

Pantheon Report

Generated at 2018-03-05 22:27:06 (UTC).

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

Repeated the test of 17 congestion control schemes 3 times.

Each test lasted for 30 seconds running 3 flows with 10-second interval between two flows.

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

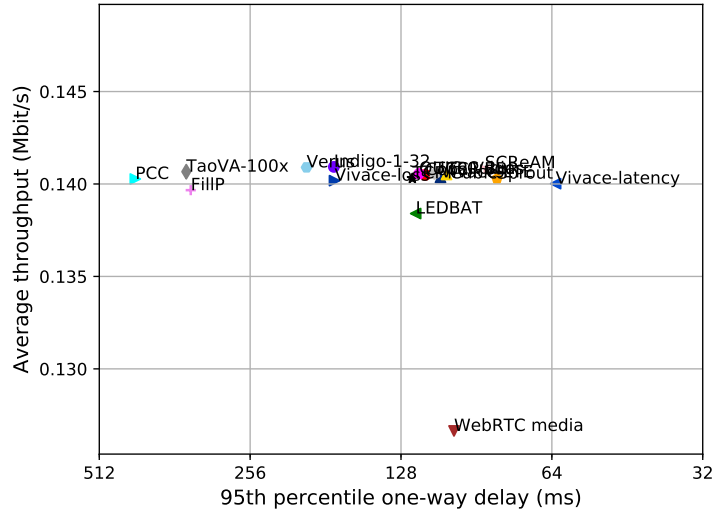
Tested BBR with qdisc of Fair Queuing (**fq**), and other schemes with the default Linux qdisc (**pfifo_fast**).

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

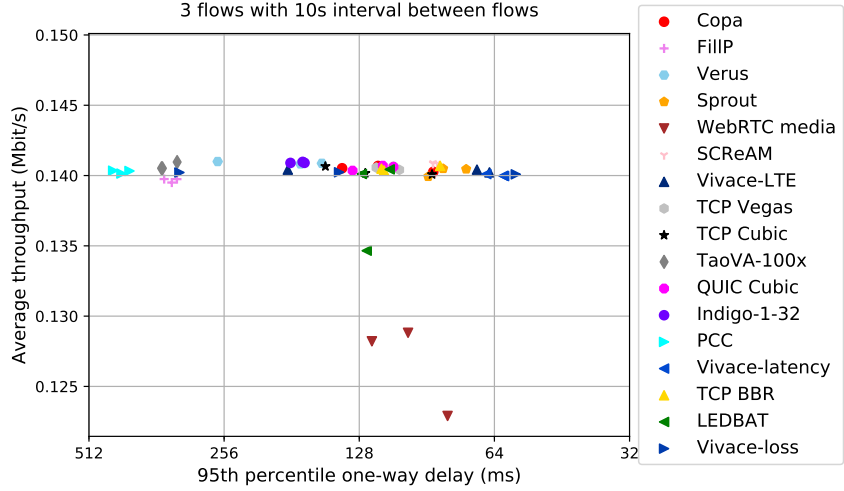
Git summary:

```
branch: master @ f12c42a2c63fdd9a862eefa0468859bf379b6623
third_party/calibrated_koho @ 3cb73c0d1c0322cdfae446ea37a522e53227db50
  M datagrump/sender.cc
third_party/fillp @ 828bbf95fd4941149b5cec90f281d1c69ae1a5c6
third_party/genericCC @ 9249eea3238475c4d8cca1443d28df70bff6c4a2
third_party/indigo @ a9b2060d39e4da2e8987e893e3eca2a6c7cd0ab9
third_party/indigo-1-layer-128-unit @ 3ae9e4ef4230db7484501f82ce8b377695f2f66d
third_party/indigo-1-layer-32-unit @ 2601c92e4aa9d58d38dc4dfe0ecd90c077e64d
third_party/indigo-1-layer-32-unit-no-calib @ 1f3a7f75b41135ed5b540c0fd3505939528e2a5f
third_party/indigo-no-calib @ 7224f2202e8a044d8306fa0b983ad84360c53d89
third_party/koho_cc @ f0f2e693303aee82ea808e6928eac4f1083a6681
  M datagrump/sender.cc
third_party/libutp @ b3465b942e2826f2b179eaab4a906ce6bb7cf3cf
third_party/pantheon-tunnel @ fb1053193c2861da659ba9013db26744ccfcf993
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 @ f1a14bffe749737437f61b1eae30b267cde681
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/vivace @ 7a4ba531e75b4a6f66f5c4580192120401784ce3
third_party/webrtc @ a488197ddd041ace68a42849b2540ad834825f42
```

test from Stanford ppp0 to AWS California 1 Ethernet, 3 runs of 30s each per scheme
 3 flows with 10s interval between flows (mean of all runs by scheme)



test from Stanford ppp0 to AWS California 1 Ethernet, 3 runs of 30s each per scheme
 3 flows with 10s interval between flows



scheme	# runs	mean avg tput (Mbit/s)			mean 95th-%ile delay (ms)			mean loss rate (%)		
		flow 1	flow 2	flow 3	flow 1	flow 2	flow 3	flow 1	flow 2	flow 3
TCP BBR	3	0.11	0.08	0.05	97.74	107.41	106.34	39.97	43.12	65.87
TCP Cubic	3	0.10	0.03	0.05	125.66	113.18	90.99	37.91	56.47	58.64
LEDBAT	3	0.09	0.03	0.10	109.19	84.58	120.91	34.10	50.27	35.75
PCC	3	0.08	0.06	0.06	198.79	453.91	482.69	96.76	99.82	99.93
QUIC Cubic	3	0.11	0.05	0.04	118.37	118.58	107.49	68.07	82.20	85.09
SCReAM	3	0.09	0.06	0.04	87.96	86.32	93.25	9.22	30.10	47.49
WebRTC media	3	0.05	0.05	0.04	95.15	98.39	96.38	47.39	47.10	44.62
Sprout	3	0.09	0.05	0.04	83.01	81.50	76.07	57.92	74.42	78.94
TaoVA-100x	3	0.09	0.08	0.04	312.73	355.92	308.98	94.12	95.31	96.23
TCP Vegas	3	0.11	0.09	0.03	108.17	109.91	107.46	39.67	39.76	60.94
Verus	3	0.10	0.04	0.05	197.19	157.55	142.21	91.75	79.54	70.20
Copa	3	0.08	0.05	0.10	118.14	173.93	95.40	66.72	78.03	68.33
FillP	3	0.09	0.06	0.05	311.81	333.18	413.18	99.05	99.49	99.82
Indigo-1-32	3	0.09	0.09	0.05	154.67	171.45	165.13	81.94	94.64	94.72
Vivace-latency	3	0.09	0.06	0.04	70.42	43.07	42.83	92.58	95.68	96.89
Vivace-loss	3	0.09	0.05	0.04	162.88	171.70	184.40	92.74	95.83	96.64
Vivace-LTE	3	0.09	0.05	0.04	92.31	81.15	130.27	92.52	95.81	96.82

Run 1: Statistics of TCP BBR

Start at: 2018-03-05 20:11:33

End at: 2018-03-05 20:12:03

Local clock offset: -2.693 ms

Remote clock offset: 0.685 ms

Below is generated by plot.py at 2018-03-05 22:26:24

Datalink statistics

-- Total of 3 flows:

Average throughput: 0.14 Mbit/s

95th percentile per-packet one-way delay: 84.548 ms

Loss rate: 38.96%

-- Flow 1:

Average throughput: 0.13 Mbit/s

95th percentile per-packet one-way delay: 84.548 ms

Loss rate: 32.20%

-- Flow 2:

Average throughput: 0.08 Mbit/s

95th percentile per-packet one-way delay: 85.121 ms

Loss rate: 36.04%

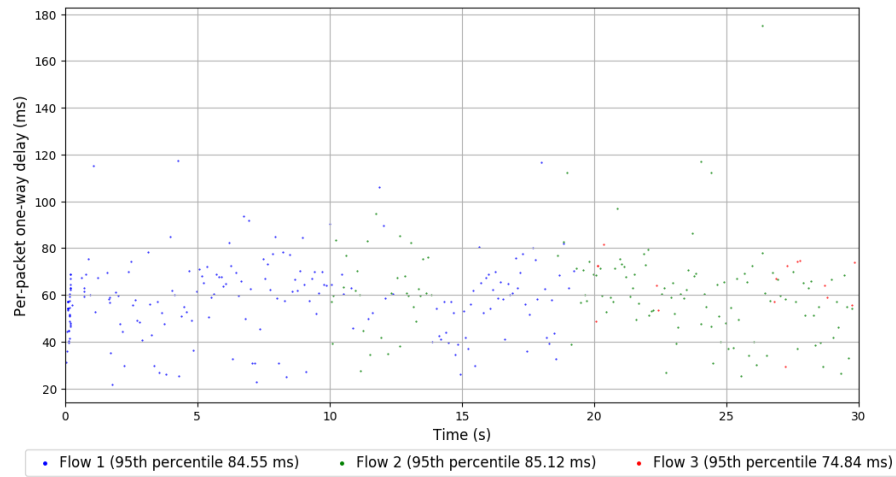
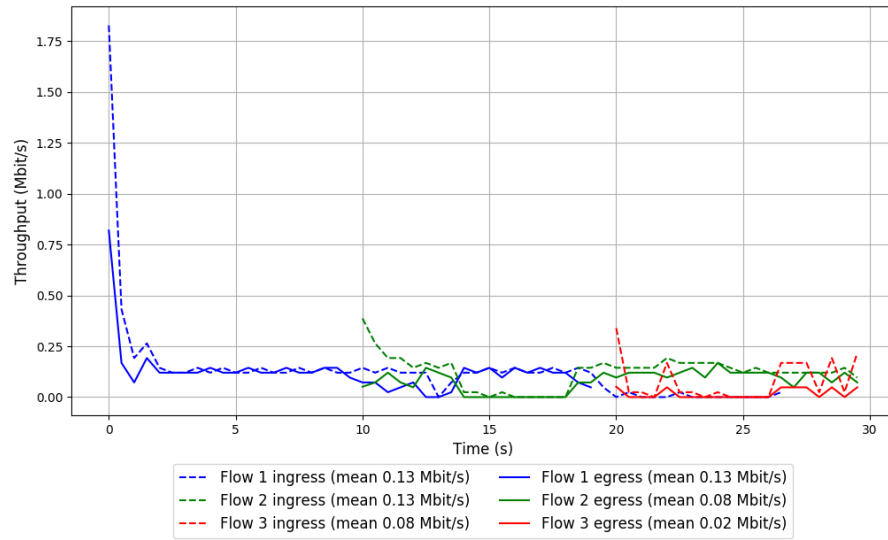
-- Flow 3:

Average throughput: 0.02 Mbit/s

95th percentile per-packet one-way delay: 74.842 ms

Loss rate: 78.64%

Run 1: Report of TCP BBR — Data Link



Run 2: Statistics of TCP BBR

Start at: 2018-03-05 20:35:14

End at: 2018-03-05 20:35:44

Local clock offset: -1.193 ms

Remote clock offset: 0.834 ms

Below is generated by plot.py at 2018-03-05 22:26:24

Datalink statistics

-- Total of 3 flows:

Average throughput: 0.14 Mbit/s

95th percentile per-packet one-way delay: 112.747 ms

Loss rate: 48.27%

-- Flow 1:

Average throughput: 0.11 Mbit/s

95th percentile per-packet one-way delay: 101.276 ms

Loss rate: 45.49%

-- Flow 2:

Average throughput: 0.06 Mbit/s

95th percentile per-packet one-way delay: 120.105 ms

Loss rate: 51.22%

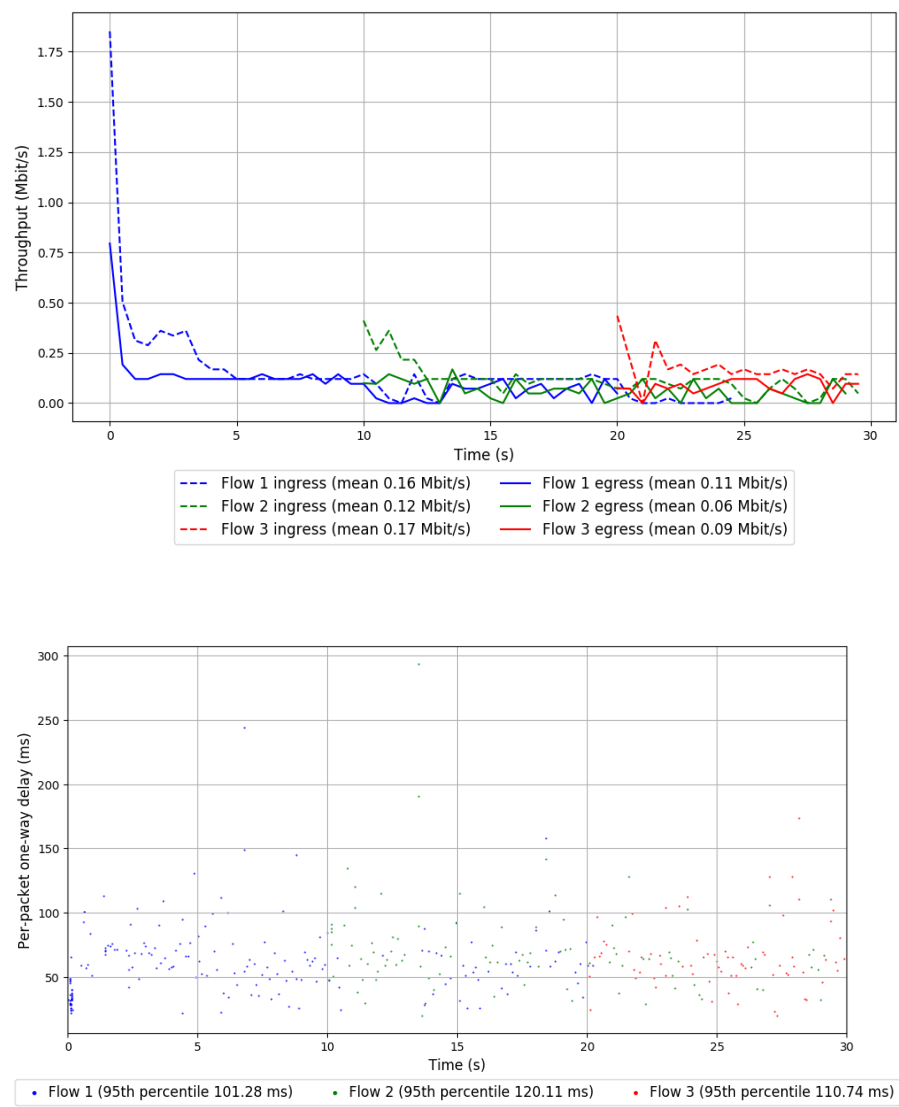
-- Flow 3:

Average throughput: 0.09 Mbit/s

95th percentile per-packet one-way delay: 110.741 ms

Loss rate: 50.66%

Run 2: Report of TCP BBR — Data Link



Run 3: Statistics of TCP BBR

Start at: 2018-03-05 20:58:55

End at: 2018-03-05 20:59:25

Local clock offset: 1.89 ms

Remote clock offset: 0.811 ms

Below is generated by plot.py at 2018-03-05 22:26:24

Datalink statistics

-- Total of 3 flows:

Average throughput: 0.14 Mbit/s

95th percentile per-packet one-way delay: 114.224 ms

Loss rate: 45.27%

-- Flow 1:

Average throughput: 0.08 Mbit/s

95th percentile per-packet one-way delay: 107.400 ms

Loss rate: 42.21%

-- Flow 2:

Average throughput: 0.09 Mbit/s

95th percentile per-packet one-way delay: 117.012 ms

Loss rate: 42.09%

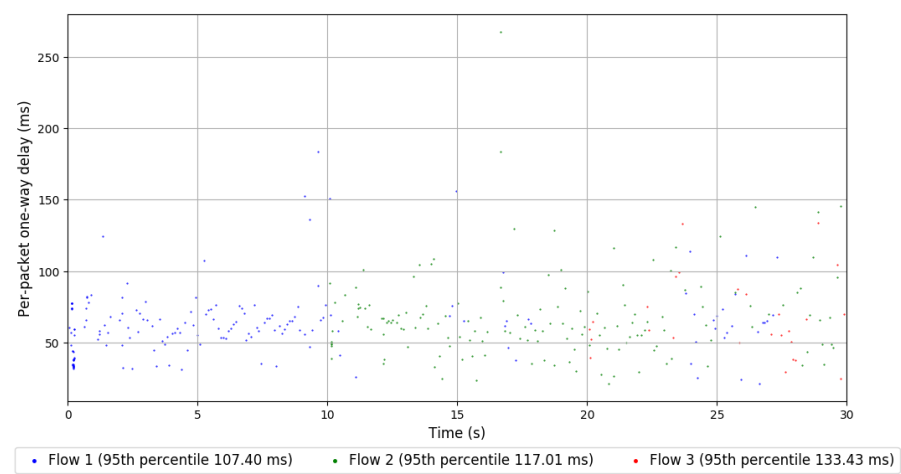
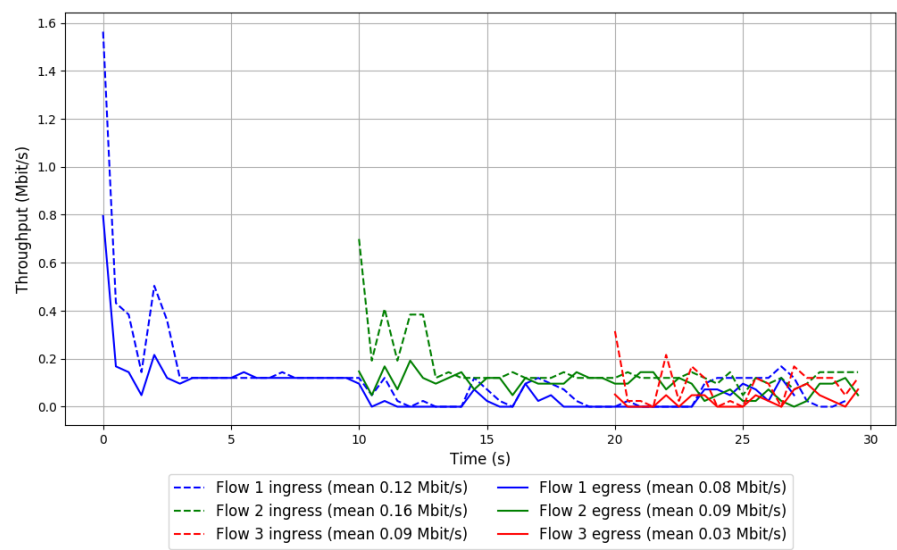
-- Flow 3:

Average throughput: 0.03 Mbit/s

95th percentile per-packet one-way delay: 133.430 ms

Loss rate: 68.31%

Run 3: Report of TCP BBR — Data Link



Run 1: Statistics of TCP Cubic

Start at: 2018-03-05 20:04:57

End at: 2018-03-05 20:05:27

Local clock offset: -3.394 ms

Remote clock offset: 0.668 ms

Below is generated by plot.py at 2018-03-05 22:26:25

Datalink statistics

-- Total of 3 flows:

Average throughput: 0.14 Mbit/s

95th percentile per-packet one-way delay: 88.126 ms

Loss rate: 44.21%

-- Flow 1:

Average throughput: 0.11 Mbit/s

95th percentile per-packet one-way delay: 88.033 ms

Loss rate: 40.12%

-- Flow 2:

Average throughput: 0.02 Mbit/s

95th percentile per-packet one-way delay: 94.444 ms

Loss rate: 58.28%

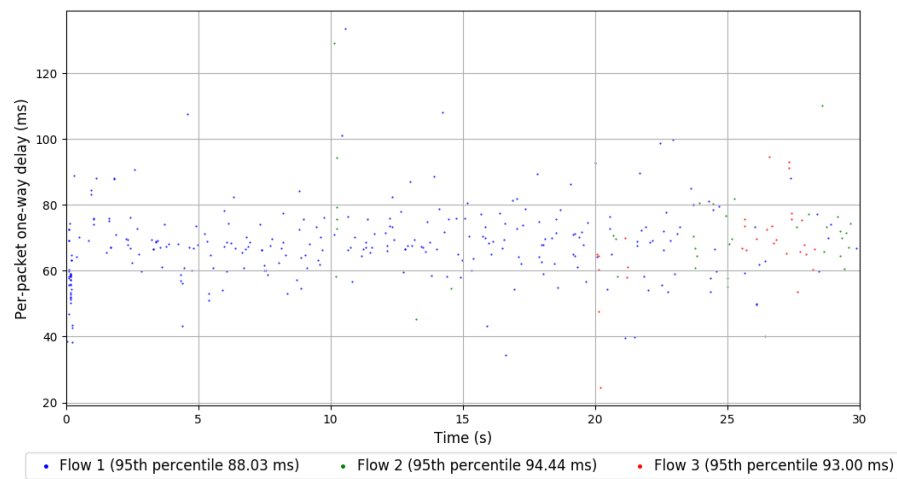
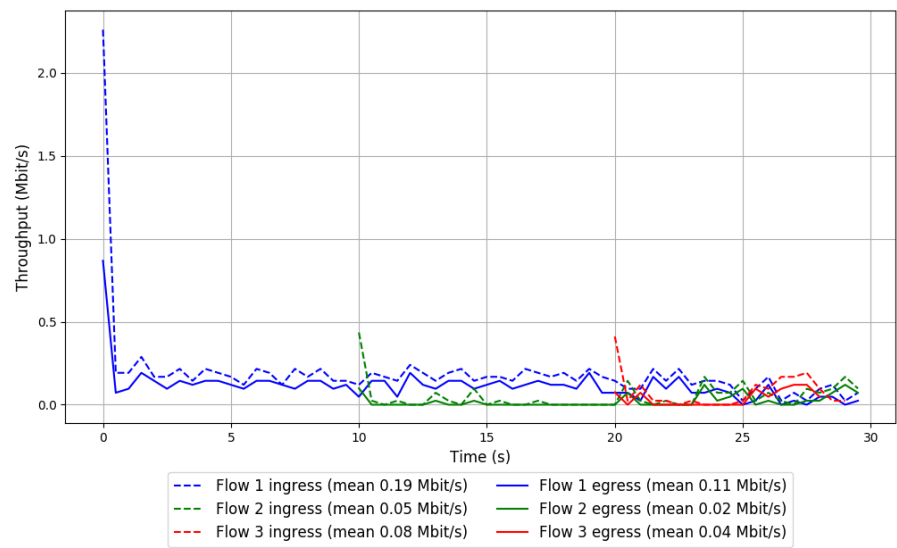
-- Flow 3:

Average throughput: 0.04 Mbit/s

95th percentile per-packet one-way delay: 92.999 ms

Loss rate: 56.14%

Run 1: Report of TCP Cubic — Data Link



Run 2: Statistics of TCP Cubic

Start at: 2018-03-05 20:28:39

End at: 2018-03-05 20:29:09

Local clock offset: -2.735 ms

Remote clock offset: 0.827 ms

Below is generated by plot.py at 2018-03-05 22:26:25

Datalink statistics

-- Total of 3 flows:

Average throughput: 0.14 Mbit/s

95th percentile per-packet one-way delay: 152.274 ms

Loss rate: 42.36%

-- Flow 1:

Average throughput: 0.07 Mbit/s

95th percentile per-packet one-way delay: 163.588 ms

Loss rate: 39.38%

-- Flow 2:

Average throughput: 0.07 Mbit/s

95th percentile per-packet one-way delay: 168.889 ms

Loss rate: 41.06%

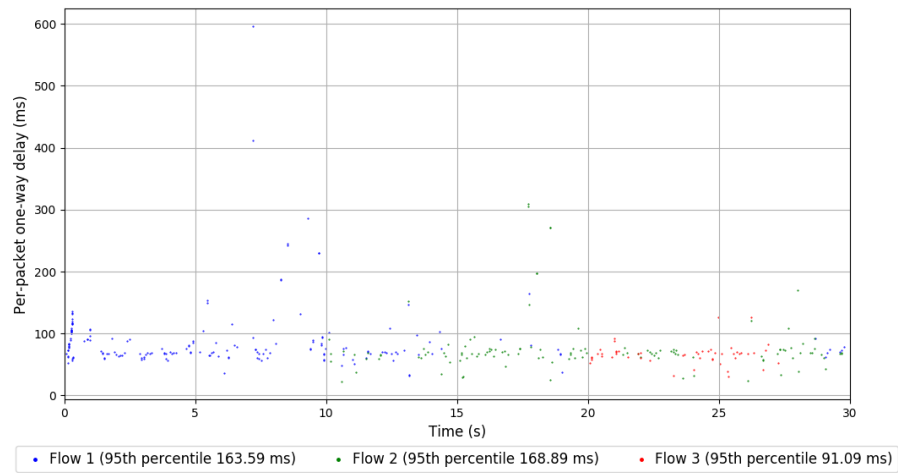
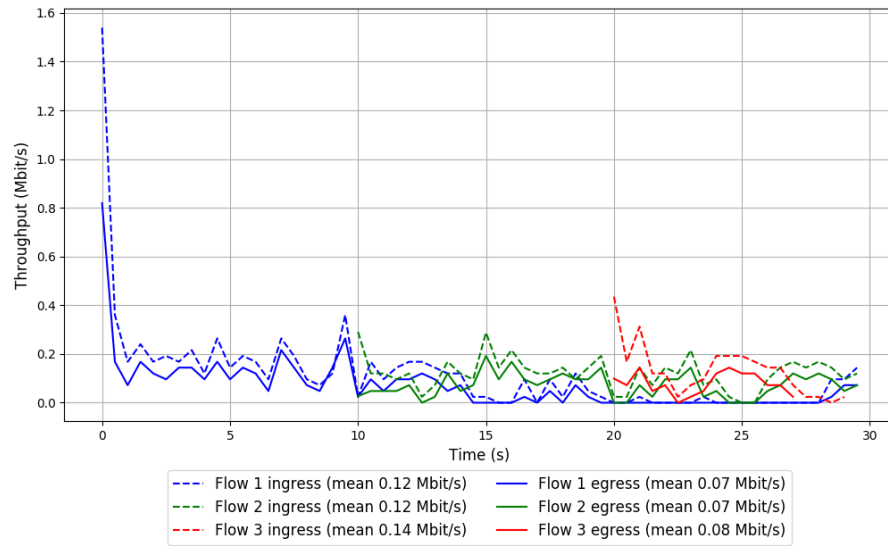
-- Flow 3:

Average throughput: 0.08 Mbit/s

95th percentile per-packet one-way delay: 91.088 ms

Loss rate: 53.27%

Run 2: Report of TCP Cubic — Data Link



Run 3: Statistics of TCP Cubic

Start at: 2018-03-05 20:52:20

End at: 2018-03-05 20:52:50

Local clock offset: 1.547 ms

Remote clock offset: 0.889 ms

Below is generated by plot.py at 2018-03-05 22:26:25

Datalink statistics

-- Total of 3 flows:

Average throughput: 0.14 Mbit/s

95th percentile per-packet one-way delay: 124.137 ms

Loss rate: 39.98%

-- Flow 1:

Average throughput: 0.13 Mbit/s

95th percentile per-packet one-way delay: 125.361 ms

Loss rate: 34.22%

-- Flow 2:

Average throughput: 0.01 Mbit/s

95th percentile per-packet one-way delay: 76.202 ms

Loss rate: 70.07%

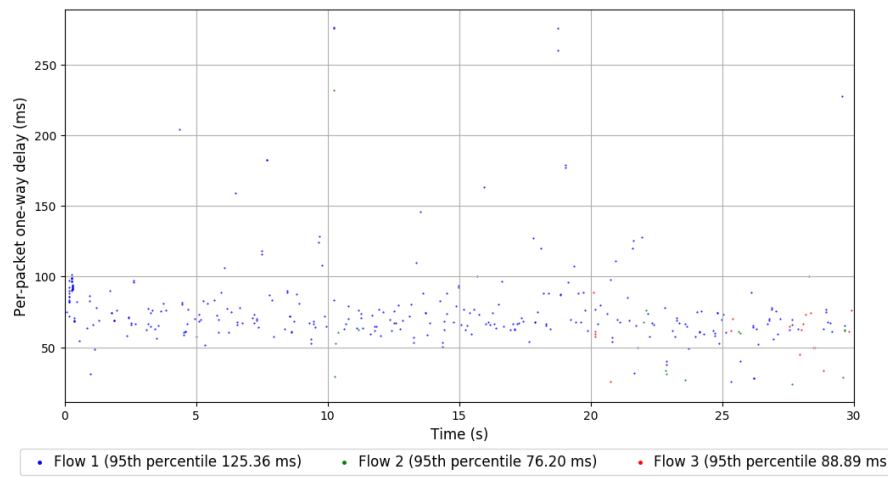
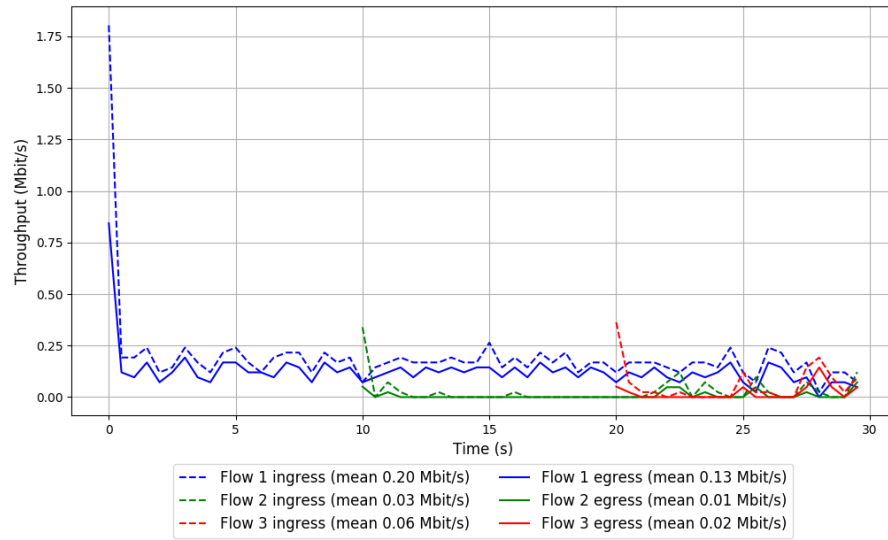
-- Flow 3:

Average throughput: 0.02 Mbit/s

95th percentile per-packet one-way delay: 88.895 ms

Loss rate: 66.51%

Run 3: Report of TCP Cubic — Data Link

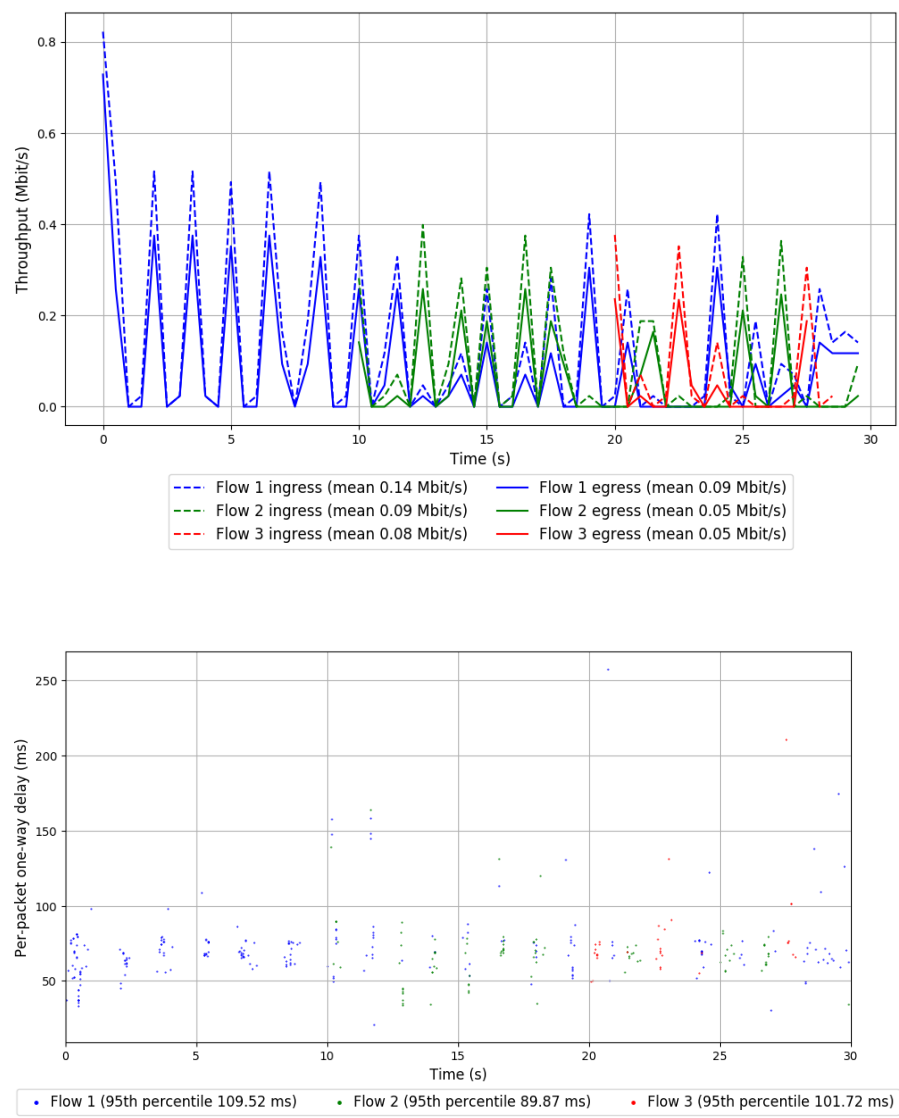


```
Run 1: Statistics of LEDBAT

Start at: 2018-03-05 20:23:24
End at: 2018-03-05 20:23:54
Local clock offset: -2.62 ms
Remote clock offset: 0.871 ms

# Below is generated by plot.py at 2018-03-05 22:26:25
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.14 Mbit/s
95th percentile per-packet one-way delay: 109.522 ms
Loss rate: 36.55%
-- Flow 1:
Average throughput: 0.09 Mbit/s
95th percentile per-packet one-way delay: 109.522 ms
Loss rate: 34.08%
-- Flow 2:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 89.873 ms
Loss rate: 39.86%
-- Flow 3:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 101.720 ms
Loss rate: 43.06%
```


Run 1: Report of LEDBAT — Data Link



Run 2: Statistics of LEDBAT

Start at: 2018-03-05 20:47:04

End at: 2018-03-05 20:47:34

Local clock offset: 1.093 ms

Remote clock offset: 0.93 ms

Below is generated by plot.py at 2018-03-05 22:26:25

Datalink statistics

-- Total of 3 flows:

Average throughput: 0.13 Mbit/s

95th percentile per-packet one-way delay: 123.214 ms

Loss rate: 33.21%

-- Flow 1:

Average throughput: 0.11 Mbit/s

95th percentile per-packet one-way delay: 120.505 ms

Loss rate: 31.21%

-- Flow 2:

Average throughput: 0.01 Mbit/s

95th percentile per-packet one-way delay: 68.141 ms

Loss rate: 60.06%

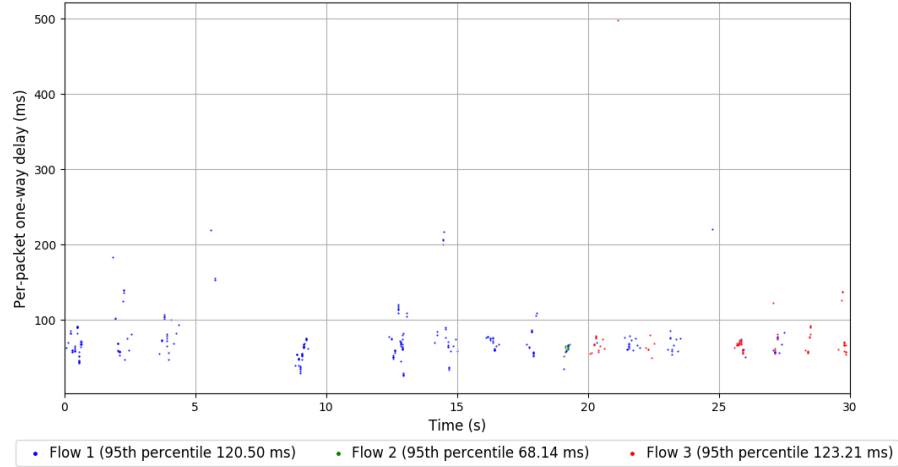
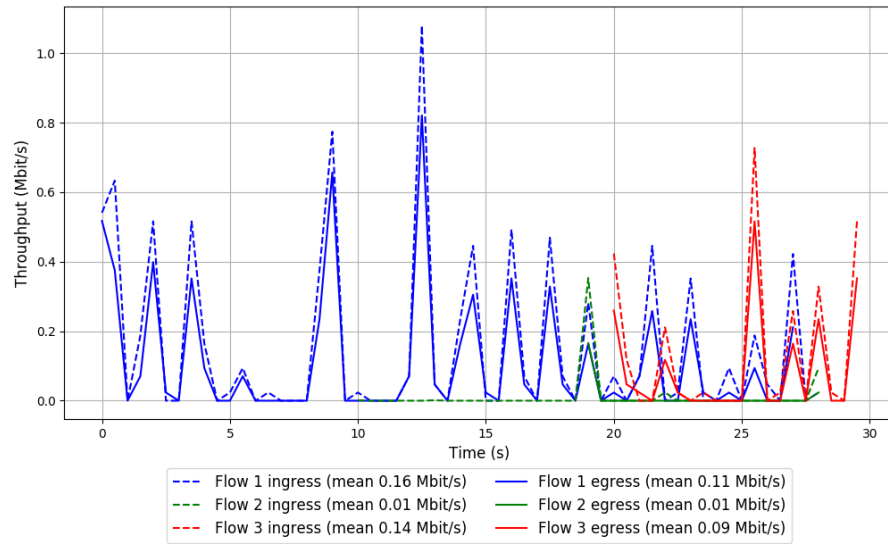
-- Flow 3:

Average throughput: 0.09 Mbit/s

95th percentile per-packet one-way delay: 123.214 ms

Loss rate: 35.07%

Run 2: Report of LEDBAT — Data Link



Run 3: Statistics of LEDBAT

Start at: 2018-03-05 21:10:46

End at: 2018-03-05 21:11:16

Local clock offset: 1.613 ms

Remote clock offset: 0.751 ms

Below is generated by plot.py at 2018-03-05 22:26:28

Datalink statistics

-- Total of 3 flows:

Average throughput: 0.14 Mbit/s

95th percentile per-packet one-way delay: 126.288 ms

Loss rate: 37.27%

-- Flow 1:

Average throughput: 0.08 Mbit/s

95th percentile per-packet one-way delay: 97.533 ms

Loss rate: 37.00%

-- Flow 2:

Average throughput: 0.04 Mbit/s

95th percentile per-packet one-way delay: 95.715 ms

Loss rate: 50.88%

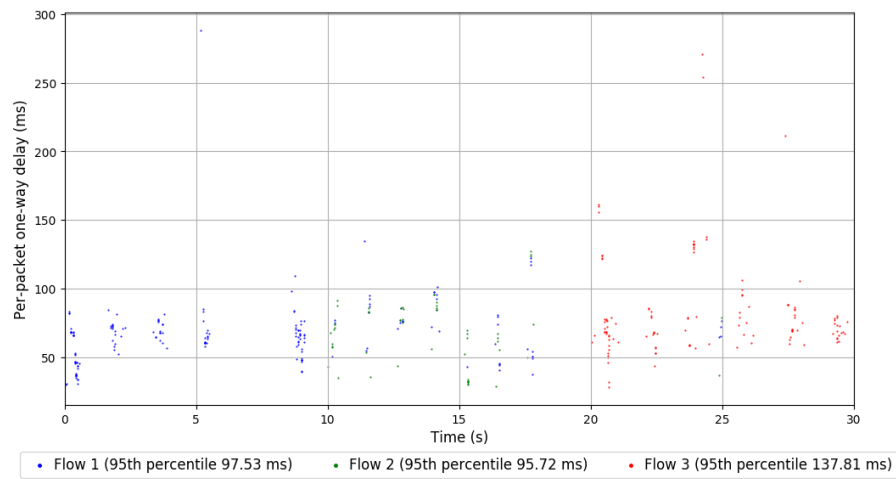
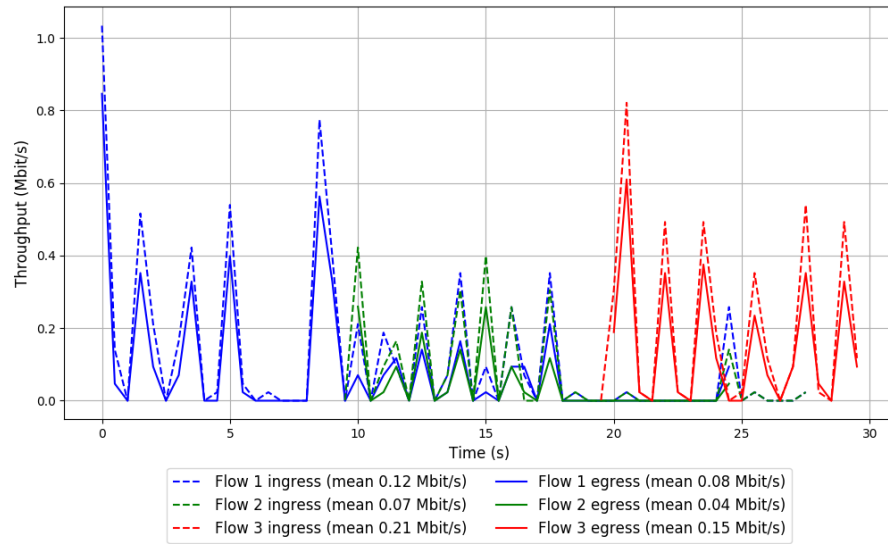
-- Flow 3:

Average throughput: 0.15 Mbit/s

95th percentile per-packet one-way delay: 137.808 ms

Loss rate: 29.13%

Run 3: Report of LEDBAT — Data Link

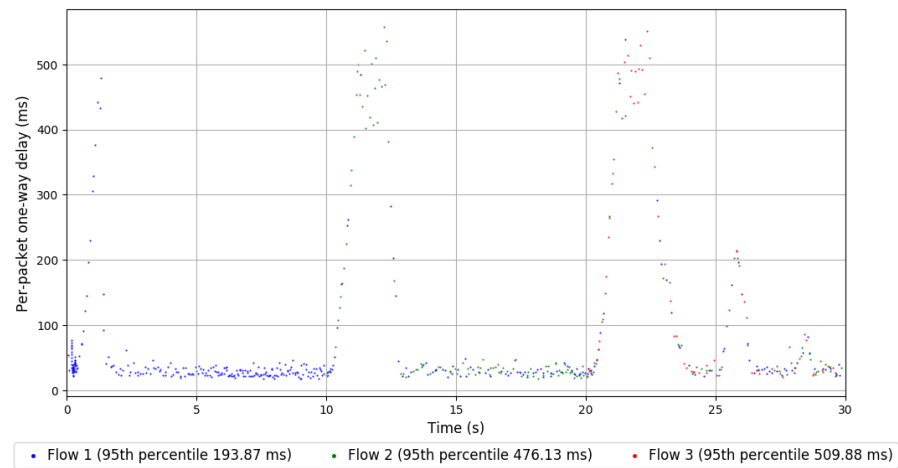
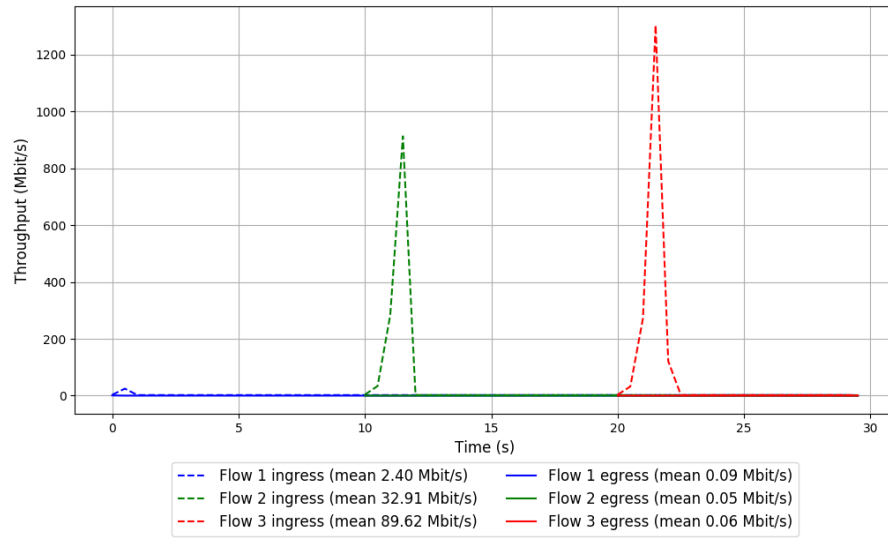


```
Run 1: Statistics of PCC

Start at: 2018-03-05 20:16:48
End at: 2018-03-05 20:17:18
Local clock offset: -2.544 ms
Remote clock offset: 0.753 ms

# Below is generated by plot.py at 2018-03-05 22:26:58
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.14 Mbit/s
95th percentile per-packet one-way delay: 452.262 ms
Loss rate: 99.74%
-- Flow 1:
Average throughput: 0.09 Mbit/s
95th percentile per-packet one-way delay: 193.872 ms
Loss rate: 96.41%
-- Flow 2:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 476.131 ms
Loss rate: 99.84%
-- Flow 3:
Average throughput: 0.06 Mbit/s
95th percentile per-packet one-way delay: 509.882 ms
Loss rate: 99.94%
```

Run 1: Report of PCC — Data Link



Run 2: Statistics of PCC

Start at: 2018-03-05 20:40:29

End at: 2018-03-05 20:40:59

Local clock offset: 0.156 ms

Remote clock offset: 0.939 ms

Below is generated by plot.py at 2018-03-05 22:26:58

Datalink statistics

-- Total of 3 flows:

Average throughput: 0.14 Mbit/s

95th percentile per-packet one-way delay: 433.382 ms

Loss rate: 99.67%

-- Flow 1:

Average throughput: 0.08 Mbit/s

95th percentile per-packet one-way delay: 203.146 ms

Loss rate: 96.97%

-- Flow 2:

Average throughput: 0.06 Mbit/s

95th percentile per-packet one-way delay: 457.399 ms

Loss rate: 99.76%

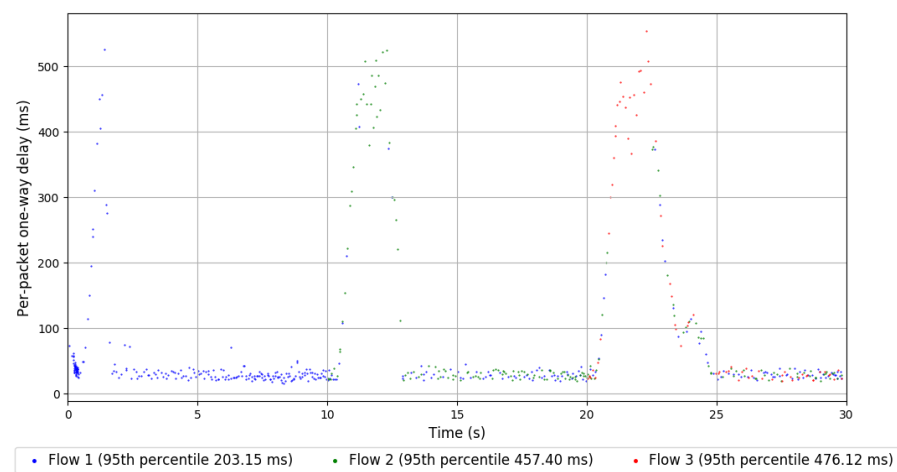
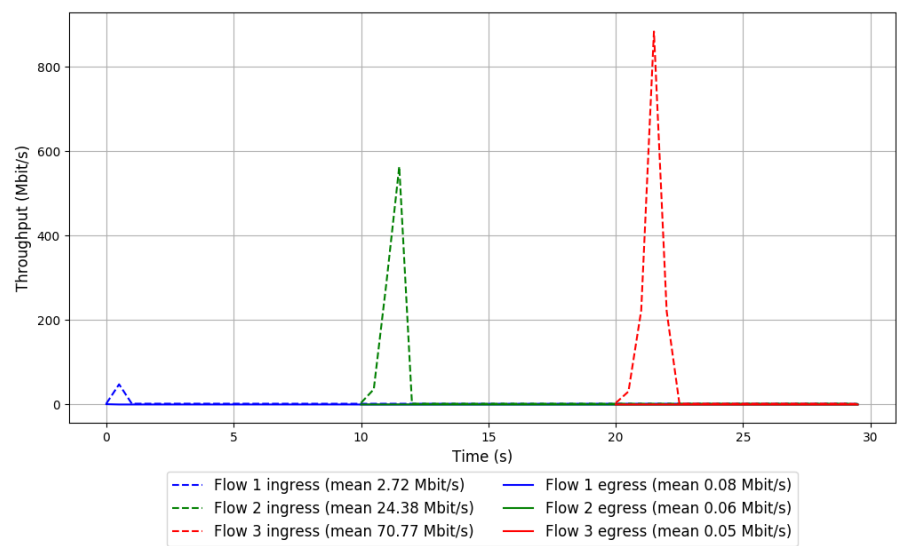
-- Flow 3:

Average throughput: 0.05 Mbit/s

95th percentile per-packet one-way delay: 476.115 ms

Loss rate: 99.92%

Run 2: Report of PCC — Data Link



Run 3: Statistics of PCC

Start at: 2018-03-05 21:04:10

End at: 2018-03-05 21:04:40

Local clock offset: 2.045 ms

Remote clock offset: 0.767 ms

Below is generated by plot.py at 2018-03-05 22:27:02

Datalink statistics

-- Total of 3 flows:

Average throughput: 0.14 Mbit/s

95th percentile per-packet one-way delay: 415.853 ms

Loss rate: 99.76%

-- Flow 1:

Average throughput: 0.08 Mbit/s

95th percentile per-packet one-way delay: 199.356 ms

Loss rate: 96.90%

-- Flow 2:

Average throughput: 0.06 Mbit/s

95th percentile per-packet one-way delay: 428.194 ms

Loss rate: 99.86%

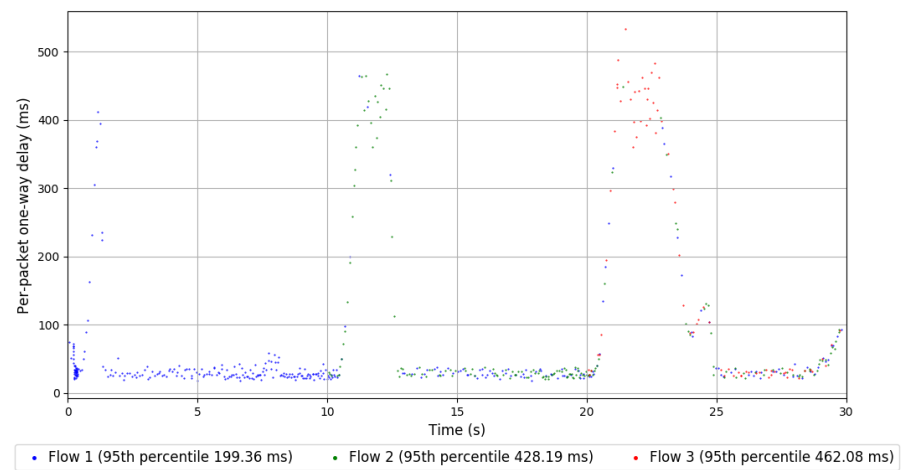
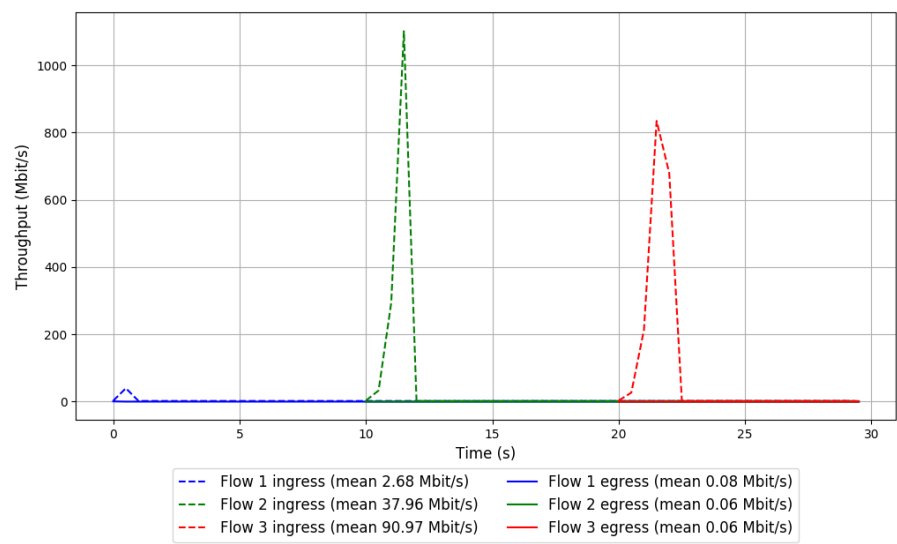
-- Flow 3:

Average throughput: 0.06 Mbit/s

95th percentile per-packet one-way delay: 462.085 ms

Loss rate: 99.93%

Run 3: Report of PCC — Data Link



Run 1: Statistics of QUIC Cubic

Start at: 2018-03-05 20:07:36

End at: 2018-03-05 20:08:06

Local clock offset: -3.14 ms

Remote clock offset: 0.675 ms

Below is generated by plot.py at 2018-03-05 22:27:02

Datalink statistics

-- Total of 3 flows:

Average throughput: 0.14 Mbit/s

95th percentile per-packet one-way delay: 132.466 ms

Loss rate: 73.14%

-- Flow 1:

Average throughput: 0.10 Mbit/s

95th percentile per-packet one-way delay: 131.013 ms

Loss rate: 70.10%

-- Flow 2:

Average throughput: 0.06 Mbit/s

95th percentile per-packet one-way delay: 153.435 ms

Loss rate: 78.95%

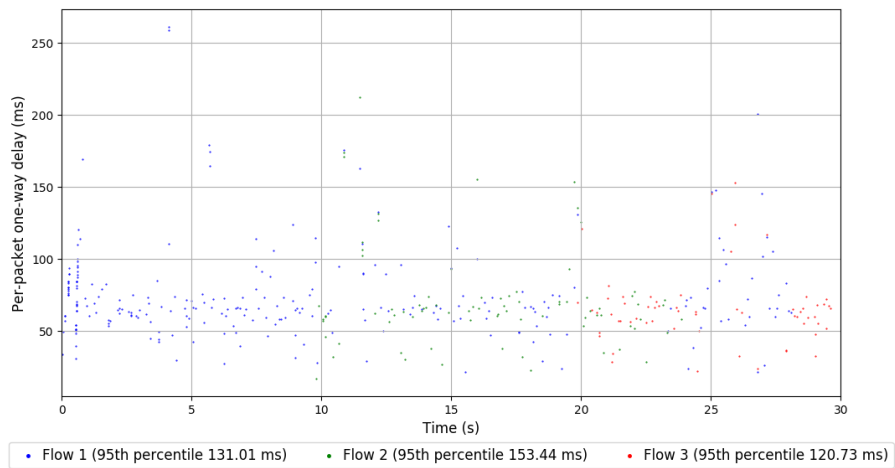
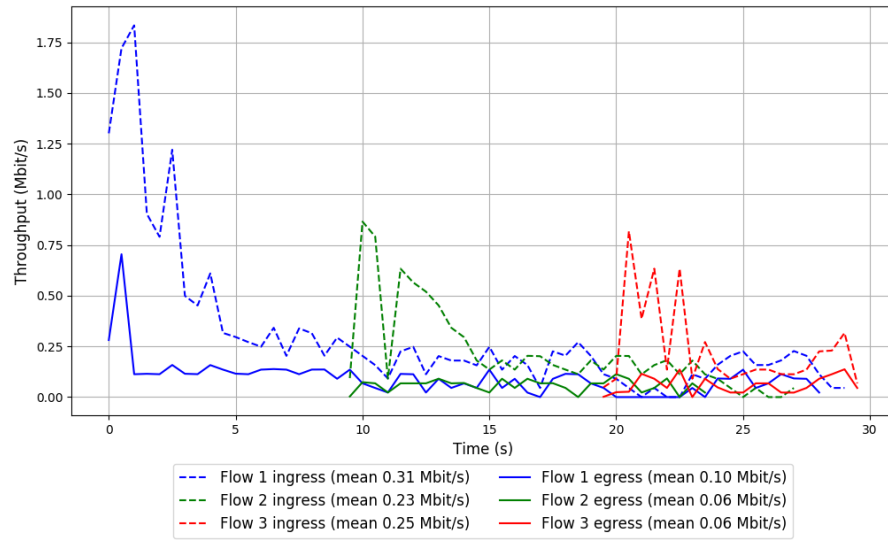
-- Flow 3:

Average throughput: 0.06 Mbit/s

95th percentile per-packet one-way delay: 120.735 ms

Loss rate: 74.95%

Run 1: Report of QUIC Cubic — Data Link



Run 2: Statistics of QUIC Cubic

Start at: 2018-03-05 20:31:17

End at: 2018-03-05 20:31:47

Local clock offset: -2.824 ms

Remote clock offset: 0.883 ms

Below is generated by plot.py at 2018-03-05 22:27:02

Datalink statistics

-- Total of 3 flows:

Average throughput: 0.14 Mbit/s

95th percentile per-packet one-way delay: 107.416 ms

Loss rate: 67.68%

-- Flow 1:

Average throughput: 0.13 Mbit/s

95th percentile per-packet one-way delay: 106.523 ms

Loss rate: 64.64%

-- Flow 2:

Average throughput: 0.01 Mbit/s

95th percentile per-packet one-way delay: 103.665 ms

Loss rate: 98.66%

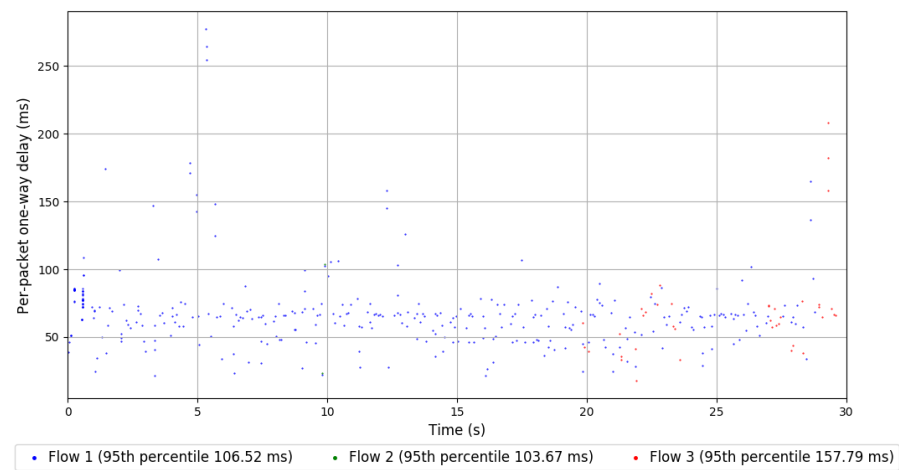
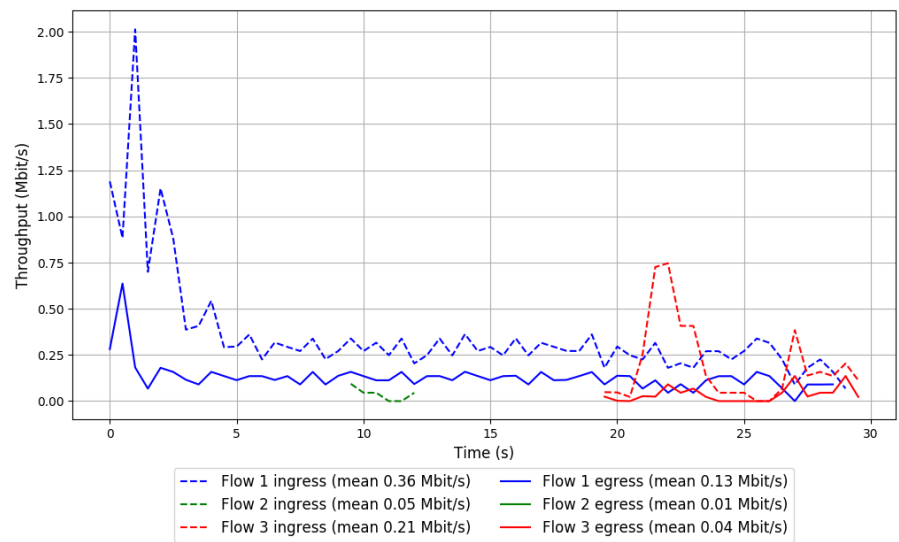
-- Flow 3:

Average throughput: 0.04 Mbit/s

95th percentile per-packet one-way delay: 157.792 ms

Loss rate: 81.65%

Run 2: Report of QUIC Cubic — Data Link



Run 3: Statistics of QUIC Cubic

Start at: 2018-03-05 20:54:58

End at: 2018-03-05 20:55:28

Local clock offset: 1.605 ms

Remote clock offset: 0.772 ms

Below is generated by plot.py at 2018-03-05 22:27:02

Datalink statistics

-- Total of 3 flows:

Average throughput: 0.14 Mbit/s

95th percentile per-packet one-way delay: 113.417 ms

Loss rate: 69.54%

-- Flow 1:

Average throughput: 0.09 Mbit/s

95th percentile per-packet one-way delay: 117.586 ms

Loss rate: 69.46%

-- Flow 2:

Average throughput: 0.08 Mbit/s

95th percentile per-packet one-way delay: 98.627 ms

Loss rate: 69.00%

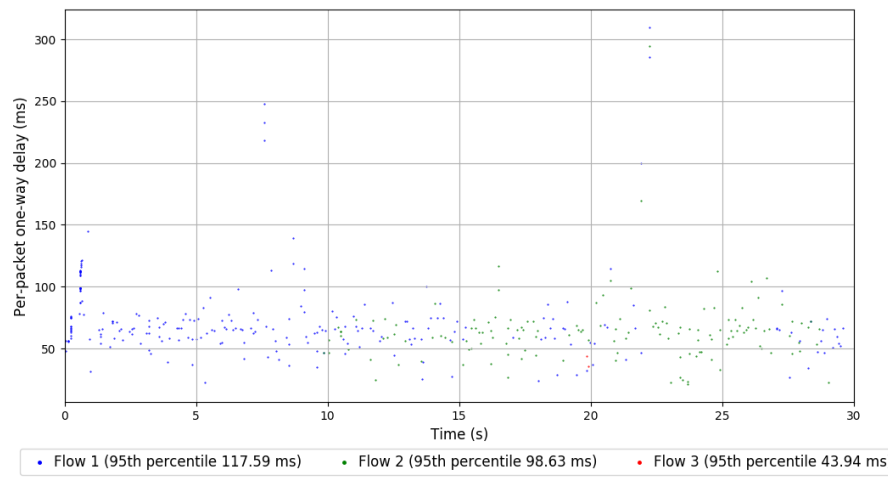
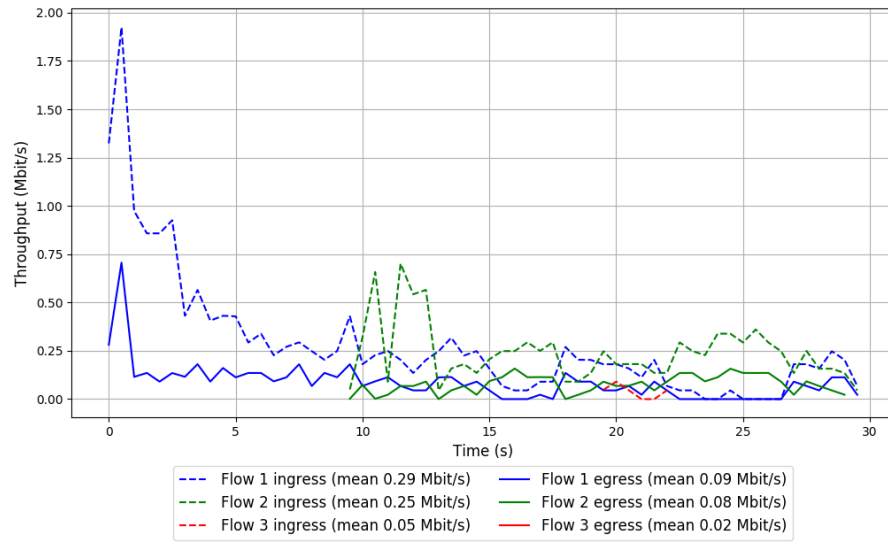
-- Flow 3:

Average throughput: 0.02 Mbit/s

95th percentile per-packet one-way delay: 43.941 ms

Loss rate: 98.66%

Run 3: Report of QUIC Cubic — Data Link

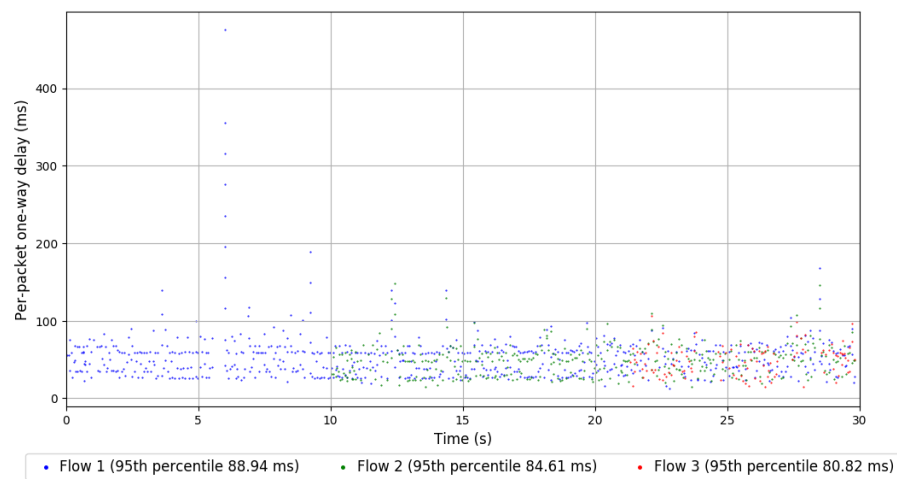
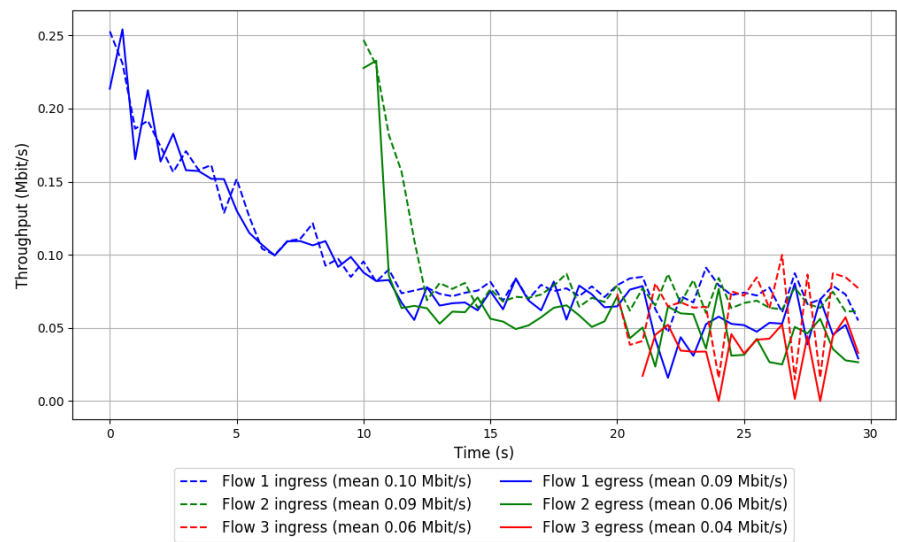


```
Run 1: Statistics of SCReAM

Start at: 2018-03-05 20:19:27
End at: 2018-03-05 20:19:57
Local clock offset: -2.553 ms
Remote clock offset: 0.831 ms

# Below is generated by plot.py at 2018-03-05 22:27:02
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.14 Mbit/s
95th percentile per-packet one-way delay: 87.694 ms
Loss rate: 20.86%
-- Flow 1:
Average throughput: 0.09 Mbit/s
95th percentile per-packet one-way delay: 88.944 ms
Loss rate: 9.54%
-- Flow 2:
Average throughput: 0.06 Mbit/s
95th percentile per-packet one-way delay: 84.614 ms
Loss rate: 28.90%
-- Flow 3:
Average throughput: 0.04 Mbit/s
95th percentile per-packet one-way delay: 80.818 ms
Loss rate: 51.80%
```

Run 1: Report of SReAM — Data Link



Run 2: Statistics of SCReAM

Start at: 2018-03-05 20:43:08

End at: 2018-03-05 20:43:38

Local clock offset: 0.511 ms

Remote clock offset: 0.856 ms

Below is generated by plot.py at 2018-03-05 22:27:02

Datalink statistics

-- Total of 3 flows:

Average throughput: 0.14 Mbit/s

95th percentile per-packet one-way delay: 85.898 ms

Loss rate: 19.99%

-- Flow 1:

Average throughput: 0.09 Mbit/s

95th percentile per-packet one-way delay: 79.208 ms

Loss rate: 8.92%

-- Flow 2:

Average throughput: 0.05 Mbit/s

95th percentile per-packet one-way delay: 87.191 ms

Loss rate: 32.84%

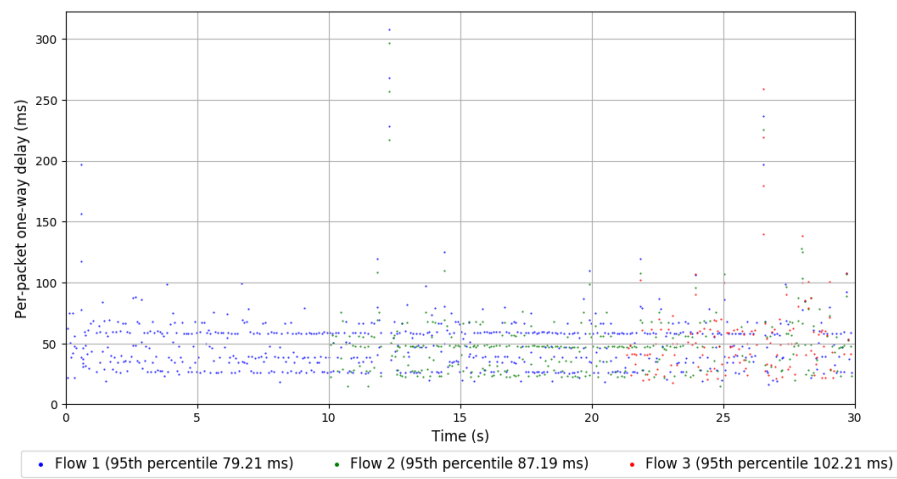
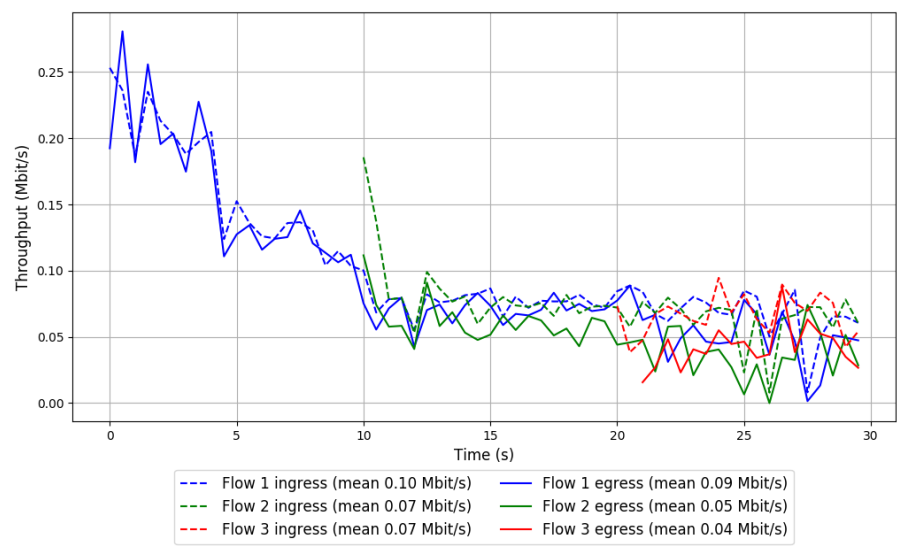
-- Flow 3:

Average throughput: 0.04 Mbit/s

95th percentile per-packet one-way delay: 102.212 ms

Loss rate: 43.17%

Run 2: Report of SReAM — Data Link



Run 3: Statistics of SCReAM

Start at: 2018-03-05 21:06:49

End at: 2018-03-05 21:07:19

Local clock offset: 1.908 ms

Remote clock offset: 0.754 ms

Below is generated by plot.py at 2018-03-05 22:27:02

Datalink statistics

-- Total of 3 flows:

Average throughput: 0.14 Mbit/s

95th percentile per-packet one-way delay: 87.673 ms

Loss rate: 20.03%

-- Flow 1:

Average throughput: 0.09 Mbit/s

95th percentile per-packet one-way delay: 95.720 ms

Loss rate: 9.19%

-- Flow 2:

Average throughput: 0.06 Mbit/s

95th percentile per-packet one-way delay: 87.153 ms

Loss rate: 28.56%

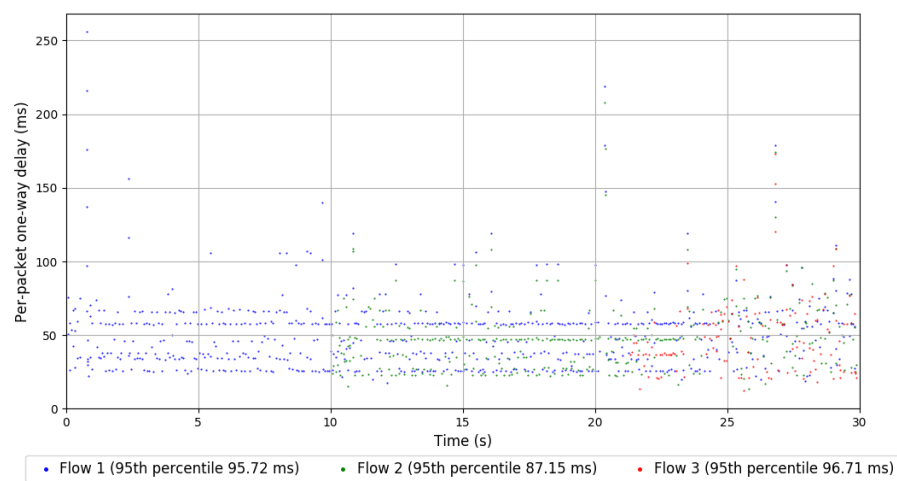
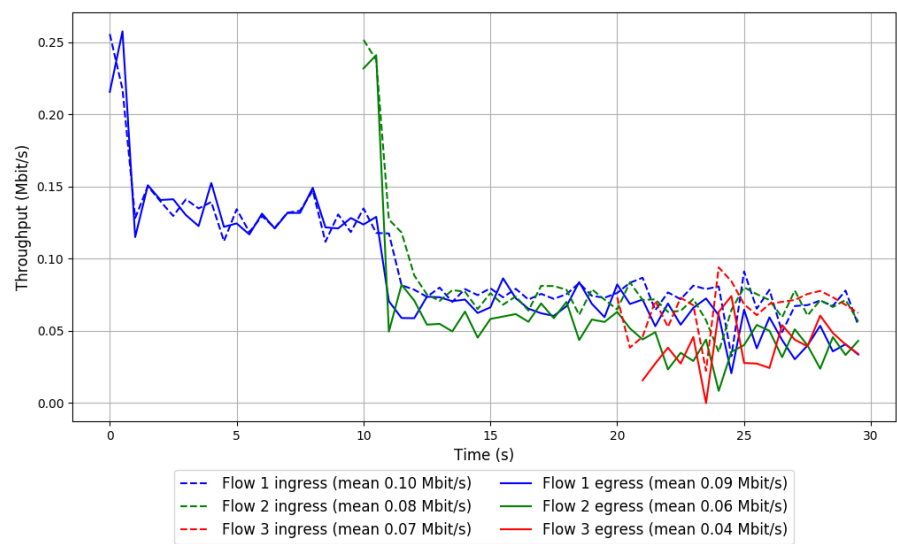
-- Flow 3:

Average throughput: 0.04 Mbit/s

95th percentile per-packet one-way delay: 96.711 ms

Loss rate: 47.50%

Run 3: Report of SReAM — Data Link



Run 1: Statistics of WebRTC media

Start at: 2018-03-05 20:24:43

End at: 2018-03-05 20:25:13

Local clock offset: -2.637 ms

Remote clock offset: 0.879 ms

Below is generated by plot.py at 2018-03-05 22:27:02

Datalink statistics

-- Total of 3 flows:

Average throughput: 0.13 Mbit/s

95th percentile per-packet one-way delay: 119.978 ms

Loss rate: 45.98%

-- Flow 1:

Average throughput: 0.05 Mbit/s

95th percentile per-packet one-way delay: 92.398 ms

Loss rate: 46.60%

-- Flow 2:

Average throughput: 0.05 Mbit/s

95th percentile per-packet one-way delay: 130.458 ms

Loss rate: 47.22%

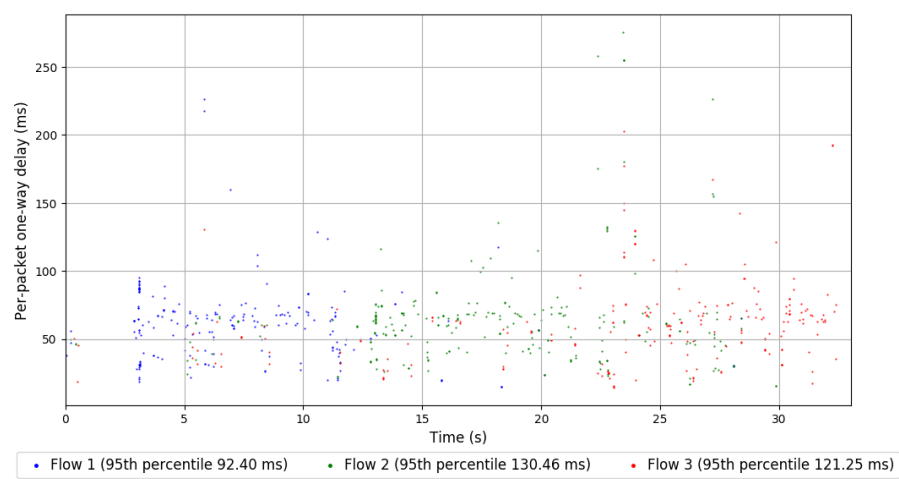
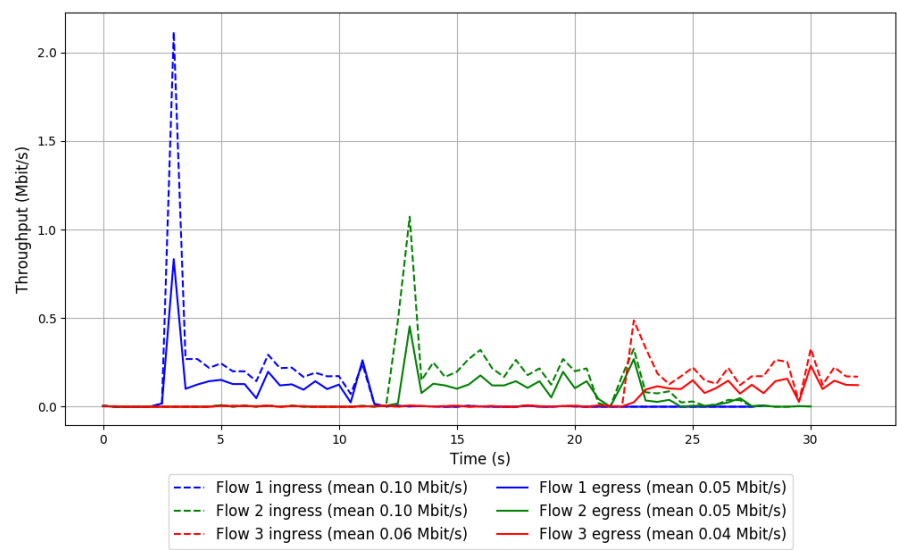
-- Flow 3:

Average throughput: 0.04 Mbit/s

95th percentile per-packet one-way delay: 121.253 ms

Loss rate: 43.47%

Run 1: Report of WebRTC media — Data Link



Run 2: Statistics of WebRTC media

Start at: 2018-03-05 20:48:23

End at: 2018-03-05 20:48:53

Local clock offset: 1.137 ms

Remote clock offset: 0.836 ms

Below is generated by plot.py at 2018-03-05 22:27:02

Datalink statistics

-- Total of 3 flows:

Average throughput: 0.12 Mbit/s

95th percentile per-packet one-way delay: 81.376 ms

Loss rate: 44.99%

-- Flow 1:

Average throughput: 0.05 Mbit/s

95th percentile per-packet one-way delay: 84.881 ms

Loss rate: 45.64%

-- Flow 2:

Average throughput: 0.05 Mbit/s

95th percentile per-packet one-way delay: 81.411 ms

Loss rate: 45.67%

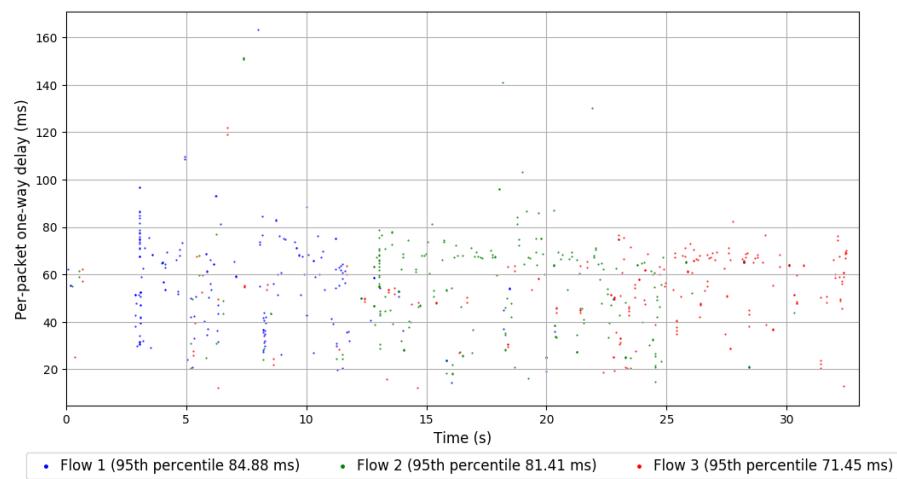
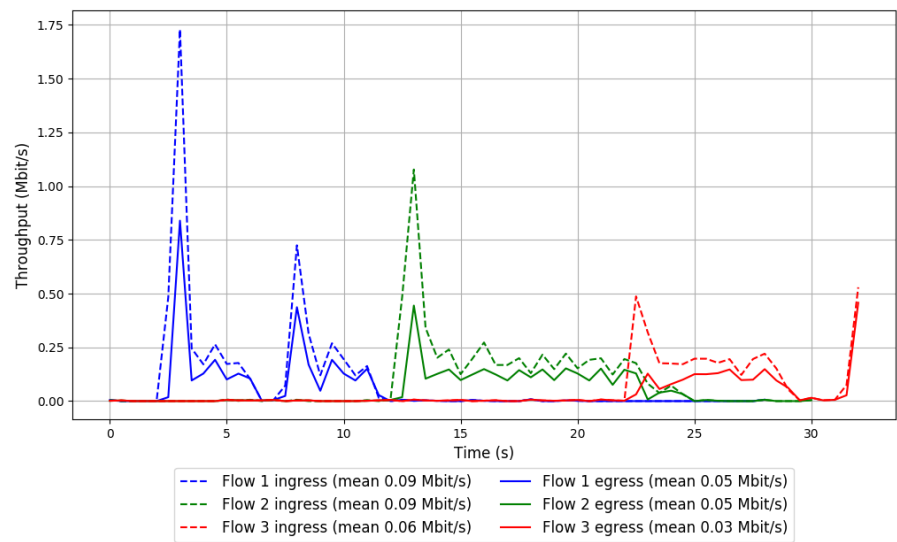
-- Flow 3:

Average throughput: 0.03 Mbit/s

95th percentile per-packet one-way delay: 71.448 ms

Loss rate: 42.97%

Run 2: Report of WebRTC media — Data Link



Run 3: Statistics of WebRTC media

Start at: 2018-03-05 21:12:05

End at: 2018-03-05 21:12:35

Local clock offset: 1.467 ms

Remote clock offset: 0.742 ms

Below is generated by plot.py at 2018-03-05 22:27:02

Datalink statistics

-- Total of 3 flows:

Average throughput: 0.13 Mbit/s

95th percentile per-packet one-way delay: 99.660 ms

Loss rate: 48.68%

-- Flow 1:

Average throughput: 0.05 Mbit/s

95th percentile per-packet one-way delay: 108.175 ms

Loss rate: 49.93%

-- Flow 2:

Average throughput: 0.05 Mbit/s

95th percentile per-packet one-way delay: 83.310 ms

Loss rate: 48.40%

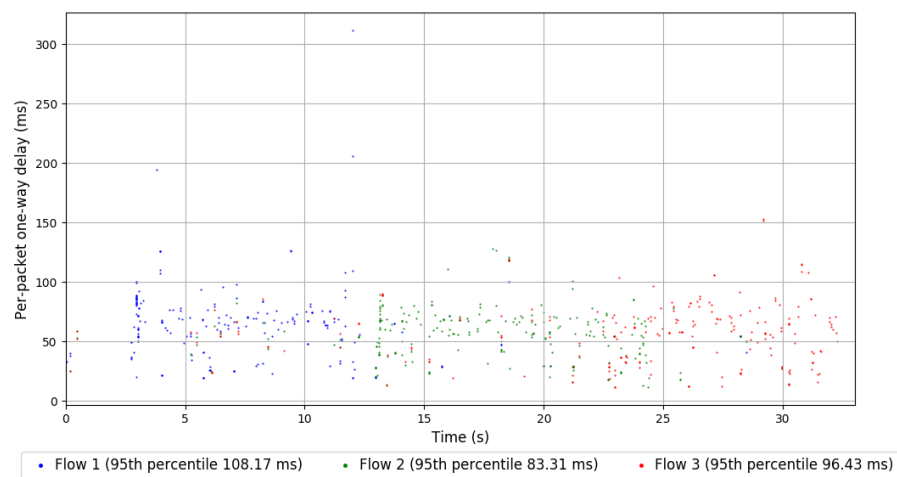
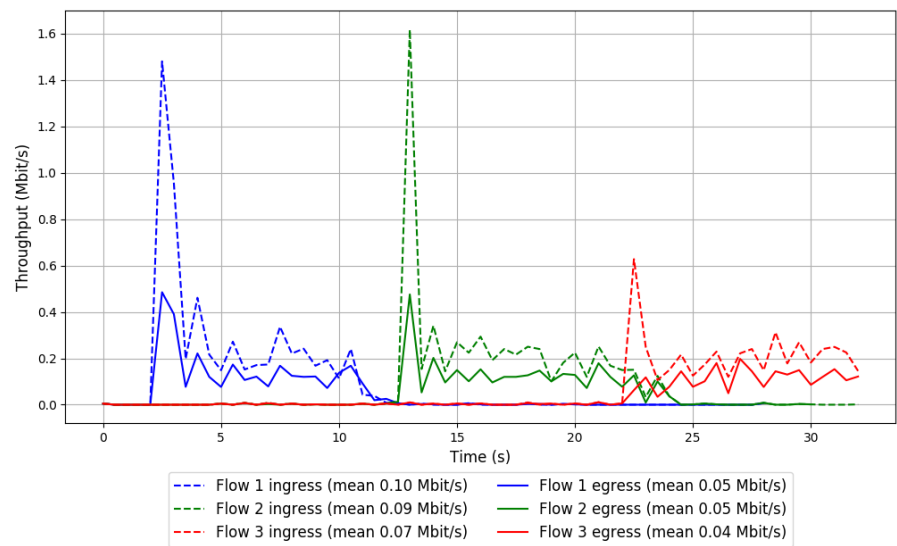
-- Flow 3:

Average throughput: 0.04 Mbit/s

95th percentile per-packet one-way delay: 96.428 ms

Loss rate: 47.41%

Run 3: Report of WebRTC media — Data Link



Run 1: Statistics of Sprout

Start at: 2018-03-05 20:20:46

End at: 2018-03-05 20:21:16

Local clock offset: -2.623 ms

Remote clock offset: 0.791 ms

Below is generated by plot.py at 2018-03-05 22:27:02

Datalink statistics

-- Total of 3 flows:

Average throughput: 0.14 Mbit/s

95th percentile per-packet one-way delay: 89.871 ms

Loss rate: 66.01%

-- Flow 1:

Average throughput: 0.09 Mbit/s

95th percentile per-packet one-way delay: 89.430 ms

Loss rate: 57.68%

-- Flow 2:

Average throughput: 0.05 Mbit/s

95th percentile per-packet one-way delay: 87.502 ms

Loss rate: 74.19%

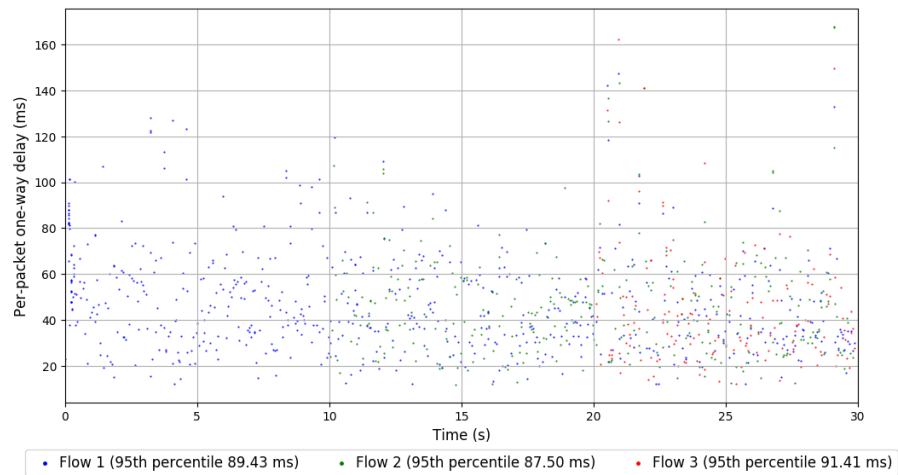
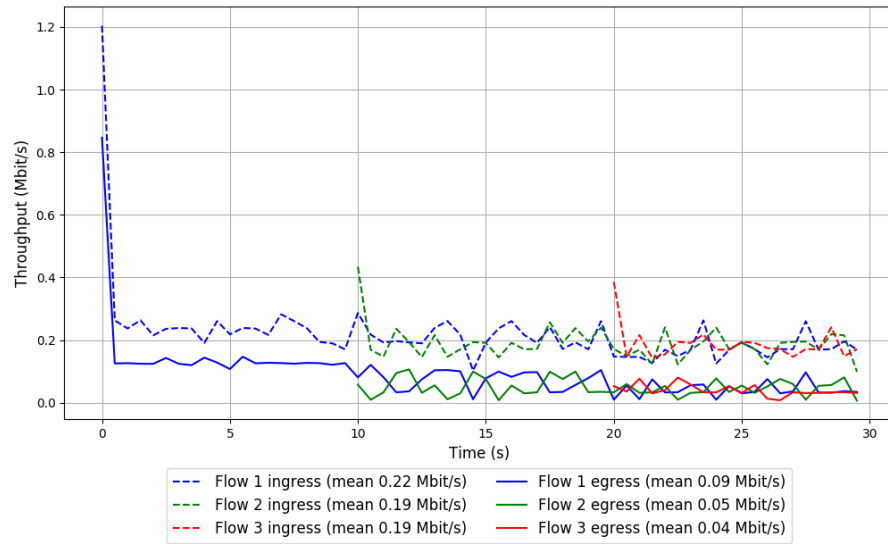
-- Flow 3:

Average throughput: 0.04 Mbit/s

95th percentile per-packet one-way delay: 91.412 ms

Loss rate: 78.88%

Run 1: Report of Sprout — Data Link



Run 2: Statistics of Sprout

Start at: 2018-03-05 20:44:27

End at: 2018-03-05 20:44:57

Local clock offset: 0.788 ms

Remote clock offset: 0.845 ms

Below is generated by plot.py at 2018-03-05 22:27:02

Datalink statistics

-- Total of 3 flows:

Average throughput: 0.14 Mbit/s

95th percentile per-packet one-way delay: 73.973 ms

Loss rate: 66.73%

-- Flow 1:

Average throughput: 0.09 Mbit/s

95th percentile per-packet one-way delay: 76.339 ms

Loss rate: 58.27%

-- Flow 2:

Average throughput: 0.05 Mbit/s

95th percentile per-packet one-way delay: 69.807 ms

Loss rate: 74.47%

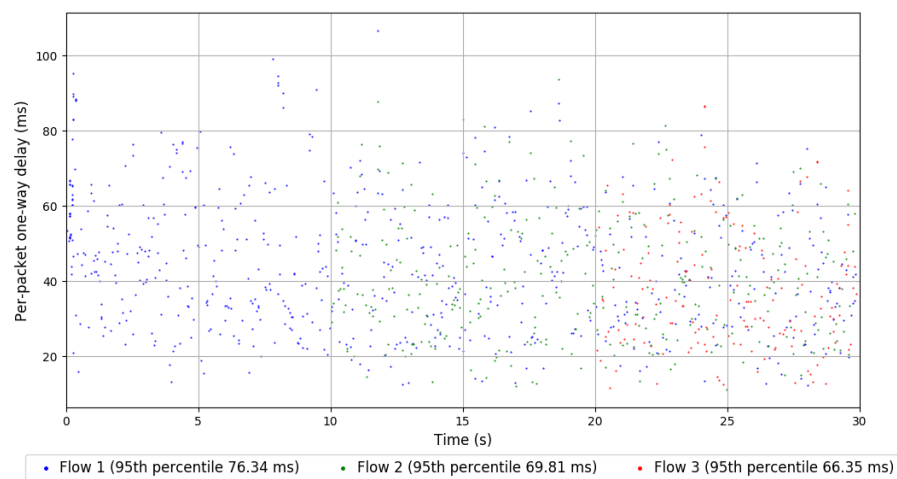
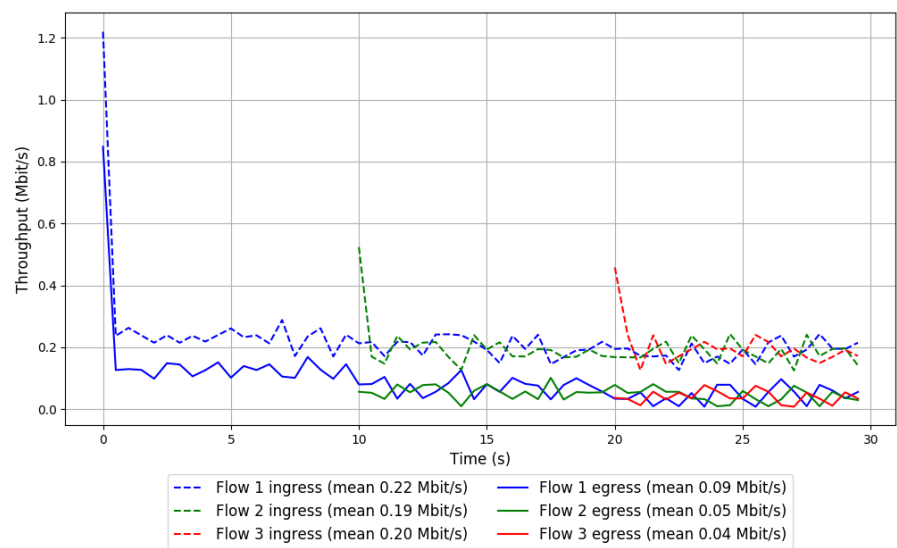
-- Flow 3:

Average throughput: 0.04 Mbit/s

95th percentile per-packet one-way delay: 66.353 ms

Loss rate: 80.03%

Run 2: Report of Sprout — Data Link



Run 3: Statistics of Sprout

Start at: 2018-03-05 21:08:08

End at: 2018-03-05 21:08:38

Local clock offset: 1.838 ms

Remote clock offset: 0.749 ms

Below is generated by plot.py at 2018-03-05 22:27:02

Datalink statistics

-- Total of 3 flows:

Average throughput: 0.14 Mbit/s

95th percentile per-packet one-way delay: 83.248 ms

Loss rate: 66.13%

-- Flow 1:

Average throughput: 0.09 Mbit/s

95th percentile per-packet one-way delay: 83.248 ms

Loss rate: 57.80%

-- Flow 2:

Average throughput: 0.05 Mbit/s

95th percentile per-packet one-way delay: 87.201 ms

Loss rate: 74.59%

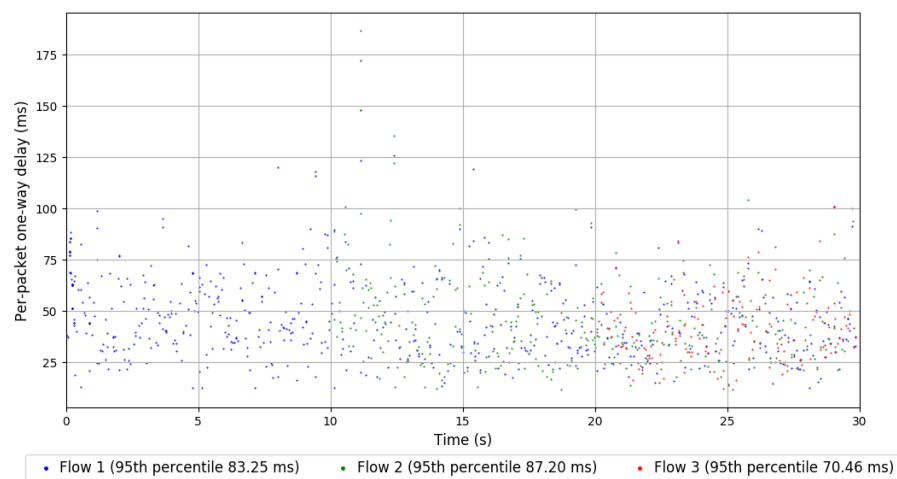
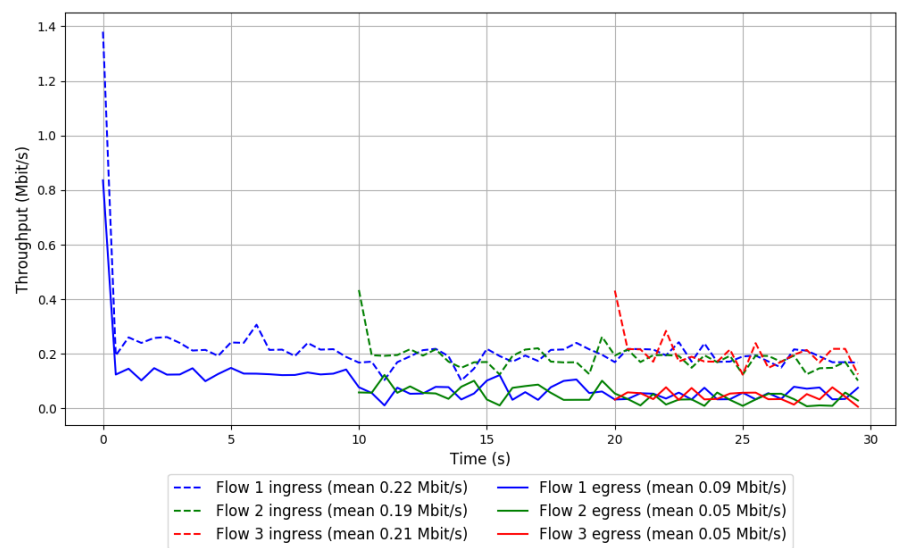
-- Flow 3:

Average throughput: 0.05 Mbit/s

95th percentile per-packet one-way delay: 70.456 ms

Loss rate: 77.92%

Run 3: Report of Sprout — Data Link



Run 1: Statistics of TaoVA-100x

Start at: 2018-03-05 20:15:29

End at: 2018-03-05 20:15:59

Local clock offset: -2.568 ms

Remote clock offset: 0.783 ms

Below is generated by plot.py at 2018-03-05 22:27:02

Datalink statistics

-- Total of 3 flows:

Average throughput: 0.14 Mbit/s

95th percentile per-packet one-way delay: 352.841 ms

Loss rate: 94.32%

-- Flow 1:

Average throughput: 0.08 Mbit/s

95th percentile per-packet one-way delay: 315.758 ms

Loss rate: 93.52%

-- Flow 2:

Average throughput: 0.10 Mbit/s

95th percentile per-packet one-way delay: 366.851 ms

Loss rate: 94.78%

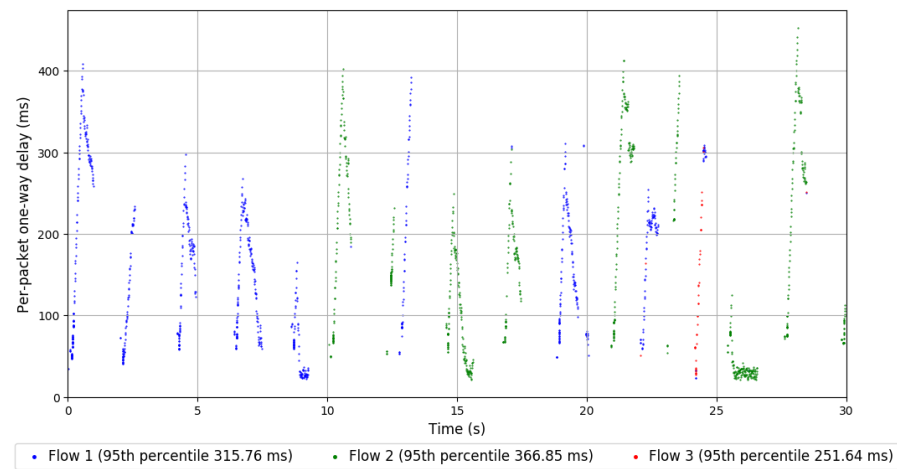
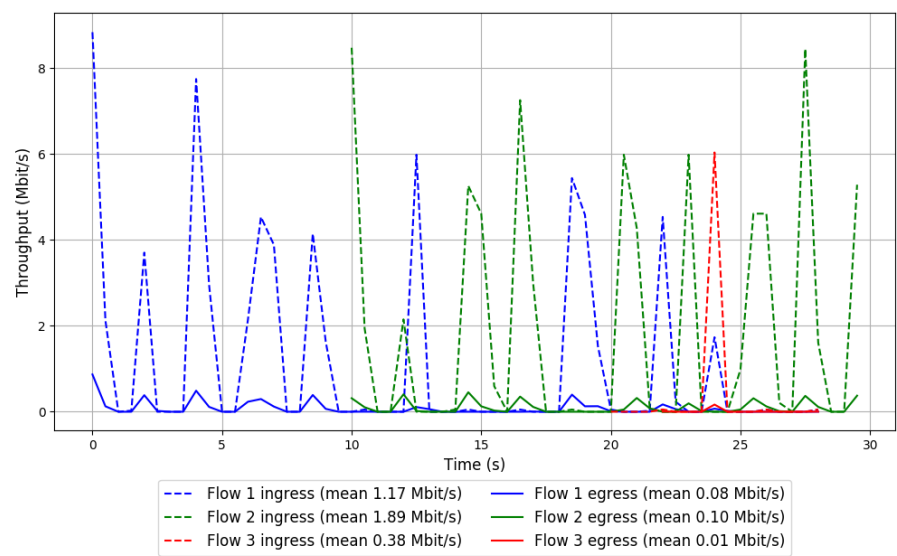
-- Flow 3:

Average throughput: 0.01 Mbit/s

95th percentile per-packet one-way delay: 251.640 ms

Loss rate: 97.21%

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



Run 2: Statistics of TaoVA-100x

Start at: 2018-03-05 20:39:10

End at: 2018-03-05 20:39:40

Local clock offset: -0.14 ms

Remote clock offset: 0.861 ms

Below is generated by plot.py at 2018-03-05 22:27:02

Datalink statistics

-- Total of 3 flows:

Average throughput: 0.14 Mbit/s

95th percentile per-packet one-way delay: 325.738 ms

Loss rate: 94.74%

-- Flow 1:

Average throughput: 0.08 Mbit/s

95th percentile per-packet one-way delay: 291.904 ms

Loss rate: 94.64%

-- Flow 2:

Average throughput: 0.08 Mbit/s

95th percentile per-packet one-way delay: 355.536 ms

Loss rate: 94.69%

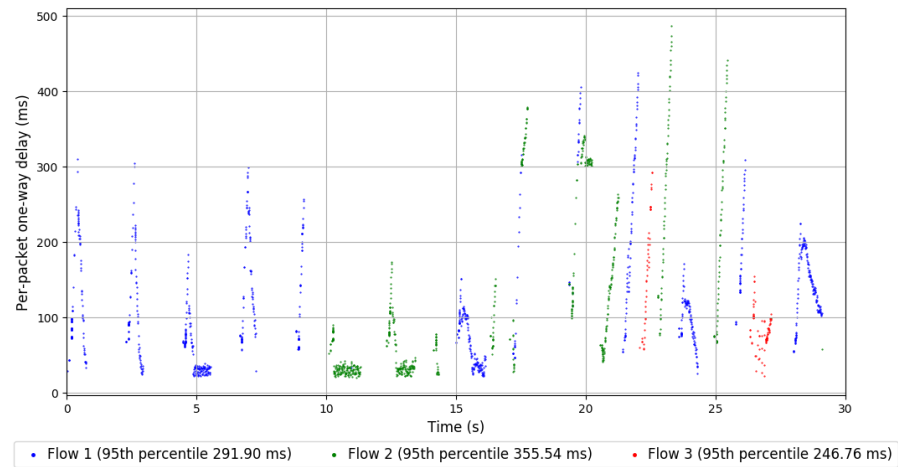
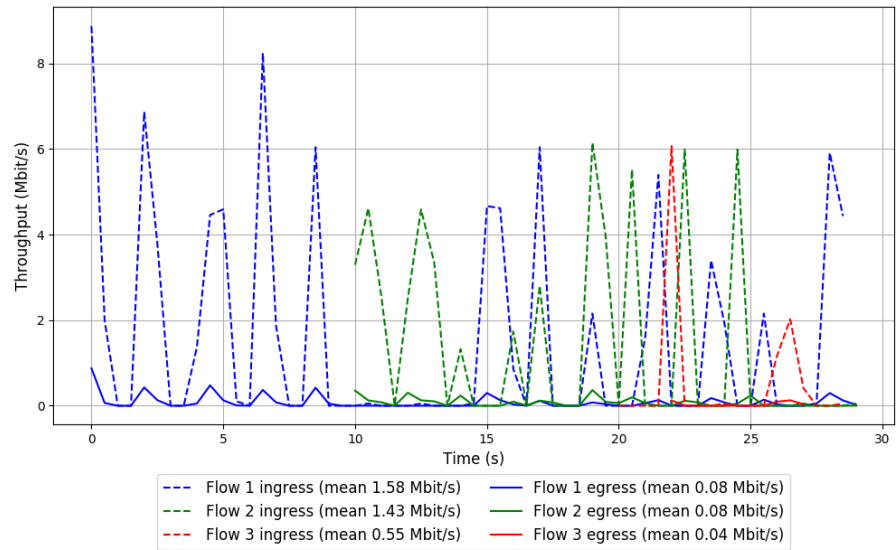
-- Flow 3:

Average throughput: 0.04 Mbit/s

95th percentile per-packet one-way delay: 246.762 ms

Loss rate: 95.99%

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



Run 3: Statistics of TaoVA-100x

Start at: 2018-03-05 21:02:52

End at: 2018-03-05 21:03:22

Local clock offset: 1.917 ms

Remote clock offset: 0.749 ms

Below is generated by plot.py at 2018-03-05 22:27:02

Datalink statistics

-- Total of 3 flows:

Average throughput: 0.14 Mbit/s

95th percentile per-packet one-way delay: 351.313 ms

Loss rate: 95.09%

-- Flow 1:

Average throughput: 0.10 Mbit/s

95th percentile per-packet one-way delay: 330.516 ms

Loss rate: 94.19%

-- Flow 2:

Average throughput: 0.05 Mbit/s

95th percentile per-packet one-way delay: 345.371 ms

Loss rate: 96.45%

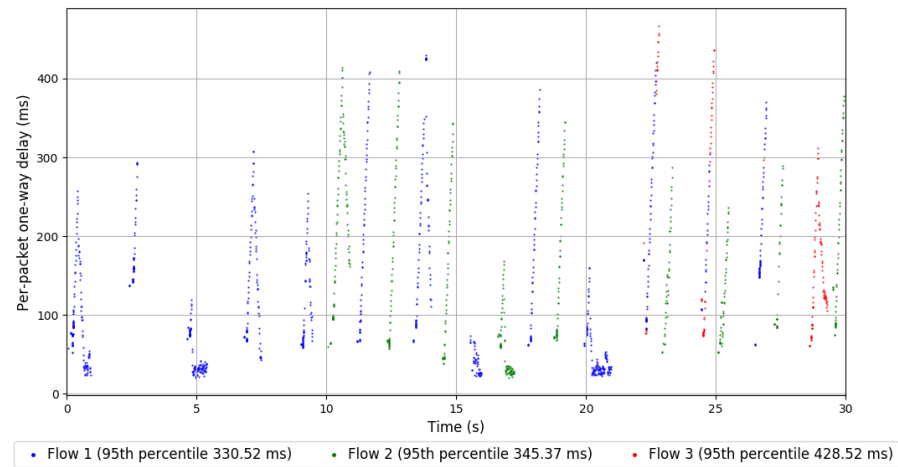
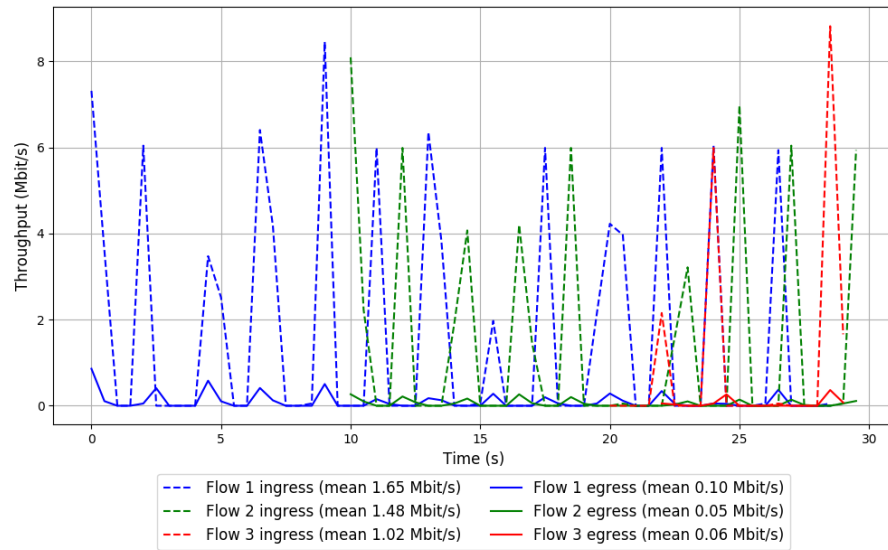
-- Flow 3:

Average throughput: 0.06 Mbit/s

95th percentile per-packet one-way delay: 428.524 ms

Loss rate: 95.49%

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



Run 1: Statistics of TCP Vegas

Start at: 2018-03-05 20:12:52

End at: 2018-03-05 20:13:22

Local clock offset: -2.66 ms

Remote clock offset: 0.733 ms

Below is generated by plot.py at 2018-03-05 22:27:02

Datalink statistics

-- Total of 3 flows:

Average throughput: 0.14 Mbit/s

95th percentile per-packet one-way delay: 107.388 ms

Loss rate: 43.30%

-- Flow 1:

Average throughput: 0.09 Mbit/s

95th percentile per-packet one-way delay: 90.932 ms

Loss rate: 39.73%

-- Flow 2:

Average throughput: 0.08 Mbit/s

95th percentile per-packet one-way delay: 122.688 ms

Loss rate: 45.27%

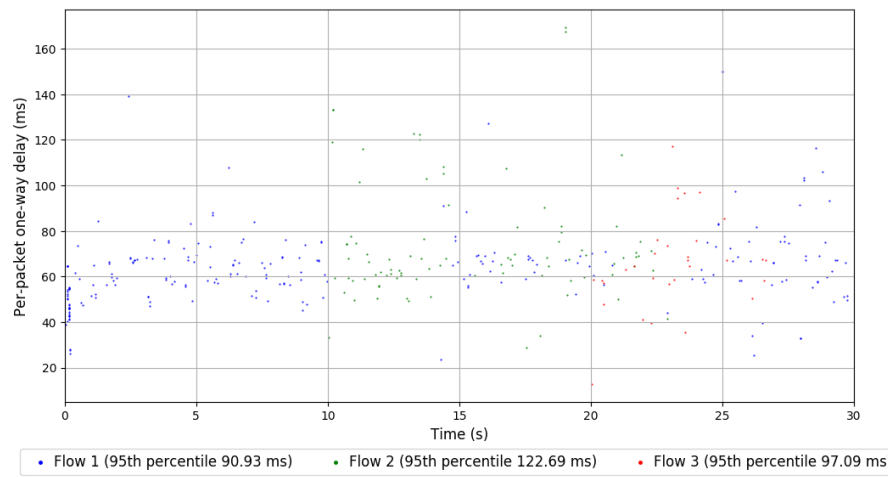
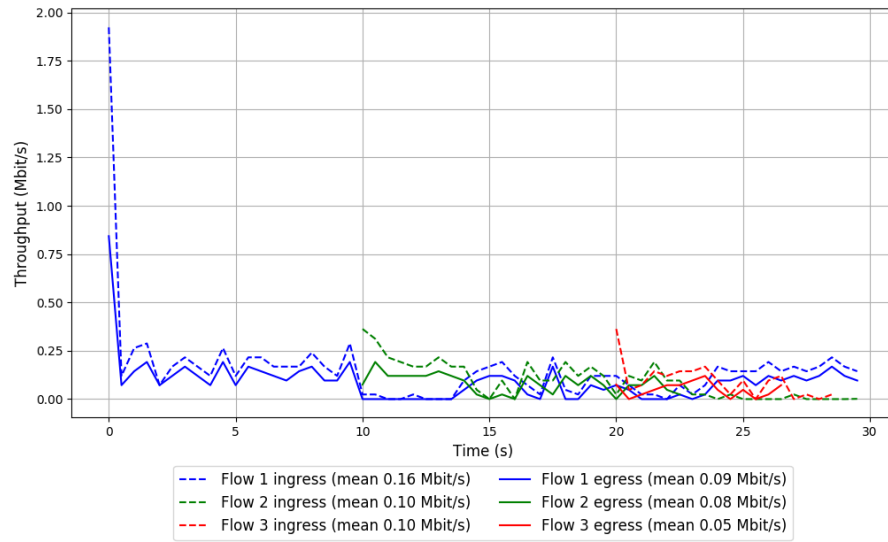
-- Flow 3:

Average throughput: 0.05 Mbit/s

95th percentile per-packet one-way delay: 97.087 ms

Loss rate: 58.47%

Run 1: Report of TCP Vegas — Data Link



Run 2: Statistics of TCP Vegas

Start at: 2018-03-05 20:36:33

End at: 2018-03-05 20:37:03

Local clock offset: -0.71 ms

Remote clock offset: 0.92 ms

Below is generated by plot.py at 2018-03-05 22:27:02

Datalink statistics

-- Total of 3 flows:

Average throughput: 0.14 Mbit/s

95th percentile per-packet one-way delay: 117.321 ms

Loss rate: 41.59%

-- Flow 1:

Average throughput: 0.09 Mbit/s

95th percentile per-packet one-way delay: 116.475 ms

Loss rate: 39.12%

-- Flow 2:

Average throughput: 0.07 Mbit/s

95th percentile per-packet one-way delay: 112.519 ms

Loss rate: 40.70%

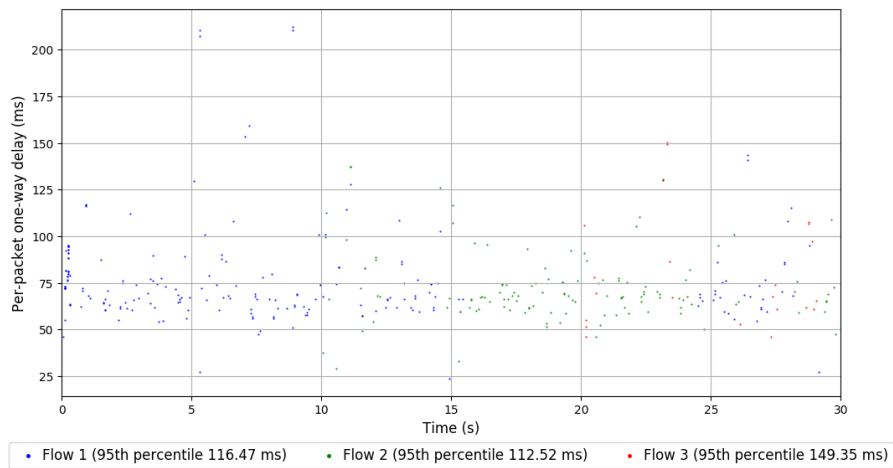
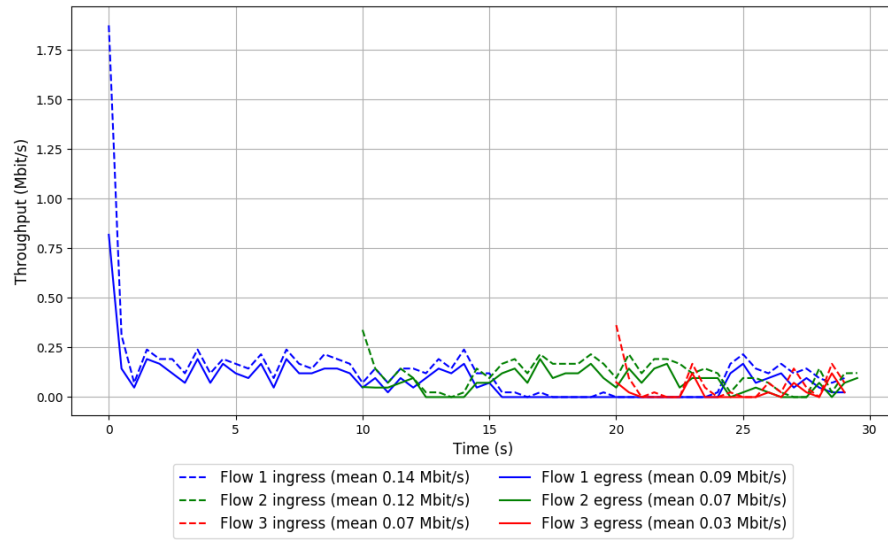
-- Flow 3:

Average throughput: 0.03 Mbit/s

95th percentile per-packet one-way delay: 149.348 ms

Loss rate: 61.39%

Run 2: Report of TCP Vegas — Data Link



Run 3: Statistics of TCP Vegas

Start at: 2018-03-05 21:00:14

End at: 2018-03-05 21:00:44

Local clock offset: 1.831 ms

Remote clock offset: 0.824 ms

Below is generated by plot.py at 2018-03-05 22:27:02

Datalink statistics

-- Total of 3 flows:

Average throughput: 0.14 Mbit/s

95th percentile per-packet one-way delay: 104.180 ms

Loss rate: 38.21%

-- Flow 1:

Average throughput: 0.16 Mbit/s

95th percentile per-packet one-way delay: 117.115 ms

Loss rate: 40.15%

-- Flow 2:

Average throughput: 0.12 Mbit/s

95th percentile per-packet one-way delay: 94.527 ms

Loss rate: 33.32%

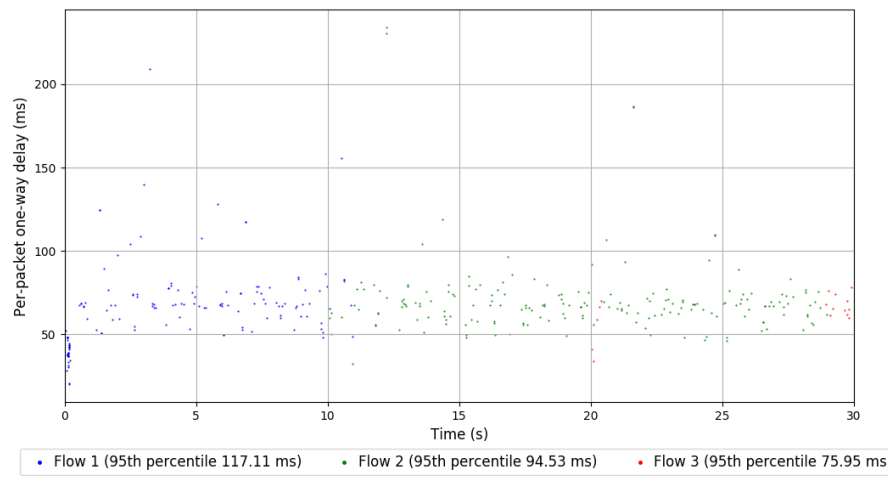
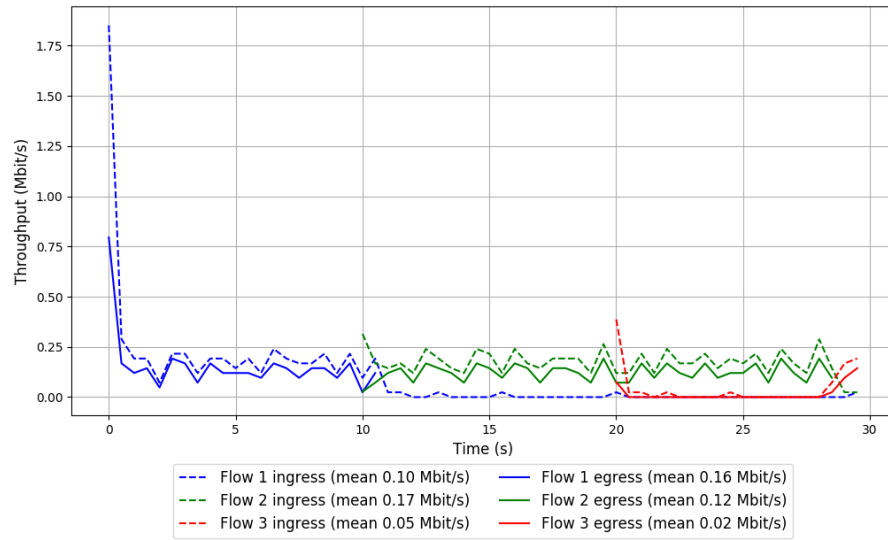
-- Flow 3:

Average throughput: 0.02 Mbit/s

95th percentile per-packet one-way delay: 75.952 ms

Loss rate: 62.95%

Run 3: Report of TCP Vegas — Data Link



Run 1: Statistics of Verus

Start at: 2018-03-05 20:10:14

End at: 2018-03-05 20:10:44

Local clock offset: -2.782 ms

Remote clock offset: 0.735 ms

Below is generated by plot.py at 2018-03-05 22:27:02

Datalink statistics

-- Total of 3 flows:

Average throughput: 0.14 Mbit/s

95th percentile per-packet one-way delay: 264.579 ms

Loss rate: 96.20%

-- Flow 1:

Average throughput: 0.10 Mbit/s

95th percentile per-packet one-way delay: 269.991 ms

Loss rate: 97.05%

-- Flow 2:

Average throughput: 0.04 Mbit/s

95th percentile per-packet one-way delay: 79.175 ms

Loss rate: 63.64%

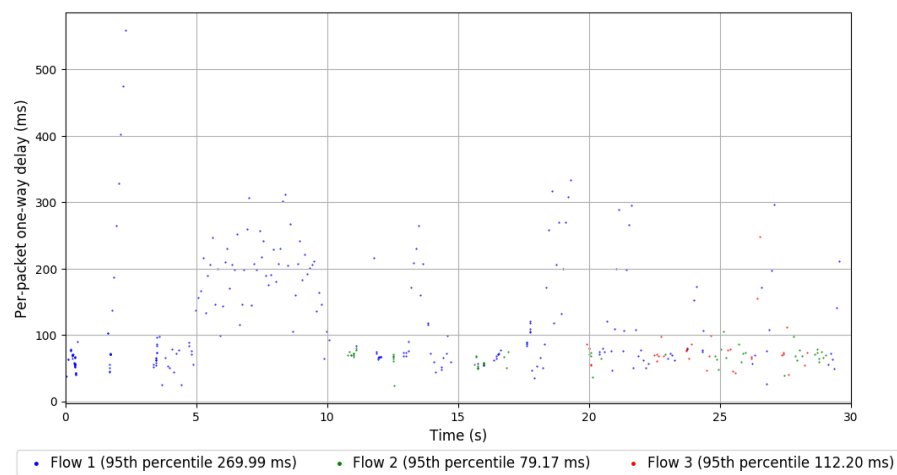
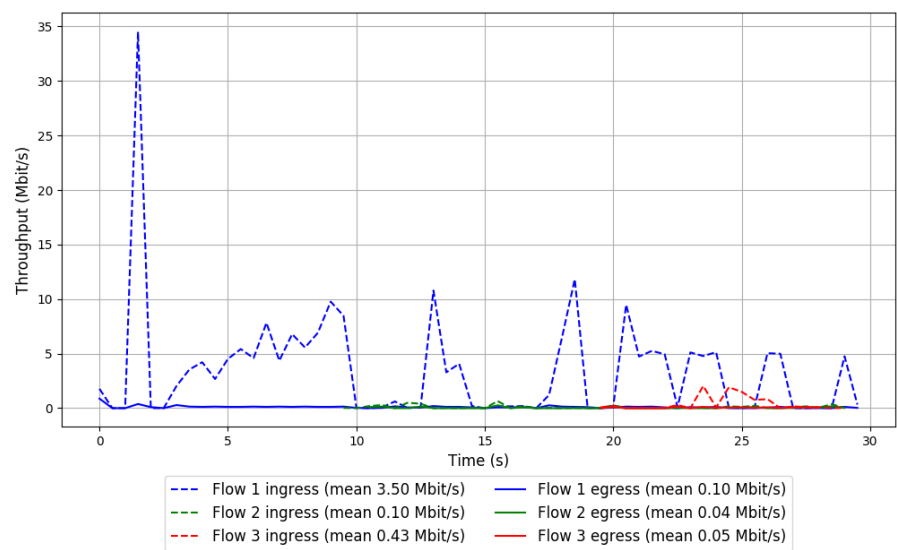
-- Flow 3:

Average throughput: 0.05 Mbit/s

95th percentile per-packet one-way delay: 112.196 ms

Loss rate: 90.06%

Run 1: Report of Verus — Data Link

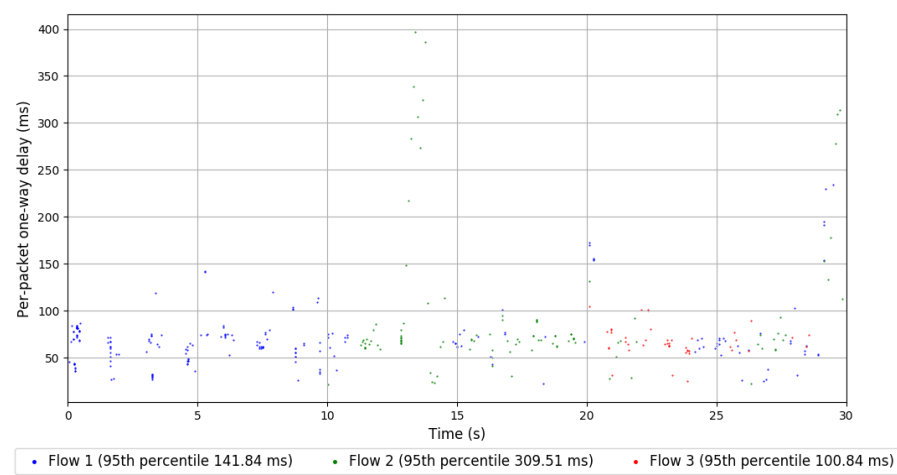
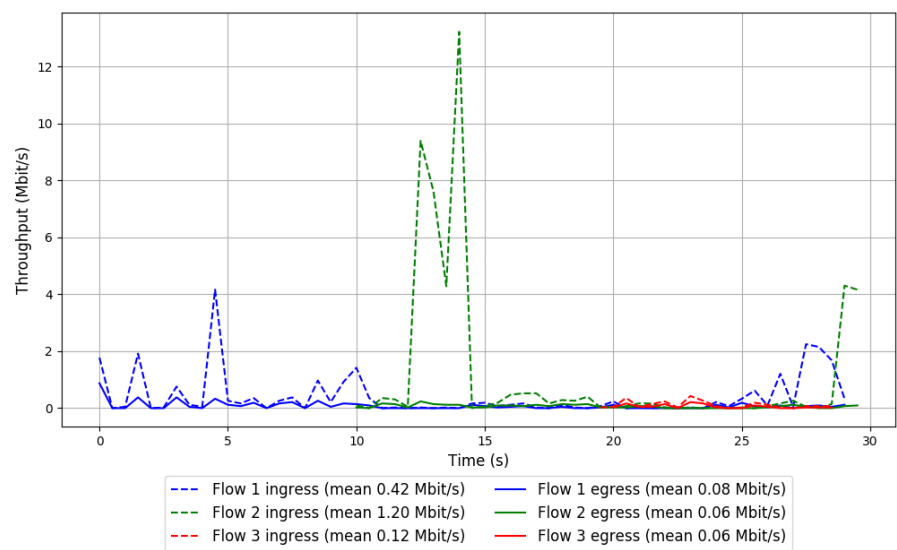


Run 2: Statistics of Verus

Start at: 2018-03-05 20:33:55
End at: 2018-03-05 20:34:25
Local clock offset: -1.654 ms
Remote clock offset: 0.95 ms

Below is generated by plot.py at 2018-03-05 22:27:02
Datalink statistics
-- Total of 3 flows:
Average throughput: 0.14 Mbit/s
95th percentile per-packet one-way delay: 155.052 ms
Loss rate: 88.74%
-- Flow 1:
Average throughput: 0.08 Mbit/s
95th percentile per-packet one-way delay: 141.845 ms
Loss rate: 80.17%
-- Flow 2:
Average throughput: 0.06 Mbit/s
95th percentile per-packet one-way delay: 309.515 ms
Loss rate: 94.77%
-- Flow 3:
Average throughput: 0.06 Mbit/s
95th percentile per-packet one-way delay: 100.842 ms
Loss rate: 52.69%

Run 2: Report of Verus — Data Link



Run 3: Statistics of Verus

Start at: 2018-03-05 20:57:36

End at: 2018-03-05 20:58:06

Local clock offset: 1.73 ms

Remote clock offset: 0.825 ms

Below is generated by plot.py at 2018-03-05 22:27:03

Datalink statistics

-- Total of 3 flows:

Average throughput: 0.14 Mbit/s

95th percentile per-packet one-way delay: 173.054 ms

Loss rate: 97.76%

-- Flow 1:

Average throughput: 0.12 Mbit/s

95th percentile per-packet one-way delay: 179.745 ms

Loss rate: 98.02%

-- Flow 2:

Average throughput: 0.02 Mbit/s

95th percentile per-packet one-way delay: 83.958 ms

Loss rate: 80.21%

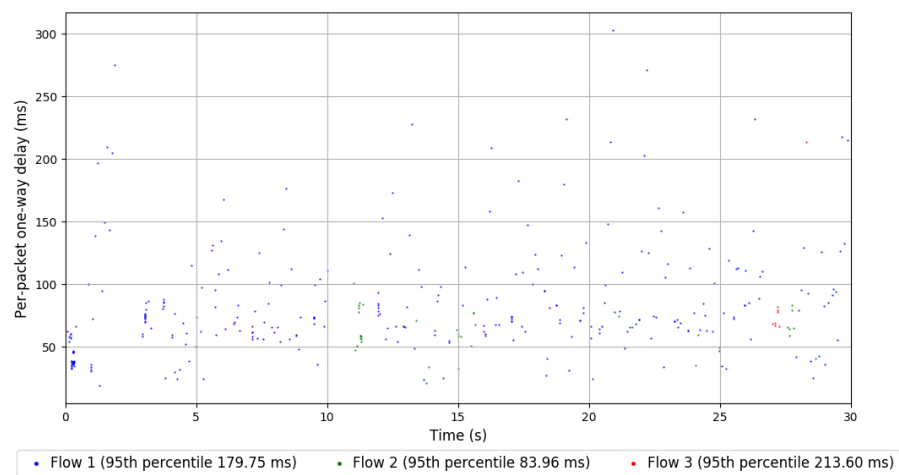
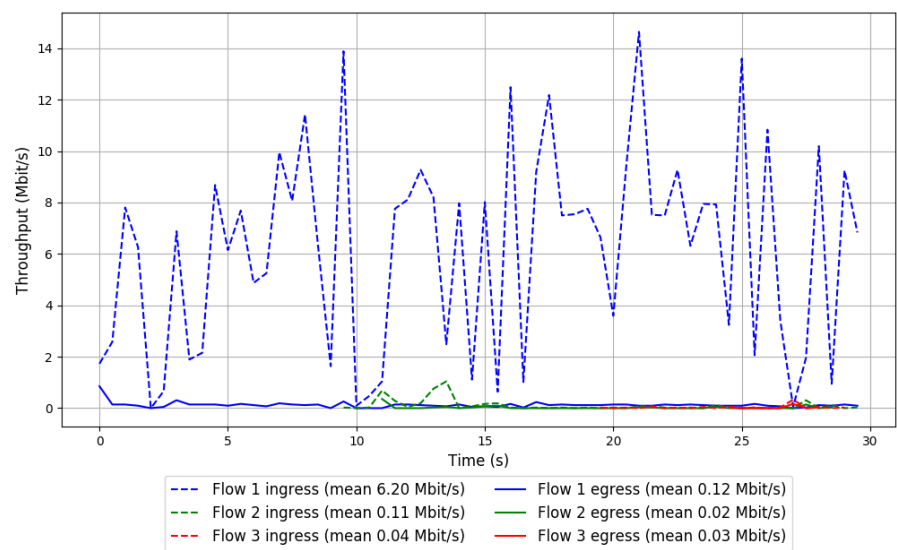
-- Flow 3:

Average throughput: 0.03 Mbit/s

95th percentile per-packet one-way delay: 213.598 ms

Loss rate: 67.86%

Run 3: Report of Verus — Data Link



Run 1: Statistics of Copa

Start at: 2018-03-05 20:27:21

End at: 2018-03-05 20:27:51

Local clock offset: -2.801 ms

Remote clock offset: 0.825 ms

Below is generated by plot.py at 2018-03-05 22:27:03

Datalink statistics

-- Total of 3 flows:

Average throughput: 0.14 Mbit/s

95th percentile per-packet one-way delay: 139.772 ms

Loss rate: 70.37%

-- Flow 1:

Average throughput: 0.07 Mbit/s

95th percentile per-packet one-way delay: 143.867 ms

Loss rate: 68.49%

-- Flow 2:

Average throughput: 0.06 Mbit/s

95th percentile per-packet one-way delay: 108.624 ms

Loss rate: 74.81%

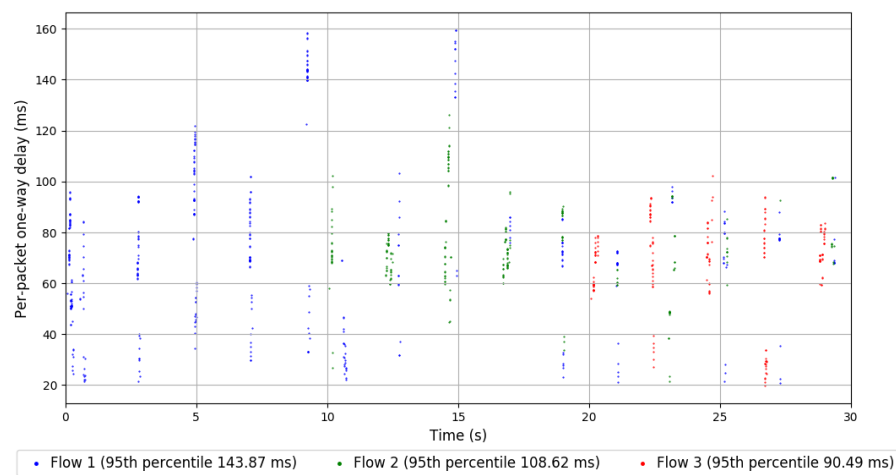
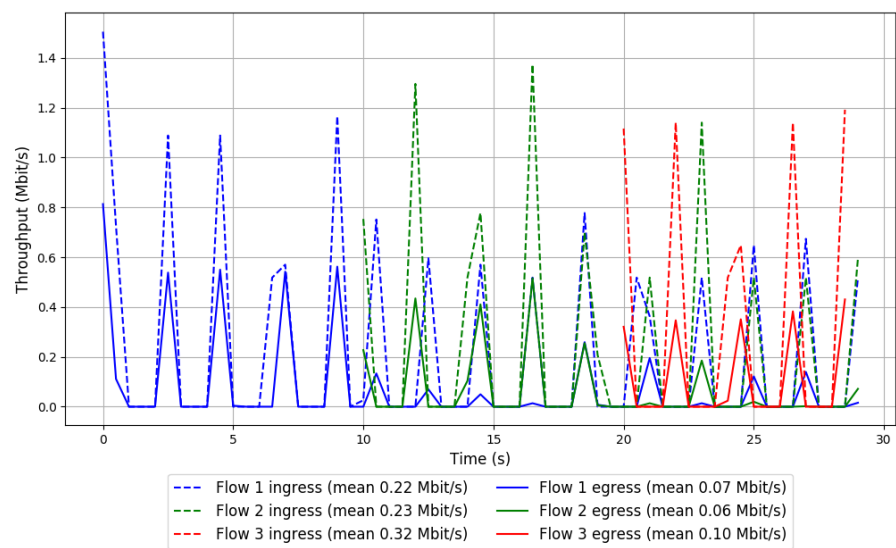
-- Flow 3:

Average throughput: 0.10 Mbit/s

95th percentile per-packet one-way delay: 90.491 ms

Loss rate: 67.76%

Run 1: Report of Copa — Data Link



Run 2: Statistics of Copa

Start at: 2018-03-05 20:51:01

End at: 2018-03-05 20:51:31

Local clock offset: 1.437 ms

Remote clock offset: 0.801 ms

Below is generated by plot.py at 2018-03-05 22:27:03

Datalink statistics

-- Total of 3 flows:

Average throughput: 0.14 Mbit/s

95th percentile per-packet one-way delay: 87.574 ms

Loss rate: 69.17%

-- Flow 1:

Average throughput: 0.07 Mbit/s

95th percentile per-packet one-way delay: 87.601 ms

Loss rate: 68.67%

-- Flow 2:

Average throughput: 0.07 Mbit/s

95th percentile per-packet one-way delay: 89.194 ms

Loss rate: 68.97%

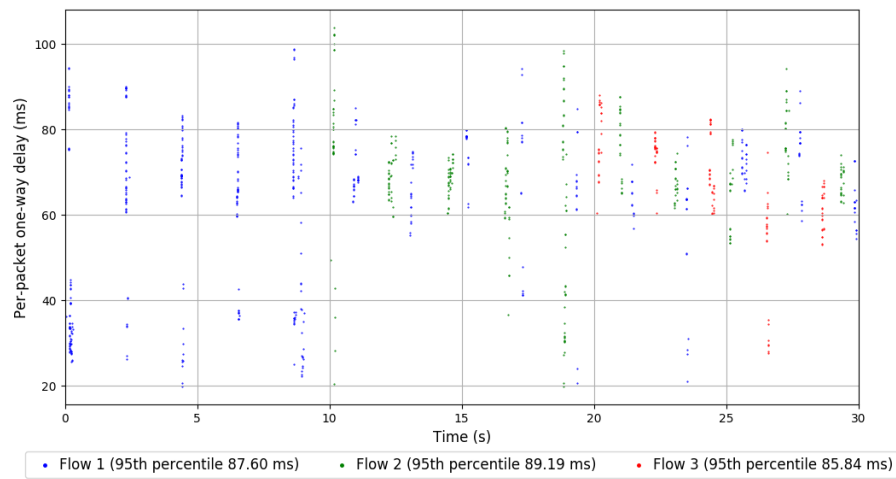
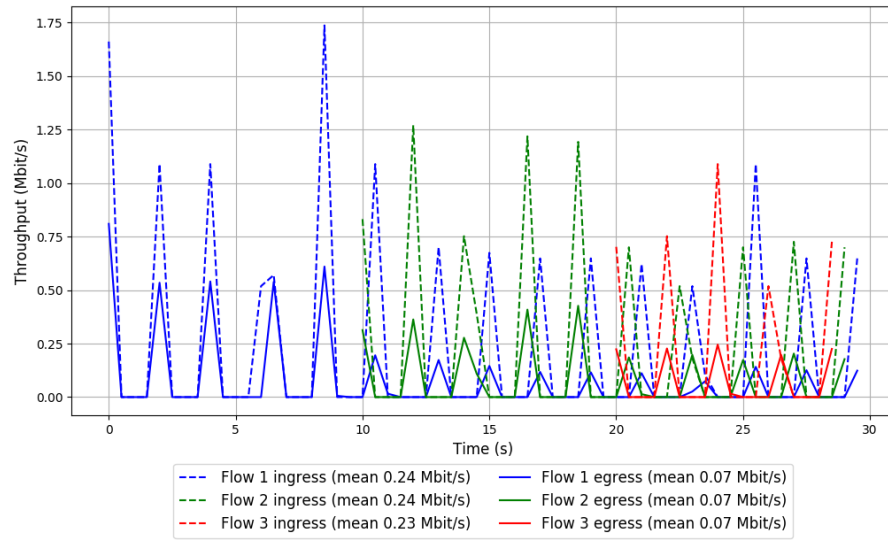
-- Flow 3:

Average throughput: 0.07 Mbit/s

95th percentile per-packet one-way delay: 85.841 ms

Loss rate: 71.42%

Run 2: Report of Copa — Data Link



Run 3: Statistics of Copa

Start at: 2018-03-05 21:14:43

End at: 2018-03-05 21:15:13

Local clock offset: 1.413 ms

Remote clock offset: 0.739 ms

Below is generated by plot.py at 2018-03-05 22:27:03

Datalink statistics

-- Total of 3 flows:

Average throughput: 0.14 Mbit/s

95th percentile per-packet one-way delay: 116.242 ms

Loss rate: 70.34%

-- Flow 1:

Average throughput: 0.09 Mbit/s

95th percentile per-packet one-way delay: 122.954 ms

Loss rate: 63.01%

-- Flow 2:

Average throughput: 0.02 Mbit/s

95th percentile per-packet one-way delay: 323.977 ms

Loss rate: 90.31%

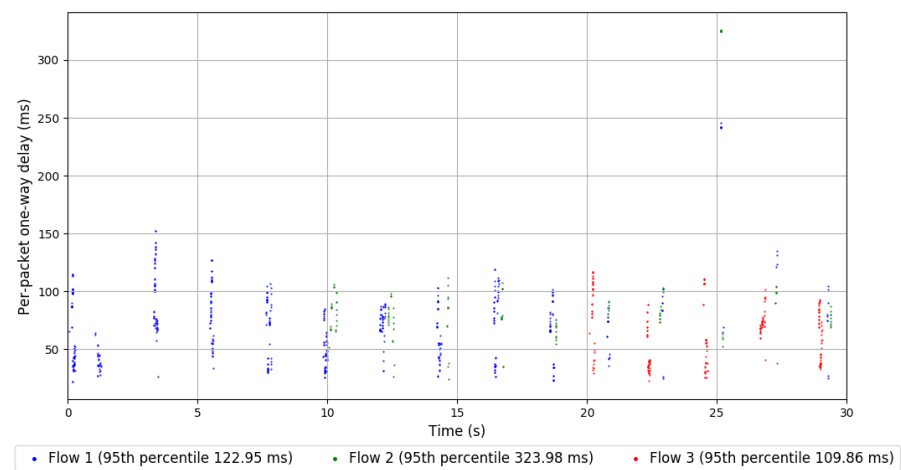
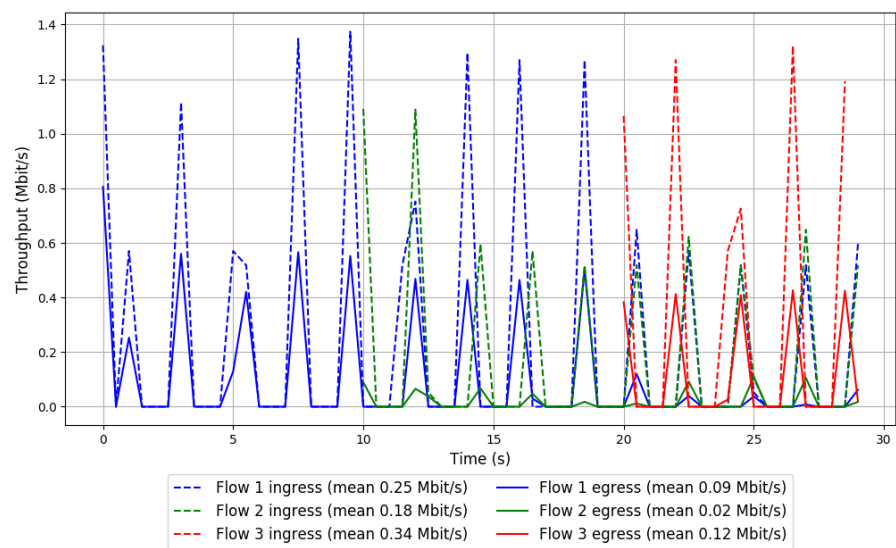
-- Flow 3:

Average throughput: 0.12 Mbit/s

95th percentile per-packet one-way delay: 109.856 ms

Loss rate: 65.81%

Run 3: Report of Copa — Data Link



Run 1: Statistics of FillP

Start at: 2018-03-05 20:06:16

End at: 2018-03-05 20:06:46

Local clock offset: -3.31 ms

Remote clock offset: 0.598 ms

Below is generated by plot.py at 2018-03-05 22:27:04

Datalink statistics

-- Total of 3 flows:

Average throughput: 0.14 Mbit/s

95th percentile per-packet one-way delay: 334.776 ms

Loss rate: 99.64%

-- Flow 1:

Average throughput: 0.09 Mbit/s

95th percentile per-packet one-way delay: 318.005 ms

Loss rate: 99.29%

-- Flow 2:

Average throughput: 0.06 Mbit/s

95th percentile per-packet one-way delay: 319.457 ms

Loss rate: 99.55%

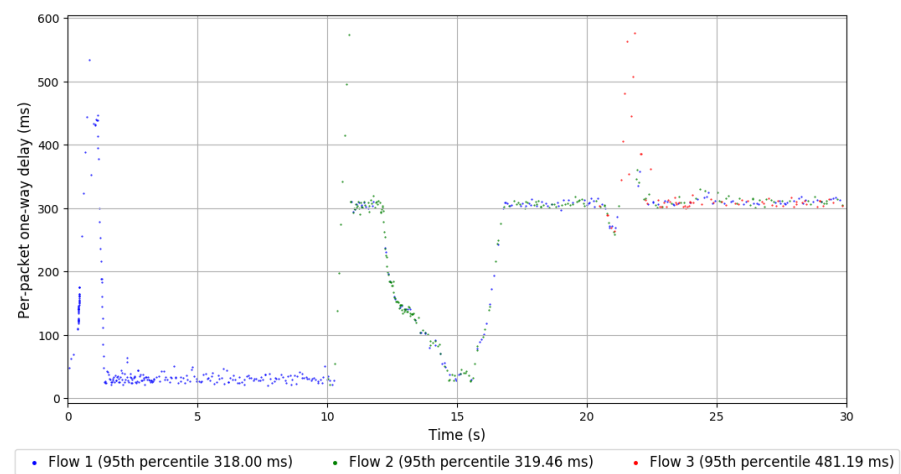
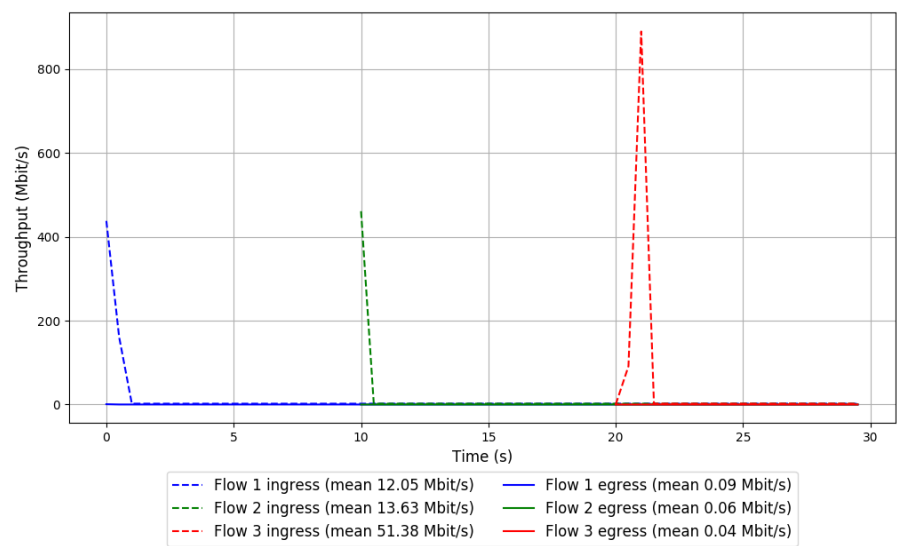
-- Flow 3:

Average throughput: 0.04 Mbit/s

95th percentile per-packet one-way delay: 481.188 ms

Loss rate: 99.92%

Run 1: Report of FillP — Data Link



Run 2: Statistics of FillP

Start at: 2018-03-05 20:29:58

End at: 2018-03-05 20:30:28

Local clock offset: -2.786 ms

Remote clock offset: 0.84 ms

Below is generated by plot.py at 2018-03-05 22:27:04

Datalink statistics

-- Total of 3 flows:

Average throughput: 0.14 Mbit/s

95th percentile per-packet one-way delay: 326.083 ms

Loss rate: 99.43%

-- Flow 1:

Average throughput: 0.09 Mbit/s

95th percentile per-packet one-way delay: 303.410 ms

Loss rate: 99.06%

-- Flow 2:

Average throughput: 0.06 Mbit/s

95th percentile per-packet one-way delay: 329.908 ms

Loss rate: 99.49%

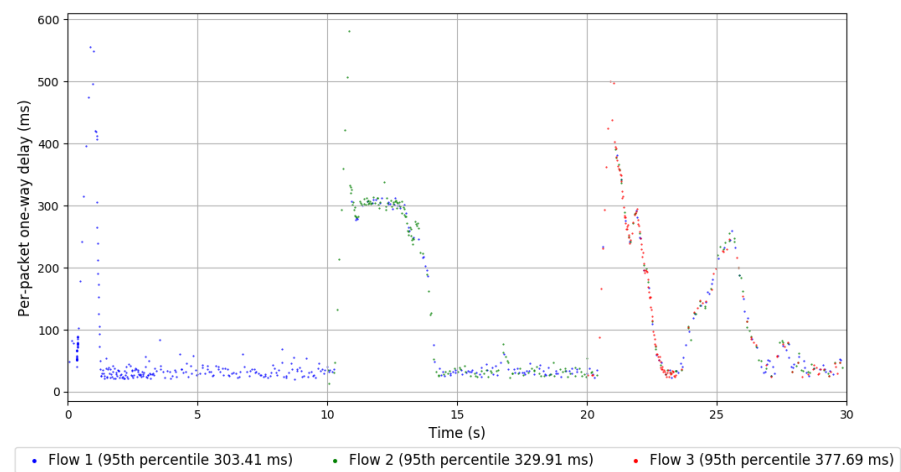
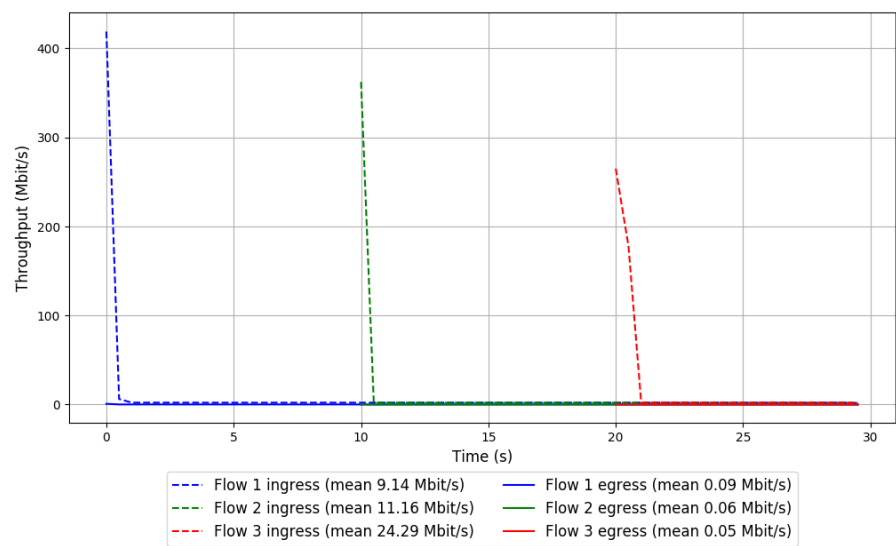
-- Flow 3:

Average throughput: 0.05 Mbit/s

95th percentile per-packet one-way delay: 377.685 ms

Loss rate: 99.81%

Run 2: Report of FillP — Data Link



Run 3: Statistics of FillP

Start at: 2018-03-05 20:53:38

End at: 2018-03-05 20:54:08

Local clock offset: 1.613 ms

Remote clock offset: 0.781 ms

Below is generated by plot.py at 2018-03-05 22:27:04

Datalink statistics

-- Total of 3 flows:

Average throughput: 0.14 Mbit/s

95th percentile per-packet one-way delay: 348.135 ms

Loss rate: 99.32%

-- Flow 1:

Average throughput: 0.09 Mbit/s

95th percentile per-packet one-way delay: 314.004 ms

Loss rate: 98.81%

-- Flow 2:

Average throughput: 0.05 Mbit/s

95th percentile per-packet one-way delay: 350.168 ms

Loss rate: 99.44%

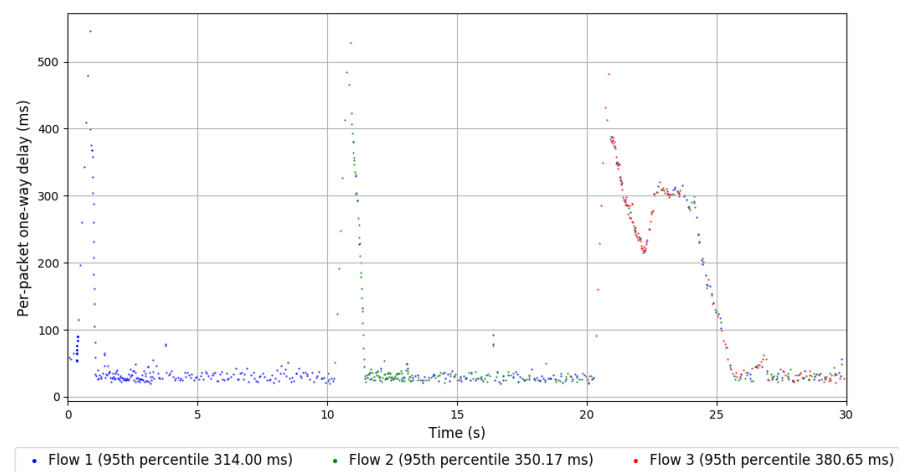
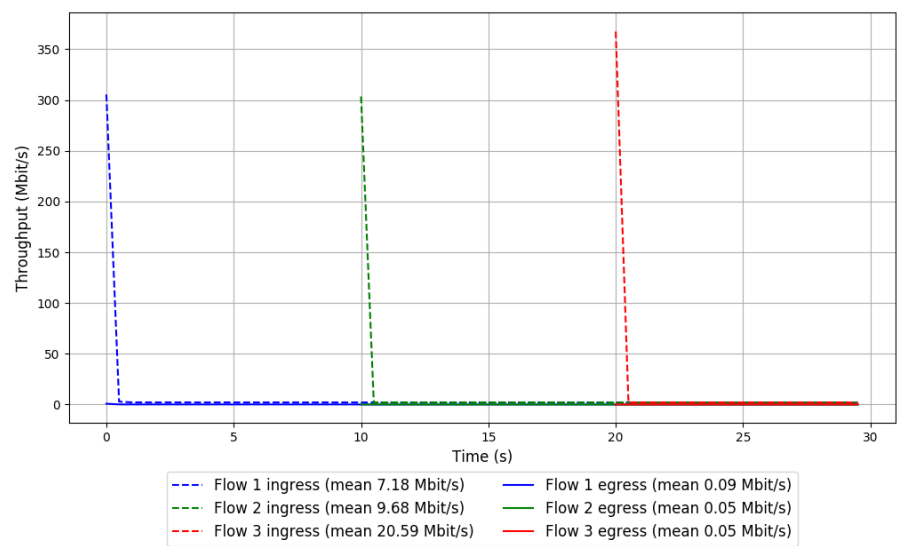
-- Flow 3:

Average throughput: 0.05 Mbit/s

95th percentile per-packet one-way delay: 380.654 ms

Loss rate: 99.74%

Run 3: Report of FillP — Data Link



Run 1: Statistics of Indigo-1-32

Start at: 2018-03-05 20:18:08

End at: 2018-03-05 20:18:38

Local clock offset: -2.563 ms

Remote clock offset: 0.772 ms

Below is generated by plot.py at 2018-03-05 22:27:04

Datalink statistics

-- Total of 3 flows:

Average throughput: 0.14 Mbit/s

95th percentile per-packet one-way delay: 182.148 ms

Loss rate: 87.80%

-- Flow 1:

Average throughput: 0.10 Mbit/s

95th percentile per-packet one-way delay: 184.875 ms

Loss rate: 84.08%

-- Flow 2:

Average throughput: 0.08 Mbit/s

95th percentile per-packet one-way delay: 177.993 ms

Loss rate: 90.97%

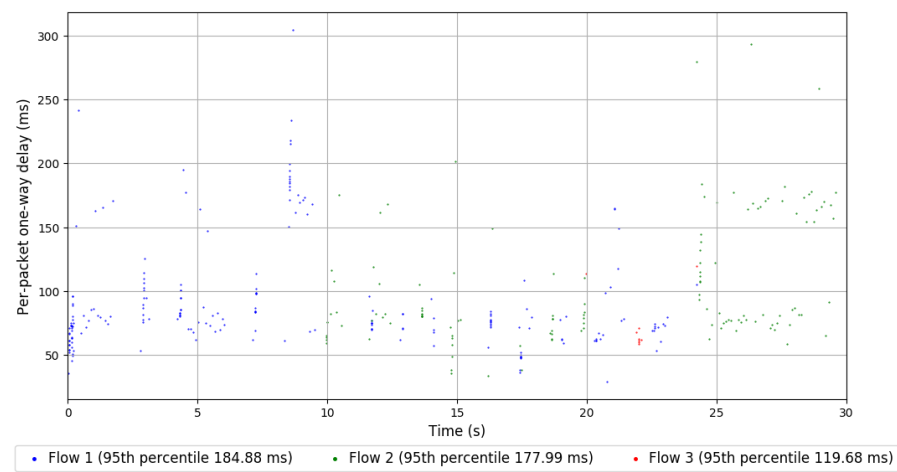
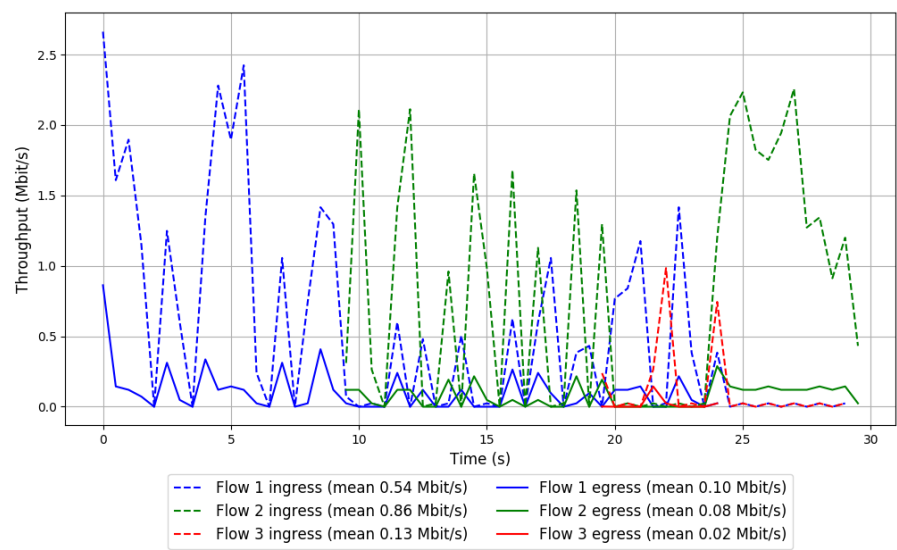
-- Flow 3:

Average throughput: 0.02 Mbit/s

95th percentile per-packet one-way delay: 119.677 ms

Loss rate: 91.95%

Run 1: Report of Indigo-1-32 — Data Link



Run 2: Statistics of Indigo-1-32

Start at: 2018-03-05 20:41:49

End at: 2018-03-05 20:42:19

Local clock offset: 0.382 ms

Remote clock offset: 0.86 ms

Below is generated by plot.py at 2018-03-05 22:27:04

Datalink statistics

-- Total of 3 flows:

Average throughput: 0.14 Mbit/s

95th percentile per-packet one-way delay: 169.480 ms

Loss rate: 92.70%

-- Flow 1:

Average throughput: 0.11 Mbit/s

95th percentile per-packet one-way delay: 106.163 ms

Loss rate: 70.32%

-- Flow 2:

Average throughput: 0.06 Mbit/s

95th percentile per-packet one-way delay: 166.597 ms

Loss rate: 95.45%

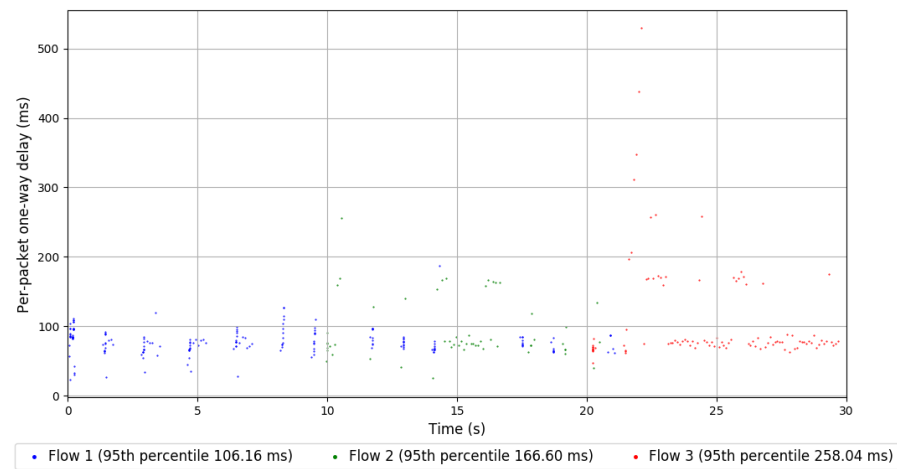
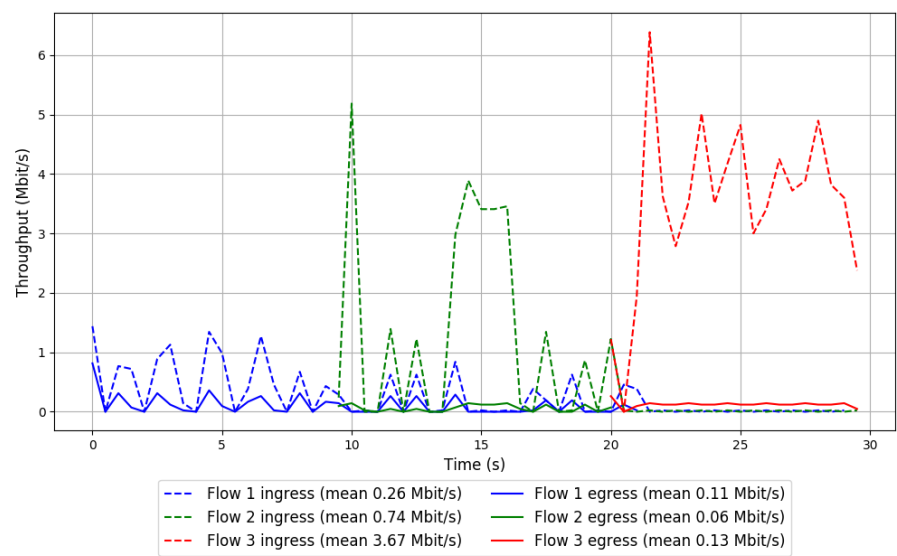
-- Flow 3:

Average throughput: 0.13 Mbit/s

95th percentile per-packet one-way delay: 258.039 ms

Loss rate: 96.47%

Run 2: Report of Indigo-1-32 — Data Link



Run 3: Statistics of Indigo-1-32

Start at: 2018-03-05 21:05:30

End at: 2018-03-05 21:06:00

Local clock offset: 2.084 ms

Remote clock offset: 0.749 ms

Below is generated by plot.py at 2018-03-05 22:27:04

Datalink statistics

-- Total of 3 flows:

Average throughput: 0.14 Mbit/s

95th percentile per-packet one-way delay: 171.098 ms

Loss rate: 96.43%

-- Flow 1:

Average throughput: 0.07 Mbit/s

95th percentile per-packet one-way delay: 172.970 ms

Loss rate: 91.41%

-- Flow 2:

Average throughput: 0.12 Mbit/s

95th percentile per-packet one-way delay: 169.765 ms

Loss rate: 97.50%

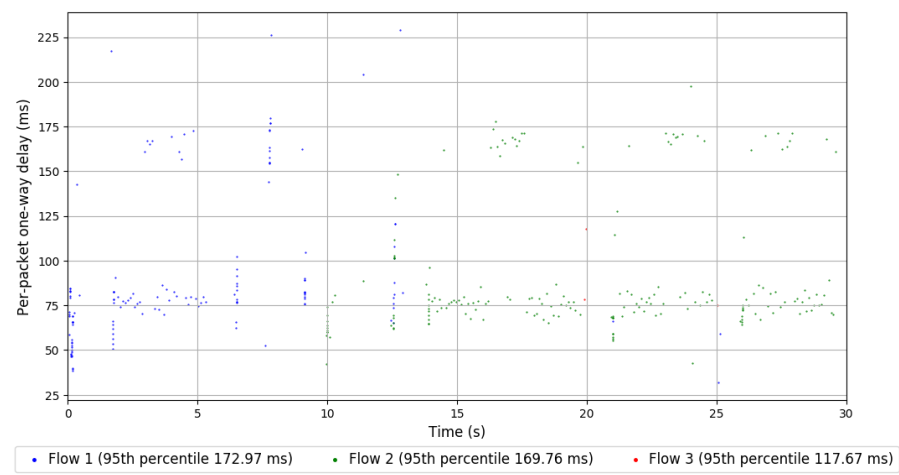
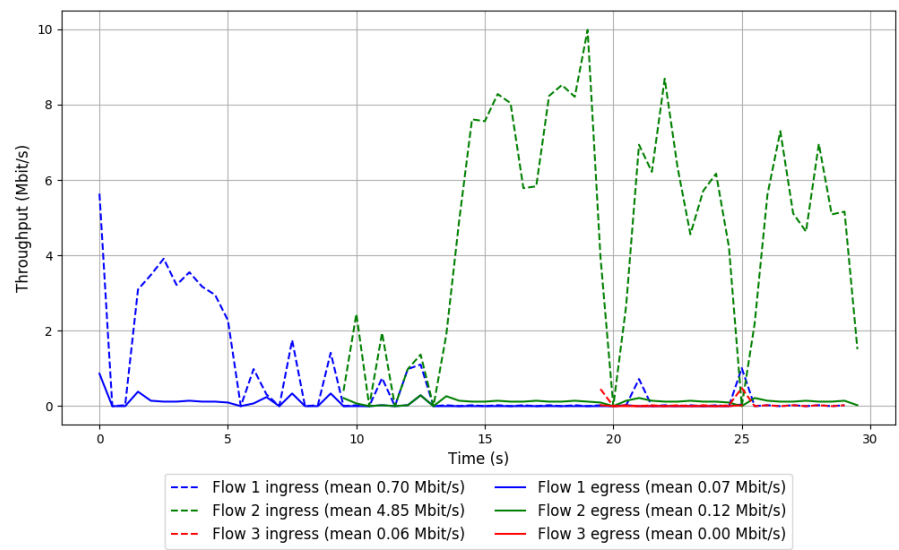
-- Flow 3:

Average throughput: 0.00 Mbit/s

95th percentile per-packet one-way delay: 117.667 ms

Loss rate: 95.74%

Run 3: Report of Indigo-1-32 — Data Link



Run 1: Statistics of Vivace-latency

Start at: 2018-03-05 20:22:05

End at: 2018-03-05 20:22:35

Local clock offset: -2.569 ms

Remote clock offset: 0.917 ms

Below is generated by plot.py at 2018-03-05 22:27:04

Datalink statistics

-- Total of 3 flows:

Average throughput: 0.14 Mbit/s

95th percentile per-packet one-way delay: 66.715 ms

Loss rate: 94.31%

-- Flow 1:

Average throughput: 0.09 Mbit/s

95th percentile per-packet one-way delay: 74.046 ms

Loss rate: 92.40%

-- Flow 2:

Average throughput: 0.05 Mbit/s

95th percentile per-packet one-way delay: 49.826 ms

Loss rate: 96.06%

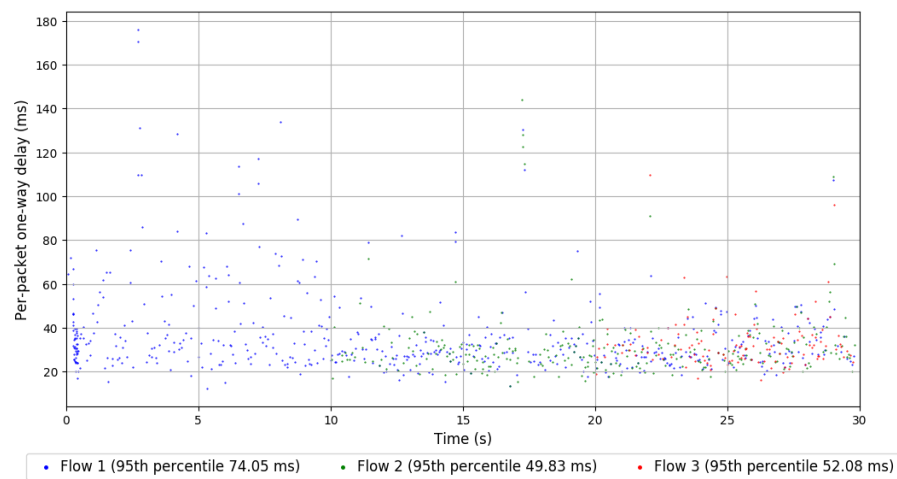
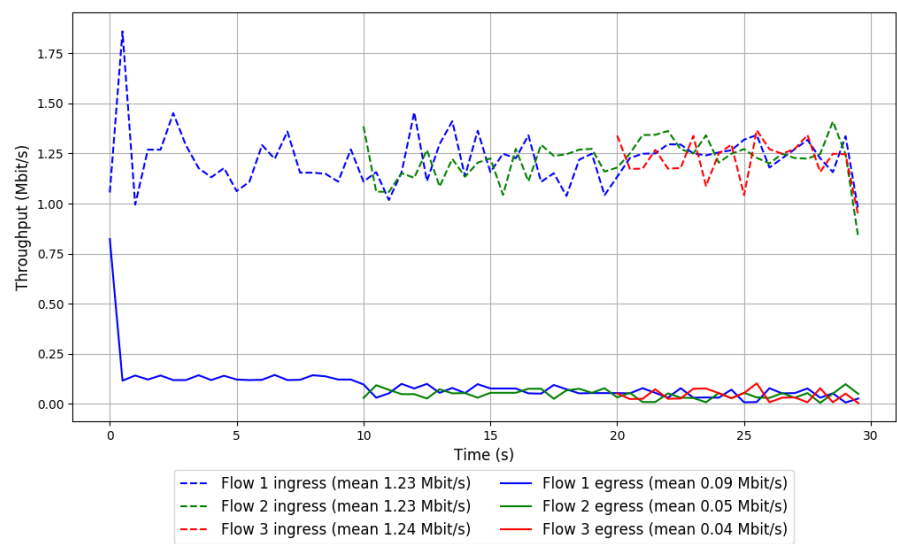
-- Flow 3:

Average throughput: 0.04 Mbit/s

95th percentile per-packet one-way delay: 52.082 ms

Loss rate: 96.55%

Run 1: Report of Vivace-latency — Data Link



Run 2: Statistics of Vivace-latency

Start at: 2018-03-05 20:45:46

End at: 2018-03-05 20:46:16

Local clock offset: 0.885 ms

Remote clock offset: 0.852 ms

Below is generated by plot.py at 2018-03-05 22:27:04

Datalink statistics

-- Total of 3 flows:

Average throughput: 0.14 Mbit/s

95th percentile per-packet one-way delay: 61.130 ms

Loss rate: 94.34%

-- Flow 1:

Average throughput: 0.09 Mbit/s

95th percentile per-packet one-way delay: 67.121 ms

Loss rate: 92.73%

-- Flow 2:

Average throughput: 0.06 Mbit/s

95th percentile per-packet one-way delay: 41.536 ms

Loss rate: 95.58%

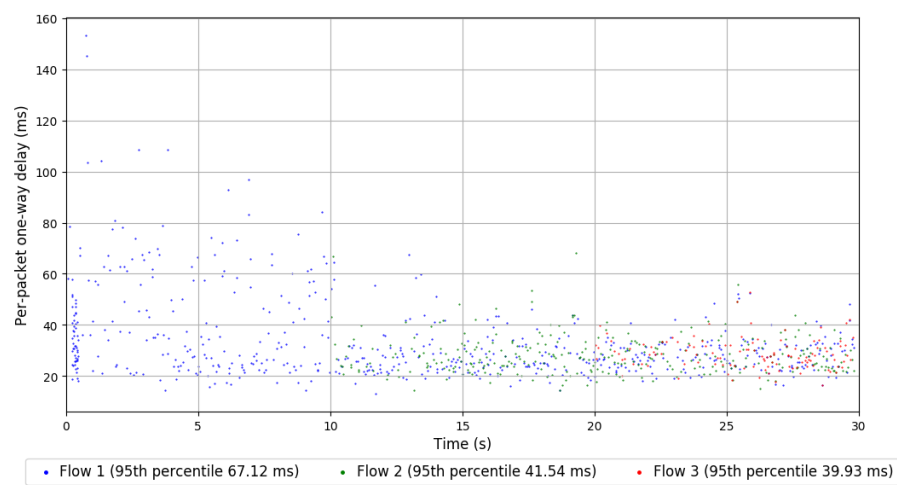
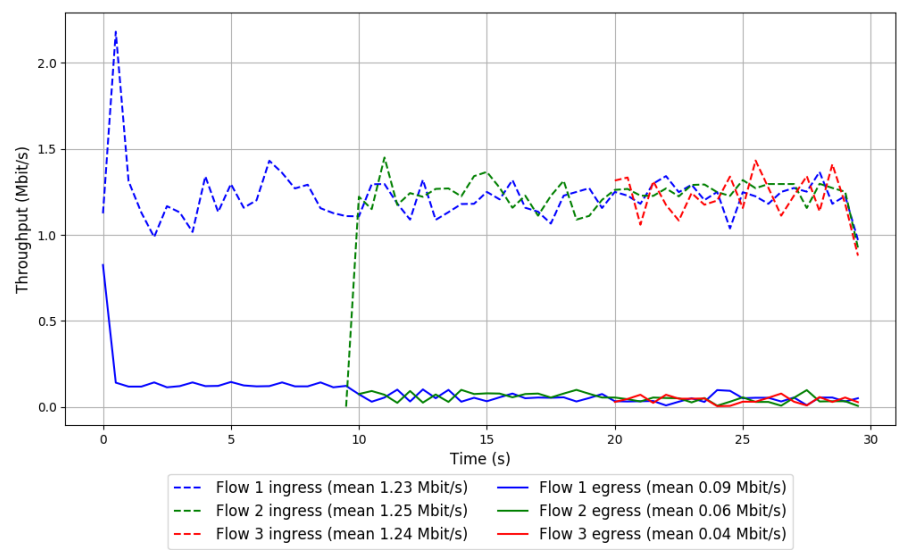
-- Flow 3:

Average throughput: 0.04 Mbit/s

95th percentile per-packet one-way delay: 39.927 ms

Loss rate: 96.68%

Run 2: Report of Vivace-latency — Data Link



Run 3: Statistics of Vivace-latency

Start at: 2018-03-05 21:09:27

End at: 2018-03-05 21:09:57

Local clock offset: 1.728 ms

Remote clock offset: 0.748 ms

Below is generated by plot.py at 2018-03-05 22:27:04

Datalink statistics

-- Total of 3 flows:

Average throughput: 0.14 Mbit/s

95th percentile per-packet one-way delay: 60.896 ms

Loss rate: 94.34%

-- Flow 1:

Average throughput: 0.09 Mbit/s

95th percentile per-packet one-way delay: 70.082 ms

Loss rate: 92.60%

-- Flow 2:

Average throughput: 0.06 Mbit/s

95th percentile per-packet one-way delay: 37.844 ms

Loss rate: 95.39%

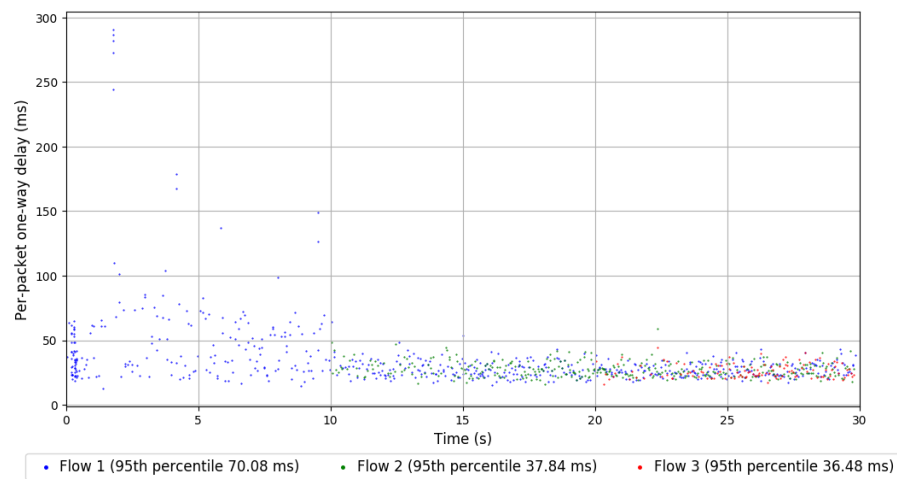
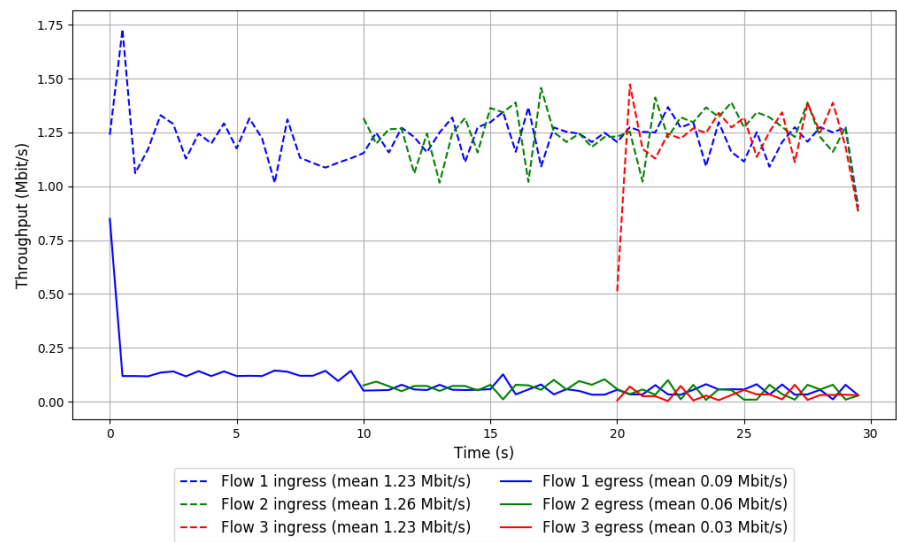
-- Flow 3:

Average throughput: 0.03 Mbit/s

95th percentile per-packet one-way delay: 36.481 ms

Loss rate: 97.44%

Run 3: Report of Vivace-latency — Data Link



Run 1: Statistics of Vivace-loss

Start at: 2018-03-05 20:08:55

End at: 2018-03-05 20:09:25

Local clock offset: -2.889 ms

Remote clock offset: 0.612 ms

Below is generated by plot.py at 2018-03-05 22:27:04

Datalink statistics

-- Total of 3 flows:

Average throughput: 0.14 Mbit/s

95th percentile per-packet one-way delay: 321.906 ms

Loss rate: 94.61%

-- Flow 1:

Average throughput: 0.09 Mbit/s

95th percentile per-packet one-way delay: 314.528 ms

Loss rate: 92.84%

-- Flow 2:

Average throughput: 0.05 Mbit/s

95th percentile per-packet one-way delay: 326.190 ms

Loss rate: 96.08%

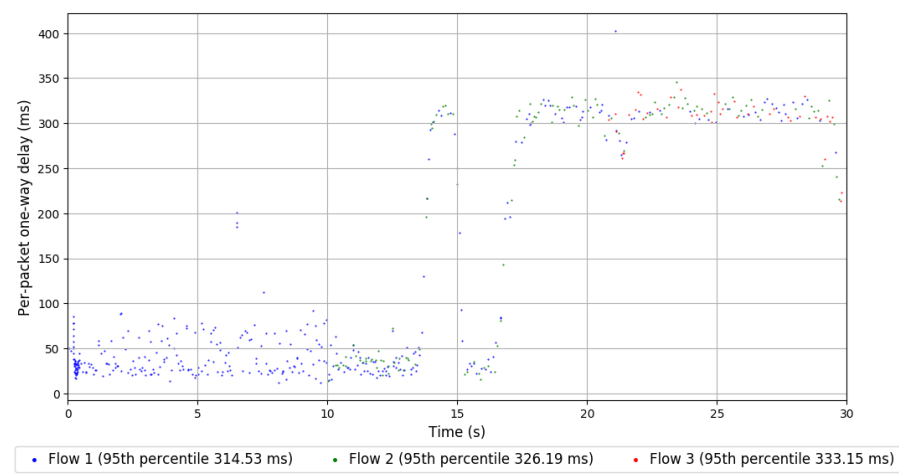
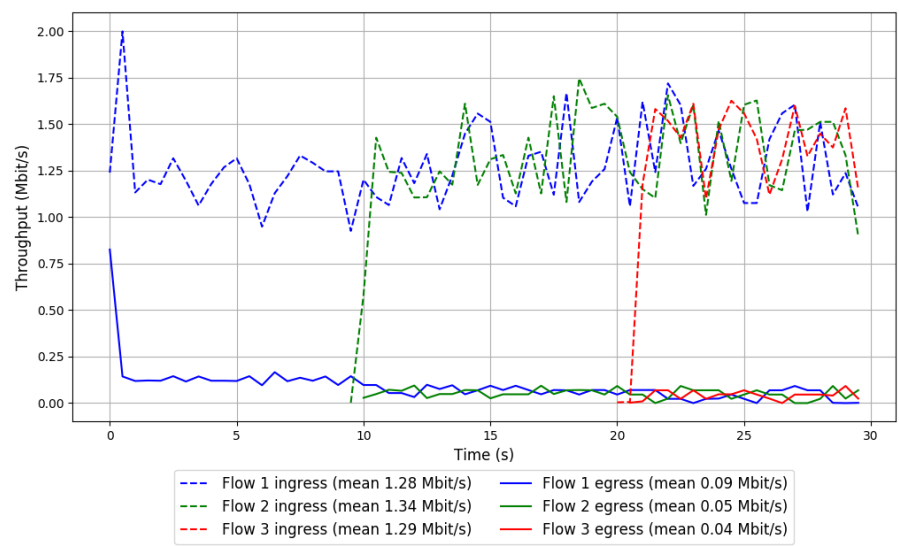
-- Flow 3:

Average throughput: 0.04 Mbit/s

95th percentile per-packet one-way delay: 333.146 ms

Loss rate: 96.88%

Run 1: Report of Vivace-loss — Data Link



Run 2: Statistics of Vivace-loss

Start at: 2018-03-05 20:32:36

End at: 2018-03-05 20:33:06

Local clock offset: -2.206 ms

Remote clock offset: 0.856 ms

Below is generated by plot.py at 2018-03-05 22:27:04

Datalink statistics

-- Total of 3 flows:

Average throughput: 0.14 Mbit/s

95th percentile per-packet one-way delay: 57.342 ms

Loss rate: 94.38%

-- Flow 1:

Average throughput: 0.09 Mbit/s

95th percentile per-packet one-way delay: 65.540 ms

Loss rate: 92.54%

-- Flow 2:

Average throughput: 0.05 Mbit/s

95th percentile per-packet one-way delay: 40.947 ms

Loss rate: 96.03%

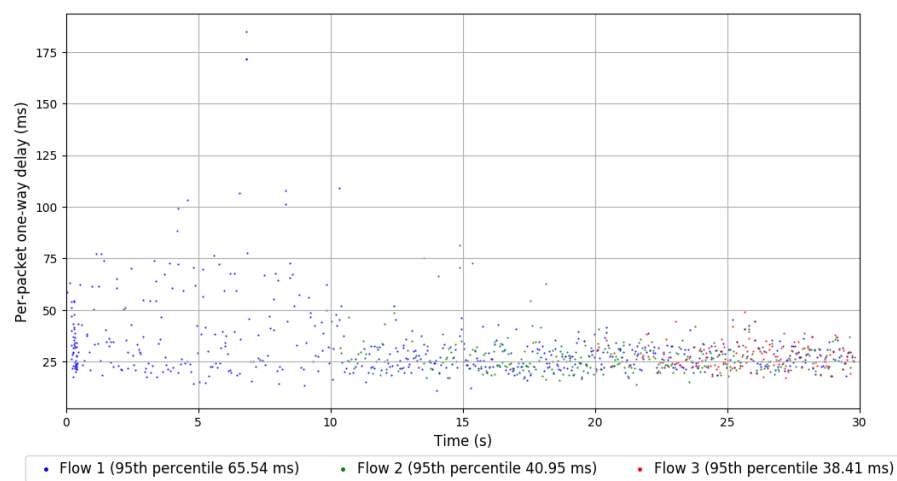
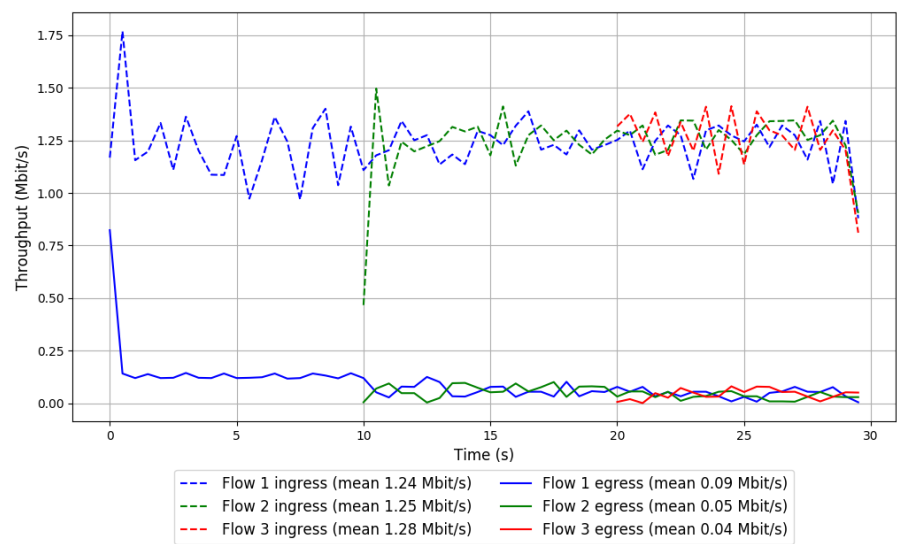
-- Flow 3:

Average throughput: 0.04 Mbit/s

95th percentile per-packet one-way delay: 38.406 ms

Loss rate: 96.54%

Run 2: Report of Vivace-loss — Data Link



Run 3: Statistics of Vivace-loss

Start at: 2018-03-05 20:56:17

End at: 2018-03-05 20:56:47

Local clock offset: 1.746 ms

Remote clock offset: 0.794 ms

Below is generated by plot.py at 2018-03-05 22:27:04

Datalink statistics

-- Total of 3 flows:

Average throughput: 0.14 Mbit/s

95th percentile per-packet one-way delay: 141.962 ms

Loss rate: 94.30%

-- Flow 1:

Average throughput: 0.09 Mbit/s

95th percentile per-packet one-way delay: 108.584 ms

Loss rate: 92.84%

-- Flow 2:

Average throughput: 0.06 Mbit/s

95th percentile per-packet one-way delay: 147.973 ms

Loss rate: 95.39%

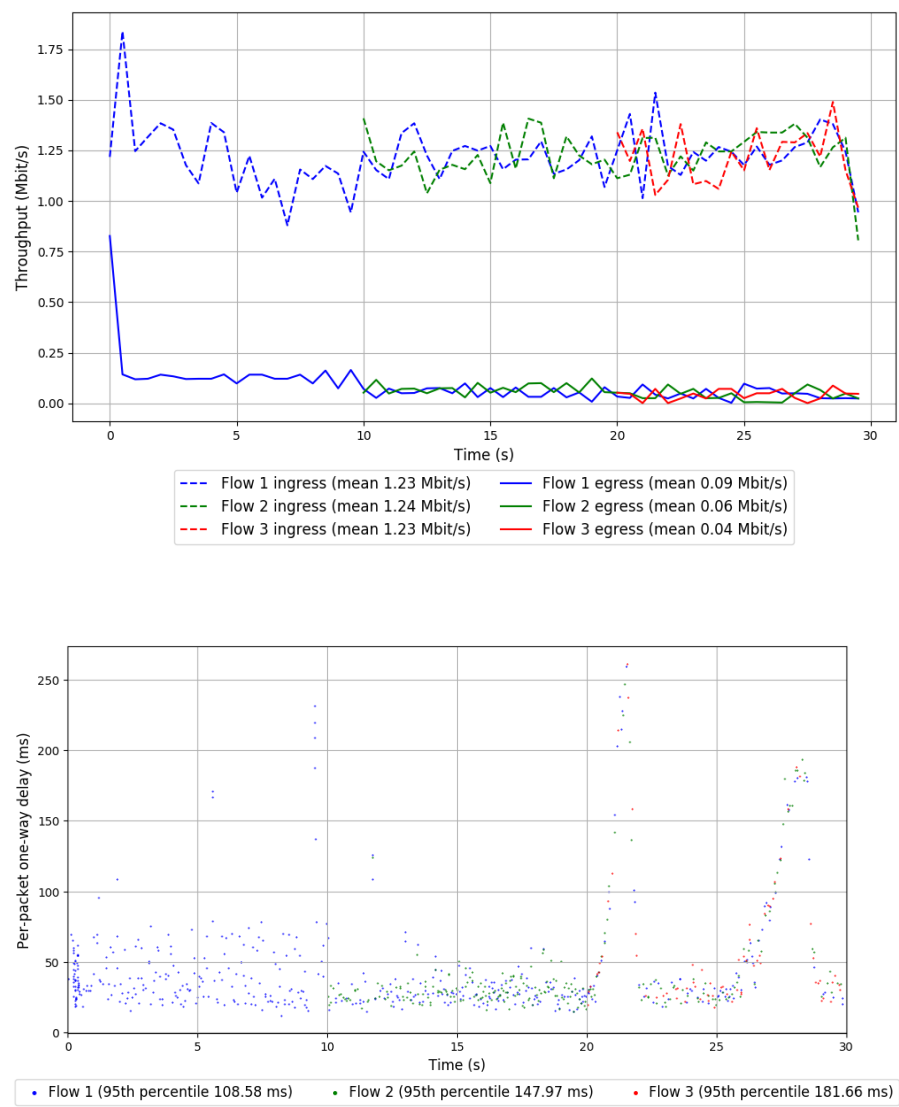
-- Flow 3:

Average throughput: 0.04 Mbit/s

95th percentile per-packet one-way delay: 181.656 ms

Loss rate: 96.51%

Run 3: Report of Vivace-loss — Data Link



Run 1: Statistics of Vivace-LTE

Start at: 2018-03-05 20:14:10

End at: 2018-03-05 20:14:40

Local clock offset: -2.619 ms

Remote clock offset: 0.828 ms

Below is generated by plot.py at 2018-03-05 22:27:04

Datalink statistics

-- Total of 3 flows:

Average throughput: 0.14 Mbit/s

95th percentile per-packet one-way delay: 184.654 ms

Loss rate: 94.45%

-- Flow 1:

Average throughput: 0.09 Mbit/s

95th percentile per-packet one-way delay: 128.160 ms

Loss rate: 92.81%

-- Flow 2:

Average throughput: 0.06 Mbit/s

95th percentile per-packet one-way delay: 154.365 ms

Loss rate: 95.42%

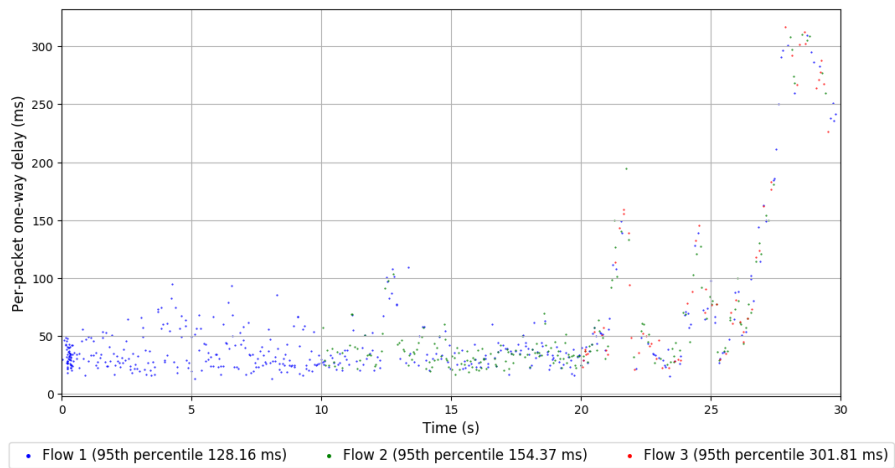
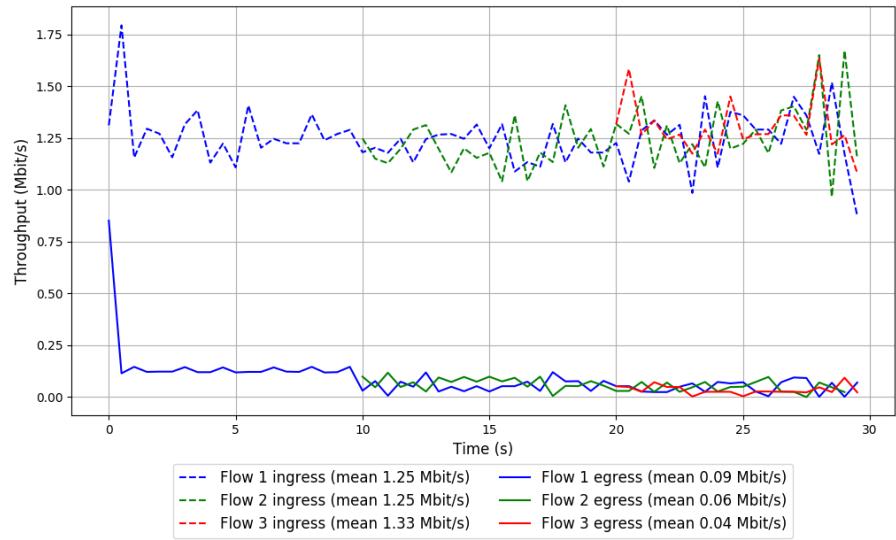
-- Flow 3:

Average throughput: 0.04 Mbit/s

95th percentile per-packet one-way delay: 301.814 ms

Loss rate: 97.33%

Run 1: Report of Vivace-LTE — Data Link



Run 2: Statistics of Vivace-LTE

Start at: 2018-03-05 20:37:51

End at: 2018-03-05 20:38:21

Local clock offset: -0.443 ms

Remote clock offset: 0.849 ms

Below is generated by plot.py at 2018-03-05 22:27:04

Datalink statistics

-- Total of 3 flows:

Average throughput: 0.14 Mbit/s

95th percentile per-packet one-way delay: 69.988 ms

Loss rate: 94.28%

-- Flow 1:

Average throughput: 0.09 Mbit/s

95th percentile per-packet one-way delay: 78.420 ms

Loss rate: 92.44%

-- Flow 2:

Average throughput: 0.05 Mbit/s

95th percentile per-packet one-way delay: 42.596 ms

Loss rate: 95.78%

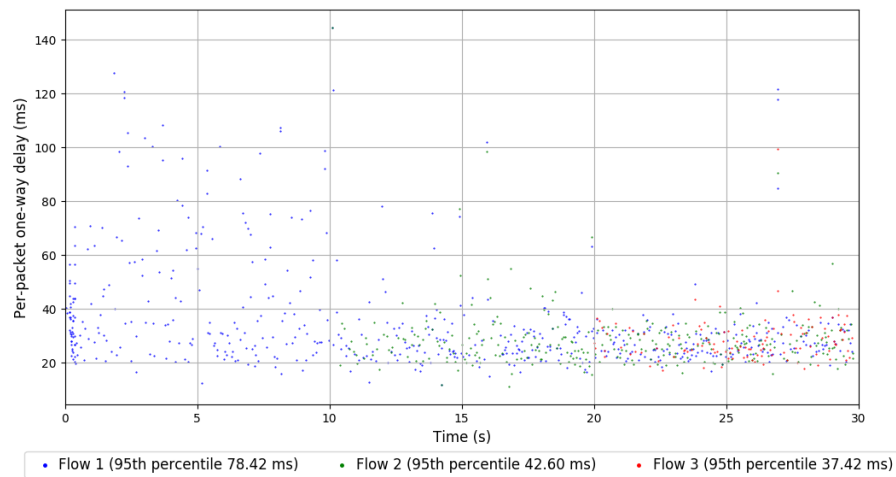
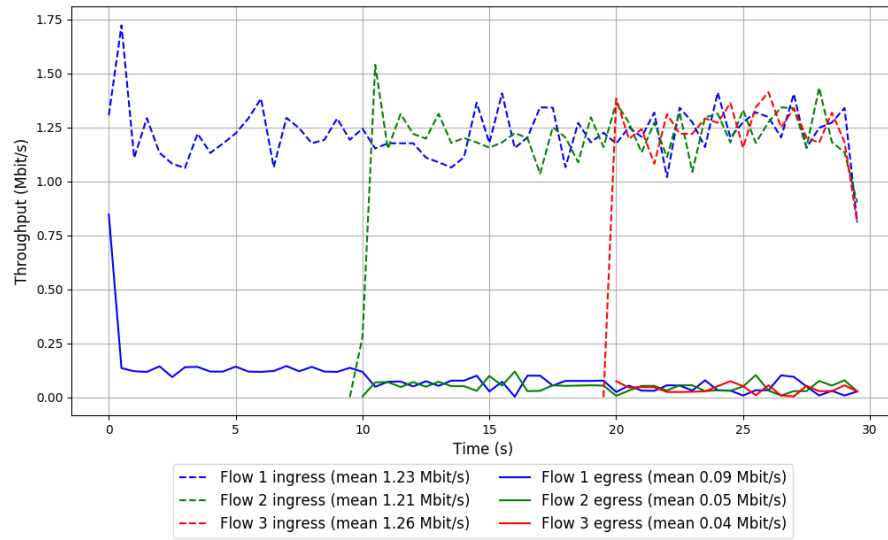
-- Flow 3:

Average throughput: 0.04 Mbit/s

95th percentile per-packet one-way delay: 37.425 ms

Loss rate: 96.83%

Run 2: Report of Vivace-LTE — Data Link



Run 3: Statistics of Vivace-LTE

Start at: 2018-03-05 21:01:33

End at: 2018-03-05 21:02:03

Local clock offset: 1.943 ms

Remote clock offset: 0.87 ms

Below is generated by plot.py at 2018-03-05 22:27:04

Datalink statistics

-- Total of 3 flows:

Average throughput: 0.14 Mbit/s

95th percentile per-packet one-way delay: 65.640 ms

Loss rate: 94.29%

-- Flow 1:

Average throughput: 0.09 Mbit/s

95th percentile per-packet one-way delay: 70.352 ms

Loss rate: 92.32%

-- Flow 2:

Average throughput: 0.05 Mbit/s

95th percentile per-packet one-way delay: 46.494 ms

Loss rate: 96.24%

-- Flow 3:

Average throughput: 0.05 Mbit/s

95th percentile per-packet one-way delay: 51.560 ms

Loss rate: 96.31%

Run 3: Report of Vivace-LTE — Data Link

