-09-22 08:58:07

End at: 2017-09-22 08:58:37

Local clock offset: -0.437 ms

Remote clock offset: 8.738 ms

Below is generated by plot.py at 2017-09-22 09:19:08

Datalink statistics

-- Total of 1 flow:

Average throughput: 0.30 Mbit/s

95th percentile per-packet one-way delay: 250.264 ms

Loss rate: 6.10%

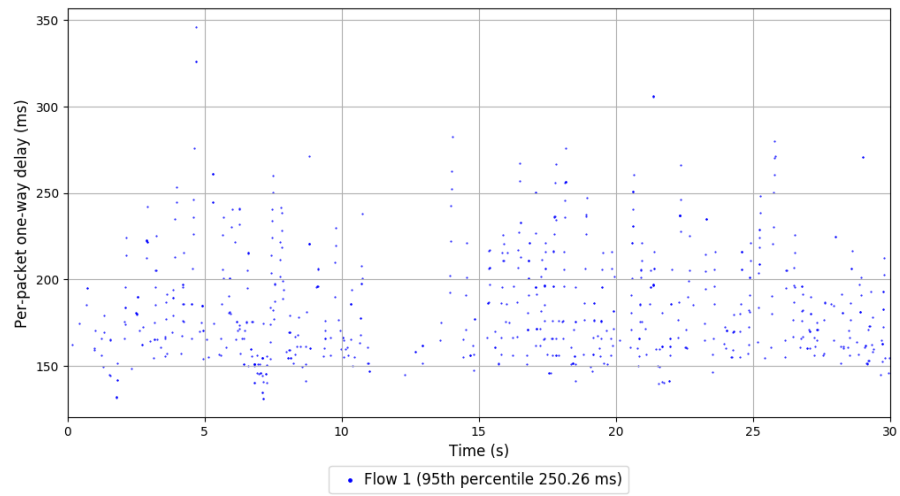
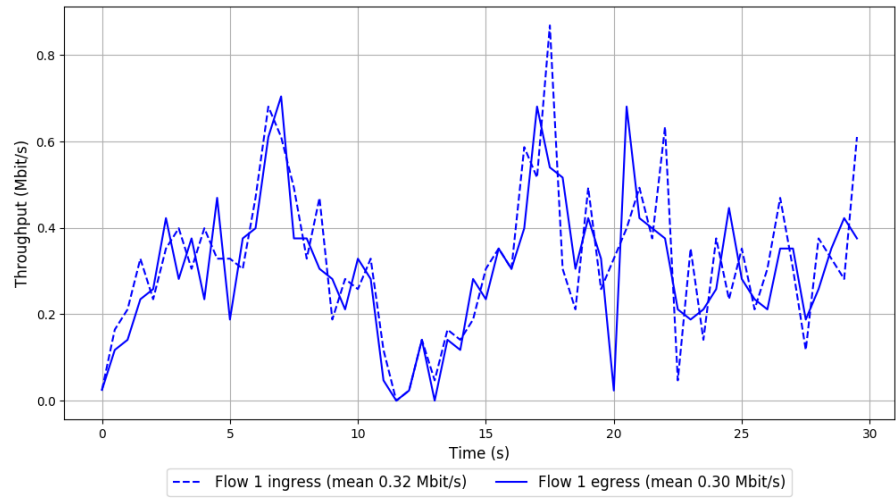
-- Flow 1:

Average throughput: 0.30 Mbit/s

95th percentile per-packet one-way delay: 250.264 ms

Loss rate: 6.10%

Run 2: Report of LEDBAT — Data Link



Run 3: Statistics of LEDBAT

Start at: 2017-09-22 09:12:23

End at: 2017-09-22 09:12:53

Local clock offset: 1.451 ms

Remote clock offset: 10.55 ms

Below is generated by plot.py at 2017-09-22 09:19:08

Datalink statistics

-- Total of 1 flow:

Average throughput: 0.46 Mbit/s

95th percentile per-packet one-way delay: 299.311 ms

Loss rate: 2.98%

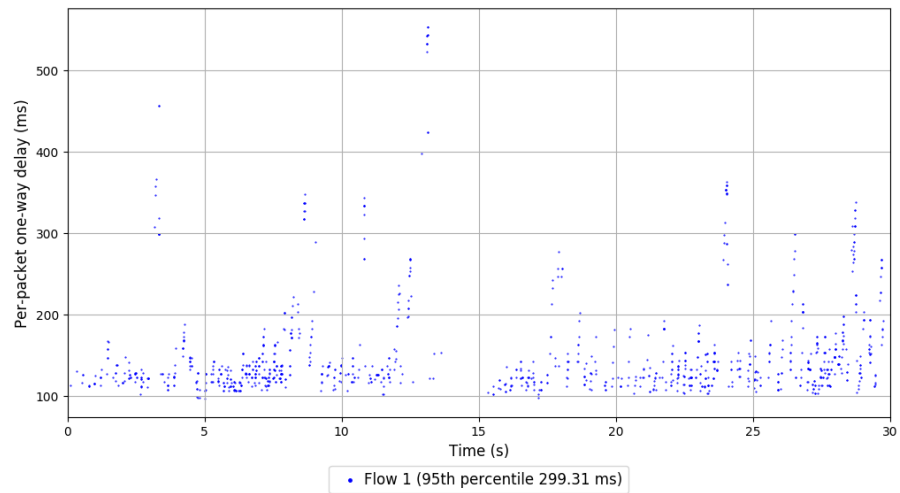
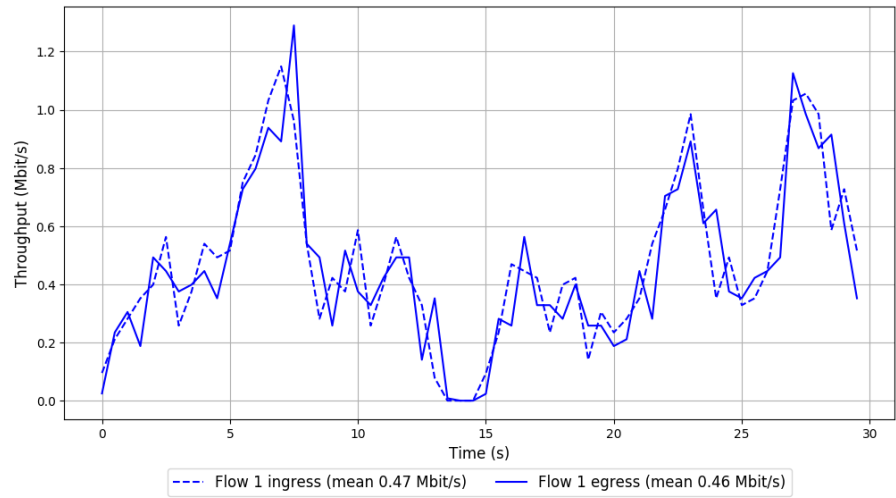
-- Flow 1:

Average throughput: 0.46 Mbit/s

95th percentile per-packet one-way delay: 299.311 ms

Loss rate: 2.98%

Run 3: Report of LEDBAT — Data Link



Run 1: Statistics of PCC

Start at: 2017-09-22 08:48:19

End at: 2017-09-22 08:48:49

Local clock offset: 0.346 ms

Remote clock offset: 4.003 ms

Below is generated by plot.py at 2017-09-22 09:19:12

Datalink statistics

-- Total of 1 flow:

Average throughput: 1.19 Mbit/s

95th percentile per-packet one-way delay: 1207.777 ms

Loss rate: 54.90%

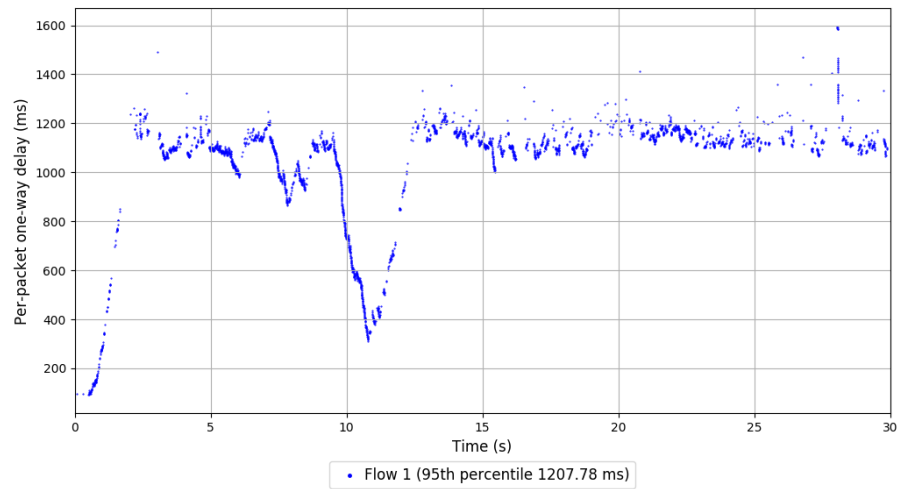
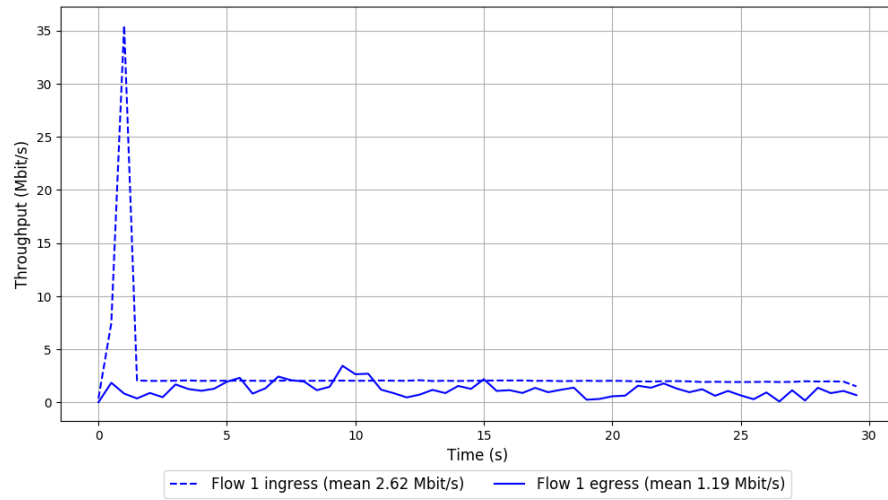
-- Flow 1:

Average throughput: 1.19 Mbit/s

95th percentile per-packet one-way delay: 1207.777 ms

Loss rate: 54.90%

Run 1: Report of PCC — Data Link



Run 2: Statistics of PCC

Start at: 2017-09-22 09:02:30

End at: 2017-09-22 09:03:00

Local clock offset: 1.72 ms

Remote clock offset: 8.716 ms

Below is generated by plot.py at 2017-09-22 09:19:13

Datalink statistics

-- Total of 1 flow:

Average throughput: 1.48 Mbit/s

95th percentile per-packet one-way delay: 1155.986 ms

Loss rate: 43.55%

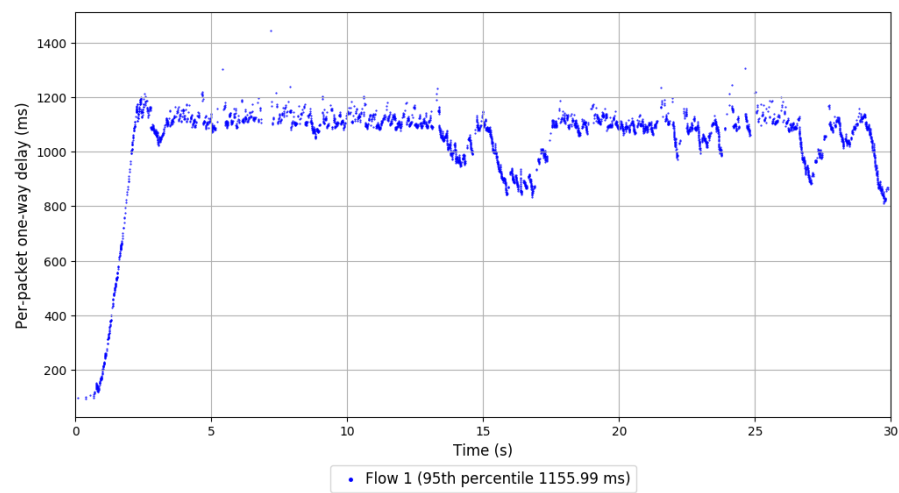
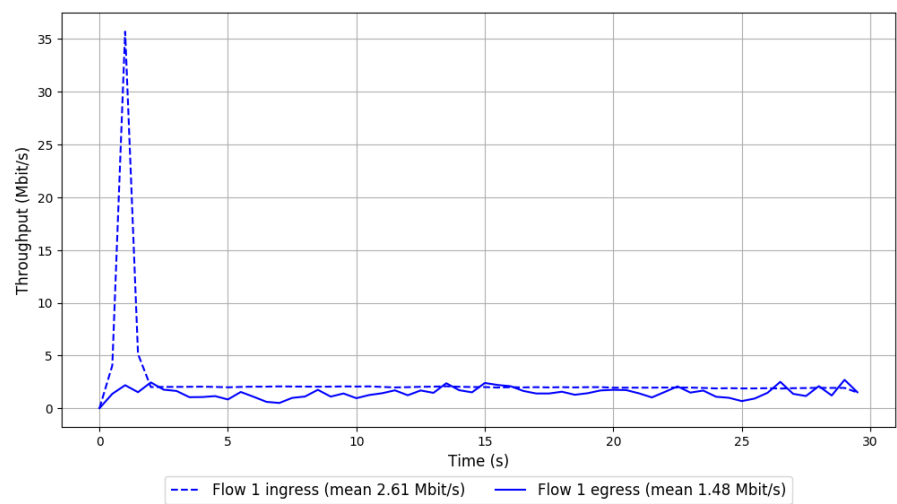
-- Flow 1:

Average throughput: 1.48 Mbit/s

95th percentile per-packet one-way delay: 1155.986 ms

Loss rate: 43.55%

Run 2: Report of PCC — Data Link



Run 3: Statistics of PCC

Start at: 2017-09-22 09:16:46

End at: 2017-09-22 09:17:16

Local clock offset: 2.328 ms

Remote clock offset: 9.058 ms

Below is generated by plot.py at 2017-09-22 09:19:14

Datalink statistics

-- Total of 1 flow:

Average throughput: 1.53 Mbit/s

95th percentile per-packet one-way delay: 1192.620 ms

Loss rate: 29.77%

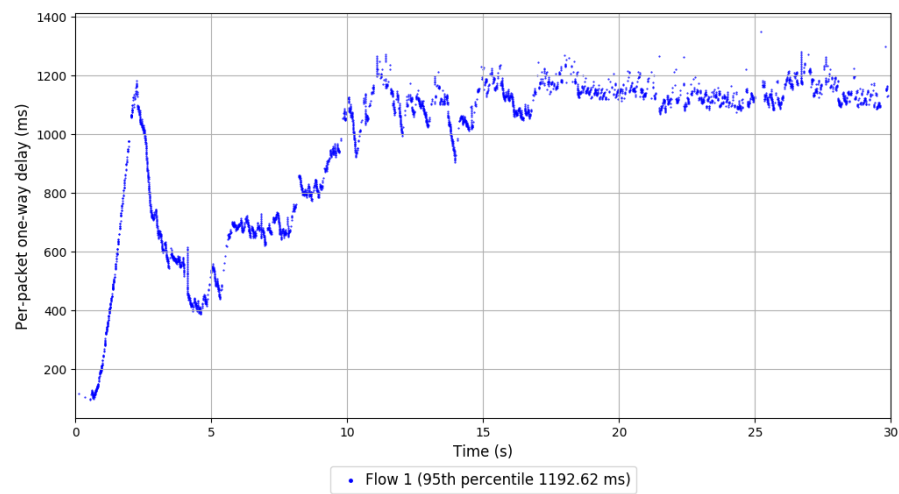
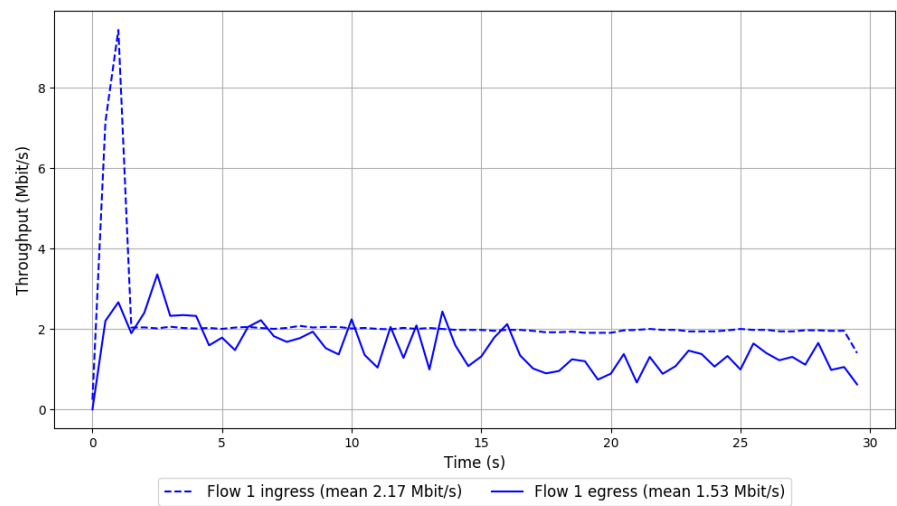
-- Flow 1:

Average throughput: 1.53 Mbit/s

95th percentile per-packet one-way delay: 1192.620 ms

Loss rate: 29.77%

Run 3: Report of PCC — Data Link



Run 1: Statistics of QUIC Cubic

Start at: 2017-09-22 08:42:52

End at: 2017-09-22 08:43:22

Local clock offset: 0.85 ms

Remote clock offset: 5.231 ms

Below is generated by plot.py at 2017-09-22 09:19:14

Datalink statistics

-- Total of 1 flow:

Average throughput: 0.95 Mbit/s

95th percentile per-packet one-way delay: 431.533 ms

Loss rate: 2.10%

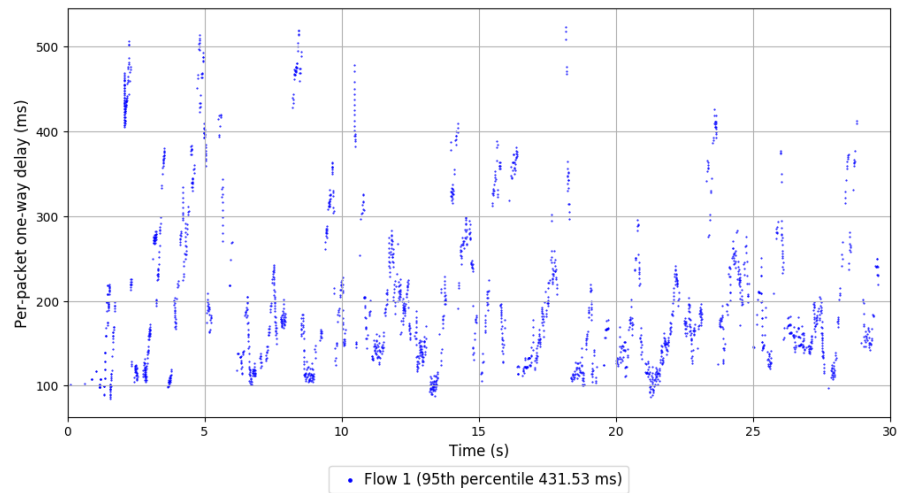
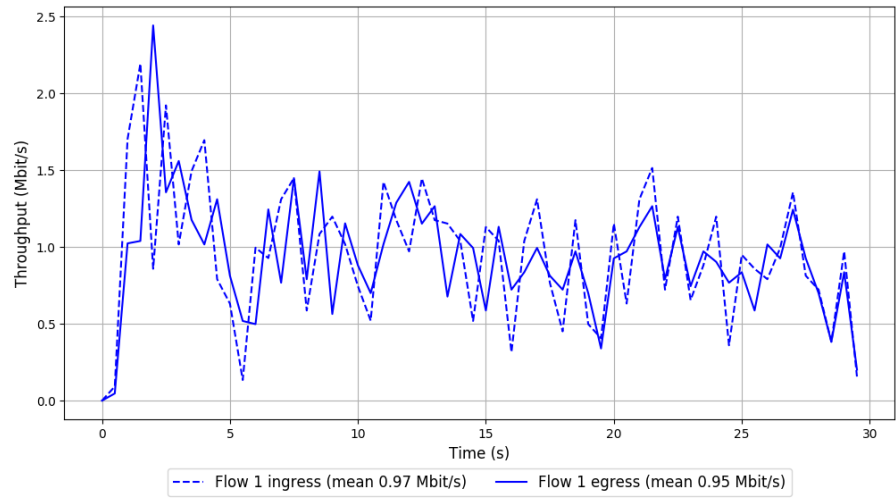
-- Flow 1:

Average throughput: 0.95 Mbit/s

95th percentile per-packet one-way delay: 431.533 ms

Loss rate: 2.10%

Run 1: Report of QUIC Cubic — Data Link



Run 2: Statistics of QUIC Cubic

Start at: 2017-09-22 08:57:01

End at: 2017-09-22 08:57:31

Local clock offset: 1.479 ms

Remote clock offset: 6.351 ms

Below is generated by plot.py at 2017-09-22 09:19:15

Datalink statistics

-- Total of 1 flow:

Average throughput: 1.66 Mbit/s

95th percentile per-packet one-way delay: 338.275 ms

Loss rate: 0.96%

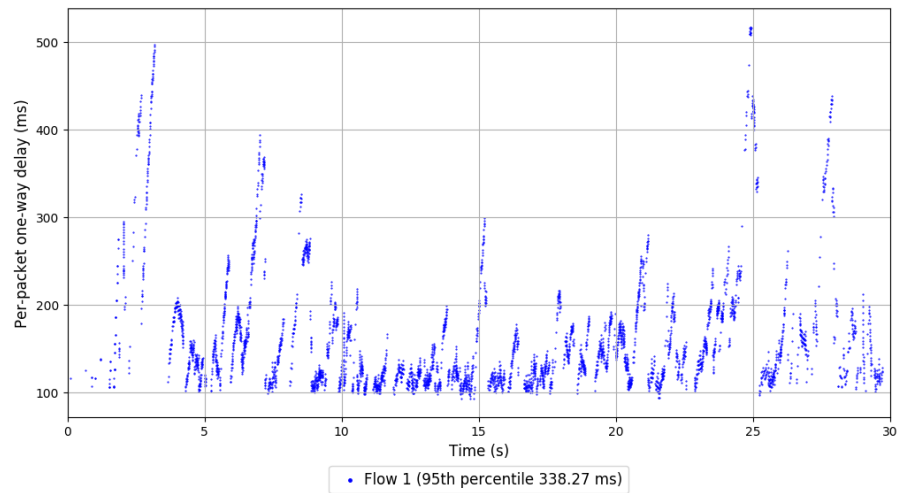
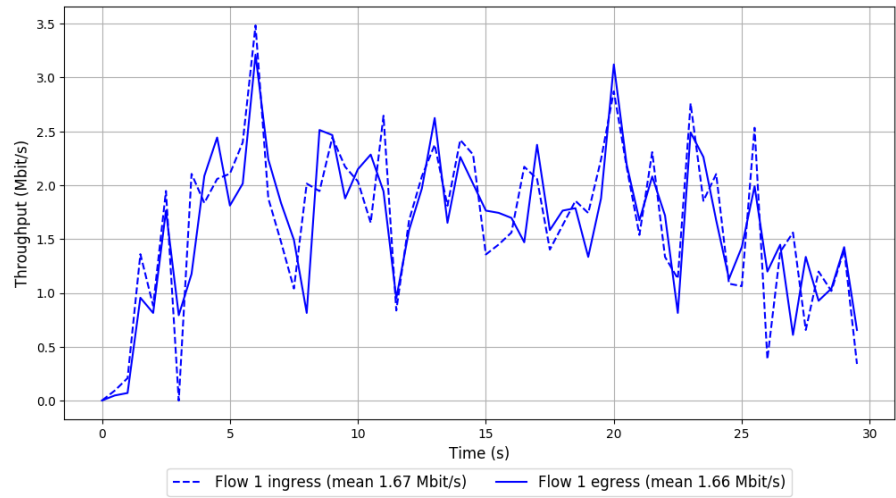
-- Flow 1:

Average throughput: 1.66 Mbit/s

95th percentile per-packet one-way delay: 338.275 ms

Loss rate: 0.96%

Run 2: Report of QUIC Cubic — Data Link



Run 3: Statistics of QUIC Cubic

Start at: 2017-09-22 09:11:18

End at: 2017-09-22 09:11:48

Local clock offset: 1.948 ms

Remote clock offset: 9.9 ms

Below is generated by plot.py at 2017-09-22 09:19:15

Datalink statistics

-- Total of 1 flow:

Average throughput: 0.88 Mbit/s

95th percentile per-packet one-way delay: 360.378 ms

Loss rate: 1.51%

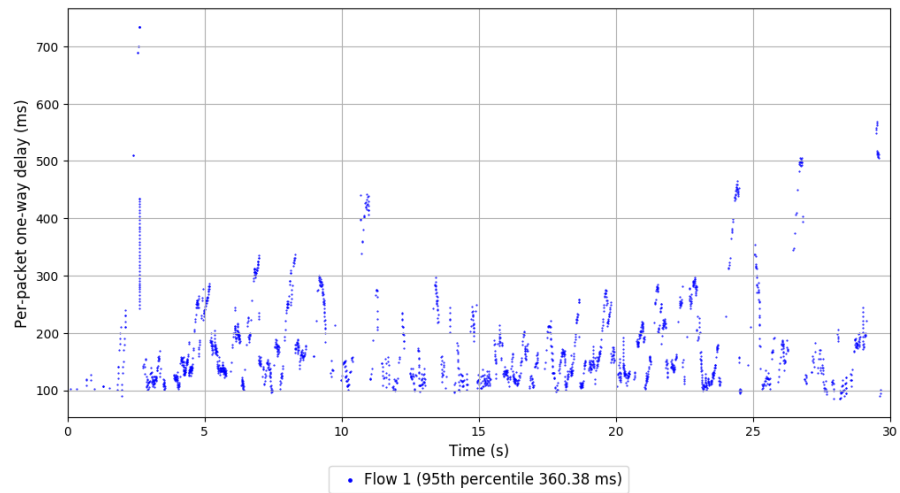
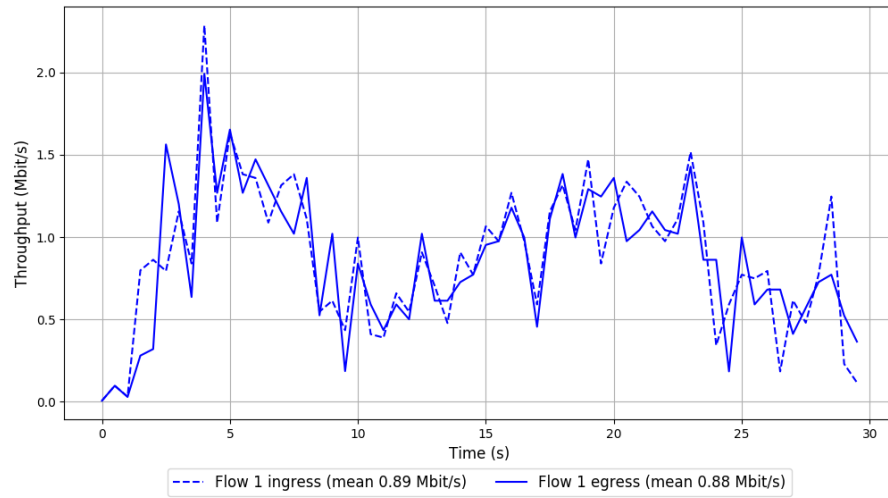
-- Flow 1:

Average throughput: 0.88 Mbit/s

95th percentile per-packet one-way delay: 360.378 ms

Loss rate: 1.51%

Run 3: Report of QUIC Cubic — Data Link

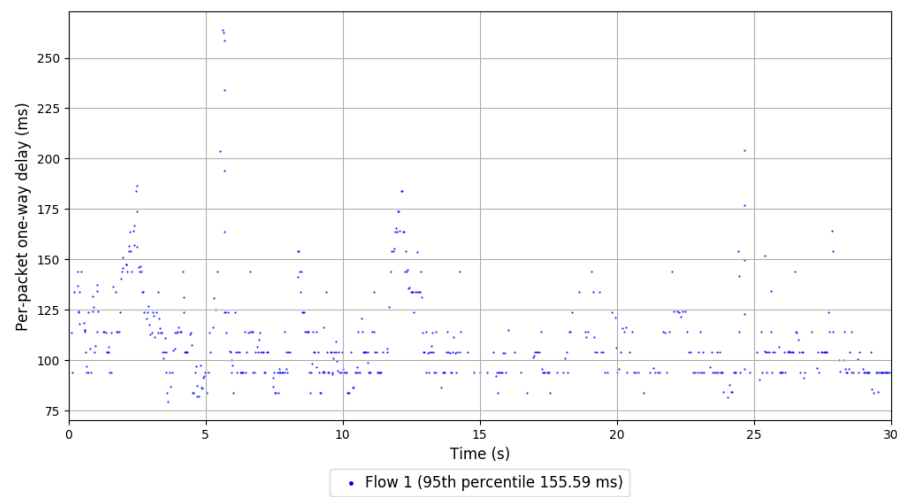
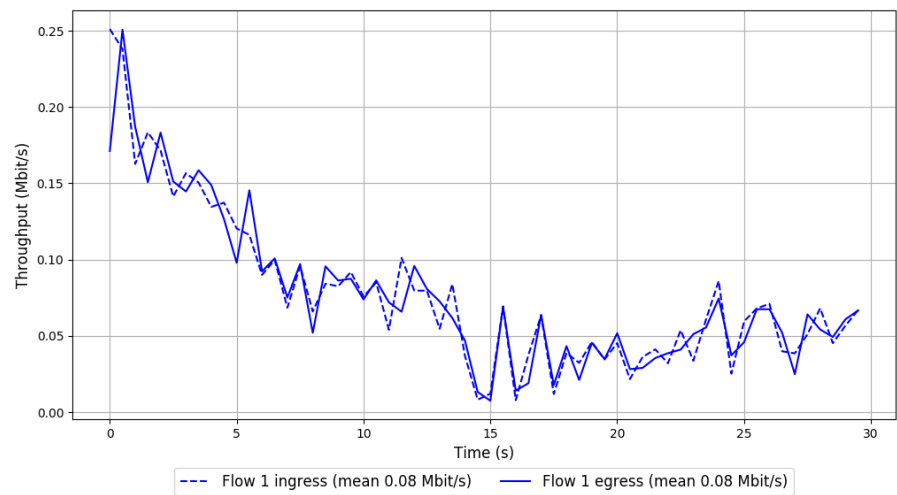


```
Run 1: Statistics of SCReAM

Start at: 2017-09-22 08:37:26
End at: 2017-09-22 08:37:56
Local clock offset: -1.646 ms
Remote clock offset: 0.143 ms

# Below is generated by plot.py at 2017-09-22 09:19:15
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.08 Mbit/s
95th percentile per-packet one-way delay: 155.586 ms
Loss rate: 1.14%
-- Flow 1:
Average throughput: 0.08 Mbit/s
95th percentile per-packet one-way delay: 155.586 ms
Loss rate: 1.14%
```

Run 1: Report of SReAM — Data Link



Run 2: Statistics of SCReAM

Start at: 2017-09-22 08:51:35

End at: 2017-09-22 08:52:05

Local clock offset: -0.267 ms

Remote clock offset: 4.276 ms

Below is generated by plot.py at 2017-09-22 09:19:15

Datalink statistics

-- Total of 1 flow:

Average throughput: 0.09 Mbit/s

95th percentile per-packet one-way delay: 133.048 ms

Loss rate: 0.94%

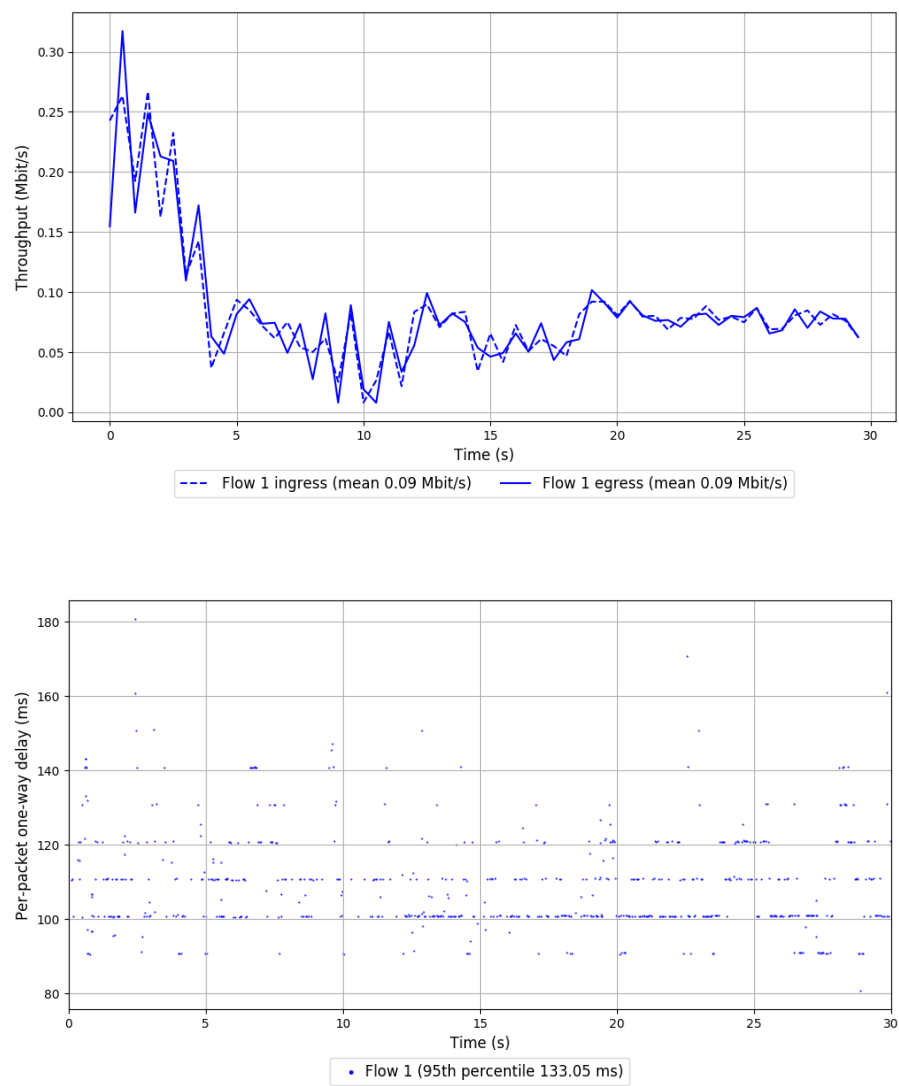
-- Flow 1:

Average throughput: 0.09 Mbit/s

95th percentile per-packet one-way delay: 133.048 ms

Loss rate: 0.94%

Run 2: Report of SReAM — Data Link



Run 3: Statistics of SCReAM

Start at: 2017-09-22 09:05:47

End at: 2017-09-22 09:06:17

Local clock offset: 0.118 ms

Remote clock offset: 5.338 ms

Below is generated by plot.py at 2017-09-22 09:19:16

Datalink statistics

-- Total of 1 flow:

Average throughput: 0.09 Mbit/s

95th percentile per-packet one-way delay: 118.234 ms

Loss rate: 0.47%

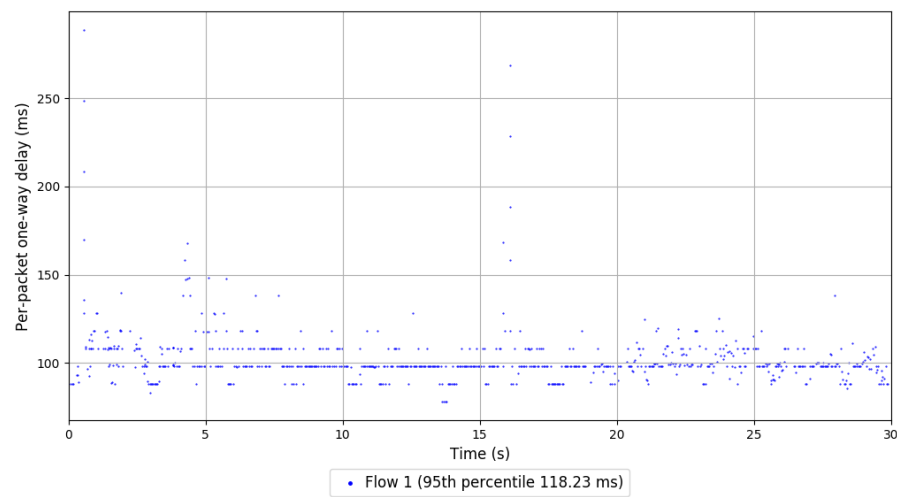
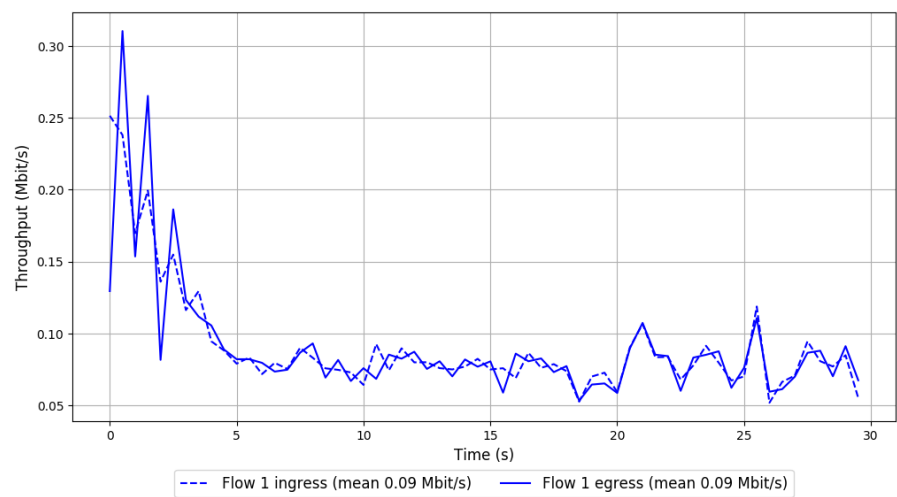
-- Flow 1:

Average throughput: 0.09 Mbit/s

95th percentile per-packet one-way delay: 118.234 ms

Loss rate: 0.47%

Run 3: Report of SReAM — Data Link



Run 1: Statistics of WebRTC media

Start at: 2017-09-22 08:38:31

End at: 2017-09-22 08:39:01

Local clock offset: -0.882 ms

Remote clock offset: 4.387 ms

Below is generated by plot.py at 2017-09-22 09:19:17

Datalink statistics

-- Total of 1 flow:

Average throughput: 0.53 Mbit/s

95th percentile per-packet one-way delay: 857.371 ms

Loss rate: 1.97%

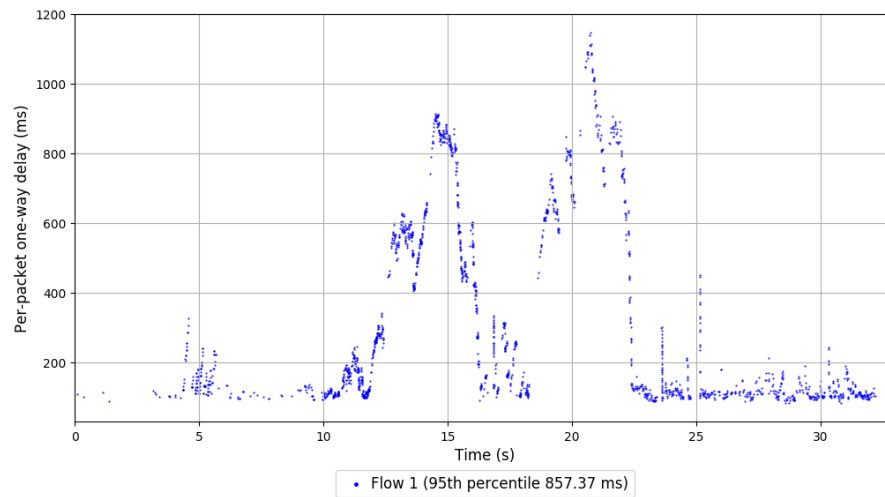
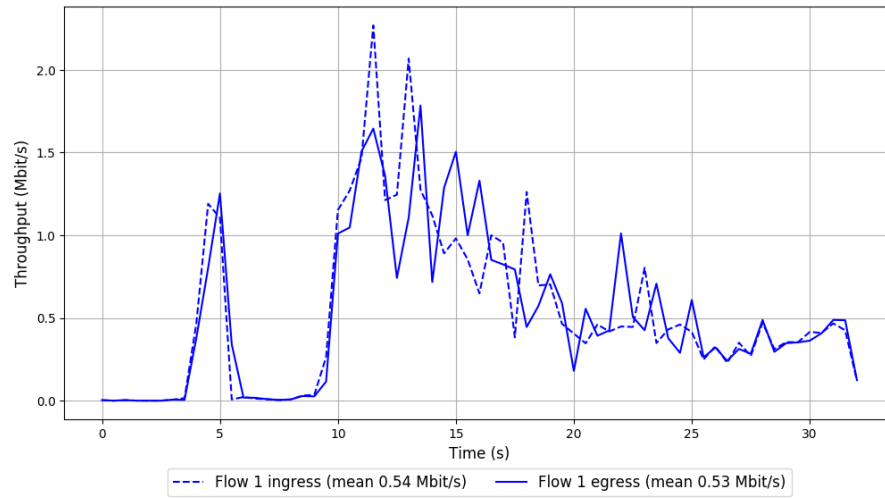
-- Flow 1:

Average throughput: 0.53 Mbit/s

95th percentile per-packet one-way delay: 857.371 ms

Loss rate: 1.97%

Run 1: Report of WebRTC media — Data Link



Run 2: Statistics of WebRTC media

Start at: 2017-09-22 08:52:40

End at: 2017-09-22 08:53:10

Local clock offset: -1.091 ms

Remote clock offset: 6.233 ms

Below is generated by plot.py at 2017-09-22 09:19:17

Datalink statistics

-- Total of 1 flow:

Average throughput: 0.34 Mbit/s

95th percentile per-packet one-way delay: 1153.110 ms

Loss rate: 11.82%

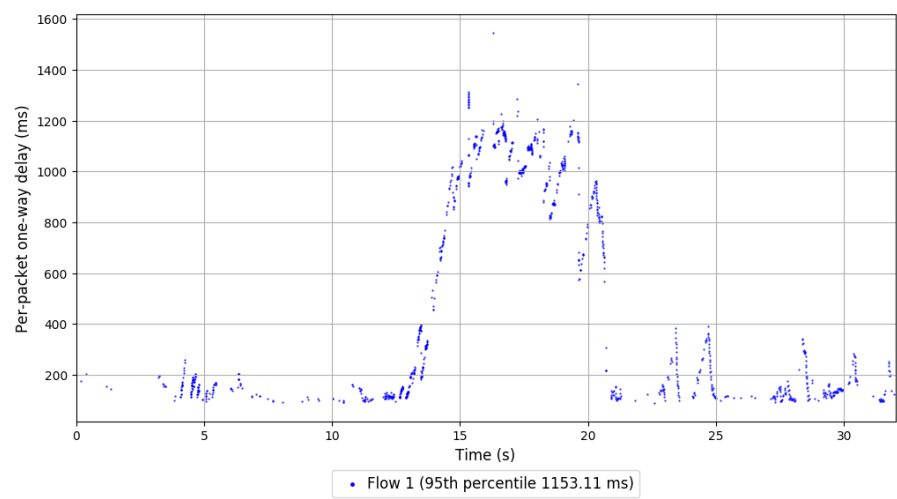
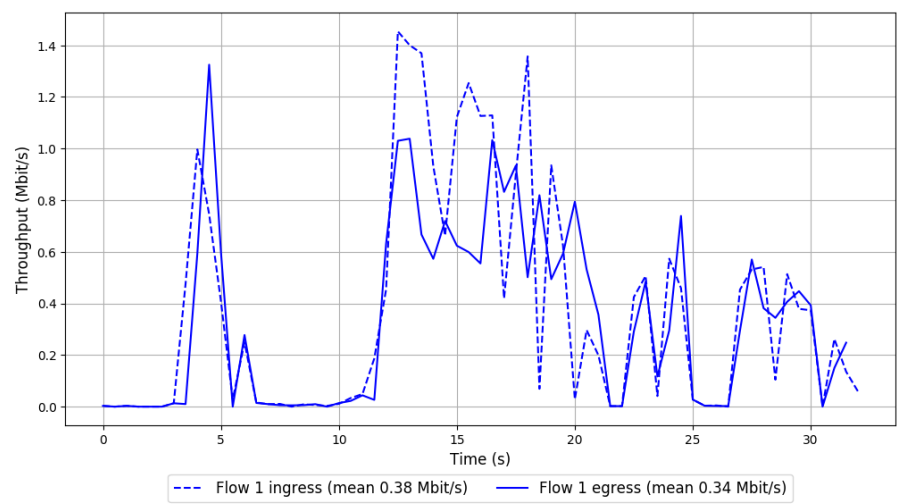
-- Flow 1:

Average throughput: 0.34 Mbit/s

95th percentile per-packet one-way delay: 1153.110 ms

Loss rate: 11.82%

Run 2: Report of WebRTC media — Data Link



Run 3: Statistics of WebRTC media

Start at: 2017-09-22 09:06:53

End at: 2017-09-22 09:07:23

Local clock offset: 0.186 ms

Remote clock offset: 6.113 ms

Below is generated by plot.py at 2017-09-22 09:19:18

Datalink statistics

-- Total of 1 flow:

Average throughput: 0.44 Mbit/s

95th percentile per-packet one-way delay: 382.317 ms

Loss rate: 2.41%

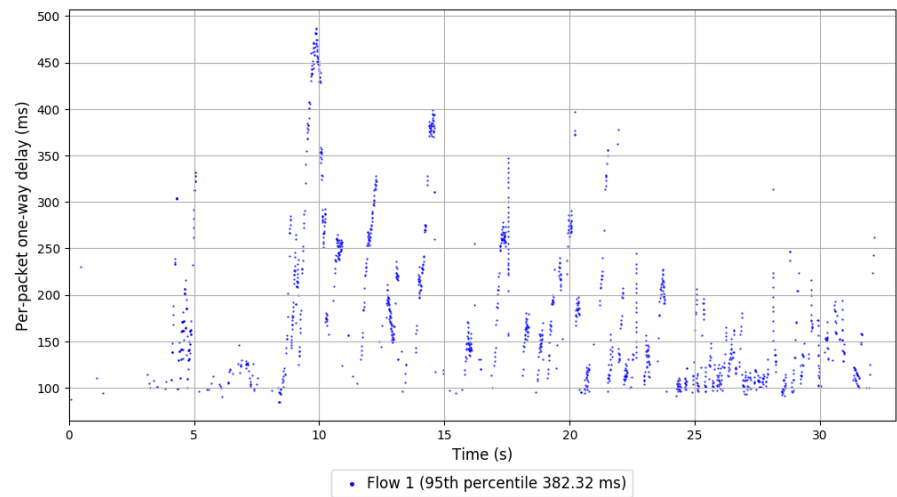
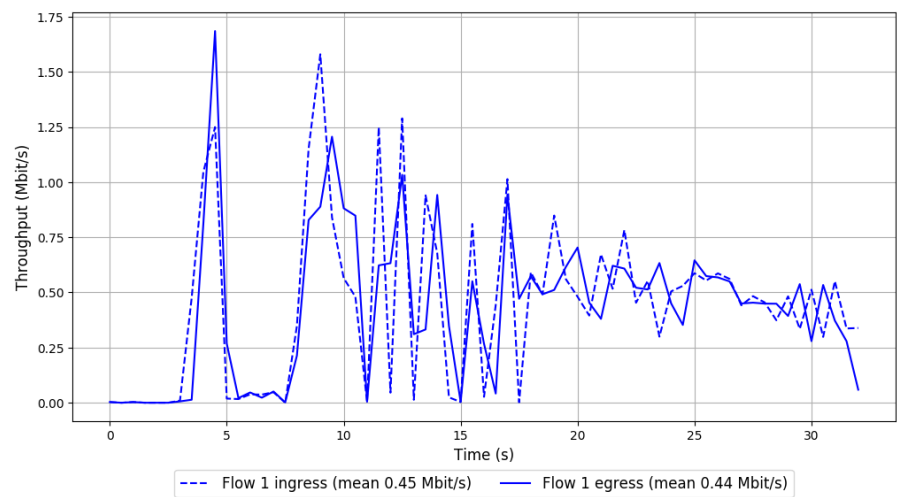
-- Flow 1:

Average throughput: 0.44 Mbit/s

95th percentile per-packet one-way delay: 382.317 ms

Loss rate: 2.41%

Run 3: Report of WebRTC media — Data Link



Run 1: Statistics of Sprout

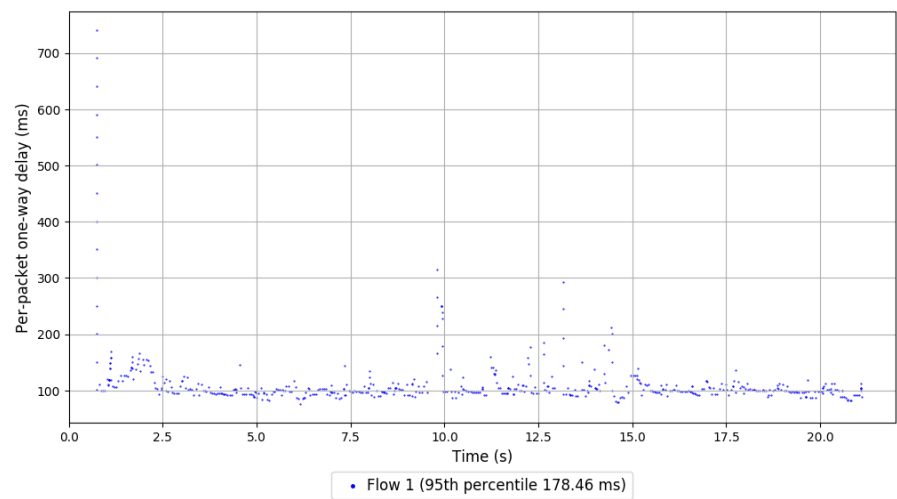
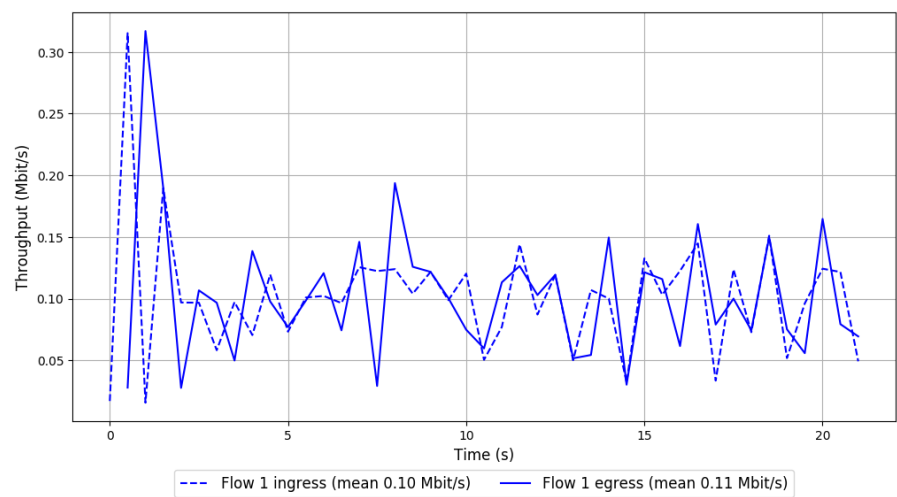
Start at: 2017-09-22 08:39:36

End at: 2017-09-22 08:40:06

Local clock offset: 0.418 ms

Remote clock offset: 1.573 ms

Run 1: Report of Sprout — Data Link



Run 2: Statistics of Sprout

Start at: 2017-09-22 08:53:45

End at: 2017-09-22 08:54:16

Local clock offset: 0.922 ms

Remote clock offset: 1.958 ms

Below is generated by plot.py at 2017-09-22 09:19:18

Datalink statistics

-- Total of 1 flow:

Average throughput: 0.11 Mbit/s

95th percentile per-packet one-way delay: 184.972 ms

Loss rate: 1.26%

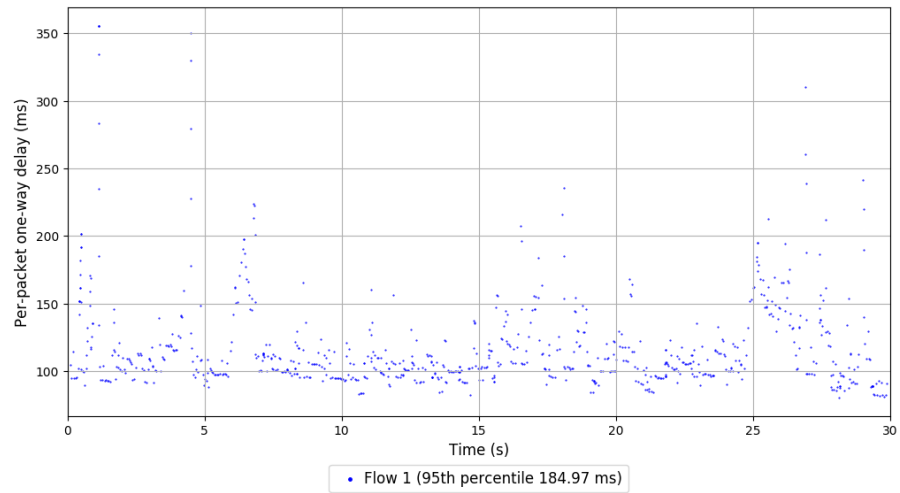
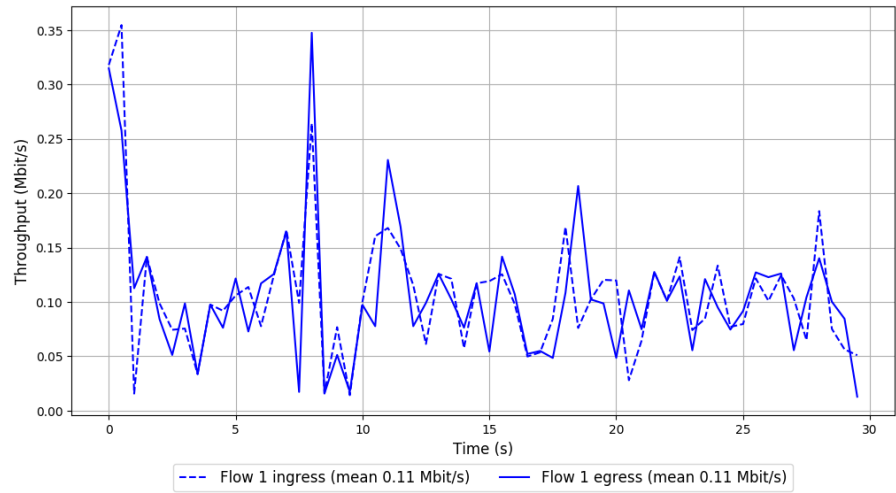
-- Flow 1:

Average throughput: 0.11 Mbit/s

95th percentile per-packet one-way delay: 184.972 ms

Loss rate: 1.26%

Run 2: Report of Sprout — Data Link



Run 3: Statistics of Sprout

Start at: 2017-09-22 09:07:59

End at: 2017-09-22 09:08:29

Local clock offset: 0.791 ms

Remote clock offset: 6.848 ms

Below is generated by plot.py at 2017-09-22 09:19:19

Datalink statistics

-- Total of 1 flow:

Average throughput: 0.11 Mbit/s

95th percentile per-packet one-way delay: 213.543 ms

Loss rate: 1.28%

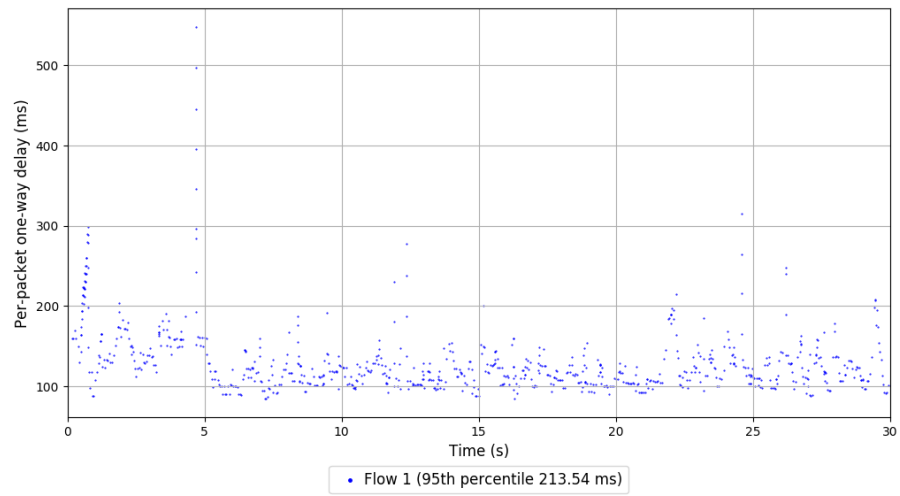
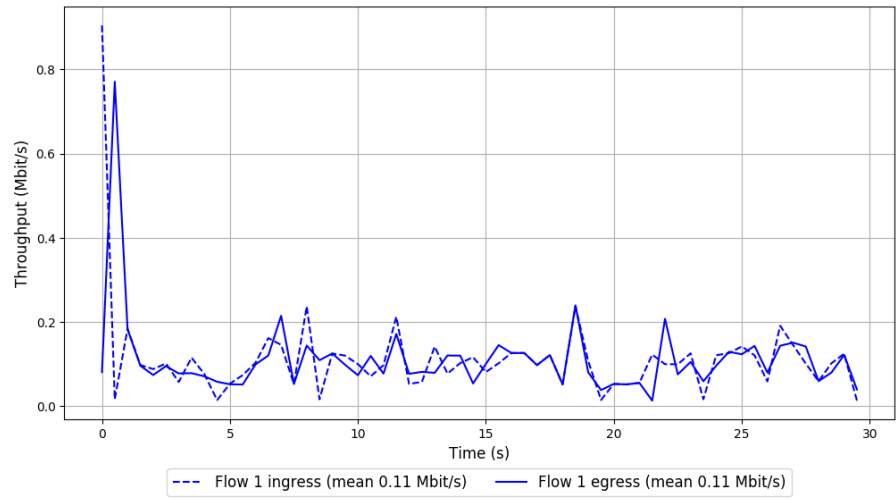
-- Flow 1:

Average throughput: 0.11 Mbit/s

95th percentile per-packet one-way delay: 213.543 ms

Loss rate: 1.28%

Run 3: Report of Sprout — Data Link



Run 1: Statistics of TaoVA-100x

Start at: 2017-09-22 08:45:03

End at: 2017-09-22 08:45:33

Local clock offset: -0.171 ms

Remote clock offset: 8.639 ms

Below is generated by plot.py at 2017-09-22 09:19:22

Datalink statistics

-- Total of 1 flow:

Average throughput: 0.68 Mbit/s

95th percentile per-packet one-way delay: 524.901 ms

Loss rate: 1.02%

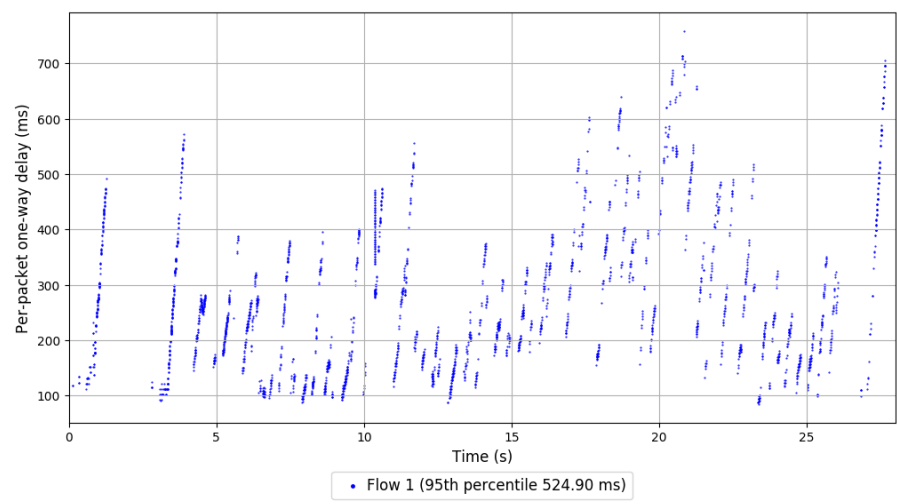
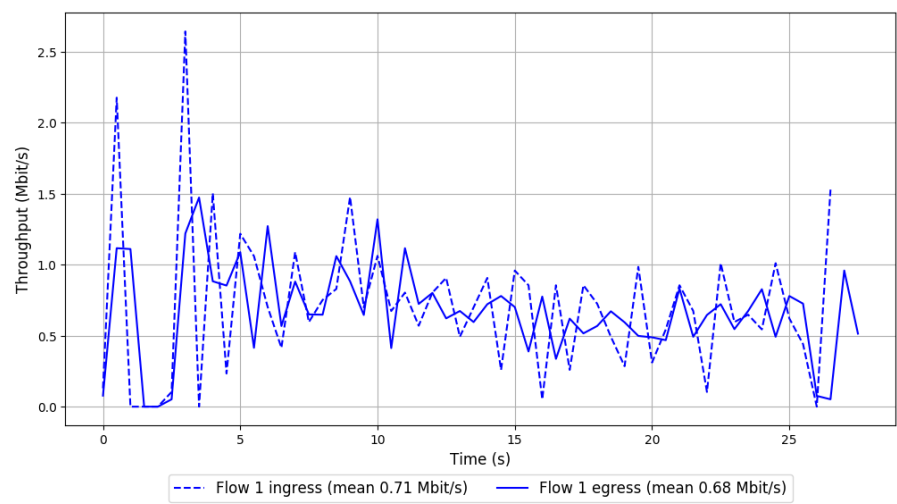
-- Flow 1:

Average throughput: 0.68 Mbit/s

95th percentile per-packet one-way delay: 524.901 ms

Loss rate: 1.02%

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



Run 2: Statistics of TaoVA-100x

Start at: 2017-09-22 08:59:12

End at: 2017-09-22 08:59:42

Local clock offset: 0.687 ms

Remote clock offset: 5.995 ms

Below is generated by plot.py at 2017-09-22 09:19:24

Datalink statistics

-- Total of 1 flow:

Average throughput: 1.08 Mbit/s

95th percentile per-packet one-way delay: 502.286 ms

Loss rate: 1.09%

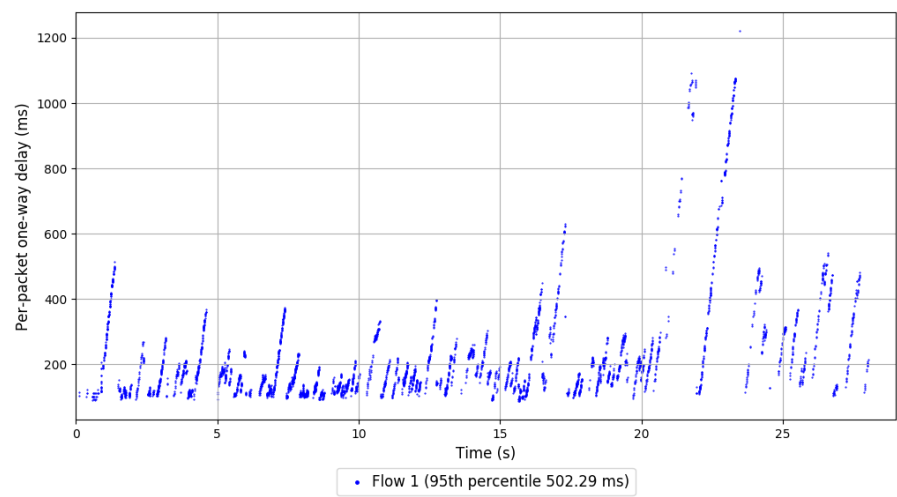
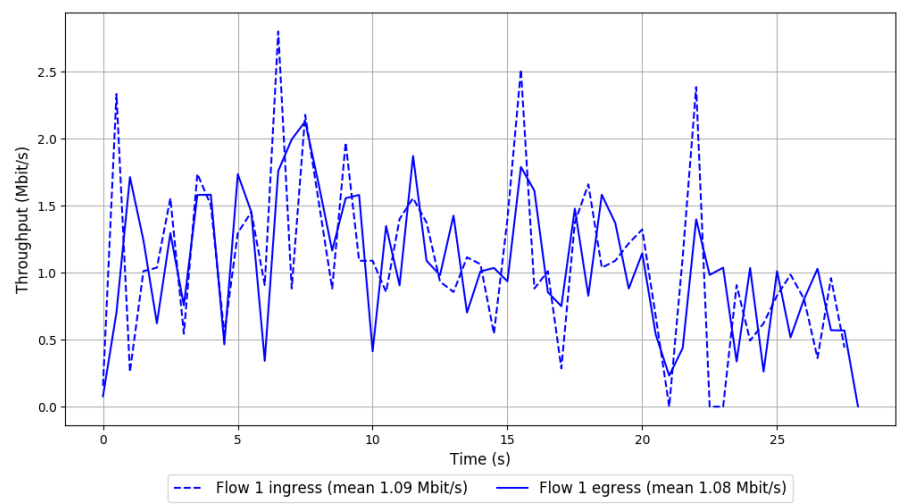
-- Flow 1:

Average throughput: 1.08 Mbit/s

95th percentile per-packet one-way delay: 502.286 ms

Loss rate: 1.09%

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



Run 3: Statistics of TaoVA-100x

Start at: 2017-09-22 09:13:29

End at: 2017-09-22 09:13:59

Local clock offset: 0.034 ms

Remote clock offset: 9.225 ms

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

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Run 1: Statistics of TCP Vegas

Start at: 2017-09-22 08:41:47

End at: 2017-09-22 08:42:17

Local clock offset: 0.69 ms

Remote clock offset: 4.787 ms

Below is generated by plot.py at 2017-09-22 09:19:24

Datalink statistics

-- Total of 1 flow:

Average throughput: 0.22 Mbit/s

95th percentile per-packet one-way delay: 360.830 ms

Loss rate: 3.98%

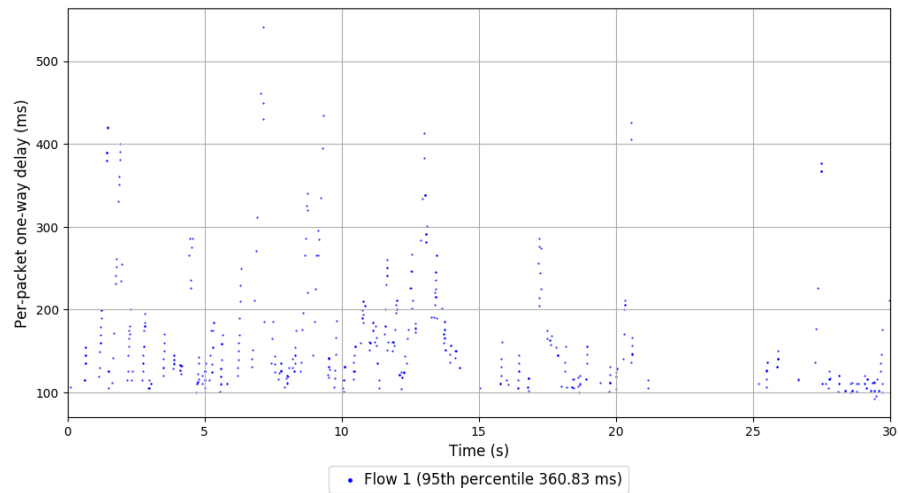
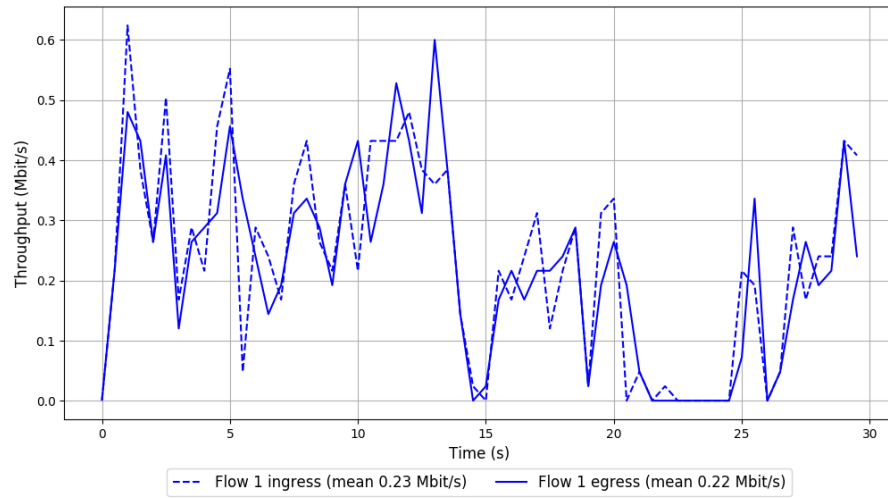
-- Flow 1:

Average throughput: 0.22 Mbit/s

95th percentile per-packet one-way delay: 360.830 ms

Loss rate: 3.98%

Run 1: Report of TCP Vegas — Data Link



Run 2: Statistics of TCP Vegas

Start at: 2017-09-22 08:55:56

End at: 2017-09-22 08:56:26

Local clock offset: -0.791 ms

Remote clock offset: 7.333 ms

Below is generated by plot.py at 2017-09-22 09:19:24

Datalink statistics

-- Total of 1 flow:

Average throughput: 0.38 Mbit/s

95th percentile per-packet one-way delay: 237.417 ms

Loss rate: 1.15%

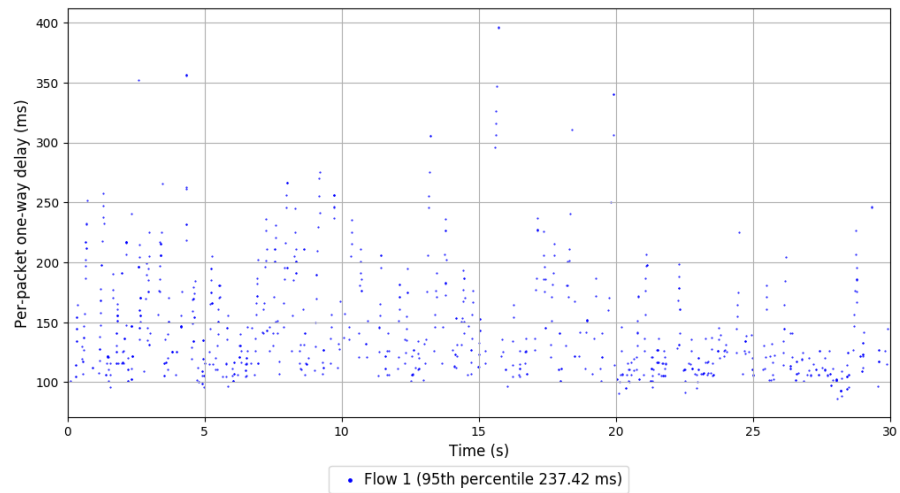
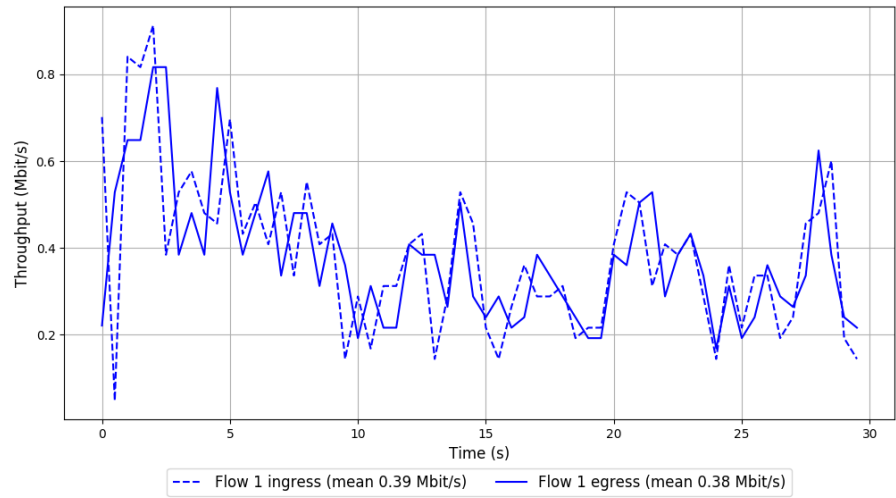
-- Flow 1:

Average throughput: 0.38 Mbit/s

95th percentile per-packet one-way delay: 237.417 ms

Loss rate: 1.15%

Run 2: Report of TCP Vegas — Data Link



Run 3: Statistics of TCP Vegas

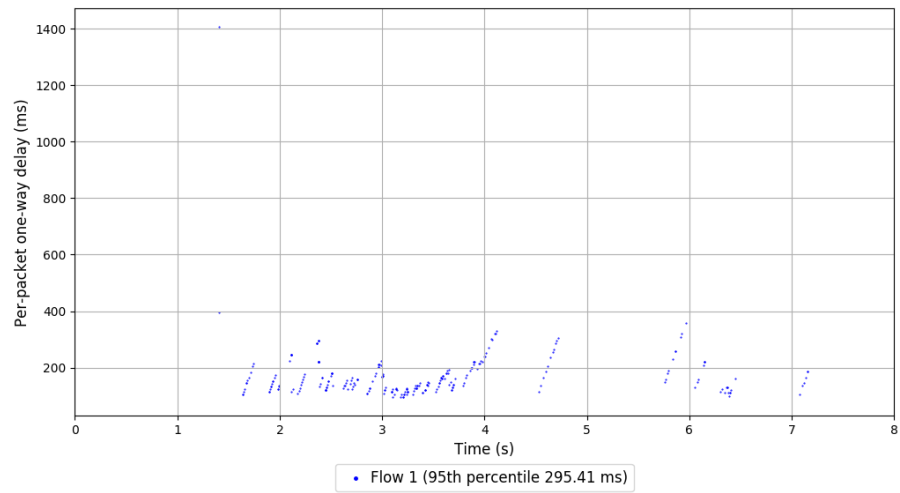
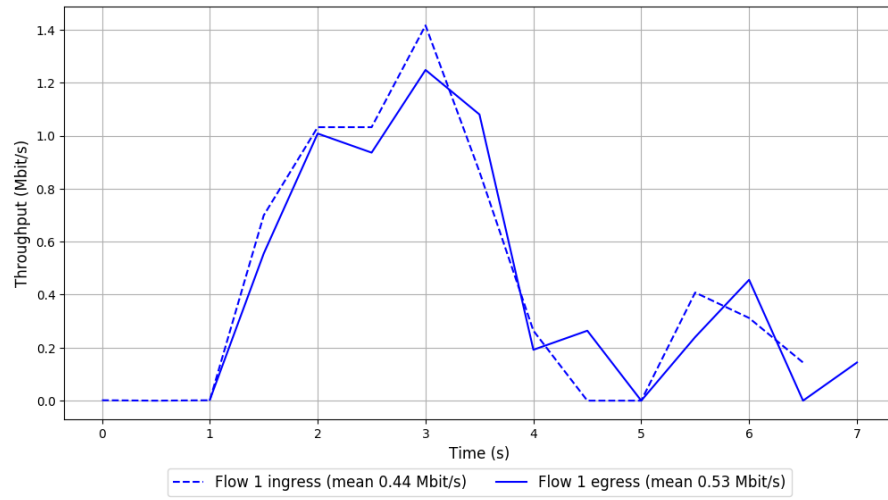
Start at: 2017-09-22 09:10:10

End at: 2017-09-22 09:10:40

Local clock offset: 2.219 ms

Remote clock offset: 8.767 ms

Run 3: Report of TCP Vegas — Data Link



Run 1: Statistics of Verus

Start at: 2017-09-22 08:49:25

End at: 2017-09-22 08:49:55

Local clock offset: -1.609 ms

Remote clock offset: 5.553 ms

Below is generated by plot.py at 2017-09-22 09:19:24

Datalink statistics

-- Total of 1 flow:

Average throughput: 0.49 Mbit/s

95th percentile per-packet one-way delay: 733.084 ms

Loss rate: 27.10%

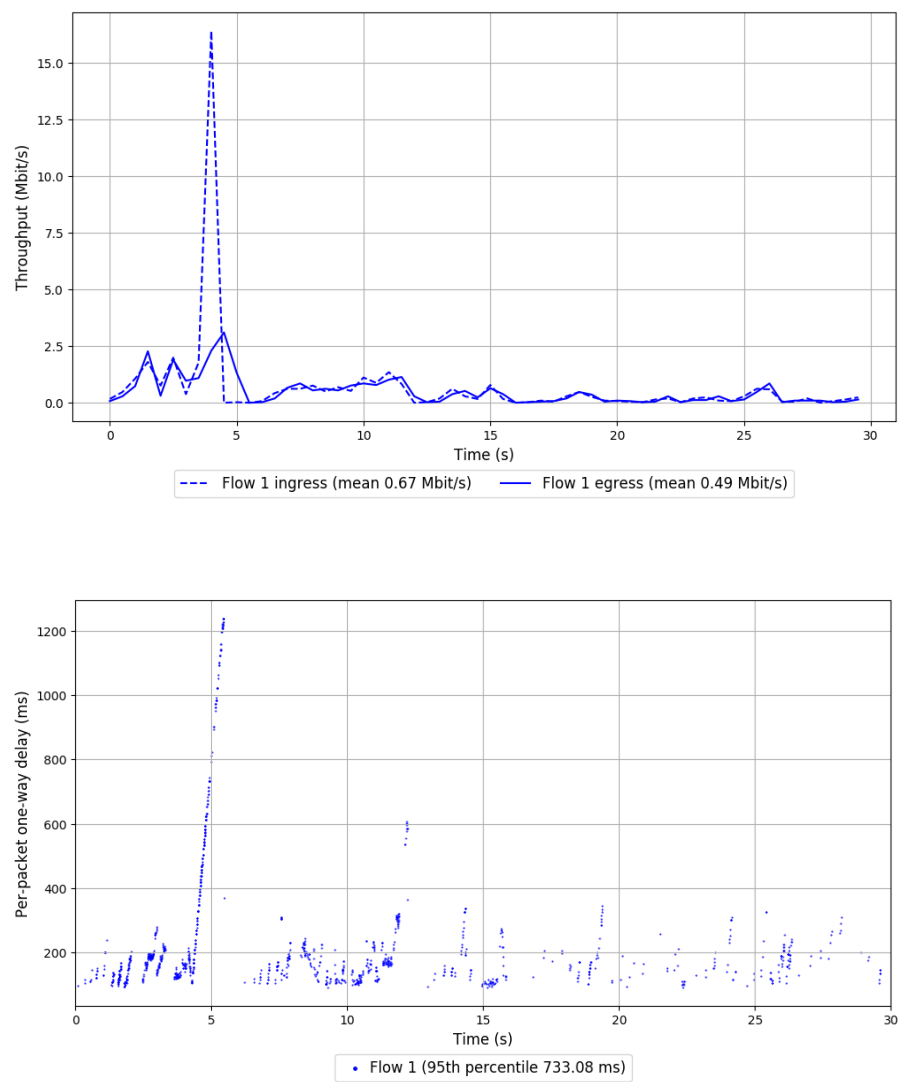
-- Flow 1:

Average throughput: 0.49 Mbit/s

95th percentile per-packet one-way delay: 733.084 ms

Loss rate: 27.10%

Run 1: Report of Verus — Data Link



Run 2: Statistics of Verus

Start at: 2017-09-22 09:03:35

End at: 2017-09-22 09:04:05

Local clock offset: 2.096 ms

Remote clock offset: 6.714 ms

Below is generated by plot.py at 2017-09-22 09:19:24

Datalink statistics

-- Total of 1 flow:

Average throughput: 0.40 Mbit/s

95th percentile per-packet one-way delay: 927.674 ms

Loss rate: 1.58%

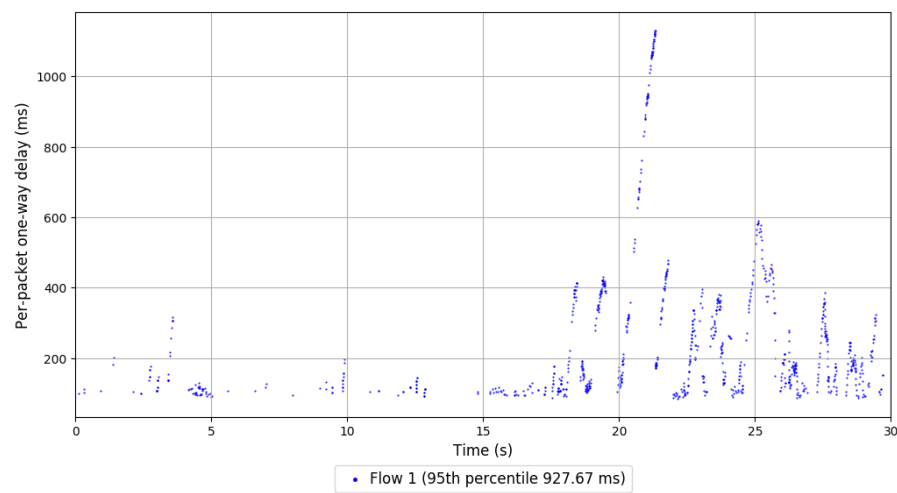
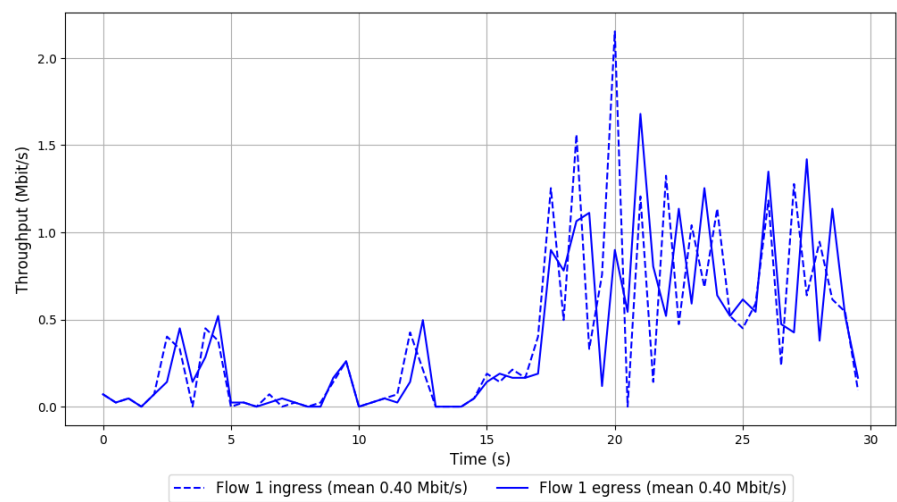
-- Flow 1:

Average throughput: 0.40 Mbit/s

95th percentile per-packet one-way delay: 927.674 ms

Loss rate: 1.58%

Run 2: Report of Verus — Data Link



Run 3: Statistics of Verus

Start at: 2017-09-22 09:17:52

End at: 2017-09-22 09:18:22

Local clock offset: -0.573 ms

Remote clock offset: 8.557 ms

Below is generated by plot.py at 2017-09-22 09:19:25

Datalink statistics

-- Total of 1 flow:

Average throughput: 1.43 Mbit/s

95th percentile per-packet one-way delay: 899.493 ms

Loss rate: 6.04%

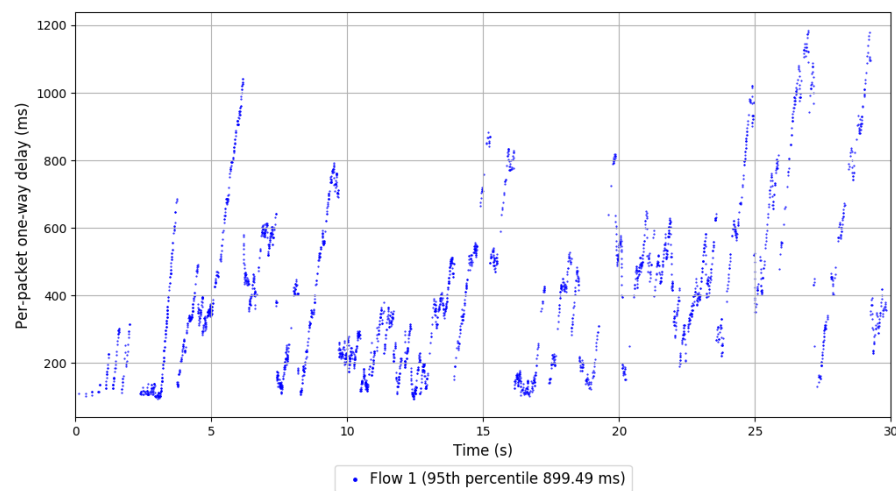
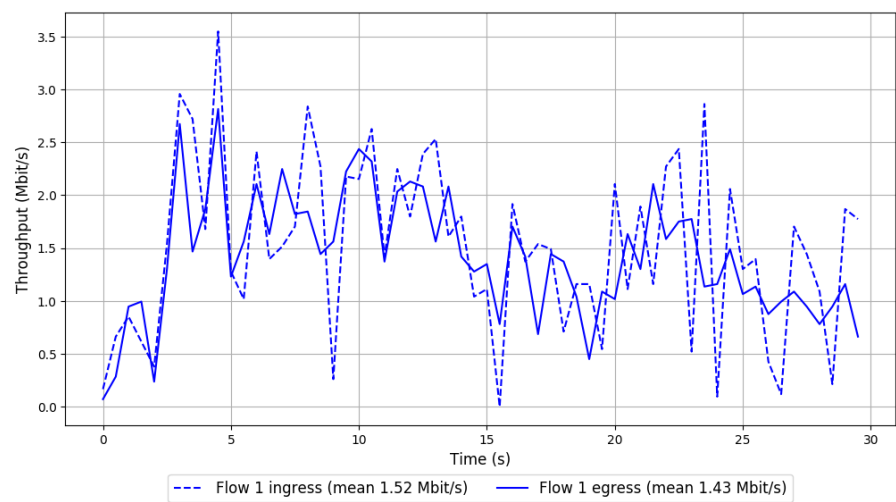
-- Flow 1:

Average throughput: 1.43 Mbit/s

95th percentile per-packet one-way delay: 899.493 ms

Loss rate: 6.04%

Run 3: Report of Verus — Data Link

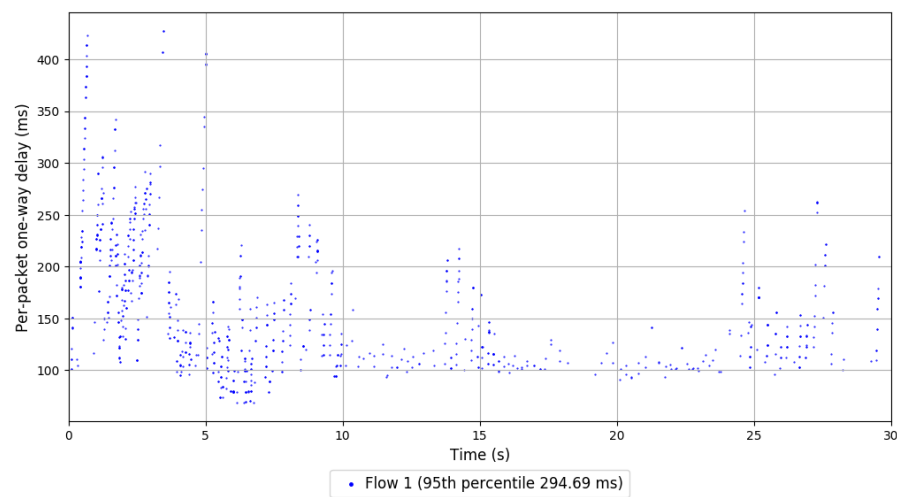
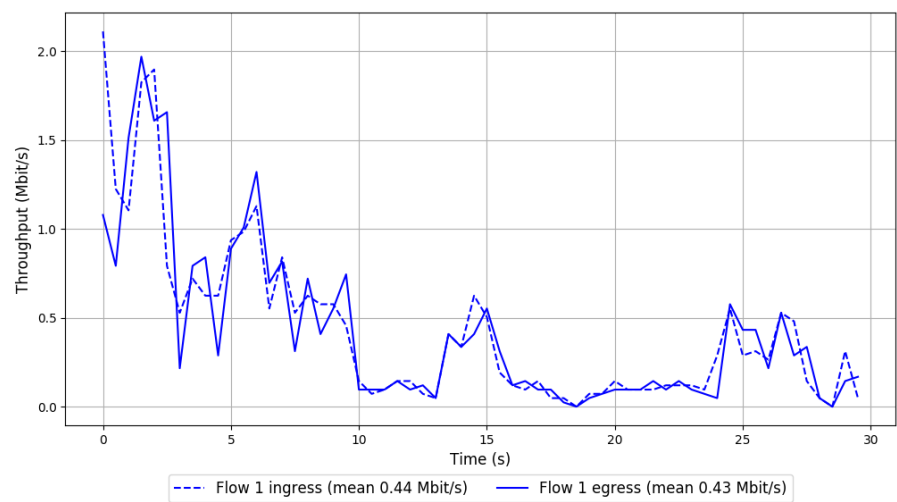


```
Run 1: Statistics of Indigo

Start at: 2017-09-22 08:47:14
End at: 2017-09-22 08:47:44
Local clock offset: -1.207 ms
Remote clock offset: 5.147 ms

# Below is generated by plot.py at 2017-09-22 09:19:26
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.43 Mbit/s
95th percentile per-packet one-way delay: 294.687 ms
Loss rate: 2.29%
-- Flow 1:
Average throughput: 0.43 Mbit/s
95th percentile per-packet one-way delay: 294.687 ms
Loss rate: 2.29%
```

Run 1: Report of Indigo — Data Link



Run 2: Statistics of Indigo

Start at: 2017-09-22 09:01:24

End at: 2017-09-22 09:01:54

Local clock offset: -0.303 ms

Remote clock offset: 9.57 ms

Below is generated by plot.py at 2017-09-22 09:19:26

Datalink statistics

-- Total of 1 flow:

Average throughput: 0.14 Mbit/s

95th percentile per-packet one-way delay: 190.719 ms

Loss rate: 0.28%

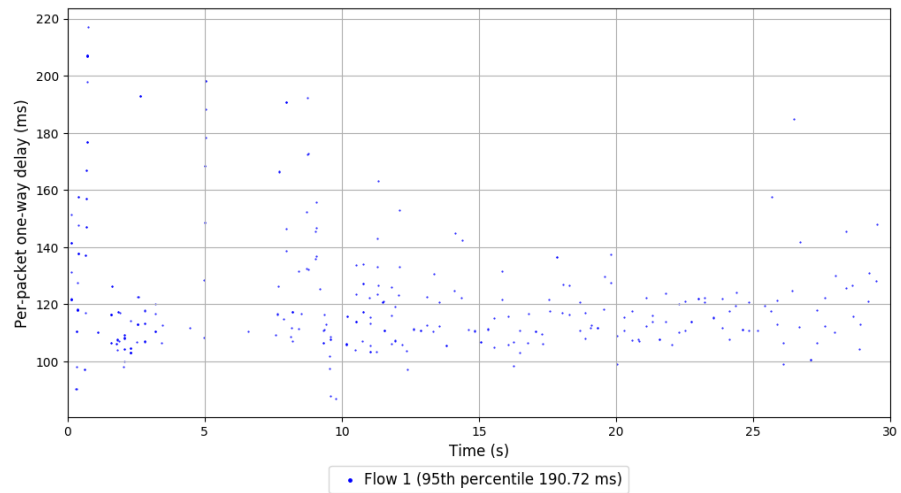
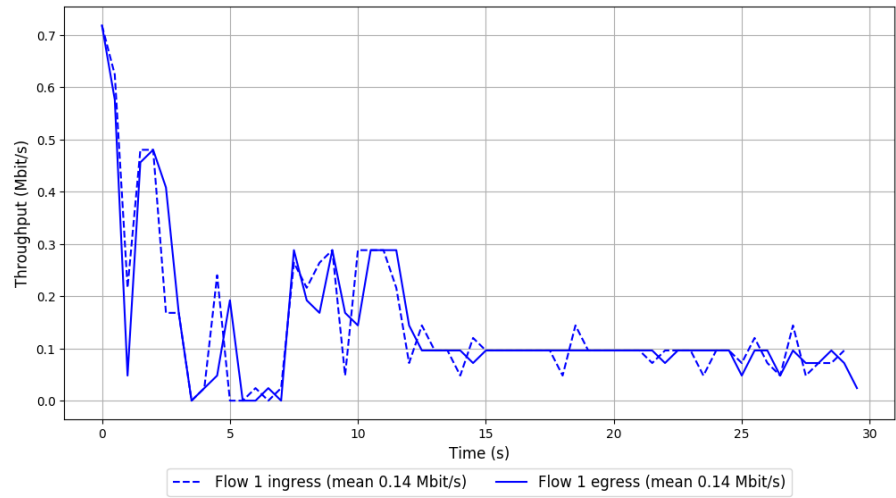
-- Flow 1:

Average throughput: 0.14 Mbit/s

95th percentile per-packet one-way delay: 190.719 ms

Loss rate: 0.28%

Run 2: Report of Indigo — Data Link



Run 3: Statistics of Indigo

Start at: 2017-09-22 09:15:41

End at: 2017-09-22 09:16:11

Local clock offset: -0.571 ms

Remote clock offset: 6.792 ms

Below is generated by plot.py at 2017-09-22 09:19:26

Datalink statistics

-- Total of 1 flow:

Average throughput: 0.59 Mbit/s

95th percentile per-packet one-way delay: 268.110 ms

Loss rate: 1.09%

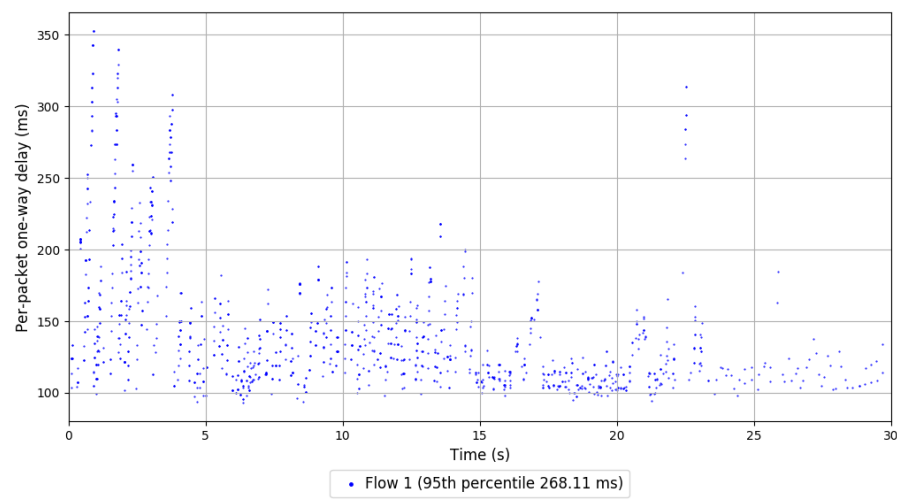
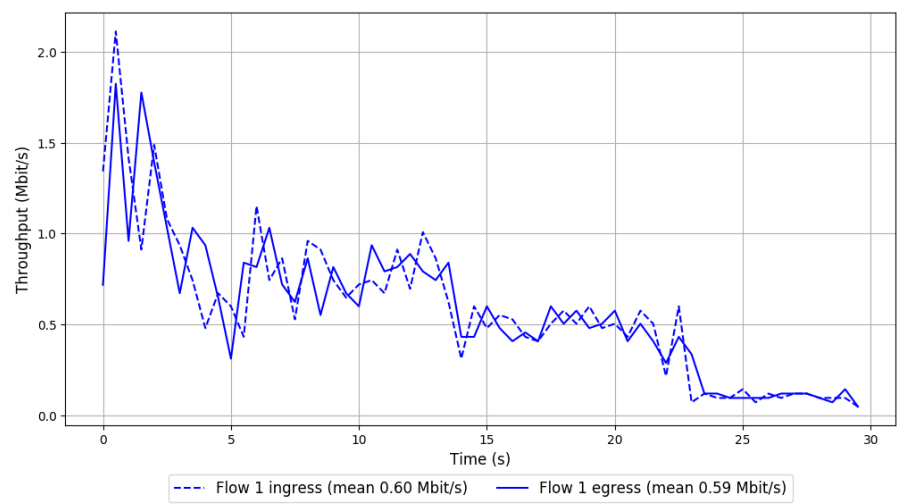
-- Flow 1:

Average throughput: 0.59 Mbit/s

95th percentile per-packet one-way delay: 268.110 ms

Loss rate: 1.09%

Run 3: Report of Indigo — Data Link



Run 1: Statistics of Indigo-cellular

Start at: 2017-09-22 08:40:42

End at: 2017-09-22 08:41:12

Local clock offset: 1.257 ms

Remote clock offset: 4.377 ms

Below is generated by plot.py at 2017-09-22 09:19:26

Datalink statistics

-- Total of 1 flow:

Average throughput: 0.27 Mbit/s

95th percentile per-packet one-way delay: 219.975 ms

Loss rate: 1.32%

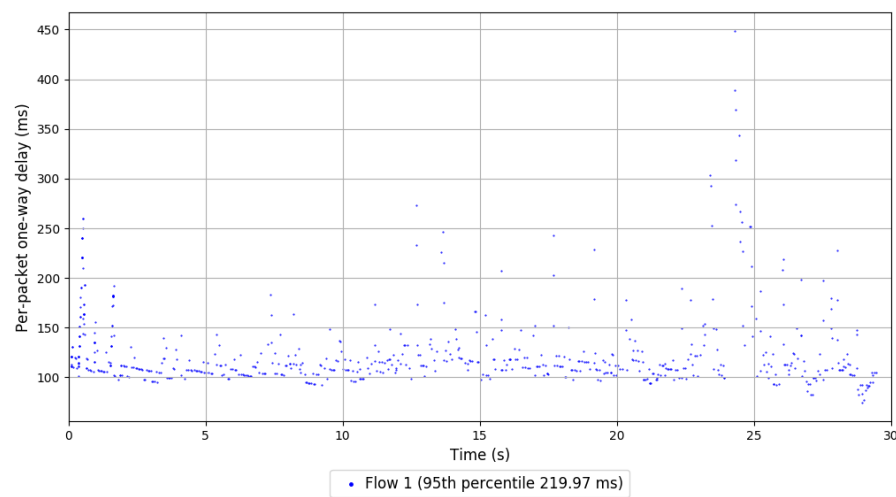
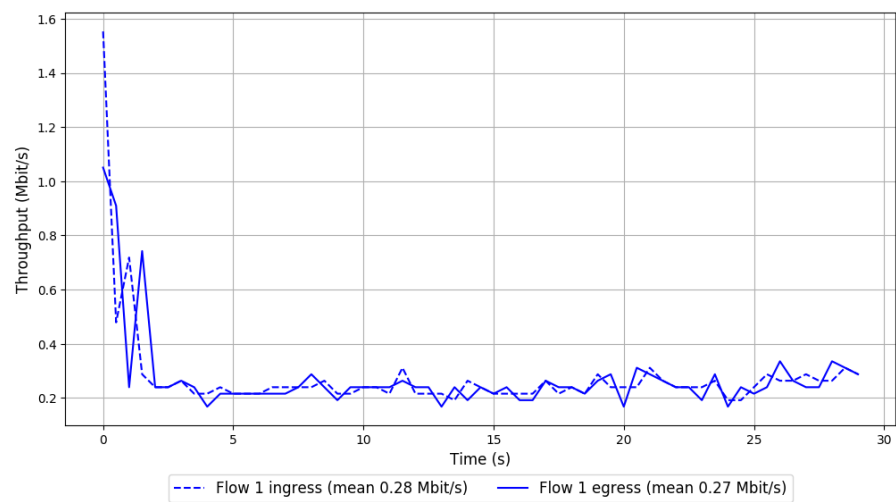
-- Flow 1:

Average throughput: 0.27 Mbit/s

95th percentile per-packet one-way delay: 219.975 ms

Loss rate: 1.32%

Run 1: Report of Indigo-cellular — Data Link



Run 2: Statistics of Indigo-cellular

Start at: 2017-09-22 08:54:51

End at: 2017-09-22 08:55:21

Local clock offset: 0.448 ms

Remote clock offset: 6.754 ms

Below is generated by plot.py at 2017-09-22 09:19:26

Datalink statistics

-- Total of 1 flow:

Average throughput: 0.26 Mbit/s

95th percentile per-packet one-way delay: 295.806 ms

Loss rate: 2.48%

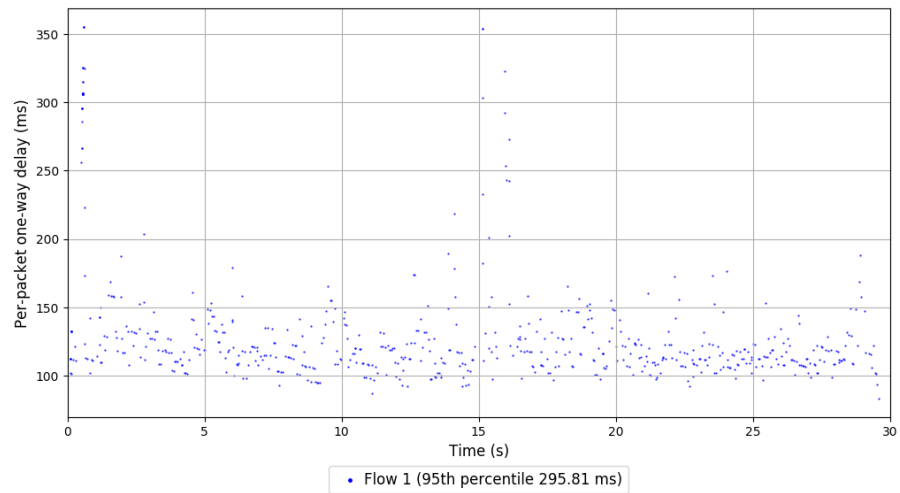
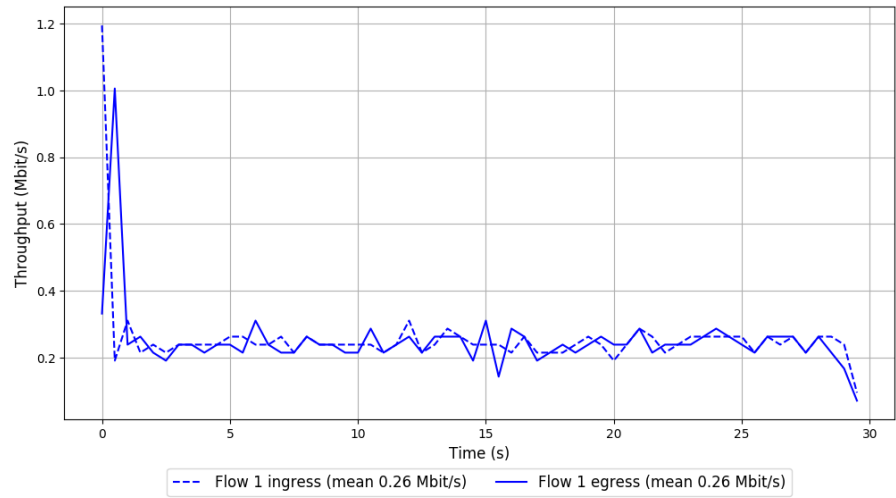
-- Flow 1:

Average throughput: 0.26 Mbit/s

95th percentile per-packet one-way delay: 295.806 ms

Loss rate: 2.48%

Run 2: Report of Indigo-cellular — Data Link



Run 3: Statistics of Indigo-cellular

Start at: 2017-09-22 09:09:04

End at: 2017-09-22 09:09:34

Local clock offset: -0.407 ms

Remote clock offset: 7.9 ms

Below is generated by plot.py at 2017-09-22 09:19:27

Datalink statistics

-- Total of 1 flow:

Average throughput: 0.30 Mbit/s

95th percentile per-packet one-way delay: 233.004 ms

Loss rate: 1.22%

-- Flow 1:

Average throughput: 0.30 Mbit/s

95th percentile per-packet one-way delay: 233.004 ms

Loss rate: 1.22%

Run 3: Report of Indigo-cellular — Data Link

