

Pantheon Report

Generated at 2018-03-20 10:39:03 (UTC).

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

Repeated the test of 17 congestion control schemes 3 times.

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

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

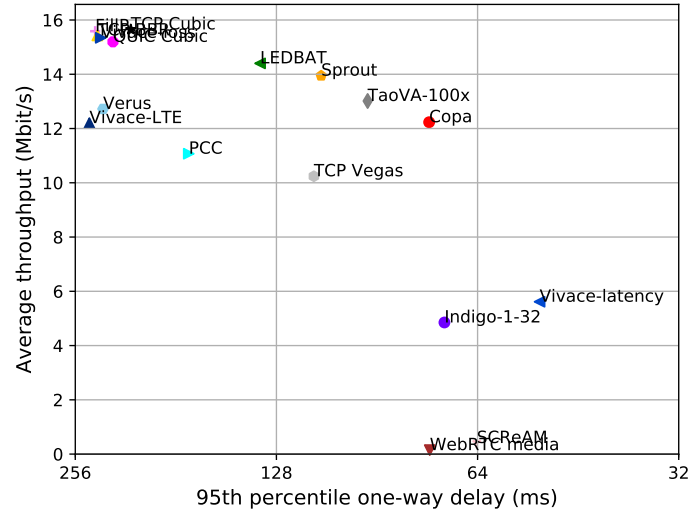
Tested BBR with qdisc of Fair Queuing (**fq**), and other schemes with the default Linux qdisc (**pfifo_fast**).

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

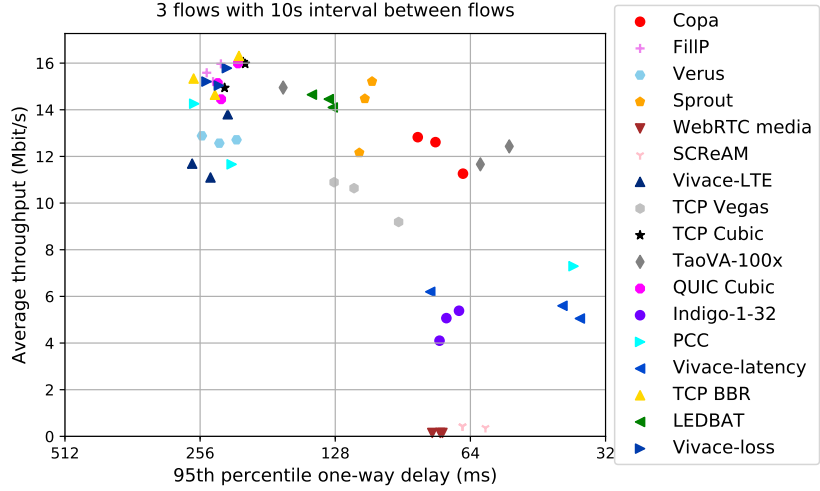
Git summary:

```
branch: master @ f12c42a2c63fdd9a862eefa0468859bf379b6623
third_party/calibrated_koho @ 3cb73c0d1c0322cdfae446ea37a522e53227db50
M datagrump/sender.cc
third_party/fillp @ 828bbf95fd4941149b5cec90f281d1c69ae1a5c6
third_party/genericCC @ 9249eea3238475c4d8cca1443d28df70bff6c4a2
third_party/indigo @ a9b2060d39e4da2e8987e893e3eca2a6c7cd0ab9
third_party/indigo-1-layer-128-unit @ 3ae9e4ef4230db7484501f82ce8b377695f2f66d
third_party/indigo-1-layer-32-unit @ 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 @ a488197ddd041ace68a42849b2540ad834825f42
```

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



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



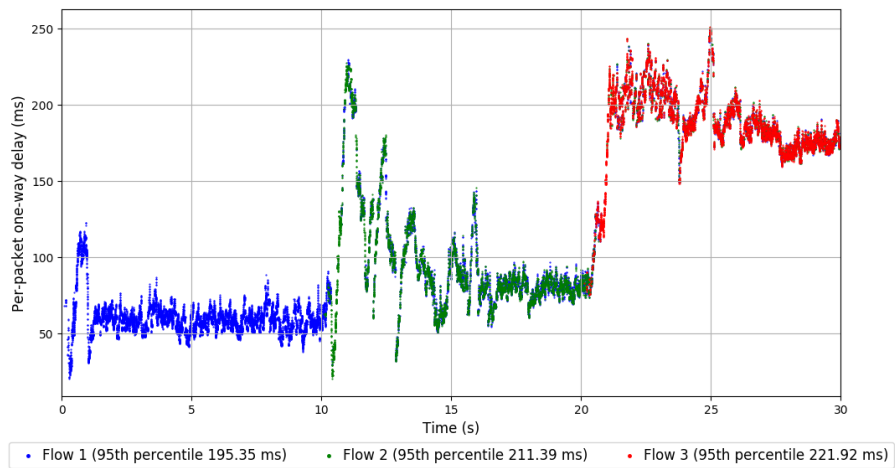
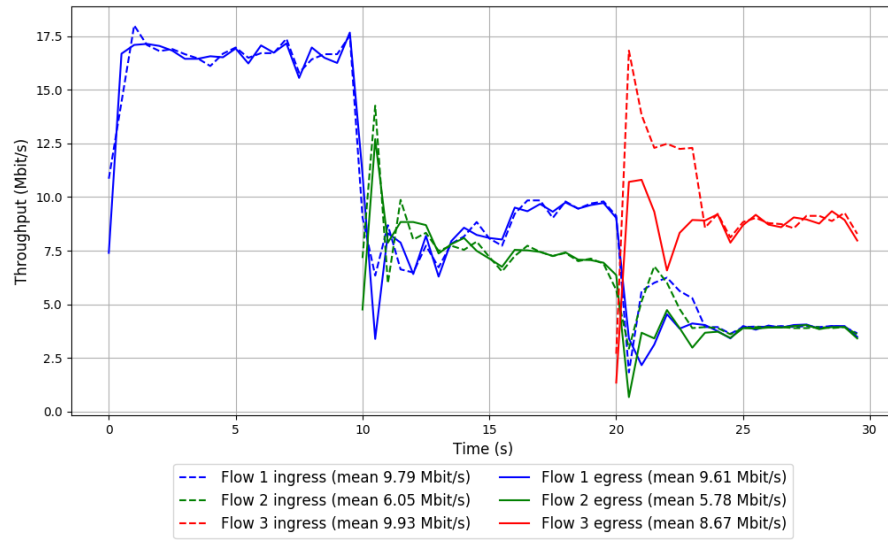
scheme	# runs	mean avg tput (Mbit/s)			mean 95th-%ile delay (ms)			mean loss rate (%)		
		flow 1	flow 2	flow 3	flow 1	flow 2	flow 3	flow 1	flow 2	flow 3
TCP BBR	3	9.02	5.51	8.37	216.76	234.76	254.08	1.94	4.39	13.93
TCP Cubic	3	11.29	4.85	3.58	212.41	210.26	211.25	0.62	1.16	2.34
LEDBAT	3	9.92	4.88	3.81	134.62	135.26	126.12	0.29	0.57	1.63
PCC	3	8.12	3.23	2.51	172.42	174.48	176.16	7.44	10.11	11.91
QUIC Cubic	3	11.14	3.92	4.52	226.01	224.67	221.53	1.48	2.49	4.17
SCReAM	3	0.20	0.22	0.22	64.31	58.53	51.85	0.24	0.20	0.61
WebRTC media	3	0.05	0.05	0.05	69.75	72.36	77.46	0.00	0.00	0.02
Sprout	3	8.35	5.93	5.11	103.28	112.30	120.04	1.63	1.85	2.04
TaoVA-100x	3	6.92	6.29	5.80	98.38	57.94	61.08	0.28	1.14	1.97
TCP Vegas	3	5.85	3.97	5.34	112.39	93.42	81.71	0.06	0.21	0.40
Verus	3	7.68	6.40	2.69	224.33	238.13	248.68	10.62	13.47	25.02
Copa	3	7.06	5.69	4.18	72.33	76.89	84.37	0.14	0.49	1.50
FillP	3	12.13	3.23	4.20	237.39	245.05	248.33	47.95	85.75	89.29
Indigo-1-32	3	1.75	2.96	3.45	74.68	70.36	64.59	0.34	0.37	0.39
Vivace-latency	3	2.77	2.99	2.61	45.37	57.57	38.36	0.19	0.28	0.46
Vivace-loss	3	12.66	2.75	2.69	232.64	238.00	248.33	20.09	14.89	17.31
Vivace-LTE	3	8.76	3.92	2.59	241.13	243.93	259.09	5.94	7.29	12.35

Run 1: Statistics of TCP BBR

Start at: 2018-03-20 08:29:53
End at: 2018-03-20 08:30:23
Local clock offset: 0.564 ms
Remote clock offset: -6.346 ms

Below is generated by plot.py at 2018-03-20 10:37:30
Datalink statistics
-- Total of 3 flows:
Average throughput: 16.31 Mbit/s
95th percentile per-packet one-way delay: 209.794 ms
Loss rate: 4.97%
-- Flow 1:
Average throughput: 9.61 Mbit/s
95th percentile per-packet one-way delay: 195.353 ms
Loss rate: 2.08%
-- Flow 2:
Average throughput: 5.78 Mbit/s
95th percentile per-packet one-way delay: 211.394 ms
Loss rate: 4.86%
-- Flow 3:
Average throughput: 8.67 Mbit/s
95th percentile per-packet one-way delay: 221.916 ms
Loss rate: 13.70%

Run 1: Report of TCP BBR — Data Link



Run 2: Statistics of TCP BBR

Start at: 2018-03-20 08:53:42

End at: 2018-03-20 08:54:12

Local clock offset: -0.514 ms

Remote clock offset: -5.09 ms

Below is generated by plot.py at 2018-03-20 10:37:30

Datalink statistics

-- Total of 3 flows:

Average throughput: 14.65 Mbit/s

95th percentile per-packet one-way delay: 237.224 ms

Loss rate: 4.06%

-- Flow 1:

Average throughput: 7.75 Mbit/s

95th percentile per-packet one-way delay: 211.093 ms

Loss rate: 1.49%

-- Flow 2:

Average throughput: 5.92 Mbit/s

95th percentile per-packet one-way delay: 234.790 ms

Loss rate: 4.31%

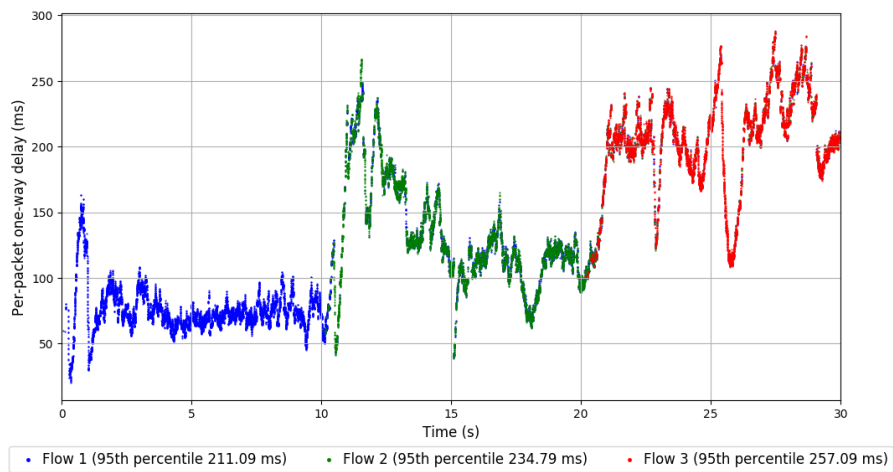
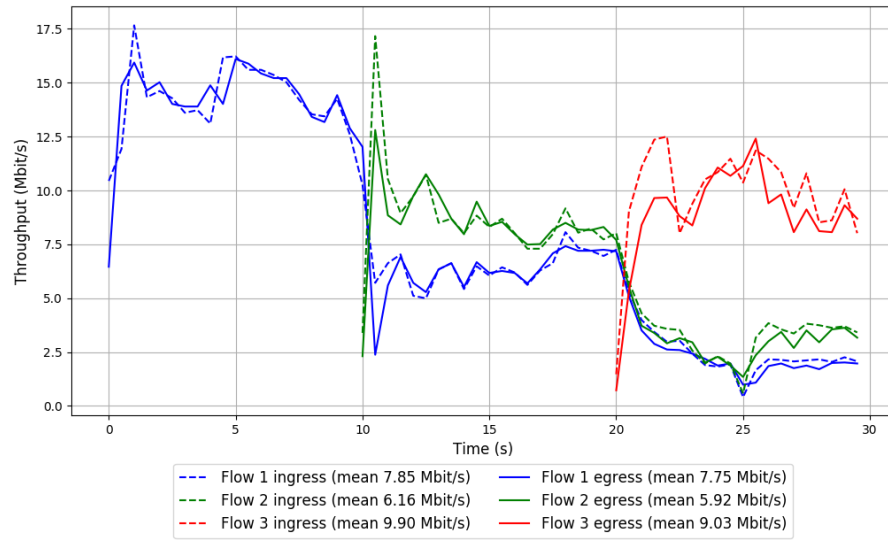
-- Flow 3:

Average throughput: 9.03 Mbit/s

95th percentile per-packet one-way delay: 257.088 ms

Loss rate: 9.92%

Run 2: Report of TCP BBR — Data Link



Run 3: Statistics of TCP BBR

Start at: 2018-03-20 09:17:33

End at: 2018-03-20 09:18:03

Local clock offset: 2.049 ms

Remote clock offset: -5.87 ms

Below is generated by plot.py at 2018-03-20 10:37:30

Datalink statistics

-- Total of 3 flows:

Average throughput: 15.34 Mbit/s

95th percentile per-packet one-way delay: 264.669 ms

Loss rate: 5.52%

-- Flow 1:

Average throughput: 9.71 Mbit/s

95th percentile per-packet one-way delay: 243.842 ms

Loss rate: 2.25%

-- Flow 2:

Average throughput: 4.83 Mbit/s

95th percentile per-packet one-way delay: 258.092 ms

Loss rate: 4.01%

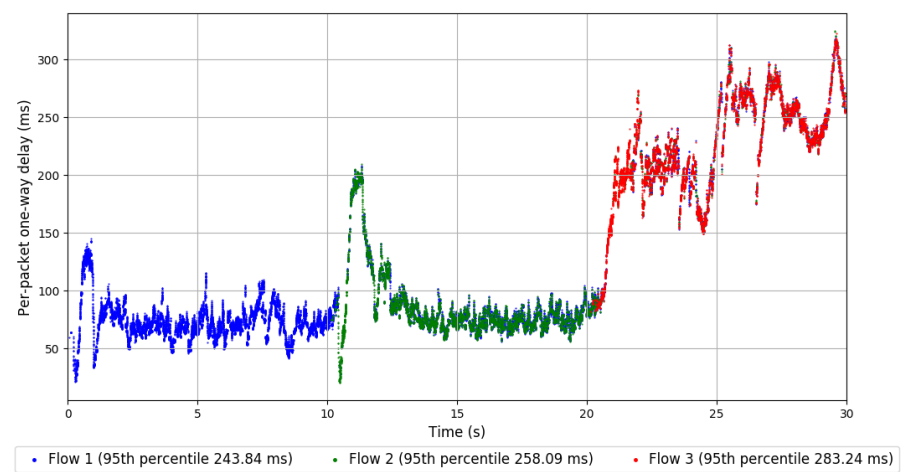
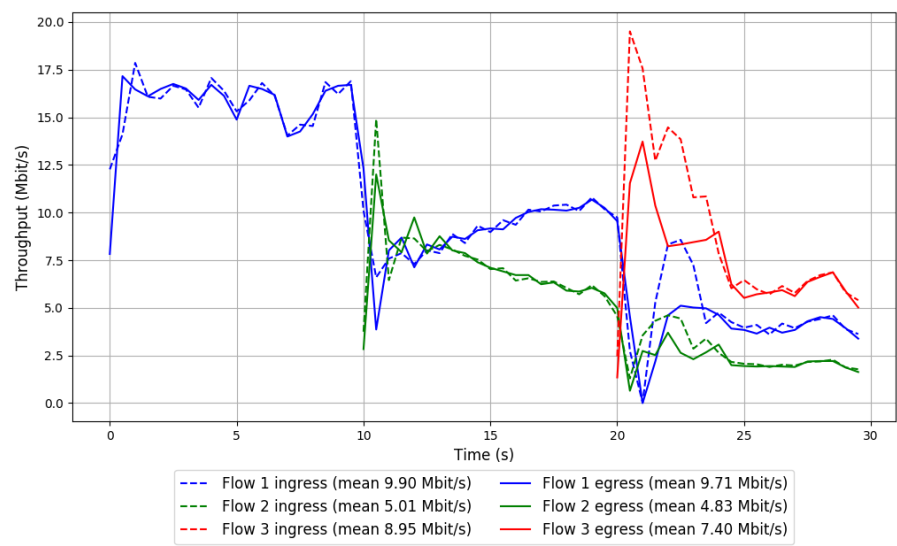
-- Flow 3:

Average throughput: 7.40 Mbit/s

95th percentile per-packet one-way delay: 283.238 ms

Loss rate: 18.17%

Run 3: Report of TCP BBR — Data Link

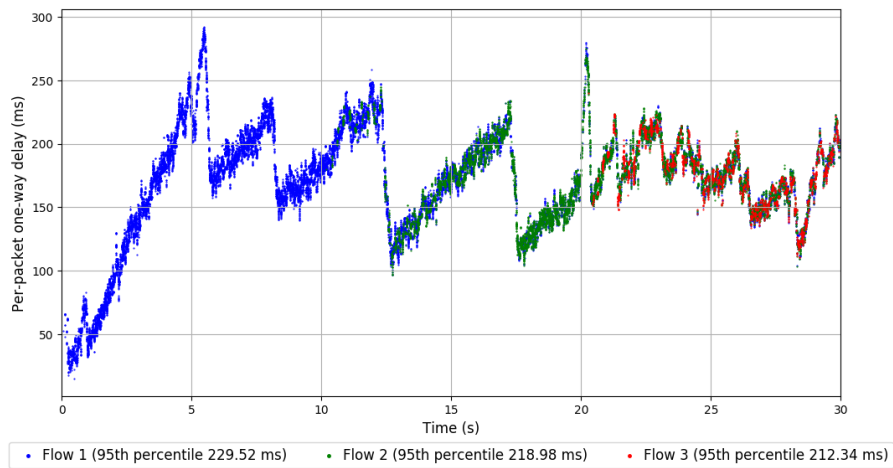
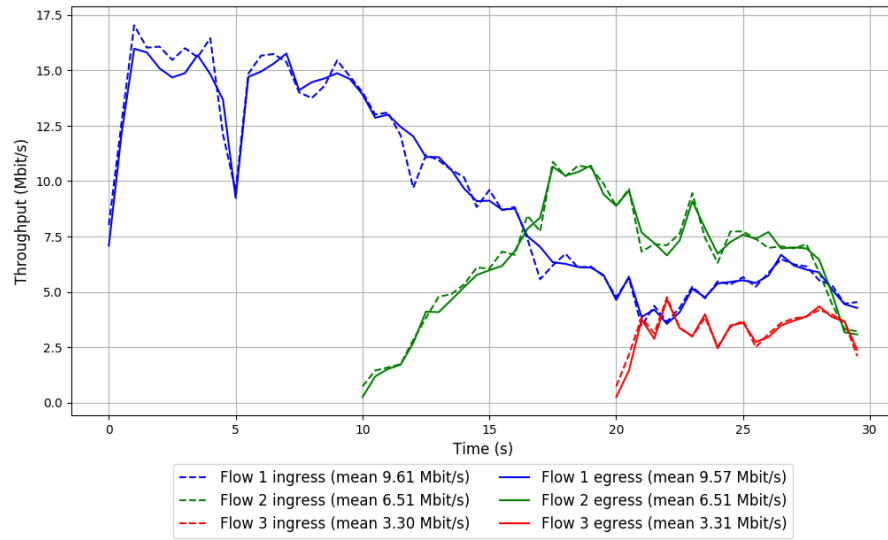


Run 1: Statistics of TCP Cubic

Start at: 2018-03-20 08:16:37
End at: 2018-03-20 08:17:07
Local clock offset: 2.225 ms
Remote clock offset: -6.095 ms

Below is generated by plot.py at 2018-03-20 10:37:30
Datalink statistics
-- Total of 3 flows:
Average throughput: 14.94 Mbit/s
95th percentile per-packet one-way delay: 225.809 ms
Loss rate: 0.83%
-- Flow 1:
Average throughput: 9.57 Mbit/s
95th percentile per-packet one-way delay: 229.521 ms
Loss rate: 0.65%
-- Flow 2:
Average throughput: 6.51 Mbit/s
95th percentile per-packet one-way delay: 218.981 ms
Loss rate: 0.90%
-- Flow 3:
Average throughput: 3.31 Mbit/s
95th percentile per-packet one-way delay: 212.337 ms
Loss rate: 2.10%

Run 1: Report of TCP Cubic — Data Link

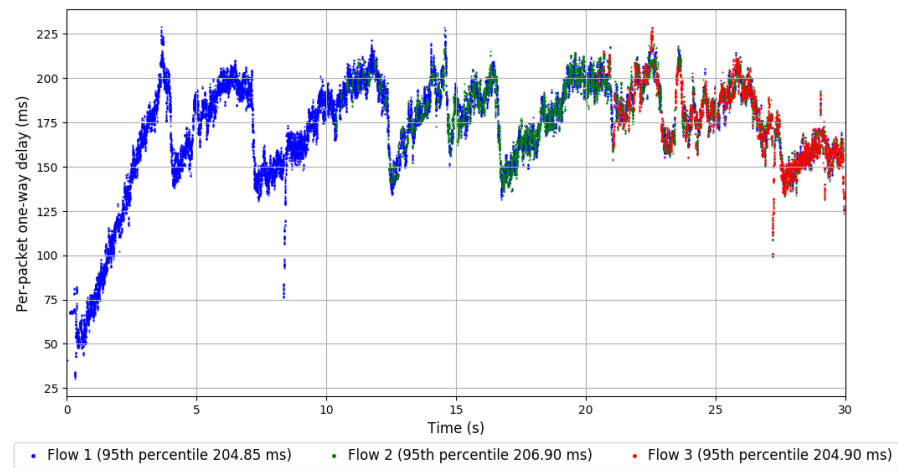
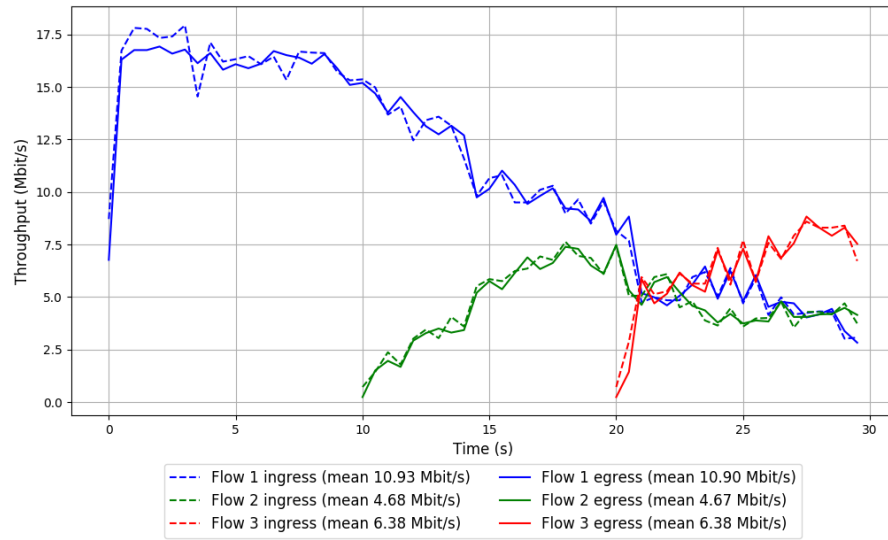


Run 2: Statistics of TCP Cubic

Start at: 2018-03-20 08:40:27
End at: 2018-03-20 08:40:57
Local clock offset: 0.089 ms
Remote clock offset: -5.642 ms

Below is generated by plot.py at 2018-03-20 10:37:30
Datalink statistics
-- Total of 3 flows:
Average throughput: 16.05 Mbit/s
95th percentile per-packet one-way delay: 205.276 ms
Loss rate: 0.84%
-- Flow 1:
Average throughput: 10.90 Mbit/s
95th percentile per-packet one-way delay: 204.847 ms
Loss rate: 0.47%
-- Flow 2:
Average throughput: 4.67 Mbit/s
95th percentile per-packet one-way delay: 206.904 ms
Loss rate: 1.27%
-- Flow 3:
Average throughput: 6.38 Mbit/s
95th percentile per-packet one-way delay: 204.904 ms
Loss rate: 2.09%

Run 2: Report of TCP Cubic — Data Link

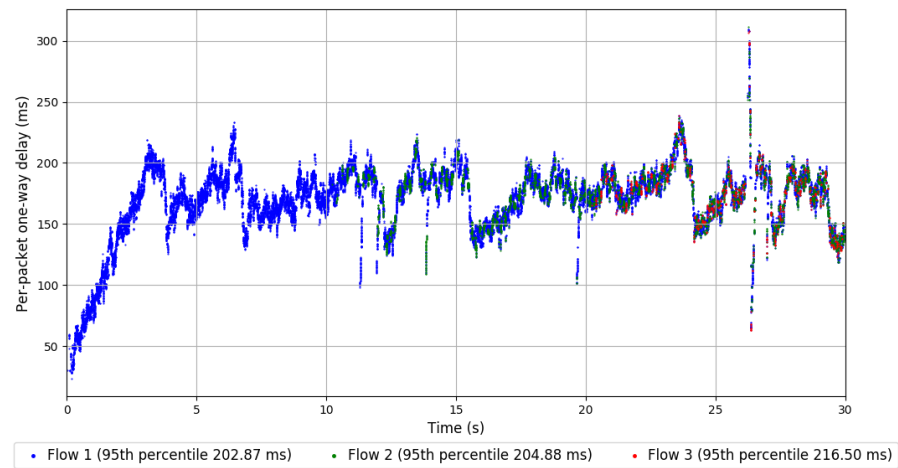
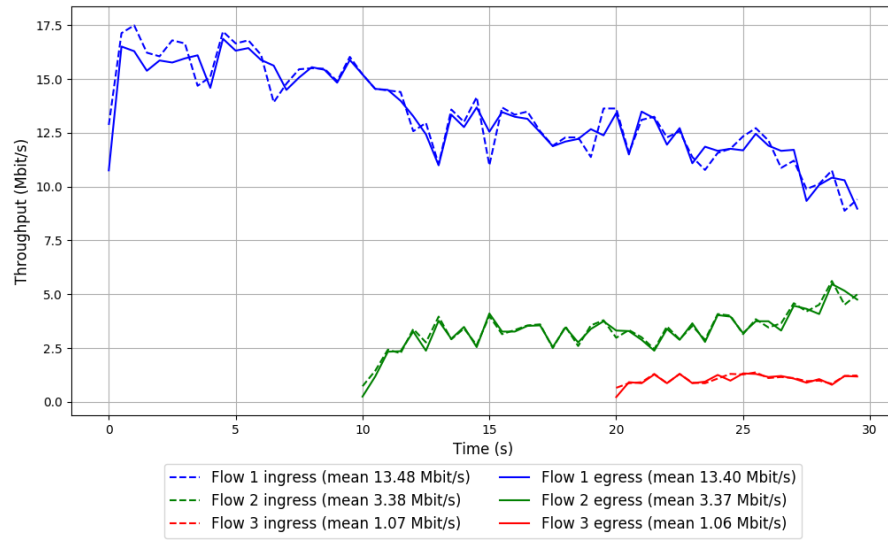


Run 3: Statistics of TCP Cubic

Start at: 2018-03-20 09:04:18
End at: 2018-03-20 09:04:48
Local clock offset: -0.898 ms
Remote clock offset: -4.853 ms

Below is generated by plot.py at 2018-03-20 10:37:30
Datalink statistics
-- Total of 3 flows:
Average throughput: 15.97 Mbit/s
95th percentile per-packet one-way delay: 203.191 ms
Loss rate: 0.86%
-- Flow 1:
Average throughput: 13.40 Mbit/s
95th percentile per-packet one-way delay: 202.868 ms
Loss rate: 0.73%
-- Flow 2:
Average throughput: 3.37 Mbit/s
95th percentile per-packet one-way delay: 204.883 ms
Loss rate: 1.32%
-- Flow 3:
Average throughput: 1.06 Mbit/s
95th percentile per-packet one-way delay: 216.495 ms
Loss rate: 2.83%

Run 3: Report of TCP Cubic — Data Link

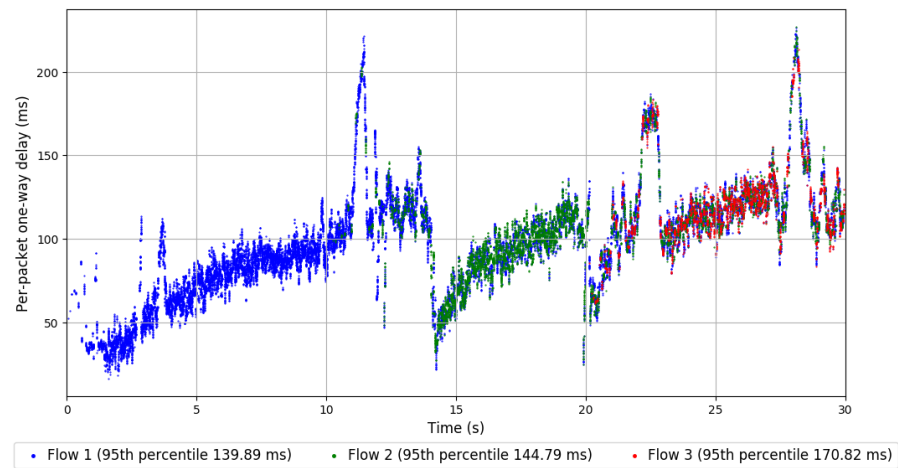
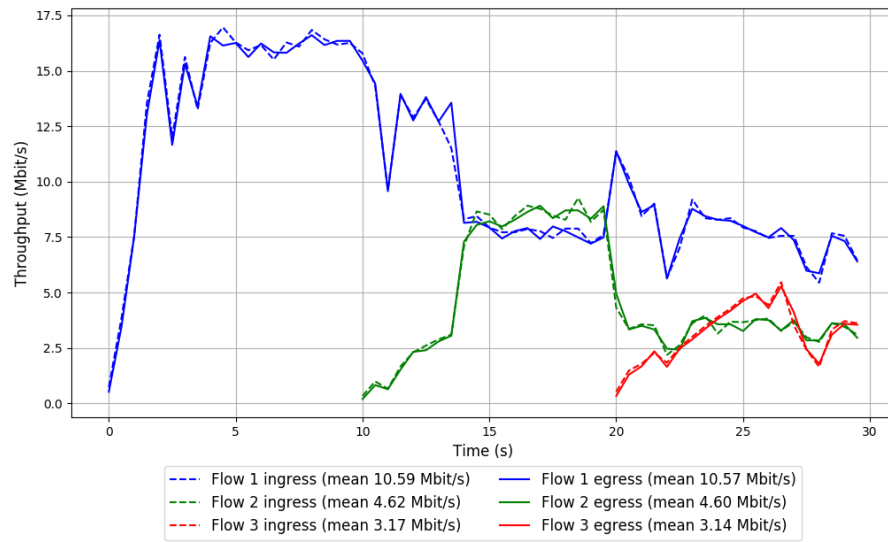


Run 1: Statistics of LEDBAT

Start at: 2018-03-20 08:13:58
End at: 2018-03-20 08:14:28
Local clock offset: 3.047 ms
Remote clock offset: -6.079 ms

Below is generated by plot.py at 2018-03-20 10:37:30
Datalink statistics
-- Total of 3 flows:
Average throughput: 14.65 Mbit/s
95th percentile per-packet one-way delay: 144.299 ms
Loss rate: 0.55%
-- Flow 1:
Average throughput: 10.57 Mbit/s
95th percentile per-packet one-way delay: 139.892 ms
Loss rate: 0.37%
-- Flow 2:
Average throughput: 4.60 Mbit/s
95th percentile per-packet one-way delay: 144.787 ms
Loss rate: 0.74%
-- Flow 3:
Average throughput: 3.14 Mbit/s
95th percentile per-packet one-way delay: 170.820 ms
Loss rate: 1.76%

Run 1: Report of LEDBAT — Data Link

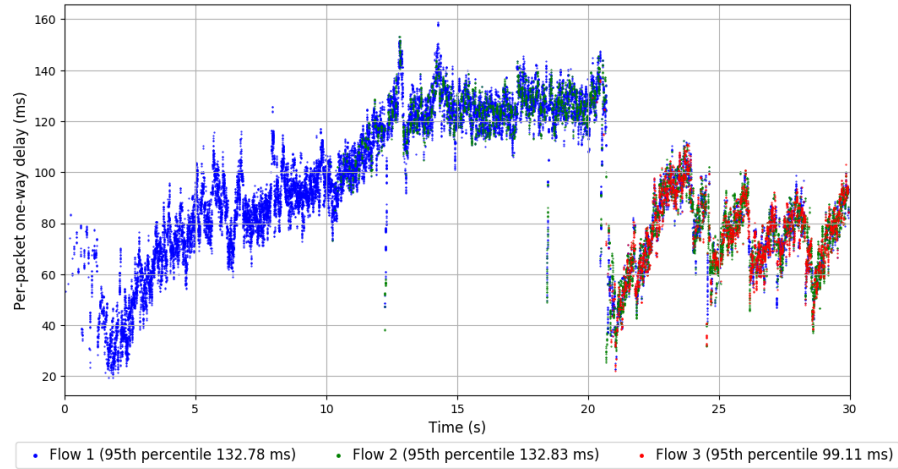
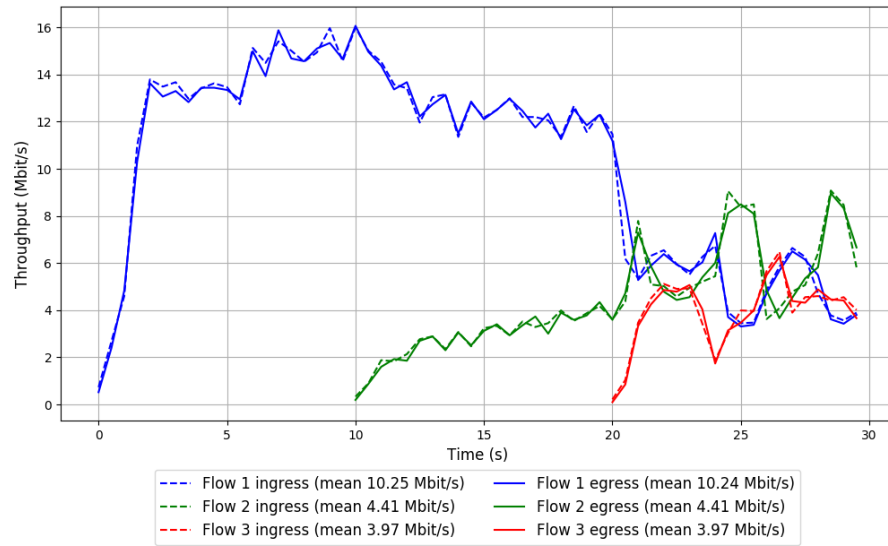


Run 2: Statistics of LEDBAT

Start at: 2018-03-20 08:37:48
End at: 2018-03-20 08:38:18
Local clock offset: 0.179 ms
Remote clock offset: -5.892 ms

Below is generated by plot.py at 2018-03-20 10:37:30
Datalink statistics
-- Total of 3 flows:
Average throughput: 14.46 Mbit/s
95th percentile per-packet one-way delay: 132.329 ms
Loss rate: 0.41%
-- Flow 1:
Average throughput: 10.24 Mbit/s
95th percentile per-packet one-way delay: 132.775 ms
Loss rate: 0.28%
-- Flow 2:
Average throughput: 4.41 Mbit/s
95th percentile per-packet one-way delay: 132.829 ms
Loss rate: 0.42%
-- Flow 3:
Average throughput: 3.97 Mbit/s
95th percentile per-packet one-way delay: 99.106 ms
Loss rate: 1.43%

Run 2: Report of LEDBAT — Data Link

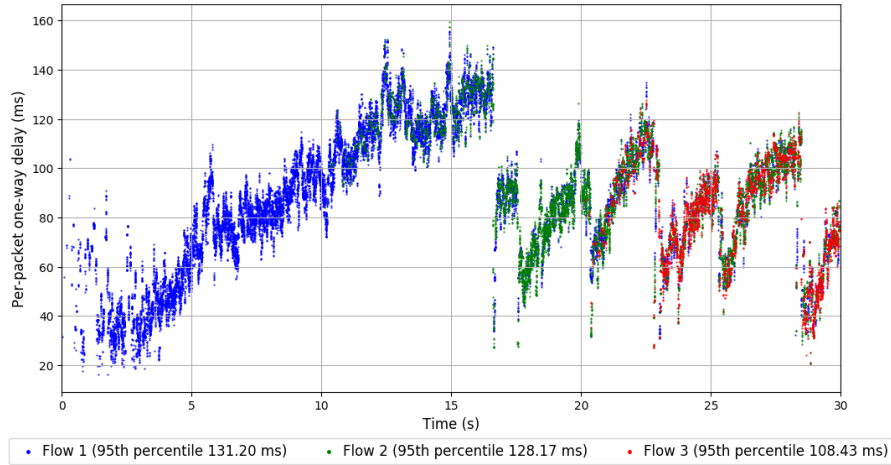
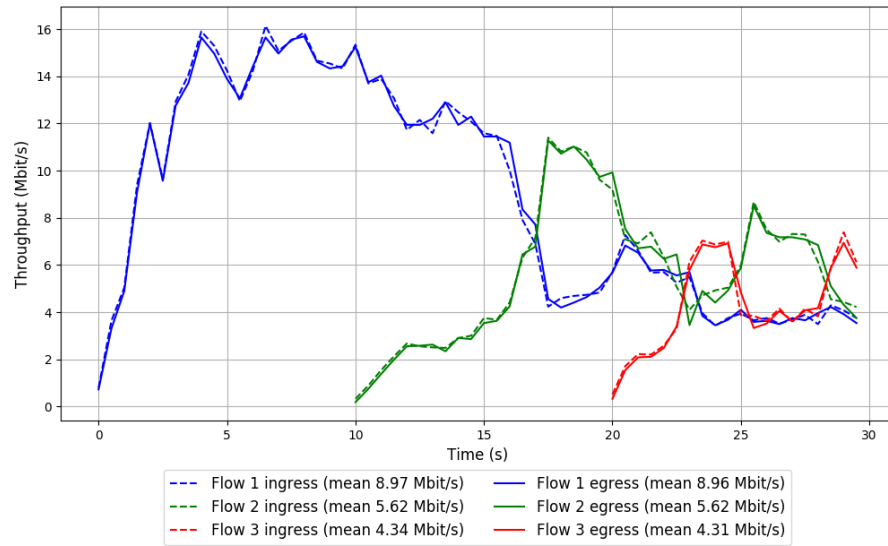


Run 3: Statistics of LEDBAT

Start at: 2018-03-20 09:01:39
End at: 2018-03-20 09:02:09
Local clock offset: -0.75 ms
Remote clock offset: -4.966 ms

Below is generated by plot.py at 2018-03-20 10:37:48
Datalink statistics
-- Total of 3 flows:
Average throughput: 14.10 Mbit/s
95th percentile per-packet one-way delay: 129.648 ms
Loss rate: 0.45%
-- Flow 1:
Average throughput: 8.96 Mbit/s
95th percentile per-packet one-way delay: 131.201 ms
Loss rate: 0.21%
-- Flow 2:
Average throughput: 5.62 Mbit/s
95th percentile per-packet one-way delay: 128.171 ms
Loss rate: 0.54%
-- Flow 3:
Average throughput: 4.31 Mbit/s
95th percentile per-packet one-way delay: 108.430 ms
Loss rate: 1.69%

Run 3: Report of LEDBAT — Data Link

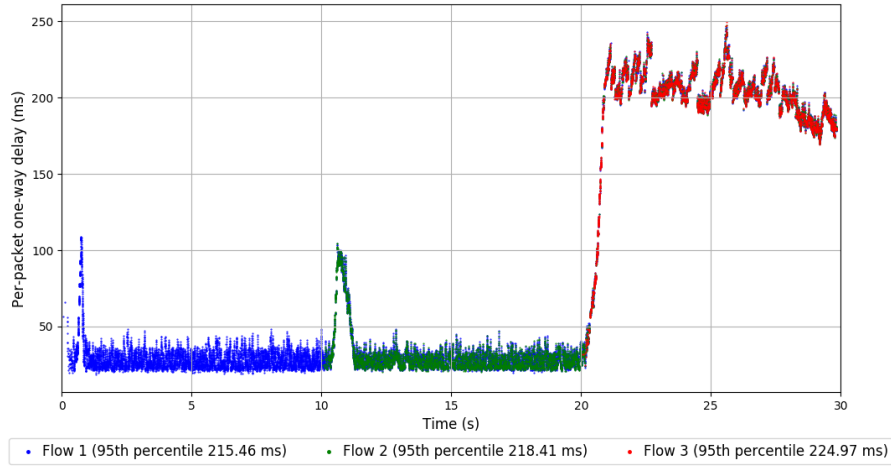
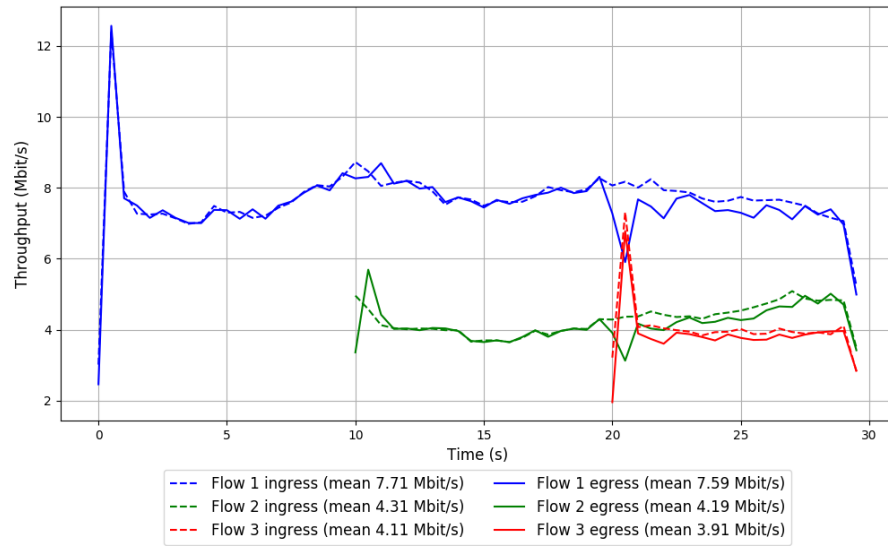


Run 1: Statistics of PCC

Start at: 2018-03-20 08:19:16
End at: 2018-03-20 08:19:46
Local clock offset: 1.674 ms
Remote clock offset: -6.127 ms

Below is generated by plot.py at 2018-03-20 10:37:48
Datalink statistics
-- Total of 3 flows:
Average throughput: 11.66 Mbit/s
95th percentile per-packet one-way delay: 217.774 ms
Loss rate: 2.48%
-- Flow 1:
Average throughput: 7.59 Mbit/s
95th percentile per-packet one-way delay: 215.455 ms
Loss rate: 1.81%
-- Flow 2:
Average throughput: 4.19 Mbit/s
95th percentile per-packet one-way delay: 218.406 ms
Loss rate: 2.98%
-- Flow 3:
Average throughput: 3.91 Mbit/s
95th percentile per-packet one-way delay: 224.975 ms
Loss rate: 5.28%

Run 1: Report of PCC — Data Link

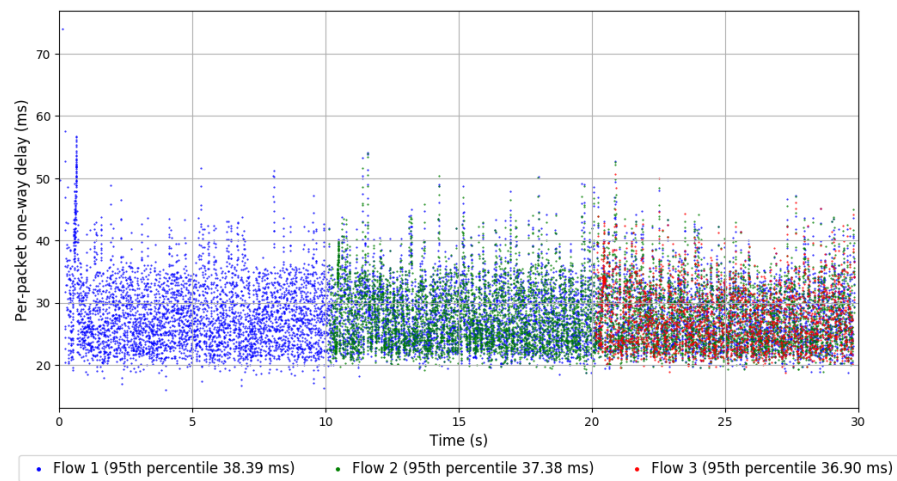
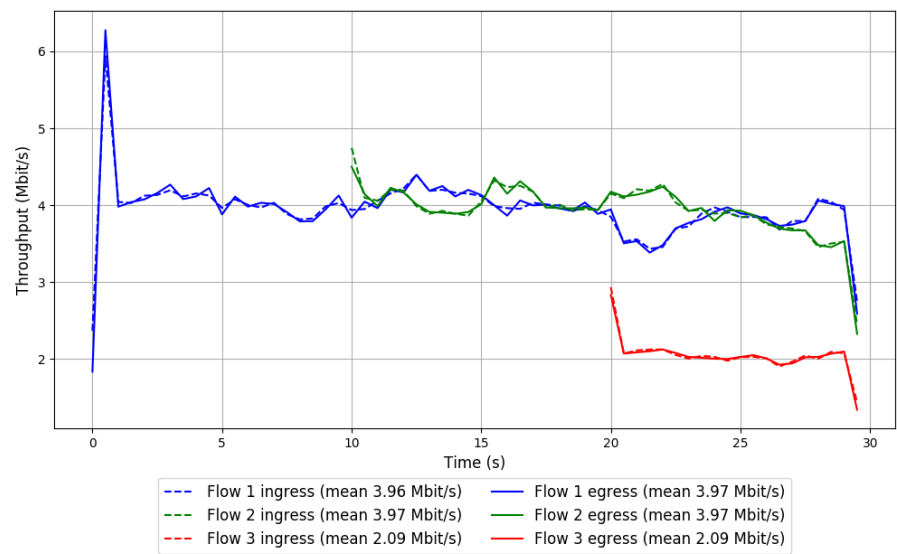


Run 2: Statistics of PCC

Start at: 2018-03-20 08:43:05
End at: 2018-03-20 08:43:36
Local clock offset: -0.094 ms
Remote clock offset: -5.418 ms

Below is generated by plot.py at 2018-03-20 10:37:48
Datalink statistics
-- Total of 3 flows:
Average throughput: 7.29 Mbit/s
95th percentile per-packet one-way delay: 37.709 ms
Loss rate: 0.20%
-- Flow 1:
Average throughput: 3.97 Mbit/s
95th percentile per-packet one-way delay: 38.387 ms
Loss rate: 0.15%
-- Flow 2:
Average throughput: 3.97 Mbit/s
95th percentile per-packet one-way delay: 37.378 ms
Loss rate: 0.20%
-- Flow 3:
Average throughput: 2.09 Mbit/s
95th percentile per-packet one-way delay: 36.902 ms
Loss rate: 0.47%

Run 2: Report of PCC — Data Link



Run 3: Statistics of PCC

Start at: 2018-03-20 09:06:56

End at: 2018-03-20 09:07:26

Local clock offset: -0.898 ms

Remote clock offset: -4.91 ms

Below is generated by plot.py at 2018-03-20 10:37:50

Datalink statistics

-- Total of 3 flows:

Average throughput: 14.26 Mbit/s

95th percentile per-packet one-way delay: 263.891 ms

Loss rate: 21.25%

-- Flow 1:

Average throughput: 12.79 Mbit/s

95th percentile per-packet one-way delay: 263.415 ms

Loss rate: 20.37%

-- Flow 2:

Average throughput: 1.52 Mbit/s

95th percentile per-packet one-way delay: 267.665 ms

Loss rate: 27.16%

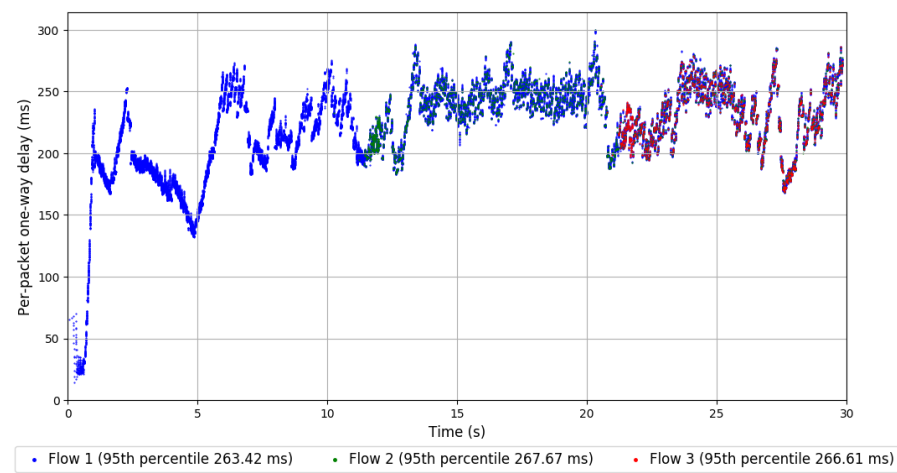
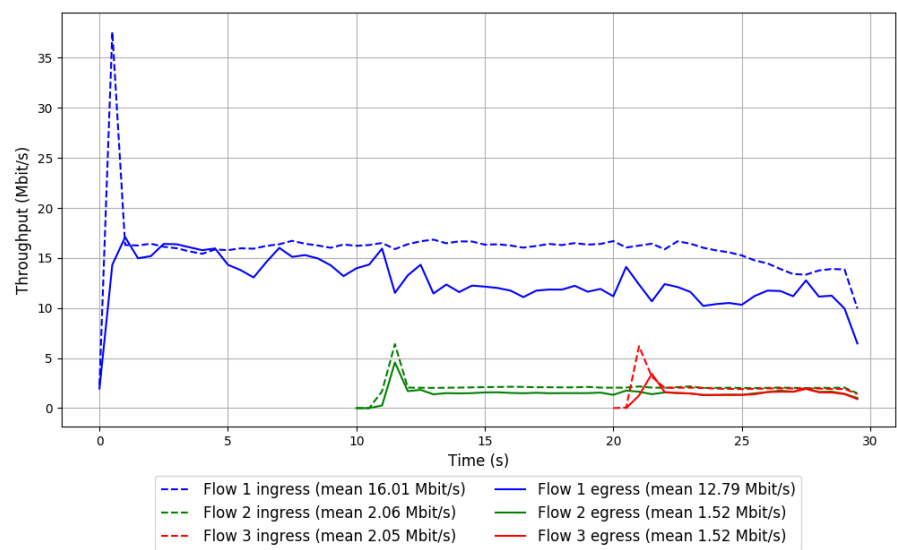
-- Flow 3:

Average throughput: 1.52 Mbit/s

95th percentile per-packet one-way delay: 266.614 ms

Loss rate: 29.98%

Run 3: Report of PCC — Data Link

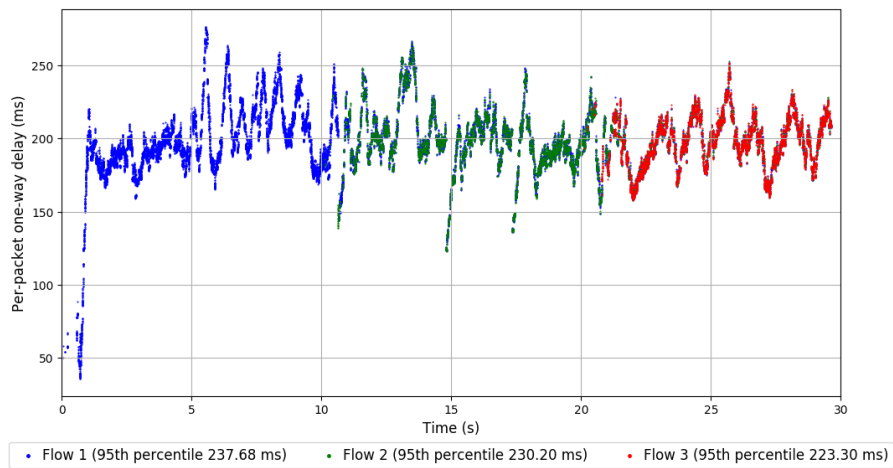
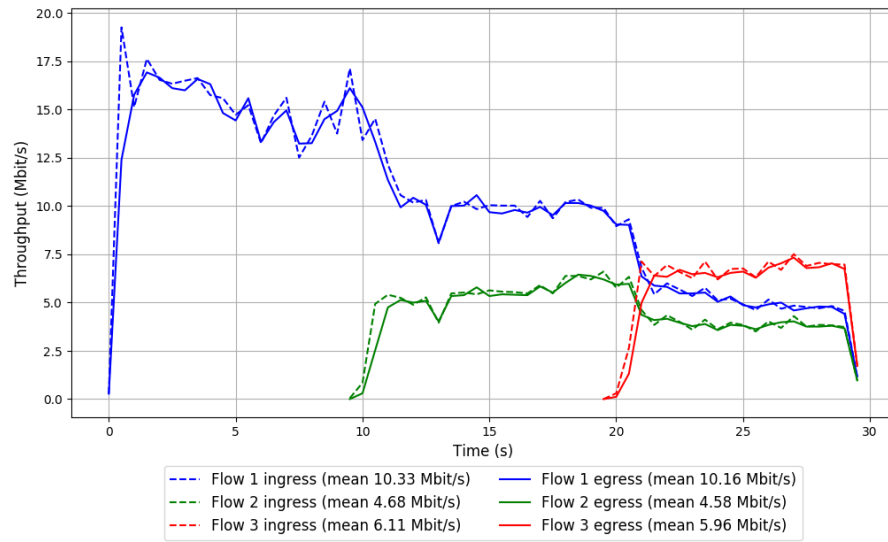


Run 1: Statistics of QUIC Cubic

Start at: 2018-03-20 08:25:53
End at: 2018-03-20 08:26:23
Local clock offset: 0.813 ms
Remote clock offset: -6.286 ms

Below is generated by plot.py at 2018-03-20 10:37:51
Datalink statistics
-- Total of 3 flows:
Average throughput: 15.14 Mbit/s
95th percentile per-packet one-way delay: 233.827 ms
Loss rate: 2.48%
-- Flow 1:
Average throughput: 10.16 Mbit/s
95th percentile per-packet one-way delay: 237.675 ms
Loss rate: 1.88%
-- Flow 2:
Average throughput: 4.58 Mbit/s
95th percentile per-packet one-way delay: 230.203 ms
Loss rate: 3.10%
-- Flow 3:
Average throughput: 5.96 Mbit/s
95th percentile per-packet one-way delay: 223.300 ms
Loss rate: 4.56%

Run 1: Report of QUIC Cubic — Data Link

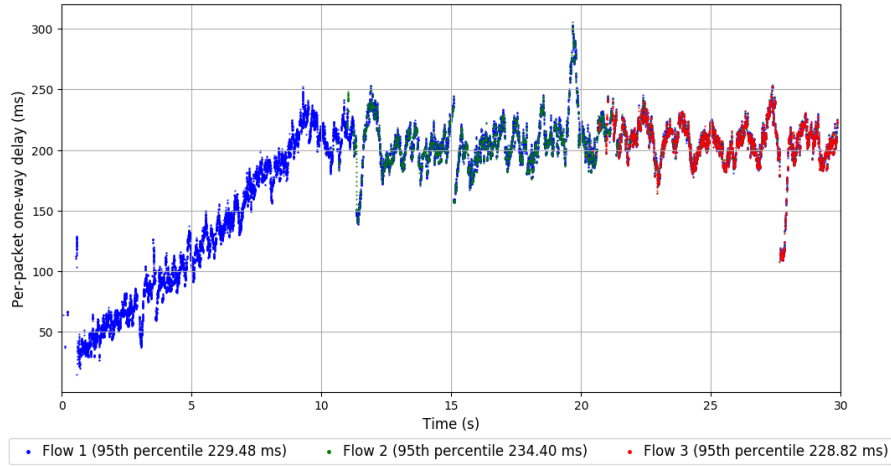
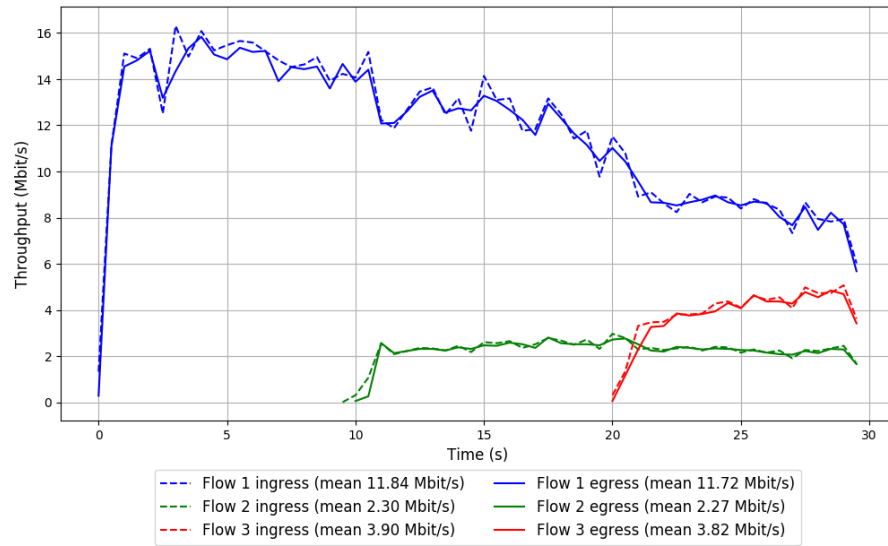


Run 2: Statistics of QUIC Cubic

Start at: 2018-03-20 08:49:42
End at: 2018-03-20 08:50:12
Local clock offset: -0.267 ms
Remote clock offset: -5.185 ms

Below is generated by plot.py at 2018-03-20 10:37:51
Datalink statistics
-- Total of 3 flows:
Average throughput: 14.45 Mbit/s
95th percentile per-packet one-way delay: 229.874 ms
Loss rate: 1.67%
-- Flow 1:
Average throughput: 11.72 Mbit/s
95th percentile per-packet one-way delay: 229.478 ms
Loss rate: 1.34%
-- Flow 2:
Average throughput: 2.27 Mbit/s
95th percentile per-packet one-way delay: 234.404 ms
Loss rate: 2.20%
-- Flow 3:
Average throughput: 3.82 Mbit/s
95th percentile per-packet one-way delay: 228.820 ms
Loss rate: 4.12%

Run 2: Report of QUIC Cubic — Data Link



Run 3: Statistics of QUIC Cubic

Start at: 2018-03-20 09:13:33

End at: 2018-03-20 09:14:03

Local clock offset: 1.049 ms

Remote clock offset: -5.56 ms

Below is generated by plot.py at 2018-03-20 10:37:53

Datalink statistics

-- Total of 3 flows:

Average throughput: 15.99 Mbit/s

95th percentile per-packet one-way delay: 210.787 ms

Loss rate: 1.61%

-- Flow 1:

Average throughput: 11.54 Mbit/s

95th percentile per-packet one-way delay: 210.878 ms

Loss rate: 1.21%

-- Flow 2:

Average throughput: 4.90 Mbit/s

95th percentile per-packet one-way delay: 209.415 ms

Loss rate: 2.17%

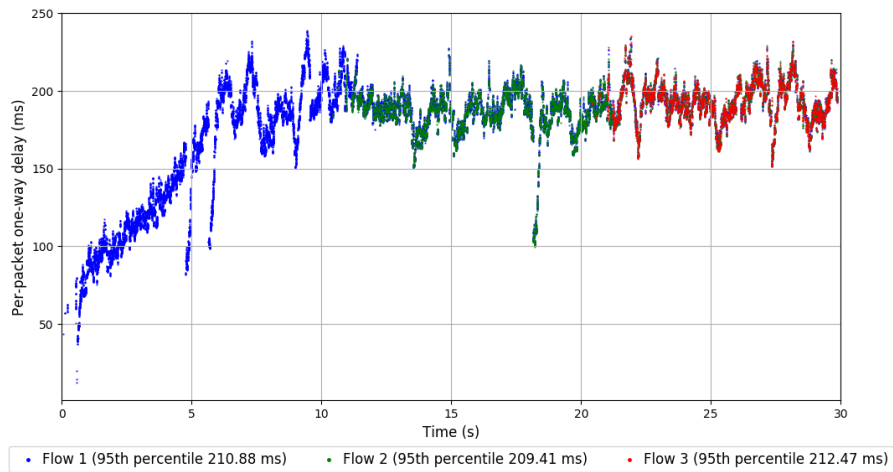
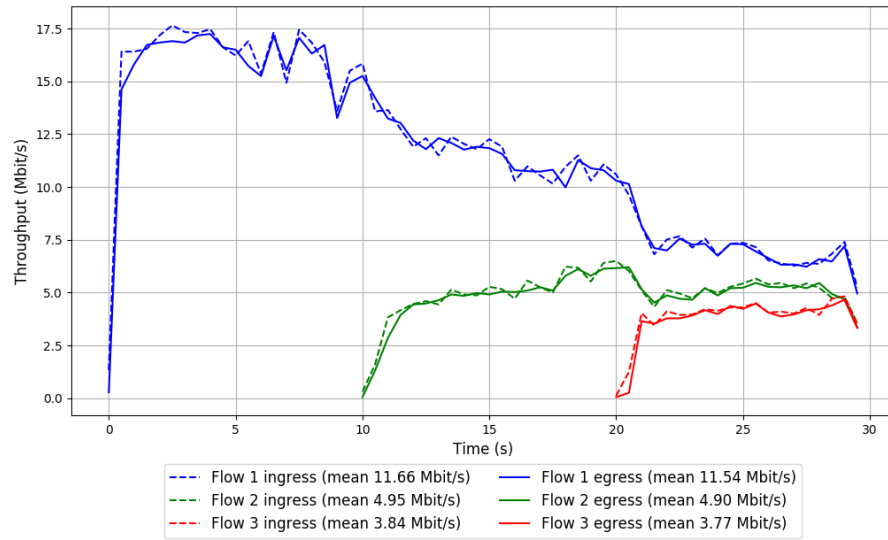
-- Flow 3:

Average throughput: 3.77 Mbit/s

95th percentile per-packet one-way delay: 212.466 ms

Loss rate: 3.83%

Run 3: Report of QUIC Cubic — Data Link

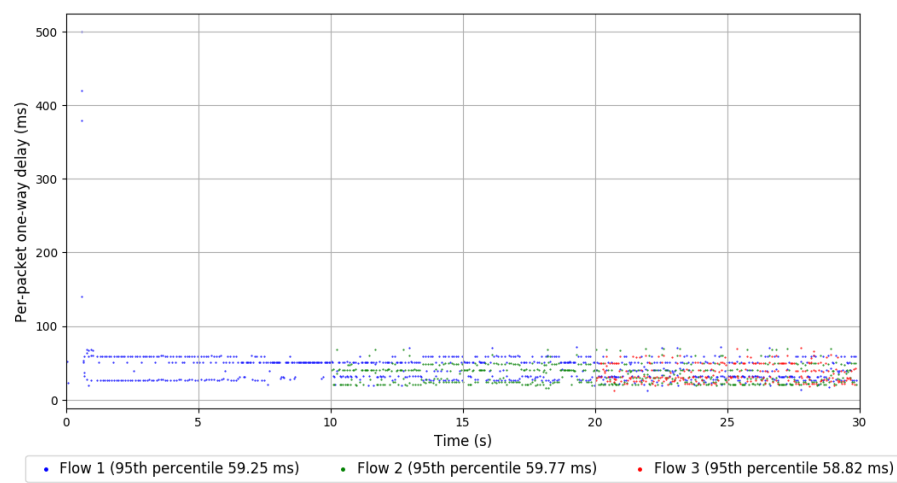
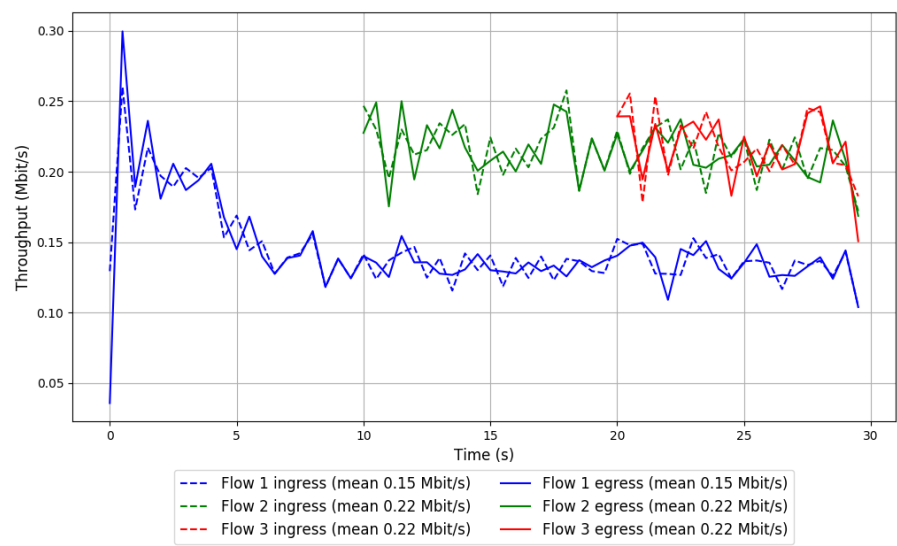


```
Run 1: Statistics of SReAM

Start at: 2018-03-20 08:24:34
End at: 2018-03-20 08:25:04
Local clock offset: 0.939 ms
Remote clock offset: -6.293 ms

# Below is generated by plot.py at 2018-03-20 10:37:53
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.36 Mbit/s
95th percentile per-packet one-way delay: 59.246 ms
Loss rate: 0.37%
-- Flow 1:
Average throughput: 0.15 Mbit/s
95th percentile per-packet one-way delay: 59.246 ms
Loss rate: 0.34%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 59.772 ms
Loss rate: 0.20%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 58.821 ms
Loss rate: 0.73%
```

Run 1: Report of SReAM — Data Link

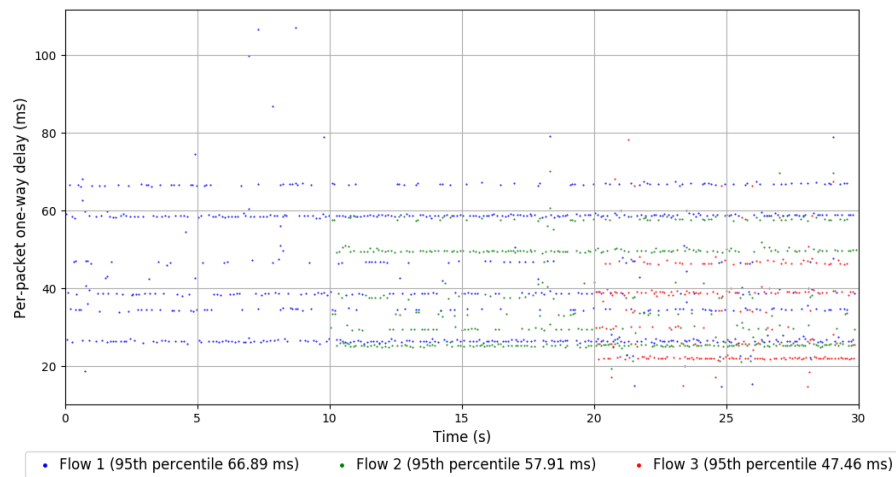
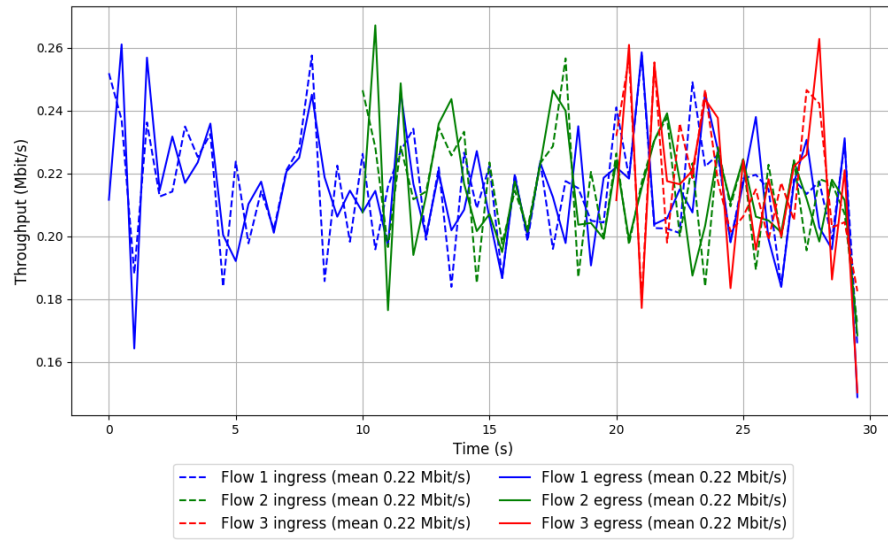


Run 2: Statistics of SReAM

Start at: 2018-03-20 08:48:23
End at: 2018-03-20 08:48:53
Local clock offset: -0.242 ms
Remote clock offset: -5.247 ms

Below is generated by plot.py at 2018-03-20 10:37:53
Datalink statistics
-- Total of 3 flows:
Average throughput: 0.43 Mbit/s
95th percentile per-packet one-way delay: 66.677 ms
Loss rate: 0.32%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 66.888 ms
Loss rate: 0.25%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 57.906 ms
Loss rate: 0.21%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 47.456 ms
Loss rate: 0.74%

Run 2: Report of SReAM — Data Link

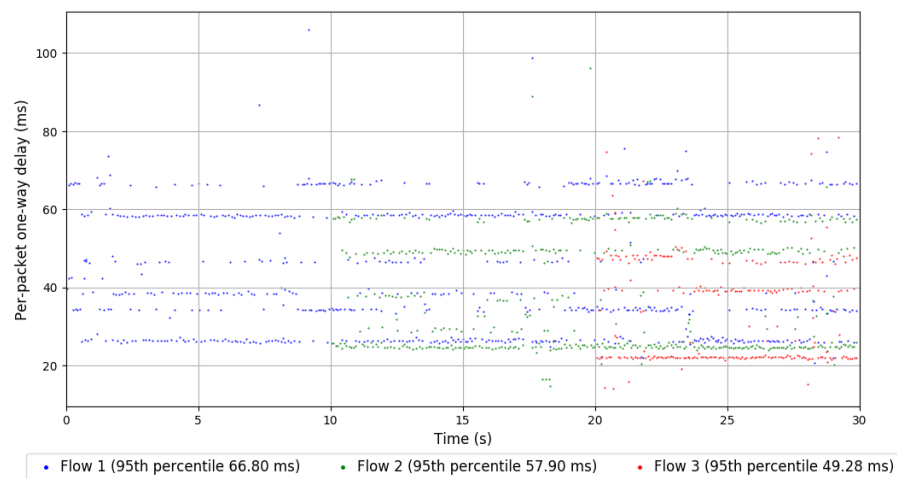
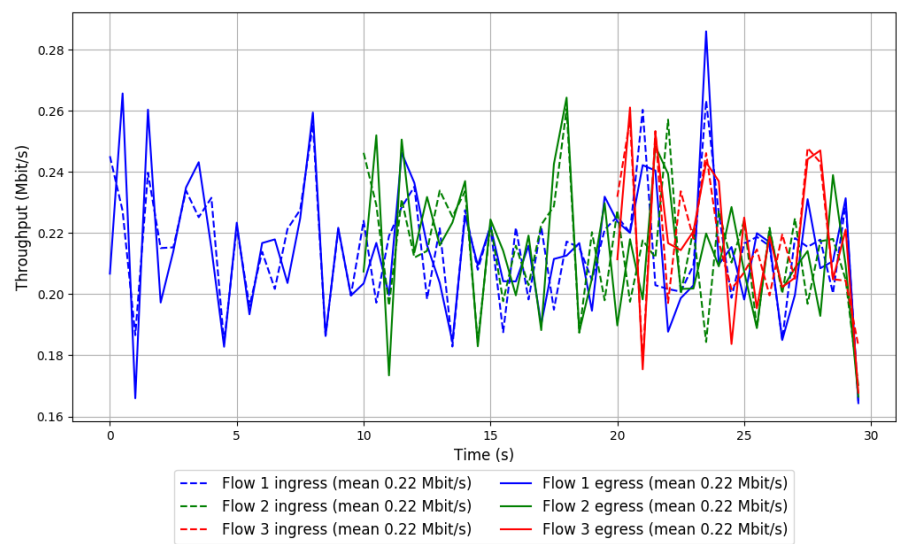


Run 3: Statistics of SReAM

Start at: 2018-03-20 09:12:14
End at: 2018-03-20 09:12:44
Local clock offset: 0.583 ms
Remote clock offset: -5.4 ms

Below is generated by plot.py at 2018-03-20 10:37:53
Datalink statistics
-- Total of 3 flows:
Average throughput: 0.43 Mbit/s
95th percentile per-packet one-way delay: 66.607 ms
Loss rate: 0.19%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 66.803 ms
Loss rate: 0.13%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 57.898 ms
Loss rate: 0.20%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 49.279 ms
Loss rate: 0.35%

Run 3: Report of SReAM — Data Link



Run 1: Statistics of WebRTC media

Start at: 2018-03-20 08:32:31

End at: 2018-03-20 08:33:01

Local clock offset: 0.337 ms

Remote clock offset: -6.32 ms

Below is generated by plot.py at 2018-03-20 10:37:53

Datalink statistics

-- Total of 3 flows:

Average throughput: 0.15 Mbit/s

95th percentile per-packet one-way delay: 77.825 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 0.05 Mbit/s

95th percentile per-packet one-way delay: 66.612 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 0.05 Mbit/s

95th percentile per-packet one-way delay: 72.960 ms

Loss rate: 0.00%

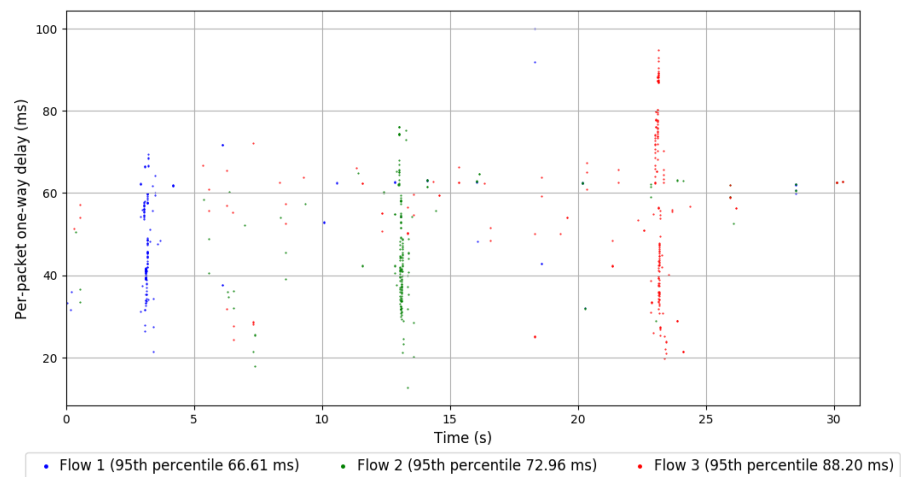
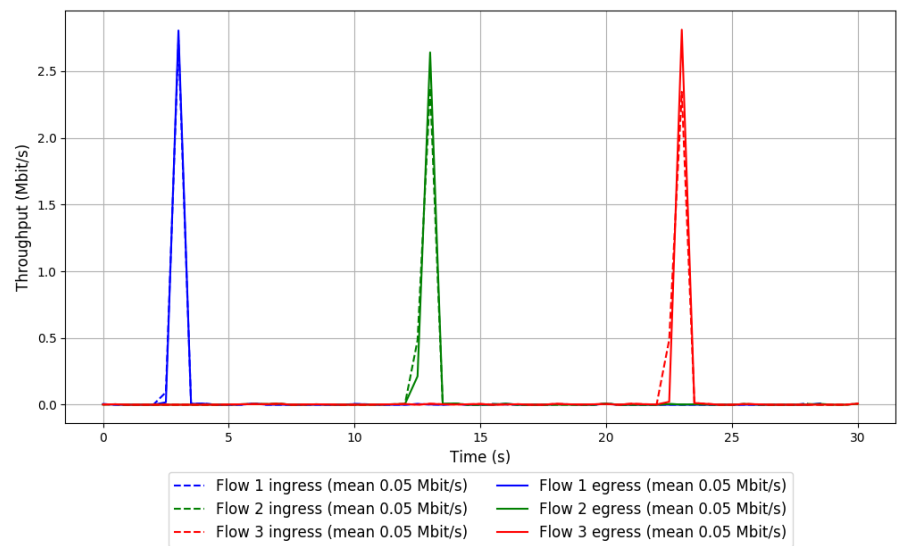
-- Flow 3:

Average throughput: 0.05 Mbit/s

95th percentile per-packet one-way delay: 88.200 ms

Loss rate: 0.00%

Run 1: Report of WebRTC media — Data Link



Run 2: Statistics of WebRTC media

Start at: 2018-03-20 08:56:21

End at: 2018-03-20 08:56:51

Local clock offset: -0.623 ms

Remote clock offset: -5.05 ms

Below is generated by plot.py at 2018-03-20 10:37:53

Datalink statistics

-- Total of 3 flows:

Average throughput: 0.15 Mbit/s

95th percentile per-packet one-way delay: 74.706 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 0.05 Mbit/s

95th percentile per-packet one-way delay: 65.121 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 0.05 Mbit/s

95th percentile per-packet one-way delay: 78.050 ms

Loss rate: 0.00%

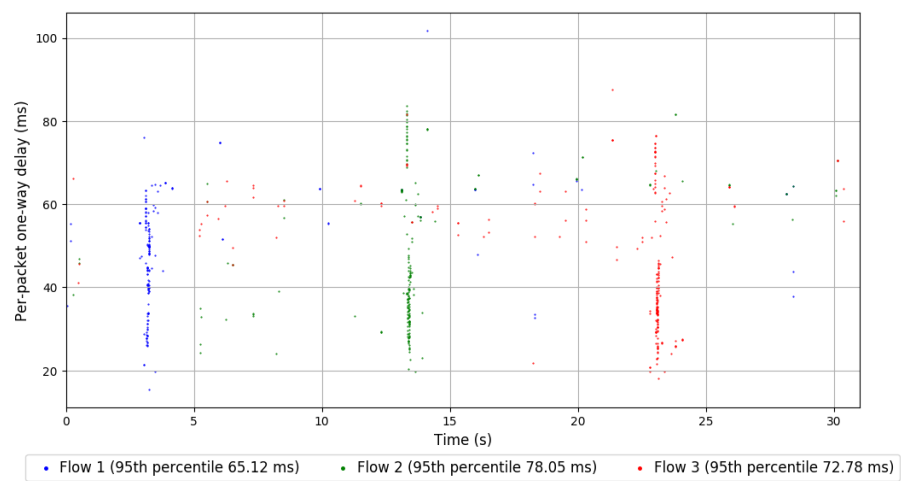
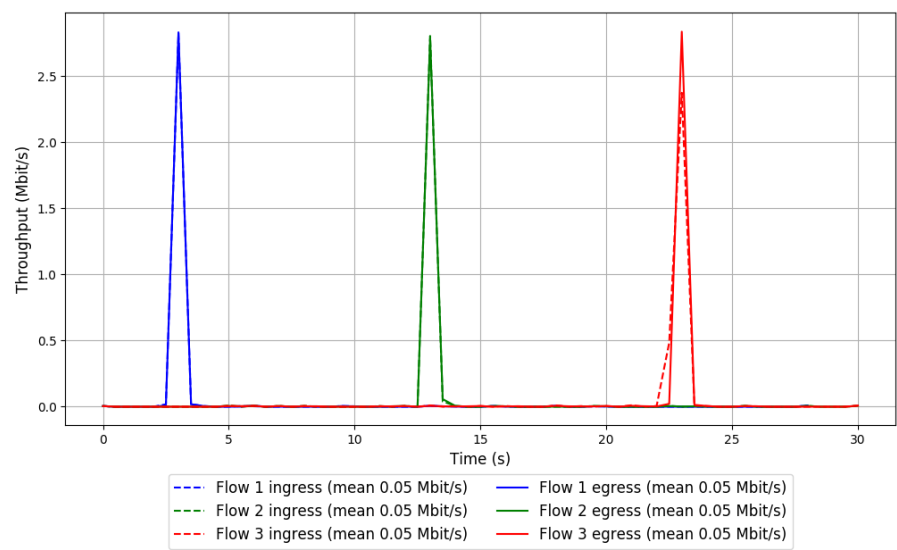
-- Flow 3:

Average throughput: 0.05 Mbit/s

95th percentile per-packet one-way delay: 72.776 ms

Loss rate: 0.00%

Run 2: Report of WebRTC media — Data Link

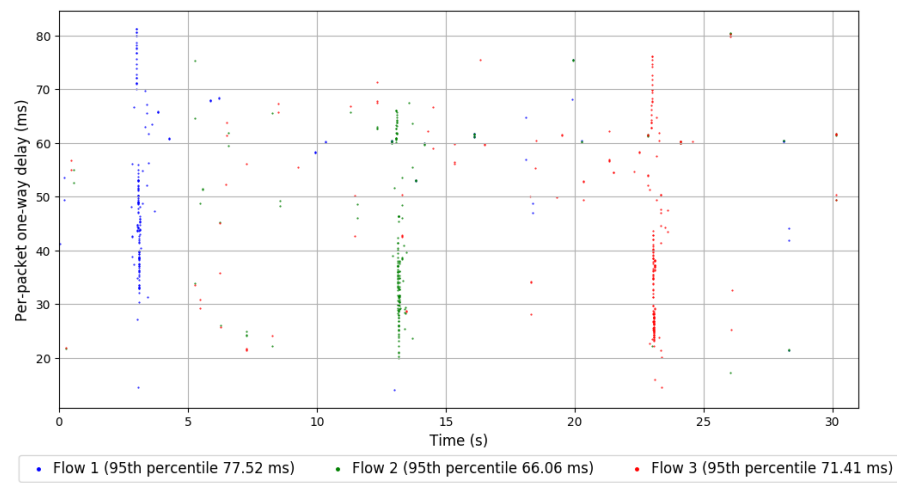
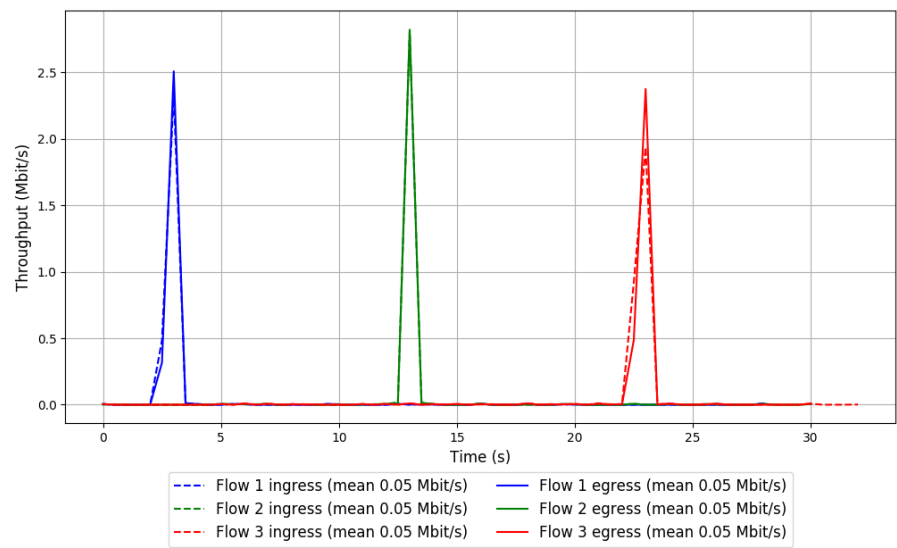


Run 3: Statistics of WebRTC media

Start at: 2018-03-20 09:20:12
End at: 2018-03-20 09:20:42
Local clock offset: 2.652 ms
Remote clock offset: -6.037 ms

Below is generated by plot.py at 2018-03-20 10:37:53
Datalink statistics
-- Total of 3 flows:
Average throughput: 0.15 Mbit/s
95th percentile per-packet one-way delay: 73.870 ms
Loss rate: 0.02%
-- Flow 1:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 77.523 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 66.057 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 71.414 ms
Loss rate: 0.05%

Run 3: Report of WebRTC media — Data Link

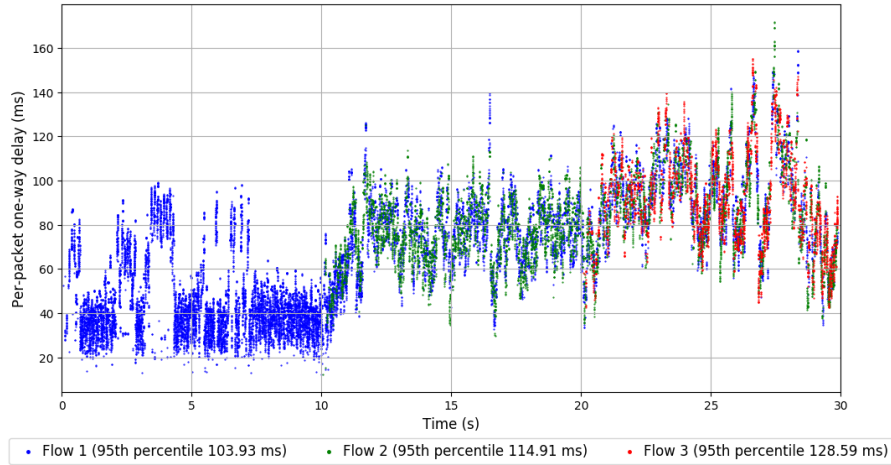
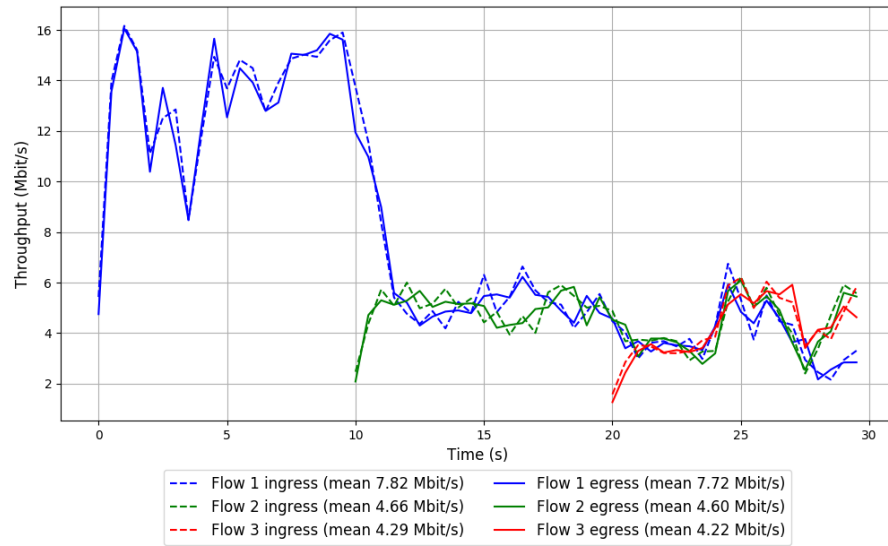


Run 1: Statistics of Sprout

Start at: 2018-03-20 08:17:57
End at: 2018-03-20 08:18:27
Local clock offset: 2.009 ms
Remote clock offset: -6.095 ms

Below is generated by plot.py at 2018-03-20 10:37:56
Datalink statistics
-- Total of 3 flows:
Average throughput: 12.16 Mbit/s
95th percentile per-packet one-way delay: 113.151 ms
Loss rate: 1.49%
-- Flow 1:
Average throughput: 7.72 Mbit/s
95th percentile per-packet one-way delay: 103.932 ms
Loss rate: 1.40%
-- Flow 2:
Average throughput: 4.60 Mbit/s
95th percentile per-packet one-way delay: 114.907 ms
Loss rate: 1.26%
-- Flow 3:
Average throughput: 4.22 Mbit/s
95th percentile per-packet one-way delay: 128.593 ms
Loss rate: 2.45%

Run 1: Report of Sprout — Data Link

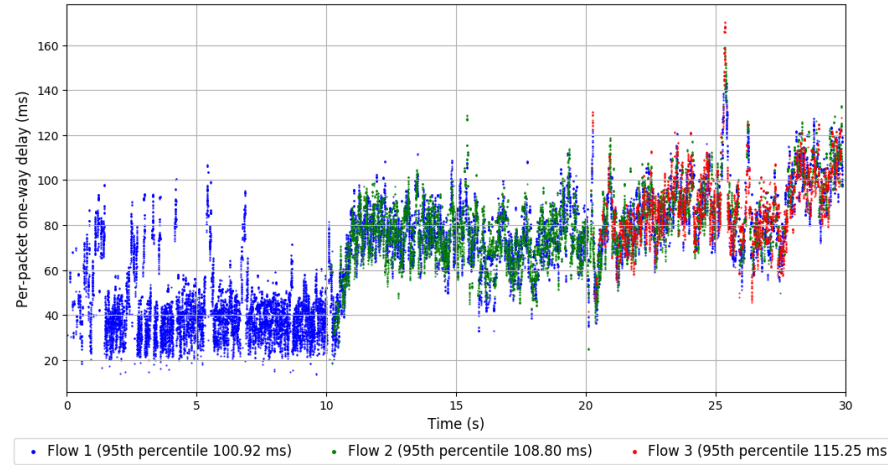
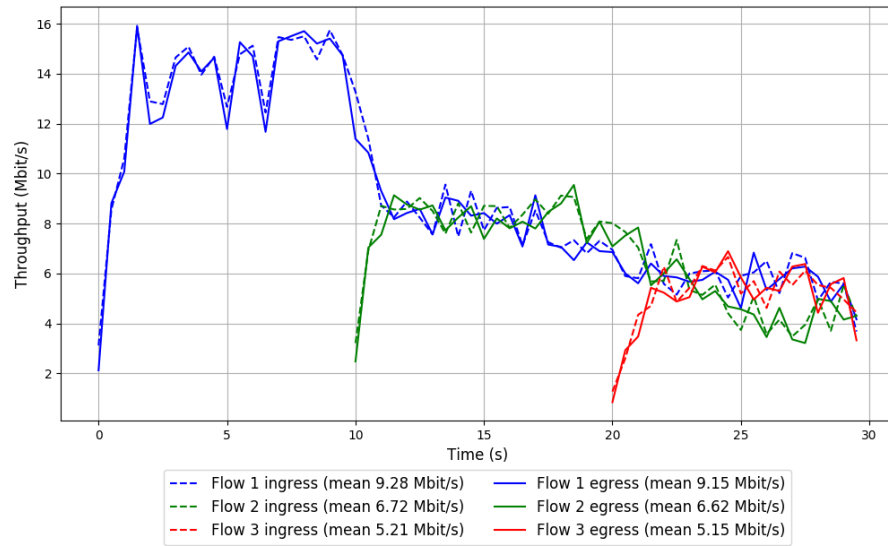


Run 2: Statistics of Sprout

Start at: 2018-03-20 08:41:46
End at: 2018-03-20 08:42:16
Local clock offset: 0.039 ms
Remote clock offset: -5.51 ms

Below is generated by plot.py at 2018-03-20 10:37:59
Datalink statistics
-- Total of 3 flows:
Average throughput: 15.21 Mbit/s
95th percentile per-packet one-way delay: 105.983 ms
Loss rate: 1.64%
-- Flow 1:
Average throughput: 9.15 Mbit/s
95th percentile per-packet one-way delay: 100.918 ms
Loss rate: 1.50%
-- Flow 2:
Average throughput: 6.62 Mbit/s
95th percentile per-packet one-way delay: 108.795 ms
Loss rate: 1.89%
-- Flow 3:
Average throughput: 5.15 Mbit/s
95th percentile per-packet one-way delay: 115.247 ms
Loss rate: 1.74%

Run 2: Report of Sprout — Data Link

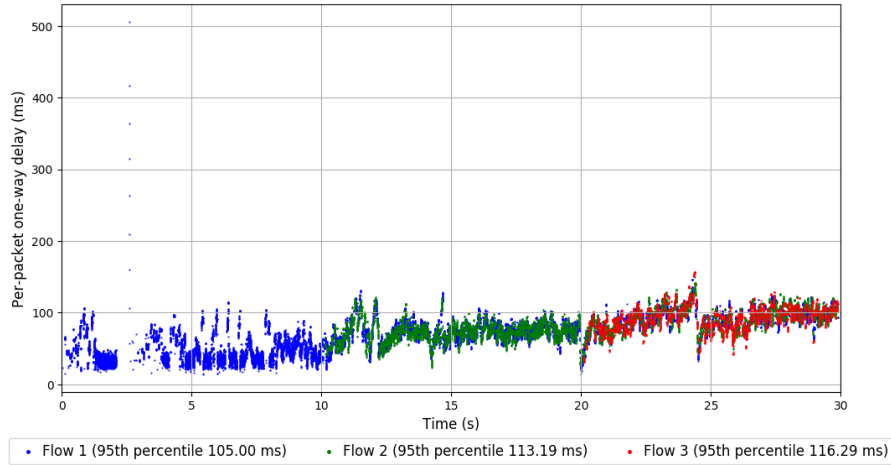
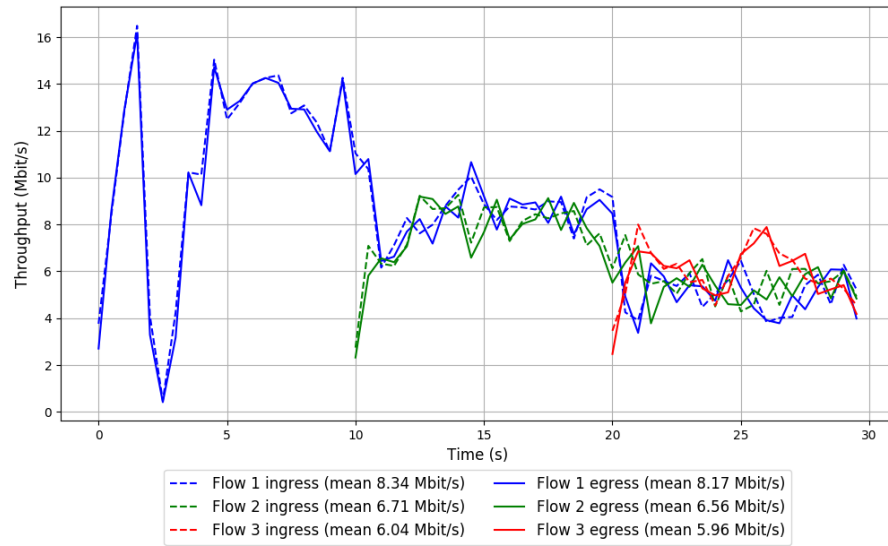


Run 3: Statistics of Sprout

Start at: 2018-03-20 09:05:37
End at: 2018-03-20 09:06:07
Local clock offset: -0.873 ms
Remote clock offset: -4.838 ms

```
# Below is generated by plot.py at 2018-03-20 10:38:04
# Datalink statistics
-- Total of 3 flows:
Average throughput: 14.47 Mbit/s
95th percentile per-packet one-way delay: 110.001 ms
Loss rate: 2.11%
-- Flow 1:
Average throughput: 8.17 Mbit/s
95th percentile per-packet one-way delay: 105.002 ms
Loss rate: 2.00%
-- Flow 2:
Average throughput: 6.56 Mbit/s
95th percentile per-packet one-way delay: 113.188 ms
Loss rate: 2.40%
-- Flow 3:
Average throughput: 5.96 Mbit/s
95th percentile per-packet one-way delay: 116.291 ms
Loss rate: 1.93%
```

Run 3: Report of Sprout — Data Link

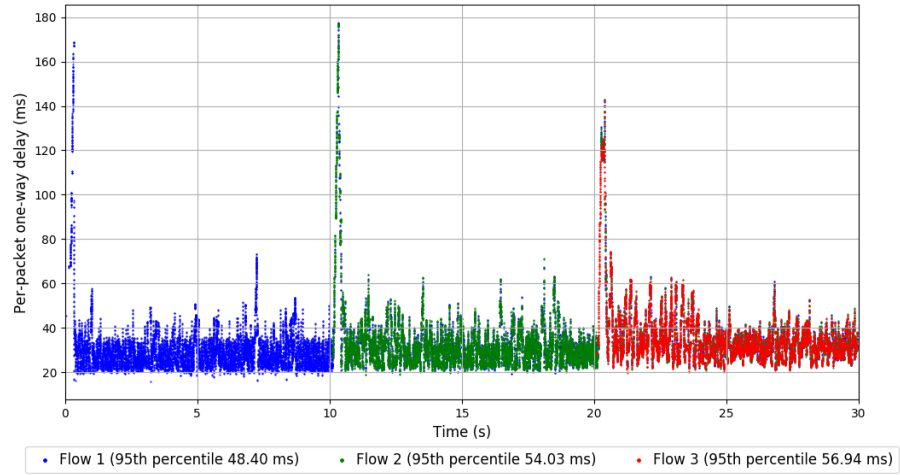
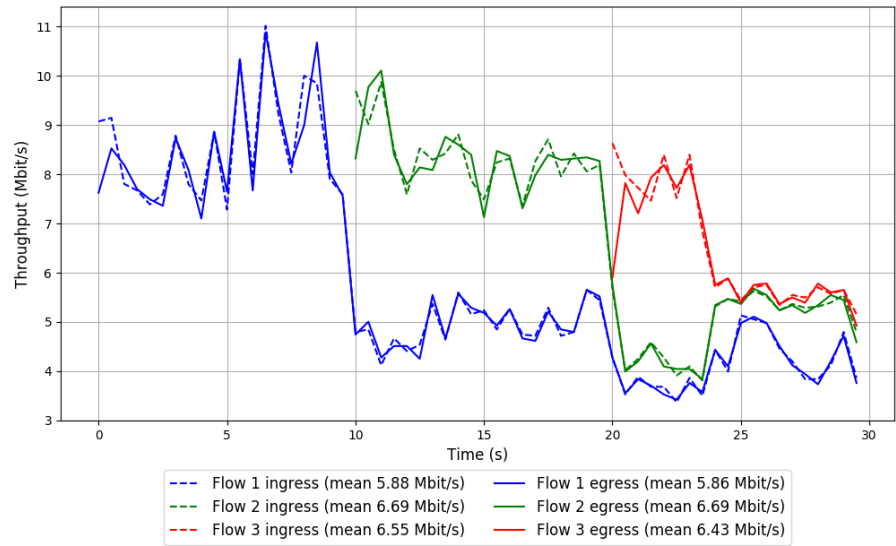


Run 1: Statistics of TaoVA-100x

Start at: 2018-03-20 08:28:33
End at: 2018-03-20 08:29:03
Local clock offset: 0.69 ms
Remote clock offset: -6.275 ms

Below is generated by plot.py at 2018-03-20 10:38:15
Datalink statistics
-- Total of 3 flows:
Average throughput: 12.43 Mbit/s
95th percentile per-packet one-way delay: 52.434 ms
Loss rate: 0.74%
-- Flow 1:
Average throughput: 5.86 Mbit/s
95th percentile per-packet one-way delay: 48.400 ms
Loss rate: 0.50%
-- Flow 2:
Average throughput: 6.69 Mbit/s
95th percentile per-packet one-way delay: 54.032 ms
Loss rate: 0.26%
-- Flow 3:
Average throughput: 6.43 Mbit/s
95th percentile per-packet one-way delay: 56.941 ms
Loss rate: 2.38%

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

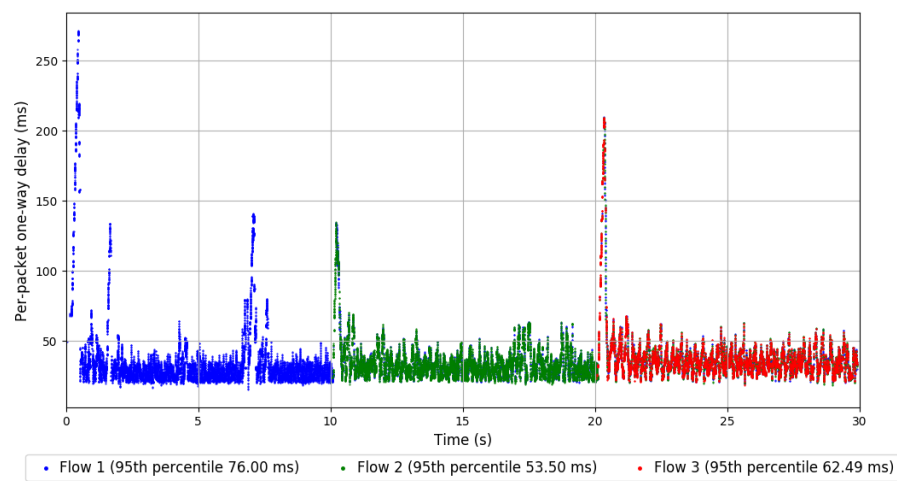
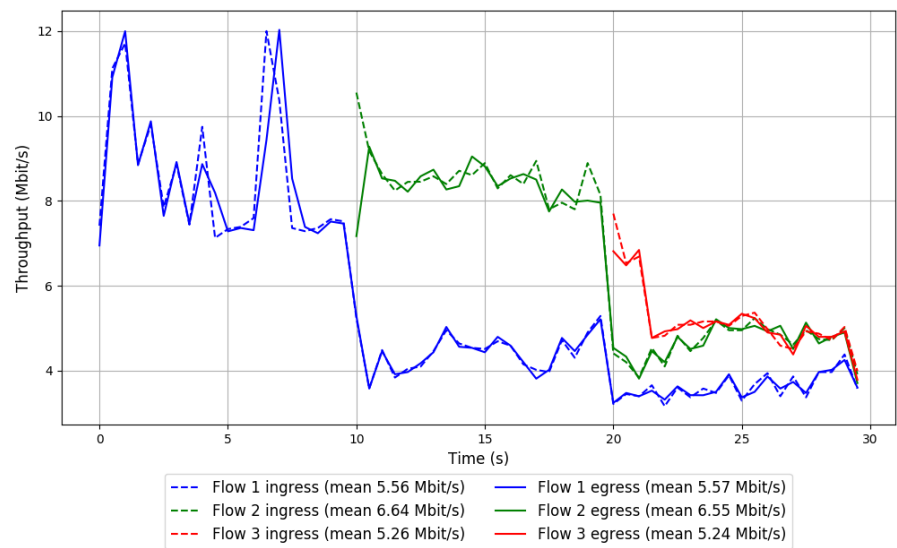


Run 2: Statistics of TaoVA-100x

Start at: 2018-03-20 08:52:22
End at: 2018-03-20 08:52:52
Local clock offset: -0.374 ms
Remote clock offset: -5.031 ms

Below is generated by plot.py at 2018-03-20 10:38:15
Datalink statistics
-- Total of 3 flows:
Average throughput: 11.66 Mbit/s
95th percentile per-packet one-way delay: 60.811 ms
Loss rate: 0.81%
-- Flow 1:
Average throughput: 5.57 Mbit/s
95th percentile per-packet one-way delay: 75.998 ms
Loss rate: 0.14%
-- Flow 2:
Average throughput: 6.55 Mbit/s
95th percentile per-packet one-way delay: 53.500 ms
Loss rate: 1.58%
-- Flow 3:
Average throughput: 5.24 Mbit/s
95th percentile per-packet one-way delay: 62.492 ms
Loss rate: 0.97%

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

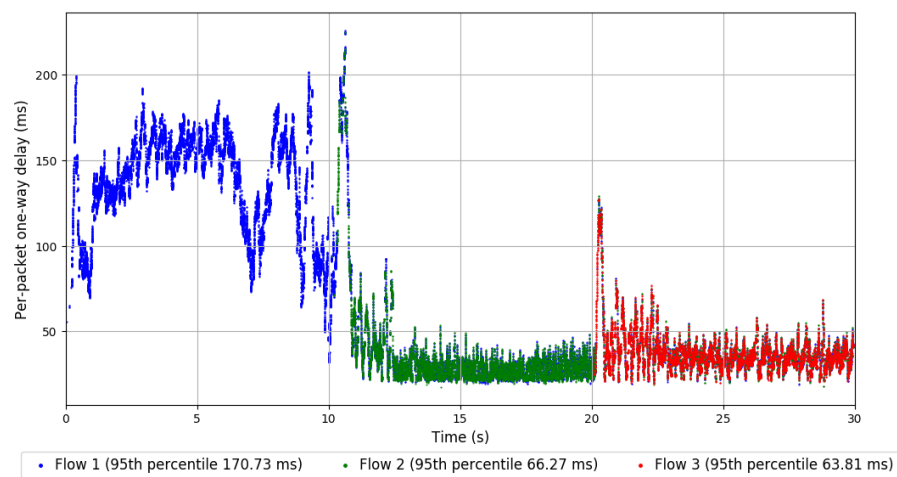
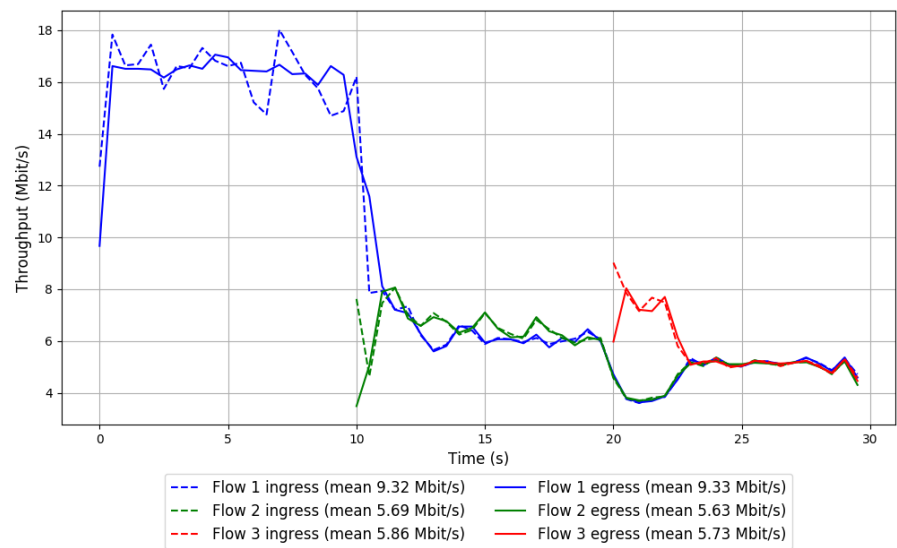


Run 3: Statistics of TaoVA-100x

Start at: 2018-03-20 09:16:13
End at: 2018-03-20 09:16:43
Local clock offset: 1.858 ms
Remote clock offset: -5.785 ms

Below is generated by plot.py at 2018-03-20 10:38:22
Datalink statistics
-- Total of 3 flows:
Average throughput: 14.95 Mbit/s
95th percentile per-packet one-way delay: 167.201 ms
Loss rate: 0.84%
-- Flow 1:
Average throughput: 9.33 Mbit/s
95th percentile per-packet one-way delay: 170.734 ms
Loss rate: 0.19%
-- Flow 2:
Average throughput: 5.63 Mbit/s
95th percentile per-packet one-way delay: 66.273 ms
Loss rate: 1.58%
-- Flow 3:
Average throughput: 5.73 Mbit/s
95th percentile per-packet one-way delay: 63.806 ms
Loss rate: 2.55%

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

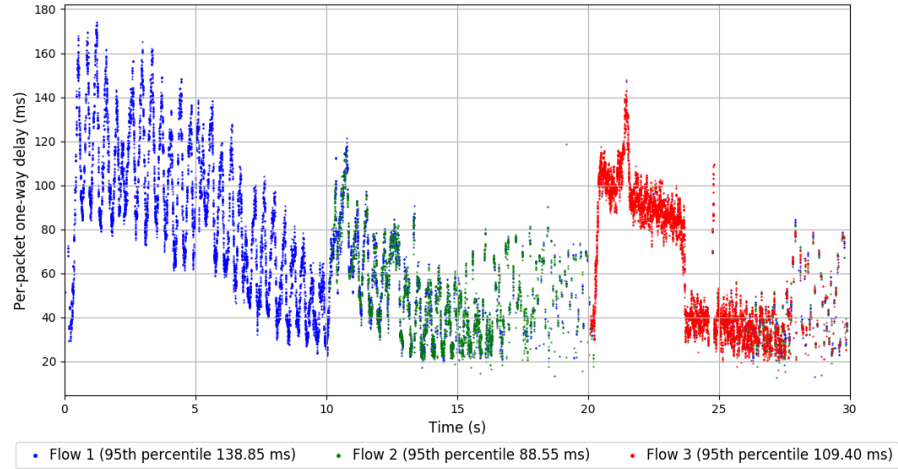
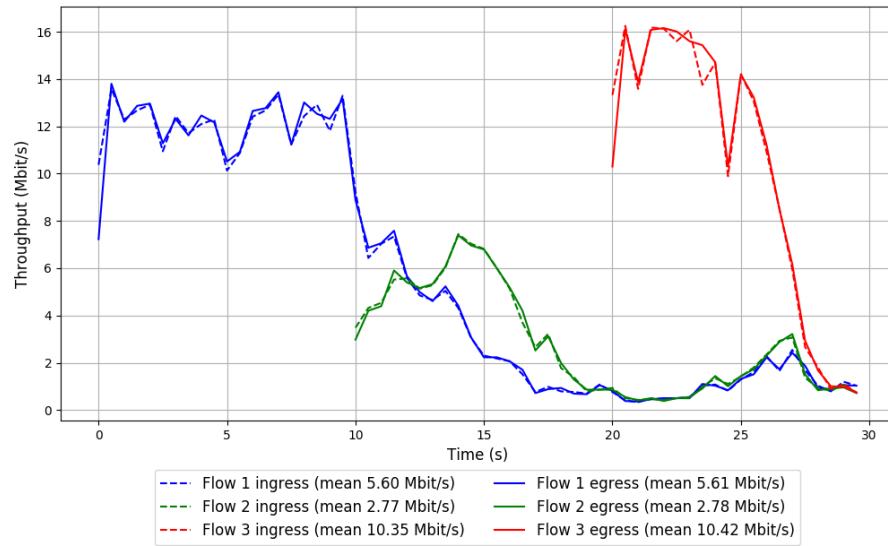


Run 1: Statistics of TCP Vegas

Start at: 2018-03-20 08:20:36
End at: 2018-03-20 08:21:06
Local clock offset: 1.466 ms
Remote clock offset: -6.223 ms

Below is generated by plot.py at 2018-03-20 10:38:22
Datalink statistics
-- Total of 3 flows:
Average throughput: 10.89 Mbit/s
95th percentile per-packet one-way delay: 128.773 ms
Loss rate: 0.07%
-- Flow 1:
Average throughput: 5.61 Mbit/s
95th percentile per-packet one-way delay: 138.846 ms
Loss rate: 0.06%
-- Flow 2:
Average throughput: 2.78 Mbit/s
95th percentile per-packet one-way delay: 88.553 ms
Loss rate: 0.11%
-- Flow 3:
Average throughput: 10.42 Mbit/s
95th percentile per-packet one-way delay: 109.399 ms
Loss rate: 0.07%

Run 1: Report of TCP Vegas — Data Link

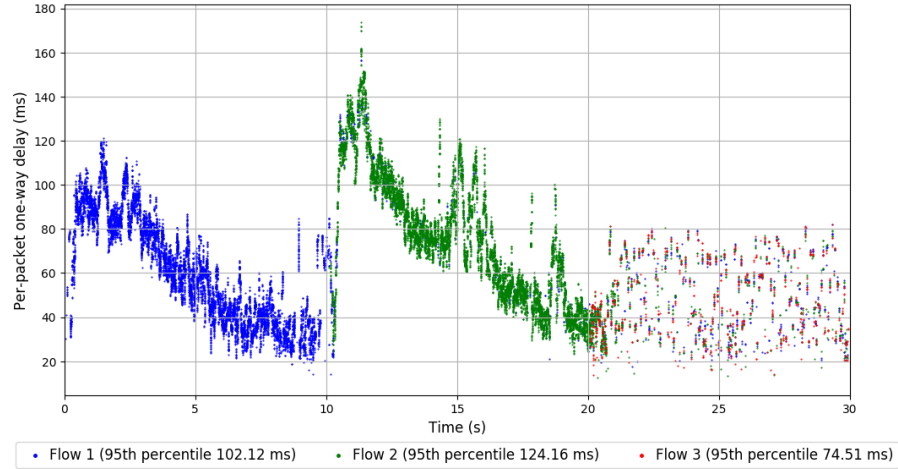
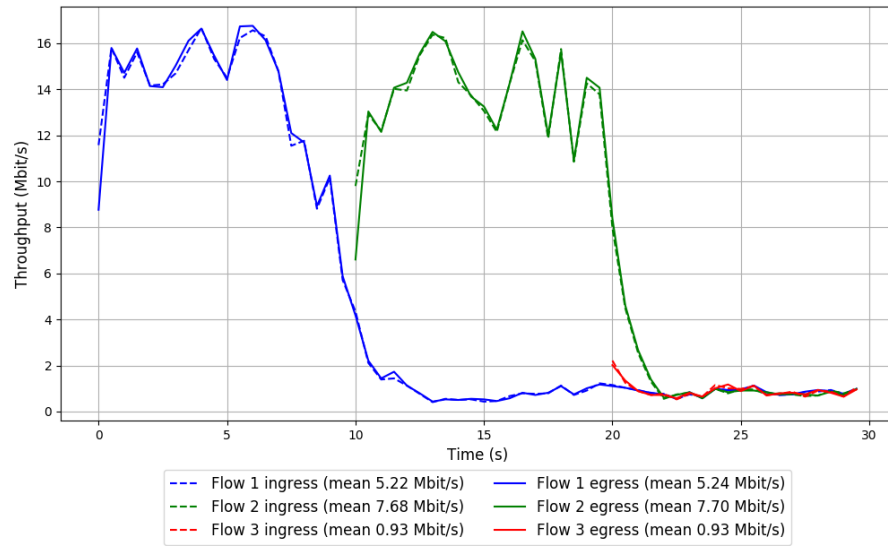


Run 2: Statistics of TCP Vegas

Start at: 2018-03-20 08:44:25
End at: 2018-03-20 08:44:55
Local clock offset: -0.066 ms
Remote clock offset: -5.418 ms

Below is generated by plot.py at 2018-03-20 10:38:22
Datalink statistics
-- Total of 3 flows:
Average throughput: 10.64 Mbit/s
95th percentile per-packet one-way delay: 116.258 ms
Loss rate: 0.08%
-- Flow 1:
Average throughput: 5.24 Mbit/s
95th percentile per-packet one-way delay: 102.123 ms
Loss rate: 0.05%
-- Flow 2:
Average throughput: 7.70 Mbit/s
95th percentile per-packet one-way delay: 124.160 ms
Loss rate: 0.06%
-- Flow 3:
Average throughput: 0.93 Mbit/s
95th percentile per-packet one-way delay: 74.510 ms
Loss rate: 0.91%

Run 2: Report of TCP Vegas — Data Link

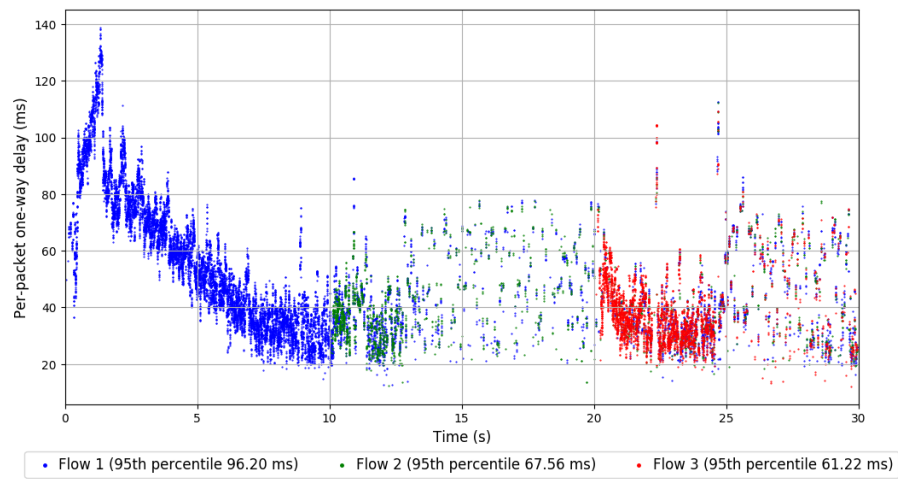
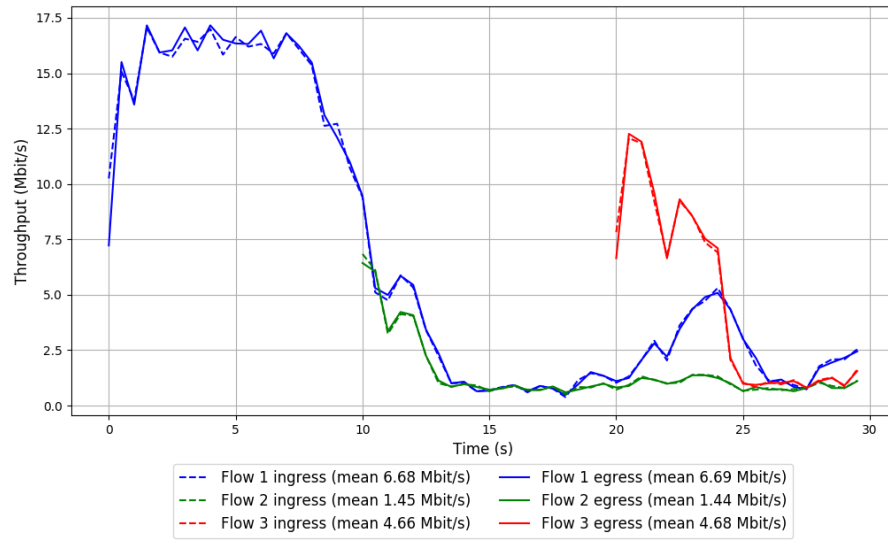


Run 3: Statistics of TCP Vegas

Start at: 2018-03-20 09:08:16
End at: 2018-03-20 09:08:46
Local clock offset: -1.054 ms
Remote clock offset: -4.919 ms

Below is generated by plot.py at 2018-03-20 10:38:22
Datalink statistics
-- Total of 3 flows:
Average throughput: 9.19 Mbit/s
95th percentile per-packet one-way delay: 92.494 ms
Loss rate: 0.14%
-- Flow 1:
Average throughput: 6.69 Mbit/s
95th percentile per-packet one-way delay: 96.196 ms
Loss rate: 0.08%
-- Flow 2:
Average throughput: 1.44 Mbit/s
95th percentile per-packet one-way delay: 67.560 ms
Loss rate: 0.46%
-- Flow 3:
Average throughput: 4.68 Mbit/s
95th percentile per-packet one-way delay: 61.224 ms
Loss rate: 0.21%

Run 3: Report of TCP Vegas — Data Link

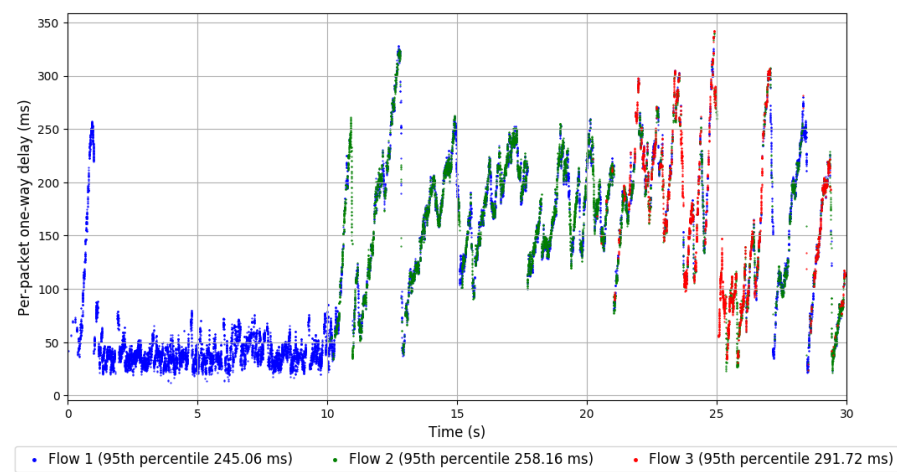
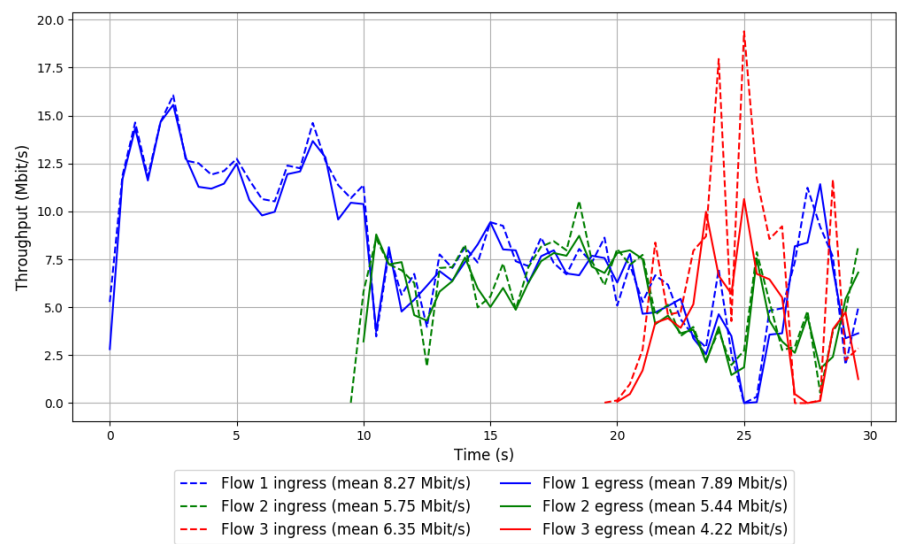


Run 1: Statistics of Verus

Start at: 2018-03-20 08:23:15
End at: 2018-03-20 08:23:45
Local clock offset: 1.187 ms
Remote clock offset: -6.271 ms

Below is generated by plot.py at 2018-03-20 10:38:22
Datalink statistics
-- Total of 3 flows:
Average throughput: 12.88 Mbit/s
95th percentile per-packet one-way delay: 253.643 ms
Loss rate: 9.54%
-- Flow 1:
Average throughput: 7.89 Mbit/s
95th percentile per-packet one-way delay: 245.064 ms
Loss rate: 4.84%
-- Flow 2:
Average throughput: 5.44 Mbit/s
95th percentile per-packet one-way delay: 258.158 ms
Loss rate: 5.64%
-- Flow 3:
Average throughput: 4.22 Mbit/s
95th percentile per-packet one-way delay: 291.723 ms
Loss rate: 35.09%

Run 1: Report of Verus — Data Link

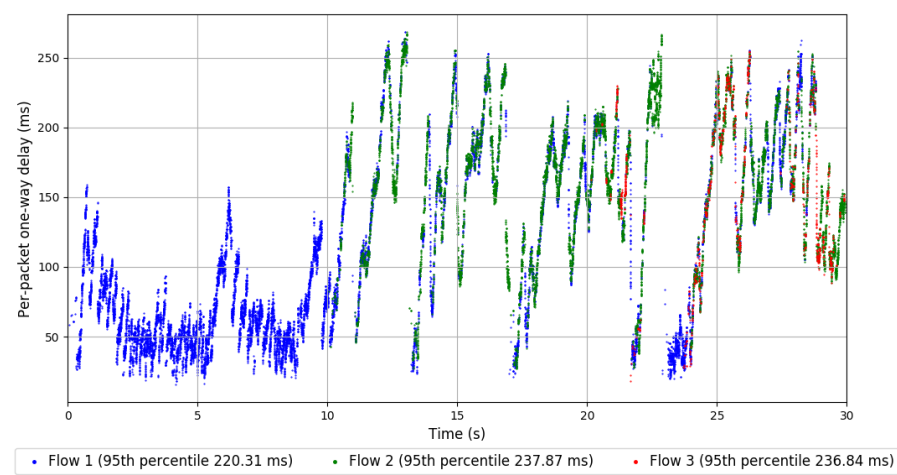
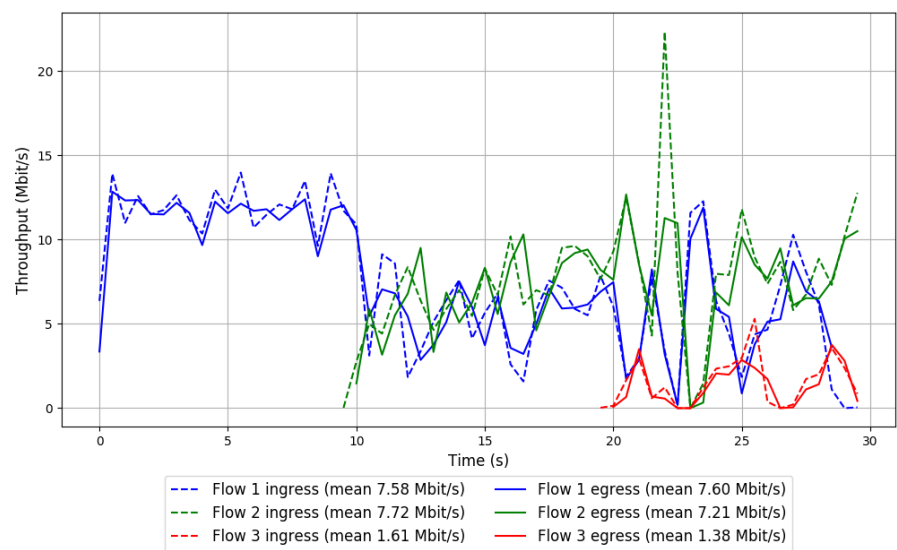


Run 2: Statistics of Verus

Start at: 2018-03-20 08:47:04
End at: 2018-03-20 08:47:34
Local clock offset: -0.263 ms
Remote clock offset: -5.296 ms

Below is generated by plot.py at 2018-03-20 10:38:22
Datalink statistics
-- Total of 3 flows:
Average throughput: 12.57 Mbit/s
95th percentile per-packet one-way delay: 231.964 ms
Loss rate: 5.31%
-- Flow 1:
Average throughput: 7.60 Mbit/s
95th percentile per-packet one-way delay: 220.311 ms
Loss rate: 3.28%
-- Flow 2:
Average throughput: 7.21 Mbit/s
95th percentile per-packet one-way delay: 237.873 ms
Loss rate: 7.17%
-- Flow 3:
Average throughput: 1.38 Mbit/s
95th percentile per-packet one-way delay: 236.837 ms
Loss rate: 15.92%

Run 2: Report of Verus — Data Link

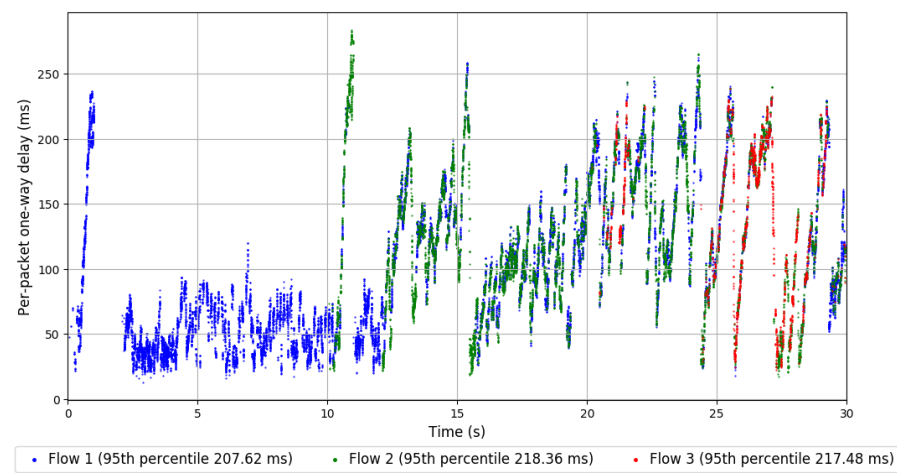
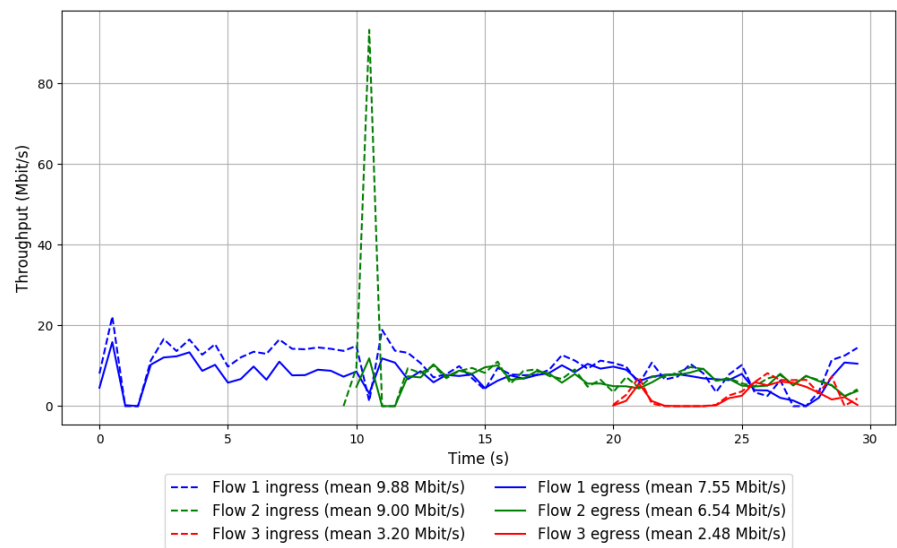


Run 3: Statistics of Verus

Start at: 2018-03-20 09:10:55
End at: 2018-03-20 09:11:25
Local clock offset: 0.223 ms
Remote clock offset: -5.325 ms

Below is generated by plot.py at 2018-03-20 10:38:22
Datalink statistics
-- Total of 3 flows:
Average throughput: 12.71 Mbit/s
95th percentile per-packet one-way delay: 212.349 ms
Loss rate: 25.13%
-- Flow 1:
Average throughput: 7.55 Mbit/s
95th percentile per-packet one-way delay: 207.616 ms
Loss rate: 23.74%
-- Flow 2:
Average throughput: 6.54 Mbit/s
95th percentile per-packet one-way delay: 218.360 ms
Loss rate: 27.61%
-- Flow 3:
Average throughput: 2.48 Mbit/s
95th percentile per-packet one-way delay: 217.476 ms
Loss rate: 24.04%

Run 3: Report of Verus — Data Link



Run 1: Statistics of Copa

Start at: 2018-03-20 08:21:55

End at: 2018-03-20 08:22:25

Local clock offset: 1.36 ms

Remote clock offset: -6.24 ms

Below is generated by plot.py at 2018-03-20 10:38:33

Datalink statistics

-- Total of 3 flows:

Average throughput: 12.61 Mbit/s

95th percentile per-packet one-way delay: 76.561 ms

Loss rate: 0.34%

-- Flow 1:

Average throughput: 6.93 Mbit/s

95th percentile per-packet one-way delay: 69.085 ms

Loss rate: 0.12%

-- Flow 2:

Average throughput: 6.41 Mbit/s

95th percentile per-packet one-way delay: 82.468 ms

Loss rate: 0.37%

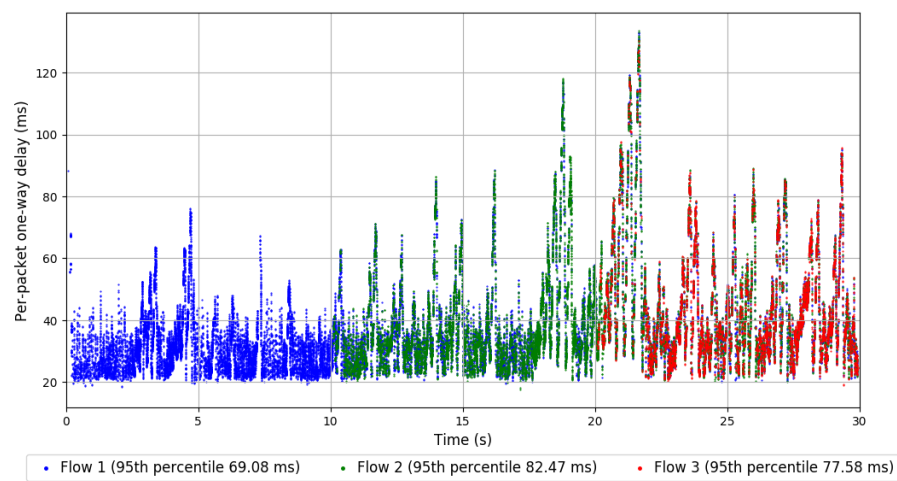
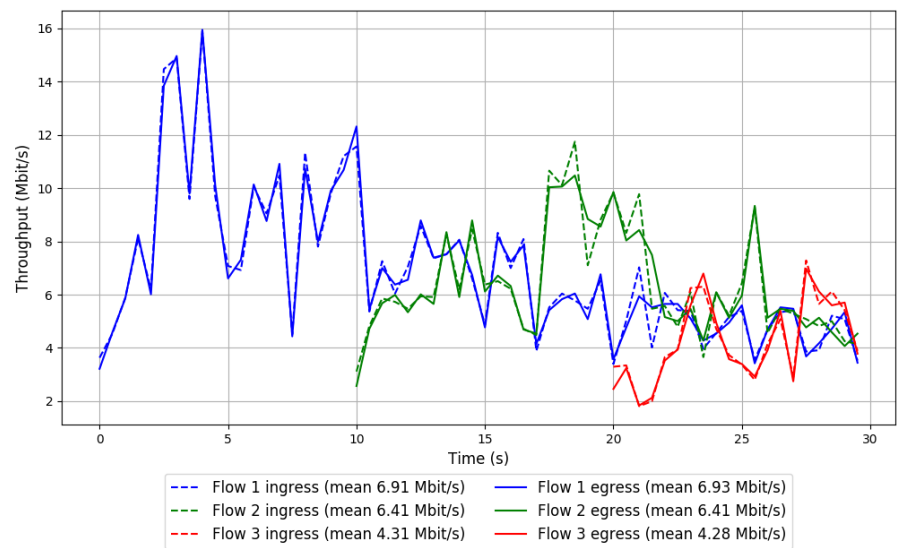
-- Flow 3:

Average throughput: 4.28 Mbit/s

95th percentile per-packet one-way delay: 77.583 ms

Loss rate: 1.28%

Run 1: Report of Copa — Data Link

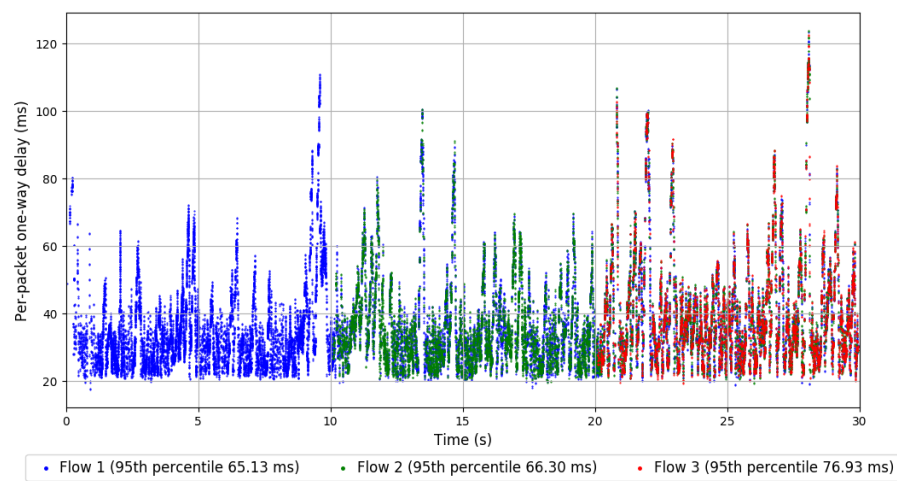
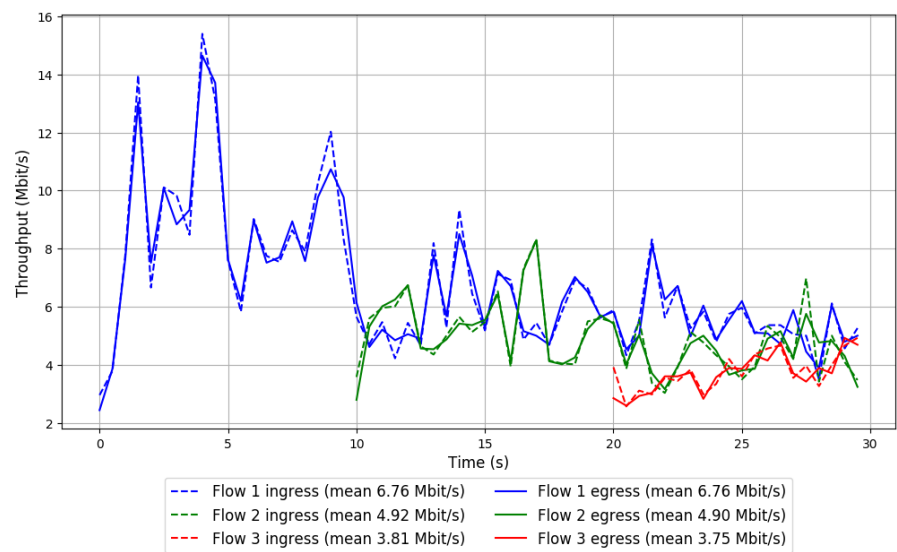


Run 2: Statistics of Copa

Start at: 2018-03-20 08:45:44
End at: 2018-03-20 08:46:14
Local clock offset: -0.097 ms
Remote clock offset: -5.344 ms

Below is generated by plot.py at 2018-03-20 10:38:33
Datalink statistics
-- Total of 3 flows:
Average throughput: 11.26 Mbit/s
95th percentile per-packet one-way delay: 66.486 ms
Loss rate: 0.47%
-- Flow 1:
Average throughput: 6.76 Mbit/s
95th percentile per-packet one-way delay: 65.127 ms
Loss rate: 0.21%
-- Flow 2:
Average throughput: 4.90 Mbit/s
95th percentile per-packet one-way delay: 66.298 ms
Loss rate: 0.48%
-- Flow 3:
Average throughput: 3.75 Mbit/s
95th percentile per-packet one-way delay: 76.926 ms
Loss rate: 1.86%

Run 2: Report of Copa — Data Link

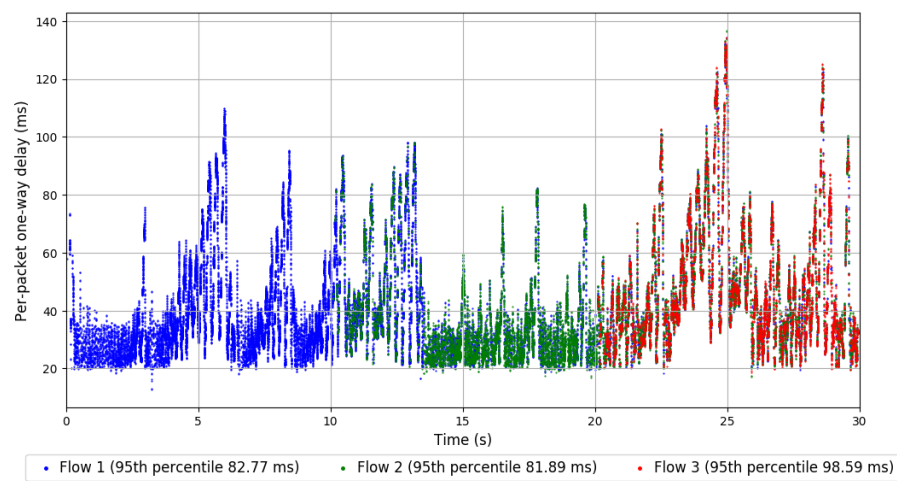
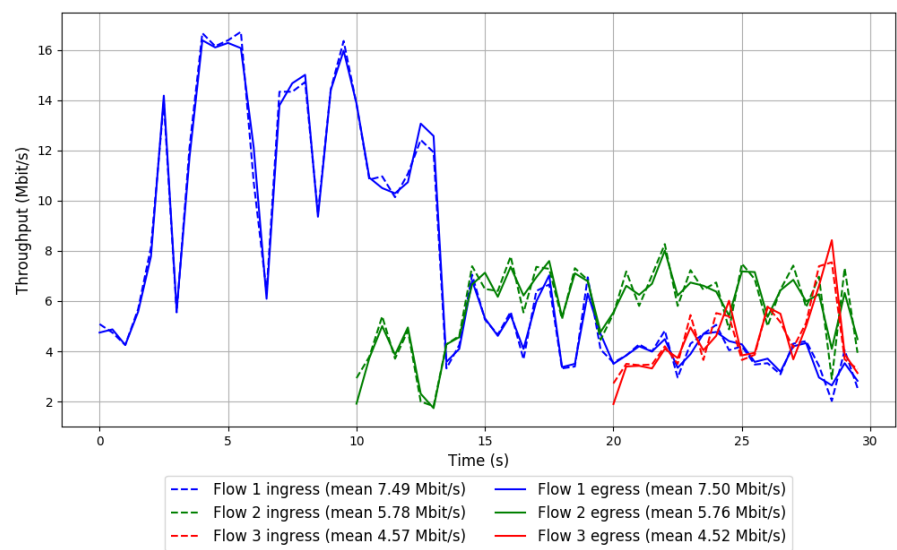


Run 3: Statistics of Copa

Start at: 2018-03-20 09:09:35
End at: 2018-03-20 09:10:05
Local clock offset: -0.339 ms
Remote clock offset: -5.106 ms

Below is generated by plot.py at 2018-03-20 10:38:43
Datalink statistics
-- Total of 3 flows:
Average throughput: 12.82 Mbit/s
95th percentile per-packet one-way delay: 83.840 ms
Loss rate: 0.39%
-- Flow 1:
Average throughput: 7.50 Mbit/s
95th percentile per-packet one-way delay: 82.774 ms
Loss rate: 0.09%
-- Flow 2:
Average throughput: 5.76 Mbit/s
95th percentile per-packet one-way delay: 81.890 ms
Loss rate: 0.61%
-- Flow 3:
Average throughput: 4.52 Mbit/s
95th percentile per-packet one-way delay: 98.591 ms
Loss rate: 1.37%

Run 3: Report of Copa — Data Link

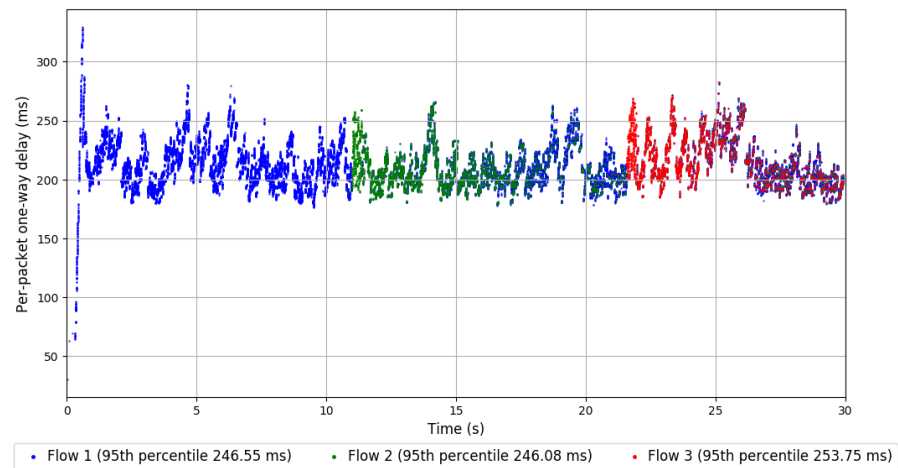
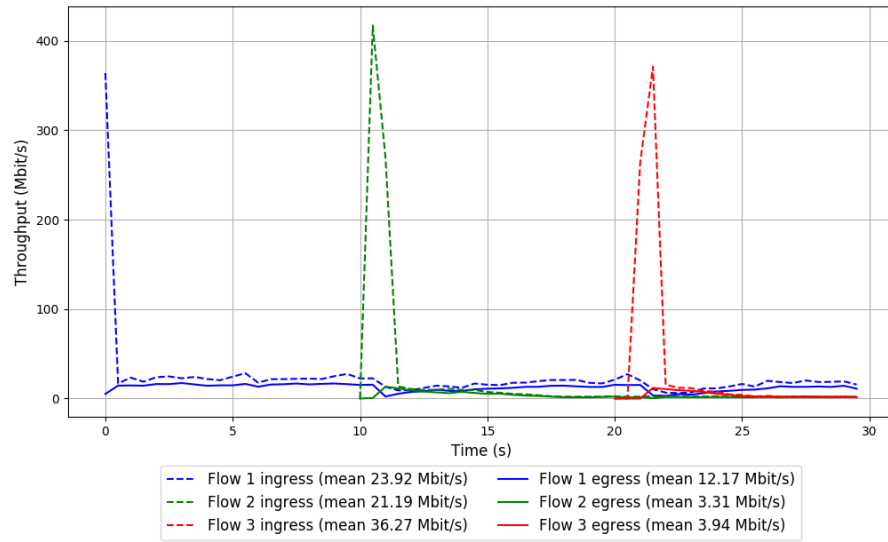


Run 1: Statistics of FillP

Start at: 2018-03-20 08:27:12
End at: 2018-03-20 08:27:42
Local clock offset: 0.775 ms
Remote clock offset: -6.318 ms

Below is generated by plot.py at 2018-03-20 10:38:50
Datalink statistics
-- Total of 3 flows:
Average throughput: 15.59 Mbit/s
95th percentile per-packet one-way delay: 247.486 ms
Loss rate: 68.89%
-- Flow 1:
Average throughput: 12.17 Mbit/s
95th percentile per-packet one-way delay: 246.553 ms
Loss rate: 49.21%
-- Flow 2:
Average throughput: 3.31 Mbit/s
95th percentile per-packet one-way delay: 246.084 ms
Loss rate: 84.70%
-- Flow 3:
Average throughput: 3.94 Mbit/s
95th percentile per-packet one-way delay: 253.752 ms
Loss rate: 89.54%

Run 1: Report of FillP — Data Link

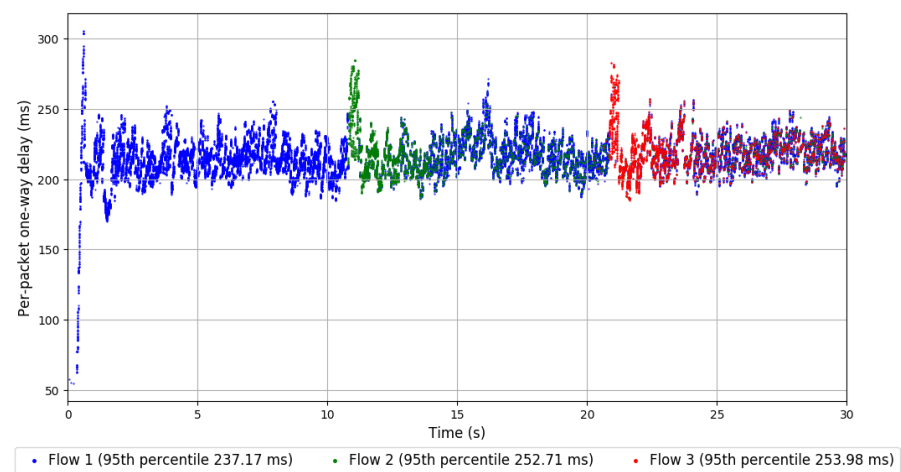
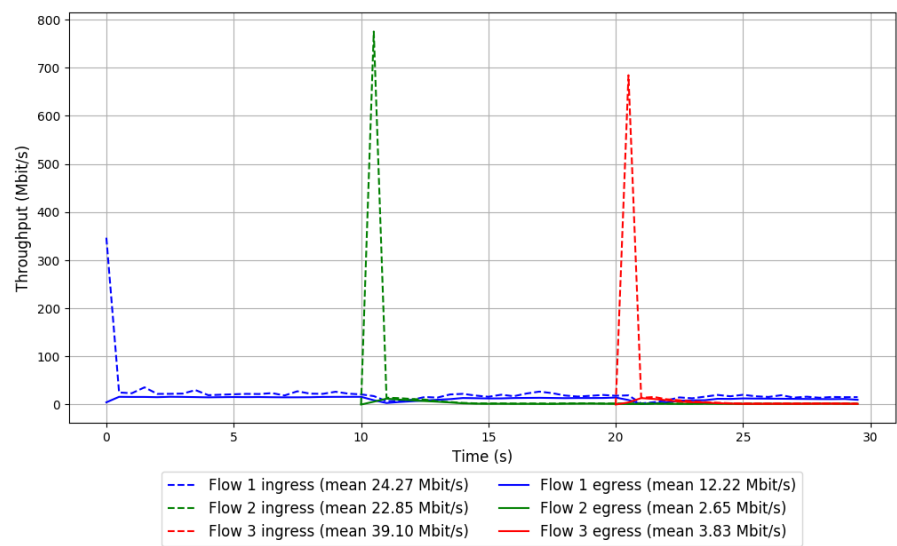


Run 2: Statistics of FillP

Start at: 2018-03-20 08:51:02
End at: 2018-03-20 08:51:32
Local clock offset: -0.329 ms
Remote clock offset: -5.087 ms

Below is generated by plot.py at 2018-03-20 10:38:52
Datalink statistics
-- Total of 3 flows:
Average throughput: 15.21 Mbit/s
95th percentile per-packet one-way delay: 239.557 ms
Loss rate: 71.05%
-- Flow 1:
Average throughput: 12.22 Mbit/s
95th percentile per-packet one-way delay: 237.172 ms
Loss rate: 49.78%
-- Flow 2:
Average throughput: 2.65 Mbit/s
95th percentile per-packet one-way delay: 252.706 ms
Loss rate: 88.52%
-- Flow 3:
Average throughput: 3.83 Mbit/s
95th percentile per-packet one-way delay: 253.984 ms
Loss rate: 90.45%

Run 2: Report of FillP — Data Link

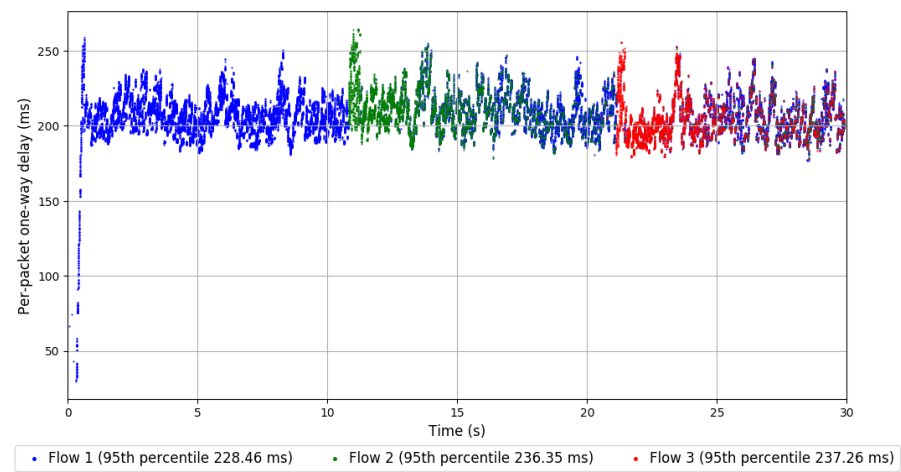
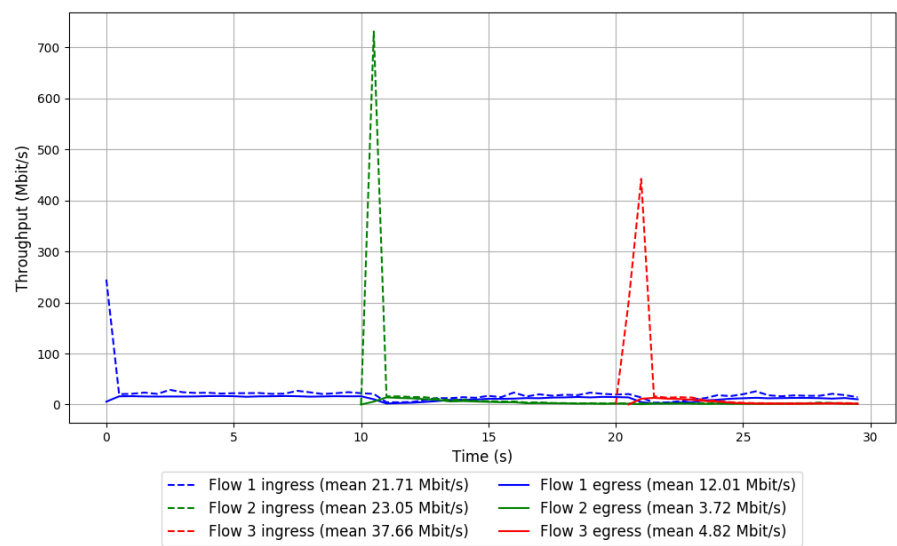


Run 3: Statistics of FillP

Start at: 2018-03-20 09:14:52
End at: 2018-03-20 09:15:22
Local clock offset: 1.433 ms
Remote clock offset: -5.707 ms

Below is generated by plot.py at 2018-03-20 10:38:55
Datalink statistics
-- Total of 3 flows:
Average throughput: 15.97 Mbit/s
95th percentile per-packet one-way delay: 230.116 ms
Loss rate: 67.82%
-- Flow 1:
Average throughput: 12.01 Mbit/s
95th percentile per-packet one-way delay: 228.458 ms
Loss rate: 44.86%
-- Flow 2:
Average throughput: 3.72 Mbit/s
95th percentile per-packet one-way delay: 236.352 ms
Loss rate: 84.04%
-- Flow 3:
Average throughput: 4.82 Mbit/s
95th percentile per-packet one-way delay: 237.263 ms
Loss rate: 87.89%

Run 3: Report of FillP — Data Link

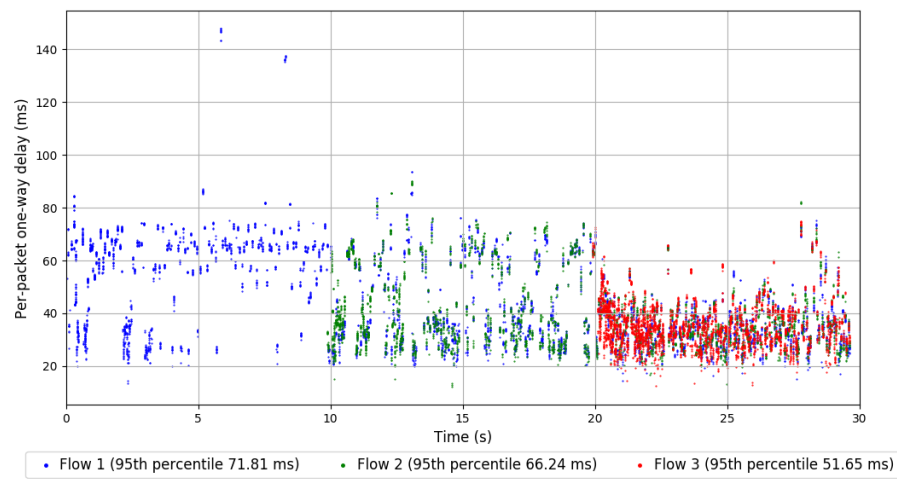
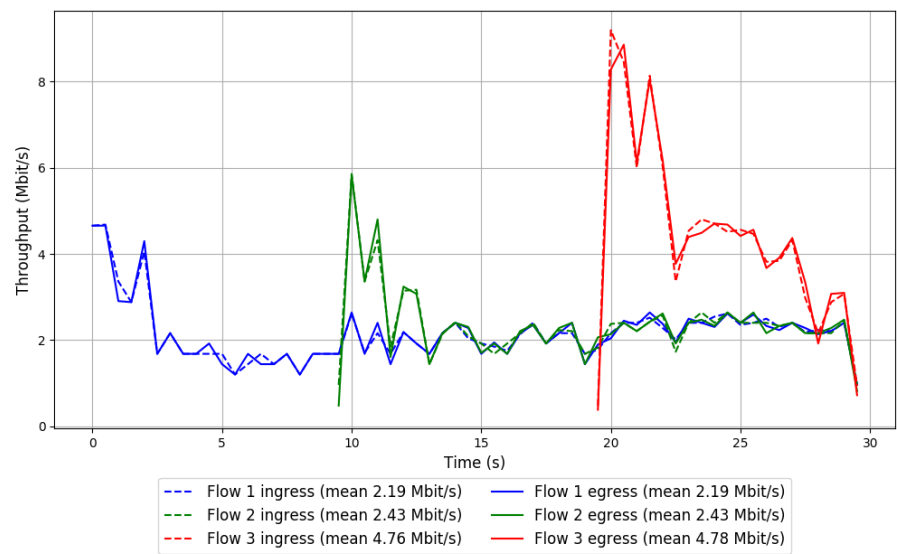


Run 1: Statistics of Indigo-1-32

Start at: 2018-03-20 08:33:50
End at: 2018-03-20 08:34:20
Local clock offset: 0.339 ms
Remote clock offset: -6.273 ms

Below is generated by plot.py at 2018-03-20 10:38:55
Datalink statistics
-- Total of 3 flows:
Average throughput: 5.38 Mbit/s
95th percentile per-packet one-way delay: 67.853 ms
Loss rate: 0.24%
-- Flow 1:
Average throughput: 2.19 Mbit/s
95th percentile per-packet one-way delay: 71.811 ms
Loss rate: 0.18%
-- Flow 2:
Average throughput: 2.43 Mbit/s
95th percentile per-packet one-way delay: 66.237 ms
Loss rate: 0.27%
-- Flow 3:
Average throughput: 4.78 Mbit/s
95th percentile per-packet one-way delay: 51.654 ms
Loss rate: 0.28%

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

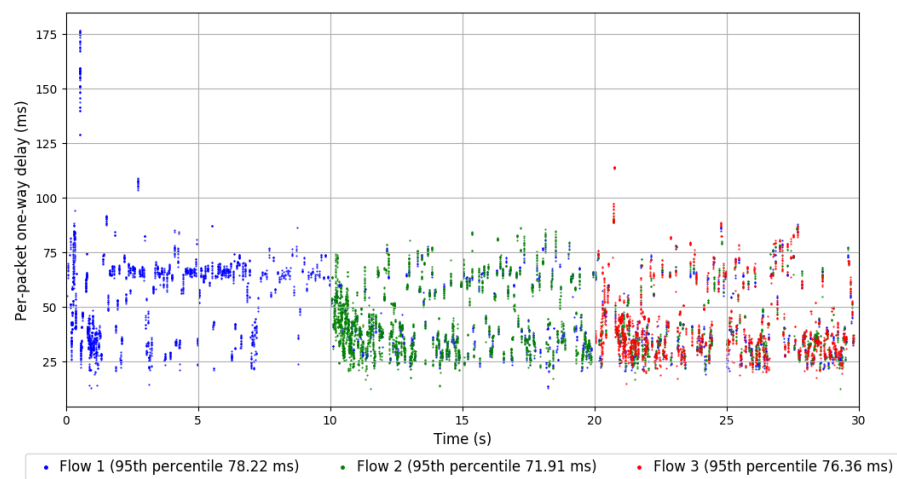
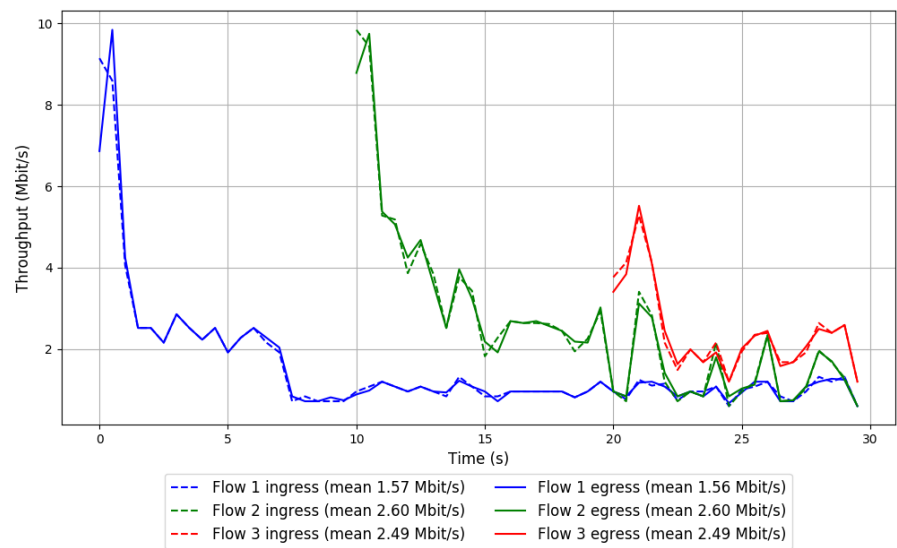


Run 2: Statistics of Indigo-1-32

Start at: 2018-03-20 08:57:41
End at: 2018-03-20 08:58:11
Local clock offset: -0.663 ms
Remote clock offset: -4.976 ms

Below is generated by plot.py at 2018-03-20 10:38:55
Datalink statistics
-- Total of 3 flows:
Average throughput: 4.10 Mbit/s
95th percentile per-packet one-way delay: 74.986 ms
Loss rate: 0.48%
-- Flow 1:
Average throughput: 1.56 Mbit/s
95th percentile per-packet one-way delay: 78.224 ms
Loss rate: 0.69%
-- Flow 2:
Average throughput: 2.60 Mbit/s
95th percentile per-packet one-way delay: 71.914 ms
Loss rate: 0.28%
-- Flow 3:
Average throughput: 2.49 Mbit/s
95th percentile per-packet one-way delay: 76.365 ms
Loss rate: 0.49%

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

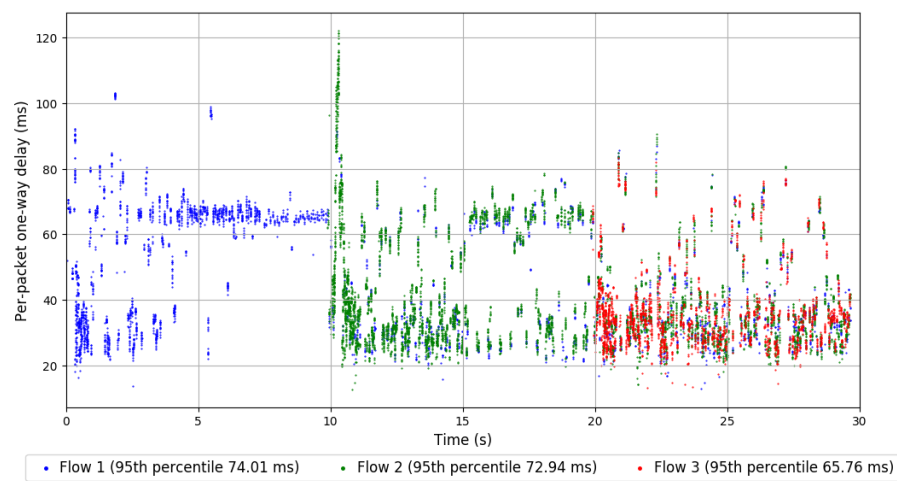
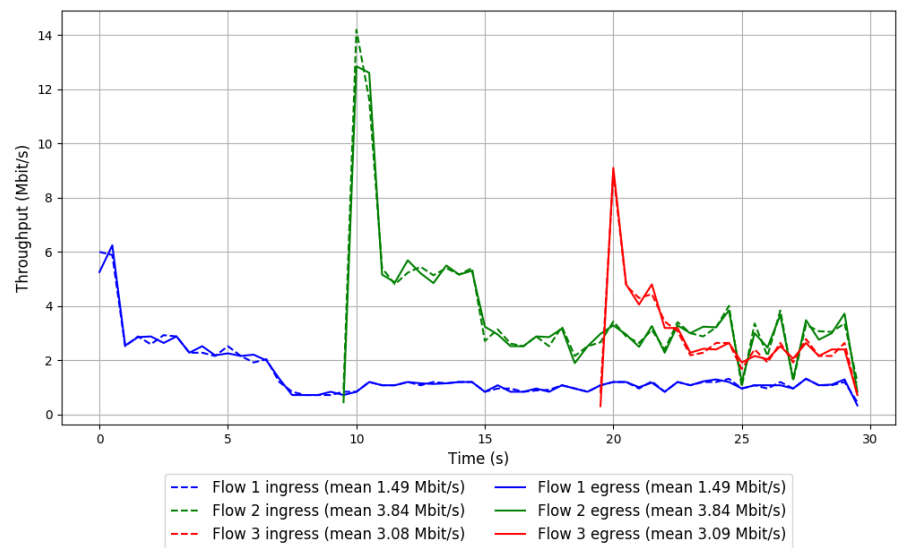


Run 3: Statistics of Indigo-1-32

Start at: 2018-03-20 09:21:30
End at: 2018-03-20 09:22:00
Local clock offset: 2.827 ms
Remote clock offset: -6.018 ms

Below is generated by plot.py at 2018-03-20 10:38:55
Datalink statistics
-- Total of 3 flows:
Average throughput: 5.07 Mbit/s
95th percentile per-packet one-way delay: 72.395 ms
Loss rate: 0.41%
-- Flow 1:
Average throughput: 1.49 Mbit/s
95th percentile per-packet one-way delay: 74.014 ms
Loss rate: 0.16%
-- Flow 2:
Average throughput: 3.84 Mbit/s
95th percentile per-packet one-way delay: 72.943 ms
Loss rate: 0.55%
-- Flow 3:
Average throughput: 3.09 Mbit/s
95th percentile per-packet one-way delay: 65.759 ms
Loss rate: 0.40%

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

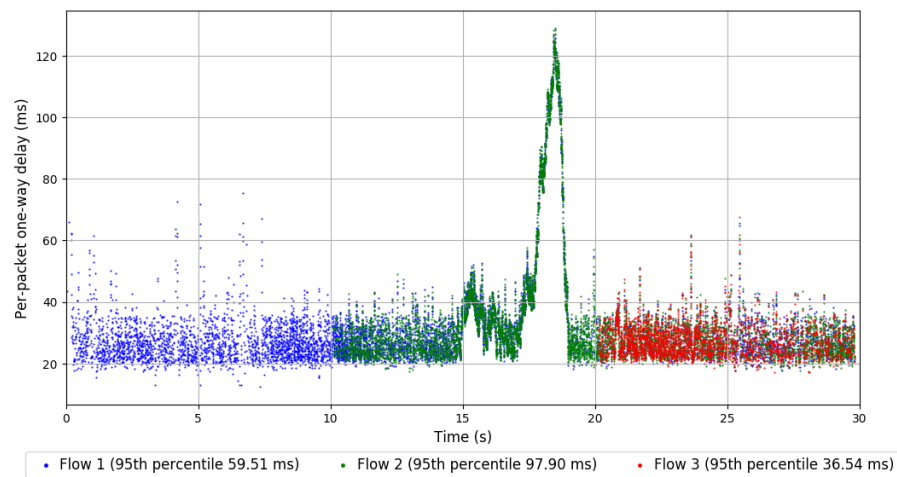
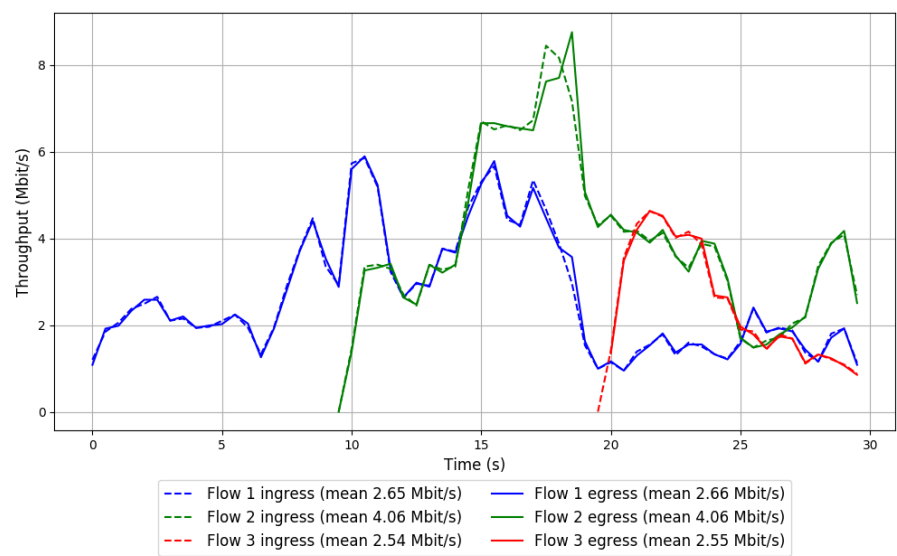


Run 1: Statistics of Vivace-latency

Start at: 2018-03-20 08:31:12
End at: 2018-03-20 08:31:42
Local clock offset: 0.396 ms
Remote clock offset: -6.263 ms

Below is generated by plot.py at 2018-03-20 10:38:55
Datalink statistics
-- Total of 3 flows:
Average throughput: 6.20 Mbit/s
95th percentile per-packet one-way delay: 78.650 ms
Loss rate: 0.18%
-- Flow 1:
Average throughput: 2.66 Mbit/s
95th percentile per-packet one-way delay: 59.513 ms
Loss rate: 0.12%
-- Flow 2:
Average throughput: 4.06 Mbit/s
95th percentile per-packet one-way delay: 97.897 ms
Loss rate: 0.22%
-- Flow 3:
Average throughput: 2.55 Mbit/s
95th percentile per-packet one-way delay: 36.540 ms
Loss rate: 0.24%

Run 1: Report of Vivace-latency — Data Link

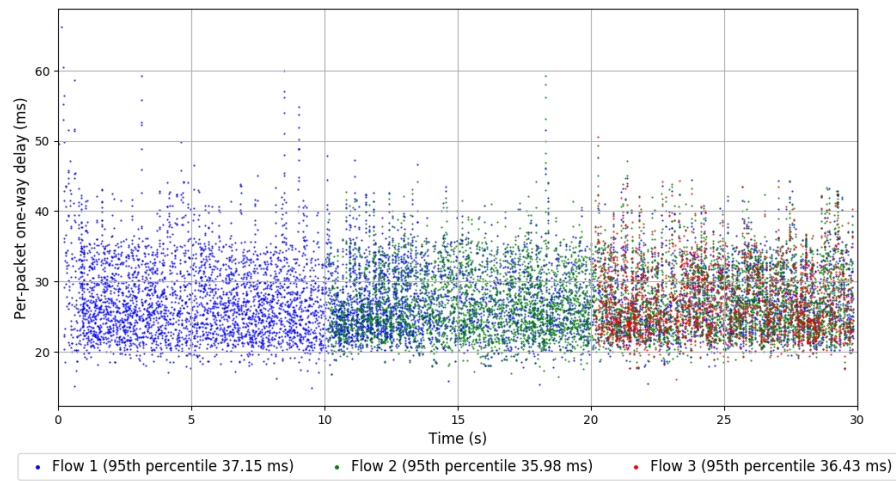
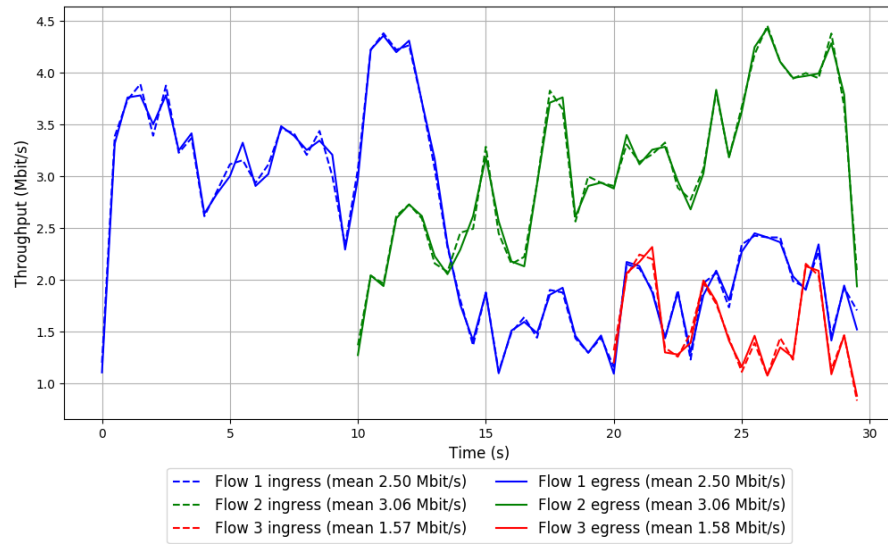


Run 2: Statistics of Vivace-latency

Start at: 2018-03-20 08:55:02
End at: 2018-03-20 08:55:32
Local clock offset: -0.485 ms
Remote clock offset: -5.085 ms

Below is generated by plot.py at 2018-03-20 10:38:55
Datalink statistics
-- Total of 3 flows:
Average throughput: 5.05 Mbit/s
95th percentile per-packet one-way delay: 36.509 ms
Loss rate: 0.22%
-- Flow 1:
Average throughput: 2.50 Mbit/s
95th percentile per-packet one-way delay: 37.146 ms
Loss rate: 0.19%
-- Flow 2:
Average throughput: 3.06 Mbit/s
95th percentile per-packet one-way delay: 35.978 ms
Loss rate: 0.25%
-- Flow 3:
Average throughput: 1.58 Mbit/s
95th percentile per-packet one-way delay: 36.429 ms
Loss rate: 0.23%

Run 2: Report of Vivace-latency — Data Link

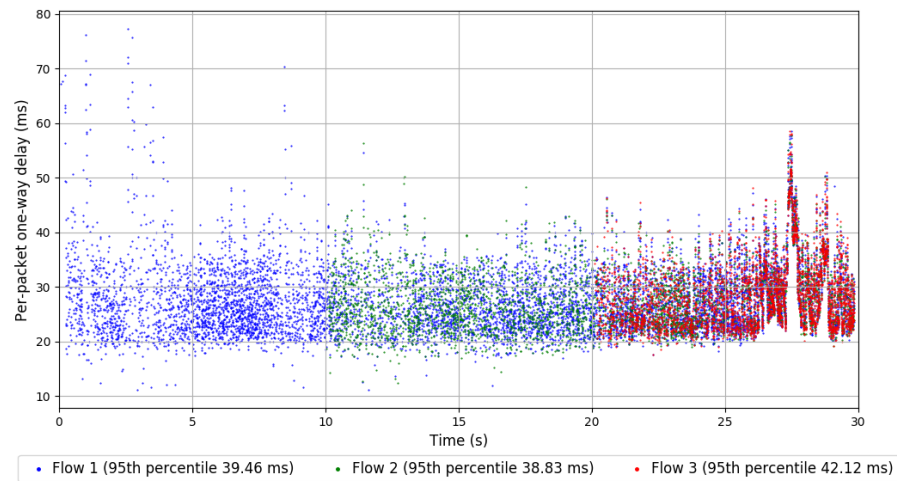
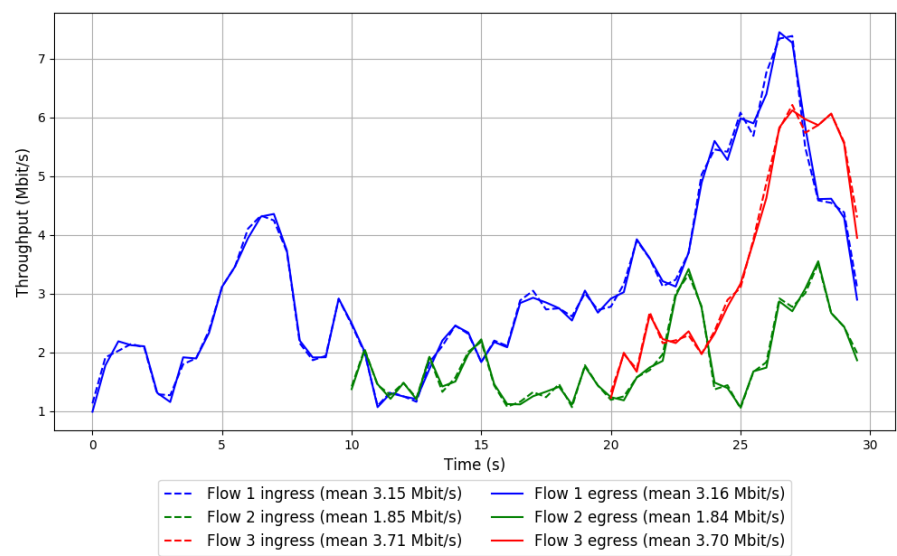


Run 3: Statistics of Vivace-latency

Start at: 2018-03-20 09:18:52
End at: 2018-03-20 09:19:22
Local clock offset: 2.319 ms
Remote clock offset: -5.852 ms

Below is generated by plot.py at 2018-03-20 10:38:55
Datalink statistics
-- Total of 3 flows:
Average throughput: 5.60 Mbit/s
95th percentile per-packet one-way delay: 39.919 ms
Loss rate: 0.43%
-- Flow 1:
Average throughput: 3.16 Mbit/s
95th percentile per-packet one-way delay: 39.456 ms
Loss rate: 0.26%
-- Flow 2:
Average throughput: 1.84 Mbit/s
95th percentile per-packet one-way delay: 38.834 ms
Loss rate: 0.38%
-- Flow 3:
Average throughput: 3.70 Mbit/s
95th percentile per-packet one-way delay: 42.115 ms
Loss rate: 0.92%

Run 3: Report of Vivace-latency — Data Link



Run 1: Statistics of Vivace-loss

Start at: 2018-03-20 08:35:09

End at: 2018-03-20 08:35:39

Local clock offset: 0.185 ms

Remote clock offset: -6.16 ms

Below is generated by plot.py at 2018-03-20 10:38:56

Datalink statistics

-- Total of 3 flows:

Average throughput: 15.21 Mbit/s

95th percentile per-packet one-way delay: 247.744 ms

Loss rate: 20.77%

-- Flow 1:

Average throughput: 13.08 Mbit/s

95th percentile per-packet one-way delay: 244.730 ms

Loss rate: 21.61%

-- Flow 2:

Average throughput: 2.07 Mbit/s

95th percentile per-packet one-way delay: 252.450 ms

Loss rate: 14.92%

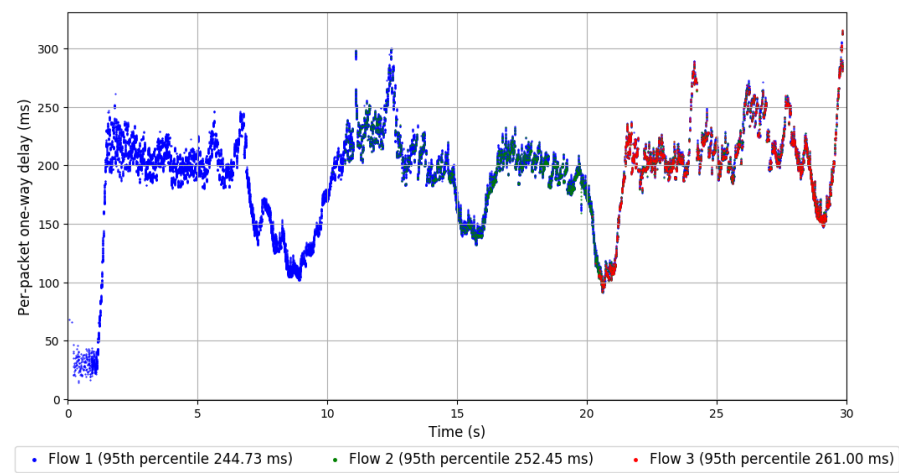
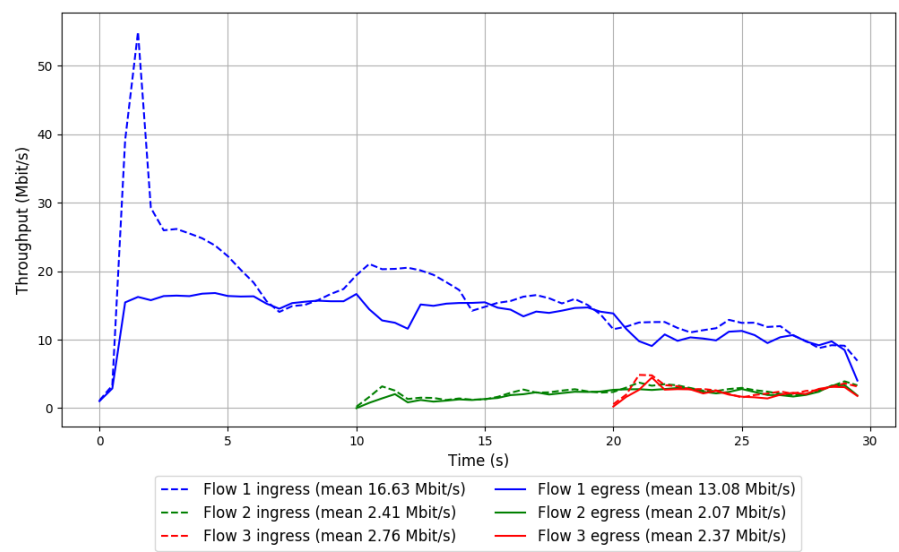
-- Flow 3:

Average throughput: 2.37 Mbit/s

95th percentile per-packet one-way delay: 260.995 ms

Loss rate: 15.76%

Run 1: Report of Vivace-loss — Data Link

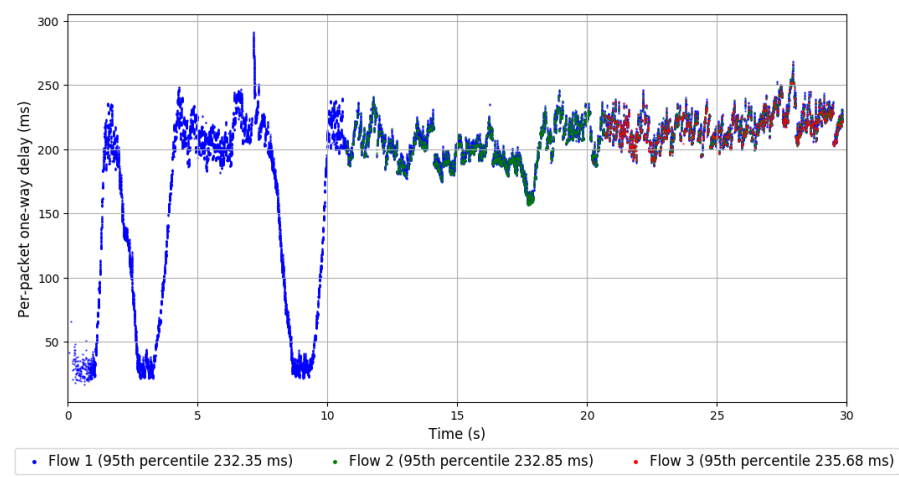
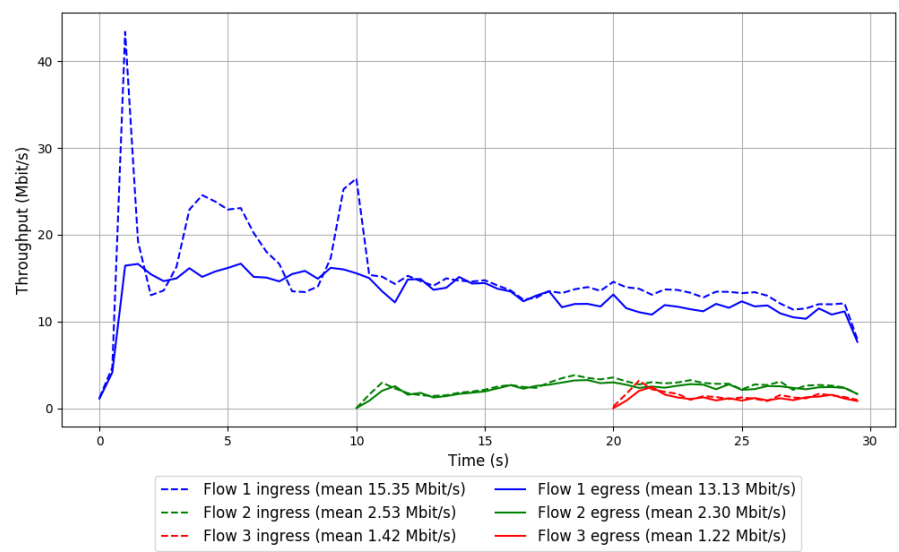


Run 2: Statistics of Vivace-loss

Start at: 2018-03-20 08:59:00
End at: 2018-03-20 08:59:30
Local clock offset: -0.628 ms
Remote clock offset: -5.018 ms

Below is generated by plot.py at 2018-03-20 10:38:59
Datalink statistics
-- Total of 3 flows:
Average throughput: 15.04 Mbit/s
95th percentile per-packet one-way delay: 232.530 ms
Loss rate: 14.24%
-- Flow 1:
Average throughput: 13.13 Mbit/s
95th percentile per-packet one-way delay: 232.353 ms
Loss rate: 14.65%
-- Flow 2:
Average throughput: 2.30 Mbit/s
95th percentile per-packet one-way delay: 232.850 ms
Loss rate: 10.24%
-- Flow 3:
Average throughput: 1.22 Mbit/s
95th percentile per-packet one-way delay: 235.675 ms
Loss rate: 15.41%

Run 2: Report of Vivace-loss — Data Link

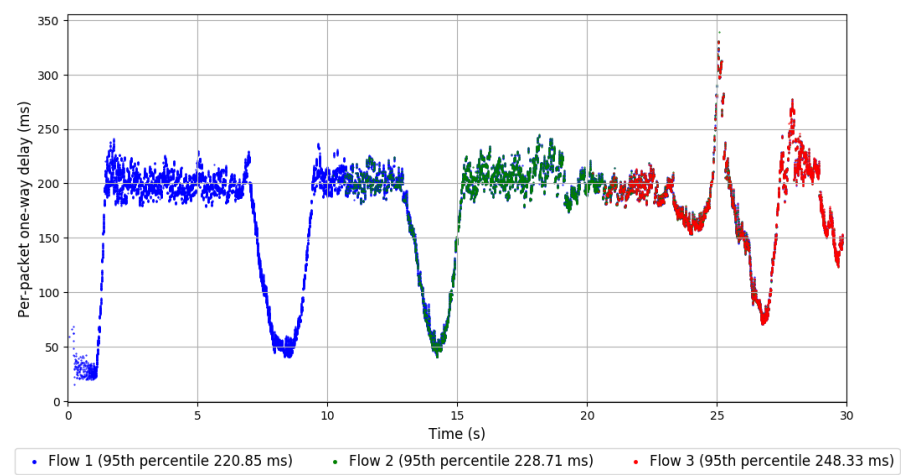
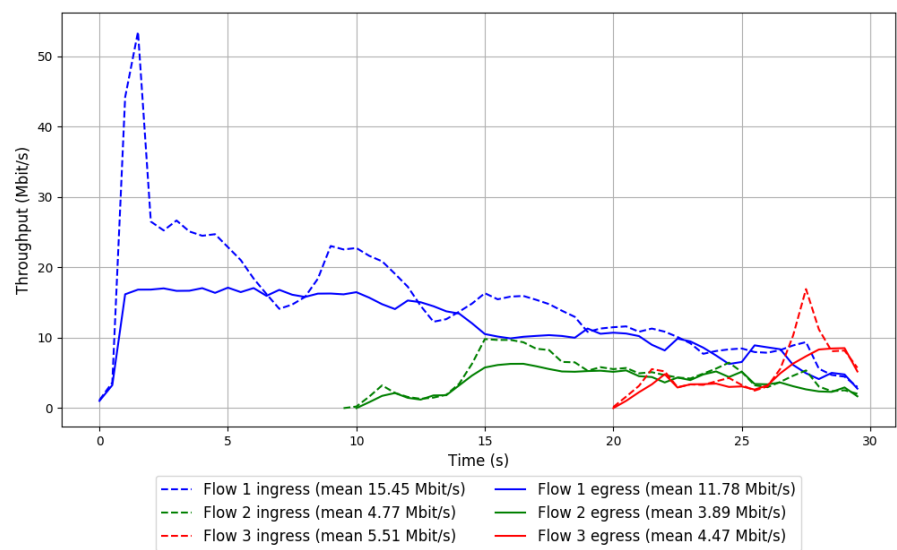


Run 3: Statistics of Vivace-loss

Start at: 2018-03-20 09:22:50
End at: 2018-03-20 09:23:20
Local clock offset: 2.935 ms
Remote clock offset: -6.152 ms

Below is generated by plot.py at 2018-03-20 10:39:00
Datalink statistics
-- Total of 3 flows:
Average throughput: 15.78 Mbit/s
95th percentile per-packet one-way delay: 223.197 ms
Loss rate: 23.02%
-- Flow 1:
Average throughput: 11.78 Mbit/s
95th percentile per-packet one-way delay: 220.852 ms
Loss rate: 24.00%
-- Flow 2:
Average throughput: 3.89 Mbit/s
95th percentile per-packet one-way delay: 228.710 ms
Loss rate: 19.51%
-- Flow 3:
Average throughput: 4.47 Mbit/s
95th percentile per-packet one-way delay: 248.333 ms
Loss rate: 20.76%

Run 3: Report of Vivace-loss — Data Link

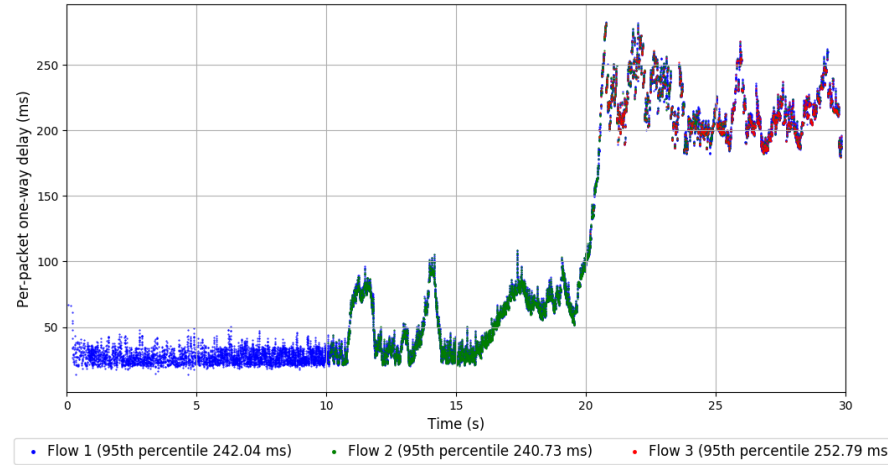
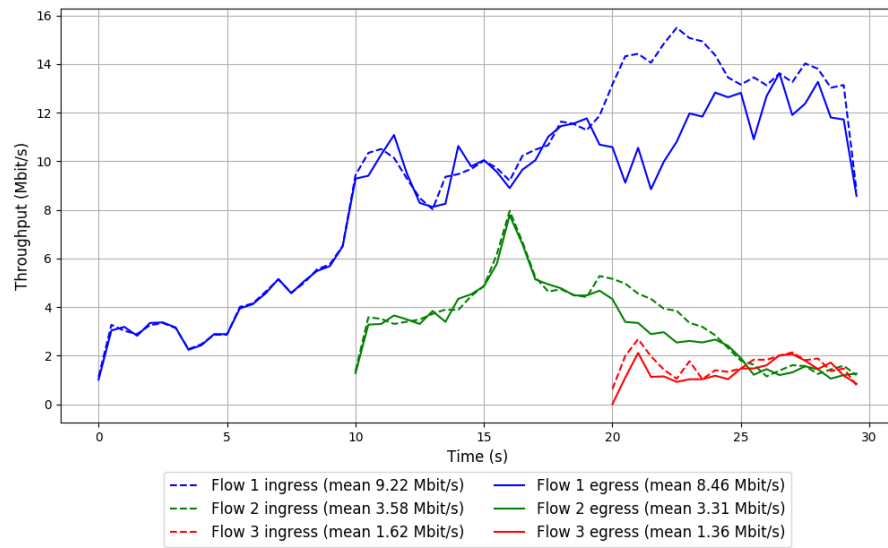


Run 1: Statistics of Vivace-LTE

Start at: 2018-03-20 08:36:29
End at: 2018-03-20 08:36:59
Local clock offset: 0.13 ms
Remote clock offset: -5.983 ms

Below is generated by plot.py at 2018-03-20 10:39:00
Datalink statistics
-- Total of 3 flows:
Average throughput: 11.10 Mbit/s
95th percentile per-packet one-way delay: 242.726 ms
Loss rate: 8.79%
-- Flow 1:
Average throughput: 8.46 Mbit/s
95th percentile per-packet one-way delay: 242.041 ms
Loss rate: 8.56%
-- Flow 2:
Average throughput: 3.31 Mbit/s
95th percentile per-packet one-way delay: 240.730 ms
Loss rate: 7.74%
-- Flow 3:
Average throughput: 1.36 Mbit/s
95th percentile per-packet one-way delay: 252.793 ms
Loss rate: 17.50%

Run 1: Report of Vivace-LTE — Data Link

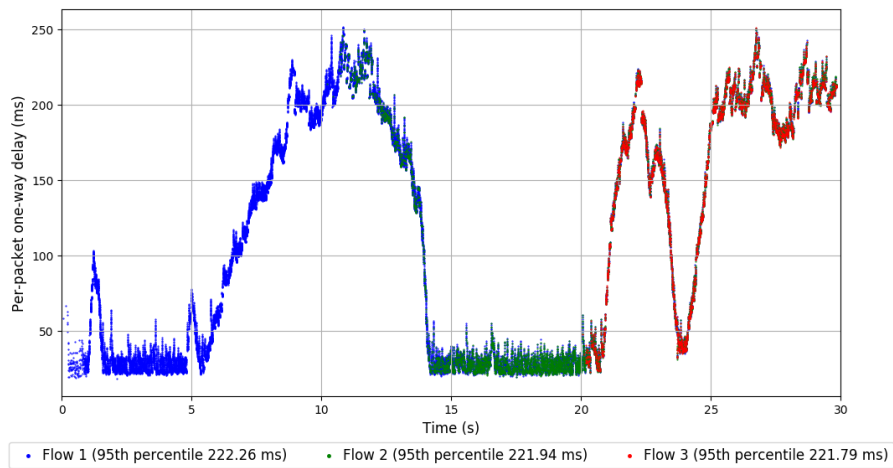
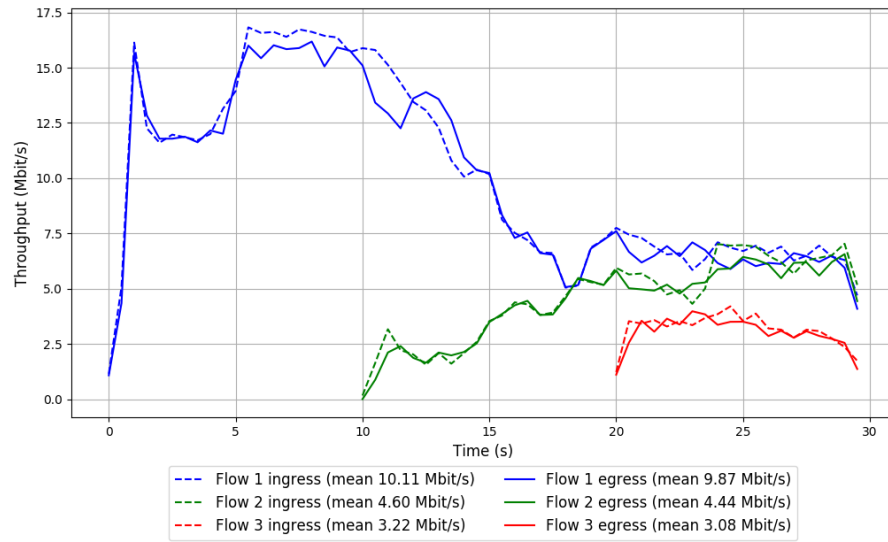


Run 2: Statistics of Vivace-LTE

Start at: 2018-03-20 09:00:19
End at: 2018-03-20 09:00:49
Local clock offset: -0.698 ms
Remote clock offset: -4.996 ms

Below is generated by plot.py at 2018-03-20 10:39:00
Datalink statistics
-- Total of 3 flows:
Average throughput: 13.81 Mbit/s
95th percentile per-packet one-way delay: 222.183 ms
Loss rate: 3.22%
-- Flow 1:
Average throughput: 9.87 Mbit/s
95th percentile per-packet one-way delay: 222.258 ms
Loss rate: 2.65%
-- Flow 2:
Average throughput: 4.44 Mbit/s
95th percentile per-packet one-way delay: 221.936 ms
Loss rate: 4.53%
-- Flow 3:
Average throughput: 3.08 Mbit/s
95th percentile per-packet one-way delay: 221.794 ms
Loss rate: 4.91%

Run 2: Report of Vivace-LTE — Data Link



Run 3: Statistics of Vivace-LTE

Start at: 2018-03-20 09:24:10
End at: 2018-03-20 09:24:40
Local clock offset: 3.161 ms
Remote clock offset: -6.217 ms

Below is generated by plot.py at 2018-03-20 10:39:01
Datalink statistics
-- Total of 3 flows:
Average throughput: 11.69 Mbit/s
95th percentile per-packet one-way delay: 266.642 ms
Loss rate: 8.11%
-- Flow 1:
Average throughput: 7.94 Mbit/s
95th percentile per-packet one-way delay: 259.085 ms
Loss rate: 6.62%
-- Flow 2:
Average throughput: 4.02 Mbit/s
95th percentile per-packet one-way delay: 269.128 ms
Loss rate: 9.61%
-- Flow 3:
Average throughput: 3.34 Mbit/s
95th percentile per-packet one-way delay: 302.672 ms
Loss rate: 14.65%

Run 3: Report of Vivace-LTE — Data Link

