

Pantheon Report

Generated at 2019-02-12 06:38:49 (UTC).

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

Repeated the test of 21 congestion control schemes 5 times.

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

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

System info:

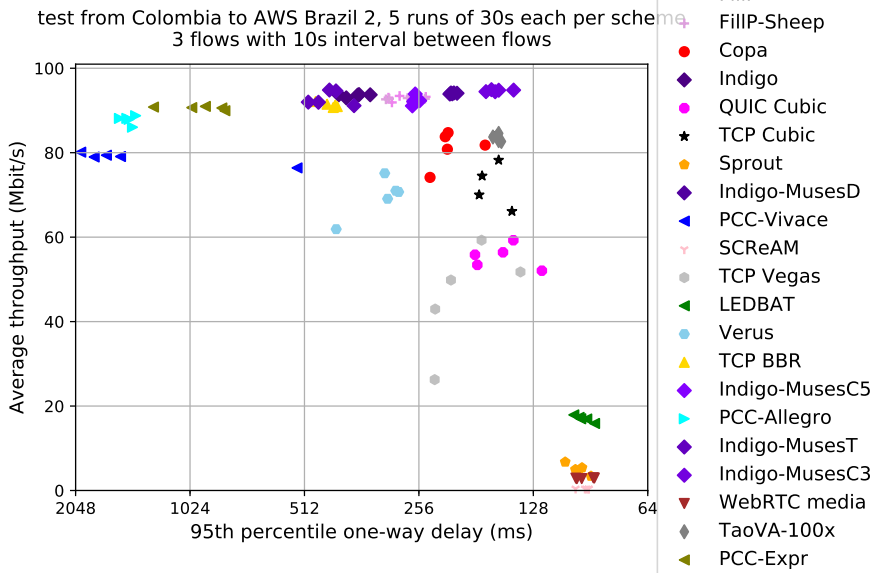
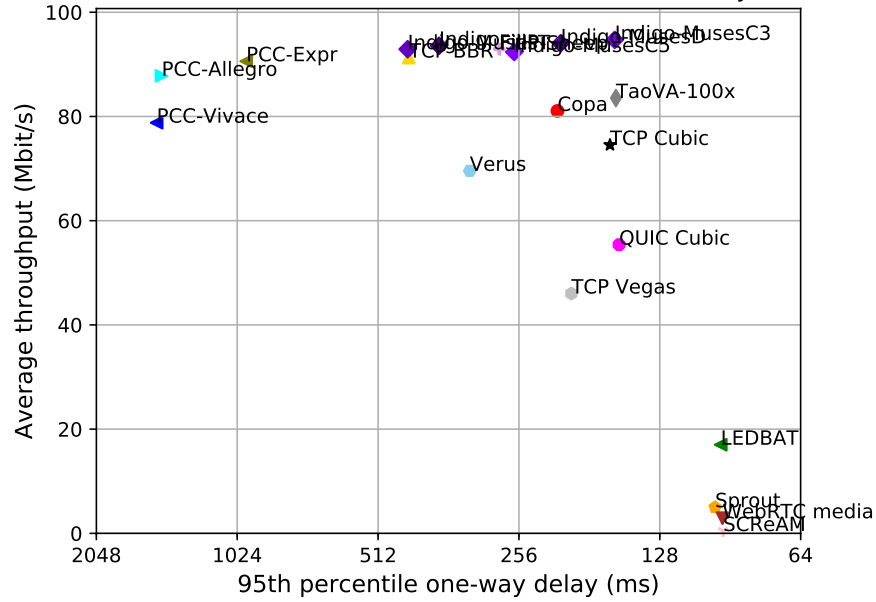
```
Linux 4.15.0-1031-aws
net.core.default_qdisc = fq
net.core.rmem_default = 16777216
net.core.rmem_max = 536870912
net.core.wmem_default = 16777216
net.core.wmem_max = 536870912
net.ipv4.tcp_rmem = 4096 16777216 536870912
net.ipv4.tcp_wmem = 4096 16777216 536870912
```

Git summary:

```
branch: muses @ 7a686f7c2ed0a333082c0bab1fa5c921ab47e6ee
third_party/fillp @ d6da1459332fcee56963885d7eba17e6a32d4519
third_party/fillp-sheep @ 0e5bb722943babcd2b090d2c64fcd45e12e923f9
third_party/genericCC @ d0153f8e594aa89e93b032143cedbdf58e562f4
third_party/indigo @ 2601c92e4aa9d58d38dc4dfe0ecd90c077e64d
third_party/libutp @ b3465b942e2826f2b179eaab4a906ce6bb7cf3cf
third_party/muses @ 5ce721187ad823da20955337730c746486ca4966
third_party/pantheon-tunnel @ f866d3f58d27afd942717625ee3a354cc2e802bd
third_party/pcc @ 1afc958fa0d66d18b623c091a55fec872b4981e1
M receiver/src/buffer.h
M receiver/src/core.cpp
M sender/src/buffer.h
M sender/src/core.cpp
third_party/pcc-experimental @ cd43e34e3f5f5613e8acd08fab92c4eb24f974ab
third_party/proto-quick @ 77961f1a82733a86b42f1bc8143ebc978f3cff42
third_party/scream-reproduce @ f099118d1421aa3131bf11ff1964974e1da3bdb2
M src/ScreamClient
M src/ScreamServer
third_party/sprout @ 366e35c6178b01e31d4a46ad18c74f9415f19a26
M src/examples/cellsim.cc
M src/examples/sproutbt2.cc
M src/network/sproutconn.cc
third_party/verus @ d4b447ea74c6c60a261149af2629562939f9a494
M src/verus.hpp
M tools/plot.py
```

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

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



scheme	# runs	mean avg tput (Mbit/s)			mean 95th-%ile delay (ms)			mean loss rate (%)		
		flow 1	flow 2	flow 3	flow 1	flow 2	flow 3	flow 1	flow 2	flow 3
TCP BBR	5	56.22	38.26	29.54	406.49	485.51	412.27	3.14	4.79	6.38
Copa	5	49.54	33.97	27.23	216.83	156.97	190.29	0.53	0.94	2.03
TCP Cubic	5	42.27	34.53	28.42	171.27	158.05	165.73	0.67	0.72	1.91
FillP	5	57.17	39.02	30.18	292.30	263.37	306.47	1.18	3.67	3.81
FillP-Sheep	5	57.07	39.04	29.83	290.48	247.37	277.75	0.93	2.09	3.83
Indigo	5	58.40	38.75	29.12	402.13	152.05	140.41	9.22	1.44	2.78
Indigo-MusesC3	5	60.06	40.04	29.87	143.06	204.04	175.03	1.97	2.59	3.20
Indigo-MusesC5	5	58.37	39.18	30.52	258.59	257.18	310.43	2.92	3.78	5.76
Indigo-MusesD	5	61.03	38.86	28.41	215.43	160.38	156.94	6.34	4.45	4.25
Indigo-MusesT	5	58.42	40.57	29.13	387.06	427.73	512.70	6.93	7.16	8.88
LEDBAT	5	10.89	7.46	3.59	94.31	94.13	91.55	1.08	1.74	3.39
PCC-Allegro	5	55.58	34.07	29.50	1481.61	1037.02	1544.71	25.97	12.20	21.23
PCC-Expr	5	56.65	38.93	24.89	1004.24	760.76	243.51	23.22	8.20	2.97
QUIC Cubic	5	32.95	23.79	20.40	129.78	184.11	231.28	0.56	1.15	2.53
SCReAM	5	0.22	0.22	0.22	93.56	92.28	93.57	0.51	0.95	1.71
Sprout	5	3.01	1.95	2.19	97.56	94.97	97.16	0.79	1.13	3.22
TaoVA-100x	5	49.25	36.92	29.68	155.47	163.26	154.72	0.46	0.91	2.22
TCP Vegas	5	23.47	22.30	23.56	166.10	211.12	192.67	0.45	0.68	1.55
Verus	5	41.89	30.50	22.79	295.59	298.77	472.36	0.91	1.08	3.01
PCC-Vivace	5	50.01	32.39	22.41	1598.19	998.44	350.41	5.44	5.67	3.03
WebRTC media	5	1.61	0.93	0.38	91.70	91.69	92.82	0.41	0.72	1.86

Run 1: Statistics of TCP BBR

Start at: 2019-02-12 04:32:36

End at: 2019-02-12 04:33:06

Local clock offset: -7.62 ms

Remote clock offset: 3.438 ms

Below is generated by plot.py at 2019-02-12 06:26:55

Datalink statistics

-- Total of 3 flows:

Average throughput: 91.26 Mbit/s

95th percentile per-packet one-way delay: 424.917 ms

Loss rate: 5.05%

-- Flow 1:

Average throughput: 55.68 Mbit/s

95th percentile per-packet one-way delay: 412.763 ms

Loss rate: 3.47%

-- Flow 2:

Average throughput: 38.87 Mbit/s

95th percentile per-packet one-way delay: 399.750 ms

Loss rate: 6.72%

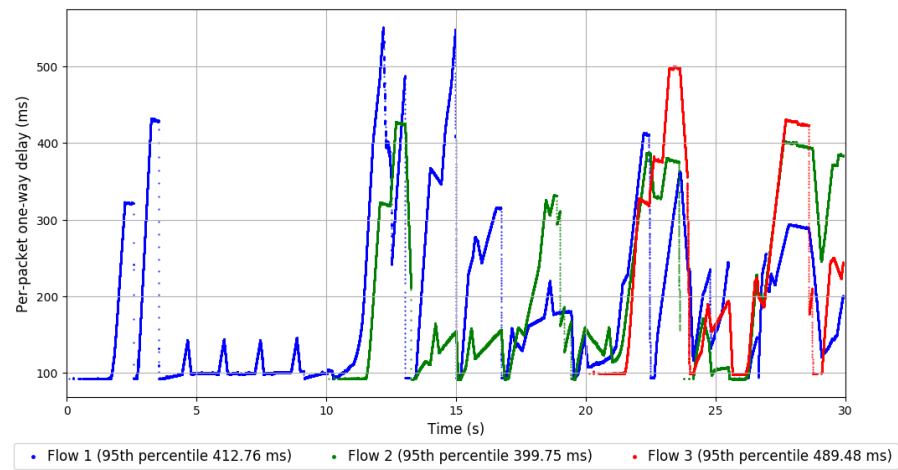
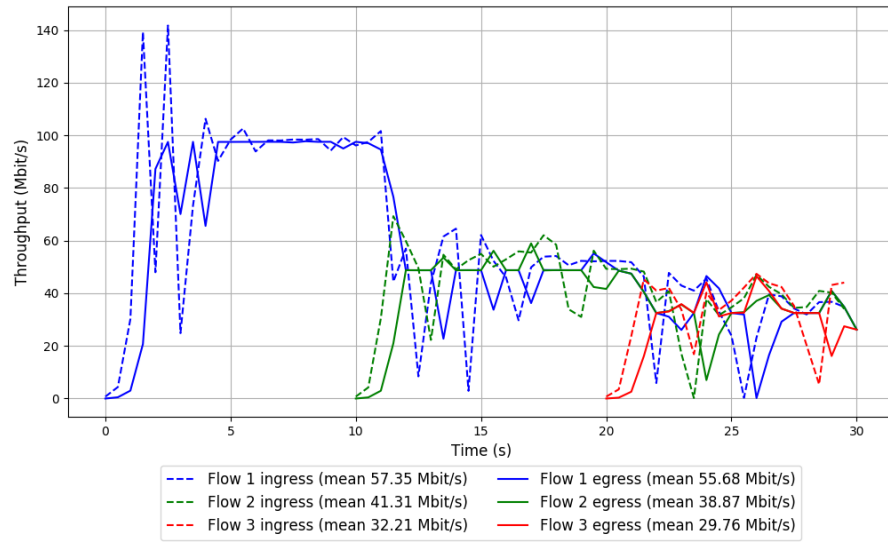
-- Flow 3:

Average throughput: 29.76 Mbit/s

95th percentile per-packet one-way delay: 489.481 ms

Loss rate: 9.27%

Run 1: Report of TCP BBR — Data Link



Run 2: Statistics of TCP BBR

Start at: 2019-02-12 04:59:58

End at: 2019-02-12 05:00:28

Local clock offset: -2.052 ms

Remote clock offset: 9.255 ms

Below is generated by plot.py at 2019-02-12 06:26:55

Datalink statistics

-- Total of 3 flows:

Average throughput: 90.71 Mbit/s

95th percentile per-packet one-way delay: 429.970 ms

Loss rate: 4.27%

-- Flow 1:

Average throughput: 56.24 Mbit/s

95th percentile per-packet one-way delay: 405.879 ms

Loss rate: 3.40%

-- Flow 2:

Average throughput: 37.56 Mbit/s

95th percentile per-packet one-way delay: 511.252 ms

Loss rate: 4.22%

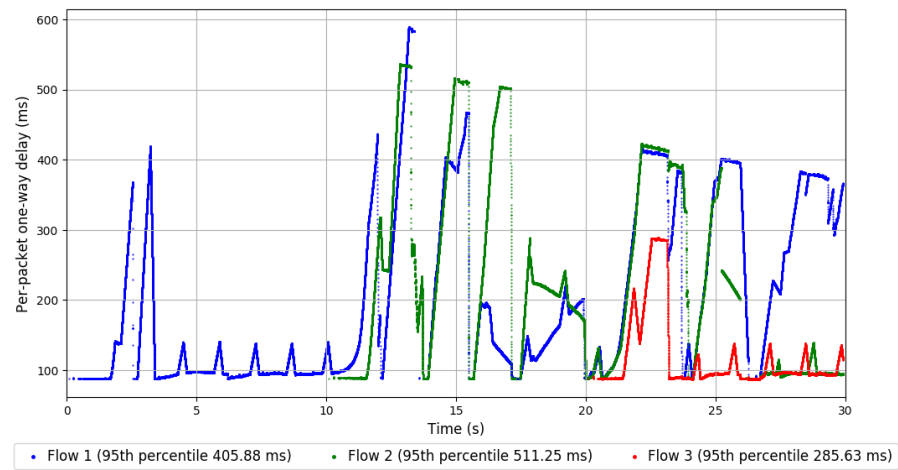
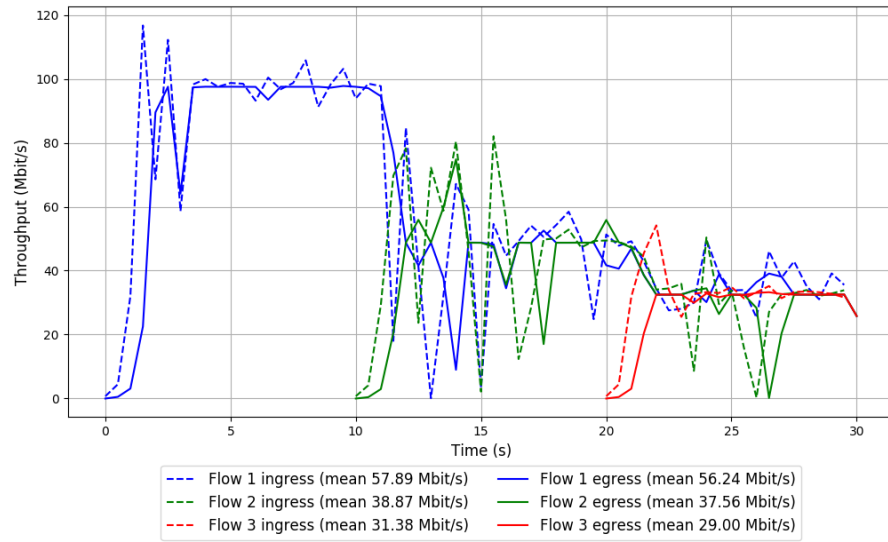
-- Flow 3:

Average throughput: 29.00 Mbit/s

95th percentile per-packet one-way delay: 285.634 ms

Loss rate: 9.18%

Run 2: Report of TCP BBR — Data Link



Run 3: Statistics of TCP BBR

Start at: 2019-02-12 05:27:26

End at: 2019-02-12 05:27:56

Local clock offset: -7.1 ms

Remote clock offset: 4.924 ms

Below is generated by plot.py at 2019-02-12 06:26:56

Datalink statistics

-- Total of 3 flows:

Average throughput: 92.12 Mbit/s

95th percentile per-packet one-way delay: 478.717 ms

Loss rate: 3.22%

-- Flow 1:

Average throughput: 56.62 Mbit/s

95th percentile per-packet one-way delay: 414.468 ms

Loss rate: 2.62%

-- Flow 2:

Average throughput: 38.94 Mbit/s

95th percentile per-packet one-way delay: 524.250 ms

Loss rate: 4.49%

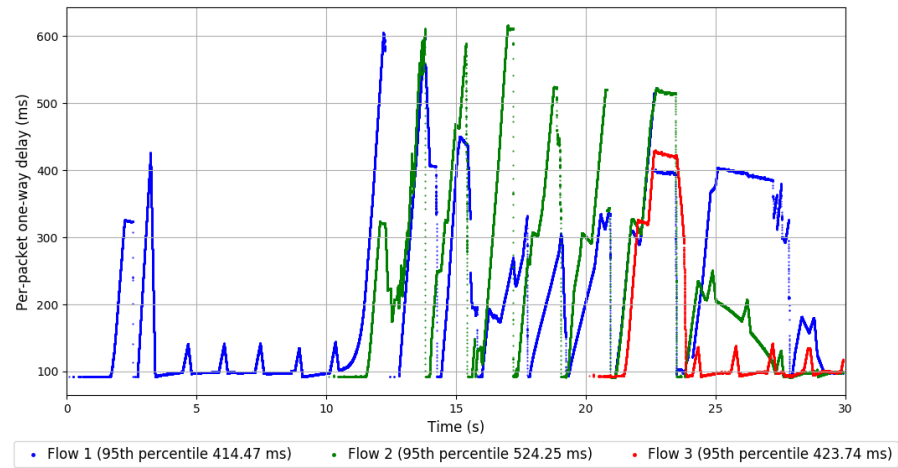
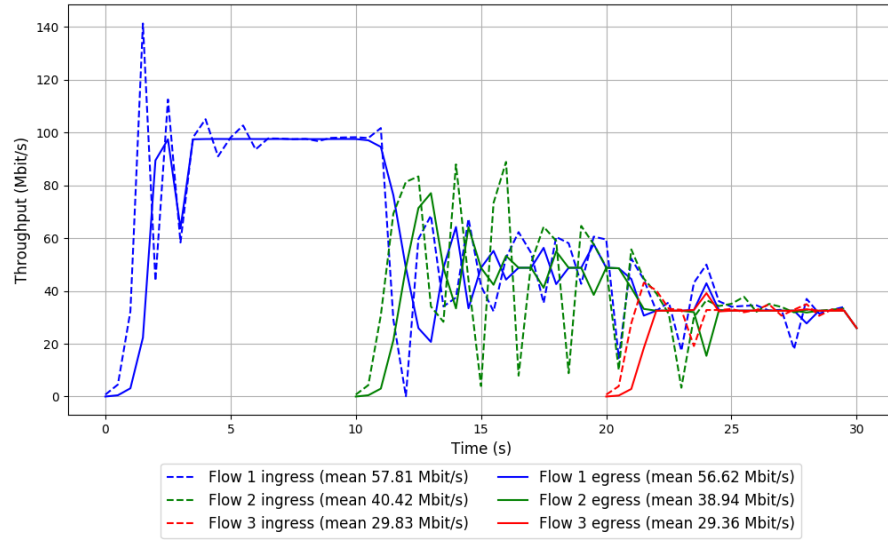
-- Flow 3:

Average throughput: 29.36 Mbit/s

95th percentile per-packet one-way delay: 423.741 ms

Loss rate: 3.27%

Run 3: Report of TCP BBR — Data Link



Run 4: Statistics of TCP BBR

Start at: 2019-02-12 05:54:41

End at: 2019-02-12 05:55:11

Local clock offset: -5.58 ms

Remote clock offset: 8.482 ms

Below is generated by plot.py at 2019-02-12 06:26:56

Datalink statistics

-- Total of 3 flows:

Average throughput: 90.93 Mbit/s

95th percentile per-packet one-way delay: 419.716 ms

Loss rate: 3.23%

-- Flow 1:

Average throughput: 55.73 Mbit/s

95th percentile per-packet one-way delay: 413.188 ms

Loss rate: 2.66%

-- Flow 2:

Average throughput: 38.74 Mbit/s

95th percentile per-packet one-way delay: 531.096 ms

Loss rate: 4.58%

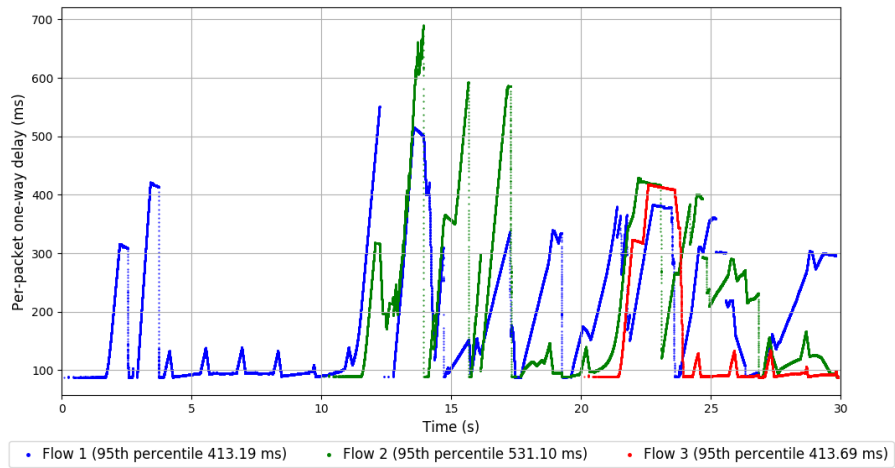
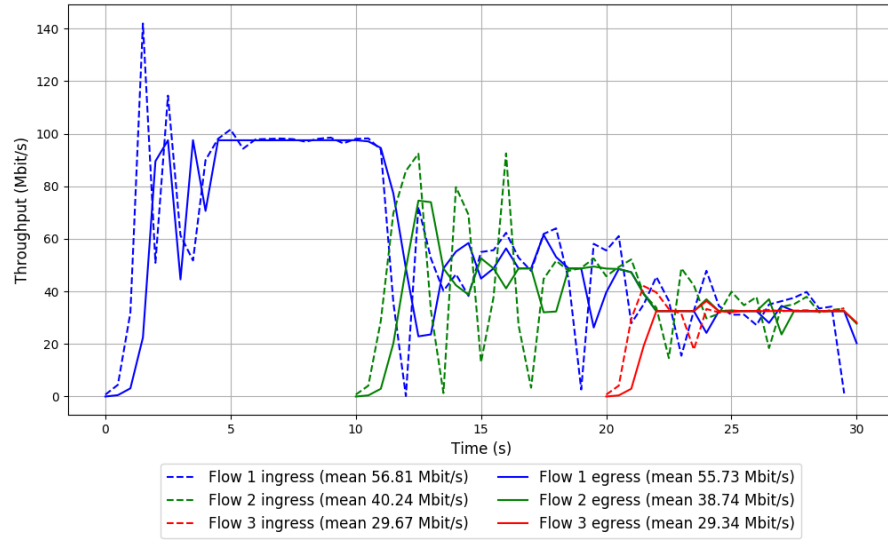
-- Flow 3:

Average throughput: 29.34 Mbit/s

95th percentile per-packet one-way delay: 413.694 ms

Loss rate: 2.82%

Run 4: Report of TCP BBR — Data Link



Run 5: Statistics of TCP BBR

Start at: 2019-02-12 06:21:56

End at: 2019-02-12 06:22:26

Local clock offset: -6.232 ms

Remote clock offset: 3.303 ms

Below is generated by plot.py at 2019-02-12 06:26:56

Datalink statistics

-- Total of 3 flows:

Average throughput: 91.48 Mbit/s

95th percentile per-packet one-way delay: 446.520 ms

Loss rate: 4.08%

-- Flow 1:

Average throughput: 56.85 Mbit/s

95th percentile per-packet one-way delay: 386.161 ms

Loss rate: 3.54%

-- Flow 2:

Average throughput: 37.17 Mbit/s

95th percentile per-packet one-way delay: 461.178 ms

Loss rate: 3.94%

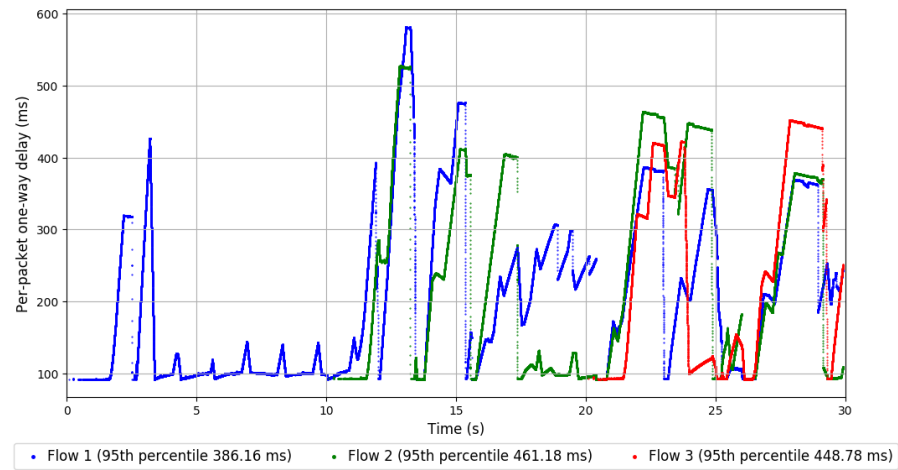
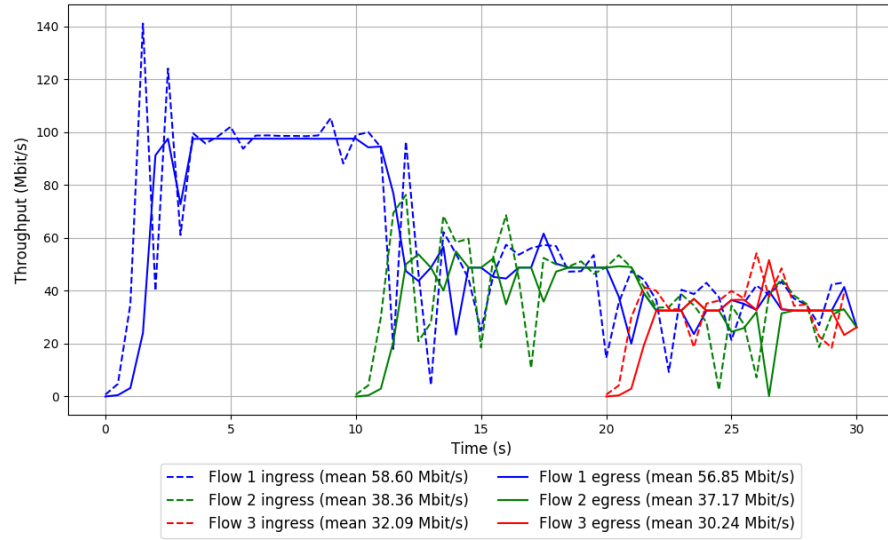
-- Flow 3:

Average throughput: 30.24 Mbit/s

95th percentile per-packet one-way delay: 448.783 ms

Loss rate: 7.38%

Run 5: Report of TCP BBR — Data Link



Run 1: Statistics of Copa

Start at: 2019-02-12 04:31:13

End at: 2019-02-12 04:31:43

Local clock offset: -7.588 ms

Remote clock offset: 8.522 ms

Below is generated by plot.py at 2019-02-12 06:27:42

Datalink statistics

-- Total of 3 flows:

Average throughput: 81.79 Mbit/s

95th percentile per-packet one-way delay: 171.379 ms

Loss rate: 0.85%

-- Flow 1:

Average throughput: 47.45 Mbit/s

95th percentile per-packet one-way delay: 215.422 ms

Loss rate: 0.57%

-- Flow 2:

Average throughput: 37.12 Mbit/s

95th percentile per-packet one-way delay: 136.421 ms

Loss rate: 0.77%

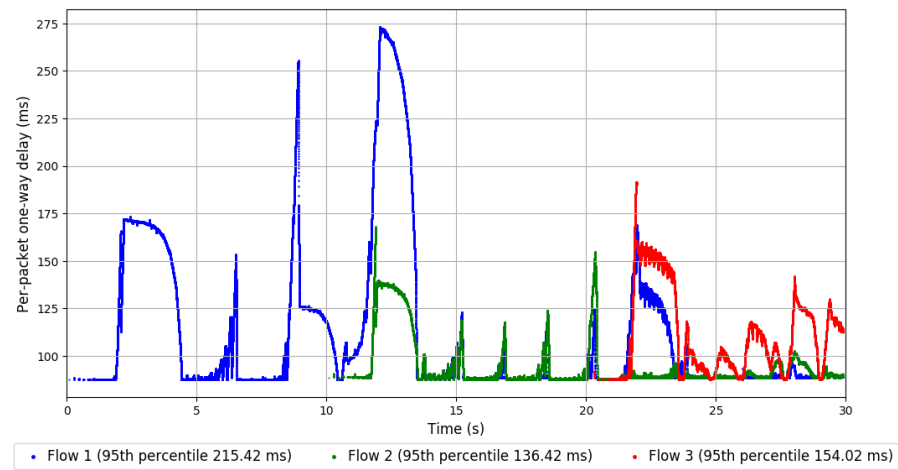
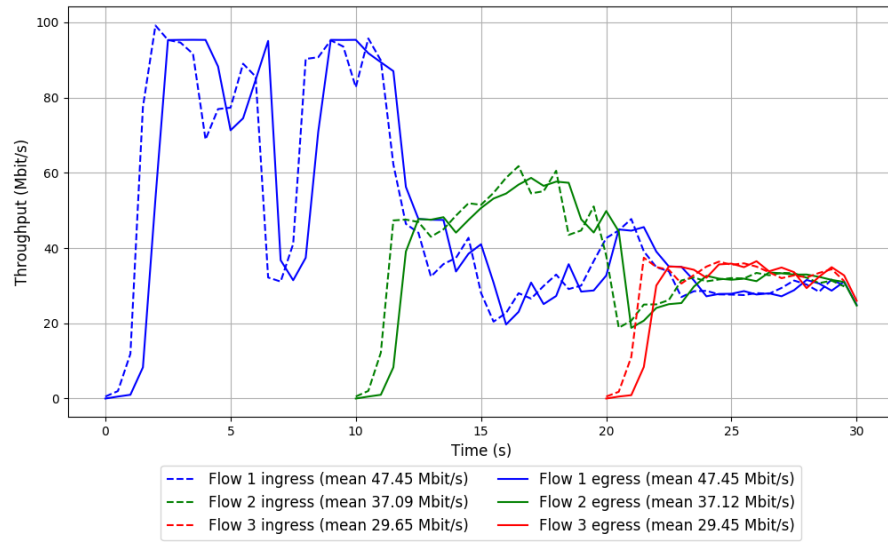
-- Flow 3:

Average throughput: 29.45 Mbit/s

95th percentile per-packet one-way delay: 154.024 ms

Loss rate: 2.40%

Run 1: Report of Copa — Data Link



Run 2: Statistics of Copa

Start at: 2019-02-12 04:58:35

End at: 2019-02-12 04:59:05

Local clock offset: -2.119 ms

Remote clock offset: 9.137 ms

Below is generated by plot.py at 2019-02-12 06:27:42

Datalink statistics

-- Total of 3 flows:

Average throughput: 80.82 Mbit/s

95th percentile per-packet one-way delay: 215.445 ms

Loss rate: 0.84%

-- Flow 1:

Average throughput: 52.80 Mbit/s

95th percentile per-packet one-way delay: 216.757 ms

Loss rate: 0.61%

-- Flow 2:

Average throughput: 28.56 Mbit/s

95th percentile per-packet one-way delay: 99.370 ms

Loss rate: 0.86%

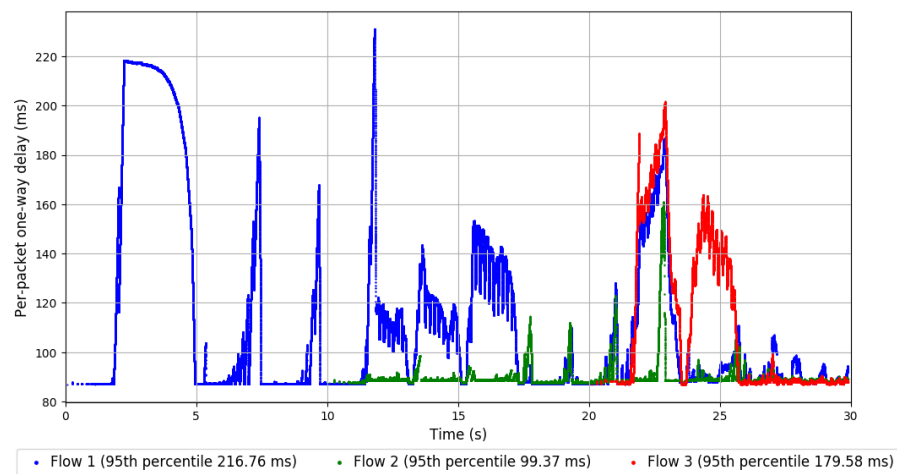
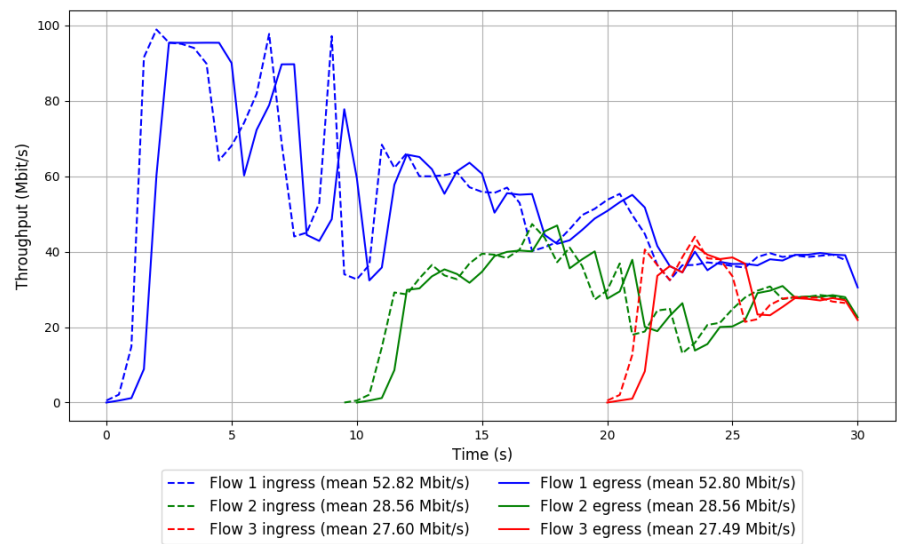
-- Flow 3:

Average throughput: 27.49 Mbit/s

95th percentile per-packet one-way delay: 179.577 ms

Loss rate: 2.11%

Run 2: Report of Copa — Data Link



Run 3: Statistics of Copa

Start at: 2019-02-12 05:26:04

End at: 2019-02-12 05:26:34

Local clock offset: -7.068 ms

Remote clock offset: 8.972 ms

Below is generated by plot.py at 2019-02-12 06:27:46

Datalink statistics

-- Total of 3 flows:

Average throughput: 84.75 Mbit/s

95th percentile per-packet one-way delay: 214.518 ms

Loss rate: 0.80%

-- Flow 1:

Average throughput: 51.23 Mbit/s

95th percentile per-packet one-way delay: 215.946 ms

Loss rate: 0.52%

-- Flow 2:

Average throughput: 36.31 Mbit/s

95th percentile per-packet one-way delay: 131.342 ms

Loss rate: 0.79%

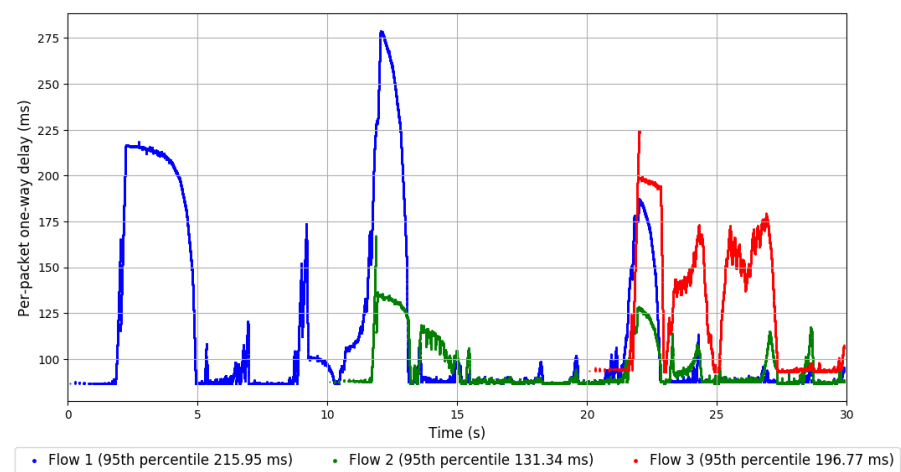
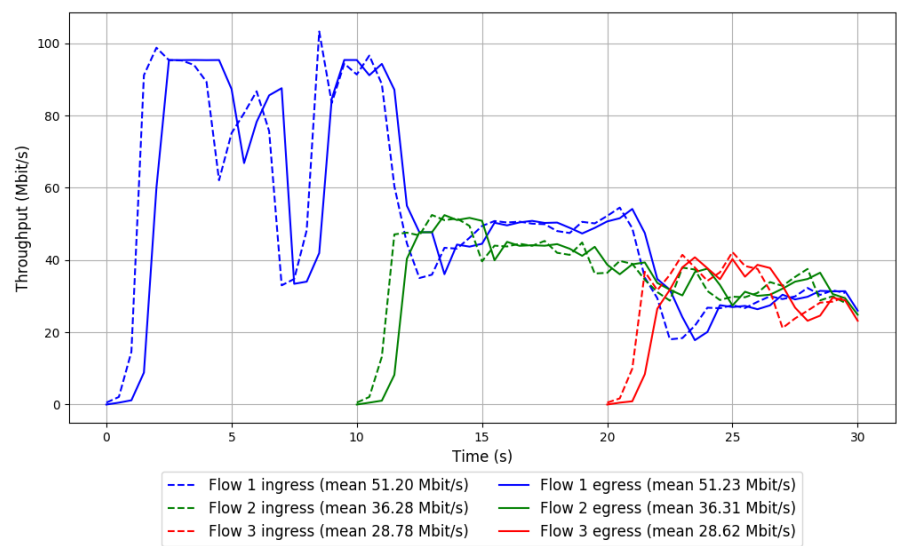
-- Flow 3:

Average throughput: 28.62 Mbit/s

95th percentile per-packet one-way delay: 196.766 ms

Loss rate: 2.31%

Run 3: Report of Copa — Data Link



Run 4: Statistics of Copa

Start at: 2019-02-12 05:53:20

End at: 2019-02-12 05:53:50

Local clock offset: -5.588 ms

Remote clock offset: 7.433 ms

Below is generated by plot.py at 2019-02-12 06:28:48

Datalink statistics

-- Total of 3 flows:

Average throughput: 83.79 Mbit/s

95th percentile per-packet one-way delay: 218.247 ms

Loss rate: 0.79%

-- Flow 1:

Average throughput: 52.99 Mbit/s

95th percentile per-packet one-way delay: 216.737 ms

Loss rate: 0.49%

-- Flow 2:

Average throughput: 33.17 Mbit/s

95th percentile per-packet one-way delay: 134.124 ms

Loss rate: 1.02%

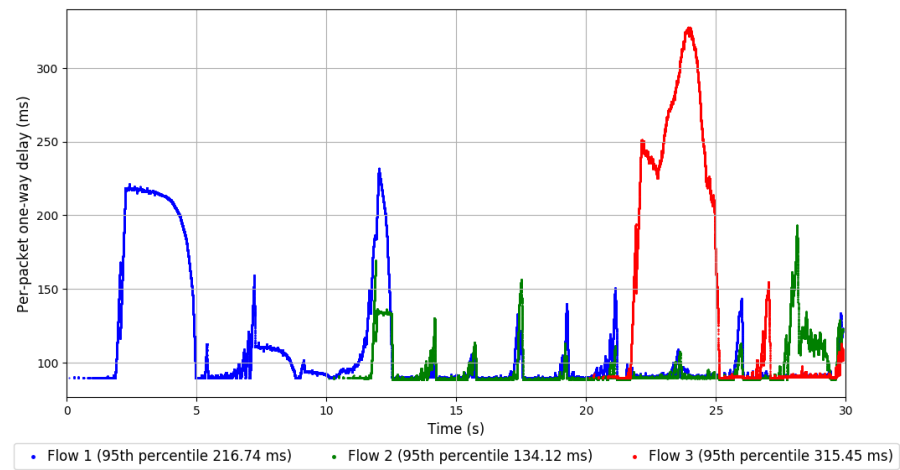
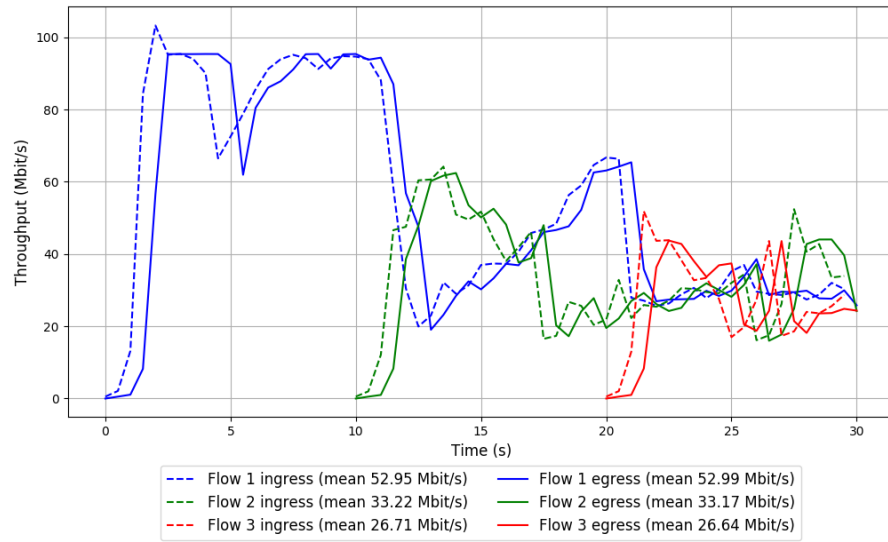
-- Flow 3:

Average throughput: 26.64 Mbit/s

95th percentile per-packet one-way delay: 315.453 ms

Loss rate: 1.98%

Run 4: Report of Copa — Data Link



Run 5: Statistics of Copa

Start at: 2019-02-12 06:20:36

End at: 2019-02-12 06:21:06

Local clock offset: -6.229 ms

Remote clock offset: 4.117 ms

Below is generated by plot.py at 2019-02-12 06:28:48

Datalink statistics

-- Total of 3 flows:

Average throughput: 74.15 Mbit/s

95th percentile per-packet one-way delay: 239.301 ms

Loss rate: 0.79%

-- Flow 1:

Average throughput: 43.23 Mbit/s

95th percentile per-packet one-way delay: 219.313 ms

Loss rate: 0.45%

-- Flow 2:

Average throughput: 34.71 Mbit/s

95th percentile per-packet one-way delay: 283.598 ms

Loss rate: 1.24%

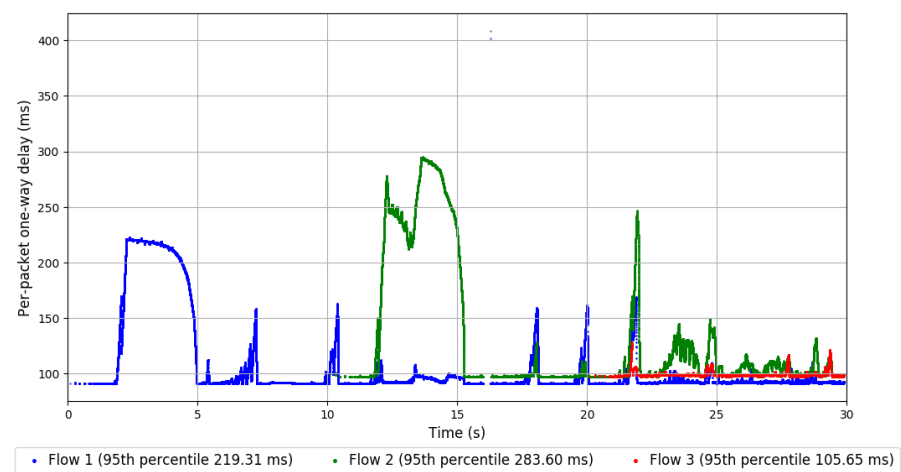
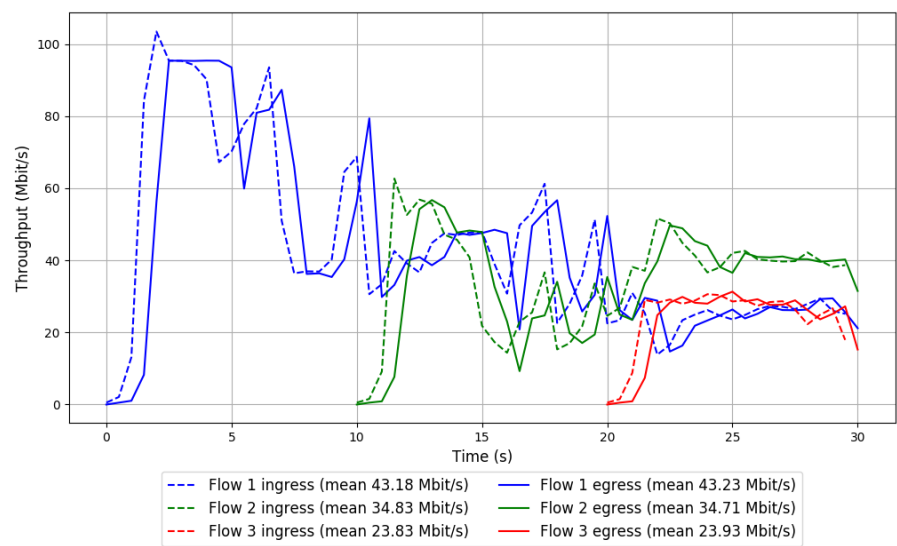
-- Flow 3:

Average throughput: 23.93 Mbit/s

95th percentile per-packet one-way delay: 105.648 ms

Loss rate: 1.37%

Run 5: Report of Copa — Data Link



Run 1: Statistics of TCP Cubic

Start at: 2019-02-12 04:33:56

End at: 2019-02-12 04:34:26

Local clock offset: -6.937 ms

Remote clock offset: 9.876 ms

Below is generated by plot.py at 2019-02-12 06:28:48

Datalink statistics

-- Total of 3 flows:

Average throughput: 66.13 Mbit/s

95th percentile per-packet one-way delay: 145.726 ms

Loss rate: 1.06%

-- Flow 1:

Average throughput: 40.76 Mbit/s

95th percentile per-packet one-way delay: 139.010 ms

Loss rate: 1.25%

-- Flow 2:

Average throughput: 28.82 Mbit/s

95th percentile per-packet one-way delay: 161.884 ms

Loss rate: 0.44%

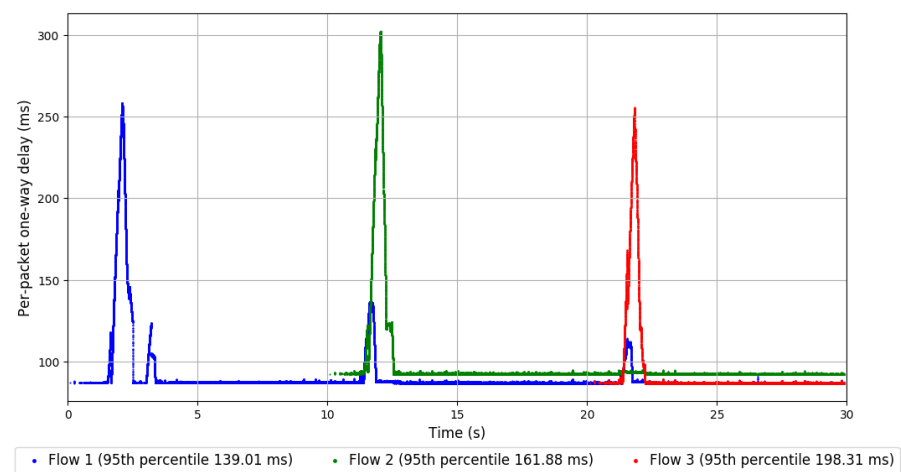
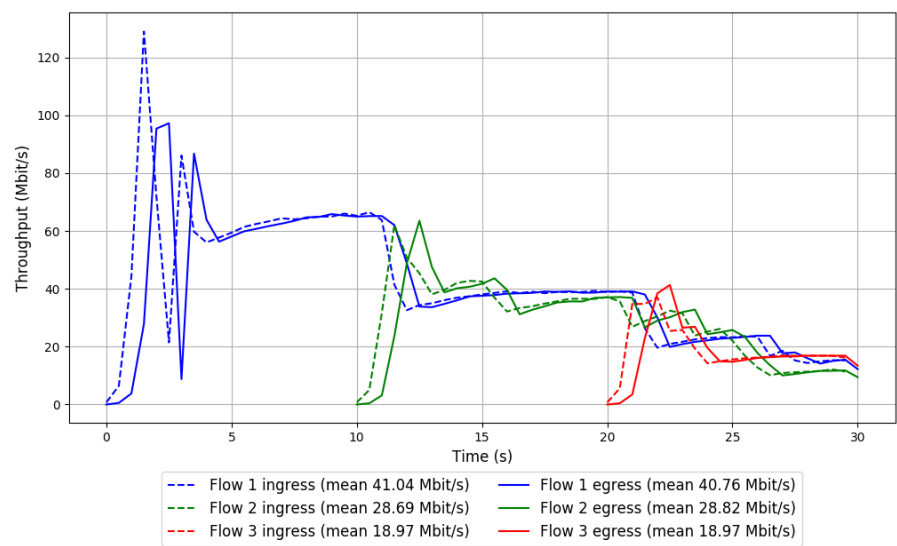
-- Flow 3:

Average throughput: 18.97 Mbit/s

95th percentile per-packet one-way delay: 198.314 ms

Loss rate: 1.71%

Run 1: Report of TCP Cubic — Data Link



Run 2: Statistics of TCP Cubic

Start at: 2019-02-12 05:01:18

End at: 2019-02-12 05:01:48

Local clock offset: -1.199 ms

Remote clock offset: 9.272 ms

Below is generated by plot.py at 2019-02-12 06:28:48

Datalink statistics

-- Total of 3 flows:

Average throughput: 74.50 Mbit/s

95th percentile per-packet one-way delay: 174.548 ms

Loss rate: 0.86%

-- Flow 1:

Average throughput: 41.16 Mbit/s

95th percentile per-packet one-way delay: 182.912 ms

Loss rate: 0.51%

-- Flow 2:

Average throughput: 36.79 Mbit/s

95th percentile per-packet one-way delay: 162.816 ms

Loss rate: 0.94%

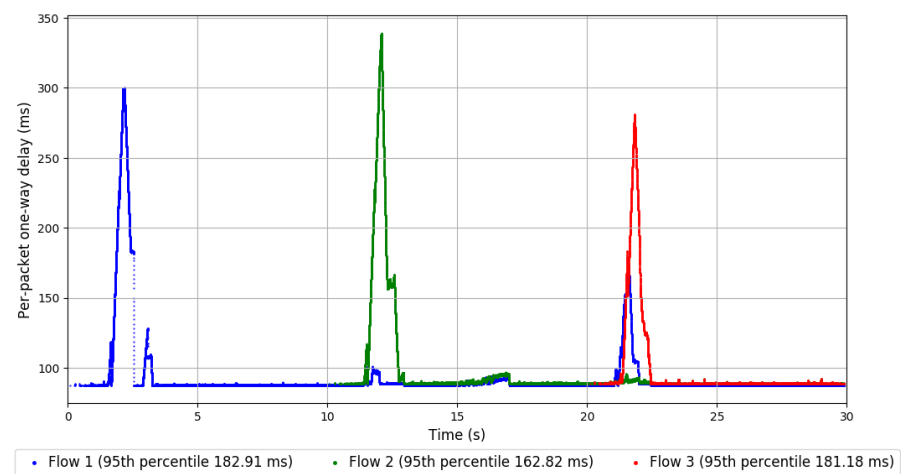
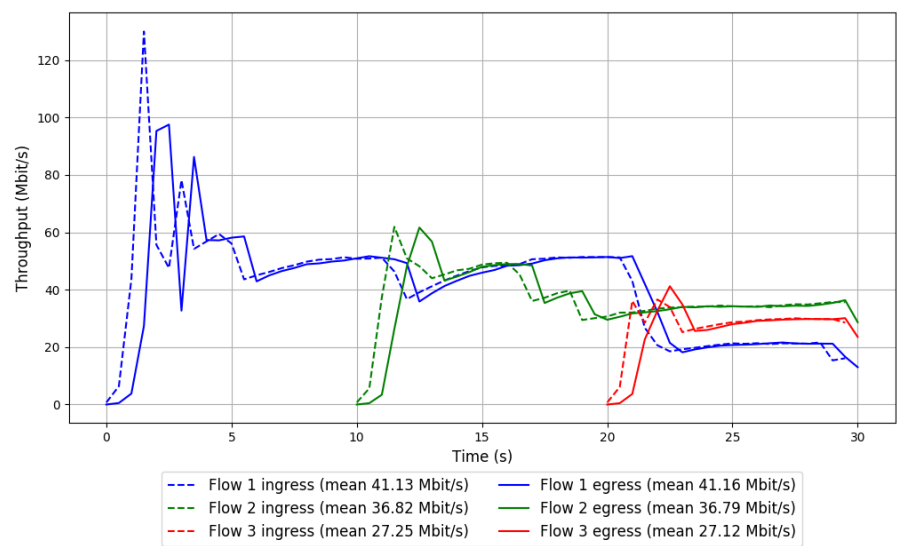
-- Flow 3:

Average throughput: 27.12 Mbit/s

95th percentile per-packet one-way delay: 181.180 ms

Loss rate: 2.19%

Run 2: Report of TCP Cubic — Data Link



Run 3: Statistics of TCP Cubic

Start at: 2019-02-12 05:28:46

End at: 2019-02-12 05:29:16

Local clock offset: -6.463 ms

Remote clock offset: 8.607 ms

Below is generated by plot.py at 2019-02-12 06:28:48

Datalink statistics

-- Total of 3 flows:

Average throughput: 83.77 Mbit/s

95th percentile per-packet one-way delay: 161.950 ms

Loss rate: 0.71%

-- Flow 1:

Average throughput: 46.71 Mbit/s

95th percentile per-packet one-way delay: 166.994 ms

Loss rate: 0.35%

-- Flow 2:

Average throughput: 38.51 Mbit/s

95th percentile per-packet one-way delay: 160.747 ms

Loss rate: 0.76%

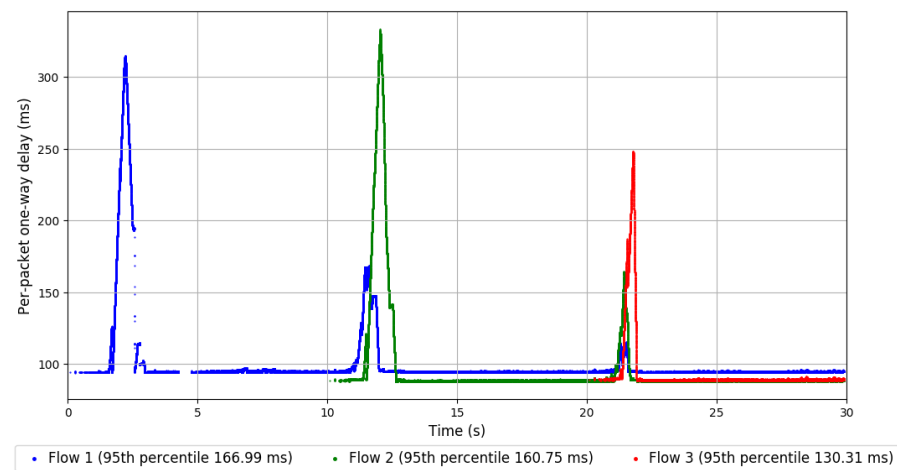
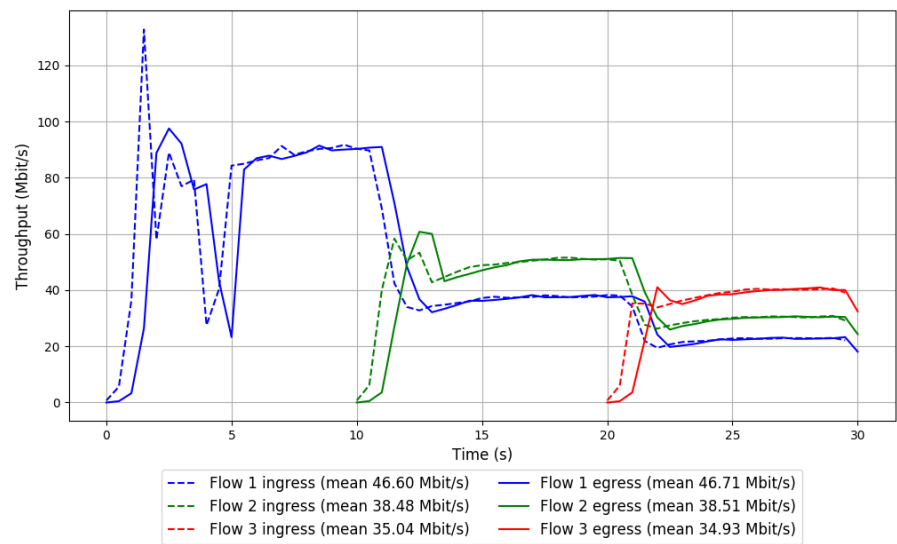
-- Flow 3:

Average throughput: 34.93 Mbit/s

95th percentile per-packet one-way delay: 130.307 ms

Loss rate: 2.04%

Run 3: Report of TCP Cubic — Data Link



Run 4: Statistics of TCP Cubic

Start at: 2019-02-12 05:56:01

End at: 2019-02-12 05:56:31

Local clock offset: -5.607 ms

Remote clock offset: 3.266 ms

Below is generated by plot.py at 2019-02-12 06:28:48

Datalink statistics

-- Total of 3 flows:

Average throughput: 70.03 Mbit/s

95th percentile per-packet one-way delay: 177.685 ms

Loss rate: 0.96%

-- Flow 1:

Average throughput: 40.46 Mbit/s

95th percentile per-packet one-way delay: 182.498 ms

Loss rate: 0.88%

-- Flow 2:

Average throughput: 31.27 Mbit/s

95th percentile per-packet one-way delay: 153.255 ms

Loss rate: 0.67%

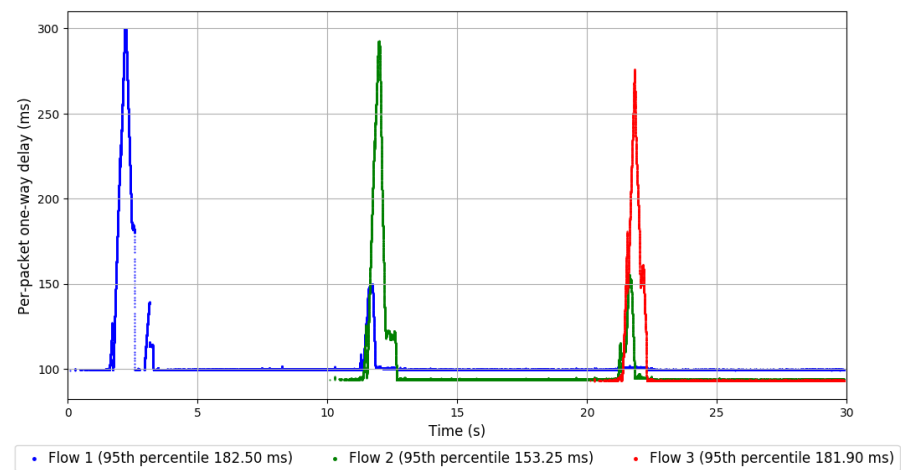
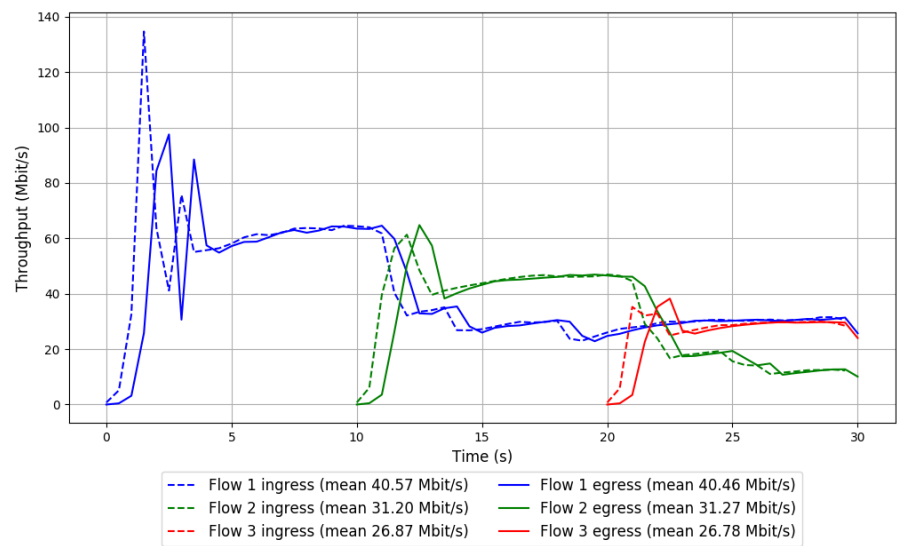
-- Flow 3:

Average throughput: 26.78 Mbit/s

95th percentile per-packet one-way delay: 181.896 ms

Loss rate: 2.02%

Run 4: Report of TCP Cubic — Data Link



Run 5: Statistics of TCP Cubic

Start at: 2019-02-12 06:23:15

End at: 2019-02-12 06:23:45

Local clock offset: -5.478 ms

Remote clock offset: 9.618 ms

Below is generated by plot.py at 2019-02-12 06:28:48

Datalink statistics

-- Total of 3 flows:

Average throughput: 78.25 Mbit/s

95th percentile per-packet one-way delay: 157.934 ms

Loss rate: 0.68%

-- Flow 1:

Average throughput: 42.26 Mbit/s

95th percentile per-packet one-way delay: 184.944 ms

Loss rate: 0.37%

-- Flow 2:

Average throughput: 37.24 Mbit/s

95th percentile per-packet one-way delay: 151.550 ms

Loss rate: 0.78%

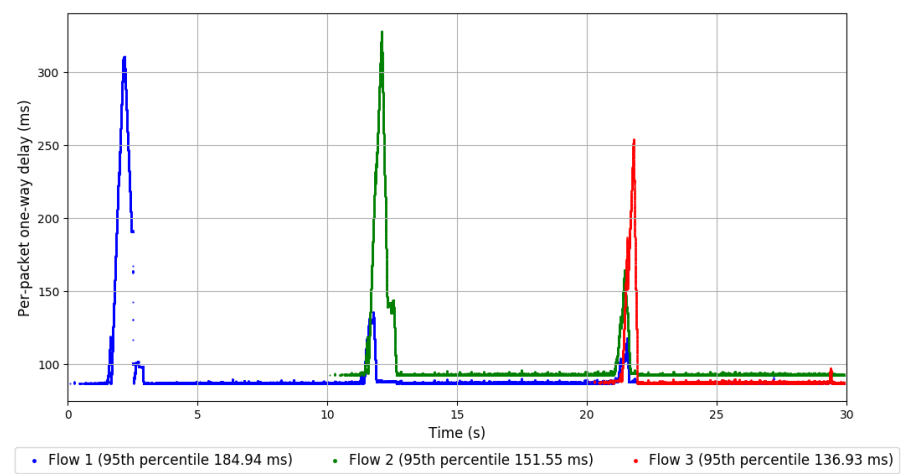
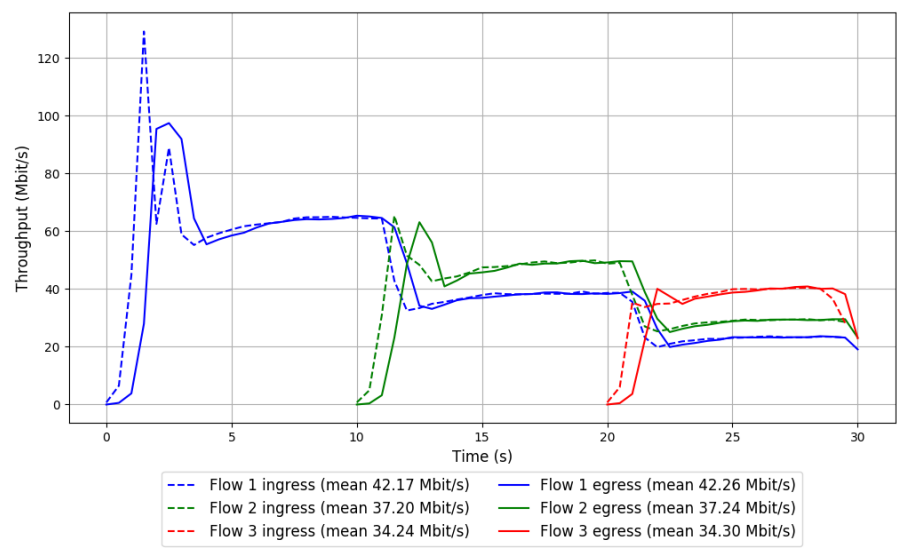
-- Flow 3:

Average throughput: 34.30 Mbit/s

95th percentile per-packet one-way delay: 136.930 ms

Loss rate: 1.58%

Run 5: Report of TCP Cubic — Data Link



Run 1: Statistics of FillP

Start at: 2019-02-12 04:07:25

End at: 2019-02-12 04:07:55

Local clock offset: -7.622 ms

Remote clock offset: 2.879 ms

Below is generated by plot.py at 2019-02-12 06:29:01

Datalink statistics

-- Total of 3 flows:

Average throughput: 91.90 Mbit/s

95th percentile per-packet one-way delay: 301.415 ms

Loss rate: 1.79%

-- Flow 1:

Average throughput: 56.87 Mbit/s

95th percentile per-packet one-way delay: 300.713 ms

Loss rate: 1.58%

-- Flow 2:

Average throughput: 37.37 Mbit/s

95th percentile per-packet one-way delay: 267.524 ms

Loss rate: 1.42%

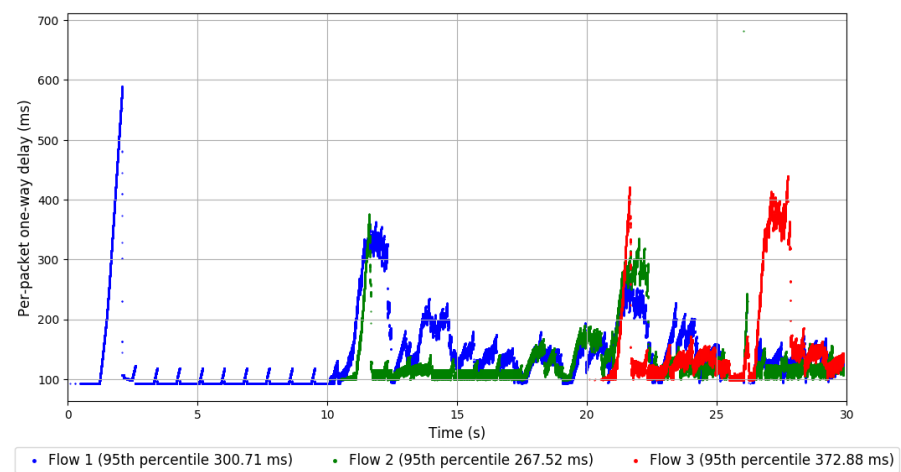
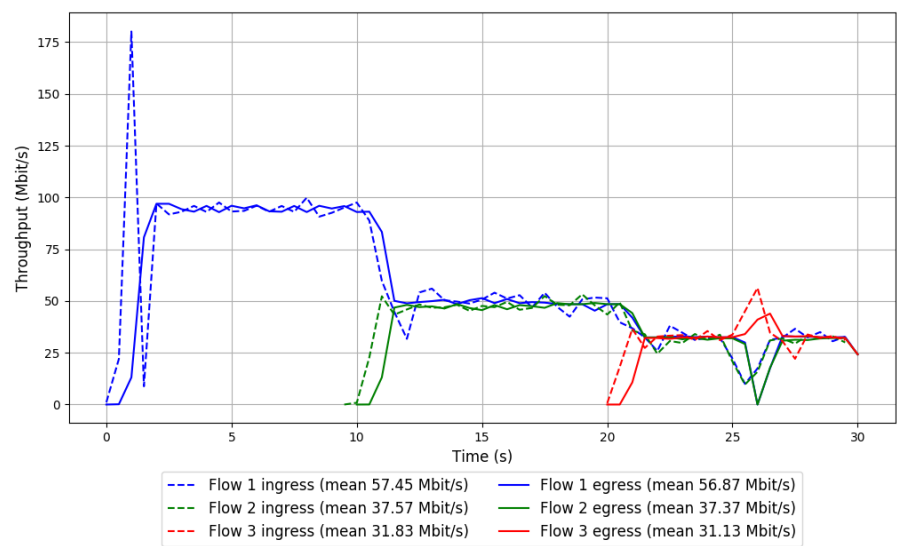
-- Flow 3:

Average throughput: 31.13 Mbit/s

95th percentile per-packet one-way delay: 372.876 ms

Loss rate: 3.86%

Run 1: Report of FillP — Data Link



Run 2: Statistics of FillP

Start at: 2019-02-12 04:35:13

End at: 2019-02-12 04:35:43

Local clock offset: -7.067 ms

Remote clock offset: 4.467 ms

Below is generated by plot.py at 2019-02-12 06:29:05

Datalink statistics

-- Total of 3 flows:

Average throughput: 93.34 Mbit/s

95th percentile per-packet one-way delay: 269.549 ms

Loss rate: 2.39%

-- Flow 1:

Average throughput: 57.27 Mbit/s

95th percentile per-packet one-way delay: 288.696 ms

Loss rate: 0.78%

-- Flow 2:

Average throughput: 39.39 Mbit/s

95th percentile per-packet one-way delay: 242.214 ms

Loss rate: 5.26%

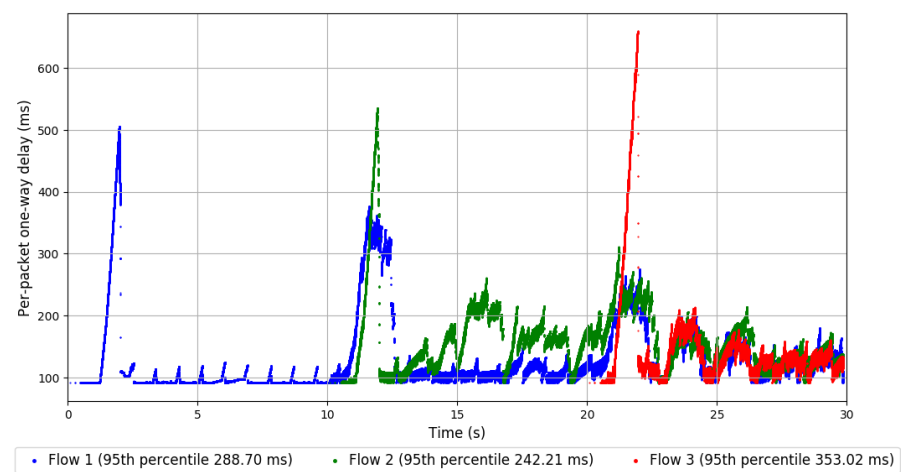
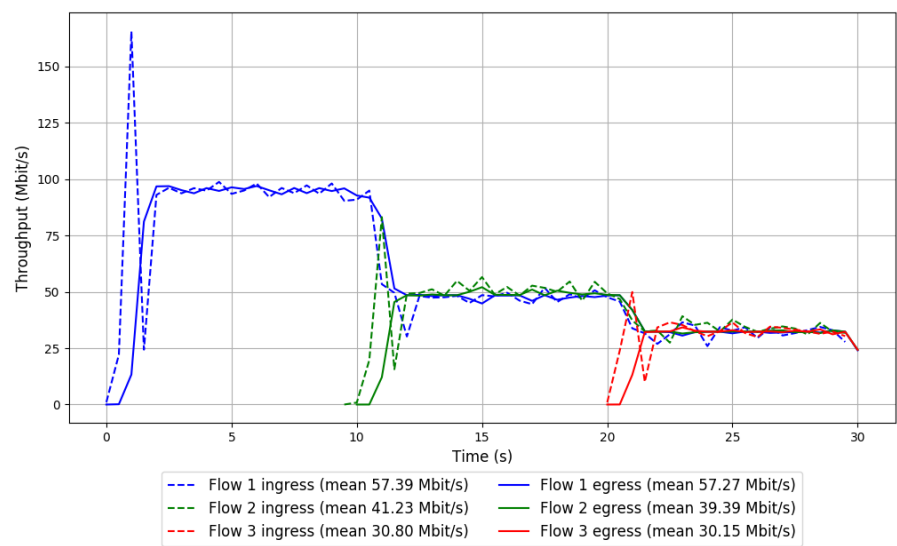
-- Flow 3:

Average throughput: 30.15 Mbit/s

95th percentile per-packet one-way delay: 353.019 ms

Loss rate: 3.72%

Run 2: Report of FillP — Data Link



Run 3: Statistics of FillP

Start at: 2019-02-12 05:02:36

End at: 2019-02-12 05:03:06

Local clock offset: -1.848 ms

Remote clock offset: 8.444 ms

Below is generated by plot.py at 2019-02-12 06:29:07

Datalink statistics

-- Total of 3 flows:

Average throughput: 93.04 Mbit/s

95th percentile per-packet one-way delay: 307.805 ms

Loss rate: 2.46%

-- Flow 1:

Average throughput: 56.85 Mbit/s

95th percentile per-packet one-way delay: 322.843 ms

Loss rate: 0.79%

-- Flow 2:

Average throughput: 39.61 Mbit/s

95th percentile per-packet one-way delay: 276.123 ms

Loss rate: 4.98%

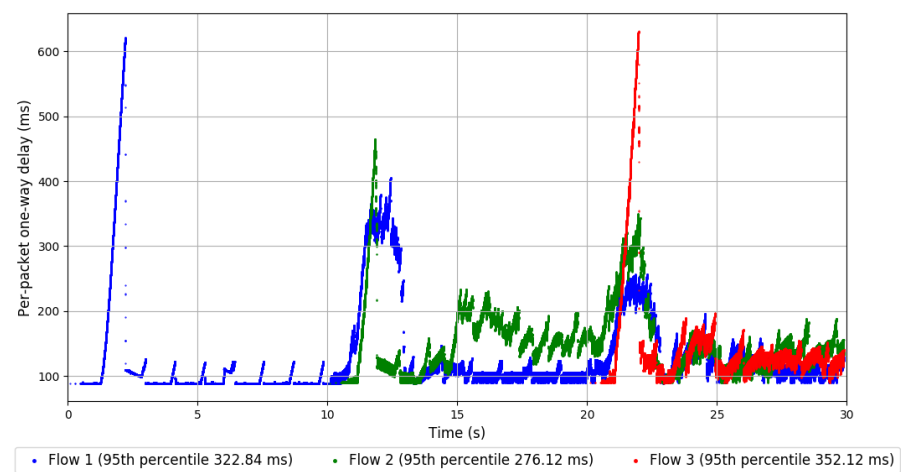
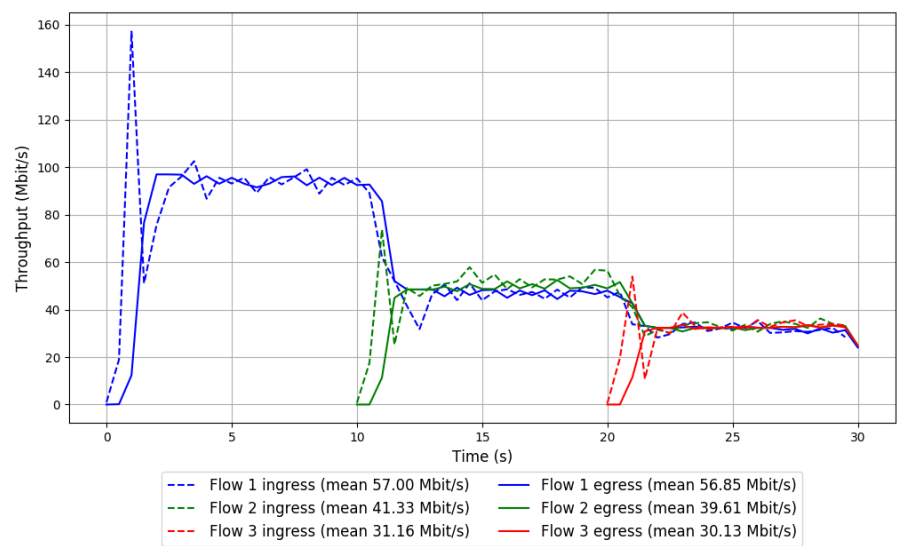
-- Flow 3:

Average throughput: 30.13 Mbit/s

95th percentile per-packet one-way delay: 352.124 ms

Loss rate: 4.91%

Run 3: Report of FillP — Data Link



Run 4: Statistics of FillP

Start at: 2019-02-12 05:30:04

End at: 2019-02-12 05:30:34

Local clock offset: -7.25 ms

Remote clock offset: 3.749 ms

Below is generated by plot.py at 2019-02-12 06:29:16

Datalink statistics

-- Total of 3 flows:

Average throughput: 93.44 Mbit/s

95th percentile per-packet one-way delay: 287.726 ms

Loss rate: 2.02%

-- Flow 1:

Average throughput: 57.67 Mbit/s

95th percentile per-packet one-way delay: 294.789 ms

Loss rate: 1.63%

-- Flow 2:

Average throughput: 39.02 Mbit/s

95th percentile per-packet one-way delay: 289.920 ms

Loss rate: 2.32%

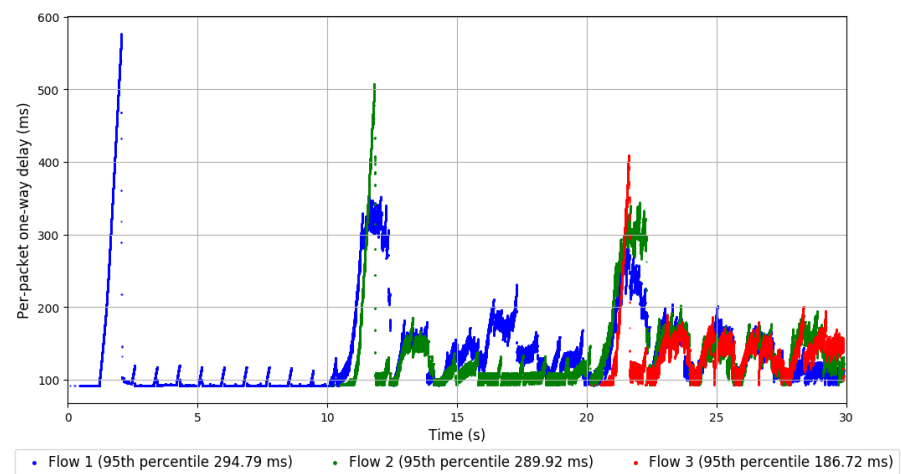
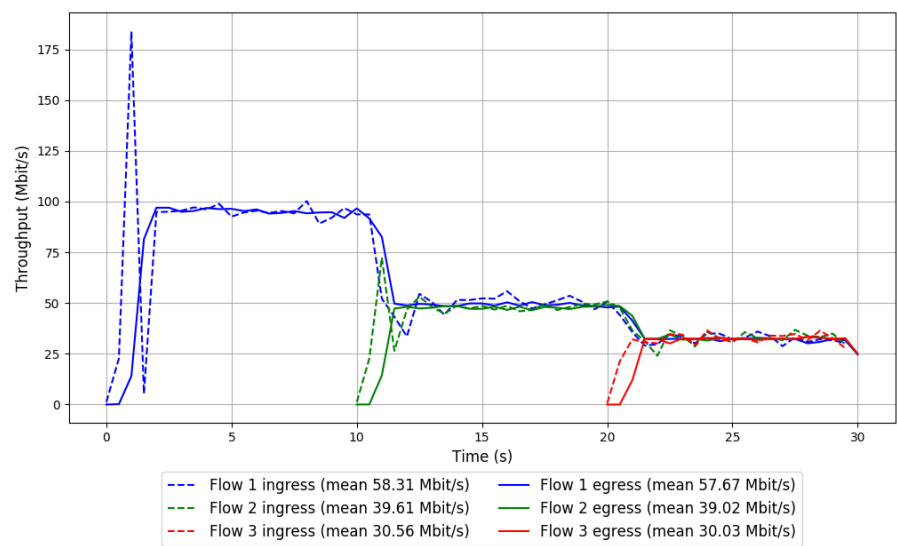
-- Flow 3:

Average throughput: 30.03 Mbit/s

95th percentile per-packet one-way delay: 186.717 ms

Loss rate: 3.45%

Run 4: Report of FillP — Data Link



Run 5: Statistics of FillP

Start at: 2019-02-12 05:57:18

End at: 2019-02-12 05:57:48

Local clock offset: -5.605 ms

Remote clock offset: 9.69 ms

Below is generated by plot.py at 2019-02-12 06:29:47

Datalink statistics

-- Total of 3 flows:

Average throughput: 93.23 Mbit/s

95th percentile per-packet one-way delay: 245.549 ms

Loss rate: 2.26%

-- Flow 1:

Average throughput: 57.18 Mbit/s

95th percentile per-packet one-way delay: 254.454 ms

Loss rate: 1.12%

-- Flow 2:

Average throughput: 39.73 Mbit/s

95th percentile per-packet one-way delay: 241.091 ms

Loss rate: 4.37%

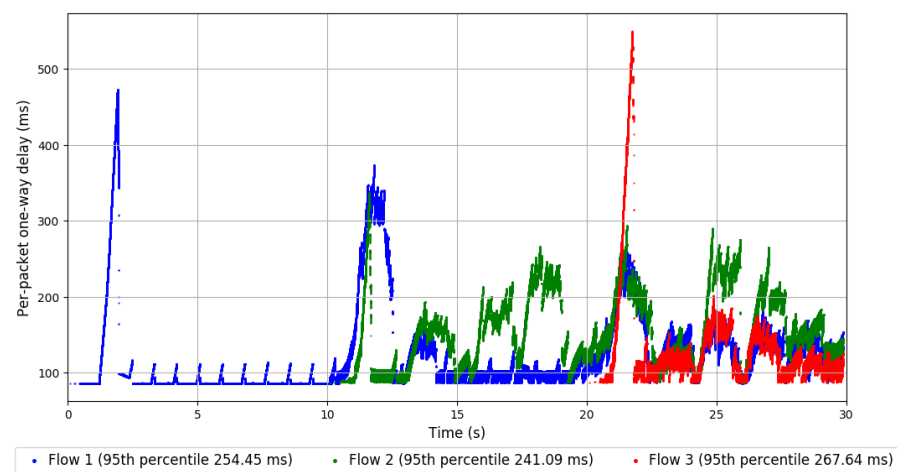
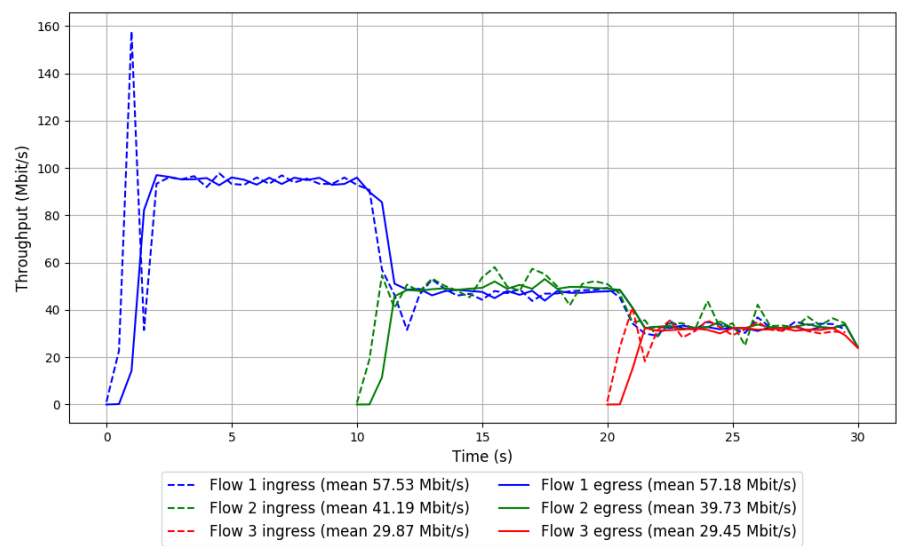
-- Flow 3:

Average throughput: 29.45 Mbit/s

95th percentile per-packet one-way delay: 267.636 ms

Loss rate: 3.10%

Run 5: Report of FillP — Data Link



Run 1: Statistics of FillP-Sheep

Start at: 2019-02-12 04:23:24

End at: 2019-02-12 04:23:54

Local clock offset: -6.865 ms

Remote clock offset: 3.195 ms

Below is generated by plot.py at 2019-02-12 06:29:51

Datalink statistics

-- Total of 3 flows:

Average throughput: 92.78 Mbit/s

95th percentile per-packet one-way delay: 246.712 ms

Loss rate: 1.49%

-- Flow 1:

Average throughput: 57.18 Mbit/s

95th percentile per-packet one-way delay: 254.233 ms

Loss rate: 1.03%

-- Flow 2:

Average throughput: 38.83 Mbit/s

95th percentile per-packet one-way delay: 236.053 ms

Loss rate: 2.04%

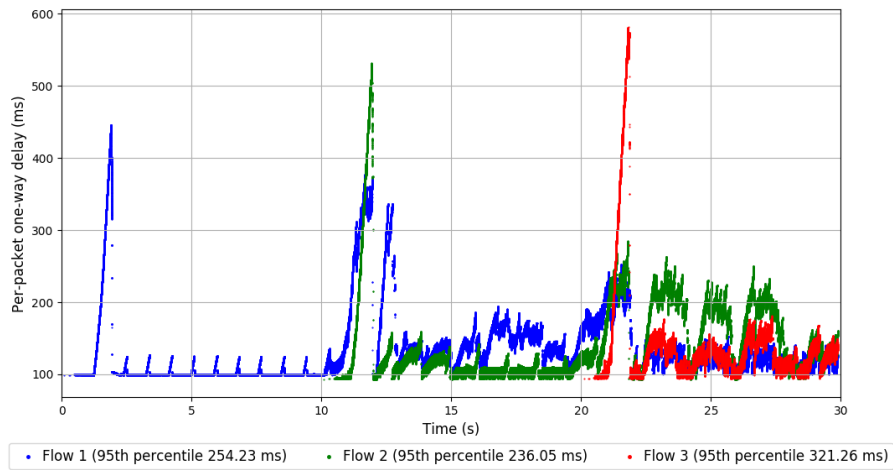
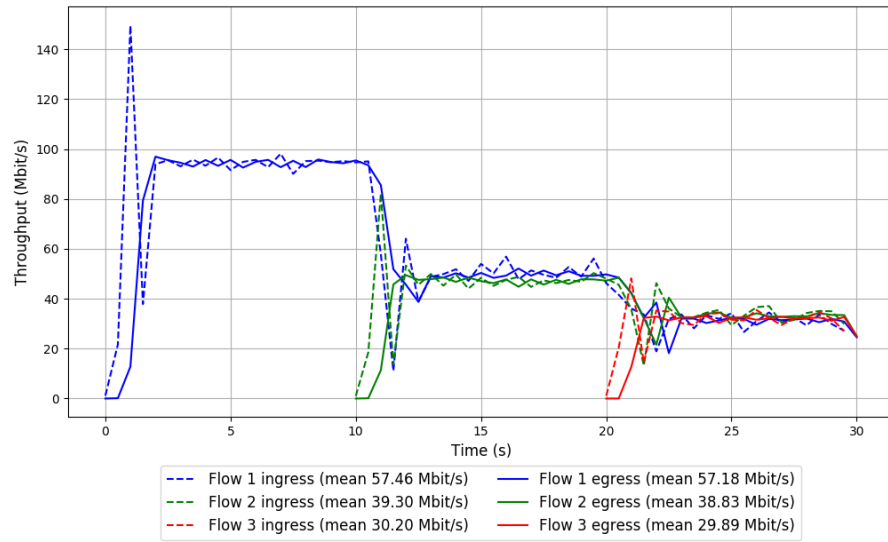
-- Flow 3:

Average throughput: 29.89 Mbit/s

95th percentile per-packet one-way delay: 321.263 ms

Loss rate: 2.69%

Run 1: Report of FillP-Sheep — Data Link



Run 2: Statistics of FillP-Sheep

Start at: 2019-02-12 04:50:48

End at: 2019-02-12 04:51:18

Local clock offset: -2.916 ms

Remote clock offset: 8.915 ms

Below is generated by plot.py at 2019-02-12 06:29:52

Datalink statistics

-- Total of 3 flows:

Average throughput: 92.80 Mbit/s

95th percentile per-packet one-way delay: 306.447 ms

Loss rate: 1.45%

-- Flow 1:

Average throughput: 56.99 Mbit/s

95th percentile per-packet one-way delay: 327.528 ms

Loss rate: 0.78%

-- Flow 2:

Average throughput: 39.02 Mbit/s

95th percentile per-packet one-way delay: 232.163 ms

Loss rate: 2.08%

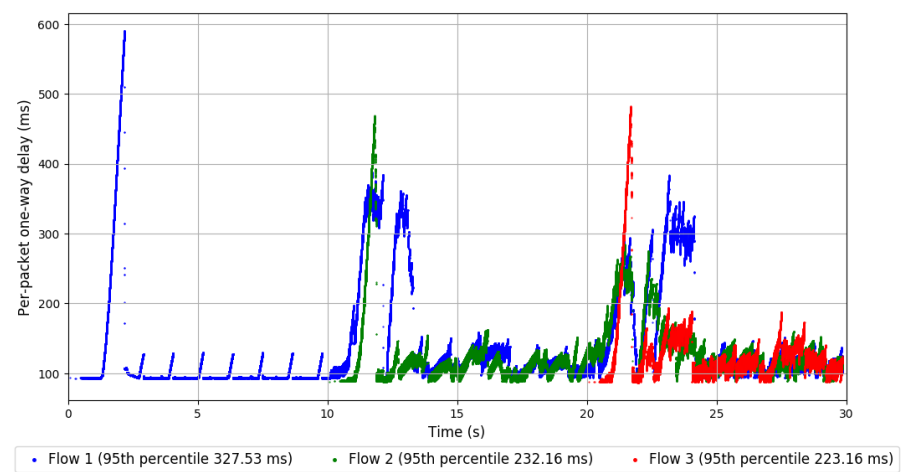
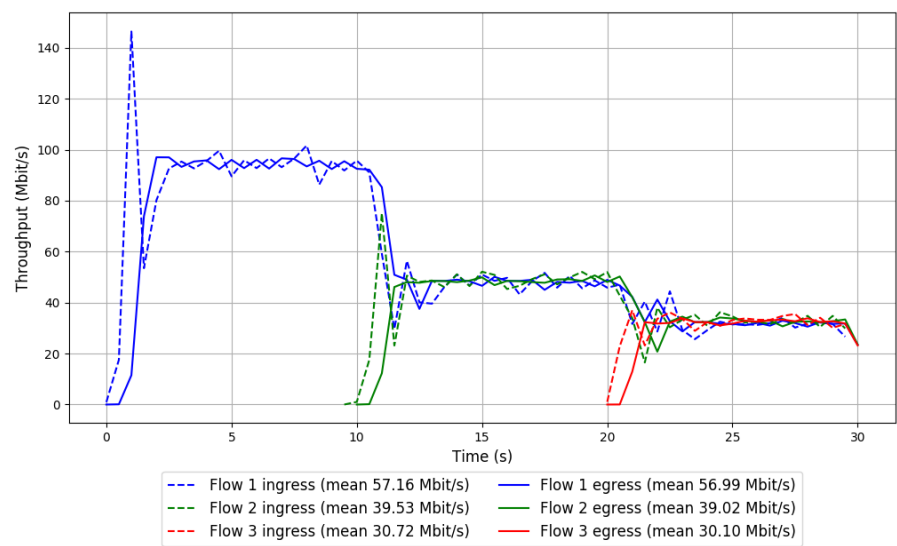
-- Flow 3:

Average throughput: 30.10 Mbit/s

95th percentile per-packet one-way delay: 223.158 ms

Loss rate: 3.56%

Run 2: Report of FillP-Sheep — Data Link



Run 3: Statistics of FillP-Sheep

Start at: 2019-02-12 05:18:13

End at: 2019-02-12 05:18:43

Local clock offset: -6.212 ms

Remote clock offset: 9.647 ms

Below is generated by plot.py at 2019-02-12 06:30:07

Datalink statistics

-- Total of 3 flows:

Average throughput: 92.84 Mbit/s

95th percentile per-packet one-way delay: 266.646 ms

Loss rate: 1.72%

-- Flow 1:

Average throughput: 57.45 Mbit/s

95th percentile per-packet one-way delay: 284.738 ms

Loss rate: 1.30%

-- Flow 2:

Average throughput: 38.55 Mbit/s

95th percentile per-packet one-way delay: 211.856 ms

Loss rate: 1.76%

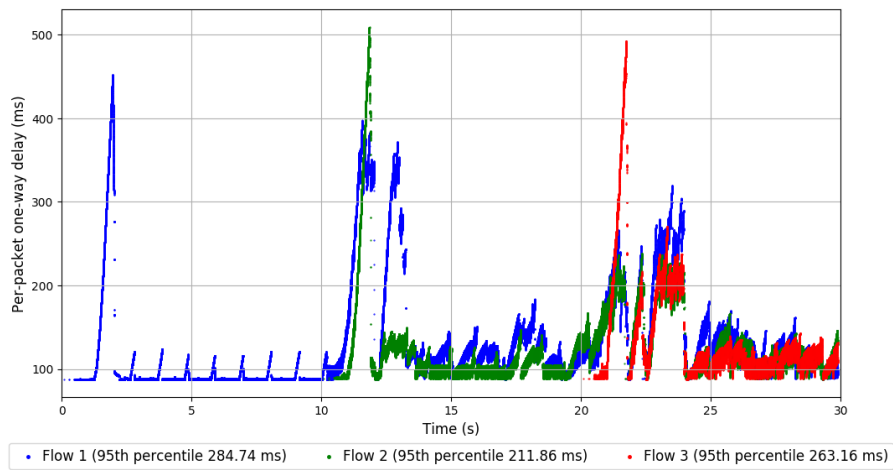
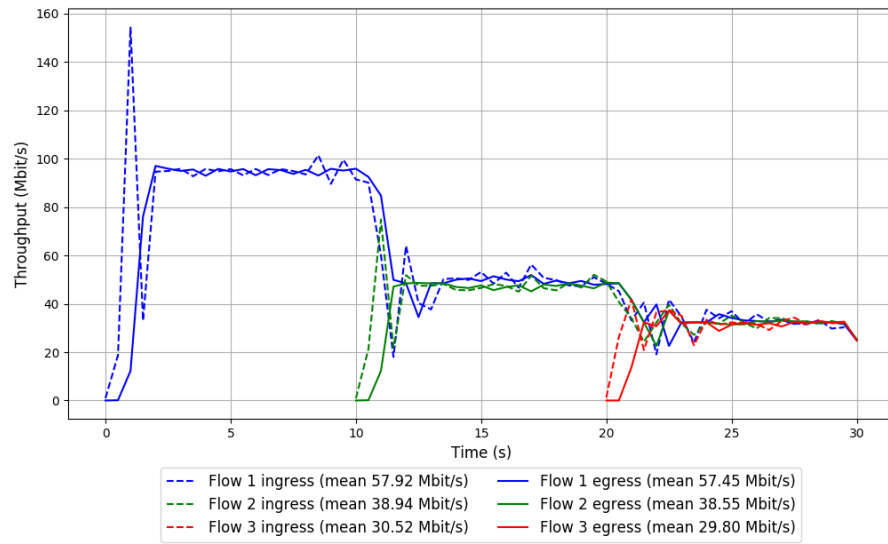
-- Flow 3:

Average throughput: 29.80 Mbit/s

95th percentile per-packet one-way delay: 263.157 ms

Loss rate: 3.99%

Run 3: Report of FillP-Sheep — Data Link



Run 4: Statistics of FillP-Sheep

Start at: 2019-02-12 05:45:38

End at: 2019-02-12 05:46:08

Local clock offset: -6.59 ms

Remote clock offset: 7.619 ms

Below is generated by plot.py at 2019-02-12 06:30:20

Datalink statistics

-- Total of 3 flows:

Average throughput: 92.94 Mbit/s

95th percentile per-packet one-way delay: 274.153 ms

Loss rate: 1.73%

-- Flow 1:

Average throughput: 56.82 Mbit/s

95th percentile per-packet one-way delay: 262.312 ms

Loss rate: 0.69%

-- Flow 2:

Average throughput: 39.87 Mbit/s

95th percentile per-packet one-way delay: 285.590 ms

Loss rate: 2.44%

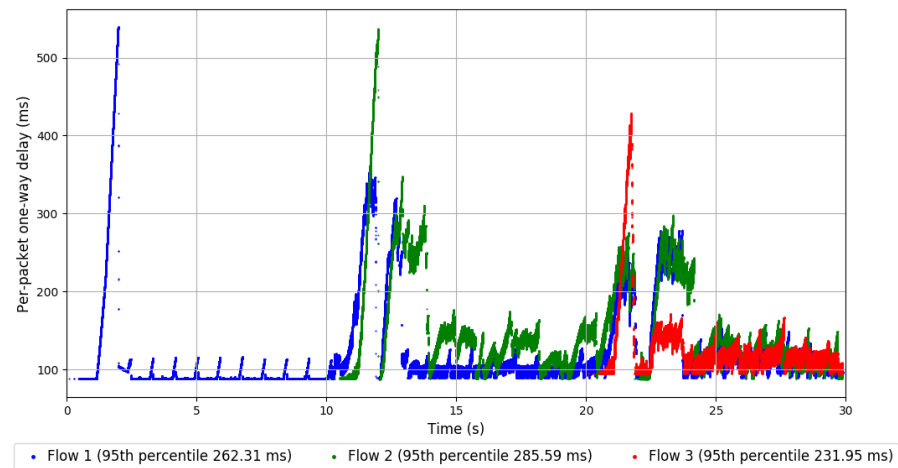
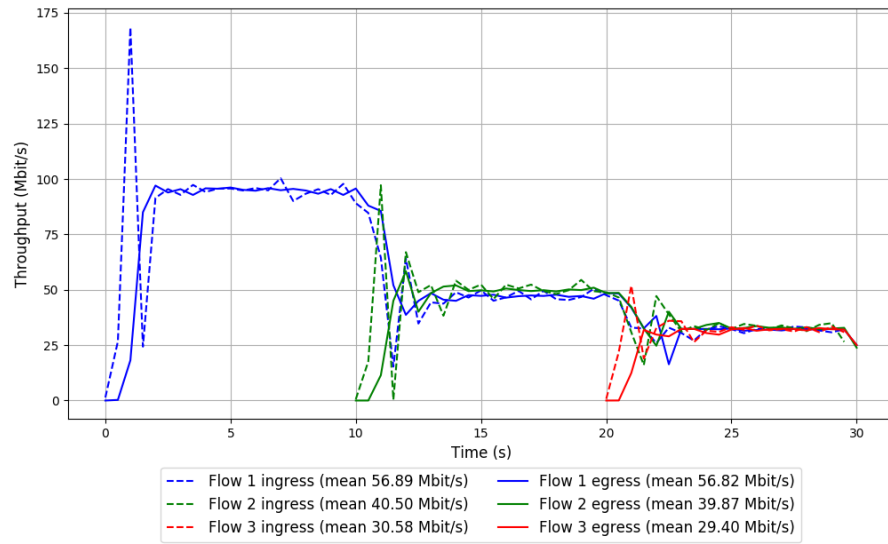
-- Flow 3:

Average throughput: 29.40 Mbit/s

95th percentile per-packet one-way delay: 231.953 ms

Loss rate: 5.65%

Run 4: Report of FillP-Sheep — Data Link



Run 5: Statistics of FillP-Sheep

Start at: 2019-02-12 06:12:52

End at: 2019-02-12 06:13:22

Local clock offset: -5.544 ms

Remote clock offset: 7.229 ms

Below is generated by plot.py at 2019-02-12 06:30:24

Datalink statistics

-- Total of 3 flows:

Average throughput: 92.63 Mbit/s

95th percentile per-packet one-way delay: 312.602 ms

Loss rate: 1.48%

-- Flow 1:

Average throughput: 56.93 Mbit/s

95th percentile per-packet one-way delay: 323.575 ms

Loss rate: 0.87%

-- Flow 2:

Average throughput: 38.95 Mbit/s

95th percentile per-packet one-way delay: 271.186 ms

Loss rate: 2.12%

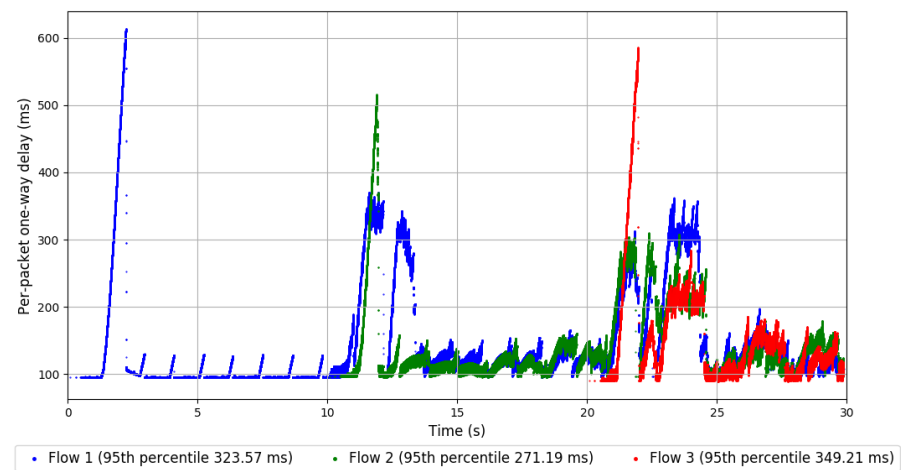
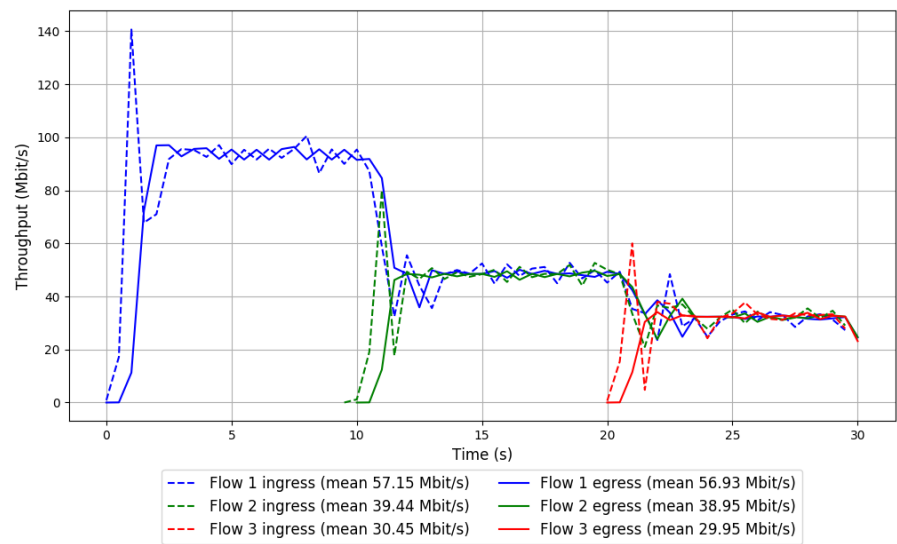
-- Flow 3:

Average throughput: 29.95 Mbit/s

95th percentile per-packet one-way delay: 349.207 ms

Loss rate: 3.26%

Run 5: Report of FillP-Sheep — Data Link



Run 1: Statistics of Indigo

Start at: 2019-02-12 04:22:00

End at: 2019-02-12 04:22:30

Local clock offset: -6.863 ms

Remote clock offset: 8.353 ms

Below is generated by plot.py at 2019-02-12 06:30:24

Datalink statistics

-- Total of 3 flows:

Average throughput: 93.72 Mbit/s

95th percentile per-packet one-way delay: 343.802 ms

Loss rate: 4.78%

-- Flow 1:

Average throughput: 58.40 Mbit/s

95th percentile per-packet one-way delay: 351.438 ms

Loss rate: 6.50%

-- Flow 2:

Average throughput: 38.96 Mbit/s

95th percentile per-packet one-way delay: 143.531 ms

Loss rate: 1.37%

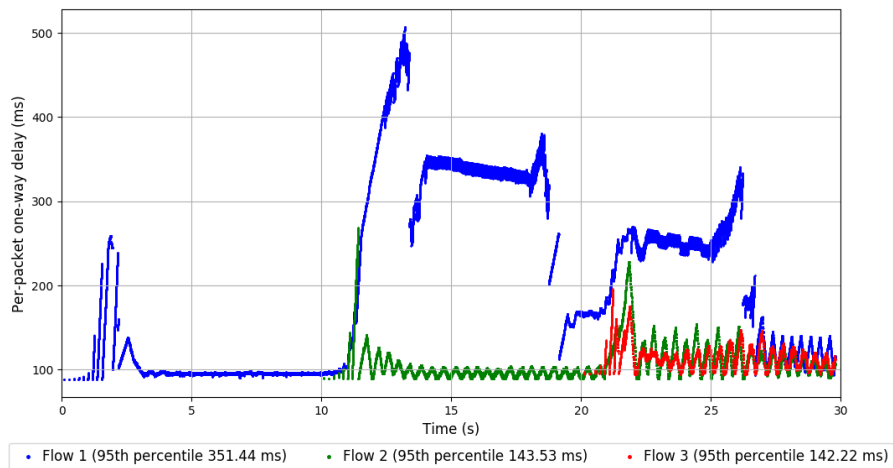
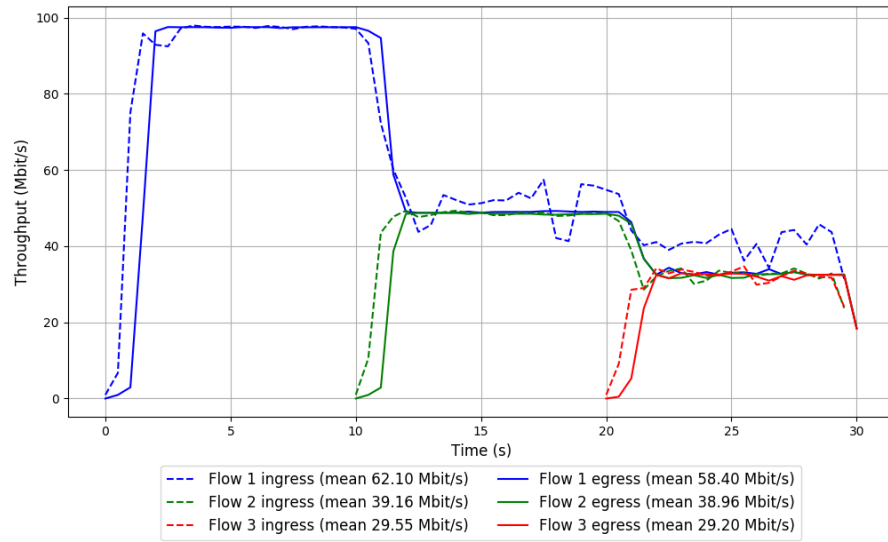
-- Flow 3:

Average throughput: 29.20 Mbit/s

95th percentile per-packet one-way delay: 142.217 ms

Loss rate: 2.93%

Run 1: Report of Indigo — Data Link



Run 2: Statistics of Indigo

Start at: 2019-02-12 04:49:26

End at: 2019-02-12 04:49:56

Local clock offset: -2.364 ms

Remote clock offset: 5.008 ms

Below is generated by plot.py at 2019-02-12 06:30:27

Datalink statistics

-- Total of 3 flows:

Average throughput: 93.63 Mbit/s

95th percentile per-packet one-way delay: 371.010 ms

Loss rate: 4.65%

-- Flow 1:

Average throughput: 58.37 Mbit/s

95th percentile per-packet one-way delay: 381.469 ms

Loss rate: 6.31%

-- Flow 2:

Average throughput: 38.92 Mbit/s

95th percentile per-packet one-way delay: 133.134 ms

Loss rate: 1.26%

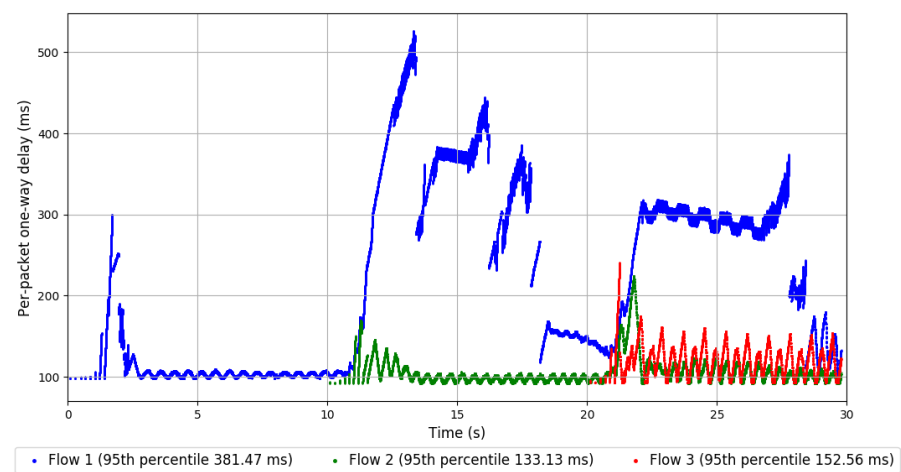
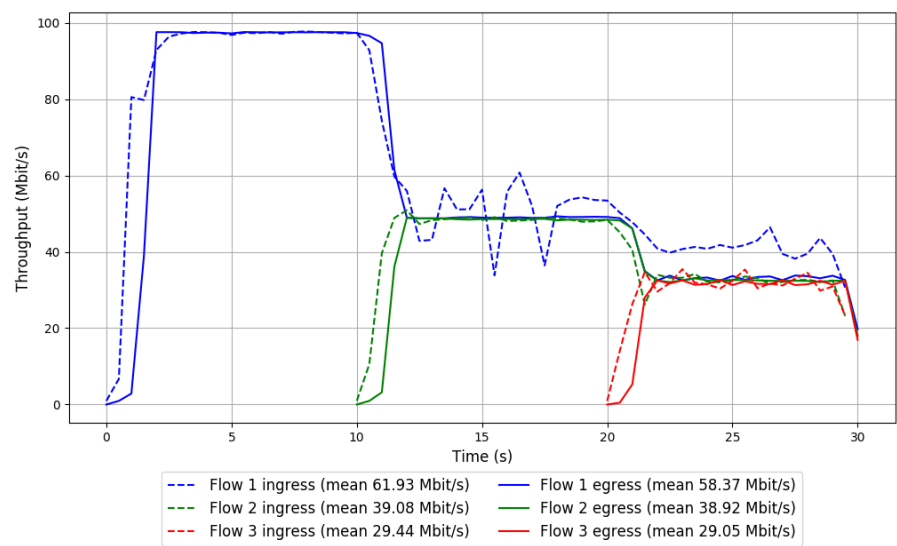
-- Flow 3:

Average throughput: 29.05 Mbit/s

95th percentile per-packet one-way delay: 152.558 ms

Loss rate: 3.08%

Run 2: Report of Indigo — Data Link



Run 3: Statistics of Indigo

Start at: 2019-02-12 05:16:52

End at: 2019-02-12 05:17:22

Local clock offset: -5.311 ms

Remote clock offset: 9.781 ms

Below is generated by plot.py at 2019-02-12 06:30:55

Datalink statistics

-- Total of 3 flows:

Average throughput: 92.98 Mbit/s

95th percentile per-packet one-way delay: 397.377 ms

Loss rate: 6.88%

-- Flow 1:

Average throughput: 58.36 Mbit/s

95th percentile per-packet one-way delay: 424.031 ms

Loss rate: 9.65%

-- Flow 2:

Average throughput: 37.92 Mbit/s

95th percentile per-packet one-way delay: 152.305 ms

Loss rate: 1.61%

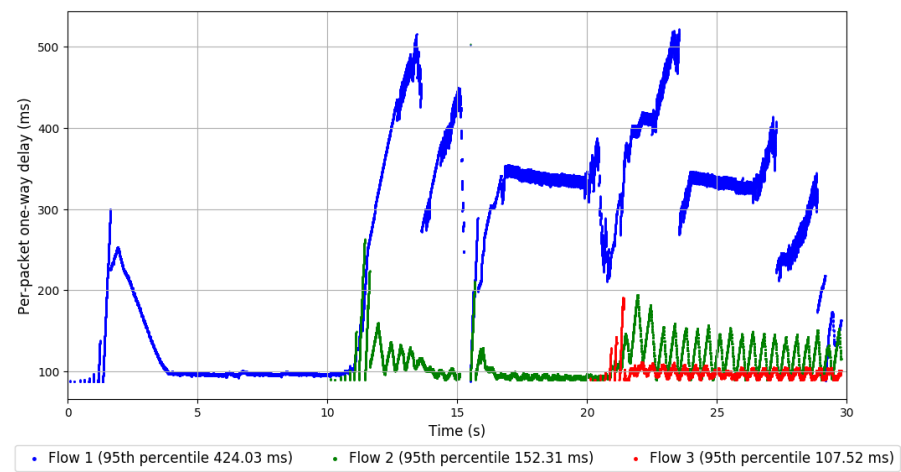
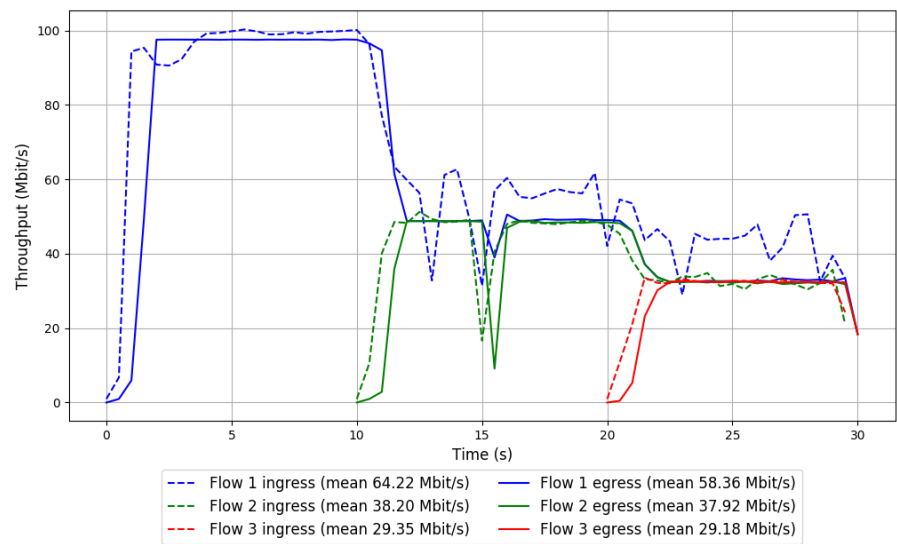
-- Flow 3:

Average throughput: 29.18 Mbit/s

95th percentile per-packet one-way delay: 107.515 ms

Loss rate: 2.33%

Run 3: Report of Indigo — Data Link



Run 4: Statistics of Indigo

Start at: 2019-02-12 05:44:19

End at: 2019-02-12 05:44:49

Local clock offset: -5.902 ms

Remote clock offset: 9.75 ms

Below is generated by plot.py at 2019-02-12 06:30:59

Datalink statistics

-- Total of 3 flows:

Average throughput: 93.76 Mbit/s

95th percentile per-packet one-way delay: 367.891 ms

Loss rate: 9.18%

-- Flow 1:

Average throughput: 58.52 Mbit/s

95th percentile per-packet one-way delay: 401.966 ms

Loss rate: 13.10%

-- Flow 2:

Average throughput: 38.84 Mbit/s

95th percentile per-packet one-way delay: 140.800 ms

Loss rate: 1.40%

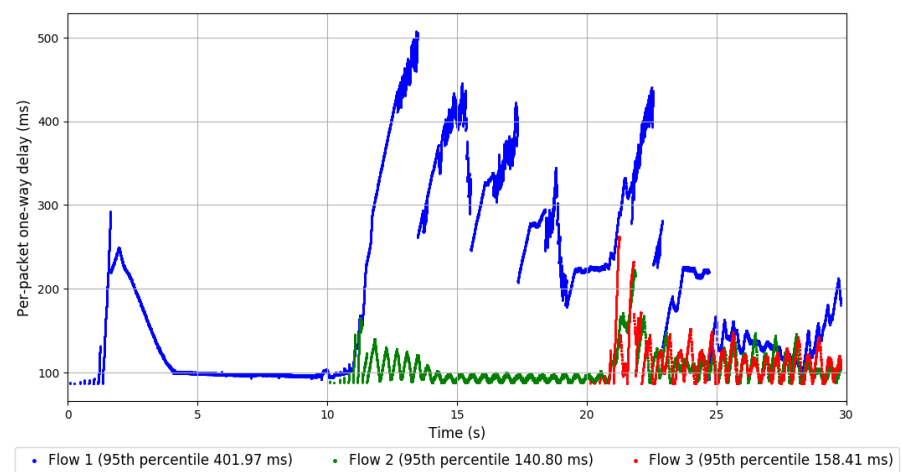
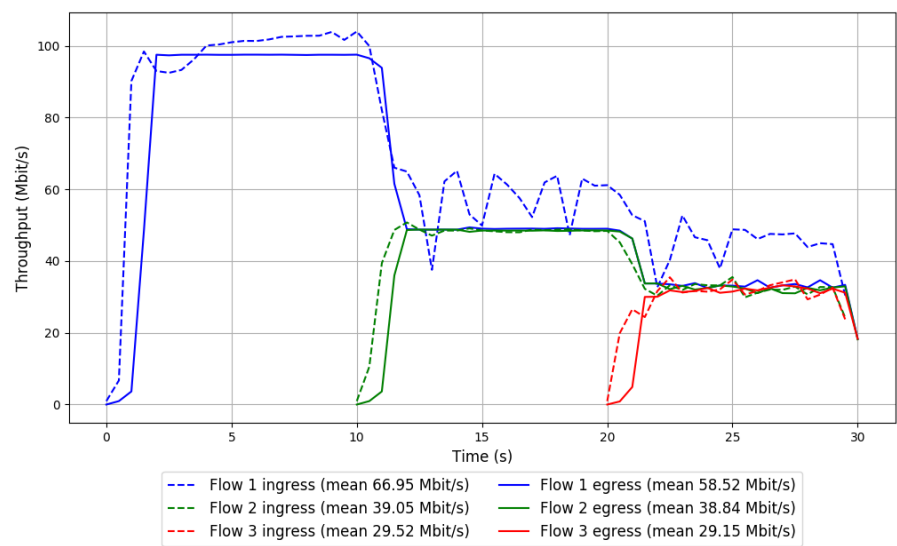
-- Flow 3:

Average throughput: 29.15 Mbit/s

95th percentile per-packet one-way delay: 158.411 ms

Loss rate: 2.96%

Run 4: Report of Indigo — Data Link



Run 5: Statistics of Indigo

Start at: 2019-02-12 06:11:30

End at: 2019-02-12 06:12:00

Local clock offset: -5.466 ms

Remote clock offset: 4.151 ms

Below is generated by plot.py at 2019-02-12 06:31:02

Datalink statistics

-- Total of 3 flows:

Average throughput: 93.72 Mbit/s

95th percentile per-packet one-way delay: 415.904 ms

Loss rate: 7.45%

-- Flow 1:

Average throughput: 58.36 Mbit/s

95th percentile per-packet one-way delay: 451.741 ms

Loss rate: 10.54%

-- Flow 2:

Average throughput: 39.10 Mbit/s

95th percentile per-packet one-way delay: 190.473 ms

Loss rate: 1.57%

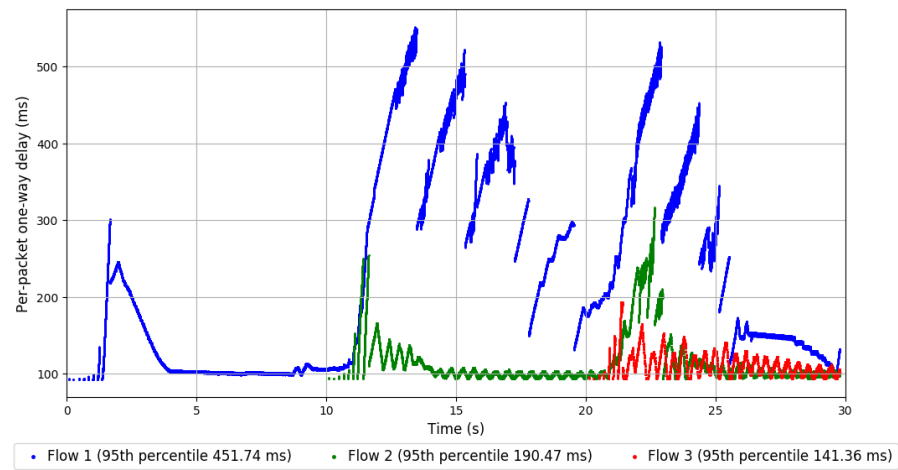
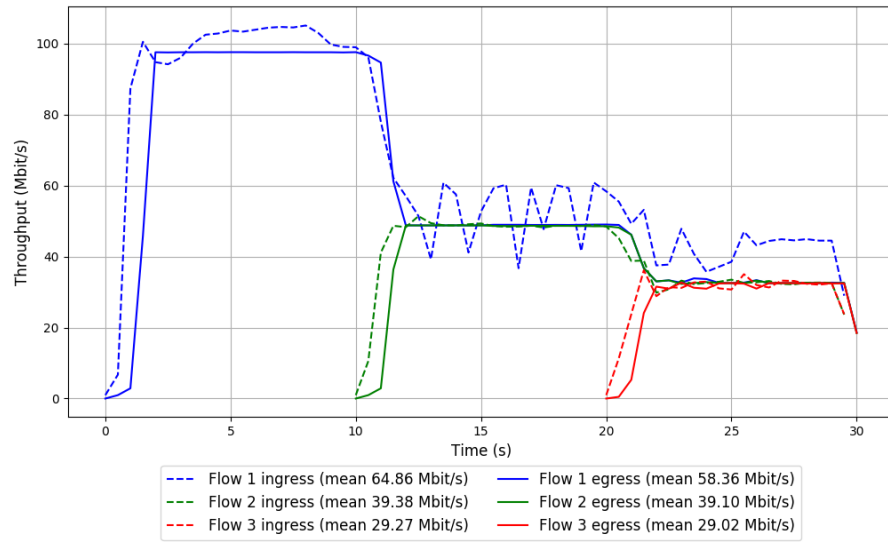
-- Flow 3:

Average throughput: 29.02 Mbit/s

95th percentile per-packet one-way delay: 141.363 ms

Loss rate: 2.60%

Run 5: Report of Indigo — Data Link



Run 1: Statistics of Indigo-MusesC3

Start at: 2019-02-12 04:16:44

End at: 2019-02-12 04:17:14

Local clock offset: -6.856 ms

Remote clock offset: 8.188 ms

Below is generated by plot.py at 2019-02-12 06:31:10

Datalink statistics

-- Total of 3 flows:

Average throughput: 94.80 Mbit/s

95th percentile per-packet one-way delay: 157.853 ms

Loss rate: 2.71%

-- Flow 1:

Average throughput: 58.95 Mbit/s

95th percentile per-packet one-way delay: 155.461 ms

Loss rate: 2.03%

-- Flow 2:

Average throughput: 39.89 Mbit/s

95th percentile per-packet one-way delay: 137.559 ms

Loss rate: 3.94%

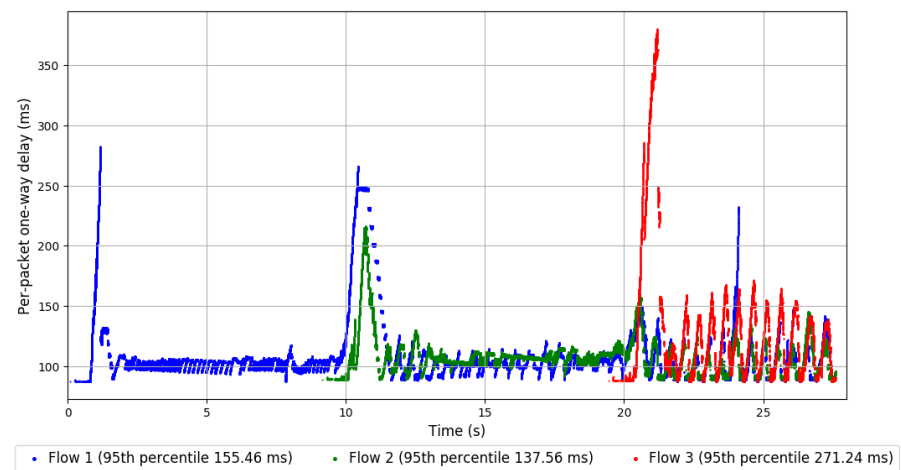
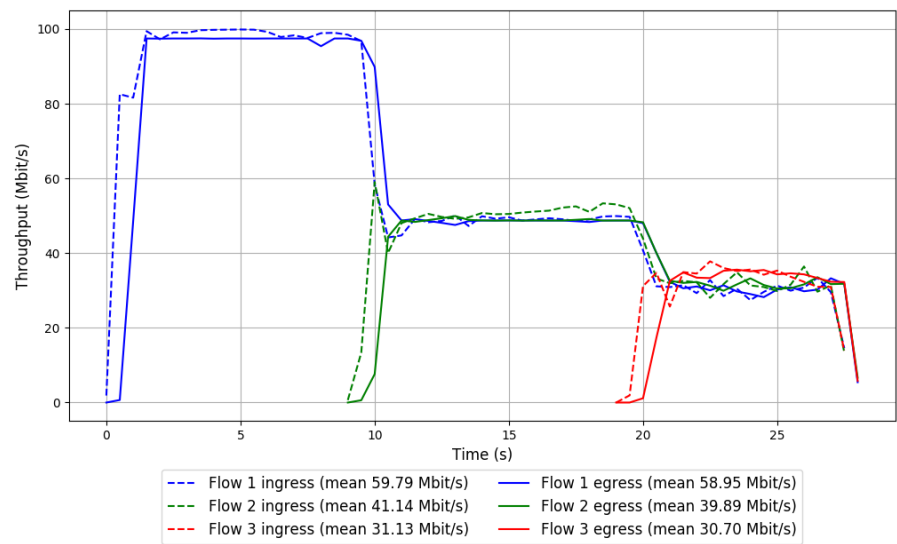
-- Flow 3:

Average throughput: 30.70 Mbit/s

95th percentile per-packet one-way delay: 271.244 ms

Loss rate: 3.43%

Run 1: Report of Indigo-MusesC3 — Data Link



Run 2: Statistics of Indigo-MusesC3

Start at: 2019-02-12 04:44:21

End at: 2019-02-12 04:44:51

Local clock offset: -3.255 ms

Remote clock offset: 7.699 ms

Below is generated by plot.py at 2019-02-12 06:31:21

Datalink statistics

-- Total of 3 flows:

Average throughput: 94.44 Mbit/s

95th percentile per-packet one-way delay: 161.282 ms

Loss rate: 2.32%

-- Flow 1:

Average throughput: 60.24 Mbit/s

95th percentile per-packet one-way delay: 133.158 ms

Loss rate: 2.55%

-- Flow 2:

Average throughput: 40.01 Mbit/s

95th percentile per-packet one-way delay: 249.343 ms

Loss rate: 1.48%

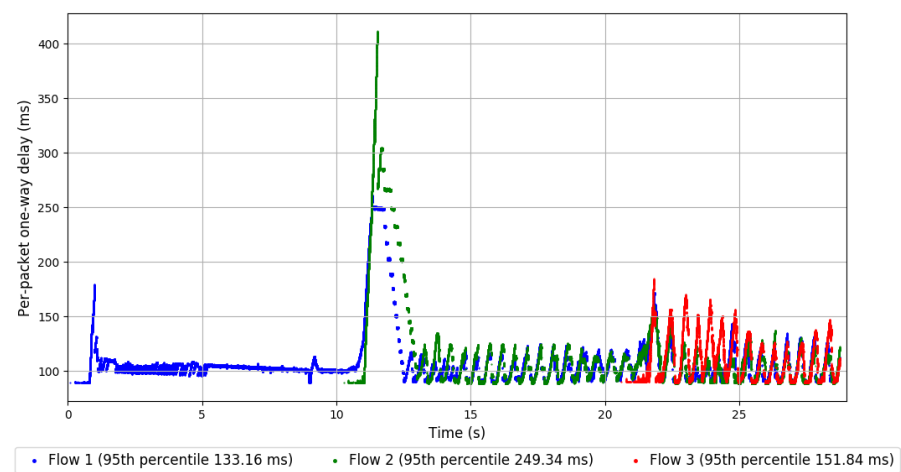
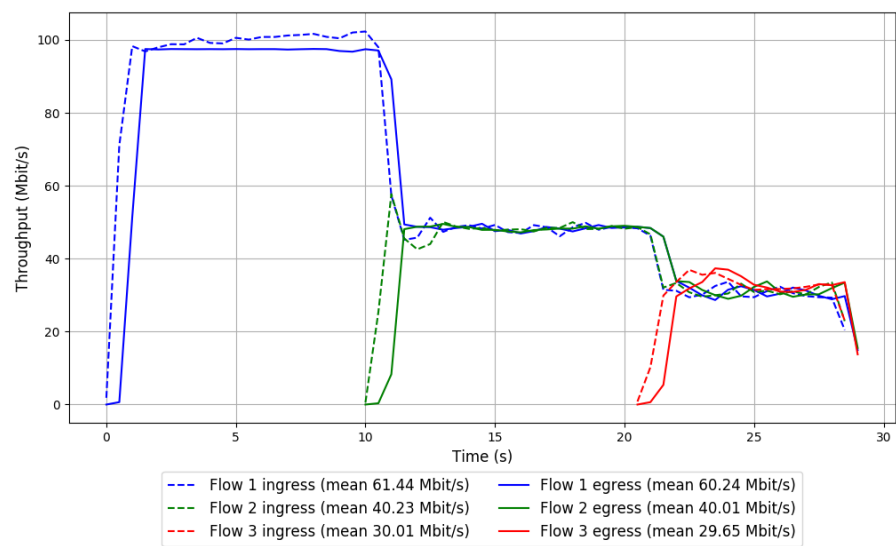
-- Flow 3:

Average throughput: 29.65 Mbit/s

95th percentile per-packet one-way delay: 151.838 ms

Loss rate: 3.24%

Run 2: Report of Indigo-MusesC3 — Data Link



Run 3: Statistics of Indigo-MusesC3

Start at: 2019-02-12 05:11:49

End at: 2019-02-12 05:12:19

Local clock offset: -4.928 ms

Remote clock offset: 5.754 ms

Below is generated by plot.py at 2019-02-12 06:31:26

Datalink statistics

-- Total of 3 flows:

Average throughput: 94.82 Mbit/s

95th percentile per-packet one-way delay: 144.236 ms

Loss rate: 2.26%

-- Flow 1:

Average throughput: 60.86 Mbit/s

95th percentile per-packet one-way delay: 140.574 ms

Loss rate: 1.57%

-- Flow 2:

Average throughput: 40.28 Mbit/s

95th percentile per-packet one-way delay: 143.399 ms

Loss rate: 3.64%

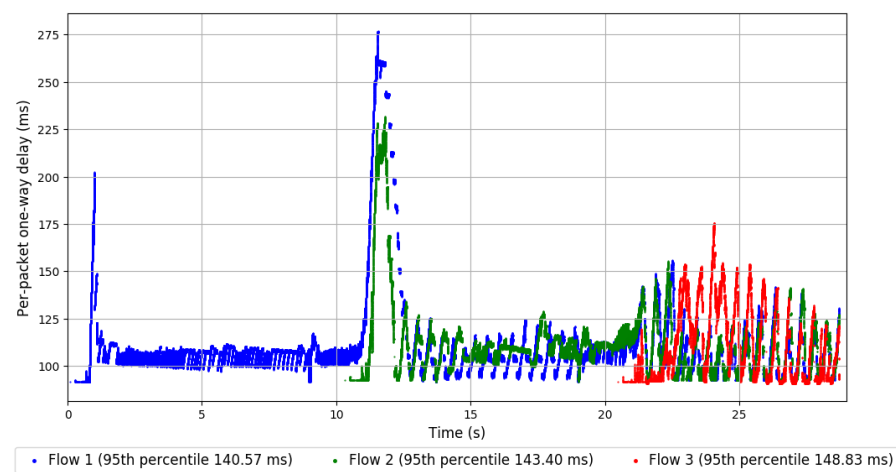
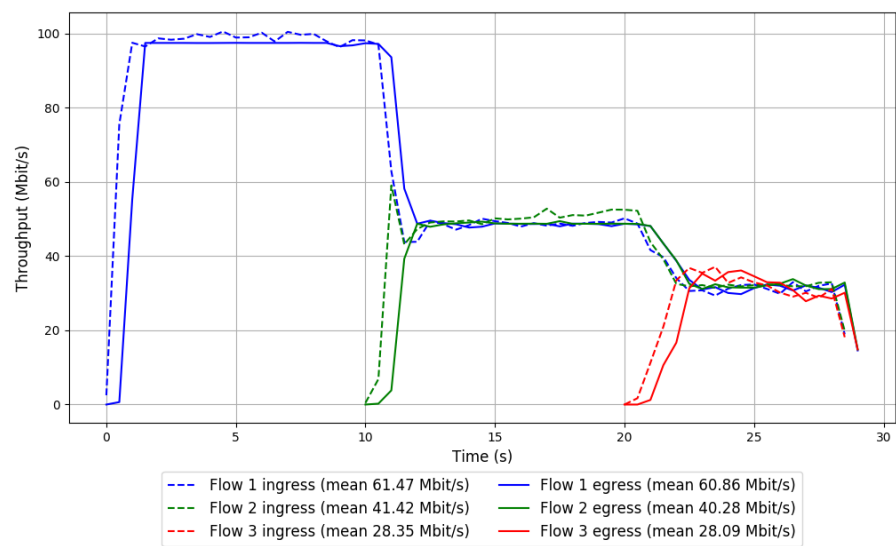
-- Flow 3:

Average throughput: 28.09 Mbit/s

95th percentile per-packet one-way delay: 148.832 ms

Loss rate: 2.95%

Run 3: Report of Indigo-MusesC3 — Data Link



Run 4: Statistics of Indigo-MusesC3

Start at: 2019-02-12 05:39:17

End at: 2019-02-12 05:39:47

Local clock offset: -6.863 ms

Remote clock offset: 8.645 ms

Below is generated by plot.py at 2019-02-12 06:31:30

Datalink statistics

-- Total of 3 flows:

Average throughput: 94.46 Mbit/s

95th percentile per-packet one-way delay: 170.540 ms

Loss rate: 1.93%

-- Flow 1:

Average throughput: 59.72 Mbit/s

95th percentile per-packet one-way delay: 129.850 ms

Loss rate: 1.95%

-- Flow 2:

Average throughput: 40.03 Mbit/s

95th percentile per-packet one-way delay: 297.166 ms

Loss rate: 1.53%

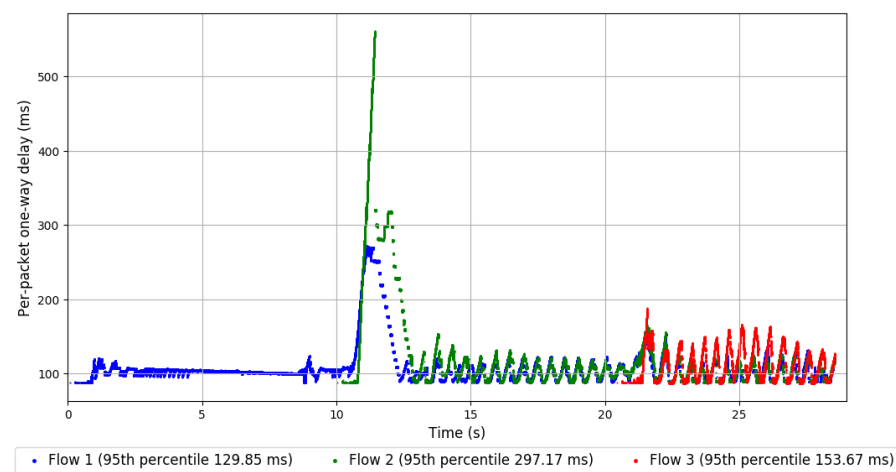
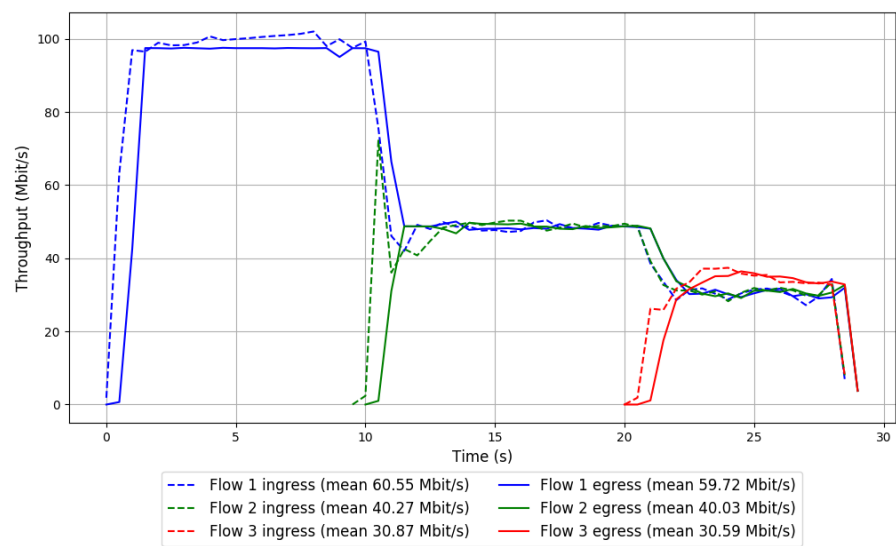
-- Flow 3:

Average throughput: 30.59 Mbit/s

95th percentile per-packet one-way delay: 153.667 ms

Loss rate: 2.96%

Run 4: Report of Indigo-MusesC3 — Data Link



Run 5: Statistics of Indigo-MusesC3

Start at: 2019-02-12 06:06:26

End at: 2019-02-12 06:06:56

Local clock offset: -5.49 ms

Remote clock offset: 4.425 ms

Below is generated by plot.py at 2019-02-12 06:31:34

Datalink statistics

-- Total of 3 flows:

Average throughput: 94.93 Mbit/s

95th percentile per-packet one-way delay: 164.954 ms

Loss rate: 2.07%

-- Flow 1:

Average throughput: 60.52 Mbit/s

95th percentile per-packet one-way delay: 156.278 ms

Loss rate: 1.75%

-- Flow 2:

Average throughput: 39.98 Mbit/s

95th percentile per-packet one-way delay: 192.716 ms

Loss rate: 2.35%

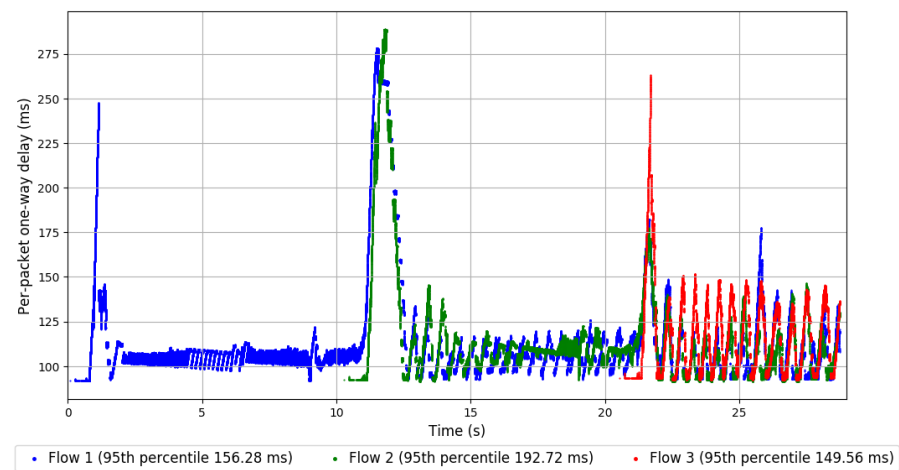
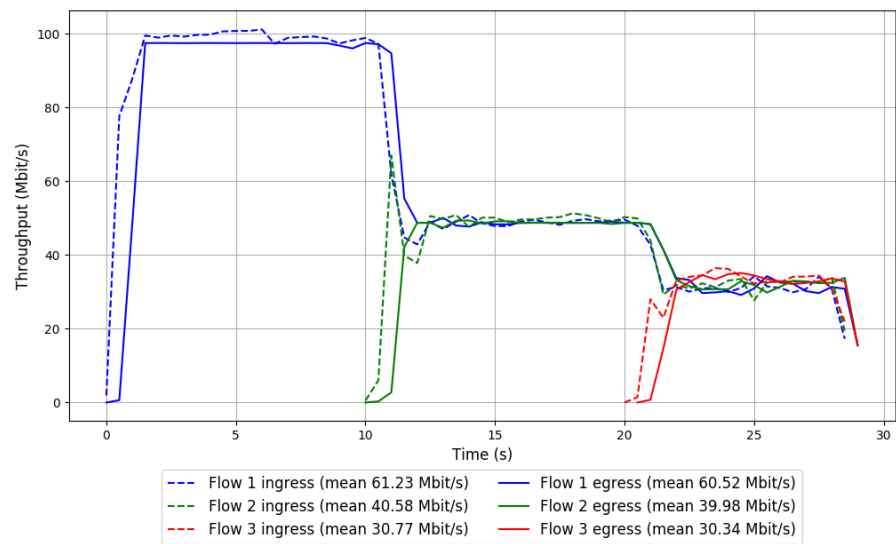
-- Flow 3:

Average throughput: 30.34 Mbit/s

95th percentile per-packet one-way delay: 149.556 ms

Loss rate: 3.43%

Run 5: Report of Indigo-MusesC3 — Data Link



Run 1: Statistics of Indigo-MusesC5

Start at: 2019-02-12 04:18:12

End at: 2019-02-12 04:18:42

Local clock offset: -7.535 ms

Remote clock offset: 8.2 ms

Below is generated by plot.py at 2019-02-12 06:32:01

Datalink statistics

-- Total of 3 flows:

Average throughput: 92.31 Mbit/s

95th percentile per-packet one-way delay: 254.801 ms

Loss rate: 3.54%

-- Flow 1:

Average throughput: 59.08 Mbit/s

95th percentile per-packet one-way delay: 255.050 ms

Loss rate: 3.30%

-- Flow 2:

Average throughput: 37.53 Mbit/s

95th percentile per-packet one-way delay: 209.346 ms

Loss rate: 3.40%

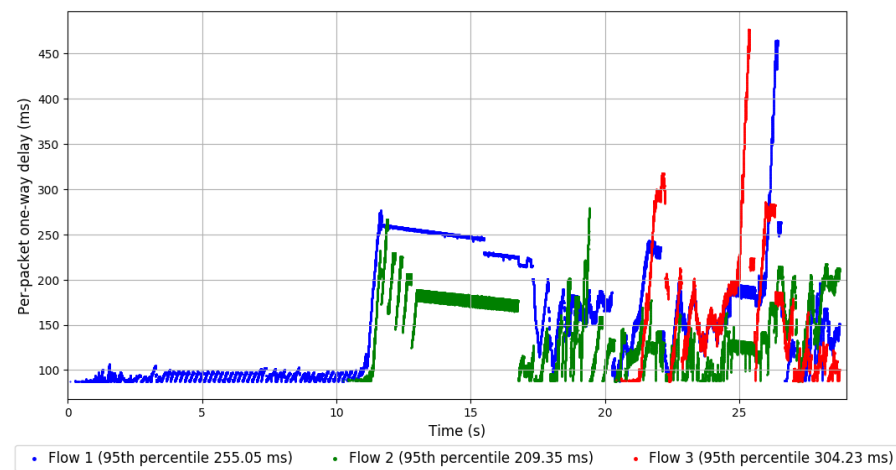
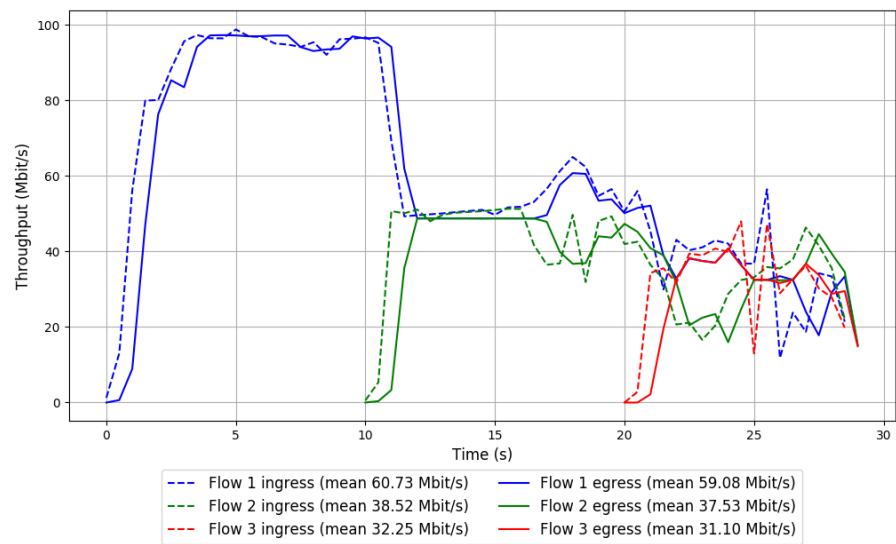
-- Flow 3:

Average throughput: 31.10 Mbit/s

95th percentile per-packet one-way delay: 304.233 ms

Loss rate: 5.48%

Run 1: Report of Indigo-MusesC5 — Data Link



Run 2: Statistics of Indigo-MusesC5

Start at: 2019-02-12 04:45:40

End at: 2019-02-12 04:46:10

Local clock offset: -3.814 ms

Remote clock offset: 8.941 ms

Below is generated by plot.py at 2019-02-12 06:32:06

Datalink statistics

-- Total of 3 flows:

Average throughput: 93.90 Mbit/s

95th percentile per-packet one-way delay: 261.742 ms

Loss rate: 2.99%

-- Flow 1:

Average throughput: 59.10 Mbit/s

95th percentile per-packet one-way delay: 262.342 ms

Loss rate: 2.07%

-- Flow 2:

Average throughput: 40.13 Mbit/s

95th percentile per-packet one-way delay: 250.097 ms

Loss rate: 3.91%

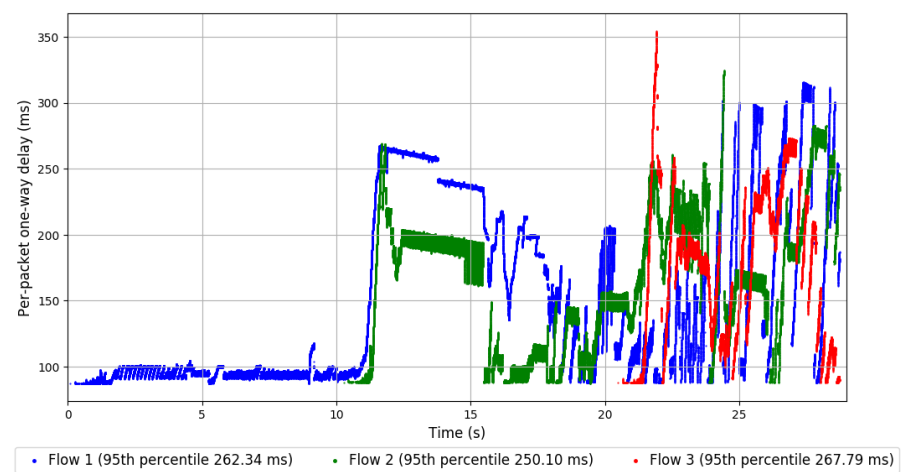
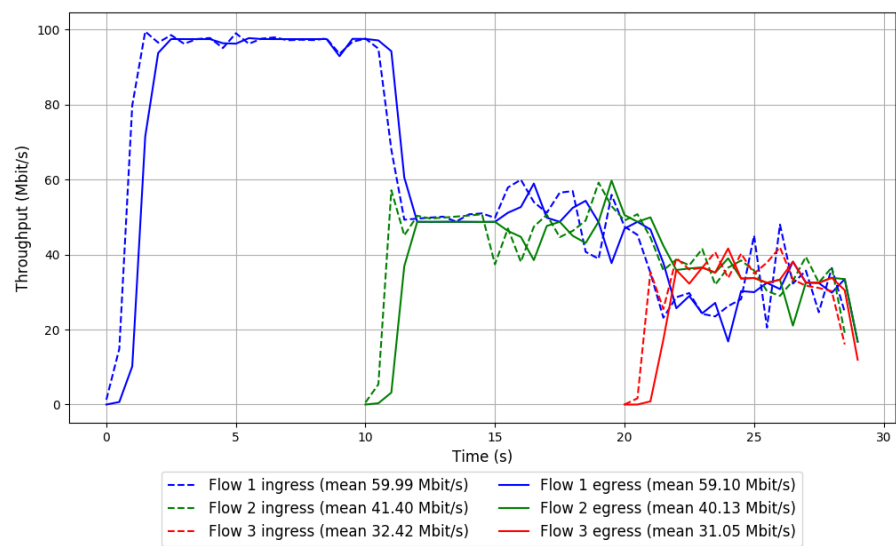
-- Flow 3:

Average throughput: 31.05 Mbit/s

95th percentile per-packet one-way delay: 267.792 ms

Loss rate: 6.18%

Run 2: Report of Indigo-MusesC5 — Data Link



Run 3: Statistics of Indigo-MusesC5

Start at: 2019-02-12 05:13:08

End at: 2019-02-12 05:13:38

Local clock offset: -5.309 ms

Remote clock offset: 4.595 ms

Below is generated by plot.py at 2019-02-12 06:32:07

Datalink statistics

-- Total of 3 flows:

Average throughput: 92.13 Mbit/s

95th percentile per-packet one-way delay: 264.222 ms

Loss rate: 3.75%

-- Flow 1:

Average throughput: 58.91 Mbit/s

95th percentile per-packet one-way delay: 249.858 ms

Loss rate: 3.67%

-- Flow 2:

Average throughput: 38.90 Mbit/s

95th percentile per-packet one-way delay: 288.656 ms

Loss rate: 3.47%

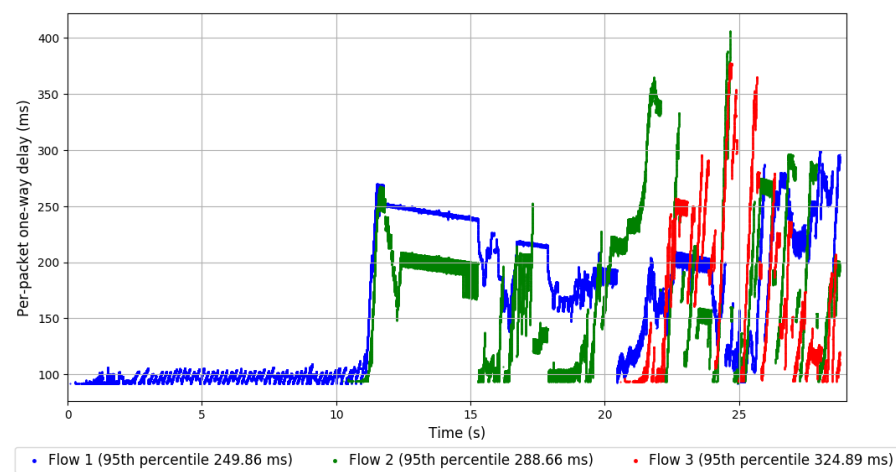
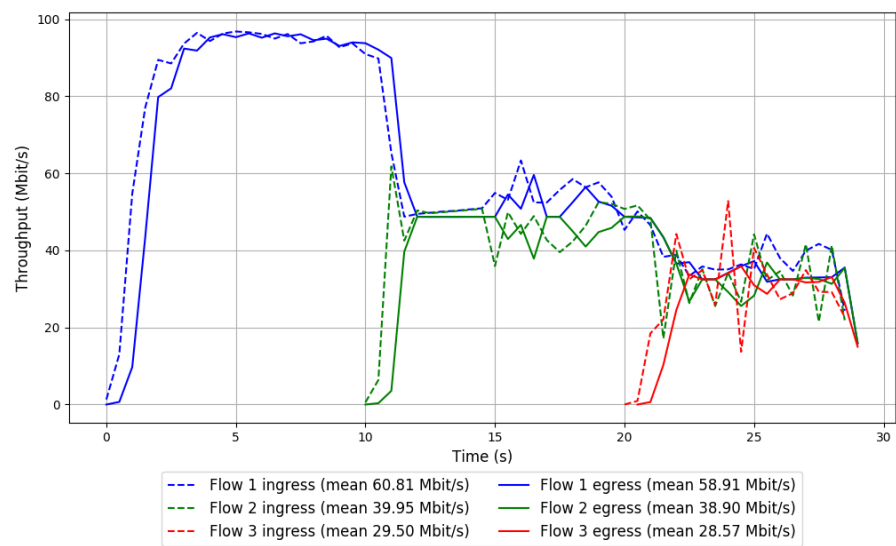
-- Flow 3:

Average throughput: 28.57 Mbit/s

95th percentile per-packet one-way delay: 324.894 ms

Loss rate: 5.14%

Run 3: Report of Indigo-MusesC5 — Data Link



Run 4: Statistics of Indigo-MusesC5

Start at: 2019-02-12 05:40:35

End at: 2019-02-12 05:41:05

Local clock offset: -6.029 ms

Remote clock offset: 4.683 ms

Below is generated by plot.py at 2019-02-12 06:32:14

Datalink statistics

-- Total of 3 flows:

Average throughput: 91.09 Mbit/s

95th percentile per-packet one-way delay: 266.310 ms

Loss rate: 3.57%

-- Flow 1:

Average throughput: 57.44 Mbit/s

95th percentile per-packet one-way delay: 264.227 ms

Loss rate: 3.37%

-- Flow 2:

Average throughput: 38.89 Mbit/s

95th percentile per-packet one-way delay: 260.161 ms

Loss rate: 3.09%

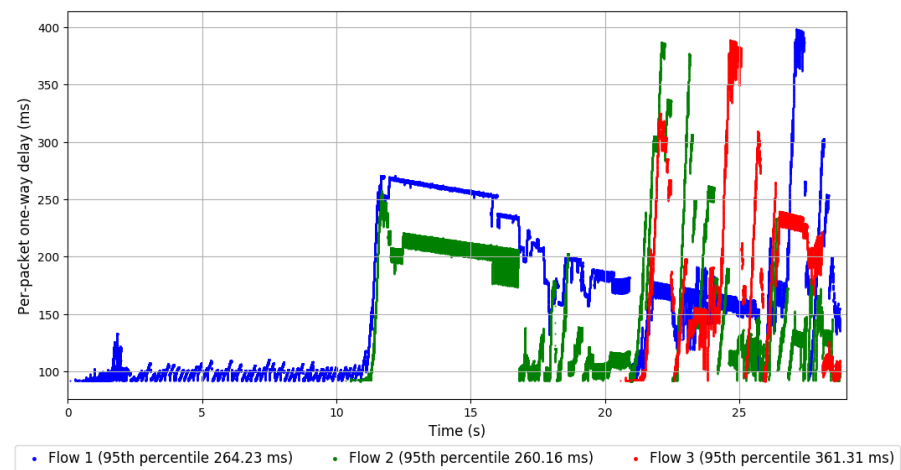
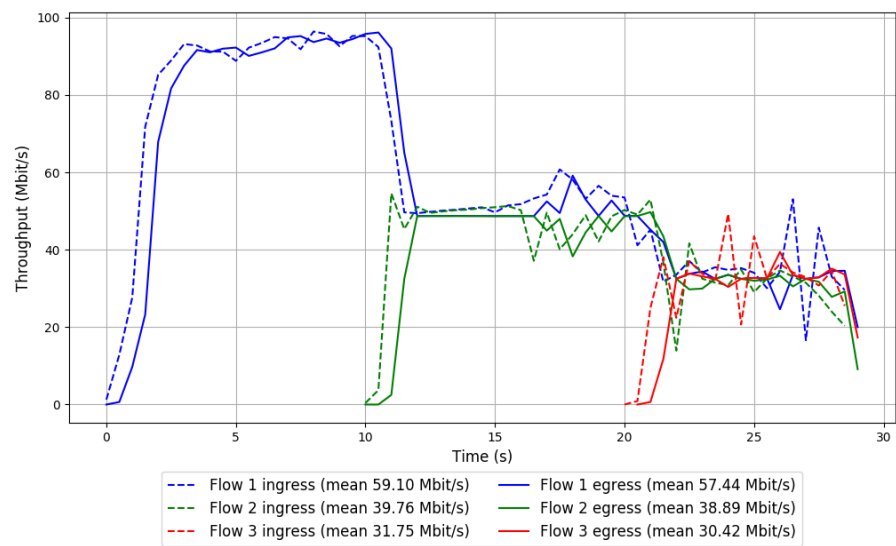
-- Flow 3:

Average throughput: 30.42 Mbit/s

95th percentile per-packet one-way delay: 361.307 ms

Loss rate: 6.17%

Run 4: Report of Indigo-MusesC5 — Data Link



Run 5: Statistics of Indigo-MusesC5

Start at: 2019-02-12 06:07:44

End at: 2019-02-12 06:08:14

Local clock offset: -5.574 ms

Remote clock offset: 3.049 ms

Below is generated by plot.py at 2019-02-12 06:32:25

Datalink statistics

-- Total of 3 flows:

Average throughput: 92.36 Mbit/s

95th percentile per-packet one-way delay: 262.828 ms

Loss rate: 3.36%

-- Flow 1:

Average throughput: 57.33 Mbit/s

95th percentile per-packet one-way delay: 261.479 ms

Loss rate: 2.18%

-- Flow 2:

Average throughput: 40.46 Mbit/s

95th percentile per-packet one-way delay: 277.636 ms

Loss rate: 5.03%

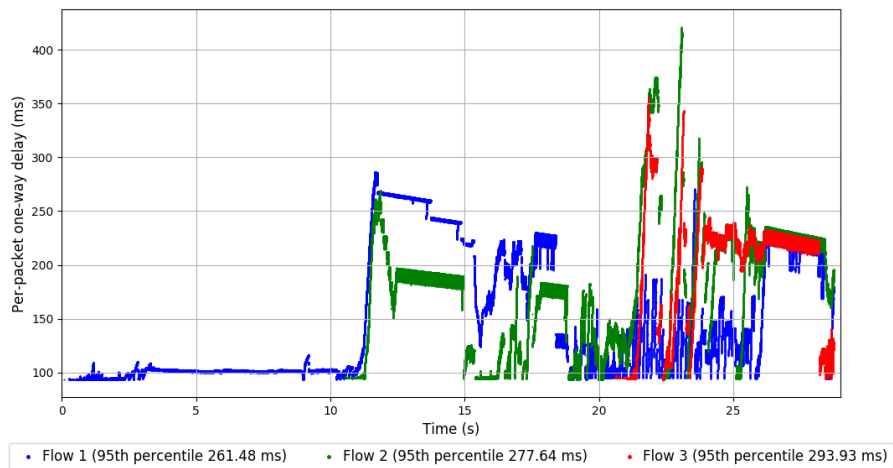
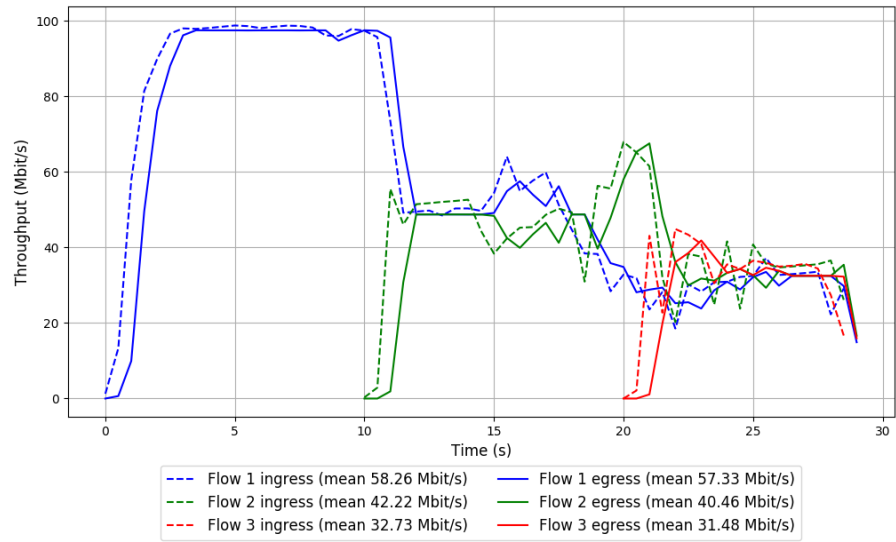
-- Flow 3:

Average throughput: 31.48 Mbit/s

95th percentile per-packet one-way delay: 293.931 ms

Loss rate: 5.81%

Run 5: Report of Indigo-MusesC5 — Data Link



Run 1: Statistics of Indigo-MusesD

Start at: 2019-02-12 04:08:45

End at: 2019-02-12 04:09:15

Local clock offset: -6.84 ms

Remote clock offset: 2.886 ms

Below is generated by plot.py at 2019-02-12 06:32:32

Datalink statistics

-- Total of 3 flows:

Average throughput: 93.89 Mbit/s

95th percentile per-packet one-way delay: 212.229 ms

Loss rate: 5.19%

-- Flow 1:

Average throughput: 61.21 Mbit/s

95th percentile per-packet one-way delay: 218.420 ms

Loss rate: 6.19%

-- Flow 2:

Average throughput: 37.86 Mbit/s

95th percentile per-packet one-way delay: 145.715 ms

Loss rate: 2.29%

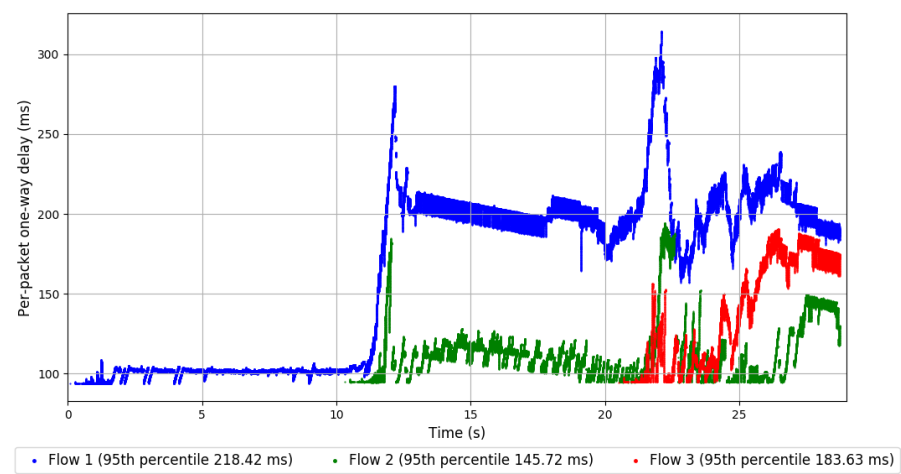
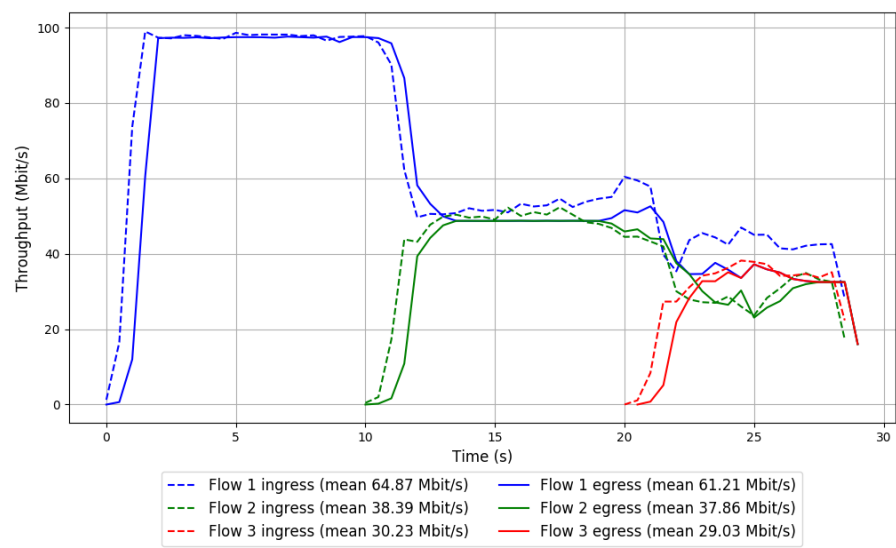
-- Flow 3:

Average throughput: 29.03 Mbit/s

95th percentile per-packet one-way delay: 183.629 ms

Loss rate: 5.94%

Run 1: Report of Indigo-MusesD — Data Link



Run 2: Statistics of Indigo-MusesD

Start at: 2019-02-12 04:36:31

End at: 2019-02-12 04:37:01

Local clock offset: -6.528 ms

Remote clock offset: 8.713 ms

Below is generated by plot.py at 2019-02-12 06:32:36

Datalink statistics

-- Total of 3 flows:

Average throughput: 94.08 Mbit/s

95th percentile per-packet one-way delay: 203.187 ms

Loss rate: 5.07%

-- Flow 1:

Average throughput: 61.68 Mbit/s

95th percentile per-packet one-way delay: 212.134 ms

Loss rate: 6.69%

-- Flow 2:

Average throughput: 38.21 Mbit/s

95th percentile per-packet one-way delay: 136.215 ms

Loss rate: 1.40%

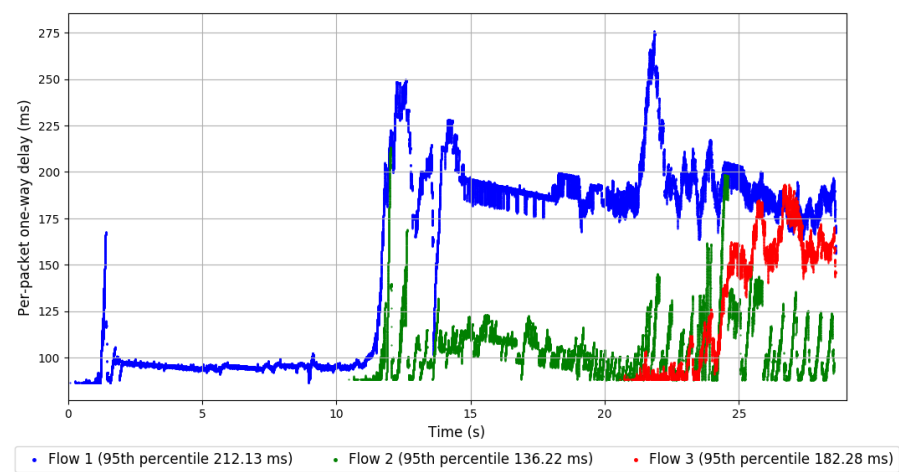
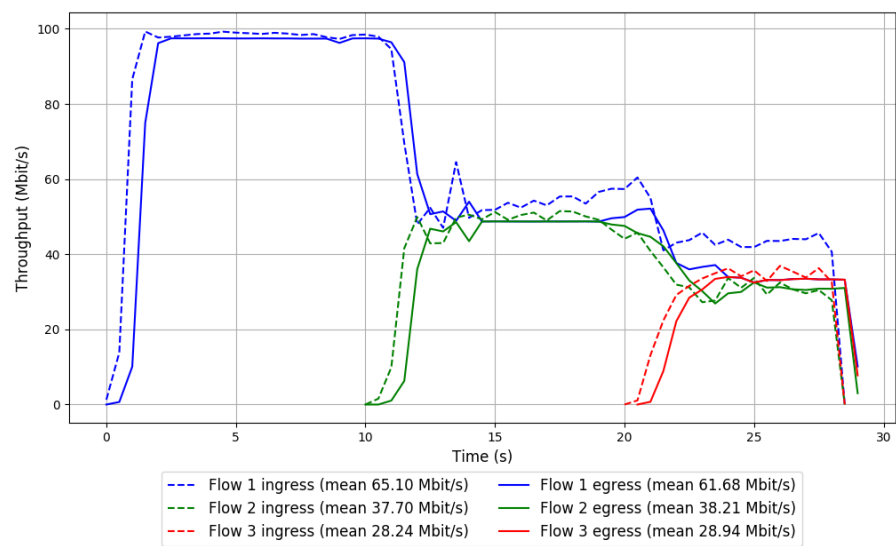
-- Flow 3:

Average throughput: 28.94 Mbit/s

95th percentile per-packet one-way delay: 182.278 ms

Loss rate: 3.03%

Run 2: Report of Indigo-MusesD — Data Link



Run 3: Statistics of Indigo-MusesD

Start at: 2019-02-12 05:03:54

End at: 2019-02-12 05:04:24

Local clock offset: -0.941 ms

Remote clock offset: 8.142 ms

Below is generated by plot.py at 2019-02-12 06:32:41

Datalink statistics

-- Total of 3 flows:

Average throughput: 94.14 Mbit/s

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

Loss rate: 4.91%

-- Flow 1:

Average throughput: 61.46 Mbit/s

95th percentile per-packet one-way delay: 219.922 ms

Loss rate: 5.66%

-- Flow 2:

Average throughput: 38.40 Mbit/s

95th percentile per-packet one-way delay: 134.177 ms

Loss rate: 3.28%

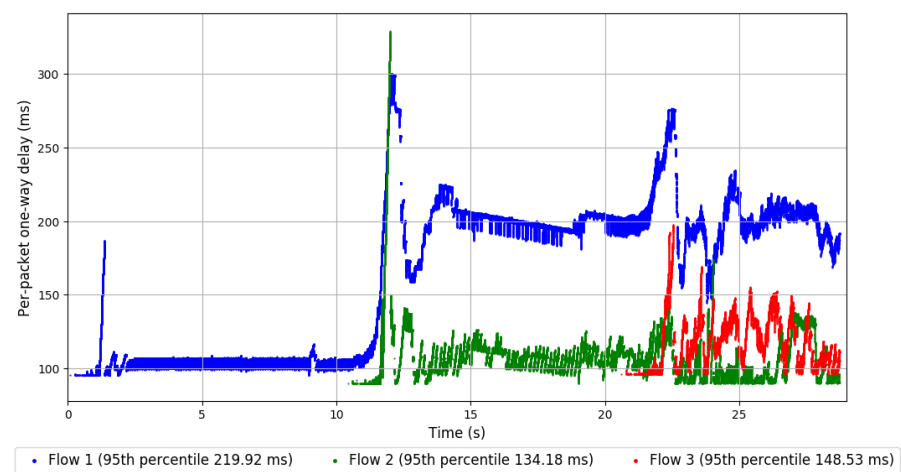
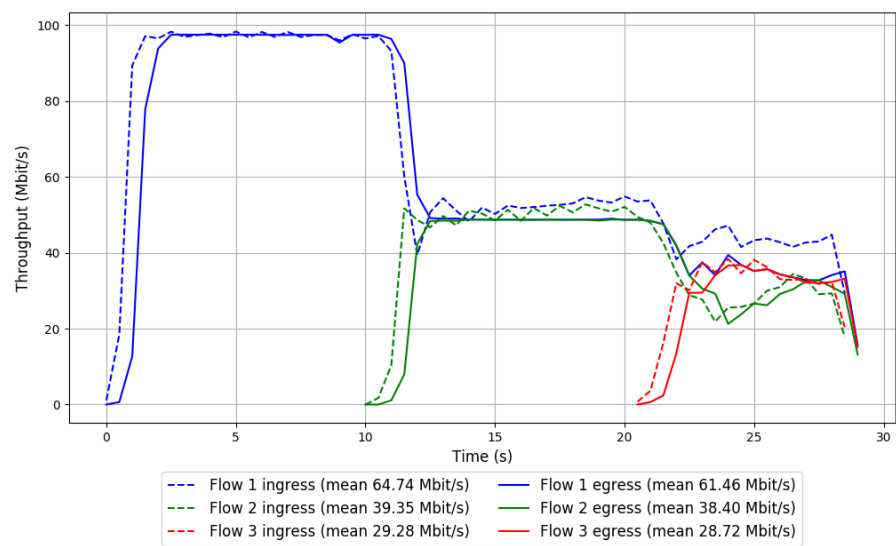
-- Flow 3:

Average throughput: 28.72 Mbit/s

95th percentile per-packet one-way delay: 148.533 ms

Loss rate: 4.02%

Run 3: Report of Indigo-MusesD — Data Link



Run 4: Statistics of Indigo-MusesD

Start at: 2019-02-12 05:31:21

End at: 2019-02-12 05:31:51

Local clock offset: -6.533 ms

Remote clock offset: 4.815 ms

Below is generated by plot.py at 2019-02-12 06:33:09

Datalink statistics

-- Total of 3 flows:

Average throughput: 93.94 Mbit/s

95th percentile per-packet one-way delay: 209.155 ms

Loss rate: 5.51%

-- Flow 1:

Average throughput: 60.39 Mbit/s

95th percentile per-packet one-way delay: 212.332 ms

Loss rate: 5.80%

-- Flow 2:

Average throughput: 39.61 Mbit/s

95th percentile per-packet one-way delay: 191.375 ms

Loss rate: 5.47%

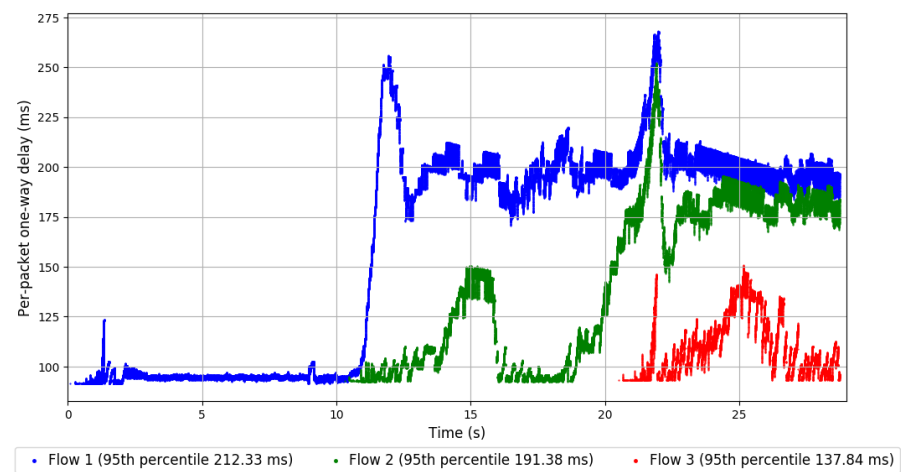
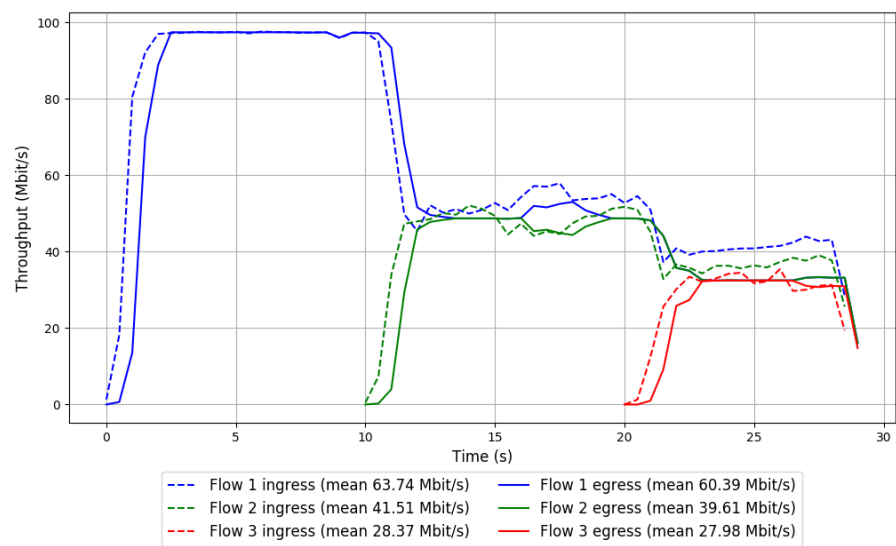
-- Flow 3:

Average throughput: 27.98 Mbit/s

95th percentile per-packet one-way delay: 137.838 ms

Loss rate: 3.42%

Run 4: Report of Indigo-MusesD — Data Link



Run 5: Statistics of Indigo-MusesD

Start at: 2019-02-12 05:58:35

End at: 2019-02-12 05:59:05

Local clock offset: -6.289 ms

Remote clock offset: 7.251 ms

Below is generated by plot.py at 2019-02-12 06:33:12

Datalink statistics

-- Total of 3 flows:

Average throughput: 94.15 Mbit/s

95th percentile per-packet one-way delay: 207.062 ms

Loss rate: 7.84%

-- Flow 1:

Average throughput: 60.39 Mbit/s

95th percentile per-packet one-way delay: 214.341 ms

Loss rate: 7.35%

-- Flow 2:

Average throughput: 40.20 Mbit/s

95th percentile per-packet one-way delay: 194.420 ms

Loss rate: 9.81%

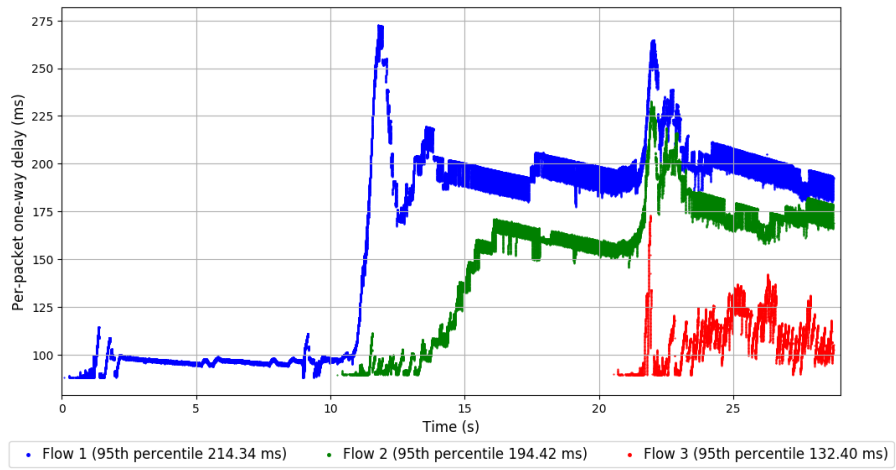
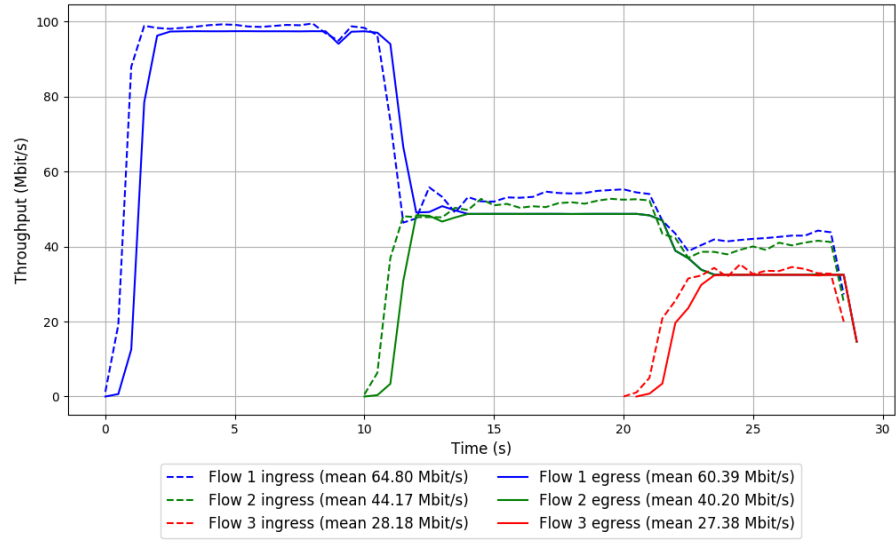
-- Flow 3:

Average throughput: 27.38 Mbit/s

95th percentile per-packet one-way delay: 132.404 ms

Loss rate: 4.84%

Run 5: Report of Indigo-MusesD — Data Link



Run 1: Statistics of Indigo-MusesT

Start at: 2019-02-12 04:27:21

End at: 2019-02-12 04:27:51

Local clock offset: -7.573 ms

Remote clock offset: 8.383 ms

Below is generated by plot.py at 2019-02-12 06:33:12

Datalink statistics

-- Total of 3 flows:

Average throughput: 91.94 Mbit/s

95th percentile per-packet one-way delay: 470.405 ms

Loss rate: 6.70%

-- Flow 1:

Average throughput: 57.51 Mbit/s

95th percentile per-packet one-way delay: 453.108 ms

Loss rate: 6.78%

-- Flow 2:

Average throughput: 40.67 Mbit/s

95th percentile per-packet one-way delay: 340.711 ms

Loss rate: 5.18%

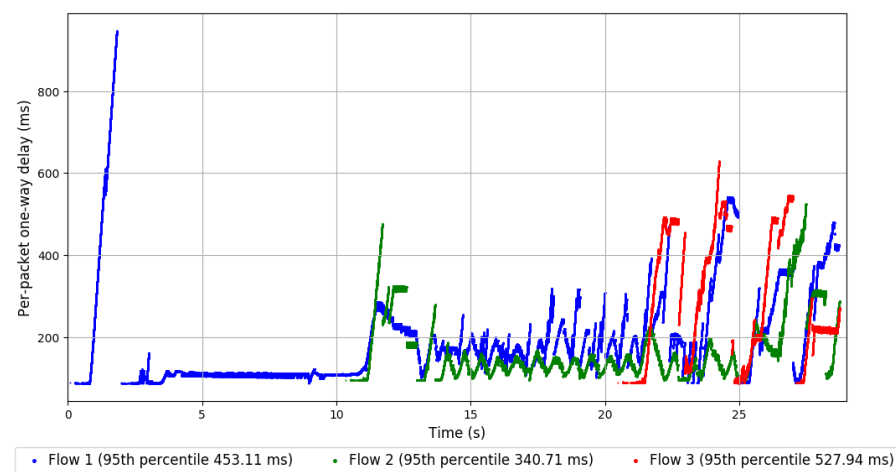
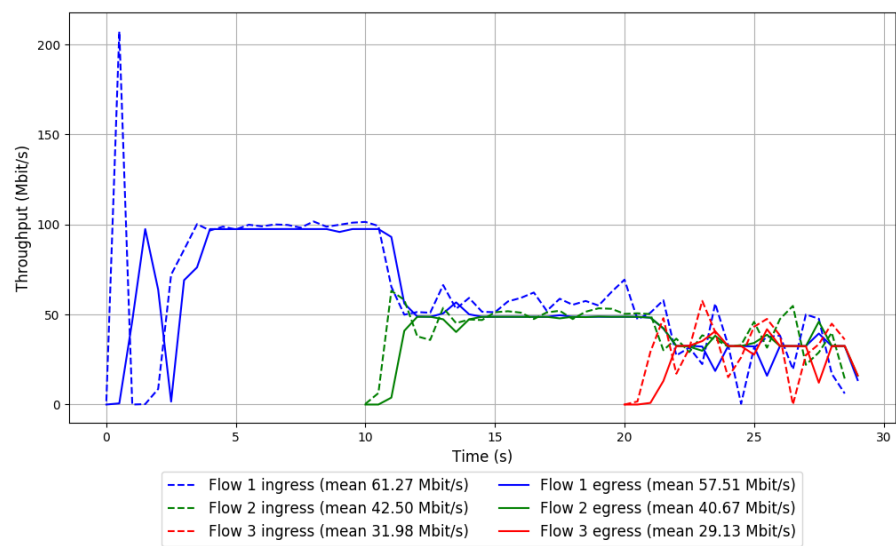
-- Flow 3:

Average throughput: 29.13 Mbit/s

95th percentile per-packet one-way delay: 527.940 ms

Loss rate: 10.67%

Run 1: Report of Indigo-MusesT — Data Link



Run 2: Statistics of Indigo-MusesT

Start at: 2019-02-12 04:54:44

End at: 2019-02-12 04:55:14

Local clock offset: -2.539 ms

Remote clock offset: 5.153 ms

Below is generated by plot.py at 2019-02-12 06:33:25

Datalink statistics

-- Total of 3 flows:

Average throughput: 94.84 Mbit/s

95th percentile per-packet one-way delay: 440.140 ms

Loss rate: 6.70%

-- Flow 1:

Average throughput: 61.18 Mbit/s

95th percentile per-packet one-way delay: 350.084 ms

Loss rate: 5.98%

-- Flow 2:

Average throughput: 41.67 Mbit/s

95th percentile per-packet one-way delay: 479.320 ms

Loss rate: 8.71%

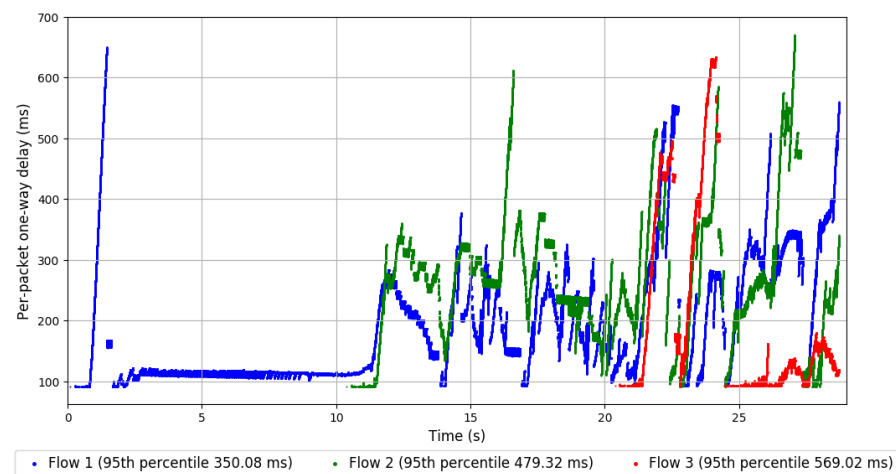
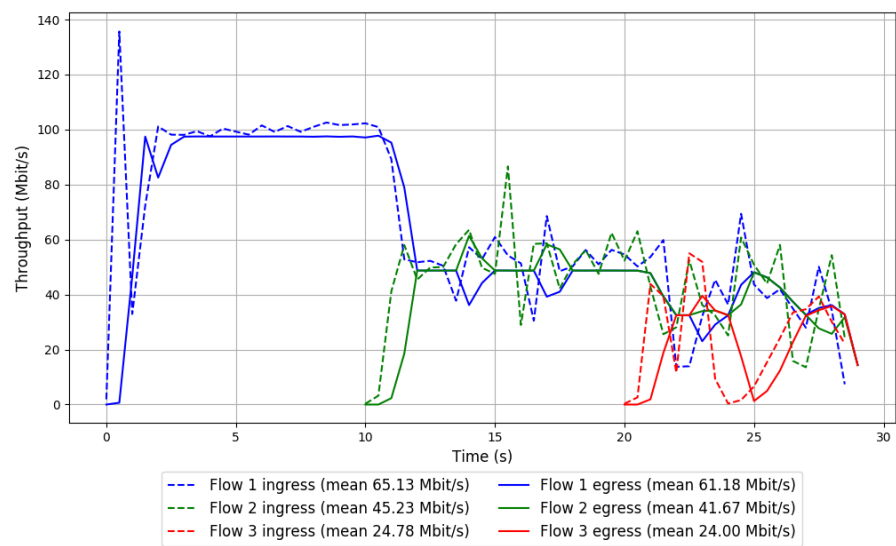
-- Flow 3:

Average throughput: 24.00 Mbit/s

95th percentile per-packet one-way delay: 569.022 ms

Loss rate: 5.12%

Run 2: Report of Indigo-MusesT — Data Link



Run 3: Statistics of Indigo-MusesT

Start at: 2019-02-12 05:22:13

End at: 2019-02-12 05:22:43

Local clock offset: -6.749 ms

Remote clock offset: 4.227 ms

Below is generated by plot.py at 2019-02-12 06:33:36

Datalink statistics

-- Total of 3 flows:

Average throughput: 94.63 Mbit/s

95th percentile per-packet one-way delay: 423.034 ms

Loss rate: 7.96%

-- Flow 1:

Average throughput: 58.49 Mbit/s

95th percentile per-packet one-way delay: 333.782 ms

Loss rate: 8.24%

-- Flow 2:

Average throughput: 39.29 Mbit/s

95th percentile per-packet one-way delay: 463.083 ms

Loss rate: 7.49%

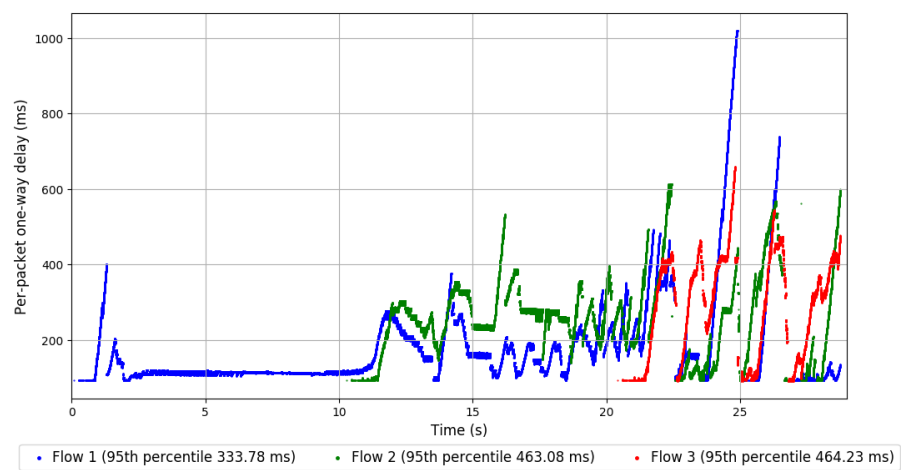
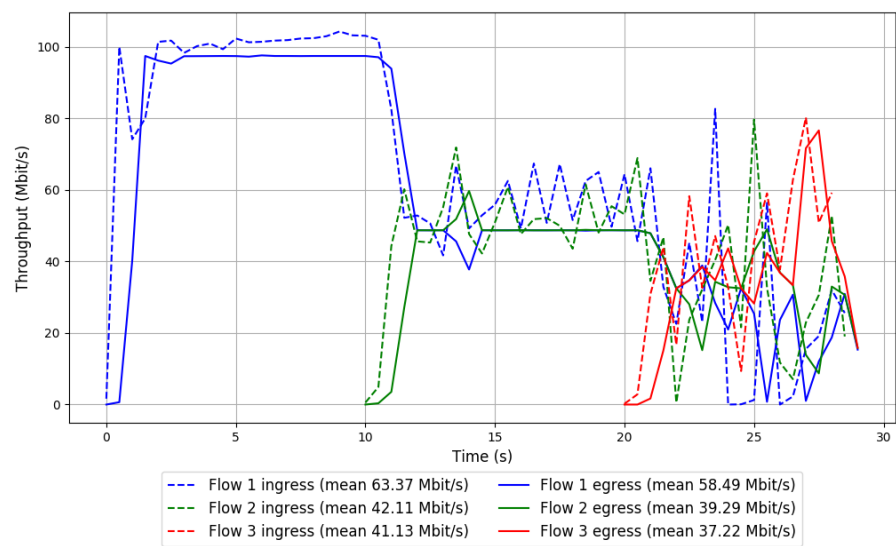
-- Flow 3:

Average throughput: 37.22 Mbit/s

95th percentile per-packet one-way delay: 464.232 ms

Loss rate: 7.49%

Run 3: Report of Indigo-MusesT — Data Link



Run 4: Statistics of Indigo-MusesT

Start at: 2019-02-12 05:49:32

End at: 2019-02-12 05:50:02

Local clock offset: -6.41 ms

Remote clock offset: 7.399 ms

Below is generated by plot.py at 2019-02-12 06:33:40

Datalink statistics

-- Total of 3 flows:

Average throughput: 91.14 Mbit/s

95th percentile per-packet one-way delay: 379.209 ms

Loss rate: 7.88%

-- Flow 1:

Average throughput: 56.26 Mbit/s

95th percentile per-packet one-way delay: 389.535 ms

Loss rate: 7.12%

-- Flow 2:

Average throughput: 40.25 Mbit/s

95th percentile per-packet one-way delay: 371.502 ms

Loss rate: 6.46%

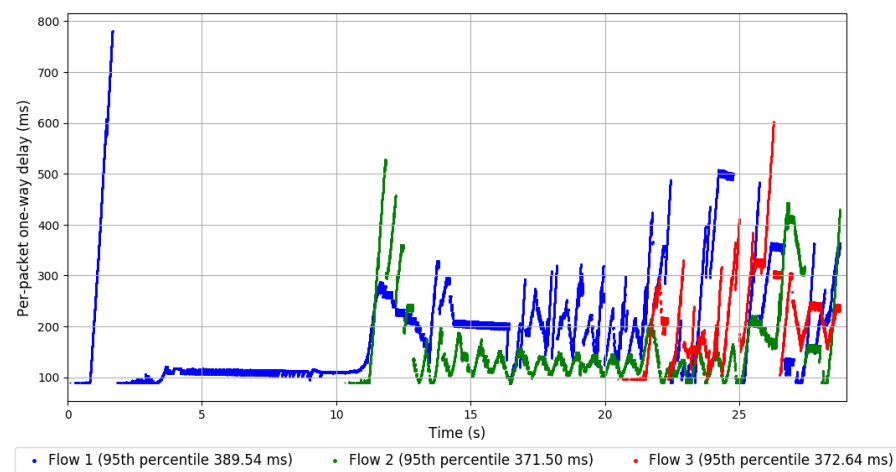
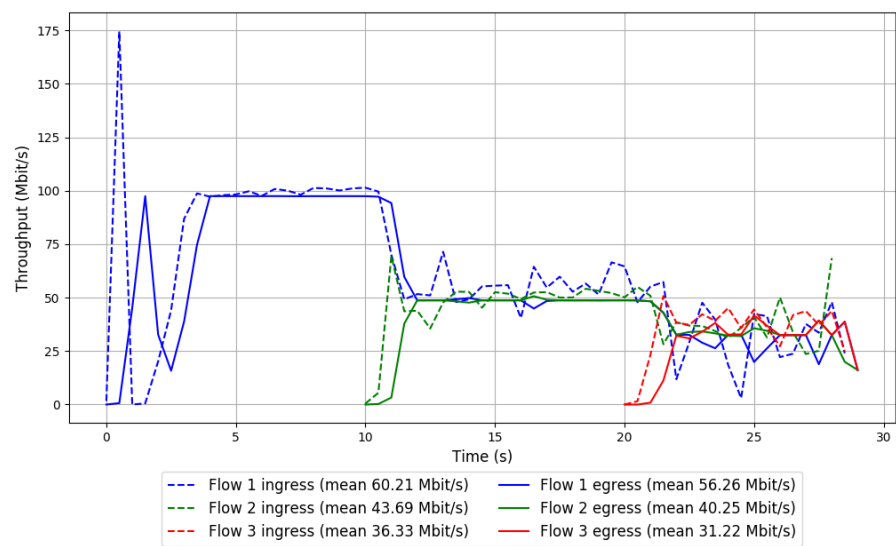
-- Flow 3:

Average throughput: 31.22 Mbit/s

95th percentile per-packet one-way delay: 372.640 ms

Loss rate: 15.88%

Run 4: Report of Indigo-MusesT — Data Link



Run 5: Statistics of Indigo-MusesT

Start at: 2019-02-12 06:16:47

End at: 2019-02-12 06:17:17

Local clock offset: -6.296 ms

Remote clock offset: 8.404 ms

Below is generated by plot.py at 2019-02-12 06:33:44

Datalink statistics

-- Total of 3 flows:

Average throughput: 91.97 Mbit/s

95th percentile per-packet one-way delay: 500.293 ms

Loss rate: 6.87%

-- Flow 1:

Average throughput: 58.66 Mbit/s

95th percentile per-packet one-way delay: 408.815 ms

Loss rate: 6.55%

-- Flow 2:

Average throughput: 40.99 Mbit/s

95th percentile per-packet one-way delay: 484.037 ms

Loss rate: 7.98%

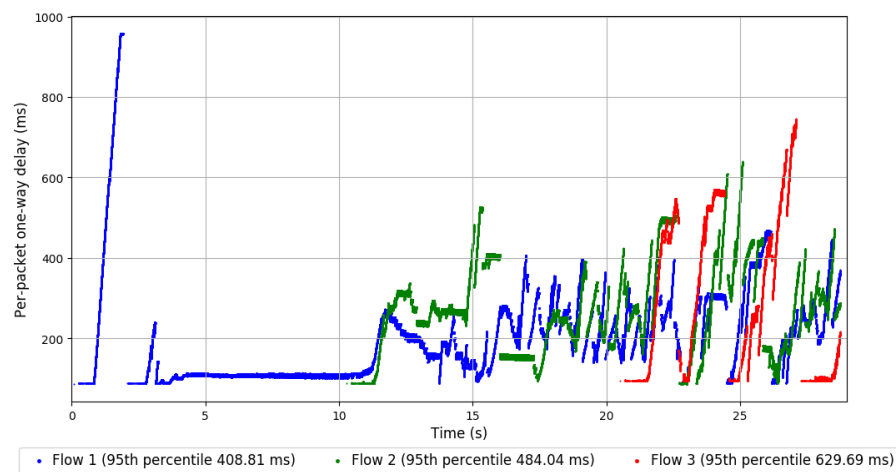
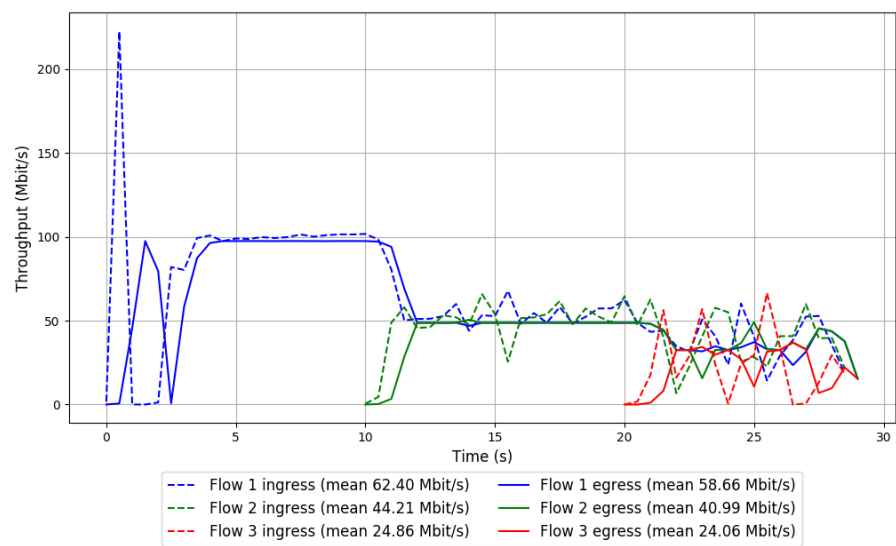
-- Flow 3:

Average throughput: 24.06 Mbit/s

95th percentile per-packet one-way delay: 629.690 ms

Loss rate: 5.26%

Run 5: Report of Indigo-MusesT — Data Link

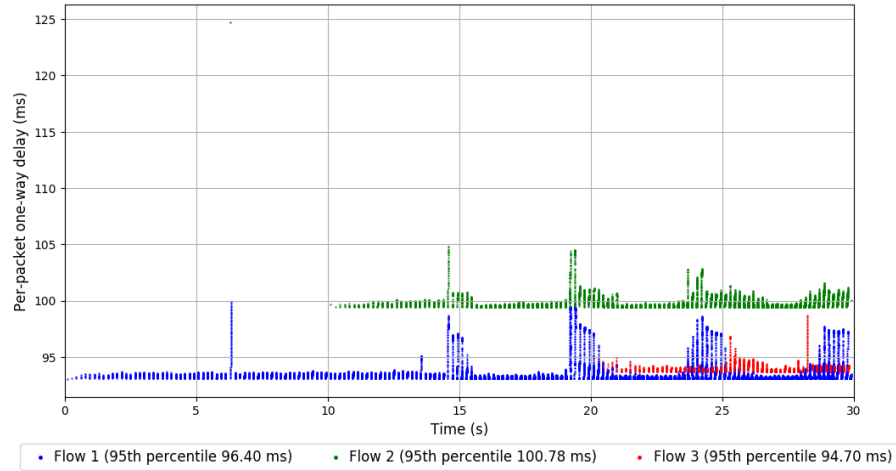
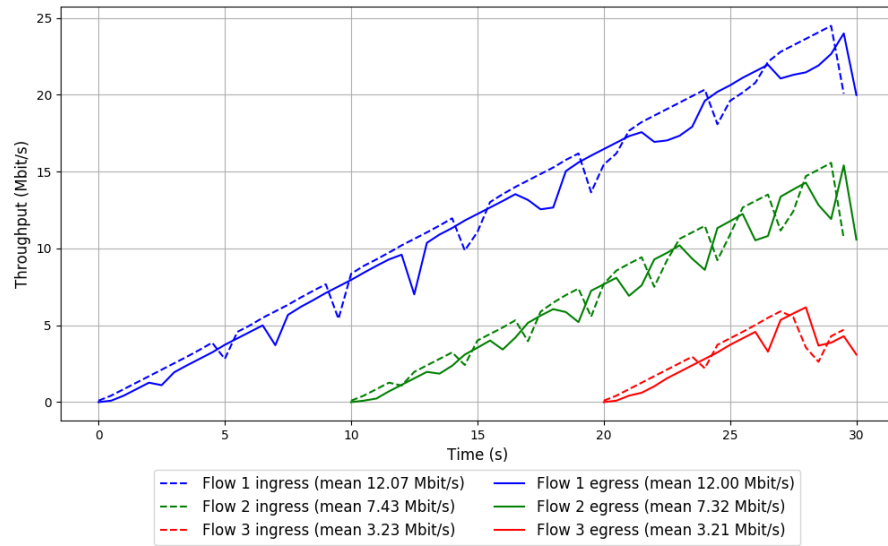


```
Run 1: Statistics of LEDBAT

Start at: 2019-02-12 04:26:07
End at: 2019-02-12 04:26:37
Local clock offset: -6.821 ms
Remote clock offset: 3.032 ms

# Below is generated by plot.py at 2019-02-12 06:33:44
# Datalink statistics
-- Total of 3 flows:
Average throughput: 17.90 Mbit/s
95th percentile per-packet one-way delay: 100.188 ms
Loss rate: 1.41%
-- Flow 1:
Average throughput: 12.00 Mbit/s
95th percentile per-packet one-way delay: 96.403 ms
Loss rate: 1.15%
-- Flow 2:
Average throughput: 7.32 Mbit/s
95th percentile per-packet one-way delay: 100.778 ms
Loss rate: 1.80%
-- Flow 3:
Average throughput: 3.21 Mbit/s
95th percentile per-packet one-way delay: 94.702 ms
Loss rate: 2.58%
```

Run 1: Report of LEDBAT — Data Link



Run 2: Statistics of LEDBAT

Start at: 2019-02-12 04:53:30

End at: 2019-02-12 04:54:00

Local clock offset: -2.623 ms

Remote clock offset: 8.909 ms

Below is generated by plot.py at 2019-02-12 06:33:44

Datalink statistics

-- Total of 3 flows:

Average throughput: 15.88 Mbit/s

95th percentile per-packet one-way delay: 88.331 ms

Loss rate: 1.60%

-- Flow 1:

Average throughput: 9.60 Mbit/s

95th percentile per-packet one-way delay: 88.181 ms

Loss rate: 1.25%

-- Flow 2:

Average throughput: 7.64 Mbit/s

95th percentile per-packet one-way delay: 88.496 ms

Loss rate: 1.78%

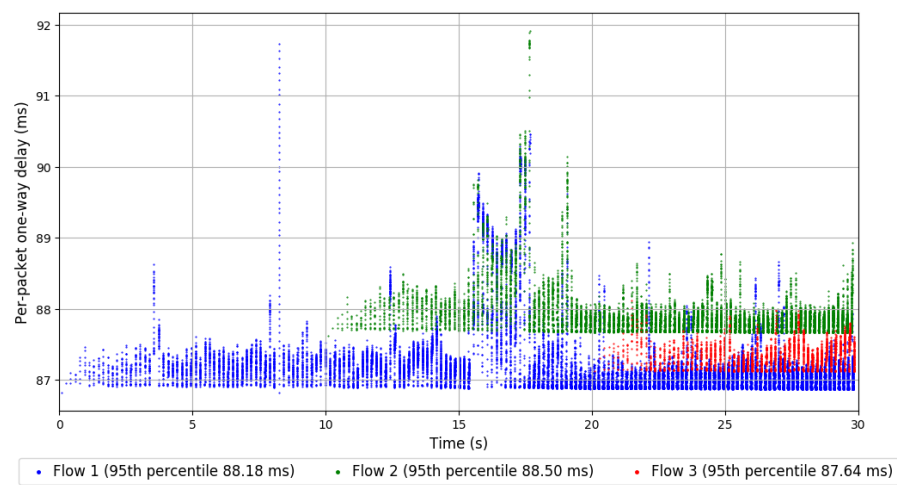
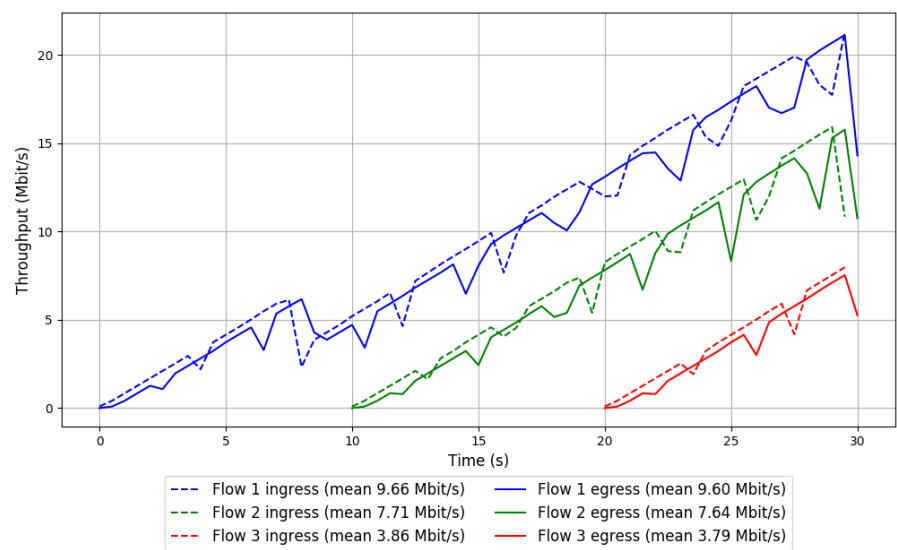
-- Flow 3:

Average throughput: 3.79 Mbit/s

95th percentile per-packet one-way delay: 87.643 ms

Loss rate: 3.56%

Run 2: Report of LEDBAT — Data Link



Run 3: Statistics of LEDBAT

Start at: 2019-02-12 05:20:58

End at: 2019-02-12 05:21:28

Local clock offset: -5.79 ms

Remote clock offset: 8.14 ms

Below is generated by plot.py at 2019-02-12 06:33:44

Datalink statistics

-- Total of 3 flows:

Average throughput: 17.32 Mbit/s

95th percentile per-packet one-way delay: 97.017 ms

Loss rate: 1.53%

-- Flow 1:

Average throughput: 11.01 Mbit/s

95th percentile per-packet one-way delay: 98.219 ms

Loss rate: 1.20%

-- Flow 2:

Average throughput: 7.72 Mbit/s

95th percentile per-packet one-way delay: 92.852 ms

Loss rate: 1.74%

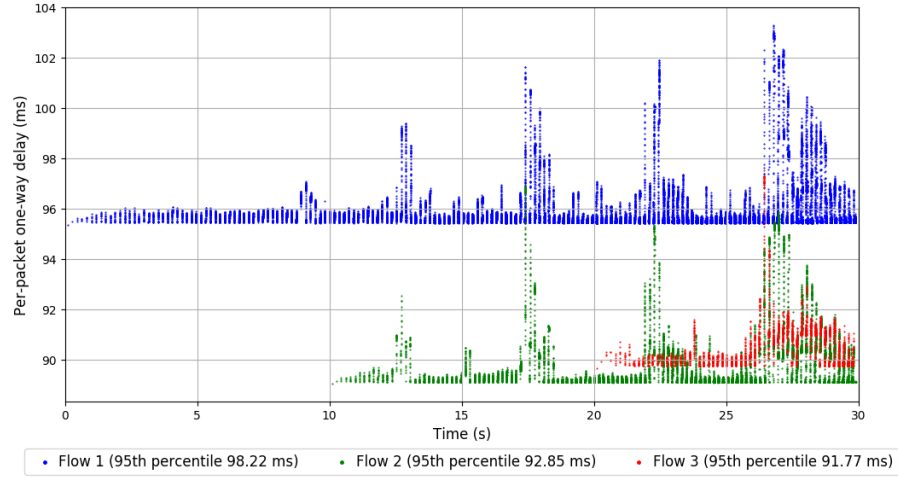
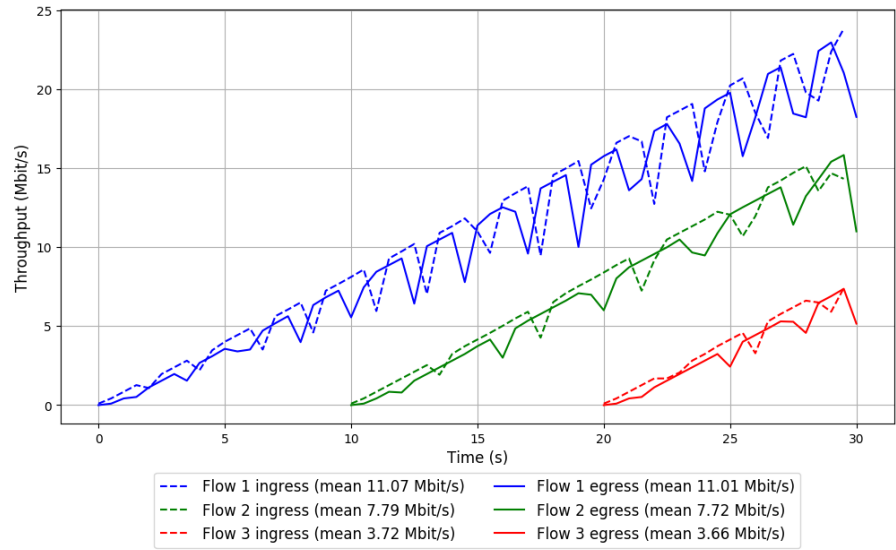
-- Flow 3:

Average throughput: 3.66 Mbit/s

95th percentile per-packet one-way delay: 91.769 ms

Loss rate: 3.60%

Run 3: Report of LEDBAT — Data Link



Run 4: Statistics of LEDBAT

Start at: 2019-02-12 05:48:18

End at: 2019-02-12 05:48:48

Local clock offset: -5.686 ms

Remote clock offset: 8.556 ms

Below is generated by plot.py at 2019-02-12 06:33:44

Datalink statistics

-- Total of 3 flows:

Average throughput: 16.98 Mbit/s

95th percentile per-packet one-way delay: 96.046 ms

Loss rate: 1.51%

-- Flow 1:

Average throughput: 10.99 Mbit/s

95th percentile per-packet one-way delay: 96.024 ms

Loss rate: 1.20%

-- Flow 2:

Average throughput: 7.17 Mbit/s

95th percentile per-packet one-way delay: 96.442 ms

Loss rate: 1.66%

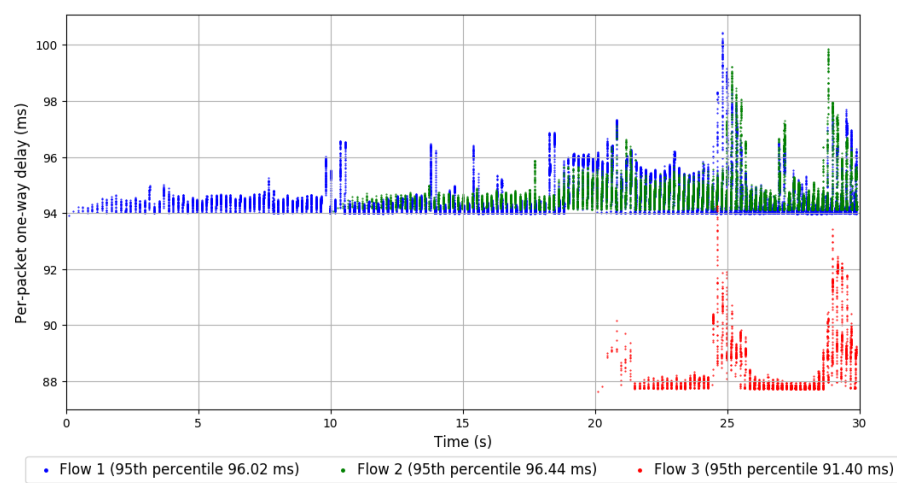
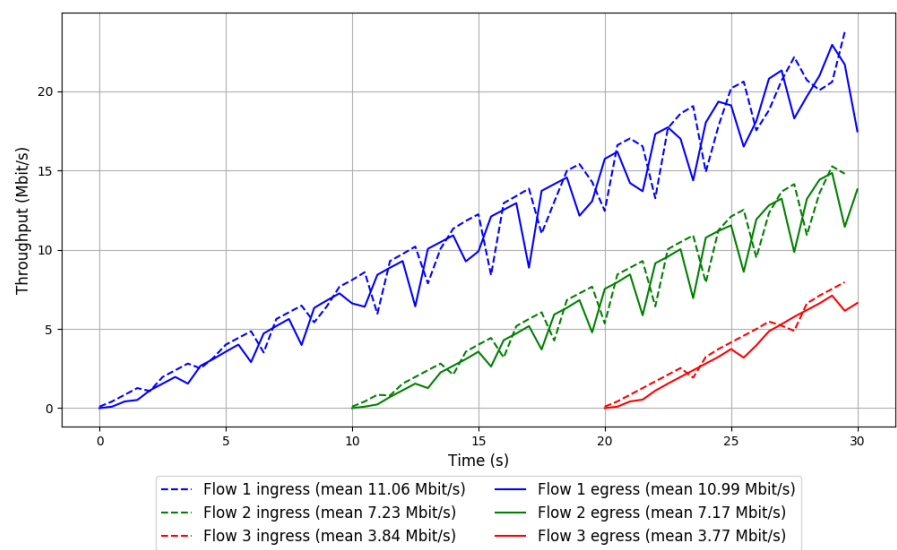
-- Flow 3:

Average throughput: 3.77 Mbit/s

95th percentile per-packet one-way delay: 91.400 ms

Loss rate: 3.53%

Run 4: Report of LEDBAT — Data Link



Run 5: Statistics of LEDBAT

Start at: 2019-02-12 06:15:33

End at: 2019-02-12 06:16:03

Local clock offset: -6.226 ms

Remote clock offset: 4.281 ms

Below is generated by plot.py at 2019-02-12 06:33:44

Datalink statistics

-- Total of 3 flows:

Average throughput: 16.93 Mbit/s

95th percentile per-packet one-way delay: 92.621 ms

Loss rate: 1.14%

-- Flow 1:

Average throughput: 10.85 Mbit/s

95th percentile per-packet one-way delay: 92.718 ms

Loss rate: 0.60%

-- Flow 2:

Average throughput: 7.44 Mbit/s

95th percentile per-packet one-way delay: 92.060 ms

Loss rate: 1.72%

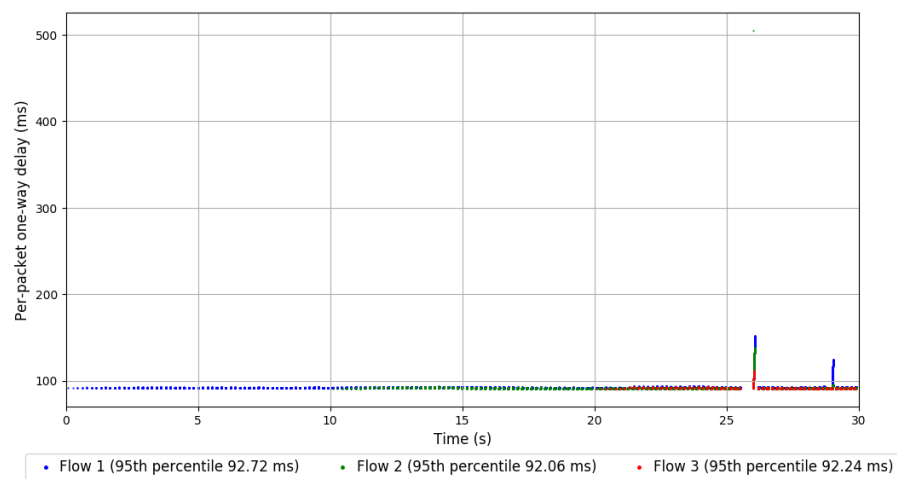
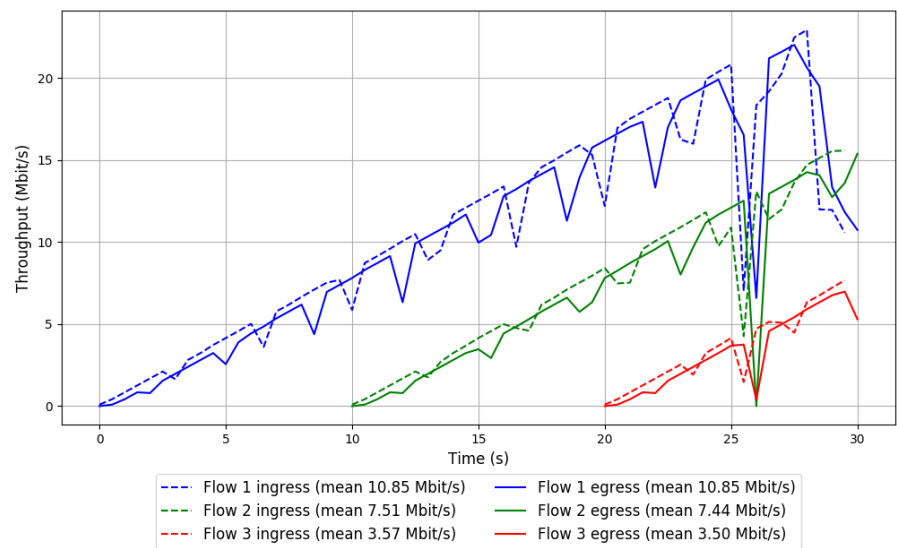
-- Flow 3:

Average throughput: 3.50 Mbit/s

95th percentile per-packet one-way delay: 92.236 ms

Loss rate: 3.68%

Run 5: Report of LEDBAT — Data Link

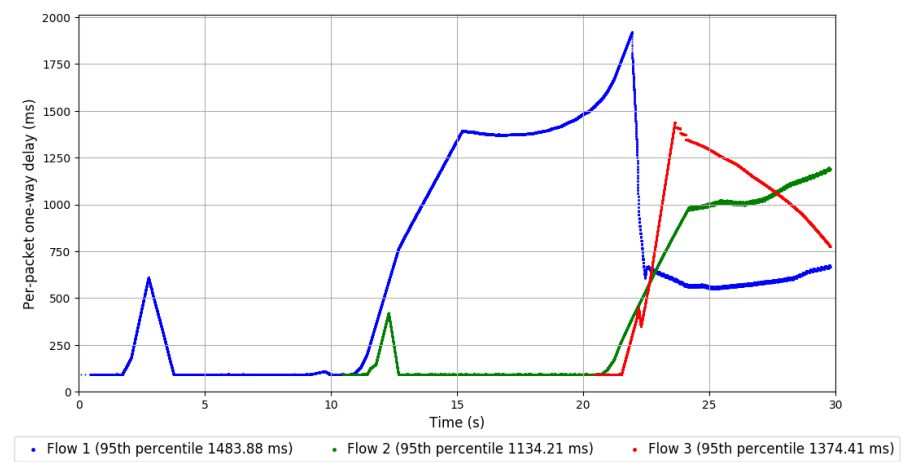
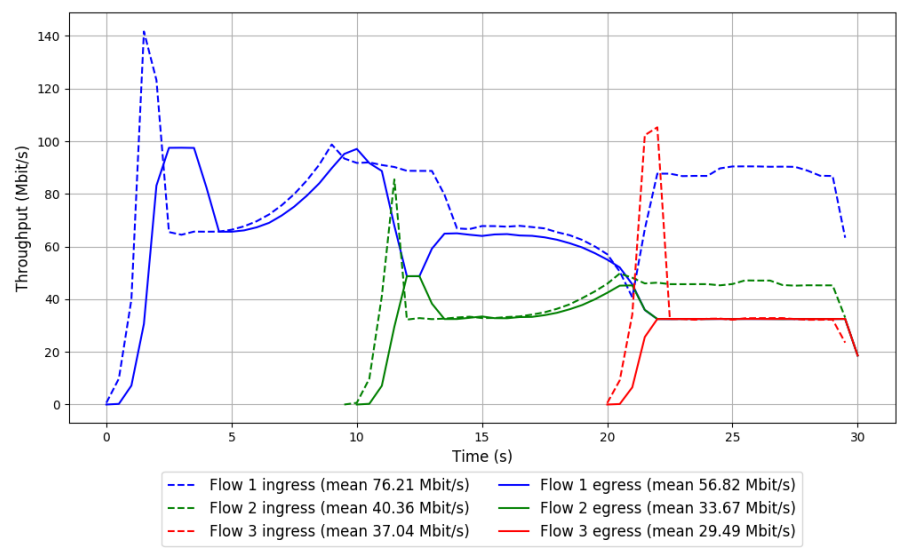


```
Run 1: Statistics of PCC-Allegro

Start at: 2019-02-12 04:29:54
End at: 2019-02-12 04:30:24
Local clock offset: -6.825 ms
Remote clock offset: 3.4 ms

# Below is generated by plot.py at 2019-02-12 06:34:21
# Datalink statistics
-- Total of 3 flows:
Average throughput: 88.76 Mbit/s
95th percentile per-packet one-way delay: 1423.504 ms
Loss rate: 23.44%
-- Flow 1:
Average throughput: 56.82 Mbit/s
95th percentile per-packet one-way delay: 1483.885 ms
Loss rate: 25.87%
-- Flow 2:
Average throughput: 33.67 Mbit/s
95th percentile per-packet one-way delay: 1134.206 ms
Loss rate: 17.30%
-- Flow 3:
Average throughput: 29.49 Mbit/s
95th percentile per-packet one-way delay: 1374.410 ms
Loss rate: 21.78%
```

Run 1: Report of PCC-Allegro — Data Link



Run 2: Statistics of PCC-Allegro

Start at: 2019-02-12 04:57:17

End at: 2019-02-12 04:57:47

Local clock offset: -1.541 ms

Remote clock offset: 8.26 ms

Below is generated by plot.py at 2019-02-12 06:34:27

Datalink statistics

-- Total of 3 flows:

Average throughput: 87.90 Mbit/s

95th percentile per-packet one-way delay: 1481.335 ms

Loss rate: 22.00%

-- Flow 1:

Average throughput: 56.08 Mbit/s

95th percentile per-packet one-way delay: 1403.099 ms

Loss rate: 26.22%

-- Flow 2:

Average throughput: 33.49 Mbit/s

95th percentile per-packet one-way delay: 944.838 ms

Loss rate: 8.82%

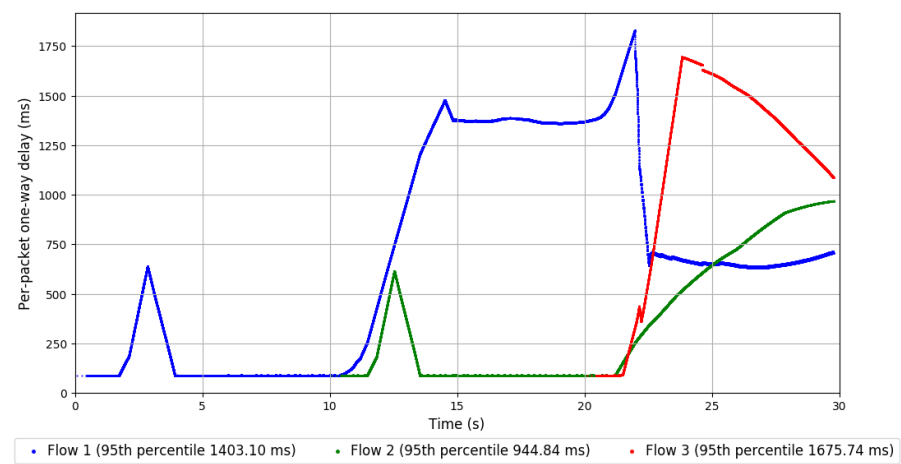
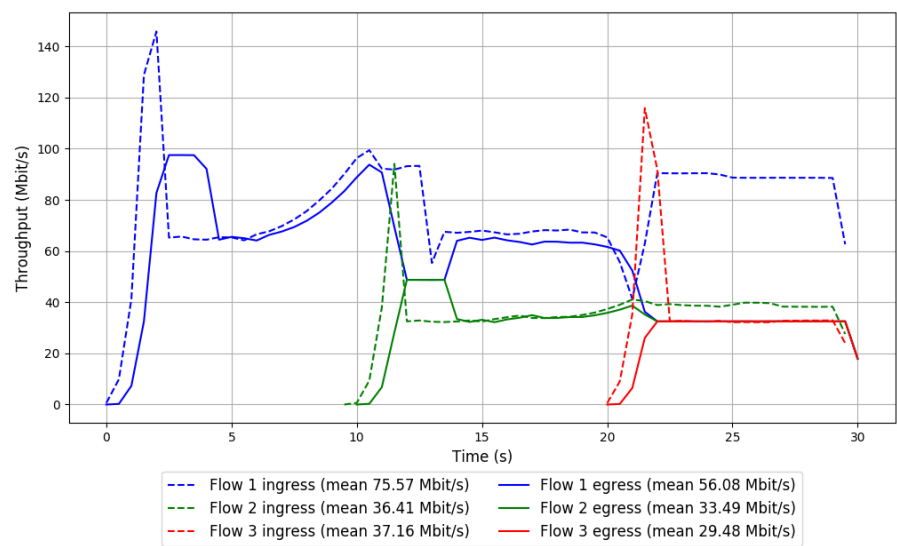
-- Flow 3:

Average throughput: 29.48 Mbit/s

95th percentile per-packet one-way delay: 1675.738 ms

Loss rate: 22.07%

Run 2: Report of PCC-Allegro — Data Link



Run 3: Statistics of PCC-Allegro

Start at: 2019-02-12 05:24:46

End at: 2019-02-12 05:25:16

Local clock offset: -6.919 ms

Remote clock offset: 8.089 ms

Below is generated by plot.py at 2019-02-12 06:34:27

Datalink statistics

-- Total of 3 flows:

Average throughput: 88.13 Mbit/s

95th percentile per-packet one-way delay: 1501.318 ms

Loss rate: 21.79%

-- Flow 1:

Average throughput: 56.16 Mbit/s

95th percentile per-packet one-way delay: 1410.711 ms

Loss rate: 26.27%

-- Flow 2:

Average throughput: 33.74 Mbit/s

95th percentile per-packet one-way delay: 765.251 ms

Loss rate: 7.71%

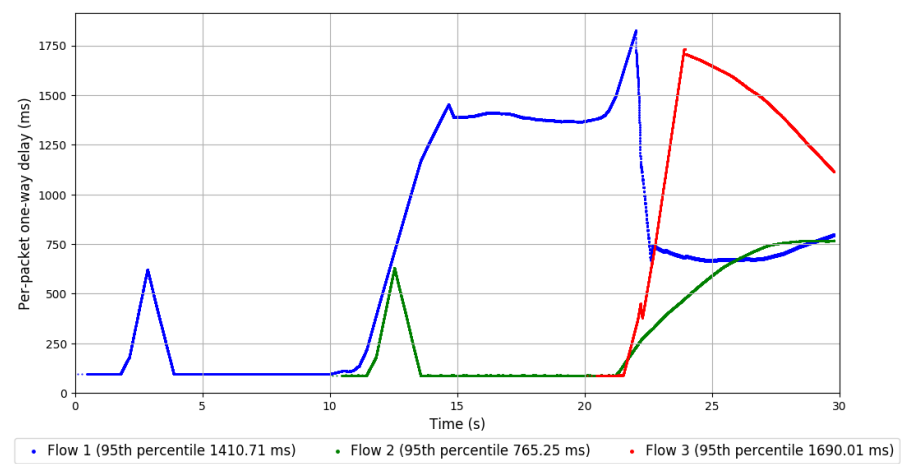
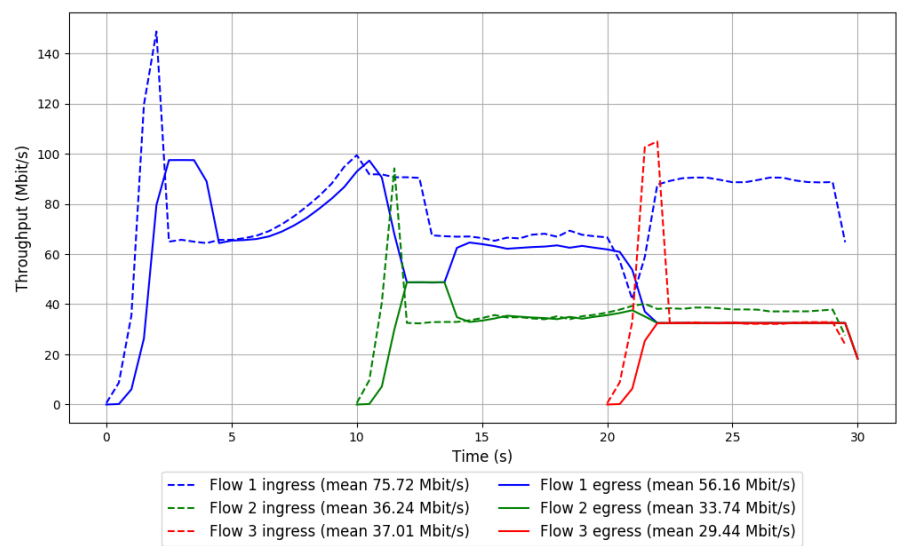
-- Flow 3:

Average throughput: 29.44 Mbit/s

95th percentile per-packet one-way delay: 1690.008 ms

Loss rate: 21.82%

Run 3: Report of PCC-Allegro — Data Link



Run 4: Statistics of PCC-Allegro

Start at: 2019-02-12 05:52:03

End at: 2019-02-12 05:52:33

Local clock offset: -5.592 ms

Remote clock offset: 4.491 ms

Below is generated by plot.py at 2019-02-12 06:34:29

Datalink statistics

-- Total of 3 flows:

Average throughput: 88.12 Mbit/s

95th percentile per-packet one-way delay: 1570.573 ms

Loss rate: 23.47%

-- Flow 1:

Average throughput: 54.88 Mbit/s

95th percentile per-packet one-way delay: 1653.210 ms

Loss rate: 27.26%

-- Flow 2:

Average throughput: 35.58 Mbit/s

95th percentile per-packet one-way delay: 1137.907 ms

Loss rate: 14.42%

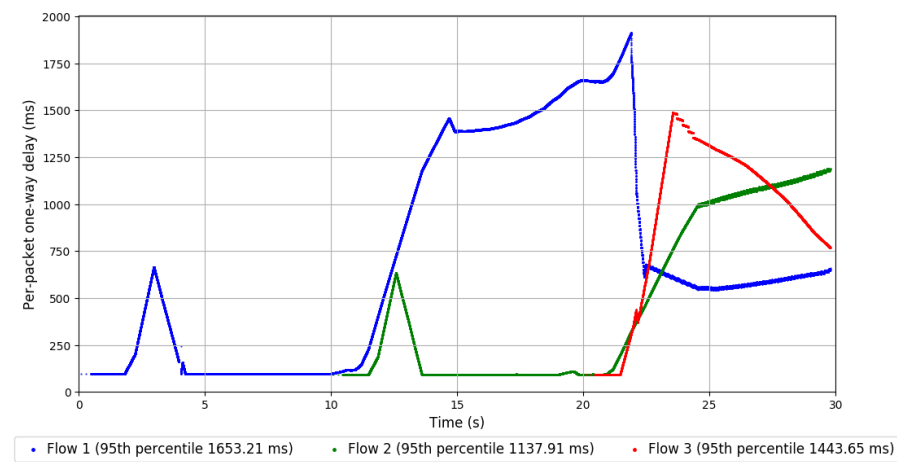
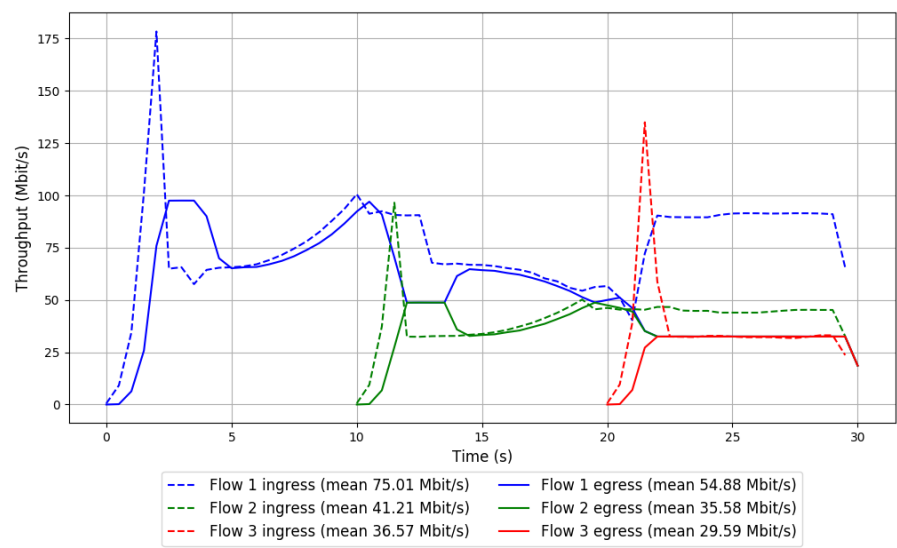
-- Flow 3:

Average throughput: 29.59 Mbit/s

95th percentile per-packet one-way delay: 1443.649 ms

Loss rate: 20.49%

Run 4: Report of PCC-Allegro — Data Link



Run 5: Statistics of PCC-Allegro

Start at: 2019-02-12 06:19:19

End at: 2019-02-12 06:19:49

Local clock offset: -5.488 ms

Remote clock offset: 2.965 ms

Below is generated by plot.py at 2019-02-12 06:34:29

Datalink statistics

-- Total of 3 flows:

Average throughput: 86.03 Mbit/s

95th percentile per-packet one-way delay: 1450.925 ms

Loss rate: 21.07%

-- Flow 1:

Average throughput: 53.97 Mbit/s

95th percentile per-packet one-way delay: 1457.144 ms

Loss rate: 24.25%

-- Flow 2:

Average throughput: 33.88 Mbit/s

95th percentile per-packet one-way delay: 1202.917 ms

Loss rate: 12.77%

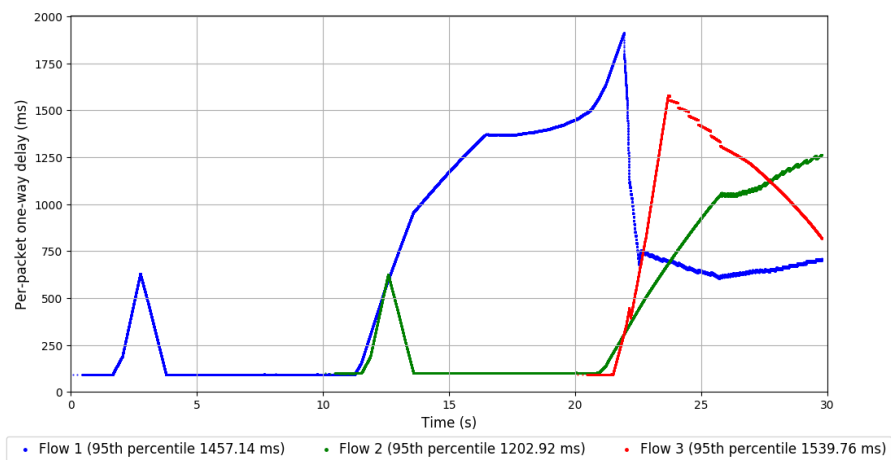
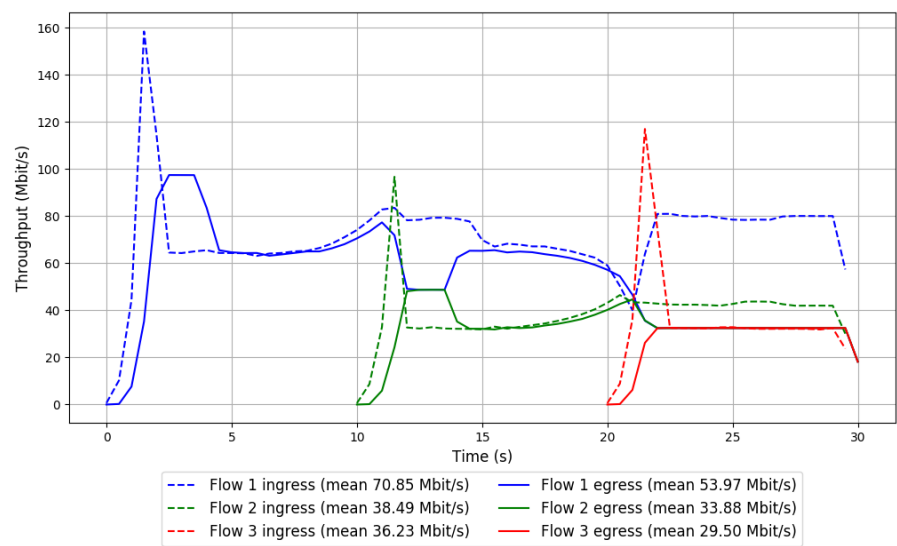
-- Flow 3:

Average throughput: 29.50 Mbit/s

95th percentile per-packet one-way delay: 1539.762 ms

Loss rate: 20.00%

Run 5: Report of PCC-Allegro — Data Link

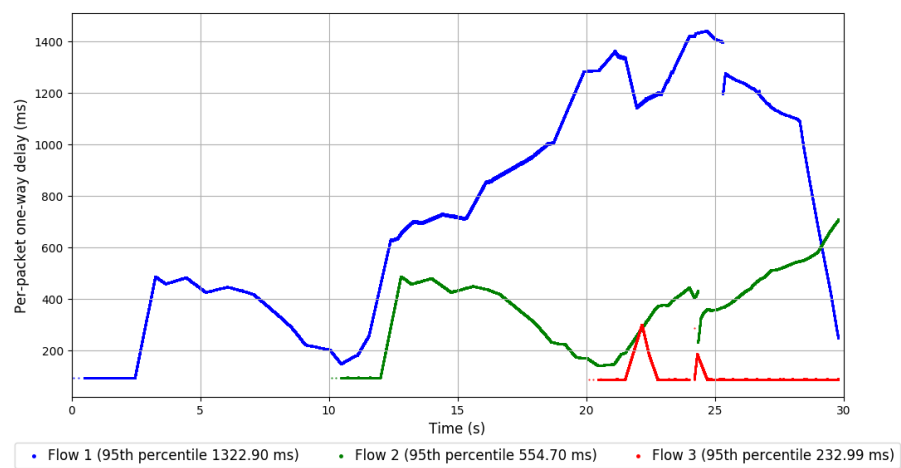
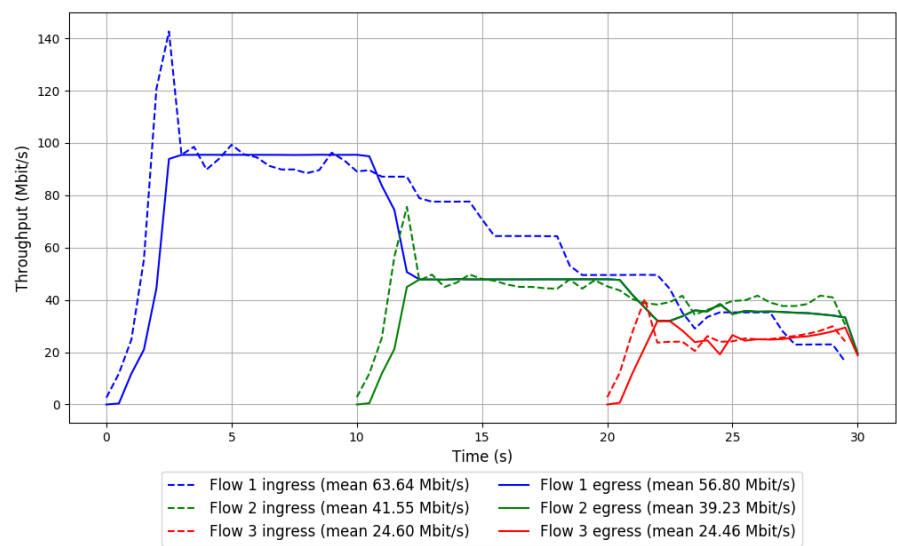



```
Run 1: Statistics of PCC-Expr

Start at: 2019-02-12 04:24:43
End at: 2019-02-12 04:25:13
Local clock offset: -6.79 ms
Remote clock offset: 8.373 ms

# Below is generated by plot.py at 2019-02-12 06:35:32
# Datalink statistics
-- Total of 3 flows:
Average throughput: 90.81 Mbit/s
95th percentile per-packet one-way delay: 1277.937 ms
Loss rate: 9.19%
-- Flow 1:
Average throughput: 56.80 Mbit/s
95th percentile per-packet one-way delay: 1322.900 ms
Loss rate: 11.27%
-- Flow 2:
Average throughput: 39.23 Mbit/s
95th percentile per-packet one-way delay: 554.697 ms
Loss rate: 6.43%
-- Flow 3:
Average throughput: 24.46 Mbit/s
95th percentile per-packet one-way delay: 232.989 ms
Loss rate: 2.29%
```

Run 1: Report of PCC-Expr — Data Link

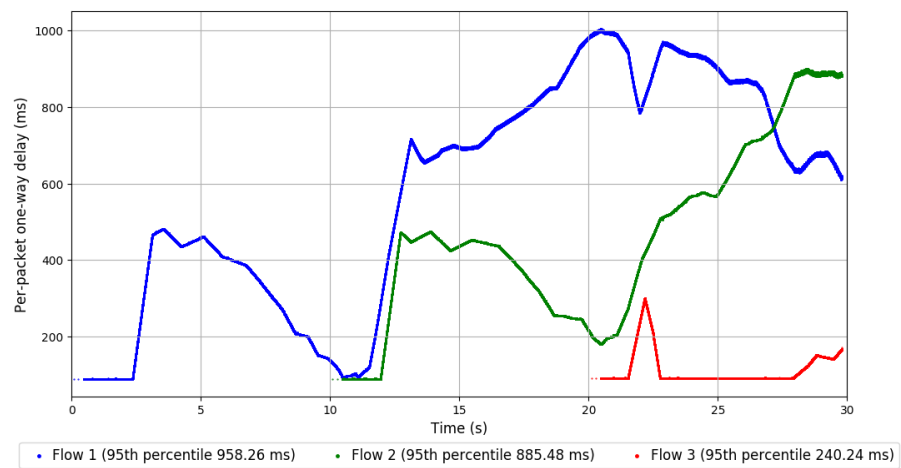
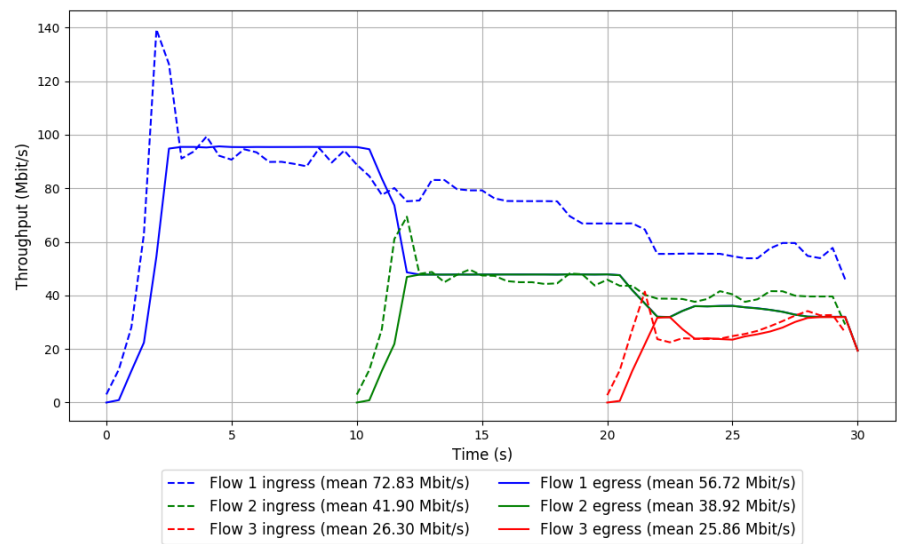


```
Run 2: Statistics of PCC-Expr

Start at: 2019-02-12 04:52:06
End at: 2019-02-12 04:52:36
Local clock offset: -2.011 ms
Remote clock offset: 8.009 ms

# Below is generated by plot.py at 2019-02-12 06:35:45
# Datalink statistics
-- Total of 3 flows:
Average throughput: 90.97 Mbit/s
95th percentile per-packet one-way delay: 933.319 ms
Loss rate: 17.32%
-- Flow 1:
Average throughput: 56.72 Mbit/s
95th percentile per-packet one-way delay: 958.262 ms
Loss rate: 22.60%
-- Flow 2:
Average throughput: 38.92 Mbit/s
95th percentile per-packet one-way delay: 885.476 ms
Loss rate: 7.90%
-- Flow 3:
Average throughput: 25.86 Mbit/s
95th percentile per-packet one-way delay: 240.241 ms
Loss rate: 3.36%
```

Run 2: Report of PCC-Expr — Data Link



Run 3: Statistics of PCC-Expr

Start at: 2019-02-12 05:19:32

End at: 2019-02-12 05:20:02

Local clock offset: -5.62 ms

Remote clock offset: 4.282 ms

Below is generated by plot.py at 2019-02-12 06:35:53

Datalink statistics

-- Total of 3 flows:

Average throughput: 90.59 Mbit/s

95th percentile per-packet one-way delay: 844.599 ms

Loss rate: 23.64%

-- Flow 1:

Average throughput: 56.37 Mbit/s

95th percentile per-packet one-way delay: 833.807 ms

Loss rate: 30.02%

-- Flow 2:

Average throughput: 38.91 Mbit/s

95th percentile per-packet one-way delay: 858.366 ms

Loss rate: 12.14%

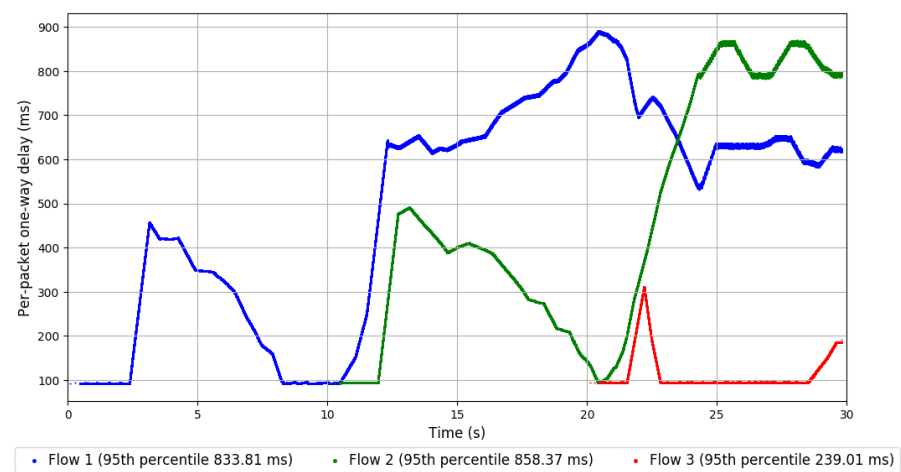
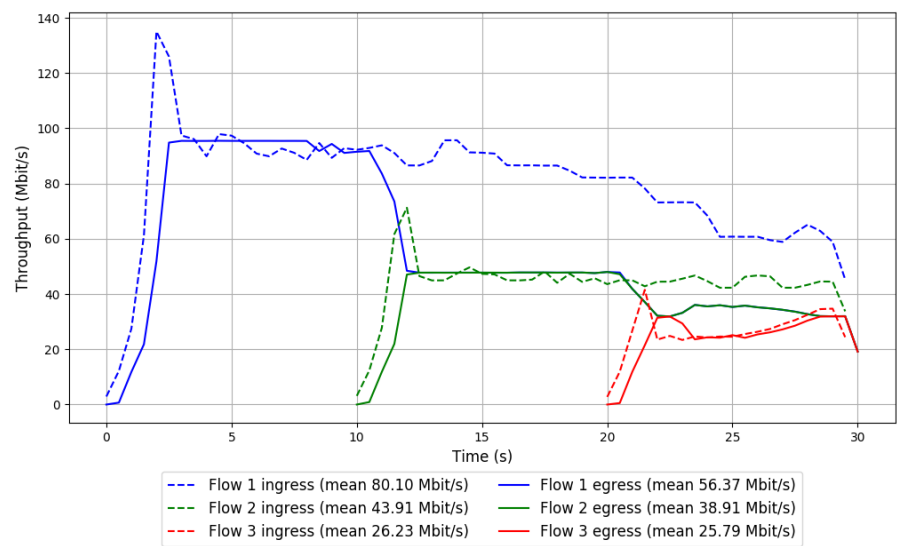
-- Flow 3:

Average throughput: 25.79 Mbit/s

95th percentile per-packet one-way delay: 239.015 ms

Loss rate: 3.35%

Run 3: Report of PCC-Expr — Data Link



Run 4: Statistics of PCC-Expr

Start at: 2019-02-12 05:46:56

End at: 2019-02-12 05:47:26

Local clock offset: -5.714 ms

Remote clock offset: 8.545 ms

Below is generated by plot.py at 2019-02-12 06:36:28

Datalink statistics

-- Total of 3 flows:

Average throughput: 90.68 Mbit/s

95th percentile per-packet one-way delay: 1013.406 ms

Loss rate: 19.67%

-- Flow 1:

Average throughput: 56.49 Mbit/s

95th percentile per-packet one-way delay: 1022.153 ms

Loss rate: 24.82%

-- Flow 2:

Average throughput: 38.89 Mbit/s

95th percentile per-packet one-way delay: 860.799 ms

Loss rate: 11.25%

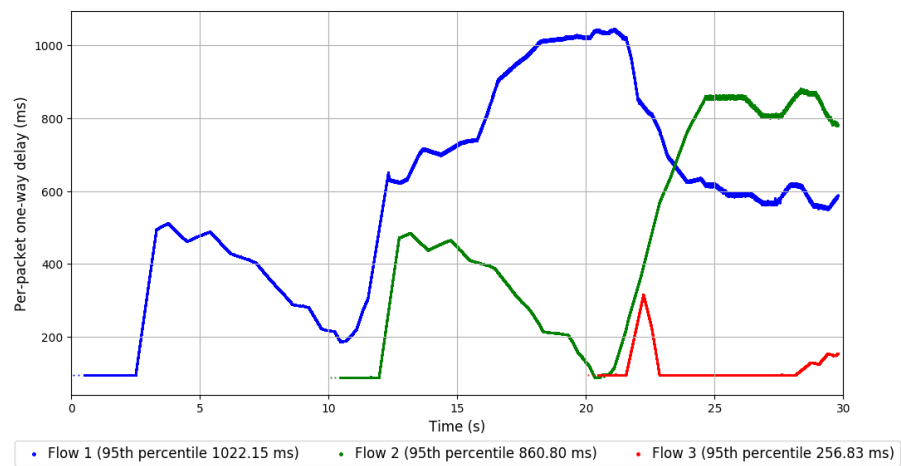
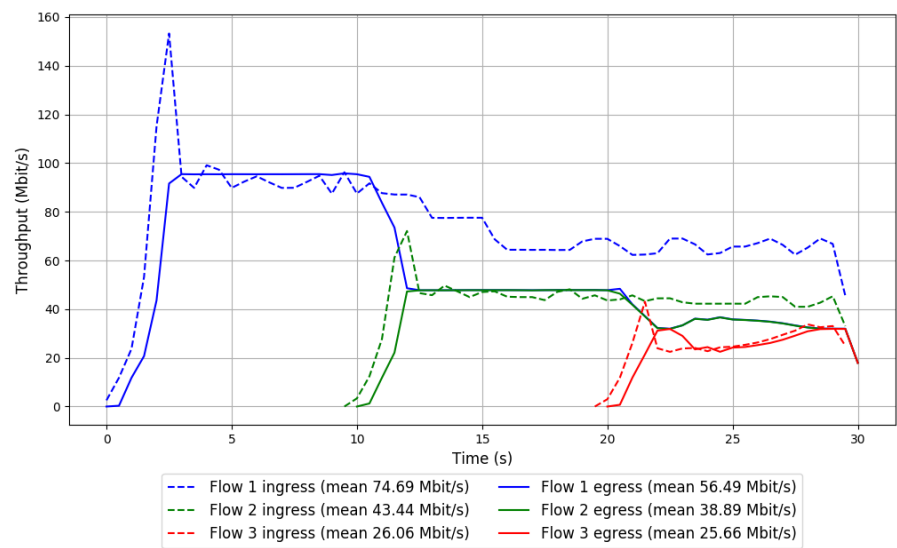
-- Flow 3:

Average throughput: 25.66 Mbit/s

95th percentile per-packet one-way delay: 256.834 ms

Loss rate: 3.30%

Run 4: Report of PCC-Expr — Data Link



Run 5: Statistics of PCC-Expr

Start at: 2019-02-12 06:14:10

End at: 2019-02-12 06:14:40

Local clock offset: -5.534 ms

Remote clock offset: 3.231 ms

Below is generated by plot.py at 2019-02-12 06:36:34

Datalink statistics

-- Total of 3 flows:

Average throughput: 89.94 Mbit/s

95th percentile per-packet one-way delay: 829.228 ms

Loss rate: 20.03%

-- Flow 1:

Average throughput: 56.87 Mbit/s

95th percentile per-packet one-way delay: 884.065 ms

Loss rate: 27.40%

-- Flow 2:

Average throughput: 38.71 Mbit/s

95th percentile per-packet one-way delay: 644.462 ms

Loss rate: 3.29%

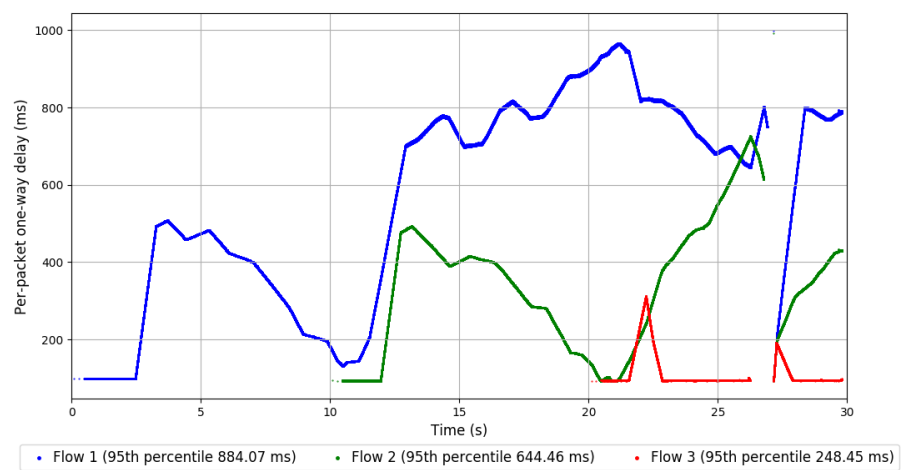
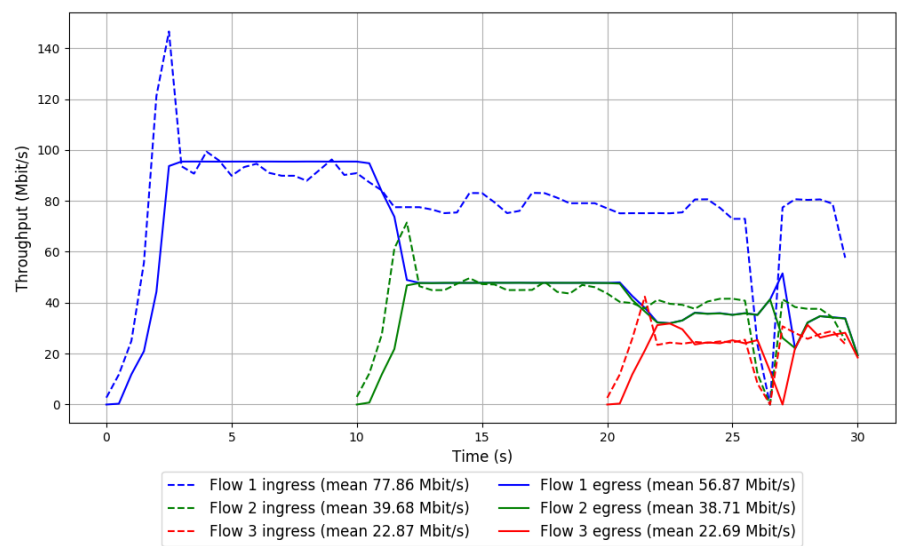
-- Flow 3:

Average throughput: 22.69 Mbit/s

95th percentile per-packet one-way delay: 248.447 ms

Loss rate: 2.54%

Run 5: Report of PCC-Expr — Data Link



Run 1: Statistics of QUIC Cubic

Start at: 2019-02-12 04:15:27

End at: 2019-02-12 04:15:57

Local clock offset: -7.587 ms

Remote clock offset: 8.248 ms

Below is generated by plot.py at 2019-02-12 06:36:34

Datalink statistics

-- Total of 3 flows:

Average throughput: 52.06 Mbit/s

95th percentile per-packet one-way delay: 121.536 ms

Loss rate: 0.92%

-- Flow 1:

Average throughput: 31.22 Mbit/s

95th percentile per-packet one-way delay: 110.738 ms

Loss rate: 0.68%

-- Flow 2:

Average throughput: 24.07 Mbit/s

95th percentile per-packet one-way delay: 154.792 ms

Loss rate: 1.08%

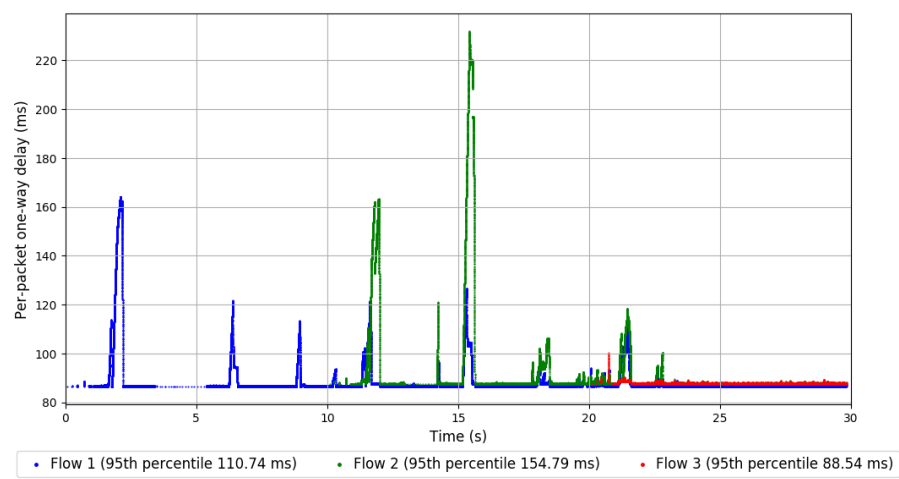
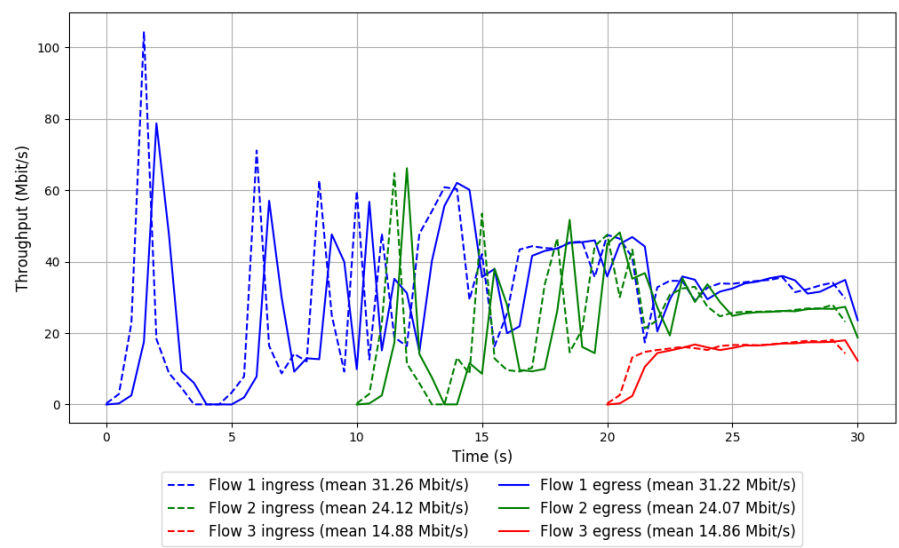
-- Flow 3:

Average throughput: 14.86 Mbit/s

95th percentile per-packet one-way delay: 88.537 ms

Loss rate: 1.88%

Run 1: Report of QUIC Cubic — Data Link



Run 2: Statistics of QUIC Cubic

Start at: 2019-02-12 04:43:05

End at: 2019-02-12 04:43:35

Local clock offset: -4.291 ms

Remote clock offset: 3.534 ms

Below is generated by plot.py at 2019-02-12 06:36:34

Datalink statistics

-- Total of 3 flows:

Average throughput: 55.84 Mbit/s

95th percentile per-packet one-way delay: 182.273 ms

Loss rate: 0.88%

-- Flow 1:

Average throughput: 35.51 Mbit/s

95th percentile per-packet one-way delay: 137.486 ms

Loss rate: 0.54%

-- Flow 2:

Average throughput: 23.17 Mbit/s

95th percentile per-packet one-way delay: 187.223 ms

Loss rate: 1.14%

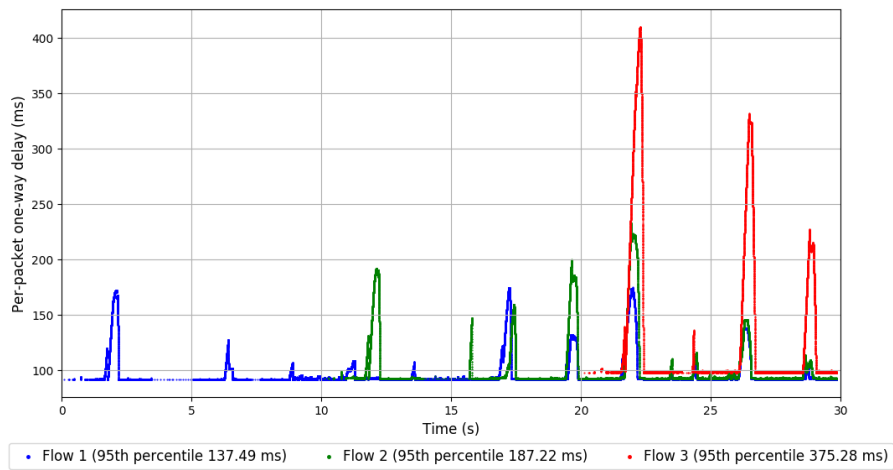
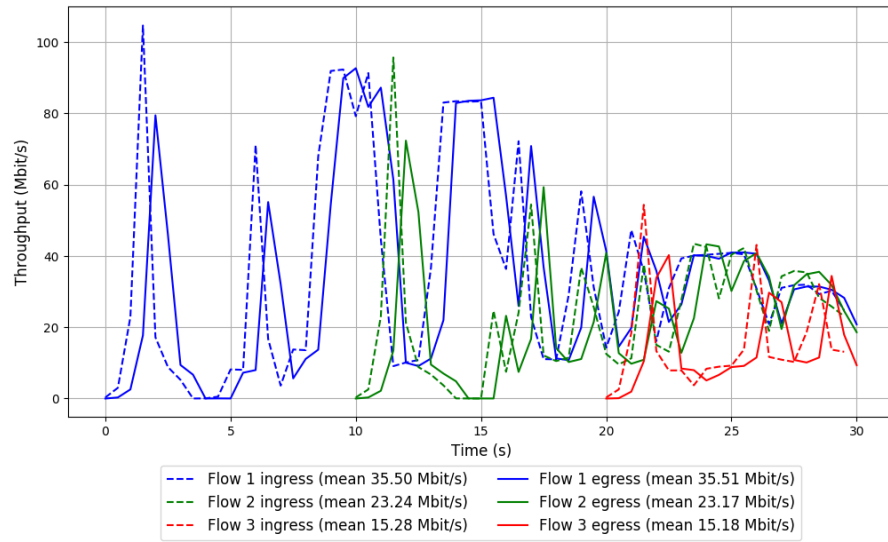
-- Flow 3:

Average throughput: 15.18 Mbit/s

95th percentile per-packet one-way delay: 375.279 ms

Loss rate: 2.39%

Run 2: Report of QUIC Cubic — Data Link



Run 3: Statistics of QUIC Cubic

Start at: 2019-02-12 05:10:32

End at: 2019-02-12 05:11:02

Local clock offset: -3.911 ms

Remote clock offset: 5.605 ms

Below is generated by plot.py at 2019-02-12 06:36:34

Datalink statistics

-- Total of 3 flows:

Average throughput: 59.26 Mbit/s

95th percentile per-packet one-way delay: 144.455 ms

Loss rate: 0.94%

-- Flow 1:

Average throughput: 33.72 Mbit/s

95th percentile per-packet one-way delay: 117.157 ms

Loss rate: 0.44%

-- Flow 2:

Average throughput: 24.62 Mbit/s

95th percentile per-packet one-way delay: 170.090 ms

Loss rate: 1.12%

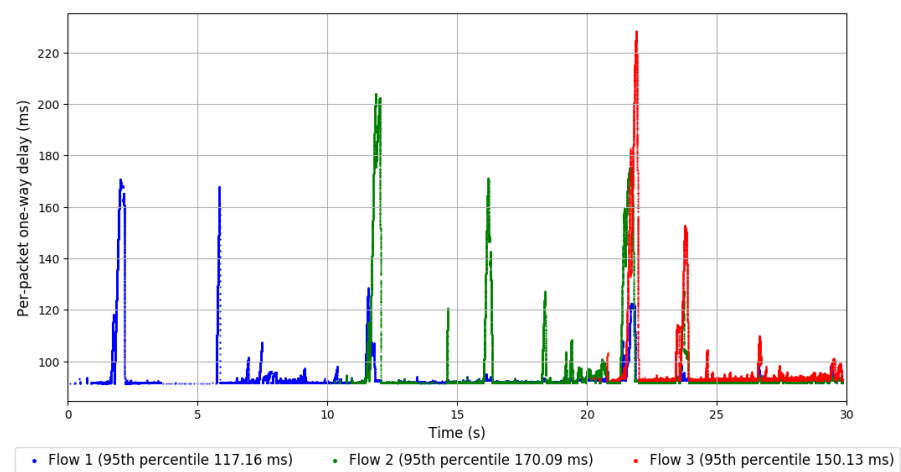
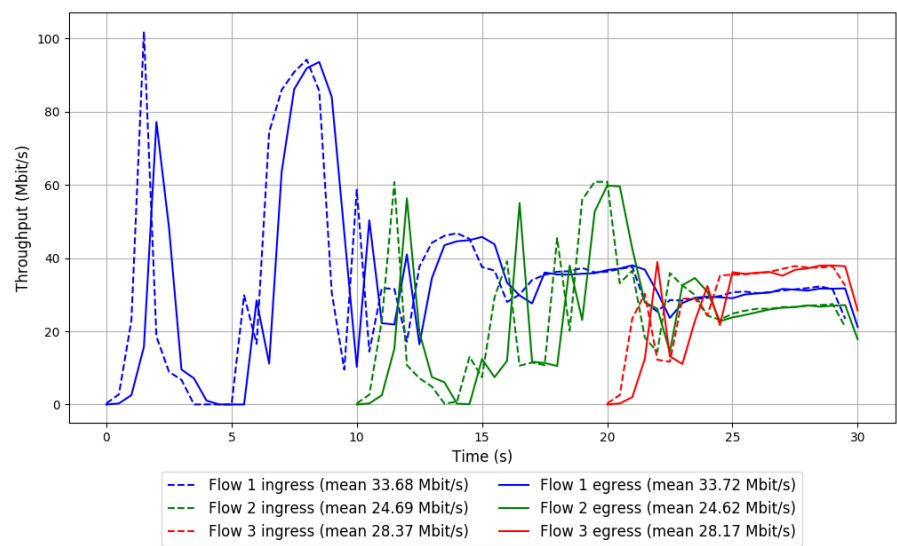
-- Flow 3:

Average throughput: 28.17 Mbit/s

95th percentile per-packet one-way delay: 150.132 ms

Loss rate: 2.44%

Run 3: Report of QUIC Cubic — Data Link



Run 4: Statistics of QUIC Cubic

Start at: 2019-02-12 05:38:01

End at: 2019-02-12 05:38:31

Local clock offset: -6.99 ms

Remote clock offset: 8.621 ms

Below is generated by plot.py at 2019-02-12 06:36:34

Datalink statistics

-- Total of 3 flows:

Average throughput: 56.40 Mbit/s

95th percentile per-packet one-way delay: 153.809 ms

Loss rate: 1.06%

-- Flow 1:

Average throughput: 32.01 Mbit/s

95th percentile per-packet one-way delay: 136.060 ms

Loss rate: 0.64%

-- Flow 2:

Average throughput: 23.82 Mbit/s

95th percentile per-packet one-way delay: 210.359 ms

Loss rate: 1.09%

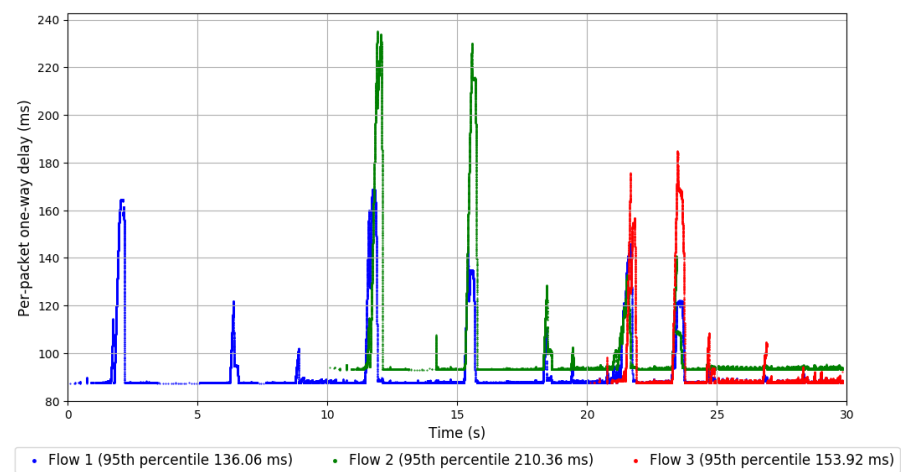
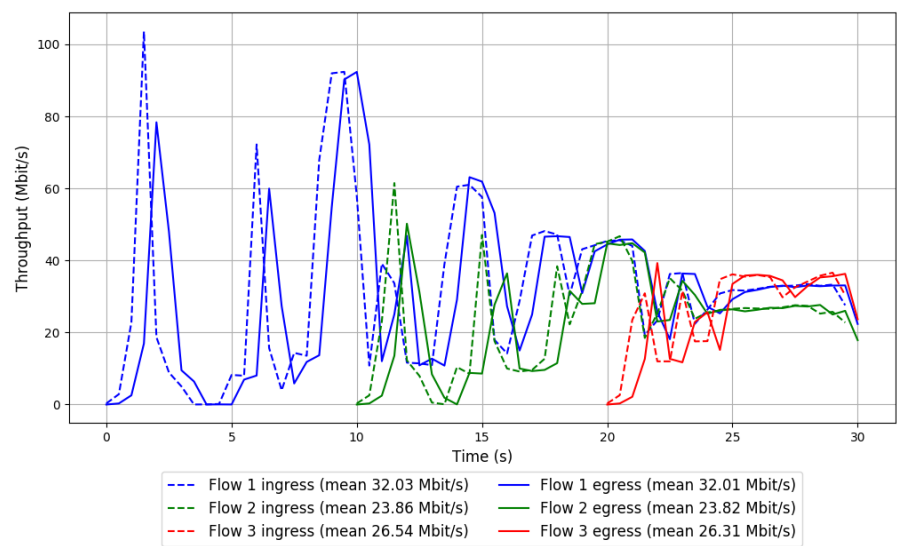
-- Flow 3:

Average throughput: 26.31 Mbit/s

95th percentile per-packet one-way delay: 153.921 ms

Loss rate: 2.54%

Run 4: Report of QUIC Cubic — Data Link



Run 5: Statistics of QUIC Cubic

Start at: 2019-02-12 06:05:09

End at: 2019-02-12 06:05:39

Local clock offset: -6.268 ms

Remote clock offset: 3.353 ms

Below is generated by plot.py at 2019-02-12 06:36:34

Datalink statistics

-- Total of 3 flows:

Average throughput: 53.43 Mbit/s

95th percentile per-packet one-way delay: 179.691 ms

Loss rate: 1.06%

-- Flow 1:

Average throughput: 32.27 Mbit/s

95th percentile per-packet one-way delay: 147.455 ms

Loss rate: 0.51%

-- Flow 2:

Average throughput: 23.29 Mbit/s

95th percentile per-packet one-way delay: 198.066 ms

Loss rate: 1.30%

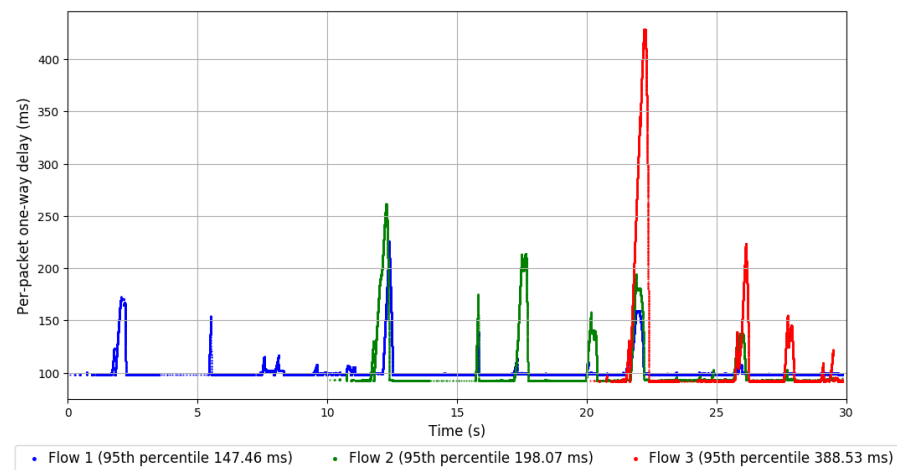
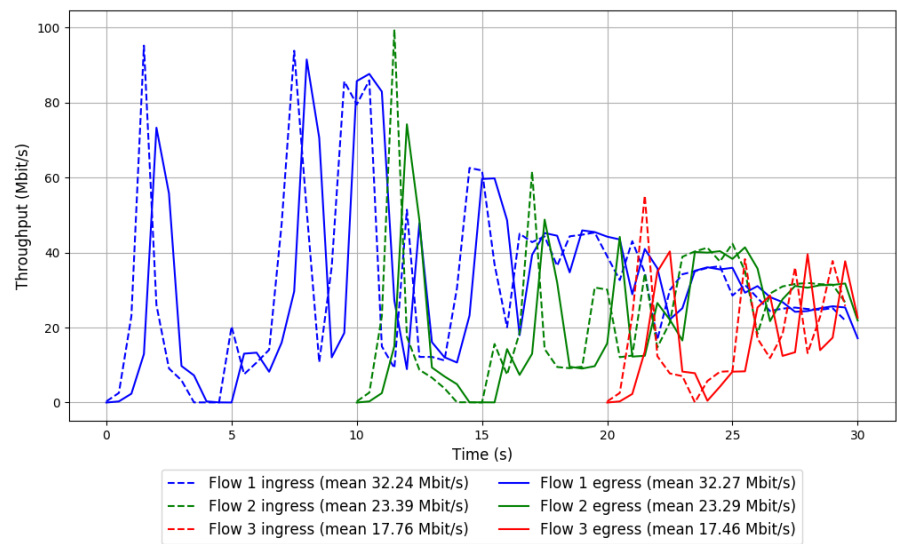
-- Flow 3:

Average throughput: 17.46 Mbit/s

95th percentile per-packet one-way delay: 388.531 ms

Loss rate: 3.41%

Run 5: Report of QUIC Cubic — Data Link

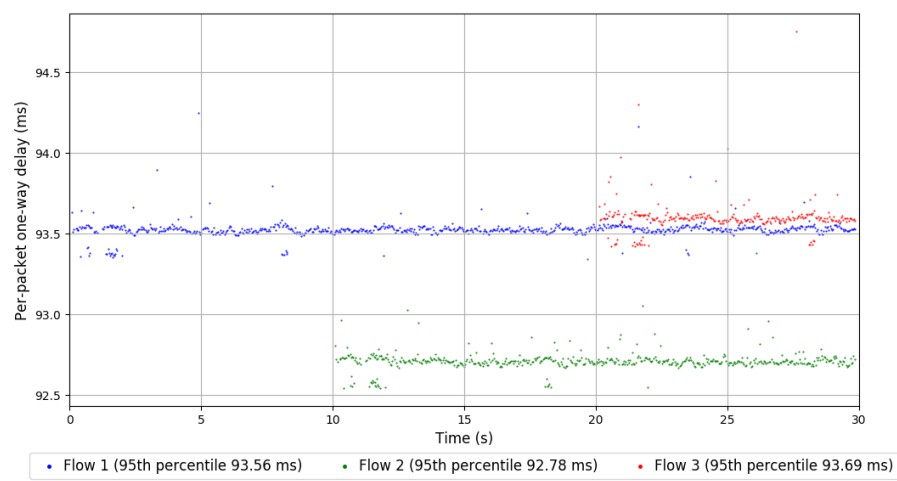
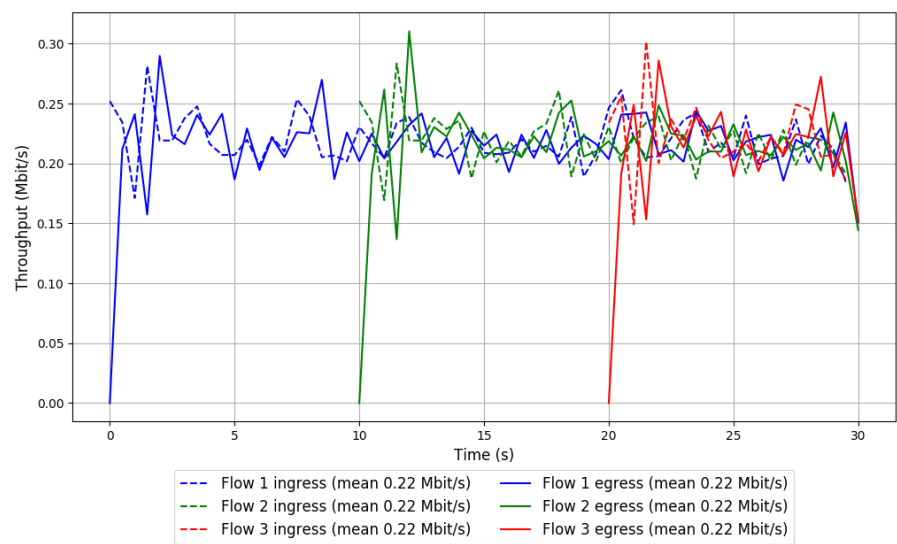


```
Run 1: Statistics of SReAM

Start at: 2019-02-12 04:19:35
End at: 2019-02-12 04:20:05
Local clock offset: -6.778 ms
Remote clock offset: 3.025 ms

# Below is generated by plot.py at 2019-02-12 06:36:34
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 93.615 ms
Loss rate: 0.85%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 93.560 ms
Loss rate: 0.51%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 92.781 ms
Loss rate: 1.04%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 93.688 ms
Loss rate: 1.50%
```

Run 1: Report of SReAM — Data Link

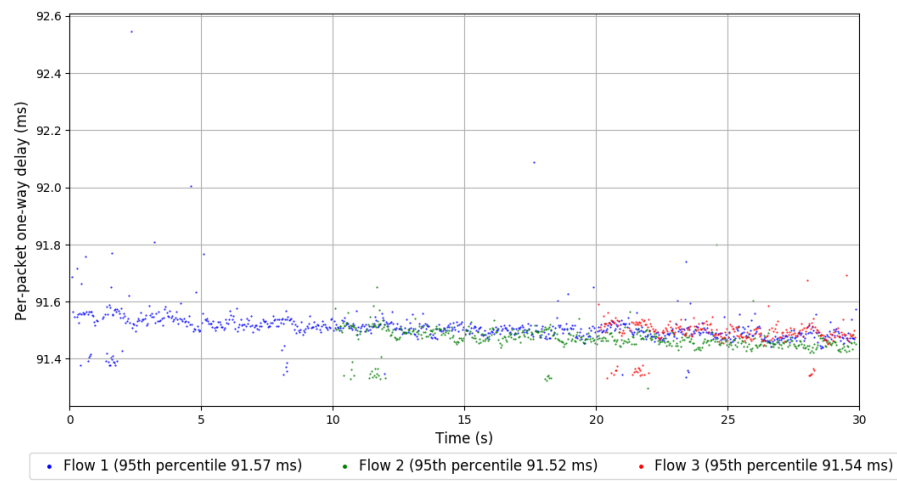
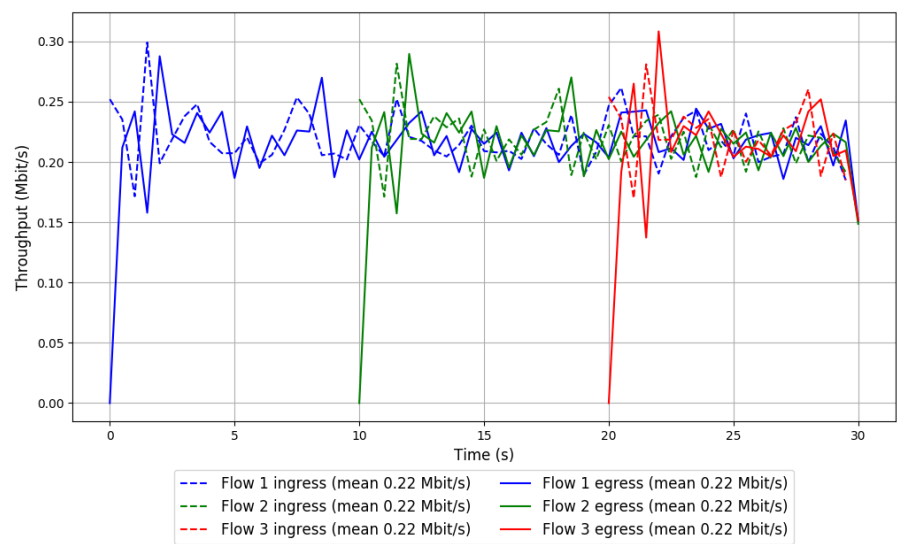


Run 2: Statistics of SReAM

Start at: 2019-02-12 04:47:00
End at: 2019-02-12 04:47:30
Local clock offset: -3.526 ms
Remote clock offset: 4.922 ms

Below is generated by plot.py at 2019-02-12 06:36:34
Datalink statistics
-- Total of 3 flows:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 91.556 ms
Loss rate: 0.84%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 91.566 ms
Loss rate: 0.51%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 91.518 ms
Loss rate: 0.82%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 91.537 ms
Loss rate: 1.85%

Run 2: Report of SReAM — Data Link

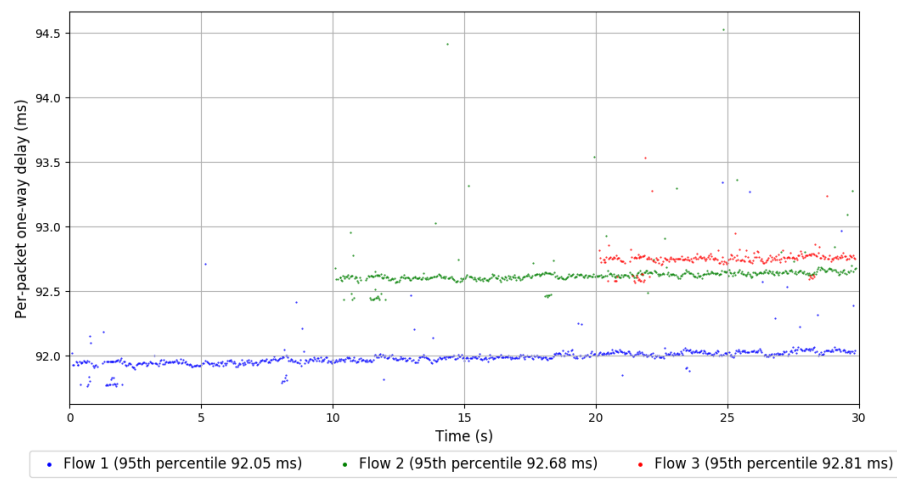
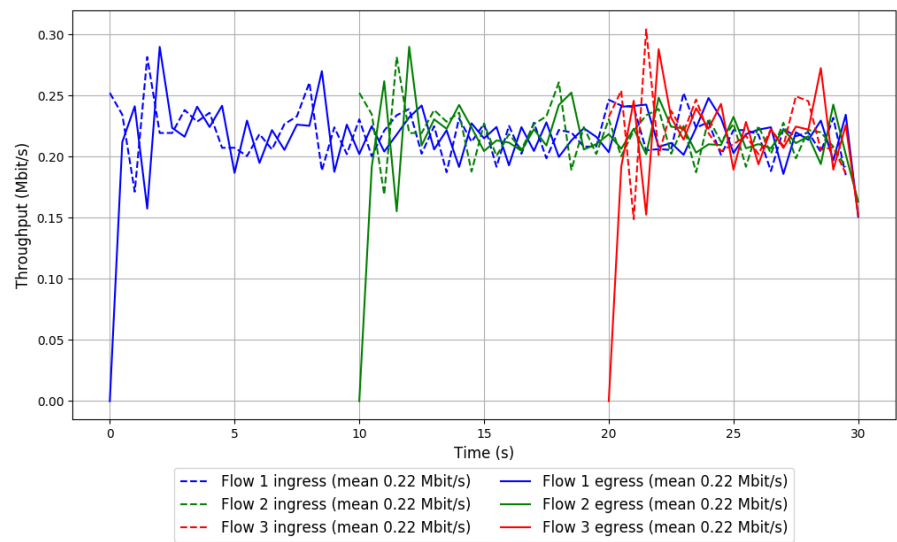


Run 3: Statistics of SReAM

Start at: 2019-02-12 05:14:27
End at: 2019-02-12 05:14:57
Local clock offset: -4.858 ms
Remote clock offset: 5.581 ms

Below is generated by plot.py at 2019-02-12 06:36:34
Datalink statistics
-- Total of 3 flows:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 92.766 ms
Loss rate: 0.78%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 92.045 ms
Loss rate: 0.51%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 92.677 ms
Loss rate: 0.82%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 92.808 ms
Loss rate: 1.50%

Run 3: Report of SReAM — Data Link

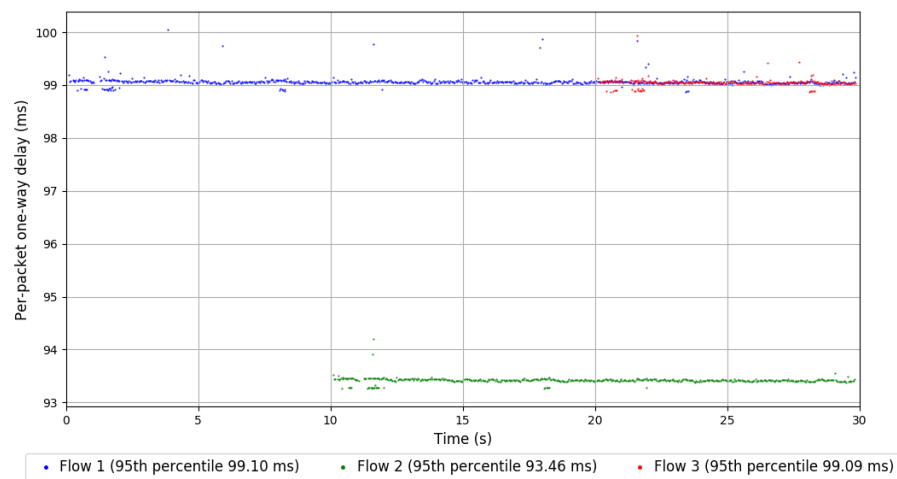
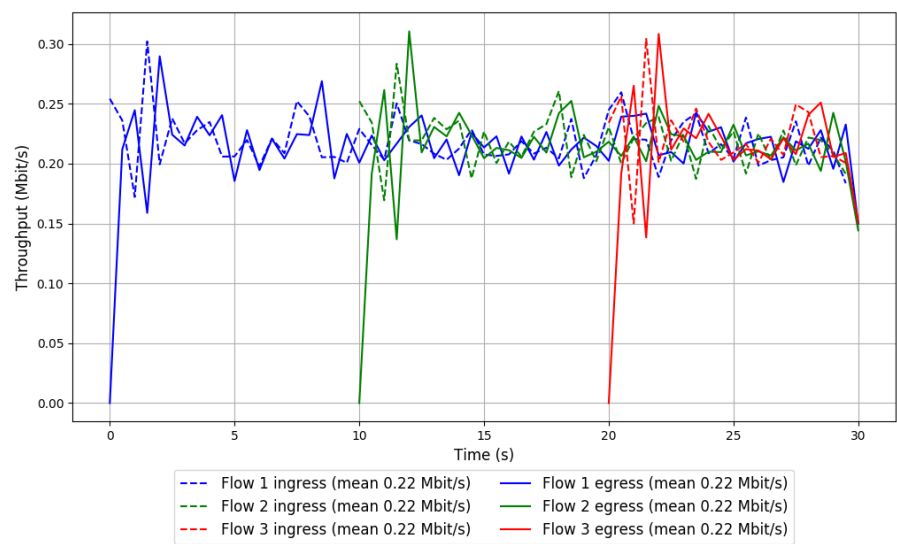


Run 4: Statistics of SReAM

Start at: 2019-02-12 05:41:53
End at: 2019-02-12 05:42:23
Local clock offset: -5.956 ms
Remote clock offset: 3.498 ms

```
# Below is generated by plot.py at 2019-02-12 06:36:34
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 99.093 ms
Loss rate: 0.91%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 99.104 ms
Loss rate: 0.51%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 93.457 ms
Loss rate: 1.04%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 99.095 ms
Loss rate: 1.84%
```

Run 4: Report of SReAM — Data Link



Run 5: Statistics of SReAM

Start at: 2019-02-12 06:09:04

End at: 2019-02-12 06:09:34

Local clock offset: -6.24 ms

Remote clock offset: 4.455 ms

Below is generated by plot.py at 2019-02-12 06:36:34

Datalink statistics

-- Total of 3 flows:

Average throughput: 0.44 Mbit/s

95th percentile per-packet one-way delay: 91.517 ms

Loss rate: 0.91%

-- Flow 1:

Average throughput: 0.22 Mbit/s

95th percentile per-packet one-way delay: 91.524 ms

Loss rate: 0.51%

-- Flow 2:

Average throughput: 0.22 Mbit/s

95th percentile per-packet one-way delay: 90.961 ms

Loss rate: 1.04%

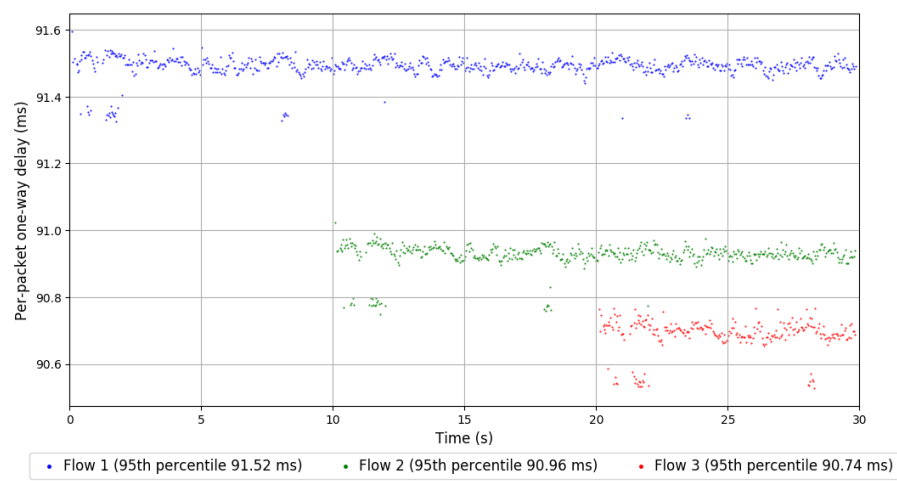
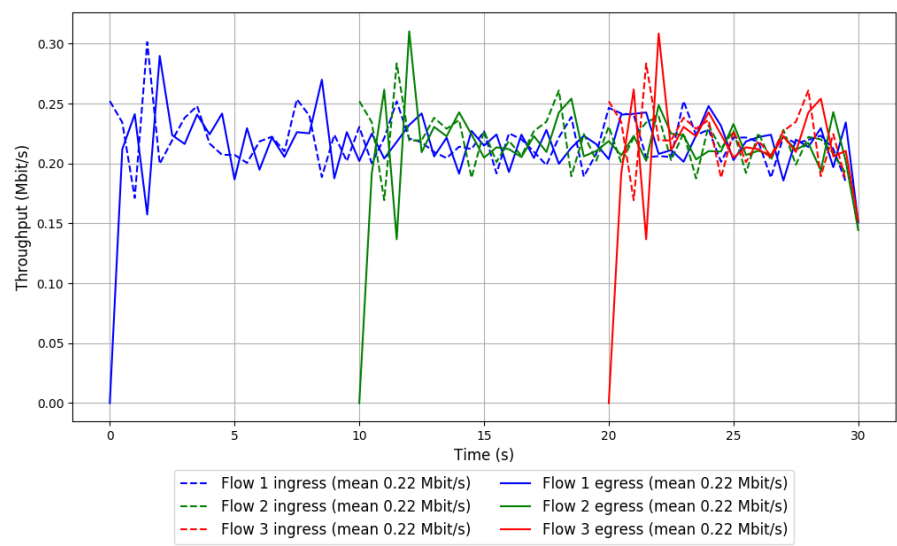
-- Flow 3:

Average throughput: 0.22 Mbit/s

95th percentile per-packet one-way delay: 90.743 ms

Loss rate: 1.85%

Run 5: Report of SReAM — Data Link



Run 1: Statistics of Sprout

Start at: 2019-02-12 04:20:47

End at: 2019-02-12 04:21:17

Local clock offset: -7.61 ms

Remote clock offset: 8.272 ms

Below is generated by plot.py at 2019-02-12 06:36:34

Datalink statistics

-- Total of 3 flows:

Average throughput: 3.40 Mbit/s

95th percentile per-packet one-way delay: 90.268 ms

Loss rate: 1.00%

-- Flow 1:

Average throughput: 2.07 Mbit/s

95th percentile per-packet one-way delay: 90.541 ms

Loss rate: 0.64%

-- Flow 2:

Average throughput: 1.22 Mbit/s

95th percentile per-packet one-way delay: 89.642 ms

Loss rate: 0.48%

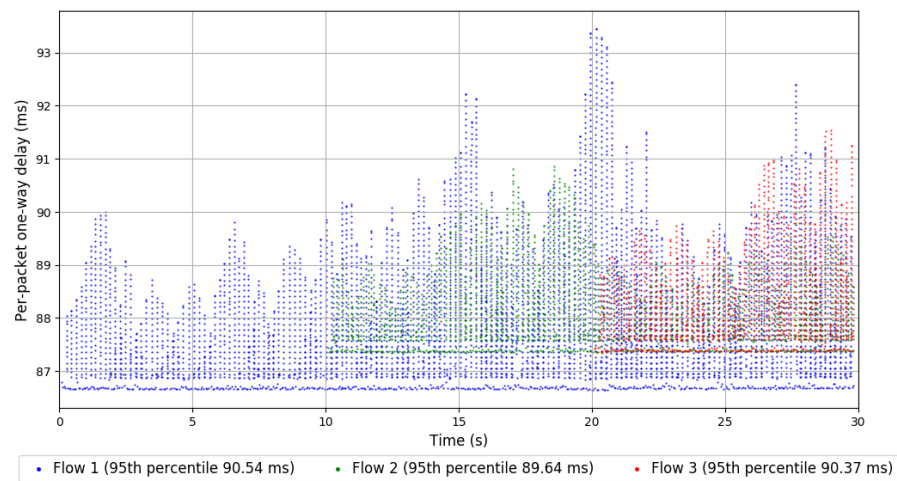
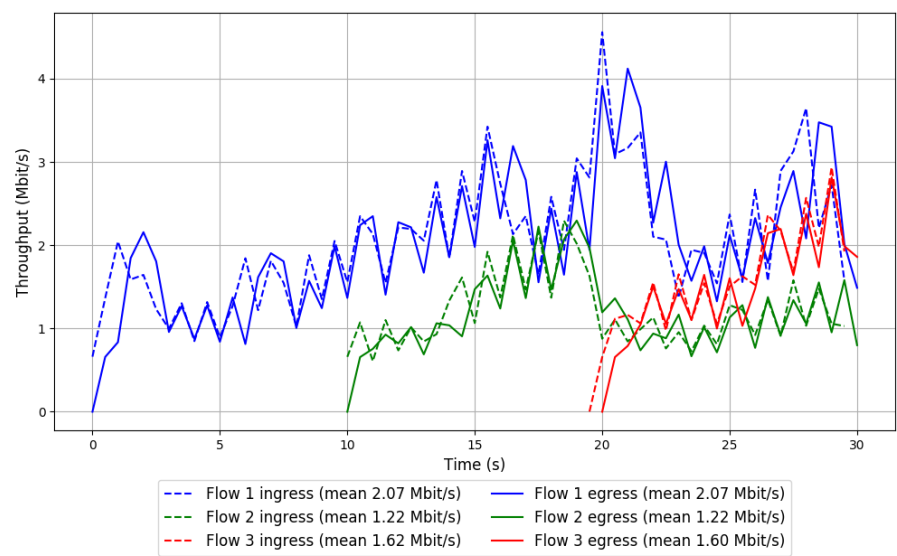
-- Flow 3:

Average throughput: 1.60 Mbit/s

95th percentile per-packet one-way delay: 90.372 ms

Loss rate: 3.16%

Run 1: Report of Sprout — Data Link

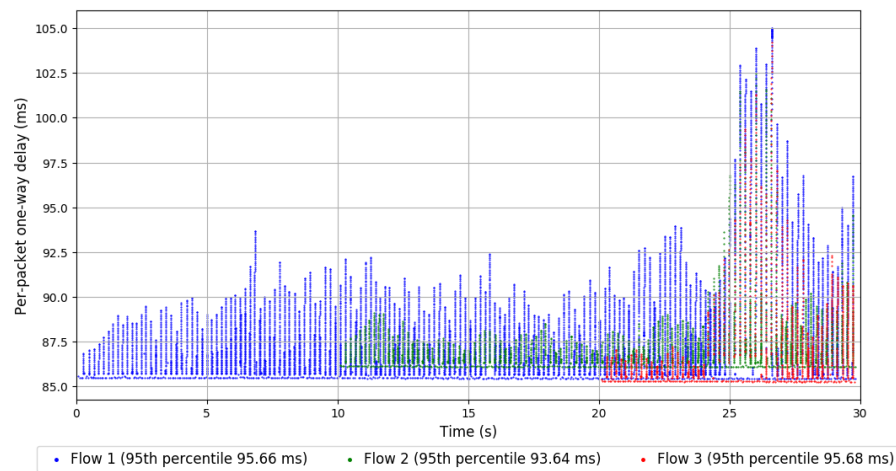
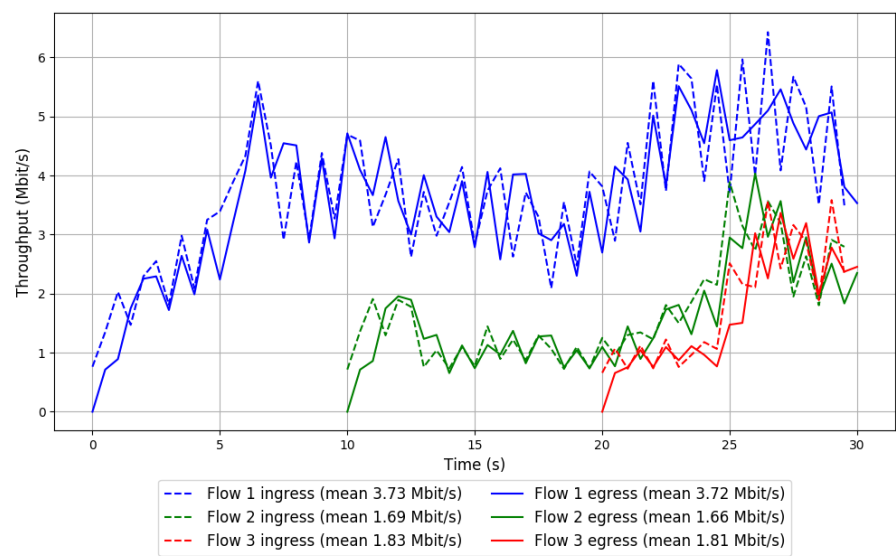


Run 2: Statistics of Sprout

Start at: 2019-02-12 04:48:13
End at: 2019-02-12 04:48:43
Local clock offset: -3.305 ms
Remote clock offset: 10.185 ms

```
# Below is generated by plot.py at 2019-02-12 06:36:34
# Datalink statistics
-- Total of 3 flows:
Average throughput: 5.41 Mbit/s
95th percentile per-packet one-way delay: 95.320 ms
Loss rate: 1.32%
-- Flow 1:
Average throughput: 3.72 Mbit/s
95th percentile per-packet one-way delay: 95.664 ms
Loss rate: 0.75%
-- Flow 2:
Average throughput: 1.66 Mbit/s
95th percentile per-packet one-way delay: 93.641 ms
Loss rate: 2.28%
-- Flow 3:
Average throughput: 1.81 Mbit/s
95th percentile per-packet one-way delay: 95.684 ms
Loss rate: 3.03%
```

Run 2: Report of Sprout — Data Link

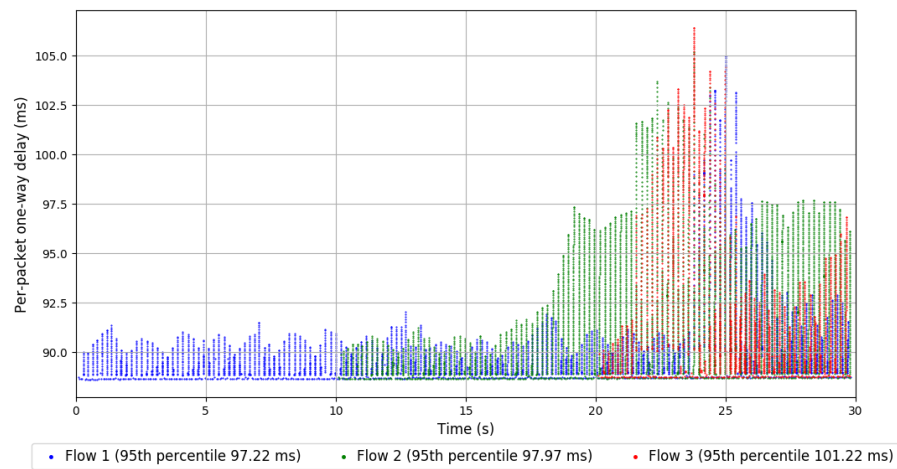
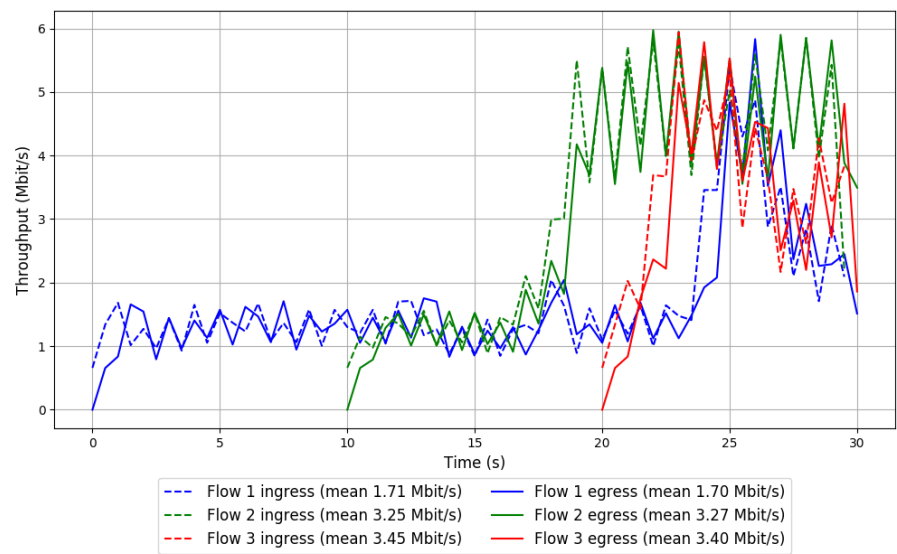


Run 3: Statistics of Sprout

Start at: 2019-02-12 05:15:39
End at: 2019-02-12 05:16:09
Local clock offset: -5.865 ms
Remote clock offset: 8.629 ms

```
# Below is generated by plot.py at 2019-02-12 06:36:34
# Datalink statistics
-- Total of 3 flows:
Average throughput: 4.98 Mbit/s
95th percentile per-packet one-way delay: 99.194 ms
Loss rate: 1.09%
-- Flow 1:
Average throughput: 1.70 Mbit/s
95th percentile per-packet one-way delay: 97.216 ms
Loss rate: 1.02%
-- Flow 2:
Average throughput: 3.27 Mbit/s
95th percentile per-packet one-way delay: 97.969 ms
Loss rate: 0.19%
-- Flow 3:
Average throughput: 3.40 Mbit/s
95th percentile per-packet one-way delay: 101.217 ms
Loss rate: 2.91%
```

Run 3: Report of Sprout — Data Link

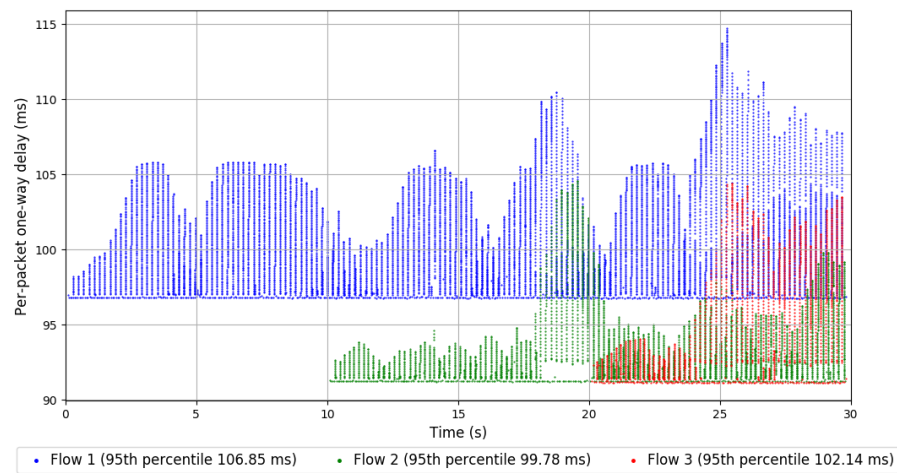
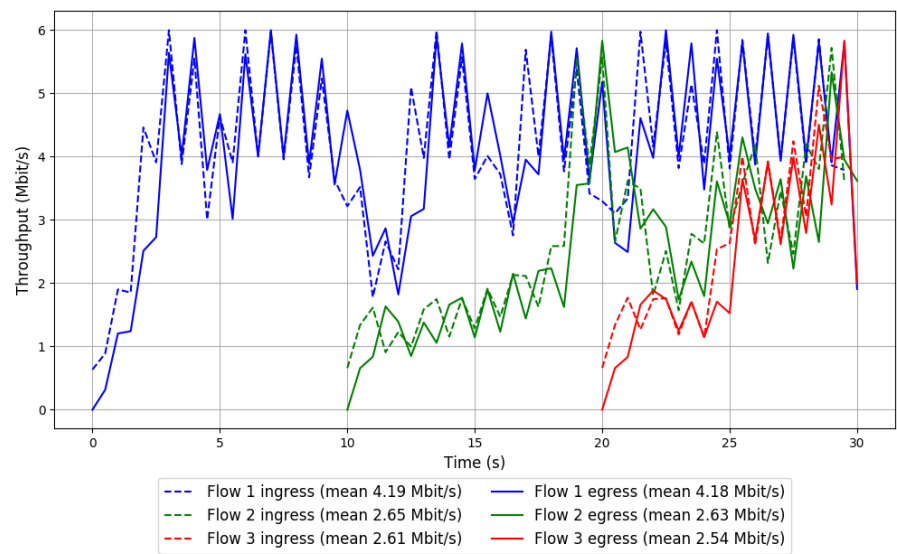


Run 4: Statistics of Sprout

Start at: 2019-02-12 05:43:05
End at: 2019-02-12 05:43:35
Local clock offset: -6.667 ms
Remote clock offset: 4.8 ms

```
# Below is generated by plot.py at 2019-02-12 06:36:34
# Datalink statistics
-- Total of 3 flows:
Average throughput: 6.75 Mbit/s
95th percentile per-packet one-way delay: 105.517 ms
Loss rate: 1.39%
-- Flow 1:
Average throughput: 4.18 Mbit/s
95th percentile per-packet one-way delay: 106.854 ms
Loss rate: 0.75%
-- Flow 2:
Average throughput: 2.63 Mbit/s
95th percentile per-packet one-way delay: 99.780 ms
Loss rate: 1.68%
-- Flow 3:
Average throughput: 2.54 Mbit/s
95th percentile per-packet one-way delay: 102.139 ms
Loss rate: 3.89%
```

Run 4: Report of Sprout — Data Link

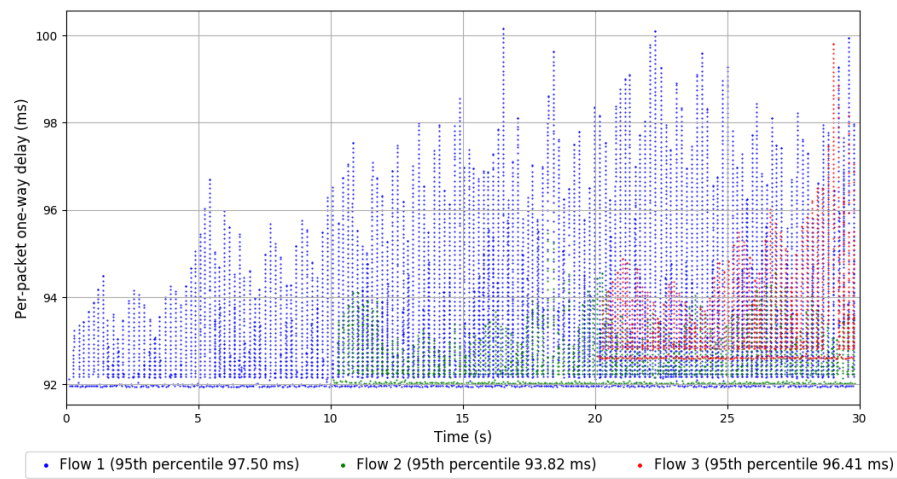
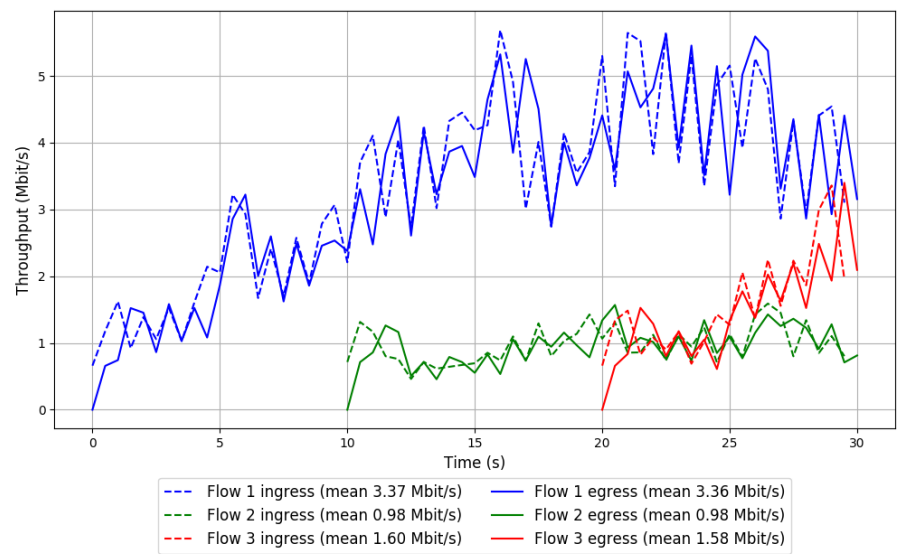


Run 5: Statistics of Sprout

Start at: 2019-02-12 06:10:17
End at: 2019-02-12 06:10:47
Local clock offset: -6.236 ms
Remote clock offset: 3.196 ms

Below is generated by plot.py at 2019-02-12 06:36:34
Datalink statistics
-- Total of 3 flows:
Average throughput: 4.52 Mbit/s
95th percentile per-packet one-way delay: 97.272 ms
Loss rate: 1.08%
-- Flow 1:
Average throughput: 3.36 Mbit/s
95th percentile per-packet one-way delay: 97.501 ms
Loss rate: 0.78%
-- Flow 2:
Average throughput: 0.98 Mbit/s
95th percentile per-packet one-way delay: 93.824 ms
Loss rate: 1.00%
-- Flow 3:
Average throughput: 1.58 Mbit/s
95th percentile per-packet one-way delay: 96.405 ms
Loss rate: 3.09%

Run 5: Report of Sprout — Data Link



Run 1: Statistics of TaoVA-100x

Start at: 2019-02-12 04:14:03

End at: 2019-02-12 04:14:33

Local clock offset: -7.544 ms

Remote clock offset: 8.069 ms

Below is generated by plot.py at 2019-02-12 06:37:29

Datalink statistics

-- Total of 3 flows:

Average throughput: 83.87 Mbit/s

95th percentile per-packet one-way delay: 159.665 ms

Loss rate: 0.91%

-- Flow 1:

Average throughput: 49.35 Mbit/s

95th percentile per-packet one-way delay: 157.087 ms

Loss rate: 0.53%

-- Flow 2:

Average throughput: 37.27 Mbit/s

95th percentile per-packet one-way delay: 162.700 ms

Loss rate: 1.07%

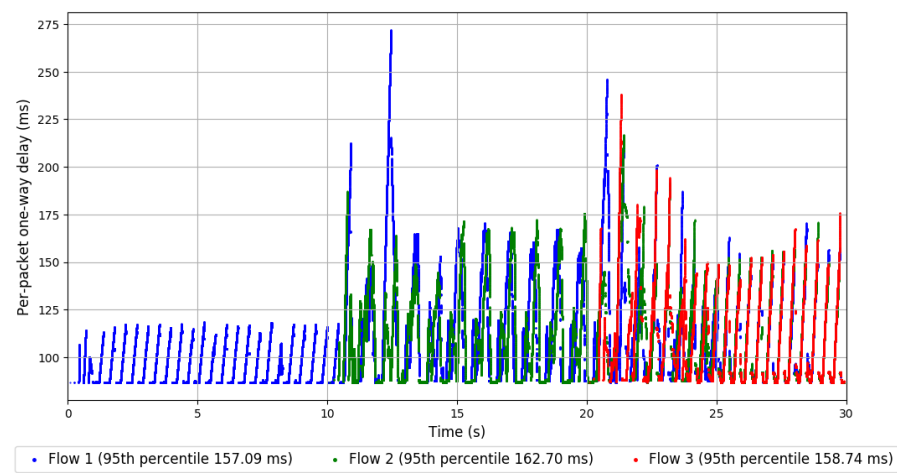
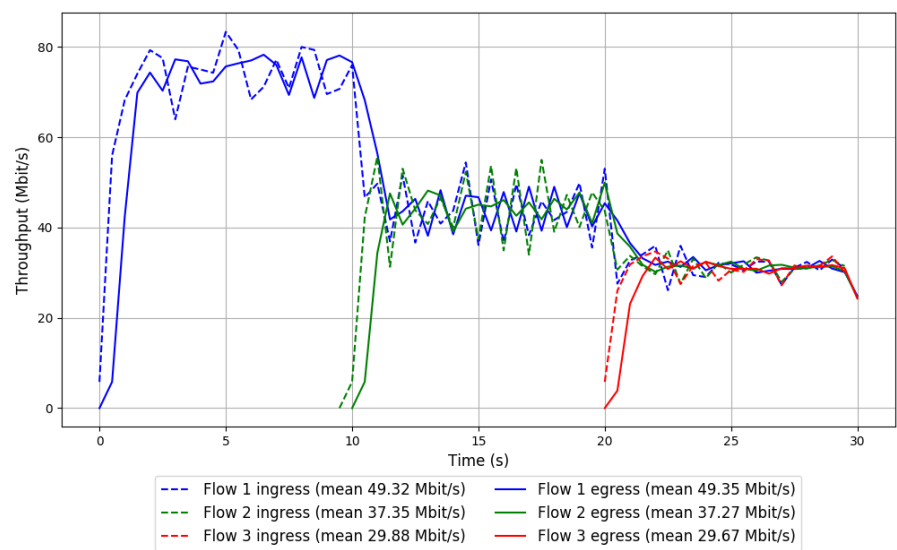
-- Flow 3:

Average throughput: 29.67 Mbit/s

95th percentile per-packet one-way delay: 158.744 ms

Loss rate: 2.39%

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



Run 2: Statistics of TaoVA-100x

Start at: 2019-02-12 04:41:44

End at: 2019-02-12 04:42:14

Local clock offset: -3.879 ms

Remote clock offset: 9.84 ms

Below is generated by plot.py at 2019-02-12 06:37:29

Datalink statistics

-- Total of 3 flows:

Average throughput: 82.66 Mbit/s

95th percentile per-packet one-way delay: 155.301 ms

Loss rate: 0.92%

-- Flow 1:

Average throughput: 48.55 Mbit/s

95th percentile per-packet one-way delay: 152.591 ms

Loss rate: 0.55%

-- Flow 2:

Average throughput: 36.53 Mbit/s

95th percentile per-packet one-way delay: 158.996 ms

Loss rate: 1.00%

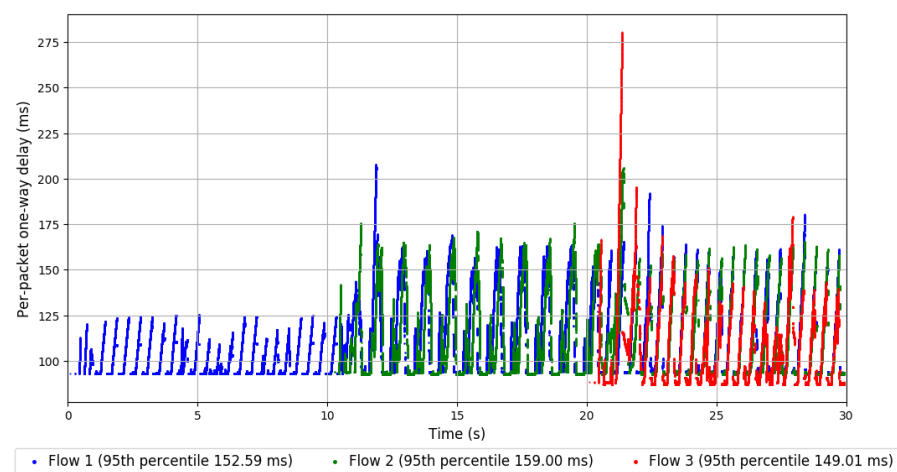
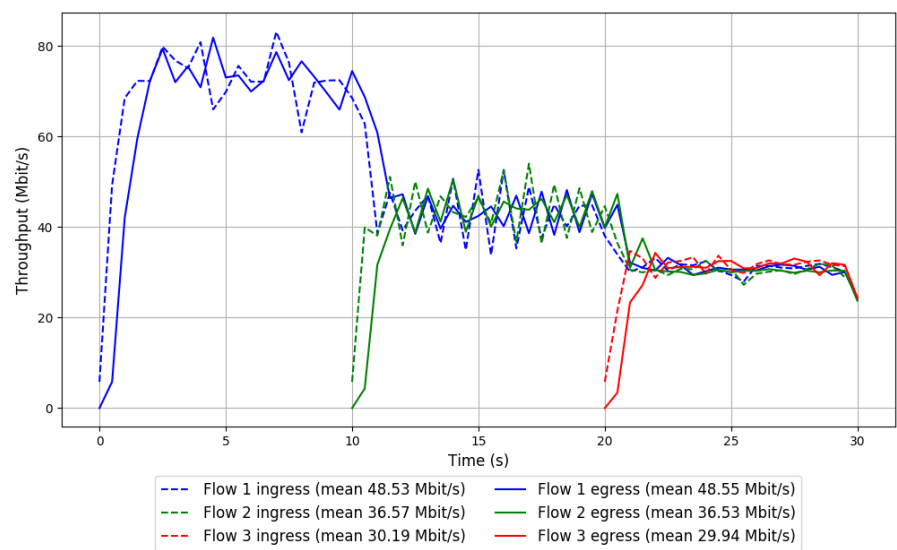
-- Flow 3:

Average throughput: 29.94 Mbit/s

95th percentile per-packet one-way delay: 149.015 ms

Loss rate: 2.55%

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



Run 3: Statistics of TaoVA-100x

Start at: 2019-02-12 05:09:10

End at: 2019-02-12 05:09:40

Local clock offset: -4.04 ms

Remote clock offset: 4.228 ms

Below is generated by plot.py at 2019-02-12 06:37:38

Datalink statistics

-- Total of 3 flows:

Average throughput: 83.72 Mbit/s

95th percentile per-packet one-way delay: 163.493 ms

Loss rate: 0.72%

-- Flow 1:

Average throughput: 49.60 Mbit/s

95th percentile per-packet one-way delay: 159.825 ms

Loss rate: 0.39%

-- Flow 2:

Average throughput: 36.78 Mbit/s

95th percentile per-packet one-way delay: 166.613 ms

Loss rate: 0.82%

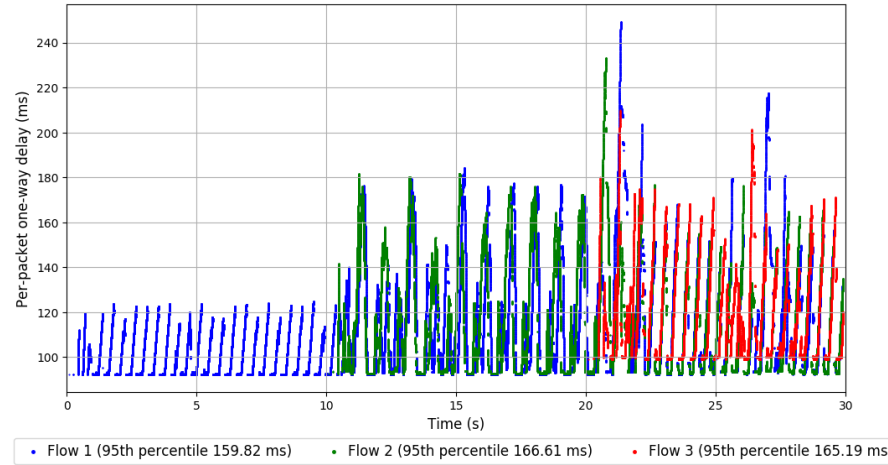
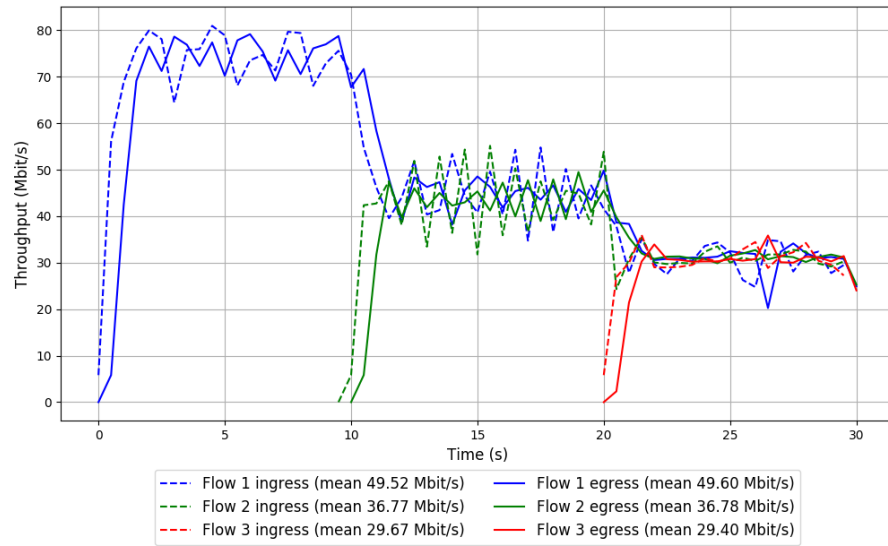
-- Flow 3:

Average throughput: 29.40 Mbit/s

95th percentile per-packet one-way delay: 165.189 ms

Loss rate: 2.11%

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



Run 4: Statistics of TaoVA-100x

Start at: 2019-02-12 05:36:39

End at: 2019-02-12 05:37:09

Local clock offset: -6.441 ms

Remote clock offset: 3.618 ms

Below is generated by plot.py at 2019-02-12 06:37:48

Datalink statistics

-- Total of 3 flows:

Average throughput: 84.57 Mbit/s

95th percentile per-packet one-way delay: 157.891 ms

Loss rate: 0.74%

-- Flow 1:

Average throughput: 49.99 Mbit/s

95th percentile per-packet one-way delay: 155.020 ms

Loss rate: 0.41%

-- Flow 2:

Average throughput: 37.60 Mbit/s

95th percentile per-packet one-way delay: 161.887 ms

Loss rate: 0.82%

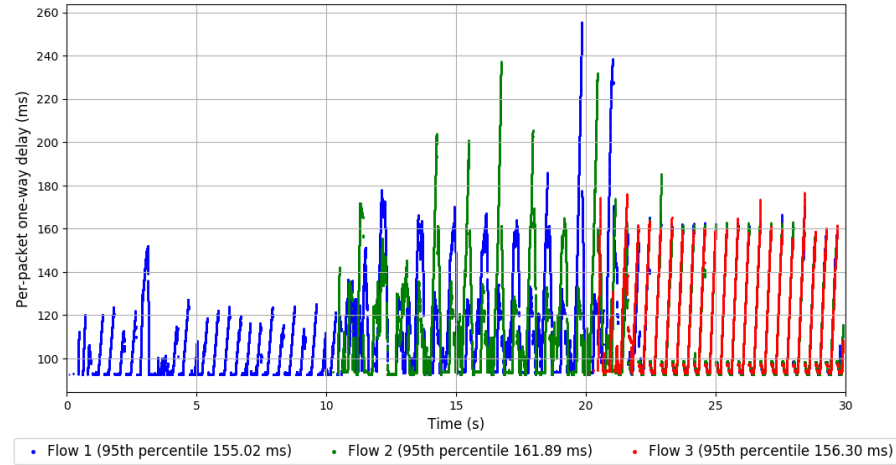
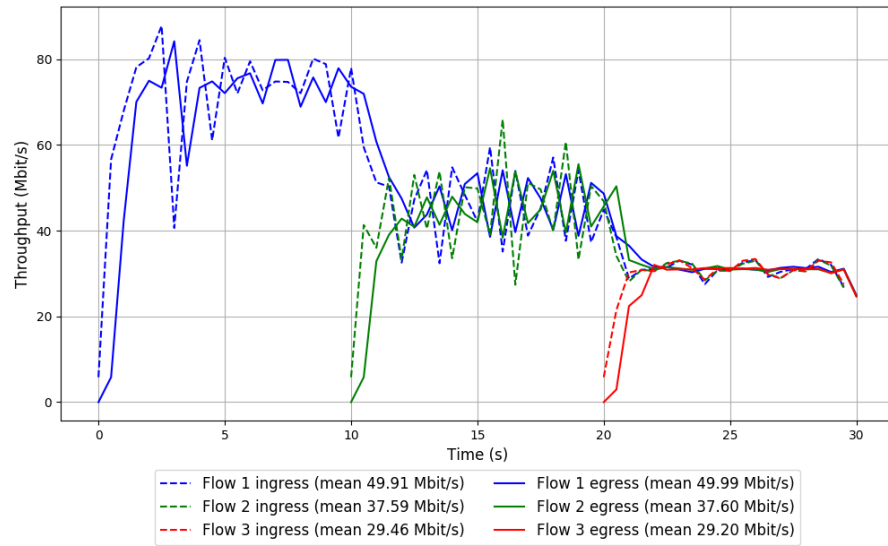
-- Flow 3:

Average throughput: 29.20 Mbit/s

95th percentile per-packet one-way delay: 156.300 ms

Loss rate: 2.20%

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



Run 5: Statistics of TaoVA-100x

Start at: 2019-02-12 06:03:48

End at: 2019-02-12 06:04:18

Local clock offset: -6.269 ms

Remote clock offset: 8.325 ms

Below is generated by plot.py at 2019-02-12 06:37:48

Datalink statistics

-- Total of 3 flows:

Average throughput: 82.86 Mbit/s

95th percentile per-packet one-way delay: 157.892 ms

Loss rate: 0.71%

-- Flow 1:

Average throughput: 48.77 Mbit/s

95th percentile per-packet one-way delay: 152.851 ms

Loss rate: 0.41%

-- Flow 2:

Average throughput: 36.40 Mbit/s

95th percentile per-packet one-way delay: 166.084 ms

Loss rate: 0.84%

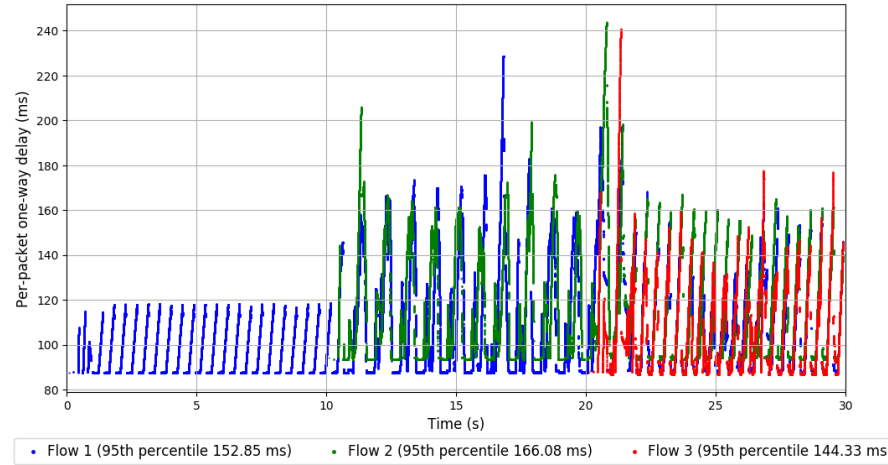
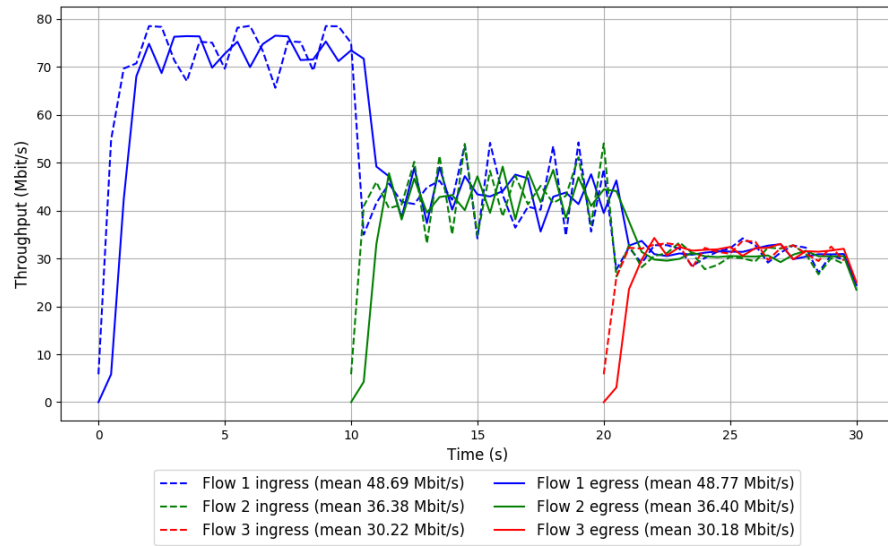
-- Flow 3:

Average throughput: 30.18 Mbit/s

95th percentile per-packet one-way delay: 144.330 ms

Loss rate: 1.84%

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



Run 1: Statistics of TCP Vegas

Start at: 2019-02-12 04:12:48

End at: 2019-02-12 04:13:18

Local clock offset: -7.628 ms

Remote clock offset: 2.756 ms

Below is generated by plot.py at 2019-02-12 06:37:48

Datalink statistics

-- Total of 3 flows:

Average throughput: 26.26 Mbit/s

95th percentile per-packet one-way delay: 232.649 ms

Loss rate: 0.68%

-- Flow 1:

Average throughput: 9.97 Mbit/s

95th percentile per-packet one-way delay: 118.698 ms

Loss rate: 0.33%

-- Flow 2:

Average throughput: 18.68 Mbit/s

95th percentile per-packet one-way delay: 309.511 ms

Loss rate: 0.49%

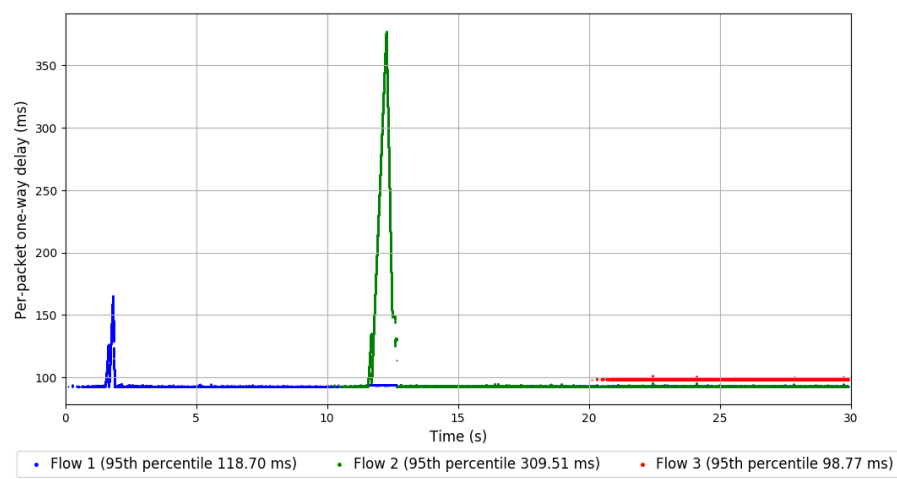
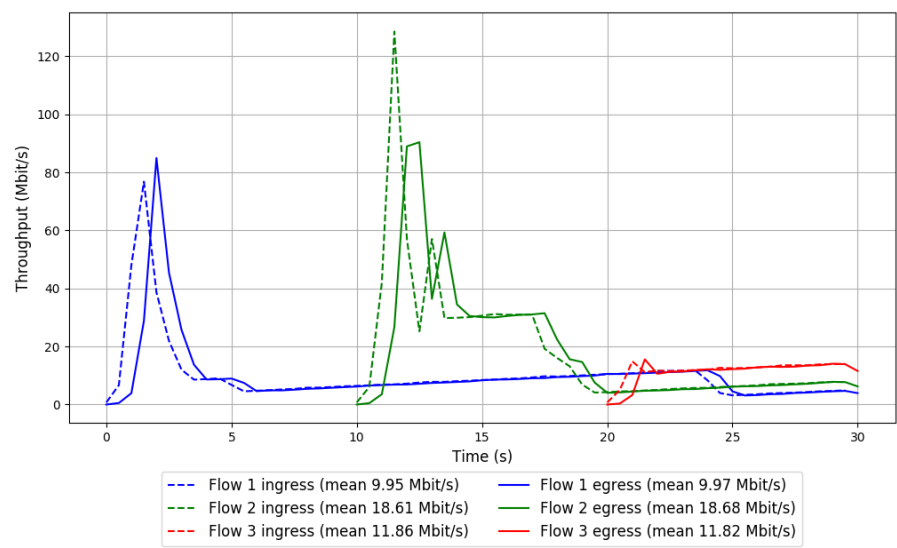
-- Flow 3:

Average throughput: 11.82 Mbit/s

95th percentile per-packet one-way delay: 98.767 ms

Loss rate: 2.17%

Run 1: Report of TCP Vegas — Data Link



Run 2: Statistics of TCP Vegas

Start at: 2019-02-12 04:40:27

End at: 2019-02-12 04:40:57

Local clock offset: -5.01 ms

Remote clock offset: 8.548 ms

Below is generated by plot.py at 2019-02-12 06:37:48

Datalink statistics

-- Total of 3 flows:

Average throughput: 49.84 Mbit/s

95th percentile per-packet one-way delay: 210.823 ms

Loss rate: 0.52%

-- Flow 1:

Average throughput: 31.09 Mbit/s

95th percentile per-packet one-way delay: 199.057 ms

Loss rate: 0.44%

-- Flow 2:

Average throughput: 14.91 Mbit/s

95th percentile per-packet one-way delay: 215.314 ms

Loss rate: 0.57%

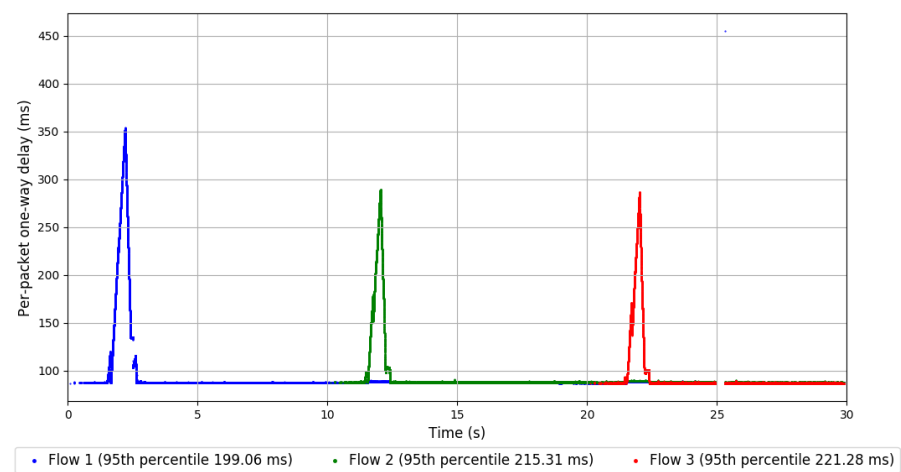
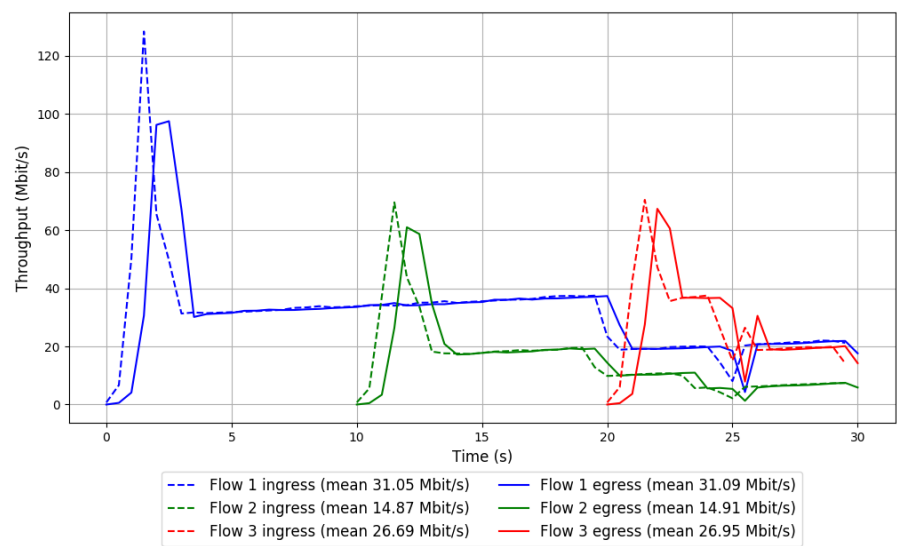
-- Flow 3:

Average throughput: 26.95 Mbit/s

95th percentile per-packet one-way delay: 221.277 ms

Loss rate: 0.76%

Run 2: Report of TCP Vegas — Data Link



Run 3: Statistics of TCP Vegas

Start at: 2019-02-12 05:07:54

End at: 2019-02-12 05:08:24

Local clock offset: -3.619 ms

Remote clock offset: 4.422 ms

Below is generated by plot.py at 2019-02-12 06:37:48

Datalink statistics

-- Total of 3 flows:

Average throughput: 42.96 Mbit/s

95th percentile per-packet one-way delay: 231.971 ms

Loss rate: 0.54%

-- Flow 1:

Average throughput: 24.92 Mbit/s

95th percentile per-packet one-way delay: 234.042 ms

Loss rate: 0.34%

-- Flow 2:

Average throughput: 14.11 Mbit/s

95th percentile per-packet one-way delay: 235.735 ms

Loss rate: 0.88%

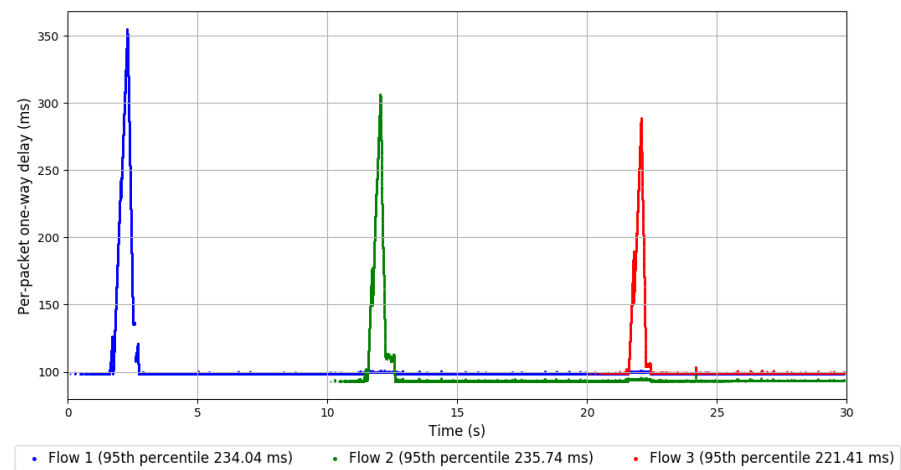
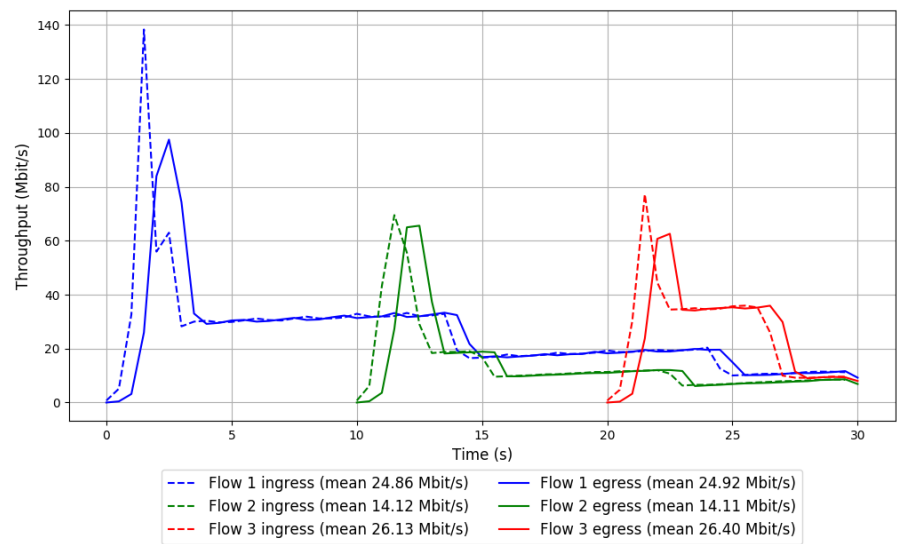
-- Flow 3:

Average throughput: 26.40 Mbit/s

95th percentile per-packet one-way delay: 221.409 ms

Loss rate: 0.75%

Run 3: Report of TCP Vegas — Data Link

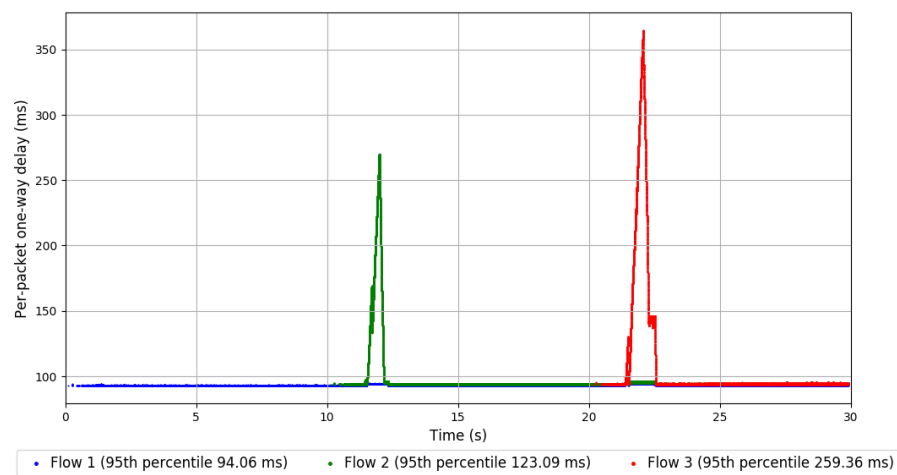
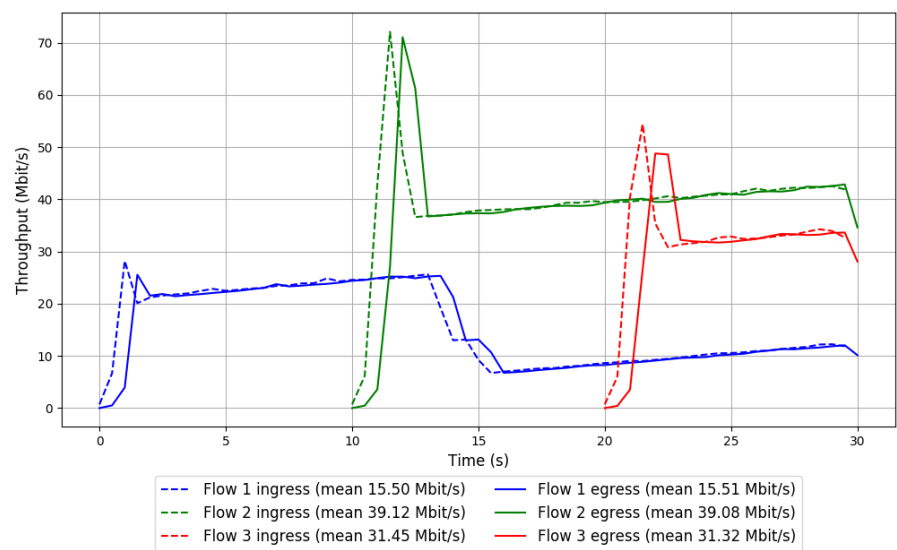


Run 4: Statistics of TCP Vegas

Start at: 2019-02-12 05:35:23
End at: 2019-02-12 05:35:53
Local clock offset: -6.538 ms
Remote clock offset: 3.253 ms

Below is generated by plot.py at 2019-02-12 06:37:48
Datalink statistics
-- Total of 3 flows:
Average throughput: 51.76 Mbit/s
95th percentile per-packet one-way delay: 138.371 ms
Loss rate: 1.06%
-- Flow 1:
Average throughput: 15.51 Mbit/s
95th percentile per-packet one-way delay: 94.056 ms
Loss rate: 0.48%
-- Flow 2:
Average throughput: 39.08 Mbit/s
95th percentile per-packet one-way delay: 123.094 ms
Loss rate: 0.96%
-- Flow 3:
Average throughput: 31.32 Mbit/s
95th percentile per-packet one-way delay: 259.358 ms
Loss rate: 2.14%

Run 4: Report of TCP Vegas — Data Link



Run 5: Statistics of TCP Vegas

Start at: 2019-02-12 06:02:31

End at: 2019-02-12 06:03:01

Local clock offset: -5.571 ms

Remote clock offset: 4.228 ms

Below is generated by plot.py at 2019-02-12 06:37:48

Datalink statistics

-- Total of 3 flows:

Average throughput: 59.28 Mbit/s

95th percentile per-packet one-way delay: 175.128 ms

Loss rate: 0.77%

-- Flow 1:

Average throughput: 35.86 Mbit/s

95th percentile per-packet one-way delay: 184.669 ms

Loss rate: 0.68%

-- Flow 2:

Average throughput: 24.72 Mbit/s

95th percentile per-packet one-way delay: 171.938 ms

Loss rate: 0.49%

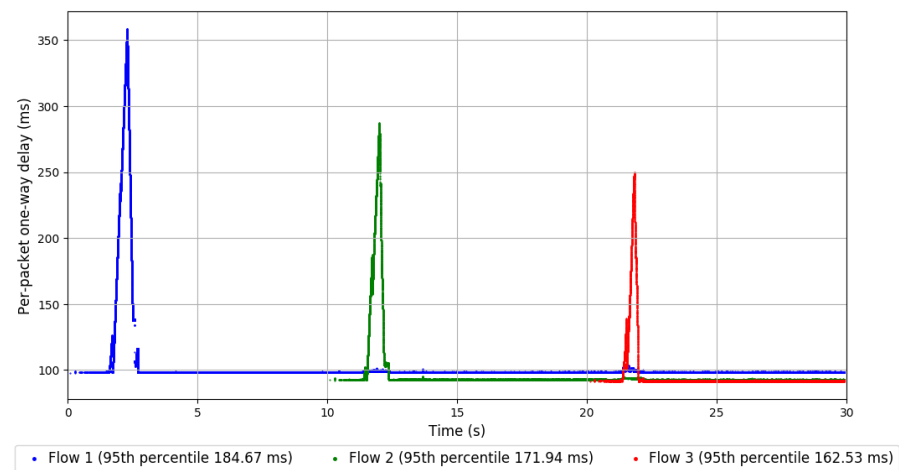
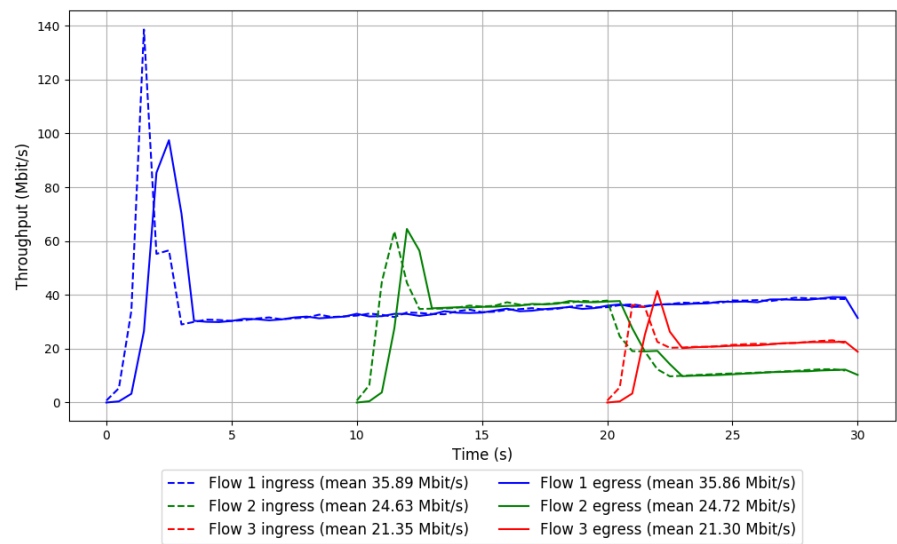
-- Flow 3:

Average throughput: 21.30 Mbit/s

95th percentile per-packet one-way delay: 162.535 ms

Loss rate: 1.92%

Run 5: Report of TCP Vegas — Data Link



Run 1: Statistics of Verus

Start at: 2019-02-12 04:10:06

End at: 2019-02-12 04:10:36

Local clock offset: -7.631 ms

Remote clock offset: 7.959 ms

Below is generated by plot.py at 2019-02-12 06:37:57

Datalink statistics

-- Total of 3 flows:

Average throughput: 70.99 Mbit/s

95th percentile per-packet one-way delay: 294.458 ms

Loss rate: 1.07%

-- Flow 1:

Average throughput: 41.04 Mbit/s

95th percentile per-packet one-way delay: 264.044 ms

Loss rate: 0.55%

-- Flow 2:

Average throughput: 36.12 Mbit/s

95th percentile per-packet one-way delay: 282.148 ms

Loss rate: 0.79%

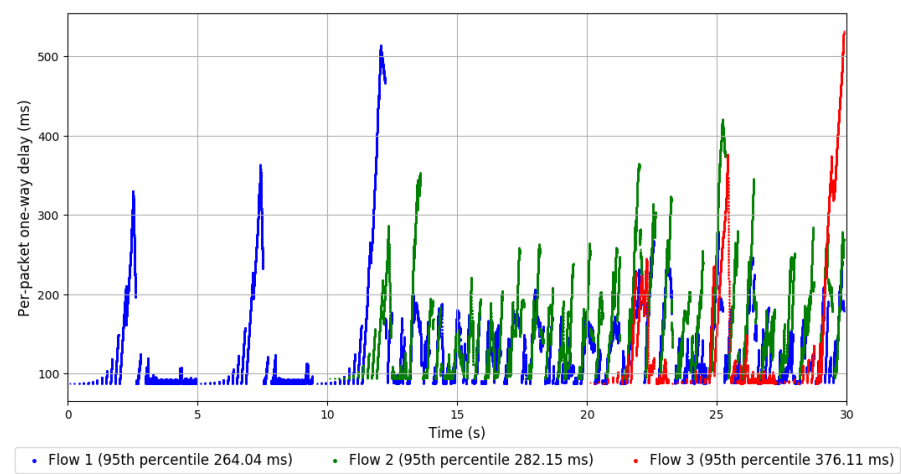
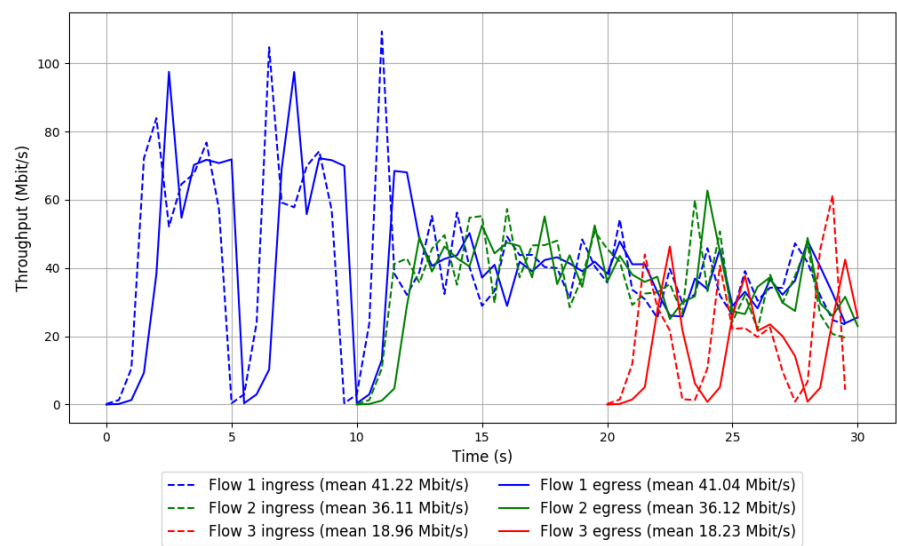
-- Flow 3:

Average throughput: 18.23 Mbit/s

95th percentile per-packet one-way delay: 376.106 ms

Loss rate: 5.48%

Run 1: Report of Verus — Data Link



Run 2: Statistics of Verus

Start at: 2019-02-12 04:37:49

End at: 2019-02-12 04:38:19

Local clock offset: -6.017 ms

Remote clock offset: 4.65 ms

Below is generated by plot.py at 2019-02-12 06:38:11

Datalink statistics

-- Total of 3 flows:

Average throughput: 75.13 Mbit/s

95th percentile per-packet one-way delay: 314.873 ms

Loss rate: 1.52%

-- Flow 1:

Average throughput: 48.79 Mbit/s

95th percentile per-packet one-way delay: 317.009 ms

Loss rate: 0.84%

-- Flow 2:

Average throughput: 26.33 Mbit/s

95th percentile per-packet one-way delay: 235.095 ms

Loss rate: 1.28%

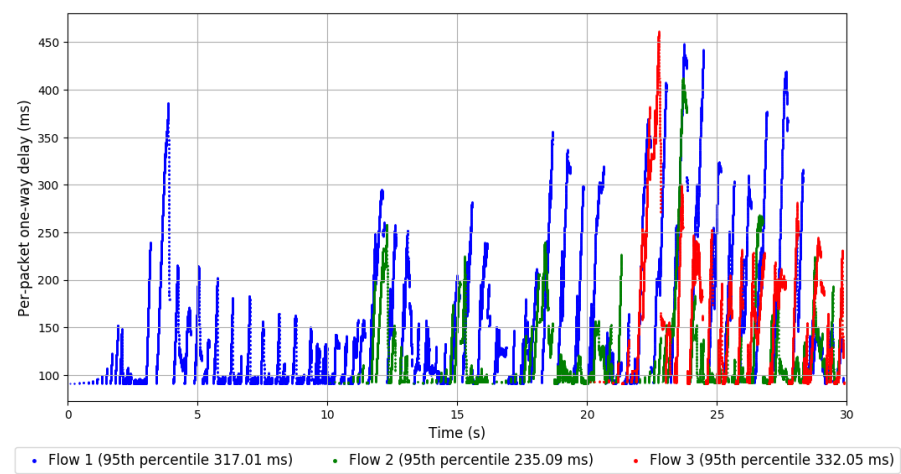
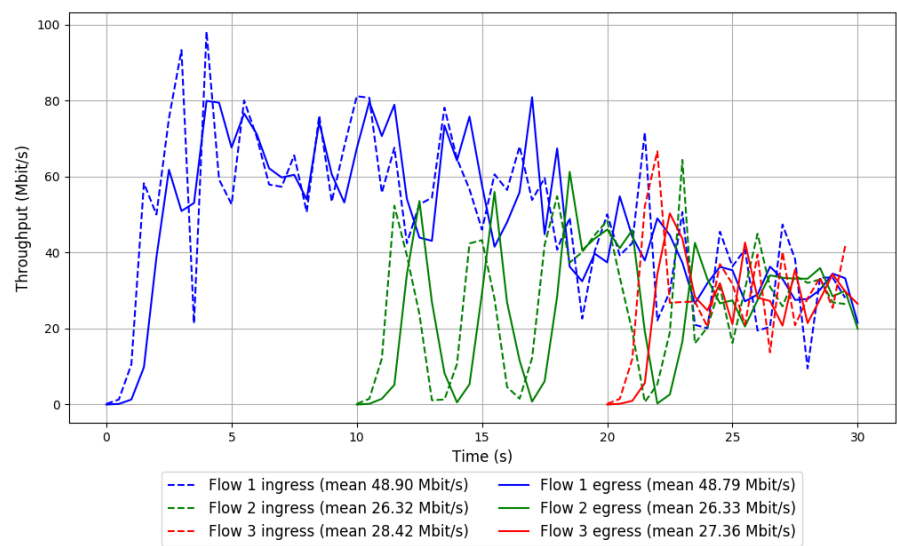
-- Flow 3:

Average throughput: 27.36 Mbit/s

95th percentile per-packet one-way delay: 332.046 ms

Loss rate: 5.44%

Run 2: Report of Verus — Data Link



Run 3: Statistics of Verus

Start at: 2019-02-12 05:05:13

End at: 2019-02-12 05:05:43

Local clock offset: -1.579 ms

Remote clock offset: 8.315 ms

Below is generated by plot.py at 2019-02-12 06:38:12

Datalink statistics

-- Total of 3 flows:

Average throughput: 61.89 Mbit/s

95th percentile per-packet one-way delay: 422.456 ms

Loss rate: 1.64%

-- Flow 1:

Average throughput: 33.81 Mbit/s

95th percentile per-packet one-way delay: 324.866 ms

Loss rate: 1.92%

-- Flow 2:

Average throughput: 28.49 Mbit/s

95th percentile per-packet one-way delay: 461.812 ms

Loss rate: 1.26%

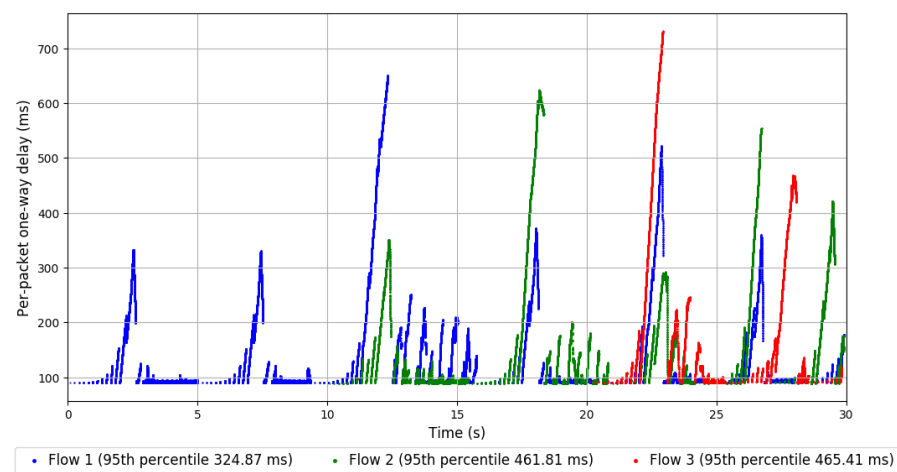
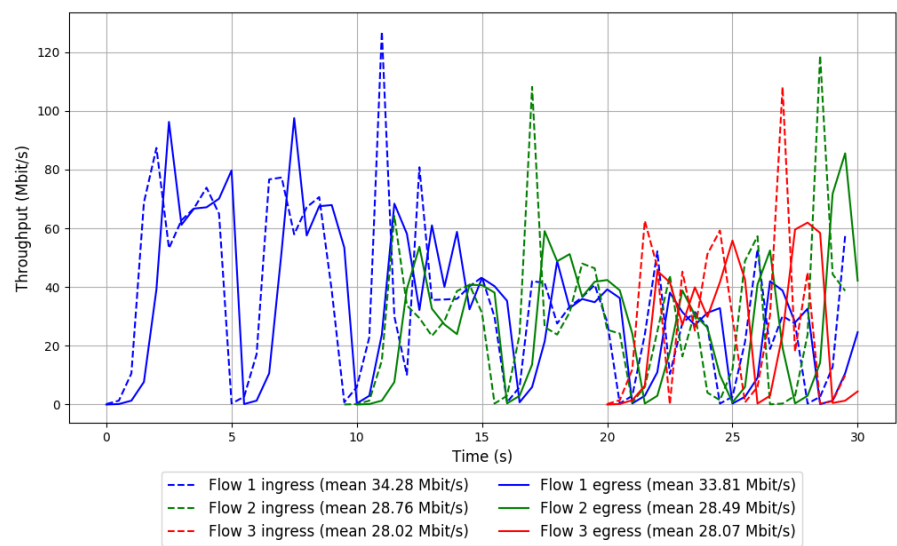
-- Flow 3:

Average throughput: 28.07 Mbit/s

95th percentile per-packet one-way delay: 465.412 ms

Loss rate: 1.39%

Run 3: Report of Verus — Data Link

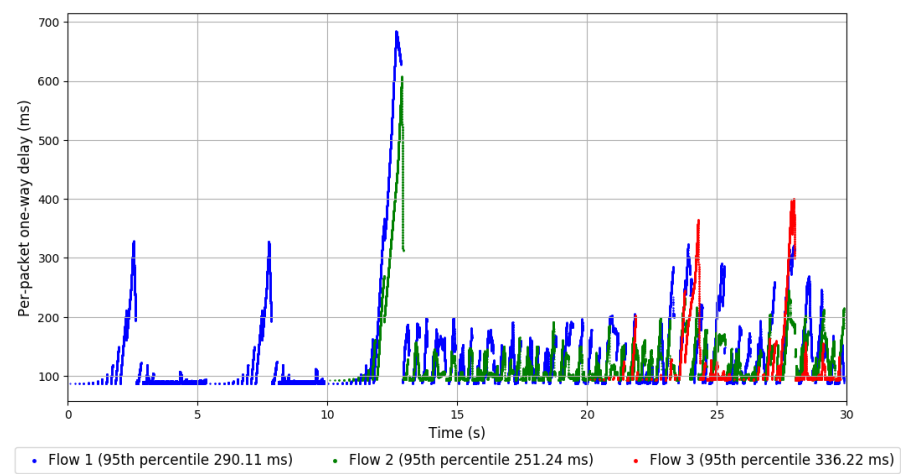
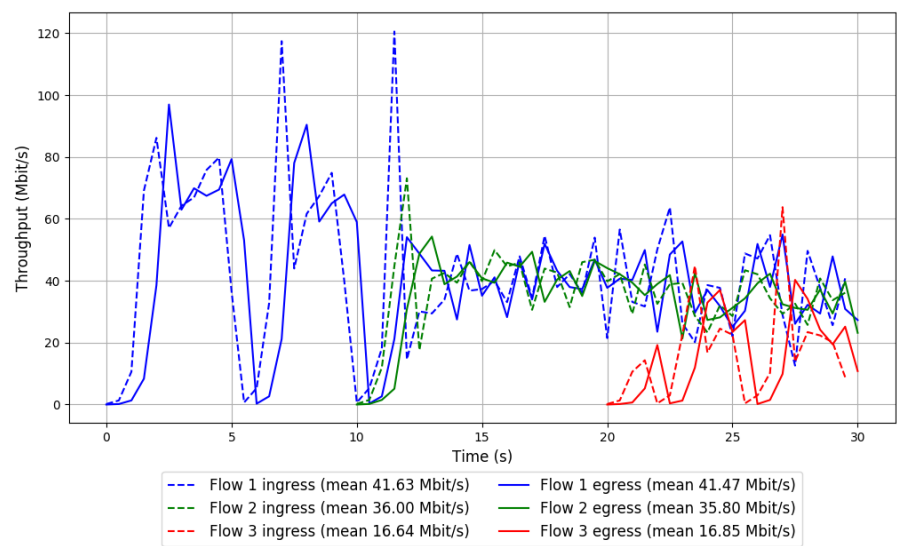


Run 4: Statistics of Verus

Start at: 2019-02-12 05:32:42
End at: 2019-02-12 05:33:12
Local clock offset: -6.611 ms
Remote clock offset: 9.986 ms

Below is generated by plot.py at 2019-02-12 06:38:19
Datalink statistics
-- Total of 3 flows:
Average throughput: 70.70 Mbit/s
95th percentile per-packet one-way delay: 289.372 ms
Loss rate: 1.08%
-- Flow 1:
Average throughput: 41.47 Mbit/s
95th percentile per-packet one-way delay: 290.105 ms
Loss rate: 0.93%
-- Flow 2:
Average throughput: 35.80 Mbit/s
95th percentile per-packet one-way delay: 251.242 ms
Loss rate: 1.45%
-- Flow 3:
Average throughput: 16.85 Mbit/s
95th percentile per-packet one-way delay: 336.224 ms
Loss rate: 0.59%

Run 4: Report of Verus — Data Link

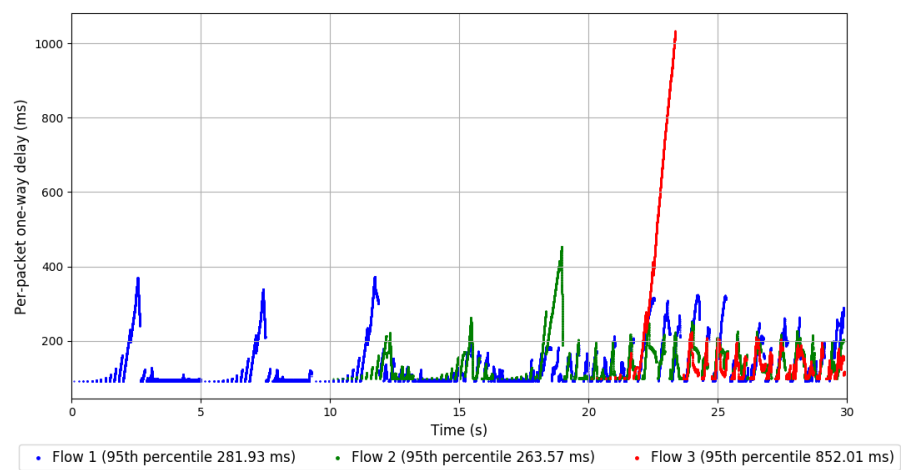
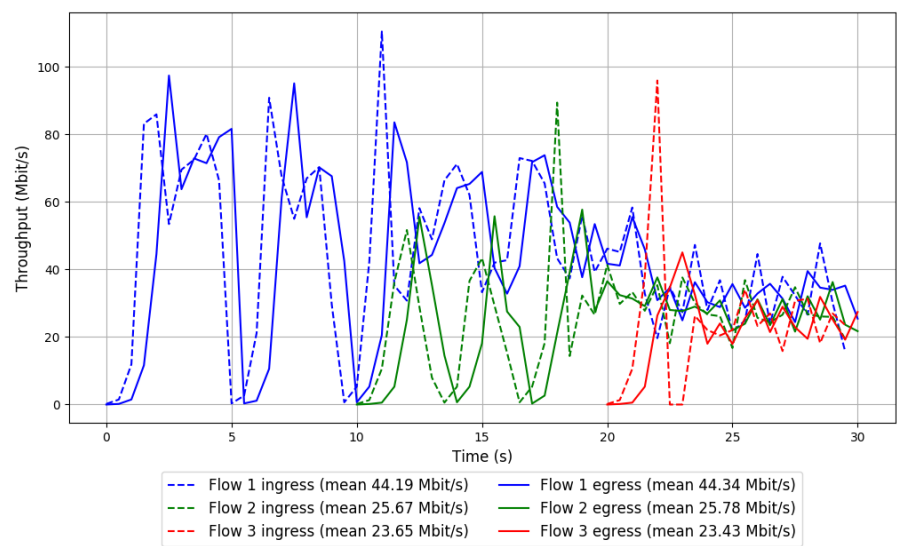


Run 5: Statistics of Verus

Start at: 2019-02-12 05:59:53
End at: 2019-02-12 06:00:23
Local clock offset: -6.271 ms
Remote clock offset: 4.49 ms

Below is generated by plot.py at 2019-02-12 06:38:25
Datalink statistics
-- Total of 3 flows:
Average throughput: 69.08 Mbit/s
95th percentile per-packet one-way delay: 309.386 ms
Loss rate: 0.58%
-- Flow 1:
Average throughput: 44.34 Mbit/s
95th percentile per-packet one-way delay: 281.926 ms
Loss rate: 0.29%
-- Flow 2:
Average throughput: 25.78 Mbit/s
95th percentile per-packet one-way delay: 263.569 ms
Loss rate: 0.60%
-- Flow 3:
Average throughput: 23.43 Mbit/s
95th percentile per-packet one-way delay: 852.008 ms
Loss rate: 2.17%

Run 5: Report of Verus — Data Link



Run 1: Statistics of PCC-Vivace

Start at: 2019-02-12 04:11:27

End at: 2019-02-12 04:11:57

Local clock offset: -6.804 ms

Remote clock offset: 2.708 ms

Below is generated by plot.py at 2019-02-12 06:38:37

Datalink statistics

-- Total of 3 flows:

Average throughput: 79.10 Mbit/s

95th percentile per-packet one-way delay: 1560.379 ms

Loss rate: 4.41%

-- Flow 1:

Average throughput: 49.53 Mbit/s

95th percentile per-packet one-way delay: 1633.502 ms

Loss rate: 4.70%

-- Flow 2:

Average throughput: 33.43 Mbit/s

95th percentile per-packet one-way delay: 1061.839 ms

Loss rate: 4.20%

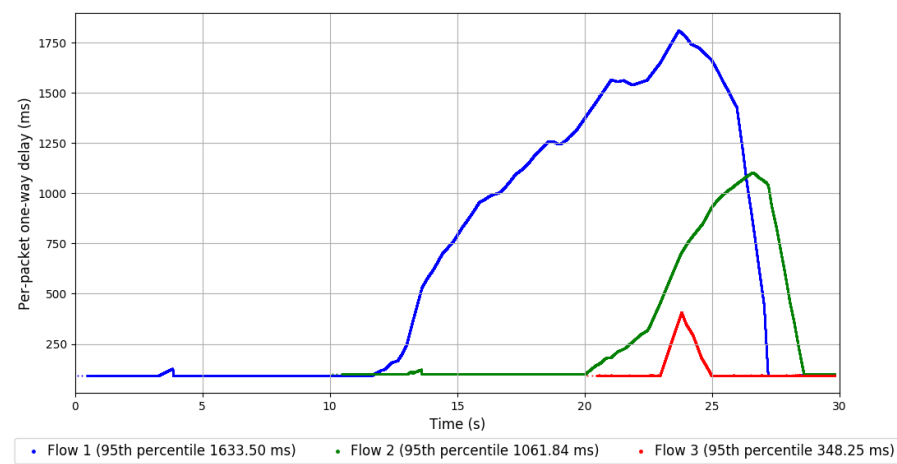
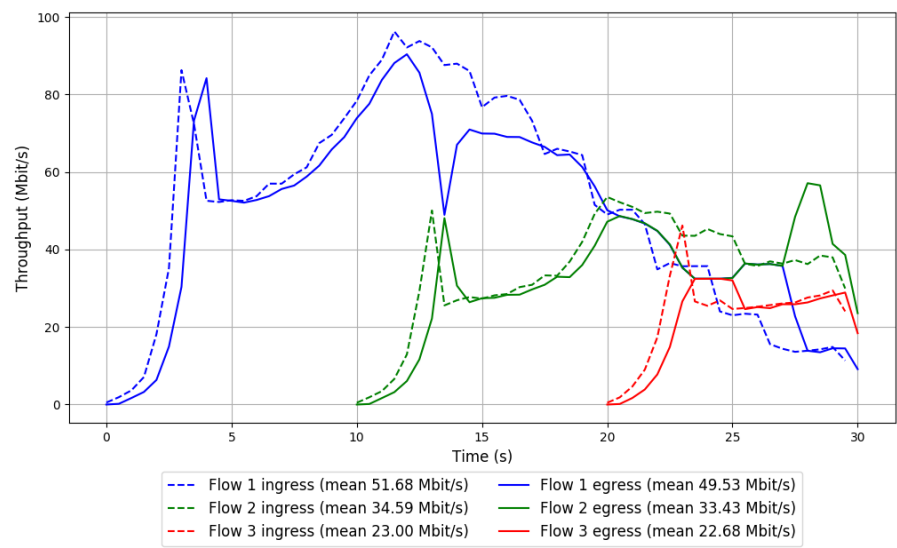
-- Flow 3:

Average throughput: 22.68 Mbit/s

95th percentile per-packet one-way delay: 348.245 ms

Loss rate: 3.07%

Run 1: Report of PCC-Vivace — Data Link



Run 2: Statistics of PCC-Vivace

Start at: 2019-02-12 04:39:08

End at: 2019-02-12 04:39:38

Local clock offset: -5.436 ms

Remote clock offset: 3.623 ms

Below is generated by plot.py at 2019-02-12 06:38:39

Datalink statistics

-- Total of 3 flows:

Average throughput: 76.40 Mbit/s

95th percentile per-packet one-way delay: 535.606 ms

Loss rate: 1.77%

-- Flow 1:

Average throughput: 47.96 Mbit/s

95th percentile per-packet one-way delay: 529.288 ms

Loss rate: 1.30%

-- Flow 2:

Average throughput: 31.88 Mbit/s

95th percentile per-packet one-way delay: 689.459 ms

Loss rate: 2.40%

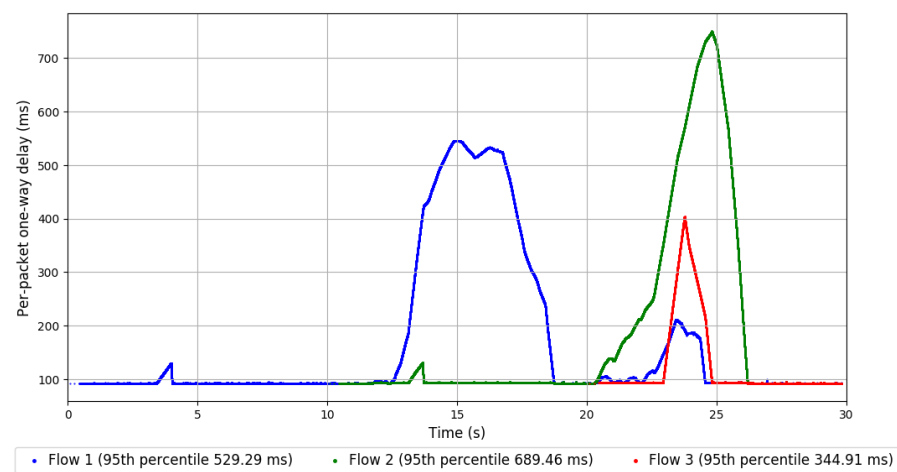
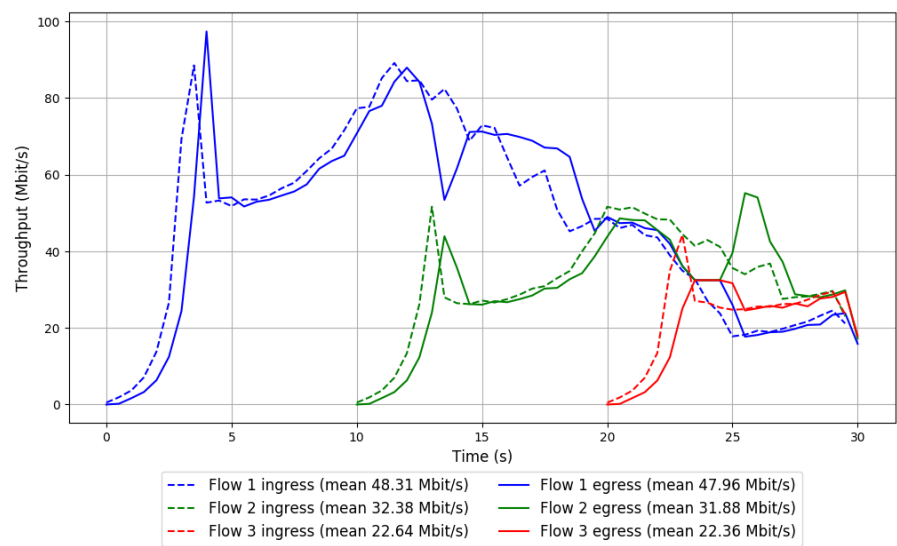
-- Flow 3:

Average throughput: 22.36 Mbit/s

95th percentile per-packet one-way delay: 344.912 ms

Loss rate: 2.98%

Run 2: Report of PCC-Vivace — Data Link

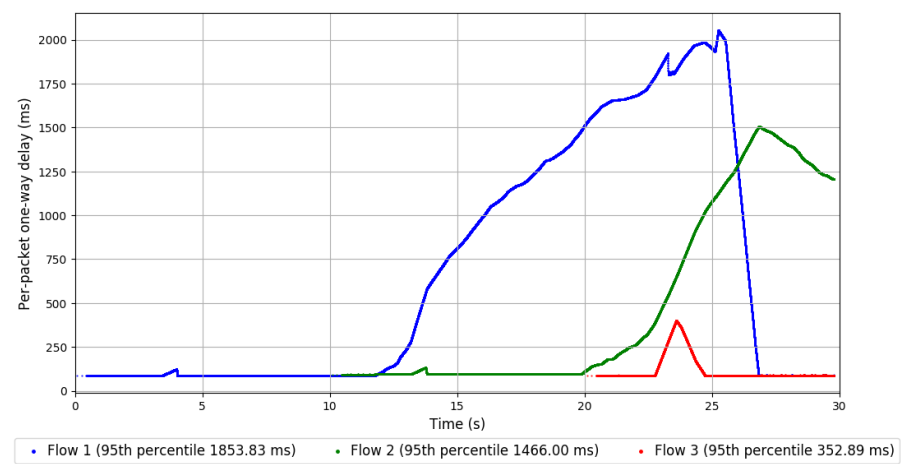
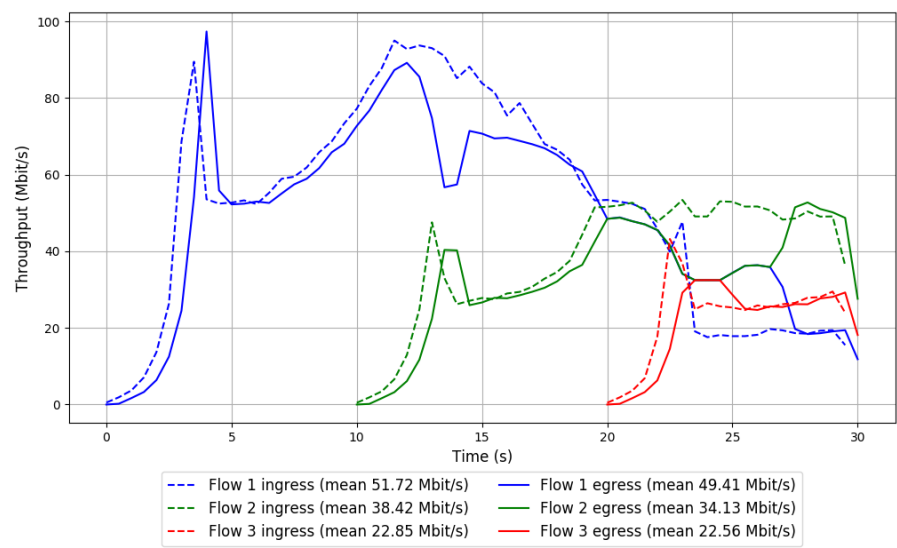


Run 3: Statistics of PCC-Vivace

Start at: 2019-02-12 05:06:32
End at: 2019-02-12 05:07:02
Local clock offset: -2.263 ms
Remote clock offset: 10.592 ms

Below is generated by plot.py at 2019-02-12 06:38:42
Datalink statistics
-- Total of 3 flows:
Average throughput: 79.40 Mbit/s
95th percentile per-packet one-way delay: 1699.651 ms
Loss rate: 6.93%
-- Flow 1:
Average throughput: 49.41 Mbit/s
95th percentile per-packet one-way delay: 1853.825 ms
Loss rate: 5.02%
-- Flow 2:
Average throughput: 34.13 Mbit/s
95th percentile per-packet one-way delay: 1466.001 ms
Loss rate: 11.97%
-- Flow 3:
Average throughput: 22.56 Mbit/s
95th percentile per-packet one-way delay: 352.891 ms
Loss rate: 2.98%

Run 3: Report of PCC-Vivace — Data Link



Run 4: Statistics of PCC-Vivace

Start at: 2019-02-12 05:34:02

End at: 2019-02-12 05:34:32

Local clock offset: -7.416 ms

Remote clock offset: 3.641 ms

Below is generated by plot.py at 2019-02-12 06:38:46

Datalink statistics

-- Total of 3 flows:

Average throughput: 80.13 Mbit/s

95th percentile per-packet one-way delay: 1985.292 ms

Loss rate: 5.28%

-- Flow 1:

Average throughput: 52.30 Mbit/s

95th percentile per-packet one-way delay: 2069.741 ms

Loss rate: 6.03%

-- Flow 2:

Average throughput: 31.03 Mbit/s

95th percentile per-packet one-way delay: 787.823 ms

Loss rate: 4.14%

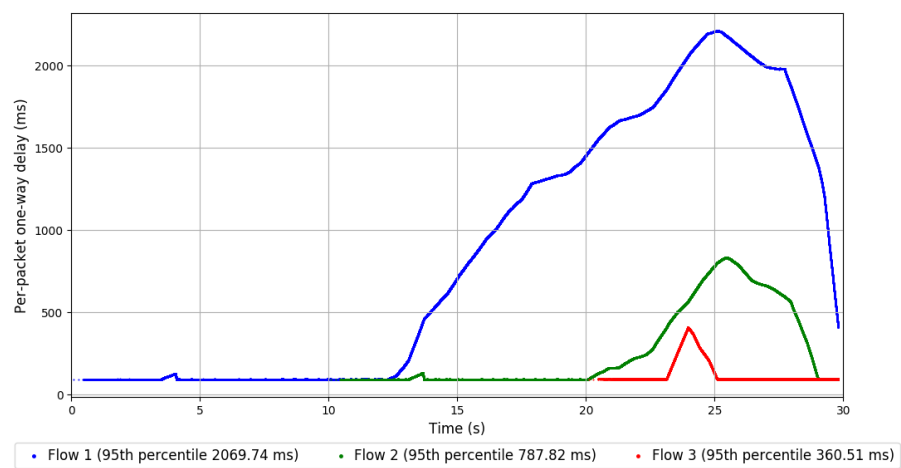
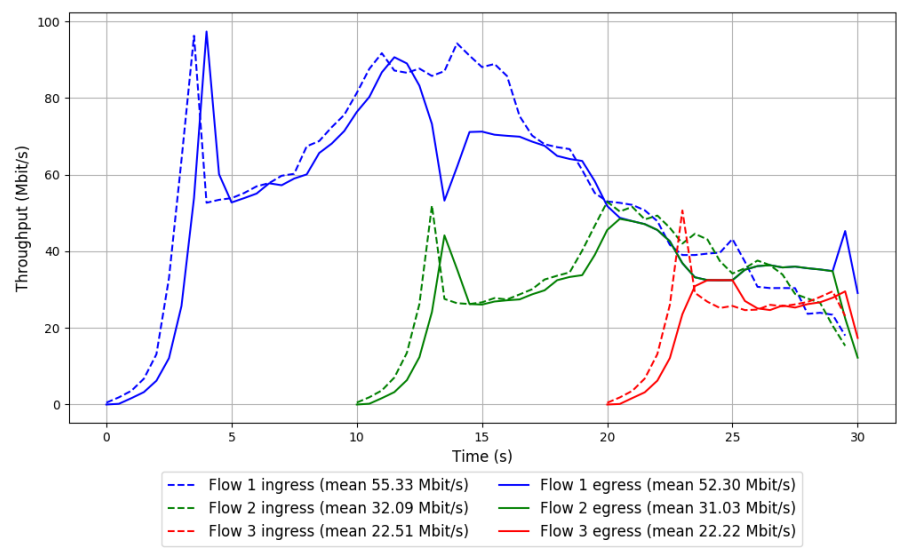
-- Flow 3:

Average throughput: 22.22 Mbit/s

95th percentile per-packet one-way delay: 360.510 ms

Loss rate: 3.00%

Run 4: Report of PCC-Vivace — Data Link



Run 5: Statistics of PCC-Vivace

Start at: 2019-02-12 06:01:12

End at: 2019-02-12 06:01:42

Local clock offset: -5.585 ms

Remote clock offset: 7.324 ms

Below is generated by plot.py at 2019-02-12 06:38:47

Datalink statistics

-- Total of 3 flows:

Average throughput: 78.99 Mbit/s

95th percentile per-packet one-way delay: 1830.400 ms

Loss rate: 8.39%

-- Flow 1:

Average throughput: 50.83 Mbit/s

95th percentile per-packet one-way delay: 1904.582 ms

Loss rate: 10.16%

-- Flow 2:

Average throughput: 31.50 Mbit/s

95th percentile per-packet one-way delay: 987.075 ms

Loss rate: 5.66%

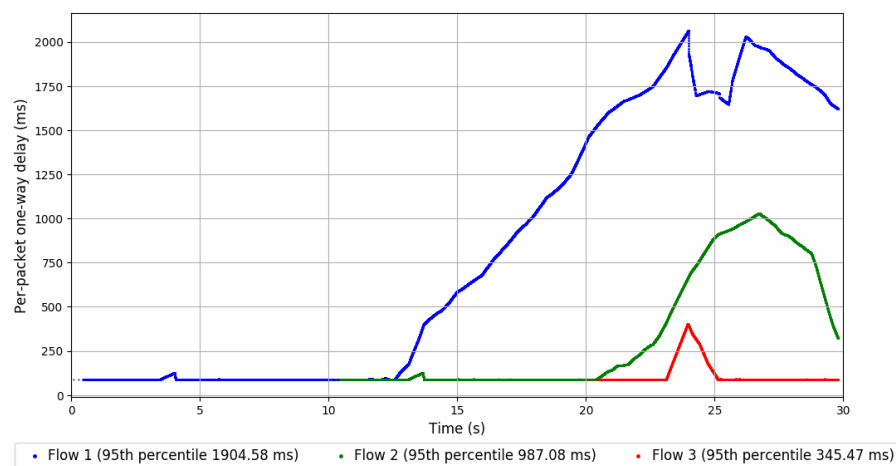
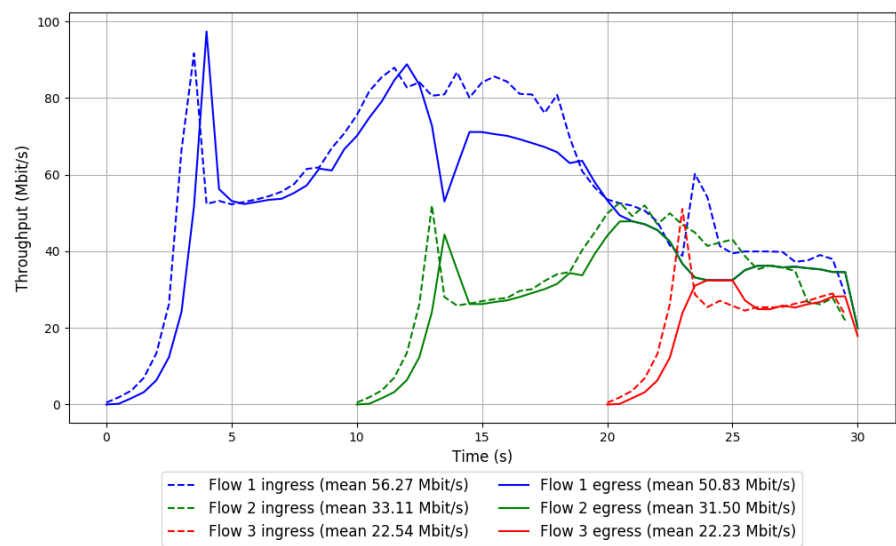
-- Flow 3:

Average throughput: 22.23 Mbit/s

95th percentile per-packet one-way delay: 345.468 ms

Loss rate: 3.10%

Run 5: Report of PCC-Vivace — Data Link



Run 1: Statistics of WebRTC media

Start at: 2019-02-12 04:28:41

End at: 2019-02-12 04:29:11

Local clock offset: -6.835 ms

Remote clock offset: 8.423 ms

Below is generated by plot.py at 2019-02-12 06:38:47

Datalink statistics

-- Total of 3 flows:

Average throughput: 3.01 Mbit/s

95th percentile per-packet one-way delay: 88.949 ms

Loss rate: 0.64%

-- Flow 1:

Average throughput: 1.69 Mbit/s

95th percentile per-packet one-way delay: 88.918 ms

Loss rate: 0.24%

-- Flow 2:

Average throughput: 0.93 Mbit/s

95th percentile per-packet one-way delay: 88.999 ms

Loss rate: 0.79%

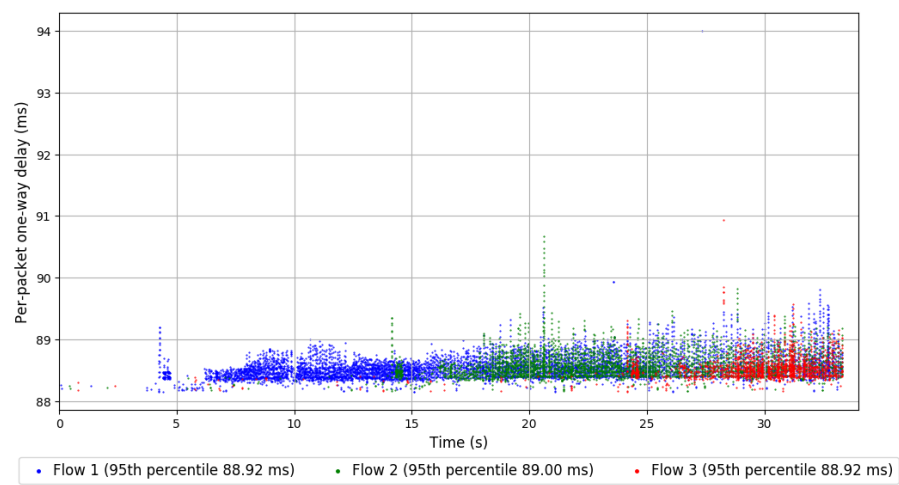
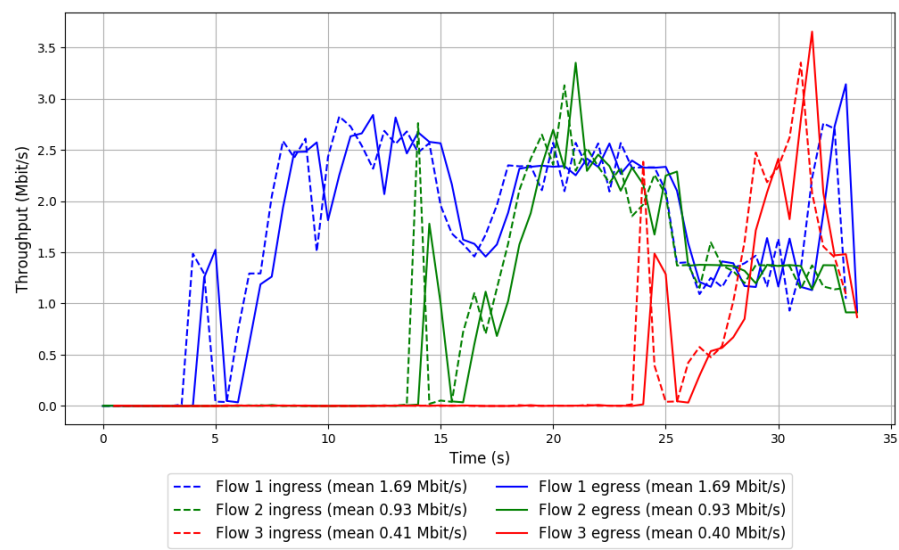
-- Flow 3:

Average throughput: 0.40 Mbit/s

95th percentile per-packet one-way delay: 88.923 ms

Loss rate: 1.99%

Run 1: Report of WebRTC media — Data Link



Run 2: Statistics of WebRTC media

Start at: 2019-02-12 04:56:03

End at: 2019-02-12 04:56:33

Local clock offset: -1.638 ms

Remote clock offset: 8.059 ms

Below is generated by plot.py at 2019-02-12 06:38:47

Datalink statistics

-- Total of 3 flows:

Average throughput: 2.81 Mbit/s

95th percentile per-packet one-way delay: 95.490 ms

Loss rate: 0.97%

-- Flow 1:

Average throughput: 1.49 Mbit/s

95th percentile per-packet one-way delay: 89.086 ms

Loss rate: 0.76%

-- Flow 2:

Average throughput: 0.96 Mbit/s

95th percentile per-packet one-way delay: 95.616 ms

Loss rate: 0.94%

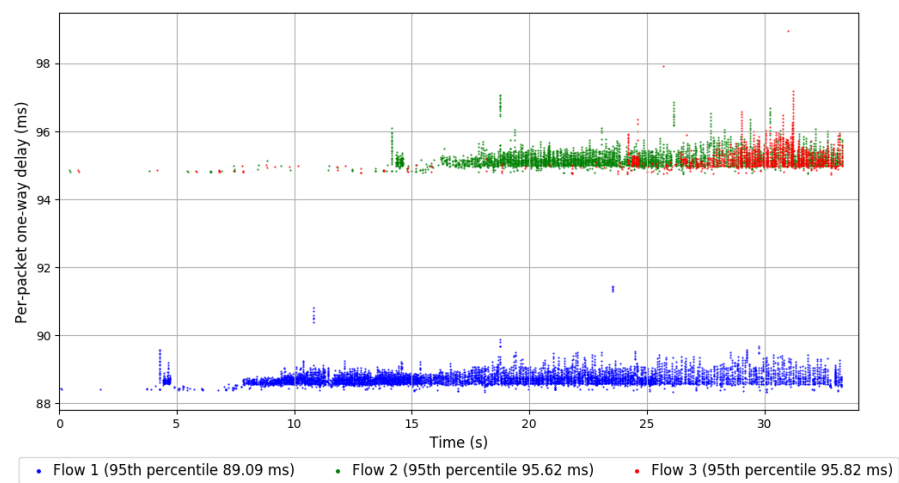
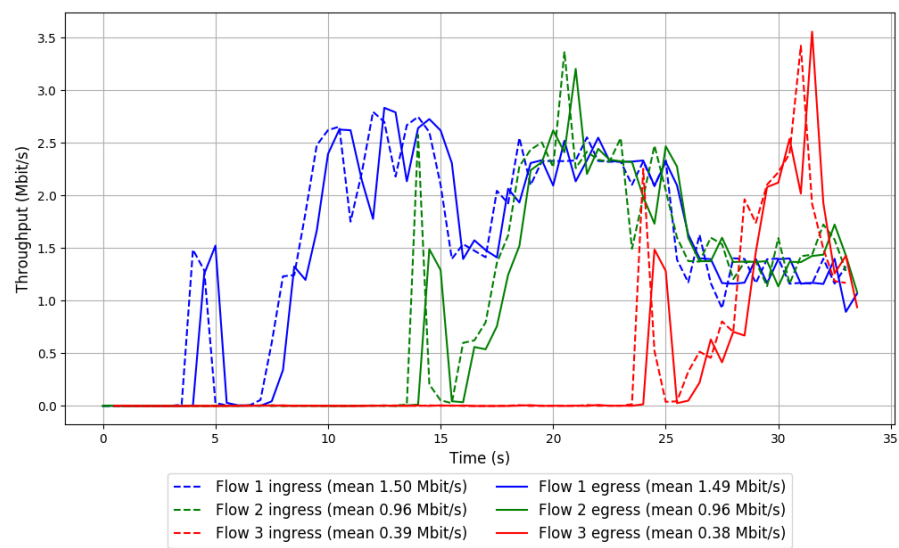
-- Flow 3:

Average throughput: 0.38 Mbit/s

95th percentile per-packet one-way delay: 95.823 ms

Loss rate: 1.83%

Run 2: Report of WebRTC media — Data Link



Run 3: Statistics of WebRTC media

Start at: 2019-02-12 05:23:33

End at: 2019-02-12 05:24:03

Local clock offset: -6.882 ms

Remote clock offset: 4.031 ms

Below is generated by plot.py at 2019-02-12 06:38:47

Datalink statistics

-- Total of 3 flows:

Average throughput: 2.93 Mbit/s

95th percentile per-packet one-way delay: 98.903 ms

Loss rate: 0.54%

-- Flow 1:

Average throughput: 1.68 Mbit/s

95th percentile per-packet one-way delay: 99.019 ms

Loss rate: 0.32%

-- Flow 2:

Average throughput: 0.92 Mbit/s

95th percentile per-packet one-way delay: 93.342 ms

Loss rate: 0.39%

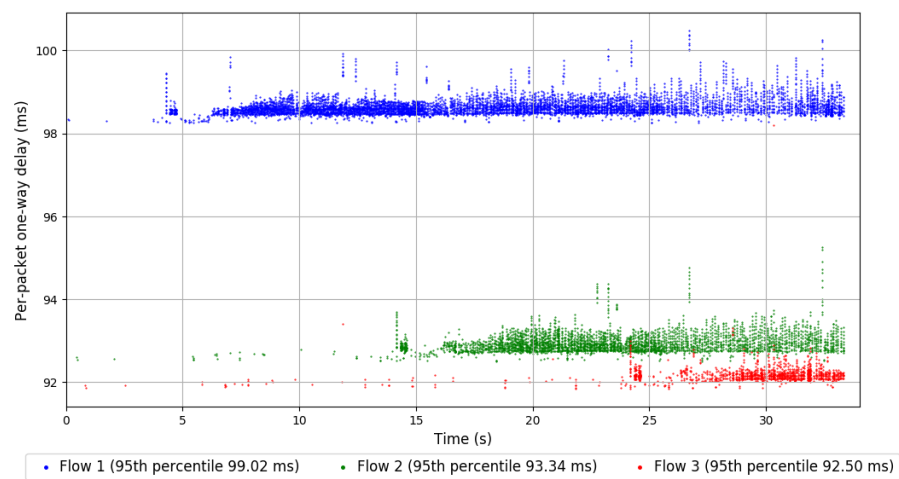
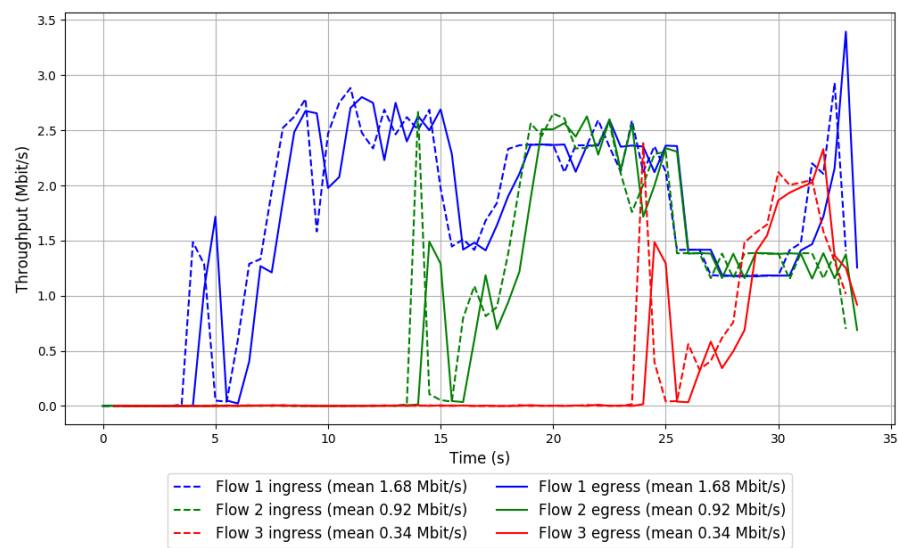
-- Flow 3:

Average throughput: 0.34 Mbit/s

95th percentile per-packet one-way delay: 92.498 ms

Loss rate: 2.05%

Run 3: Report of WebRTC media — Data Link



Run 4: Statistics of WebRTC media

Start at: 2019-02-12 05:50:50

End at: 2019-02-12 05:51:20

Local clock offset: -6.368 ms

Remote clock offset: 8.334 ms

Below is generated by plot.py at 2019-02-12 06:38:47

Datalink statistics

-- Total of 3 flows:

Average throughput: 2.95 Mbit/s

95th percentile per-packet one-way delay: 88.462 ms

Loss rate: 0.62%

-- Flow 1:

Average throughput: 1.67 Mbit/s

95th percentile per-packet one-way delay: 88.526 ms

Loss rate: 0.34%

-- Flow 2:

Average throughput: 0.92 Mbit/s

95th percentile per-packet one-way delay: 88.445 ms

Loss rate: 0.73%

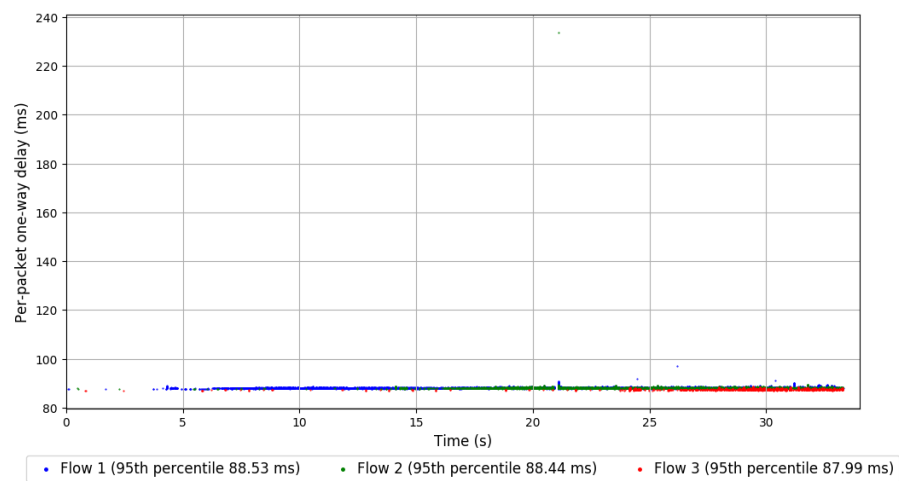
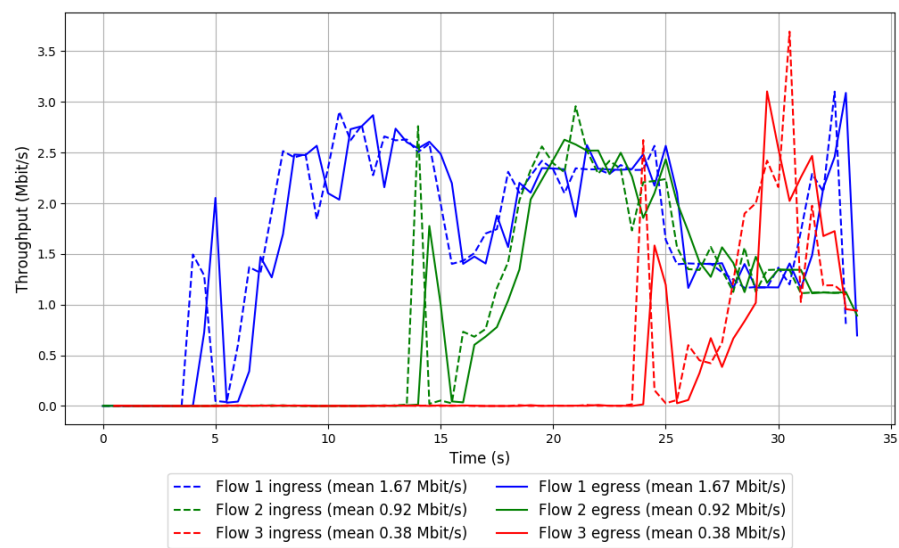
-- Flow 3:

Average throughput: 0.38 Mbit/s

95th percentile per-packet one-way delay: 87.987 ms

Loss rate: 1.57%

Run 4: Report of WebRTC media — Data Link



Run 5: Statistics of WebRTC media

Start at: 2019-02-12 06:18:05

End at: 2019-02-12 06:18:35

Local clock offset: -5.524 ms

Remote clock offset: 4.322 ms

Below is generated by plot.py at 2019-02-12 06:38:47

Datalink statistics

-- Total of 3 flows:

Average throughput: 2.81 Mbit/s

95th percentile per-packet one-way delay: 98.337 ms

Loss rate: 0.70%

-- Flow 1:

Average throughput: 1.51 Mbit/s

95th percentile per-packet one-way delay: 92.949 ms

Loss rate: 0.38%

-- Flow 2:

Average throughput: 0.94 Mbit/s

95th percentile per-packet one-way delay: 92.061 ms

Loss rate: 0.73%

-- Flow 3:

Average throughput: 0.38 Mbit/s

95th percentile per-packet one-way delay: 98.847 ms

Loss rate: 1.86%

Run 5: Report of WebRTC media — Data Link

