

Pantheon Report

Generated at 2019-02-05 20:41:21 (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:

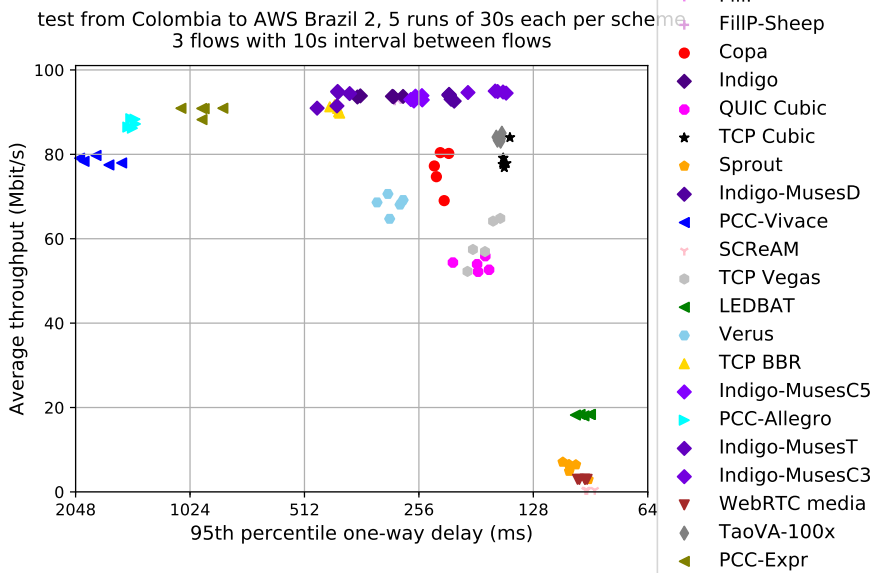
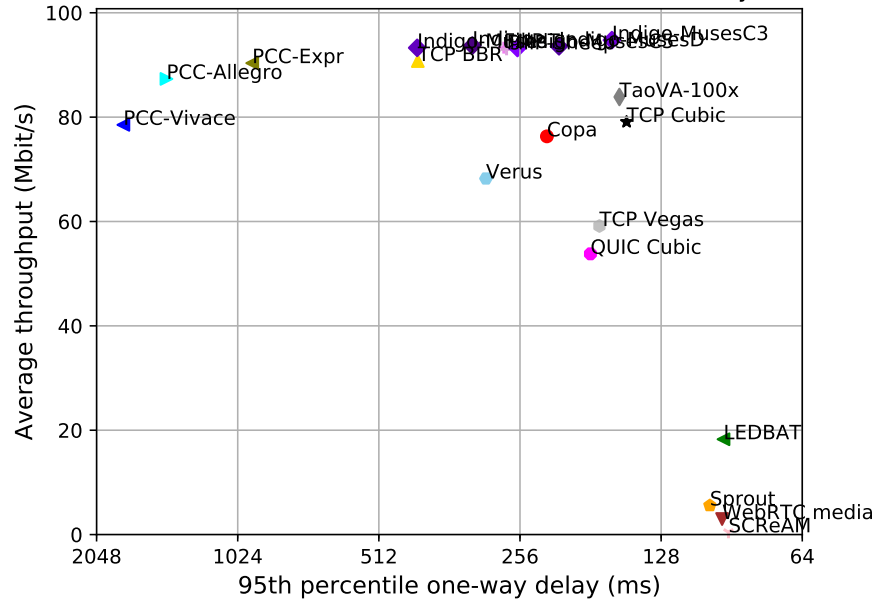
```
Linux 4.15.0-1031-aws
net.core.default_qdisc = fq
net.core.rmem_default = 16777216
net.core.rmem_max = 536870912
net.core.wmem_default = 16777216
net.core.wmem_max = 536870912
net.ipv4.tcp_rmem = 4096 16777216 536870912
net.ipv4.tcp_wmem = 4096 16777216 536870912
```

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	55.83	37.70	30.18	405.50	440.69	447.22	2.87	5.95	7.74
Copa	5	45.98	31.82	27.97	225.52	128.48	182.49	0.58	0.91	1.79
TCP Cubic	5	43.90	35.73	34.93	175.04	147.19	135.45	0.38	0.74	2.08
FillP	5	57.43	39.32	29.72	289.35	254.19	313.01	1.21	3.33	4.01
FillP-Sheep	5	58.03	38.87	27.82	286.63	245.16	273.78	0.96	2.02	4.21
Indigo	5	58.43	38.87	29.24	343.65	140.24	136.29	5.04	1.27	2.96
Indigo-MusesC3	5	60.36	40.24	30.18	161.77	175.64	159.87	2.19	2.42	3.44
Indigo-MusesC5	5	58.60	40.59	29.67	253.01	256.98	298.36	2.86	4.57	6.18
Indigo-MusesD	5	60.71	38.28	28.76	217.40	173.49	151.15	6.22	4.45	4.55
Indigo-MusesT	5	59.50	39.75	27.79	413.62	442.62	464.08	6.33	6.37	9.21
LEDBAT	5	11.90	7.75	3.75	93.03	94.21	93.45	1.15	1.76	3.55
PCC-Allegro	5	54.97	34.26	29.51	1494.99	1161.10	1473.78	26.00	13.52	21.53
PCC-Expr	5	57.09	39.20	25.10	985.20	803.48	244.54	24.51	7.91	3.94
QUIC Cubic	5	33.66	21.86	17.25	127.83	224.90	312.00	0.57	1.40	3.05
SCReAM	5	0.22	0.22	0.22	92.14	91.49	90.69	0.54	0.99	1.85
Sprout	5	3.39	2.57	1.50	99.84	97.54	94.02	0.73	1.11	2.38
TaoVA-100x	5	49.39	37.24	29.61	153.89	162.05	152.46	0.48	0.88	2.11
TCP Vegas	5	34.08	26.97	21.75	189.38	151.51	170.68	0.50	1.02	2.09
Verus	5	39.22	32.51	22.93	289.28	299.14	452.15	1.12	1.43	2.92
PCC-Vivace	5	51.27	29.97	22.55	1888.34	771.58	347.24	5.55	4.93	3.03
WebRTC media	5	1.69	0.93	0.38	91.76	92.29	93.76	0.62	0.63	1.99

Run 1: Statistics of TCP BBR

Start at: 2019-02-05 18:17:34

End at: 2019-02-05 18:18:04

Local clock offset: 2.4 ms

Remote clock offset: 4.236 ms

Below is generated by plot.py at 2019-02-05 20:29:49

Datalink statistics

-- Total of 3 flows:

Average throughput: 91.27 Mbit/s

95th percentile per-packet one-way delay: 439.200 ms

Loss rate: 4.51%

-- Flow 1:

Average throughput: 56.62 Mbit/s

95th percentile per-packet one-way delay: 434.320 ms

Loss rate: 2.33%

-- Flow 2:

Average throughput: 37.74 Mbit/s

95th percentile per-packet one-way delay: 471.102 ms

Loss rate: 7.79%

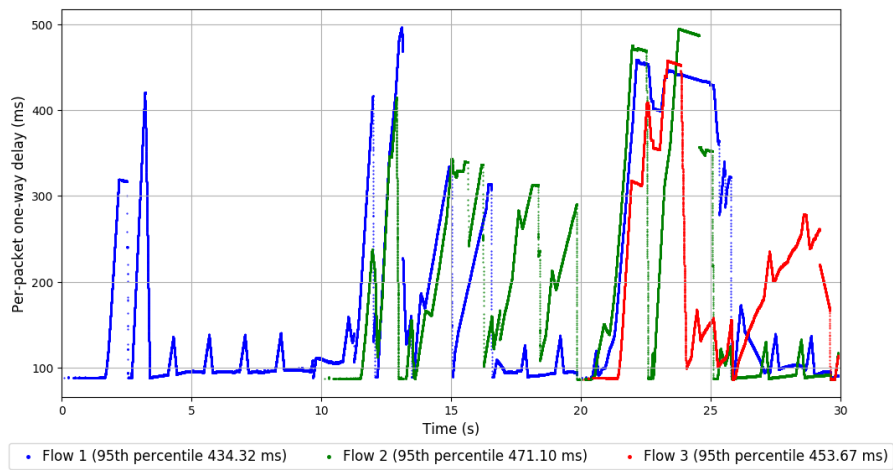
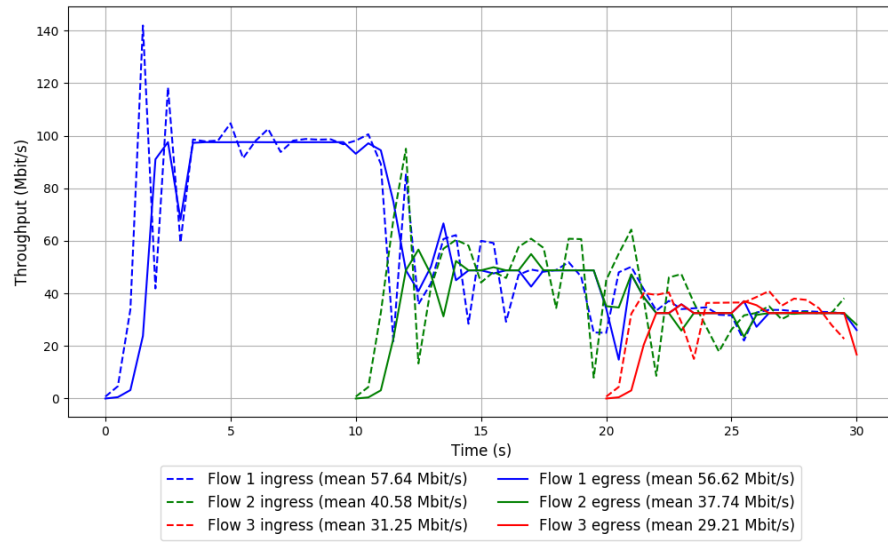
-- Flow 3:

Average throughput: 29.21 Mbit/s

95th percentile per-packet one-way delay: 453.669 ms

Loss rate: 8.11%

Run 1: Report of TCP BBR — Data Link



Run 2: Statistics of TCP BBR

Start at: 2019-02-05 18:44:33

End at: 2019-02-05 18:45:03

Local clock offset: -0.532 ms

Remote clock offset: 2.8 ms

Below is generated by plot.py at 2019-02-05 20:29:49

Datalink statistics

-- Total of 3 flows:

Average throughput: 90.08 Mbit/s

95th percentile per-packet one-way delay: 416.289 ms

Loss rate: 3.75%

-- Flow 1:

Average throughput: 55.58 Mbit/s

95th percentile per-packet one-way delay: 417.037 ms

Loss rate: 2.64%

-- Flow 2:

Average throughput: 37.38 Mbit/s

95th percentile per-packet one-way delay: 387.181 ms

Loss rate: 5.16%

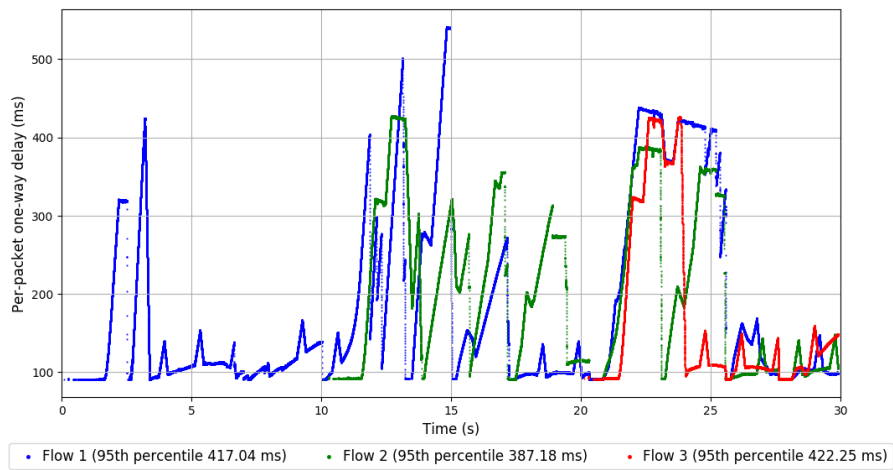
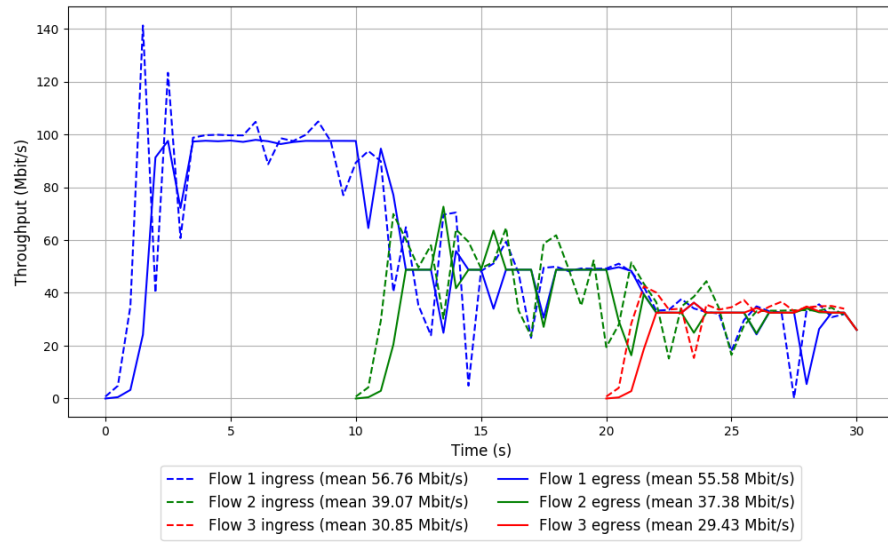
-- Flow 3:

Average throughput: 29.43 Mbit/s

95th percentile per-packet one-way delay: 422.248 ms

Loss rate: 6.28%

Run 2: Report of TCP BBR — Data Link



Run 3: Statistics of TCP BBR

Start at: 2019-02-05 19:11:35

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

Local clock offset: -1.259 ms

Remote clock offset: 3.698 ms

Below is generated by plot.py at 2019-02-05 20:29:49

Datalink statistics

-- Total of 3 flows:

Average throughput: 89.77 Mbit/s

95th percentile per-packet one-way delay: 413.630 ms

Loss rate: 4.51%

-- Flow 1:

Average throughput: 55.33 Mbit/s

95th percentile per-packet one-way delay: 385.398 ms

Loss rate: 3.67%

-- Flow 2:

Average throughput: 36.74 Mbit/s

95th percentile per-packet one-way delay: 416.149 ms

Loss rate: 5.72%

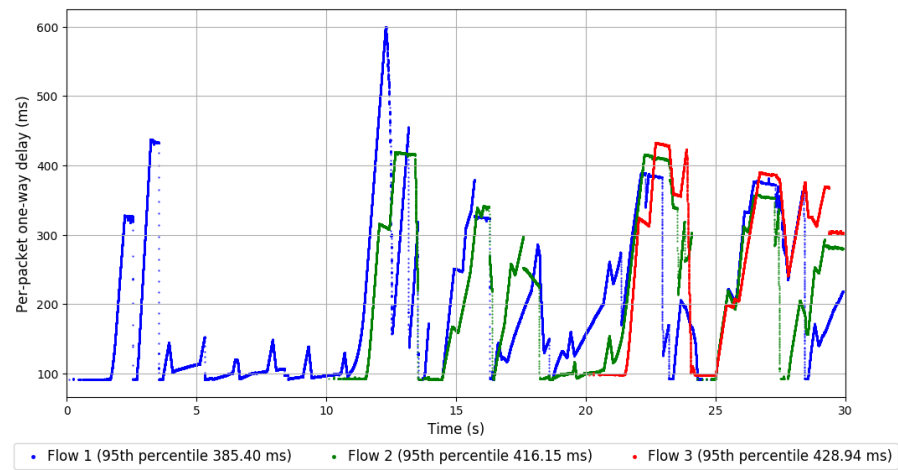
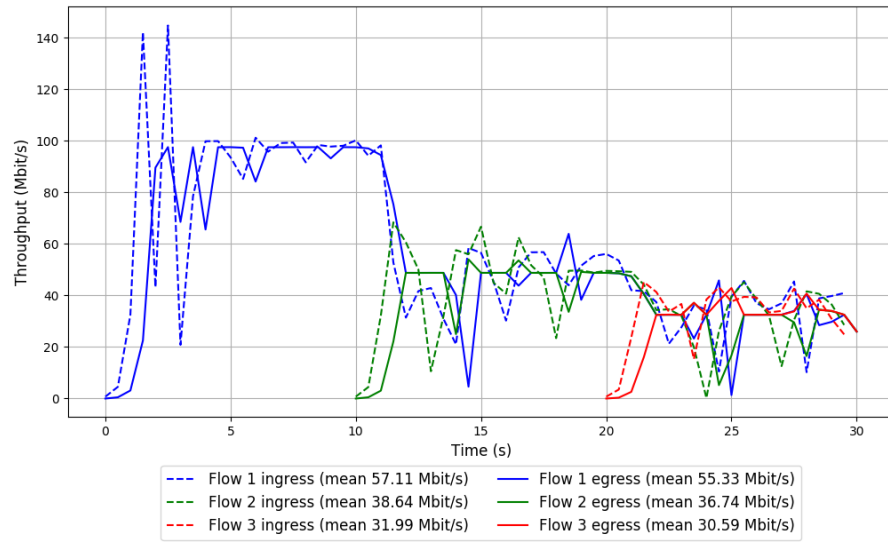
-- Flow 3:

Average throughput: 30.59 Mbit/s

95th percentile per-packet one-way delay: 428.942 ms

Loss rate: 6.11%

Run 3: Report of TCP BBR — Data Link



Run 4: Statistics of TCP BBR

Start at: 2019-02-05 19:38:36

End at: 2019-02-05 19:39:06

Local clock offset: -2.129 ms

Remote clock offset: 2.579 ms

Below is generated by plot.py at 2019-02-05 20:29:49

Datalink statistics

-- Total of 3 flows:

Average throughput: 90.88 Mbit/s

95th percentile per-packet one-way delay: 418.744 ms

Loss rate: 3.42%

-- Flow 1:

Average throughput: 55.17 Mbit/s

95th percentile per-packet one-way delay: 413.033 ms

Loss rate: 2.01%

-- Flow 2:

Average throughput: 38.77 Mbit/s

95th percentile per-packet one-way delay: 418.668 ms

Loss rate: 4.67%

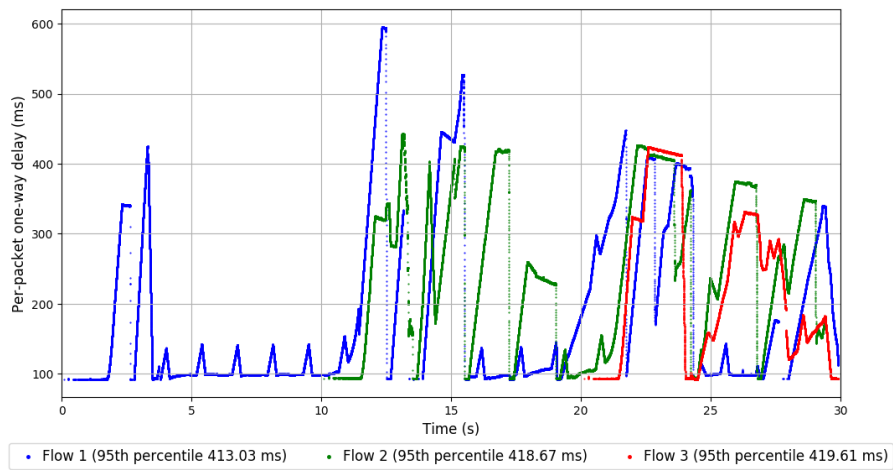
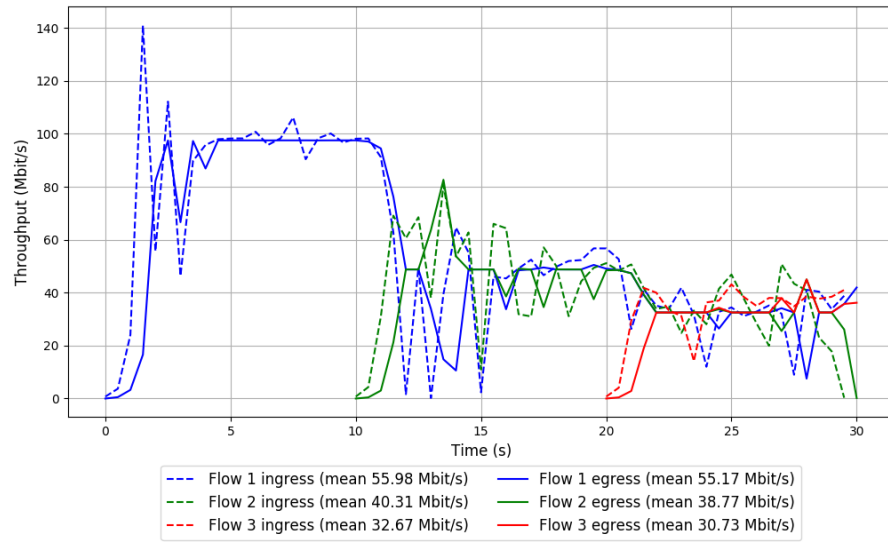
-- Flow 3:

Average throughput: 30.73 Mbit/s

95th percentile per-packet one-way delay: 419.612 ms

Loss rate: 7.59%

Run 4: Report of TCP BBR — Data Link



Run 5: Statistics of TCP BBR

Start at: 2019-02-05 20:05:36

End at: 2019-02-05 20:06:06

Local clock offset: -1.944 ms

Remote clock offset: 2.582 ms

Below is generated by plot.py at 2019-02-05 20:29:50

Datalink statistics

-- Total of 3 flows:

Average throughput: 91.77 Mbit/s

95th percentile per-packet one-way delay: 426.212 ms

Loss rate: 5.25%

-- Flow 1:

Average throughput: 56.45 Mbit/s

95th percentile per-packet one-way delay: 377.730 ms

Loss rate: 3.68%

-- Flow 2:

Average throughput: 37.89 Mbit/s

95th percentile per-packet one-way delay: 510.364 ms

Loss rate: 6.41%

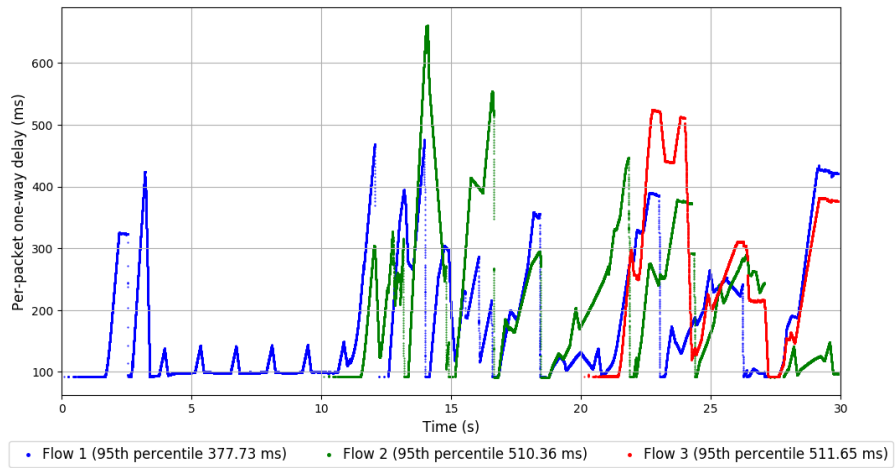
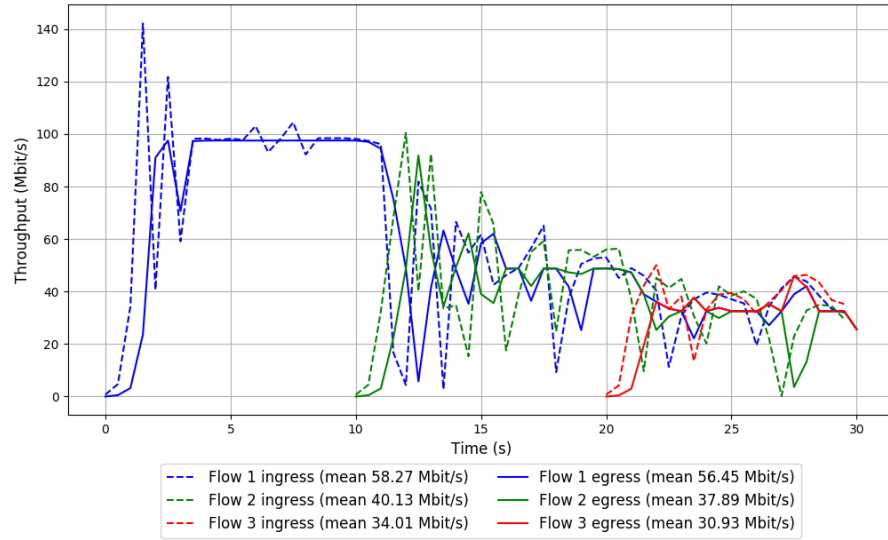
-- Flow 3:

Average throughput: 30.93 Mbit/s

95th percentile per-packet one-way delay: 511.652 ms

Loss rate: 10.61%

Run 5: Report of TCP BBR — Data Link



Run 1: Statistics of Copa

Start at: 2019-02-05 18:18:53

End at: 2019-02-05 18:19:23

Local clock offset: 1.742 ms

Remote clock offset: 0.423 ms

Below is generated by plot.py at 2019-02-05 20:30:26

Datalink statistics

-- Total of 3 flows:

Average throughput: 74.70 Mbit/s

95th percentile per-packet one-way delay: 230.275 ms

Loss rate: 0.85%

-- Flow 1:

Average throughput: 47.46 Mbit/s

95th percentile per-packet one-way delay: 228.790 ms

Loss rate: 0.55%

-- Flow 2:

Average throughput: 27.84 Mbit/s

95th percentile per-packet one-way delay: 124.389 ms

Loss rate: 1.03%

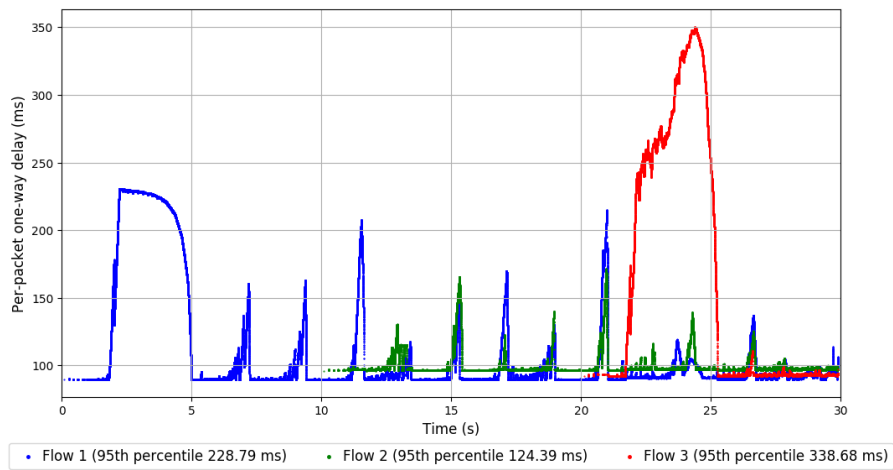
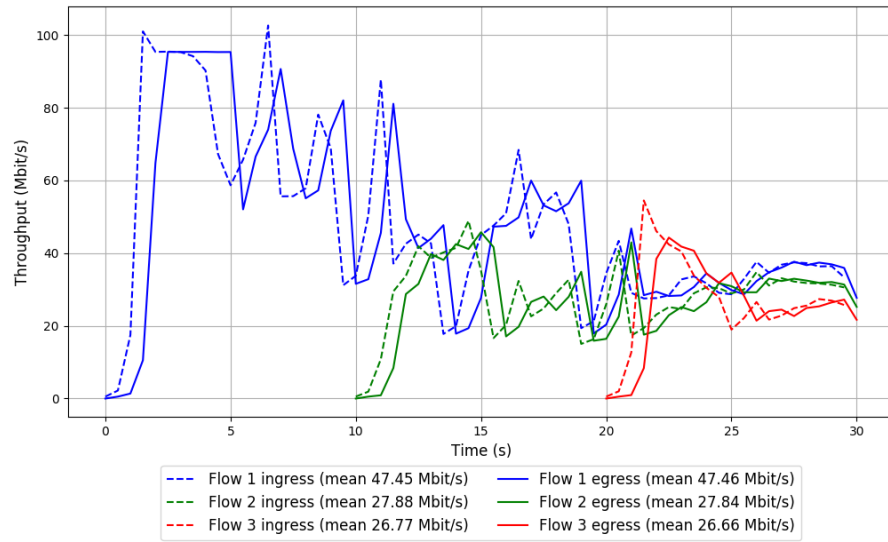
-- Flow 3:

Average throughput: 26.66 Mbit/s

95th percentile per-packet one-way delay: 338.681 ms

Loss rate: 2.09%

Run 1: Report of Copa — Data Link



Run 2: Statistics of Copa

Start at: 2019-02-05 18:45:52

End at: 2019-02-05 18:46:22

Local clock offset: -0.497 ms

Remote clock offset: 6.586 ms

Below is generated by plot.py at 2019-02-05 20:30:34

Datalink statistics

-- Total of 3 flows:

Average throughput: 80.21 Mbit/s

95th percentile per-packet one-way delay: 213.609 ms

Loss rate: 0.87%

-- Flow 1:

Average throughput: 45.33 Mbit/s

95th percentile per-packet one-way delay: 216.321 ms

Loss rate: 0.57%

-- Flow 2:

Average throughput: 39.41 Mbit/s

95th percentile per-packet one-way delay: 134.289 ms

Loss rate: 0.98%

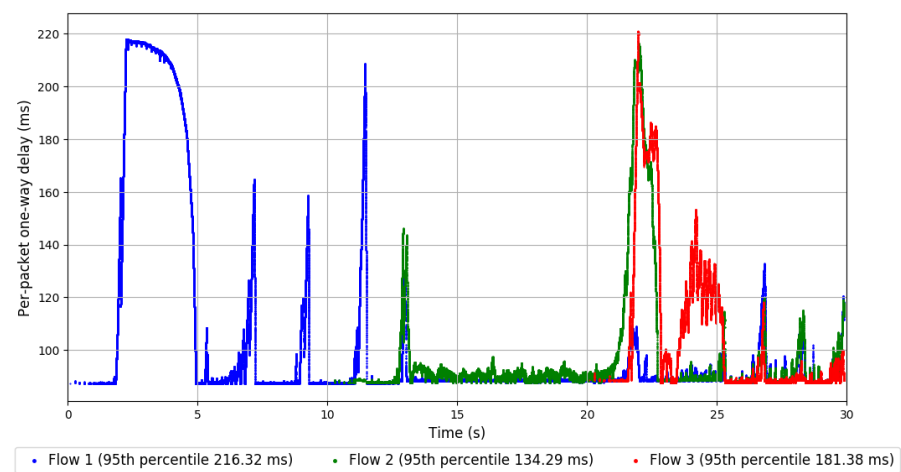
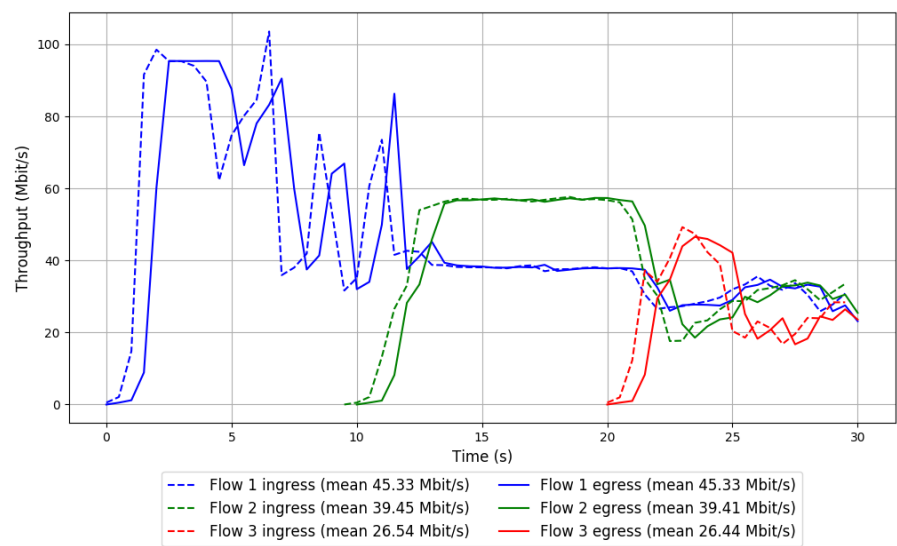
-- Flow 3:

Average throughput: 26.44 Mbit/s

95th percentile per-packet one-way delay: 181.381 ms

Loss rate: 2.12%

Run 2: Report of Copa — Data Link



Run 3: Statistics of Copa

Start at: 2019-02-05 19:12:54

End at: 2019-02-05 19:13:24

Local clock offset: -1.225 ms

Remote clock offset: 2.672 ms

Below is generated by plot.py at 2019-02-05 20:30:34

Datalink statistics

-- Total of 3 flows:

Average throughput: 69.03 Mbit/s

95th percentile per-packet one-way delay: 219.653 ms

Loss rate: 0.89%

-- Flow 1:

Average throughput: 42.78 Mbit/s

95th percentile per-packet one-way delay: 221.440 ms

Loss rate: 0.66%

-- Flow 2:

Average throughput: 26.84 Mbit/s

95th percentile per-packet one-way delay: 142.595 ms

Loss rate: 0.90%

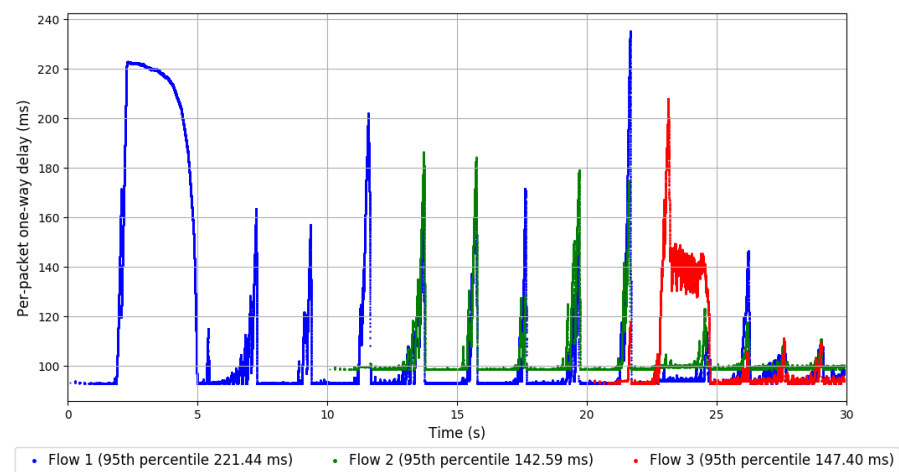
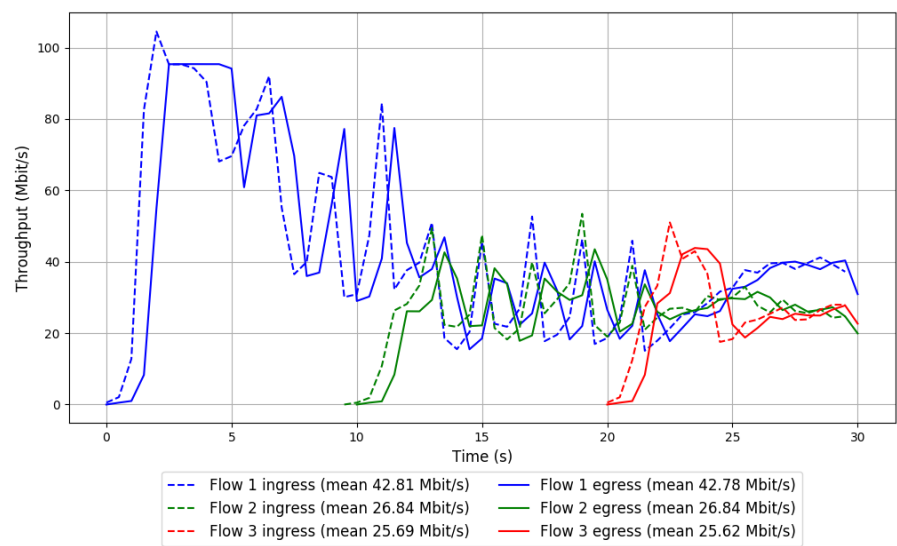
-- Flow 3:

Average throughput: 25.62 Mbit/s

95th percentile per-packet one-way delay: 147.400 ms

Loss rate: 2.04%

Run 3: Report of Copa — Data Link



Run 4: Statistics of Copa

Start at: 2019-02-05 19:39:55

End at: 2019-02-05 19:40:25

Local clock offset: -2.193 ms

Remote clock offset: 2.441 ms

Below is generated by plot.py at 2019-02-05 20:31:24

Datalink statistics

-- Total of 3 flows:

Average throughput: 77.24 Mbit/s

95th percentile per-packet one-way delay: 233.142 ms

Loss rate: 0.68%

-- Flow 1:

Average throughput: 43.33 Mbit/s

95th percentile per-packet one-way delay: 234.821 ms

Loss rate: 0.60%

-- Flow 2:

Average throughput: 38.57 Mbit/s

95th percentile per-packet one-way delay: 127.330 ms

Loss rate: 0.74%

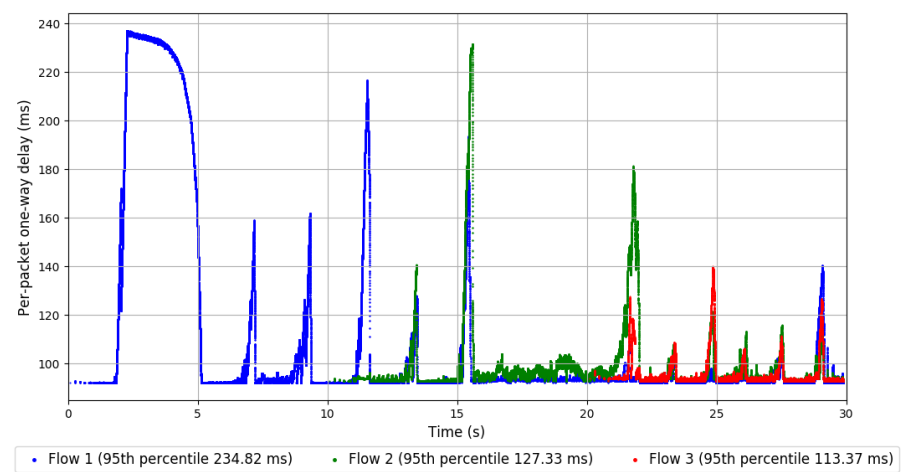
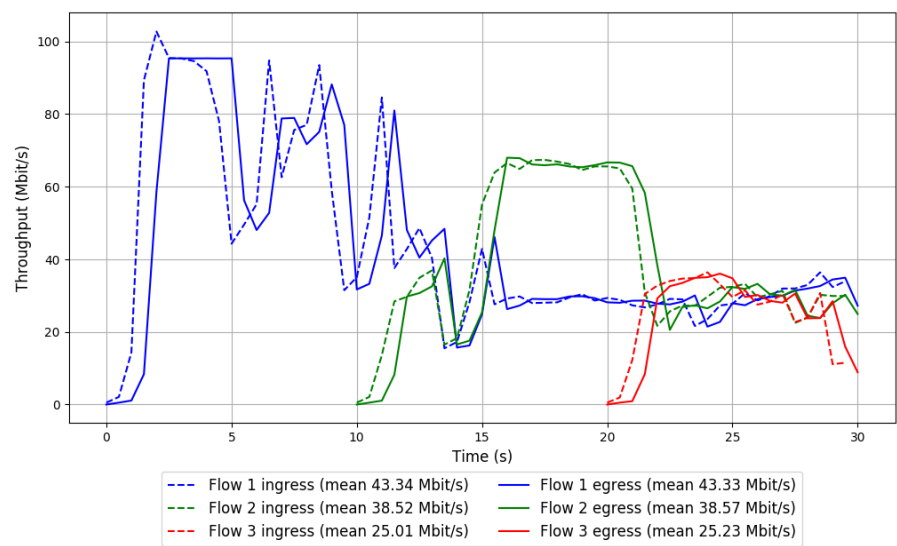
-- Flow 3:

Average throughput: 25.23 Mbit/s

95th percentile per-packet one-way delay: 113.372 ms

Loss rate: 0.90%

Run 4: Report of Copa — Data Link



Run 5: Statistics of Copa

Start at: 2019-02-05 20:06:56

End at: 2019-02-05 20:07:26

Local clock offset: -2.688 ms

Remote clock offset: 6.33 ms

Below is generated by plot.py at 2019-02-05 20:31:31

Datalink statistics

-- Total of 3 flows:

Average throughput: 80.40 Mbit/s

95th percentile per-packet one-way delay: 224.885 ms

Loss rate: 0.80%

-- Flow 1:

Average throughput: 51.01 Mbit/s

95th percentile per-packet one-way delay: 226.241 ms

Loss rate: 0.53%

-- Flow 2:

Average throughput: 26.45 Mbit/s

95th percentile per-packet one-way delay: 113.792 ms

Loss rate: 0.92%

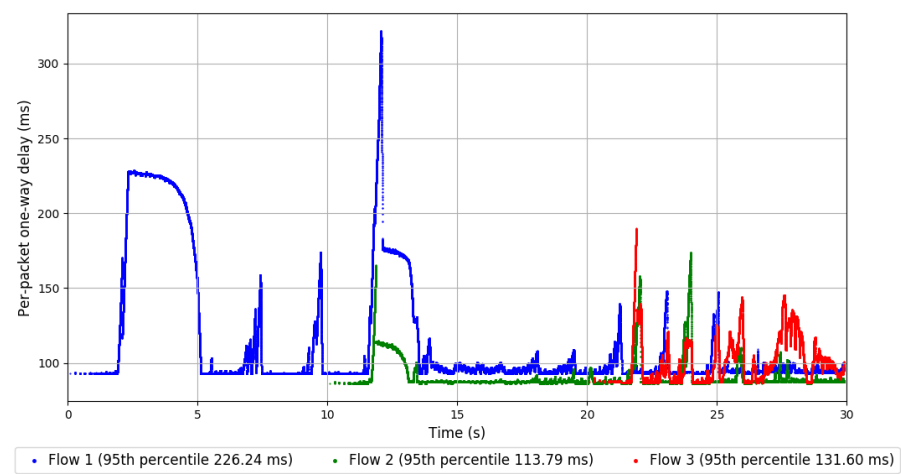
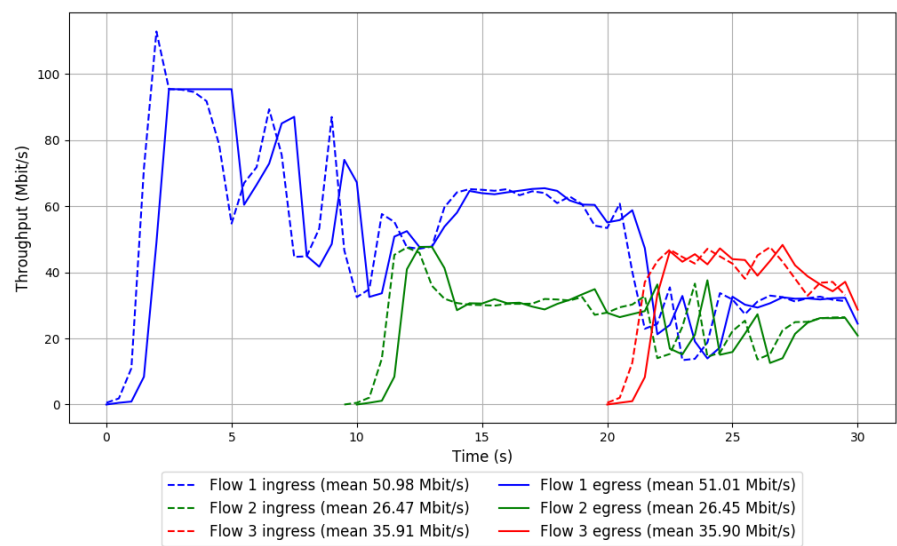
-- Flow 3:

Average throughput: 35.90 Mbit/s

95th percentile per-packet one-way delay: 131.600 ms

Loss rate: 1.78%

Run 5: Report of Copa — Data Link



Run 1: Statistics of TCP Cubic

Start at: 2019-02-05 18:20:13

End at: 2019-02-05 18:20:43

Local clock offset: 1.267 ms

Remote clock offset: 4.632 ms

Below is generated by plot.py at 2019-02-05 20:31:31

Datalink statistics

-- Total of 3 flows:

Average throughput: 77.82 Mbit/s

95th percentile per-packet one-way delay: 150.869 ms

Loss rate: 0.75%

-- Flow 1:

Average throughput: 43.01 Mbit/s

95th percentile per-packet one-way delay: 177.323 ms

Loss rate: 0.38%

-- Flow 2:

Average throughput: 35.06 Mbit/s

95th percentile per-packet one-way delay: 146.743 ms

Loss rate: 0.76%

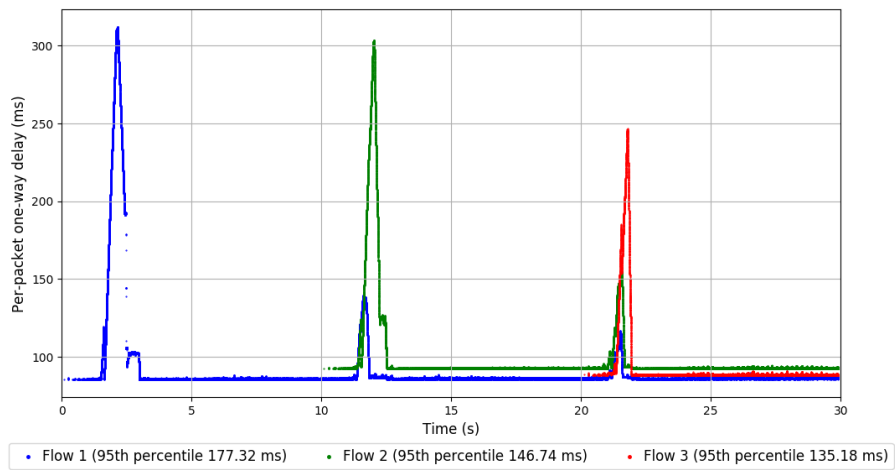
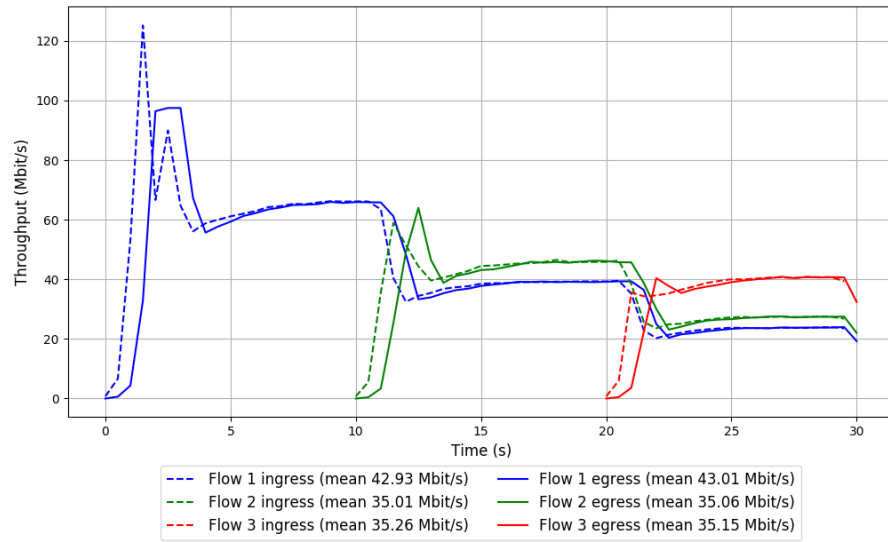
-- Flow 3:

Average throughput: 35.15 Mbit/s

95th percentile per-packet one-way delay: 135.184 ms

Loss rate: 2.05%

Run 1: Report of TCP Cubic — Data Link



Run 2: Statistics of TCP Cubic

Start at: 2019-02-05 18:47:13

End at: 2019-02-05 18:47:43

Local clock offset: -0.743 ms

Remote clock offset: 6.762 ms

Below is generated by plot.py at 2019-02-05 20:31:31

Datalink statistics

-- Total of 3 flows:

Average throughput: 83.99 Mbit/s

95th percentile per-packet one-way delay: 147.504 ms

Loss rate: 0.69%

-- Flow 1:

Average throughput: 49.15 Mbit/s

95th percentile per-packet one-way delay: 147.670 ms

Loss rate: 0.32%

-- Flow 2:

Average throughput: 35.77 Mbit/s

95th percentile per-packet one-way delay: 148.746 ms

Loss rate: 0.75%

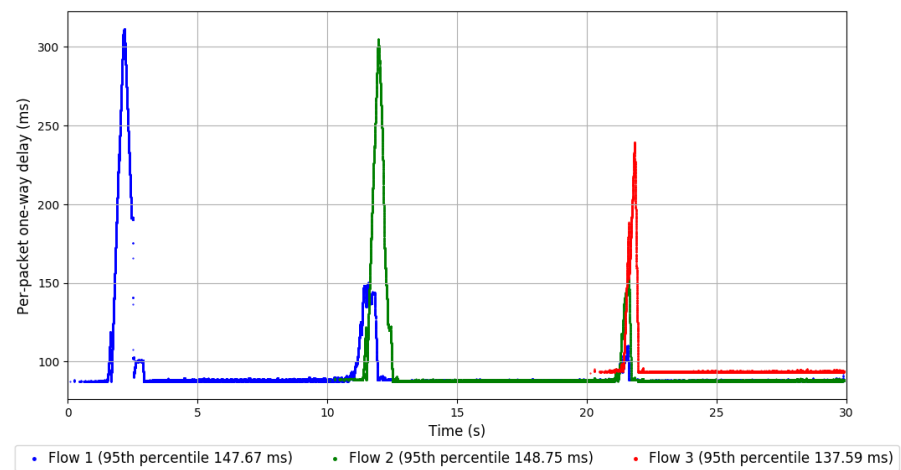
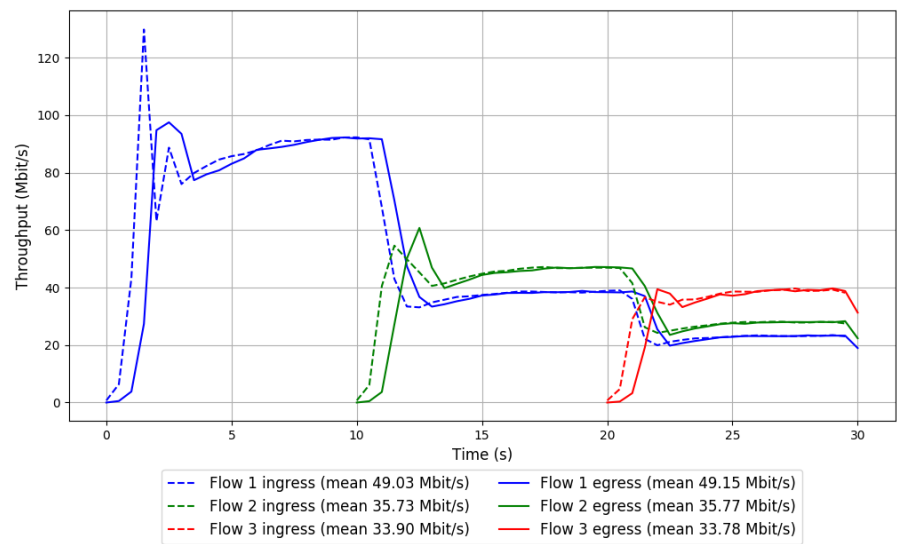
-- Flow 3:

Average throughput: 33.78 Mbit/s

95th percentile per-packet one-way delay: 137.586 ms

Loss rate: 2.17%

Run 2: Report of TCP Cubic — Data Link



Run 3: Statistics of TCP Cubic

Start at: 2019-02-05 19:14:14

End at: 2019-02-05 19:14:44

Local clock offset: -1.952 ms

Remote clock offset: 7.426 ms

Below is generated by plot.py at 2019-02-05 20:31:31

Datalink statistics

-- Total of 3 flows:

Average throughput: 79.13 Mbit/s

95th percentile per-packet one-way delay: 153.594 ms

Loss rate: 0.73%

-- Flow 1:

Average throughput: 42.94 Mbit/s

95th percentile per-packet one-way delay: 177.925 ms

Loss rate: 0.38%

-- Flow 2:

Average throughput: 37.17 Mbit/s

95th percentile per-packet one-way delay: 151.873 ms

Loss rate: 0.71%

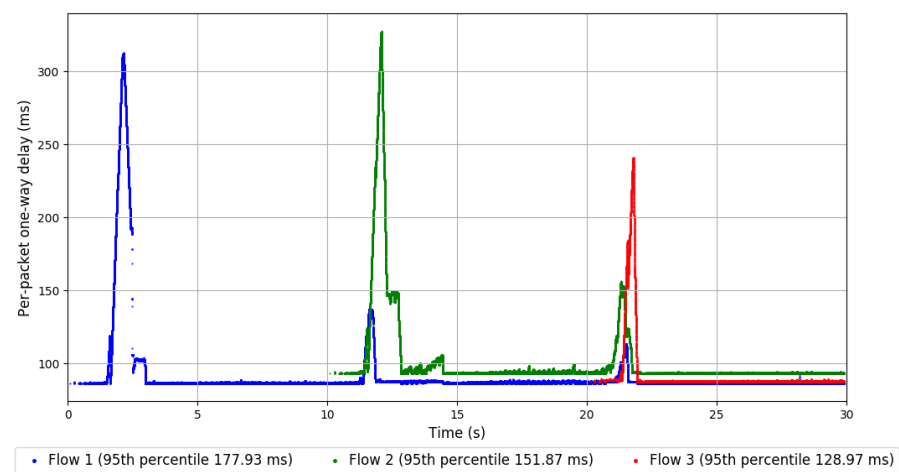
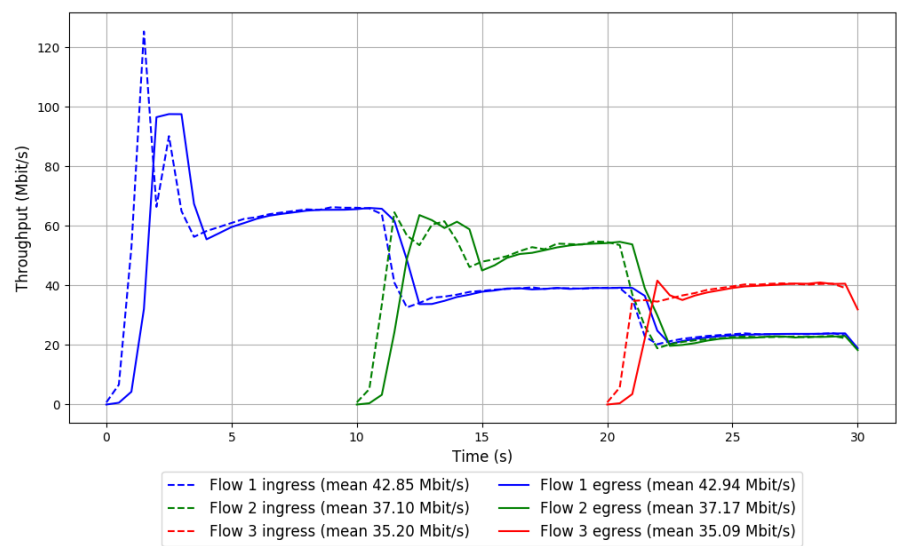
-- Flow 3:

Average throughput: 35.09 Mbit/s

95th percentile per-packet one-way delay: 128.967 ms

Loss rate: 2.04%

Run 3: Report of TCP Cubic — Data Link



Run 4: Statistics of TCP Cubic

Start at: 2019-02-05 19:41:15

End at: 2019-02-05 19:41:45

Local clock offset: -2.098 ms

Remote clock offset: 7.262 ms

Below is generated by plot.py at 2019-02-05 20:31:31

Datalink statistics

-- Total of 3 flows:

Average throughput: 76.88 Mbit/s

95th percentile per-packet one-way delay: 152.604 ms

Loss rate: 0.79%

-- Flow 1:

Average throughput: 41.95 Mbit/s

95th percentile per-packet one-way delay: 185.149 ms

Loss rate: 0.46%

-- Flow 2:

Average throughput: 35.32 Mbit/s

95th percentile per-packet one-way delay: 142.997 ms

Loss rate: 0.75%

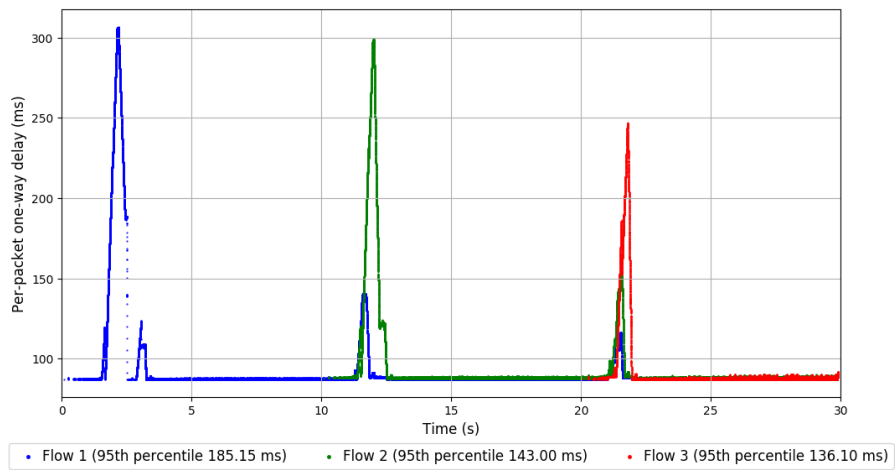
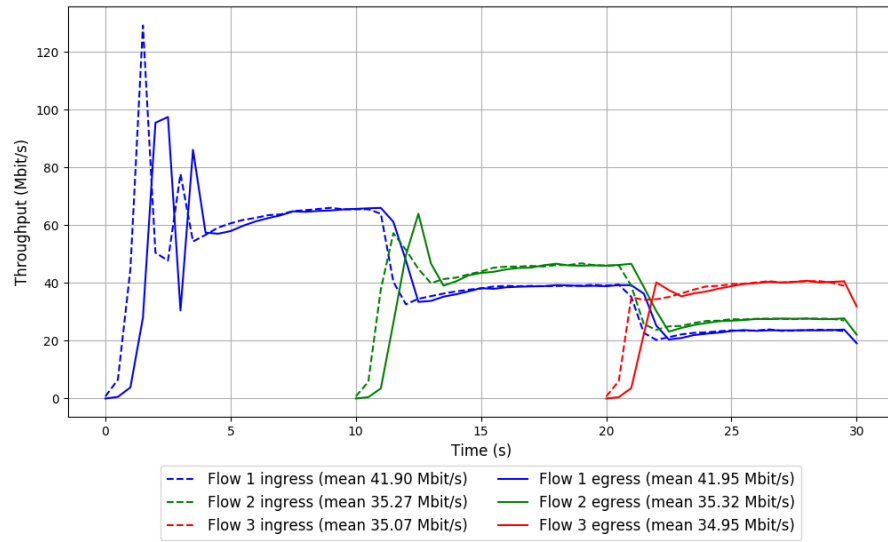
-- Flow 3:

Average throughput: 34.95 Mbit/s

95th percentile per-packet one-way delay: 136.105 ms

Loss rate: 2.06%

Run 4: Report of TCP Cubic — Data Link



Run 5: Statistics of TCP Cubic

Start at: 2019-02-05 20:08:16

End at: 2019-02-05 20:08:46

Local clock offset: -1.922 ms

Remote clock offset: 1.426 ms

Below is generated by plot.py at 2019-02-05 20:31:31

Datalink statistics

-- Total of 3 flows:

Average throughput: 77.63 Mbit/s

95th percentile per-packet one-way delay: 153.865 ms

Loss rate: 0.75%

-- Flow 1:

Average throughput: 42.45 Mbit/s

95th percentile per-packet one-way delay: 187.139 ms

Loss rate: 0.37%

-- Flow 2:

Average throughput: 35.35 Mbit/s

95th percentile per-packet one-way delay: 145.596 ms

Loss rate: 0.75%

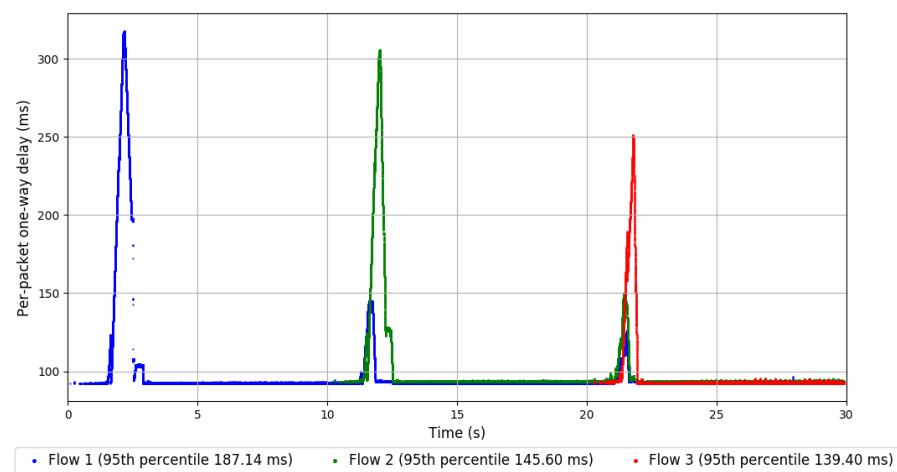
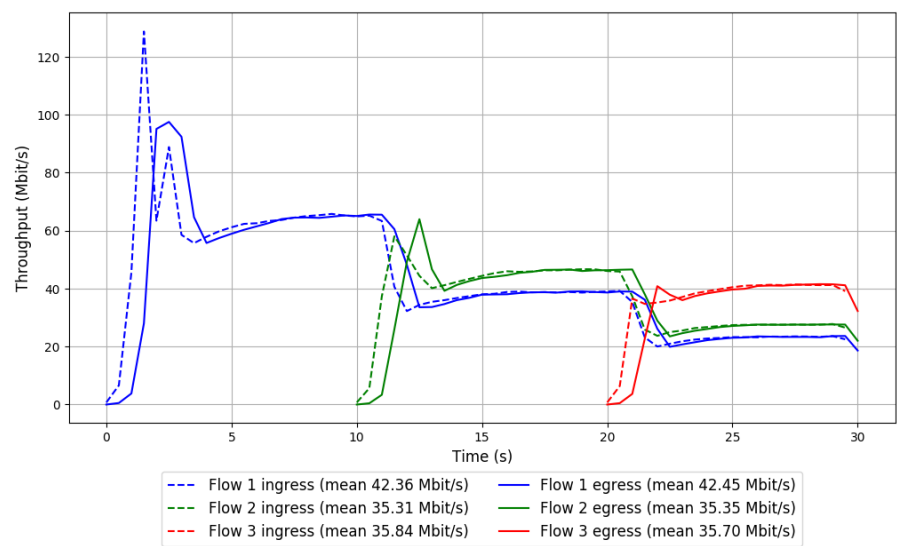
-- Flow 3:

Average throughput: 35.70 Mbit/s

95th percentile per-packet one-way delay: 139.403 ms

Loss rate: 2.10%

Run 5: Report of TCP Cubic — Data Link



Run 1: Statistics of FillP

Start at: 2019-02-05 18:34:12

End at: 2019-02-05 18:34:42

Local clock offset: -0.327 ms

Remote clock offset: 1.806 ms

Below is generated by plot.py at 2019-02-05 20:31:51

Datalink statistics

-- Total of 3 flows:

Average throughput: 93.42 Mbit/s

95th percentile per-packet one-way delay: 287.660 ms

Loss rate: 2.18%

-- Flow 1:

Average throughput: 57.31 Mbit/s

95th percentile per-packet one-way delay: 297.657 ms

Loss rate: 0.97%

-- Flow 2:

Average throughput: 39.74 Mbit/s

95th percentile per-packet one-way delay: 269.411 ms

Loss rate: 3.92%

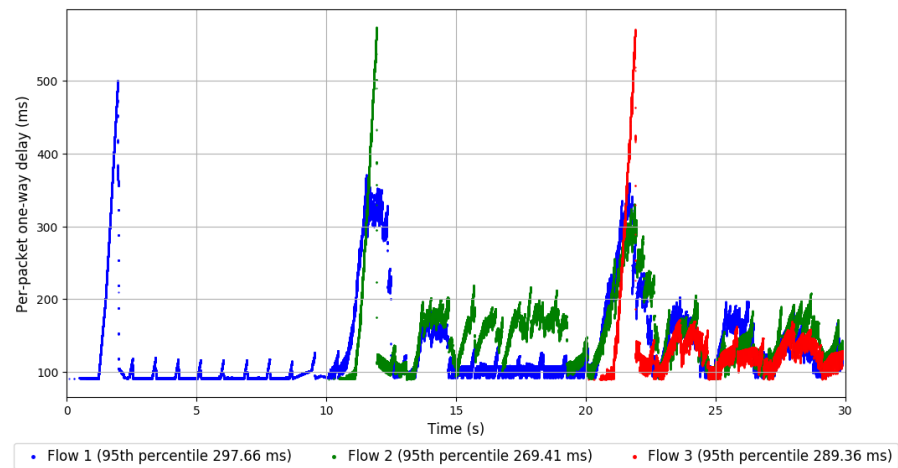
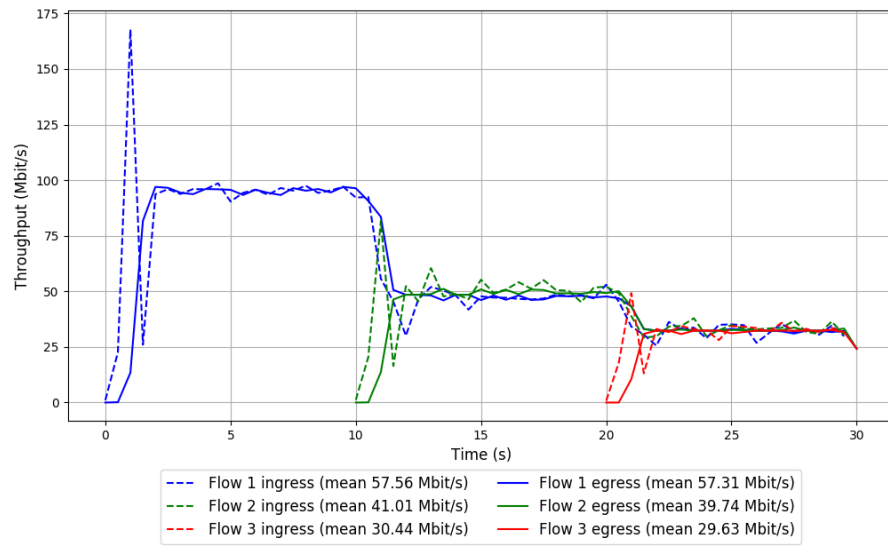
-- Flow 3:

Average throughput: 29.63 Mbit/s

95th percentile per-packet one-way delay: 289.363 ms

Loss rate: 4.33%

Run 1: Report of FillP — Data Link



Run 2: Statistics of FillP

Start at: 2019-02-05 19:01:14

End at: 2019-02-05 19:01:44

Local clock offset: -1.47 ms

Remote clock offset: 3.665 ms

Below is generated by plot.py at 2019-02-05 20:31:57

Datalink statistics

-- Total of 3 flows:

Average throughput: 93.42 Mbit/s

95th percentile per-packet one-way delay: 294.811 ms

Loss rate: 1.96%

-- Flow 1:

Average throughput: 57.71 Mbit/s

95th percentile per-packet one-way delay: 314.503 ms

Loss rate: 1.43%

-- Flow 2:

Average throughput: 38.85 Mbit/s

95th percentile per-packet one-way delay: 239.826 ms

Loss rate: 1.97%

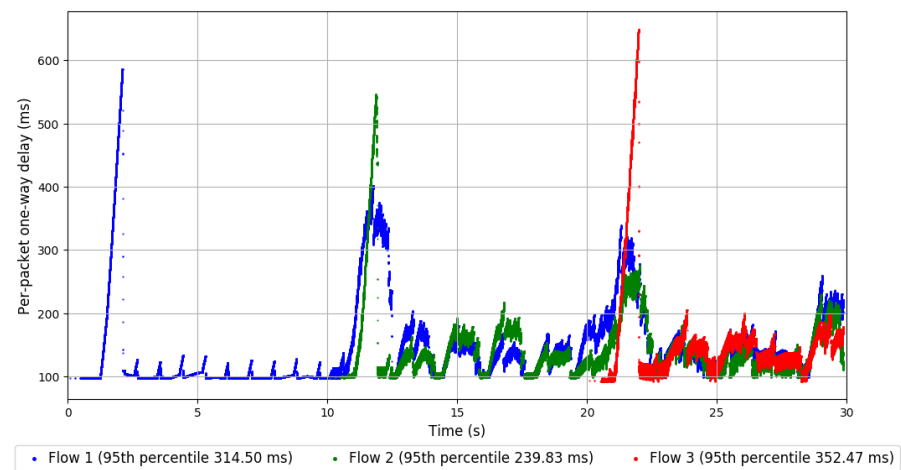
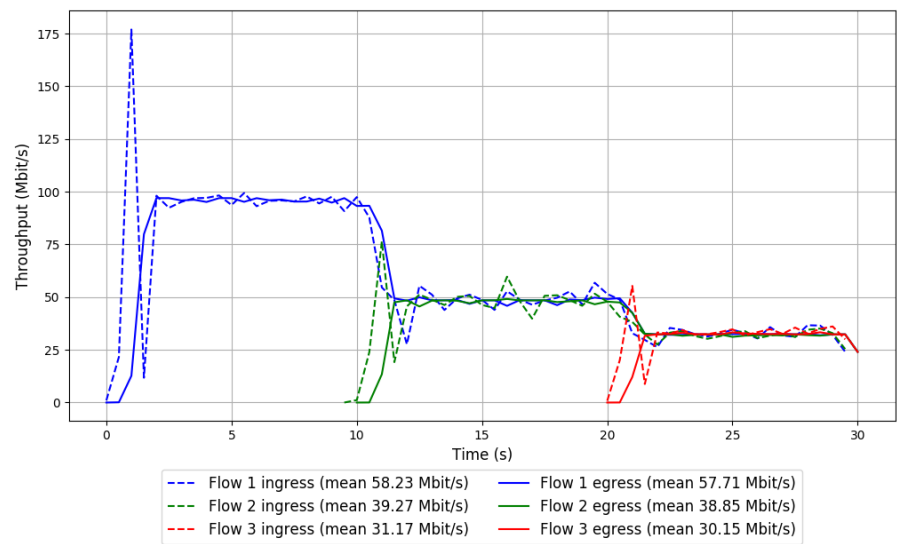
-- Flow 3:

Average throughput: 30.15 Mbit/s

95th percentile per-packet one-way delay: 352.470 ms

Loss rate: 4.94%

Run 2: Report of FillP — Data Link



Run 3: Statistics of FillP

Start at: 2019-02-05 19:28:15

End at: 2019-02-05 19:28:45

Local clock offset: -2.092 ms

Remote clock offset: 7.954 ms

Below is generated by plot.py at 2019-02-05 20:31:59

Datalink statistics

-- Total of 3 flows:

Average throughput: 93.17 Mbit/s

95th percentile per-packet one-way delay: 270.579 ms

Loss rate: 2.18%

-- Flow 1:

Average throughput: 57.70 Mbit/s

95th percentile per-packet one-way delay: 284.849 ms

Loss rate: 1.76%

-- Flow 2:

Average throughput: 38.58 Mbit/s

95th percentile per-packet one-way delay: 233.433 ms

Loss rate: 2.02%

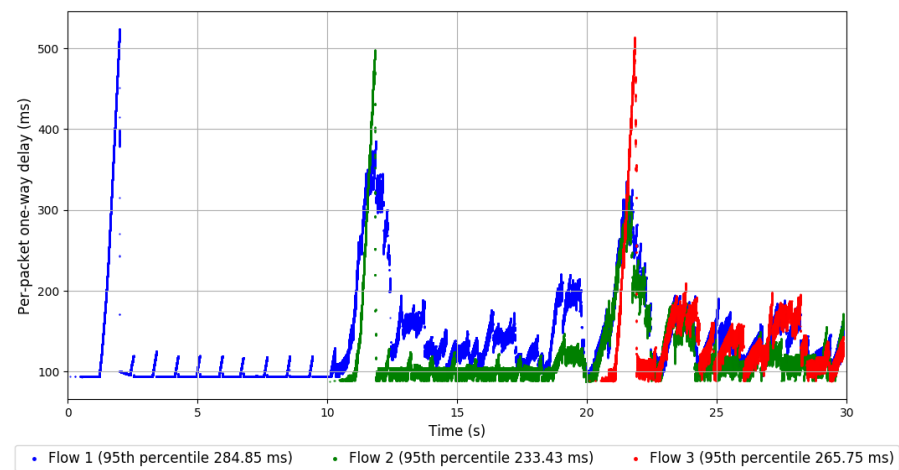
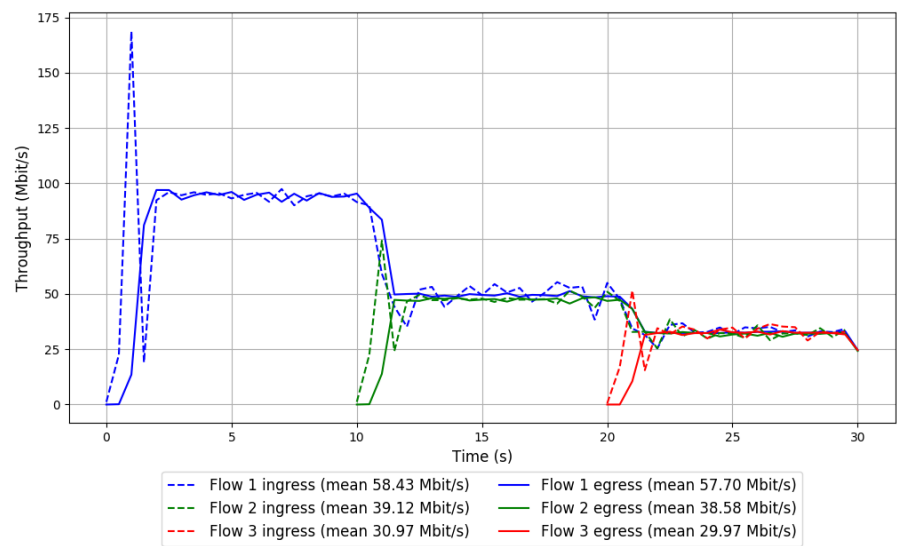
-- Flow 3:

Average throughput: 29.97 Mbit/s

95th percentile per-packet one-way delay: 265.746 ms

Loss rate: 4.91%

Run 3: Report of FillP — Data Link



Run 4: Statistics of FillP

Start at: 2019-02-05 19:55:15

End at: 2019-02-05 19:55:45

Local clock offset: -2.828 ms

Remote clock offset: 6.634 ms

Below is generated by plot.py at 2019-02-05 20:32:02

Datalink statistics

-- Total of 3 flows:

Average throughput: 93.23 Mbit/s

95th percentile per-packet one-way delay: 268.574 ms

Loss rate: 1.87%

-- Flow 1:

Average throughput: 57.20 Mbit/s

95th percentile per-packet one-way delay: 264.657 ms

Loss rate: 1.06%

-- Flow 2:

Average throughput: 39.72 Mbit/s

95th percentile per-packet one-way delay: 283.982 ms

Loss rate: 3.25%

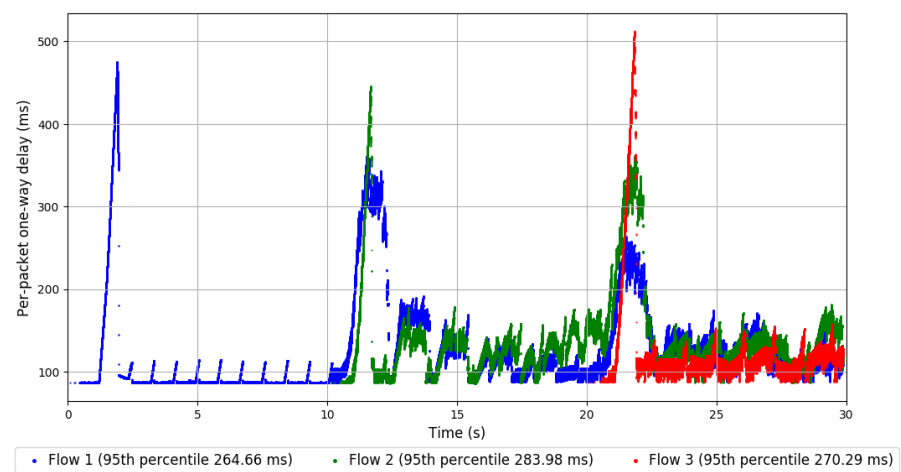
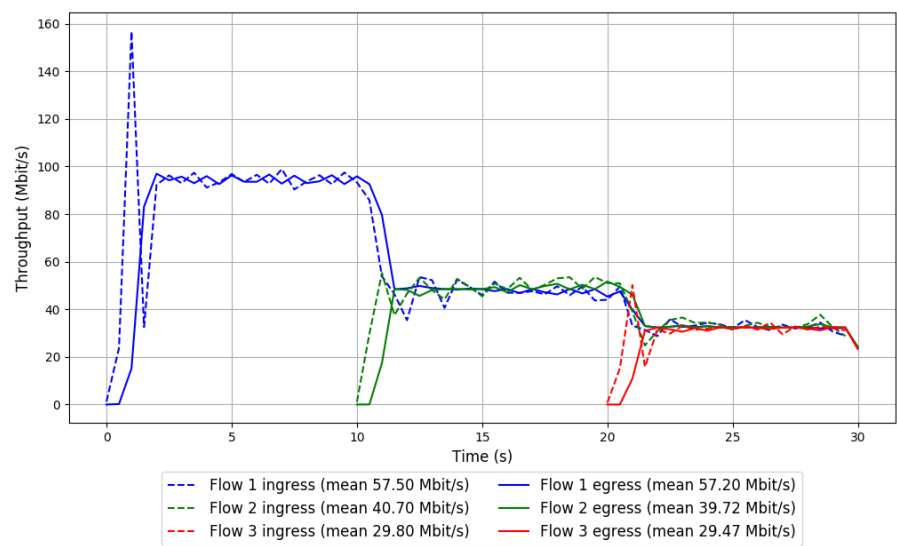
-- Flow 3:

Average throughput: 29.47 Mbit/s

95th percentile per-packet one-way delay: 270.287 ms

Loss rate: 2.77%

Run 4: Report of FillP — Data Link



Run 5: Statistics of FillP

Start at: 2019-02-05 20:22:18

End at: 2019-02-05 20:22:48

Local clock offset: -5.396 ms

Remote clock offset: 5.187 ms

Below is generated by plot.py at 2019-02-05 20:32:29

Datalink statistics

-- Total of 3 flows:

Average throughput: 93.32 Mbit/s

95th percentile per-packet one-way delay: 264.495 ms

Loss rate: 2.44%

-- Flow 1:

Average throughput: 57.25 Mbit/s

95th percentile per-packet one-way delay: 285.065 ms

Loss rate: 0.85%

-- Flow 2:

Average throughput: 39.73 Mbit/s

95th percentile per-packet one-way delay: 244.311 ms

Loss rate: 5.50%

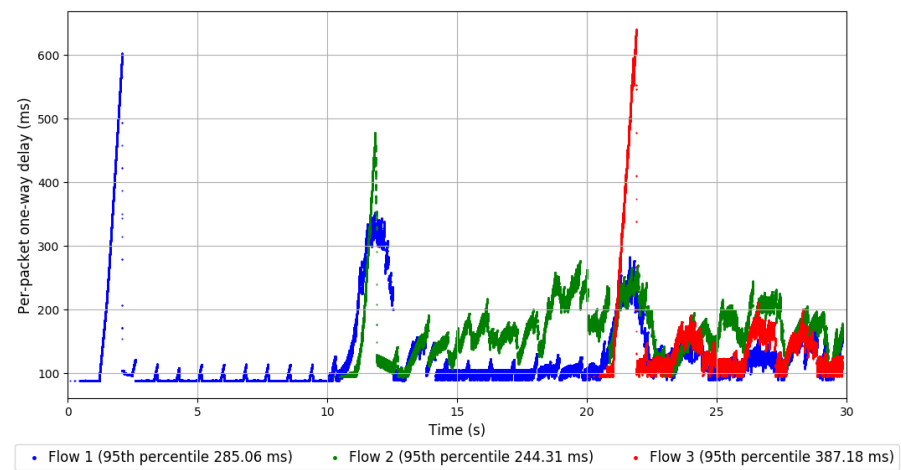
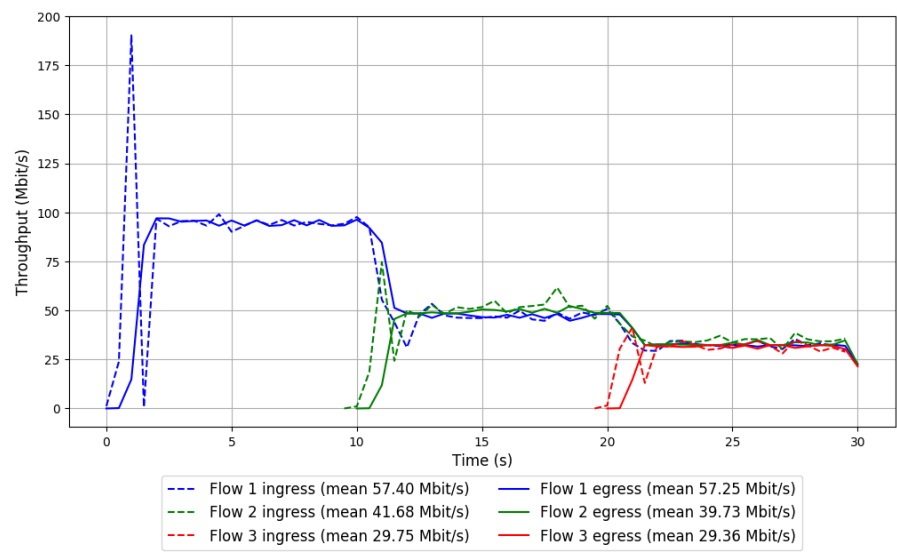
-- Flow 3:

Average throughput: 29.36 Mbit/s

95th percentile per-packet one-way delay: 387.184 ms

Loss rate: 3.09%

Run 5: Report of FillP — Data Link



Run 1: Statistics of FillP-Sheep

Start at: 2019-02-05 18:36:47

End at: 2019-02-05 18:37:17

Local clock offset: -0.923 ms

Remote clock offset: 0.676 ms

Below is generated by plot.py at 2019-02-05 20:32:33

Datalink statistics

-- Total of 3 flows:

Average throughput: 93.09 Mbit/s

95th percentile per-packet one-way delay: 285.819 ms

Loss rate: 1.47%

-- Flow 1:

Average throughput: 56.68 Mbit/s

95th percentile per-packet one-way delay: 294.063 ms

Loss rate: 0.65%

-- Flow 2:

Average throughput: 40.05 Mbit/s

95th percentile per-packet one-way delay: 267.345 ms

Loss rate: 2.76%

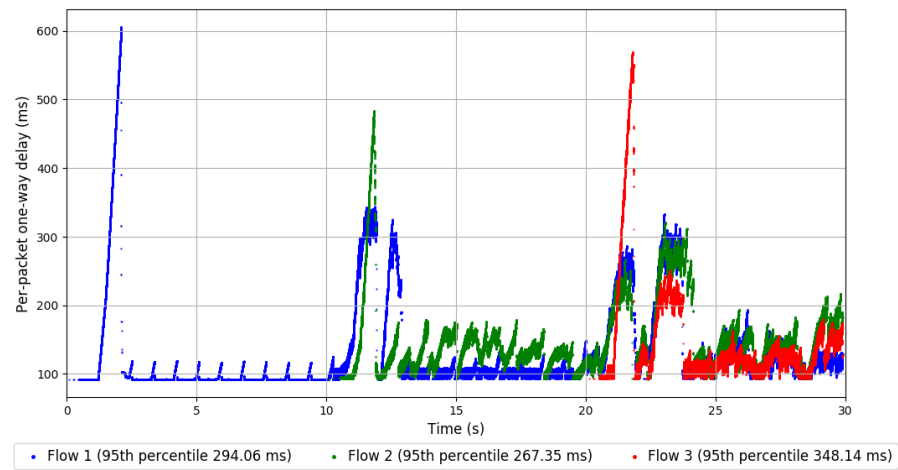
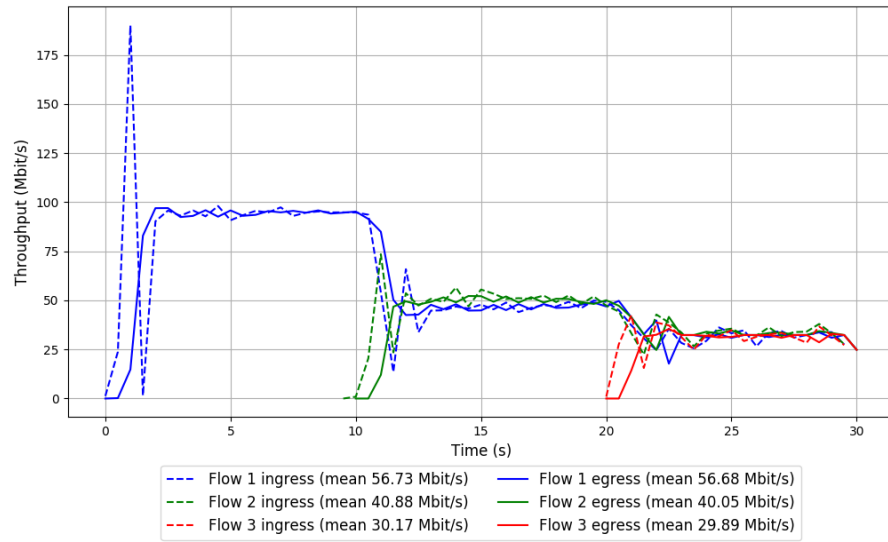
-- Flow 3:

Average throughput: 29.89 Mbit/s

95th percentile per-packet one-way delay: 348.140 ms

Loss rate: 2.63%

Run 1: Report of FillP-Sheep — Data Link



Run 2: Statistics of FillP-Sheep

Start at: 2019-02-05 19:03:49

End at: 2019-02-05 19:04:19

Local clock offset: -1.411 ms

Remote clock offset: 2.601 ms

Below is generated by plot.py at 2019-02-05 20:32:41

Datalink statistics

-- Total of 3 flows:

Average throughput: 92.87 Mbit/s

95th percentile per-packet one-way delay: 256.501 ms

Loss rate: 1.66%

-- Flow 1:

Average throughput: 61.74 Mbit/s

95th percentile per-packet one-way delay: 256.619 ms

Loss rate: 0.99%

-- Flow 2:

Average throughput: 37.57 Mbit/s

95th percentile per-packet one-way delay: 259.699 ms

Loss rate: 2.12%

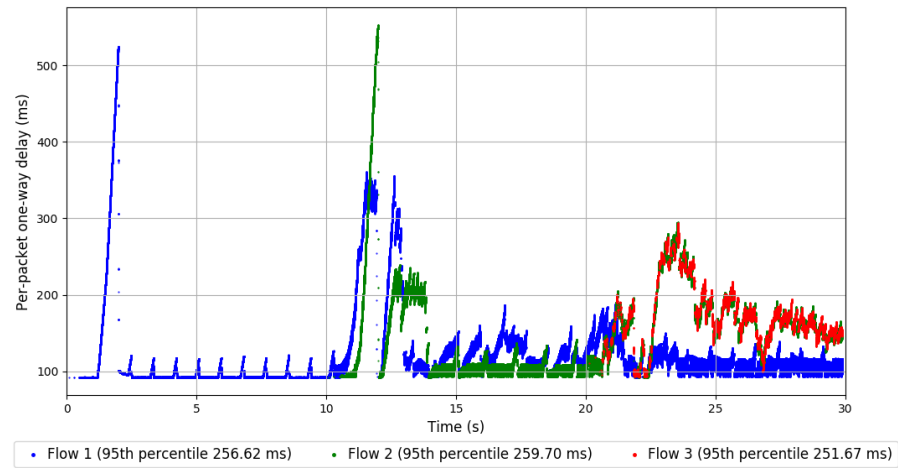
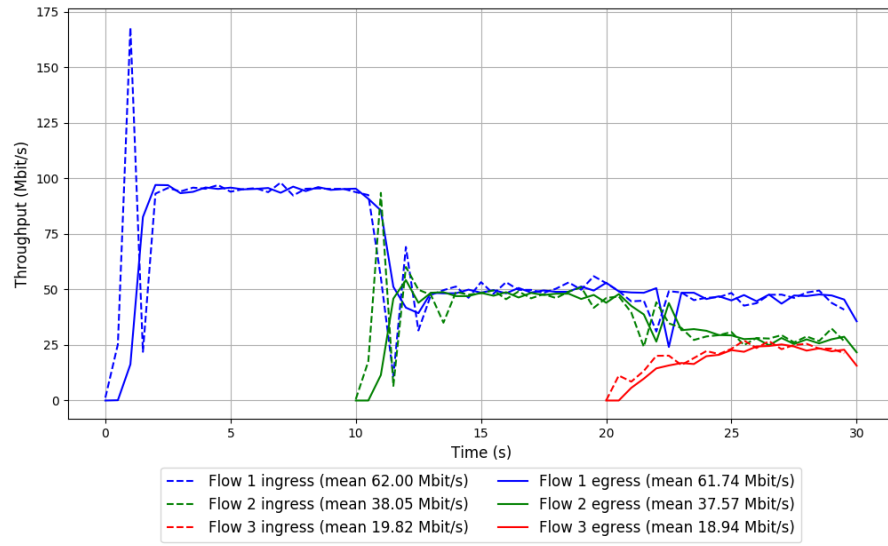
-- Flow 3:

Average throughput: 18.94 Mbit/s

95th percentile per-packet one-way delay: 251.673 ms

Loss rate: 6.24%

Run 2: Report of FillP-Sheep — Data Link



Run 3: Statistics of FillP-Sheep

Start at: 2019-02-05 19:30:50

End at: 2019-02-05 19:31:20

Local clock offset: -2.136 ms

Remote clock offset: 9.246 ms

Below is generated by plot.py at 2019-02-05 20:32:49

Datalink statistics

-- Total of 3 flows:

Average throughput: 93.17 Mbit/s

95th percentile per-packet one-way delay: 256.827 ms

Loss rate: 1.51%

-- Flow 1:

Average throughput: 57.12 Mbit/s

95th percentile per-packet one-way delay: 278.295 ms

Loss rate: 0.94%

-- Flow 2:

Average throughput: 39.12 Mbit/s

95th percentile per-packet one-way delay: 229.166 ms

Loss rate: 1.93%

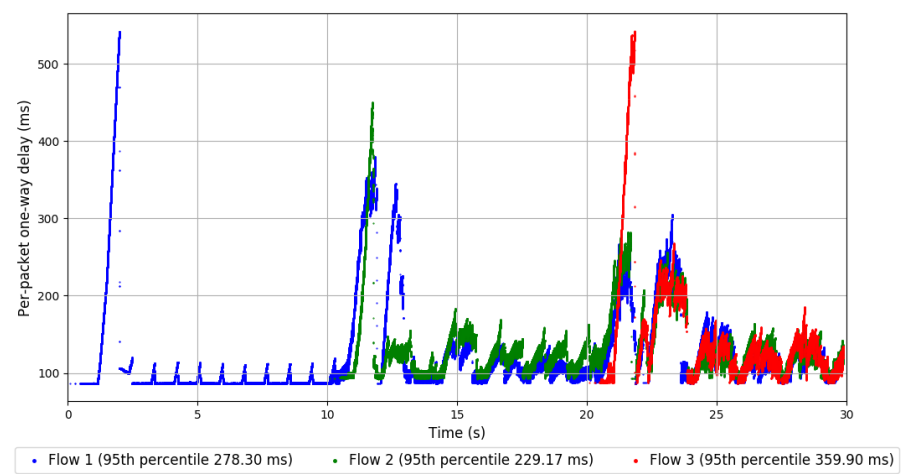
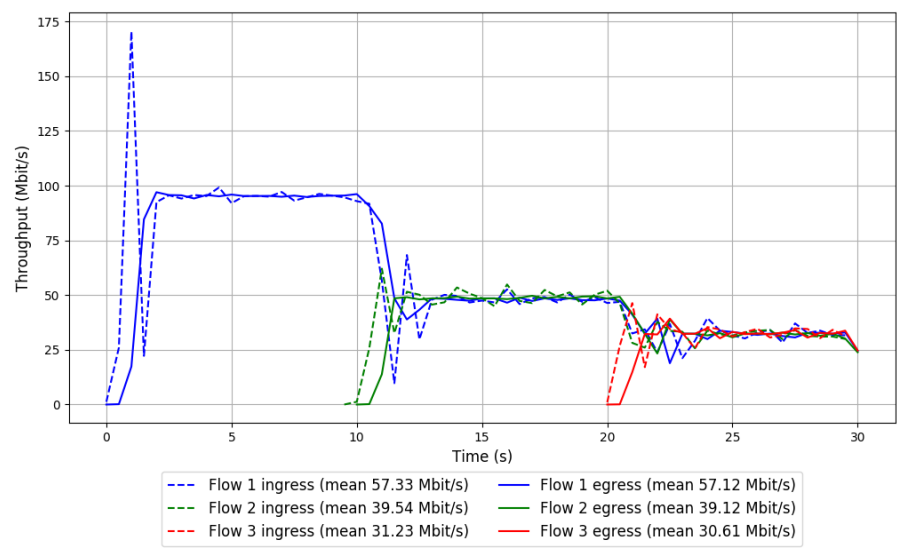
-- Flow 3:

Average throughput: 30.61 Mbit/s

95th percentile per-packet one-way delay: 359.901 ms

Loss rate: 3.56%

Run 3: Report of FillP-Sheep — Data Link



Run 4: Statistics of FillP-Sheep

Start at: 2019-02-05 19:57:50

End at: 2019-02-05 19:58:20

Local clock offset: -2.82 ms

Remote clock offset: 2.599 ms

Below is generated by plot.py at 2019-02-05 20:33:07

Datalink statistics

-- Total of 3 flows:

Average throughput: 92.78 Mbit/s

95th percentile per-packet one-way delay: 296.199 ms

Loss rate: 1.44%

-- Flow 1:

Average throughput: 57.05 Mbit/s

95th percentile per-packet one-way delay: 316.622 ms

Loss rate: 1.06%

-- Flow 2:

Average throughput: 39.18 Mbit/s

95th percentile per-packet one-way delay: 245.830 ms

Loss rate: 1.69%

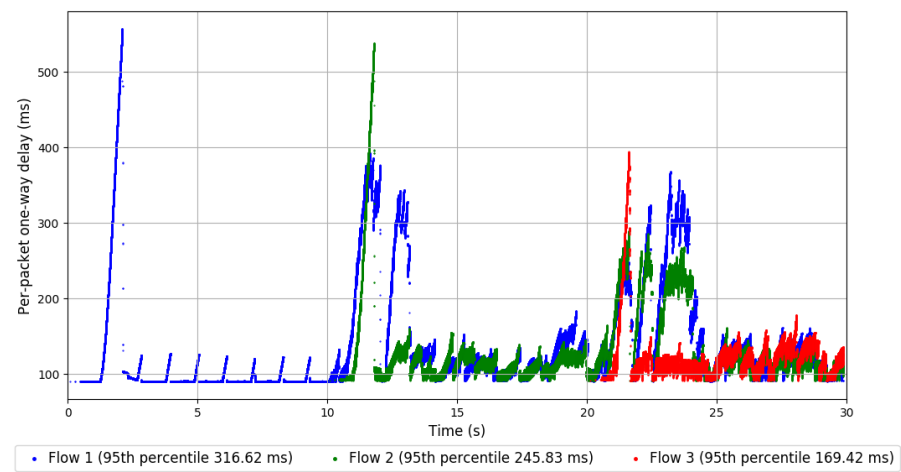
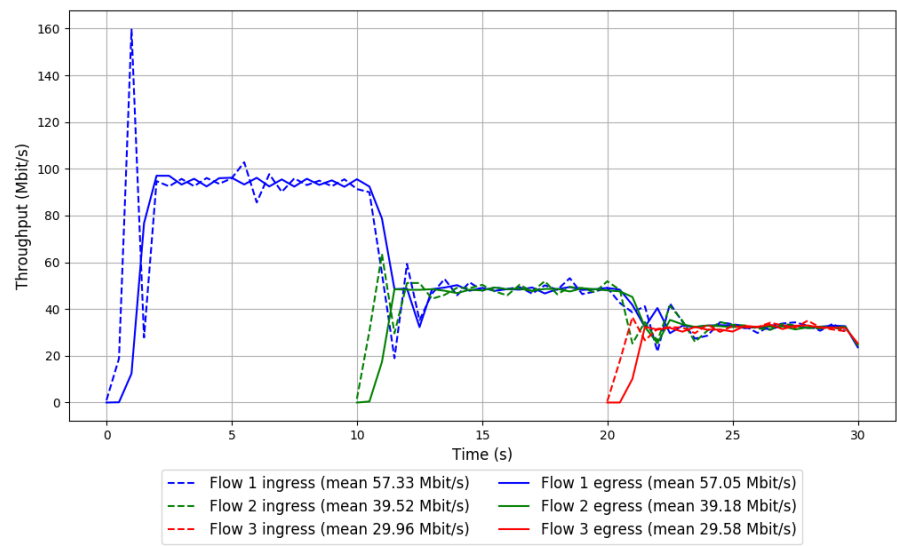
-- Flow 3:

Average throughput: 29.58 Mbit/s

95th percentile per-packet one-way delay: 169.423 ms

Loss rate: 3.01%

Run 4: Report of FillP-Sheep — Data Link



Run 5: Statistics of FillP-Sheep

Start at: 2019-02-05 20:24:52

End at: 2019-02-05 20:25:22

Local clock offset: -5.39 ms

Remote clock offset: 2.361 ms

Below is generated by plot.py at 2019-02-05 20:33:15

Datalink statistics

-- Total of 3 flows:

Average throughput: 93.03 Mbit/s

95th percentile per-packet one-way delay: 271.868 ms

Loss rate: 1.76%

-- Flow 1:

Average throughput: 57.57 Mbit/s

95th percentile per-packet one-way delay: 287.531 ms

Loss rate: 1.14%

-- Flow 2:

Average throughput: 38.45 Mbit/s

95th percentile per-packet one-way delay: 223.759 ms

Loss rate: 1.60%

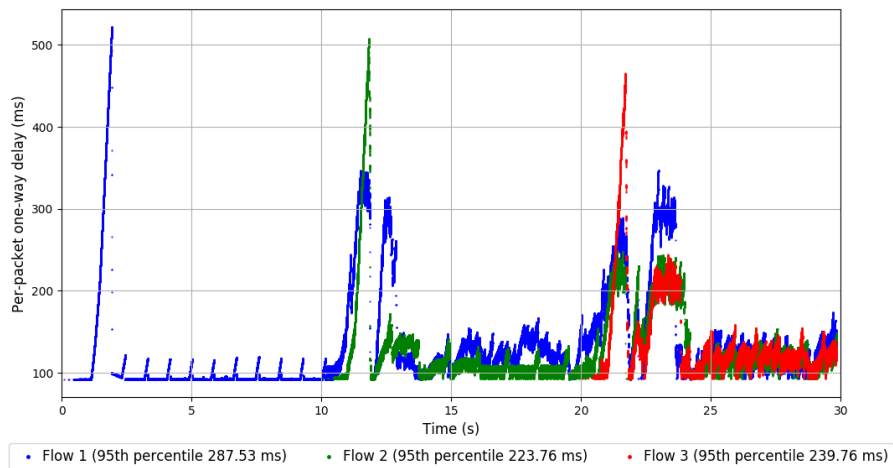
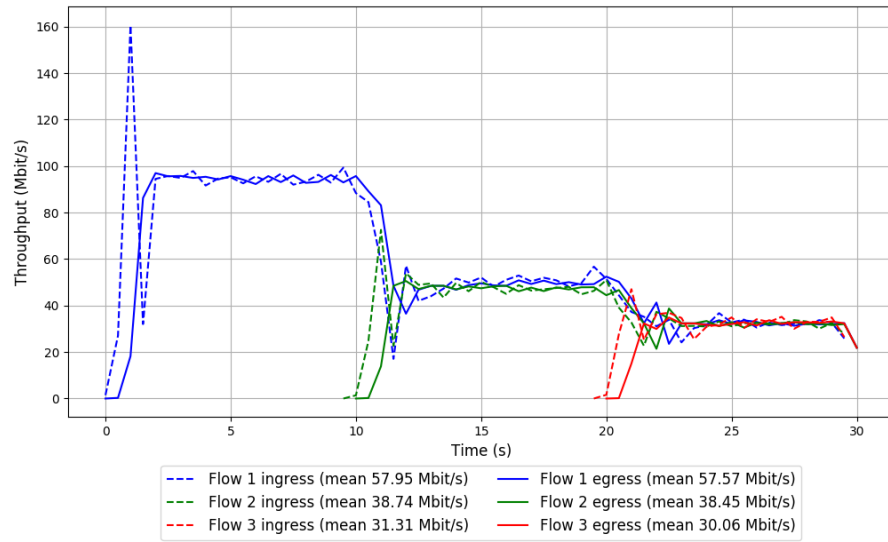
-- Flow 3:

Average throughput: 30.06 Mbit/s

95th percentile per-packet one-way delay: 239.761 ms

Loss rate: 5.59%

Run 5: Report of FillP-Sheep — Data Link

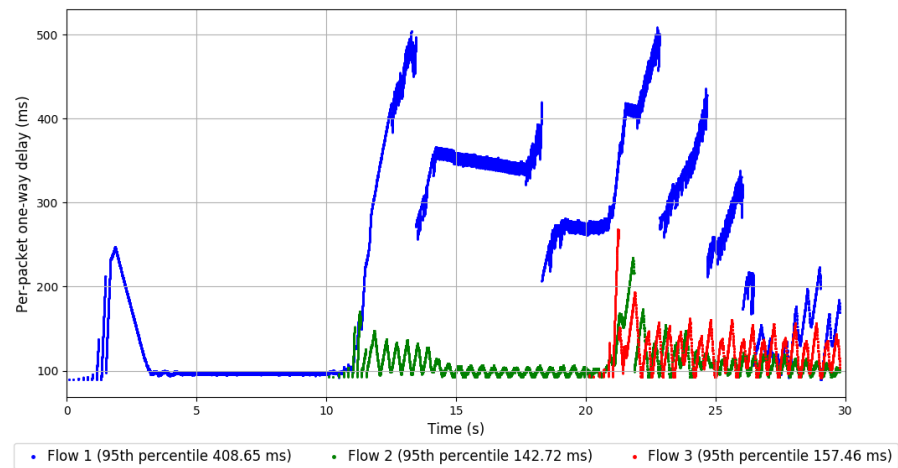
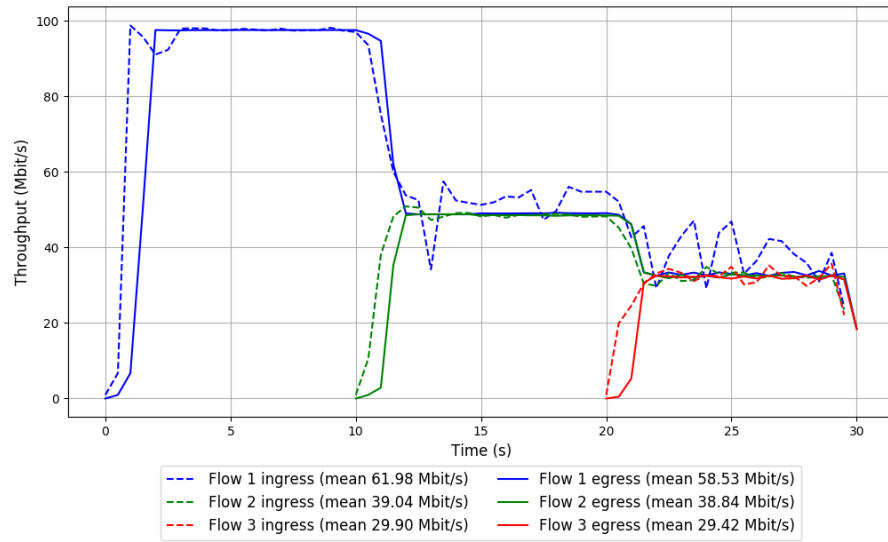


```
Run 1: Statistics of Indigo

Start at: 2019-02-05 18:24:06
End at: 2019-02-05 18:24:36
Local clock offset: 0.269 ms
Remote clock offset: 0.647 ms

# Below is generated by plot.py at 2019-02-05 20:33:15
# Datalink statistics
-- Total of 3 flows:
Average throughput: 93.85 Mbit/s
95th percentile per-packet one-way delay: 364.935 ms
Loss rate: 4.56%
-- Flow 1:
Average throughput: 58.53 Mbit/s
95th percentile per-packet one-way delay: 408.655 ms
Loss rate: 6.10%
-- Flow 2:
Average throughput: 38.84 Mbit/s
95th percentile per-packet one-way delay: 142.718 ms
Loss rate: 1.37%
-- Flow 3:
Average throughput: 29.42 Mbit/s
95th percentile per-packet one-way delay: 157.462 ms
Loss rate: 3.33%
```

Run 1: Report of Indigo — Data Link



Run 2: Statistics of Indigo

Start at: 2019-02-05 18:51:07

End at: 2019-02-05 18:51:37

Local clock offset: -1.513 ms

Remote clock offset: 7.924 ms

Below is generated by plot.py at 2019-02-05 20:33:15

Datalink statistics

-- Total of 3 flows:

Average throughput: 93.73 Mbit/s

95th percentile per-packet one-way delay: 281.771 ms

Loss rate: 3.57%

-- Flow 1:

Average throughput: 58.49 Mbit/s

95th percentile per-packet one-way delay: 294.902 ms

Loss rate: 4.72%

-- Flow 2:

Average throughput: 38.76 Mbit/s

95th percentile per-packet one-way delay: 141.307 ms

Loss rate: 1.34%

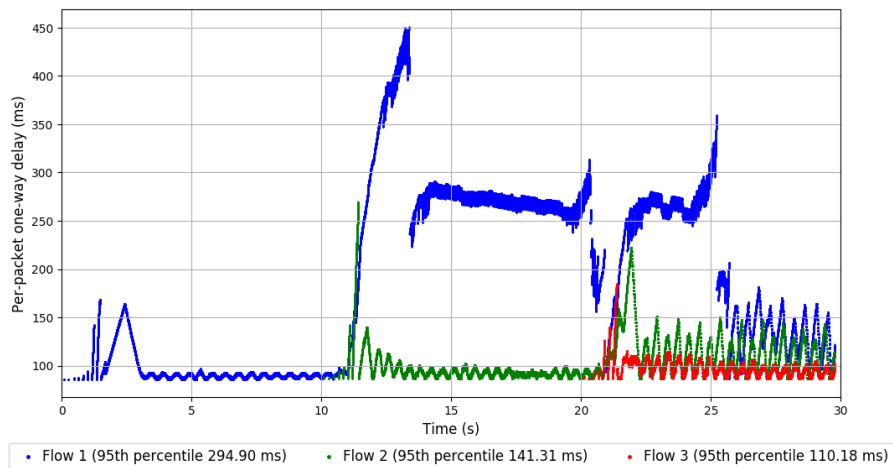
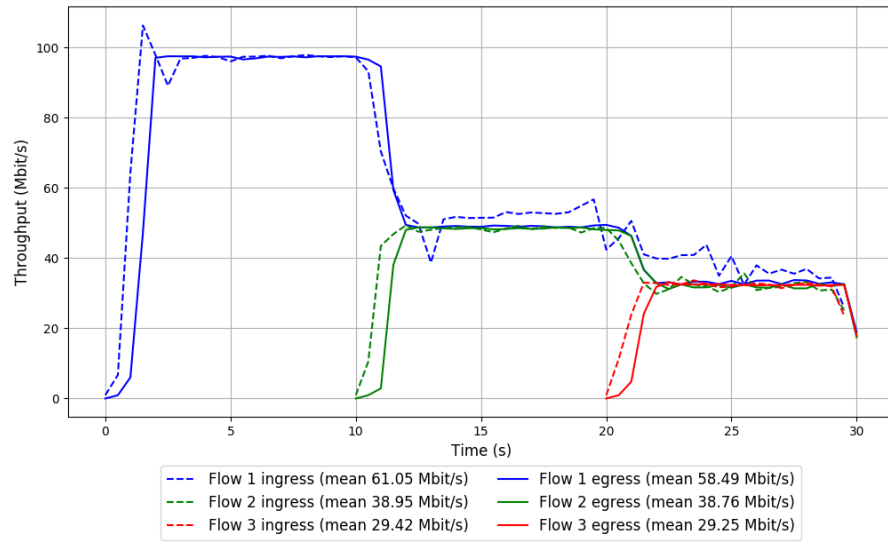
-- Flow 3:

Average throughput: 29.25 Mbit/s

95th percentile per-packet one-way delay: 110.184 ms

Loss rate: 2.32%

Run 2: Report of Indigo — Data Link



Run 3: Statistics of Indigo

Start at: 2019-02-05 19:18:07

End at: 2019-02-05 19:18:37

Local clock offset: -2.198 ms

Remote clock offset: 7.593 ms

Below is generated by plot.py at 2019-02-05 20:33:35

Datalink statistics

-- Total of 3 flows:

Average throughput: 93.63 Mbit/s

95th percentile per-packet one-way delay: 298.673 ms

Loss rate: 2.39%

-- Flow 1:

Average throughput: 58.40 Mbit/s

95th percentile per-packet one-way delay: 311.721 ms

Loss rate: 2.88%

-- Flow 2:

Average throughput: 38.90 Mbit/s

95th percentile per-packet one-way delay: 131.959 ms

Loss rate: 1.08%

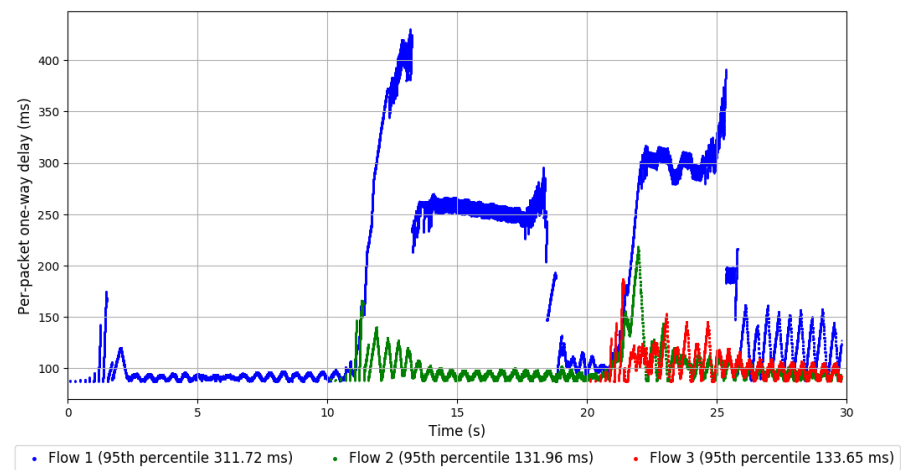
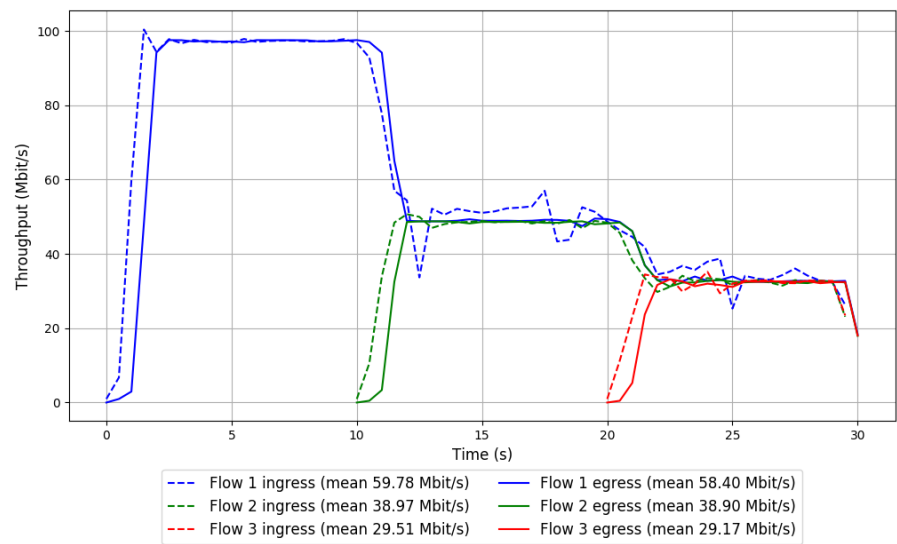
-- Flow 3:

Average throughput: 29.17 Mbit/s

95th percentile per-packet one-way delay: 133.654 ms

Loss rate: 2.89%

Run 3: Report of Indigo — Data Link



Run 4: Statistics of Indigo

Start at: 2019-02-05 19:45:08

End at: 2019-02-05 19:45:38

Local clock offset: -2.811 ms

Remote clock offset: 1.959 ms

Below is generated by plot.py at 2019-02-05 20:33:38

Datalink statistics

-- Total of 3 flows:

Average throughput: 93.74 Mbit/s

95th percentile per-packet one-way delay: 300.563 ms

Loss rate: 4.01%

-- Flow 1:

Average throughput: 58.41 Mbit/s

95th percentile per-packet one-way delay: 323.401 ms

Loss rate: 5.39%

-- Flow 2:

Average throughput: 38.92 Mbit/s

95th percentile per-packet one-way delay: 140.476 ms

Loss rate: 1.16%

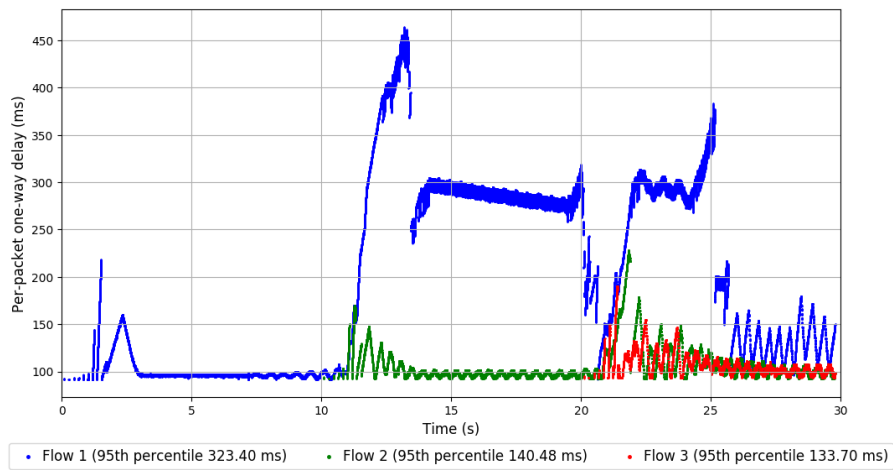
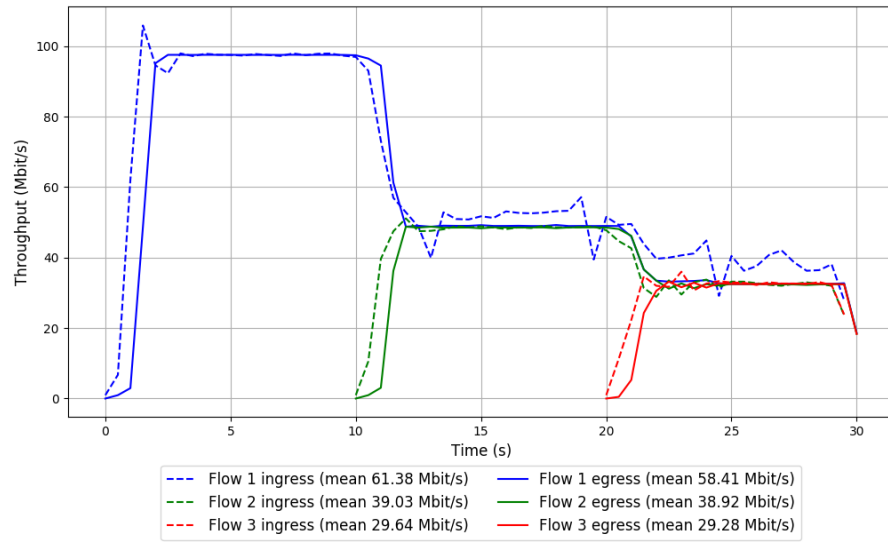
-- Flow 3:

Average throughput: 29.28 Mbit/s

95th percentile per-packet one-way delay: 133.700 ms

Loss rate: 2.96%

Run 4: Report of Indigo — Data Link



Run 5: Statistics of Indigo

Start at: 2019-02-05 20:12:10

End at: 2019-02-05 20:12:40

Local clock offset: -1.915 ms

Remote clock offset: 1.327 ms

Below is generated by plot.py at 2019-02-05 20:33:46

Datalink statistics

-- Total of 3 flows:

Average throughput: 93.59 Mbit/s

95th percentile per-packet one-way delay: 371.499 ms

Loss rate: 4.56%

-- Flow 1:

Average throughput: 58.33 Mbit/s

95th percentile per-packet one-way delay: 379.549 ms

Loss rate: 6.09%

-- Flow 2:

Average throughput: 38.93 Mbit/s

95th percentile per-packet one-way delay: 144.726 ms

Loss rate: 1.38%

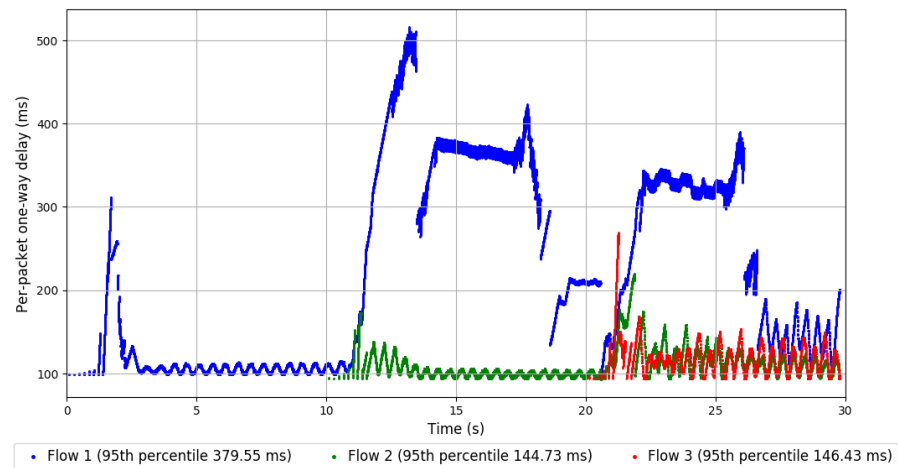
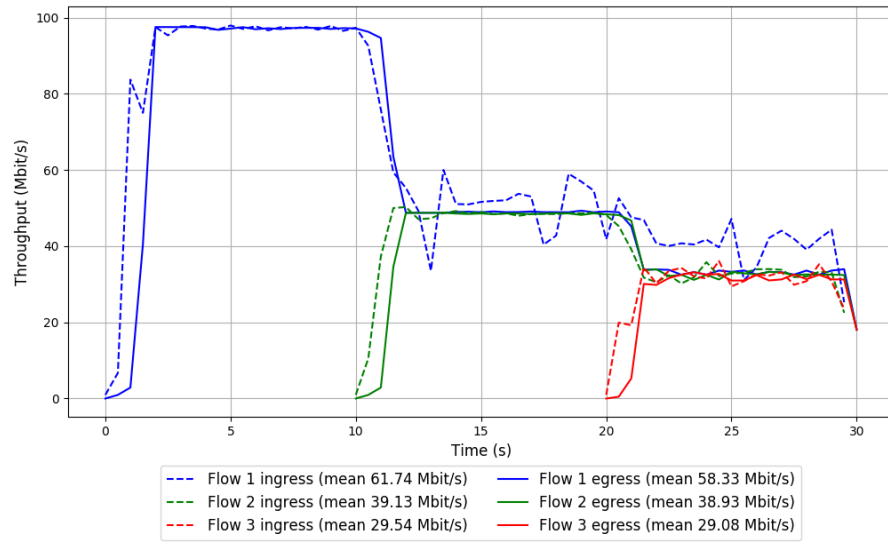
-- Flow 3:

Average throughput: 29.08 Mbit/s

95th percentile per-packet one-way delay: 146.430 ms

Loss rate: 3.29%

Run 5: Report of Indigo — Data Link



Run 1: Statistics of Indigo-MusesC3

Start at: 2019-02-05 18:13:38

End at: 2019-02-05 18:14:08

Local clock offset: 2.789 ms

Remote clock offset: 3.096 ms

Below is generated by plot.py at 2019-02-05 20:33:55

Datalink statistics

-- Total of 3 flows:

Average throughput: 94.50 Mbit/s

95th percentile per-packet one-way delay: 150.919 ms

Loss rate: 2.66%

-- Flow 1:

Average throughput: 60.24 Mbit/s

95th percentile per-packet one-way delay: 135.711 ms

Loss rate: 2.05%

-- Flow 2:

Average throughput: 39.81 Mbit/s

95th percentile per-packet one-way delay: 156.332 ms

Loss rate: 3.86%

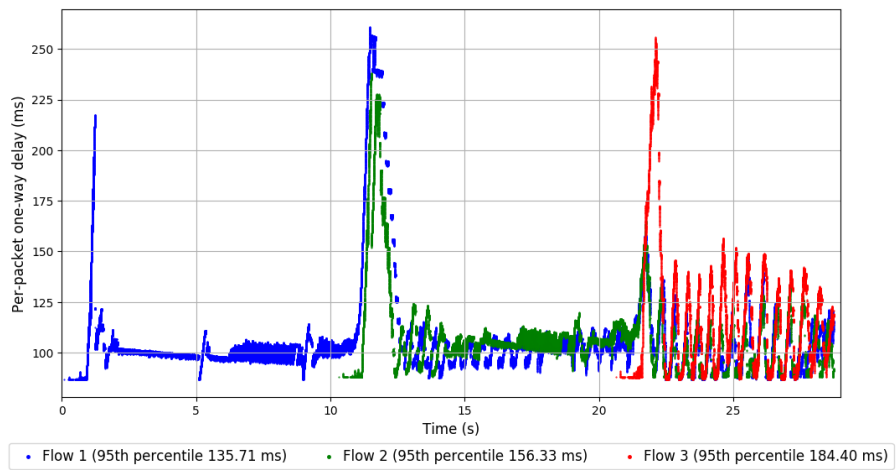
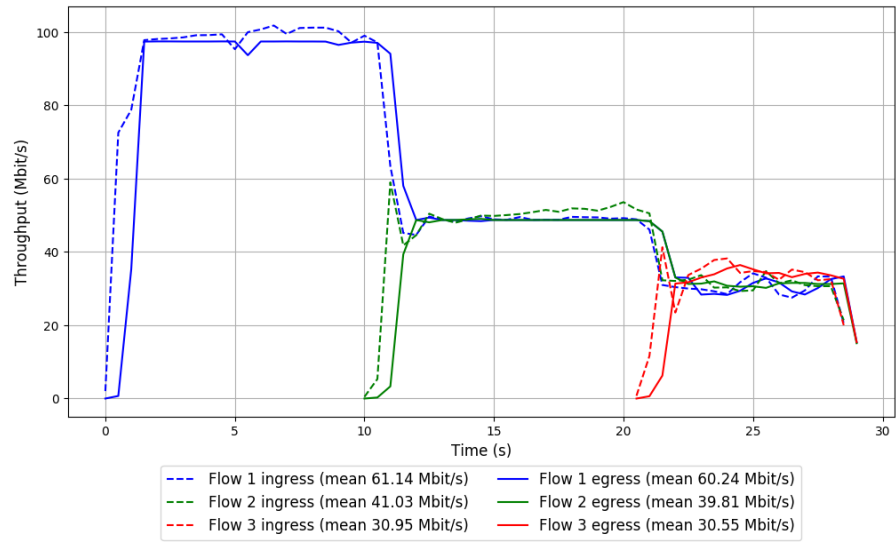
-- Flow 3:

Average throughput: 30.55 Mbit/s

95th percentile per-packet one-way delay: 184.400 ms

Loss rate: 3.33%

Run 1: Report of Indigo-MusesC3 — Data Link



Run 2: Statistics of Indigo-MusesC3

Start at: 2019-02-05 18:40:37

End at: 2019-02-05 18:41:07

Local clock offset: -0.822 ms

Remote clock offset: 5.04 ms

Below is generated by plot.py at 2019-02-05 20:34:07

Datalink statistics

-- Total of 3 flows:

Average throughput: 94.89 Mbit/s

95th percentile per-packet one-way delay: 158.908 ms

Loss rate: 2.64%

-- Flow 1:

Average throughput: 60.64 Mbit/s

95th percentile per-packet one-way delay: 165.153 ms

Loss rate: 2.44%

-- Flow 2:

Average throughput: 40.44 Mbit/s

95th percentile per-packet one-way delay: 147.966 ms

Loss rate: 2.89%

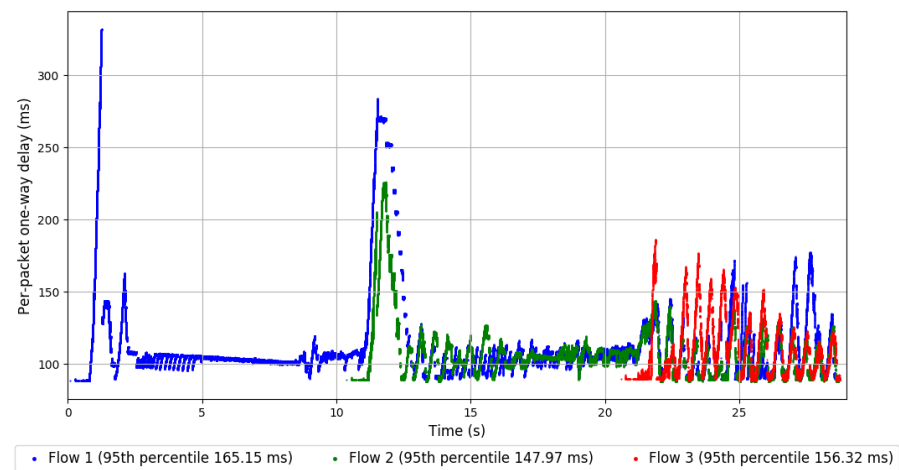
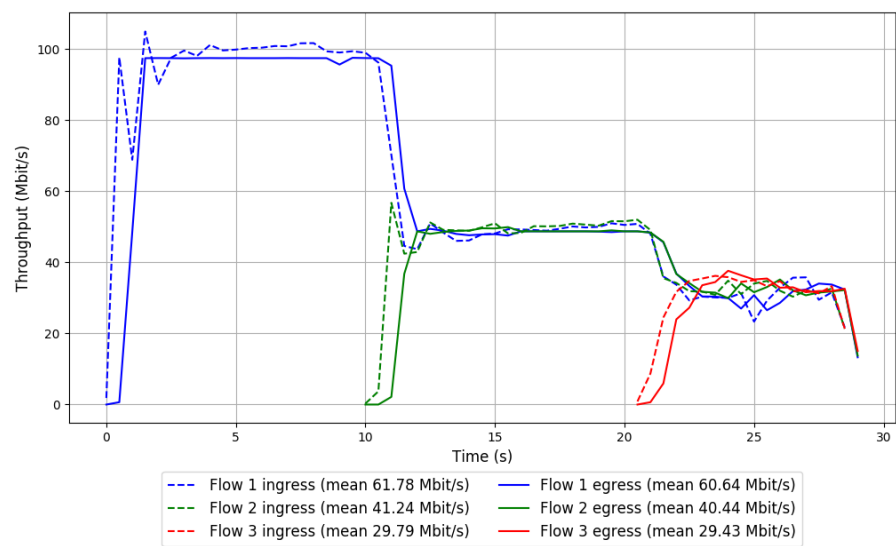
-- Flow 3:

Average throughput: 29.43 Mbit/s

95th percentile per-packet one-way delay: 156.318 ms

Loss rate: 3.25%

Run 2: Report of Indigo-MusesC3 — Data Link



Run 3: Statistics of Indigo-MusesC3

Start at: 2019-02-05 19:07:39

End at: 2019-02-05 19:08:09

Local clock offset: -2.141 ms

Remote clock offset: 8.437 ms

Below is generated by plot.py at 2019-02-05 20:34:10

Datalink statistics

-- Total of 3 flows:

Average throughput: 94.65 Mbit/s

95th percentile per-packet one-way delay: 190.173 ms

Loss rate: 1.81%

-- Flow 1:

Average throughput: 60.15 Mbit/s

95th percentile per-packet one-way delay: 165.003 ms

Loss rate: 1.70%

-- Flow 2:

Average throughput: 39.86 Mbit/s

95th percentile per-packet one-way delay: 246.341 ms

Loss rate: 1.42%

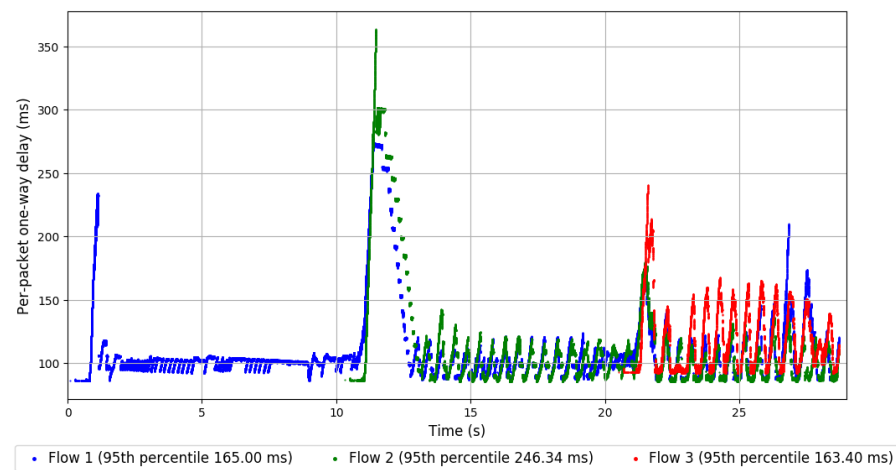
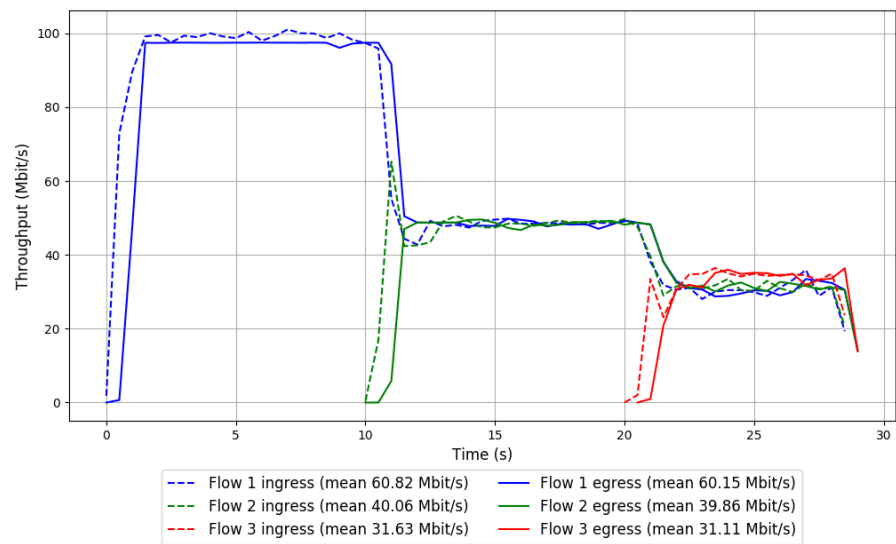
-- Flow 3:

Average throughput: 31.11 Mbit/s

95th percentile per-packet one-way delay: 163.398 ms

Loss rate: 3.66%

Run 3: Report of Indigo-MusesC3 — Data Link



Run 4: Statistics of Indigo-MusesC3

Start at: 2019-02-05 19:34:40

End at: 2019-02-05 19:35:10

Local clock offset: -2.909 ms

Remote clock offset: 3.183 ms

Below is generated by plot.py at 2019-02-05 20:34:11

Datalink statistics

-- Total of 3 flows:

Average throughput: 94.77 Mbit/s

95th percentile per-packet one-way delay: 153.786 ms

Loss rate: 2.66%

-- Flow 1:

Average throughput: 60.47 Mbit/s

95th percentile per-packet one-way delay: 152.274 ms

Loss rate: 2.77%

-- Flow 2:

Average throughput: 40.39 Mbit/s

95th percentile per-packet one-way delay: 189.626 ms

Loss rate: 2.22%

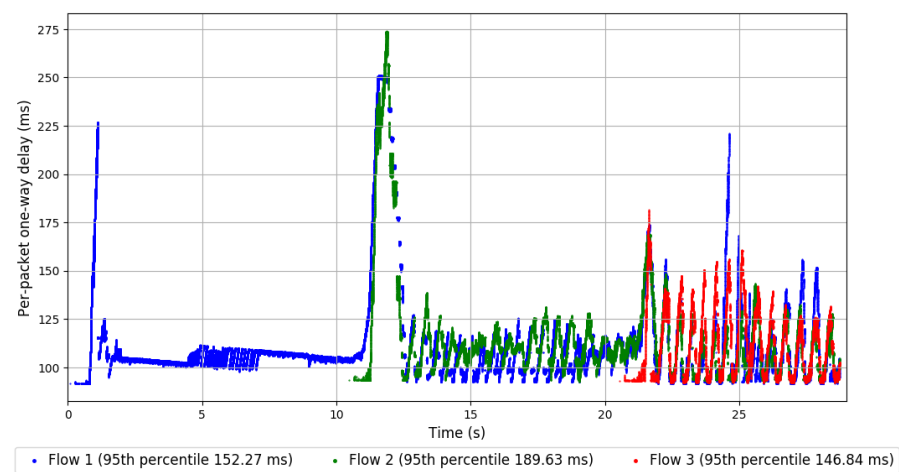
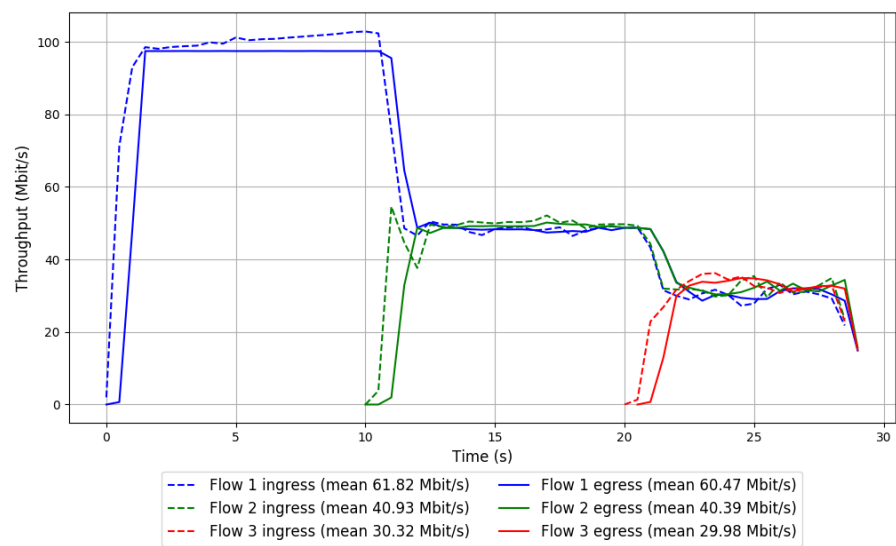
-- Flow 3:

Average throughput: 29.98 Mbit/s

95th percentile per-packet one-way delay: 146.837 ms

Loss rate: 3.19%

Run 4: Report of Indigo-MusesC3 — Data Link



Run 5: Statistics of Indigo-MusesC3

Start at: 2019-02-05 20:01:40

End at: 2019-02-05 20:02:10

Local clock offset: -2.763 ms

Remote clock offset: 6.278 ms

Below is generated by plot.py at 2019-02-05 20:34:20

Datalink statistics

-- Total of 3 flows:

Average throughput: 94.99 Mbit/s

95th percentile per-packet one-way delay: 161.253 ms

Loss rate: 2.08%

-- Flow 1:

Average throughput: 60.28 Mbit/s

95th percentile per-packet one-way delay: 190.709 ms

Loss rate: 2.01%

-- Flow 2:

Average throughput: 40.72 Mbit/s

95th percentile per-packet one-way delay: 137.934 ms

Loss rate: 1.69%

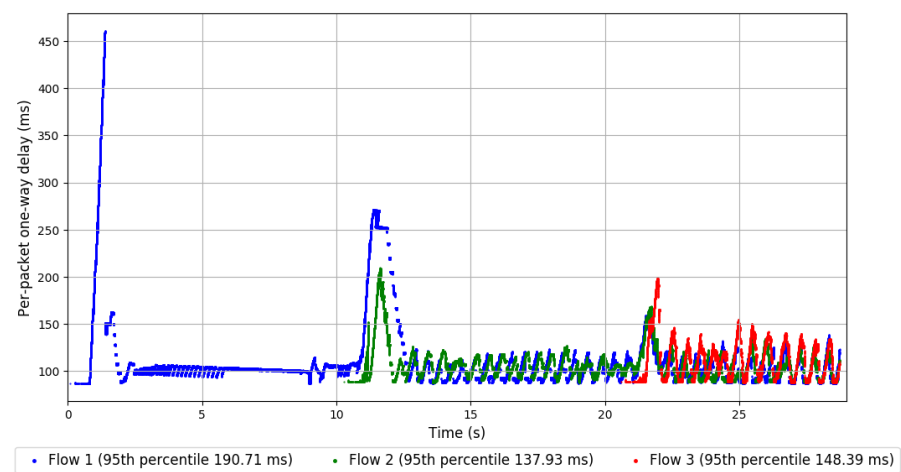
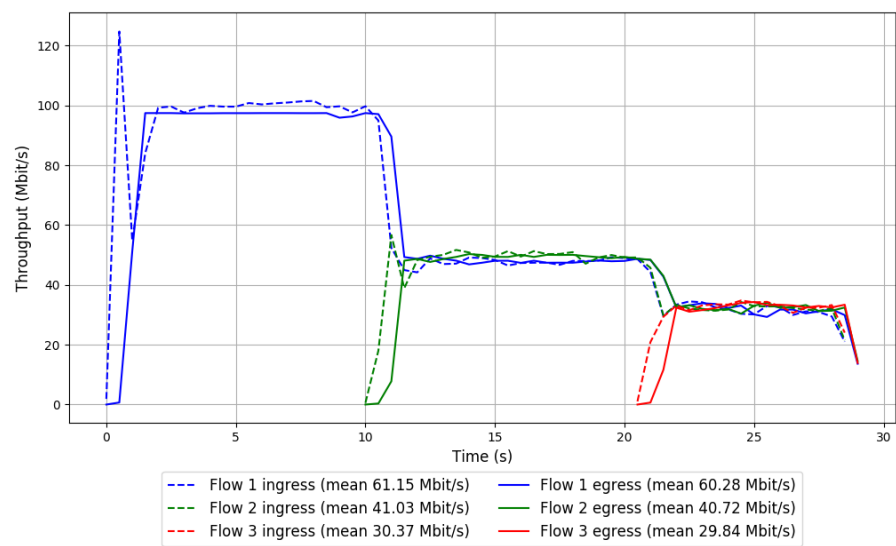
-- Flow 3:

Average throughput: 29.84 Mbit/s

95th percentile per-packet one-way delay: 148.394 ms

Loss rate: 3.78%

Run 5: Report of Indigo-MusesC3 — Data Link



Run 1: Statistics of Indigo-MusesC5

Start at: 2019-02-05 18:22:48

End at: 2019-02-05 18:23:18

Local clock offset: 0.602 ms

Remote clock offset: 4.403 ms

Below is generated by plot.py at 2019-02-05 20:34:39

Datalink statistics

-- Total of 3 flows:

Average throughput: 93.92 Mbit/s

95th percentile per-packet one-way delay: 251.304 ms

Loss rate: 3.29%

-- Flow 1:

Average throughput: 59.73 Mbit/s

95th percentile per-packet one-way delay: 251.846 ms

Loss rate: 2.74%

-- Flow 2:

Average throughput: 40.00 Mbit/s

95th percentile per-packet one-way delay: 246.341 ms

Loss rate: 3.86%

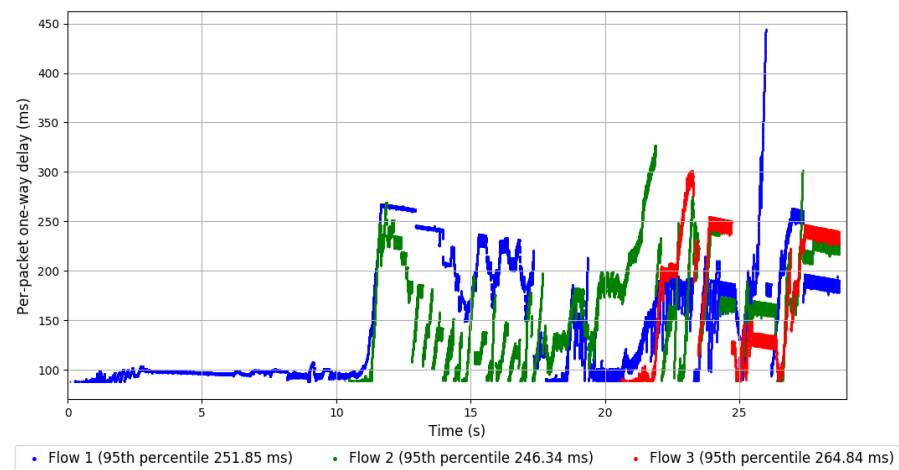
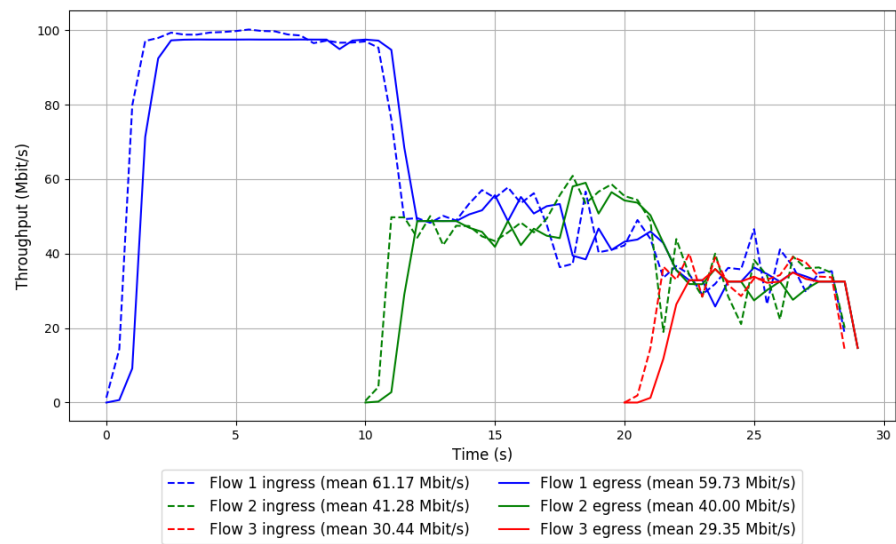
-- Flow 3:

Average throughput: 29.35 Mbit/s

95th percentile per-packet one-way delay: 264.837 ms

Loss rate: 5.41%

Run 1: Report of Indigo-MusesC5 — Data Link



Run 2: Statistics of Indigo-MusesC5

Start at: 2019-02-05 18:49:50

End at: 2019-02-05 18:50:20

Local clock offset: -0.565 ms

Remote clock offset: 6.721 ms

Below is generated by plot.py at 2019-02-05 20:34:42

Datalink statistics

-- Total of 3 flows:

Average throughput: 93.79 Mbit/s

95th percentile per-packet one-way delay: 261.383 ms

Loss rate: 4.35%

-- Flow 1:

Average throughput: 58.42 Mbit/s

95th percentile per-packet one-way delay: 244.592 ms

Loss rate: 3.44%

-- Flow 2:

Average throughput: 41.72 Mbit/s

95th percentile per-packet one-way delay: 259.745 ms

Loss rate: 5.77%

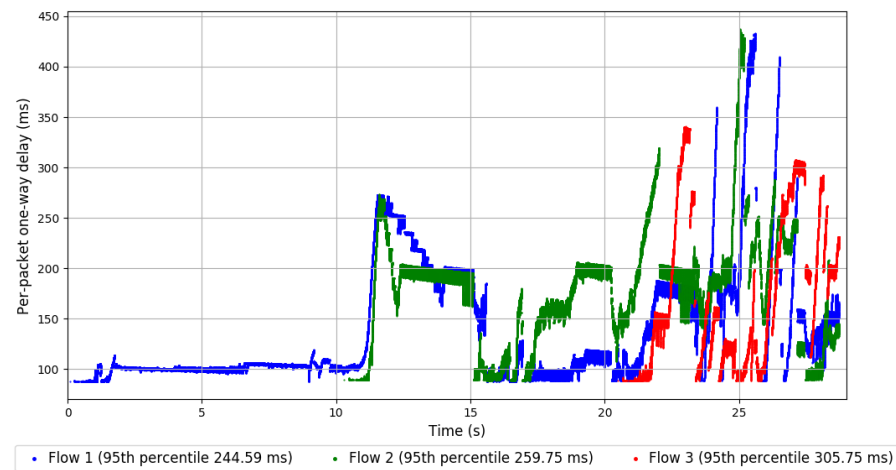
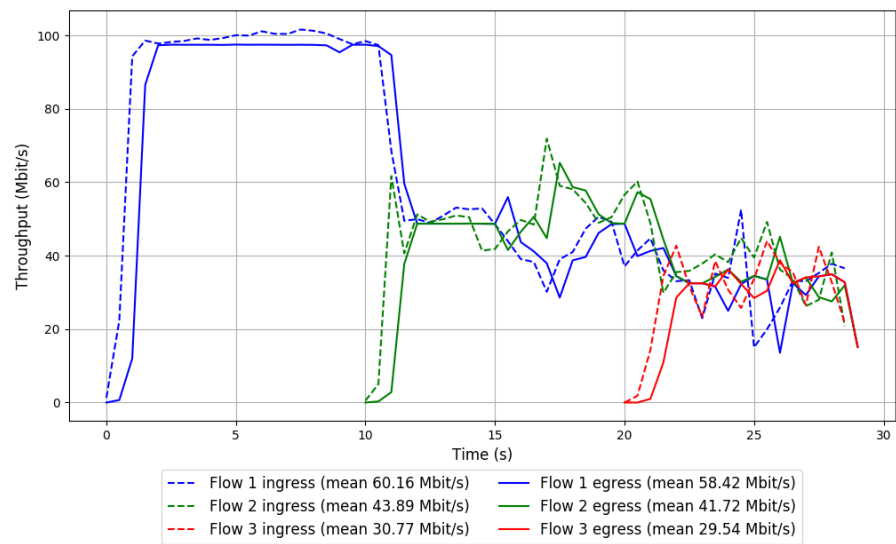
-- Flow 3:

Average throughput: 29.54 Mbit/s

95th percentile per-packet one-way delay: 305.750 ms

Loss rate: 5.96%

Run 2: Report of Indigo-MusesC5 — Data Link



Run 3: Statistics of Indigo-MusesC5

Start at: 2019-02-05 19:16:49

End at: 2019-02-05 19:17:19

Local clock offset: -2.004 ms

Remote clock offset: 2.718 ms

Below is generated by plot.py at 2019-02-05 20:34:48

Datalink statistics

-- Total of 3 flows:

Average throughput: 92.64 Mbit/s

95th percentile per-packet one-way delay: 263.868 ms

Loss rate: 3.28%

-- Flow 1:

Average throughput: 57.53 Mbit/s

95th percentile per-packet one-way delay: 242.814 ms

Loss rate: 2.21%

-- Flow 2:

Average throughput: 41.87 Mbit/s

95th percentile per-packet one-way delay: 296.209 ms

Loss rate: 4.90%

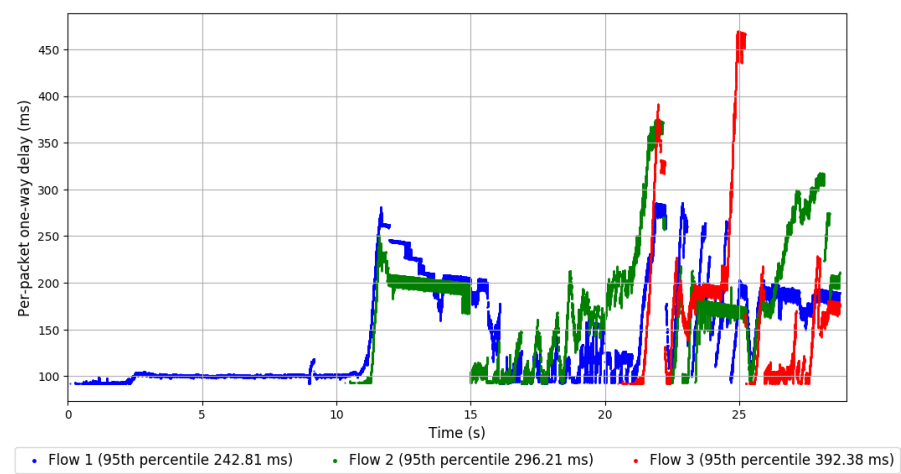
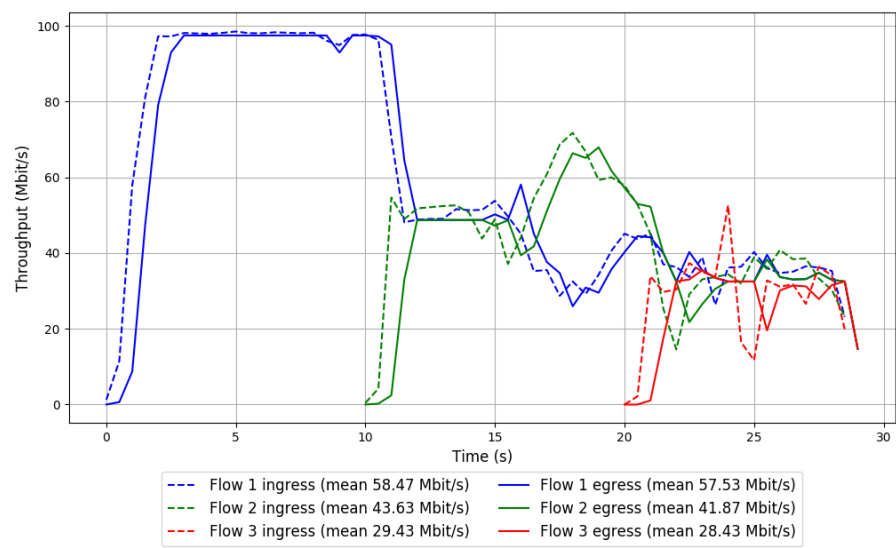
-- Flow 3:

Average throughput: 28.43 Mbit/s

95th percentile per-packet one-way delay: 392.375 ms

Loss rate: 5.26%

Run 3: Report of Indigo-MusesC5 — Data Link



Run 4: Statistics of Indigo-MusesC5

Start at: 2019-02-05 19:43:51

End at: 2019-02-05 19:44:21

Local clock offset: -2.834 ms

Remote clock offset: 5.852 ms

Below is generated by plot.py at 2019-02-05 20:34:58

Datalink statistics

-- Total of 3 flows:

Average throughput: 92.99 Mbit/s

95th percentile per-packet one-way delay: 268.826 ms

Loss rate: 3.63%

-- Flow 1:

Average throughput: 58.97 Mbit/s

95th percentile per-packet one-way delay: 270.980 ms

Loss rate: 3.19%

-- Flow 2:

Average throughput: 39.48 Mbit/s

95th percentile per-packet one-way delay: 260.849 ms

Loss rate: 3.57%

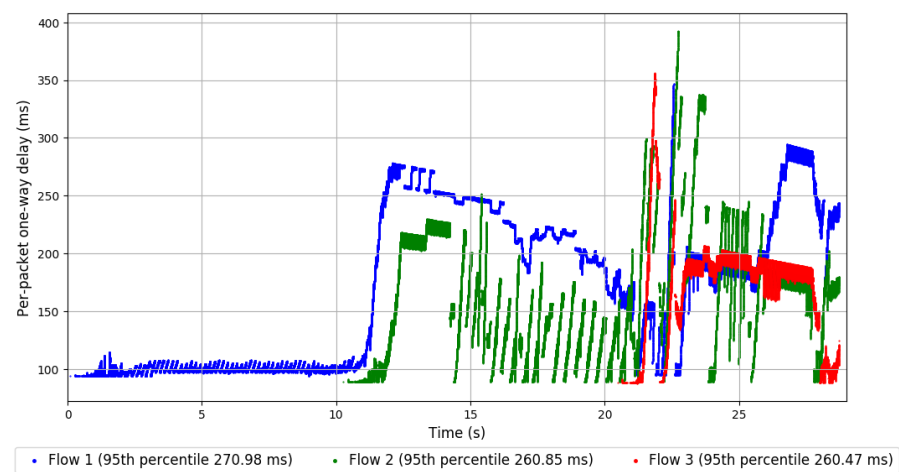
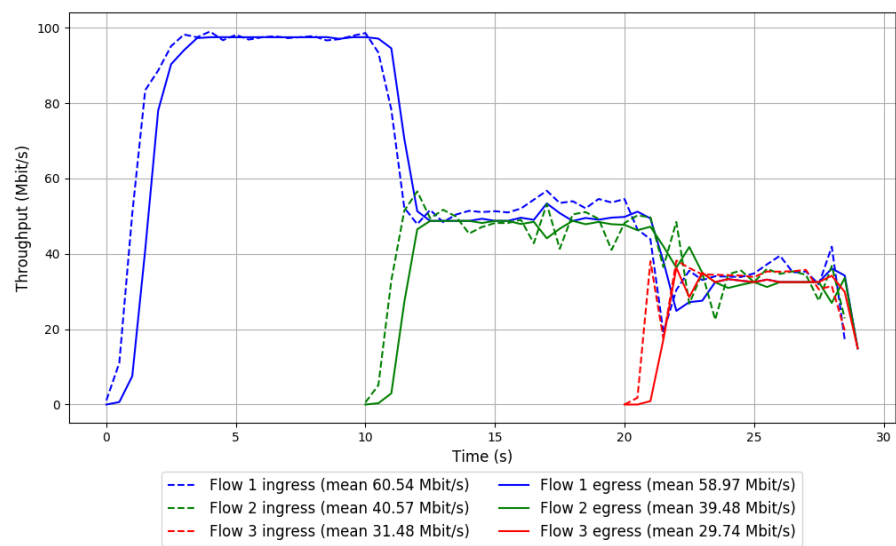
-- Flow 3:

Average throughput: 29.74 Mbit/s

95th percentile per-packet one-way delay: 260.470 ms

Loss rate: 6.71%

Run 4: Report of Indigo-MusesC5 — Data Link



Run 5: Statistics of Indigo-MusesC5

Start at: 2019-02-05 20:10:52

End at: 2019-02-05 20:11:22

Local clock offset: -2.651 ms

Remote clock offset: 6.186 ms

Below is generated by plot.py at 2019-02-05 20:35:09

Datalink statistics

-- Total of 3 flows:

Average throughput: 92.89 Mbit/s

95th percentile per-packet one-way delay: 250.817 ms

Loss rate: 3.79%

-- Flow 1:

Average throughput: 58.36 Mbit/s

95th percentile per-packet one-way delay: 254.826 ms

Loss rate: 2.74%

-- Flow 2:

Average throughput: 39.88 Mbit/s

95th percentile per-packet one-way delay: 221.776 ms

Loss rate: 4.77%

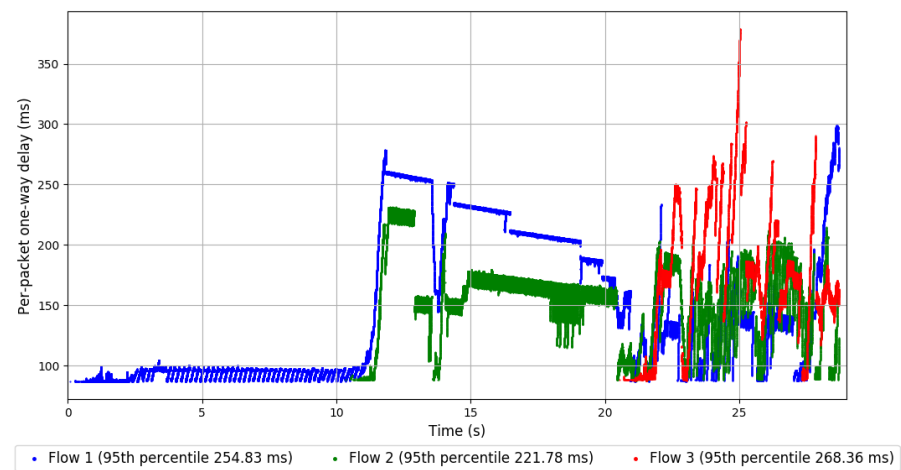
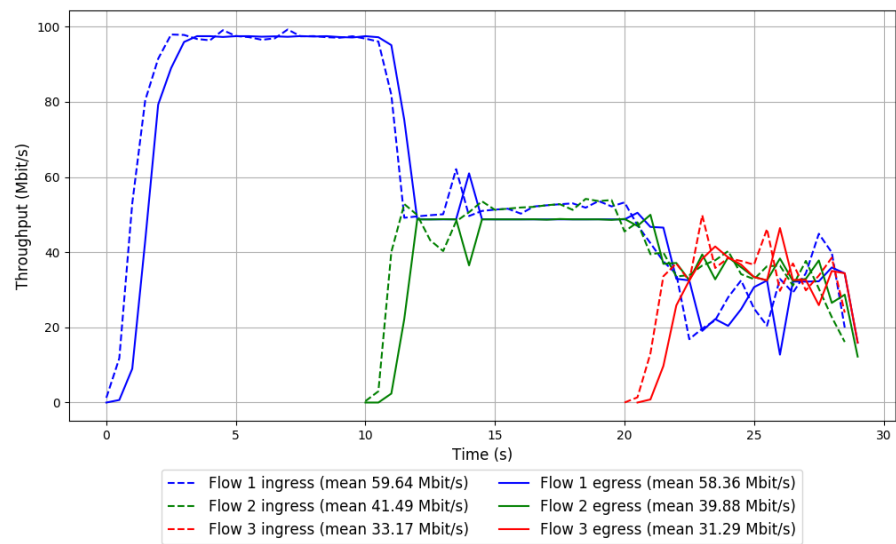
-- Flow 3:

Average throughput: 31.29 Mbit/s

95th percentile per-packet one-way delay: 268.364 ms

Loss rate: 7.57%

Run 5: Report of Indigo-MusesC5 — Data Link

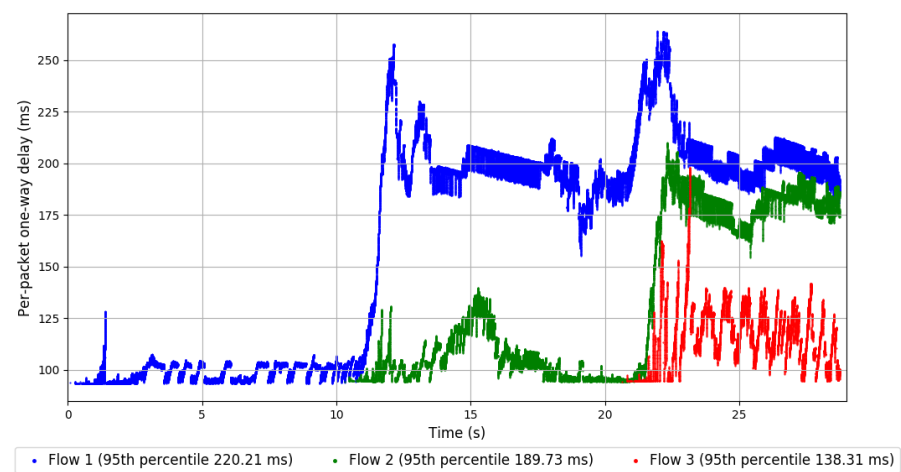
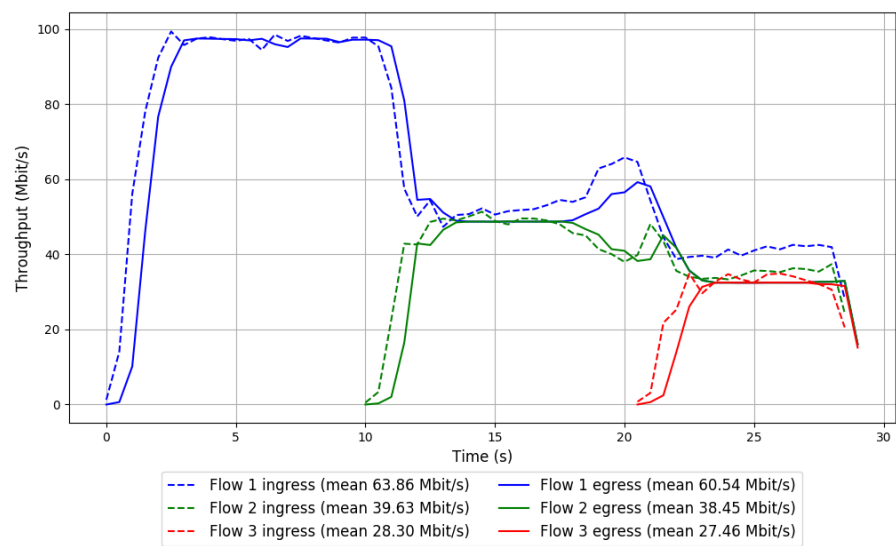


Run 1: Statistics of Indigo-MusesD

Start at: 2019-02-05 18:16:16
End at: 2019-02-05 18:16:46
Local clock offset: 3.071 ms
Remote clock offset: -0.728 ms

Below is generated by plot.py at 2019-02-05 20:35:12
Datalink statistics
-- Total of 3 flows:
Average throughput: 93.06 Mbit/s
95th percentile per-packet one-way delay: 210.652 ms
Loss rate: 5.20%
-- Flow 1:
Average throughput: 60.54 Mbit/s
95th percentile per-packet one-way delay: 220.207 ms
Loss rate: 5.74%
-- Flow 2:
Average throughput: 38.45 Mbit/s
95th percentile per-packet one-way delay: 189.733 ms
Loss rate: 3.89%
-- Flow 3:
Average throughput: 27.46 Mbit/s
95th percentile per-packet one-way delay: 138.306 ms
Loss rate: 5.03%

Run 1: Report of Indigo-MusesD — Data Link



Run 2: Statistics of Indigo-MusesD

Start at: 2019-02-05 18:43:15

End at: 2019-02-05 18:43:46

Local clock offset: 0.157 ms

Remote clock offset: 5.379 ms

Below is generated by plot.py at 2019-02-05 20:35:14

Datalink statistics

-- Total of 3 flows:

Average throughput: 93.96 Mbit/s

95th percentile per-packet one-way delay: 212.680 ms

Loss rate: 5.91%

-- Flow 1:

Average throughput: 62.04 Mbit/s

95th percentile per-packet one-way delay: 216.118 ms

Loss rate: 7.21%

-- Flow 2:

Average throughput: 36.71 Mbit/s

95th percentile per-packet one-way delay: 170.359 ms

Loss rate: 1.96%

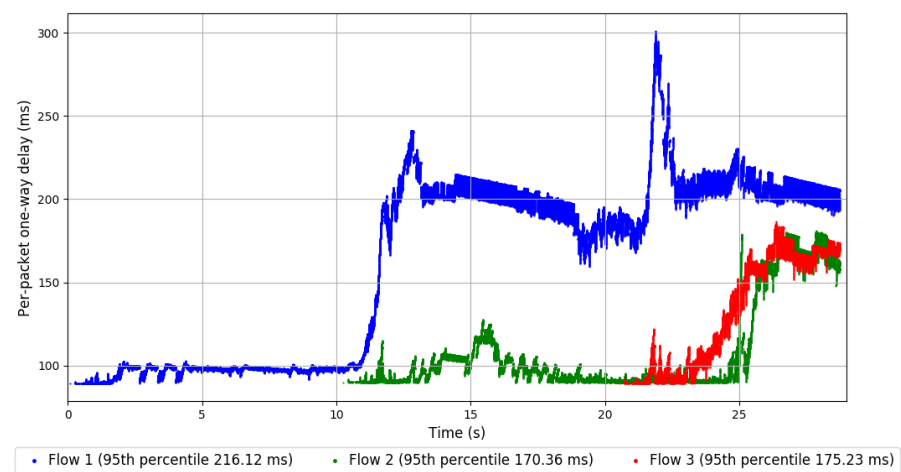
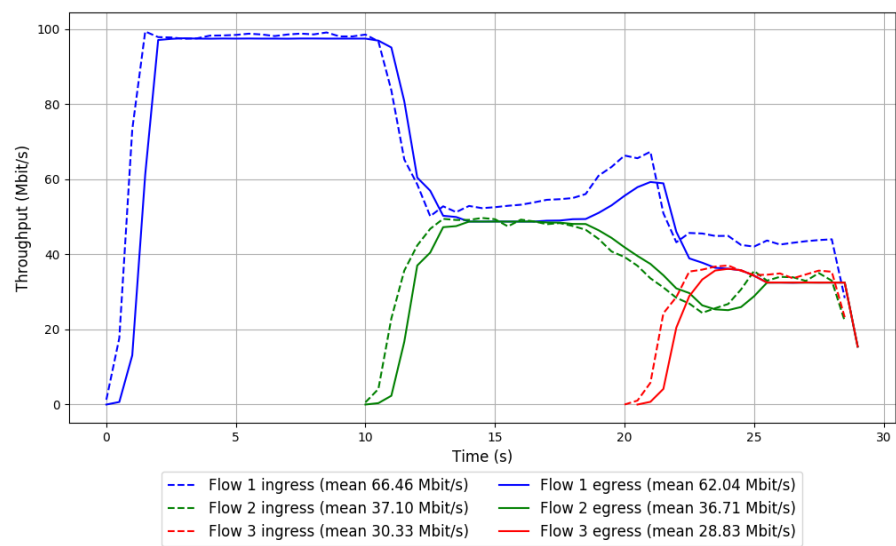
-- Flow 3:

Average throughput: 28.83 Mbit/s

95th percentile per-packet one-way delay: 175.229 ms

Loss rate: 6.85%

Run 2: Report of Indigo-MusesD — Data Link



Run 3: Statistics of Indigo-MusesD

Start at: 2019-02-05 19:10:18

End at: 2019-02-05 19:10:48

Local clock offset: -1.308 ms

Remote clock offset: 6.24 ms

Below is generated by plot.py at 2019-02-05 20:35:22

Datalink statistics

-- Total of 3 flows:

Average throughput: 92.60 Mbit/s

95th percentile per-packet one-way delay: 206.719 ms

Loss rate: 4.73%

-- Flow 1:

Average throughput: 59.69 Mbit/s

95th percentile per-packet one-way delay: 213.620 ms

Loss rate: 5.85%

-- Flow 2:

Average throughput: 37.80 Mbit/s

95th percentile per-packet one-way delay: 156.747 ms

Loss rate: 2.19%

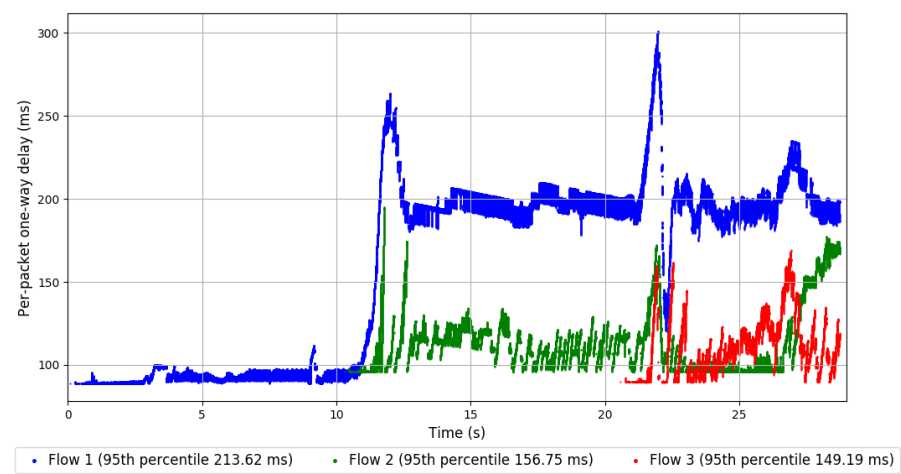
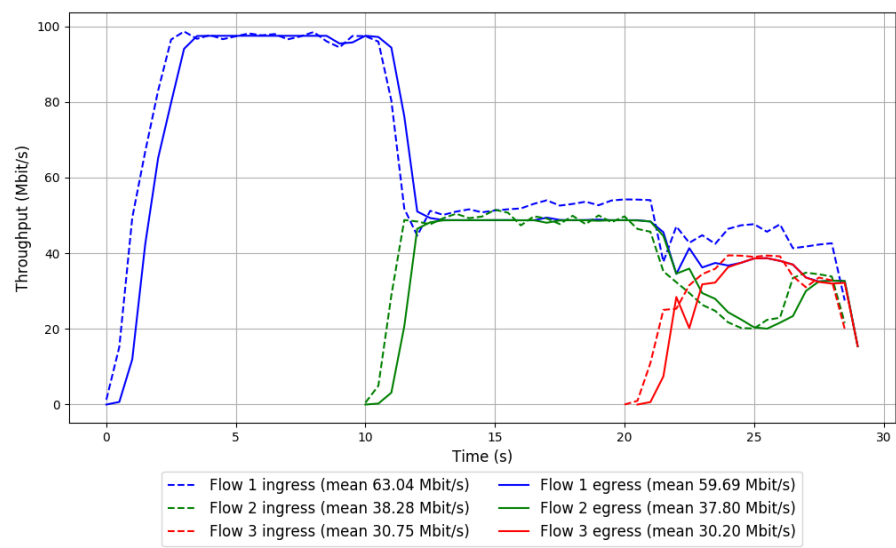
-- Flow 3:

Average throughput: 30.20 Mbit/s

95th percentile per-packet one-way delay: 149.192 ms

Loss rate: 3.81%

Run 3: Report of Indigo-MusesD — Data Link



Run 4: Statistics of Indigo-MusesD

Start at: 2019-02-05 19:37:18

End at: 2019-02-05 19:37:48

Local clock offset: -2.142 ms

Remote clock offset: 2.706 ms

Below is generated by plot.py at 2019-02-05 20:35:44

Datalink statistics

-- Total of 3 flows:

Average throughput: 94.03 Mbit/s

95th percentile per-packet one-way delay: 213.549 ms

Loss rate: 7.75%

-- Flow 1:

Average throughput: 60.33 Mbit/s

95th percentile per-packet one-way delay: 215.499 ms

Loss rate: 6.48%

-- Flow 2:

Average throughput: 39.94 Mbit/s

95th percentile per-packet one-way delay: 209.999 ms

Loss rate: 11.85%

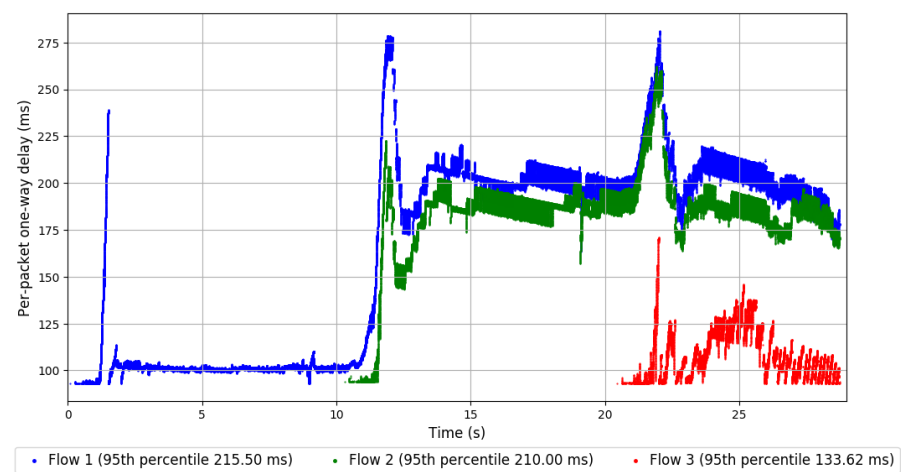
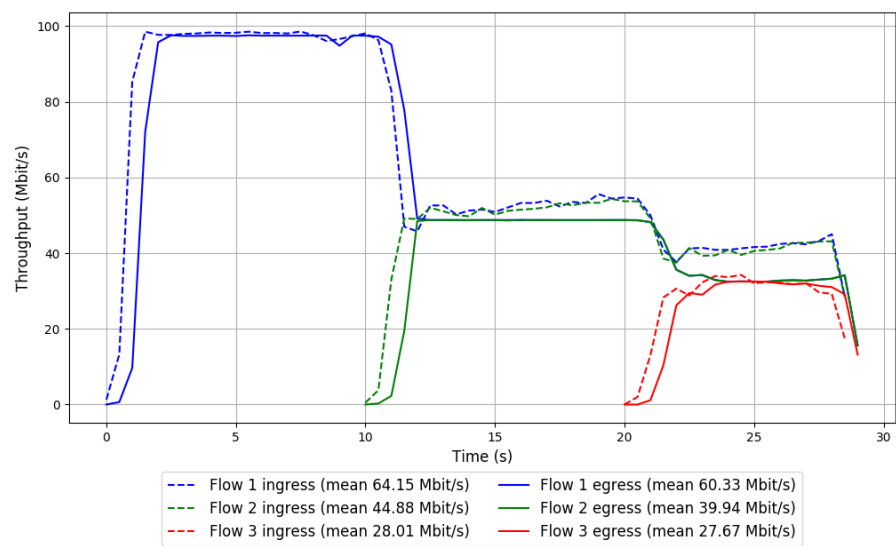
-- Flow 3:

Average throughput: 27.67 Mbit/s

95th percentile per-packet one-way delay: 133.625 ms

Loss rate: 3.25%

Run 4: Report of Indigo-MusesD — Data Link



Run 5: Statistics of Indigo-MusesD

Start at: 2019-02-05 20:04:19

End at: 2019-02-05 20:04:49

Local clock offset: -2.041 ms

Remote clock offset: 1.403 ms

Below is generated by plot.py at 2019-02-05 20:35:46

Datalink statistics

-- Total of 3 flows:

Average throughput: 94.22 Mbit/s

95th percentile per-packet one-way delay: 213.240 ms

Loss rate: 4.77%

-- Flow 1:

Average throughput: 60.97 Mbit/s

95th percentile per-packet one-way delay: 221.561 ms

Loss rate: 5.84%

-- Flow 2:

Average throughput: 38.50 Mbit/s

95th percentile per-packet one-way delay: 140.611 ms

Loss rate: 2.38%

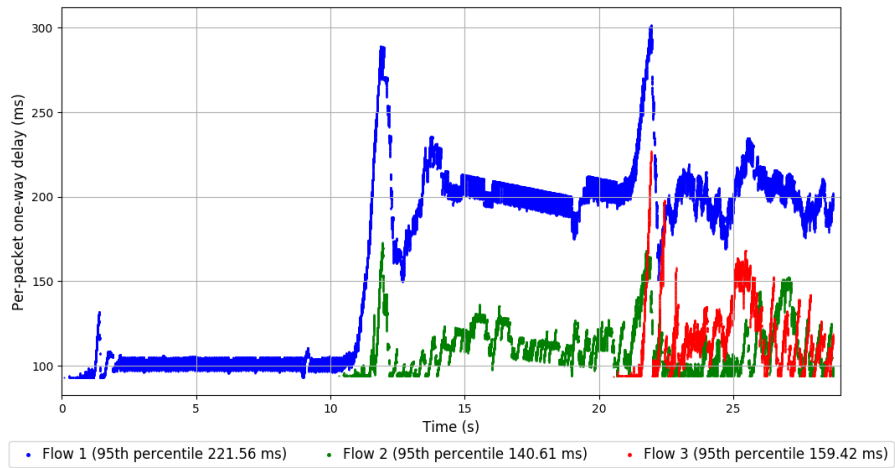
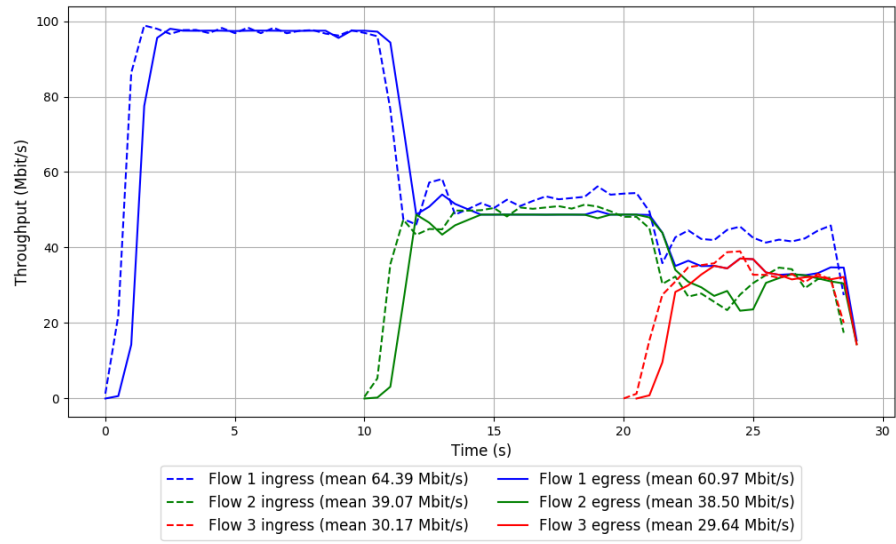
-- Flow 3:

Average throughput: 29.64 Mbit/s

95th percentile per-packet one-way delay: 159.422 ms

Loss rate: 3.82%

Run 5: Report of Indigo-MusesD — Data Link



Run 1: Statistics of Indigo-MusesT

Start at: 2019-02-05 18:28:03

End at: 2019-02-05 18:28:33

Local clock offset: -0.096 ms

Remote clock offset: 0.835 ms

Below is generated by plot.py at 2019-02-05 20:35:54

Datalink statistics

-- Total of 3 flows:

Average throughput: 94.40 Mbit/s

95th percentile per-packet one-way delay: 389.429 ms

Loss rate: 6.47%

-- Flow 1:

Average throughput: 60.15 Mbit/s

95th percentile per-packet one-way delay: 370.951 ms

Loss rate: 5.77%

-- Flow 2:

Average throughput: 40.06 Mbit/s

95th percentile per-packet one-way delay: 450.334 ms

Loss rate: 5.65%

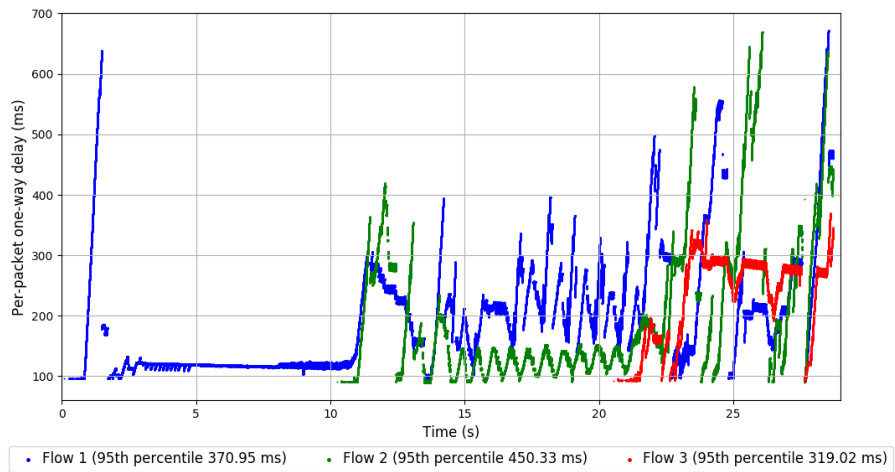
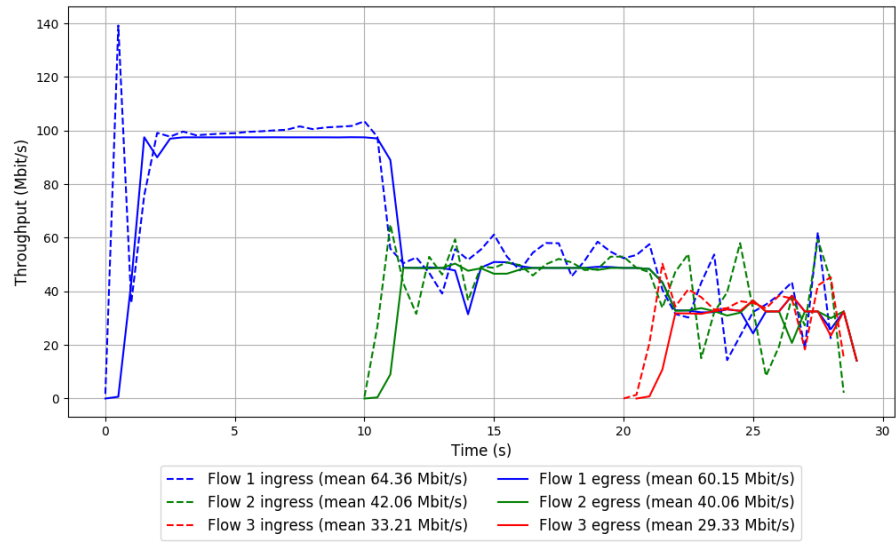
-- Flow 3:

Average throughput: 29.33 Mbit/s

95th percentile per-packet one-way delay: 319.016 ms

Loss rate: 13.38%

Run 1: Report of Indigo-MusesT — Data Link



Run 2: Statistics of Indigo-MusesT

Start at: 2019-02-05 18:55:04

End at: 2019-02-05 18:55:34

Local clock offset: -1.244 ms

Remote clock offset: 3.622 ms

Below is generated by plot.py at 2019-02-05 20:36:02

Datalink statistics

-- Total of 3 flows:

Average throughput: 91.47 Mbit/s

95th percentile per-packet one-way delay: 420.533 ms

Loss rate: 6.57%

-- Flow 1:

Average throughput: 57.60 Mbit/s

95th percentile per-packet one-way delay: 421.177 ms

Loss rate: 6.50%

-- Flow 2:

Average throughput: 39.60 Mbit/s

95th percentile per-packet one-way delay: 390.608 ms

Loss rate: 7.44%

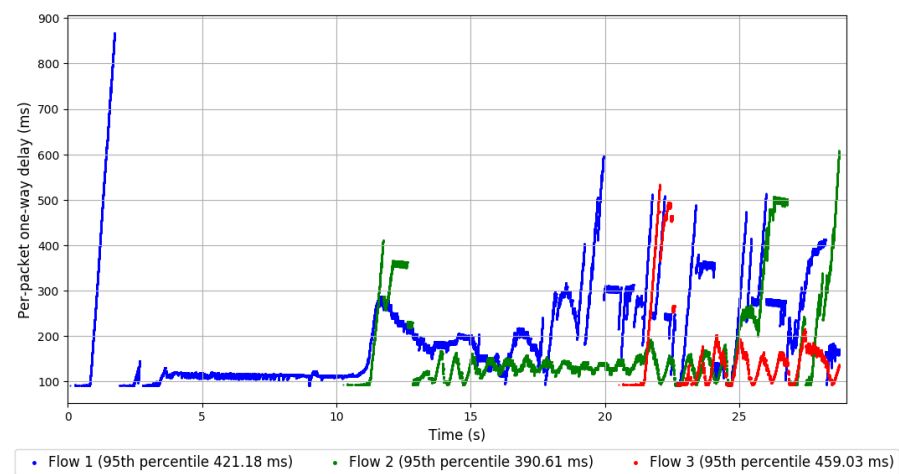
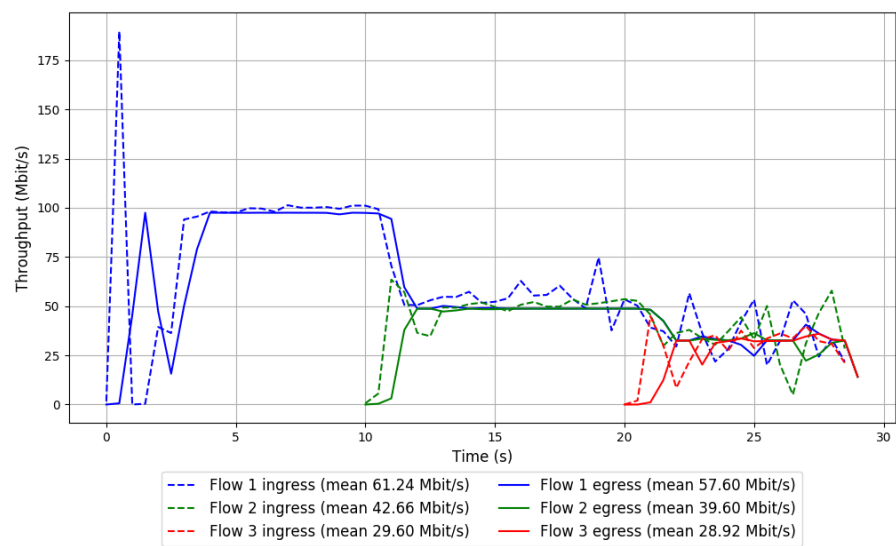
-- Flow 3:

Average throughput: 28.92 Mbit/s

95th percentile per-packet one-way delay: 459.031 ms

Loss rate: 4.33%

Run 2: Report of Indigo-MusesT — Data Link



Run 3: Statistics of Indigo-MusesT

Start at: 2019-02-05 19:22:04

End at: 2019-02-05 19:22:34

Local clock offset: -1.822 ms

Remote clock offset: 4.033 ms

Below is generated by plot.py at 2019-02-05 20:36:17

Datalink statistics

-- Total of 3 flows:

Average throughput: 94.90 Mbit/s

95th percentile per-packet one-way delay: 418.841 ms

Loss rate: 6.99%

-- Flow 1:

Average throughput: 61.84 Mbit/s

95th percentile per-packet one-way delay: 396.990 ms

Loss rate: 6.23%

-- Flow 2:

Average throughput: 38.73 Mbit/s

95th percentile per-packet one-way delay: 441.492 ms

Loss rate: 7.72%

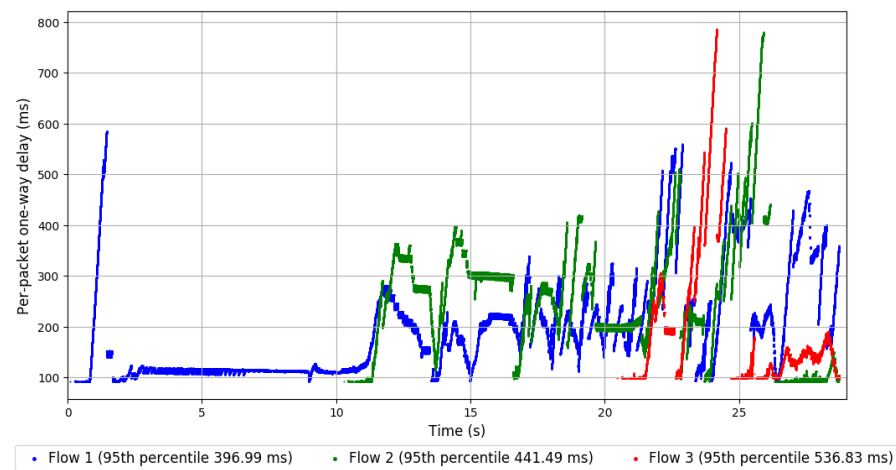
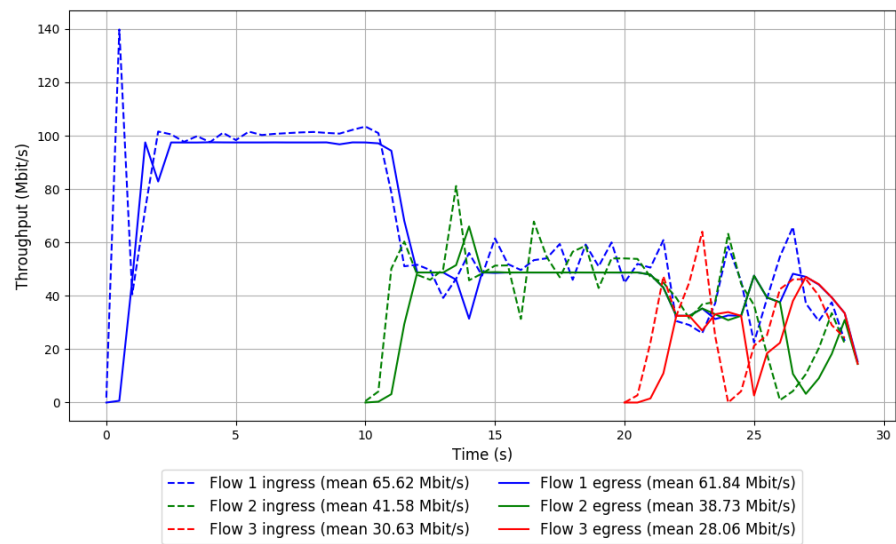
-- Flow 3:

Average throughput: 28.06 Mbit/s

95th percentile per-packet one-way delay: 536.834 ms

Loss rate: 10.34%

Run 3: Report of Indigo-MusesT — Data Link



Run 4: Statistics of Indigo-MusesT

Start at: 2019-02-05 19:49:05

End at: 2019-02-05 19:49:35

Local clock offset: -2.075 ms

Remote clock offset: 7.451 ms

Below is generated by plot.py at 2019-02-05 20:36:17

Datalink statistics

-- Total of 3 flows:

Average throughput: 90.94 Mbit/s

95th percentile per-packet one-way delay: 474.253 ms

Loss rate: 5.82%

-- Flow 1:

Average throughput: 57.20 Mbit/s

95th percentile per-packet one-way delay: 487.509 ms

Loss rate: 5.99%

-- Flow 2:

Average throughput: 41.40 Mbit/s

95th percentile per-packet one-way delay: 415.300 ms

Loss rate: 5.37%

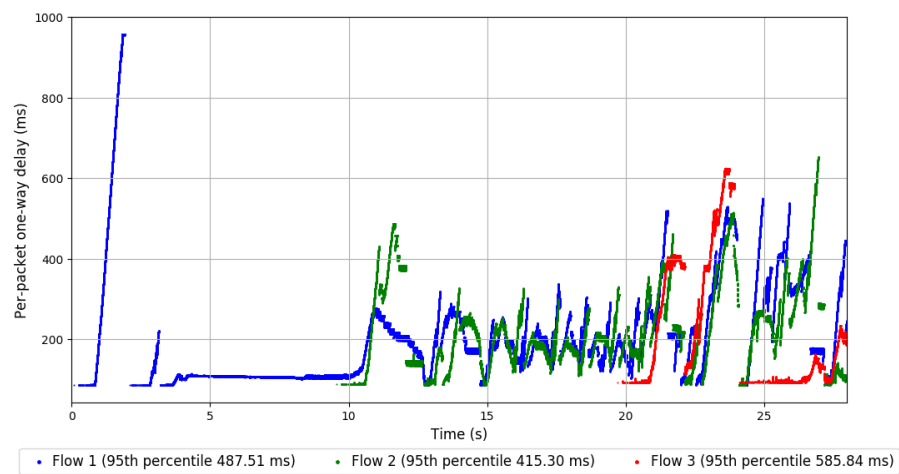
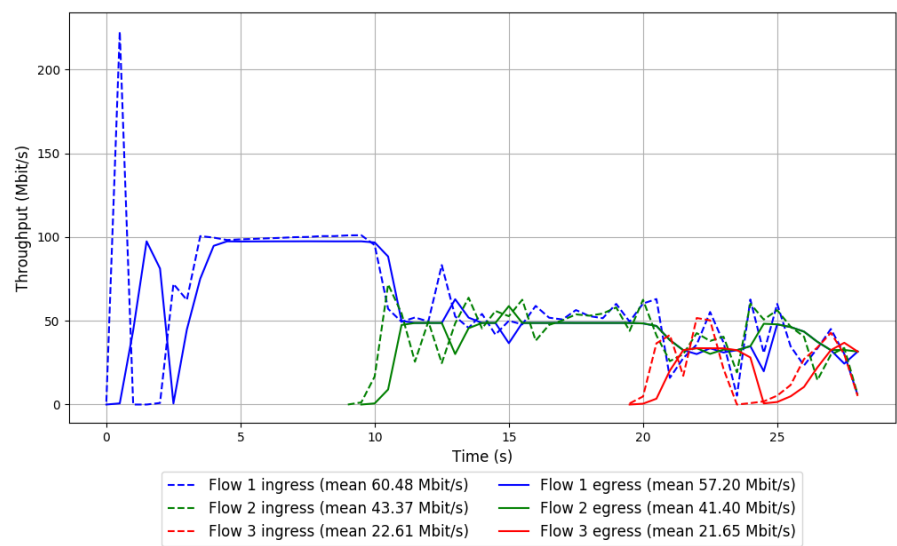
-- Flow 3:

Average throughput: 21.65 Mbit/s

95th percentile per-packet one-way delay: 585.843 ms

Loss rate: 6.20%

Run 4: Report of Indigo-MusesT — Data Link



Run 5: Statistics of Indigo-MusesT

Start at: 2019-02-05 20:16:07

End at: 2019-02-05 20:16:37

Local clock offset: -1.949 ms

Remote clock offset: 2.426 ms

Below is generated by plot.py at 2019-02-05 20:36:22

Datalink statistics

-- Total of 3 flows:

Average throughput: 94.69 Mbit/s

95th percentile per-packet one-way delay: 417.629 ms

Loss rate: 7.23%

-- Flow 1:

Average throughput: 60.71 Mbit/s

95th percentile per-packet one-way delay: 391.470 ms

Loss rate: 7.15%

-- Flow 2:

Average throughput: 38.98 Mbit/s

95th percentile per-packet one-way delay: 515.353 ms

Loss rate: 5.66%

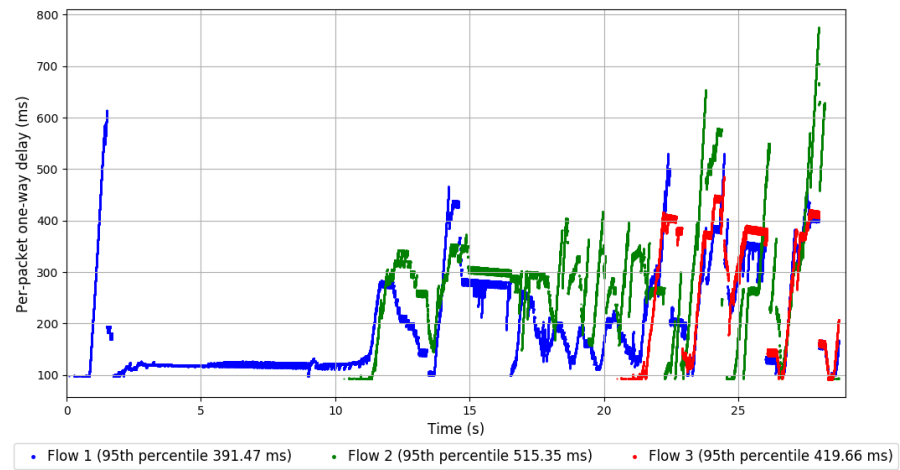
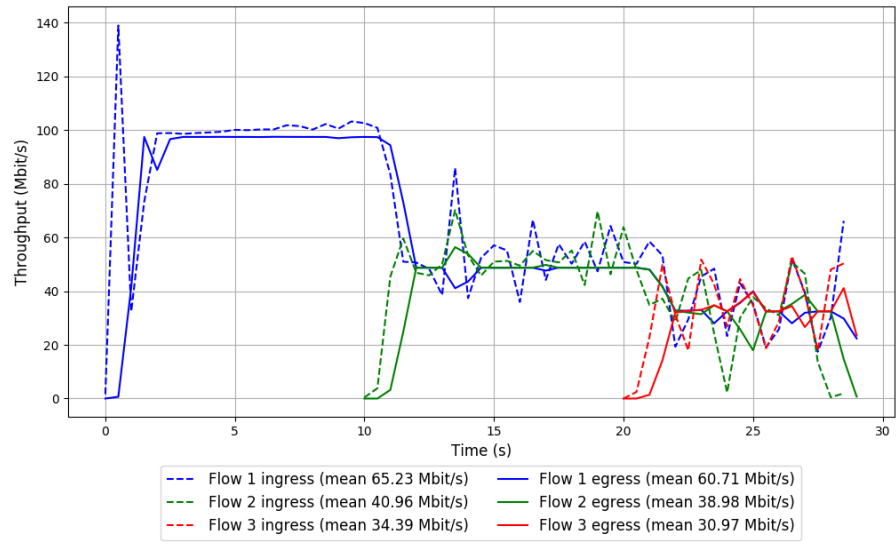
-- Flow 3:

Average throughput: 30.97 Mbit/s

95th percentile per-packet one-way delay: 419.664 ms

Loss rate: 11.80%

Run 5: Report of Indigo-MusesT — Data Link

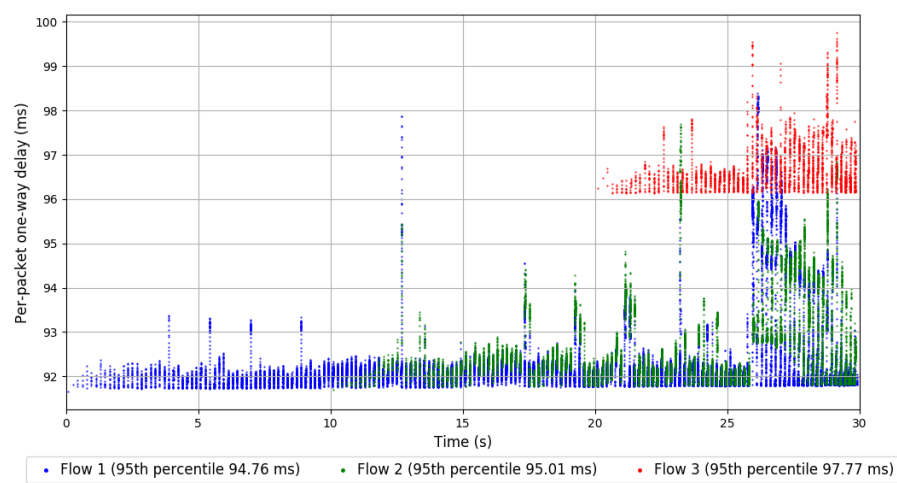
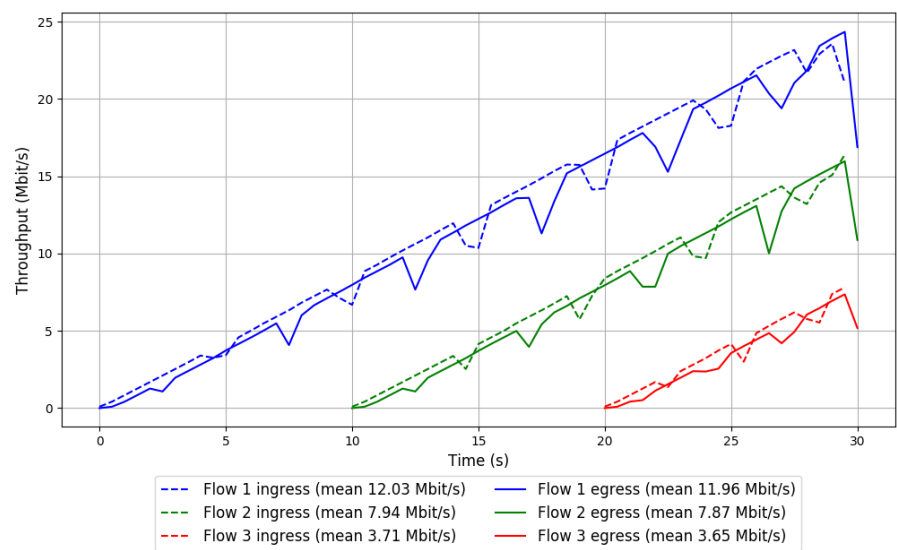


```
Run 1: Statistics of LEDBAT

Start at: 2019-02-05 18:30:32
End at: 2019-02-05 18:31:02
Local clock offset: -0.229 ms
Remote clock offset: 1.447 ms

# Below is generated by plot.py at 2019-02-05 20:36:22
# Datalink statistics
-- Total of 3 flows:
Average throughput: 18.36 Mbit/s
95th percentile per-packet one-way delay: 96.449 ms
Loss rate: 1.48%
-- Flow 1:
Average throughput: 11.96 Mbit/s
95th percentile per-packet one-way delay: 94.760 ms
Loss rate: 1.15%
-- Flow 2:
Average throughput: 7.87 Mbit/s
95th percentile per-packet one-way delay: 95.011 ms
Loss rate: 1.74%
-- Flow 3:
Average throughput: 3.65 Mbit/s
95th percentile per-packet one-way delay: 97.770 ms
Loss rate: 3.60%
```

Run 1: Report of LEDBAT — Data Link



Run 2: Statistics of LEDBAT

Start at: 2019-02-05 18:57:34

End at: 2019-02-05 18:58:04

Local clock offset: -1.314 ms

Remote clock offset: 6.284 ms

Below is generated by plot.py at 2019-02-05 20:36:22

Datalink statistics

-- Total of 3 flows:

Average throughput: 18.35 Mbit/s

95th percentile per-packet one-way delay: 90.770 ms

Loss rate: 1.49%

-- Flow 1:

Average throughput: 11.84 Mbit/s

95th percentile per-packet one-way delay: 89.918 ms

Loss rate: 1.16%

-- Flow 2:

Average throughput: 7.91 Mbit/s

95th percentile per-packet one-way delay: 91.207 ms

Loss rate: 1.75%

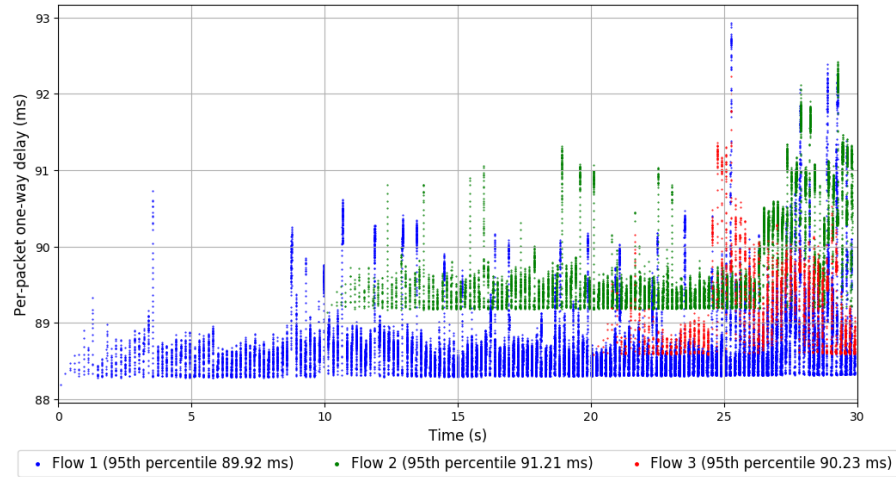
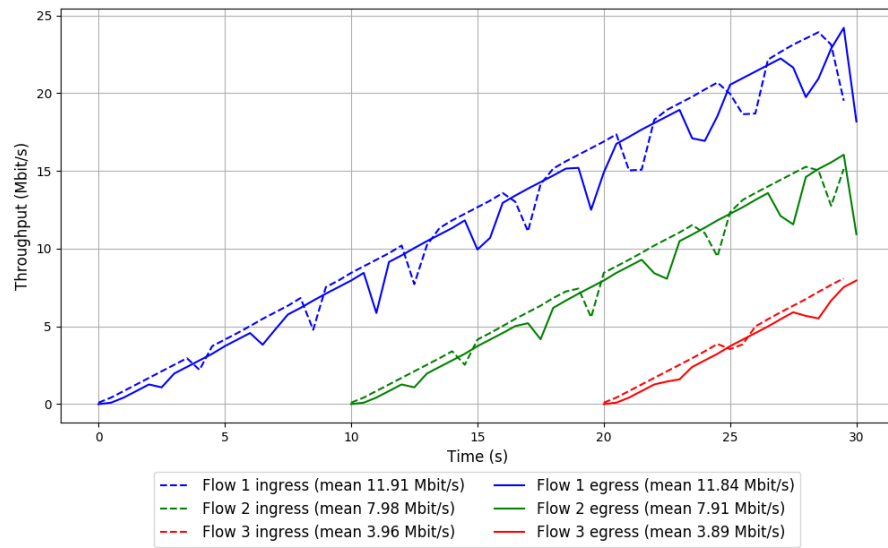
-- Flow 3:

Average throughput: 3.89 Mbit/s

95th percentile per-packet one-way delay: 90.234 ms

Loss rate: 3.47%

Run 2: Report of LEDBAT — Data Link



Run 3: Statistics of LEDBAT

Start at: 2019-02-05 19:24:34

End at: 2019-02-05 19:25:04

Local clock offset: -1.973 ms

Remote clock offset: 6.958 ms

Below is generated by plot.py at 2019-02-05 20:36:22

Datalink statistics

-- Total of 3 flows:

Average throughput: 18.38 Mbit/s

95th percentile per-packet one-way delay: 90.576 ms

Loss rate: 1.48%

-- Flow 1:

Average throughput: 11.96 Mbit/s

95th percentile per-packet one-way delay: 90.509 ms

Loss rate: 1.15%

-- Flow 2:

Average throughput: 7.88 Mbit/s

95th percentile per-packet one-way delay: 90.780 ms

Loss rate: 1.74%

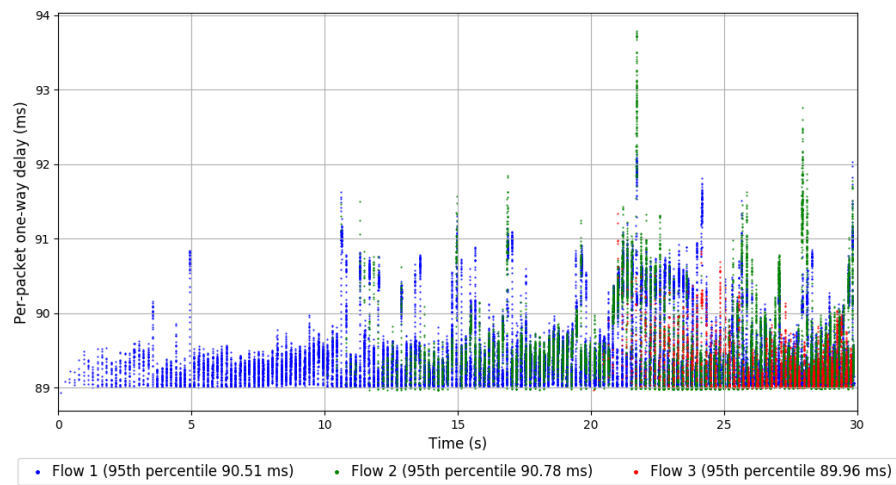
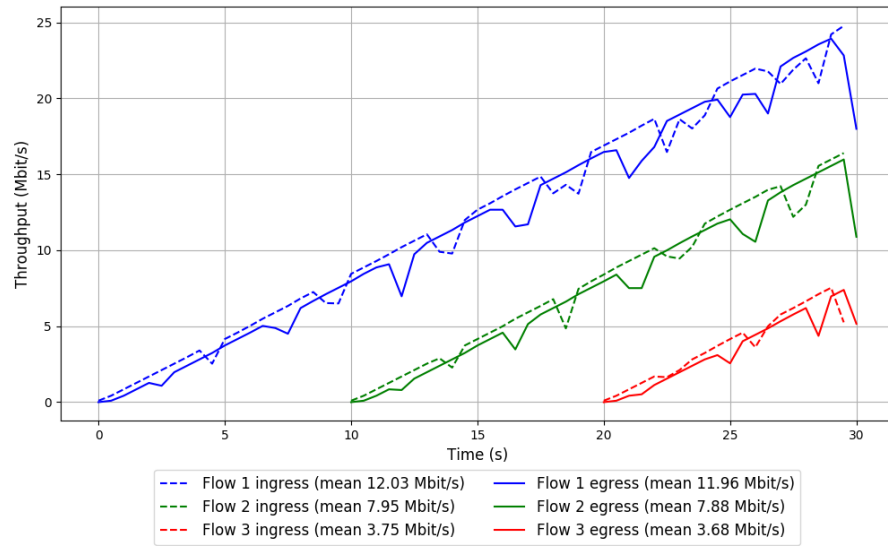
-- Flow 3:

Average throughput: 3.68 Mbit/s

95th percentile per-packet one-way delay: 89.957 ms

Loss rate: 3.60%

Run 3: Report of LEDBAT — Data Link



Run 4: Statistics of LEDBAT

Start at: 2019-02-05 19:51:35

End at: 2019-02-05 19:52:05

Local clock offset: -2.085 ms

Remote clock offset: 1.755 ms

Below is generated by plot.py at 2019-02-05 20:36:22

Datalink statistics

-- Total of 3 flows:

Average throughput: 18.22 Mbit/s

95th percentile per-packet one-way delay: 99.212 ms

Loss rate: 1.49%

-- Flow 1:

Average throughput: 12.05 Mbit/s

95th percentile per-packet one-way delay: 95.607 ms

Loss rate: 1.15%

-- Flow 2:

Average throughput: 7.44 Mbit/s

95th percentile per-packet one-way delay: 100.096 ms

Loss rate: 1.80%

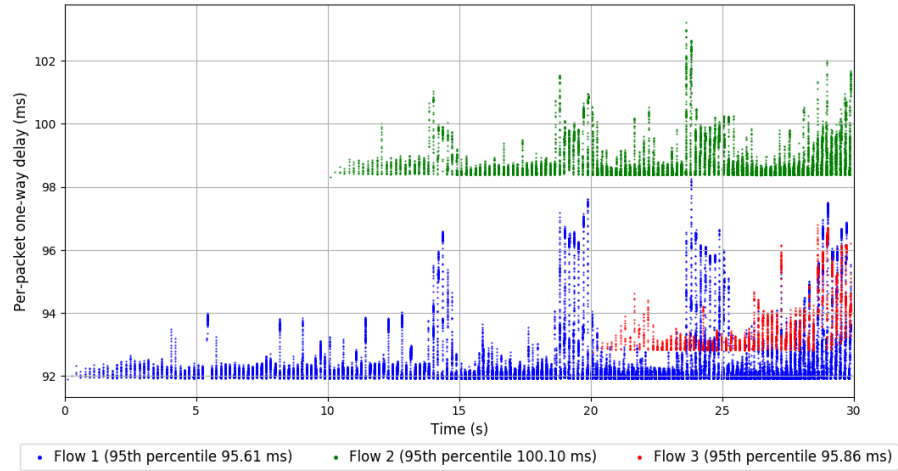
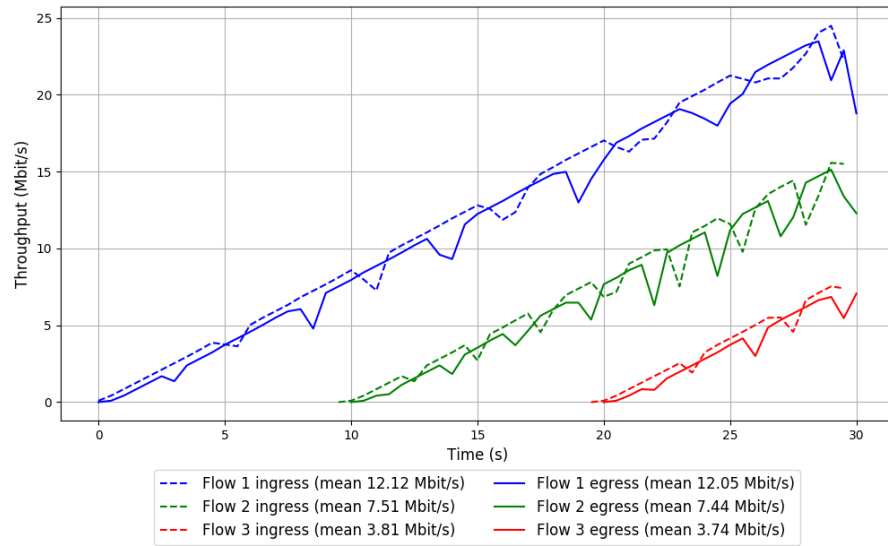
-- Flow 3:

Average throughput: 3.74 Mbit/s

95th percentile per-packet one-way delay: 95.861 ms

Loss rate: 3.52%

Run 4: Report of LEDBAT — Data Link



Run 5: Statistics of LEDBAT

Start at: 2019-02-05 20:18:37

End at: 2019-02-05 20:19:07

Local clock offset: -3.212 ms

Remote clock offset: 2.489 ms

Below is generated by plot.py at 2019-02-05 20:36:22

Datalink statistics

-- Total of 3 flows:

Average throughput: 18.03 Mbit/s

95th percentile per-packet one-way delay: 94.197 ms

Loss rate: 1.50%

-- Flow 1:

Average throughput: 11.70 Mbit/s

95th percentile per-packet one-way delay: 94.365 ms

Loss rate: 1.16%

-- Flow 2:

Average throughput: 7.66 Mbit/s

95th percentile per-packet one-way delay: 93.952 ms

Loss rate: 1.76%

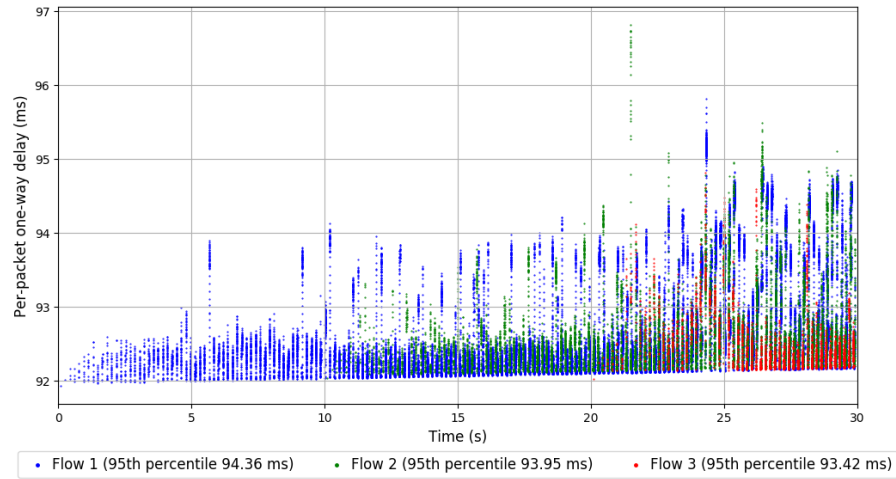
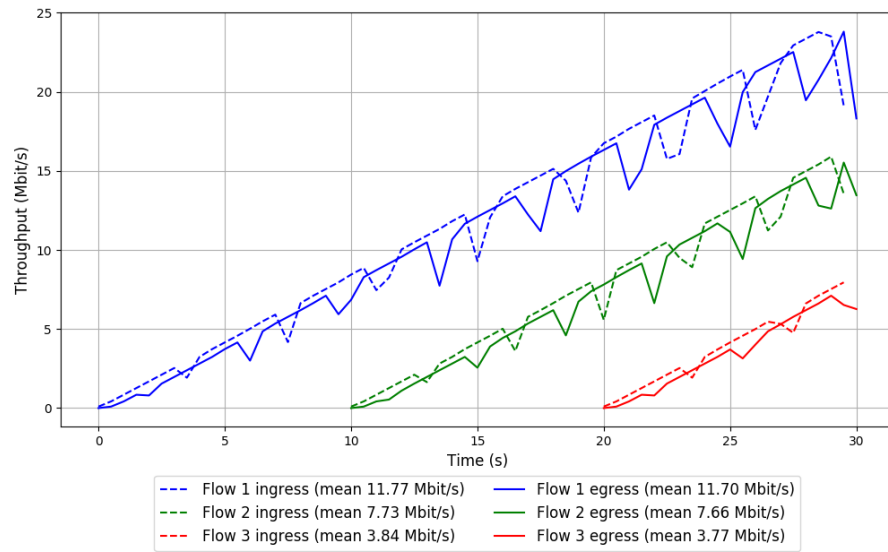
-- Flow 3:

Average throughput: 3.77 Mbit/s

95th percentile per-packet one-way delay: 93.419 ms

Loss rate: 3.54%

Run 5: Report of LEDBAT — Data Link



Run 1: Statistics of PCC-Allegro

Start at: 2019-02-05 18:38:04

End at: 2019-02-05 18:38:34

Local clock offset: -0.106 ms

Remote clock offset: 6.235 ms

Below is generated by plot.py at 2019-02-05 20:36:59

Datalink statistics

-- Total of 3 flows:

Average throughput: 88.44 Mbit/s

95th percentile per-packet one-way delay: 1465.658 ms

Loss rate: 23.48%

-- Flow 1:

Average throughput: 55.62 Mbit/s

95th percentile per-packet one-way delay: 1552.543 ms

Loss rate: 26.72%

-- Flow 2:

Average throughput: 35.00 Mbit/s

95th percentile per-packet one-way delay: 1135.150 ms

Loss rate: 15.48%

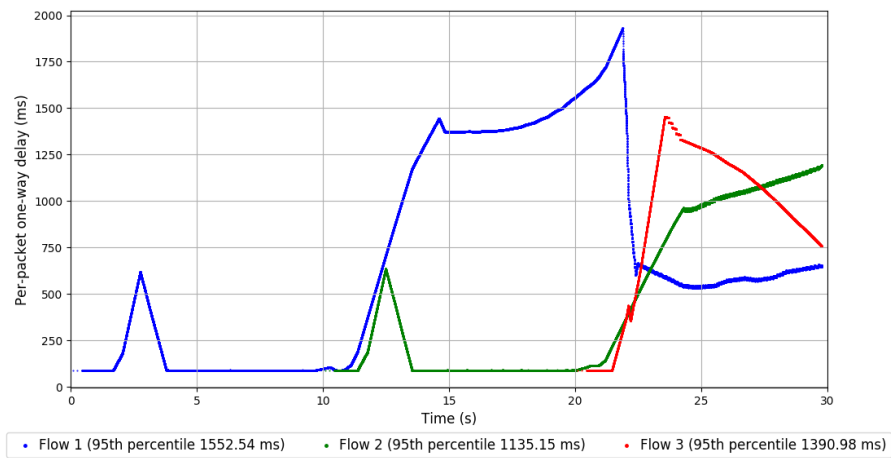
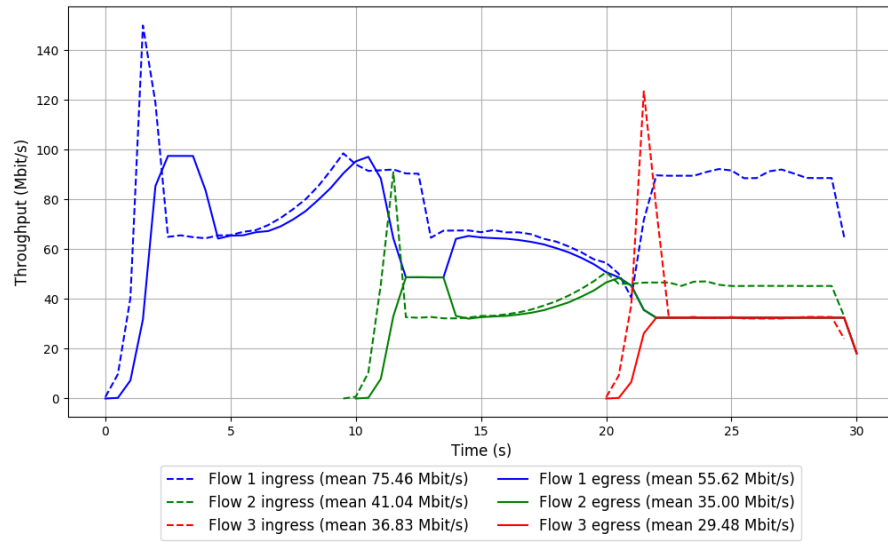
-- Flow 3:

Average throughput: 29.48 Mbit/s

95th percentile per-packet one-way delay: 1390.983 ms

Loss rate: 21.33%

Run 1: Report of PCC-Allegro — Data Link



Run 2: Statistics of PCC-Allegro

Start at: 2019-02-05 19:05:06

End at: 2019-02-05 19:05:36

Local clock offset: -2.179 ms

Remote clock offset: 7.385 ms

Below is generated by plot.py at 2019-02-05 20:37:00

Datalink statistics

-- Total of 3 flows:

Average throughput: 86.46 Mbit/s

95th percentile per-packet one-way delay: 1492.248 ms

Loss rate: 22.66%

-- Flow 1:

Average throughput: 53.73 Mbit/s

95th percentile per-packet one-way delay: 1590.502 ms

Loss rate: 25.74%

-- Flow 2:

Average throughput: 34.86 Mbit/s

95th percentile per-packet one-way delay: 1129.759 ms

Loss rate: 14.99%

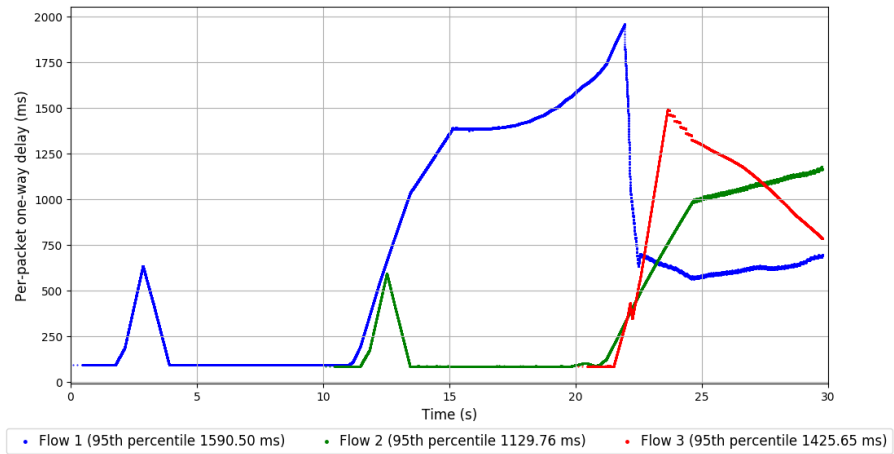
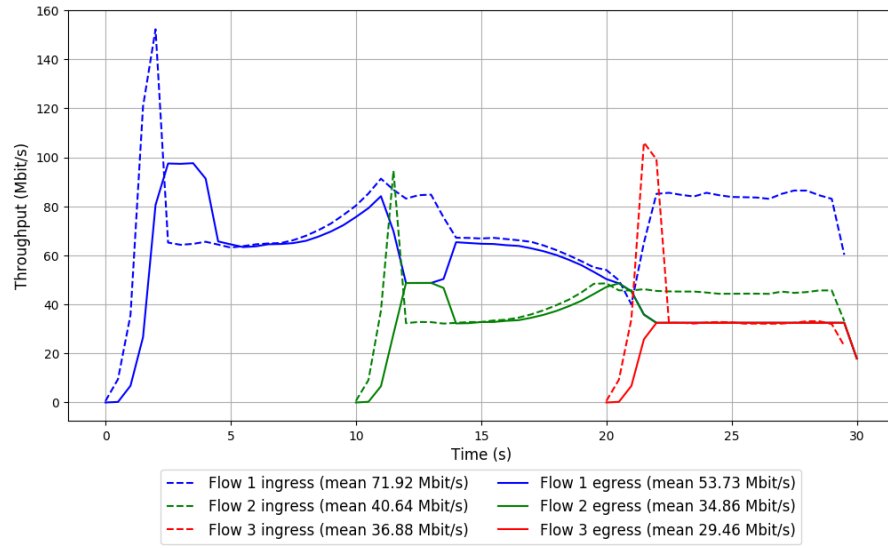
-- Flow 3:

Average throughput: 29.46 Mbit/s

95th percentile per-packet one-way delay: 1425.646 ms

Loss rate: 21.50%

Run 2: Report of PCC-Allegro — Data Link



Run 3: Statistics of PCC-Allegro

Start at: 2019-02-05 19:32:07

End at: 2019-02-05 19:32:37

Local clock offset: -2.976 ms

Remote clock offset: 7.855 ms

Below is generated by plot.py at 2019-02-05 20:37:04

Datalink statistics

-- Total of 3 flows:

Average throughput: 88.32 Mbit/s

95th percentile per-packet one-way delay: 1429.563 ms

Loss rate: 23.81%

-- Flow 1:

Average throughput: 56.41 Mbit/s

95th percentile per-packet one-way delay: 1428.158 ms

Loss rate: 28.00%

-- Flow 2:

Average throughput: 33.58 Mbit/s

95th percentile per-packet one-way delay: 1175.934 ms

Loss rate: 11.92%

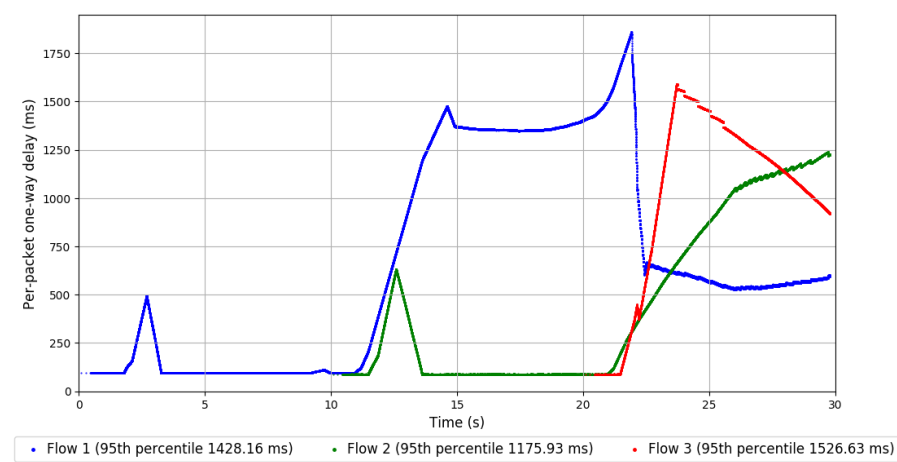
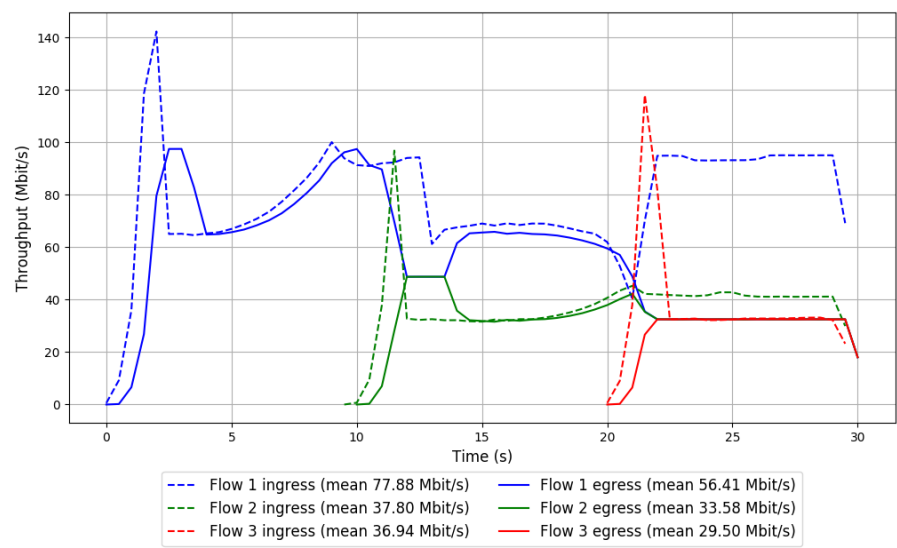
-- Flow 3:

Average throughput: 29.50 Mbit/s

95th percentile per-packet one-way delay: 1526.629 ms

Loss rate: 21.55%

Run 3: Report of PCC-Allegro — Data Link



Run 4: Statistics of PCC-Allegro

Start at: 2019-02-05 19:59:07

End at: 2019-02-05 19:59:37

Local clock offset: -2.867 ms

Remote clock offset: 2.736 ms

Below is generated by plot.py at 2019-02-05 20:37:04

Datalink statistics

-- Total of 3 flows:

Average throughput: 87.20 Mbit/s

95th percentile per-packet one-way delay: 1425.191 ms

Loss rate: 22.34%

-- Flow 1:

Average throughput: 55.19 Mbit/s

95th percentile per-packet one-way delay: 1438.058 ms

Loss rate: 25.77%

-- Flow 2:

Average throughput: 33.75 Mbit/s

95th percentile per-packet one-way delay: 1205.791 ms

Loss rate: 12.83%

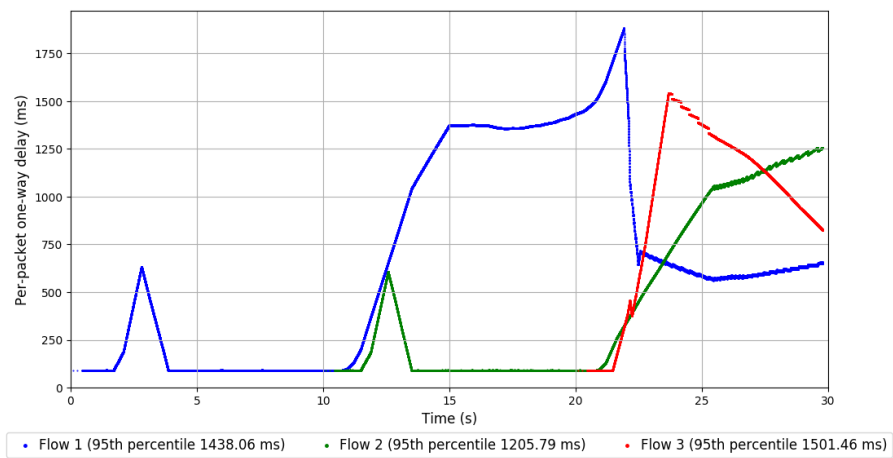
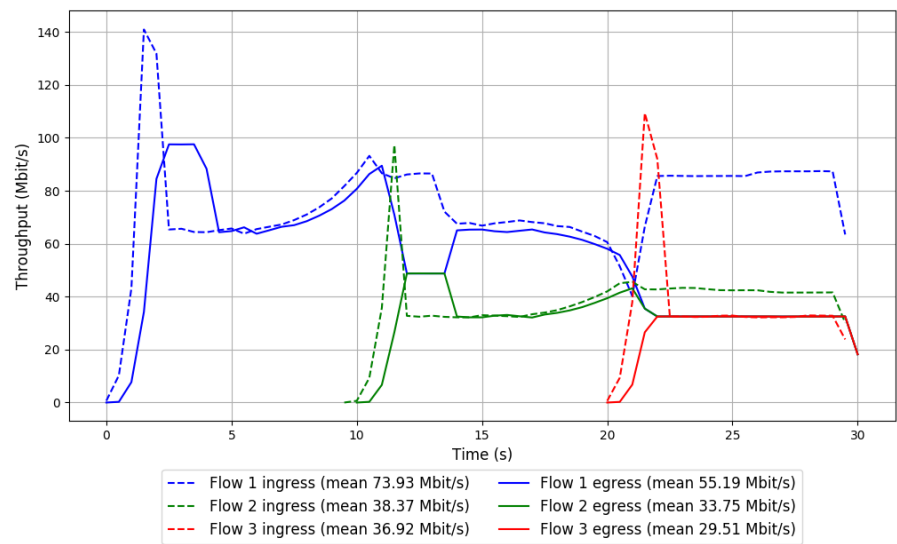
-- Flow 3:

Average throughput: 29.51 Mbit/s

95th percentile per-packet one-way delay: 1501.461 ms

Loss rate: 21.47%

Run 4: Report of PCC-Allegro — Data Link



Run 5: Statistics of PCC-Allegro

Start at: 2019-02-05 20:26:09

End at: 2019-02-05 20:26:39

Local clock offset: -6.484 ms

Remote clock offset: 1.128 ms

Below is generated by plot.py at 2019-02-05 20:37:07

Datalink statistics

-- Total of 3 flows:

Average throughput: 86.20 Mbit/s

95th percentile per-packet one-way delay: 1451.867 ms

Loss rate: 20.85%

-- Flow 1:

Average throughput: 53.90 Mbit/s

95th percentile per-packet one-way delay: 1465.673 ms

Loss rate: 23.78%

-- Flow 2:

Average throughput: 34.13 Mbit/s

95th percentile per-packet one-way delay: 1158.877 ms

Loss rate: 12.39%

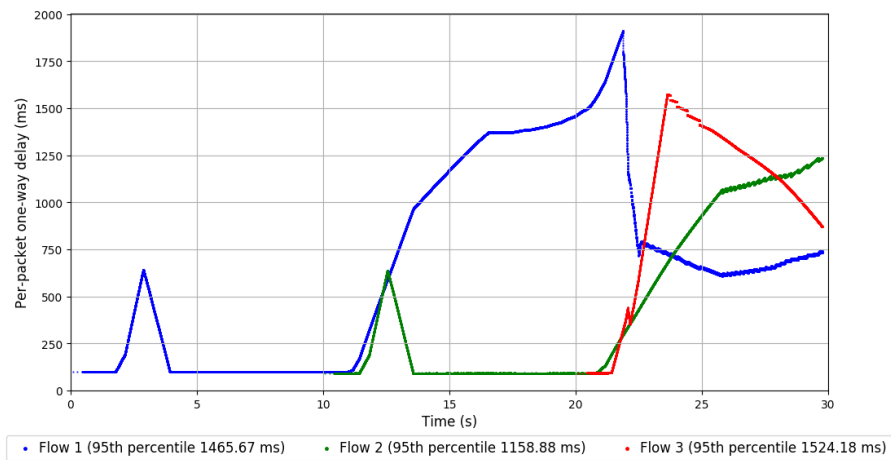
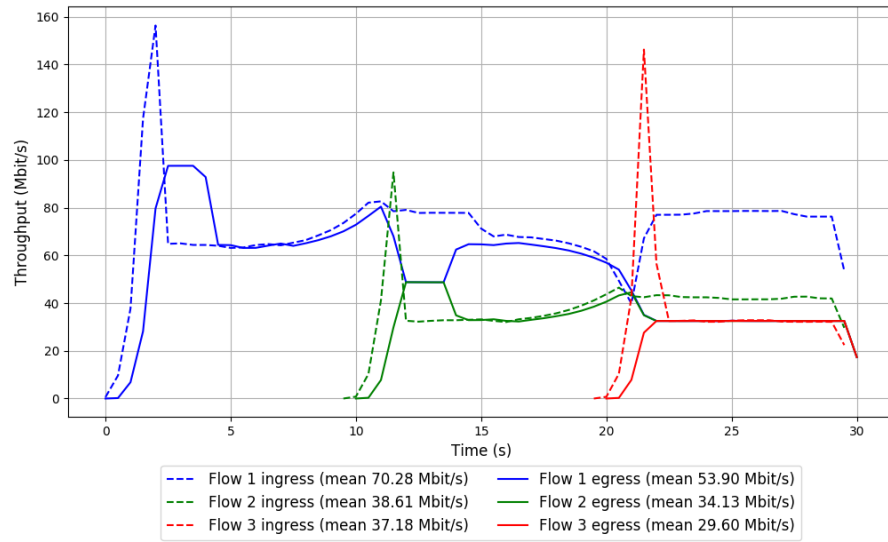
-- Flow 3:

Average throughput: 29.60 Mbit/s

95th percentile per-packet one-way delay: 1524.179 ms

Loss rate: 21.80%

Run 5: Report of PCC-Allegro — Data Link



Run 1: Statistics of PCC-Expr

Start at: 2019-02-05 18:26:41

End at: 2019-02-05 18:27:11

Local clock offset: 0.026 ms

Remote clock offset: 0.555 ms

Below is generated by plot.py at 2019-02-05 20:38:17

Datalink statistics

-- Total of 3 flows:

Average throughput: 90.93 Mbit/s

95th percentile per-packet one-way delay: 839.450 ms

Loss rate: 22.30%

-- Flow 1:

Average throughput: 56.67 Mbit/s

95th percentile per-packet one-way delay: 832.996 ms

Loss rate: 29.44%

-- Flow 2:

Average throughput: 38.91 Mbit/s

95th percentile per-packet one-way delay: 907.701 ms

Loss rate: 7.53%

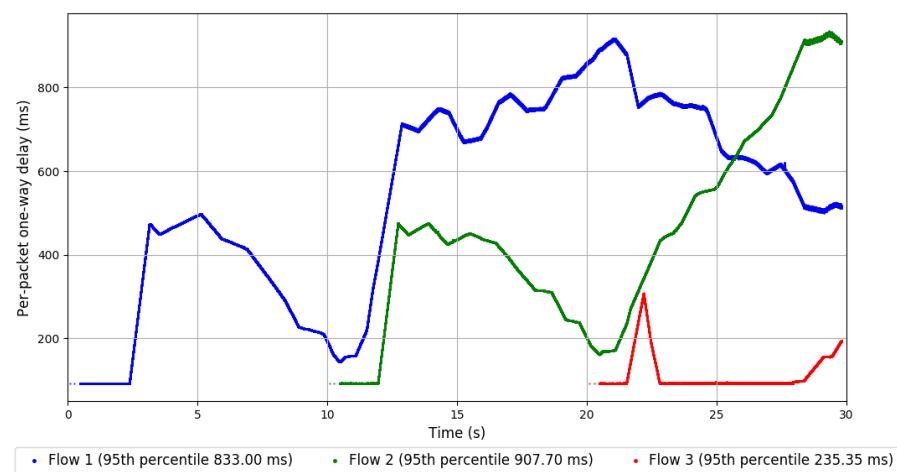
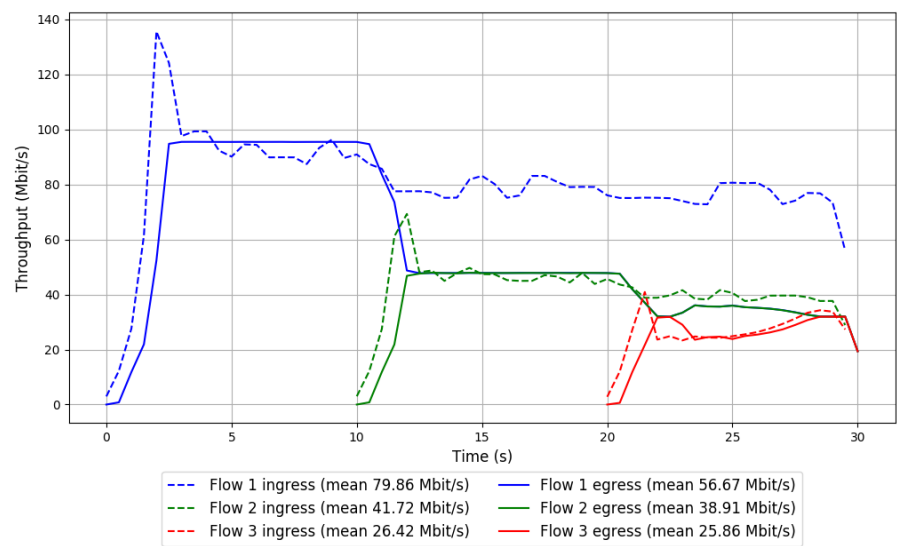
-- Flow 3:

Average throughput: 25.86 Mbit/s

95th percentile per-packet one-way delay: 235.350 ms

Loss rate: 3.83%

Run 1: Report of PCC-Expr — Data Link



Run 2: Statistics of PCC-Expr

Start at: 2019-02-05 18:53:42

End at: 2019-02-05 18:54:12

Local clock offset: -1.824 ms

Remote clock offset: 8.344 ms

Below is generated by plot.py at 2019-02-05 20:38:17

Datalink statistics

-- Total of 3 flows:

Average throughput: 88.23 Mbit/s

95th percentile per-packet one-way delay: 952.564 ms

Loss rate: 17.29%

-- Flow 1:

Average throughput: 53.99 Mbit/s

95th percentile per-packet one-way delay: 1026.387 ms

Loss rate: 21.76%

-- Flow 2:

Average throughput: 38.85 Mbit/s

95th percentile per-packet one-way delay: 866.142 ms

Loss rate: 10.82%

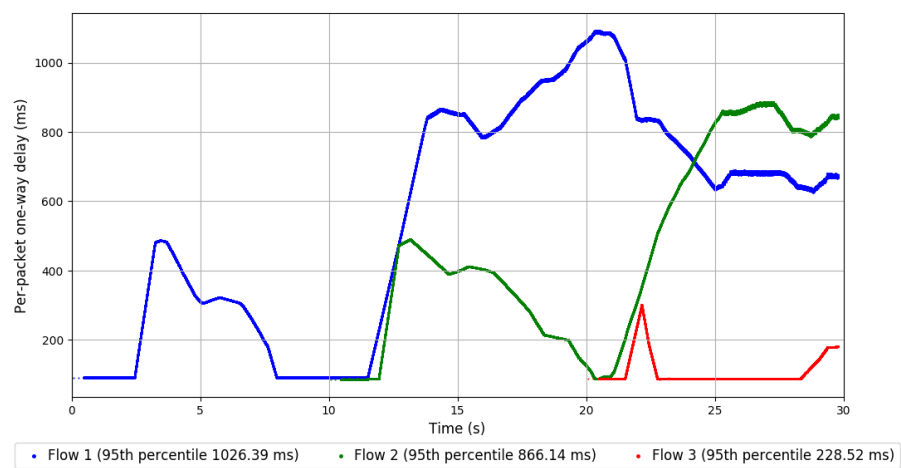
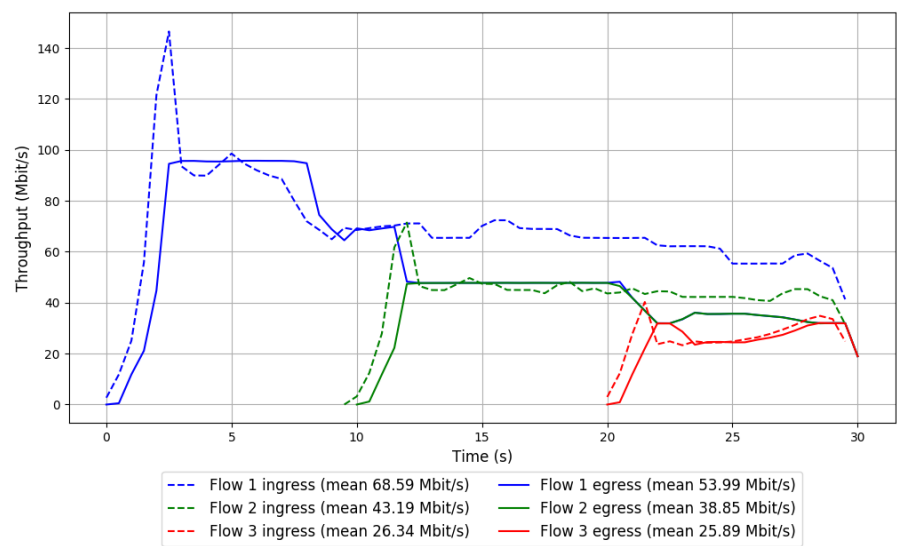
-- Flow 3:

Average throughput: 25.89 Mbit/s

95th percentile per-packet one-way delay: 228.520 ms

Loss rate: 3.42%

Run 2: Report of PCC-Expr — Data Link



Run 3: Statistics of PCC-Expr

Start at: 2019-02-05 19:20:42

End at: 2019-02-05 19:21:12

Local clock offset: -2.478 ms

Remote clock offset: 3.705 ms

Below is generated by plot.py at 2019-02-05 20:38:22

Datalink statistics

-- Total of 3 flows:

Average throughput: 90.82 Mbit/s

95th percentile per-packet one-way delay: 940.289 ms

Loss rate: 18.60%

-- Flow 1:

Average throughput: 56.57 Mbit/s

95th percentile per-packet one-way delay: 998.412 ms

Loss rate: 24.39%

-- Flow 2:

Average throughput: 38.93 Mbit/s

95th percentile per-packet one-way delay: 877.404 ms

Loss rate: 7.79%

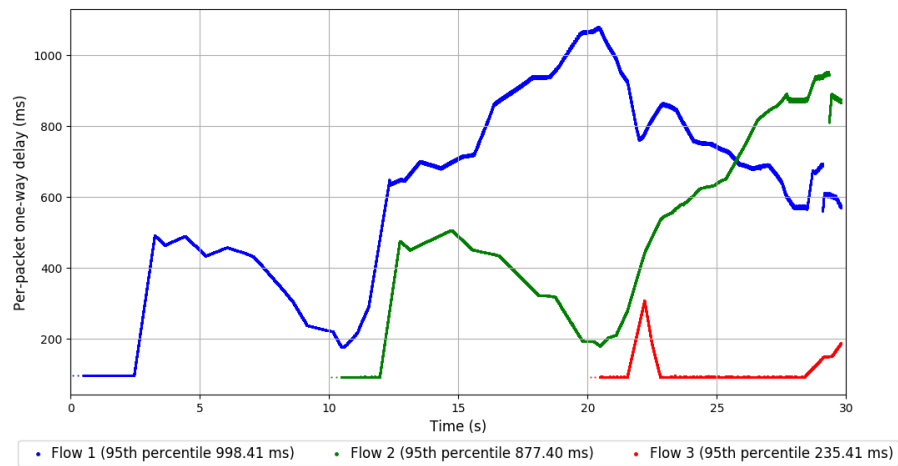
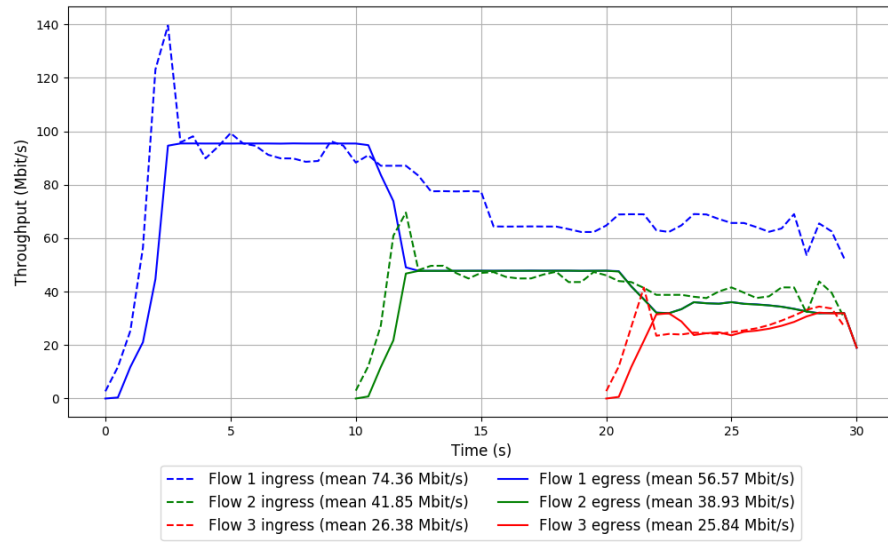
-- Flow 3:

Average throughput: 25.84 Mbit/s

95th percentile per-packet one-way delay: 235.413 ms

Loss rate: 3.79%

Run 3: Report of PCC-Expr — Data Link



Run 4: Statistics of PCC-Expr

Start at: 2019-02-05 19:47:44

End at: 2019-02-05 19:48:14

Local clock offset: -2.839 ms

Remote clock offset: 8.105 ms

Below is generated by plot.py at 2019-02-05 20:39:00

Datalink statistics

-- Total of 3 flows:

Average throughput: 90.87 Mbit/s

95th percentile per-packet one-way delay: 953.974 ms

Loss rate: 18.26%

-- Flow 1:

Average throughput: 61.14 Mbit/s

95th percentile per-packet one-way delay: 955.965 ms

Loss rate: 23.82%

-- Flow 2:

Average throughput: 41.02 Mbit/s

95th percentile per-packet one-way delay: 475.427 ms

Loss rate: 3.68%

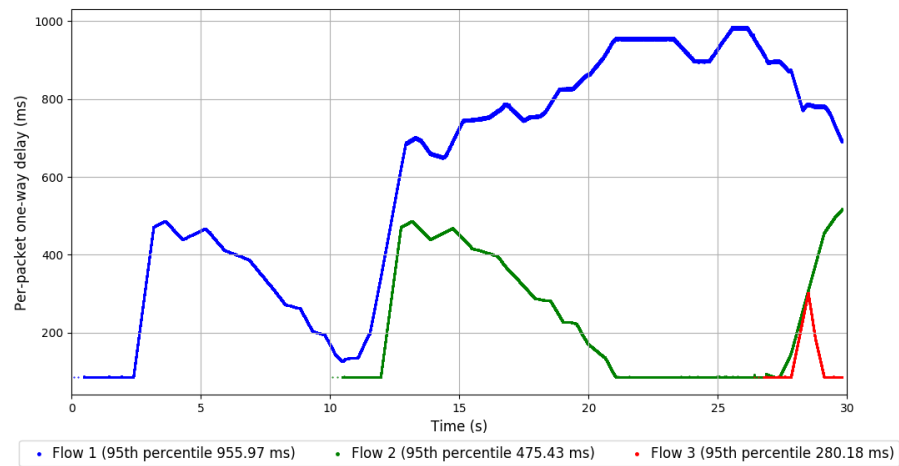
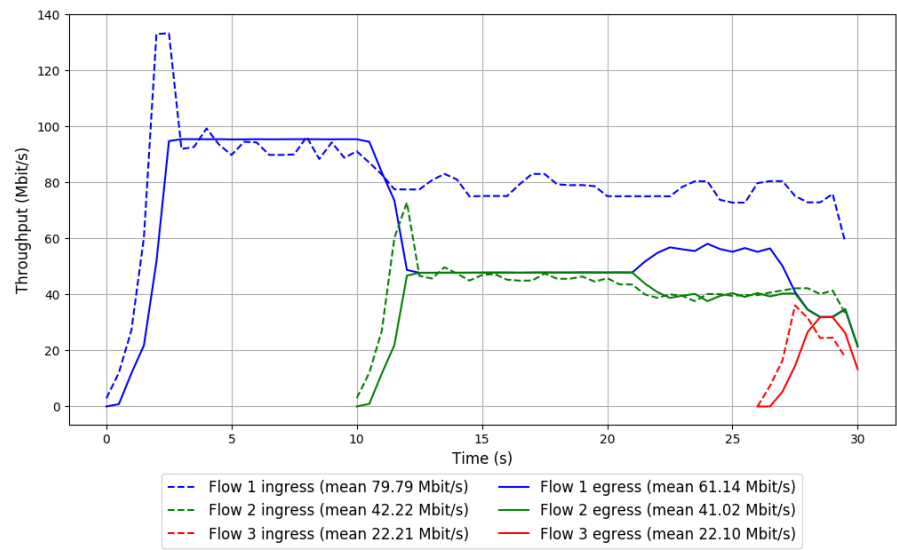
-- Flow 3:

Average throughput: 22.10 Mbit/s

95th percentile per-packet one-way delay: 280.181 ms

Loss rate: 5.35%

Run 4: Report of PCC-Expr — Data Link

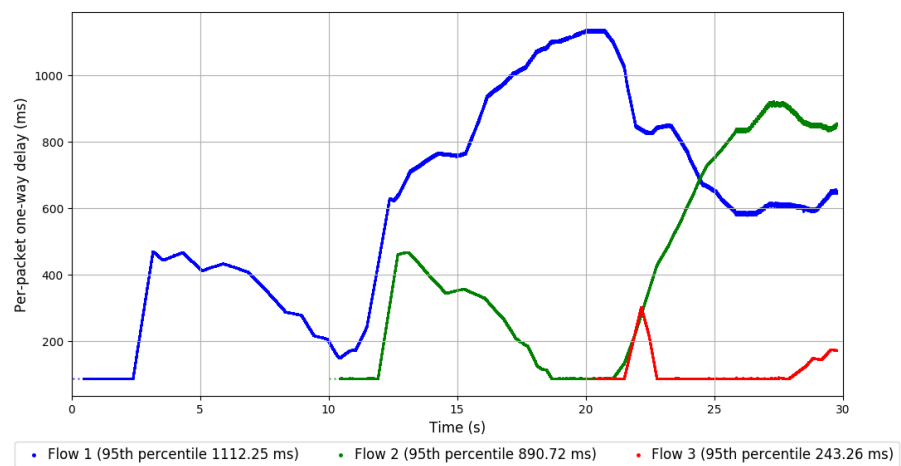
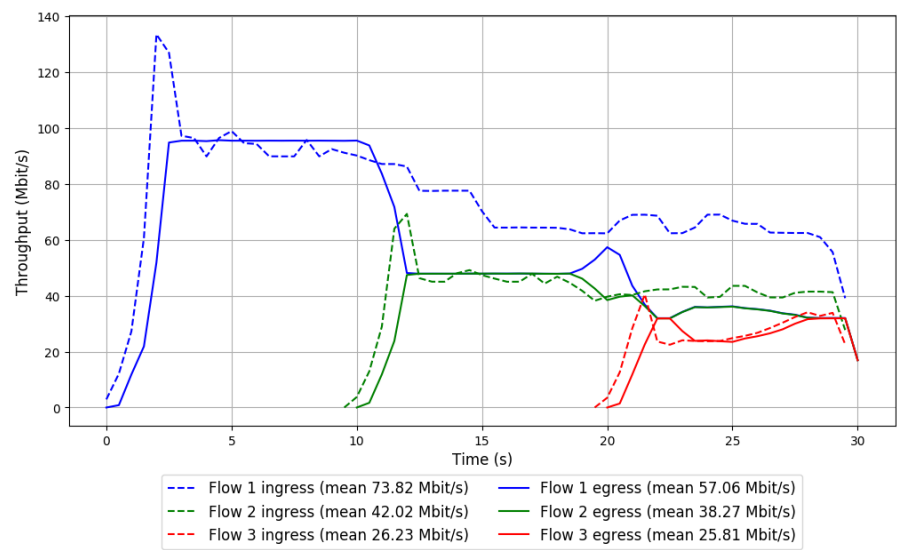



```
Run 5: Statistics of PCC-Expr

Start at: 2019-02-05 20:14:45
End at: 2019-02-05 20:15:15
Local clock offset: -1.829 ms
Remote clock offset: 7.259 ms

# Below is generated by plot.py at 2019-02-05 20:39:01
# Datalink statistics
-- Total of 3 flows:
Average throughput: 90.91 Mbit/s
95th percentile per-packet one-way delay: 1082.144 ms
Loss rate: 18.19%
-- Flow 1:
Average throughput: 57.06 Mbit/s
95th percentile per-packet one-way delay: 1112.249 ms
Loss rate: 23.16%
-- Flow 2:
Average throughput: 38.27 Mbit/s
95th percentile per-packet one-way delay: 890.724 ms
Loss rate: 9.71%
-- Flow 3:
Average throughput: 25.81 Mbit/s
95th percentile per-packet one-way delay: 243.260 ms
Loss rate: 3.31%
```

Run 5: Report of PCC-Expr — Data Link



Run 1: Statistics of QUIC Cubic

Start at: 2019-02-05 18:25:25

End at: 2019-02-05 18:25:55

Local clock offset: 0.181 ms

Remote clock offset: -0.41 ms

Below is generated by plot.py at 2019-02-05 20:39:01

Datalink statistics

-- Total of 3 flows:

Average throughput: 55.88 Mbit/s

95th percentile per-packet one-way delay: 171.203 ms

Loss rate: 1.21%

-- Flow 1:

Average throughput: 37.15 Mbit/s

95th percentile per-packet one-way delay: 118.838 ms

Loss rate: 0.50%

-- Flow 2:

Average throughput: 21.26 Mbit/s

95th percentile per-packet one-way delay: 199.667 ms

Loss rate: 1.50%

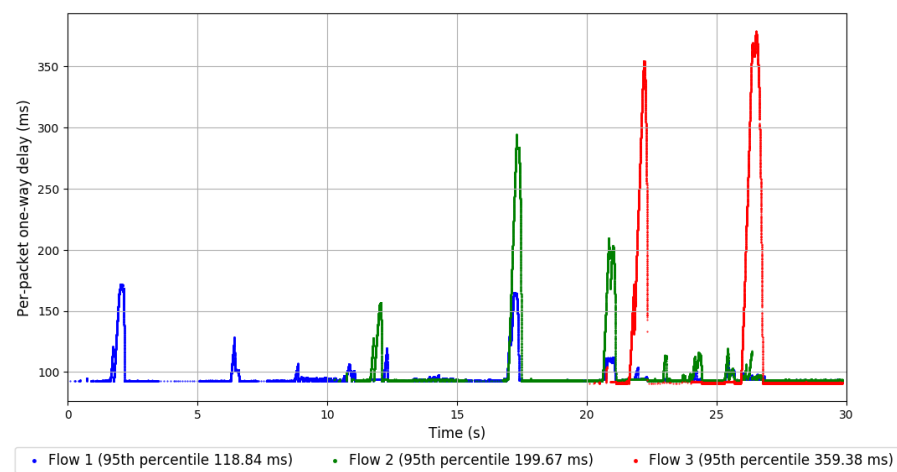
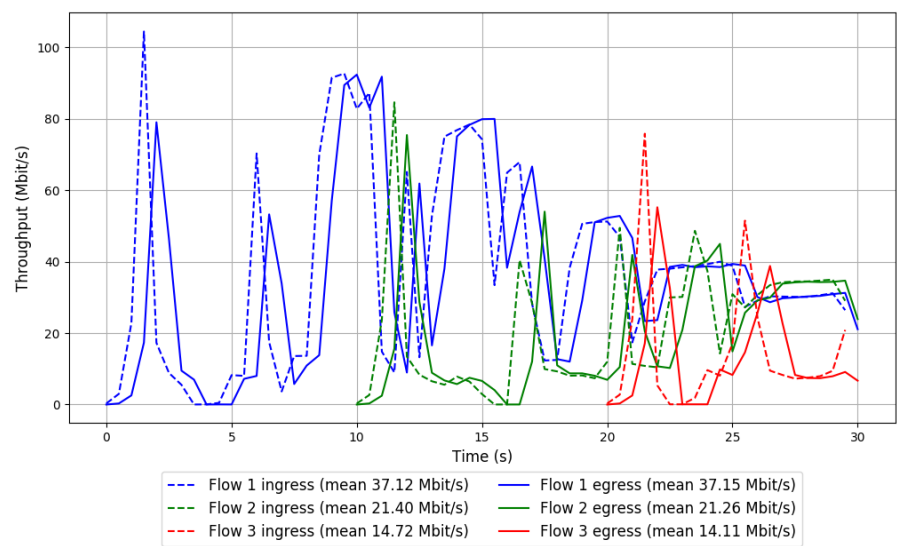
-- Flow 3:

Average throughput: 14.11 Mbit/s

95th percentile per-packet one-way delay: 359.376 ms

Loss rate: 5.75%

Run 1: Report of QUIC Cubic — Data Link



Run 2: Statistics of QUIC Cubic

Start at: 2019-02-05 18:52:26

End at: 2019-02-05 18:52:56

Local clock offset: -1.692 ms

Remote clock offset: 7.258 ms

Below is generated by plot.py at 2019-02-05 20:39:01

Datalink statistics

-- Total of 3 flows:

Average throughput: 52.18 Mbit/s

95th percentile per-packet one-way delay: 178.848 ms

Loss rate: 0.89%

-- Flow 1:

Average throughput: 31.34 Mbit/s

95th percentile per-packet one-way delay: 135.748 ms

Loss rate: 0.59%

-- Flow 2:

Average throughput: 24.57 Mbit/s

95th percentile per-packet one-way delay: 210.963 ms

Loss rate: 1.14%

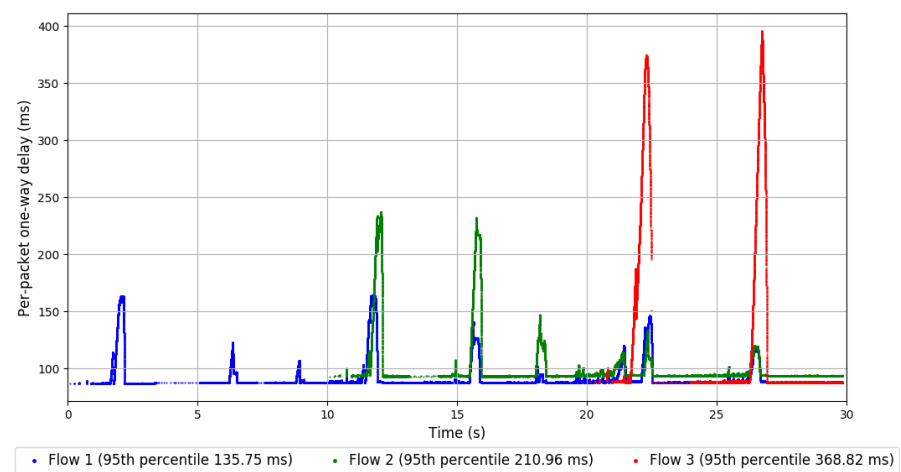
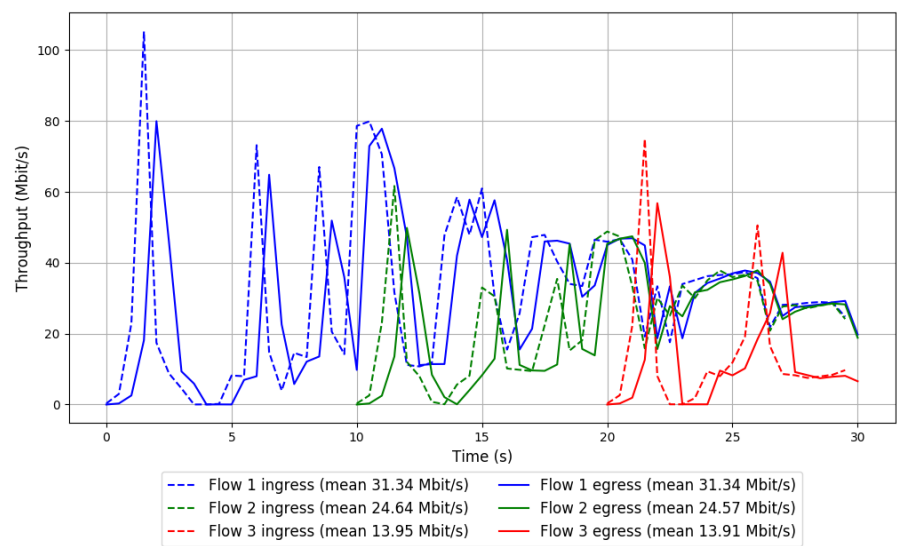
-- Flow 3:

Average throughput: 13.91 Mbit/s

95th percentile per-packet one-way delay: 368.820 ms

Loss rate: 2.03%

Run 2: Report of QUIC Cubic — Data Link



Run 3: Statistics of QUIC Cubic

Start at: 2019-02-05 19:19:26

End at: 2019-02-05 19:19:56

Local clock offset: -1.583 ms

Remote clock offset: 4.049 ms

Below is generated by plot.py at 2019-02-05 20:39:01

Datalink statistics

-- Total of 3 flows:

Average throughput: 52.64 Mbit/s

95th percentile per-packet one-way delay: 167.325 ms

Loss rate: 1.15%

-- Flow 1:

Average throughput: 28.88 Mbit/s

95th percentile per-packet one-way delay: 143.432 ms

Loss rate: 0.70%

-- Flow 2:

Average throughput: 25.43 Mbit/s

95th percentile per-packet one-way delay: 198.459 ms

Loss rate: 1.19%

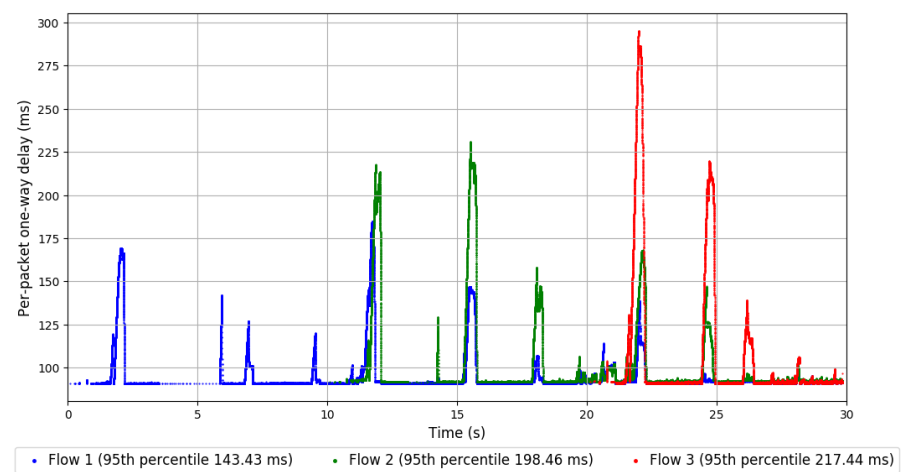
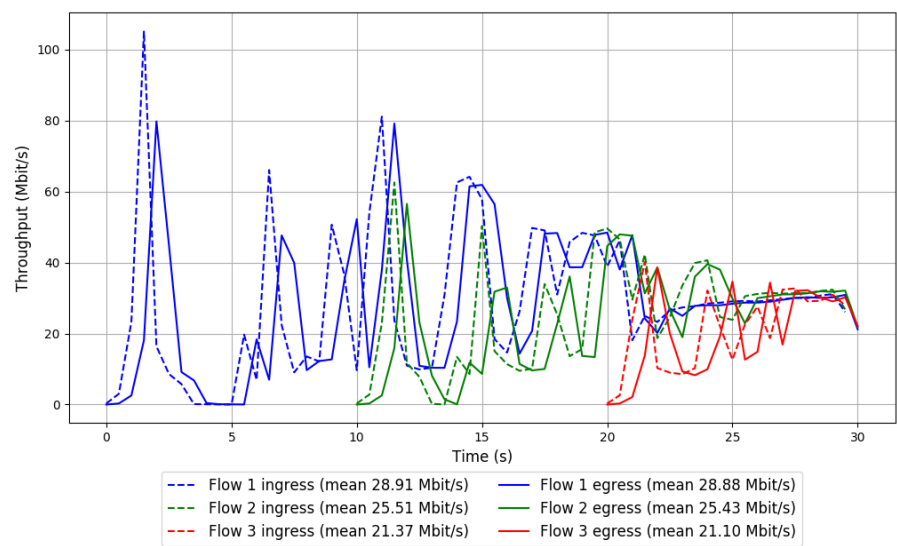
-- Flow 3:

Average throughput: 21.10 Mbit/s

95th percentile per-packet one-way delay: 217.445 ms

Loss rate: 2.91%

Run 3: Report of QUIC Cubic — Data Link



Run 4: Statistics of QUIC Cubic

Start at: 2019-02-05 19:46:28

End at: 2019-02-05 19:46:58

Local clock offset: -2.053 ms

Remote clock offset: 3.07 ms

Below is generated by plot.py at 2019-02-05 20:39:01

Datalink statistics

-- Total of 3 flows:

Average throughput: 53.96 Mbit/s

95th percentile per-packet one-way delay: 179.925 ms

Loss rate: 1.10%

-- Flow 1:

Average throughput: 32.93 Mbit/s

95th percentile per-packet one-way delay: 122.370 ms

Loss rate: 0.54%

-- Flow 2:

Average throughput: 20.75 Mbit/s

95th percentile per-packet one-way delay: 238.347 ms

Loss rate: 1.49%

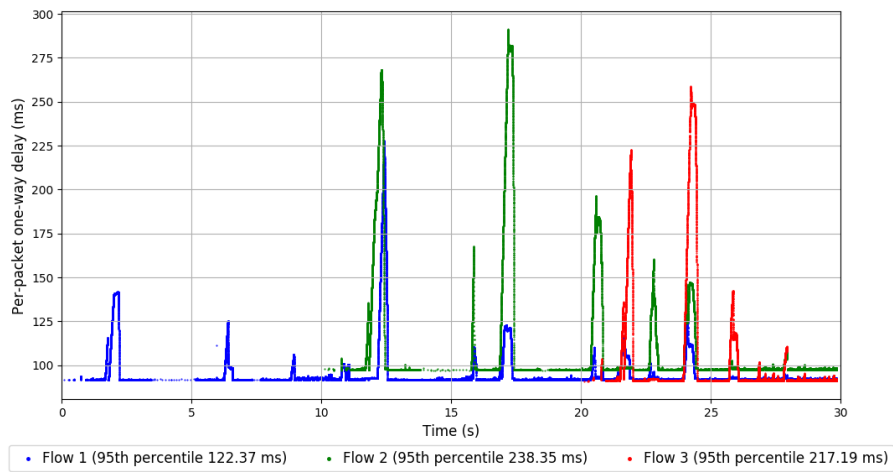
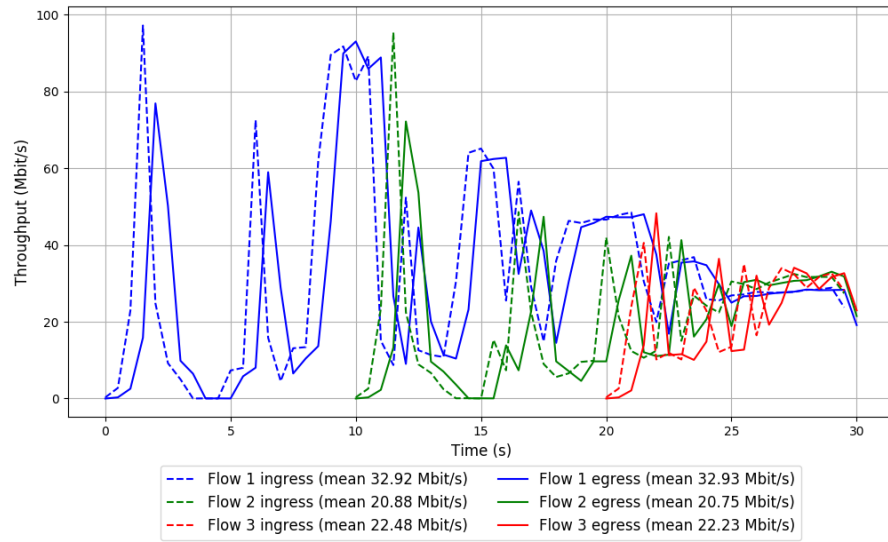
-- Flow 3:

Average throughput: 22.23 Mbit/s

95th percentile per-packet one-way delay: 217.193 ms

Loss rate: 2.80%

Run 4: Report of QUIC Cubic — Data Link



Run 5: Statistics of QUIC Cubic

Start at: 2019-02-05 20:13:29

End at: 2019-02-05 20:13:59

Local clock offset: -2.665 ms

Remote clock offset: 7.606 ms

Below is generated by plot.py at 2019-02-05 20:39:01

Datalink statistics

-- Total of 3 flows:

Average throughput: 54.35 Mbit/s

95th percentile per-packet one-way delay: 208.341 ms

Loss rate: 0.87%

-- Flow 1:

Average throughput: 38.02 Mbit/s

95th percentile per-packet one-way delay: 118.780 ms

Loss rate: 0.50%

-- Flow 2:

Average throughput: 17.28 Mbit/s

95th percentile per-packet one-way delay: 277.044 ms

Loss rate: 1.67%

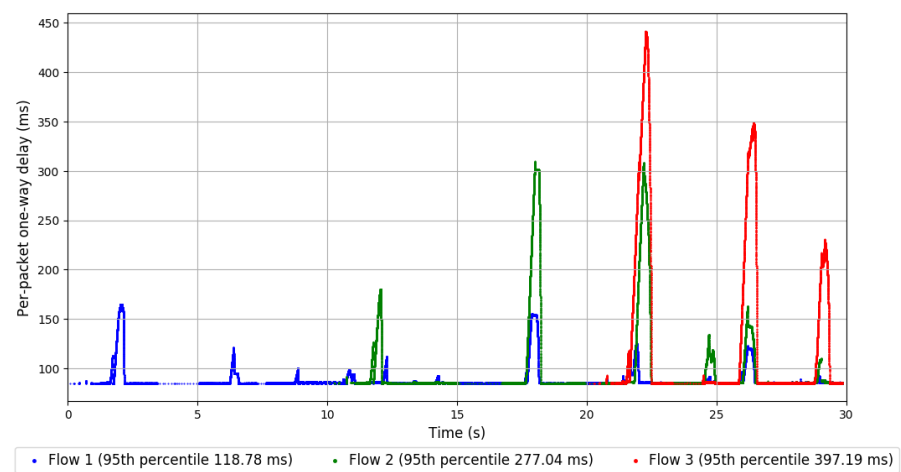
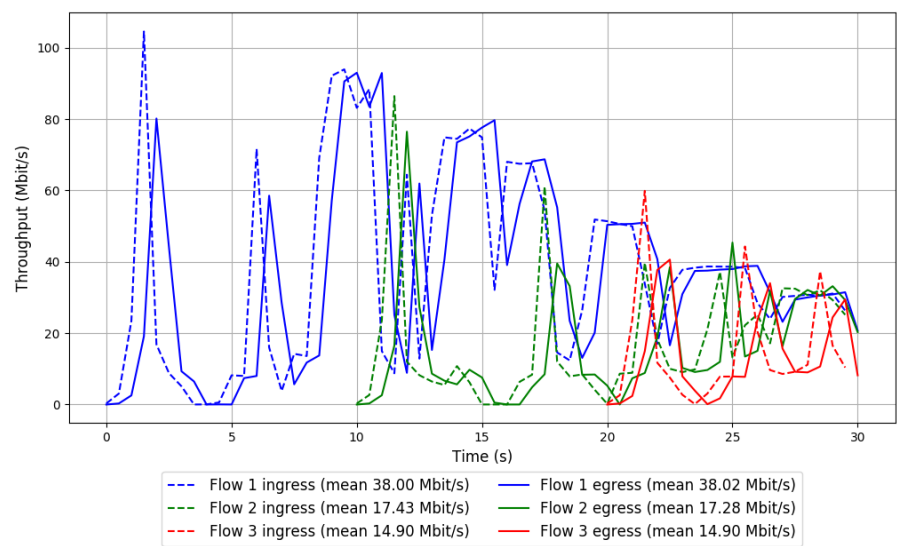
-- Flow 3:

Average throughput: 14.90 Mbit/s

95th percentile per-packet one-way delay: 397.189 ms

Loss rate: 1.77%

Run 5: Report of QUIC Cubic — Data Link

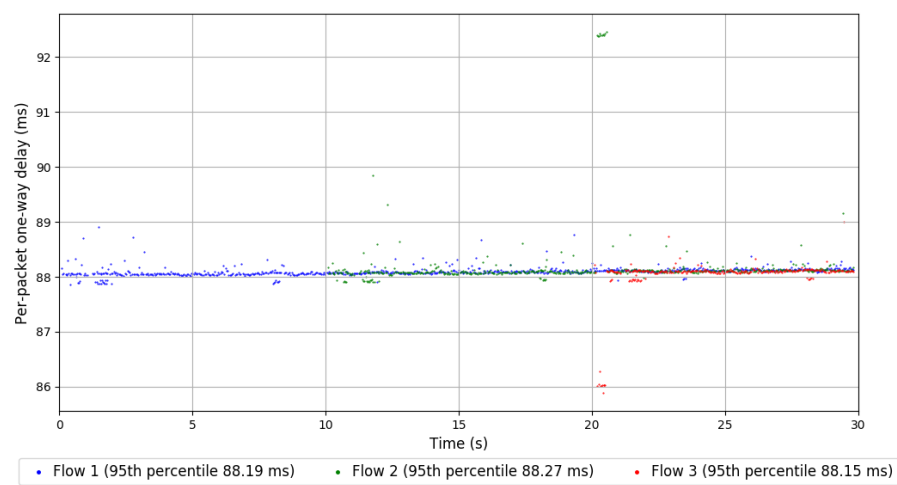
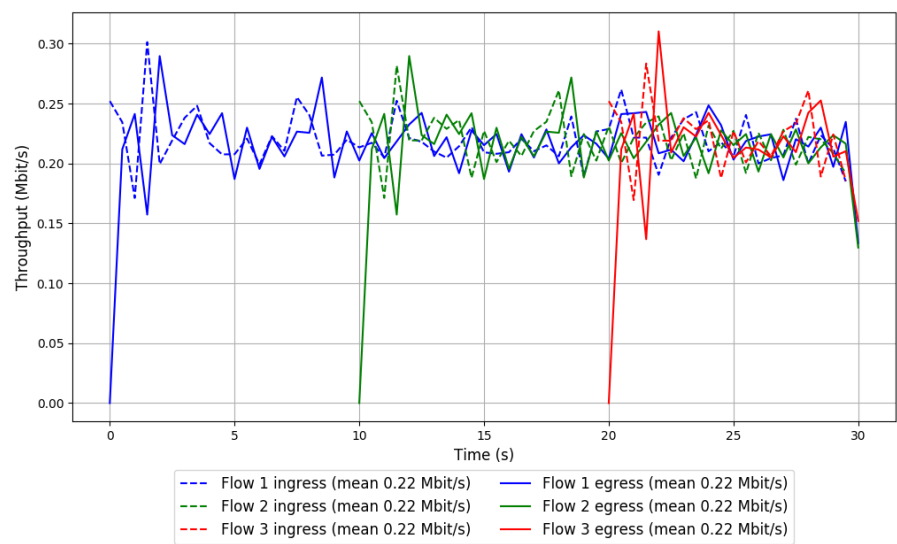


```
Run 1: Statistics of SReAM

Start at: 2019-02-05 18:29:20
End at: 2019-02-05 18:29:50
Local clock offset: -0.197 ms
Remote clock offset: 4.955 ms

# Below is generated by plot.py at 2019-02-05 20:39:01
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 88.213 ms
Loss rate: 0.98%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 88.192 ms
Loss rate: 0.64%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 88.267 ms
Loss rate: 1.04%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 88.146 ms
Loss rate: 1.85%
```

Run 1: Report of SReAM — Data Link

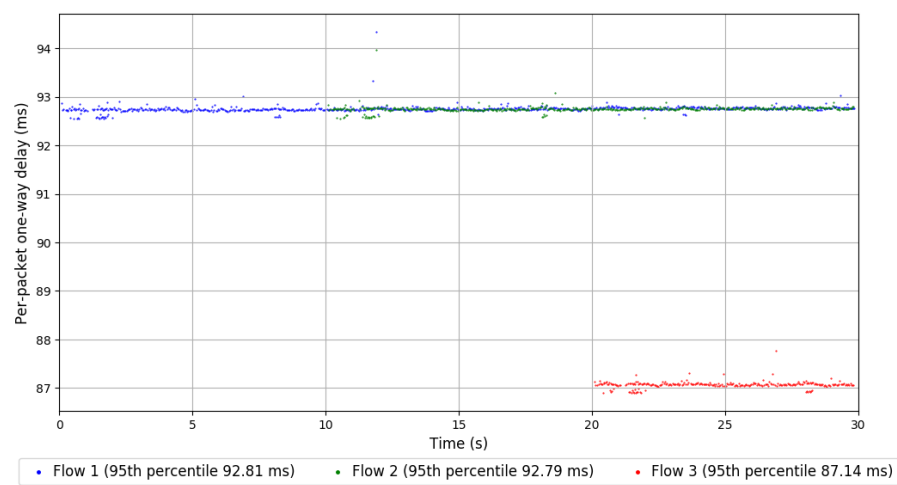
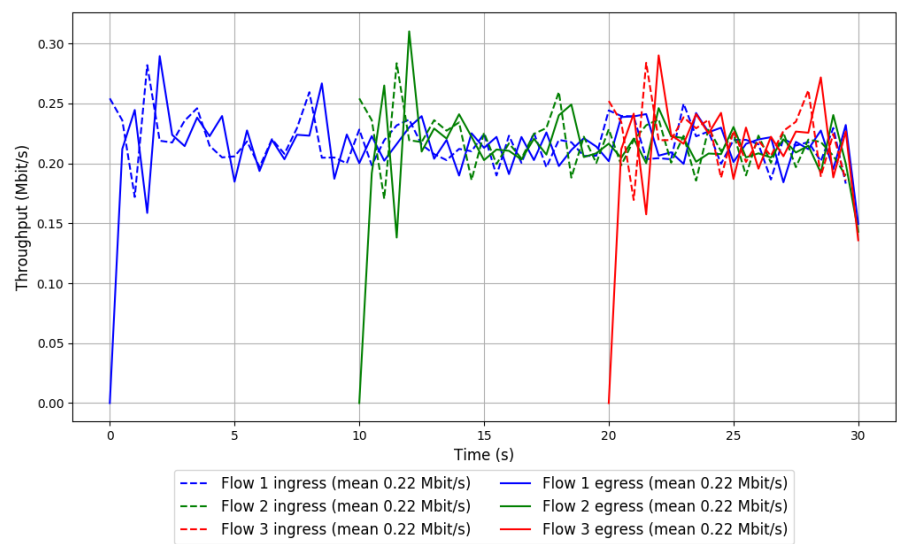


Run 2: Statistics of SReAM

Start at: 2019-02-05 18:56:21
End at: 2019-02-05 18:56:51
Local clock offset: -1.267 ms
Remote clock offset: 8.366 ms

Below is generated by plot.py at 2019-02-05 20:39:01
Datalink statistics
-- Total of 3 flows:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 92.797 ms
Loss rate: 0.91%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 92.808 ms
Loss rate: 0.51%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 92.793 ms
Loss rate: 1.03%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 87.136 ms
Loss rate: 1.85%

Run 2: Report of SReAM — Data Link

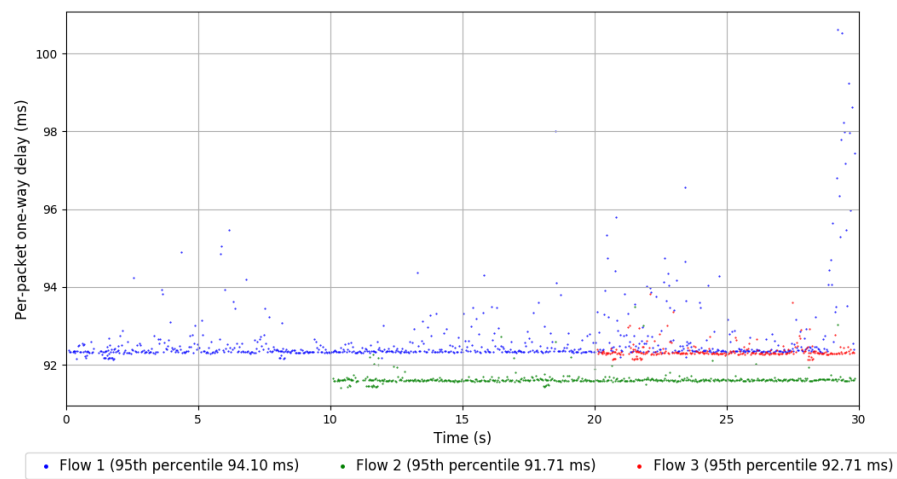
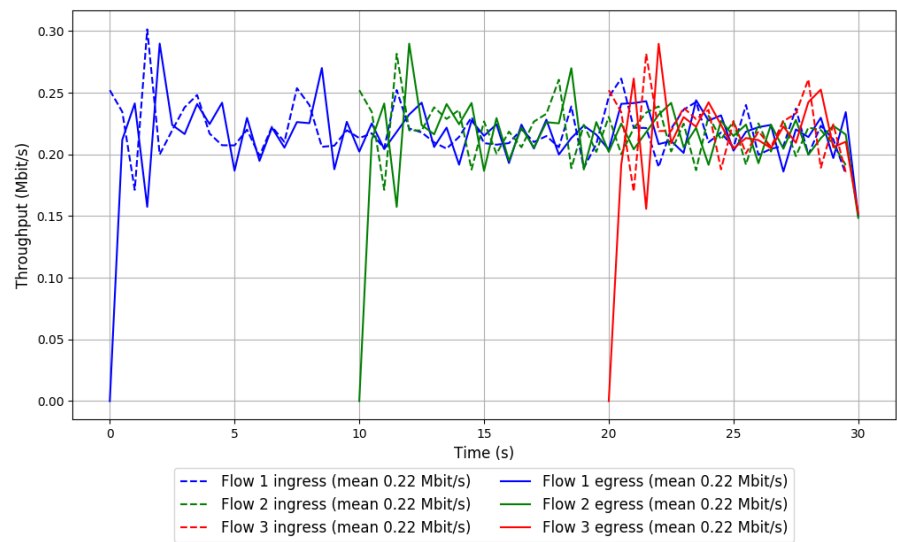


Run 3: Statistics of SReAM

Start at: 2019-02-05 19:23:22
End at: 2019-02-05 19:23:52
Local clock offset: -2.668 ms
Remote clock offset: 2.889 ms

Below is generated by plot.py at 2019-02-05 20:39:01
Datalink statistics
-- Total of 3 flows:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 93.312 ms
Loss rate: 0.84%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 94.097 ms
Loss rate: 0.51%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 91.711 ms
Loss rate: 0.82%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 92.706 ms
Loss rate: 1.85%

Run 3: Report of SReAM — Data Link

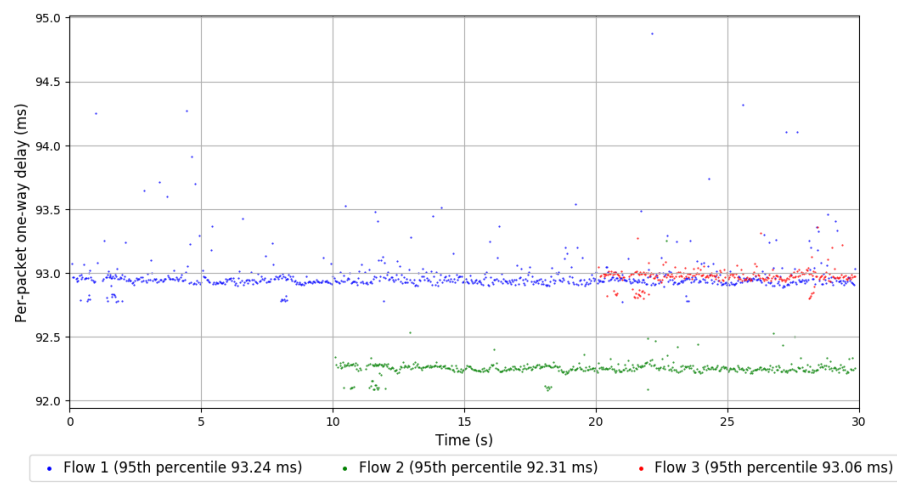
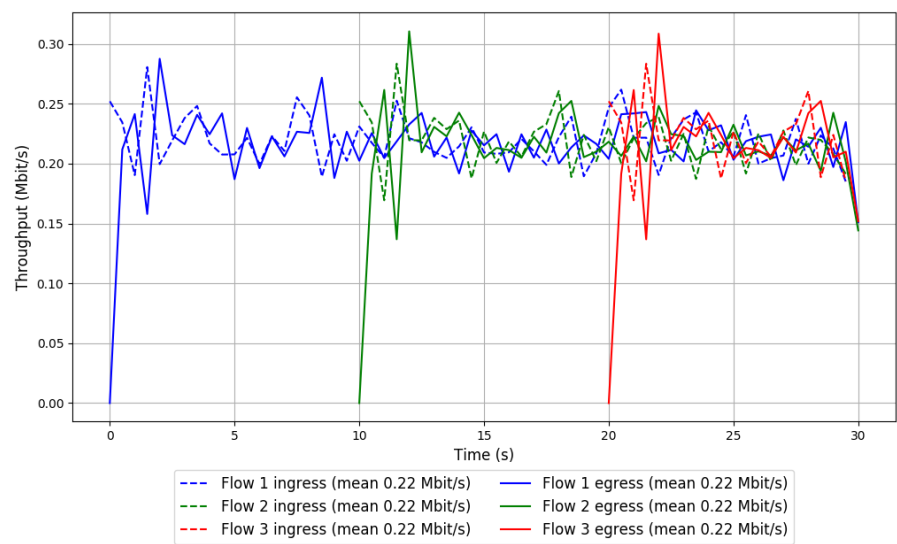


Run 4: Statistics of SReAM

Start at: 2019-02-05 19:50:23
End at: 2019-02-05 19:50:53
Local clock offset: -2.079 ms
Remote clock offset: 1.658 ms

Below is generated by plot.py at 2019-02-05 20:39:01
Datalink statistics
-- Total of 3 flows:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 93.072 ms
Loss rate: 0.91%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 93.238 ms
Loss rate: 0.51%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 92.305 ms
Loss rate: 1.04%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 93.055 ms
Loss rate: 1.85%

Run 4: Report of SReAM — Data Link



Run 5: Statistics of SReAM

Start at: 2019-02-05 20:17:24

End at: 2019-02-05 20:17:54

Local clock offset: -2.633 ms

Remote clock offset: 2.412 ms

Below is generated by plot.py at 2019-02-05 20:39:01

Datalink statistics

-- Total of 3 flows:

Average throughput: 0.44 Mbit/s

95th percentile per-packet one-way delay: 92.382 ms

Loss rate: 0.91%

-- Flow 1:

Average throughput: 0.22 Mbit/s

95th percentile per-packet one-way delay: 92.344 ms

Loss rate: 0.51%

-- Flow 2:

Average throughput: 0.22 Mbit/s

95th percentile per-packet one-way delay: 92.374 ms

Loss rate: 1.04%

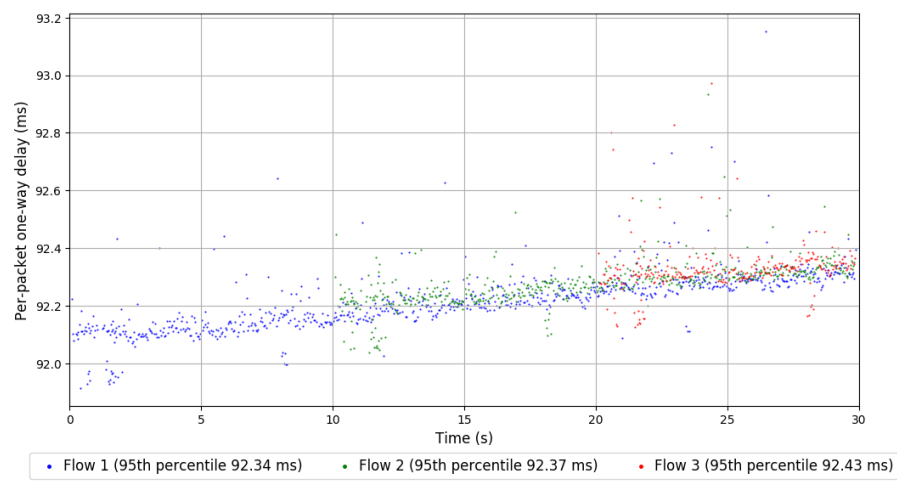
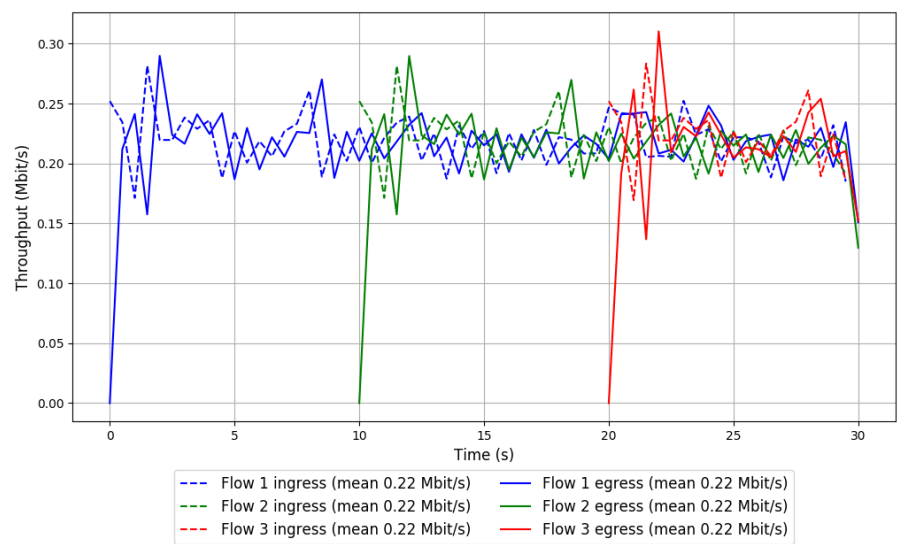
-- Flow 3:

Average throughput: 0.22 Mbit/s

95th percentile per-packet one-way delay: 92.428 ms

Loss rate: 1.85%

Run 5: Report of SReAM — Data Link



Run 1: Statistics of Sprout

Start at: 2019-02-05 18:31:47

End at: 2019-02-05 18:32:17

Local clock offset: -0.249 ms

Remote clock offset: 5.51 ms

Below is generated by plot.py at 2019-02-05 20:39:01

Datalink statistics

-- Total of 3 flows:

Average throughput: 6.45 Mbit/s

95th percentile per-packet one-way delay: 98.935 ms

Loss rate: 1.30%

-- Flow 1:

Average throughput: 3.15 Mbit/s

95th percentile per-packet one-way delay: 93.730 ms

Loss rate: 0.58%

-- Flow 2:

Average throughput: 3.16 Mbit/s

95th percentile per-packet one-way delay: 94.816 ms

Loss rate: 1.56%

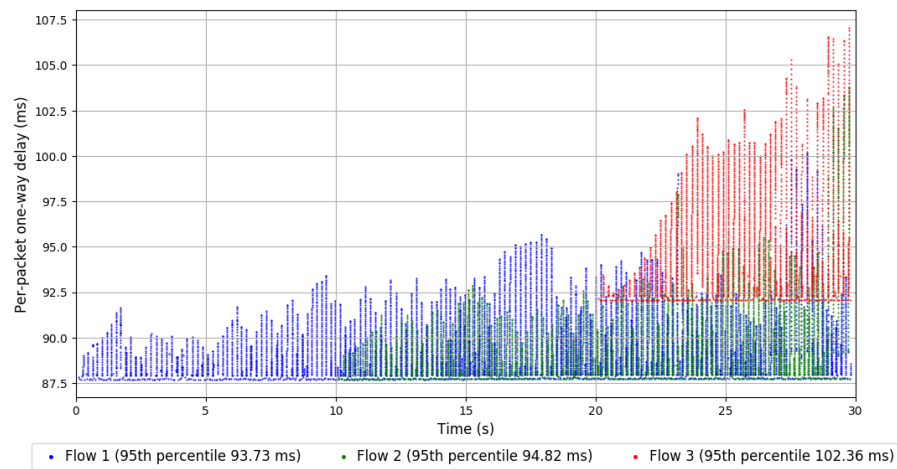
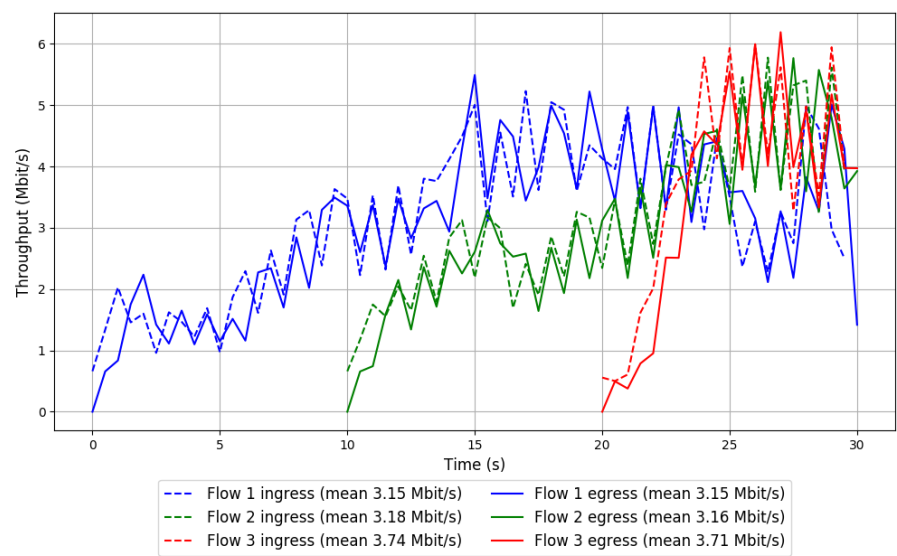
-- Flow 3:

Average throughput: 3.71 Mbit/s

95th percentile per-packet one-way delay: 102.359 ms

Loss rate: 2.71%

Run 1: Report of Sprout — Data Link

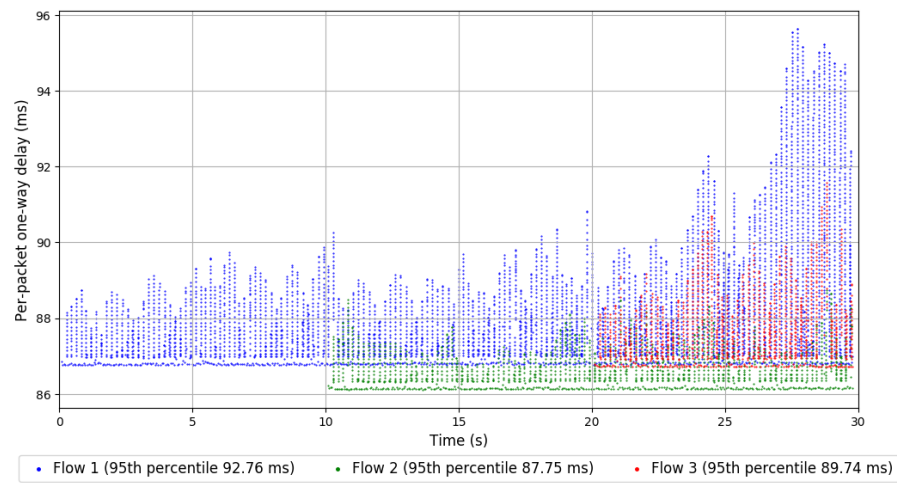
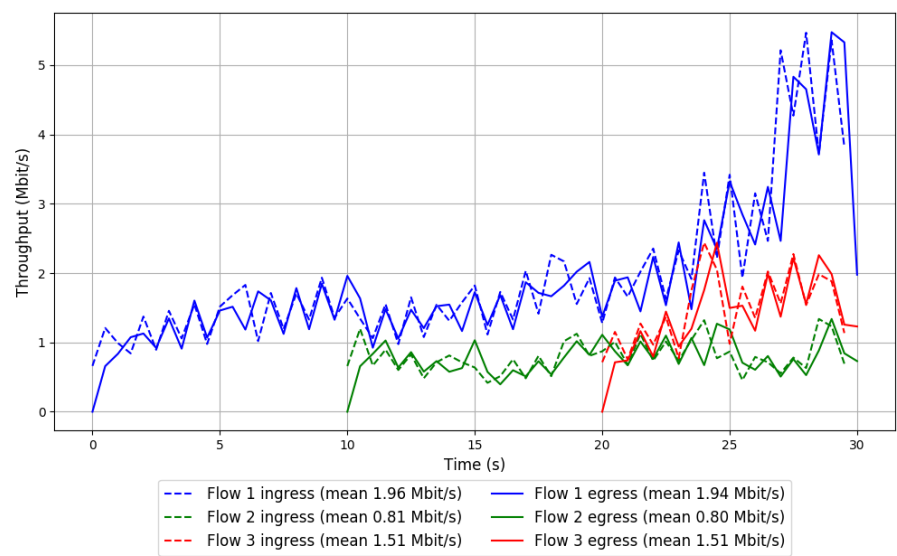


Run 2: Statistics of Sprout

Start at: 2019-02-05 18:58:48
End at: 2019-02-05 18:59:18
Local clock offset: -1.433 ms
Remote clock offset: 8.544 ms

Below is generated by plot.py at 2019-02-05 20:39:01
Datalink statistics
-- Total of 3 flows:
Average throughput: 2.96 Mbit/s
95th percentile per-packet one-way delay: 91.714 ms
Loss rate: 1.54%
-- Flow 1:
Average throughput: 1.94 Mbit/s
95th percentile per-packet one-way delay: 92.760 ms
Loss rate: 1.60%
-- Flow 2:
Average throughput: 0.80 Mbit/s
95th percentile per-packet one-way delay: 87.750 ms
Loss rate: 1.11%
-- Flow 3:
Average throughput: 1.51 Mbit/s
95th percentile per-packet one-way delay: 89.741 ms
Loss rate: 1.79%

Run 2: Report of Sprout — Data Link



Run 3: Statistics of Sprout

Start at: 2019-02-05 19:25:49

End at: 2019-02-05 19:26:19

Local clock offset: -2.022 ms

Remote clock offset: 6.811 ms

Below is generated by plot.py at 2019-02-05 20:39:01

Datalink statistics

-- Total of 3 flows:

Average throughput: 6.49 Mbit/s

95th percentile per-packet one-way delay: 103.156 ms

Loss rate: 1.03%

-- Flow 1:

Average throughput: 4.51 Mbit/s

95th percentile per-packet one-way delay: 103.489 ms

Loss rate: 0.70%

-- Flow 2:

Average throughput: 2.50 Mbit/s

95th percentile per-packet one-way delay: 93.630 ms

Loss rate: 1.38%

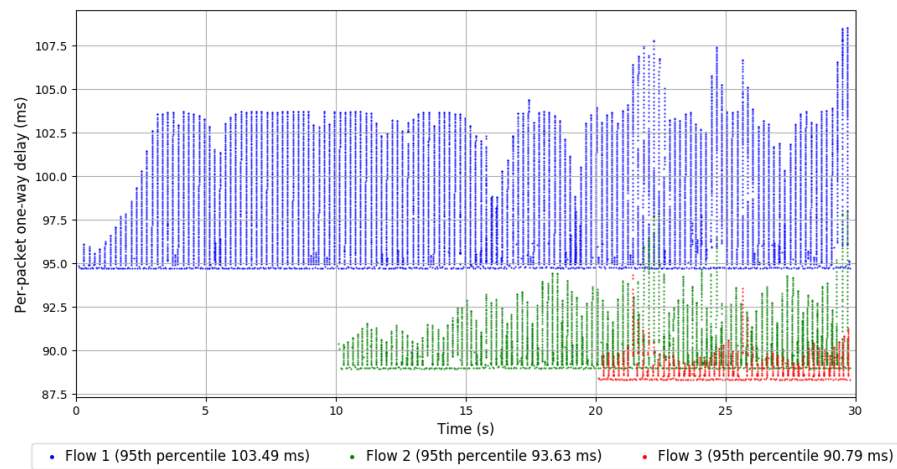
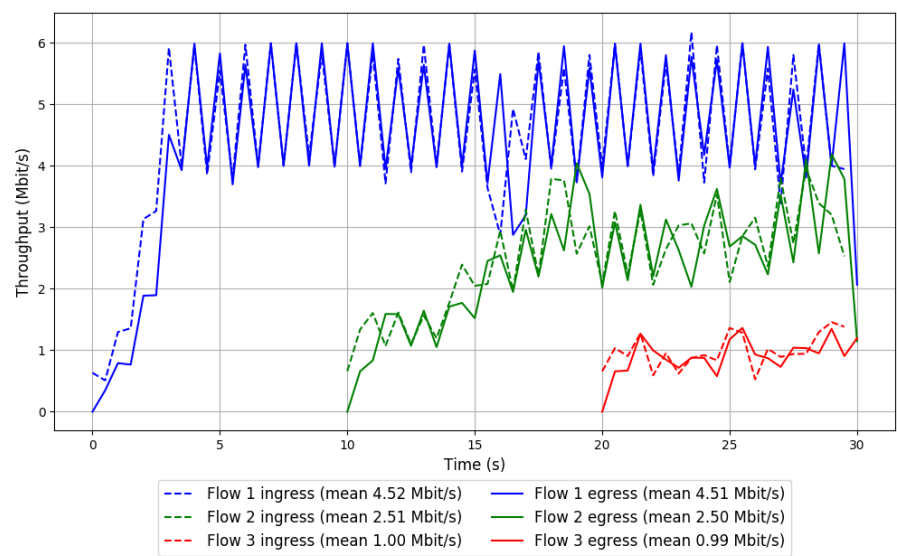
-- Flow 3:

Average throughput: 0.99 Mbit/s

95th percentile per-packet one-way delay: 90.786 ms

Loss rate: 3.73%

Run 3: Report of Sprout — Data Link

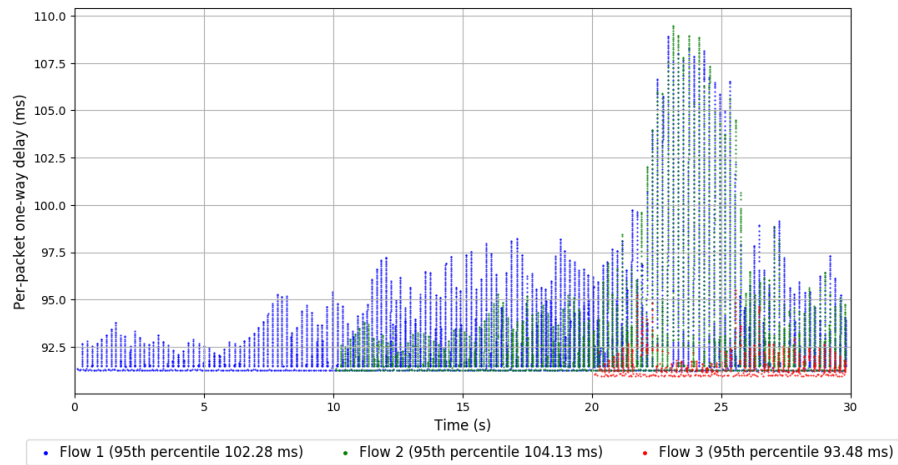
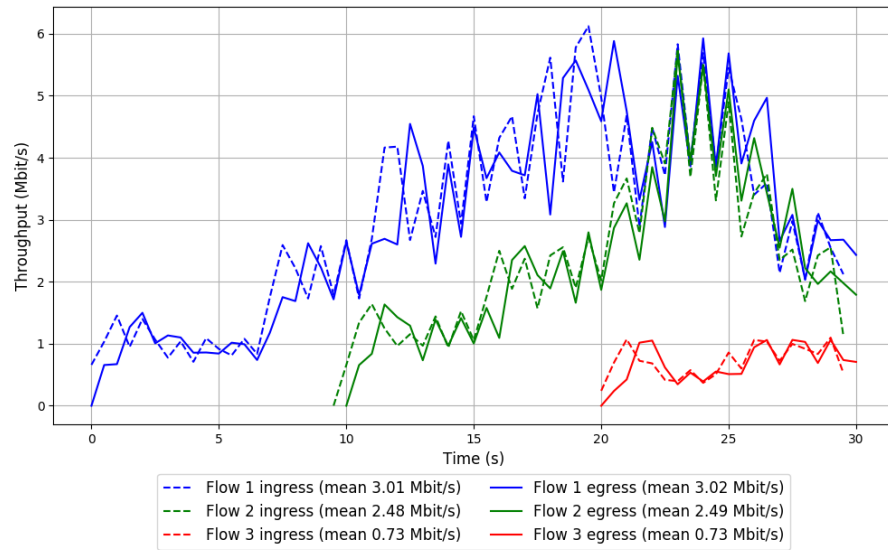


Run 4: Statistics of Sprout

Start at: 2019-02-05 19:52:50
End at: 2019-02-05 19:53:20
Local clock offset: -2.071 ms
Remote clock offset: 2.5 ms

```
# Below is generated by plot.py at 2019-02-05 20:39:01
# Datalink statistics
-- Total of 3 flows:
Average throughput: 4.91 Mbit/s
95th percentile per-packet one-way delay: 102.972 ms
Loss rate: 0.15%
-- Flow 1:
Average throughput: 3.02 Mbit/s
95th percentile per-packet one-way delay: 102.282 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 2.49 Mbit/s
95th percentile per-packet one-way delay: 104.133 ms
Loss rate: 0.24%
-- Flow 3:
Average throughput: 0.73 Mbit/s
95th percentile per-packet one-way delay: 93.483 ms
Loss rate: 1.29%
```

Run 4: Report of Sprout — Data Link

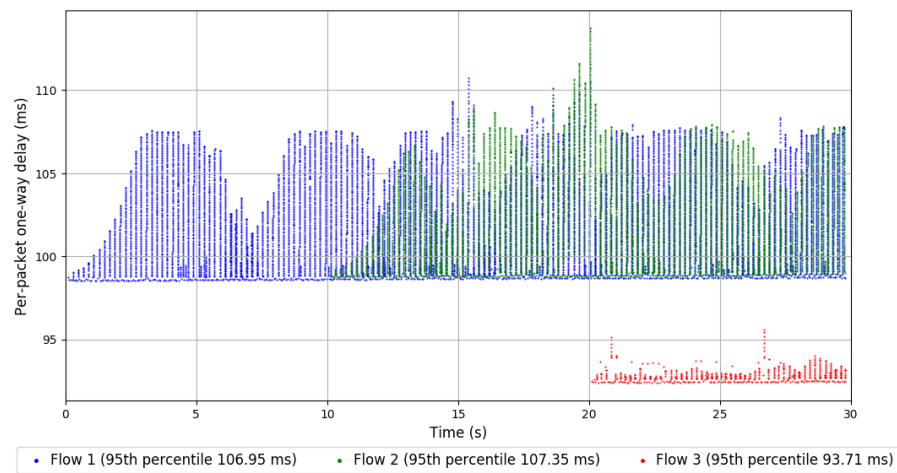
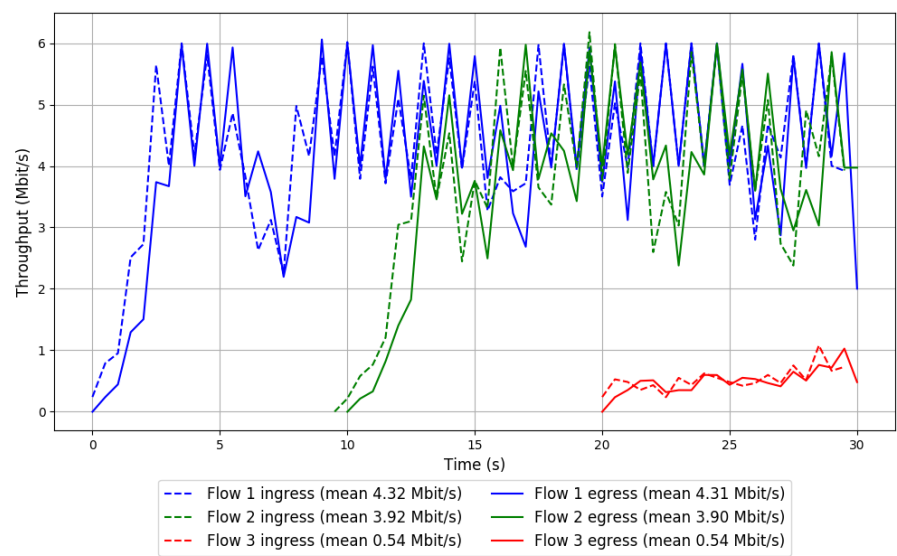


Run 5: Statistics of Sprout

Start at: 2019-02-05 20:19:51
End at: 2019-02-05 20:20:21
Local clock offset: -3.752 ms
Remote clock offset: 1.265 ms

Below is generated by plot.py at 2019-02-05 20:39:01
Datalink statistics
-- Total of 3 flows:
Average throughput: 7.07 Mbit/s
95th percentile per-packet one-way delay: 107.062 ms
Loss rate: 0.97%
-- Flow 1:
Average throughput: 4.31 Mbit/s
95th percentile per-packet one-way delay: 106.947 ms
Loss rate: 0.75%
-- Flow 2:
Average throughput: 3.90 Mbit/s
95th percentile per-packet one-way delay: 107.353 ms
Loss rate: 1.25%
-- Flow 3:
Average throughput: 0.54 Mbit/s
95th percentile per-packet one-way delay: 93.706 ms
Loss rate: 2.36%

Run 5: Report of Sprout — Data Link



Run 1: Statistics of TaoVA-100x

Start at: 2019-02-05 18:14:56

End at: 2019-02-05 18:15:26

Local clock offset: 2.973 ms

Remote clock offset: 3.14 ms

Below is generated by plot.py at 2019-02-05 20:40:00

Datalink statistics

-- Total of 3 flows:

Average throughput: 83.35 Mbit/s

95th percentile per-packet one-way delay: 159.045 ms

Loss rate: 0.84%

-- Flow 1:

Average throughput: 49.09 Mbit/s

95th percentile per-packet one-way delay: 154.993 ms

Loss rate: 0.54%

-- Flow 2:

Average throughput: 36.92 Mbit/s

95th percentile per-packet one-way delay: 165.029 ms

Loss rate: 0.81%

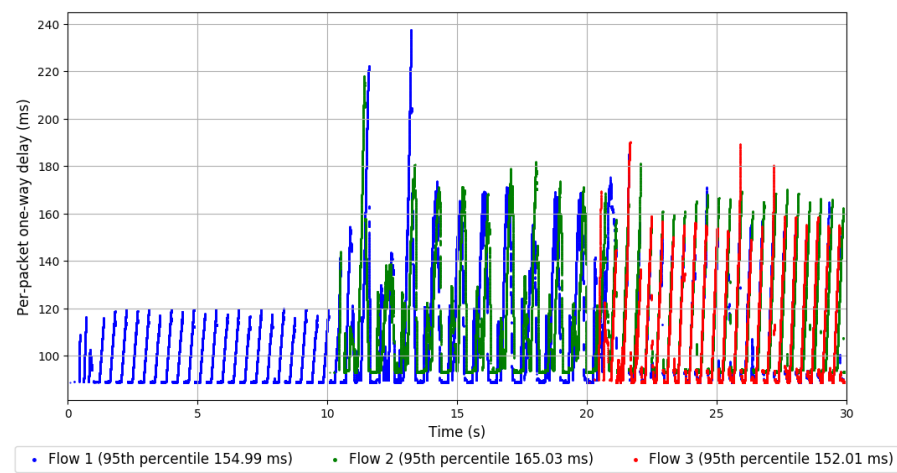
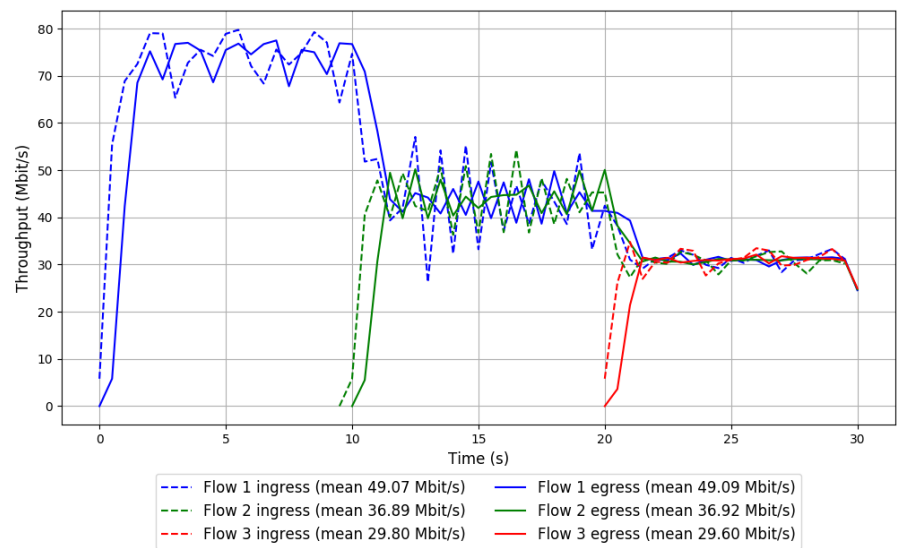
-- Flow 3:

Average throughput: 29.60 Mbit/s

95th percentile per-packet one-way delay: 152.013 ms

Loss rate: 2.43%

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



Run 2: Statistics of TaoVA-100x

Start at: 2019-02-05 18:41:55

End at: 2019-02-05 18:42:25

Local clock offset: 0.067 ms

Remote clock offset: 5.284 ms

Below is generated by plot.py at 2019-02-05 20:40:02

Datalink statistics

-- Total of 3 flows:

Average throughput: 83.11 Mbit/s

95th percentile per-packet one-way delay: 156.071 ms

Loss rate: 0.73%

-- Flow 1:

Average throughput: 48.83 Mbit/s

95th percentile per-packet one-way delay: 156.247 ms

Loss rate: 0.43%

-- Flow 2:

Average throughput: 36.99 Mbit/s

95th percentile per-packet one-way delay: 160.669 ms

Loss rate: 0.86%

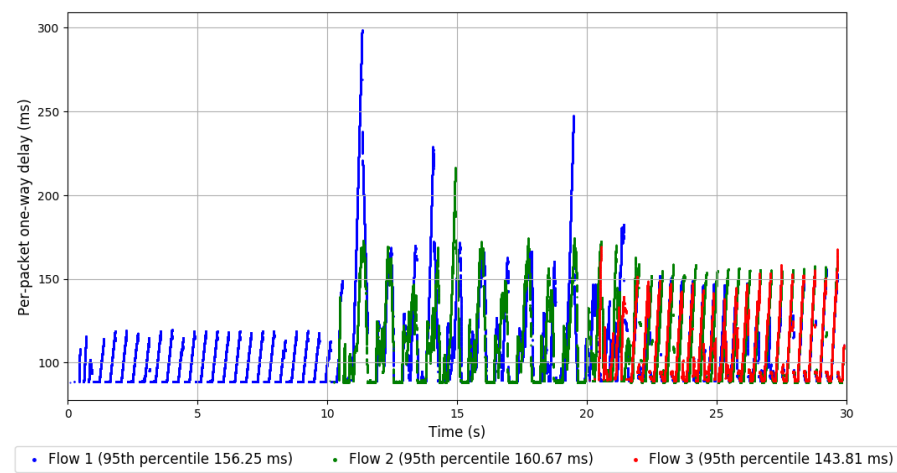
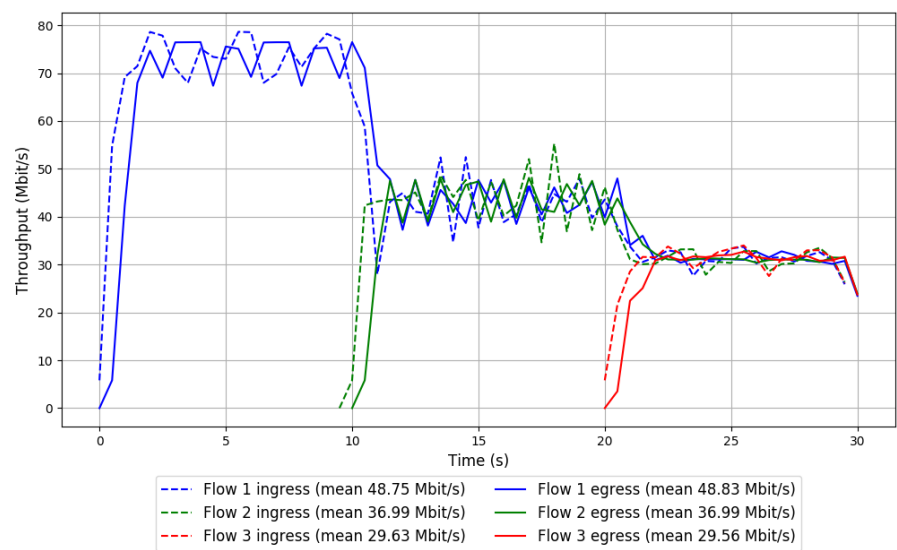
-- Flow 3:

Average throughput: 29.56 Mbit/s

95th percentile per-packet one-way delay: 143.810 ms

Loss rate: 1.95%

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



Run 3: Statistics of TaoVA-100x

Start at: 2019-02-05 19:08:57

End at: 2019-02-05 19:09:27

Local clock offset: -2.122 ms

Remote clock offset: 2.617 ms

Below is generated by plot.py at 2019-02-05 20:40:07

Datalink statistics

-- Total of 3 flows:

Average throughput: 84.08 Mbit/s

95th percentile per-packet one-way delay: 160.173 ms

Loss rate: 0.70%

-- Flow 1:

Average throughput: 49.67 Mbit/s

95th percentile per-packet one-way delay: 155.206 ms

Loss rate: 0.40%

-- Flow 2:

Average throughput: 37.10 Mbit/s

95th percentile per-packet one-way delay: 166.642 ms

Loss rate: 0.82%

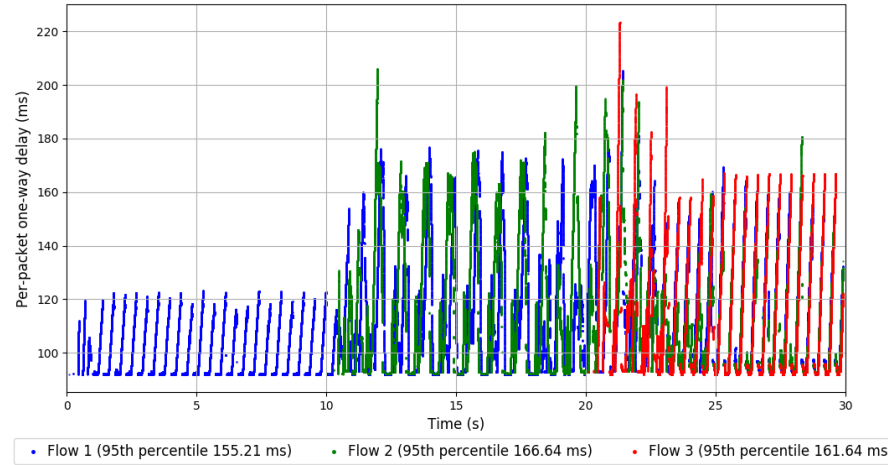
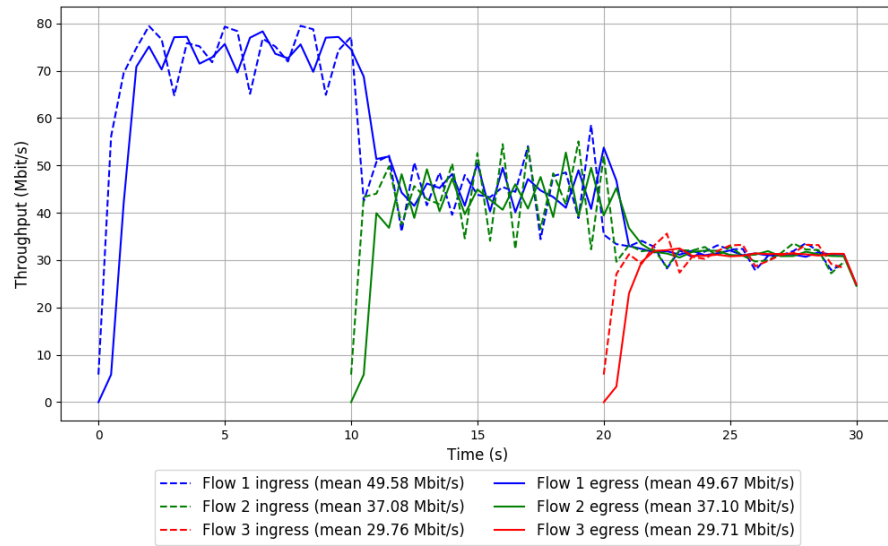
-- Flow 3:

Average throughput: 29.71 Mbit/s

95th percentile per-packet one-way delay: 161.637 ms

Loss rate: 1.93%

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



Run 4: Statistics of TaoVA-100x

Start at: 2019-02-05 19:35:58

End at: 2019-02-05 19:36:28

Local clock offset: -2.918 ms

Remote clock offset: 9.248 ms

Below is generated by plot.py at 2019-02-05 20:40:13

Datalink statistics

-- Total of 3 flows:

Average throughput: 83.76 Mbit/s

95th percentile per-packet one-way delay: 155.498 ms

Loss rate: 0.80%

-- Flow 1:

Average throughput: 49.46 Mbit/s

95th percentile per-packet one-way delay: 150.933 ms

Loss rate: 0.48%

-- Flow 2:

Average throughput: 36.98 Mbit/s

95th percentile per-packet one-way delay: 161.231 ms

Loss rate: 0.92%

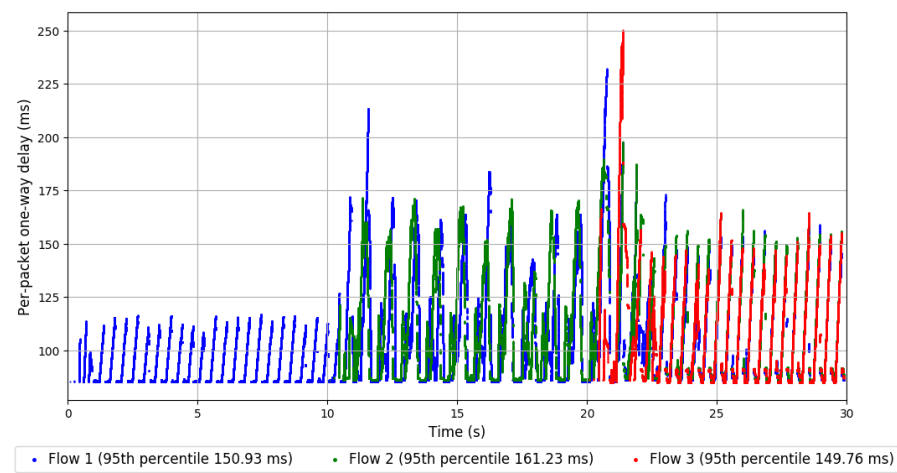
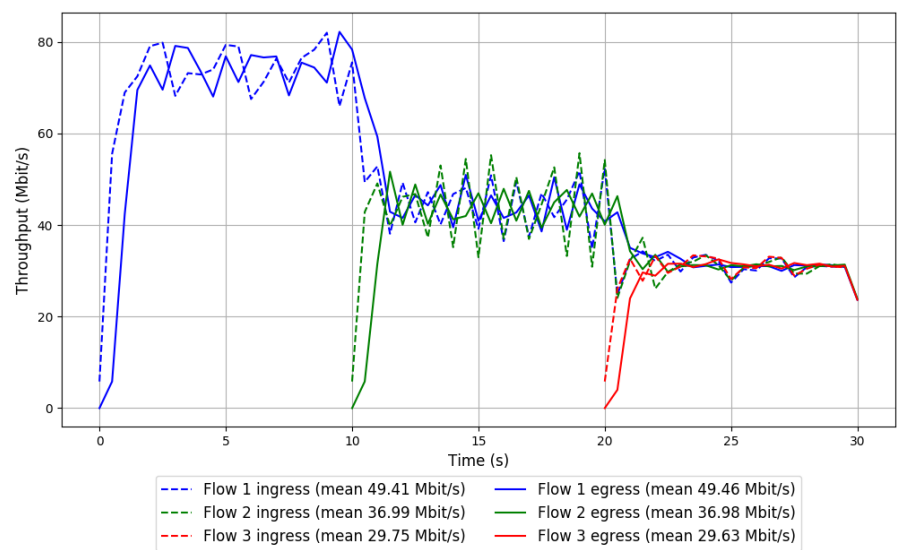
-- Flow 3:

Average throughput: 29.63 Mbit/s

95th percentile per-packet one-way delay: 149.764 ms

Loss rate: 2.13%

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



Run 5: Statistics of TaoVA-100x

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

End at: 2019-02-05 20:03:28

Local clock offset: -1.983 ms

Remote clock offset: 5.232 ms

Below is generated by plot.py at 2019-02-05 20:40:18

Datalink statistics

-- Total of 3 flows:

Average throughput: 85.02 Mbit/s

95th percentile per-packet one-way delay: 154.875 ms

Loss rate: 0.84%

-- Flow 1:

Average throughput: 49.89 Mbit/s

95th percentile per-packet one-way delay: 152.057 ms

Loss rate: 0.53%

-- Flow 2:

Average throughput: 38.22 Mbit/s

95th percentile per-packet one-way delay: 156.667 ms

Loss rate: 0.97%

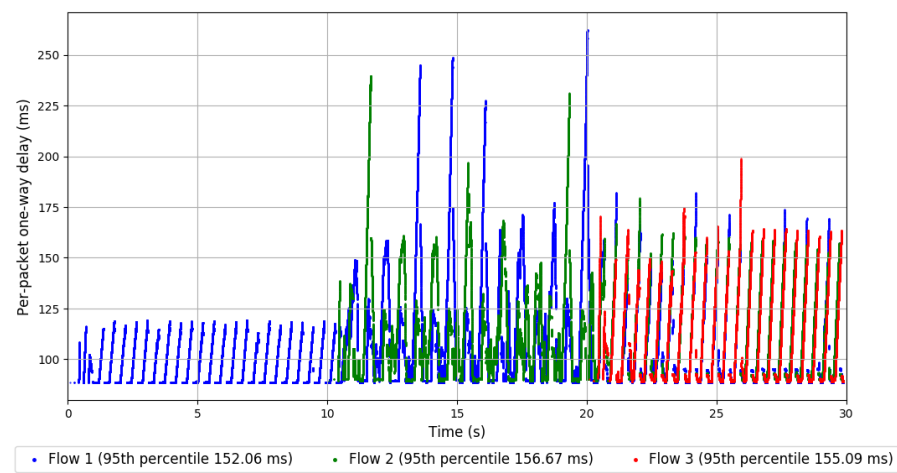
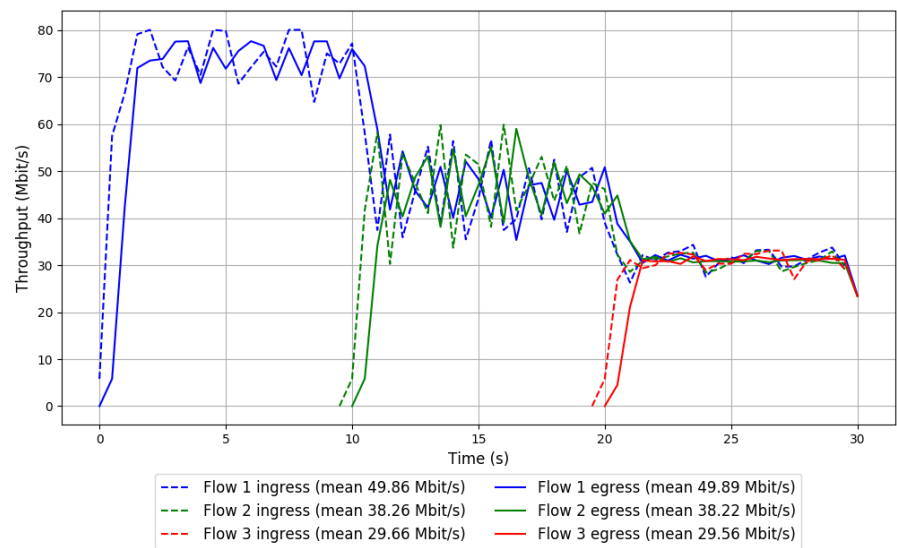
-- Flow 3:

Average throughput: 29.56 Mbit/s

95th percentile per-packet one-way delay: 155.093 ms

Loss rate: 2.09%

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



Run 1: Statistics of TCP Vegas

Start at: 2019-02-05 18:12:22

End at: 2019-02-05 18:12:52

Local clock offset: 2.682 ms

Remote clock offset: 0.487 ms

Below is generated by plot.py at 2019-02-05 20:40:18

Datalink statistics

-- Total of 3 flows:

Average throughput: 64.82 Mbit/s

95th percentile per-packet one-way delay: 156.386 ms

Loss rate: 0.83%

-- Flow 1:

Average throughput: 35.37 Mbit/s

95th percentile per-packet one-way delay: 177.783 ms

Loss rate: 0.46%

-- Flow 2:

Average throughput: 33.61 Mbit/s

95th percentile per-packet one-way delay: 114.084 ms

Loss rate: 1.01%

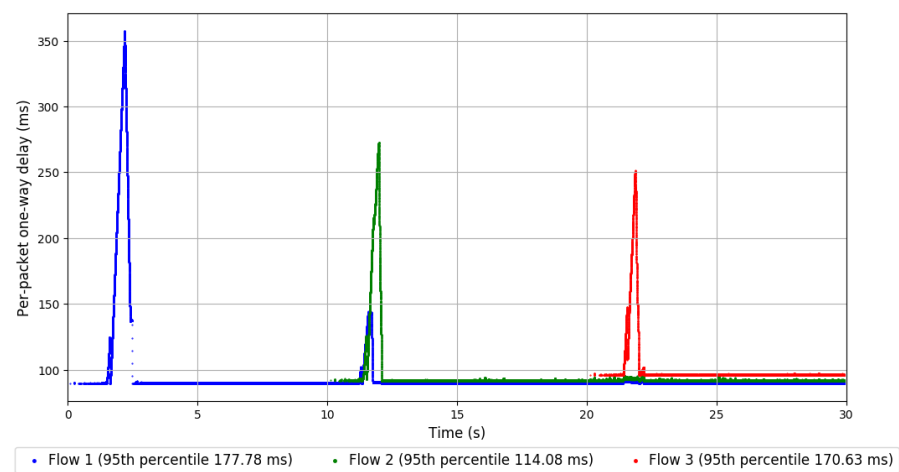
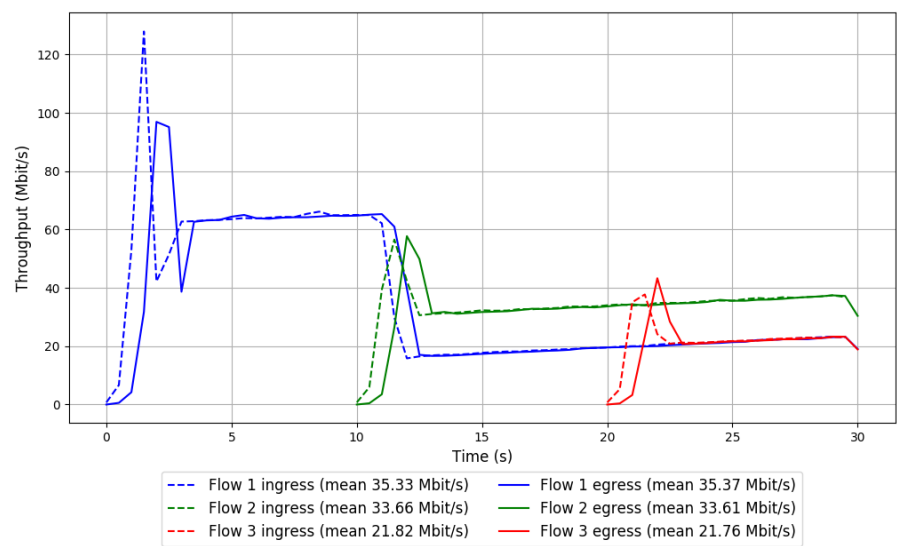
-- Flow 3:

Average throughput: 21.76 Mbit/s

95th percentile per-packet one-way delay: 170.629 ms

Loss rate: 2.05%

Run 1: Report of TCP Vegas — Data Link



Run 2: Statistics of TCP Vegas

Start at: 2019-02-05 18:39:21

End at: 2019-02-05 18:39:51

Local clock offset: -0.056 ms

Remote clock offset: 1.096 ms

Below is generated by plot.py at 2019-02-05 20:40:18

Datalink statistics

-- Total of 3 flows:

Average throughput: 52.26 Mbit/s

95th percentile per-packet one-way delay: 190.724 ms

Loss rate: 0.55%

-- Flow 1:

Average throughput: 29.48 Mbit/s

95th percentile per-packet one-way delay: 213.786 ms

Loss rate: 0.29%

-- Flow 2:

Average throughput: 25.03 Mbit/s

95th percentile per-packet one-way delay: 176.093 ms

Loss rate: 0.50%

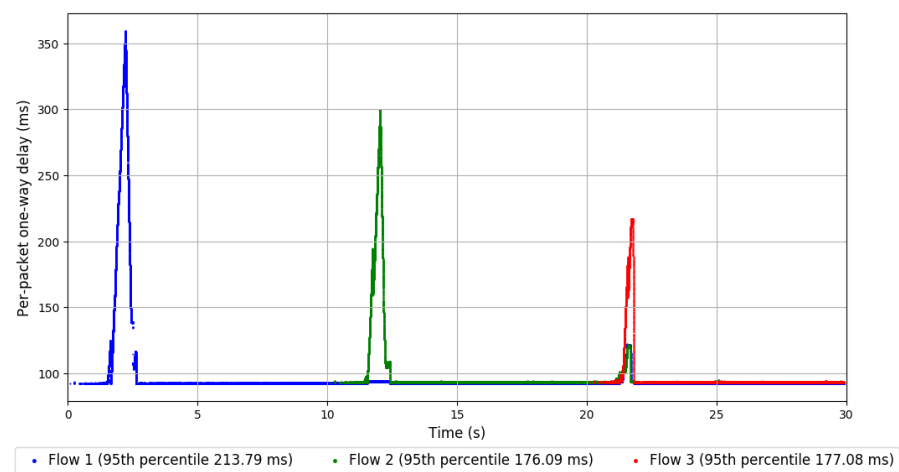
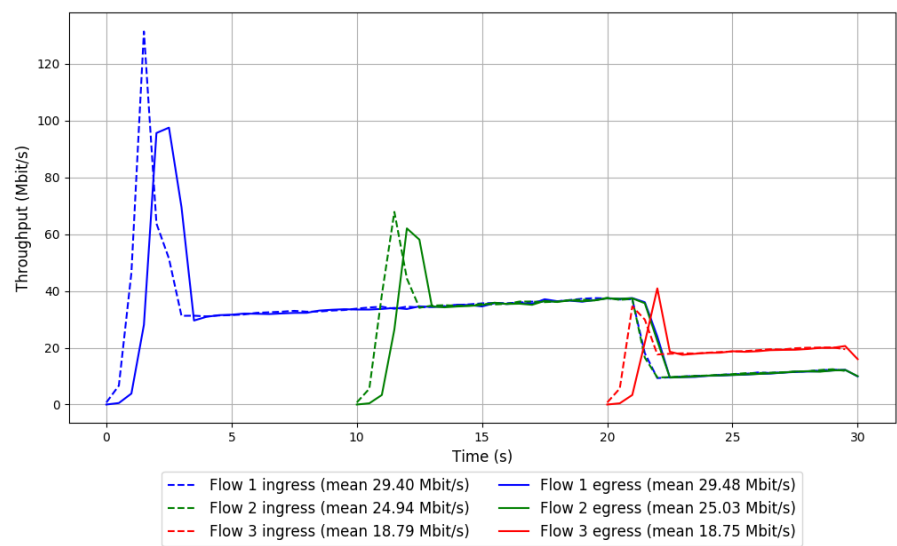
-- Flow 3:

Average throughput: 18.75 Mbit/s

95th percentile per-packet one-way delay: 177.083 ms

Loss rate: 1.94%

Run 2: Report of TCP Vegas — Data Link



Run 3: Statistics of TCP Vegas

Start at: 2019-02-05 19:06:23

End at: 2019-02-05 19:06:53

Local clock offset: -2.22 ms

Remote clock offset: 6.242 ms

Below is generated by plot.py at 2019-02-05 20:40:18

Datalink statistics

-- Total of 3 flows:

Average throughput: 64.17 Mbit/s

95th percentile per-packet one-way delay: 163.331 ms

Loss rate: 0.81%

-- Flow 1:

Average throughput: 34.23 Mbit/s

95th percentile per-packet one-way delay: 189.536 ms

Loss rate: 0.42%

-- Flow 2:

Average throughput: 33.56 Mbit/s

95th percentile per-packet one-way delay: 110.901 ms

Loss rate: 0.99%

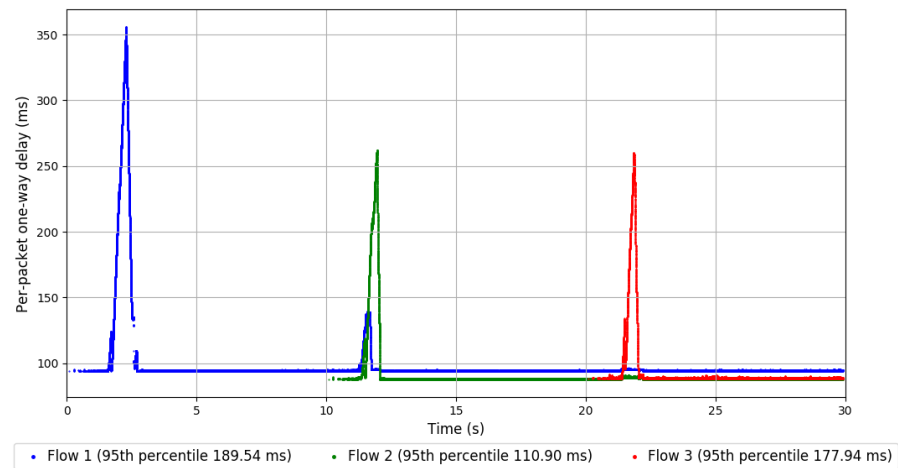
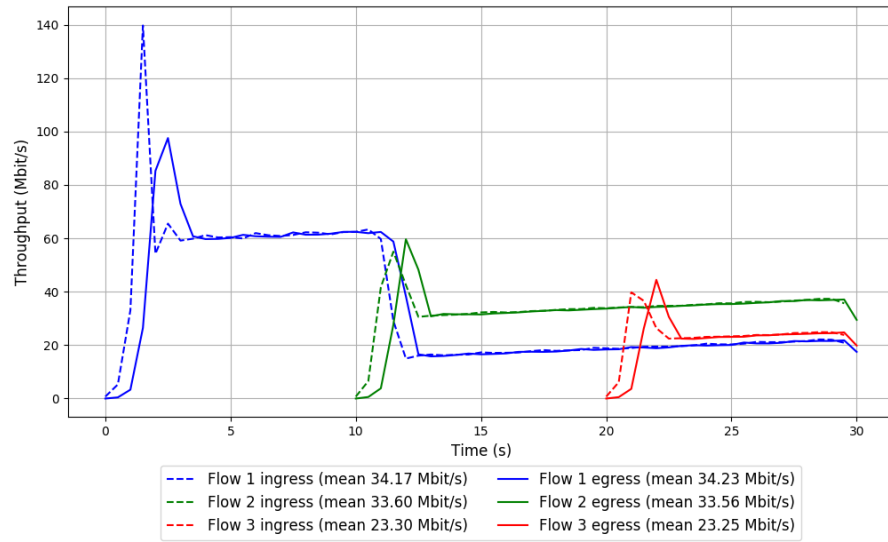
-- Flow 3:

Average throughput: 23.25 Mbit/s

95th percentile per-packet one-way delay: 177.942 ms

Loss rate: 1.96%

Run 3: Report of TCP Vegas — Data Link



Run 4: Statistics of TCP Vegas

Start at: 2019-02-05 19:33:24

End at: 2019-02-05 19:33:54

Local clock offset: -2.92 ms

Remote clock offset: 4.358 ms

Below is generated by plot.py at 2019-02-05 20:40:18

Datalink statistics

-- Total of 3 flows:

Average throughput: 57.45 Mbit/s

95th percentile per-packet one-way delay: 184.560 ms

Loss rate: 0.94%

-- Flow 1:

Average throughput: 36.03 Mbit/s

95th percentile per-packet one-way delay: 183.213 ms

Loss rate: 0.70%

-- Flow 2:

Average throughput: 21.26 Mbit/s

95th percentile per-packet one-way delay: 187.418 ms

Loss rate: 1.01%

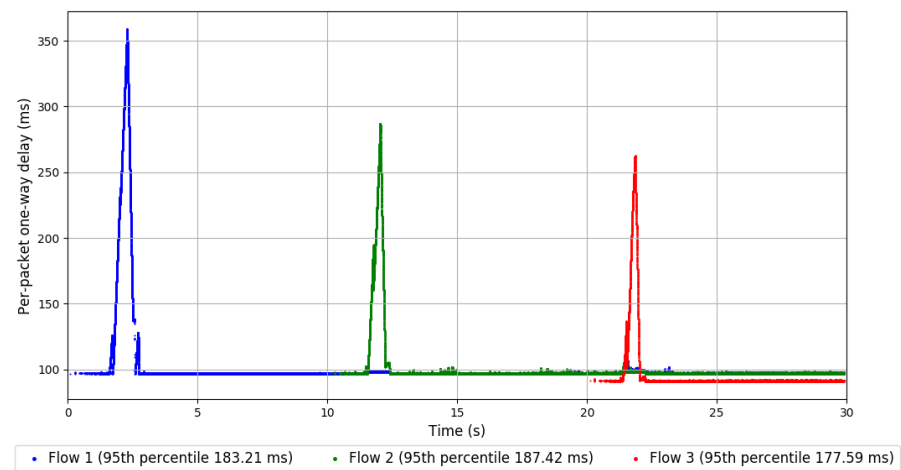
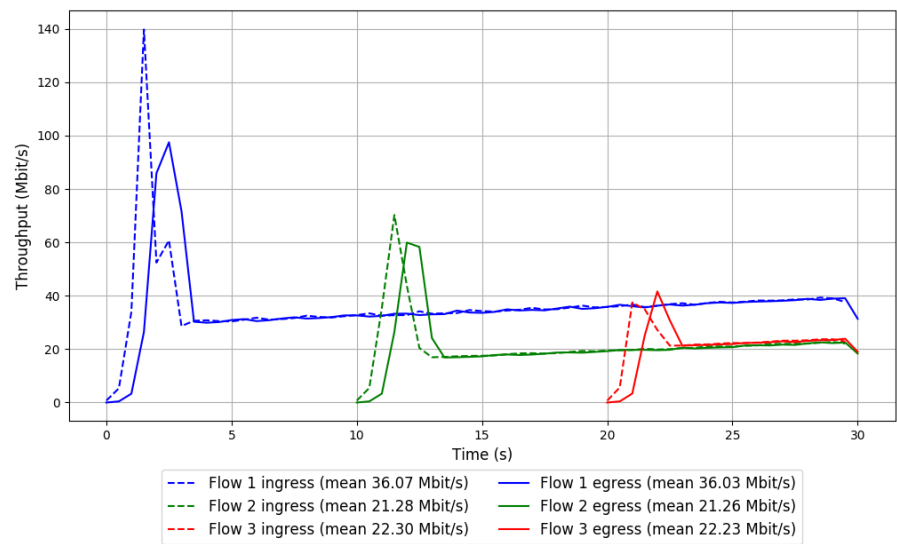
-- Flow 3:

Average throughput: 22.23 Mbit/s

95th percentile per-packet one-way delay: 177.590 ms

Loss rate: 2.02%

Run 4: Report of TCP Vegas — Data Link



Run 5: Statistics of TCP Vegas

Start at: 2019-02-05 20:00:24

End at: 2019-02-05 20:00:54

Local clock offset: -2.835 ms

Remote clock offset: 1.289 ms

Below is generated by plot.py at 2019-02-05 20:40:21

Datalink statistics

-- Total of 3 flows:

Average throughput: 56.96 Mbit/s

95th percentile per-packet one-way delay: 171.560 ms

Loss rate: 1.10%

-- Flow 1:

Average throughput: 35.30 Mbit/s

95th percentile per-packet one-way delay: 182.584 ms

Loss rate: 0.61%

-- Flow 2:

Average throughput: 21.37 Mbit/s

95th percentile per-packet one-way delay: 169.078 ms

Loss rate: 1.59%

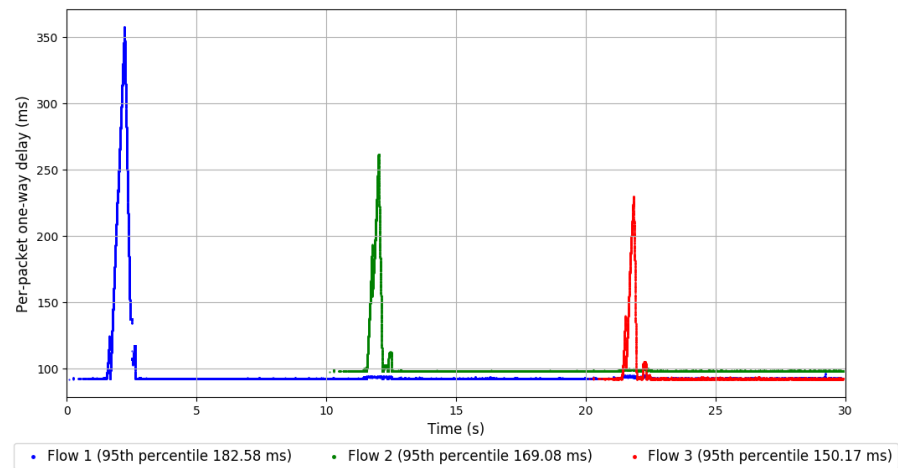
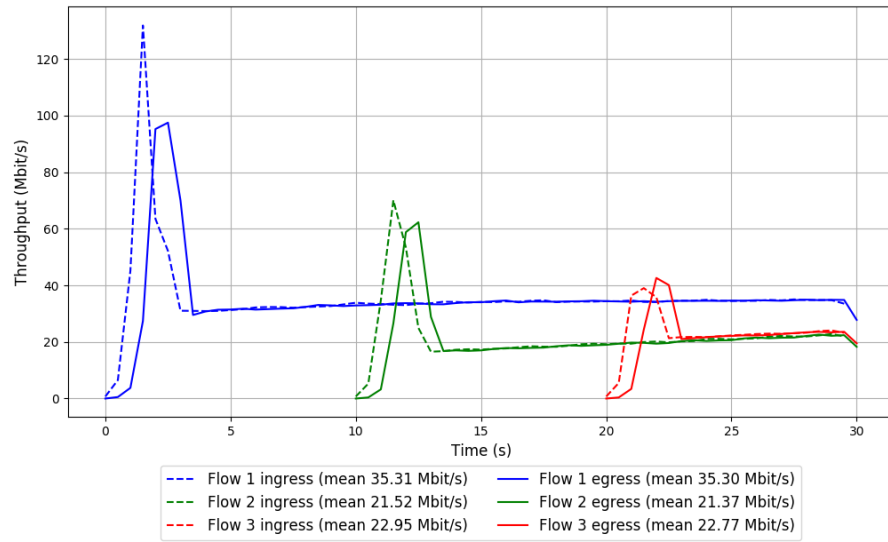
-- Flow 3:

Average throughput: 22.77 Mbit/s

95th percentile per-packet one-way delay: 150.167 ms

Loss rate: 2.50%

Run 5: Report of TCP Vegas — Data Link



Run 1: Statistics of Verus

Start at: 2019-02-05 18:35:29

End at: 2019-02-05 18:35:59

Local clock offset: 0.507 ms

Remote clock offset: 0.858 ms

Below is generated by plot.py at 2019-02-05 20:40:37

Datalink statistics

-- Total of 3 flows:

Average throughput: 69.17 Mbit/s

95th percentile per-packet one-way delay: 281.657 ms

Loss rate: 1.54%

-- Flow 1:

Average throughput: 39.81 Mbit/s

95th percentile per-packet one-way delay: 250.187 ms

Loss rate: 0.90%

-- Flow 2:

Average throughput: 33.62 Mbit/s

95th percentile per-packet one-way delay: 302.210 ms

Loss rate: 2.04%

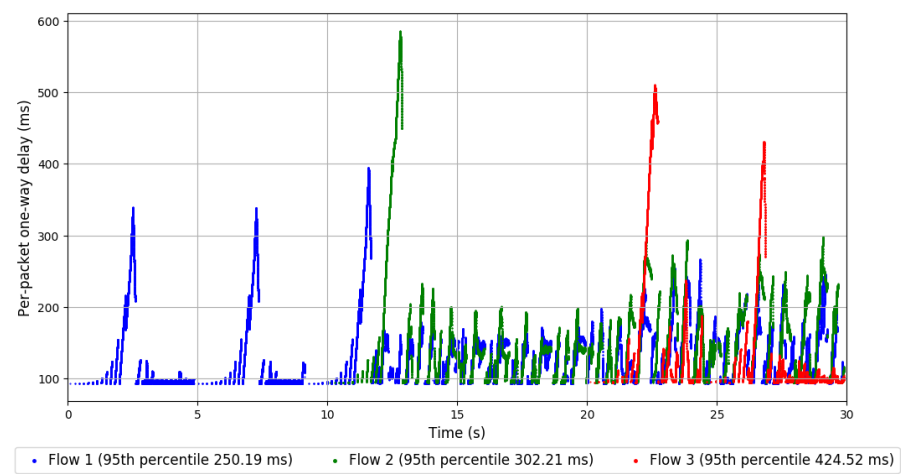
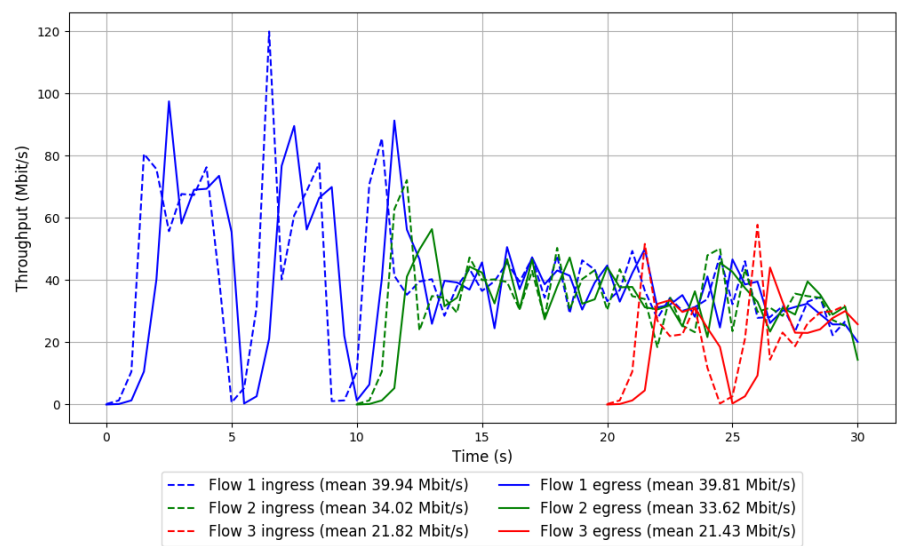
-- Flow 3:

Average throughput: 21.43 Mbit/s

95th percentile per-packet one-way delay: 424.517 ms

Loss rate: 3.48%

Run 1: Report of Verus — Data Link



Run 2: Statistics of Verus

Start at: 2019-02-05 19:02:31

End at: 2019-02-05 19:03:01

Local clock offset: -1.412 ms

Remote clock offset: 7.495 ms

Below is generated by plot.py at 2019-02-05 20:40:42

Datalink statistics

-- Total of 3 flows:

Average throughput: 70.62 Mbit/s

95th percentile per-packet one-way delay: 308.860 ms

Loss rate: 1.16%

-- Flow 1:

Average throughput: 42.71 Mbit/s

95th percentile per-packet one-way delay: 328.474 ms

Loss rate: 1.01%

-- Flow 2:

Average throughput: 33.83 Mbit/s

95th percentile per-packet one-way delay: 298.436 ms

Loss rate: 1.58%

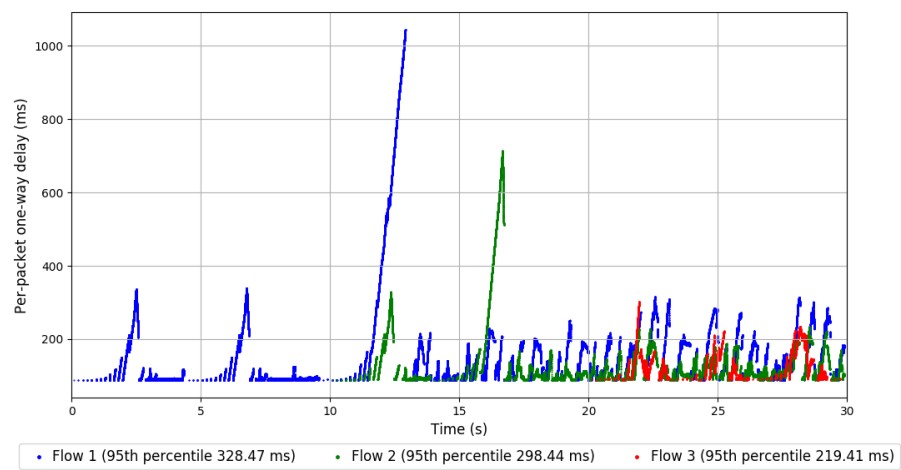
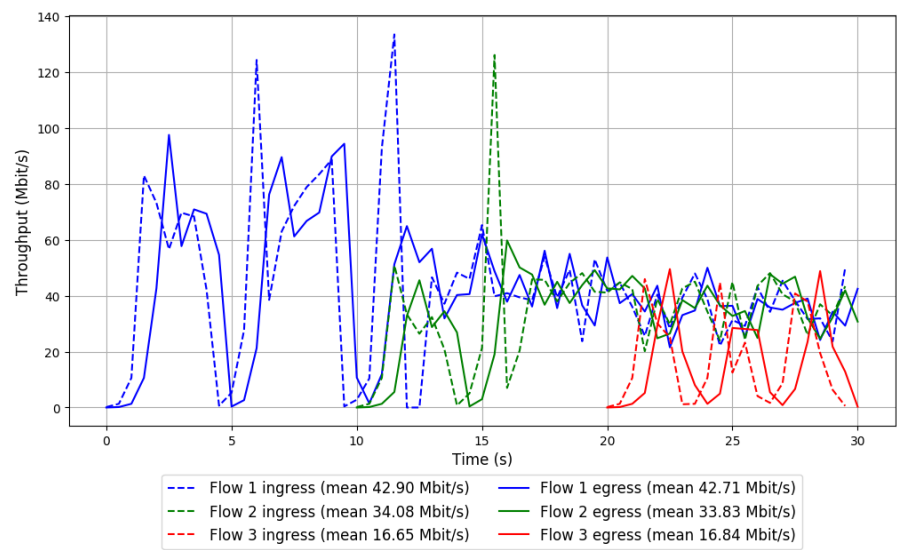
-- Flow 3:

Average throughput: 16.84 Mbit/s

95th percentile per-packet one-way delay: 219.410 ms

Loss rate: 0.63%

Run 2: Report of Verus — Data Link

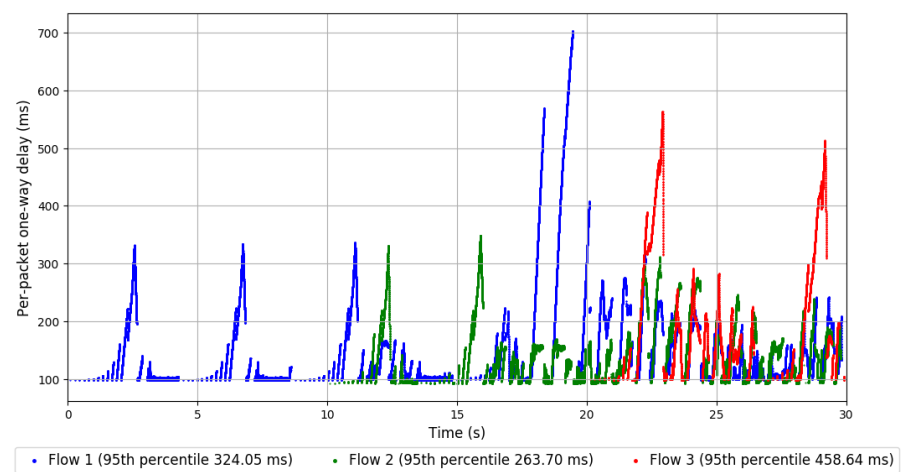
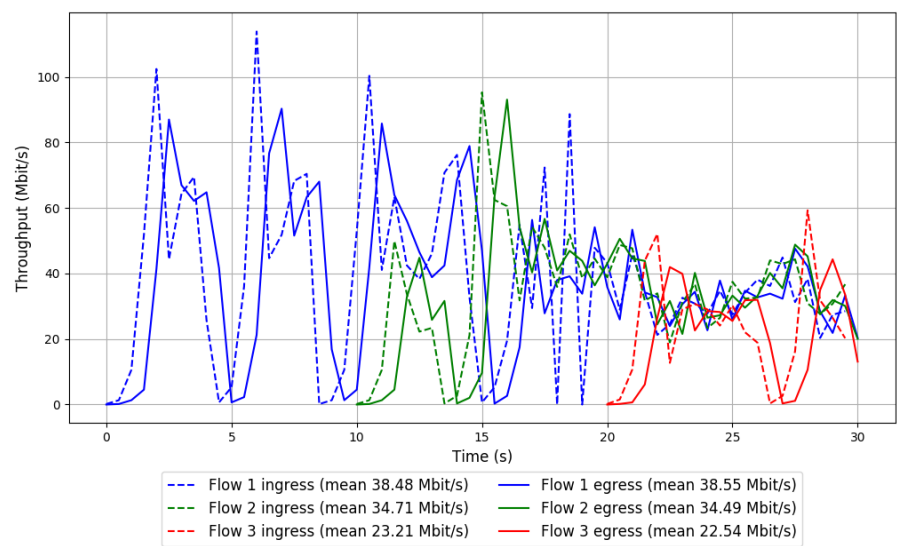


Run 3: Statistics of Verus

Start at: 2019-02-05 19:29:32
End at: 2019-02-05 19:30:02
Local clock offset: -2.179 ms
Remote clock offset: 3.115 ms

Below is generated by plot.py at 2019-02-05 20:40:47
Datalink statistics
-- Total of 3 flows:
Average throughput: 68.61 Mbit/s
95th percentile per-packet one-way delay: 329.882 ms
Loss rate: 1.58%
-- Flow 1:
Average throughput: 38.55 Mbit/s
95th percentile per-packet one-way delay: 324.046 ms
Loss rate: 0.69%
-- Flow 2:
Average throughput: 34.49 Mbit/s
95th percentile per-packet one-way delay: 263.699 ms
Loss rate: 2.04%
-- Flow 3:
Average throughput: 22.54 Mbit/s
95th percentile per-packet one-way delay: 458.637 ms
Loss rate: 4.64%

Run 3: Report of Verus — Data Link



Run 4: Statistics of Verus

Start at: 2019-02-05 19:56:33

End at: 2019-02-05 19:57:03

Local clock offset: -2.815 ms

Remote clock offset: 7.501 ms

Below is generated by plot.py at 2019-02-05 20:40:47

Datalink statistics

-- Total of 3 flows:

Average throughput: 64.72 Mbit/s

95th percentile per-packet one-way delay: 305.587 ms

Loss rate: 1.71%

-- Flow 1:

Average throughput: 36.99 Mbit/s

95th percentile per-packet one-way delay: 268.005 ms

Loss rate: 2.19%

-- Flow 2:

Average throughput: 27.08 Mbit/s

95th percentile per-packet one-way delay: 340.934 ms

Loss rate: 0.33%

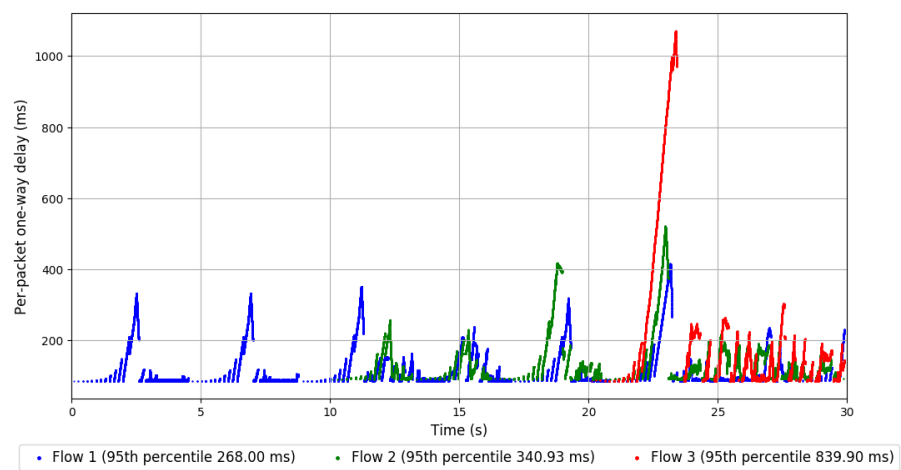
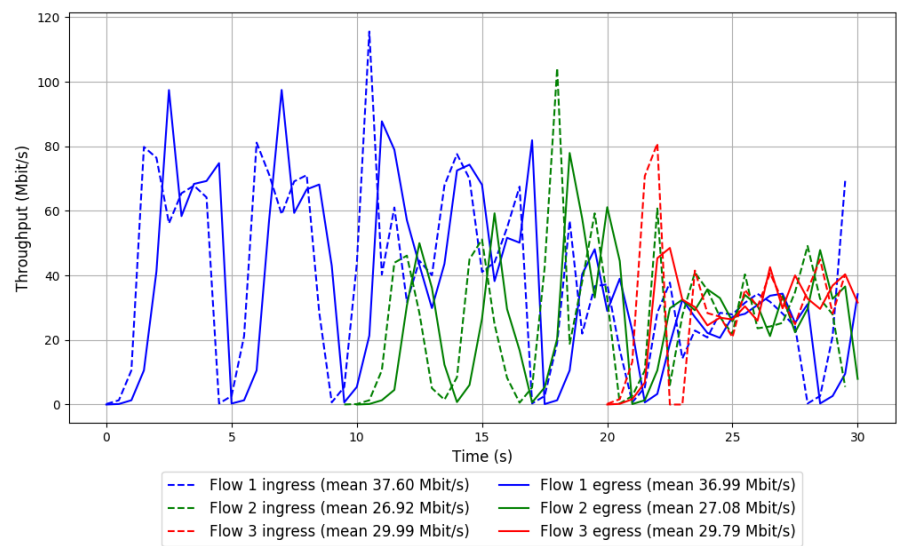
-- Flow 3:

Average throughput: 29.79 Mbit/s

95th percentile per-packet one-way delay: 839.897 ms

Loss rate: 2.38%

Run 4: Report of Verus — Data Link



Run 5: Statistics of Verus

Start at: 2019-02-05 20:23:35

End at: 2019-02-05 20:24:05

Local clock offset: -5.003 ms

Remote clock offset: 4.972 ms

Below is generated by plot.py at 2019-02-05 20:40:55

Datalink statistics

-- Total of 3 flows:

Average throughput: 68.08 Mbit/s

95th percentile per-packet one-way delay: 286.988 ms

Loss rate: 1.24%

-- Flow 1:

Average throughput: 38.04 Mbit/s

95th percentile per-packet one-way delay: 275.711 ms

Loss rate: 0.82%

-- Flow 2:

Average throughput: 33.55 Mbit/s

95th percentile per-packet one-way delay: 290.446 ms

Loss rate: 1.14%

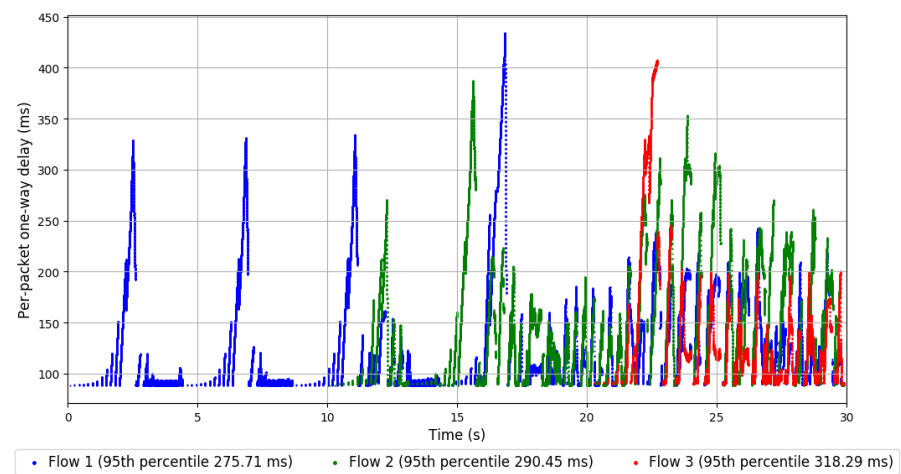
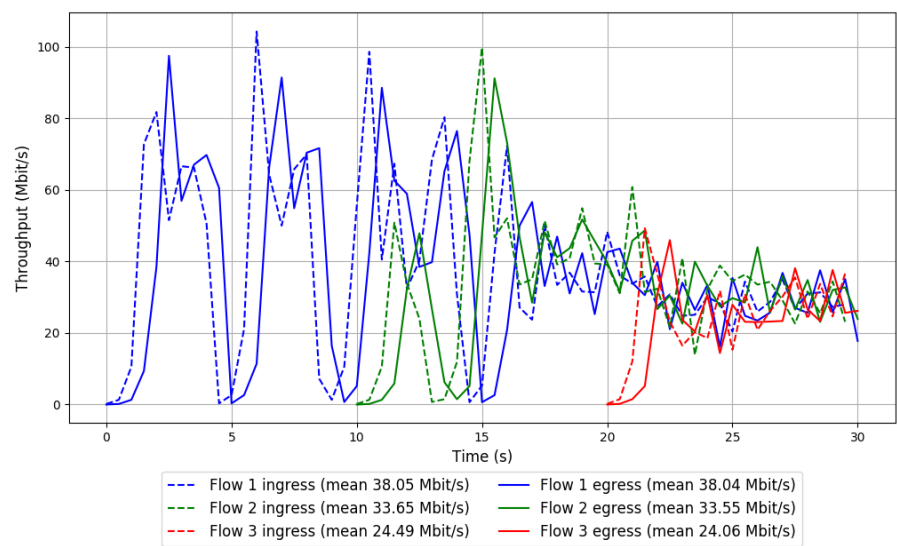
-- Flow 3:

Average throughput: 24.06 Mbit/s

95th percentile per-packet one-way delay: 318.286 ms

Loss rate: 3.46%

Run 5: Report of Verus — Data Link



Run 1: Statistics of PCC-Vivace

Start at: 2019-02-05 18:21:30

End at: 2019-02-05 18:22:00

Local clock offset: 0.951 ms

Remote clock offset: 0.678 ms

Below is generated by plot.py at 2019-02-05 20:41:09

Datalink statistics

-- Total of 3 flows:

Average throughput: 77.96 Mbit/s

95th percentile per-packet one-way delay: 1549.579 ms

Loss rate: 6.89%

-- Flow 1:

Average throughput: 52.68 Mbit/s

95th percentile per-packet one-way delay: 1595.756 ms

Loss rate: 6.10%

-- Flow 2:

Average throughput: 26.89 Mbit/s

95th percentile per-packet one-way delay: 1361.756 ms

Loss rate: 10.63%

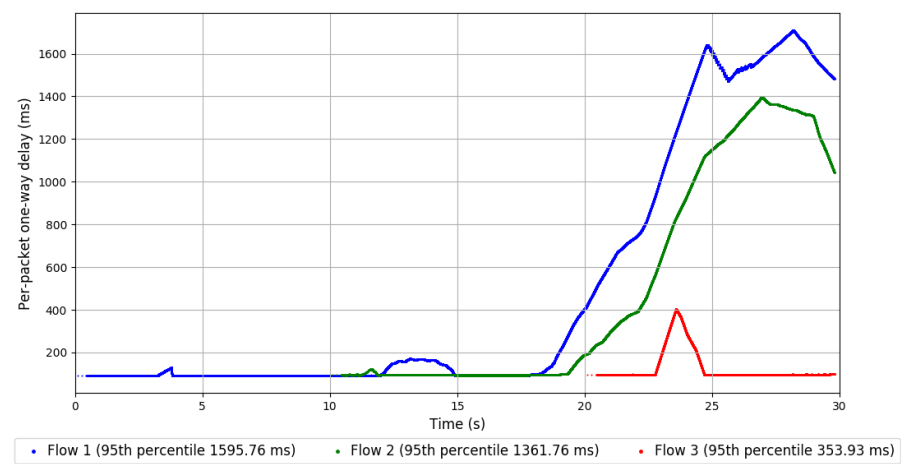
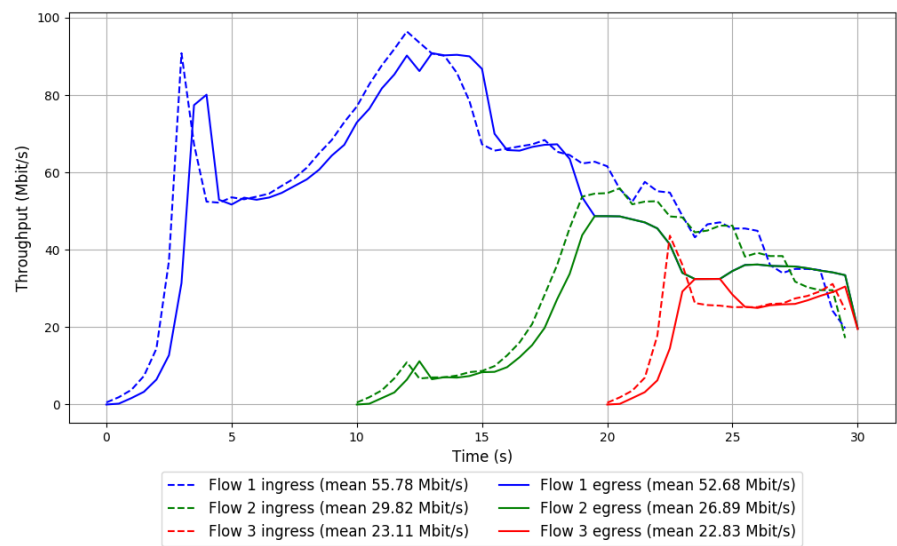
-- Flow 3:

Average throughput: 22.83 Mbit/s

95th percentile per-packet one-way delay: 353.930 ms

Loss rate: 2.93%

Run 1: Report of PCC-Vivace — Data Link



Run 2: Statistics of PCC-Vivace

Start at: 2019-02-05 18:48:31

End at: 2019-02-05 18:49:01

Local clock offset: -1.025 ms

Remote clock offset: 7.843 ms

Below is generated by plot.py at 2019-02-05 20:41:11

Datalink statistics

-- Total of 3 flows:

Average throughput: 79.74 Mbit/s

95th percentile per-packet one-way delay: 1809.875 ms

Loss rate: 4.72%

-- Flow 1:

Average throughput: 51.98 Mbit/s

95th percentile per-packet one-way delay: 1949.846 ms

Loss rate: 5.31%

-- Flow 2:

Average throughput: 30.96 Mbit/s

95th percentile per-packet one-way delay: 696.582 ms

Loss rate: 3.71%

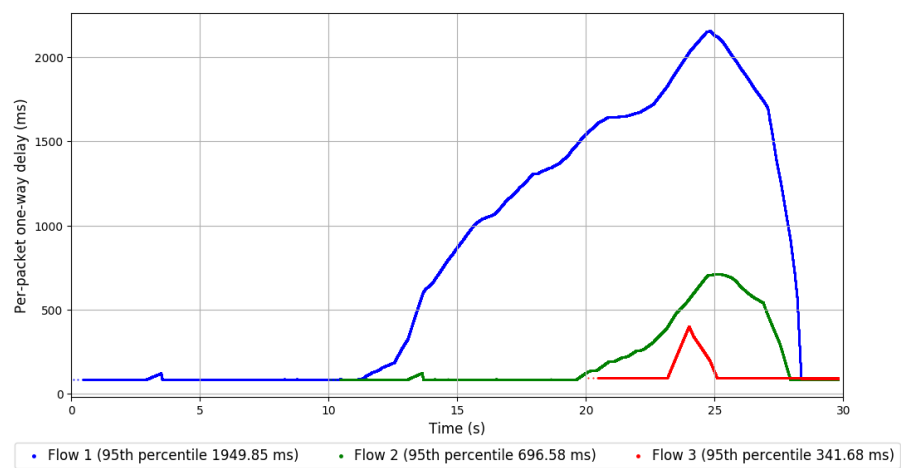
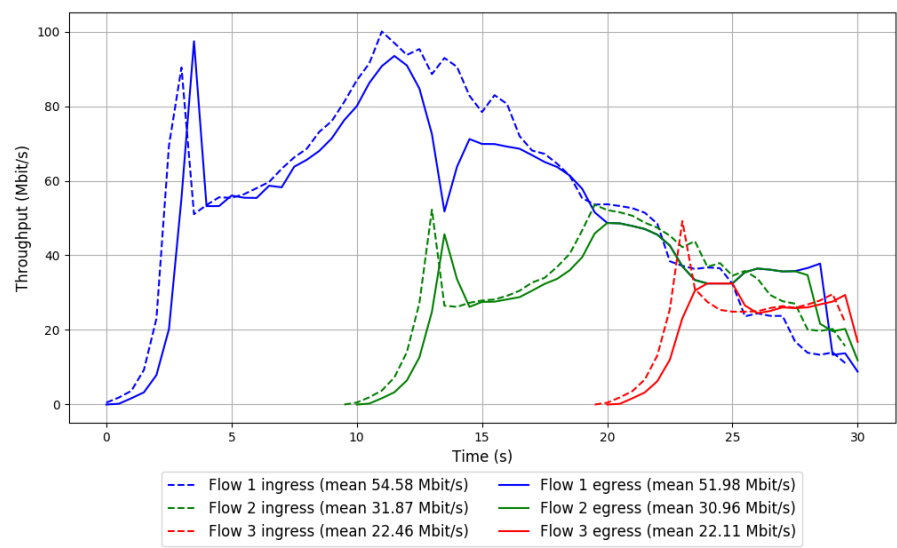
-- Flow 3:

Average throughput: 22.11 Mbit/s

95th percentile per-packet one-way delay: 341.681 ms

Loss rate: 3.31%

Run 2: Report of PCC-Vivace — Data Link



Run 3: Statistics of PCC-Vivace

Start at: 2019-02-05 19:15:31

End at: 2019-02-05 19:16:01

Local clock offset: -1.138 ms

Remote clock offset: 2.674 ms

Below is generated by plot.py at 2019-02-05 20:41:13

Datalink statistics

-- Total of 3 flows:

Average throughput: 77.49 Mbit/s

95th percentile per-packet one-way delay: 1673.915 ms

Loss rate: 4.15%

-- Flow 1:

Average throughput: 50.01 Mbit/s

95th percentile per-packet one-way delay: 1734.732 ms

Loss rate: 4.67%

-- Flow 2:

Average throughput: 30.39 Mbit/s

95th percentile per-packet one-way delay: 558.176 ms

Loss rate: 3.27%

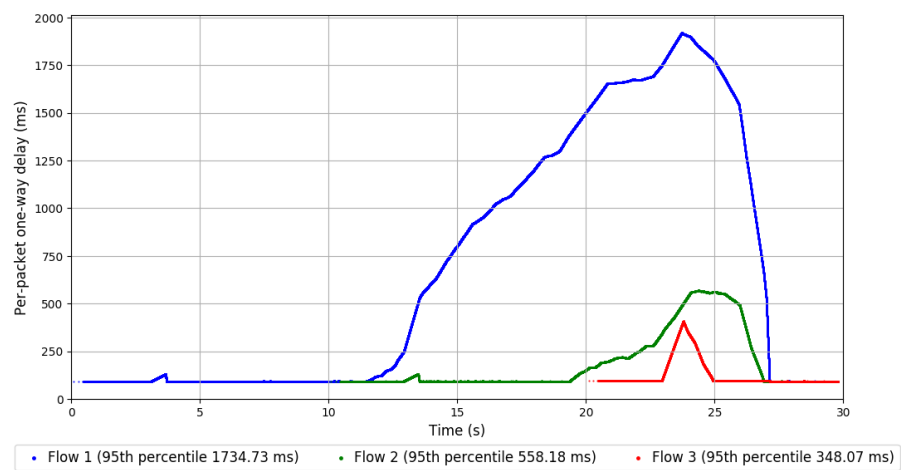
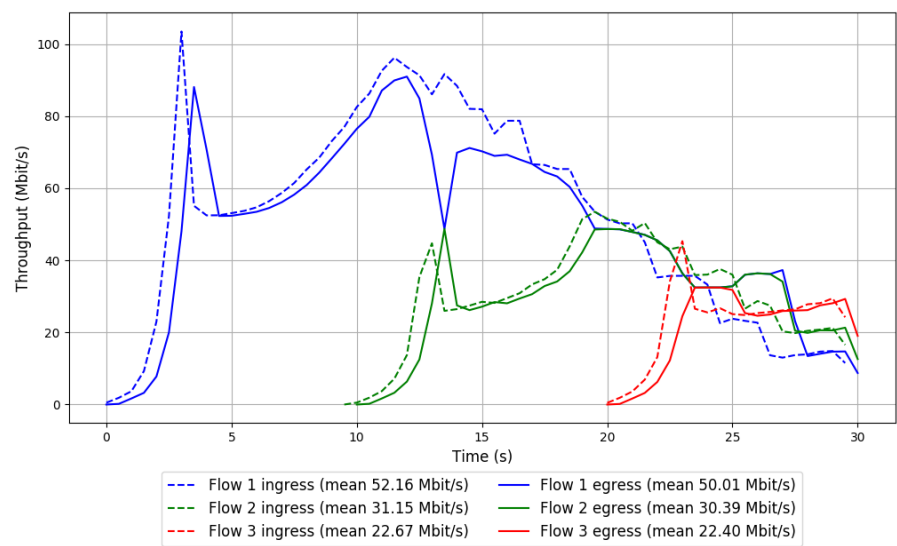
-- Flow 3:

Average throughput: 22.40 Mbit/s

95th percentile per-packet one-way delay: 348.066 ms

Loss rate: 2.93%

Run 3: Report of PCC-Vivace — Data Link



Run 4: Statistics of PCC-Vivace

Start at: 2019-02-05 19:42:32

End at: 2019-02-05 19:43:02

Local clock offset: -2.076 ms

Remote clock offset: 6.076 ms

Below is generated by plot.py at 2019-02-05 20:41:18

Datalink statistics

-- Total of 3 flows:

Average throughput: 78.34 Mbit/s

95th percentile per-packet one-way delay: 1946.119 ms

Loss rate: 4.62%

-- Flow 1:

Average throughput: 50.88 Mbit/s

95th percentile per-packet one-way delay: 2072.470 ms

Loss rate: 5.45%

-- Flow 2:

Average throughput: 30.45 Mbit/s

95th percentile per-packet one-way delay: 523.479 ms

Loss rate: 3.11%

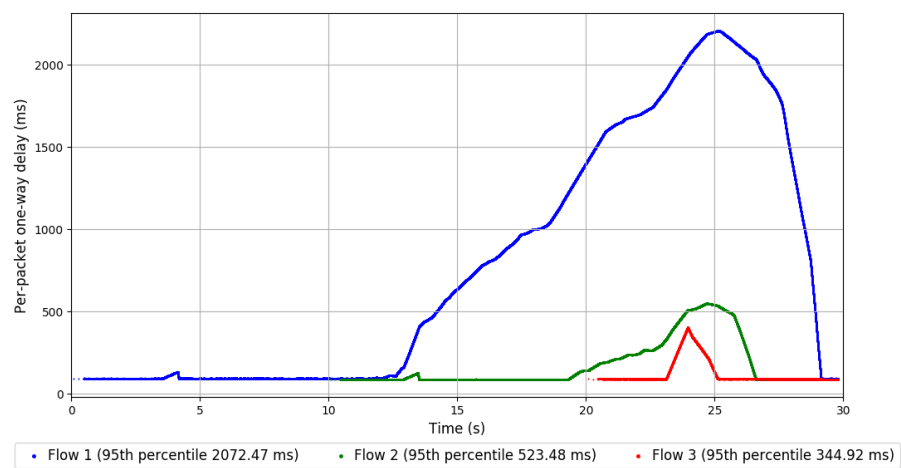
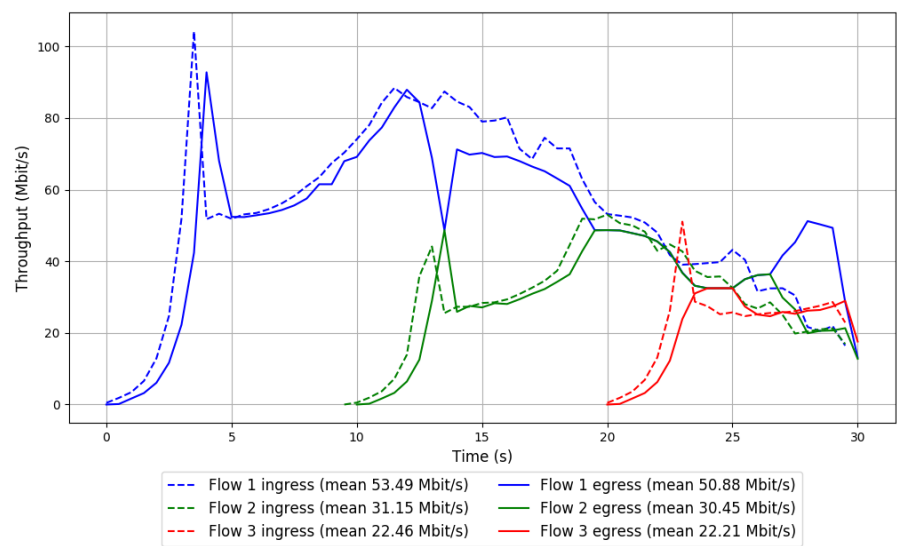
-- Flow 3:

Average throughput: 22.21 Mbit/s

95th percentile per-packet one-way delay: 344.918 ms

Loss rate: 2.87%

Run 4: Report of PCC-Vivace — Data Link



Run 5: Statistics of PCC-Vivace

Start at: 2019-02-05 20:09:33

End at: 2019-02-05 20:10:03

Local clock offset: -1.883 ms

Remote clock offset: 1.231 ms

Below is generated by plot.py at 2019-02-05 20:41:19

Datalink statistics

-- Total of 3 flows:

Average throughput: 79.08 Mbit/s

95th percentile per-packet one-way delay: 1998.986 ms

Loss rate: 5.32%

-- Flow 1:

Average throughput: 50.80 Mbit/s

95th percentile per-packet one-way delay: 2088.916 ms

Loss rate: 6.20%

-- Flow 2:

Average throughput: 31.17 Mbit/s

95th percentile per-packet one-way delay: 717.886 ms

Loss rate: 3.93%

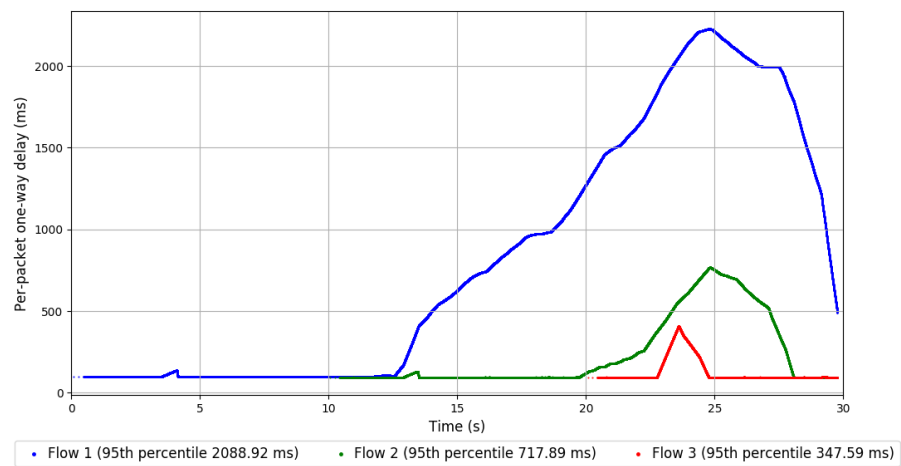
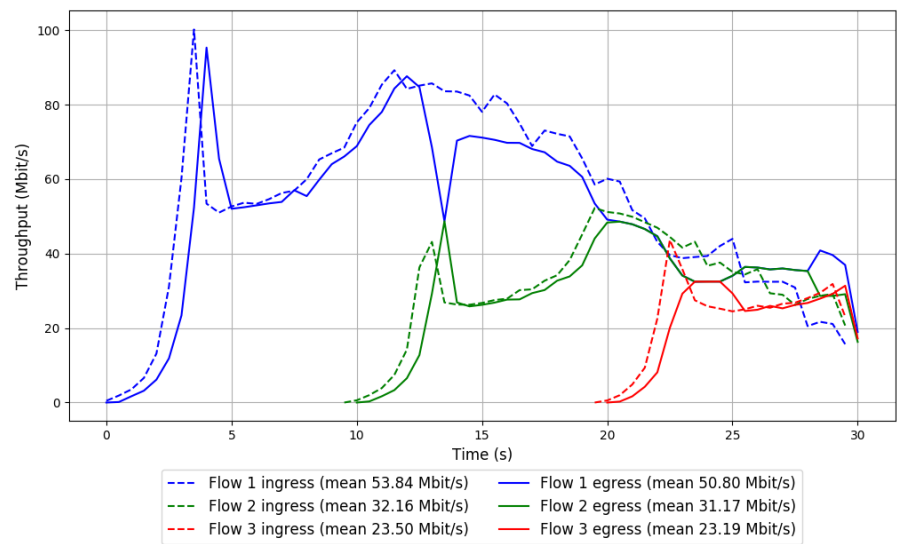
-- Flow 3:

Average throughput: 23.19 Mbit/s

95th percentile per-packet one-way delay: 347.594 ms

Loss rate: 3.09%

Run 5: Report of PCC-Vivace — Data Link



Run 1: Statistics of WebRTC media

Start at: 2019-02-05 18:33:00

End at: 2019-02-05 18:33:30

Local clock offset: -0.28 ms

Remote clock offset: 0.502 ms

Below is generated by plot.py at 2019-02-05 20:41:19

Datalink statistics

-- Total of 3 flows:

Average throughput: 2.97 Mbit/s

95th percentile per-packet one-way delay: 93.519 ms

Loss rate: 0.66%

-- Flow 1:

Average throughput: 1.68 Mbit/s

95th percentile per-packet one-way delay: 93.624 ms

Loss rate: 0.35%

-- Flow 2:

Average throughput: 0.93 Mbit/s

95th percentile per-packet one-way delay: 91.527 ms

Loss rate: 0.75%

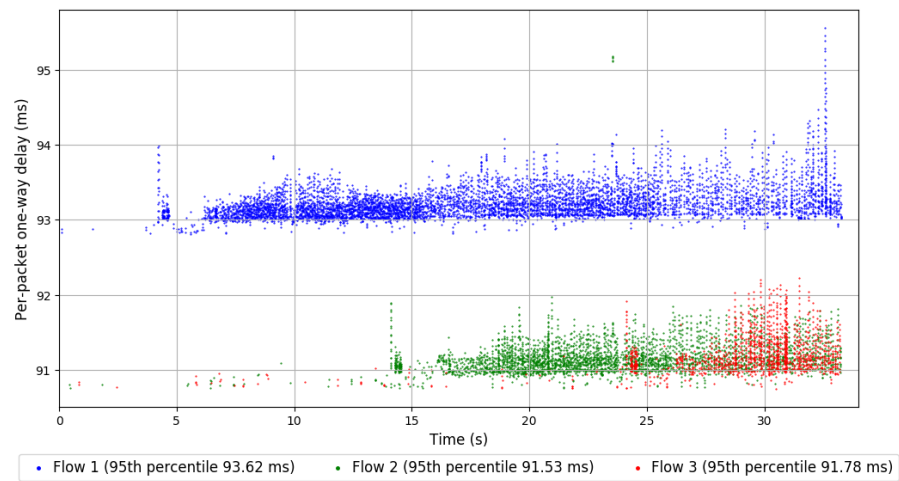
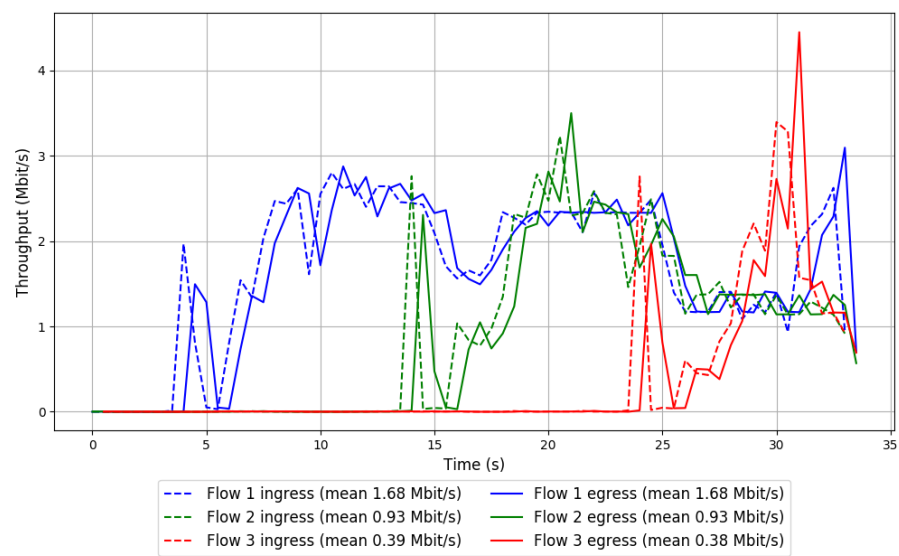
-- Flow 3:

Average throughput: 0.38 Mbit/s

95th percentile per-packet one-way delay: 91.784 ms

Loss rate: 1.82%

Run 1: Report of WebRTC media — Data Link



Run 2: Statistics of WebRTC media

Start at: 2019-02-05 19:00:01

End at: 2019-02-05 19:00:31

Local clock offset: -2.219 ms

Remote clock offset: 3.765 ms

Below is generated by plot.py at 2019-02-05 20:41:19

Datalink statistics

-- Total of 3 flows:

Average throughput: 2.96 Mbit/s

95th percentile per-packet one-way delay: 96.847 ms

Loss rate: 0.71%

-- Flow 1:

Average throughput: 1.69 Mbit/s

95th percentile per-packet one-way delay: 91.721 ms

Loss rate: 0.35%

-- Flow 2:

Average throughput: 0.93 Mbit/s

95th percentile per-packet one-way delay: 90.938 ms

Loss rate: 0.62%

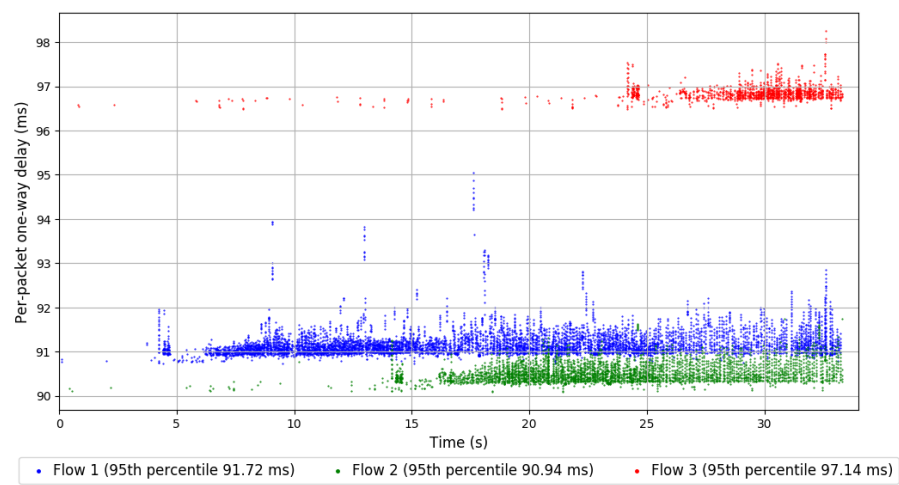
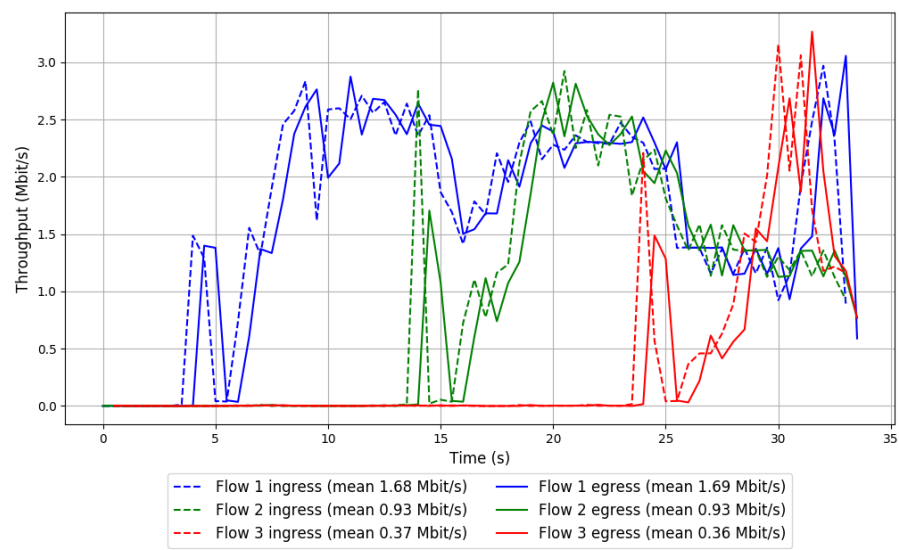
-- Flow 3:

Average throughput: 0.36 Mbit/s

95th percentile per-packet one-way delay: 97.135 ms

Loss rate: 2.56%

Run 2: Report of WebRTC media — Data Link



Run 3: Statistics of WebRTC media

Start at: 2019-02-05 19:27:02

End at: 2019-02-05 19:27:32

Local clock offset: -2.05 ms

Remote clock offset: 4.1 ms

Below is generated by plot.py at 2019-02-05 20:41:19

Datalink statistics

-- Total of 3 flows:

Average throughput: 2.98 Mbit/s

95th percentile per-packet one-way delay: 97.921 ms

Loss rate: 0.63%

-- Flow 1:

Average throughput: 1.69 Mbit/s

95th percentile per-packet one-way delay: 92.566 ms

Loss rate: 0.36%

-- Flow 2:

Average throughput: 0.93 Mbit/s

95th percentile per-packet one-way delay: 92.615 ms

Loss rate: 0.63%

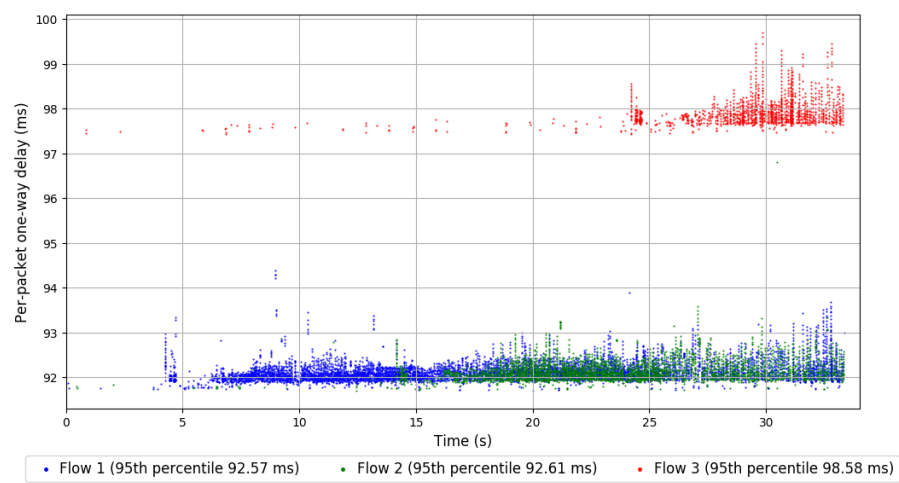
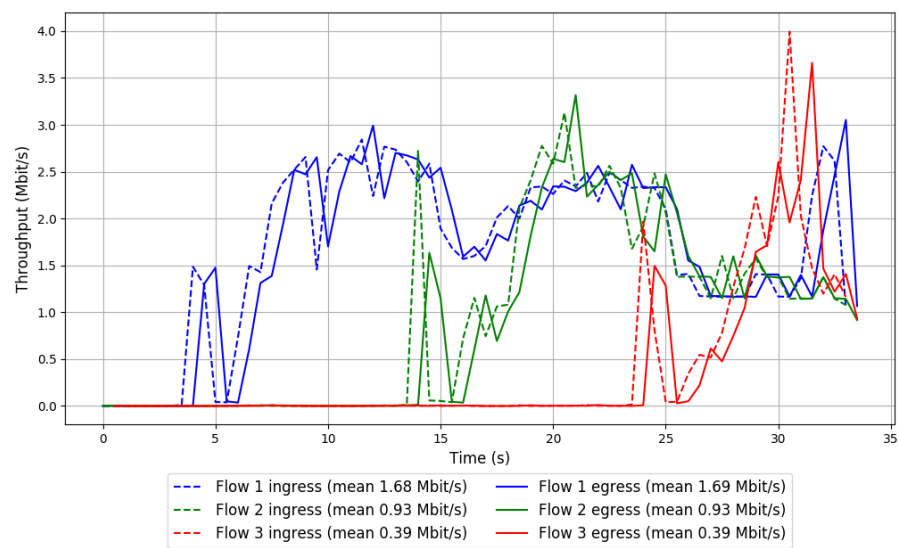
-- Flow 3:

Average throughput: 0.39 Mbit/s

95th percentile per-packet one-way delay: 98.575 ms

Loss rate: 1.81%

Run 3: Report of WebRTC media — Data Link



Run 4: Statistics of WebRTC media

Start at: 2019-02-05 19:54:03

End at: 2019-02-05 19:54:33

Local clock offset: -2.138 ms

Remote clock offset: 2.673 ms

Below is generated by plot.py at 2019-02-05 20:41:19

Datalink statistics

-- Total of 3 flows:

Average throughput: 2.97 Mbit/s

95th percentile per-packet one-way delay: 92.414 ms

Loss rate: 1.33%

-- Flow 1:

Average throughput: 1.66 Mbit/s

95th percentile per-packet one-way delay: 92.401 ms

Loss rate: 1.70%

-- Flow 2:

Average throughput: 0.93 Mbit/s

95th percentile per-packet one-way delay: 92.439 ms

Loss rate: 0.42%

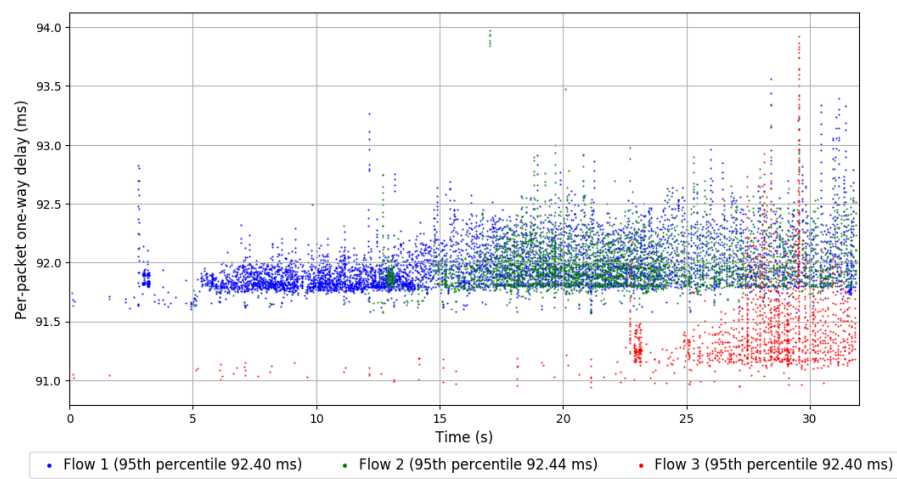
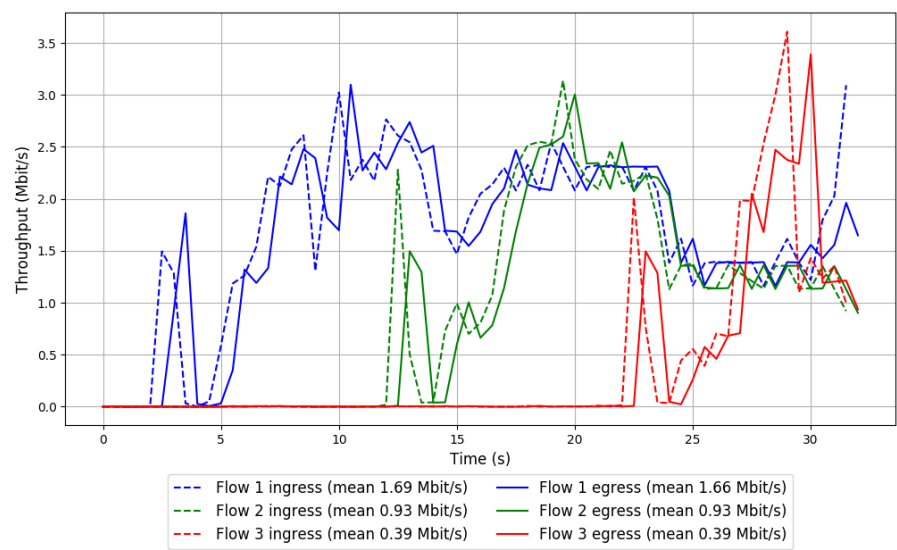
-- Flow 3:

Average throughput: 0.39 Mbit/s

95th percentile per-packet one-way delay: 92.403 ms

Loss rate: 1.88%

Run 4: Report of WebRTC media — Data Link



Run 5: Statistics of WebRTC media

Start at: 2019-02-05 20:21:04

End at: 2019-02-05 20:21:34

Local clock offset: -4.958 ms

Remote clock offset: 6.077 ms

Below is generated by plot.py at 2019-02-05 20:41:19

Datalink statistics

-- Total of 3 flows:

Average throughput: 2.99 Mbit/s

95th percentile per-packet one-way delay: 93.708 ms

Loss rate: 0.66%

-- Flow 1:

Average throughput: 1.71 Mbit/s

95th percentile per-packet one-way delay: 88.493 ms

Loss rate: 0.35%

-- Flow 2:

Average throughput: 0.91 Mbit/s

95th percentile per-packet one-way delay: 93.951 ms

Loss rate: 0.75%

-- Flow 3:

Average throughput: 0.38 Mbit/s

95th percentile per-packet one-way delay: 88.899 ms

Loss rate: 1.86%

Run 5: Report of WebRTC media — Data Link

