

Pantheon Report

Generated at 2019-01-25 21:27:50 (UTC).

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

Repeated the test of 21 congestion control schemes 5 times.

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

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

System info:

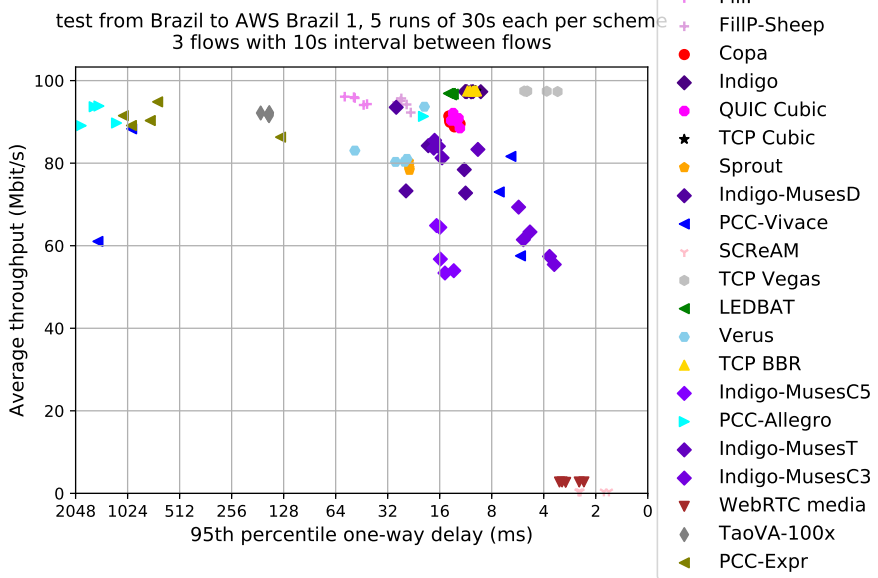
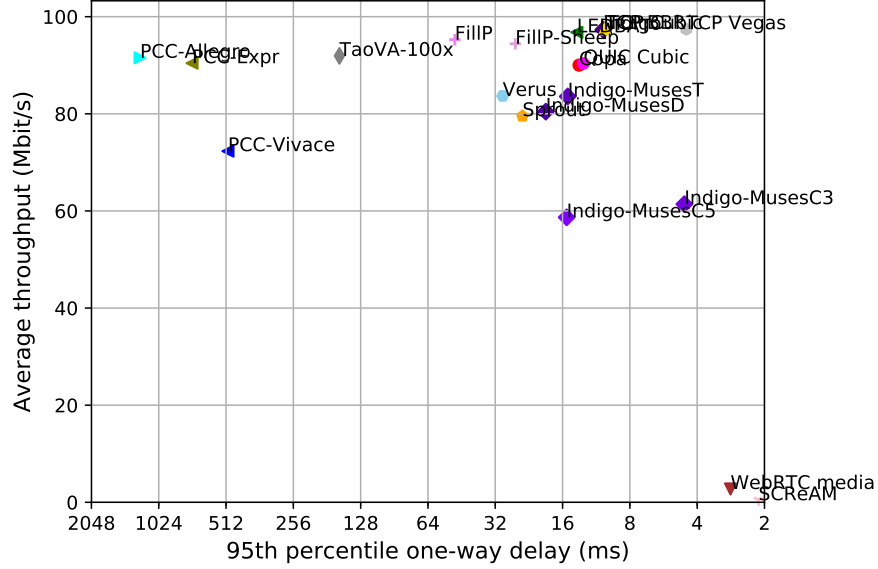
```
Linux 4.15.0-1031-aws
net.core.default_qdisc = fq
net.core.rmem_default = 16777216
net.core.rmem_max = 536870912
net.core.wmem_default = 16777216
net.core.wmem_max = 536870912
net.ipv4.tcp_rmem = 4096 16777216 536870912
net.ipv4.tcp_wmem = 4096 16777216 536870912
```

Git summary:

```
branch: muses @ 0b8e9a949603c3842368430acf469eec3b941f9f
third_party/fillp @ d6da1459332fcee56963885d7eba17e6a32d4519
third_party/fillp-sheep @ 0e5bb722943babcd2b090d2c64fcd45e12e923f9
third_party/genericCC @ d0153f8e594aa89e93b032143cedbdf58e562f4
third_party/indigo @ 2601c92e4aa9d58d38dc4dfe0ecd90c077e64d
third_party/libutp @ b3465b942e2826f2b179eaab4a906ce6bb7cf3cf
third_party/muses @ d9c5ea33091330aca25ecd105ab2db6d34d5c40d
third_party/pantheon-tunnel @ f866d3f58d27afd942717625ee3a354cc2e802bd
third_party/pcc @ 1afc958fa0d66d18b623c091a55fec872b4981e1
M receiver/src/buffer.h
M receiver/src/core.cpp
M sender/src/buffer.h
M sender/src/core.cpp
third_party/pcc-experimental @ cd43e34e3f5f5613e8acd08fab92c4eb24f974ab
third_party/proto-quick @ 77961f1a82733a86b42f1bc8143ebc978f3cff42
third_party/scream-reproduce @ f099118d1421aa3131bf11ff1964974e1da3bdb2
M src/ScreamClient
M src/ScreamServer
third_party/sprout @ 366e35c6178b01e31d4a46ad18c74f9415f19a26
M src/examples/cellsim.cc
M src/examples/sproutbt2.cc
M src/network/sproutconn.cc
third_party/verus @ d4b447ea74c6c60a261149af2629562939f9a494
M src/verus.hpp
M tools/plot.py
```

third_party/vivace @ 2baf86211435ae071a32f96b7d8c504587f5d7f4
third_party/webrtc @ 3f0cc2a9061a41b6f9dde4735770d143a1fa2851

test from Brazil to AWS Brazil 1, 5 runs of 30s each per scheme
 3 flows with 10s interval between flows (mean of all runs by scheme)



scheme	# runs	mean avg tput (Mbit/s)			mean 95th-%ile delay (ms)			mean loss rate (%)		
		flow 1	flow 2	flow 3	flow 1	flow 2	flow 3	flow 1	flow 2	flow 3
TCP BBR	5	59.29	40.92	32.96	9.75	10.49	11.88	0.19	0.47	1.28
Copa	5	53.67	38.91	31.41	12.63	13.95	15.51	0.03	0.08	0.14
TCP Cubic	5	59.61	40.64	32.49	9.97	9.92	10.32	0.07	0.14	0.24
FillP	5	54.56	45.30	31.81	29.26	51.77	51.16	0.11	1.91	2.20
FillP-Sheep	5	60.85	34.64	31.67	25.31	23.14	29.35	0.03	0.05	0.16
Indigo	5	59.68	40.63	32.34	9.65	10.85	9.13	0.03	0.59	0.11
Indigo-MusesC3	5	44.50	20.60	14.45	4.40	4.57	4.60	0.01	0.01	0.09
Indigo-MusesC5	5	31.61	29.06	32.31	13.27	14.98	17.92	0.03	0.05	0.22
Indigo-MusesD	5	51.64	38.45	16.70	19.16	18.57	9.51	0.34	0.41	0.06
Indigo-MusesT	5	54.24	36.10	25.86	12.86	17.16	17.03	0.02	0.09	0.17
LEDBAT	5	59.20	40.65	31.63	13.60	14.14	13.24	0.13	0.22	0.38
PCC-Allegro	5	66.74	25.18	24.50	1267.37	323.80	8.81	5.08	3.14	0.07
PCC-Expr	5	55.36	38.02	29.64	411.96	502.49	387.35	7.66	7.48	8.80
QUIC Cubic	5	53.41	40.10	31.14	12.73	12.76	13.43	0.15	0.31	0.50
SCReAM	5	0.22	0.22	0.22	2.13	2.12	2.13	0.00	0.00	0.07
Sprout	5	42.99	39.01	32.07	22.46	24.50	25.64	0.06	0.18	0.38
TaoVA-100x	5	55.55	39.59	30.11	125.30	160.00	160.49	0.45	0.95	2.51
TCP Vegas	5	55.66	44.85	35.79	4.29	4.29	4.82	0.01	0.02	0.04
Verus	5	50.11	35.86	29.17	22.38	21.65	222.35	0.04	0.04	0.13
PCC-Vivace	5	41.10	35.20	23.62	257.83	42.73	339.21	1.08	0.60	4.89
WebRTC media	5	1.49	0.86	0.40	2.72	2.84	3.05	0.00	0.00	0.00

Run 1: Statistics of TCP BBR

Start at: 2019-01-25 19:14:53

End at: 2019-01-25 19:15:23

Local clock offset: -6.02 ms

Remote clock offset: 0.037 ms

Below is generated by plot.py at 2019-01-25 21:14:58

Datalink statistics

-- Total of 3 flows:

Average throughput: 97.50 Mbit/s

95th percentile per-packet one-way delay: 10.640 ms

Loss rate: 0.47%

-- Flow 1:

Average throughput: 59.30 Mbit/s

95th percentile per-packet one-way delay: 10.232 ms

Loss rate: 0.32%

-- Flow 2:

Average throughput: 40.93 Mbit/s

95th percentile per-packet one-way delay: 10.756 ms

Loss rate: 0.47%

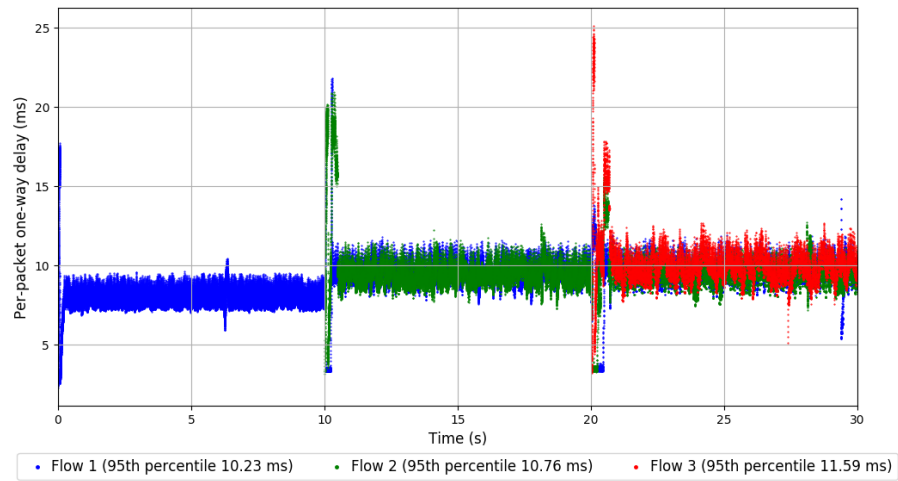
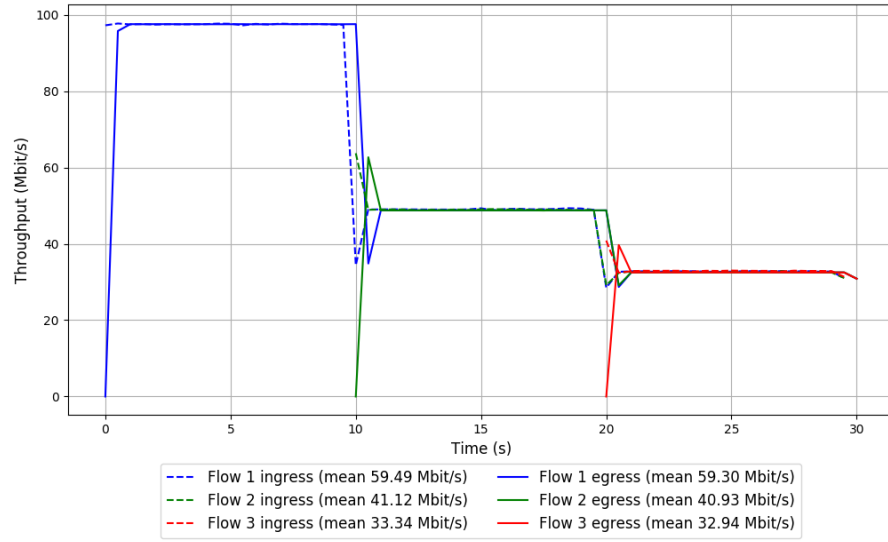
-- Flow 3:

Average throughput: 32.94 Mbit/s

95th percentile per-packet one-way delay: 11.587 ms

Loss rate: 1.27%

Run 1: Report of TCP BBR — Data Link



Run 2: Statistics of TCP BBR

Start at: 2019-01-25 19:39:00

End at: 2019-01-25 19:39:30

Local clock offset: -4.853 ms

Remote clock offset: 0.291 ms

Below is generated by plot.py at 2019-01-25 21:14:58

Datalink statistics

-- Total of 3 flows:

Average throughput: 97.50 Mbit/s

95th percentile per-packet one-way delay: 10.031 ms

Loss rate: 0.58%

-- Flow 1:

Average throughput: 59.31 Mbit/s

95th percentile per-packet one-way delay: 9.168 ms

Loss rate: 0.23%

-- Flow 2:

Average throughput: 40.88 Mbit/s

95th percentile per-packet one-way delay: 10.748 ms

Loss rate: 1.03%

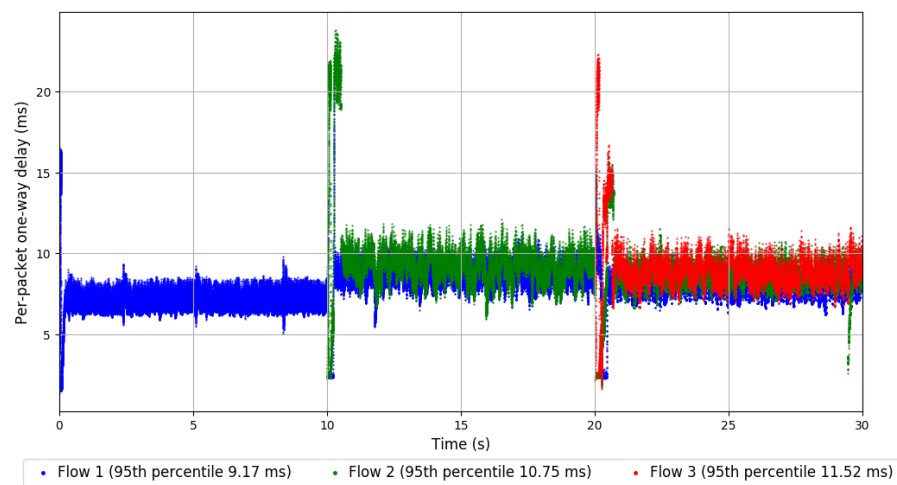
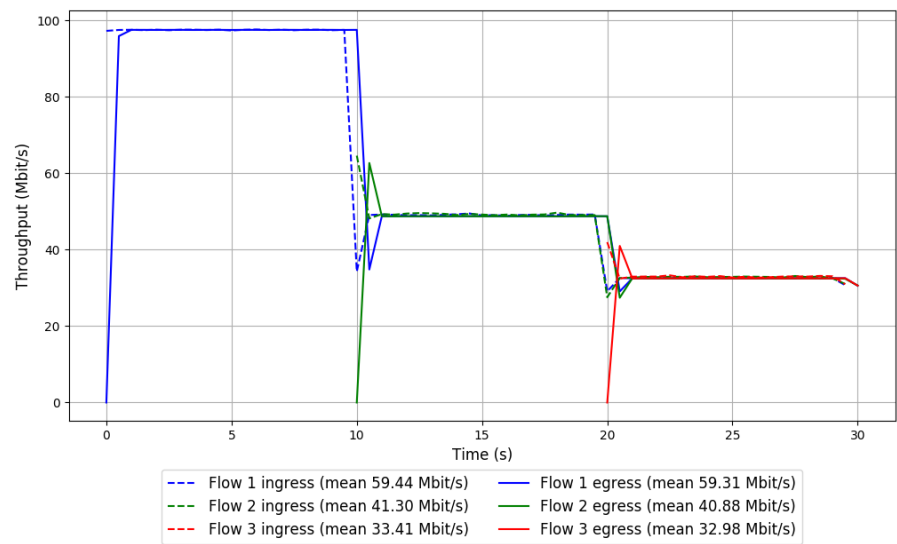
-- Flow 3:

Average throughput: 32.98 Mbit/s

95th percentile per-packet one-way delay: 11.522 ms

Loss rate: 1.34%

Run 2: Report of TCP BBR — Data Link



Run 3: Statistics of TCP BBR

Start at: 2019-01-25 20:03:11

End at: 2019-01-25 20:03:41

Local clock offset: -2.564 ms

Remote clock offset: 0.558 ms

Below is generated by plot.py at 2019-01-25 21:14:58

Datalink statistics

-- Total of 3 flows:

Average throughput: 97.48 Mbit/s

95th percentile per-packet one-way delay: 11.036 ms

Loss rate: 0.52%

-- Flow 1:

Average throughput: 59.25 Mbit/s

95th percentile per-packet one-way delay: 10.984 ms

Loss rate: 0.33%

-- Flow 2:

Average throughput: 40.97 Mbit/s

95th percentile per-packet one-way delay: 10.780 ms

Loss rate: 0.52%

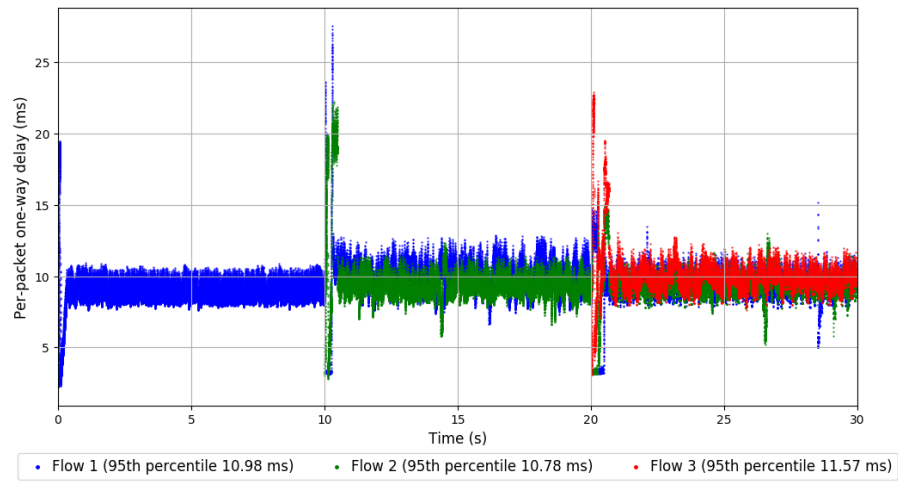
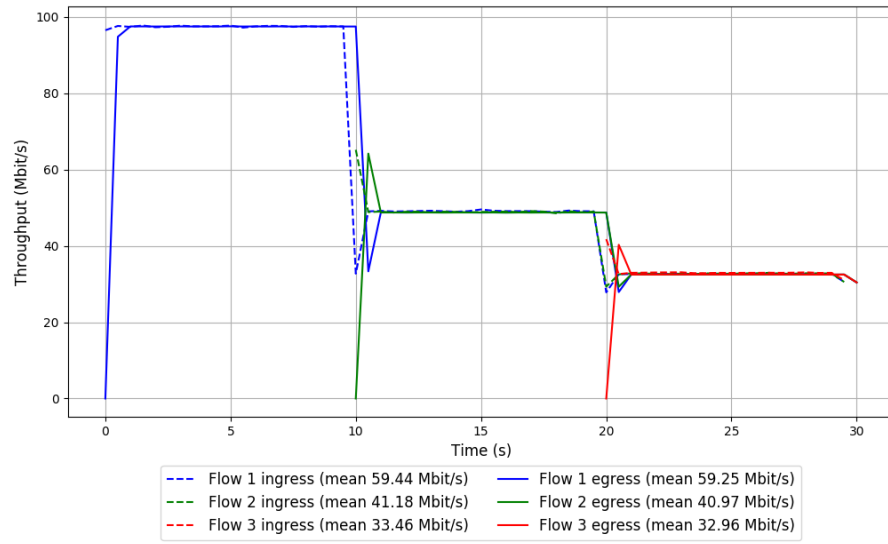
-- Flow 3:

Average throughput: 32.96 Mbit/s

95th percentile per-packet one-way delay: 11.572 ms

Loss rate: 1.52%

Run 3: Report of TCP BBR — Data Link



Run 4: Statistics of TCP BBR

Start at: 2019-01-25 20:27:22

End at: 2019-01-25 20:27:52

Local clock offset: -2.645 ms

Remote clock offset: 0.819 ms

Below is generated by plot.py at 2019-01-25 21:14:58

Datalink statistics

-- Total of 3 flows:

Average throughput: 97.49 Mbit/s

95th percentile per-packet one-way delay: 9.795 ms

Loss rate: 0.15%

-- Flow 1:

Average throughput: 59.29 Mbit/s

95th percentile per-packet one-way delay: 9.386 ms

Loss rate: 0.04%

-- Flow 2:

Average throughput: 40.93 Mbit/s

95th percentile per-packet one-way delay: 9.833 ms

Loss rate: 0.12%

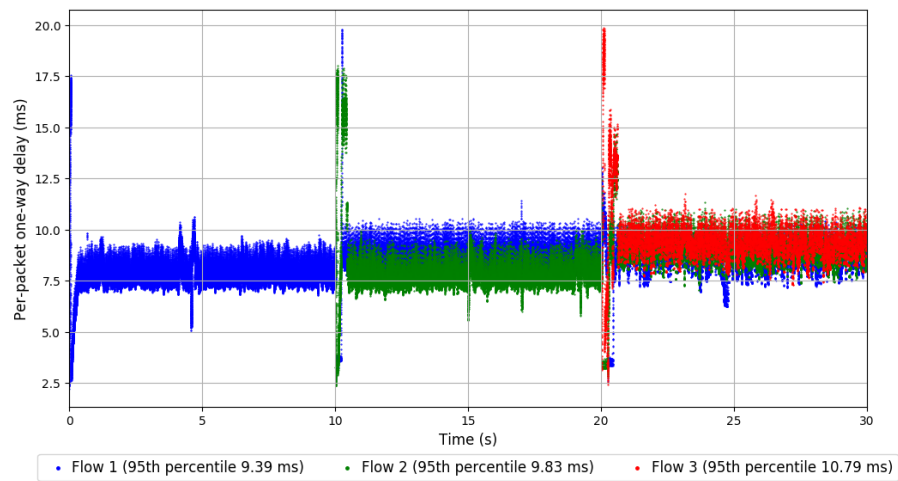
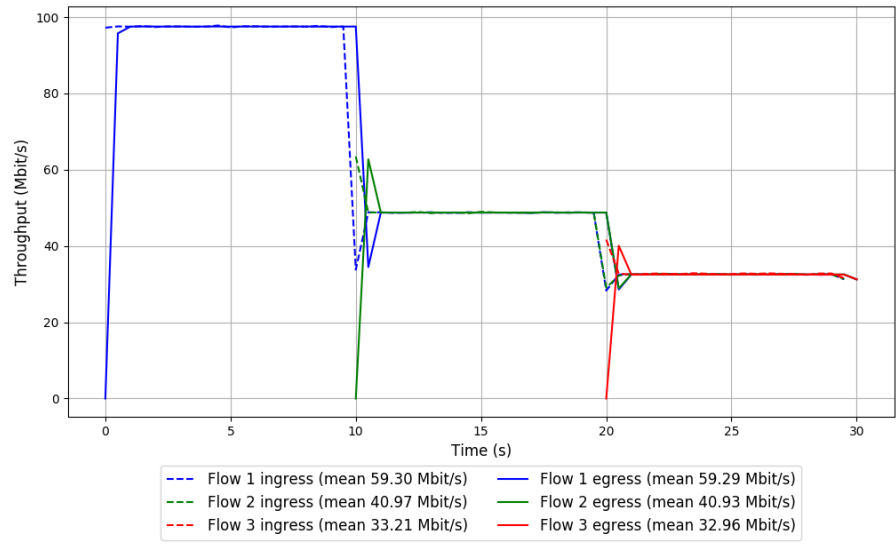
-- Flow 3:

Average throughput: 32.96 Mbit/s

95th percentile per-packet one-way delay: 10.790 ms

Loss rate: 0.83%

Run 4: Report of TCP BBR — Data Link



Run 5: Statistics of TCP BBR

Start at: 2019-01-25 20:51:34

End at: 2019-01-25 20:52:04

Local clock offset: -1.731 ms

Remote clock offset: 0.822 ms

Below is generated by plot.py at 2019-01-25 21:14:58

Datalink statistics

-- Total of 3 flows:

Average throughput: 97.47 Mbit/s

95th percentile per-packet one-way delay: 10.239 ms

Loss rate: 0.23%

-- Flow 1:

Average throughput: 59.30 Mbit/s

95th percentile per-packet one-way delay: 8.983 ms

Loss rate: 0.01%

-- Flow 2:

Average throughput: 40.88 Mbit/s

95th percentile per-packet one-way delay: 10.329 ms

Loss rate: 0.23%

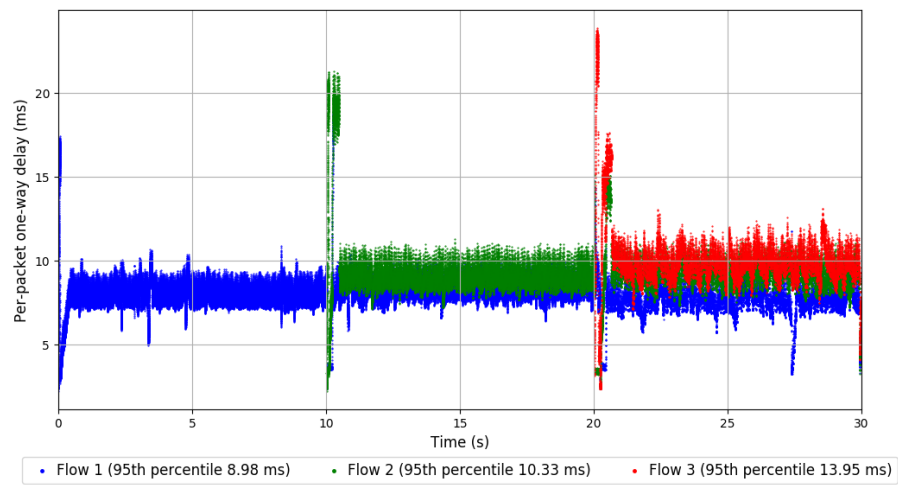
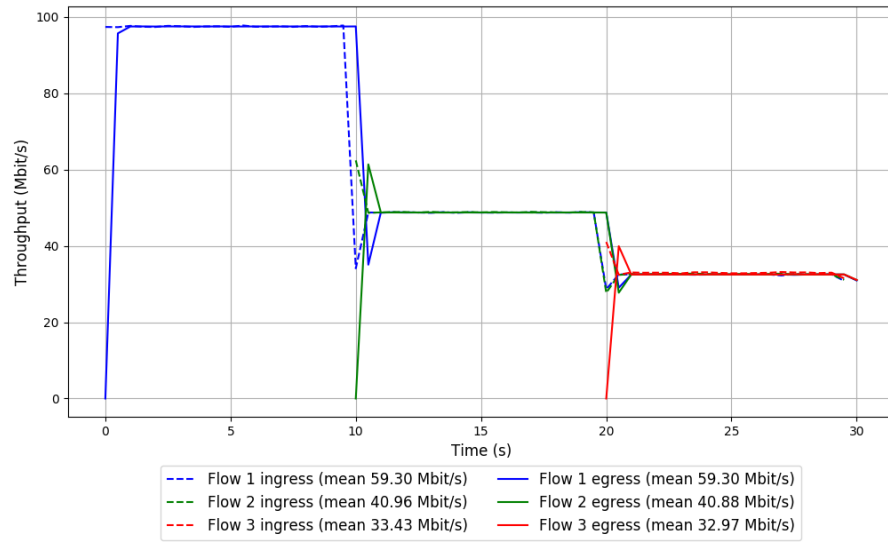
-- Flow 3:

Average throughput: 32.97 Mbit/s

95th percentile per-packet one-way delay: 13.947 ms

Loss rate: 1.42%

Run 5: Report of TCP BBR — Data Link



Run 1: Statistics of Copa

Start at: 2019-01-25 19:13:41

End at: 2019-01-25 19:14:11

Local clock offset: -6.661 ms

Remote clock offset: 0.009 ms

Below is generated by plot.py at 2019-01-25 21:15:49

Datalink statistics

-- Total of 3 flows:

Average throughput: 89.92 Mbit/s

95th percentile per-packet one-way delay: 13.964 ms

Loss rate: 0.08%

-- Flow 1:

Average throughput: 53.13 Mbit/s

95th percentile per-packet one-way delay: 13.708 ms

Loss rate: 0.04%

-- Flow 2:

Average throughput: 39.21 Mbit/s

95th percentile per-packet one-way delay: 13.978 ms

Loss rate: 0.09%

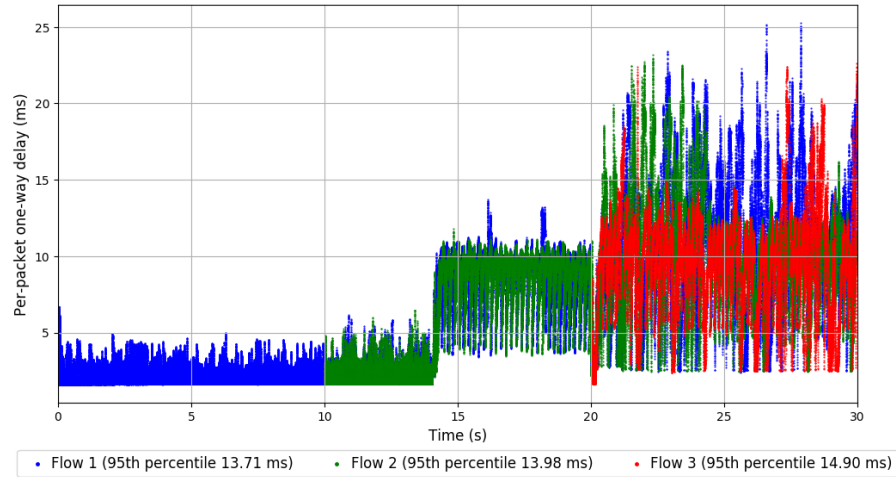
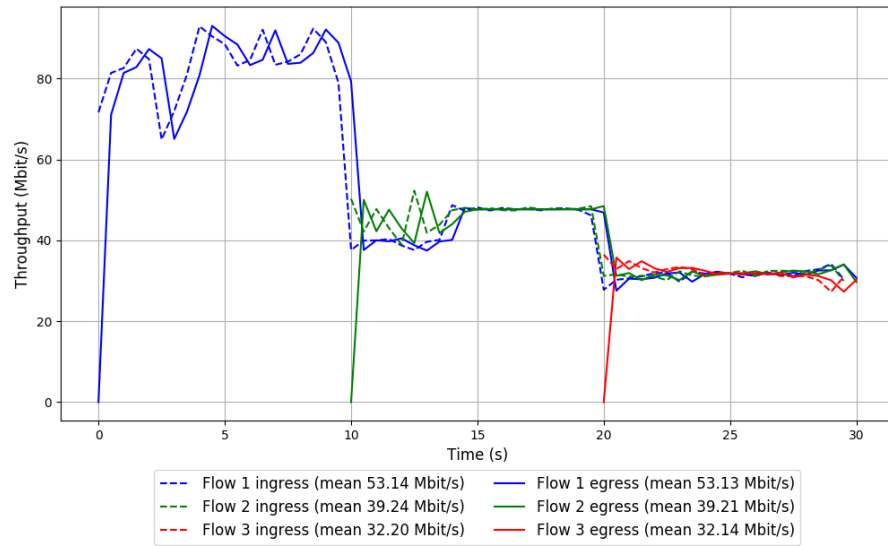
-- Flow 3:

Average throughput: 32.14 Mbit/s

95th percentile per-packet one-way delay: 14.898 ms

Loss rate: 0.23%

Run 1: Report of Copa — Data Link



Run 2: Statistics of Copa

Start at: 2019-01-25 19:37:48

End at: 2019-01-25 19:38:18

Local clock offset: -4.285 ms

Remote clock offset: 0.255 ms

Below is generated by plot.py at 2019-01-25 21:15:50

Datalink statistics

-- Total of 3 flows:

Average throughput: 90.44 Mbit/s

95th percentile per-packet one-way delay: 14.036 ms

Loss rate: 0.10%

-- Flow 1:

Average throughput: 53.33 Mbit/s

95th percentile per-packet one-way delay: 11.741 ms

Loss rate: 0.05%

-- Flow 2:

Average throughput: 39.52 Mbit/s

95th percentile per-packet one-way delay: 15.419 ms

Loss rate: 0.13%

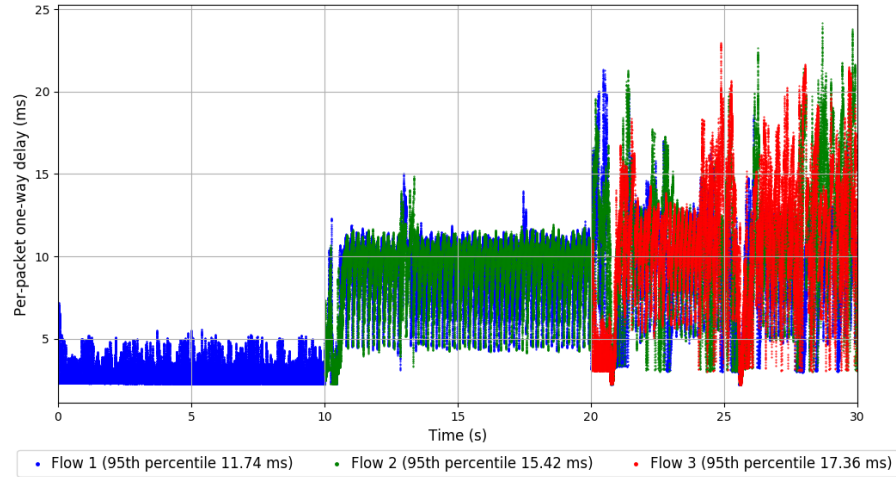
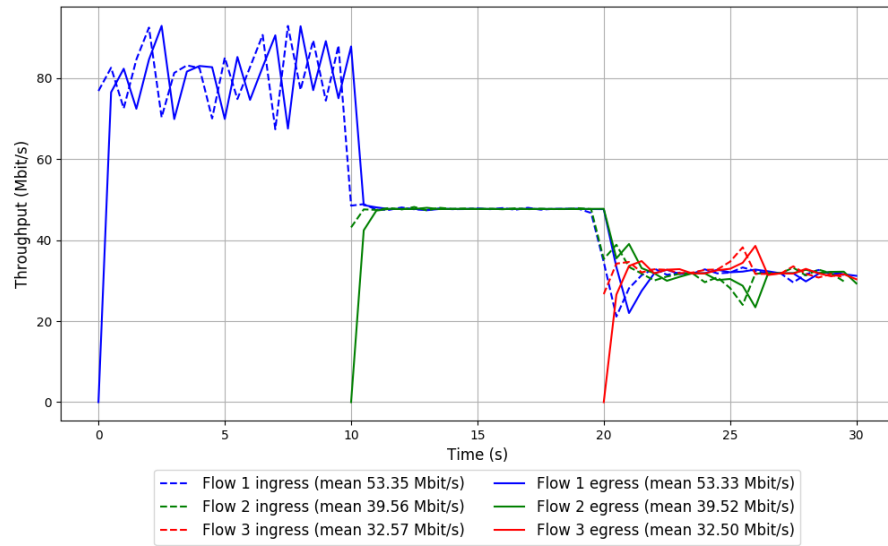
-- Flow 3:

Average throughput: 32.50 Mbit/s

95th percentile per-packet one-way delay: 17.359 ms

Loss rate: 0.25%

Run 2: Report of Copa — Data Link



Run 3: Statistics of Copa

Start at: 2019-01-25 20:01:58

End at: 2019-01-25 20:02:28

Local clock offset: -3.28 ms

Remote clock offset: 0.558 ms

Below is generated by plot.py at 2019-01-25 21:15:51

Datalink statistics

-- Total of 3 flows:

Average throughput: 91.42 Mbit/s

95th percentile per-packet one-way delay: 14.166 ms

Loss rate: 0.07%

-- Flow 1:

Average throughput: 54.45 Mbit/s

95th percentile per-packet one-way delay: 13.640 ms

Loss rate: 0.05%

-- Flow 2:

Average throughput: 39.50 Mbit/s

95th percentile per-packet one-way delay: 14.031 ms

Loss rate: 0.09%

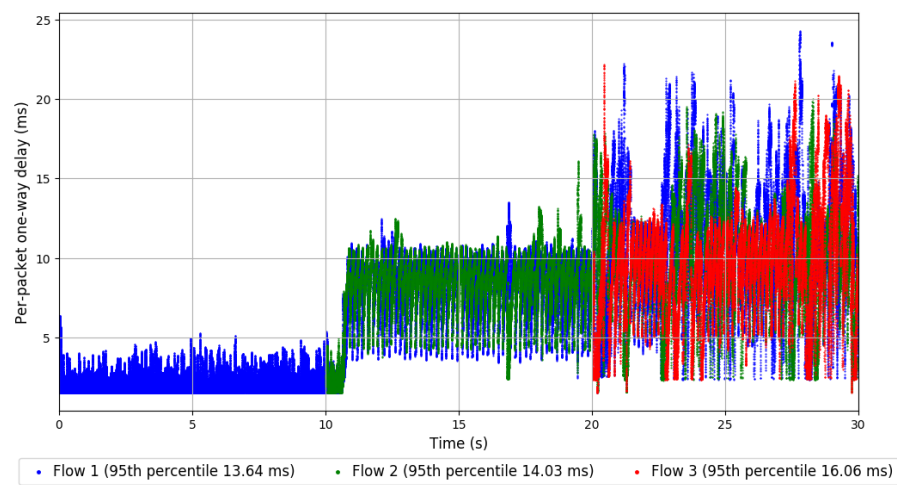
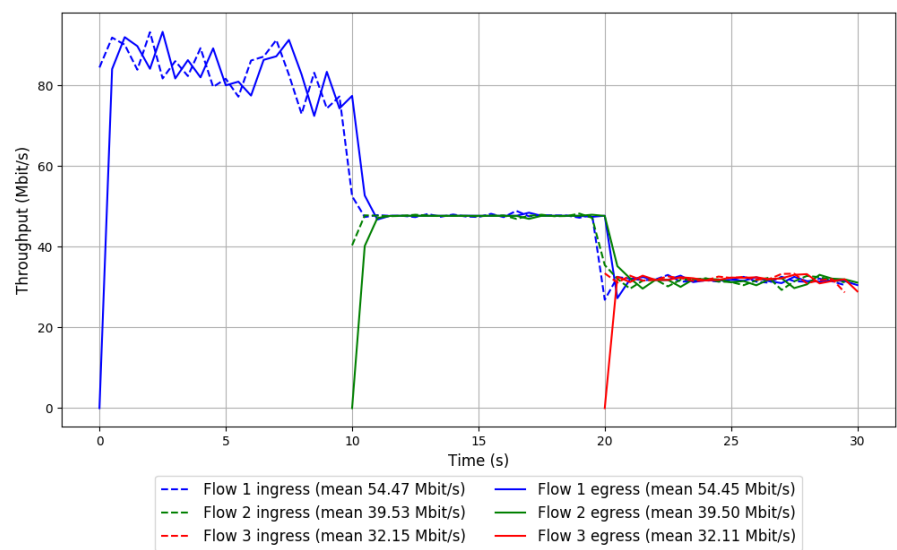
-- Flow 3:

Average throughput: 32.11 Mbit/s

95th percentile per-packet one-way delay: 16.064 ms

Loss rate: 0.14%

Run 3: Report of Copa — Data Link



Run 4: Statistics of Copa

Start at: 2019-01-25 20:26:10

End at: 2019-01-25 20:26:40

Local clock offset: -3.474 ms

Remote clock offset: 0.754 ms

Below is generated by plot.py at 2019-01-25 21:16:52

Datalink statistics

-- Total of 3 flows:

Average throughput: 89.54 Mbit/s

95th percentile per-packet one-way delay: 12.202 ms

Loss rate: 0.02%

-- Flow 1:

Average throughput: 53.50 Mbit/s

95th percentile per-packet one-way delay: 12.652 ms

Loss rate: 0.01%

-- Flow 2:

Average throughput: 37.80 Mbit/s

95th percentile per-packet one-way delay: 11.921 ms

Loss rate: 0.03%

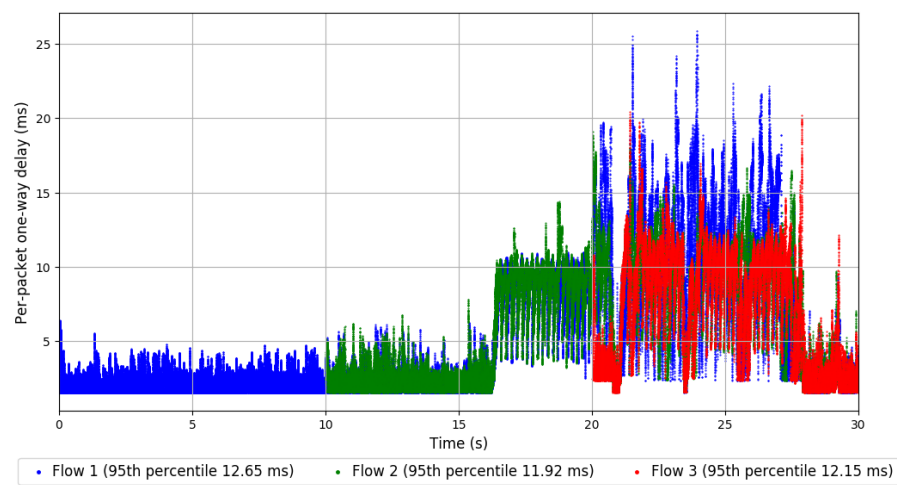
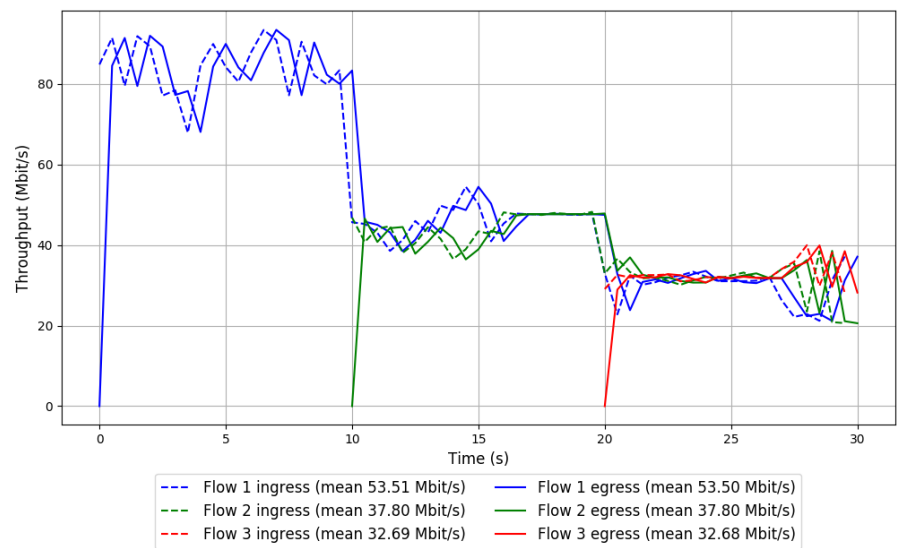
-- Flow 3:

Average throughput: 32.68 Mbit/s

95th percentile per-packet one-way delay: 12.146 ms

Loss rate: 0.04%

Run 4: Report of Copa — Data Link



Run 5: Statistics of Copa

Start at: 2019-01-25 20:50:22

End at: 2019-01-25 20:50:52

Local clock offset: -1.757 ms

Remote clock offset: 0.848 ms

Below is generated by plot.py at 2019-01-25 21:16:52

Datalink statistics

-- Total of 3 flows:

Average throughput: 88.79 Mbit/s

95th percentile per-packet one-way delay: 13.151 ms

Loss rate: 0.03%

-- Flow 1:

Average throughput: 53.96 Mbit/s

95th percentile per-packet one-way delay: 11.410 ms

Loss rate: 0.02%

-- Flow 2:

Average throughput: 38.52 Mbit/s

95th percentile per-packet one-way delay: 14.417 ms

Loss rate: 0.05%

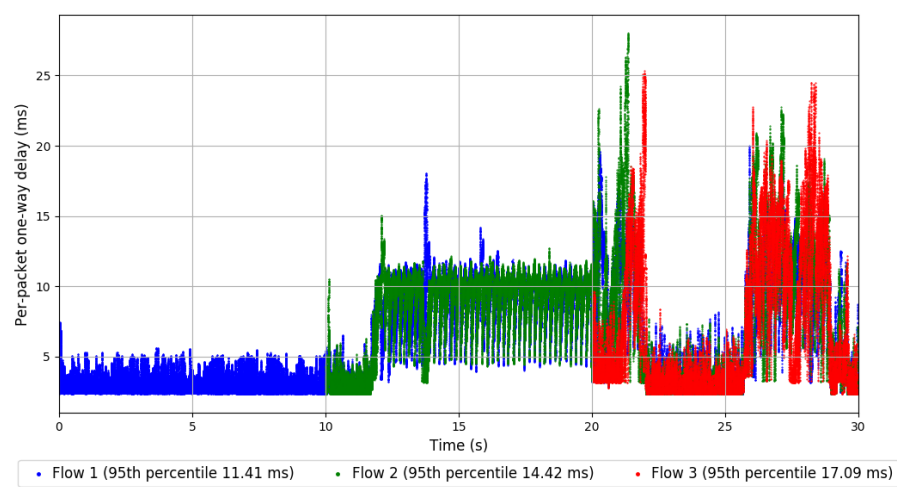
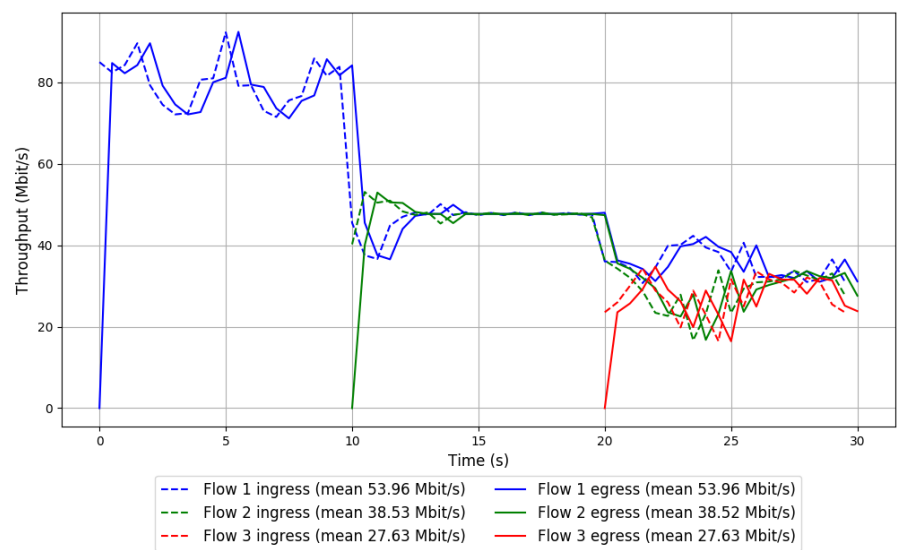
-- Flow 3:

Average throughput: 27.63 Mbit/s

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

Loss rate: 0.06%

Run 5: Report of Copa — Data Link



Run 1: Statistics of TCP Cubic

Start at: 2019-01-25 19:29:50

End at: 2019-01-25 19:30:20

Local clock offset: -7.119 ms

Remote clock offset: 0.185 ms

Below is generated by plot.py at 2019-01-25 21:16:52

Datalink statistics

-- Total of 3 flows:

Average throughput: 97.46 Mbit/s

95th percentile per-packet one-way delay: 9.895 ms

Loss rate: 0.11%

-- Flow 1:

Average throughput: 59.59 Mbit/s

95th percentile per-packet one-way delay: 9.811 ms

Loss rate: 0.07%

-- Flow 2:

Average throughput: 40.63 Mbit/s

95th percentile per-packet one-way delay: 9.763 ms

Loss rate: 0.13%

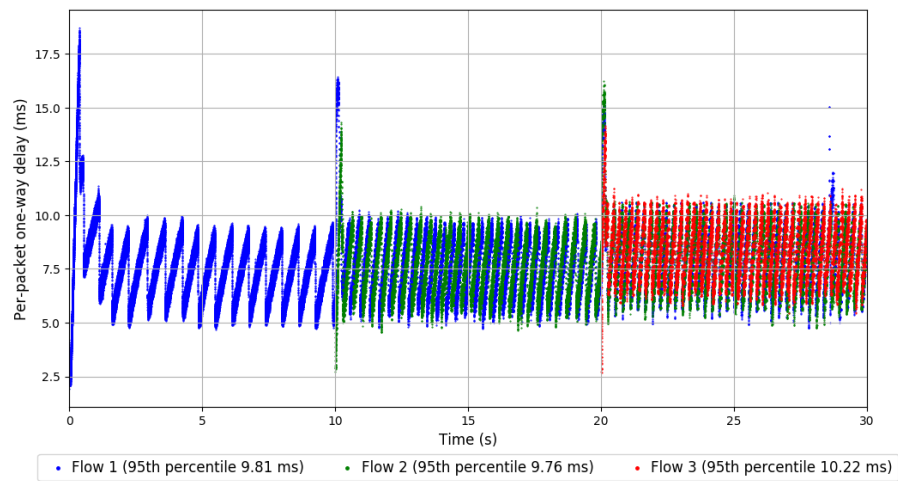
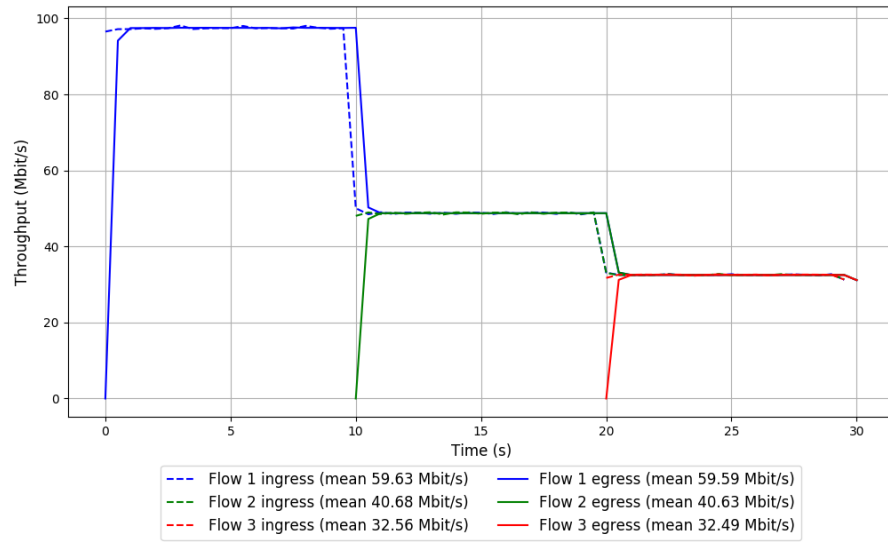
-- Flow 3:

Average throughput: 32.49 Mbit/s

95th percentile per-packet one-way delay: 10.219 ms

Loss rate: 0.27%

Run 1: Report of TCP Cubic — Data Link



Run 2: Statistics of TCP Cubic

Start at: 2019-01-25 19:53:59

End at: 2019-01-25 19:54:29

Local clock offset: -3.378 ms

Remote clock offset: 0.386 ms

Below is generated by plot.py at 2019-01-25 21:16:52

Datalink statistics

-- Total of 3 flows:

Average throughput: 97.46 Mbit/s

95th percentile per-packet one-way delay: 9.857 ms

Loss rate: 0.11%

-- Flow 1:

Average throughput: 59.62 Mbit/s

95th percentile per-packet one-way delay: 9.921 ms

Loss rate: 0.08%

-- Flow 2:

Average throughput: 40.64 Mbit/s

95th percentile per-packet one-way delay: 9.477 ms

Loss rate: 0.13%

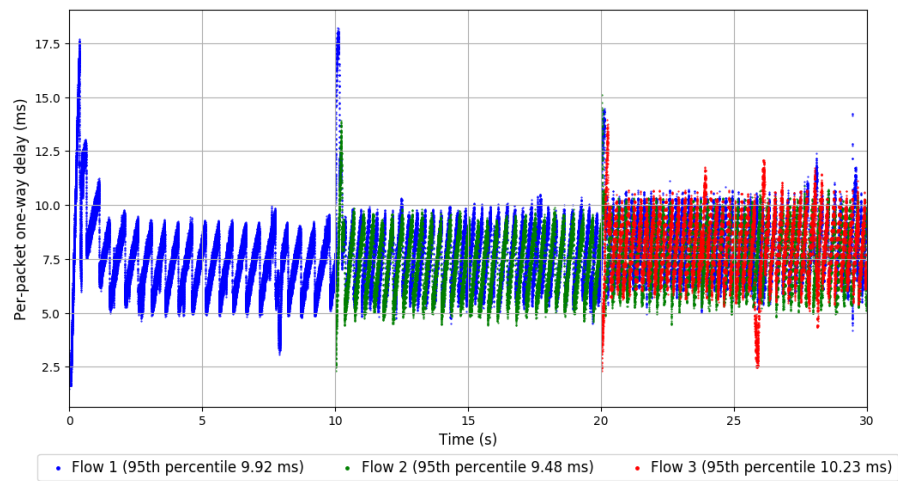
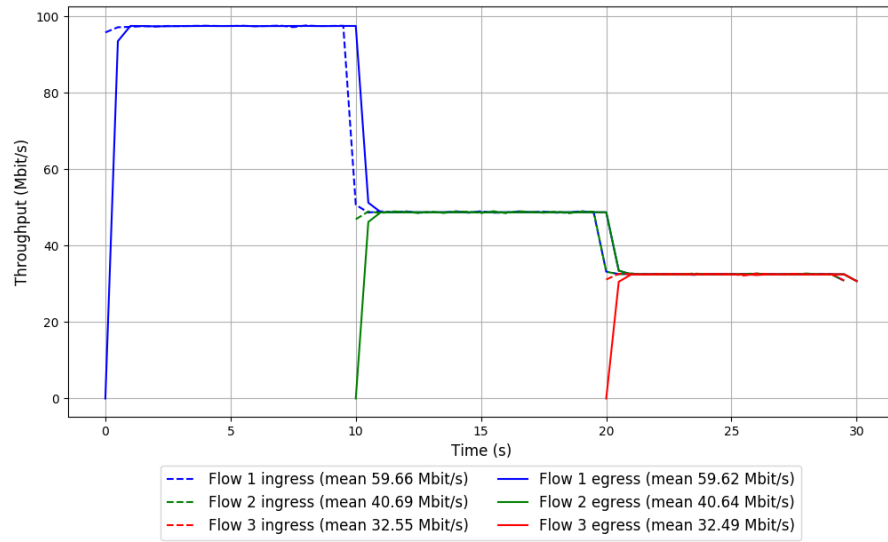
-- Flow 3:

Average throughput: 32.49 Mbit/s

95th percentile per-packet one-way delay: 10.228 ms

Loss rate: 0.24%

Run 2: Report of TCP Cubic — Data Link



Run 3: Statistics of TCP Cubic

Start at: 2019-01-25 20:18:10

End at: 2019-01-25 20:18:40

Local clock offset: -2.61 ms

Remote clock offset: 0.822 ms

Below is generated by plot.py at 2019-01-25 21:16:52

Datalink statistics

-- Total of 3 flows:

Average throughput: 97.46 Mbit/s

95th percentile per-packet one-way delay: 10.298 ms

Loss rate: 0.11%

-- Flow 1:

Average throughput: 59.60 Mbit/s

95th percentile per-packet one-way delay: 10.174 ms

Loss rate: 0.07%

-- Flow 2:

Average throughput: 40.64 Mbit/s

95th percentile per-packet one-way delay: 10.227 ms

Loss rate: 0.13%

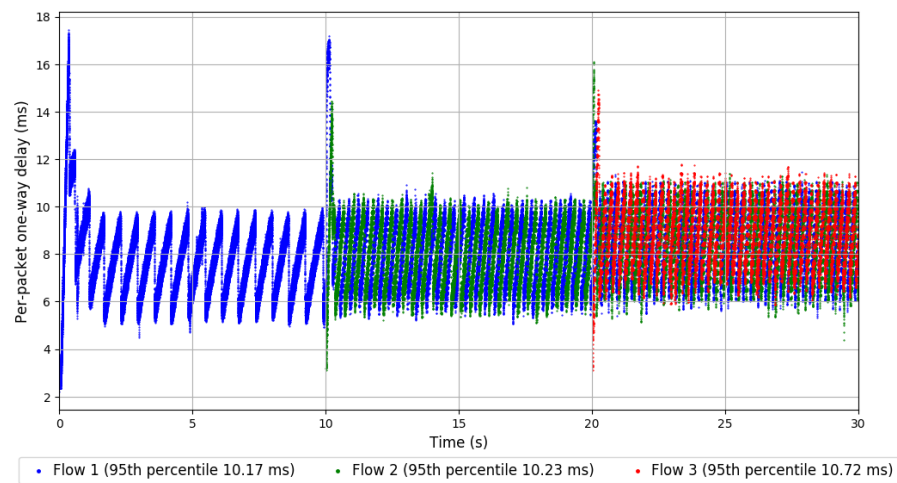
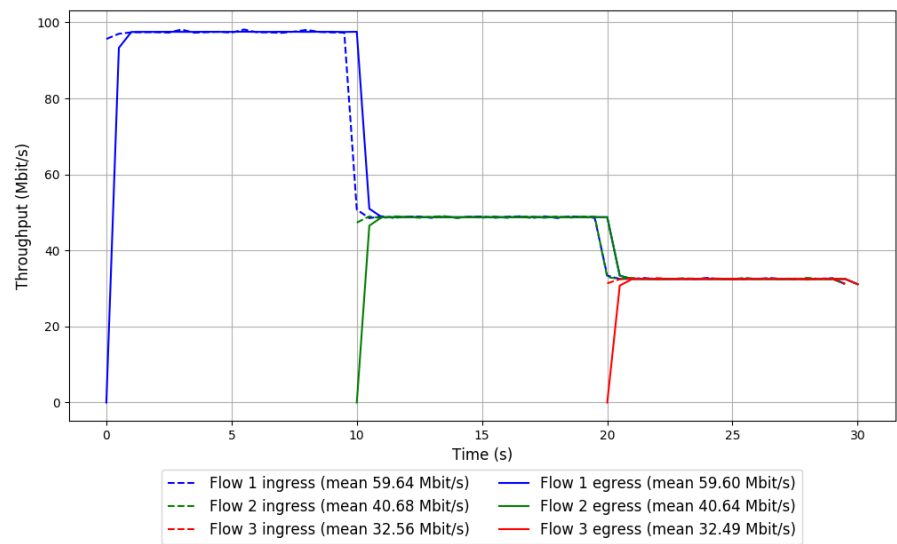
-- Flow 3:

Average throughput: 32.49 Mbit/s

95th percentile per-packet one-way delay: 10.716 ms

Loss rate: 0.26%

Run 3: Report of TCP Cubic — Data Link



Run 4: Statistics of TCP Cubic

Start at: 2019-01-25 20:42:23

End at: 2019-01-25 20:42:53

Local clock offset: -2.024 ms

Remote clock offset: 0.864 ms

Below is generated by plot.py at 2019-01-25 21:16:53

Datalink statistics

-- Total of 3 flows:

Average throughput: 97.48 Mbit/s

95th percentile per-packet one-way delay: 10.207 ms

Loss rate: 0.11%

-- Flow 1:

Average throughput: 59.63 Mbit/s

95th percentile per-packet one-way delay: 10.198 ms

Loss rate: 0.08%

-- Flow 2:

Average throughput: 40.64 Mbit/s

95th percentile per-packet one-way delay: 10.147 ms

Loss rate: 0.14%

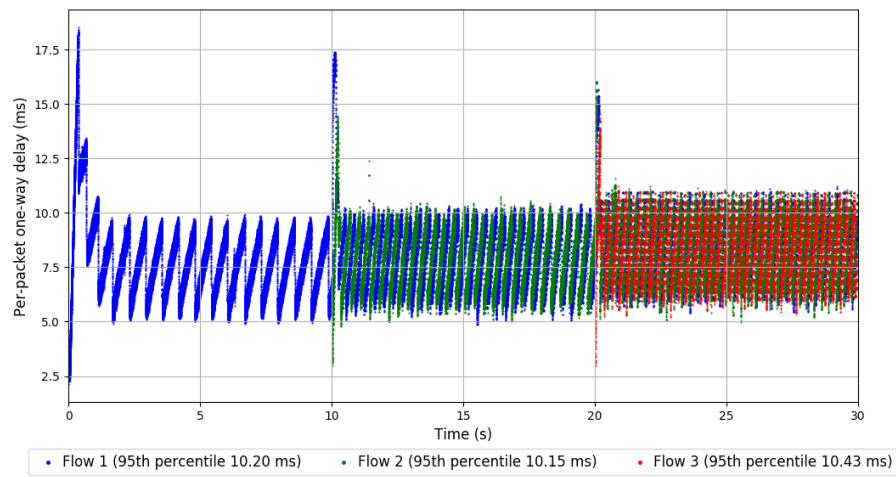
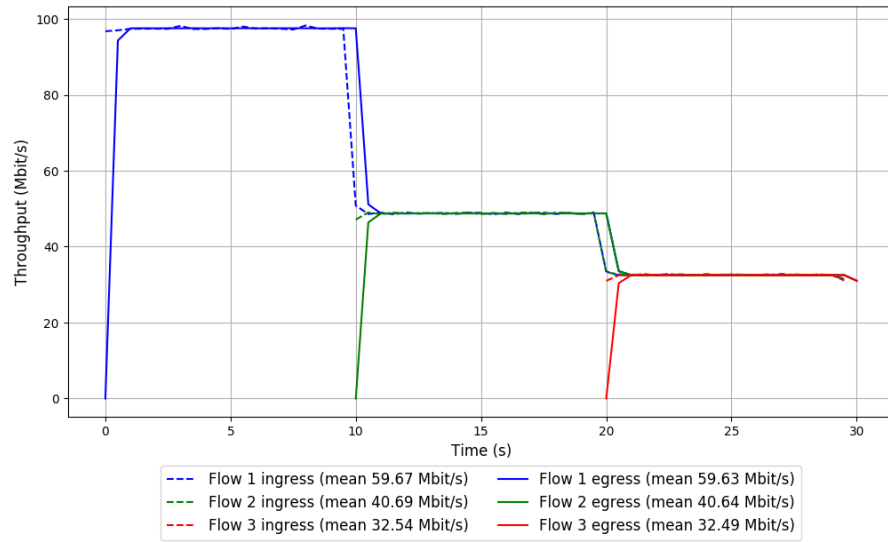
-- Flow 3:

Average throughput: 32.49 Mbit/s

95th percentile per-packet one-way delay: 10.431 ms

Loss rate: 0.23%

Run 4: Report of TCP Cubic — Data Link



Run 5: Statistics of TCP Cubic

Start at: 2019-01-25 21:06:33

End at: 2019-01-25 21:07:03

Local clock offset: -5.465 ms

Remote clock offset: 0.682 ms

Below is generated by plot.py at 2019-01-25 21:16:54

Datalink statistics

-- Total of 3 flows:

Average throughput: 97.48 Mbit/s

95th percentile per-packet one-way delay: 9.921 ms

Loss rate: 0.11%

-- Flow 1:

Average throughput: 59.62 Mbit/s

95th percentile per-packet one-way delay: 9.755 ms

Loss rate: 0.07%

-- Flow 2:

Average throughput: 40.65 Mbit/s

95th percentile per-packet one-way delay: 10.010 ms

Loss rate: 0.16%

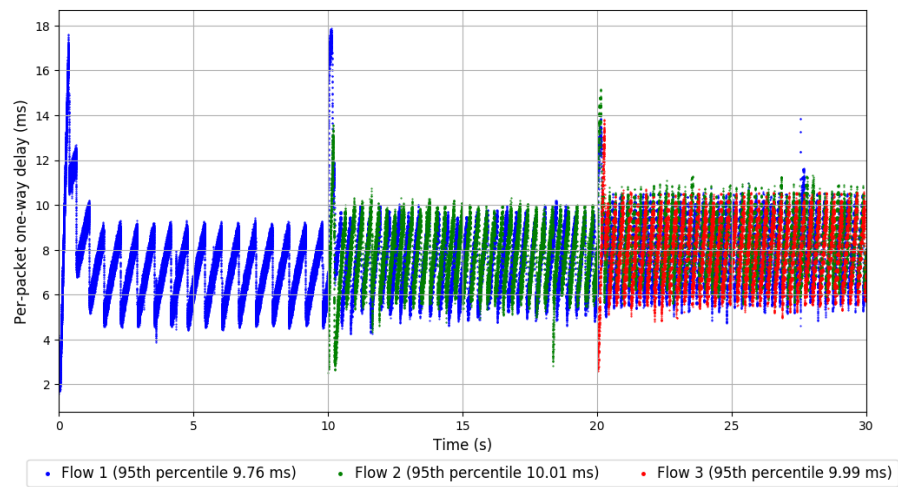
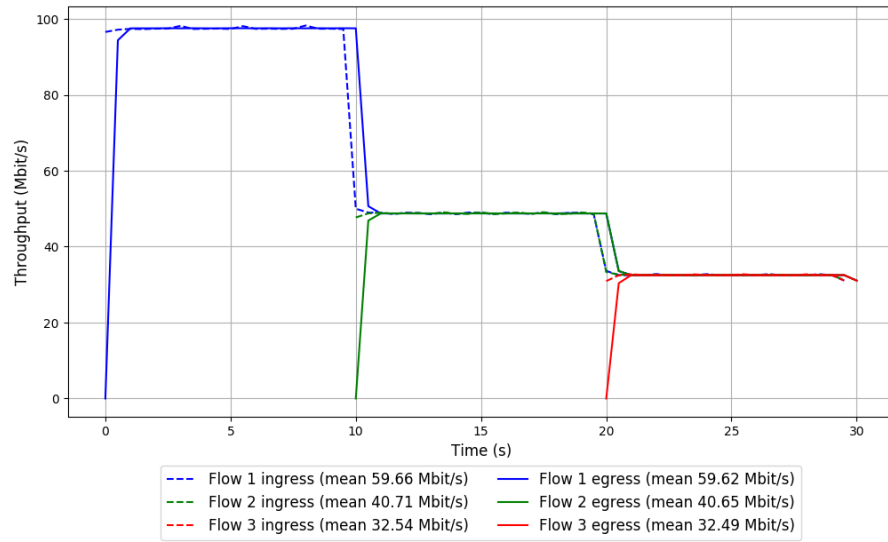
-- Flow 3:

Average throughput: 32.49 Mbit/s

95th percentile per-packet one-way delay: 9.995 ms

Loss rate: 0.21%

Run 5: Report of TCP Cubic — Data Link

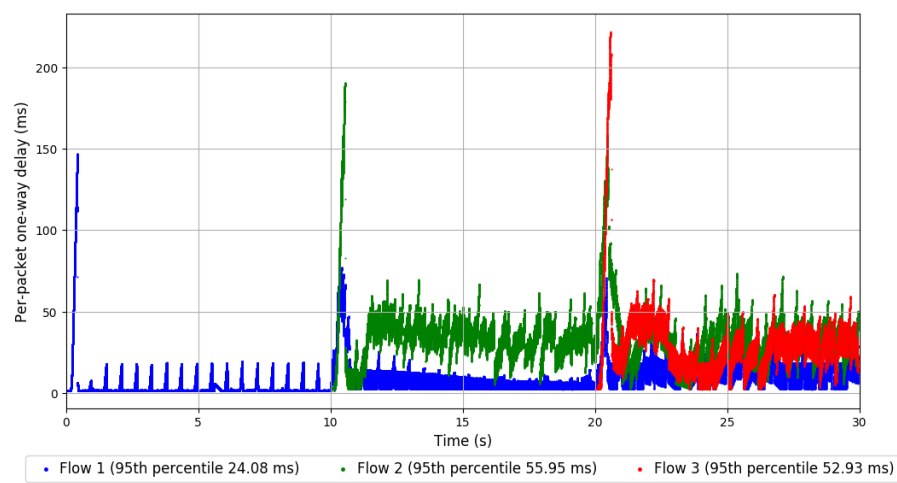
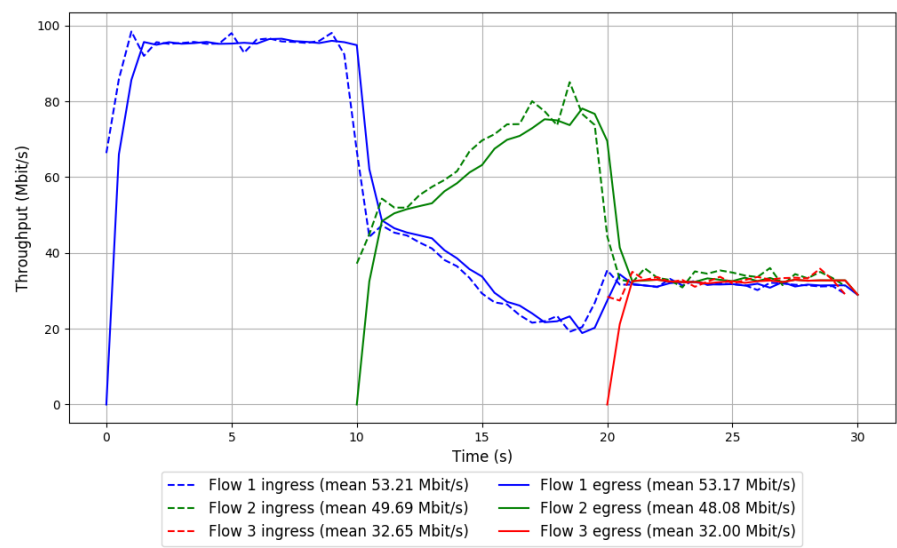


Run 1: Statistics of FillP

Start at: 2019-01-25 19:20:33
End at: 2019-01-25 19:21:03
Local clock offset: -7.381 ms
Remote clock offset: -0.025 ms

Below is generated by plot.py at 2019-01-25 21:17:12
Datalink statistics
-- Total of 3 flows:
Average throughput: 95.79 Mbit/s
95th percentile per-packet one-way delay: 49.599 ms
Loss rate: 1.35%
-- Flow 1:
Average throughput: 53.17 Mbit/s
95th percentile per-packet one-way delay: 24.080 ms
Loss rate: 0.04%
-- Flow 2:
Average throughput: 48.08 Mbit/s
95th percentile per-packet one-way delay: 55.946 ms
Loss rate: 3.24%
-- Flow 3:
Average throughput: 32.00 Mbit/s
95th percentile per-packet one-way delay: 52.933 ms
Loss rate: 2.02%

Run 1: Report of FillP — Data Link



Run 2: Statistics of FillP

Start at: 2019-01-25 19:44:41

End at: 2019-01-25 19:45:11

Local clock offset: -3.344 ms

Remote clock offset: 0.301 ms

Below is generated by plot.py at 2019-01-25 21:17:21

Datalink statistics

-- Total of 3 flows:

Average throughput: 94.09 Mbit/s

95th percentile per-packet one-way delay: 44.091 ms

Loss rate: 0.54%

-- Flow 1:

Average throughput: 58.33 Mbit/s

95th percentile per-packet one-way delay: 35.488 ms

Loss rate: 0.25%

-- Flow 2:

Average throughput: 37.67 Mbit/s

95th percentile per-packet one-way delay: 33.668 ms

Loss rate: 0.28%

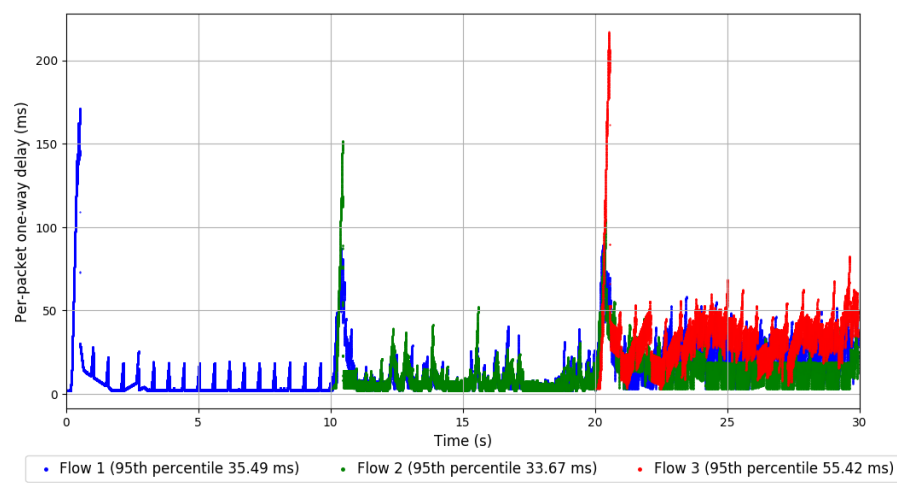
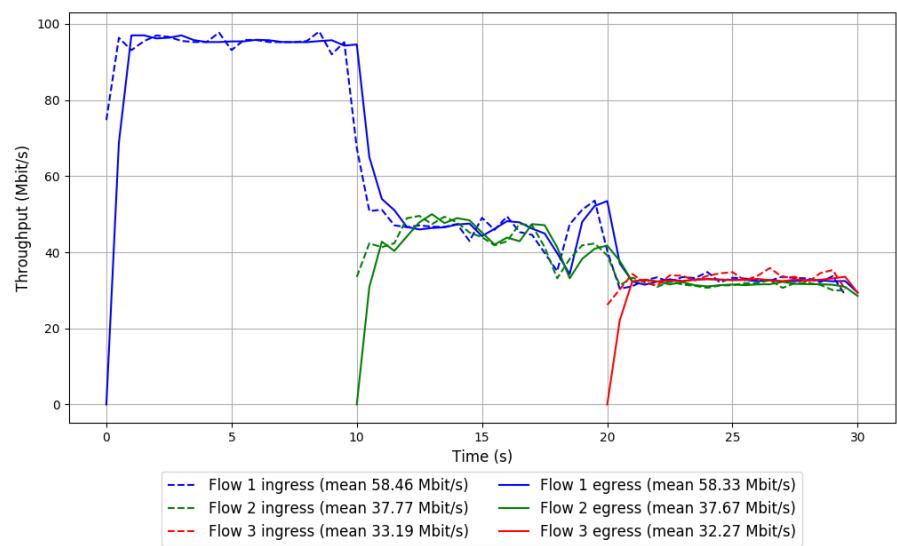
-- Flow 3:

Average throughput: 32.27 Mbit/s

95th percentile per-packet one-way delay: 55.417 ms

Loss rate: 2.71%

Run 2: Report of FillP — Data Link



Run 3: Statistics of FillP

Start at: 2019-01-25 20:08:51

End at: 2019-01-25 20:09:21

Local clock offset: -2.578 ms

Remote clock offset: 0.643 ms

Below is generated by plot.py at 2019-01-25 21:17:22

Datalink statistics

-- Total of 3 flows:

Average throughput: 94.31 Mbit/s

95th percentile per-packet one-way delay: 42.132 ms

Loss rate: 0.39%

-- Flow 1:

Average throughput: 50.71 Mbit/s

95th percentile per-packet one-way delay: 29.661 ms

Loss rate: 0.09%

-- Flow 2:

Average throughput: 50.15 Mbit/s

95th percentile per-packet one-way delay: 41.341 ms

Loss rate: 0.28%

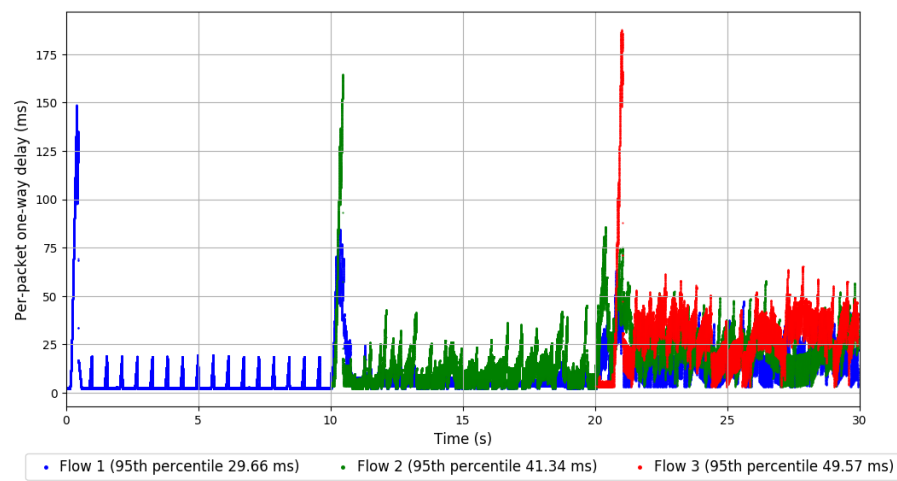
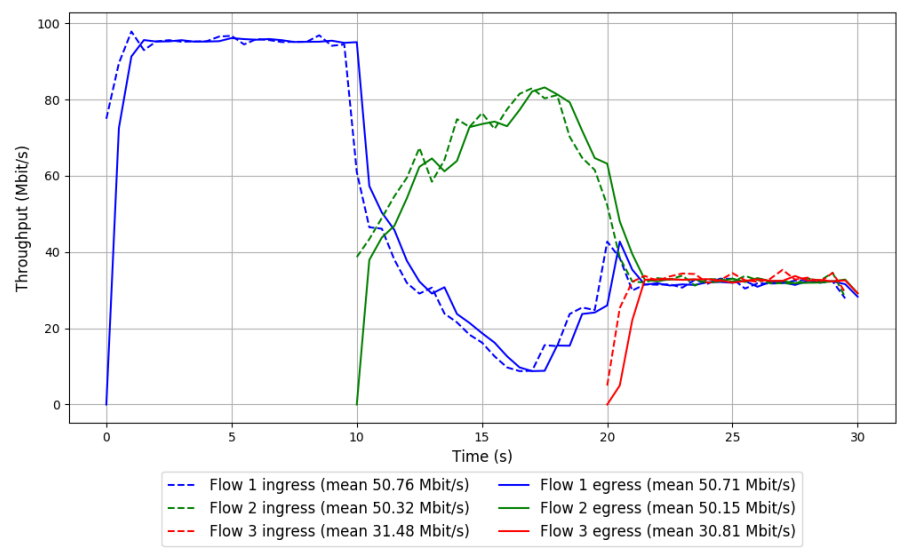
-- Flow 3:

Average throughput: 30.81 Mbit/s

95th percentile per-packet one-way delay: 49.567 ms

Loss rate: 2.16%

Run 3: Report of FillP — Data Link



Run 4: Statistics of FillP

Start at: 2019-01-25 20:33:01

End at: 2019-01-25 20:33:31

Local clock offset: -3.189 ms

Remote clock offset: 0.805 ms

Below is generated by plot.py at 2019-01-25 21:17:23

Datalink statistics

-- Total of 3 flows:

Average throughput: 95.99 Mbit/s

95th percentile per-packet one-way delay: 50.180 ms

Loss rate: 0.95%

-- Flow 1:

Average throughput: 53.95 Mbit/s

95th percentile per-packet one-way delay: 27.717 ms

Loss rate: 0.07%

-- Flow 2:

Average throughput: 47.21 Mbit/s

95th percentile per-packet one-way delay: 61.159 ms

Loss rate: 1.96%

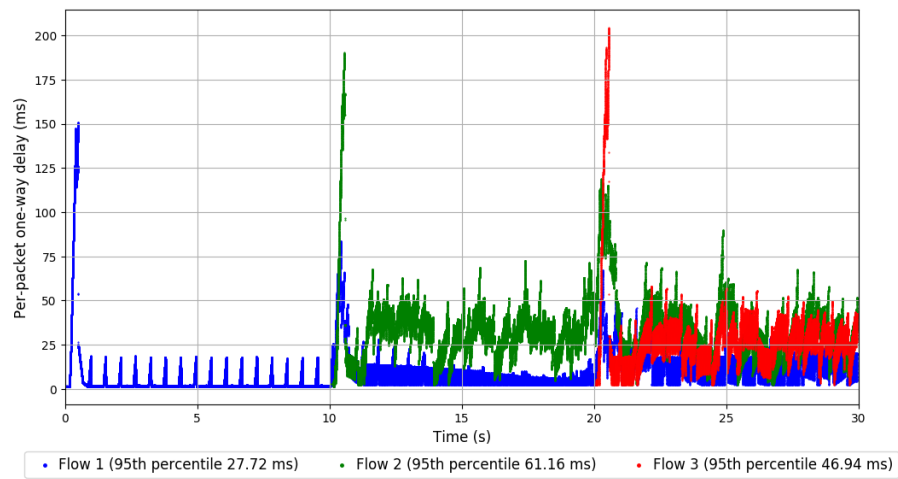
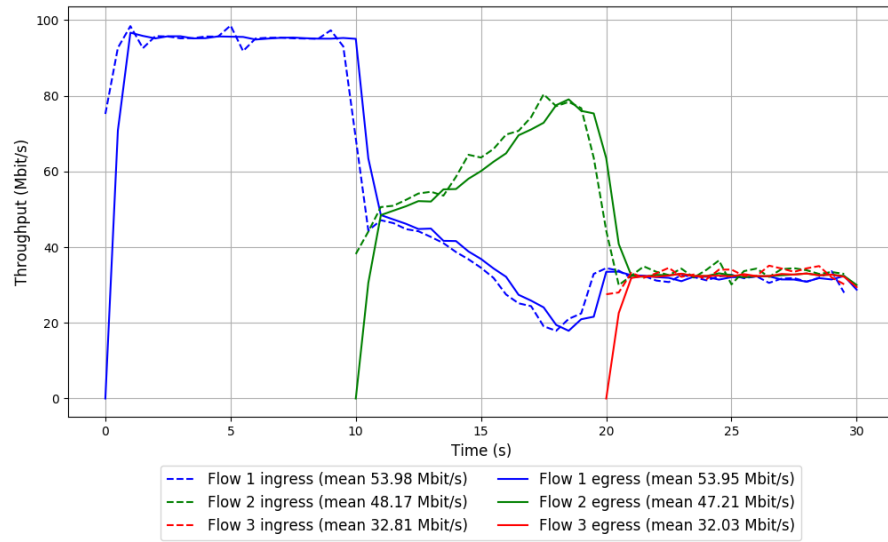
-- Flow 3:

Average throughput: 32.03 Mbit/s

95th percentile per-packet one-way delay: 46.940 ms

Loss rate: 2.31%

Run 4: Report of FillP — Data Link



Run 5: Statistics of FillP

Start at: 2019-01-25 20:57:15

End at: 2019-01-25 20:57:45

Local clock offset: -2.333 ms

Remote clock offset: 0.768 ms

Below is generated by plot.py at 2019-01-25 21:18:14

Datalink statistics

-- Total of 3 flows:

Average throughput: 96.11 Mbit/s

95th percentile per-packet one-way delay: 56.723 ms

Loss rate: 1.42%

-- Flow 1:

Average throughput: 56.65 Mbit/s

95th percentile per-packet one-way delay: 29.362 ms

Loss rate: 0.09%

-- Flow 2:

Average throughput: 43.37 Mbit/s

95th percentile per-packet one-way delay: 66.720 ms

Loss rate: 3.80%

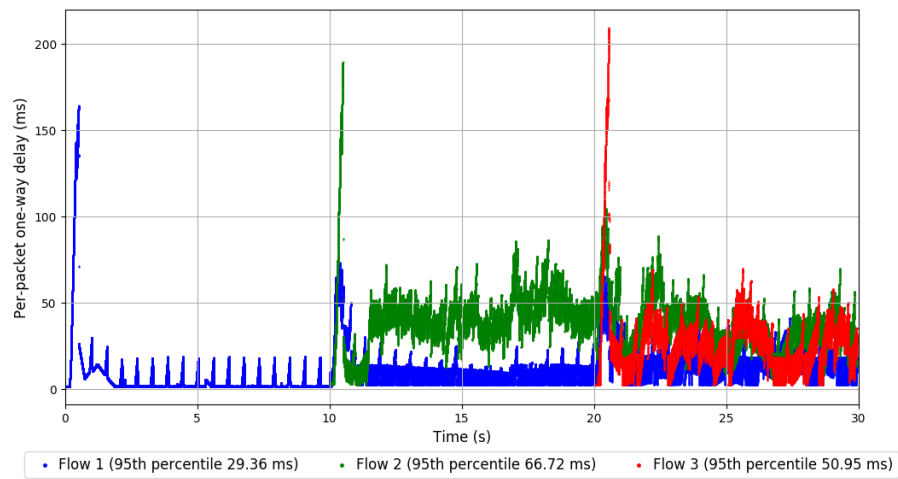
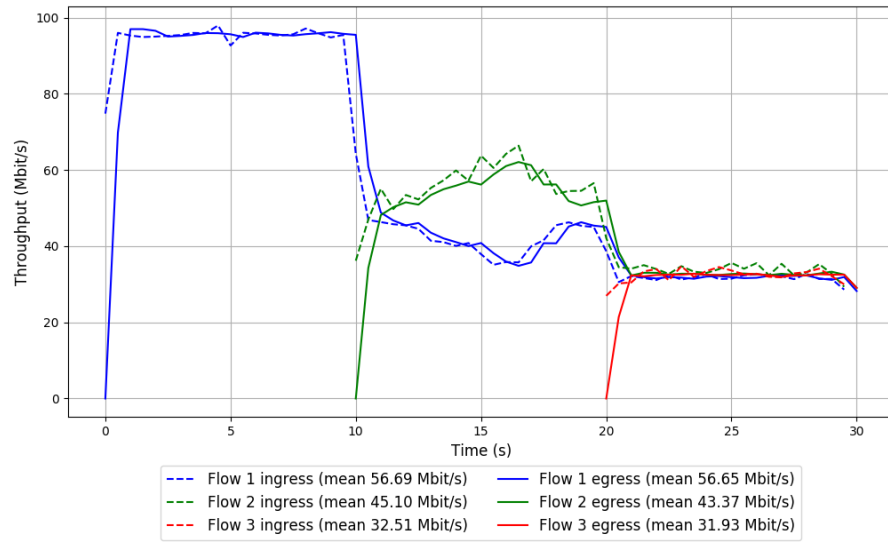
-- Flow 3:

Average throughput: 31.93 Mbit/s

95th percentile per-packet one-way delay: 50.952 ms

Loss rate: 1.79%

Run 5: Report of FillP — Data Link



Run 1: Statistics of FillP-Sheep

Start at: 2019-01-25 19:16:02

End at: 2019-01-25 19:16:32

Local clock offset: -6.933 ms

Remote clock offset: 0.044 ms

Below is generated by plot.py at 2019-01-25 21:18:14

Datalink statistics

-- Total of 3 flows:

Average throughput: 94.21 Mbit/s

95th percentile per-packet one-way delay: 24.859 ms

Loss rate: 0.04%

-- Flow 1:

Average throughput: 62.34 Mbit/s

95th percentile per-packet one-way delay: 26.358 ms

Loss rate: 0.01%

-- Flow 2:

Average throughput: 33.47 Mbit/s

95th percentile per-packet one-way delay: 21.242 ms

Loss rate: 0.09%

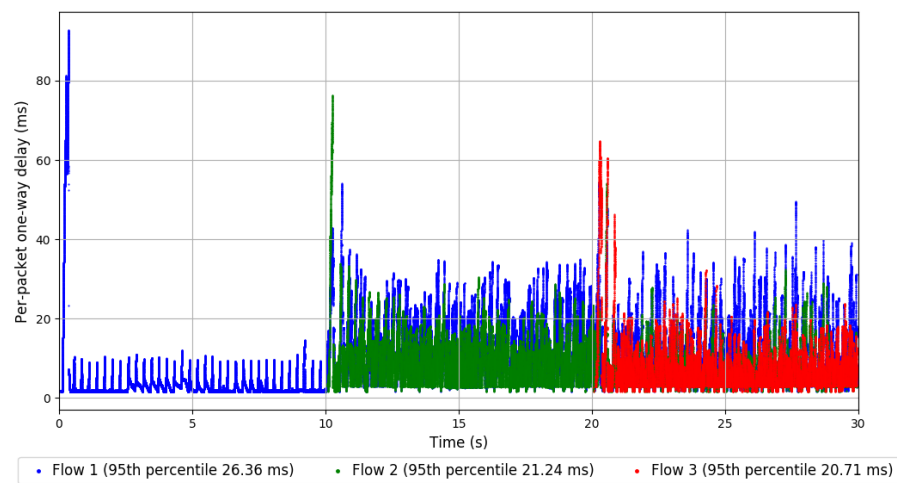
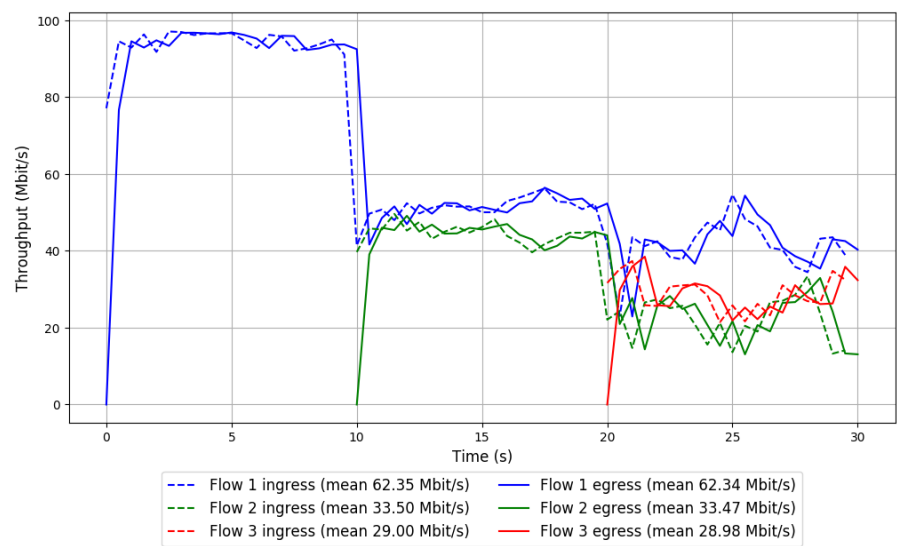
-- Flow 3:

Average throughput: 28.98 Mbit/s

95th percentile per-packet one-way delay: 20.710 ms

Loss rate: 0.10%

Run 1: Report of FillP-Sheep — Data Link

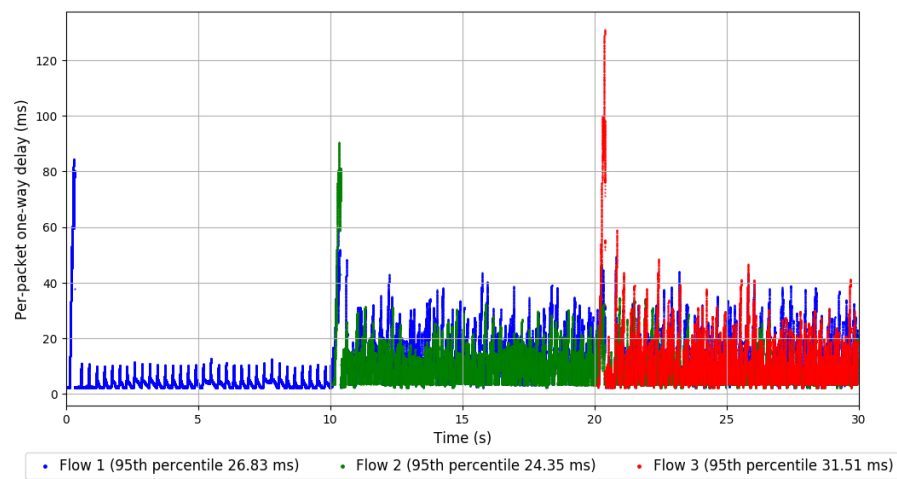
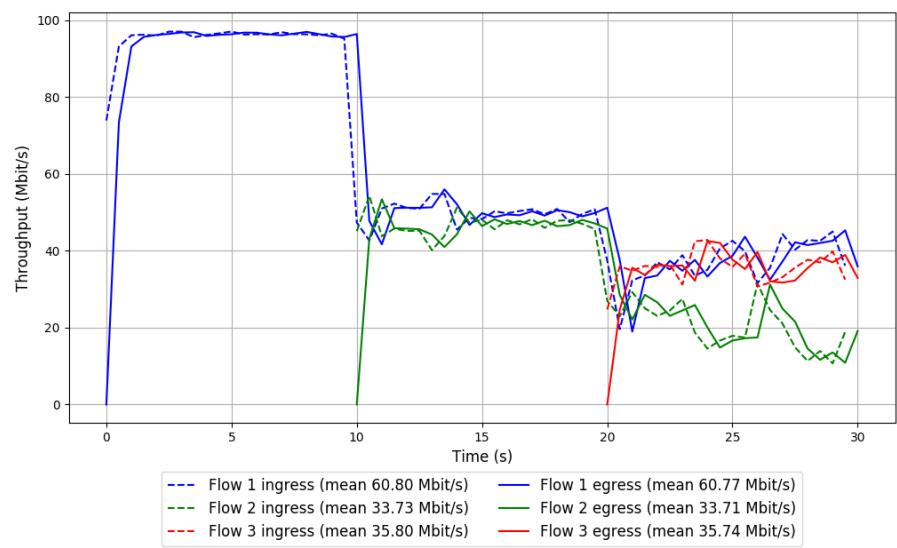


Run 2: Statistics of FillP-Sheep

Start at: 2019-01-25 19:40:10
End at: 2019-01-25 19:40:40
Local clock offset: -3.848 ms
Remote clock offset: 0.248 ms

Below is generated by plot.py at 2019-01-25 21:18:14
Datalink statistics
-- Total of 3 flows:
Average throughput: 95.08 Mbit/s
95th percentile per-packet one-way delay: 26.886 ms
Loss rate: 0.05%
-- Flow 1:
Average throughput: 60.77 Mbit/s
95th percentile per-packet one-way delay: 26.832 ms
Loss rate: 0.05%
-- Flow 2:
Average throughput: 33.71 Mbit/s
95th percentile per-packet one-way delay: 24.350 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 35.74 Mbit/s
95th percentile per-packet one-way delay: 31.514 ms
Loss rate: 0.13%

Run 2: Report of FillP-Sheep — Data Link



Run 3: Statistics of FillP-Sheep

Start at: 2019-01-25 20:04:20

End at: 2019-01-25 20:04:50

Local clock offset: -2.57 ms

Remote clock offset: 0.528 ms

Below is generated by plot.py at 2019-01-25 21:18:14

Datalink statistics

-- Total of 3 flows:

Average throughput: 95.69 Mbit/s

95th percentile per-packet one-way delay: 26.680 ms

Loss rate: 0.07%

-- Flow 1:

Average throughput: 58.37 Mbit/s

95th percentile per-packet one-way delay: 24.017 ms

Loss rate: 0.02%

-- Flow 2:

Average throughput: 40.80 Mbit/s

95th percentile per-packet one-way delay: 28.818 ms

Loss rate: 0.08%

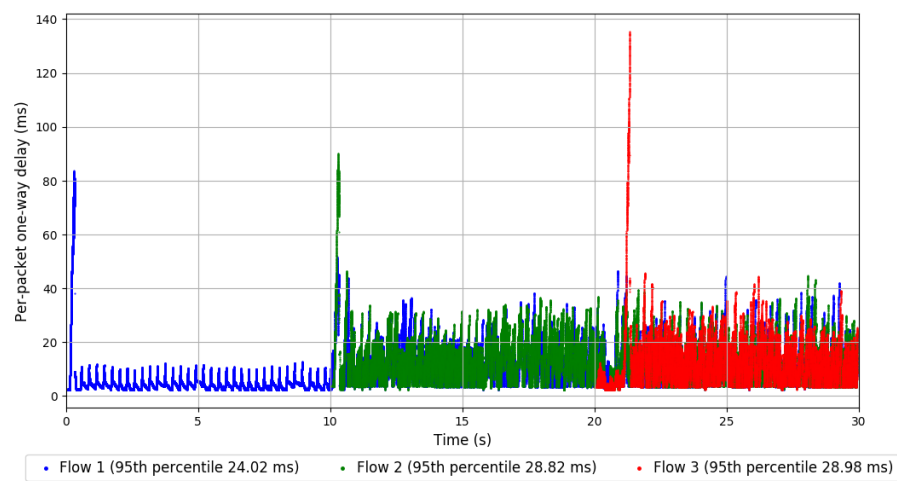
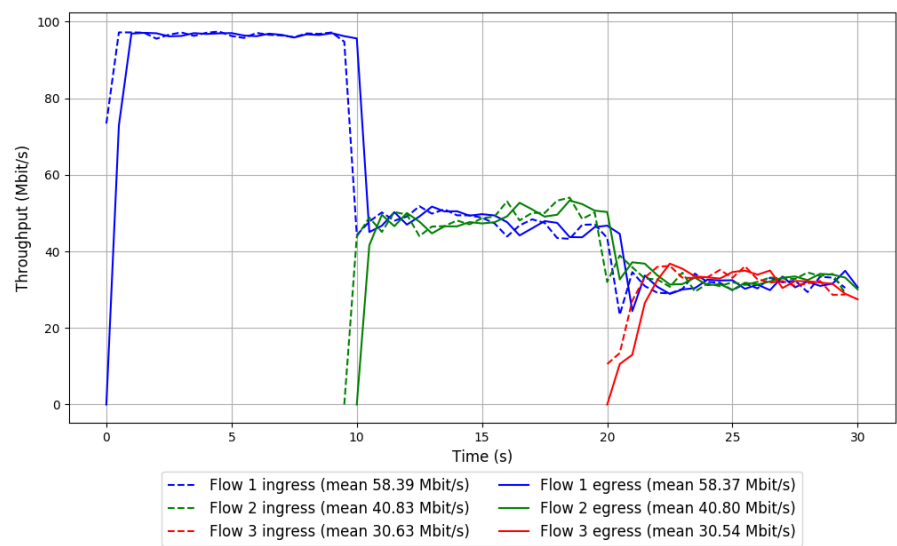
-- Flow 3:

Average throughput: 30.54 Mbit/s

95th percentile per-packet one-way delay: 28.978 ms

Loss rate: 0.30%

Run 3: Report of FillP-Sheep — Data Link



Run 4: Statistics of FillP-Sheep

Start at: 2019-01-25 20:28:31

End at: 2019-01-25 20:29:01

Local clock offset: -3.461 ms

Remote clock offset: 0.774 ms

Below is generated by plot.py at 2019-01-25 21:18:28

Datalink statistics

-- Total of 3 flows:

Average throughput: 92.27 Mbit/s

95th percentile per-packet one-way delay: 23.527 ms

Loss rate: 0.05%

-- Flow 1:

Average throughput: 63.15 Mbit/s

95th percentile per-packet one-way delay: 24.034 ms

Loss rate: 0.05%

-- Flow 2:

Average throughput: 32.89 Mbit/s

95th percentile per-packet one-way delay: 22.466 ms

Loss rate: 0.06%

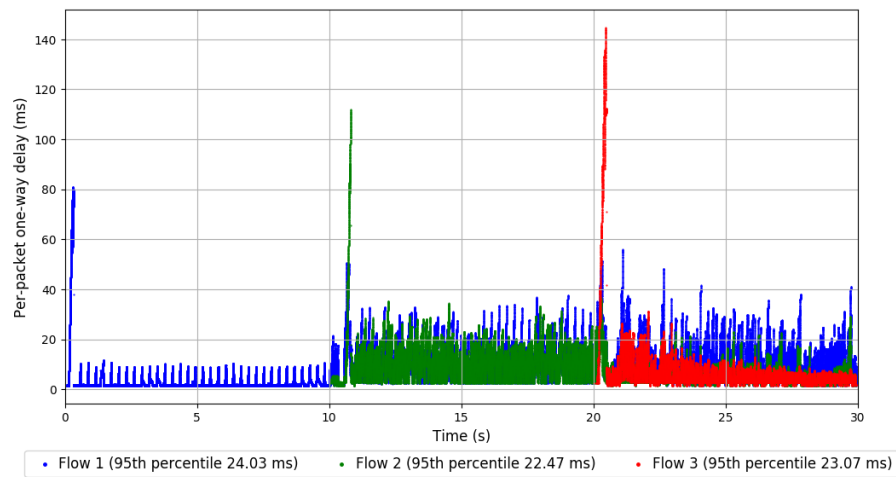
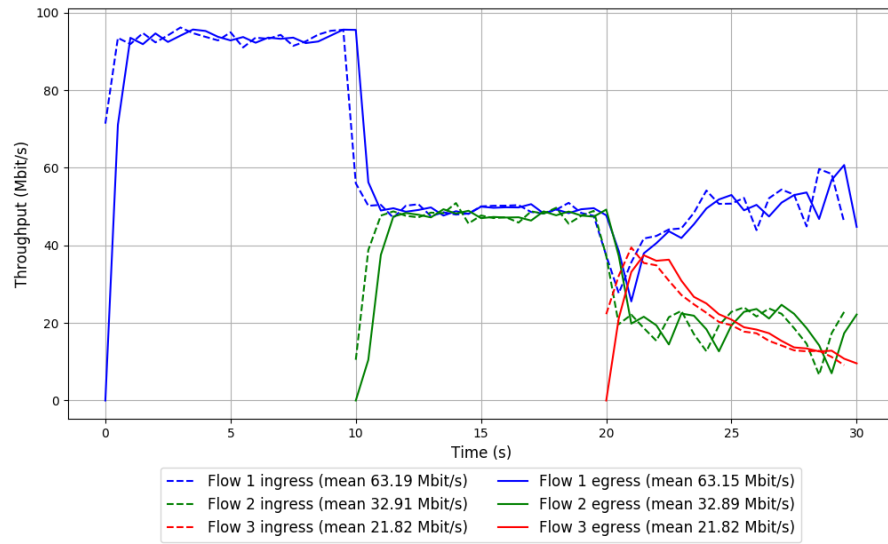
-- Flow 3:

Average throughput: 21.82 Mbit/s

95th percentile per-packet one-way delay: 23.070 ms

Loss rate: 0.02%

Run 4: Report of FillP-Sheep — Data Link



Run 5: Statistics of FillP-Sheep

Start at: 2019-01-25 20:52:44

End at: 2019-01-25 20:53:14

Local clock offset: -1.721 ms

Remote clock offset: 0.867 ms

Below is generated by plot.py at 2019-01-25 21:18:41

Datalink statistics

-- Total of 3 flows:

Average throughput: 94.78 Mbit/s

95th percentile per-packet one-way delay: 28.219 ms

Loss rate: 0.07%

-- Flow 1:

Average throughput: 59.60 Mbit/s

95th percentile per-packet one-way delay: 25.324 ms

Loss rate: 0.04%

-- Flow 2:

Average throughput: 32.31 Mbit/s

95th percentile per-packet one-way delay: 18.845 ms

Loss rate: 0.02%

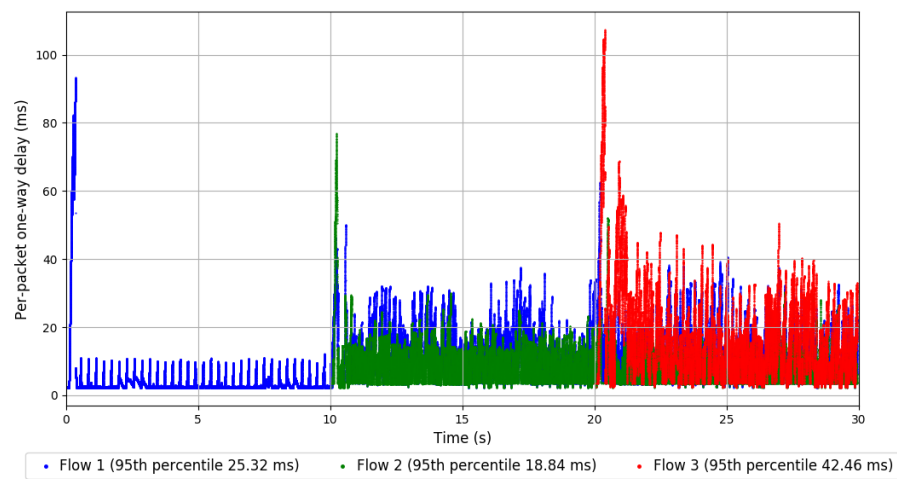
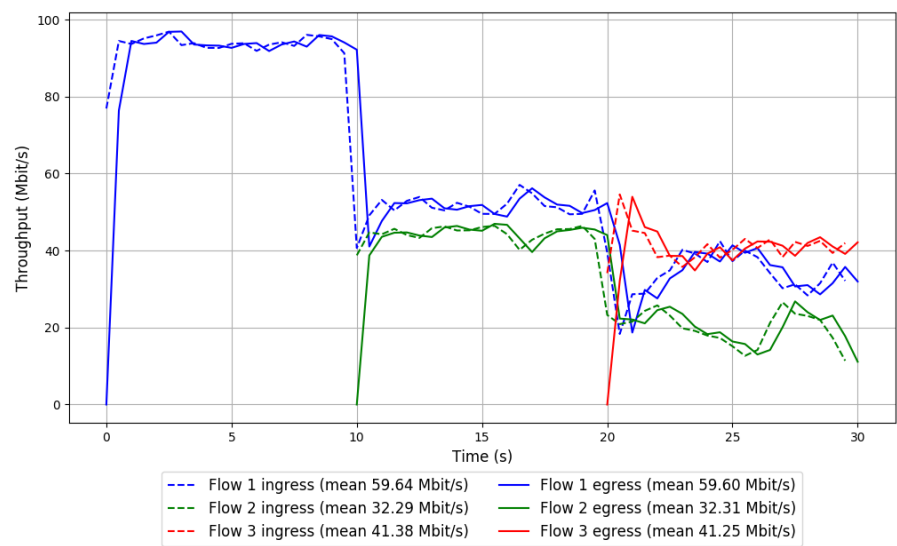
-- Flow 3:

Average throughput: 41.25 Mbit/s

95th percentile per-packet one-way delay: 42.457 ms

Loss rate: 0.26%

Run 5: Report of FillP-Sheep — Data Link



Run 1: Statistics of Indigo

Start at: 2019-01-25 19:27:30

End at: 2019-01-25 19:28:00

Local clock offset: -7.884 ms

Remote clock offset: 0.085 ms

Below is generated by plot.py at 2019-01-25 21:18:41

Datalink statistics

-- Total of 3 flows:

Average throughput: 97.34 Mbit/s

95th percentile per-packet one-way delay: 11.383 ms

Loss rate: 0.37%

-- Flow 1:

Average throughput: 59.71 Mbit/s

95th percentile per-packet one-way delay: 9.543 ms

Loss rate: 0.05%

-- Flow 2:

Average throughput: 40.60 Mbit/s

95th percentile per-packet one-way delay: 11.668 ms

Loss rate: 1.18%

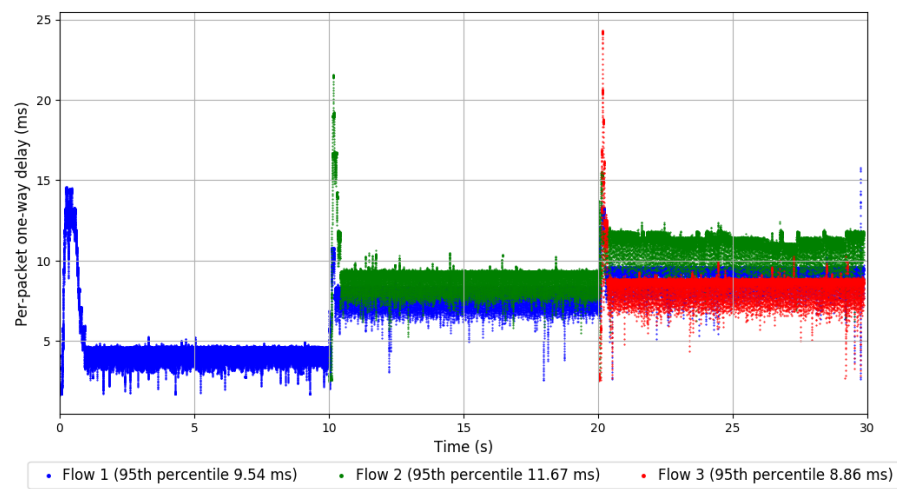
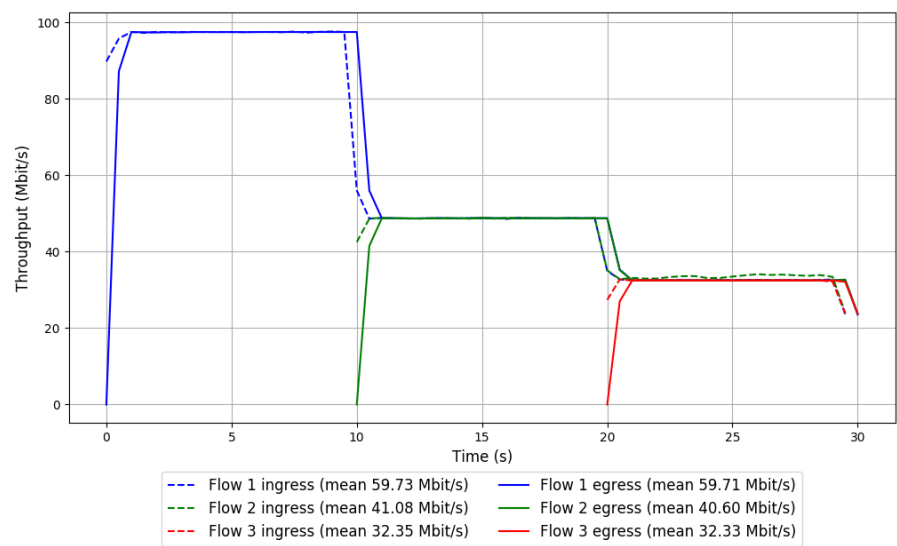
-- Flow 3:

Average throughput: 32.33 Mbit/s

95th percentile per-packet one-way delay: 8.858 ms

Loss rate: 0.11%

Run 1: Report of Indigo — Data Link



Run 2: Statistics of Indigo

Start at: 2019-01-25 19:51:40

End at: 2019-01-25 19:52:10

Local clock offset: -3.558 ms

Remote clock offset: 0.404 ms

Below is generated by plot.py at 2019-01-25 21:18:41

Datalink statistics

-- Total of 3 flows:

Average throughput: 97.31 Mbit/s

95th percentile per-packet one-way delay: 9.256 ms

Loss rate: 0.05%

-- Flow 1:

Average throughput: 59.64 Mbit/s

95th percentile per-packet one-way delay: 8.941 ms

Loss rate: 0.02%

-- Flow 2:

Average throughput: 40.63 Mbit/s

95th percentile per-packet one-way delay: 9.343 ms

Loss rate: 0.11%

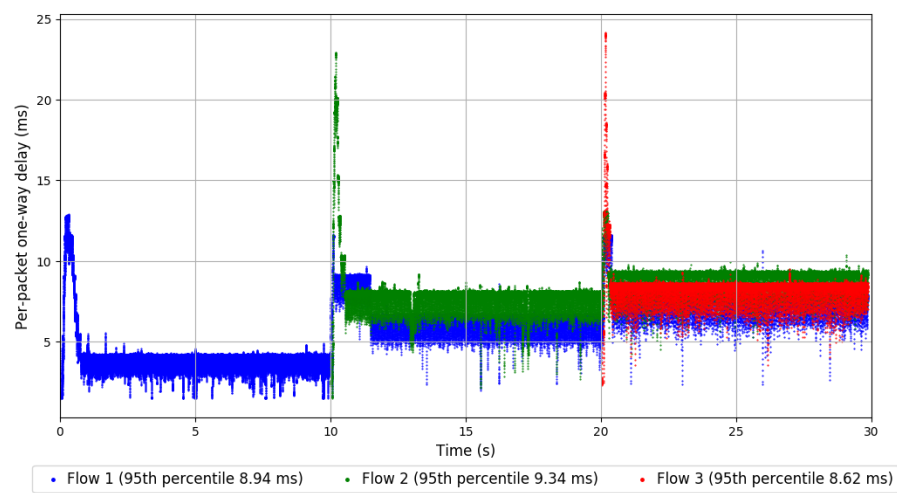
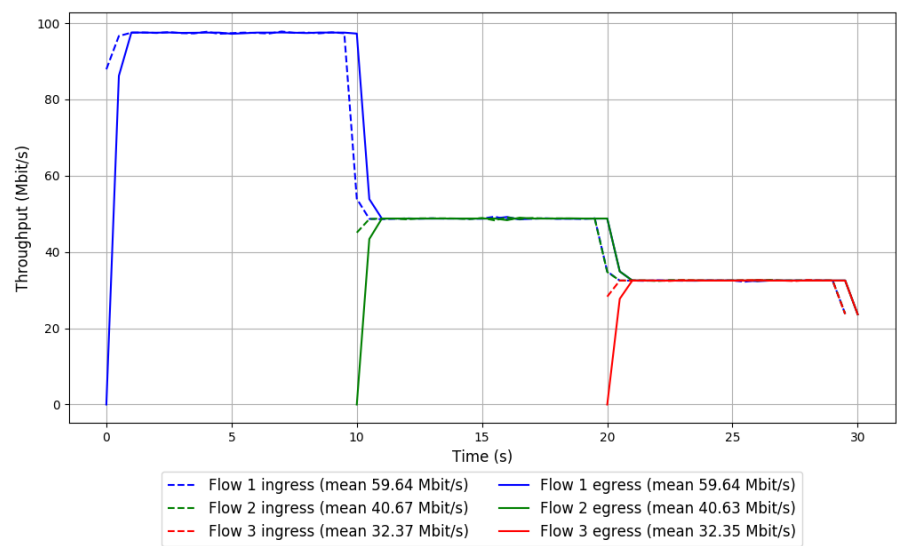
-- Flow 3:

Average throughput: 32.35 Mbit/s

95th percentile per-packet one-way delay: 8.623 ms

Loss rate: 0.10%

Run 2: Report of Indigo — Data Link



Run 3: Statistics of Indigo

Start at: 2019-01-25 20:15:50

End at: 2019-01-25 20:16:20

Local clock offset: -2.599 ms

Remote clock offset: 0.701 ms

Below is generated by plot.py at 2019-01-25 21:19:19

Datalink statistics

-- Total of 3 flows:

Average throughput: 97.34 Mbit/s

95th percentile per-packet one-way delay: 10.268 ms

Loss rate: 0.06%

-- Flow 1:

Average throughput: 59.73 Mbit/s

95th percentile per-packet one-way delay: 10.249 ms

Loss rate: 0.04%

-- Flow 2:

Average throughput: 40.63 Mbit/s

95th percentile per-packet one-way delay: 10.659 ms

Loss rate: 0.10%

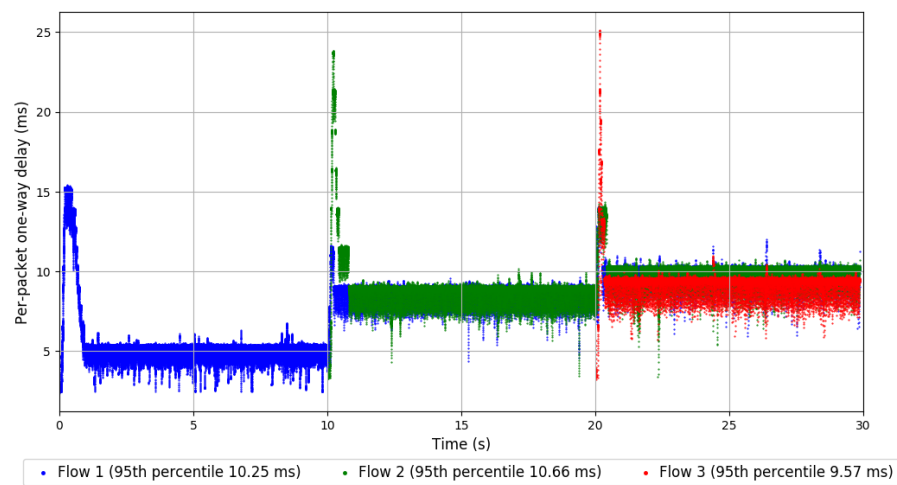
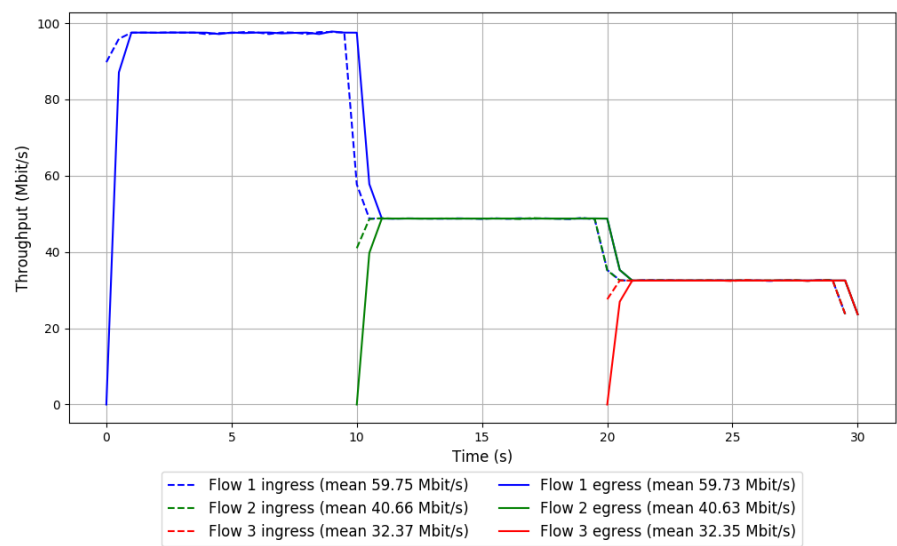
-- Flow 3:

Average throughput: 32.35 Mbit/s

95th percentile per-packet one-way delay: 9.572 ms

Loss rate: 0.11%

Run 3: Report of Indigo — Data Link



Run 4: Statistics of Indigo

Start at: 2019-01-25 20:40:03

End at: 2019-01-25 20:40:33

Local clock offset: -2.778 ms

Remote clock offset: 0.818 ms

Below is generated by plot.py at 2019-01-25 21:19:20

Datalink statistics

-- Total of 3 flows:

Average throughput: 97.33 Mbit/s

95th percentile per-packet one-way delay: 11.146 ms

Loss rate: 0.43%

-- Flow 1:

Average throughput: 59.69 Mbit/s

95th percentile per-packet one-way delay: 8.988 ms

Loss rate: 0.02%

-- Flow 2:

Average throughput: 40.62 Mbit/s

95th percentile per-packet one-way delay: 11.477 ms

Loss rate: 1.45%

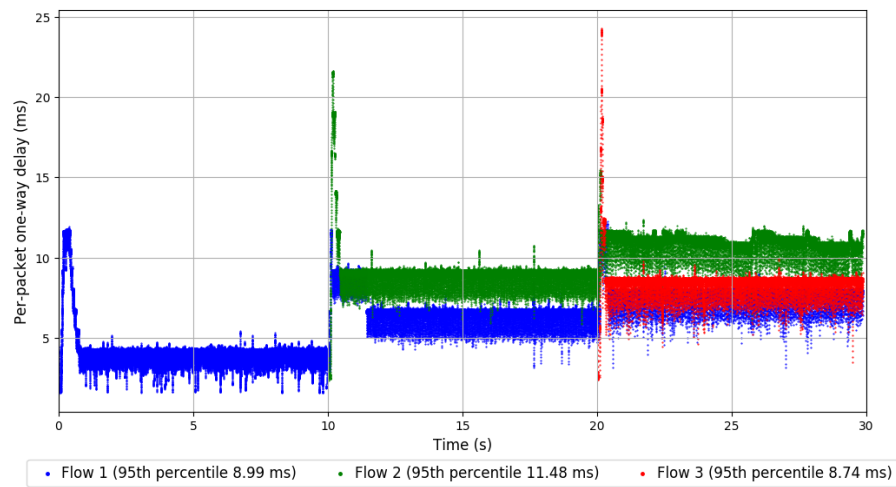
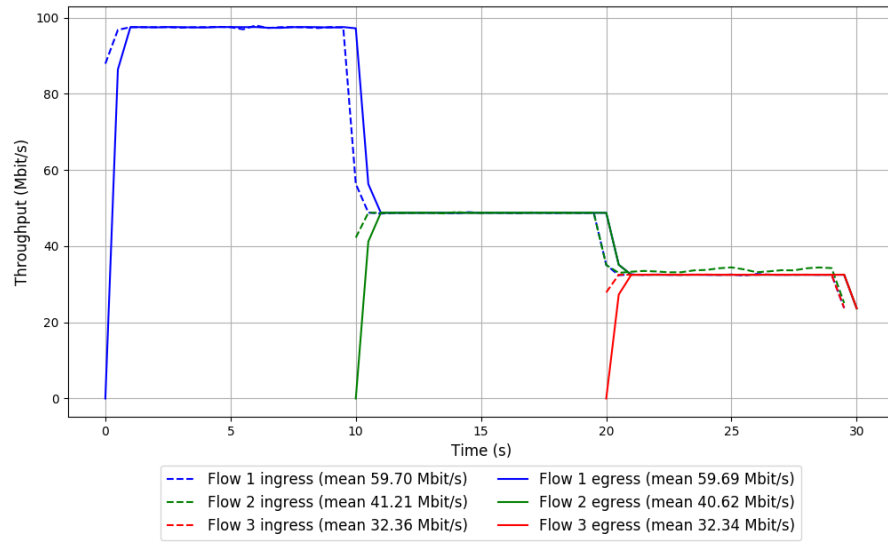
-- Flow 3:

Average throughput: 32.34 Mbit/s

95th percentile per-packet one-way delay: 8.740 ms

Loss rate: 0.10%

Run 4: Report of Indigo — Data Link



Run 5: Statistics of Indigo

Start at: 2019-01-25 21:04:13

End at: 2019-01-25 21:04:43

Local clock offset: -3.854 ms

Remote clock offset: 0.694 ms

Below is generated by plot.py at 2019-01-25 21:19:21

Datalink statistics

-- Total of 3 flows:

Average throughput: 97.29 Mbit/s

95th percentile per-packet one-way delay: 10.536 ms

Loss rate: 0.05%

-- Flow 1:

Average throughput: 59.65 Mbit/s

95th percentile per-packet one-way delay: 10.507 ms

Loss rate: 0.03%

-- Flow 2:

Average throughput: 40.65 Mbit/s

95th percentile per-packet one-way delay: 11.115 ms

Loss rate: 0.09%

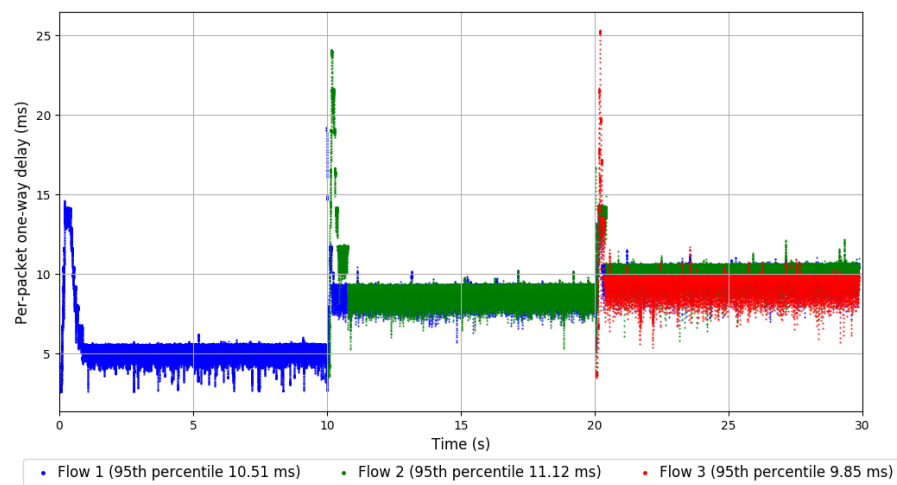
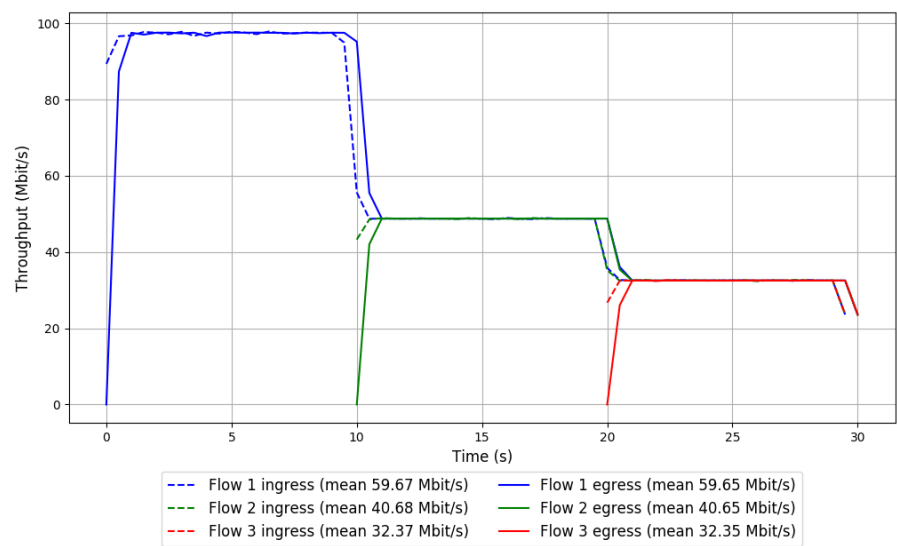
-- Flow 3:

Average throughput: 32.35 Mbit/s

95th percentile per-packet one-way delay: 9.847 ms

Loss rate: 0.11%

Run 5: Report of Indigo — Data Link



Run 1: Statistics of Indigo-MusesC3

Start at: 2019-01-25 19:19:25

End at: 2019-01-25 19:19:55

Local clock offset: -7.276 ms

Remote clock offset: 0.028 ms

Below is generated by plot.py at 2019-01-25 21:19:21

Datalink statistics

-- Total of 3 flows:

Average throughput: 57.41 Mbit/s

95th percentile per-packet one-way delay: 3.702 ms

Loss rate: 0.02%

-- Flow 1:

Average throughput: 39.48 Mbit/s

95th percentile per-packet one-way delay: 3.376 ms

Loss rate: 0.02%

-- Flow 2:

Average throughput: 22.33 Mbit/s

95th percentile per-packet one-way delay: 4.222 ms

Loss rate: 0.00%

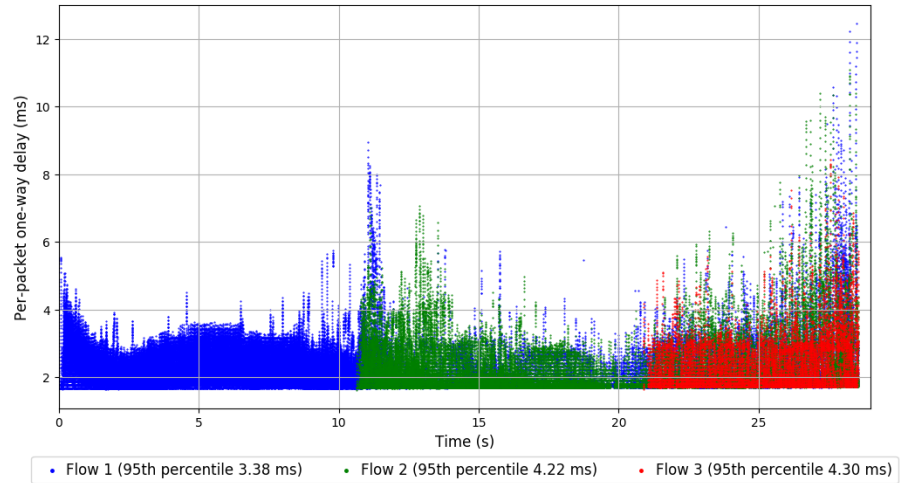
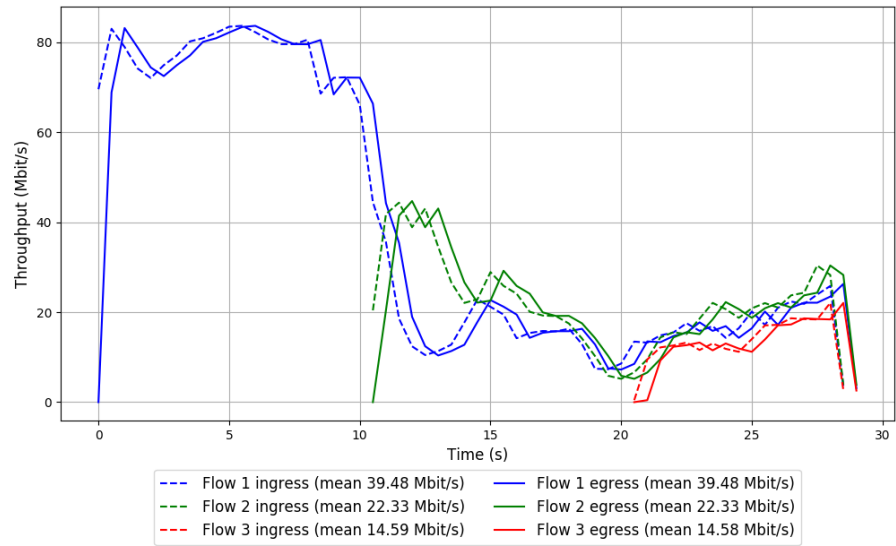
-- Flow 3:

Average throughput: 14.58 Mbit/s

95th percentile per-packet one-way delay: 4.301 ms

Loss rate: 0.07%

Run 1: Report of Indigo-MusesC3 — Data Link



Run 2: Statistics of Indigo-MusesC3

Start at: 2019-01-25 19:43:33

End at: 2019-01-25 19:44:03

Local clock offset: -3.475 ms

Remote clock offset: 0.245 ms

Below is generated by plot.py at 2019-01-25 21:19:21

Datalink statistics

-- Total of 3 flows:

Average throughput: 63.33 Mbit/s

95th percentile per-packet one-way delay: 4.805 ms

Loss rate: 0.02%

-- Flow 1:

Average throughput: 49.00 Mbit/s

95th percentile per-packet one-way delay: 4.934 ms

Loss rate: 0.02%

-- Flow 2:

Average throughput: 16.71 Mbit/s

95th percentile per-packet one-way delay: 3.949 ms

Loss rate: 0.00%

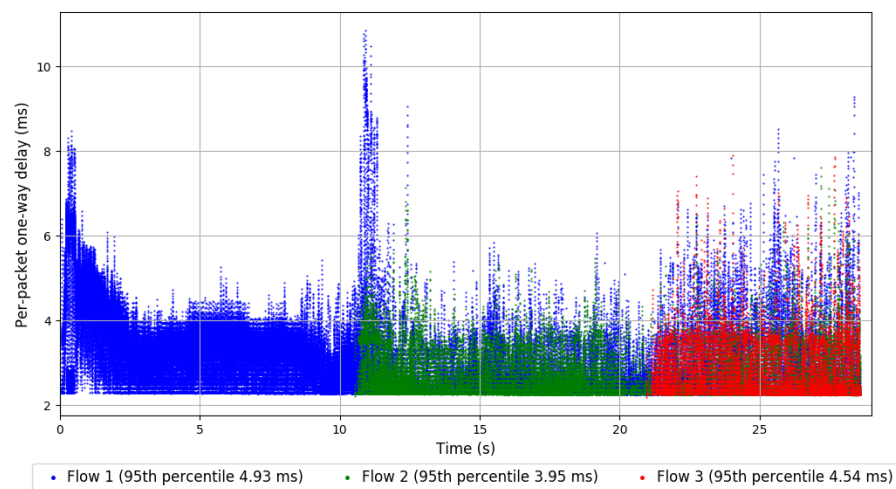
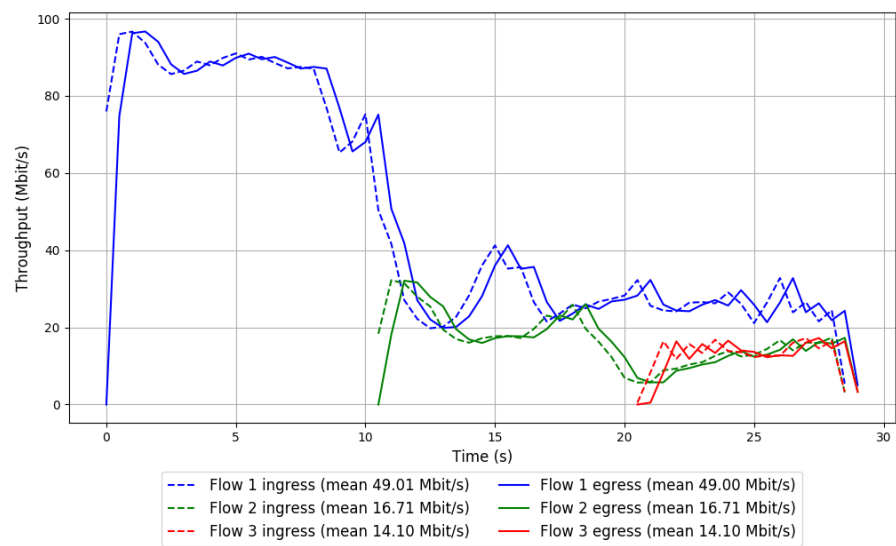
-- Flow 3:

Average throughput: 14.10 Mbit/s

95th percentile per-packet one-way delay: 4.540 ms

Loss rate: 0.02%

Run 2: Report of Indigo-MusesC3 — Data Link



Run 3: Statistics of Indigo-MusesC3

Start at: 2019-01-25 20:07:43

End at: 2019-01-25 20:08:13

Local clock offset: -2.546 ms

Remote clock offset: 0.551 ms

Below is generated by plot.py at 2019-01-25 21:19:21

Datalink statistics

-- Total of 3 flows:

Average throughput: 69.35 Mbit/s

95th percentile per-packet one-way delay: 5.590 ms

Loss rate: 0.01%

-- Flow 1:

Average throughput: 54.98 Mbit/s

95th percentile per-packet one-way delay: 5.804 ms

Loss rate: 0.01%

-- Flow 2:

Average throughput: 15.49 Mbit/s

95th percentile per-packet one-way delay: 4.714 ms

Loss rate: 0.00%

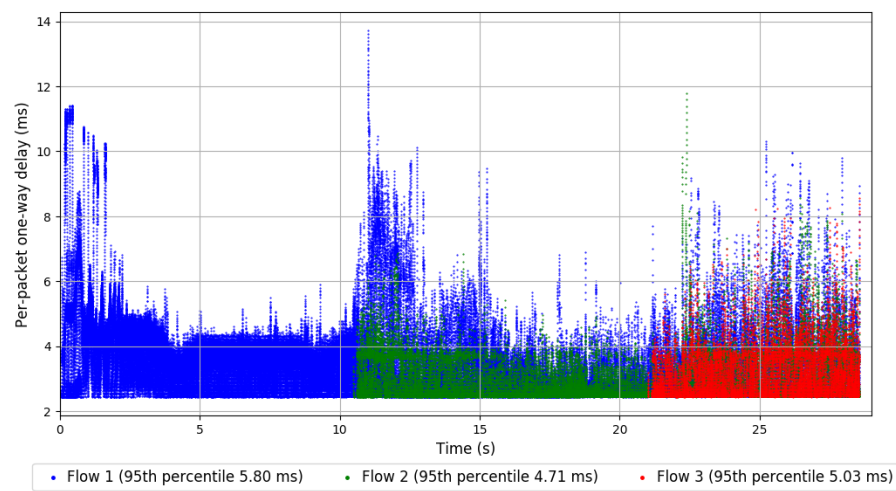
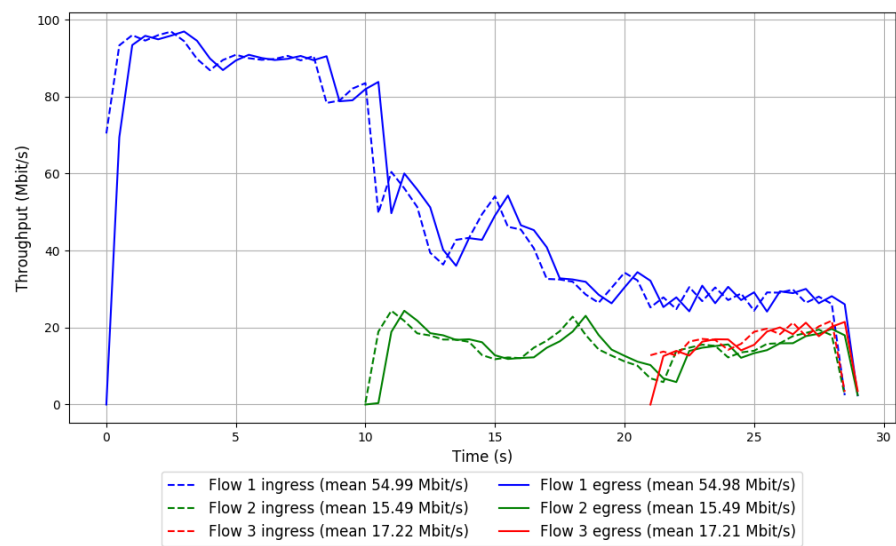
-- Flow 3:

Average throughput: 17.21 Mbit/s

95th percentile per-packet one-way delay: 5.026 ms

Loss rate: 0.08%

Run 3: Report of Indigo-MusesC3 — Data Link



Run 4: Statistics of Indigo-MusesC3

Start at: 2019-01-25 20:31:54

End at: 2019-01-25 20:32:24

Local clock offset: -3.2 ms

Remote clock offset: 0.838 ms

Below is generated by plot.py at 2019-01-25 21:19:21

Datalink statistics

-- Total of 3 flows:

Average throughput: 55.45 Mbit/s

95th percentile per-packet one-way delay: 3.476 ms

Loss rate: 0.01%

-- Flow 1:

Average throughput: 38.65 Mbit/s

95th percentile per-packet one-way delay: 3.266 ms

Loss rate: 0.01%

-- Flow 2:

Average throughput: 21.10 Mbit/s

95th percentile per-packet one-way delay: 3.917 ms

Loss rate: 0.01%

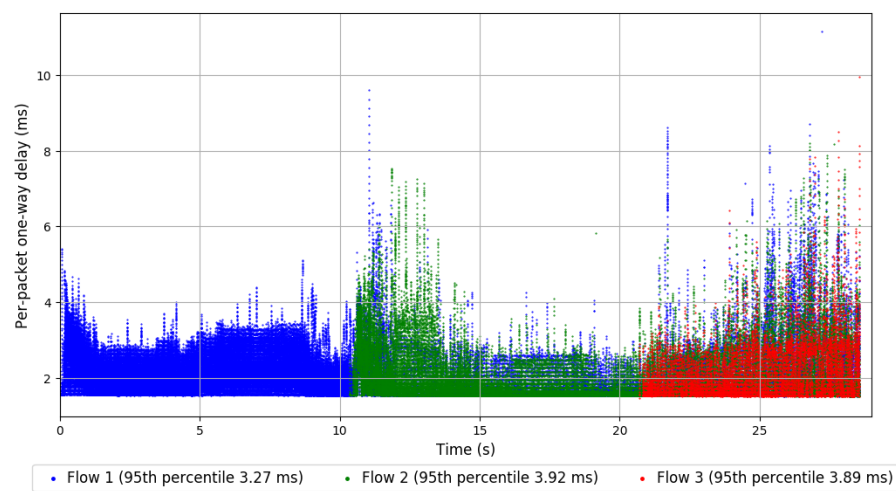
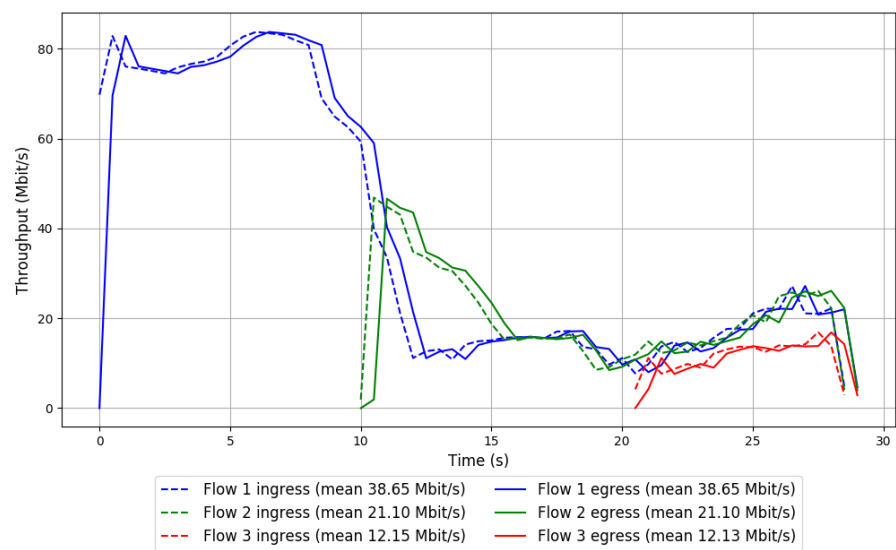
-- Flow 3:

Average throughput: 12.13 Mbit/s

95th percentile per-packet one-way delay: 3.892 ms

Loss rate: 0.02%

Run 4: Report of Indigo-MusesC3 — Data Link



Run 5: Statistics of Indigo-MusesC3

Start at: 2019-01-25 20:56:07

End at: 2019-01-25 20:56:37

Local clock offset: -1.61 ms

Remote clock offset: 0.692 ms

Below is generated by plot.py at 2019-01-25 21:19:26

Datalink statistics

-- Total of 3 flows:

Average throughput: 61.46 Mbit/s

95th percentile per-packet one-way delay: 5.249 ms

Loss rate: 0.04%

-- Flow 1:

Average throughput: 40.37 Mbit/s

95th percentile per-packet one-way delay: 4.634 ms

Loss rate: 0.01%

-- Flow 2:

Average throughput: 27.35 Mbit/s

95th percentile per-packet one-way delay: 6.067 ms

Loss rate: 0.06%

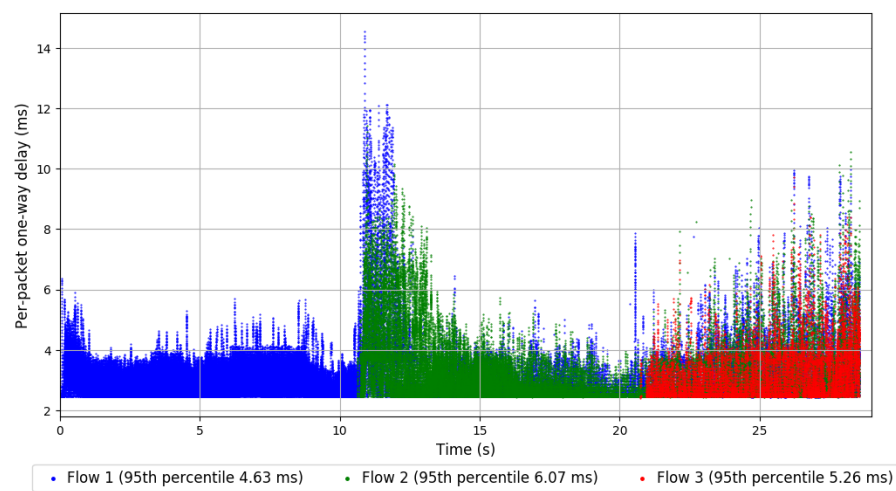
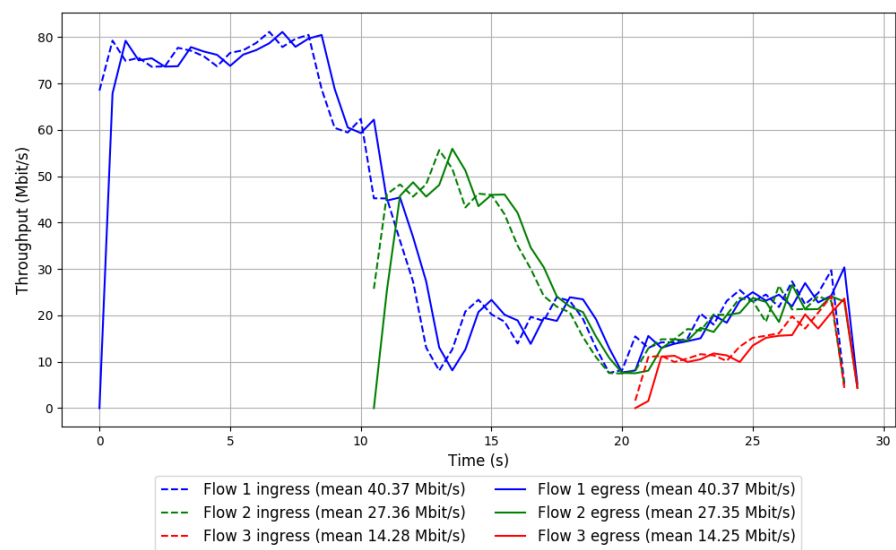
-- Flow 3:

Average throughput: 14.25 Mbit/s

95th percentile per-packet one-way delay: 5.261 ms

Loss rate: 0.25%

Run 5: Report of Indigo-MusesC3 — Data Link



Run 1: Statistics of Indigo-MusesC5

Start at: 2019-01-25 19:32:07

End at: 2019-01-25 19:32:37

Local clock offset: -6.708 ms

Remote clock offset: 0.21 ms

Below is generated by plot.py at 2019-01-25 21:19:32

Datalink statistics

-- Total of 3 flows:

Average throughput: 53.95 Mbit/s

95th percentile per-packet one-way delay: 13.263 ms

Loss rate: 0.09%

-- Flow 1:

Average throughput: 30.13 Mbit/s

95th percentile per-packet one-way delay: 11.450 ms

Loss rate: 0.06%

-- Flow 2:

Average throughput: 22.90 Mbit/s

95th percentile per-packet one-way delay: 11.987 ms

Loss rate: 0.06%

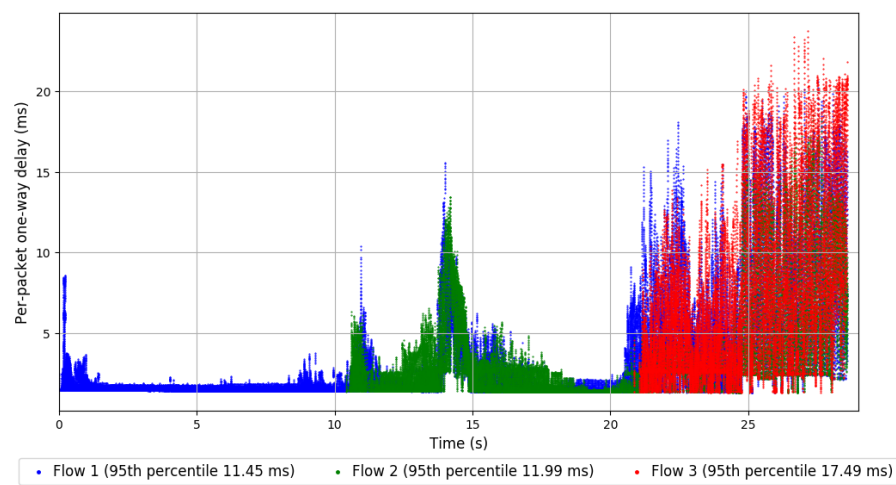
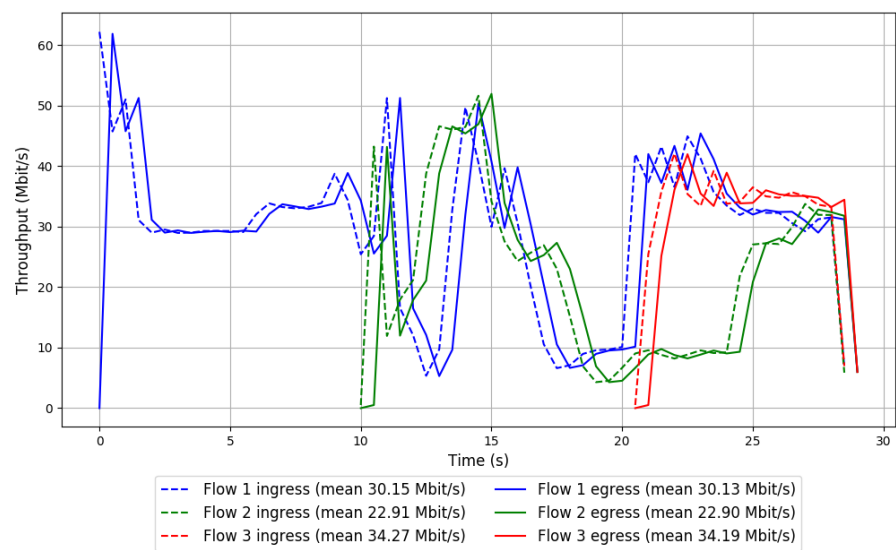
-- Flow 3:

Average throughput: 34.19 Mbit/s

95th percentile per-packet one-way delay: 17.491 ms

Loss rate: 0.25%

Run 1: Report of Indigo-MusesC5 — Data Link



Run 2: Statistics of Indigo-MusesC5

Start at: 2019-01-25 19:56:17

End at: 2019-01-25 19:56:47

Local clock offset: -2.515 ms

Remote clock offset: 0.505 ms

Below is generated by plot.py at 2019-01-25 21:19:45

Datalink statistics

-- Total of 3 flows:

Average throughput: 56.75 Mbit/s

95th percentile per-packet one-way delay: 15.866 ms

Loss rate: 0.05%

-- Flow 1:

Average throughput: 27.52 Mbit/s

95th percentile per-packet one-way delay: 13.879 ms

Loss rate: 0.04%

-- Flow 2:

Average throughput: 32.99 Mbit/s

95th percentile per-packet one-way delay: 16.174 ms

Loss rate: 0.01%

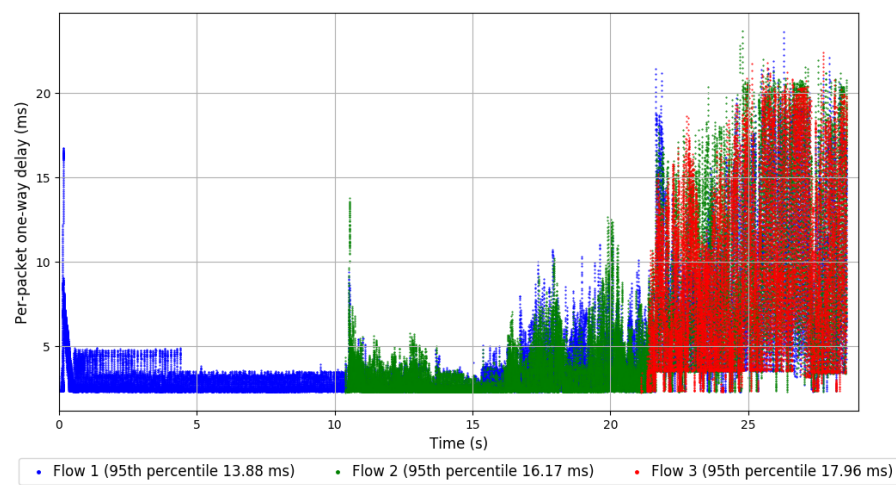
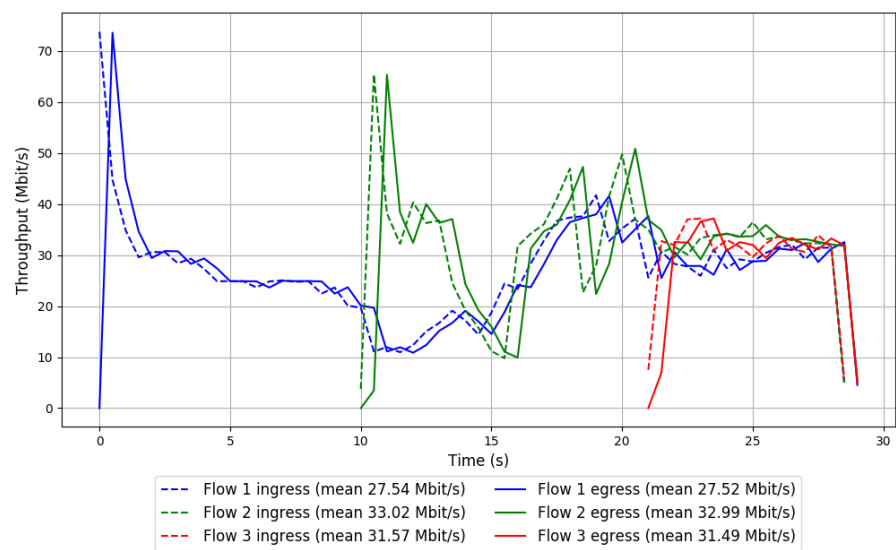
-- Flow 3:

Average throughput: 31.49 Mbit/s

95th percentile per-packet one-way delay: 17.961 ms

Loss rate: 0.18%

Run 2: Report of Indigo-MusesC5 — Data Link



Run 3: Statistics of Indigo-MusesC5

Start at: 2019-01-25 20:20:28

End at: 2019-01-25 20:20:58

Local clock offset: -3.378 ms

Remote clock offset: 0.752 ms

Below is generated by plot.py at 2019-01-25 21:19:52

Datalink statistics

-- Total of 3 flows:

Average throughput: 64.44 Mbit/s

95th percentile per-packet one-way delay: 15.979 ms

Loss rate: 0.06%

-- Flow 1:

Average throughput: 39.11 Mbit/s

95th percentile per-packet one-way delay: 16.169 ms

Loss rate: 0.02%

-- Flow 2:

Average throughput: 26.58 Mbit/s

95th percentile per-packet one-way delay: 13.853 ms

Loss rate: 0.12%

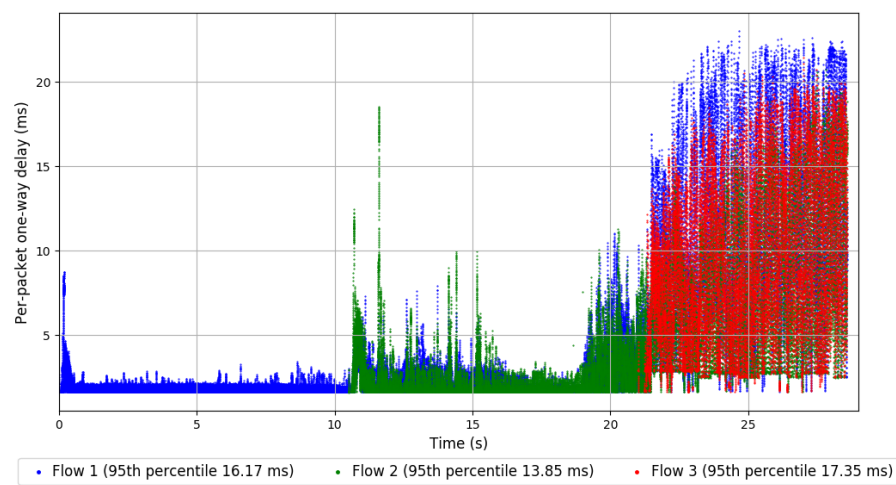
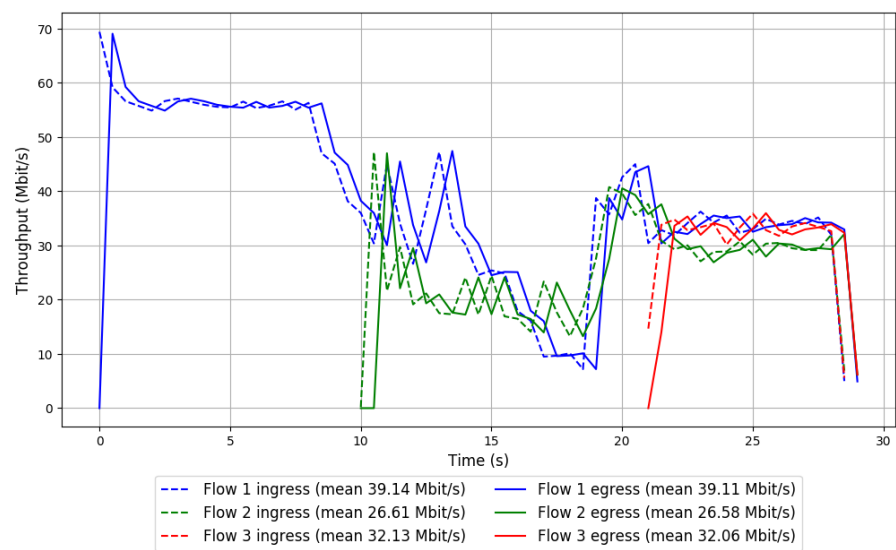
-- Flow 3:

Average throughput: 32.06 Mbit/s

95th percentile per-packet one-way delay: 17.354 ms

Loss rate: 0.12%

Run 3: Report of Indigo-MusesC5 — Data Link



Run 4: Statistics of Indigo-MusesC5

Start at: 2019-01-25 20:44:40

End at: 2019-01-25 20:45:10

Local clock offset: -2.696 ms

Remote clock offset: 0.854 ms

Below is generated by plot.py at 2019-01-25 21:19:52

Datalink statistics

-- Total of 3 flows:

Average throughput: 53.39 Mbit/s

95th percentile per-packet one-way delay: 14.919 ms

Loss rate: 0.07%

-- Flow 1:

Average throughput: 24.05 Mbit/s

95th percentile per-packet one-way delay: 10.552 ms

Loss rate: 0.02%

-- Flow 2:

Average throughput: 31.98 Mbit/s

95th percentile per-packet one-way delay: 15.990 ms

Loss rate: 0.06%

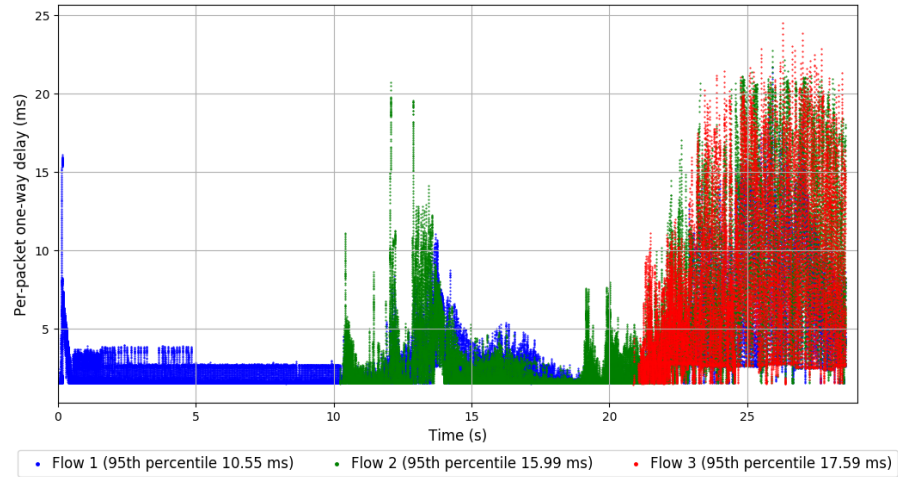
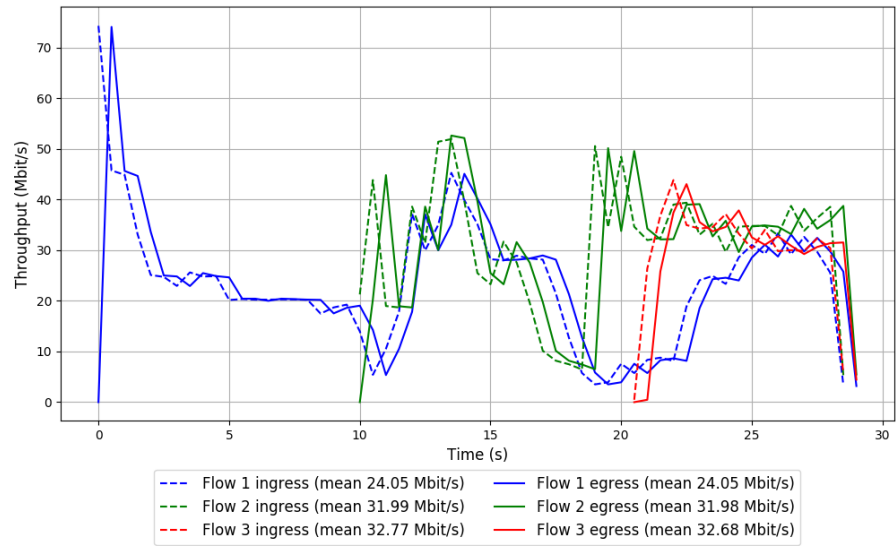
-- Flow 3:

Average throughput: 32.68 Mbit/s

95th percentile per-packet one-way delay: 17.588 ms

Loss rate: 0.26%

Run 4: Report of Indigo-MusesC5 — Data Link



Run 5: Statistics of Indigo-MusesC5

Start at: 2019-01-25 21:08:51

End at: 2019-01-25 21:09:21

Local clock offset: -6.089 ms

Remote clock offset: 0.642 ms

Below is generated by plot.py at 2019-01-25 21:20:01

Datalink statistics

-- Total of 3 flows:

Average throughput: 64.88 Mbit/s

95th percentile per-packet one-way delay: 16.683 ms

Loss rate: 0.06%

-- Flow 1:

Average throughput: 37.25 Mbit/s

95th percentile per-packet one-way delay: 14.320 ms

Loss rate: 0.03%

-- Flow 2:

Average throughput: 30.87 Mbit/s

95th percentile per-packet one-way delay: 16.902 ms

Loss rate: 0.01%

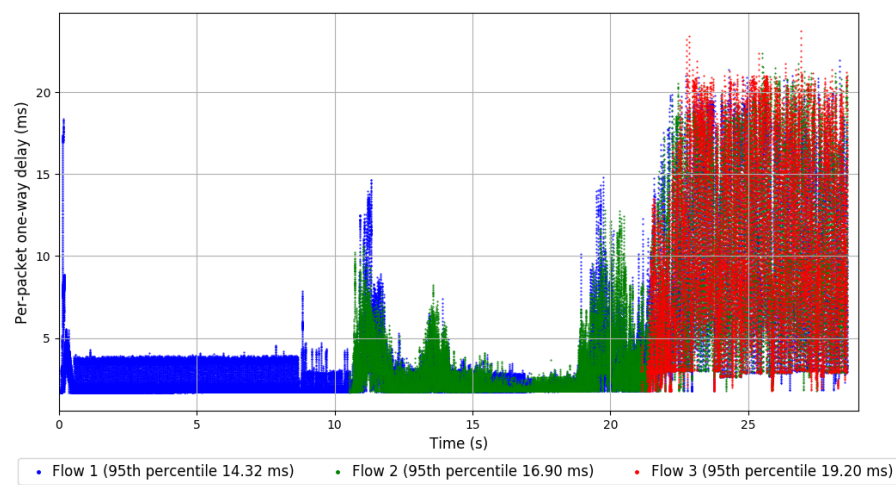
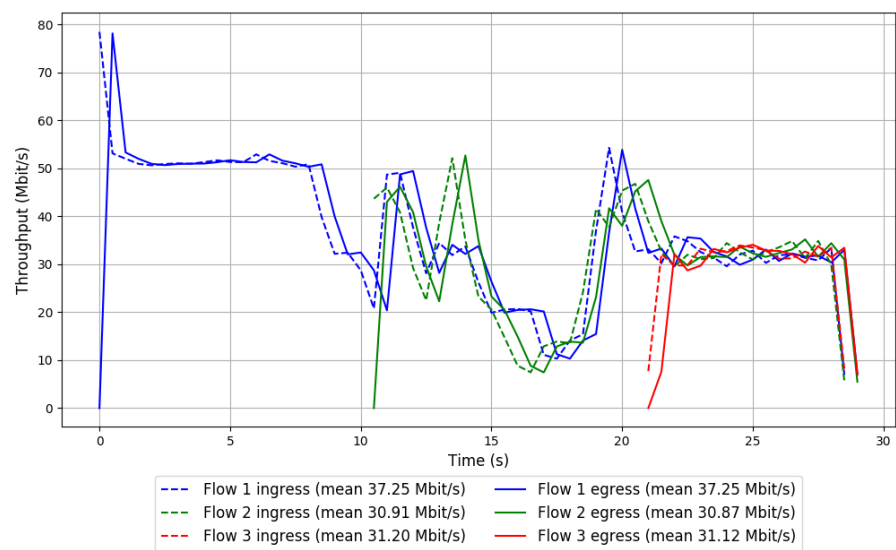
-- Flow 3:

Average throughput: 31.12 Mbit/s

95th percentile per-packet one-way delay: 19.195 ms

Loss rate: 0.29%

Run 5: Report of Indigo-MusesC5 — Data Link



Run 1: Statistics of Indigo-MusesD

Start at: 2019-01-25 19:11:27

End at: 2019-01-25 19:11:57

Local clock offset: -6.234 ms

Remote clock offset: 0.035 ms

Below is generated by plot.py at 2019-01-25 21:20:09

Datalink statistics

-- Total of 3 flows:

Average throughput: 73.28 Mbit/s

95th percentile per-packet one-way delay: 25.075 ms

Loss rate: 0.67%

-- Flow 1:

Average throughput: 38.63 Mbit/s

95th percentile per-packet one-way delay: 23.980 ms

Loss rate: 0.46%

-- Flow 2:

Average throughput: 48.26 Mbit/s

95th percentile per-packet one-way delay: 26.786 ms

Loss rate: 1.01%

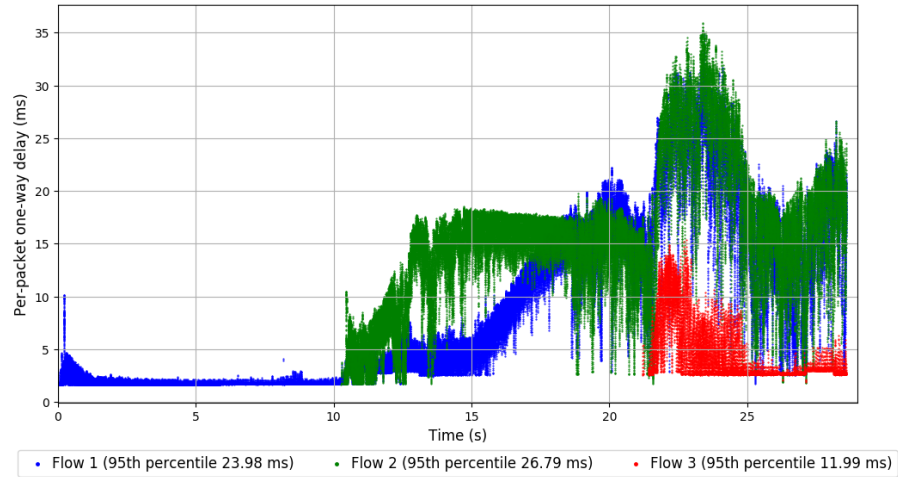
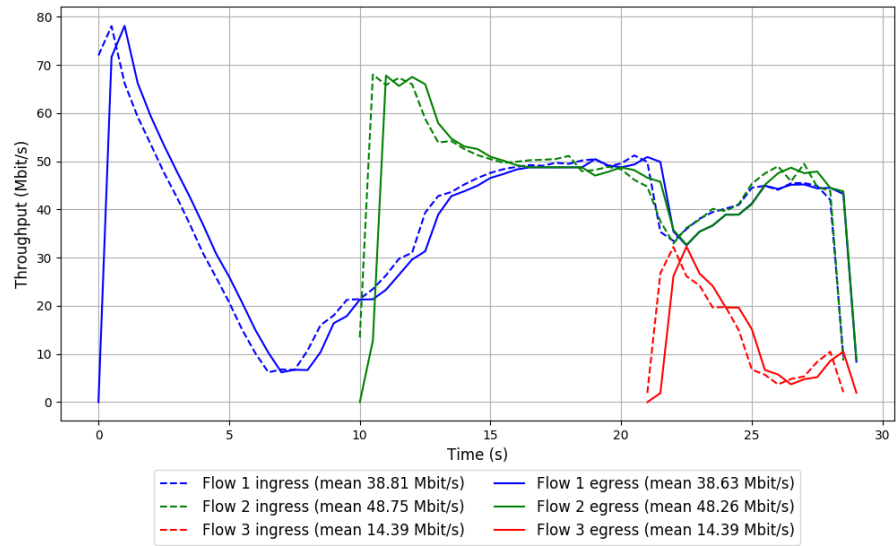
-- Flow 3:

Average throughput: 14.39 Mbit/s

95th percentile per-packet one-way delay: 11.993 ms

Loss rate: 0.07%

Run 1: Report of Indigo-MusesD — Data Link



Run 2: Statistics of Indigo-MusesD

Start at: 2019-01-25 19:35:35

End at: 2019-01-25 19:36:05

Local clock offset: -5.573 ms

Remote clock offset: 0.143 ms

Below is generated by plot.py at 2019-01-25 21:20:09

Datalink statistics

-- Total of 3 flows:

Average throughput: 72.76 Mbit/s

95th percentile per-packet one-way delay: 11.334 ms

Loss rate: 0.06%

-- Flow 1:

Average throughput: 48.99 Mbit/s

95th percentile per-packet one-way delay: 11.820 ms

Loss rate: 0.04%

-- Flow 2:

Average throughput: 29.48 Mbit/s

95th percentile per-packet one-way delay: 11.375 ms

Loss rate: 0.15%

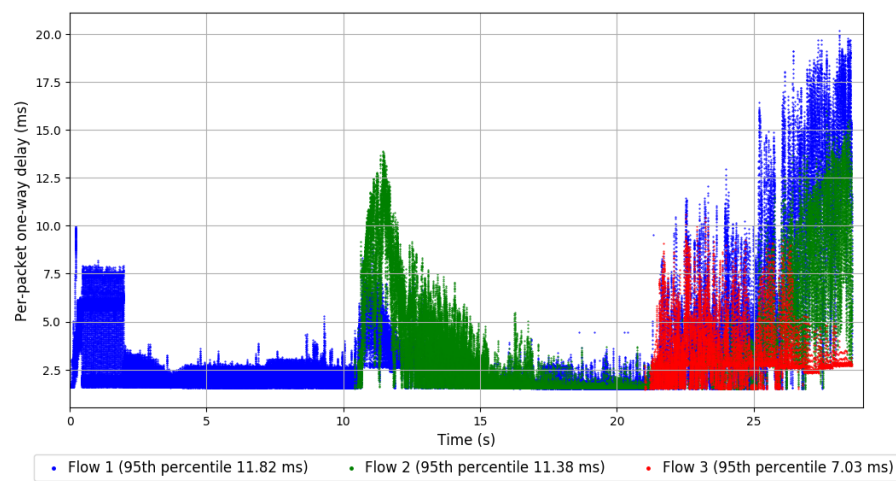
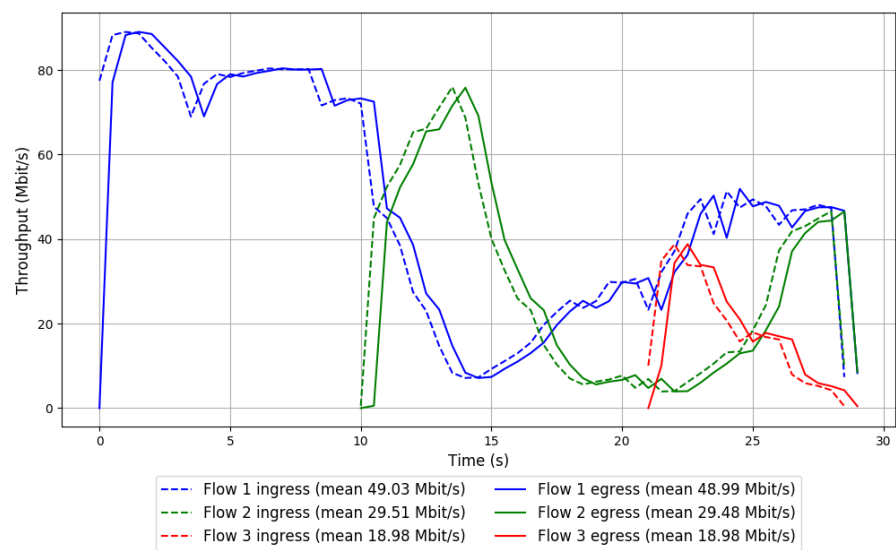
-- Flow 3:

Average throughput: 18.98 Mbit/s

95th percentile per-packet one-way delay: 7.027 ms

Loss rate: 0.02%

Run 2: Report of Indigo-MusesD — Data Link



Run 3: Statistics of Indigo-MusesD

Start at: 2019-01-25 19:59:45

End at: 2019-01-25 20:00:15

Local clock offset: -3.248 ms

Remote clock offset: 0.503 ms

Below is generated by plot.py at 2019-01-25 21:20:21

Datalink statistics

-- Total of 3 flows:

Average throughput: 84.23 Mbit/s

95th percentile per-packet one-way delay: 18.631 ms

Loss rate: 0.16%

-- Flow 1:

Average throughput: 60.71 Mbit/s

95th percentile per-packet one-way delay: 19.635 ms

Loss rate: 0.16%

-- Flow 2:

Average throughput: 30.74 Mbit/s

95th percentile per-packet one-way delay: 16.256 ms

Loss rate: 0.20%

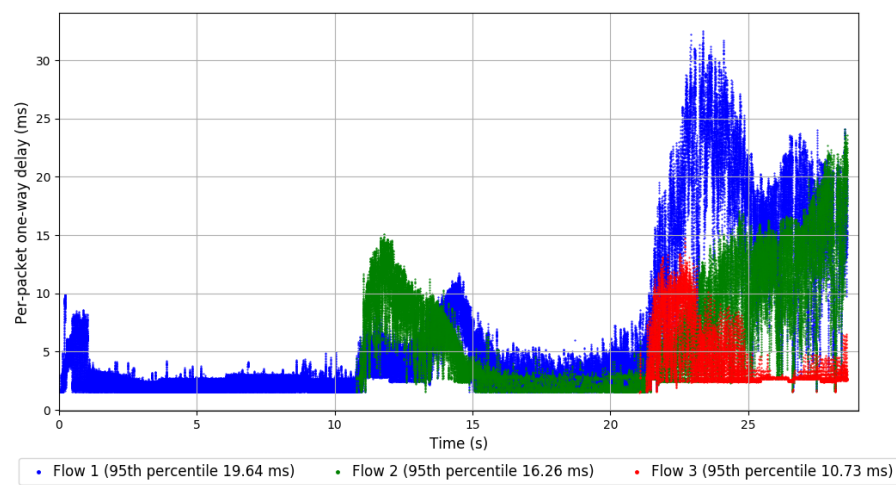
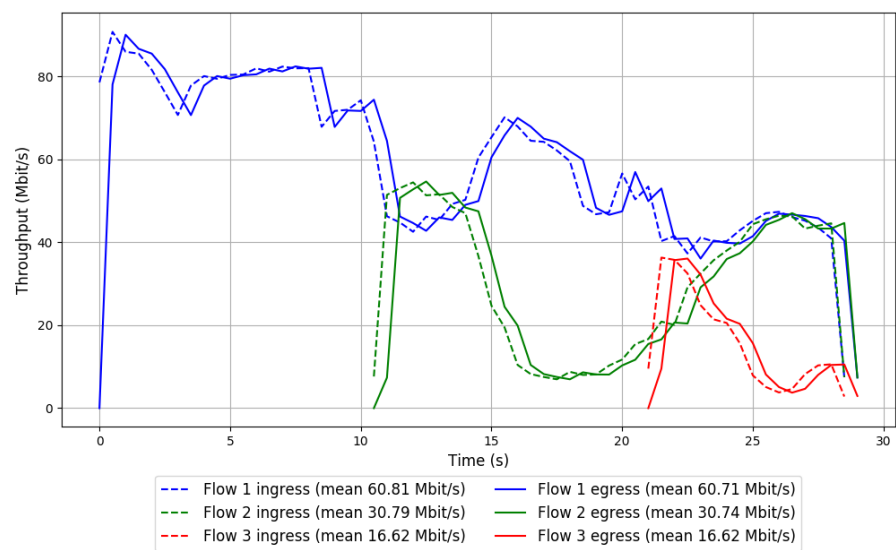
-- Flow 3:

Average throughput: 16.62 Mbit/s

95th percentile per-packet one-way delay: 10.726 ms

Loss rate: 0.00%

Run 3: Report of Indigo-MusesD — Data Link



Run 4: Statistics of Indigo-MusesD

Start at: 2019-01-25 20:23:56

End at: 2019-01-25 20:24:26

Local clock offset: -3.386 ms

Remote clock offset: 0.778 ms

Below is generated by plot.py at 2019-01-25 21:20:24

Datalink statistics

-- Total of 3 flows:

Average throughput: 78.43 Mbit/s

95th percentile per-packet one-way delay: 11.531 ms

Loss rate: 0.06%

-- Flow 1:

Average throughput: 51.37 Mbit/s

95th percentile per-packet one-way delay: 10.394 ms

Loss rate: 0.03%

-- Flow 2:

Average throughput: 34.33 Mbit/s

95th percentile per-packet one-way delay: 12.890 ms

Loss rate: 0.15%

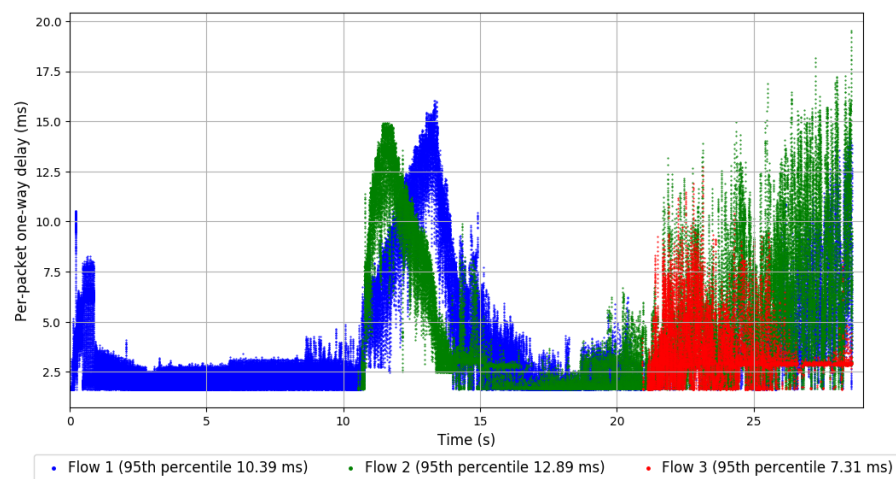
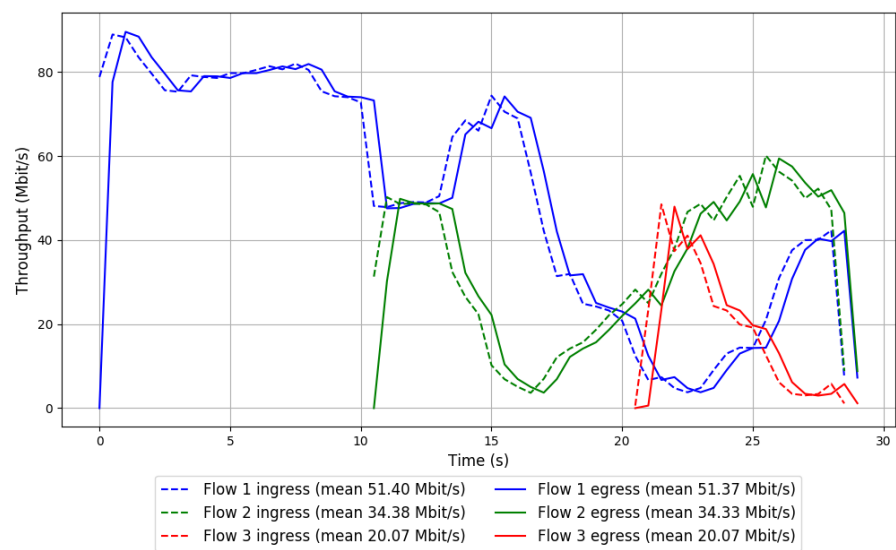
-- Flow 3:

Average throughput: 20.07 Mbit/s

95th percentile per-packet one-way delay: 7.313 ms

Loss rate: 0.00%

Run 4: Report of Indigo-MusesD — Data Link



Run 5: Statistics of Indigo-MusesD

Start at: 2019-01-25 20:48:08

End at: 2019-01-25 20:48:38

Local clock offset: -2.574 ms

Remote clock offset: 0.863 ms

Below is generated by plot.py at 2019-01-25 21:20:50

Datalink statistics

-- Total of 3 flows:

Average throughput: 93.53 Mbit/s

95th percentile per-packet one-way delay: 28.559 ms

Loss rate: 0.81%

-- Flow 1:

Average throughput: 58.51 Mbit/s

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

Loss rate: 0.99%

-- Flow 2:

Average throughput: 49.44 Mbit/s

95th percentile per-packet one-way delay: 25.548 ms

Loss rate: 0.53%

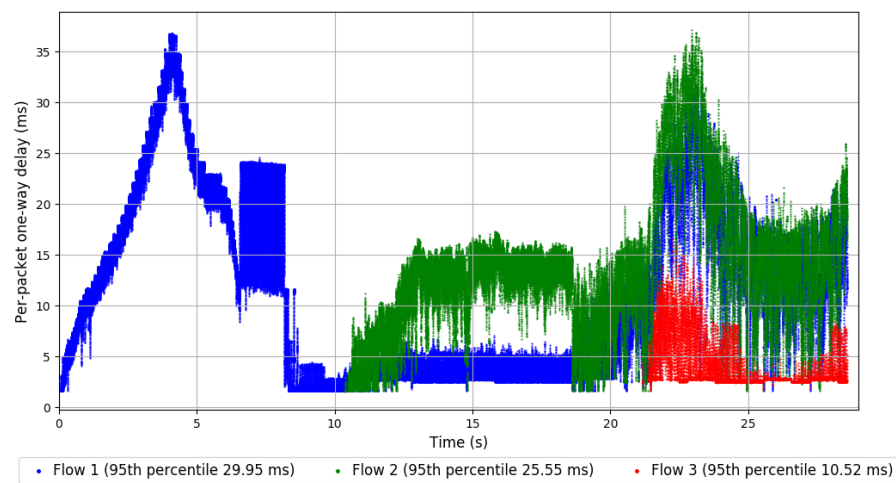
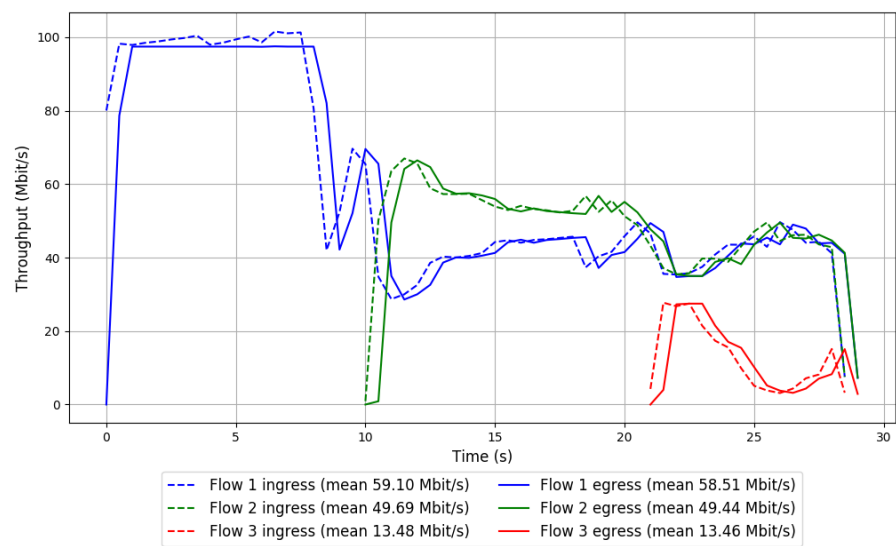
-- Flow 3:

Average throughput: 13.46 Mbit/s

95th percentile per-packet one-way delay: 10.515 ms

Loss rate: 0.19%

Run 5: Report of Indigo-MusesD — Data Link



Run 1: Statistics of Indigo-MusesT

Start at: 2019-01-25 19:30:59

End at: 2019-01-25 19:31:29

Local clock offset: -7.269 ms

Remote clock offset: 0.144 ms

Below is generated by plot.py at 2019-01-25 21:20:50

Datalink statistics

-- Total of 3 flows:

Average throughput: 83.33 Mbit/s

95th percentile per-packet one-way delay: 9.617 ms

Loss rate: 0.02%

-- Flow 1:

Average throughput: 55.91 Mbit/s

95th percentile per-packet one-way delay: 8.737 ms

Loss rate: 0.01%

-- Flow 2:

Average throughput: 36.74 Mbit/s

95th percentile per-packet one-way delay: 11.156 ms

Loss rate: 0.06%

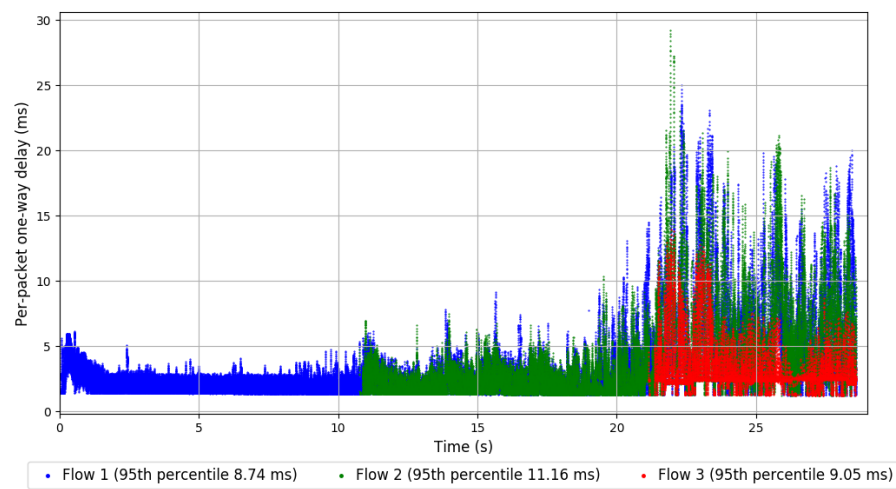
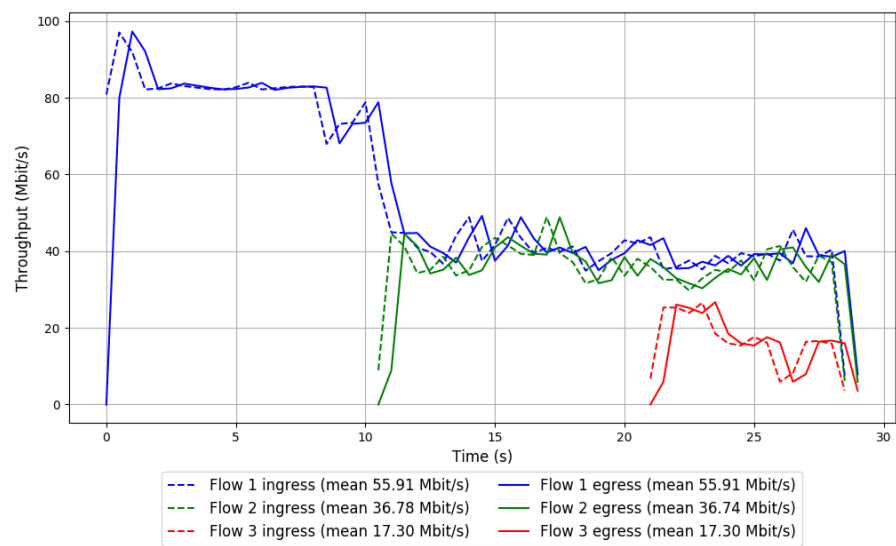
-- Flow 3:

Average throughput: 17.30 Mbit/s

95th percentile per-packet one-way delay: 9.051 ms

Loss rate: 0.00%

Run 1: Report of Indigo-MusesT — Data Link



Run 2: Statistics of Indigo-MusesT

Start at: 2019-01-25 19:55:08

End at: 2019-01-25 19:55:38

Local clock offset: -2.55 ms

Remote clock offset: 0.45 ms

Below is generated by plot.py at 2019-01-25 21:20:50

Datalink statistics

-- Total of 3 flows:

Average throughput: 84.09 Mbit/s

95th percentile per-packet one-way delay: 16.285 ms

Loss rate: 0.04%

-- Flow 1:

Average throughput: 53.84 Mbit/s

95th percentile per-packet one-way delay: 13.047 ms

Loss rate: 0.01%

-- Flow 2:

Average throughput: 35.58 Mbit/s

95th percentile per-packet one-way delay: 18.133 ms

Loss rate: 0.07%

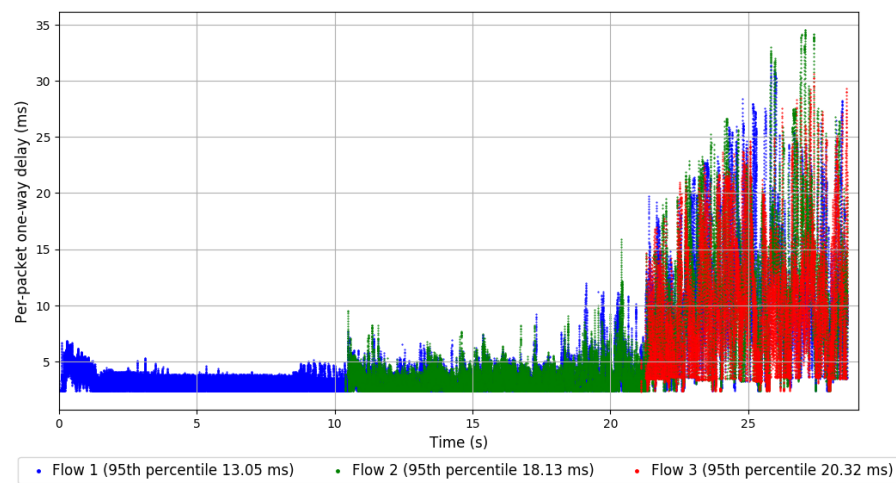
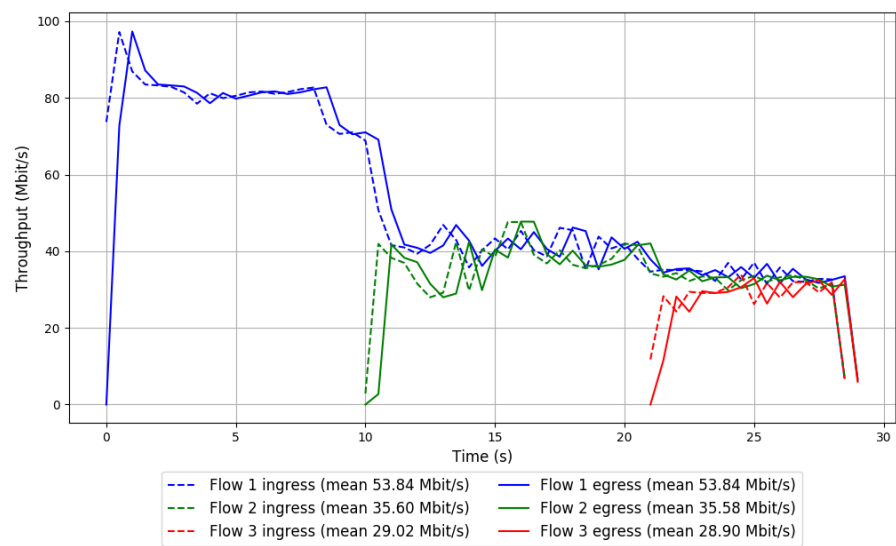
-- Flow 3:

Average throughput: 28.90 Mbit/s

95th percentile per-packet one-way delay: 20.318 ms

Loss rate: 0.18%

Run 2: Report of Indigo-MusesT — Data Link



Run 3: Statistics of Indigo-MusesT

Start at: 2019-01-25 20:19:19

End at: 2019-01-25 20:19:49

Local clock offset: -2.625 ms

Remote clock offset: 0.726 ms

Below is generated by plot.py at 2019-01-25 21:20:58

Datalink statistics

-- Total of 3 flows:

Average throughput: 85.53 Mbit/s

95th percentile per-packet one-way delay: 17.130 ms

Loss rate: 0.08%

-- Flow 1:

Average throughput: 54.81 Mbit/s

95th percentile per-packet one-way delay: 14.512 ms

Loss rate: 0.05%

-- Flow 2:

Average throughput: 37.42 Mbit/s

95th percentile per-packet one-way delay: 19.836 ms

Loss rate: 0.08%

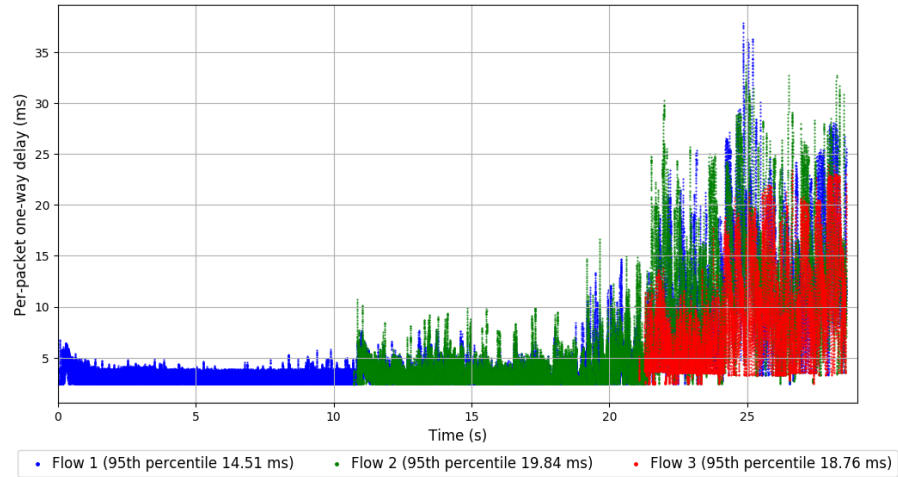
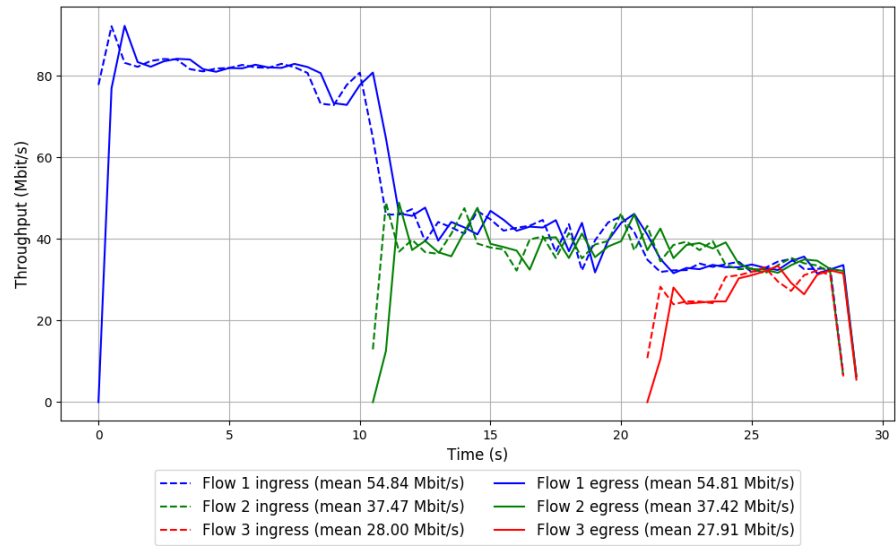
-- Flow 3:

Average throughput: 27.91 Mbit/s

95th percentile per-packet one-way delay: 18.759 ms

Loss rate: 0.32%

Run 3: Report of Indigo-MusesT — Data Link



Run 4: Statistics of Indigo-MusesT

Start at: 2019-01-25 20:43:32

End at: 2019-01-25 20:44:02

Local clock offset: -1.926 ms

Remote clock offset: 0.818 ms

Below is generated by plot.py at 2019-01-25 21:21:02

Datalink statistics

-- Total of 3 flows:

Average throughput: 81.29 Mbit/s

95th percentile per-packet one-way delay: 15.503 ms

Loss rate: 0.07%

-- Flow 1:

Average throughput: 52.23 Mbit/s

95th percentile per-packet one-way delay: 13.933 ms

Loss rate: 0.02%

-- Flow 2:

Average throughput: 35.99 Mbit/s

95th percentile per-packet one-way delay: 17.962 ms

Loss rate: 0.15%

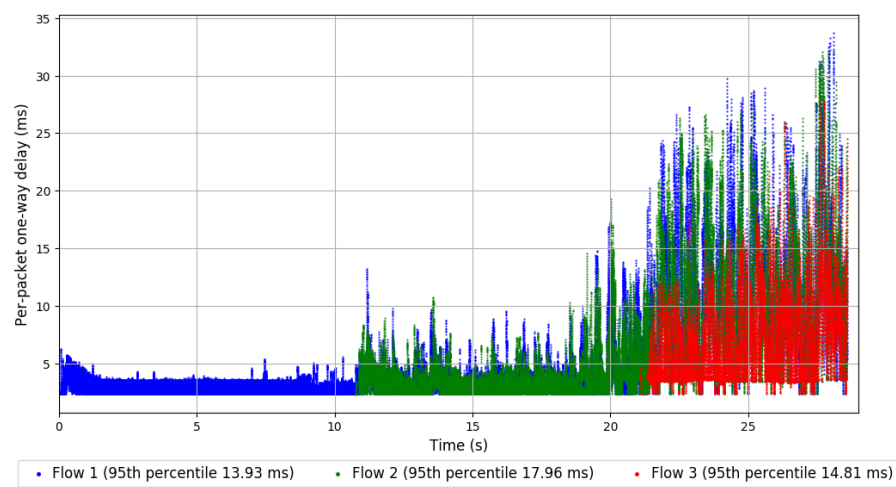
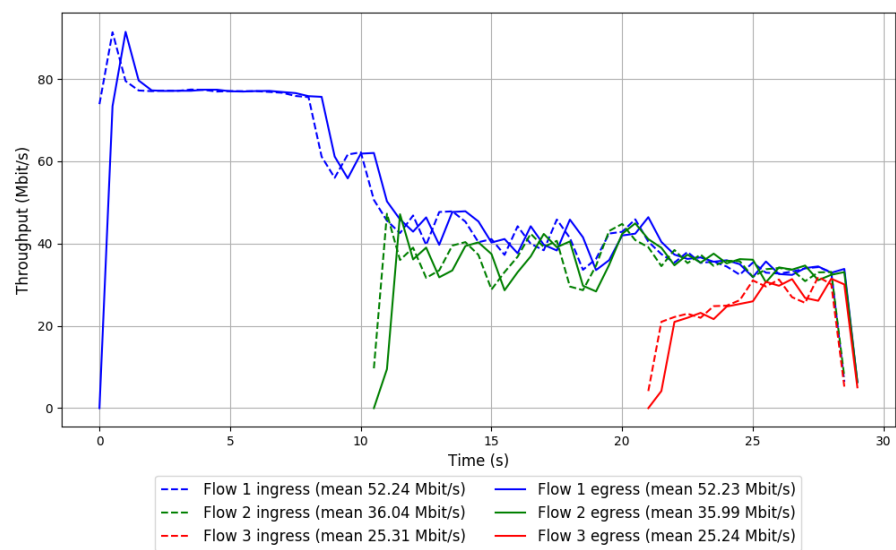
-- Flow 3:

Average throughput: 25.24 Mbit/s

95th percentile per-packet one-way delay: 14.808 ms

Loss rate: 0.18%

Run 4: Report of Indigo-MusesT — Data Link



Run 5: Statistics of Indigo-MusesT

Start at: 2019-01-25 21:07:42

End at: 2019-01-25 21:08:12

Local clock offset: -5.843 ms

Remote clock offset: 0.627 ms

Below is generated by plot.py at 2019-01-25 21:21:04

Datalink statistics

-- Total of 3 flows:

Average throughput: 83.63 Mbit/s

95th percentile per-packet one-way delay: 17.316 ms

Loss rate: 0.06%

-- Flow 1:

Average throughput: 54.39 Mbit/s

95th percentile per-packet one-way delay: 14.055 ms

Loss rate: 0.03%

-- Flow 2:

Average throughput: 34.75 Mbit/s

95th percentile per-packet one-way delay: 18.704 ms

Loss rate: 0.09%

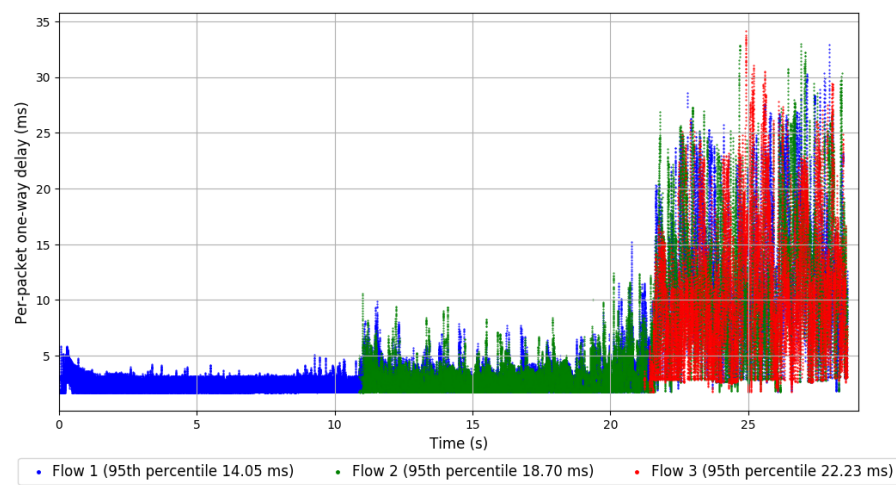
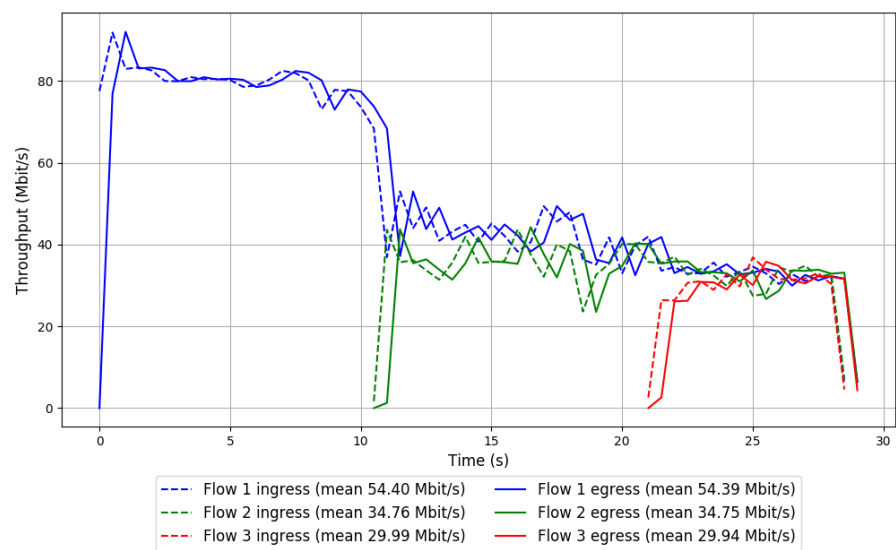
-- Flow 3:

Average throughput: 29.94 Mbit/s

95th percentile per-packet one-way delay: 22.230 ms

Loss rate: 0.18%

Run 5: Report of Indigo-MusesT — Data Link

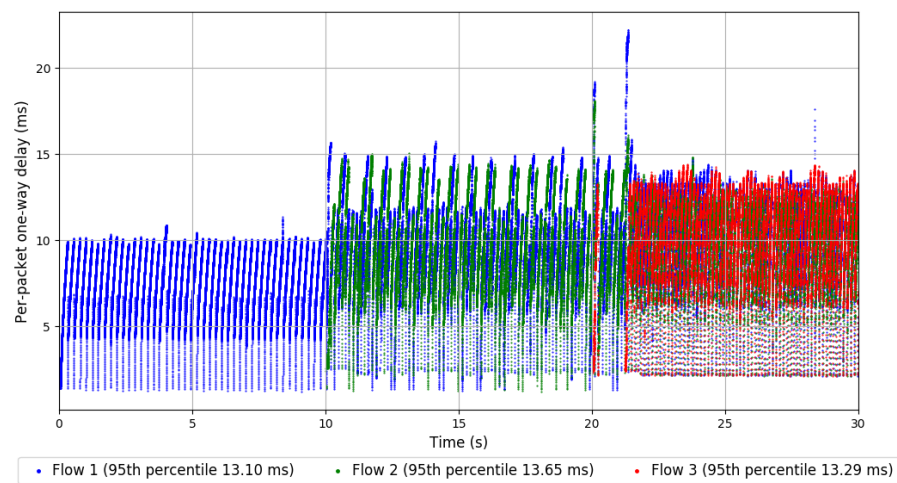
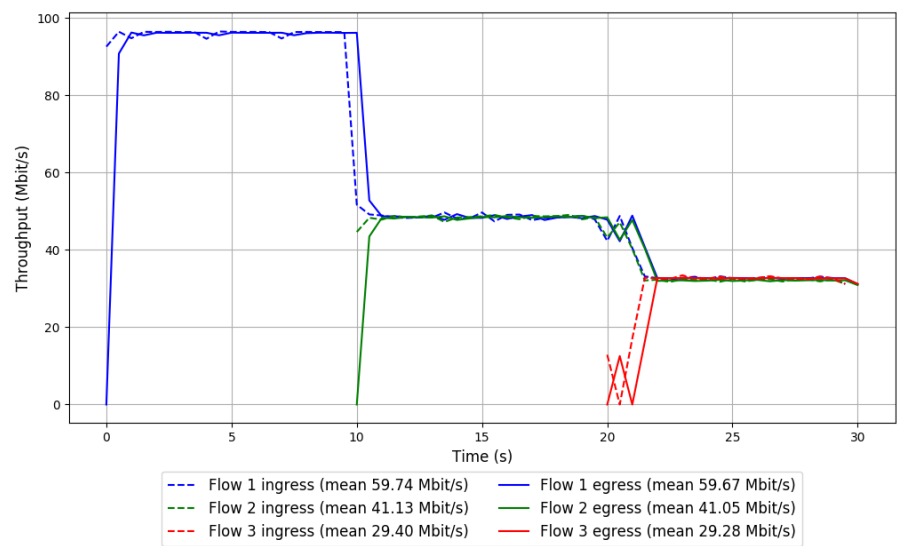


```
Run 1: Statistics of LEDBAT

Start at: 2019-01-25 19:33:15
End at: 2019-01-25 19:33:45
Local clock offset: -6.373 ms
Remote clock offset: 0.229 ms

# Below is generated by plot.py at 2019-01-25 21:21:26
# Datalink statistics
-- Total of 3 flows:
Average throughput: 96.73 Mbit/s
95th percentile per-packet one-way delay: 13.360 ms
Loss rate: 0.18%
-- Flow 1:
Average throughput: 59.67 Mbit/s
95th percentile per-packet one-way delay: 13.096 ms
Loss rate: 0.13%
-- Flow 2:
Average throughput: 41.05 Mbit/s
95th percentile per-packet one-way delay: 13.655 ms
Loss rate: 0.21%
-- Flow 3:
Average throughput: 29.28 Mbit/s
95th percentile per-packet one-way delay: 13.293 ms
Loss rate: 0.44%
```

Run 1: Report of LEDBAT — Data Link



Run 2: Statistics of LEDBAT

Start at: 2019-01-25 19:57:24

End at: 2019-01-25 19:57:54

Local clock offset: -3.236 ms

Remote clock offset: 0.435 ms

Below is generated by plot.py at 2019-01-25 21:21:32

Datalink statistics

-- Total of 3 flows:

Average throughput: 96.90 Mbit/s

95th percentile per-packet one-way delay: 13.882 ms

Loss rate: 0.19%

-- Flow 1:

Average throughput: 59.19 Mbit/s

95th percentile per-packet one-way delay: 13.816 ms

Loss rate: 0.14%

-- Flow 2:

Average throughput: 40.67 Mbit/s

95th percentile per-packet one-way delay: 14.197 ms

Loss rate: 0.22%

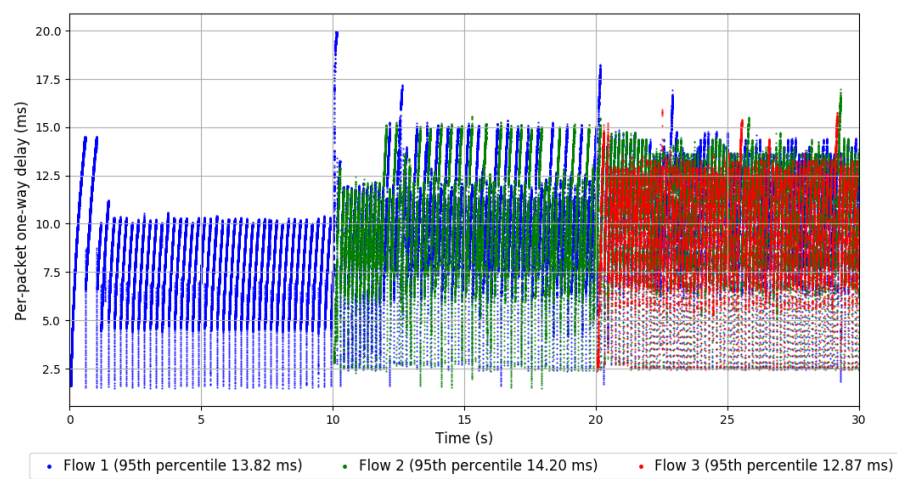
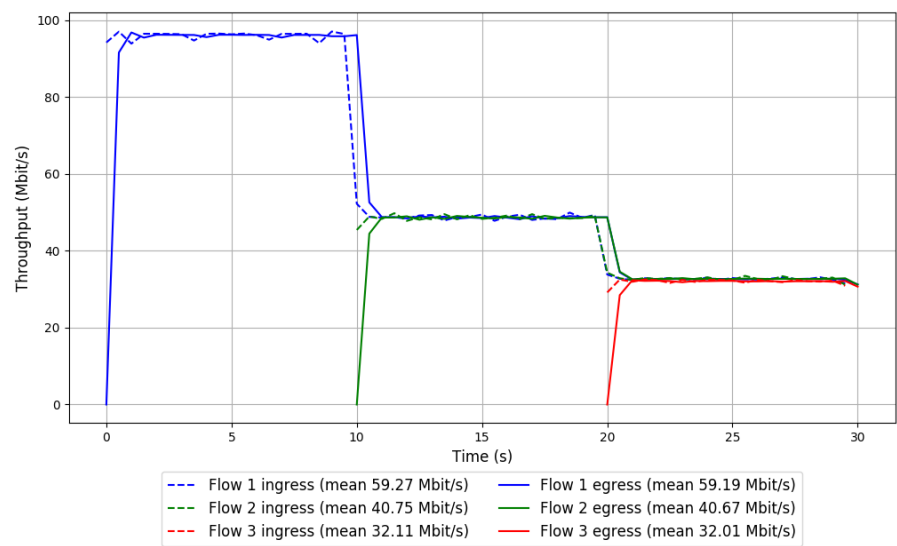
-- Flow 3:

Average throughput: 32.01 Mbit/s

95th percentile per-packet one-way delay: 12.874 ms

Loss rate: 0.36%

Run 2: Report of LEDBAT — Data Link



Run 3: Statistics of LEDBAT

Start at: 2019-01-25 20:21:35

End at: 2019-01-25 20:22:05

Local clock offset: -3.391 ms

Remote clock offset: 0.801 ms

Below is generated by plot.py at 2019-01-25 21:21:51

Datalink statistics

-- Total of 3 flows:

Average throughput: 96.55 Mbit/s

95th percentile per-packet one-way delay: 13.647 ms

Loss rate: 0.18%

-- Flow 1:

Average throughput: 58.70 Mbit/s

95th percentile per-packet one-way delay: 13.097 ms

Loss rate: 0.12%

-- Flow 2:

Average throughput: 40.56 Mbit/s

95th percentile per-packet one-way delay: 14.171 ms

Loss rate: 0.23%

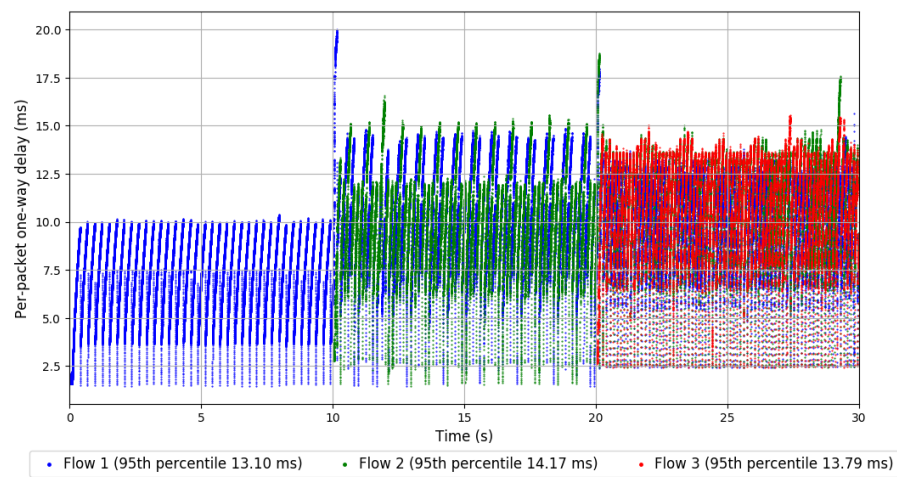
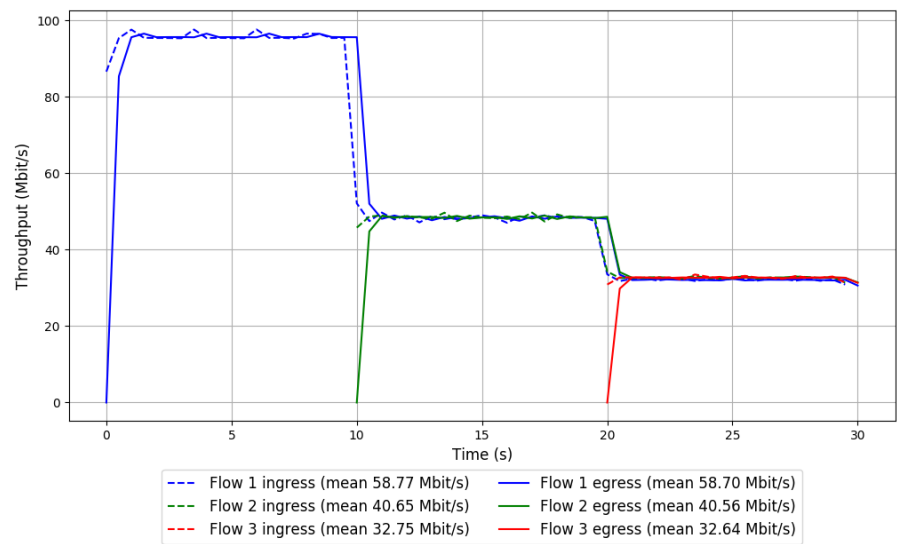
-- Flow 3:

Average throughput: 32.64 Mbit/s

95th percentile per-packet one-way delay: 13.791 ms

Loss rate: 0.39%

Run 3: Report of LEDBAT — Data Link

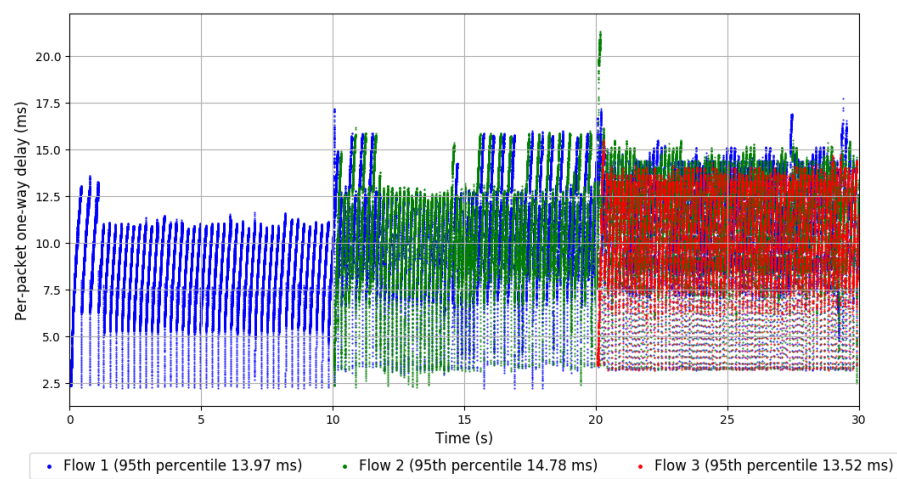
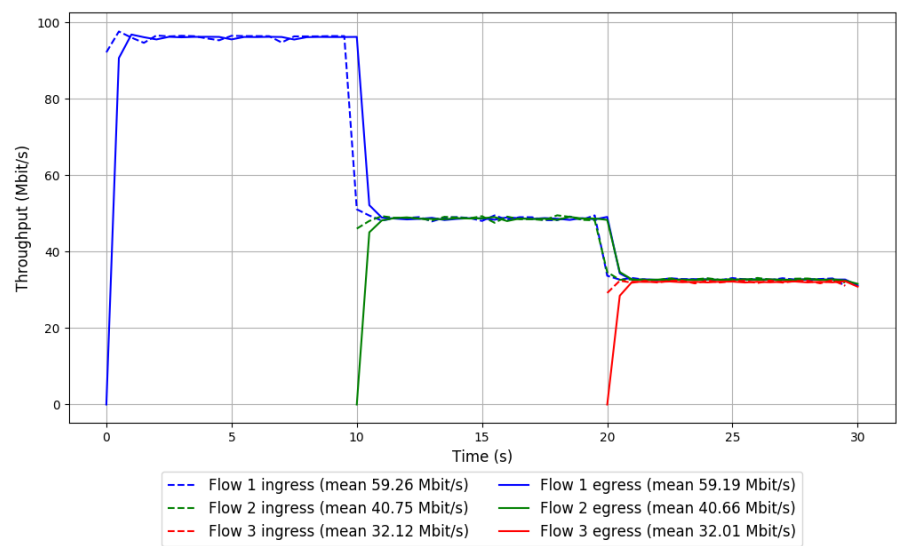


Run 4: Statistics of LEDBAT

Start at: 2019-01-25 20:45:48
End at: 2019-01-25 20:46:18
Local clock offset: -1.854 ms
Remote clock offset: 0.83 ms

```
# Below is generated by plot.py at 2019-01-25 21:21:55
# Datalink statistics
-- Total of 3 flows:
Average throughput: 96.89 Mbit/s
95th percentile per-packet one-way delay: 14.241 ms
Loss rate: 0.20%
-- Flow 1:
Average throughput: 59.19 Mbit/s
95th percentile per-packet one-way delay: 13.970 ms
Loss rate: 0.14%
-- Flow 2:
Average throughput: 40.66 Mbit/s
95th percentile per-packet one-way delay: 14.783 ms
Loss rate: 0.24%
-- Flow 3:
Average throughput: 32.01 Mbit/s
95th percentile per-packet one-way delay: 13.517 ms
Loss rate: 0.38%
```

Run 4: Report of LEDBAT — Data Link



Run 5: Statistics of LEDBAT

Start at: 2019-01-25 21:09:59

End at: 2019-01-25 21:10:29

Local clock offset: -6.415 ms

Remote clock offset: 0.59 ms

Below is generated by plot.py at 2019-01-25 21:21:56

Datalink statistics

-- Total of 3 flows:

Average throughput: 96.78 Mbit/s

95th percentile per-packet one-way delay: 13.928 ms

Loss rate: 0.17%

-- Flow 1:

Average throughput: 59.23 Mbit/s

95th percentile per-packet one-way delay: 14.041 ms

Loss rate: 0.13%

-- Flow 2:

Average throughput: 40.29 Mbit/s

95th percentile per-packet one-way delay: 13.910 ms

Loss rate: 0.18%

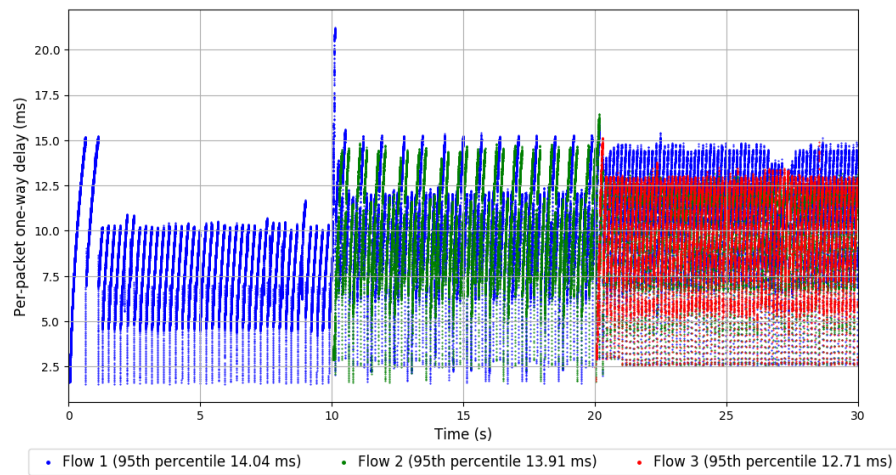
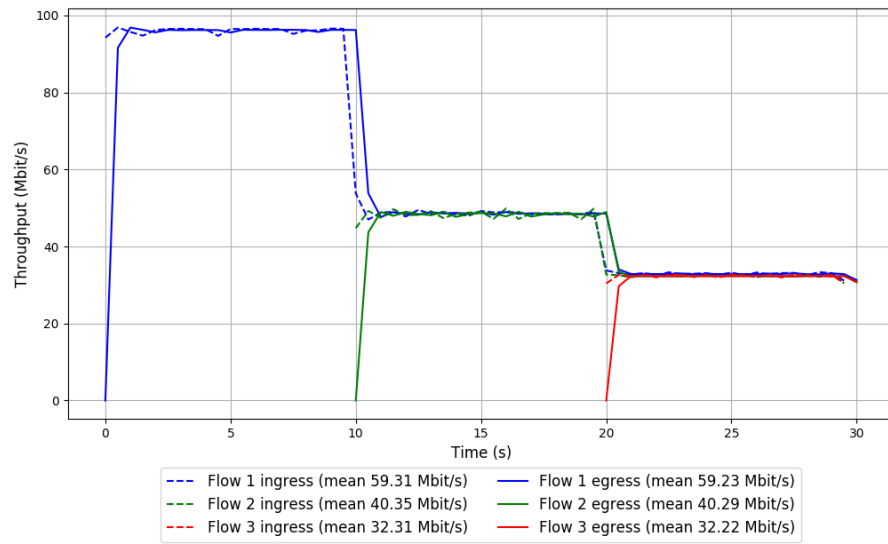
-- Flow 3:

Average throughput: 32.22 Mbit/s

95th percentile per-packet one-way delay: 12.714 ms

Loss rate: 0.34%

Run 5: Report of LEDBAT — Data Link

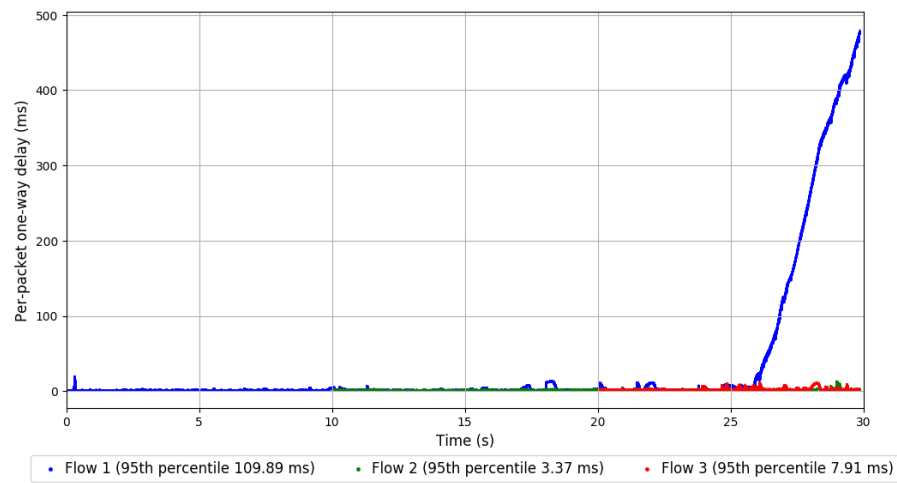
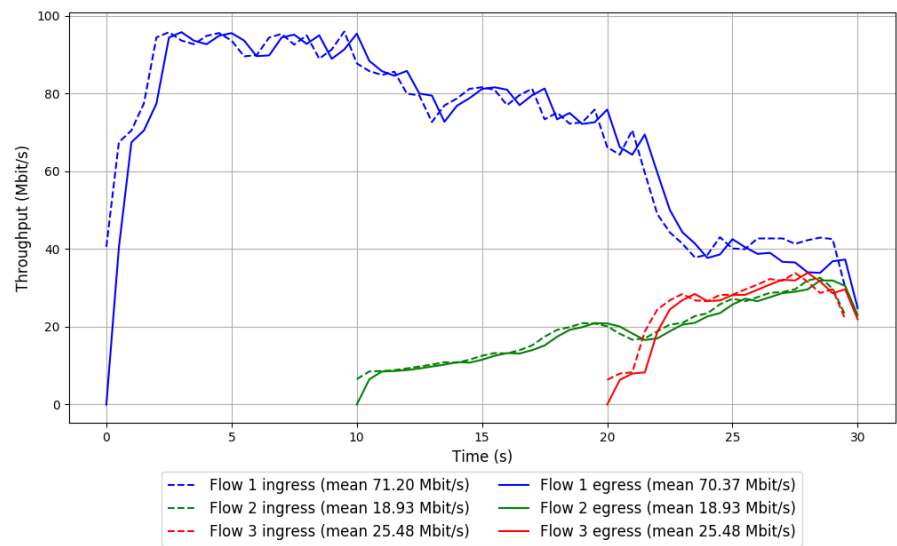


```
Run 1: Statistics of PCC-Allegro

Start at: 2019-01-25 19:24:06
End at: 2019-01-25 19:24:36
Local clock offset: -7.642 ms
Remote clock offset: 0.048 ms

# Below is generated by plot.py at 2019-01-25 21:22:02
# Datalink statistics
-- Total of 3 flows:
Average throughput: 91.34 Mbit/s
95th percentile per-packet one-way delay: 19.864 ms
Loss rate: 0.92%
-- Flow 1:
Average throughput: 70.37 Mbit/s
95th percentile per-packet one-way delay: 109.886 ms
Loss rate: 1.18%
-- Flow 2:
Average throughput: 18.93 Mbit/s
95th percentile per-packet one-way delay: 3.366 ms
Loss rate: 0.04%
-- Flow 3:
Average throughput: 25.48 Mbit/s
95th percentile per-packet one-way delay: 7.909 ms
Loss rate: 0.06%
```

Run 1: Report of PCC-Allegro — Data Link



Run 2: Statistics of PCC-Allegro

Start at: 2019-01-25 19:48:14

End at: 2019-01-25 19:48:44

Local clock offset: -3.789 ms

Remote clock offset: 0.366 ms

Below is generated by plot.py at 2019-01-25 21:22:06

Datalink statistics

-- Total of 3 flows:

Average throughput: 89.09 Mbit/s

95th percentile per-packet one-way delay: 1901.267 ms

Loss rate: 7.09%

-- Flow 1:

Average throughput: 55.72 Mbit/s

95th percentile per-packet one-way delay: 1933.676 ms

Loss rate: 10.83%

-- Flow 2:

Average throughput: 37.39 Mbit/s

95th percentile per-packet one-way delay: 20.292 ms

Loss rate: 0.08%

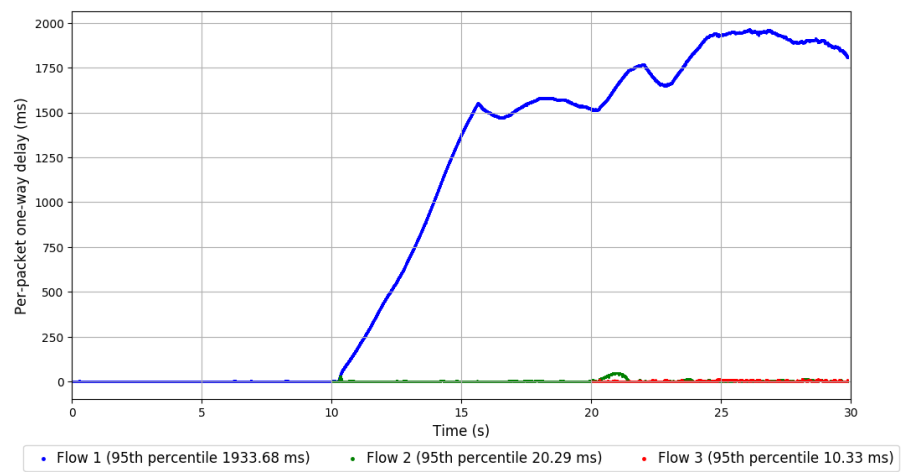
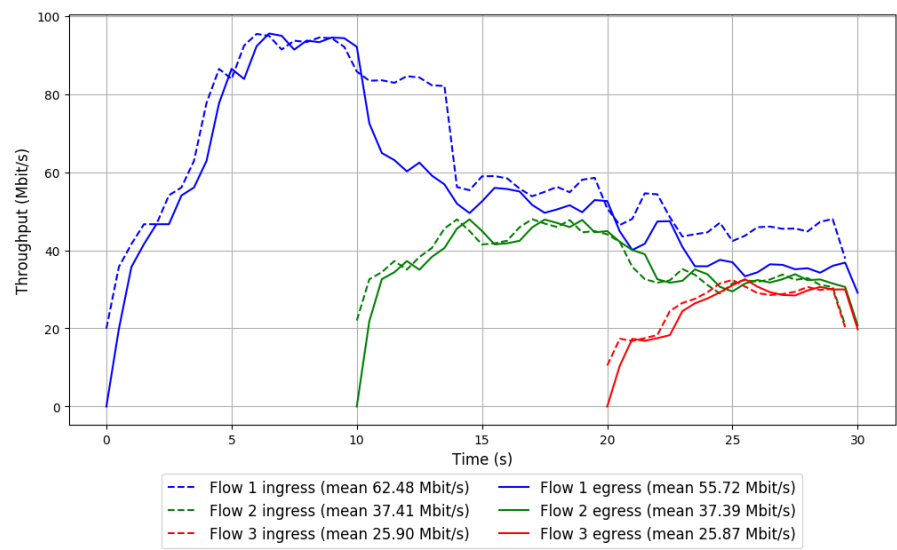
-- Flow 3:

Average throughput: 25.87 Mbit/s

95th percentile per-packet one-way delay: 10.326 ms

Loss rate: 0.14%

Run 2: Report of PCC-Allegro — Data Link



Run 3: Statistics of PCC-Allegro

Start at: 2019-01-25 20:12:25

End at: 2019-01-25 20:12:55

Local clock offset: -2.601 ms

Remote clock offset: 0.715 ms

Below is generated by plot.py at 2019-01-25 21:22:11

Datalink statistics

-- Total of 3 flows:

Average throughput: 93.67 Mbit/s

95th percentile per-packet one-way delay: 1598.710 ms

Loss rate: 3.95%

-- Flow 1:

Average throughput: 68.56 Mbit/s

95th percentile per-packet one-way delay: 1814.911 ms

Loss rate: 5.30%

-- Flow 2:

Average throughput: 27.44 Mbit/s

95th percentile per-packet one-way delay: 8.616 ms

Loss rate: 0.04%

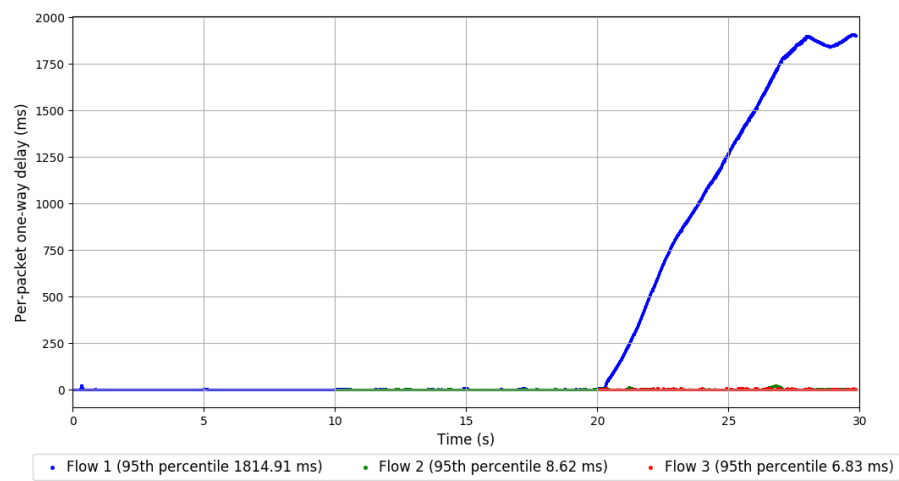
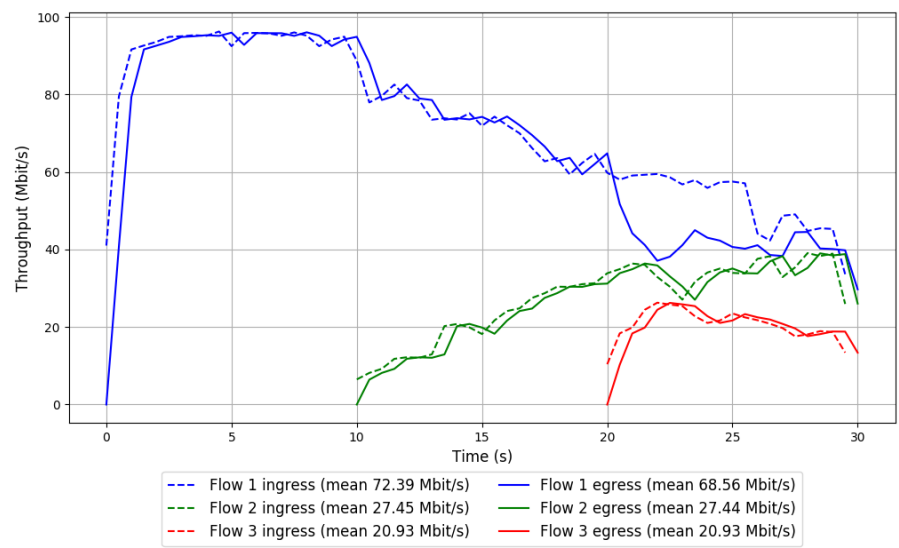
-- Flow 3:

Average throughput: 20.93 Mbit/s

95th percentile per-packet one-way delay: 6.830 ms

Loss rate: 0.04%

Run 3: Report of PCC-Allegro — Data Link



Run 4: Statistics of PCC-Allegro

Start at: 2019-01-25 20:36:36

End at: 2019-01-25 20:37:06

Local clock offset: -2.135 ms

Remote clock offset: 0.747 ms

Below is generated by plot.py at 2019-01-25 21:22:32

Datalink statistics

-- Total of 3 flows:

Average throughput: 89.73 Mbit/s

95th percentile per-packet one-way delay: 1187.101 ms

Loss rate: 5.85%

-- Flow 1:

Average throughput: 62.24 Mbit/s

95th percentile per-packet one-way delay: 837.812 ms

Loss rate: 3.32%

-- Flow 2:

Average throughput: 28.14 Mbit/s

95th percentile per-packet one-way delay: 1581.627 ms

Loss rate: 15.50%

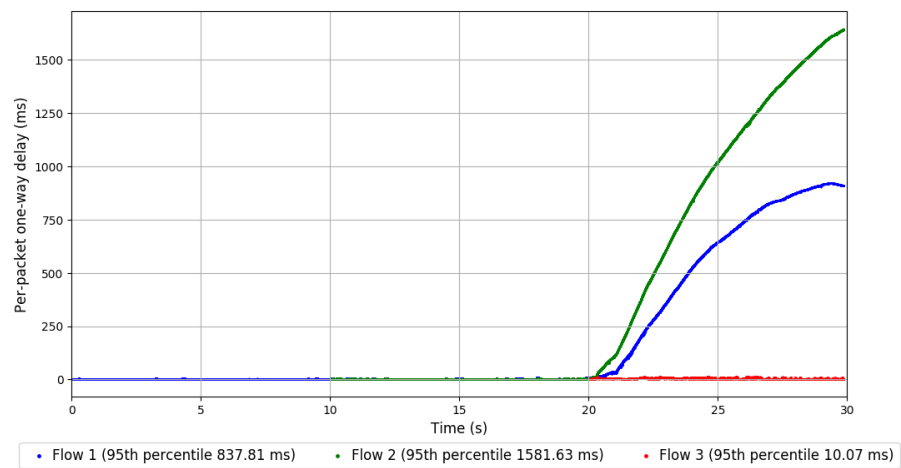
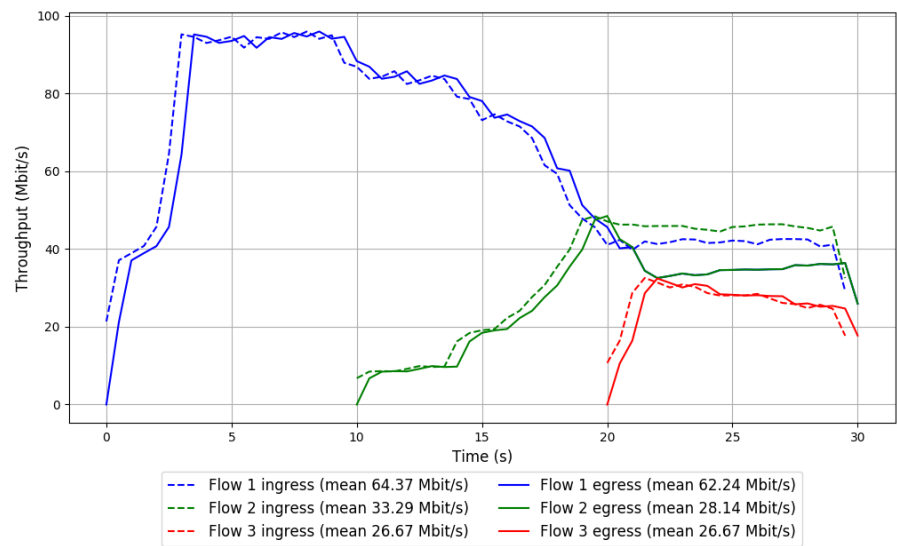
-- Flow 3:

Average throughput: 26.67 Mbit/s

95th percentile per-packet one-way delay: 10.072 ms

Loss rate: 0.04%

Run 4: Report of PCC-Allegro — Data Link



Run 5: Statistics of PCC-Allegro

Start at: 2019-01-25 21:00:48

End at: 2019-01-25 21:01:18

Local clock offset: -3.014 ms

Remote clock offset: 0.723 ms

Below is generated by plot.py at 2019-01-25 21:22:37

Datalink statistics

-- Total of 3 flows:

Average throughput: 93.84 Mbit/s

95th percentile per-packet one-way delay: 1500.881 ms

Loss rate: 3.94%

-- Flow 1:

Average throughput: 76.79 Mbit/s

95th percentile per-packet one-way delay: 1640.586 ms

Loss rate: 4.76%

-- Flow 2:

Average throughput: 14.01 Mbit/s

95th percentile per-packet one-way delay: 5.098 ms

Loss rate: 0.05%

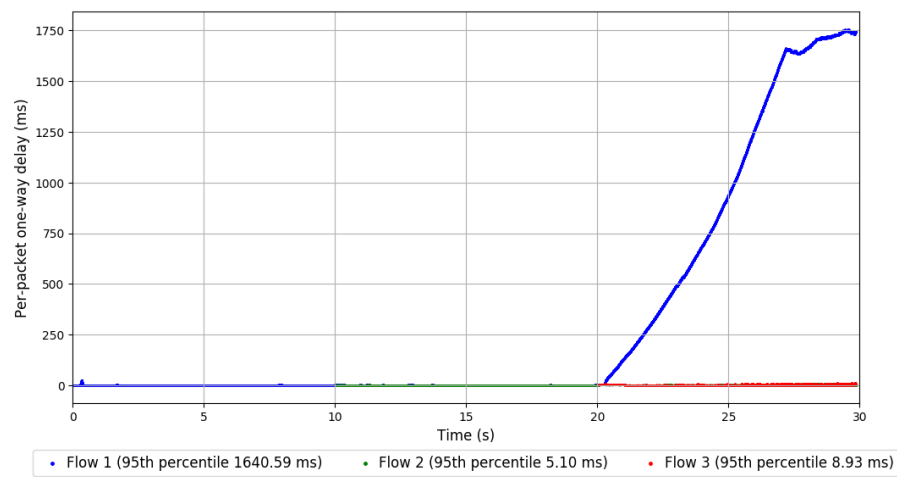
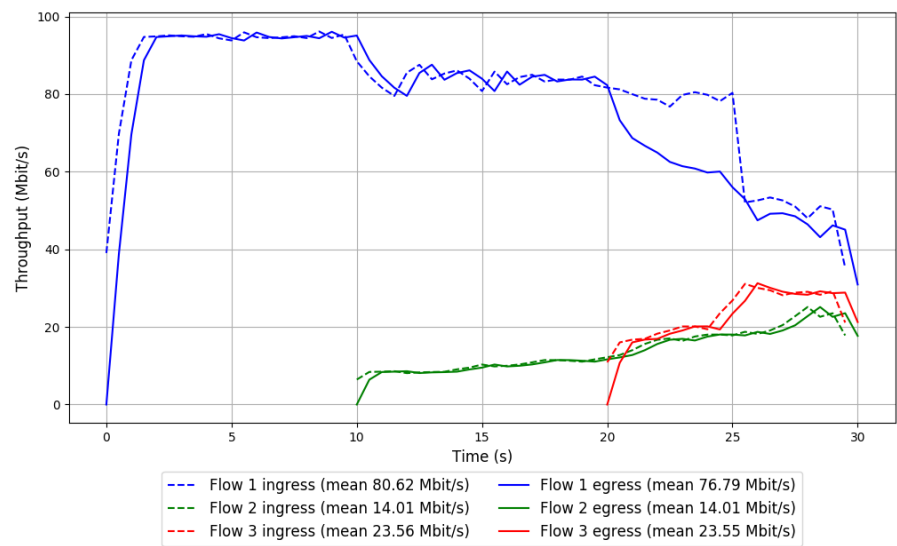
-- Flow 3:

Average throughput: 23.55 Mbit/s

95th percentile per-packet one-way delay: 8.931 ms

Loss rate: 0.09%

Run 5: Report of PCC-Allegro — Data Link

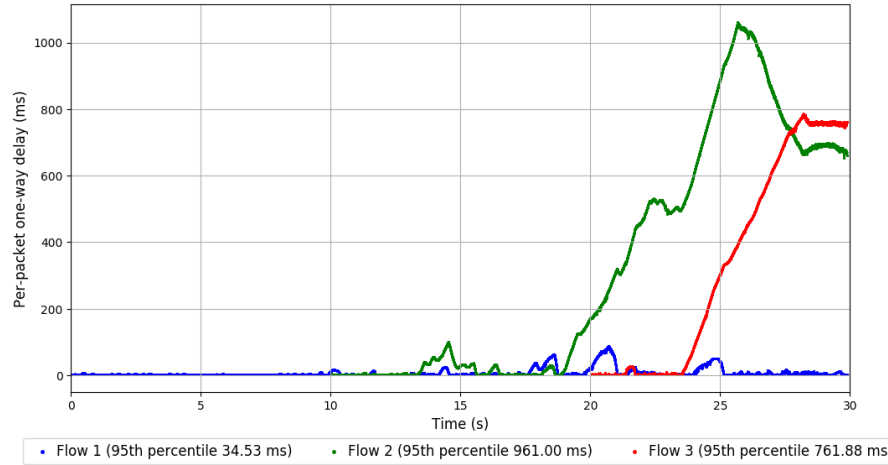
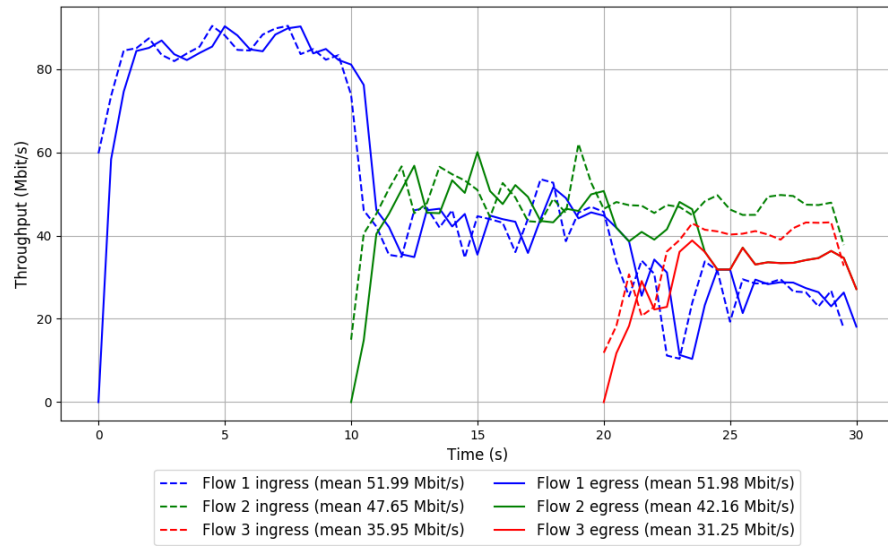



```
Run 1: Statistics of PCC-Expr

Start at: 2019-01-25 19:22:53
End at: 2019-01-25 19:23:23
Local clock offset: -6.827 ms
Remote clock offset: 0.097 ms

# Below is generated by plot.py at 2019-01-25 21:23:42
# Datalink statistics
-- Total of 3 flows:
Average throughput: 90.32 Mbit/s
95th percentile per-packet one-way delay: 757.424 ms
Loss rate: 5.50%
-- Flow 1:
Average throughput: 51.98 Mbit/s
95th percentile per-packet one-way delay: 34.533 ms
Loss rate: 0.03%
-- Flow 2:
Average throughput: 42.16 Mbit/s
95th percentile per-packet one-way delay: 961.000 ms
Loss rate: 11.60%
-- Flow 3:
Average throughput: 31.25 Mbit/s
95th percentile per-packet one-way delay: 761.875 ms
Loss rate: 13.19%
```

Run 1: Report of PCC-Expr — Data Link



Run 2: Statistics of PCC-Expr

Start at: 2019-01-25 19:47:01

End at: 2019-01-25 19:47:31

Local clock offset: -3.804 ms

Remote clock offset: 0.296 ms

Below is generated by plot.py at 2019-01-25 21:23:45

Datalink statistics

-- Total of 3 flows:

Average throughput: 91.50 Mbit/s

95th percentile per-packet one-way delay: 1083.162 ms

Loss rate: 3.55%

-- Flow 1:

Average throughput: 58.18 Mbit/s

95th percentile per-packet one-way delay: 1098.298 ms

Loss rate: 5.16%

-- Flow 2:

Average throughput: 36.62 Mbit/s

95th percentile per-packet one-way delay: 204.856 ms

Loss rate: 0.58%

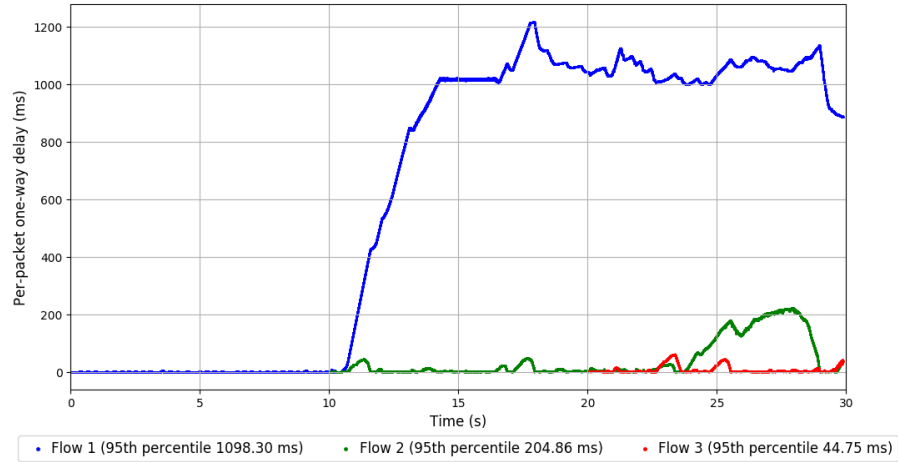
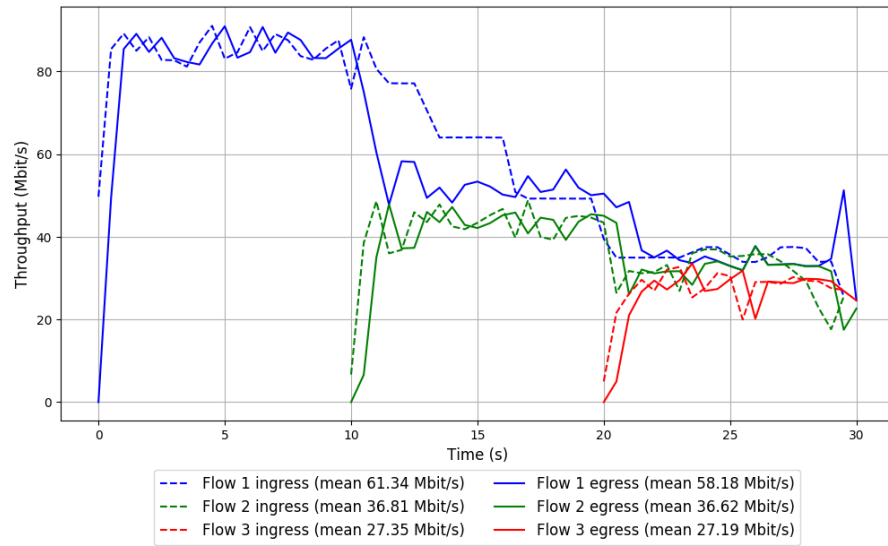
-- Flow 3:

Average throughput: 27.19 Mbit/s

95th percentile per-packet one-way delay: 44.749 ms

Loss rate: 0.64%

Run 2: Report of PCC-Expr — Data Link



Run 3: Statistics of PCC-Expr

Start at: 2019-01-25 20:11:12

End at: 2019-01-25 20:11:42

Local clock offset: -2.579 ms

Remote clock offset: 0.647 ms

Below is generated by plot.py at 2019-01-25 21:23:45

Datalink statistics

-- Total of 3 flows:

Average throughput: 89.12 Mbit/s

95th percentile per-packet one-way delay: 973.417 ms

Loss rate: 5.60%

-- Flow 1:

Average throughput: 55.87 Mbit/s

95th percentile per-packet one-way delay: 187.222 ms

Loss rate: 0.32%

-- Flow 2:

Average throughput: 32.49 Mbit/s

95th percentile per-packet one-way delay: 134.141 ms

Loss rate: 0.57%

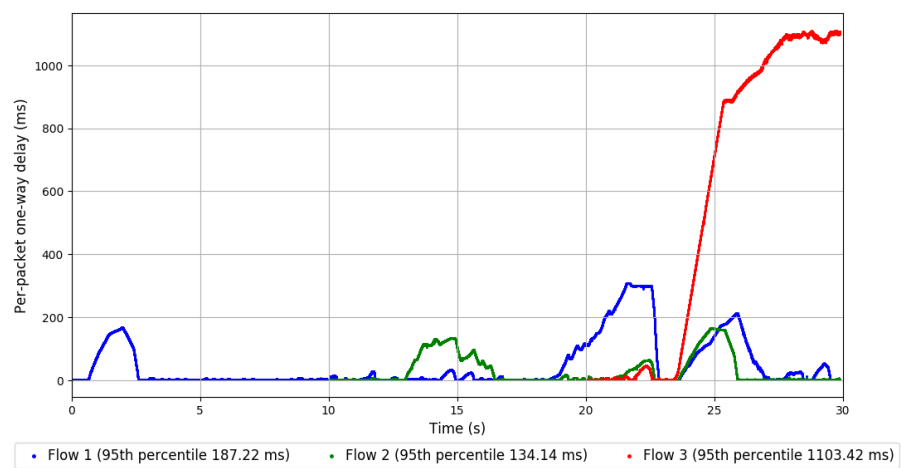
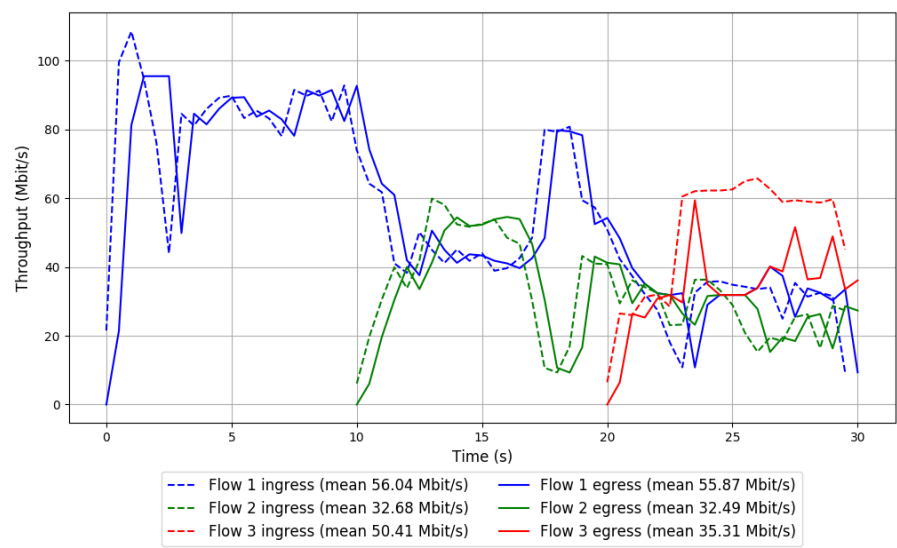
-- Flow 3:

Average throughput: 35.31 Mbit/s

95th percentile per-packet one-way delay: 1103.424 ms

Loss rate: 29.97%

Run 3: Report of PCC-Expr — Data Link



Run 4: Statistics of PCC-Expr

Start at: 2019-01-25 20:35:22

End at: 2019-01-25 20:35:52

Local clock offset: -2.967 ms

Remote clock offset: 0.768 ms

Below is generated by plot.py at 2019-01-25 21:24:10

Datalink statistics

-- Total of 3 flows:

Average throughput: 94.85 Mbit/s

95th percentile per-packet one-way delay: 686.489 ms

Loss rate: 27.05%

-- Flow 1:

Average throughput: 59.32 Mbit/s

95th percentile per-packet one-way delay: 624.601 ms

Loss rate: 32.68%

-- Flow 2:

Average throughput: 40.63 Mbit/s

95th percentile per-packet one-way delay: 705.833 ms

Loss rate: 19.09%

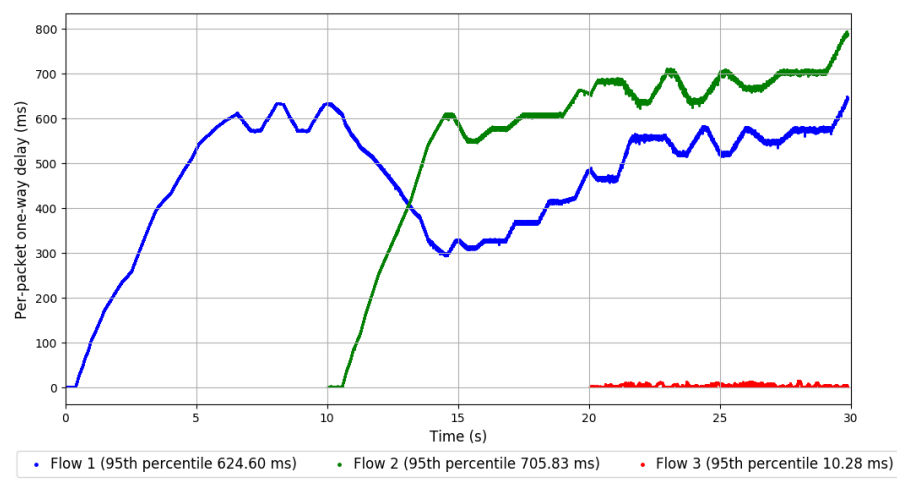
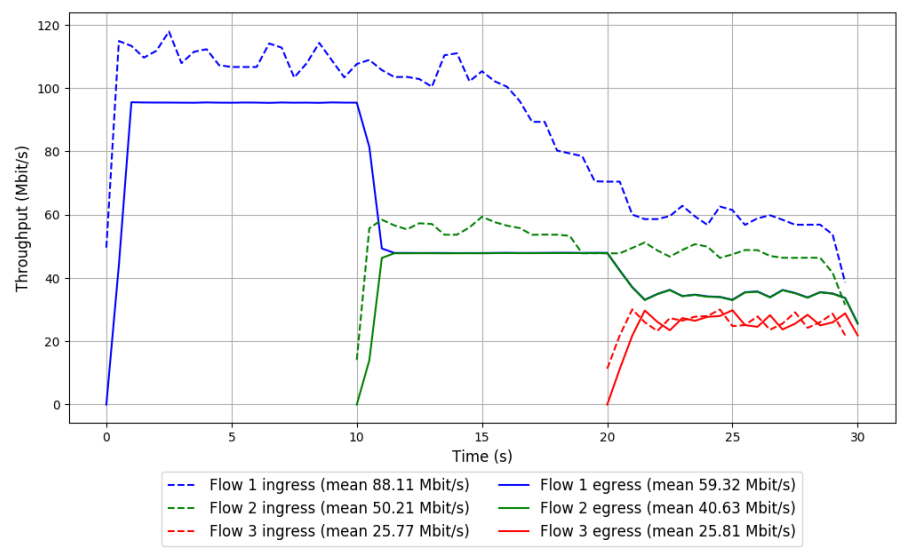
-- Flow 3:

Average throughput: 25.81 Mbit/s

95th percentile per-packet one-way delay: 10.281 ms

Loss rate: 0.04%

Run 4: Report of PCC-Expr — Data Link



Run 5: Statistics of PCC-Expr

Start at: 2019-01-25 20:59:36

End at: 2019-01-25 21:00:06

Local clock offset: -2.496 ms

Remote clock offset: 0.717 ms

Below is generated by plot.py at 2019-01-25 21:24:10

Datalink statistics

-- Total of 3 flows:

Average throughput: 86.30 Mbit/s

95th percentile per-packet one-way delay: 133.434 ms

Loss rate: 1.78%

-- Flow 1:

Average throughput: 51.44 Mbit/s

95th percentile per-packet one-way delay: 115.155 ms

Loss rate: 0.10%

-- Flow 2:

Average throughput: 38.21 Mbit/s

95th percentile per-packet one-way delay: 506.602 ms

Loss rate: 5.55%

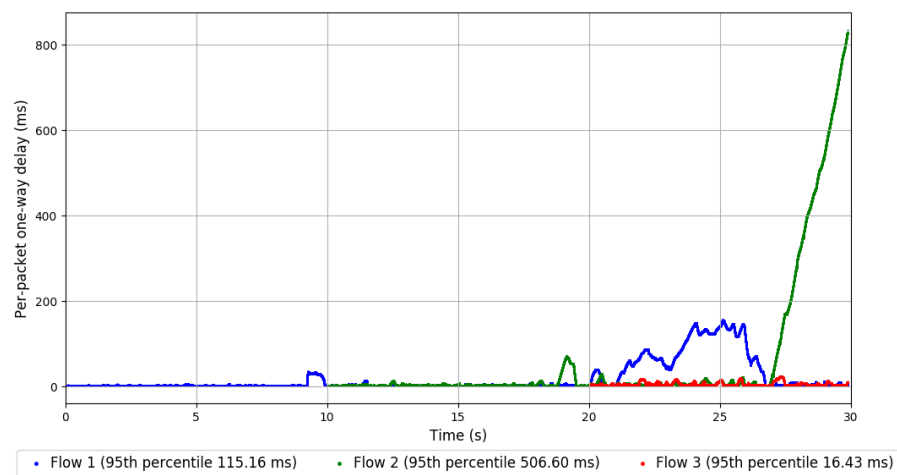
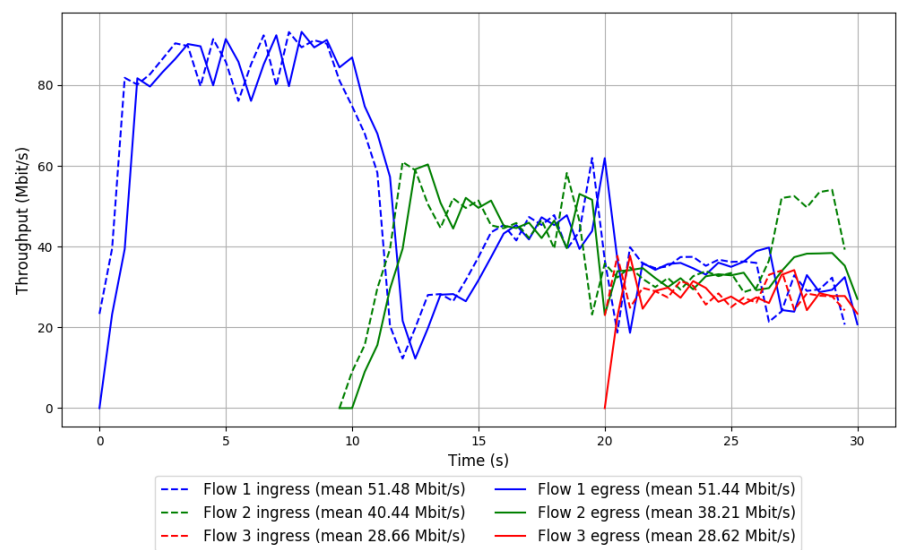
-- Flow 3:

Average throughput: 28.62 Mbit/s

95th percentile per-packet one-way delay: 16.430 ms

Loss rate: 0.17%

Run 5: Report of PCC-Expr — Data Link



Run 1: Statistics of QUIC Cubic

Start at: 2019-01-25 19:17:11

End at: 2019-01-25 19:17:41

Local clock offset: -6.351 ms

Remote clock offset: -0.01 ms

Below is generated by plot.py at 2019-01-25 21:24:10

Datalink statistics

-- Total of 3 flows:

Average throughput: 90.34 Mbit/s

95th percentile per-packet one-way delay: 13.721 ms

Loss rate: 0.24%

-- Flow 1:

Average throughput: 53.33 Mbit/s

95th percentile per-packet one-way delay: 13.711 ms

Loss rate: 0.16%

-- Flow 2:

Average throughput: 40.16 Mbit/s

95th percentile per-packet one-way delay: 13.383 ms

Loss rate: 0.29%

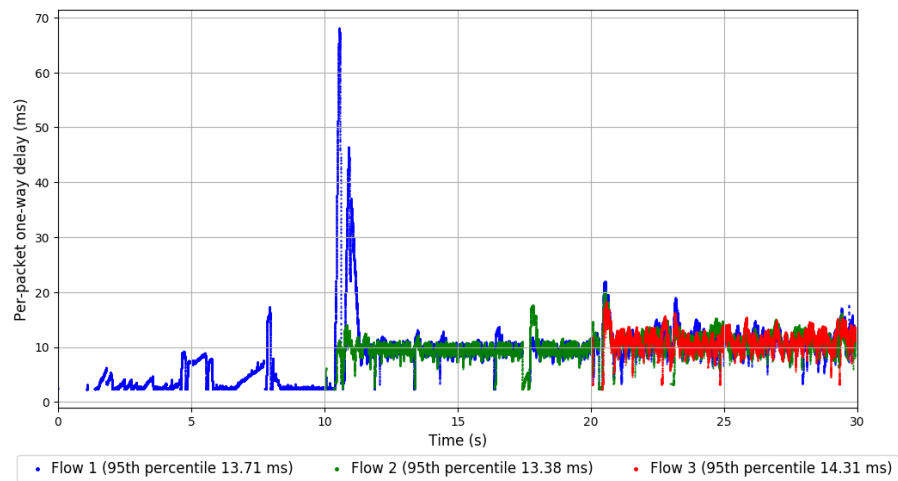
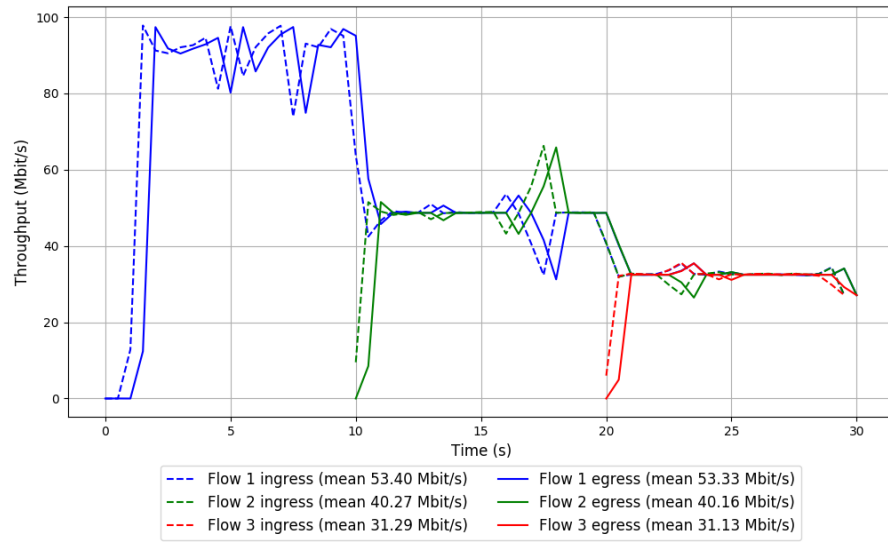
-- Flow 3:

Average throughput: 31.13 Mbit/s

95th percentile per-packet one-way delay: 14.315 ms

Loss rate: 0.52%

Run 1: Report of QUIC Cubic — Data Link



Run 2: Statistics of QUIC Cubic

Start at: 2019-01-25 19:41:18

End at: 2019-01-25 19:41:48

Local clock offset: -4.51 ms

Remote clock offset: 0.307 ms

Below is generated by plot.py at 2019-01-25 21:24:10

Datalink statistics

-- Total of 3 flows:

Average throughput: 90.87 Mbit/s

95th percentile per-packet one-way delay: 12.458 ms

Loss rate: 0.23%

-- Flow 1:

Average throughput: 53.93 Mbit/s

95th percentile per-packet one-way delay: 12.149 ms

Loss rate: 0.15%

-- Flow 2:

Average throughput: 40.05 Mbit/s

95th percentile per-packet one-way delay: 12.458 ms

Loss rate: 0.29%

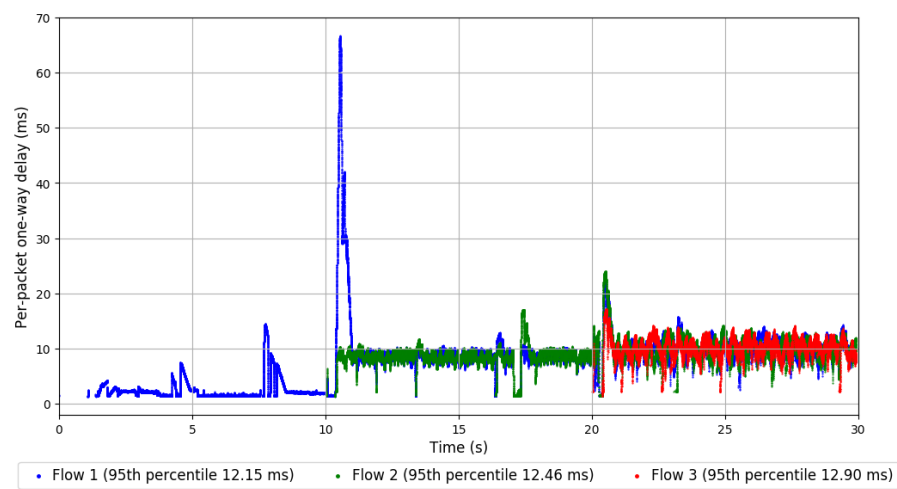
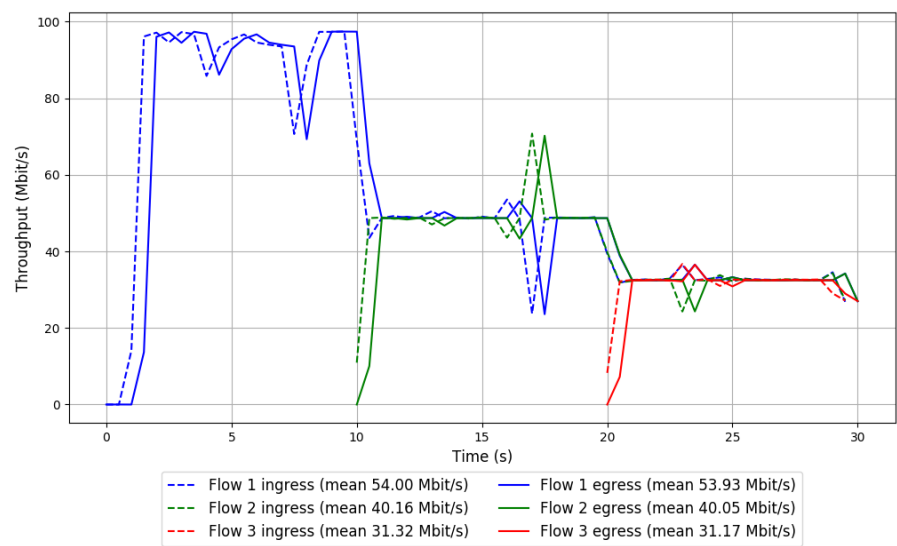
-- Flow 3:

Average throughput: 31.17 Mbit/s

95th percentile per-packet one-way delay: 12.898 ms

Loss rate: 0.51%

Run 2: Report of QUIC Cubic — Data Link



Run 3: Statistics of QUIC Cubic

Start at: 2019-01-25 20:05:29

End at: 2019-01-25 20:05:59

Local clock offset: -3.286 ms

Remote clock offset: 0.51 ms

Below is generated by plot.py at 2019-01-25 21:24:10

Datalink statistics

-- Total of 3 flows:

Average throughput: 90.08 Mbit/s

95th percentile per-packet one-way delay: 12.715 ms

Loss rate: 0.24%

-- Flow 1:

Average throughput: 53.11 Mbit/s

95th percentile per-packet one-way delay: 12.587 ms

Loss rate: 0.15%

-- Flow 2:

Average throughput: 40.12 Mbit/s

95th percentile per-packet one-way delay: 12.800 ms

Loss rate: 0.34%

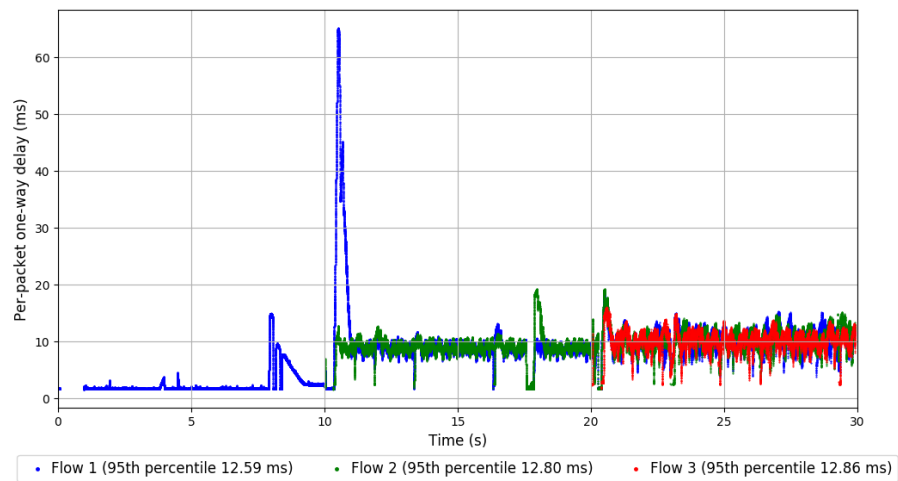
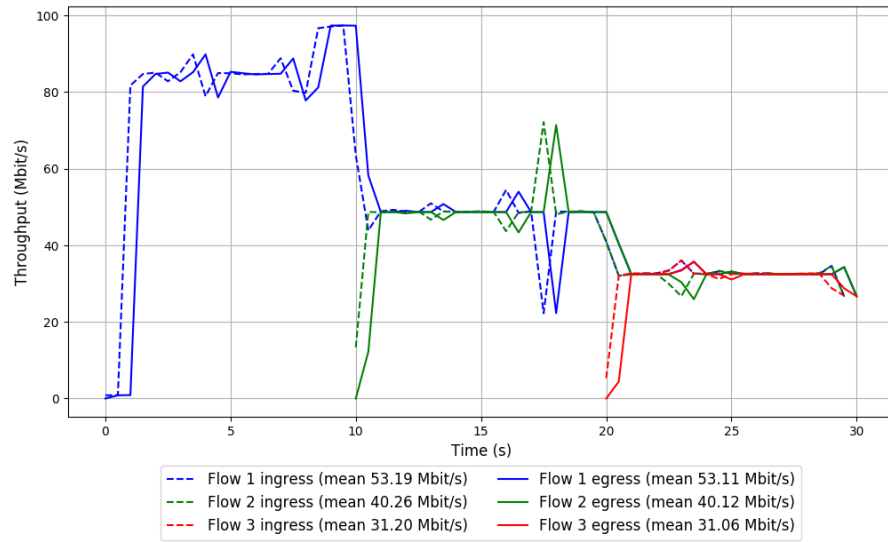
-- Flow 3:

Average throughput: 31.06 Mbit/s

95th percentile per-packet one-way delay: 12.863 ms

Loss rate: 0.45%

Run 3: Report of QUIC Cubic — Data Link



Run 4: Statistics of QUIC Cubic

Start at: 2019-01-25 20:29:39

End at: 2019-01-25 20:30:09

Local clock offset: -2.622 ms

Remote clock offset: 0.771 ms

Below is generated by plot.py at 2019-01-25 21:24:29

Datalink statistics

-- Total of 3 flows:

Average throughput: 92.13 Mbit/s

95th percentile per-packet one-way delay: 13.367 ms

Loss rate: 0.25%

-- Flow 1:

Average throughput: 55.22 Mbit/s

95th percentile per-packet one-way delay: 13.174 ms

Loss rate: 0.15%

-- Flow 2:

Average throughput: 40.02 Mbit/s

95th percentile per-packet one-way delay: 13.194 ms

Loss rate: 0.34%

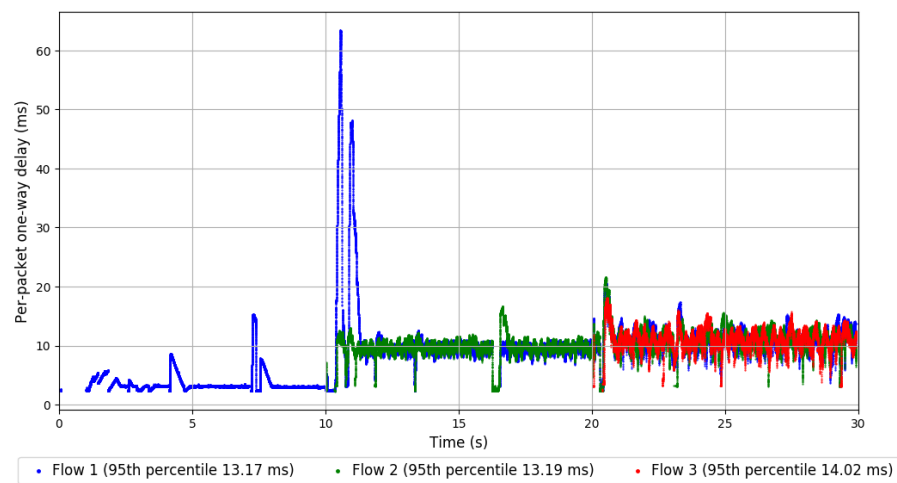
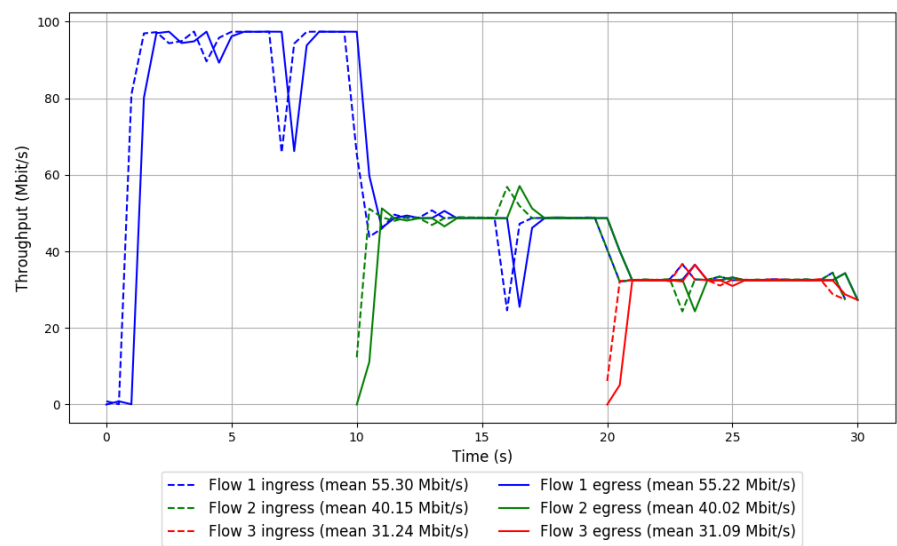
-- Flow 3:

Average throughput: 31.09 Mbit/s

95th percentile per-packet one-way delay: 14.019 ms

Loss rate: 0.52%

Run 4: Report of QUIC Cubic — Data Link



Run 5: Statistics of QUIC Cubic

Start at: 2019-01-25 20:53:52

End at: 2019-01-25 20:54:22

Local clock offset: -2.513 ms

Remote clock offset: 0.864 ms

Below is generated by plot.py at 2019-01-25 21:24:47

Datalink statistics

-- Total of 3 flows:

Average throughput: 88.49 Mbit/s

95th percentile per-packet one-way delay: 12.228 ms

Loss rate: 0.24%

-- Flow 1:

Average throughput: 51.44 Mbit/s

95th percentile per-packet one-way delay: 12.052 ms

Loss rate: 0.16%

-- Flow 2:

Average throughput: 40.17 Mbit/s

95th percentile per-packet one-way delay: 11.956 ms

Loss rate: 0.30%

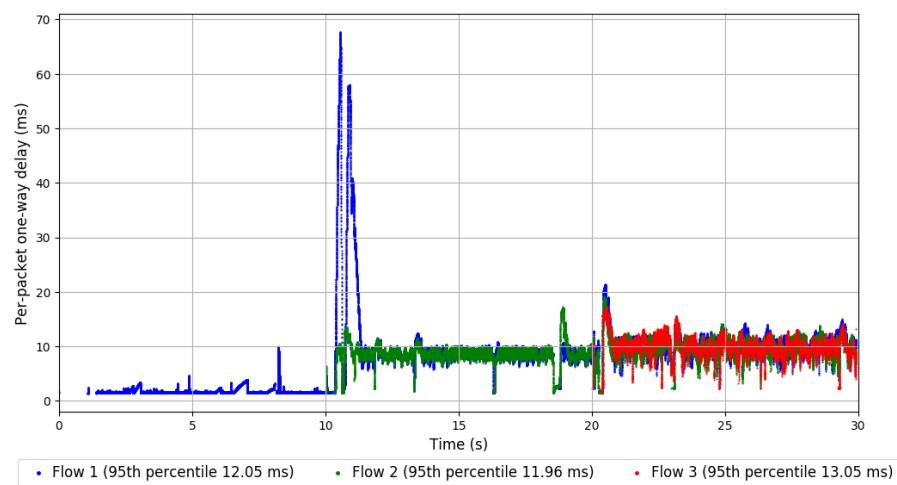
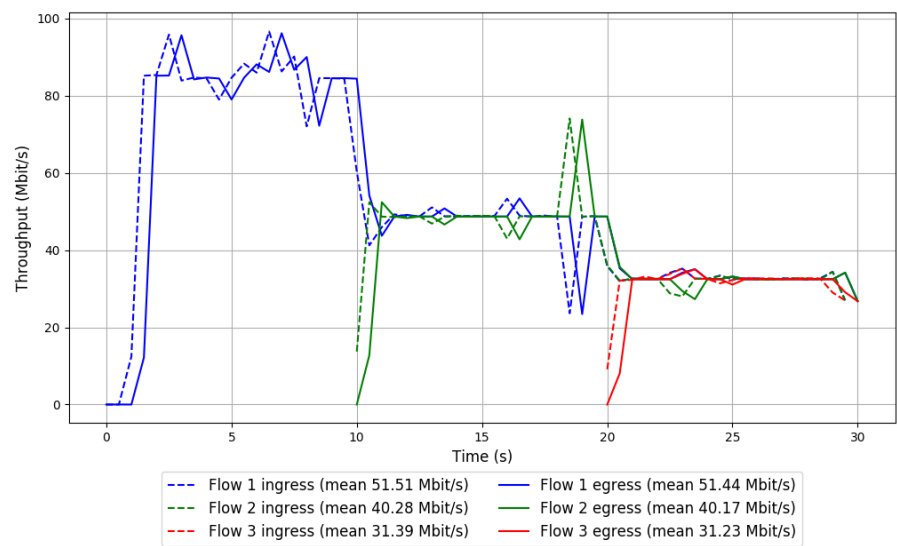
-- Flow 3:

Average throughput: 31.23 Mbit/s

95th percentile per-packet one-way delay: 13.047 ms

Loss rate: 0.51%

Run 5: Report of QUIC Cubic — Data Link

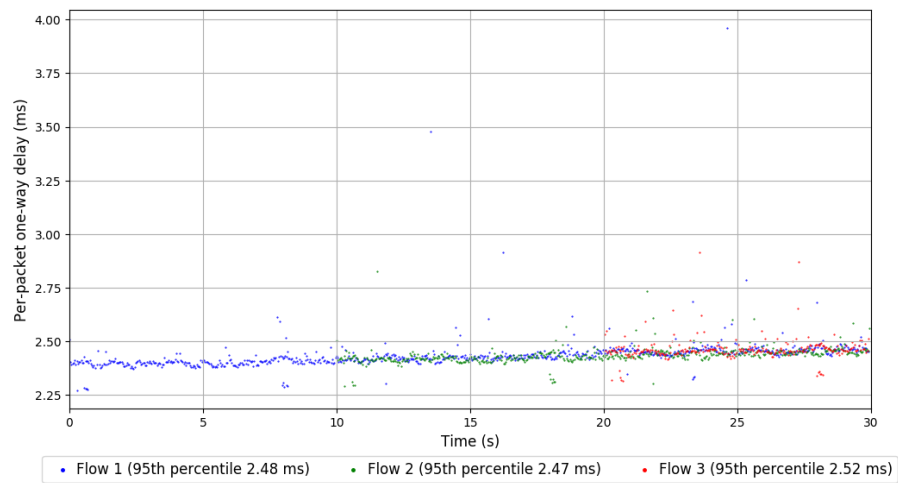
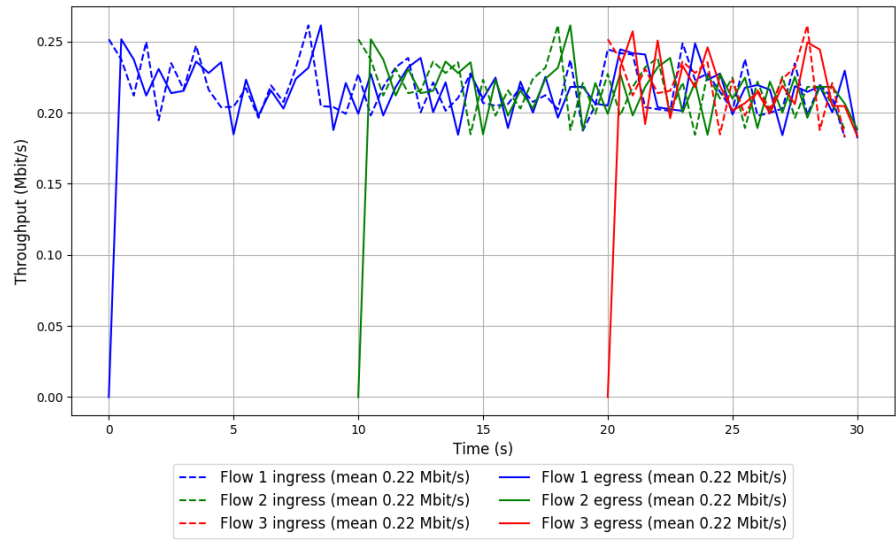


```
Run 1: Statistics of SReAM

Start at: 2019-01-25 19:12:35
End at: 2019-01-25 19:13:05
Local clock offset: -5.725 ms
Remote clock offset: 0.018 ms

# Below is generated by plot.py at 2019-01-25 21:24:47
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 2.489 ms
Loss rate: 0.06%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 2.483 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 2.472 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 2.523 ms
Loss rate: 0.35%
```

Run 1: Report of SReAM — Data Link



Run 2: Statistics of SReAM

Start at: 2019-01-25 19:36:43

End at: 2019-01-25 19:37:13

Local clock offset: -5.33 ms

Remote clock offset: 0.251 ms

Below is generated by plot.py at 2019-01-25 21:24:47

Datalink statistics

-- Total of 3 flows:

Average throughput: 0.44 Mbit/s

95th percentile per-packet one-way delay: 1.494 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 0.22 Mbit/s

95th percentile per-packet one-way delay: 1.506 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 0.22 Mbit/s

95th percentile per-packet one-way delay: 1.461 ms

Loss rate: 0.00%

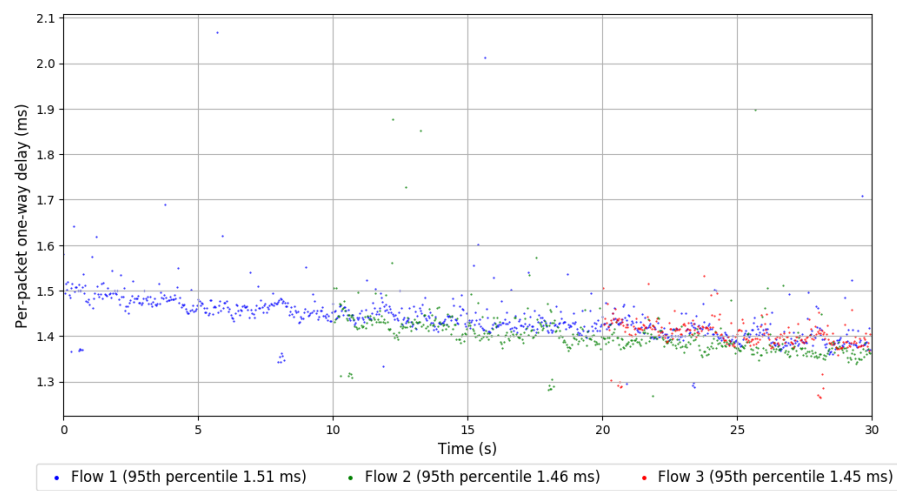
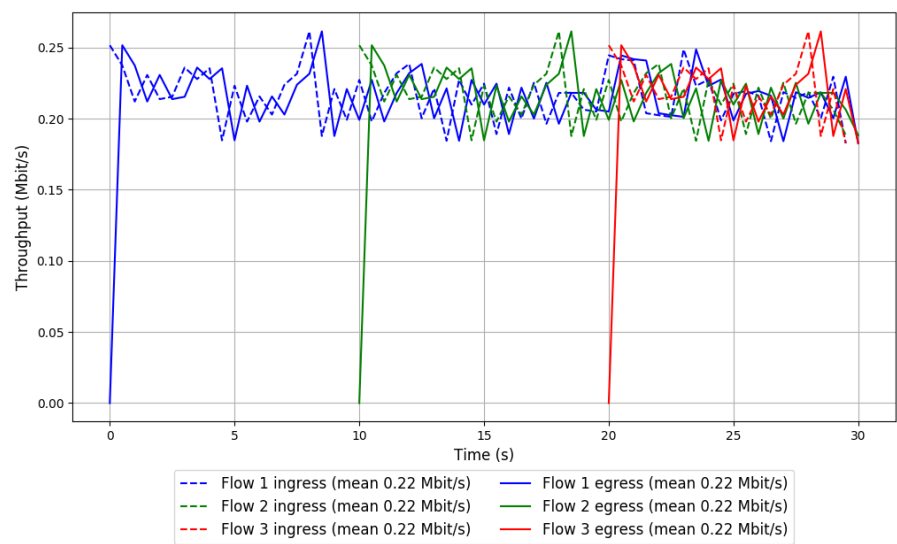
-- Flow 3:

Average throughput: 0.22 Mbit/s

95th percentile per-packet one-way delay: 1.446 ms

Loss rate: 0.00%

Run 2: Report of SReAM — Data Link

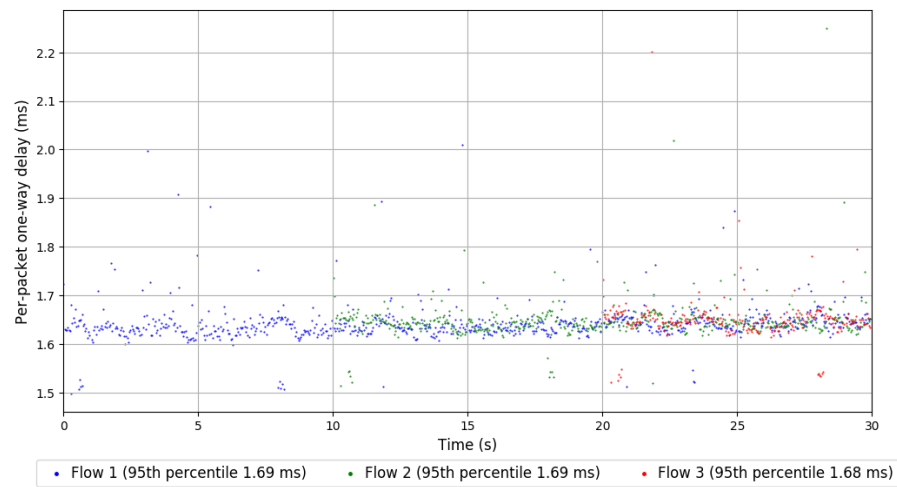
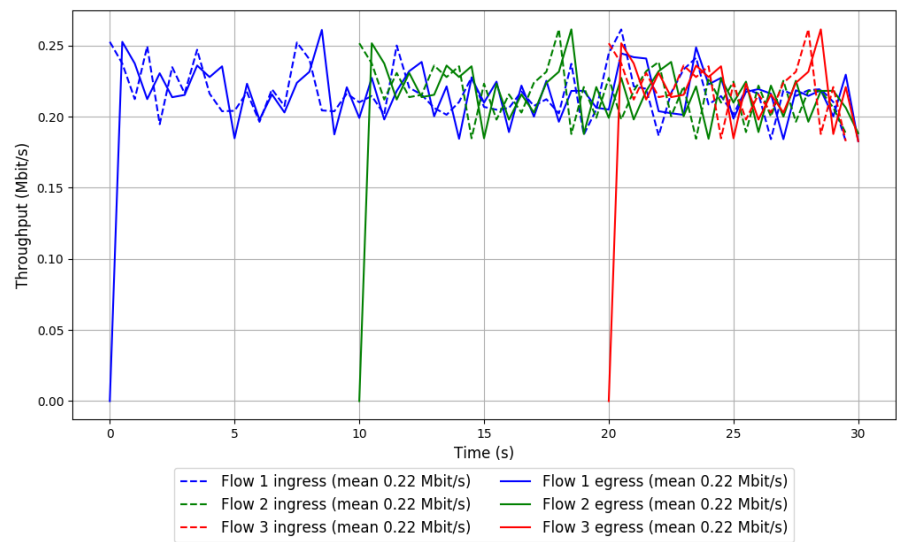


Run 3: Statistics of SReAM

Start at: 2019-01-25 20:00:53
End at: 2019-01-25 20:01:23
Local clock offset: -3.222 ms
Remote clock offset: 0.489 ms

Below is generated by plot.py at 2019-01-25 21:24:47
Datalink statistics
-- Total of 3 flows:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 1.687 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 1.687 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 1.690 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 1.678 ms
Loss rate: 0.00%

Run 3: Report of SReAM — Data Link



Run 4: Statistics of SReAM

Start at: 2019-01-25 20:25:04

End at: 2019-01-25 20:25:34

Local clock offset: -2.621 ms

Remote clock offset: 0.727 ms

Below is generated by plot.py at 2019-01-25 21:24:47

Datalink statistics

-- Total of 3 flows:

Average throughput: 0.44 Mbit/s

95th percentile per-packet one-way delay: 2.517 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 0.22 Mbit/s

95th percentile per-packet one-way delay: 2.517 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 0.22 Mbit/s

95th percentile per-packet one-way delay: 2.516 ms

Loss rate: 0.00%

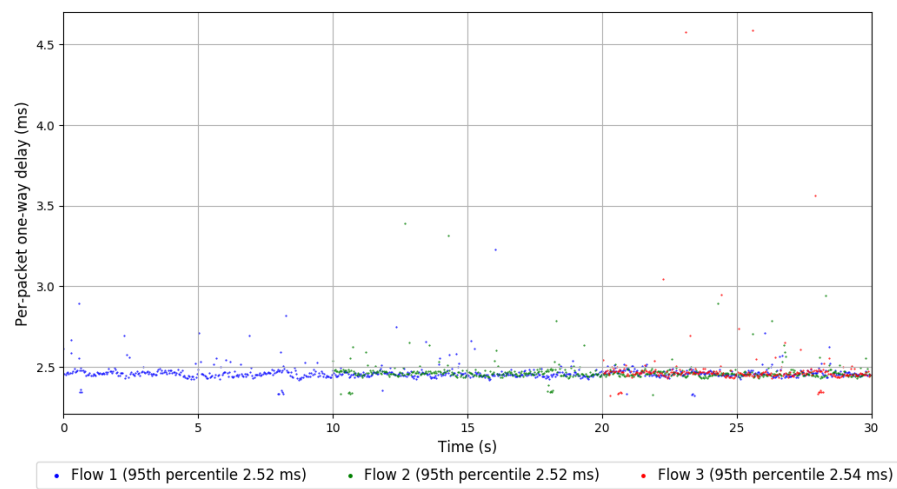
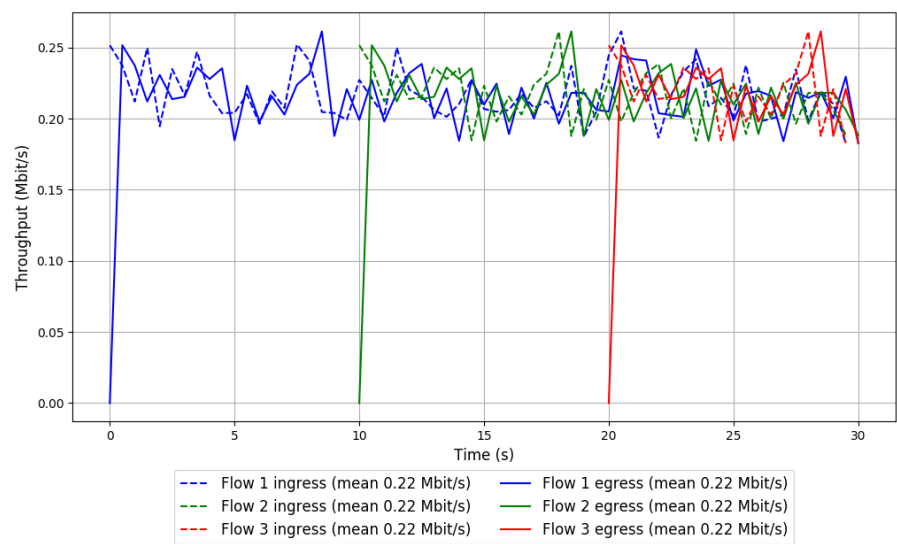
-- Flow 3:

Average throughput: 0.22 Mbit/s

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

Loss rate: 0.00%

Run 4: Report of SReAM — Data Link



Run 5: Statistics of SReAM

Start at: 2019-01-25 20:49:17

End at: 2019-01-25 20:49:47

Local clock offset: -1.798 ms

Remote clock offset: 0.774 ms

Below is generated by plot.py at 2019-01-25 21:24:47

Datalink statistics

-- Total of 3 flows:

Average throughput: 0.43 Mbit/s

95th percentile per-packet one-way delay: 2.450 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 0.22 Mbit/s

95th percentile per-packet one-way delay: 2.448 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 0.22 Mbit/s

95th percentile per-packet one-way delay: 2.454 ms

Loss rate: 0.00%

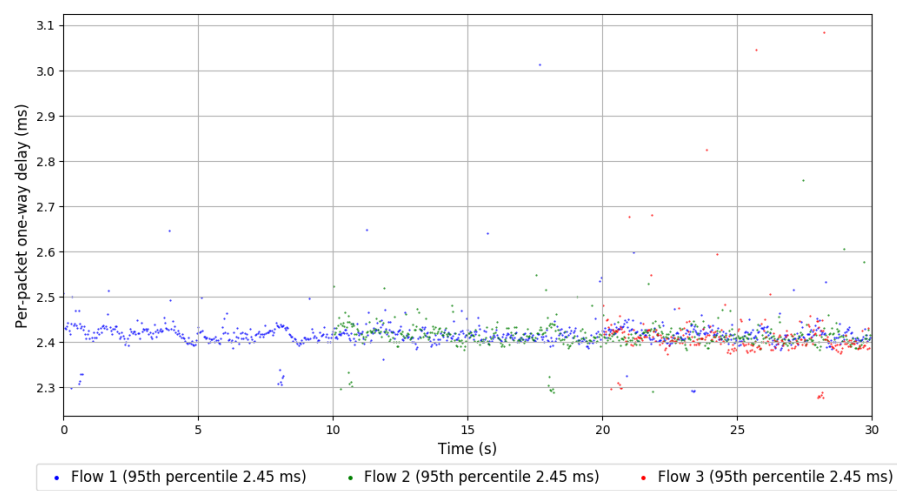
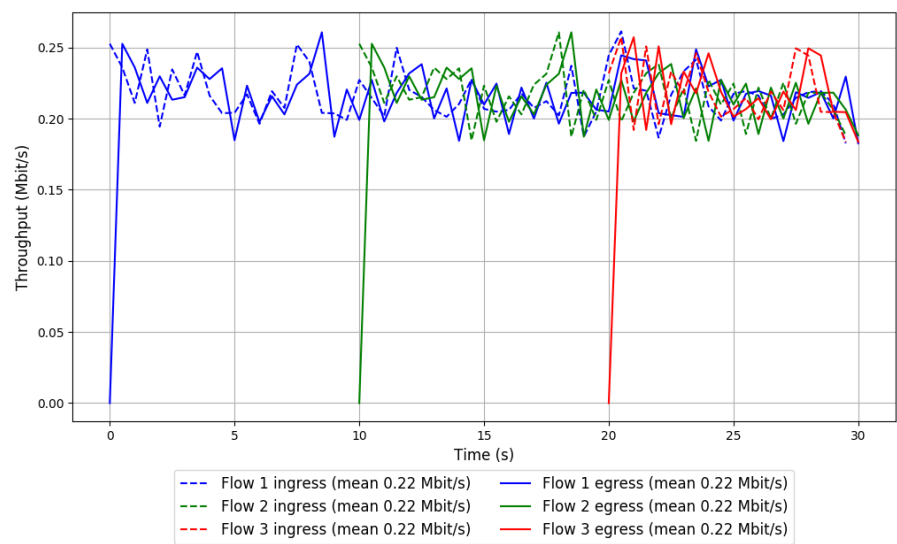
-- Flow 3:

Average throughput: 0.22 Mbit/s

95th percentile per-packet one-way delay: 2.451 ms

Loss rate: 0.00%

Run 5: Report of SReAM — Data Link



Run 1: Statistics of Sprout

Start at: 2019-01-25 19:26:23

End at: 2019-01-25 19:26:53

Local clock offset: -7.06 ms

Remote clock offset: 0.094 ms

Below is generated by plot.py at 2019-01-25 21:24:47

Datalink statistics

-- Total of 3 flows:

Average throughput: 80.36 Mbit/s

95th percentile per-packet one-way delay: 24.188 ms

Loss rate: 0.15%

-- Flow 1:

Average throughput: 42.81 Mbit/s

95th percentile per-packet one-way delay: 22.432 ms

Loss rate: 0.05%

-- Flow 2:

Average throughput: 40.47 Mbit/s

95th percentile per-packet one-way delay: 25.078 ms

Loss rate: 0.26%

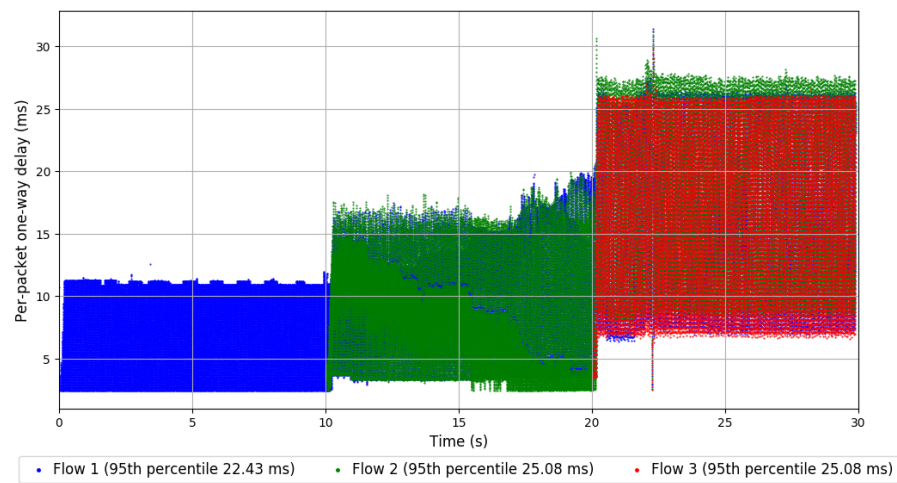
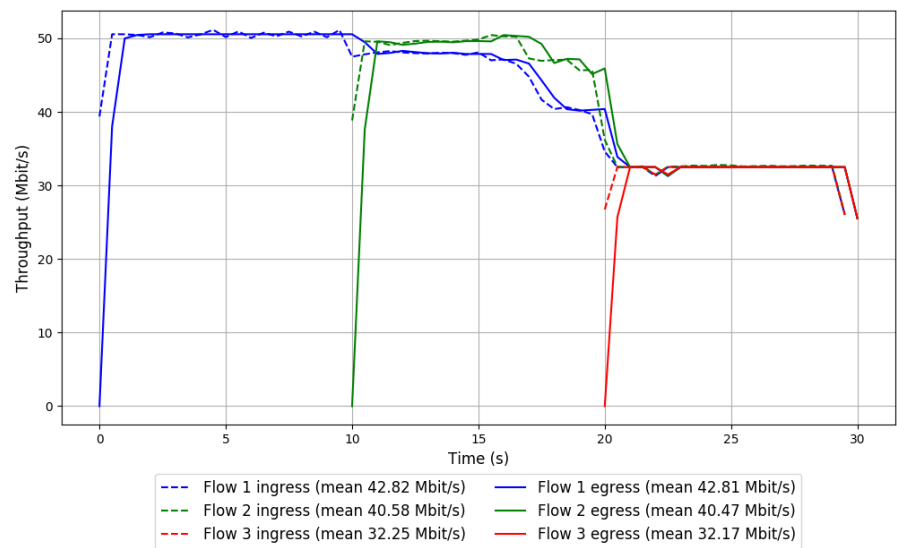
-- Flow 3:

Average throughput: 32.17 Mbit/s

95th percentile per-packet one-way delay: 25.082 ms

Loss rate: 0.24%

Run 1: Report of Sprout — Data Link

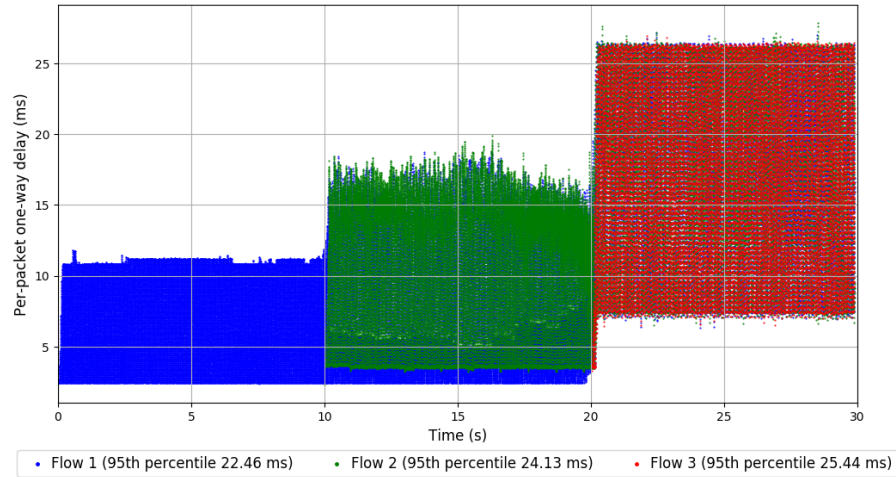
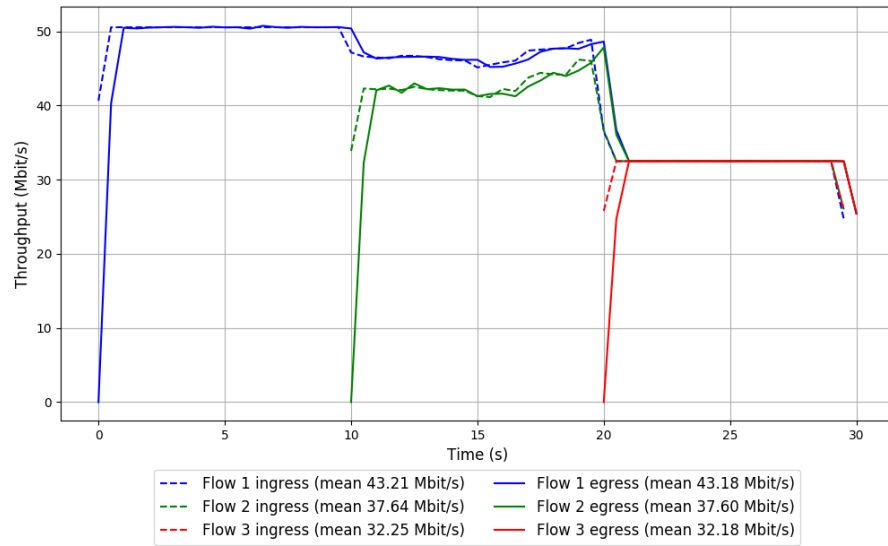


Run 2: Statistics of Sprout

Start at: 2019-01-25 19:50:32
End at: 2019-01-25 19:51:02
Local clock offset: -2.781 ms
Remote clock offset: 0.351 ms

Below is generated by plot.py at 2019-01-25 21:24:47
Datalink statistics
-- Total of 3 flows:
Average throughput: 78.82 Mbit/s
95th percentile per-packet one-way delay: 23.997 ms
Loss rate: 0.07%
-- Flow 1:
Average throughput: 43.18 Mbit/s
95th percentile per-packet one-way delay: 22.460 ms
Loss rate: 0.02%
-- Flow 2:
Average throughput: 37.60 Mbit/s
95th percentile per-packet one-way delay: 24.127 ms
Loss rate: 0.08%
-- Flow 3:
Average throughput: 32.18 Mbit/s
95th percentile per-packet one-way delay: 25.438 ms
Loss rate: 0.25%

Run 2: Report of Sprout — Data Link

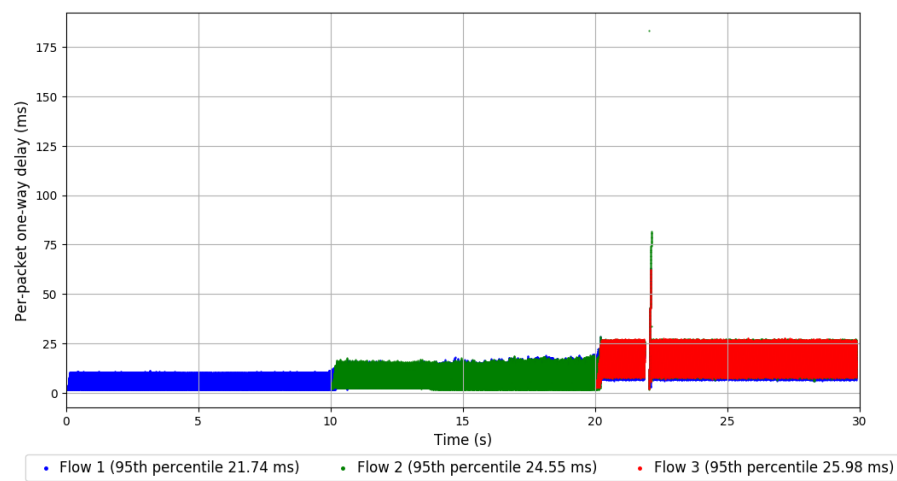
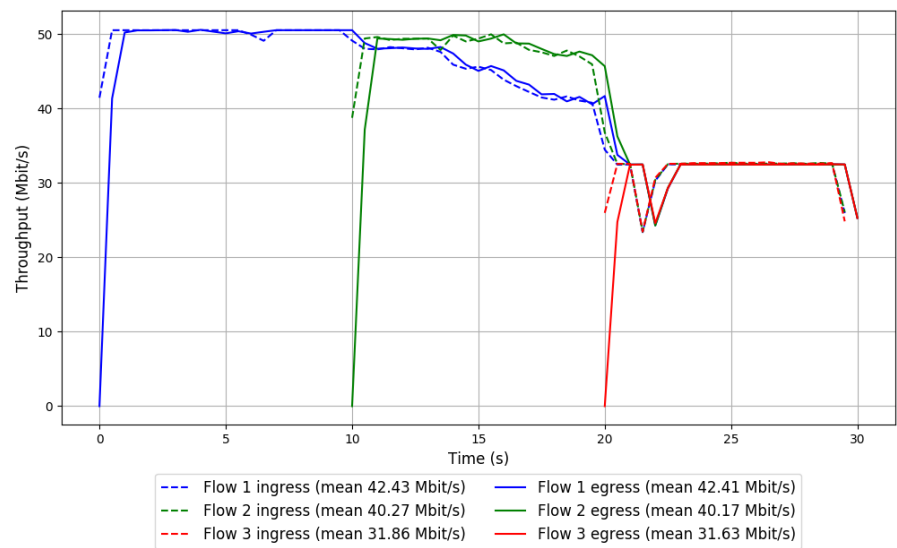


Run 3: Statistics of Sprout

Start at: 2019-01-25 20:14:43
End at: 2019-01-25 20:15:13
Local clock offset: -3.415 ms
Remote clock offset: 0.697 ms

```
# Below is generated by plot.py at 2019-01-25 21:24:47
# Datalink statistics
-- Total of 3 flows:
Average throughput: 79.56 Mbit/s
95th percentile per-packet one-way delay: 24.076 ms
Loss rate: 0.19%
-- Flow 1:
Average throughput: 42.41 Mbit/s
95th percentile per-packet one-way delay: 21.744 ms
Loss rate: 0.07%
-- Flow 2:
Average throughput: 40.17 Mbit/s
95th percentile per-packet one-way delay: 24.545 ms
Loss rate: 0.25%
-- Flow 3:
Average throughput: 31.63 Mbit/s
95th percentile per-packet one-way delay: 25.978 ms
Loss rate: 0.57%
```

Run 3: Report of Sprout — Data Link

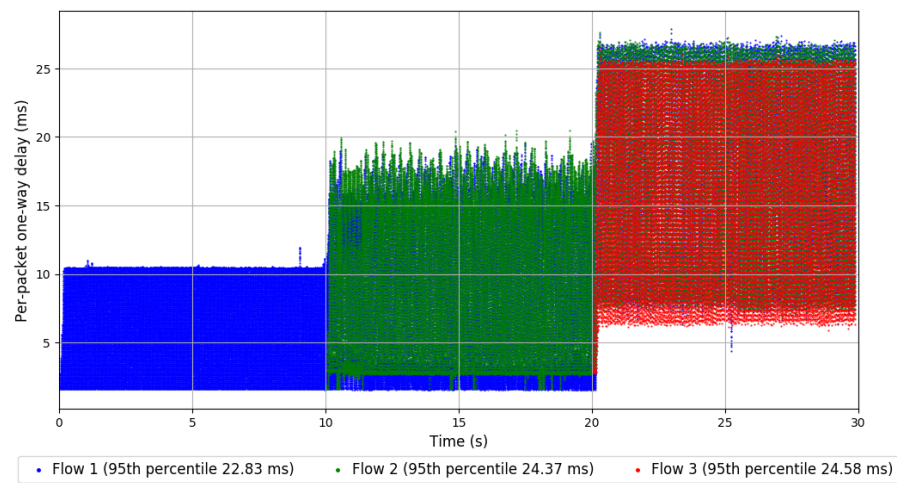
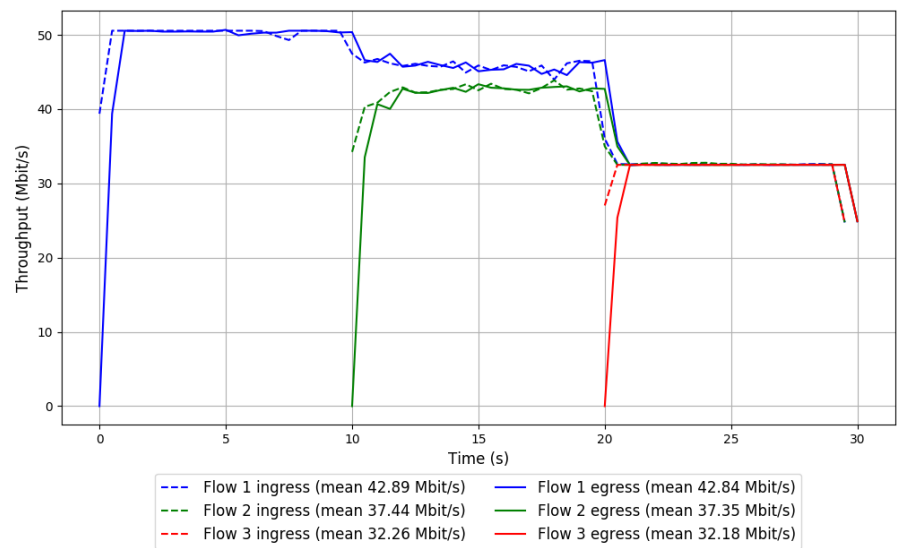


Run 4: Statistics of Sprout

Start at: 2019-01-25 20:38:56
End at: 2019-01-25 20:39:26
Local clock offset: -2.832 ms
Remote clock offset: 0.844 ms

```
# Below is generated by plot.py at 2019-01-25 21:24:47
# Datalink statistics
-- Total of 3 flows:
Average throughput: 78.31 Mbit/s
95th percentile per-packet one-way delay: 23.927 ms
Loss rate: 0.17%
-- Flow 1:
Average throughput: 42.84 Mbit/s
95th percentile per-packet one-way delay: 22.830 ms
Loss rate: 0.11%
-- Flow 2:
Average throughput: 37.35 Mbit/s
95th percentile per-packet one-way delay: 24.372 ms
Loss rate: 0.23%
-- Flow 3:
Average throughput: 32.18 Mbit/s
95th percentile per-packet one-way delay: 24.578 ms
Loss rate: 0.22%
```

Run 4: Report of Sprout — Data Link

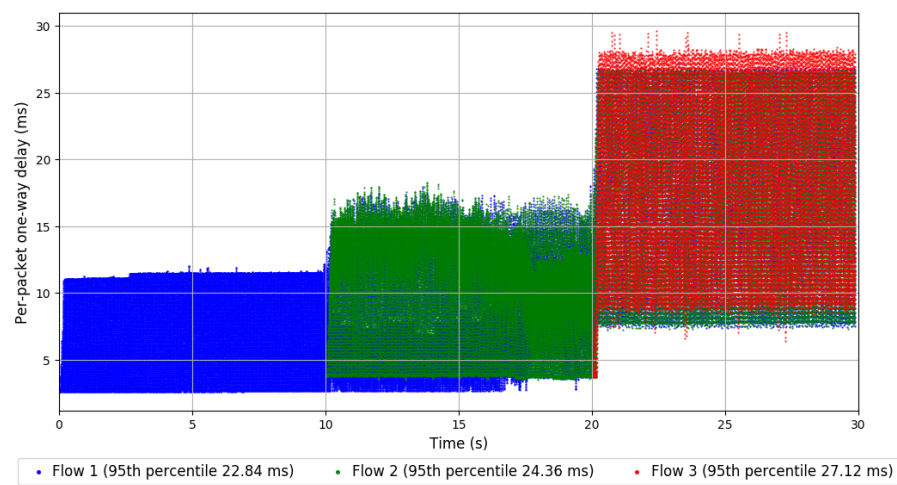
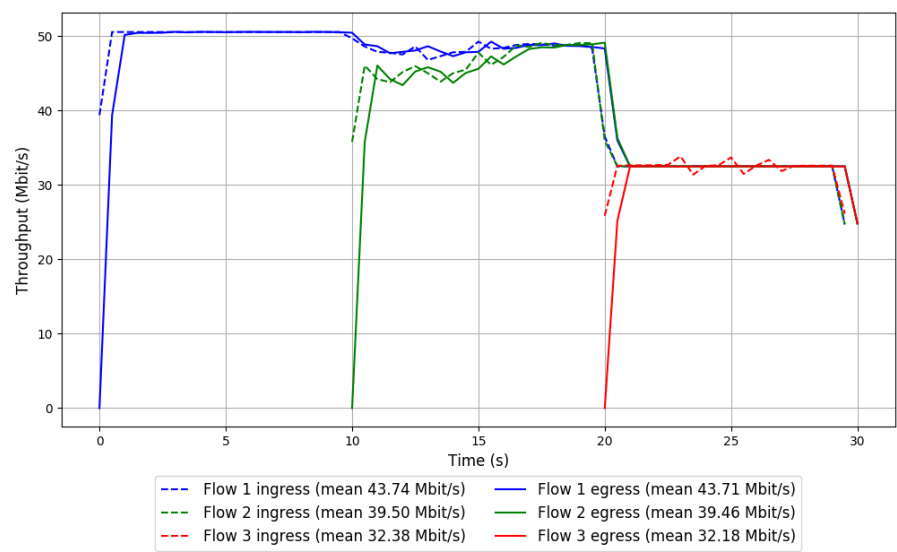


Run 5: Statistics of Sprout

Start at: 2019-01-25 21:03:06
End at: 2019-01-25 21:03:36
Local clock offset: -3.464 ms
Remote clock offset: 0.686 ms

Below is generated by plot.py at 2019-01-25 21:24:49
Datalink statistics
-- Total of 3 flows:
Average throughput: 80.57 Mbit/s
95th percentile per-packet one-way delay: 24.746 ms
Loss rate: 0.13%
-- Flow 1:
Average throughput: 43.71 Mbit/s
95th percentile per-packet one-way delay: 22.843 ms
Loss rate: 0.03%
-- Flow 2:
Average throughput: 39.46 Mbit/s
95th percentile per-packet one-way delay: 24.355 ms
Loss rate: 0.10%
-- Flow 3:
Average throughput: 32.18 Mbit/s
95th percentile per-packet one-way delay: 27.125 ms
Loss rate: 0.64%

Run 5: Report of Sprout — Data Link

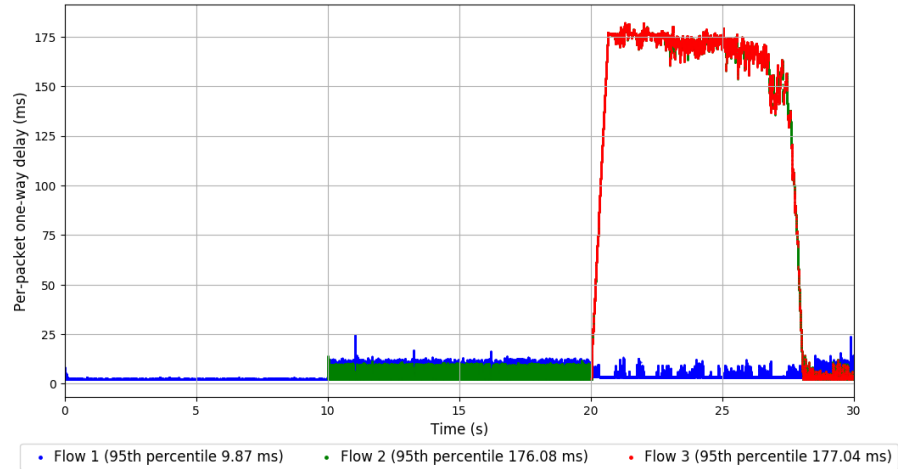
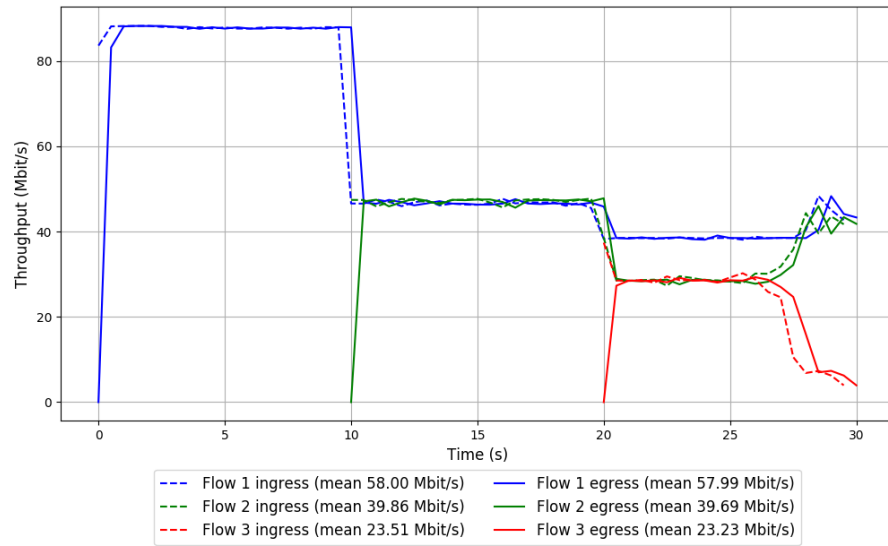



```
Run 1: Statistics of TaoVA-100x

Start at: 2019-01-25 19:21:41
End at: 2019-01-25 19:22:11
Local clock offset: -6.731 ms
Remote clock offset: 0.033 ms

# Below is generated by plot.py at 2019-01-25 21:26:10
# Datalink statistics
-- Total of 3 flows:
Average throughput: 92.15 Mbit/s
95th percentile per-packet one-way delay: 173.901 ms
Loss rate: 0.24%
-- Flow 1:
Average throughput: 57.99 Mbit/s
95th percentile per-packet one-way delay: 9.870 ms
Loss rate: 0.02%
-- Flow 2:
Average throughput: 39.69 Mbit/s
95th percentile per-packet one-way delay: 176.080 ms
Loss rate: 0.43%
-- Flow 3:
Average throughput: 23.23 Mbit/s
95th percentile per-packet one-way delay: 177.038 ms
Loss rate: 1.23%
```

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



Run 2: Statistics of TaoVA-100x

Start at: 2019-01-25 19:45:49

End at: 2019-01-25 19:46:19

Local clock offset: -3.913 ms

Remote clock offset: 0.296 ms

Below is generated by plot.py at 2019-01-25 21:26:26

Datalink statistics

-- Total of 3 flows:

Average throughput: 92.25 Mbit/s

95th percentile per-packet one-way delay: 154.982 ms

Loss rate: 1.00%

-- Flow 1:

Average throughput: 55.29 Mbit/s

95th percentile per-packet one-way delay: 153.337 ms

Loss rate: 0.55%

-- Flow 2:

Average throughput: 39.61 Mbit/s

95th percentile per-packet one-way delay: 156.189 ms

Loss rate: 1.10%

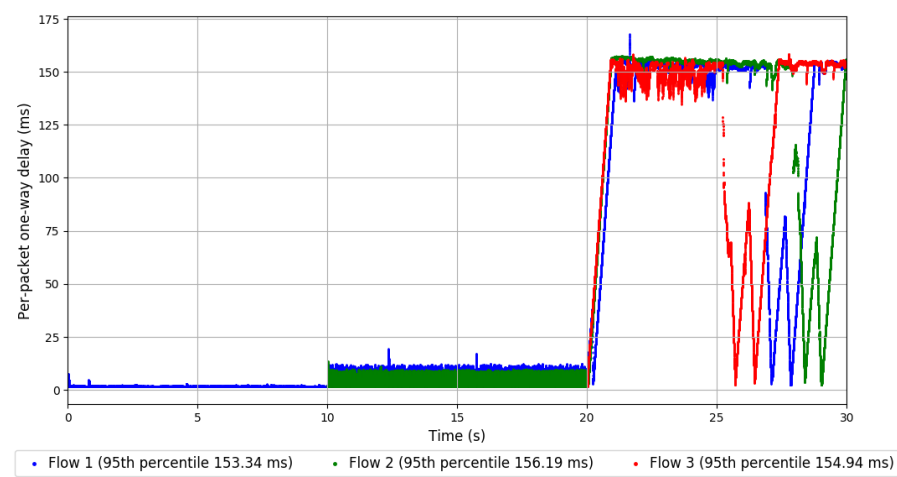
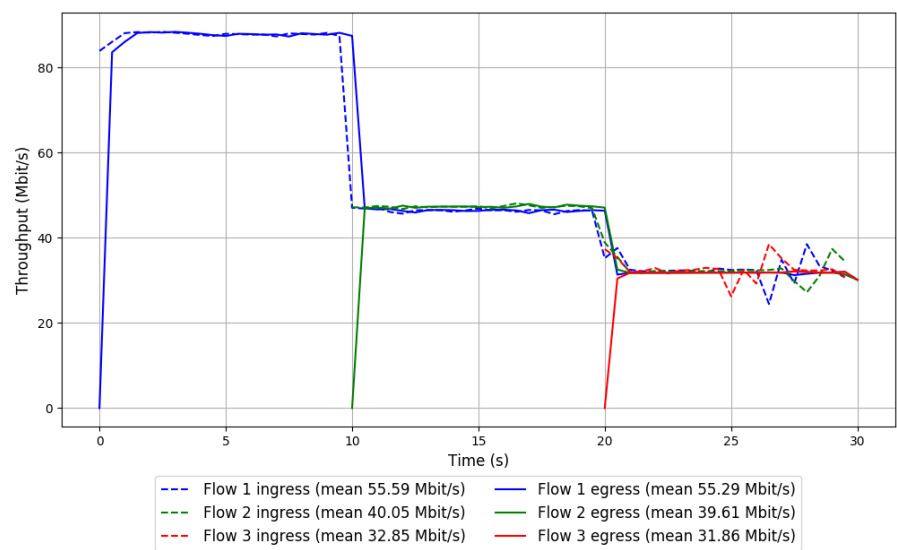
-- Flow 3:

Average throughput: 31.86 Mbit/s

95th percentile per-packet one-way delay: 154.942 ms

Loss rate: 3.02%

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



Run 3: Statistics of TaoVA-100x

Start at: 2019-01-25 20:09:59

End at: 2019-01-25 20:10:29

Local clock offset: -2.584 ms

Remote clock offset: 0.627 ms

Below is generated by plot.py at 2019-01-25 21:26:34

Datalink statistics

-- Total of 3 flows:

Average throughput: 91.50 Mbit/s

95th percentile per-packet one-way delay: 155.581 ms

Loss rate: 1.01%

-- Flow 1:

Average throughput: 54.29 Mbit/s

95th percentile per-packet one-way delay: 154.971 ms

Loss rate: 0.63%

-- Flow 2:

Average throughput: 39.97 Mbit/s

95th percentile per-packet one-way delay: 155.419 ms

Loss rate: 1.07%

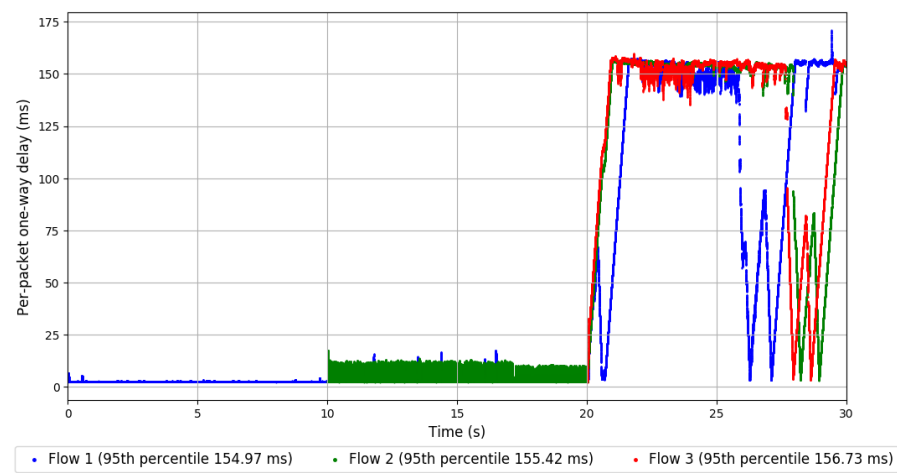
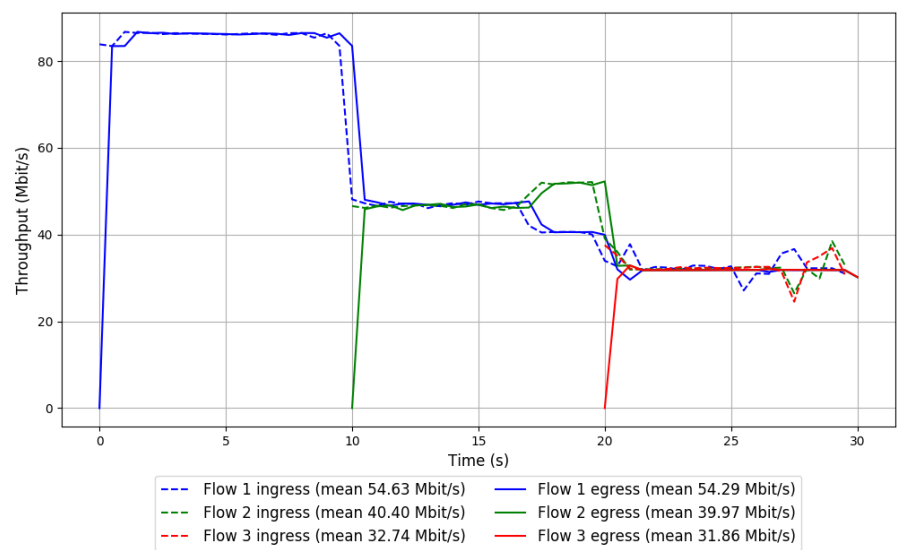
-- Flow 3:

Average throughput: 31.86 Mbit/s

95th percentile per-packet one-way delay: 156.734 ms

Loss rate: 2.76%

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



Run 4: Statistics of TaoVA-100x

Start at: 2019-01-25 20:34:10

End at: 2019-01-25 20:34:40

Local clock offset: -2.322 ms

Remote clock offset: 0.852 ms

Below is generated by plot.py at 2019-01-25 21:26:36

Datalink statistics

-- Total of 3 flows:

Average throughput: 91.75 Mbit/s

95th percentile per-packet one-way delay: 156.785 ms

Loss rate: 0.91%

-- Flow 1:

Average throughput: 54.98 Mbit/s

95th percentile per-packet one-way delay: 156.012 ms

Loss rate: 0.49%

-- Flow 2:

Average throughput: 39.35 Mbit/s

95th percentile per-packet one-way delay: 156.826 ms

Loss rate: 1.10%

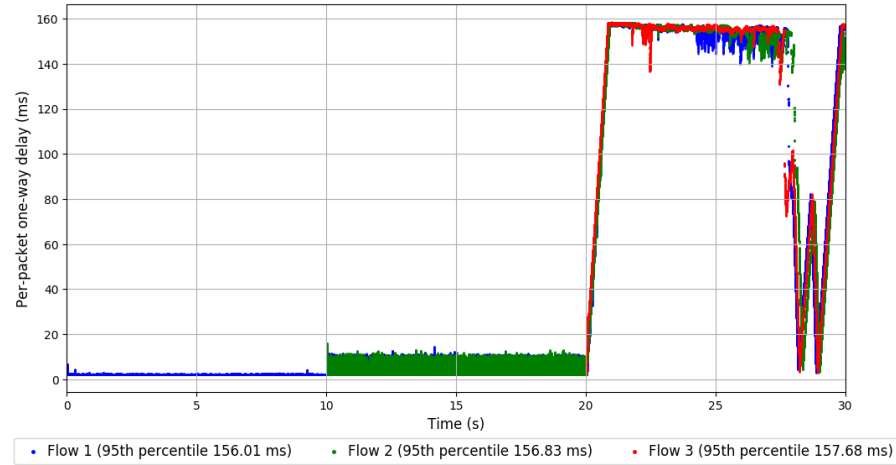
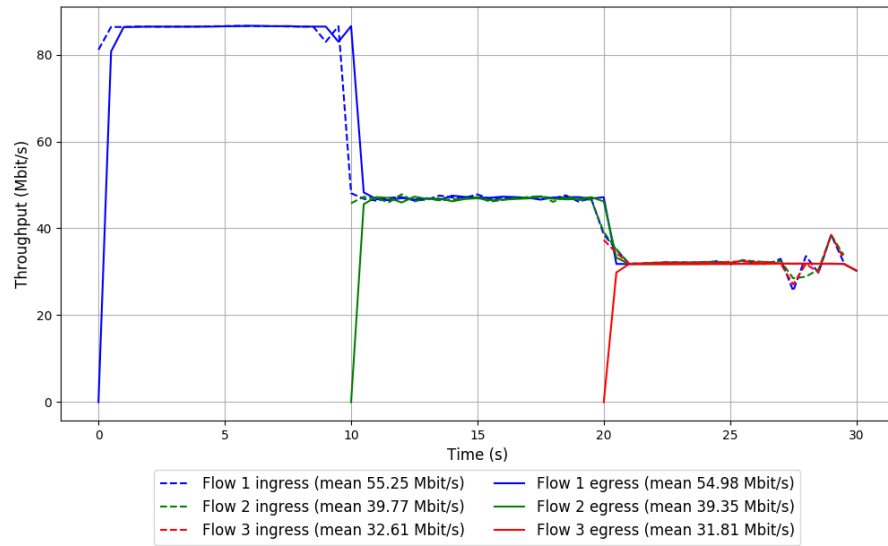
-- Flow 3:

Average throughput: 31.81 Mbit/s

95th percentile per-packet one-way delay: 157.682 ms

Loss rate: 2.53%

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



Run 5: Statistics of TaoVA-100x

Start at: 2019-01-25 20:58:23

End at: 2019-01-25 20:58:53

Local clock offset: -1.548 ms

Remote clock offset: 0.791 ms

Below is generated by plot.py at 2019-01-25 21:26:37

Datalink statistics

-- Total of 3 flows:

Average throughput: 91.97 Mbit/s

95th percentile per-packet one-way delay: 155.139 ms

Loss rate: 0.99%

-- Flow 1:

Average throughput: 55.21 Mbit/s

95th percentile per-packet one-way delay: 152.330 ms

Loss rate: 0.56%

-- Flow 2:

Average throughput: 39.33 Mbit/s

95th percentile per-packet one-way delay: 155.483 ms

Loss rate: 1.07%

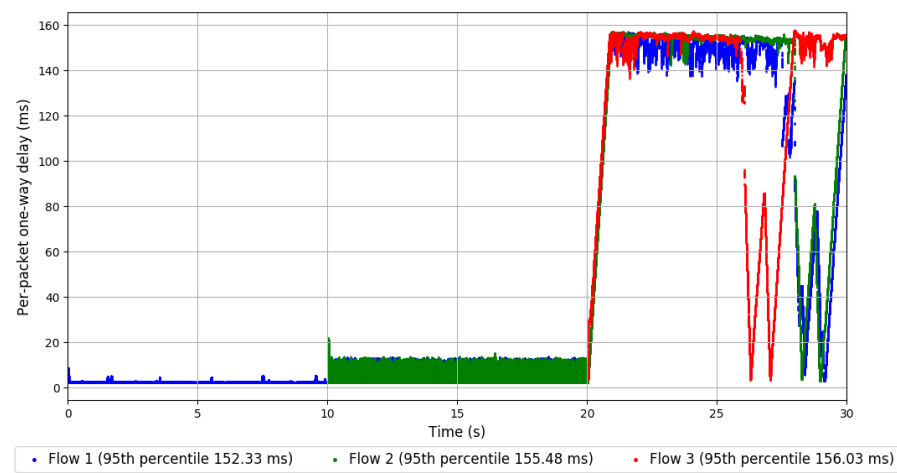
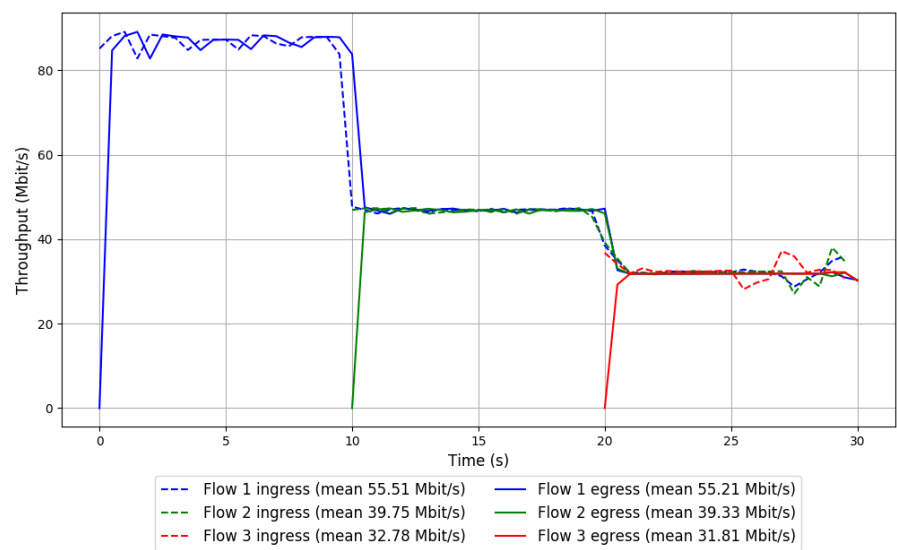
-- Flow 3:

Average throughput: 31.81 Mbit/s

95th percentile per-packet one-way delay: 156.033 ms

Loss rate: 2.99%

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



Run 1: Statistics of TCP Vegas

Start at: 2019-01-25 19:28:41

End at: 2019-01-25 19:29:11

Local clock offset: -7.217 ms

Remote clock offset: 0.09 ms

Below is generated by plot.py at 2019-01-25 21:26:37

Datalink statistics

-- Total of 3 flows:

Average throughput: 97.48 Mbit/s

95th percentile per-packet one-way delay: 4.984 ms

Loss rate: 0.02%

-- Flow 1:

Average throughput: 53.01 Mbit/s

95th percentile per-packet one-way delay: 3.951 ms

Loss rate: 0.01%

-- Flow 2:

Average throughput: 49.96 Mbit/s

95th percentile per-packet one-way delay: 5.019 ms

Loss rate: 0.02%

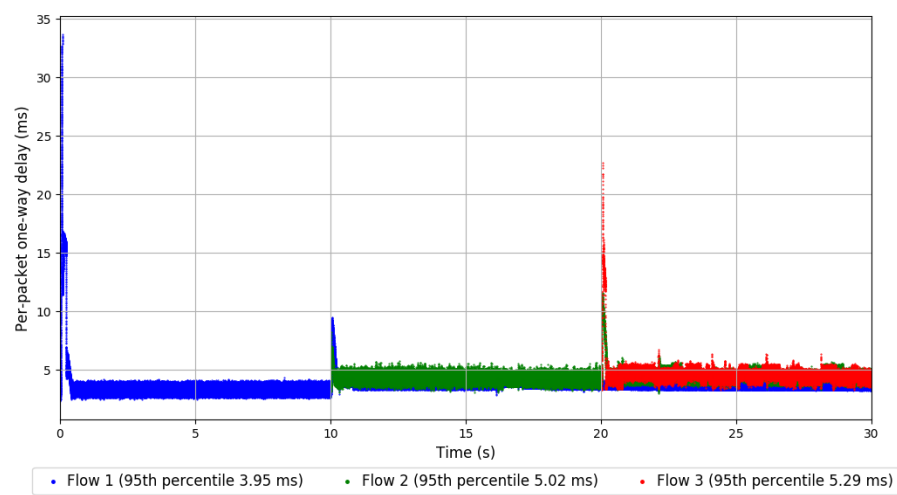
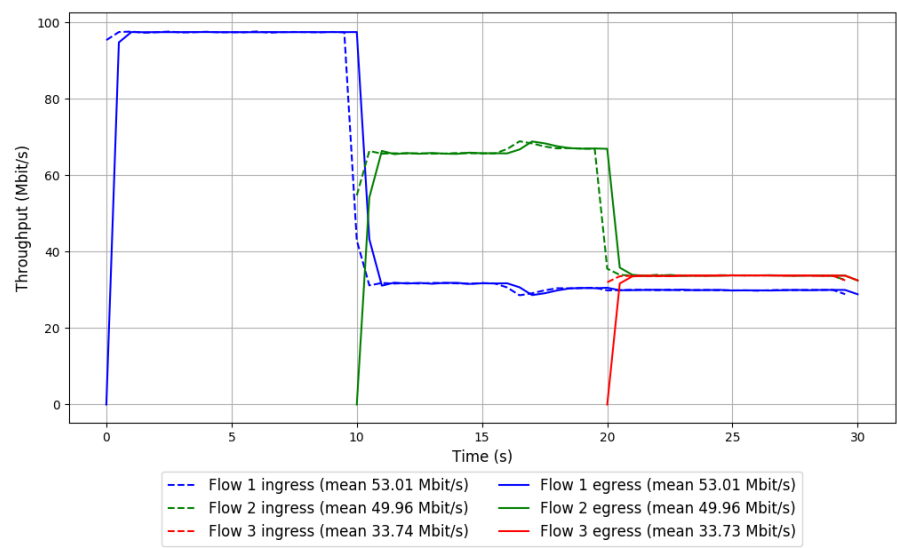
-- Flow 3:

Average throughput: 33.73 Mbit/s

95th percentile per-packet one-way delay: 5.291 ms

Loss rate: 0.05%

Run 1: Report of TCP Vegas — Data Link



Run 2: Statistics of TCP Vegas

Start at: 2019-01-25 19:52:50

End at: 2019-01-25 19:53:20

Local clock offset: -3.421 ms

Remote clock offset: 0.379 ms

Below is generated by plot.py at 2019-01-25 21:26:37

Datalink statistics

-- Total of 3 flows:

Average throughput: 97.43 Mbit/s

95th percentile per-packet one-way delay: 3.843 ms

Loss rate: 0.02%

-- Flow 1:

Average throughput: 56.84 Mbit/s

95th percentile per-packet one-way delay: 3.992 ms

Loss rate: 0.01%

-- Flow 2:

Average throughput: 40.80 Mbit/s

95th percentile per-packet one-way delay: 3.738 ms

Loss rate: 0.01%

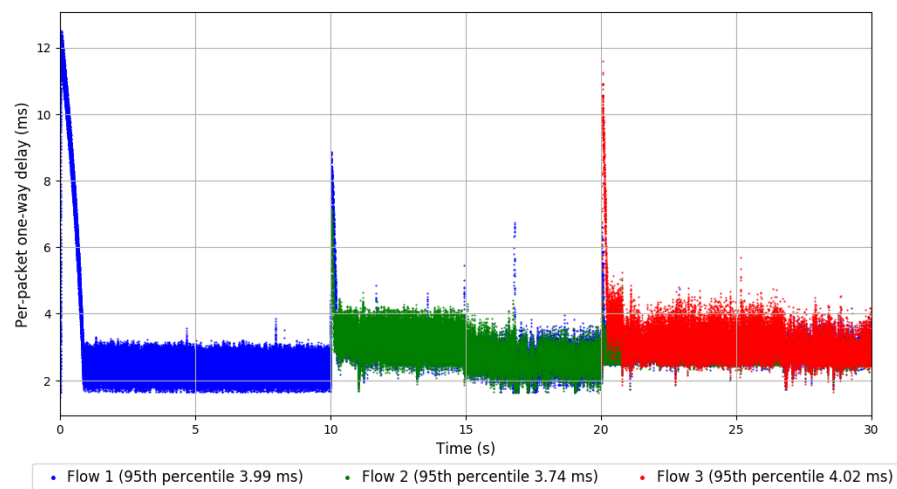
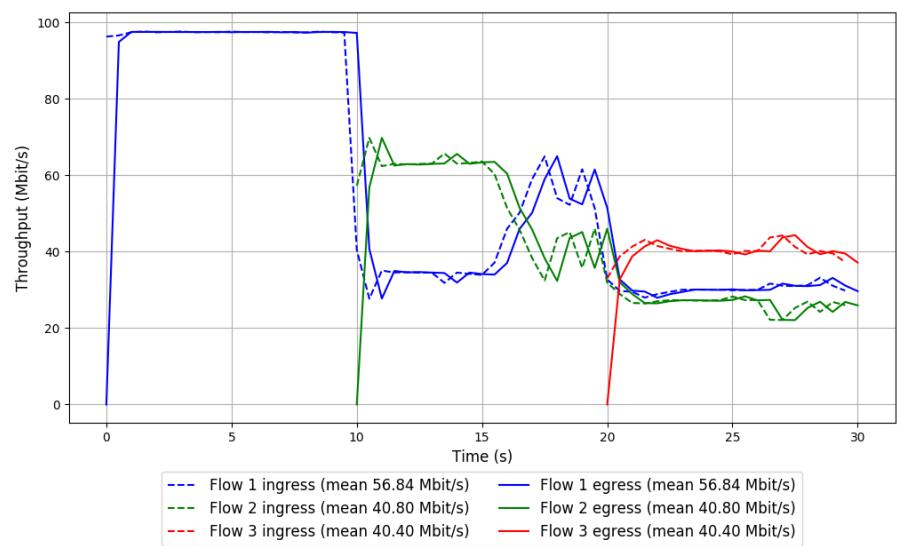
-- Flow 3:

Average throughput: 40.40 Mbit/s

95th percentile per-packet one-way delay: 4.018 ms

Loss rate: 0.05%

Run 2: Report of TCP Vegas — Data Link



Run 3: Statistics of TCP Vegas

Start at: 2019-01-25 20:17:01

End at: 2019-01-25 20:17:31

Local clock offset: -2.67 ms

Remote clock offset: 0.746 ms

Below is generated by plot.py at 2019-01-25 21:26:37

Datalink statistics

-- Total of 3 flows:

Average throughput: 97.36 Mbit/s

95th percentile per-packet one-way delay: 5.032 ms

Loss rate: 0.01%

-- Flow 1:

Average throughput: 52.44 Mbit/s

95th percentile per-packet one-way delay: 6.003 ms

Loss rate: 0.01%

-- Flow 2:

Average throughput: 49.75 Mbit/s

95th percentile per-packet one-way delay: 4.261 ms

Loss rate: 0.02%

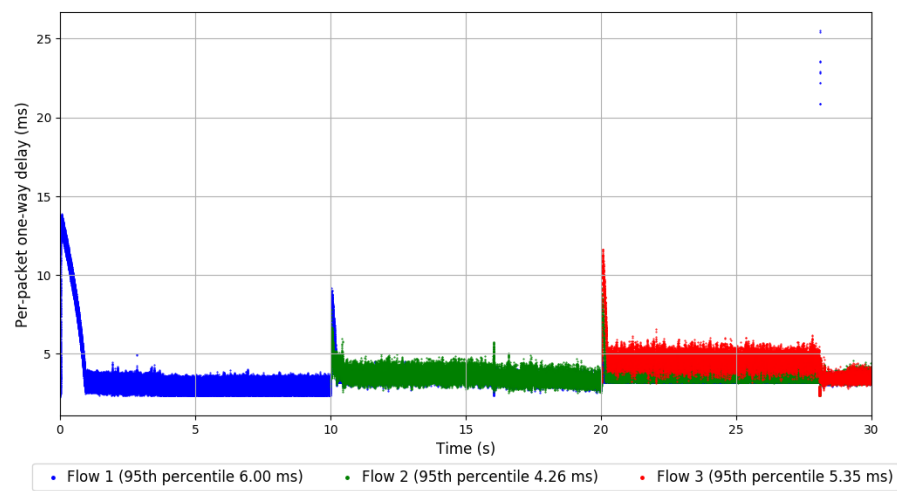
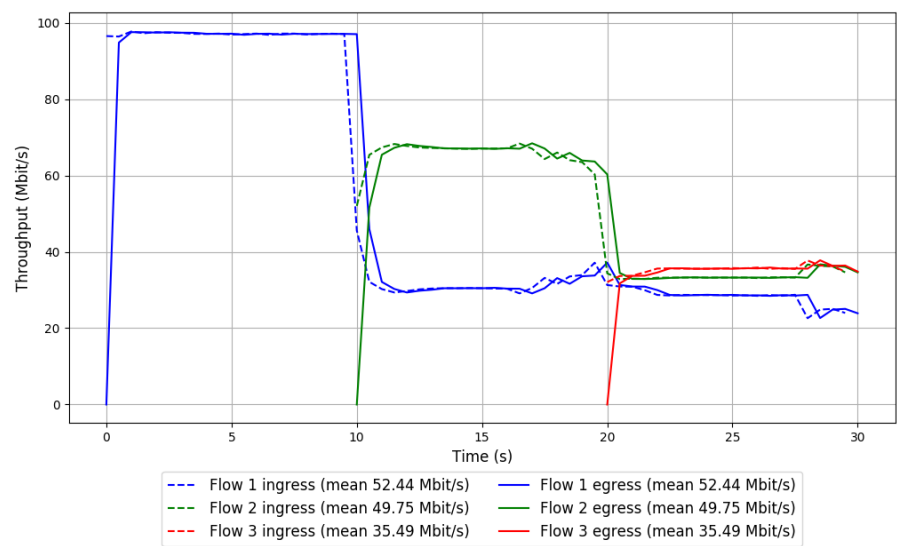
-- Flow 3:

Average throughput: 35.49 Mbit/s

95th percentile per-packet one-way delay: 5.353 ms

Loss rate: 0.03%

Run 3: Report of TCP Vegas — Data Link



Run 4: Statistics of TCP Vegas

Start at: 2019-01-25 20:41:13

End at: 2019-01-25 20:41:44

Local clock offset: -2.74 ms

Remote clock offset: 0.805 ms

Below is generated by plot.py at 2019-01-25 21:26:53

Datalink statistics

-- Total of 3 flows:

Average throughput: 97.35 Mbit/s

95th percentile per-packet one-way delay: 3.325 ms

Loss rate: 0.02%

-- Flow 1:

Average throughput: 61.26 Mbit/s

95th percentile per-packet one-way delay: 3.174 ms

Loss rate: 0.01%

-- Flow 2:

Average throughput: 36.41 Mbit/s

95th percentile per-packet one-way delay: 3.274 ms

Loss rate: 0.02%

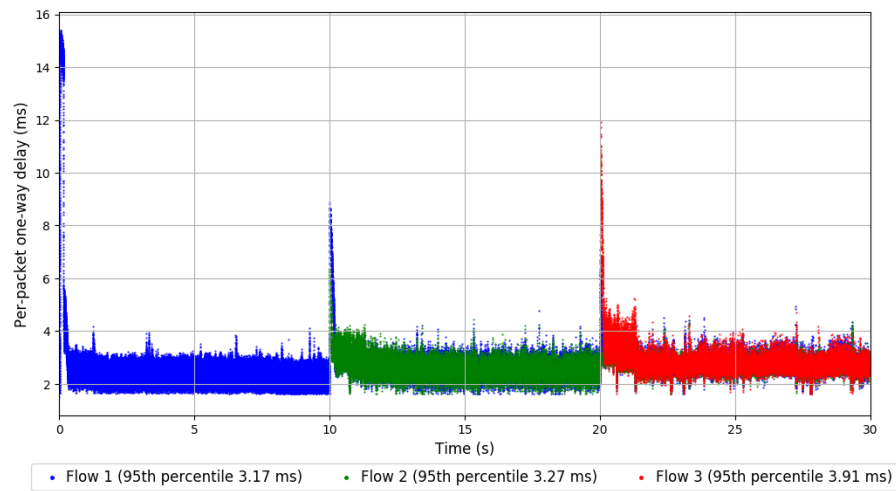
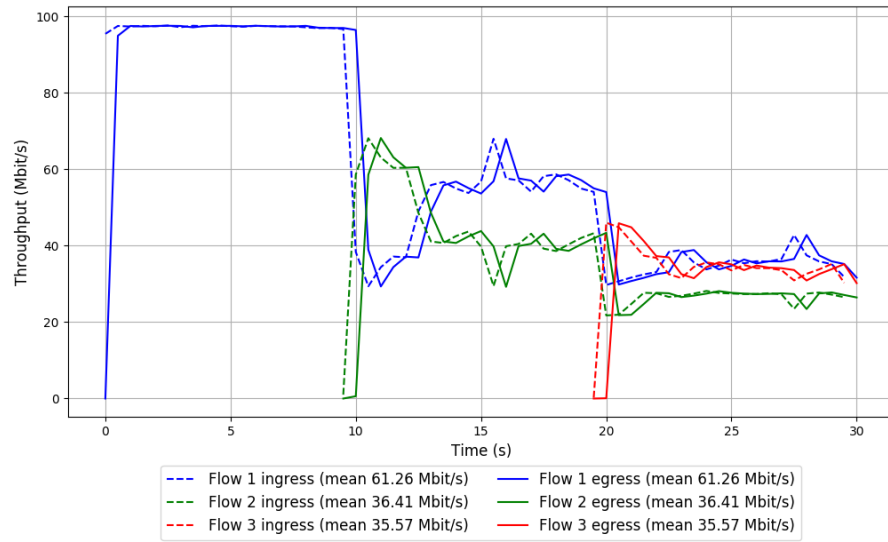
-- Flow 3:

Average throughput: 35.57 Mbit/s

95th percentile per-packet one-way delay: 3.913 ms

Loss rate: 0.04%

Run 4: Report of TCP Vegas — Data Link



Run 5: Statistics of TCP Vegas

Start at: 2019-01-25 21:05:24

End at: 2019-01-25 21:05:54

Local clock offset: -4.299 ms

Remote clock offset: 0.712 ms

Below is generated by plot.py at 2019-01-25 21:26:56

Datalink statistics

-- Total of 3 flows:

Average throughput: 97.48 Mbit/s

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

Loss rate: 0.02%

-- Flow 1:

Average throughput: 54.75 Mbit/s

95th percentile per-packet one-way delay: 4.317 ms

Loss rate: 0.01%

-- Flow 2:

Average throughput: 47.34 Mbit/s

95th percentile per-packet one-way delay: 5.145 ms

Loss rate: 0.02%

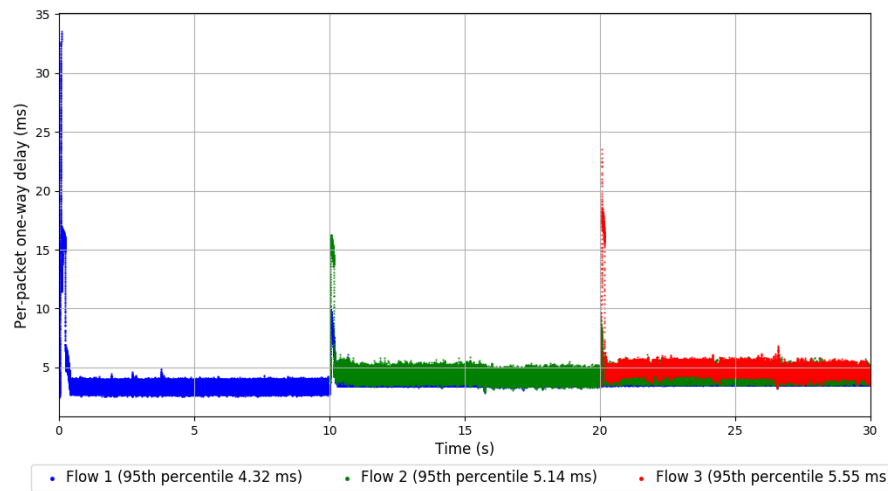
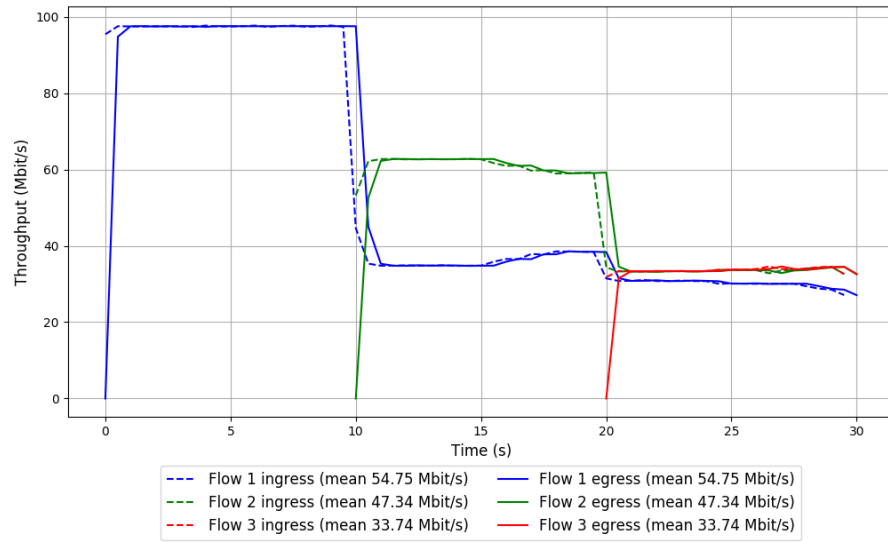
-- Flow 3:

Average throughput: 33.74 Mbit/s

95th percentile per-packet one-way delay: 5.546 ms

Loss rate: 0.05%

Run 5: Report of TCP Vegas — Data Link



Run 1: Statistics of Verus

Start at: 2019-01-25 19:34:25

End at: 2019-01-25 19:34:55

Local clock offset: -5.167 ms

Remote clock offset: 0.165 ms

Below is generated by plot.py at 2019-01-25 21:26:56

Datalink statistics

-- Total of 3 flows:

Average throughput: 81.03 Mbit/s

95th percentile per-packet one-way delay: 24.745 ms

Loss rate: 0.06%

-- Flow 1:

Average throughput: 45.21 Mbit/s

95th percentile per-packet one-way delay: 21.500 ms

Loss rate: 0.03%

-- Flow 2:

Average throughput: 36.89 Mbit/s

95th percentile per-packet one-way delay: 22.055 ms

Loss rate: 0.06%

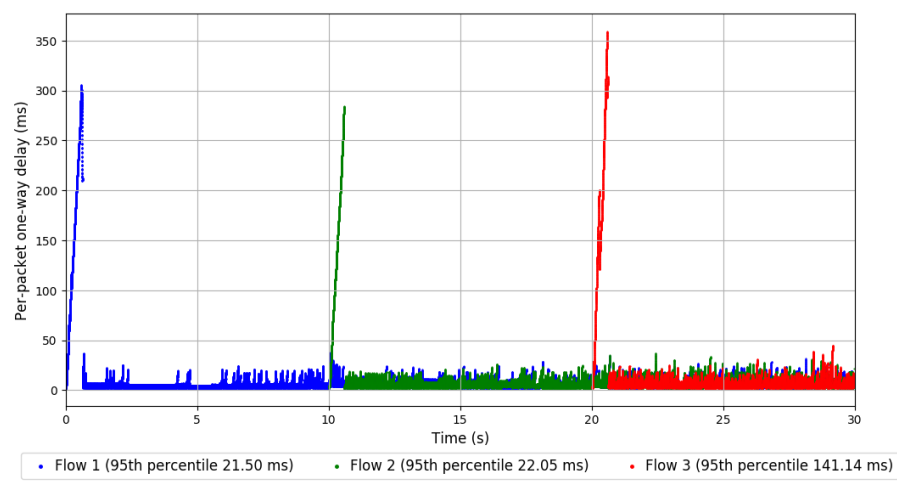
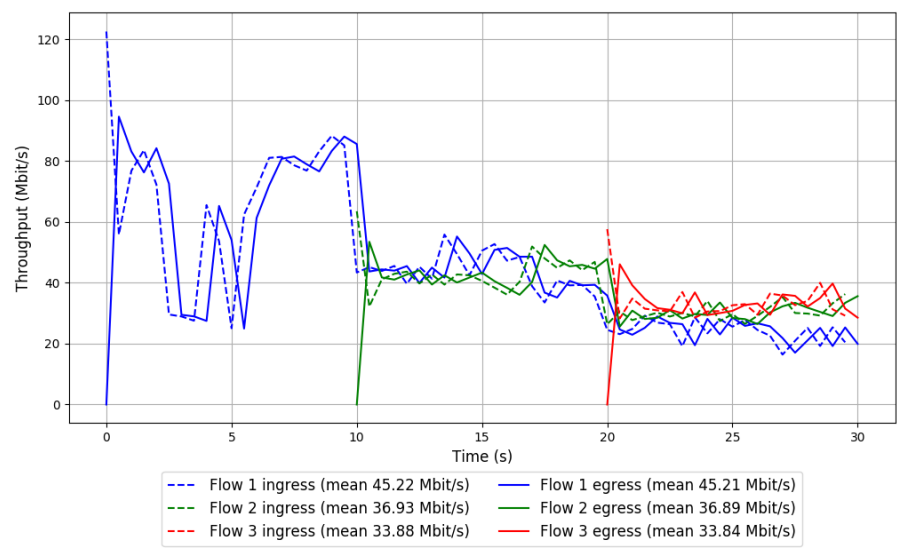
-- Flow 3:

Average throughput: 33.84 Mbit/s

95th percentile per-packet one-way delay: 141.136 ms

Loss rate: 0.15%

Run 1: Report of Verus — Data Link

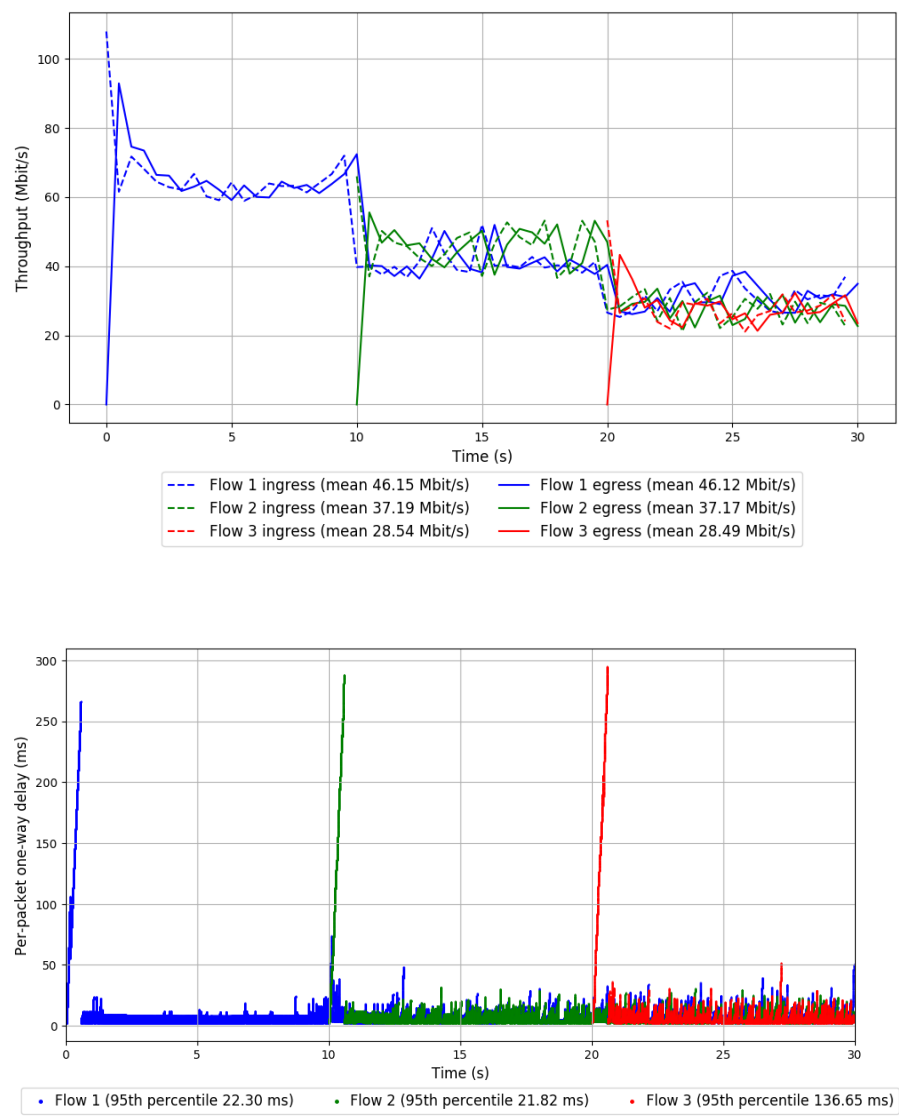


Run 2: Statistics of Verus

Start at: 2019-01-25 19:58:35
End at: 2019-01-25 19:59:05
Local clock offset: -2.438 ms
Remote clock offset: 0.48 ms

Below is generated by plot.py at 2019-01-25 21:27:06
Datalink statistics
-- Total of 3 flows:
Average throughput: 80.34 Mbit/s
95th percentile per-packet one-way delay: 25.536 ms
Loss rate: 0.09%
-- Flow 1:
Average throughput: 46.12 Mbit/s
95th percentile per-packet one-way delay: 22.300 ms
Loss rate: 0.08%
-- Flow 2:
Average throughput: 37.17 Mbit/s
95th percentile per-packet one-way delay: 21.825 ms
Loss rate: 0.05%
-- Flow 3:
Average throughput: 28.49 Mbit/s
95th percentile per-packet one-way delay: 136.648 ms
Loss rate: 0.20%

Run 2: Report of Verus — Data Link



Run 3: Statistics of Verus

Start at: 2019-01-25 20:22:46

End at: 2019-01-25 20:23:16

Local clock offset: -2.64 ms

Remote clock offset: 0.806 ms

Below is generated by plot.py at 2019-01-25 21:27:36

Datalink statistics

-- Total of 3 flows:

Average throughput: 93.67 Mbit/s

95th percentile per-packet one-way delay: 19.611 ms

Loss rate: 0.03%

-- Flow 1:

Average throughput: 62.99 Mbit/s

95th percentile per-packet one-way delay: 17.037 ms

Loss rate: 0.02%

-- Flow 2:

Average throughput: 34.20 Mbit/s

95th percentile per-packet one-way delay: 21.316 ms

Loss rate: 0.05%

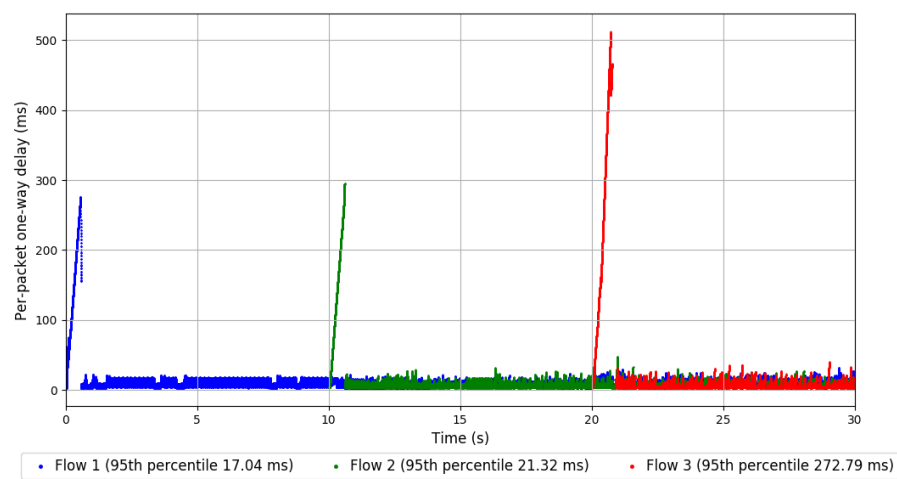
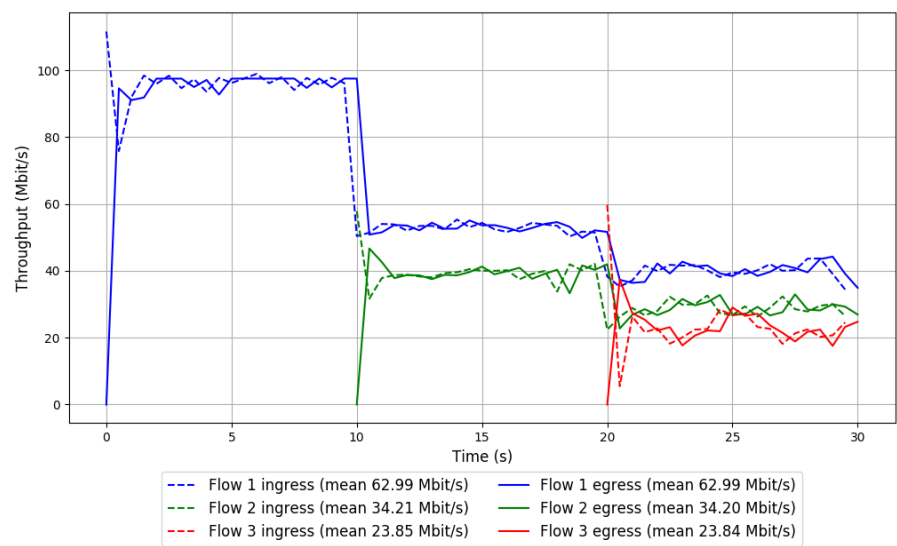
-- Flow 3:

Average throughput: 23.84 Mbit/s

95th percentile per-packet one-way delay: 272.793 ms

Loss rate: 0.10%

Run 3: Report of Verus — Data Link



Run 4: Statistics of Verus

Start at: 2019-01-25 20:46:58

End at: 2019-01-25 20:47:28

Local clock offset: -2.583 ms

Remote clock offset: 0.789 ms

Below is generated by plot.py at 2019-01-25 21:27:36

Datalink statistics

-- Total of 3 flows:

Average throughput: 80.31 Mbit/s

95th percentile per-packet one-way delay: 28.806 ms

Loss rate: 0.03%

-- Flow 1:

Average throughput: 46.49 Mbit/s

95th percentile per-packet one-way delay: 24.897 ms

Loss rate: 0.03%

-- Flow 2:

Average throughput: 36.44 Mbit/s

95th percentile per-packet one-way delay: 20.196 ms

Loss rate: 0.02%

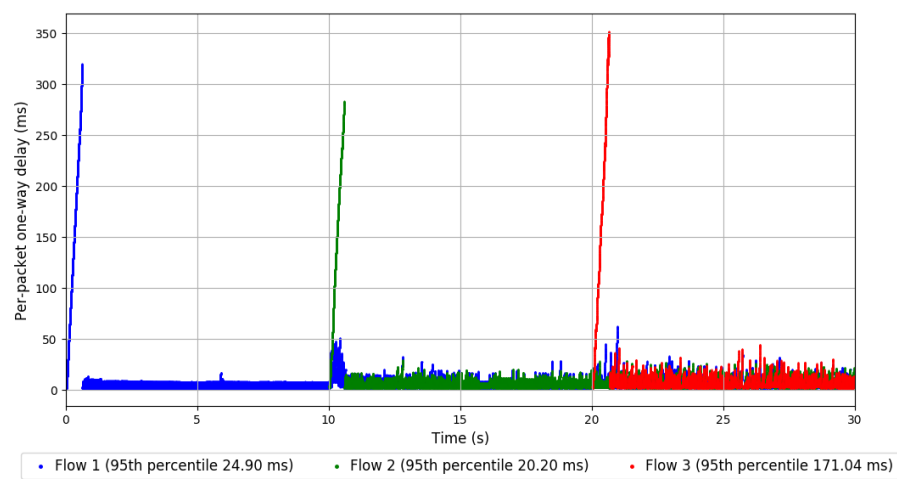
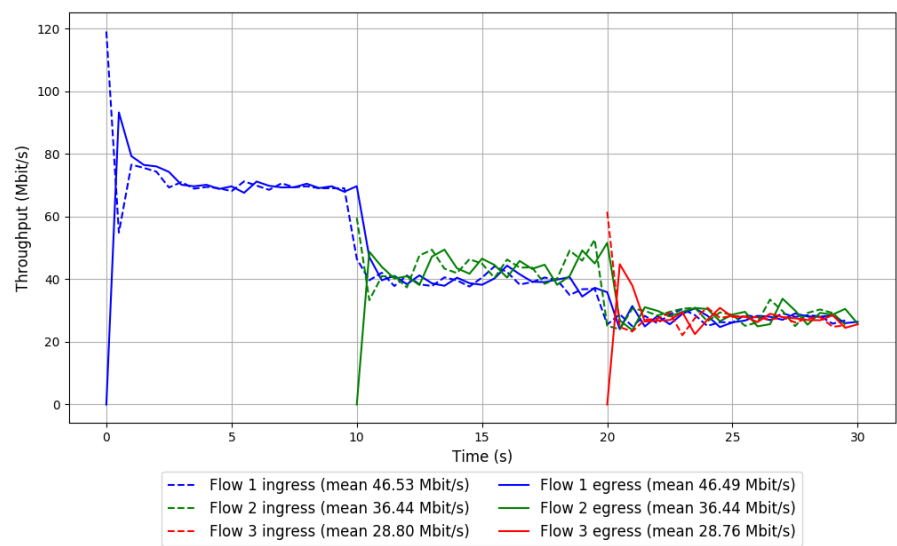
-- Flow 3:

Average throughput: 28.76 Mbit/s

95th percentile per-packet one-way delay: 171.038 ms

Loss rate: 0.05%

Run 4: Report of Verus — Data Link

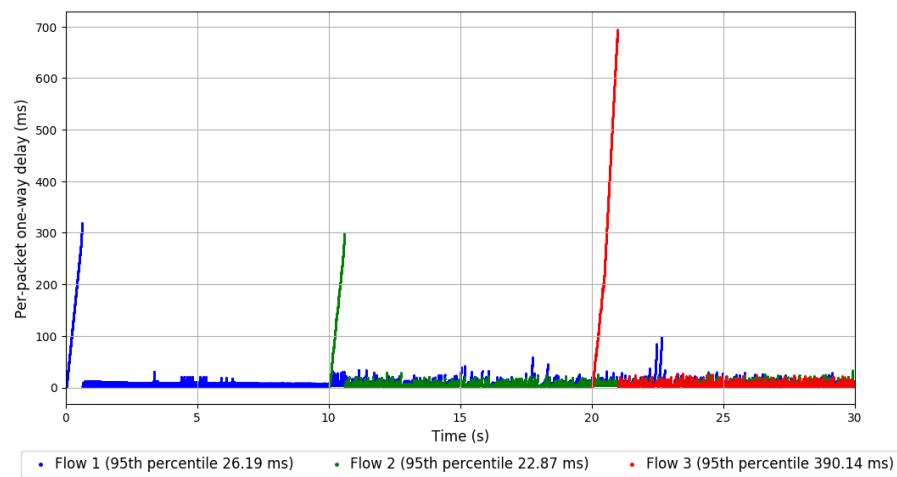
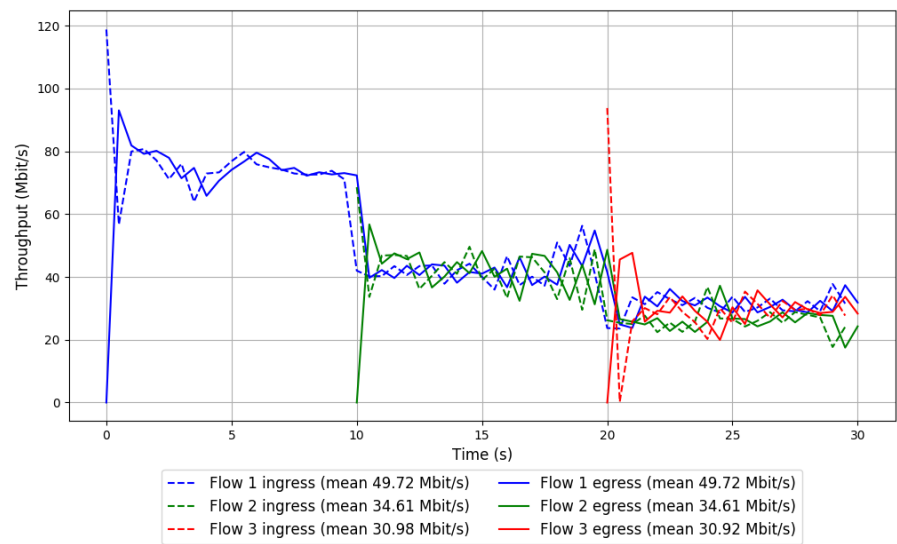


Run 5: Statistics of Verus

Start at: 2019-01-25 21:11:09
End at: 2019-01-25 21:11:39
Local clock offset: -5.803 ms
Remote clock offset: 0.566 ms

```
# Below is generated by plot.py at 2019-01-25 21:27:36
# Datalink statistics
-- Total of 3 flows:
Average throughput: 83.04 Mbit/s
95th percentile per-packet one-way delay: 49.574 ms
Loss rate: 0.04%
-- Flow 1:
Average throughput: 49.72 Mbit/s
95th percentile per-packet one-way delay: 26.187 ms
Loss rate: 0.03%
-- Flow 2:
Average throughput: 34.61 Mbit/s
95th percentile per-packet one-way delay: 22.872 ms
Loss rate: 0.02%
-- Flow 3:
Average throughput: 30.92 Mbit/s
95th percentile per-packet one-way delay: 390.138 ms
Loss rate: 0.16%
```

Run 5: Report of Verus — Data Link



Run 1: Statistics of PCC-Vivace

Start at: 2019-01-25 19:25:14

End at: 2019-01-25 19:25:44

Local clock offset: -7.057 ms

Remote clock offset: 0.096 ms

Below is generated by plot.py at 2019-01-25 21:27:36

Datalink statistics

-- Total of 3 flows:

Average throughput: 57.55 Mbit/s

95th percentile per-packet one-way delay: 5.454 ms

Loss rate: 0.02%

-- Flow 1:

Average throughput: 28.30 Mbit/s

95th percentile per-packet one-way delay: 5.190 ms

Loss rate: 0.02%

-- Flow 2:

Average throughput: 33.86 Mbit/s

95th percentile per-packet one-way delay: 6.060 ms

Loss rate: 0.01%

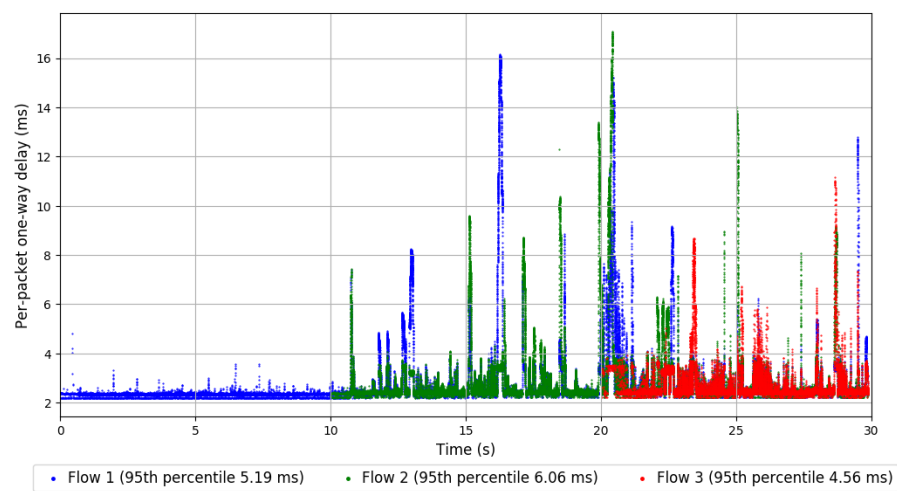
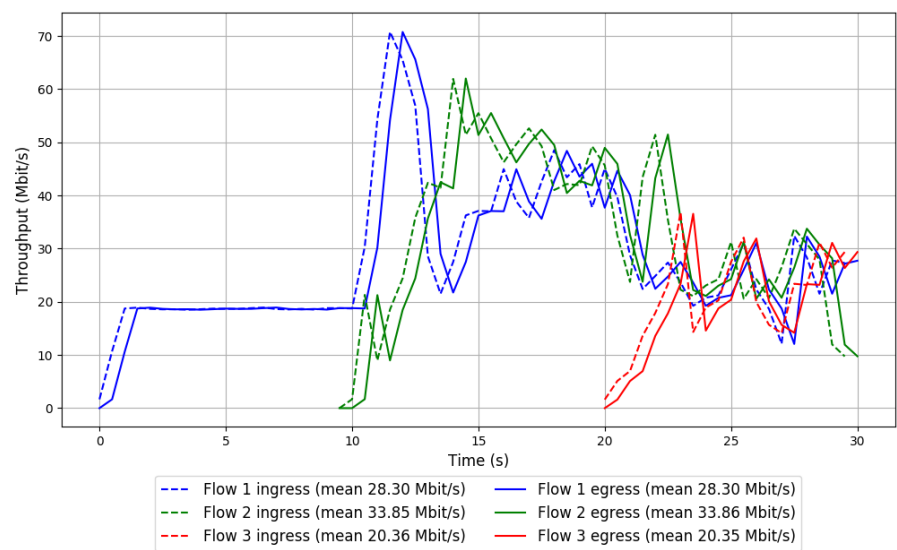
-- Flow 3:

Average throughput: 20.35 Mbit/s

95th percentile per-packet one-way delay: 4.560 ms

Loss rate: 0.06%

Run 1: Report of PCC-Vivace — Data Link



Run 2: Statistics of PCC-Vivace

Start at: 2019-01-25 19:49:22

End at: 2019-01-25 19:49:52

Local clock offset: -2.862 ms

Remote clock offset: 0.389 ms

Below is generated by plot.py at 2019-01-25 21:27:46

Datalink statistics

-- Total of 3 flows:

Average throughput: 81.64 Mbit/s

95th percentile per-packet one-way delay: 6.197 ms

Loss rate: 0.02%

-- Flow 1:

Average throughput: 45.04 Mbit/s

95th percentile per-packet one-way delay: 3.464 ms

Loss rate: 0.01%

-- Flow 2:

Average throughput: 43.30 Mbit/s

95th percentile per-packet one-way delay: 12.529 ms

Loss rate: 0.03%

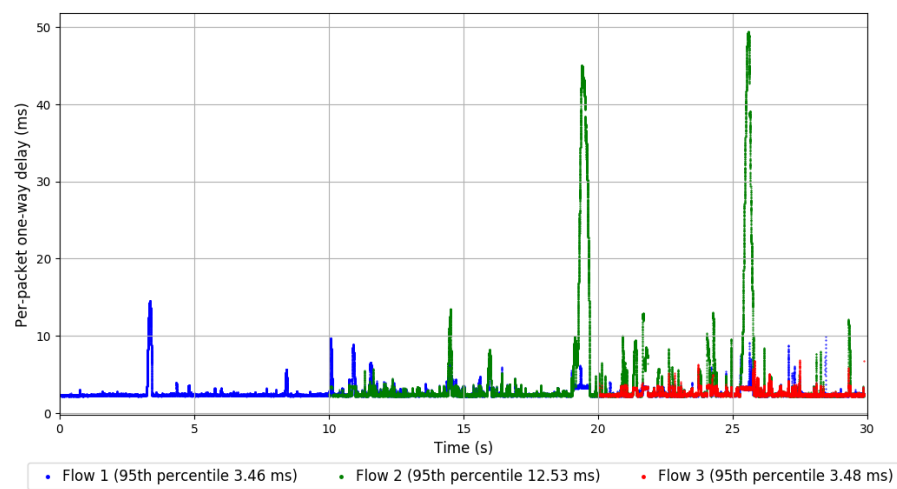
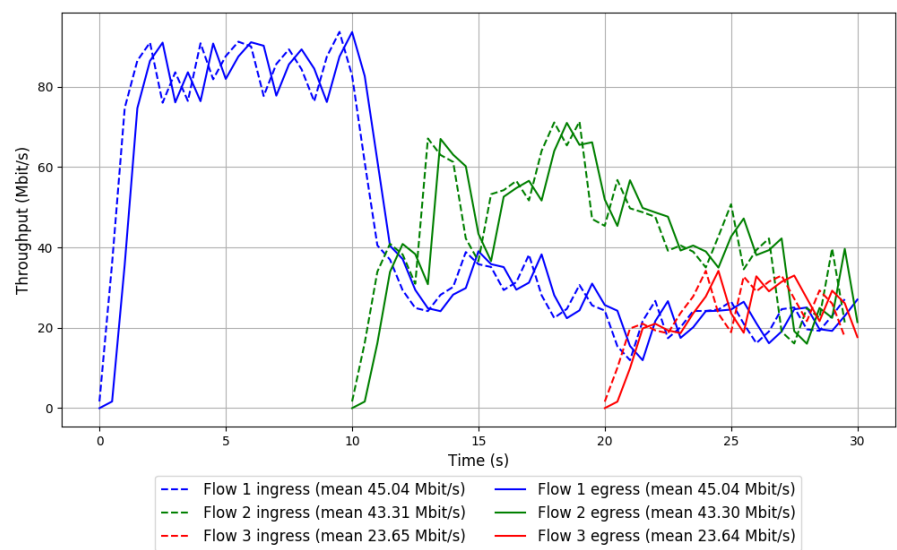
-- Flow 3:

Average throughput: 23.64 Mbit/s

95th percentile per-packet one-way delay: 3.482 ms

Loss rate: 0.02%

Run 2: Report of PCC-Vivace — Data Link



Run 3: Statistics of PCC-Vivace

Start at: 2019-01-25 20:13:33

End at: 2019-01-25 20:14:03

Local clock offset: -2.658 ms

Remote clock offset: 0.648 ms

Below is generated by plot.py at 2019-01-25 21:27:46

Datalink statistics

-- Total of 3 flows:

Average throughput: 73.02 Mbit/s

95th percentile per-packet one-way delay: 7.240 ms

Loss rate: 0.99%

-- Flow 1:

Average throughput: 45.83 Mbit/s

95th percentile per-packet one-way delay: 3.897 ms

Loss rate: 0.01%

-- Flow 2:

Average throughput: 32.26 Mbit/s

95th percentile per-packet one-way delay: 139.560 ms

Loss rate: 2.82%

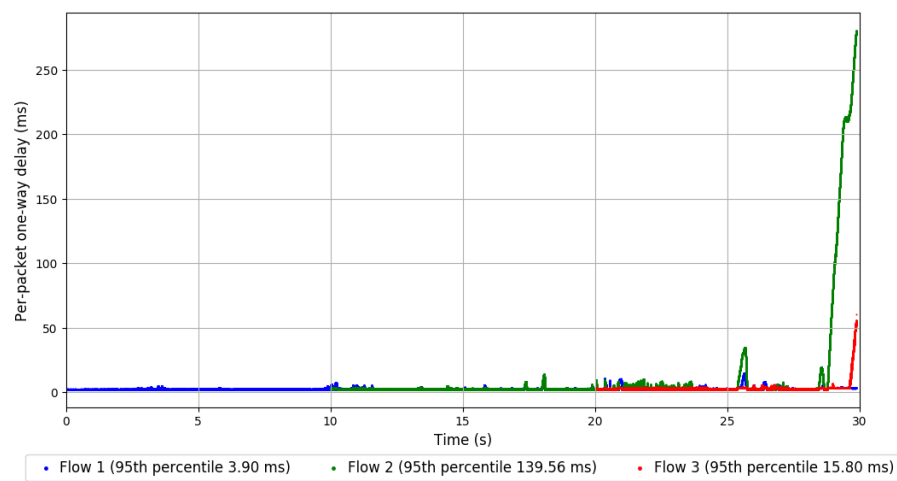
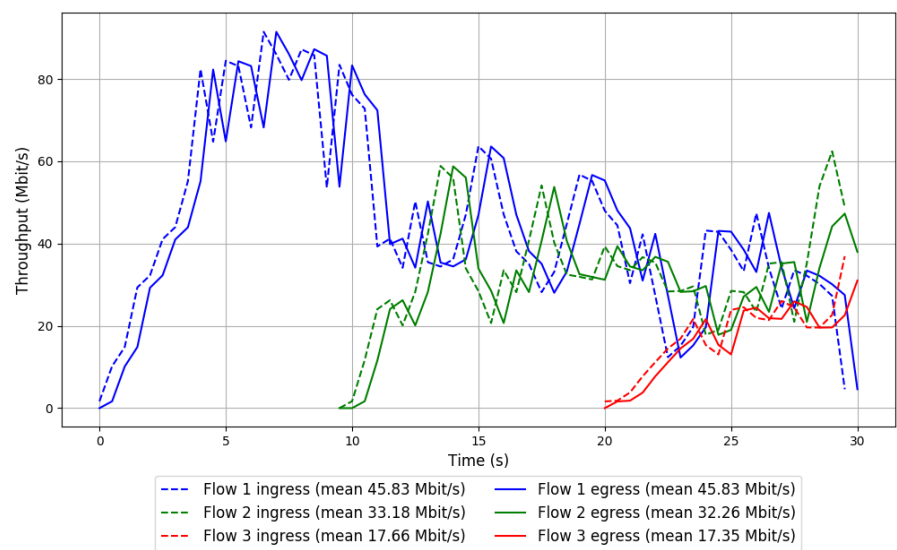
-- Flow 3:

Average throughput: 17.35 Mbit/s

95th percentile per-packet one-way delay: 15.797 ms

Loss rate: 1.75%

Run 3: Report of PCC-Vivace — Data Link



Run 4: Statistics of PCC-Vivace

Start at: 2019-01-25 20:37:45

End at: 2019-01-25 20:38:15

Local clock offset: -2.854 ms

Remote clock offset: 0.853 ms

Below is generated by plot.py at 2019-01-25 21:27:48

Datalink statistics

-- Total of 3 flows:

Average throughput: 88.32 Mbit/s

95th percentile per-packet one-way delay: 970.567 ms

Loss rate: 3.64%

-- Flow 1:

Average throughput: 58.42 Mbit/s

95th percentile per-packet one-way delay: 1272.206 ms

Loss rate: 5.35%

-- Flow 2:

Average throughput: 33.31 Mbit/s

95th percentile per-packet one-way delay: 46.863 ms

Loss rate: 0.11%

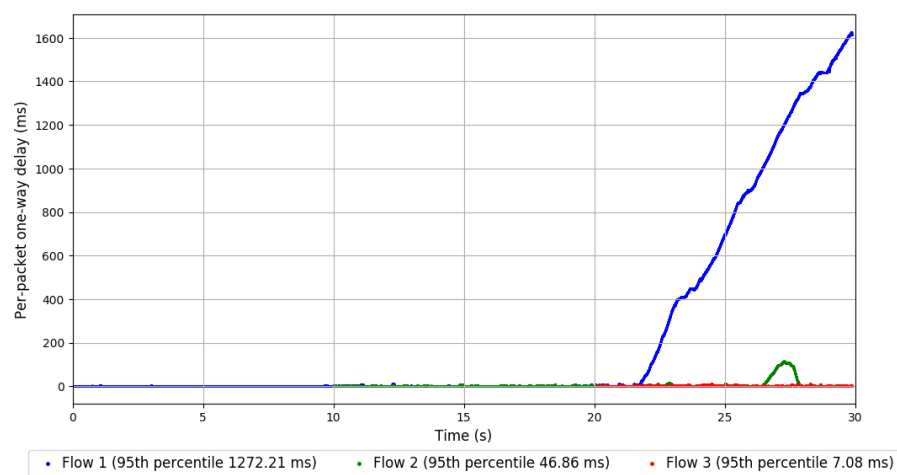
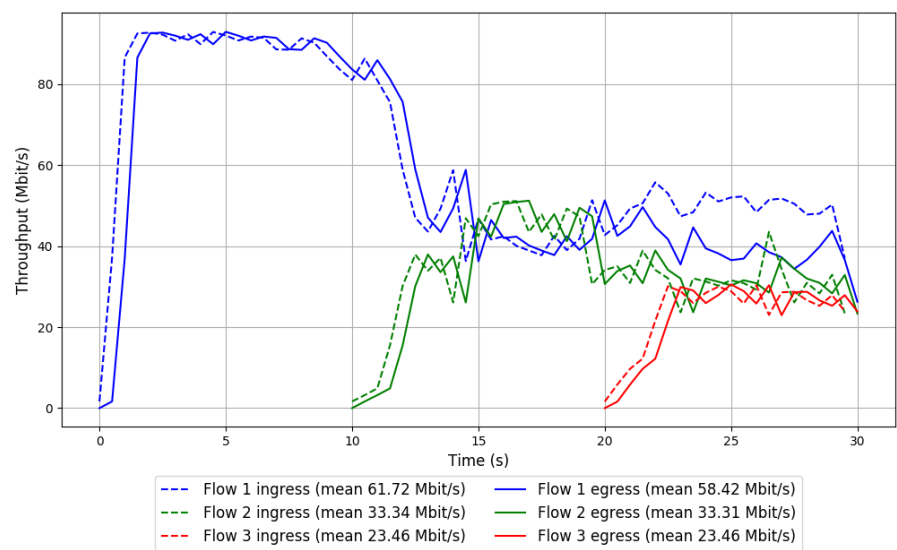
-- Flow 3:

Average throughput: 23.46 Mbit/s

95th percentile per-packet one-way delay: 7.084 ms

Loss rate: 0.04%

Run 4: Report of PCC-Vivace — Data Link



Run 5: Statistics of PCC-Vivace

Start at: 2019-01-25 21:01:57

End at: 2019-01-25 21:02:27

Local clock offset: -3.606 ms

Remote clock offset: 0.747 ms

Below is generated by plot.py at 2019-01-25 21:27:48

Datalink statistics

-- Total of 3 flows:

Average throughput: 61.04 Mbit/s

95th percentile per-packet one-way delay: 1521.271 ms

Loss rate: 5.01%

-- Flow 1:

Average throughput: 27.91 Mbit/s

95th percentile per-packet one-way delay: 4.391 ms

Loss rate: 0.03%

-- Flow 2:

Average throughput: 33.28 Mbit/s

95th percentile per-packet one-way delay: 8.642 ms

Loss rate: 0.03%

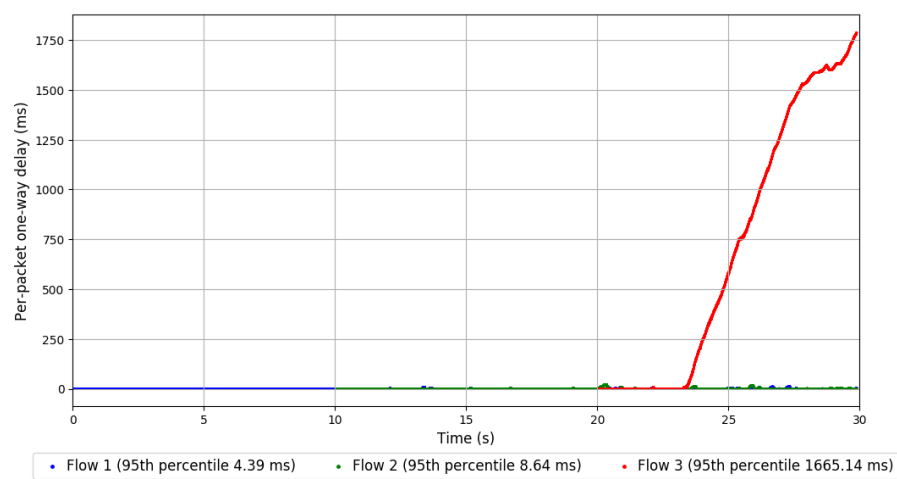
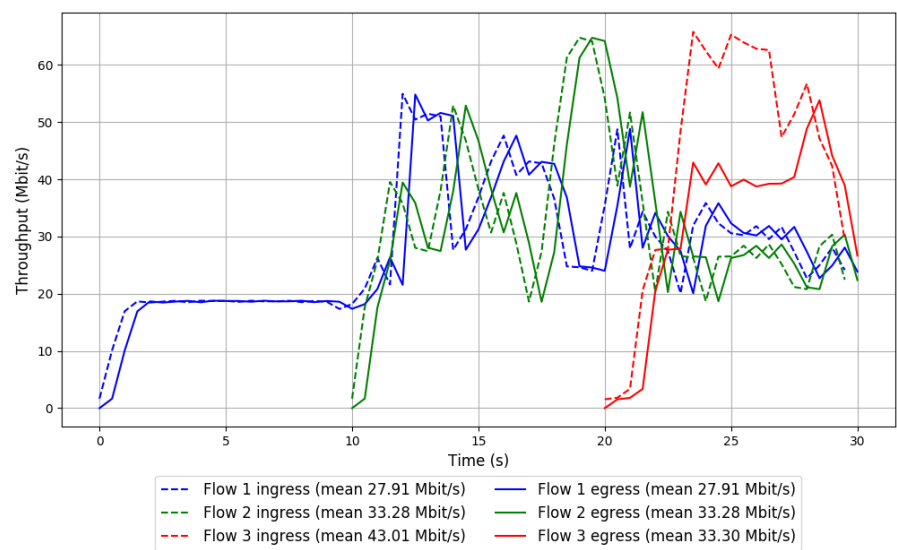
-- Flow 3:

Average throughput: 33.30 Mbit/s

95th percentile per-packet one-way delay: 1665.141 ms

Loss rate: 22.59%

Run 5: Report of PCC-Vivace — Data Link

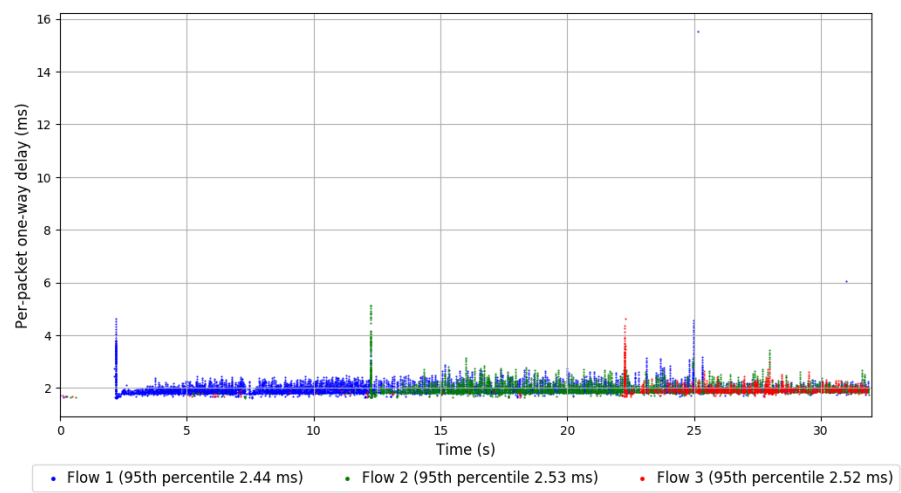
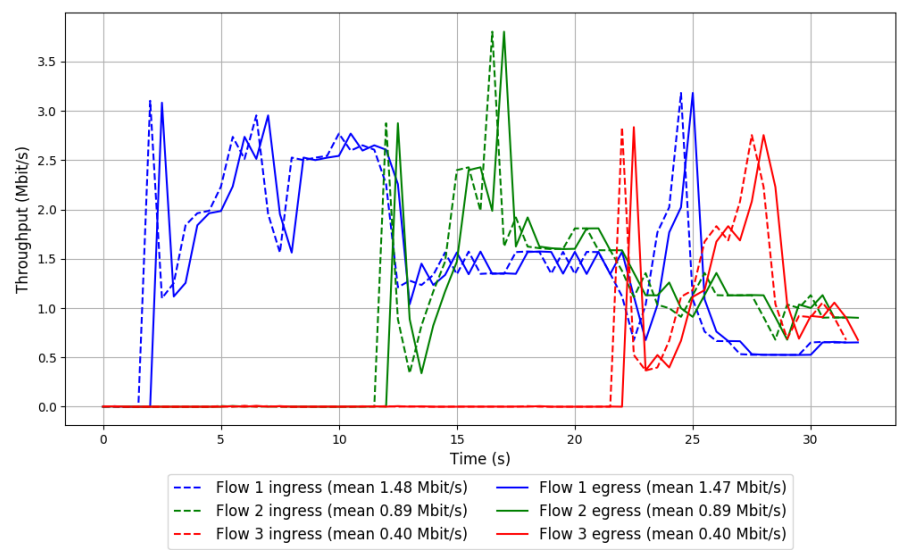



```
Run 1: Statistics of WebRTC media

Start at: 2019-01-25 19:18:20
End at: 2019-01-25 19:18:50
Local clock offset: -7.178 ms
Remote clock offset: -0.095 ms

# Below is generated by plot.py at 2019-01-25 21:27:48
# Datalink statistics
-- Total of 3 flows:
Average throughput: 2.76 Mbit/s
95th percentile per-packet one-way delay: 2.492 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 1.47 Mbit/s
95th percentile per-packet one-way delay: 2.442 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.89 Mbit/s
95th percentile per-packet one-way delay: 2.527 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.40 Mbit/s
95th percentile per-packet one-way delay: 2.520 ms
Loss rate: 0.00%
```

Run 1: Report of WebRTC media — Data Link



Run 2: Statistics of WebRTC media

Start at: 2019-01-25 19:42:28

End at: 2019-01-25 19:42:58

Local clock offset: -3.539 ms

Remote clock offset: 0.323 ms

Below is generated by plot.py at 2019-01-25 21:27:48

Datalink statistics

-- Total of 3 flows:

Average throughput: 2.75 Mbit/s

95th percentile per-packet one-way delay: 3.242 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 1.48 Mbit/s

95th percentile per-packet one-way delay: 3.026 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 0.84 Mbit/s

95th percentile per-packet one-way delay: 3.071 ms

Loss rate: 0.00%

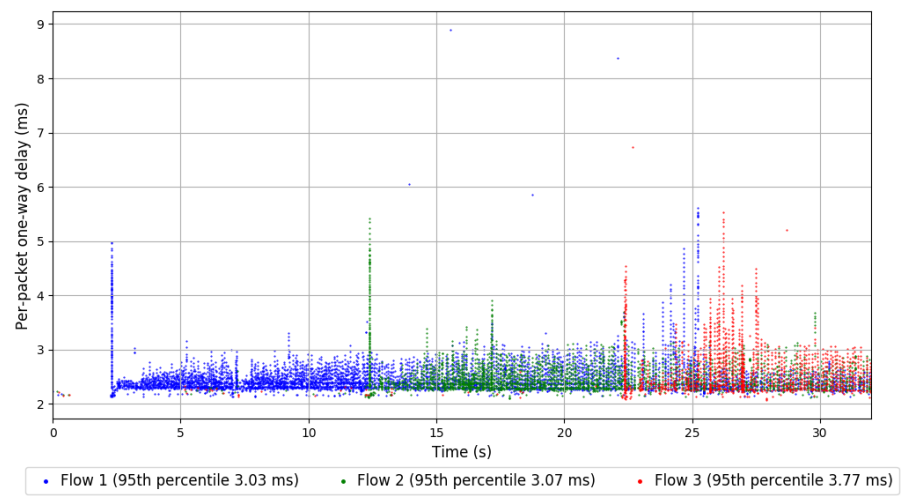
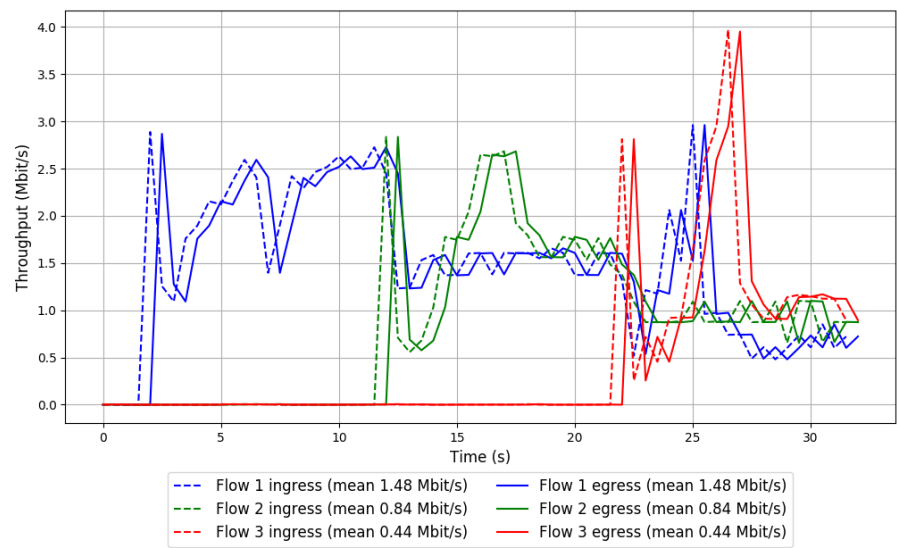
-- Flow 3:

Average throughput: 0.44 Mbit/s

95th percentile per-packet one-way delay: 3.769 ms

Loss rate: 0.00%

Run 2: Report of WebRTC media — Data Link



Run 3: Statistics of WebRTC media

Start at: 2019-01-25 20:06:38

End at: 2019-01-25 20:07:08

Local clock offset: -3.311 ms

Remote clock offset: 0.612 ms

Below is generated by plot.py at 2019-01-25 21:27:48

Datalink statistics

-- Total of 3 flows:

Average throughput: 2.77 Mbit/s

95th percentile per-packet one-way delay: 2.342 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 1.51 Mbit/s

95th percentile per-packet one-way delay: 2.216 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 0.85 Mbit/s

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

Loss rate: 0.00%

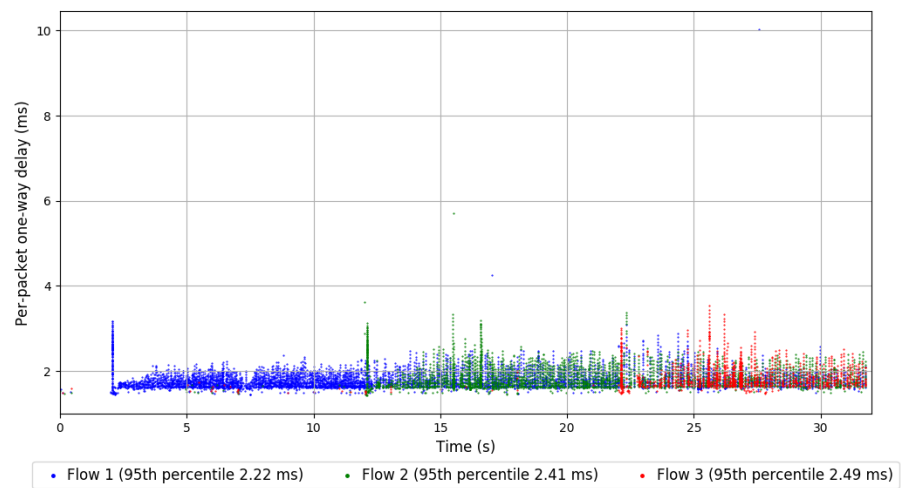
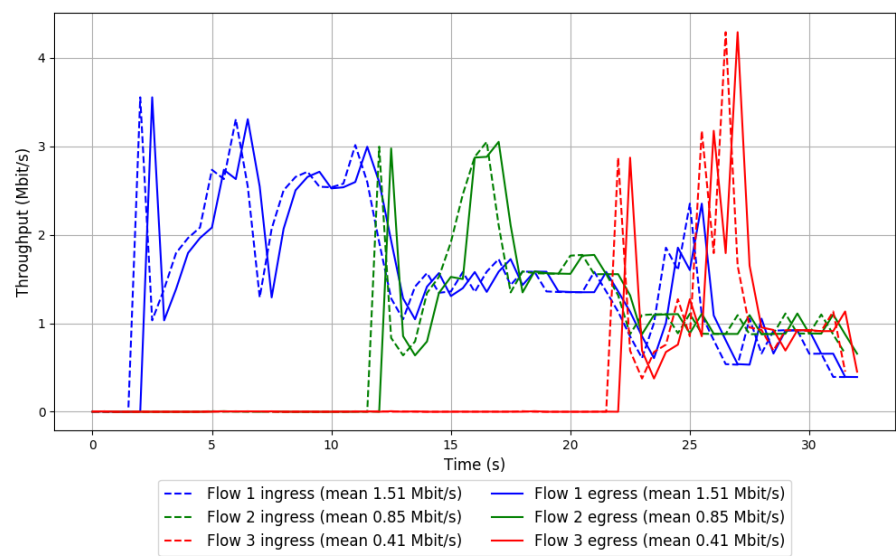
-- Flow 3:

Average throughput: 0.41 Mbit/s

95th percentile per-packet one-way delay: 2.486 ms

Loss rate: 0.00%

Run 3: Report of WebRTC media — Data Link



Run 4: Statistics of WebRTC media

Start at: 2019-01-25 20:30:49

End at: 2019-01-25 20:31:19

Local clock offset: -2.502 ms

Remote clock offset: 0.76 ms

Below is generated by plot.py at 2019-01-25 21:27:48

Datalink statistics

-- Total of 3 flows:

Average throughput: 2.77 Mbit/s

95th percentile per-packet one-way delay: 3.131 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 1.51 Mbit/s

95th percentile per-packet one-way delay: 2.969 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 0.86 Mbit/s

95th percentile per-packet one-way delay: 3.147 ms

Loss rate: 0.00%

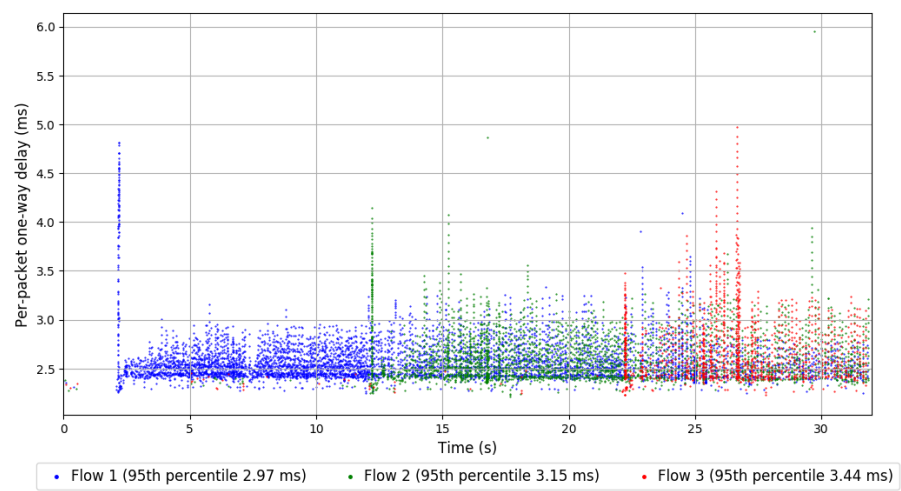
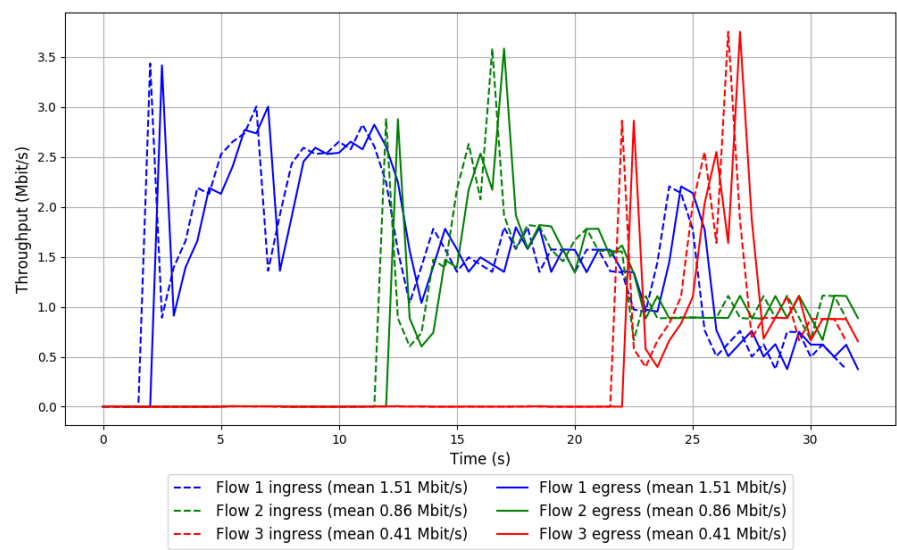
-- Flow 3:

Average throughput: 0.41 Mbit/s

95th percentile per-packet one-way delay: 3.435 ms

Loss rate: 0.00%

Run 4: Report of WebRTC media — Data Link



Run 5: Statistics of WebRTC media

Start at: 2019-01-25 20:55:01

End at: 2019-01-25 20:55:31

Local clock offset: -1.72 ms

Remote clock offset: 0.822 ms

Below is generated by plot.py at 2019-01-25 21:27:48

Datalink statistics

-- Total of 3 flows:

Average throughput: 2.67 Mbit/s

95th percentile per-packet one-way delay: 2.987 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 1.49 Mbit/s

95th percentile per-packet one-way delay: 2.926 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 0.84 Mbit/s

95th percentile per-packet one-way delay: 3.037 ms

Loss rate: 0.00%

-- Flow 3:

Average throughput: 0.35 Mbit/s

95th percentile per-packet one-way delay: 3.041 ms

Loss rate: 0.00%

Run 5: Report of WebRTC media — Data Link

