

Pantheon Report

Generated at 2019-03-09 04:32:20 (UTC).

Data path: AWS Brazil 1 on `ens5` (*local*) → Brazil on `p4p1` (*remote*).

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 4.15.0-1031-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

Scatter plot showing Average throughput (Mbps) vs 95th percentile one-way delay (ms) for various protocols. The y-axis ranges from 0 to 100 Mbps, and the x-axis ranges from 64 to 2 ms. Protocols are labeled with their names and corresponding data points.

Protocol	95th percentile one-way delay (ms)	Average throughput (Mbps)
EDR	~32	~95
BBR	~25	~95
Indigo	~18	~95
Indigo-Muses	~12	~95
TCP Vegas	~4	~95
Indigo-MusesC3	~10	~95
Indigo-MusesC5	~15	~78
Indigo-MusesM	~20	~78
Indigo-MusesD	~25	~78
Indigo-MusesE	~30	~78
Indigo-MusesF	~35	~78
Indigo-MusesG	~40	~78
Indigo-MusesH	~45	~78
Indigo-MusesI	~50	~78
Indigo-MusesJ	~55	~78
Indigo-MusesK	~60	~78
Indigo-MusesL	~65	~78
Indigo-MusesM	~70	~78
Indigo-MusesN	~75	~78
Indigo-MusesO	~80	~78
Indigo-MusesP	~85	~78
Indigo-MusesQ	~90	~78
Indigo-MusesR	~95	~78
Indigo-MusesS	~100	~78
Indigo-MusesT	~105	~78
Indigo-MusesU	~110	~78
Indigo-MusesV	~115	~78
Indigo-MusesW	~120	~78
Indigo-MusesX	~125	~78
Indigo-MusesY	~130	~78
Indigo-MusesZ	~135	~78
Indigo-MusesAA	~140	~78
Indigo-MusesAB	~145	~78
Indigo-MusesAC	~150	~78
Indigo-MusesAD	~155	~78
Indigo-MusesAE	~160	~78
Indigo-MusesAF	~165	~78
Indigo-MusesAG	~170	~78
Indigo-MusesAH	~175	~78
Indigo-MusesAI	~180	~78
Indigo-MusesAJ	~185	~78
Indigo-MusesAK	~190	~78
Indigo-MusesAL	~195	~78
Indigo-MusesAM	~200	~78
Indigo-MusesAN	~205	~78
Indigo-MusesAO	~210	~78
Indigo-MusesAP	~215	~78
Indigo-MusesAQ	~220	~78
Indigo-MusesAR	~225	~78
Indigo-MusesAS	~230	~78
Indigo-MusesAT	~235	~78
Indigo-MusesAU	~240	~78
Indigo-MusesAV	~245	~78
Indigo-MusesAW	~250	~78
Indigo-MusesAX	~255	~78
Indigo-MusesAY	~260	~78
Indigo-MusesAZ	~265	~78
Indigo-MusesBA	~270	~78
Indigo-MusesBB	~275	~78
Indigo-MusesBC	~280	~78
Indigo-MusesBD	~285	~78
Indigo-MusesBE	~290	~78
Indigo-MusesBF	~295	~78
Indigo-MusesBG	~300	~78
Indigo-MusesBH	~305	~78
Indigo-MusesBI	~310	~78
Indigo-MusesBJ	~315	~78
Indigo-MusesBK	~320	~78
Indigo-MusesBL	~325	~78
Indigo-MusesBM	~330	~78
Indigo-MusesBN	~335	~78
Indigo-MusesBO	~340	~78
Indigo-MusesBP	~345	~78
Indigo-MusesBQ	~350	~78
Indigo-MusesBR	~355	~78
Indigo-MusesBS	~360	~78
Indigo-MusesBT	~365	~78
Indigo-MusesBU	~370	~78
Indigo-MusesBV	~375	~78
Indigo-MusesBW	~380	~78
Indigo-MusesBX	~385	~78
Indigo-MusesBY	~390	~78
Indigo-MusesBZ	~395	~78
Indigo-MusesCA	~400	~78
Indigo-MusesCB	~405	~78
Indigo-MusesCC	~410	~78
Indigo-MusesCD	~415	~78
Indigo-MusesCE	~420	~78
Indigo-MusesCF	~425	~78
Indigo-MusesCG	~430	~78
Indigo-MusesCH	~435	~78
Indigo-MusesCI	~440	~78
Indigo-MusesCJ	~445	~78
Indigo-MusesCK	~450	~78
Indigo-MusesCL	~455	~78
Indigo-MusesCM	~460	~78
Indigo-MusesCN	~465	~78
Indigo-MusesCO	~470	~78
Indigo-MusesCP	~475	~78
Indigo-MusesCQ	~480	~78
Indigo-MusesCR	~485	~78
Indigo-MusesCS	~490	~78
Indigo-MusesCT	~495	~78
Indigo-MusesCU	~500	~78
Indigo-MusesCV	~505	~78
Indigo-MusesCW	~510	~78
Indigo-MusesCX		



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	68.80	29.79	26.56	21.54	20.84	25.78	0.02	0.03	0.27
Copa	5	7.18	7.96	2.19	3.22	3.10	3.02	66.59	70.24	85.54
TCP Cubic	5	65.02	36.08	24.65	31.93	32.04	32.10	0.04	0.03	0.05
FillP	5	47.47	52.79	32.70	28.20	30.29	29.79	8.86	16.94	37.41
FillP-Sheep	5	52.42	30.10	34.75	16.89	21.44	24.16	0.79	1.34	5.10
Indigo	5	46.97	42.05	69.30	11.20	13.58	13.17	0.00	0.00	0.00
Indigo-MusesC3	5	55.26	49.15	31.16	10.15	11.59	7.33	0.00	0.00	0.00
Indigo-MusesC5	5	44.46	34.88	35.77	18.54	20.43	22.00	0.00	0.00	0.00
Indigo-MusesD	5	45.28	37.36	30.75	22.34	24.79	28.83	0.41	0.60	1.70
Indigo-MusesT	5	58.56	44.15	25.02	29.44	22.74	35.14	0.06	0.11	0.56
LEDBAT	5	64.27	35.15	28.79	32.17	31.97	31.69	0.03	0.10	0.12
PCC-Allegro	5	69.39	18.88	10.60	6.96	11.13	11.05	0.03	0.10	0.32
PCC-Expr	5	0.50	9.55	6.15	1.88	2.46	2.48	85.71	24.62	25.23
QUIC Cubic	5	57.81	34.40	29.29	30.38	31.22	31.22	0.15	0.19	0.31
SCReAM	5	0.22	0.22	0.22	1.85	1.83	2.13	0.00	0.00	0.00
Sprout	5	42.67	37.28	30.84	20.66	22.82	24.81	0.00	0.00	0.00
TaoVA-100x	5	8.25	6.10	4.42	2.72	3.95	4.05	84.82	80.08	86.99
TCP Vegas	5	52.63	35.55	63.56	8.30	4.19	4.73	0.00	0.00	0.00
Verus	5	40.04	30.74	27.02	28.65	31.76	32.17	7.19	13.63	18.34
PCC-Vivace	5	56.92	29.93	27.92	2.59	2.99	3.92	0.00	0.00	0.00
WebRTC media	5	0.05	0.05	0.05	4.28	4.69	4.05	0.00	0.00	0.00

Run 1: Statistics of TCP BBR

Start at: 2019-03-09 02:42:22

End at: 2019-03-09 02:42:52

Local clock offset: -7.81 ms

Remote clock offset: 0.081 ms

Below is generated by plot.py at 2019-03-09 04:21:30

Datalink statistics

-- Total of 3 flows:

Average throughput: 97.47 Mbit/s

95th percentile per-packet one-way delay: 28.864 ms

Loss rate: 0.22%

-- Flow 1:

Average throughput: 73.41 Mbit/s

95th percentile per-packet one-way delay: 28.616 ms

Loss rate: 0.08%

-- Flow 2:

Average throughput: 20.35 Mbit/s

95th percentile per-packet one-way delay: 27.582 ms

Loss rate: 0.13%

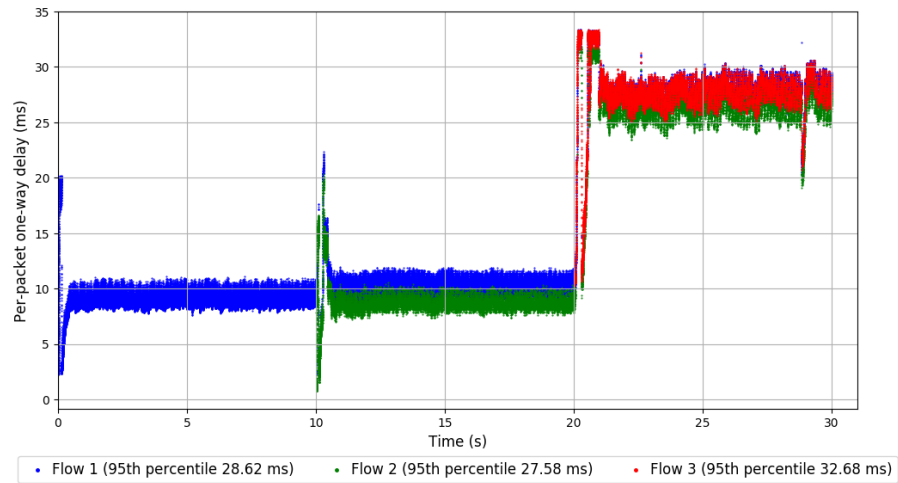
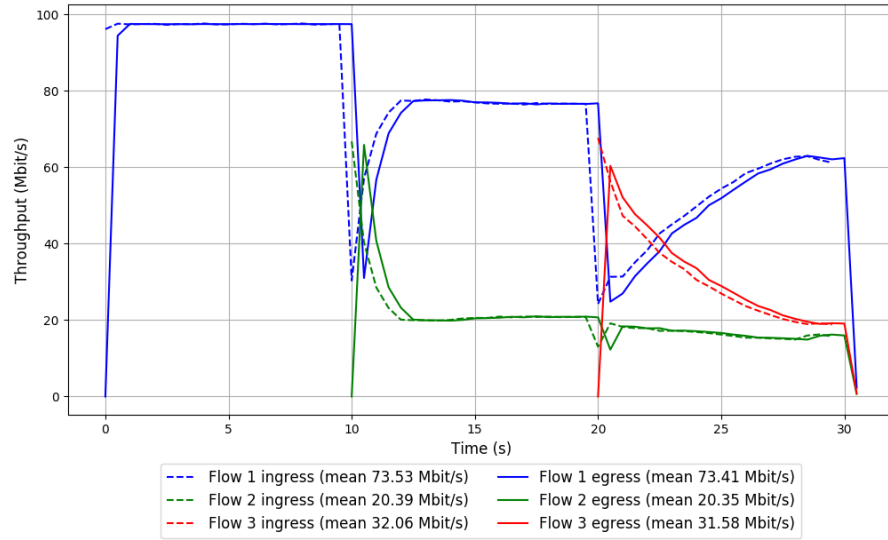
-- Flow 3:

Average throughput: 31.58 Mbit/s

95th percentile per-packet one-way delay: 32.679 ms

Loss rate: 1.33%

Run 1: Report of TCP BBR — Data Link



Run 2: Statistics of TCP BBR

Start at: 2019-03-09 03:06:17

End at: 2019-03-09 03:06:47

Local clock offset: -2.745 ms

Remote clock offset: 0.249 ms

Below is generated by plot.py at 2019-03-09 04:21:30

Datalink statistics

-- Total of 3 flows:

Average throughput: 97.49 Mbit/s

95th percentile per-packet one-way delay: 19.136 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 71.04 Mbit/s

95th percentile per-packet one-way delay: 19.006 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 34.35 Mbit/s

95th percentile per-packet one-way delay: 17.783 ms

Loss rate: 0.00%

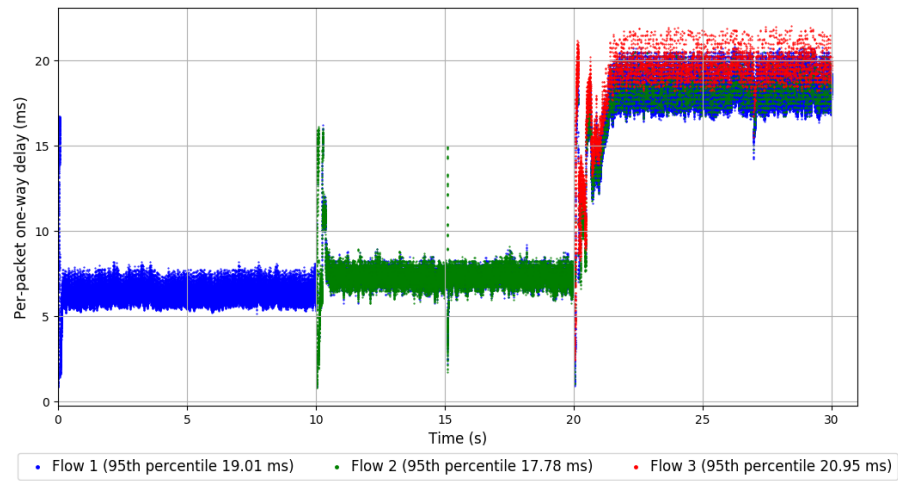
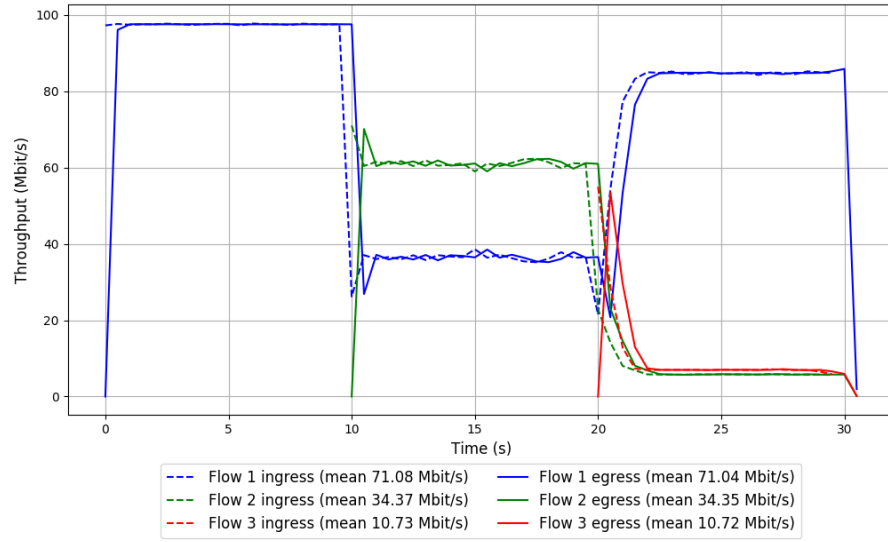
-- Flow 3:

Average throughput: 10.72 Mbit/s

95th percentile per-packet one-way delay: 20.954 ms

Loss rate: 0.00%

Run 2: Report of TCP BBR — Data Link



Run 3: Statistics of TCP BBR

Start at: 2019-03-09 03:30:10

End at: 2019-03-09 03:30:40

Local clock offset: -2.133 ms

Remote clock offset: 0.383 ms

Below is generated by plot.py at 2019-03-09 04:21:30

Datalink statistics

-- Total of 3 flows:

Average throughput: 97.49 Mbit/s

95th percentile per-packet one-way delay: 18.747 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 62.88 Mbit/s

95th percentile per-packet one-way delay: 17.397 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 31.71 Mbit/s

95th percentile per-packet one-way delay: 17.278 ms

Loss rate: 0.00%

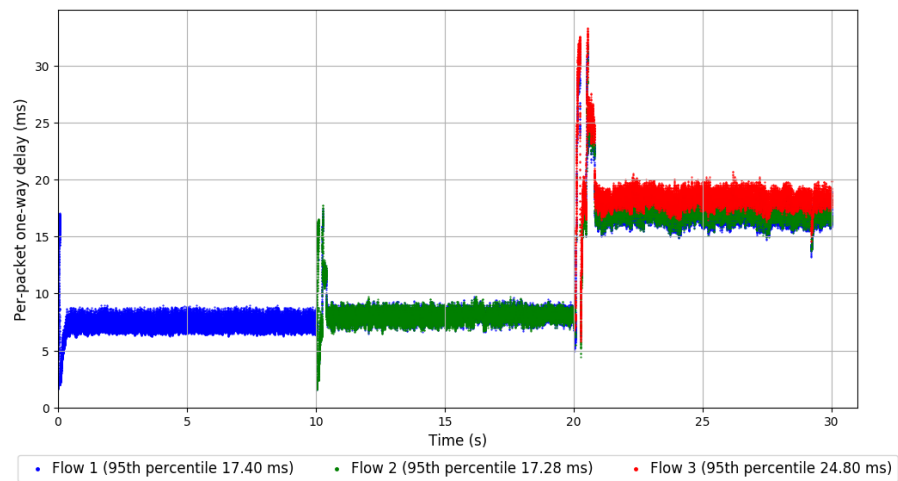
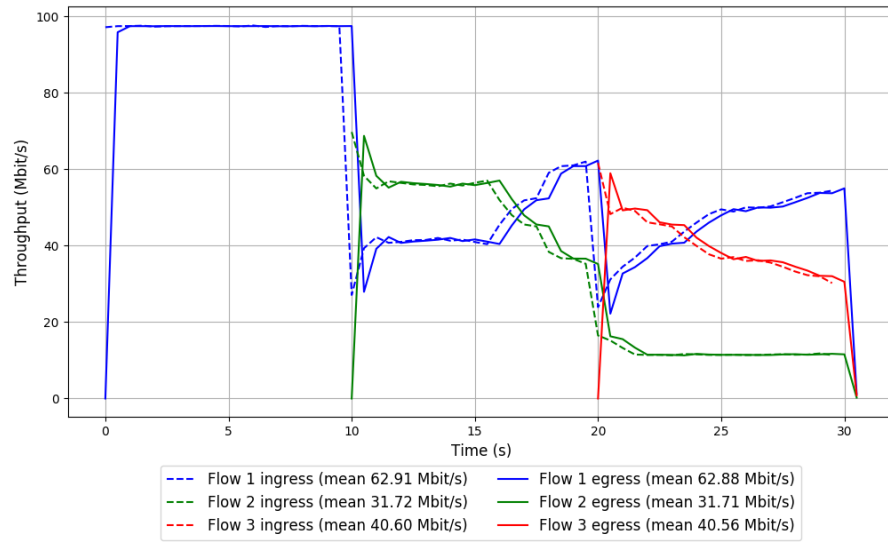
-- Flow 3:

Average throughput: 40.56 Mbit/s

95th percentile per-packet one-way delay: 24.804 ms

Loss rate: 0.00%

Run 3: Report of TCP BBR — Data Link



Run 4: Statistics of TCP BBR

Start at: 2019-03-09 03:54:04

End at: 2019-03-09 03:54:34

Local clock offset: -0.943 ms

Remote clock offset: 0.401 ms

Below is generated by plot.py at 2019-03-09 04:21:30

Datalink statistics

-- Total of 3 flows:

Average throughput: 97.47 Mbit/s

95th percentile per-packet one-way delay: 26.724 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 75.13 Mbit/s

95th percentile per-packet one-way delay: 26.808 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 28.21 Mbit/s

95th percentile per-packet one-way delay: 25.700 ms

Loss rate: 0.00%

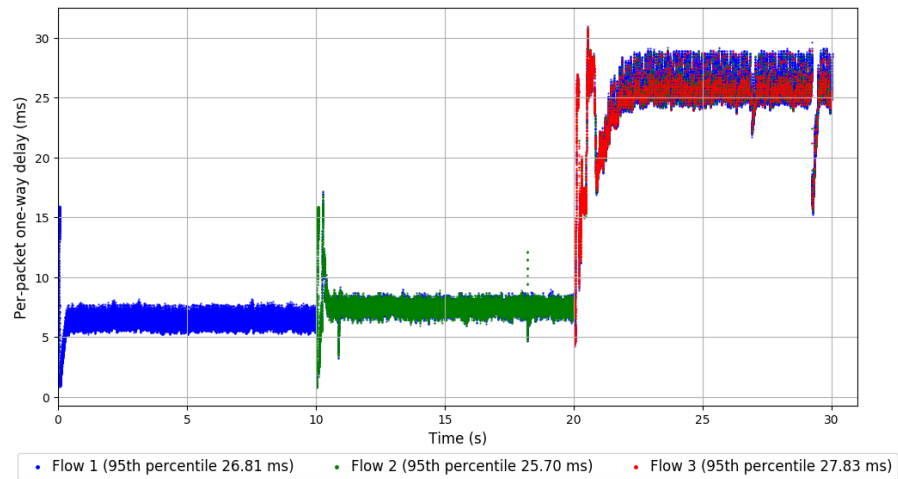
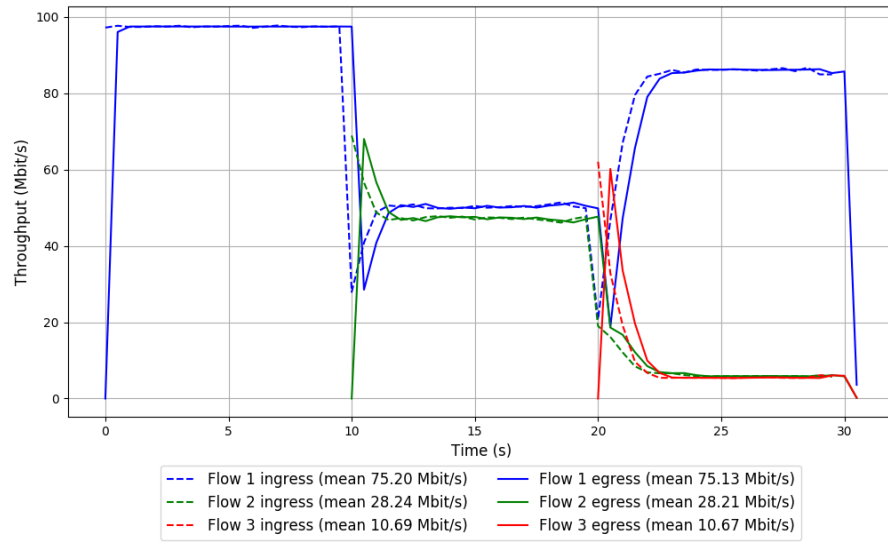
-- Flow 3:

Average throughput: 10.67 Mbit/s

95th percentile per-packet one-way delay: 27.829 ms

Loss rate: 0.00%

Run 4: Report of TCP BBR — Data Link



Run 5: Statistics of TCP BBR

Start at: 2019-03-09 04:18:00

End at: 2019-03-09 04:18:30

Local clock offset: -3.052 ms

Remote clock offset: 0.417 ms

Below is generated by plot.py at 2019-03-09 04:21:30

Datalink statistics

-- Total of 3 flows:

Average throughput: 97.49 Mbit/s

95th percentile per-packet one-way delay: 17.295 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 61.54 Mbit/s

95th percentile per-packet one-way delay: 15.889 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 34.34 Mbit/s

95th percentile per-packet one-way delay: 15.861 ms

Loss rate: 0.00%

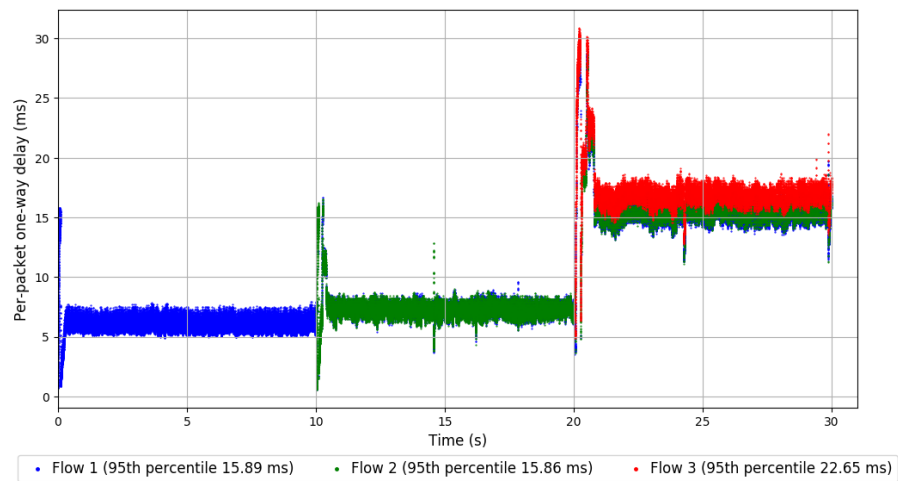
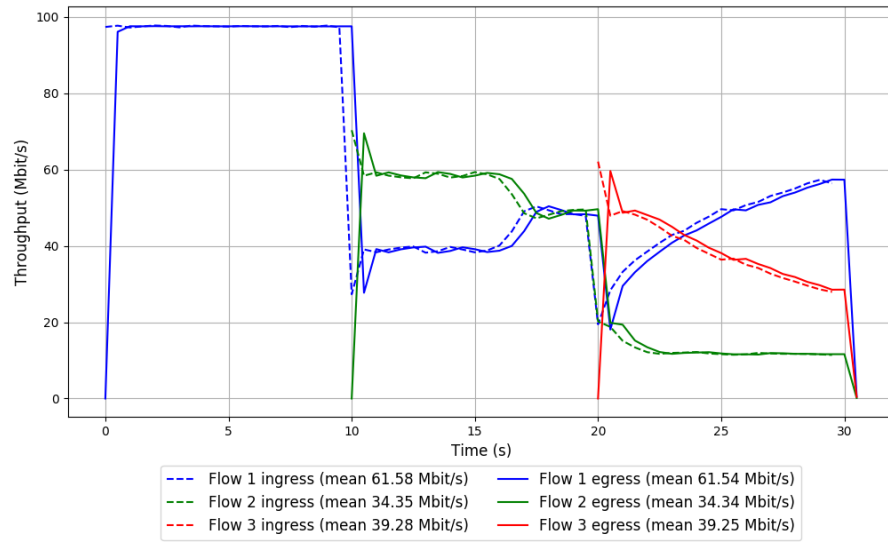
-- Flow 3:

Average throughput: 39.25 Mbit/s

95th percentile per-packet one-way delay: 22.648 ms

Loss rate: 0.00%

Run 5: Report of TCP BBR — Data Link

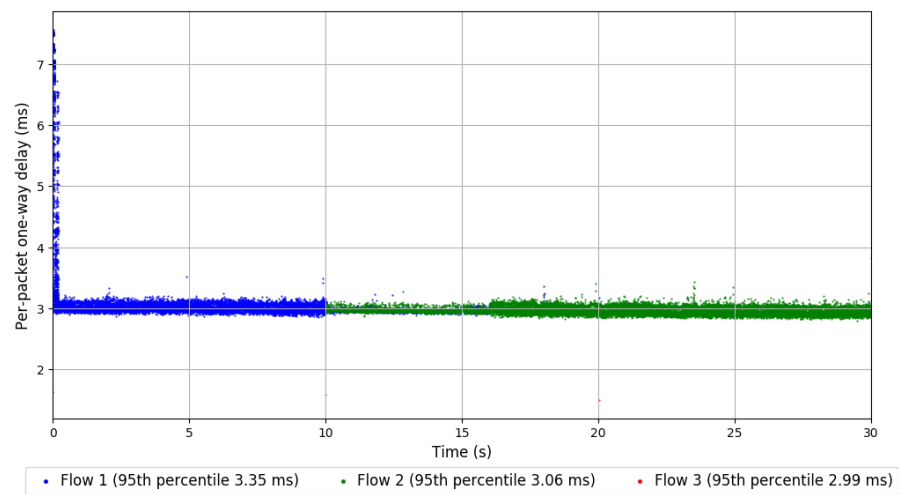
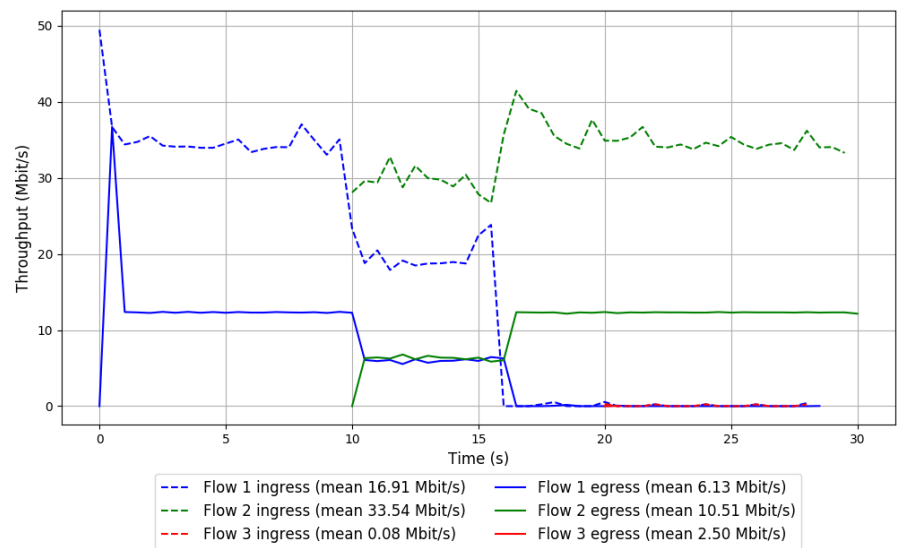


Run 1: Statistics of Copa

Start at: 2019-03-09 02:34:19
End at: 2019-03-09 02:34:49
Local clock offset: -7.237 ms
Remote clock offset: -0.008 ms

Below is generated by plot.py at 2019-03-09 04:21:30
Datalink statistics
-- Total of 3 flows:
Average throughput: 12.73 Mbit/s
95th percentile per-packet one-way delay: 3.116 ms
Loss rate: 66.65%
-- Flow 1:
Average throughput: 6.13 Mbit/s
95th percentile per-packet one-way delay: 3.347 ms
Loss rate: 63.79%
-- Flow 2:
Average throughput: 10.51 Mbit/s
95th percentile per-packet one-way delay: 3.065 ms
Loss rate: 68.65%
-- Flow 3:
Average throughput: 2.50 Mbit/s
95th percentile per-packet one-way delay: 2.990 ms
Loss rate: 97.92%

Run 1: Report of Copa — Data Link



Run 2: Statistics of Copa

Start at: 2019-03-09 02:58:15

End at: 2019-03-09 02:58:45

Local clock offset: -4.132 ms

Remote clock offset: 0.195 ms

Below is generated by plot.py at 2019-03-09 04:21:30

Datalink statistics

-- Total of 3 flows:

Average throughput: 12.73 Mbit/s

95th percentile per-packet one-way delay: 3.372 ms

Loss rate: 70.15%

-- Flow 1:

Average throughput: 7.20 Mbit/s

95th percentile per-packet one-way delay: 3.420 ms

Loss rate: 68.30%

-- Flow 2:

Average throughput: 8.48 Mbit/s

95th percentile per-packet one-way delay: 3.351 ms

Loss rate: 71.59%

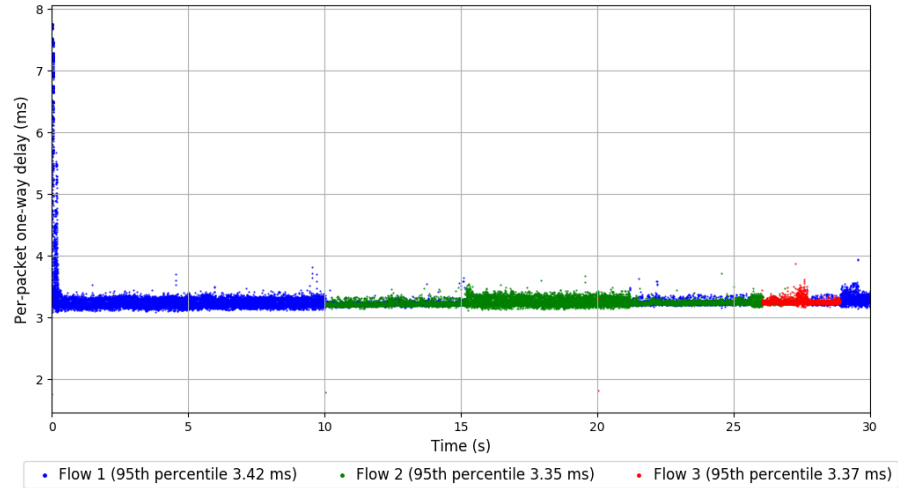
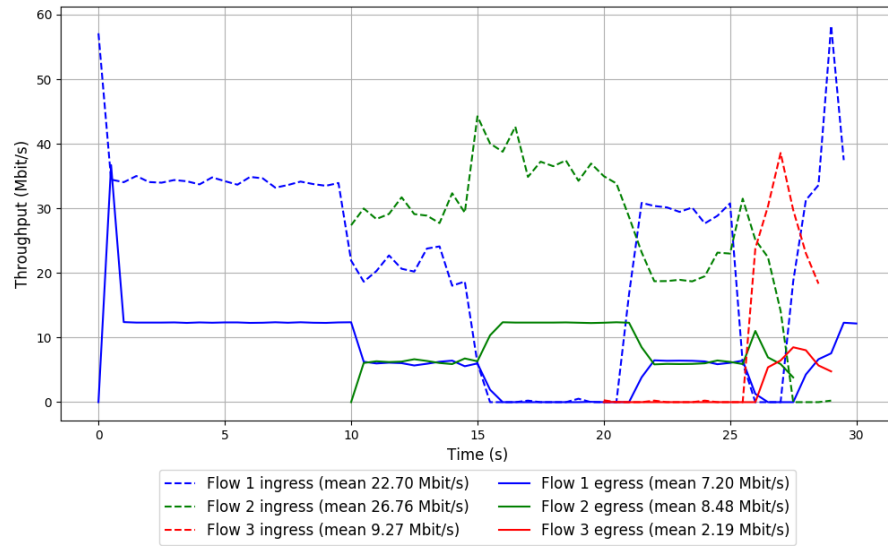
-- Flow 3:

Average throughput: 2.19 Mbit/s

95th percentile per-packet one-way delay: 3.370 ms

Loss rate: 76.40%

Run 2: Report of Copa — Data Link



Run 3: Statistics of Copa

Start at: 2019-03-09 03:22:08

End at: 2019-03-09 03:22:38

Local clock offset: -2.546 ms

Remote clock offset: 0.342 ms

Below is generated by plot.py at 2019-03-09 04:21:30

Datalink statistics

-- Total of 3 flows:

Average throughput: 12.73 Mbit/s

95th percentile per-packet one-way delay: 3.355 ms

Loss rate: 67.77%

-- Flow 1:

Average throughput: 6.58 Mbit/s

95th percentile per-packet one-way delay: 3.453 ms

Loss rate: 67.83%

-- Flow 2:

Average throughput: 9.24 Mbit/s

95th percentile per-packet one-way delay: 3.337 ms

Loss rate: 67.68%

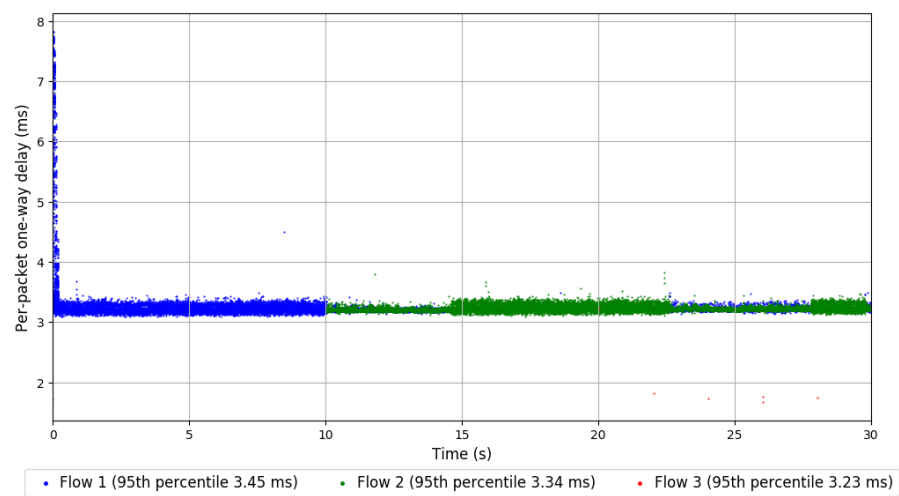
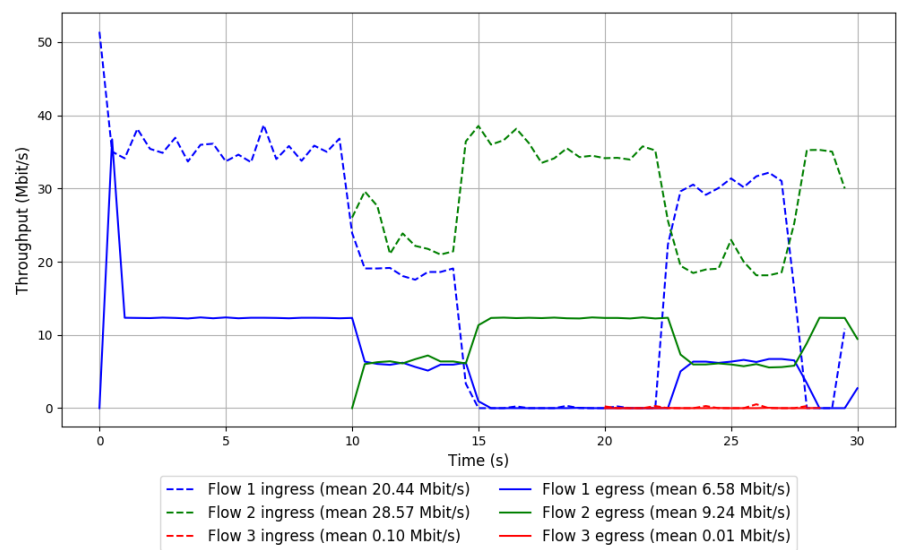
-- Flow 3:

Average throughput: 0.01 Mbit/s

95th percentile per-packet one-way delay: 3.228 ms

Loss rate: 92.53%

Run 3: Report of Copa — Data Link



Run 4: Statistics of Copa

Start at: 2019-03-09 03:46:02

End at: 2019-03-09 03:46:32

Local clock offset: -1.066 ms

Remote clock offset: 0.446 ms

Below is generated by plot.py at 2019-03-09 04:21:30

Datalink statistics

-- Total of 3 flows:

Average throughput: 12.73 Mbit/s

95th percentile per-packet one-way delay: 2.573 ms

Loss rate: 69.17%

-- Flow 1:

Average throughput: 7.81 Mbit/s

95th percentile per-packet one-way delay: 2.602 ms

Loss rate: 66.89%

-- Flow 2:

Average throughput: 4.75 Mbit/s

95th percentile per-packet one-way delay: 2.558 ms

Loss rate: 72.86%

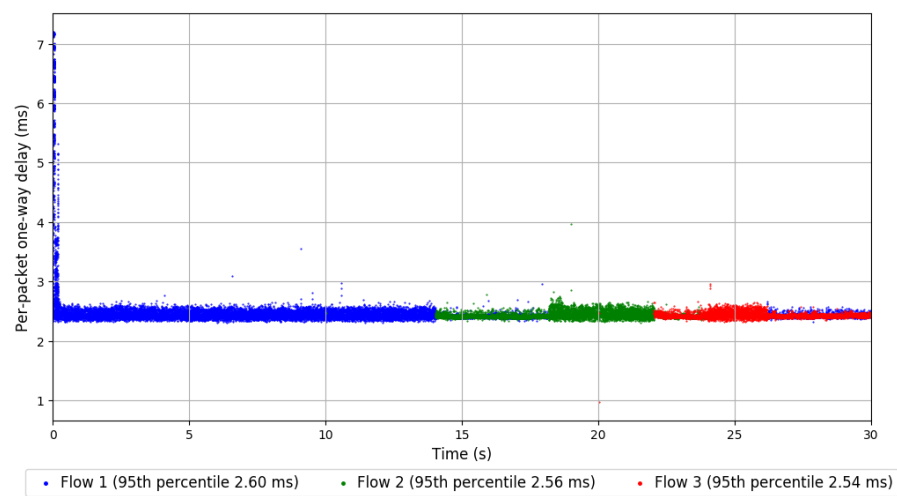
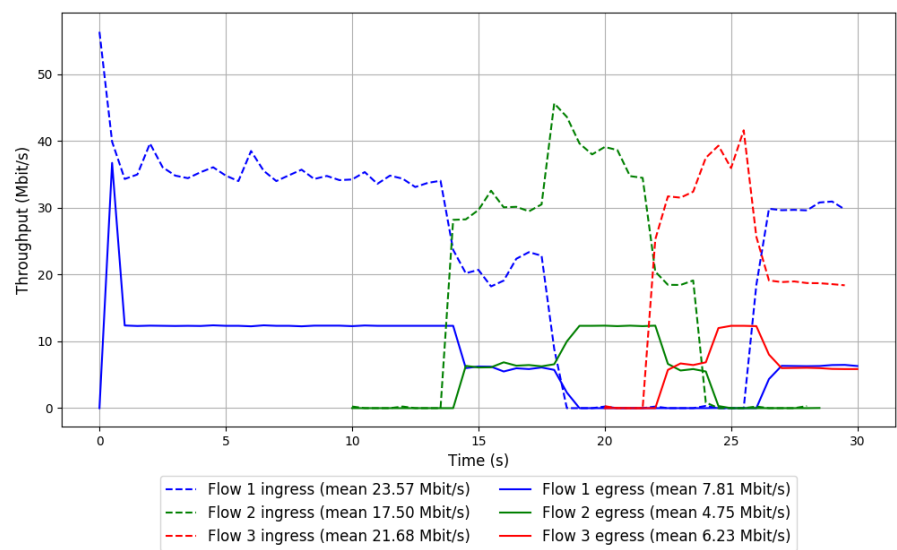
-- Flow 3:

Average throughput: 6.23 Mbit/s

95th percentile per-packet one-way delay: 2.538 ms

Loss rate: 71.25%

Run 4: Report of Copa — Data Link



Run 5: Statistics of Copa

Start at: 2019-03-09 04:09:57

End at: 2019-03-09 04:10:27

Local clock offset: -1.512 ms

Remote clock offset: 0.382 ms

Below is generated by plot.py at 2019-03-09 04:21:30

Datalink statistics

-- Total of 3 flows:

Average throughput: 12.73 Mbit/s

95th percentile per-packet one-way delay: 3.217 ms

Loss rate: 67.83%

-- Flow 1:

Average throughput: 8.17 Mbit/s

95th percentile per-packet one-way delay: 3.256 ms

Loss rate: 66.15%

-- Flow 2:

Average throughput: 6.84 Mbit/s

95th percentile per-packet one-way delay: 3.195 ms

Loss rate: 70.41%

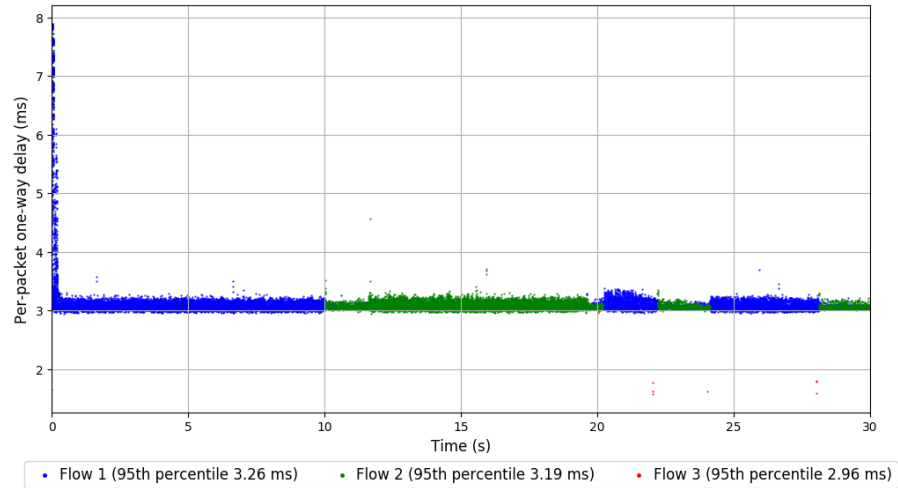
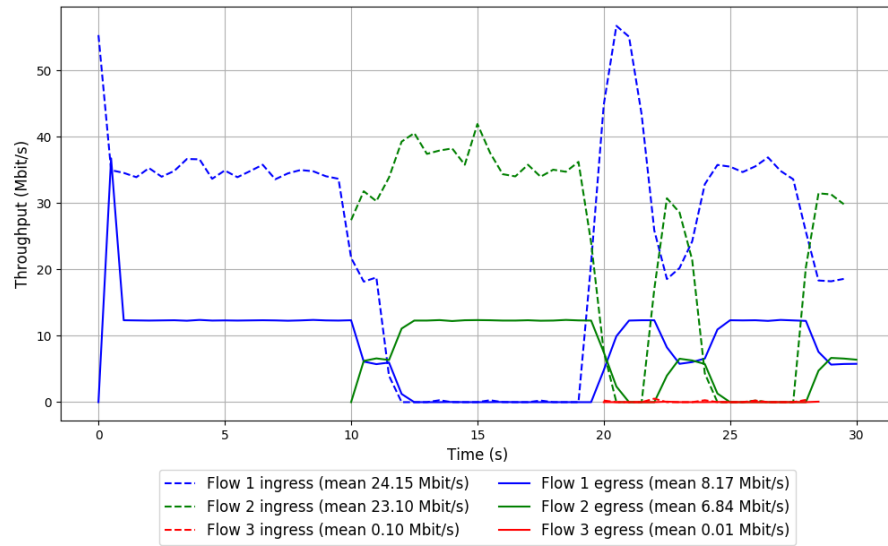
-- Flow 3:

Average throughput: 0.01 Mbit/s

95th percentile per-packet one-way delay: 2.957 ms

Loss rate: 89.59%

Run 5: Report of Copa — Data Link

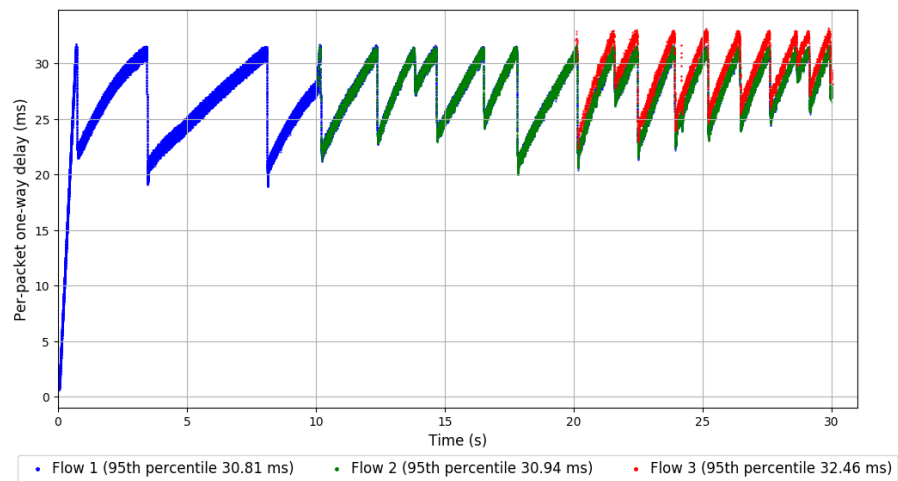
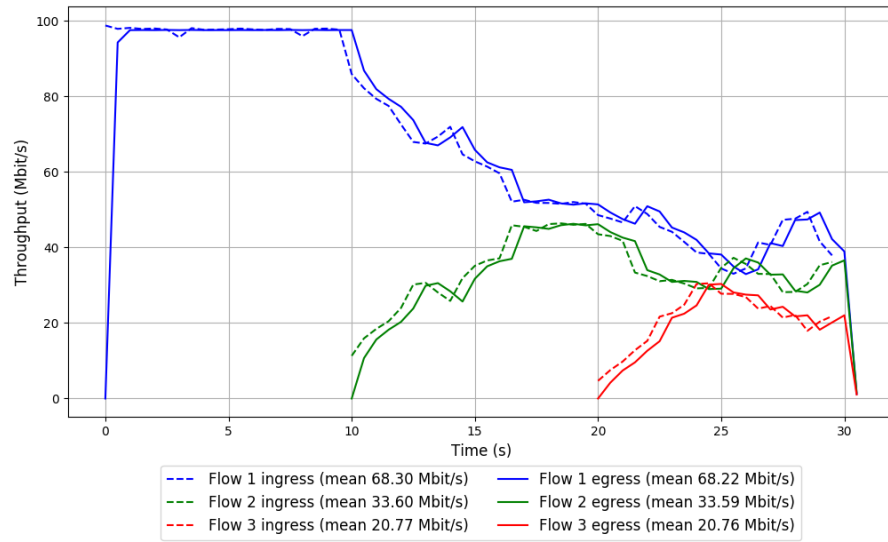


Run 1: Statistics of TCP Cubic

Start at: 2019-03-09 02:36:35
End at: 2019-03-09 02:37:05
Local clock offset: -6.909 ms
Remote clock offset: -0.072 ms

Below is generated by plot.py at 2019-03-09 04:21:47
Datalink statistics
-- Total of 3 flows:
Average throughput: 97.47 Mbit/s
95th percentile per-packet one-way delay: 30.990 ms
Loss rate: 0.03%
-- Flow 1:
Average throughput: 68.22 Mbit/s
95th percentile per-packet one-way delay: 30.810 ms
Loss rate: 0.03%
-- Flow 2:
Average throughput: 33.59 Mbit/s
95th percentile per-packet one-way delay: 30.936 ms
Loss rate: 0.02%
-- Flow 3:
Average throughput: 20.76 Mbit/s
95th percentile per-packet one-way delay: 32.458 ms
Loss rate: 0.06%

Run 1: Report of TCP Cubic — Data Link



Run 2: Statistics of TCP Cubic

Start at: 2019-03-09 03:00:29

End at: 2019-03-09 03:00:59

Local clock offset: -3.194 ms

Remote clock offset: 0.145 ms

Below is generated by plot.py at 2019-03-09 04:21:58

Datalink statistics

-- Total of 3 flows:

Average throughput: 97.47 Mbit/s

95th percentile per-packet one-way delay: 31.594 ms

Loss rate: 0.04%

-- Flow 1:

Average throughput: 66.06 Mbit/s

95th percentile per-packet one-way delay: 31.041 ms

Loss rate: 0.04%

-- Flow 2:

Average throughput: 32.29 Mbit/s

95th percentile per-packet one-way delay: 32.717 ms

Loss rate: 0.04%

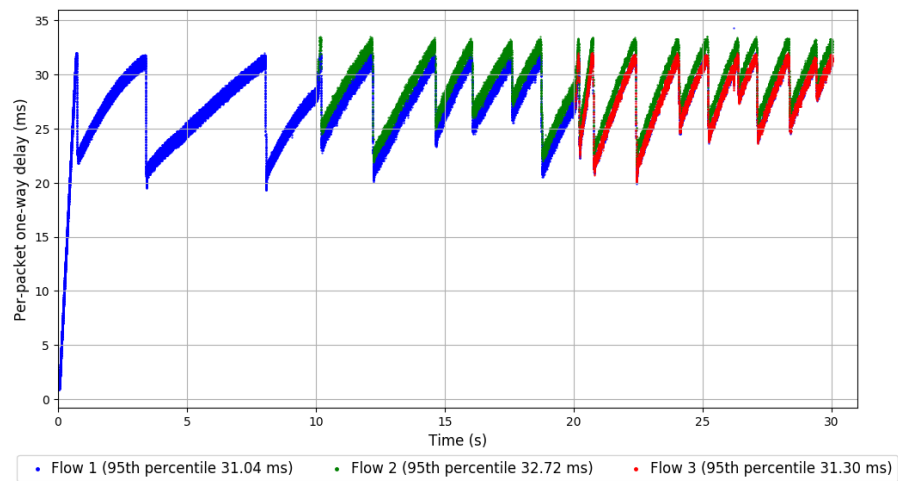
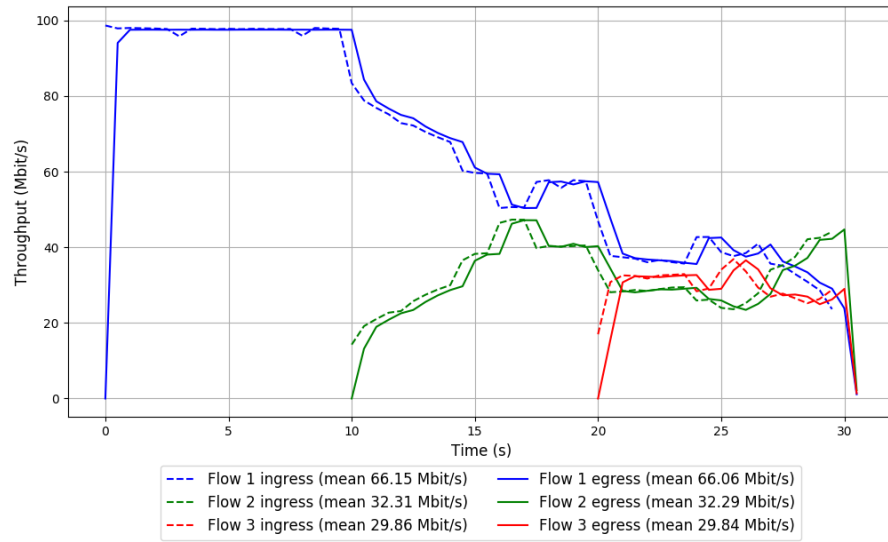
-- Flow 3:

Average throughput: 29.84 Mbit/s

95th percentile per-packet one-way delay: 31.301 ms

Loss rate: 0.04%

Run 2: Report of TCP Cubic — Data Link



Run 3: Statistics of TCP Cubic

Start at: 2019-03-09 03:24:23

End at: 2019-03-09 03:24:53

Local clock offset: -2.368 ms

Remote clock offset: 0.383 ms

Below is generated by plot.py at 2019-03-09 04:21:59

Datalink statistics

-- Total of 3 flows:

Average throughput: 97.47 Mbit/s

95th percentile per-packet one-way delay: 32.095 ms

Loss rate: 0.05%

-- Flow 1:

Average throughput: 64.87 Mbit/s

95th percentile per-packet one-way delay: 31.923 ms

Loss rate: 0.04%

-- Flow 2:

Average throughput: 33.99 Mbit/s

95th percentile per-packet one-way delay: 32.020 ms

Loss rate: 0.05%

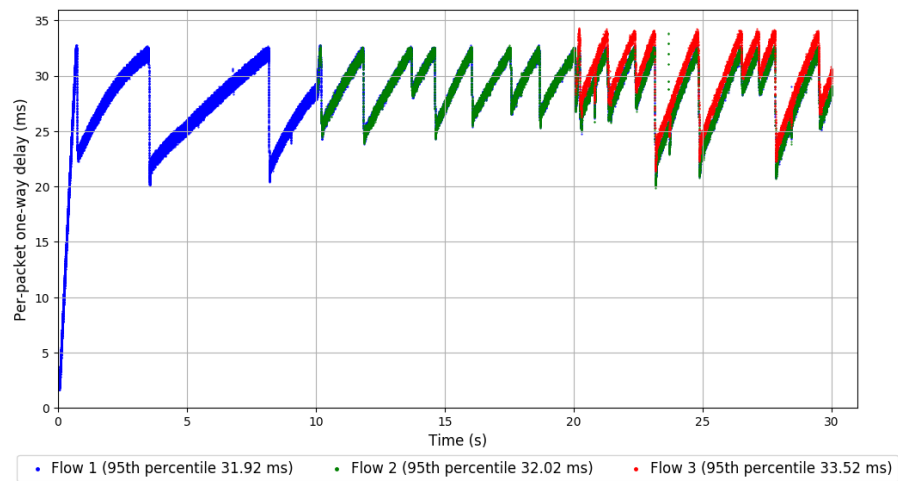
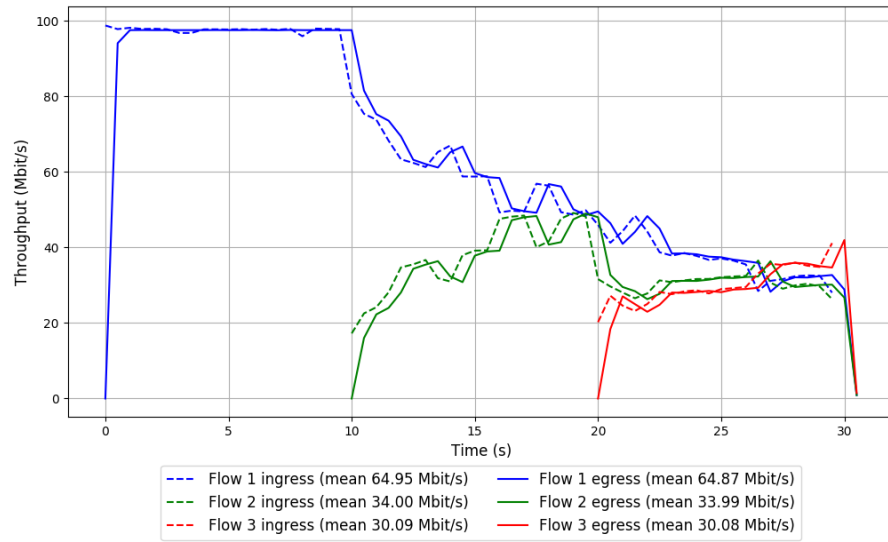
-- Flow 3:

Average throughput: 30.08 Mbit/s

95th percentile per-packet one-way delay: 33.520 ms

Loss rate: 0.07%

Run 3: Report of TCP Cubic — Data Link



Run 4: Statistics of TCP Cubic

Start at: 2019-03-09 03:48:17

End at: 2019-03-09 03:48:47

Local clock offset: -1.828 ms

Remote clock offset: 0.434 ms

Below is generated by plot.py at 2019-03-09 04:22:36

Datalink statistics

-- Total of 3 flows:

Average throughput: 97.49 Mbit/s

95th percentile per-packet one-way delay: 33.410 ms

Loss rate: 0.04%

-- Flow 1:

Average throughput: 61.70 Mbit/s

95th percentile per-packet one-way delay: 33.404 ms

Loss rate: 0.04%

-- Flow 2:

Average throughput: 43.35 Mbit/s

95th percentile per-packet one-way delay: 33.517 ms

Loss rate: 0.03%

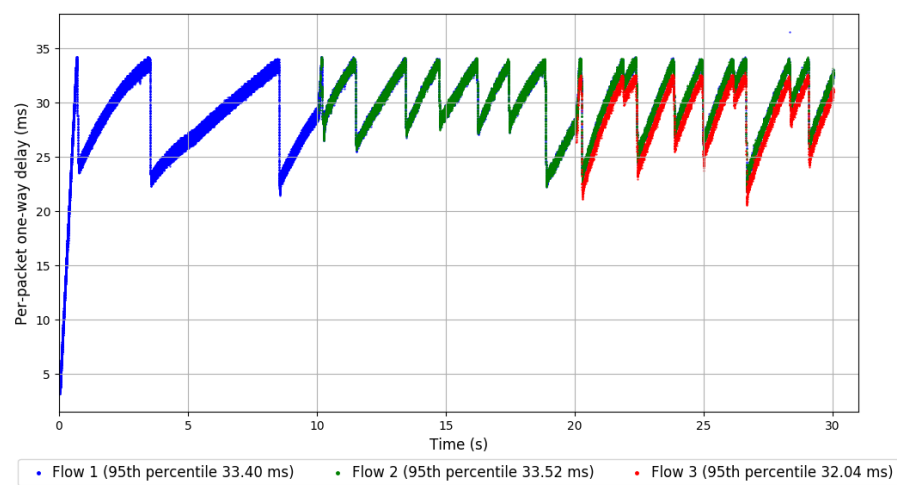
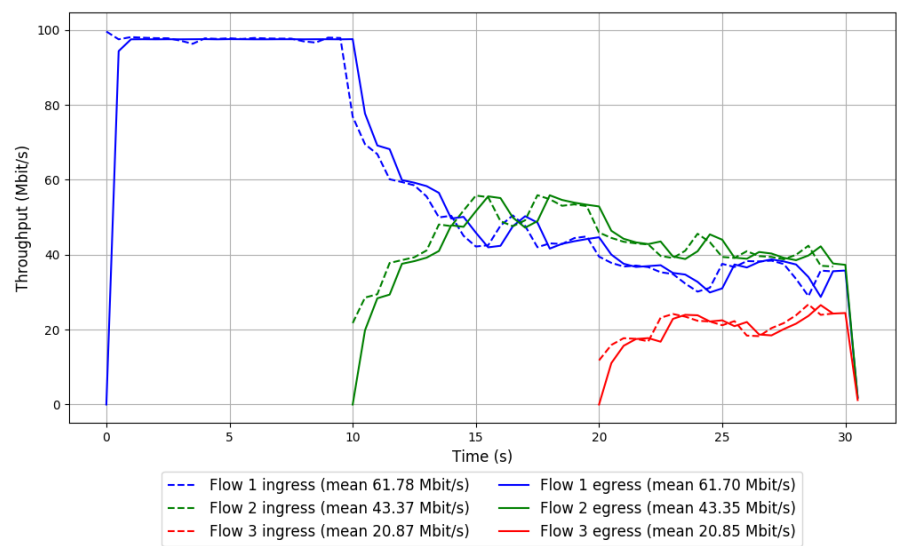
-- Flow 3:

Average throughput: 20.85 Mbit/s

95th percentile per-packet one-way delay: 32.041 ms

Loss rate: 0.05%

Run 4: Report of TCP Cubic — Data Link



Run 5: Statistics of TCP Cubic

Start at: 2019-03-09 04:12:12

End at: 2019-03-09 04:12:42

Local clock offset: -0.727 ms

Remote clock offset: 0.427 ms

Below is generated by plot.py at 2019-03-09 04:22:36

Datalink statistics

-- Total of 3 flows:

Average throughput: 96.22 Mbit/s

95th percentile per-packet one-way delay: 32.259 ms

Loss rate: 0.03%

-- Flow 1:

Average throughput: 64.24 Mbit/s

95th percentile per-packet one-way delay: 32.447 ms

Loss rate: 0.03%

-- Flow 2:

Average throughput: 37.20 Mbit/s

95th percentile per-packet one-way delay: 31.010 ms

Loss rate: 0.03%

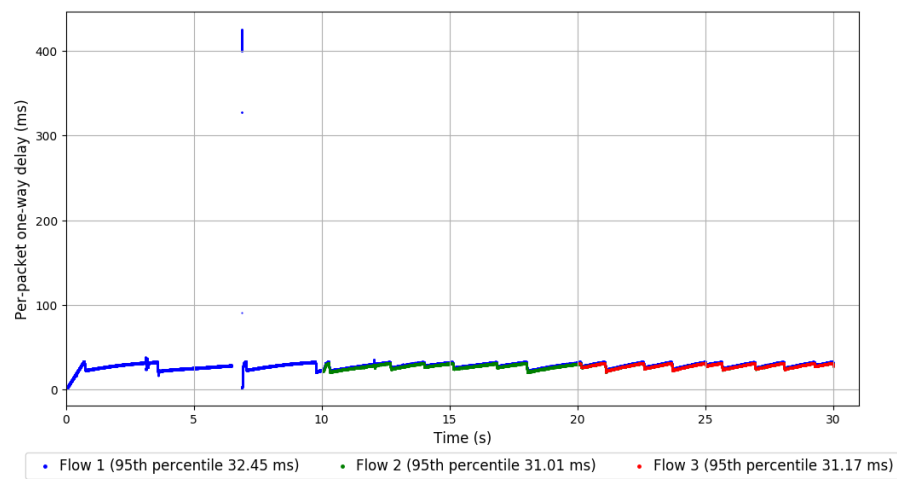
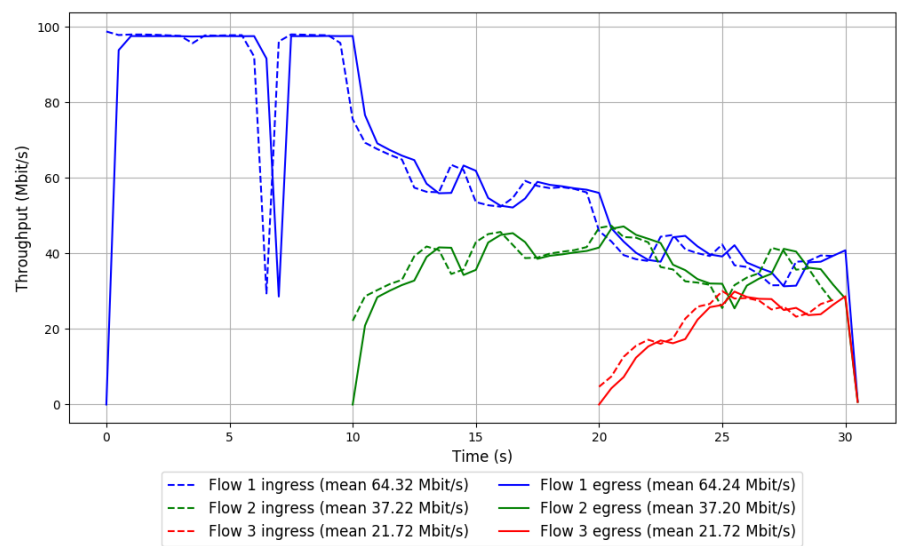
-- Flow 3:

Average throughput: 21.72 Mbit/s

95th percentile per-packet one-way delay: 31.174 ms

Loss rate: 0.04%

Run 5: Report of TCP Cubic — Data Link

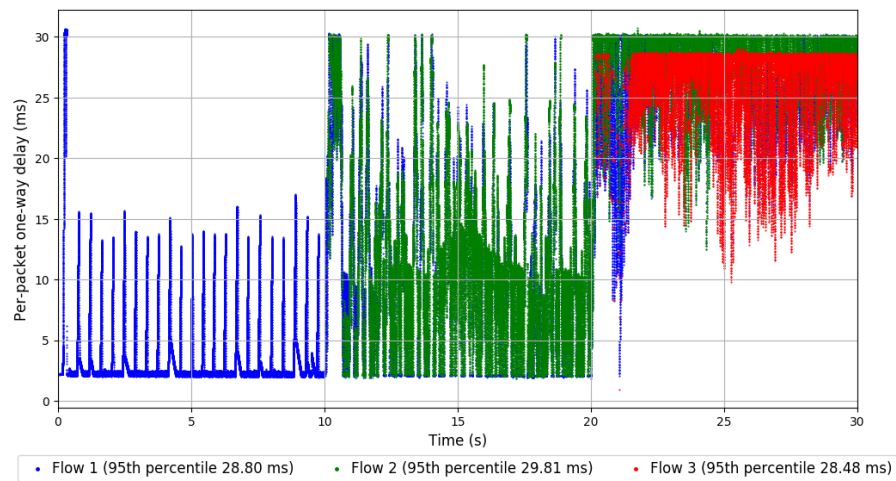
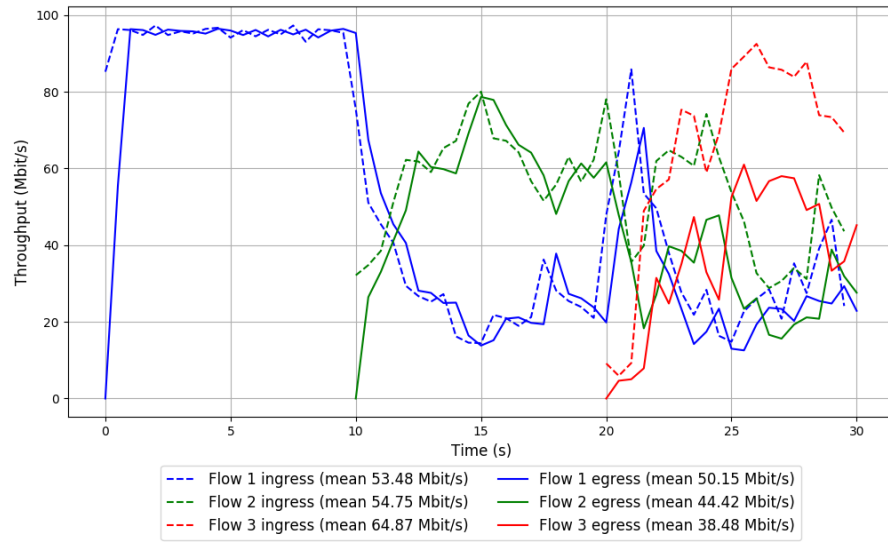


Run 1: Statistics of FillP

Start at: 2019-03-09 02:23:00
End at: 2019-03-09 02:23:30
Local clock offset: -3.1 ms
Remote clock offset: -0.049 ms

Below is generated by plot.py at 2019-03-09 04:22:52
Datalink statistics
-- Total of 3 flows:
Average throughput: 92.49 Mbit/s
95th percentile per-packet one-way delay: 29.336 ms
Loss rate: 16.92%
-- Flow 1:
Average throughput: 50.15 Mbit/s
95th percentile per-packet one-way delay: 28.801 ms
Loss rate: 6.14%
-- Flow 2:
Average throughput: 44.42 Mbit/s
95th percentile per-packet one-way delay: 29.812 ms
Loss rate: 18.76%
-- Flow 3:
Average throughput: 38.48 Mbit/s
95th percentile per-packet one-way delay: 28.477 ms
Loss rate: 40.61%

Run 1: Report of FillP — Data Link



Run 2: Statistics of FillP

Start at: 2019-03-09 02:46:58

End at: 2019-03-09 02:47:28

Local clock offset: -7.245 ms

Remote clock offset: 0.025 ms

Below is generated by plot.py at 2019-03-09 04:22:52

Datalink statistics

-- Total of 3 flows:

Average throughput: 89.76 Mbit/s

95th percentile per-packet one-way delay: 31.145 ms

Loss rate: 6.99%

-- Flow 1:

Average throughput: 43.02 Mbit/s

95th percentile per-packet one-way delay: 25.050 ms

Loss rate: 2.30%

-- Flow 2:

Average throughput: 62.45 Mbit/s

95th percentile per-packet one-way delay: 31.294 ms

Loss rate: 9.42%

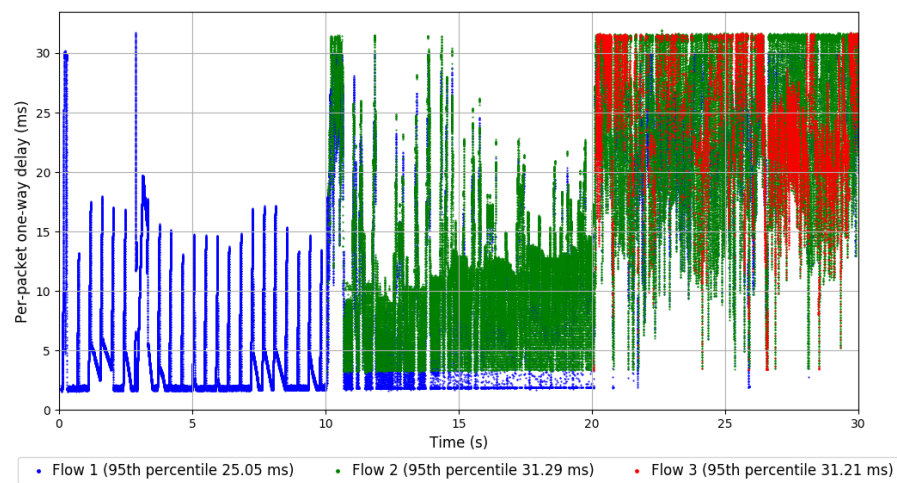
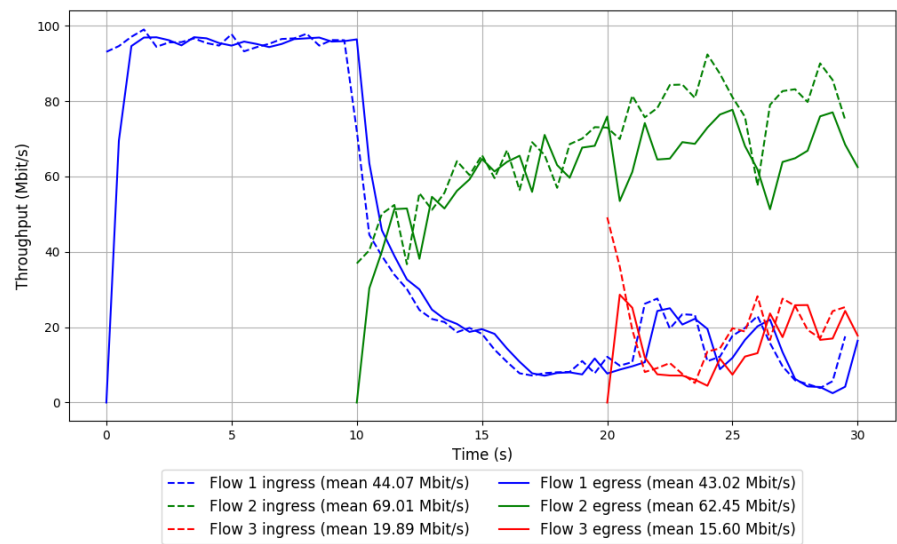
-- Flow 3:

Average throughput: 15.60 Mbit/s

95th percentile per-packet one-way delay: 31.207 ms

Loss rate: 21.39%

Run 2: Report of FillP — Data Link



Run 3: Statistics of FillP

Start at: 2019-03-09 03:10:51

End at: 2019-03-09 03:11:21

Local clock offset: -2.6 ms

Remote clock offset: 0.236 ms

Below is generated by plot.py at 2019-03-09 04:22:59

Datalink statistics

-- Total of 3 flows:

Average throughput: 95.77 Mbit/s

95th percentile per-packet one-way delay: 29.988 ms

Loss rate: 20.13%

-- Flow 1:

Average throughput: 48.78 Mbit/s

95th percentile per-packet one-way delay: 29.624 ms

Loss rate: 11.91%

-- Flow 2:

Average throughput: 54.67 Mbit/s

95th percentile per-packet one-way delay: 30.171 ms

Loss rate: 20.24%

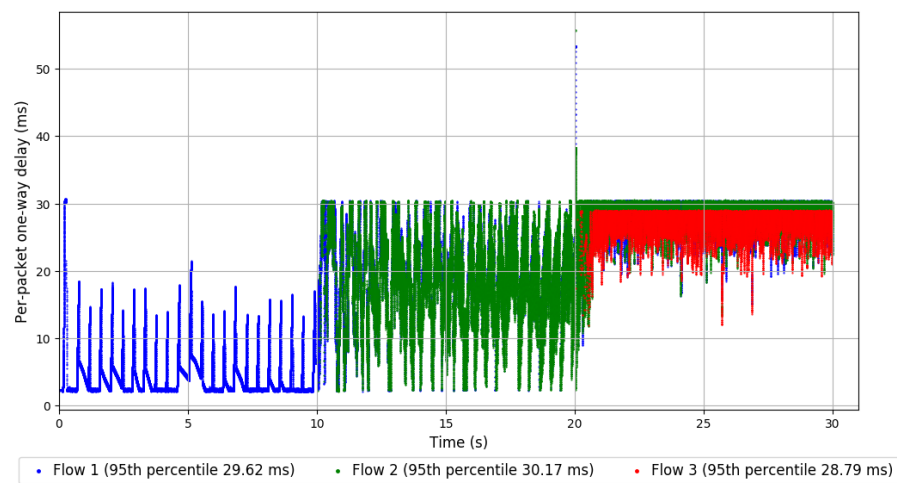
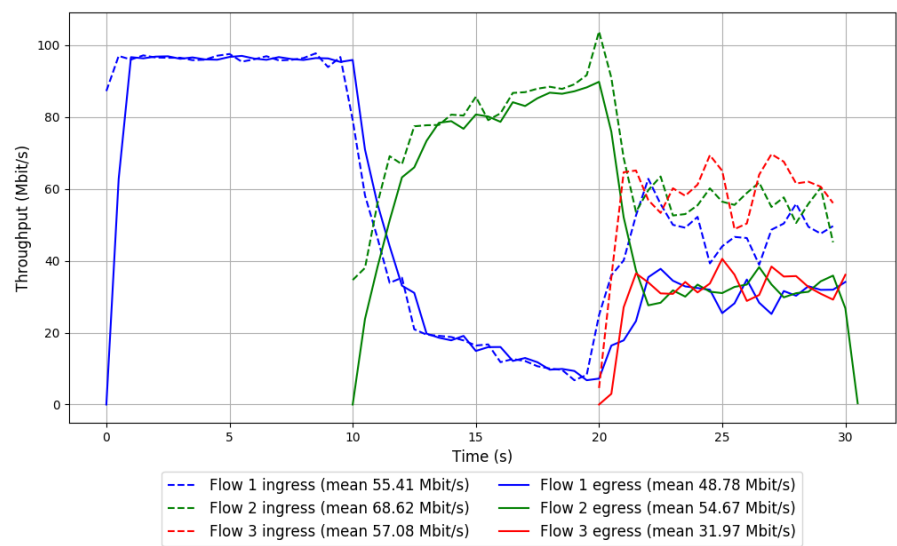
-- Flow 3:

Average throughput: 31.97 Mbit/s

95th percentile per-packet one-way delay: 28.792 ms

Loss rate: 43.95%

Run 3: Report of FillP — Data Link



Run 4: Statistics of FillP

Start at: 2019-03-09 03:34:45

End at: 2019-03-09 03:35:15

Local clock offset: -1.231 ms

Remote clock offset: 0.391 ms

Below is generated by plot.py at 2019-03-09 04:23:16

Datalink statistics

-- Total of 3 flows:

Average throughput: 95.89 Mbit/s

95th percentile per-packet one-way delay: 30.131 ms

Loss rate: 20.12%

-- Flow 1:

Average throughput: 42.79 Mbit/s

95th percentile per-packet one-way delay: 28.250 ms

Loss rate: 15.36%

-- Flow 2:

Average throughput: 61.25 Mbit/s

95th percentile per-packet one-way delay: 30.233 ms

Loss rate: 17.25%

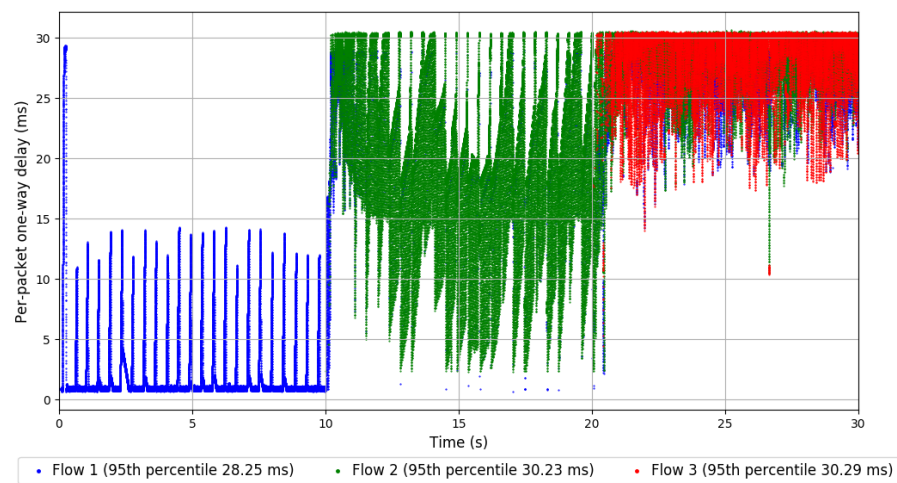
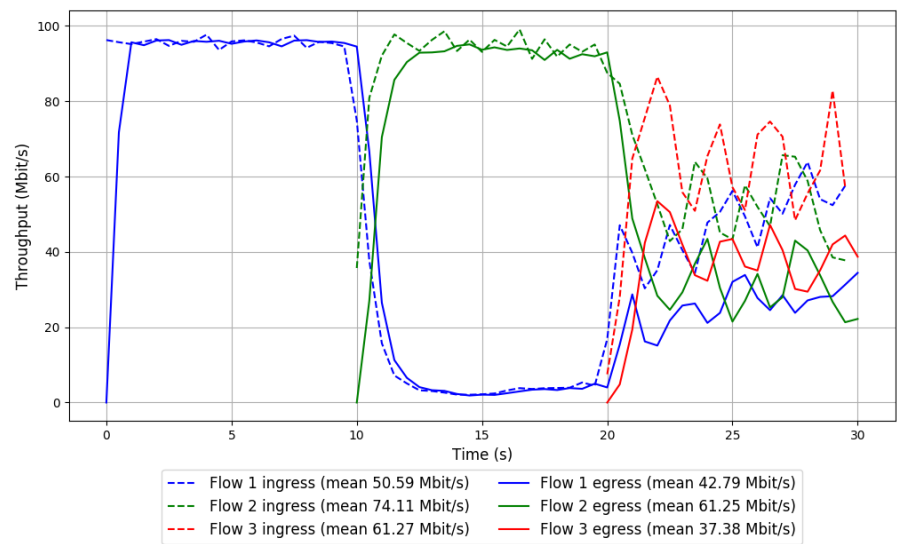
-- Flow 3:

Average throughput: 37.38 Mbit/s

95th percentile per-packet one-way delay: 30.288 ms

Loss rate: 38.95%

Run 4: Report of FillP — Data Link



Run 5: Statistics of FillP

Start at: 2019-03-09 03:58:39

End at: 2019-03-09 03:59:09

Local clock offset: -0.907 ms

Remote clock offset: 0.298 ms

Below is generated by plot.py at 2019-03-09 04:23:26

Datalink statistics

-- Total of 3 flows:

Average throughput: 93.30 Mbit/s

95th percentile per-packet one-way delay: 29.940 ms

Loss rate: 18.43%

-- Flow 1:

Average throughput: 52.63 Mbit/s

95th percentile per-packet one-way delay: 29.272 ms

Loss rate: 8.61%

-- Flow 2:

Average throughput: 41.16 Mbit/s

95th percentile per-packet one-way delay: 29.940 ms

Loss rate: 19.03%

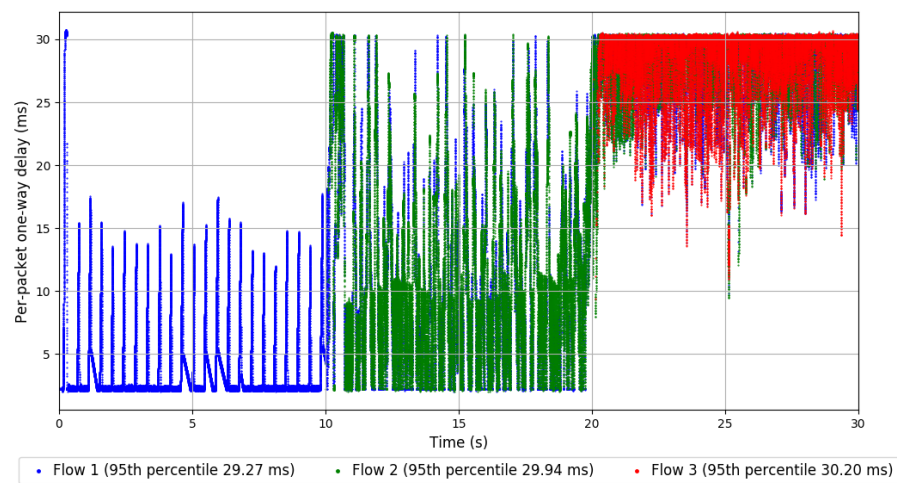
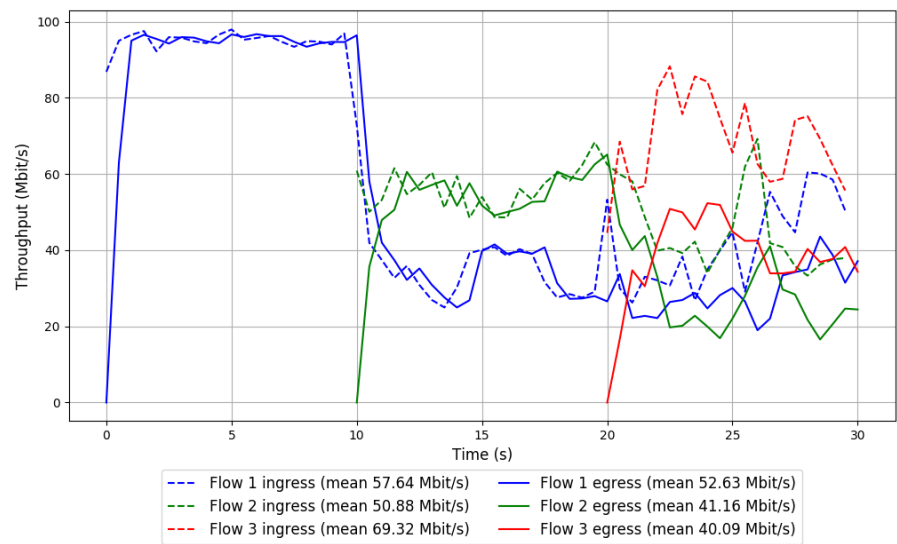
-- Flow 3:

Average throughput: 40.09 Mbit/s

95th percentile per-packet one-way delay: 30.195 ms

Loss rate: 42.16%

Run 5: Report of FillP — Data Link

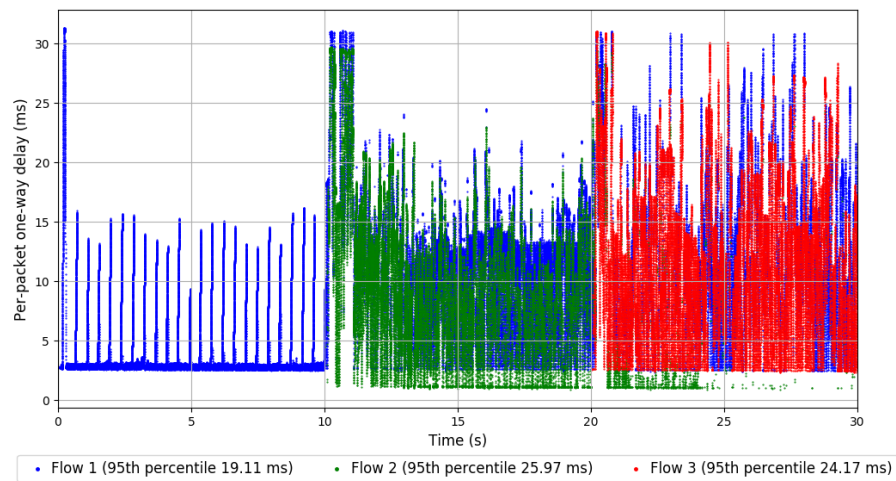
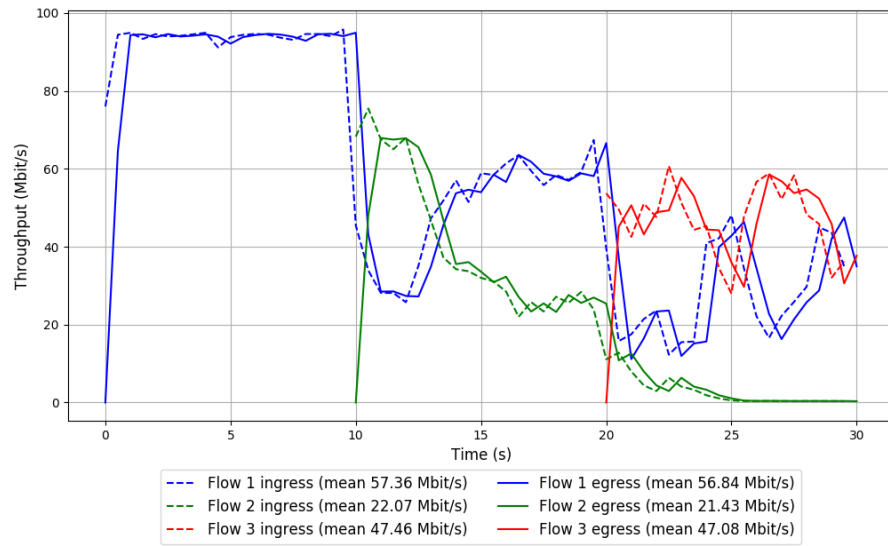


Run 1: Statistics of FillP-Sheep

Start at: 2019-03-09 02:20:44
End at: 2019-03-09 02:21:14
Local clock offset: -2.639 ms
Remote clock offset: -0.179 ms

Below is generated by plot.py at 2019-03-09 04:23:26
Datalink statistics
-- Total of 3 flows:
Average throughput: 86.69 Mbit/s
95th percentile per-packet one-way delay: 21.720 ms
Loss rate: 1.18%
-- Flow 1:
Average throughput: 56.84 Mbit/s
95th percentile per-packet one-way delay: 19.110 ms
Loss rate: 0.88%
-- Flow 2:
Average throughput: 21.43 Mbit/s
95th percentile per-packet one-way delay: 25.968 ms
Loss rate: 2.89%
-- Flow 3:
Average throughput: 47.08 Mbit/s
95th percentile per-packet one-way delay: 24.166 ms
Loss rate: 0.69%

Run 1: Report of FillP-Sheep — Data Link



Run 2: Statistics of FillP-Sheep

Start at: 2019-03-09 02:44:41

End at: 2019-03-09 02:45:11

Local clock offset: -8.541 ms

Remote clock offset: 0.036 ms

Below is generated by plot.py at 2019-03-09 04:23:54

Datalink statistics

-- Total of 3 flows:

Average throughput: 90.22 Mbit/s

95th percentile per-packet one-way delay: 23.740 ms

Loss rate: 1.42%

-- Flow 1:

Average throughput: 54.66 Mbit/s

95th percentile per-packet one-way delay: 21.298 ms

Loss rate: 0.76%

-- Flow 2:

Average throughput: 30.01 Mbit/s

95th percentile per-packet one-way delay: 25.536 ms

Loss rate: 0.71%

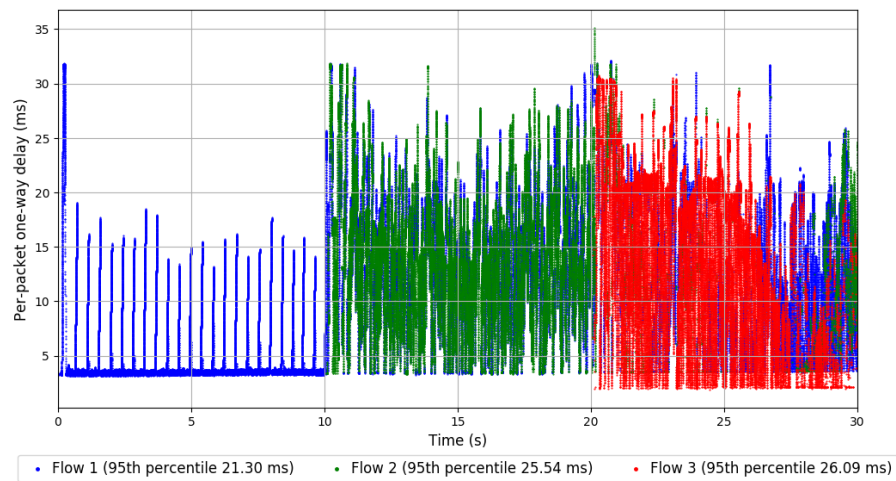
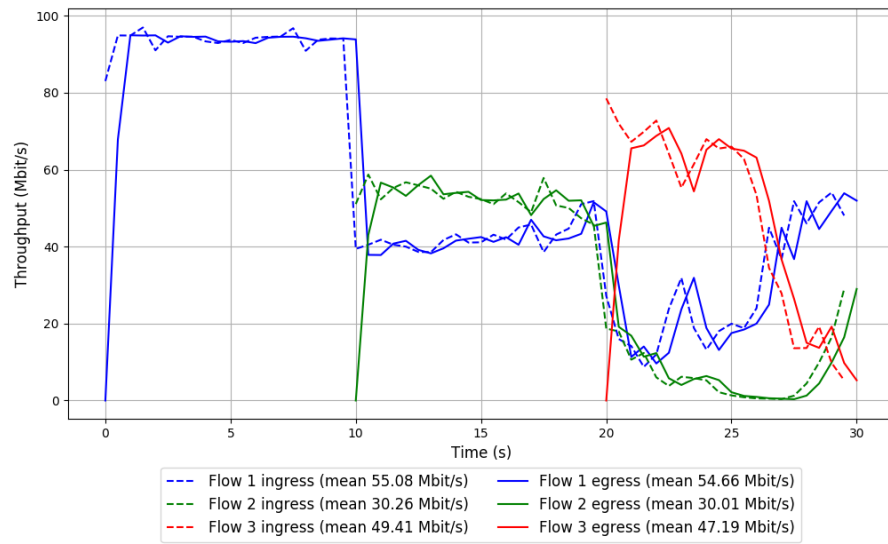
-- Flow 3:

Average throughput: 47.19 Mbit/s

95th percentile per-packet one-way delay: 26.092 ms

Loss rate: 4.53%

Run 2: Report of FillP-Sheep — Data Link



Run 3: Statistics of FillP-Sheep

Start at: 2019-03-09 03:08:35

End at: 2019-03-09 03:09:05

Local clock offset: -2.681 ms

Remote clock offset: 0.217 ms

Below is generated by plot.py at 2019-03-09 04:23:54

Datalink statistics

-- Total of 3 flows:

Average throughput: 76.93 Mbit/s

95th percentile per-packet one-way delay: 16.226 ms

Loss rate: 1.64%

-- Flow 1:

Average throughput: 45.33 Mbit/s

95th percentile per-packet one-way delay: 13.409 ms

Loss rate: 1.05%

-- Flow 2:

Average throughput: 33.40 Mbit/s

95th percentile per-packet one-way delay: 19.629 ms

Loss rate: 1.13%

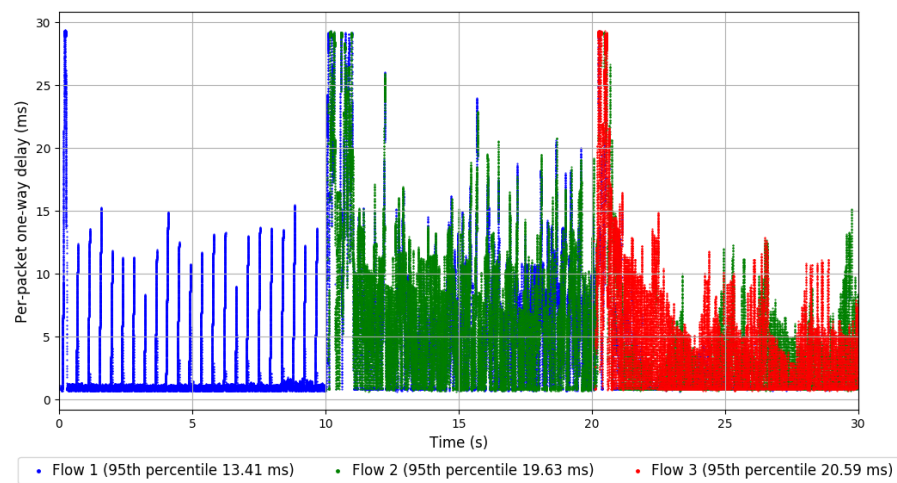
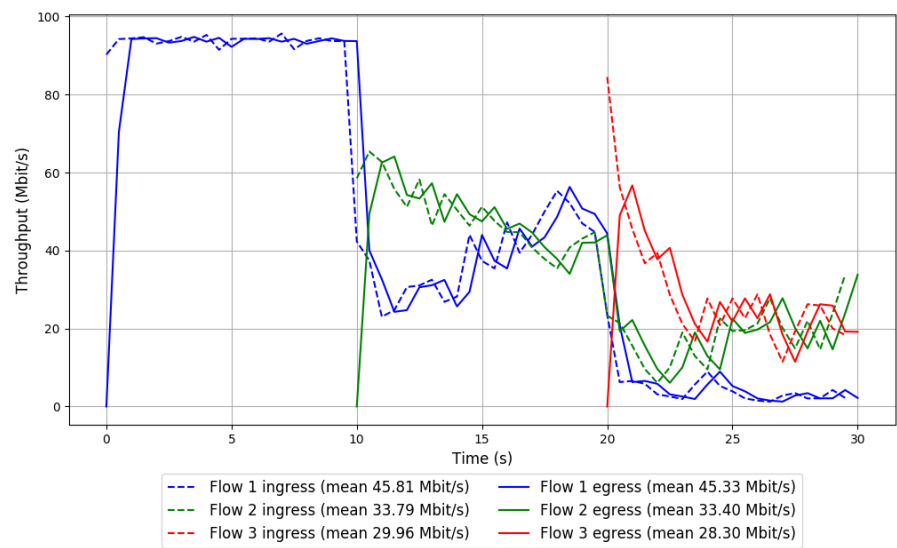
-- Flow 3:

Average throughput: 28.30 Mbit/s

95th percentile per-packet one-way delay: 20.589 ms

Loss rate: 5.55%

Run 3: Report of FillP-Sheep — Data Link



Run 4: Statistics of FillP-Sheep

Start at: 2019-03-09 03:32:29

End at: 2019-03-09 03:32:59

Local clock offset: -2.068 ms

Remote clock offset: 0.389 ms

Below is generated by plot.py at 2019-03-09 04:23:58

Datalink statistics

-- Total of 3 flows:

Average throughput: 80.99 Mbit/s

95th percentile per-packet one-way delay: 16.996 ms

Loss rate: 1.26%

-- Flow 1:

Average throughput: 63.49 Mbit/s

95th percentile per-packet one-way delay: 16.417 ms

Loss rate: 0.53%

-- Flow 2:

Average throughput: 19.54 Mbit/s

95th percentile per-packet one-way delay: 17.085 ms

Loss rate: 0.71%

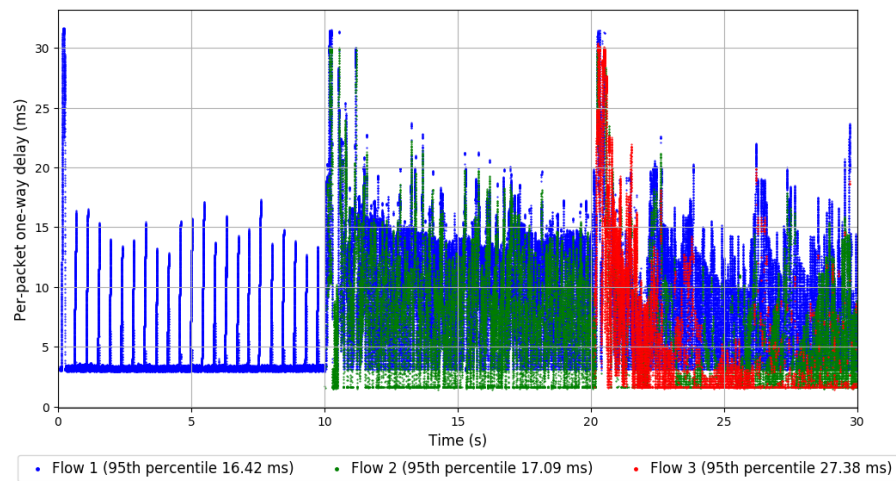
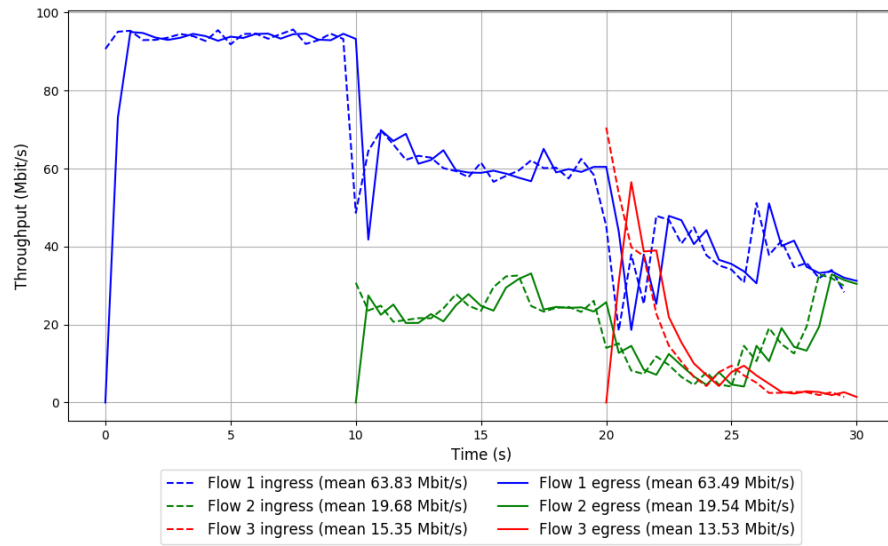
-- Flow 3:

Average throughput: 13.53 Mbit/s

95th percentile per-packet one-way delay: 27.377 ms

Loss rate: 11.87%

Run 4: Report of FillP-Sheep — Data Link



Run 5: Statistics of FillP-Sheep

Start at: 2019-03-09 03:56:23

End at: 2019-03-09 03:56:53

Local clock offset: -1.67 ms

Remote clock offset: 0.411 ms

Below is generated by plot.py at 2019-03-09 04:24:09

Datalink statistics

-- Total of 3 flows:

Average throughput: 84.96 Mbit/s

95th percentile per-packet one-way delay: 18.356 ms

Loss rate: 1.24%

-- Flow 1:

Average throughput: 41.80 Mbit/s

95th percentile per-packet one-way delay: 14.209 ms

Loss rate: 0.71%

-- Flow 2:

Average throughput: 46.14 Mbit/s

95th percentile per-packet one-way delay: 18.968 ms

Loss rate: 1.28%

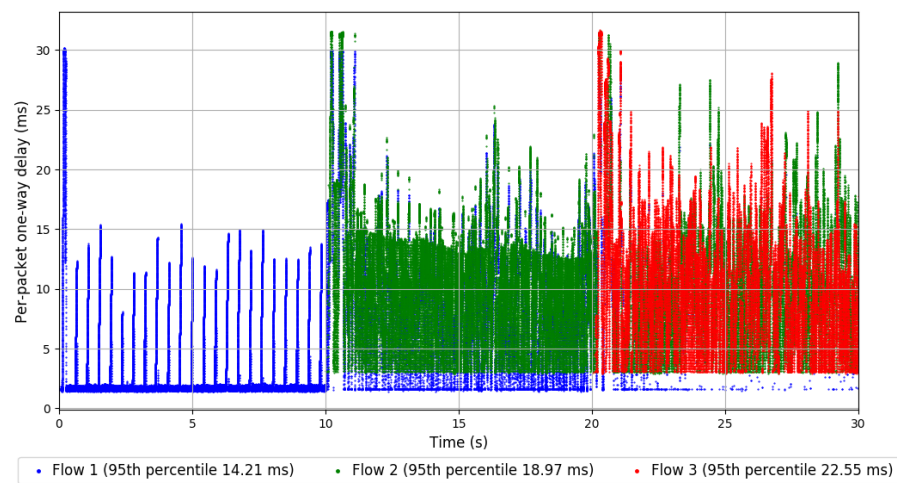
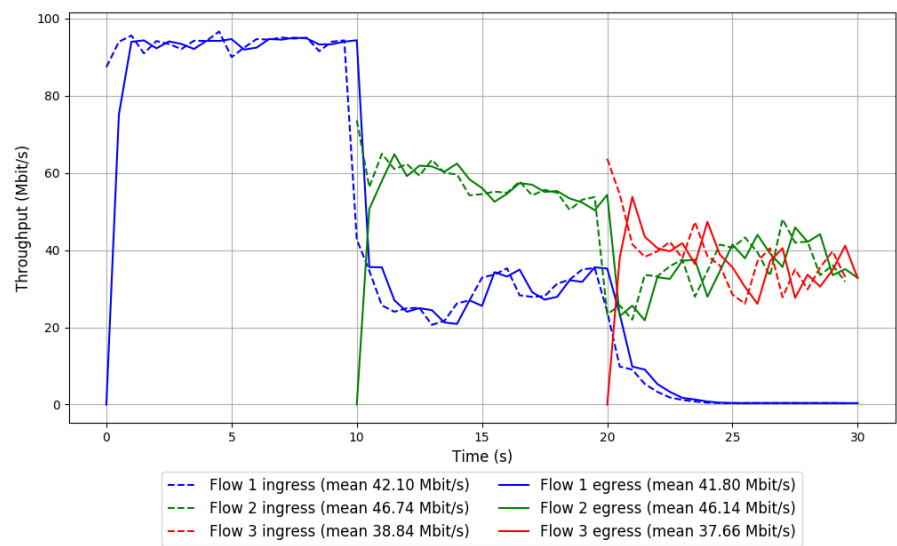
-- Flow 3:

Average throughput: 37.66 Mbit/s

95th percentile per-packet one-way delay: 22.552 ms

Loss rate: 2.88%

Run 5: Report of FillP-Sheep — Data Link

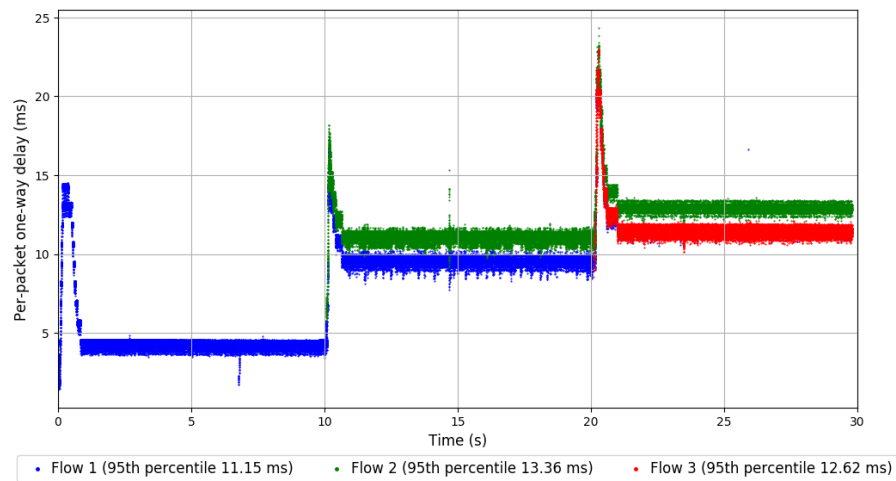
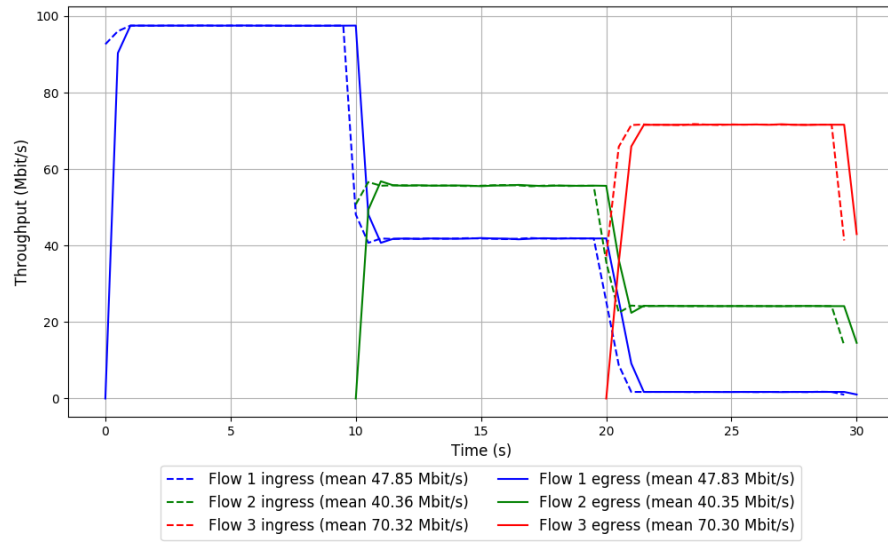


Run 1: Statistics of Indigo

Start at: 2019-03-09 02:29:50
End at: 2019-03-09 02:30:20
Local clock offset: -6.266 ms
Remote clock offset: -0.034 ms

Below is generated by plot.py at 2019-03-09 04:24:11
Datalink statistics
-- Total of 3 flows:
Average throughput: 97.41 Mbit/s
95th percentile per-packet one-way delay: 13.116 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 47.83 Mbit/s
95th percentile per-packet one-way delay: 11.150 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 40.35 Mbit/s
95th percentile per-packet one-way delay: 13.358 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 70.30 Mbit/s
95th percentile per-packet one-way delay: 12.615 ms
Loss rate: 0.00%

Run 1: Report of Indigo — Data Link



Run 2: Statistics of Indigo

Start at: 2019-03-09 02:53:47

End at: 2019-03-09 02:54:17

Local clock offset: -4.967 ms

Remote clock offset: 0.071 ms

Below is generated by plot.py at 2019-03-09 04:24:26

Datalink statistics

-- Total of 3 flows:

Average throughput: 97.41 Mbit/s

95th percentile per-packet one-way delay: 13.439 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 47.71 Mbit/s

95th percentile per-packet one-way delay: 11.219 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 36.74 Mbit/s

95th percentile per-packet one-way delay: 13.731 ms

Loss rate: 0.00%

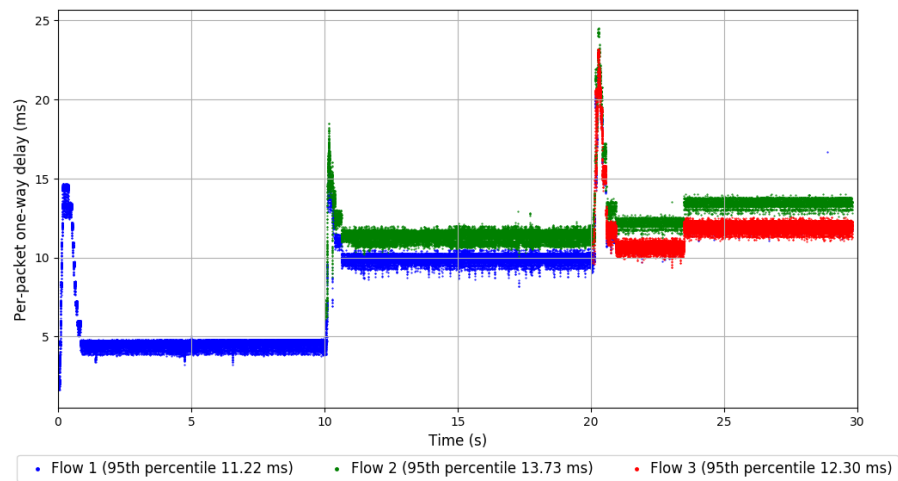
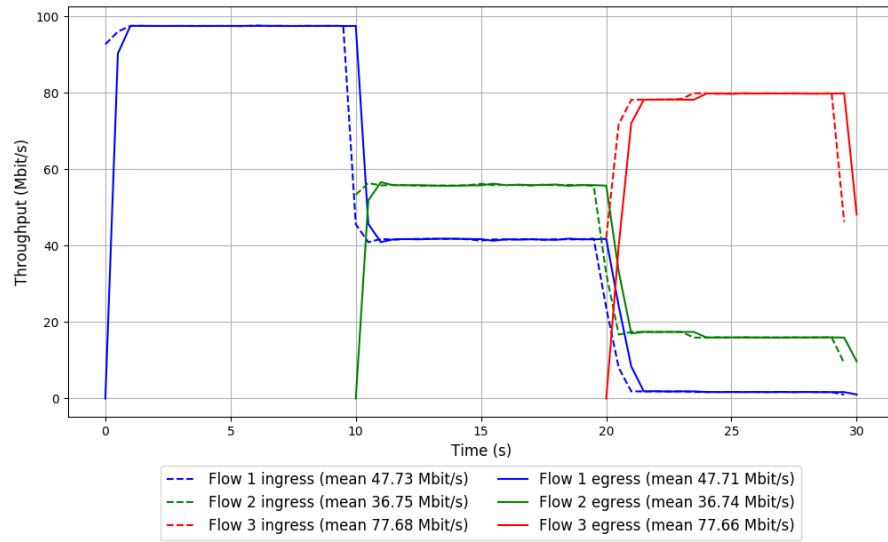
-- Flow 3:

Average throughput: 77.66 Mbit/s

95th percentile per-packet one-way delay: 12.297 ms

Loss rate: 0.00%

Run 2: Report of Indigo — Data Link



Run 3: Statistics of Indigo

Start at: 2019-03-09 03:17:40

End at: 2019-03-09 03:18:10

Local clock offset: -2.125 ms

Remote clock offset: 0.326 ms

Below is generated by plot.py at 2019-03-09 04:24:28

Datalink statistics

-- Total of 3 flows:

Average throughput: 97.40 Mbit/s

95th percentile per-packet one-way delay: 12.657 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 47.85 Mbit/s

95th percentile per-packet one-way delay: 10.729 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 40.34 Mbit/s

95th percentile per-packet one-way delay: 13.644 ms

Loss rate: 0.00%

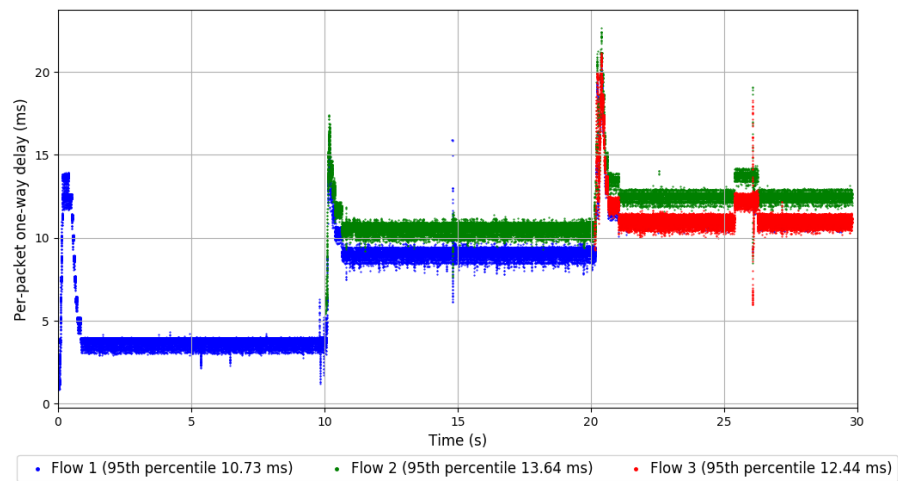
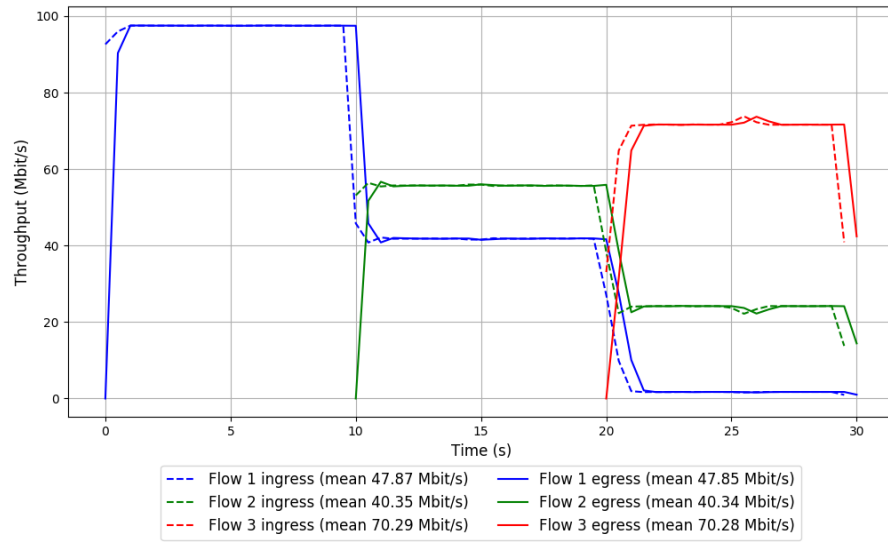
-- Flow 3:

Average throughput: 70.28 Mbit/s

95th percentile per-packet one-way delay: 12.443 ms

Loss rate: 0.00%

Run 3: Report of Indigo — Data Link



Run 4: Statistics of Indigo

Start at: 2019-03-09 03:41:34

End at: 2019-03-09 03:42:04

Local clock offset: -1.191 ms

Remote clock offset: 0.377 ms

Below is generated by plot.py at 2019-03-09 04:24:37

Datalink statistics

-- Total of 3 flows:

Average throughput: 97.38 Mbit/s

95th percentile per-packet one-way delay: 14.067 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 46.79 Mbit/s

95th percentile per-packet one-way delay: 11.141 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 44.25 Mbit/s

95th percentile per-packet one-way delay: 14.416 ms

Loss rate: 0.00%

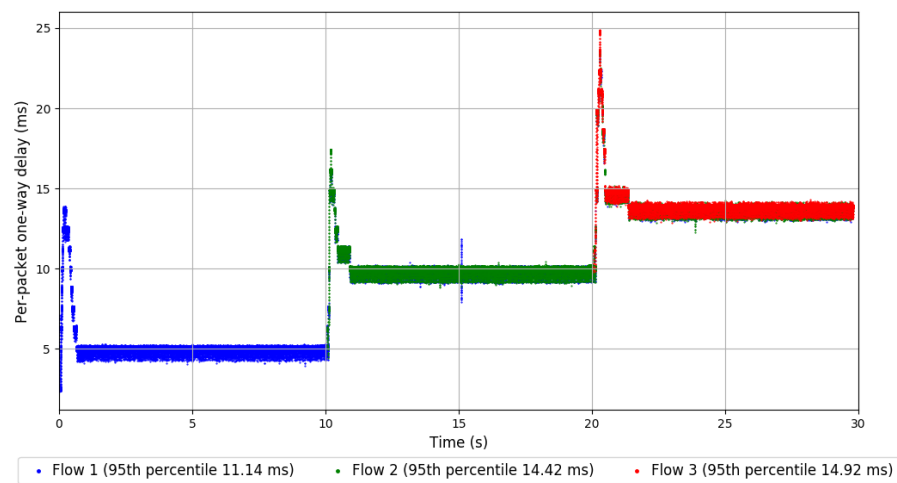
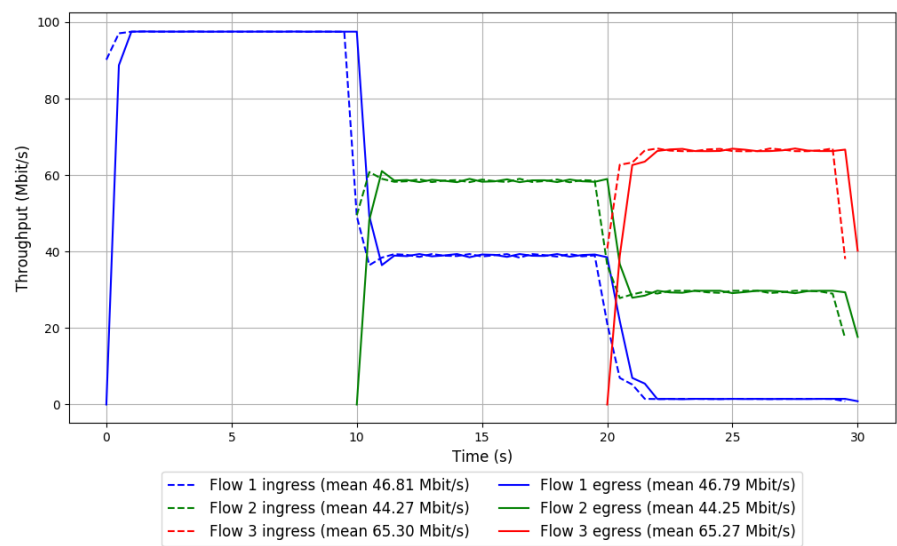
-- Flow 3:

Average throughput: 65.27 Mbit/s

95th percentile per-packet one-way delay: 14.923 ms

Loss rate: 0.00%

Run 4: Report of Indigo — Data Link



Run 5: Statistics of Indigo

Start at: 2019-03-09 04:05:28

End at: 2019-03-09 04:05:58

Local clock offset: -0.801 ms

Remote clock offset: 0.386 ms

Below is generated by plot.py at 2019-03-09 04:24:53

Datalink statistics

-- Total of 3 flows:

Average throughput: 97.41 Mbit/s

95th percentile per-packet one-way delay: 12.768 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 44.69 Mbit/s

95th percentile per-packet one-way delay: 11.739 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 48.56 Mbit/s

95th percentile per-packet one-way delay: 12.760 ms

Loss rate: 0.00%

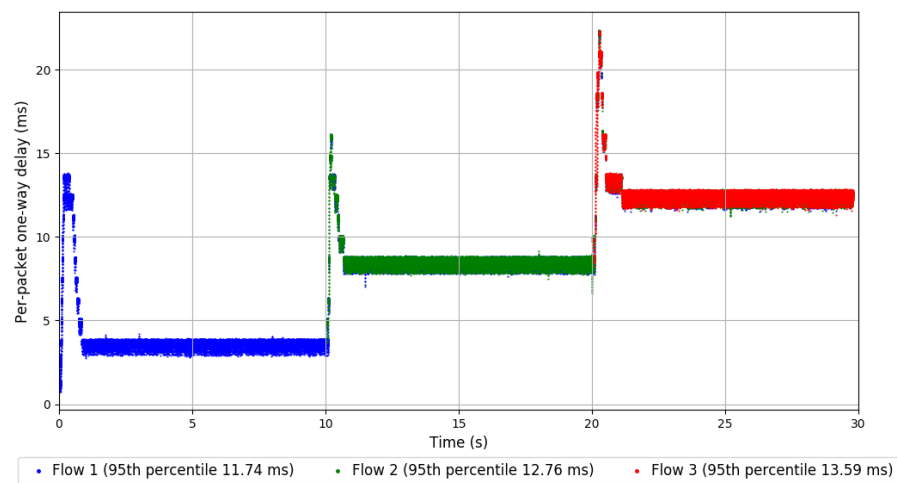
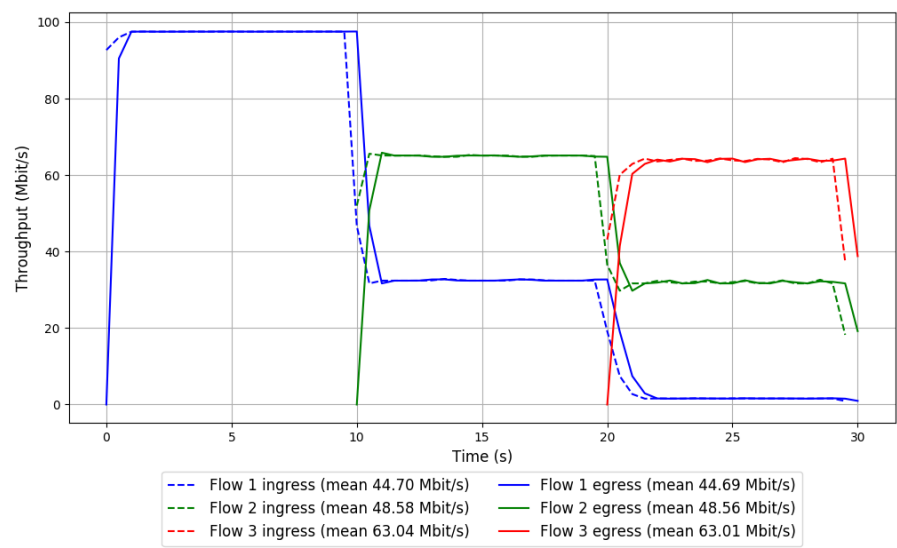
-- Flow 3:

Average throughput: 63.01 Mbit/s

95th percentile per-packet one-way delay: 13.587 ms

Loss rate: 0.00%

Run 5: Report of Indigo — Data Link



Run 1: Statistics of Indigo-MusesC3

Start at: 2019-03-09 02:40:02

End at: 2019-03-09 02:40:32

Local clock offset: -7.45 ms

Remote clock offset: 0.027 ms

Below is generated by plot.py at 2019-03-09 04:25:04

Datalink statistics

-- Total of 3 flows:

Average throughput: 95.49 Mbit/s

95th percentile per-packet one-way delay: 13.938 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 44.82 Mbit/s

95th percentile per-packet one-way delay: 12.179 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 65.08 Mbit/s

95th percentile per-packet one-way delay: 15.439 ms

Loss rate: 0.00%

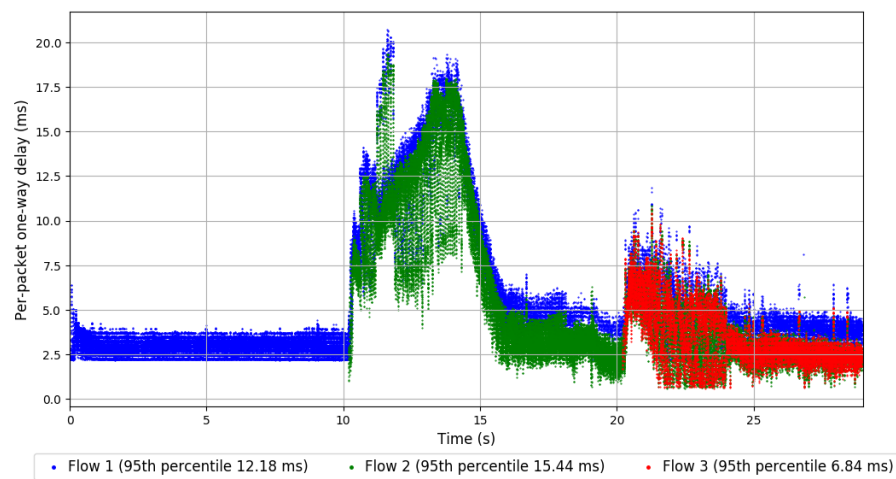
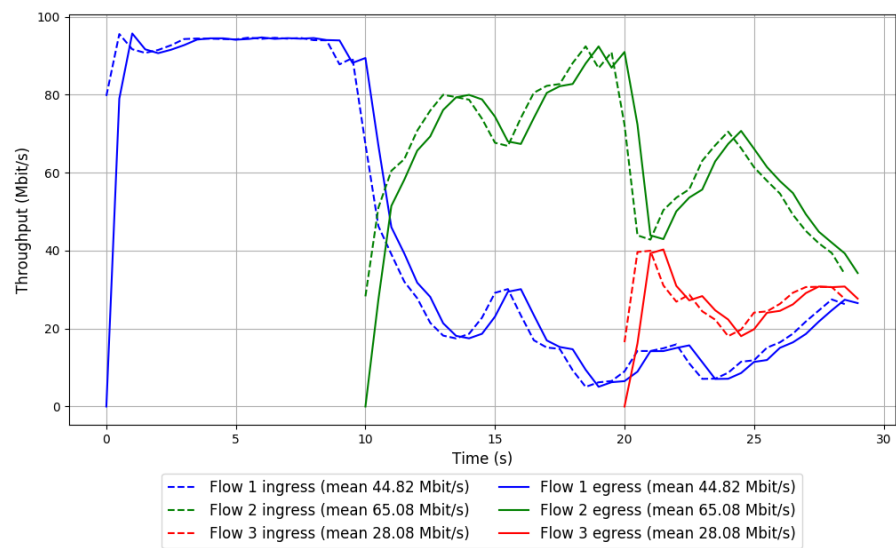
-- Flow 3:

Average throughput: 28.08 Mbit/s

95th percentile per-packet one-way delay: 6.845 ms

Loss rate: 0.00%

Run 1: Report of Indigo-MusesC3 — Data Link



Run 2: Statistics of Indigo-MusesC3

Start at: 2019-03-09 03:03:57

End at: 2019-03-09 03:04:27

Local clock offset: -3.672 ms

Remote clock offset: 0.197 ms

Below is generated by plot.py at 2019-03-09 04:25:07

Datalink statistics

-- Total of 3 flows:

Average throughput: 96.59 Mbit/s

95th percentile per-packet one-way delay: 11.149 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 66.02 Mbit/s

95th percentile per-packet one-way delay: 9.638 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 31.84 Mbit/s

95th percentile per-packet one-way delay: 12.924 ms

Loss rate: 0.00%

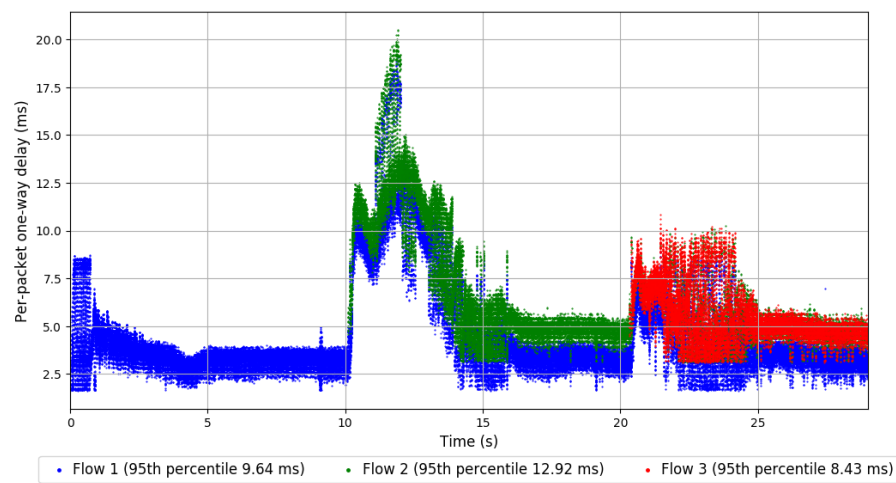
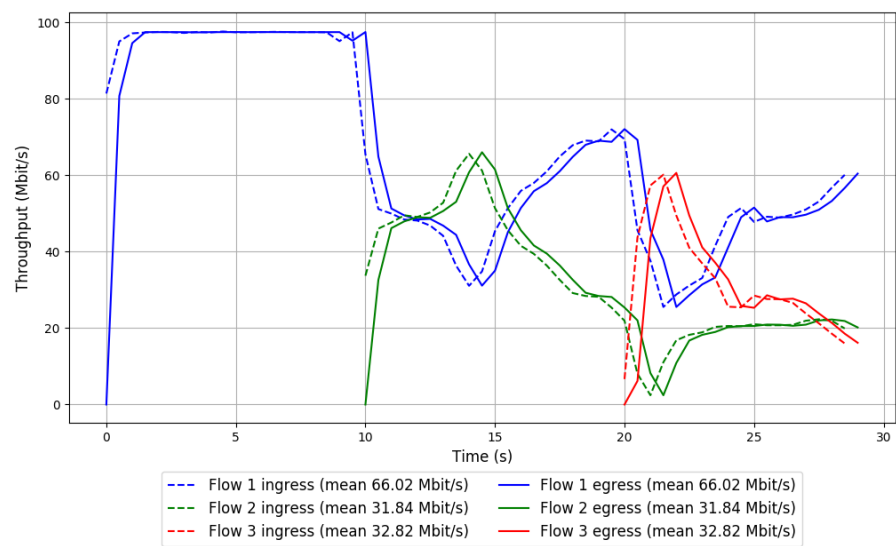
-- Flow 3:

Average throughput: 32.82 Mbit/s

95th percentile per-packet one-way delay: 8.430 ms

Loss rate: 0.00%

Run 2: Report of Indigo-MusesC3 — Data Link



Run 3: Statistics of Indigo-MusesC3

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

End at: 2019-03-09 03:28:20

Local clock offset: -1.441 ms

Remote clock offset: 0.355 ms

Below is generated by plot.py at 2019-03-09 04:25:19

Datalink statistics

-- Total of 3 flows:

Average throughput: 96.91 Mbit/s

95th percentile per-packet one-way delay: 6.077 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 63.83 Mbit/s

95th percentile per-packet one-way delay: 5.940 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 33.97 Mbit/s

95th percentile per-packet one-way delay: 6.362 ms

Loss rate: 0.00%

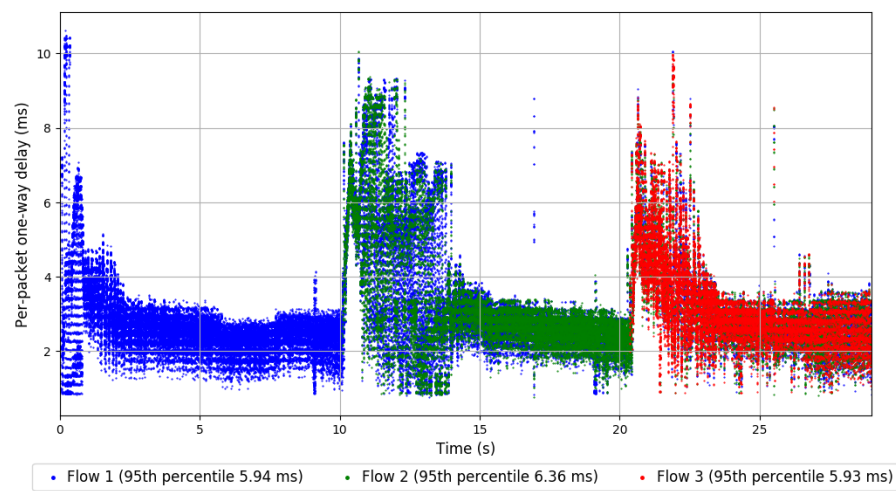
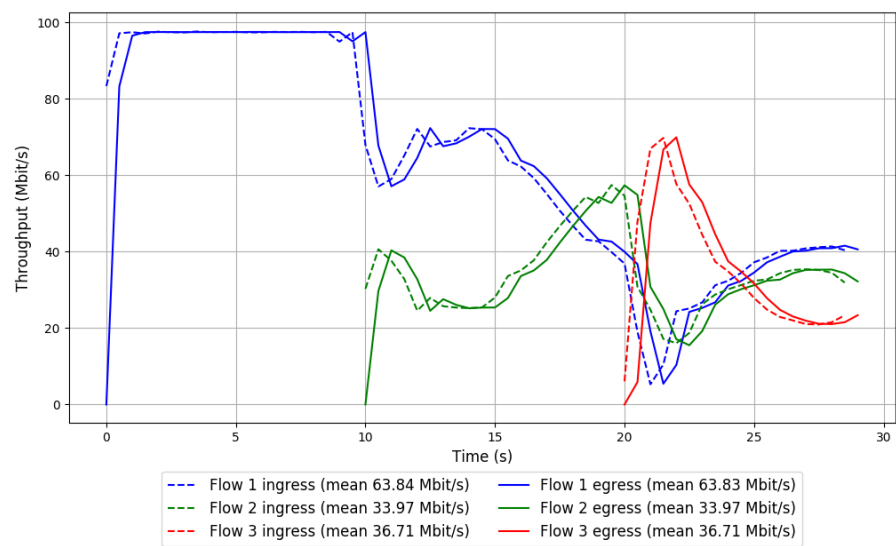
-- Flow 3:

Average throughput: 36.71 Mbit/s

95th percentile per-packet one-way delay: 5.932 ms

Loss rate: 0.00%

Run 3: Report of Indigo-MusesC3 — Data Link



Run 4: Statistics of Indigo-MusesC3

Start at: 2019-03-09 03:51:44

End at: 2019-03-09 03:52:14

Local clock offset: -1.723 ms

Remote clock offset: 0.362 ms

Below is generated by plot.py at 2019-03-09 04:25:22

Datalink statistics

-- Total of 3 flows:

Average throughput: 96.78 Mbit/s

95th percentile per-packet one-way delay: 12.066 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 49.31 Mbit/s

95th percentile per-packet one-way delay: 12.415 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 57.48 Mbit/s

95th percentile per-packet one-way delay: 12.319 ms

Loss rate: 0.00%

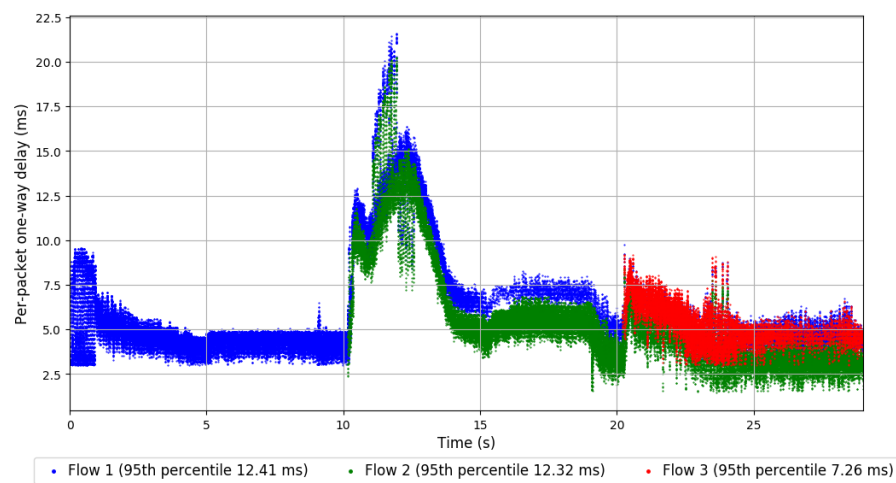
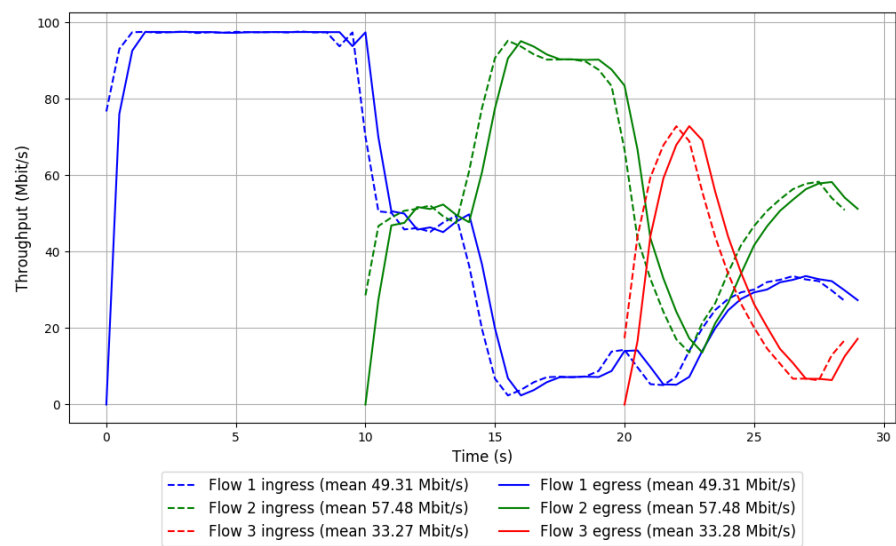
-- Flow 3:

Average throughput: 33.28 Mbit/s

95th percentile per-packet one-way delay: 7.257 ms

Loss rate: 0.00%

Run 4: Report of Indigo-MusesC3 — Data Link



Run 5: Statistics of Indigo-MusesC3

Start at: 2019-03-09 04:15:40

End at: 2019-03-09 04:16:10

Local clock offset: -2.367 ms

Remote clock offset: 0.478 ms

Below is generated by plot.py at 2019-03-09 04:25:37

Datalink statistics

-- Total of 3 flows:

Average throughput: 96.97 Mbit/s

95th percentile per-packet one-way delay: 10.455 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 52.31 Mbit/s

95th percentile per-packet one-way delay: 10.563 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 57.40 Mbit/s

95th percentile per-packet one-way delay: 10.881 ms

Loss rate: 0.00%

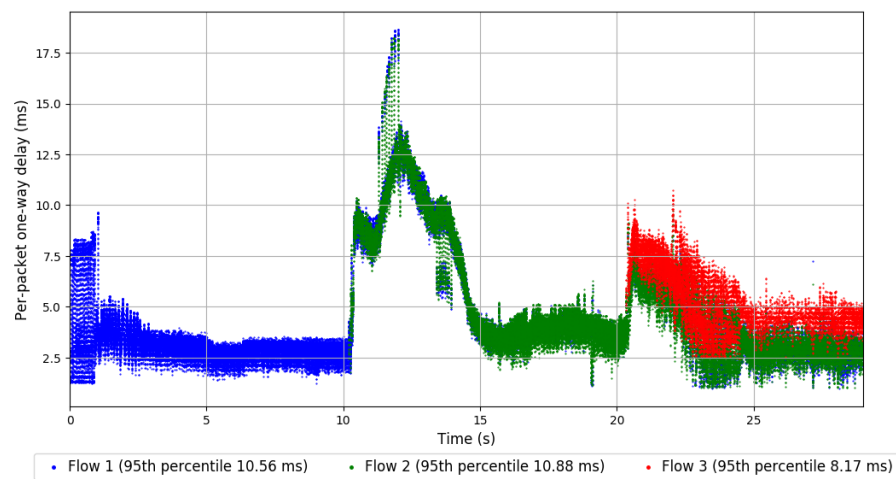
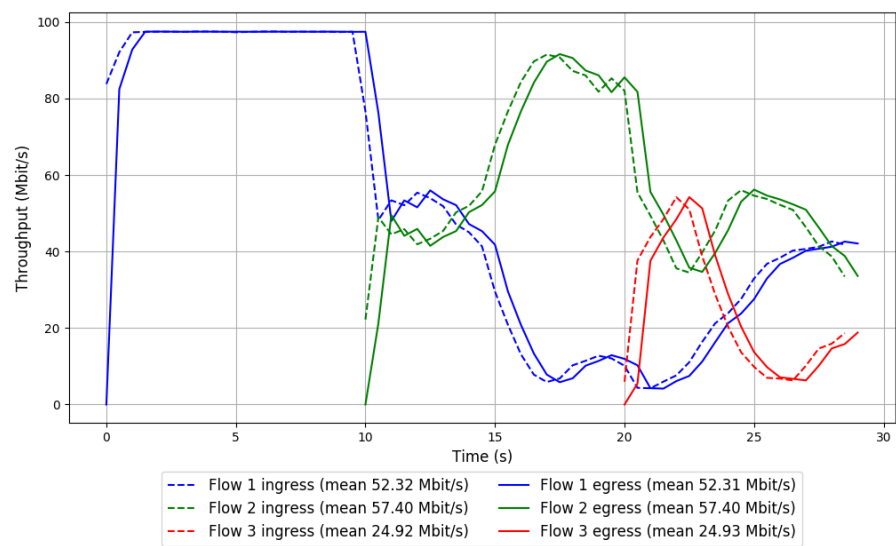
-- Flow 3:

Average throughput: 24.93 Mbit/s

95th percentile per-packet one-way delay: 8.168 ms

Loss rate: 0.00%

Run 5: Report of Indigo-MusesC3 — Data Link

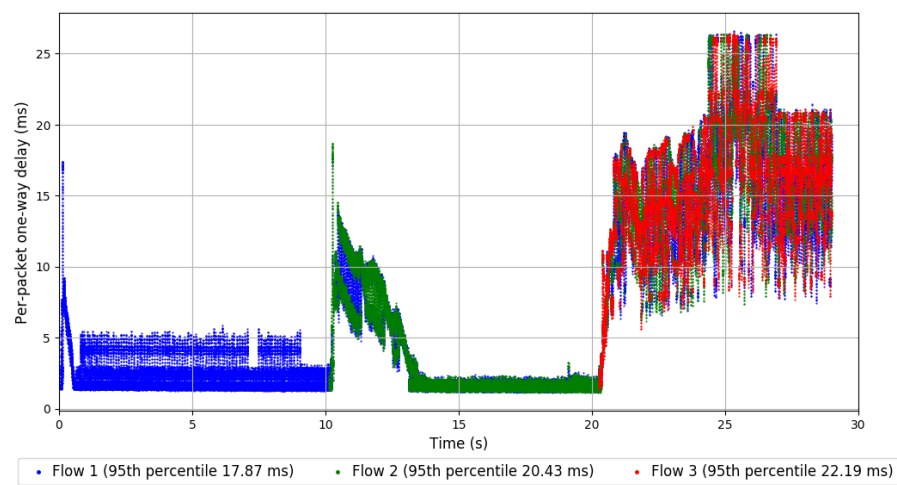
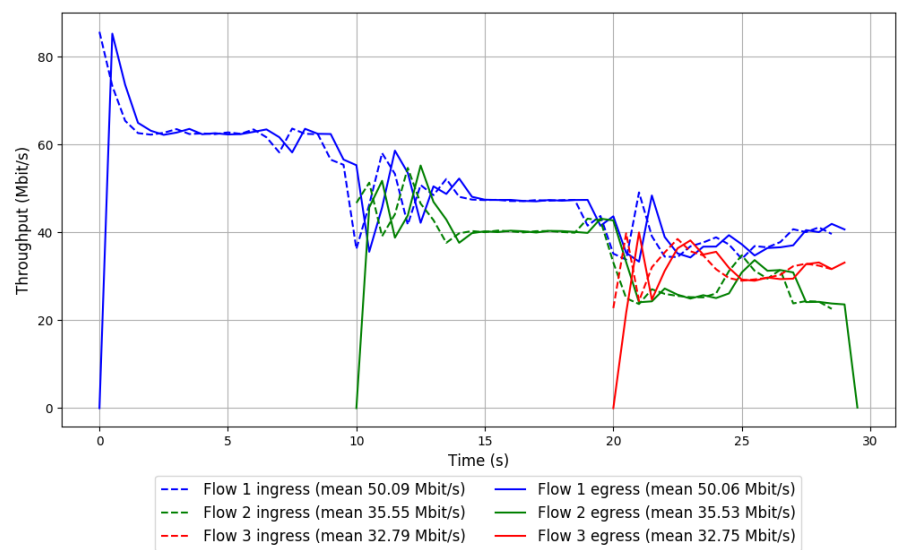


Run 1: Statistics of Indigo-MusesC5

Start at: 2019-03-09 02:21:52
End at: 2019-03-09 02:22:22
Local clock offset: -3.22 ms
Remote clock offset: -0.055 ms

Below is generated by plot.py at 2019-03-09 04:25:37
Datalink statistics
-- Total of 3 flows:
Average throughput: 83.04 Mbit/s
95th percentile per-packet one-way delay: 20.027 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 50.06 Mbit/s
95th percentile per-packet one-way delay: 17.874 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 35.53 Mbit/s
95th percentile per-packet one-way delay: 20.434 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 32.75 Mbit/s
95th percentile per-packet one-way delay: 22.194 ms
Loss rate: 0.00%

Run 1: Report of Indigo-MusesC5 — Data Link

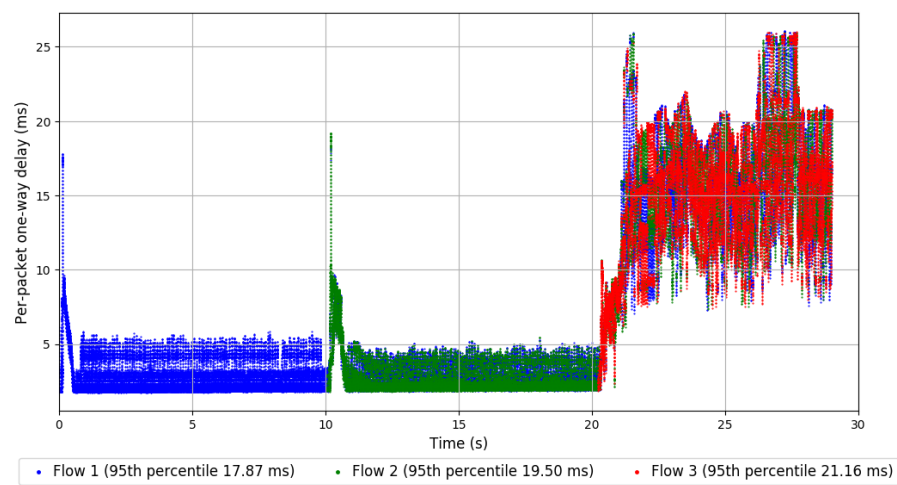
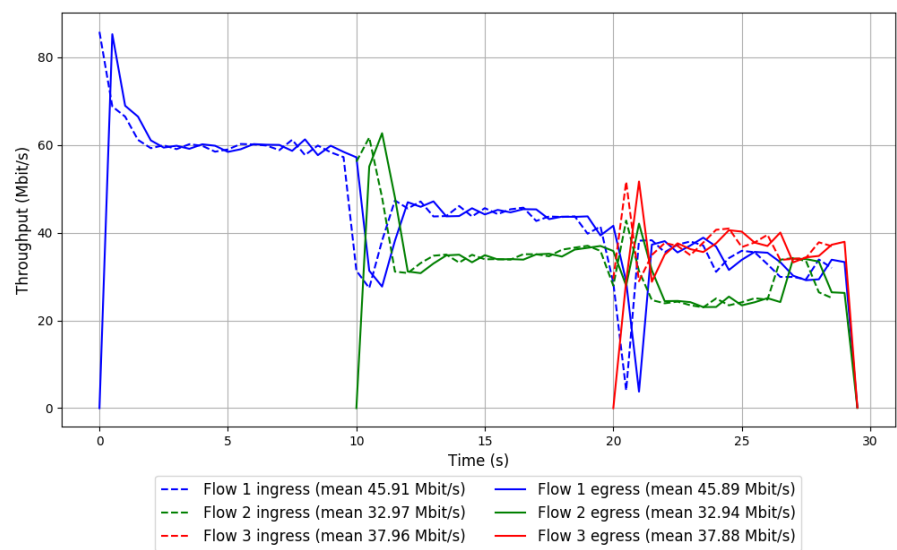


Run 2: Statistics of Indigo-MusesC5

Start at: 2019-03-09 02:45:49
End at: 2019-03-09 02:46:19
Local clock offset: -7.87 ms
Remote clock offset: -0.012 ms

Below is generated by plot.py at 2019-03-09 04:25:37
Datalink statistics
-- Total of 3 flows:
Average throughput: 78.85 Mbit/s
95th percentile per-packet one-way delay: 19.338 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 45.89 Mbit/s
95th percentile per-packet one-way delay: 17.869 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 32.94 Mbit/s
95th percentile per-packet one-way delay: 19.496 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 37.88 Mbit/s
95th percentile per-packet one-way delay: 21.155 ms
Loss rate: 0.00%

Run 2: Report of Indigo-MusesC5 — Data Link



Run 3: Statistics of Indigo-MusesC5

Start at: 2019-03-09 03:09:43

End at: 2019-03-09 03:10:13

Local clock offset: -3.389 ms

Remote clock offset: 0.213 ms

Below is generated by plot.py at 2019-03-09 04:25:46

Datalink statistics

-- Total of 3 flows:

Average throughput: 70.80 Mbit/s

95th percentile per-packet one-way delay: 20.297 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 35.15 Mbit/s

95th percentile per-packet one-way delay: 19.734 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 38.64 Mbit/s

95th percentile per-packet one-way delay: 20.043 ms

Loss rate: 0.00%

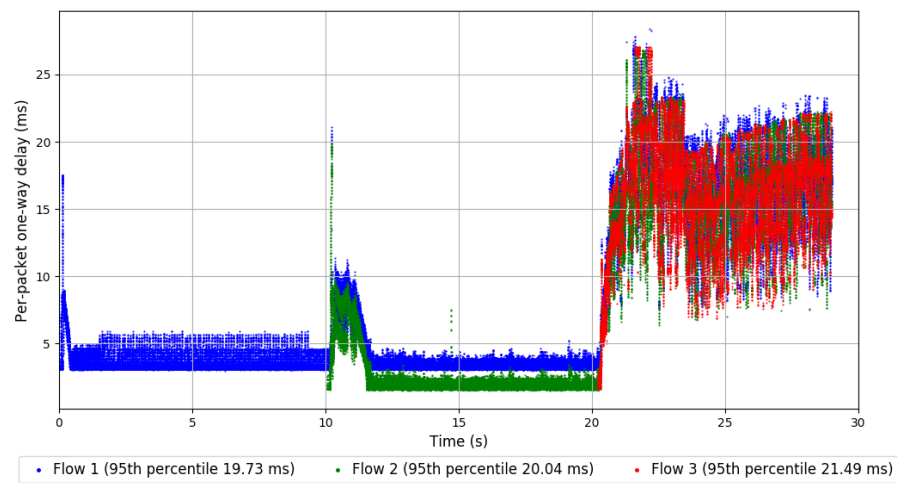
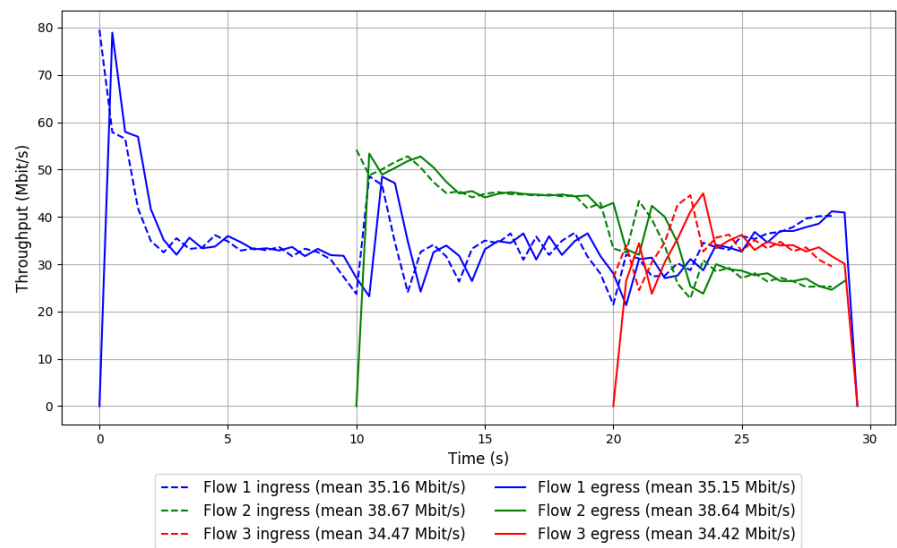
-- Flow 3:

Average throughput: 34.42 Mbit/s

95th percentile per-packet one-way delay: 21.493 ms

Loss rate: 0.00%

Run 3: Report of Indigo-MusesC5 — Data Link



Run 4: Statistics of Indigo-MusesC5

Start at: 2019-03-09 03:33:37

End at: 2019-03-09 03:34:07

Local clock offset: -2.031 ms

Remote clock offset: 0.402 ms

Below is generated by plot.py at 2019-03-09 04:26:00

Datalink statistics

-- Total of 3 flows:

Average throughput: 77.76 Mbit/s

95th percentile per-packet one-way delay: 20.356 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 48.31 Mbit/s

95th percentile per-packet one-way delay: 18.076 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 29.13 Mbit/s

95th percentile per-packet one-way delay: 21.221 ms

Loss rate: 0.00%

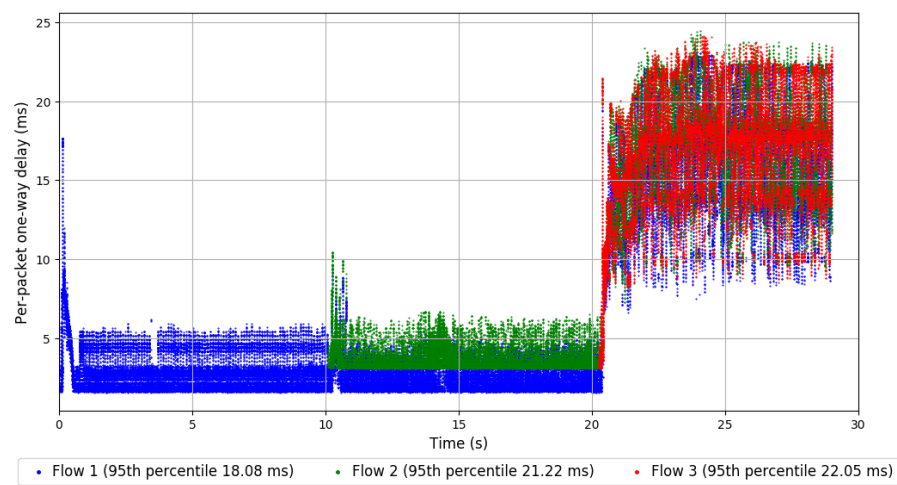
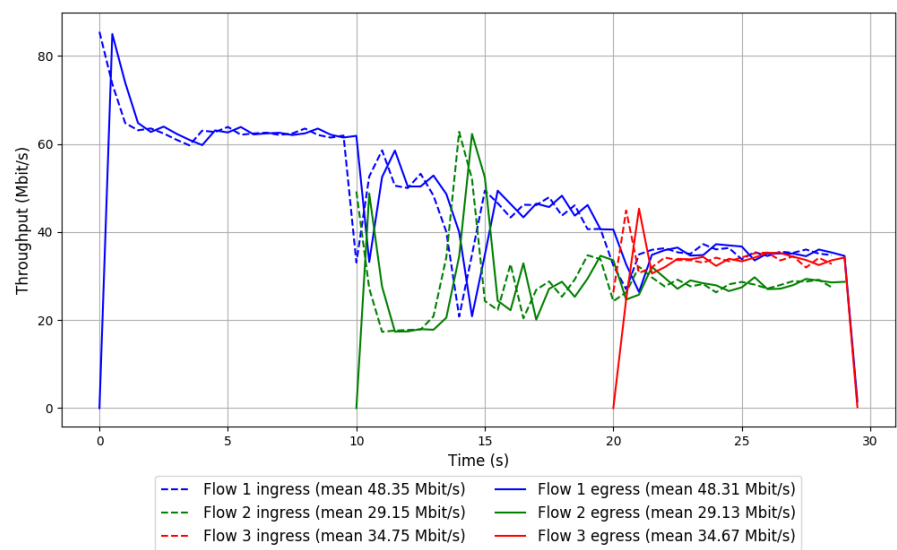
-- Flow 3:

Average throughput: 34.67 Mbit/s

95th percentile per-packet one-way delay: 22.052 ms

Loss rate: 0.00%

Run 4: Report of Indigo-MusesC5 — Data Link



Run 5: Statistics of Indigo-MusesC5

Start at: 2019-03-09 03:57:31

End at: 2019-03-09 03:58:01

Local clock offset: -0.96 ms

Remote clock offset: 0.454 ms

Below is generated by plot.py at 2019-03-09 04:26:05

Datalink statistics

-- Total of 3 flows:

Average throughput: 79.64 Mbit/s

95th percentile per-packet one-way delay: 21.147 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 42.90 Mbit/s

95th percentile per-packet one-way delay: 19.128 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 38.16 Mbit/s

95th percentile per-packet one-way delay: 20.944 ms

Loss rate: 0.00%

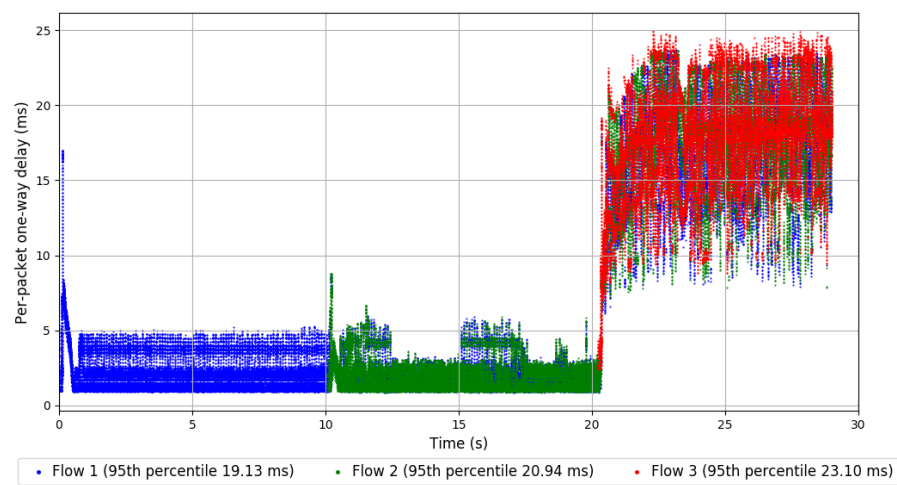
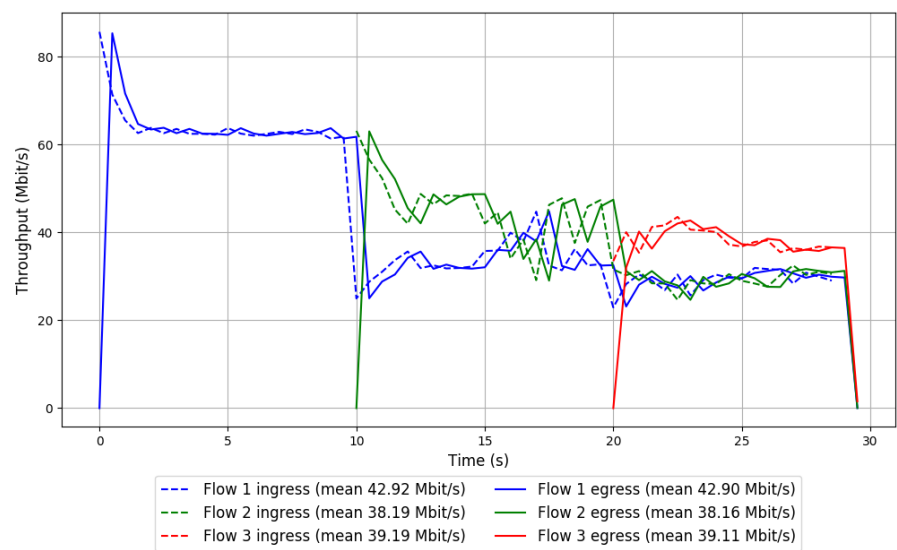
-- Flow 3:

Average throughput: 39.11 Mbit/s

95th percentile per-packet one-way delay: 23.104 ms

Loss rate: 0.00%

Run 5: Report of Indigo-MusesC5 — Data Link

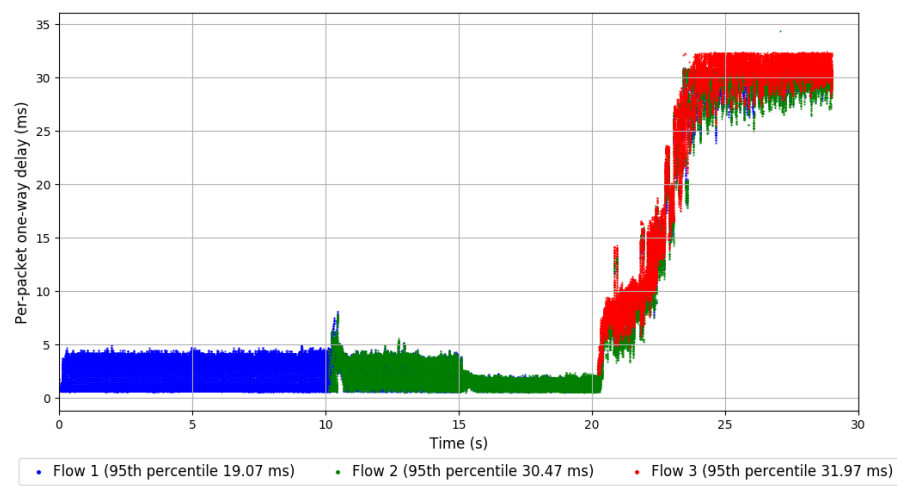
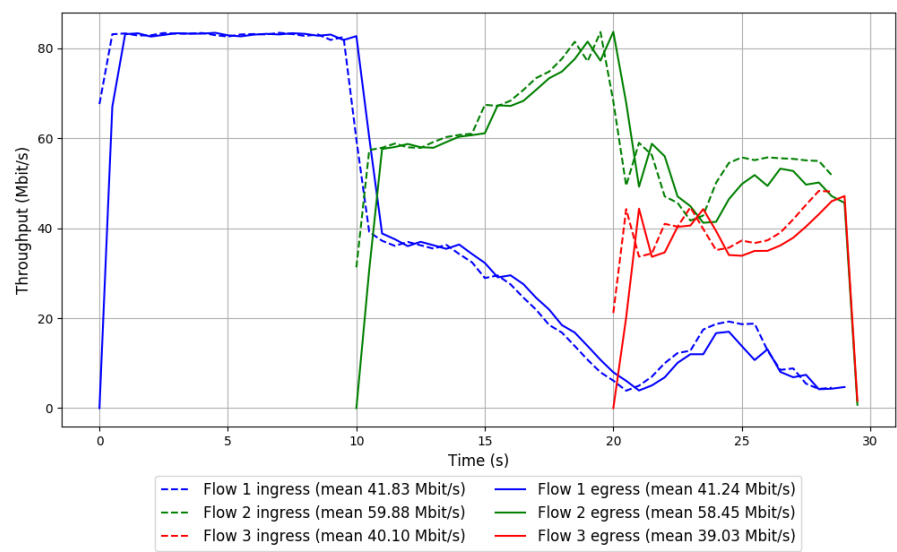


Run 1: Statistics of Indigo-MusesD

Start at: 2019-03-09 02:35:25
End at: 2019-03-09 02:35:55
Local clock offset: -6.711 ms
Remote clock offset: -0.099 ms

Below is generated by plot.py at 2019-03-09 04:26:26
Datalink statistics
-- Total of 3 flows:
Average throughput: 91.10 Mbit/s
95th percentile per-packet one-way delay: 30.695 ms
Loss rate: 1.84%
-- Flow 1:
Average throughput: 41.24 Mbit/s
95th percentile per-packet one-way delay: 19.067 ms
Loss rate: 1.31%
-- Flow 2:
Average throughput: 58.45 Mbit/s
95th percentile per-packet one-way delay: 30.472 ms
Loss rate: 2.25%
-- Flow 3:
Average throughput: 39.03 Mbit/s
95th percentile per-packet one-way delay: 31.969 ms
Loss rate: 2.36%

Run 1: Report of Indigo-MusesD — Data Link



Run 2: Statistics of Indigo-MusesD

Start at: 2019-03-09 02:59:21

End at: 2019-03-09 02:59:51

Local clock offset: -3.252 ms

Remote clock offset: 0.05 ms

Below is generated by plot.py at 2019-03-09 04:26:26

Datalink statistics

-- Total of 3 flows:

Average throughput: 71.78 Mbit/s

95th percentile per-packet one-way delay: 25.121 ms

Loss rate: 0.34%

-- Flow 1:

Average throughput: 38.46 Mbit/s

95th percentile per-packet one-way delay: 22.752 ms

Loss rate: 0.44%

-- Flow 2:

Average throughput: 33.48 Mbit/s

95th percentile per-packet one-way delay: 24.571 ms

Loss rate: 0.16%

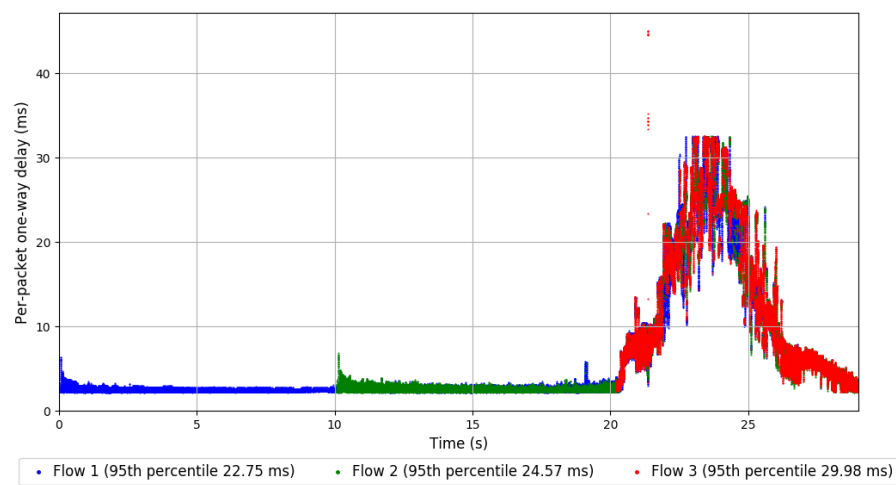
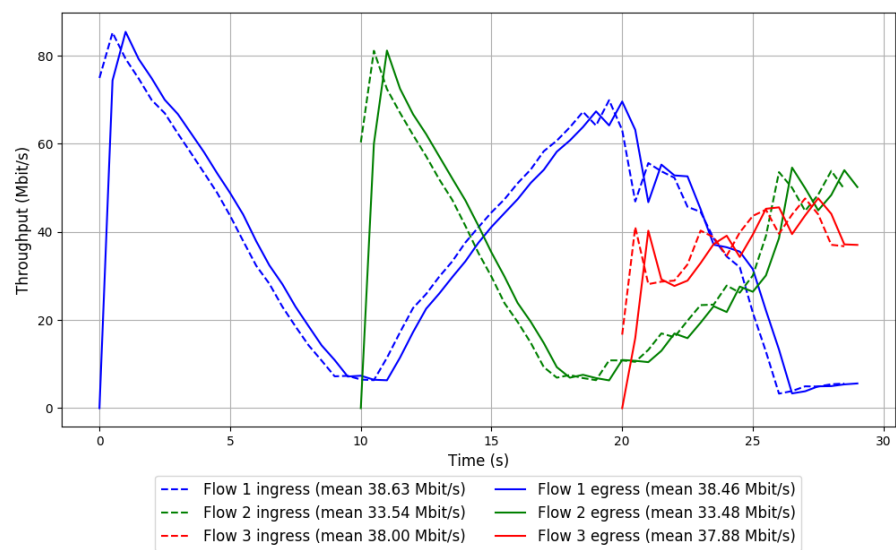
-- Flow 3:

Average throughput: 37.88 Mbit/s

95th percentile per-packet one-way delay: 29.977 ms

Loss rate: 0.34%

Run 2: Report of Indigo-MusesD — Data Link



Run 3: Statistics of Indigo-MusesD

Start at: 2019-03-09 03:23:15

End at: 2019-03-09 03:23:45

Local clock offset: -1.66 ms

Remote clock offset: 0.319 ms

Below is generated by plot.py at 2019-03-09 04:26:26

Datalink statistics

-- Total of 3 flows:

Average throughput: 71.17 Mbit/s

95th percentile per-packet one-way delay: 29.789 ms

Loss rate: 0.32%

-- Flow 1:

Average throughput: 46.09 Mbit/s

95th percentile per-packet one-way delay: 29.614 ms

Loss rate: 0.07%

-- Flow 2:

Average throughput: 29.84 Mbit/s

95th percentile per-packet one-way delay: 29.459 ms

Loss rate: 0.06%

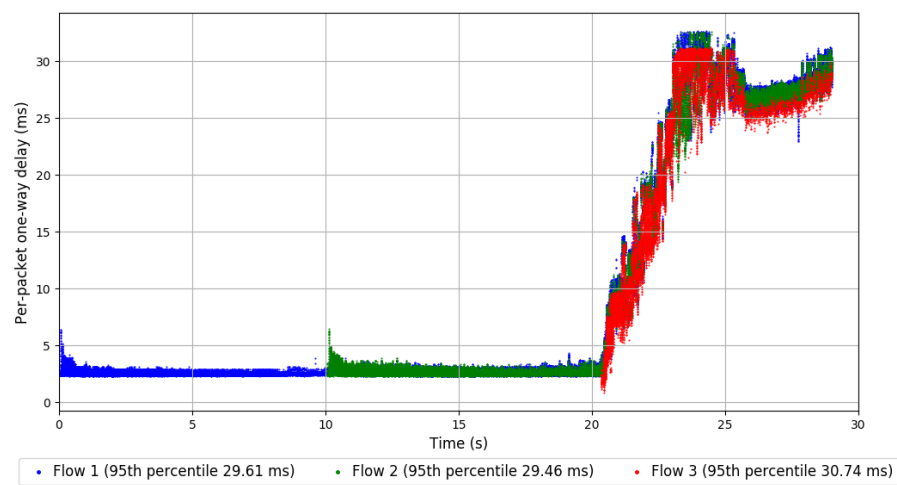
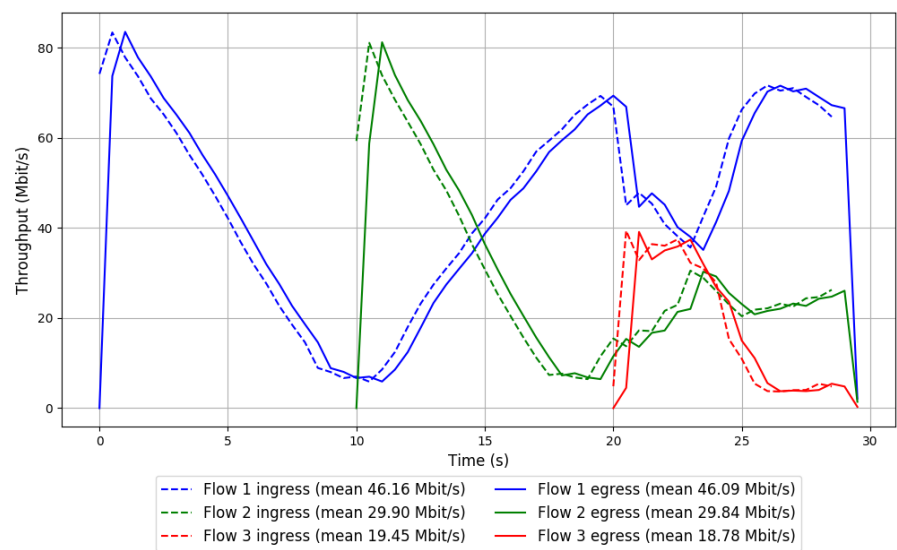
-- Flow 3:

Average throughput: 18.78 Mbit/s

95th percentile per-packet one-way delay: 30.736 ms

Loss rate: 3.14%

Run 3: Report of Indigo-MusesD — Data Link



Run 4: Statistics of Indigo-MusesD

Start at: 2019-03-09 03:47:09

End at: 2019-03-09 03:47:39

Local clock offset: -1.103 ms

Remote clock offset: 0.322 ms

Below is generated by plot.py at 2019-03-09 04:26:29

Datalink statistics

-- Total of 3 flows:

Average throughput: 71.50 Mbit/s

95th percentile per-packet one-way delay: 31.827 ms

Loss rate: 0.54%

-- Flow 1:

Average throughput: 44.76 Mbit/s

95th percentile per-packet one-way delay: 31.743 ms

Loss rate: 0.22%

-- Flow 2:

Average throughput: 30.43 Mbit/s

95th percentile per-packet one-way delay: 31.753 ms

Loss rate: 0.52%

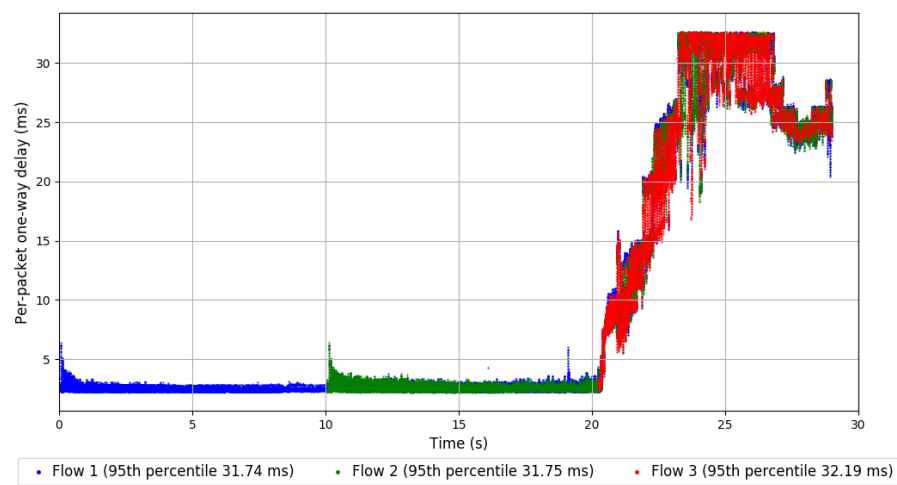
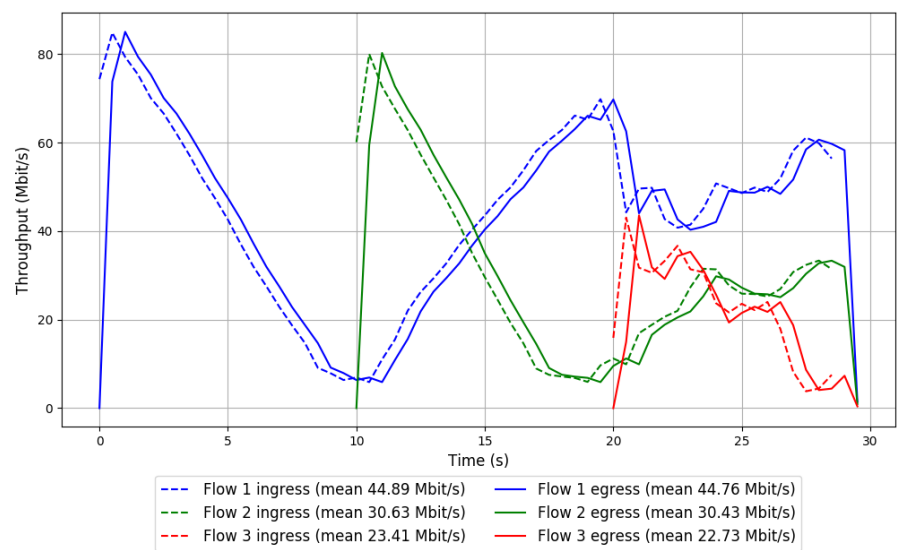
-- Flow 3:

Average throughput: 22.73 Mbit/s

95th percentile per-packet one-way delay: 32.186 ms

Loss rate: 2.68%

Run 4: Report of Indigo-MusesD — Data Link



Run 5: Statistics of Indigo-MusesD

Start at: 2019-03-09 04:11:03

End at: 2019-03-09 04:11:33

Local clock offset: -1.512 ms

Remote clock offset: 0.435 ms

Below is generated by plot.py at 2019-03-09 04:26:40

Datalink statistics

-- Total of 3 flows:

Average throughput: 89.14 Mbit/s

95th percentile per-packet one-way delay: 14.005 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 55.84 Mbit/s

95th percentile per-packet one-way delay: 8.541 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 34.60 Mbit/s

95th percentile per-packet one-way delay: 7.712 ms

Loss rate: 0.00%

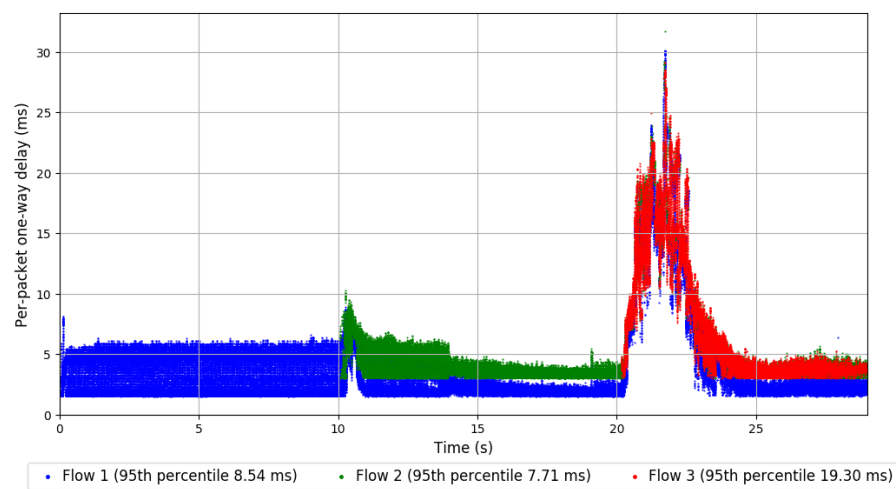
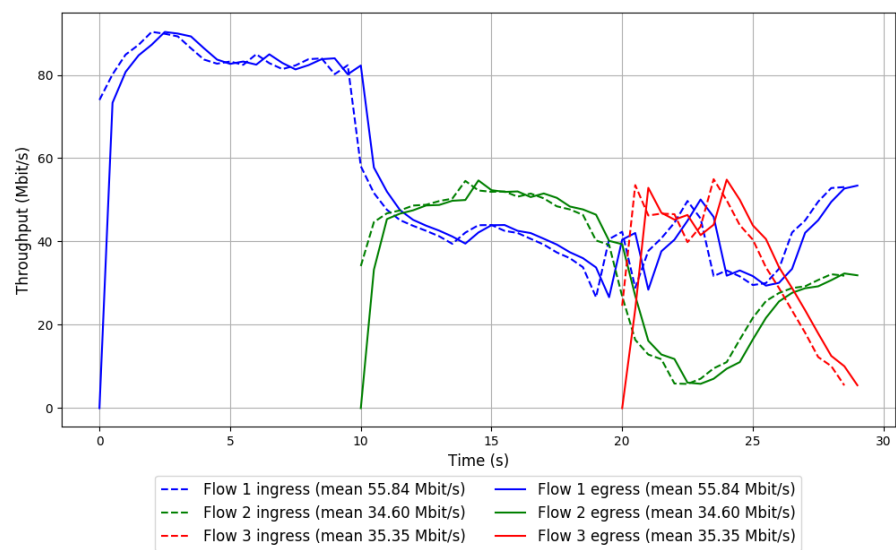
-- Flow 3:

Average throughput: 35.35 Mbit/s

95th percentile per-packet one-way delay: 19.297 ms

Loss rate: 0.00%

Run 5: Report of Indigo-MusesD — Data Link

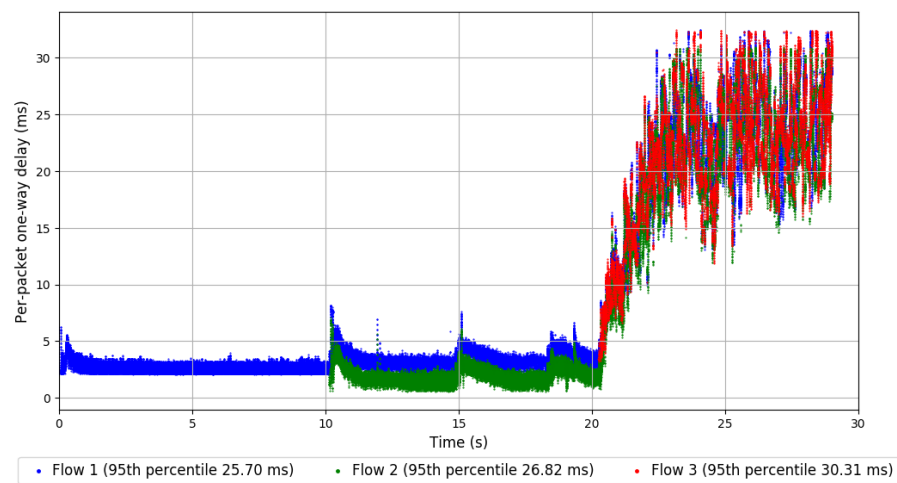
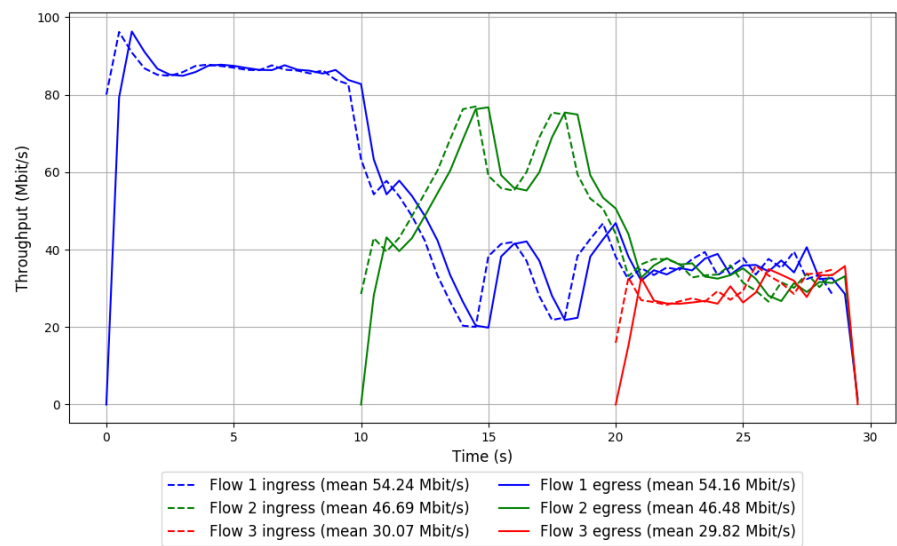


Run 1: Statistics of Indigo-MusesT

Start at: 2019-03-09 02:38:53
End at: 2019-03-09 02:39:23
Local clock offset: -7.309 ms
Remote clock offset: -0.069 ms

Below is generated by plot.py at 2019-03-09 04:26:52
Datalink statistics
-- Total of 3 flows:
Average throughput: 93.40 Mbit/s
95th percentile per-packet one-way delay: 27.199 ms
Loss rate: 0.19%
-- Flow 1:
Average throughput: 54.16 Mbit/s
95th percentile per-packet one-way delay: 25.704 ms
Loss rate: 0.05%
-- Flow 2:
Average throughput: 46.48 Mbit/s
95th percentile per-packet one-way delay: 26.815 ms
Loss rate: 0.32%
-- Flow 3:
Average throughput: 29.82 Mbit/s
95th percentile per-packet one-way delay: 30.312 ms
Loss rate: 0.58%

Run 1: Report of Indigo-MusesT — Data Link



Run 2: Statistics of Indigo-MusesT

Start at: 2019-03-09 03:02:48

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

Local clock offset: -2.948 ms

Remote clock offset: 0.164 ms

Below is generated by plot.py at 2019-03-09 04:27:10

Datalink statistics

-- Total of 3 flows:

Average throughput: 96.67 Mbit/s

95th percentile per-packet one-way delay: 21.147 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 69.53 Mbit/s

95th percentile per-packet one-way delay: 19.395 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 33.42 Mbit/s

95th percentile per-packet one-way delay: 23.052 ms

Loss rate: 0.00%

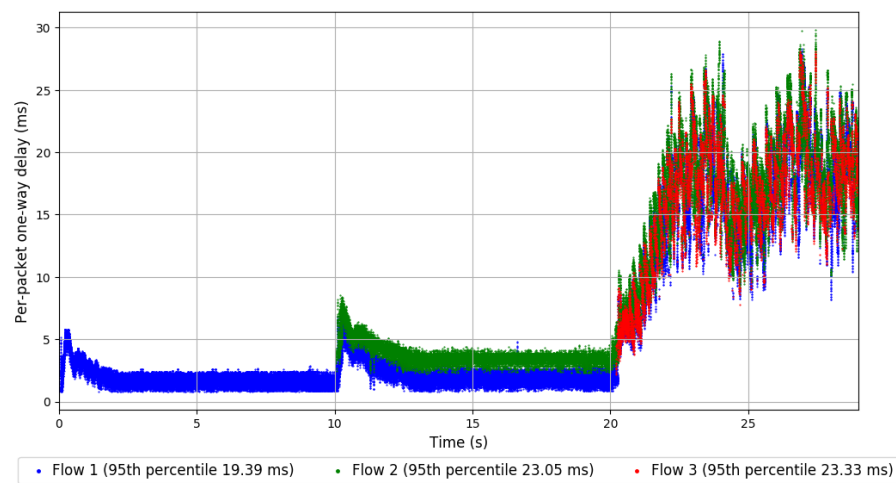
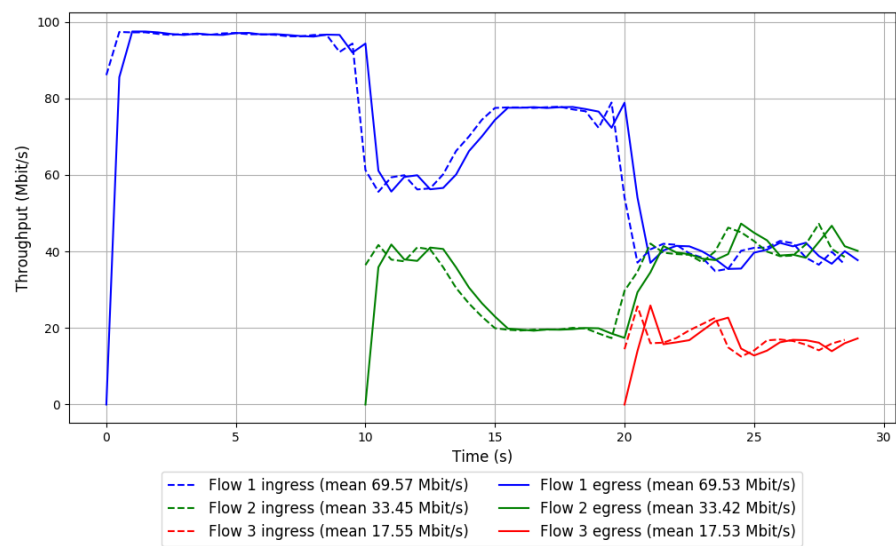
-- Flow 3:

Average throughput: 17.53 Mbit/s

95th percentile per-packet one-way delay: 23.330 ms

Loss rate: 0.00%

Run 2: Report of Indigo-MusesT — Data Link



Run 3: Statistics of Indigo-MusesT

Start at: 2019-03-09 03:26:41

End at: 2019-03-09 03:27:11

Local clock offset: -1.503 ms

Remote clock offset: 0.323 ms

Below is generated by plot.py at 2019-03-09 04:27:14

Datalink statistics

-- Total of 3 flows:

Average throughput: 96.80 Mbit/s

95th percentile per-packet one-way delay: 19.077 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 61.60 Mbit/s

95th percentile per-packet one-way delay: 18.246 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 45.65 Mbit/s

95th percentile per-packet one-way delay: 19.318 ms

Loss rate: 0.00%

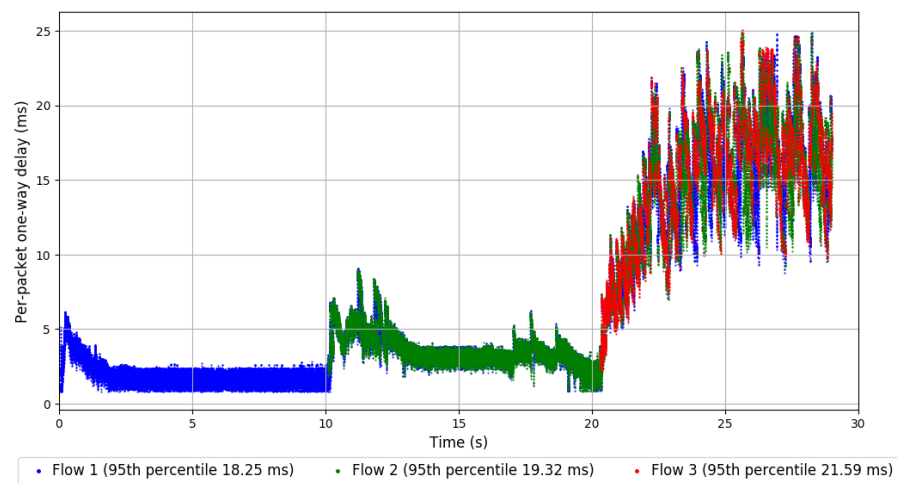
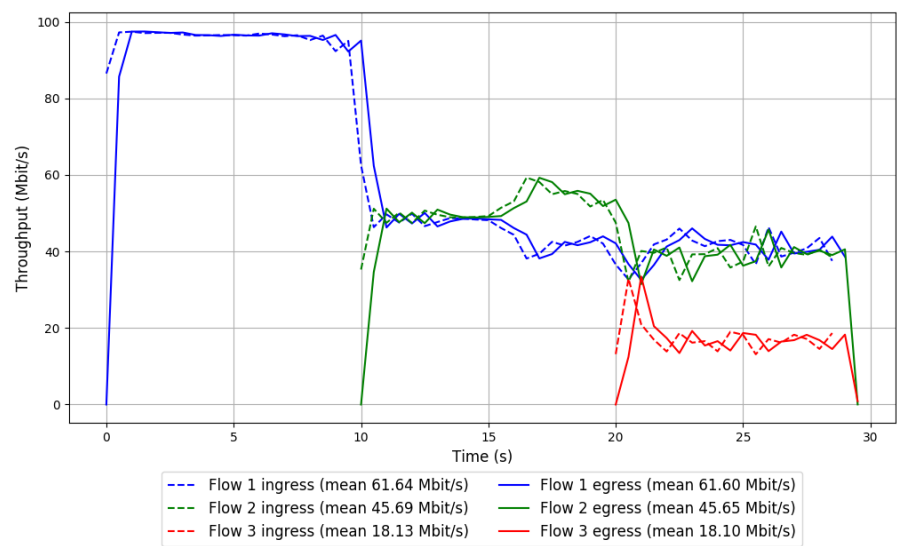
-- Flow 3:

Average throughput: 18.10 Mbit/s

95th percentile per-packet one-way delay: 21.585 ms

Loss rate: 0.00%

Run 3: Report of Indigo-MusesT — Data Link



Run 4: Statistics of Indigo-MusesT

Start at: 2019-03-09 03:50:35

End at: 2019-03-09 03:51:05

Local clock offset: -1.048 ms

Remote clock offset: 0.398 ms

Below is generated by plot.py at 2019-03-09 04:27:23

Datalink statistics

-- Total of 3 flows:

Average throughput: 93.97 Mbit/s

95th percentile per-packet one-way delay: 23.670 ms

Loss rate: 0.05%

-- Flow 1:

Average throughput: 55.96 Mbit/s

95th percentile per-packet one-way delay: 22.892 ms

Loss rate: 0.03%

-- Flow 2:

Average throughput: 48.07 Mbit/s

95th percentile per-packet one-way delay: 23.398 ms

Loss rate: 0.06%

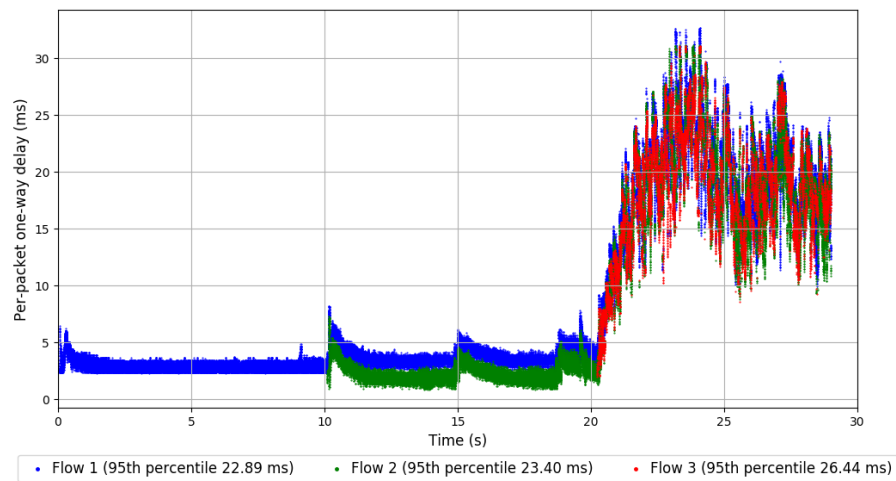
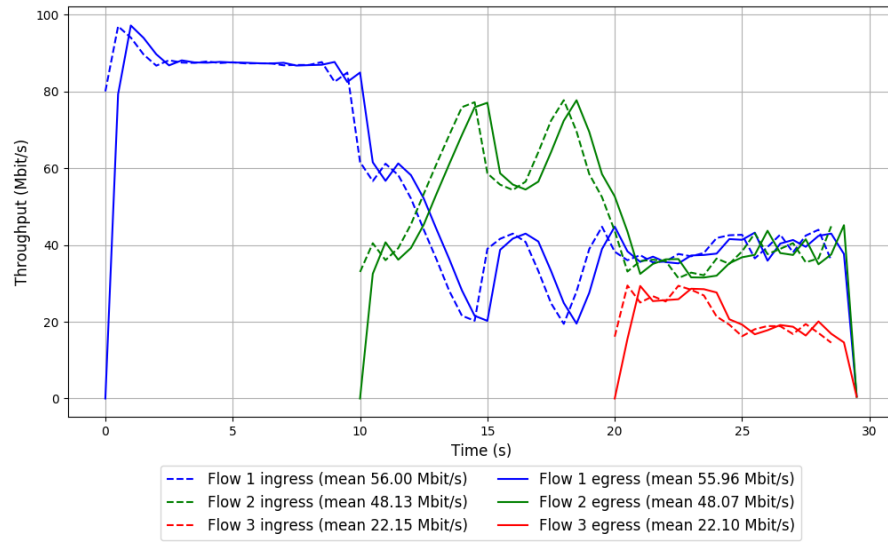
-- Flow 3:

Average throughput: 22.10 Mbit/s

95th percentile per-packet one-way delay: 26.443 ms

Loss rate: 0.08%

Run 4: Report of Indigo-MusesT — Data Link



Run 5: Statistics of Indigo-MusesT

Start at: 2019-03-09 04:14:30

End at: 2019-03-09 04:15:00

Local clock offset: -0.85 ms

Remote clock offset: 0.389 ms

Below is generated by plot.py at 2019-03-09 04:27:28

Datalink statistics

-- Total of 3 flows:

Average throughput: 93.67 Mbit/s

95th percentile per-packet one-way delay: 65.465 ms

Loss rate: 0.43%

-- Flow 1:

Average throughput: 51.54 Mbit/s

95th percentile per-packet one-way delay: 60.961 ms

Loss rate: 0.20%

-- Flow 2:

Average throughput: 47.15 Mbit/s

95th percentile per-packet one-way delay: 21.095 ms

Loss rate: 0.16%

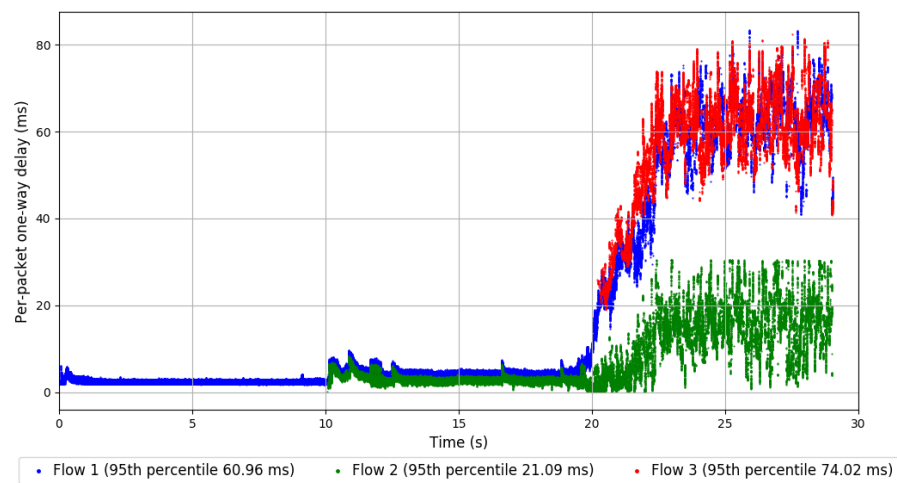
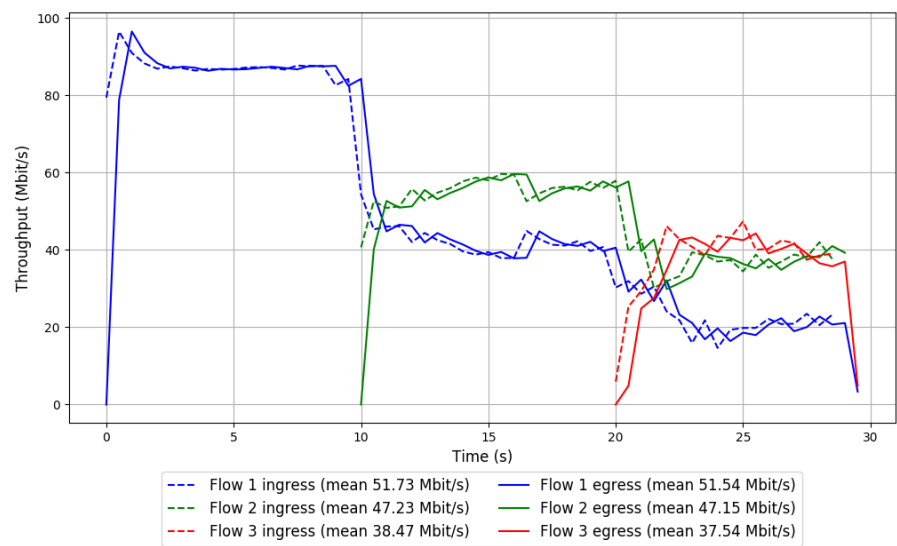
-- Flow 3:

Average throughput: 37.54 Mbit/s

95th percentile per-packet one-way delay: 74.024 ms

Loss rate: 2.15%

Run 5: Report of Indigo-MusesT — Data Link

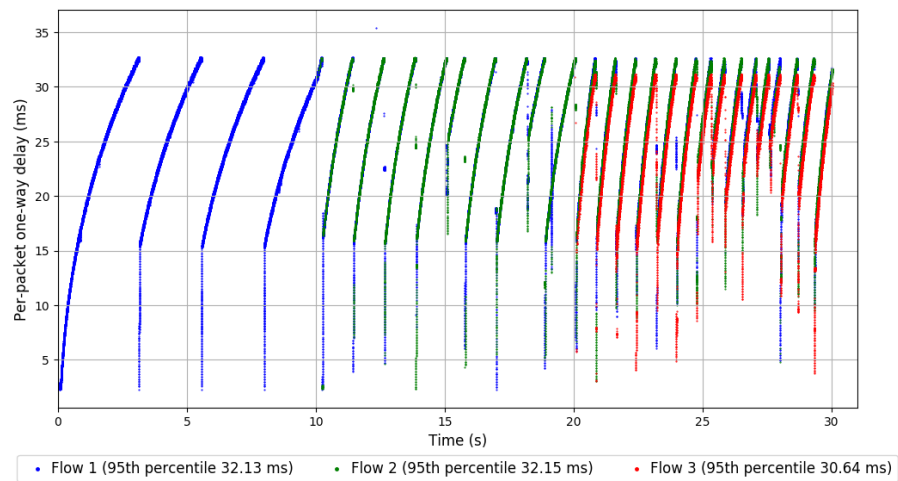
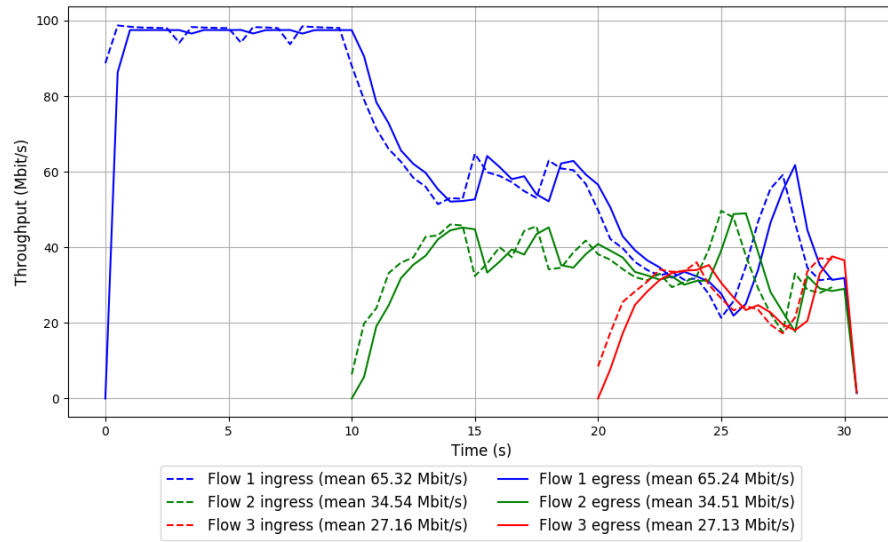


```
Run 1: Statistics of LEDBAT

Start at: 2019-03-09 02:41:11
End at: 2019-03-09 02:41:41
Local clock offset: -7.707 ms
Remote clock offset: 0.063 ms

# Below is generated by plot.py at 2019-03-09 04:27:37
# Datalink statistics
-- Total of 3 flows:
Average throughput: 97.20 Mbit/s
95th percentile per-packet one-way delay: 32.109 ms
Loss rate: 0.05%
-- Flow 1:
Average throughput: 65.24 Mbit/s
95th percentile per-packet one-way delay: 32.128 ms
Loss rate: 0.03%
-- Flow 2:
Average throughput: 34.51 Mbit/s
95th percentile per-packet one-way delay: 32.152 ms
Loss rate: 0.08%
-- Flow 3:
Average throughput: 27.13 Mbit/s
95th percentile per-packet one-way delay: 30.645 ms
Loss rate: 0.13%
```

Run 1: Report of LEDBAT — Data Link



Run 2: Statistics of LEDBAT

Start at: 2019-03-09 03:05:06

End at: 2019-03-09 03:05:36

Local clock offset: -2.79 ms

Remote clock offset: 0.242 ms

Below is generated by plot.py at 2019-03-09 04:27:40

Datalink statistics

-- Total of 3 flows:

Average throughput: 97.31 Mbit/s

95th percentile per-packet one-way delay: 30.985 ms

Loss rate: 0.05%

-- Flow 1:

Average throughput: 61.44 Mbit/s

95th percentile per-packet one-way delay: 30.700 ms

Loss rate: 0.04%

-- Flow 2:

Average throughput: 38.20 Mbit/s

95th percentile per-packet one-way delay: 32.199 ms

Loss rate: 0.06%

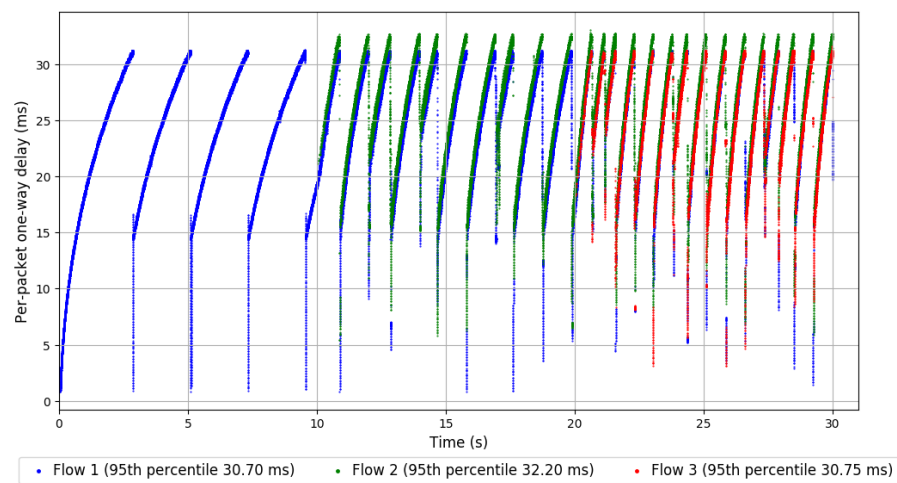
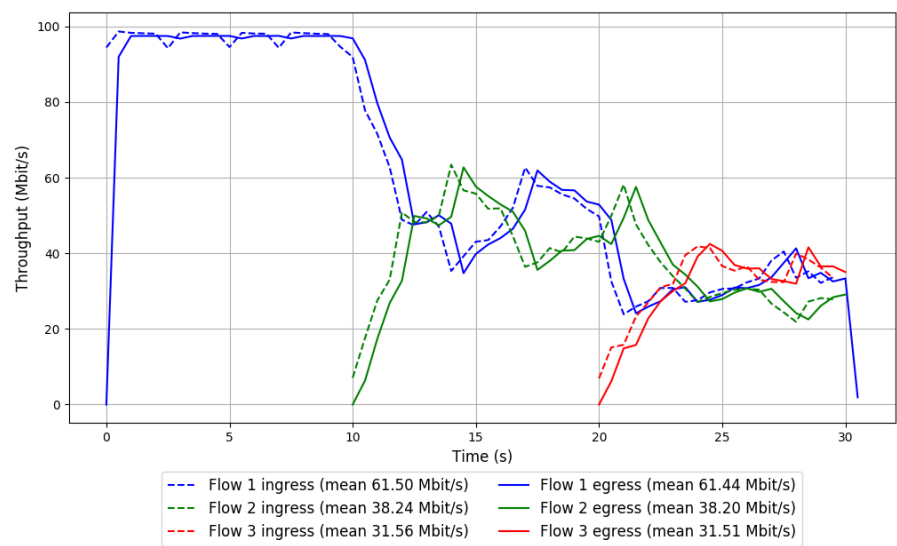
-- Flow 3:

Average throughput: 31.51 Mbit/s

95th percentile per-packet one-way delay: 30.745 ms

Loss rate: 0.09%

Run 2: Report of LEDBAT — Data Link



Run 3: Statistics of LEDBAT

Start at: 2019-03-09 03:29:00

End at: 2019-03-09 03:29:30

Local clock offset: -2.162 ms

Remote clock offset: 0.339 ms

Below is generated by plot.py at 2019-03-09 04:27:52

Datalink statistics

-- Total of 3 flows:

Average throughput: 97.19 Mbit/s

95th percentile per-packet one-way delay: 32.674 ms

Loss rate: 0.05%

-- Flow 1:

Average throughput: 64.30 Mbit/s

95th percentile per-packet one-way delay: 32.725 ms

Loss rate: 0.02%

-- Flow 2:

Average throughput: 32.15 Mbit/s

95th percentile per-packet one-way delay: 31.442 ms

Loss rate: 0.14%

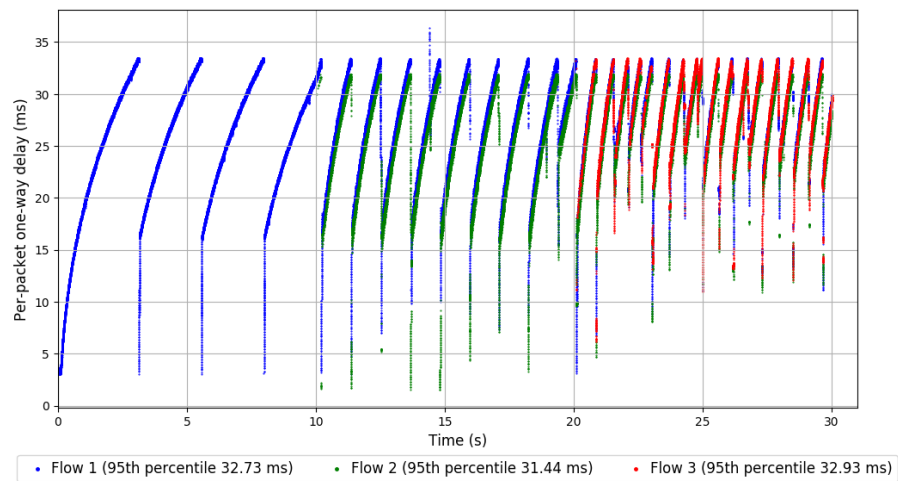
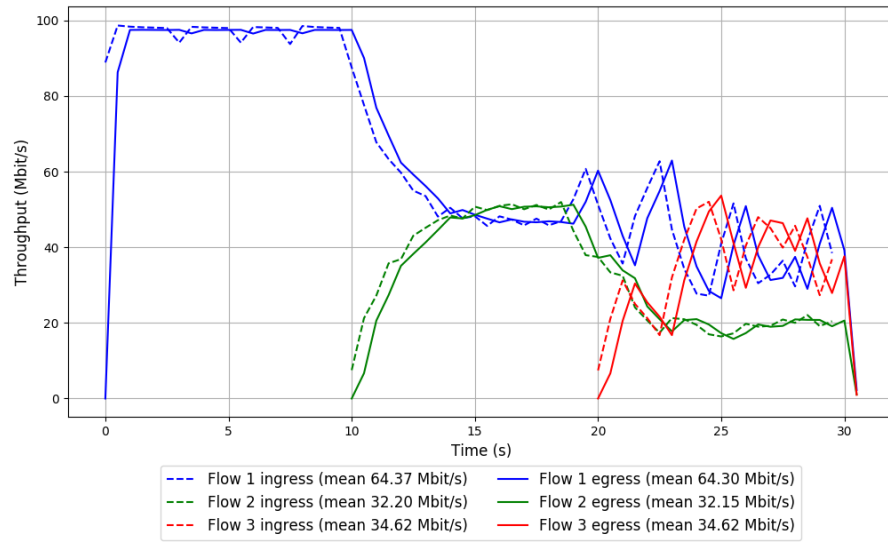
-- Flow 3:

Average throughput: 34.62 Mbit/s

95th percentile per-packet one-way delay: 32.934 ms

Loss rate: 0.04%

Run 3: Report of LEDBAT — Data Link



Run 4: Statistics of LEDBAT

Start at: 2019-03-09 03:52:53

End at: 2019-03-09 03:53:23

Local clock offset: -1.715 ms

Remote clock offset: 0.408 ms

Below is generated by plot.py at 2019-03-09 04:28:07

Datalink statistics

-- Total of 3 flows:

Average throughput: 97.19 Mbit/s

95th percentile per-packet one-way delay: 32.675 ms

Loss rate: 0.05%

-- Flow 1:

Average throughput: 66.11 Mbit/s

95th percentile per-packet one-way delay: 32.735 ms

Loss rate: 0.02%

-- Flow 2:

Average throughput: 30.89 Mbit/s

95th percentile per-packet one-way delay: 31.439 ms

Loss rate: 0.14%

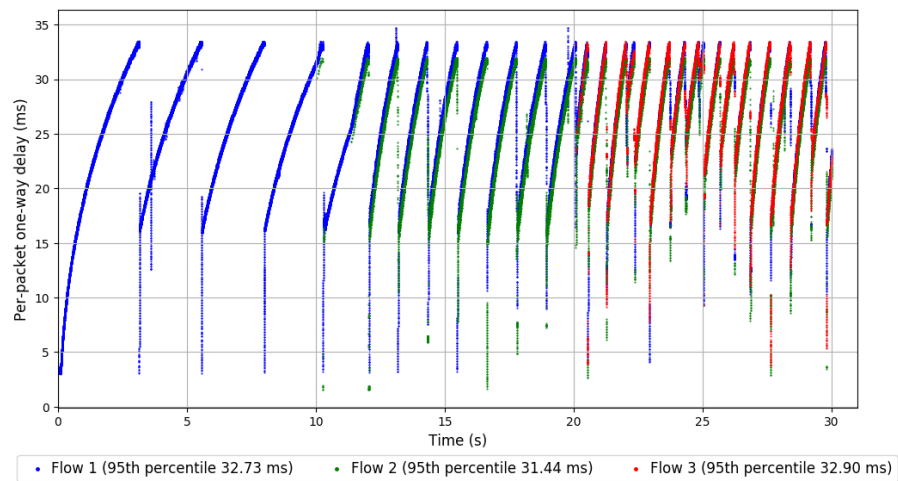
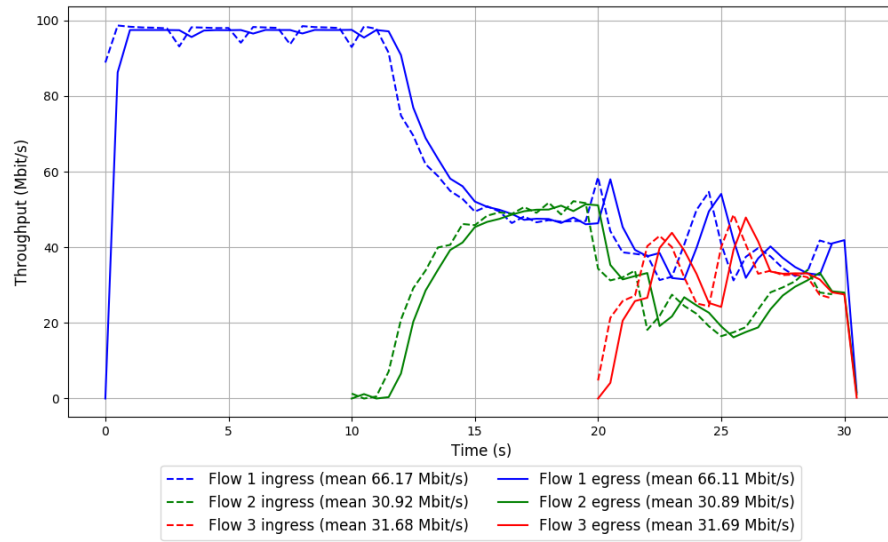
-- Flow 3:

Average throughput: 31.69 Mbit/s

95th percentile per-packet one-way delay: 32.901 ms

Loss rate: 0.07%

Run 4: Report of LEDBAT — Data Link



Run 5: Statistics of LEDBAT

Start at: 2019-03-09 04:16:50

End at: 2019-03-09 04:17:20

Local clock offset: -3.149 ms

Remote clock offset: 0.483 ms

Below is generated by plot.py at 2019-03-09 04:28:28

Datalink statistics

-- Total of 3 flows:

Average throughput: 97.15 Mbit/s

95th percentile per-packet one-way delay: 32.537 ms

Loss rate: 0.05%

-- Flow 1:

Average throughput: 64.24 Mbit/s

95th percentile per-packet one-way delay: 32.543 ms

Loss rate: 0.02%

-- Flow 2:

Average throughput: 39.98 Mbit/s

95th percentile per-packet one-way delay: 32.604 ms

Loss rate: 0.06%

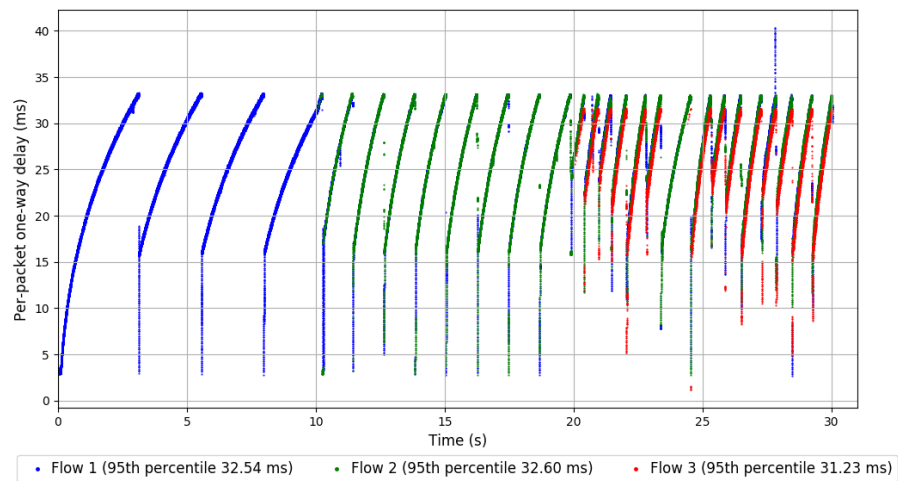
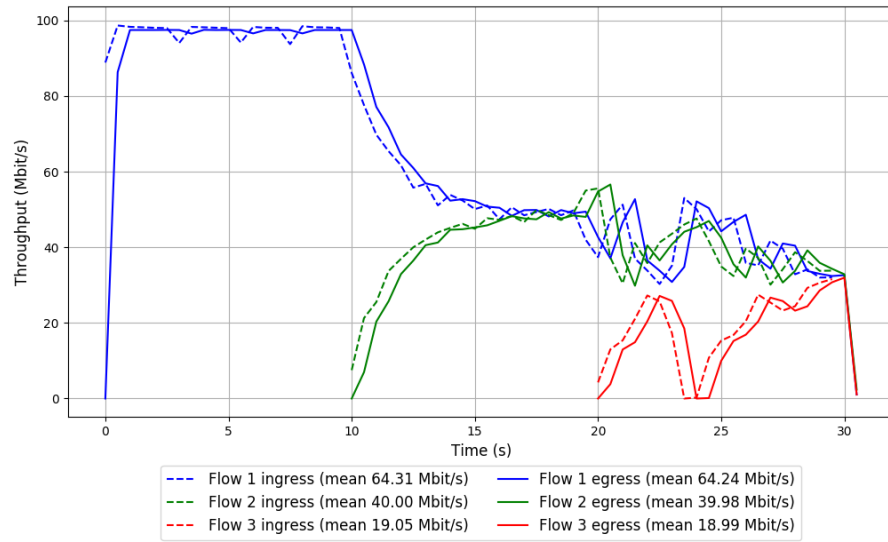
-- Flow 3:

Average throughput: 18.99 Mbit/s

95th percentile per-packet one-way delay: 31.231 ms

Loss rate: 0.26%

Run 5: Report of LEDBAT — Data Link

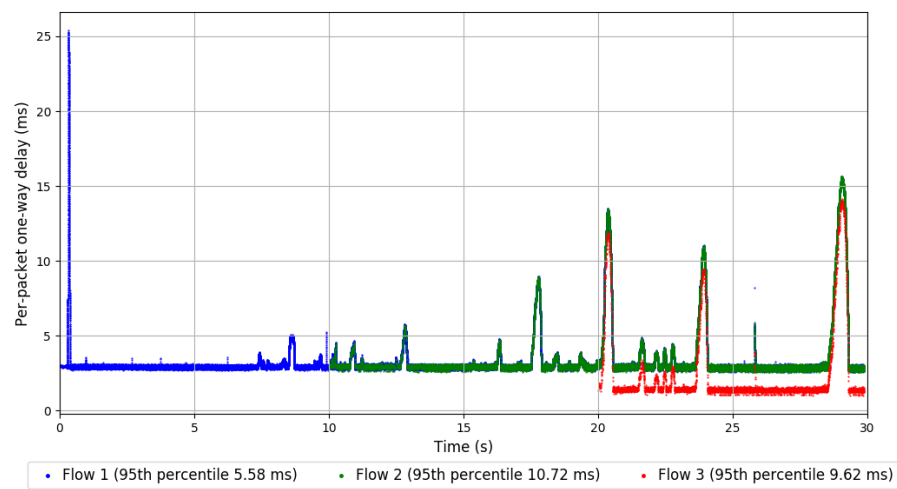
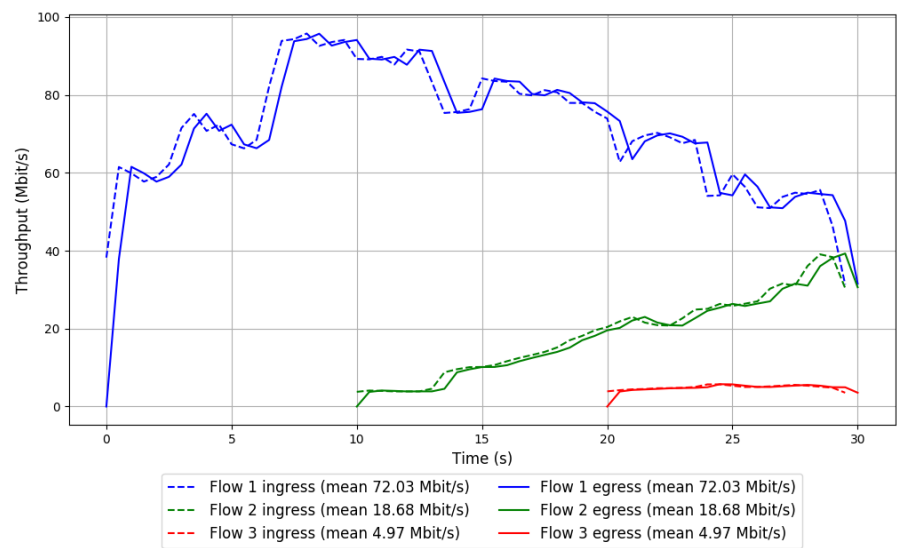


```
Run 1: Statistics of PCC-Allegro

Start at: 2019-03-09 02:26:25
End at: 2019-03-09 02:26:55
Local clock offset: -5.182 ms
Remote clock offset: -0.113 ms

# Below is generated by plot.py at 2019-03-09 04:28:28
# Datalink statistics
-- Total of 3 flows:
Average throughput: 86.09 Mbit/s
95th percentile per-packet one-way delay: 7.111 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 72.03 Mbit/s
95th percentile per-packet one-way delay: 5.577 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 18.68 Mbit/s
95th percentile per-packet one-way delay: 10.724 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 4.97 Mbit/s
95th percentile per-packet one-way delay: 9.622 ms
Loss rate: 0.00%
```

Run 1: Report of PCC-Allegro — Data Link



Run 2: Statistics of PCC-Allegro

Start at: 2019-03-09 02:50:22

End at: 2019-03-09 02:50:52

Local clock offset: -5.093 ms

Remote clock offset: 0.138 ms

Below is generated by plot.py at 2019-03-09 04:28:33

Datalink statistics

-- Total of 3 flows:

Average throughput: 89.44 Mbit/s

95th percentile per-packet one-way delay: 30.730 ms

Loss rate: 0.28%

-- Flow 1:

Average throughput: 64.08 Mbit/s

95th percentile per-packet one-way delay: 15.981 ms

Loss rate: 0.14%

-- Flow 2:

Average throughput: 32.71 Mbit/s

95th percentile per-packet one-way delay: 32.004 ms

Loss rate: 0.48%

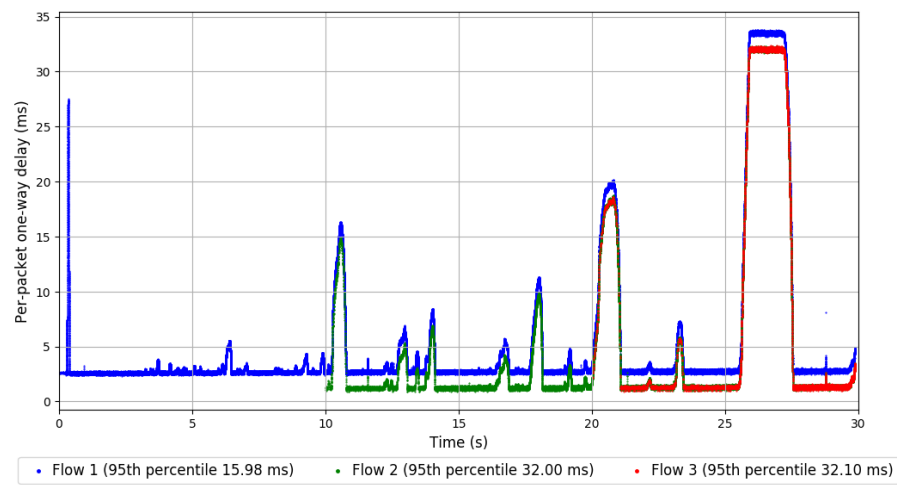
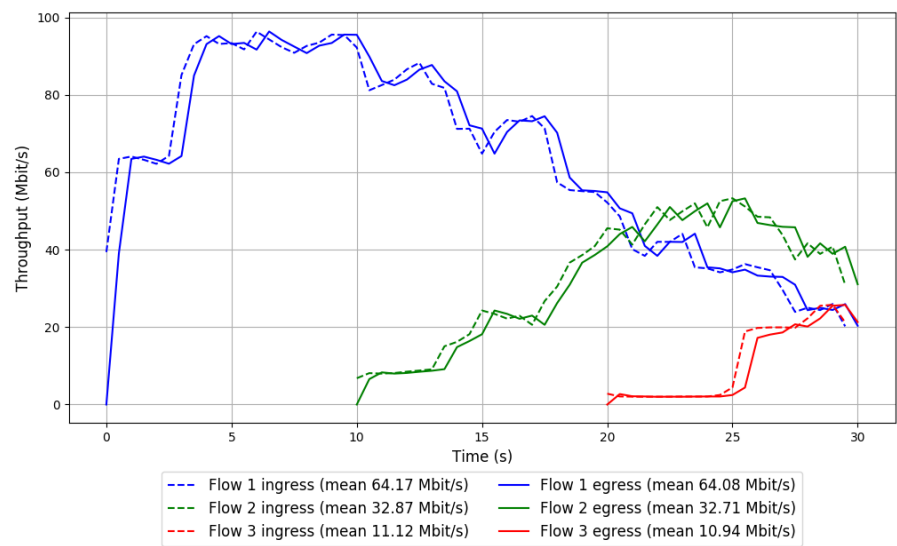
-- Flow 3:

Average throughput: 10.94 Mbit/s

95th percentile per-packet one-way delay: 32.100 ms

Loss rate: 1.62%

Run 2: Report of PCC-Allegro — Data Link



Run 3: Statistics of PCC-Allegro

Start at: 2019-03-09 03:14:15

End at: 2019-03-09 03:14:45

Local clock offset: -3.282 ms

Remote clock offset: 0.33 ms

Below is generated by plot.py at 2019-03-09 04:28:39

Datalink statistics

-- Total of 3 flows:

Average throughput: 84.17 Mbit/s

95th percentile per-packet one-way delay: 4.303 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 79.30 Mbit/s

95th percentile per-packet one-way delay: 4.318 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 5.32 Mbit/s

95th percentile per-packet one-way delay: 2.922 ms

Loss rate: 0.00%

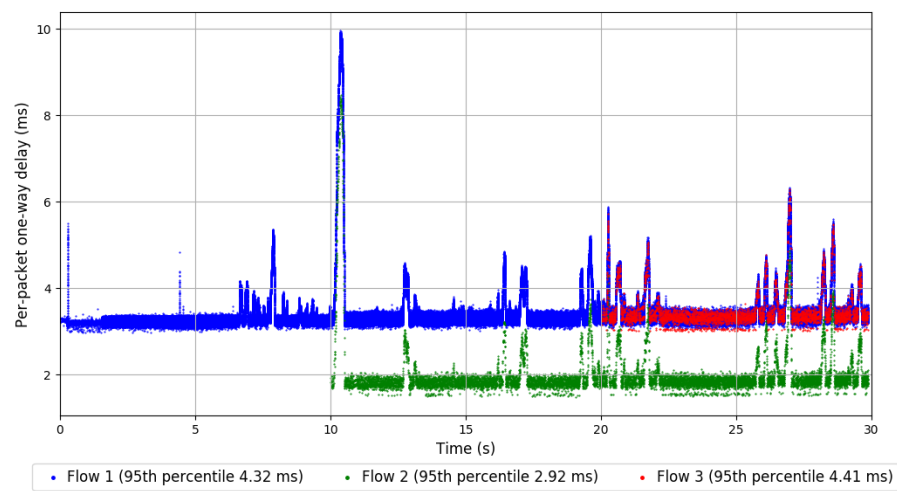
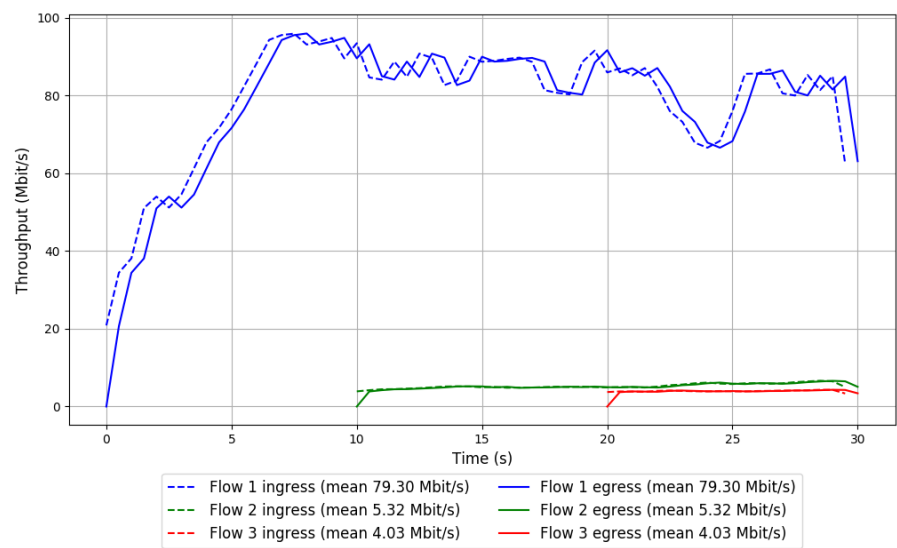
-- Flow 3:

Average throughput: 4.03 Mbit/s

95th percentile per-packet one-way delay: 4.412 ms

Loss rate: 0.00%

Run 3: Report of PCC-Allegro — Data Link



Run 4: Statistics of PCC-Allegro

Start at: 2019-03-09 03:38:10

End at: 2019-03-09 03:38:40

Local clock offset: -1.192 ms

Remote clock offset: 0.372 ms

Below is generated by plot.py at 2019-03-09 04:28:44

Datalink statistics

-- Total of 3 flows:

Average throughput: 78.27 Mbit/s

95th percentile per-packet one-way delay: 4.415 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 58.32 Mbit/s

95th percentile per-packet one-way delay: 4.210 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 27.70 Mbit/s

95th percentile per-packet one-way delay: 5.158 ms

Loss rate: 0.00%

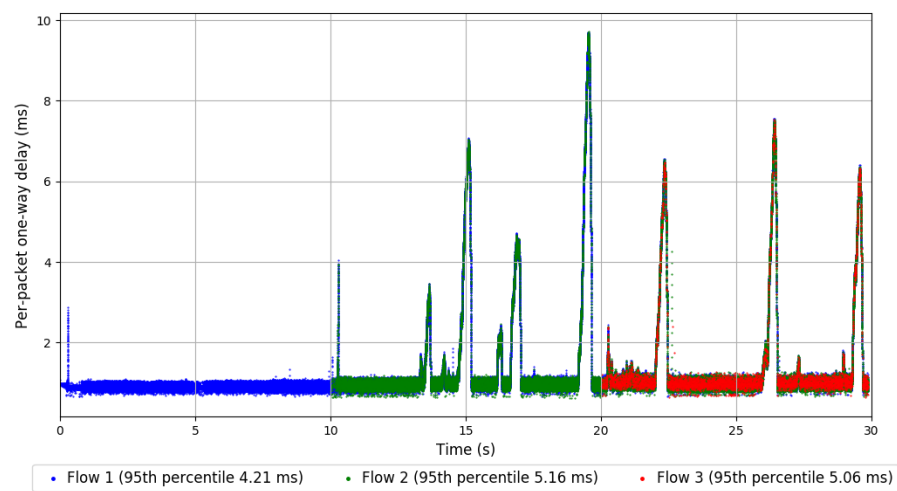
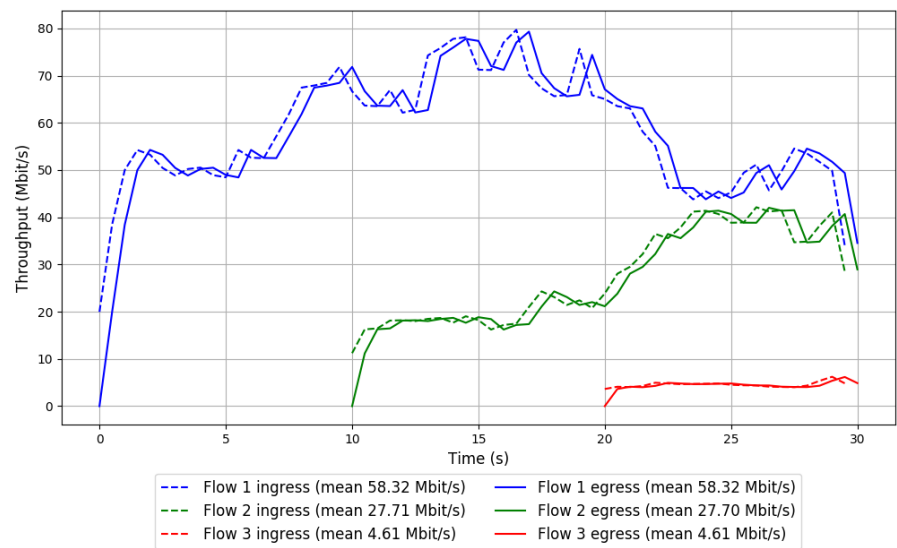
-- Flow 3:

Average throughput: 4.61 Mbit/s

95th percentile per-packet one-way delay: 5.060 ms

Loss rate: 0.00%

Run 4: Report of PCC-Allegro — Data Link



Run 5: Statistics of PCC-Allegro

Start at: 2019-03-09 04:02:04

End at: 2019-03-09 04:02:34

Local clock offset: -1.604 ms

Remote clock offset: 0.441 ms

Below is generated by plot.py at 2019-03-09 04:28:54

Datalink statistics

-- Total of 3 flows:

Average throughput: 89.20 Mbit/s

95th percentile per-packet one-way delay: 4.668 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 73.22 Mbit/s

95th percentile per-packet one-way delay: 4.702 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 9.97 Mbit/s

95th percentile per-packet one-way delay: 4.822 ms

Loss rate: 0.00%

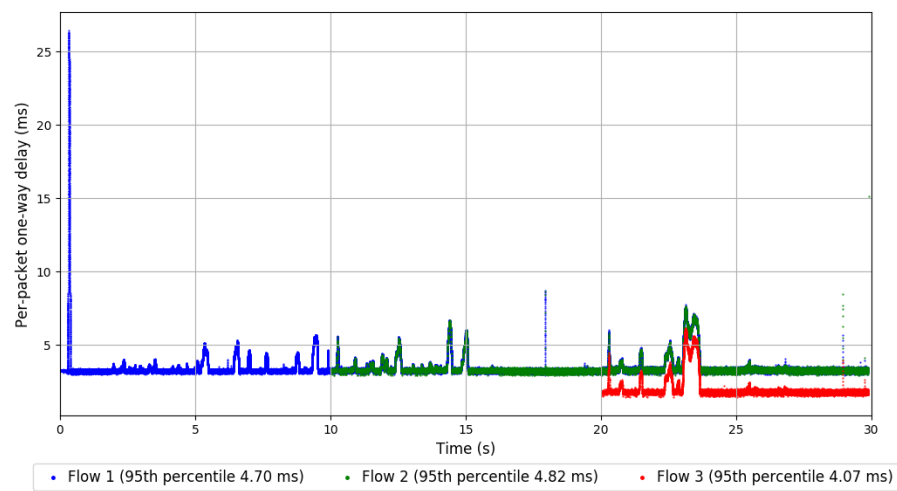
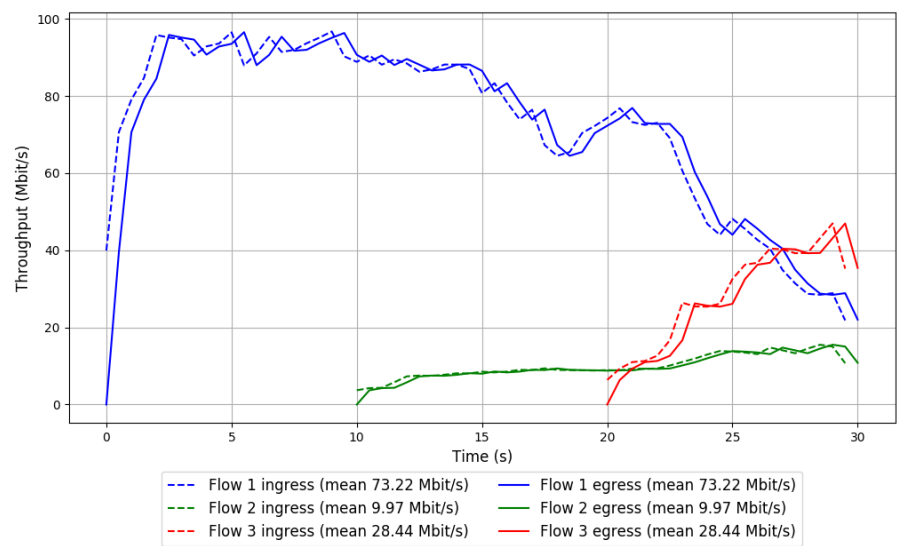
-- Flow 3:

Average throughput: 28.44 Mbit/s

95th percentile per-packet one-way delay: 4.070 ms

Loss rate: 0.00%

Run 5: Report of PCC-Allegro — Data Link

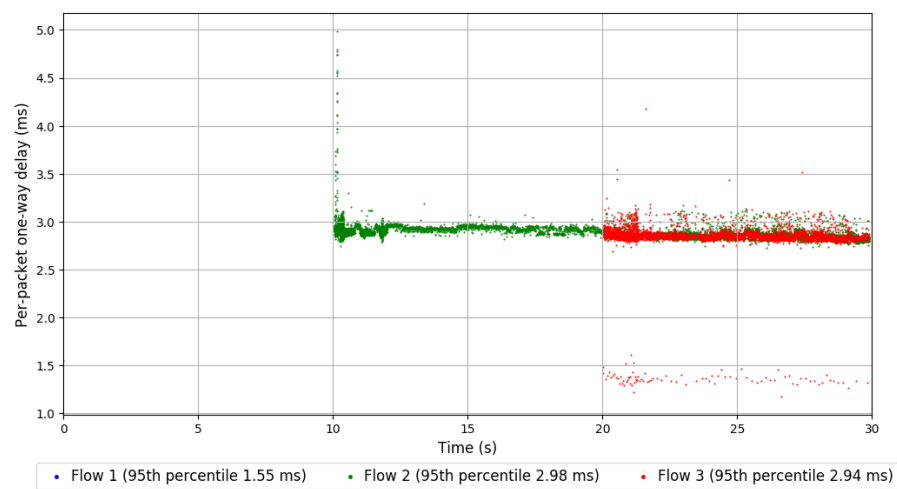
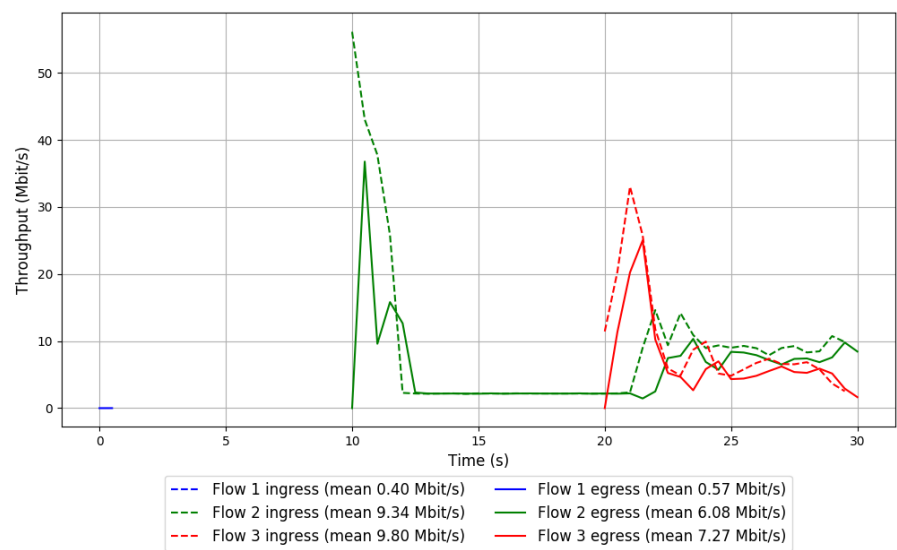


Run 1: Statistics of PCC-Expr

Start at: 2019-03-09 02:31:00
End at: 2019-03-09 02:31:30
Local clock offset: -6.56 ms
Remote clock offset: -0.127 ms

Below is generated by plot.py at 2019-03-09 04:28:54
Datalink statistics
-- Total of 3 flows:
Average throughput: 6.45 Mbit/s
95th percentile per-packet one-way delay: 2.971 ms
Loss rate: 31.73%
-- Flow 1:
Average throughput: 0.57 Mbit/s
95th percentile per-packet one-way delay: 1.547 ms
Loss rate: 85.71%
-- Flow 2:
Average throughput: 6.08 Mbit/s
95th percentile per-packet one-way delay: 2.979 ms
Loss rate: 34.84%
-- Flow 3:
Average throughput: 7.27 Mbit/s
95th percentile per-packet one-way delay: 2.941 ms
Loss rate: 25.75%

Run 1: Report of PCC-Expr — Data Link



Run 2: Statistics of PCC-Expr

Start at: 2019-03-09 02:54:57

End at: 2019-03-09 02:55:27

Local clock offset: -3.88 ms

Remote clock offset: 0.149 ms

Below is generated by plot.py at 2019-03-09 04:28:54

Datalink statistics

-- Total of 3 flows:

Average throughput: 8.86 Mbit/s

95th percentile per-packet one-way delay: 2.574 ms

Loss rate: 21.16%

-- Flow 1:

Average throughput: 0.37 Mbit/s

95th percentile per-packet one-way delay: 2.536 ms

Loss rate: 85.71%

-- Flow 2:

Average throughput: 11.23 Mbit/s

95th percentile per-packet one-way delay: 2.569 ms

Loss rate: 20.88%

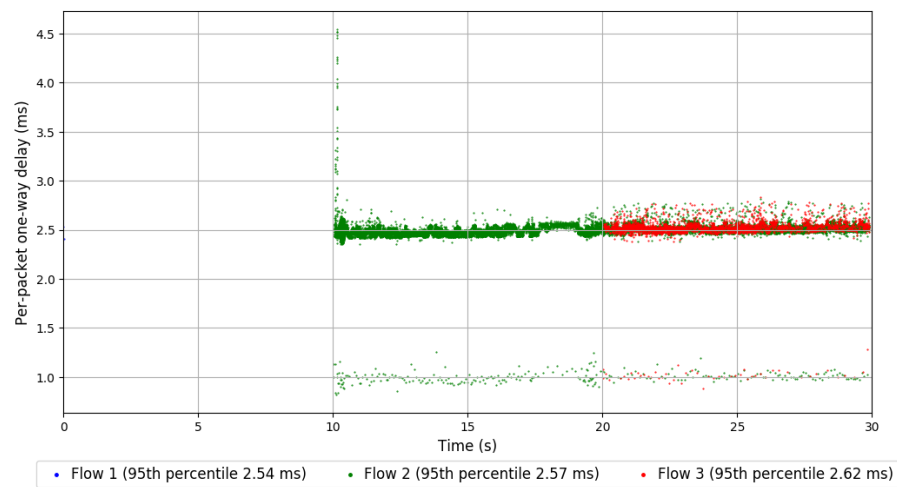
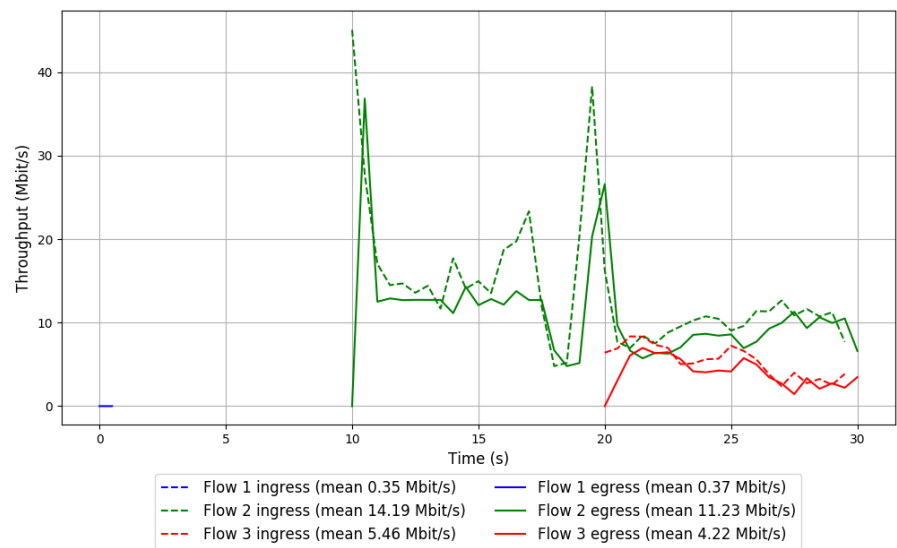
-- Flow 3:

Average throughput: 4.22 Mbit/s

95th percentile per-packet one-way delay: 2.617 ms

Loss rate: 22.66%

Run 2: Report of PCC-Expr — Data Link



Run 3: Statistics of PCC-Expr

Start at: 2019-03-09 03:18:50

End at: 2019-03-09 03:19:20

Local clock offset: -1.989 ms

Remote clock offset: 0.28 ms

Below is generated by plot.py at 2019-03-09 04:28:54

Datalink statistics

-- Total of 3 flows:

Average throughput: 8.86 Mbit/s

95th percentile per-packet one-way delay: 2.408 ms

Loss rate: 22.79%

-- Flow 1:

Average throughput: 0.41 Mbit/s

95th percentile per-packet one-way delay: 2.459 ms

Loss rate: 85.71%

-- Flow 2:

Average throughput: 9.91 Mbit/s

95th percentile per-packet one-way delay: 0.953 ms

Loss rate: 23.09%

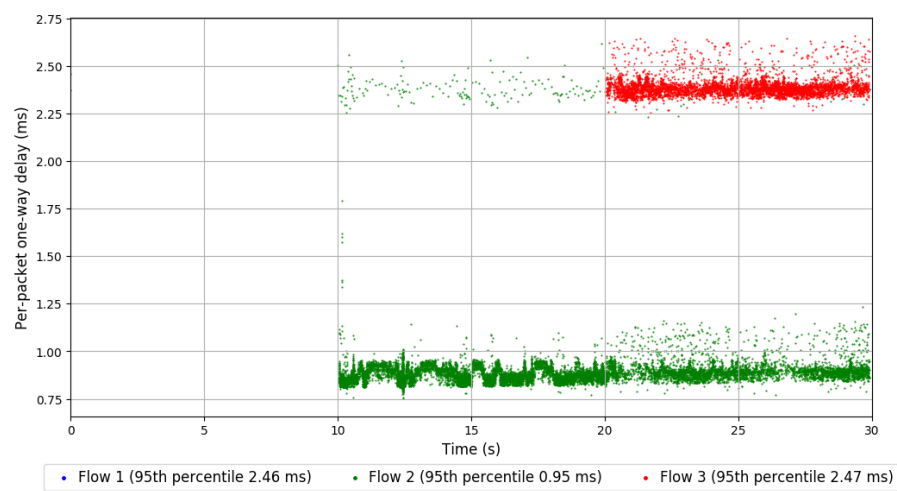
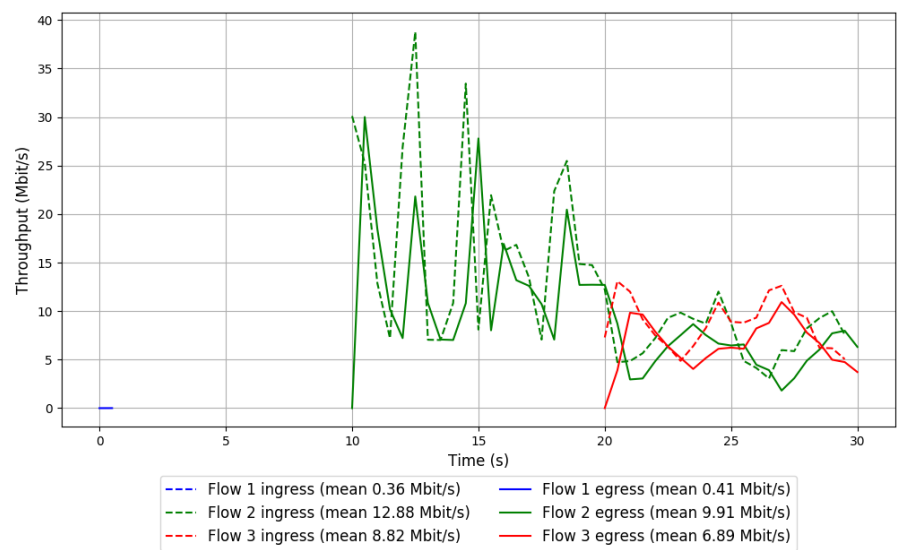
-- Flow 3:

Average throughput: 6.89 Mbit/s

95th percentile per-packet one-way delay: 2.470 ms

Loss rate: 21.92%

Run 3: Report of PCC-Expr — Data Link



Run 4: Statistics of PCC-Expr

Start at: 2019-03-09 03:42:45

End at: 2019-03-09 03:43:15

Local clock offset: -1.872 ms

Remote clock offset: 0.424 ms

Below is generated by plot.py at 2019-03-09 04:28:54

Datalink statistics

-- Total of 3 flows:

Average throughput: 8.86 Mbit/s

95th percentile per-packet one-way delay: 3.222 ms

Loss rate: 25.54%

-- Flow 1:

Average throughput: 0.57 Mbit/s

95th percentile per-packet one-way delay: 1.688 ms

Loss rate: 85.71%

-- Flow 2:

Average throughput: 9.64 Mbit/s

95th percentile per-packet one-way delay: 3.230 ms

Loss rate: 22.85%

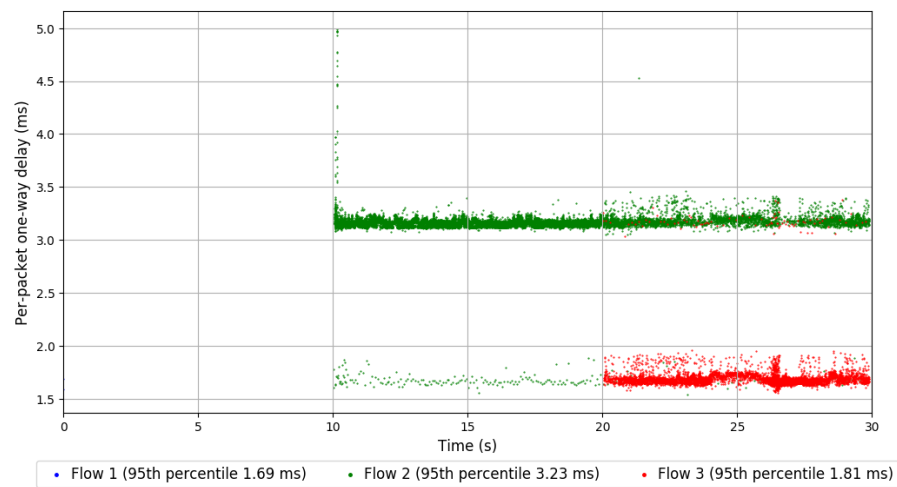
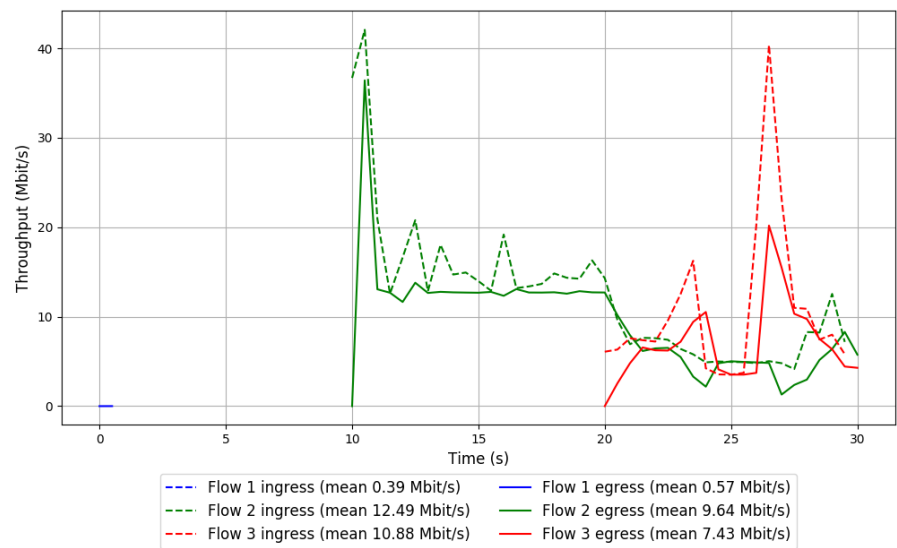
-- Flow 3:

Average throughput: 7.43 Mbit/s

95th percentile per-packet one-way delay: 1.812 ms

Loss rate: 31.74%

Run 4: Report of PCC-Expr — Data Link



Run 5: Statistics of PCC-Expr

Start at: 2019-03-09 04:06:39

End at: 2019-03-09 04:07:09

Local clock offset: -0.847 ms

Remote clock offset: 0.486 ms

Below is generated by plot.py at 2019-03-09 04:28:54

Datalink statistics

-- Total of 3 flows:

Average throughput: 8.87 Mbit/s

95th percentile per-packet one-way delay: 2.552 ms

Loss rate: 21.94%

-- Flow 1:

Average throughput: 0.59 Mbit/s

95th percentile per-packet one-way delay: 1.147 ms

Loss rate: 85.71%

-- Flow 2:

Average throughput: 10.88 Mbit/s

95th percentile per-packet one-way delay: 2.550 ms

Loss rate: 21.44%

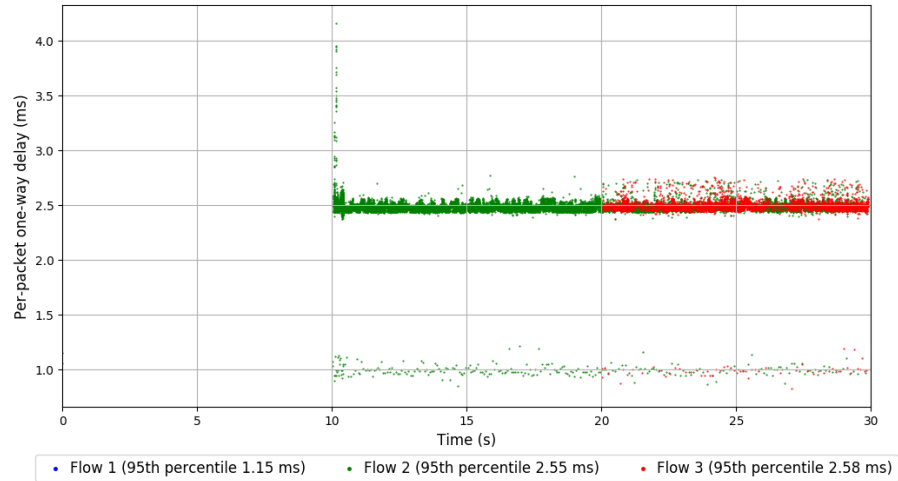
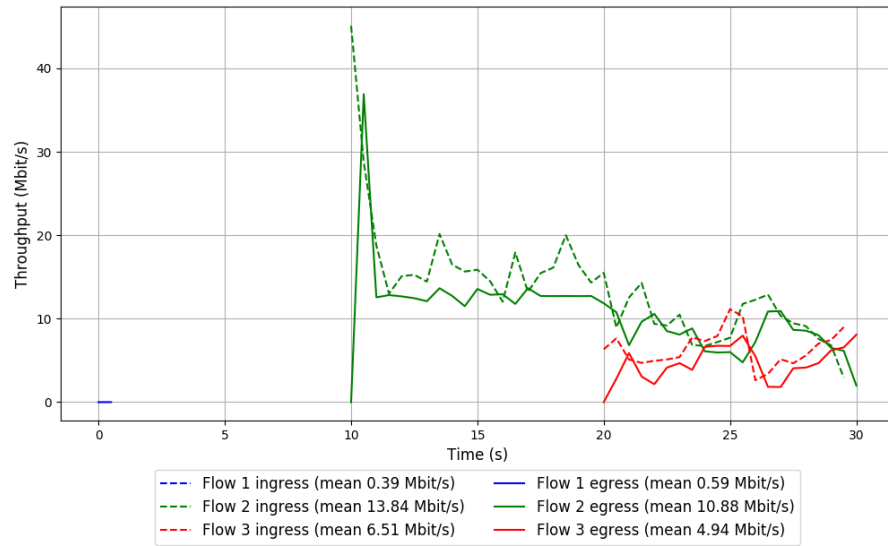
-- Flow 3:

Average throughput: 4.94 Mbit/s

95th percentile per-packet one-way delay: 2.582 ms

Loss rate: 24.10%

Run 5: Report of PCC-Expr — Data Link



Run 1: Statistics of QUIC Cubic

Start at: 2019-03-09 02:37:44

End at: 2019-03-09 02:38:14

Local clock offset: -7.869 ms

Remote clock offset: 0.039 ms

Below is generated by plot.py at 2019-03-09 04:29:31

Datalink statistics

-- Total of 3 flows:

Average throughput: 91.00 Mbit/s

95th percentile per-packet one-way delay: 30.399 ms

Loss rate: 0.24%

-- Flow 1:

Average throughput: 57.33 Mbit/s

95th percentile per-packet one-way delay: 30.247 ms

Loss rate: 0.16%

-- Flow 2:

Average throughput: 33.19 Mbit/s

95th percentile per-packet one-way delay: 30.581 ms

Loss rate: 0.26%

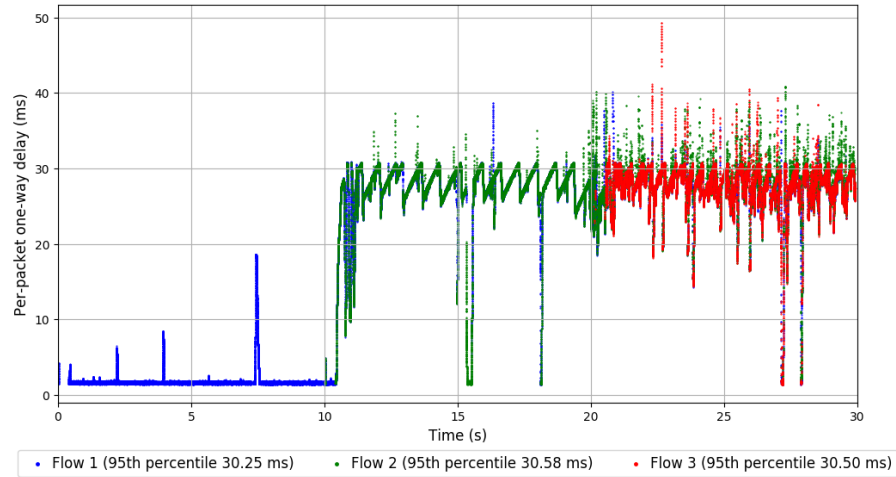
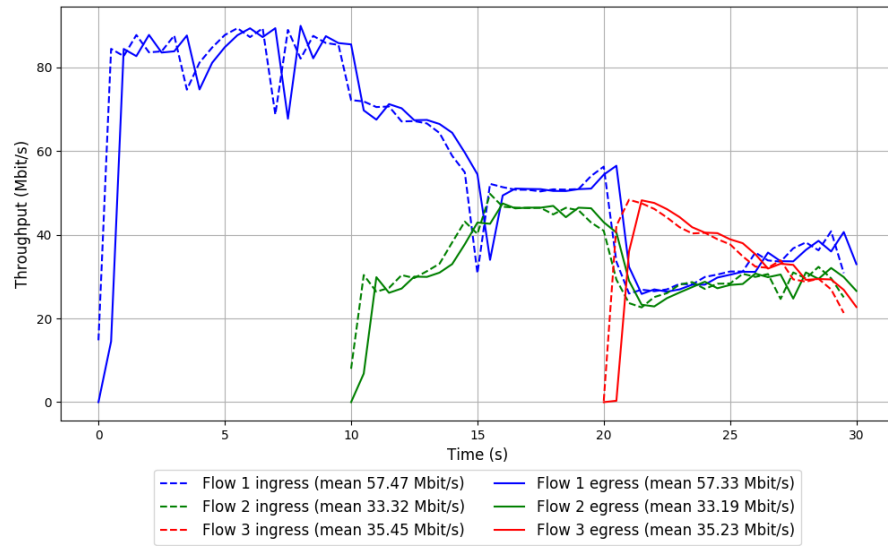
-- Flow 3:

Average throughput: 35.23 Mbit/s

95th percentile per-packet one-way delay: 30.496 ms

Loss rate: 0.60%

Run 1: Report of QUIC Cubic — Data Link



Run 2: Statistics of QUIC Cubic

Start at: 2019-03-09 03:01:39

End at: 2019-03-09 03:02:09

Local clock offset: -3.034 ms

Remote clock offset: 0.21 ms

Below is generated by plot.py at 2019-03-09 04:29:37

Datalink statistics

-- Total of 3 flows:

Average throughput: 90.32 Mbit/s

95th percentile per-packet one-way delay: 30.060 ms

Loss rate: 0.18%

-- Flow 1:

Average throughput: 57.90 Mbit/s

95th percentile per-packet one-way delay: 29.720 ms

Loss rate: 0.17%

-- Flow 2:

Average throughput: 34.55 Mbit/s

95th percentile per-packet one-way delay: 29.953 ms

Loss rate: 0.19%

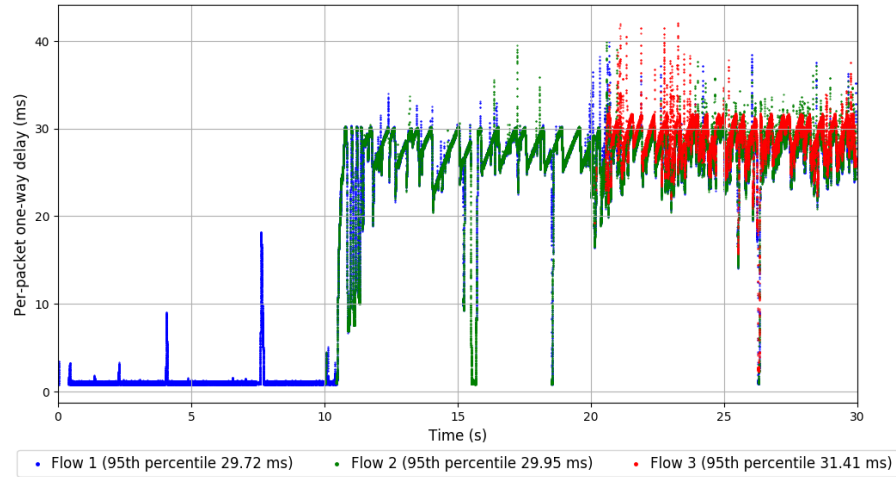
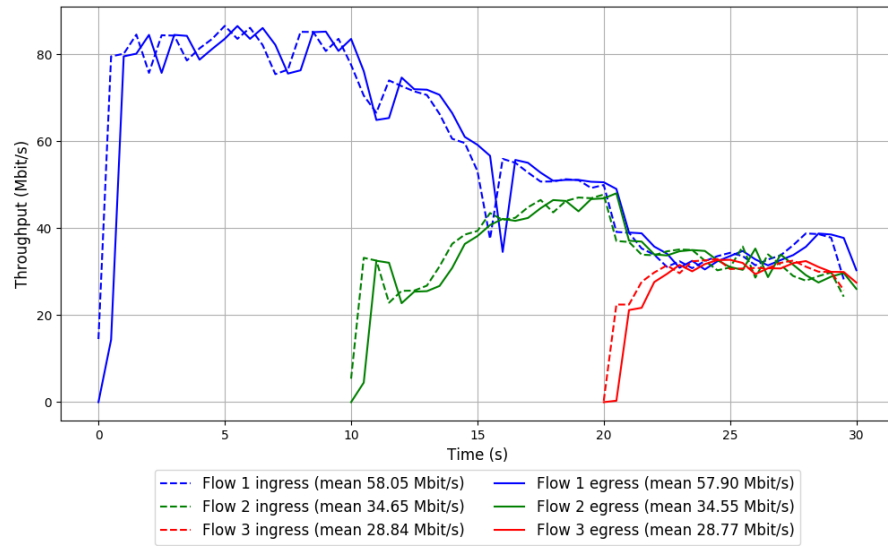
-- Flow 3:

Average throughput: 28.77 Mbit/s

95th percentile per-packet one-way delay: 31.415 ms

Loss rate: 0.20%

Run 2: Report of QUIC Cubic — Data Link



Run 3: Statistics of QUIC Cubic

Start at: 2019-03-09 03:25:32

End at: 2019-03-09 03:26:02

Local clock offset: -1.557 ms

Remote clock offset: 0.349 ms

Below is generated by plot.py at 2019-03-09 04:29:37

Datalink statistics

-- Total of 3 flows:

Average throughput: 89.74 Mbit/s

95th percentile per-packet one-way delay: 30.913 ms

Loss rate: 0.15%

-- Flow 1:

Average throughput: 57.05 Mbit/s

95th percentile per-packet one-way delay: 29.566 ms

Loss rate: 0.14%

-- Flow 2:

Average throughput: 35.75 Mbit/s

95th percentile per-packet one-way delay: 31.384 ms

Loss rate: 0.16%

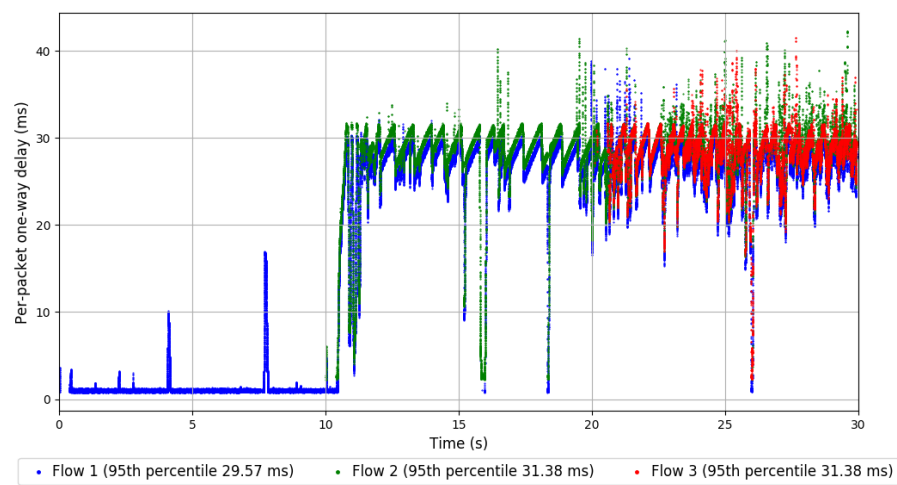
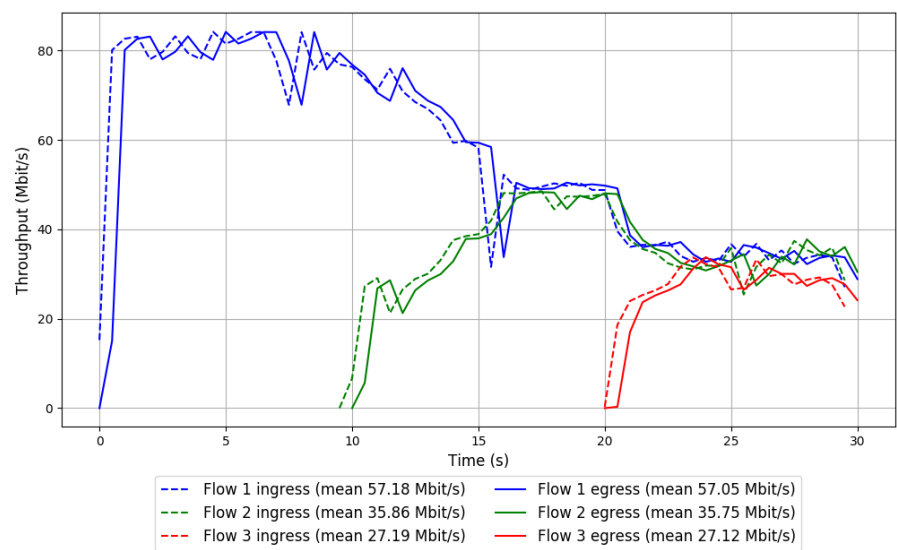
-- Flow 3:

Average throughput: 27.12 Mbit/s

95th percentile per-packet one-way delay: 31.380 ms

Loss rate: 0.19%

Run 3: Report of QUIC Cubic — Data Link



Run 4: Statistics of QUIC Cubic

Start at: 2019-03-09 03:49:26

End at: 2019-03-09 03:49:56

Local clock offset: -1.767 ms

Remote clock offset: 0.465 ms

Below is generated by plot.py at 2019-03-09 04:29:40

Datalink statistics

-- Total of 3 flows:

Average throughput: 90.41 Mbit/s

95th percentile per-packet one-way delay: 32.100 ms

Loss rate: 0.13%

-- Flow 1:

Average throughput: 58.55 Mbit/s

95th percentile per-packet one-way delay: 31.995 ms

Loss rate: 0.11%

-- Flow 2:

Average throughput: 33.29 Mbit/s

95th percentile per-packet one-way delay: 32.172 ms

Loss rate: 0.15%

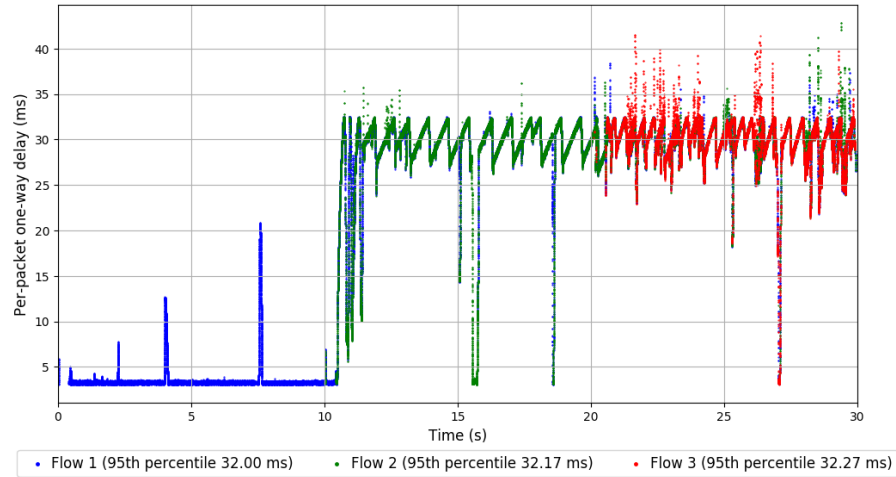
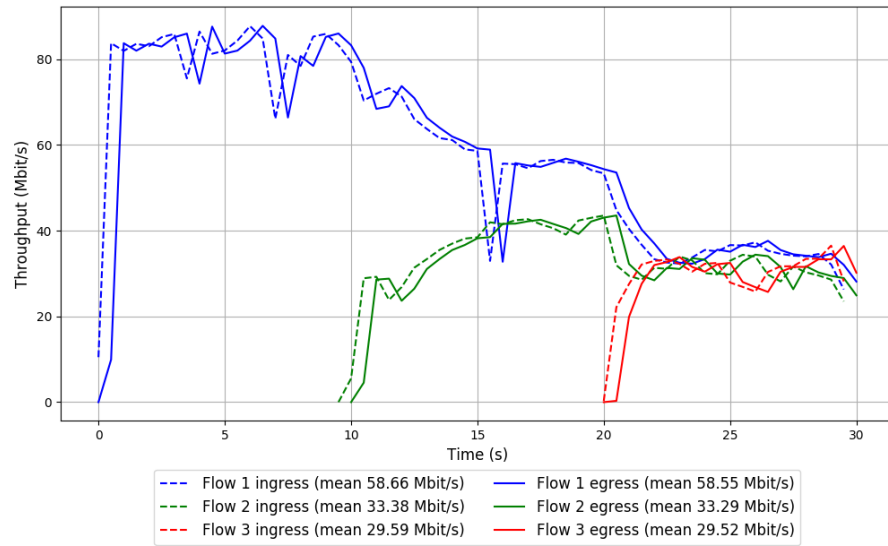
-- Flow 3:

Average throughput: 29.52 Mbit/s

95th percentile per-packet one-way delay: 32.271 ms

Loss rate: 0.25%

Run 4: Report of QUIC Cubic — Data Link



Run 5: Statistics of QUIC Cubic

Start at: 2019-03-09 04:13:21

End at: 2019-03-09 04:13:51

Local clock offset: -1.464 ms

Remote clock offset: 0.509 ms

Below is generated by plot.py at 2019-03-09 04:29:48

Datalink statistics

-- Total of 3 flows:

Average throughput: 90.11 Mbit/s

95th percentile per-packet one-way delay: 31.414 ms

Loss rate: 0.17%

-- Flow 1:

Average throughput: 58.20 Mbit/s

95th percentile per-packet one-way delay: 30.366 ms

Loss rate: 0.15%

-- Flow 2:

Average throughput: 35.24 Mbit/s

95th percentile per-packet one-way delay: 32.029 ms

Loss rate: 0.17%

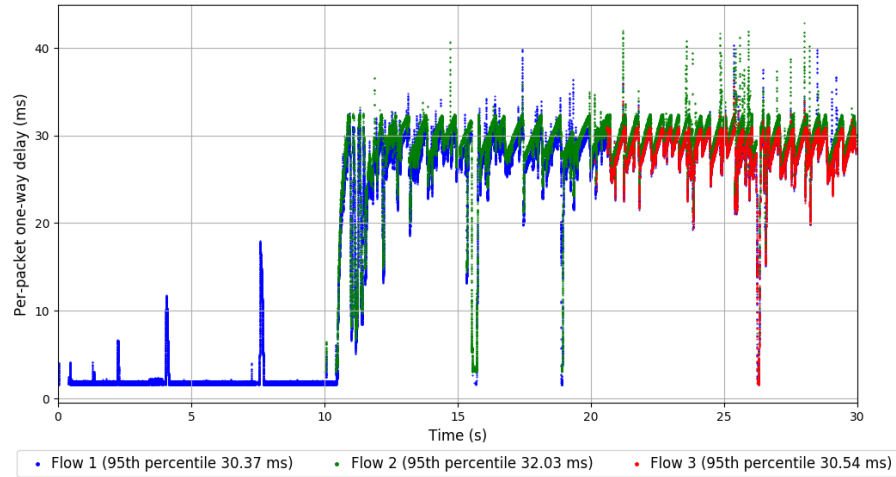
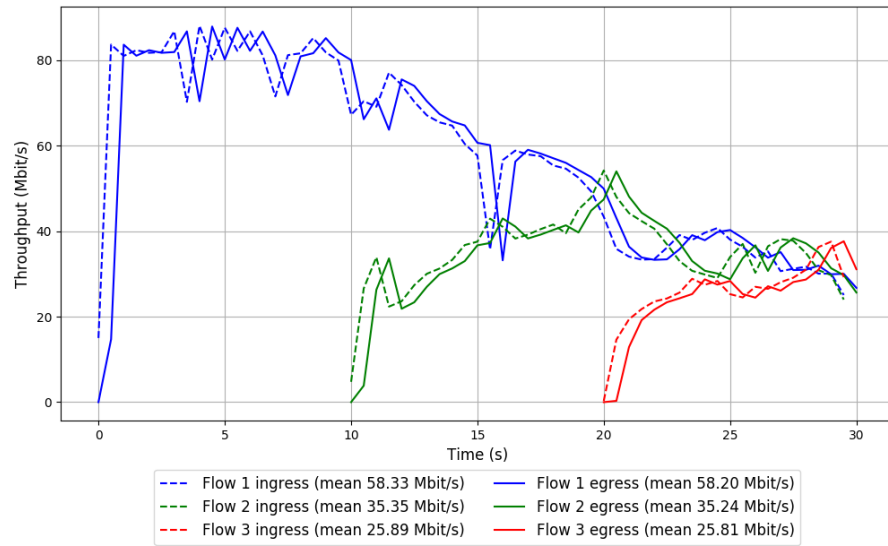
-- Flow 3:

Average throughput: 25.81 Mbit/s

95th percentile per-packet one-way delay: 30.544 ms

Loss rate: 0.32%

Run 5: Report of QUIC Cubic — Data Link

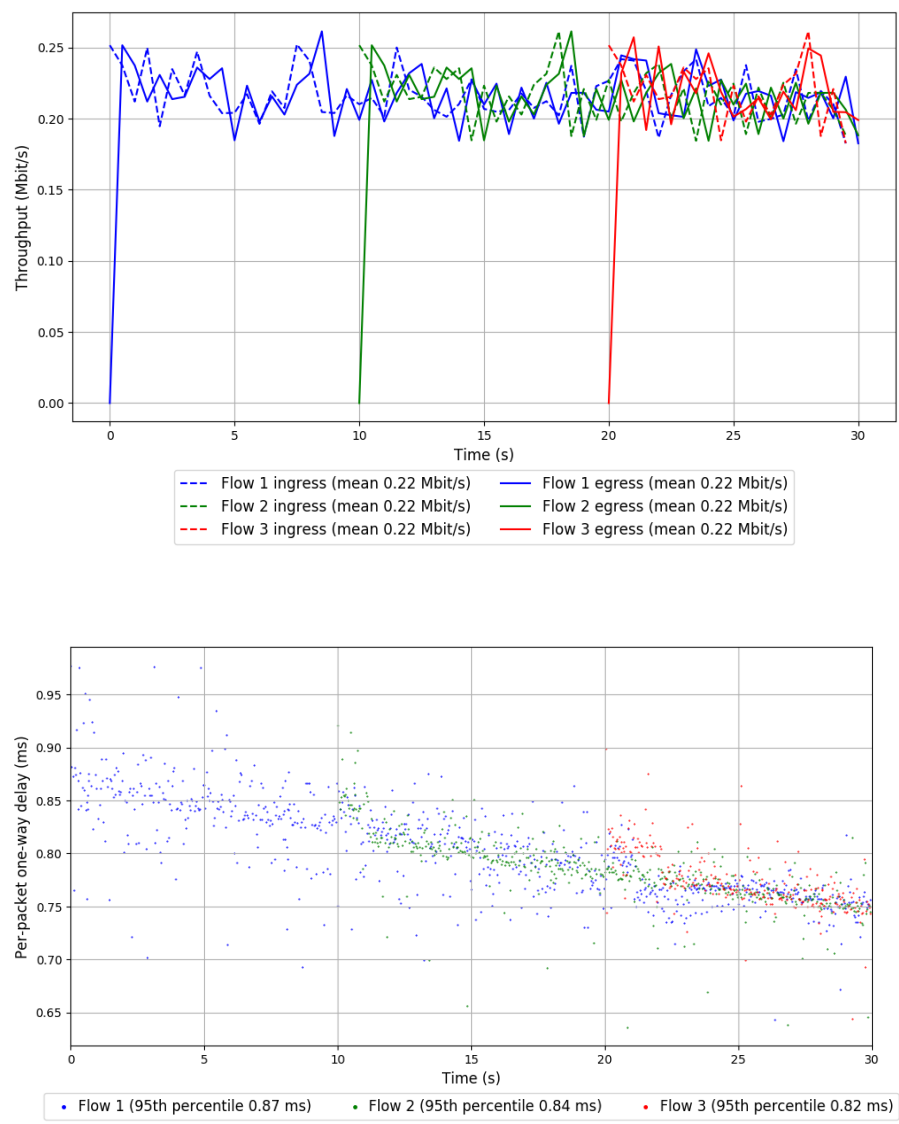


Run 1: Statistics of SReAM

Start at: 2019-03-09 02:32:06
End at: 2019-03-09 02:32:36
Local clock offset: -6.145 ms
Remote clock offset: -0.077 ms

Below is generated by plot.py at 2019-03-09 04:29:48
Datalink statistics
-- Total of 3 flows:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 0.864 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 0.874 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 0.843 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 0.823 ms
Loss rate: 0.00%

Run 1: Report of SReAM — Data Link

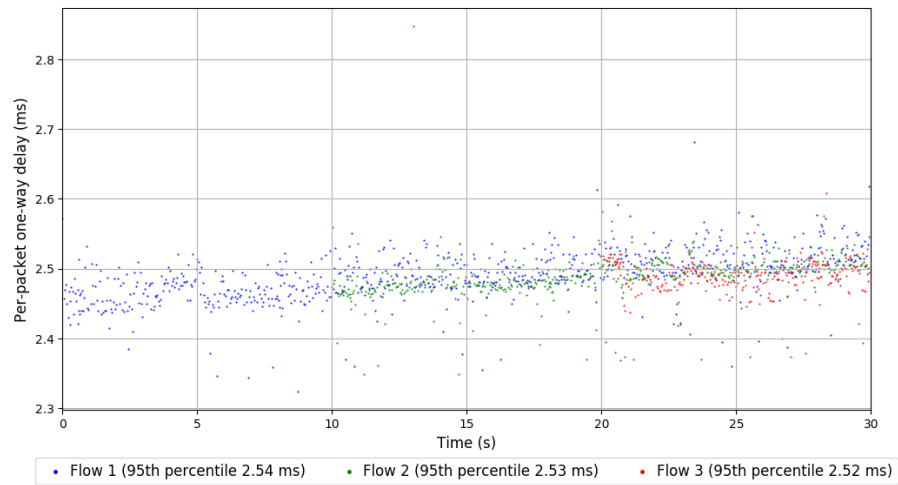
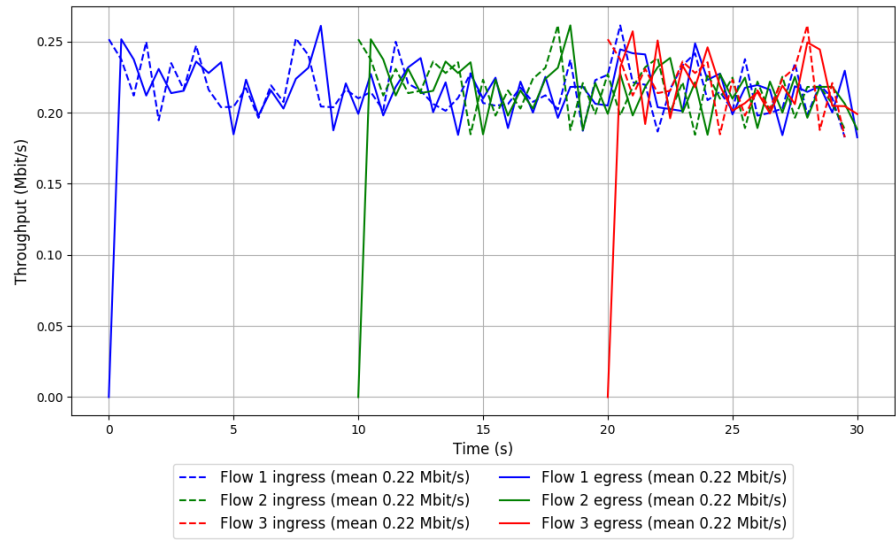


Run 2: Statistics of SReAM

Start at: 2019-03-09 02:56:03
End at: 2019-03-09 02:56:33
Local clock offset: -3.689 ms
Remote clock offset: 0.135 ms

Below is generated by plot.py at 2019-03-09 04:29:48
Datalink statistics
-- Total of 3 flows:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 2.534 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 2.543 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 2.526 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 2.522 ms
Loss rate: 0.00%

Run 2: Report of SReAM — Data Link

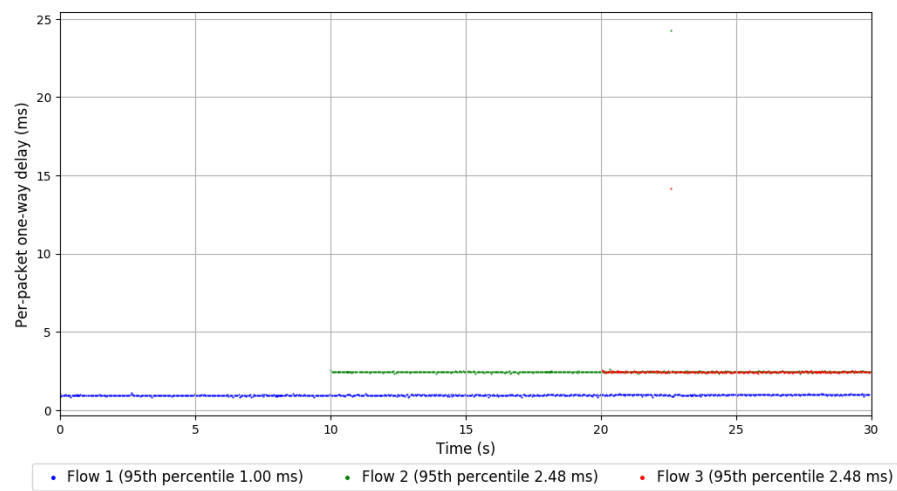
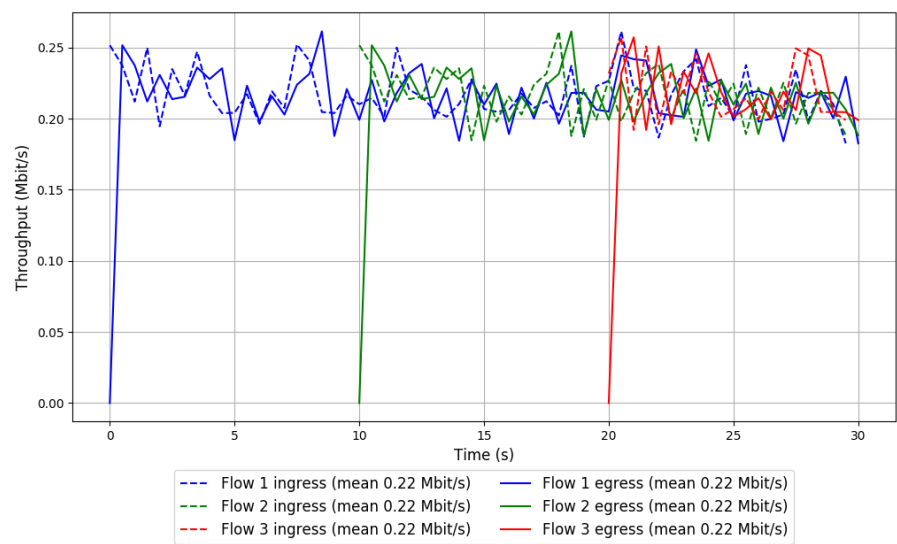


Run 3: Statistics of SReAM

Start at: 2019-03-09 03:19:56
End at: 2019-03-09 03:20:26
Local clock offset: -1.906 ms
Remote clock offset: 0.33 ms

Below is generated by plot.py at 2019-03-09 04:29:48
Datalink statistics
-- Total of 3 flows:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 2.468 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 0.999 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 2.476 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 2.485 ms
Loss rate: 0.00%

Run 3: Report of SReAM — Data Link

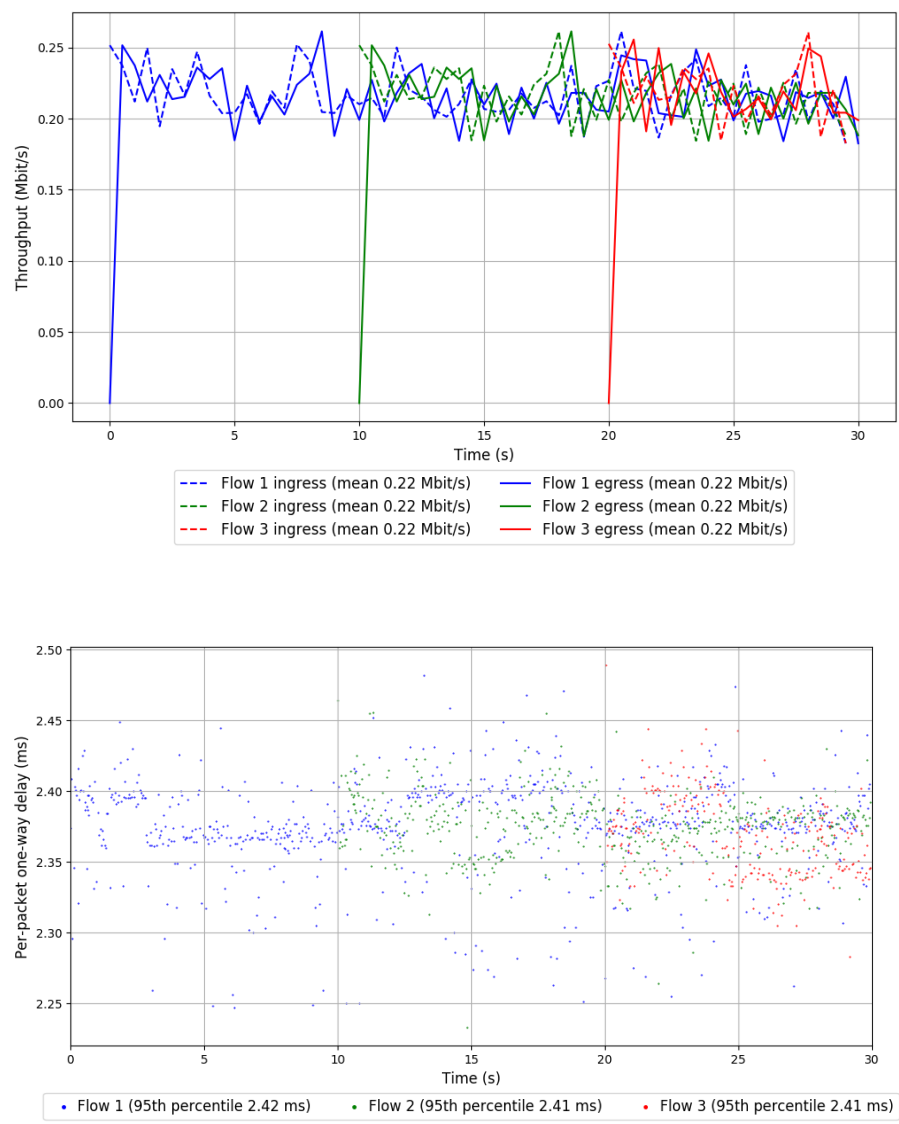


Run 4: Statistics of SReAM

Start at: 2019-03-09 03:43:50
End at: 2019-03-09 03:44:20
Local clock offset: -1.093 ms
Remote clock offset: 0.373 ms

Below is generated by plot.py at 2019-03-09 04:29:48
Datalink statistics
-- Total of 3 flows:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 2.416 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 2.422 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 2.412 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 2.413 ms
Loss rate: 0.00%

Run 4: Report of SReAM — Data Link

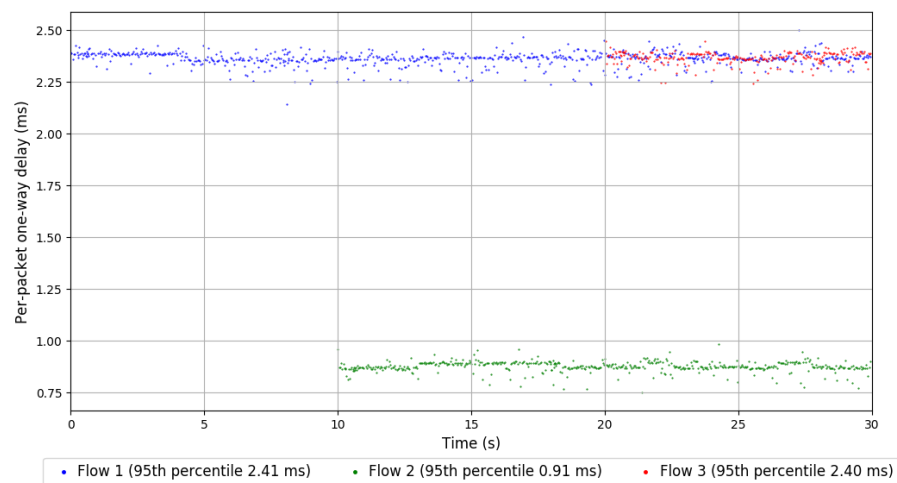
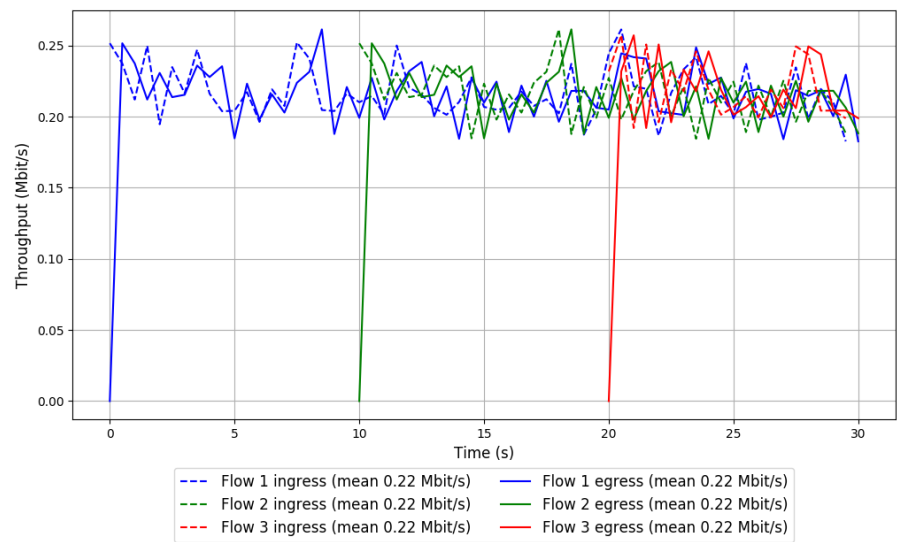


Run 5: Statistics of SReAM

Start at: 2019-03-09 04:07:45
End at: 2019-03-09 04:08:15
Local clock offset: -0.763 ms
Remote clock offset: 0.411 ms

Below is generated by plot.py at 2019-03-09 04:29:48
Datalink statistics
-- Total of 3 flows:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 2.397 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 2.406 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 0.907 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 2.399 ms
Loss rate: 0.00%

Run 5: Report of SReAM — Data Link

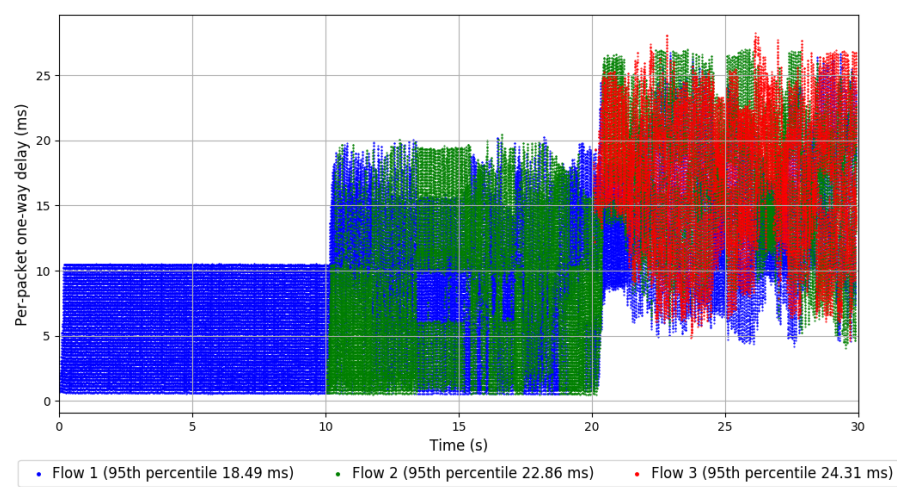
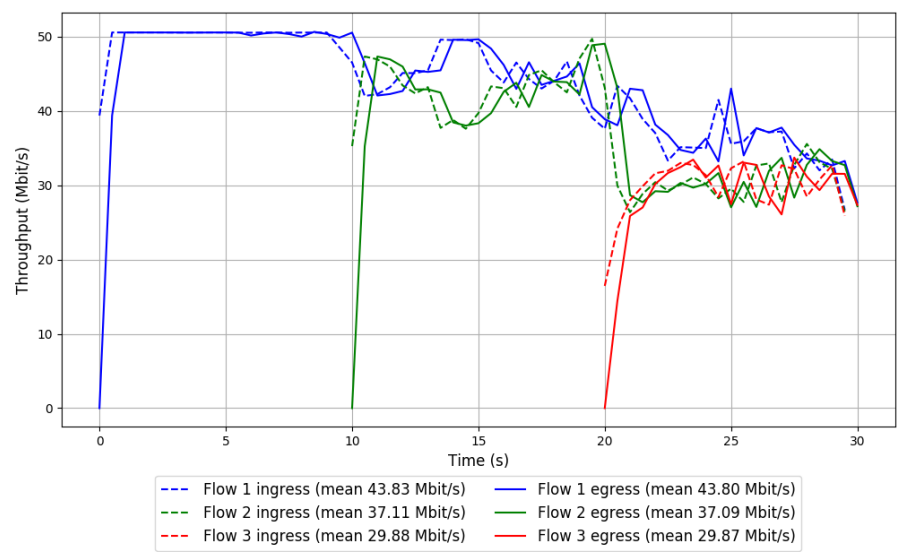


Run 1: Statistics of Sprout

Start at: 2019-03-09 02:27:33
End at: 2019-03-09 02:28:03
Local clock offset: -4.767 ms
Remote clock offset: -0.062 ms

Below is generated by plot.py at 2019-03-09 04:29:48
Datalink statistics
-- Total of 3 flows:
Average throughput: 78.34 Mbit/s
95th percentile per-packet one-way delay: 22.062 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 43.80 Mbit/s
95th percentile per-packet one-way delay: 18.491 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 37.09 Mbit/s
95th percentile per-packet one-way delay: 22.864 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 29.87 Mbit/s
95th percentile per-packet one-way delay: 24.307 ms
Loss rate: 0.00%

Run 1: Report of Sprout — Data Link

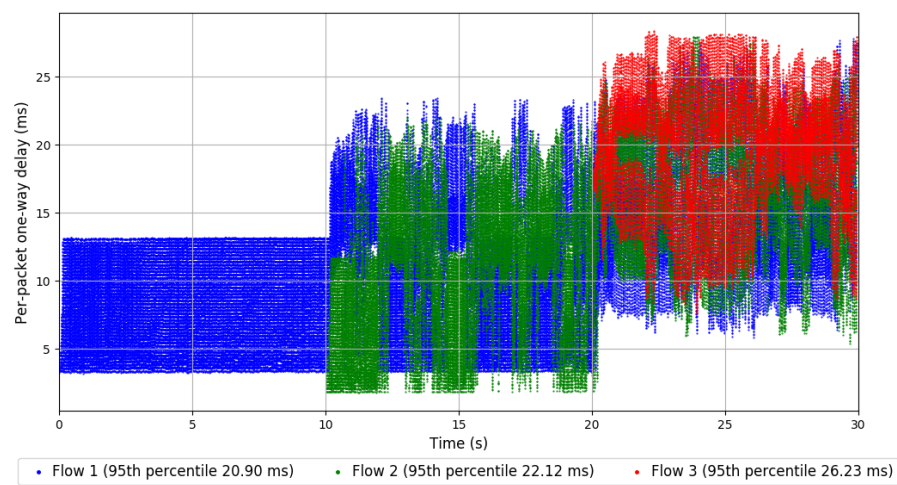
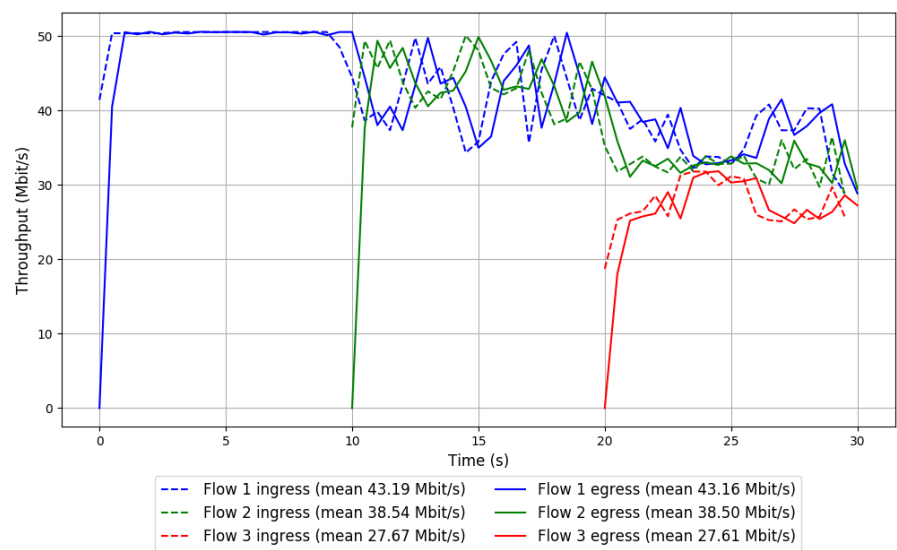


Run 2: Statistics of Sprout

Start at: 2019-03-09 02:51:30
End at: 2019-03-09 02:52:00
Local clock offset: -5.485 ms
Remote clock offset: 0.157 ms

```
# Below is generated by plot.py at 2019-03-09 04:29:48
# Datalink statistics
-- Total of 3 flows:
Average throughput: 77.90 Mbit/s
95th percentile per-packet one-way delay: 22.927 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 43.16 Mbit/s
95th percentile per-packet one-way delay: 20.900 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 38.50 Mbit/s
95th percentile per-packet one-way delay: 22.125 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 27.61 Mbit/s
95th percentile per-packet one-way delay: 26.234 ms
Loss rate: 0.00%
```

Run 2: Report of Sprout — Data Link

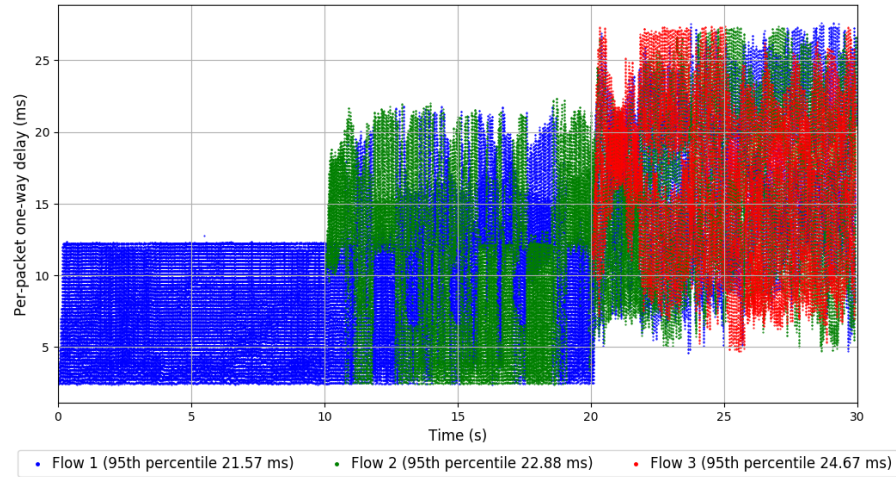
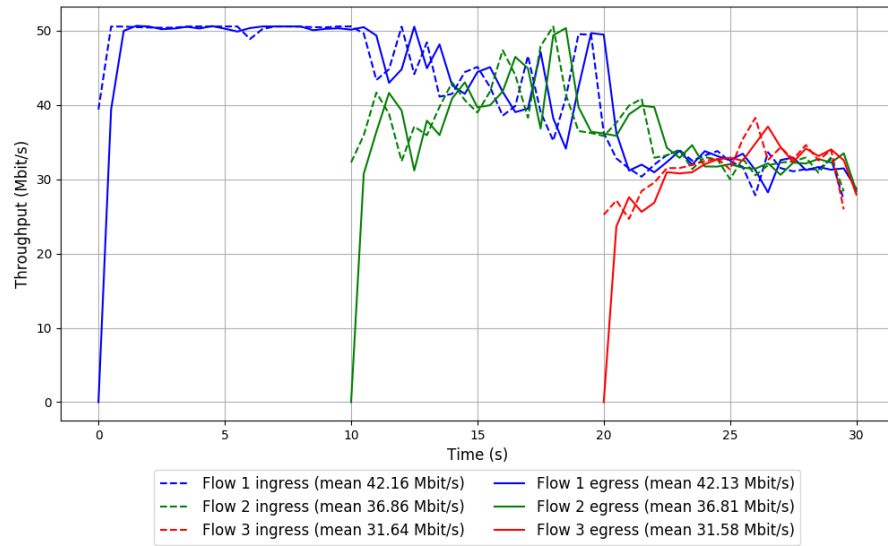


Run 3: Statistics of Sprout

Start at: 2019-03-09 03:15:23
End at: 2019-03-09 03:15:53
Local clock offset: -2.384 ms
Remote clock offset: 0.343 ms

```
# Below is generated by plot.py at 2019-03-09 04:29:54
# Datalink statistics
-- Total of 3 flows:
Average throughput: 77.08 Mbit/s
95th percentile per-packet one-way delay: 22.800 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 42.13 Mbit/s
95th percentile per-packet one-way delay: 21.565 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 36.81 Mbit/s
95th percentile per-packet one-way delay: 22.878 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 31.58 Mbit/s
95th percentile per-packet one-way delay: 24.666 ms
Loss rate: 0.00%
```

Run 3: Report of Sprout — Data Link

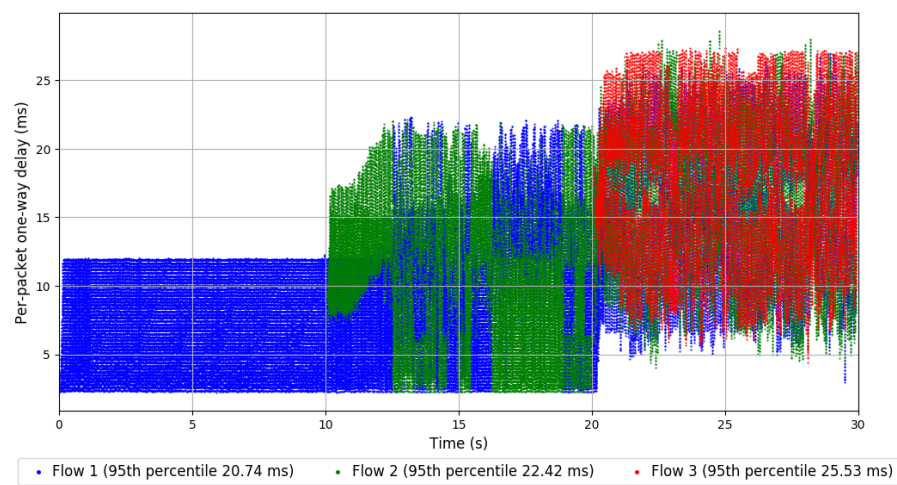
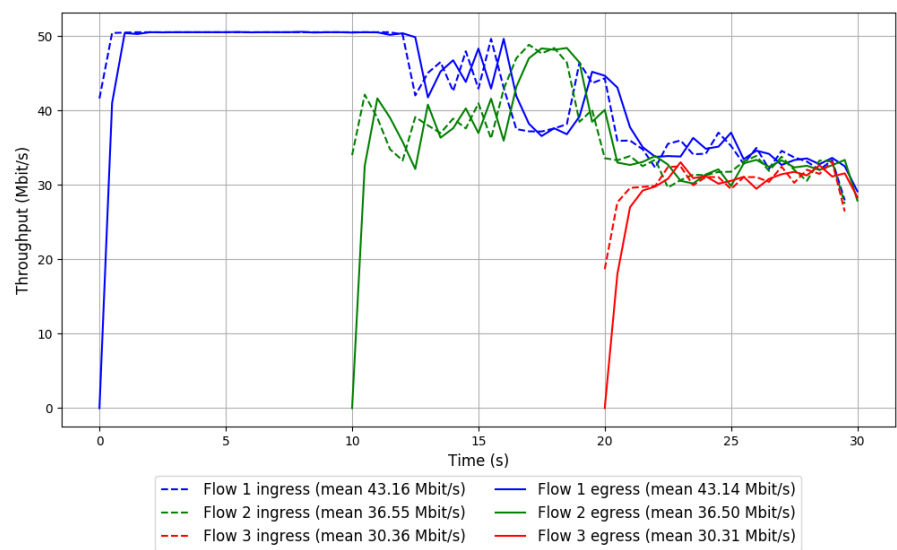


Run 4: Statistics of Sprout

Start at: 2019-03-09 03:39:18
End at: 2019-03-09 03:39:48
Local clock offset: -1.225 ms
Remote clock offset: 0.265 ms

```
# Below is generated by plot.py at 2019-03-09 04:30:26
# Datalink statistics
-- Total of 3 flows:
Average throughput: 77.45 Mbit/s
95th percentile per-packet one-way delay: 22.755 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 43.14 Mbit/s
95th percentile per-packet one-way delay: 20.740 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 36.50 Mbit/s
95th percentile per-packet one-way delay: 22.416 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 30.31 Mbit/s
95th percentile per-packet one-way delay: 25.533 ms
Loss rate: 0.00%
```

Run 4: Report of Sprout — Data Link

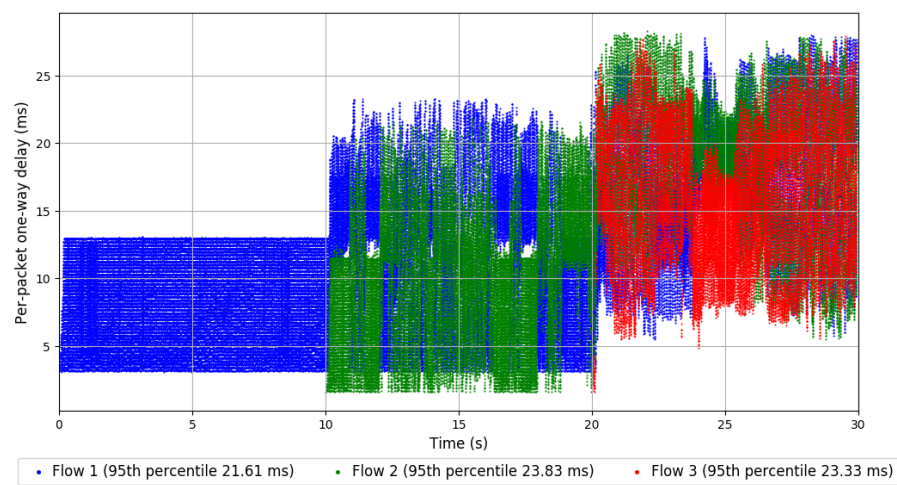
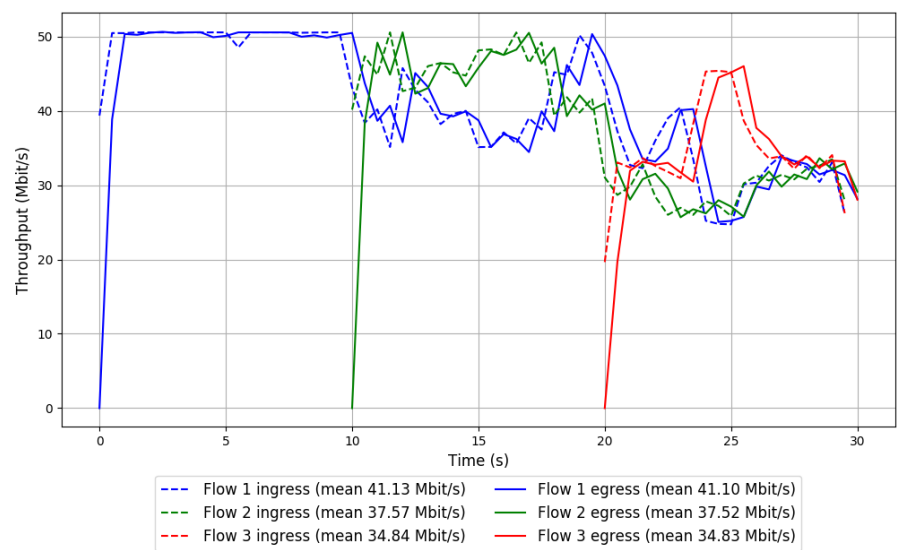


Run 5: Statistics of Sprout

Start at: 2019-03-09 04:03:12
End at: 2019-03-09 04:03:42
Local clock offset: -1.588 ms
Remote clock offset: 0.459 ms

```
# Below is generated by plot.py at 2019-03-09 04:30:30
# Datalink statistics
-- Total of 3 flows:
Average throughput: 77.57 Mbit/s
95th percentile per-packet one-way delay: 22.807 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 41.10 Mbit/s
95th percentile per-packet one-way delay: 21.615 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 37.52 Mbit/s
95th percentile per-packet one-way delay: 23.827 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 34.83 Mbit/s
95th percentile per-packet one-way delay: 23.328 ms
Loss rate: 0.00%
```

Run 5: Report of Sprout — Data Link

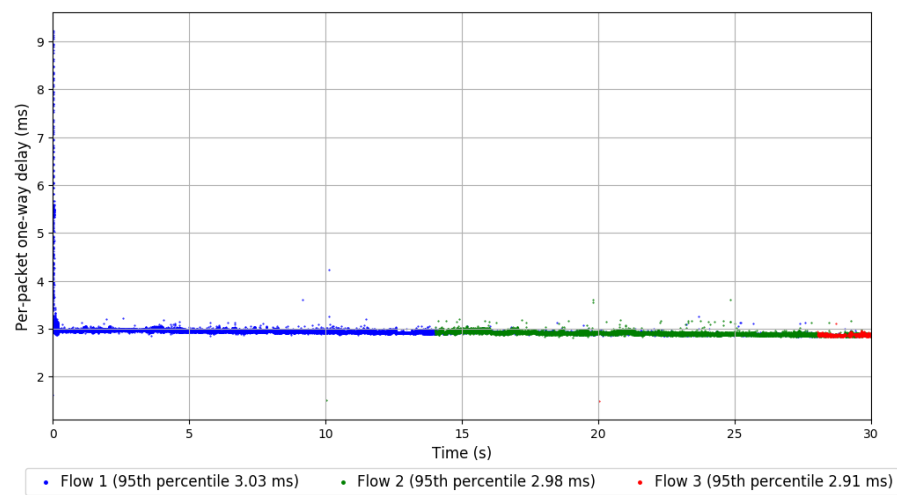
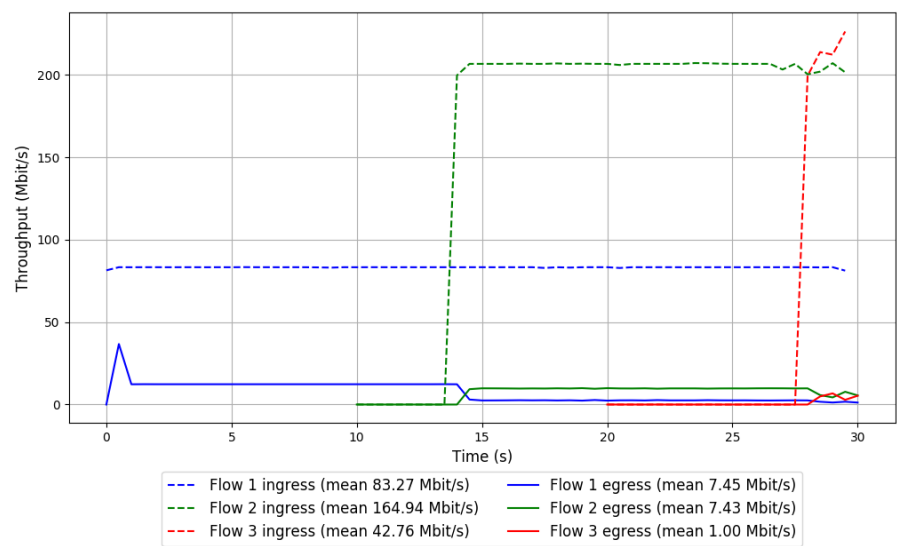


Run 1: Statistics of TaoVA-100x

Start at: 2019-03-09 02:33:11
End at: 2019-03-09 02:33:41
Local clock offset: -7.026 ms
Remote clock offset: -0.056 ms

Below is generated by plot.py at 2019-03-09 04:30:30
Datalink statistics
-- Total of 3 flows:
Average throughput: 12.73 Mbit/s
95th percentile per-packet one-way delay: 3.004 ms
Loss rate: 93.86%
-- Flow 1:
Average throughput: 7.45 Mbit/s
95th percentile per-packet one-way delay: 3.026 ms
Loss rate: 91.05%
-- Flow 2:
Average throughput: 7.43 Mbit/s
95th percentile per-packet one-way delay: 2.983 ms
Loss rate: 95.50%
-- Flow 3:
Average throughput: 1.00 Mbit/s
95th percentile per-packet one-way delay: 2.912 ms
Loss rate: 97.67%

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



Run 2: Statistics of TaoVA-100x

Start at: 2019-03-09 02:57:08

End at: 2019-03-09 02:57:38

Local clock offset: -4.27 ms

Remote clock offset: 0.167 ms

Below is generated by plot.py at 2019-03-09 04:30:30

Datalink statistics

-- Total of 3 flows:

Average throughput: 12.64 Mbit/s

95th percentile per-packet one-way delay: 3.238 ms

Loss rate: 84.26%

-- Flow 1:

Average throughput: 4.91 Mbit/s

95th percentile per-packet one-way delay: 3.265 ms

Loss rate: 83.21%

-- Flow 2:

Average throughput: 11.60 Mbit/s

95th percentile per-packet one-way delay: 1.787 ms

Loss rate: 84.86%

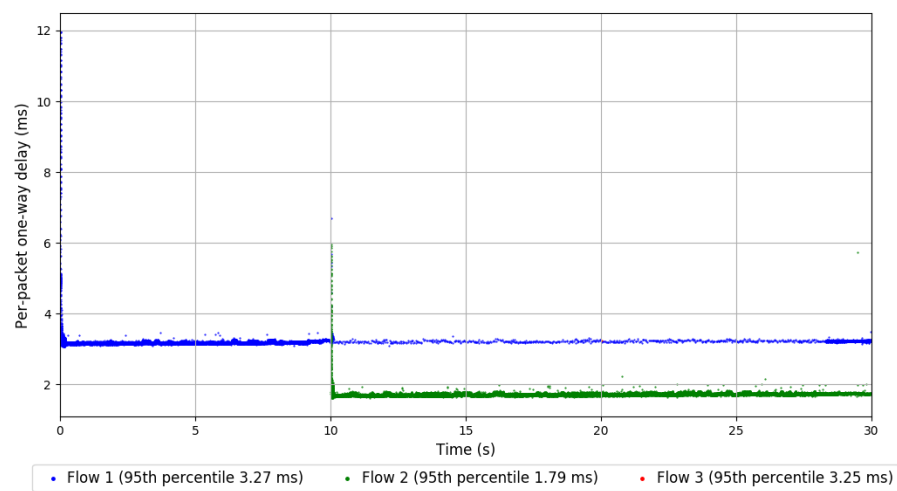
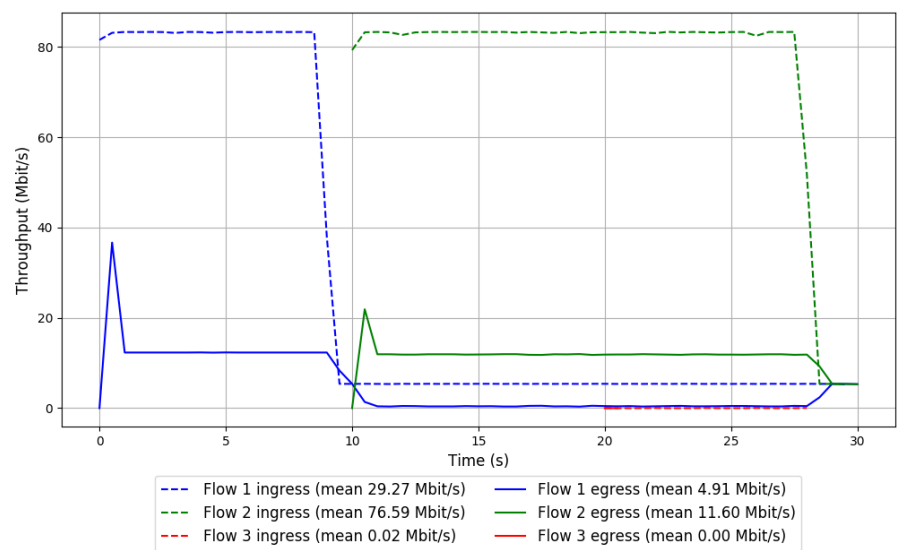
-- Flow 3:

Average throughput: 0.00 Mbit/s

95th percentile per-packet one-way delay: 3.251 ms

Loss rate: 99.16%

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



Run 3: Statistics of TaoVA-100x

Start at: 2019-03-09 03:21:01

End at: 2019-03-09 03:21:31

Local clock offset: -1.801 ms

Remote clock offset: 0.303 ms

Below is generated by plot.py at 2019-03-09 04:30:30

Datalink statistics

-- Total of 3 flows:

Average throughput: 12.73 Mbit/s

95th percentile per-packet one-way delay: 2.440 ms

Loss rate: 85.73%

-- Flow 1:

Average throughput: 12.28 Mbit/s

95th percentile per-packet one-way delay: 2.427 ms

Loss rate: 83.94%

-- Flow 2:

Average throughput: 1.38 Mbit/s

95th percentile per-packet one-way delay: 5.723 ms

Loss rate: 90.78%

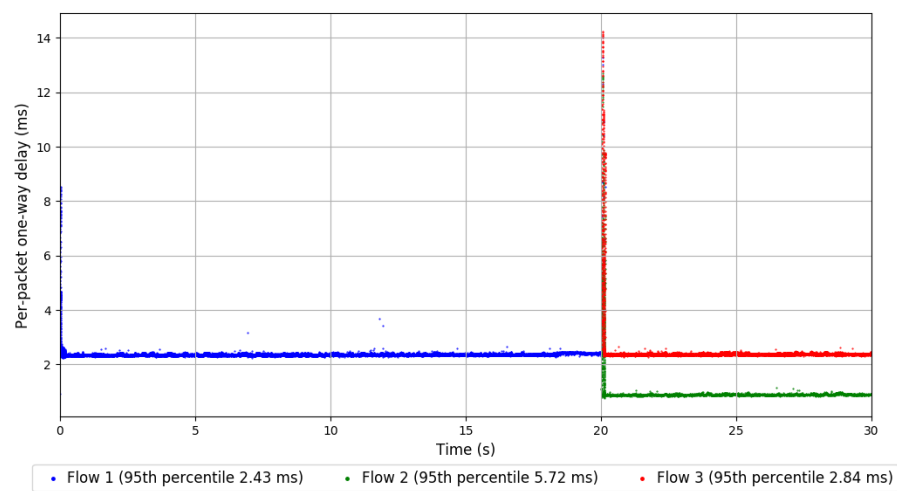
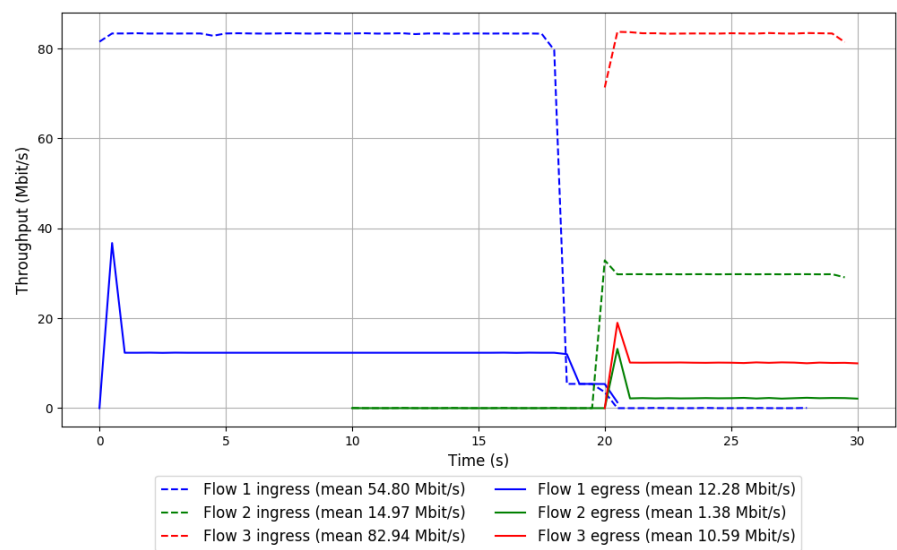
-- Flow 3:

Average throughput: 10.59 Mbit/s

95th percentile per-packet one-way delay: 2.836 ms

Loss rate: 87.25%

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



Run 4: Statistics of TaoVA-100x

Start at: 2019-03-09 03:44:56

End at: 2019-03-09 03:45:26

Local clock offset: -1.837 ms

Remote clock offset: 0.383 ms

Below is generated by plot.py at 2019-03-09 04:30:30

Datalink statistics

-- Total of 3 flows:

Average throughput: 12.73 Mbit/s

95th percentile per-packet one-way delay: 3.185 ms

Loss rate: 78.71%

-- Flow 1:

Average throughput: 9.64 Mbit/s

95th percentile per-packet one-way delay: 1.689 ms

Loss rate: 81.93%

-- Flow 2:

Average throughput: 2.66 Mbit/s

95th percentile per-packet one-way delay: 7.609 ms

Loss rate: 48.42%

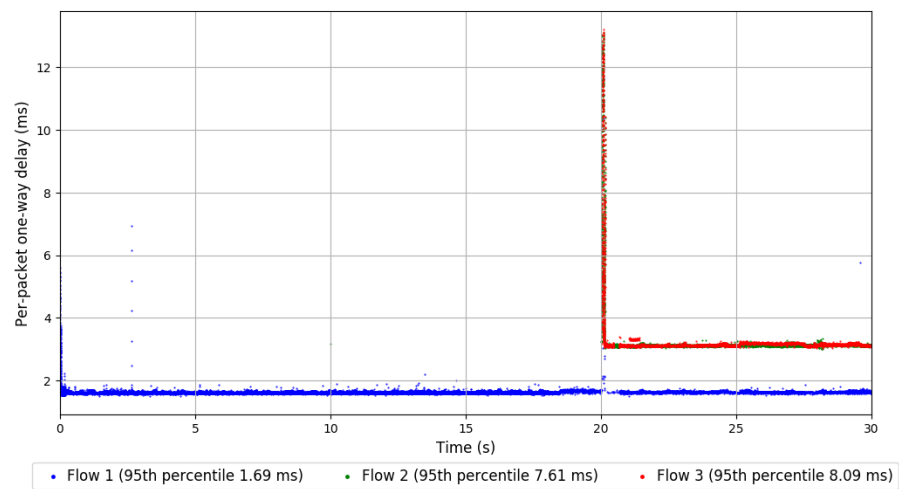
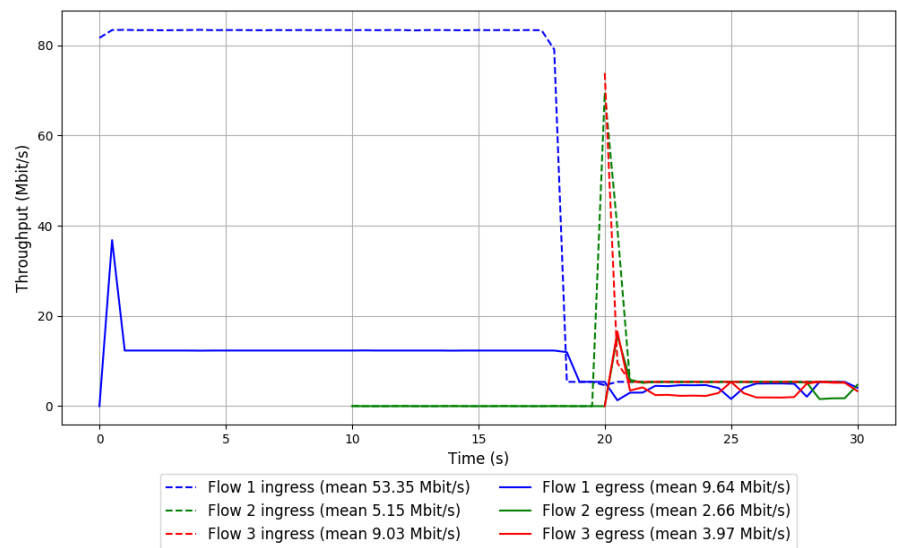
-- Flow 3:

Average throughput: 3.97 Mbit/s

95th percentile per-packet one-way delay: 8.094 ms

Loss rate: 56.11%

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



Run 5: Statistics of TaoVA-100x

Start at: 2019-03-09 04:08:50

End at: 2019-03-09 04:09:20

Local clock offset: -1.595 ms

Remote clock offset: 0.338 ms

Below is generated by plot.py at 2019-03-09 04:30:30

Datalink statistics

-- Total of 3 flows:

Average throughput: 12.73 Mbit/s

95th percentile per-packet one-way delay: 3.152 ms

Loss rate: 87.54%

-- Flow 1:

Average throughput: 6.96 Mbit/s

95th percentile per-packet one-way delay: 3.169 ms

Loss rate: 83.95%

-- Flow 2:

Average throughput: 7.45 Mbit/s

95th percentile per-packet one-way delay: 1.667 ms

Loss rate: 80.84%

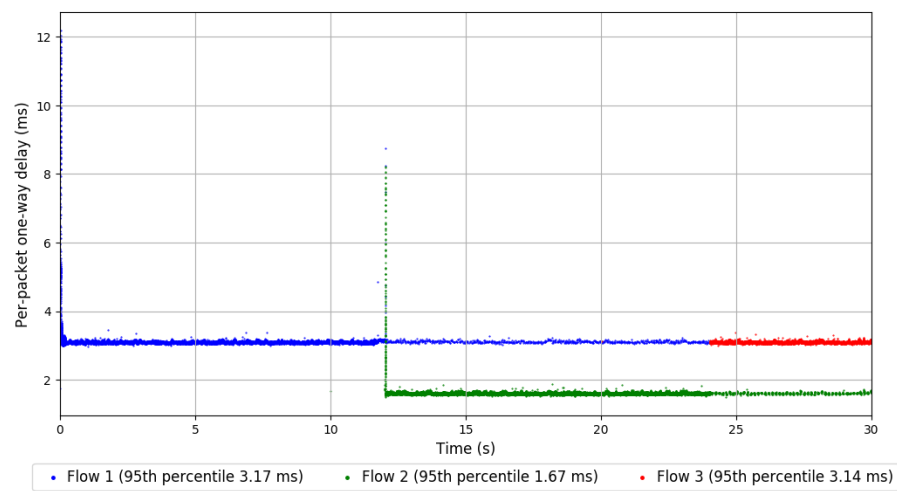
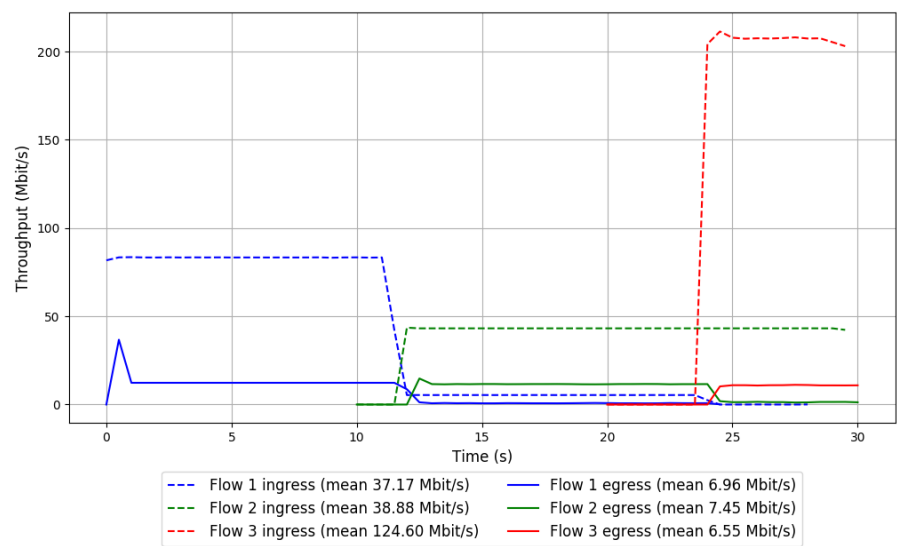
-- Flow 3:

Average throughput: 6.55 Mbit/s

95th percentile per-packet one-way delay: 3.142 ms

Loss rate: 94.75%

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

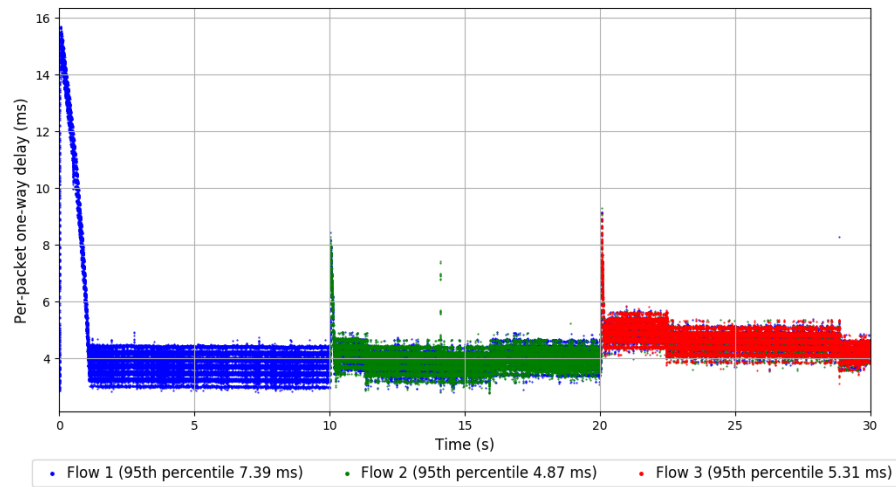
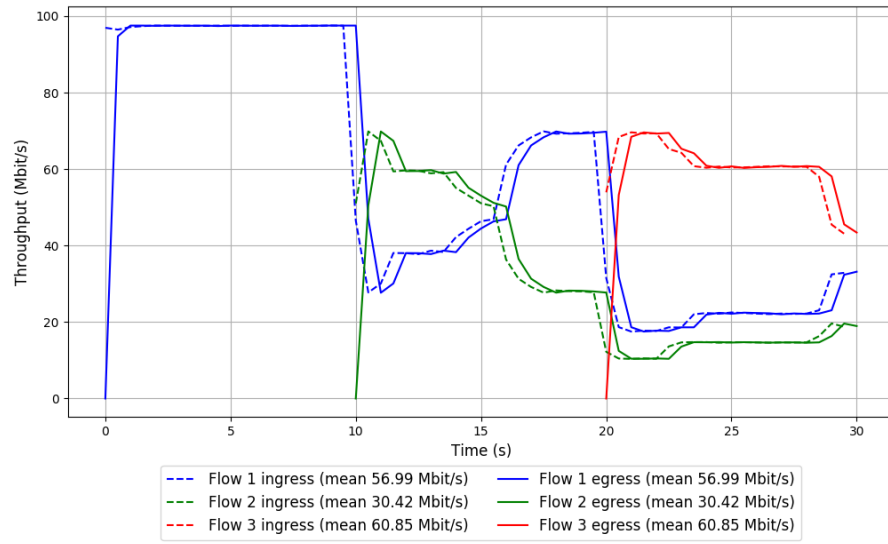


Run 1: Statistics of TCP Vegas

Start at: 2019-03-09 02:28:40
End at: 2019-03-09 02:29:10
Local clock offset: -5.902 ms
Remote clock offset: -0.129 ms

Below is generated by plot.py at 2019-03-09 04:30:59
Datalink statistics
-- Total of 3 flows:
Average throughput: 97.47 Mbit/s
95th percentile per-packet one-way delay: 5.324 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 56.99 Mbit/s
95th percentile per-packet one-way delay: 7.387 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 30.42 Mbit/s
95th percentile per-packet one-way delay: 4.865 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 60.85 Mbit/s
95th percentile per-packet one-way delay: 5.308 ms
Loss rate: 0.00%

Run 1: Report of TCP Vegas — Data Link



Run 2: Statistics of TCP Vegas

Start at: 2019-03-09 02:52:37

End at: 2019-03-09 02:53:07

Local clock offset: -4.423 ms

Remote clock offset: 0.138 ms

Below is generated by plot.py at 2019-03-09 04:31:09

Datalink statistics

-- Total of 3 flows:

Average throughput: 97.48 Mbit/s

95th percentile per-packet one-way delay: 4.910 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 51.74 Mbit/s

95th percentile per-packet one-way delay: 10.559 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 37.24 Mbit/s

95th percentile per-packet one-way delay: 3.132 ms

Loss rate: 0.00%

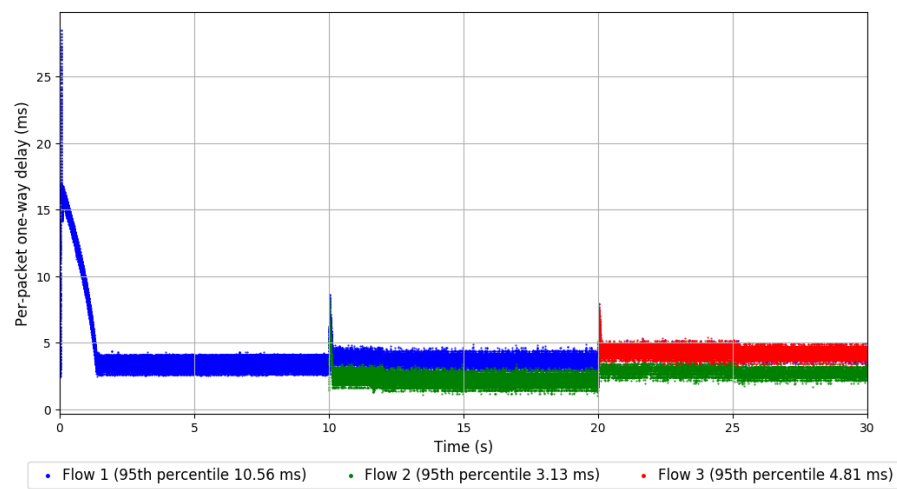
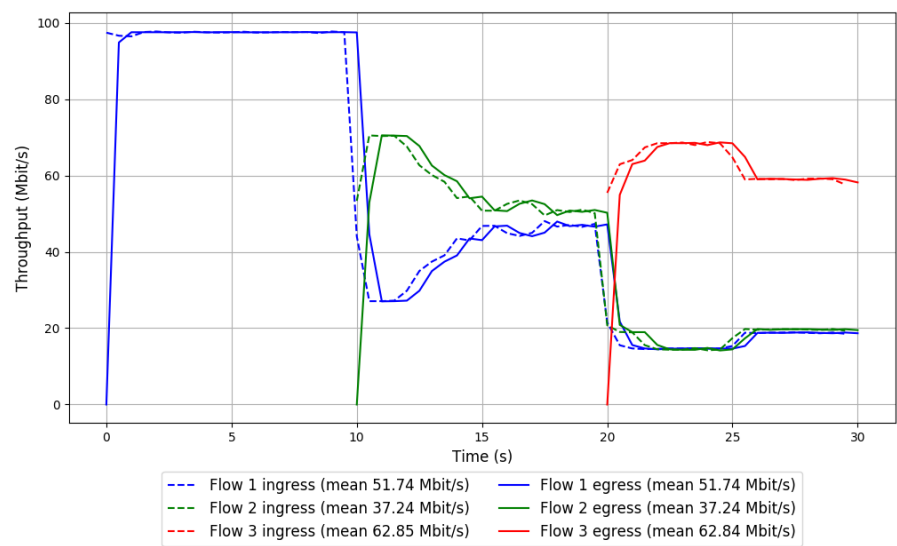
-- Flow 3:

Average throughput: 62.84 Mbit/s

95th percentile per-packet one-way delay: 4.807 ms

Loss rate: 0.00%

Run 2: Report of TCP Vegas — Data Link



Run 3: Statistics of TCP Vegas

Start at: 2019-03-09 03:16:31

End at: 2019-03-09 03:17:01

Local clock offset: -2.985 ms

Remote clock offset: 0.284 ms

Below is generated by plot.py at 2019-03-09 04:31:12

Datalink statistics

-- Total of 3 flows:

Average throughput: 97.35 Mbit/s

95th percentile per-packet one-way delay: 4.736 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 54.13 Mbit/s

95th percentile per-packet one-way delay: 3.504 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 38.37 Mbit/s

95th percentile per-packet one-way delay: 4.942 ms

Loss rate: 0.00%

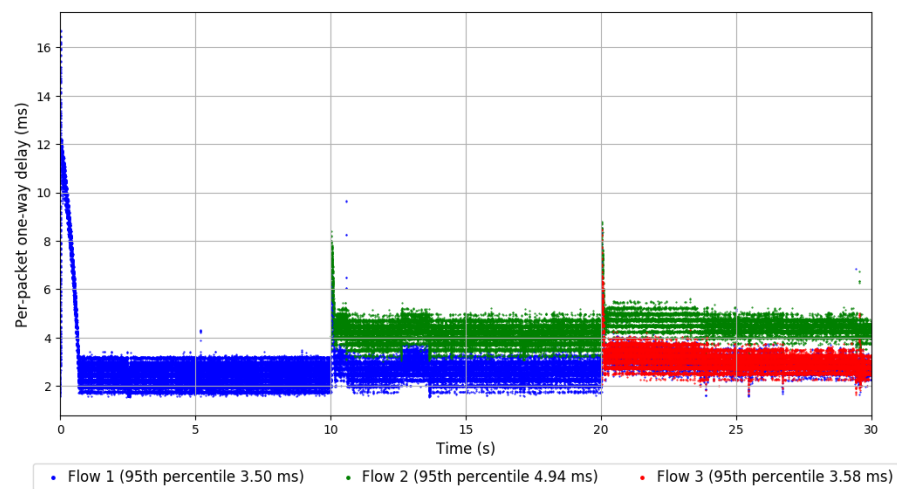
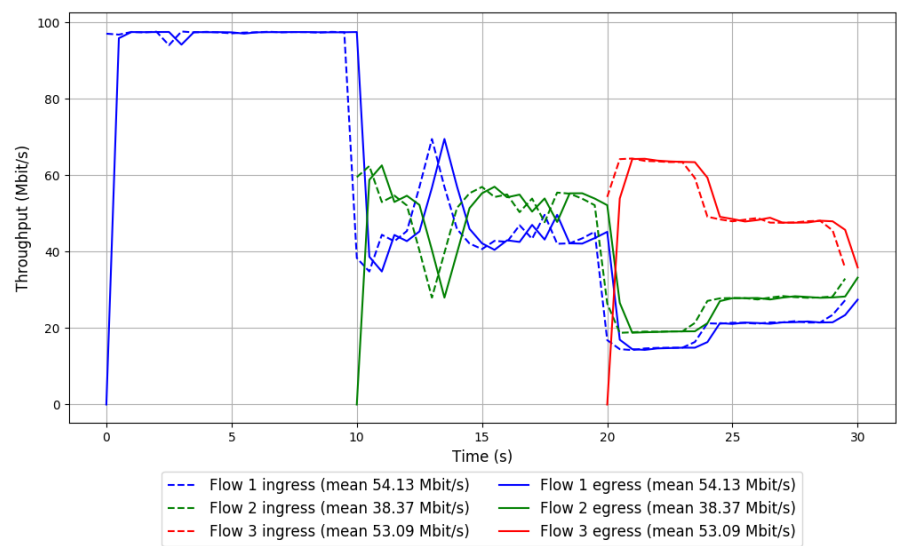
-- Flow 3:

Average throughput: 53.09 Mbit/s

95th percentile per-packet one-way delay: 3.578 ms

Loss rate: 0.00%

Run 3: Report of TCP Vegas — Data Link



Run 4: Statistics of TCP Vegas

Start at: 2019-03-09 03:40:25

End at: 2019-03-09 03:40:55

Local clock offset: -1.139 ms

Remote clock offset: 0.338 ms

Below is generated by plot.py at 2019-03-09 04:31:18

Datalink statistics

-- Total of 3 flows:

Average throughput: 97.47 Mbit/s

95th percentile per-packet one-way delay: 4.882 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 50.45 Mbit/s

95th percentile per-packet one-way delay: 9.647 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 36.61 Mbit/s

95th percentile per-packet one-way delay: 4.605 ms

Loss rate: 0.00%

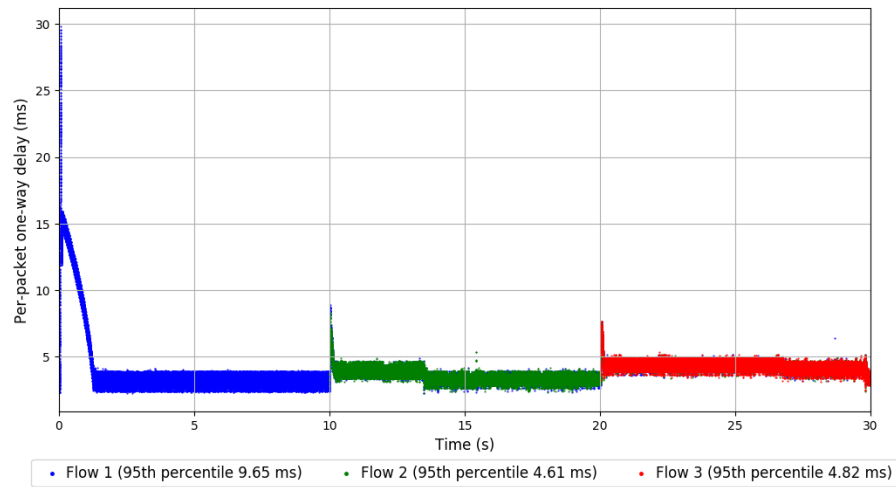
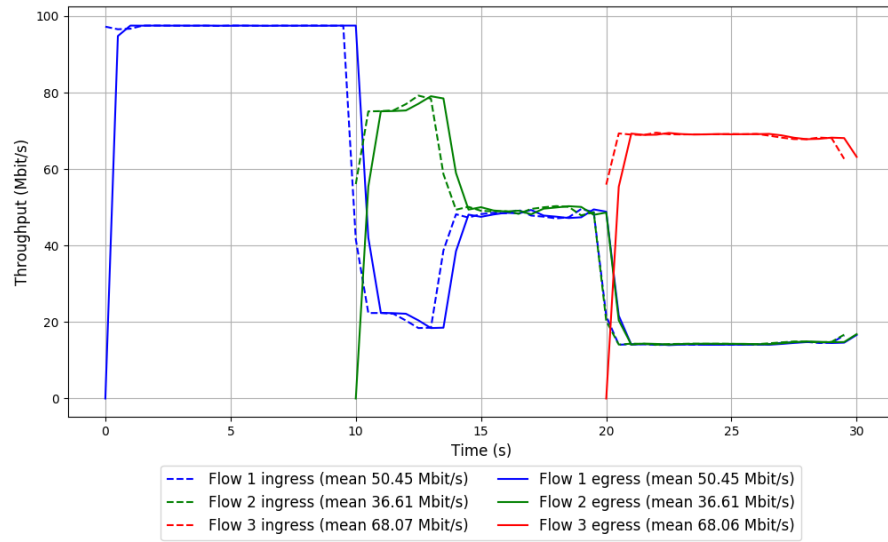
-- Flow 3:

Average throughput: 68.06 Mbit/s

95th percentile per-packet one-way delay: 4.820 ms

Loss rate: 0.00%

Run 4: Report of TCP Vegas — Data Link



Run 5: Statistics of TCP Vegas

Start at: 2019-03-09 04:04:19

End at: 2019-03-09 04:04:49

Local clock offset: -0.819 ms

Remote clock offset: 0.386 ms

Below is generated by plot.py at 2019-03-09 04:31:25

Datalink statistics

-- Total of 3 flows:

Average throughput: 97.49 Mbit/s

95th percentile per-packet one-way delay: 5.185 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 49.84 Mbit/s

95th percentile per-packet one-way delay: 10.405 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 35.11 Mbit/s

95th percentile per-packet one-way delay: 3.398 ms

Loss rate: 0.00%

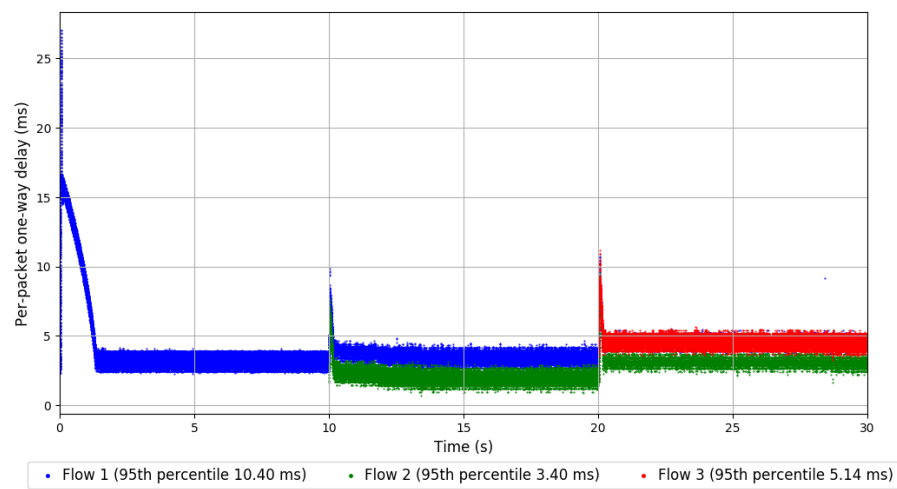
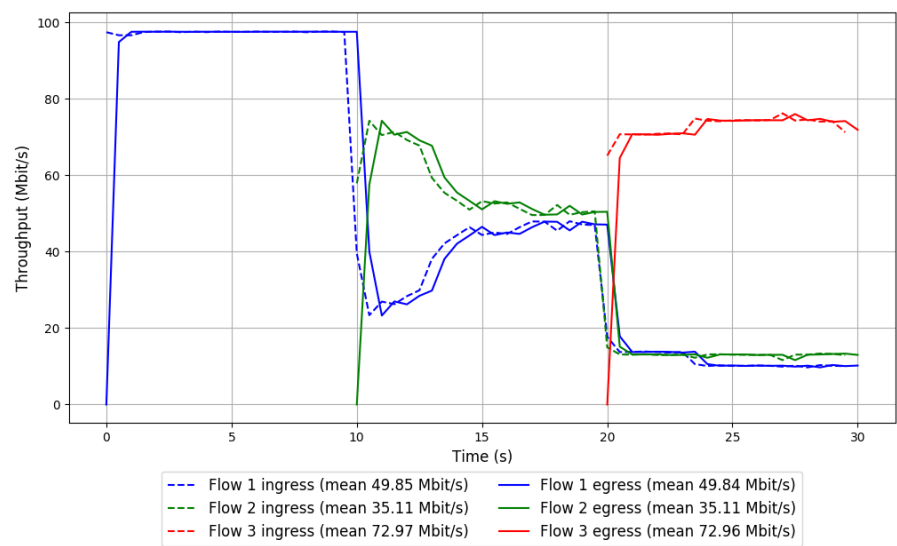
-- Flow 3:

Average throughput: 72.96 Mbit/s

95th percentile per-packet one-way delay: 5.136 ms

Loss rate: 0.00%

Run 5: Report of TCP Vegas — Data Link

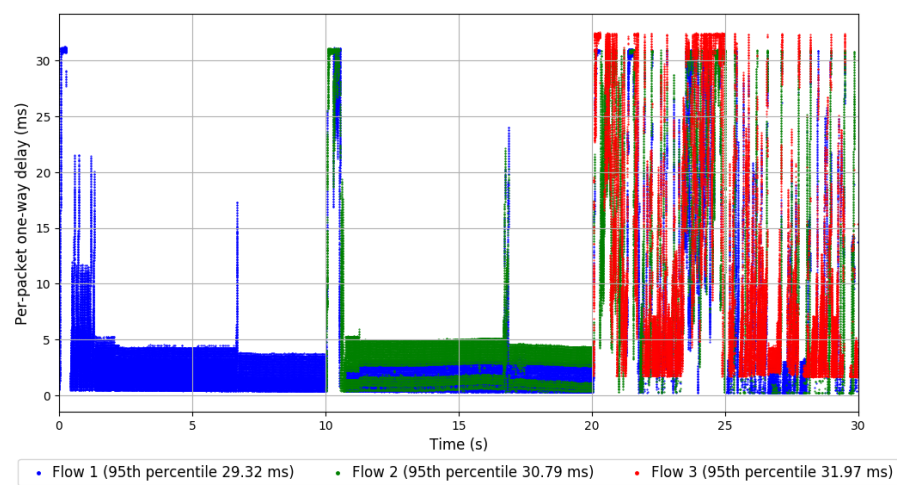
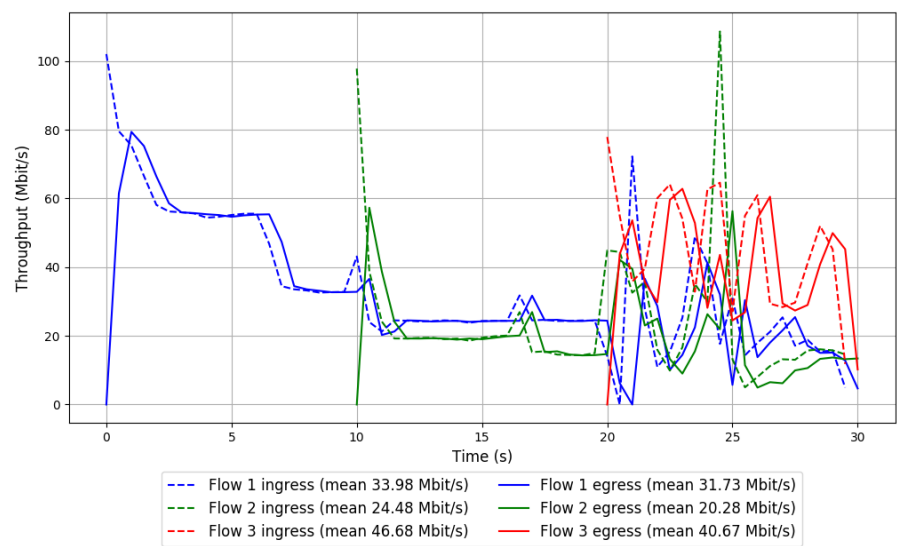


Run 1: Statistics of Verus

Start at: 2019-03-09 02:19:35
End at: 2019-03-09 02:20:05
Local clock offset: -1.097 ms
Remote clock offset: -0.081 ms

Below is generated by plot.py at 2019-03-09 04:31:25
Datalink statistics
-- Total of 3 flows:
Average throughput: 58.64 Mbit/s
95th percentile per-packet one-way delay: 30.768 ms
Loss rate: 10.65%
-- Flow 1:
Average throughput: 31.73 Mbit/s
95th percentile per-packet one-way delay: 29.317 ms
Loss rate: 6.61%
-- Flow 2:
Average throughput: 20.28 Mbit/s
95th percentile per-packet one-way delay: 30.793 ms
Loss rate: 17.04%
-- Flow 3:
Average throughput: 40.67 Mbit/s
95th percentile per-packet one-way delay: 31.967 ms
Loss rate: 12.84%

Run 1: Report of Verus — Data Link



Run 2: Statistics of Verus

Start at: 2019-03-09 02:43:31

End at: 2019-03-09 02:44:01

Local clock offset: -8.015 ms

Remote clock offset: 0.023 ms

Below is generated by plot.py at 2019-03-09 04:31:28

Datalink statistics

-- Total of 3 flows:

Average throughput: 74.79 Mbit/s

95th percentile per-packet one-way delay: 32.753 ms

Loss rate: 20.44%

-- Flow 1:

Average throughput: 41.69 Mbit/s

95th percentile per-packet one-way delay: 32.743 ms

Loss rate: 13.22%

-- Flow 2:

Average throughput: 36.53 Mbit/s

95th percentile per-packet one-way delay: 32.791 ms

Loss rate: 26.57%

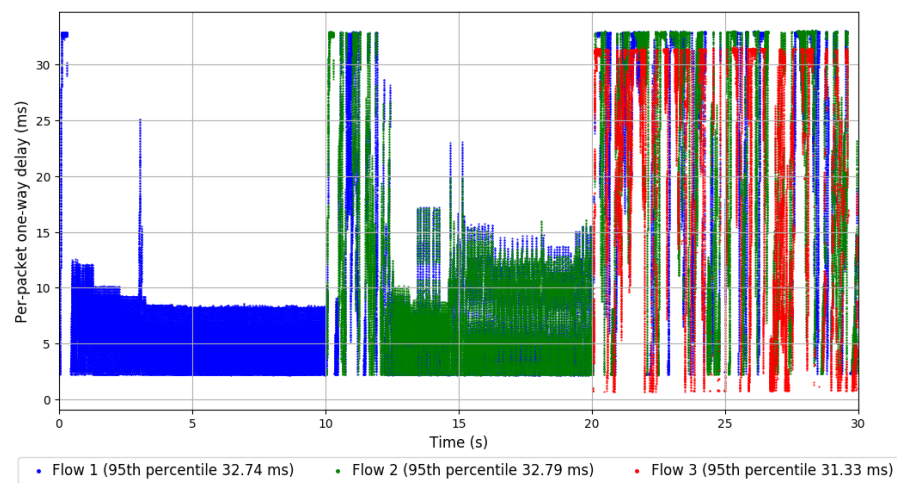
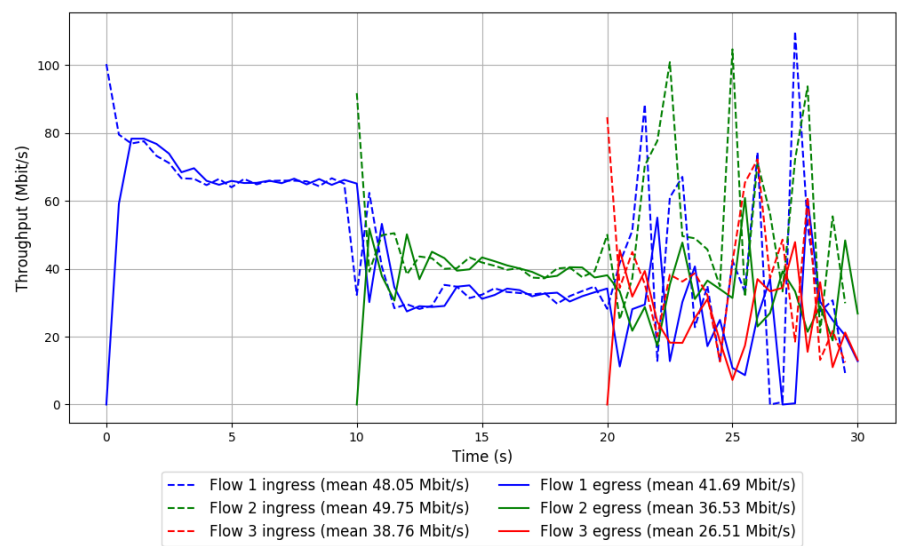
-- Flow 3:

Average throughput: 26.51 Mbit/s

95th percentile per-packet one-way delay: 31.329 ms

Loss rate: 31.61%

Run 2: Report of Verus — Data Link



Run 3: Statistics of Verus

Start at: 2019-03-09 03:07:26

End at: 2019-03-09 03:07:56

Local clock offset: -3.444 ms

Remote clock offset: 0.15 ms

Below is generated by plot.py at 2019-03-09 04:31:28

Datalink statistics

-- Total of 3 flows:

Average throughput: 64.86 Mbit/s

95th percentile per-packet one-way delay: 31.023 ms

Loss rate: 7.88%

-- Flow 1:

Average throughput: 26.42 Mbit/s

95th percentile per-packet one-way delay: 29.769 ms

Loss rate: 8.54%

-- Flow 2:

Average throughput: 47.75 Mbit/s

95th percentile per-packet one-way delay: 30.438 ms

Loss rate: 4.49%

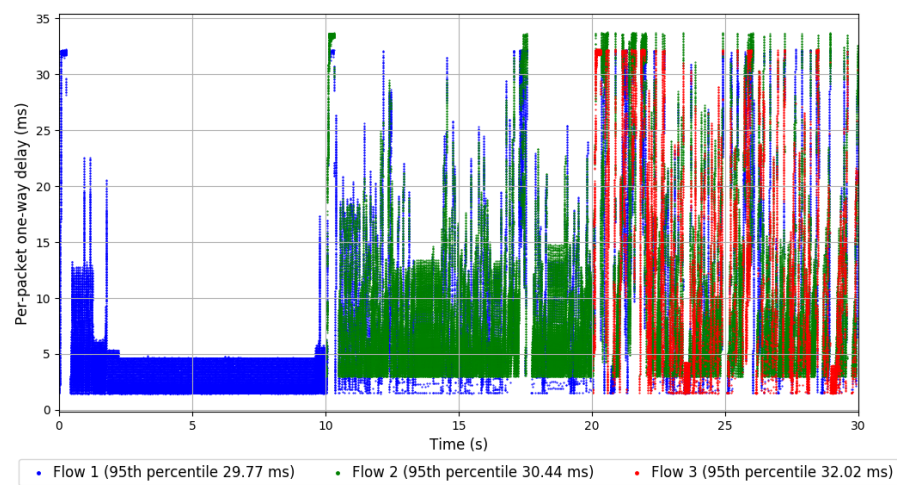
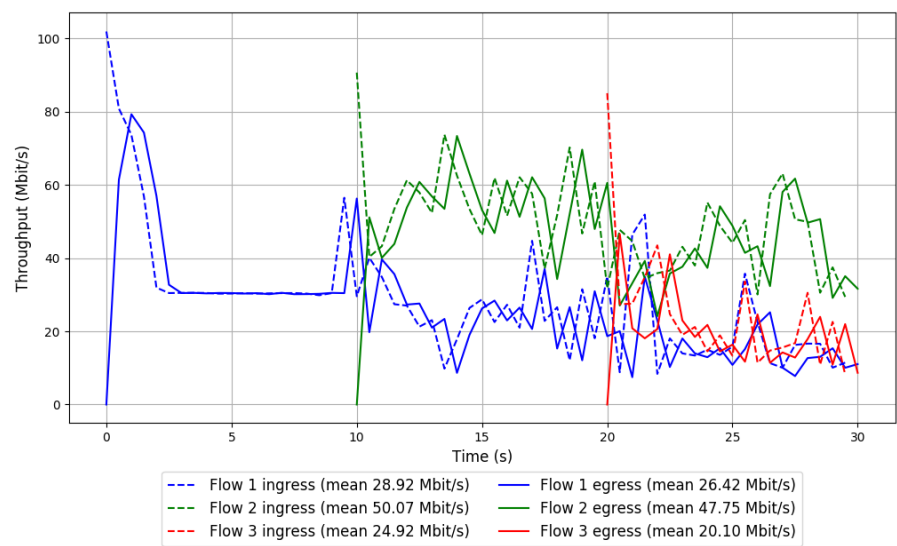
-- Flow 3:

Average throughput: 20.10 Mbit/s

95th percentile per-packet one-way delay: 32.025 ms

Loss rate: 19.21%

Run 3: Report of Verus — Data Link



Run 4: Statistics of Verus

Start at: 2019-03-09 03:31:19

End at: 2019-03-09 03:31:49

Local clock offset: -2.09 ms

Remote clock offset: 0.343 ms

Below is generated by plot.py at 2019-03-09 04:31:53

Datalink statistics

-- Total of 3 flows:

Average throughput: 73.15 Mbit/s

95th percentile per-packet one-way delay: 32.563 ms

Loss rate: 8.06%

-- Flow 1:

Average throughput: 45.07 Mbit/s

95th percentile per-packet one-way delay: 30.971 ms

Loss rate: 5.14%

-- Flow 2:

Average throughput: 28.77 Mbit/s

95th percentile per-packet one-way delay: 33.114 ms

Loss rate: 11.82%

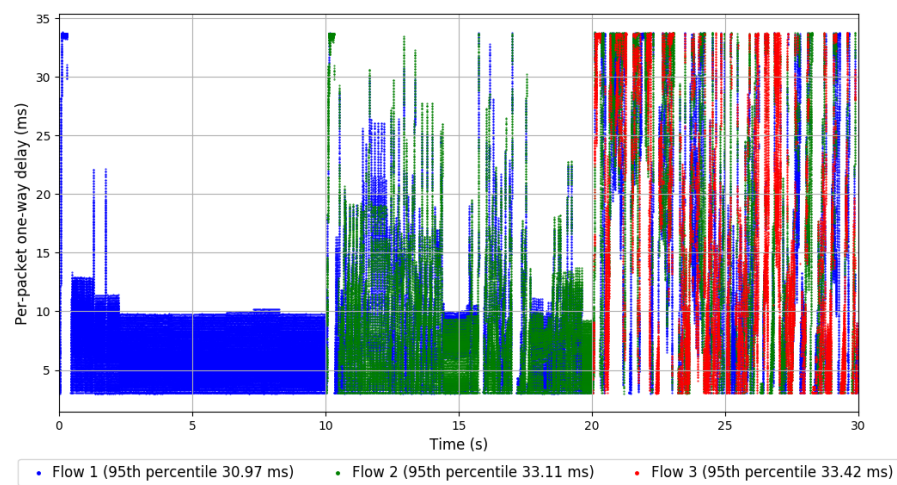
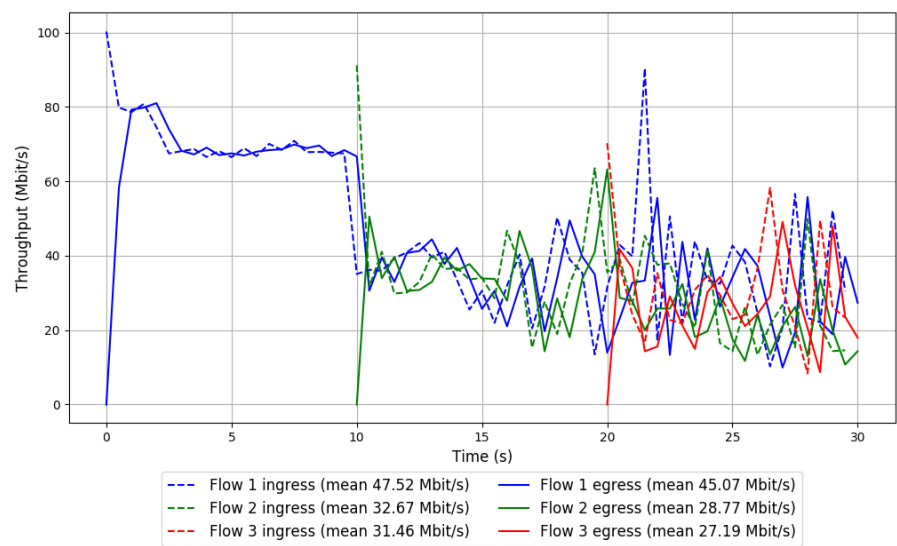
-- Flow 3:

Average throughput: 27.19 Mbit/s

95th percentile per-packet one-way delay: 33.425 ms

Loss rate: 13.57%

Run 4: Report of Verus — Data Link

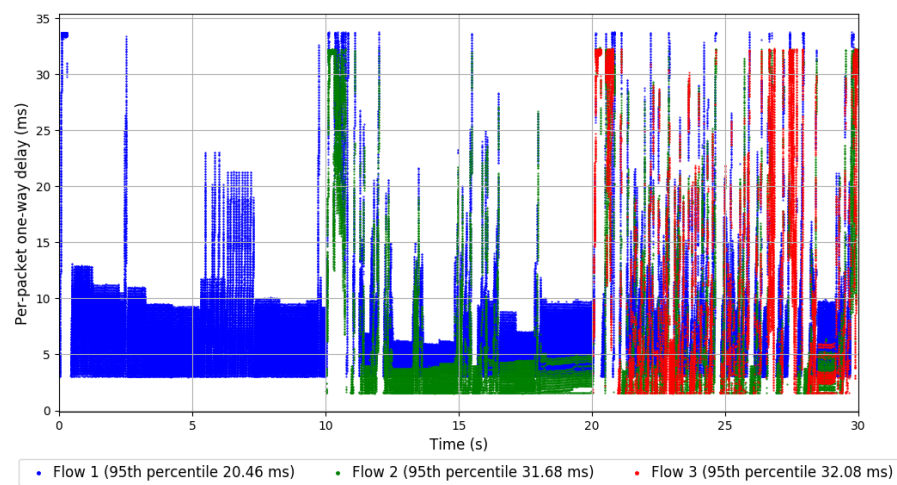
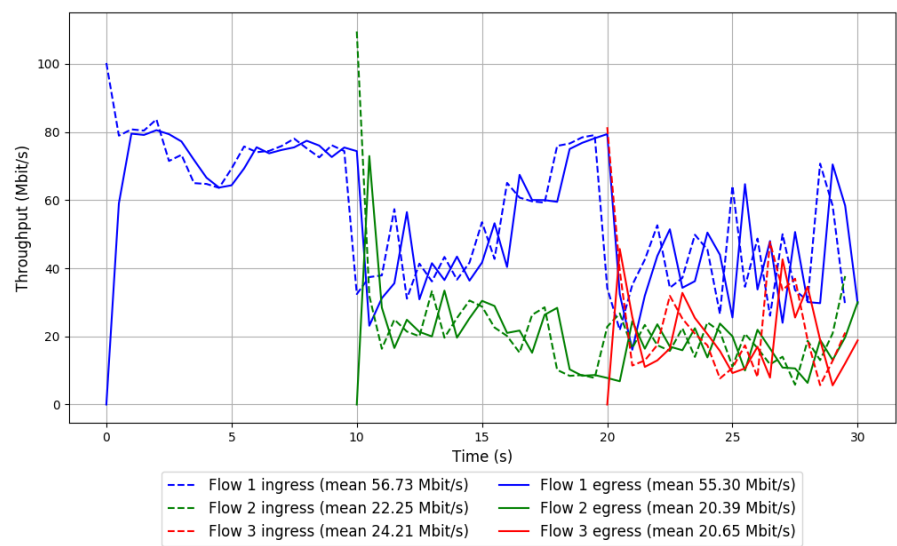


Run 5: Statistics of Verus

Start at: 2019-03-09 03:55:13
End at: 2019-03-09 03:55:43
Local clock offset: -1.67 ms
Remote clock offset: 0.424 ms

Below is generated by plot.py at 2019-03-09 04:32:03
Datalink statistics
-- Total of 3 flows:
Average throughput: 75.49 Mbit/s
95th percentile per-packet one-way delay: 28.423 ms
Loss rate: 4.71%
-- Flow 1:
Average throughput: 55.30 Mbit/s
95th percentile per-packet one-way delay: 20.462 ms
Loss rate: 2.42%
-- Flow 2:
Average throughput: 20.39 Mbit/s
95th percentile per-packet one-way delay: 31.678 ms
Loss rate: 8.22%
-- Flow 3:
Average throughput: 20.65 Mbit/s
95th percentile per-packet one-way delay: 32.084 ms
Loss rate: 14.46%

Run 5: Report of Verus — Data Link



Run 1: Statistics of PCC-Vivace

Start at: 2019-03-09 02:25:15

End at: 2019-03-09 02:25:45

Local clock offset: -4.751 ms

Remote clock offset: -0.11 ms

Below is generated by plot.py at 2019-03-09 04:32:15

Datalink statistics

-- Total of 3 flows:

Average throughput: 87.06 Mbit/s

95th percentile per-packet one-way delay: 3.059 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 59.97 Mbit/s

95th percentile per-packet one-way delay: 3.094 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 27.92 Mbit/s

95th percentile per-packet one-way delay: 1.891 ms

Loss rate: 0.01%

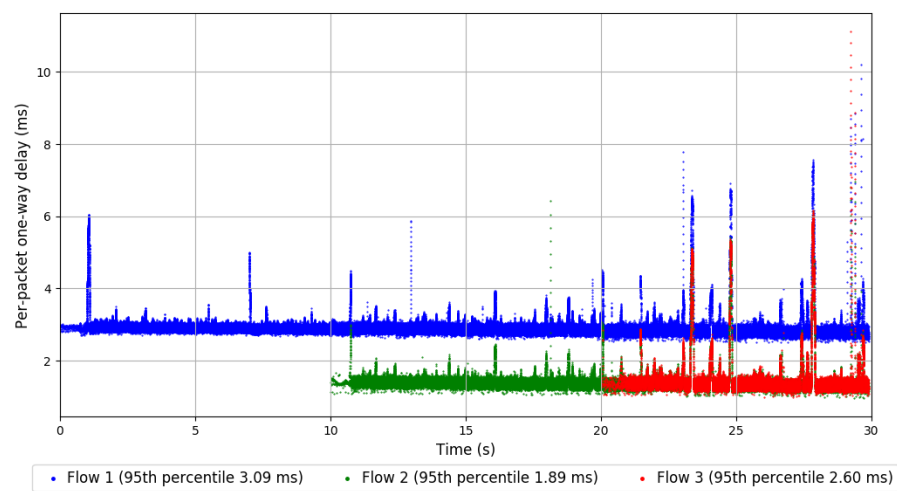
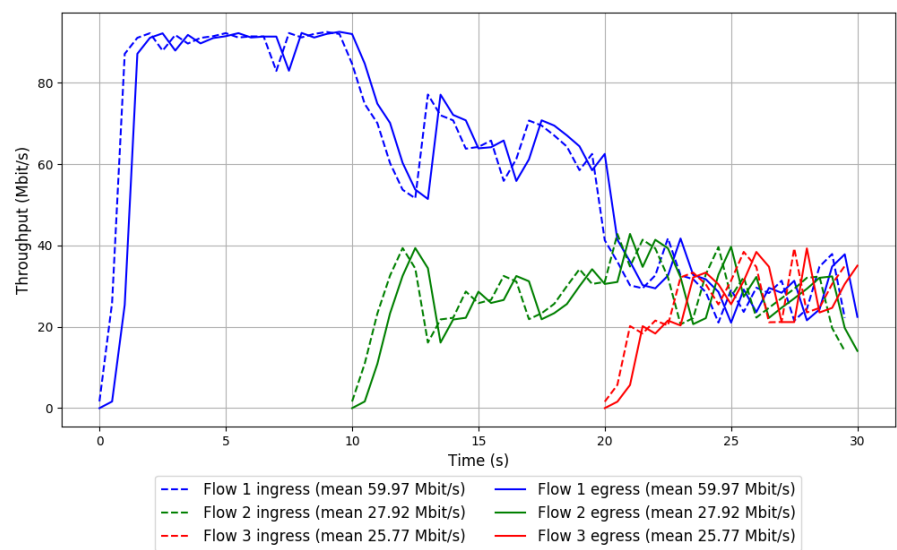
-- Flow 3:

Average throughput: 25.77 Mbit/s

95th percentile per-packet one-way delay: 2.605 ms

Loss rate: 0.00%

Run 1: Report of PCC-Vivace — Data Link



Run 2: Statistics of PCC-Vivace

Start at: 2019-03-09 02:49:11

End at: 2019-03-09 02:49:41

Local clock offset: -5.446 ms

Remote clock offset: 0.094 ms

Below is generated by plot.py at 2019-03-09 04:32:15

Datalink statistics

-- Total of 3 flows:

Average throughput: 86.82 Mbit/s

95th percentile per-packet one-way delay: 3.070 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 57.94 Mbit/s

95th percentile per-packet one-way delay: 2.990 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 29.68 Mbit/s

95th percentile per-packet one-way delay: 2.118 ms

Loss rate: 0.00%

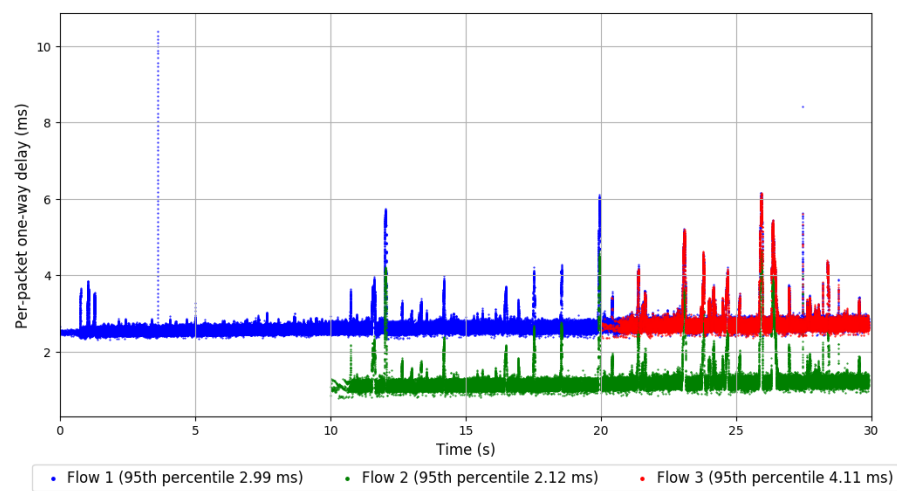
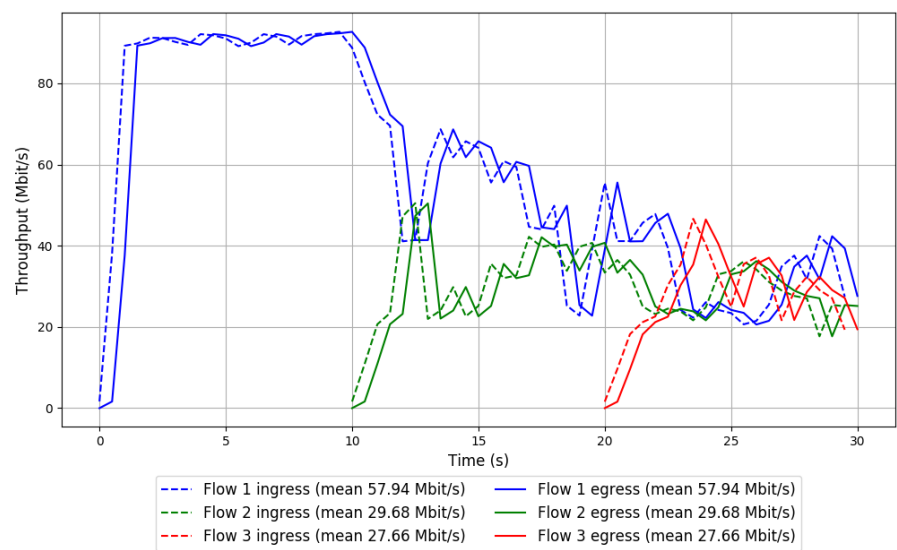
-- Flow 3:

Average throughput: 27.66 Mbit/s

95th percentile per-packet one-way delay: 4.108 ms

Loss rate: 0.00%

Run 2: Report of PCC-Vivace — Data Link



Run 3: Statistics of PCC-Vivace

Start at: 2019-03-09 03:13:05

End at: 2019-03-09 03:13:35

Local clock offset: -2.553 ms

Remote clock offset: 0.256 ms

Below is generated by plot.py at 2019-03-09 04:32:15

Datalink statistics

-- Total of 3 flows:

Average throughput: 83.47 Mbit/s

95th percentile per-packet one-way delay: 1.608 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 54.57 Mbit/s

95th percentile per-packet one-way delay: 1.270 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 29.91 Mbit/s

95th percentile per-packet one-way delay: 1.850 ms

Loss rate: 0.00%

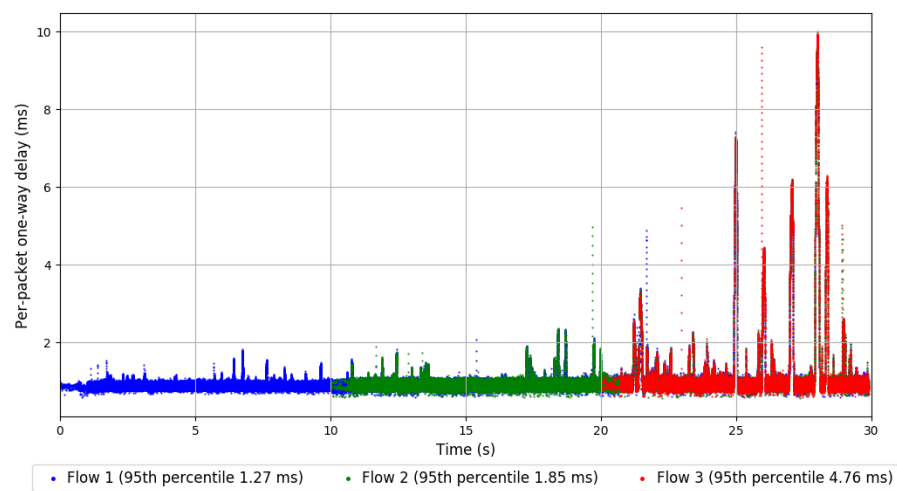
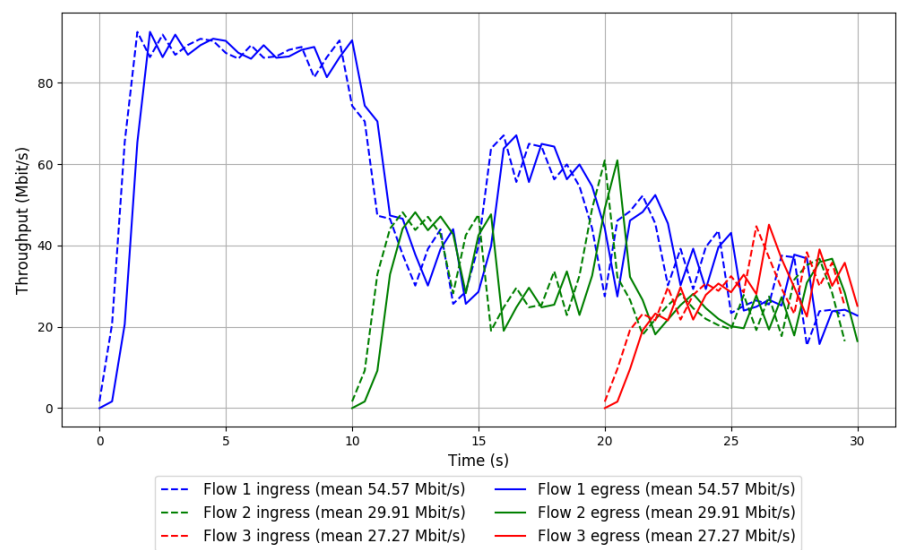
-- Flow 3:

Average throughput: 27.27 Mbit/s

95th percentile per-packet one-way delay: 4.763 ms

Loss rate: 0.00%

Run 3: Report of PCC-Vivace — Data Link



Run 4: Statistics of PCC-Vivace

Start at: 2019-03-09 03:37:00

End at: 2019-03-09 03:37:30

Local clock offset: -2.027 ms

Remote clock offset: 0.302 ms

Below is generated by plot.py at 2019-03-09 04:32:18

Datalink statistics

-- Total of 3 flows:

Average throughput: 88.30 Mbit/s

95th percentile per-packet one-way delay: 3.423 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 61.19 Mbit/s

95th percentile per-packet one-way delay: 3.506 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 28.10 Mbit/s

95th percentile per-packet one-way delay: 2.735 ms

Loss rate: 0.00%

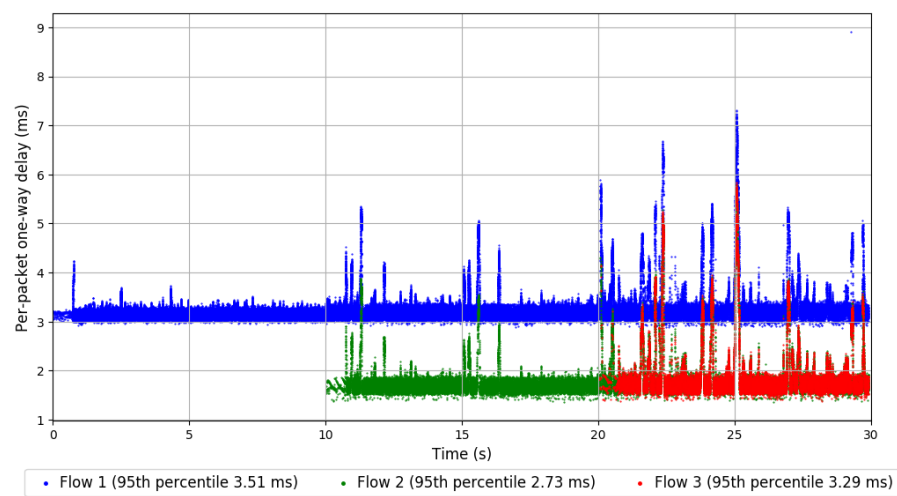
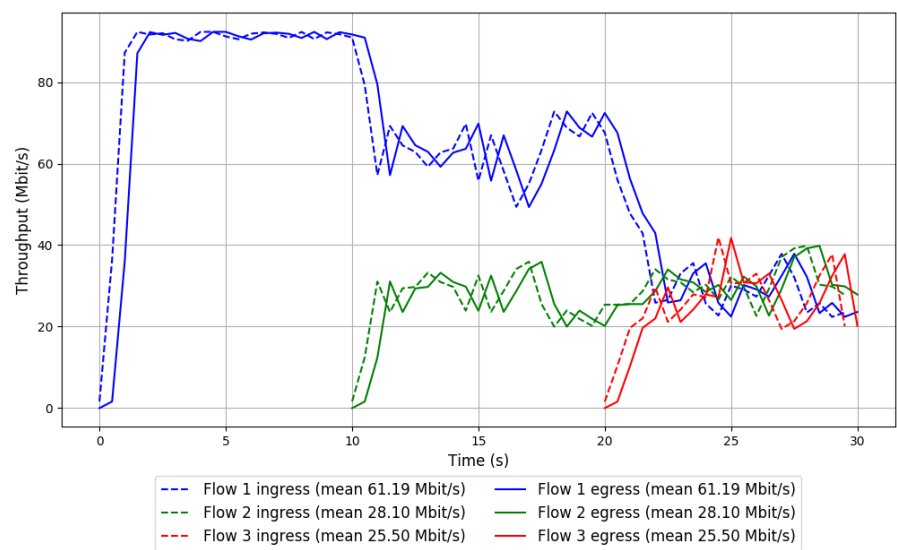
-- Flow 3:

Average throughput: 25.50 Mbit/s

95th percentile per-packet one-way delay: 3.287 ms

Loss rate: 0.00%

Run 4: Report of PCC-Vivace — Data Link



Run 5: Statistics of PCC-Vivace

Start at: 2019-03-09 04:00:54

End at: 2019-03-09 04:01:24

Local clock offset: -1.598 ms

Remote clock offset: 0.396 ms

Below is generated by plot.py at 2019-03-09 04:32:18

Datalink statistics

-- Total of 3 flows:

Average throughput: 84.61 Mbit/s

95th percentile per-packet one-way delay: 3.650 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 50.95 Mbit/s

95th percentile per-packet one-way delay: 2.109 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 34.03 Mbit/s

95th percentile per-packet one-way delay: 6.360 ms

Loss rate: 0.00%

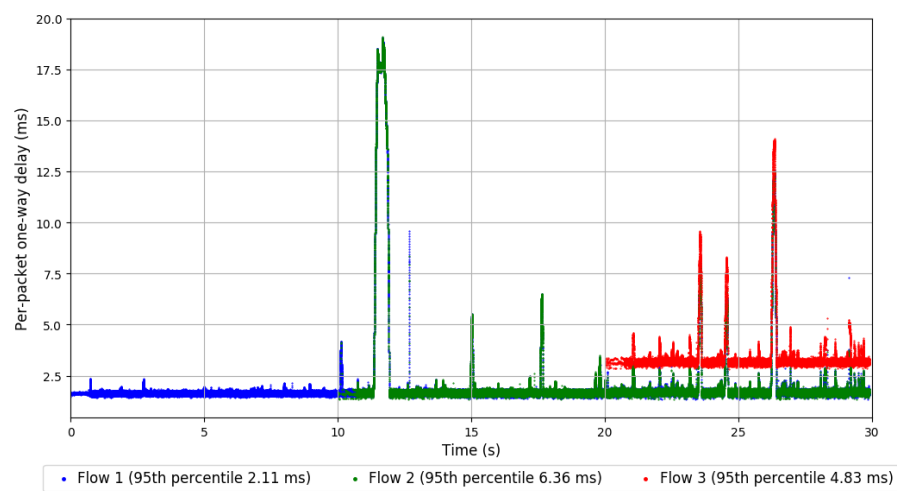
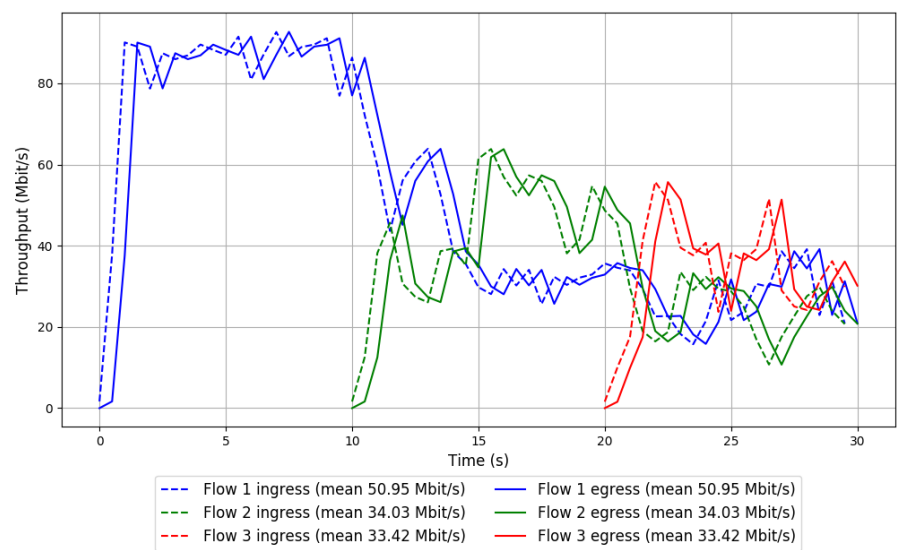
-- Flow 3:

Average throughput: 33.42 Mbit/s

95th percentile per-packet one-way delay: 4.825 ms

Loss rate: 0.00%

Run 5: Report of PCC-Vivace — Data Link

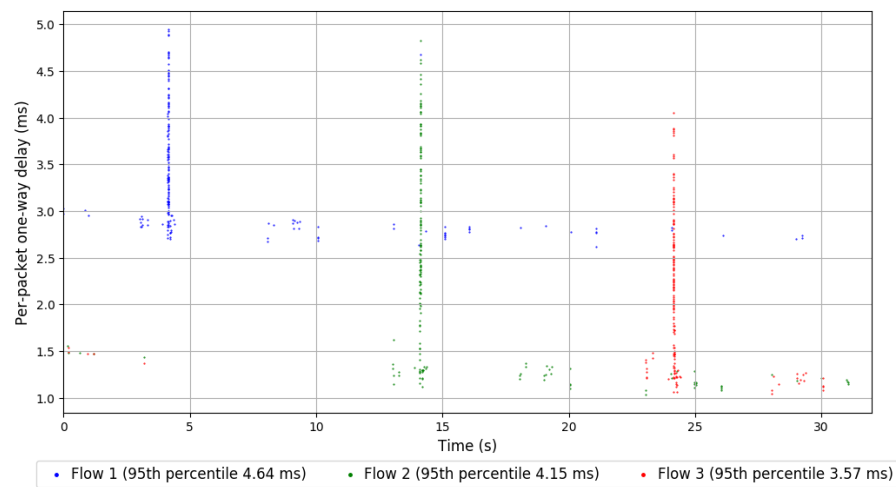
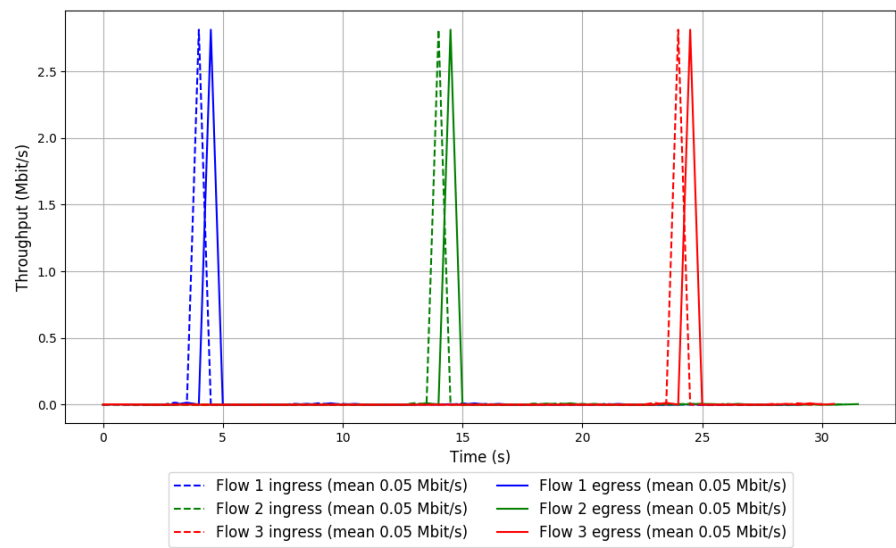


Run 1: Statistics of WebRTC media

Start at: 2019-03-09 02:24:09
End at: 2019-03-09 02:24:39
Local clock offset: -4.339 ms
Remote clock offset: -0.142 ms

Below is generated by plot.py at 2019-03-09 04:32:18
Datalink statistics
-- Total of 3 flows:
Average throughput: 0.14 Mbit/s
95th percentile per-packet one-way delay: 4.311 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 4.645 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 4.149 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 3.573 ms
Loss rate: 0.00%

Run 1: Report of WebRTC media — Data Link



Run 2: Statistics of WebRTC media

Start at: 2019-03-09 02:48:06

End at: 2019-03-09 02:48:36

Local clock offset: -6.003 ms

Remote clock offset: 0.034 ms

Below is generated by plot.py at 2019-03-09 04:32:18

Datalink statistics

-- Total of 3 flows:

Average throughput: 0.14 Mbit/s

95th percentile per-packet one-way delay: 4.039 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 0.05 Mbit/s

95th percentile per-packet one-way delay: 3.685 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 0.05 Mbit/s

95th percentile per-packet one-way delay: 4.182 ms

Loss rate: 0.00%

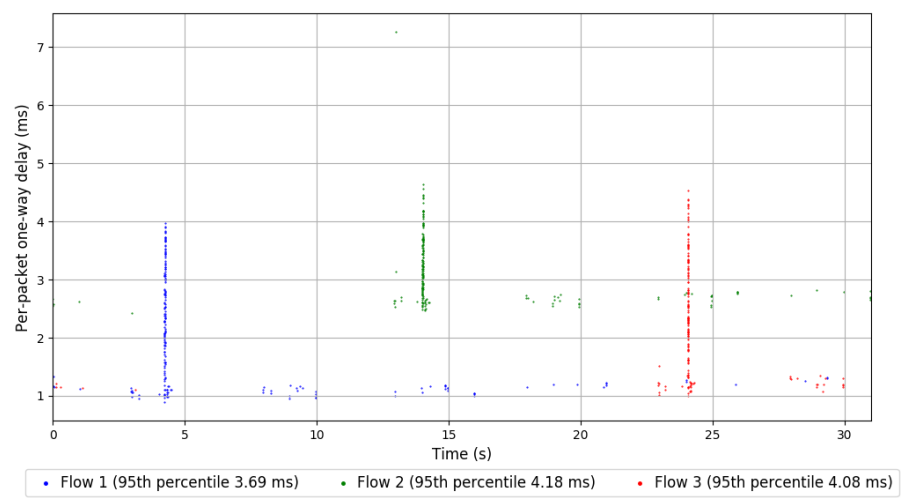
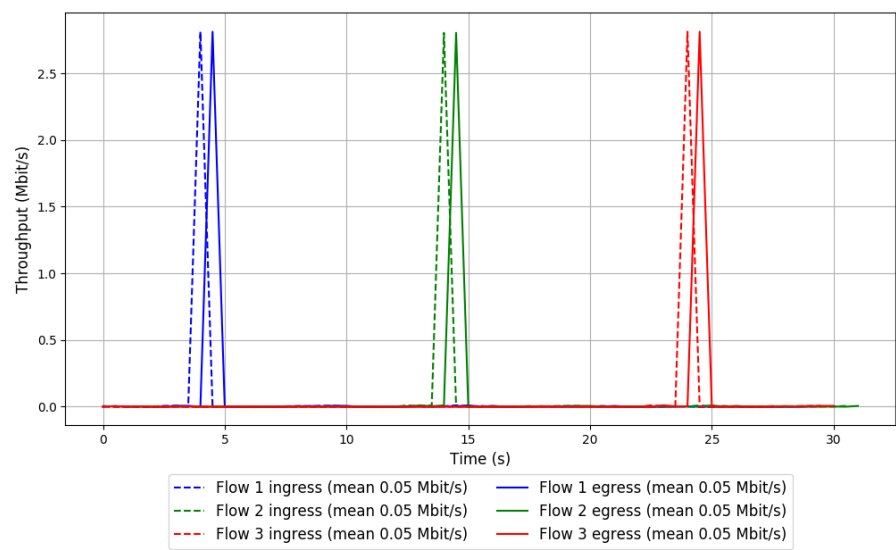
-- Flow 3:

Average throughput: 0.05 Mbit/s

95th percentile per-packet one-way delay: 4.081 ms

Loss rate: 0.00%

Run 2: Report of WebRTC media — Data Link



Run 3: Statistics of WebRTC media

Start at: 2019-03-09 03:12:00

End at: 2019-03-09 03:12:30

Local clock offset: -2.562 ms

Remote clock offset: 0.23 ms

Below is generated by plot.py at 2019-03-09 04:32:18

Datalink statistics

-- Total of 3 flows:

Average throughput: 0.14 Mbit/s

95th percentile per-packet one-way delay: 3.881 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 0.05 Mbit/s

95th percentile per-packet one-way delay: 4.054 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 0.05 Mbit/s

95th percentile per-packet one-way delay: 2.994 ms

Loss rate: 0.00%

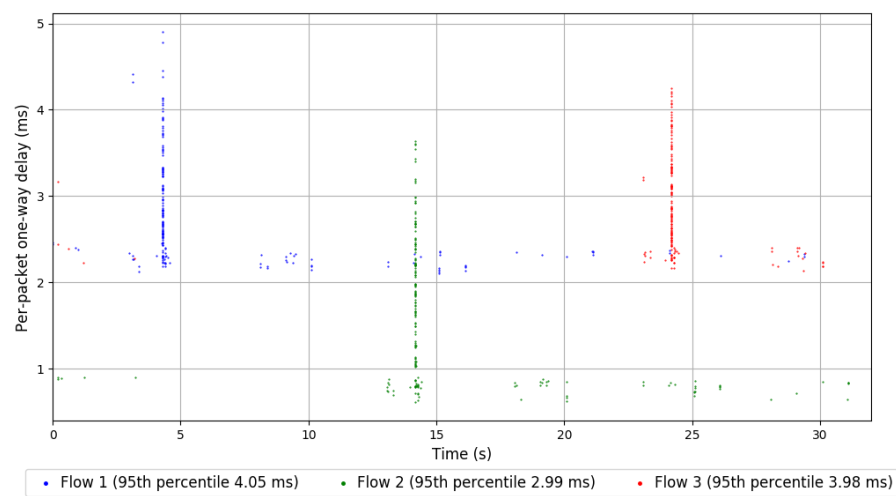
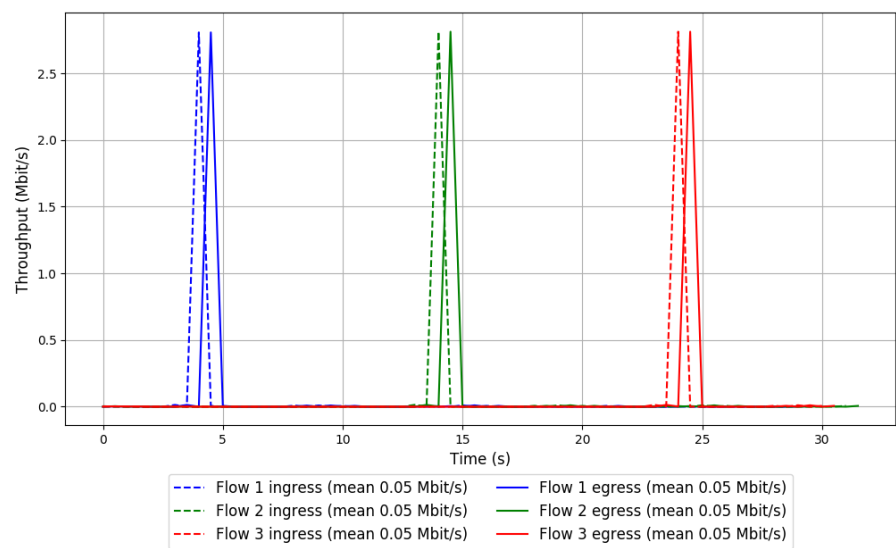
-- Flow 3:

Average throughput: 0.05 Mbit/s

95th percentile per-packet one-way delay: 3.975 ms

Loss rate: 0.00%

Run 3: Report of WebRTC media — Data Link

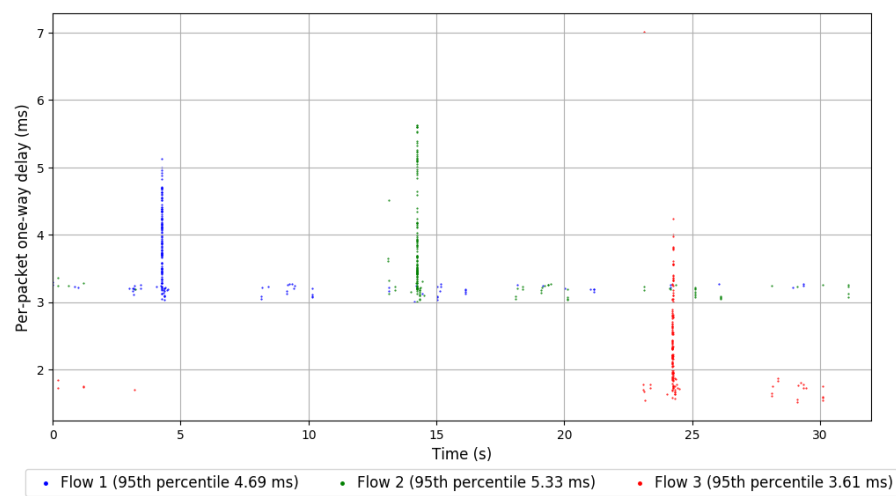
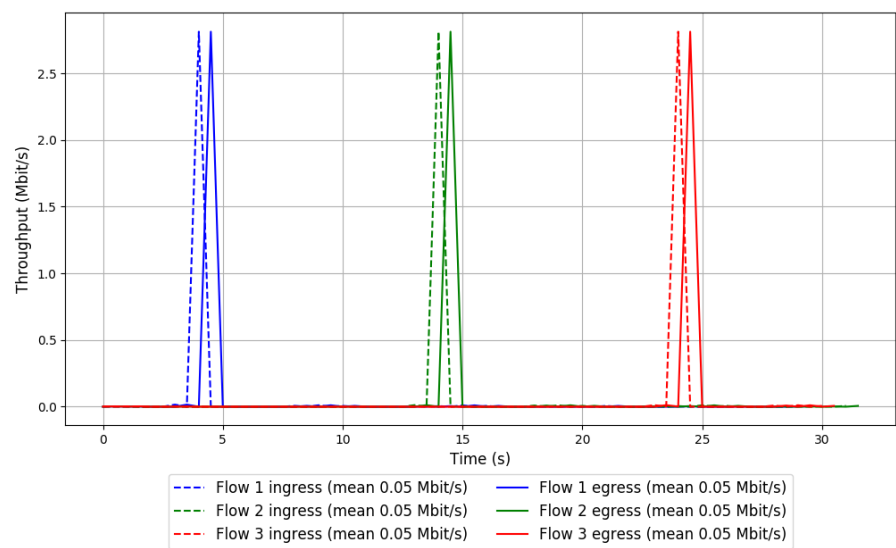


Run 4: Statistics of WebRTC media

Start at: 2019-03-09 03:35:54
End at: 2019-03-09 03:36:24
Local clock offset: -2.064 ms
Remote clock offset: 0.363 ms

Below is generated by plot.py at 2019-03-09 04:32:18
Datalink statistics
-- Total of 3 flows:
Average throughput: 0.14 Mbit/s
95th percentile per-packet one-way delay: 4.952 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 4.689 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 5.325 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 3.607 ms
Loss rate: 0.00%

Run 4: Report of WebRTC media — Data Link



Run 5: Statistics of WebRTC media

Start at: 2019-03-09 03:59:48

End at: 2019-03-09 04:00:18

Local clock offset: -1.692 ms

Remote clock offset: 0.333 ms

Below is generated by plot.py at 2019-03-09 04:32:18

Datalink statistics

-- Total of 3 flows:

Average throughput: 0.14 Mbit/s

95th percentile per-packet one-way delay: 4.795 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 0.05 Mbit/s

95th percentile per-packet one-way delay: 4.314 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 0.05 Mbit/s

95th percentile per-packet one-way delay: 6.794 ms

Loss rate: 0.00%

-- Flow 3:

Average throughput: 0.05 Mbit/s

95th percentile per-packet one-way delay: 4.997 ms

Loss rate: 0.00%

Run 5: Report of WebRTC media — Data Link

