

Pantheon Report

Generated at 2018-03-20 10:31:02 (UTC).

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

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).

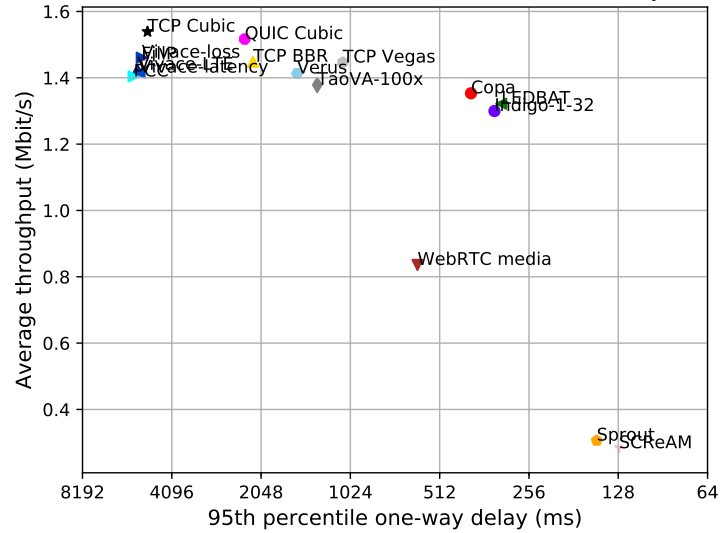
Tested BBR with qdisc of Fair Queuing (**fq**), and other schemes with the default Linux qdisc (**pfifo_fast**).

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

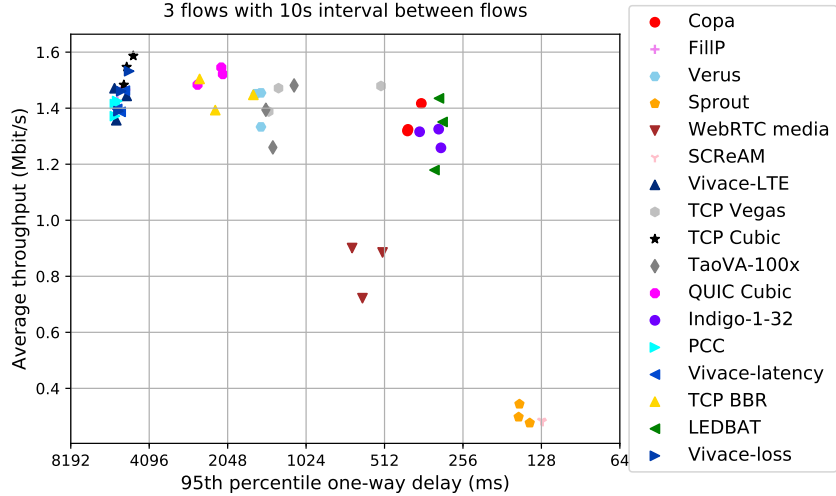
Git summary:

```
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 @ 2601c92e4aa9d58d38dc4dfe0ecdbf90c077e64d
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 @ f1a14bffe749737437f61b1eaeeb30b267cde681
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 AWS Brazil 2 Ethernet to Colombia ppp0, 3 runs of 30s each per scheme
 3 flows with 10s interval between flows (mean of all runs by scheme)



test from AWS Brazil 2 Ethernet to Colombia ppp0, 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	0.88	0.76	0.23	2113.02	2198.49	1682.31	2.69	4.94	16.09
TCP Cubic	3	1.51	0.06	0.00	4943.25	4942.75	4897.14	19.75	37.37	62.15
LEDBAT	3	0.80	0.61	0.38	300.46	323.52	321.42	0.00	1.15	2.18
PCC	3	1.40	0.00	0.00	5508.67	5443.69	5149.14	78.48	6.47	42.96
QUIC Cubic	3	1.17	0.46	0.13	2233.90	2410.43	2400.93	5.39	15.18	35.59
SCReAM	3	0.08	0.19	0.22	117.06	130.80	128.57	0.00	0.11	0.00
WebRTC media	3	0.49	0.26	0.09	606.91	607.48	582.68	0.00	0.17	0.52
Sprout	3	0.14	0.16	0.17	162.91	139.30	146.90	0.00	0.01	0.00
TaoVA-100x	3	0.81	0.63	0.46	1061.52	1725.86	1165.31	1.31	2.97	7.51
TCP Vegas	3	1.07	0.38	0.42	1066.17	1113.22	1116.43	1.84	4.06	9.65
Verus	3	1.37	0.04	0.06	1543.89	1625.75	1626.52	5.15	5.65	4.62
Copa	3	0.83	0.57	0.45	378.80	404.84	434.72	0.50	1.03	2.48
FillP	3	1.43	0.04	0.01	5175.36	5210.28	5172.57	96.01	40.45	74.37
Indigo-1-32	3	0.79	0.53	0.52	251.38	350.42	527.49	0.05	0.19	0.21
Vivace-latency	3	0.84	0.88	0.00	5232.53	5295.90	5107.61	35.96	47.36	46.36
Vivace-loss	3	1.46	0.00	0.00	5169.29	5160.19	5057.78	33.27	20.65	37.35
Vivace-LTE	3	0.83	0.89	0.00	5332.07	5362.77	5286.76	36.25	45.24	48.79

Run 1: Statistics of TCP BBR

Start at: 2018-03-20 09:43:14

End at: 2018-03-20 09:43:44

Local clock offset: -5.981 ms

Remote clock offset: 12.4 ms

Below is generated by plot.py at 2018-03-20 10:30:19

Datalink statistics

-- Total of 3 flows:

Average throughput: 1.39 Mbit/s

95th percentile per-packet one-way delay: 2284.604 ms

Loss rate: 8.96%

-- Flow 1:

Average throughput: 0.84 Mbit/s

95th percentile per-packet one-way delay: 2130.279 ms

Loss rate: 5.69%

-- Flow 2:

Average throughput: 0.73 Mbit/s

95th percentile per-packet one-way delay: 2295.389 ms

Loss rate: 11.13%

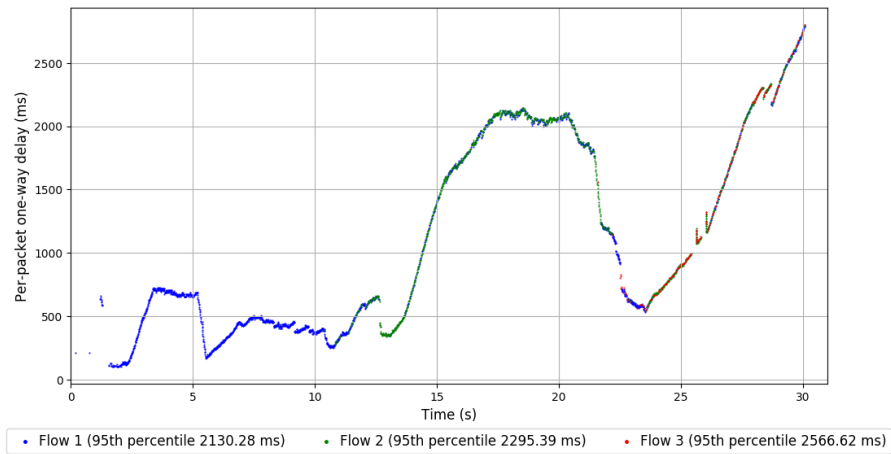
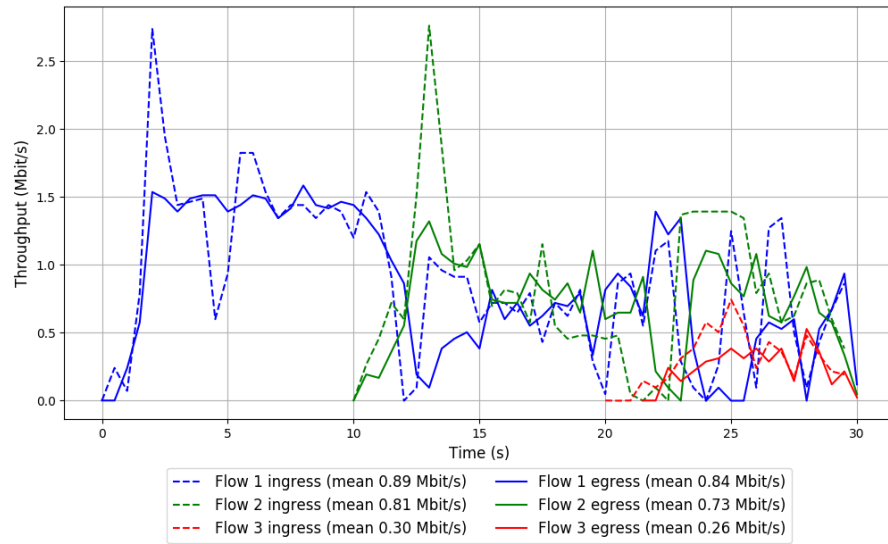
-- Flow 3:

Average throughput: 0.26 Mbit/s

95th percentile per-packet one-way delay: 2566.625 ms

Loss rate: 26.40%

Run 1: Report of TCP BBR — Data Link

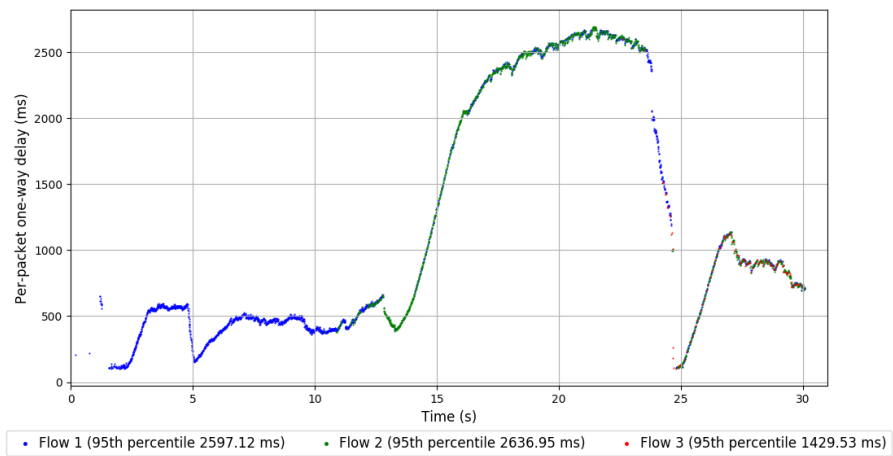
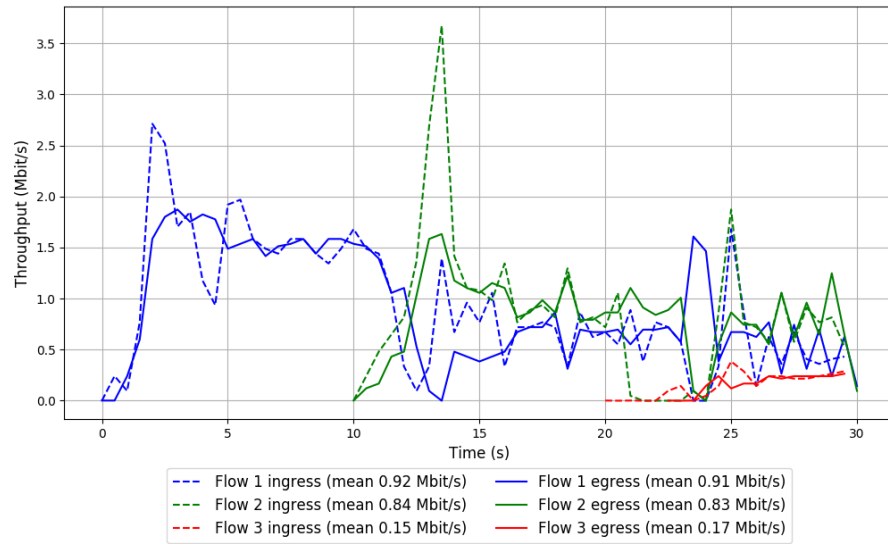


Run 2: Statistics of TCP BBR

Start at: 2018-03-20 10:05:55
End at: 2018-03-20 10:06:25
Local clock offset: -6.316 ms
Remote clock offset: 10.534 ms

Below is generated by plot.py at 2018-03-20 10:30:20
Datalink statistics
-- Total of 3 flows:
Average throughput: 1.50 Mbit/s
95th percentile per-packet one-way delay: 2624.115 ms
Loss rate: 1.84%
-- Flow 1:
Average throughput: 0.91 Mbit/s
95th percentile per-packet one-way delay: 2597.122 ms
Loss rate: 0.78%
-- Flow 2:
Average throughput: 0.83 Mbit/s
95th percentile per-packet one-way delay: 2636.950 ms
Loss rate: 2.44%
-- Flow 3:
Average throughput: 0.17 Mbit/s
95th percentile per-packet one-way delay: 1429.530 ms
Loss rate: 14.61%

Run 2: Report of TCP BBR — Data Link



Run 3: Statistics of TCP BBR

Start at: 2018-03-20 10:28:35

End at: 2018-03-20 10:29:05

Local clock offset: -6.145 ms

Remote clock offset: 9.949 ms

Below is generated by plot.py at 2018-03-20 10:30:20

Datalink statistics

-- Total of 3 flows:

Average throughput: 1.45 Mbit/s

95th percentile per-packet one-way delay: 1631.955 ms

Loss rate: 1.80%

-- Flow 1:

Average throughput: 0.89 Mbit/s

95th percentile per-packet one-way delay: 1611.664 ms

Loss rate: 1.60%

-- Flow 2:

Average throughput: 0.72 Mbit/s

95th percentile per-packet one-way delay: 1663.141 ms

Loss rate: 1.24%

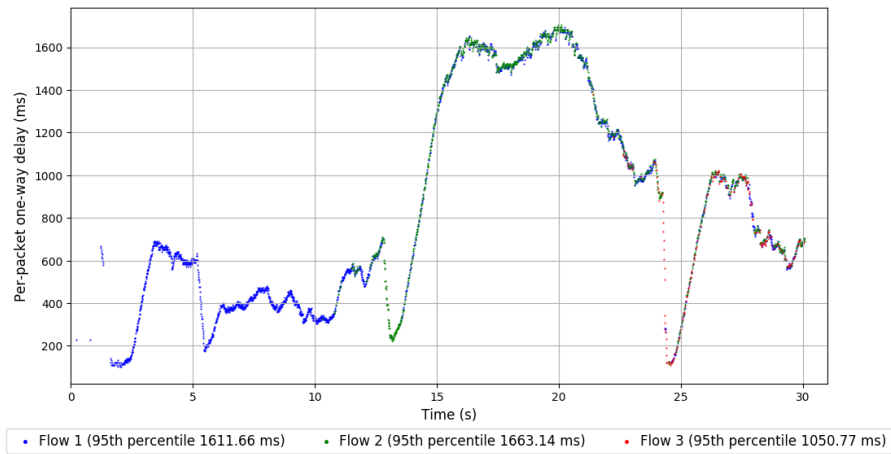
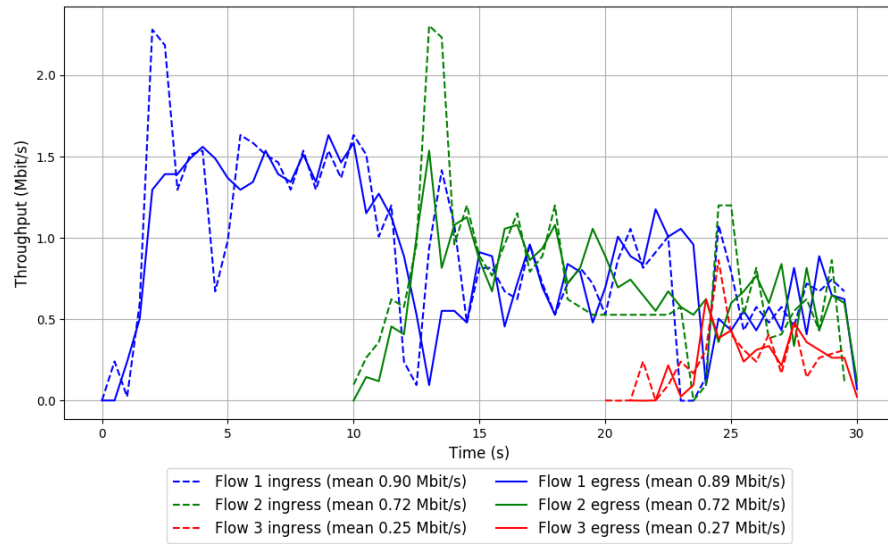
-- Flow 3:

Average throughput: 0.27 Mbit/s

95th percentile per-packet one-way delay: 1050.773 ms

Loss rate: 7.27%

Run 3: Report of TCP BBR — Data Link

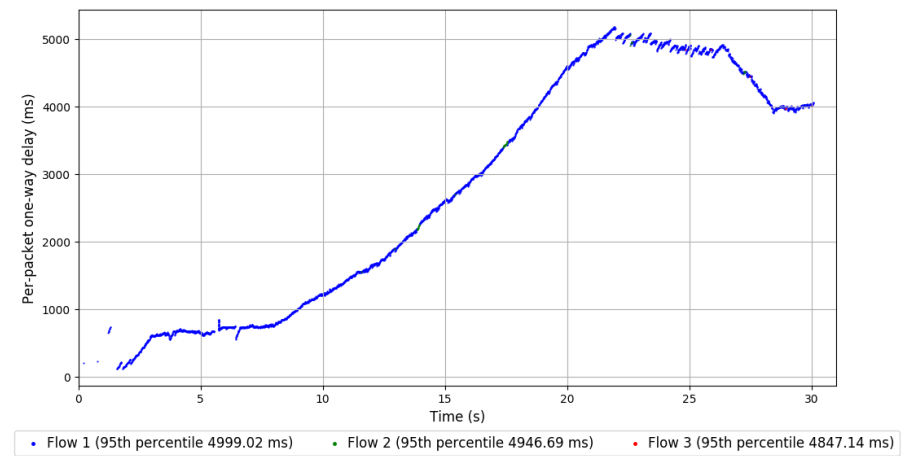
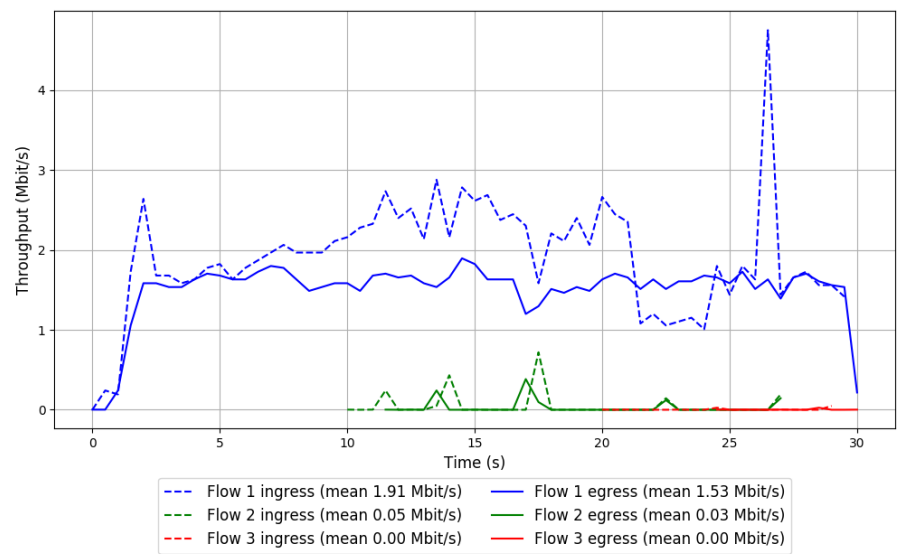


Run 1: Statistics of TCP Cubic

Start at: 2018-03-20 09:40:42
End at: 2018-03-20 09:41:13
Local clock offset: -5.947 ms
Remote clock offset: 11.526 ms

Below is generated by plot.py at 2018-03-20 10:30:20
Datalink statistics
-- Total of 3 flows:
Average throughput: 1.55 Mbit/s
95th percentile per-packet one-way delay: 4998.936 ms
Loss rate: 20.49%
-- Flow 1:
Average throughput: 1.53 Mbit/s
95th percentile per-packet one-way delay: 4999.025 ms
Loss rate: 20.09%
-- Flow 2:
Average throughput: 0.03 Mbit/s
95th percentile per-packet one-way delay: 4946.694 ms
Loss rate: 44.45%
-- Flow 3:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 4847.139 ms
Loss rate: 61.79%

Run 1: Report of TCP Cubic — Data Link



Run 2: Statistics of TCP Cubic

Start at: 2018-03-20 10:03:22

End at: 2018-03-20 10:03:52

Local clock offset: -6.228 ms

Remote clock offset: 9.951 ms

Below is generated by plot.py at 2018-03-20 10:30:20

Datalink statistics

-- Total of 3 flows:

Average throughput: 1.48 Mbit/s

95th percentile per-packet one-way delay: 5125.817 ms

Loss rate: 19.82%

-- Flow 1:

Average throughput: 1.44 Mbit/s

95th percentile per-packet one-way delay: 5126.180 ms

Loss rate: 19.01%

-- Flow 2:

Average throughput: 0.08 Mbit/s

95th percentile per-packet one-way delay: 5047.149 ms

Loss rate: 39.36%

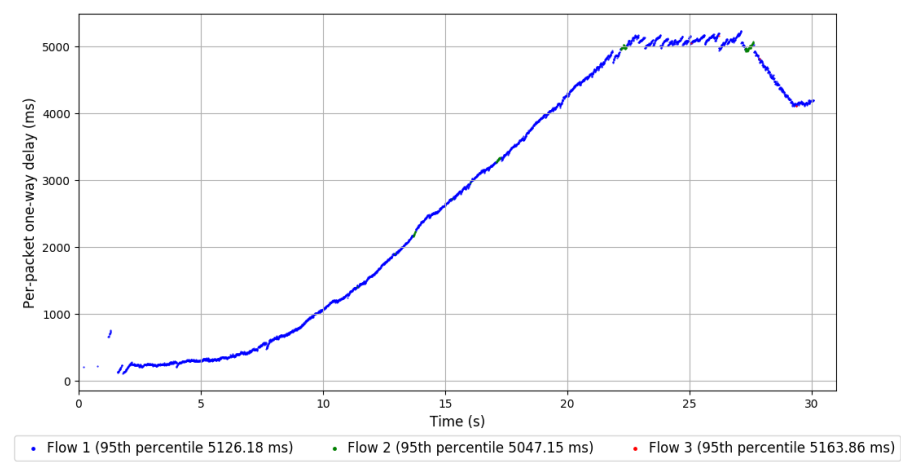
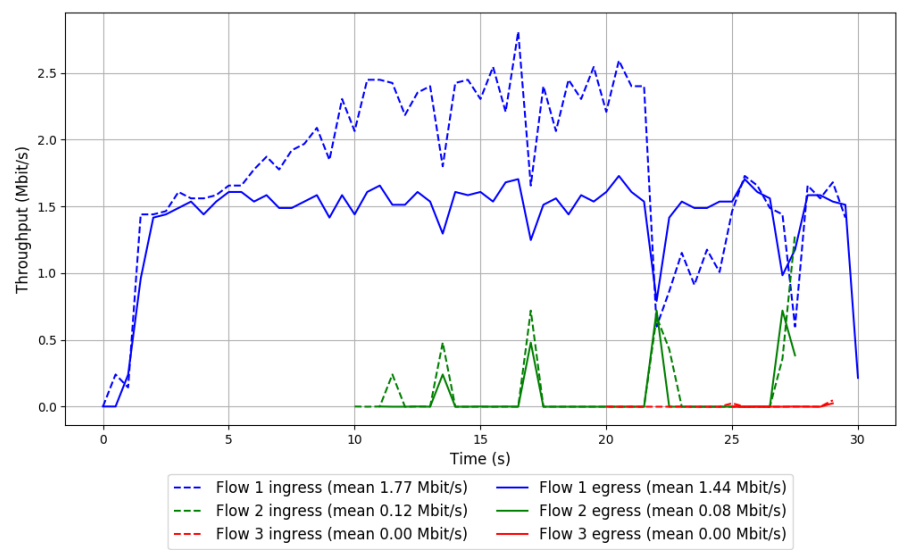
-- Flow 3:

Average throughput: 0.00 Mbit/s

95th percentile per-packet one-way delay: 5163.862 ms

Loss rate: 62.87%

Run 2: Report of TCP Cubic — Data Link



Run 3: Statistics of TCP Cubic

Start at: 2018-03-20 10:26:03

End at: 2018-03-20 10:26:33

Local clock offset: -6.146 ms

Remote clock offset: 4.485 ms

Below is generated by plot.py at 2018-03-20 10:30:20

Datalink statistics

-- Total of 3 flows:

Average throughput: 1.59 Mbit/s

95th percentile per-packet one-way delay: 4714.357 ms

Loss rate: 20.40%

-- Flow 1:

Average throughput: 1.55 Mbit/s

95th percentile per-packet one-way delay: 4704.552 ms

Loss rate: 20.15%

-- Flow 2:

Average throughput: 0.08 Mbit/s

95th percentile per-packet one-way delay: 4834.407 ms

Loss rate: 28.29%

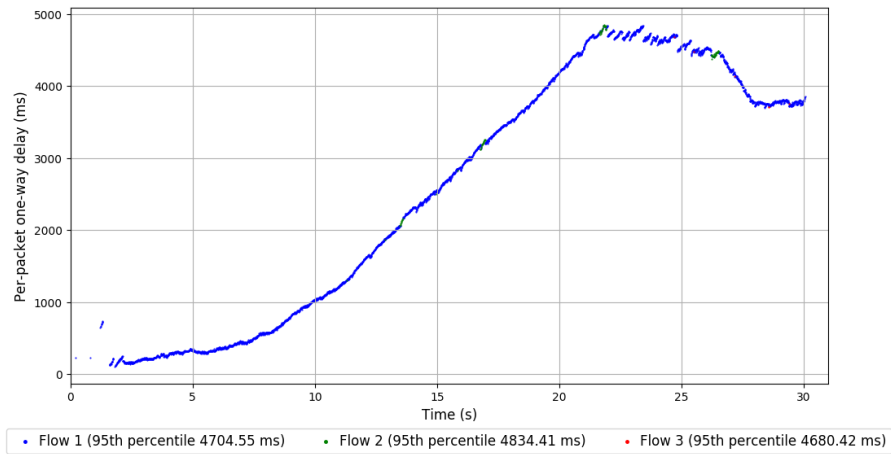
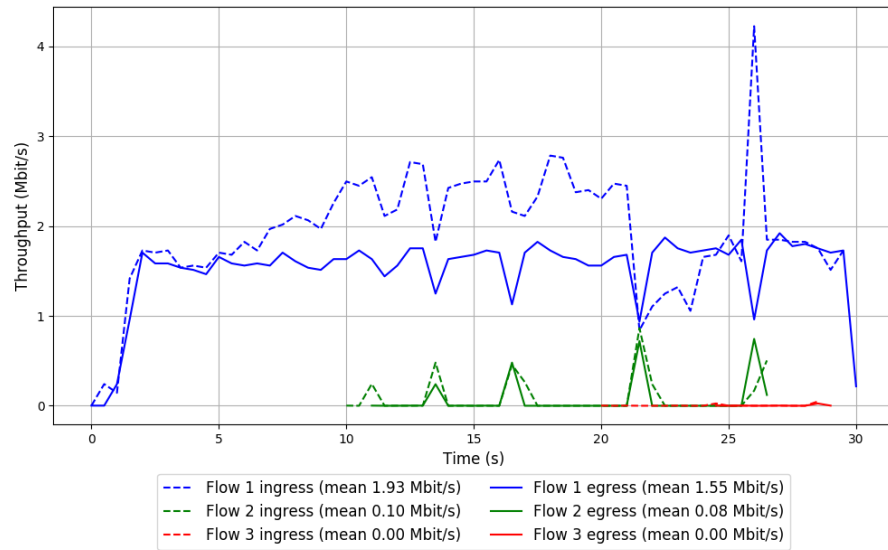
-- Flow 3:

Average throughput: 0.00 Mbit/s

95th percentile per-packet one-way delay: 4680.420 ms

Loss rate: 61.79%

Run 3: Report of TCP Cubic — Data Link

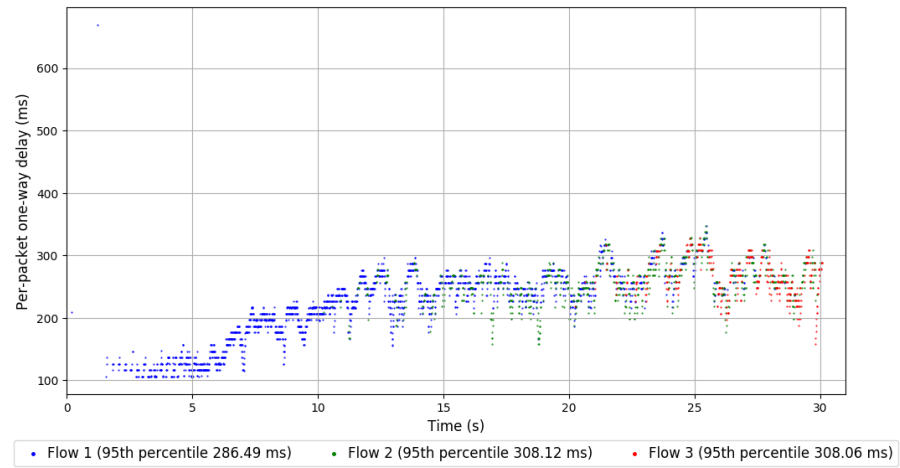
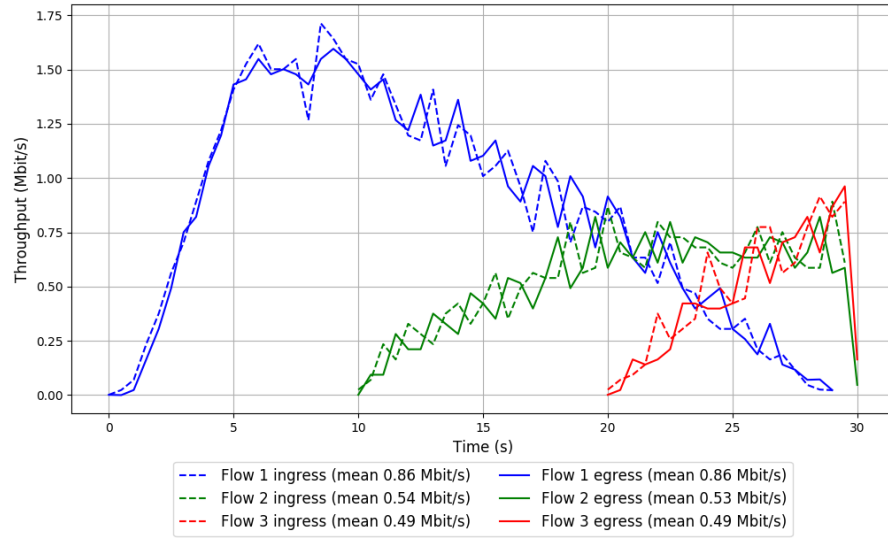


Run 1: Statistics of LEDBAT

Start at: 2018-03-20 09:29:24
End at: 2018-03-20 09:29:54
Local clock offset: -5.947 ms
Remote clock offset: 11.345 ms

Below is generated by plot.py at 2018-03-20 10:30:20
Datalink statistics
-- Total of 3 flows:
Average throughput: 1.35 Mbit/s
95th percentile per-packet one-way delay: 306.623 ms
Loss rate: 0.75%
-- Flow 1:
Average throughput: 0.86 Mbit/s
95th percentile per-packet one-way delay: 286.488 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.53 Mbit/s
95th percentile per-packet one-way delay: 308.120 ms
Loss rate: 1.85%
-- Flow 3:
Average throughput: 0.49 Mbit/s
95th percentile per-packet one-way delay: 308.065 ms
Loss rate: 2.16%

Run 1: Report of LEDBAT — Data Link

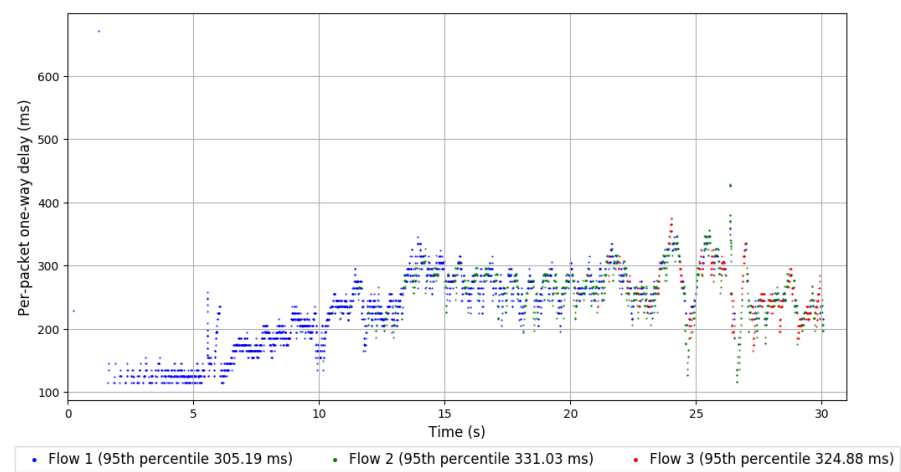
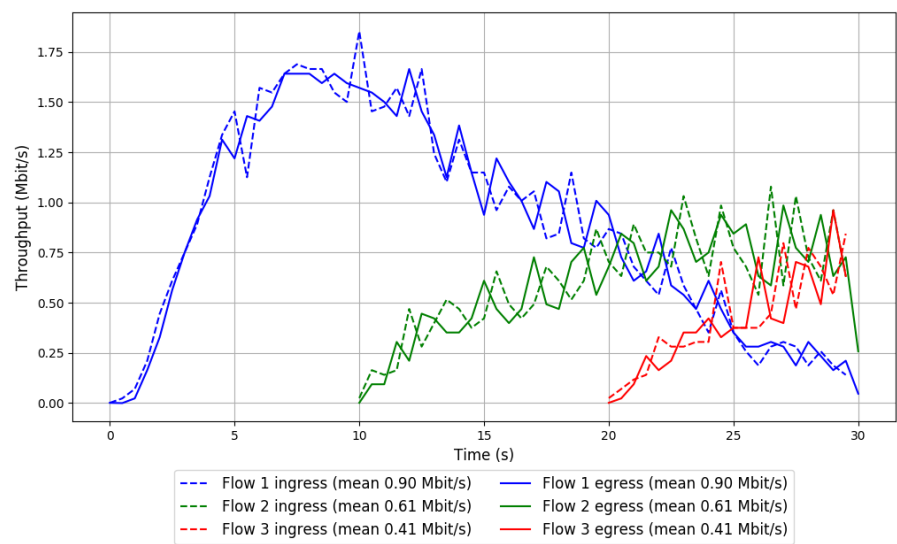


Run 2: Statistics of LEDBAT

Start at: 2018-03-20 09:52:04
End at: 2018-03-20 09:52:34
Local clock offset: -6.193 ms
Remote clock offset: 11.676 ms

Below is generated by plot.py at 2018-03-20 10:30:20
Datalink statistics
-- Total of 3 flows:
Average throughput: 1.43 Mbit/s
95th percentile per-packet one-way delay: 316.534 ms
Loss rate: 0.46%
-- Flow 1:
Average throughput: 0.90 Mbit/s
95th percentile per-packet one-way delay: 305.185 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.61 Mbit/s
95th percentile per-packet one-way delay: 331.027 ms
Loss rate: 0.48%
-- Flow 3:
Average throughput: 0.41 Mbit/s
95th percentile per-packet one-way delay: 324.879 ms
Loss rate: 3.42%

Run 2: Report of LEDBAT — Data Link

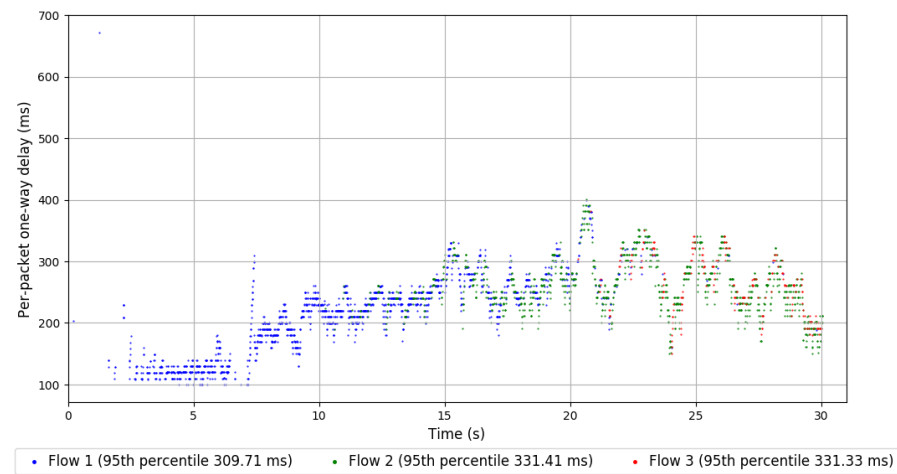
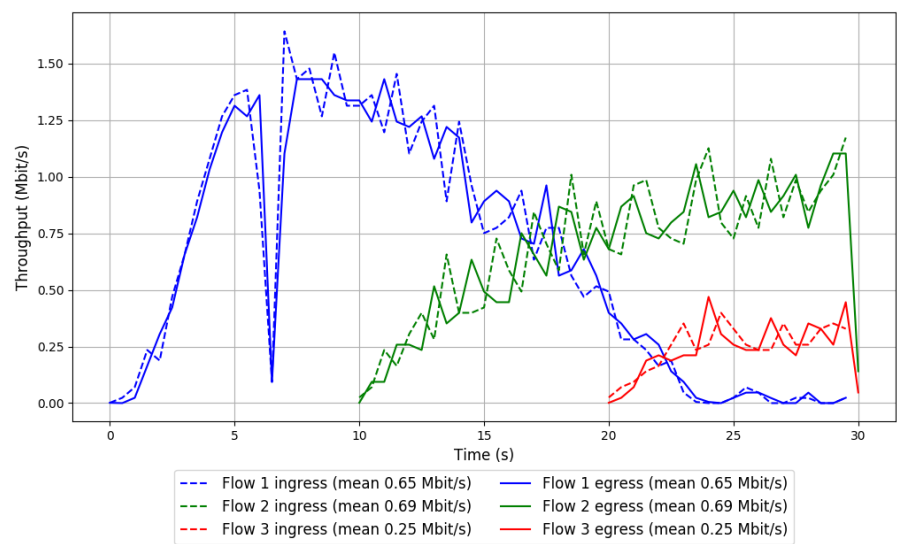


Run 3: Statistics of LEDBAT

Start at: 2018-03-20 10:14:45
End at: 2018-03-20 10:15:15
Local clock offset: -6.278 ms
Remote clock offset: 4.887 ms

Below is generated by plot.py at 2018-03-20 10:30:22
Datalink statistics
-- Total of 3 flows:
Average throughput: 1.18 Mbit/s
95th percentile per-packet one-way delay: 329.393 ms
Loss rate: 0.50%
-- Flow 1:
Average throughput: 0.65 Mbit/s
95th percentile per-packet one-way delay: 309.709 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.69 Mbit/s
95th percentile per-packet one-way delay: 331.410 ms
Loss rate: 1.11%
-- Flow 3:
Average throughput: 0.25 Mbit/s
95th percentile per-packet one-way delay: 331.328 ms
Loss rate: 0.95%

Run 3: Report of LEDBAT — Data Link

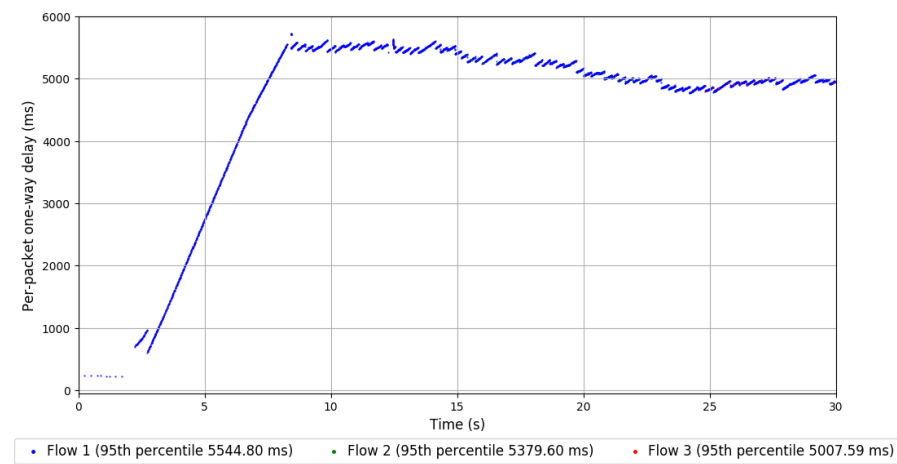
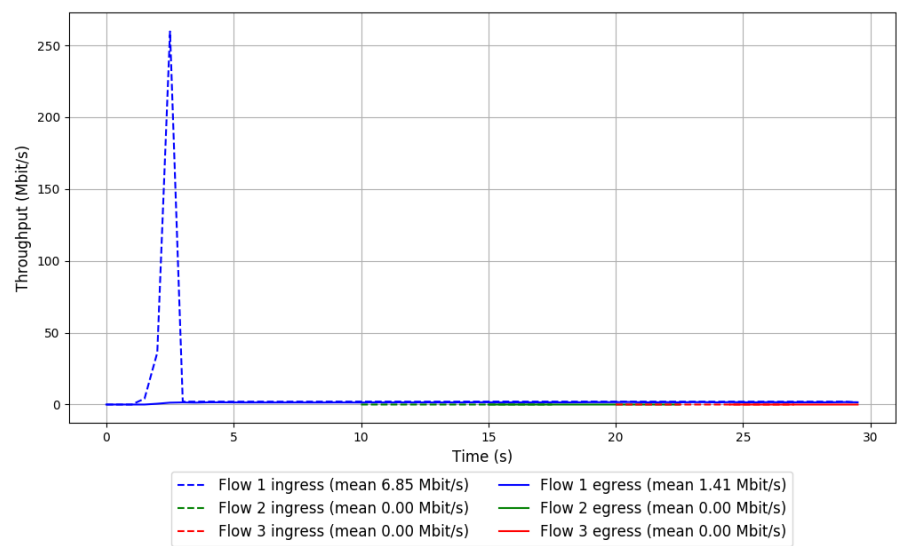


Run 1: Statistics of PCC

Start at: 2018-03-20 09:39:27
End at: 2018-03-20 09:39:57
Local clock offset: -6.009 ms
Remote clock offset: 12.294 ms

Below is generated by plot.py at 2018-03-20 10:30:29
Datalink statistics
-- Total of 3 flows:
Average throughput: 1.41 Mbit/s
95th percentile per-packet one-way delay: 5543.455 ms
Loss rate: 79.44%
-- Flow 1:
Average throughput: 1.41 Mbit/s
95th percentile per-packet one-way delay: 5544.795 ms
Loss rate: 79.46%
-- Flow 2:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 5379.599 ms
Loss rate: 4.60%
-- Flow 3:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 5007.591 ms
Loss rate: 39.22%

Run 1: Report of PCC — Data Link



Run 2: Statistics of PCC

Start at: 2018-03-20 10:02:07

End at: 2018-03-20 10:02:37

Local clock offset: -6.262 ms

Remote clock offset: 7.166 ms

Below is generated by plot.py at 2018-03-20 10:30:30

Datalink statistics

-- Total of 3 flows:

Average throughput: 1.37 Mbit/s

95th percentile per-packet one-way delay: 5544.097 ms

Loss rate: 81.55%

-- Flow 1:

Average throughput: 1.37 Mbit/s

95th percentile per-packet one-way delay: 5543.042 ms

Loss rate: 81.56%

-- Flow 2:

Average throughput: 0.00 Mbit/s

95th percentile per-packet one-way delay: 5580.251 ms

Loss rate: 4.60%

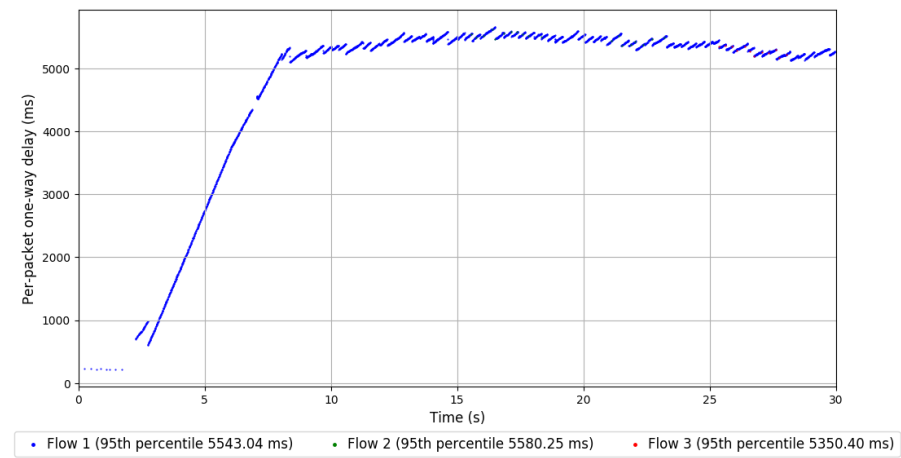
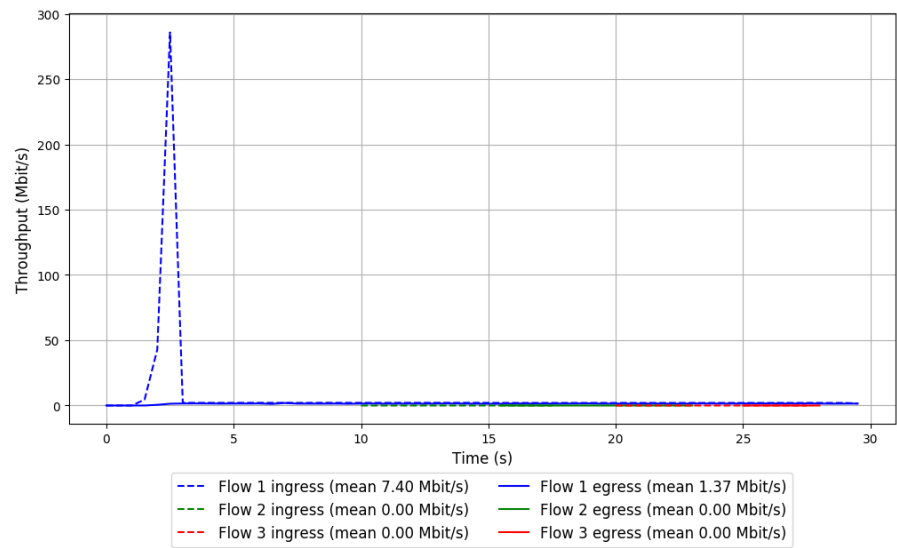
-- Flow 3:

Average throughput: 0.00 Mbit/s

95th percentile per-packet one-way delay: 5350.401 ms

Loss rate: 44.83%

Run 2: Report of PCC — Data Link



Run 3: Statistics of PCC

Start at: 2018-03-20 10:24:48

End at: 2018-03-20 10:25:18

Local clock offset: -6.14 ms

Remote clock offset: 5.297 ms

Below is generated by plot.py at 2018-03-20 10:30:30

Datalink statistics

-- Total of 3 flows:

Average throughput: 1.43 Mbit/s

95th percentile per-packet one-way delay: 5437.608 ms

Loss rate: 74.40%

-- Flow 1:

Average throughput: 1.42 Mbit/s

95th percentile per-packet one-way delay: 5438.178 ms

Loss rate: 74.41%

-- Flow 2:

Average throughput: 0.00 Mbit/s

95th percentile per-packet one-way delay: 5371.210 ms

Loss rate: 10.20%

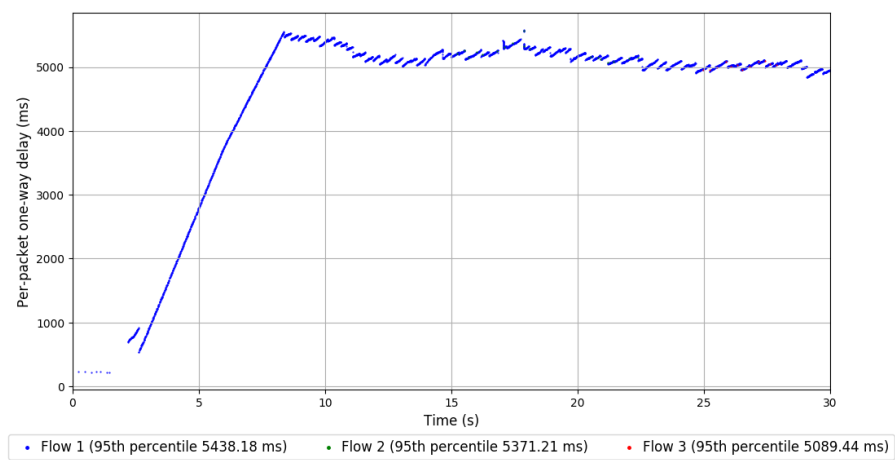
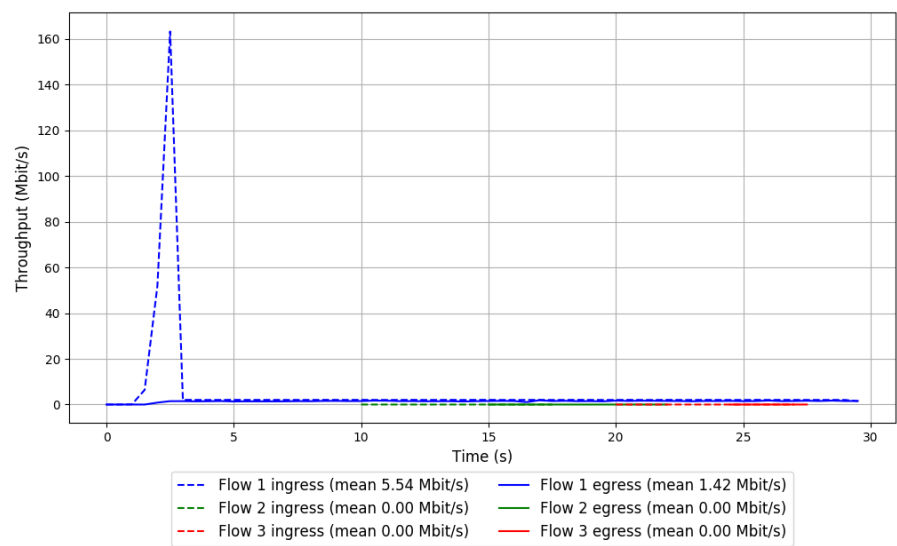
-- Flow 3:

Average throughput: 0.00 Mbit/s

95th percentile per-packet one-way delay: 5089.438 ms

Loss rate: 44.83%

Run 3: Report of PCC — Data Link



Run 1: Statistics of QUIC Cubic

Start at: 2018-03-20 09:30:39

End at: 2018-03-20 09:31:09

Local clock offset: -5.934 ms

Remote clock offset: 7.438 ms

Below is generated by plot.py at 2018-03-20 10:30:30

Datalink statistics

-- Total of 3 flows:

Average throughput: 1.52 Mbit/s

95th percentile per-packet one-way delay: 2136.330 ms

Loss rate: 8.06%

-- Flow 1:

Average throughput: 1.16 Mbit/s

95th percentile per-packet one-way delay: 2086.218 ms

Loss rate: 5.08%

-- Flow 2:

Average throughput: 0.48 Mbit/s

95th percentile per-packet one-way delay: 2227.509 ms

Loss rate: 13.53%

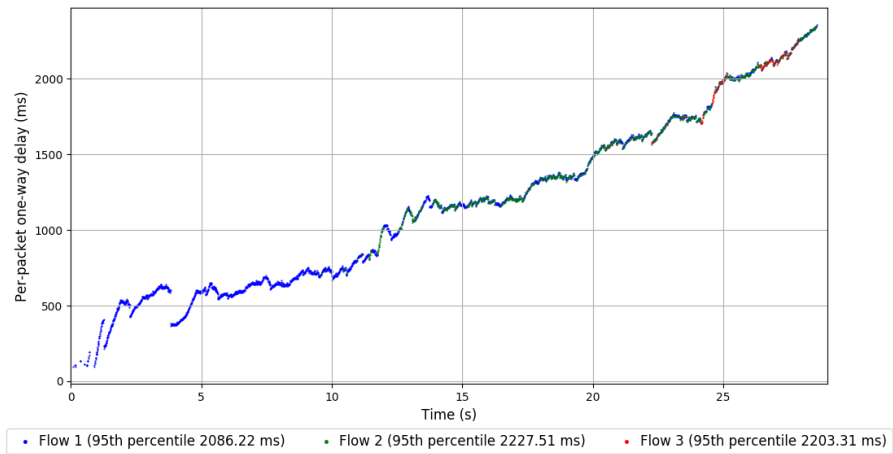
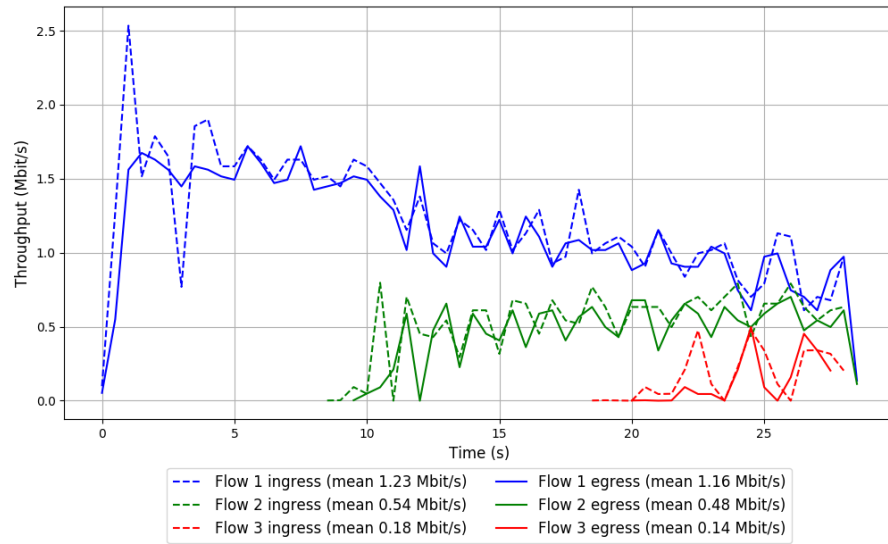
-- Flow 3:

Average throughput: 0.14 Mbit/s

95th percentile per-packet one-way delay: 2203.311 ms

Loss rate: 35.93%

Run 1: Report of QUIC Cubic — Data Link



Run 2: Statistics of QUIC Cubic

Start at: 2018-03-20 09:53:19

End at: 2018-03-20 09:53:49

Local clock offset: -6.22 ms

Remote clock offset: 7.736 ms

Below is generated by plot.py at 2018-03-20 10:30:30

Datalink statistics

-- Total of 3 flows:

Average throughput: 1.55 Mbit/s

95th percentile per-packet one-way delay: 2166.411 ms

Loss rate: 8.08%

-- Flow 1:

Average throughput: 1.19 Mbit/s

95th percentile per-packet one-way delay: 2085.281 ms

Loss rate: 4.93%

-- Flow 2:

Average throughput: 0.48 Mbit/s

95th percentile per-packet one-way delay: 2284.948 ms

Loss rate: 14.05%

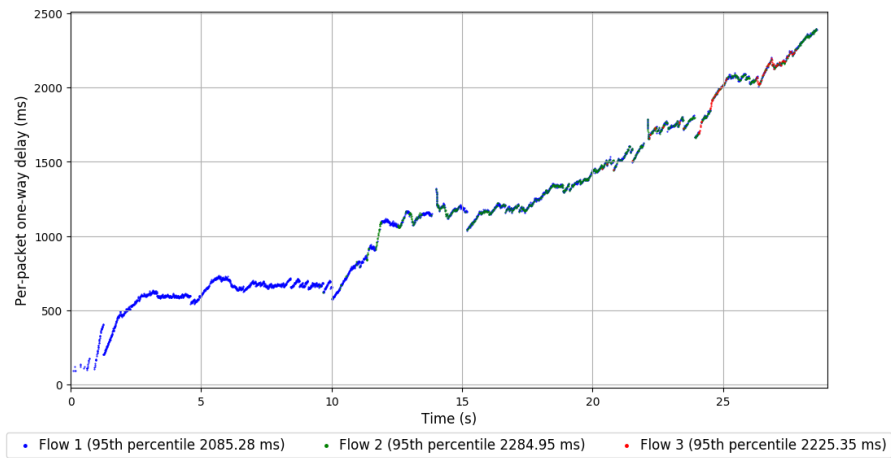
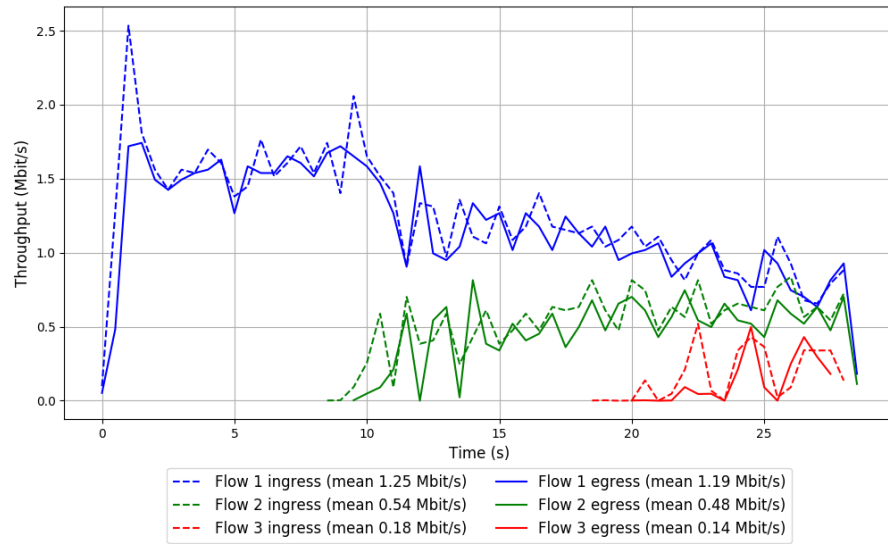
-- Flow 3:

Average throughput: 0.14 Mbit/s

95th percentile per-packet one-way delay: 2225.352 ms

Loss rate: 36.77%

Run 2: Report of QUIC Cubic — Data Link

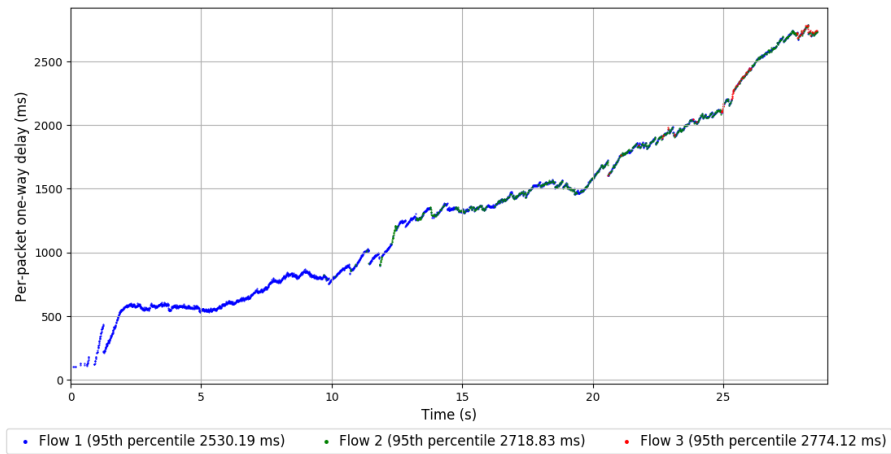
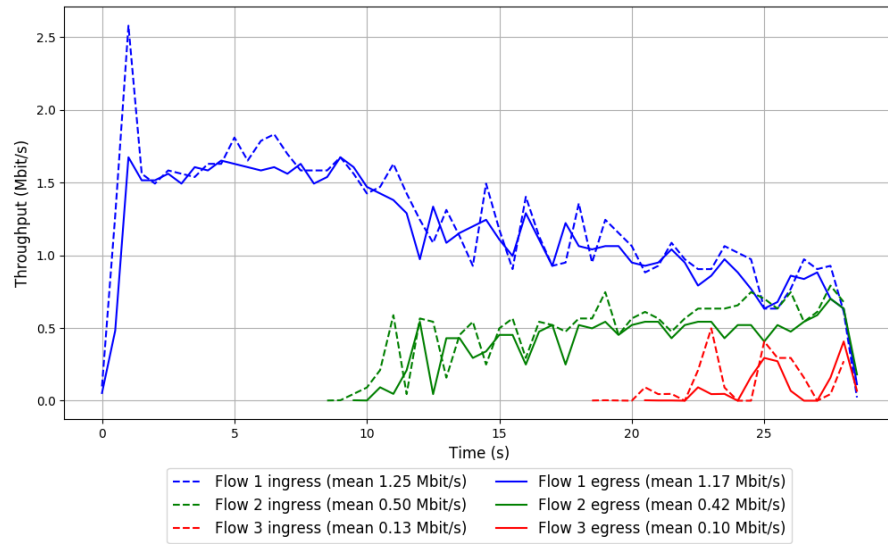


Run 3: Statistics of QUIC Cubic

Start at: 2018-03-20 10:16:00
End at: 2018-03-20 10:16:30
Local clock offset: -6.3 ms
Remote clock offset: 10.427 ms

Below is generated by plot.py at 2018-03-20 10:30:30
Datalink statistics
-- Total of 3 flows:
Average throughput: 1.48 Mbit/s
95th percentile per-packet one-way delay: 2671.966 ms
Loss rate: 9.36%
-- Flow 1:
Average throughput: 1.17 Mbit/s
95th percentile per-packet one-way delay: 2530.189 ms
Loss rate: 6.15%
-- Flow 2:
Average throughput: 0.42 Mbit/s
95th percentile per-packet one-way delay: 2718.827 ms
Loss rate: 17.97%
-- Flow 3:
Average throughput: 0.10 Mbit/s
95th percentile per-packet one-way delay: 2774.123 ms
Loss rate: 34.06%

Run 3: Report of QUIC Cubic — Data Link

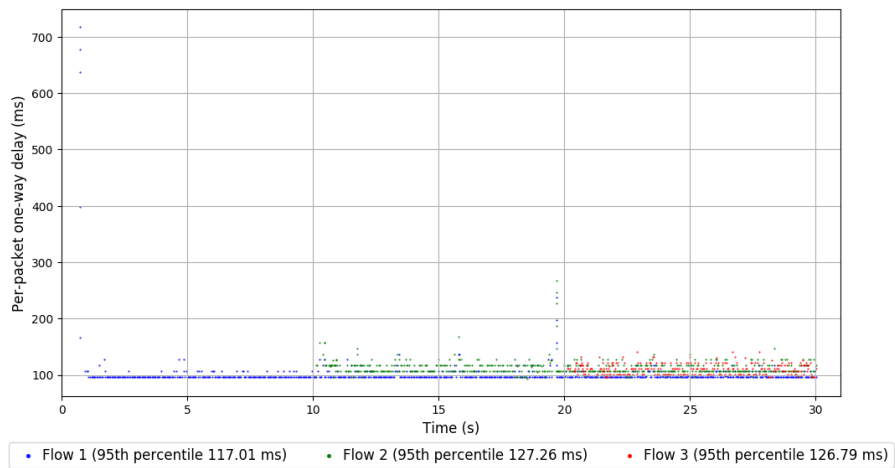
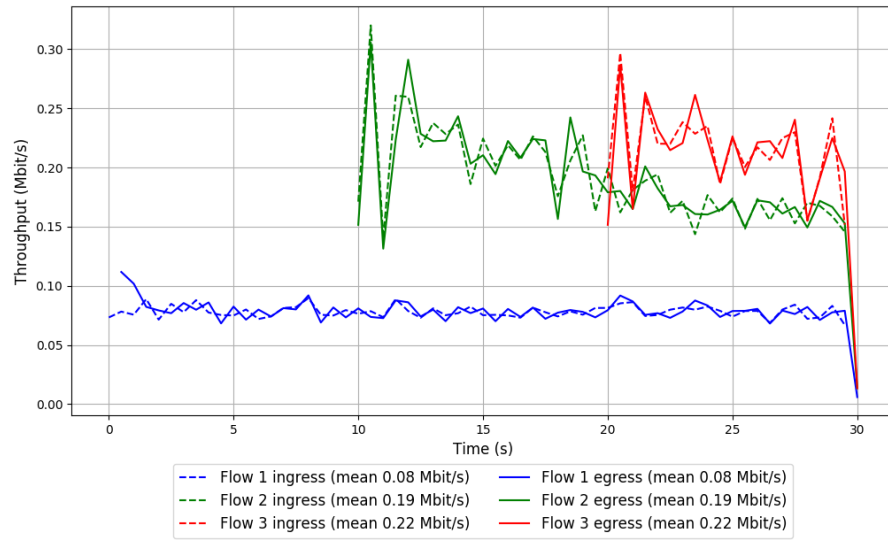


```
Run 1: Statistics of SReAM

Start at: 2018-03-20 09:36:56
End at: 2018-03-20 09:37:26
Local clock offset: -6.007 ms
Remote clock offset: 10.591 ms

# Below is generated by plot.py at 2018-03-20 10:30:30
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.28 Mbit/s
95th percentile per-packet one-way delay: 127.130 ms
Loss rate: 0.08%
-- Flow 1:
Average throughput: 0.08 Mbit/s
95th percentile per-packet one-way delay: 117.007 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.19 Mbit/s
95th percentile per-packet one-way delay: 127.256 ms
Loss rate: 0.17%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 126.791 ms
Loss rate: 0.00%
```

Run 1: Report of SReAM — Data Link

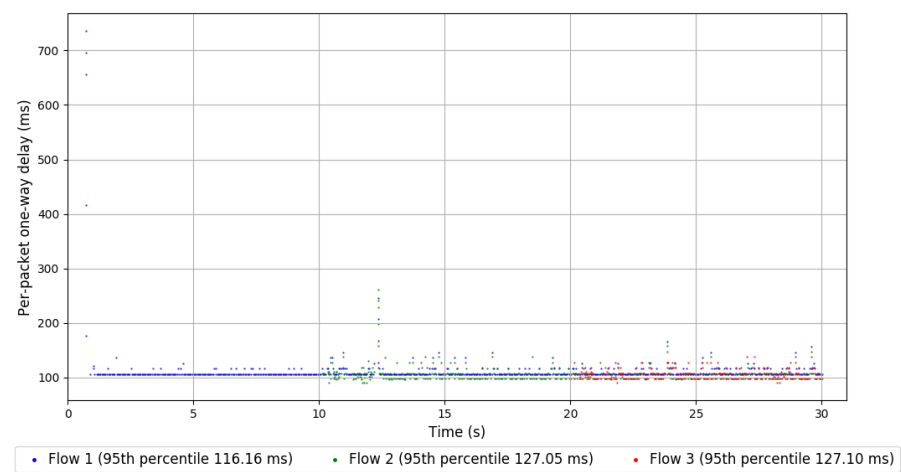
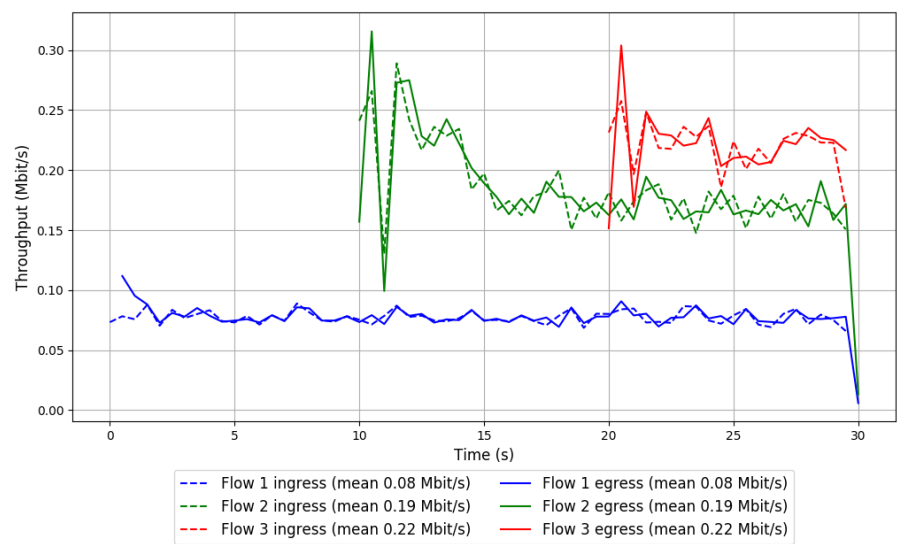


Run 2: Statistics of SCReAM

Start at: 2018-03-20 09:59:36
End at: 2018-03-20 10:00:06
Local clock offset: -6.283 ms
Remote clock offset: 10.731 ms

Below is generated by plot.py at 2018-03-20 10:30:30
Datalink statistics
-- Total of 3 flows:
Average throughput: 0.28 Mbit/s
95th percentile per-packet one-way delay: 126.445 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.08 Mbit/s
95th percentile per-packet one-way delay: 116.158 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.19 Mbit/s
95th percentile per-packet one-way delay: 127.050 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 127.103 ms
Loss rate: 0.00%

Run 2: Report of SReAM — Data Link

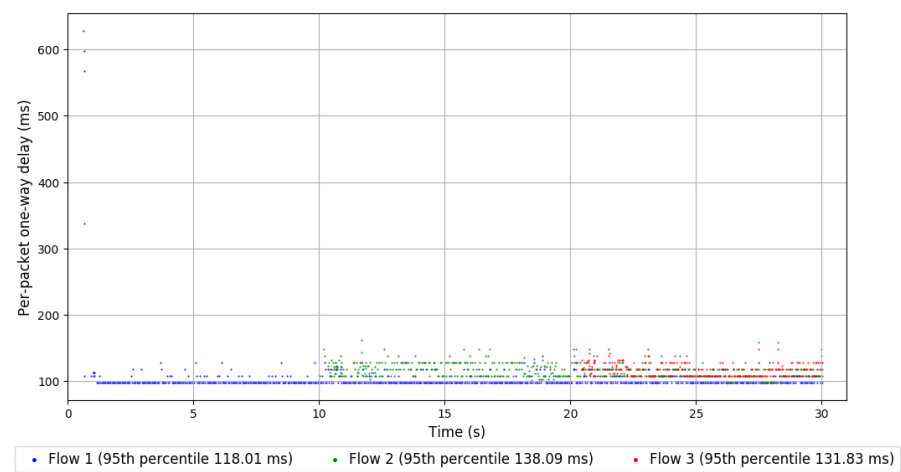
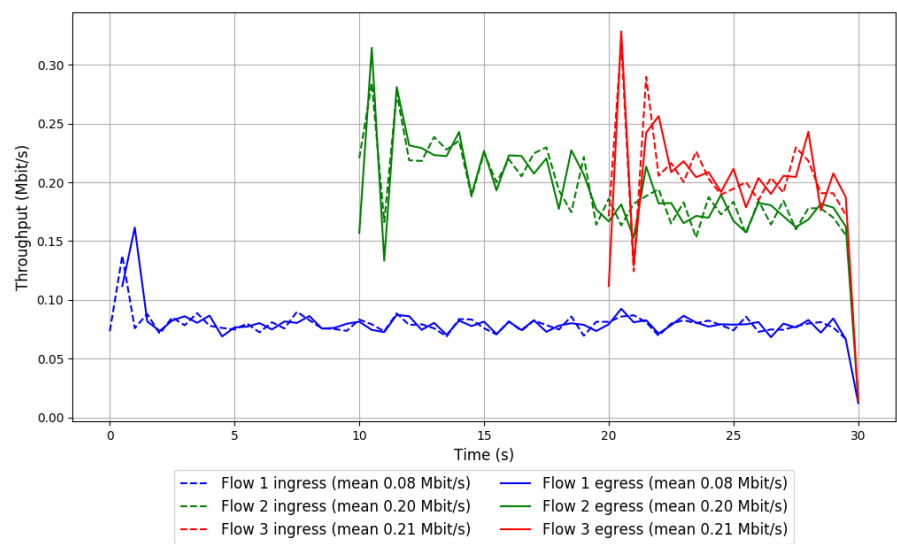


Run 3: Statistics of SReAM

Start at: 2018-03-20 10:22:17
End at: 2018-03-20 10:22:47
Local clock offset: -6.249 ms
Remote clock offset: 9.28 ms

Below is generated by plot.py at 2018-03-20 10:30:30
Datalink statistics
-- Total of 3 flows:
Average throughput: 0.28 Mbit/s
95th percentile per-packet one-way delay: 128.296 ms
Loss rate: 0.08%
-- Flow 1:
Average throughput: 0.08 Mbit/s
95th percentile per-packet one-way delay: 118.014 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.20 Mbit/s
95th percentile per-packet one-way delay: 138.090 ms
Loss rate: 0.17%
-- Flow 3:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 131.830 ms
Loss rate: 0.00%

Run 3: Report of SReAM — Data Link



Run 1: Statistics of WebRTC media

Start at: 2018-03-20 09:25:38

End at: 2018-03-20 09:26:08

Local clock offset: -5.93 ms

Remote clock offset: 6.485 ms

Below is generated by plot.py at 2018-03-20 10:30:32

Datalink statistics

-- Total of 3 flows:

Average throughput: 0.90 Mbit/s

95th percentile per-packet one-way delay: 681.789 ms

Loss rate: 0.12%

-- Flow 1:

Average throughput: 0.55 Mbit/s

95th percentile per-packet one-way delay: 692.250 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 0.28 Mbit/s

95th percentile per-packet one-way delay: 678.776 ms

Loss rate: 0.40%

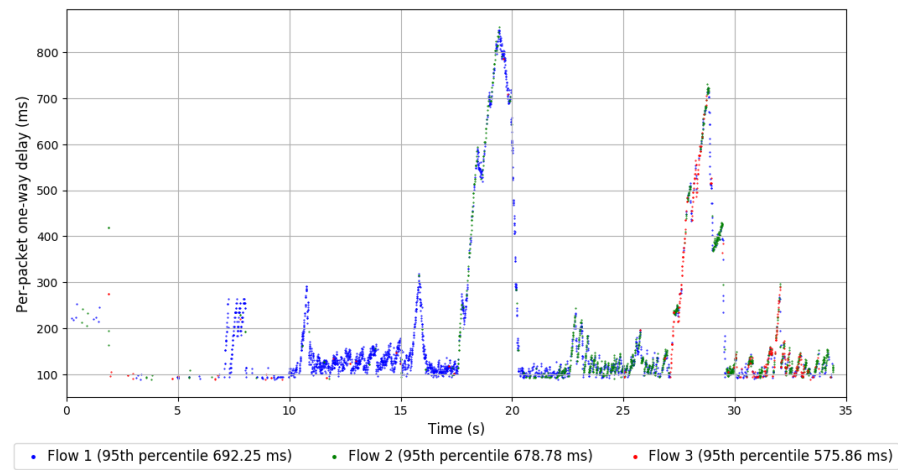
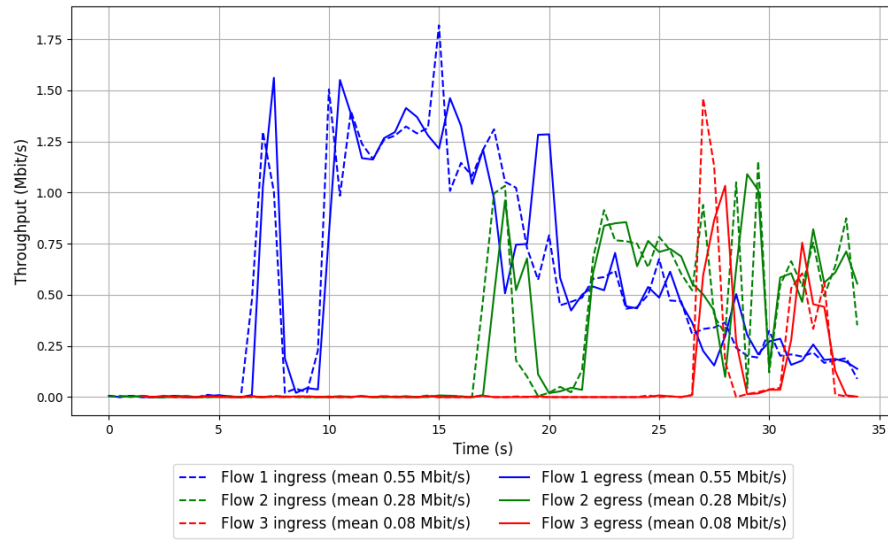
-- Flow 3:

Average throughput: 0.08 Mbit/s

95th percentile per-packet one-way delay: 575.859 ms

Loss rate: 0.00%

Run 1: Report of WebRTC media — Data Link



Run 2: Statistics of WebRTC media

Start at: 2018-03-20 09:48:17

End at: 2018-03-20 09:48:47

Local clock offset: -6.08 ms

Remote clock offset: 7.776 ms

Below is generated by plot.py at 2018-03-20 10:30:34

Datalink statistics

-- Total of 3 flows:

Average throughput: 0.88 Mbit/s

95th percentile per-packet one-way delay: 520.968 ms

Loss rate: 0.19%

-- Flow 1:

Average throughput: 0.50 Mbit/s

95th percentile per-packet one-way delay: 502.914 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 0.30 Mbit/s

95th percentile per-packet one-way delay: 521.486 ms

Loss rate: 0.10%

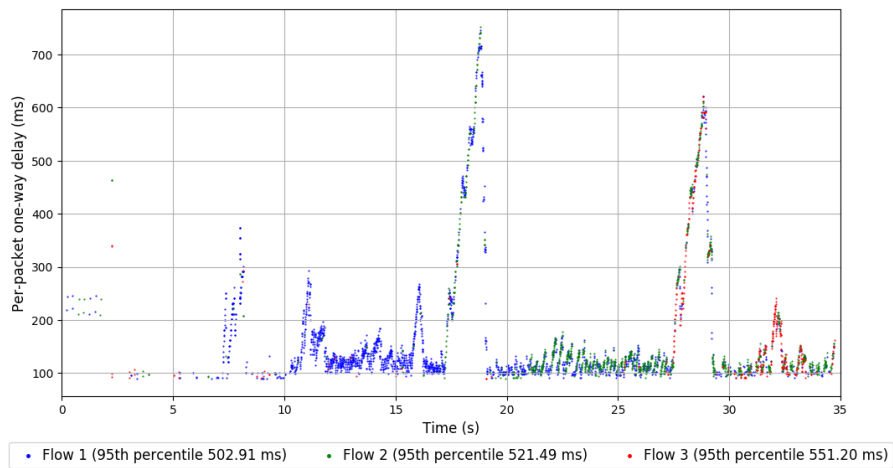
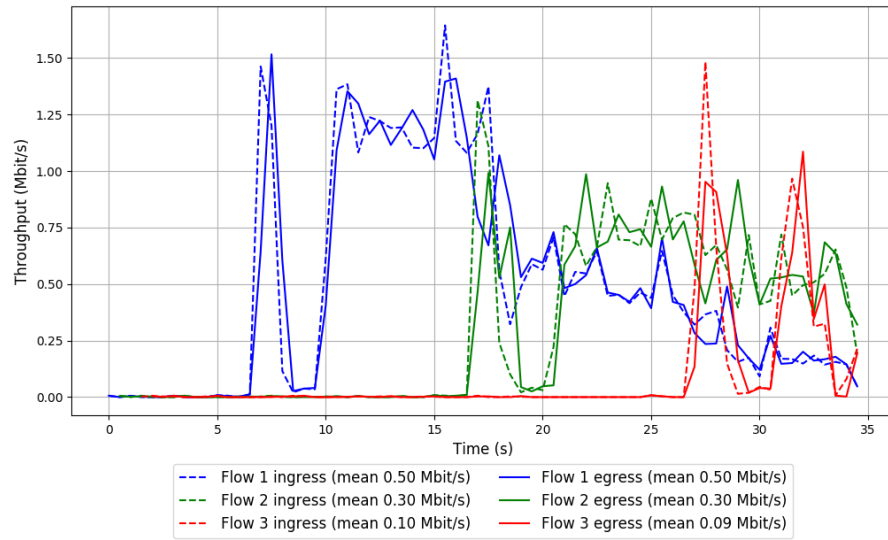
-- Flow 3:

Average throughput: 0.09 Mbit/s

95th percentile per-packet one-way delay: 551.202 ms

Loss rate: 1.56%

Run 2: Report of WebRTC media — Data Link



Run 3: Statistics of WebRTC media

Start at: 2018-03-20 10:10:59

End at: 2018-03-20 10:11:29

Local clock offset: -6.262 ms

Remote clock offset: 9.859 ms

Below is generated by plot.py at 2018-03-20 10:30:34

Datalink statistics

-- Total of 3 flows:

Average throughput: 0.72 Mbit/s

95th percentile per-packet one-way delay: 622.190 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 0.43 Mbit/s

95th percentile per-packet one-way delay: 625.571 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 0.20 Mbit/s

95th percentile per-packet one-way delay: 622.190 ms

Loss rate: 0.00%

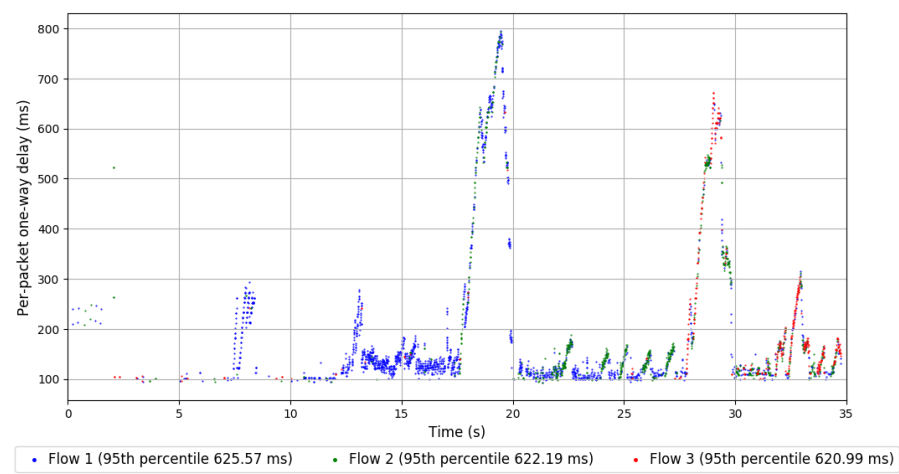
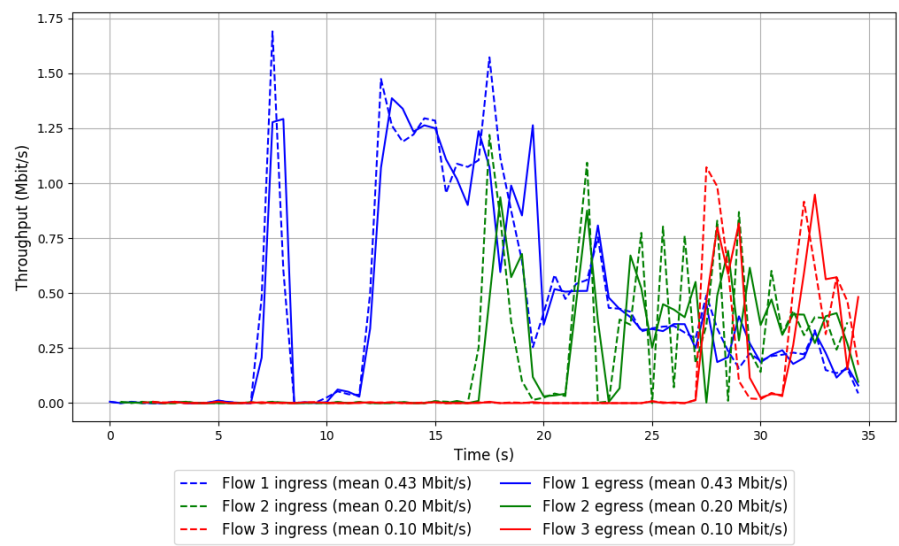
-- Flow 3:

Average throughput: 0.10 Mbit/s

95th percentile per-packet one-way delay: 620.987 ms

Loss rate: 0.00%

Run 3: Report of WebRTC media — Data Link

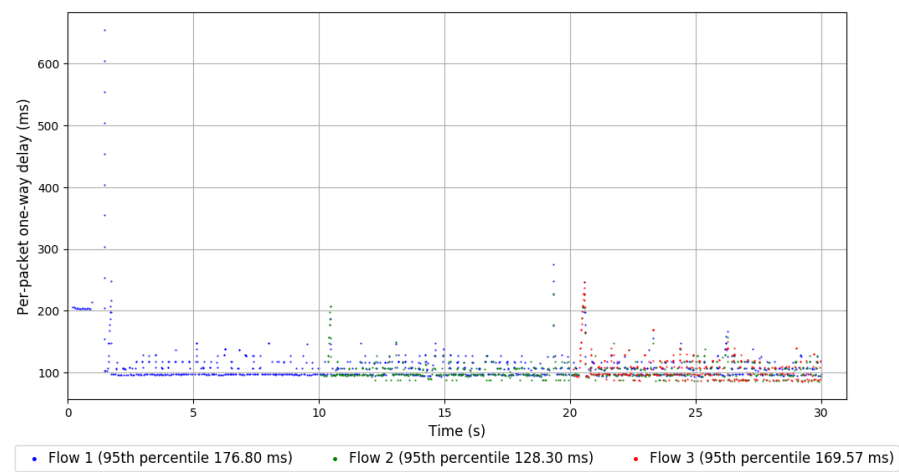
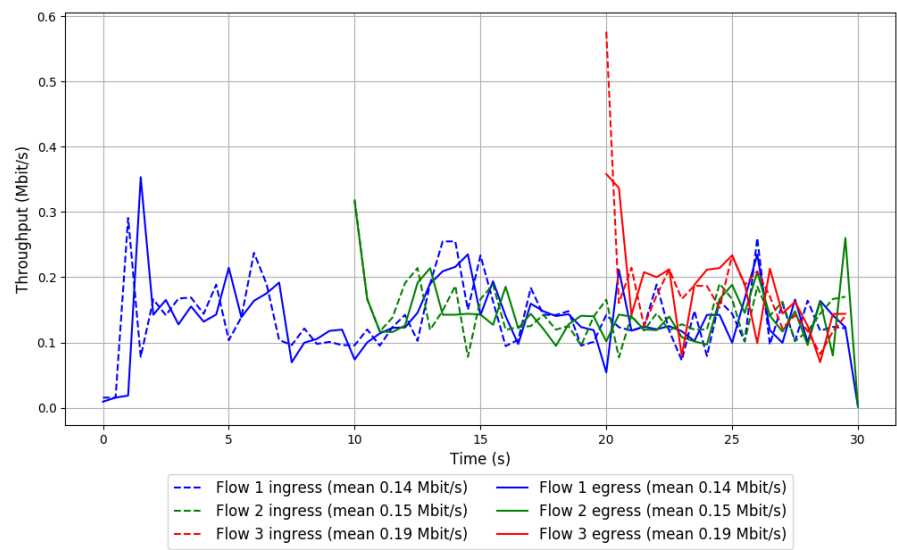


Run 1: Statistics of Sprout

Start at: 2018-03-20 09:31:55
End at: 2018-03-20 09:32:25
Local clock offset: -5.958 ms
Remote clock offset: 6.661 ms

Below is generated by plot.py at 2018-03-20 10:30:34
Datalink statistics
-- Total of 3 flows:
Average throughput: 0.30 Mbit/s
95th percentile per-packet one-way delay: 156.563 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.14 Mbit/s
95th percentile per-packet one-way delay: 176.799 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.15 Mbit/s
95th percentile per-packet one-way delay: 128.300 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.19 Mbit/s
95th percentile per-packet one-way delay: 169.566 ms
Loss rate: 0.00%

Run 1: Report of Sprout — Data Link

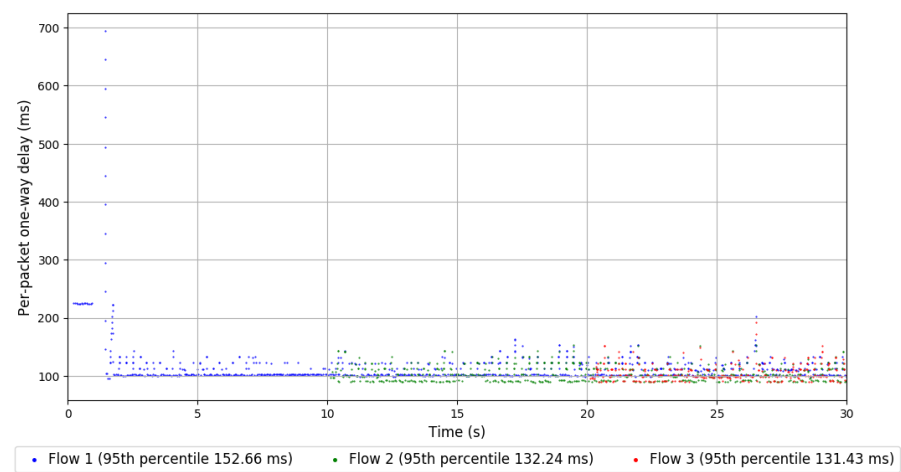
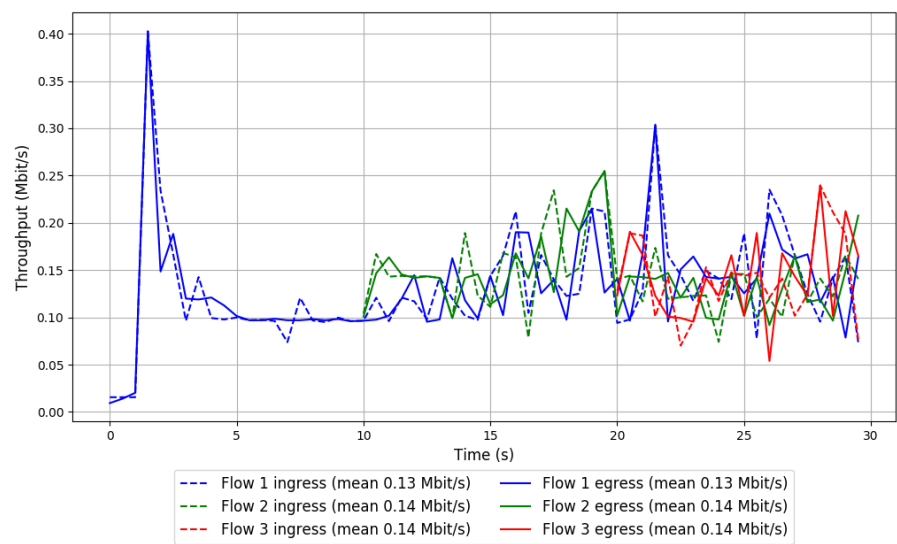


Run 2: Statistics of Sprout

Start at: 2018-03-20 09:54:35
End at: 2018-03-20 09:55:05
Local clock offset: -6.154 ms
Remote clock offset: 7.684 ms

```
# Below is generated by plot.py at 2018-03-20 10:30:34
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.28 Mbit/s
95th percentile per-packet one-way delay: 141.922 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.13 Mbit/s
95th percentile per-packet one-way delay: 152.661 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.14 Mbit/s
95th percentile per-packet one-way delay: 132.240 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.14 Mbit/s
95th percentile per-packet one-way delay: 131.425 ms
Loss rate: 0.00%
```


Run 2: Report of Sprout — Data Link



Run 3: Statistics of Sprout

Start at: 2018-03-20 10:17:16

End at: 2018-03-20 10:17:46

Local clock offset: -6.28 ms

Remote clock offset: 8.606 ms

Below is generated by plot.py at 2018-03-20 10:30:35

Datalink statistics

-- Total of 3 flows:

Average throughput: 0.34 Mbit/s

95th percentile per-packet one-way delay: 155.436 ms

Loss rate: 0.01%

-- Flow 1:

Average throughput: 0.16 Mbit/s

95th percentile per-packet one-way delay: 159.280 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 0.19 Mbit/s

95th percentile per-packet one-way delay: 157.360 ms

Loss rate: 0.02%

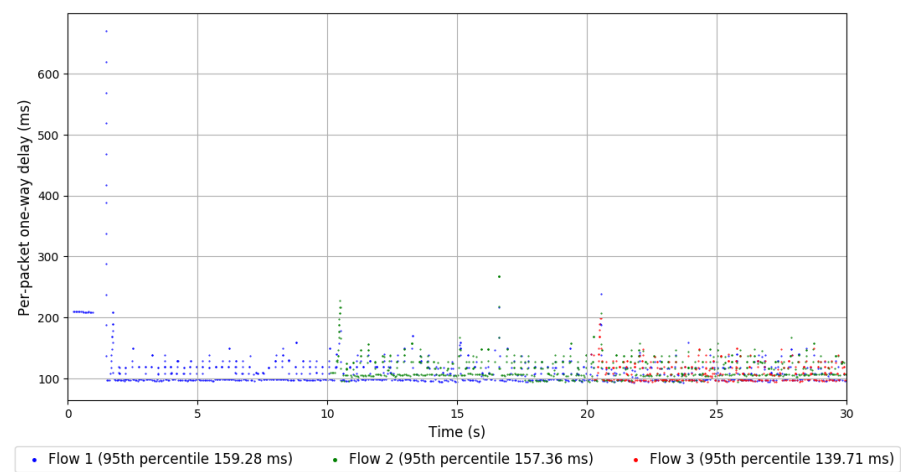
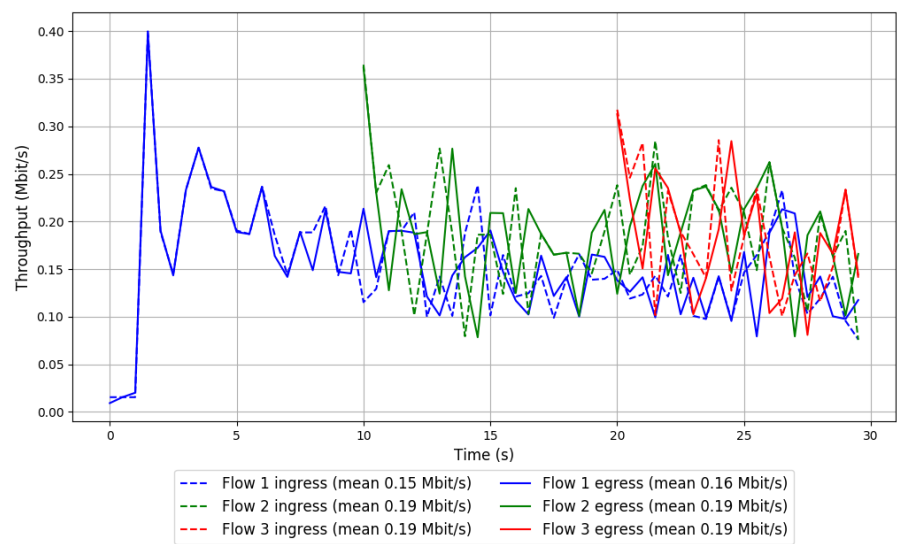
-- Flow 3:

Average throughput: 0.19 Mbit/s

95th percentile per-packet one-way delay: 139.714 ms

Loss rate: 0.00%

Run 3: Report of Sprout — Data Link

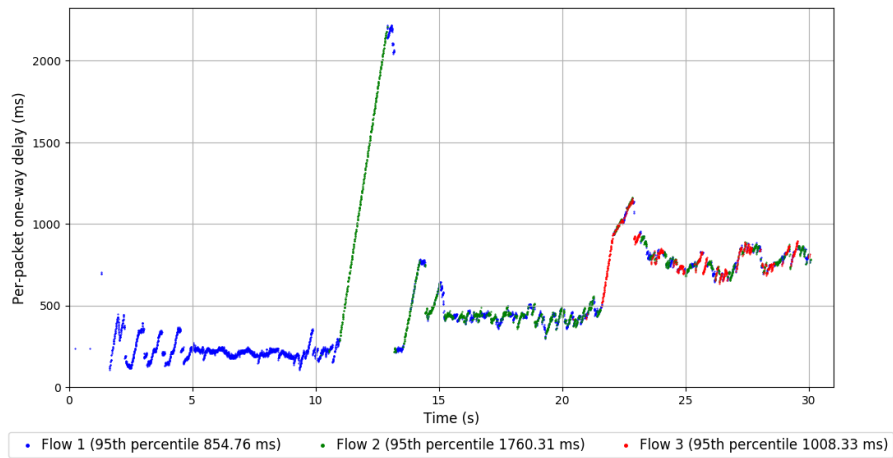
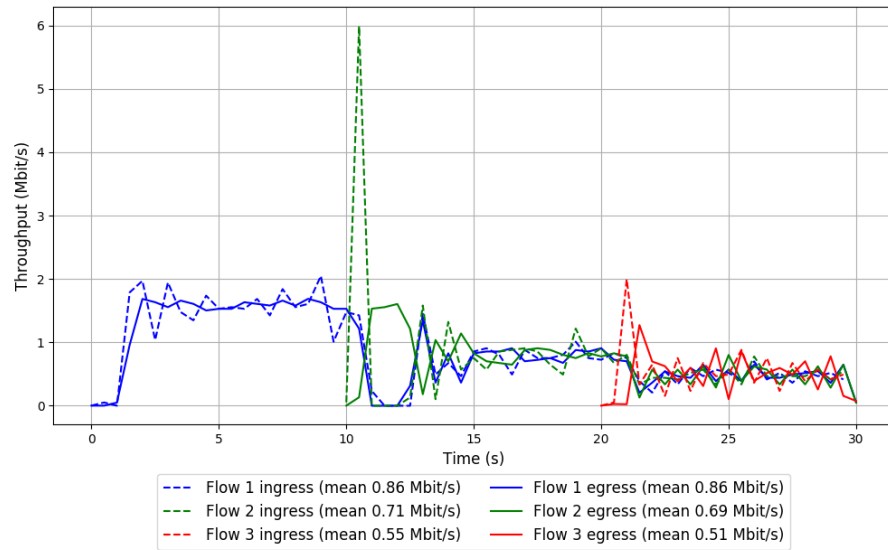


Run 1: Statistics of TaoVA-100x

Start at: 2018-03-20 09:38:12
End at: 2018-03-20 09:38:42
Local clock offset: -5.942 ms
Remote clock offset: 10.689 ms

Below is generated by plot.py at 2018-03-20 10:30:38
Datalink statistics
-- Total of 3 flows:
Average throughput: 1.48 Mbit/s
95th percentile per-packet one-way delay: 1138.395 ms
Loss rate: 2.29%
-- Flow 1:
Average throughput: 0.86 Mbit/s
95th percentile per-packet one-way delay: 854.758 ms
Loss rate: 1.00%
-- Flow 2:
Average throughput: 0.69 Mbit/s
95th percentile per-packet one-way delay: 1760.311 ms
Loss rate: 2.66%
-- Flow 3:
Average throughput: 0.51 Mbit/s
95th percentile per-packet one-way delay: 1008.327 ms
Loss rate: 7.60%

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



Run 2: Statistics of TaoVA-100x

Start at: 2018-03-20 10:00:51

End at: 2018-03-20 10:01:21

Local clock offset: -6.279 ms

Remote clock offset: 6.565 ms

Below is generated by plot.py at 2018-03-20 10:30:38

Datalink statistics

-- Total of 3 flows:

Average throughput: 1.39 Mbit/s

95th percentile per-packet one-way delay: 1461.104 ms

Loss rate: 2.55%

-- Flow 1:

Average throughput: 0.79 Mbit/s

95th percentile per-packet one-way delay: 1203.659 ms

Loss rate: 1.56%

-- Flow 2:

Average throughput: 0.67 Mbit/s

95th percentile per-packet one-way delay: 2008.849 ms

Loss rate: 2.77%

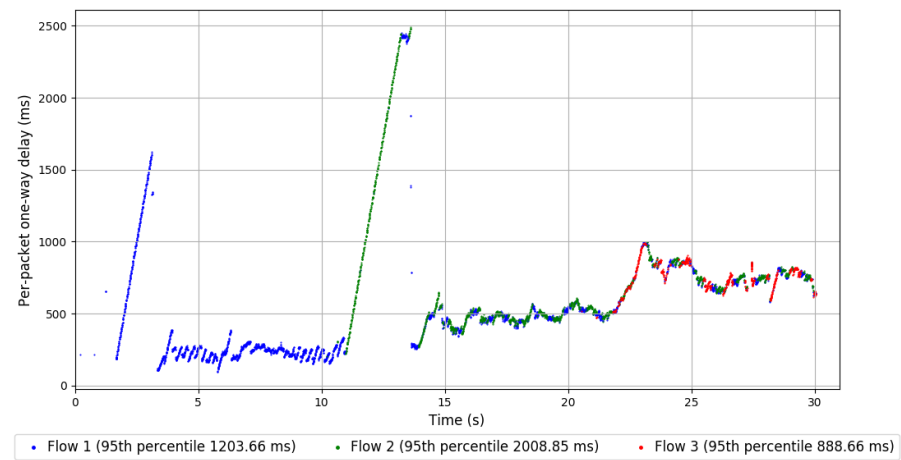
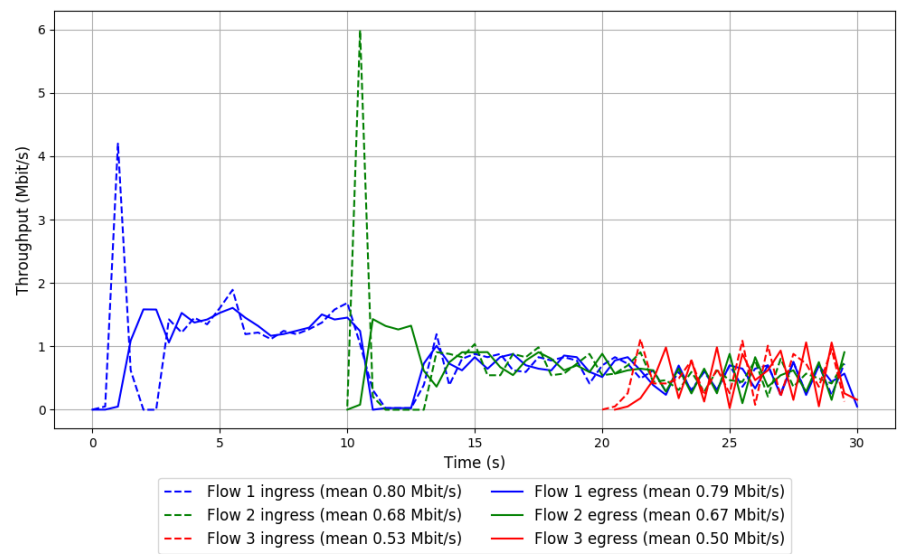
-- Flow 3:

Average throughput: 0.50 Mbit/s

95th percentile per-packet one-way delay: 888.657 ms

Loss rate: 6.65%

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



Run 3: Statistics of TaoVA-100x

Start at: 2018-03-20 10:23:32

End at: 2018-03-20 10:24:02

Local clock offset: -6.172 ms

Remote clock offset: 4.615 ms

Below is generated by plot.py at 2018-03-20 10:30:40

Datalink statistics

-- Total of 3 flows:

Average throughput: 1.26 Mbit/s

95th percentile per-packet one-way delay: 1373.617 ms

Loss rate: 2.65%

-- Flow 1:

Average throughput: 0.78 Mbit/s

95th percentile per-packet one-way delay: 1126.153 ms

Loss rate: 1.37%

-- Flow 2:

Average throughput: 0.54 Mbit/s

95th percentile per-packet one-way delay: 1408.435 ms

Loss rate: 3.49%

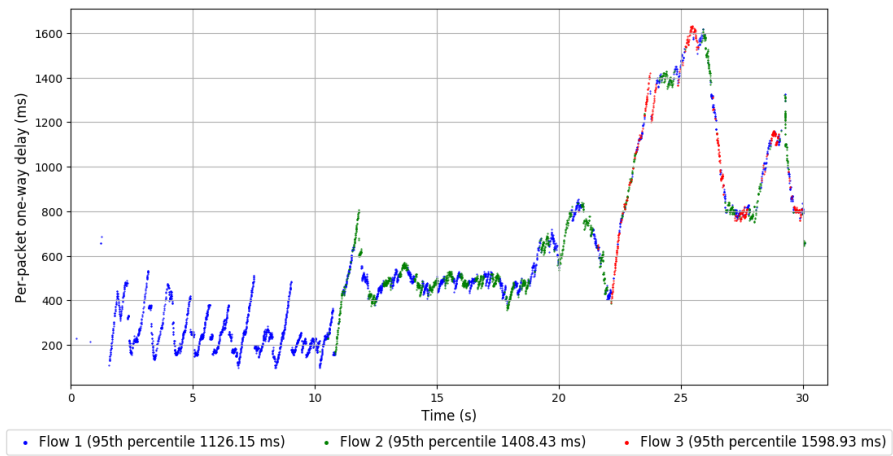
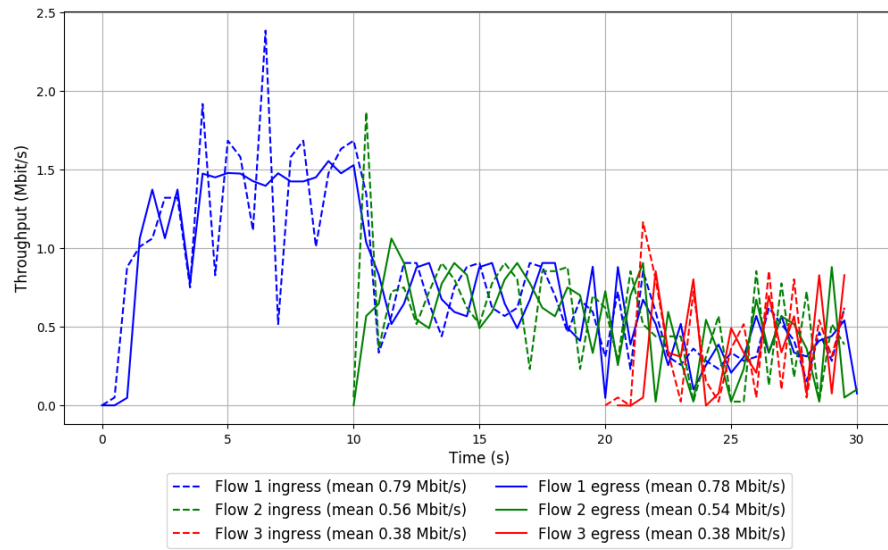
-- Flow 3:

Average throughput: 0.38 Mbit/s

95th percentile per-packet one-way delay: 1598.933 ms

Loss rate: 8.27%

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



Run 1: Statistics of TCP Vegas

Start at: 2018-03-20 09:28:09

End at: 2018-03-20 09:28:39

Local clock offset: -5.964 ms

Remote clock offset: 6.499 ms

Below is generated by plot.py at 2018-03-20 10:30:40

Datalink statistics

-- Total of 3 flows:

Average throughput: 1.39 Mbit/s

95th percentile per-packet one-way delay: 1424.731 ms

Loss rate: 4.37%

-- Flow 1:

Average throughput: 1.02 Mbit/s

95th percentile per-packet one-way delay: 1414.835 ms

Loss rate: 3.26%

-- Flow 2:

Average throughput: 0.48 Mbit/s

95th percentile per-packet one-way delay: 1444.694 ms

Loss rate: 6.48%

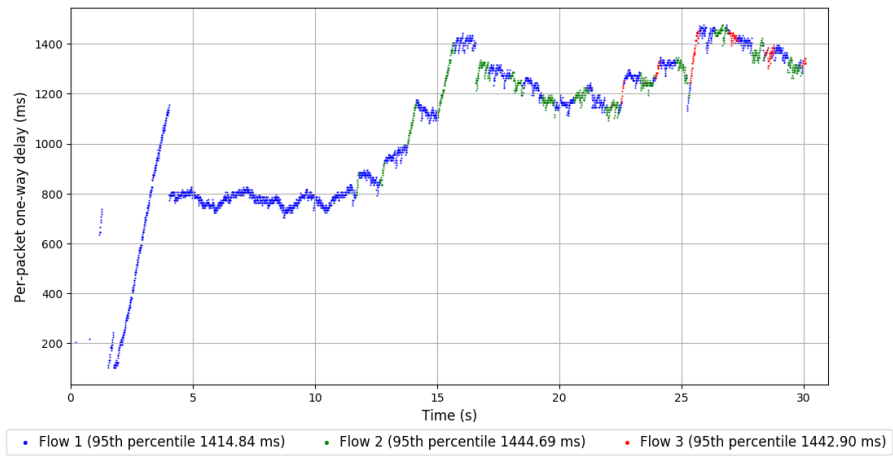
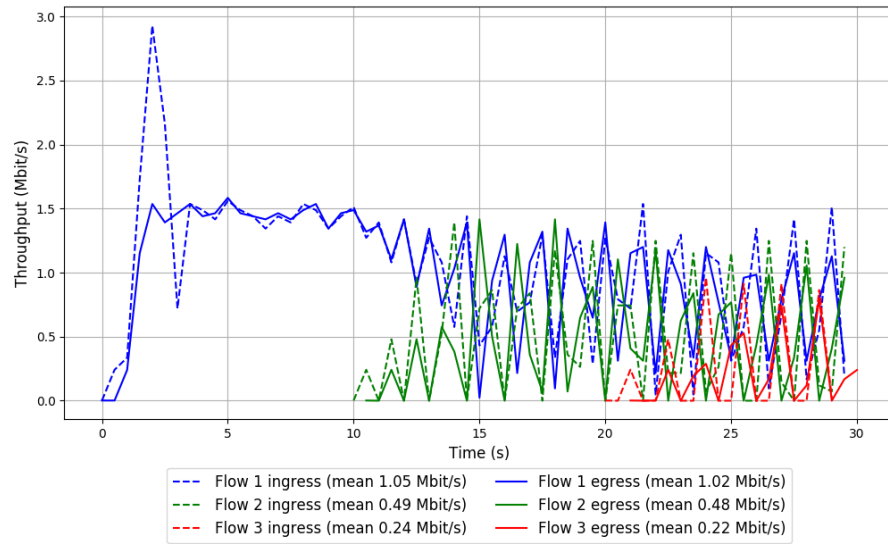
-- Flow 3:

Average throughput: 0.22 Mbit/s

95th percentile per-packet one-way delay: 1442.898 ms

Loss rate: 10.91%

Run 1: Report of TCP Vegas — Data Link

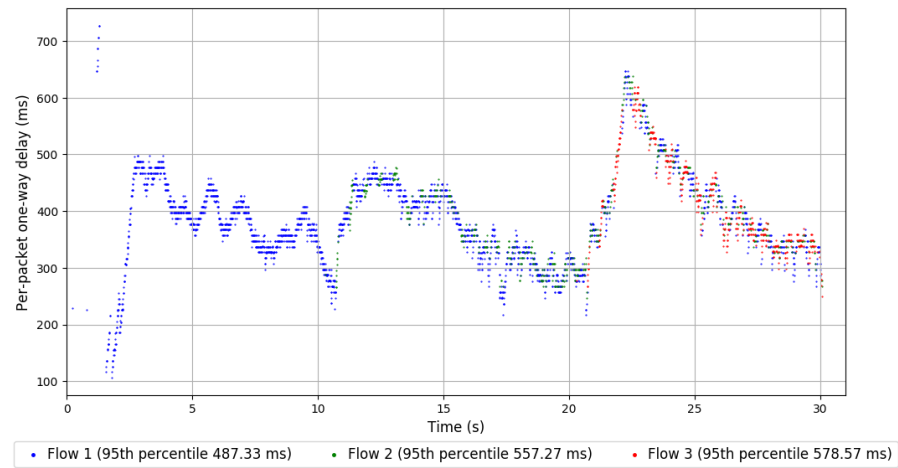
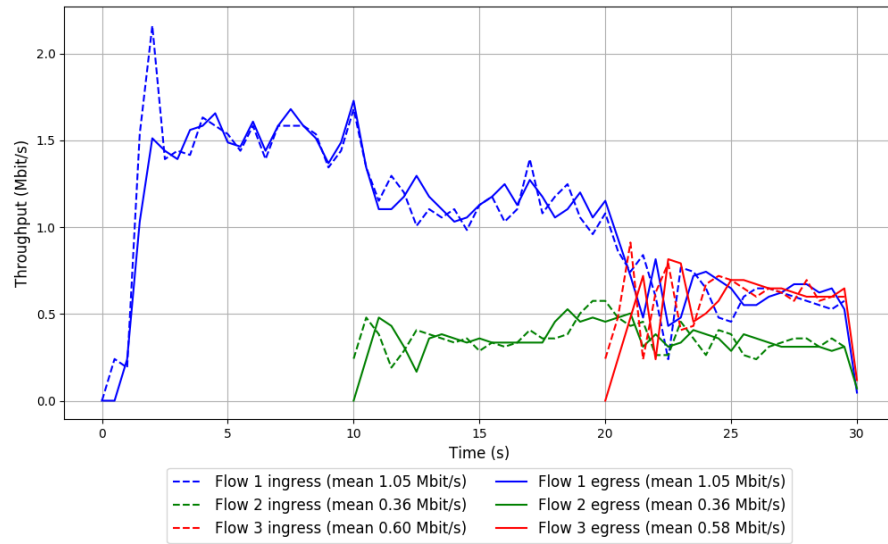


Run 2: Statistics of TCP Vegas

Start at: 2018-03-20 09:50:48
End at: 2018-03-20 09:51:18
Local clock offset: -6.194 ms
Remote clock offset: 11.639 ms

Below is generated by plot.py at 2018-03-20 10:30:40
Datalink statistics
-- Total of 3 flows:
Average throughput: 1.48 Mbit/s
95th percentile per-packet one-way delay: 528.251 ms
Loss rate: 0.81%
-- Flow 1:
Average throughput: 1.05 Mbit/s
95th percentile per-packet one-way delay: 487.334 ms
Loss rate: 0.11%
-- Flow 2:
Average throughput: 0.36 Mbit/s
95th percentile per-packet one-way delay: 557.271 ms
Loss rate: 1.66%
-- Flow 3:
Average throughput: 0.58 Mbit/s
95th percentile per-packet one-way delay: 578.567 ms
Loss rate: 3.46%

Run 2: Report of TCP Vegas — Data Link



Run 3: Statistics of TCP Vegas

Start at: 2018-03-20 10:13:29

End at: 2018-03-20 10:13:59

Local clock offset: -6.276 ms

Remote clock offset: 5.849 ms

Below is generated by plot.py at 2018-03-20 10:30:40

Datalink statistics

-- Total of 3 flows:

Average throughput: 1.47 Mbit/s

95th percentile per-packet one-way delay: 1306.593 ms

Loss rate: 3.78%

-- Flow 1:

Average throughput: 1.13 Mbit/s

95th percentile per-packet one-way delay: 1296.335 ms

Loss rate: 2.16%

-- Flow 2:

Average throughput: 0.31 Mbit/s

95th percentile per-packet one-way delay: 1337.682 ms

Loss rate: 4.05%

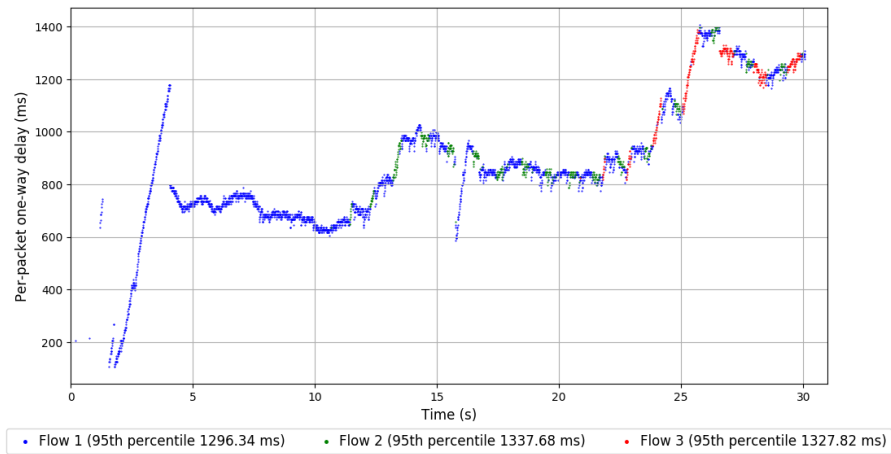
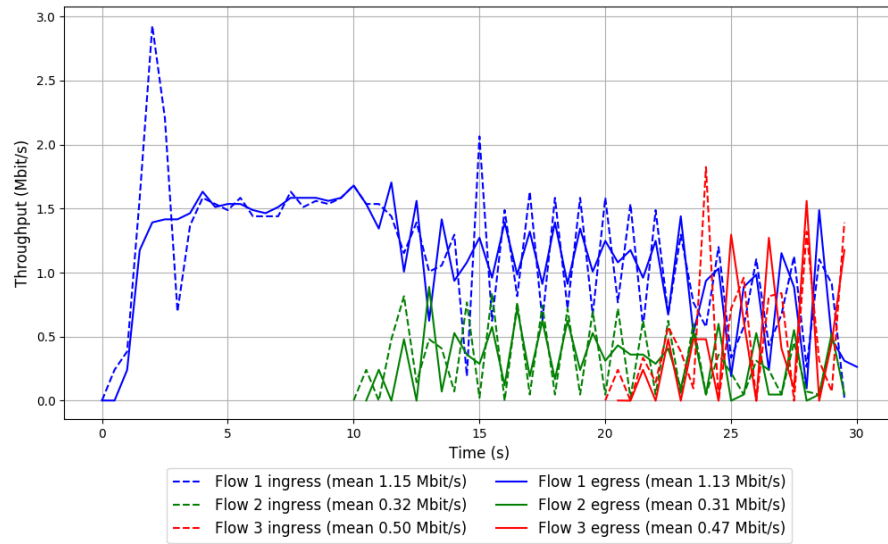
-- Flow 3:

Average throughput: 0.47 Mbit/s

95th percentile per-packet one-way delay: 1327.819 ms

Loss rate: 14.59%

Run 3: Report of TCP Vegas — Data Link

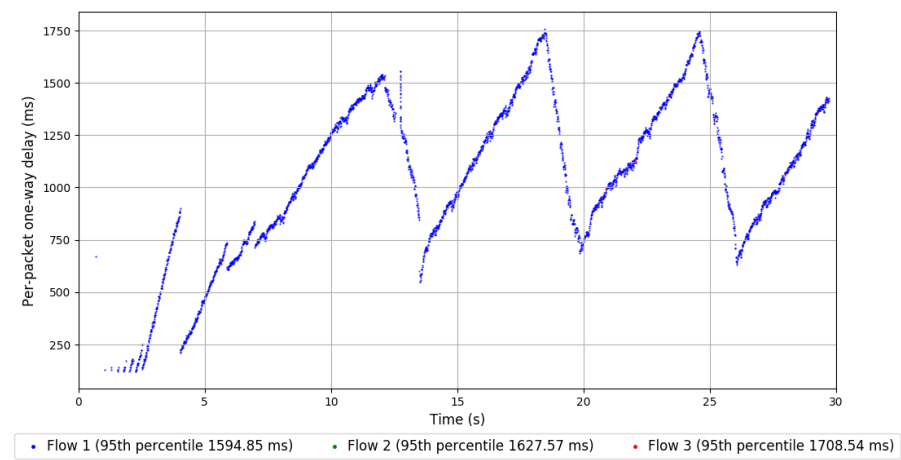
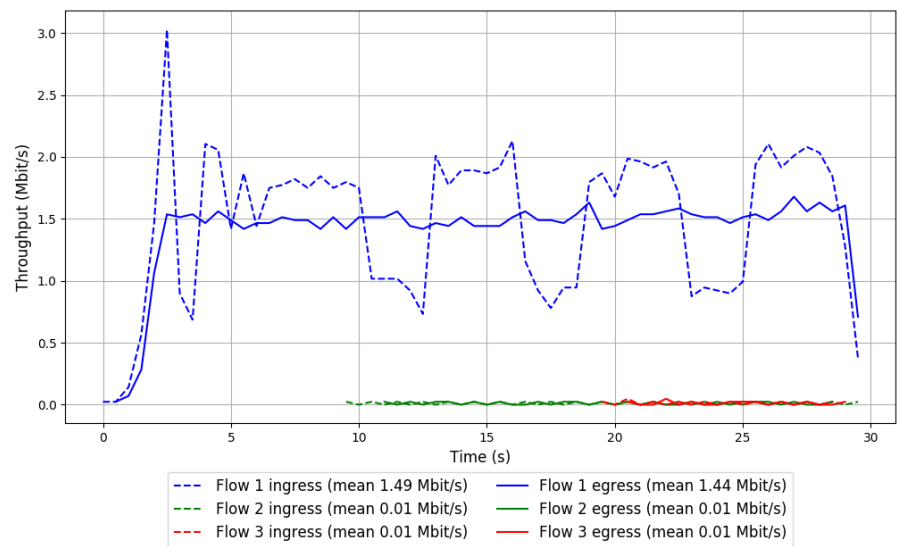


Run 1: Statistics of Verus

Start at: 2018-03-20 09:34:26
End at: 2018-03-20 09:34:56
Local clock offset: -5.948 ms
Remote clock offset: 10.503 ms

Below is generated by plot.py at 2018-03-20 10:30:41
Datalink statistics
-- Total of 3 flows:
Average throughput: 1.45 Mbit/s
95th percentile per-packet one-way delay: 1595.970 ms
Loss rate: 5.04%
-- Flow 1:
Average throughput: 1.44 Mbit/s
95th percentile per-packet one-way delay: 1594.852 ms
Loss rate: 5.00%
-- Flow 2:
Average throughput: 0.01 Mbit/s
95th percentile per-packet one-way delay: 1627.570 ms
Loss rate: 9.52%
-- Flow 3:
Average throughput: 0.01 Mbit/s
95th percentile per-packet one-way delay: 1708.536 ms
Loss rate: 9.09%

Run 1: Report of Verus — Data Link

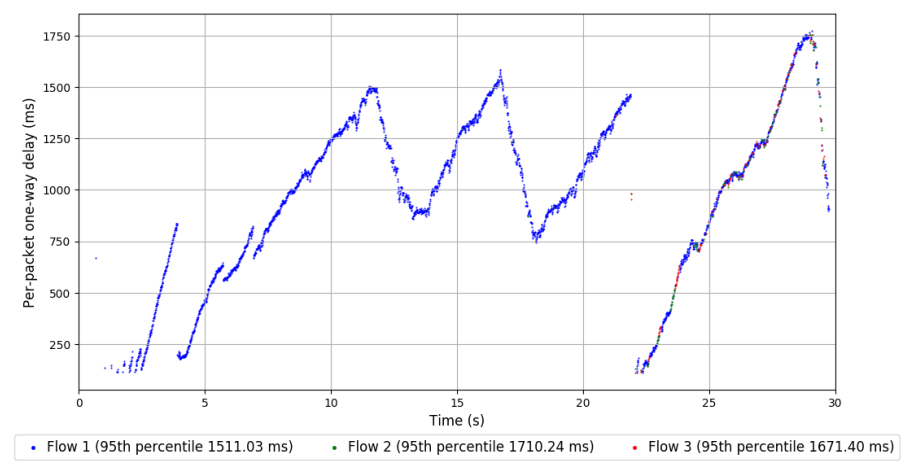
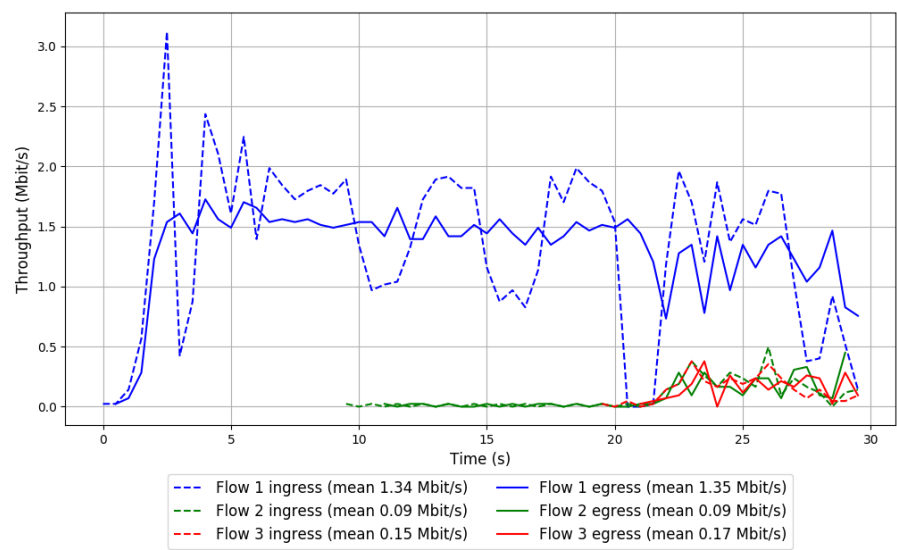


Run 2: Statistics of Verus

Start at: 2018-03-20 09:57:05
End at: 2018-03-20 09:57:36
Local clock offset: -6.178 ms
Remote clock offset: 10.837 ms

Below is generated by plot.py at 2018-03-20 10:30:41
Datalink statistics
-- Total of 3 flows:
Average throughput: 1.45 Mbit/s
95th percentile per-packet one-way delay: 1524.638 ms
Loss rate: 1.73%
-- Flow 1:
Average throughput: 1.35 Mbit/s
95th percentile per-packet one-way delay: 1511.032 ms
Loss rate: 1.37%
-- Flow 2:
Average throughput: 0.09 Mbit/s
95th percentile per-packet one-way delay: 1710.244 ms
Loss rate: 7.43%
-- Flow 3:
Average throughput: 0.17 Mbit/s
95th percentile per-packet one-way delay: 1671.397 ms
Loss rate: 4.76%

Run 2: Report of Verus — Data Link

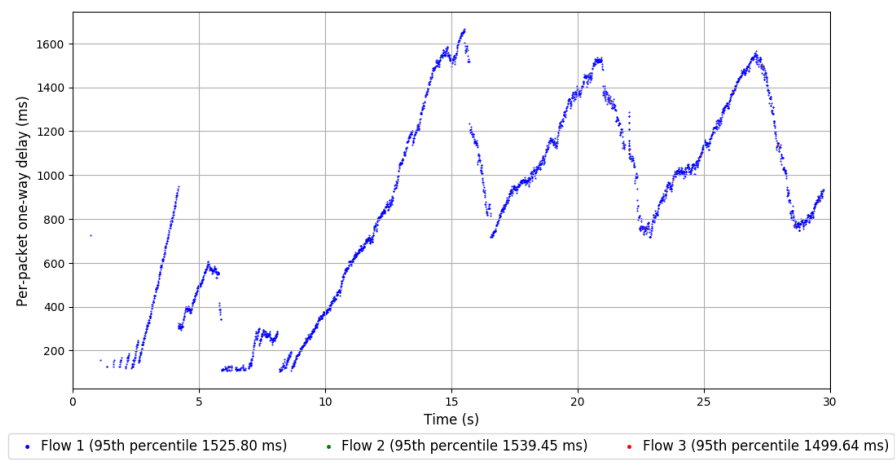
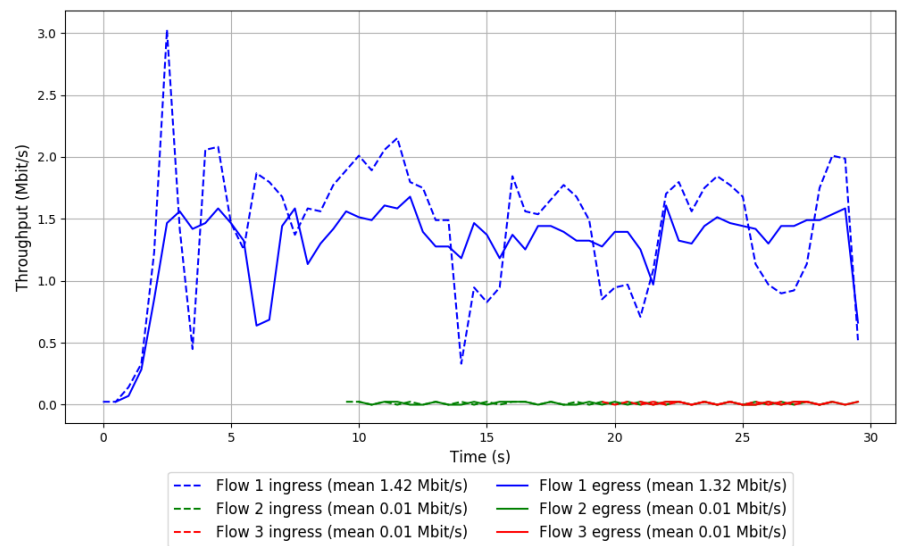


Run 3: Statistics of Verus

Start at: 2018-03-20 10:19:46
End at: 2018-03-20 10:20:16
Local clock offset: -6.242 ms
Remote clock offset: 10.246 ms

Below is generated by plot.py at 2018-03-20 10:30:42
Datalink statistics
-- Total of 3 flows:
Average throughput: 1.33 Mbit/s
95th percentile per-packet one-way delay: 1525.800 ms
Loss rate: 8.99%
-- Flow 1:
Average throughput: 1.32 Mbit/s
95th percentile per-packet one-way delay: 1525.800 ms
Loss rate: 9.07%
-- Flow 2:
Average throughput: 0.01 Mbit/s
95th percentile per-packet one-way delay: 1539.450 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.01 Mbit/s
95th percentile per-packet one-way delay: 1499.639 ms
Loss rate: 0.00%

Run 3: Report of Verus — Data Link



Run 1: Statistics of Copa

Start at: 2018-03-20 09:26:53

End at: 2018-03-20 09:27:23

Local clock offset: -5.946 ms

Remote clock offset: 7.313 ms

Below is generated by plot.py at 2018-03-20 10:30:45

Datalink statistics

-- Total of 3 flows:

Average throughput: 1.32 Mbit/s

95th percentile per-packet one-way delay: 418.104 ms

Loss rate: 0.98%

-- Flow 1:

Average throughput: 0.80 Mbit/s

95th percentile per-packet one-way delay: 390.116 ms

Loss rate: 0.59%

-- Flow 2:

Average throughput: 0.55 Mbit/s

95th percentile per-packet one-way delay: 424.624 ms

Loss rate: 1.17%

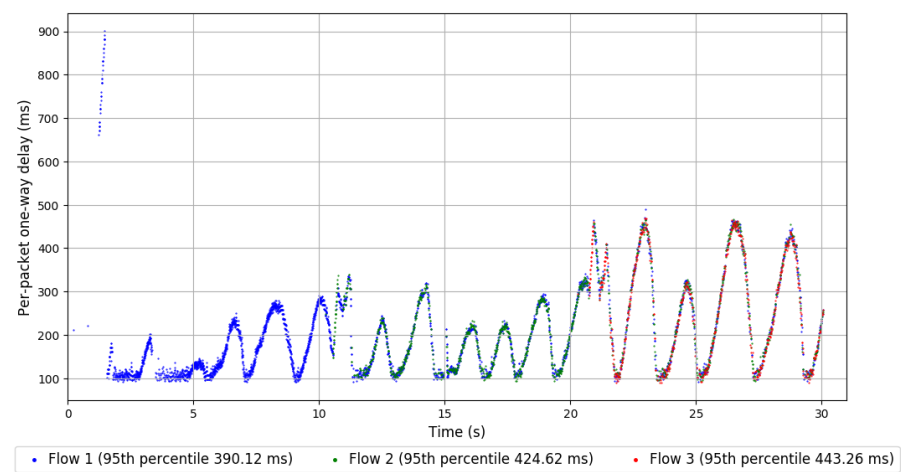
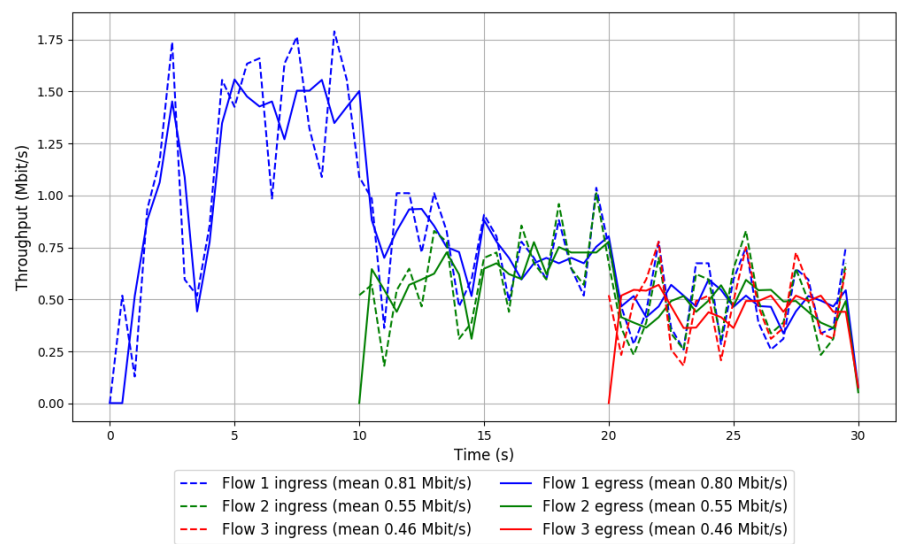
-- Flow 3:

Average throughput: 0.46 Mbit/s

95th percentile per-packet one-way delay: 443.259 ms

Loss rate: 2.52%

Run 1: Report of Copa — Data Link

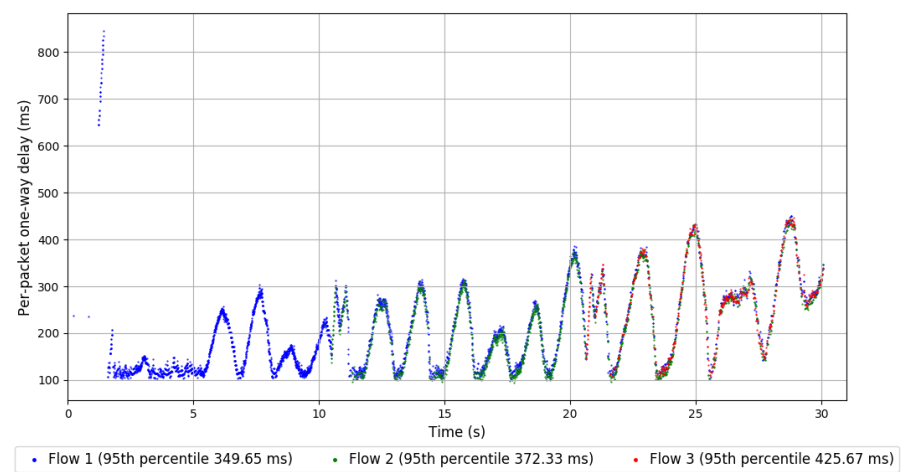
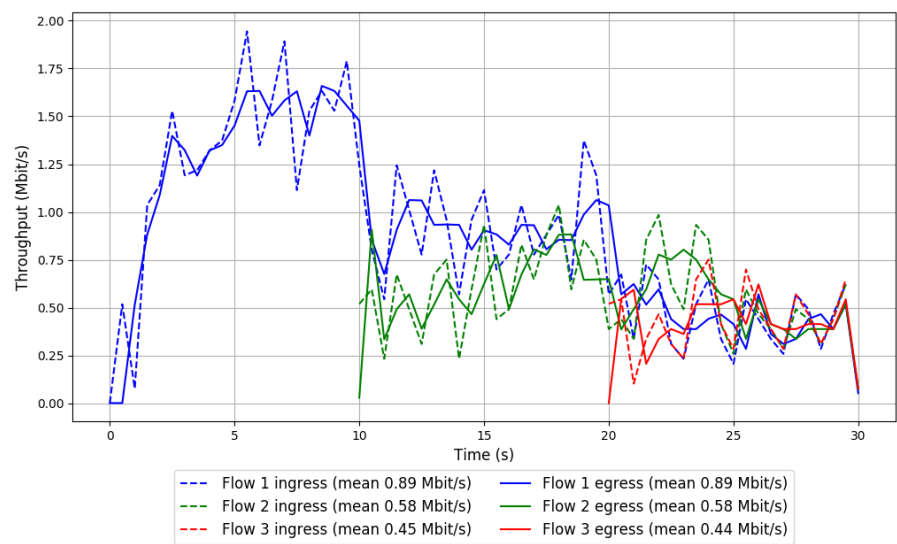


Run 2: Statistics of Copa

Start at: 2018-03-20 09:49:32
End at: 2018-03-20 09:50:02
Local clock offset: -6.109 ms
Remote clock offset: 12.511 ms

Below is generated by plot.py at 2018-03-20 10:30:46
Datalink statistics
-- Total of 3 flows:
Average throughput: 1.42 Mbit/s
95th percentile per-packet one-way delay: 369.887 ms
Loss rate: 1.12%
-- Flow 1:
Average throughput: 0.89 Mbit/s
95th percentile per-packet one-way delay: 349.646 ms
Loss rate: 0.63%
-- Flow 2:
Average throughput: 0.58 Mbit/s
95th percentile per-packet one-way delay: 372.326 ms
Loss rate: 1.34%
-- Flow 3:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 425.669 ms
Loss rate: 3.49%

Run 2: Report of Copa — Data Link

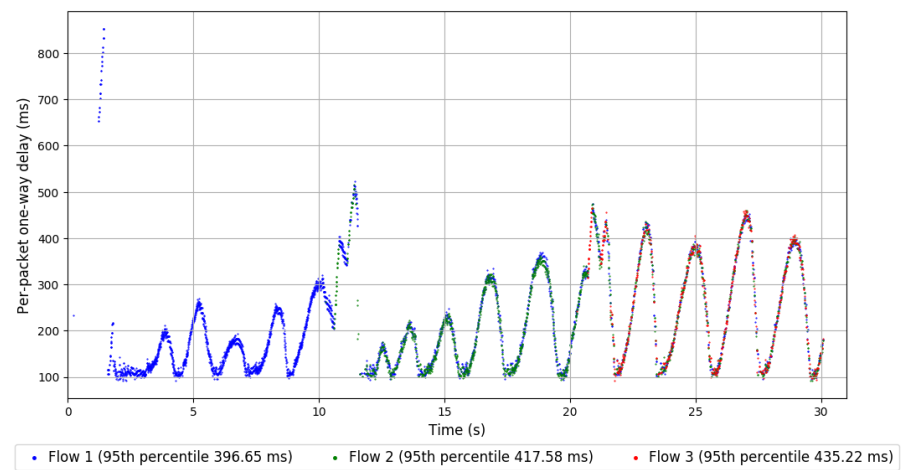
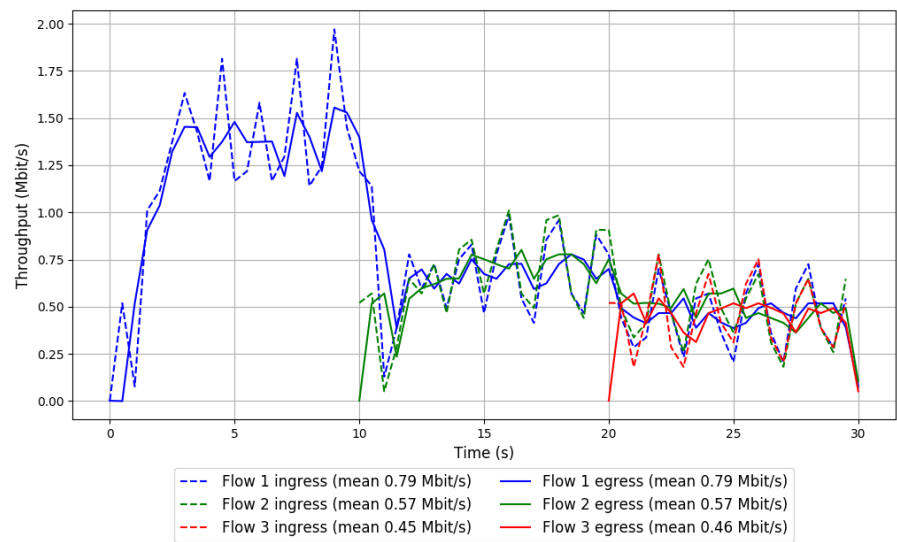


Run 3: Statistics of Copa

Start at: 2018-03-20 10:12:14
End at: 2018-03-20 10:12:44
Local clock offset: -6.258 ms
Remote clock offset: 5.827 ms

```
# Below is generated by plot.py at 2018-03-20 10:30:47
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1.32 Mbit/s
95th percentile per-packet one-way delay: 416.249 ms
Loss rate: 0.49%
-- Flow 1:
Average throughput: 0.79 Mbit/s
95th percentile per-packet one-way delay: 396.649 ms
Loss rate: 0.27%
-- Flow 2:
Average throughput: 0.57 Mbit/s
95th percentile per-packet one-way delay: 417.581 ms
Loss rate: 0.57%
-- Flow 3:
Average throughput: 0.46 Mbit/s
95th percentile per-packet one-way delay: 435.219 ms
Loss rate: 1.43%
```

Run 3: Report of Copa — Data Link



Run 1: Statistics of FillP

Start at: 2018-03-20 09:41:58

End at: 2018-03-20 09:42:28

Local clock offset: -6.028 ms

Remote clock offset: 12.34 ms

Below is generated by plot.py at 2018-03-20 10:30:59

Datalink statistics

-- Total of 3 flows:

Average throughput: 1.47 Mbit/s

95th percentile per-packet one-way delay: 5101.300 ms

Loss rate: 95.79%

-- Flow 1:

Average throughput: 1.47 Mbit/s

95th percentile per-packet one-way delay: 5100.428 ms

Loss rate: 95.80%

-- Flow 2:

Average throughput: 0.01 Mbit/s

95th percentile per-packet one-way delay: 5081.970 ms

Loss rate: 11.05%

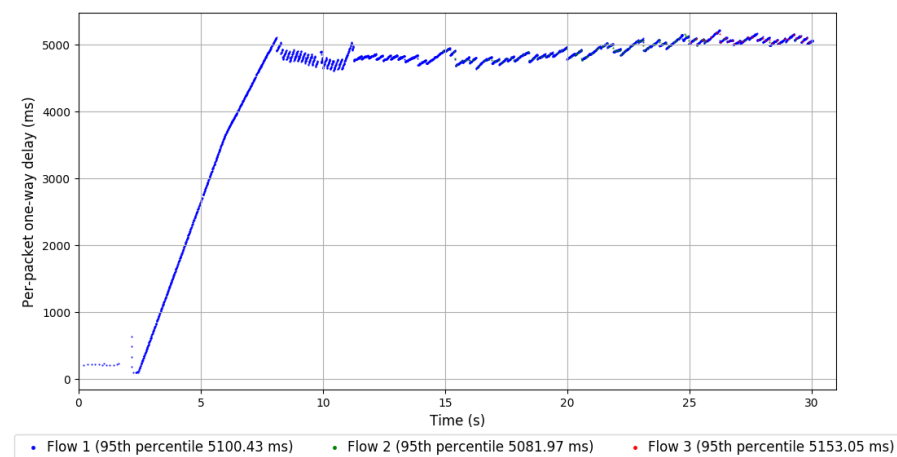
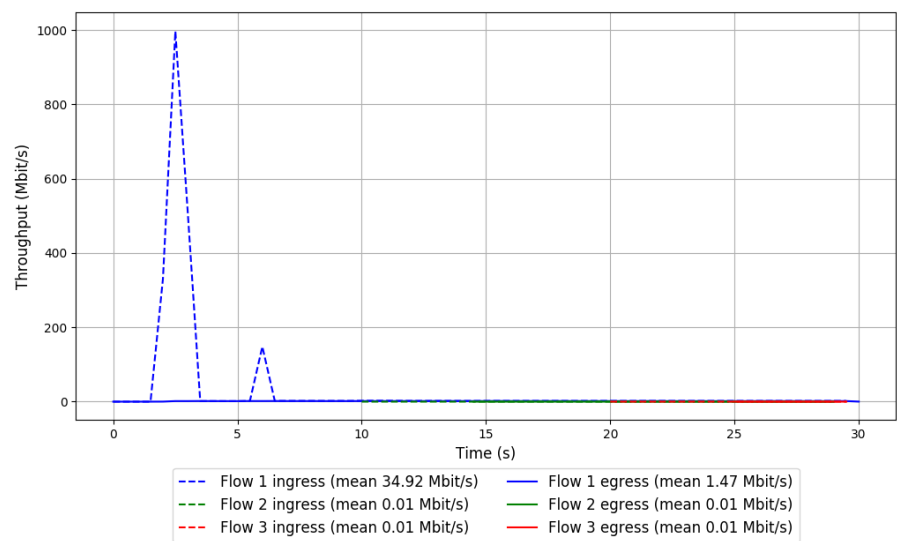
-- Flow 3:

Average throughput: 0.01 Mbit/s

95th percentile per-packet one-way delay: 5153.050 ms

Loss rate: 75.11%

Run 1: Report of FillP — Data Link

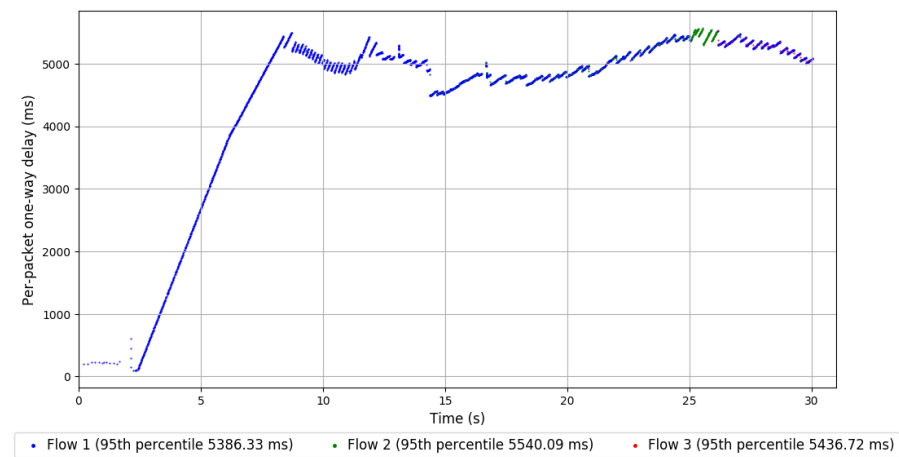
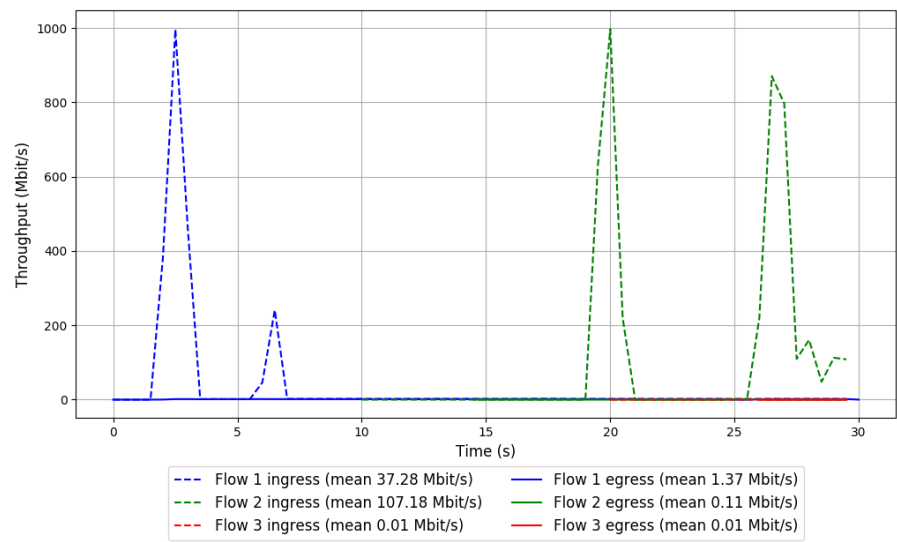


Run 2: Statistics of FillP

Start at: 2018-03-20 10:04:38
End at: 2018-03-20 10:05:08
Local clock offset: -6.318 ms
Remote clock offset: 11.447 ms

Below is generated by plot.py at 2018-03-20 10:31:00
Datalink statistics
-- Total of 3 flows:
Average throughput: 1.43 Mbit/s
95th percentile per-packet one-way delay: 5422.931 ms
Loss rate: 98.69%
-- Flow 1:
Average throughput: 1.37 Mbit/s
95th percentile per-packet one-way delay: 5386.330 ms
Loss rate: 96.34%
-- Flow 2:
Average throughput: 0.11 Mbit/s
95th percentile per-packet one-way delay: 5540.094 ms
Loss rate: 99.92%
-- Flow 3:
Average throughput: 0.01 Mbit/s
95th percentile per-packet one-way delay: 5436.718 ms
Loss rate: 76.91%

Run 2: Report of FillP — Data Link



Run 3: Statistics of FillP

Start at: 2018-03-20 10:27:19

End at: 2018-03-20 10:27:49

Local clock offset: -6.183 ms

Remote clock offset: 9.898 ms

Below is generated by plot.py at 2018-03-20 10:31:00

Datalink statistics

-- Total of 3 flows:

Average throughput: 1.47 Mbit/s

95th percentile per-packet one-way delay: 5038.720 ms

Loss rate: 95.87%

-- Flow 1:

Average throughput: 1.46 Mbit/s

95th percentile per-packet one-way delay: 5039.316 ms

Loss rate: 95.88%

-- Flow 2:

Average throughput: 0.01 Mbit/s

95th percentile per-packet one-way delay: 5008.790 ms

Loss rate: 10.38%

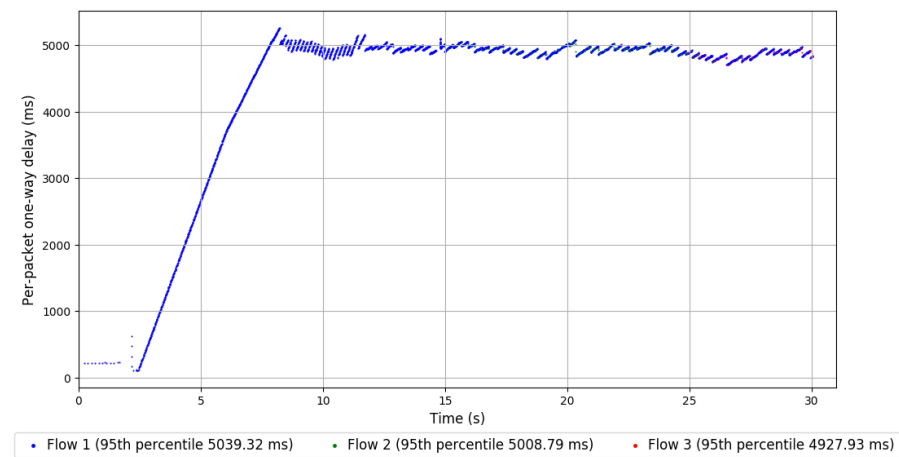
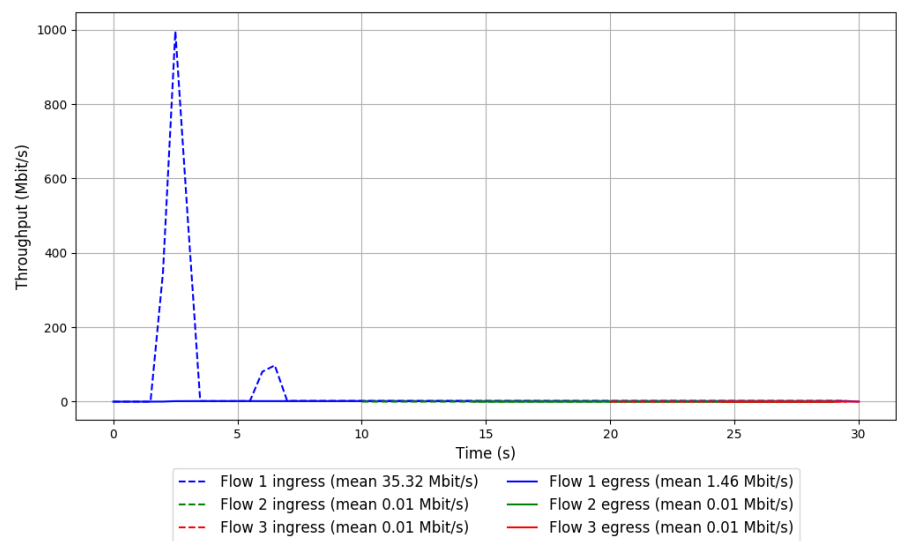
-- Flow 3:

Average throughput: 0.01 Mbit/s

95th percentile per-packet one-way delay: 4927.934 ms

Loss rate: 71.10%

Run 3: Report of FillP — Data Link



Run 1: Statistics of Indigo-1-32

Start at: 2018-03-20 09:23:06

End at: 2018-03-20 09:23:36

Local clock offset: -5.976 ms

Remote clock offset: 7.341 ms

Below is generated by plot.py at 2018-03-20 10:31:00

Datalink statistics

-- Total of 3 flows:

Average throughput: 1.33 Mbit/s

95th percentile per-packet one-way delay: 317.292 ms

Loss rate: 0.06%

-- Flow 1:

Average throughput: 0.82 Mbit/s

95th percentile per-packet one-way delay: 235.842 ms

Loss rate: 0.10%

-- Flow 2:

Average throughput: 0.51 Mbit/s

95th percentile per-packet one-way delay: 334.102 ms

Loss rate: 0.00%

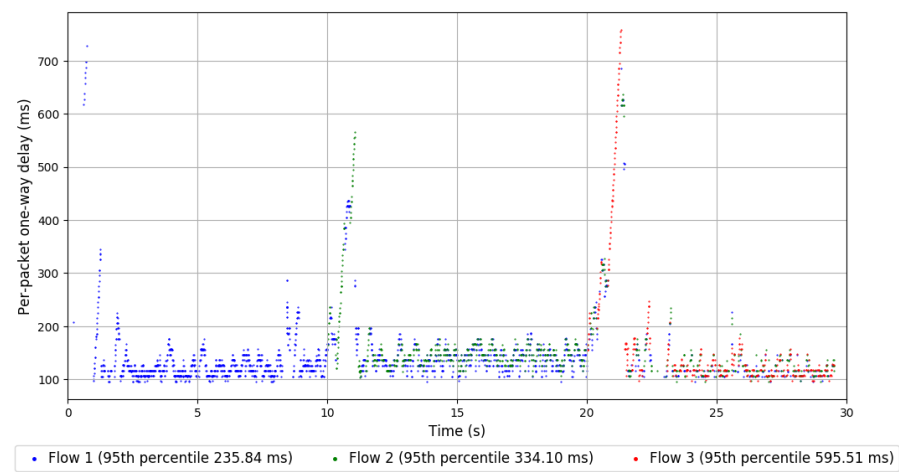
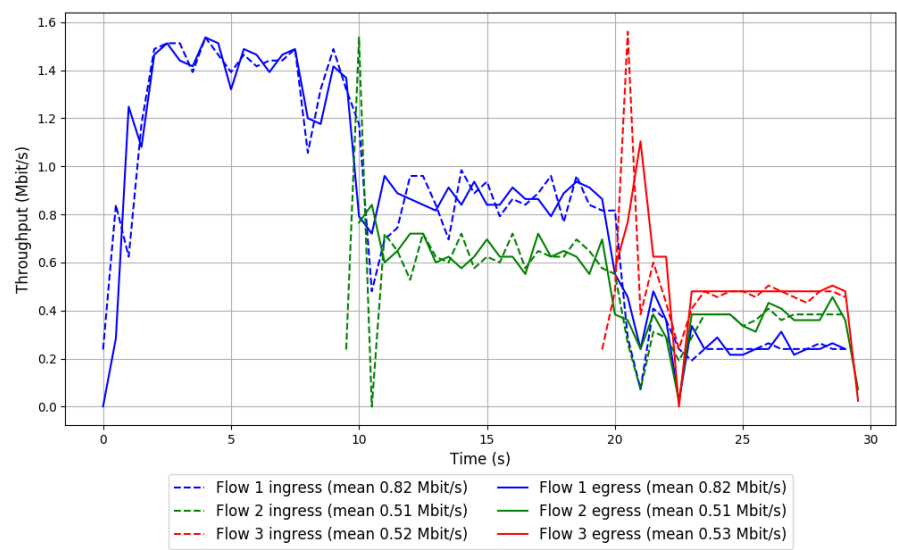
-- Flow 3:

Average throughput: 0.53 Mbit/s

95th percentile per-packet one-way delay: 595.511 ms

Loss rate: 0.00%

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



Run 2: Statistics of Indigo-1-32

Start at: 2018-03-20 09:45:45

End at: 2018-03-20 09:46:15

Local clock offset: -6.041 ms

Remote clock offset: 6.867 ms

Below is generated by plot.py at 2018-03-20 10:31:00

Datalink statistics

-- Total of 3 flows:

Average throughput: 1.26 Mbit/s

95th percentile per-packet one-way delay: 311.055 ms

Loss rate: 0.10%

-- Flow 1:

Average throughput: 0.74 Mbit/s

95th percentile per-packet one-way delay: 232.587 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 0.58 Mbit/s

95th percentile per-packet one-way delay: 381.306 ms

Loss rate: 0.32%

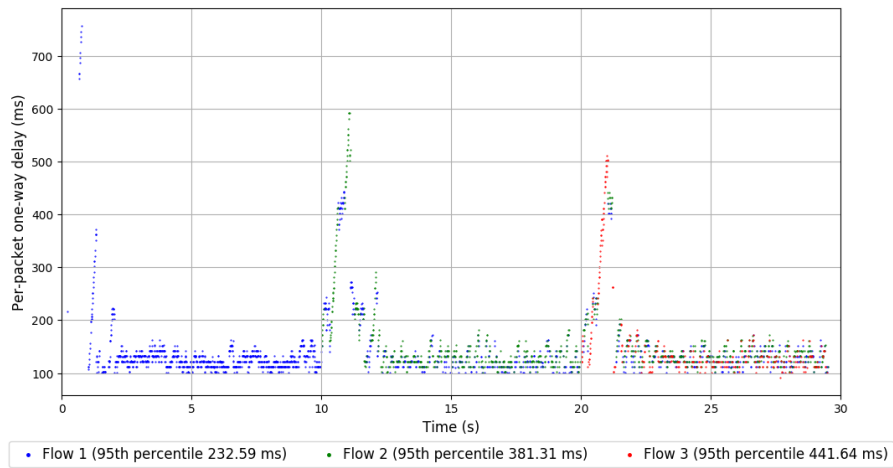
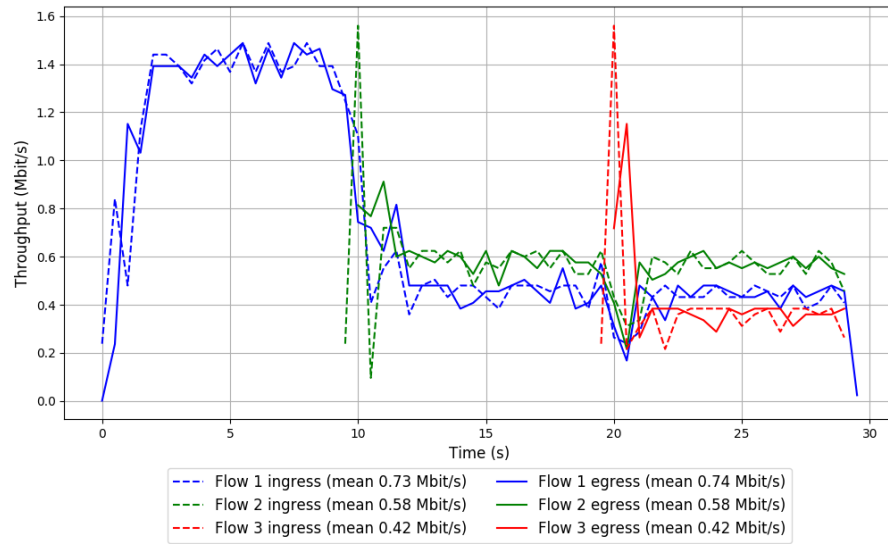
-- Flow 3:

Average throughput: 0.42 Mbit/s

95th percentile per-packet one-way delay: 441.645 ms

Loss rate: 0.00%

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



Run 3: Statistics of Indigo-1-32

Start at: 2018-03-20 10:08:27

End at: 2018-03-20 10:08:57

Local clock offset: -6.325 ms

Remote clock offset: 9.342 ms

Below is generated by plot.py at 2018-03-20 10:31:00

Datalink statistics

-- Total of 3 flows:

Average throughput: 1.32 Mbit/s

95th percentile per-packet one-way delay: 375.484 ms

Loss rate: 0.19%

-- Flow 1:

Average throughput: 0.80 Mbit/s

95th percentile per-packet one-way delay: 285.711 ms

Loss rate: 0.05%

-- Flow 2:

Average throughput: 0.49 Mbit/s

95th percentile per-packet one-way delay: 335.842 ms

Loss rate: 0.25%

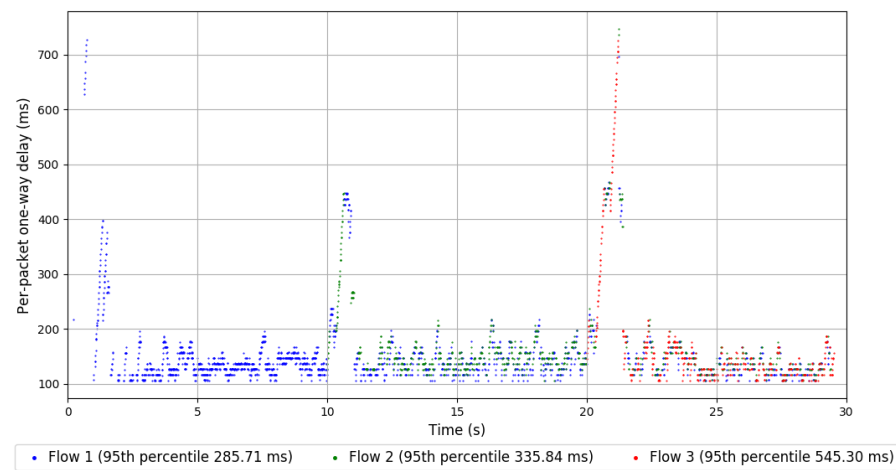
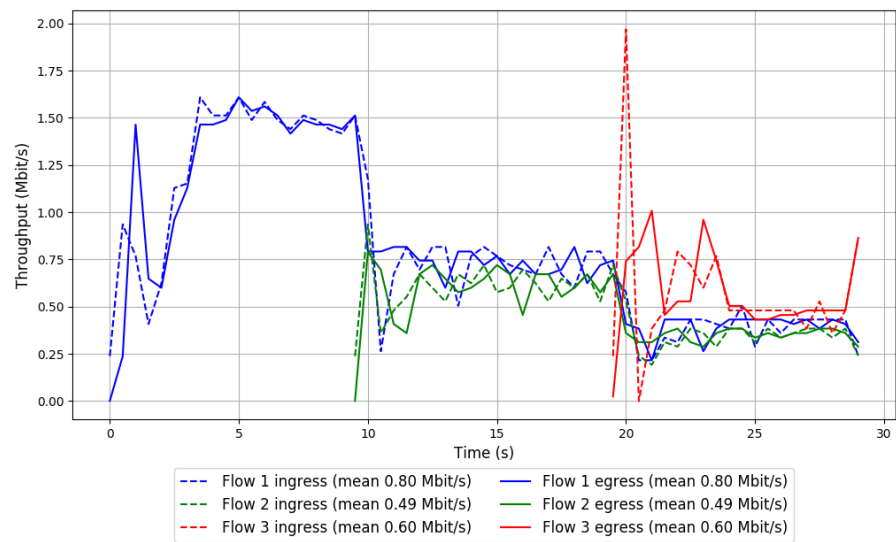
-- Flow 3:

Average throughput: 0.60 Mbit/s

95th percentile per-packet one-way delay: 545.302 ms

Loss rate: 0.63%

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



Run 1: Statistics of Vivace-latency

Start at: 2018-03-20 09:21:51

End at: 2018-03-20 09:22:21

Local clock offset: -5.924 ms

Remote clock offset: 6.505 ms

Below is generated by plot.py at 2018-03-20 10:31:00

Datalink statistics

-- Total of 3 flows:

Average throughput: 1.46 Mbit/s

95th percentile per-packet one-way delay: 5078.636 ms

Loss rate: 39.33%

-- Flow 1:

Average throughput: 0.89 Mbit/s

95th percentile per-packet one-way delay: 5062.197 ms

Loss rate: 33.34%

-- Flow 2:

Average throughput: 0.89 Mbit/s

95th percentile per-packet one-way delay: 5107.613 ms

Loss rate: 46.68%

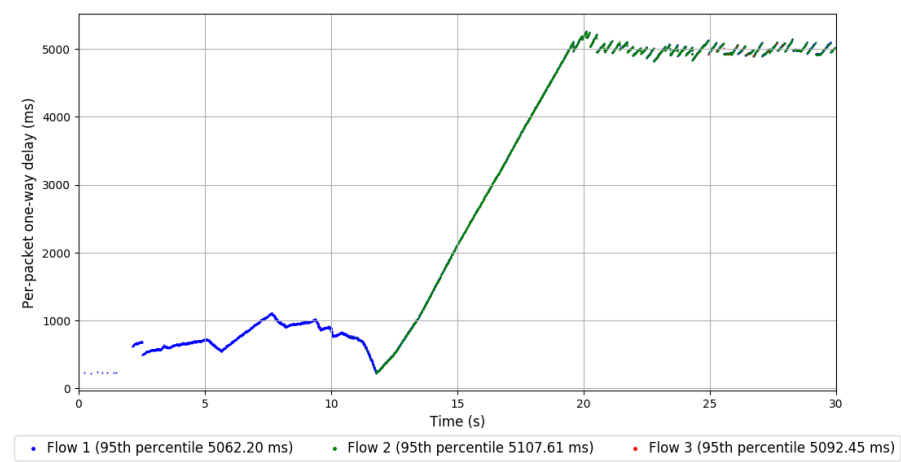
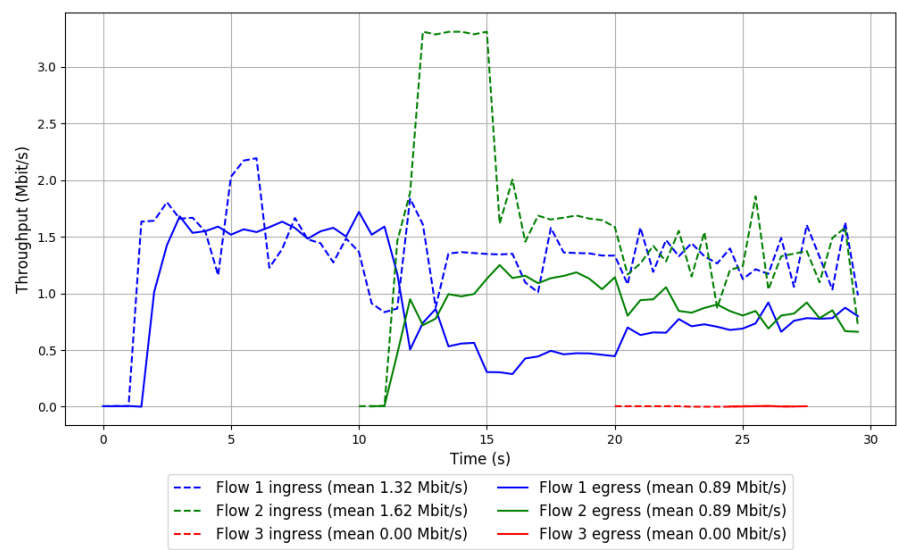
-- Flow 3:

Average throughput: 0.00 Mbit/s

95th percentile per-packet one-way delay: 5092.448 ms

Loss rate: 49.43%

Run 1: Report of Vivace-latency — Data Link

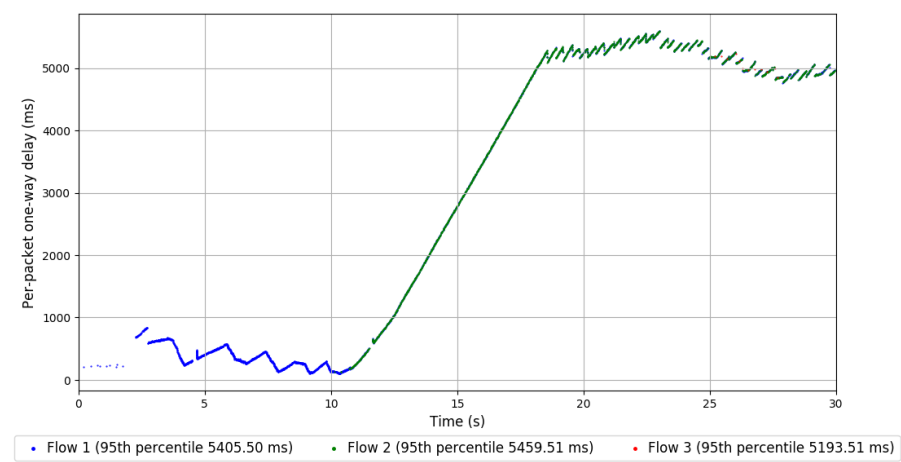
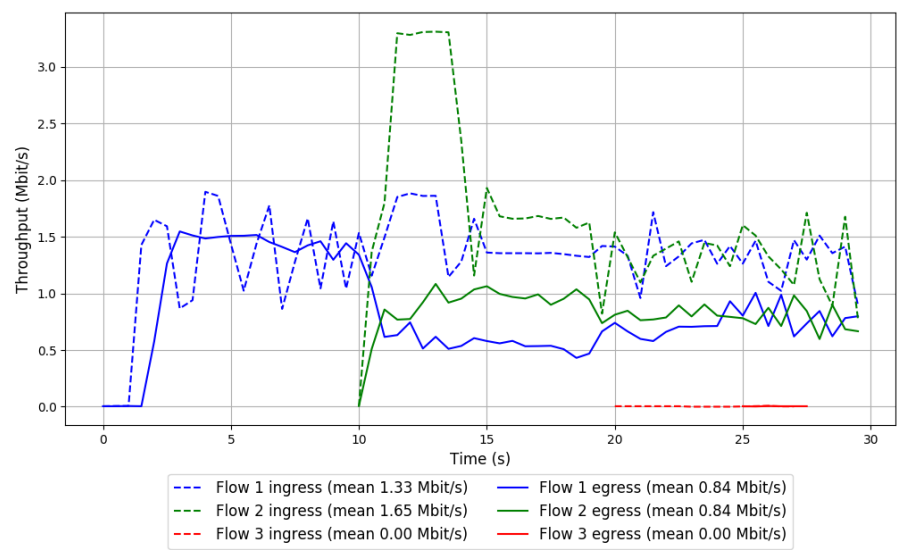


Run 2: Statistics of Vivace-latency

Start at: 2018-03-20 09:44:30
End at: 2018-03-20 09:45:00
Local clock offset: -6.012 ms
Remote clock offset: 6.777 ms

Below is generated by plot.py at 2018-03-20 10:31:00
Datalink statistics
-- Total of 3 flows:
Average throughput: 1.40 Mbit/s
95th percentile per-packet one-way delay: 5435.928 ms
Loss rate: 42.51%
-- Flow 1:
Average throughput: 0.84 Mbit/s
95th percentile per-packet one-way delay: 5405.500 ms
Loss rate: 37.08%
-- Flow 2:
Average throughput: 0.84 Mbit/s
95th percentile per-packet one-way delay: 5459.506 ms
Loss rate: 49.06%
-- Flow 3:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 5193.512 ms
Loss rate: 44.83%

Run 2: Report of Vivace-latency — Data Link



Run 3: Statistics of Vivace-latency

Start at: 2018-03-20 10:07:11

End at: 2018-03-20 10:07:41

Local clock offset: -6.261 ms

Remote clock offset: 9.313 ms

Below is generated by plot.py at 2018-03-20 10:31:00

Datalink statistics

-- Total of 3 flows:

Average throughput: 1.39 Mbit/s

95th percentile per-packet one-way delay: 5271.595 ms

Loss rate: 41.63%

-- Flow 1:

Average throughput: 0.79 Mbit/s

95th percentile per-packet one-way delay: 5229.893 ms

Loss rate: 37.45%

-- Flow 2:

Average throughput: 0.90 Mbit/s

95th percentile per-packet one-way delay: 5320.569 ms

Loss rate: 46.33%

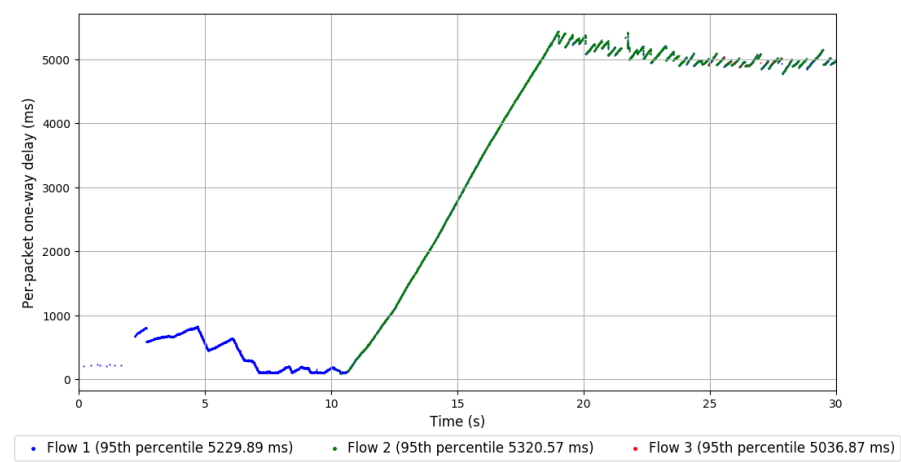
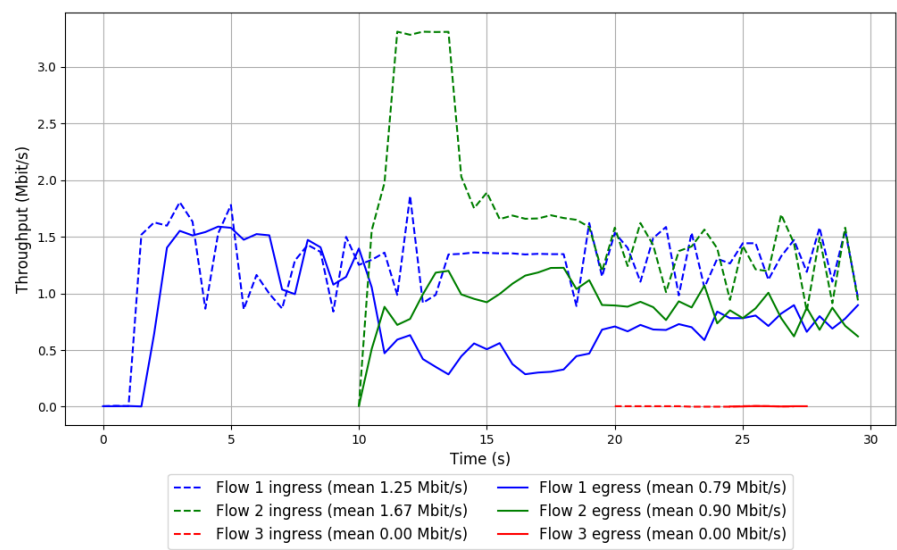
-- Flow 3:

Average throughput: 0.00 Mbit/s

95th percentile per-packet one-way delay: 5036.874 ms

Loss rate: 44.83%

Run 3: Report of Vivace-latency — Data Link

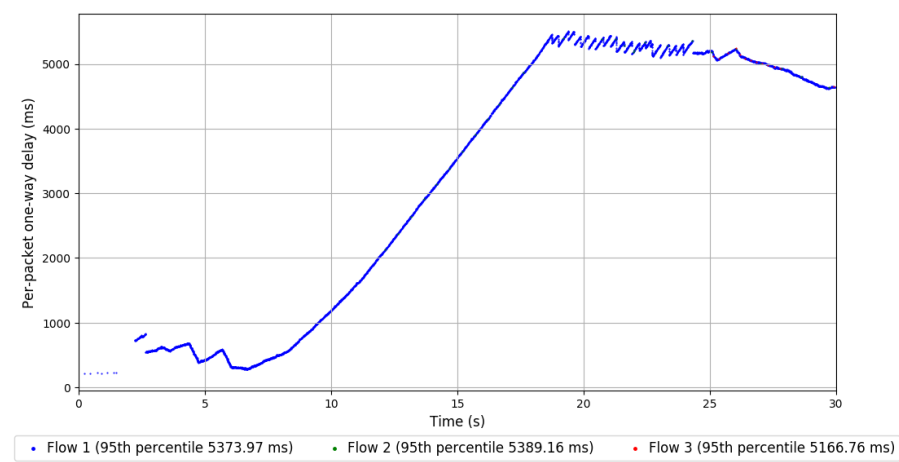
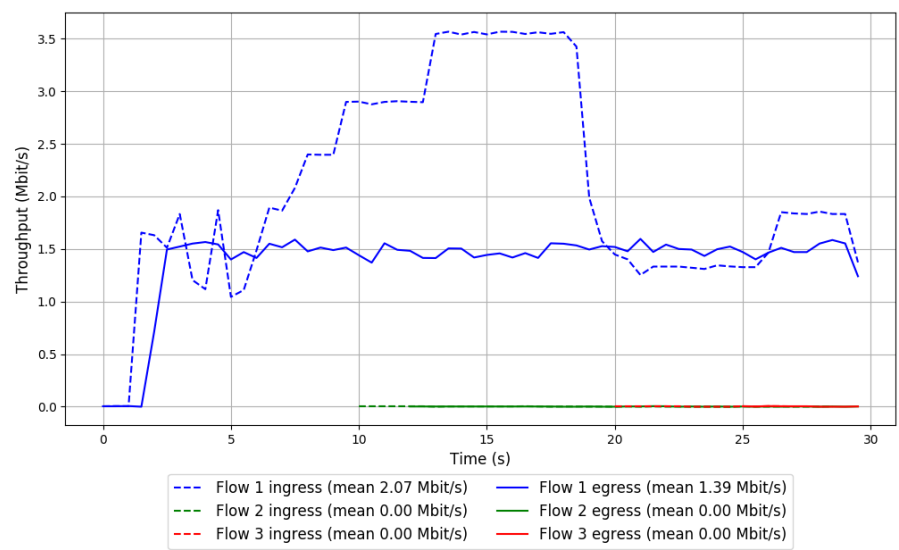


Run 1: Statistics of Vivace-loss

Start at: 2018-03-20 09:33:10
End at: 2018-03-20 09:33:40
Local clock offset: -6.019 ms
Remote clock offset: 11.374 ms

Below is generated by plot.py at 2018-03-20 10:31:00
Datalink statistics
-- Total of 3 flows:
Average throughput: 1.39 Mbit/s
95th percentile per-packet one-way delay: 5374.370 ms
Loss rate: 33.31%
-- Flow 1:
Average throughput: 1.39 Mbit/s
95th percentile per-packet one-way delay: 5373.970 ms
Loss rate: 33.32%
-- Flow 2:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 5389.162 ms
Loss rate: 18.85%
-- Flow 3:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 5166.761 ms
Loss rate: 39.22%

Run 1: Report of Vivace-loss — Data Link

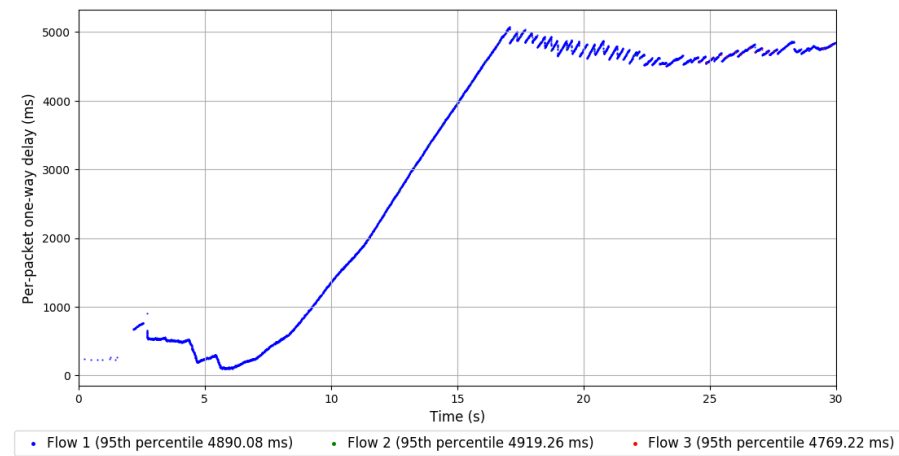
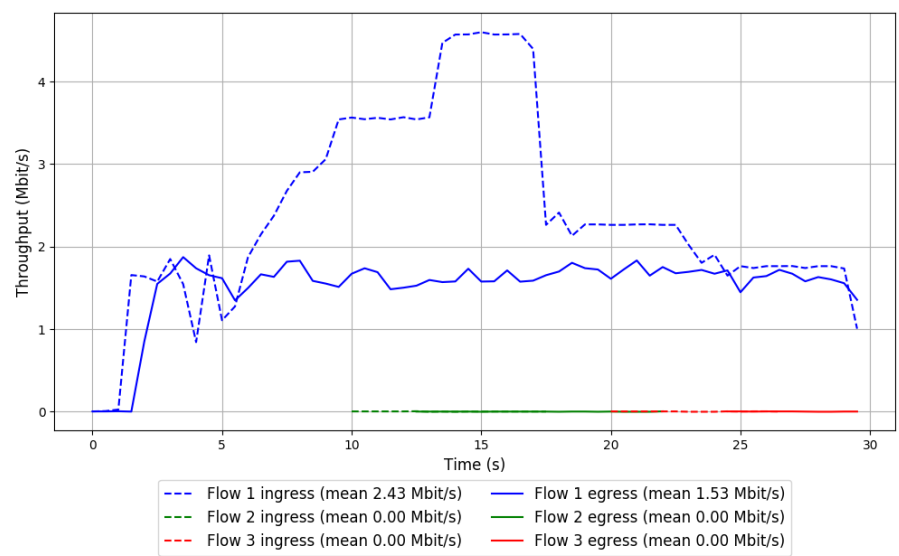


Run 2: Statistics of Vivace-loss

Start at: 2018-03-20 09:55:50
End at: 2018-03-20 09:56:20
Local clock offset: -6.204 ms
Remote clock offset: 10.881 ms

Below is generated by plot.py at 2018-03-20 10:31:00
Datalink statistics
-- Total of 3 flows:
Average throughput: 1.53 Mbit/s
95th percentile per-packet one-way delay: 4890.080 ms
Loss rate: 37.31%
-- Flow 1:
Average throughput: 1.53 Mbit/s
95th percentile per-packet one-way delay: 4890.080 ms
Loss rate: 37.31%
-- Flow 2:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 4919.264 ms
Loss rate: 29.26%
-- Flow 3:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 4769.221 ms
Loss rate: 33.62%

Run 2: Report of Vivace-loss — Data Link



Run 3: Statistics of Vivace-loss

Start at: 2018-03-20 10:18:31

End at: 2018-03-20 10:19:01

Local clock offset: -6.298 ms

Remote clock offset: 9.482 ms

Below is generated by plot.py at 2018-03-20 10:31:00

Datalink statistics

-- Total of 3 flows:

Average throughput: 1.46 Mbit/s

95th percentile per-packet one-way delay: 5243.823 ms

Loss rate: 29.18%

-- Flow 1:

Average throughput: 1.46 Mbit/s

95th percentile per-packet one-way delay: 5243.823 ms

Loss rate: 29.18%

-- Flow 2:

Average throughput: 0.00 Mbit/s

95th percentile per-packet one-way delay: 5172.140 ms

Loss rate: 13.83%

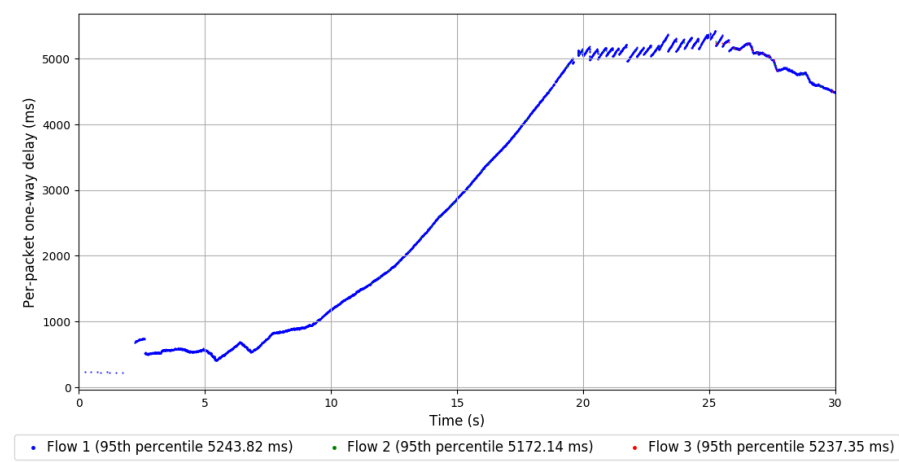
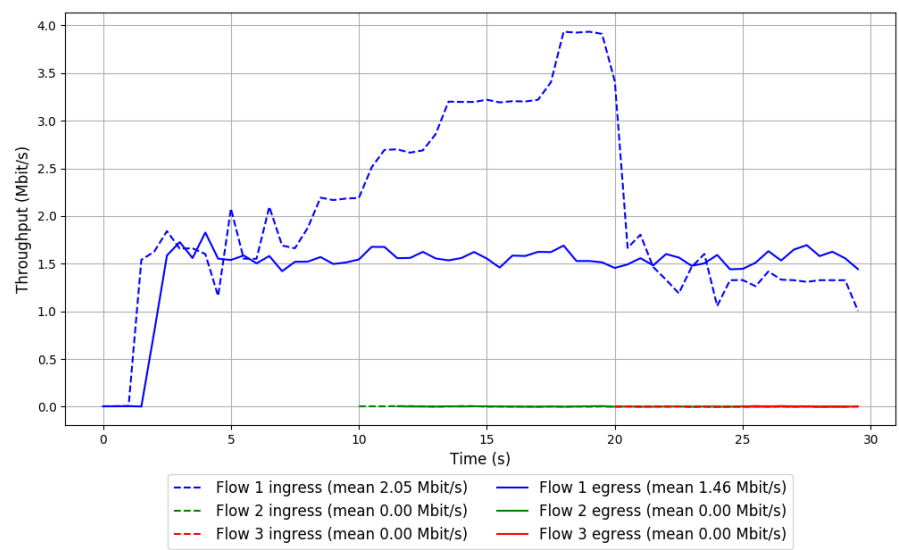
-- Flow 3:

Average throughput: 0.00 Mbit/s

95th percentile per-packet one-way delay: 5237.348 ms

Loss rate: 39.22%

Run 3: Report of Vivace-loss — Data Link

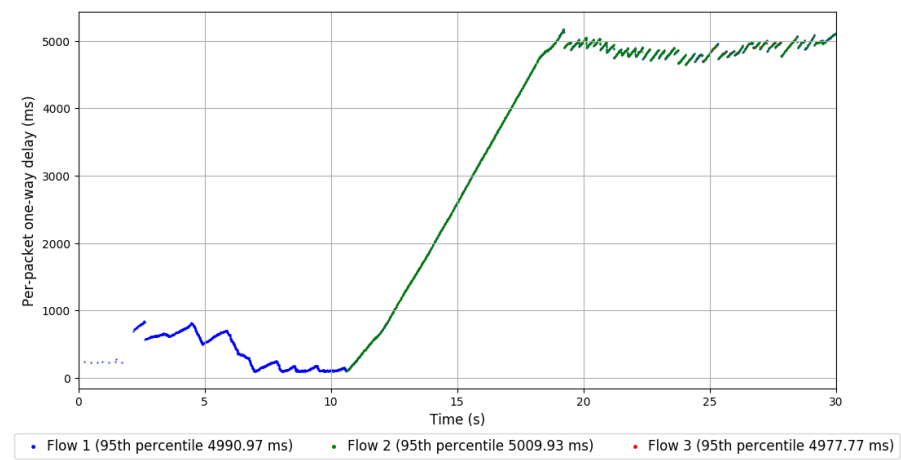
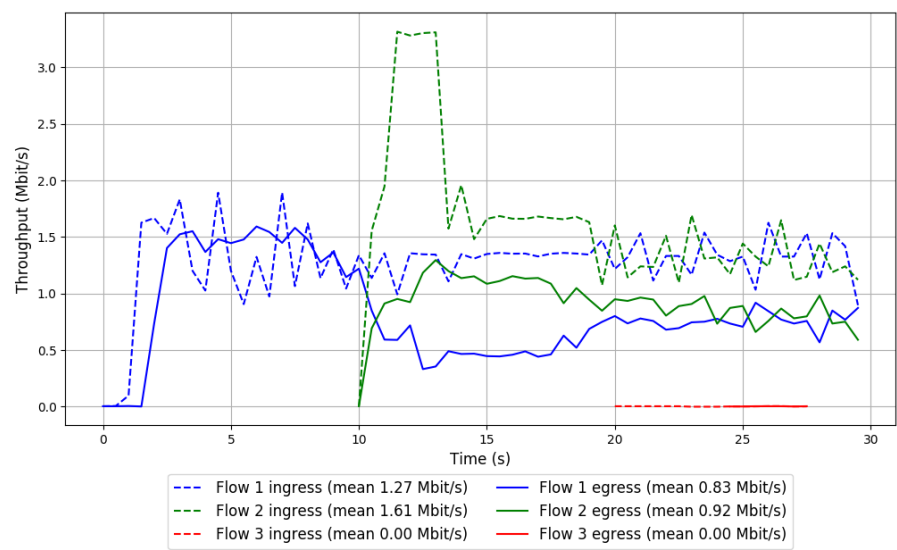


Run 1: Statistics of Vivace-LTE

Start at: 2018-03-20 09:24:22
End at: 2018-03-20 09:24:52
Local clock offset: -5.934 ms
Remote clock offset: 11.211 ms

Below is generated by plot.py at 2018-03-20 10:31:00
Datalink statistics
-- Total of 3 flows:
Average throughput: 1.44 Mbit/s
95th percentile per-packet one-way delay: 4998.710 ms
Loss rate: 38.73%
-- Flow 1:
Average throughput: 0.83 Mbit/s
95th percentile per-packet one-way delay: 4990.968 ms
Loss rate: 35.42%
-- Flow 2:
Average throughput: 0.92 Mbit/s
95th percentile per-packet one-way delay: 5009.930 ms
Loss rate: 42.65%
-- Flow 3:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 4977.767 ms
Loss rate: 52.11%

Run 1: Report of Vivace-LTE — Data Link



Run 2: Statistics of Vivace-LTE

Start at: 2018-03-20 09:47:01

End at: 2018-03-20 09:47:31

Local clock offset: -6.072 ms

Remote clock offset: 6.807 ms

Below is generated by plot.py at 2018-03-20 10:31:00

Datalink statistics

-- Total of 3 flows:

Average throughput: 1.36 Mbit/s

95th percentile per-packet one-way delay: 5478.099 ms

Loss rate: 42.34%

-- Flow 1:

Average throughput: 0.79 Mbit/s

95th percentile per-packet one-way delay: 5461.487 ms

Loss rate: 37.93%

-- Flow 2:

Average throughput: 0.85 Mbit/s

95th percentile per-packet one-way delay: 5494.569 ms

Loss rate: 47.54%

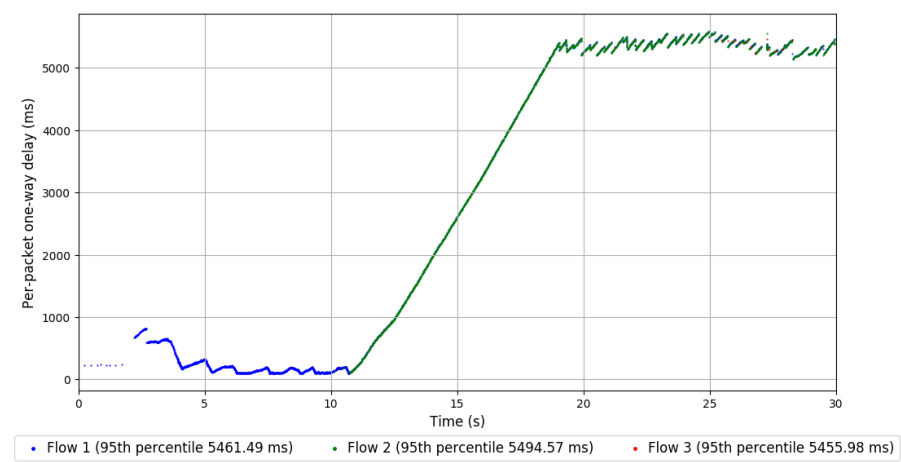
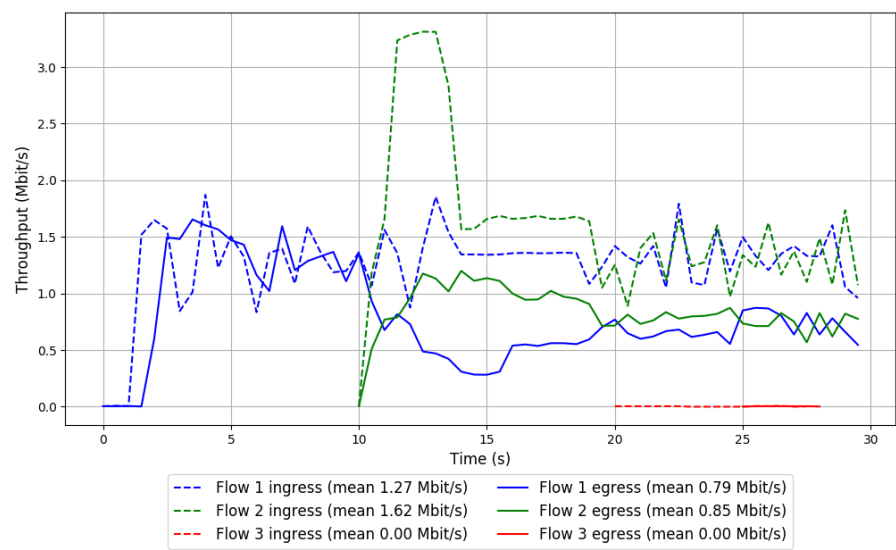
-- Flow 3:

Average throughput: 0.00 Mbit/s

95th percentile per-packet one-way delay: 5455.976 ms

Loss rate: 44.83%

Run 2: Report of Vivace-LTE — Data Link



Run 3: Statistics of Vivace-LTE

Start at: 2018-03-20 10:09:42

End at: 2018-03-20 10:10:12

Local clock offset: -6.351 ms

Remote clock offset: 9.94 ms

Below is generated by plot.py at 2018-03-20 10:31:00

Datalink statistics

-- Total of 3 flows:

Average throughput: 1.47 Mbit/s

95th percentile per-packet one-way delay: 5565.352 ms

Loss rate: 39.90%

-- Flow 1:

Average throughput: 0.88 Mbit/s

95th percentile per-packet one-way delay: 5543.762 ms

Loss rate: 35.39%

-- Flow 2:

Average throughput: 0.89 Mbit/s

95th percentile per-packet one-way delay: 5583.814 ms

Loss rate: 45.52%

-- Flow 3:

Average throughput: 0.00 Mbit/s

95th percentile per-packet one-way delay: 5426.550 ms

Loss rate: 49.43%

Run 3: Report of Vivace-LTE — Data Link

