

Pantheon Report

Generated at 2019-03-27 14:27:31 (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:

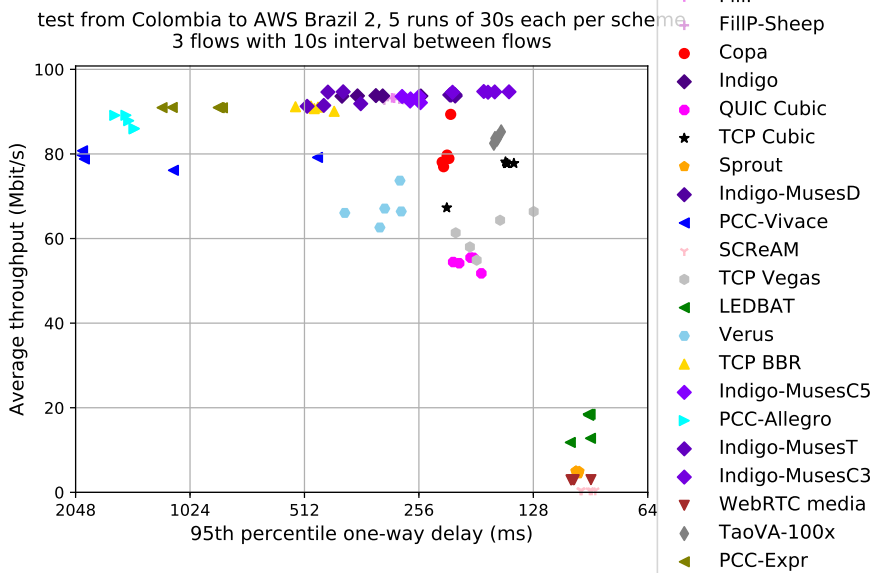
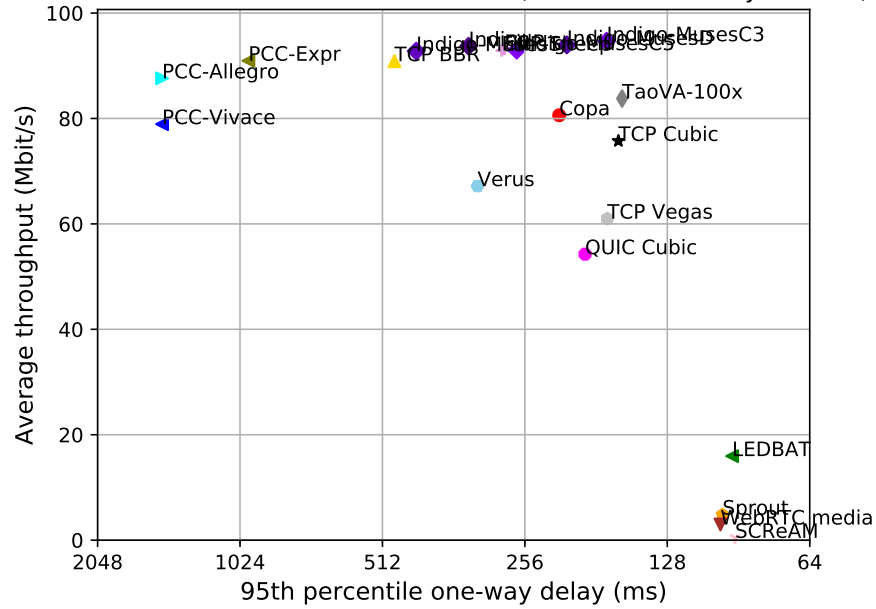
```
Linux 4.15.0-1034-aws
net.core.default_qdisc = fq
net.core.rmem_default = 16777216
net.core.rmem_max = 536870912
net.core.wmem_default = 16777216
net.core.wmem_max = 536870912
net.ipv4.tcp_rmem = 4096 16777216 536870912
net.ipv4.tcp_wmem = 4096 16777216 536870912
```

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-quick @ 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	55.70	37.81	30.79	445.03	632.24	421.33	2.60	4.59	6.06
Copa	5	47.37	35.87	28.62	205.31	144.42	200.89	0.56	0.92	2.26
TCP Cubic	5	42.55	36.22	27.79	179.30	146.12	158.67	0.38	1.07	2.71
FillP	5	57.39	39.31	29.50	288.65	262.93	307.09	1.45	3.33	3.62
FillP-Sheep	5	57.14	38.85	30.24	300.71	242.60	293.55	0.83	1.99	3.60
Indigo	5	58.46	38.86	29.18	356.00	146.34	141.85	6.50	1.23	2.88
Indigo-MusesC3	5	60.20	40.08	30.29	142.17	226.05	220.35	2.40	2.31	3.13
Indigo-MusesC5	5	59.33	39.24	29.33	262.77	276.66	327.14	2.82	4.84	8.26
Indigo-MusesD	5	61.19	37.82	29.47	213.97	153.69	170.01	5.68	2.76	5.01
Indigo-MusesT	5	58.18	40.22	30.51	363.55	382.26	529.09	6.37	5.37	7.67
LEDBAT	5	9.69	7.58	3.79	93.47	93.20	91.96	1.09	1.59	3.53
PCC-Allegro	5	55.21	34.35	29.50	1511.71	1141.68	1502.30	25.13	12.80	21.19
PCC-Expr	5	56.65	38.97	25.91	1008.15	902.37	247.04	23.37	6.65	3.16
QUIC Cubic	5	34.91	22.14	14.27	143.34	211.99	379.78	0.56	1.40	2.95
SCReAM	5	0.22	0.22	0.22	90.65	89.46	90.68	0.54	0.91	1.63
Sprout	5	3.00	1.88	1.83	97.96	95.30	97.57	0.85	0.77	2.52
TaoVA-100x	5	49.45	37.12	29.40	155.88	164.52	156.17	0.45	0.82	1.99
TCP Vegas	5	35.33	28.60	20.29	179.44	126.98	216.37	0.59	0.93	1.93
Verus	5	35.55	34.52	26.60	328.67	324.50	369.44	0.64	1.58	3.08
PCC-Vivace	5	50.75	31.30	22.72	1558.55	689.37	317.26	4.79	3.77	3.74
WebRTC media	5	1.69	0.93	0.37	95.25	96.57	95.33	0.34	0.64	1.72

Run 1: Statistics of TCP BBR

Start at: 2019-03-27 12:16:30

End at: 2019-03-27 12:17:00

Local clock offset: -2.928 ms

Remote clock offset: 6.614 ms

Below is generated by plot.py at 2019-03-27 14:15:59

Datalink statistics

-- Total of 3 flows:

Average throughput: 91.07 Mbit/s

95th percentile per-packet one-way delay: 471.688 ms

Loss rate: 4.11%

-- Flow 1:

Average throughput: 55.68 Mbit/s

95th percentile per-packet one-way delay: 430.521 ms

Loss rate: 2.61%

-- Flow 2:

Average throughput: 37.84 Mbit/s

95th percentile per-packet one-way delay: 623.357 ms

Loss rate: 5.78%

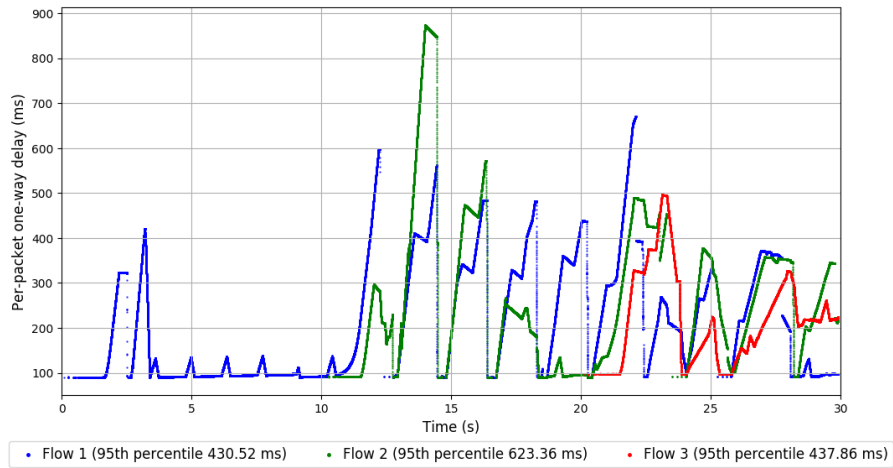
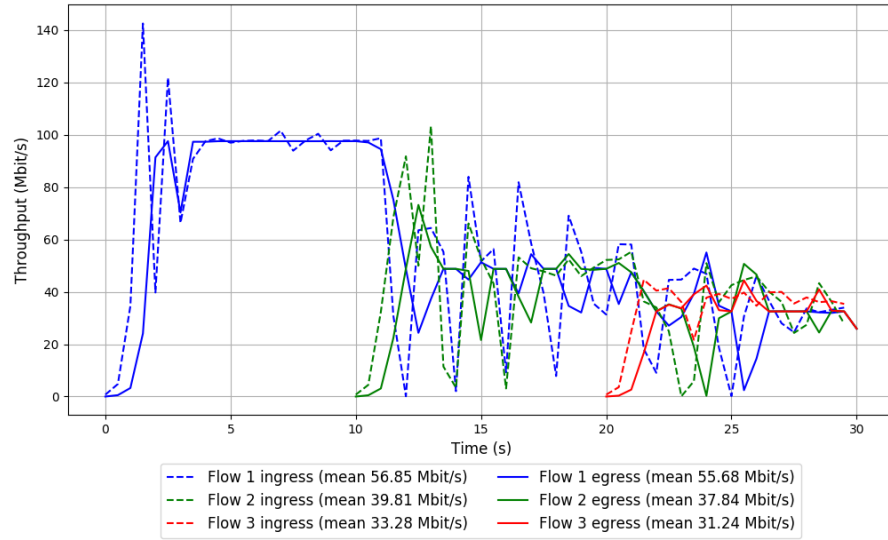
-- Flow 3:

Average throughput: 31.24 Mbit/s

95th percentile per-packet one-way delay: 437.856 ms

Loss rate: 7.82%

Run 1: Report of TCP BBR — Data Link



Run 2: Statistics of TCP BBR

Start at: 2019-03-27 12:43:29

End at: 2019-03-27 12:43:59

Local clock offset: -5.66 ms

Remote clock offset: 4.174 ms

Below is generated by plot.py at 2019-03-27 14:15:59

Datalink statistics

-- Total of 3 flows:

Average throughput: 90.71 Mbit/s

95th percentile per-packet one-way delay: 482.548 ms

Loss rate: 2.80%

-- Flow 1:

Average throughput: 56.27 Mbit/s

95th percentile per-packet one-way delay: 439.618 ms

Loss rate: 2.50%

-- Flow 2:

Average throughput: 37.47 Mbit/s

95th percentile per-packet one-way delay: 728.165 ms

Loss rate: 3.44%

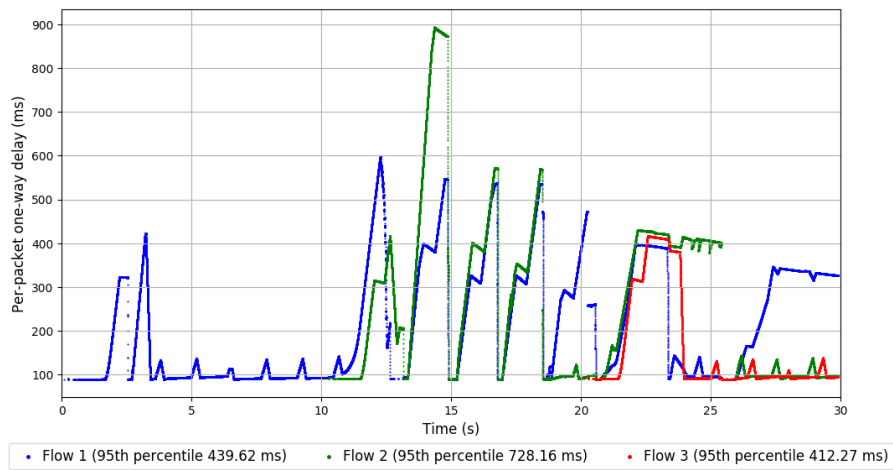
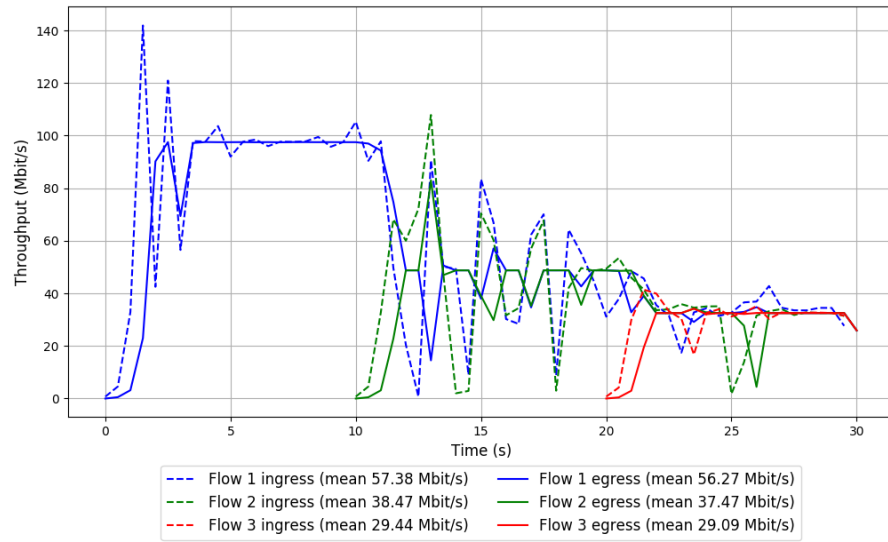
-- Flow 3:

Average throughput: 29.09 Mbit/s

95th percentile per-packet one-way delay: 412.270 ms

Loss rate: 2.90%

Run 2: Report of TCP BBR — Data Link



Run 3: Statistics of TCP BBR

Start at: 2019-03-27 13:10:38

End at: 2019-03-27 13:11:08

Local clock offset: -4.912 ms

Remote clock offset: 3.487 ms

Below is generated by plot.py at 2019-03-27 14:16:00

Datalink statistics

-- Total of 3 flows:

Average throughput: 91.16 Mbit/s

95th percentile per-packet one-way delay: 540.577 ms

Loss rate: 3.43%

-- Flow 1:

Average throughput: 55.76 Mbit/s

95th percentile per-packet one-way delay: 537.985 ms

Loss rate: 2.28%

-- Flow 2:

Average throughput: 37.59 Mbit/s

95th percentile per-packet one-way delay: 649.582 ms

Loss rate: 4.17%

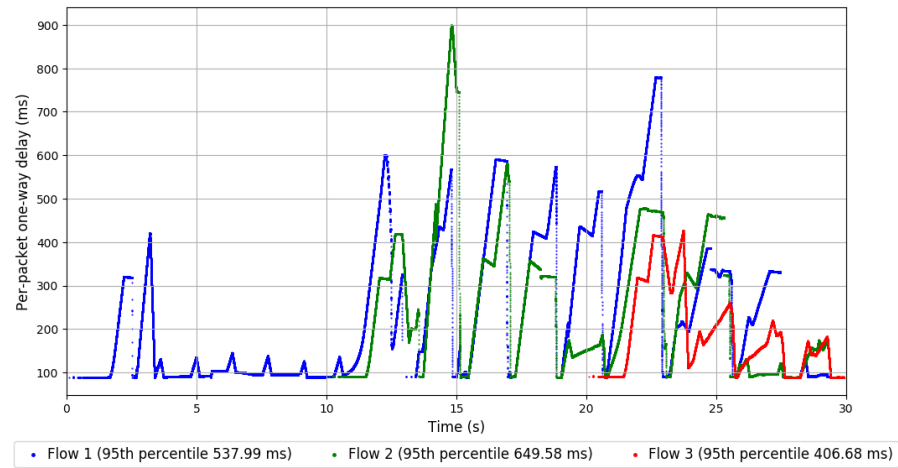
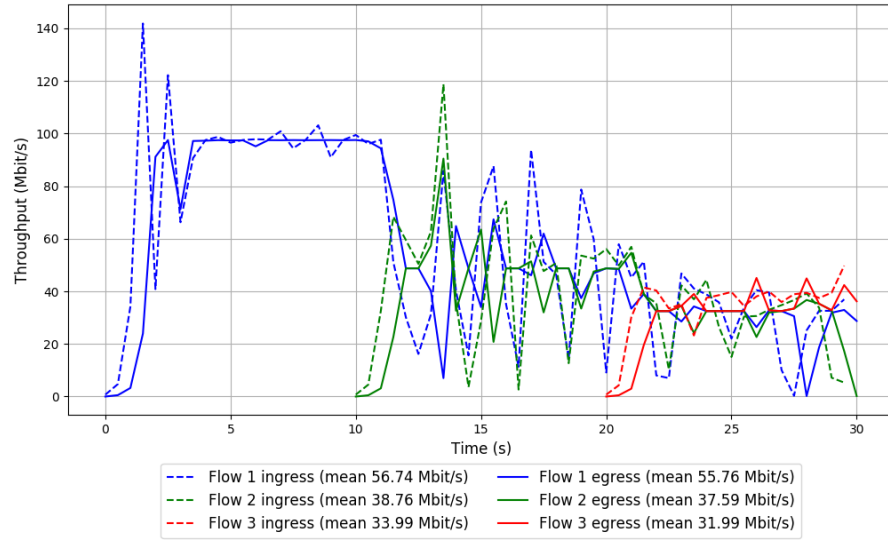
-- Flow 3:

Average throughput: 31.99 Mbit/s

95th percentile per-packet one-way delay: 406.676 ms

Loss rate: 7.54%

Run 3: Report of TCP BBR — Data Link



Run 4: Statistics of TCP BBR

Start at: 2019-03-27 13:37:38

End at: 2019-03-27 13:38:08

Local clock offset: -3.496 ms

Remote clock offset: 3.108 ms

Below is generated by plot.py at 2019-03-27 14:16:00

Datalink statistics

-- Total of 3 flows:

Average throughput: 91.32 Mbit/s

95th percentile per-packet one-way delay: 492.164 ms

Loss rate: 3.24%

-- Flow 1:

Average throughput: 55.95 Mbit/s

95th percentile per-packet one-way delay: 397.305 ms

Loss rate: 2.46%

-- Flow 2:

Average throughput: 38.46 Mbit/s

95th percentile per-packet one-way delay: 647.605 ms

Loss rate: 4.22%

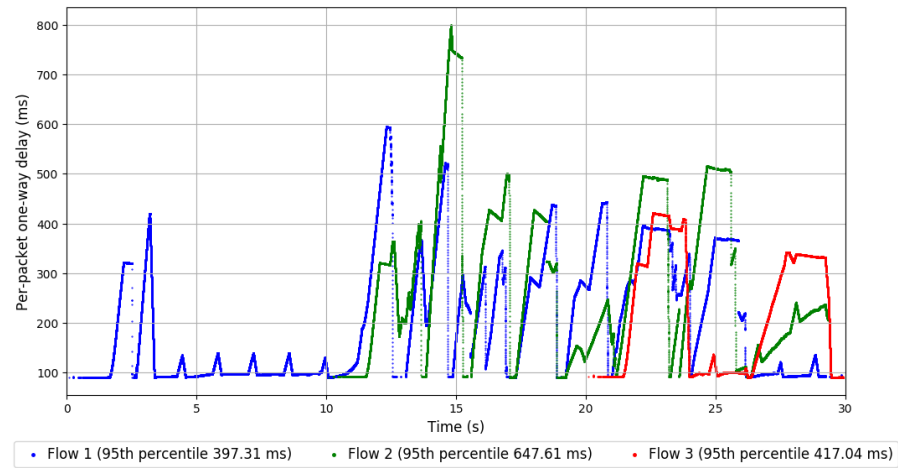
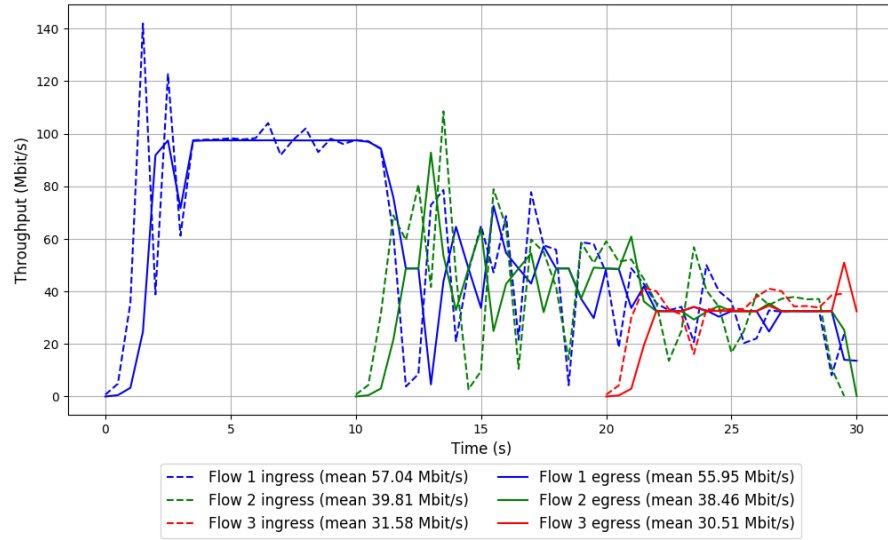
-- Flow 3:

Average throughput: 30.51 Mbit/s

95th percentile per-packet one-way delay: 417.041 ms

Loss rate: 5.05%

Run 4: Report of TCP BBR — Data Link



Run 5: Statistics of TCP BBR

Start at: 2019-03-27 14:04:40

End at: 2019-03-27 14:05:10

Local clock offset: -4.758 ms

Remote clock offset: 4.241 ms

Below is generated by plot.py at 2019-03-27 14:16:00

Datalink statistics

-- Total of 3 flows:

Average throughput: 90.09 Mbit/s

95th percentile per-packet one-way delay: 427.617 ms

Loss rate: 4.23%

-- Flow 1:

Average throughput: 54.83 Mbit/s

95th percentile per-packet one-way delay: 419.726 ms

Loss rate: 3.17%

-- Flow 2:

Average throughput: 37.68 Mbit/s

95th percentile per-packet one-way delay: 512.483 ms

Loss rate: 5.36%

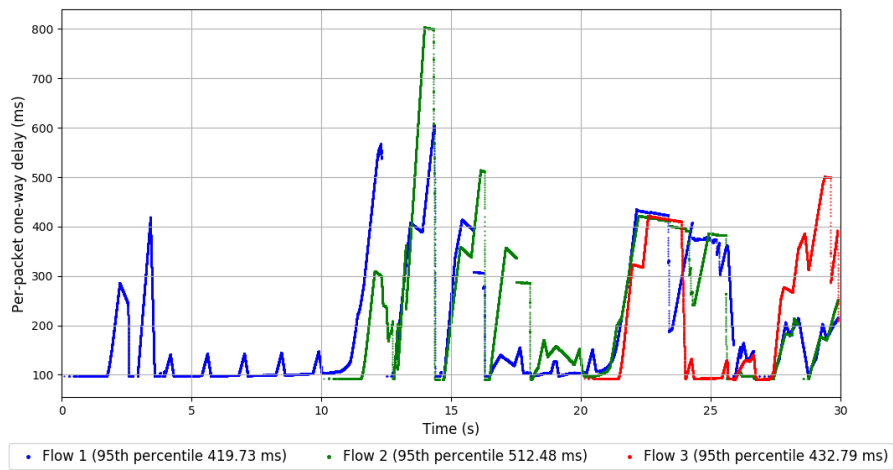
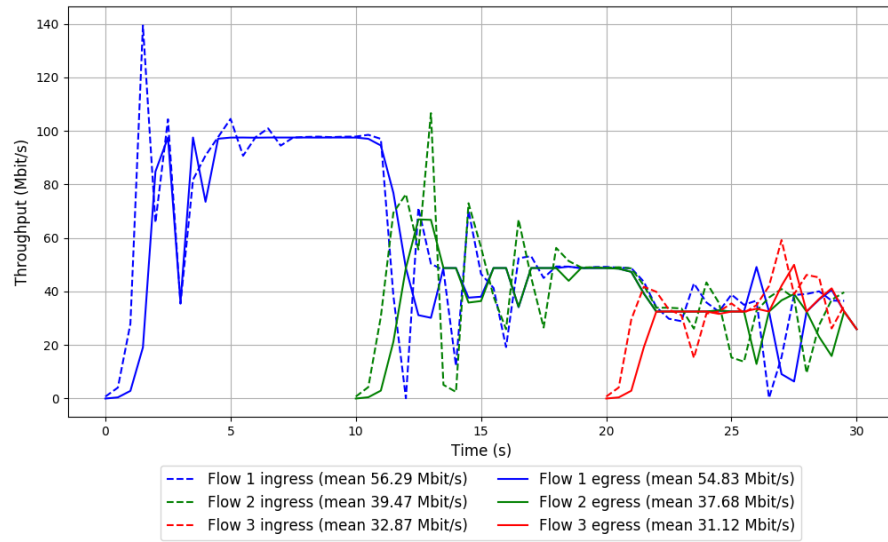
-- Flow 3:

Average throughput: 31.12 Mbit/s

95th percentile per-packet one-way delay: 432.791 ms

Loss rate: 6.98%

Run 5: Report of TCP BBR — Data Link



Run 1: Statistics of Copa

Start at: 2019-03-27 12:13:52

End at: 2019-03-27 12:14:22

Local clock offset: -2.831 ms

Remote clock offset: 6.769 ms

Below is generated by plot.py at 2019-03-27 14:16:42

Datalink statistics

-- Total of 3 flows:

Average throughput: 78.92 Mbit/s

95th percentile per-packet one-way delay: 213.449 ms

Loss rate: 0.87%

-- Flow 1:

Average throughput: 49.52 Mbit/s

95th percentile per-packet one-way delay: 215.328 ms

Loss rate: 0.54%

-- Flow 2:

Average throughput: 30.14 Mbit/s

95th percentile per-packet one-way delay: 122.831 ms

Loss rate: 1.04%

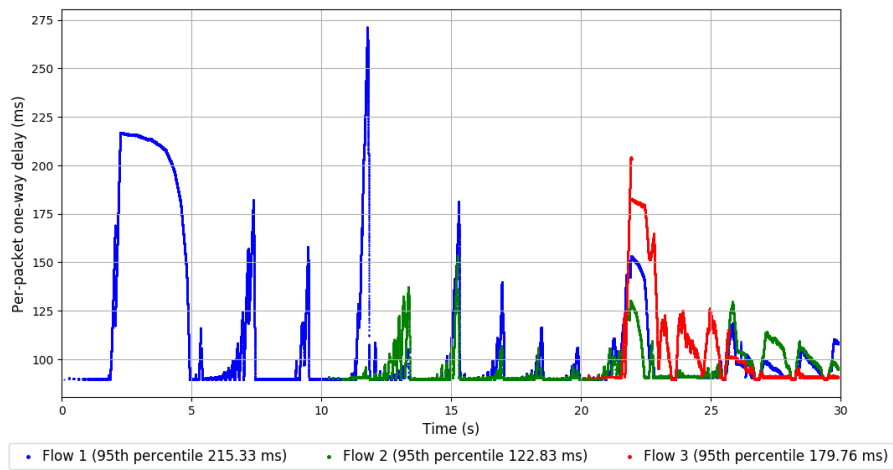
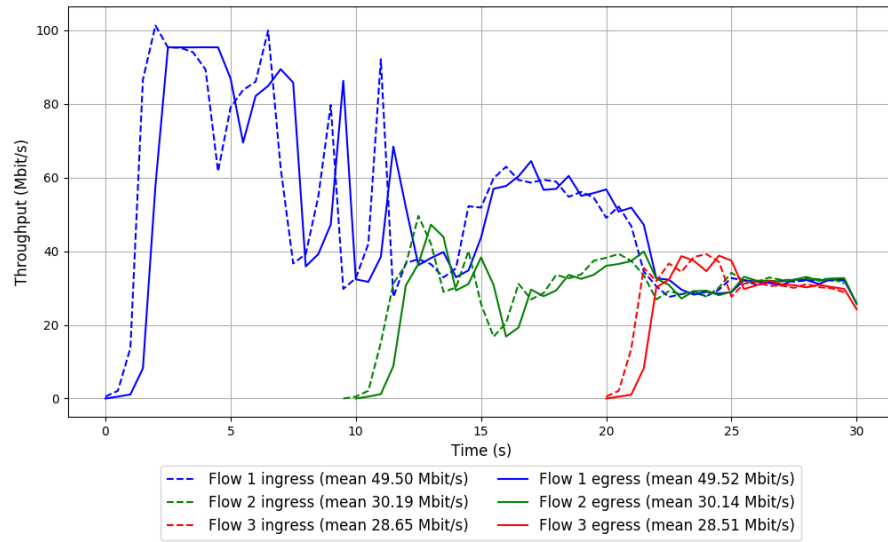
-- Flow 3:

Average throughput: 28.51 Mbit/s

95th percentile per-packet one-way delay: 179.758 ms

Loss rate: 2.21%

Run 1: Report of Copa — Data Link



Run 2: Statistics of Copa

Start at: 2019-03-27 12:40:51

End at: 2019-03-27 12:41:21

Local clock offset: -5.64 ms

Remote clock offset: 0.427 ms

Below is generated by plot.py at 2019-03-27 14:16:42

Datalink statistics

-- Total of 3 flows:

Average throughput: 76.98 Mbit/s

95th percentile per-packet one-way delay: 220.443 ms

Loss rate: 0.88%

-- Flow 1:

Average throughput: 43.21 Mbit/s

95th percentile per-packet one-way delay: 222.314 ms

Loss rate: 0.52%

-- Flow 2:

Average throughput: 36.54 Mbit/s

95th percentile per-packet one-way delay: 136.721 ms

Loss rate: 1.01%

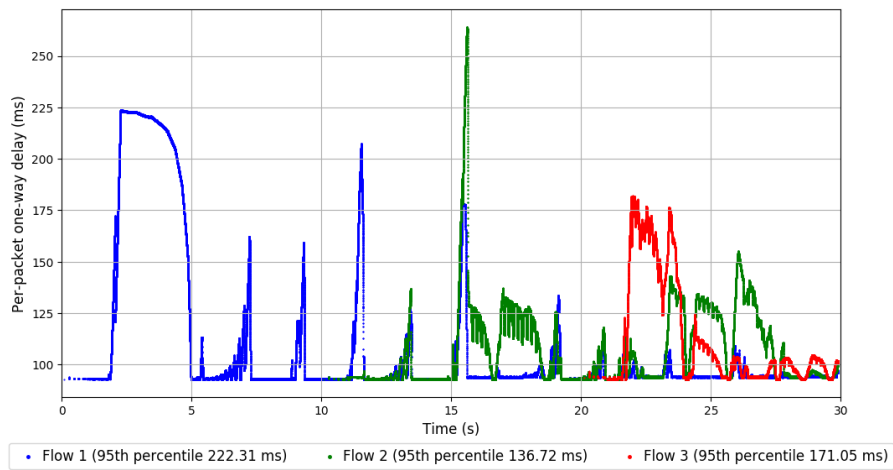
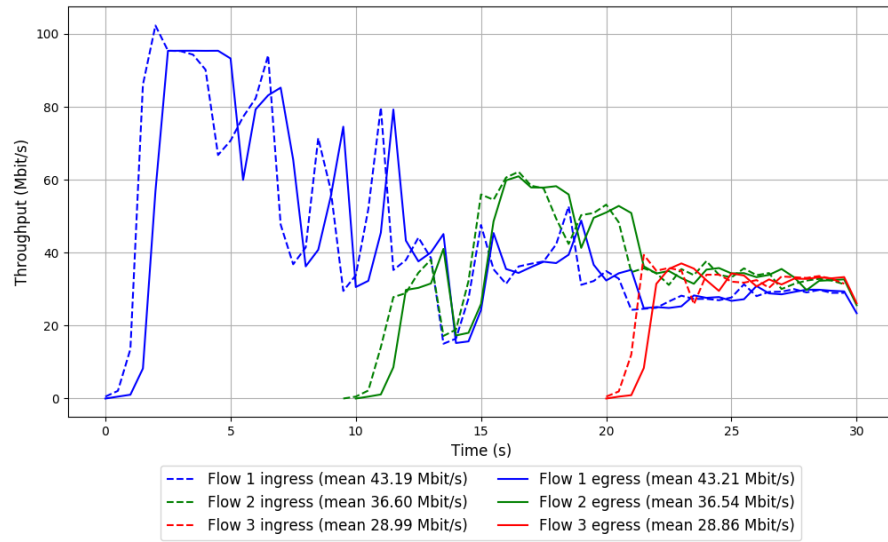
-- Flow 3:

Average throughput: 28.86 Mbit/s

95th percentile per-packet one-way delay: 171.051 ms

Loss rate: 2.17%

Run 2: Report of Copa — Data Link



Run 3: Statistics of Copa

Start at: 2019-03-27 13:07:59

End at: 2019-03-27 13:08:29

Local clock offset: -4.114 ms

Remote clock offset: 4.461 ms

Below is generated by plot.py at 2019-03-27 14:16:54

Datalink statistics

-- Total of 3 flows:

Average throughput: 89.36 Mbit/s

95th percentile per-packet one-way delay: 211.151 ms

Loss rate: 0.81%

-- Flow 1:

Average throughput: 50.10 Mbit/s

95th percentile per-packet one-way delay: 147.584 ms

Loss rate: 0.71%

-- Flow 2:

Average throughput: 45.62 Mbit/s

95th percentile per-packet one-way delay: 182.511 ms

Loss rate: 0.58%

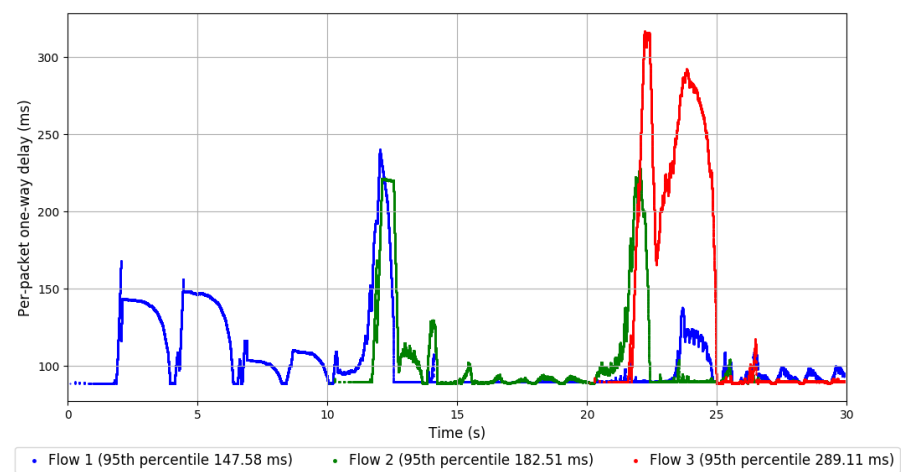
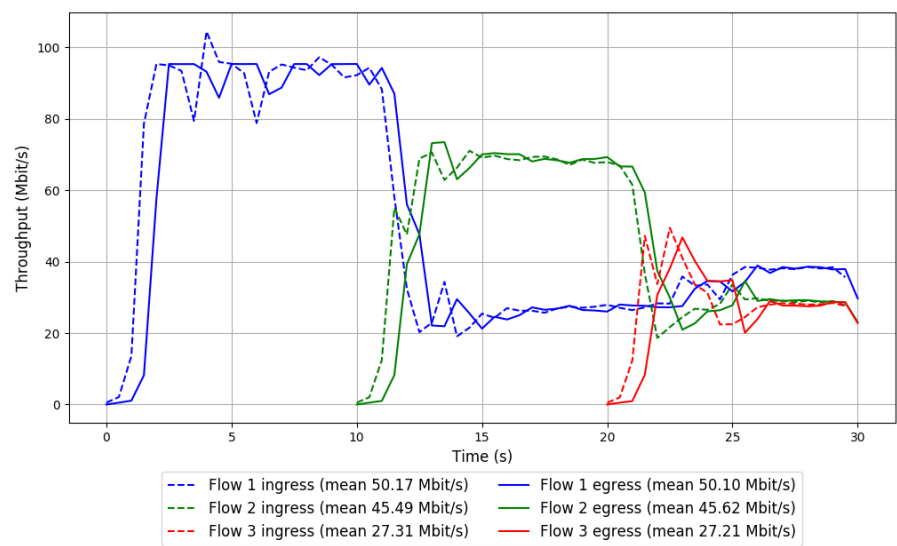
-- Flow 3:

Average throughput: 27.21 Mbit/s

95th percentile per-packet one-way delay: 289.106 ms

Loss rate: 2.07%

Run 3: Report of Copa — Data Link



Run 4: Statistics of Copa

Start at: 2019-03-27 13:35:00

End at: 2019-03-27 13:35:30

Local clock offset: -3.6 ms

Remote clock offset: 4.243 ms

Below is generated by plot.py at 2019-03-27 14:17:35

Datalink statistics

-- Total of 3 flows:

Average throughput: 78.06 Mbit/s

95th percentile per-packet one-way delay: 222.337 ms

Loss rate: 0.93%

-- Flow 1:

Average throughput: 46.17 Mbit/s

95th percentile per-packet one-way delay: 223.475 ms

Loss rate: 0.49%

-- Flow 2:

Average throughput: 32.88 Mbit/s

95th percentile per-packet one-way delay: 136.046 ms

Loss rate: 1.11%

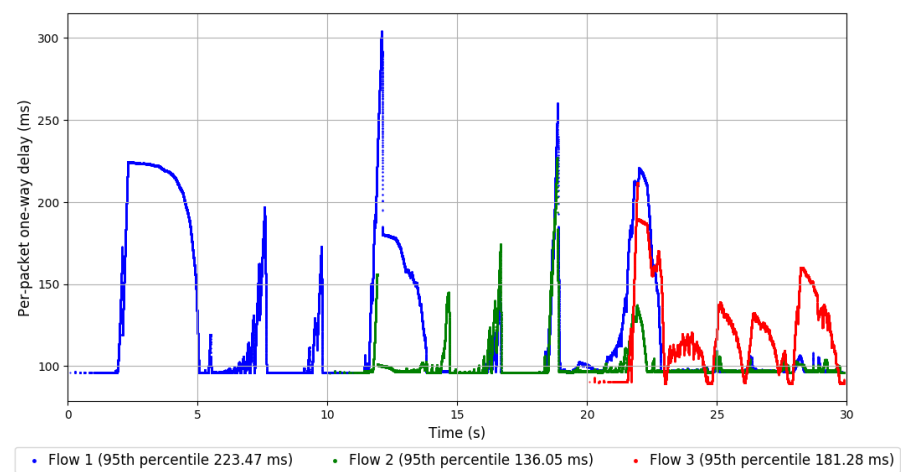
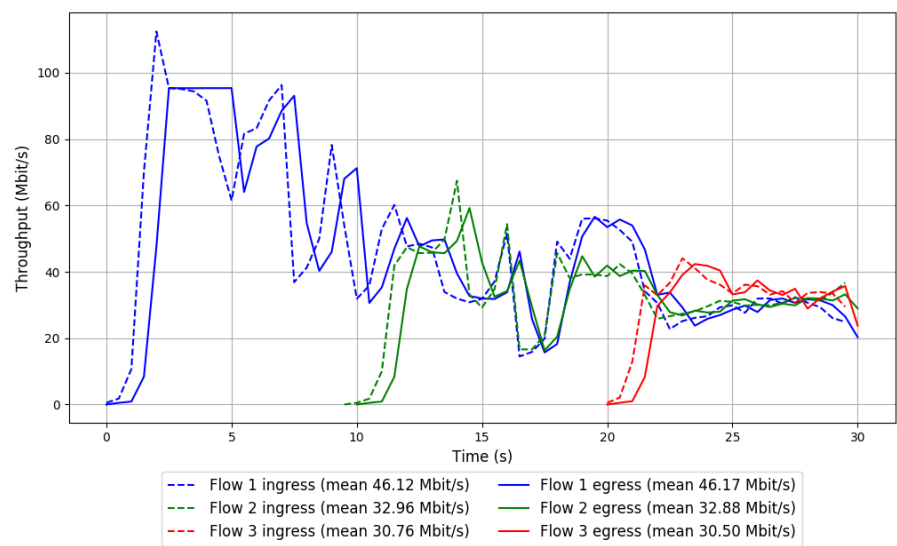
-- Flow 3:

Average throughput: 30.50 Mbit/s

95th percentile per-packet one-way delay: 181.285 ms

Loss rate: 2.55%

Run 4: Report of Copa — Data Link



Run 5: Statistics of Copa

Start at: 2019-03-27 14:02:02

End at: 2019-03-27 14:02:32

Local clock offset: -4.647 ms

Remote clock offset: 5.285 ms

Below is generated by plot.py at 2019-03-27 14:17:37

Datalink statistics

-- Total of 3 flows:

Average throughput: 79.73 Mbit/s

95th percentile per-packet one-way delay: 215.806 ms

Loss rate: 0.85%

-- Flow 1:

Average throughput: 47.83 Mbit/s

95th percentile per-packet one-way delay: 217.857 ms

Loss rate: 0.55%

-- Flow 2:

Average throughput: 34.15 Mbit/s

95th percentile per-packet one-way delay: 143.987 ms

Loss rate: 0.88%

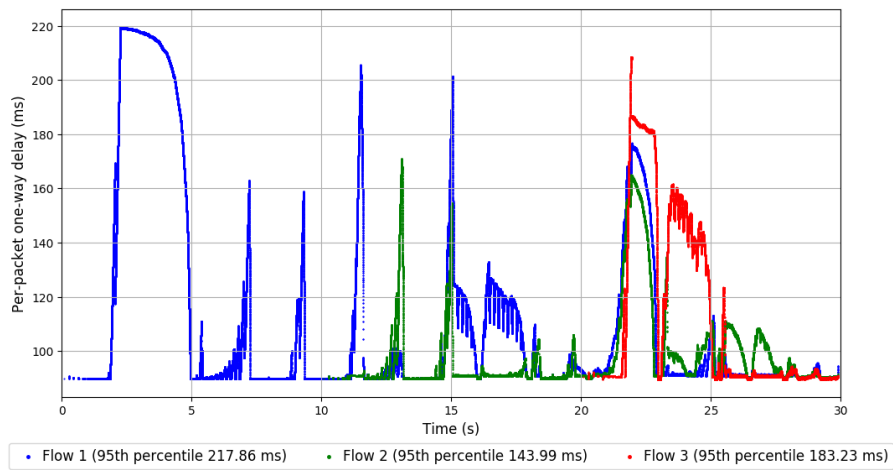
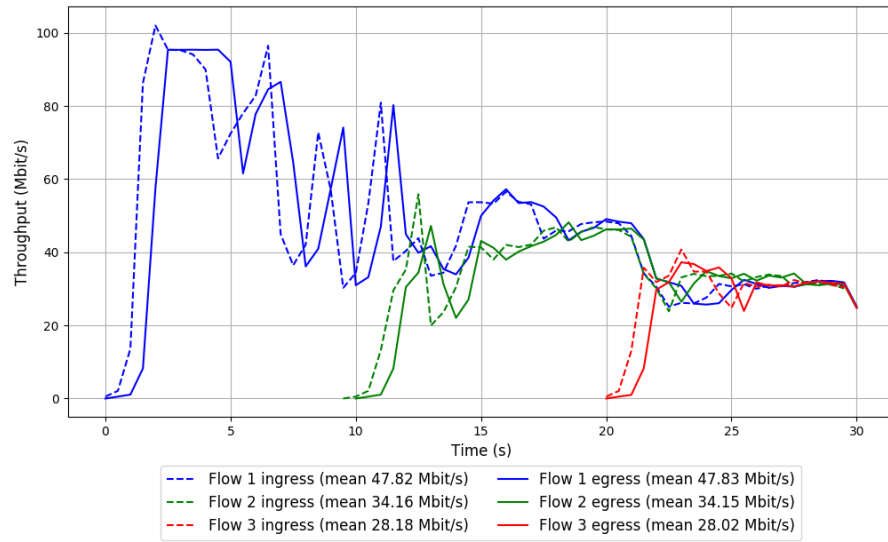
-- Flow 3:

Average throughput: 28.02 Mbit/s

95th percentile per-packet one-way delay: 183.226 ms

Loss rate: 2.31%

Run 5: Report of Copa — Data Link



Run 1: Statistics of TCP Cubic

Start at: 2019-03-27 12:20:24

End at: 2019-03-27 12:20:54

Local clock offset: -3.61 ms

Remote clock offset: 6.778 ms

Below is generated by plot.py at 2019-03-27 14:17:37

Datalink statistics

-- Total of 3 flows:

Average throughput: 77.75 Mbit/s

95th percentile per-packet one-way delay: 149.697 ms

Loss rate: 0.74%

-- Flow 1:

Average throughput: 42.59 Mbit/s

95th percentile per-packet one-way delay: 182.872 ms

Loss rate: 0.37%

-- Flow 2:

Average throughput: 35.72 Mbit/s

95th percentile per-packet one-way delay: 145.427 ms

Loss rate: 0.75%

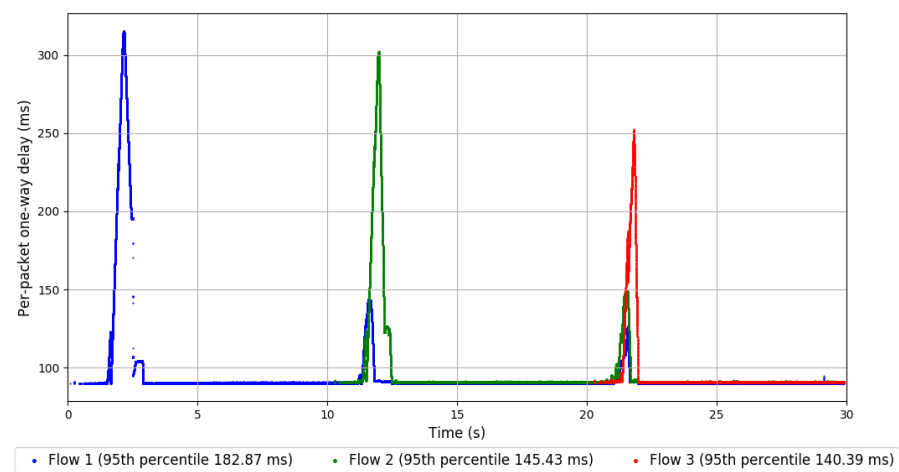
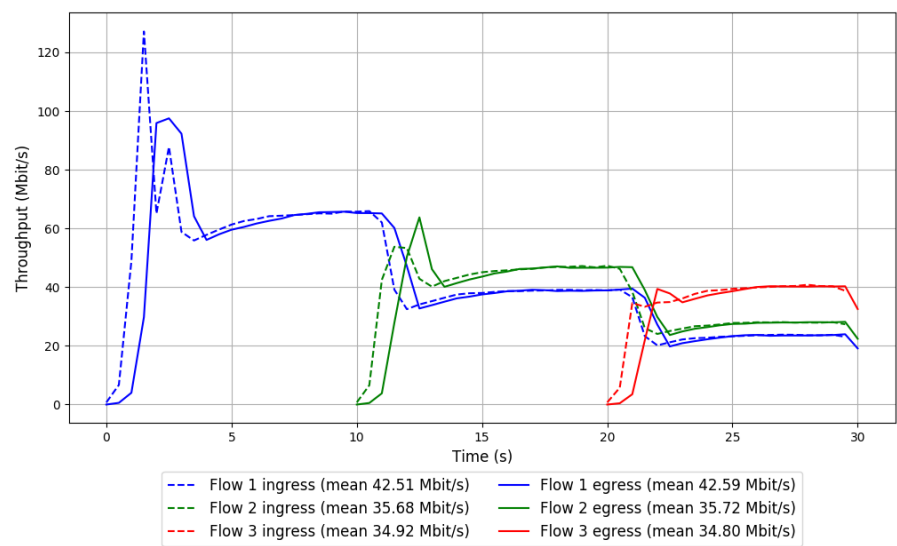
-- Flow 3:

Average throughput: 34.80 Mbit/s

95th percentile per-packet one-way delay: 140.394 ms

Loss rate: 2.05%

Run 1: Report of TCP Cubic — Data Link

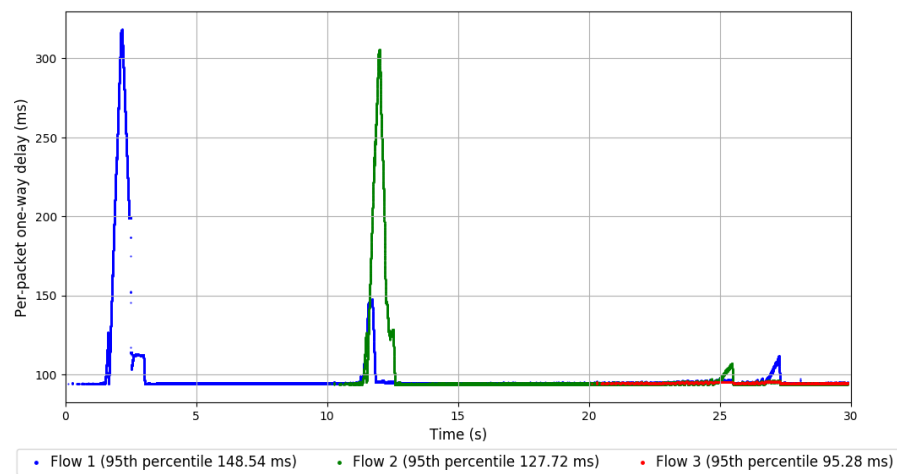
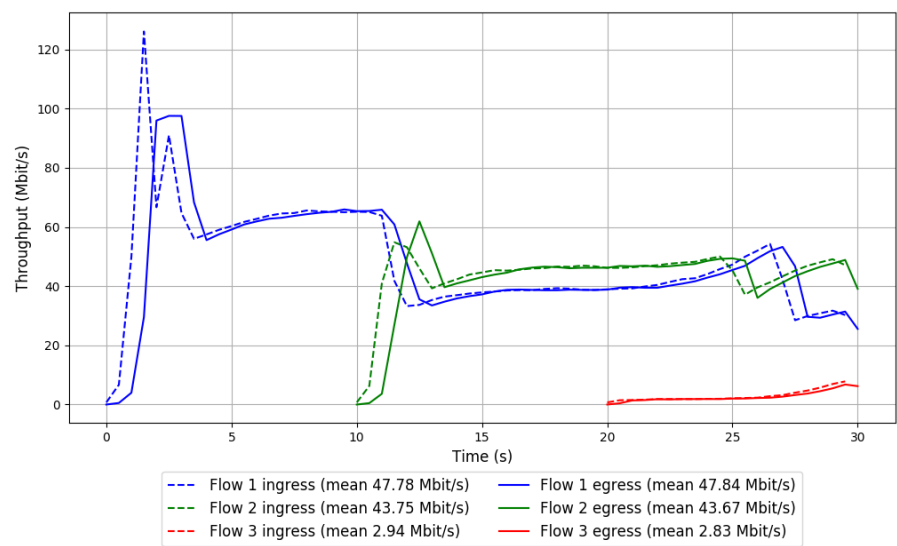


Run 2: Statistics of TCP Cubic

Start at: 2019-03-27 12:47:23
End at: 2019-03-27 12:47:53
Local clock offset: -5.556 ms
Remote clock offset: -1.309 ms

Below is generated by plot.py at 2019-03-27 14:17:37
Datalink statistics
-- Total of 3 flows:
Average throughput: 77.77 Mbit/s
95th percentile per-packet one-way delay: 143.999 ms
Loss rate: 0.72%
-- Flow 1:
Average throughput: 47.84 Mbit/s
95th percentile per-packet one-way delay: 148.536 ms
Loss rate: 0.44%
-- Flow 2:
Average throughput: 43.67 Mbit/s
95th percentile per-packet one-way delay: 127.722 ms
Loss rate: 1.04%
-- Flow 3:
Average throughput: 2.83 Mbit/s
95th percentile per-packet one-way delay: 95.282 ms
Loss rate: 5.29%

Run 2: Report of TCP Cubic — Data Link



Run 3: Statistics of TCP Cubic

Start at: 2019-03-27 13:14:32

End at: 2019-03-27 13:15:02

Local clock offset: -4.237 ms

Remote clock offset: 5.008 ms

Below is generated by plot.py at 2019-03-27 14:17:37

Datalink statistics

-- Total of 3 flows:

Average throughput: 78.13 Mbit/s

95th percentile per-packet one-way delay: 151.487 ms

Loss rate: 0.75%

-- Flow 1:

Average throughput: 42.75 Mbit/s

95th percentile per-packet one-way delay: 180.459 ms

Loss rate: 0.38%

-- Flow 2:

Average throughput: 35.71 Mbit/s

95th percentile per-packet one-way delay: 145.211 ms

Loss rate: 0.75%

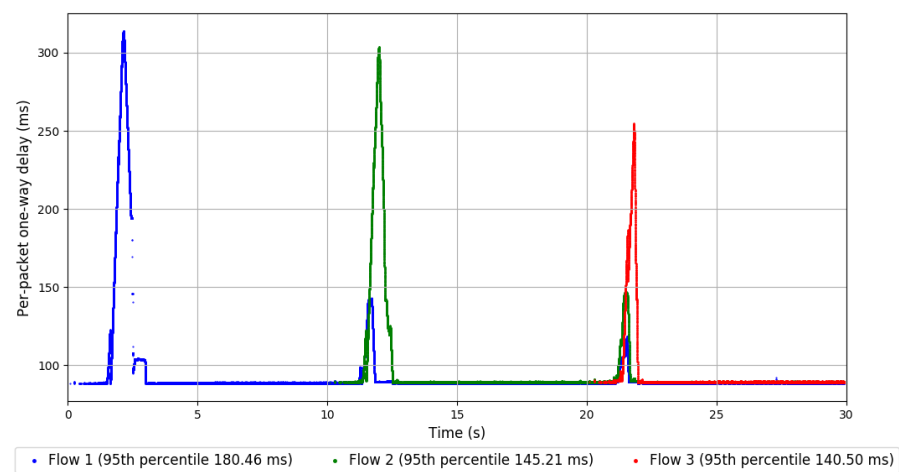
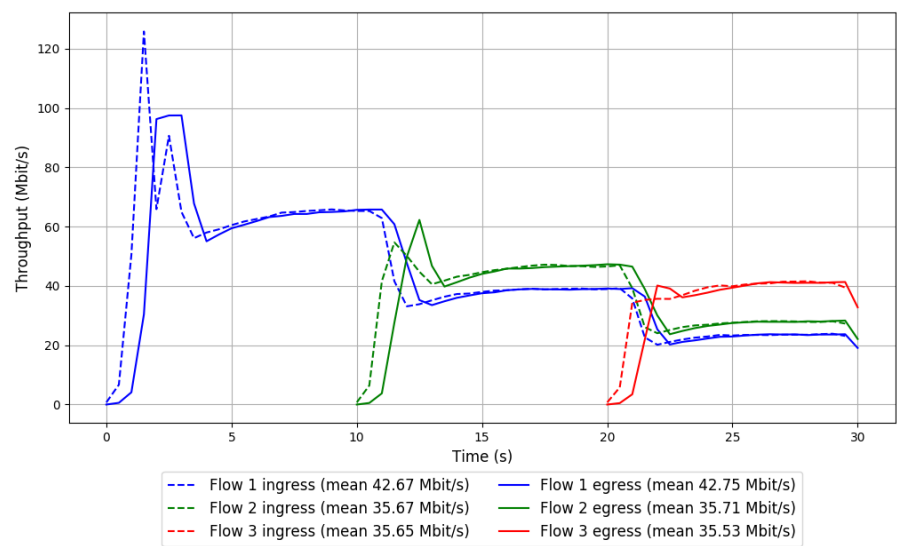
-- Flow 3:

Average throughput: 35.53 Mbit/s

95th percentile per-packet one-way delay: 140.499 ms

Loss rate: 2.05%

Run 3: Report of TCP Cubic — Data Link

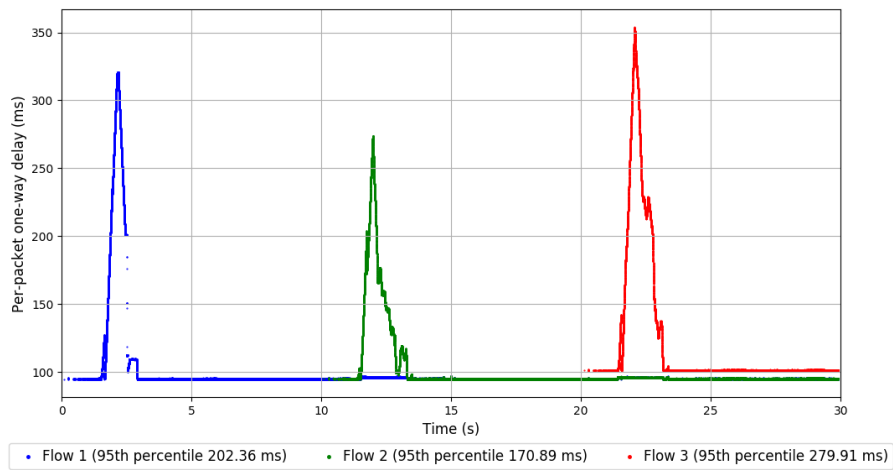
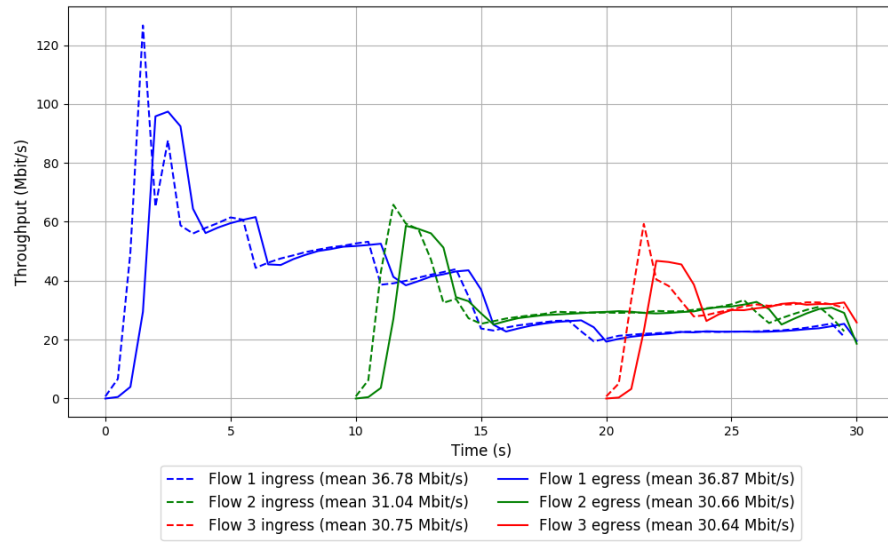


Run 4: Statistics of TCP Cubic

Start at: 2019-03-27 13:41:32
End at: 2019-03-27 13:42:02
Local clock offset: -3.41 ms
Remote clock offset: -0.356 ms

Below is generated by plot.py at 2019-03-27 14:17:37
Datalink statistics
-- Total of 3 flows:
Average throughput: 67.28 Mbit/s
95th percentile per-packet one-way delay: 216.209 ms
Loss rate: 1.14%
-- Flow 1:
Average throughput: 36.87 Mbit/s
95th percentile per-packet one-way delay: 202.359 ms
Loss rate: 0.34%
-- Flow 2:
Average throughput: 30.66 Mbit/s
95th percentile per-packet one-way delay: 170.889 ms
Loss rate: 2.07%
-- Flow 3:
Average throughput: 30.64 Mbit/s
95th percentile per-packet one-way delay: 279.910 ms
Loss rate: 2.15%

Run 4: Report of TCP Cubic — Data Link



Run 5: Statistics of TCP Cubic

Start at: 2019-03-27 14:08:33

End at: 2019-03-27 14:09:03

Local clock offset: -5.622 ms

Remote clock offset: 4.536 ms

Below is generated by plot.py at 2019-03-27 14:17:37

Datalink statistics

-- Total of 3 flows:

Average throughput: 77.74 Mbit/s

95th percentile per-packet one-way delay: 150.641 ms

Loss rate: 0.74%

-- Flow 1:

Average throughput: 42.72 Mbit/s

95th percentile per-packet one-way delay: 182.254 ms

Loss rate: 0.38%

-- Flow 2:

Average throughput: 35.32 Mbit/s

95th percentile per-packet one-way delay: 141.339 ms

Loss rate: 0.74%

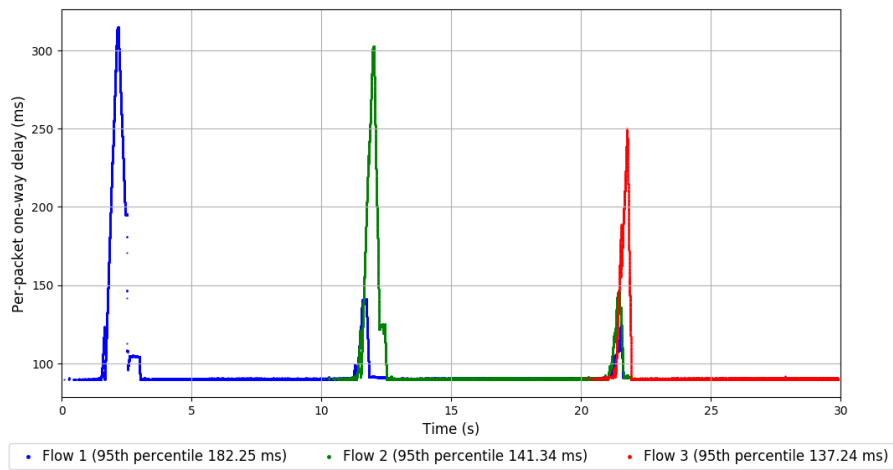
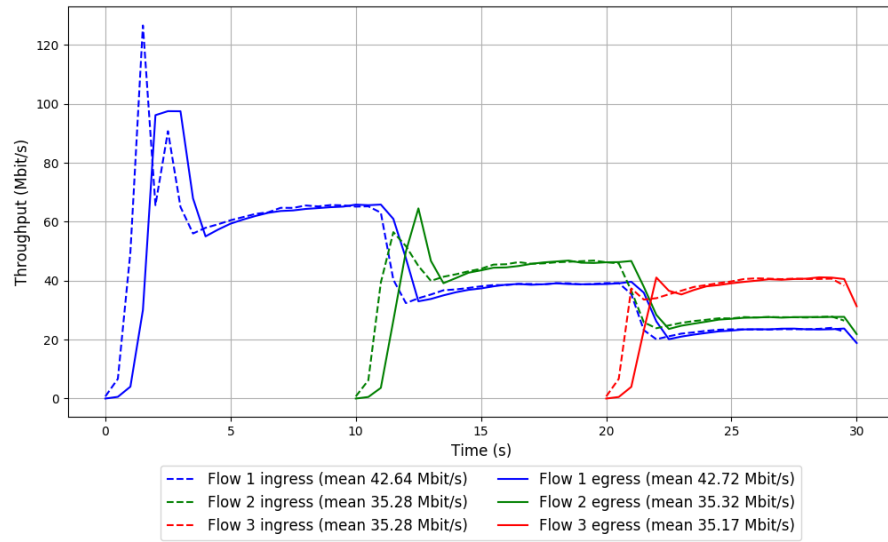
-- Flow 3:

Average throughput: 35.17 Mbit/s

95th percentile per-packet one-way delay: 137.244 ms

Loss rate: 2.03%

Run 5: Report of TCP Cubic — Data Link



Run 1: Statistics of FillP

Start at: 2019-03-27 12:02:20

End at: 2019-03-27 12:02:50

Local clock offset: -2.863 ms

Remote clock offset: 2.332 ms

Below is generated by plot.py at 2019-03-27 14:18:05

Datalink statistics

-- Total of 3 flows:

Average throughput: 93.33 Mbit/s

95th percentile per-packet one-way delay: 255.661 ms

Loss rate: 2.17%

-- Flow 1:

Average throughput: 57.81 Mbit/s

95th percentile per-packet one-way delay: 284.287 ms

Loss rate: 1.88%

-- Flow 2:

Average throughput: 38.89 Mbit/s

95th percentile per-packet one-way delay: 224.716 ms

Loss rate: 2.07%

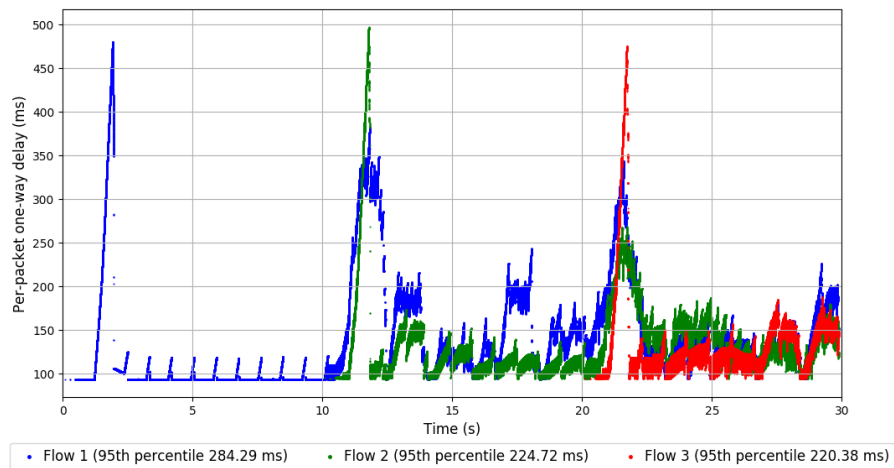
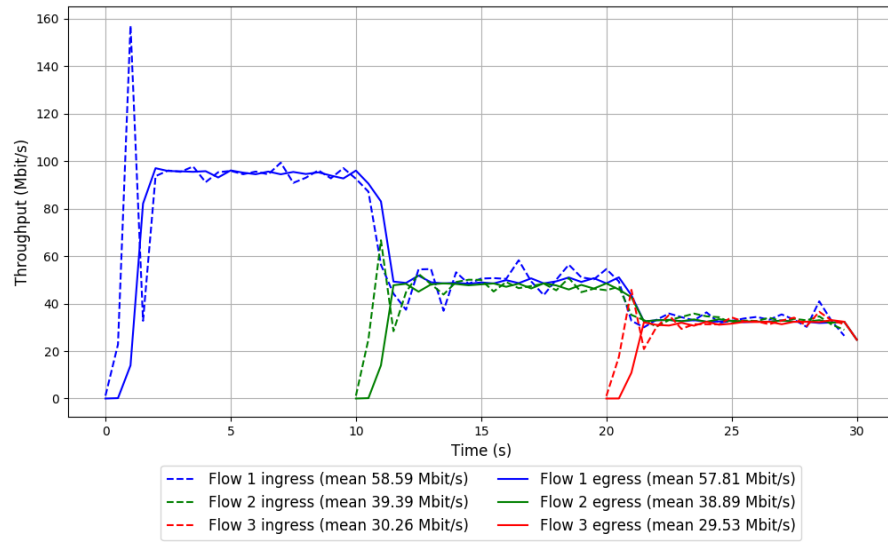
-- Flow 3:

Average throughput: 29.53 Mbit/s

95th percentile per-packet one-way delay: 220.381 ms

Loss rate: 4.10%

Run 1: Report of FillP — Data Link



Run 2: Statistics of FillP

Start at: 2019-03-27 12:29:20

End at: 2019-03-27 12:29:50

Local clock offset: -5.134 ms

Remote clock offset: 5.913 ms

Below is generated by plot.py at 2019-03-27 14:18:06

Datalink statistics

-- Total of 3 flows:

Average throughput: 93.09 Mbit/s

95th percentile per-packet one-way delay: 275.217 ms

Loss rate: 2.33%

-- Flow 1:

Average throughput: 57.10 Mbit/s

95th percentile per-packet one-way delay: 251.149 ms

Loss rate: 0.82%

-- Flow 2:

Average throughput: 39.71 Mbit/s

95th percentile per-packet one-way delay: 292.860 ms

Loss rate: 5.26%

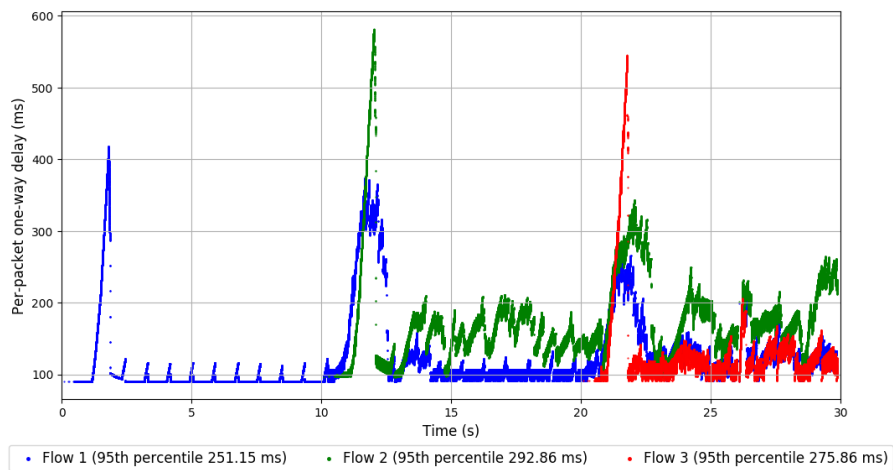
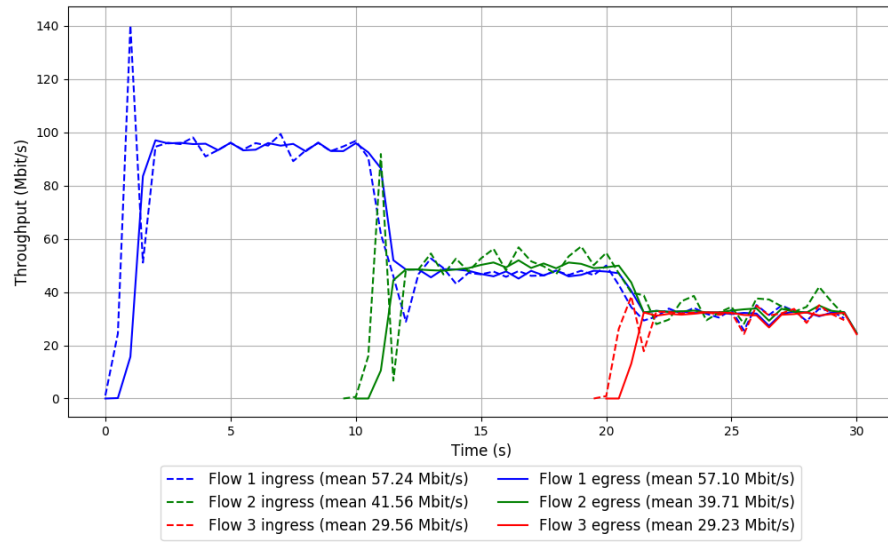
-- Flow 3:

Average throughput: 29.23 Mbit/s

95th percentile per-packet one-way delay: 275.859 ms

Loss rate: 2.81%

Run 2: Report of FillP — Data Link



Run 3: Statistics of FillP

Start at: 2019-03-27 12:56:24

End at: 2019-03-27 12:56:54

Local clock offset: -4.24 ms

Remote clock offset: 3.334 ms

Below is generated by plot.py at 2019-03-27 14:18:07

Datalink statistics

-- Total of 3 flows:

Average throughput: 93.18 Mbit/s

95th percentile per-packet one-way delay: 297.332 ms

Loss rate: 2.55%

-- Flow 1:

Average throughput: 57.47 Mbit/s

95th percentile per-packet one-way delay: 318.938 ms

Loss rate: 1.78%

-- Flow 2:

Average throughput: 39.20 Mbit/s

95th percentile per-packet one-way delay: 215.966 ms

Loss rate: 3.75%

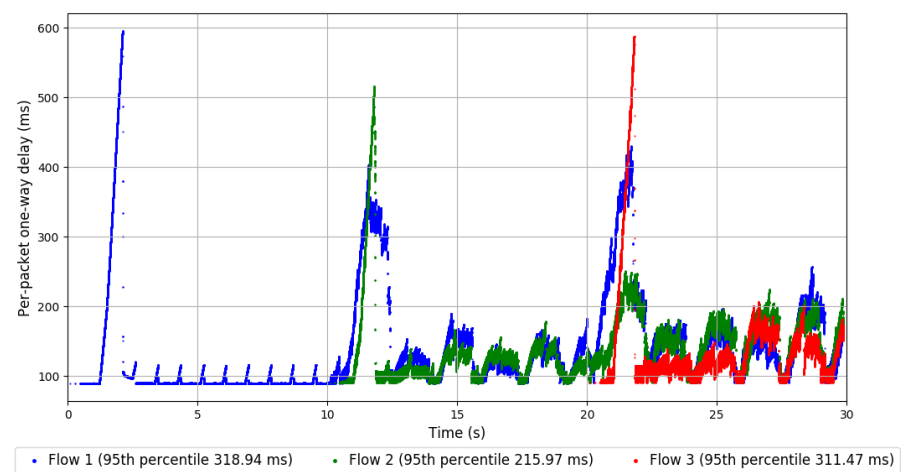
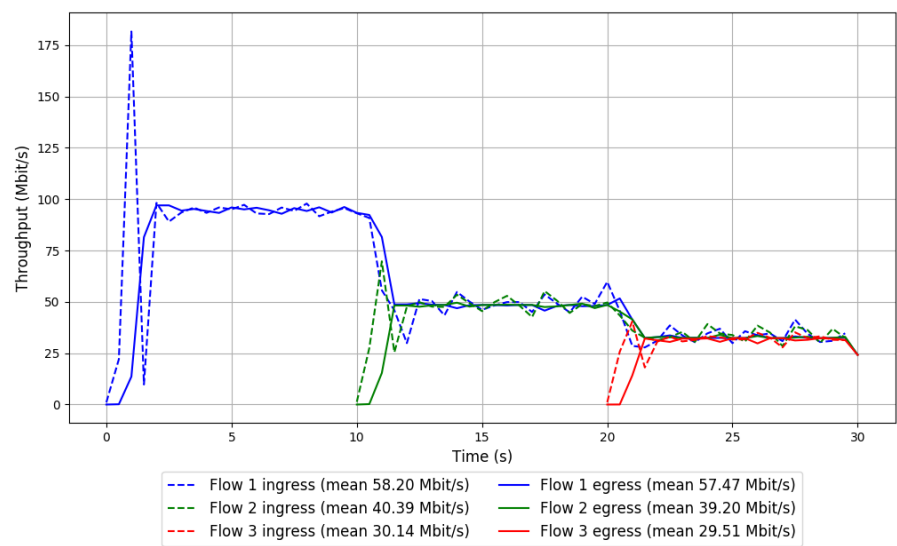
-- Flow 3:

Average throughput: 29.51 Mbit/s

95th percentile per-packet one-way delay: 311.473 ms

Loss rate: 3.81%

Run 3: Report of FillP — Data Link



Run 4: Statistics of FillP

Start at: 2019-03-27 13:23:29

End at: 2019-03-27 13:23:59

Local clock offset: -3.893 ms

Remote clock offset: 2.913 ms

Below is generated by plot.py at 2019-03-27 14:18:09

Datalink statistics

-- Total of 3 flows:

Average throughput: 93.27 Mbit/s

95th percentile per-packet one-way delay: 301.339 ms

Loss rate: 1.90%

-- Flow 1:

Average throughput: 57.13 Mbit/s

95th percentile per-packet one-way delay: 281.106 ms

Loss rate: 0.72%

-- Flow 2:

Average throughput: 39.74 Mbit/s

95th percentile per-packet one-way delay: 347.846 ms

Loss rate: 3.46%

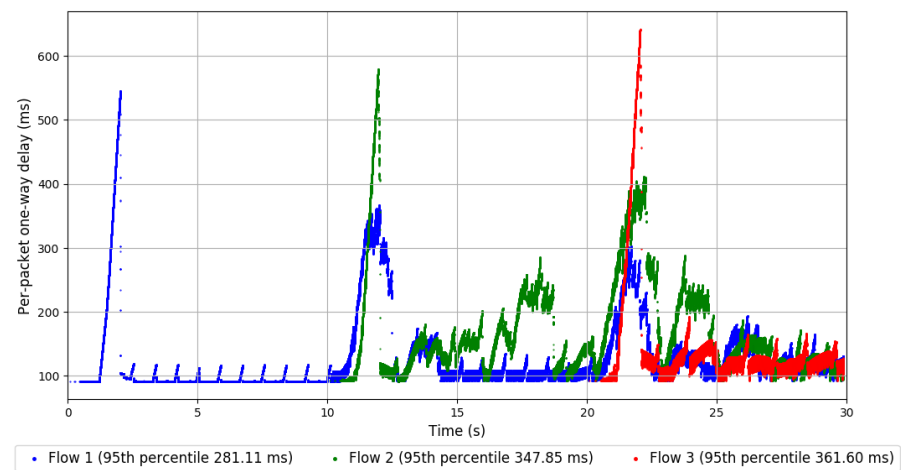
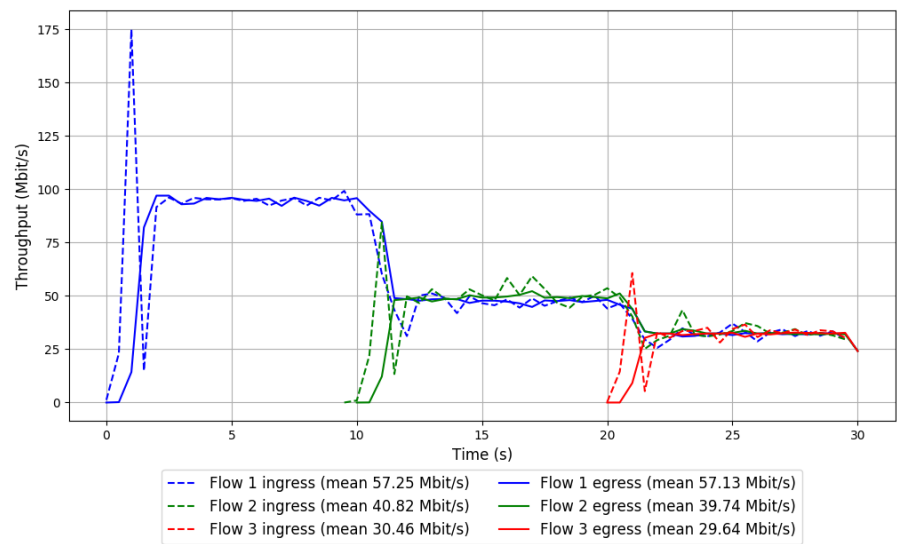
-- Flow 3:

Average throughput: 29.64 Mbit/s

95th percentile per-packet one-way delay: 361.604 ms

Loss rate: 4.36%

Run 4: Report of FillP — Data Link



Run 5: Statistics of FillP

Start at: 2019-03-27 13:50:29

End at: 2019-03-27 13:50:59

Local clock offset: -4.775 ms

Remote clock offset: 1.092 ms

Below is generated by plot.py at 2019-03-27 14:18:40

Datalink statistics

-- Total of 3 flows:

Average throughput: 93.09 Mbit/s

95th percentile per-packet one-way delay: 285.315 ms

Loss rate: 2.16%

-- Flow 1:

Average throughput: 57.45 Mbit/s

95th percentile per-packet one-way delay: 307.792 ms

Loss rate: 2.03%

-- Flow 2:

Average throughput: 39.03 Mbit/s

95th percentile per-packet one-way delay: 233.286 ms

Loss rate: 2.10%

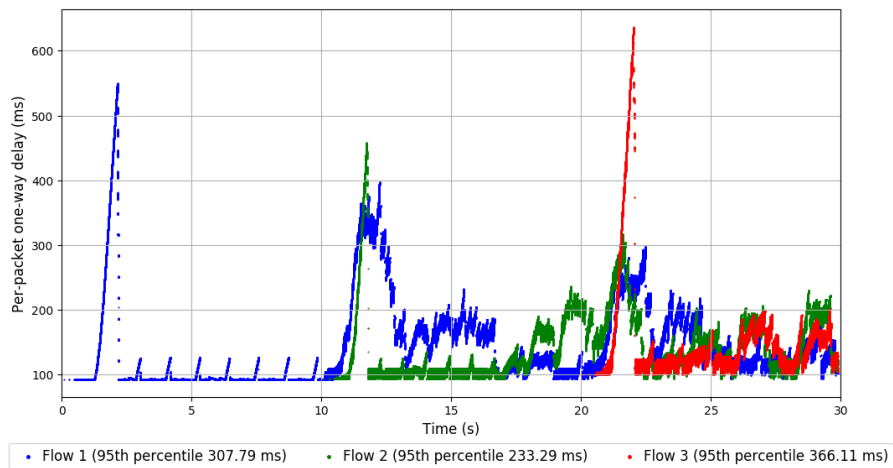
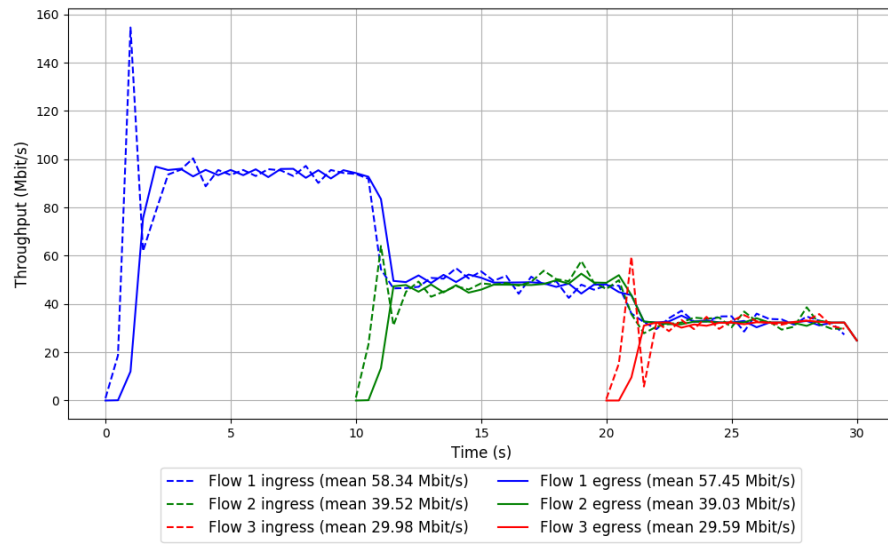
-- Flow 3:

Average throughput: 29.59 Mbit/s

95th percentile per-packet one-way delay: 366.113 ms

Loss rate: 3.02%

Run 5: Report of FillP — Data Link



Run 1: Statistics of FillP-Sheep

Start at: 2019-03-27 12:10:06

End at: 2019-03-27 12:10:36

Local clock offset: -2.888 ms

Remote clock offset: 2.731 ms

Below is generated by plot.py at 2019-03-27 14:18:45

Datalink statistics

-- Total of 3 flows:

Average throughput: 92.97 Mbit/s

95th percentile per-packet one-way delay: 288.372 ms

Loss rate: 1.50%

-- Flow 1:

Average throughput: 57.40 Mbit/s

95th percentile per-packet one-way delay: 312.040 ms

Loss rate: 1.03%

-- Flow 2:

Average throughput: 38.52 Mbit/s

95th percentile per-packet one-way delay: 221.875 ms

Loss rate: 1.57%

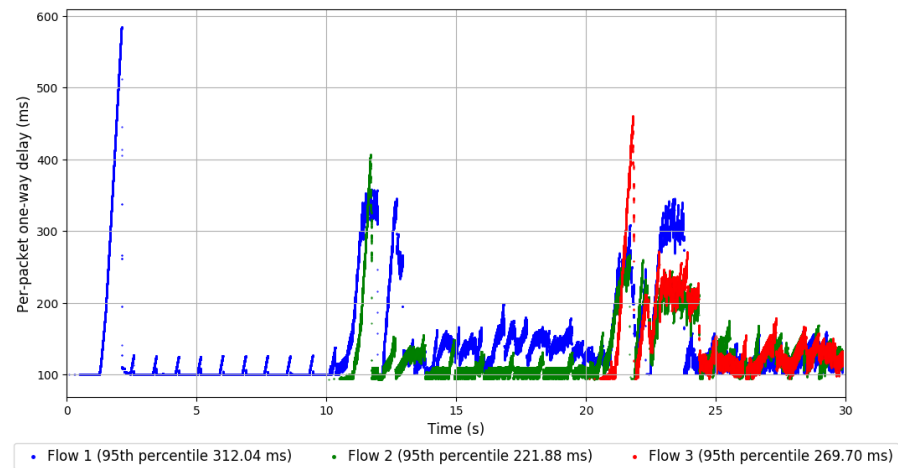
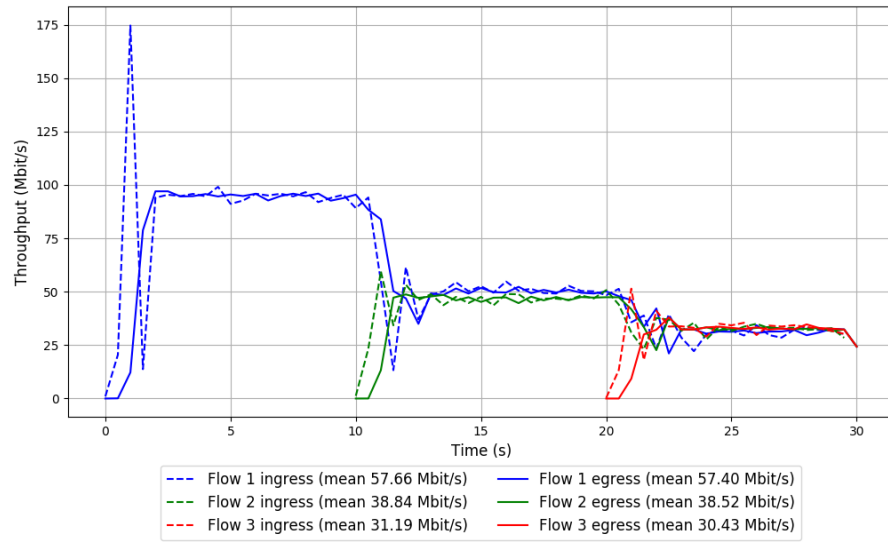
-- Flow 3:

Average throughput: 30.43 Mbit/s

95th percentile per-packet one-way delay: 269.703 ms

Loss rate: 3.92%

Run 1: Report of FillP-Sheep — Data Link



Run 2: Statistics of FillP-Sheep

Start at: 2019-03-27 12:37:06

End at: 2019-03-27 12:37:36

Local clock offset: -5.483 ms

Remote clock offset: 3.8 ms

Below is generated by plot.py at 2019-03-27 14:18:54

Datalink statistics

-- Total of 3 flows:

Average throughput: 92.88 Mbit/s

95th percentile per-packet one-way delay: 276.296 ms

Loss rate: 1.64%

-- Flow 1:

Average throughput: 56.90 Mbit/s

95th percentile per-packet one-way delay: 281.394 ms

Loss rate: 0.76%

-- Flow 2:

Average throughput: 39.07 Mbit/s

95th percentile per-packet one-way delay: 267.269 ms

Loss rate: 2.82%

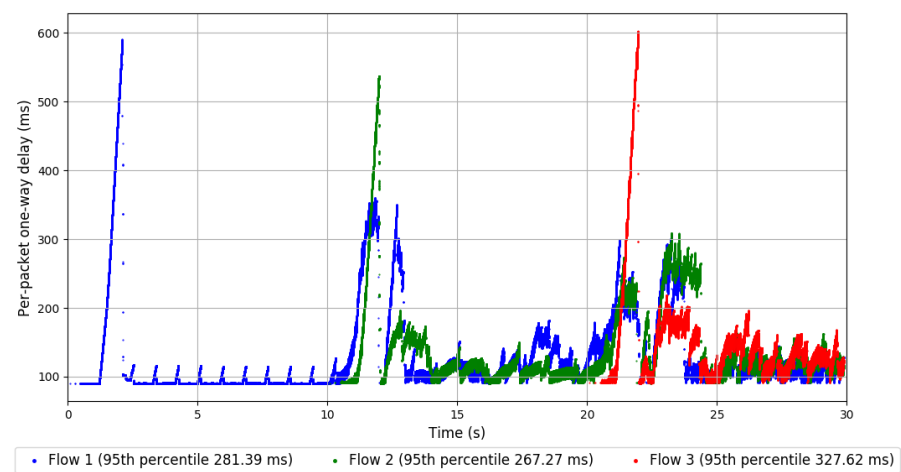
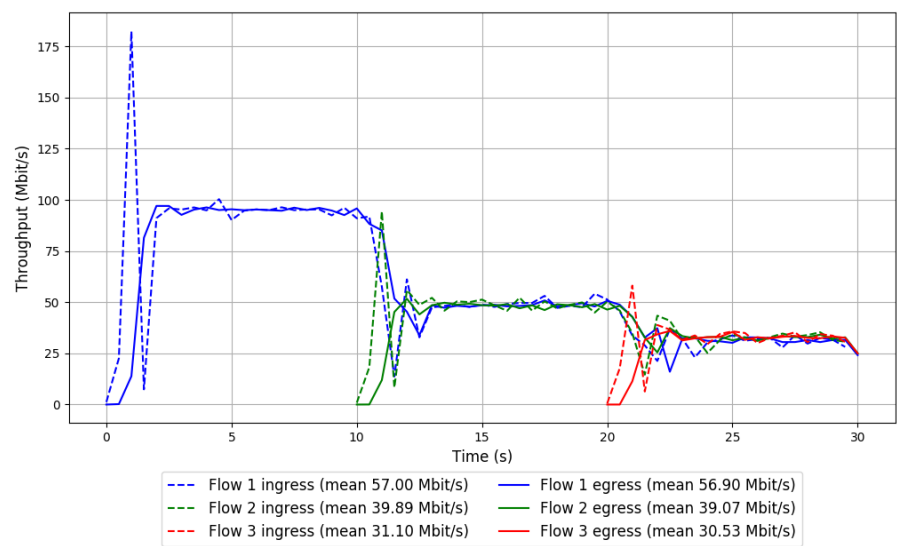
-- Flow 3:

Average throughput: 30.53 Mbit/s

95th percentile per-packet one-way delay: 327.615 ms

Loss rate: 3.46%

Run 2: Report of FillP-Sheep — Data Link

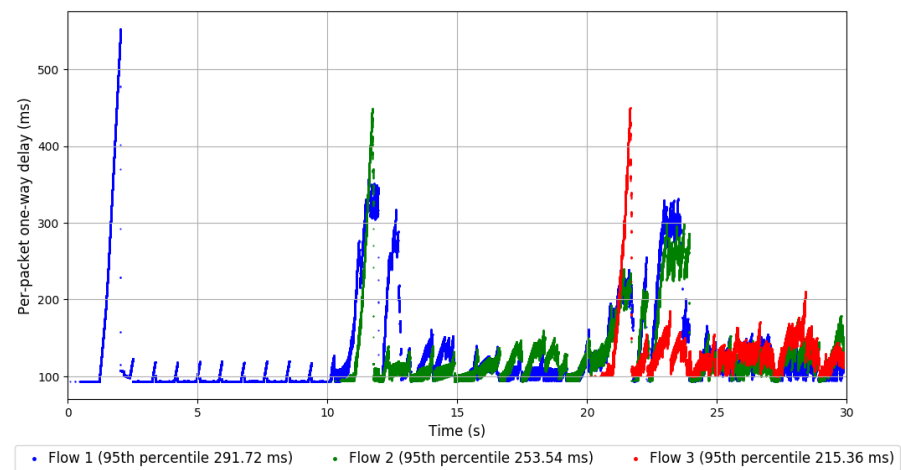
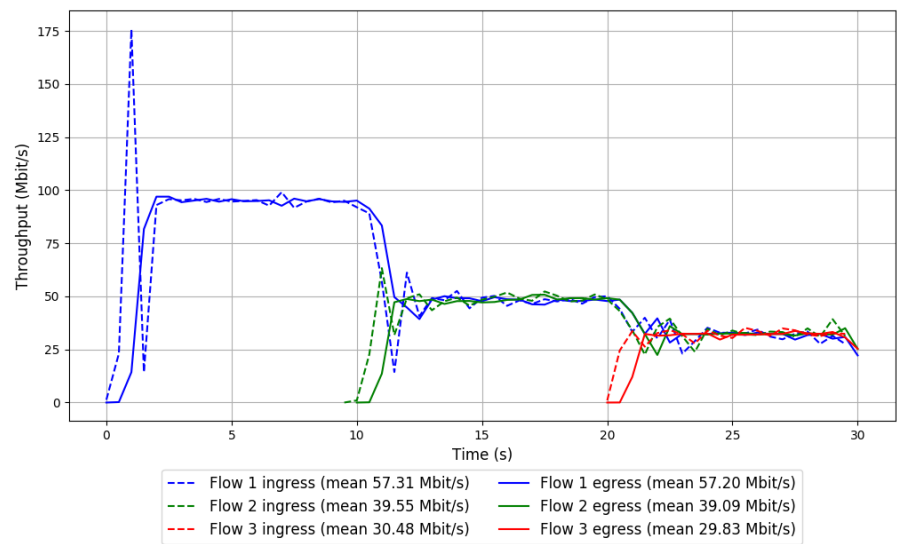


Run 3: Statistics of FillP-Sheep

Start at: 2019-03-27 13:04:13
End at: 2019-03-27 13:04:43
Local clock offset: -4.137 ms
Remote clock offset: -1.002 ms

Below is generated by plot.py at 2019-03-27 14:18:56
Datalink statistics
-- Total of 3 flows:
Average throughput: 92.95 Mbit/s
95th percentile per-packet one-way delay: 271.402 ms
Loss rate: 1.43%
-- Flow 1:
Average throughput: 57.20 Mbit/s
95th percentile per-packet one-way delay: 291.719 ms
Loss rate: 0.75%
-- Flow 2:
Average throughput: 39.09 Mbit/s
95th percentile per-packet one-way delay: 253.539 ms
Loss rate: 2.02%
-- Flow 3:
Average throughput: 29.83 Mbit/s
95th percentile per-packet one-way delay: 215.360 ms
Loss rate: 3.74%

Run 3: Report of FillP-Sheep — Data Link



Run 4: Statistics of FillP-Sheep

Start at: 2019-03-27 13:31:15

End at: 2019-03-27 13:31:45

Local clock offset: -3.686 ms

Remote clock offset: -0.79 ms

Below is generated by plot.py at 2019-03-27 14:19:21

Datalink statistics

-- Total of 3 flows:

Average throughput: 92.72 Mbit/s

95th percentile per-packet one-way delay: 315.619 ms

Loss rate: 1.37%

-- Flow 1:

Average throughput: 56.84 Mbit/s

95th percentile per-packet one-way delay: 327.470 ms

Loss rate: 0.70%

-- Flow 2:

Average throughput: 39.17 Mbit/s

95th percentile per-packet one-way delay: 229.994 ms

Loss rate: 2.22%

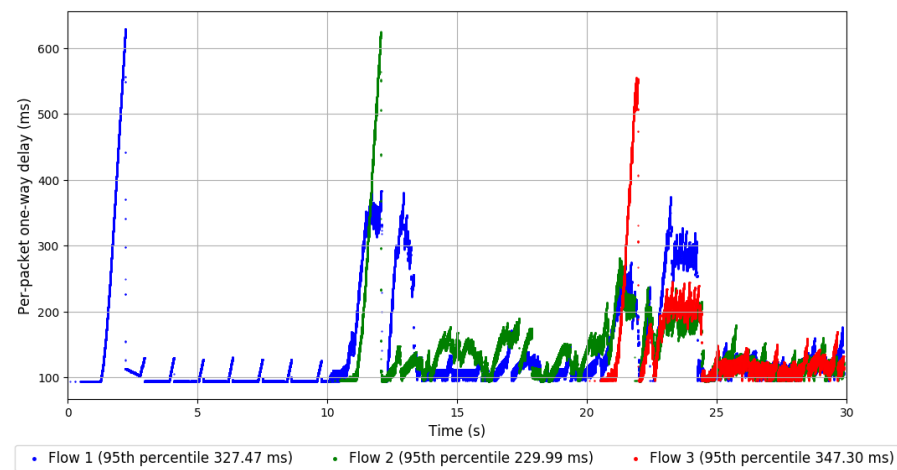
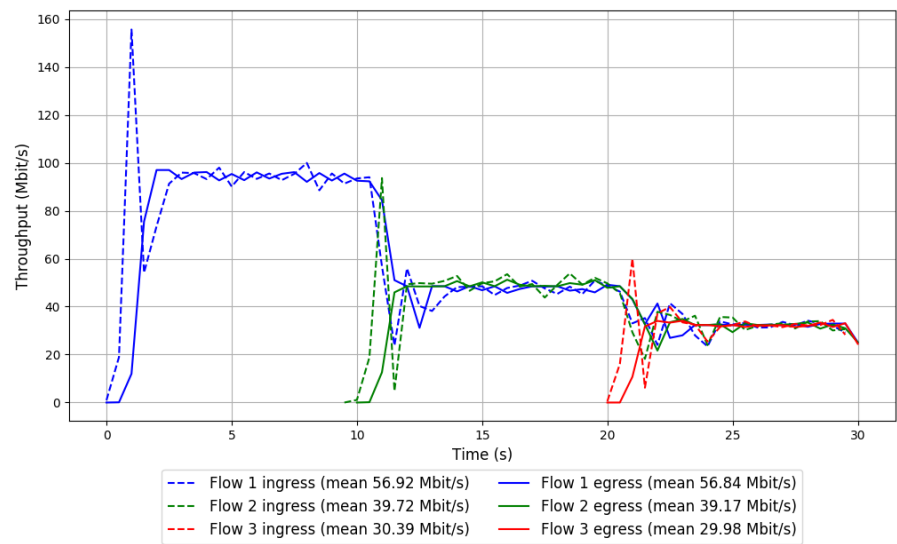
-- Flow 3:

Average throughput: 29.98 Mbit/s

95th percentile per-packet one-way delay: 347.304 ms

Loss rate: 2.86%

Run 4: Report of FillP-Sheep — Data Link



Run 5: Statistics of FillP-Sheep

Start at: 2019-03-27 13:58:16

End at: 2019-03-27 13:58:46

Local clock offset: -4.516 ms

Remote clock offset: 1.259 ms

Below is generated by plot.py at 2019-03-27 14:19:23

Datalink statistics

-- Total of 3 flows:

Average throughput: 92.86 Mbit/s

95th percentile per-packet one-way delay: 281.380 ms

Loss rate: 1.37%

-- Flow 1:

Average throughput: 57.37 Mbit/s

95th percentile per-packet one-way delay: 290.935 ms

Loss rate: 0.91%

-- Flow 2:

Average throughput: 38.40 Mbit/s

95th percentile per-packet one-way delay: 240.330 ms

Loss rate: 1.32%

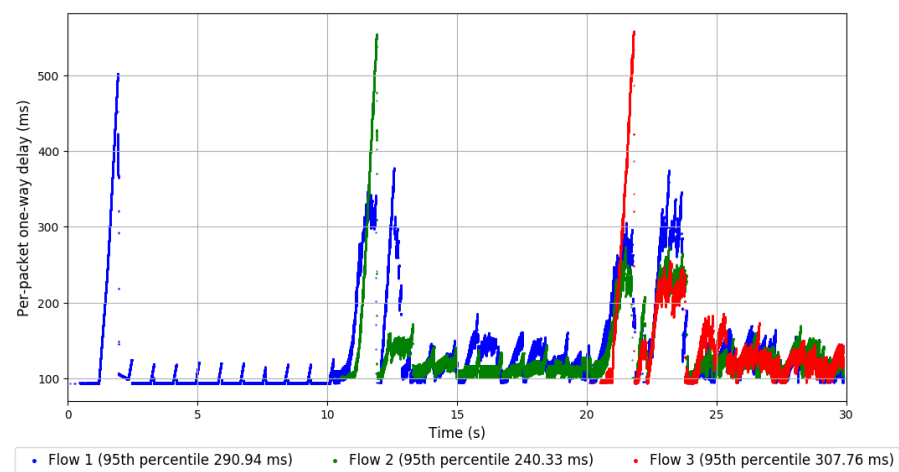
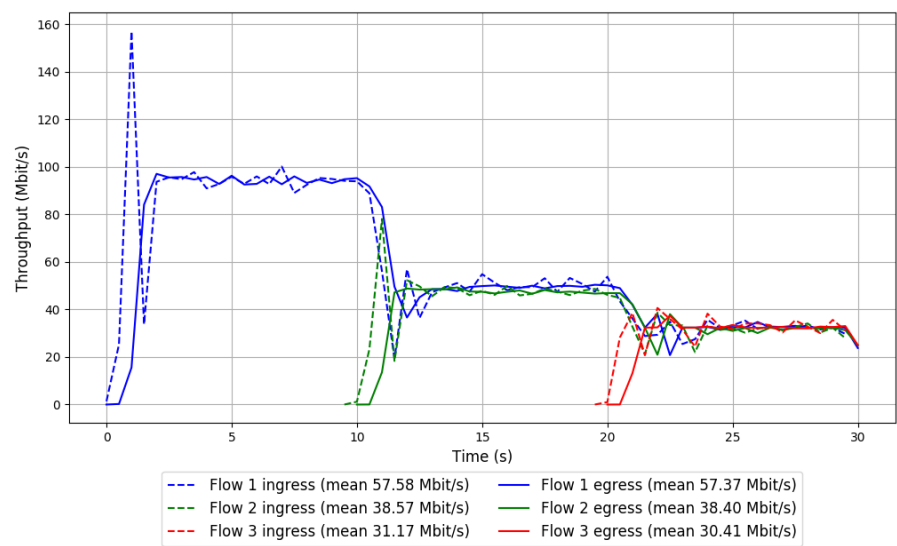
-- Flow 3:

Average throughput: 30.41 Mbit/s

95th percentile per-packet one-way delay: 307.763 ms

Loss rate: 4.04%

Run 5: Report of FillP-Sheep — Data Link



Run 1: Statistics of Indigo

Start at: 2019-03-27 12:24:11

End at: 2019-03-27 12:24:41

Local clock offset: -4.779 ms

Remote clock offset: 8.185 ms

Below is generated by plot.py at 2019-03-27 14:19:23

Datalink statistics

-- Total of 3 flows:

Average throughput: 93.80 Mbit/s

95th percentile per-packet one-way delay: 332.139 ms

Loss rate: 4.50%

-- Flow 1:

Average throughput: 58.55 Mbit/s

95th percentile per-packet one-way delay: 340.448 ms

Loss rate: 6.07%

-- Flow 2:

Average throughput: 38.77 Mbit/s

95th percentile per-packet one-way delay: 137.256 ms

Loss rate: 1.24%

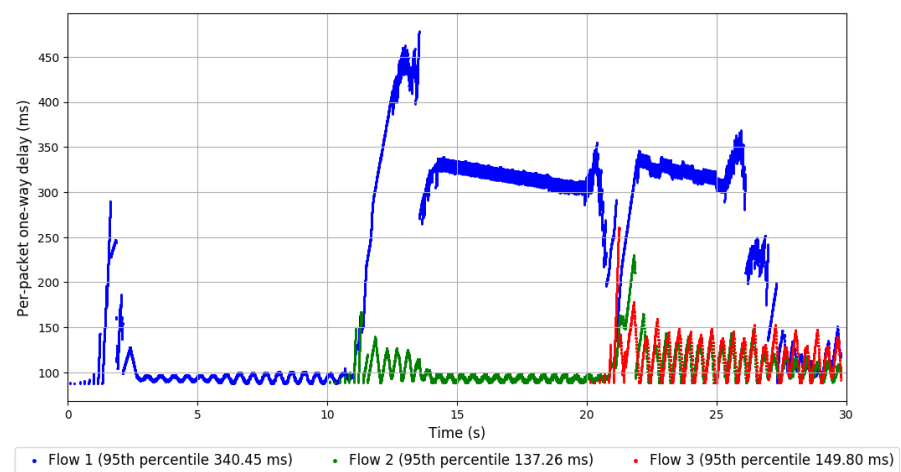
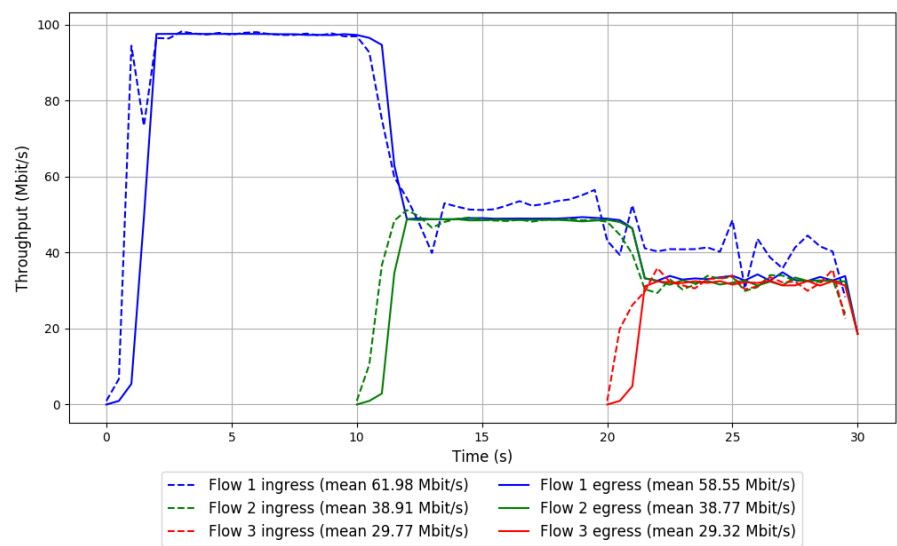
-- Flow 3:

Average throughput: 29.32 Mbit/s

95th percentile per-packet one-way delay: 149.799 ms

Loss rate: 3.21%

Run 1: Report of Indigo — Data Link

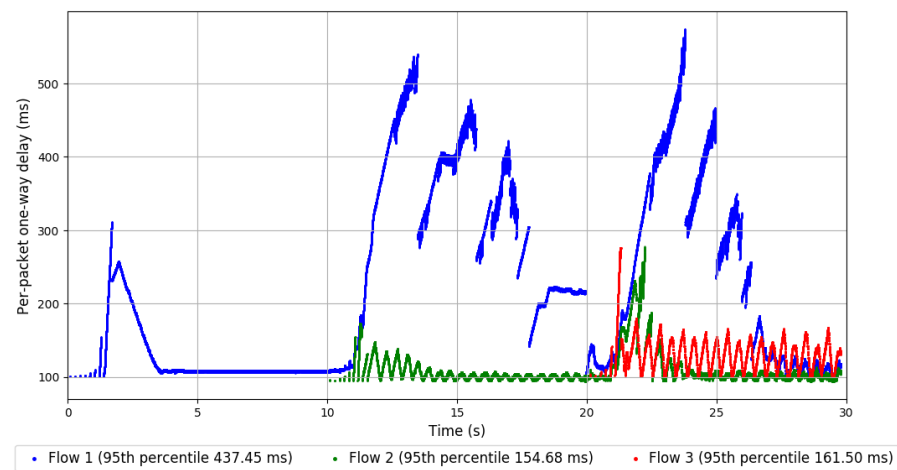
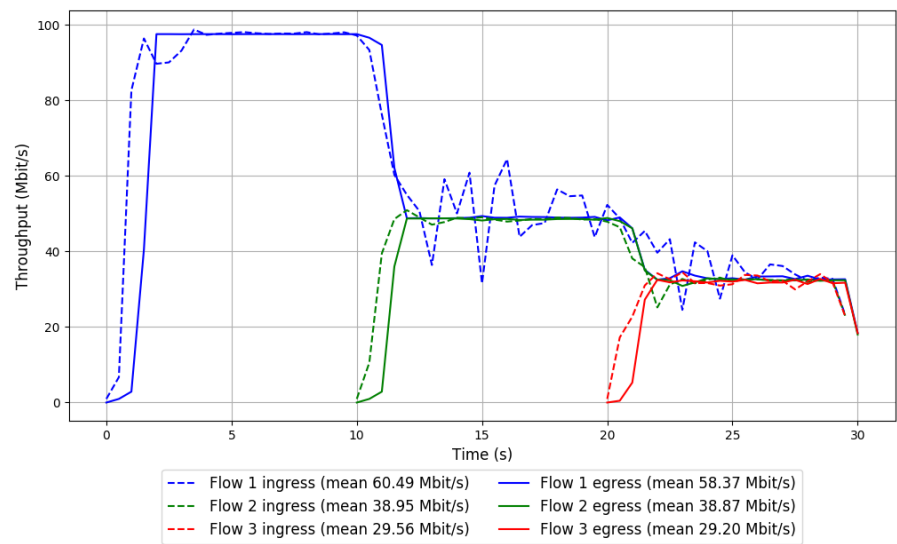


Run 2: Statistics of Indigo

Start at: 2019-03-27 12:51:11
End at: 2019-03-27 12:51:41
Local clock offset: -5.323 ms
Remote clock offset: -1.618 ms

Below is generated by plot.py at 2019-03-27 14:19:23
Datalink statistics
-- Total of 3 flows:
Average throughput: 93.64 Mbit/s
95th percentile per-packet one-way delay: 407.990 ms
Loss rate: 3.15%
-- Flow 1:
Average throughput: 58.37 Mbit/s
95th percentile per-packet one-way delay: 437.451 ms
Loss rate: 4.07%
-- Flow 2:
Average throughput: 38.87 Mbit/s
95th percentile per-packet one-way delay: 154.680 ms
Loss rate: 1.06%
-- Flow 3:
Average throughput: 29.20 Mbit/s
95th percentile per-packet one-way delay: 161.504 ms
Loss rate: 3.01%

Run 2: Report of Indigo — Data Link



Run 3: Statistics of Indigo

Start at: 2019-03-27 13:18:20

End at: 2019-03-27 13:18:50

Local clock offset: -4.084 ms

Remote clock offset: 3.727 ms

Below is generated by plot.py at 2019-03-27 14:19:46

Datalink statistics

-- Total of 3 flows:

Average throughput: 93.73 Mbit/s

95th percentile per-packet one-way delay: 371.337 ms

Loss rate: 9.48%

-- Flow 1:

Average throughput: 58.56 Mbit/s

95th percentile per-packet one-way delay: 393.596 ms

Loss rate: 13.57%

-- Flow 2:

Average throughput: 38.85 Mbit/s

95th percentile per-packet one-way delay: 142.115 ms

Loss rate: 1.34%

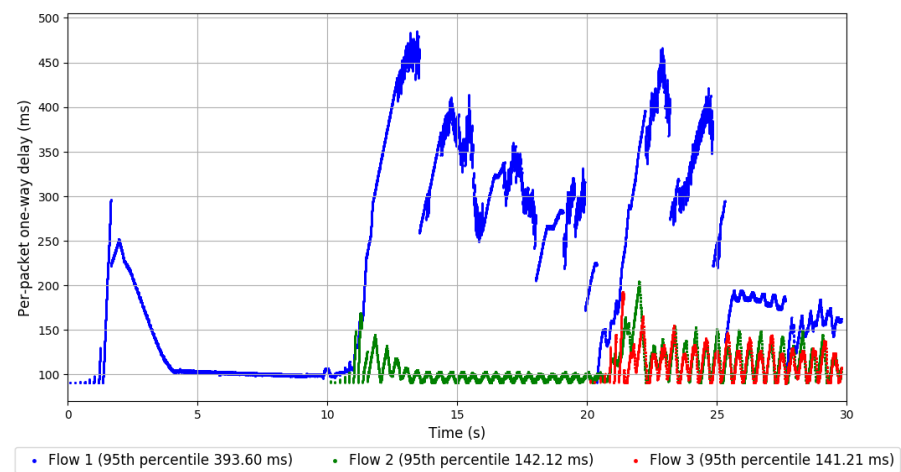
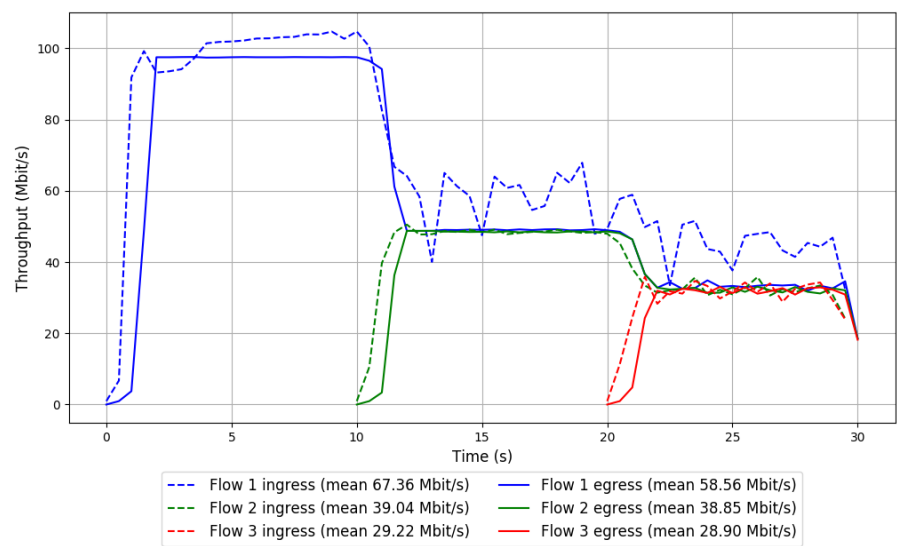
-- Flow 3:

Average throughput: 28.90 Mbit/s

95th percentile per-packet one-way delay: 141.212 ms

Loss rate: 2.82%

Run 3: Report of Indigo — Data Link



Run 4: Statistics of Indigo

Start at: 2019-03-27 13:45:20

End at: 2019-03-27 13:45:50

Local clock offset: -4.133 ms

Remote clock offset: 5.986 ms

Below is generated by plot.py at 2019-03-27 14:19:49

Datalink statistics

-- Total of 3 flows:

Average throughput: 93.69 Mbit/s

95th percentile per-packet one-way delay: 252.951 ms

Loss rate: 2.17%

-- Flow 1:

Average throughput: 58.29 Mbit/s

95th percentile per-packet one-way delay: 267.438 ms

Loss rate: 2.54%

-- Flow 2:

Average throughput: 39.04 Mbit/s

95th percentile per-packet one-way delay: 147.782 ms

Loss rate: 1.18%

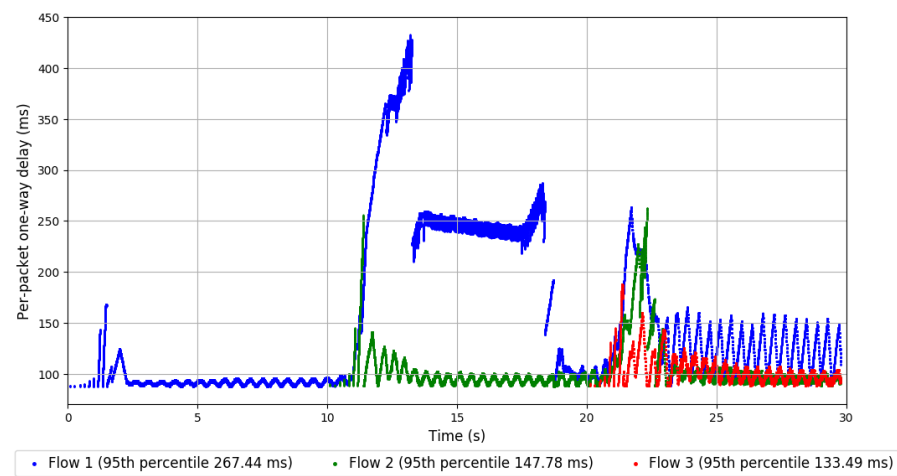
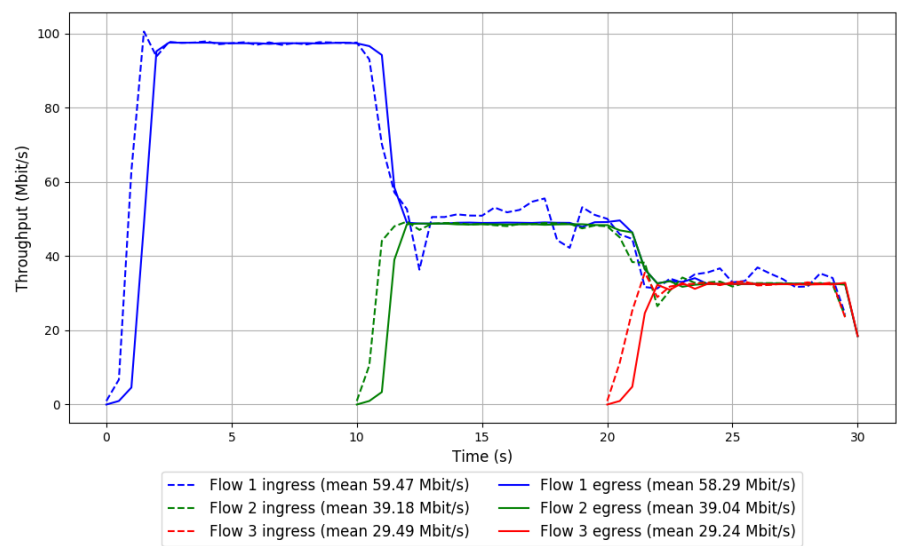
-- Flow 3:

Average throughput: 29.24 Mbit/s

95th percentile per-packet one-way delay: 133.487 ms

Loss rate: 2.60%

Run 4: Report of Indigo — Data Link



Run 5: Statistics of Indigo

Start at: 2019-03-27 14:12:21

End at: 2019-03-27 14:12:51

Local clock offset: -4.88 ms

Remote clock offset: 6.631 ms

Below is generated by plot.py at 2019-03-27 14:19:59

Datalink statistics

-- Total of 3 flows:

Average throughput: 93.72 Mbit/s

95th percentile per-packet one-way delay: 318.802 ms

Loss rate: 4.59%

-- Flow 1:

Average throughput: 58.52 Mbit/s

95th percentile per-packet one-way delay: 341.087 ms

Loss rate: 6.25%

-- Flow 2:

Average throughput: 38.77 Mbit/s

95th percentile per-packet one-way delay: 149.875 ms

Loss rate: 1.32%

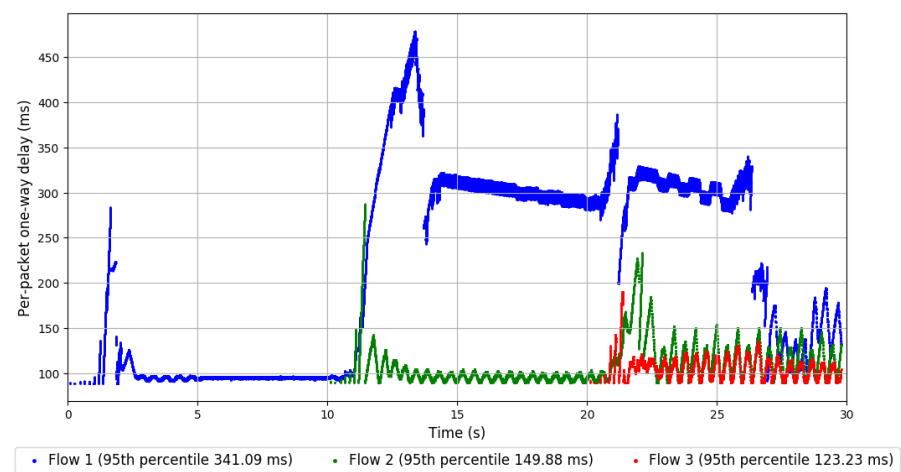
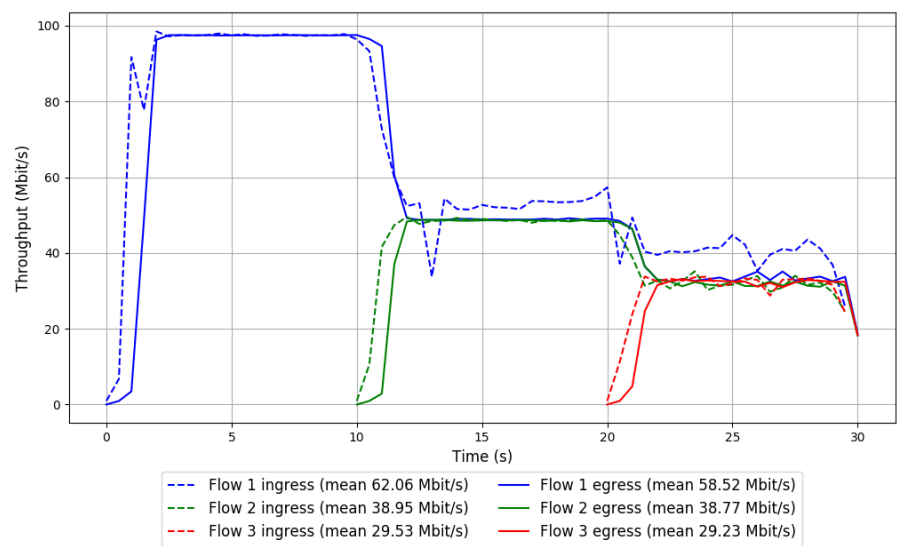
-- Flow 3:

Average throughput: 29.23 Mbit/s

95th percentile per-packet one-way delay: 123.233 ms

Loss rate: 2.75%

Run 5: Report of Indigo — Data Link



Run 1: Statistics of Indigo-MusesC3

Start at: 2019-03-27 12:22:54

End at: 2019-03-27 12:23:24

Local clock offset: -4.644 ms

Remote clock offset: 3.083 ms

Below is generated by plot.py at 2019-03-27 14:20:01

Datalink statistics

-- Total of 3 flows:

Average throughput: 94.59 Mbit/s

95th percentile per-packet one-way delay: 208.813 ms

Loss rate: 1.86%

-- Flow 1:

Average throughput: 60.05 Mbit/s

95th percentile per-packet one-way delay: 158.296 ms

Loss rate: 1.68%

-- Flow 2:

Average throughput: 39.91 Mbit/s

95th percentile per-packet one-way delay: 269.860 ms

Loss rate: 1.70%

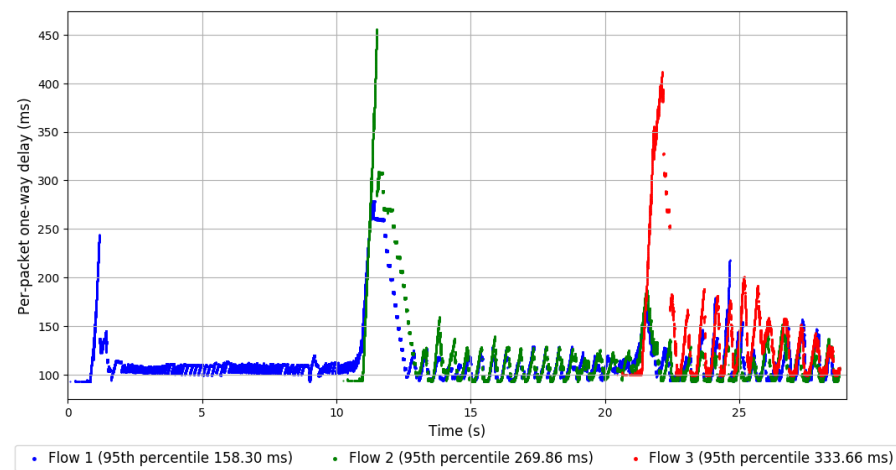
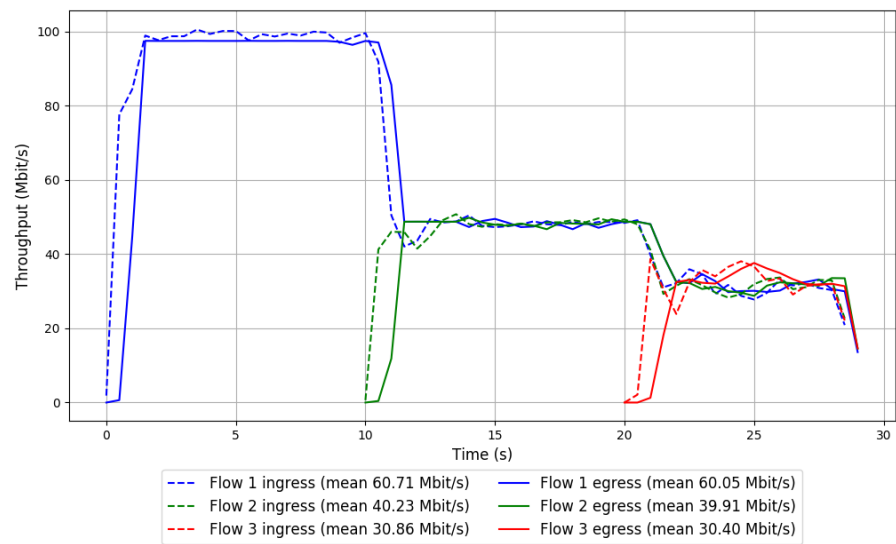
-- Flow 3:

Average throughput: 30.40 Mbit/s

95th percentile per-packet one-way delay: 333.663 ms

Loss rate: 3.57%

Run 1: Report of Indigo-MusesC3 — Data Link

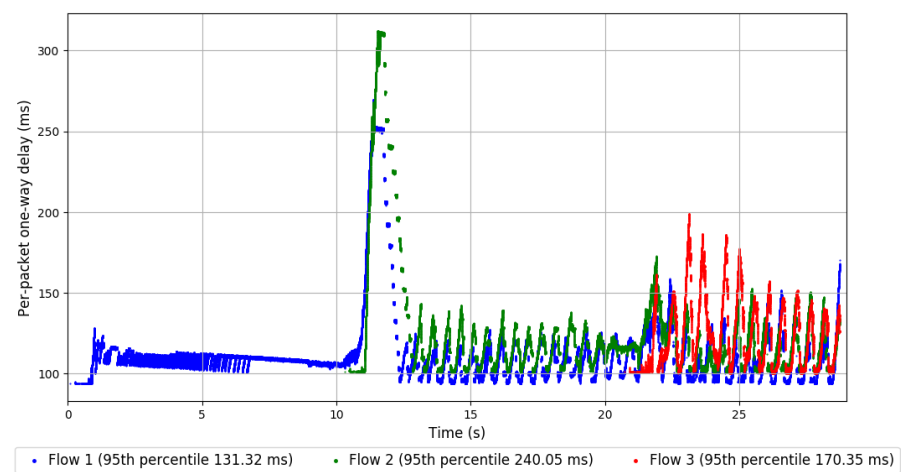
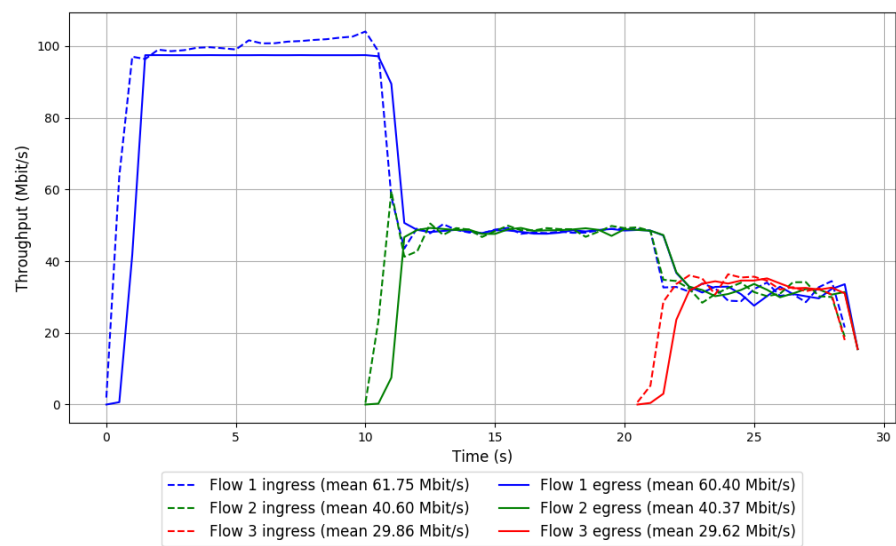


Run 2: Statistics of Indigo-MusesC3

Start at: 2019-03-27 12:49:53
End at: 2019-03-27 12:50:23
Local clock offset: -5.336 ms
Remote clock offset: -1.569 ms

Below is generated by plot.py at 2019-03-27 14:20:15
Datalink statistics
-- Total of 3 flows:
Average throughput: 94.67 Mbit/s
95th percentile per-packet one-way delay: 161.721 ms
Loss rate: 2.45%
-- Flow 1:
Average throughput: 60.40 Mbit/s
95th percentile per-packet one-way delay: 131.317 ms
Loss rate: 2.77%
-- Flow 2:
Average throughput: 40.37 Mbit/s
95th percentile per-packet one-way delay: 240.054 ms
Loss rate: 1.54%
-- Flow 3:
Average throughput: 29.62 Mbit/s
95th percentile per-packet one-way delay: 170.349 ms
Loss rate: 2.99%

Run 2: Report of Indigo-MusesC3 — Data Link



Run 3: Statistics of Indigo-MusesC3

Start at: 2019-03-27 13:17:02

End at: 2019-03-27 13:17:32

Local clock offset: -4.086 ms

Remote clock offset: 3.688 ms

Below is generated by plot.py at 2019-03-27 14:20:16

Datalink statistics

-- Total of 3 flows:

Average throughput: 94.69 Mbit/s

95th percentile per-packet one-way delay: 148.305 ms

Loss rate: 3.06%

-- Flow 1:

Average throughput: 60.31 Mbit/s

95th percentile per-packet one-way delay: 131.465 ms

Loss rate: 3.01%

-- Flow 2:

Average throughput: 40.08 Mbit/s

95th percentile per-packet one-way delay: 210.386 ms

Loss rate: 3.29%

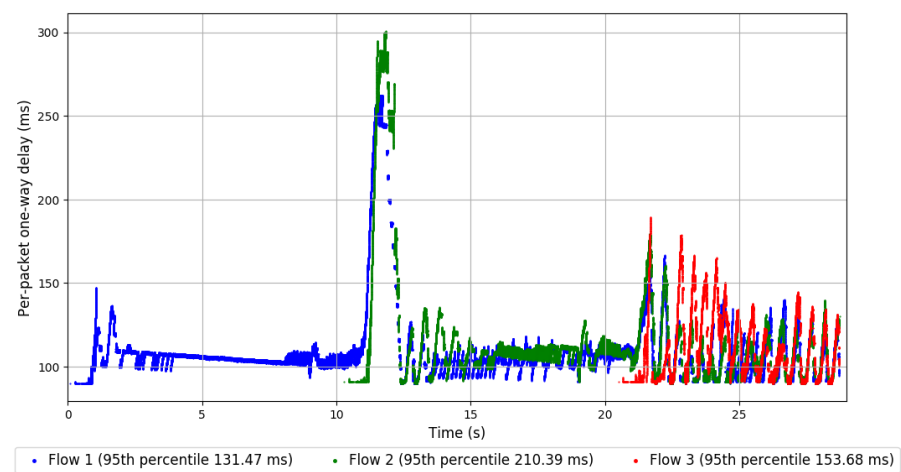
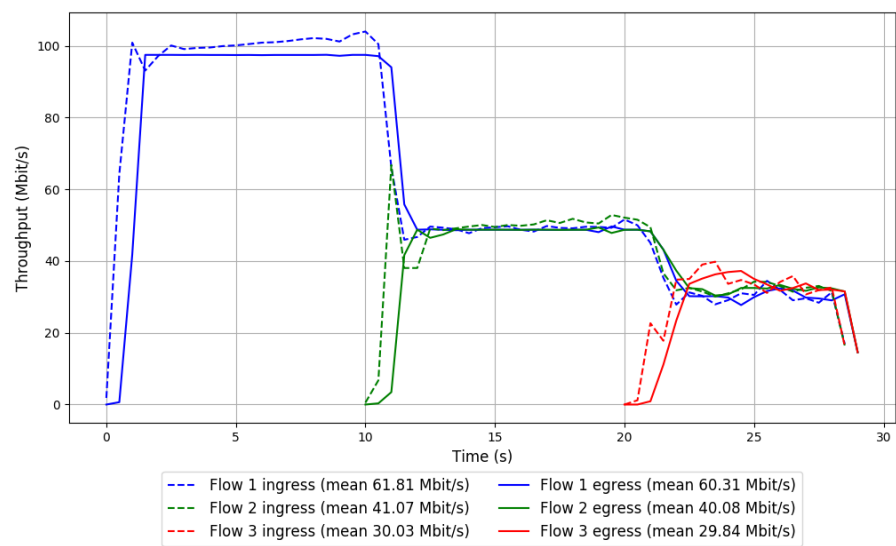
-- Flow 3:

Average throughput: 29.84 Mbit/s

95th percentile per-packet one-way delay: 153.681 ms

Loss rate: 2.69%

Run 3: Report of Indigo-MusesC3 — Data Link

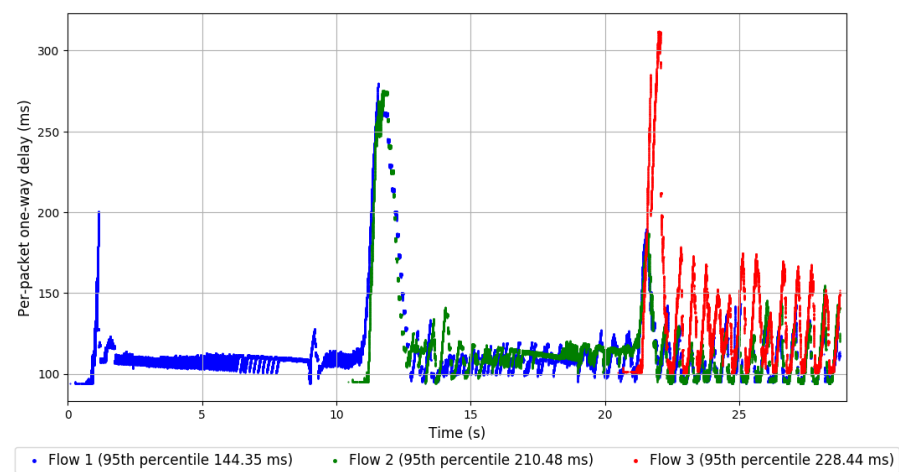
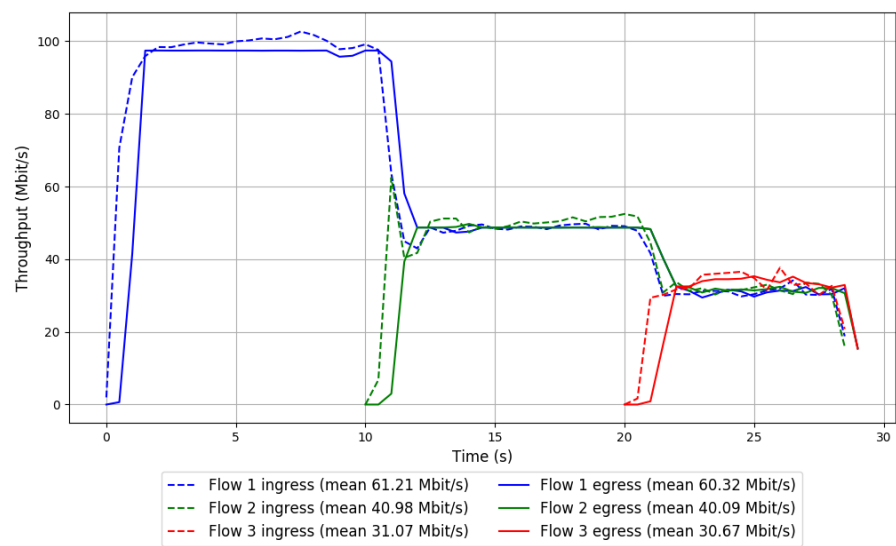


Run 4: Statistics of Indigo-MusesC3

Start at: 2019-03-27 13:44:02
End at: 2019-03-27 13:44:32
Local clock offset: -4.192 ms
Remote clock offset: -0.443 ms

Below is generated by plot.py at 2019-03-27 14:20:25
Datalink statistics
-- Total of 3 flows:
Average throughput: 94.76 Mbit/s
95th percentile per-packet one-way delay: 172.831 ms
Loss rate: 2.44%
-- Flow 1:
Average throughput: 60.32 Mbit/s
95th percentile per-packet one-way delay: 144.355 ms
Loss rate: 2.03%
-- Flow 2:
Average throughput: 40.09 Mbit/s
95th percentile per-packet one-way delay: 210.476 ms
Loss rate: 3.10%
-- Flow 3:
Average throughput: 30.67 Mbit/s
95th percentile per-packet one-way delay: 228.439 ms
Loss rate: 3.34%

Run 4: Report of Indigo-MusesC3 — Data Link

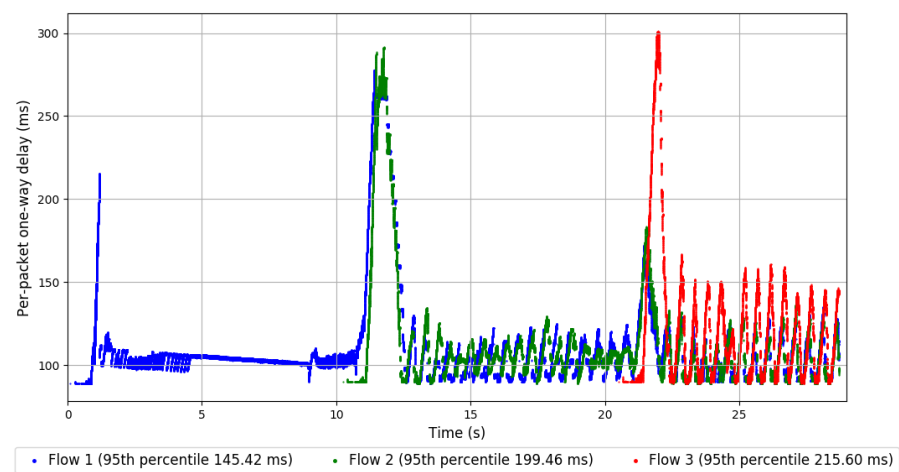
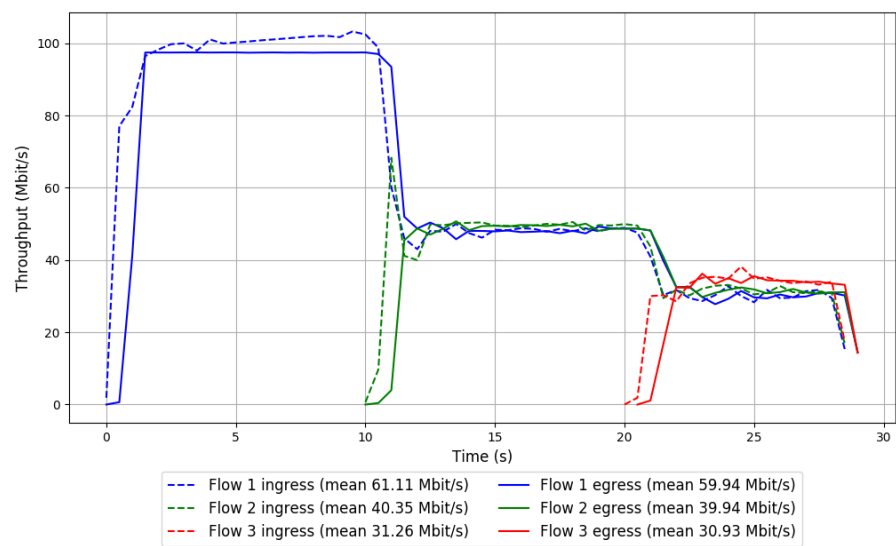


Run 5: Statistics of Indigo-MusesC3

Start at: 2019-03-27 14:11:03
End at: 2019-03-27 14:11:33
Local clock offset: -5.713 ms
Remote clock offset: 5.441 ms

Below is generated by plot.py at 2019-03-27 14:20:26
Datalink statistics
-- Total of 3 flows:
Average throughput: 94.59 Mbit/s
95th percentile per-packet one-way delay: 168.422 ms
Loss rate: 2.40%
-- Flow 1:
Average throughput: 59.94 Mbit/s
95th percentile per-packet one-way delay: 145.416 ms
Loss rate: 2.50%
-- Flow 2:
Average throughput: 39.94 Mbit/s
95th percentile per-packet one-way delay: 199.462 ms
Loss rate: 1.91%
-- Flow 3:
Average throughput: 30.93 Mbit/s
95th percentile per-packet one-way delay: 215.599 ms
Loss rate: 3.07%

Run 5: Report of Indigo-MusesC3 — Data Link



Run 1: Statistics of Indigo-MusesC5

Start at: 2019-03-27 12:17:48

End at: 2019-03-27 12:18:18

Local clock offset: -3.276 ms

Remote clock offset: 2.89 ms

Below is generated by plot.py at 2019-03-27 14:20:49

Datalink statistics

-- Total of 3 flows:

Average throughput: 93.61 Mbit/s

95th percentile per-packet one-way delay: 255.577 ms

Loss rate: 3.73%

-- Flow 1:

Average throughput: 59.48 Mbit/s

95th percentile per-packet one-way delay: 263.202 ms

Loss rate: 2.88%

-- Flow 2:

Average throughput: 40.08 Mbit/s

95th percentile per-packet one-way delay: 237.181 ms

Loss rate: 4.21%

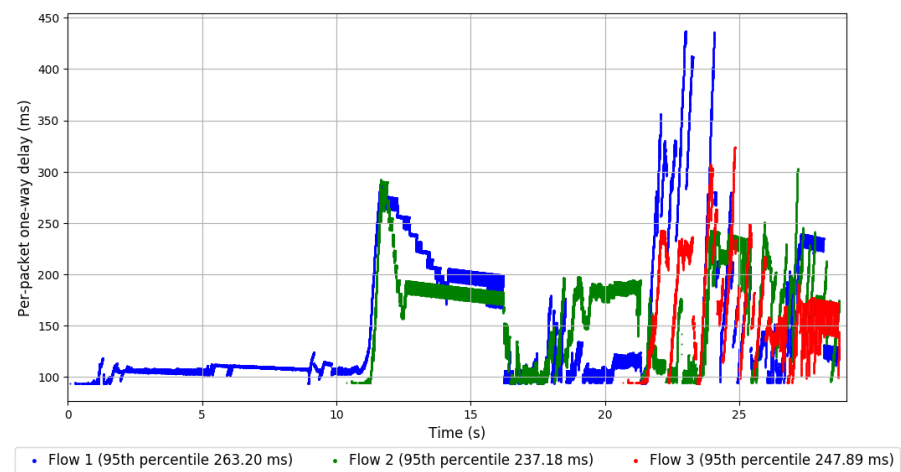
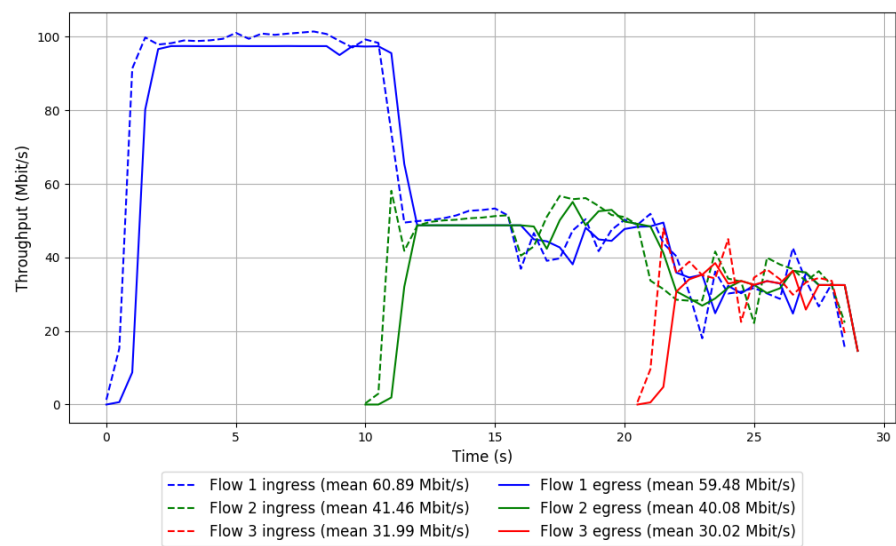
-- Flow 3:

Average throughput: 30.02 Mbit/s

95th percentile per-packet one-way delay: 247.893 ms

Loss rate: 7.95%

Run 1: Report of Indigo-MusesC5 — Data Link

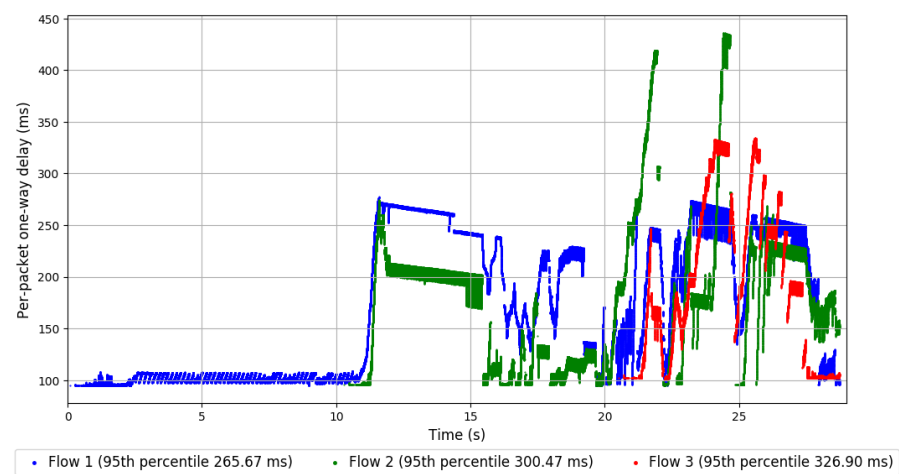
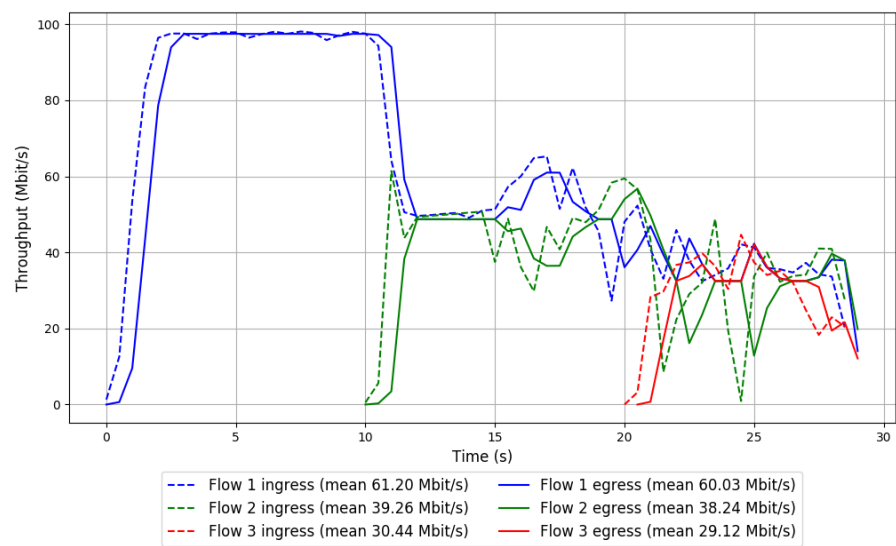


Run 2: Statistics of Indigo-MusesC5

Start at: 2019-03-27 12:44:48
End at: 2019-03-27 12:45:18
Local clock offset: -4.966 ms
Remote clock offset: -1.341 ms

Below is generated by plot.py at 2019-03-27 14:20:51
Datalink statistics
-- Total of 3 flows:
Average throughput: 93.01 Mbit/s
95th percentile per-packet one-way delay: 269.293 ms
Loss rate: 3.13%
-- Flow 1:
Average throughput: 60.03 Mbit/s
95th percentile per-packet one-way delay: 265.669 ms
Loss rate: 2.50%
-- Flow 2:
Average throughput: 38.24 Mbit/s
95th percentile per-packet one-way delay: 300.466 ms
Loss rate: 3.49%
-- Flow 3:
Average throughput: 29.12 Mbit/s
95th percentile per-packet one-way delay: 326.898 ms
Loss rate: 6.42%

Run 2: Report of Indigo-MusesC5 — Data Link

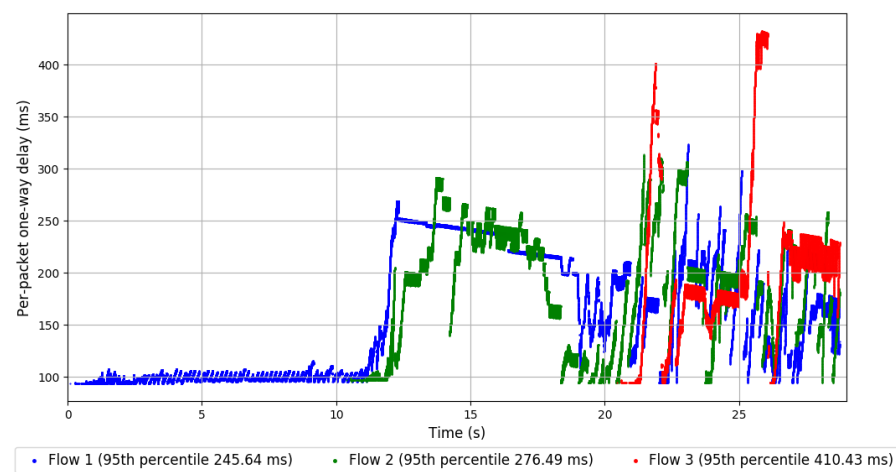
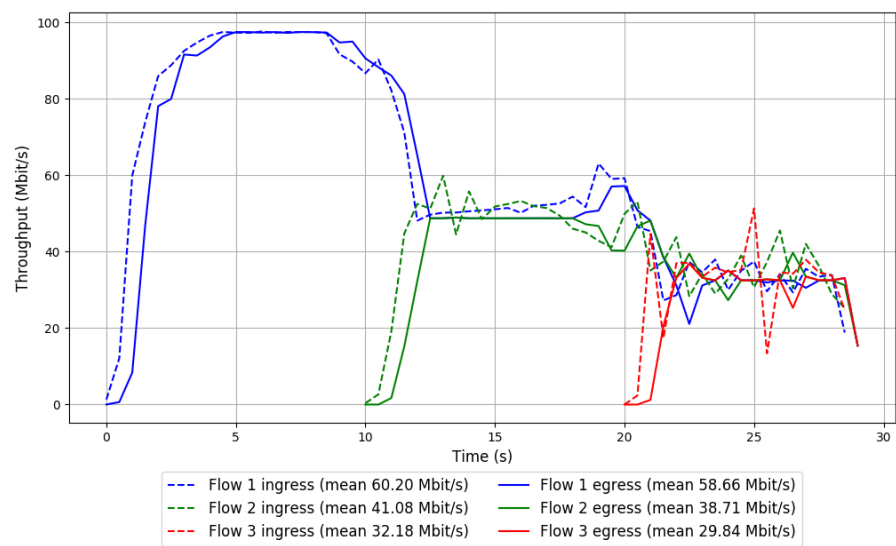


Run 3: Statistics of Indigo-MusesC5

Start at: 2019-03-27 13:11:57
End at: 2019-03-27 13:12:27
Local clock offset: -4.131 ms
Remote clock offset: -0.218 ms

Below is generated by plot.py at 2019-03-27 14:21:01
Datalink statistics
-- Total of 3 flows:
Average throughput: 92.12 Mbit/s
95th percentile per-packet one-way delay: 253.646 ms
Loss rate: 4.56%
-- Flow 1:
Average throughput: 58.66 Mbit/s
95th percentile per-packet one-way delay: 245.644 ms
Loss rate: 3.00%
-- Flow 2:
Average throughput: 38.71 Mbit/s
95th percentile per-packet one-way delay: 276.489 ms
Loss rate: 6.63%
-- Flow 3:
Average throughput: 29.84 Mbit/s
95th percentile per-packet one-way delay: 410.434 ms
Loss rate: 8.69%

Run 3: Report of Indigo-MusesC5 — Data Link



Run 4: Statistics of Indigo-MusesC5

Start at: 2019-03-27 13:38:57

End at: 2019-03-27 13:39:27

Local clock offset: -4.214 ms

Remote clock offset: 0.227 ms

Below is generated by plot.py at 2019-03-27 14:21:03

Datalink statistics

-- Total of 3 flows:

Average throughput: 93.60 Mbit/s

95th percentile per-packet one-way delay: 283.407 ms

Loss rate: 4.07%

-- Flow 1:

Average throughput: 59.58 Mbit/s

95th percentile per-packet one-way delay: 271.996 ms

Loss rate: 2.89%

-- Flow 2:

Average throughput: 40.18 Mbit/s

95th percentile per-packet one-way delay: 301.961 ms

Loss rate: 5.07%

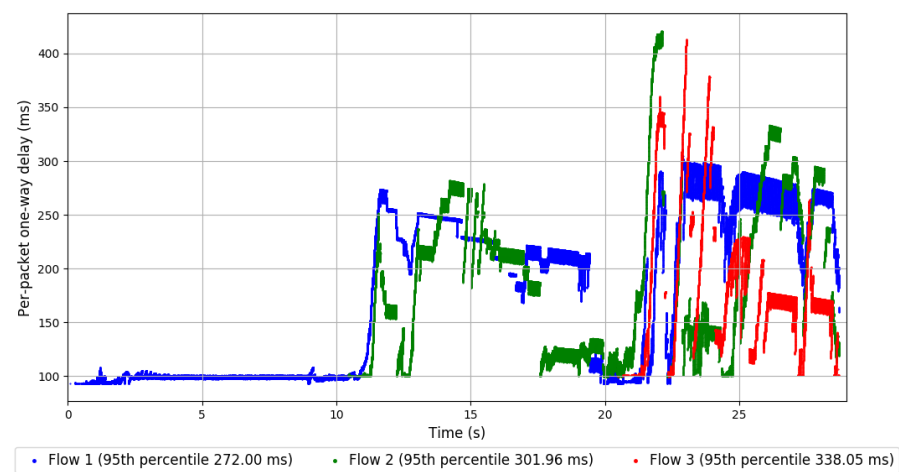
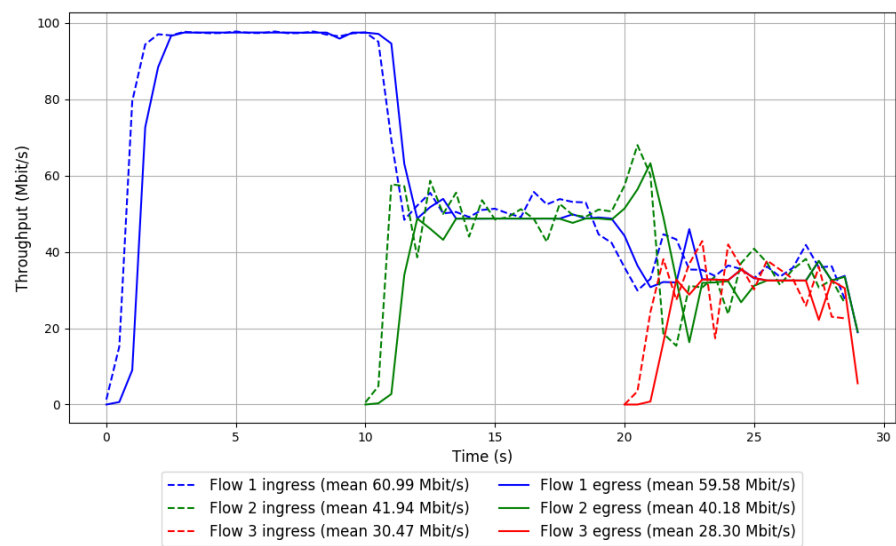
-- Flow 3:

Average throughput: 28.30 Mbit/s

95th percentile per-packet one-way delay: 338.051 ms

Loss rate: 9.03%

Run 4: Report of Indigo-MusesC5 — Data Link



Run 5: Statistics of Indigo-MusesC5

Start at: 2019-03-27 14:05:58

End at: 2019-03-27 14:06:28

Local clock offset: -4.765 ms

Remote clock offset: 1.598 ms

Below is generated by plot.py at 2019-03-27 14:21:18

Datalink statistics

-- Total of 3 flows:

Average throughput: 92.50 Mbit/s

95th percentile per-packet one-way delay: 269.940 ms

Loss rate: 4.00%

-- Flow 1:

Average throughput: 58.88 Mbit/s

95th percentile per-packet one-way delay: 267.321 ms

Loss rate: 2.84%

-- Flow 2:

Average throughput: 38.98 Mbit/s

95th percentile per-packet one-way delay: 267.188 ms

Loss rate: 4.82%

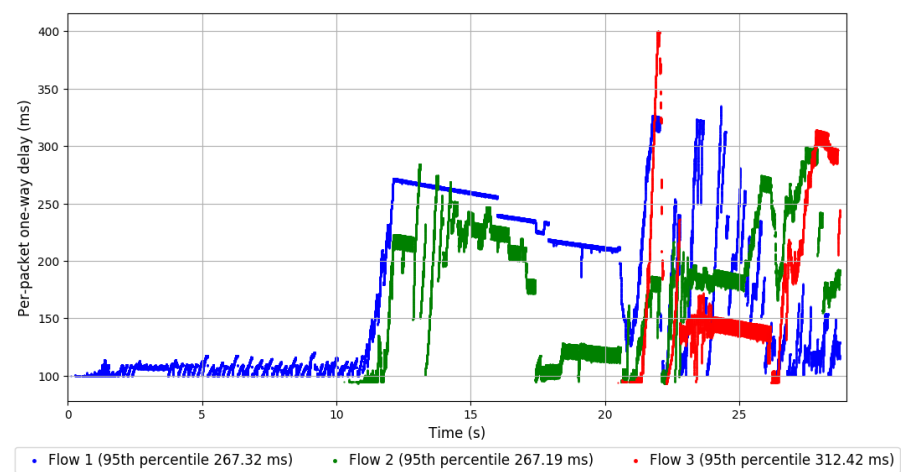
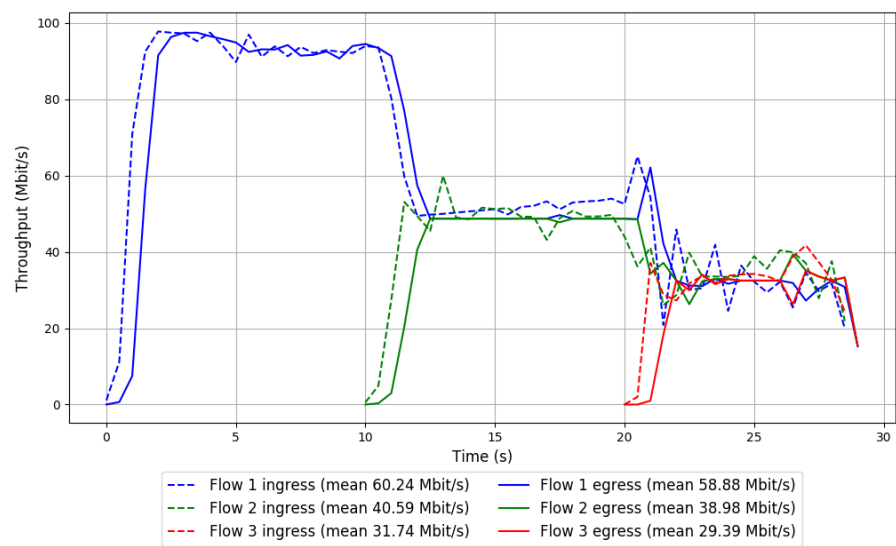
-- Flow 3:

Average throughput: 29.39 Mbit/s

95th percentile per-packet one-way delay: 312.416 ms

Loss rate: 9.21%

Run 5: Report of Indigo-MusesC5 — Data Link



Run 1: Statistics of Indigo-MusesD

Start at: 2019-03-27 12:08:48

End at: 2019-03-27 12:09:18

Local clock offset: -3.661 ms

Remote clock offset: 6.451 ms

Below is generated by plot.py at 2019-03-27 14:21:19

Datalink statistics

-- Total of 3 flows:

Average throughput: 93.69 Mbit/s

95th percentile per-packet one-way delay: 205.459 ms

Loss rate: 4.92%

-- Flow 1:

Average throughput: 61.32 Mbit/s

95th percentile per-packet one-way delay: 212.015 ms

Loss rate: 5.64%

-- Flow 2:

Average throughput: 36.46 Mbit/s

95th percentile per-packet one-way delay: 138.809 ms

Loss rate: 2.82%

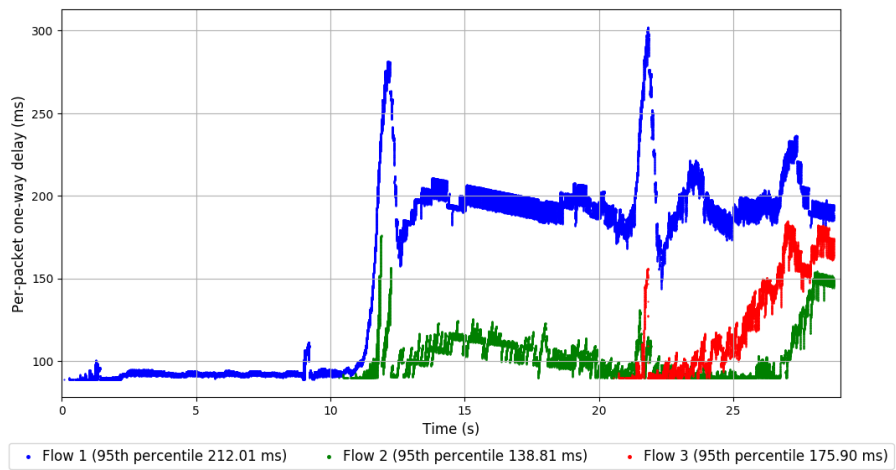
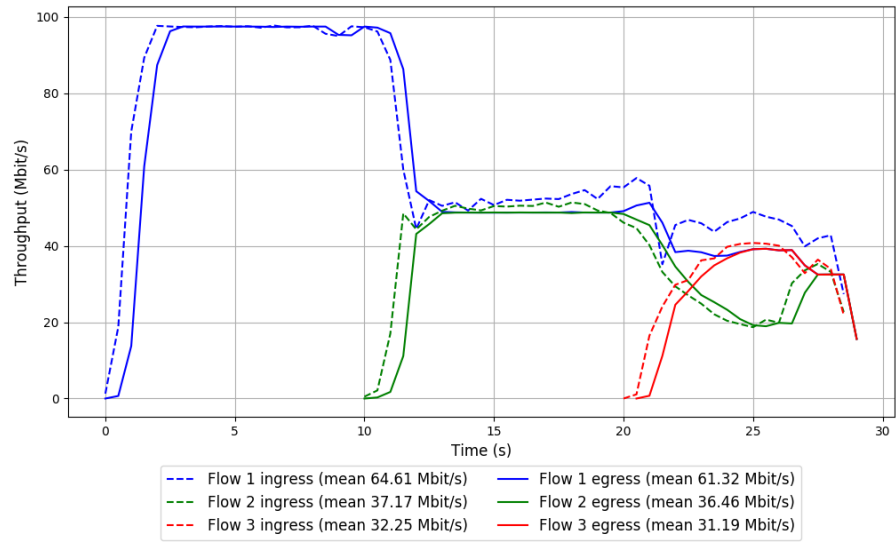
-- Flow 3:

Average throughput: 31.19 Mbit/s

95th percentile per-packet one-way delay: 175.902 ms

Loss rate: 5.32%

Run 1: Report of Indigo-MusesD — Data Link



Run 2: Statistics of Indigo-MusesD

Start at: 2019-03-27 12:35:48

End at: 2019-03-27 12:36:18

Local clock offset: -5.444 ms

Remote clock offset: 3.985 ms

Below is generated by plot.py at 2019-03-27 14:21:28

Datalink statistics

-- Total of 3 flows:

Average throughput: 94.03 Mbit/s

95th percentile per-packet one-way delay: 205.770 ms

Loss rate: 4.44%

-- Flow 1:

Average throughput: 62.38 Mbit/s

95th percentile per-packet one-way delay: 211.949 ms

Loss rate: 5.39%

-- Flow 2:

Average throughput: 36.14 Mbit/s

95th percentile per-packet one-way delay: 142.807 ms

Loss rate: 1.40%

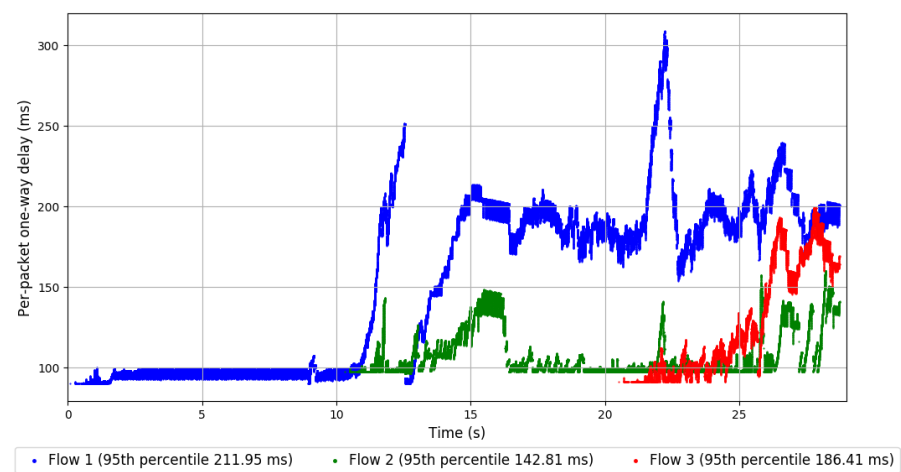
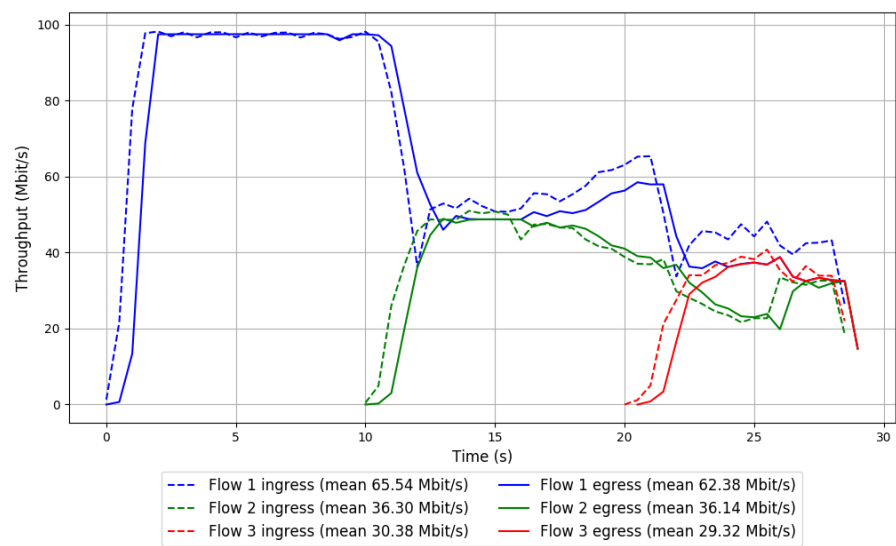
-- Flow 3:

Average throughput: 29.32 Mbit/s

95th percentile per-packet one-way delay: 186.405 ms

Loss rate: 5.43%

Run 2: Report of Indigo-MusesD — Data Link

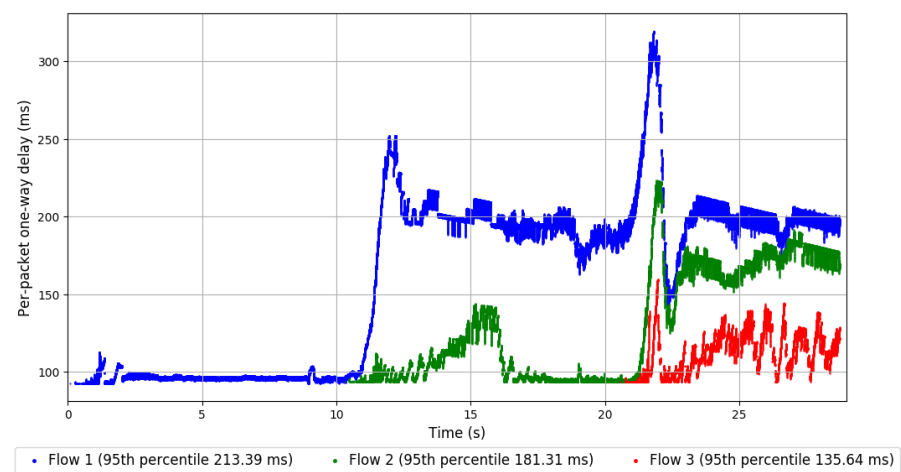
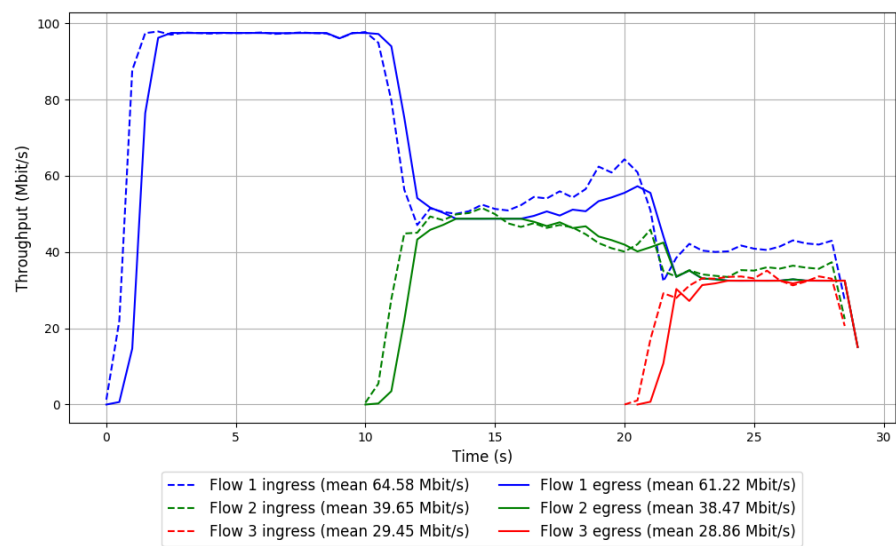


Run 3: Statistics of Indigo-MusesD

Start at: 2019-03-27 13:02:55
End at: 2019-03-27 13:03:25
Local clock offset: -4.907 ms
Remote clock offset: -0.956 ms

Below is generated by plot.py at 2019-03-27 14:21:30
Datalink statistics
-- Total of 3 flows:
Average throughput: 94.20 Mbit/s
95th percentile per-packet one-way delay: 209.300 ms
Loss rate: 5.12%
-- Flow 1:
Average throughput: 61.22 Mbit/s
95th percentile per-packet one-way delay: 213.390 ms
Loss rate: 5.76%
-- Flow 2:
Average throughput: 38.47 Mbit/s
95th percentile per-packet one-way delay: 181.311 ms
Loss rate: 3.87%
-- Flow 3:
Average throughput: 28.86 Mbit/s
95th percentile per-packet one-way delay: 135.640 ms
Loss rate: 4.03%

Run 3: Report of Indigo-MusesD — Data Link



Run 4: Statistics of Indigo-MusesD

Start at: 2019-03-27 13:29:58

End at: 2019-03-27 13:30:28

Local clock offset: -4.423 ms

Remote clock offset: 0.441 ms

Below is generated by plot.py at 2019-03-27 14:21:53

Datalink statistics

-- Total of 3 flows:

Average throughput: 93.92 Mbit/s

95th percentile per-packet one-way delay: 210.749 ms

Loss rate: 4.90%

-- Flow 1:

Average throughput: 60.49 Mbit/s

95th percentile per-packet one-way delay: 215.312 ms

Loss rate: 5.84%

-- Flow 2:

Average throughput: 38.96 Mbit/s

95th percentile per-packet one-way delay: 130.691 ms

Loss rate: 1.90%

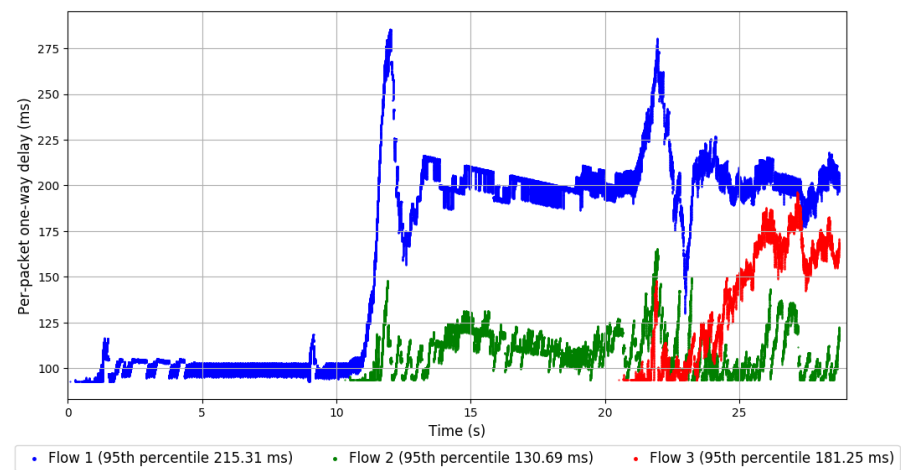
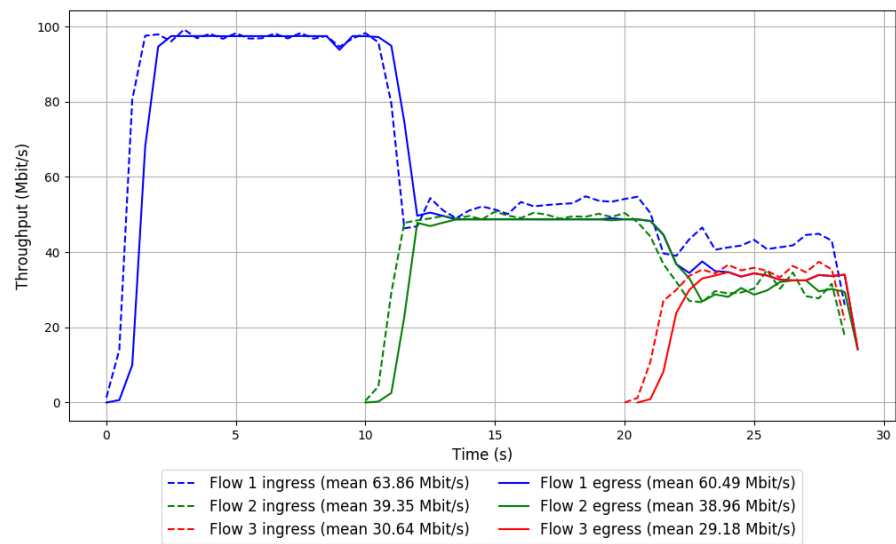
-- Flow 3:

Average throughput: 29.18 Mbit/s

95th percentile per-packet one-way delay: 181.252 ms

Loss rate: 6.72%

Run 4: Report of Indigo-MusesD — Data Link



Run 5: Statistics of Indigo-MusesD

Start at: 2019-03-27 13:56:58

End at: 2019-03-27 13:57:28

Local clock offset: -5.244 ms

Remote clock offset: 0.174 ms

Below is generated by plot.py at 2019-03-27 14:21:56

Datalink statistics

-- Total of 3 flows:

Average throughput: 93.96 Mbit/s

95th percentile per-packet one-way delay: 212.309 ms

Loss rate: 5.06%

-- Flow 1:

Average throughput: 60.53 Mbit/s

95th percentile per-packet one-way delay: 217.182 ms

Loss rate: 5.78%

-- Flow 2:

Average throughput: 39.06 Mbit/s

95th percentile per-packet one-way delay: 174.818 ms

Loss rate: 3.80%

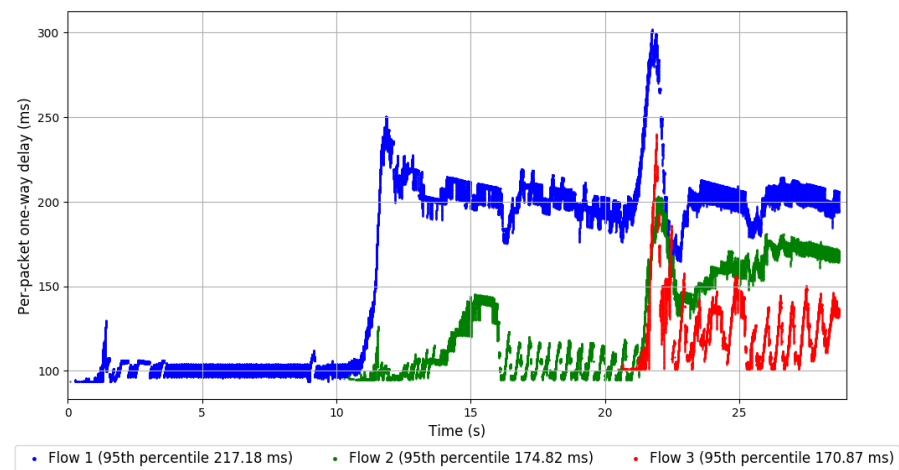
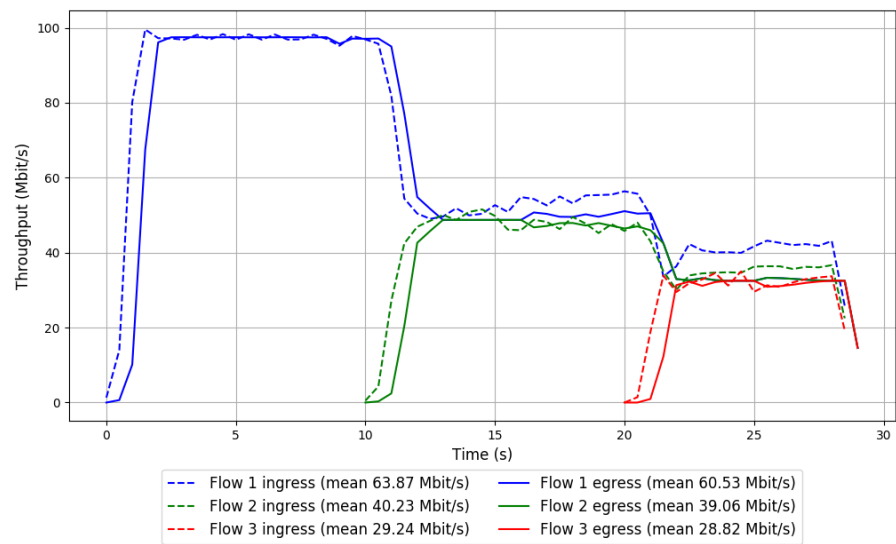
-- Flow 3:

Average throughput: 28.82 Mbit/s

95th percentile per-packet one-way delay: 170.874 ms

Loss rate: 3.54%

Run 5: Report of Indigo-MusesD — Data Link



Run 1: Statistics of Indigo-MusesT

Start at: 2019-03-27 12:15:12

End at: 2019-03-27 12:15:42

Local clock offset: -3.59 ms

Remote clock offset: 1.65 ms

Below is generated by plot.py at 2019-03-27 14:22:09

Datalink statistics

-- Total of 3 flows:

Average throughput: 94.63 Mbit/s

95th percentile per-packet one-way delay: 444.230 ms

Loss rate: 6.19%

-- Flow 1:

Average throughput: 58.93 Mbit/s

95th percentile per-packet one-way delay: 320.529 ms

Loss rate: 6.89%

-- Flow 2:

Average throughput: 41.76 Mbit/s

95th percentile per-packet one-way delay: 461.869 ms

Loss rate: 4.10%

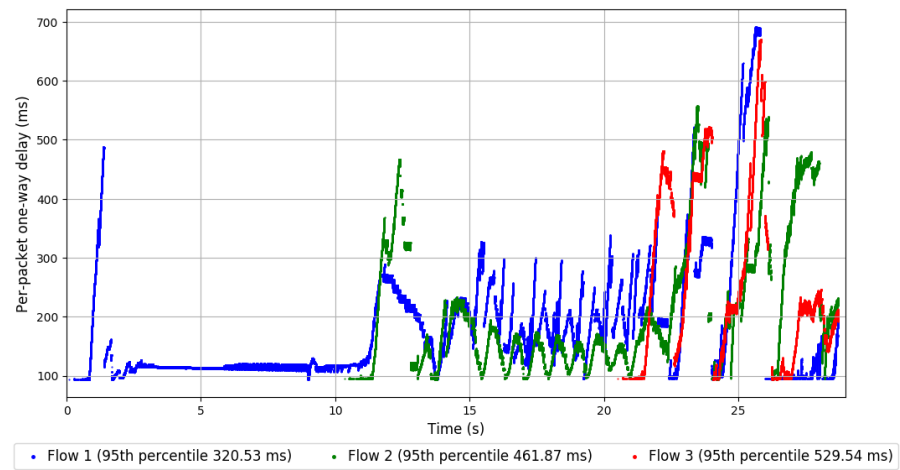
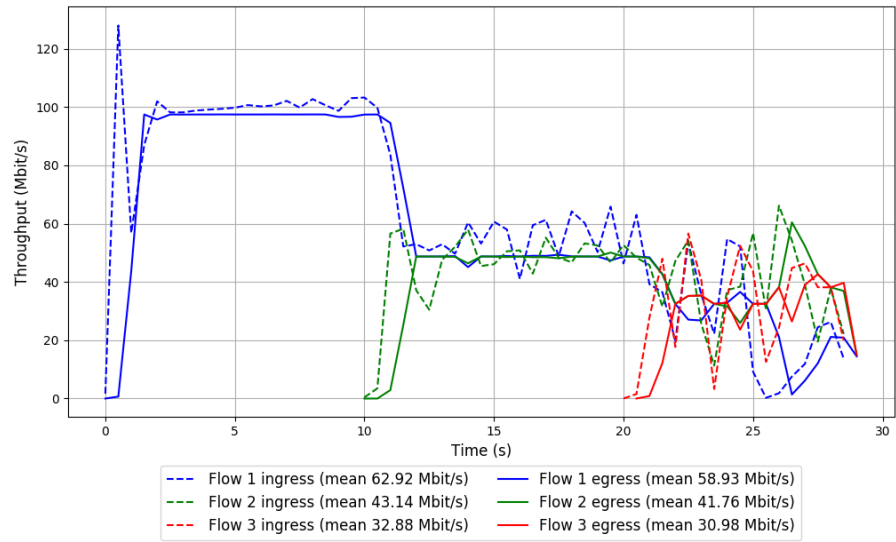
-- Flow 3:

Average throughput: 30.98 Mbit/s

95th percentile per-packet one-way delay: 529.543 ms

Loss rate: 7.60%

Run 1: Report of Indigo-MusesT — Data Link



Run 2: Statistics of Indigo-MusesT

Start at: 2019-03-27 12:42:11

End at: 2019-03-27 12:42:41

Local clock offset: -4.864 ms

Remote clock offset: 3.051 ms

Below is generated by plot.py at 2019-03-27 14:22:09

Datalink statistics

-- Total of 3 flows:

Average throughput: 91.47 Mbit/s

95th percentile per-packet one-way delay: 455.519 ms

Loss rate: 6.55%

-- Flow 1:

Average throughput: 56.32 Mbit/s

95th percentile per-packet one-way delay: 297.520 ms

Loss rate: 6.66%

-- Flow 2:

Average throughput: 40.28 Mbit/s

95th percentile per-packet one-way delay: 401.762 ms

Loss rate: 4.23%

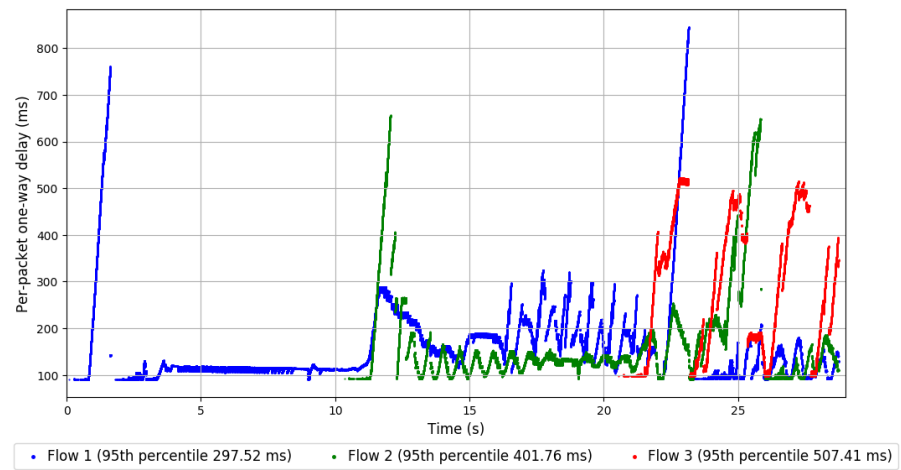
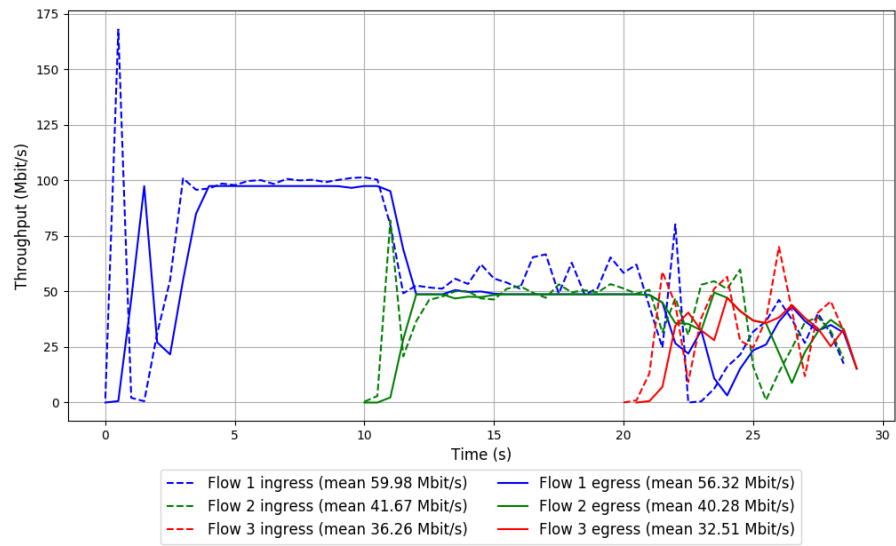
-- Flow 3:

Average throughput: 32.51 Mbit/s

95th percentile per-packet one-way delay: 507.407 ms

Loss rate: 11.91%

Run 2: Report of Indigo-MusesT — Data Link



Run 3: Statistics of Indigo-MusesT

Start at: 2019-03-27 13:09:21

End at: 2019-03-27 13:09:51

Local clock offset: -4.212 ms

Remote clock offset: 2.046 ms

Below is generated by plot.py at 2019-03-27 14:22:25

Datalink statistics

-- Total of 3 flows:

Average throughput: 94.70 Mbit/s

95th percentile per-packet one-way delay: 404.907 ms

Loss rate: 5.88%

-- Flow 1:

Average throughput: 60.52 Mbit/s

95th percentile per-packet one-way delay: 363.545 ms

Loss rate: 5.99%

-- Flow 2:

Average throughput: 40.49 Mbit/s

95th percentile per-packet one-way delay: 363.664 ms

Loss rate: 5.88%

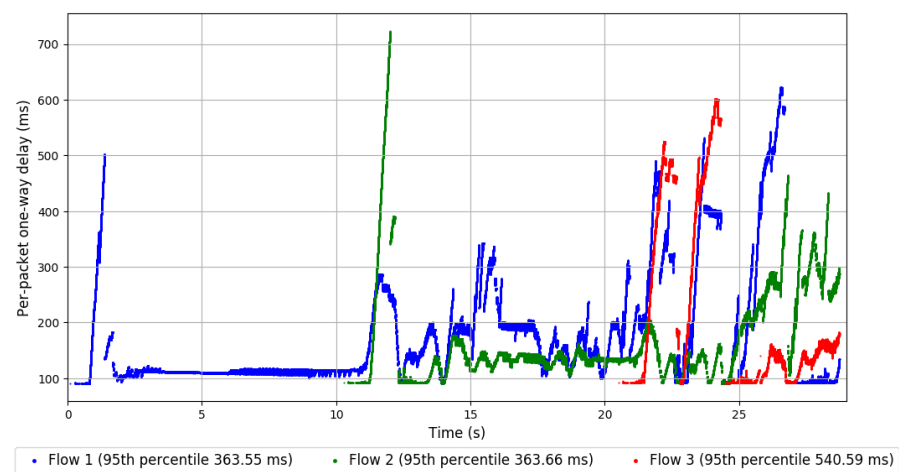
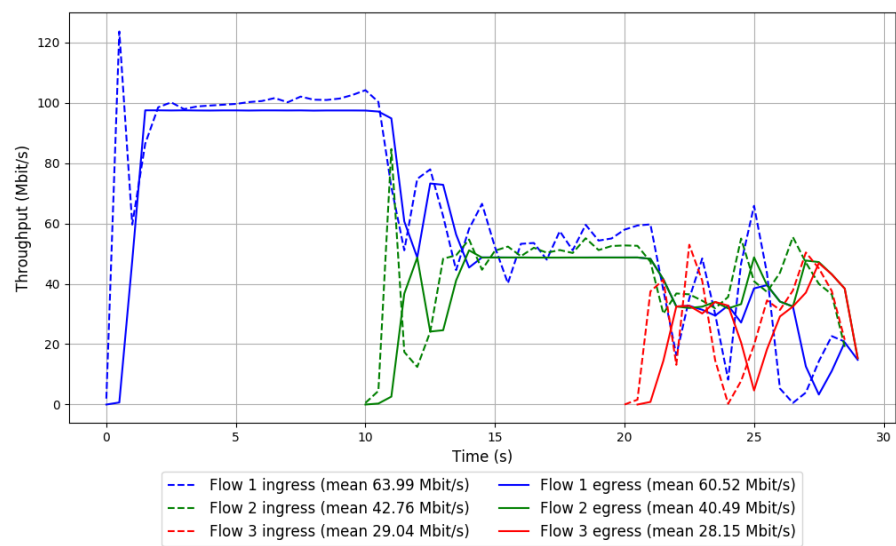
-- Flow 3:

Average throughput: 28.15 Mbit/s

95th percentile per-packet one-way delay: 540.586 ms

Loss rate: 5.03%

Run 3: Report of Indigo-MusesT — Data Link



Run 4: Statistics of Indigo-MusesT

Start at: 2019-03-27 13:36:21

End at: 2019-03-27 13:36:51

Local clock offset: -3.514 ms

Remote clock offset: 5.341 ms

Below is generated by plot.py at 2019-03-27 14:22:25

Datalink statistics

-- Total of 3 flows:

Average throughput: 91.87 Mbit/s

95th percentile per-packet one-way delay: 364.129 ms

Loss rate: 5.75%

-- Flow 1:

Average throughput: 57.51 Mbit/s

95th percentile per-packet one-way delay: 345.897 ms

Loss rate: 5.96%

-- Flow 2:

Average throughput: 40.13 Mbit/s

95th percentile per-packet one-way delay: 250.381 ms

Loss rate: 4.91%

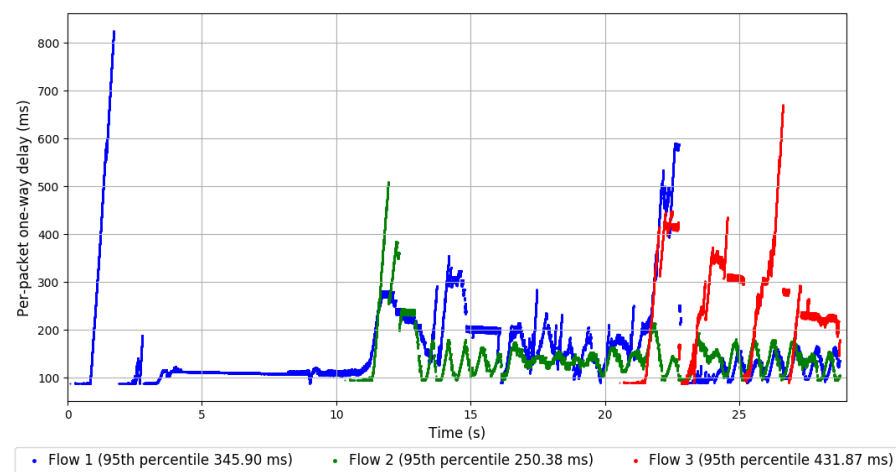
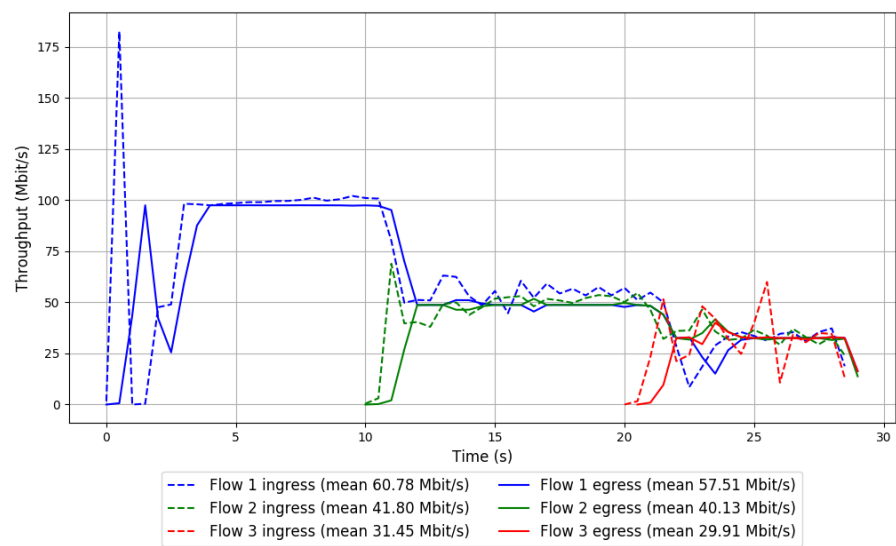
-- Flow 3:

Average throughput: 29.91 Mbit/s

95th percentile per-packet one-way delay: 431.866 ms

Loss rate: 6.85%

Run 4: Report of Indigo-MusesT — Data Link



Run 5: Statistics of Indigo-MusesT

Start at: 2019-03-27 14:03:22

End at: 2019-03-27 14:03:52

Local clock offset: -4.749 ms

Remote clock offset: 0.361 ms

Below is generated by plot.py at 2019-03-27 14:22:34

Datalink statistics

-- Total of 3 flows:

Average throughput: 91.26 Mbit/s

95th percentile per-packet one-way delay: 503.762 ms

Loss rate: 6.78%

-- Flow 1:

Average throughput: 57.62 Mbit/s

95th percentile per-packet one-way delay: 490.278 ms

Loss rate: 6.34%

-- Flow 2:

Average throughput: 38.42 Mbit/s

95th percentile per-packet one-way delay: 433.621 ms

Loss rate: 7.71%

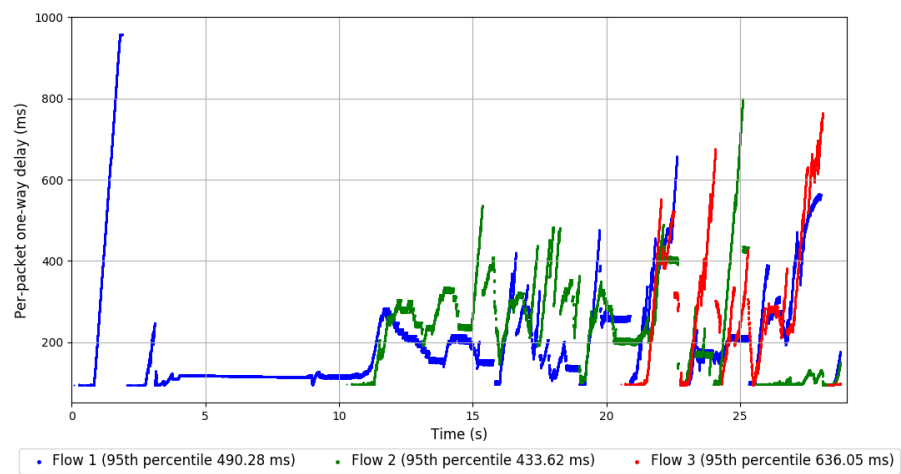
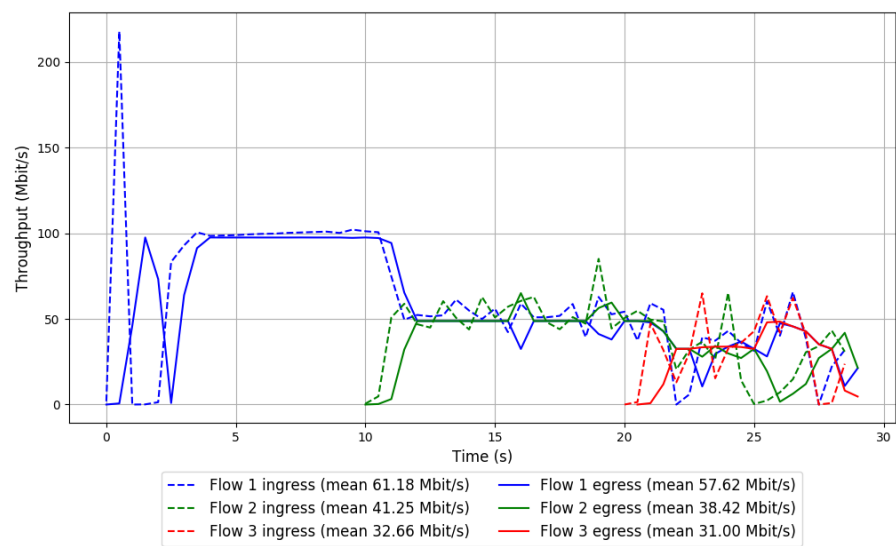
-- Flow 3:

Average throughput: 31.00 Mbit/s

95th percentile per-packet one-way delay: 636.047 ms

Loss rate: 6.98%

Run 5: Report of Indigo-MusesT — Data Link

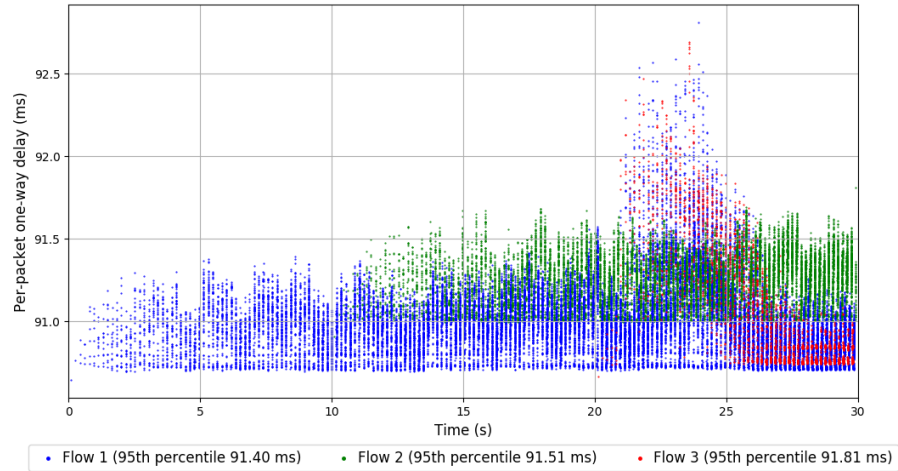
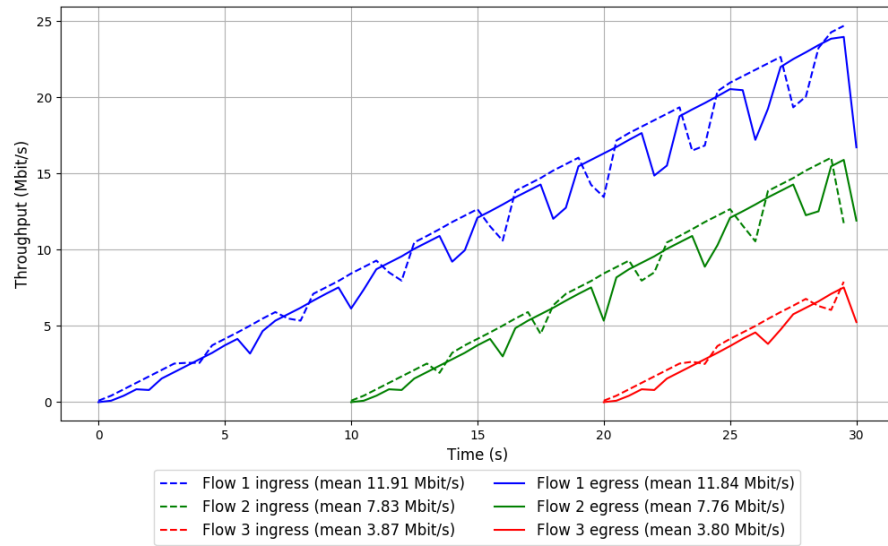


```
Run 1: Statistics of LEDBAT

Start at: 2019-03-27 11:59:47
End at: 2019-03-27 12:00:17
Local clock offset: -2.894 ms
Remote clock offset: 5.092 ms

# Below is generated by plot.py at 2019-03-27 14:22:34
# Datalink statistics
-- Total of 3 flows:
Average throughput: 18.20 Mbit/s
95th percentile per-packet one-way delay: 91.494 ms
Loss rate: 1.47%
-- Flow 1:
Average throughput: 11.84 Mbit/s
95th percentile per-packet one-way delay: 91.401 ms
Loss rate: 1.16%
-- Flow 2:
Average throughput: 7.76 Mbit/s
95th percentile per-packet one-way delay: 91.508 ms
Loss rate: 1.67%
-- Flow 3:
Average throughput: 3.80 Mbit/s
95th percentile per-packet one-way delay: 91.807 ms
Loss rate: 3.54%
```

Run 1: Report of LEDBAT — Data Link



Run 2: Statistics of LEDBAT

Start at: 2019-03-27 12:26:47

End at: 2019-03-27 12:27:17

Local clock offset: -4.201 ms

Remote clock offset: 8.252 ms

Below is generated by plot.py at 2019-03-27 14:22:34

Datalink statistics

-- Total of 3 flows:

Average throughput: 18.47 Mbit/s

95th percentile per-packet one-way delay: 90.781 ms

Loss rate: 1.48%

-- Flow 1:

Average throughput: 12.09 Mbit/s

95th percentile per-packet one-way delay: 91.137 ms

Loss rate: 1.15%

-- Flow 2:

Average throughput: 7.75 Mbit/s

95th percentile per-packet one-way delay: 90.195 ms

Loss rate: 1.76%

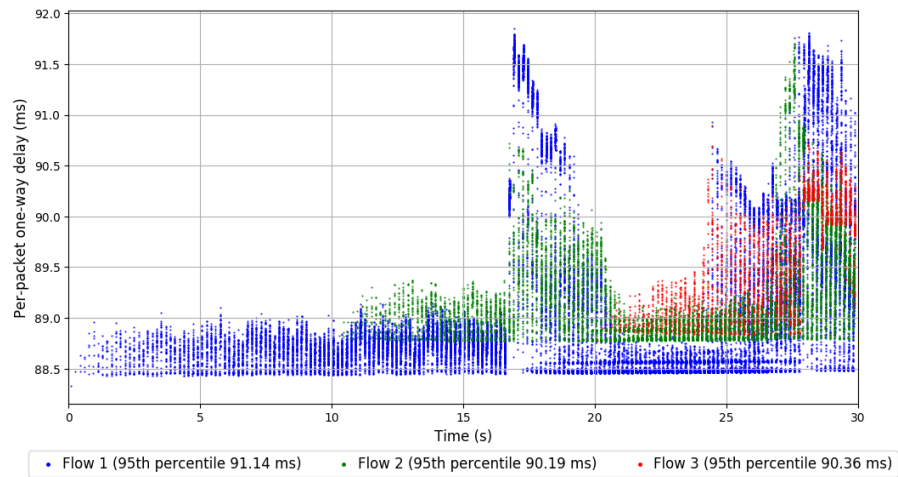
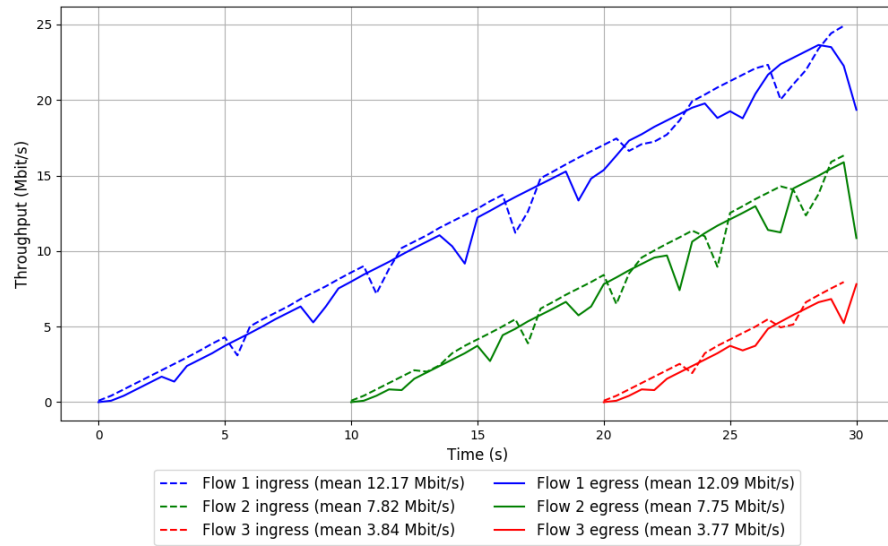
-- Flow 3:

Average throughput: 3.77 Mbit/s

95th percentile per-packet one-way delay: 90.360 ms

Loss rate: 3.53%

Run 2: Report of LEDBAT — Data Link

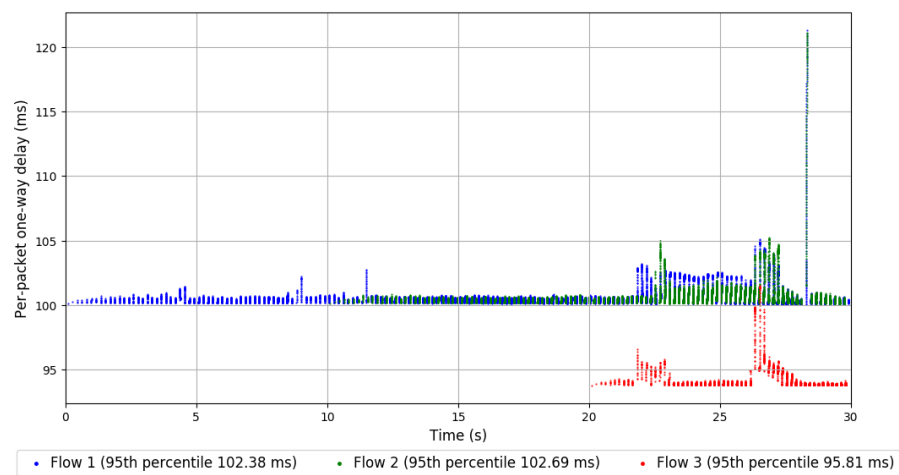
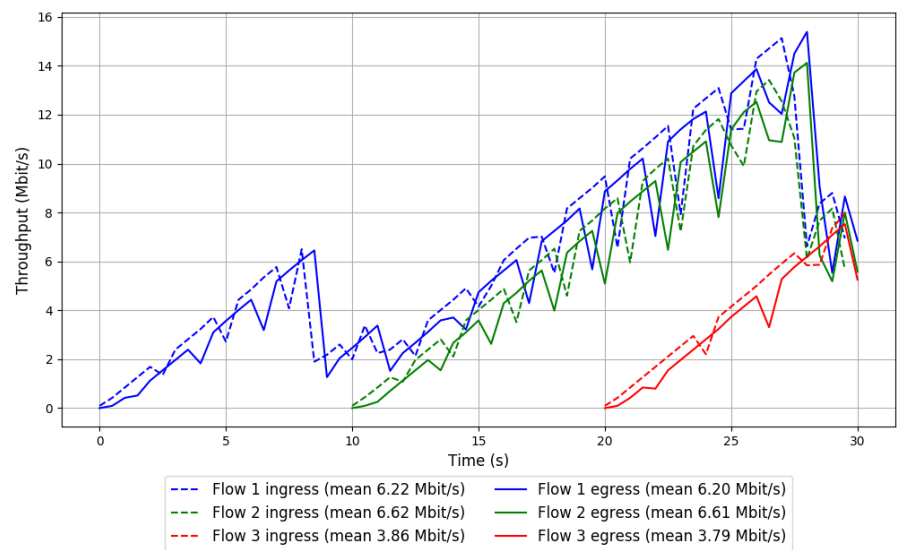


Run 3: Statistics of LEDBAT

Start at: 2019-03-27 12:53:49
End at: 2019-03-27 12:54:19
Local clock offset: -5.121 ms
Remote clock offset: -1.778 ms

Below is generated by plot.py at 2019-03-27 14:22:34
Datalink statistics
-- Total of 3 flows:
Average throughput: 11.80 Mbit/s
95th percentile per-packet one-way delay: 102.335 ms
Loss rate: 1.23%
-- Flow 1:
Average throughput: 6.20 Mbit/s
95th percentile per-packet one-way delay: 102.379 ms
Loss rate: 0.85%
-- Flow 2:
Average throughput: 6.61 Mbit/s
95th percentile per-packet one-way delay: 102.687 ms
Loss rate: 1.10%
-- Flow 3:
Average throughput: 3.79 Mbit/s
95th percentile per-packet one-way delay: 95.812 ms
Loss rate: 3.54%

Run 3: Report of LEDBAT — Data Link



Run 4: Statistics of LEDBAT

Start at: 2019-03-27 13:20:56

End at: 2019-03-27 13:21:26

Local clock offset: -3.906 ms

Remote clock offset: 3.943 ms

Below is generated by plot.py at 2019-03-27 14:22:34

Datalink statistics

-- Total of 3 flows:

Average throughput: 12.77 Mbit/s

95th percentile per-packet one-way delay: 90.554 ms

Loss rate: 1.59%

-- Flow 1:

Average throughput: 6.37 Mbit/s

95th percentile per-packet one-way delay: 90.603 ms

Loss rate: 1.12%

-- Flow 2:

Average throughput: 7.79 Mbit/s

95th percentile per-packet one-way delay: 90.489 ms

Loss rate: 1.70%

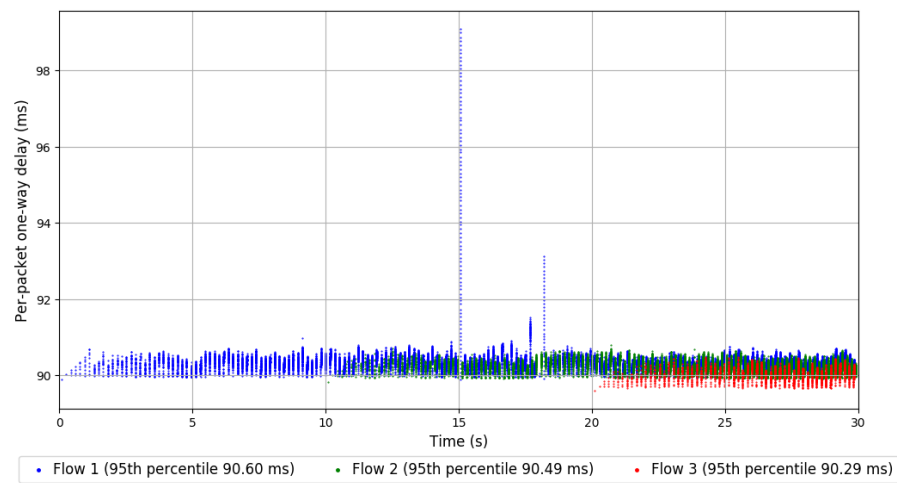
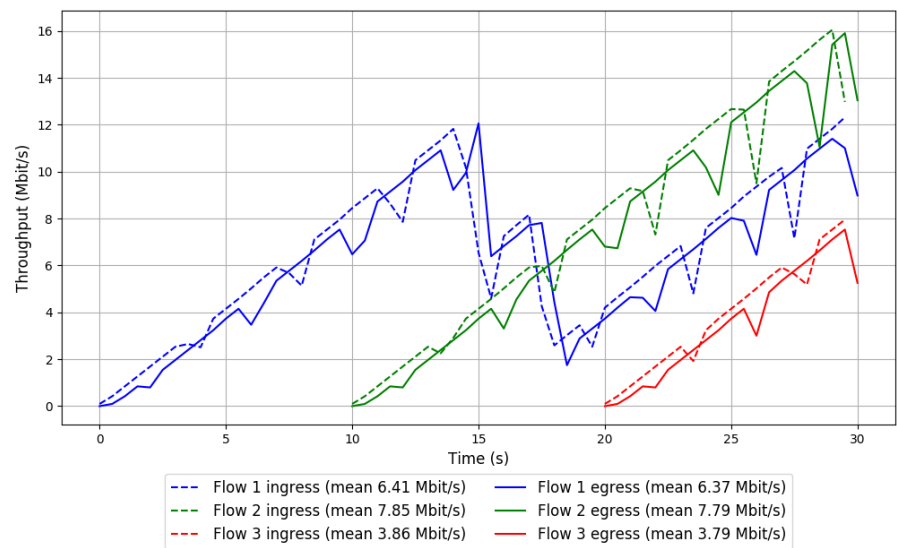
-- Flow 3:

Average throughput: 3.79 Mbit/s

95th percentile per-packet one-way delay: 90.294 ms

Loss rate: 3.53%

Run 4: Report of LEDBAT — Data Link



Run 5: Statistics of LEDBAT

Start at: 2019-03-27 13:47:56

End at: 2019-03-27 13:48:26

Local clock offset: -4.422 ms

Remote clock offset: 3.52 ms

Below is generated by plot.py at 2019-03-27 14:22:34

Datalink statistics

-- Total of 3 flows:

Average throughput: 18.49 Mbit/s

95th percentile per-packet one-way delay: 91.783 ms

Loss rate: 1.48%

-- Flow 1:

Average throughput: 11.97 Mbit/s

95th percentile per-packet one-way delay: 91.852 ms

Loss rate: 1.15%

-- Flow 2:

Average throughput: 7.99 Mbit/s

95th percentile per-packet one-way delay: 91.131 ms

Loss rate: 1.73%

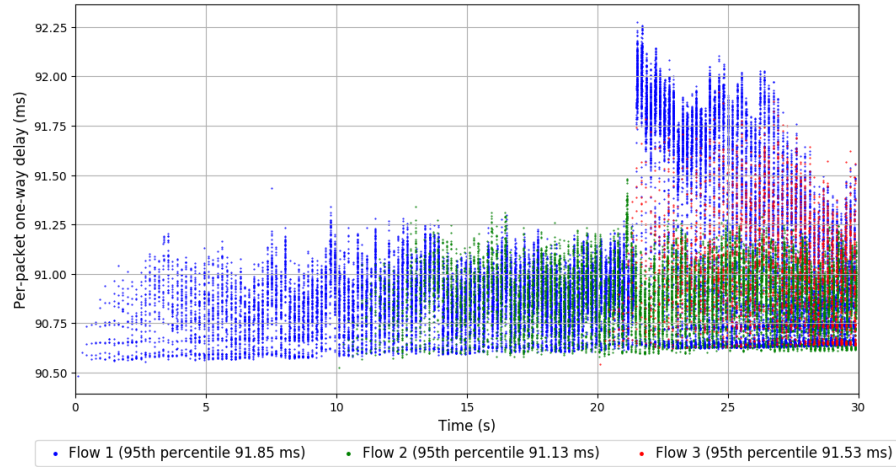
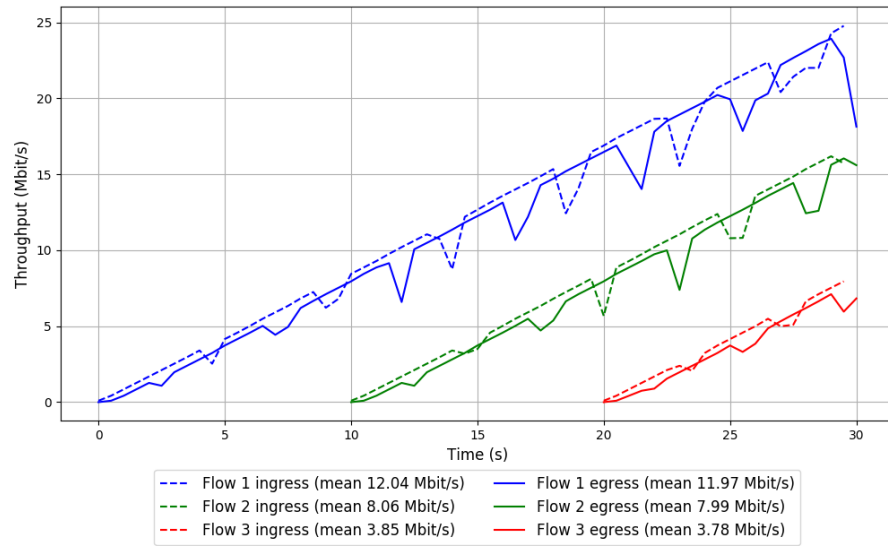
-- Flow 3:

Average throughput: 3.78 Mbit/s

95th percentile per-packet one-way delay: 91.530 ms

Loss rate: 3.53%

Run 5: Report of LEDBAT — Data Link

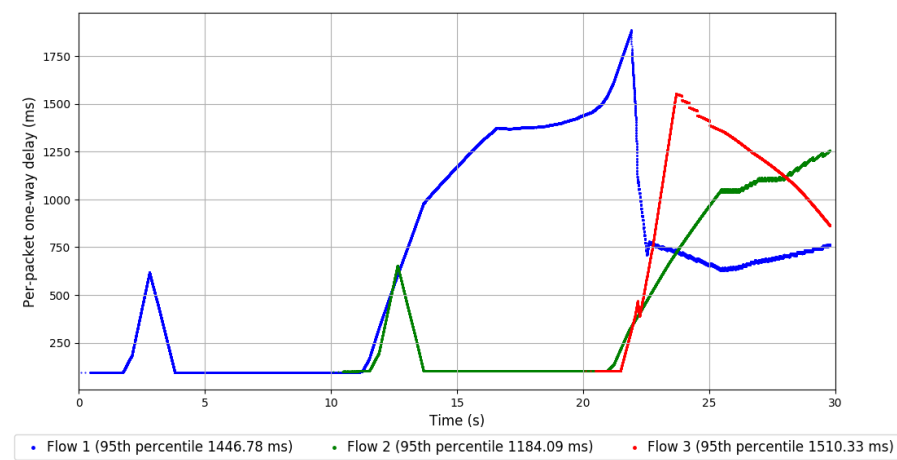
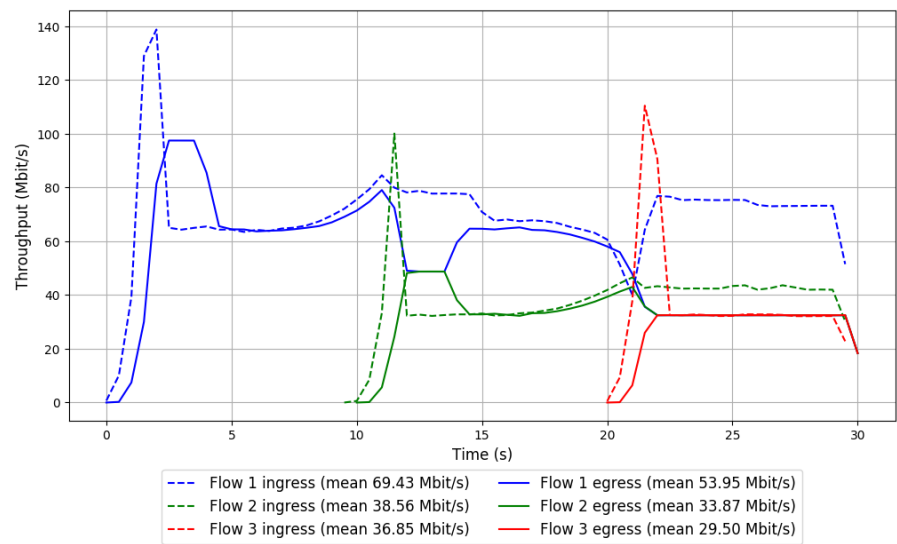


```
Run 1: Statistics of PCC-Allegro

Start at: 2019-03-27 11:58:31
End at: 2019-03-27 11:59:01
Local clock offset: -2.842 ms
Remote clock offset: 1.347 ms

# Below is generated by plot.py at 2019-03-27 14:23:06
# Datalink statistics
-- Total of 3 flows:
Average throughput: 86.01 Mbit/s
95th percentile per-packet one-way delay: 1435.013 ms
Loss rate: 20.25%
-- Flow 1:
Average throughput: 53.95 Mbit/s
95th percentile per-packet one-way delay: 1446.781 ms
Loss rate: 22.75%
-- Flow 2:
Average throughput: 33.87 Mbit/s
95th percentile per-packet one-way delay: 1184.087 ms
Loss rate: 12.95%
-- Flow 3:
Average throughput: 29.50 Mbit/s
95th percentile per-packet one-way delay: 1510.327 ms
Loss rate: 21.38%
```

Run 1: Report of PCC-Allegro — Data Link



Run 2: Statistics of PCC-Allegro

Start at: 2019-03-27 12:25:30

End at: 2019-03-27 12:26:00

Local clock offset: -4.895 ms

Remote clock offset: 1.96 ms

Below is generated by plot.py at 2019-03-27 14:23:08

Datalink statistics

-- Total of 3 flows:

Average throughput: 85.93 Mbit/s

95th percentile per-packet one-way delay: 1437.394 ms

Loss rate: 20.13%

-- Flow 1:

Average throughput: 54.01 Mbit/s

95th percentile per-packet one-way delay: 1433.161 ms

Loss rate: 23.00%

-- Flow 2:

Average throughput: 33.65 Mbit/s

95th percentile per-packet one-way delay: 1196.396 ms

Loss rate: 11.73%

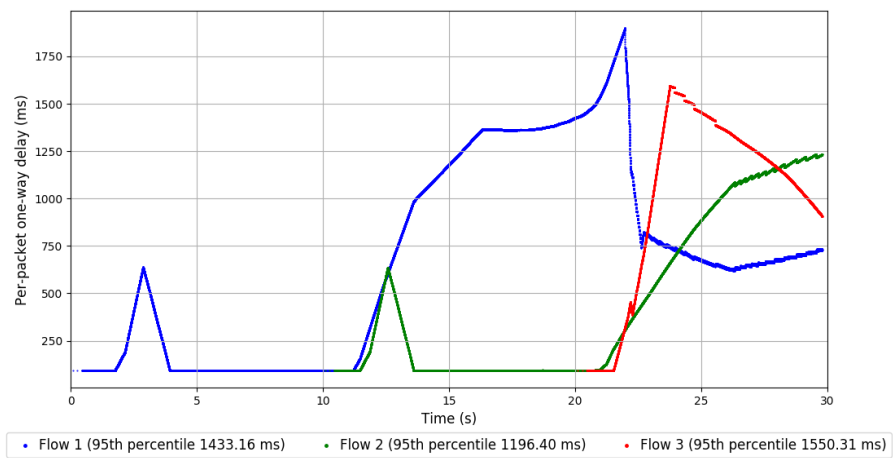
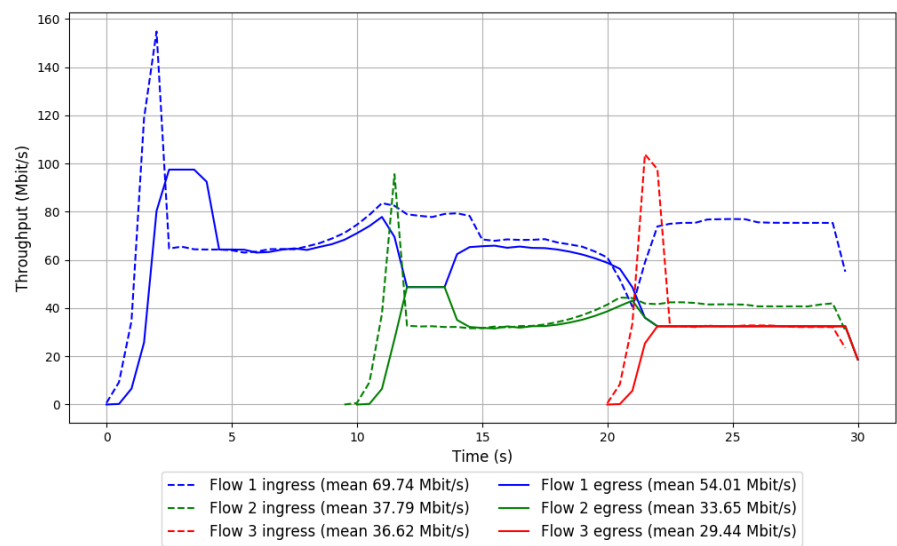
-- Flow 3:

Average throughput: 29.44 Mbit/s

95th percentile per-packet one-way delay: 1550.309 ms

Loss rate: 21.03%

Run 2: Report of PCC-Allegro — Data Link



Run 3: Statistics of PCC-Allegro

Start at: 2019-03-27 12:52:30

End at: 2019-03-27 12:53:00

Local clock offset: -4.47 ms

Remote clock offset: 3.268 ms

Below is generated by plot.py at 2019-03-27 14:23:12

Datalink statistics

-- Total of 3 flows:

Average throughput: 89.12 Mbit/s

95th percentile per-packet one-way delay: 1615.242 ms

Loss rate: 23.46%

-- Flow 1:

Average throughput: 55.76 Mbit/s

95th percentile per-packet one-way delay: 1649.505 ms

Loss rate: 27.29%

-- Flow 2:

Average throughput: 35.79 Mbit/s

95th percentile per-packet one-way delay: 1176.022 ms

Loss rate: 14.15%

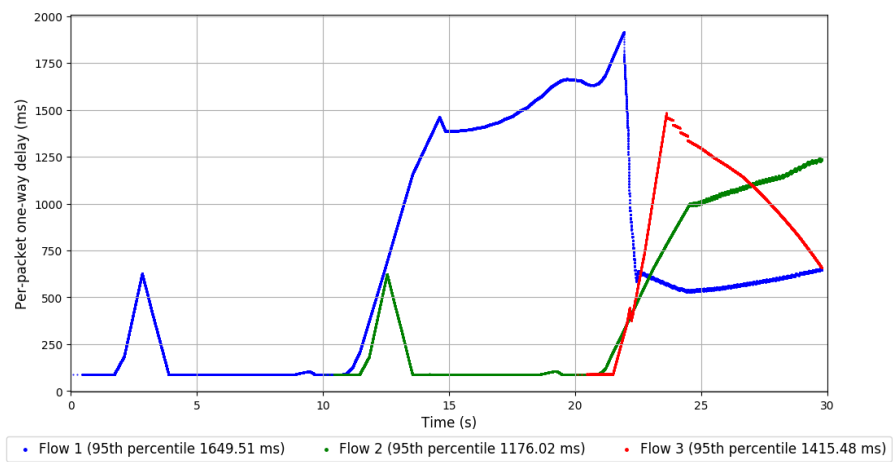
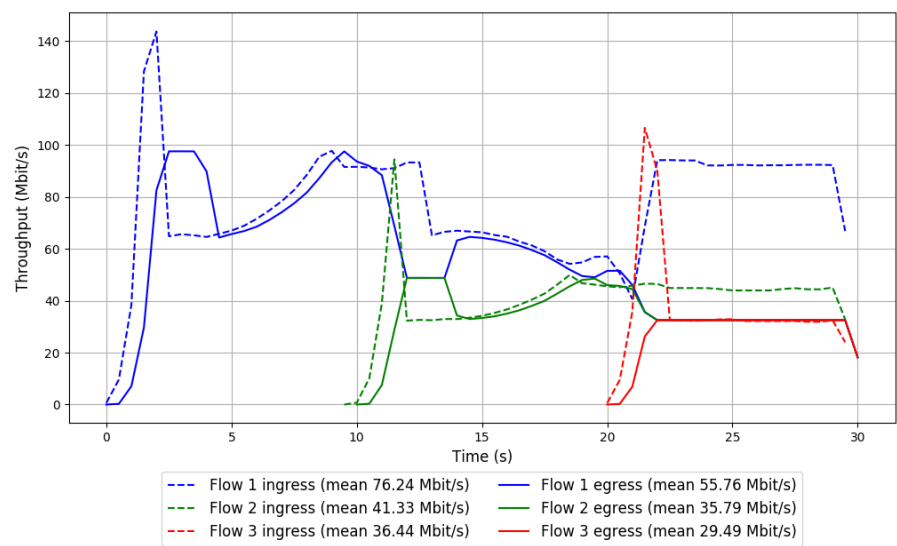
-- Flow 3:

Average throughput: 29.49 Mbit/s

95th percentile per-packet one-way delay: 1415.482 ms

Loss rate: 20.46%

Run 3: Report of PCC-Allegro — Data Link



Run 4: Statistics of PCC-Allegro

Start at: 2019-03-27 13:19:39

End at: 2019-03-27 13:20:09

Local clock offset: -4.027 ms

Remote clock offset: 3.946 ms

Below is generated by plot.py at 2019-03-27 14:23:12

Datalink statistics

-- Total of 3 flows:

Average throughput: 87.86 Mbit/s

95th percentile per-packet one-way delay: 1484.546 ms

Loss rate: 22.15%

-- Flow 1:

Average throughput: 56.22 Mbit/s

95th percentile per-packet one-way delay: 1409.403 ms

Loss rate: 26.41%

-- Flow 2:

Average throughput: 33.21 Mbit/s

95th percentile per-packet one-way delay: 1032.915 ms

Loss rate: 9.38%

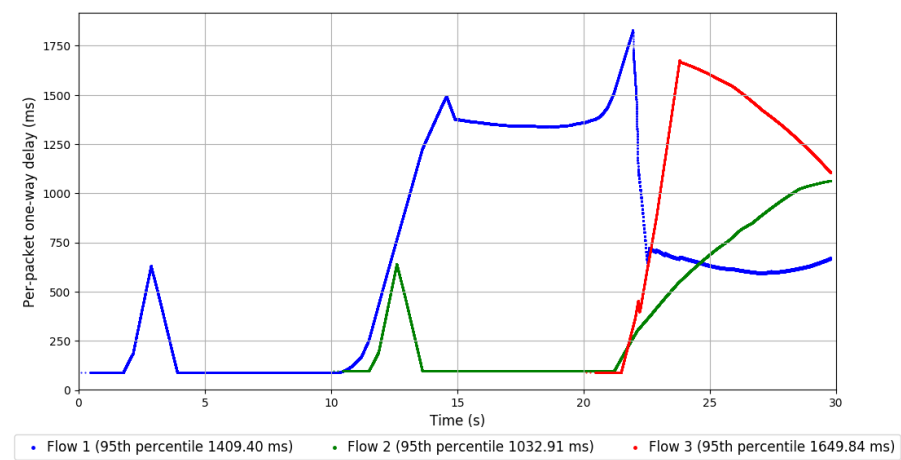
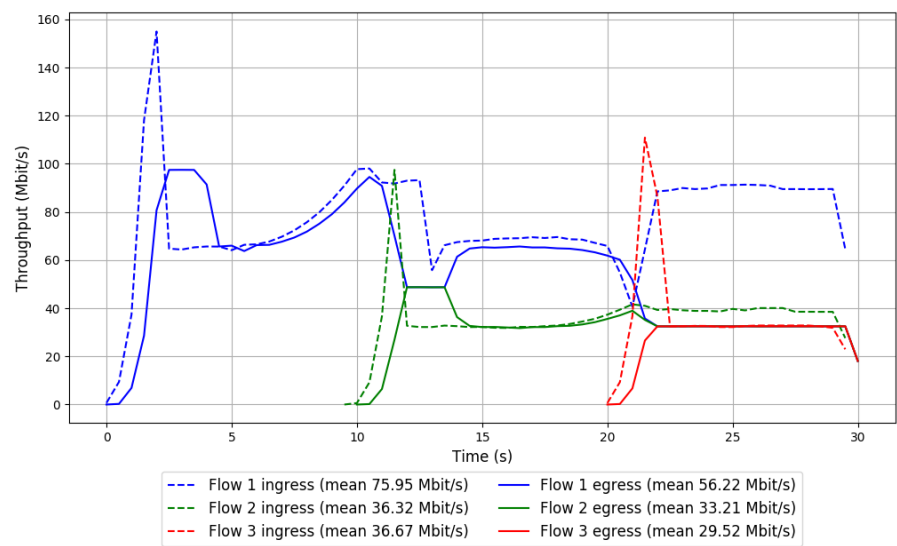
-- Flow 3:

Average throughput: 29.52 Mbit/s

95th percentile per-packet one-way delay: 1649.838 ms

Loss rate: 20.91%

Run 4: Report of PCC-Allegro — Data Link



Run 5: Statistics of PCC-Allegro

Start at: 2019-03-27 13:46:39

End at: 2019-03-27 13:47:09

Local clock offset: -3.448 ms

Remote clock offset: 3.579 ms

Below is generated by plot.py at 2019-03-27 14:23:18

Datalink statistics

-- Total of 3 flows:

Average throughput: 89.14 Mbit/s

95th percentile per-packet one-way delay: 1509.694 ms

Loss rate: 23.28%

-- Flow 1:

Average throughput: 56.12 Mbit/s

95th percentile per-packet one-way delay: 1619.712 ms

Loss rate: 26.20%

-- Flow 2:

Average throughput: 35.25 Mbit/s

95th percentile per-packet one-way delay: 1119.003 ms

Loss rate: 15.79%

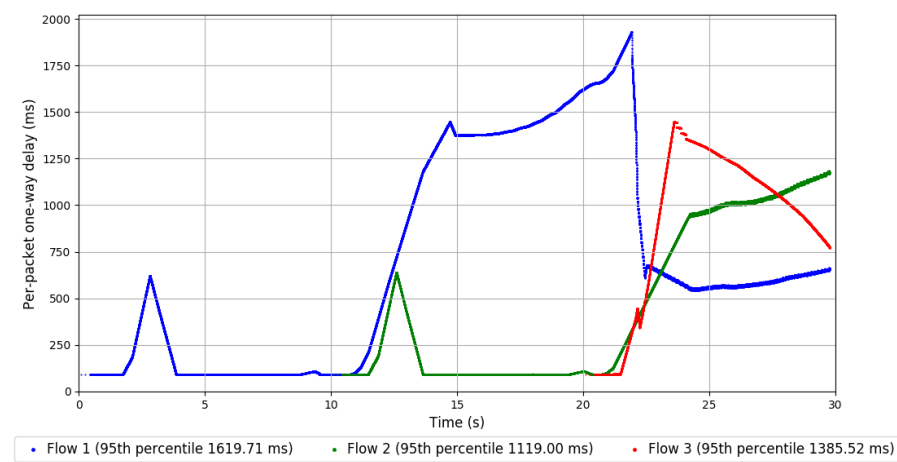
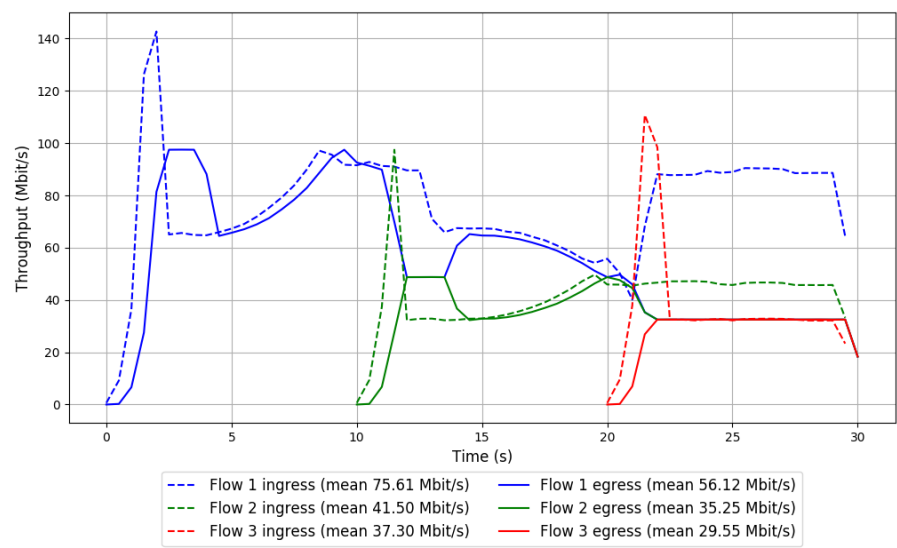
-- Flow 3:

Average throughput: 29.55 Mbit/s

95th percentile per-packet one-way delay: 1385.524 ms

Loss rate: 22.16%

Run 5: Report of PCC-Allegro — Data Link

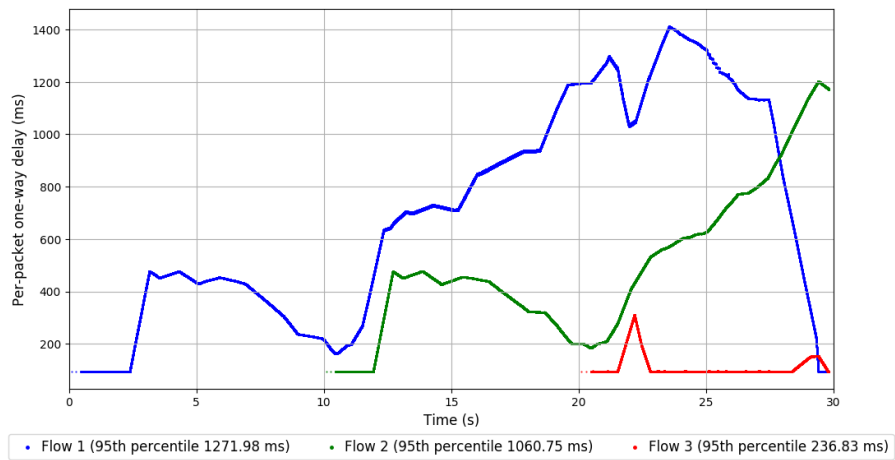
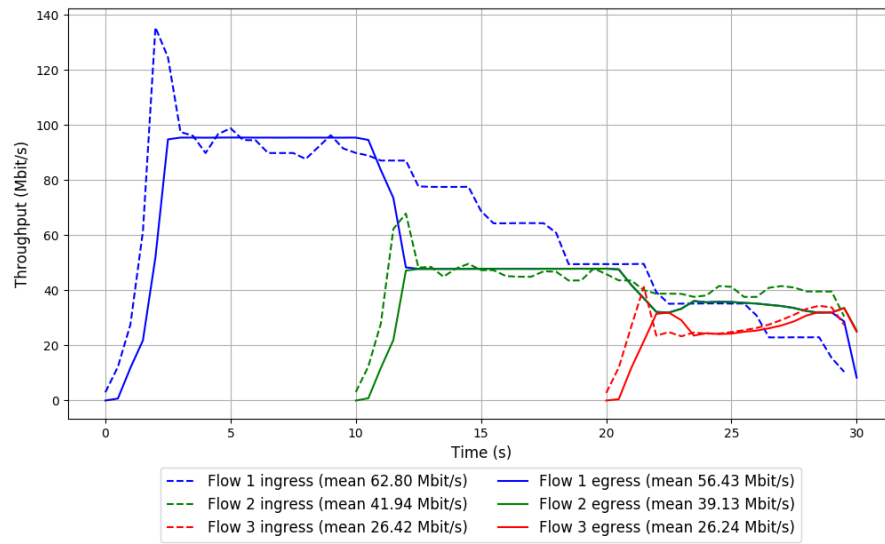



```
Run 1: Statistics of PCC-Expr

Start at: 2019-03-27 12:03:37
End at: 2019-03-27 12:04:07
Local clock offset: -3.639 ms
Remote clock offset: 1.391 ms

# Below is generated by plot.py at 2019-03-27 14:24:16
# Datalink statistics
-- Total of 3 flows:
Average throughput: 90.95 Mbit/s
95th percentile per-packet one-way delay: 1213.232 ms
Loss rate: 9.05%
-- Flow 1:
Average throughput: 56.43 Mbit/s
95th percentile per-packet one-way delay: 1271.977 ms
Loss rate: 10.66%
-- Flow 2:
Average throughput: 39.13 Mbit/s
95th percentile per-packet one-way delay: 1060.747 ms
Loss rate: 7.50%
-- Flow 3:
Average throughput: 26.24 Mbit/s
95th percentile per-packet one-way delay: 236.827 ms
Loss rate: 2.42%
```

Run 1: Report of PCC-Expr — Data Link



Run 2: Statistics of PCC-Expr

Start at: 2019-03-27 12:30:37

End at: 2019-03-27 12:31:07

Local clock offset: -4.444 ms

Remote clock offset: 1.381 ms

Below is generated by plot.py at 2019-03-27 14:24:22

Datalink statistics

-- Total of 3 flows:

Average throughput: 90.99 Mbit/s

95th percentile per-packet one-way delay: 1140.679 ms

Loss rate: 13.69%

-- Flow 1:

Average throughput: 56.73 Mbit/s

95th percentile per-packet one-way delay: 1191.450 ms

Loss rate: 18.12%

-- Flow 2:

Average throughput: 38.91 Mbit/s

95th percentile per-packet one-way delay: 817.310 ms

Loss rate: 5.75%

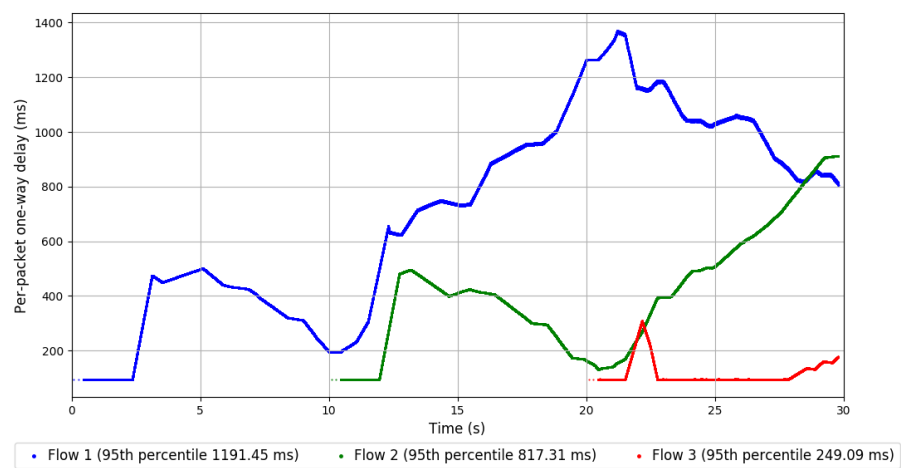
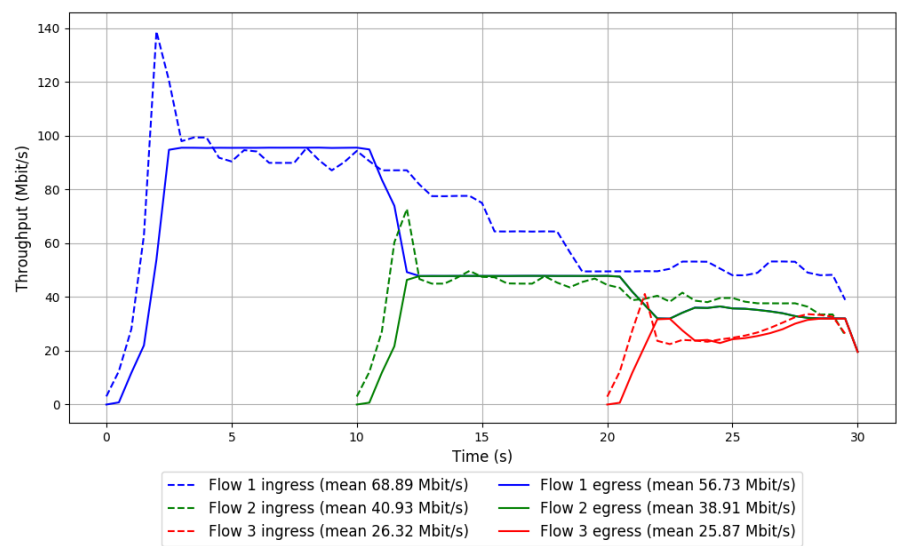
-- Flow 3:

Average throughput: 25.87 Mbit/s

95th percentile per-packet one-way delay: 249.090 ms

Loss rate: 3.45%

Run 2: Report of PCC-Expr — Data Link

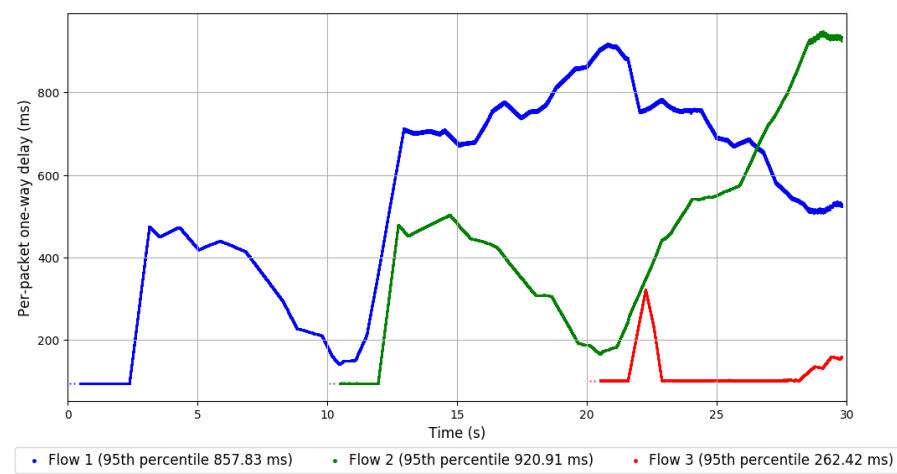
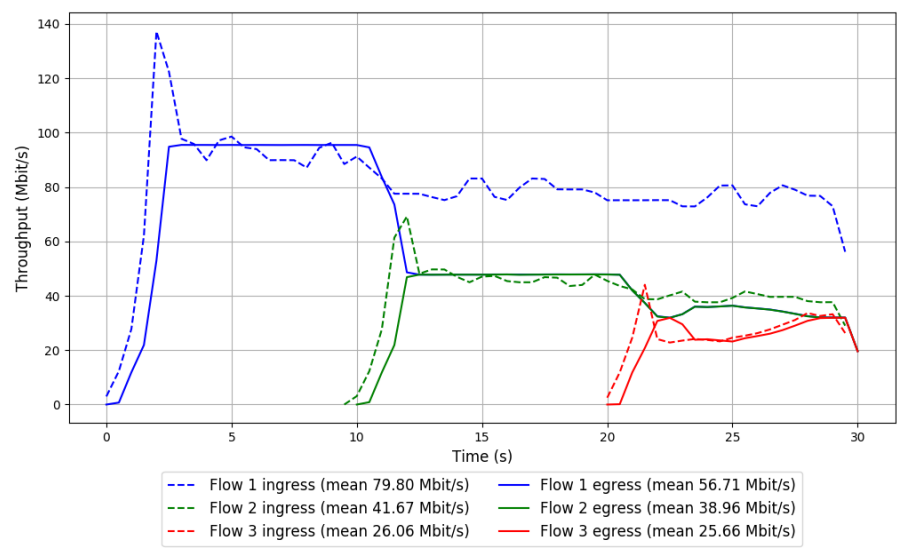


Run 3: Statistics of PCC-Expr

Start at: 2019-03-27 12:57:42
End at: 2019-03-27 12:58:12
Local clock offset: -5.063 ms
Remote clock offset: -2.059 ms

Below is generated by plot.py at 2019-03-27 14:24:38
Datalink statistics
-- Total of 3 flows:
Average throughput: 90.93 Mbit/s
95th percentile per-packet one-way delay: 857.670 ms
Loss rate: 22.15%
-- Flow 1:
Average throughput: 56.71 Mbit/s
95th percentile per-packet one-way delay: 857.830 ms
Loss rate: 29.34%
-- Flow 2:
Average throughput: 38.96 Mbit/s
95th percentile per-packet one-way delay: 920.907 ms
Loss rate: 7.32%
-- Flow 3:
Average throughput: 25.66 Mbit/s
95th percentile per-packet one-way delay: 262.419 ms
Loss rate: 3.32%

Run 3: Report of PCC-Expr — Data Link



Run 4: Statistics of PCC-Expr

Start at: 2019-03-27 13:24:46

End at: 2019-03-27 13:25:16

Local clock offset: -3.781 ms

Remote clock offset: 4.061 ms

Below is generated by plot.py at 2019-03-27 14:25:09

Datalink statistics

-- Total of 3 flows:

Average throughput: 90.97 Mbit/s

95th percentile per-packet one-way delay: 863.363 ms

Loss rate: 22.19%

-- Flow 1:

Average throughput: 56.70 Mbit/s

95th percentile per-packet one-way delay: 863.560 ms

Loss rate: 29.49%

-- Flow 2:

Average throughput: 38.93 Mbit/s

95th percentile per-packet one-way delay: 912.264 ms

Loss rate: 6.99%

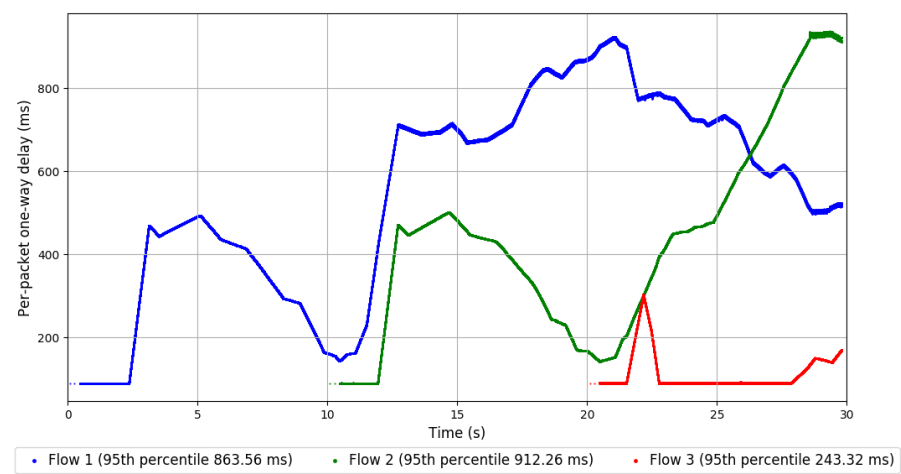
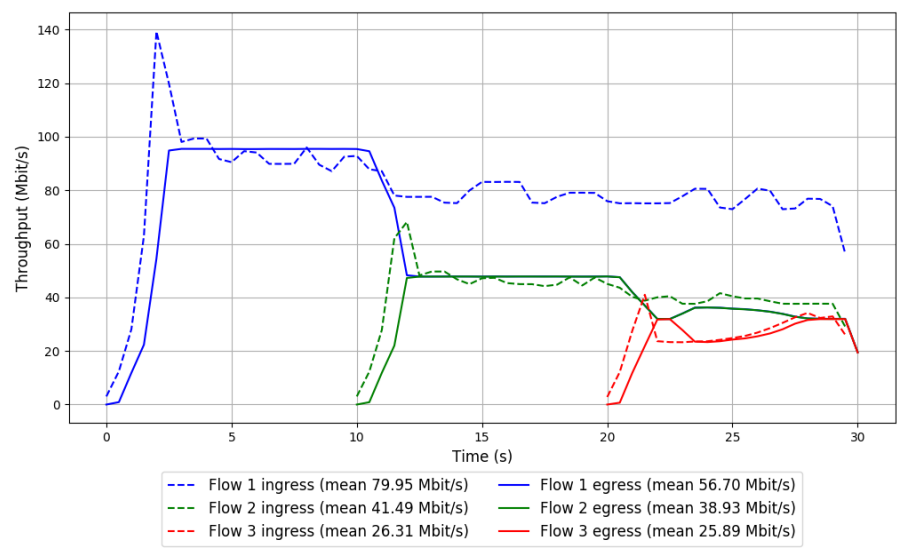
-- Flow 3:

Average throughput: 25.89 Mbit/s

95th percentile per-packet one-way delay: 243.316 ms

Loss rate: 3.32%

Run 4: Report of PCC-Expr — Data Link



Run 5: Statistics of PCC-Expr

Start at: 2019-03-27 13:51:46

End at: 2019-03-27 13:52:16

Local clock offset: -4.137 ms

Remote clock offset: 4.982 ms

Below is generated by plot.py at 2019-03-27 14:25:10

Datalink statistics

-- Total of 3 flows:

Average throughput: 90.91 Mbit/s

95th percentile per-packet one-way delay: 841.558 ms

Loss rate: 21.76%

-- Flow 1:

Average throughput: 56.66 Mbit/s

95th percentile per-packet one-way delay: 855.938 ms

Loss rate: 29.26%

-- Flow 2:

Average throughput: 38.93 Mbit/s

95th percentile per-packet one-way delay: 800.613 ms

Loss rate: 5.71%

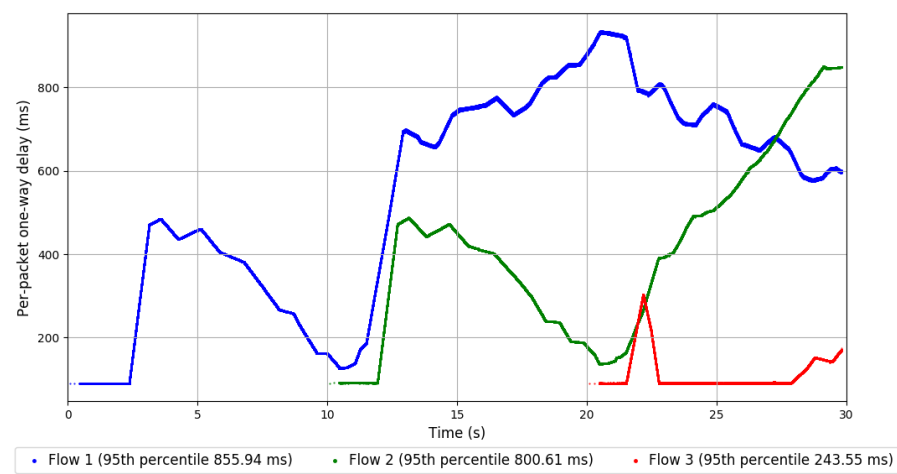
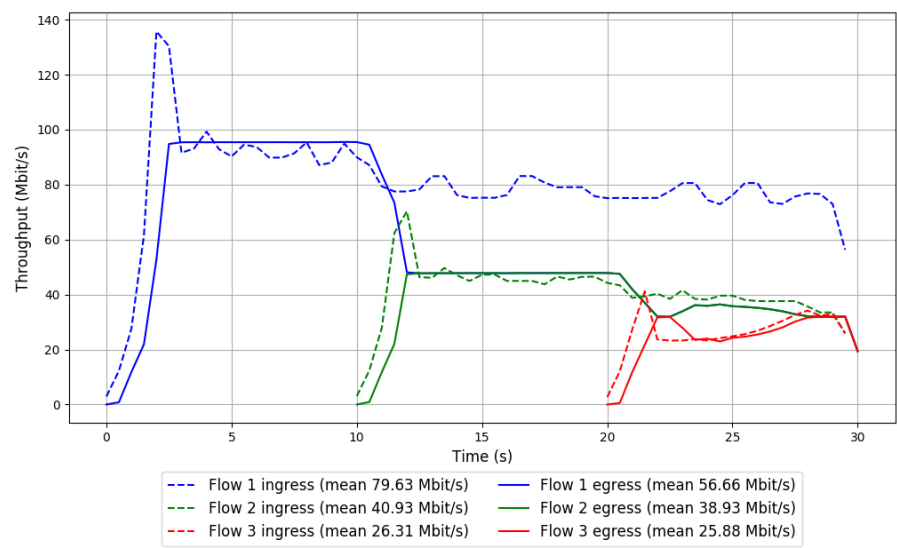
-- Flow 3:

Average throughput: 25.88 Mbit/s

95th percentile per-packet one-way delay: 243.553 ms

Loss rate: 3.31%

Run 5: Report of PCC-Expr — Data Link



Run 1: Statistics of QUIC Cubic

Start at: 2019-03-27 12:04:59

End at: 2019-03-27 12:05:29

Local clock offset: -2.888 ms

Remote clock offset: 2.562 ms

Below is generated by plot.py at 2019-03-27 14:25:10

Datalink statistics

-- Total of 3 flows:

Average throughput: 51.77 Mbit/s

95th percentile per-packet one-way delay: 175.369 ms

Loss rate: 0.93%

-- Flow 1:

Average throughput: 30.75 Mbit/s

95th percentile per-packet one-way delay: 138.876 ms

Loss rate: 0.60%

-- Flow 2:

Average throughput: 24.84 Mbit/s

95th percentile per-packet one-way delay: 177.999 ms

Loss rate: 1.33%

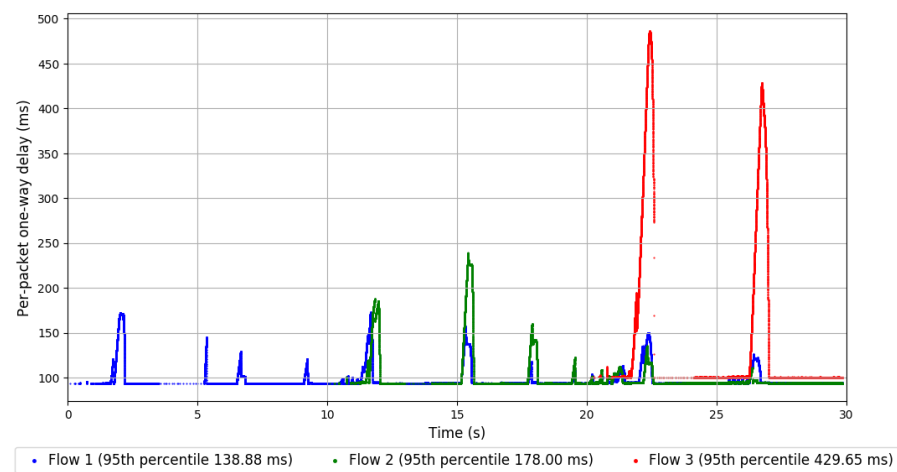
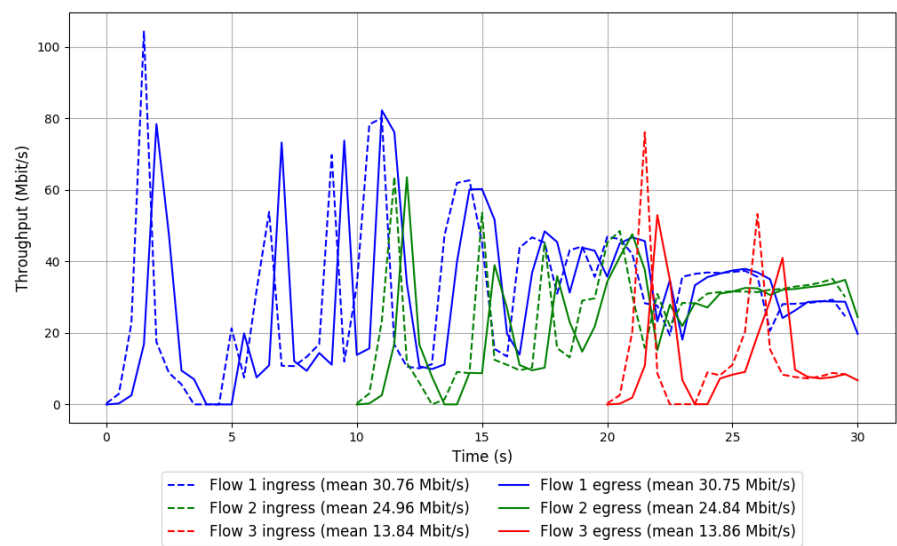
-- Flow 3:

Average throughput: 13.86 Mbit/s

95th percentile per-packet one-way delay: 429.647 ms

Loss rate: 1.63%

Run 1: Report of QUIC Cubic — Data Link



Run 2: Statistics of QUIC Cubic

Start at: 2019-03-27 12:31:59

End at: 2019-03-27 12:32:29

Local clock offset: -5.304 ms

Remote clock offset: 7.489 ms

Below is generated by plot.py at 2019-03-27 14:25:10

Datalink statistics

-- Total of 3 flows:

Average throughput: 55.44 Mbit/s

95th percentile per-packet one-way delay: 183.855 ms

Loss rate: 0.92%

-- Flow 1:

Average throughput: 35.73 Mbit/s

95th percentile per-packet one-way delay: 144.282 ms

Loss rate: 0.57%

-- Flow 2:

Average throughput: 23.77 Mbit/s

95th percentile per-packet one-way delay: 189.907 ms

Loss rate: 1.39%

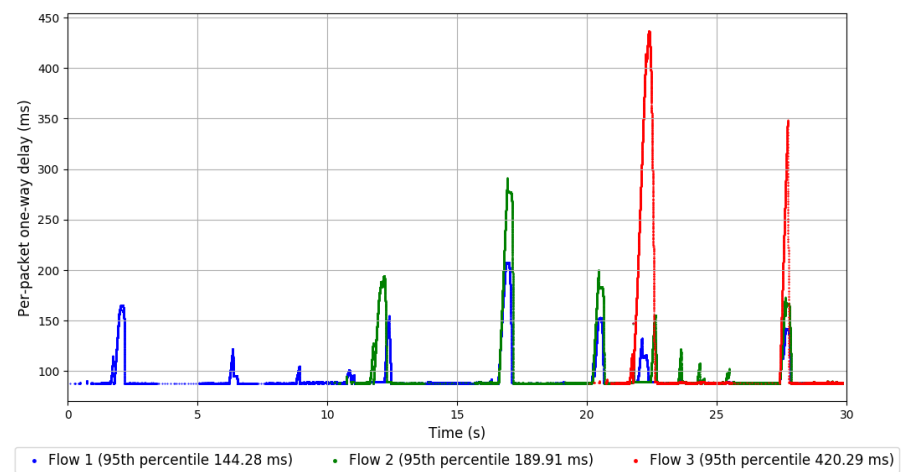
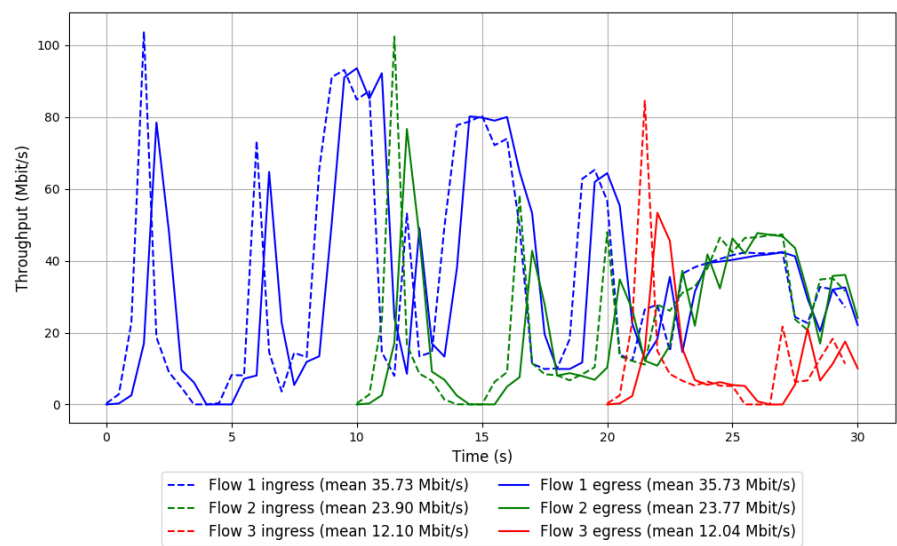
-- Flow 3:

Average throughput: 12.04 Mbit/s

95th percentile per-packet one-way delay: 420.293 ms

Loss rate: 2.21%

Run 2: Report of QUIC Cubic — Data Link

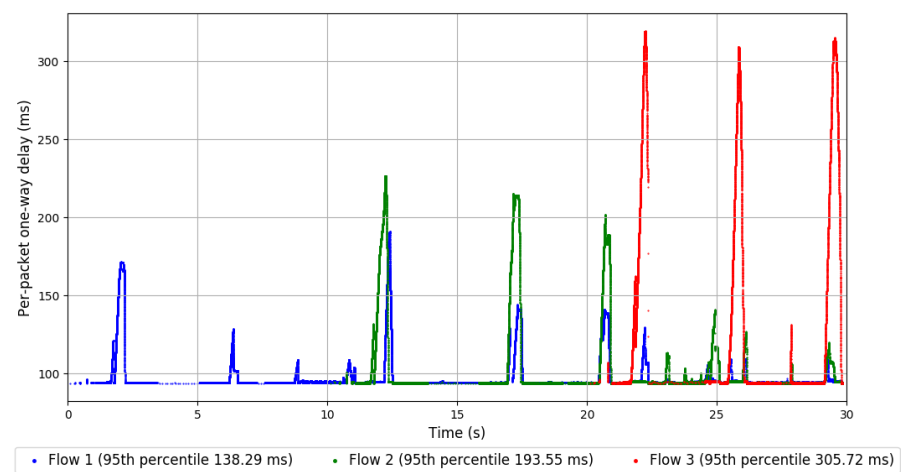
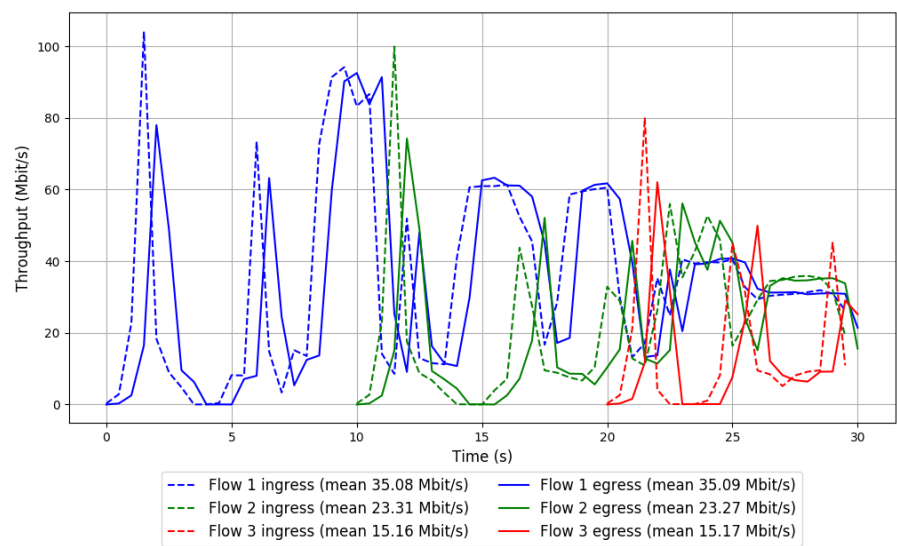


Run 3: Statistics of QUIC Cubic

Start at: 2019-03-27 12:59:05
End at: 2019-03-27 12:59:35
Local clock offset: -4.198 ms
Remote clock offset: -0.954 ms

Below is generated by plot.py at 2019-03-27 14:25:10
Datalink statistics
-- Total of 3 flows:
Average throughput: 55.48 Mbit/s
95th percentile per-packet one-way delay: 187.229 ms
Loss rate: 0.79%
-- Flow 1:
Average throughput: 35.09 Mbit/s
95th percentile per-packet one-way delay: 138.286 ms
Loss rate: 0.56%
-- Flow 2:
Average throughput: 23.27 Mbit/s
95th percentile per-packet one-way delay: 193.548 ms
Loss rate: 1.05%
-- Flow 3:
Average throughput: 15.17 Mbit/s
95th percentile per-packet one-way delay: 305.723 ms
Loss rate: 1.65%

Run 3: Report of QUIC Cubic — Data Link

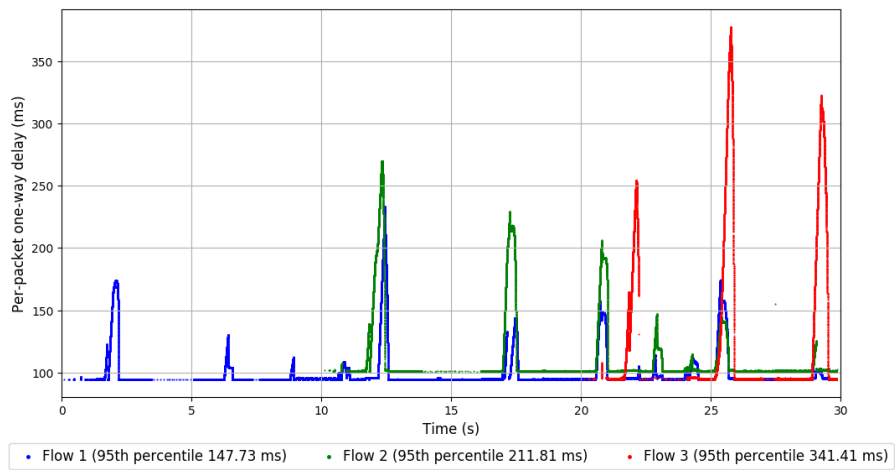
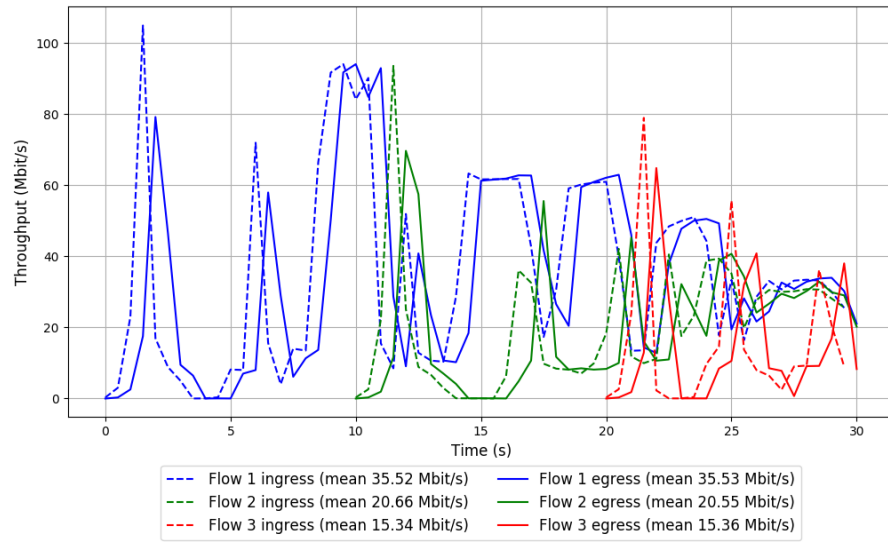


Run 4: Statistics of QUIC Cubic

Start at: 2019-03-27 13:26:08
End at: 2019-03-27 13:26:38
Local clock offset: -3.752 ms
Remote clock offset: -0.764 ms

Below is generated by plot.py at 2019-03-27 14:25:10
Datalink statistics
-- Total of 3 flows:
Average throughput: 54.17 Mbit/s
95th percentile per-packet one-way delay: 200.578 ms
Loss rate: 0.87%
-- Flow 1:
Average throughput: 35.53 Mbit/s
95th percentile per-packet one-way delay: 147.728 ms
Loss rate: 0.55%
-- Flow 2:
Average throughput: 20.55 Mbit/s
95th percentile per-packet one-way delay: 211.813 ms
Loss rate: 1.42%
-- Flow 3:
Average throughput: 15.36 Mbit/s
95th percentile per-packet one-way delay: 341.413 ms
Loss rate: 1.61%

Run 4: Report of QUIC Cubic — Data Link



Run 5: Statistics of QUIC Cubic

Start at: 2019-03-27 13:53:08

End at: 2019-03-27 13:53:38

Local clock offset: -4.245 ms

Remote clock offset: 1.191 ms

Below is generated by plot.py at 2019-03-27 14:25:10

Datalink statistics

-- Total of 3 flows:

Average throughput: 54.44 Mbit/s

95th percentile per-packet one-way delay: 208.026 ms

Loss rate: 1.48%

-- Flow 1:

Average throughput: 37.45 Mbit/s

95th percentile per-packet one-way delay: 147.524 ms

Loss rate: 0.51%

-- Flow 2:

Average throughput: 18.28 Mbit/s

95th percentile per-packet one-way delay: 286.663 ms

Loss rate: 1.79%

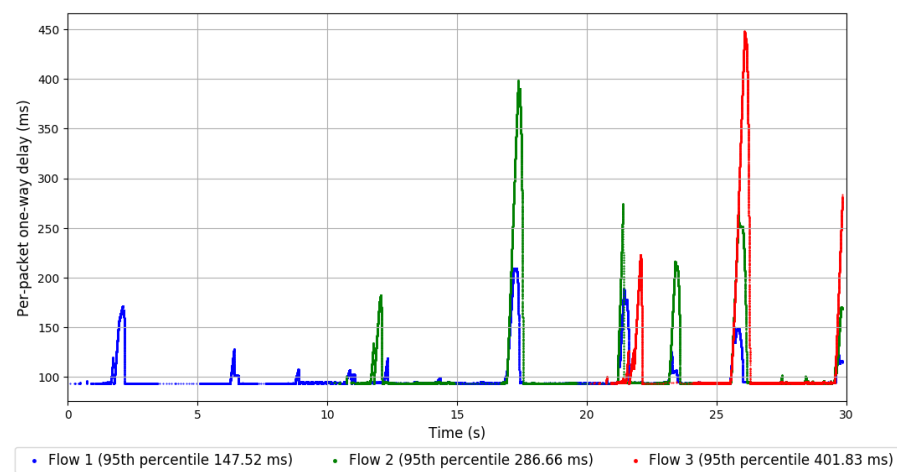
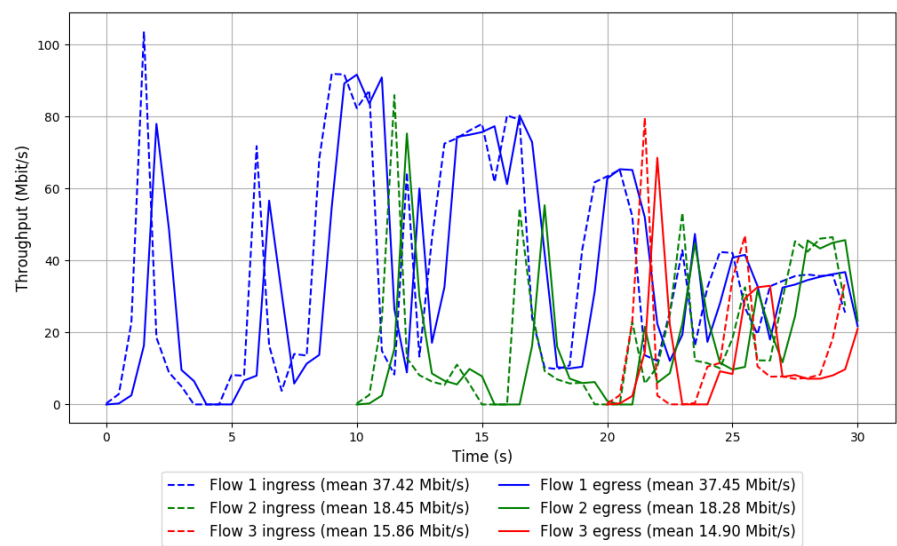
-- Flow 3:

Average throughput: 14.90 Mbit/s

95th percentile per-packet one-way delay: 401.829 ms

Loss rate: 7.65%

Run 5: Report of QUIC Cubic — Data Link

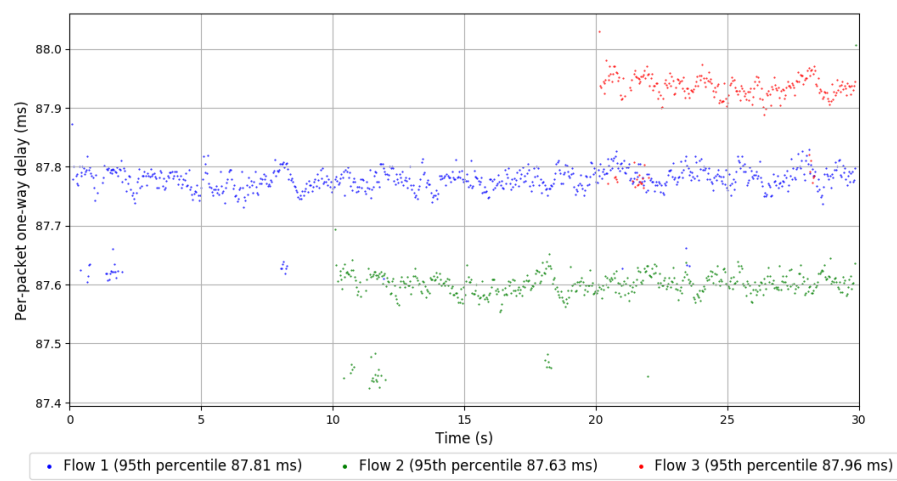
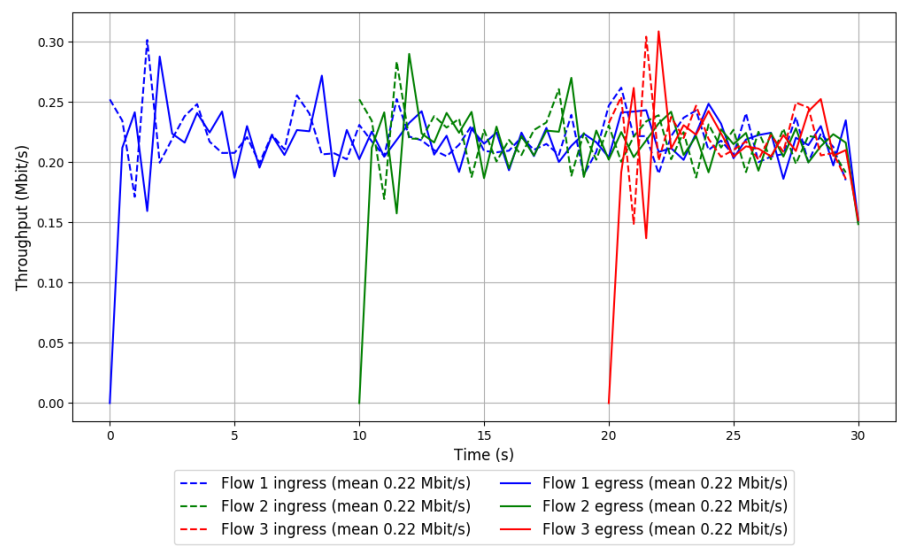


```
Run 1: Statistics of SReAM

Start at: 2019-03-27 12:11:23
End at: 2019-03-27 12:11:53
Local clock offset: -3.629 ms
Remote clock offset: 7.76 ms

# Below is generated by plot.py at 2019-03-27 14:25:10
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 87.945 ms
Loss rate: 0.78%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 87.807 ms
Loss rate: 0.51%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 87.629 ms
Loss rate: 0.82%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 87.963 ms
Loss rate: 1.50%
```

Run 1: Report of SReAM — Data Link



Run 2: Statistics of SReAM

Start at: 2019-03-27 12:38:23

End at: 2019-03-27 12:38:53

Local clock offset: -4.742 ms

Remote clock offset: 3.656 ms

Below is generated by plot.py at 2019-03-27 14:25:10

Datalink statistics

-- Total of 3 flows:

Average throughput: 0.44 Mbit/s

95th percentile per-packet one-way delay: 90.897 ms

Loss rate: 0.77%

-- Flow 1:

Average throughput: 0.22 Mbit/s

95th percentile per-packet one-way delay: 90.738 ms

Loss rate: 0.51%

-- Flow 2:

Average throughput: 0.22 Mbit/s

95th percentile per-packet one-way delay: 90.911 ms

Loss rate: 0.82%

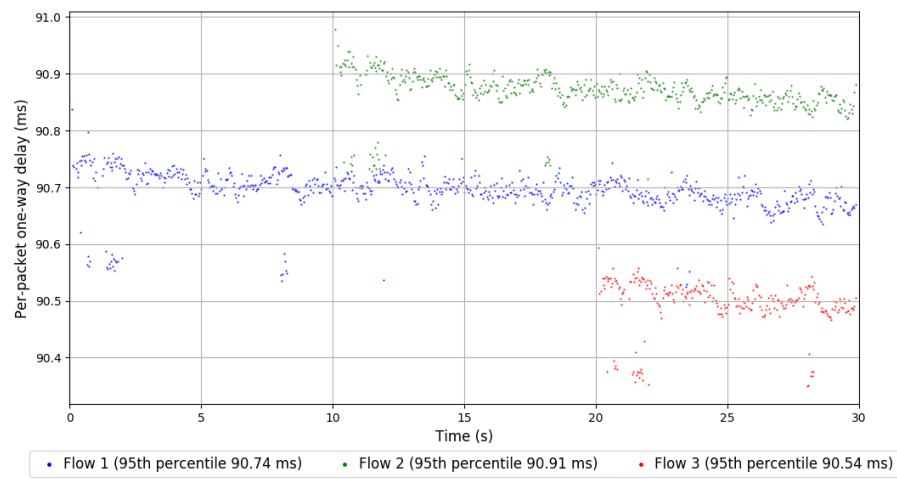
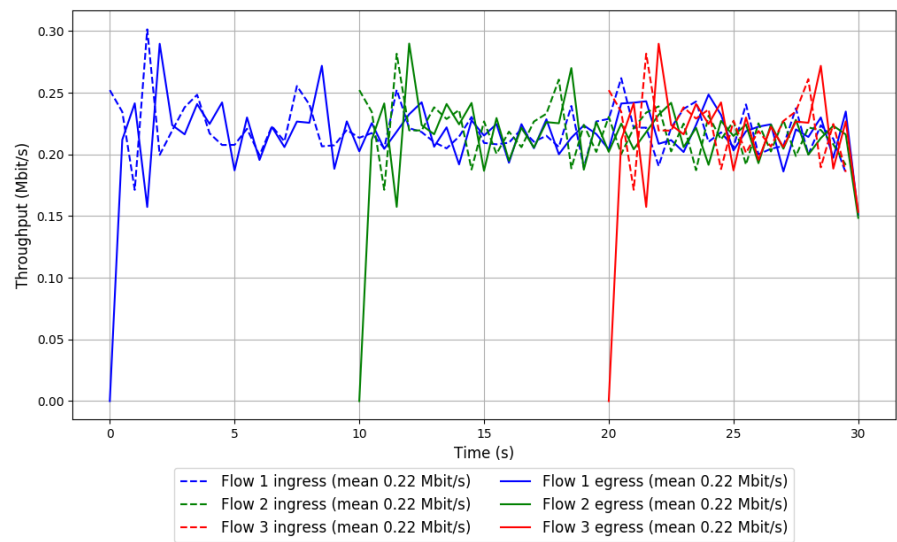
-- Flow 3:

Average throughput: 0.22 Mbit/s

95th percentile per-packet one-way delay: 90.539 ms

Loss rate: 1.46%

Run 2: Report of SReAM — Data Link

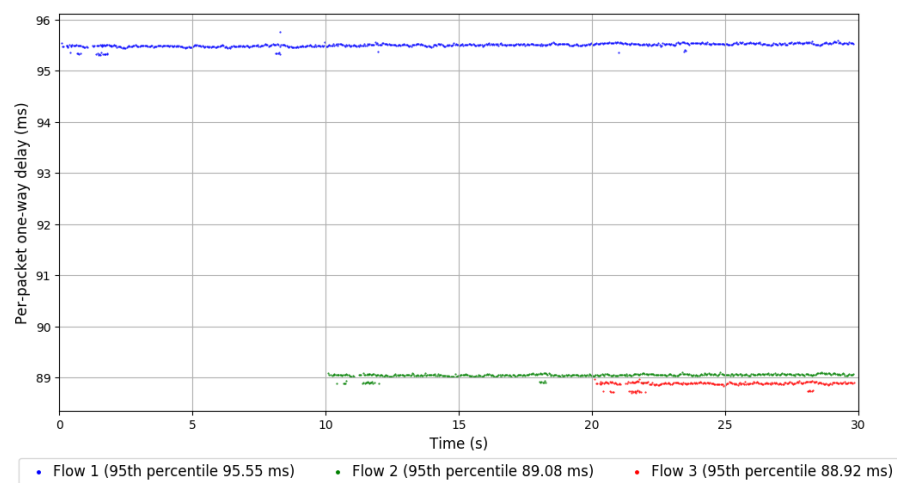
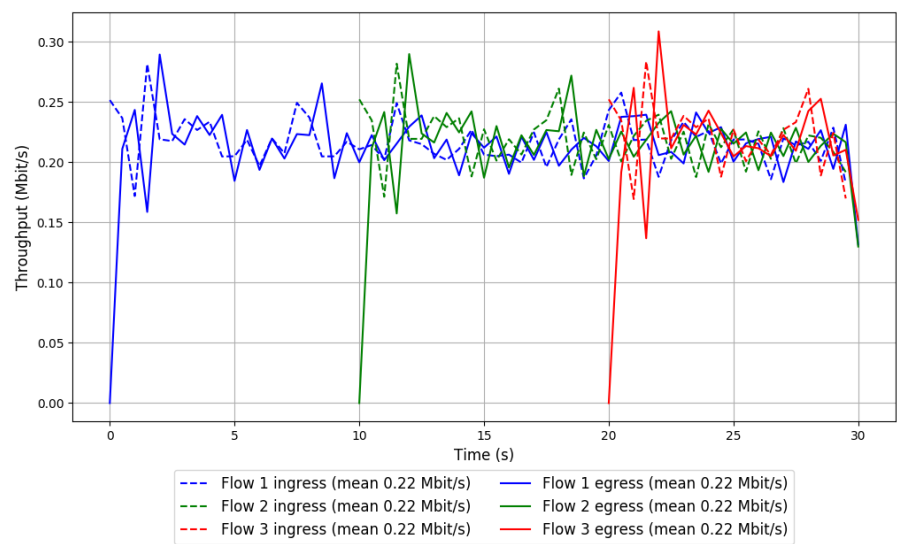


Run 3: Statistics of SReAM

Start at: 2019-03-27 13:05:30
End at: 2019-03-27 13:06:00
Local clock offset: -4.896 ms
Remote clock offset: 3.011 ms

Below is generated by plot.py at 2019-03-27 14:25:10
Datalink statistics
-- Total of 3 flows:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 95.542 ms
Loss rate: 0.92%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 95.551 ms
Loss rate: 0.64%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 89.085 ms
Loss rate: 1.04%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 88.923 ms
Loss rate: 1.50%

Run 3: Report of SReAM — Data Link



Run 4: Statistics of SReAM

Start at: 2019-03-27 13:32:32

End at: 2019-03-27 13:33:02

Local clock offset: -3.611 ms

Remote clock offset: 4.242 ms

Below is generated by plot.py at 2019-03-27 14:25:10

Datalink statistics

-- Total of 3 flows:

Average throughput: 0.44 Mbit/s

95th percentile per-packet one-way delay: 96.149 ms

Loss rate: 0.91%

-- Flow 1:

Average throughput: 0.22 Mbit/s

95th percentile per-packet one-way delay: 89.562 ms

Loss rate: 0.51%

-- Flow 2:

Average throughput: 0.22 Mbit/s

95th percentile per-packet one-way delay: 89.830 ms

Loss rate: 1.04%

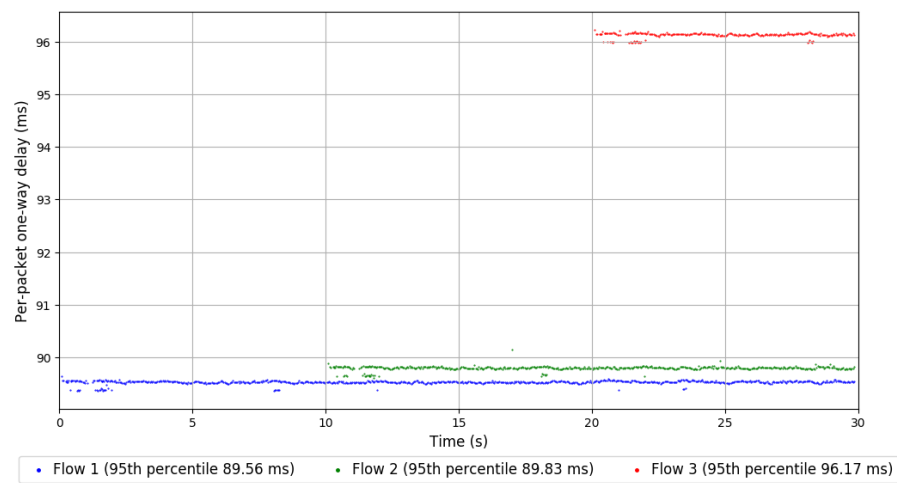
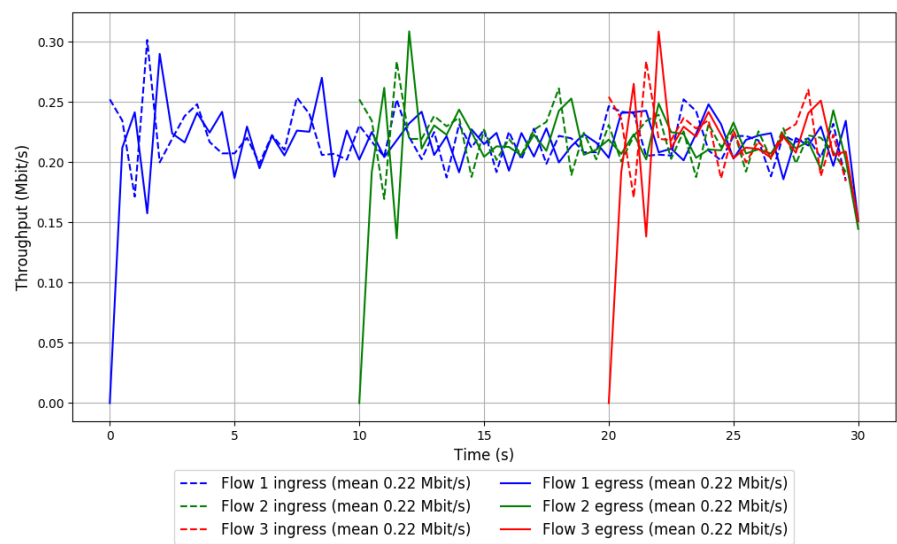
-- Flow 3:

Average throughput: 0.22 Mbit/s

95th percentile per-packet one-way delay: 96.170 ms

Loss rate: 1.84%

Run 4: Report of SReAM — Data Link



Run 5: Statistics of SReAM

Start at: 2019-03-27 13:59:33

End at: 2019-03-27 14:00:03

Local clock offset: -4.565 ms

Remote clock offset: 5.353 ms

Below is generated by plot.py at 2019-03-27 14:25:10

Datalink statistics

-- Total of 3 flows:

Average throughput: 0.44 Mbit/s

95th percentile per-packet one-way delay: 89.836 ms

Loss rate: 0.84%

-- Flow 1:

Average throughput: 0.22 Mbit/s

95th percentile per-packet one-way delay: 89.583 ms

Loss rate: 0.51%

-- Flow 2:

Average throughput: 0.22 Mbit/s

95th percentile per-packet one-way delay: 89.845 ms

Loss rate: 0.82%

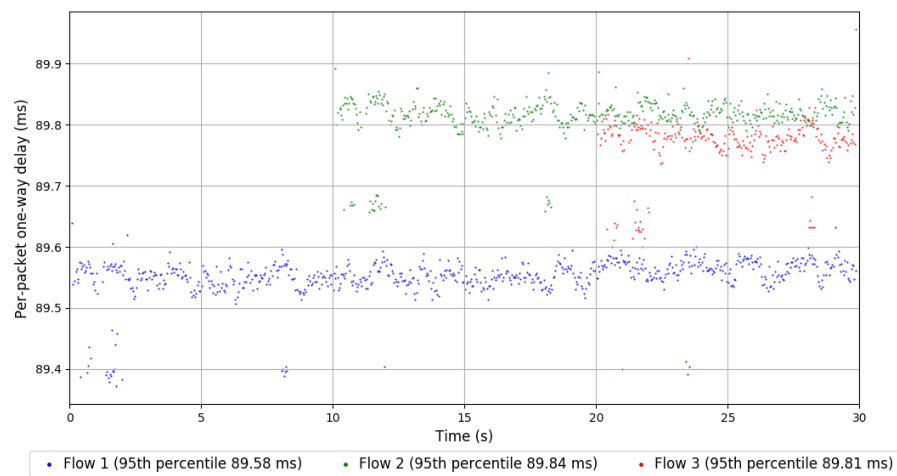
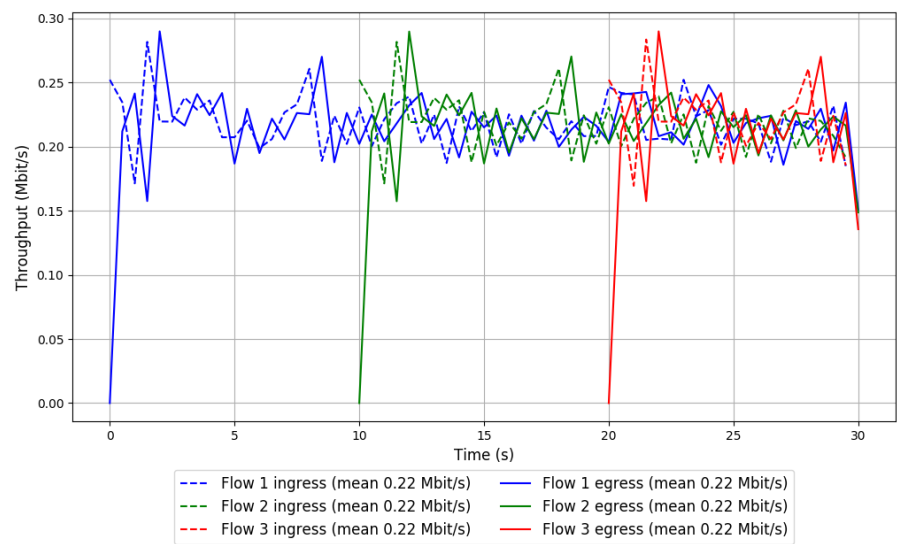
-- Flow 3:

Average throughput: 0.22 Mbit/s

95th percentile per-packet one-way delay: 89.809 ms

Loss rate: 1.85%

Run 5: Report of SReAM — Data Link

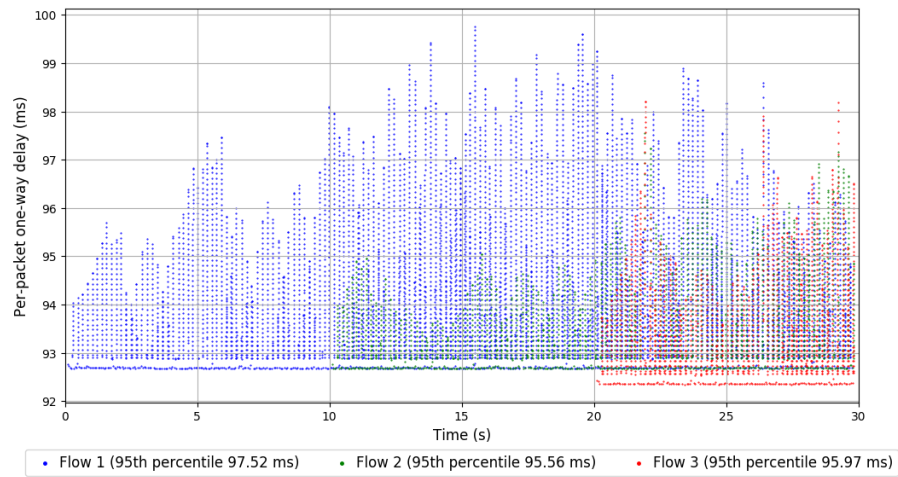
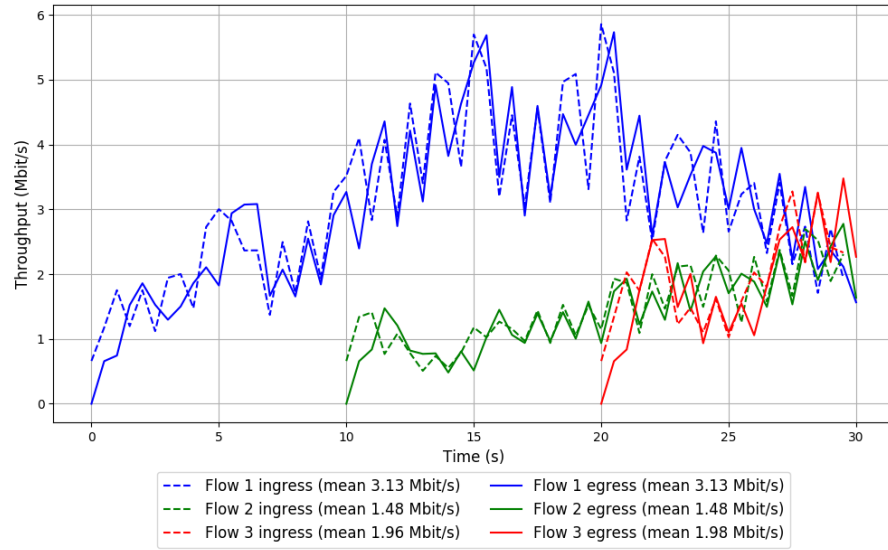


Run 1: Statistics of Sprout

Start at: 2019-03-27 12:06:15
End at: 2019-03-27 12:06:45
Local clock offset: -3.654 ms
Remote clock offset: 2.671 ms

Below is generated by plot.py at 2019-03-27 14:25:10
Datalink statistics
-- Total of 3 flows:
Average throughput: 4.75 Mbit/s
95th percentile per-packet one-way delay: 97.134 ms
Loss rate: 0.60%
-- Flow 1:
Average throughput: 3.13 Mbit/s
95th percentile per-packet one-way delay: 97.520 ms
Loss rate: 0.51%
-- Flow 2:
Average throughput: 1.48 Mbit/s
95th percentile per-packet one-way delay: 95.563 ms
Loss rate: 1.15%
-- Flow 3:
Average throughput: 1.98 Mbit/s
95th percentile per-packet one-way delay: 95.971 ms
Loss rate: 0.18%

Run 1: Report of Sprout — Data Link

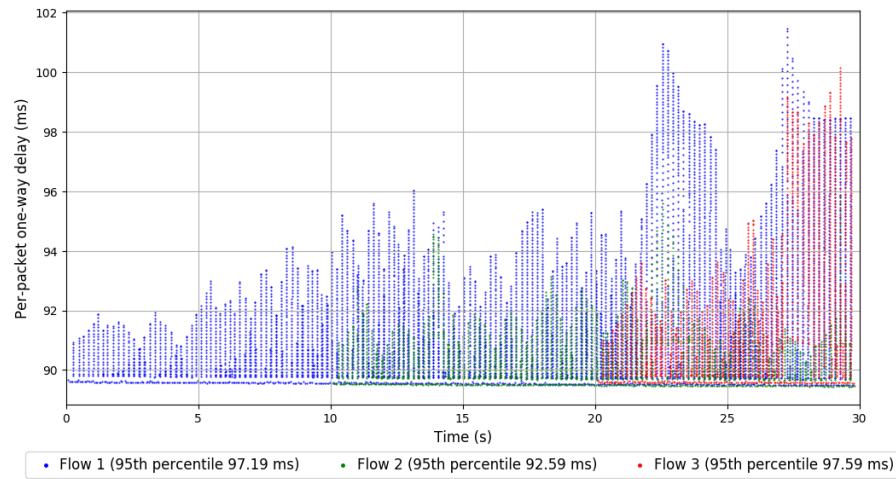
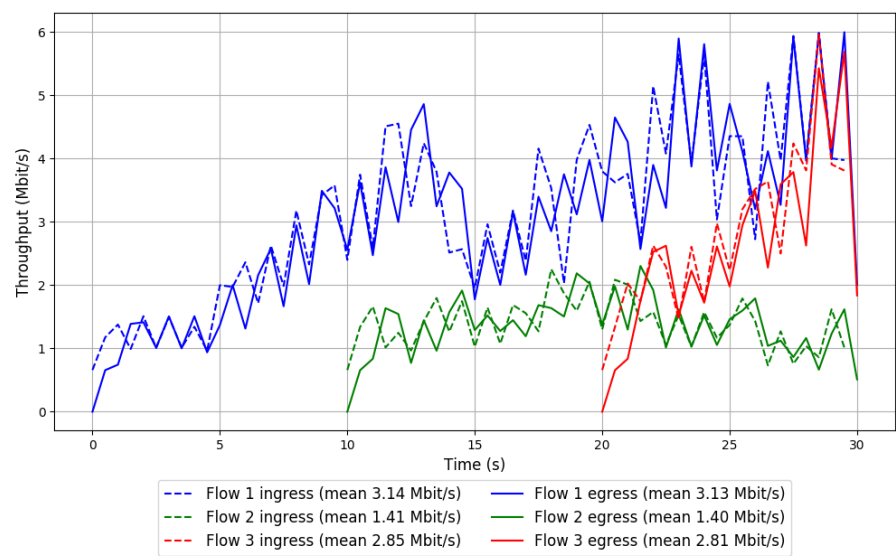


Run 2: Statistics of Sprout

Start at: 2019-03-27 12:33:14
End at: 2019-03-27 12:33:44
Local clock offset: -5.393 ms
Remote clock offset: 4.95 ms

```
# Below is generated by plot.py at 2019-03-27 14:25:10
# Datalink statistics
-- Total of 3 flows:
Average throughput: 4.97 Mbit/s
95th percentile per-packet one-way delay: 96.928 ms
Loss rate: 1.49%
-- Flow 1:
Average throughput: 3.13 Mbit/s
95th percentile per-packet one-way delay: 97.185 ms
Loss rate: 1.05%
-- Flow 2:
Average throughput: 1.40 Mbit/s
95th percentile per-packet one-way delay: 92.588 ms
Loss rate: 0.90%
-- Flow 3:
Average throughput: 2.81 Mbit/s
95th percentile per-packet one-way delay: 97.586 ms
Loss rate: 3.51%
```

Run 2: Report of Sprout — Data Link

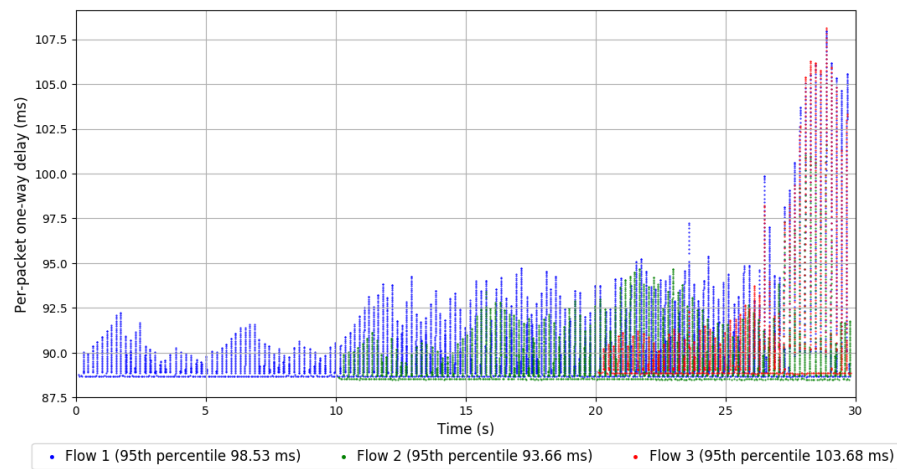
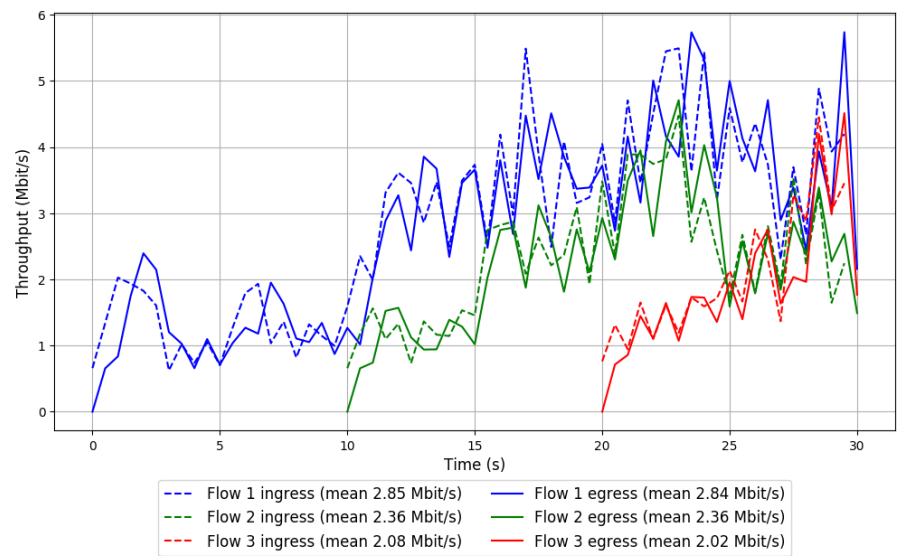


Run 3: Statistics of Sprout

Start at: 2019-03-27 13:00:21
End at: 2019-03-27 13:00:51
Local clock offset: -4.16 ms
Remote clock offset: 3.822 ms

```
# Below is generated by plot.py at 2019-03-27 14:25:10
# Datalink statistics
-- Total of 3 flows:
Average throughput: 5.06 Mbit/s
95th percentile per-packet one-way delay: 98.798 ms
Loss rate: 1.47%
-- Flow 1:
Average throughput: 2.84 Mbit/s
95th percentile per-packet one-way delay: 98.527 ms
Loss rate: 1.20%
-- Flow 2:
Average throughput: 2.36 Mbit/s
95th percentile per-packet one-way delay: 93.656 ms
Loss rate: 0.81%
-- Flow 3:
Average throughput: 2.02 Mbit/s
95th percentile per-packet one-way delay: 103.681 ms
Loss rate: 4.13%
```

Run 3: Report of Sprout — Data Link



Run 4: Statistics of Sprout

Start at: 2019-03-27 13:27:24

End at: 2019-03-27 13:27:54

Local clock offset: -4.47 ms

Remote clock offset: 0.423 ms

Below is generated by plot.py at 2019-03-27 14:25:10

Datalink statistics

-- Total of 3 flows:

Average throughput: 4.41 Mbit/s

95th percentile per-packet one-way delay: 97.437 ms

Loss rate: 0.75%

-- Flow 1:

Average throughput: 3.22 Mbit/s

95th percentile per-packet one-way delay: 97.749 ms

Loss rate: 0.71%

-- Flow 2:

Average throughput: 1.16 Mbit/s

95th percentile per-packet one-way delay: 95.128 ms

Loss rate: 0.01%

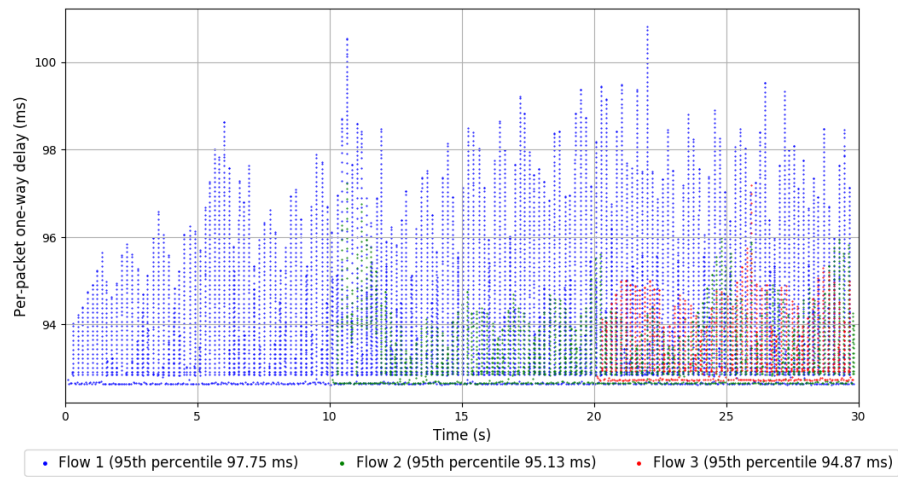
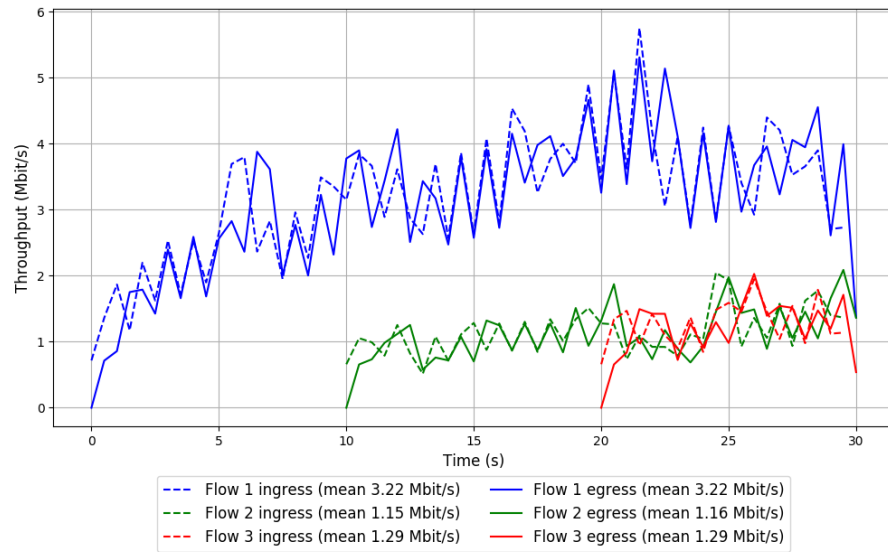
-- Flow 3:

Average throughput: 1.29 Mbit/s

95th percentile per-packet one-way delay: 94.870 ms

Loss rate: 2.35%

Run 4: Report of Sprout — Data Link



Run 5: Statistics of Sprout

Start at: 2019-03-27 13:54:24

End at: 2019-03-27 13:54:54

Local clock offset: -5.17 ms

Remote clock offset: 0.125 ms

Below is generated by plot.py at 2019-03-27 14:25:10

Datalink statistics

-- Total of 3 flows:

Average throughput: 4.99 Mbit/s

95th percentile per-packet one-way delay: 99.038 ms

Loss rate: 0.97%

-- Flow 1:

Average throughput: 2.67 Mbit/s

95th percentile per-packet one-way delay: 98.834 ms

Loss rate: 0.78%

-- Flow 2:

Average throughput: 2.99 Mbit/s

95th percentile per-packet one-way delay: 99.562 ms

Loss rate: 0.98%

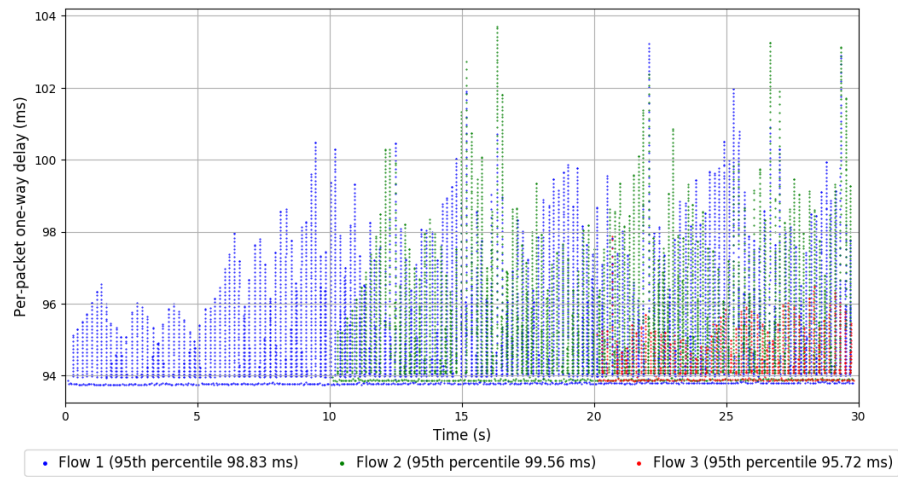
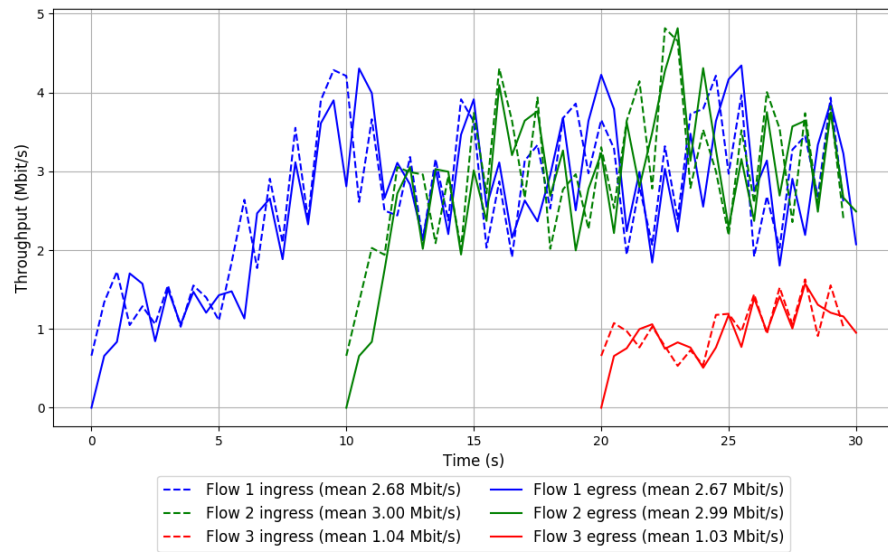
-- Flow 3:

Average throughput: 1.03 Mbit/s

95th percentile per-packet one-way delay: 95.724 ms

Loss rate: 2.44%

Run 5: Report of Sprout — Data Link



Run 1: Statistics of TaoVA-100x

Start at: 2019-03-27 12:07:28

End at: 2019-03-27 12:07:58

Local clock offset: -2.866 ms

Remote clock offset: 2.423 ms

Below is generated by plot.py at 2019-03-27 14:26:11

Datalink statistics

-- Total of 3 flows:

Average throughput: 83.48 Mbit/s

95th percentile per-packet one-way delay: 159.470 ms

Loss rate: 0.70%

-- Flow 1:

Average throughput: 49.28 Mbit/s

95th percentile per-packet one-way delay: 152.448 ms

Loss rate: 0.42%

-- Flow 2:

Average throughput: 36.85 Mbit/s

95th percentile per-packet one-way delay: 167.318 ms

Loss rate: 0.82%

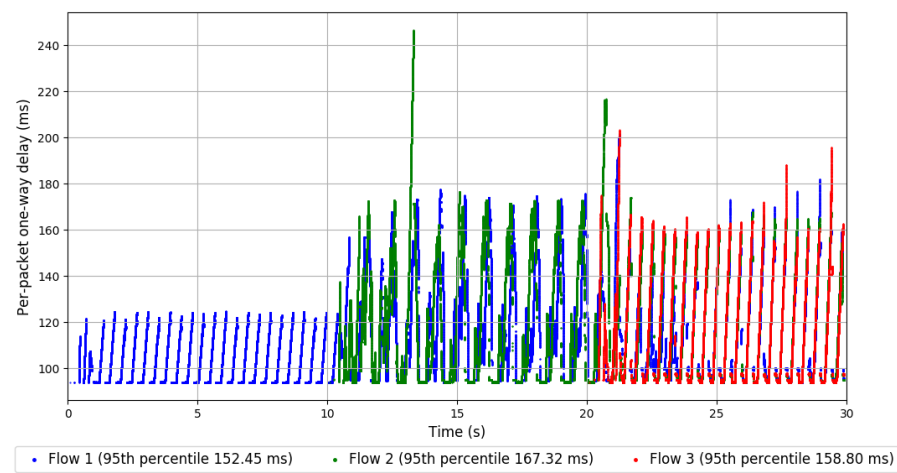
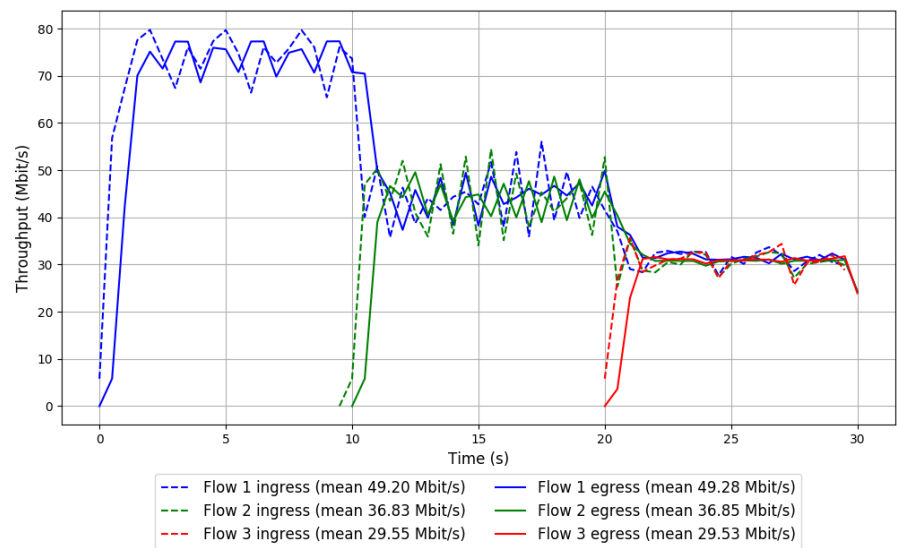
-- Flow 3:

Average throughput: 29.53 Mbit/s

95th percentile per-packet one-way delay: 158.804 ms

Loss rate: 1.81%

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



Run 2: Statistics of TaoVA-100x

Start at: 2019-03-27 12:34:27

End at: 2019-03-27 12:34:57

Local clock offset: -5.383 ms

Remote clock offset: 0.464 ms

Below is generated by plot.py at 2019-03-27 14:26:13

Datalink statistics

-- Total of 3 flows:

Average throughput: 84.00 Mbit/s

95th percentile per-packet one-way delay: 158.637 ms

Loss rate: 0.72%

-- Flow 1:

Average throughput: 50.04 Mbit/s

95th percentile per-packet one-way delay: 156.527 ms

Loss rate: 0.43%

-- Flow 2:

Average throughput: 36.87 Mbit/s

95th percentile per-packet one-way delay: 162.927 ms

Loss rate: 0.79%

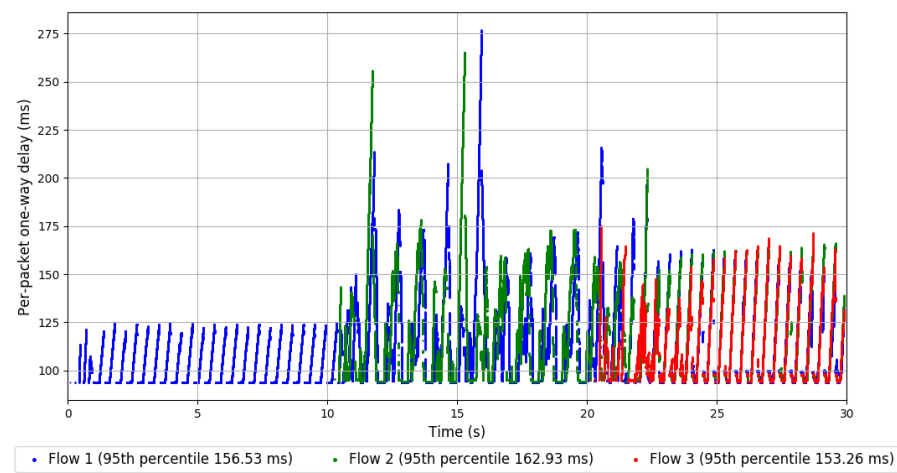
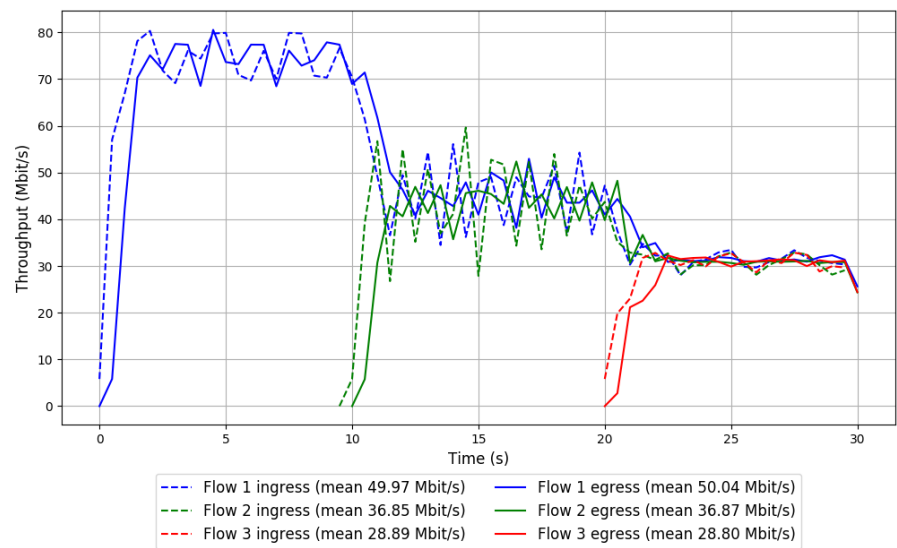
-- Flow 3:

Average throughput: 28.80 Mbit/s

95th percentile per-packet one-way delay: 153.261 ms

Loss rate: 2.03%

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

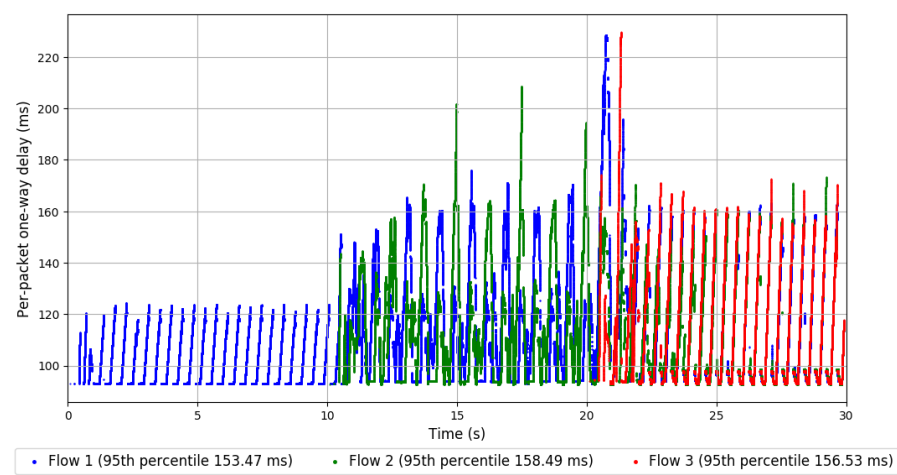
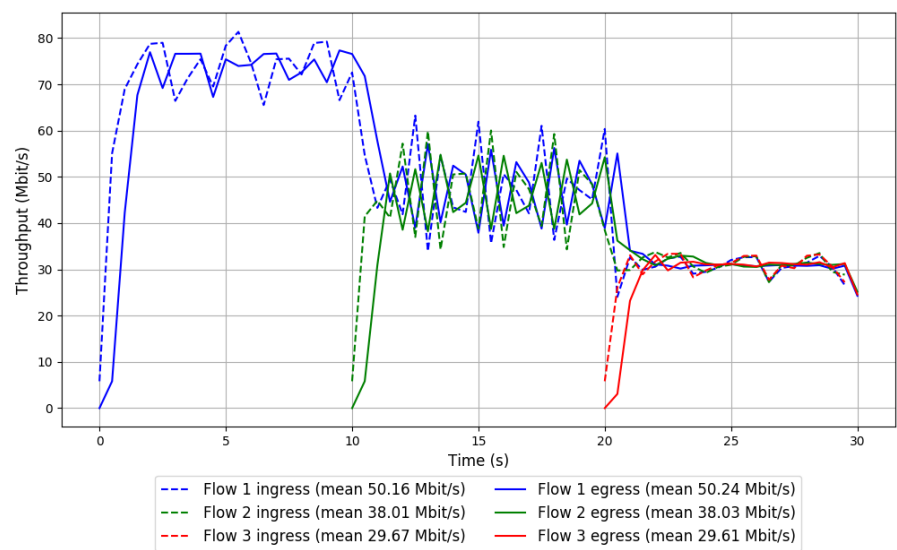


Run 3: Statistics of TaoVA-100x

Start at: 2019-03-27 13:01:34
End at: 2019-03-27 13:02:04
Local clock offset: -4.932 ms
Remote clock offset: -0.941 ms

Below is generated by plot.py at 2019-03-27 14:26:17
Datalink statistics
-- Total of 3 flows:
Average throughput: 85.23 Mbit/s
95th percentile per-packet one-way delay: 155.498 ms
Loss rate: 0.71%
-- Flow 1:
Average throughput: 50.24 Mbit/s
95th percentile per-packet one-way delay: 153.474 ms
Loss rate: 0.42%
-- Flow 2:
Average throughput: 38.03 Mbit/s
95th percentile per-packet one-way delay: 158.488 ms
Loss rate: 0.81%
-- Flow 3:
Average throughput: 29.61 Mbit/s
95th percentile per-packet one-way delay: 156.534 ms
Loss rate: 1.93%

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



Run 4: Statistics of TaoVA-100x

Start at: 2019-03-27 13:28:37

End at: 2019-03-27 13:29:07

Local clock offset: -4.446 ms

Remote clock offset: 4.188 ms

Below is generated by plot.py at 2019-03-27 14:26:19

Datalink statistics

-- Total of 3 flows:

Average throughput: 82.51 Mbit/s

95th percentile per-packet one-way delay: 162.568 ms

Loss rate: 0.76%

-- Flow 1:

Average throughput: 48.43 Mbit/s

95th percentile per-packet one-way delay: 158.587 ms

Loss rate: 0.47%

-- Flow 2:

Average throughput: 36.84 Mbit/s

95th percentile per-packet one-way delay: 166.825 ms

Loss rate: 0.92%

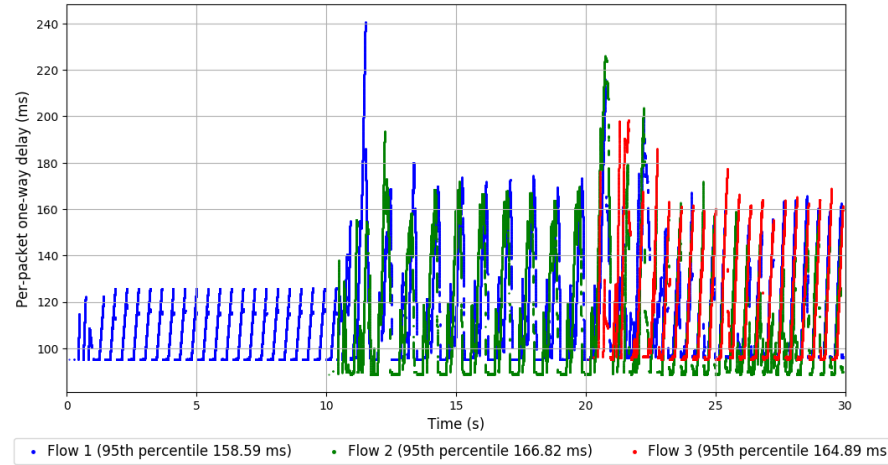
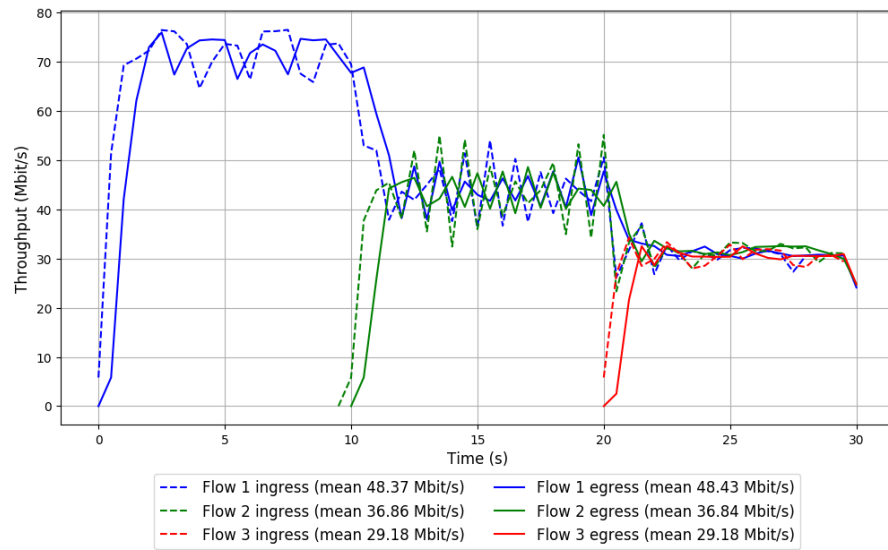
-- Flow 3:

Average throughput: 29.18 Mbit/s

95th percentile per-packet one-way delay: 164.887 ms

Loss rate: 1.79%

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



Run 5: Statistics of TaoVA-100x

Start at: 2019-03-27 13:55:38

End at: 2019-03-27 13:56:08

Local clock offset: -4.4 ms

Remote clock offset: 6.189 ms

Below is generated by plot.py at 2019-03-27 14:26:26

Datalink statistics

-- Total of 3 flows:

Average throughput: 83.67 Mbit/s

95th percentile per-packet one-way delay: 161.438 ms

Loss rate: 0.81%

-- Flow 1:

Average throughput: 49.24 Mbit/s

95th percentile per-packet one-way delay: 158.384 ms

Loss rate: 0.51%

-- Flow 2:

Average throughput: 37.01 Mbit/s

95th percentile per-packet one-way delay: 167.034 ms

Loss rate: 0.78%

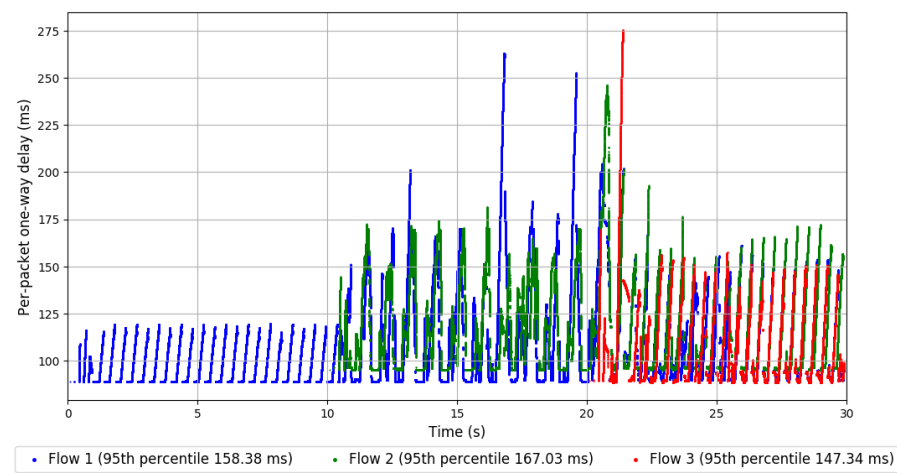
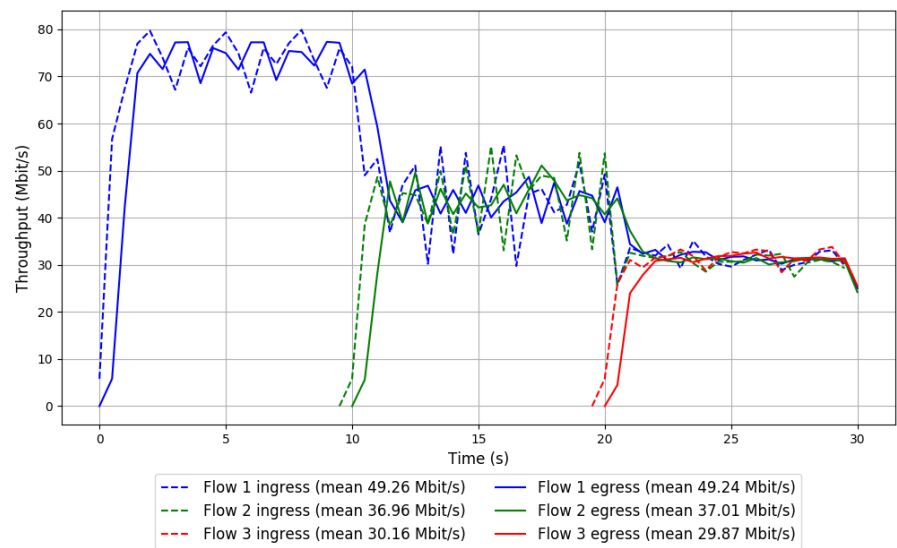
-- Flow 3:

Average throughput: 29.87 Mbit/s

95th percentile per-packet one-way delay: 147.342 ms

Loss rate: 2.38%

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



Run 1: Statistics of TCP Vegas

Start at: 2019-03-27 12:12:35

End at: 2019-03-27 12:13:05

Local clock offset: -2.925 ms

Remote clock offset: 1.675 ms

Below is generated by plot.py at 2019-03-27 14:26:26

Datalink statistics

-- Total of 3 flows:

Average throughput: 66.38 Mbit/s

95th percentile per-packet one-way delay: 127.710 ms

Loss rate: 1.28%

-- Flow 1:

Average throughput: 43.22 Mbit/s

95th percentile per-packet one-way delay: 123.867 ms

Loss rate: 1.27%

-- Flow 2:

Average throughput: 24.94 Mbit/s

95th percentile per-packet one-way delay: 107.252 ms

Loss rate: 1.01%

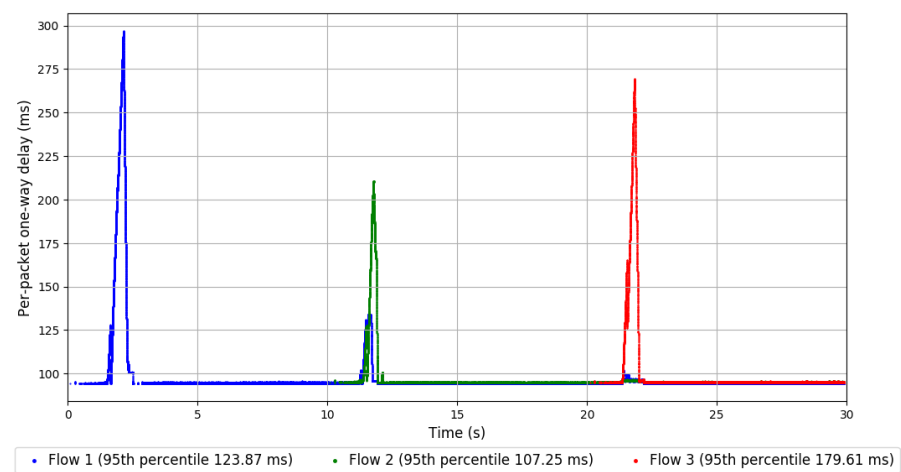
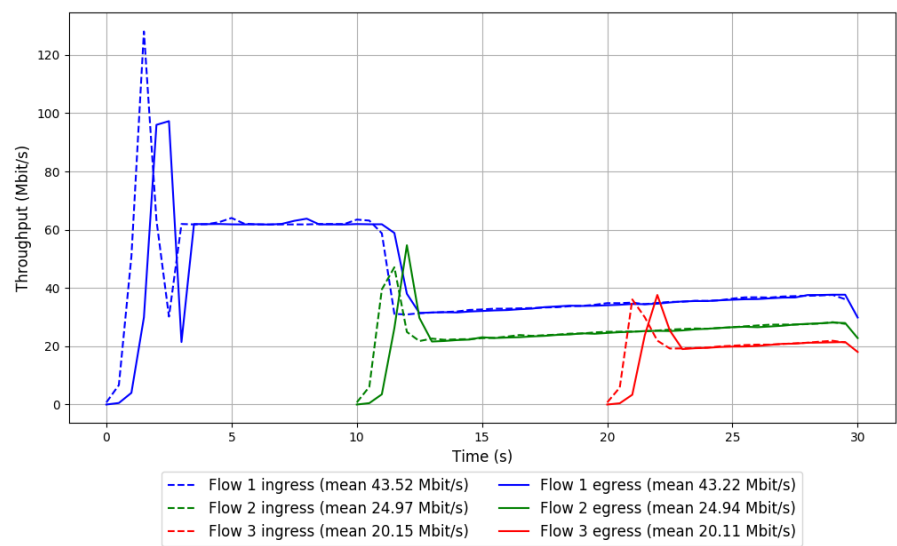
-- Flow 3:

Average throughput: 20.11 Mbit/s

95th percentile per-packet one-way delay: 179.606 ms

Loss rate: 1.96%

Run 1: Report of TCP Vegas — Data Link



Run 2: Statistics of TCP Vegas

Start at: 2019-03-27 12:39:35

End at: 2019-03-27 12:40:05

Local clock offset: -4.798 ms

Remote clock offset: 0.572 ms

Below is generated by plot.py at 2019-03-27 14:26:26

Datalink statistics

-- Total of 3 flows:

Average throughput: 54.88 Mbit/s

95th percentile per-packet one-way delay: 180.402 ms

Loss rate: 0.63%

-- Flow 1:

Average throughput: 29.41 Mbit/s

95th percentile per-packet one-way delay: 214.238 ms

Loss rate: 0.29%

-- Flow 2:

Average throughput: 29.15 Mbit/s

95th percentile per-packet one-way delay: 165.504 ms

Loss rate: 0.74%

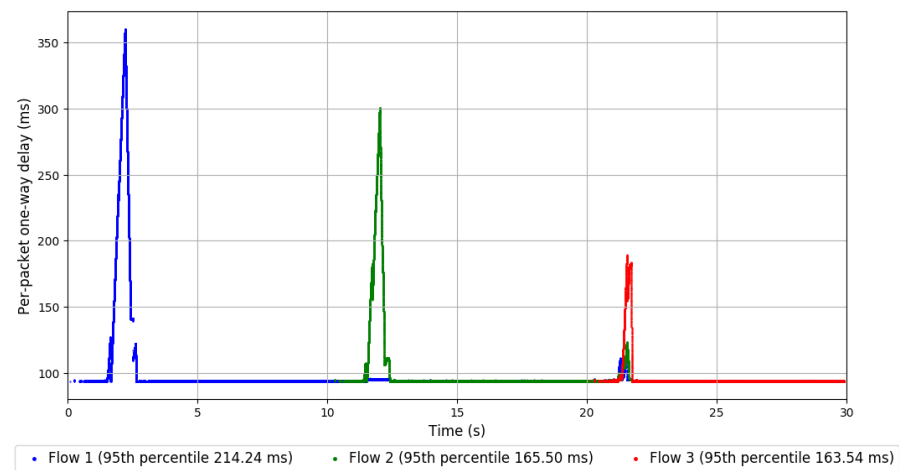
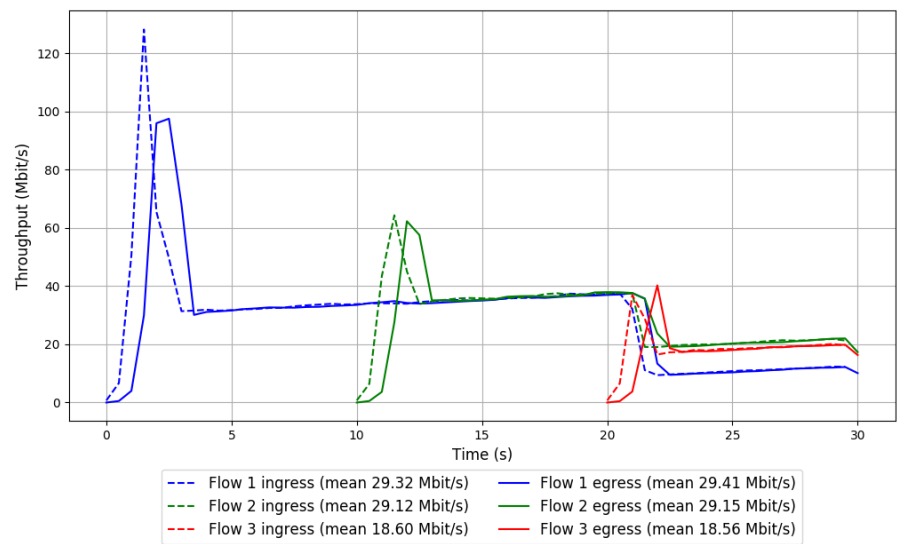
-- Flow 3:

Average throughput: 18.56 Mbit/s

95th percentile per-packet one-way delay: 163.542 ms

Loss rate: 1.95%

Run 2: Report of TCP Vegas — Data Link

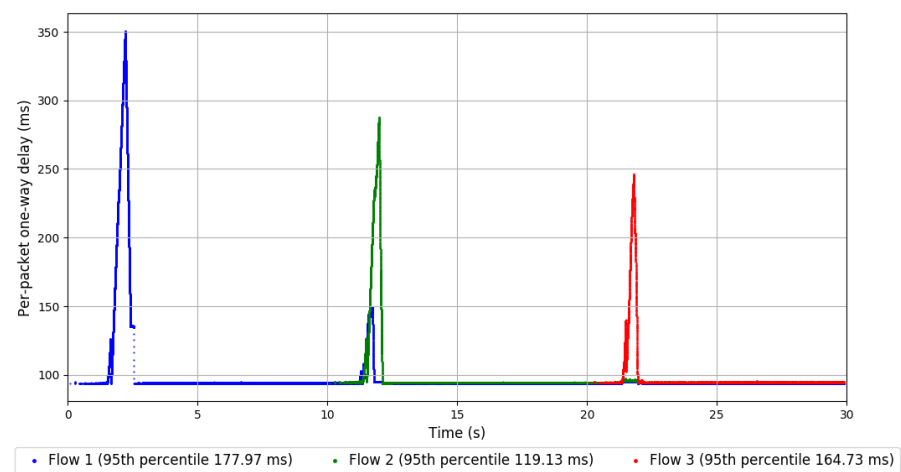
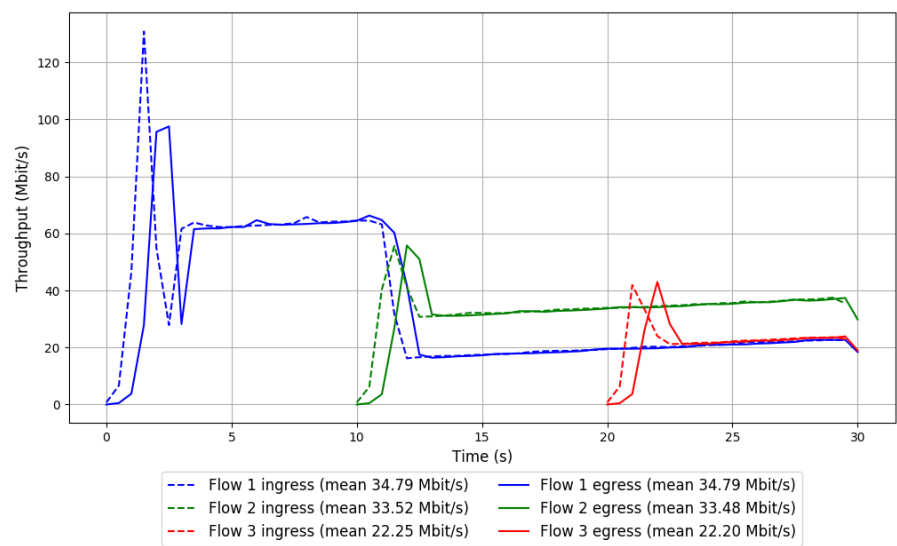


Run 3: Statistics of TCP Vegas

Start at: 2019-03-27 13:06:43
End at: 2019-03-27 13:07:13
Local clock offset: -4.966 ms
Remote clock offset: -1.786 ms

Below is generated by plot.py at 2019-03-27 14:26:26
Datalink statistics
-- Total of 3 flows:
Average throughput: 64.32 Mbit/s
95th percentile per-packet one-way delay: 156.531 ms
Loss rate: 0.87%
-- Flow 1:
Average throughput: 34.79 Mbit/s
95th percentile per-packet one-way delay: 177.969 ms
Loss rate: 0.56%
-- Flow 2:
Average throughput: 33.48 Mbit/s
95th percentile per-packet one-way delay: 119.127 ms
Loss rate: 0.99%
-- Flow 3:
Average throughput: 22.20 Mbit/s
95th percentile per-packet one-way delay: 164.733 ms
Loss rate: 1.93%

Run 3: Report of TCP Vegas — Data Link



Run 4: Statistics of TCP Vegas

Start at: 2019-03-27 13:33:45

End at: 2019-03-27 13:34:15

Local clock offset: -3.601 ms

Remote clock offset: 0.343 ms

Below is generated by plot.py at 2019-03-27 14:26:26

Datalink statistics

-- Total of 3 flows:

Average throughput: 58.02 Mbit/s

95th percentile per-packet one-way delay: 187.953 ms

Loss rate: 0.73%

-- Flow 1:

Average throughput: 34.60 Mbit/s

95th percentile per-packet one-way delay: 186.007 ms

Loss rate: 0.41%

-- Flow 2:

Average throughput: 25.27 Mbit/s

95th percentile per-packet one-way delay: 107.092 ms

Loss rate: 1.00%

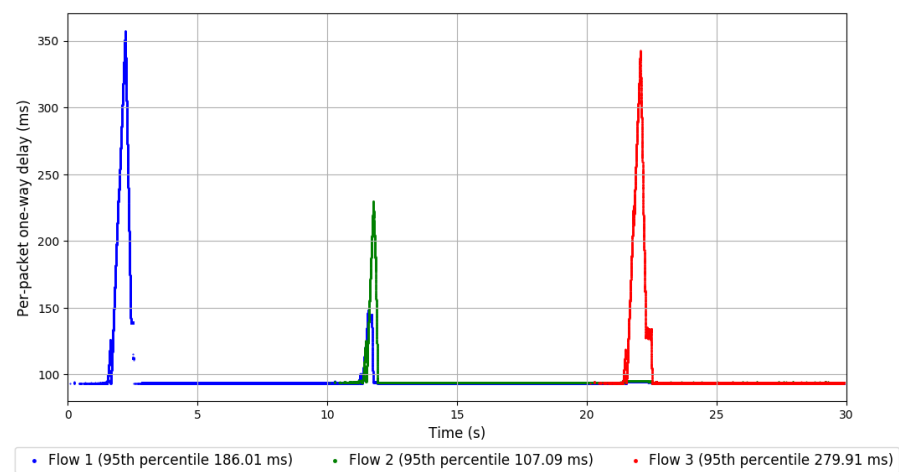
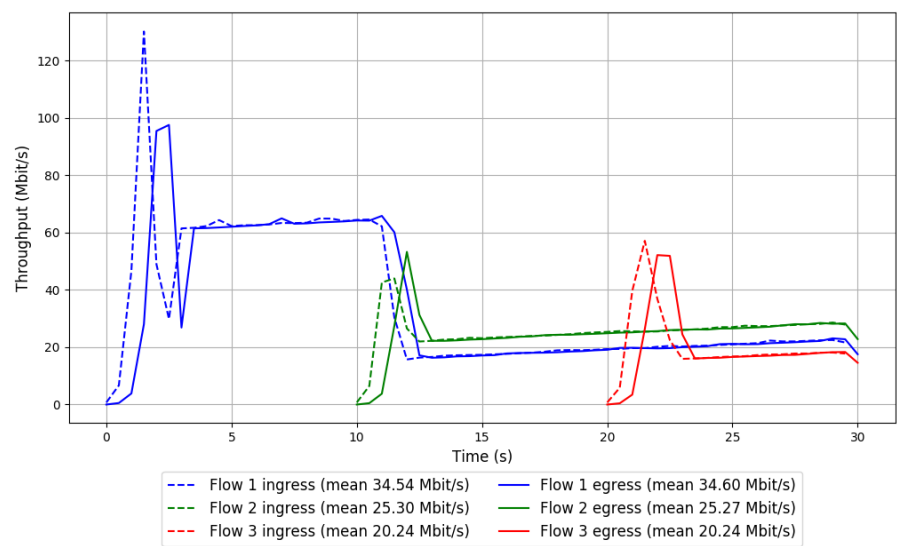
-- Flow 3:

Average throughput: 20.24 Mbit/s

95th percentile per-packet one-way delay: 279.914 ms

Loss rate: 1.73%

Run 4: Report of TCP Vegas — Data Link



Run 5: Statistics of TCP Vegas

Start at: 2019-03-27 14:00:45

End at: 2019-03-27 14:01:15

Local clock offset: -4.618 ms

Remote clock offset: 1.468 ms

Below is generated by plot.py at 2019-03-27 14:26:34

Datalink statistics

-- Total of 3 flows:

Average throughput: 61.35 Mbit/s

95th percentile per-packet one-way delay: 204.851 ms

Loss rate: 0.77%

-- Flow 1:

Average throughput: 34.64 Mbit/s

95th percentile per-packet one-way delay: 195.129 ms

Loss rate: 0.42%

-- Flow 2:

Average throughput: 30.16 Mbit/s

95th percentile per-packet one-way delay: 135.949 ms

Loss rate: 0.93%

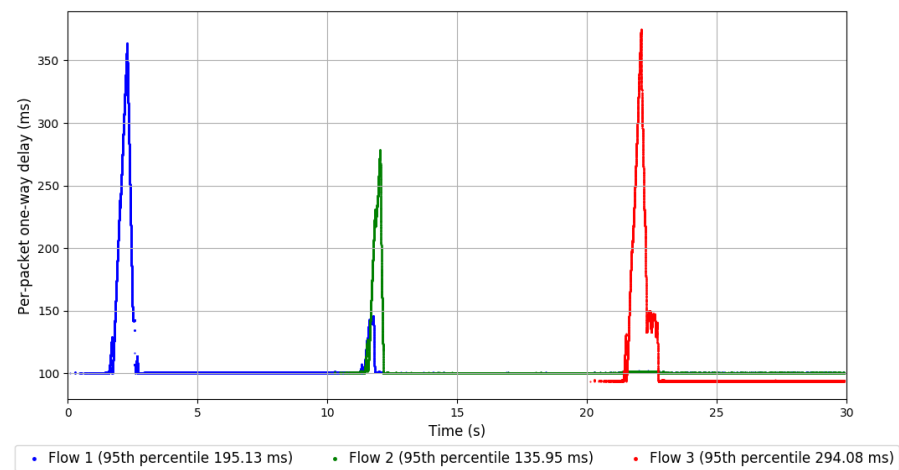
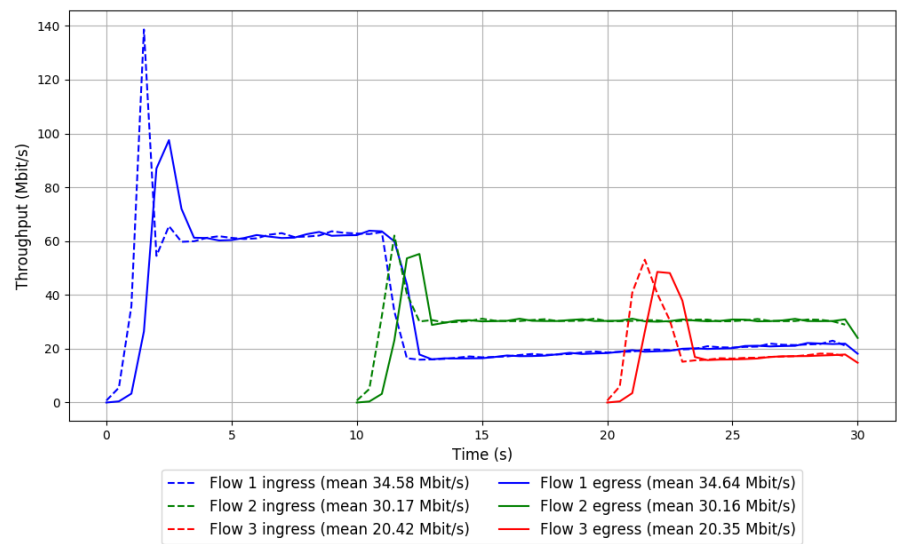
-- Flow 3:

Average throughput: 20.35 Mbit/s

95th percentile per-packet one-way delay: 294.076 ms

Loss rate: 2.08%

Run 5: Report of TCP Vegas — Data Link



Run 1: Statistics of Verus

Start at: 2019-03-27 12:19:06

End at: 2019-03-27 12:19:36

Local clock offset: -3.404 ms

Remote clock offset: 2.973 ms

Below is generated by plot.py at 2019-03-27 14:26:45

Datalink statistics

-- Total of 3 flows:

Average throughput: 67.09 Mbit/s

95th percentile per-packet one-way delay: 314.866 ms

Loss rate: 1.28%

-- Flow 1:

Average throughput: 38.75 Mbit/s

95th percentile per-packet one-way delay: 264.072 ms

Loss rate: 0.21%

-- Flow 2:

Average throughput: 27.81 Mbit/s

95th percentile per-packet one-way delay: 365.631 ms

Loss rate: 2.46%

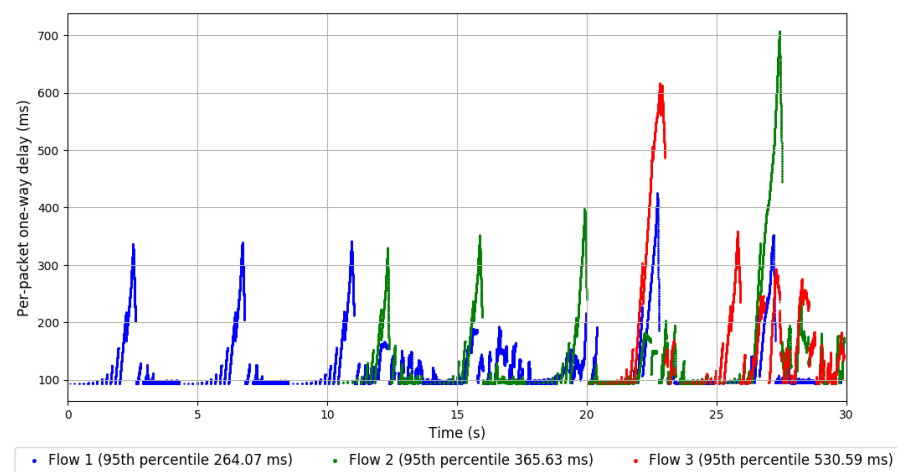
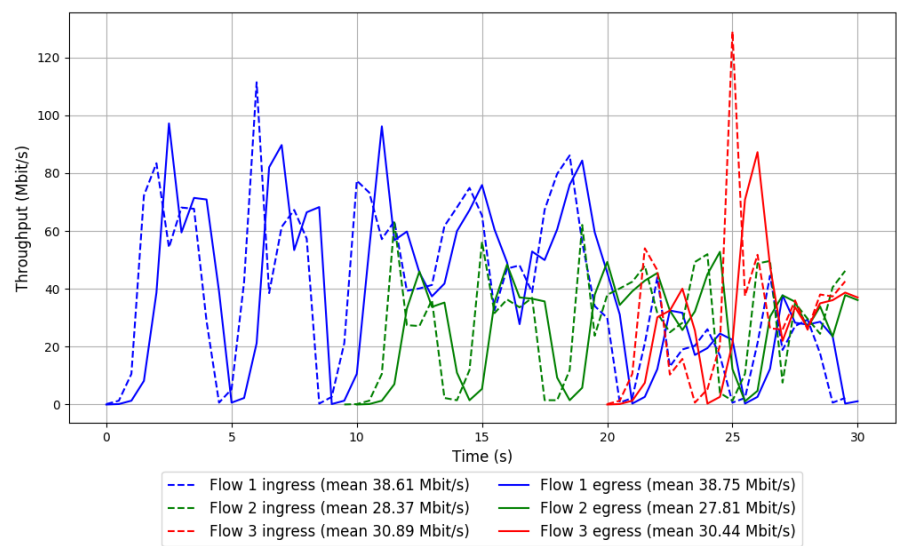
-- Flow 3:

Average throughput: 30.44 Mbit/s

95th percentile per-packet one-way delay: 530.593 ms

Loss rate: 3.11%

Run 1: Report of Verus — Data Link

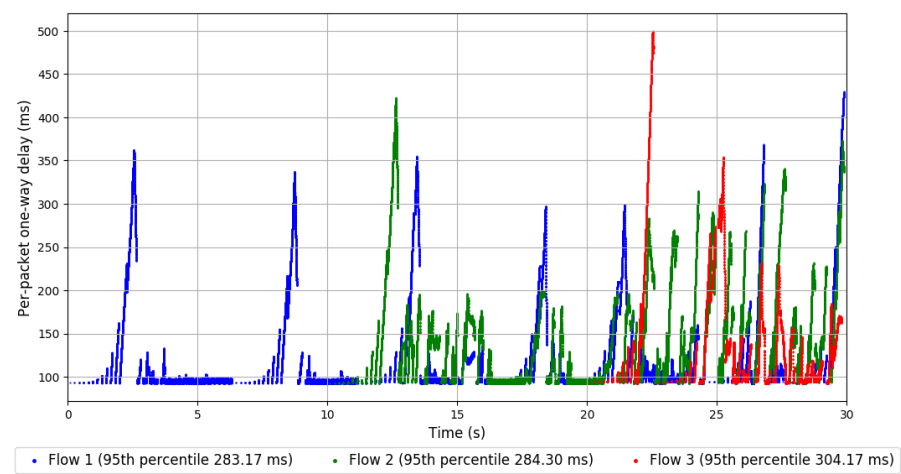
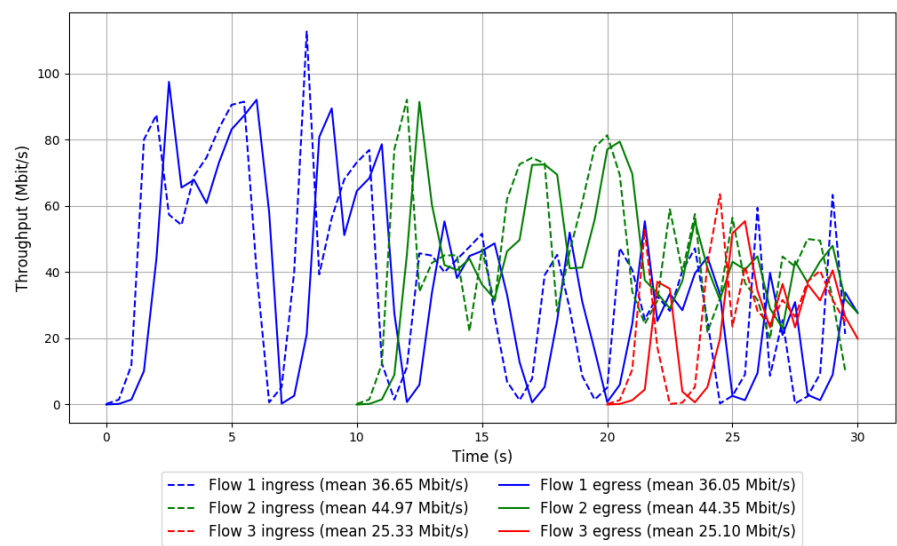


Run 2: Statistics of Verus

Start at: 2019-03-27 12:46:06
End at: 2019-03-27 12:46:36
Local clock offset: -5.692 ms
Remote clock offset: -0.019 ms

Below is generated by plot.py at 2019-03-27 14:26:58
Datalink statistics
-- Total of 3 flows:
Average throughput: 73.69 Mbit/s
95th percentile per-packet one-way delay: 287.127 ms
Loss rate: 1.29%
-- Flow 1:
Average throughput: 36.05 Mbit/s
95th percentile per-packet one-way delay: 283.167 ms
Loss rate: 1.24%
-- Flow 2:
Average throughput: 44.35 Mbit/s
95th percentile per-packet one-way delay: 284.295 ms
Loss rate: 0.76%
-- Flow 3:
Average throughput: 25.10 Mbit/s
95th percentile per-packet one-way delay: 304.169 ms
Loss rate: 3.38%

Run 2: Report of Verus — Data Link



Run 3: Statistics of Verus

Start at: 2019-03-27 13:13:15

End at: 2019-03-27 13:13:45

Local clock offset: -4.915 ms

Remote clock offset: 3.633 ms

Below is generated by plot.py at 2019-03-27 14:26:58

Datalink statistics

-- Total of 3 flows:

Average throughput: 62.61 Mbit/s

95th percentile per-packet one-way delay: 324.249 ms

Loss rate: 0.95%

-- Flow 1:

Average throughput: 34.36 Mbit/s

95th percentile per-packet one-way delay: 413.295 ms

Loss rate: 0.50%

-- Flow 2:

Average throughput: 29.12 Mbit/s

95th percentile per-packet one-way delay: 273.526 ms

Loss rate: 0.76%

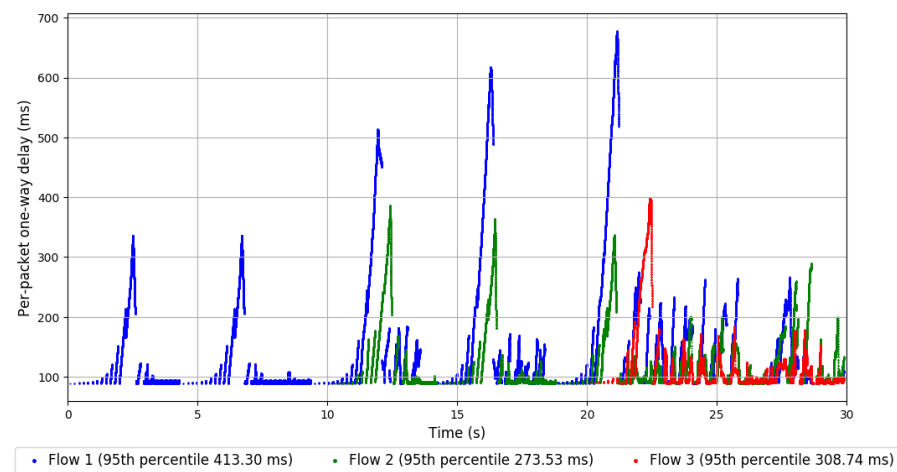
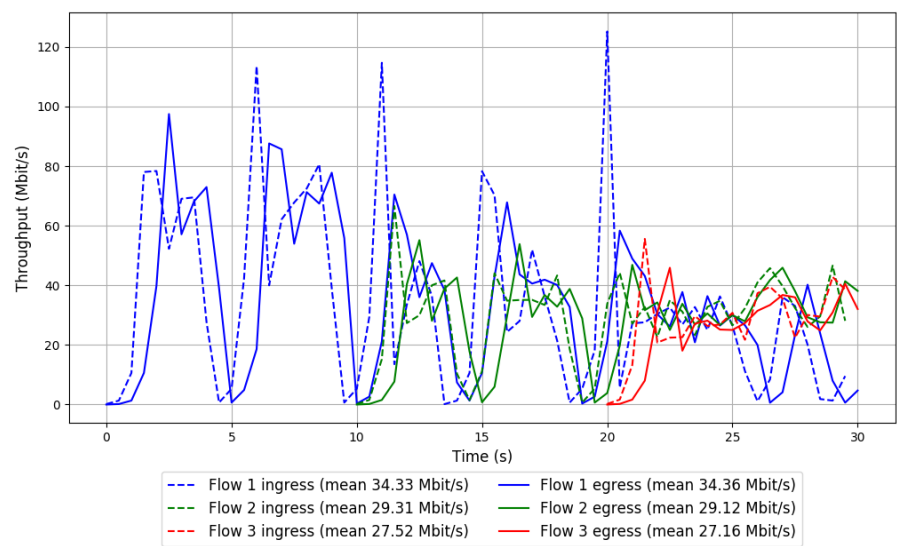
-- Flow 3:

Average throughput: 27.16 Mbit/s

95th percentile per-packet one-way delay: 308.738 ms

Loss rate: 3.01%

Run 3: Report of Verus — Data Link

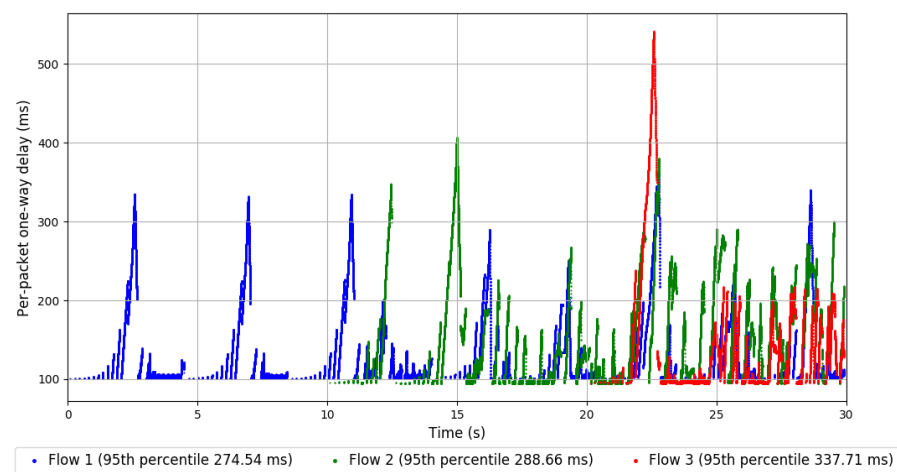
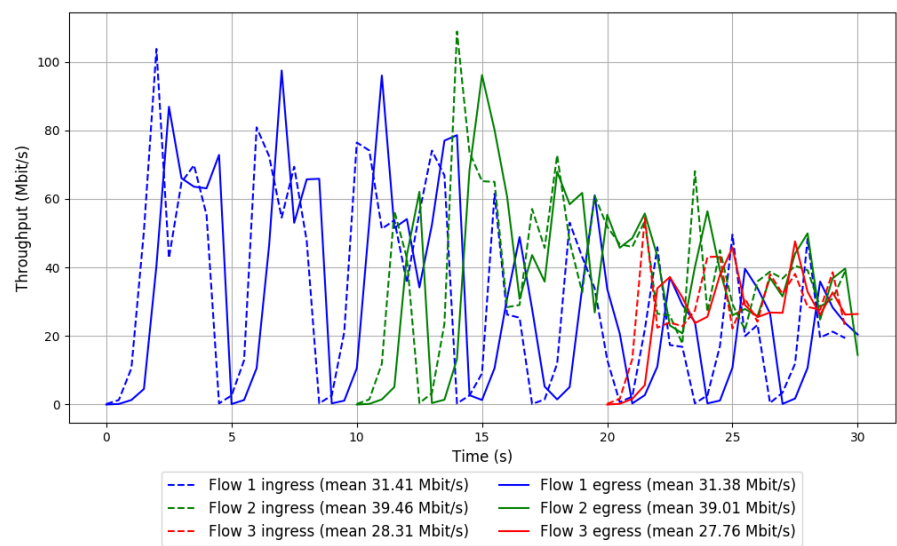


Run 4: Statistics of Verus

Start at: 2019-03-27 13:40:15
End at: 2019-03-27 13:40:45
Local clock offset: -4.206 ms
Remote clock offset: -0.797 ms

Below is generated by plot.py at 2019-03-27 14:26:58
Datalink statistics
-- Total of 3 flows:
Average throughput: 66.41 Mbit/s
95th percentile per-packet one-way delay: 284.891 ms
Loss rate: 1.24%
-- Flow 1:
Average throughput: 31.38 Mbit/s
95th percentile per-packet one-way delay: 274.538 ms
Loss rate: 0.31%
-- Flow 2:
Average throughput: 39.01 Mbit/s
95th percentile per-packet one-way delay: 288.660 ms
Loss rate: 2.00%
-- Flow 3:
Average throughput: 27.76 Mbit/s
95th percentile per-packet one-way delay: 337.710 ms
Loss rate: 2.23%

Run 4: Report of Verus — Data Link



Run 5: Statistics of Verus

Start at: 2019-03-27 14:07:16

End at: 2019-03-27 14:07:46

Local clock offset: -5.553 ms

Remote clock offset: 5.363 ms

Below is generated by plot.py at 2019-03-27 14:27:03

Datalink statistics

-- Total of 3 flows:

Average throughput: 66.06 Mbit/s

95th percentile per-packet one-way delay: 401.022 ms

Loss rate: 1.58%

-- Flow 1:

Average throughput: 37.20 Mbit/s

95th percentile per-packet one-way delay: 408.256 ms

Loss rate: 0.94%

-- Flow 2:

Average throughput: 32.33 Mbit/s

95th percentile per-packet one-way delay: 410.363 ms

Loss rate: 1.93%

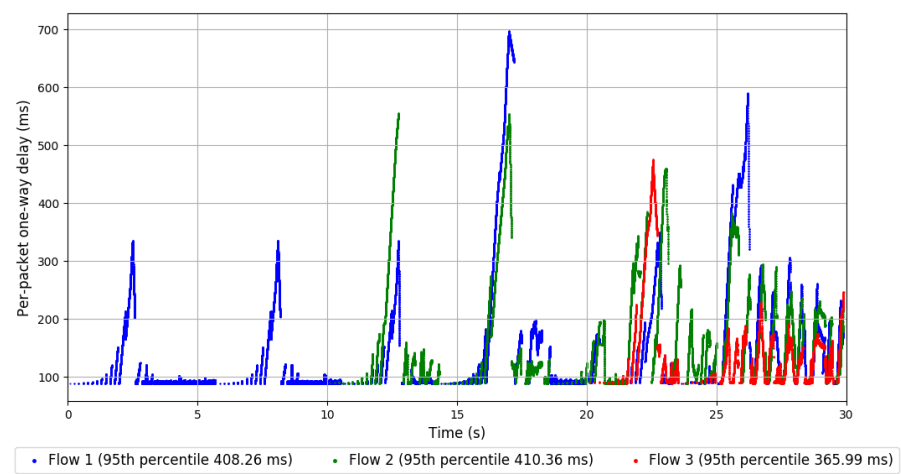
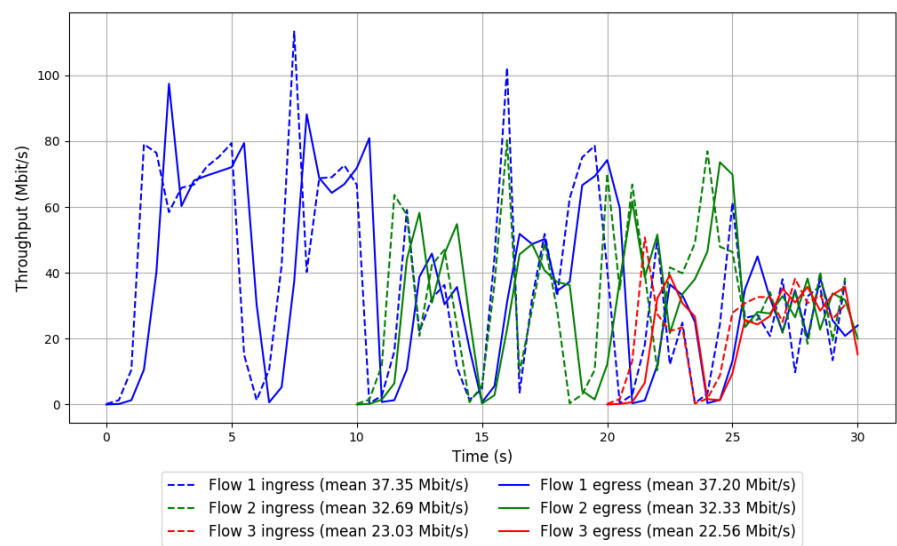
-- Flow 3:

Average throughput: 22.56 Mbit/s

95th percentile per-packet one-way delay: 365.992 ms

Loss rate: 3.68%

Run 5: Report of Verus — Data Link



Run 1: Statistics of PCC-Vivace

Start at: 2019-03-27 12:01:01

End at: 2019-03-27 12:01:31

Local clock offset: -2.856 ms

Remote clock offset: 6.366 ms

Below is generated by plot.py at 2019-03-27 14:27:15

Datalink statistics

-- Total of 3 flows:

Average throughput: 76.13 Mbit/s

95th percentile per-packet one-way delay: 1132.466 ms

Loss rate: 3.27%

-- Flow 1:

Average throughput: 47.56 Mbit/s

95th percentile per-packet one-way delay: 1162.017 ms

Loss rate: 3.54%

-- Flow 2:

Average throughput: 31.82 Mbit/s

95th percentile per-packet one-way delay: 514.792 ms

Loss rate: 2.78%

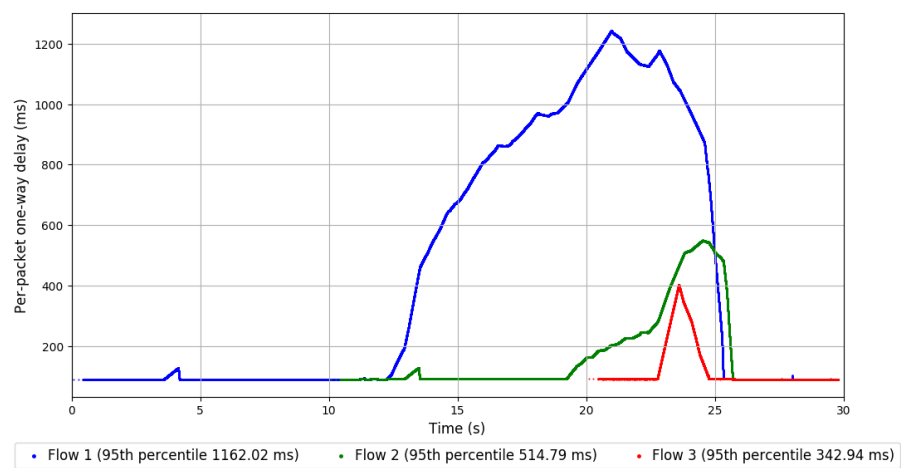
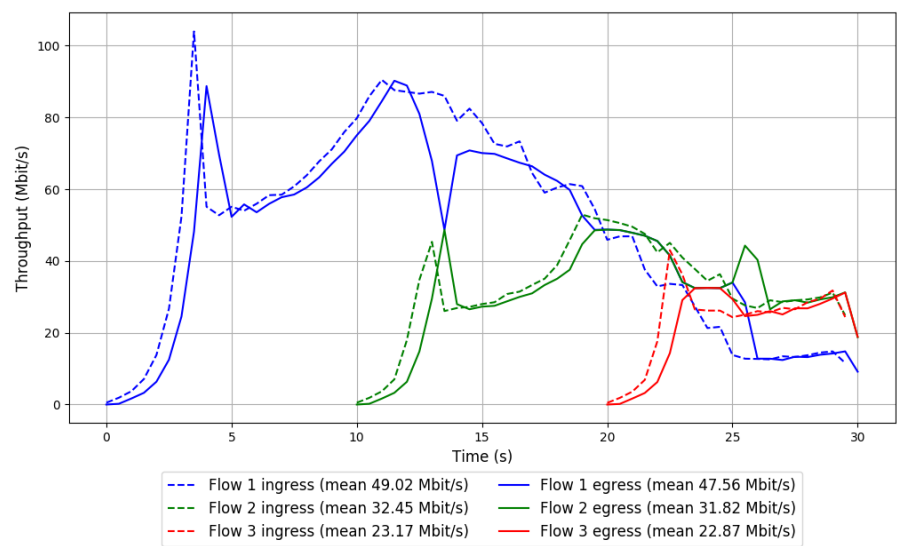
-- Flow 3:

Average throughput: 22.87 Mbit/s

95th percentile per-packet one-way delay: 342.938 ms

Loss rate: 2.98%

Run 1: Report of PCC-Vivace — Data Link



Run 2: Statistics of PCC-Vivace

Start at: 2019-03-27 12:28:01

End at: 2019-03-27 12:28:31

Local clock offset: -5.139 ms

Remote clock offset: 3.3 ms

Below is generated by plot.py at 2019-03-27 14:27:21

Datalink statistics

-- Total of 3 flows:

Average throughput: 79.76 Mbit/s

95th percentile per-packet one-way delay: 1970.992 ms

Loss rate: 5.89%

-- Flow 1:

Average throughput: 51.68 Mbit/s

95th percentile per-packet one-way delay: 2048.156 ms

Loss rate: 6.96%

-- Flow 2:

Average throughput: 31.32 Mbit/s

95th percentile per-packet one-way delay: 792.759 ms

Loss rate: 4.20%

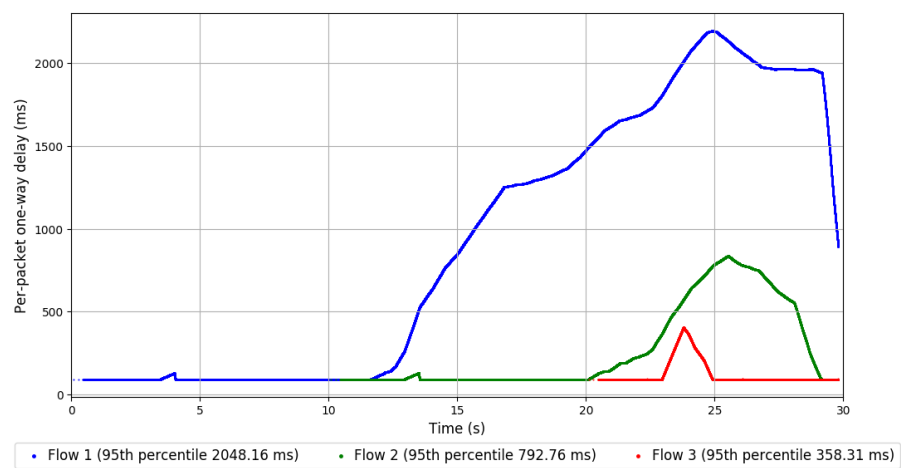
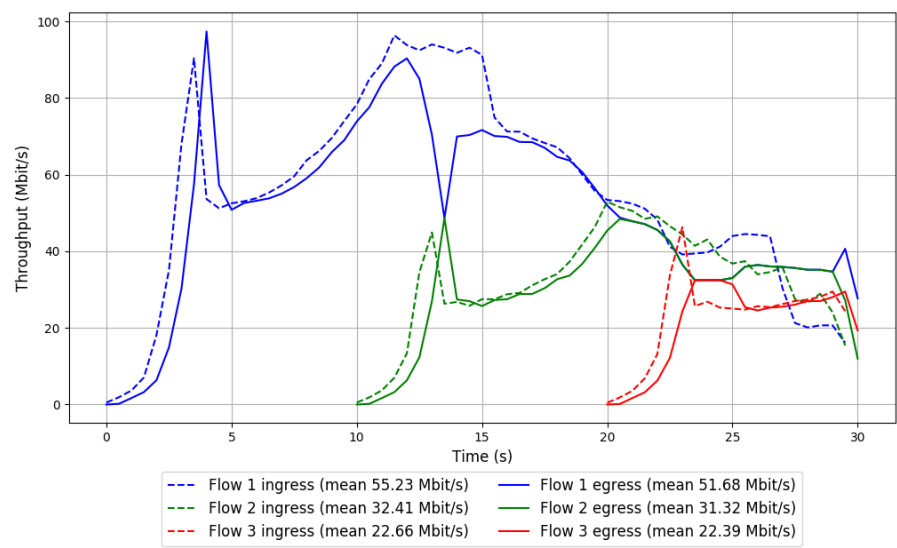
-- Flow 3:

Average throughput: 22.39 Mbit/s

95th percentile per-packet one-way delay: 358.305 ms

Loss rate: 2.91%

Run 2: Report of PCC-Vivace — Data Link



Run 3: Statistics of PCC-Vivace

Start at: 2019-03-27 12:55:03

End at: 2019-03-27 12:55:33

Local clock offset: -5.082 ms

Remote clock offset: 3.126 ms

Below is generated by plot.py at 2019-03-27 14:27:25

Datalink statistics

-- Total of 3 flows:

Average throughput: 79.17 Mbit/s

95th percentile per-packet one-way delay: 473.149 ms

Loss rate: 2.64%

-- Flow 1:

Average throughput: 51.38 Mbit/s

95th percentile per-packet one-way delay: 470.420 ms

Loss rate: 1.73%

-- Flow 2:

Average throughput: 30.12 Mbit/s

95th percentile per-packet one-way delay: 520.681 ms

Loss rate: 3.41%

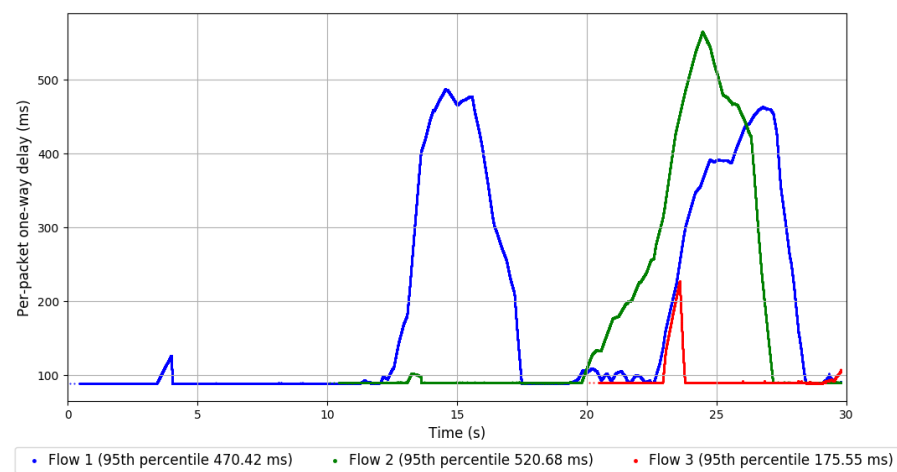
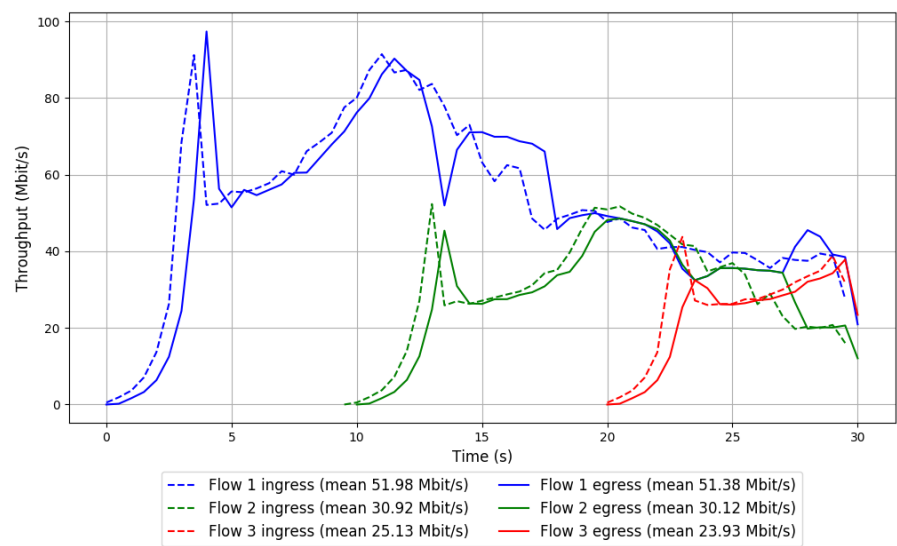
-- Flow 3:

Average throughput: 23.93 Mbit/s

95th percentile per-packet one-way delay: 175.547 ms

Loss rate: 6.44%

Run 3: Report of PCC-Vivace — Data Link



Run 4: Statistics of PCC-Vivace

Start at: 2019-03-27 13:22:10

End at: 2019-03-27 13:22:40

Local clock offset: -4.63 ms

Remote clock offset: 3.986 ms

Below is generated by plot.py at 2019-03-27 14:27:28

Datalink statistics

-- Total of 3 flows:

Average throughput: 78.81 Mbit/s

95th percentile per-packet one-way delay: 1941.812 ms

Loss rate: 5.09%

-- Flow 1:

Average throughput: 50.89 Mbit/s

95th percentile per-packet one-way delay: 2063.407 ms

Loss rate: 5.68%

-- Flow 2:

Average throughput: 31.24 Mbit/s

95th percentile per-packet one-way delay: 810.691 ms

Loss rate: 4.24%

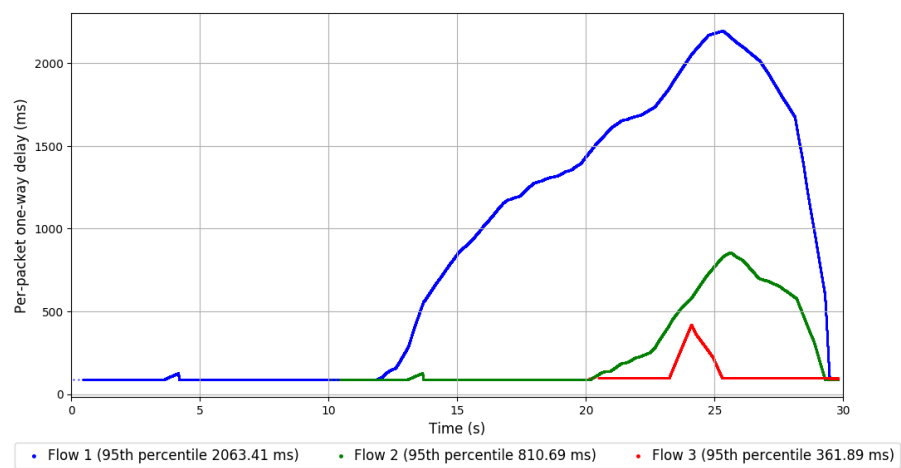
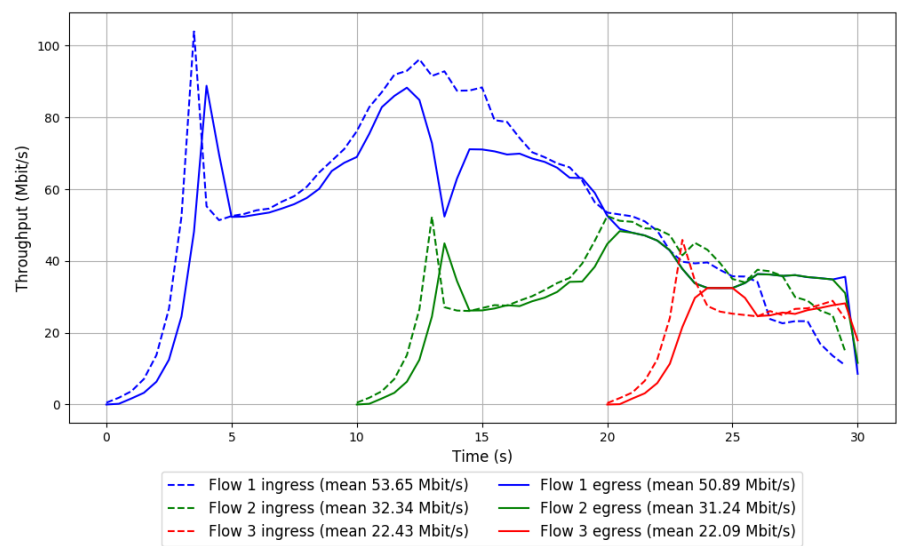
-- Flow 3:

Average throughput: 22.09 Mbit/s

95th percentile per-packet one-way delay: 361.893 ms

Loss rate: 3.27%

Run 4: Report of PCC-Vivace — Data Link



Run 5: Statistics of PCC-Vivace

Start at: 2019-03-27 13:49:11

End at: 2019-03-27 13:49:41

Local clock offset: -4.602 ms

Remote clock offset: 1.059 ms

Below is generated by plot.py at 2019-03-27 14:27:29

Datalink statistics

-- Total of 3 flows:

Average throughput: 80.75 Mbit/s

95th percentile per-packet one-way delay: 1963.863 ms

Loss rate: 5.33%

-- Flow 1:

Average throughput: 52.25 Mbit/s

95th percentile per-packet one-way delay: 2048.756 ms

Loss rate: 6.06%

-- Flow 2:

Average throughput: 31.98 Mbit/s

95th percentile per-packet one-way delay: 807.926 ms

Loss rate: 4.23%

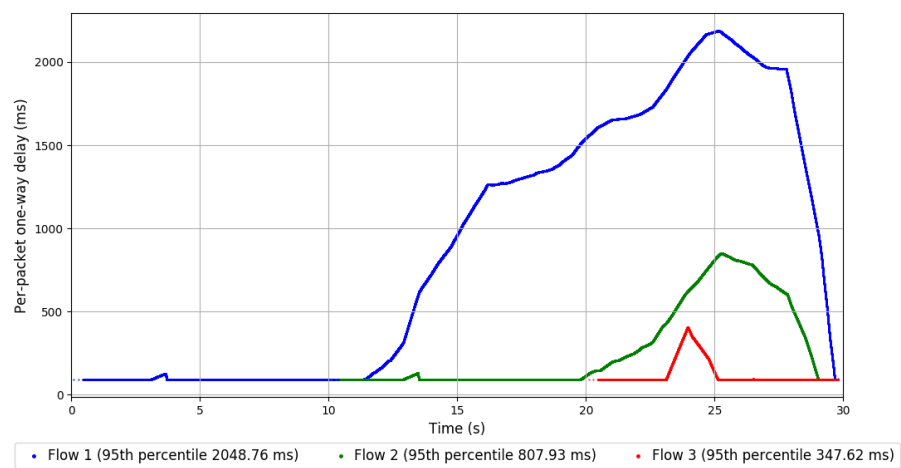
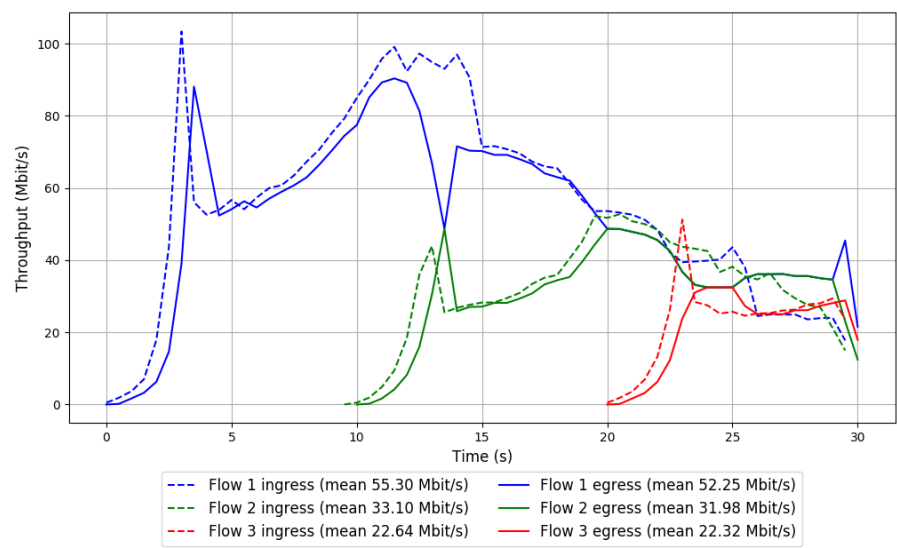
-- Flow 3:

Average throughput: 22.32 Mbit/s

95th percentile per-packet one-way delay: 347.620 ms

Loss rate: 3.11%

Run 5: Report of PCC-Vivace — Data Link



Run 1: Statistics of WebRTC media

Start at: 2019-03-27 12:21:41

End at: 2019-03-27 12:22:11

Local clock offset: -3.745 ms

Remote clock offset: 1.681 ms

Below is generated by plot.py at 2019-03-27 14:27:29

Datalink statistics

-- Total of 3 flows:

Average throughput: 2.93 Mbit/s

95th percentile per-packet one-way delay: 101.890 ms

Loss rate: 0.61%

-- Flow 1:

Average throughput: 1.68 Mbit/s

95th percentile per-packet one-way delay: 101.989 ms

Loss rate: 0.36%

-- Flow 2:

Average throughput: 0.91 Mbit/s

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

Loss rate: 0.52%

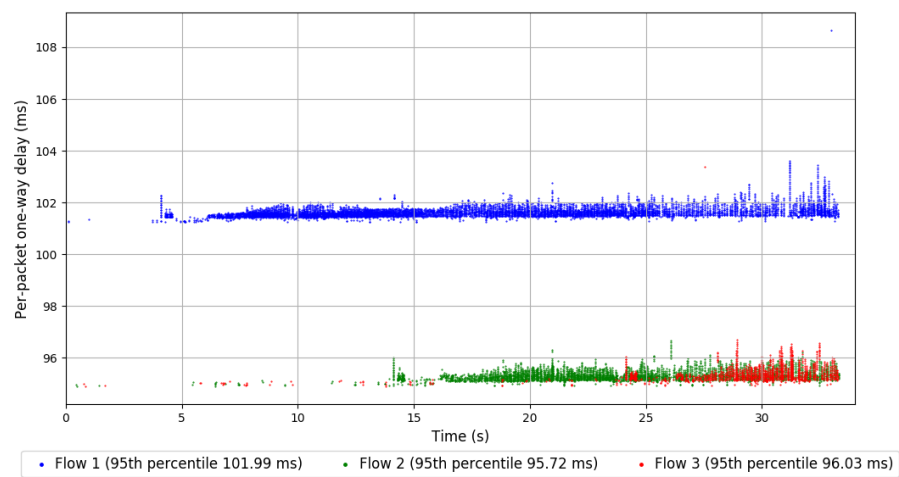
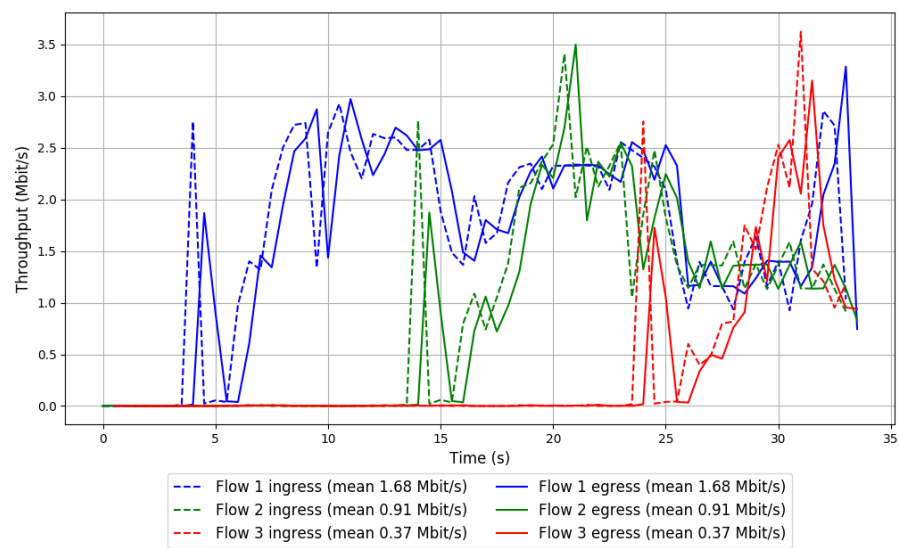
-- Flow 3:

Average throughput: 0.37 Mbit/s

95th percentile per-packet one-way delay: 96.027 ms

Loss rate: 1.94%

Run 1: Report of WebRTC media — Data Link



Run 2: Statistics of WebRTC media

Start at: 2019-03-27 12:48:40

End at: 2019-03-27 12:49:10

Local clock offset: -4.643 ms

Remote clock offset: 3.601 ms

Below is generated by plot.py at 2019-03-27 14:27:29

Datalink statistics

-- Total of 3 flows:

Average throughput: 3.00 Mbit/s

95th percentile per-packet one-way delay: 90.278 ms

Loss rate: 0.55%

-- Flow 1:

Average throughput: 1.70 Mbit/s

95th percentile per-packet one-way delay: 90.288 ms

Loss rate: 0.35%

-- Flow 2:

Average throughput: 0.94 Mbit/s

95th percentile per-packet one-way delay: 90.302 ms

Loss rate: 0.75%

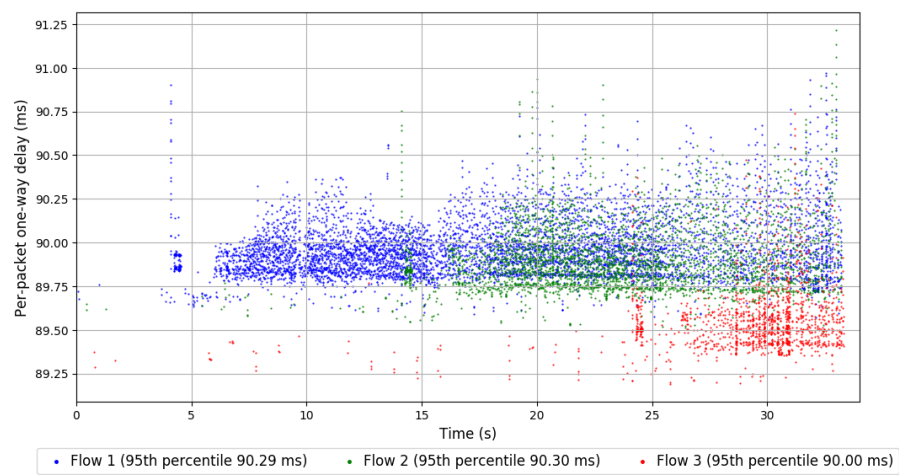
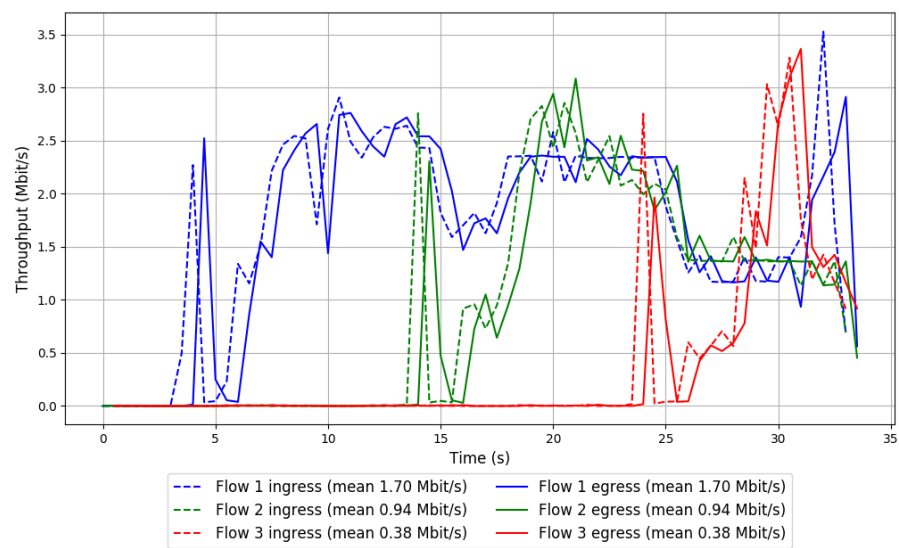
-- Flow 3:

Average throughput: 0.38 Mbit/s

95th percentile per-packet one-way delay: 89.996 ms

Loss rate: 0.92%

Run 2: Report of WebRTC media — Data Link

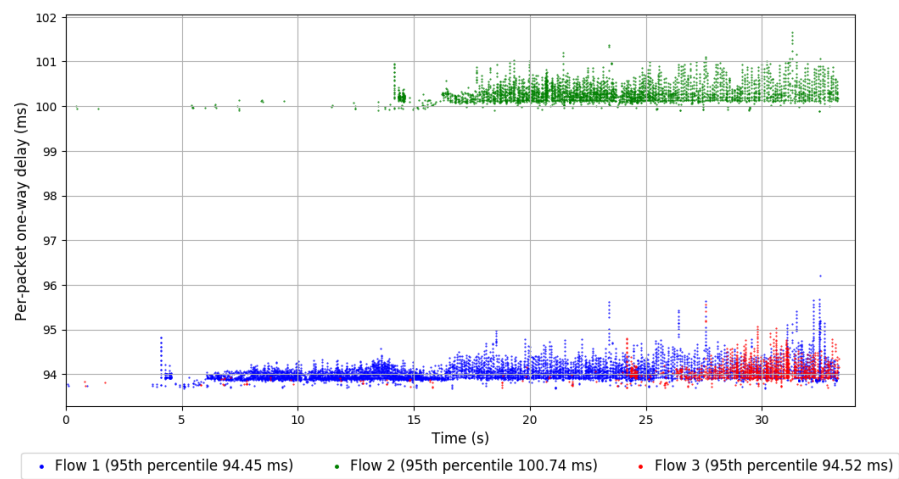
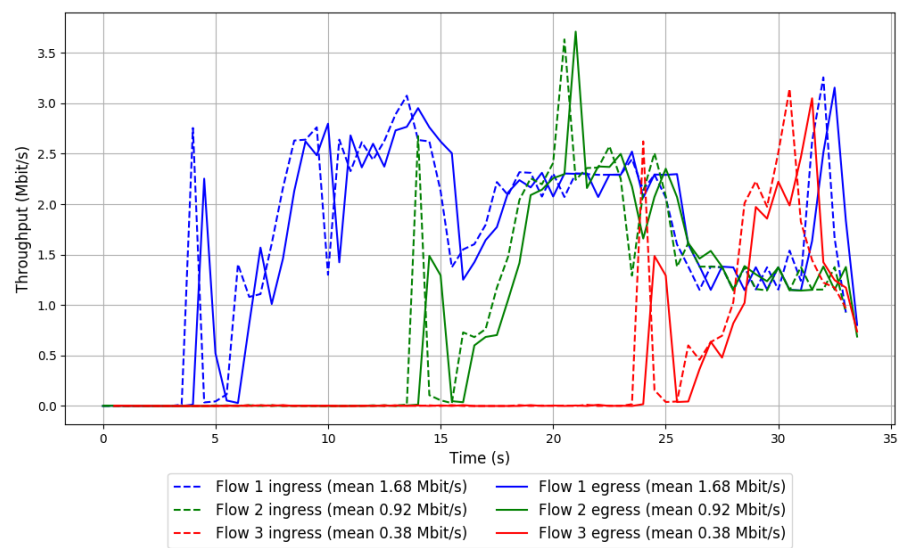


Run 3: Statistics of WebRTC media

Start at: 2019-03-27 13:15:49
End at: 2019-03-27 13:16:19
Local clock offset: -4.945 ms
Remote clock offset: -1.089 ms

Below is generated by plot.py at 2019-03-27 14:27:29
Datalink statistics
-- Total of 3 flows:
Average throughput: 2.95 Mbit/s
95th percentile per-packet one-way delay: 100.511 ms
Loss rate: 0.67%
-- Flow 1:
Average throughput: 1.68 Mbit/s
95th percentile per-packet one-way delay: 94.447 ms
Loss rate: 0.35%
-- Flow 2:
Average throughput: 0.92 Mbit/s
95th percentile per-packet one-way delay: 100.741 ms
Loss rate: 0.77%
-- Flow 3:
Average throughput: 0.38 Mbit/s
95th percentile per-packet one-way delay: 94.515 ms
Loss rate: 1.87%

Run 3: Report of WebRTC media — Data Link

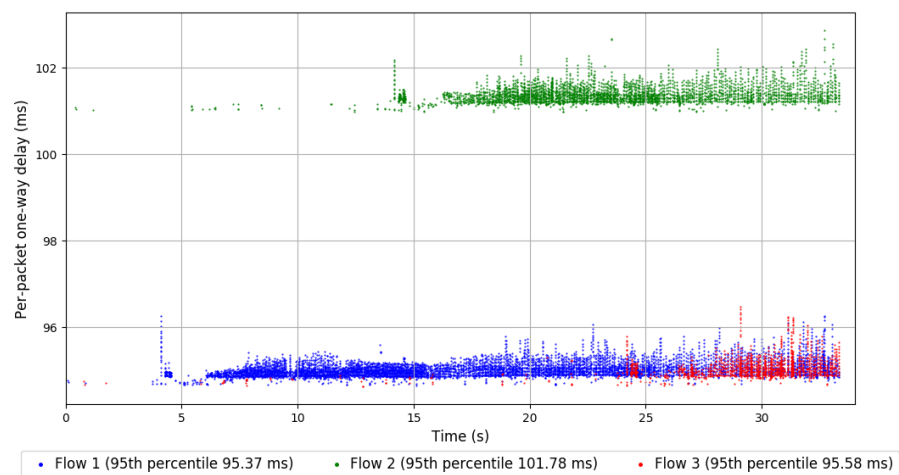
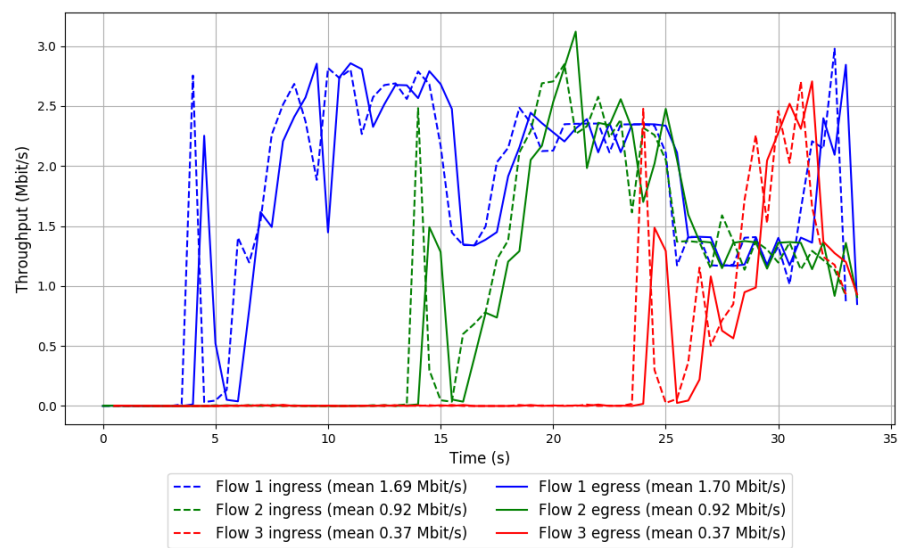


Run 4: Statistics of WebRTC media

Start at: 2019-03-27 13:42:49
End at: 2019-03-27 13:43:19
Local clock offset: -3.37 ms
Remote clock offset: -0.427 ms

Below is generated by plot.py at 2019-03-27 14:27:29
Datalink statistics
-- Total of 3 flows:
Average throughput: 2.97 Mbit/s
95th percentile per-packet one-way delay: 101.571 ms
Loss rate: 0.38%
-- Flow 1:
Average throughput: 1.70 Mbit/s
95th percentile per-packet one-way delay: 95.373 ms
Loss rate: 0.25%
-- Flow 2:
Average throughput: 0.92 Mbit/s
95th percentile per-packet one-way delay: 101.776 ms
Loss rate: 0.39%
-- Flow 3:
Average throughput: 0.37 Mbit/s
95th percentile per-packet one-way delay: 95.575 ms
Loss rate: 0.97%

Run 4: Report of WebRTC media — Data Link



Run 5: Statistics of WebRTC media

Start at: 2019-03-27 14:09:50

End at: 2019-03-27 14:10:20

Local clock offset: -4.912 ms

Remote clock offset: 1.654 ms

Below is generated by plot.py at 2019-03-27 14:27:29

Datalink statistics

-- Total of 3 flows:

Average throughput: 2.99 Mbit/s

95th percentile per-packet one-way delay: 99.929 ms

Loss rate: 0.80%

-- Flow 1:

Average throughput: 1.70 Mbit/s

95th percentile per-packet one-way delay: 94.145 ms

Loss rate: 0.37%

-- Flow 2:

Average throughput: 0.94 Mbit/s

95th percentile per-packet one-way delay: 94.295 ms

Loss rate: 0.75%

-- Flow 3:

Average throughput: 0.36 Mbit/s

95th percentile per-packet one-way delay: 100.526 ms

Loss rate: 2.92%

Run 5: Report of WebRTC media — Data Link

