

Pantheon Report

Generated at 2019-05-30 13:22:36 (UTC).

Data path: Colombia on **p4p1** (*remote*) → AWS Brazil 2 on **ens5** (*local*).

Repeated the test of 21 congestion control schemes 5 times.

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

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

System info:

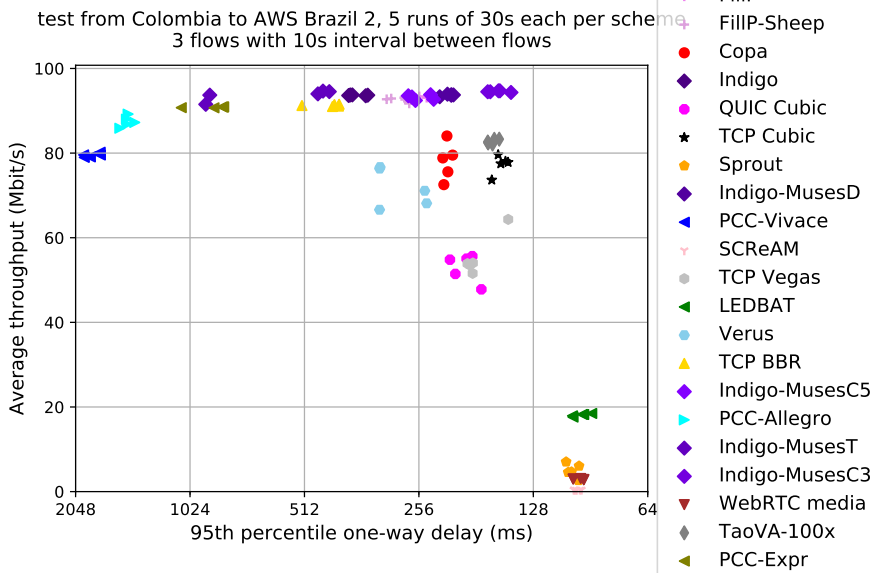
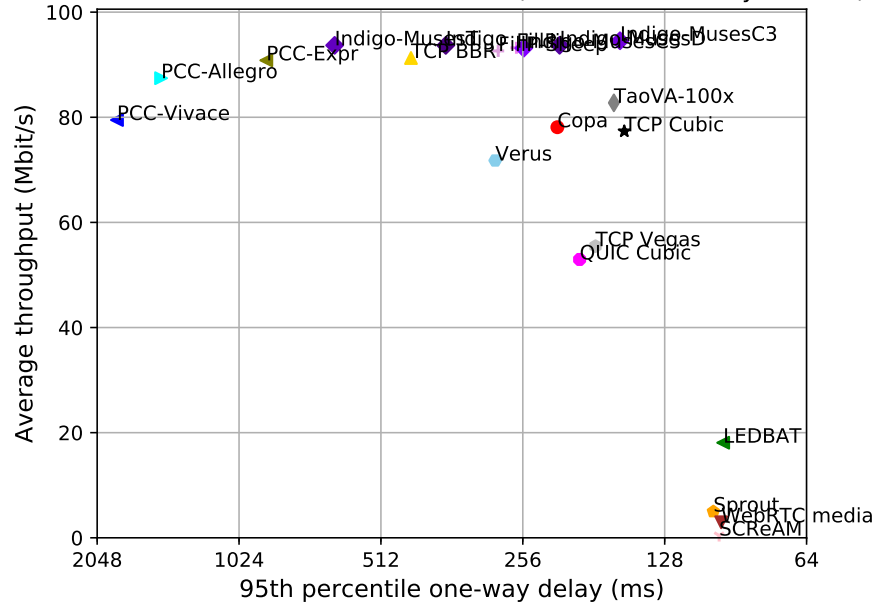
```
Linux 4.15.0-1035-aws
net.core.default_qdisc = fq
net.core.rmem_default = 16777216
net.core.rmem_max = 536870912
net.core.wmem_default = 16777216
net.core.wmem_max = 536870912
net.ipv4.tcp_rmem = 4096 16777216 536870912
net.ipv4.tcp_wmem = 4096 16777216 536870912
```

Git summary:

```
branch: muses @ 7a686f7c2ed0a333082c0bab1fa5c921ab47e6ee
third_party/fillp @ d6da1459332fcee56963885d7eba17e6a32d4519
third_party/fillp-sheep @ 0e5bb722943babcd2b090d2c64fcd45e12e923f9
third_party/genericCC @ d0153f8e594aa89e93b032143cedbdf58e562f4
third_party/indigo @ 2601c92e4aa9d58d38dc4dfe0ecd90c077e64d
third_party/libutp @ b3465b942e2826f2b179eaab4a906ce6bb7cf3cf
third_party/muses @ 5ce721187ad823da20955337730c746486ca4966
third_party/pantheon-tunnel @ f866d3f58d27afd942717625ee3a354cc2e802bd
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/pcc-experimental @ cd43e34e3f5f5613e8acd08fab92c4eb24f974ab
third_party/proto-quic @ 77961f1a82733a86b42f1bc8143ebc978f3cff42
third_party/scream-reproduce @ f099118d1421aa3131bf11ff1964974e1da3bdb2
M src/ScreamClient
M src/ScreamServer
third_party/sprout @ 366e35c6178b01e31d4a46ad18c74f9415f19a26
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 @ 2baf86211435ae071a32f96b7d8c504587f5d7f4
third_party/webrtc @ 3f0cc2a9061a41b6f9dde4735770d143a1fa2851

test from Colombia to AWS Brazil 2, 5 runs of 30s each per scheme
3 flows with 10s interval between flows (mean of all runs by scheme)



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	5	56.03	38.04	30.40	418.61	526.11	439.86	2.25	5.42	7.38
Copa	5	45.47	35.90	26.72	217.15	152.97	161.06	0.61	0.93	1.86
TCP Cubic	5	42.51	36.15	32.93	183.50	147.94	144.36	0.38	0.77	2.05
FillP	5	57.49	39.05	29.79	286.10	247.92	271.14	1.59	2.78	4.31
FillP-Sheep	5	57.09	38.96	29.37	301.10	251.17	333.98	1.02	2.02	5.02
Indigo	5	58.43	38.90	29.05	394.76	153.91	137.80	6.52	1.56	2.94
Indigo-MusesC3	5	60.44	39.88	29.77	151.01	189.41	172.18	2.46	2.81	3.08
Indigo-MusesC5	5	57.94	41.03	28.78	242.88	262.25	333.16	2.68	5.02	6.63
Indigo-MusesD	5	60.93	38.11	29.06	215.64	185.51	154.74	6.25	6.29	4.34
Indigo-MusesT	5	62.09	36.40	28.27	402.18	887.45	645.41	5.37	5.03	6.83
LEDBAT	5	11.75	7.72	3.75	95.31	95.15	95.10	1.16	1.77	3.56
PCC-Allegro	5	55.37	33.85	29.49	1455.25	926.40	1581.98	25.66	11.23	21.32
PCC-Expr	5	56.86	38.56	25.70	911.09	768.57	235.86	27.01	6.98	3.61
QUIC Cubic	5	34.52	20.43	14.92	141.58	218.67	350.87	0.58	1.02	3.01
SCReAM	5	0.22	0.20	0.22	96.12	97.64	94.81	0.54	1.41	1.85
Sprout	5	2.44	2.73	2.26	97.45	100.29	99.43	0.51	1.15	2.52
TaoVA-100x	5	48.67	36.75	29.38	160.86	169.28	155.38	0.48	0.90	2.15
TCP Vegas	5	31.55	26.15	19.95	197.32	165.13	167.72	0.42	0.84	1.97
Verus	5	45.90	29.09	20.27	283.41	308.09	336.17	1.10	1.12	3.09
PCC-Vivace	5	50.71	32.31	22.47	1383.17	1476.12	325.53	5.40	10.20	3.48
WebRTC media	5	1.70	0.93	0.32	94.63	96.00	95.42	0.35	0.61	1.87

Run 1: Statistics of TCP BBR

Start at: 2019-05-30 11:01:51

End at: 2019-05-30 11:02:21

Local clock offset: -1.39 ms

Remote clock offset: 1.521 ms

Below is generated by plot.py at 2019-05-30 13:11:22

Datalink statistics

-- Total of 3 flows:

Average throughput: 91.25 Mbit/s

95th percentile per-packet one-way delay: 519.778 ms

Loss rate: 4.19%

-- Flow 1:

Average throughput: 56.54 Mbit/s

95th percentile per-packet one-way delay: 474.200 ms

Loss rate: 1.93%

-- Flow 2:

Average throughput: 36.62 Mbit/s

95th percentile per-packet one-way delay: 585.545 ms

Loss rate: 7.19%

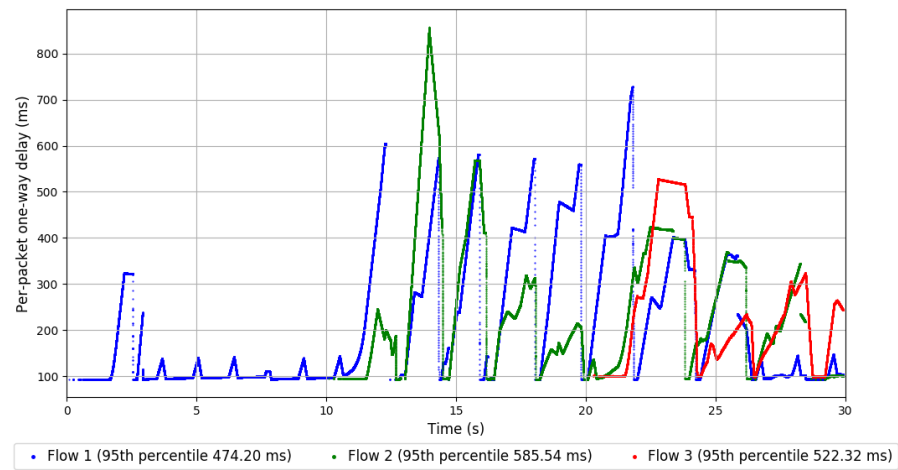
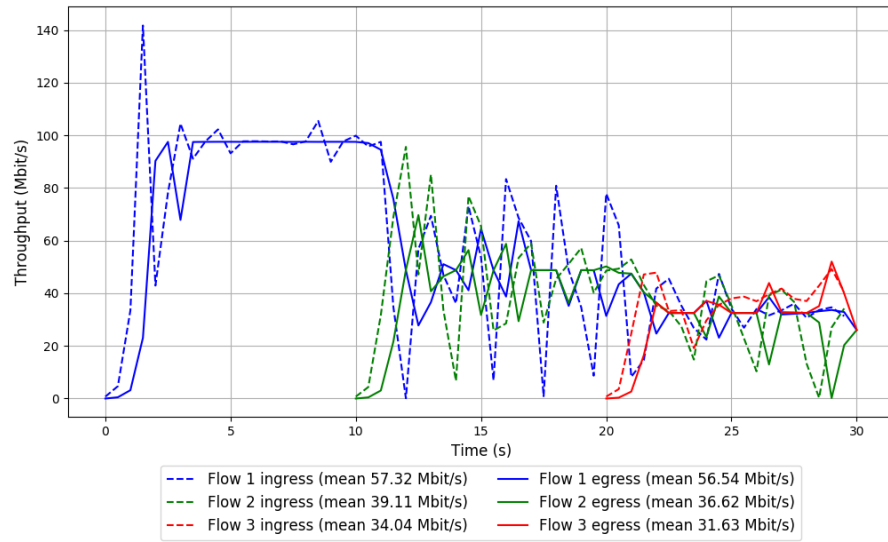
-- Flow 3:

Average throughput: 31.63 Mbit/s

95th percentile per-packet one-way delay: 522.318 ms

Loss rate: 8.75%

Run 1: Report of TCP BBR — Data Link



Run 2: Statistics of TCP BBR

Start at: 2019-05-30 11:28:51

End at: 2019-05-30 11:29:21

Local clock offset: 0.101 ms

Remote clock offset: 5.976 ms

Below is generated by plot.py at 2019-05-30 13:11:22

Datalink statistics

-- Total of 3 flows:

Average throughput: 91.55 Mbit/s

95th percentile per-packet one-way delay: 414.977 ms

Loss rate: 3.70%

-- Flow 1:

Average throughput: 55.86 Mbit/s

95th percentile per-packet one-way delay: 419.107 ms

Loss rate: 2.06%

-- Flow 2:

Average throughput: 39.25 Mbit/s

95th percentile per-packet one-way delay: 405.383 ms

Loss rate: 6.04%

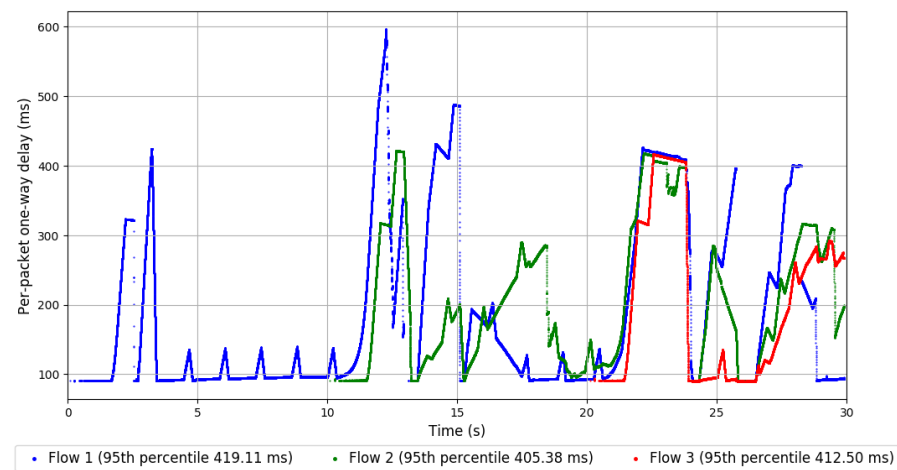
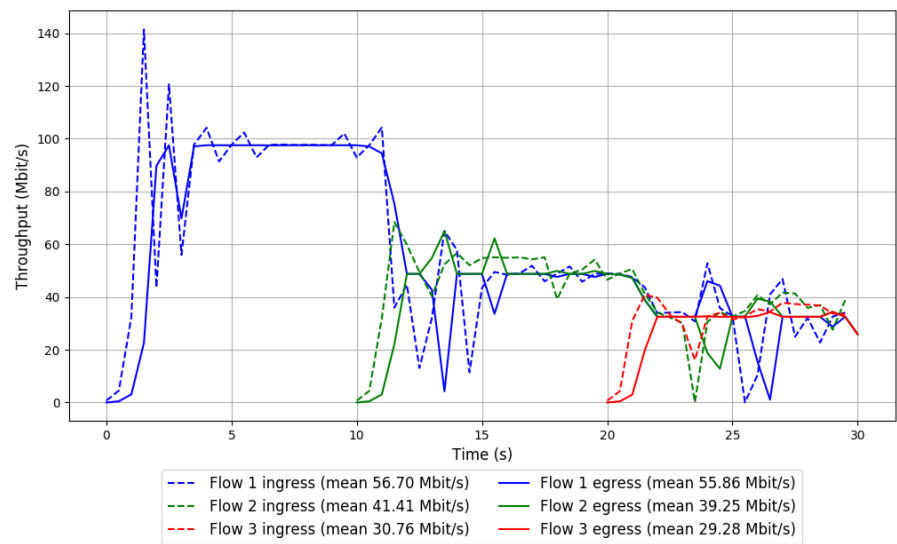
-- Flow 3:

Average throughput: 29.28 Mbit/s

95th percentile per-packet one-way delay: 412.503 ms

Loss rate: 6.45%

Run 2: Report of TCP BBR — Data Link



Run 3: Statistics of TCP BBR

Start at: 2019-05-30 11:55:50

End at: 2019-05-30 11:56:20

Local clock offset: -7.018 ms

Remote clock offset: 6.532 ms

Below is generated by plot.py at 2019-05-30 13:11:22

Datalink statistics

-- Total of 3 flows:

Average throughput: 91.47 Mbit/s

95th percentile per-packet one-way delay: 427.036 ms

Loss rate: 3.61%

-- Flow 1:

Average throughput: 55.98 Mbit/s

95th percentile per-packet one-way delay: 367.486 ms

Loss rate: 2.73%

-- Flow 2:

Average throughput: 38.53 Mbit/s

95th percentile per-packet one-way delay: 495.473 ms

Loss rate: 3.39%

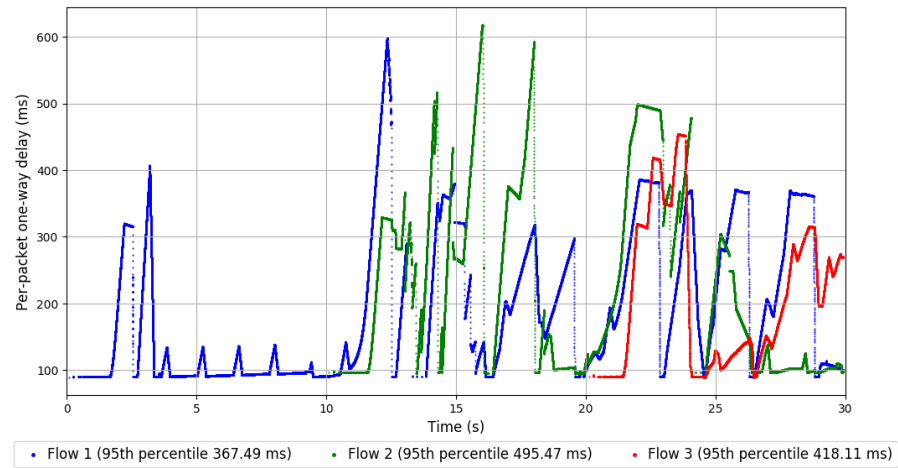
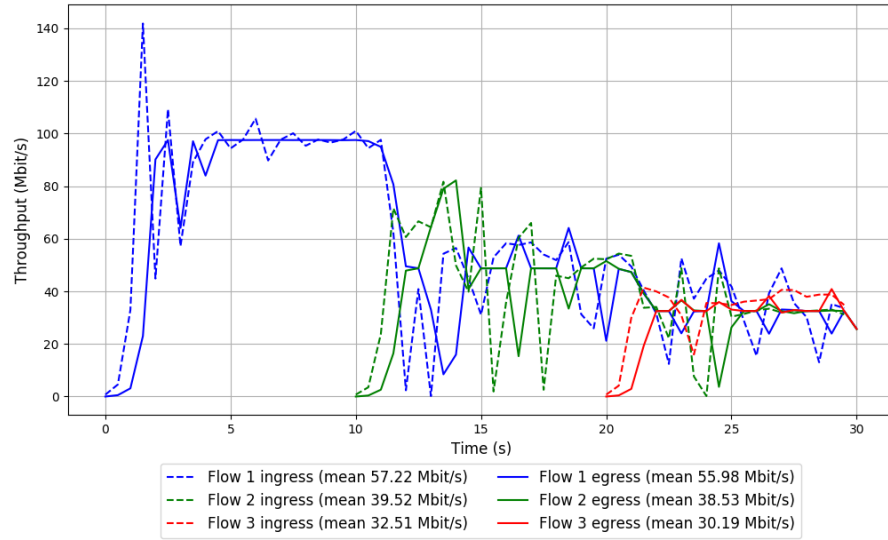
-- Flow 3:

Average throughput: 30.19 Mbit/s

95th percentile per-packet one-way delay: 418.105 ms

Loss rate: 8.75%

Run 3: Report of TCP BBR — Data Link



Run 4: Statistics of TCP BBR

Start at: 2019-05-30 12:22:51

End at: 2019-05-30 12:23:21

Local clock offset: -3.556 ms

Remote clock offset: 3.222 ms

Below is generated by plot.py at 2019-05-30 13:11:22

Datalink statistics

-- Total of 3 flows:

Average throughput: 91.01 Mbit/s

95th percentile per-packet one-way delay: 431.938 ms

Loss rate: 3.45%

-- Flow 1:

Average throughput: 56.26 Mbit/s

95th percentile per-packet one-way delay: 416.738 ms

Loss rate: 2.54%

-- Flow 2:

Average throughput: 37.25 Mbit/s

95th percentile per-packet one-way delay: 726.195 ms

Loss rate: 4.73%

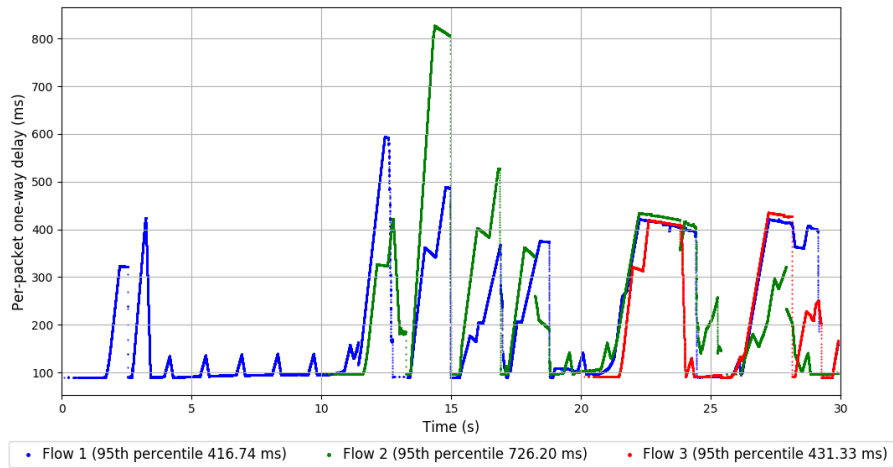
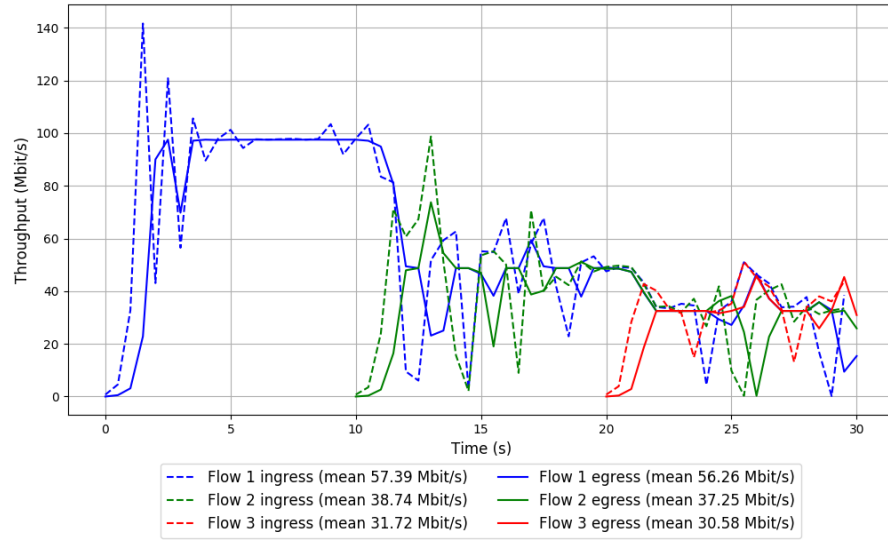
-- Flow 3:

Average throughput: 30.58 Mbit/s

95th percentile per-packet one-way delay: 431.330 ms

Loss rate: 5.29%

Run 4: Report of TCP BBR — Data Link



Run 5: Statistics of TCP BBR

Start at: 2019-05-30 12:49:53

End at: 2019-05-30 12:50:23

Local clock offset: -5.146 ms

Remote clock offset: 2.877 ms

Below is generated by plot.py at 2019-05-30 13:11:22

Datalink statistics

-- Total of 3 flows:

Average throughput: 91.11 Mbit/s

95th percentile per-packet one-way delay: 416.674 ms

Loss rate: 3.72%

-- Flow 1:

Average throughput: 55.53 Mbit/s

95th percentile per-packet one-way delay: 415.506 ms

Loss rate: 2.00%

-- Flow 2:

Average throughput: 38.57 Mbit/s

95th percentile per-packet one-way delay: 417.965 ms

Loss rate: 5.73%

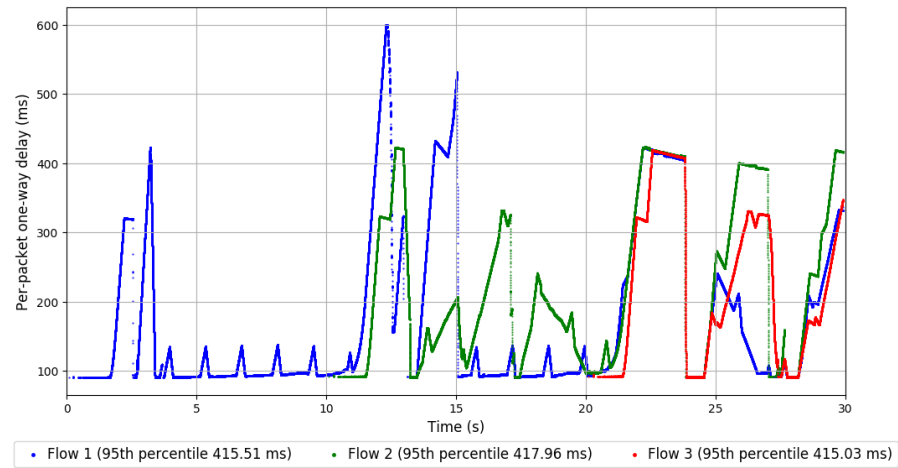
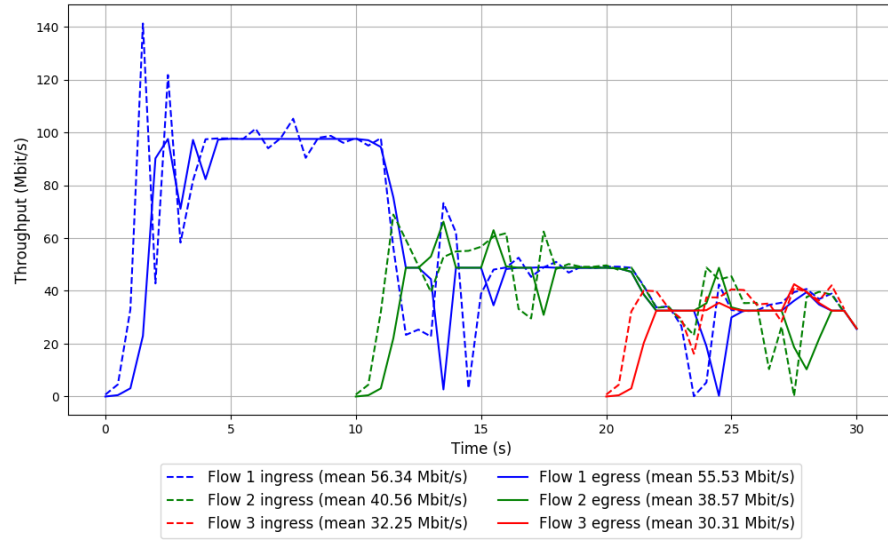
-- Flow 3:

Average throughput: 30.31 Mbit/s

95th percentile per-packet one-way delay: 415.034 ms

Loss rate: 7.65%

Run 5: Report of TCP BBR — Data Link



Run 1: Statistics of Copa

Start at: 2019-05-30 11:10:47

End at: 2019-05-30 11:11:17

Local clock offset: -1.081 ms

Remote clock offset: 1.88 ms

Below is generated by plot.py at 2019-05-30 13:11:52

Datalink statistics

-- Total of 3 flows:

Average throughput: 72.54 Mbit/s

95th percentile per-packet one-way delay: 220.092 ms

Loss rate: 0.54%

-- Flow 1:

Average throughput: 43.23 Mbit/s

95th percentile per-packet one-way delay: 221.554 ms

Loss rate: 0.53%

-- Flow 2:

Average throughput: 31.59 Mbit/s

95th percentile per-packet one-way delay: 189.336 ms

Loss rate: 0.43%

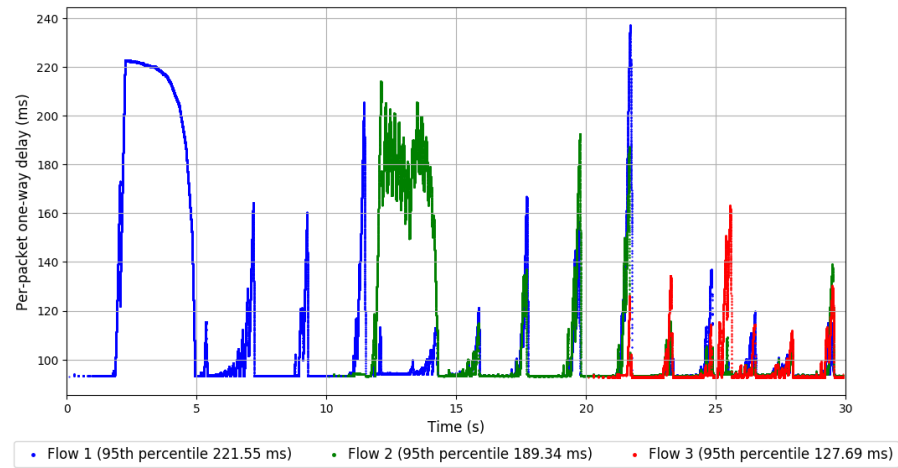
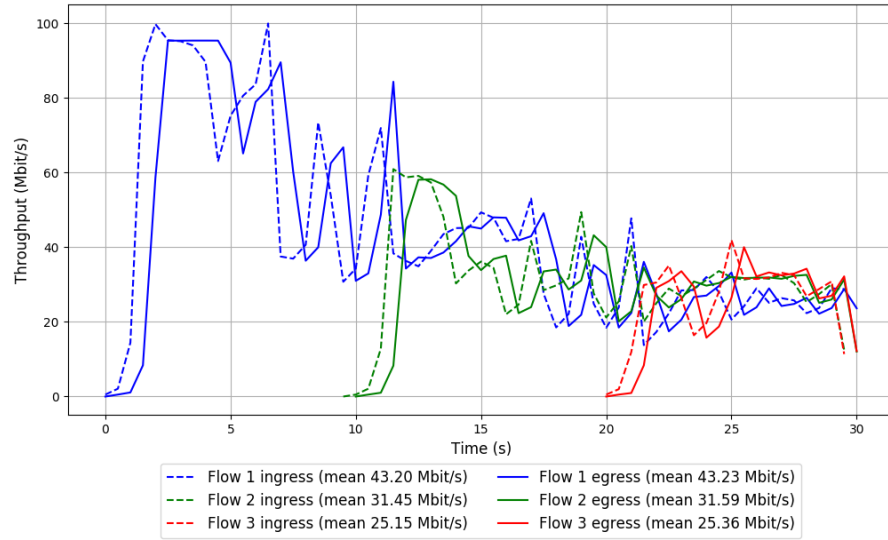
-- Flow 3:

Average throughput: 25.36 Mbit/s

95th percentile per-packet one-way delay: 127.694 ms

Loss rate: 0.89%

Run 1: Report of Copa — Data Link



Run 2: Statistics of Copa

Start at: 2019-05-30 11:37:46

End at: 2019-05-30 11:38:16

Local clock offset: -0.665 ms

Remote clock offset: 7.428 ms

Below is generated by plot.py at 2019-05-30 13:12:08

Datalink statistics

-- Total of 3 flows:

Average throughput: 84.04 Mbit/s

95th percentile per-packet one-way delay: 216.044 ms

Loss rate: 0.86%

-- Flow 1:

Average throughput: 48.40 Mbit/s

95th percentile per-packet one-way delay: 216.848 ms

Loss rate: 0.52%

-- Flow 2:

Average throughput: 39.10 Mbit/s

95th percentile per-packet one-way delay: 147.879 ms

Loss rate: 1.02%

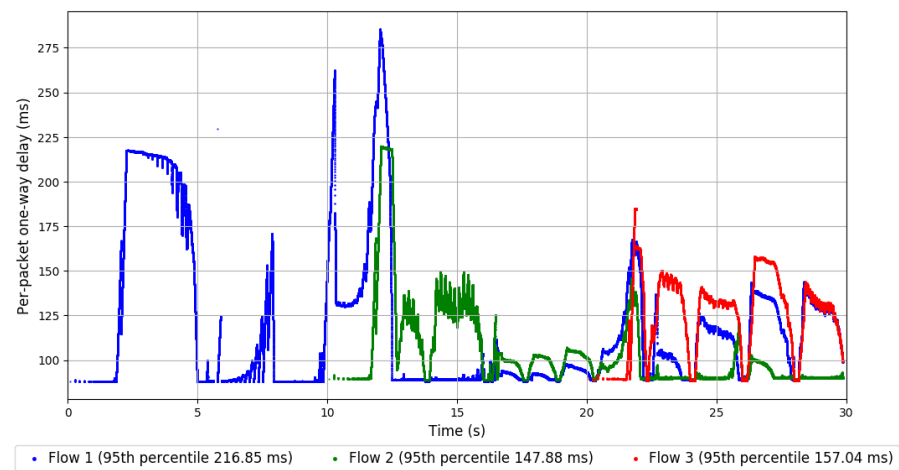
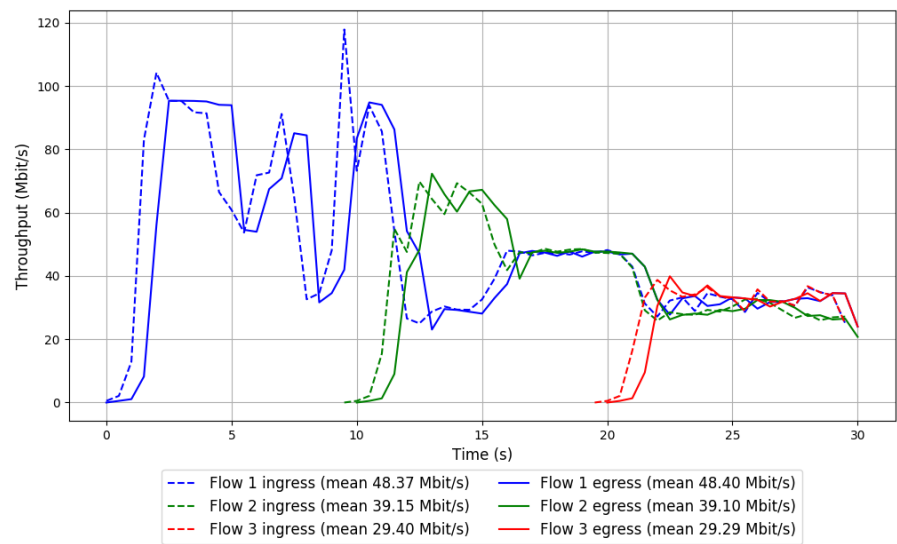
-- Flow 3:

Average throughput: 29.29 Mbit/s

95th percentile per-packet one-way delay: 157.044 ms

Loss rate: 2.10%

Run 2: Report of Copa — Data Link



Run 3: Statistics of Copa

Start at: 2019-05-30 12:04:46

End at: 2019-05-30 12:05:16

Local clock offset: -7.331 ms

Remote clock offset: 1.829 ms

Below is generated by plot.py at 2019-05-30 13:12:08

Datalink statistics

-- Total of 3 flows:

Average throughput: 78.86 Mbit/s

95th percentile per-packet one-way delay: 221.464 ms

Loss rate: 0.85%

-- Flow 1:

Average throughput: 43.27 Mbit/s

95th percentile per-packet one-way delay: 220.644 ms

Loss rate: 0.55%

-- Flow 2:

Average throughput: 40.59 Mbit/s

95th percentile per-packet one-way delay: 138.691 ms

Loss rate: 0.87%

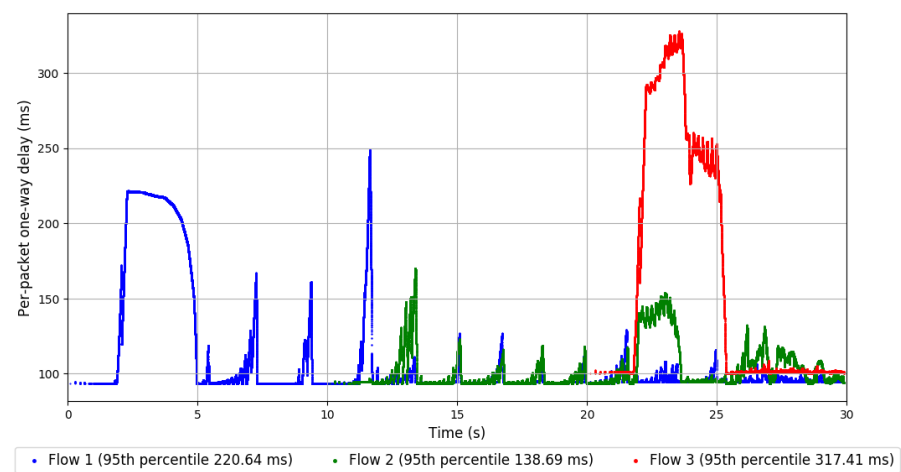
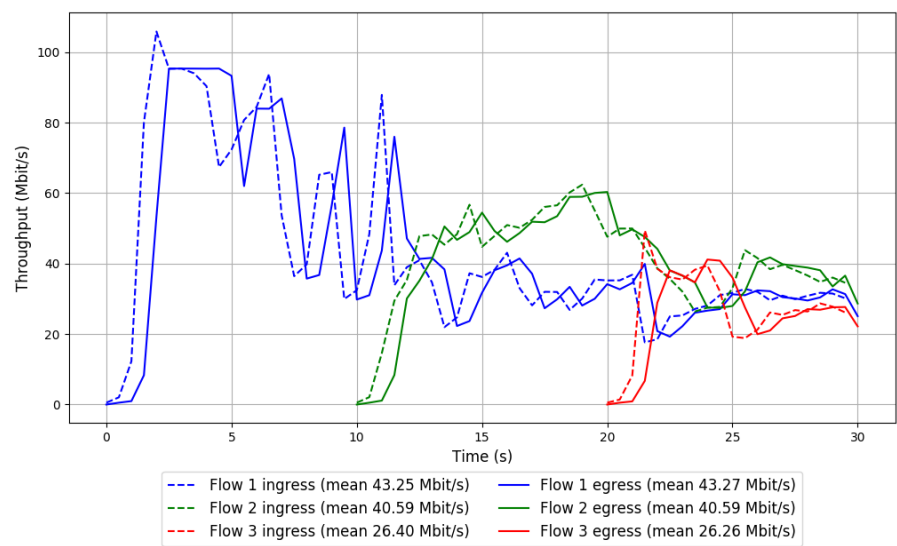
-- Flow 3:

Average throughput: 26.26 Mbit/s

95th percentile per-packet one-way delay: 317.414 ms

Loss rate: 2.33%

Run 3: Report of Copa — Data Link



Run 4: Statistics of Copa

Start at: 2019-05-30 12:31:47

End at: 2019-05-30 12:32:17

Local clock offset: -2.398 ms

Remote clock offset: 5.062 ms

Below is generated by plot.py at 2019-05-30 13:12:53

Datalink statistics

-- Total of 3 flows:

Average throughput: 75.58 Mbit/s

95th percentile per-packet one-way delay: 214.811 ms

Loss rate: 0.89%

-- Flow 1:

Average throughput: 47.13 Mbit/s

95th percentile per-packet one-way delay: 215.782 ms

Loss rate: 0.48%

-- Flow 2:

Average throughput: 30.19 Mbit/s

95th percentile per-packet one-way delay: 135.760 ms

Loss rate: 1.28%

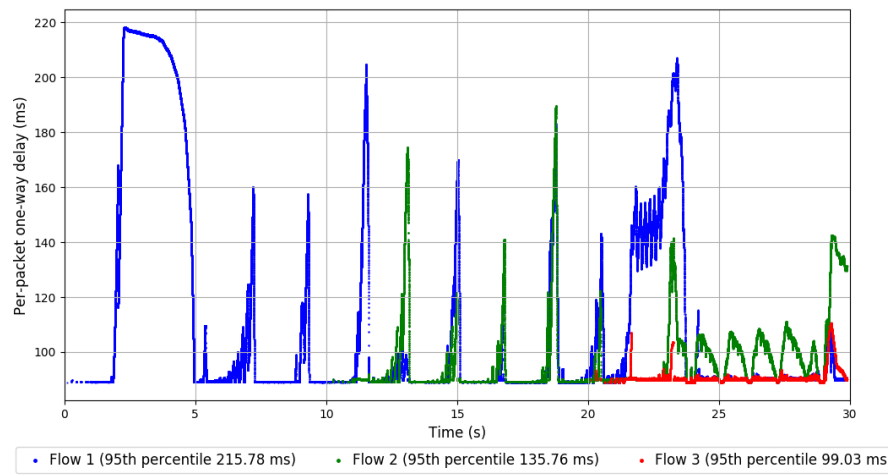
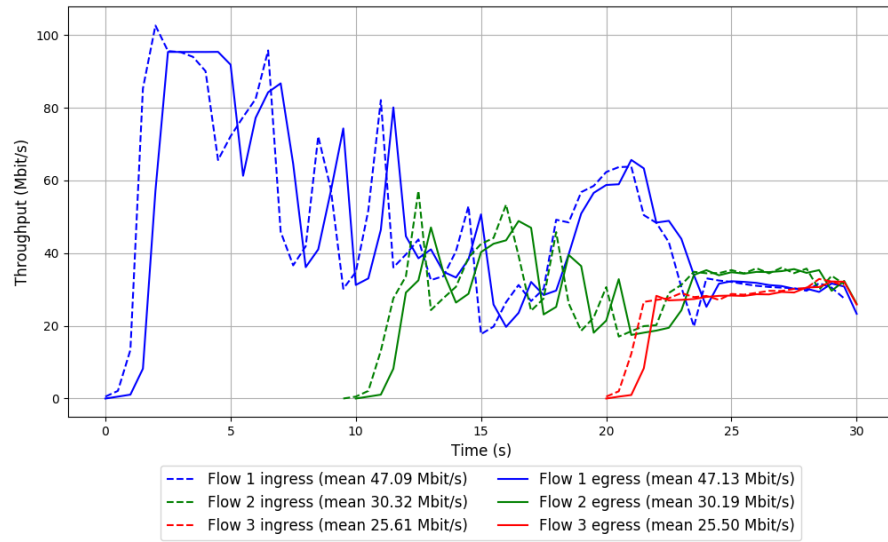
-- Flow 3:

Average throughput: 25.50 Mbit/s

95th percentile per-packet one-way delay: 99.032 ms

Loss rate: 2.19%

Run 4: Report of Copa — Data Link



Run 5: Statistics of Copa

Start at: 2019-05-30 12:58:49

End at: 2019-05-30 12:59:19

Local clock offset: -6.661 ms

Remote clock offset: 3.826 ms

Below is generated by plot.py at 2019-05-30 13:12:57

Datalink statistics

-- Total of 3 flows:

Average throughput: 79.52 Mbit/s

95th percentile per-packet one-way delay: 208.726 ms

Loss rate: 1.08%

-- Flow 1:

Average throughput: 45.33 Mbit/s

95th percentile per-packet one-way delay: 210.945 ms

Loss rate: 0.95%

-- Flow 2:

Average throughput: 38.02 Mbit/s

95th percentile per-packet one-way delay: 153.198 ms

Loss rate: 1.04%

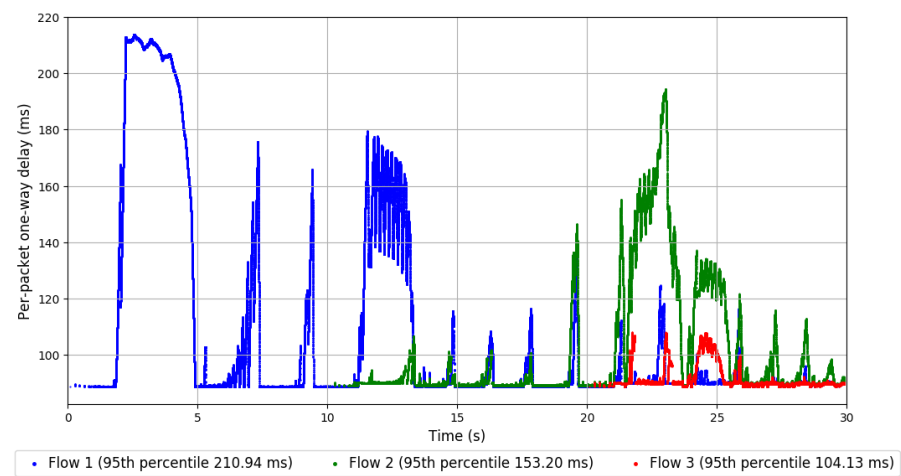
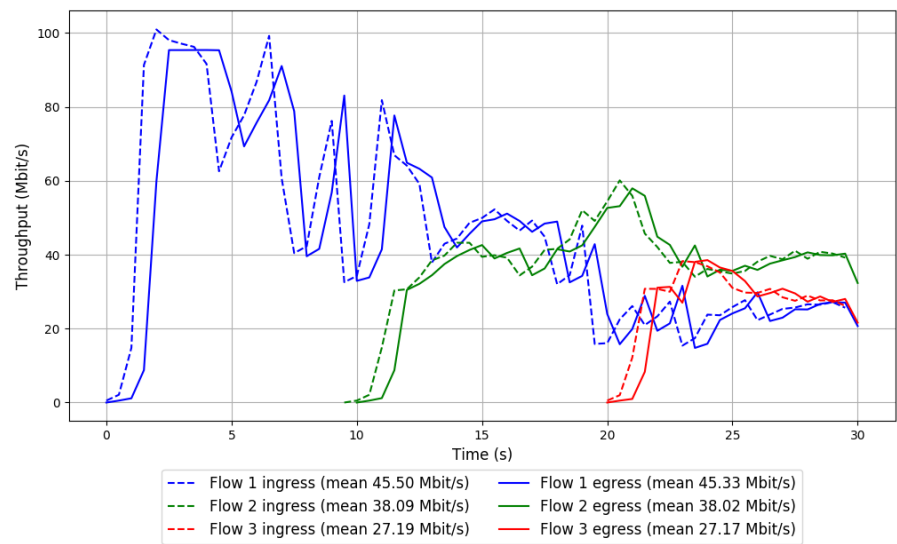
-- Flow 3:

Average throughput: 27.17 Mbit/s

95th percentile per-packet one-way delay: 104.127 ms

Loss rate: 1.81%

Run 5: Report of Copa — Data Link



Run 1: Statistics of TCP Cubic

Start at: 2019-05-30 10:59:17

End at: 2019-05-30 10:59:47

Local clock offset: -0.79 ms

Remote clock offset: 0.443 ms

Below is generated by plot.py at 2019-05-30 13:12:57

Datalink statistics

-- Total of 3 flows:

Average throughput: 73.65 Mbit/s

95th percentile per-packet one-way delay: 164.631 ms

Loss rate: 0.66%

-- Flow 1:

Average throughput: 42.53 Mbit/s

95th percentile per-packet one-way delay: 179.459 ms

Loss rate: 0.38%

-- Flow 2:

Average throughput: 35.13 Mbit/s

95th percentile per-packet one-way delay: 149.678 ms

Loss rate: 0.76%

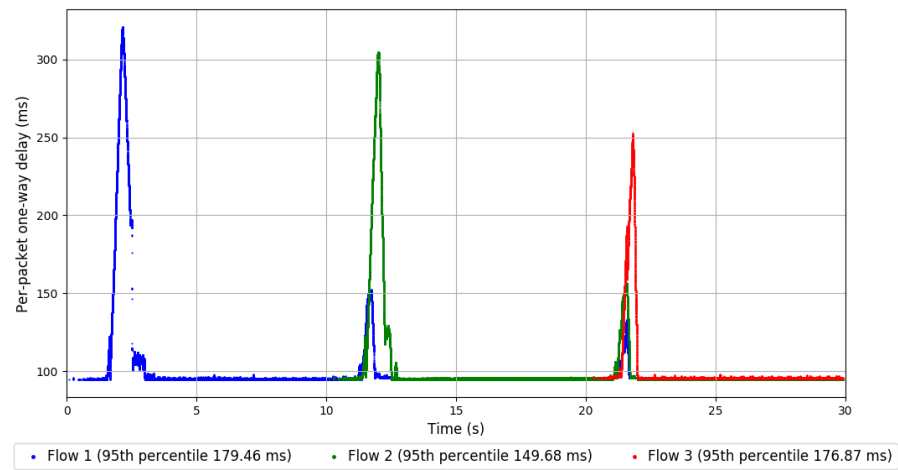
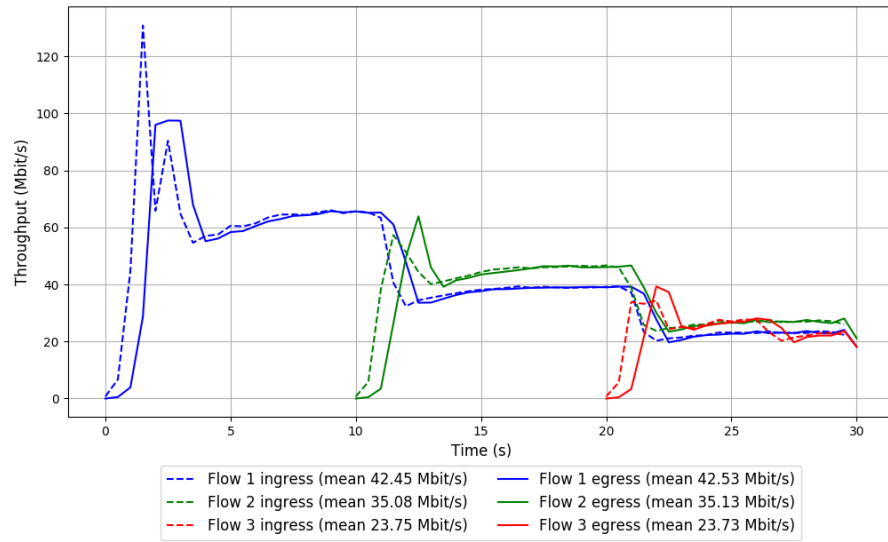
-- Flow 3:

Average throughput: 23.73 Mbit/s

95th percentile per-packet one-way delay: 176.865 ms

Loss rate: 1.85%

Run 1: Report of TCP Cubic — Data Link



Run 2: Statistics of TCP Cubic

Start at: 2019-05-30 11:26:17

End at: 2019-05-30 11:26:47

Local clock offset: -0.7 ms

Remote clock offset: 1.068 ms

Below is generated by plot.py at 2019-05-30 13:12:57

Datalink statistics

-- Total of 3 flows:

Average throughput: 77.50 Mbit/s

95th percentile per-packet one-way delay: 155.874 ms

Loss rate: 0.78%

-- Flow 1:

Average throughput: 42.26 Mbit/s

95th percentile per-packet one-way delay: 190.563 ms

Loss rate: 0.37%

-- Flow 2:

Average throughput: 35.73 Mbit/s

95th percentile per-packet one-way delay: 151.178 ms

Loss rate: 0.79%

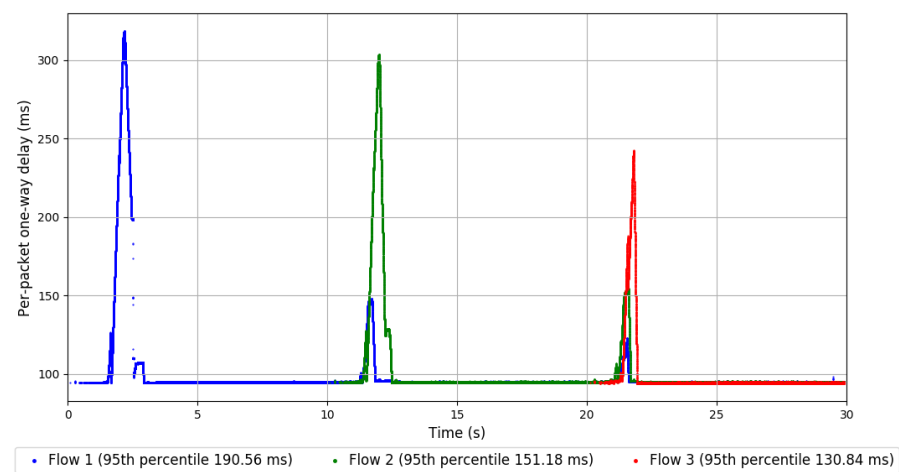
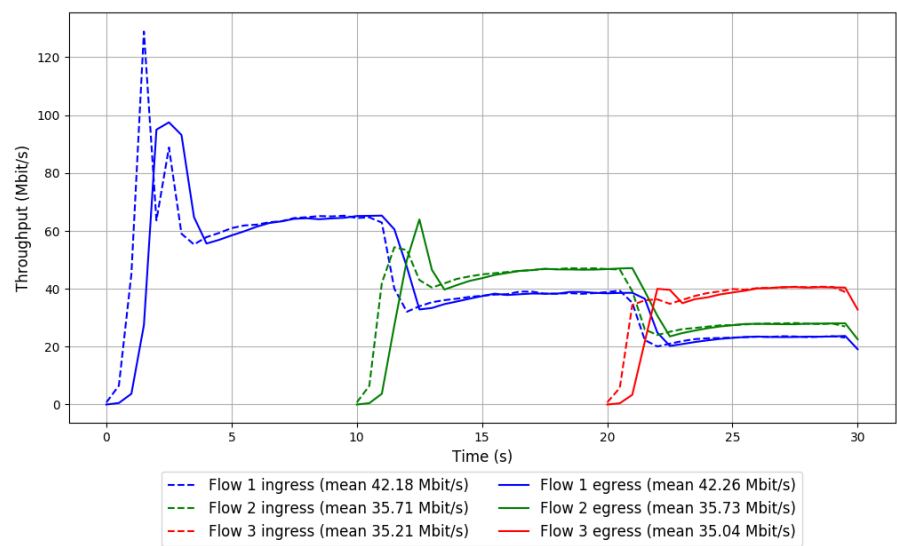
-- Flow 3:

Average throughput: 35.04 Mbit/s

95th percentile per-packet one-way delay: 130.842 ms

Loss rate: 2.22%

Run 2: Report of TCP Cubic — Data Link



Run 3: Statistics of TCP Cubic

Start at: 2019-05-30 11:53:17

End at: 2019-05-30 11:53:47

Local clock offset: -6.497 ms

Remote clock offset: 7.729 ms

Below is generated by plot.py at 2019-05-30 13:12:57

Datalink statistics

-- Total of 3 flows:

Average throughput: 77.83 Mbit/s

95th percentile per-packet one-way delay: 149.157 ms

Loss rate: 0.74%

-- Flow 1:

Average throughput: 42.71 Mbit/s

95th percentile per-packet one-way delay: 180.302 ms

Loss rate: 0.37%

-- Flow 2:

Average throughput: 35.57 Mbit/s

95th percentile per-packet one-way delay: 143.985 ms

Loss rate: 0.76%

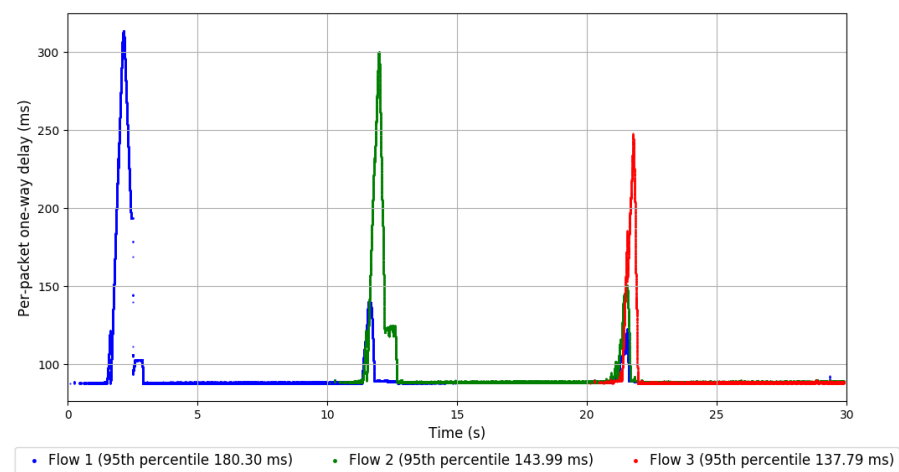
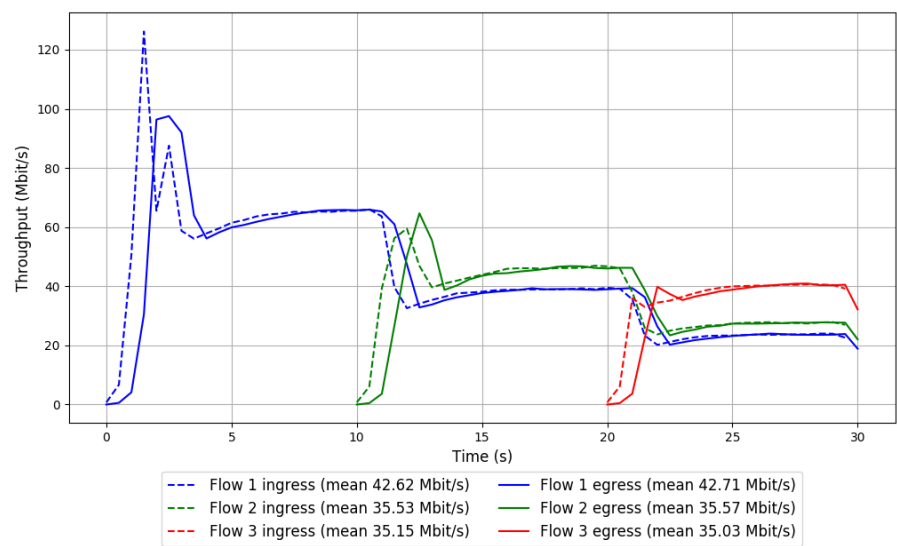
-- Flow 3:

Average throughput: 35.03 Mbit/s

95th percentile per-packet one-way delay: 137.792 ms

Loss rate: 2.04%

Run 3: Report of TCP Cubic — Data Link



Run 4: Statistics of TCP Cubic

Start at: 2019-05-30 12:20:17

End at: 2019-05-30 12:20:47

Local clock offset: -3.198 ms

Remote clock offset: 5.399 ms

Below is generated by plot.py at 2019-05-30 13:12:57

Datalink statistics

-- Total of 3 flows:

Average throughput: 78.05 Mbit/s

95th percentile per-packet one-way delay: 151.528 ms

Loss rate: 0.75%

-- Flow 1:

Average throughput: 42.76 Mbit/s

95th percentile per-packet one-way delay: 180.673 ms

Loss rate: 0.39%

-- Flow 2:

Average throughput: 35.72 Mbit/s

95th percentile per-packet one-way delay: 145.420 ms

Loss rate: 0.74%

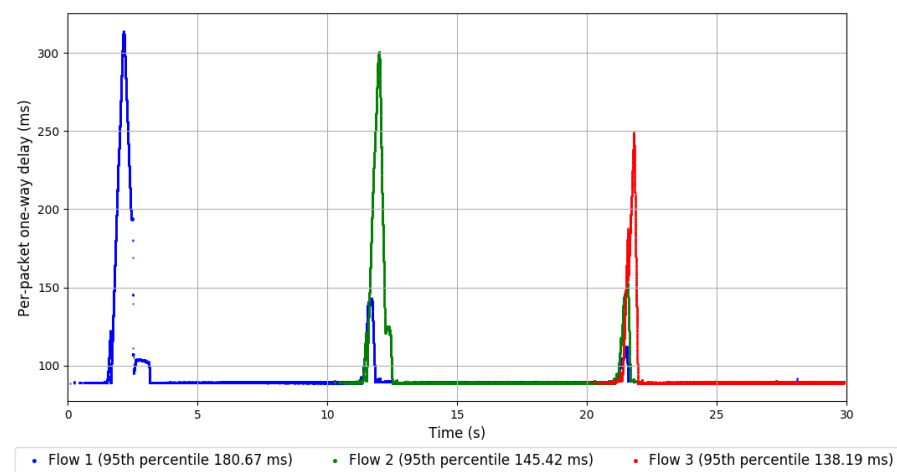
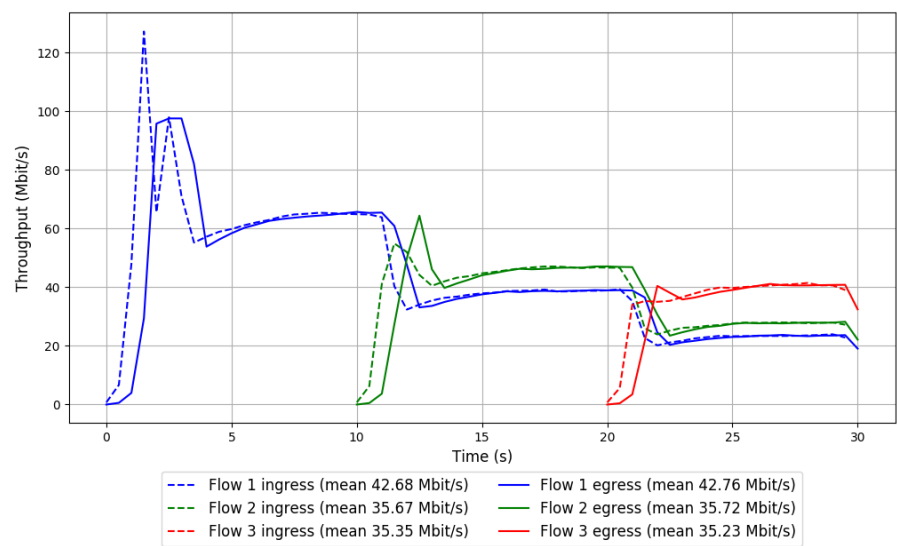
-- Flow 3:

Average throughput: 35.23 Mbit/s

95th percentile per-packet one-way delay: 138.187 ms

Loss rate: 2.07%

Run 4: Report of TCP Cubic — Data Link



Run 5: Statistics of TCP Cubic

Start at: 2019-05-30 12:47:19

End at: 2019-05-30 12:47:49

Local clock offset: -4.647 ms

Remote clock offset: 2.72 ms

Below is generated by plot.py at 2019-05-30 13:12:57

Datalink statistics

-- Total of 3 flows:

Average throughput: 79.62 Mbit/s

95th percentile per-packet one-way delay: 158.381 ms

Loss rate: 0.76%

-- Flow 1:

Average throughput: 42.30 Mbit/s

95th percentile per-packet one-way delay: 186.515 ms

Loss rate: 0.38%

-- Flow 2:

Average throughput: 38.59 Mbit/s

95th percentile per-packet one-way delay: 149.434 ms

Loss rate: 0.78%

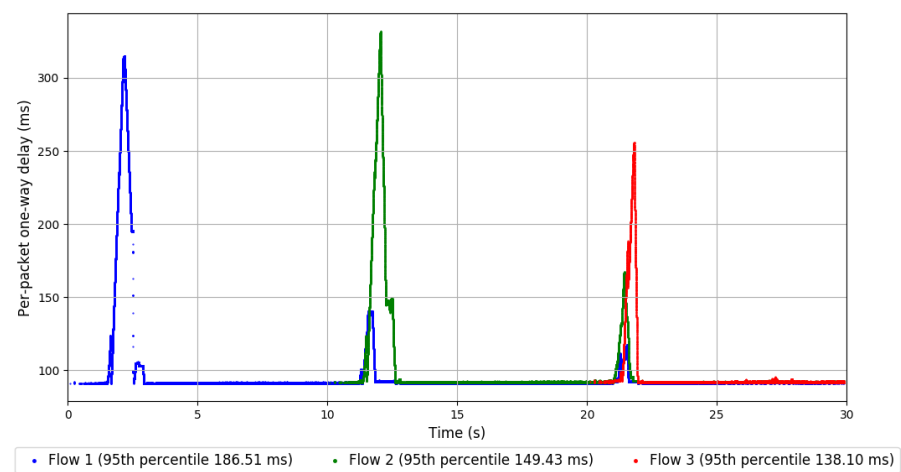
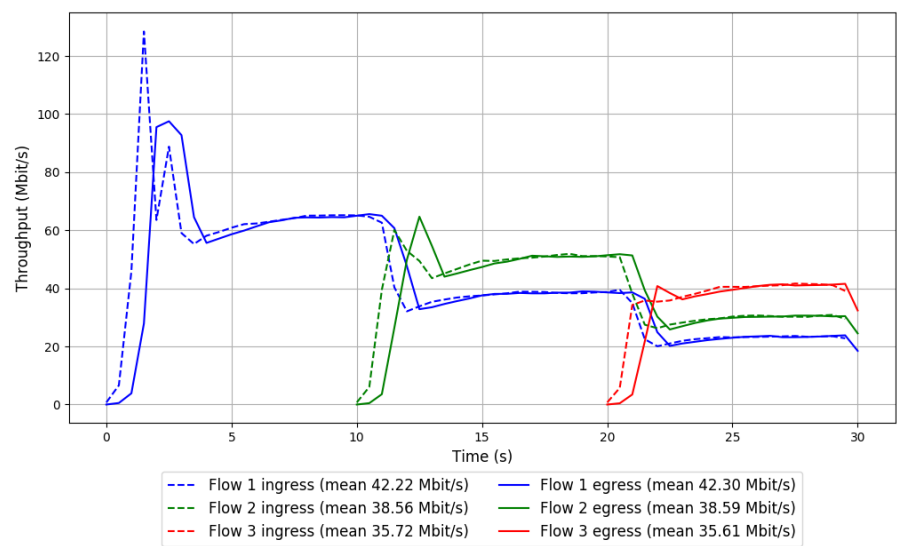
-- Flow 3:

Average throughput: 35.61 Mbit/s

95th percentile per-packet one-way delay: 138.096 ms

Loss rate: 2.06%

Run 5: Report of TCP Cubic — Data Link



Run 1: Statistics of FillP

Start at: 2019-05-30 11:06:58

End at: 2019-05-30 11:07:28

Local clock offset: -0.456 ms

Remote clock offset: 4.484 ms

Below is generated by plot.py at 2019-05-30 13:13:22

Datalink statistics

-- Total of 3 flows:

Average throughput: 93.34 Mbit/s

95th percentile per-packet one-way delay: 278.048 ms

Loss rate: 2.53%

-- Flow 1:

Average throughput: 57.92 Mbit/s

95th percentile per-packet one-way delay: 286.408 ms

Loss rate: 1.89%

-- Flow 2:

Average throughput: 38.72 Mbit/s

95th percentile per-packet one-way delay: 245.812 ms

Loss rate: 2.89%

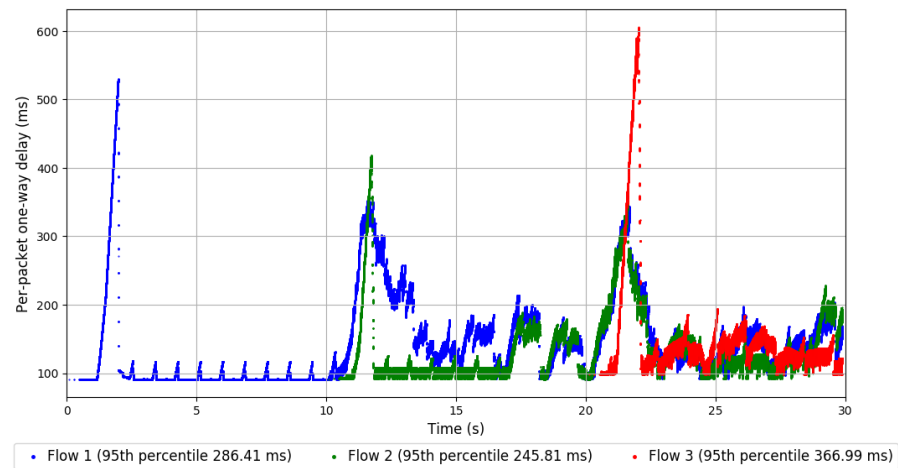
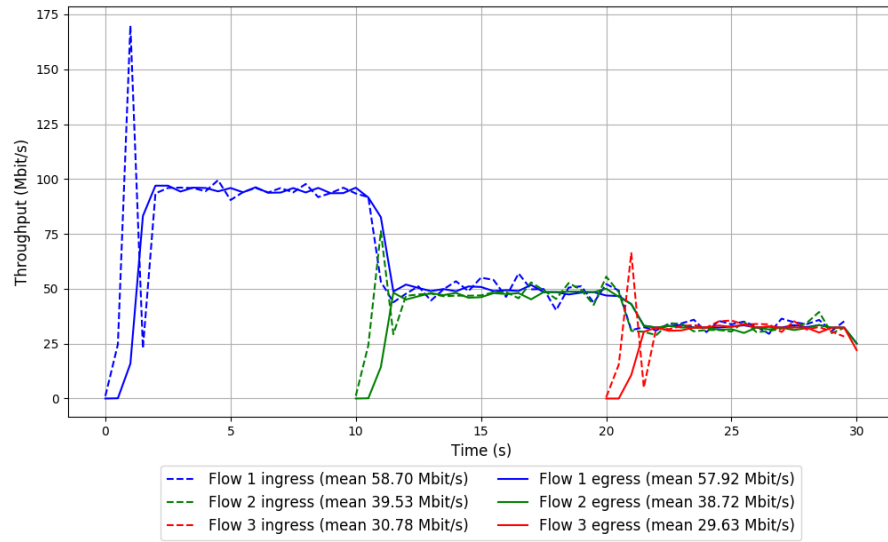
-- Flow 3:

Average throughput: 29.63 Mbit/s

95th percentile per-packet one-way delay: 366.994 ms

Loss rate: 5.28%

Run 1: Report of FillP — Data Link



Run 2: Statistics of FillP

Start at: 2019-05-30 11:33:57

End at: 2019-05-30 11:34:27

Local clock offset: 0.25 ms

Remote clock offset: 4.977 ms

Below is generated by plot.py at 2019-05-30 13:13:24

Datalink statistics

-- Total of 3 flows:

Average throughput: 93.16 Mbit/s

95th percentile per-packet one-way delay: 267.674 ms

Loss rate: 2.20%

-- Flow 1:

Average throughput: 57.23 Mbit/s

95th percentile per-packet one-way delay: 254.424 ms

Loss rate: 1.45%

-- Flow 2:

Average throughput: 39.23 Mbit/s

95th percentile per-packet one-way delay: 306.793 ms

Loss rate: 2.87%

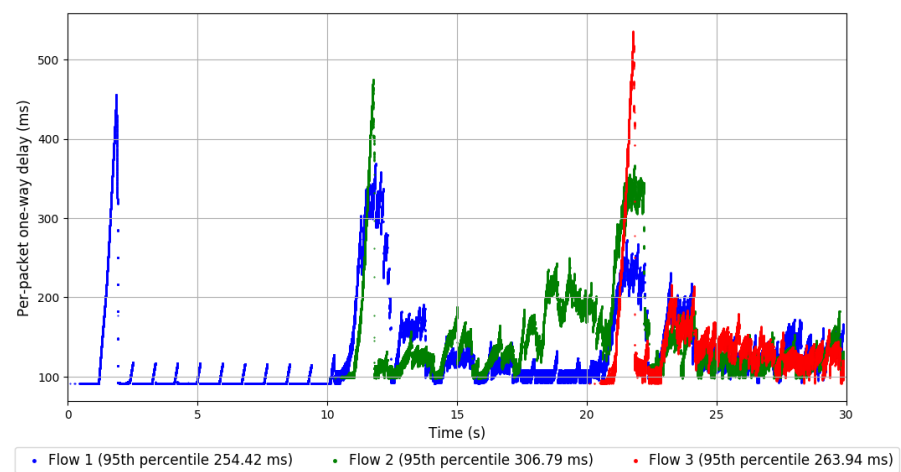
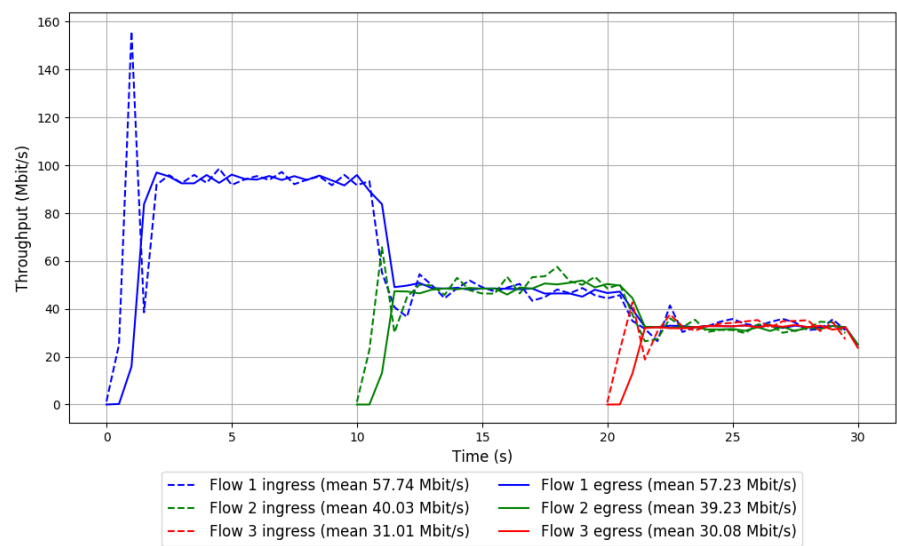
-- Flow 3:

Average throughput: 30.08 Mbit/s

95th percentile per-packet one-way delay: 263.935 ms

Loss rate: 4.63%

Run 2: Report of FillP — Data Link



Run 3: Statistics of FillP

Start at: 2019-05-30 12:00:57

End at: 2019-05-30 12:01:27

Local clock offset: -7.662 ms

Remote clock offset: 8.07 ms

Below is generated by plot.py at 2019-05-30 13:13:26

Datalink statistics

-- Total of 3 flows:

Average throughput: 93.12 Mbit/s

95th percentile per-packet one-way delay: 274.902 ms

Loss rate: 1.99%

-- Flow 1:

Average throughput: 57.31 Mbit/s

95th percentile per-packet one-way delay: 301.285 ms

Loss rate: 1.37%

-- Flow 2:

Average throughput: 39.11 Mbit/s

95th percentile per-packet one-way delay: 245.142 ms

Loss rate: 2.61%

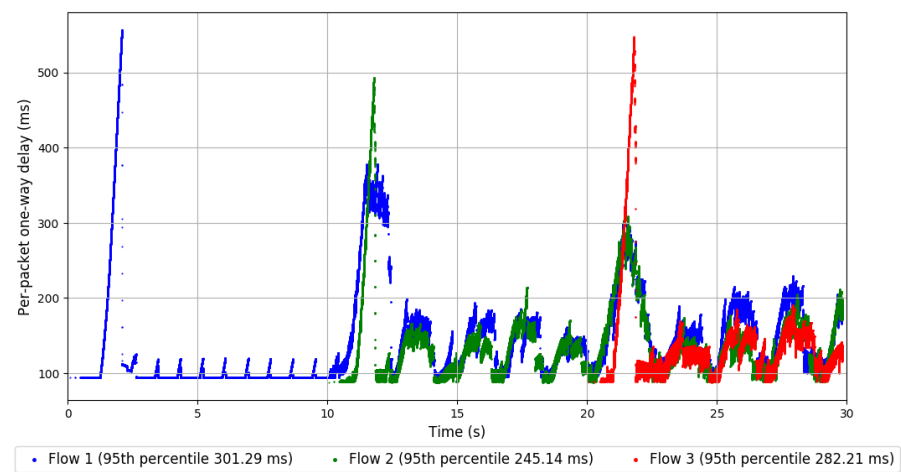
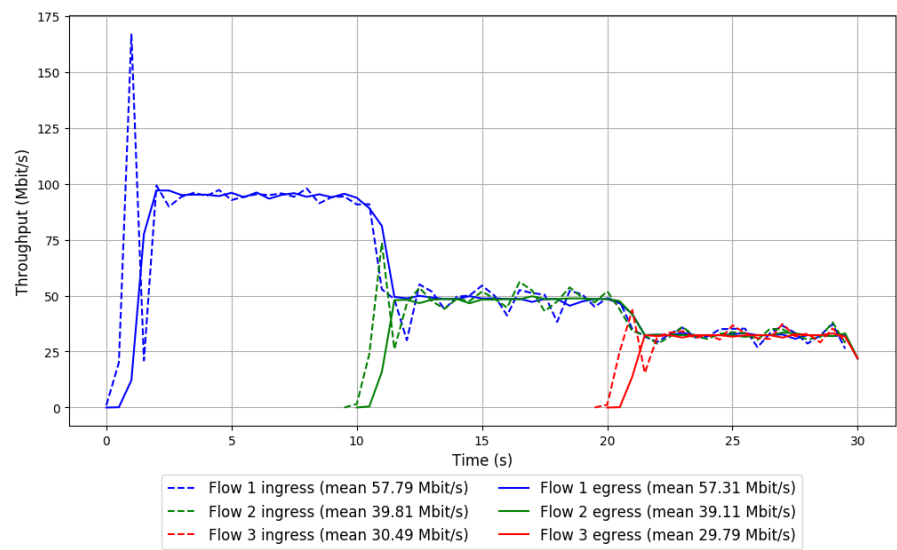
-- Flow 3:

Average throughput: 29.79 Mbit/s

95th percentile per-packet one-way delay: 282.214 ms

Loss rate: 3.95%

Run 3: Report of FillP — Data Link



Run 4: Statistics of FillP

Start at: 2019-05-30 12:27:59

End at: 2019-05-30 12:28:29

Local clock offset: -2.578 ms

Remote clock offset: 2.811 ms

Below is generated by plot.py at 2019-05-30 13:13:27

Datalink statistics

-- Total of 3 flows:

Average throughput: 93.09 Mbit/s

95th percentile per-packet one-way delay: 244.184 ms

Loss rate: 2.12%

-- Flow 1:

Average throughput: 57.10 Mbit/s

95th percentile per-packet one-way delay: 290.009 ms

Loss rate: 1.17%

-- Flow 2:

Average throughput: 39.30 Mbit/s

95th percentile per-packet one-way delay: 217.416 ms

Loss rate: 3.08%

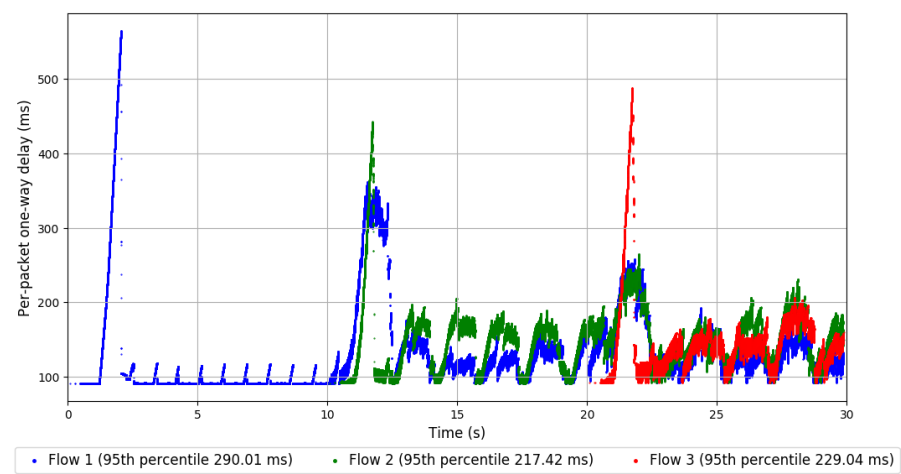
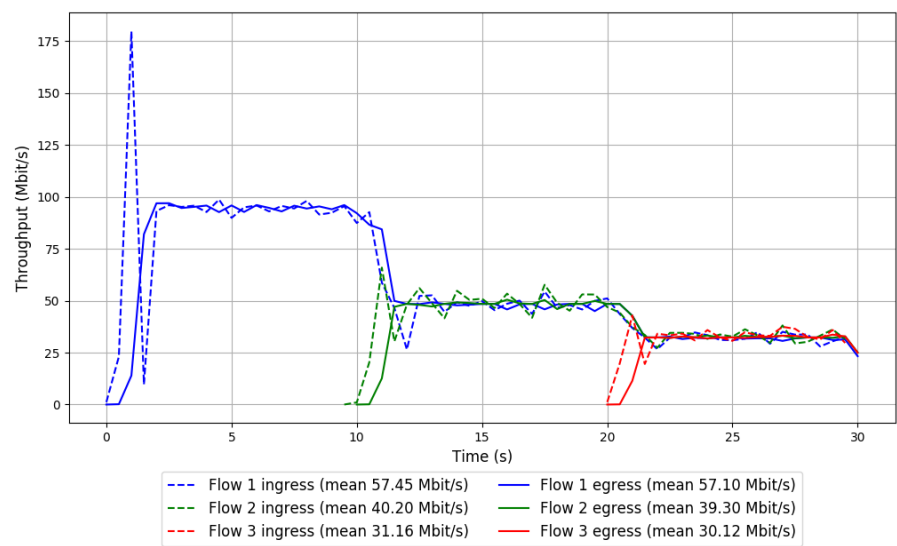
-- Flow 3:

Average throughput: 30.12 Mbit/s

95th percentile per-packet one-way delay: 229.043 ms

Loss rate: 4.86%

Run 4: Report of FillP — Data Link

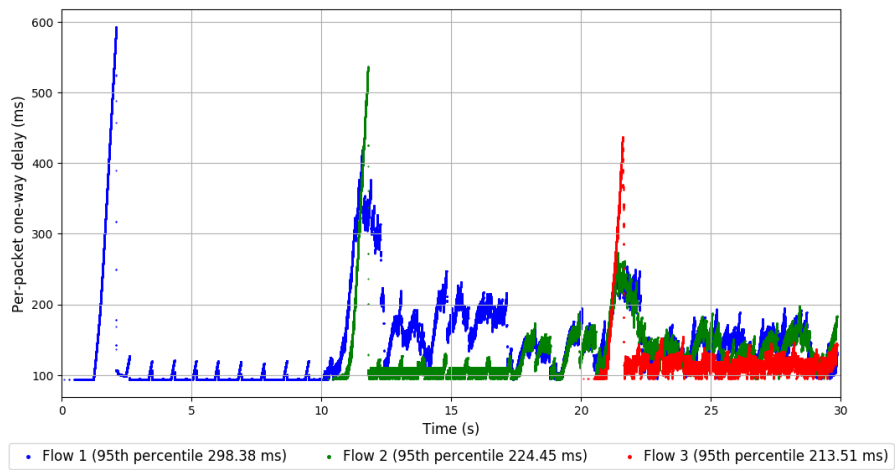
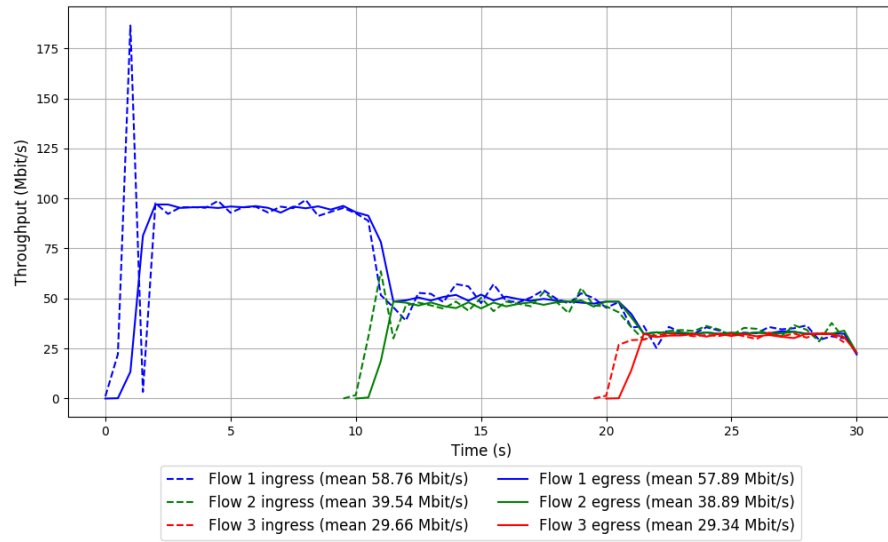


Run 5: Statistics of FillP

Start at: 2019-05-30 12:55:00
End at: 2019-05-30 12:55:30
Local clock offset: -6.46 ms
Remote clock offset: -1.169 ms

Below is generated by plot.py at 2019-05-30 13:13:59
Datalink statistics
-- Total of 3 flows:
Average throughput: 93.39 Mbit/s
95th percentile per-packet one-way delay: 255.476 ms
Loss rate: 2.24%
-- Flow 1:
Average throughput: 57.89 Mbit/s
95th percentile per-packet one-way delay: 298.375 ms
Loss rate: 2.05%
-- Flow 2:
Average throughput: 38.89 Mbit/s
95th percentile per-packet one-way delay: 224.448 ms
Loss rate: 2.44%
-- Flow 3:
Average throughput: 29.34 Mbit/s
95th percentile per-packet one-way delay: 213.510 ms
Loss rate: 2.82%

Run 5: Report of FillP — Data Link



Run 1: Statistics of FillP-Sheep

Start at: 2019-05-30 11:13:21

End at: 2019-05-30 11:13:51

Local clock offset: -0.474 ms

Remote clock offset: 0.718 ms

Below is generated by plot.py at 2019-05-30 13:14:03

Datalink statistics

-- Total of 3 flows:

Average throughput: 92.90 Mbit/s

95th percentile per-packet one-way delay: 302.739 ms

Loss rate: 1.70%

-- Flow 1:

Average throughput: 56.96 Mbit/s

95th percentile per-packet one-way delay: 329.029 ms

Loss rate: 0.93%

-- Flow 2:

Average throughput: 38.97 Mbit/s

95th percentile per-packet one-way delay: 225.845 ms

Loss rate: 2.00%

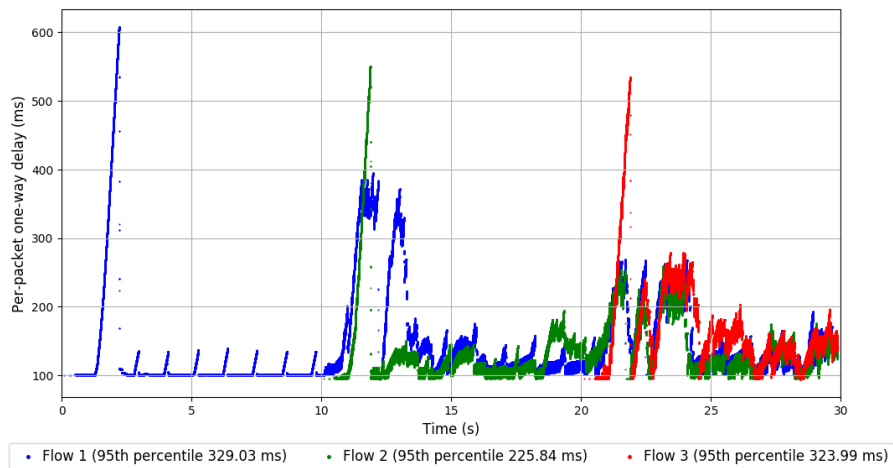
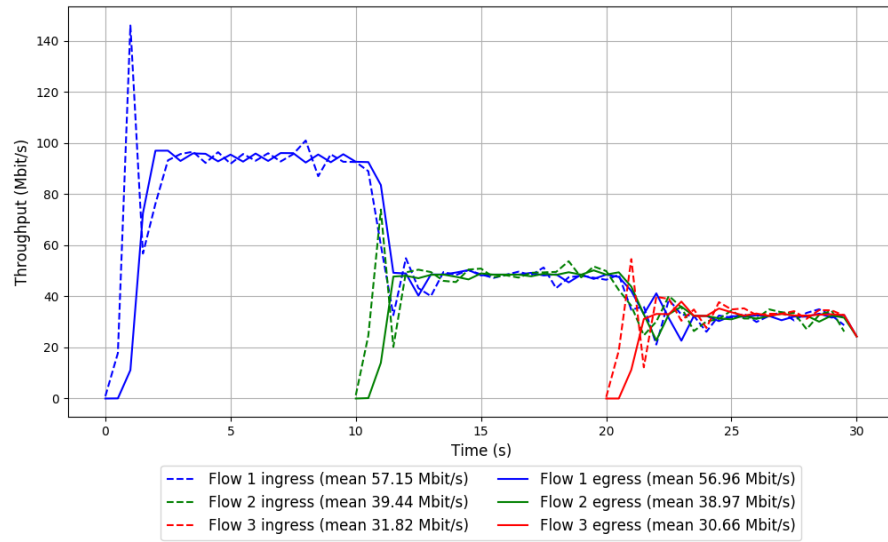
-- Flow 3:

Average throughput: 30.66 Mbit/s

95th percentile per-packet one-way delay: 323.990 ms

Loss rate: 5.17%

Run 1: Report of FillP-Sheep — Data Link

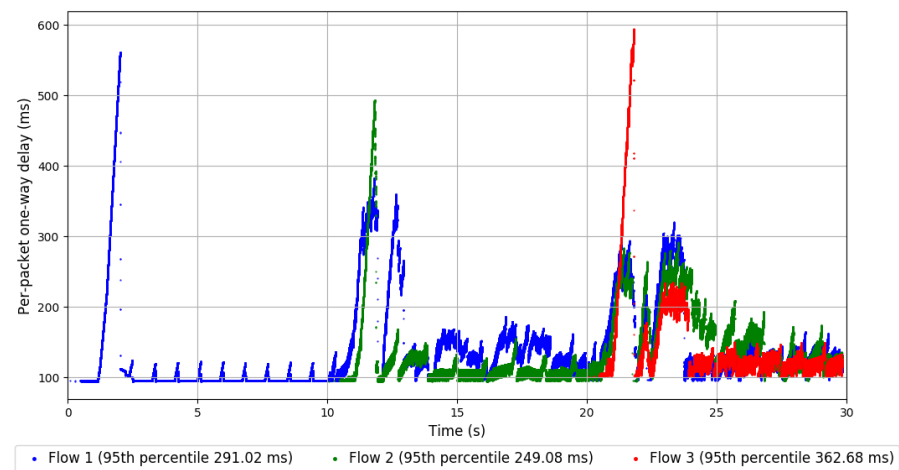
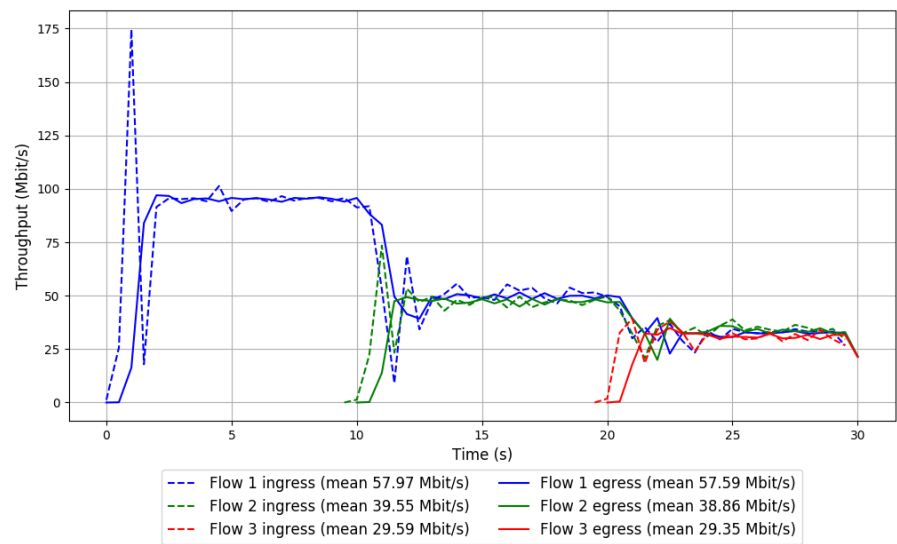


Run 2: Statistics of FillP-Sheep

Start at: 2019-05-30 11:40:21
End at: 2019-05-30 11:40:51
Local clock offset: -2.245 ms
Remote clock offset: 1.183 ms

Below is generated by plot.py at 2019-05-30 13:14:07
Datalink statistics
-- Total of 3 flows:
Average throughput: 93.09 Mbit/s
95th percentile per-packet one-way delay: 279.830 ms
Loss rate: 1.75%
-- Flow 1:
Average throughput: 57.59 Mbit/s
95th percentile per-packet one-way delay: 291.017 ms
Loss rate: 1.24%
-- Flow 2:
Average throughput: 38.86 Mbit/s
95th percentile per-packet one-way delay: 249.079 ms
Loss rate: 2.59%
-- Flow 3:
Average throughput: 29.35 Mbit/s
95th percentile per-packet one-way delay: 362.677 ms
Loss rate: 2.51%

Run 2: Report of FillP-Sheep — Data Link



Run 3: Statistics of FillP-Sheep

Start at: 2019-05-30 12:07:21

End at: 2019-05-30 12:07:51

Local clock offset: -7.59 ms

Remote clock offset: 0.559 ms

Below is generated by plot.py at 2019-05-30 13:14:15

Datalink statistics

-- Total of 3 flows:

Average throughput: 92.72 Mbit/s

95th percentile per-packet one-way delay: 311.194 ms

Loss rate: 1.40%

-- Flow 1:

Average throughput: 56.83 Mbit/s

95th percentile per-packet one-way delay: 279.253 ms

Loss rate: 0.85%

-- Flow 2:

Average throughput: 39.00 Mbit/s

95th percentile per-packet one-way delay: 331.304 ms

Loss rate: 1.92%

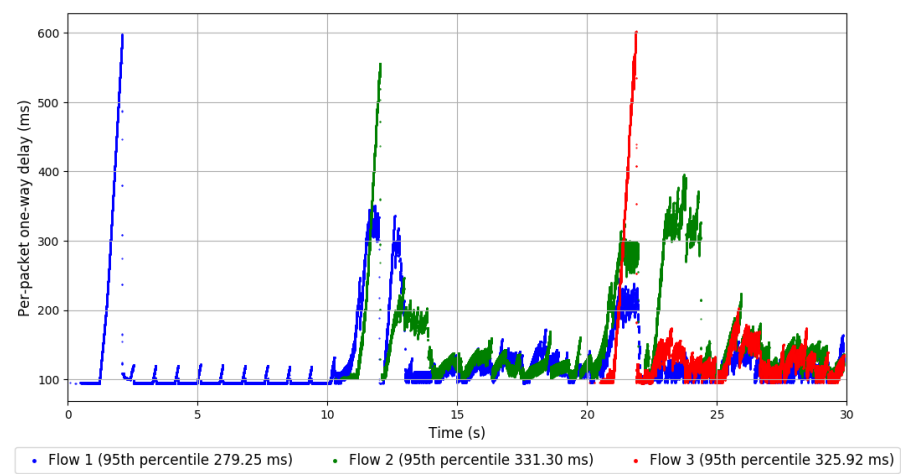
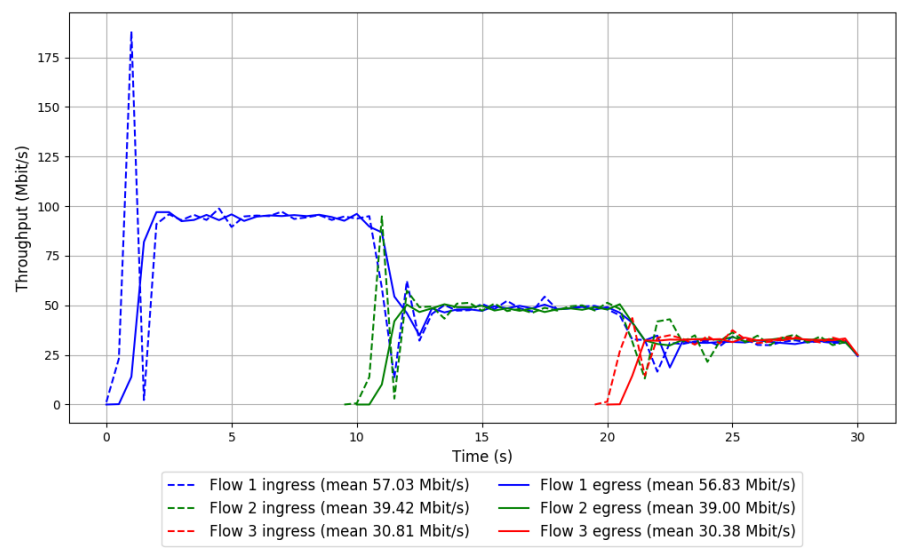
-- Flow 3:

Average throughput: 30.38 Mbit/s

95th percentile per-packet one-way delay: 325.920 ms

Loss rate: 3.13%

Run 3: Report of FillP-Sheep — Data Link



Run 4: Statistics of FillP-Sheep

Start at: 2019-05-30 12:34:22

End at: 2019-05-30 12:34:52

Local clock offset: -2.346 ms

Remote clock offset: 0.237 ms

Below is generated by plot.py at 2019-05-30 13:14:36

Datalink statistics

-- Total of 3 flows:

Average throughput: 92.66 Mbit/s

95th percentile per-packet one-way delay: 278.166 ms

Loss rate: 1.68%

-- Flow 1:

Average throughput: 56.88 Mbit/s

95th percentile per-packet one-way delay: 322.510 ms

Loss rate: 1.10%

-- Flow 2:

Average throughput: 38.66 Mbit/s

95th percentile per-packet one-way delay: 210.948 ms

Loss rate: 1.73%

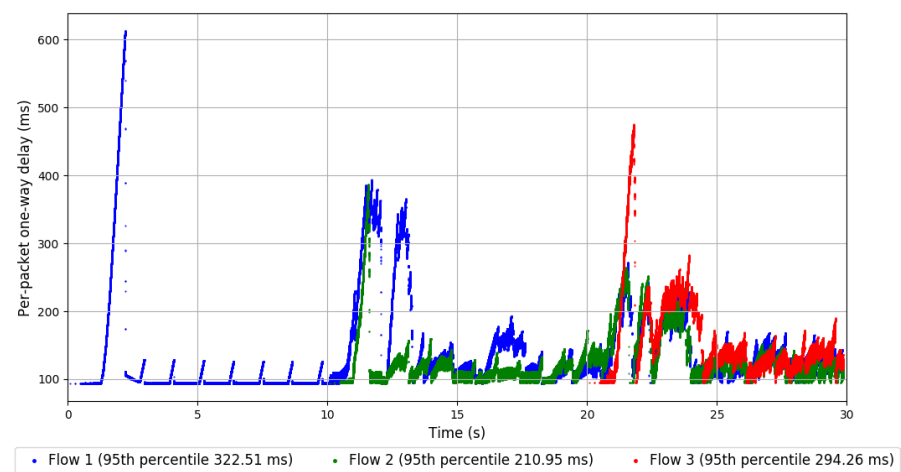
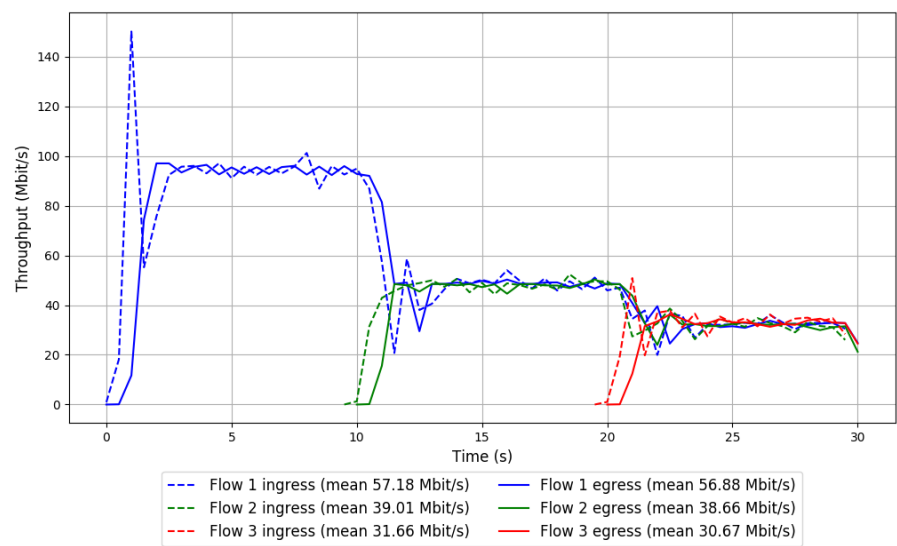
-- Flow 3:

Average throughput: 30.67 Mbit/s

95th percentile per-packet one-way delay: 294.263 ms

Loss rate: 4.69%

Run 4: Report of FillP-Sheep — Data Link



Run 5: Statistics of FillP-Sheep

Start at: 2019-05-30 13:01:24

End at: 2019-05-30 13:01:54

Local clock offset: -6.004 ms

Remote clock offset: 3.376 ms

Below is generated by plot.py at 2019-05-30 13:14:38

Datalink statistics

-- Total of 3 flows:

Average throughput: 91.74 Mbit/s

95th percentile per-packet one-way delay: 271.446 ms

Loss rate: 2.10%

-- Flow 1:

Average throughput: 57.18 Mbit/s

95th percentile per-packet one-way delay: 283.682 ms

Loss rate: 0.99%

-- Flow 2:

Average throughput: 39.31 Mbit/s

95th percentile per-packet one-way delay: 238.670 ms

Loss rate: 1.86%

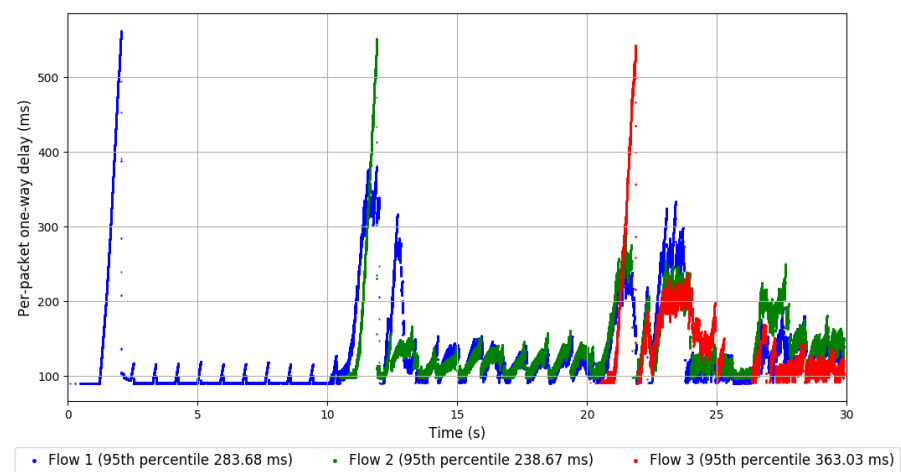
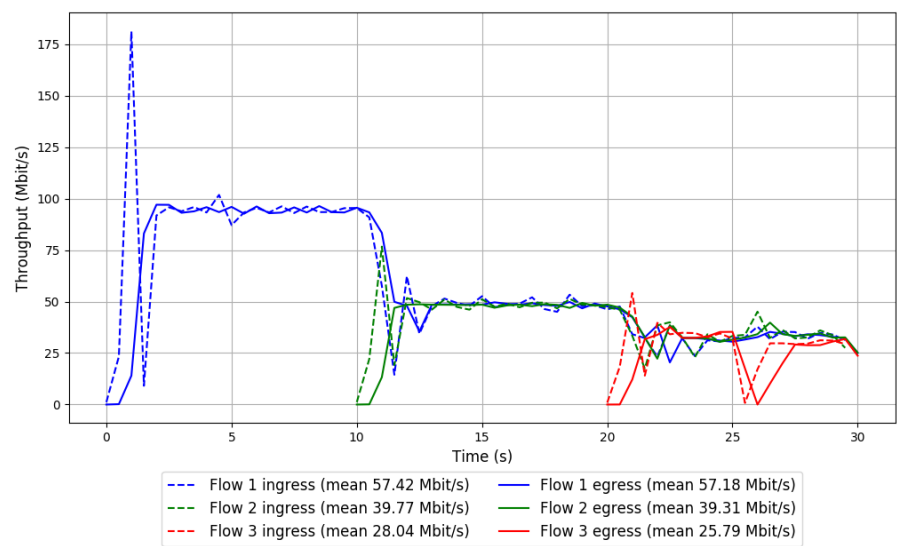
-- Flow 3:

Average throughput: 25.79 Mbit/s

95th percentile per-packet one-way delay: 363.027 ms

Loss rate: 9.60%

Run 5: Report of FillP-Sheep — Data Link

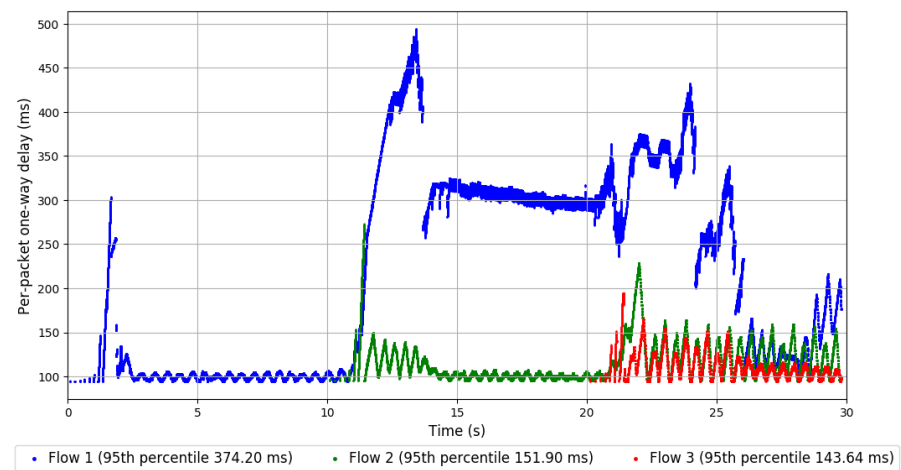
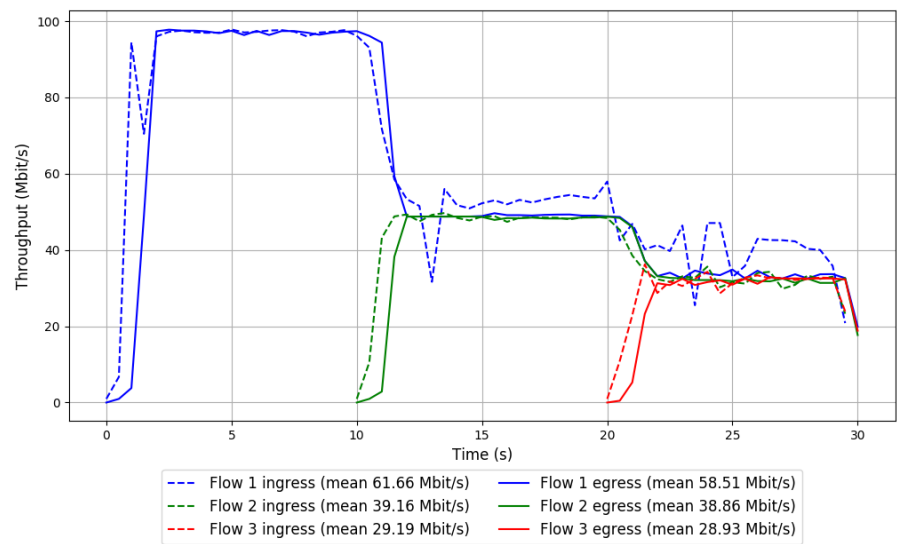


```
Run 1: Statistics of Indigo

Start at: 2019-05-30 10:56:40
End at: 2019-05-30 10:57:10
Local clock offset: -1.604 ms
Remote clock offset: 0.771 ms

# Below is generated by plot.py at 2019-05-30 13:14:38
# Datalink statistics
-- Total of 3 flows:
Average throughput: 93.69 Mbit/s
95th percentile per-packet one-way delay: 348.919 ms
Loss rate: 4.28%
-- Flow 1:
Average throughput: 58.51 Mbit/s
95th percentile per-packet one-way delay: 374.205 ms
Loss rate: 5.66%
-- Flow 2:
Average throughput: 38.86 Mbit/s
95th percentile per-packet one-way delay: 151.896 ms
Loss rate: 1.62%
-- Flow 3:
Average throughput: 28.93 Mbit/s
95th percentile per-packet one-way delay: 143.637 ms
Loss rate: 2.59%
```

Run 1: Report of Indigo — Data Link

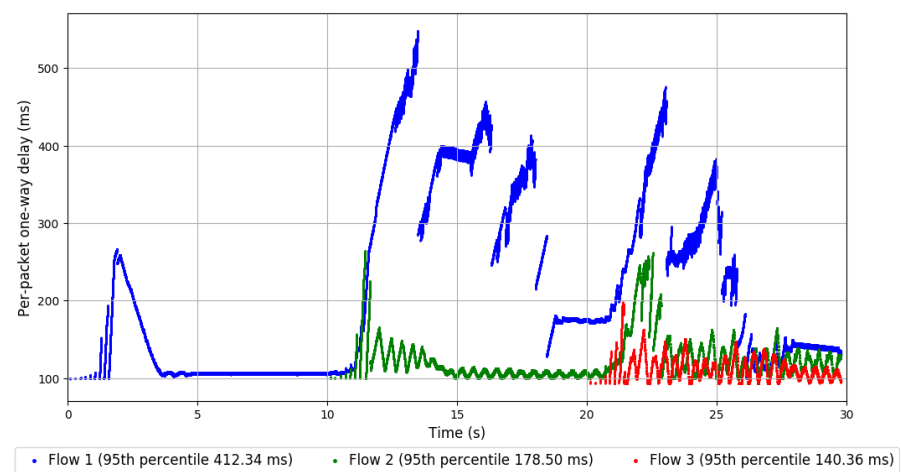
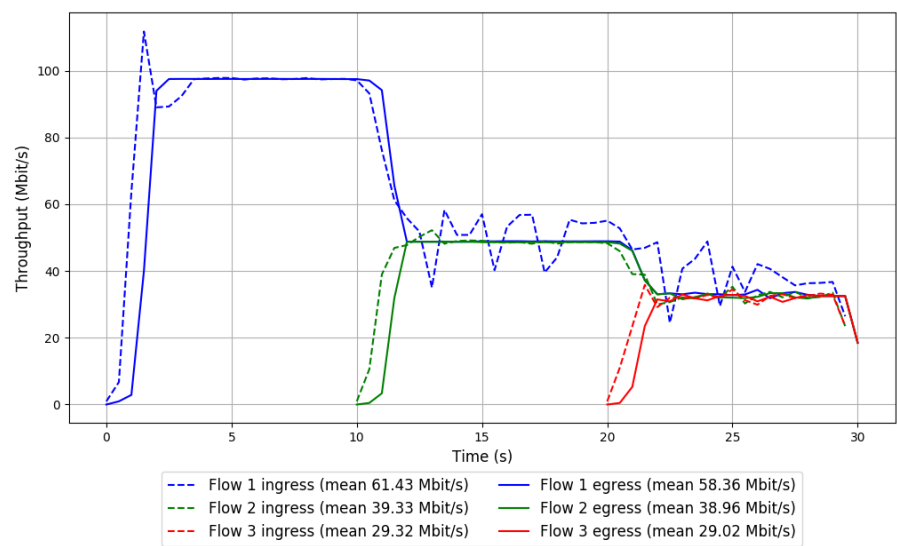


Run 2: Statistics of Indigo

Start at: 2019-05-30 11:23:40
End at: 2019-05-30 11:24:10
Local clock offset: -0.767 ms
Remote clock offset: 2.11 ms

Below is generated by plot.py at 2019-05-30 13:14:38
Datalink statistics
-- Total of 3 flows:
Average throughput: 93.61 Mbit/s
95th percentile per-packet one-way delay: 391.722 ms
Loss rate: 4.29%
-- Flow 1:
Average throughput: 58.36 Mbit/s
95th percentile per-packet one-way delay: 412.343 ms
Loss rate: 5.58%
-- Flow 2:
Average throughput: 38.96 Mbit/s
95th percentile per-packet one-way delay: 178.496 ms
Loss rate: 1.82%
-- Flow 3:
Average throughput: 29.02 Mbit/s
95th percentile per-packet one-way delay: 140.360 ms
Loss rate: 2.78%

Run 2: Report of Indigo — Data Link

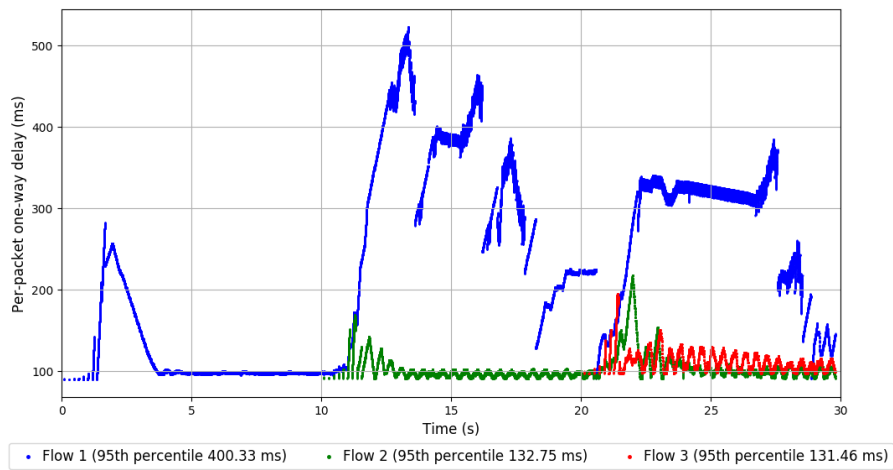
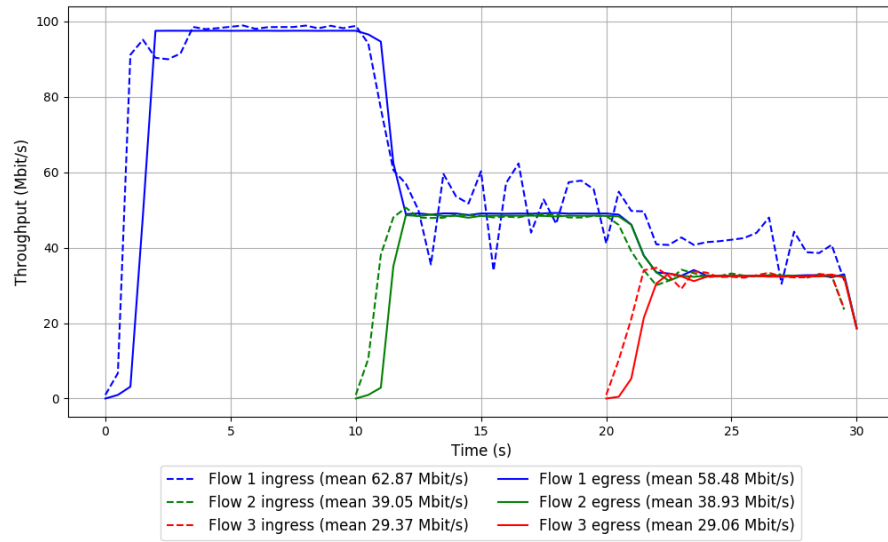


Run 3: Statistics of Indigo

Start at: 2019-05-30 11:50:40
End at: 2019-05-30 11:51:10
Local clock offset: -5.191 ms
Remote clock offset: 6.54 ms

Below is generated by plot.py at 2019-05-30 13:15:03
Datalink statistics
-- Total of 3 flows:
Average throughput: 93.75 Mbit/s
95th percentile per-packet one-way delay: 383.121 ms
Loss rate: 5.38%
-- Flow 1:
Average throughput: 58.48 Mbit/s
95th percentile per-packet one-way delay: 400.326 ms
Loss rate: 7.51%
-- Flow 2:
Average throughput: 38.93 Mbit/s
95th percentile per-packet one-way delay: 132.755 ms
Loss rate: 1.17%
-- Flow 3:
Average throughput: 29.06 Mbit/s
95th percentile per-packet one-way delay: 131.459 ms
Loss rate: 2.85%

Run 3: Report of Indigo — Data Link

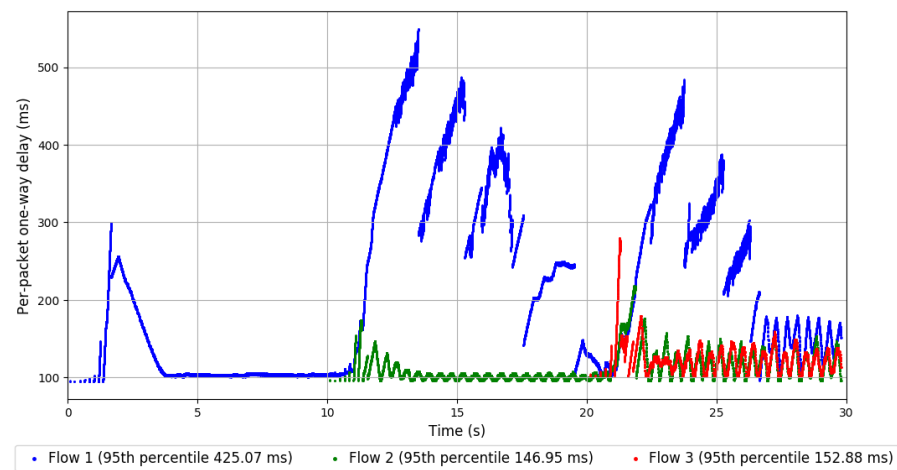
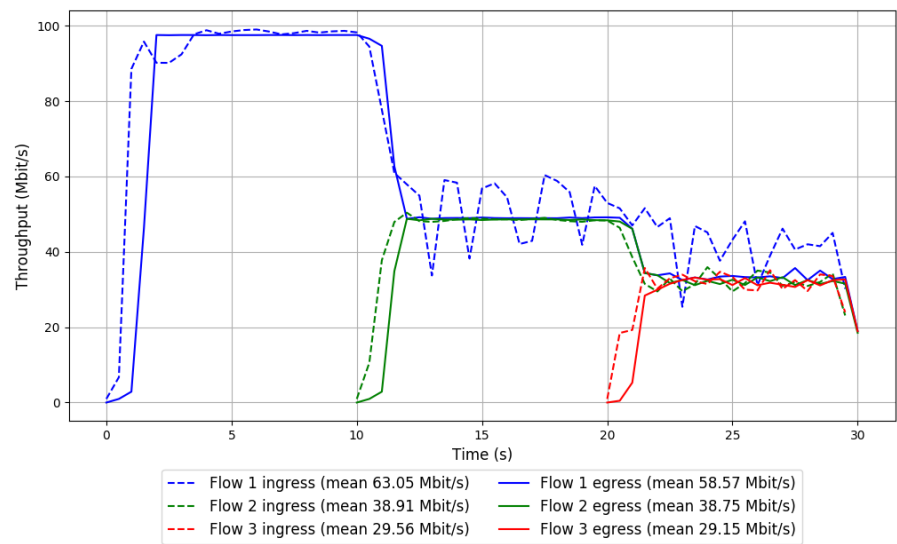


Run 4: Statistics of Indigo

Start at: 2019-05-30 12:17:40
End at: 2019-05-30 12:18:10
Local clock offset: -3.601 ms
Remote clock offset: -0.365 ms

Below is generated by plot.py at 2019-05-30 13:15:06
Datalink statistics
-- Total of 3 flows:
Average throughput: 93.74 Mbit/s
95th percentile per-packet one-way delay: 387.875 ms
Loss rate: 5.53%
-- Flow 1:
Average throughput: 58.57 Mbit/s
95th percentile per-packet one-way delay: 425.075 ms
Loss rate: 7.64%
-- Flow 2:
Average throughput: 38.75 Mbit/s
95th percentile per-packet one-way delay: 146.947 ms
Loss rate: 1.29%
-- Flow 3:
Average throughput: 29.15 Mbit/s
95th percentile per-packet one-way delay: 152.880 ms
Loss rate: 3.18%

Run 4: Report of Indigo — Data Link



Run 5: Statistics of Indigo

Start at: 2019-05-30 12:44:42

End at: 2019-05-30 12:45:12

Local clock offset: -4.212 ms

Remote clock offset: 4.935 ms

Below is generated by plot.py at 2019-05-30 13:15:09

Datalink statistics

-- Total of 3 flows:

Average throughput: 93.55 Mbit/s

95th percentile per-packet one-way delay: 353.346 ms

Loss rate: 4.76%

-- Flow 1:

Average throughput: 58.24 Mbit/s

95th percentile per-packet one-way delay: 361.857 ms

Loss rate: 6.21%

-- Flow 2:

Average throughput: 38.98 Mbit/s

95th percentile per-packet one-way delay: 159.437 ms

Loss rate: 1.88%

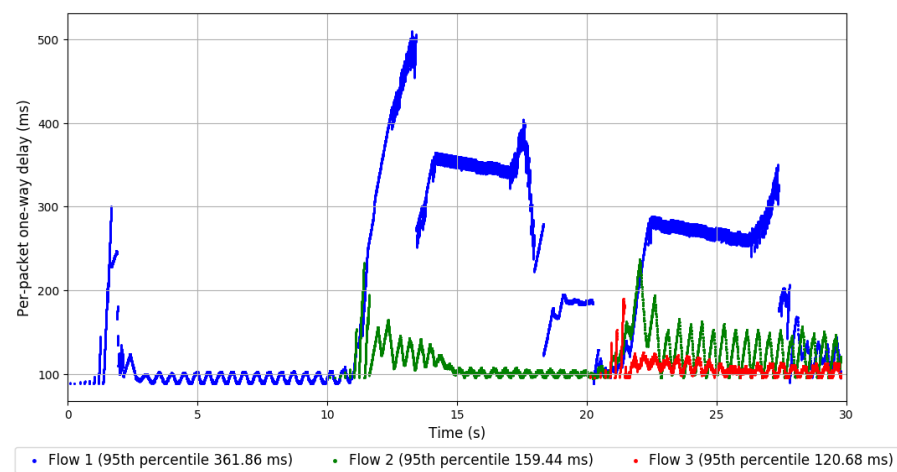
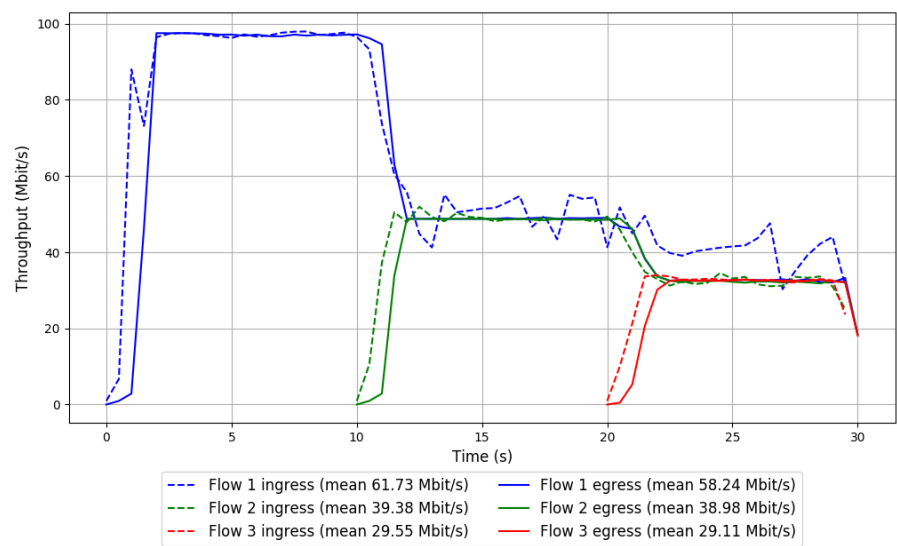
-- Flow 3:

Average throughput: 29.11 Mbit/s

95th percentile per-packet one-way delay: 120.683 ms

Loss rate: 3.30%

Run 5: Report of Indigo — Data Link



Run 1: Statistics of Indigo-MusesC3

Start at: 2019-05-30 10:57:59

End at: 2019-05-30 10:58:29

Local clock offset: -1.607 ms

Remote clock offset: 0.727 ms

Below is generated by plot.py at 2019-05-30 13:15:18

Datalink statistics

-- Total of 3 flows:

Average throughput: 94.71 Mbit/s

95th percentile per-packet one-way delay: 156.754 ms

Loss rate: 2.94%

-- Flow 1:

Average throughput: 60.67 Mbit/s

95th percentile per-packet one-way delay: 149.599 ms

Loss rate: 2.57%

-- Flow 2:

Average throughput: 39.68 Mbit/s

95th percentile per-packet one-way delay: 180.176 ms

Loss rate: 3.79%

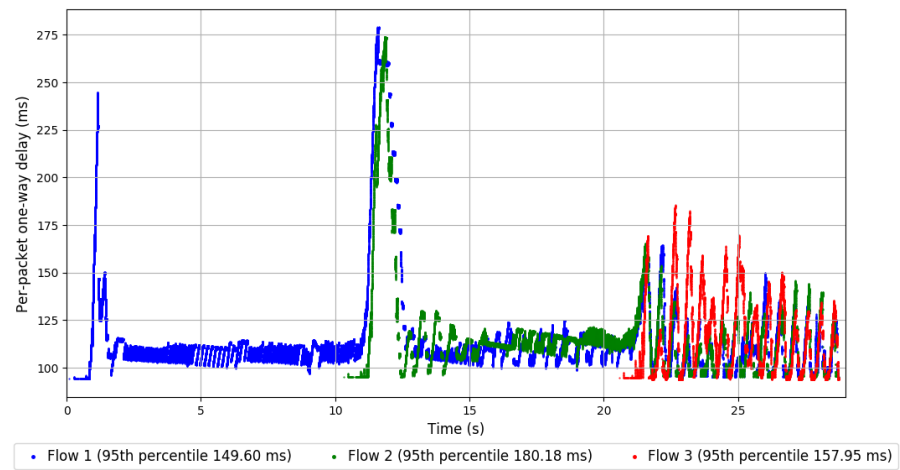
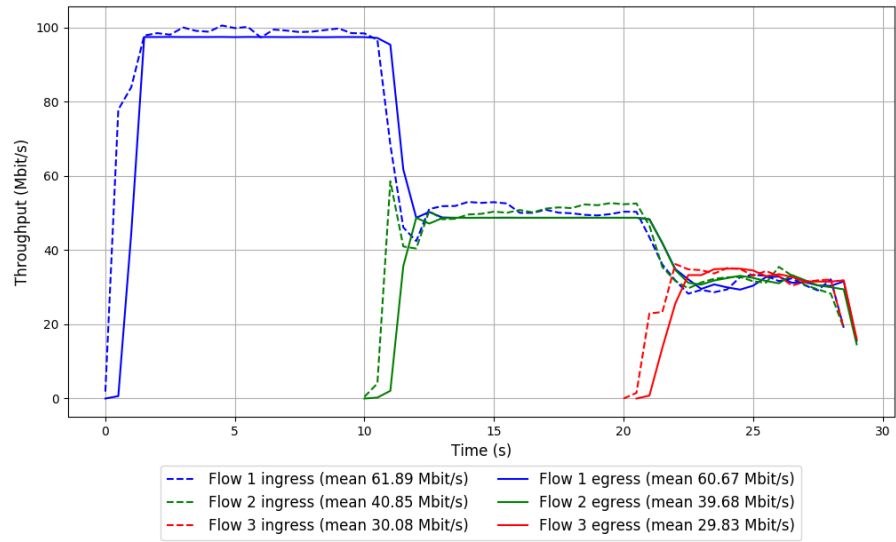
-- Flow 3:

Average throughput: 29.83 Mbit/s

95th percentile per-packet one-way delay: 157.953 ms

Loss rate: 2.92%

Run 1: Report of Indigo-MusesC3 — Data Link



Run 2: Statistics of Indigo-MusesC3

Start at: 2019-05-30 11:24:59

End at: 2019-05-30 11:25:29

Local clock offset: -0.733 ms

Remote clock offset: 0.978 ms

Below is generated by plot.py at 2019-05-30 13:15:31

Datalink statistics

-- Total of 3 flows:

Average throughput: 94.50 Mbit/s

95th percentile per-packet one-way delay: 168.707 ms

Loss rate: 3.27%

-- Flow 1:

Average throughput: 60.15 Mbit/s

95th percentile per-packet one-way delay: 178.118 ms

Loss rate: 2.90%

-- Flow 2:

Average throughput: 40.14 Mbit/s

95th percentile per-packet one-way delay: 167.347 ms

Loss rate: 4.25%

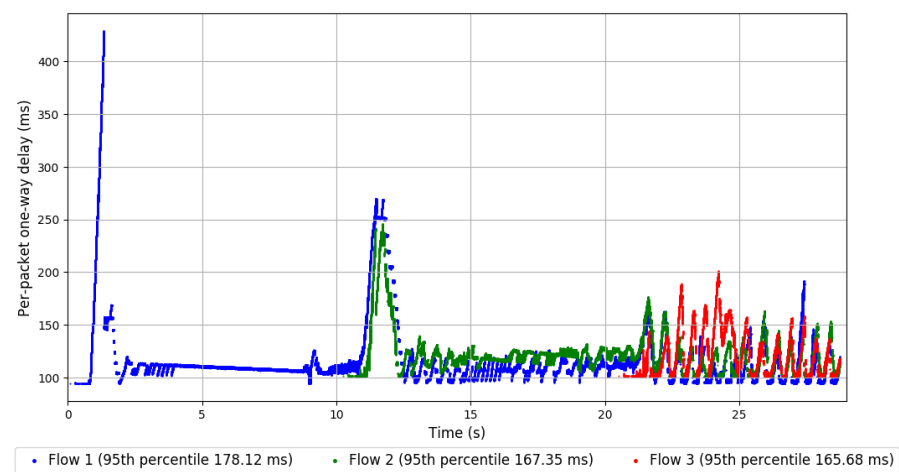
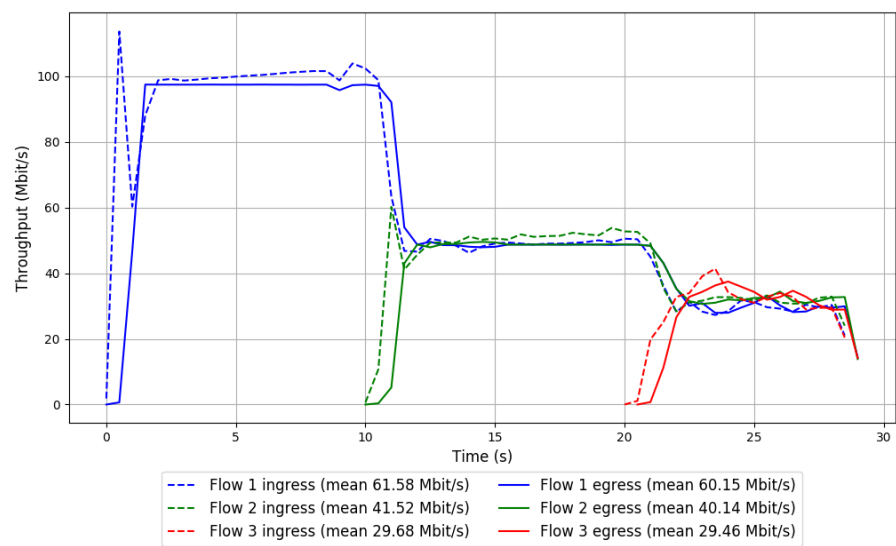
-- Flow 3:

Average throughput: 29.46 Mbit/s

95th percentile per-packet one-way delay: 165.680 ms

Loss rate: 2.88%

Run 2: Report of Indigo-MusesC3 — Data Link



Run 3: Statistics of Indigo-MusesC3

Start at: 2019-05-30 11:51:59

End at: 2019-05-30 11:52:29

Local clock offset: -5.567 ms

Remote clock offset: 2.762 ms

Below is generated by plot.py at 2019-05-30 13:15:31

Datalink statistics

-- Total of 3 flows:

Average throughput: 94.72 Mbit/s

95th percentile per-packet one-way delay: 158.071 ms

Loss rate: 2.49%

-- Flow 1:

Average throughput: 60.56 Mbit/s

95th percentile per-packet one-way delay: 137.015 ms

Loss rate: 2.71%

-- Flow 2:

Average throughput: 39.99 Mbit/s

95th percentile per-packet one-way delay: 245.393 ms

Loss rate: 1.71%

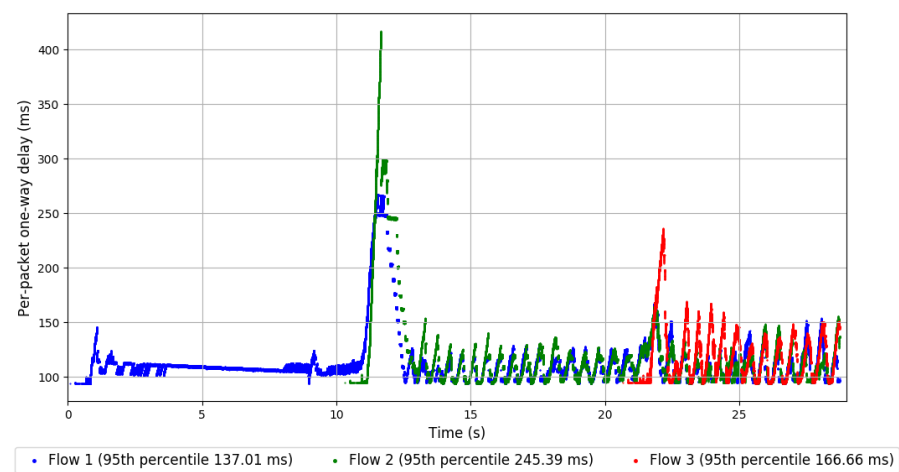
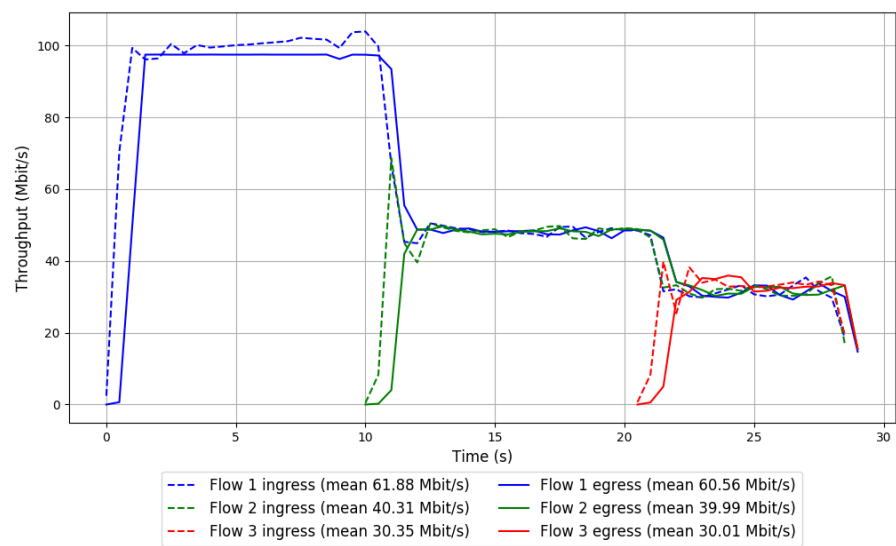
-- Flow 3:

Average throughput: 30.01 Mbit/s

95th percentile per-packet one-way delay: 166.656 ms

Loss rate: 3.23%

Run 3: Report of Indigo-MusesC3 — Data Link



Run 4: Statistics of Indigo-MusesC3

Start at: 2019-05-30 12:19:00

End at: 2019-05-30 12:19:30

Local clock offset: -4.12 ms

Remote clock offset: 3.254 ms

Below is generated by plot.py at 2019-05-30 13:15:38

Datalink statistics

-- Total of 3 flows:

Average throughput: 94.50 Mbit/s

95th percentile per-packet one-way delay: 166.111 ms

Loss rate: 2.20%

-- Flow 1:

Average throughput: 60.28 Mbit/s

95th percentile per-packet one-way delay: 146.130 ms

Loss rate: 1.95%

-- Flow 2:

Average throughput: 39.62 Mbit/s

95th percentile per-packet one-way delay: 217.472 ms

Loss rate: 2.34%

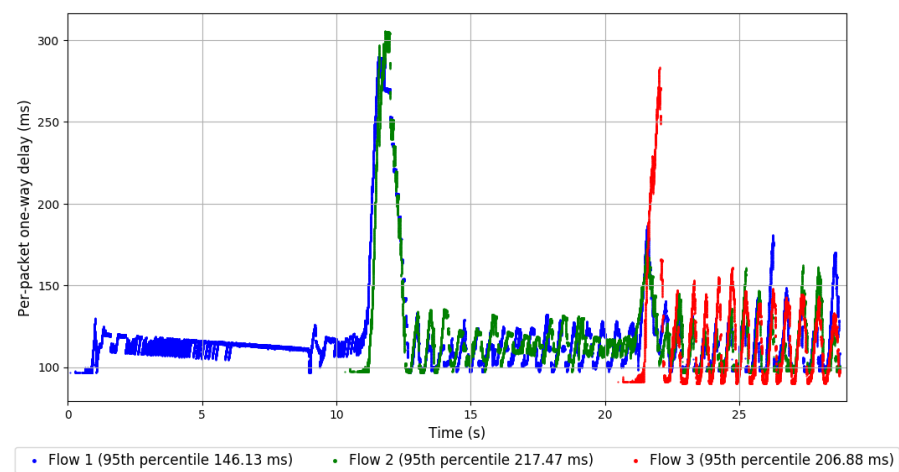
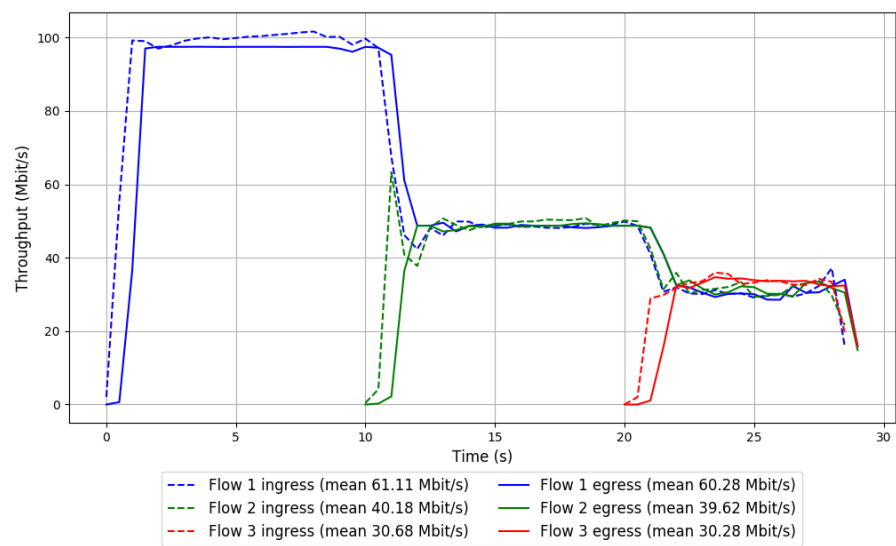
-- Flow 3:

Average throughput: 30.28 Mbit/s

95th percentile per-packet one-way delay: 206.884 ms

Loss rate: 3.42%

Run 4: Report of Indigo-MusesC3 — Data Link

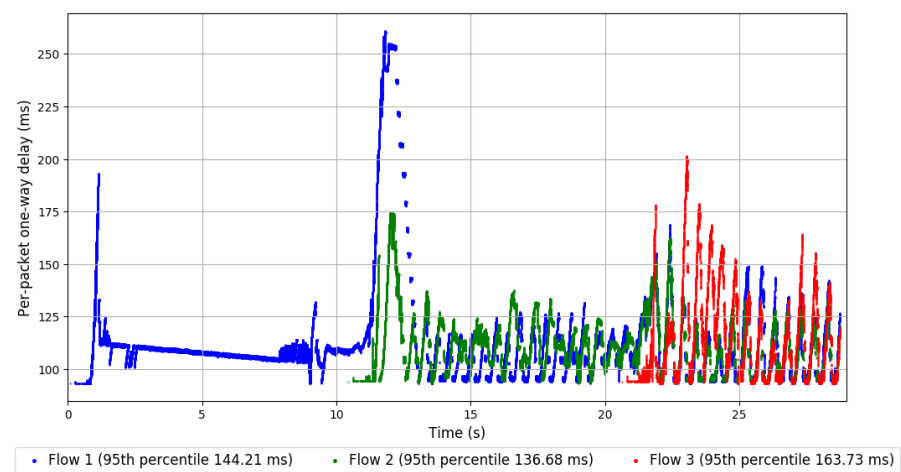
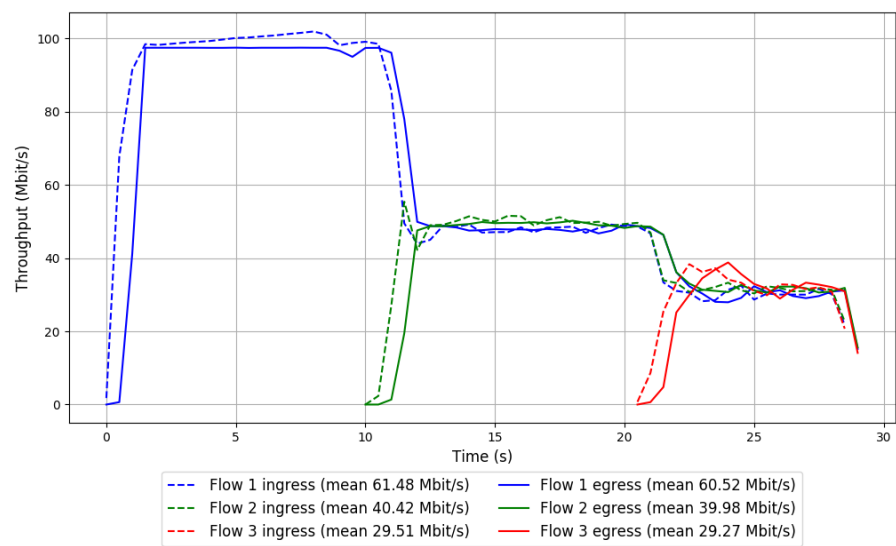


Run 5: Statistics of Indigo-MusesC3

Start at: 2019-05-30 12:46:01
End at: 2019-05-30 12:46:31
Local clock offset: -5.177 ms
Remote clock offset: -0.027 ms

Below is generated by plot.py at 2019-05-30 13:15:39
Datalink statistics
-- Total of 3 flows:
Average throughput: 94.33 Mbit/s
95th percentile per-packet one-way delay: 146.534 ms
Loss rate: 2.18%
-- Flow 1:
Average throughput: 60.52 Mbit/s
95th percentile per-packet one-way delay: 144.210 ms
Loss rate: 2.16%
-- Flow 2:
Average throughput: 39.98 Mbit/s
95th percentile per-packet one-way delay: 136.681 ms
Loss rate: 1.96%
-- Flow 3:
Average throughput: 29.27 Mbit/s
95th percentile per-packet one-way delay: 163.729 ms
Loss rate: 2.93%

Run 5: Report of Indigo-MusesC3 — Data Link



Run 1: Statistics of Indigo-MusesC5

Start at: 2019-05-30 11:14:38

End at: 2019-05-30 11:15:08

Local clock offset: -0.234 ms

Remote clock offset: 4.811 ms

Below is generated by plot.py at 2019-05-30 13:16:04

Datalink statistics

-- Total of 3 flows:

Average throughput: 93.26 Mbit/s

95th percentile per-packet one-way delay: 267.015 ms

Loss rate: 3.71%

-- Flow 1:

Average throughput: 56.77 Mbit/s

95th percentile per-packet one-way delay: 258.953 ms

Loss rate: 2.27%

-- Flow 2:

Average throughput: 43.93 Mbit/s

95th percentile per-packet one-way delay: 294.748 ms

Loss rate: 5.40%

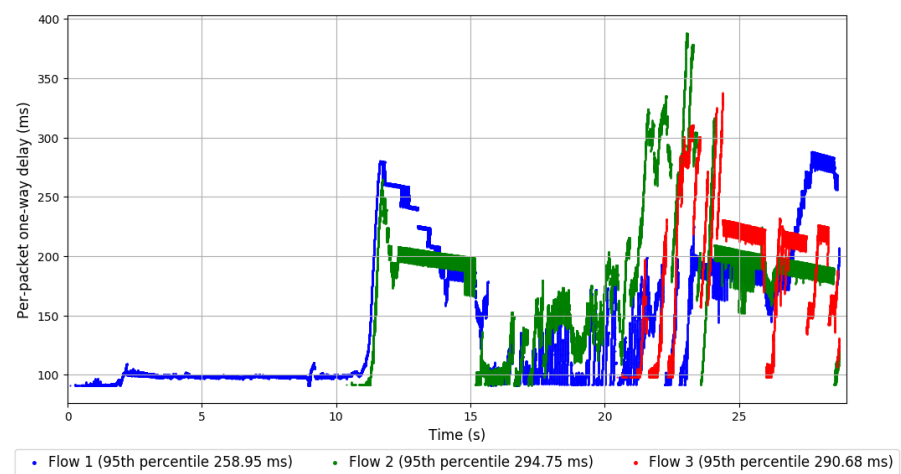
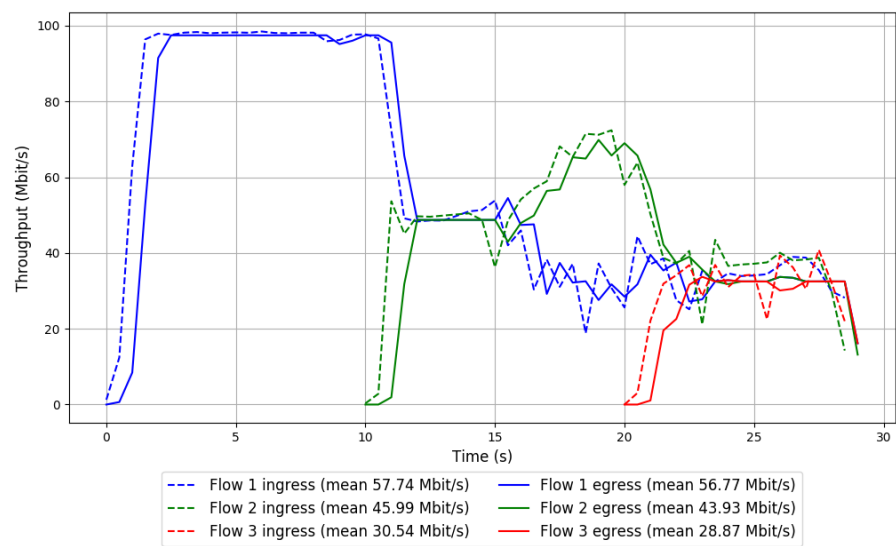
-- Flow 3:

Average throughput: 28.87 Mbit/s

95th percentile per-packet one-way delay: 290.681 ms

Loss rate: 7.39%

Run 1: Report of Indigo-MusesC5 — Data Link



Run 2: Statistics of Indigo-MusesC5

Start at: 2019-05-30 11:41:38

End at: 2019-05-30 11:42:08

Local clock offset: -2.191 ms

Remote clock offset: 2.482 ms

Below is generated by plot.py at 2019-05-30 13:16:06

Datalink statistics

-- Total of 3 flows:

Average throughput: 93.80 Mbit/s

95th percentile per-packet one-way delay: 238.511 ms

Loss rate: 4.55%

-- Flow 1:

Average throughput: 58.33 Mbit/s

95th percentile per-packet one-way delay: 211.620 ms

Loss rate: 3.84%

-- Flow 2:

Average throughput: 41.04 Mbit/s

95th percentile per-packet one-way delay: 245.223 ms

Loss rate: 4.86%

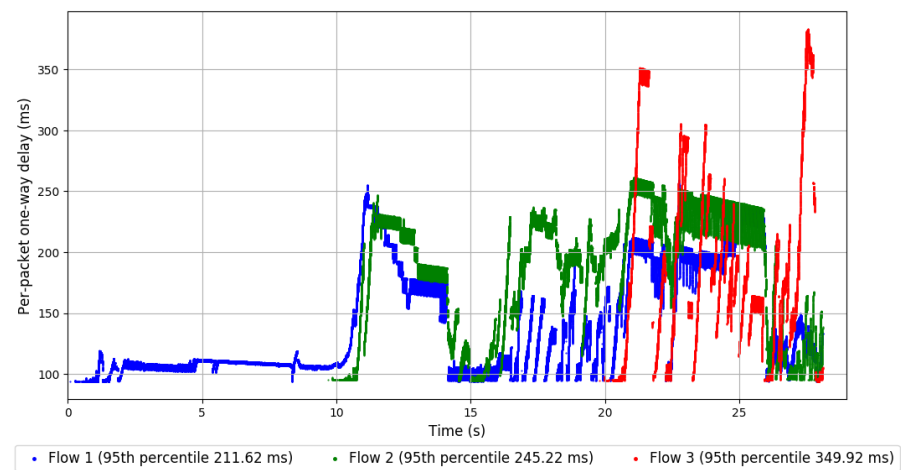
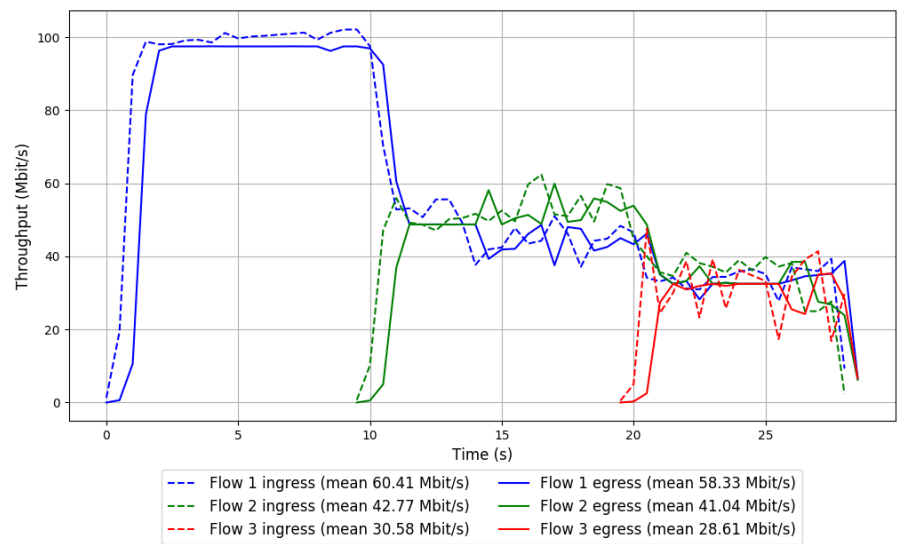
-- Flow 3:

Average throughput: 28.61 Mbit/s

95th percentile per-packet one-way delay: 349.923 ms

Loss rate: 8.30%

Run 2: Report of Indigo-MusesC5 — Data Link



Run 3: Statistics of Indigo-MusesC5

Start at: 2019-05-30 12:08:38

End at: 2019-05-30 12:09:08

Local clock offset: -7.613 ms

Remote clock offset: 6.463 ms

Below is generated by plot.py at 2019-05-30 13:16:09

Datalink statistics

-- Total of 3 flows:

Average throughput: 93.55 Mbit/s

95th percentile per-packet one-way delay: 272.912 ms

Loss rate: 2.50%

-- Flow 1:

Average throughput: 58.19 Mbit/s

95th percentile per-packet one-way delay: 239.683 ms

Loss rate: 1.03%

-- Flow 2:

Average throughput: 40.51 Mbit/s

95th percentile per-packet one-way delay: 317.941 ms

Loss rate: 4.24%

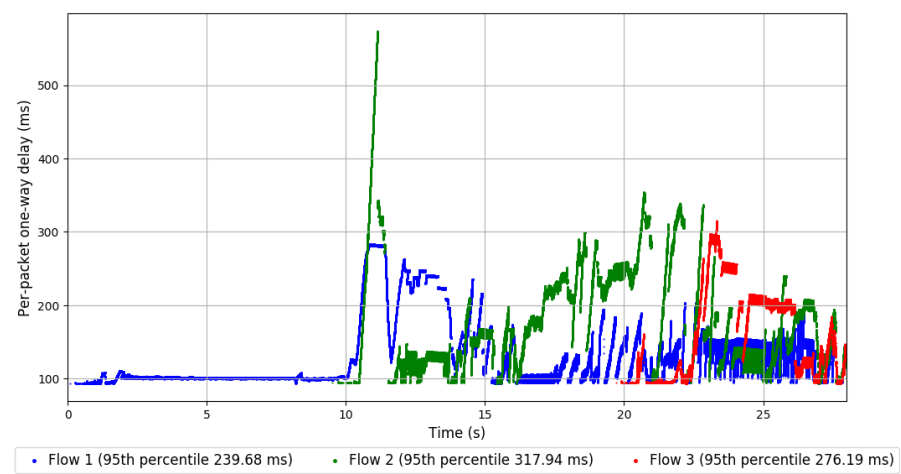
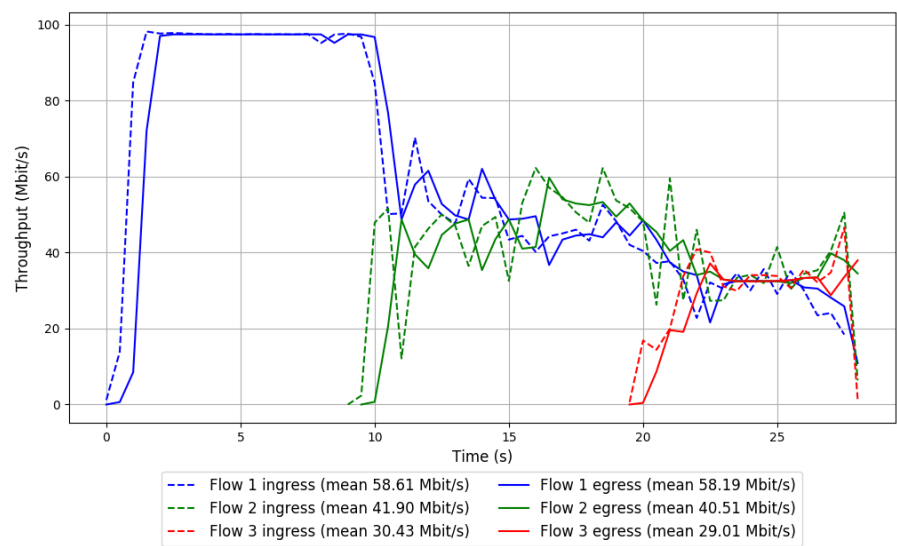
-- Flow 3:

Average throughput: 29.01 Mbit/s

95th percentile per-packet one-way delay: 276.193 ms

Loss rate: 6.61%

Run 3: Report of Indigo-MusesC5 — Data Link



Run 4: Statistics of Indigo-MusesC5

Start at: 2019-05-30 12:35:39

End at: 2019-05-30 12:36:09

Local clock offset: -2.077 ms

Remote clock offset: 0.135 ms

Below is generated by plot.py at 2019-05-30 13:16:18

Datalink statistics

-- Total of 3 flows:

Average throughput: 92.71 Mbit/s

95th percentile per-packet one-way delay: 234.101 ms

Loss rate: 3.22%

-- Flow 1:

Average throughput: 57.75 Mbit/s

95th percentile per-packet one-way delay: 243.192 ms

Loss rate: 2.56%

-- Flow 2:

Average throughput: 40.17 Mbit/s

95th percentile per-packet one-way delay: 203.188 ms

Loss rate: 4.13%

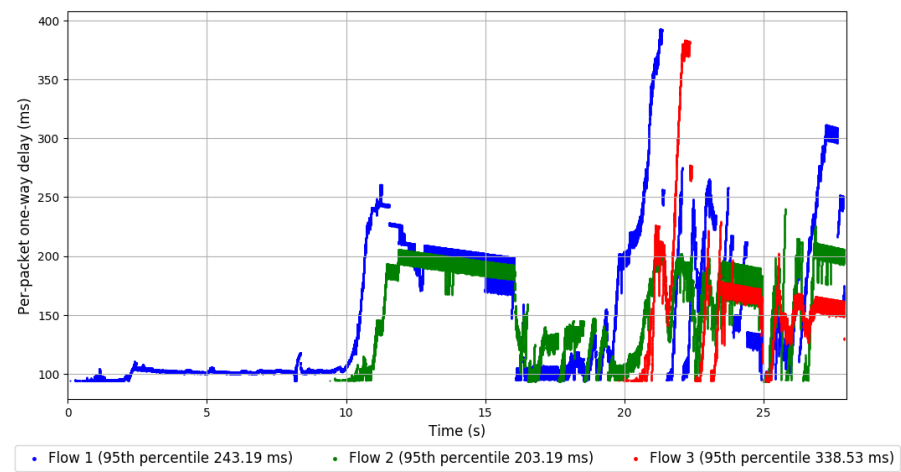
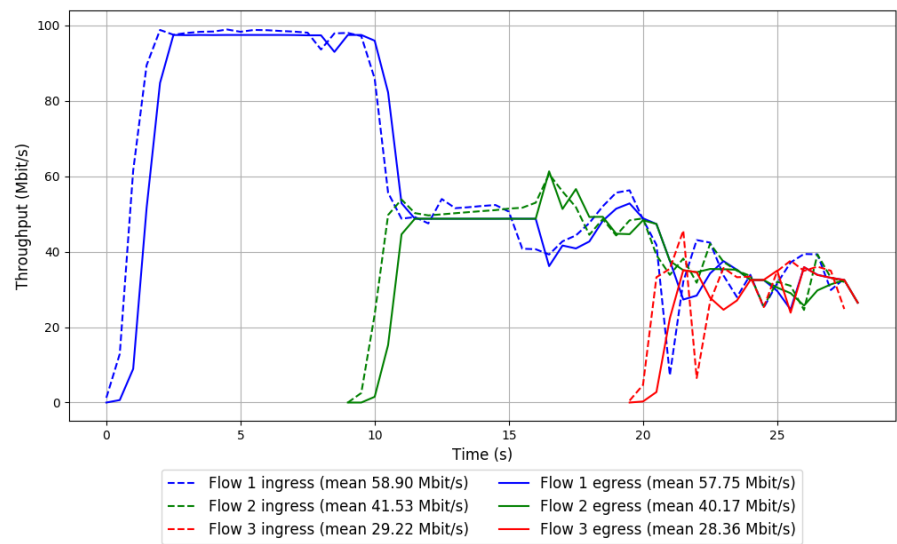
-- Flow 3:

Average throughput: 28.36 Mbit/s

95th percentile per-packet one-way delay: 338.534 ms

Loss rate: 4.85%

Run 4: Report of Indigo-MusesC5 — Data Link



Run 5: Statistics of Indigo-MusesC5

Start at: 2019-05-30 13:02:41

End at: 2019-05-30 13:03:11

Local clock offset: -6.865 ms

Remote clock offset: 2.25 ms

Below is generated by plot.py at 2019-05-30 13:16:31

Datalink statistics

-- Total of 3 flows:

Average throughput: 92.45 Mbit/s

95th percentile per-packet one-way delay: 261.439 ms

Loss rate: 4.69%

-- Flow 1:

Average throughput: 58.65 Mbit/s

95th percentile per-packet one-way delay: 260.956 ms

Loss rate: 3.69%

-- Flow 2:

Average throughput: 39.49 Mbit/s

95th percentile per-packet one-way delay: 250.130 ms

Loss rate: 6.48%

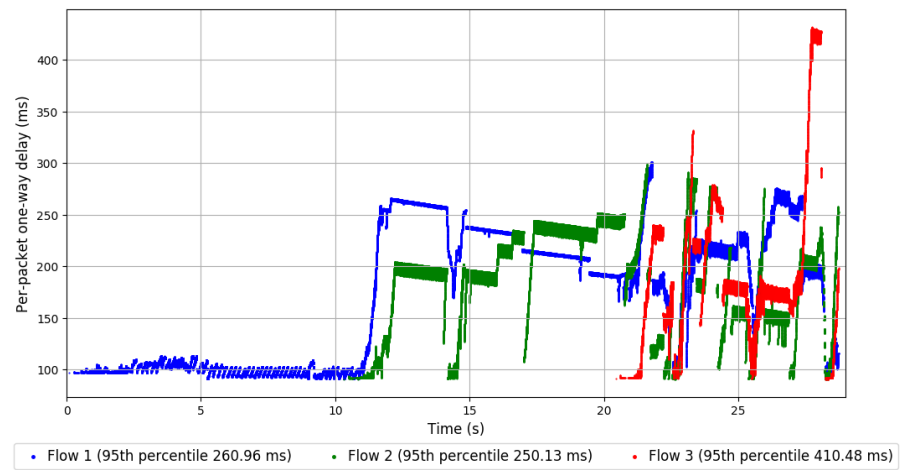
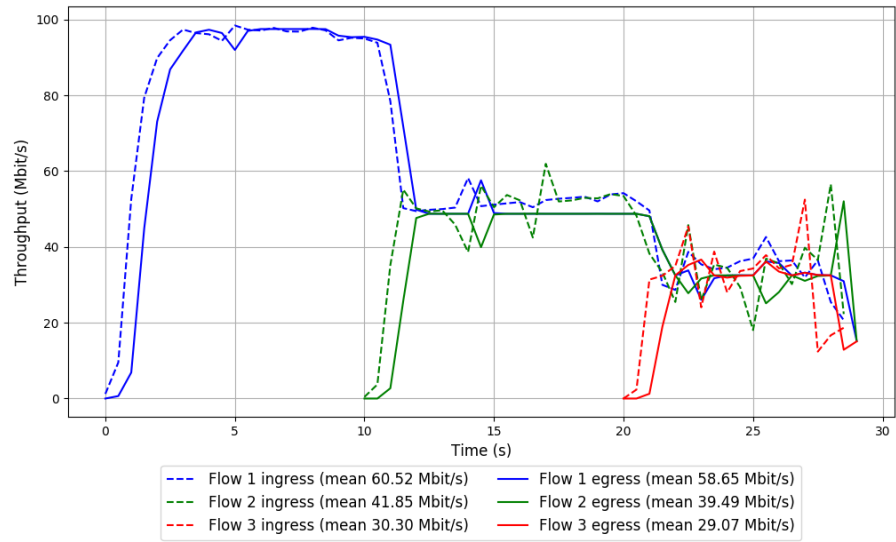
-- Flow 3:

Average throughput: 29.07 Mbit/s

95th percentile per-packet one-way delay: 410.482 ms

Loss rate: 5.99%

Run 5: Report of Indigo-MusesC5 — Data Link



Run 1: Statistics of Indigo-MusesD

Start at: 2019-05-30 11:03:10

End at: 2019-05-30 11:03:40

Local clock offset: -1.344 ms

Remote clock offset: 5.524 ms

Below is generated by plot.py at 2019-05-30 13:16:33

Datalink statistics

-- Total of 3 flows:

Average throughput: 93.92 Mbit/s

95th percentile per-packet one-way delay: 215.337 ms

Loss rate: 4.75%

-- Flow 1:

Average throughput: 62.79 Mbit/s

95th percentile per-packet one-way delay: 219.476 ms

Loss rate: 5.74%

-- Flow 2:

Average throughput: 33.61 Mbit/s

95th percentile per-packet one-way delay: 117.164 ms

Loss rate: 1.45%

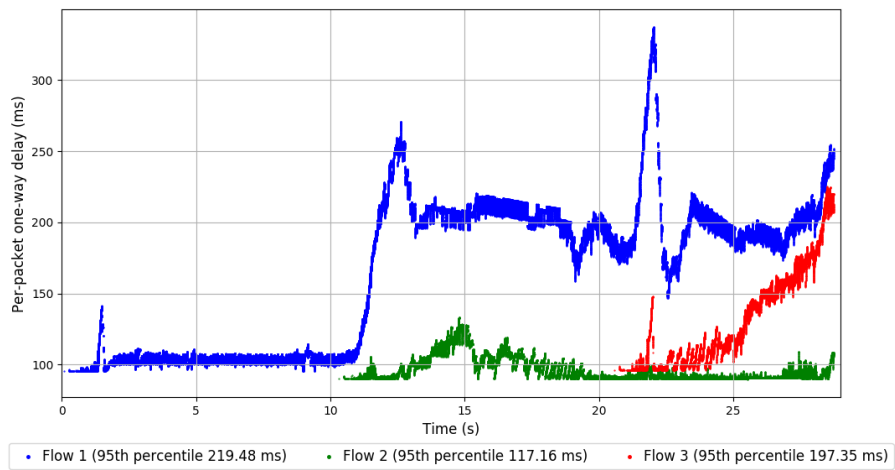
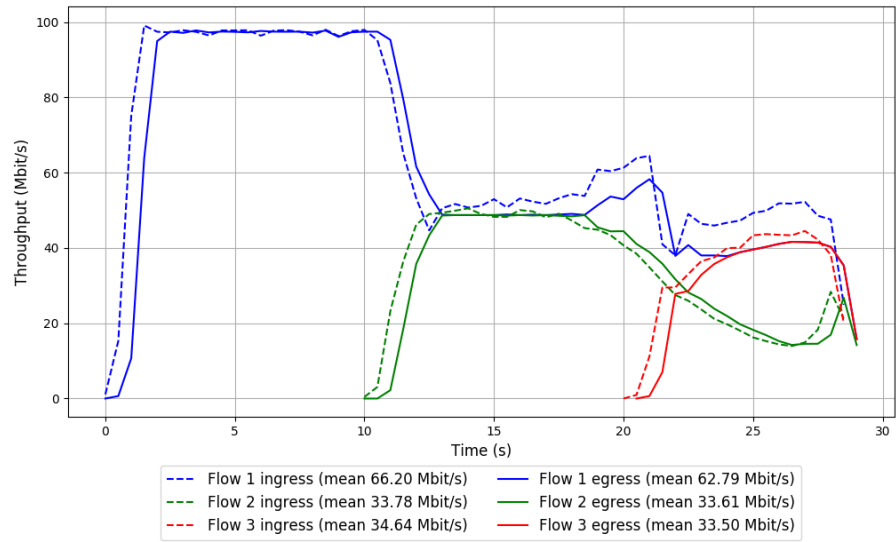
-- Flow 3:

Average throughput: 33.50 Mbit/s

95th percentile per-packet one-way delay: 197.353 ms

Loss rate: 5.40%

Run 1: Report of Indigo-MusesD — Data Link



Run 2: Statistics of Indigo-MusesD

Start at: 2019-05-30 11:30:09

End at: 2019-05-30 11:30:39

Local clock offset: -0.761 ms

Remote clock offset: 4.875 ms

Below is generated by plot.py at 2019-05-30 13:16:39

Datalink statistics

-- Total of 3 flows:

Average throughput: 93.74 Mbit/s

95th percentile per-packet one-way delay: 207.676 ms

Loss rate: 4.70%

-- Flow 1:

Average throughput: 61.30 Mbit/s

95th percentile per-packet one-way delay: 213.050 ms

Loss rate: 5.71%

-- Flow 2:

Average throughput: 37.62 Mbit/s

95th percentile per-packet one-way delay: 164.533 ms

Loss rate: 2.02%

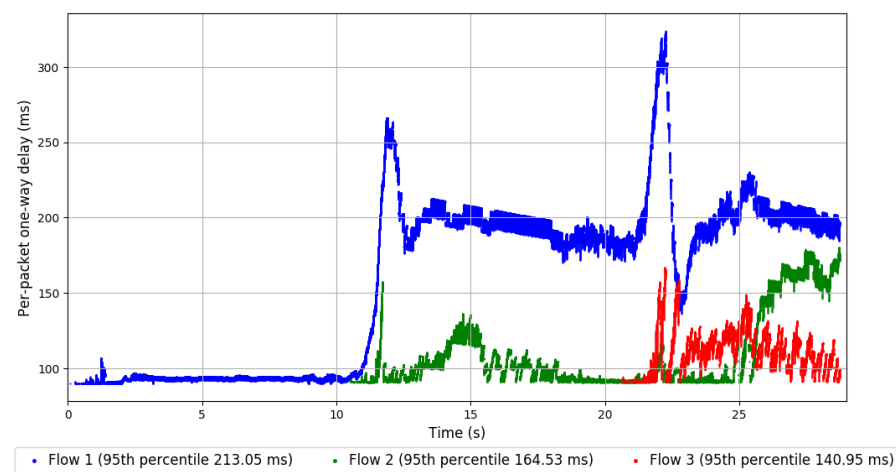
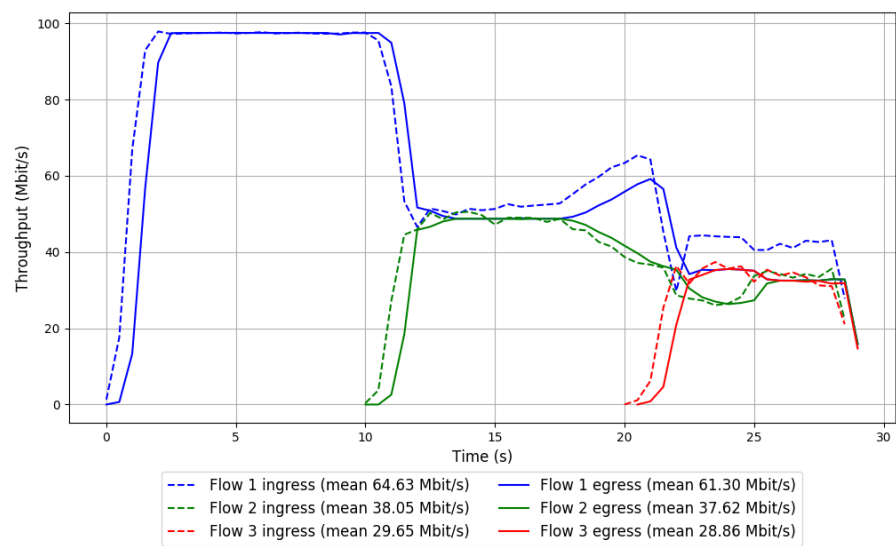
-- Flow 3:

Average throughput: 28.86 Mbit/s

95th percentile per-packet one-way delay: 140.950 ms

Loss rate: 4.68%

Run 2: Report of Indigo-MusesD — Data Link



Run 3: Statistics of Indigo-MusesD

Start at: 2019-05-30 11:57:09

End at: 2019-05-30 11:57:39

Local clock offset: -7.163 ms

Remote clock offset: 8.065 ms

Below is generated by plot.py at 2019-05-30 13:16:41

Datalink statistics

-- Total of 3 flows:

Average throughput: 93.69 Mbit/s

95th percentile per-packet one-way delay: 210.446 ms

Loss rate: 6.18%

-- Flow 1:

Average throughput: 60.81 Mbit/s

95th percentile per-packet one-way delay: 212.200 ms

Loss rate: 6.95%

-- Flow 2:

Average throughput: 39.44 Mbit/s

95th percentile per-packet one-way delay: 182.637 ms

Loss rate: 4.88%

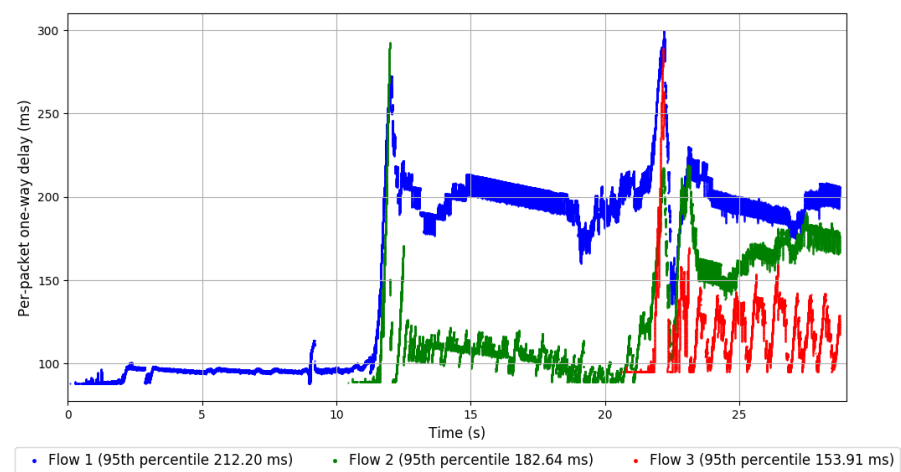
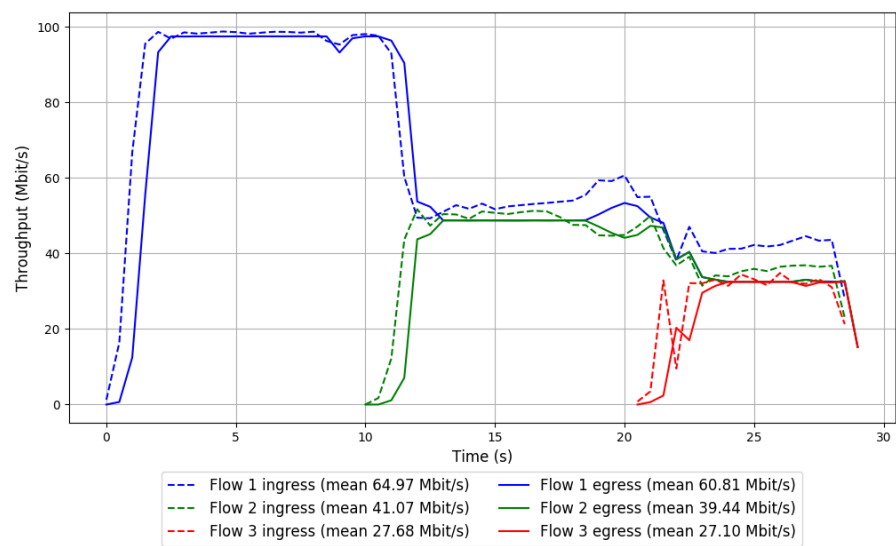
-- Flow 3:

Average throughput: 27.10 Mbit/s

95th percentile per-packet one-way delay: 153.906 ms

Loss rate: 4.23%

Run 3: Report of Indigo-MusesD — Data Link

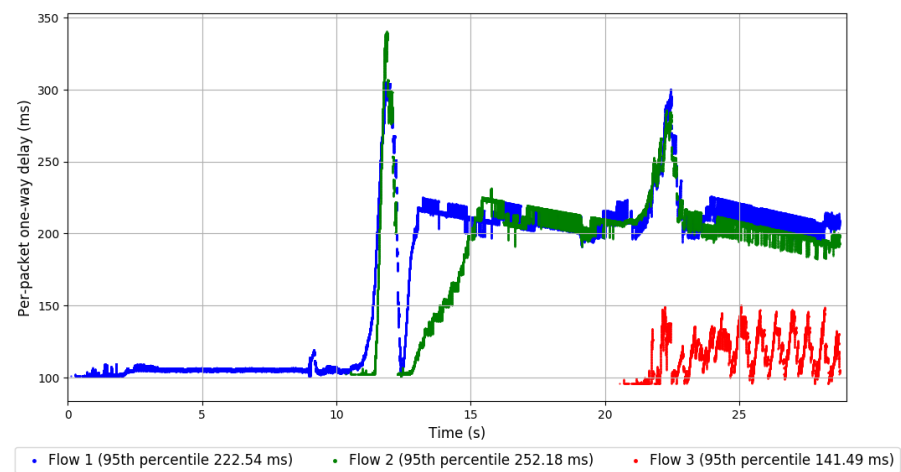
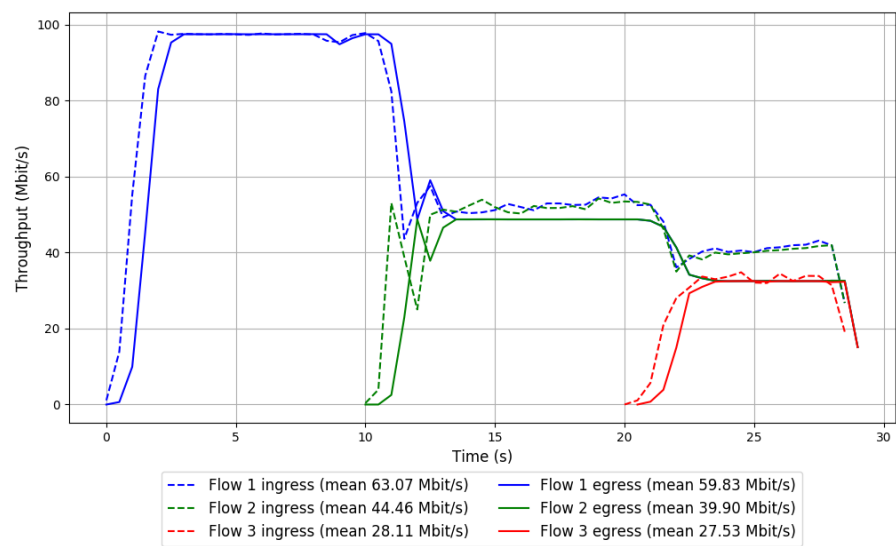


Run 4: Statistics of Indigo-MusesD

Start at: 2019-05-30 12:24:10
End at: 2019-05-30 12:24:40
Local clock offset: -2.686 ms
Remote clock offset: -0.639 ms

Below is generated by plot.py at 2019-05-30 13:17:08
Datalink statistics
-- Total of 3 flows:
Average throughput: 93.32 Mbit/s
95th percentile per-packet one-way delay: 225.659 ms
Loss rate: 7.15%
-- Flow 1:
Average throughput: 59.83 Mbit/s
95th percentile per-packet one-way delay: 222.536 ms
Loss rate: 5.73%
-- Flow 2:
Average throughput: 39.90 Mbit/s
95th percentile per-packet one-way delay: 252.183 ms
Loss rate: 11.14%
-- Flow 3:
Average throughput: 27.53 Mbit/s
95th percentile per-packet one-way delay: 141.486 ms
Loss rate: 4.12%

Run 4: Report of Indigo-MusesD — Data Link

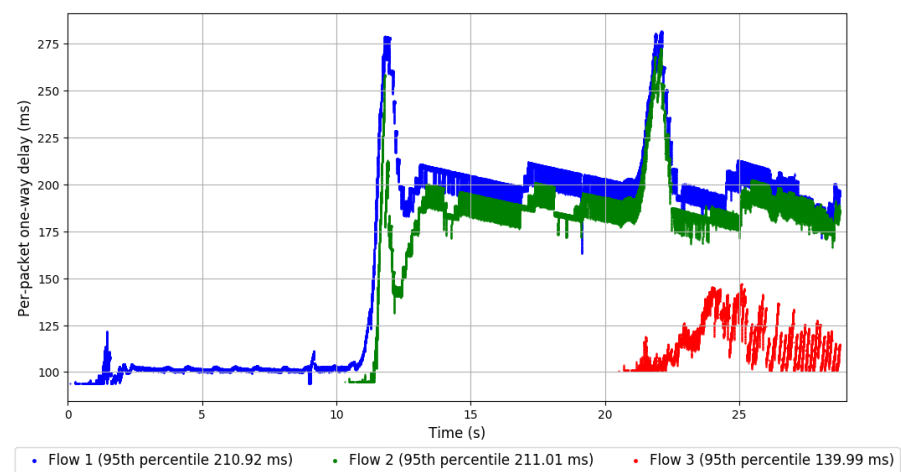
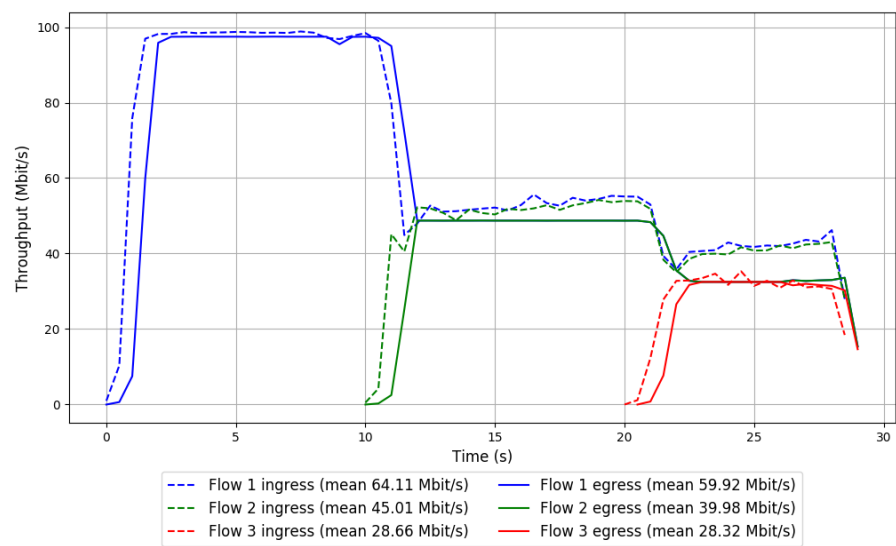


Run 5: Statistics of Indigo-MusesD

Start at: 2019-05-30 12:51:11
End at: 2019-05-30 12:51:41
Local clock offset: -5.114 ms
Remote clock offset: -0.012 ms

Below is generated by plot.py at 2019-05-30 13:17:10
Datalink statistics
-- Total of 3 flows:
Average throughput: 93.79 Mbit/s
95th percentile per-packet one-way delay: 210.322 ms
Loss rate: 8.18%
-- Flow 1:
Average throughput: 59.92 Mbit/s
95th percentile per-packet one-way delay: 210.923 ms
Loss rate: 7.10%
-- Flow 2:
Average throughput: 39.98 Mbit/s
95th percentile per-packet one-way delay: 211.009 ms
Loss rate: 11.97%
-- Flow 3:
Average throughput: 28.32 Mbit/s
95th percentile per-packet one-way delay: 139.990 ms
Loss rate: 3.28%

Run 5: Report of Indigo-MusesD — Data Link



Run 1: Statistics of Indigo-MusesT

Start at: 2019-05-30 11:05:40

End at: 2019-05-30 11:06:10

Local clock offset: -1.496 ms

Remote clock offset: 5.753 ms

Below is generated by plot.py at 2019-05-30 13:17:13

Datalink statistics

-- Total of 3 flows:

Average throughput: 94.53 Mbit/s

95th percentile per-packet one-way delay: 440.456 ms

Loss rate: 6.39%

-- Flow 1:

Average throughput: 60.98 Mbit/s

95th percentile per-packet one-way delay: 403.205 ms

Loss rate: 6.23%

-- Flow 2:

Average throughput: 41.17 Mbit/s

95th percentile per-packet one-way delay: 419.247 ms

Loss rate: 7.15%

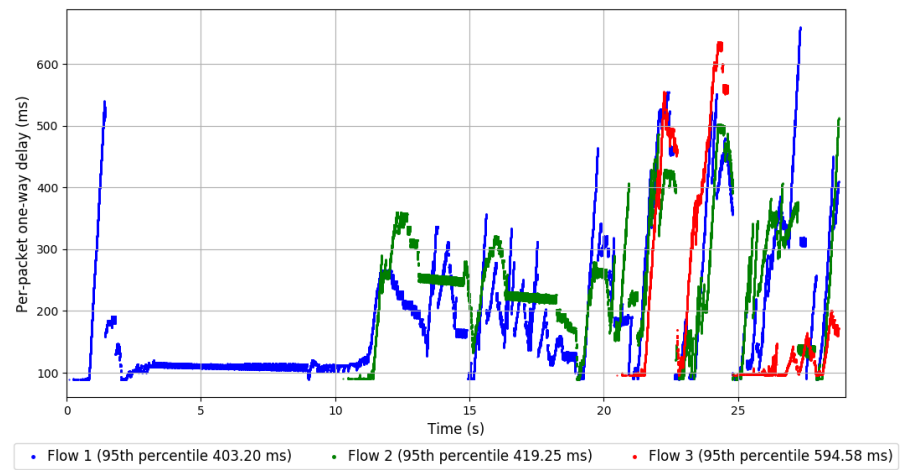
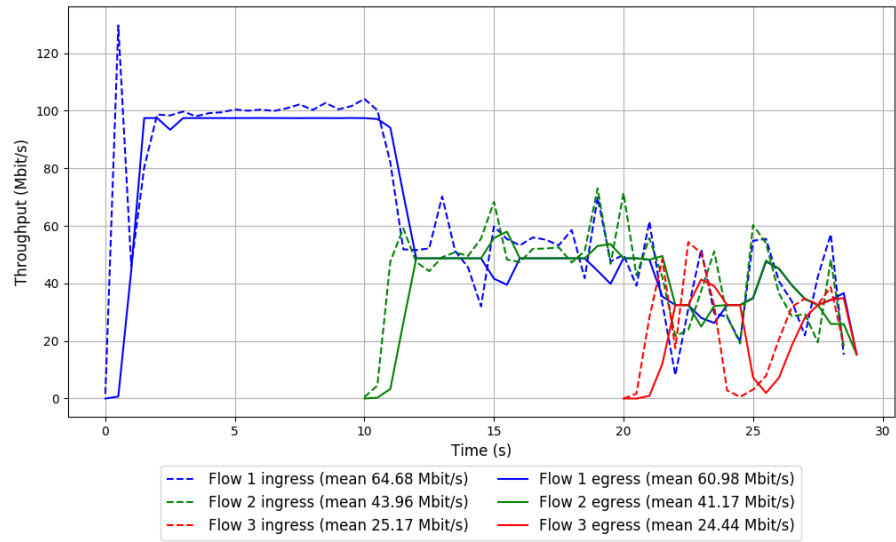
-- Flow 3:

Average throughput: 24.44 Mbit/s

95th percentile per-packet one-way delay: 594.582 ms

Loss rate: 4.95%

Run 1: Report of Indigo-MusesT — Data Link



Run 2: Statistics of Indigo-MusesT

Start at: 2019-05-30 11:32:40

End at: 2019-05-30 11:33:10

Local clock offset: 0.069 ms

Remote clock offset: 1.151 ms

Below is generated by plot.py at 2019-05-30 13:17:24

Datalink statistics

-- Total of 3 flows:

Average throughput: 93.70 Mbit/s

95th percentile per-packet one-way delay: 908.553 ms

Loss rate: 4.60%

-- Flow 1:

Average throughput: 65.76 Mbit/s

95th percentile per-packet one-way delay: 393.937 ms

Loss rate: 4.17%

-- Flow 2:

Average throughput: 28.65 Mbit/s

95th percentile per-packet one-way delay: 1510.327 ms

Loss rate: 3.79%

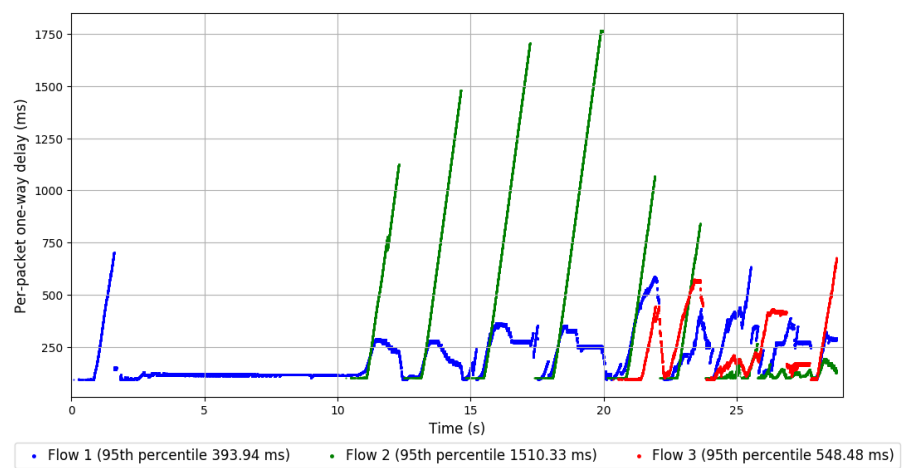
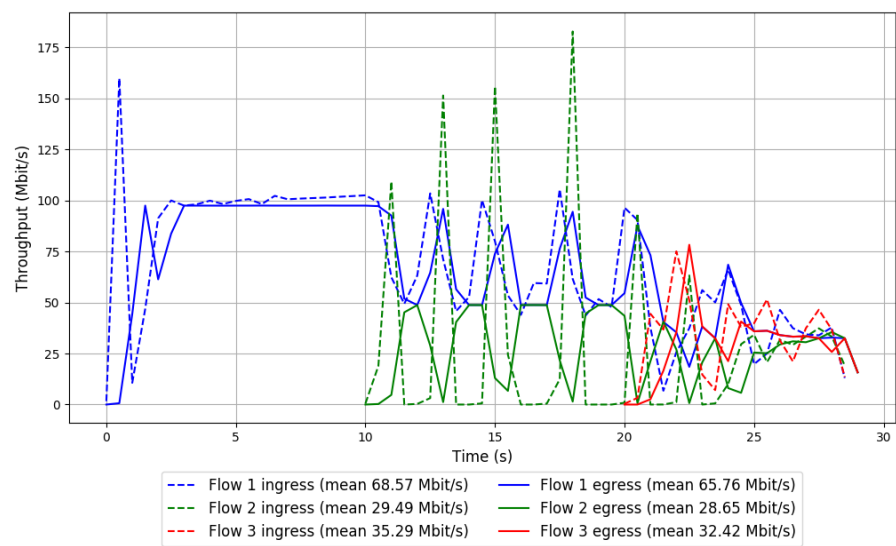
-- Flow 3:

Average throughput: 32.42 Mbit/s

95th percentile per-packet one-way delay: 548.480 ms

Loss rate: 8.90%

Run 2: Report of Indigo-MusesT — Data Link



Run 3: Statistics of Indigo-MusesT

Start at: 2019-05-30 11:59:40

End at: 2019-05-30 12:00:10

Local clock offset: -6.734 ms

Remote clock offset: 2.965 ms

Below is generated by plot.py at 2019-05-30 13:17:36

Datalink statistics

-- Total of 3 flows:

Average throughput: 91.52 Mbit/s

95th percentile per-packet one-way delay: 931.034 ms

Loss rate: 4.62%

-- Flow 1:

Average throughput: 63.27 Mbit/s

95th percentile per-packet one-way delay: 459.387 ms

Loss rate: 4.09%

-- Flow 2:

Average throughput: 29.77 Mbit/s

95th percentile per-packet one-way delay: 1573.834 ms

Loss rate: 4.07%

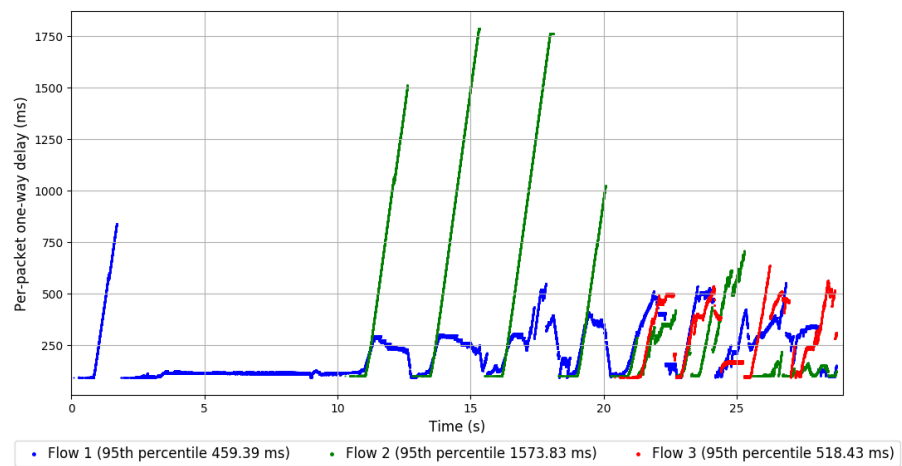
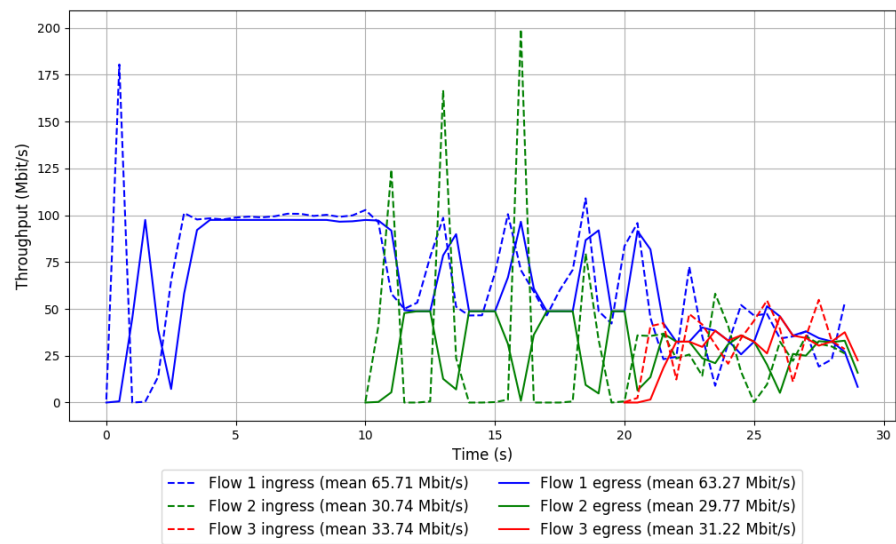
-- Flow 3:

Average throughput: 31.22 Mbit/s

95th percentile per-packet one-way delay: 518.433 ms

Loss rate: 9.25%

Run 3: Report of Indigo-MusesT — Data Link



Run 4: Statistics of Indigo-MusesT

Start at: 2019-05-30 12:26:41

End at: 2019-05-30 12:27:11

Local clock offset: -3.232 ms

Remote clock offset: 0.393 ms

Below is generated by plot.py at 2019-05-30 13:17:38

Datalink statistics

-- Total of 3 flows:

Average throughput: 94.00 Mbit/s

95th percentile per-packet one-way delay: 472.040 ms

Loss rate: 5.77%

-- Flow 1:

Average throughput: 61.31 Mbit/s

95th percentile per-packet one-way delay: 372.867 ms

Loss rate: 6.74%

-- Flow 2:

Average throughput: 40.70 Mbit/s

95th percentile per-packet one-way delay: 492.623 ms

Loss rate: 3.95%

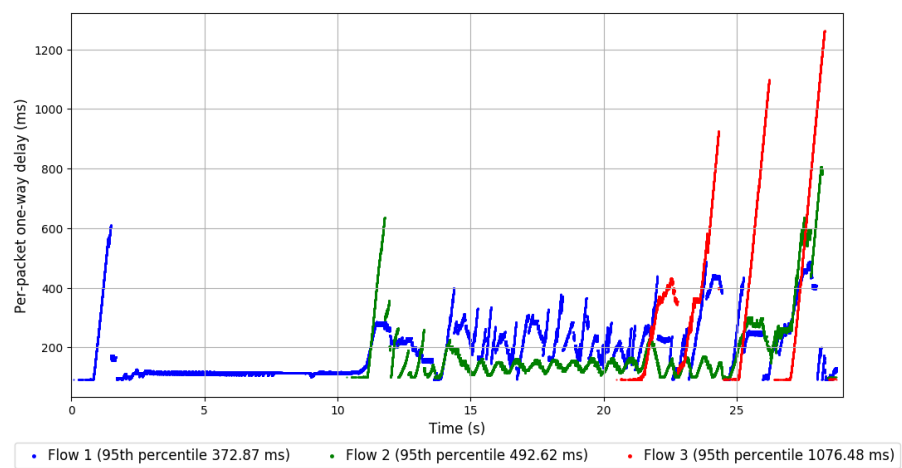
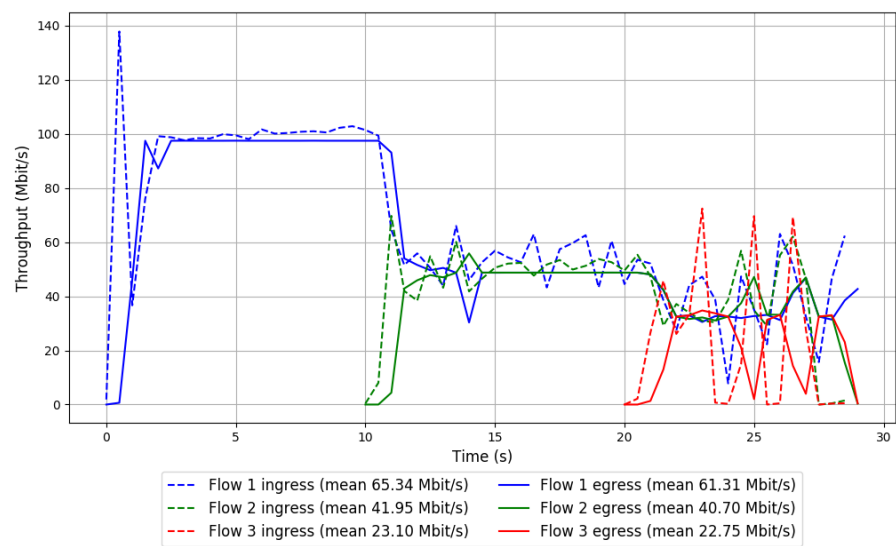
-- Flow 3:

Average throughput: 22.75 Mbit/s

95th percentile per-packet one-way delay: 1076.482 ms

Loss rate: 3.68%

Run 4: Report of Indigo-MusesT — Data Link

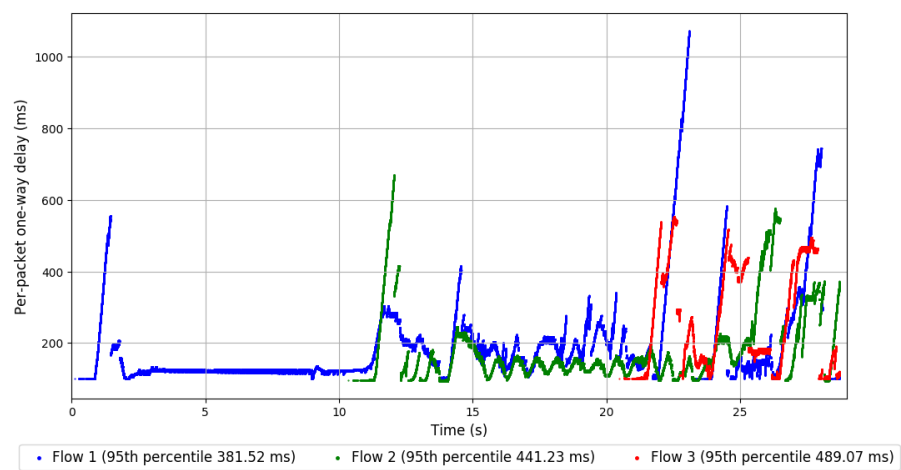
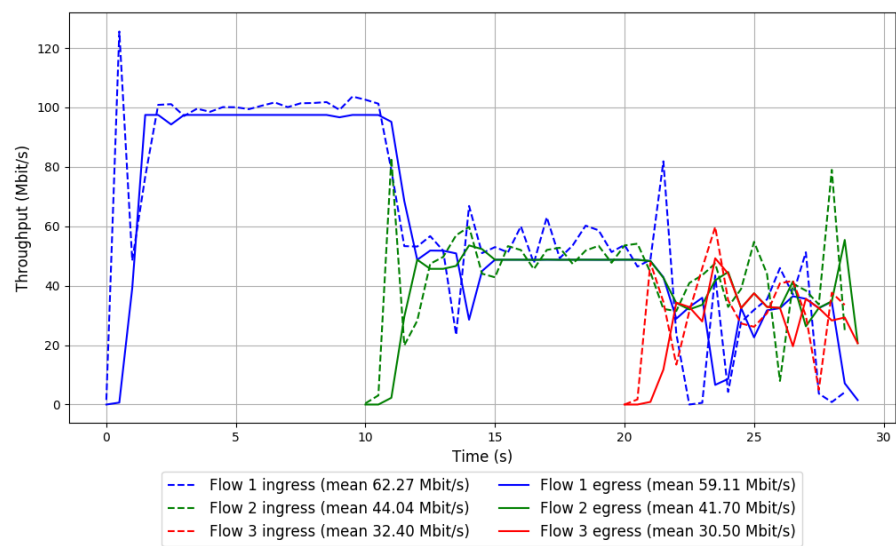


Run 5: Statistics of Indigo-MusesT

Start at: 2019-05-30 12:53:42
End at: 2019-05-30 12:54:12
Local clock offset: -5.373 ms
Remote clock offset: -0.162 ms

Below is generated by plot.py at 2019-05-30 13:17:45
Datalink statistics
-- Total of 3 flows:
Average throughput: 94.65 Mbit/s
95th percentile per-packet one-way delay: 457.640 ms
Loss rate: 5.97%
-- Flow 1:
Average throughput: 59.11 Mbit/s
95th percentile per-packet one-way delay: 381.516 ms
Loss rate: 5.64%
-- Flow 2:
Average throughput: 41.70 Mbit/s
95th percentile per-packet one-way delay: 441.232 ms
Loss rate: 6.20%
-- Flow 3:
Average throughput: 30.50 Mbit/s
95th percentile per-packet one-way delay: 489.073 ms
Loss rate: 7.37%

Run 5: Report of Indigo-MusesT — Data Link

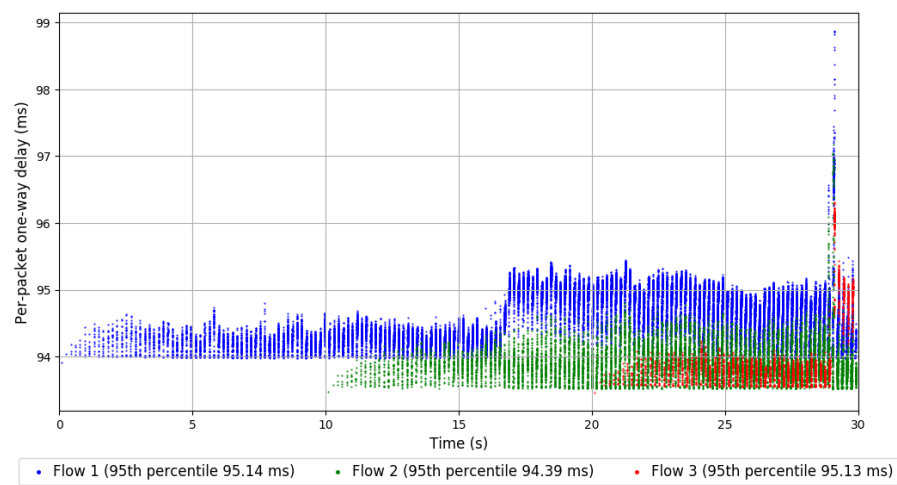
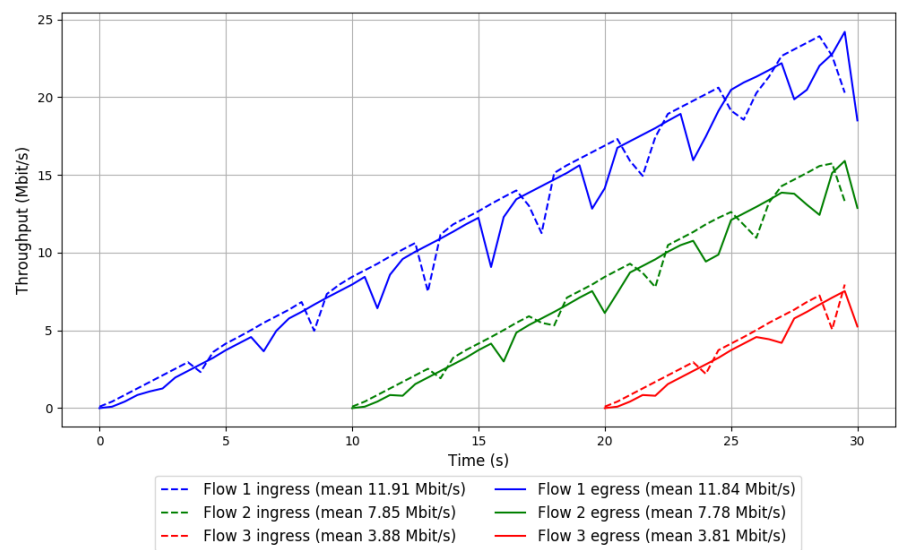


```
Run 1: Statistics of LEDBAT

Start at: 2019-05-30 11:12:06
End at: 2019-05-30 11:12:36
Local clock offset: -0.489 ms
Remote clock offset: 1.674 ms

# Below is generated by plot.py at 2019-05-30 13:17:45
# Datalink statistics
-- Total of 3 flows:
Average throughput: 18.24 Mbit/s
95th percentile per-packet one-way delay: 95.103 ms
Loss rate: 1.49%
-- Flow 1:
Average throughput: 11.84 Mbit/s
95th percentile per-packet one-way delay: 95.138 ms
Loss rate: 1.16%
-- Flow 2:
Average throughput: 7.78 Mbit/s
95th percentile per-packet one-way delay: 94.395 ms
Loss rate: 1.76%
-- Flow 3:
Average throughput: 3.81 Mbit/s
95th percentile per-packet one-way delay: 95.127 ms
Loss rate: 3.53%
```

Run 1: Report of LEDBAT — Data Link



Run 2: Statistics of LEDBAT

Start at: 2019-05-30 11:39:07

End at: 2019-05-30 11:39:37

Local clock offset: -1.608 ms

Remote clock offset: 2.408 ms

Below is generated by plot.py at 2019-05-30 13:17:45

Datalink statistics

-- Total of 3 flows:

Average throughput: 17.61 Mbit/s

95th percentile per-packet one-way delay: 100.652 ms

Loss rate: 1.53%

-- Flow 1:

Average throughput: 11.15 Mbit/s

95th percentile per-packet one-way delay: 100.889 ms

Loss rate: 1.20%

-- Flow 2:

Average throughput: 7.87 Mbit/s

95th percentile per-packet one-way delay: 95.192 ms

Loss rate: 1.75%

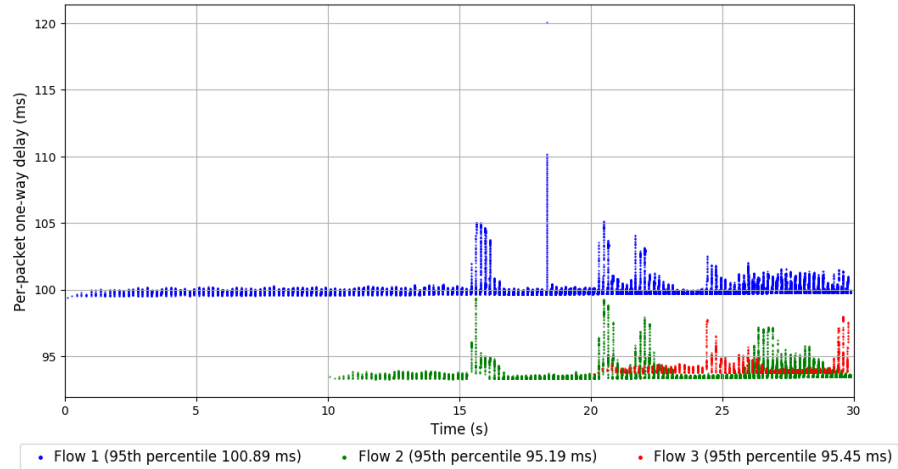
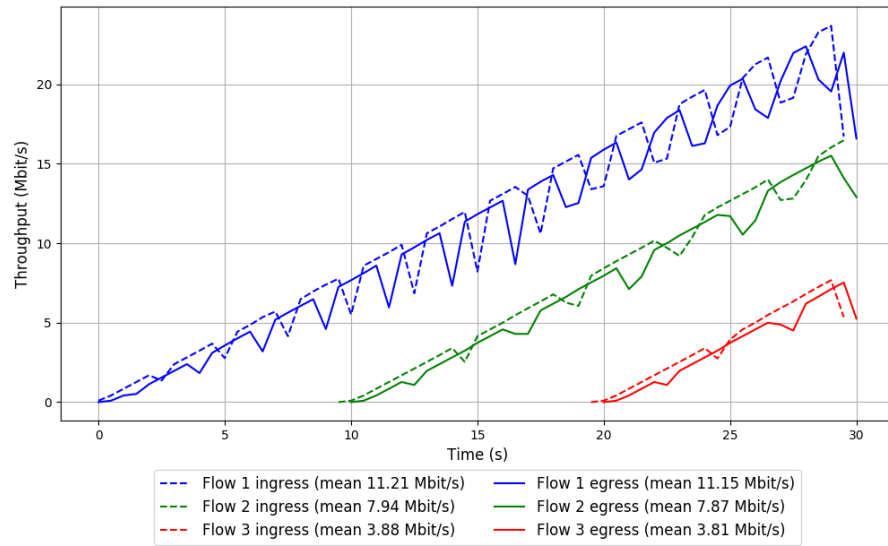
-- Flow 3:

Average throughput: 3.81 Mbit/s

95th percentile per-packet one-way delay: 95.451 ms

Loss rate: 3.53%

Run 2: Report of LEDBAT — Data Link



Run 3: Statistics of LEDBAT

Start at: 2019-05-30 12:06:07

End at: 2019-05-30 12:06:37

Local clock offset: -8.257 ms

Remote clock offset: 1.864 ms

Below is generated by plot.py at 2019-05-30 13:17:45

Datalink statistics

-- Total of 3 flows:

Average throughput: 18.22 Mbit/s

95th percentile per-packet one-way delay: 94.344 ms

Loss rate: 1.49%

-- Flow 1:

Average throughput: 11.80 Mbit/s

95th percentile per-packet one-way delay: 93.885 ms

Loss rate: 1.16%

-- Flow 2:

Average throughput: 7.80 Mbit/s

95th percentile per-packet one-way delay: 94.510 ms

Loss rate: 1.75%

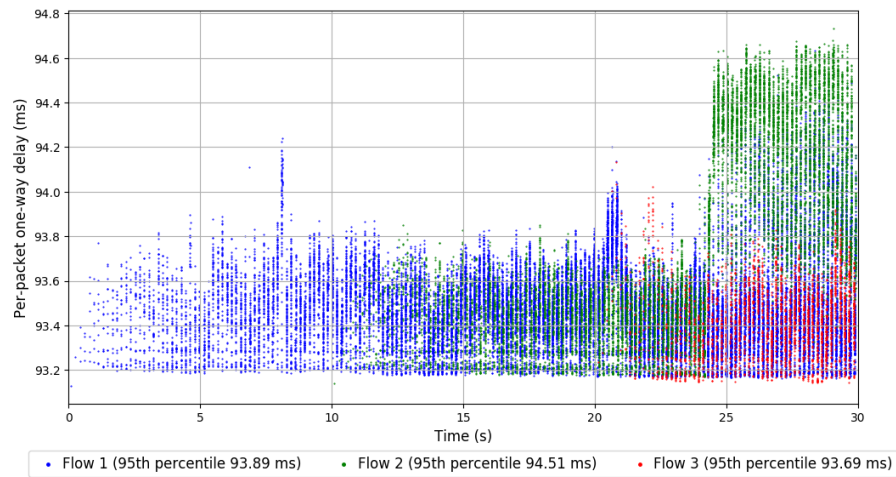
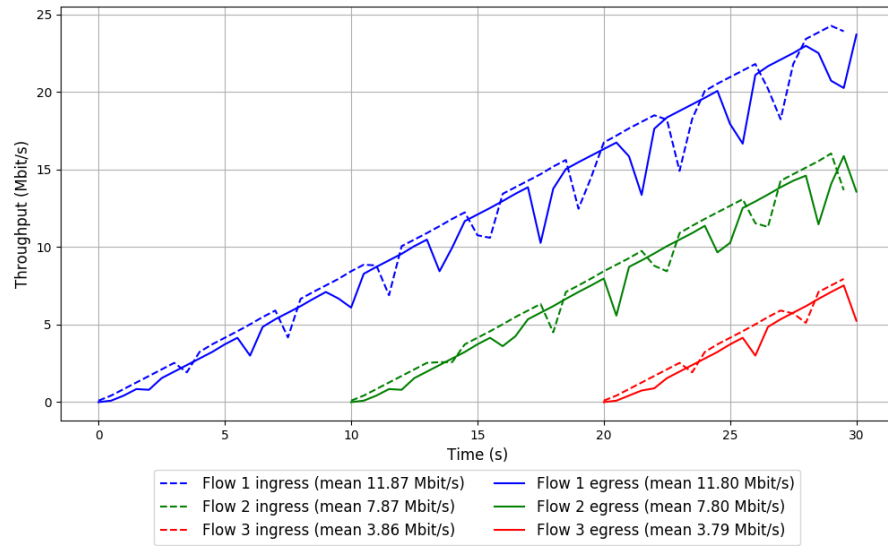
-- Flow 3:

Average throughput: 3.79 Mbit/s

95th percentile per-packet one-way delay: 93.694 ms

Loss rate: 3.53%

Run 3: Report of LEDBAT — Data Link

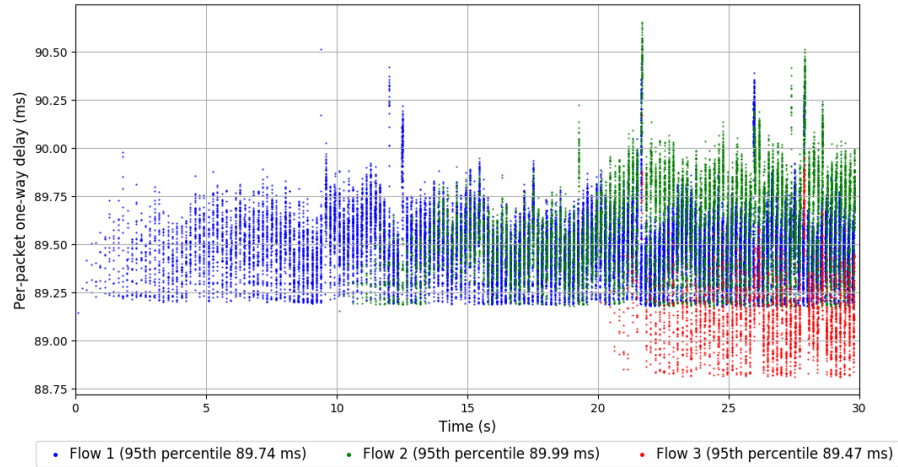
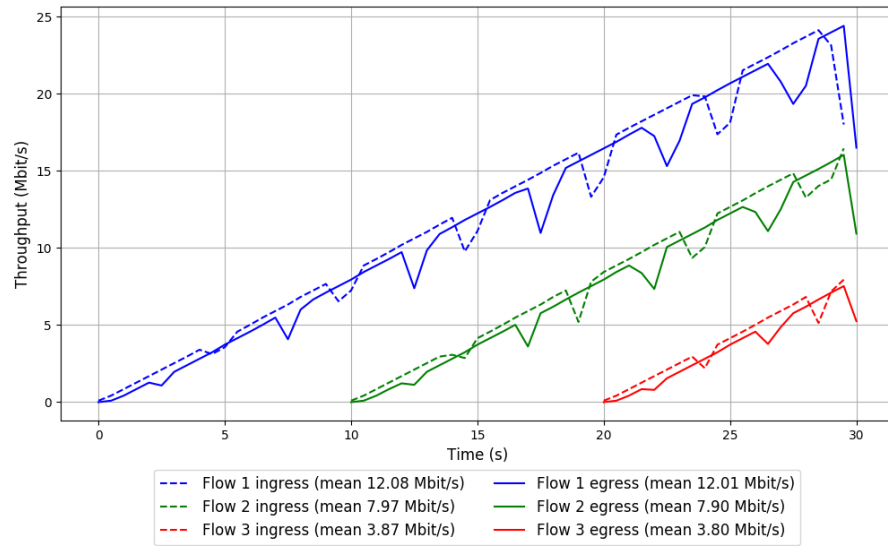


Run 4: Statistics of LEDBAT

Start at: 2019-05-30 12:33:08
End at: 2019-05-30 12:33:38
Local clock offset: -2.904 ms
Remote clock offset: 4.208 ms

Below is generated by plot.py at 2019-05-30 13:17:45
Datalink statistics
-- Total of 3 flows:
Average throughput: 18.47 Mbit/s
95th percentile per-packet one-way delay: 89.869 ms
Loss rate: 1.49%
-- Flow 1:
Average throughput: 12.01 Mbit/s
95th percentile per-packet one-way delay: 89.744 ms
Loss rate: 1.15%
-- Flow 2:
Average throughput: 7.90 Mbit/s
95th percentile per-packet one-way delay: 89.988 ms
Loss rate: 1.75%
-- Flow 3:
Average throughput: 3.80 Mbit/s
95th percentile per-packet one-way delay: 89.466 ms
Loss rate: 3.53%

Run 4: Report of LEDBAT — Data Link

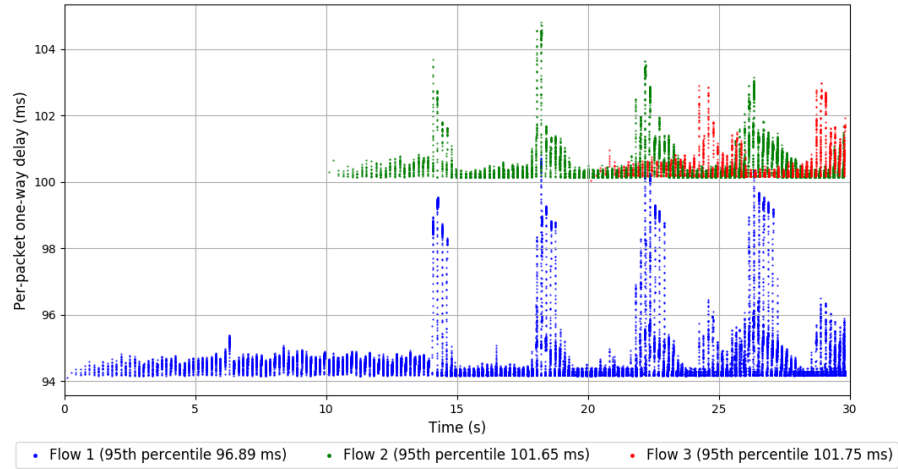
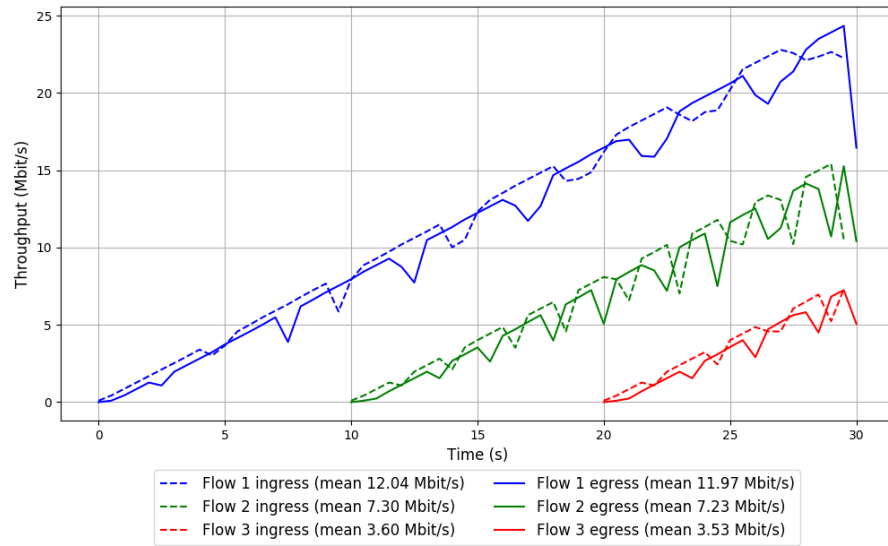


Run 5: Statistics of LEDBAT

Start at: 2019-05-30 13:00:10
End at: 2019-05-30 13:00:40
Local clock offset: -5.927 ms
Remote clock offset: -0.336 ms

Below is generated by plot.py at 2019-05-30 13:17:45
Datalink statistics
-- Total of 3 flows:
Average throughput: 17.91 Mbit/s
95th percentile per-packet one-way delay: 101.002 ms
Loss rate: 1.50%
-- Flow 1:
Average throughput: 11.97 Mbit/s
95th percentile per-packet one-way delay: 96.893 ms
Loss rate: 1.15%
-- Flow 2:
Average throughput: 7.23 Mbit/s
95th percentile per-packet one-way delay: 101.647 ms
Loss rate: 1.83%
-- Flow 3:
Average throughput: 3.53 Mbit/s
95th percentile per-packet one-way delay: 101.753 ms
Loss rate: 3.66%

Run 5: Report of LEDBAT — Data Link

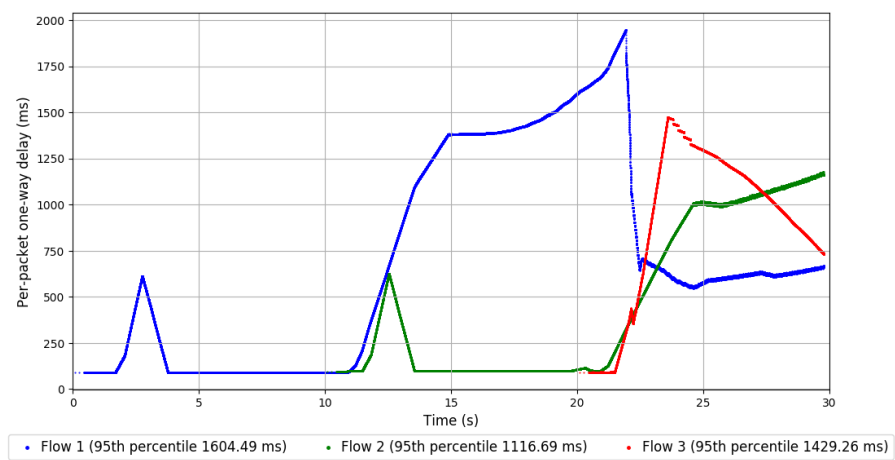
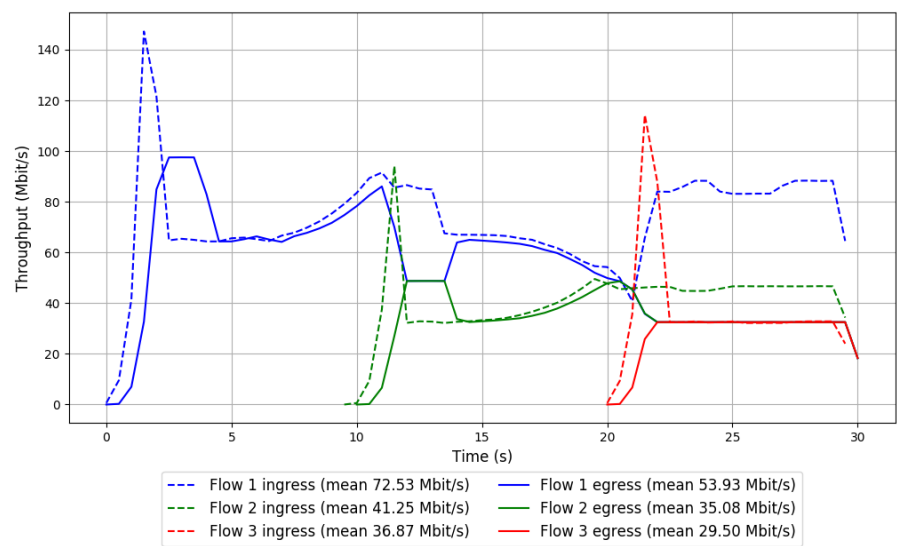


```
Run 1: Statistics of PCC-Allegro

Start at: 2019-05-30 11:00:34
End at: 2019-05-30 11:01:04
Local clock offset: -1.451 ms
Remote clock offset: 5.5 ms

# Below is generated by plot.py at 2019-05-30 13:18:16
# Datalink statistics
-- Total of 3 flows:
Average throughput: 86.81 Mbit/s
95th percentile per-packet one-way delay: 1500.681 ms
Loss rate: 23.03%
-- Flow 1:
Average throughput: 53.93 Mbit/s
95th percentile per-packet one-way delay: 1604.486 ms
Loss rate: 26.07%
-- Flow 2:
Average throughput: 35.08 Mbit/s
95th percentile per-packet one-way delay: 1116.691 ms
Loss rate: 15.71%
-- Flow 3:
Average throughput: 29.50 Mbit/s
95th percentile per-packet one-way delay: 1429.258 ms
Loss rate: 21.40%
```

Run 1: Report of PCC-Allegro — Data Link



Run 2: Statistics of PCC-Allegro

Start at: 2019-05-30 11:27:34

End at: 2019-05-30 11:28:04

Local clock offset: -0.099 ms

Remote clock offset: 7.417 ms

Below is generated by plot.py at 2019-05-30 13:18:23

Datalink statistics

-- Total of 3 flows:

Average throughput: 89.22 Mbit/s

95th percentile per-packet one-way delay: 1489.802 ms

Loss rate: 22.13%

-- Flow 1:

Average throughput: 57.46 Mbit/s

95th percentile per-packet one-way delay: 1405.763 ms

Loss rate: 26.43%

-- Flow 2:

Average throughput: 33.42 Mbit/s

95th percentile per-packet one-way delay: 943.610 ms

Loss rate: 9.40%

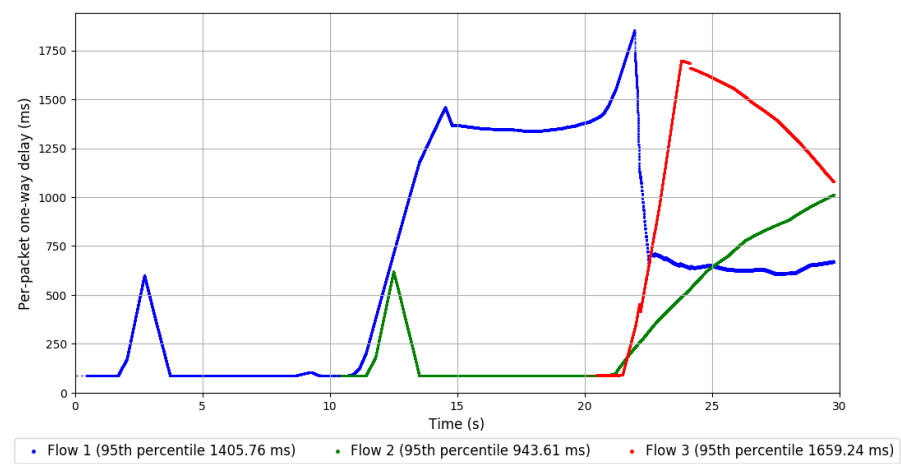
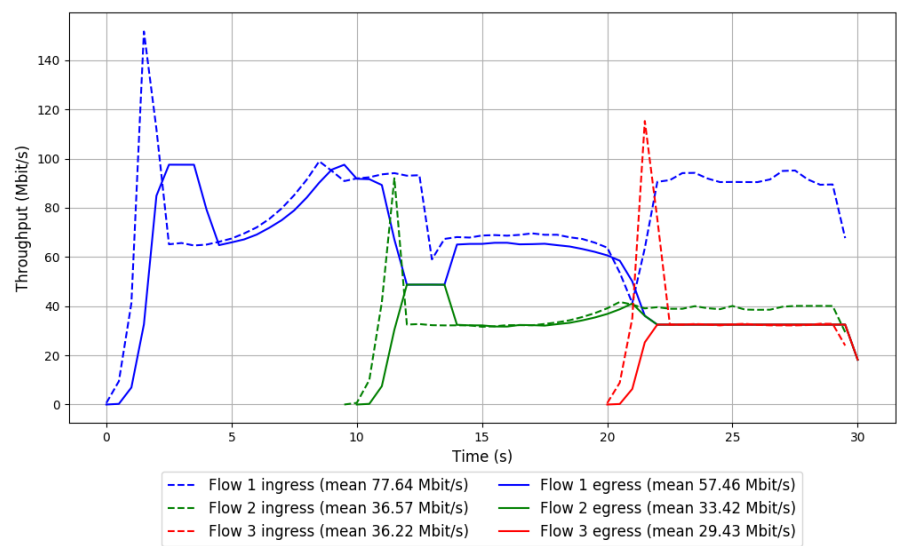
-- Flow 3:

Average throughput: 29.43 Mbit/s

95th percentile per-packet one-way delay: 1659.244 ms

Loss rate: 20.16%

Run 2: Report of PCC-Allegro — Data Link



Run 3: Statistics of PCC-Allegro

Start at: 2019-05-30 11:54:34

End at: 2019-05-30 11:55:04

Local clock offset: -6.169 ms

Remote clock offset: 5.501 ms

Below is generated by plot.py at 2019-05-30 13:18:23

Datalink statistics

-- Total of 3 flows:

Average throughput: 87.25 Mbit/s

95th percentile per-packet one-way delay: 1430.791 ms

Loss rate: 22.84%

-- Flow 1:

Average throughput: 54.85 Mbit/s

95th percentile per-packet one-way delay: 1491.283 ms

Loss rate: 25.68%

-- Flow 2:

Average throughput: 34.23 Mbit/s

95th percentile per-packet one-way delay: 1146.092 ms

Loss rate: 15.87%

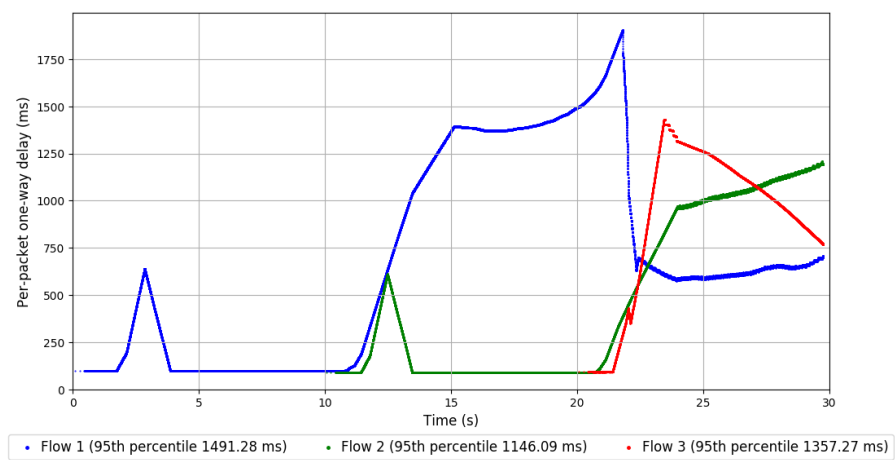
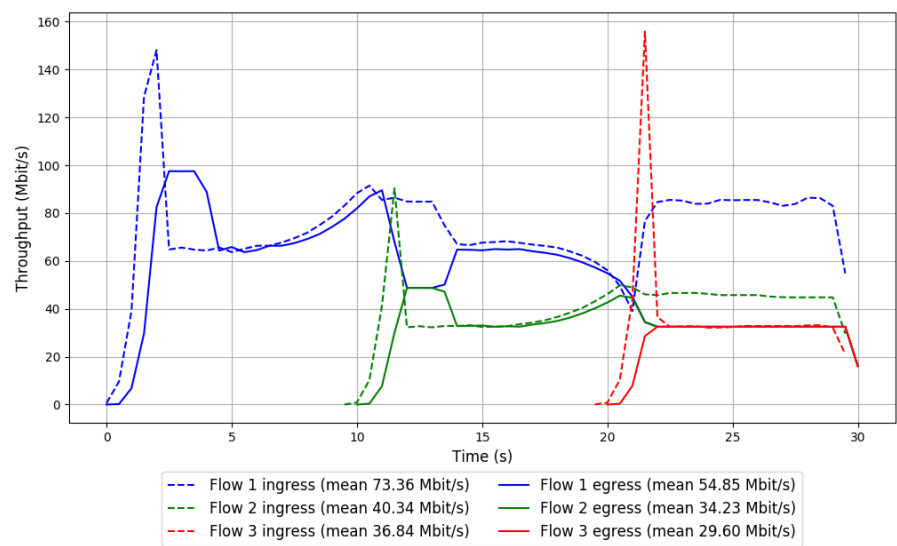
-- Flow 3:

Average throughput: 29.60 Mbit/s

95th percentile per-packet one-way delay: 1357.269 ms

Loss rate: 21.09%

Run 3: Report of PCC-Allegro — Data Link



Run 4: Statistics of PCC-Allegro

Start at: 2019-05-30 12:21:34

End at: 2019-05-30 12:22:04

Local clock offset: -3.15 ms

Remote clock offset: 0.6 ms

Below is generated by plot.py at 2019-05-30 13:18:23

Datalink statistics

-- Total of 3 flows:

Average throughput: 85.88 Mbit/s

95th percentile per-packet one-way delay: 1566.279 ms

Loss rate: 19.19%

-- Flow 1:

Average throughput: 54.28 Mbit/s

95th percentile per-packet one-way delay: 1371.229 ms

Loss rate: 22.95%

-- Flow 2:

Average throughput: 33.16 Mbit/s

95th percentile per-packet one-way delay: 512.332 ms

Loss rate: 6.45%

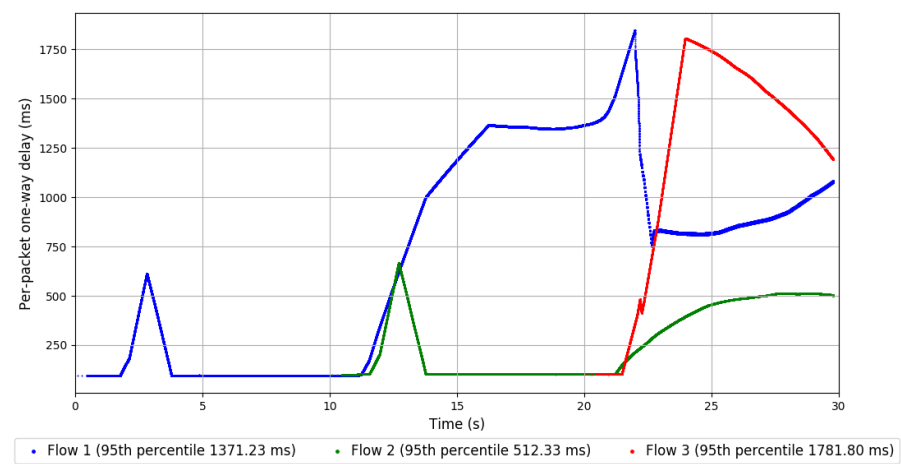
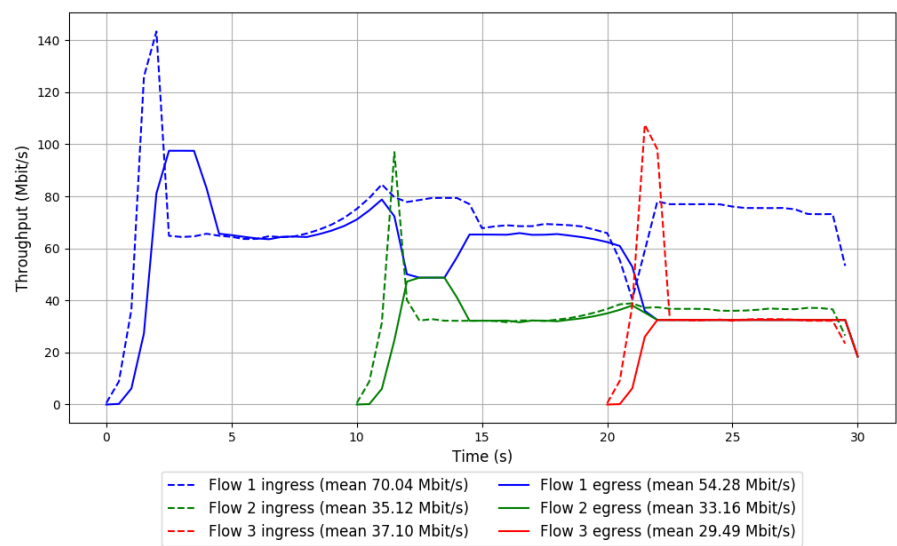
-- Flow 3:

Average throughput: 29.49 Mbit/s

95th percentile per-packet one-way delay: 1781.800 ms

Loss rate: 21.96%

Run 4: Report of PCC-Allegro — Data Link



Run 5: Statistics of PCC-Allegro

Start at: 2019-05-30 12:48:36

End at: 2019-05-30 12:49:06

Local clock offset: -5.041 ms

Remote clock offset: 2.761 ms

Below is generated by plot.py at 2019-05-30 13:18:25

Datalink statistics

-- Total of 3 flows:

Average throughput: 88.02 Mbit/s

95th percentile per-packet one-way delay: 1505.093 ms

Loss rate: 22.68%

-- Flow 1:

Average throughput: 56.32 Mbit/s

95th percentile per-packet one-way delay: 1403.492 ms

Loss rate: 27.16%

-- Flow 2:

Average throughput: 33.35 Mbit/s

95th percentile per-packet one-way delay: 913.280 ms

Loss rate: 8.74%

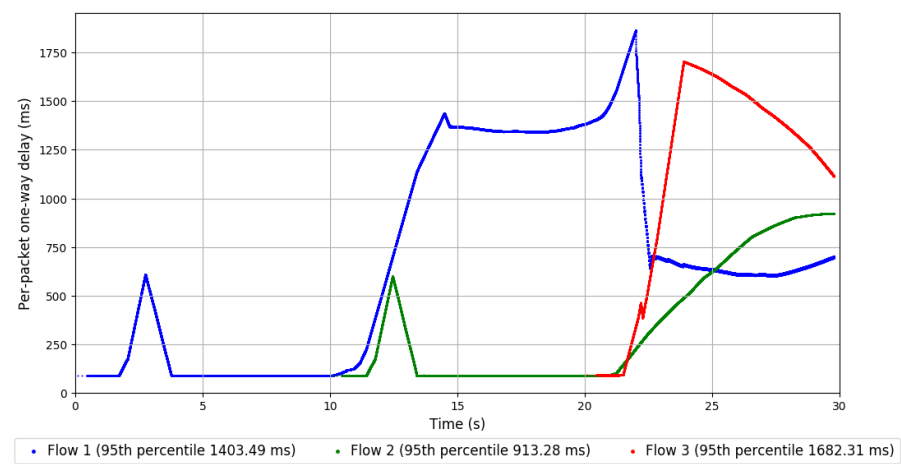
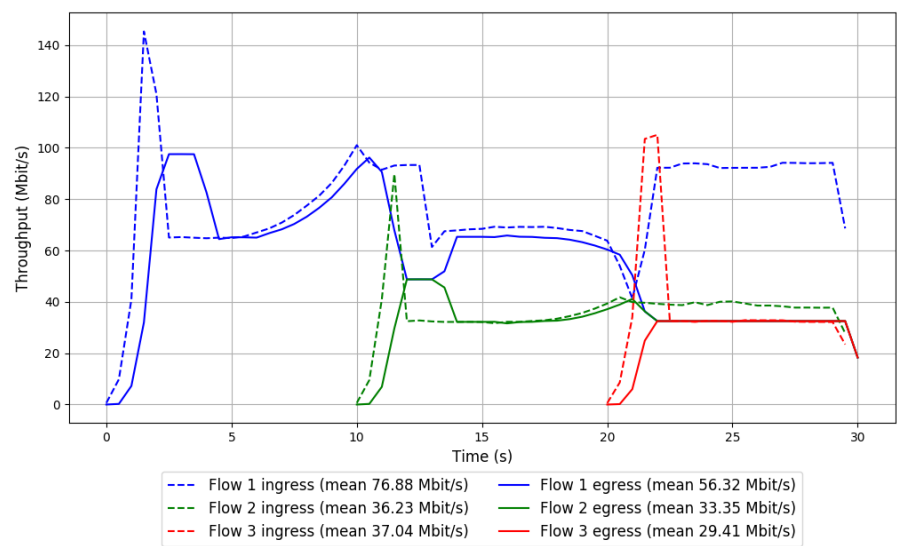
-- Flow 3:

Average throughput: 29.41 Mbit/s

95th percentile per-packet one-way delay: 1682.307 ms

Loss rate: 21.97%

Run 5: Report of PCC-Allegro — Data Link

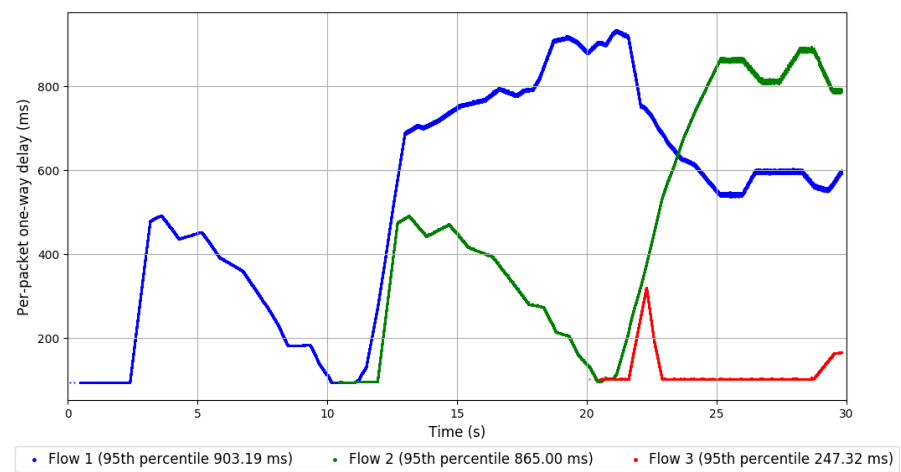
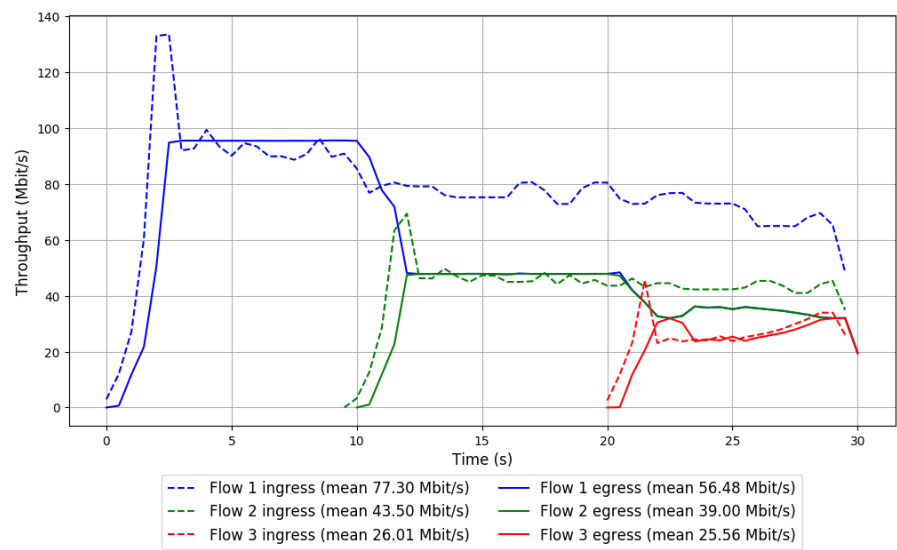



```
Run 1: Statistics of PCC-Expr

Start at: 2019-05-30 10:54:00
End at: 2019-05-30 10:54:30
Local clock offset: -1.009 ms
Remote clock offset: 1.897 ms

# Below is generated by plot.py at 2019-05-30 13:19:32
# Datalink statistics
-- Total of 3 flows:
Average throughput: 90.70 Mbit/s
95th percentile per-packet one-way delay: 885.837 ms
Loss rate: 21.48%
-- Flow 1:
Average throughput: 56.48 Mbit/s
95th percentile per-packet one-way delay: 903.191 ms
Loss rate: 27.36%
-- Flow 2:
Average throughput: 39.00 Mbit/s
95th percentile per-packet one-way delay: 865.002 ms
Loss rate: 11.13%
-- Flow 3:
Average throughput: 25.56 Mbit/s
95th percentile per-packet one-way delay: 247.321 ms
Loss rate: 3.52%
```

Run 1: Report of PCC-Expr — Data Link

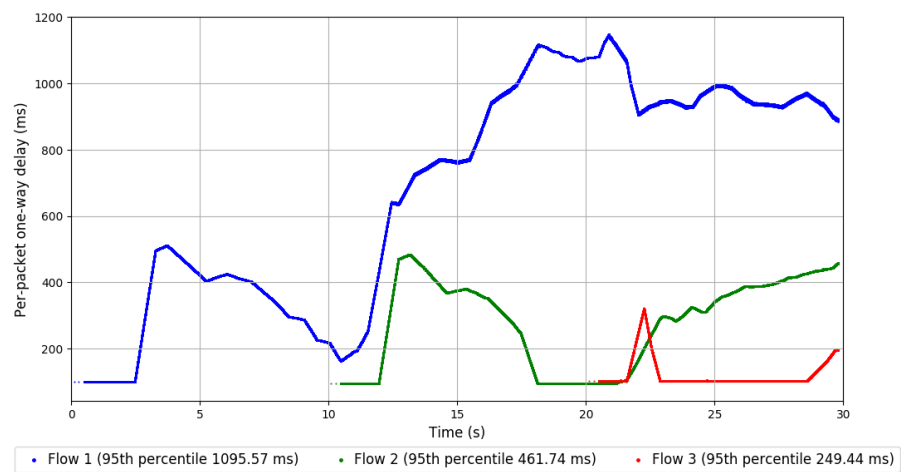
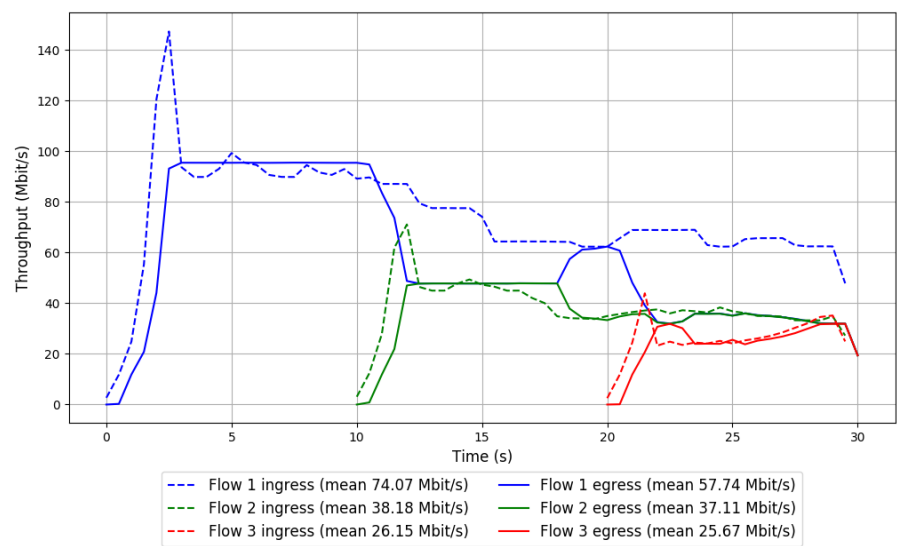


```
Run 2: Statistics of PCC-Expr

Start at: 2019-05-30 11:21:00
End at: 2019-05-30 11:21:30
Local clock offset: -0.069 ms
Remote clock offset: 0.928 ms

# Below is generated by plot.py at 2019-05-30 13:19:36
# Datalink statistics
-- Total of 3 flows:
Average throughput: 90.74 Mbit/s
95th percentile per-packet one-way delay: 1080.147 ms
Loss rate: 16.57%
-- Flow 1:
Average throughput: 57.74 Mbit/s
95th percentile per-packet one-way delay: 1095.566 ms
Loss rate: 22.51%
-- Flow 2:
Average throughput: 37.11 Mbit/s
95th percentile per-packet one-way delay: 461.737 ms
Loss rate: 3.65%
-- Flow 3:
Average throughput: 25.67 Mbit/s
95th percentile per-packet one-way delay: 249.439 ms
Loss rate: 3.59%
```

Run 2: Report of PCC-Expr — Data Link



Run 3: Statistics of PCC-Expr

Start at: 2019-05-30 11:48:00

End at: 2019-05-30 11:48:30

Local clock offset: -5.495 ms

Remote clock offset: 7.68 ms

Below is generated by plot.py at 2019-05-30 13:19:45

Datalink statistics

-- Total of 3 flows:

Average throughput: 90.93 Mbit/s

95th percentile per-packet one-way delay: 835.235 ms

Loss rate: 21.76%

-- Flow 1:

Average throughput: 56.75 Mbit/s

95th percentile per-packet one-way delay: 866.999 ms

Loss rate: 29.17%

-- Flow 2:

Average throughput: 38.91 Mbit/s

95th percentile per-packet one-way delay: 762.120 ms

Loss rate: 5.69%

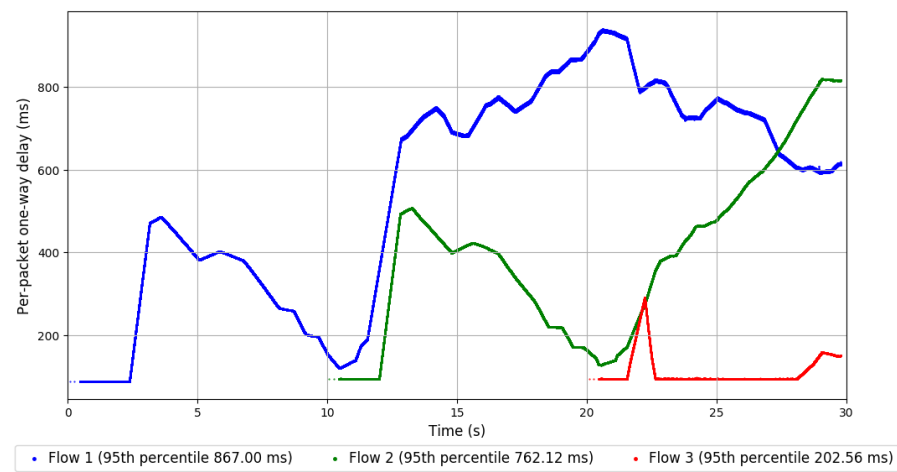
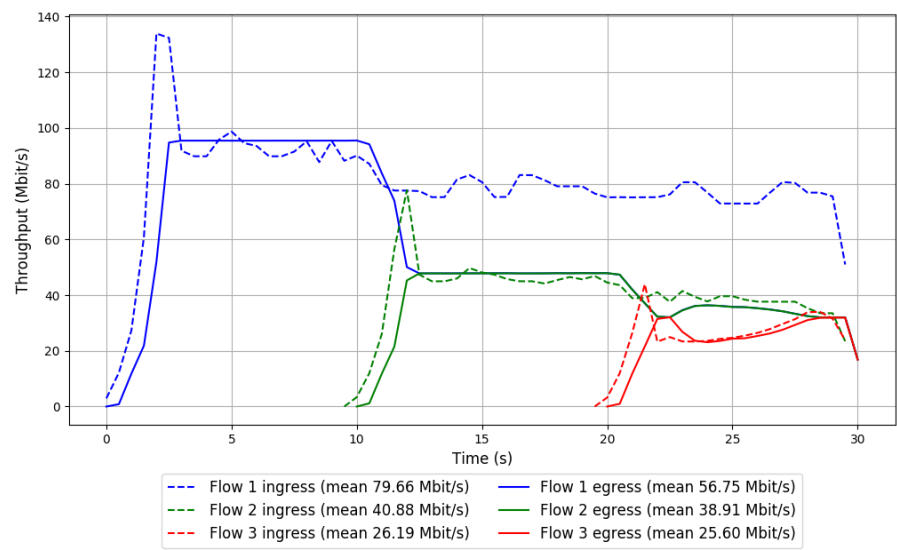
-- Flow 3:

Average throughput: 25.60 Mbit/s

95th percentile per-packet one-way delay: 202.558 ms

Loss rate: 4.08%

Run 3: Report of PCC-Expr — Data Link



Run 4: Statistics of PCC-Expr

Start at: 2019-05-30 12:15:00

End at: 2019-05-30 12:15:30

Local clock offset: -4.961 ms

Remote clock offset: 5.862 ms

Below is generated by plot.py at 2019-05-30 13:20:17

Datalink statistics

-- Total of 3 flows:

Average throughput: 90.85 Mbit/s

95th percentile per-packet one-way delay: 838.272 ms

Loss rate: 22.33%

-- Flow 1:

Average throughput: 56.66 Mbit/s

95th percentile per-packet one-way delay: 832.610 ms

Loss rate: 29.54%

-- Flow 2:

Average throughput: 38.86 Mbit/s

95th percentile per-packet one-way delay: 907.236 ms

Loss rate: 7.40%

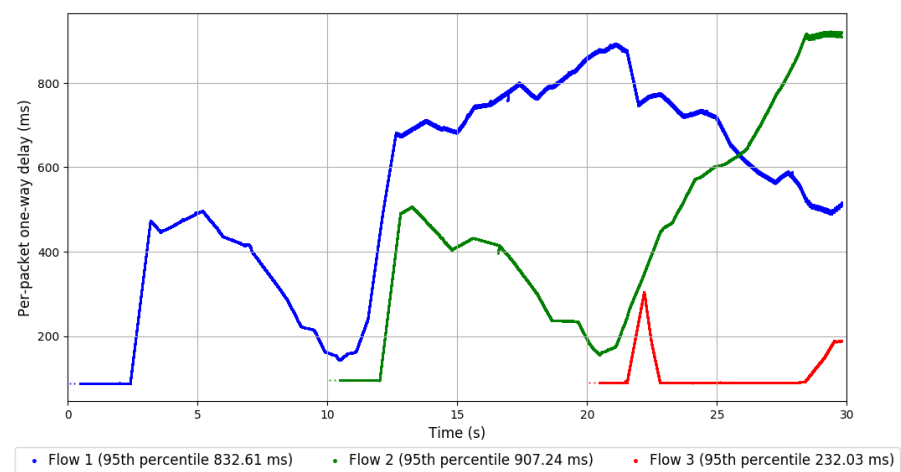
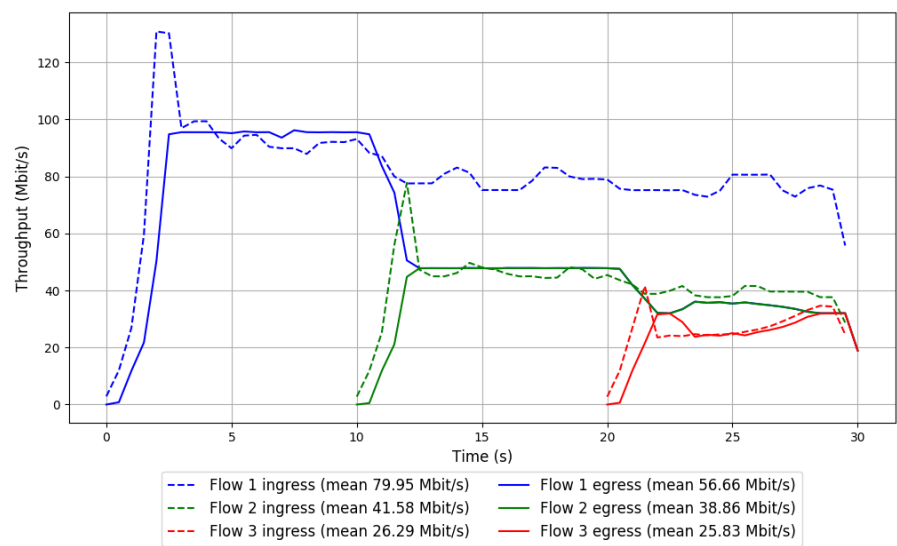
-- Flow 3:

Average throughput: 25.83 Mbit/s

95th percentile per-packet one-way delay: 232.025 ms

Loss rate: 3.48%

Run 4: Report of PCC-Expr — Data Link

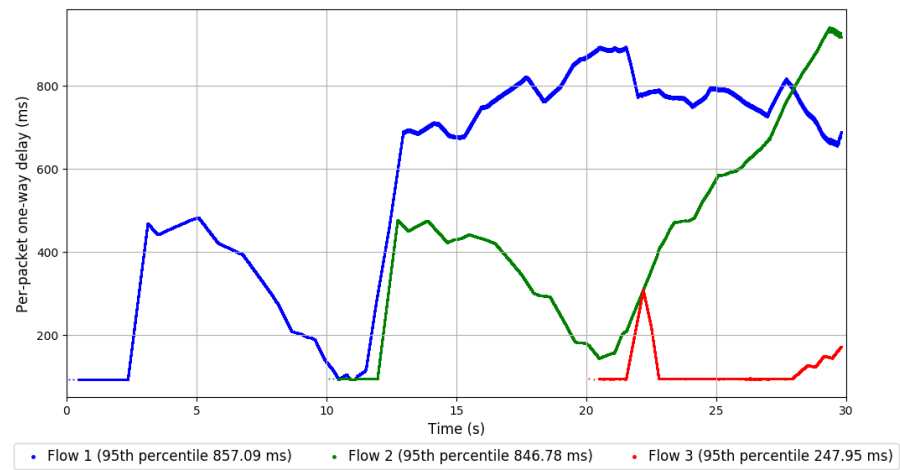
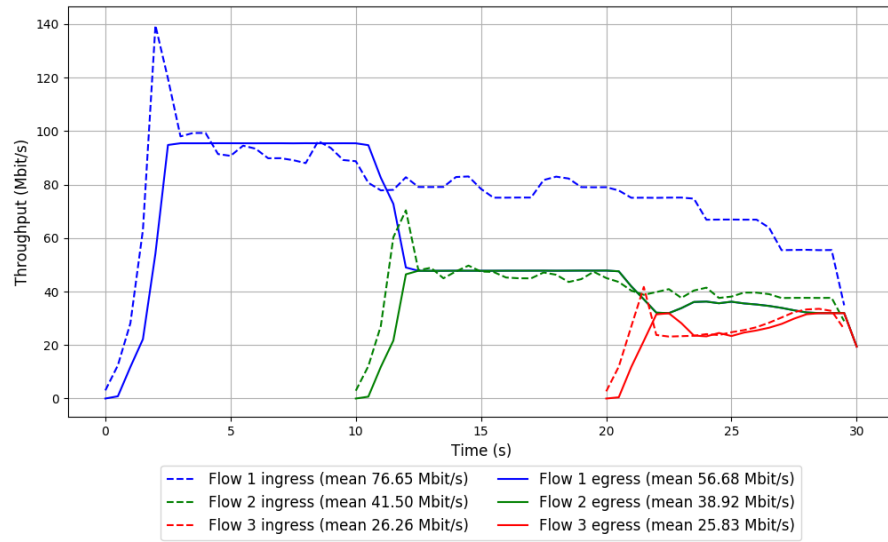


Run 5: Statistics of PCC-Expr

Start at: 2019-05-30 12:42:01
End at: 2019-05-30 12:42:31
Local clock offset: -4.279 ms
Remote clock offset: -0.126 ms

Below is generated by plot.py at 2019-05-30 13:20:21
Datalink statistics
-- Total of 3 flows:
Average throughput: 90.92 Mbit/s
95th percentile per-packet one-way delay: 842.622 ms
Loss rate: 19.96%
-- Flow 1:
Average throughput: 56.68 Mbit/s
95th percentile per-packet one-way delay: 857.094 ms
Loss rate: 26.49%
-- Flow 2:
Average throughput: 38.92 Mbit/s
95th percentile per-packet one-way delay: 846.779 ms
Loss rate: 7.04%
-- Flow 3:
Average throughput: 25.83 Mbit/s
95th percentile per-packet one-way delay: 247.954 ms
Loss rate: 3.36%

Run 5: Report of PCC-Expr — Data Link



Run 1: Statistics of QUIC Cubic

Start at: 2019-05-30 11:08:15

End at: 2019-05-30 11:08:45

Local clock offset: -1.352 ms

Remote clock offset: 0.419 ms

Below is generated by plot.py at 2019-05-30 13:20:21

Datalink statistics

-- Total of 3 flows:

Average throughput: 51.45 Mbit/s

95th percentile per-packet one-way delay: 205.289 ms

Loss rate: 0.90%

-- Flow 1:

Average throughput: 29.95 Mbit/s

95th percentile per-packet one-way delay: 139.240 ms

Loss rate: 0.86%

-- Flow 2:

Average throughput: 24.56 Mbit/s

95th percentile per-packet one-way delay: 189.806 ms

Loss rate: 0.77%

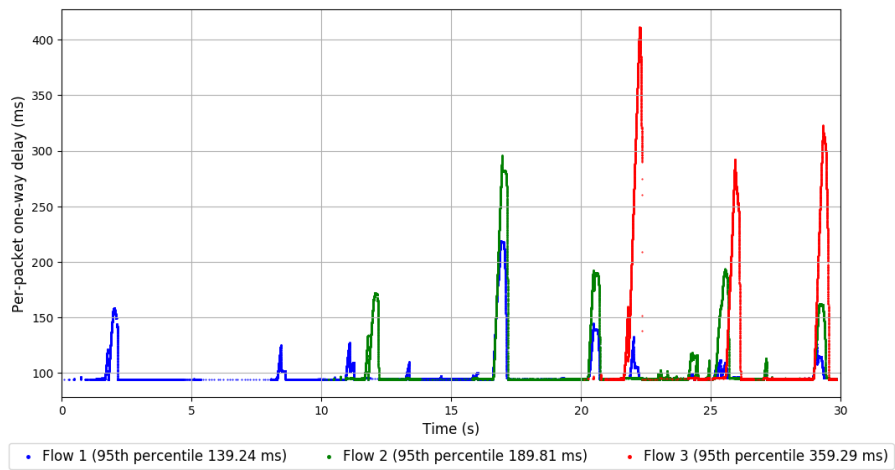
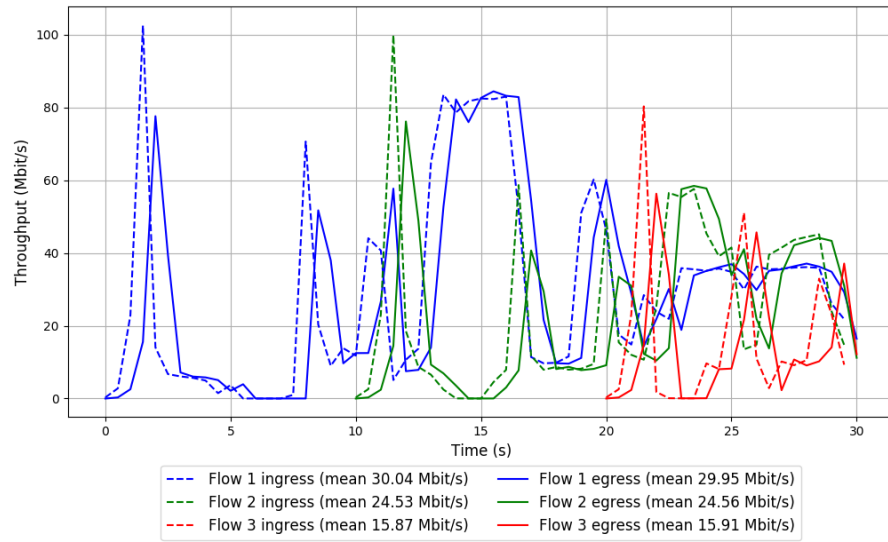
-- Flow 3:

Average throughput: 15.91 Mbit/s

95th percentile per-packet one-way delay: 359.286 ms

Loss rate: 1.50%

Run 1: Report of QUIC Cubic — Data Link



Run 2: Statistics of QUIC Cubic

Start at: 2019-05-30 11:35:15

End at: 2019-05-30 11:35:45

Local clock offset: 0.337 ms

Remote clock offset: 6.428 ms

Below is generated by plot.py at 2019-05-30 13:20:21

Datalink statistics

-- Total of 3 flows:

Average throughput: 55.05 Mbit/s

95th percentile per-packet one-way delay: 191.794 ms

Loss rate: 0.85%

-- Flow 1:

Average throughput: 35.65 Mbit/s

95th percentile per-packet one-way delay: 130.718 ms

Loss rate: 0.51%

-- Flow 2:

Average throughput: 22.70 Mbit/s

95th percentile per-packet one-way delay: 194.188 ms

Loss rate: 1.18%

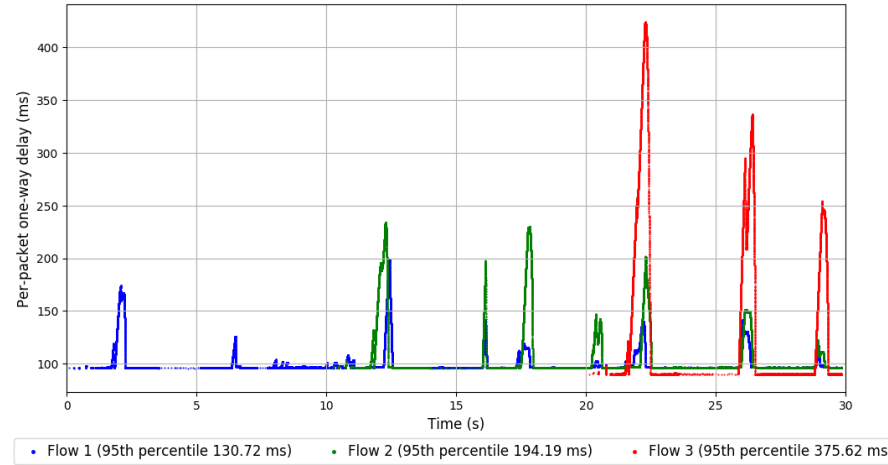
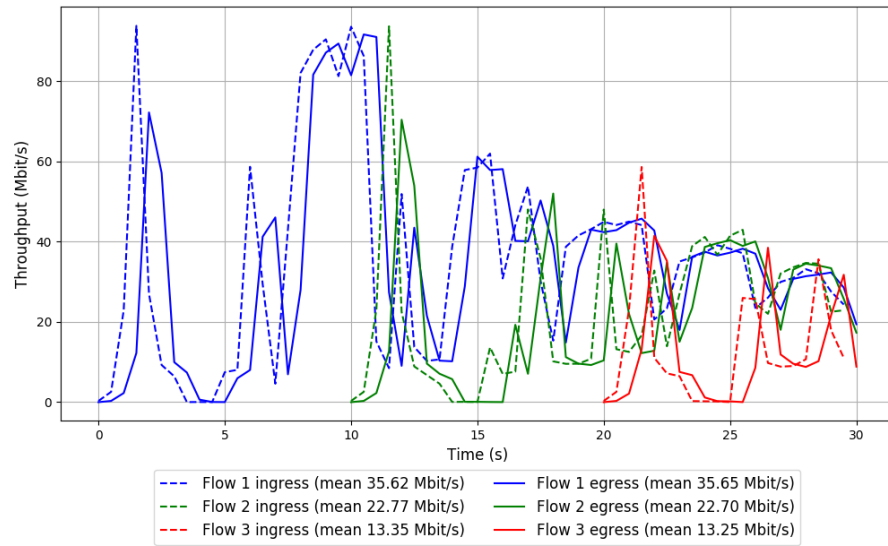
-- Flow 3:

Average throughput: 13.25 Mbit/s

95th percentile per-packet one-way delay: 375.619 ms

Loss rate: 2.45%

Run 2: Report of QUIC Cubic — Data Link



Run 3: Statistics of QUIC Cubic

Start at: 2019-05-30 12:02:15

End at: 2019-05-30 12:02:45

Local clock offset: -7.808 ms

Remote clock offset: 2.562 ms

Below is generated by plot.py at 2019-05-30 13:20:21

Datalink statistics

-- Total of 3 flows:

Average throughput: 55.64 Mbit/s

95th percentile per-packet one-way delay: 185.243 ms

Loss rate: 1.00%

-- Flow 1:

Average throughput: 37.56 Mbit/s

95th percentile per-packet one-way delay: 162.613 ms

Loss rate: 0.62%

-- Flow 2:

Average throughput: 21.22 Mbit/s

95th percentile per-packet one-way delay: 209.436 ms

Loss rate: 1.41%

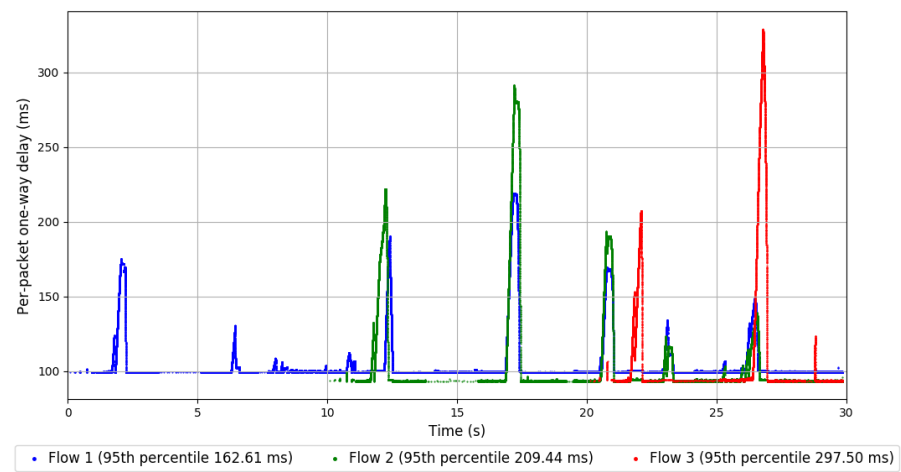
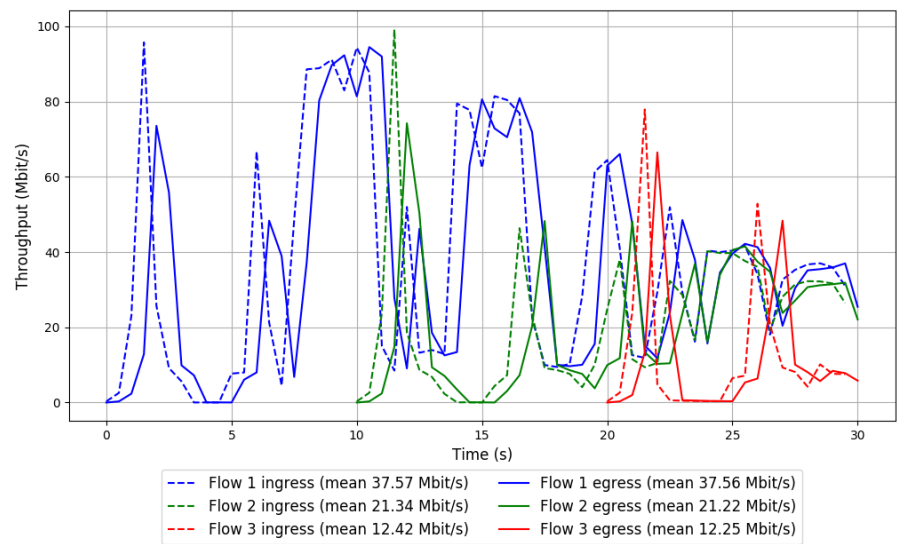
-- Flow 3:

Average throughput: 12.25 Mbit/s

95th percentile per-packet one-way delay: 297.499 ms

Loss rate: 3.08%

Run 3: Report of QUIC Cubic — Data Link



Run 4: Statistics of QUIC Cubic

Start at: 2019-05-30 12:29:16

End at: 2019-05-30 12:29:46

Local clock offset: -2.34 ms

Remote clock offset: 0.233 ms

Below is generated by plot.py at 2019-05-30 13:20:21

Datalink statistics

-- Total of 3 flows:

Average throughput: 47.80 Mbit/s

95th percentile per-packet one-way delay: 175.348 ms

Loss rate: 1.16%

-- Flow 1:

Average throughput: 30.10 Mbit/s

95th percentile per-packet one-way delay: 148.843 ms

Loss rate: 0.36%

-- Flow 2:

Average throughput: 17.61 Mbit/s

95th percentile per-packet one-way delay: 181.205 ms

Loss rate: 0.71%

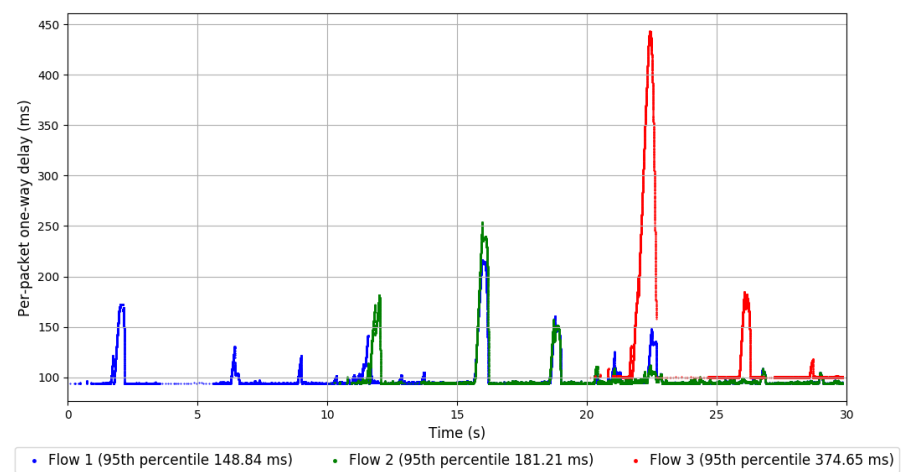
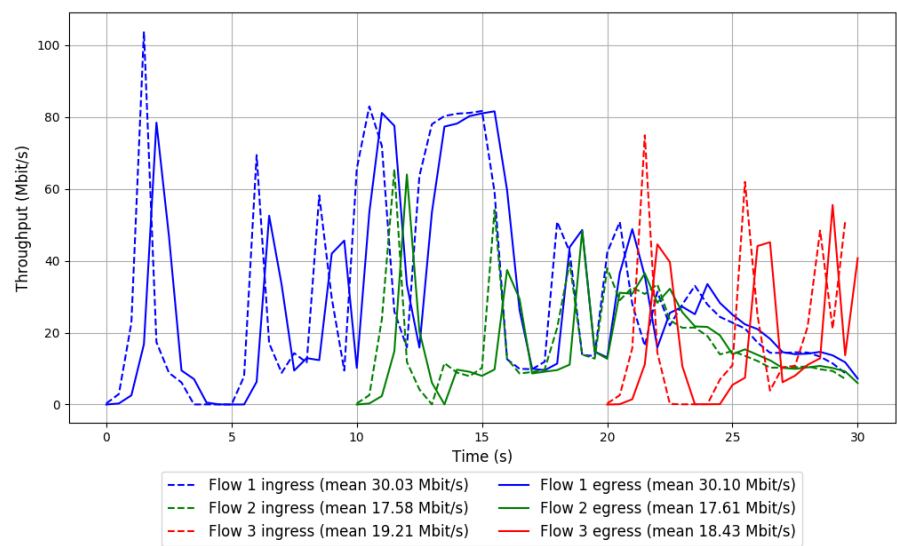
-- Flow 3:

Average throughput: 18.43 Mbit/s

95th percentile per-packet one-way delay: 374.646 ms

Loss rate: 5.78%

Run 4: Report of QUIC Cubic — Data Link

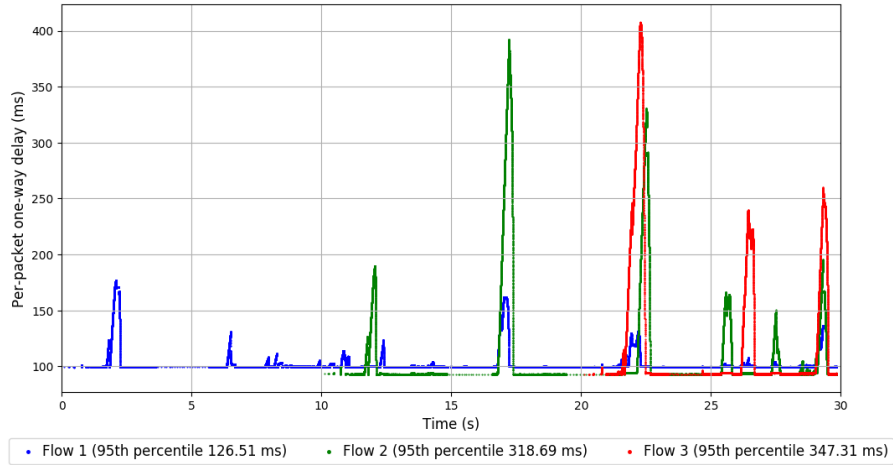
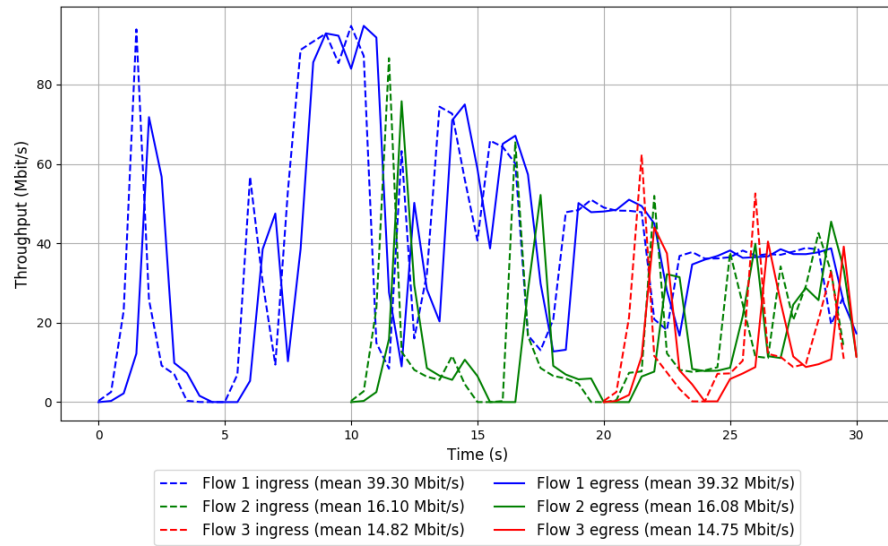


Run 5: Statistics of QUIC Cubic

Start at: 2019-05-30 12:56:17
End at: 2019-05-30 12:56:47
Local clock offset: -6.389 ms
Remote clock offset: -0.186 ms

Below is generated by plot.py at 2019-05-30 13:20:21
Datalink statistics
-- Total of 3 flows:
Average throughput: 54.81 Mbit/s
95th percentile per-packet one-way delay: 212.122 ms
Loss rate: 0.79%
-- Flow 1:
Average throughput: 39.32 Mbit/s
95th percentile per-packet one-way delay: 126.508 ms
Loss rate: 0.55%
-- Flow 2:
Average throughput: 16.08 Mbit/s
95th percentile per-packet one-way delay: 318.694 ms
Loss rate: 1.01%
-- Flow 3:
Average throughput: 14.75 Mbit/s
95th percentile per-packet one-way delay: 347.313 ms
Loss rate: 2.25%

Run 5: Report of QUIC Cubic — Data Link

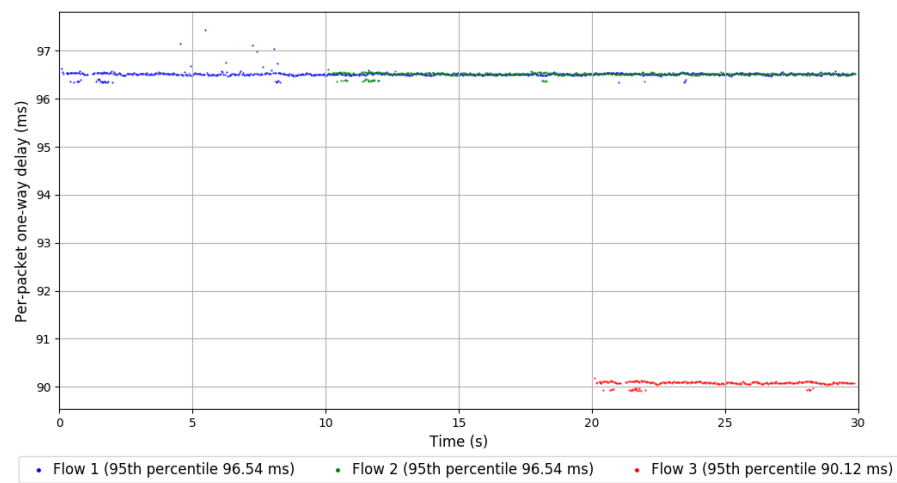
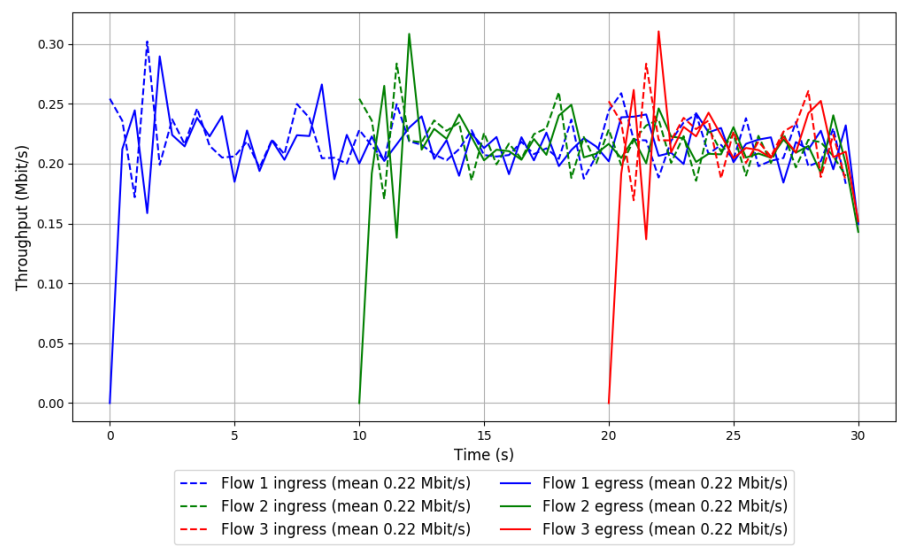


```
Run 1: Statistics of SReAM

Start at: 2019-05-30 11:17:13
End at: 2019-05-30 11:17:43
Local clock offset: -1.0 ms
Remote clock offset: 4.575 ms

# Below is generated by plot.py at 2019-05-30 13:20:21
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 96.536 ms
Loss rate: 0.91%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 96.536 ms
Loss rate: 0.51%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 96.537 ms
Loss rate: 1.03%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 90.117 ms
Loss rate: 1.85%
```

Run 1: Report of SReAM — Data Link

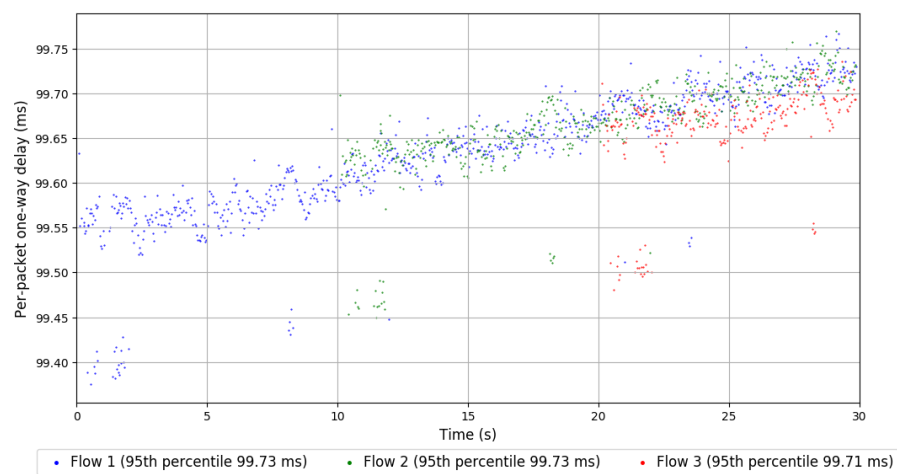
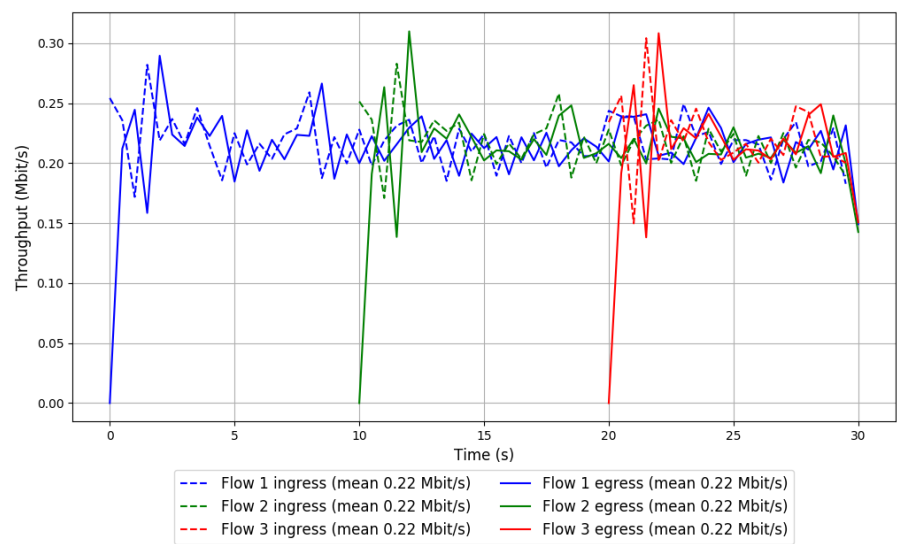


Run 2: Statistics of SReAM

Start at: 2019-05-30 11:44:14
End at: 2019-05-30 11:44:44
Local clock offset: -4.132 ms
Remote clock offset: 2.357 ms

Below is generated by plot.py at 2019-05-30 13:20:21
Datalink statistics
-- Total of 3 flows:
Average throughput: 0.43 Mbit/s
95th percentile per-packet one-way delay: 99.725 ms
Loss rate: 0.91%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 99.726 ms
Loss rate: 0.51%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 99.727 ms
Loss rate: 1.03%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 99.714 ms
Loss rate: 1.84%

Run 2: Report of SReAM — Data Link

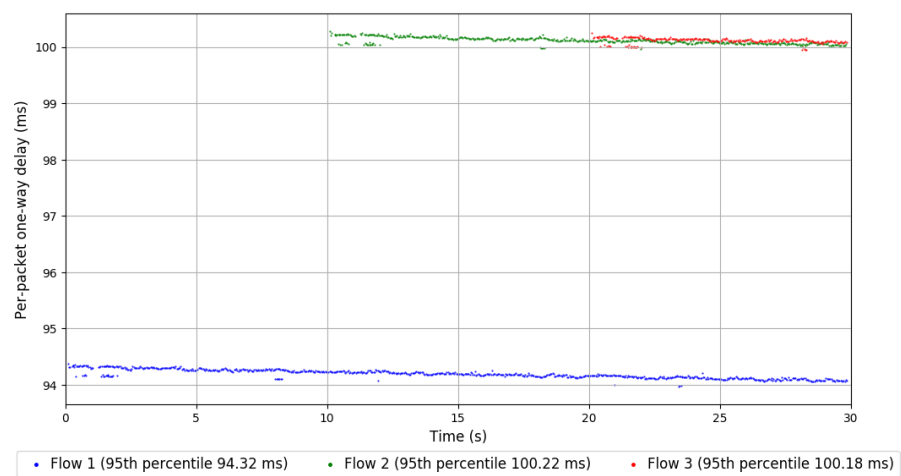
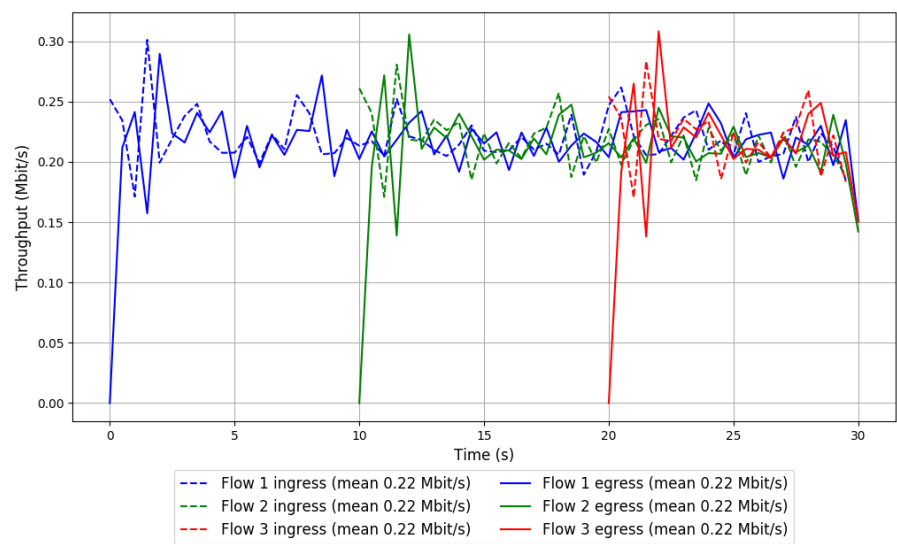


Run 3: Statistics of SReAM

Start at: 2019-05-30 12:11:13
End at: 2019-05-30 12:11:43
Local clock offset: -6.351 ms
Remote clock offset: -0.154 ms

Below is generated by plot.py at 2019-05-30 13:20:21
Datalink statistics
-- Total of 3 flows:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 100.186 ms
Loss rate: 0.91%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 94.319 ms
Loss rate: 0.51%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 100.219 ms
Loss rate: 1.03%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 100.180 ms
Loss rate: 1.84%

Run 3: Report of SReAM — Data Link

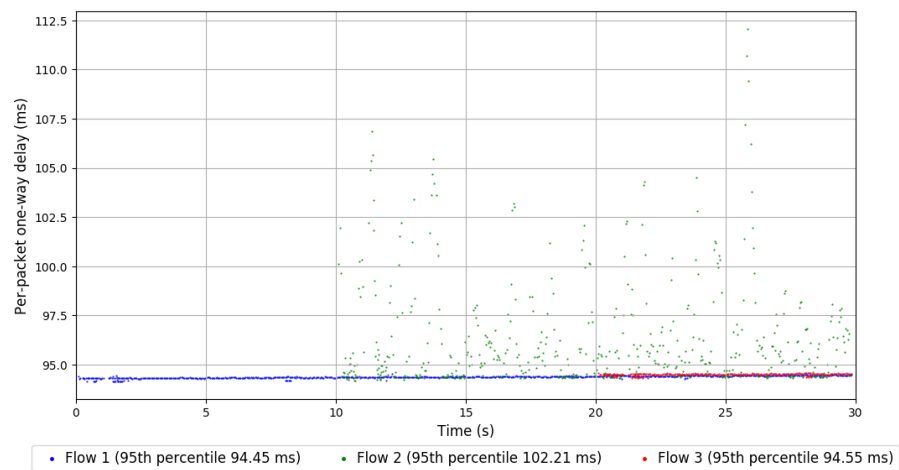
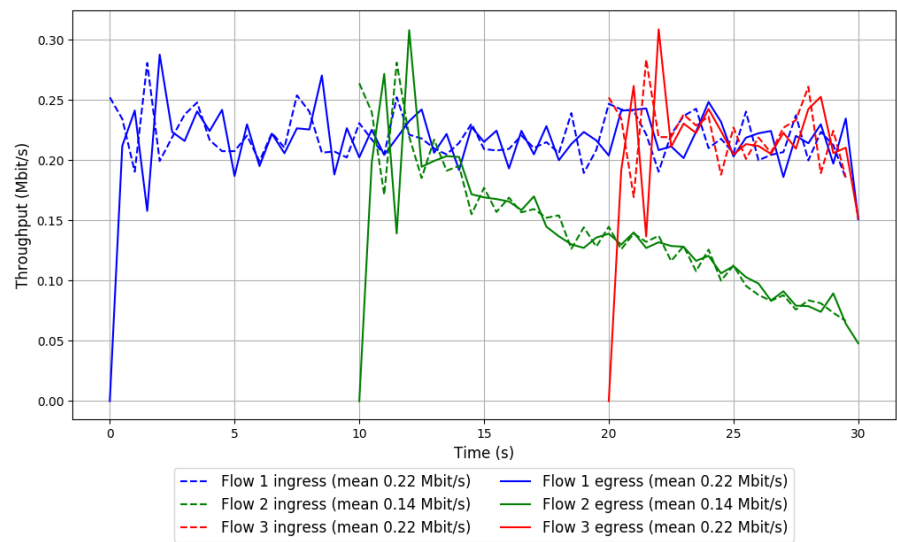


Run 4: Statistics of SReAM

Start at: 2019-05-30 12:38:15
End at: 2019-05-30 12:38:45
Local clock offset: -3.289 ms
Remote clock offset: -0.952 ms

Below is generated by plot.py at 2019-05-30 13:20:21
Datalink statistics
-- Total of 3 flows:
Average throughput: 0.39 Mbit/s
95th percentile per-packet one-way delay: 98.554 ms
Loss rate: 1.35%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 94.454 ms
Loss rate: 0.51%
-- Flow 2:
Average throughput: 0.14 Mbit/s
95th percentile per-packet one-way delay: 102.211 ms
Loss rate: 2.90%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 94.549 ms
Loss rate: 1.85%

Run 4: Report of SReAM — Data Link



Run 5: Statistics of SReAM

Start at: 2019-05-30 13:05:16

End at: 2019-05-30 13:05:46

Local clock offset: -7.011 ms

Remote clock offset: 3.456 ms

Below is generated by plot.py at 2019-05-30 13:20:21

Datalink statistics

-- Total of 3 flows:

Average throughput: 0.44 Mbit/s

95th percentile per-packet one-way delay: 95.564 ms

Loss rate: 0.98%

-- Flow 1:

Average throughput: 0.22 Mbit/s

95th percentile per-packet one-way delay: 95.590 ms

Loss rate: 0.64%

-- Flow 2:

Average throughput: 0.22 Mbit/s

95th percentile per-packet one-way delay: 89.526 ms

Loss rate: 1.04%

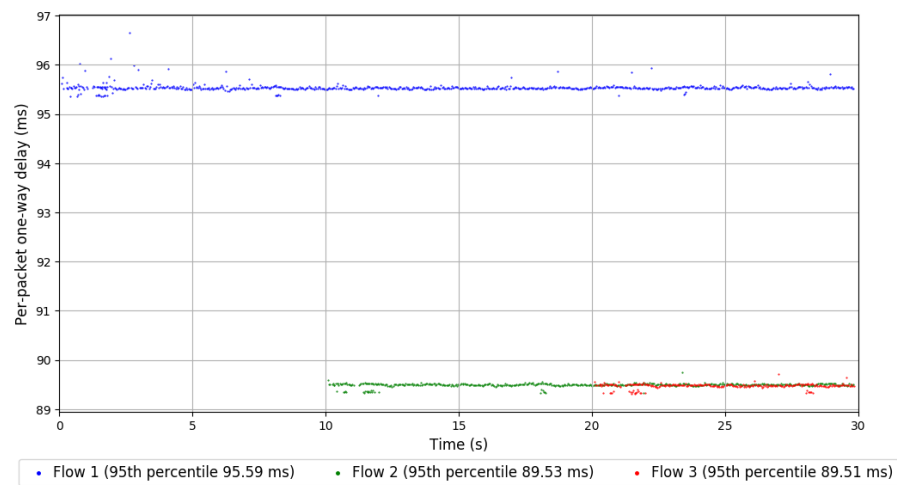
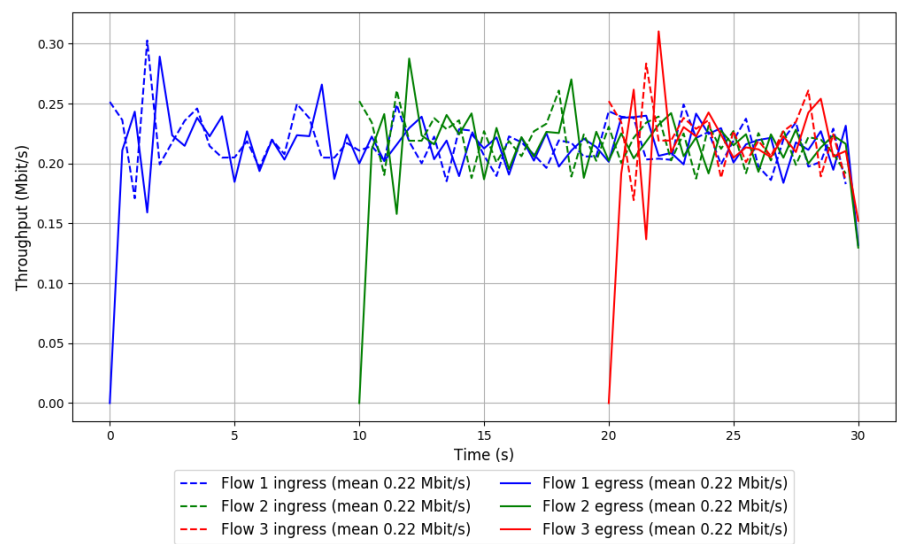
-- Flow 3:

Average throughput: 0.22 Mbit/s

95th percentile per-packet one-way delay: 89.514 ms

Loss rate: 1.85%

Run 5: Report of SReAM — Data Link



Run 1: Statistics of Sprout

Start at: 2019-05-30 11:04:27

End at: 2019-05-30 11:04:57

Local clock offset: -0.708 ms

Remote clock offset: 0.704 ms

Below is generated by plot.py at 2019-05-30 13:20:21

Datalink statistics

-- Total of 3 flows:

Average throughput: 2.65 Mbit/s

95th percentile per-packet one-way delay: 97.413 ms

Loss rate: 1.32%

-- Flow 1:

Average throughput: 1.08 Mbit/s

95th percentile per-packet one-way delay: 96.698 ms

Loss rate: 0.70%

-- Flow 2:

Average throughput: 1.45 Mbit/s

95th percentile per-packet one-way delay: 97.495 ms

Loss rate: 1.65%

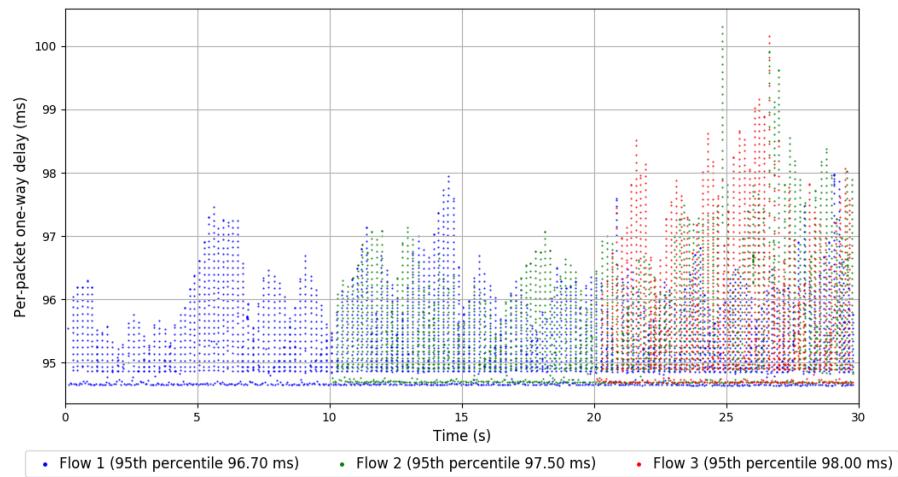
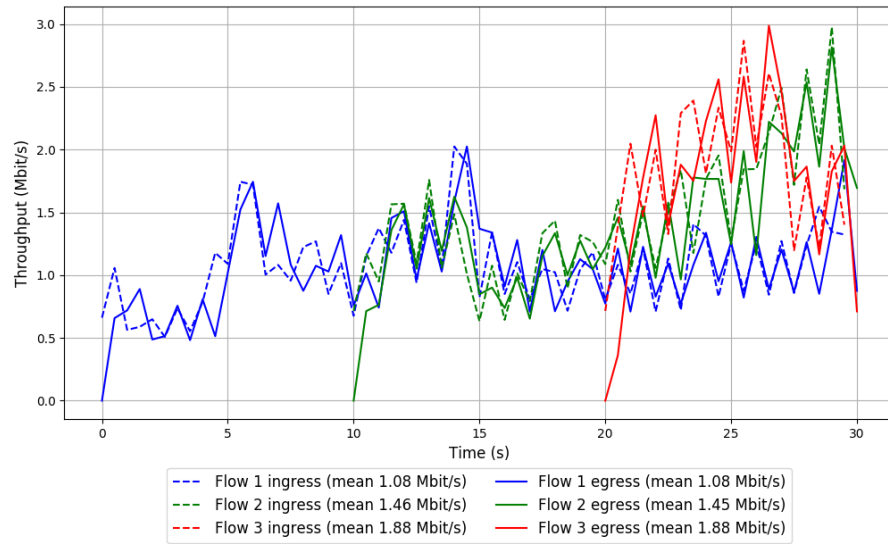
-- Flow 3:

Average throughput: 1.88 Mbit/s

95th percentile per-packet one-way delay: 98.000 ms

Loss rate: 1.87%

Run 1: Report of Sprout — Data Link

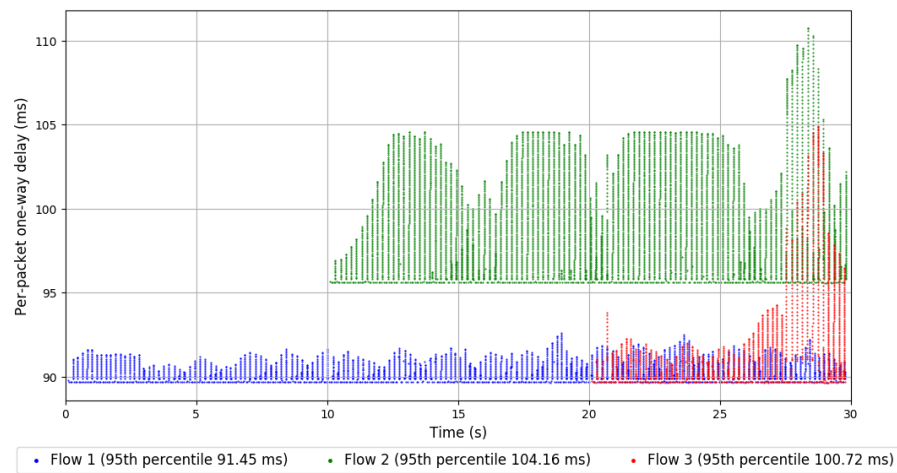
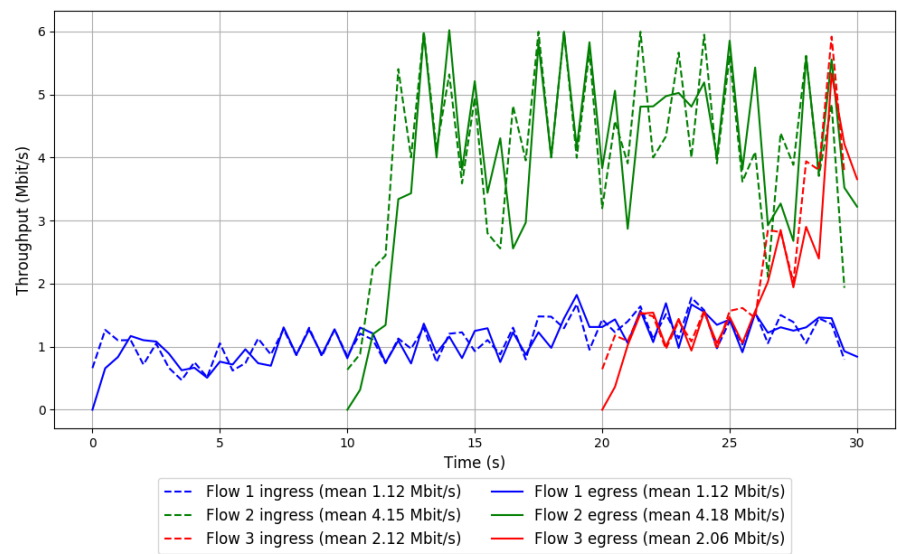


Run 2: Statistics of Sprout

Start at: 2019-05-30 11:31:27
End at: 2019-05-30 11:31:57
Local clock offset: 0.057 ms
Remote clock offset: 6.294 ms

Below is generated by plot.py at 2019-05-30 13:20:21
Datalink statistics
-- Total of 3 flows:
Average throughput: 4.56 Mbit/s
95th percentile per-packet one-way delay: 103.623 ms
Loss rate: 0.82%
-- Flow 1:
Average throughput: 1.12 Mbit/s
95th percentile per-packet one-way delay: 91.451 ms
Loss rate: 0.58%
-- Flow 2:
Average throughput: 4.18 Mbit/s
95th percentile per-packet one-way delay: 104.164 ms
Loss rate: 0.02%
-- Flow 3:
Average throughput: 2.06 Mbit/s
95th percentile per-packet one-way delay: 100.717 ms
Loss rate: 4.36%

Run 2: Report of Sprout — Data Link

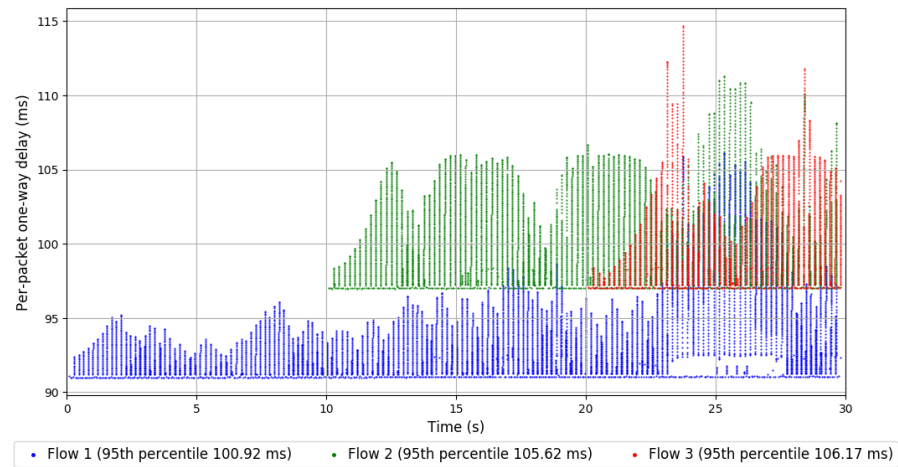
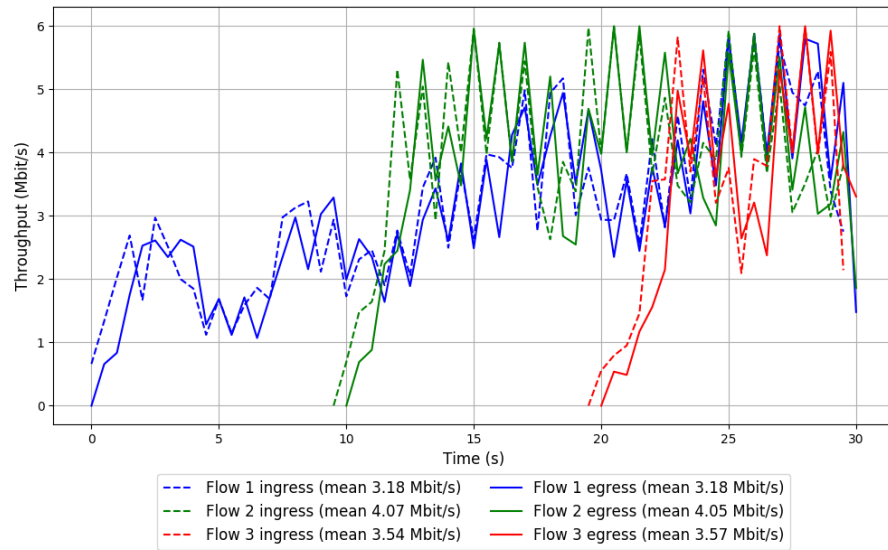


Run 3: Statistics of Sprout

Start at: 2019-05-30 11:58:27
End at: 2019-05-30 11:58:57
Local clock offset: -6.822 ms
Remote clock offset: 5.569 ms

```
# Below is generated by plot.py at 2019-05-30 13:20:21
# Datalink statistics
-- Total of 3 flows:
Average throughput: 7.03 Mbit/s
95th percentile per-packet one-way delay: 104.942 ms
Loss rate: 0.92%
-- Flow 1:
Average throughput: 3.18 Mbit/s
95th percentile per-packet one-way delay: 100.923 ms
Loss rate: 0.67%
-- Flow 2:
Average throughput: 4.05 Mbit/s
95th percentile per-packet one-way delay: 105.620 ms
Loss rate: 1.21%
-- Flow 3:
Average throughput: 3.57 Mbit/s
95th percentile per-packet one-way delay: 106.167 ms
Loss rate: 0.92%
```

Run 3: Report of Sprout — Data Link



Run 4: Statistics of Sprout

Start at: 2019-05-30 12:25:28

End at: 2019-05-30 12:25:58

Local clock offset: -2.57 ms

Remote clock offset: 4.181 ms

Below is generated by plot.py at 2019-05-30 13:20:21

Datalink statistics

-- Total of 3 flows:

Average throughput: 6.05 Mbit/s

95th percentile per-packet one-way delay: 97.031 ms

Loss rate: 1.42%

-- Flow 1:

Average throughput: 3.33 Mbit/s

95th percentile per-packet one-way delay: 96.290 ms

Loss rate: 0.61%

-- Flow 2:

Average throughput: 2.71 Mbit/s

95th percentile per-packet one-way delay: 98.002 ms

Loss rate: 1.84%

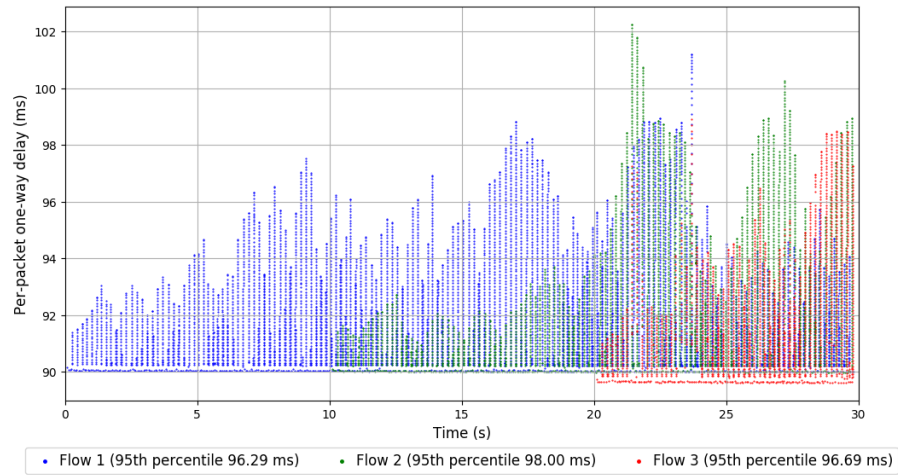
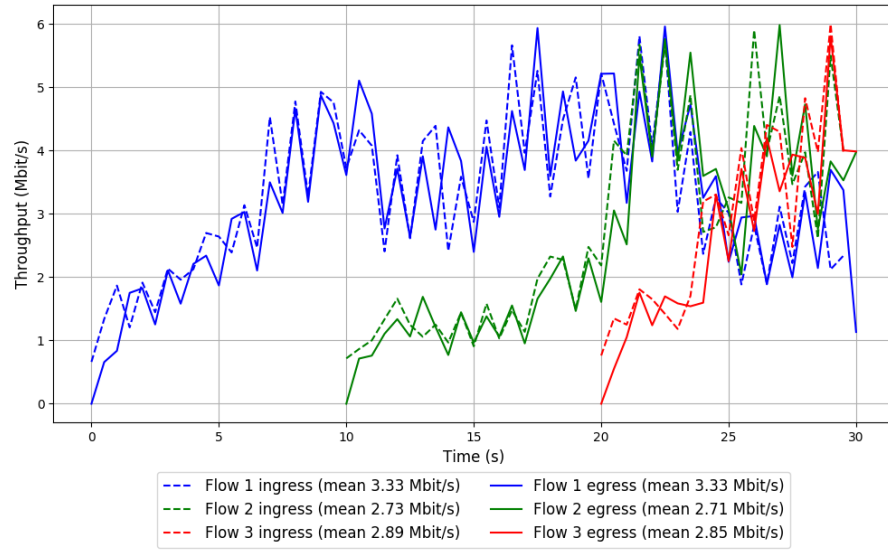
-- Flow 3:

Average throughput: 2.85 Mbit/s

95th percentile per-packet one-way delay: 96.687 ms

Loss rate: 3.44%

Run 4: Report of Sprout — Data Link

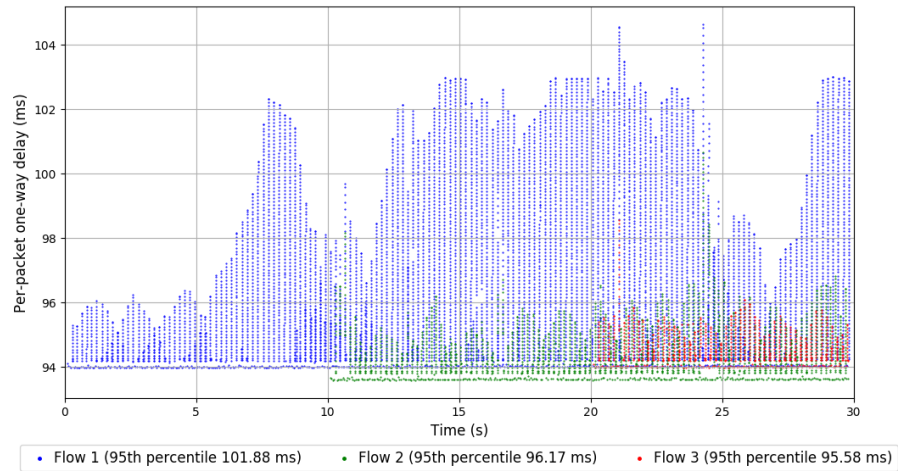
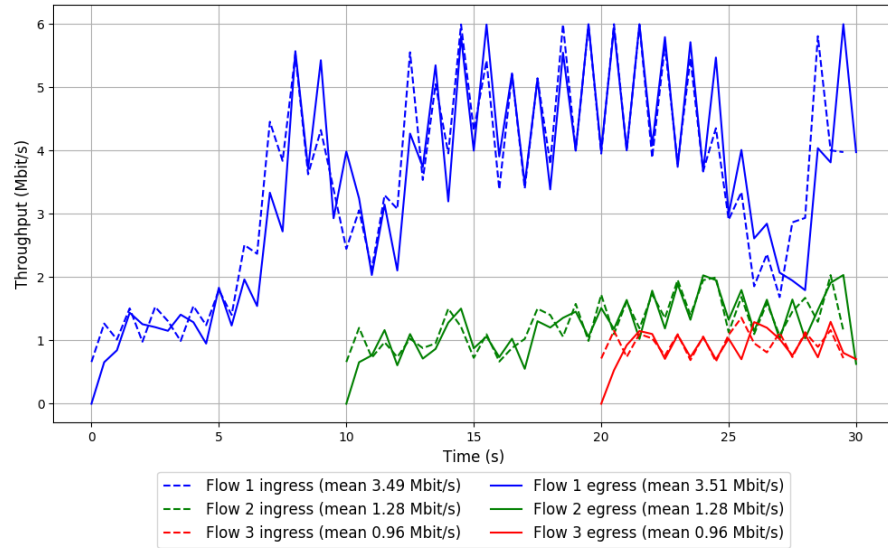


Run 5: Statistics of Sprout

Start at: 2019-05-30 12:52:29
End at: 2019-05-30 12:52:59
Local clock offset: -5.255 ms
Remote clock offset: -0.123 ms

Below is generated by plot.py at 2019-05-30 13:20:21
Datalink statistics
-- Total of 3 flows:
Average throughput: 4.67 Mbit/s
95th percentile per-packet one-way delay: 101.573 ms
Loss rate: 0.33%
-- Flow 1:
Average throughput: 3.51 Mbit/s
95th percentile per-packet one-way delay: 101.884 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 1.28 Mbit/s
95th percentile per-packet one-way delay: 96.173 ms
Loss rate: 1.04%
-- Flow 3:
Average throughput: 0.96 Mbit/s
95th percentile per-packet one-way delay: 95.575 ms
Loss rate: 1.99%

Run 5: Report of Sprout — Data Link

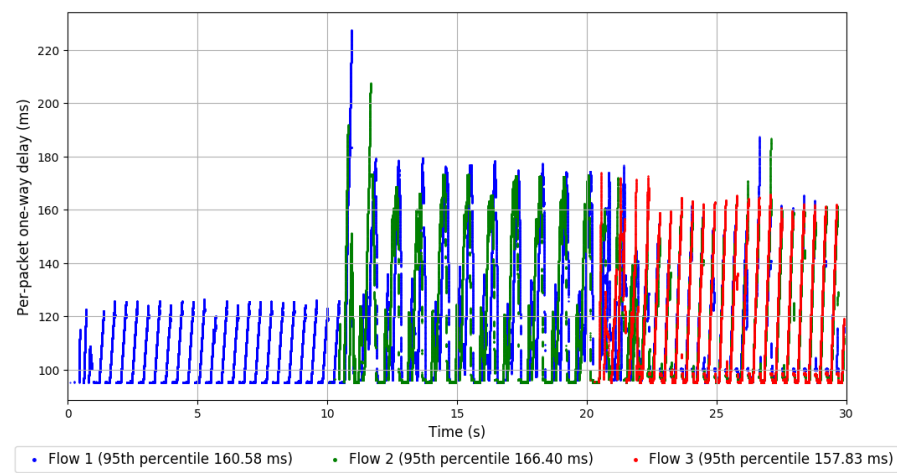
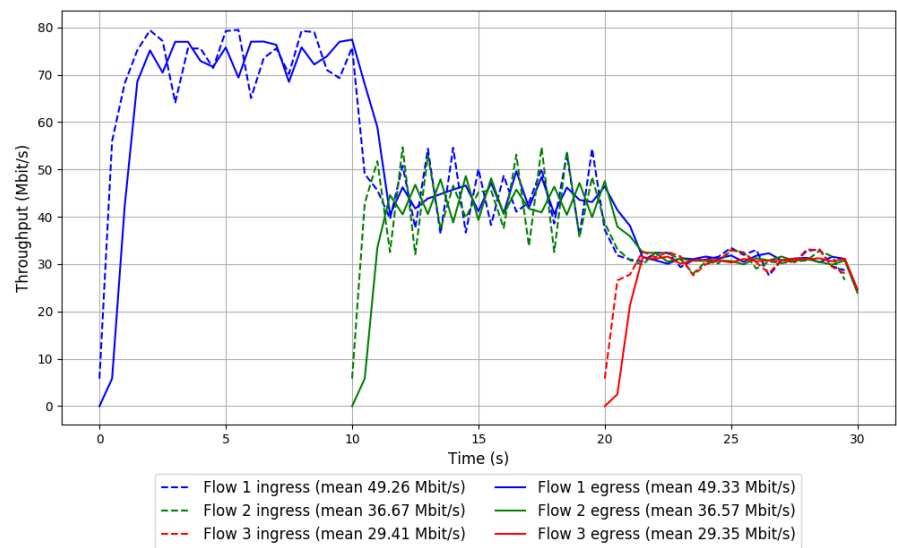



```
Run 1: Statistics of TaoVA-100x

Start at: 2019-05-30 11:18:26
End at: 2019-05-30 11:18:56
Local clock offset: -0.194 ms
Remote clock offset: 0.63 ms

# Below is generated by plot.py at 2019-05-30 13:21:15
# Datalink statistics
-- Total of 3 flows:
Average throughput: 83.26 Mbit/s
95th percentile per-packet one-way delay: 162.118 ms
Loss rate: 0.75%
-- Flow 1:
Average throughput: 49.33 Mbit/s
95th percentile per-packet one-way delay: 160.583 ms
Loss rate: 0.43%
-- Flow 2:
Average throughput: 36.57 Mbit/s
95th percentile per-packet one-way delay: 166.401 ms
Loss rate: 0.91%
-- Flow 3:
Average throughput: 29.35 Mbit/s
95th percentile per-packet one-way delay: 157.826 ms
Loss rate: 1.95%
```

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



Run 2: Statistics of TaoVA-100x

Start at: 2019-05-30 11:45:26

End at: 2019-05-30 11:45:56

Local clock offset: -3.751 ms

Remote clock offset: 2.637 ms

Below is generated by plot.py at 2019-05-30 13:21:18

Datalink statistics

-- Total of 3 flows:

Average throughput: 82.62 Mbit/s

95th percentile per-packet one-way delay: 168.699 ms

Loss rate: 0.71%

-- Flow 1:

Average throughput: 49.16 Mbit/s

95th percentile per-packet one-way delay: 163.612 ms

Loss rate: 0.41%

-- Flow 2:

Average throughput: 36.32 Mbit/s

95th percentile per-packet one-way delay: 173.418 ms

Loss rate: 0.79%

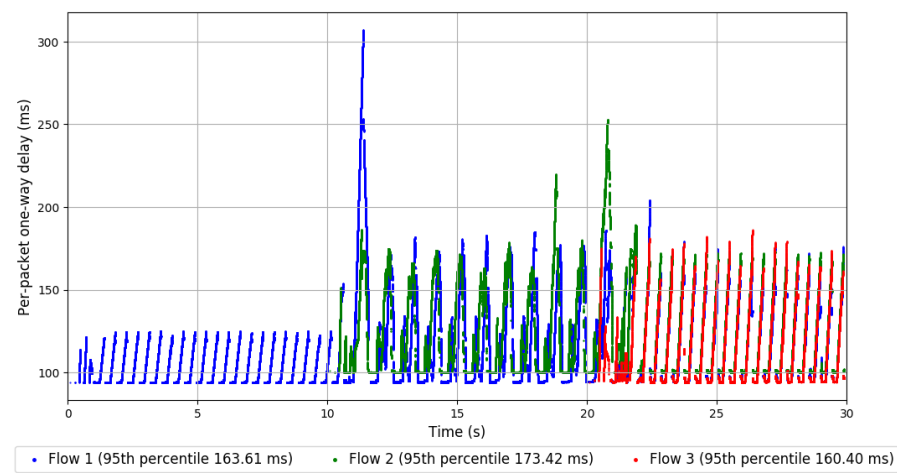
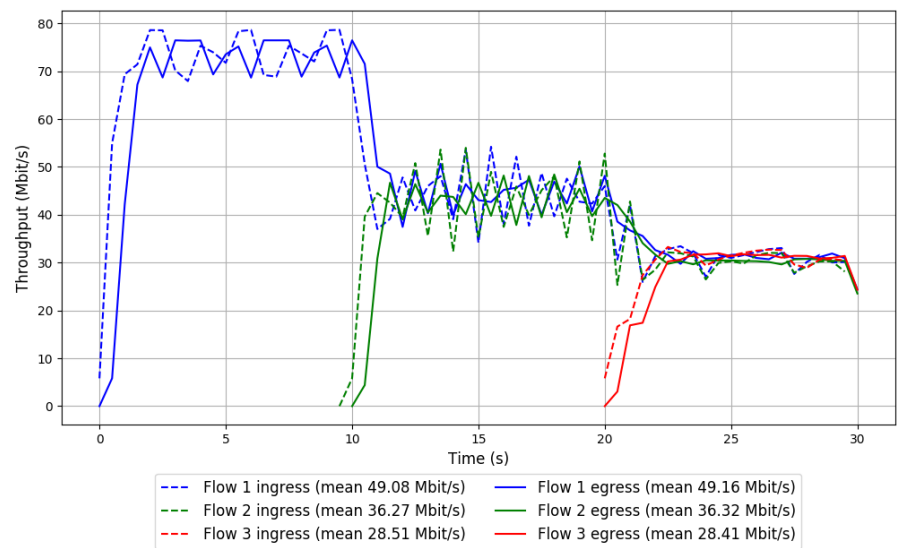
-- Flow 3:

Average throughput: 28.41 Mbit/s

95th percentile per-packet one-way delay: 160.403 ms

Loss rate: 2.06%

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



Run 3: Statistics of TaoVA-100x

Start at: 2019-05-30 12:12:26

End at: 2019-05-30 12:12:56

Local clock offset: -5.84 ms

Remote clock offset: 0.027 ms

Below is generated by plot.py at 2019-05-30 13:21:21

Datalink statistics

-- Total of 3 flows:

Average throughput: 82.40 Mbit/s

95th percentile per-packet one-way delay: 168.318 ms

Loss rate: 0.85%

-- Flow 1:

Average throughput: 47.95 Mbit/s

95th percentile per-packet one-way delay: 164.953 ms

Loss rate: 0.46%

-- Flow 2:

Average throughput: 37.10 Mbit/s

95th percentile per-packet one-way delay: 172.760 ms

Loss rate: 0.99%

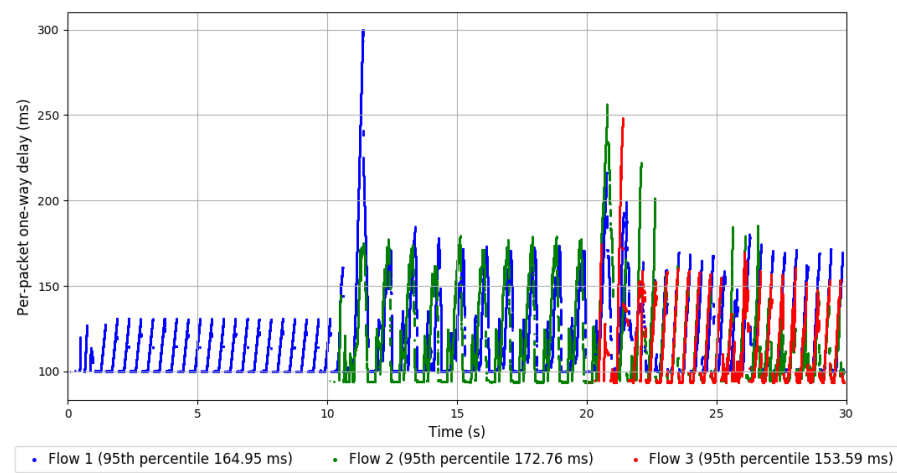
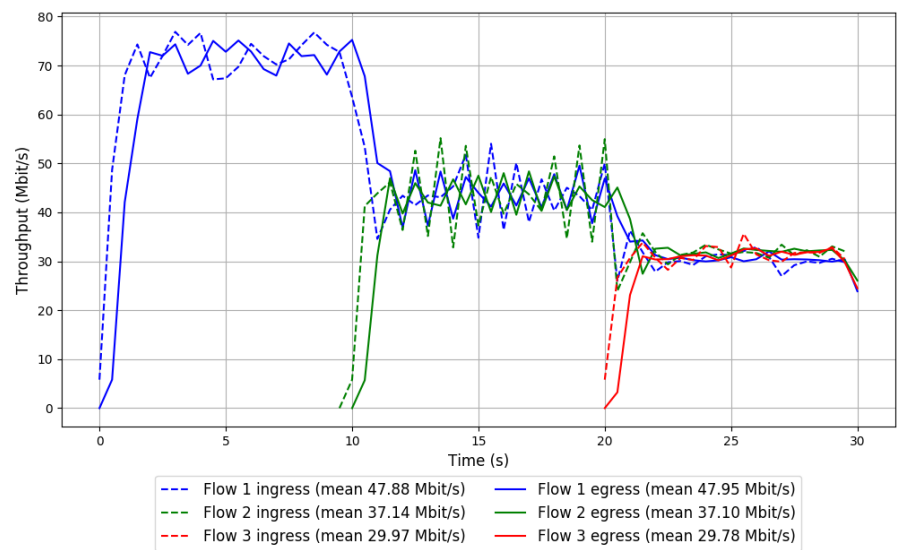
-- Flow 3:

Average throughput: 29.78 Mbit/s

95th percentile per-packet one-way delay: 153.586 ms

Loss rate: 2.37%

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



Run 4: Statistics of TaoVA-100x

Start at: 2019-05-30 12:39:27

End at: 2019-05-30 12:39:57

Local clock offset: -2.818 ms

Remote clock offset: 5.021 ms

Below is generated by plot.py at 2019-05-30 13:21:23

Datalink statistics

-- Total of 3 flows:

Average throughput: 83.29 Mbit/s

95th percentile per-packet one-way delay: 157.331 ms

Loss rate: 0.86%

-- Flow 1:

Average throughput: 49.12 Mbit/s

95th percentile per-packet one-way delay: 154.403 ms

Loss rate: 0.52%

-- Flow 2:

Average throughput: 36.73 Mbit/s

95th percentile per-packet one-way delay: 164.736 ms

Loss rate: 0.94%

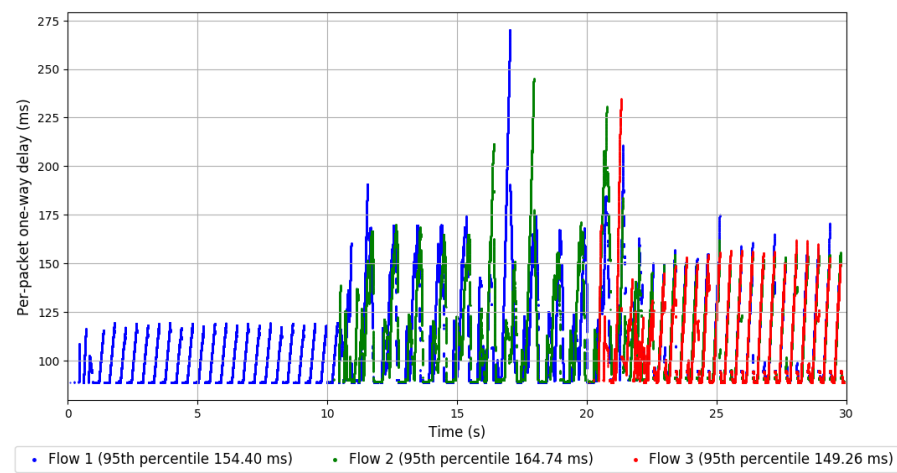
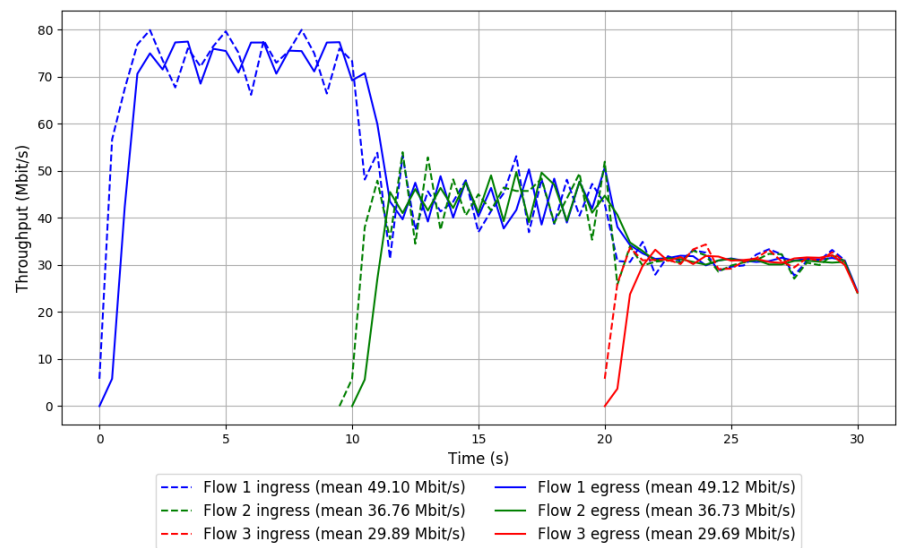
-- Flow 3:

Average throughput: 29.69 Mbit/s

95th percentile per-packet one-way delay: 149.259 ms

Loss rate: 2.38%

Run 4: Report of TaoVA-100x — Data Link



Run 5: Statistics of TaoVA-100x

Start at: 2019-05-30 13:06:29

End at: 2019-05-30 13:06:59

Local clock offset: -6.584 ms

Remote clock offset: 2.336 ms

Below is generated by plot.py at 2019-05-30 13:21:33

Datalink statistics

-- Total of 3 flows:

Average throughput: 82.15 Mbit/s

95th percentile per-packet one-way delay: 163.867 ms

Loss rate: 0.82%

-- Flow 1:

Average throughput: 47.79 Mbit/s

95th percentile per-packet one-way delay: 160.734 ms

Loss rate: 0.56%

-- Flow 2:

Average throughput: 37.02 Mbit/s

95th percentile per-packet one-way delay: 169.064 ms

Loss rate: 0.85%

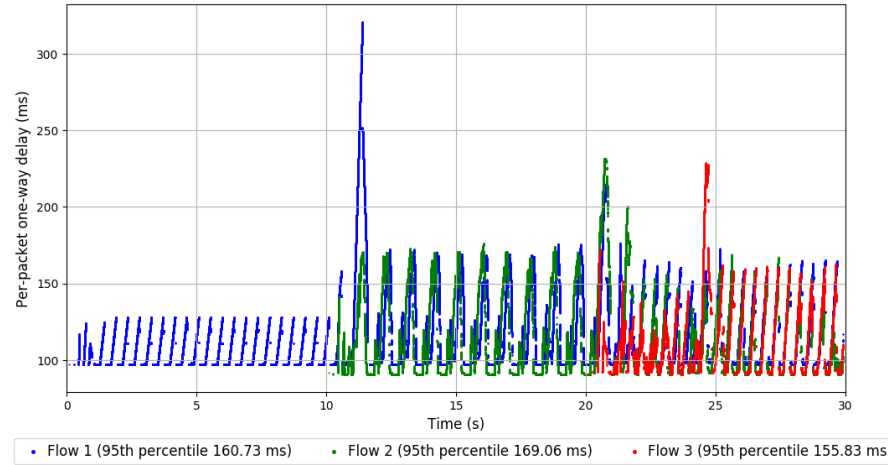
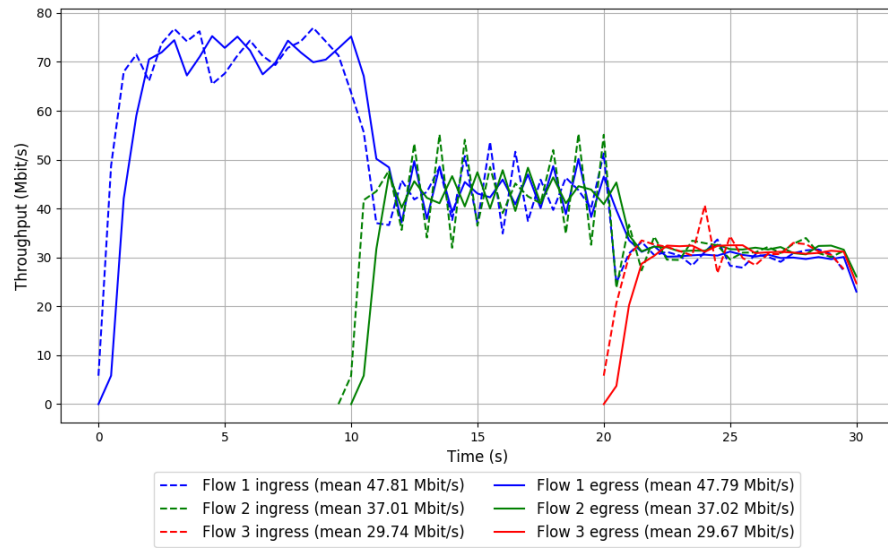
-- Flow 3:

Average throughput: 29.67 Mbit/s

95th percentile per-packet one-way delay: 155.830 ms

Loss rate: 1.97%

Run 5: Report of TaoVA-100x — Data Link



Run 1: Statistics of TCP Vegas

Start at: 2019-05-30 11:09:31

End at: 2019-05-30 11:10:01

Local clock offset: -1.304 ms

Remote clock offset: 6.859 ms

Below is generated by plot.py at 2019-05-30 13:21:33

Datalink statistics

-- Total of 3 flows:

Average throughput: 54.03 Mbit/s

95th percentile per-packet one-way delay: 184.582 ms

Loss rate: 0.63%

-- Flow 1:

Average throughput: 29.19 Mbit/s

95th percentile per-packet one-way delay: 210.428 ms

Loss rate: 0.28%

-- Flow 2:

Average throughput: 28.33 Mbit/s

95th percentile per-packet one-way delay: 164.505 ms

Loss rate: 0.72%

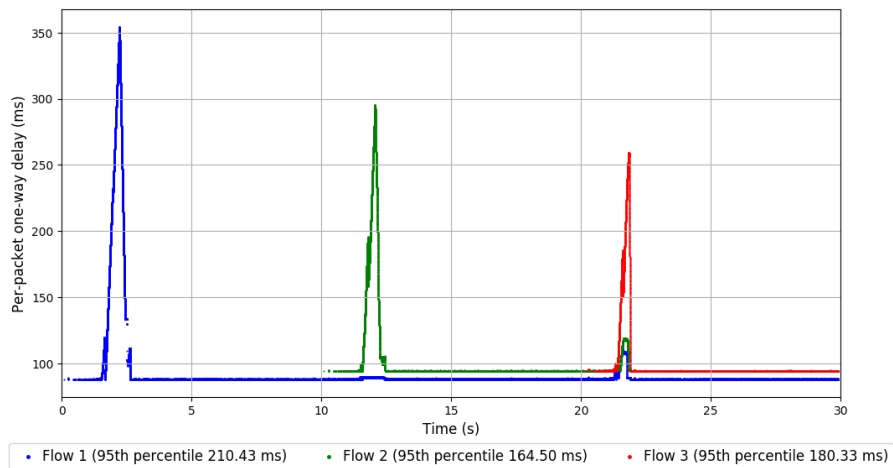
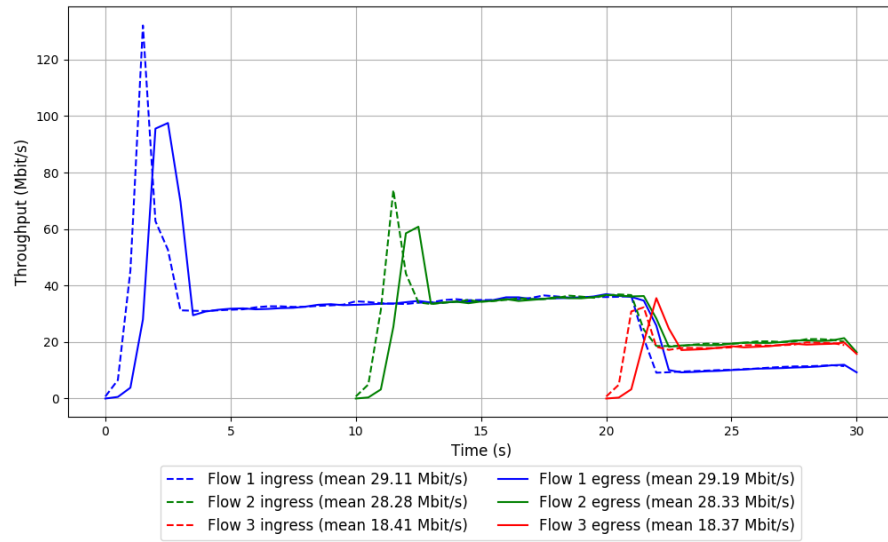
-- Flow 3:

Average throughput: 18.37 Mbit/s

95th percentile per-packet one-way delay: 180.333 ms

Loss rate: 2.00%

Run 1: Report of TCP Vegas — Data Link



Run 2: Statistics of TCP Vegas

Start at: 2019-05-30 11:36:30

End at: 2019-05-30 11:37:00

Local clock offset: 0.381 ms

Remote clock offset: 1.217 ms

Below is generated by plot.py at 2019-05-30 13:21:33

Datalink statistics

-- Total of 3 flows:

Average throughput: 53.57 Mbit/s

95th percentile per-packet one-way delay: 188.201 ms

Loss rate: 0.79%

-- Flow 1:

Average throughput: 32.00 Mbit/s

95th percentile per-packet one-way delay: 200.975 ms

Loss rate: 0.44%

-- Flow 2:

Average throughput: 22.11 Mbit/s

95th percentile per-packet one-way delay: 186.499 ms

Loss rate: 1.00%

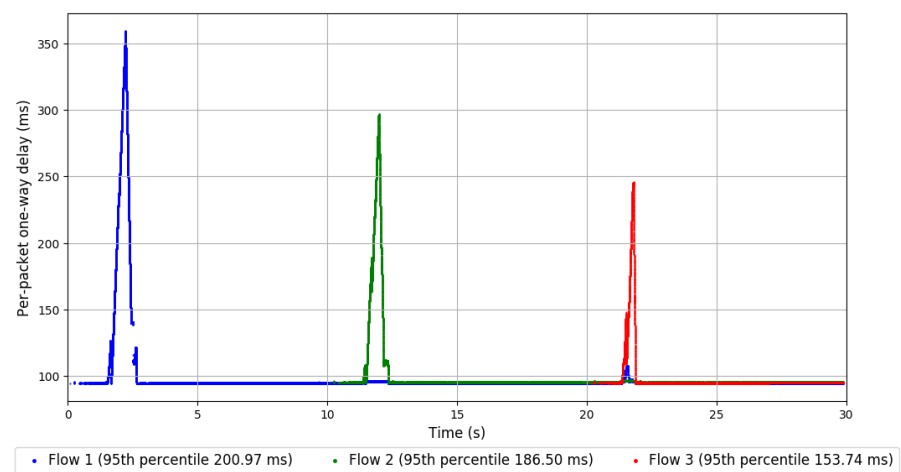
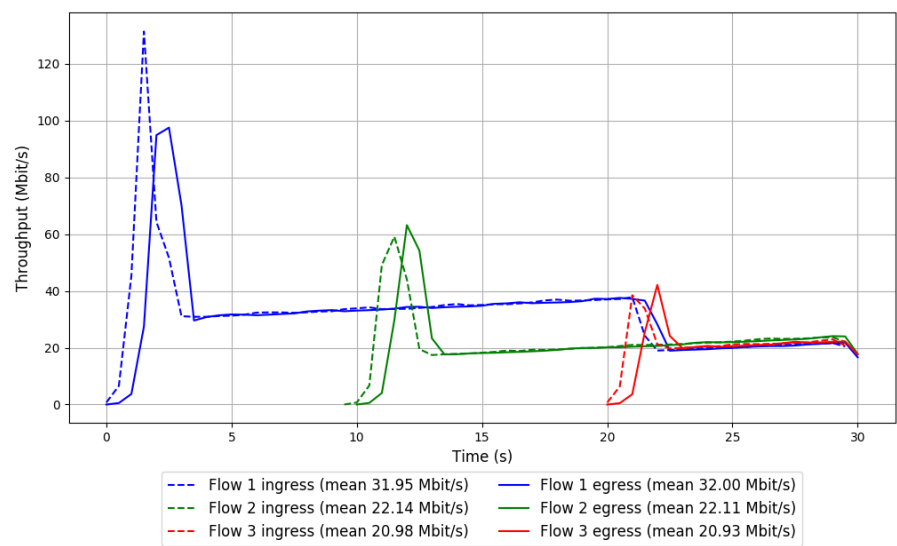
-- Flow 3:

Average throughput: 20.93 Mbit/s

95th percentile per-packet one-way delay: 153.744 ms

Loss rate: 1.96%

Run 2: Report of TCP Vegas — Data Link

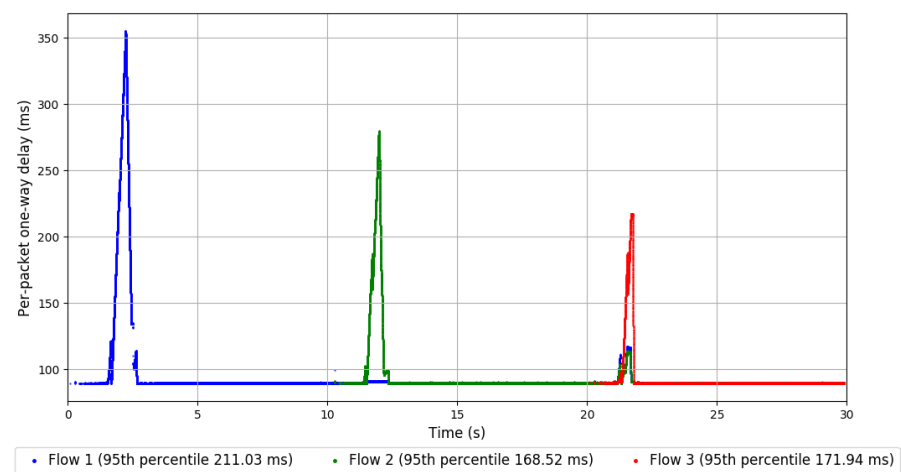
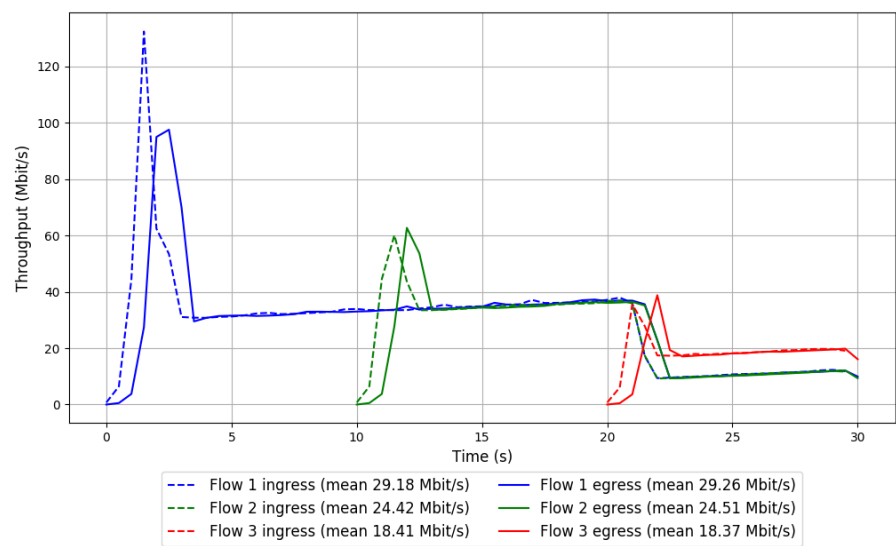


Run 3: Statistics of TCP Vegas

Start at: 2019-05-30 12:03:30
End at: 2019-05-30 12:04:00
Local clock offset: -7.368 ms
Remote clock offset: 6.423 ms

Below is generated by plot.py at 2019-05-30 13:21:33
Datalink statistics
-- Total of 3 flows:
Average throughput: 51.57 Mbit/s
95th percentile per-packet one-way delay: 184.875 ms
Loss rate: 0.55%
-- Flow 1:
Average throughput: 29.26 Mbit/s
95th percentile per-packet one-way delay: 211.031 ms
Loss rate: 0.29%
-- Flow 2:
Average throughput: 24.51 Mbit/s
95th percentile per-packet one-way delay: 168.524 ms
Loss rate: 0.48%
-- Flow 3:
Average throughput: 18.37 Mbit/s
95th percentile per-packet one-way delay: 171.945 ms
Loss rate: 1.94%

Run 3: Report of TCP Vegas — Data Link



Run 4: Statistics of TCP Vegas

Start at: 2019-05-30 12:30:32

End at: 2019-05-30 12:31:02

Local clock offset: -2.453 ms

Remote clock offset: 0.33 ms

Below is generated by plot.py at 2019-05-30 13:21:33

Datalink statistics

-- Total of 3 flows:

Average throughput: 53.89 Mbit/s

95th percentile per-packet one-way delay: 190.738 ms

Loss rate: 0.79%

-- Flow 1:

Average throughput: 32.30 Mbit/s

95th percentile per-packet one-way delay: 198.756 ms

Loss rate: 0.43%

-- Flow 2:

Average throughput: 22.32 Mbit/s

95th percentile per-packet one-way delay: 192.666 ms

Loss rate: 1.03%

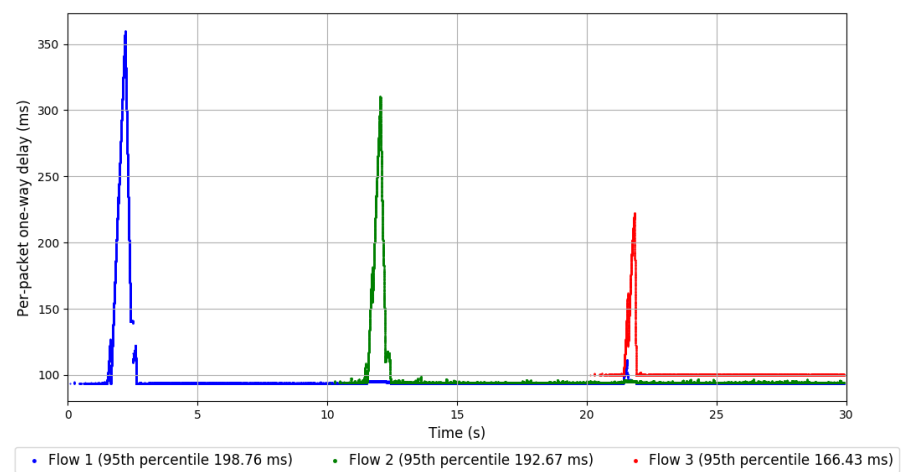
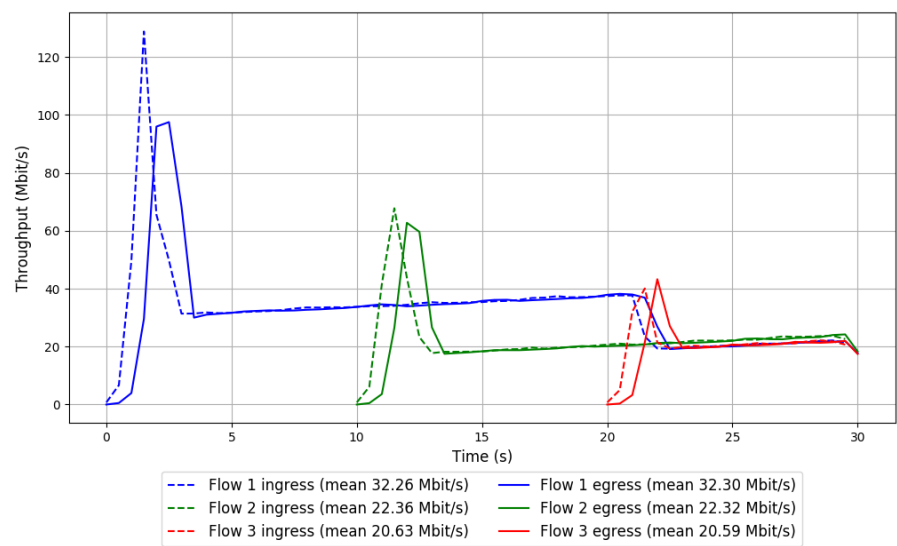
-- Flow 3:

Average throughput: 20.59 Mbit/s

95th percentile per-packet one-way delay: 166.432 ms

Loss rate: 1.99%

Run 4: Report of TCP Vegas — Data Link



Run 5: Statistics of TCP Vegas

Start at: 2019-05-30 12:57:33

End at: 2019-05-30 12:58:03

Local clock offset: -6.697 ms

Remote clock offset: 3.6 ms

Below is generated by plot.py at 2019-05-30 13:21:41

Datalink statistics

-- Total of 3 flows:

Average throughput: 64.33 Mbit/s

95th percentile per-packet one-way delay: 149.031 ms

Loss rate: 0.92%

-- Flow 1:

Average throughput: 35.02 Mbit/s

95th percentile per-packet one-way delay: 165.412 ms

Loss rate: 0.66%

-- Flow 2:

Average throughput: 33.50 Mbit/s

95th percentile per-packet one-way delay: 113.476 ms

Loss rate: 0.99%

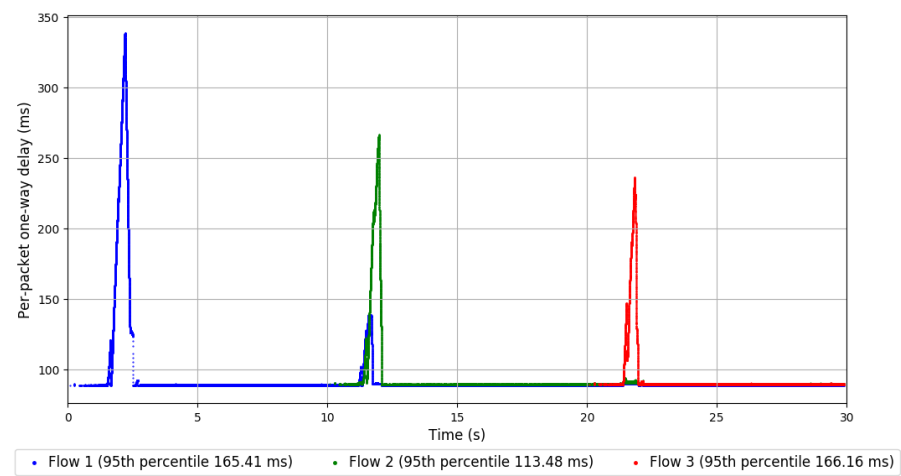
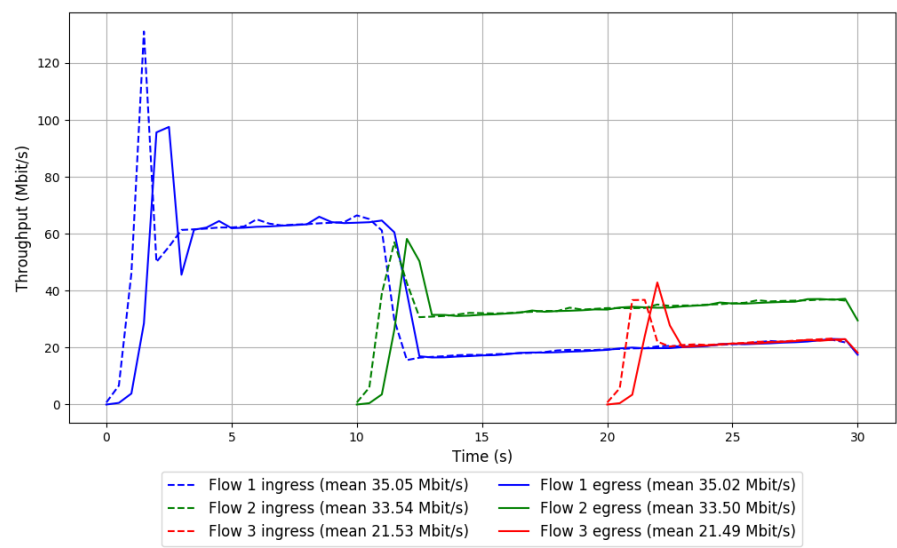
-- Flow 3:

Average throughput: 21.49 Mbit/s

95th percentile per-packet one-way delay: 166.155 ms

Loss rate: 1.95%

Run 5: Report of TCP Vegas — Data Link



Run 1: Statistics of Verus

Start at: 2019-05-30 11:15:56

End at: 2019-05-30 11:16:26

Local clock offset: -0.257 ms

Remote clock offset: 4.581 ms

Below is generated by plot.py at 2019-05-30 13:21:43

Datalink statistics

-- Total of 3 flows:

Average throughput: 66.61 Mbit/s

95th percentile per-packet one-way delay: 324.886 ms

Loss rate: 1.70%

-- Flow 1:

Average throughput: 44.67 Mbit/s

95th percentile per-packet one-way delay: 304.833 ms

Loss rate: 1.19%

-- Flow 2:

Average throughput: 23.00 Mbit/s

95th percentile per-packet one-way delay: 286.304 ms

Loss rate: 0.32%

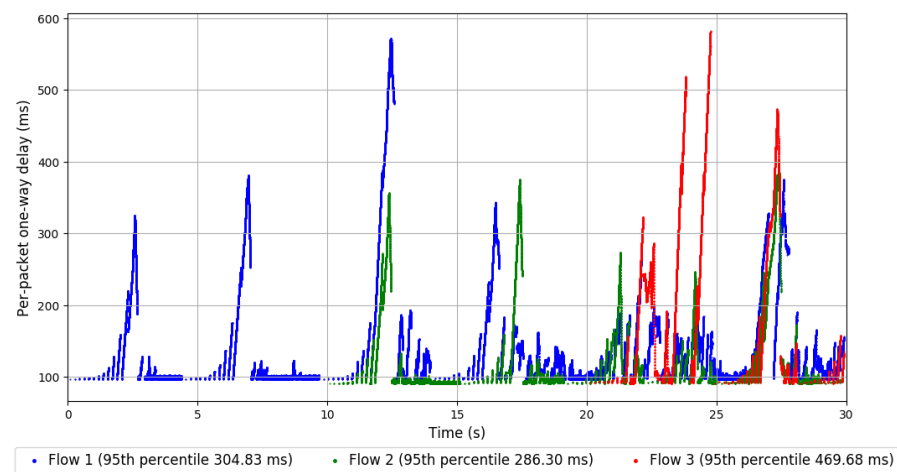
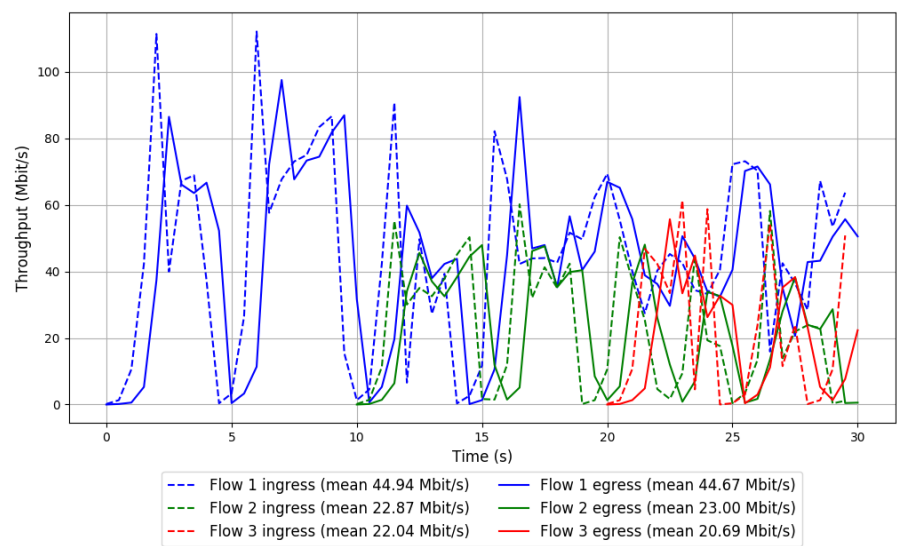
-- Flow 3:

Average throughput: 20.69 Mbit/s

95th percentile per-packet one-way delay: 469.679 ms

Loss rate: 7.71%

Run 1: Report of Verus — Data Link



Run 2: Statistics of Verus

Start at: 2019-05-30 11:42:56

End at: 2019-05-30 11:43:26

Local clock offset: -3.615 ms

Remote clock offset: 1.529 ms

Below is generated by plot.py at 2019-05-30 13:21:56

Datalink statistics

-- Total of 3 flows:

Average throughput: 76.34 Mbit/s

95th percentile per-packet one-way delay: 324.657 ms

Loss rate: 0.86%

-- Flow 1:

Average throughput: 55.12 Mbit/s

95th percentile per-packet one-way delay: 294.427 ms

Loss rate: 0.71%

-- Flow 2:

Average throughput: 24.26 Mbit/s

95th percentile per-packet one-way delay: 482.000 ms

Loss rate: 1.06%

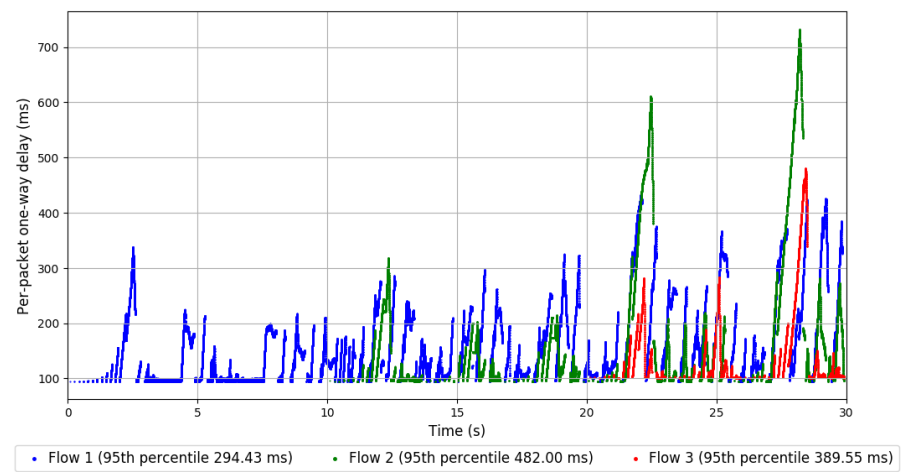
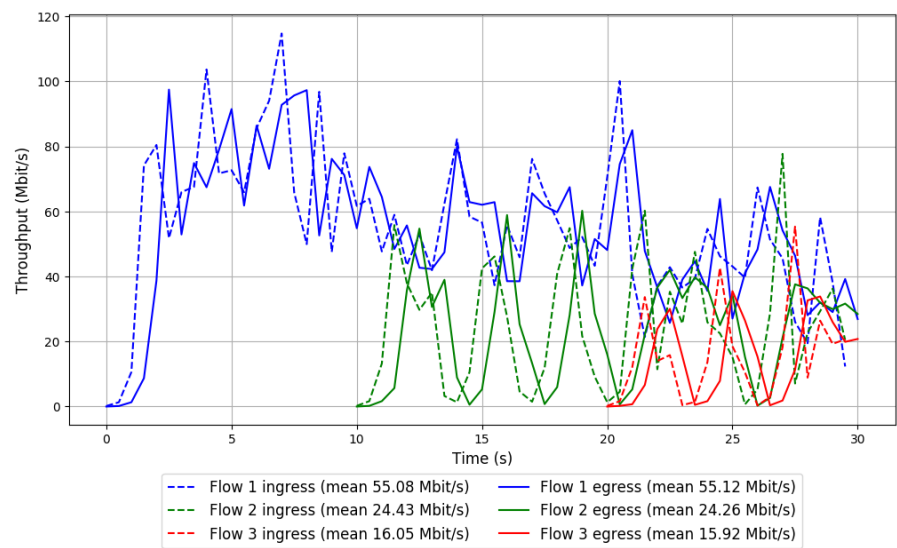
-- Flow 3:

Average throughput: 15.92 Mbit/s

95th percentile per-packet one-way delay: 389.551 ms

Loss rate: 1.85%

Run 2: Report of Verus — Data Link



Run 3: Statistics of Verus

Start at: 2019-05-30 12:09:56

End at: 2019-05-30 12:10:26

Local clock offset: -6.227 ms

Remote clock offset: 1.34 ms

Below is generated by plot.py at 2019-05-30 13:22:08

Datalink statistics

-- Total of 3 flows:

Average throughput: 76.70 Mbit/s

95th percentile per-packet one-way delay: 323.798 ms

Loss rate: 1.54%

-- Flow 1:

Average throughput: 49.15 Mbit/s

95th percentile per-packet one-way delay: 324.819 ms

Loss rate: 1.60%

-- Flow 2:

Average throughput: 30.53 Mbit/s

95th percentile per-packet one-way delay: 250.271 ms

Loss rate: 0.98%

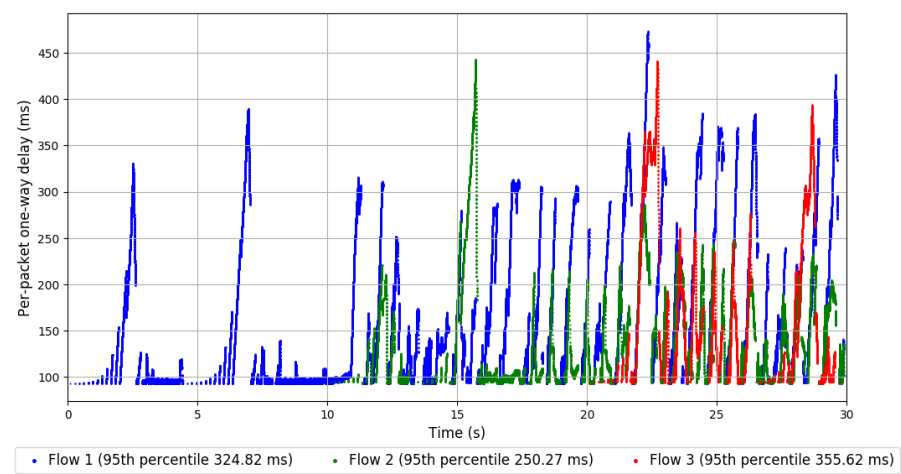
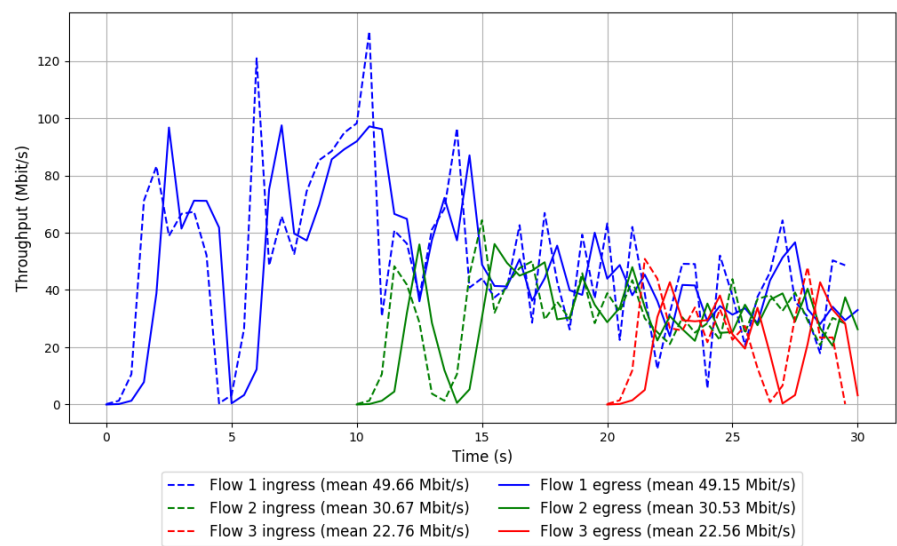
-- Flow 3:

Average throughput: 22.56 Mbit/s

95th percentile per-packet one-way delay: 355.616 ms

Loss rate: 2.64%

Run 3: Report of Verus — Data Link

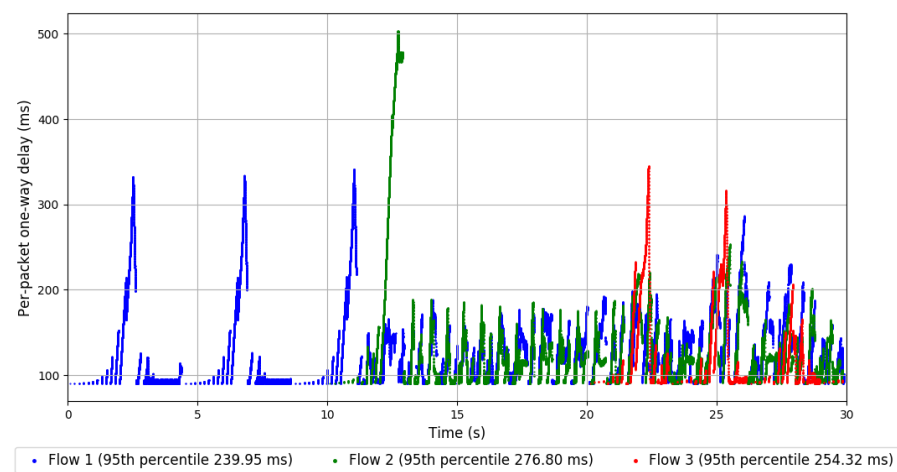
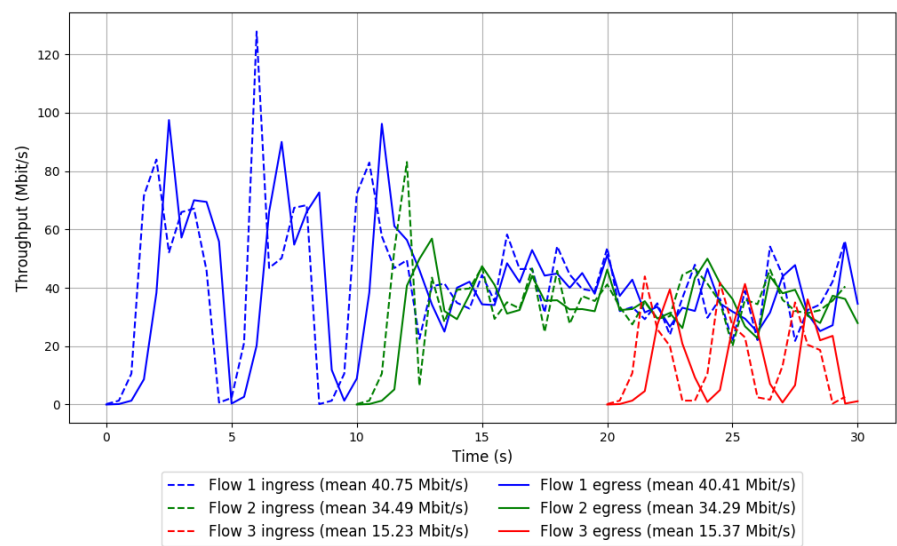


Run 4: Statistics of Verus

Start at: 2019-05-30 12:36:57
End at: 2019-05-30 12:37:27
Local clock offset: -2.035 ms
Remote clock offset: 3.691 ms

Below is generated by plot.py at 2019-05-30 13:22:08
Datalink statistics
-- Total of 3 flows:
Average throughput: 68.13 Mbit/s
95th percentile per-packet one-way delay: 244.260 ms
Loss rate: 1.42%
-- Flow 1:
Average throughput: 40.41 Mbit/s
95th percentile per-packet one-way delay: 239.949 ms
Loss rate: 1.37%
-- Flow 2:
Average throughput: 34.29 Mbit/s
95th percentile per-packet one-way delay: 276.800 ms
Loss rate: 1.66%
-- Flow 3:
Average throughput: 15.37 Mbit/s
95th percentile per-packet one-way delay: 254.319 ms
Loss rate: 0.80%

Run 4: Report of Verus — Data Link

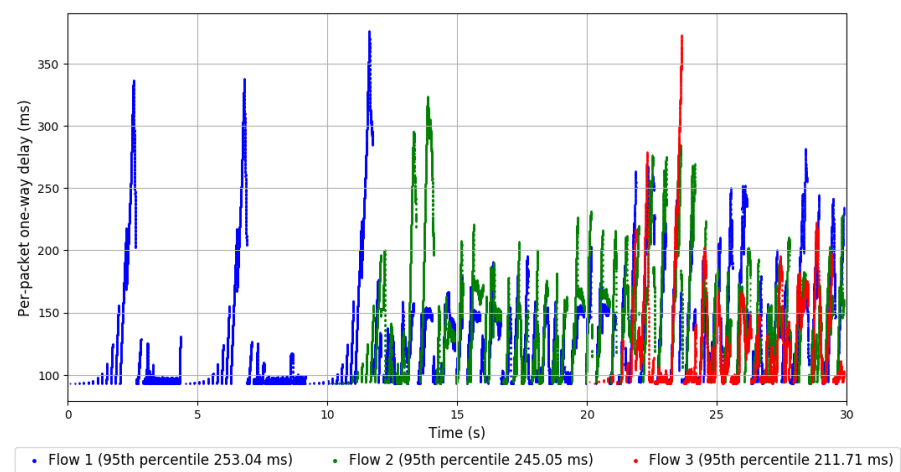
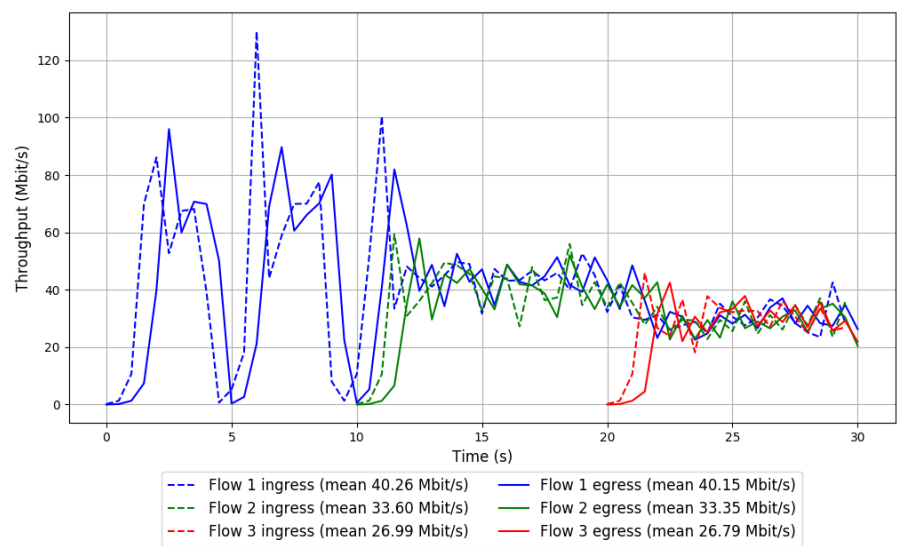


Run 5: Statistics of Verus

Start at: 2019-05-30 13:03:58
End at: 2019-05-30 13:04:28
Local clock offset: -7.13 ms
Remote clock offset: -0.391 ms

Below is generated by plot.py at 2019-05-30 13:22:09
Datalink statistics
-- Total of 3 flows:
Average throughput: 71.10 Mbit/s
95th percentile per-packet one-way delay: 247.100 ms
Loss rate: 1.15%
-- Flow 1:
Average throughput: 40.15 Mbit/s
95th percentile per-packet one-way delay: 253.036 ms
Loss rate: 0.63%
-- Flow 2:
Average throughput: 33.35 Mbit/s
95th percentile per-packet one-way delay: 245.051 ms
Loss rate: 1.57%
-- Flow 3:
Average throughput: 26.79 Mbit/s
95th percentile per-packet one-way delay: 211.709 ms
Loss rate: 2.46%

Run 5: Report of Verus — Data Link



Run 1: Statistics of PCC-Vivace

Start at: 2019-05-30 10:55:22

End at: 2019-05-30 10:55:52

Local clock offset: -1.681 ms

Remote clock offset: 0.58 ms

Below is generated by plot.py at 2019-05-30 13:22:21

Datalink statistics

-- Total of 3 flows:

Average throughput: 78.99 Mbit/s

95th percentile per-packet one-way delay: 1943.799 ms

Loss rate: 4.92%

-- Flow 1:

Average throughput: 51.05 Mbit/s

95th percentile per-packet one-way delay: 2059.885 ms

Loss rate: 5.72%

-- Flow 2:

Average throughput: 31.26 Mbit/s

95th percentile per-packet one-way delay: 681.422 ms

Loss rate: 3.56%

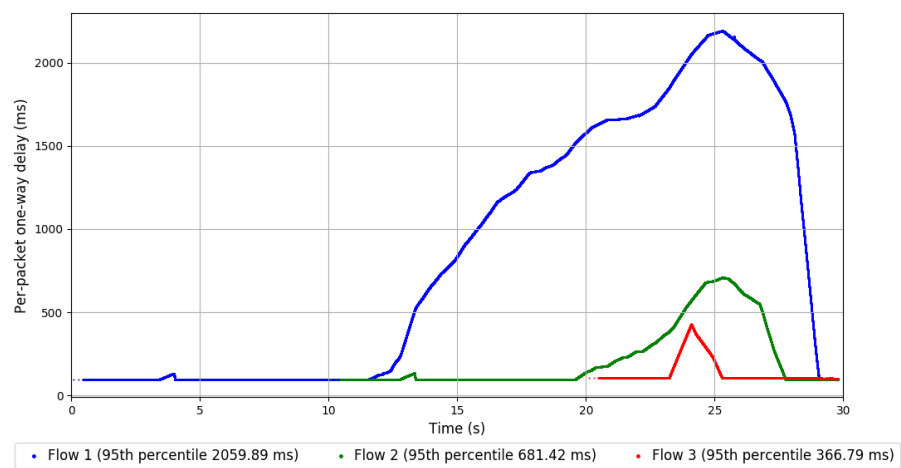
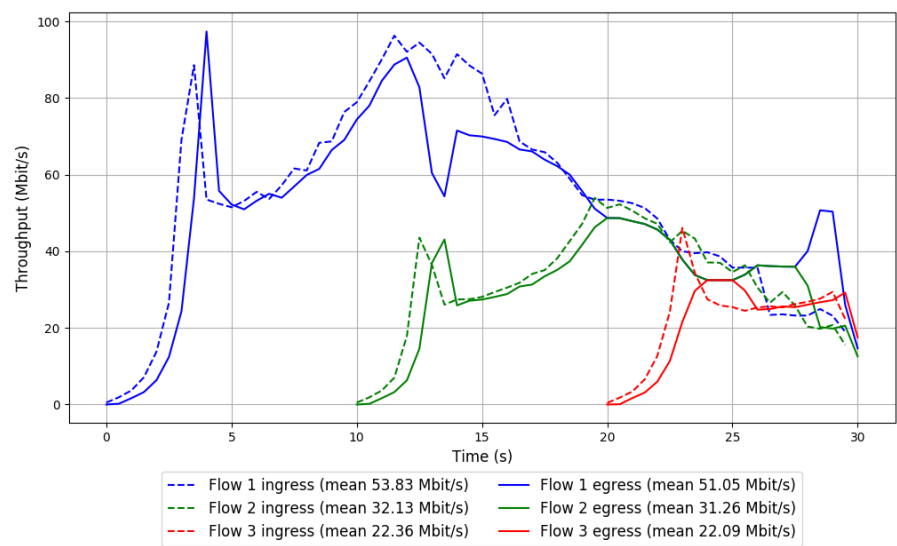
-- Flow 3:

Average throughput: 22.09 Mbit/s

95th percentile per-packet one-way delay: 366.786 ms

Loss rate: 3.04%

Run 1: Report of PCC-Vivace — Data Link



Run 2: Statistics of PCC-Vivace

Start at: 2019-05-30 11:22:21

End at: 2019-05-30 11:22:51

Local clock offset: -0.035 ms

Remote clock offset: 2.177 ms

Below is generated by plot.py at 2019-05-30 13:22:27

Datalink statistics

-- Total of 3 flows:

Average throughput: 79.10 Mbit/s

95th percentile per-packet one-way delay: 1873.272 ms

Loss rate: 5.86%

-- Flow 1:

Average throughput: 49.04 Mbit/s

95th percentile per-packet one-way delay: 549.658 ms

Loss rate: 1.59%

-- Flow 2:

Average throughput: 34.16 Mbit/s

95th percentile per-packet one-way delay: 2083.001 ms

Loss rate: 14.71%

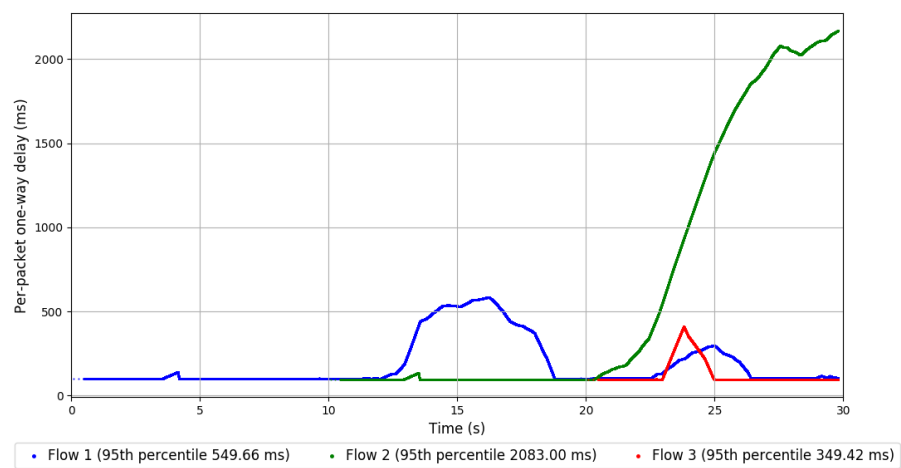
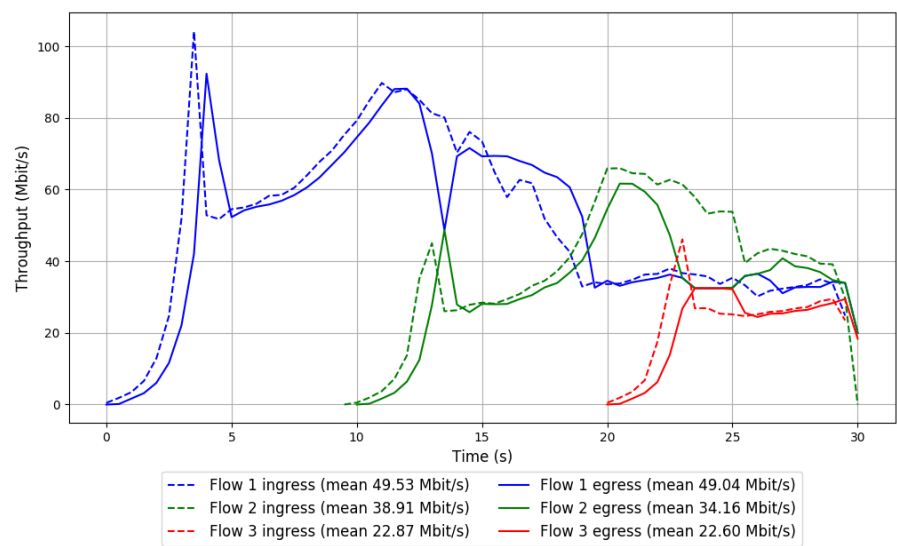
-- Flow 3:

Average throughput: 22.60 Mbit/s

95th percentile per-packet one-way delay: 349.417 ms

Loss rate: 2.90%

Run 2: Report of PCC-Vivace — Data Link



Run 3: Statistics of PCC-Vivace

Start at: 2019-05-30 11:49:21

End at: 2019-05-30 11:49:51

Local clock offset: -5.638 ms

Remote clock offset: 6.489 ms

Below is generated by plot.py at 2019-05-30 13:22:32

Datalink statistics

-- Total of 3 flows:

Average throughput: 80.21 Mbit/s

95th percentile per-packet one-way delay: 1765.184 ms

Loss rate: 8.63%

-- Flow 1:

Average throughput: 51.98 Mbit/s

95th percentile per-packet one-way delay: 1828.879 ms

Loss rate: 10.15%

-- Flow 2:

Average throughput: 31.69 Mbit/s

95th percentile per-packet one-way delay: 1086.054 ms

Loss rate: 6.60%

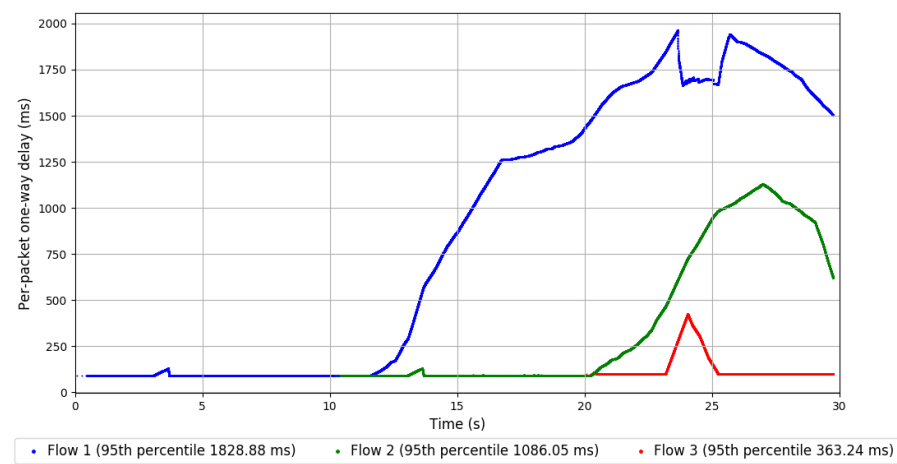
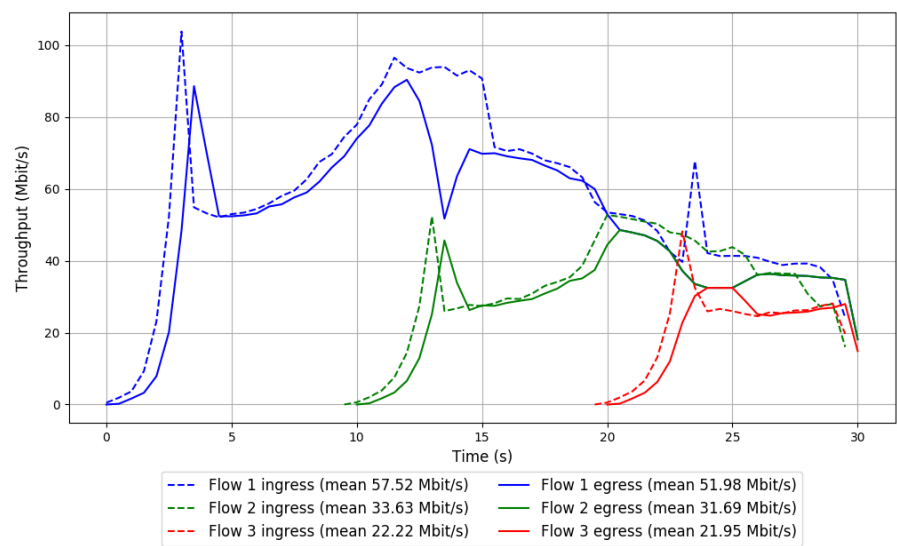
-- Flow 3:

Average throughput: 21.95 Mbit/s

95th percentile per-packet one-way delay: 363.236 ms

Loss rate: 2.98%

Run 3: Report of PCC-Vivace — Data Link



Run 4: Statistics of PCC-Vivace

Start at: 2019-05-30 12:16:22

End at: 2019-05-30 12:16:52

Local clock offset: -4.72 ms

Remote clock offset: 4.407 ms

Below is generated by plot.py at 2019-05-30 13:22:33

Datalink statistics

-- Total of 3 flows:

Average throughput: 79.57 Mbit/s

95th percentile per-packet one-way delay: 1951.341 ms

Loss rate: 5.66%

-- Flow 1:

Average throughput: 49.88 Mbit/s

95th percentile per-packet one-way delay: 624.088 ms

Loss rate: 1.59%

-- Flow 2:

Average throughput: 33.83 Mbit/s

95th percentile per-packet one-way delay: 2042.014 ms

Loss rate: 14.26%

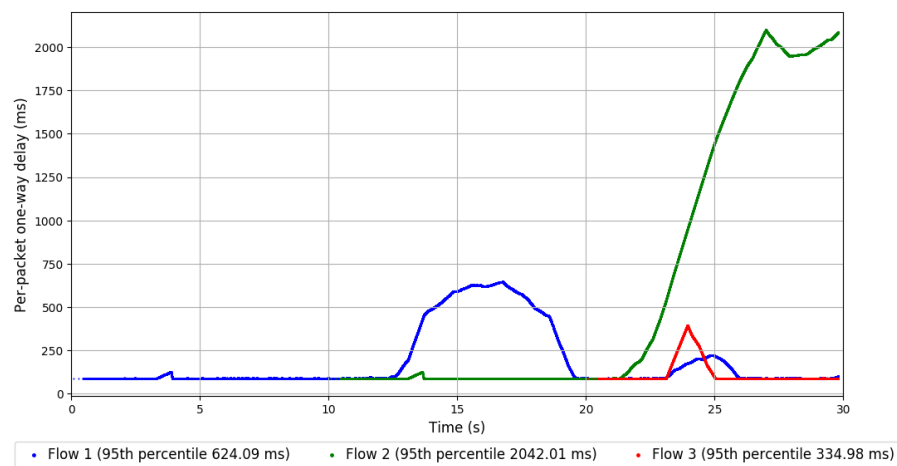
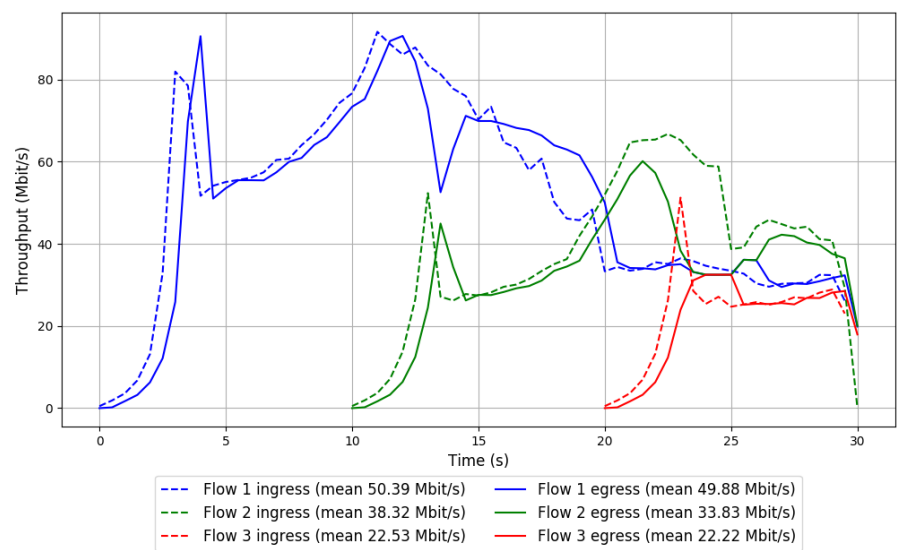
-- Flow 3:

Average throughput: 22.22 Mbit/s

95th percentile per-packet one-way delay: 334.977 ms

Loss rate: 3.14%

Run 4: Report of PCC-Vivace — Data Link



Run 5: Statistics of PCC-Vivace

Start at: 2019-05-30 12:43:23

End at: 2019-05-30 12:43:53

Local clock offset: -4.638 ms

Remote clock offset: 4.934 ms

Below is generated by plot.py at 2019-05-30 13:22:34

Datalink statistics

-- Total of 3 flows:

Average throughput: 79.55 Mbit/s

95th percentile per-packet one-way delay: 1763.085 ms

Loss rate: 8.75%

-- Flow 1:

Average throughput: 51.58 Mbit/s

95th percentile per-packet one-way delay: 1853.326 ms

Loss rate: 7.96%

-- Flow 2:

Average throughput: 30.61 Mbit/s

95th percentile per-packet one-way delay: 1488.101 ms

Loss rate: 11.86%

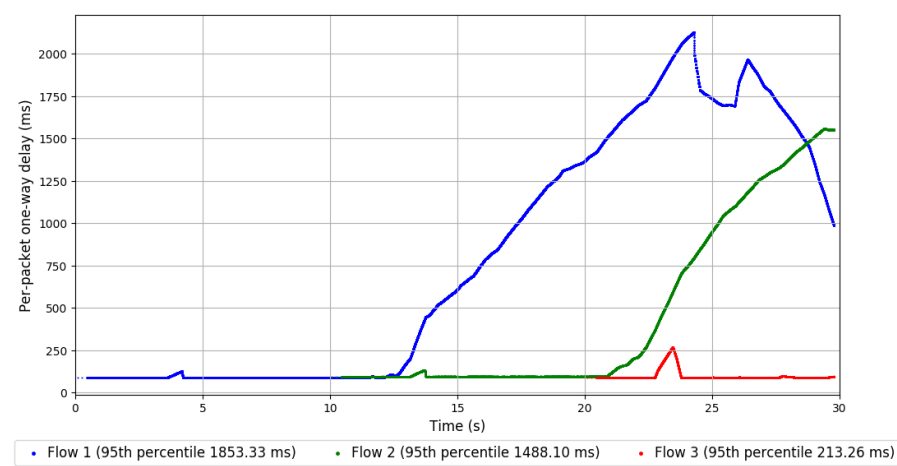
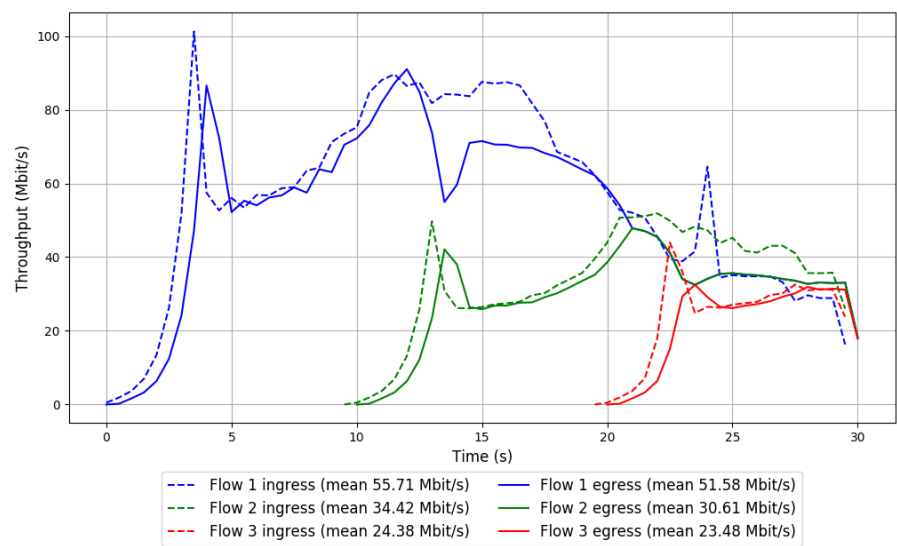
-- Flow 3:

Average throughput: 23.48 Mbit/s

95th percentile per-packet one-way delay: 213.259 ms

Loss rate: 5.35%

Run 5: Report of PCC-Vivace — Data Link



Run 1: Statistics of WebRTC media

Start at: 2019-05-30 11:19:47

End at: 2019-05-30 11:20:17

Local clock offset: -0.189 ms

Remote clock offset: 1.79 ms

Below is generated by plot.py at 2019-05-30 13:22:34

Datalink statistics

-- Total of 3 flows:

Average throughput: 2.98 Mbit/s

95th percentile per-packet one-way delay: 100.484 ms

Loss rate: 0.57%

-- Flow 1:

Average throughput: 1.70 Mbit/s

95th percentile per-packet one-way delay: 94.645 ms

Loss rate: 0.35%

-- Flow 2:

Average throughput: 0.92 Mbit/s

95th percentile per-packet one-way delay: 100.681 ms

Loss rate: 0.44%

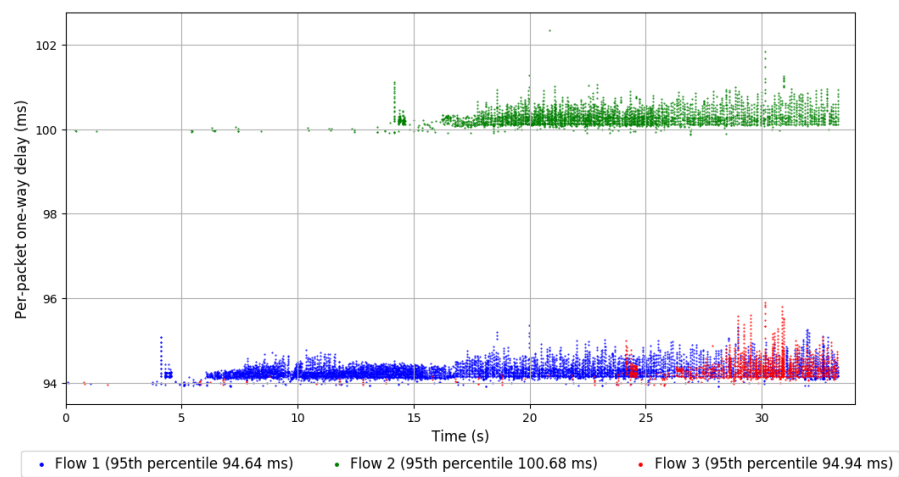
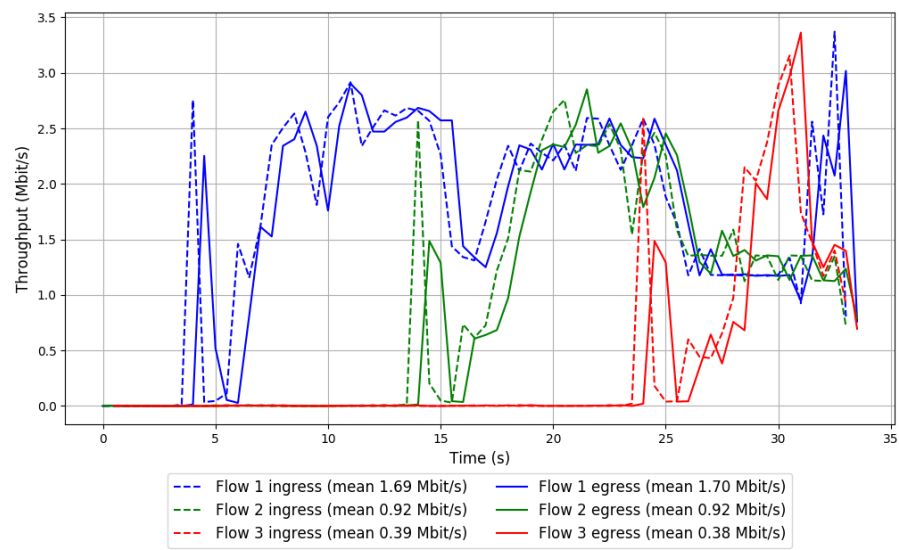
-- Flow 3:

Average throughput: 0.38 Mbit/s

95th percentile per-packet one-way delay: 94.937 ms

Loss rate: 1.83%

Run 1: Report of WebRTC media — Data Link



Run 2: Statistics of WebRTC media

Start at: 2019-05-30 11:46:47

End at: 2019-05-30 11:47:17

Local clock offset: -4.929 ms

Remote clock offset: 6.515 ms

Below is generated by plot.py at 2019-05-30 13:22:34

Datalink statistics

-- Total of 3 flows:

Average throughput: 3.10 Mbit/s

95th percentile per-packet one-way delay: 96.082 ms

Loss rate: 0.67%

-- Flow 1:

Average throughput: 1.75 Mbit/s

95th percentile per-packet one-way delay: 96.182 ms

Loss rate: 0.36%

-- Flow 2:

Average throughput: 0.97 Mbit/s

95th percentile per-packet one-way delay: 90.171 ms

Loss rate: 0.74%

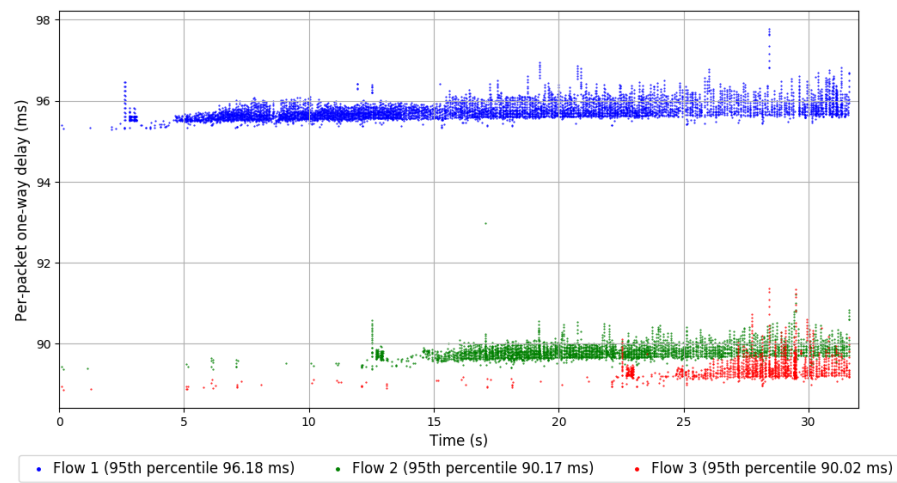
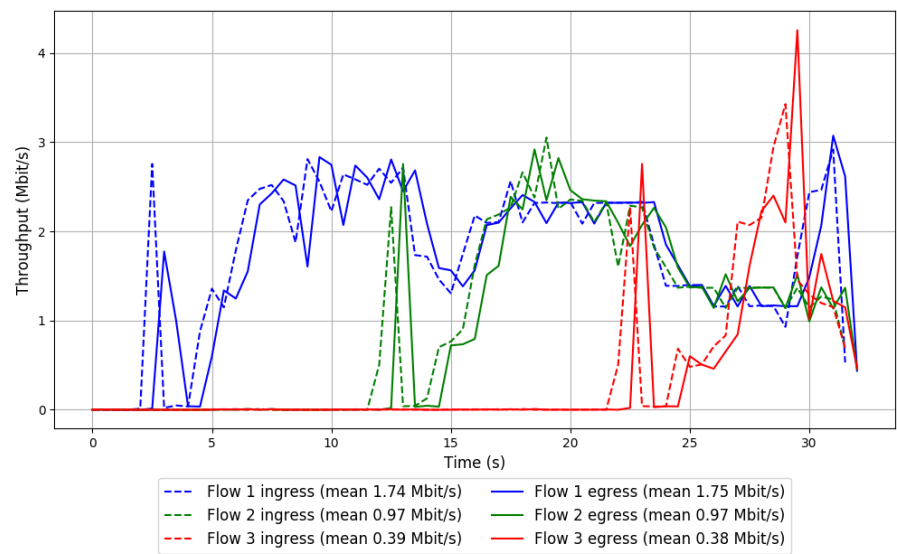
-- Flow 3:

Average throughput: 0.38 Mbit/s

95th percentile per-packet one-way delay: 90.020 ms

Loss rate: 1.86%

Run 2: Report of WebRTC media — Data Link



Run 3: Statistics of WebRTC media

Start at: 2019-05-30 12:13:47

End at: 2019-05-30 12:14:17

Local clock offset: -4.533 ms

Remote clock offset: 0.955 ms

Below is generated by plot.py at 2019-05-30 13:22:34

Datalink statistics

-- Total of 3 flows:

Average throughput: 2.88 Mbit/s

95th percentile per-packet one-way delay: 94.232 ms

Loss rate: 0.65%

-- Flow 1:

Average throughput: 1.70 Mbit/s

95th percentile per-packet one-way delay: 93.854 ms

Loss rate: 0.46%

-- Flow 2:

Average throughput: 0.94 Mbit/s

95th percentile per-packet one-way delay: 94.123 ms

Loss rate: 0.74%

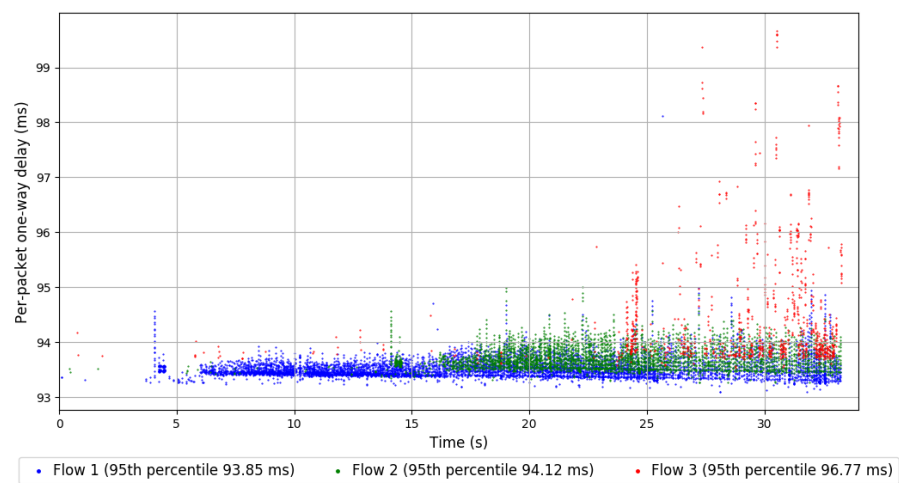
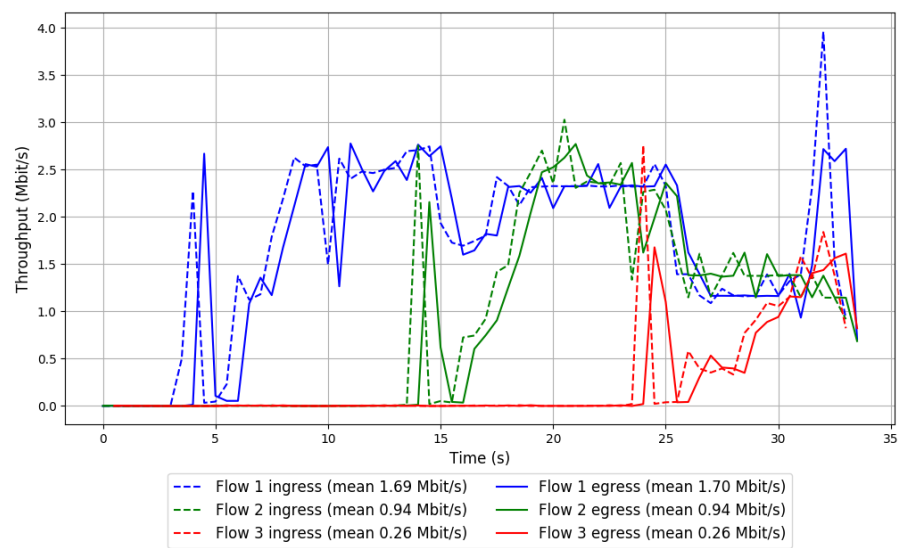
-- Flow 3:

Average throughput: 0.26 Mbit/s

95th percentile per-packet one-way delay: 96.772 ms

Loss rate: 1.58%

Run 3: Report of WebRTC media — Data Link



Run 4: Statistics of WebRTC media

Start at: 2019-05-30 12:40:48

End at: 2019-05-30 12:41:18

Local clock offset: -3.369 ms

Remote clock offset: 0.086 ms

Below is generated by plot.py at 2019-05-30 13:22:34

Datalink statistics

-- Total of 3 flows:

Average throughput: 2.78 Mbit/s

95th percentile per-packet one-way delay: 94.336 ms

Loss rate: 0.43%

-- Flow 1:

Average throughput: 1.66 Mbit/s

95th percentile per-packet one-way delay: 94.307 ms

Loss rate: 0.25%

-- Flow 2:

Average throughput: 0.92 Mbit/s

95th percentile per-packet one-way delay: 94.354 ms

Loss rate: 0.37%

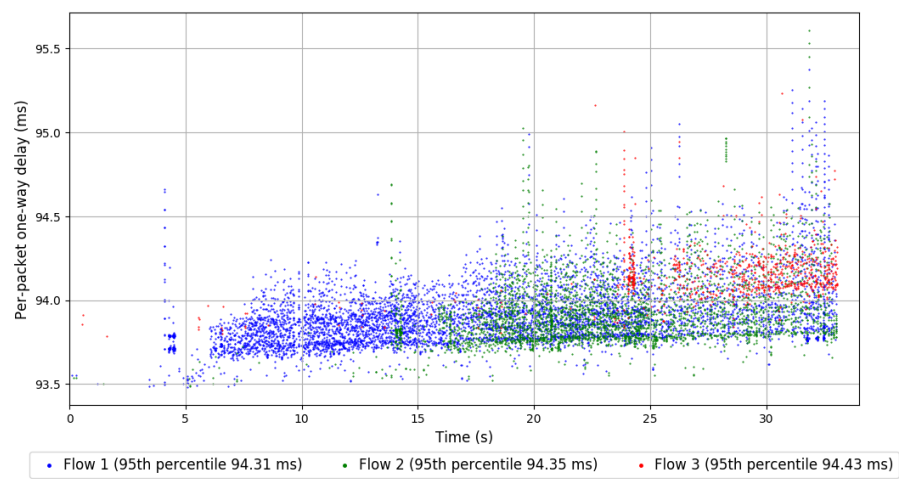
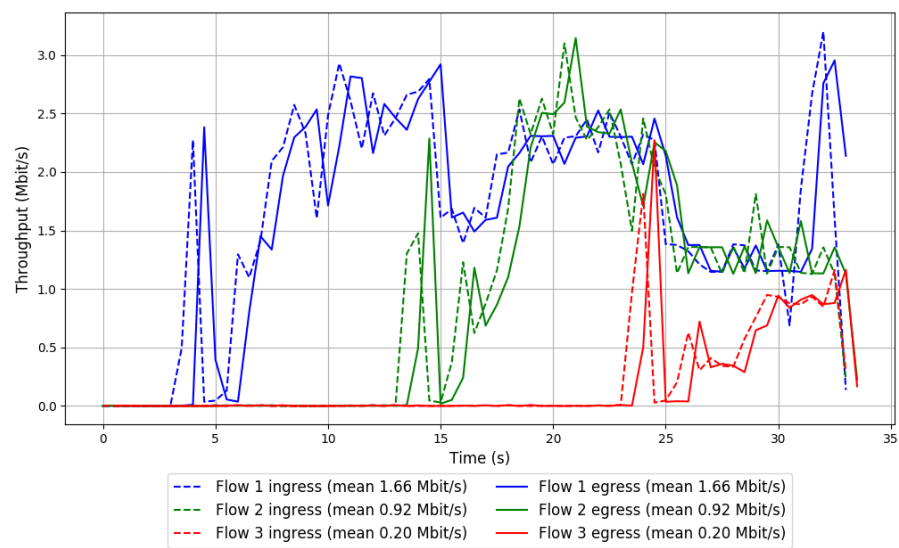
-- Flow 3:

Average throughput: 0.20 Mbit/s

95th percentile per-packet one-way delay: 94.432 ms

Loss rate: 2.19%

Run 4: Report of WebRTC media — Data Link



Run 5: Statistics of WebRTC media

Start at: 2019-05-30 13:07:50
End at: 2019-05-30 13:08:20
Local clock offset: -6.414 ms
Remote clock offset: -0.449 ms

Below is generated by plot.py at 2019-05-30 13:22:34
Datalink statistics
-- Total of 3 flows:
Average throughput: 2.98 Mbit/s
95th percentile per-packet one-way delay: 100.571 ms
Loss rate: 0.66%
-- Flow 1:
Average throughput: 1.71 Mbit/s
95th percentile per-packet one-way delay: 94.158 ms
Loss rate: 0.35%
-- Flow 2:
Average throughput: 0.92 Mbit/s
95th percentile per-packet one-way delay: 100.663 ms
Loss rate: 0.76%
-- Flow 3:
Average throughput: 0.37 Mbit/s
95th percentile per-packet one-way delay: 100.936 ms
Loss rate: 1.88%

Run 5: Report of WebRTC media — Data Link

