

Pantheon Report

Generated at 2018-04-03 04:01:29 (UTC).

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

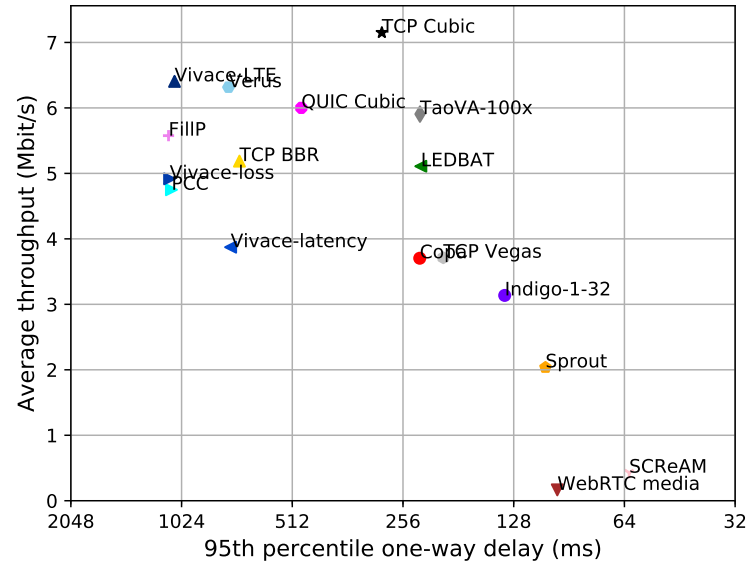
Tested BBR with qdisc of Fair Queuing (**fq**), and other schemes with the default Linux qdisc (**pfifo_fast**).

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

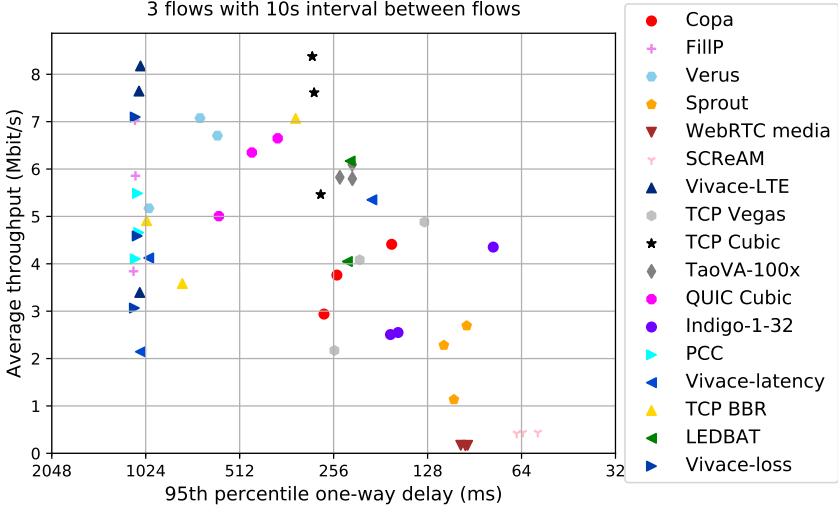
Git summary:

```
branch: master @ eb420b5be9bafccd22cf68b99ff5a2000462fc59
third_party/calibrated_koho @ 3cb73c0d1c0322cdfae446ea37a522e53227db50
  M datagrump/sender.cc
third_party/fillp @ 11f8c46a2bf1dc797253db7e8ca04076272b2a44
third_party/genericCC @ 9249eea3238475c4d8cca1443d28df70bff6c4a2
third_party/indigo @ a9b2060d39e4da2e8987e893e3eca2a6c7cd0ab9
third_party/indigo-1-layer-128-unit @ 3ae9e4ef4230db7484501f82ce8b377695f2f66d
third_party/indigo-1-layer-32-unit @ 2601c92e4aa9d58d38dc4dfe0ecd9c077e64d
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 @ f271183af822eee5d0031620f4bebf38aedc5581
```

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



test from AWS India 1 Ethernet to India 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	3.31	2.00	1.75	692.55	751.56	543.94	2.76	5.17	3.08
TCP Cubic	3	4.46	2.70	2.76	282.24	309.24	315.57	0.51	0.77	1.59
LEDBAT	2	3.40	2.25	0.67	211.59	249.42	286.44	0.69	0.48	1.91
PCC	3	2.72	2.41	1.35	1081.14	1094.34	1100.04	22.01	34.90	65.33
QUIC Cubic	3	4.13	1.83	2.08	424.61	525.55	616.85	0.97	2.03	5.57
SCReAM	3	0.21	0.22	0.22	58.66	62.47	61.88	0.16	0.33	0.35
WebRTC media	3	0.06	0.06	0.05	105.23	85.35	109.03	0.04	0.05	0.08
Sprout	3	1.06	0.99	0.97	109.17	95.31	96.92	0.14	0.38	0.06
TaoVA-100x	3	3.38	2.65	2.31	202.09	250.44	285.98	0.64	1.56	2.30
TCP Vegas	3	1.81	1.80	2.16	182.36	190.59	224.08	0.48	0.42	0.87
Verus	3	4.32	2.42	1.26	755.70	786.71	665.19	2.77	3.50	10.73
Copa	3	2.07	1.70	1.55	190.20	288.82	267.89	0.30	0.46	1.06
FillP	3	2.97	3.28	1.93	1106.56	1112.52	1119.28	44.98	60.46	70.32
Indigo-1-32	3	1.73	1.39	1.48	110.28	156.33	162.56	0.24	0.33	0.65
Vivace-latency	3	2.27	1.92	1.00	475.88	777.93	633.43	13.92	24.60	11.87
Vivace-loss	3	3.58	1.58	1.08	1105.32	1097.45	1095.09	44.25	36.17	40.57
Vivace-LTE	3	4.85	1.43	2.03	1064.21	1077.45	939.93	11.74	21.53	20.20

Run 1: Statistics of TCP BBR

Start at: 2018-04-03 03:10:15

End at: 2018-04-03 03:10:45

Local clock offset: 4.394 ms

Remote clock offset: 5.519 ms

Below is generated by plot.py at 2018-04-03 04:00:32

Datalink statistics

-- Total of 3 flows:

Average throughput: 7.07 Mbit/s

95th percentile per-packet one-way delay: 338.917 ms

Loss rate: 0.82%

-- Flow 1:

Average throughput: 4.14 Mbit/s

95th percentile per-packet one-way delay: 330.025 ms

Loss rate: 0.51%

-- Flow 2:

Average throughput: 2.89 Mbit/s

95th percentile per-packet one-way delay: 334.074 ms

Loss rate: 0.99%

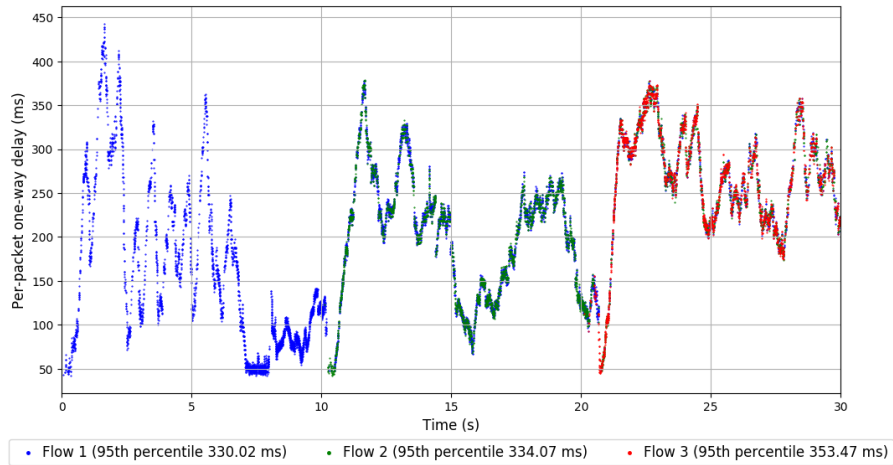
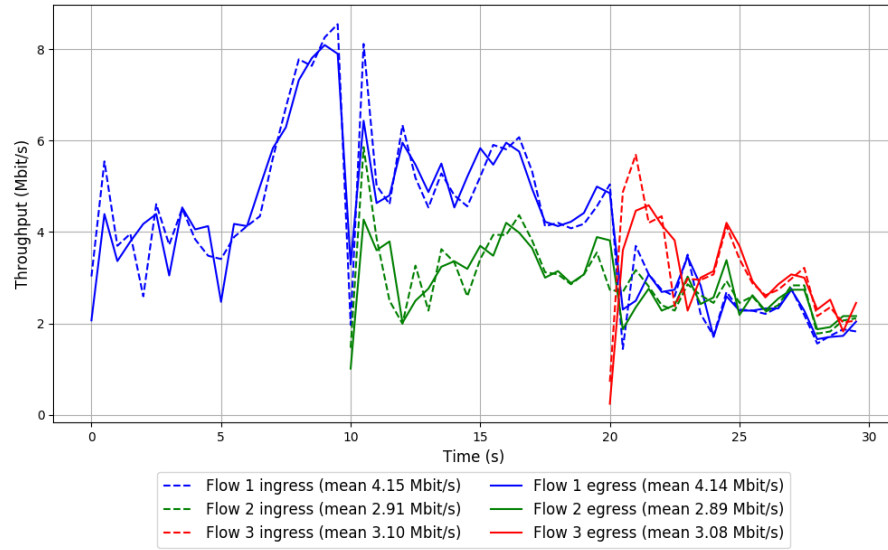
-- Flow 3:

Average throughput: 3.08 Mbit/s

95th percentile per-packet one-way delay: 353.468 ms

Loss rate: 1.71%

Run 1: Report of TCP BBR — Data Link



Run 2: Statistics of TCP BBR

Start at: 2018-04-03 03:30:05

End at: 2018-04-03 03:30:35

Local clock offset: 0.328 ms

Remote clock offset: 7.185 ms

Below is generated by plot.py at 2018-04-03 04:00:32

Datalink statistics

-- Total of 3 flows:

Average throughput: 4.91 Mbit/s

95th percentile per-packet one-way delay: 1017.737 ms

Loss rate: 6.15%

-- Flow 1:

Average throughput: 3.06 Mbit/s

95th percentile per-packet one-way delay: 968.705 ms

Loss rate: 5.61%

-- Flow 2:

Average throughput: 2.23 Mbit/s

95th percentile per-packet one-way delay: 1046.450 ms

Loss rate: 7.88%

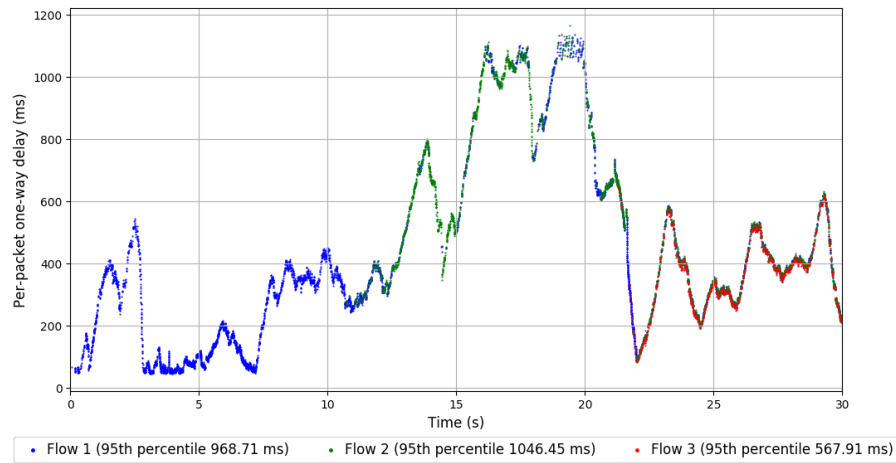
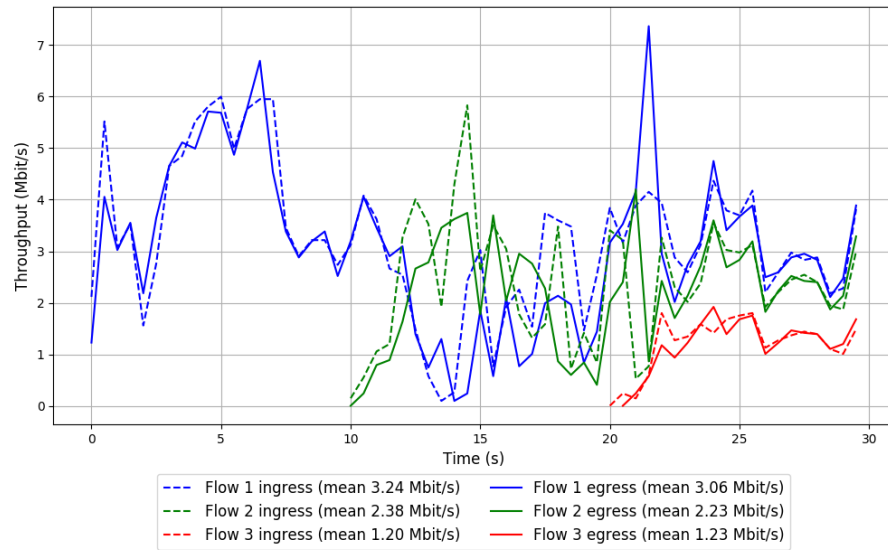
-- Flow 3:

Average throughput: 1.23 Mbit/s

95th percentile per-packet one-way delay: 567.907 ms

Loss rate: 3.62%

Run 2: Report of TCP BBR — Data Link

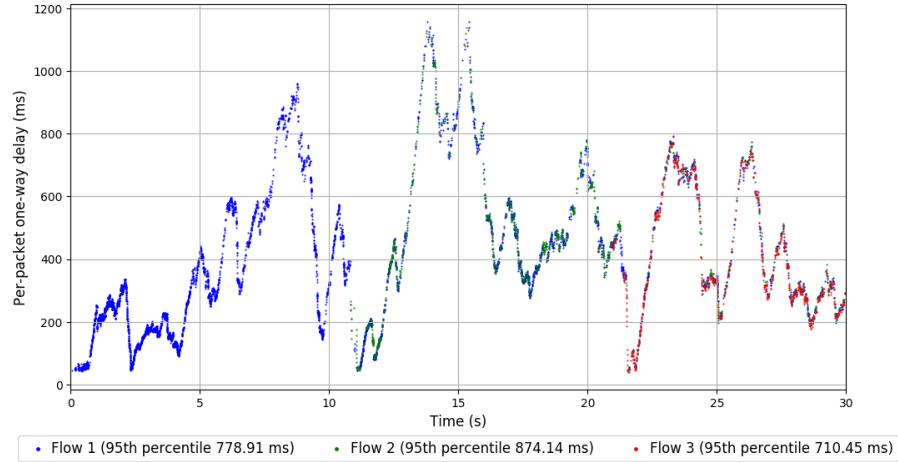
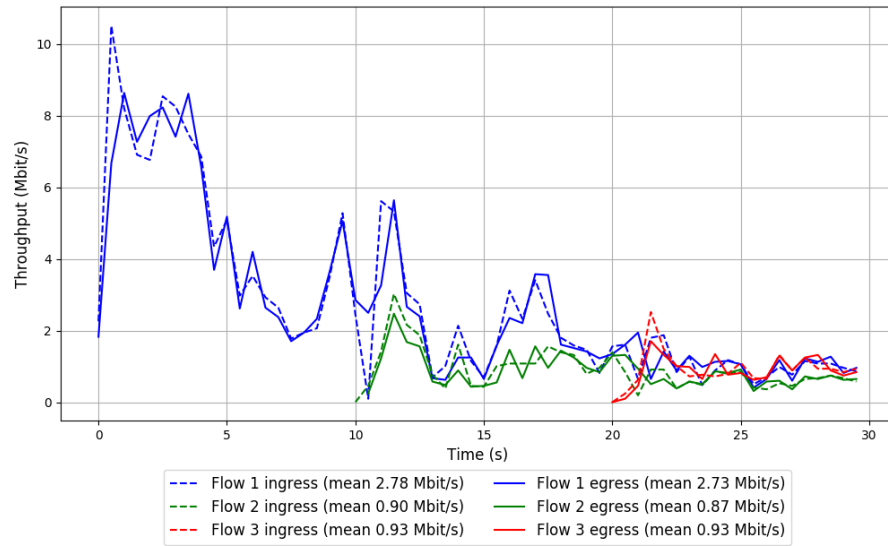


Run 3: Statistics of TCP BBR

Start at: 2018-04-03 03:49:52
End at: 2018-04-03 03:50:22
Local clock offset: 4.46 ms
Remote clock offset: -1.065 ms

Below is generated by plot.py at 2018-04-03 04:00:32
Datalink statistics
-- Total of 3 flows:
Average throughput: 3.58 Mbit/s
95th percentile per-packet one-way delay: 781.400 ms
Loss rate: 3.03%
-- Flow 1:
Average throughput: 2.73 Mbit/s
95th percentile per-packet one-way delay: 778.915 ms
Loss rate: 2.15%
-- Flow 2:
Average throughput: 0.87 Mbit/s
95th percentile per-packet one-way delay: 874.145 ms
Loss rate: 6.65%
-- Flow 3:
Average throughput: 0.93 Mbit/s
95th percentile per-packet one-way delay: 710.453 ms
Loss rate: 3.91%

Run 3: Report of TCP BBR — Data Link



Run 1: Statistics of TCP Cubic

Start at: 2018-04-03 03:06:52

End at: 2018-04-03 03:07:22

Local clock offset: 1.648 ms

Remote clock offset: 5.976 ms

Below is generated by plot.py at 2018-04-03 04:00:33

Datalink statistics

-- Total of 3 flows:

Average throughput: 7.61 Mbit/s

95th percentile per-packet one-way delay: 295.536 ms

Loss rate: 0.77%

-- Flow 1:

Average throughput: 4.89 Mbit/s

95th percentile per-packet one-way delay: 295.285 ms

Loss rate: 0.58%

-- Flow 2:

Average throughput: 3.00 Mbit/s

95th percentile per-packet one-way delay: 305.665 ms

Loss rate: 1.08%

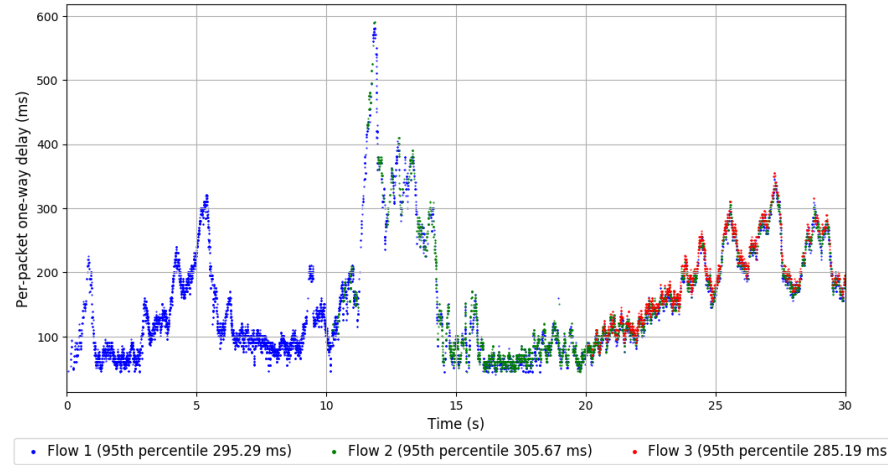
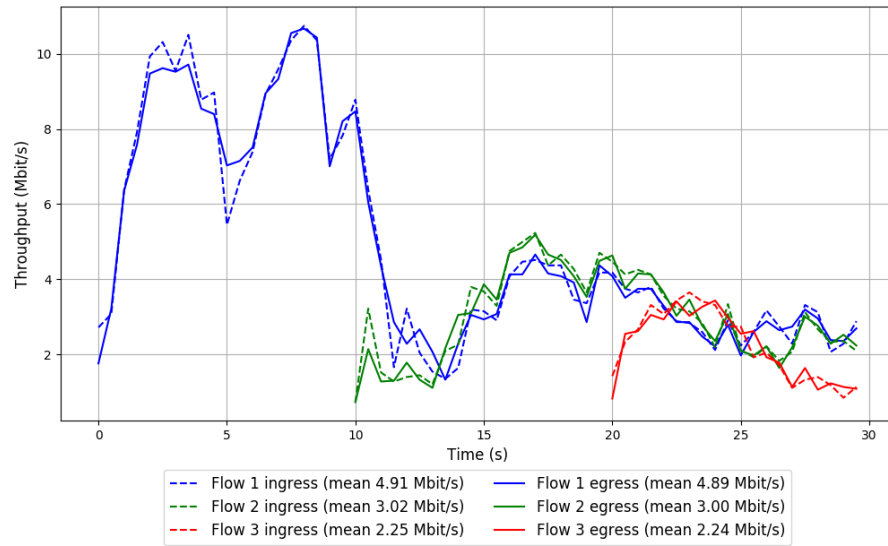
-- Flow 3:

Average throughput: 2.24 Mbit/s

95th percentile per-packet one-way delay: 285.192 ms

Loss rate: 1.18%

Run 1: Report of TCP Cubic — Data Link



Run 2: Statistics of TCP Cubic

Start at: 2018-04-03 03:26:46

End at: 2018-04-03 03:27:16

Local clock offset: 3.197 ms

Remote clock offset: 7.681 ms

Below is generated by plot.py at 2018-04-03 04:00:33

Datalink statistics

-- Total of 3 flows:

Average throughput: 8.38 Mbit/s

95th percentile per-packet one-way delay: 299.651 ms

Loss rate: 0.63%

-- Flow 1:

Average throughput: 5.04 Mbit/s

95th percentile per-packet one-way delay: 289.572 ms

Loss rate: 0.44%

-- Flow 2:

Average throughput: 2.97 Mbit/s

95th percentile per-packet one-way delay: 325.001 ms

Loss rate: 0.49%

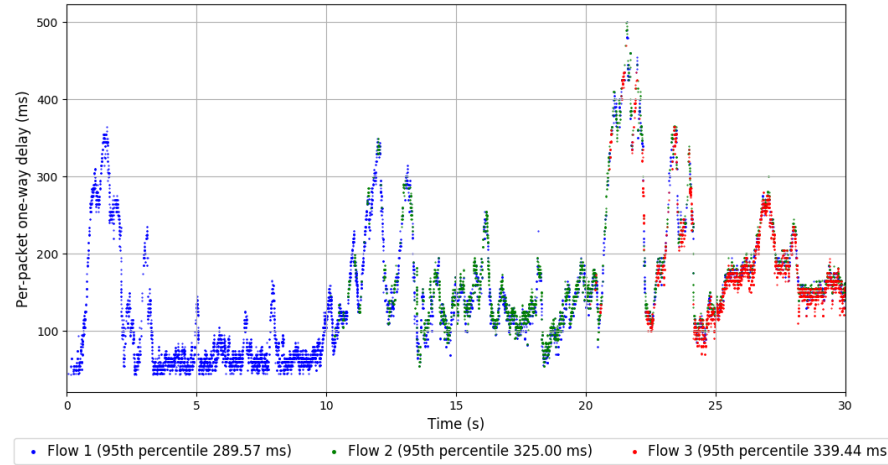
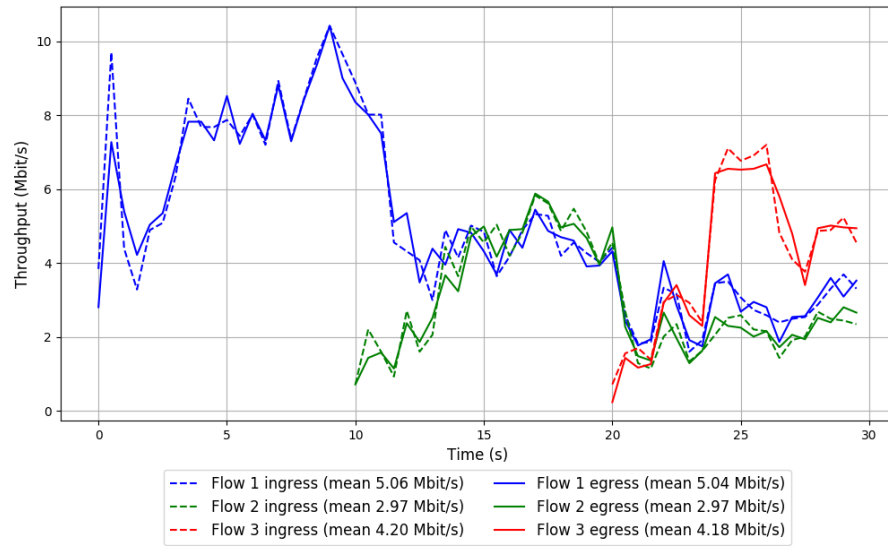
-- Flow 3:

Average throughput: 4.18 Mbit/s

95th percentile per-packet one-way delay: 339.435 ms

Loss rate: 1.56%

Run 2: Report of TCP Cubic — Data Link

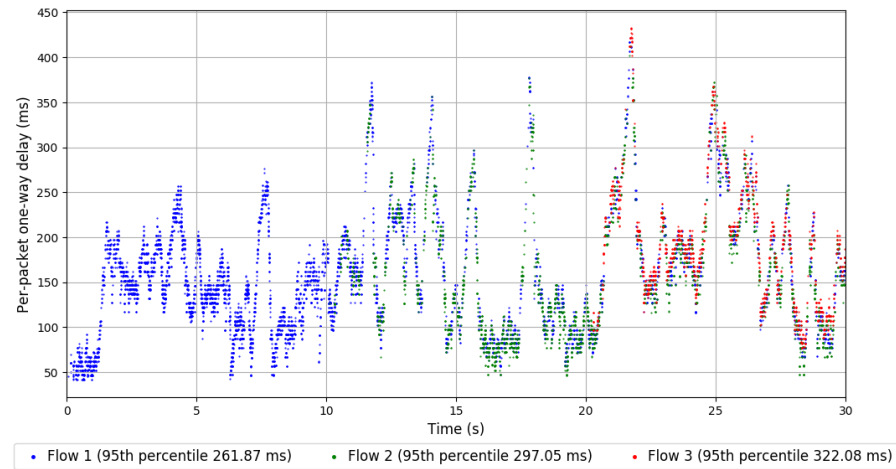
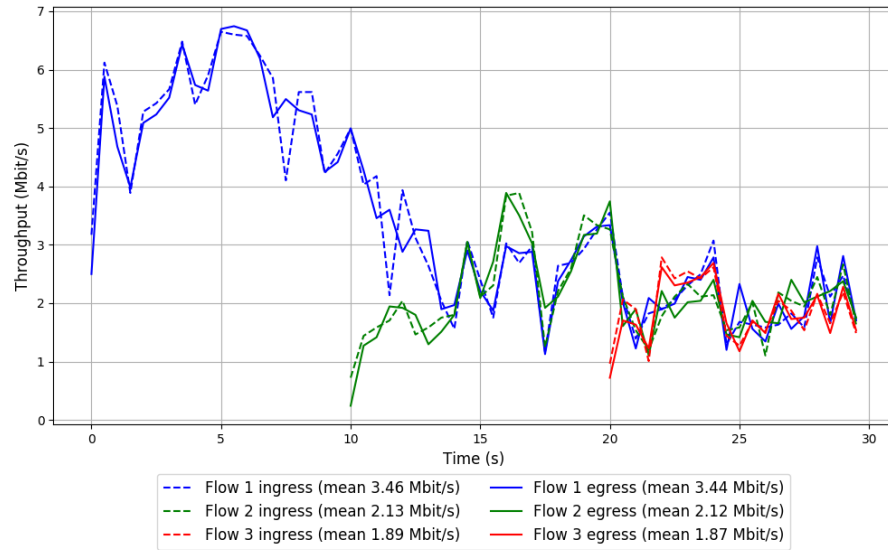


Run 3: Statistics of TCP Cubic

Start at: 2018-04-03 03:46:34
End at: 2018-04-03 03:47:04
Local clock offset: 1.652 ms
Remote clock offset: -0.633 ms

Below is generated by plot.py at 2018-04-03 04:00:33
Datalink statistics
-- Total of 3 flows:
Average throughput: 5.46 Mbit/s
95th percentile per-packet one-way delay: 281.597 ms
Loss rate: 0.74%
-- Flow 1:
Average throughput: 3.44 Mbit/s
95th percentile per-packet one-way delay: 261.873 ms
Loss rate: 0.51%
-- Flow 2:
Average throughput: 2.12 Mbit/s
95th percentile per-packet one-way delay: 297.049 ms
Loss rate: 0.73%
-- Flow 3:
Average throughput: 1.87 Mbit/s
95th percentile per-packet one-way delay: 322.078 ms
Loss rate: 2.04%

Run 3: Report of TCP Cubic — Data Link

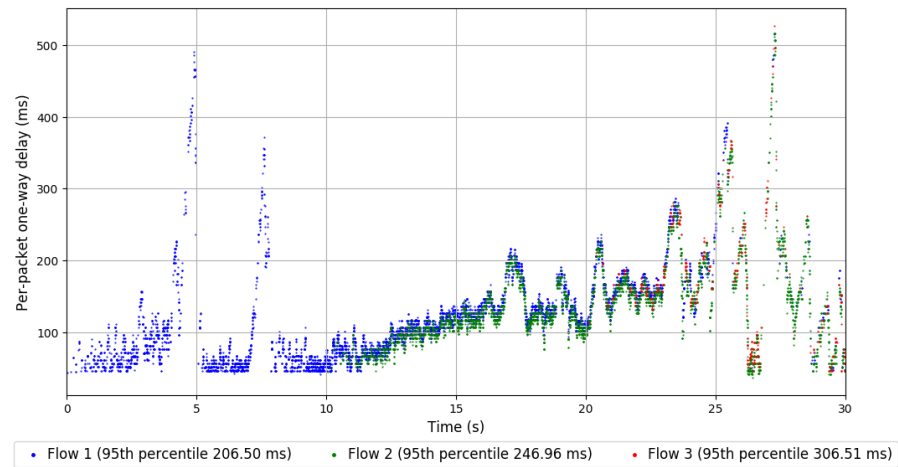
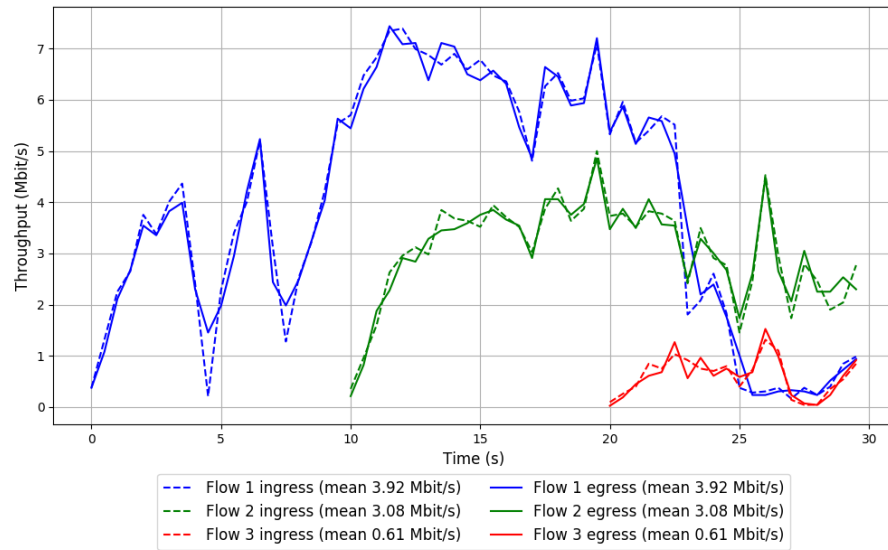


```
Run 1: Statistics of LEDBAT

Start at: 2018-04-03 03:03:34
End at: 2018-04-03 03:04:04
Local clock offset: 4.348 ms
Remote clock offset: 5.954 ms

# Below is generated by plot.py at 2018-04-03 04:00:33
# Datalink statistics
-- Total of 3 flows:
Average throughput: 6.17 Mbit/s
95th percentile per-packet one-way delay: 226.651 ms
Loss rate: 0.25%
-- Flow 1:
Average throughput: 3.92 Mbit/s
95th percentile per-packet one-way delay: 206.504 ms
Loss rate: 0.12%
-- Flow 2:
Average throughput: 3.08 Mbit/s
95th percentile per-packet one-way delay: 246.960 ms
Loss rate: 0.46%
-- Flow 3:
Average throughput: 0.61 Mbit/s
95th percentile per-packet one-way delay: 306.514 ms
Loss rate: 0.58%
```


Run 1: Report of LEDBAT — Data Link



Run 2: Statistics of LEDBAT

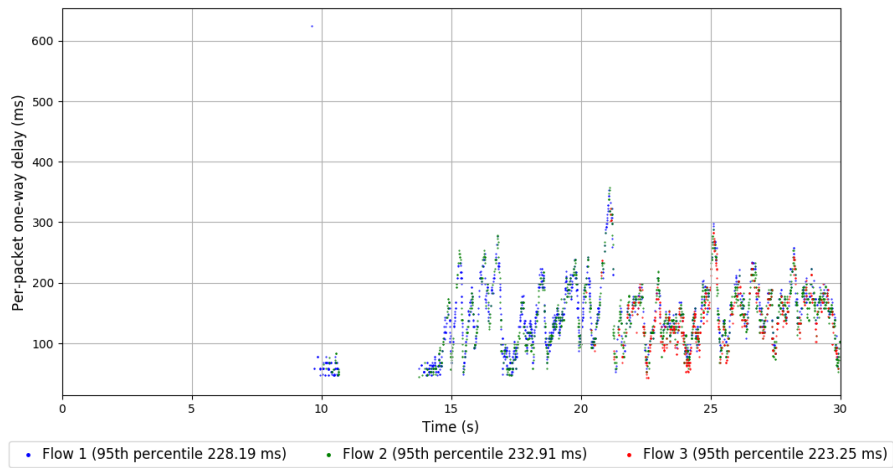
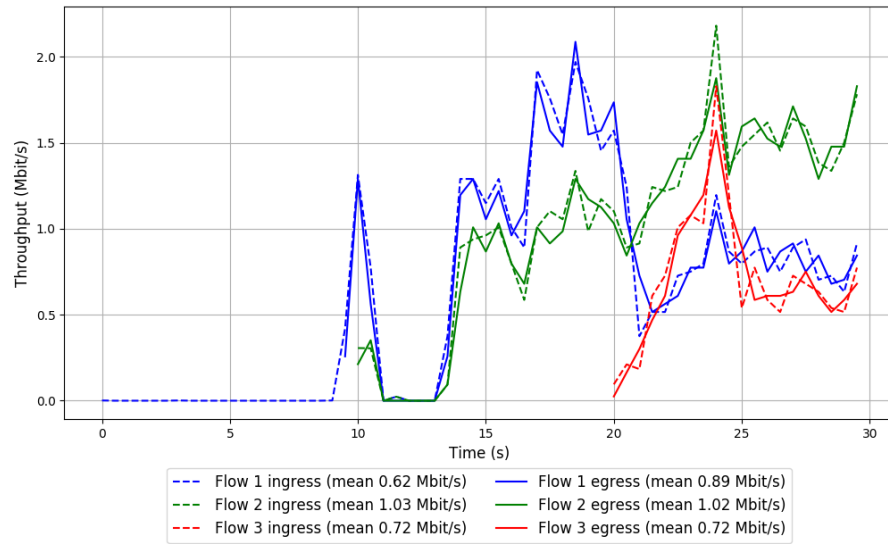
Start at: 2018-04-03 03:23:29

End at: 2018-04-03 03:23:59

Local clock offset: 2.859 ms

Remote clock offset: 6.308 ms

Run 2: Report of LEDBAT — Data Link



Run 3: Statistics of LEDBAT

Start at: 2018-04-03 03:43:17

End at: 2018-04-03 03:43:47

Local clock offset: 2.197 ms

Remote clock offset: 1.772 ms

Below is generated by plot.py at 2018-04-03 04:00:33

Datalink statistics

-- Total of 3 flows:

Average throughput: 4.05 Mbit/s

95th percentile per-packet one-way delay: 231.351 ms

Loss rate: 1.20%

-- Flow 1:

Average throughput: 2.87 Mbit/s

95th percentile per-packet one-way delay: 216.667 ms

Loss rate: 1.25%

-- Flow 2:

Average throughput: 1.43 Mbit/s

95th percentile per-packet one-way delay: 251.888 ms

Loss rate: 0.50%

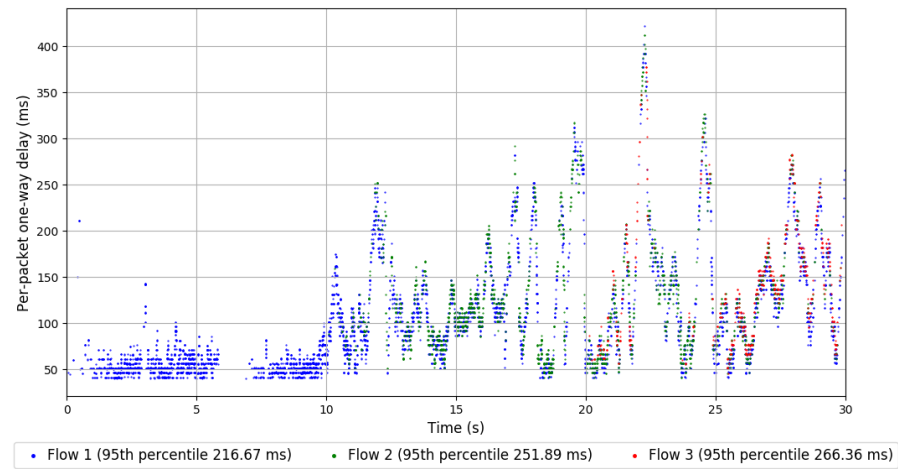
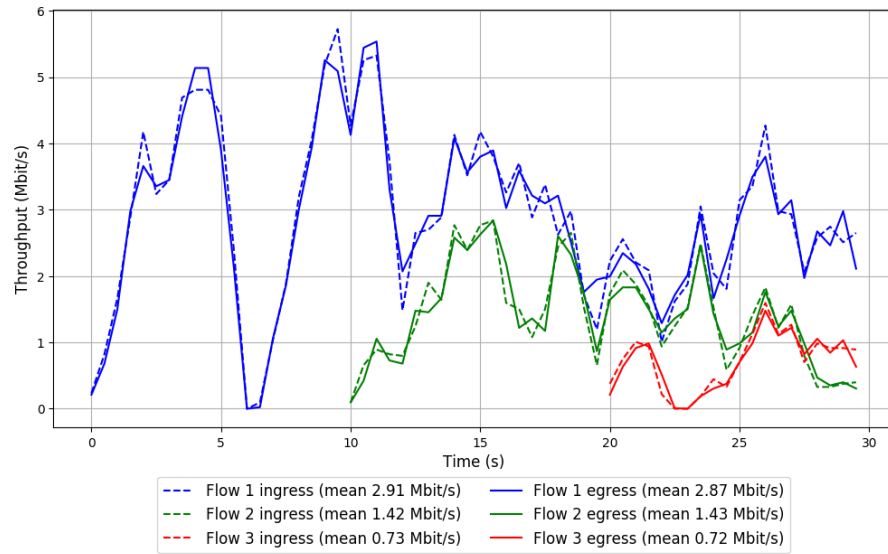
-- Flow 3:

Average throughput: 0.72 Mbit/s

95th percentile per-packet one-way delay: 266.358 ms

Loss rate: 3.24%

Run 3: Report of LEDBAT — Data Link

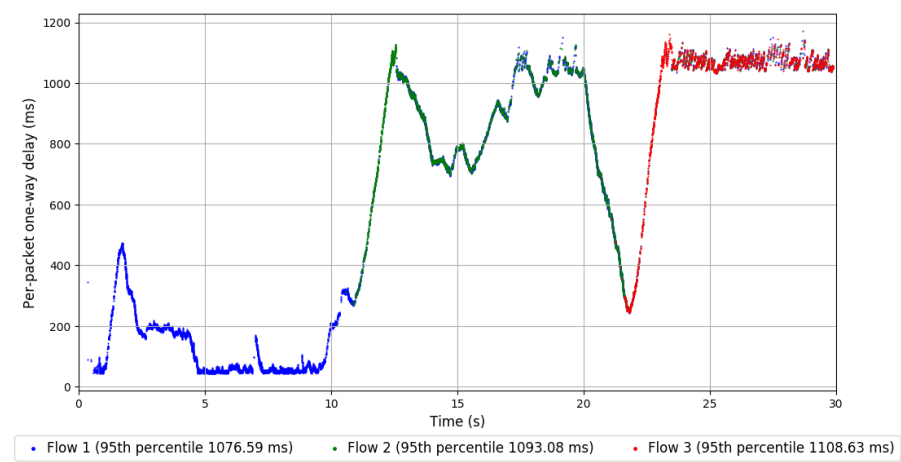
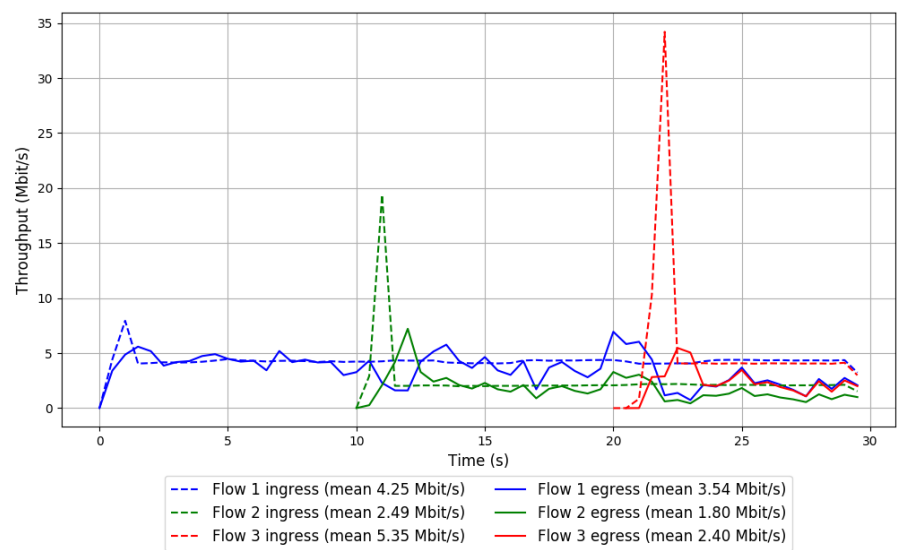


```
Run 1: Statistics of PCC

Start at: 2018-04-03 03:13:33
End at: 2018-04-03 03:14:03
Local clock offset: 2.407 ms
Remote clock offset: 6.082 ms

# Below is generated by plot.py at 2018-04-03 04:00:40
# Datalink statistics
-- Total of 3 flows:
Average throughput: 5.49 Mbit/s
95th percentile per-packet one-way delay: 1088.062 ms
Loss rate: 29.26%
-- Flow 1:
Average throughput: 3.54 Mbit/s
95th percentile per-packet one-way delay: 1076.585 ms
Loss rate: 17.55%
-- Flow 2:
Average throughput: 1.80 Mbit/s
95th percentile per-packet one-way delay: 1093.082 ms
Loss rate: 28.45%
-- Flow 3:
Average throughput: 2.40 Mbit/s
95th percentile per-packet one-way delay: 1108.626 ms
Loss rate: 58.26%
```

Run 1: Report of PCC — Data Link



Run 2: Statistics of PCC

Start at: 2018-04-03 03:33:23

End at: 2018-04-03 03:33:53

Local clock offset: 2.887 ms

Remote clock offset: 7.531 ms

Below is generated by plot.py at 2018-04-03 04:00:41

Datalink statistics

-- Total of 3 flows:

Average throughput: 4.10 Mbit/s

95th percentile per-packet one-way delay: 1106.237 ms

Loss rate: 45.72%

-- Flow 1:

Average throughput: 2.84 Mbit/s

95th percentile per-packet one-way delay: 1100.704 ms

Loss rate: 37.25%

-- Flow 2:

Average throughput: 1.90 Mbit/s

95th percentile per-packet one-way delay: 1114.432 ms

Loss rate: 58.37%

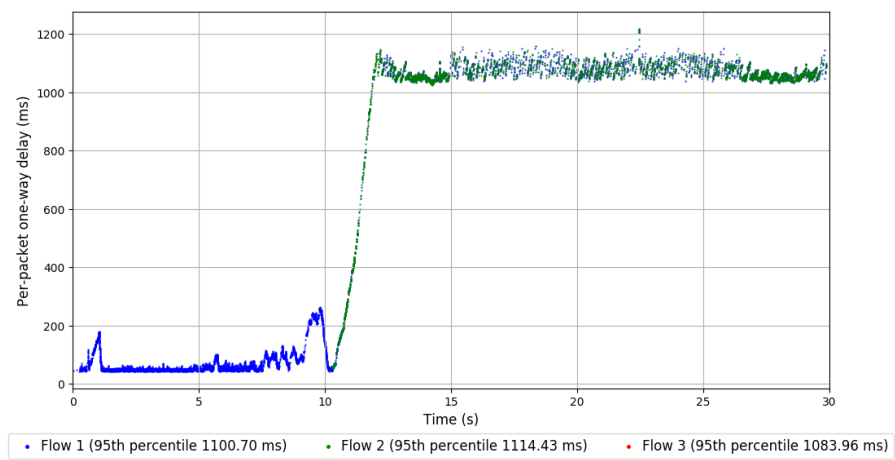
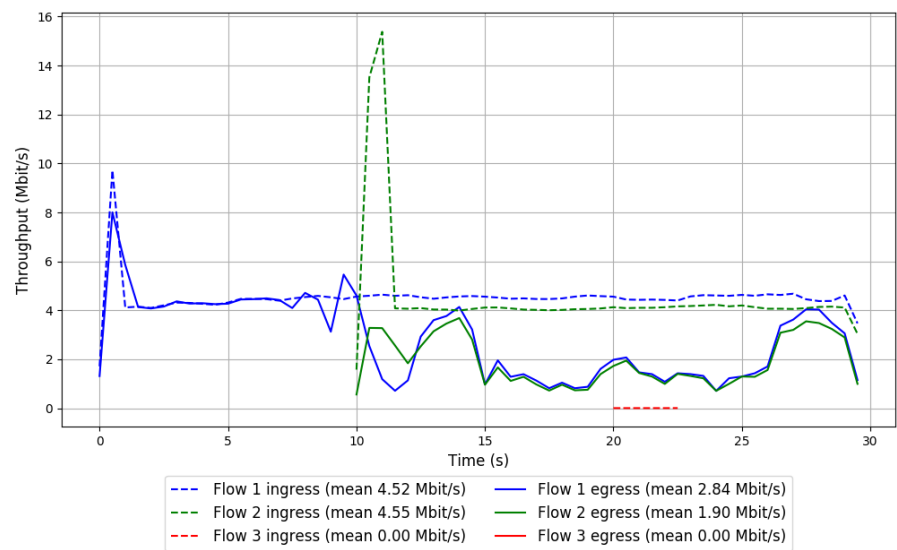
-- Flow 3:

Average throughput: 0.00 Mbit/s

95th percentile per-packet one-way delay: 1083.958 ms

Loss rate: 92.31%

Run 2: Report of PCC — Data Link

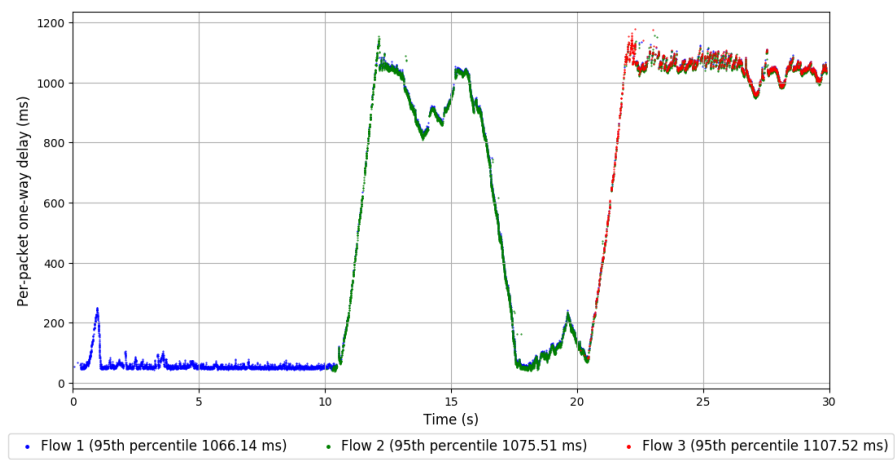
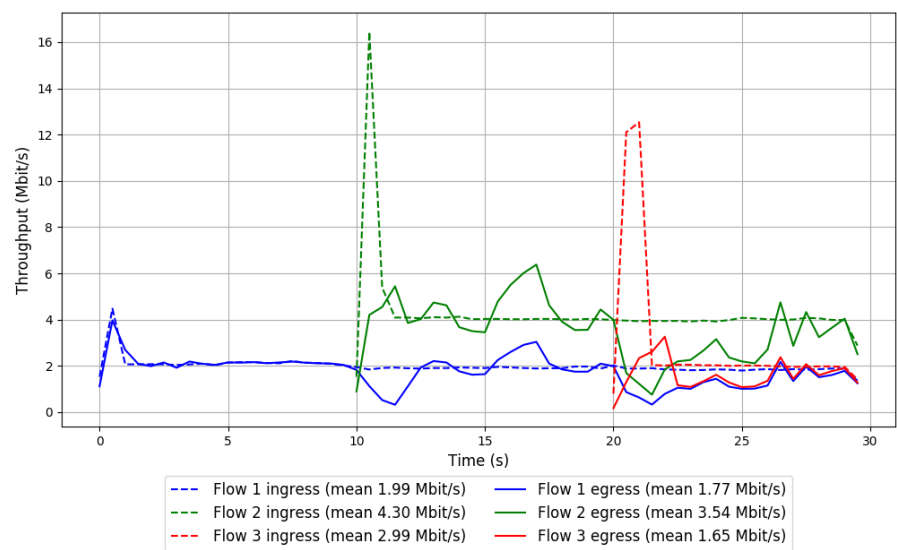


Run 3: Statistics of PCC

Start at: 2018-04-03 03:53:10
End at: 2018-04-03 03:53:40
Local clock offset: 3.494 ms
Remote clock offset: -0.839 ms

Below is generated by plot.py at 2018-04-03 04:00:43
Datalink statistics
-- Total of 3 flows:
Average throughput: 4.66 Mbit/s
95th percentile per-packet one-way delay: 1078.160 ms
Loss rate: 20.26%
-- Flow 1:
Average throughput: 1.77 Mbit/s
95th percentile per-packet one-way delay: 1066.144 ms
Loss rate: 11.22%
-- Flow 2:
Average throughput: 3.54 Mbit/s
95th percentile per-packet one-way delay: 1075.510 ms
Loss rate: 17.87%
-- Flow 3:
Average throughput: 1.65 Mbit/s
95th percentile per-packet one-way delay: 1107.523 ms
Loss rate: 45.41%

Run 3: Report of PCC — Data Link



Run 1: Statistics of QUIC Cubic

Start at: 2018-04-03 03:12:28

End at: 2018-04-03 03:12:58

Local clock offset: 2.815 ms

Remote clock offset: 4.633 ms

Below is generated by plot.py at 2018-04-03 04:00:44

Datalink statistics

-- Total of 3 flows:

Average throughput: 5.01 Mbit/s

95th percentile per-packet one-way delay: 596.870 ms

Loss rate: 2.59%

-- Flow 1:

Average throughput: 3.42 Mbit/s

95th percentile per-packet one-way delay: 522.257 ms

Loss rate: 1.48%

-- Flow 2:

Average throughput: 1.54 Mbit/s

95th percentile per-packet one-way delay: 606.210 ms

Loss rate: 2.66%

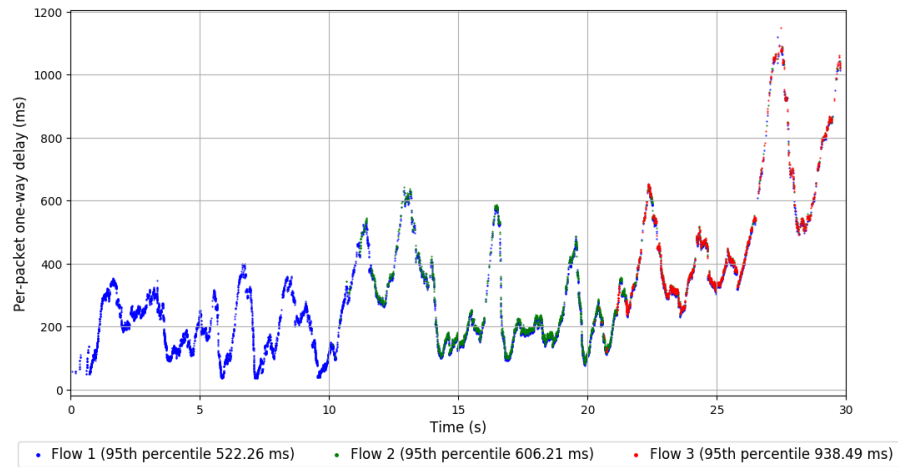
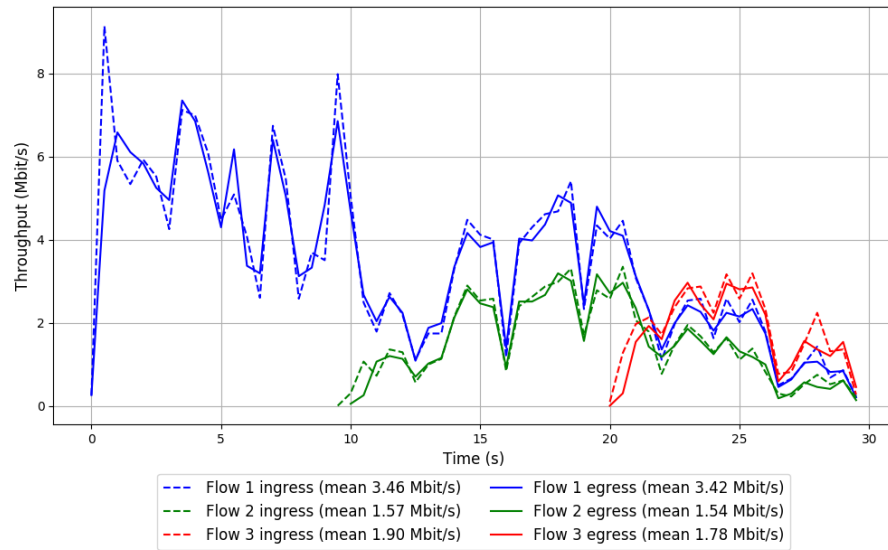
-- Flow 3:

Average throughput: 1.78 Mbit/s

95th percentile per-packet one-way delay: 938.488 ms

Loss rate: 8.62%

Run 1: Report of QUIC Cubic — Data Link



Run 2: Statistics of QUIC Cubic

Start at: 2018-04-03 03:32:17

End at: 2018-04-03 03:32:47

Local clock offset: 0.17 ms

Remote clock offset: 7.286 ms

Below is generated by plot.py at 2018-04-03 04:00:46

Datalink statistics

-- Total of 3 flows:

Average throughput: 6.35 Mbit/s

95th percentile per-packet one-way delay: 467.979 ms

Loss rate: 1.26%

-- Flow 1:

Average throughput: 4.18 Mbit/s

95th percentile per-packet one-way delay: 388.710 ms

Loss rate: 0.75%

-- Flow 2:

Average throughput: 2.03 Mbit/s

95th percentile per-packet one-way delay: 568.662 ms

Loss rate: 1.42%

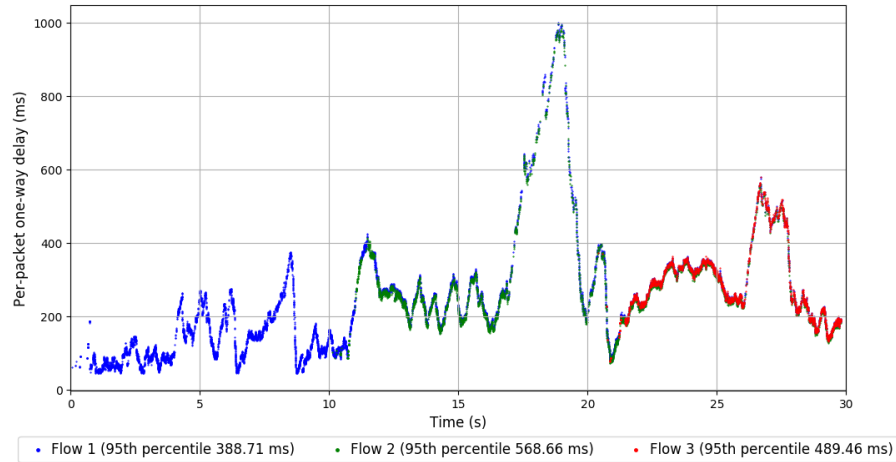
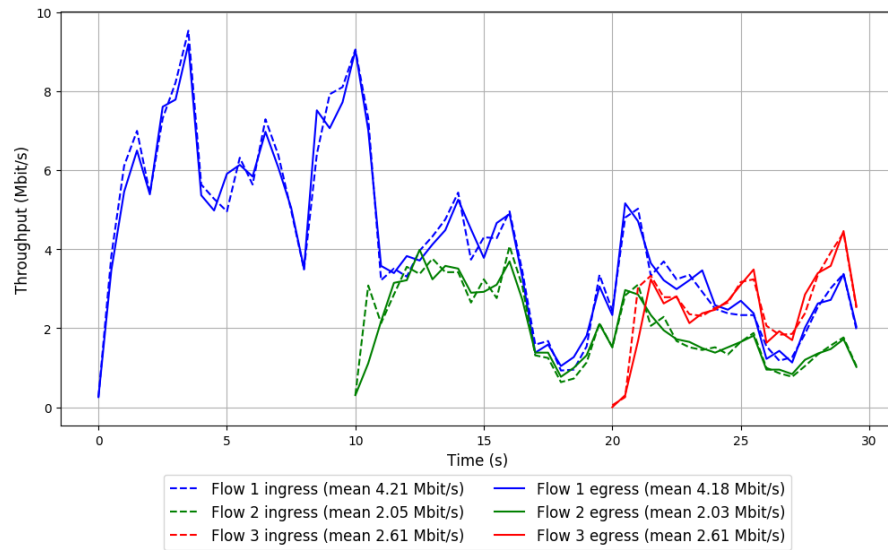
-- Flow 3:

Average throughput: 2.61 Mbit/s

95th percentile per-packet one-way delay: 489.458 ms

Loss rate: 3.52%

Run 2: Report of QUIC Cubic — Data Link

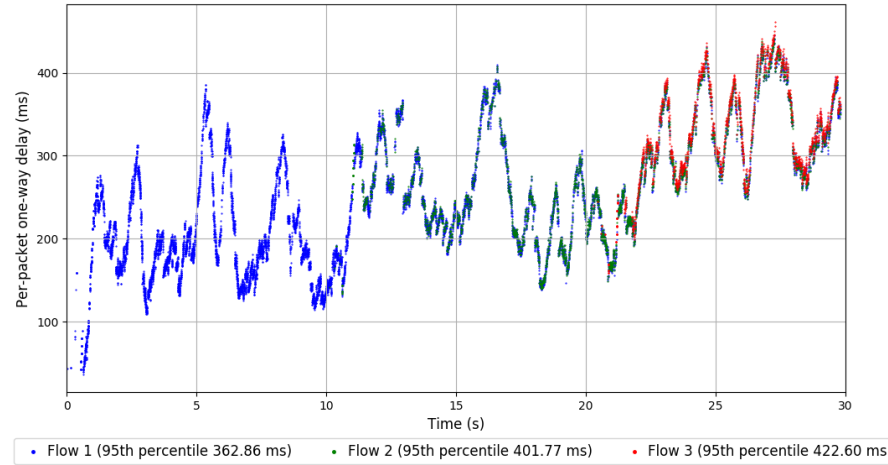
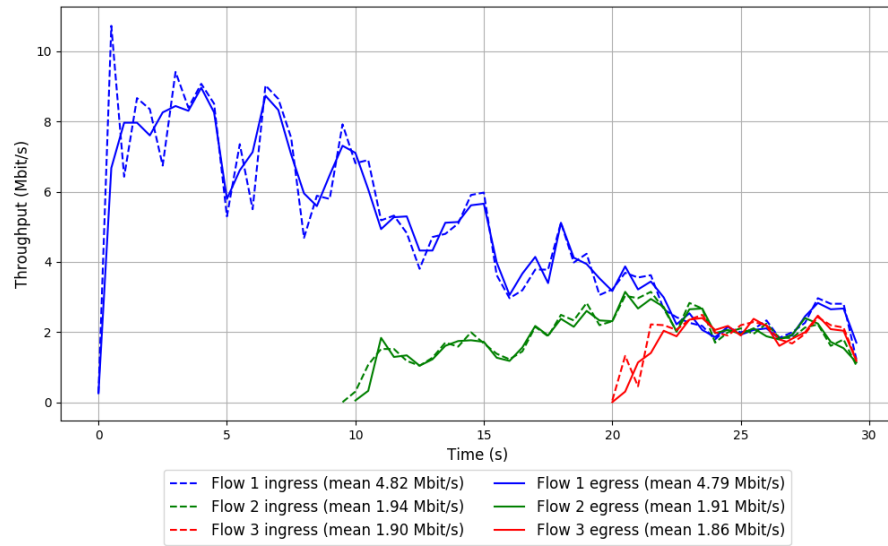


Run 3: Statistics of QUIC Cubic

Start at: 2018-04-03 03:52:04
End at: 2018-04-03 03:52:34
Local clock offset: 5.341 ms
Remote clock offset: -1.283 ms

Below is generated by plot.py at 2018-04-03 04:00:47
Datalink statistics
-- Total of 3 flows:
Average throughput: 6.65 Mbit/s
95th percentile per-packet one-way delay: 386.789 ms
Loss rate: 1.30%
-- Flow 1:
Average throughput: 4.79 Mbit/s
95th percentile per-packet one-way delay: 362.858 ms
Loss rate: 0.69%
-- Flow 2:
Average throughput: 1.91 Mbit/s
95th percentile per-packet one-way delay: 401.774 ms
Loss rate: 2.00%
-- Flow 3:
Average throughput: 1.86 Mbit/s
95th percentile per-packet one-way delay: 422.602 ms
Loss rate: 4.58%

Run 3: Report of QUIC Cubic — Data Link

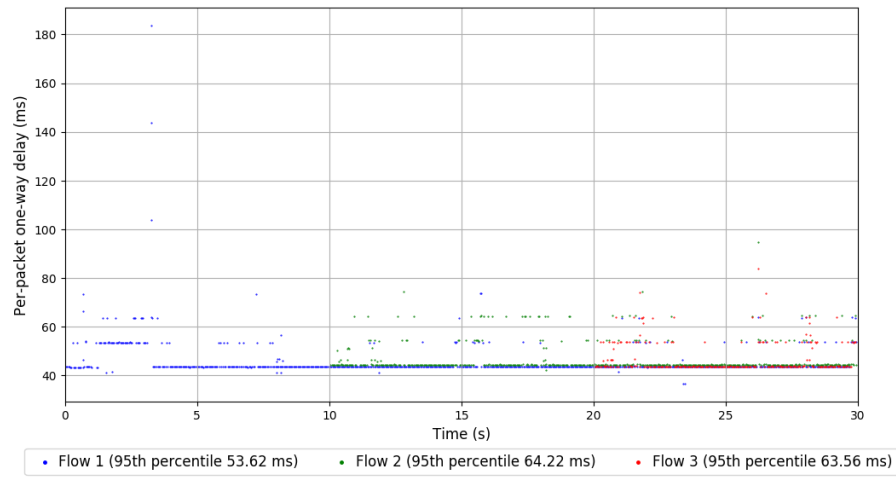
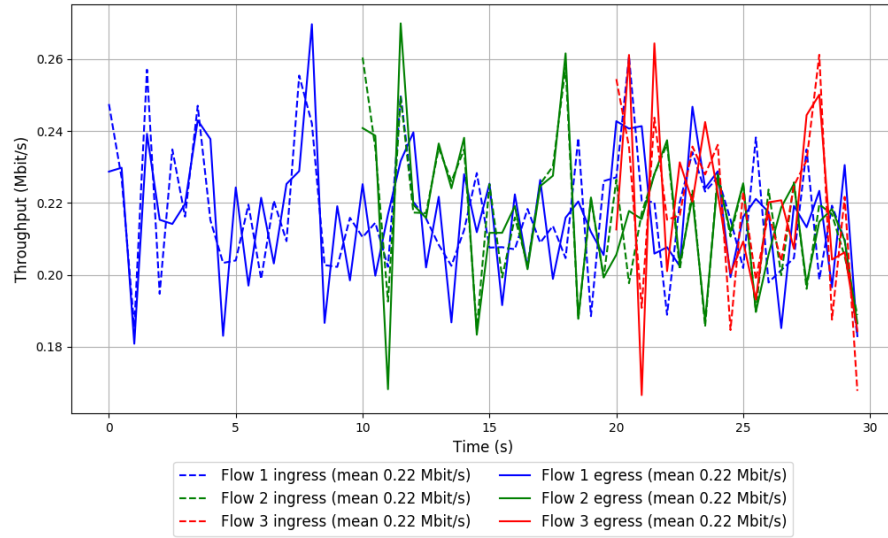


```
Run 1: Statistics of SReAM

Start at: 2018-04-03 03:17:57
End at: 2018-04-03 03:18:27
Local clock offset: 2.477 ms
Remote clock offset: 5.889 ms

# Below is generated by plot.py at 2018-04-03 04:00:47
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.43 Mbit/s
95th percentile per-packet one-way delay: 63.399 ms
Loss rate: 0.19%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 53.616 ms
Loss rate: 0.13%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 64.220 ms
Loss rate: 0.19%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 63.560 ms
Loss rate: 0.35%
```

Run 1: Report of SReAM — Data Link



Run 2: Statistics of SReAM

Start at: 2018-04-03 03:37:47

End at: 2018-04-03 03:38:17

Local clock offset: 1.658 ms

Remote clock offset: 4.823 ms

Below is generated by plot.py at 2018-04-03 04:00:47

Datalink statistics

-- Total of 3 flows:

Average throughput: 0.43 Mbit/s

95th percentile per-packet one-way delay: 56.744 ms

Loss rate: 0.25%

-- Flow 1:

Average throughput: 0.22 Mbit/s

95th percentile per-packet one-way delay: 56.319 ms

Loss rate: 0.13%

-- Flow 2:

Average throughput: 0.22 Mbit/s

95th percentile per-packet one-way delay: 56.806 ms

Loss rate: 0.40%

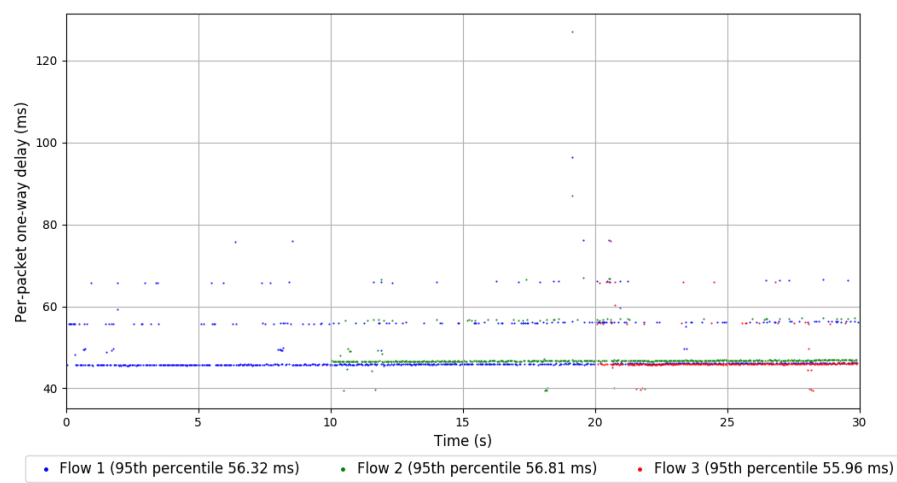
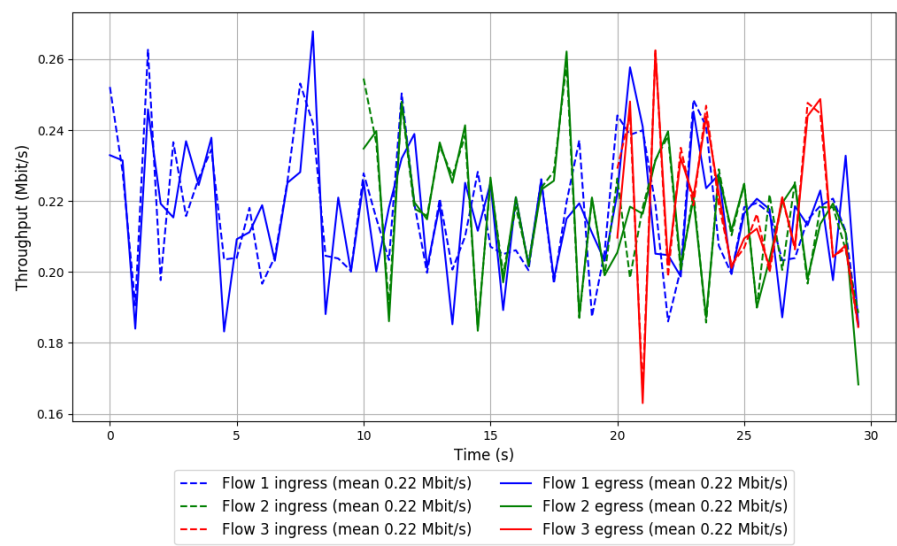
-- Flow 3:

Average throughput: 0.22 Mbit/s

95th percentile per-packet one-way delay: 55.959 ms

Loss rate: 0.35%

Run 2: Report of SReAM — Data Link

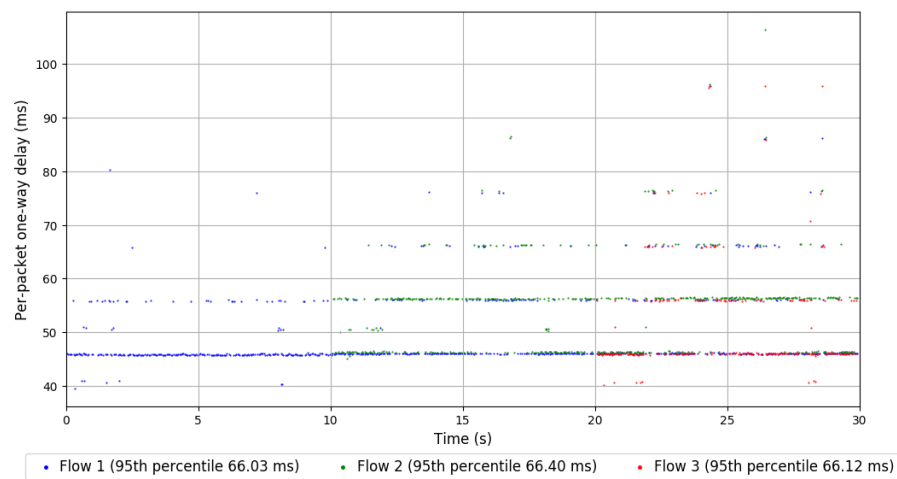
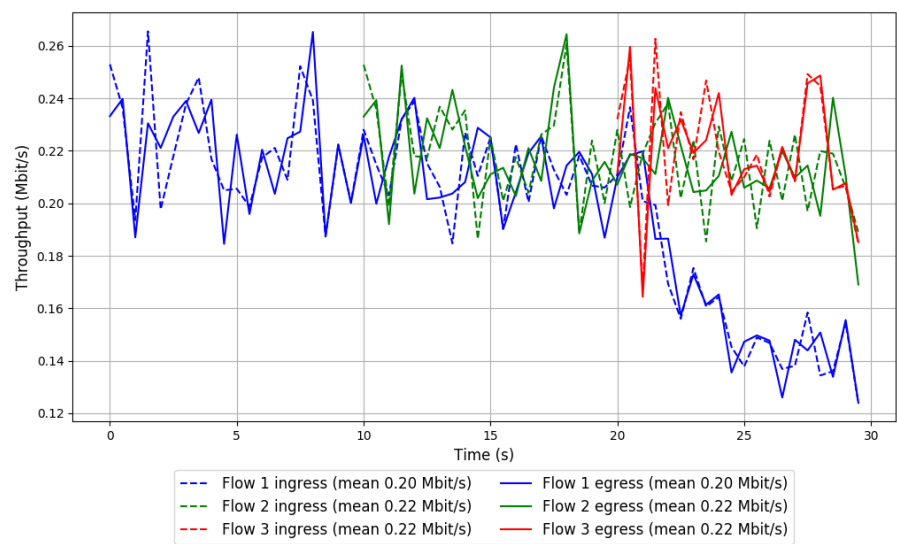


Run 3: Statistics of SReAM

Start at: 2018-04-03 03:57:34
End at: 2018-04-03 03:58:04
Local clock offset: 1.832 ms
Remote clock offset: -2.252 ms

Below is generated by plot.py at 2018-04-03 04:00:47
Datalink statistics
-- Total of 3 flows:
Average throughput: 0.42 Mbit/s
95th percentile per-packet one-way delay: 66.279 ms
Loss rate: 0.31%
-- Flow 1:
Average throughput: 0.20 Mbit/s
95th percentile per-packet one-way delay: 66.032 ms
Loss rate: 0.23%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 66.397 ms
Loss rate: 0.39%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 66.125 ms
Loss rate: 0.35%

Run 3: Report of SReAM — Data Link



Run 1: Statistics of WebRTC media

Start at: 2018-04-03 03:04:40

End at: 2018-04-03 03:05:11

Local clock offset: 3.681 ms

Remote clock offset: 5.409 ms

Below is generated by plot.py at 2018-04-03 04:00:47

Datalink statistics

-- Total of 3 flows:

Average throughput: 0.16 Mbit/s

95th percentile per-packet one-way delay: 96.823 ms

Loss rate: 0.05%

-- Flow 1:

Average throughput: 0.05 Mbit/s

95th percentile per-packet one-way delay: 81.170 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 0.06 Mbit/s

95th percentile per-packet one-way delay: 105.351 ms

Loss rate: 0.07%

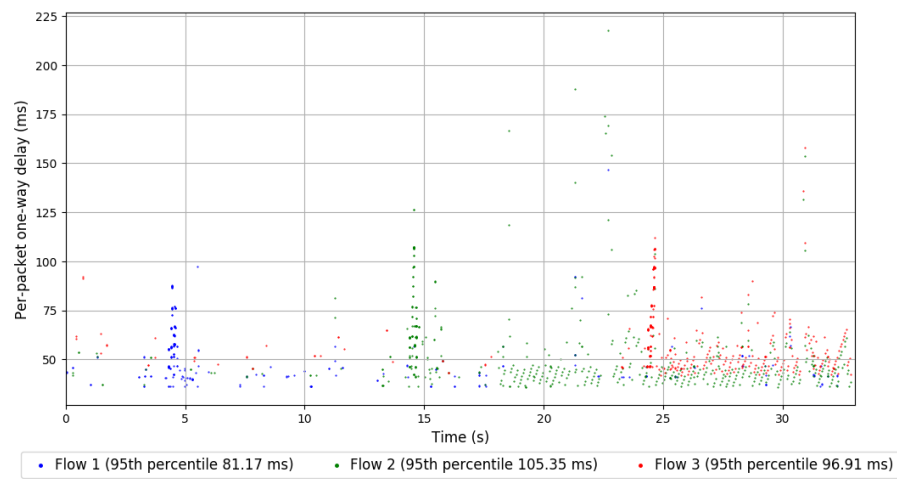
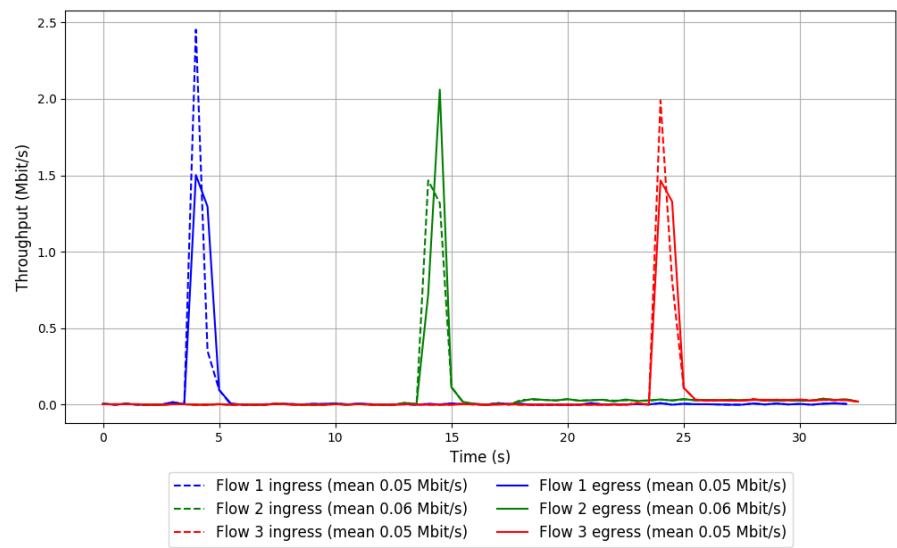
-- Flow 3:

Average throughput: 0.05 Mbit/s

95th percentile per-packet one-way delay: 96.912 ms

Loss rate: 0.08%

Run 1: Report of WebRTC media — Data Link



Run 2: Statistics of WebRTC media

Start at: 2018-04-03 03:24:35

End at: 2018-04-03 03:25:05

Local clock offset: 1.211 ms

Remote clock offset: 6.706 ms

Below is generated by plot.py at 2018-04-03 04:00:47

Datalink statistics

-- Total of 3 flows:

Average throughput: 0.17 Mbit/s

95th percentile per-packet one-way delay: 95.272 ms

Loss rate: 0.04%

-- Flow 1:

Average throughput: 0.06 Mbit/s

95th percentile per-packet one-way delay: 95.259 ms

Loss rate: 0.04%

-- Flow 2:

Average throughput: 0.06 Mbit/s

95th percentile per-packet one-way delay: 65.758 ms

Loss rate: 0.00%

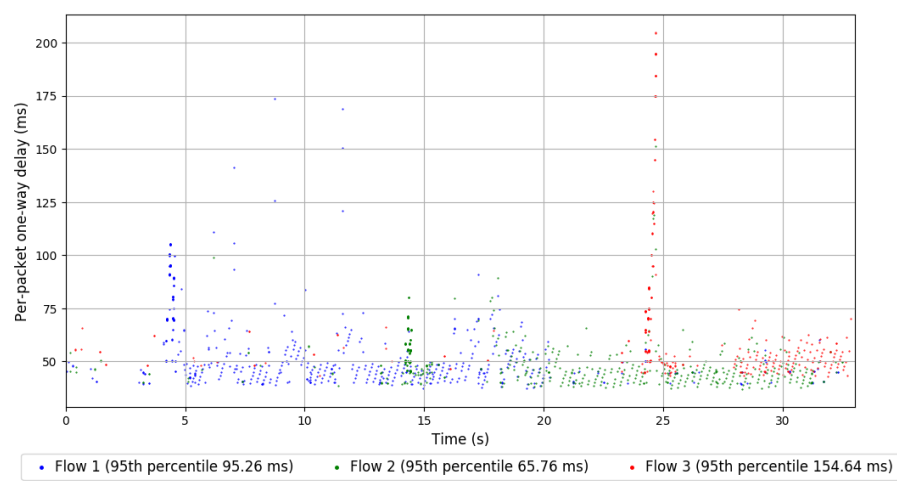
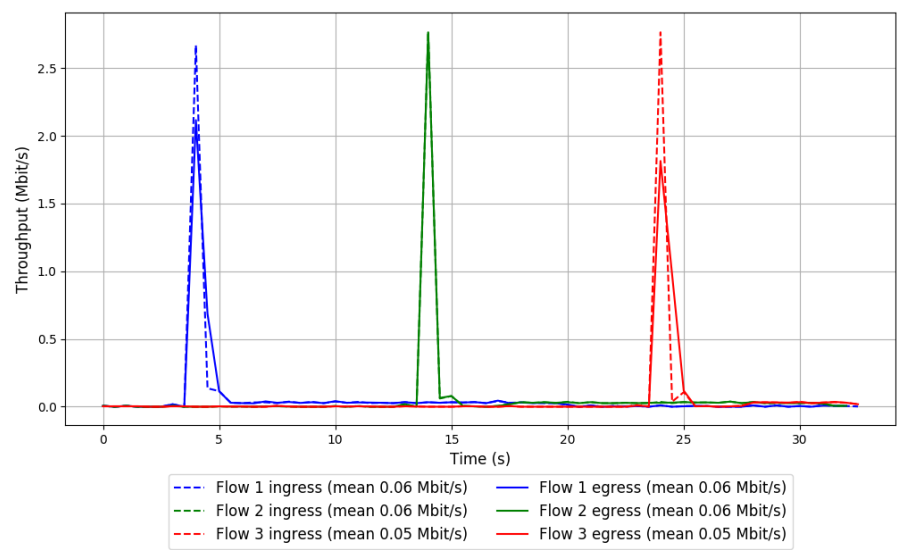
-- Flow 3:

Average throughput: 0.05 Mbit/s

95th percentile per-packet one-way delay: 154.642 ms

Loss rate: 0.08%

Run 2: Report of WebRTC media — Data Link



Run 3: Statistics of WebRTC media

Start at: 2018-04-03 03:44:22

End at: 2018-04-03 03:44:52

Local clock offset: 3.191 ms

Remote clock offset: 0.662 ms

Below is generated by plot.py at 2018-04-03 04:00:47

Datalink statistics

-- Total of 3 flows:

Average throughput: 0.17 Mbit/s

95th percentile per-packet one-way delay: 100.200 ms

Loss rate: 0.07%

-- Flow 1:

Average throughput: 0.06 Mbit/s

95th percentile per-packet one-way delay: 139.270 ms

Loss rate: 0.07%

-- Flow 2:

Average throughput: 0.06 Mbit/s

95th percentile per-packet one-way delay: 84.952 ms

Loss rate: 0.07%

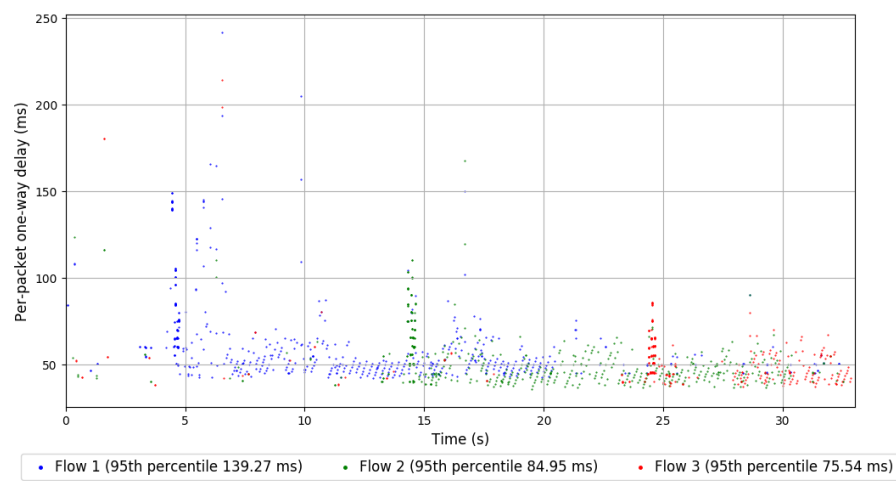
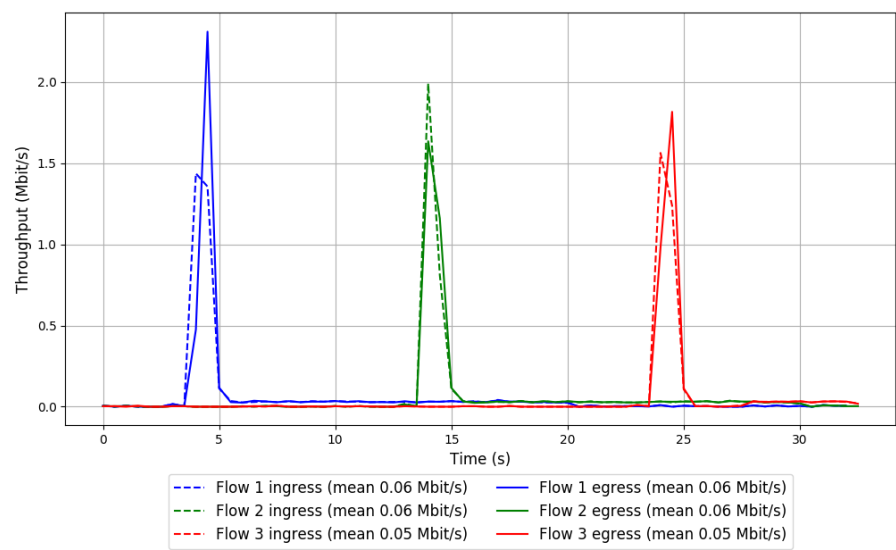
-- Flow 3:

Average throughput: 0.05 Mbit/s

95th percentile per-packet one-way delay: 75.543 ms

Loss rate: 0.08%

Run 3: Report of WebRTC media — Data Link

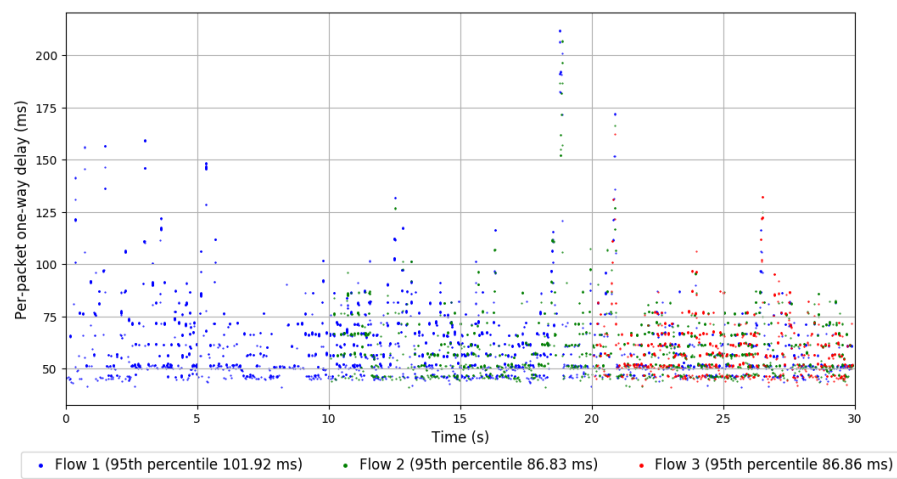
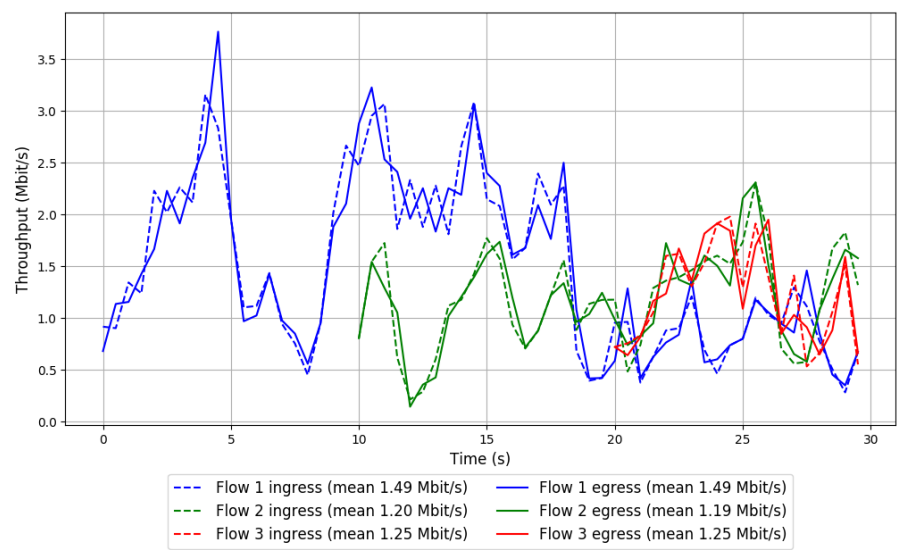


```
Run 1: Statistics of Sprout

Start at: 2018-04-03 03:05:46
End at: 2018-04-03 03:06:16
Local clock offset: 3.806 ms
Remote clock offset: 5.309 ms

# Below is generated by plot.py at 2018-04-03 04:00:49
# Datalink statistics
-- Total of 3 flows:
Average throughput: 2.69 Mbit/s
95th percentile per-packet one-way delay: 95.905 ms
Loss rate: 0.13%
-- Flow 1:
Average throughput: 1.49 Mbit/s
95th percentile per-packet one-way delay: 101.916 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 1.19 Mbit/s
95th percentile per-packet one-way delay: 86.827 ms
Loss rate: 0.42%
-- Flow 3:
Average throughput: 1.25 Mbit/s
95th percentile per-packet one-way delay: 86.864 ms
Loss rate: 0.00%
```

Run 1: Report of Sprout — Data Link



Run 2: Statistics of Sprout

Start at: 2018-04-03 03:25:40

End at: 2018-04-03 03:26:10

Local clock offset: 1.715 ms

Remote clock offset: 6.286 ms

Below is generated by plot.py at 2018-04-03 04:00:49

Datalink statistics

-- Total of 3 flows:

Average throughput: 2.28 Mbit/s

95th percentile per-packet one-way delay: 113.509 ms

Loss rate: 0.14%

-- Flow 1:

Average throughput: 1.22 Mbit/s

95th percentile per-packet one-way delay: 119.574 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 1.12 Mbit/s

95th percentile per-packet one-way delay: 98.403 ms

Loss rate: 0.37%

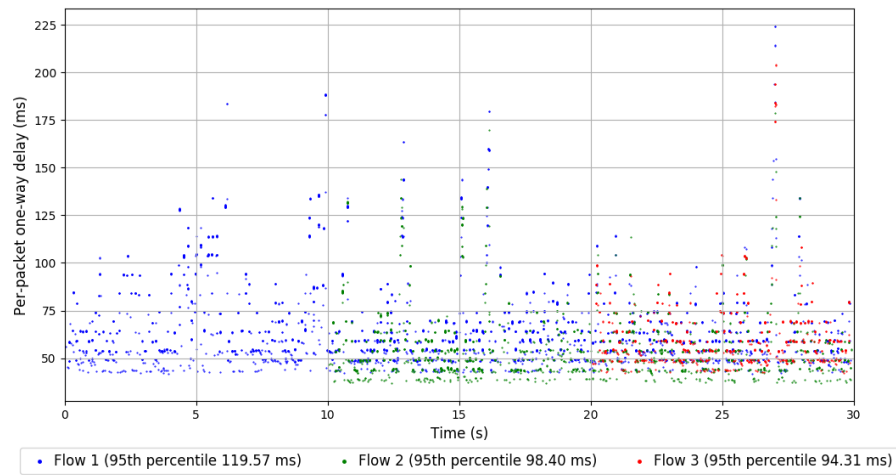
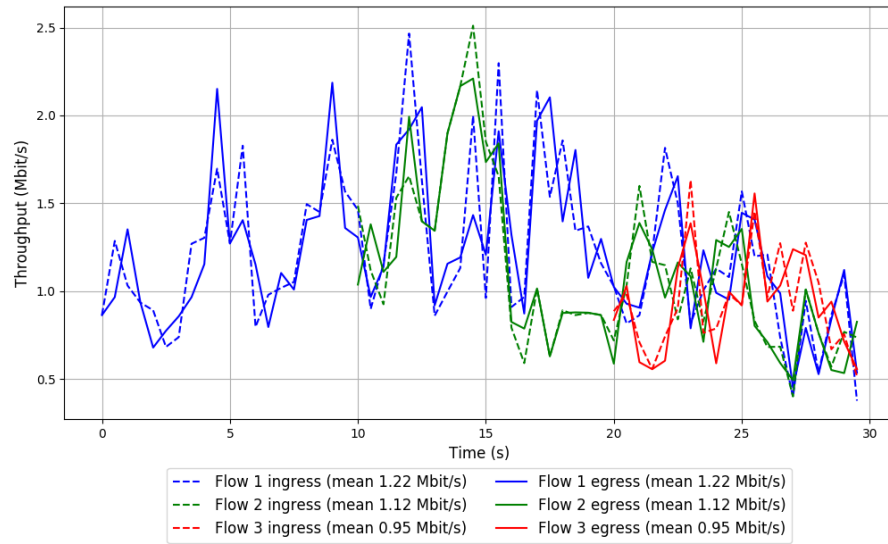
-- Flow 3:

Average throughput: 0.95 Mbit/s

95th percentile per-packet one-way delay: 94.313 ms

Loss rate: 0.15%

Run 2: Report of Sprout — Data Link



Run 3: Statistics of Sprout

Start at: 2018-04-03 03:45:28

End at: 2018-04-03 03:45:58

Local clock offset: 2.906 ms

Remote clock offset: 0.796 ms

Below is generated by plot.py at 2018-04-03 04:00:49

Datalink statistics

-- Total of 3 flows:

Average throughput: 1.14 Mbit/s

95th percentile per-packet one-way delay: 105.406 ms

Loss rate: 0.31%

-- Flow 1:

Average throughput: 0.48 Mbit/s

95th percentile per-packet one-way delay: 106.010 ms

Loss rate: 0.41%

-- Flow 2:

Average throughput: 0.65 Mbit/s

95th percentile per-packet one-way delay: 100.710 ms

Loss rate: 0.35%

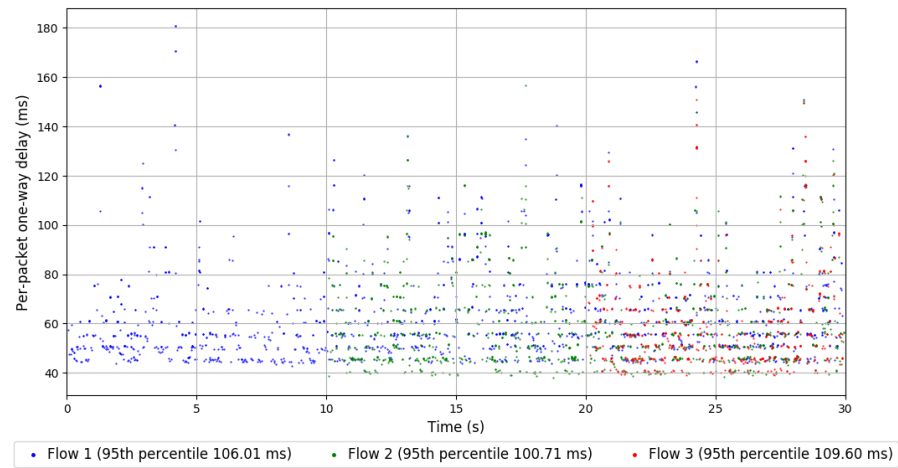
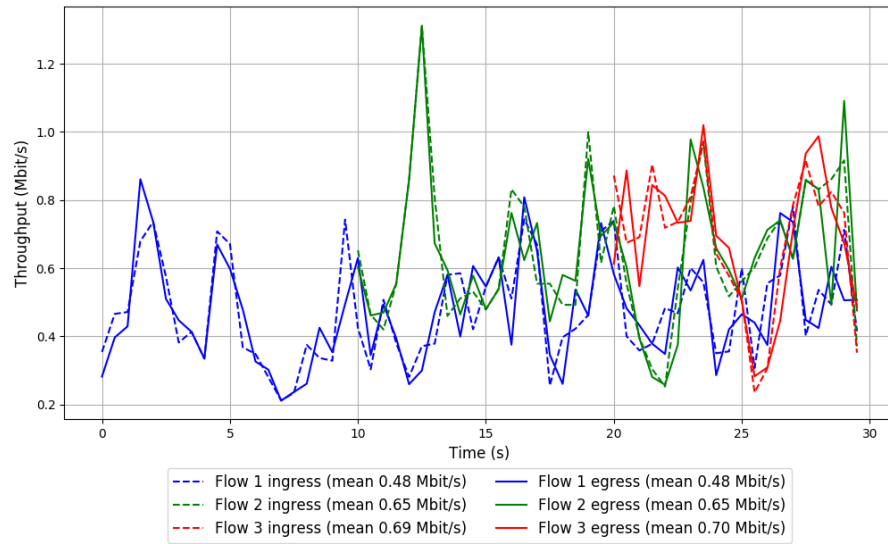
-- Flow 3:

Average throughput: 0.70 Mbit/s

95th percentile per-packet one-way delay: 109.596 ms

Loss rate: 0.02%

Run 3: Report of Sprout — Data Link

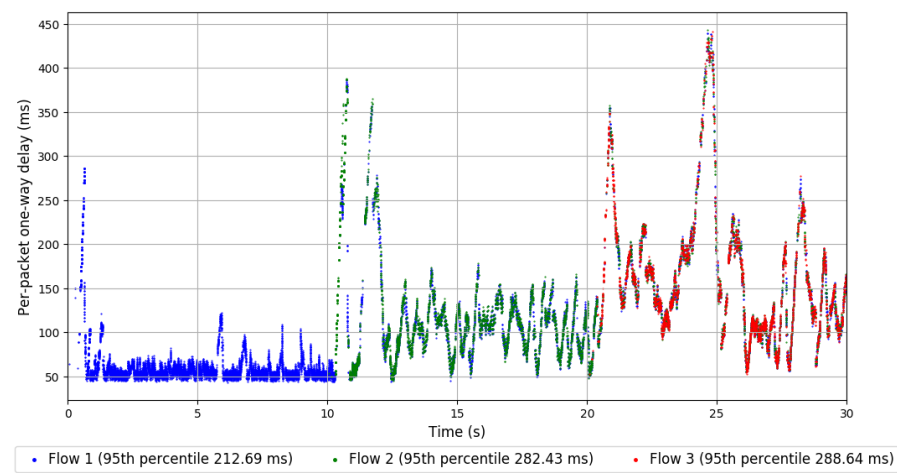
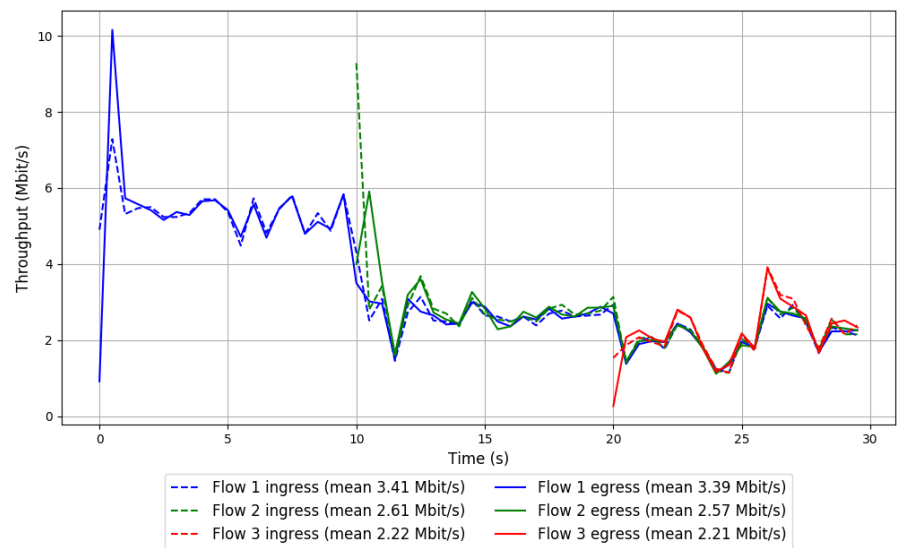


```
Run 1: Statistics of TaoVA-100x

Start at: 2018-04-03 03:09:04
End at: 2018-04-03 03:09:34
Local clock offset: 0.995 ms
Remote clock offset: 5.411 ms

# Below is generated by plot.py at 2018-04-03 04:01:02
# Datalink statistics
-- Total of 3 flows:
Average throughput: 5.83 Mbit/s
95th percentile per-packet one-way delay: 244.502 ms
Loss rate: 1.04%
-- Flow 1:
Average throughput: 3.39 Mbit/s
95th percentile per-packet one-way delay: 212.691 ms
Loss rate: 0.60%
-- Flow 2:
Average throughput: 2.57 Mbit/s
95th percentile per-packet one-way delay: 282.431 ms
Loss rate: 1.82%
-- Flow 3:
Average throughput: 2.21 Mbit/s
95th percentile per-packet one-way delay: 288.637 ms
Loss rate: 1.17%
```

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



Run 2: Statistics of TaoVA-100x

Start at: 2018-04-03 03:28:59

End at: 2018-04-03 03:29:29

Local clock offset: 0.547 ms

Remote clock offset: 6.342 ms

Below is generated by plot.py at 2018-04-03 04:01:03

Datalink statistics

-- Total of 3 flows:

Average throughput: 6.10 Mbit/s

95th percentile per-packet one-way delay: 223.154 ms

Loss rate: 0.78%

-- Flow 1:

Average throughput: 3.48 Mbit/s

95th percentile per-packet one-way delay: 198.287 ms

Loss rate: 0.53%

-- Flow 2:

Average throughput: 2.78 Mbit/s

95th percentile per-packet one-way delay: 235.566 ms

Loss rate: 0.85%

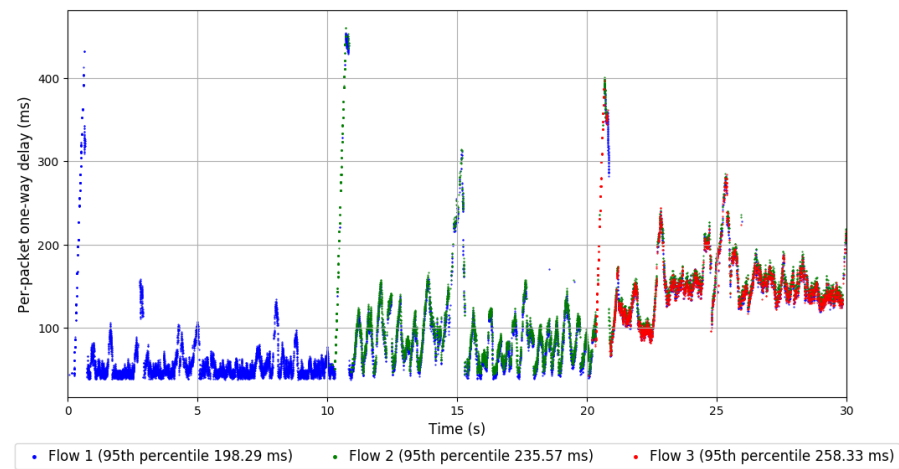
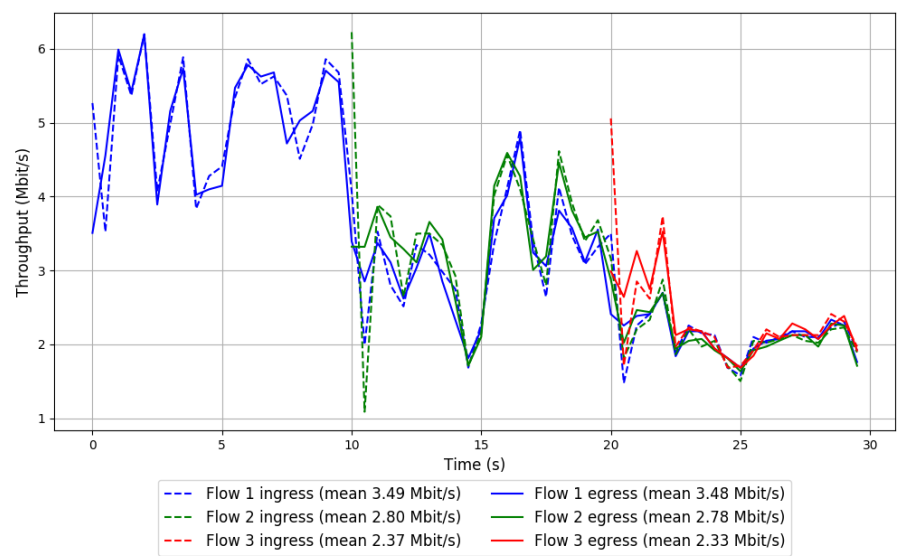
-- Flow 3:

Average throughput: 2.33 Mbit/s

95th percentile per-packet one-way delay: 258.330 ms

Loss rate: 1.75%

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

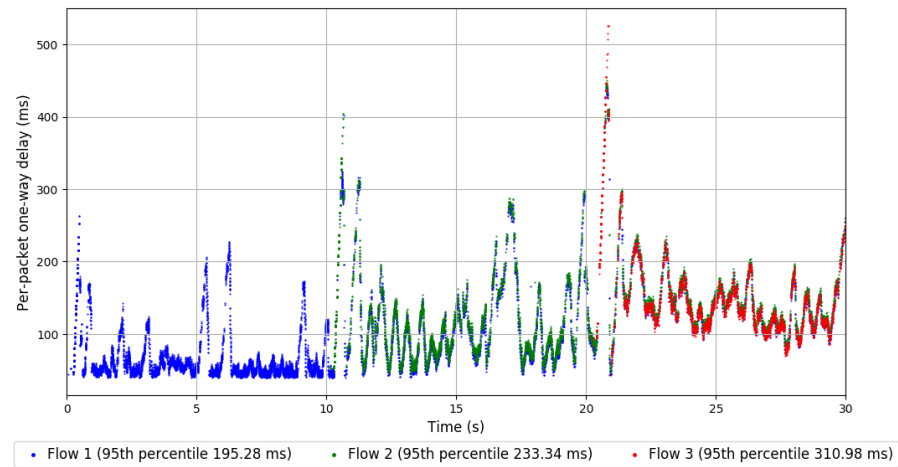
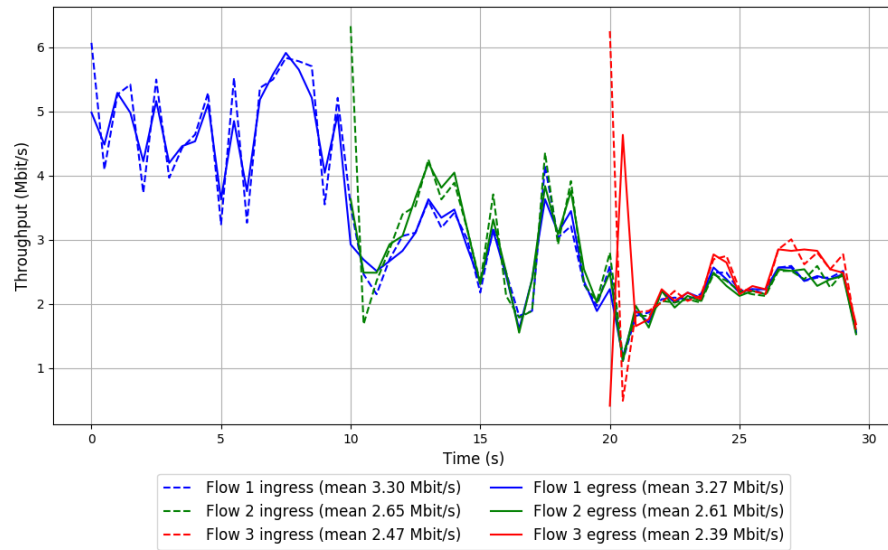


Run 3: Statistics of TaoVA-100x

Start at: 2018-04-03 03:48:45
End at: 2018-04-03 03:49:15
Local clock offset: 1.256 ms
Remote clock offset: -0.805 ms

Below is generated by plot.py at 2018-04-03 04:01:04
Datalink statistics
-- Total of 3 flows:
Average throughput: 5.79 Mbit/s
95th percentile per-packet one-way delay: 222.935 ms
Loss rate: 1.60%
-- Flow 1:
Average throughput: 3.27 Mbit/s
95th percentile per-packet one-way delay: 195.278 ms
Loss rate: 0.80%
-- Flow 2:
Average throughput: 2.61 Mbit/s
95th percentile per-packet one-way delay: 233.338 ms
Loss rate: 2.01%
-- Flow 3:
Average throughput: 2.39 Mbit/s
95th percentile per-packet one-way delay: 310.976 ms
Loss rate: 3.98%

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



Run 1: Statistics of TCP Vegas

Start at: 2018-04-03 03:01:23

End at: 2018-04-03 03:01:53

Local clock offset: 3.485 ms

Remote clock offset: 5.522 ms

Below is generated by plot.py at 2018-04-03 04:01:04

Datalink statistics

-- Total of 3 flows:

Average throughput: 4.08 Mbit/s

95th percentile per-packet one-way delay: 211.192 ms

Loss rate: 0.31%

-- Flow 1:

Average throughput: 1.78 Mbit/s

95th percentile per-packet one-way delay: 171.323 ms

Loss rate: 0.16%

-- Flow 2:

Average throughput: 2.45 Mbit/s

95th percentile per-packet one-way delay: 216.034 ms

Loss rate: 0.34%

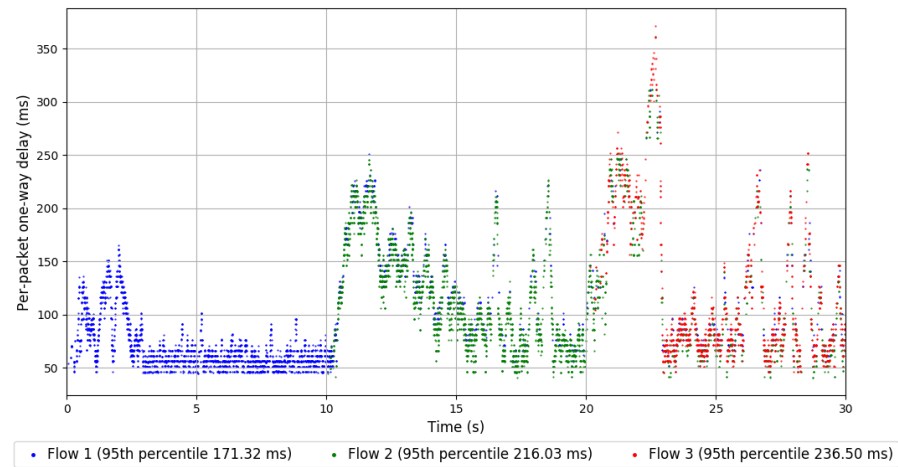
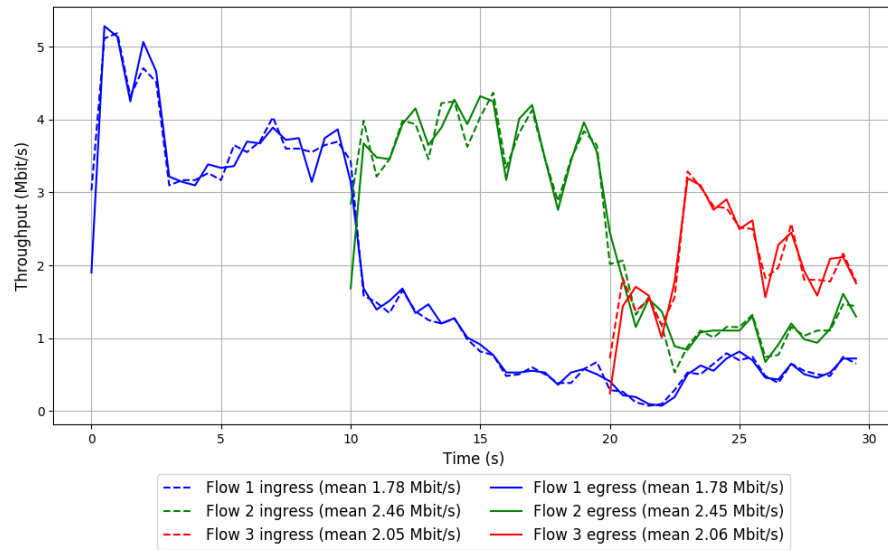
-- Flow 3:

Average throughput: 2.06 Mbit/s

95th percentile per-packet one-way delay: 236.502 ms

Loss rate: 0.65%

Run 1: Report of TCP Vegas — Data Link



Run 2: Statistics of TCP Vegas

Start at: 2018-04-03 03:21:15

End at: 2018-04-03 03:21:45

Local clock offset: 1.569 ms

Remote clock offset: 7.413 ms

Below is generated by plot.py at 2018-04-03 04:01:04

Datalink statistics

-- Total of 3 flows:

Average throughput: 2.17 Mbit/s

95th percentile per-packet one-way delay: 254.542 ms

Loss rate: 1.01%

-- Flow 1:

Average throughput: 0.93 Mbit/s

95th percentile per-packet one-way delay: 274.761 ms

Loss rate: 1.15%

-- Flow 2:

Average throughput: 1.22 Mbit/s

95th percentile per-packet one-way delay: 209.537 ms

Loss rate: 0.64%

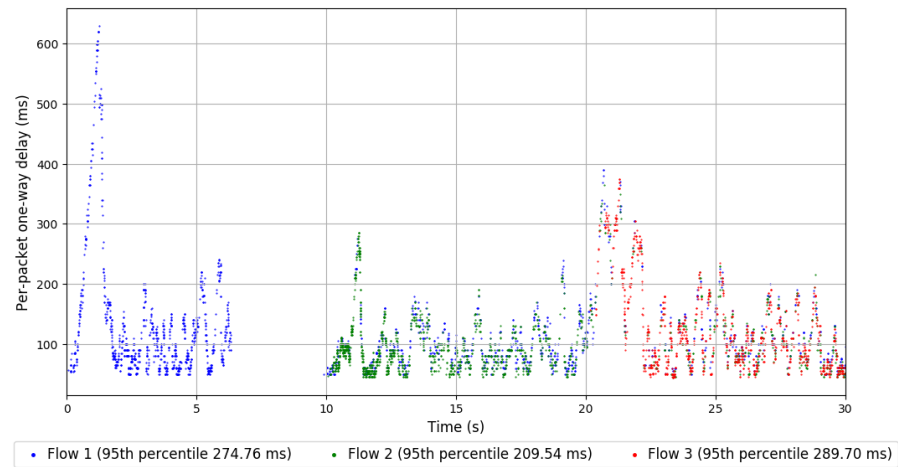
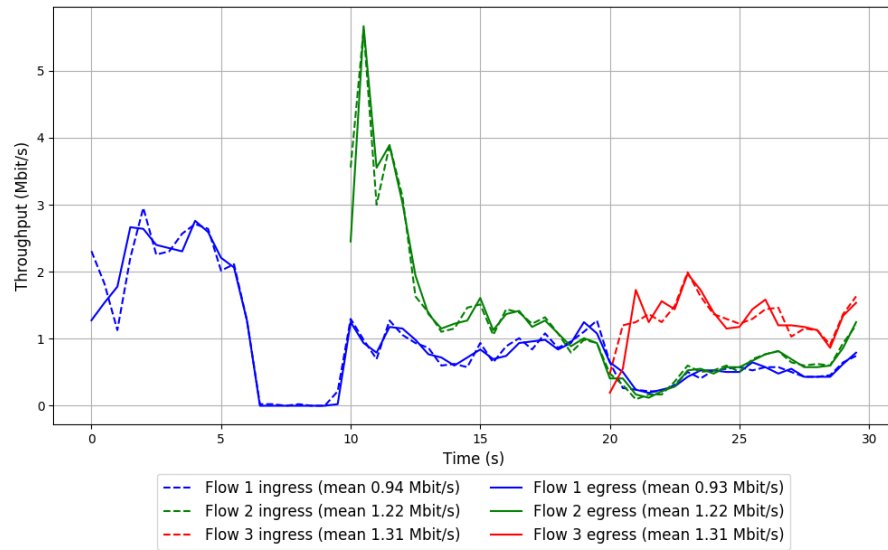
-- Flow 3:

Average throughput: 1.31 Mbit/s

95th percentile per-packet one-way delay: 289.703 ms

Loss rate: 1.39%

Run 2: Report of TCP Vegas — Data Link



Run 3: Statistics of TCP Vegas

Start at: 2018-04-03 03:41:05

End at: 2018-04-03 03:41:35

Local clock offset: 2.129 ms

Remote clock offset: 2.568 ms

Below is generated by plot.py at 2018-04-03 04:01:04

Datalink statistics

-- Total of 3 flows:

Average throughput: 4.88 Mbit/s

95th percentile per-packet one-way delay: 131.052 ms

Loss rate: 0.25%

-- Flow 1:

Average throughput: 2.71 Mbit/s

95th percentile per-packet one-way delay: 100.996 ms

Loss rate: 0.12%

-- Flow 2:

Average throughput: 1.72 Mbit/s

95th percentile per-packet one-way delay: 146.188 ms

Loss rate: 0.28%

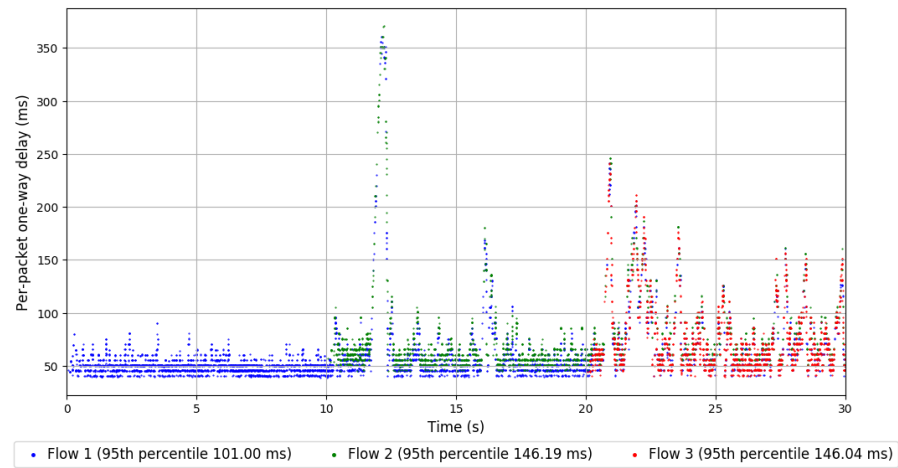
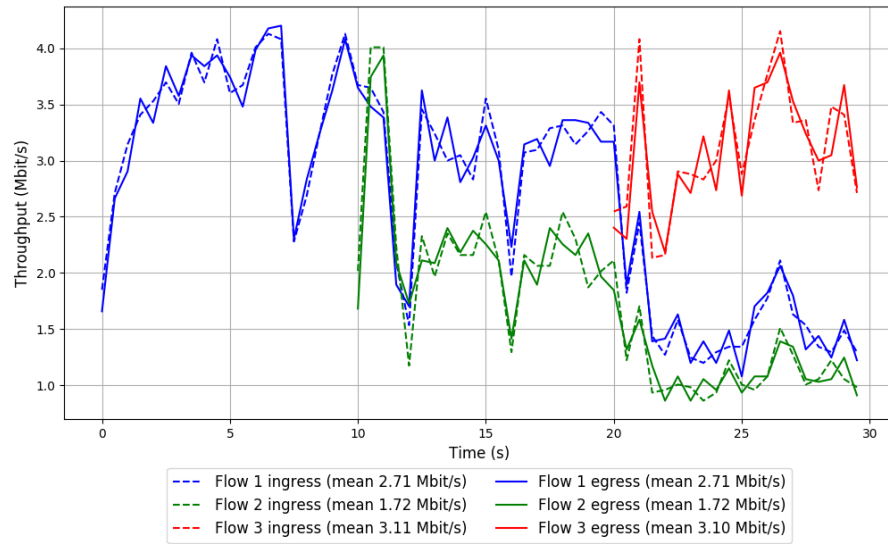
-- Flow 3:

Average throughput: 3.10 Mbit/s

95th percentile per-packet one-way delay: 146.041 ms

Loss rate: 0.58%

Run 3: Report of TCP Vegas — Data Link



Run 1: Statistics of Verus

Start at: 2018-04-03 03:11:21

End at: 2018-04-03 03:11:51

Local clock offset: 2.904 ms

Remote clock offset: 5.426 ms

Below is generated by plot.py at 2018-04-03 04:01:04

Datalink statistics

-- Total of 3 flows:

Average throughput: 6.70 Mbit/s

95th percentile per-packet one-way delay: 603.269 ms

Loss rate: 3.15%

-- Flow 1:

Average throughput: 4.26 Mbit/s

95th percentile per-packet one-way delay: 644.098 ms

Loss rate: 2.01%

-- Flow 2:

Average throughput: 2.89 Mbit/s

95th percentile per-packet one-way delay: 580.125 ms

Loss rate: 3.27%

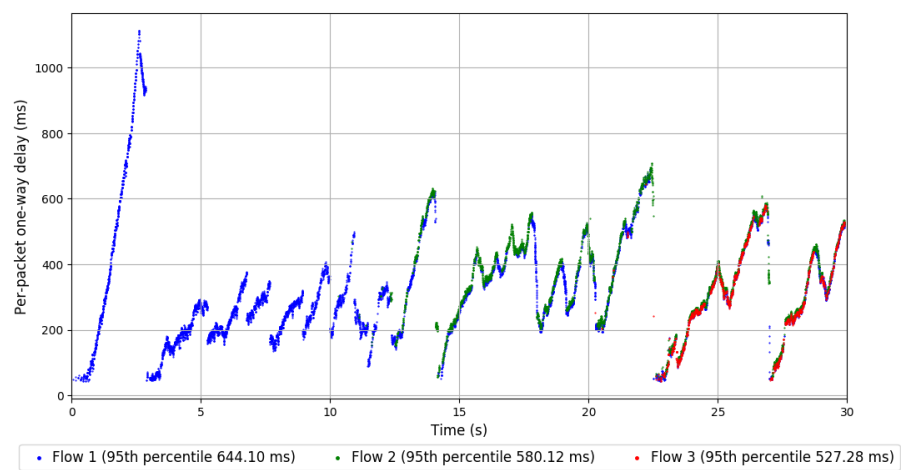
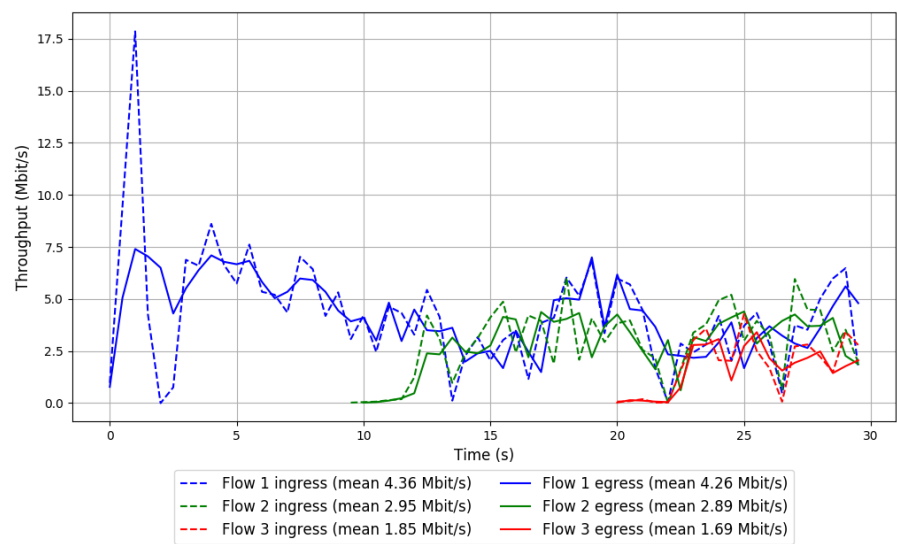
-- Flow 3:

Average throughput: 1.69 Mbit/s

95th percentile per-packet one-way delay: 527.279 ms

Loss rate: 10.90%

Run 1: Report of Verus — Data Link

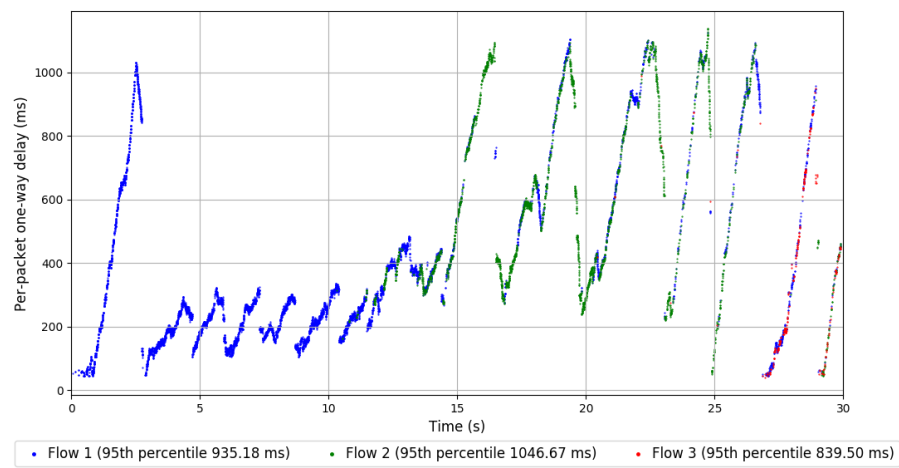
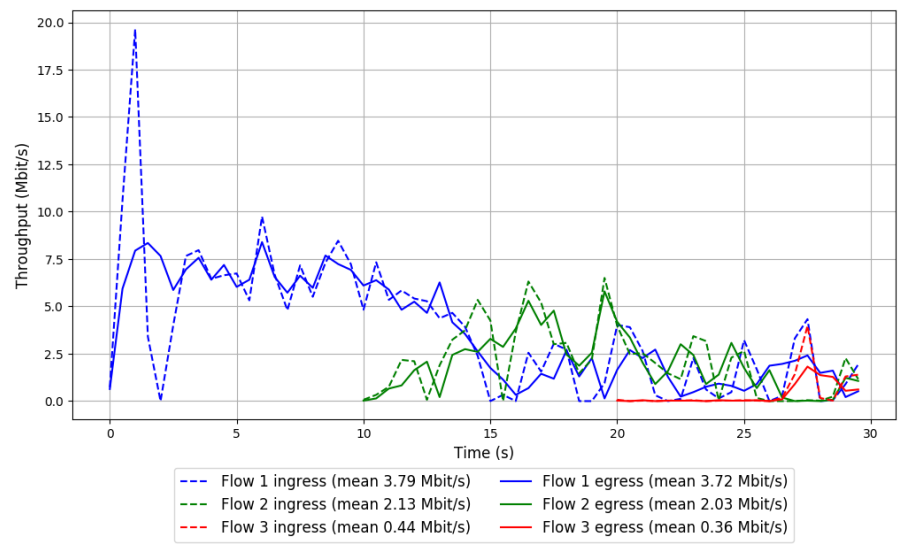


Run 2: Statistics of Verus

Start at: 2018-04-03 03:31:11
End at: 2018-04-03 03:31:41
Local clock offset: 2.687 ms
Remote clock offset: 6.451 ms

Below is generated by plot.py at 2018-04-03 04:01:04
Datalink statistics
-- Total of 3 flows:
Average throughput: 5.17 Mbit/s
95th percentile per-packet one-way delay: 1000.196 ms
Loss rate: 3.54%
-- Flow 1:
Average throughput: 3.72 Mbit/s
95th percentile per-packet one-way delay: 935.181 ms
Loss rate: 2.03%
-- Flow 2:
Average throughput: 2.03 Mbit/s
95th percentile per-packet one-way delay: 1046.672 ms
Loss rate: 5.77%
-- Flow 3:
Average throughput: 0.36 Mbit/s
95th percentile per-packet one-way delay: 839.495 ms
Loss rate: 21.08%

Run 2: Report of Verus — Data Link

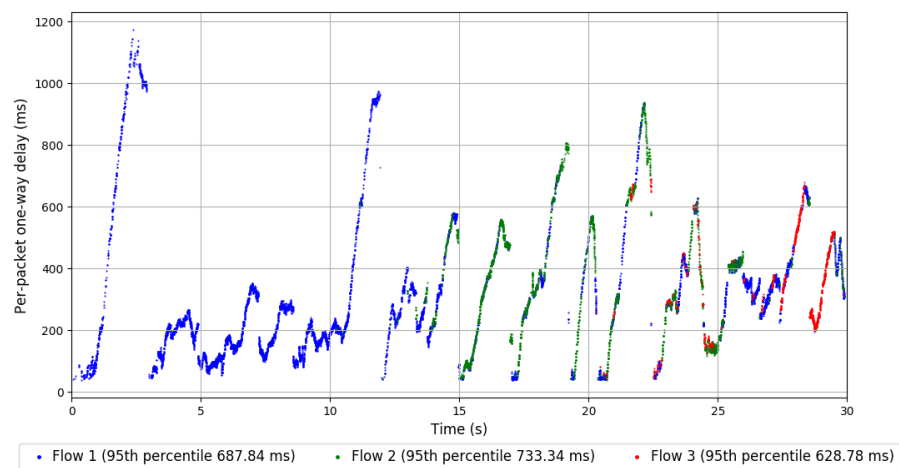
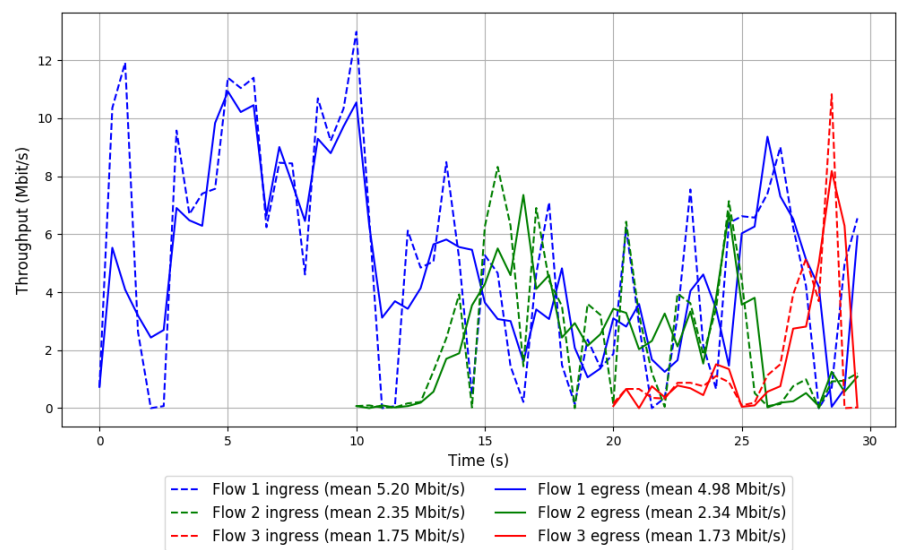


Run 3: Statistics of Verus

Start at: 2018-04-03 03:50:57
End at: 2018-04-03 03:51:27
Local clock offset: 2.862 ms
Remote clock offset: -0.514 ms

Below is generated by plot.py at 2018-04-03 04:01:05
Datalink statistics
-- Total of 3 flows:
Average throughput: 7.07 Mbit/s
95th percentile per-packet one-way delay: 686.019 ms
Loss rate: 3.37%
-- Flow 1:
Average throughput: 4.98 Mbit/s
95th percentile per-packet one-way delay: 687.836 ms
Loss rate: 4.28%
-- Flow 2:
Average throughput: 2.34 Mbit/s
95th percentile per-packet one-way delay: 733.341 ms
Loss rate: 1.45%
-- Flow 3:
Average throughput: 1.73 Mbit/s
95th percentile per-packet one-way delay: 628.782 ms
Loss rate: 0.21%

Run 3: Report of Verus — Data Link



Run 1: Statistics of Copa

Start at: 2018-04-03 03:16:51

End at: 2018-04-03 03:17:21

Local clock offset: 3.495 ms

Remote clock offset: 6.349 ms

Below is generated by plot.py at 2018-04-03 04:01:05

Datalink statistics

-- Total of 3 flows:

Average throughput: 2.94 Mbit/s

95th percentile per-packet one-way delay: 274.859 ms

Loss rate: 0.68%

-- Flow 1:

Average throughput: 1.62 Mbit/s

95th percentile per-packet one-way delay: 192.861 ms

Loss rate: 0.32%

-- Flow 2:

Average throughput: 1.33 Mbit/s

95th percentile per-packet one-way delay: 350.627 ms

Loss rate: 0.79%

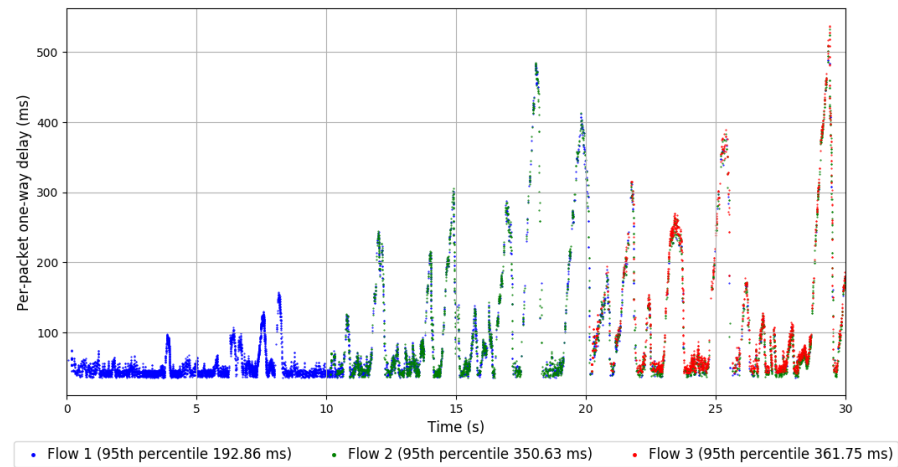
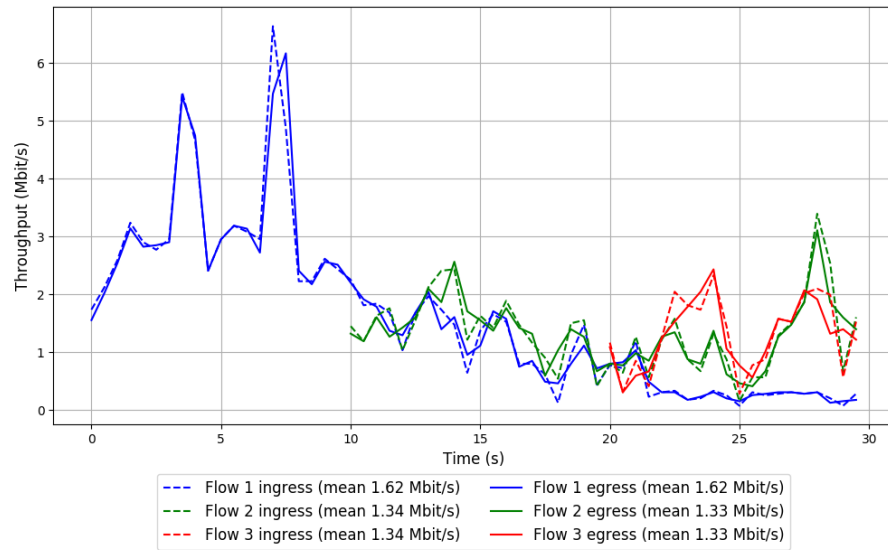
-- Flow 3:

Average throughput: 1.33 Mbit/s

95th percentile per-packet one-way delay: 361.750 ms

Loss rate: 1.77%

Run 1: Report of Copa — Data Link



Run 2: Statistics of Copa

Start at: 2018-04-03 03:36:41

End at: 2018-04-03 03:37:11

Local clock offset: 2.743 ms

Remote clock offset: 5.86 ms

Below is generated by plot.py at 2018-04-03 04:01:08

Datalink statistics

-- Total of 3 flows:

Average throughput: 3.76 Mbit/s

95th percentile per-packet one-way delay: 249.916 ms

Loss rate: 0.35%

-- Flow 1:

Average throughput: 2.17 Mbit/s

95th percentile per-packet one-way delay: 226.723 ms

Loss rate: 0.35%

-- Flow 2:

Average throughput: 1.64 Mbit/s

95th percentile per-packet one-way delay: 259.631 ms

Loss rate: 0.24%

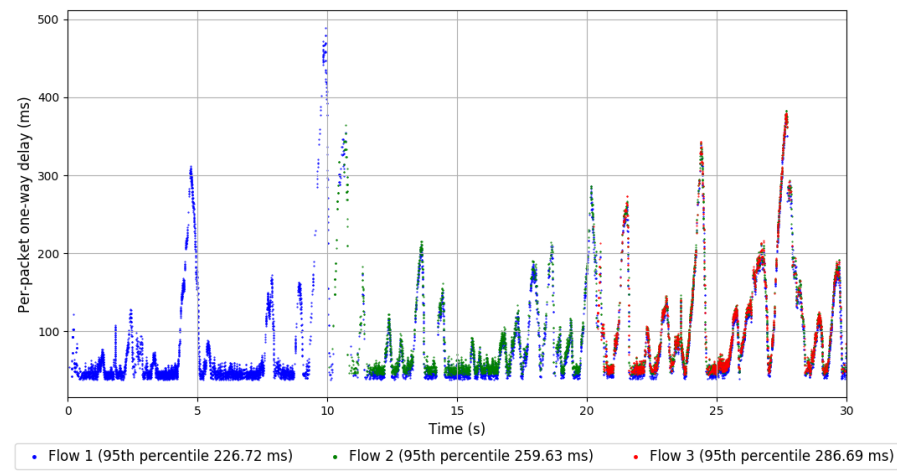
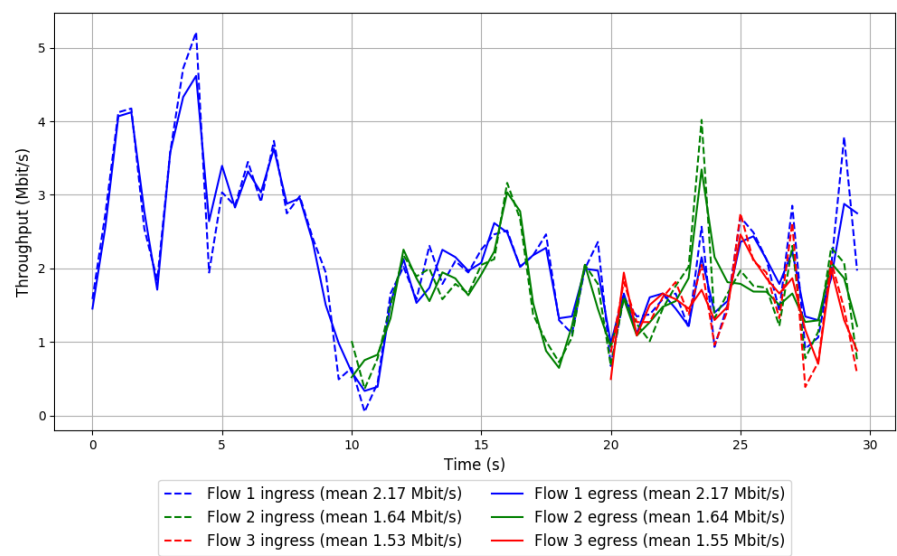
-- Flow 3:

Average throughput: 1.55 Mbit/s

95th percentile per-packet one-way delay: 286.695 ms

Loss rate: 0.59%

Run 2: Report of Copa — Data Link

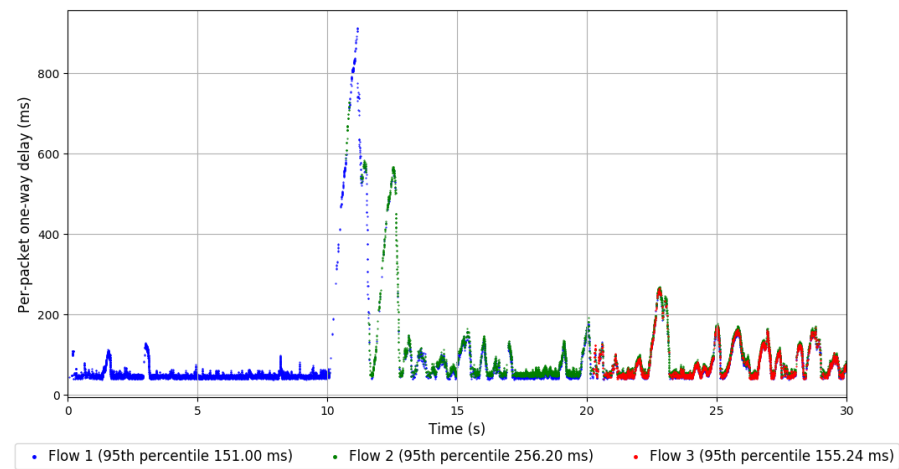
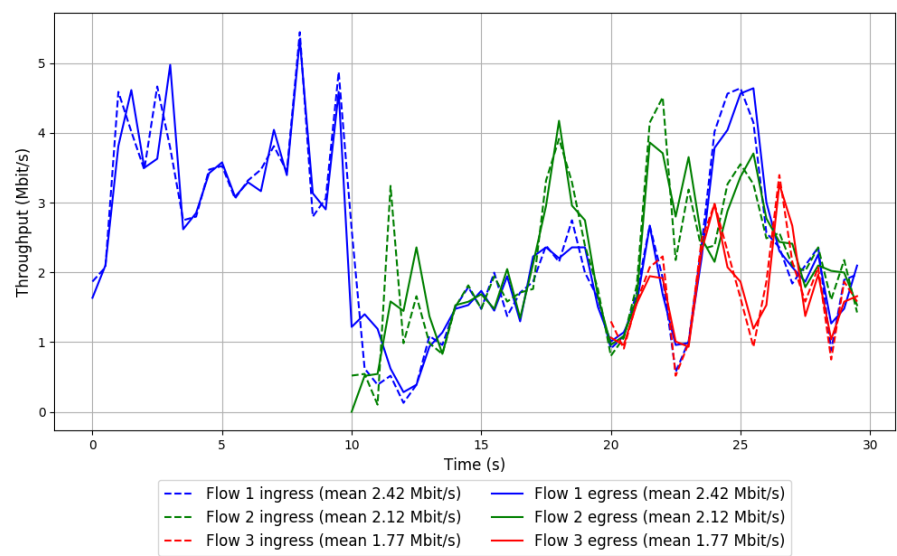


Run 3: Statistics of Copa

Start at: 2018-04-03 03:56:28
End at: 2018-04-03 03:56:58
Local clock offset: 3.096 ms
Remote clock offset: -1.332 ms

Below is generated by plot.py at 2018-04-03 04:01:13
Datalink statistics
-- Total of 3 flows:
Average throughput: 4.41 Mbit/s
95th percentile per-packet one-way delay: 166.830 ms
Loss rate: 0.35%
-- Flow 1:
Average throughput: 2.42 Mbit/s
95th percentile per-packet one-way delay: 151.002 ms
Loss rate: 0.24%
-- Flow 2:
Average throughput: 2.12 Mbit/s
95th percentile per-packet one-way delay: 256.200 ms
Loss rate: 0.34%
-- Flow 3:
Average throughput: 1.77 Mbit/s
95th percentile per-packet one-way delay: 155.237 ms
Loss rate: 0.82%

Run 3: Report of Copa — Data Link

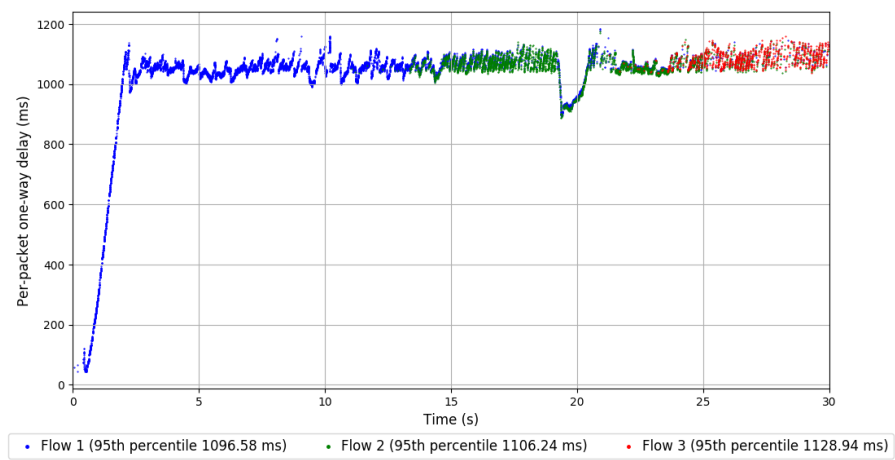
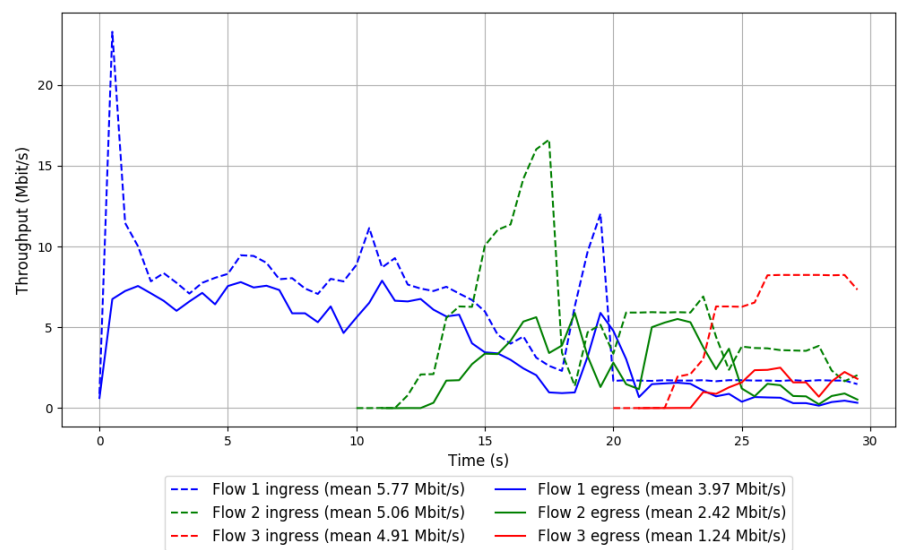


```
Run 1: Statistics of FillP

Start at: 2018-04-03 03:15:45
End at: 2018-04-03 03:16:15
Local clock offset: 1.651 ms
Remote clock offset: 5.463 ms

# Below is generated by plot.py at 2018-04-03 04:01:15
# Datalink statistics
-- Total of 3 flows:
Average throughput: 5.86 Mbit/s
95th percentile per-packet one-way delay: 1104.196 ms
Loss rate: 45.65%
-- Flow 1:
Average throughput: 3.97 Mbit/s
95th percentile per-packet one-way delay: 1096.584 ms
Loss rate: 31.31%
-- Flow 2:
Average throughput: 2.42 Mbit/s
95th percentile per-packet one-way delay: 1106.236 ms
Loss rate: 54.68%
-- Flow 3:
Average throughput: 1.24 Mbit/s
95th percentile per-packet one-way delay: 1128.940 ms
Loss rate: 77.80%
```

Run 1: Report of FillP — Data Link



Run 2: Statistics of FillP

Start at: 2018-04-03 03:35:34

End at: 2018-04-03 03:36:04

Local clock offset: 2.044 ms

Remote clock offset: 6.772 ms

Below is generated by plot.py at 2018-04-03 04:01:15

Datalink statistics

-- Total of 3 flows:

Average throughput: 3.84 Mbit/s

95th percentile per-packet one-way delay: 1120.648 ms

Loss rate: 66.44%

-- Flow 1:

Average throughput: 1.27 Mbit/s

95th percentile per-packet one-way delay: 1124.000 ms

Loss rate: 64.41%

-- Flow 2:

Average throughput: 2.81 Mbit/s

95th percentile per-packet one-way delay: 1117.010 ms

Loss rate: 65.36%

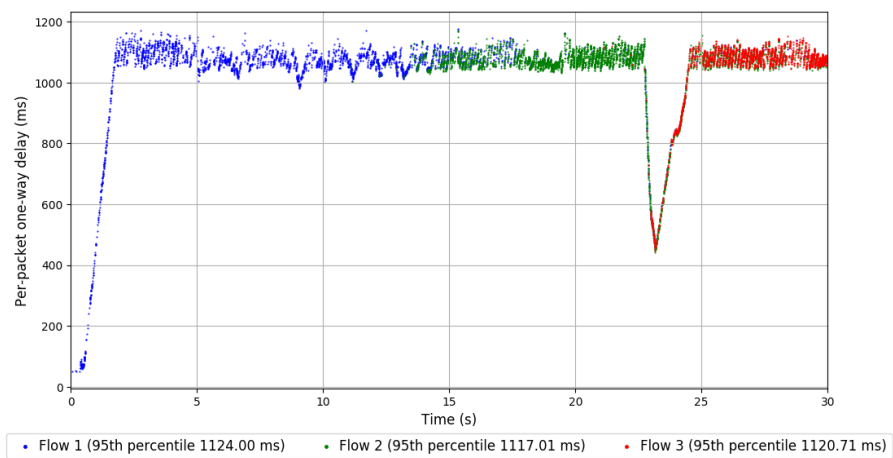
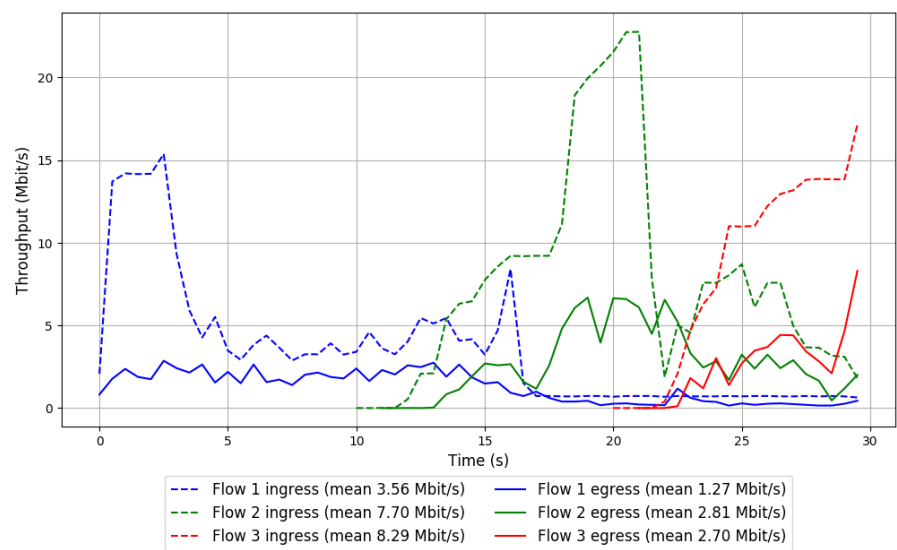
-- Flow 3:

Average throughput: 2.70 Mbit/s

95th percentile per-packet one-way delay: 1120.706 ms

Loss rate: 71.07%

Run 2: Report of FillP — Data Link

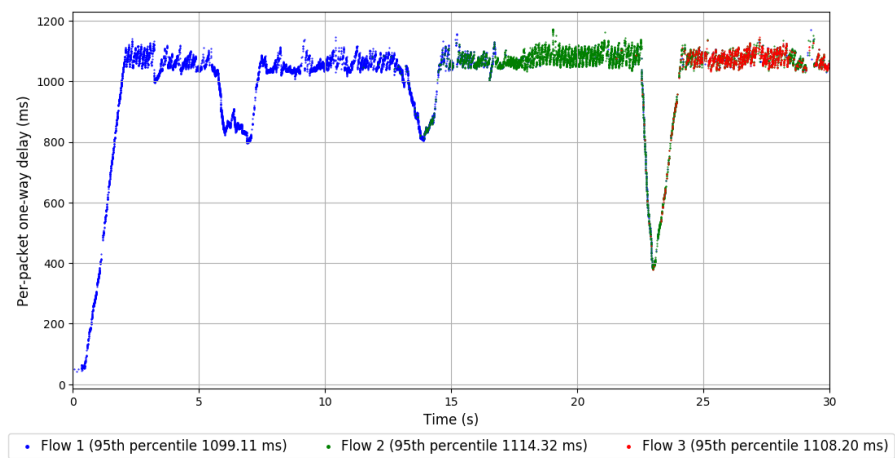
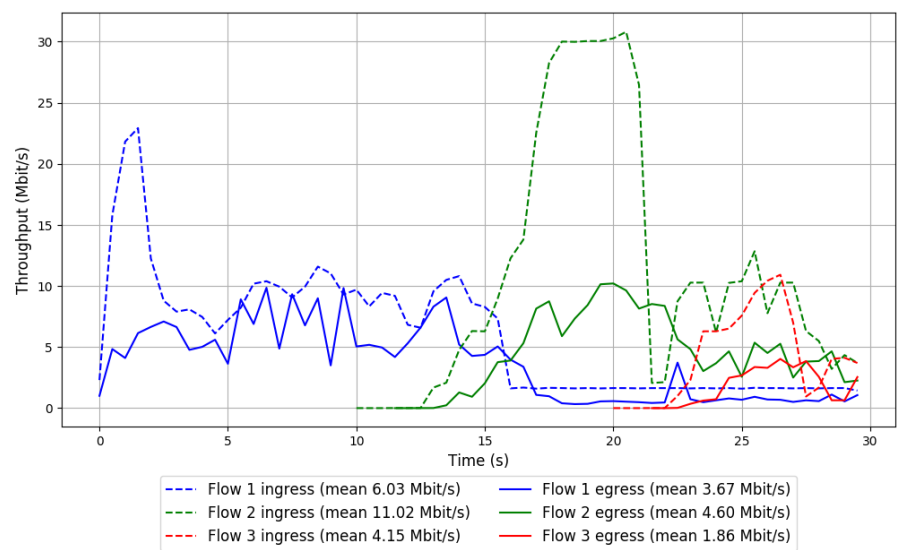


Run 3: Statistics of FillP

Start at: 2018-04-03 03:55:21
End at: 2018-04-03 03:55:52
Local clock offset: 2.765 ms
Remote clock offset: -2.706 ms

Below is generated by plot.py at 2018-04-03 04:01:21
Datalink statistics
-- Total of 3 flows:
Average throughput: 7.03 Mbit/s
95th percentile per-packet one-way delay: 1108.515 ms
Loss rate: 52.36%
-- Flow 1:
Average throughput: 3.67 Mbit/s
95th percentile per-packet one-way delay: 1099.107 ms
Loss rate: 39.23%
-- Flow 2:
Average throughput: 4.60 Mbit/s
95th percentile per-packet one-way delay: 1114.323 ms
Loss rate: 61.33%
-- Flow 3:
Average throughput: 1.86 Mbit/s
95th percentile per-packet one-way delay: 1108.199 ms
Loss rate: 62.09%

Run 3: Report of FillP — Data Link



Run 1: Statistics of Indigo-1-32

Start at: 2018-04-03 03:07:58

End at: 2018-04-03 03:08:28

Local clock offset: 4.114 ms

Remote clock offset: 4.605 ms

Below is generated by plot.py at 2018-04-03 04:01:21

Datalink statistics

-- Total of 3 flows:

Average throughput: 2.51 Mbit/s

95th percentile per-packet one-way delay: 168.325 ms

Loss rate: 0.34%

-- Flow 1:

Average throughput: 1.51 Mbit/s

95th percentile per-packet one-way delay: 131.670 ms

Loss rate: 0.19%

-- Flow 2:

Average throughput: 1.17 Mbit/s

95th percentile per-packet one-way delay: 210.491 ms

Loss rate: 0.47%

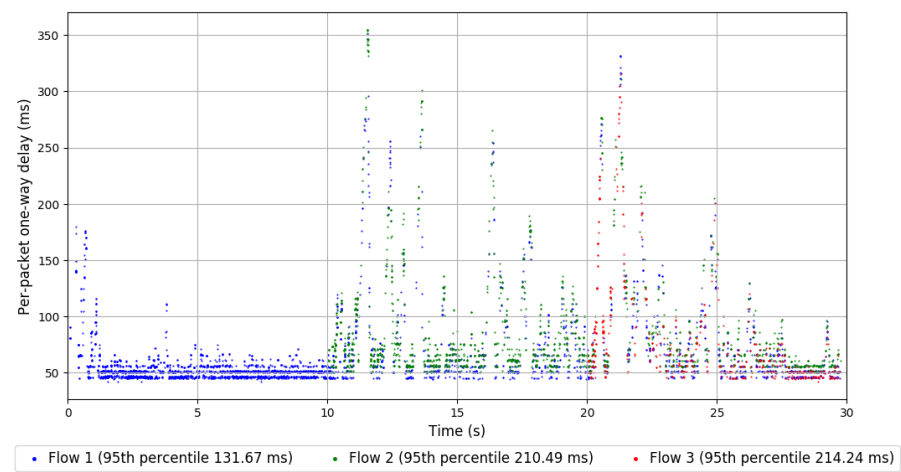
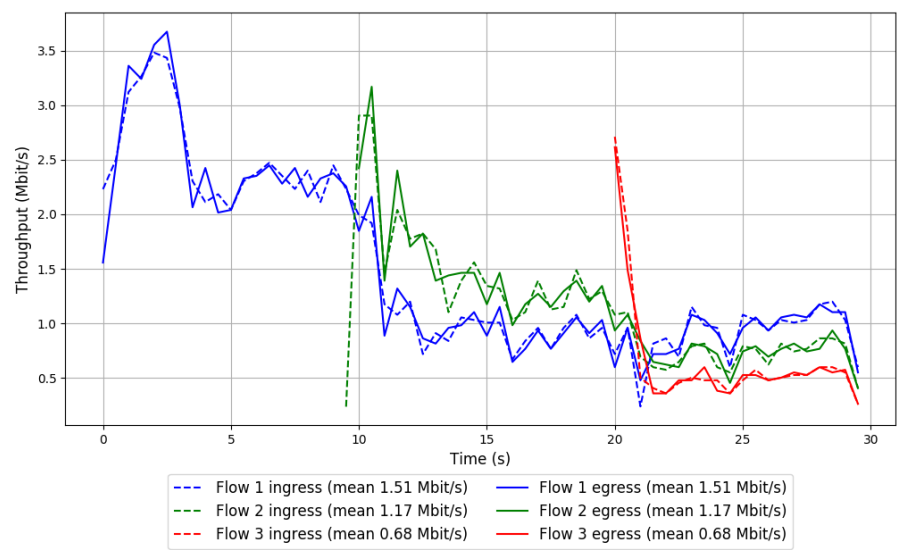
-- Flow 3:

Average throughput: 0.68 Mbit/s

95th percentile per-packet one-way delay: 214.242 ms

Loss rate: 0.91%

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



Run 2: Statistics of Indigo-1-32

Start at: 2018-04-03 03:27:53

End at: 2018-04-03 03:28:23

Local clock offset: 2.392 ms

Remote clock offset: 6.908 ms

Below is generated by plot.py at 2018-04-03 04:01:21

Datalink statistics

-- Total of 3 flows:

Average throughput: 4.35 Mbit/s

95th percentile per-packet one-way delay: 78.850 ms

Loss rate: 0.31%

-- Flow 1:

Average throughput: 2.34 Mbit/s

95th percentile per-packet one-way delay: 75.009 ms

Loss rate: 0.19%

-- Flow 2:

Average throughput: 1.75 Mbit/s

95th percentile per-packet one-way delay: 72.994 ms

Loss rate: 0.28%

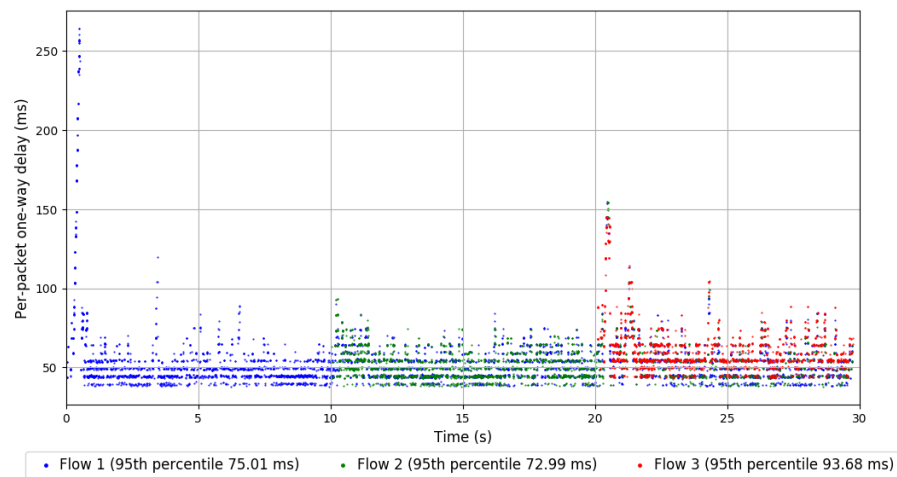
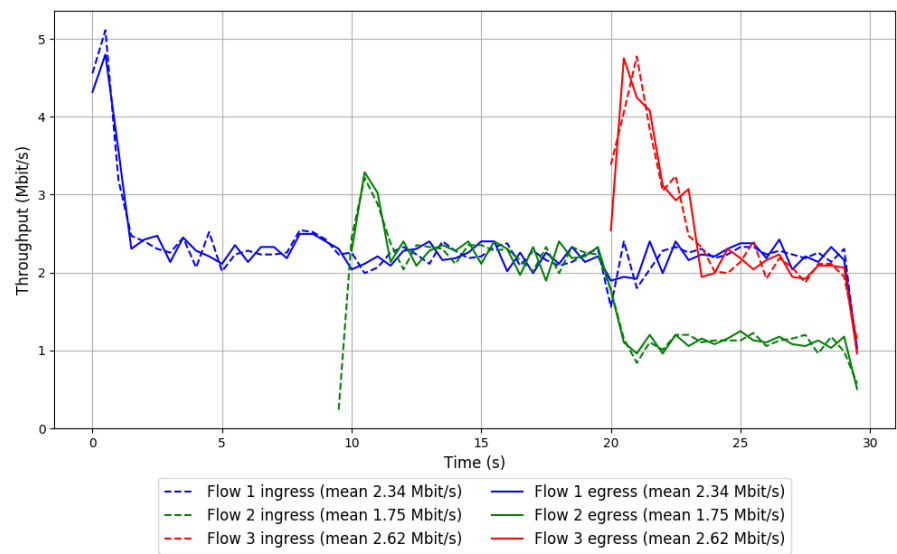
-- Flow 3:

Average throughput: 2.62 Mbit/s

95th percentile per-packet one-way delay: 93.682 ms

Loss rate: 0.71%

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

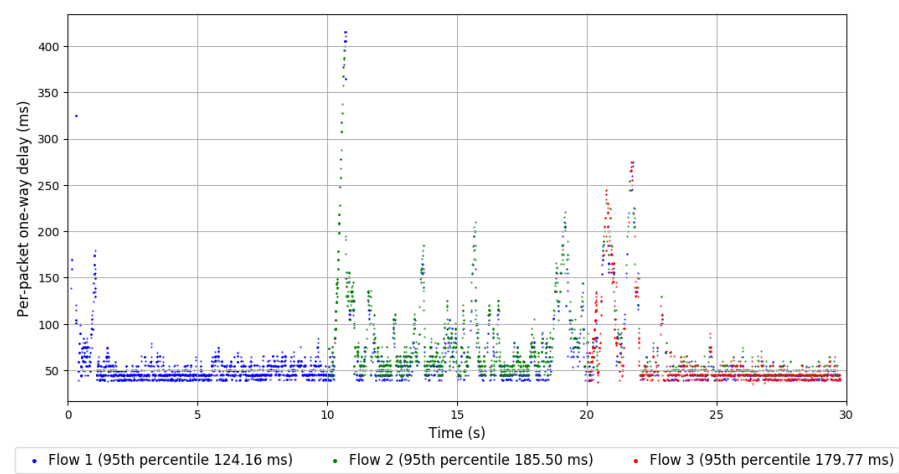
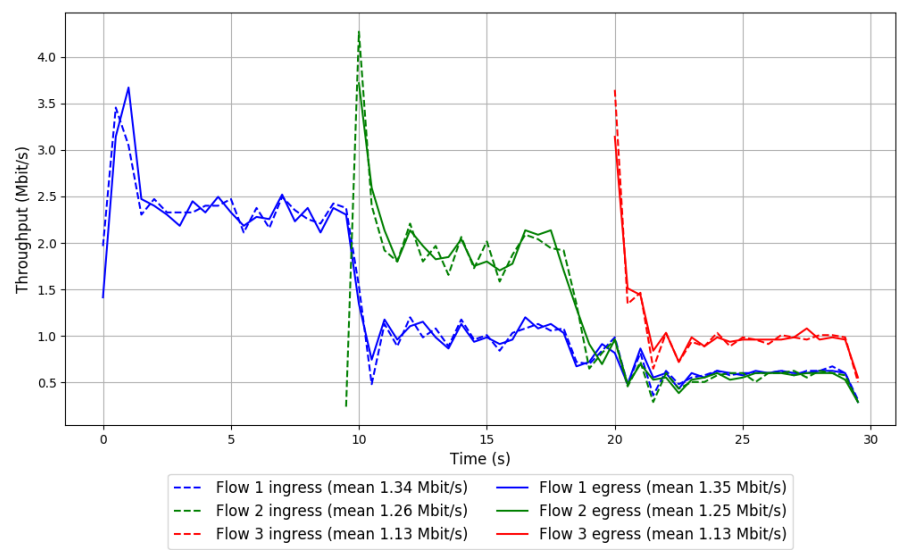


Run 3: Statistics of Indigo-1-32

Start at: 2018-04-03 03:47:40
End at: 2018-04-03 03:48:10
Local clock offset: 3.981 ms
Remote clock offset: -0.459 ms

Below is generated by plot.py at 2018-04-03 04:01:21
Datalink statistics
-- Total of 3 flows:
Average throughput: 2.55 Mbit/s
95th percentile per-packet one-way delay: 159.142 ms
Loss rate: 0.30%
-- Flow 1:
Average throughput: 1.35 Mbit/s
95th percentile per-packet one-way delay: 124.161 ms
Loss rate: 0.33%
-- Flow 2:
Average throughput: 1.25 Mbit/s
95th percentile per-packet one-way delay: 185.502 ms
Loss rate: 0.24%
-- Flow 3:
Average throughput: 1.13 Mbit/s
95th percentile per-packet one-way delay: 179.768 ms
Loss rate: 0.33%

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



Run 1: Statistics of Vivace-latency

Start at: 2018-04-03 03:02:28

End at: 2018-04-03 03:02:58

Local clock offset: 2.774 ms

Remote clock offset: 5.267 ms

Below is generated by plot.py at 2018-04-03 04:01:21

Datalink statistics

-- Total of 3 flows:

Average throughput: 4.12 Mbit/s

95th percentile per-packet one-way delay: 1002.006 ms

Loss rate: 8.23%

-- Flow 1:

Average throughput: 2.52 Mbit/s

95th percentile per-packet one-way delay: 206.723 ms

Loss rate: 4.51%

-- Flow 2:

Average throughput: 1.77 Mbit/s

95th percentile per-packet one-way delay: 1040.102 ms

Loss rate: 9.50%

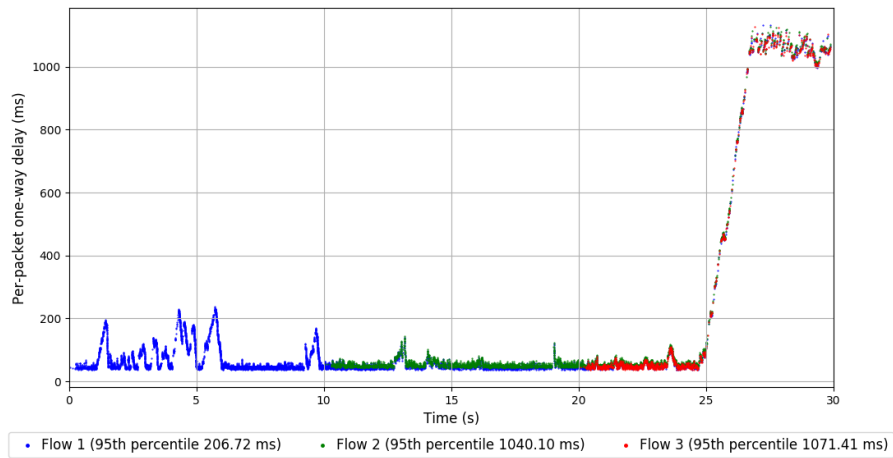
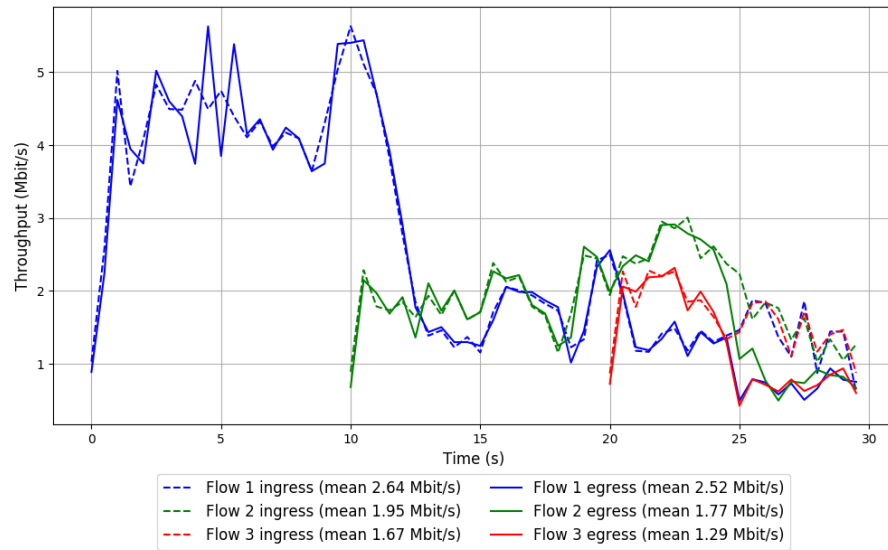
-- Flow 3:

Average throughput: 1.29 Mbit/s

95th percentile per-packet one-way delay: 1071.413 ms

Loss rate: 23.10%

Run 1: Report of Vivace-latency — Data Link



Run 2: Statistics of Vivace-latency

Start at: 2018-04-03 03:22:20

End at: 2018-04-03 03:22:50

Local clock offset: 1.09 ms

Remote clock offset: 6.774 ms

Below is generated by plot.py at 2018-04-03 04:01:21

Datalink statistics

-- Total of 3 flows:

Average throughput: 2.14 Mbit/s

95th percentile per-packet one-way delay: 1064.960 ms

Loss rate: 43.95%

-- Flow 1:

Average throughput: 1.80 Mbit/s

95th percentile per-packet one-way delay: 1056.581 ms

Loss rate: 37.12%

-- Flow 2:

Average throughput: 0.54 Mbit/s

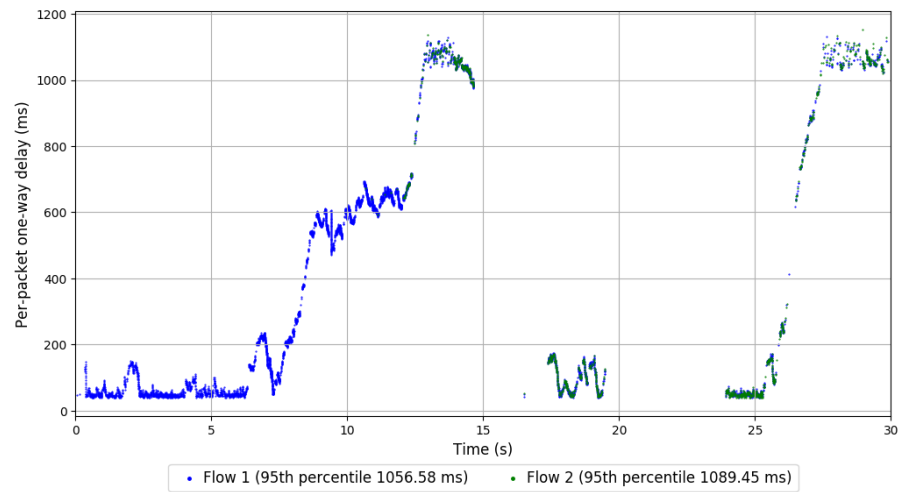
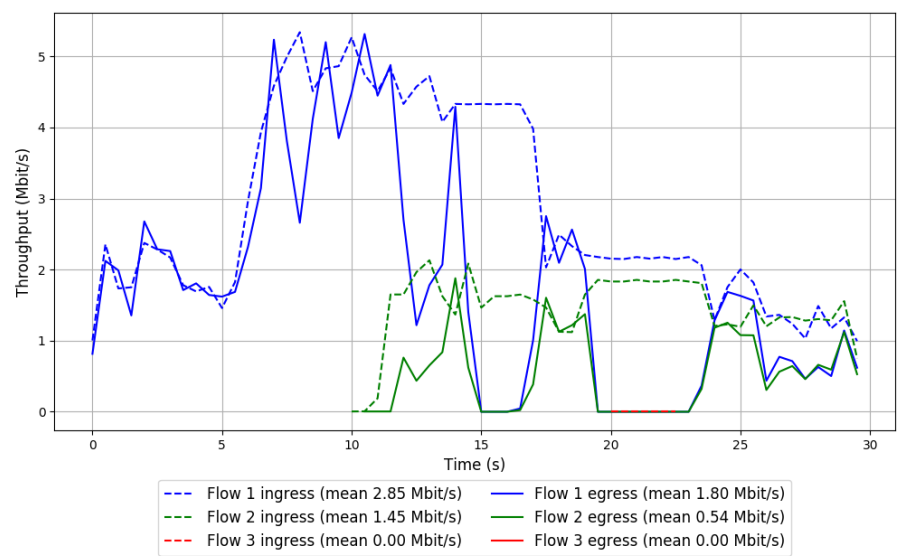
95th percentile per-packet one-way delay: 1089.454 ms

Loss rate: 64.10%

-- Flow 3:

Average throughput: 0.00 Mbit/s

Run 2: Report of Vivace-latency — Data Link

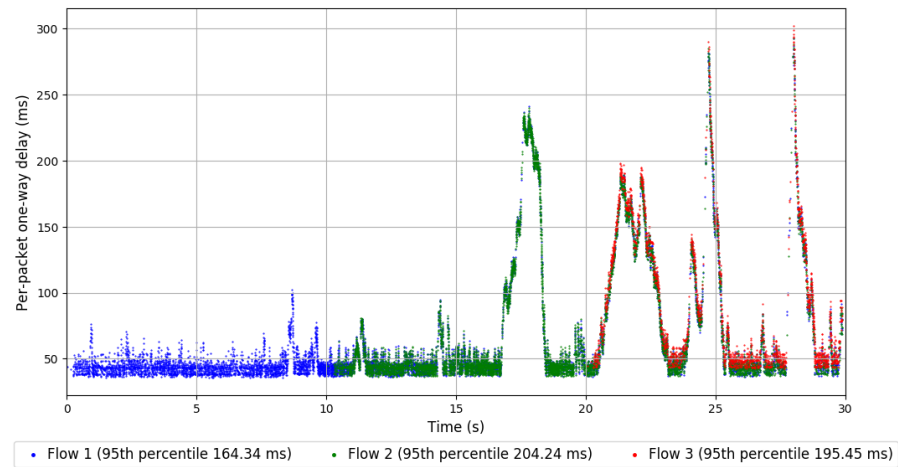
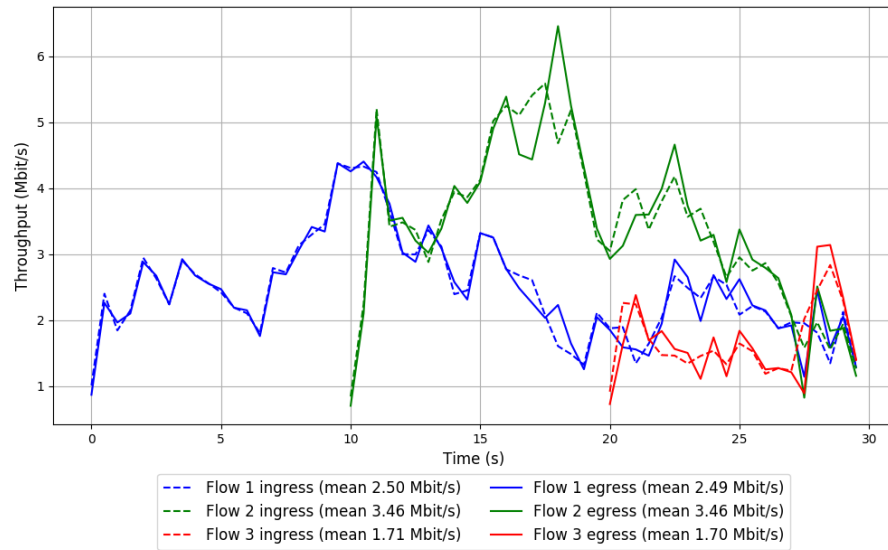


Run 3: Statistics of Vivace-latency

Start at: 2018-04-03 03:42:10
End at: 2018-04-03 03:42:40
Local clock offset: 4.54 ms
Remote clock offset: 1.987 ms

```
# Below is generated by plot.py at 2018-04-03 04:01:22
# Datalink statistics
-- Total of 3 flows:
Average throughput: 5.35 Mbit/s
95th percentile per-packet one-way delay: 193.065 ms
Loss rate: 0.22%
-- Flow 1:
Average throughput: 2.49 Mbit/s
95th percentile per-packet one-way delay: 164.345 ms
Loss rate: 0.14%
-- Flow 2:
Average throughput: 3.46 Mbit/s
95th percentile per-packet one-way delay: 204.244 ms
Loss rate: 0.20%
-- Flow 3:
Average throughput: 1.70 Mbit/s
95th percentile per-packet one-way delay: 195.451 ms
Loss rate: 0.64%
```

Run 3: Report of Vivace-latency — Data Link



Run 1: Statistics of Vivace-loss

Start at: 2018-04-03 03:19:03

End at: 2018-04-03 03:19:33

Local clock offset: 0.772 ms

Remote clock offset: 5.758 ms

Below is generated by plot.py at 2018-04-03 04:01:23

Datalink statistics

-- Total of 3 flows:

Average throughput: 4.59 Mbit/s

95th percentile per-packet one-way delay: 1090.278 ms

Loss rate: 32.79%

-- Flow 1:

Average throughput: 3.42 Mbit/s

95th percentile per-packet one-way delay: 1092.902 ms

Loss rate: 34.35%

-- Flow 2:

Average throughput: 1.44 Mbit/s

95th percentile per-packet one-way delay: 1086.260 ms

Loss rate: 24.32%

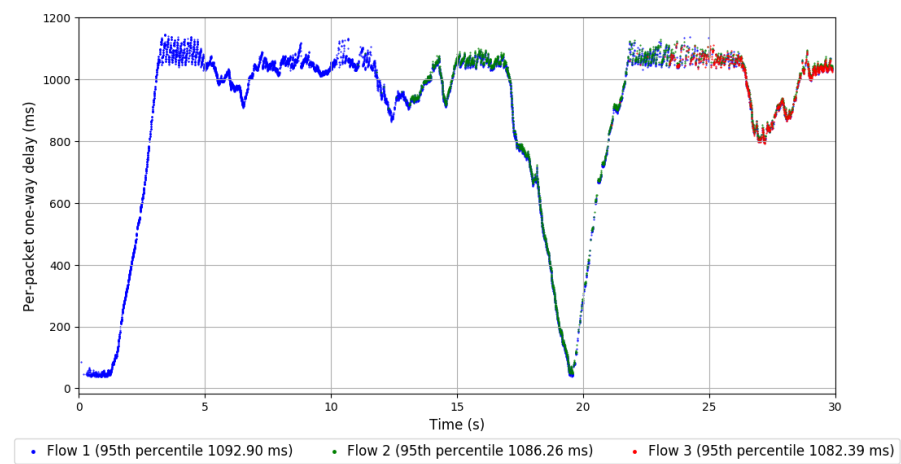
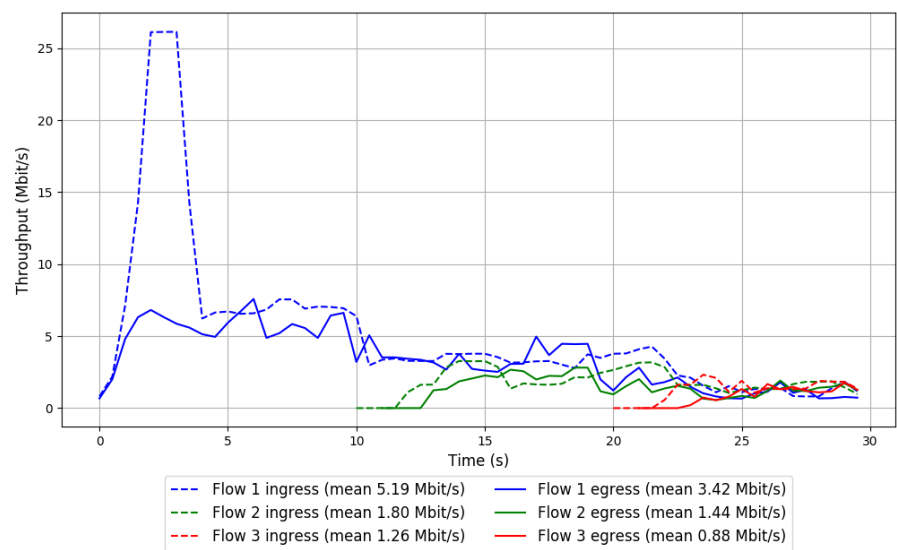
-- Flow 3:

Average throughput: 0.88 Mbit/s

95th percentile per-packet one-way delay: 1082.389 ms

Loss rate: 37.71%

Run 1: Report of Vivace-loss — Data Link



Run 2: Statistics of Vivace-loss

Start at: 2018-04-03 03:38:52

End at: 2018-04-03 03:39:22

Local clock offset: 2.7 ms

Remote clock offset: 3.248 ms

Below is generated by plot.py at 2018-04-03 04:01:27

Datalink statistics

-- Total of 3 flows:

Average throughput: 7.10 Mbit/s

95th percentile per-packet one-way delay: 1106.308 ms

Loss rate: 45.92%

-- Flow 1:

Average throughput: 5.01 Mbit/s

95th percentile per-packet one-way delay: 1108.608 ms

Loss rate: 48.69%

-- Flow 2:

Average throughput: 2.39 Mbit/s

95th percentile per-packet one-way delay: 1099.035 ms

Loss rate: 39.51%

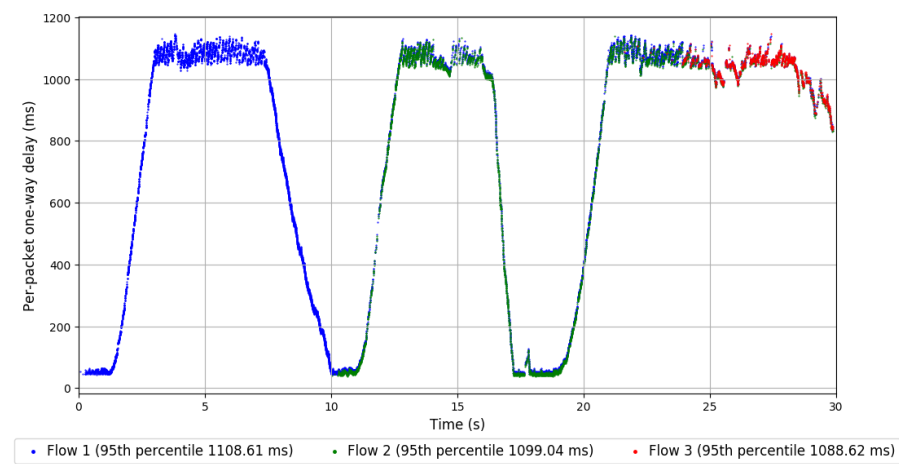
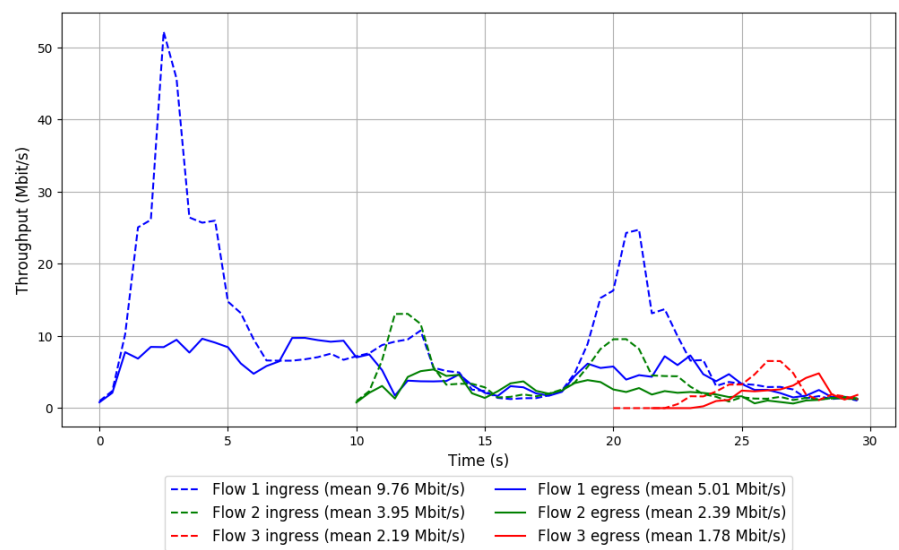
-- Flow 3:

Average throughput: 1.78 Mbit/s

95th percentile per-packet one-way delay: 1088.619 ms

Loss rate: 31.93%

Run 2: Report of Vivace-loss — Data Link

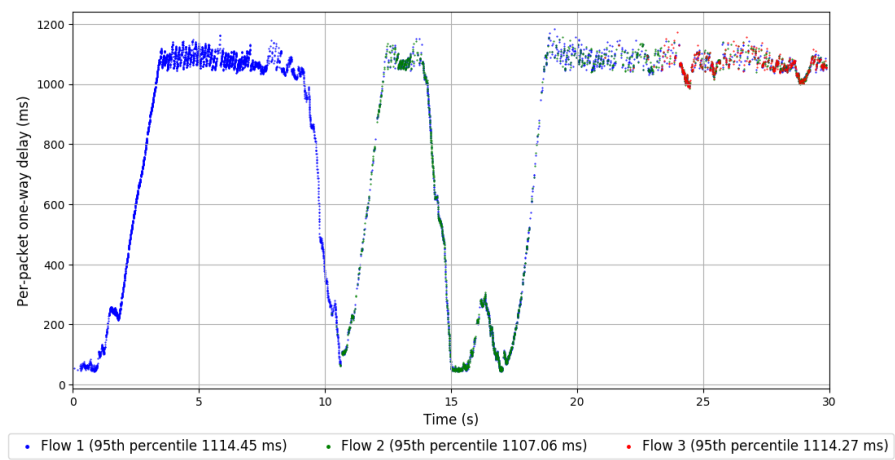
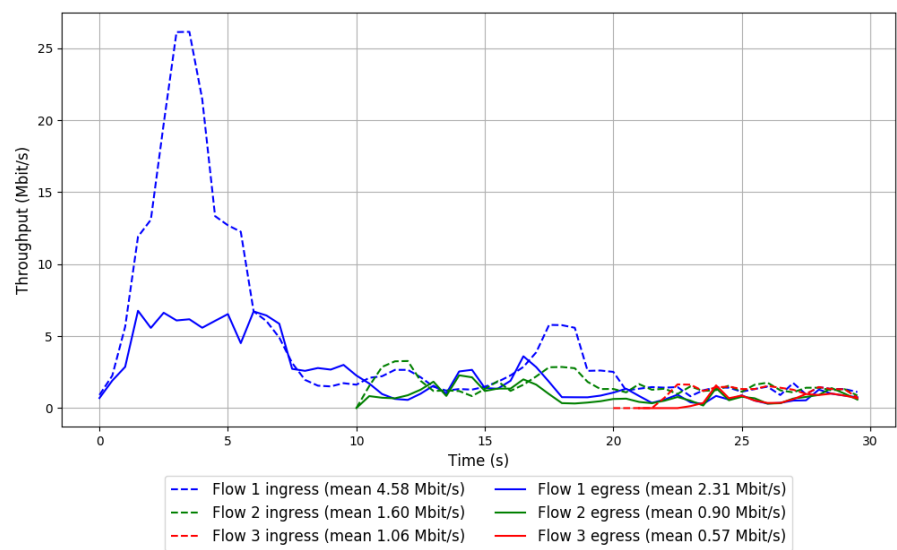


Run 3: Statistics of Vivace-loss

Start at: 2018-04-03 03:58:39
End at: 2018-04-03 03:59:09
Local clock offset: 3.74 ms
Remote clock offset: -2.146 ms

Below is generated by plot.py at 2018-04-03 04:01:27
Datalink statistics
-- Total of 3 flows:
Average throughput: 3.07 Mbit/s
95th percentile per-packet one-way delay: 1113.347 ms
Loss rate: 48.94%
-- Flow 1:
Average throughput: 2.31 Mbit/s
95th percentile per-packet one-way delay: 1114.453 ms
Loss rate: 49.70%
-- Flow 2:
Average throughput: 0.90 Mbit/s
95th percentile per-packet one-way delay: 1107.063 ms
Loss rate: 44.68%
-- Flow 3:
Average throughput: 0.57 Mbit/s
95th percentile per-packet one-way delay: 1114.267 ms
Loss rate: 52.08%

Run 3: Report of Vivace-loss — Data Link



Run 1: Statistics of Vivace-LTE

Start at: 2018-04-03 03:00:16

End at: 2018-04-03 03:00:46

Local clock offset: 1.729 ms

Remote clock offset: 6.315 ms

Below is generated by plot.py at 2018-04-03 04:01:27

Datalink statistics

-- Total of 3 flows:

Average throughput: 7.65 Mbit/s

95th percentile per-packet one-way delay: 1076.120 ms

Loss rate: 15.68%

-- Flow 1:

Average throughput: 6.04 Mbit/s

95th percentile per-packet one-way delay: 1071.464 ms

Loss rate: 13.31%

-- Flow 2:

Average throughput: 1.42 Mbit/s

95th percentile per-packet one-way delay: 1084.648 ms

Loss rate: 20.95%

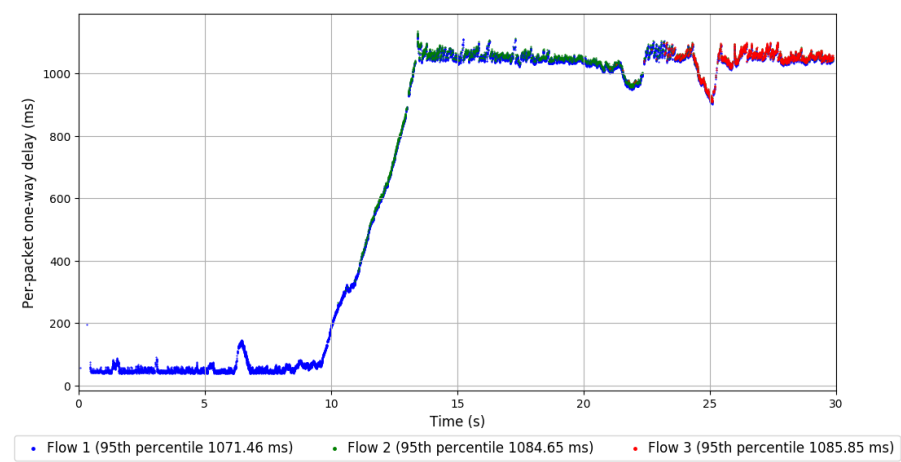
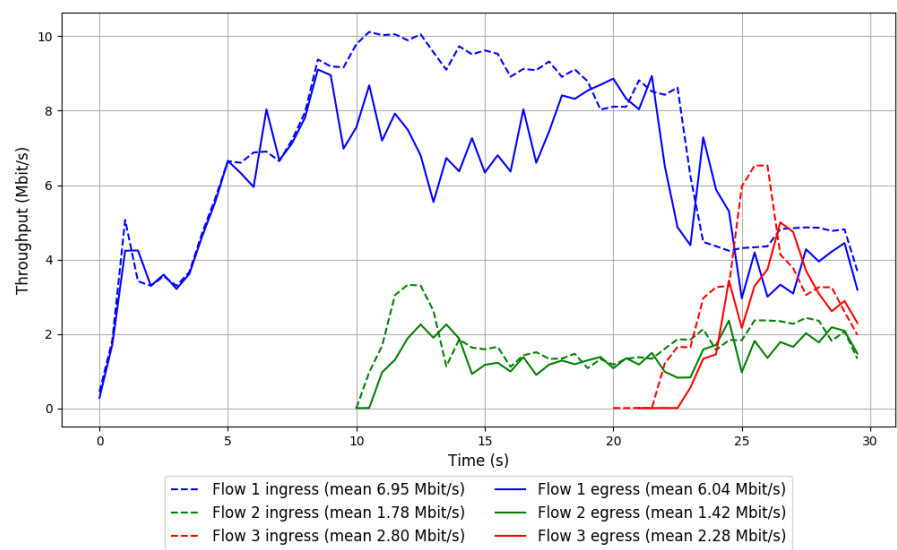
-- Flow 3:

Average throughput: 2.28 Mbit/s

95th percentile per-packet one-way delay: 1085.850 ms

Loss rate: 26.82%

Run 1: Report of Vivace-LTE — Data Link



Run 2: Statistics of Vivace-LTE

Start at: 2018-04-03 03:20:09

End at: 2018-04-03 03:20:39

Local clock offset: 2.914 ms

Remote clock offset: 5.158 ms

Below is generated by plot.py at 2018-04-03 04:01:27

Datalink statistics

-- Total of 3 flows:

Average throughput: 3.40 Mbit/s

95th percentile per-packet one-way delay: 1069.884 ms

Loss rate: 21.03%

-- Flow 1:

Average throughput: 1.75 Mbit/s

95th percentile per-packet one-way delay: 1057.923 ms

Loss rate: 13.33%

-- Flow 2:

Average throughput: 1.49 Mbit/s

95th percentile per-packet one-way delay: 1073.056 ms

Loss rate: 28.63%

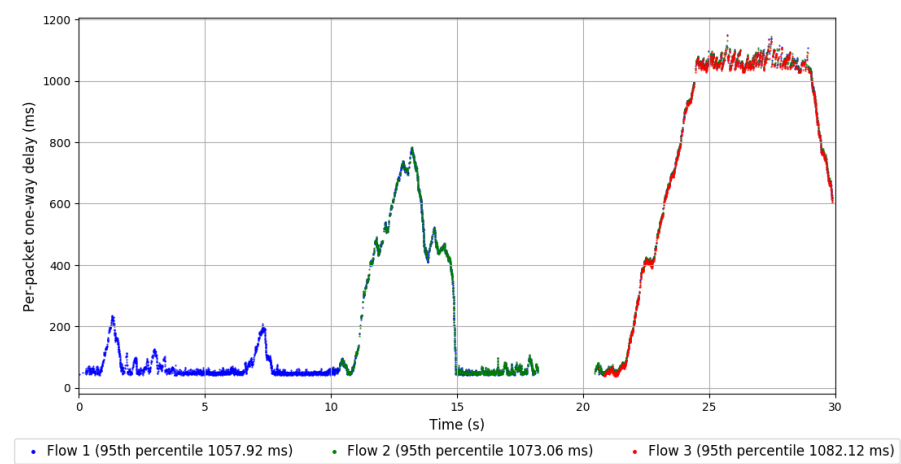
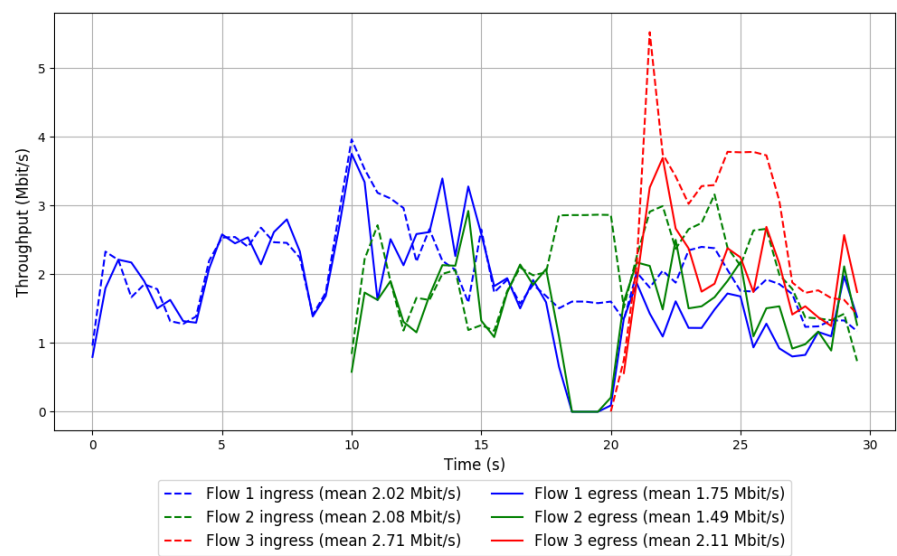
-- Flow 3:

Average throughput: 2.11 Mbit/s

95th percentile per-packet one-way delay: 1082.120 ms

Loss rate: 26.69%

Run 2: Report of Vivace-LTE — Data Link



Run 3: Statistics of Vivace-LTE

Start at: 2018-04-03 03:39:58

End at: 2018-04-03 03:40:28

Local clock offset: 1.651 ms

Remote clock offset: 3.299 ms

Below is generated by plot.py at 2018-04-03 04:01:27

Datalink statistics

-- Total of 3 flows:

Average throughput: 8.18 Mbit/s

95th percentile per-packet one-way delay: 1064.174 ms

Loss rate: 9.23%

-- Flow 1:

Average throughput: 6.77 Mbit/s

95th percentile per-packet one-way delay: 1063.243 ms

Loss rate: 8.58%

-- Flow 2:

Average throughput: 1.39 Mbit/s

95th percentile per-packet one-way delay: 1074.645 ms

Loss rate: 15.01%

-- Flow 3:

Average throughput: 1.69 Mbit/s

95th percentile per-packet one-way delay: 651.818 ms

Loss rate: 7.10%

Run 3: Report of Vivace-LTE — Data Link

