

Pantheon Report

Generated at 2019-01-25 21:40:18 (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:

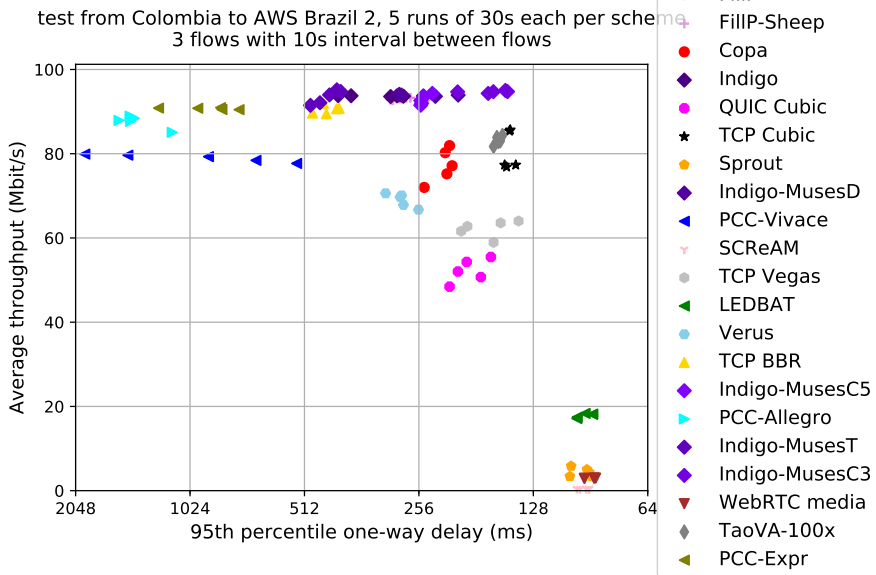
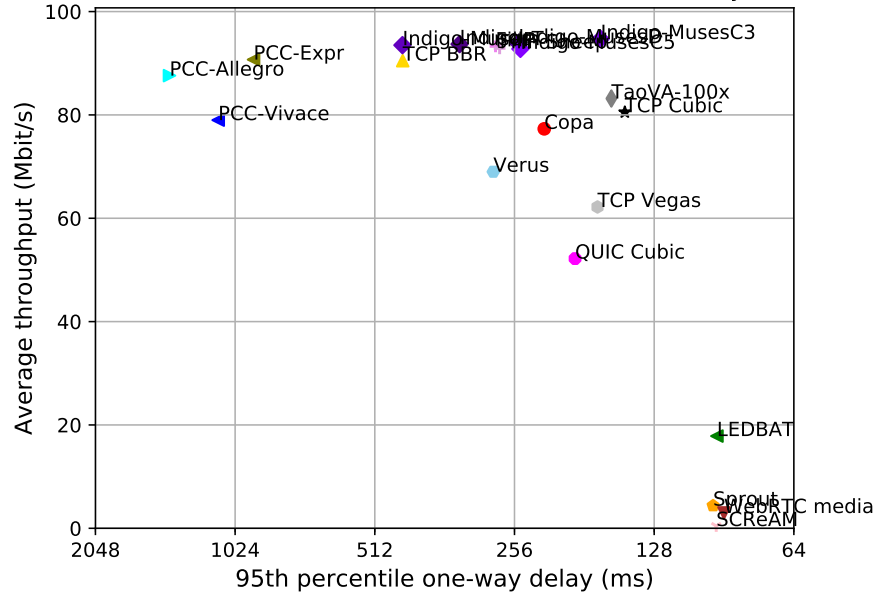
```
Linux 4.15.0-1031-aws
net.core.default_qdisc = fq
net.core.rmem_default = 16777216
net.core.rmem_max = 536870912
net.core.wmem_default = 16777216
net.core.wmem_max = 536870912
net.ipv4.tcp_rmem = 4096 16777216 536870912
net.ipv4.tcp_wmem = 4096 16777216 536870912
```

Git summary:

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

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

test from 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	54.91	38.69	30.34	419.22	522.98	403.41	2.70	5.85	6.58
Copa	5	46.75	32.43	27.41	216.18	134.64	174.95	0.65	0.95	2.11
TCP Cubic	5	44.95	36.71	34.10	170.89	136.23	139.12	0.37	0.95	1.96
FillP	5	57.32	39.35	29.90	292.99	256.61	294.82	1.10	3.04	3.93
FillP-Sheep	5	57.06	39.01	30.25	291.77	223.69	315.96	1.02	1.86	3.53
Indigo	5	58.47	38.83	29.19	361.45	166.34	137.65	4.88	1.39	2.90
Indigo-MusesC3	5	60.35	40.04	30.36	149.88	215.19	162.10	1.97	2.02	3.15
Indigo-MusesC5	5	57.79	40.84	30.06	238.00	269.88	262.67	3.42	4.26	6.68
Indigo-MusesD	5	61.75	37.26	28.65	255.41	223.39	191.29	4.80	4.50	7.12
Indigo-MusesT	5	59.61	39.24	30.00	423.99	441.33	505.80	6.18	6.56	7.76
LEDBAT	5	11.48	7.74	3.78	93.82	92.98	91.60	1.17	1.75	3.54
PCC-Allegro	5	55.20	34.37	29.48	1364.59	1009.41	1458.74	25.46	13.92	21.34
PCC-Expr	5	56.51	38.52	26.45	943.23	861.00	245.39	26.18	5.73	3.30
QUIC Cubic	5	32.47	21.22	17.30	140.76	229.60	319.63	0.60	1.48	2.35
SCReAM	5	0.22	0.22	0.22	91.66	91.56	92.68	0.51	0.95	1.78
Sprout	5	2.71	1.41	2.29	94.34	90.89	93.39	0.89	0.89	2.17
TaoVA-100x	5	48.93	37.20	29.00	154.92	162.65	157.84	0.46	0.91	2.00
TCP Vegas	5	35.22	30.78	19.85	172.36	126.02	224.52	0.44	1.20	2.03
Verus	5	43.23	28.22	21.54	268.49	316.46	289.06	0.92	1.29	3.81
PCC-Vivace	5	50.67	31.56	22.64	1109.39	489.72	327.33	3.60	3.49	2.90
WebRTC media	5	1.69	0.92	0.38	89.21	89.27	90.74	0.31	0.75	1.51

Run 1: Statistics of TCP BBR

Start at: 2019-01-25 19:28:02

End at: 2019-01-25 19:28:32

Local clock offset: -7.727 ms

Remote clock offset: 5.366 ms

Below is generated by plot.py at 2019-01-25 21:28:40

Datalink statistics

-- Total of 3 flows:

Average throughput: 90.76 Mbit/s

95th percentile per-packet one-way delay: 414.894 ms

Loss rate: 4.06%

-- Flow 1:

Average throughput: 55.32 Mbit/s

95th percentile per-packet one-way delay: 393.265 ms

Loss rate: 3.24%

-- Flow 2:

Average throughput: 38.72 Mbit/s

95th percentile per-packet one-way delay: 423.160 ms

Loss rate: 6.22%

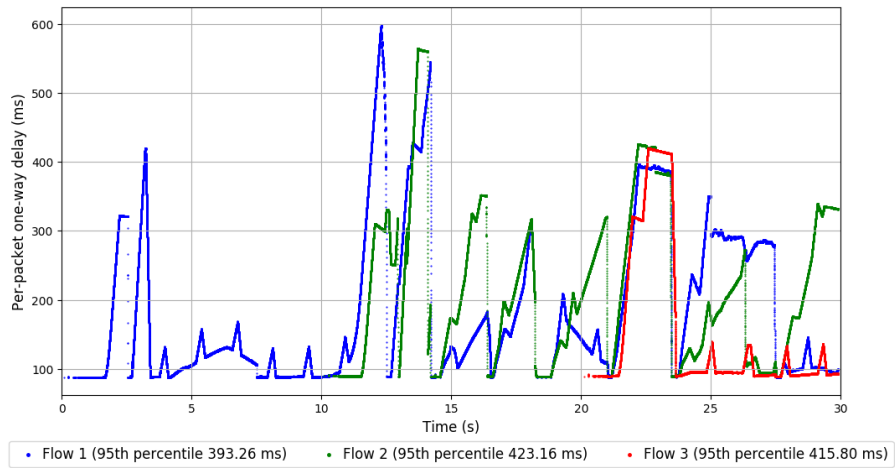
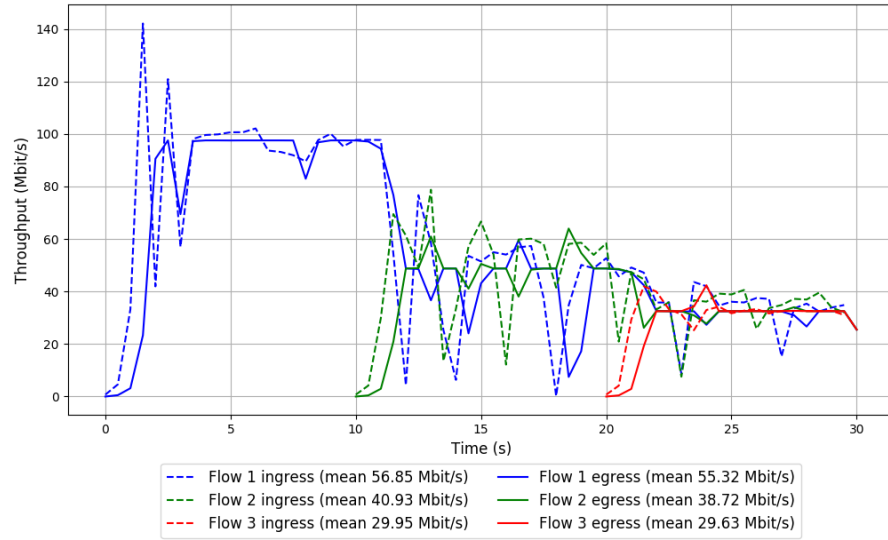
-- Flow 3:

Average throughput: 29.63 Mbit/s

95th percentile per-packet one-way delay: 415.798 ms

Loss rate: 2.78%

Run 1: Report of TCP BBR — Data Link



Run 2: Statistics of TCP BBR

Start at: 2019-01-25 19:55:00

End at: 2019-01-25 19:55:30

Local clock offset: -7.154 ms

Remote clock offset: 7.029 ms

Below is generated by plot.py at 2019-01-25 21:28:40

Datalink statistics

-- Total of 3 flows:

Average throughput: 89.66 Mbit/s

95th percentile per-packet one-way delay: 487.485 ms

Loss rate: 3.99%

-- Flow 1:

Average throughput: 53.85 Mbit/s

95th percentile per-packet one-way delay: 418.362 ms

Loss rate: 2.53%

-- Flow 2:

Average throughput: 38.61 Mbit/s

95th percentile per-packet one-way delay: 568.203 ms

Loss rate: 4.97%

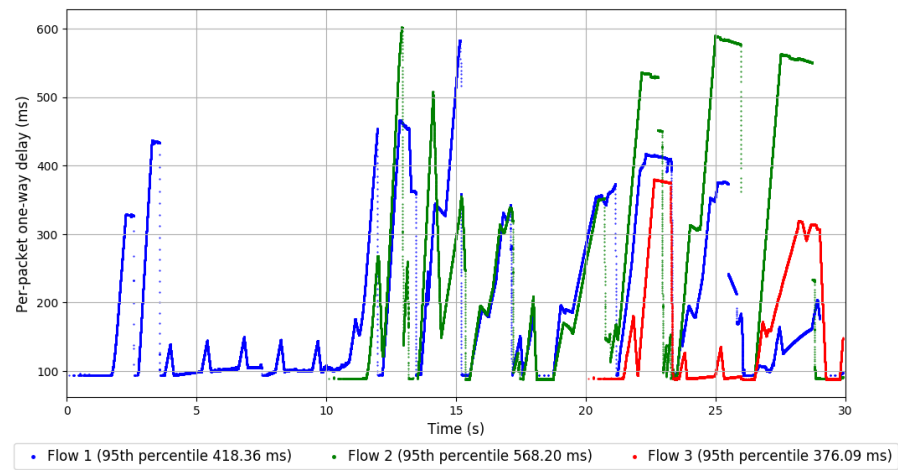
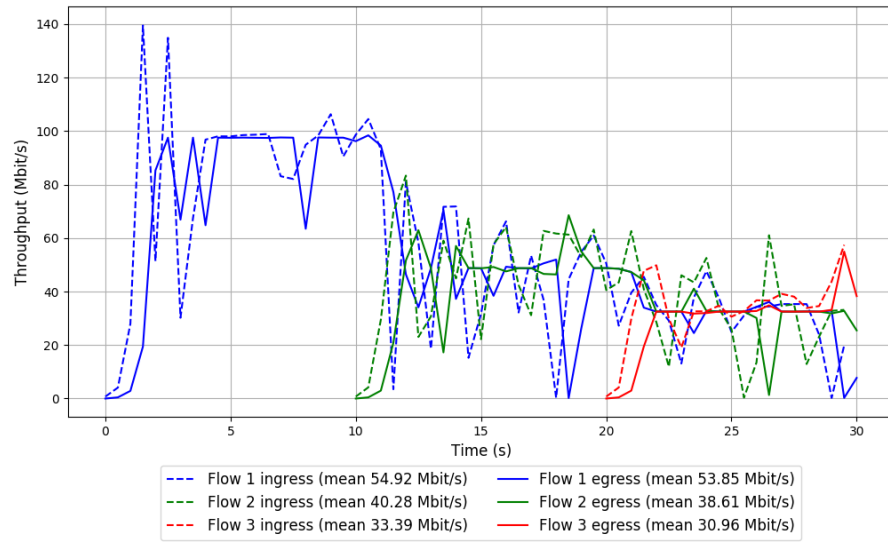
-- Flow 3:

Average throughput: 30.96 Mbit/s

95th percentile per-packet one-way delay: 376.091 ms

Loss rate: 8.89%

Run 2: Report of TCP BBR — Data Link



Run 3: Statistics of TCP BBR

Start at: 2019-01-25 20:21:57

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

Local clock offset: -2.259 ms

Remote clock offset: 1.646 ms

Below is generated by plot.py at 2019-01-25 21:28:40

Datalink statistics

-- Total of 3 flows:

Average throughput: 90.68 Mbit/s

95th percentile per-packet one-way delay: 421.440 ms

Loss rate: 4.45%

-- Flow 1:

Average throughput: 55.18 Mbit/s

95th percentile per-packet one-way delay: 402.962 ms

Loss rate: 2.55%

-- Flow 2:

Average throughput: 37.51 Mbit/s

95th percentile per-packet one-way delay: 558.819 ms

Loss rate: 5.78%

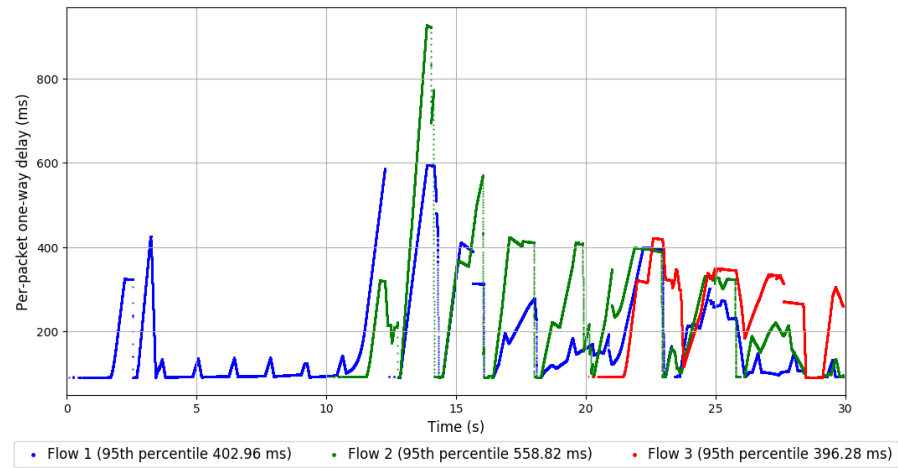
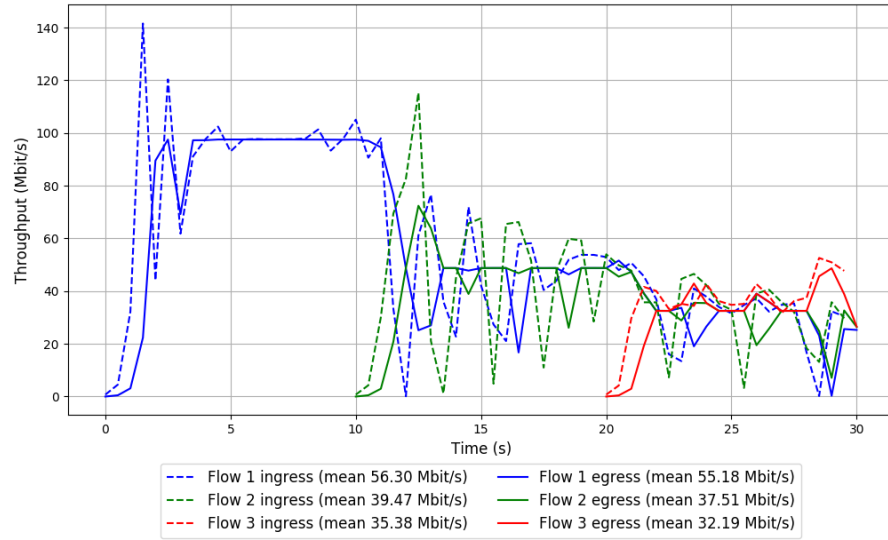
-- Flow 3:

Average throughput: 32.19 Mbit/s

95th percentile per-packet one-way delay: 396.280 ms

Loss rate: 10.59%

Run 3: Report of TCP BBR — Data Link



Run 4: Statistics of TCP BBR

Start at: 2019-01-25 20:48:56

End at: 2019-01-25 20:49:26

Local clock offset: -3.108 ms

Remote clock offset: 1.882 ms

Below is generated by plot.py at 2019-01-25 21:28:41

Datalink statistics

-- Total of 3 flows:

Average throughput: 91.93 Mbit/s

95th percentile per-packet one-way delay: 456.784 ms

Loss rate: 4.61%

-- Flow 1:

Average throughput: 56.06 Mbit/s

95th percentile per-packet one-way delay: 456.430 ms

Loss rate: 2.79%

-- Flow 2:

Average throughput: 39.84 Mbit/s

95th percentile per-packet one-way delay: 523.724 ms

Loss rate: 7.32%

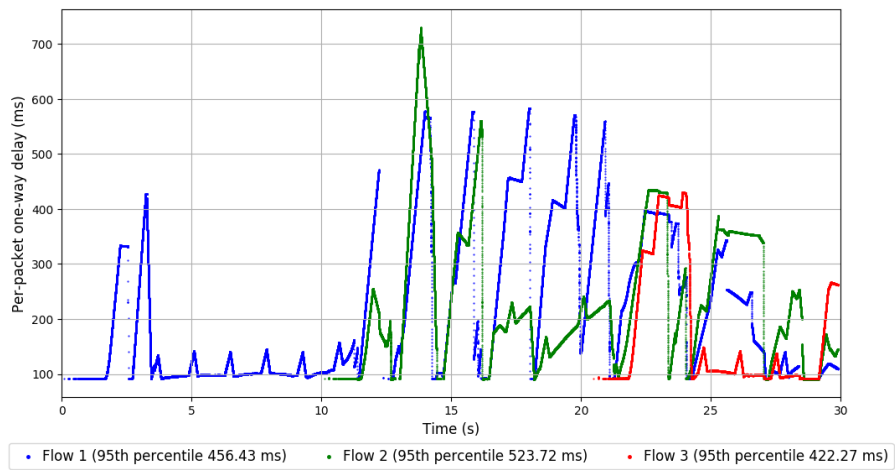
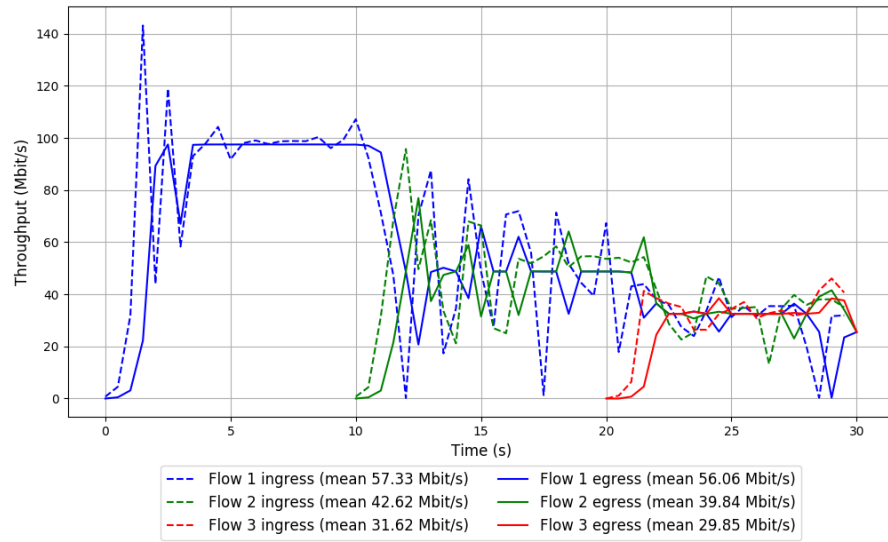
-- Flow 3:

Average throughput: 29.85 Mbit/s

95th percentile per-packet one-way delay: 422.269 ms

Loss rate: 7.29%

Run 4: Report of TCP BBR — Data Link



Run 5: Statistics of TCP BBR

Start at: 2019-01-25 21:15:56

End at: 2019-01-25 21:16:26

Local clock offset: -6.798 ms

Remote clock offset: 6.295 ms

Below is generated by plot.py at 2019-01-25 21:28:41

Datalink statistics

-- Total of 3 flows:

Average throughput: 89.47 Mbit/s

95th percentile per-packet one-way delay: 448.340 ms

Loss rate: 3.24%

-- Flow 1:

Average throughput: 54.14 Mbit/s

95th percentile per-packet one-way delay: 425.083 ms

Loss rate: 2.38%

-- Flow 2:

Average throughput: 38.79 Mbit/s

95th percentile per-packet one-way delay: 541.014 ms

Loss rate: 4.98%

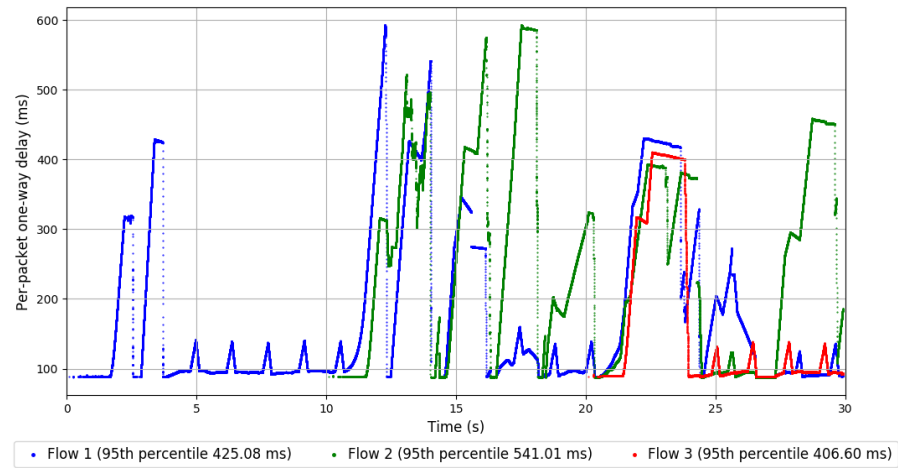
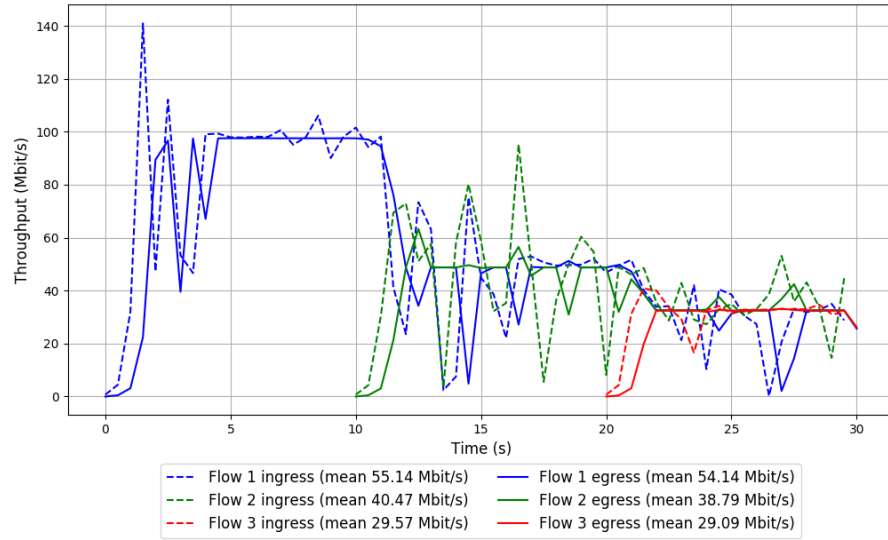
-- Flow 3:

Average throughput: 29.09 Mbit/s

95th percentile per-packet one-way delay: 406.597 ms

Loss rate: 3.34%

Run 5: Report of TCP BBR — Data Link



Run 1: Statistics of Copa

Start at: 2019-01-25 19:13:52

End at: 2019-01-25 19:14:22

Local clock offset: -6.632 ms

Remote clock offset: 2.115 ms

Below is generated by plot.py at 2019-01-25 21:29:27

Datalink statistics

-- Total of 3 flows:

Average throughput: 81.92 Mbit/s

95th percentile per-packet one-way delay: 212.603 ms

Loss rate: 1.09%

-- Flow 1:

Average throughput: 47.36 Mbit/s

95th percentile per-packet one-way delay: 215.112 ms

Loss rate: 1.05%

-- Flow 2:

Average throughput: 37.95 Mbit/s

95th percentile per-packet one-way delay: 159.804 ms

Loss rate: 0.79%

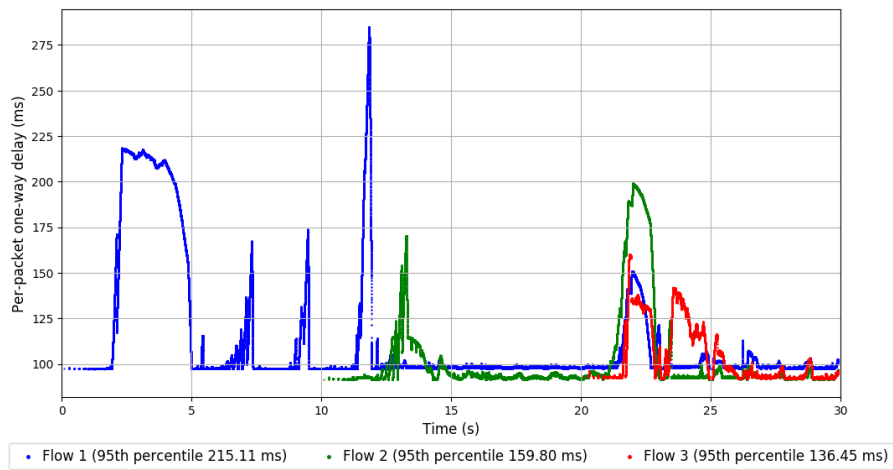
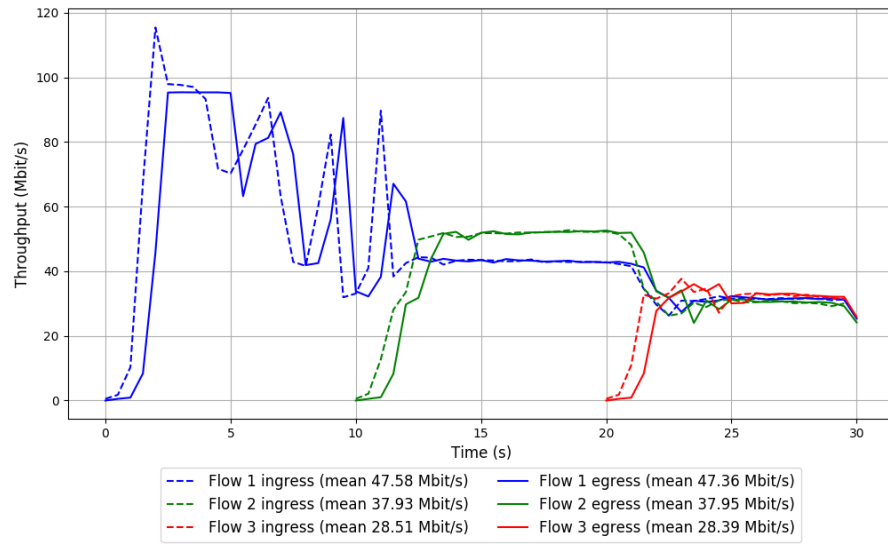
-- Flow 3:

Average throughput: 28.39 Mbit/s

95th percentile per-packet one-way delay: 136.449 ms

Loss rate: 2.12%

Run 1: Report of Copa — Data Link



Run 2: Statistics of Copa

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

End at: 2019-01-25 19:41:21

Local clock offset: -6.308 ms

Remote clock offset: 5.837 ms

Below is generated by plot.py at 2019-01-25 21:29:27

Datalink statistics

-- Total of 3 flows:

Average throughput: 80.24 Mbit/s

95th percentile per-packet one-way delay: 218.286 ms

Loss rate: 0.78%

-- Flow 1:

Average throughput: 51.07 Mbit/s

95th percentile per-packet one-way delay: 219.658 ms

Loss rate: 0.36%

-- Flow 2:

Average throughput: 27.66 Mbit/s

95th percentile per-packet one-way delay: 101.064 ms

Loss rate: 0.95%

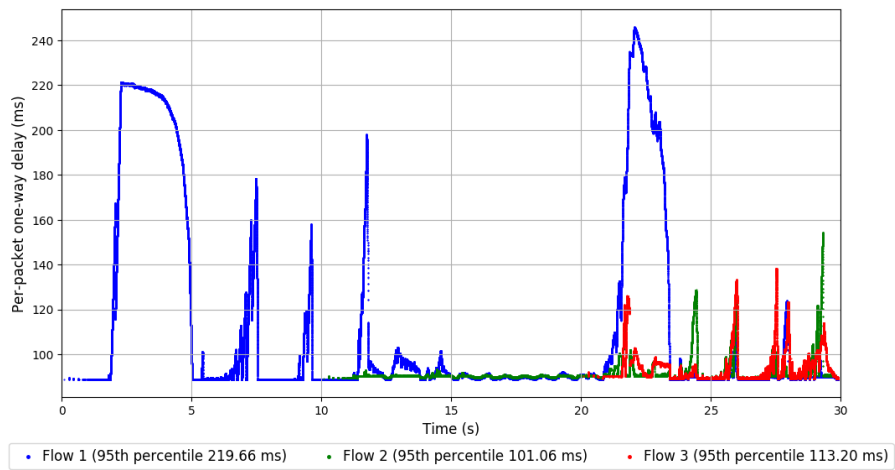
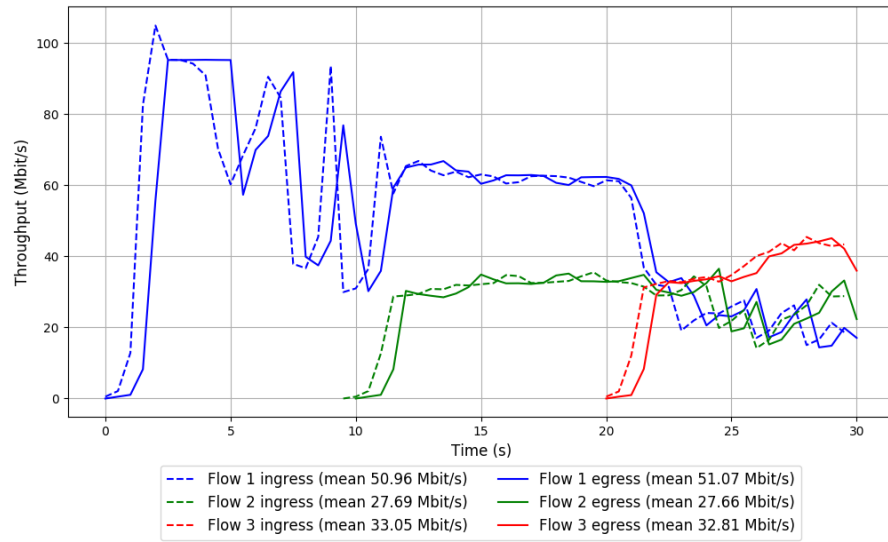
-- Flow 3:

Average throughput: 32.81 Mbit/s

95th percentile per-packet one-way delay: 113.202 ms

Loss rate: 2.43%

Run 2: Report of Copa — Data Link



Run 3: Statistics of Copa

Start at: 2019-01-25 20:07:48

End at: 2019-01-25 20:08:18

Local clock offset: -3.446 ms

Remote clock offset: 5.875 ms

Below is generated by plot.py at 2019-01-25 21:29:27

Datalink statistics

-- Total of 3 flows:

Average throughput: 75.22 Mbit/s

95th percentile per-packet one-way delay: 216.095 ms

Loss rate: 0.86%

-- Flow 1:

Average throughput: 45.49 Mbit/s

95th percentile per-packet one-way delay: 217.282 ms

Loss rate: 0.54%

-- Flow 2:

Average throughput: 32.32 Mbit/s

95th percentile per-packet one-way delay: 160.571 ms

Loss rate: 1.06%

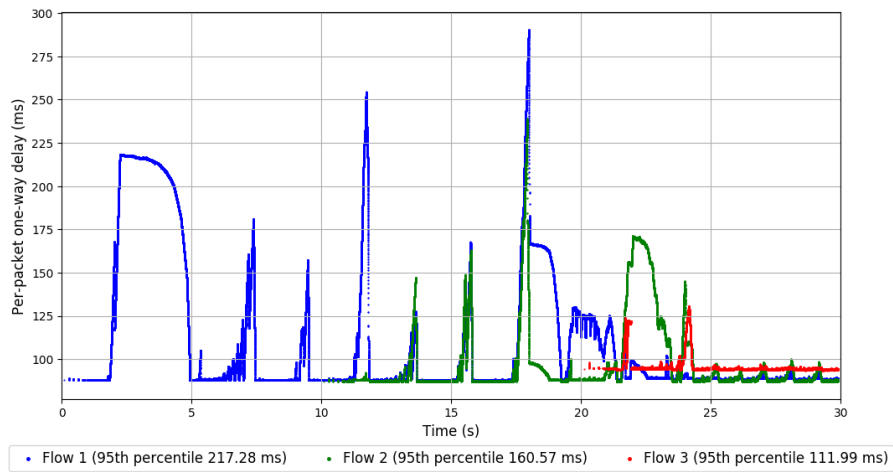
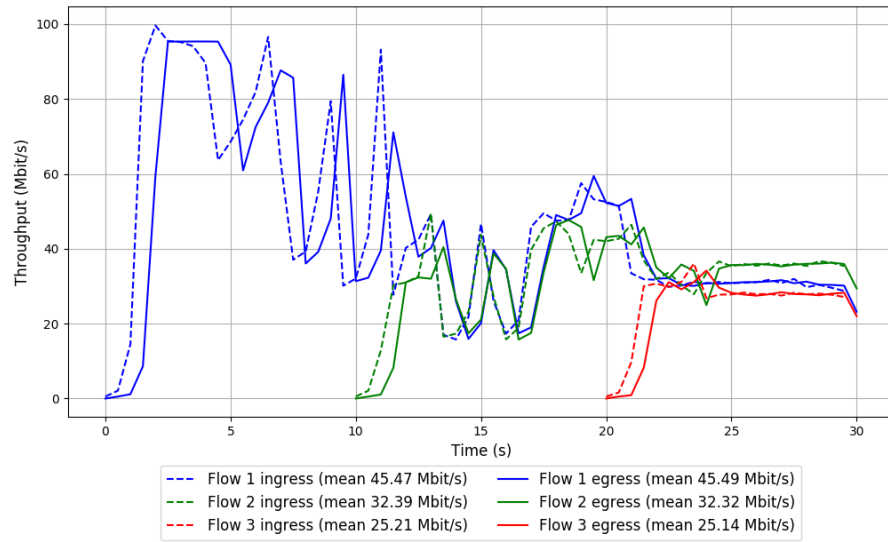
-- Flow 3:

Average throughput: 25.14 Mbit/s

95th percentile per-packet one-way delay: 111.987 ms

Loss rate: 2.03%

Run 3: Report of Copa — Data Link



Run 4: Statistics of Copa

Start at: 2019-01-25 20:34:48

End at: 2019-01-25 20:35:18

Local clock offset: -2.49 ms

Remote clock offset: 1.884 ms

Below is generated by plot.py at 2019-01-25 21:30:13

Datalink statistics

-- Total of 3 flows:

Average throughput: 72.00 Mbit/s

95th percentile per-packet one-way delay: 247.885 ms

Loss rate: 0.87%

-- Flow 1:

Average throughput: 42.57 Mbit/s

95th percentile per-packet one-way delay: 217.832 ms

Loss rate: 0.59%

-- Flow 2:

Average throughput: 31.50 Mbit/s

95th percentile per-packet one-way delay: 128.402 ms

Loss rate: 0.99%

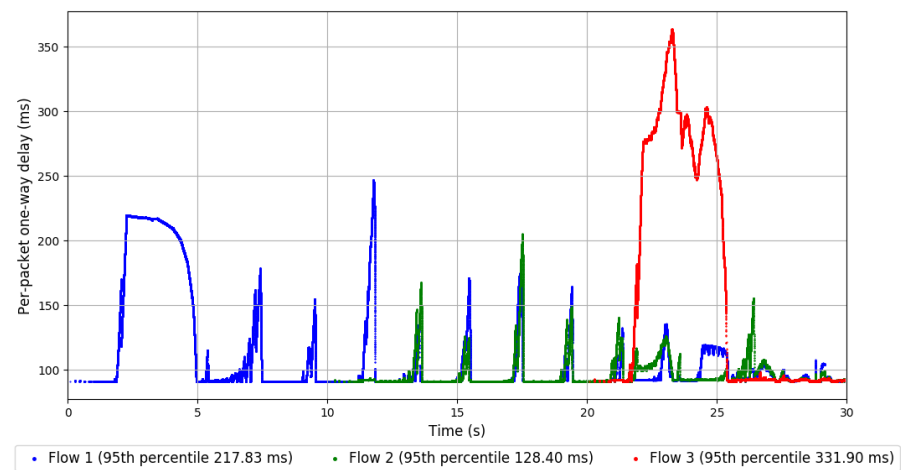
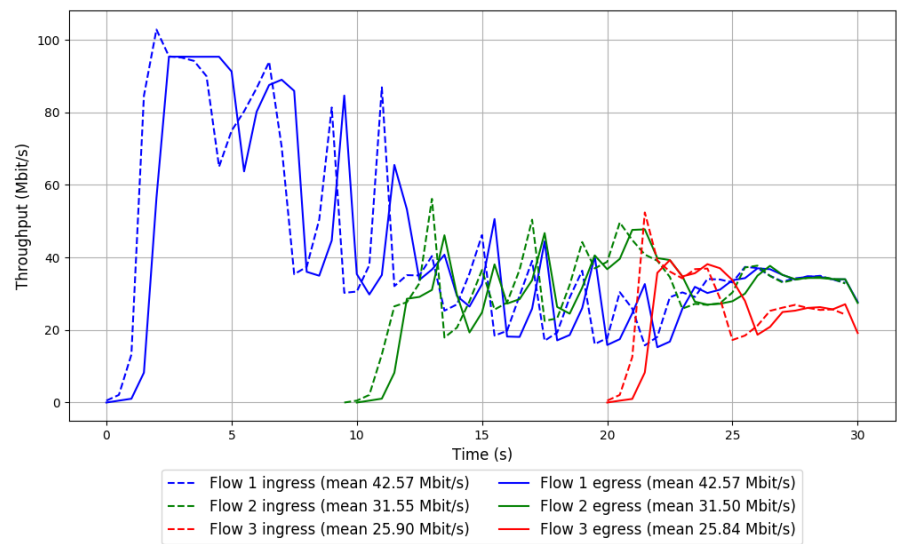
-- Flow 3:

Average throughput: 25.84 Mbit/s

95th percentile per-packet one-way delay: 331.902 ms

Loss rate: 1.95%

Run 4: Report of Copa — Data Link



Run 5: Statistics of Copa

Start at: 2019-01-25 21:01:46

End at: 2019-01-25 21:02:16

Local clock offset: -3.549 ms

Remote clock offset: 5.415 ms

Below is generated by plot.py at 2019-01-25 21:30:18

Datalink statistics

-- Total of 3 flows:

Average throughput: 77.14 Mbit/s

95th percentile per-packet one-way delay: 209.364 ms

Loss rate: 0.91%

-- Flow 1:

Average throughput: 47.24 Mbit/s

95th percentile per-packet one-way delay: 211.013 ms

Loss rate: 0.69%

-- Flow 2:

Average throughput: 32.71 Mbit/s

95th percentile per-packet one-way delay: 123.370 ms

Loss rate: 0.96%

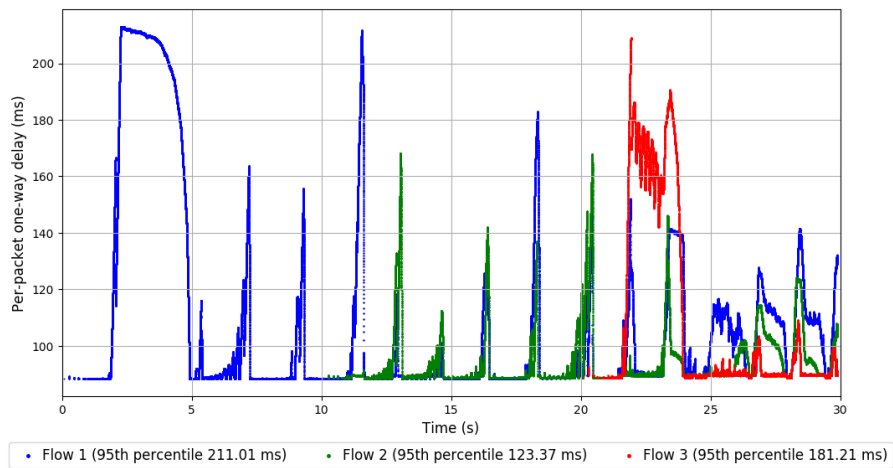
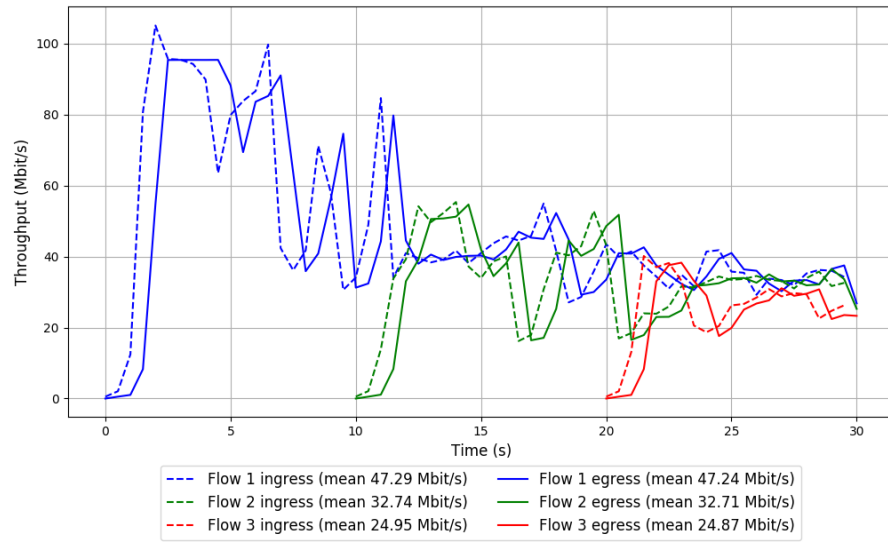
-- Flow 3:

Average throughput: 24.87 Mbit/s

95th percentile per-packet one-way delay: 181.212 ms

Loss rate: 2.03%

Run 5: Report of Copa — Data Link



Run 1: Statistics of TCP Cubic

Start at: 2019-01-25 19:21:39

End at: 2019-01-25 19:22:09

Local clock offset: -6.54 ms

Remote clock offset: 7.265 ms

Below is generated by plot.py at 2019-01-25 21:30:18

Datalink statistics

-- Total of 3 flows:

Average throughput: 85.68 Mbit/s

95th percentile per-packet one-way delay: 147.155 ms

Loss rate: 0.61%

-- Flow 1:

Average throughput: 48.82 Mbit/s

95th percentile per-packet one-way delay: 146.800 ms

Loss rate: 0.33%

-- Flow 2:

Average throughput: 38.61 Mbit/s

95th percentile per-packet one-way delay: 150.323 ms

Loss rate: 0.77%

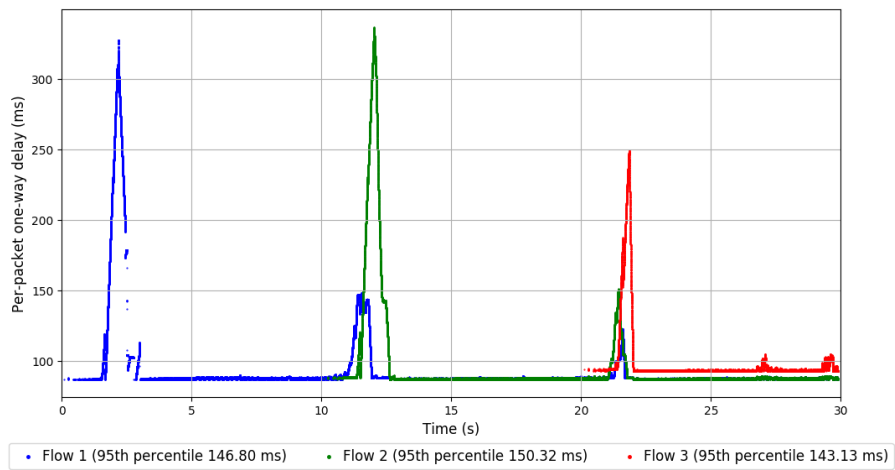
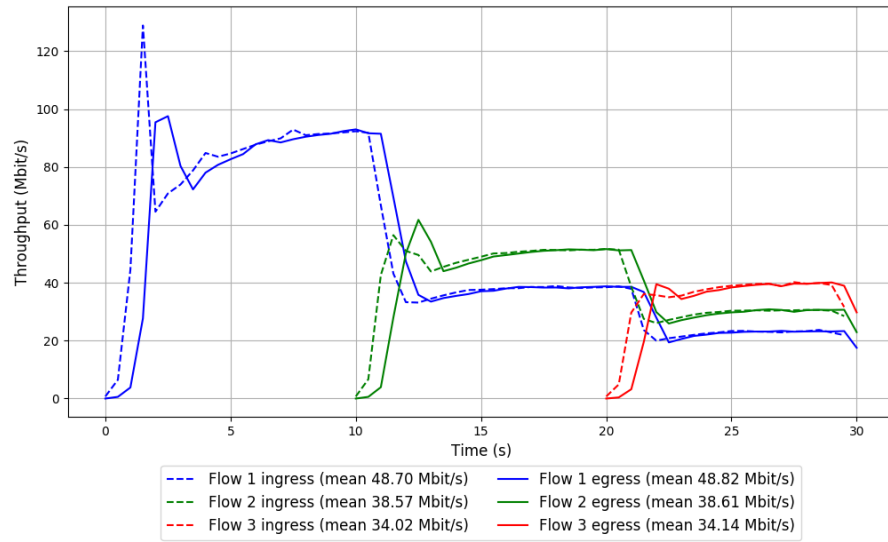
-- Flow 3:

Average throughput: 34.14 Mbit/s

95th percentile per-packet one-way delay: 143.132 ms

Loss rate: 1.43%

Run 1: Report of TCP Cubic — Data Link



Run 2: Statistics of TCP Cubic

Start at: 2019-01-25 19:48:38

End at: 2019-01-25 19:49:08

Local clock offset: -6.292 ms

Remote clock offset: 6.79 ms

Below is generated by plot.py at 2019-01-25 21:30:18

Datalink statistics

-- Total of 3 flows:

Average throughput: 76.87 Mbit/s

95th percentile per-packet one-way delay: 150.528 ms

Loss rate: 0.74%

-- Flow 1:

Average throughput: 42.08 Mbit/s

95th percentile per-packet one-way delay: 185.826 ms

Loss rate: 0.37%

-- Flow 2:

Average throughput: 35.40 Mbit/s

95th percentile per-packet one-way delay: 126.748 ms

Loss rate: 0.74%

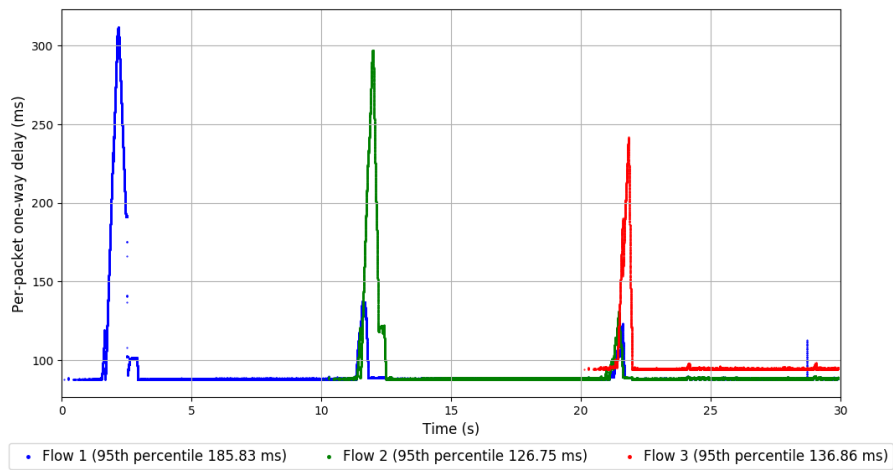
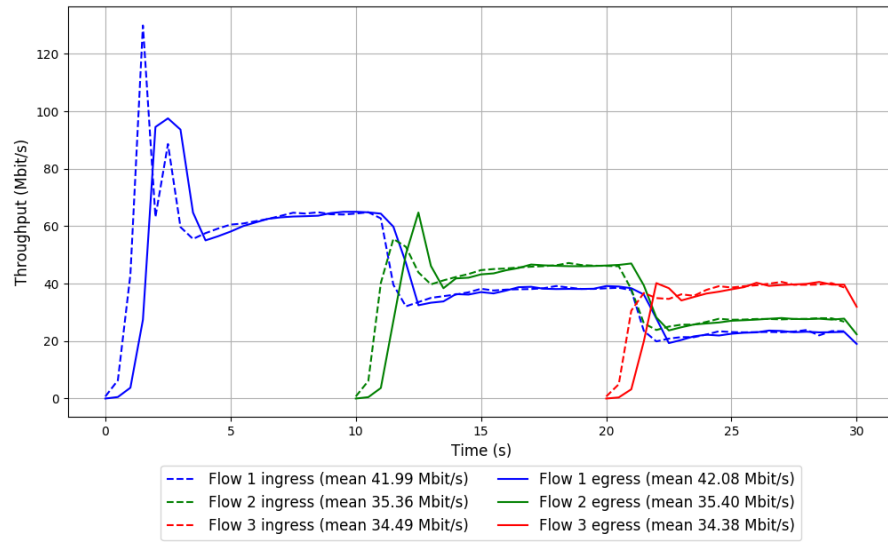
-- Flow 3:

Average throughput: 34.38 Mbit/s

95th percentile per-packet one-way delay: 136.860 ms

Loss rate: 2.11%

Run 2: Report of TCP Cubic — Data Link

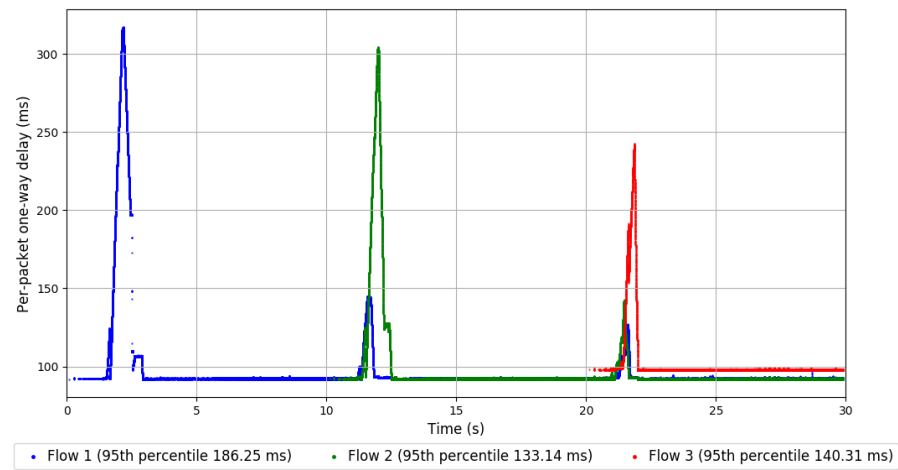
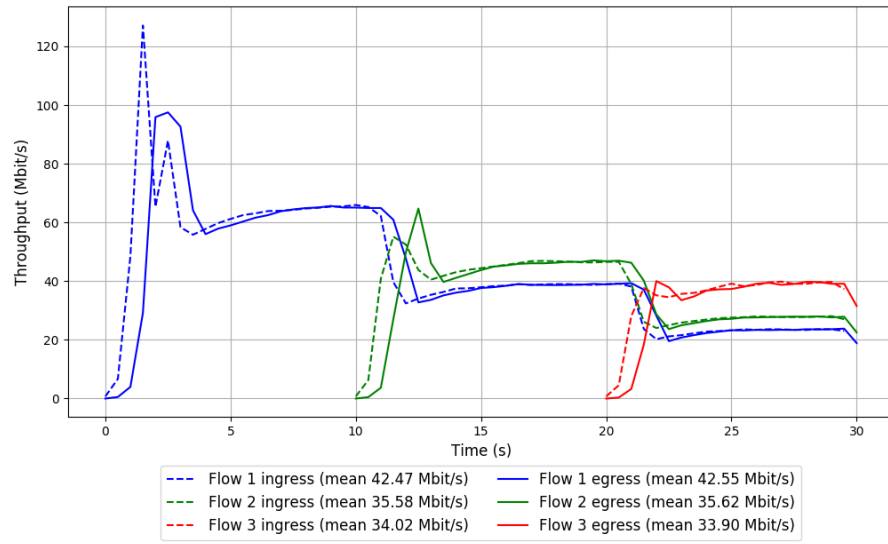


Run 3: Statistics of TCP Cubic

Start at: 2019-01-25 20:15:35
End at: 2019-01-25 20:16:05
Local clock offset: -2.034 ms
Remote clock offset: 1.946 ms

Below is generated by plot.py at 2019-01-25 21:30:18
Datalink statistics
-- Total of 3 flows:
Average throughput: 77.34 Mbit/s
95th percentile per-packet one-way delay: 152.325 ms
Loss rate: 0.74%
-- Flow 1:
Average throughput: 42.55 Mbit/s
95th percentile per-packet one-way delay: 186.250 ms
Loss rate: 0.37%
-- Flow 2:
Average throughput: 35.62 Mbit/s
95th percentile per-packet one-way delay: 133.142 ms
Loss rate: 0.75%
-- Flow 3:
Average throughput: 33.90 Mbit/s
95th percentile per-packet one-way delay: 140.315 ms
Loss rate: 2.14%

Run 3: Report of TCP Cubic — Data Link

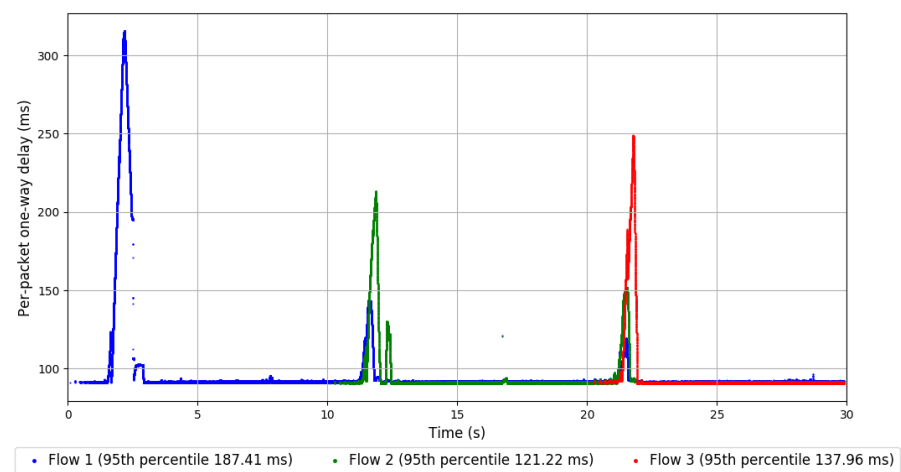
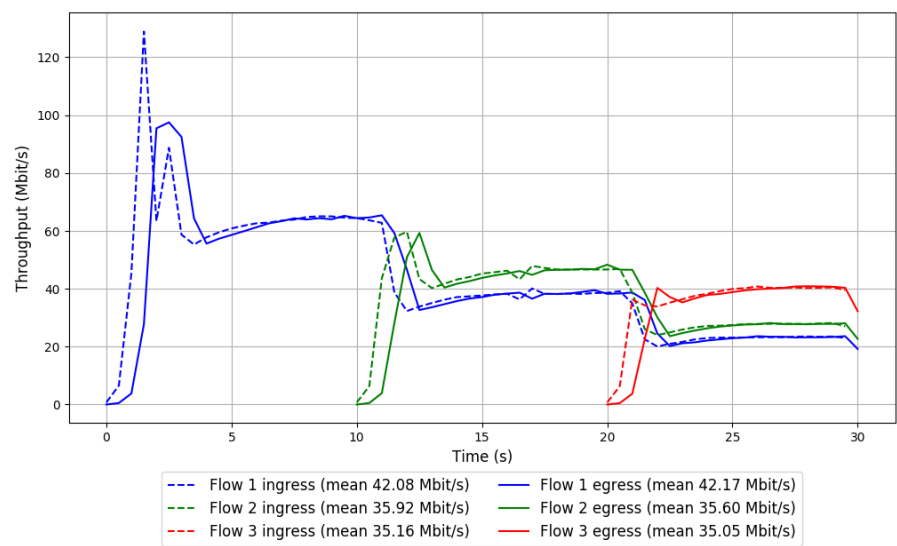


Run 4: Statistics of TCP Cubic

Start at: 2019-01-25 20:42:34
End at: 2019-01-25 20:43:04
Local clock offset: -3.003 ms
Remote clock offset: 1.903 ms

Below is generated by plot.py at 2019-01-25 21:30:18
Datalink statistics
-- Total of 3 flows:
Average throughput: 77.34 Mbit/s
95th percentile per-packet one-way delay: 142.412 ms
Loss rate: 1.04%
-- Flow 1:
Average throughput: 42.17 Mbit/s
95th percentile per-packet one-way delay: 187.406 ms
Loss rate: 0.37%
-- Flow 2:
Average throughput: 35.60 Mbit/s
95th percentile per-packet one-way delay: 121.218 ms
Loss rate: 1.74%
-- Flow 3:
Average throughput: 35.05 Mbit/s
95th percentile per-packet one-way delay: 137.964 ms
Loss rate: 2.03%

Run 4: Report of TCP Cubic — Data Link



Run 5: Statistics of TCP Cubic

Start at: 2019-01-25 21:09:33

End at: 2019-01-25 21:10:03

Local clock offset: -5.765 ms

Remote clock offset: 5.87 ms

Below is generated by plot.py at 2019-01-25 21:30:19

Datalink statistics

-- Total of 3 flows:

Average throughput: 85.39 Mbit/s

95th percentile per-packet one-way delay: 147.938 ms

Loss rate: 0.74%

-- Flow 1:

Average throughput: 49.11 Mbit/s

95th percentile per-packet one-way delay: 148.186 ms

Loss rate: 0.43%

-- Flow 2:

Average throughput: 38.31 Mbit/s

95th percentile per-packet one-way delay: 149.708 ms

Loss rate: 0.76%

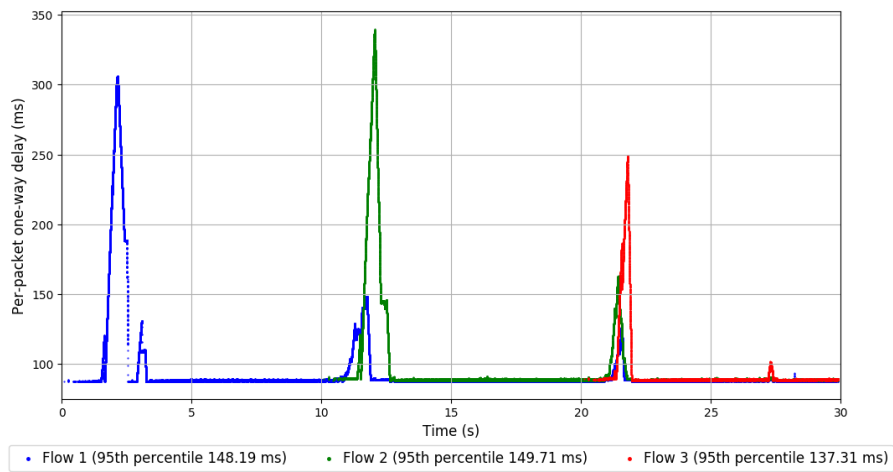
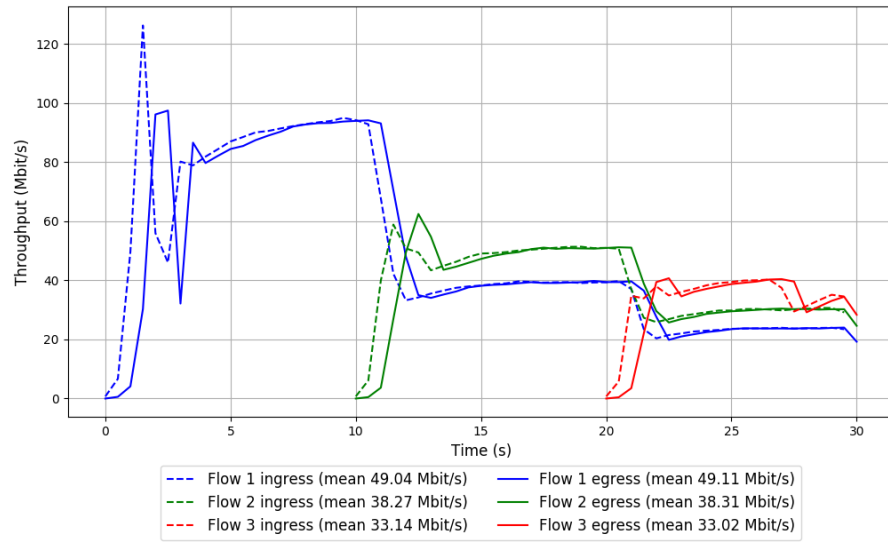
-- Flow 3:

Average throughput: 33.02 Mbit/s

95th percentile per-packet one-way delay: 137.310 ms

Loss rate: 2.07%

Run 5: Report of TCP Cubic — Data Link



Run 1: Statistics of FillP

Start at: 2019-01-25 19:16:33

End at: 2019-01-25 19:17:03

Local clock offset: -6.119 ms

Remote clock offset: 6.236 ms

Below is generated by plot.py at 2019-01-25 21:30:45

Datalink statistics

-- Total of 3 flows:

Average throughput: 93.28 Mbit/s

95th percentile per-packet one-way delay: 276.437 ms

Loss rate: 2.09%

-- Flow 1:

Average throughput: 57.20 Mbit/s

95th percentile per-packet one-way delay: 277.907 ms

Loss rate: 0.79%

-- Flow 2:

Average throughput: 39.59 Mbit/s

95th percentile per-packet one-way delay: 270.972 ms

Loss rate: 4.53%

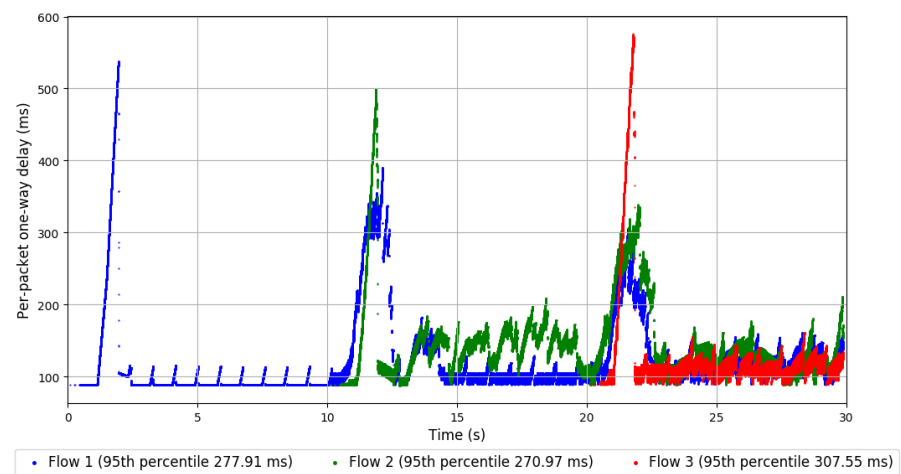
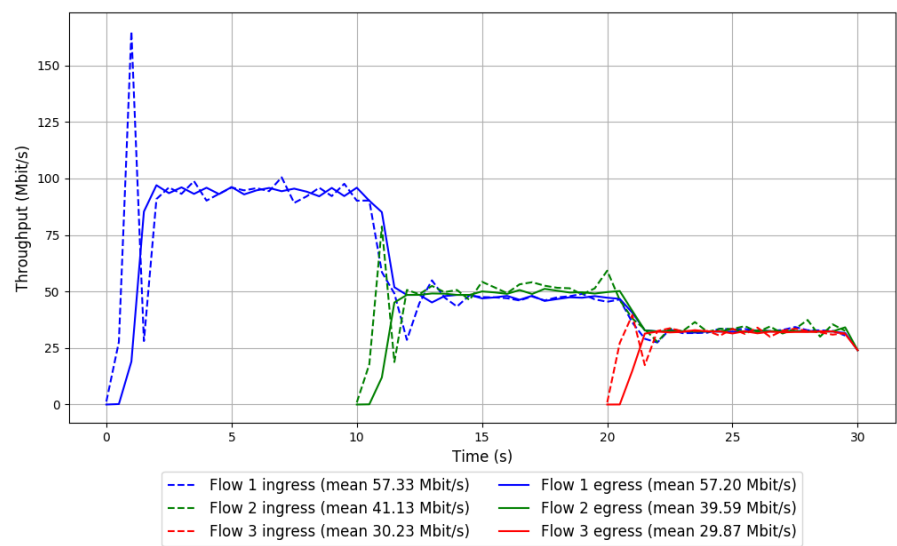
-- Flow 3:

Average throughput: 29.87 Mbit/s

95th percentile per-packet one-way delay: 307.551 ms

Loss rate: 2.89%

Run 1: Report of FillP — Data Link



Run 2: Statistics of FillP

Start at: 2019-01-25 19:43:32

End at: 2019-01-25 19:44:02

Local clock offset: -6.287 ms

Remote clock offset: 6.8 ms

Below is generated by plot.py at 2019-01-25 21:30:50

Datalink statistics

-- Total of 3 flows:

Average throughput: 93.44 Mbit/s

95th percentile per-packet one-way delay: 285.421 ms

Loss rate: 2.11%

-- Flow 1:

Average throughput: 57.36 Mbit/s

95th percentile per-packet one-way delay: 282.796 ms

Loss rate: 0.84%

-- Flow 2:

Average throughput: 39.52 Mbit/s

95th percentile per-packet one-way delay: 286.005 ms

Loss rate: 3.76%

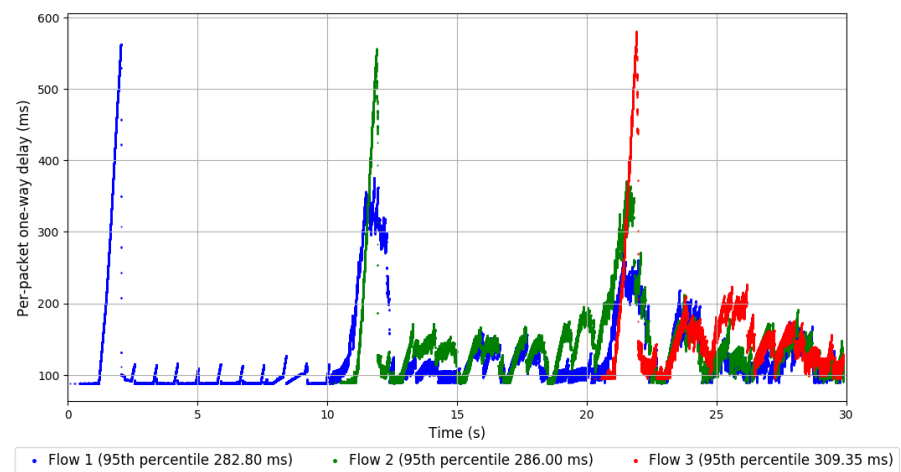
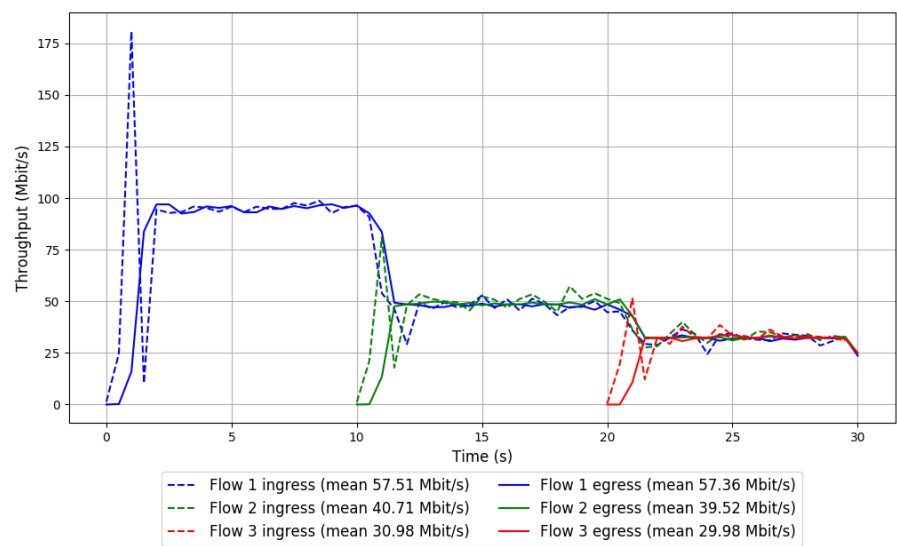
-- Flow 3:

Average throughput: 29.98 Mbit/s

95th percentile per-packet one-way delay: 309.346 ms

Loss rate: 4.87%

Run 2: Report of FillP — Data Link



Run 3: Statistics of FillP

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

End at: 2019-01-25 20:10:59

Local clock offset: -2.791 ms

Remote clock offset: 2.244 ms

Below is generated by plot.py at 2019-01-25 21:30:51

Datalink statistics

-- Total of 3 flows:

Average throughput: 93.12 Mbit/s

95th percentile per-packet one-way delay: 289.014 ms

Loss rate: 1.86%

-- Flow 1:

Average throughput: 57.10 Mbit/s

95th percentile per-packet one-way delay: 316.743 ms

Loss rate: 1.01%

-- Flow 2:

Average throughput: 39.34 Mbit/s

95th percentile per-packet one-way delay: 248.344 ms

Loss rate: 2.90%

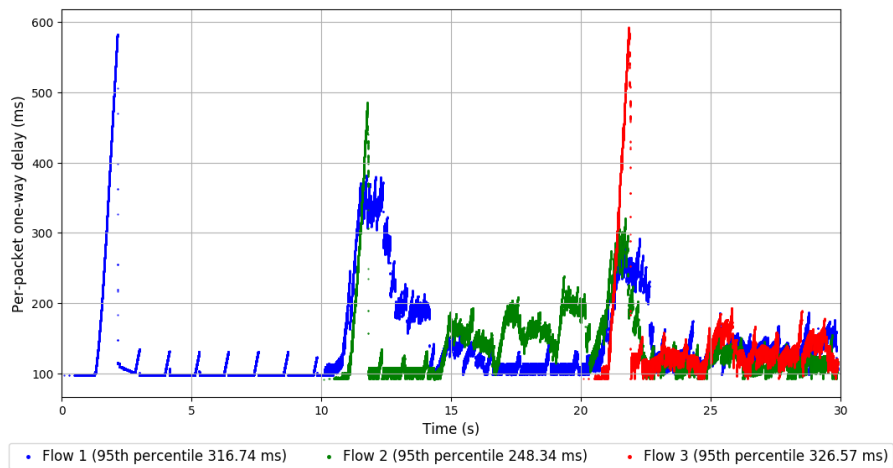
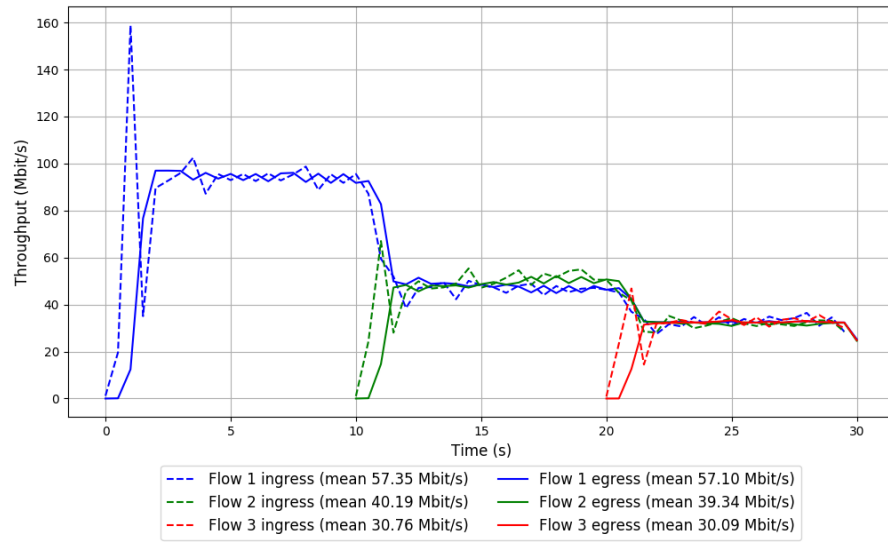
-- Flow 3:

Average throughput: 30.09 Mbit/s

95th percentile per-packet one-way delay: 326.569 ms

Loss rate: 3.88%

Run 3: Report of FillP — Data Link



Run 4: Statistics of FillP

Start at: 2019-01-25 20:37:28

End at: 2019-01-25 20:37:58

Local clock offset: -2.727 ms

Remote clock offset: 1.654 ms

Below is generated by plot.py at 2019-01-25 21:30:56

Datalink statistics

-- Total of 3 flows:

Average throughput: 93.28 Mbit/s

95th percentile per-packet one-way delay: 269.413 ms

Loss rate: 1.79%

-- Flow 1:

Average throughput: 57.69 Mbit/s

95th percentile per-packet one-way delay: 284.802 ms

Loss rate: 1.61%

-- Flow 2:

Average throughput: 38.89 Mbit/s

95th percentile per-packet one-way delay: 232.780 ms

Loss rate: 1.81%

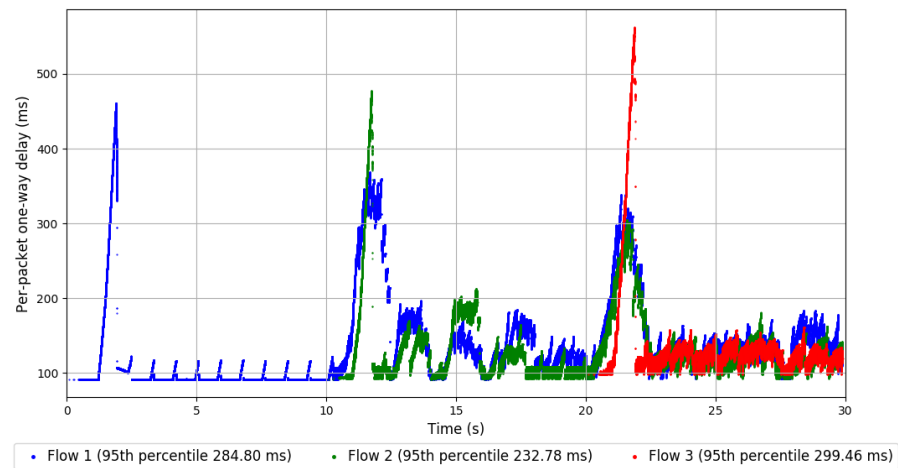
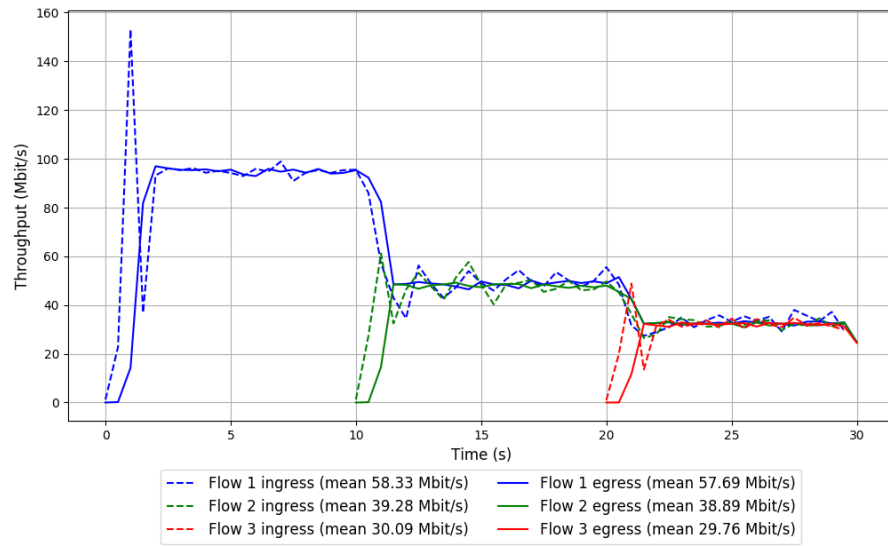
-- Flow 3:

Average throughput: 29.76 Mbit/s

95th percentile per-packet one-way delay: 299.462 ms

Loss rate: 2.84%

Run 4: Report of FillP — Data Link



Run 5: Statistics of FillP

Start at: 2019-01-25 21:04:27

End at: 2019-01-25 21:04:57

Local clock offset: -4.503 ms

Remote clock offset: 5.79 ms

Below is generated by plot.py at 2019-01-25 21:31:27

Datalink statistics

-- Total of 3 flows:

Average throughput: 93.20 Mbit/s

95th percentile per-packet one-way delay: 286.044 ms

Loss rate: 1.95%

-- Flow 1:

Average throughput: 57.25 Mbit/s

95th percentile per-packet one-way delay: 302.718 ms

Loss rate: 1.26%

-- Flow 2:

Average throughput: 39.39 Mbit/s

95th percentile per-packet one-way delay: 244.935 ms

Loss rate: 2.22%

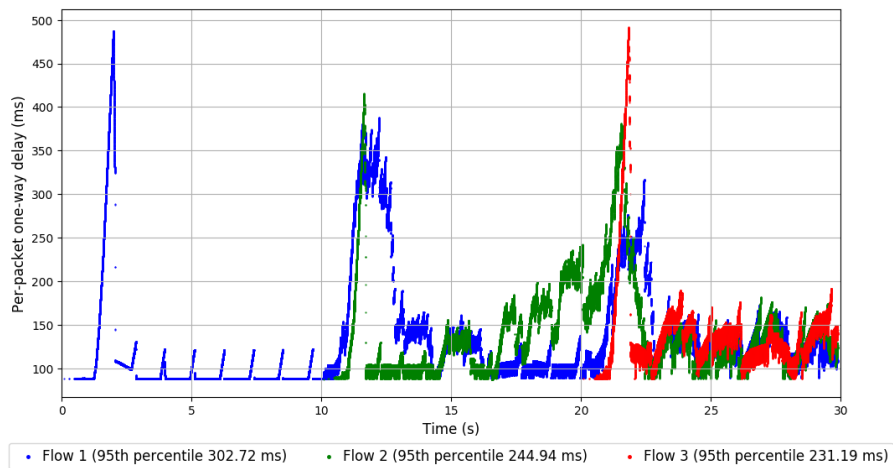
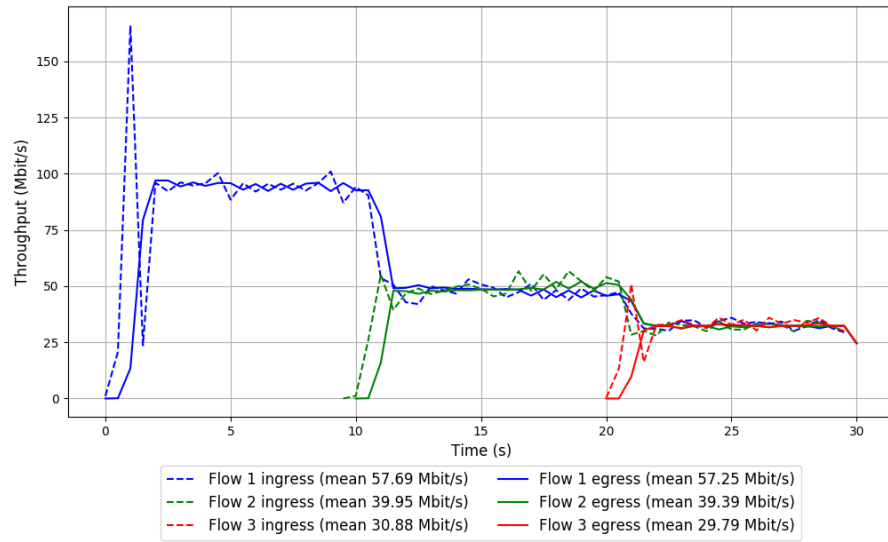
-- Flow 3:

Average throughput: 29.79 Mbit/s

95th percentile per-packet one-way delay: 231.194 ms

Loss rate: 5.15%

Run 5: Report of FillP — Data Link



Run 1: Statistics of FillP-Sheep

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

End at: 2019-01-25 19:35:04

Local clock offset: -7.38 ms

Remote clock offset: 2.768 ms

Below is generated by plot.py at 2019-01-25 21:31:29

Datalink statistics

-- Total of 3 flows:

Average throughput: 93.01 Mbit/s

95th percentile per-packet one-way delay: 282.756 ms

Loss rate: 1.39%

-- Flow 1:

Average throughput: 57.43 Mbit/s

95th percentile per-packet one-way delay: 295.083 ms

Loss rate: 1.02%

-- Flow 2:

Average throughput: 38.68 Mbit/s

95th percentile per-packet one-way delay: 235.965 ms

Loss rate: 1.58%

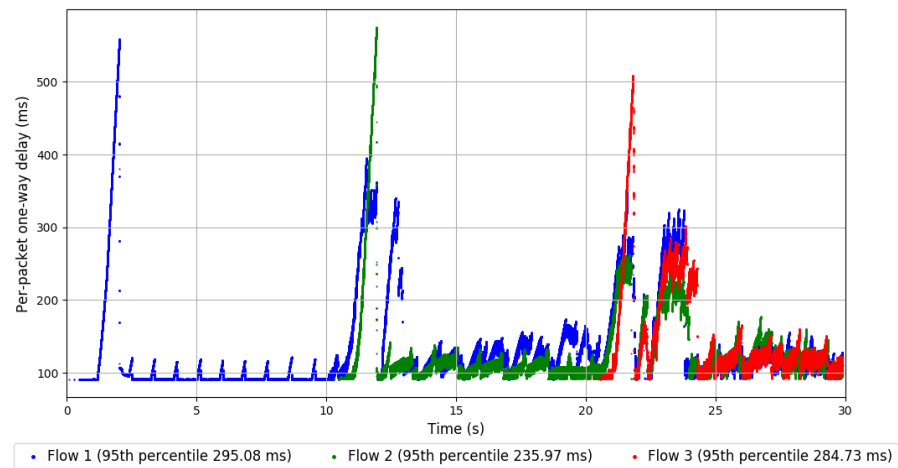
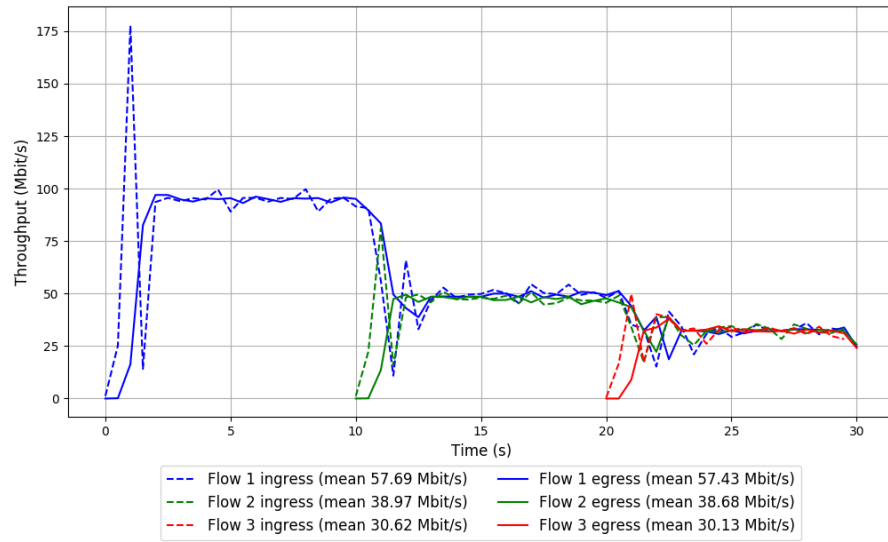
-- Flow 3:

Average throughput: 30.13 Mbit/s

95th percentile per-packet one-way delay: 284.730 ms

Loss rate: 3.06%

Run 1: Report of FillP-Sheep — Data Link



Run 2: Statistics of FillP-Sheep

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

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

Local clock offset: -6.217 ms

Remote clock offset: 2.464 ms

Below is generated by plot.py at 2019-01-25 21:31:35

Datalink statistics

-- Total of 3 flows:

Average throughput: 93.04 Mbit/s

95th percentile per-packet one-way delay: 250.276 ms

Loss rate: 1.47%

-- Flow 1:

Average throughput: 56.78 Mbit/s

95th percentile per-packet one-way delay: 268.102 ms

Loss rate: 0.68%

-- Flow 2:

Average throughput: 39.53 Mbit/s

95th percentile per-packet one-way delay: 229.818 ms

Loss rate: 2.46%

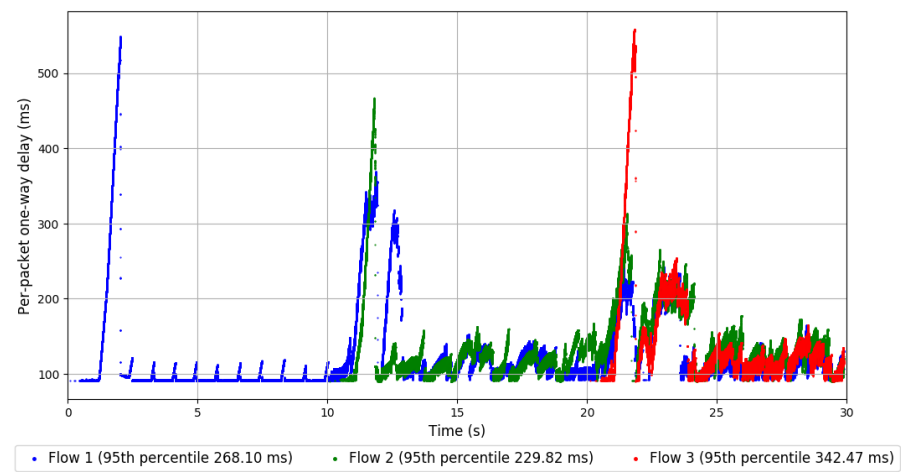
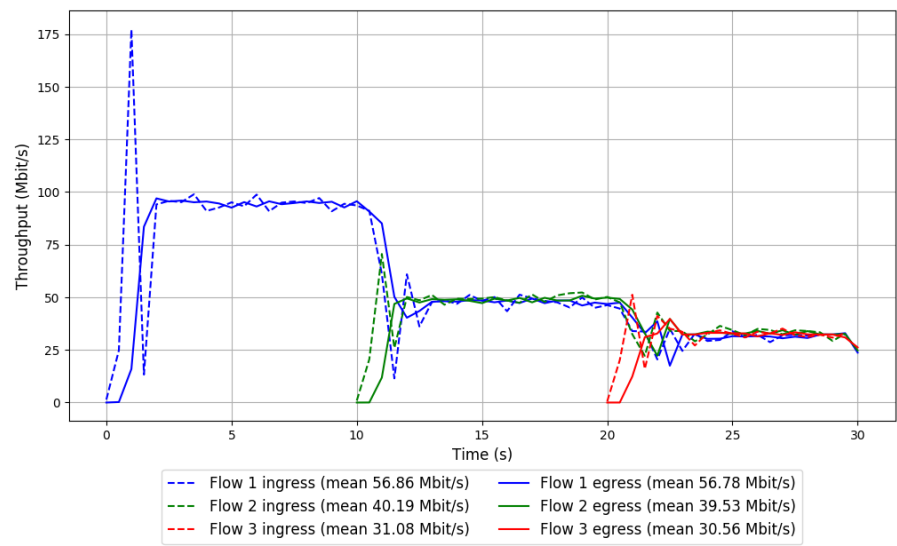
-- Flow 3:

Average throughput: 30.56 Mbit/s

95th percentile per-packet one-way delay: 342.468 ms

Loss rate: 3.28%

Run 2: Report of FillP-Sheep — Data Link



Run 3: Statistics of FillP-Sheep

Start at: 2019-01-25 20:28:30

End at: 2019-01-25 20:29:00

Local clock offset: -1.778 ms

Remote clock offset: 5.941 ms

Below is generated by plot.py at 2019-01-25 21:31:37

Datalink statistics

-- Total of 3 flows:

Average throughput: 92.76 Mbit/s

95th percentile per-packet one-way delay: 303.729 ms

Loss rate: 1.71%

-- Flow 1:

Average throughput: 57.16 Mbit/s

95th percentile per-packet one-way delay: 315.811 ms

Loss rate: 1.52%

-- Flow 2:

Average throughput: 38.58 Mbit/s

95th percentile per-packet one-way delay: 217.515 ms

Loss rate: 1.46%

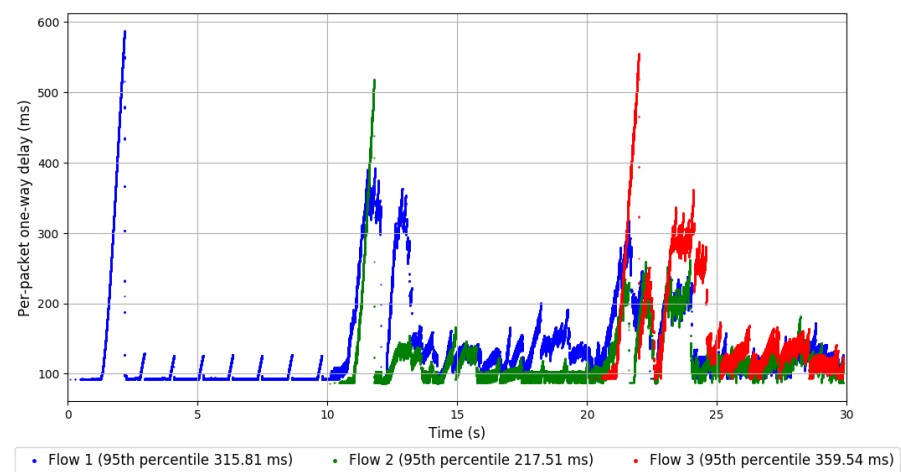
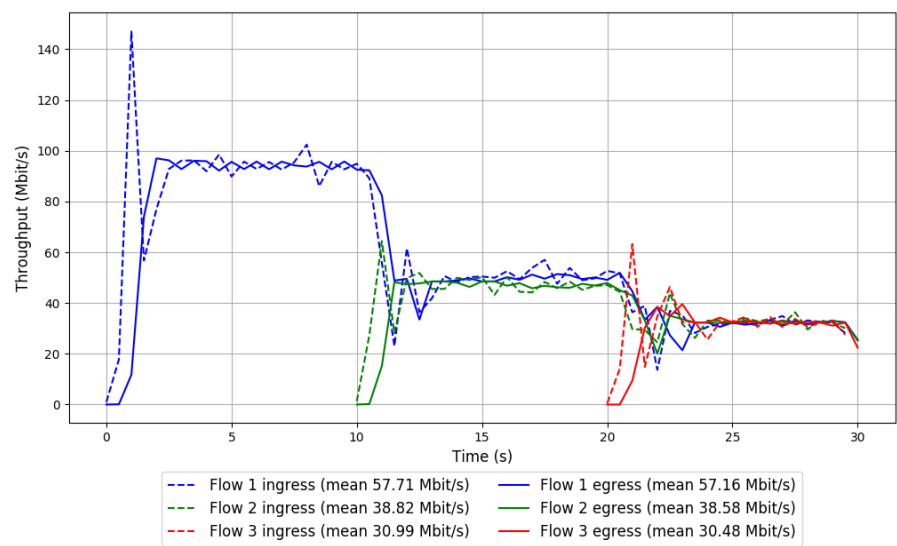
-- Flow 3:

Average throughput: 30.48 Mbit/s

95th percentile per-packet one-way delay: 359.536 ms

Loss rate: 3.40%

Run 3: Report of FillP-Sheep — Data Link



Run 4: Statistics of FillP-Sheep

Start at: 2019-01-25 20:55:29

End at: 2019-01-25 20:55:59

Local clock offset: -3.136 ms

Remote clock offset: 1.915 ms

Below is generated by plot.py at 2019-01-25 21:32:02

Datalink statistics

-- Total of 3 flows:

Average throughput: 92.94 Mbit/s

95th percentile per-packet one-way delay: 241.786 ms

Loss rate: 1.52%

-- Flow 1:

Average throughput: 56.56 Mbit/s

95th percentile per-packet one-way delay: 264.291 ms

Loss rate: 0.70%

-- Flow 2:

Average throughput: 39.71 Mbit/s

95th percentile per-packet one-way delay: 210.605 ms

Loss rate: 1.99%

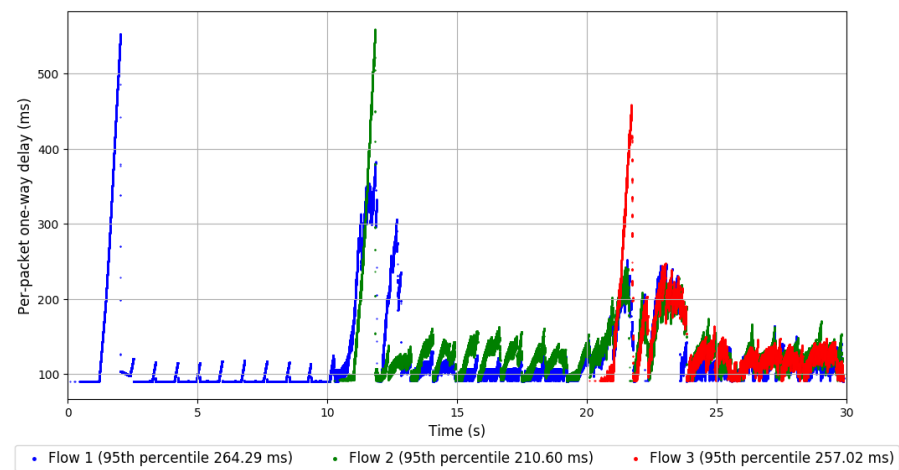
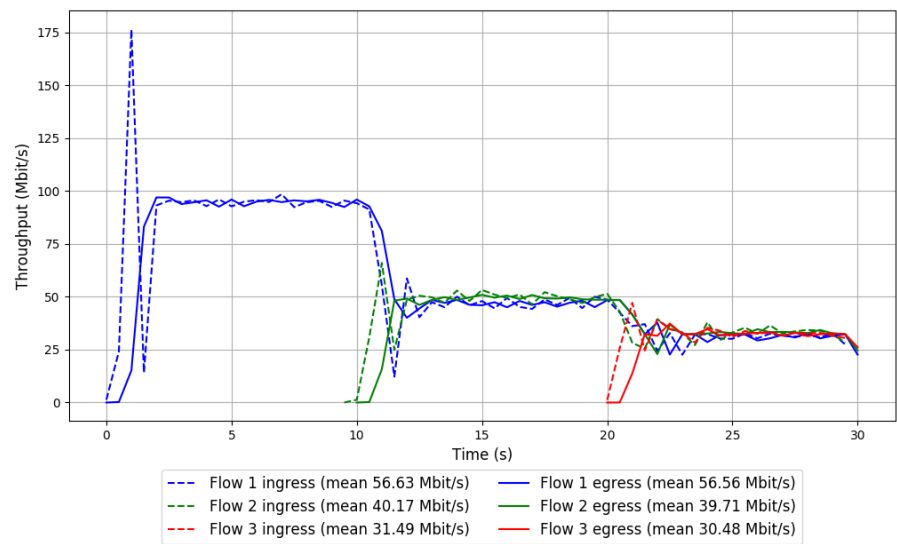
-- Flow 3:

Average throughput: 30.48 Mbit/s

95th percentile per-packet one-way delay: 257.024 ms

Loss rate: 4.77%

Run 4: Report of FillP-Sheep — Data Link



Run 5: Statistics of FillP-Sheep

Start at: 2019-01-25 21:22:29

End at: 2019-01-25 21:22:59

Local clock offset: -7.427 ms

Remote clock offset: 6.364 ms

Below is generated by plot.py at 2019-01-25 21:32:08

Datalink statistics

-- Total of 3 flows:

Average throughput: 92.69 Mbit/s

95th percentile per-packet one-way delay: 299.494 ms

Loss rate: 1.58%

-- Flow 1:

Average throughput: 57.37 Mbit/s

95th percentile per-packet one-way delay: 315.558 ms

Loss rate: 1.20%

-- Flow 2:

Average throughput: 38.56 Mbit/s

95th percentile per-packet one-way delay: 224.572 ms

Loss rate: 1.83%

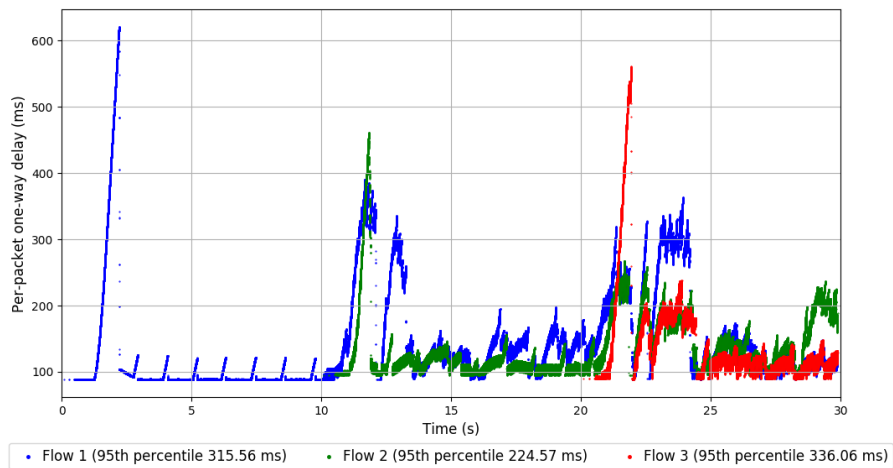
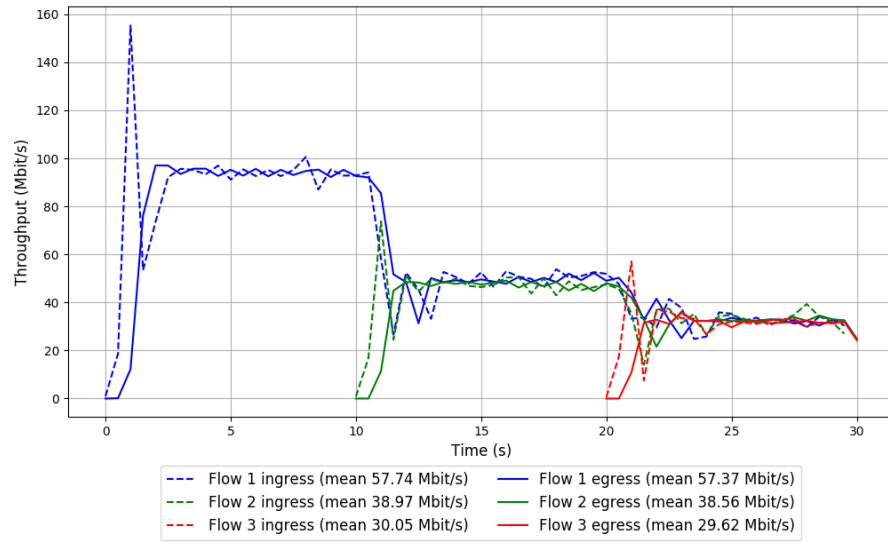
-- Flow 3:

Average throughput: 29.62 Mbit/s

95th percentile per-packet one-way delay: 336.063 ms

Loss rate: 3.13%

Run 5: Report of FillP-Sheep — Data Link



Run 1: Statistics of Indigo

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

End at: 2019-01-25 19:20:50

Local clock offset: -6.442 ms

Remote clock offset: 2.396 ms

Below is generated by plot.py at 2019-01-25 21:32:08

Datalink statistics

-- Total of 3 flows:

Average throughput: 93.66 Mbit/s

95th percentile per-packet one-way delay: 280.966 ms

Loss rate: 2.04%

-- Flow 1:

Average throughput: 58.39 Mbit/s

95th percentile per-packet one-way delay: 287.173 ms

Loss rate: 2.26%

-- Flow 2:

Average throughput: 38.86 Mbit/s

95th percentile per-packet one-way delay: 146.460 ms

Loss rate: 1.28%

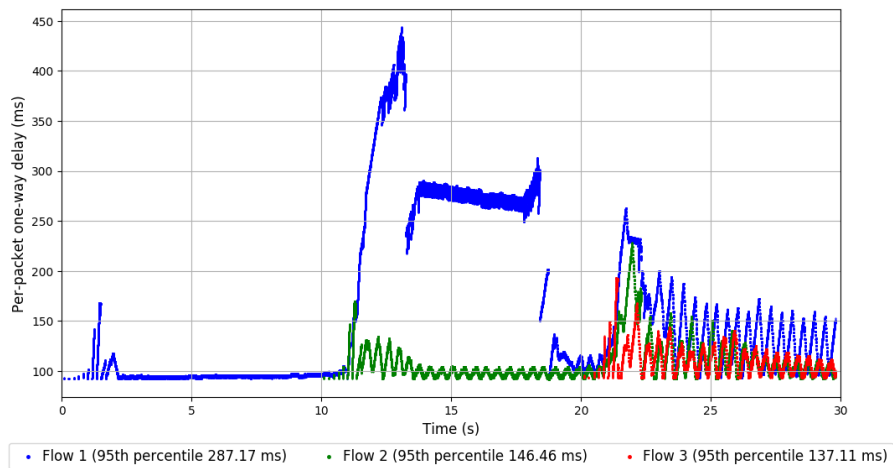
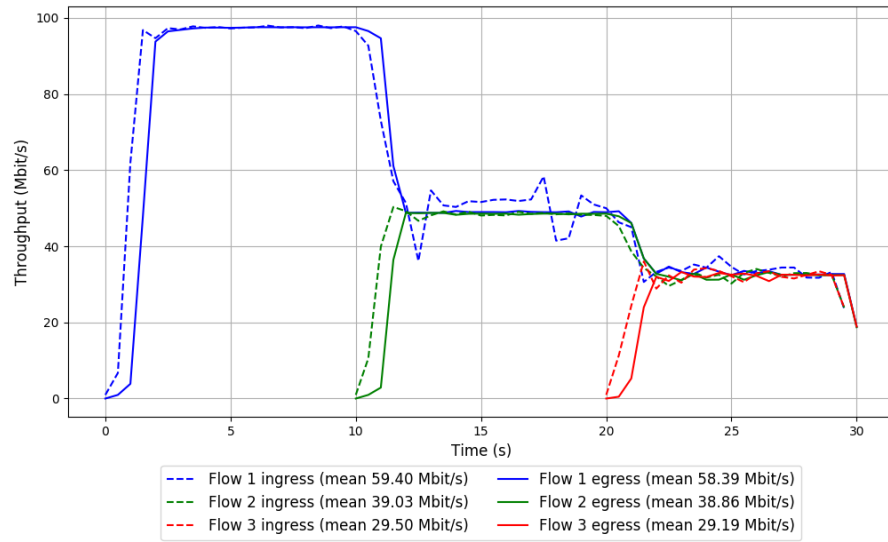
-- Flow 3:

Average throughput: 29.19 Mbit/s

95th percentile per-packet one-way delay: 137.112 ms

Loss rate: 2.75%

Run 1: Report of Indigo — Data Link



Run 2: Statistics of Indigo

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

End at: 2019-01-25 19:47:49

Local clock offset: -6.285 ms

Remote clock offset: 3.366 ms

Below is generated by plot.py at 2019-01-25 21:32:08

Datalink statistics

-- Total of 3 flows:

Average throughput: 93.74 Mbit/s

95th percentile per-packet one-way delay: 292.359 ms

Loss rate: 4.20%

-- Flow 1:

Average throughput: 58.39 Mbit/s

95th percentile per-packet one-way delay: 329.911 ms

Loss rate: 5.39%

-- Flow 2:

Average throughput: 39.02 Mbit/s

95th percentile per-packet one-way delay: 251.034 ms

Loss rate: 1.87%

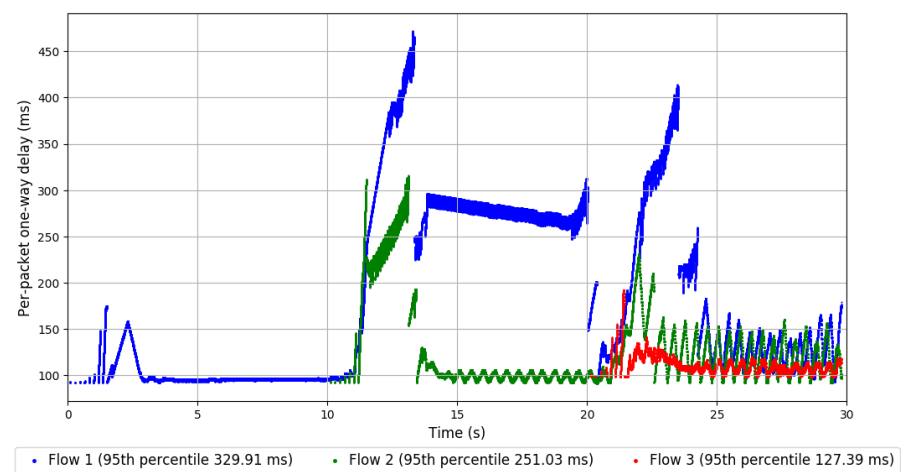
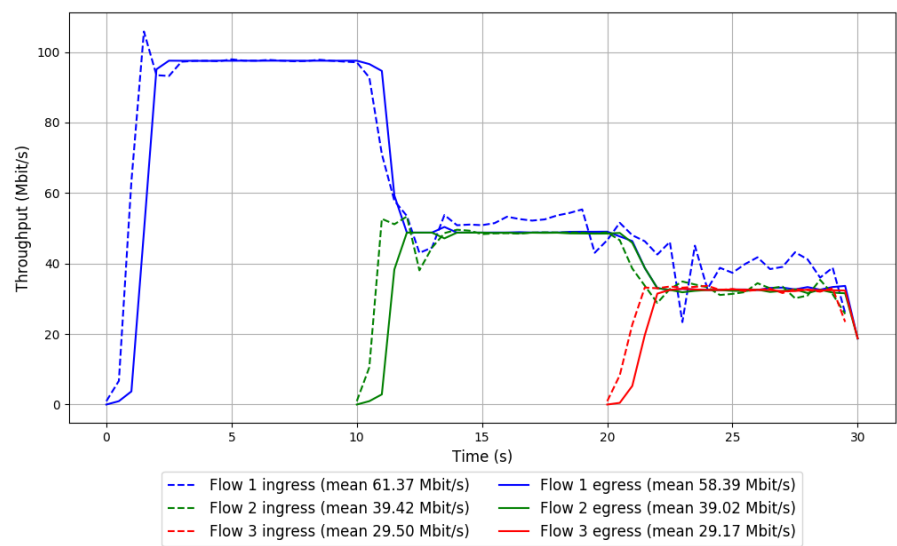
-- Flow 3:

Average throughput: 29.17 Mbit/s

95th percentile per-packet one-way delay: 127.388 ms

Loss rate: 2.92%

Run 2: Report of Indigo — Data Link

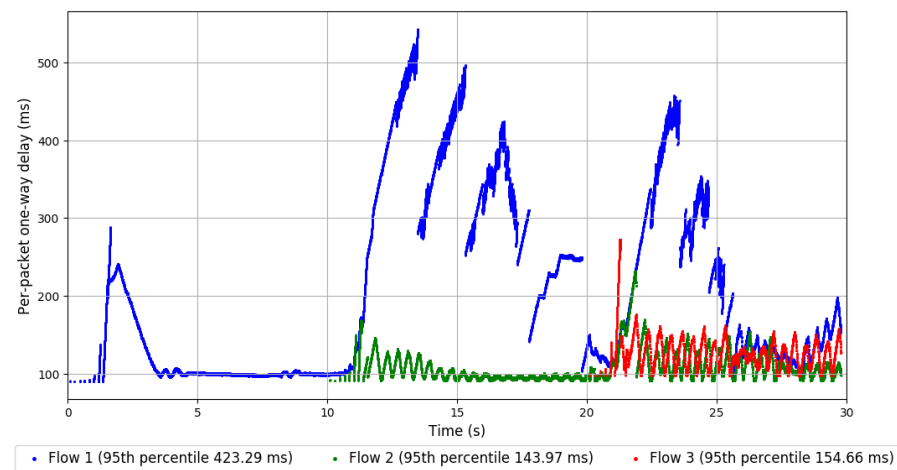
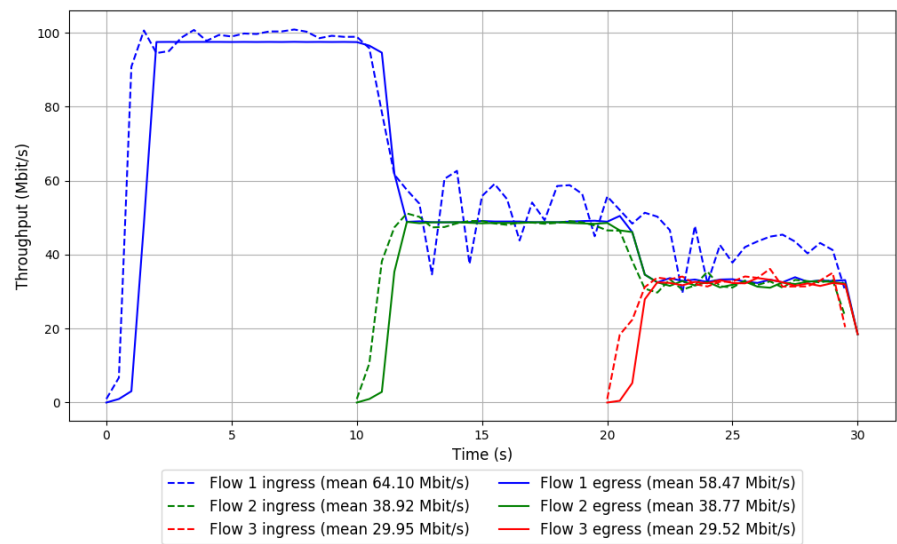


Run 3: Statistics of Indigo

Start at: 2019-01-25 20:14:16
End at: 2019-01-25 20:14:46
Local clock offset: -2.997 ms
Remote clock offset: 2.095 ms

```
# Below is generated by plot.py at 2019-01-25 21:32:32
# Datalink statistics
-- Total of 3 flows:
Average throughput: 93.76 Mbit/s
95th percentile per-packet one-way delay: 386.025 ms
Loss rate: 6.63%
-- Flow 1:
Average throughput: 58.47 Mbit/s
95th percentile per-packet one-way delay: 423.292 ms
Loss rate: 9.31%
-- Flow 2:
Average throughput: 38.77 Mbit/s
95th percentile per-packet one-way delay: 143.971 ms
Loss rate: 1.27%
-- Flow 3:
Average throughput: 29.52 Mbit/s
95th percentile per-packet one-way delay: 154.659 ms
Loss rate: 3.25%
```

Run 3: Report of Indigo — Data Link

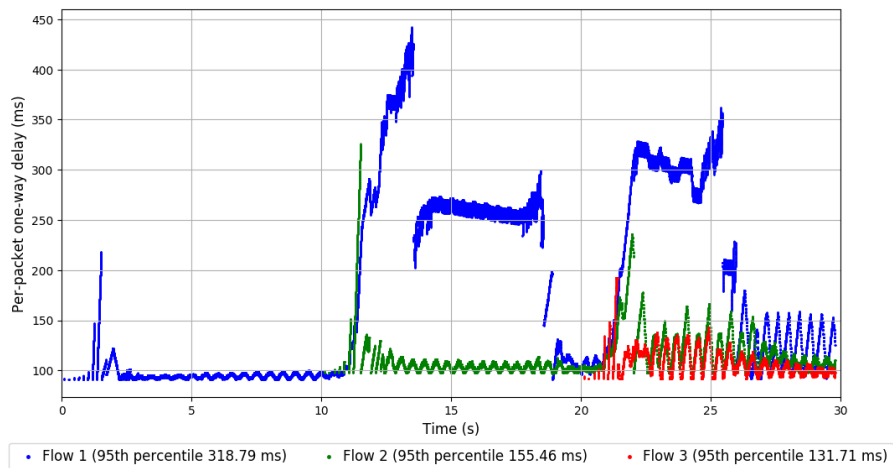
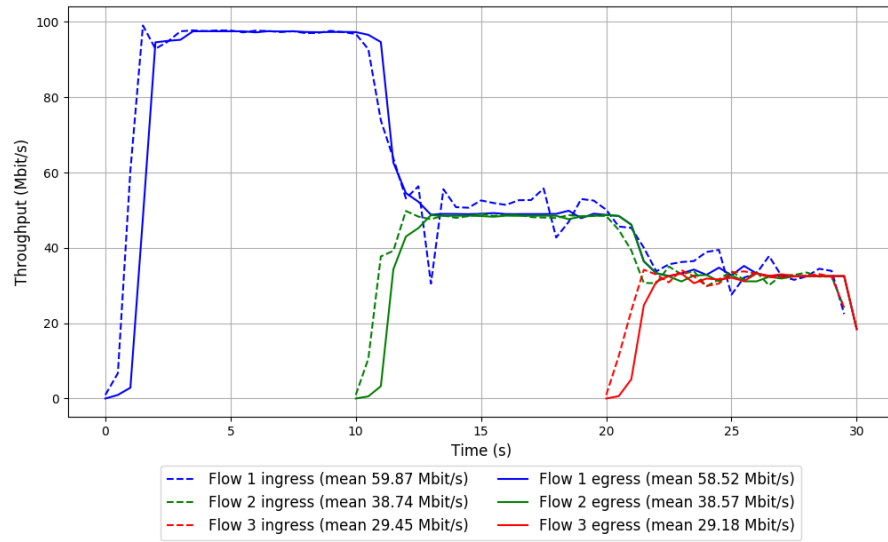


Run 4: Statistics of Indigo

Start at: 2019-01-25 20:41:15
End at: 2019-01-25 20:41:45
Local clock offset: -2.94 ms
Remote clock offset: 1.924 ms

Below is generated by plot.py at 2019-01-25 21:32:35
Datalink statistics
-- Total of 3 flows:
Average throughput: 93.58 Mbit/s
95th percentile per-packet one-way delay: 303.797 ms
Loss rate: 2.39%
-- Flow 1:
Average throughput: 58.52 Mbit/s
95th percentile per-packet one-way delay: 318.792 ms
Loss rate: 2.81%
-- Flow 2:
Average throughput: 38.57 Mbit/s
95th percentile per-packet one-way delay: 155.464 ms
Loss rate: 1.32%
-- Flow 3:
Average throughput: 29.18 Mbit/s
95th percentile per-packet one-way delay: 131.714 ms
Loss rate: 2.65%

Run 4: Report of Indigo — Data Link



Run 5: Statistics of Indigo

Start at: 2019-01-25 21:08:14

End at: 2019-01-25 21:08:44

Local clock offset: -5.554 ms

Remote clock offset: 5.763 ms

Below is generated by plot.py at 2019-01-25 21:32:42

Datalink statistics

-- Total of 3 flows:

Average throughput: 93.78 Mbit/s

95th percentile per-packet one-way delay: 417.541 ms

Loss rate: 3.56%

-- Flow 1:

Average throughput: 58.59 Mbit/s

95th percentile per-packet one-way delay: 448.107 ms

Loss rate: 4.65%

-- Flow 2:

Average throughput: 38.91 Mbit/s

95th percentile per-packet one-way delay: 134.771 ms

Loss rate: 1.22%

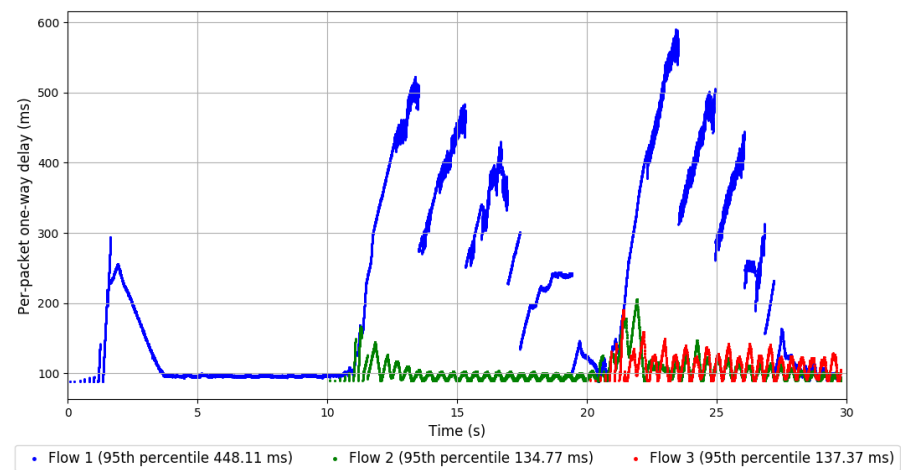
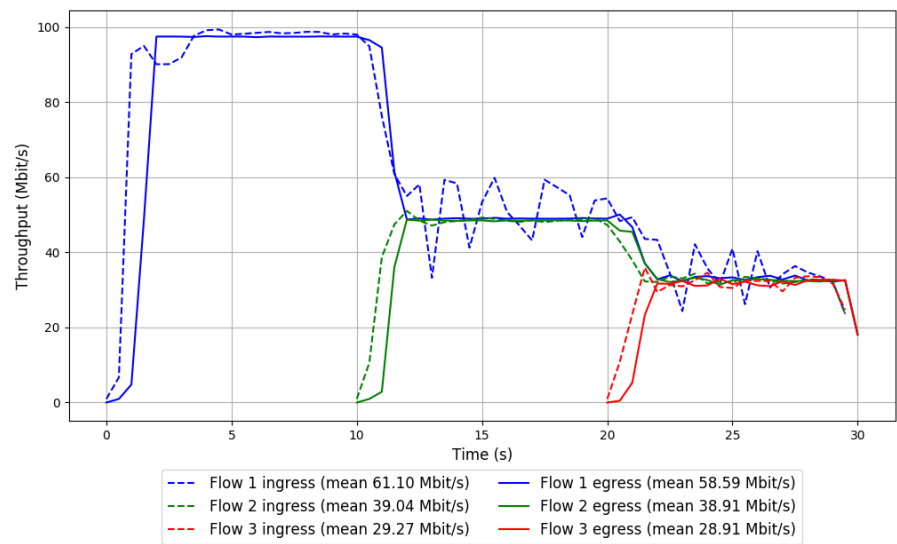
-- Flow 3:

Average throughput: 28.91 Mbit/s

95th percentile per-packet one-way delay: 137.370 ms

Loss rate: 2.93%

Run 5: Report of Indigo — Data Link



Run 1: Statistics of Indigo-MusesC3

Start at: 2019-01-25 19:22:57

End at: 2019-01-25 19:23:27

Local clock offset: -6.712 ms

Remote clock offset: 1.12 ms

Below is generated by plot.py at 2019-01-25 21:32:42

Datalink statistics

-- Total of 3 flows:

Average throughput: 94.73 Mbit/s

95th percentile per-packet one-way delay: 163.039 ms

Loss rate: 2.26%

-- Flow 1:

Average throughput: 60.30 Mbit/s

95th percentile per-packet one-way delay: 152.299 ms

Loss rate: 2.11%

-- Flow 2:

Average throughput: 40.07 Mbit/s

95th percentile per-packet one-way delay: 161.061 ms

Loss rate: 2.40%

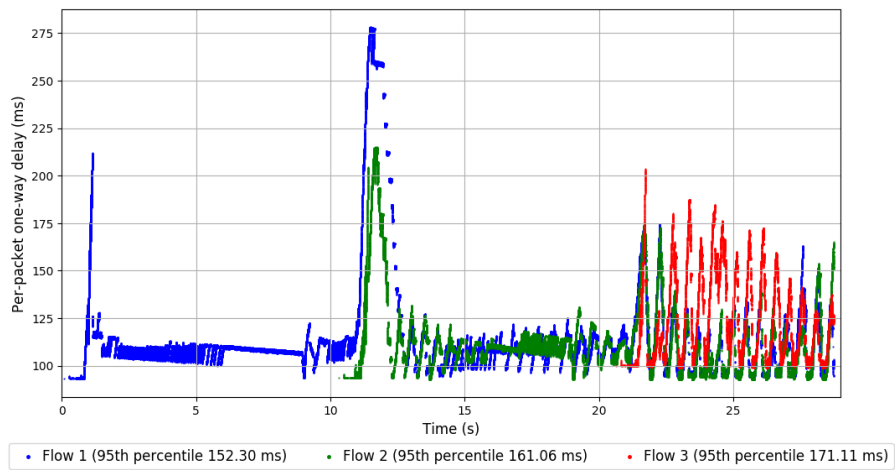
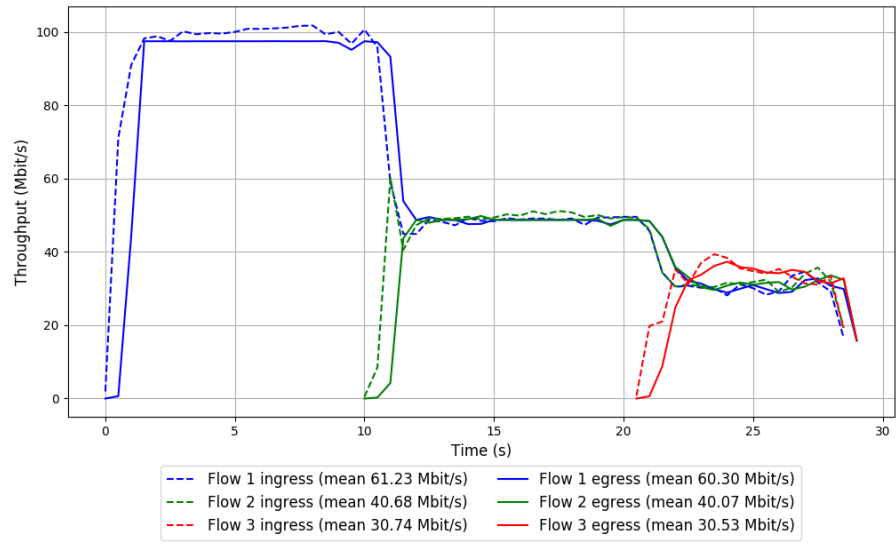
-- Flow 3:

Average throughput: 30.53 Mbit/s

95th percentile per-packet one-way delay: 171.108 ms

Loss rate: 2.91%

Run 1: Report of Indigo-MusesC3 — Data Link



Run 2: Statistics of Indigo-MusesC3

Start at: 2019-01-25 19:49:55

End at: 2019-01-25 19:50:25

Local clock offset: -7.144 ms

Remote clock offset: 7.099 ms

Below is generated by plot.py at 2019-01-25 21:33:01

Datalink statistics

-- Total of 3 flows:

Average throughput: 95.03 Mbit/s

95th percentile per-packet one-way delay: 151.641 ms

Loss rate: 2.07%

-- Flow 1:

Average throughput: 60.50 Mbit/s

95th percentile per-packet one-way delay: 147.107 ms

Loss rate: 2.11%

-- Flow 2:

Average throughput: 40.35 Mbit/s

95th percentile per-packet one-way delay: 203.002 ms

Loss rate: 1.74%

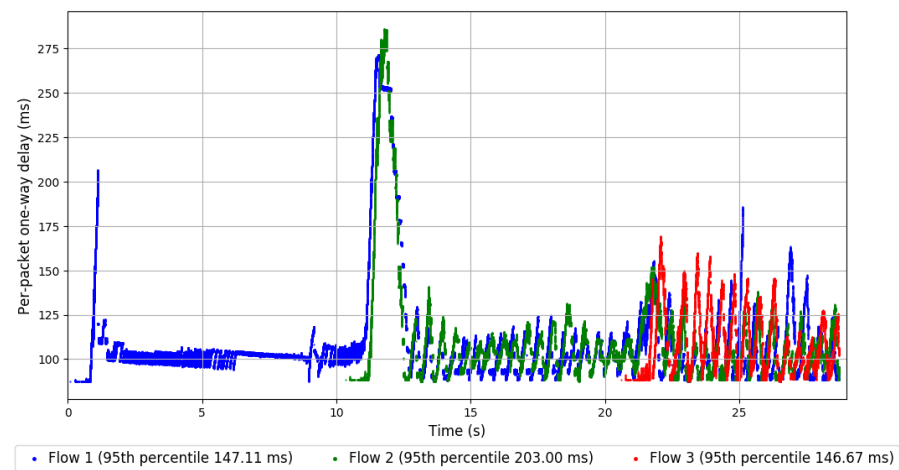
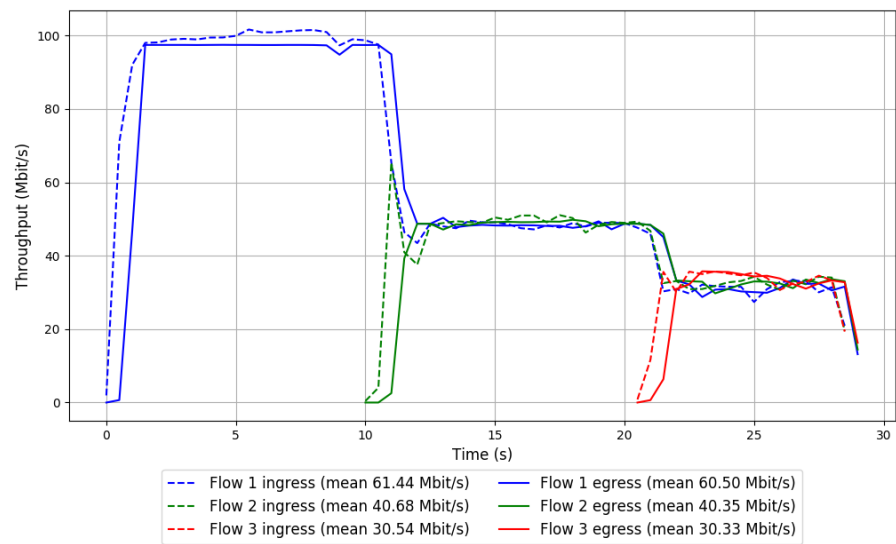
-- Flow 3:

Average throughput: 30.33 Mbit/s

95th percentile per-packet one-way delay: 146.673 ms

Loss rate: 2.76%

Run 2: Report of Indigo-MusesC3 — Data Link



Run 3: Statistics of Indigo-MusesC3

Start at: 2019-01-25 20:16:52

End at: 2019-01-25 20:17:22

Local clock offset: -2.729 ms

Remote clock offset: 1.943 ms

Below is generated by plot.py at 2019-01-25 21:33:05

Datalink statistics

-- Total of 3 flows:

Average throughput: 94.69 Mbit/s

95th percentile per-packet one-way delay: 202.448 ms

Loss rate: 1.85%

-- Flow 1:

Average throughput: 60.39 Mbit/s

95th percentile per-packet one-way delay: 175.945 ms

Loss rate: 1.90%

-- Flow 2:

Average throughput: 39.93 Mbit/s

95th percentile per-packet one-way delay: 284.801 ms

Loss rate: 1.38%

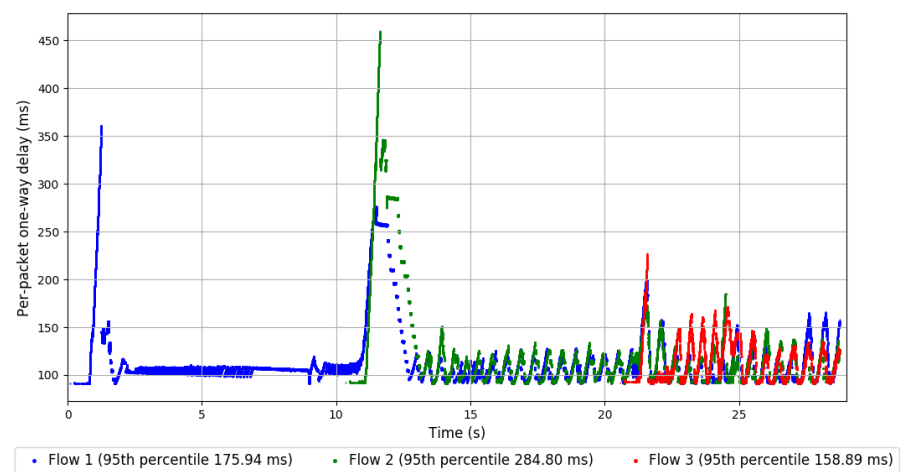
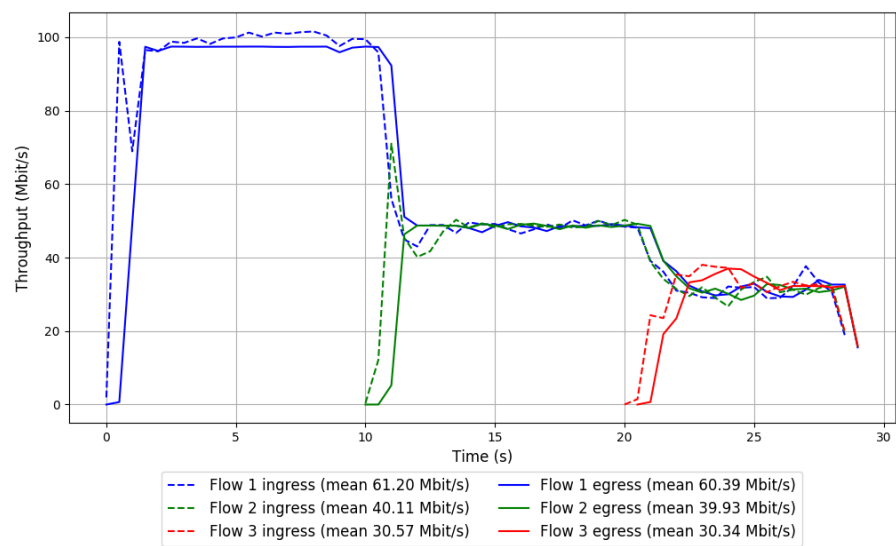
-- Flow 3:

Average throughput: 30.34 Mbit/s

95th percentile per-packet one-way delay: 158.894 ms

Loss rate: 2.80%

Run 3: Report of Indigo-MusesC3 — Data Link



Run 4: Statistics of Indigo-MusesC3

Start at: 2019-01-25 20:43:51

End at: 2019-01-25 20:44:21

Local clock offset: -3.029 ms

Remote clock offset: 1.918 ms

Below is generated by plot.py at 2019-01-25 21:33:06

Datalink statistics

-- Total of 3 flows:

Average throughput: 94.75 Mbit/s

95th percentile per-packet one-way delay: 149.649 ms

Loss rate: 2.39%

-- Flow 1:

Average throughput: 60.27 Mbit/s

95th percentile per-packet one-way delay: 137.542 ms

Loss rate: 1.81%

-- Flow 2:

Average throughput: 39.97 Mbit/s

95th percentile per-packet one-way delay: 160.438 ms

Loss rate: 3.19%

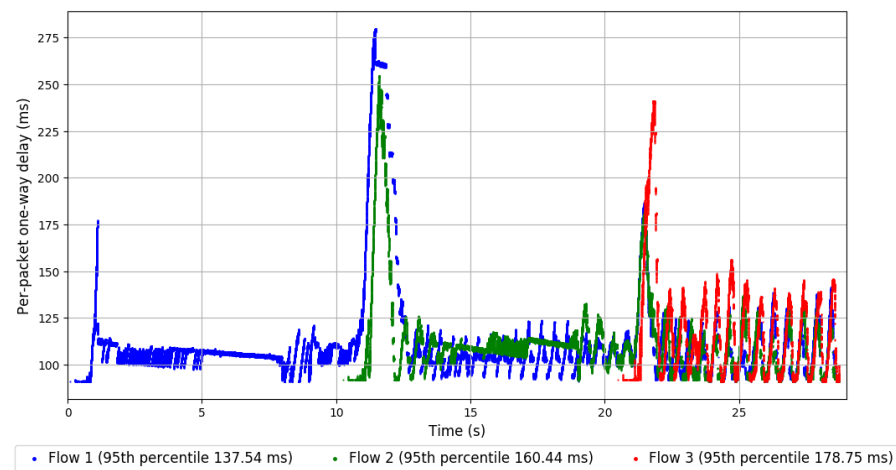
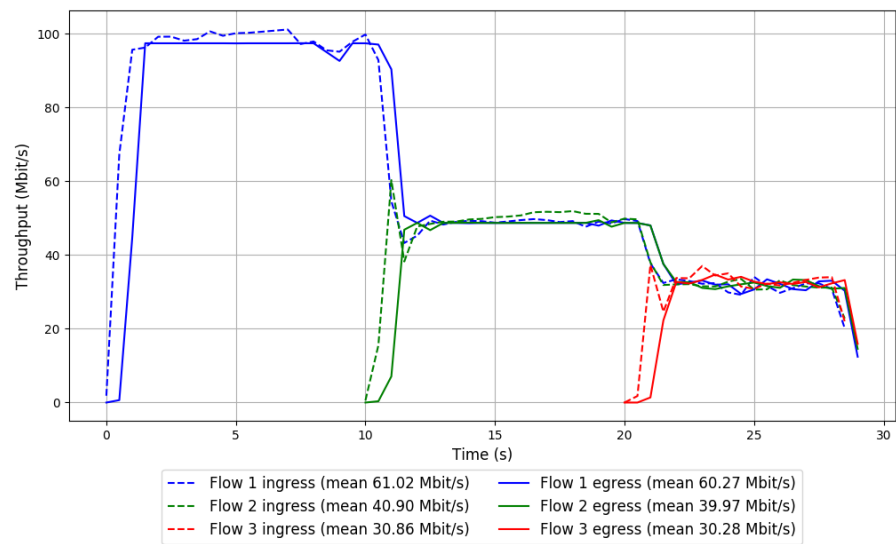
-- Flow 3:

Average throughput: 30.28 Mbit/s

95th percentile per-packet one-way delay: 178.745 ms

Loss rate: 3.95%

Run 4: Report of Indigo-MusesC3 — Data Link



Run 5: Statistics of Indigo-MusesC3

Start at: 2019-01-25 21:10:50

End at: 2019-01-25 21:11:20

Local clock offset: -6.037 ms

Remote clock offset: 1.915 ms

Below is generated by plot.py at 2019-01-25 21:33:12

Datalink statistics

-- Total of 3 flows:

Average throughput: 94.32 Mbit/s

95th percentile per-packet one-way delay: 168.266 ms

Loss rate: 1.92%

-- Flow 1:

Average throughput: 60.27 Mbit/s

95th percentile per-packet one-way delay: 136.509 ms

Loss rate: 1.94%

-- Flow 2:

Average throughput: 39.89 Mbit/s

95th percentile per-packet one-way delay: 266.656 ms

Loss rate: 1.39%

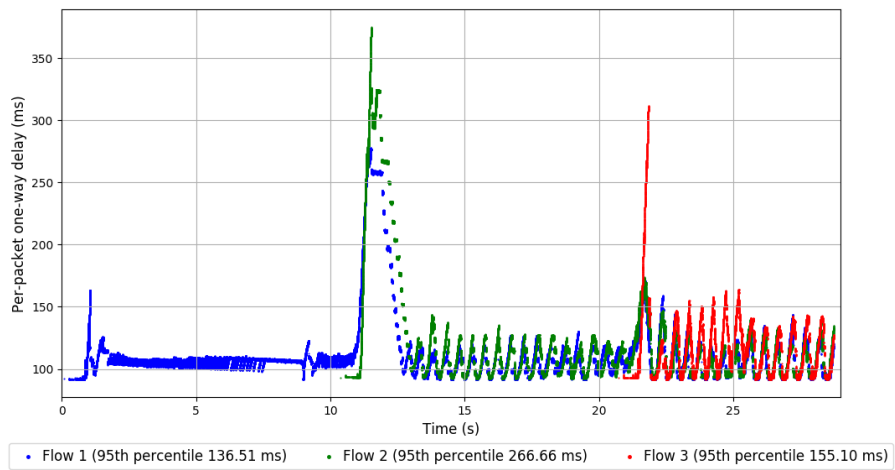
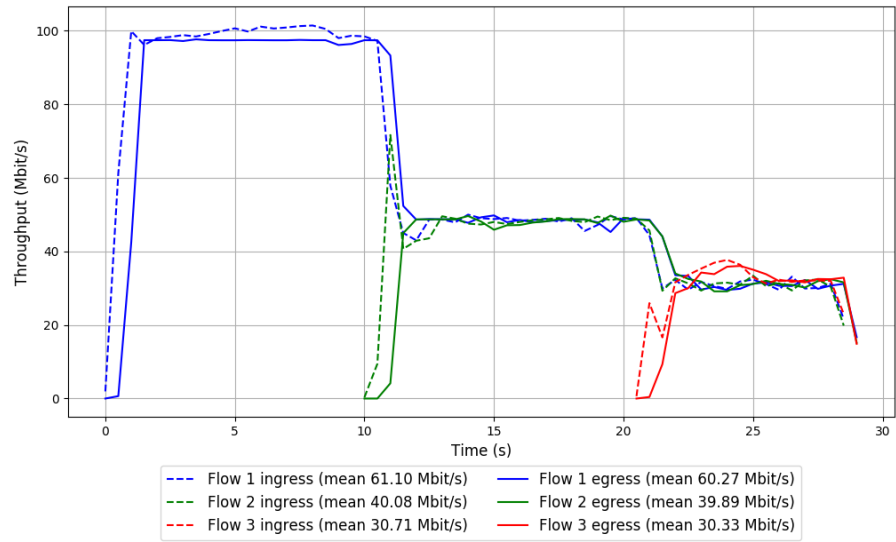
-- Flow 3:

Average throughput: 30.33 Mbit/s

95th percentile per-packet one-way delay: 155.104 ms

Loss rate: 3.32%

Run 5: Report of Indigo-MusesC3 — Data Link



Run 1: Statistics of Indigo-MusesC5

Start at: 2019-01-25 19:24:14

End at: 2019-01-25 19:24:44

Local clock offset: -7.494 ms

Remote clock offset: 2.276 ms

Below is generated by plot.py at 2019-01-25 21:33:37

Datalink statistics

-- Total of 3 flows:

Average throughput: 94.33 Mbit/s

95th percentile per-packet one-way delay: 236.006 ms

Loss rate: 4.38%

-- Flow 1:

Average throughput: 60.82 Mbit/s

95th percentile per-packet one-way delay: 217.743 ms

Loss rate: 3.76%

-- Flow 2:

Average throughput: 38.45 Mbit/s

95th percentile per-packet one-way delay: 251.432 ms

Loss rate: 5.12%

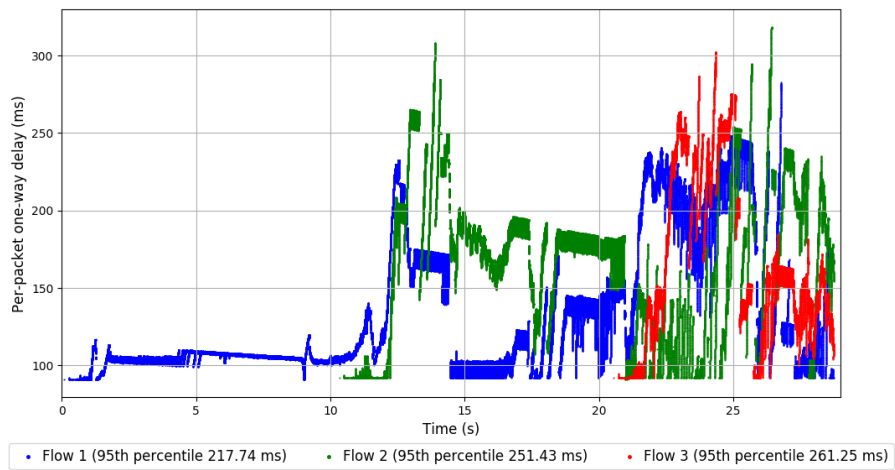
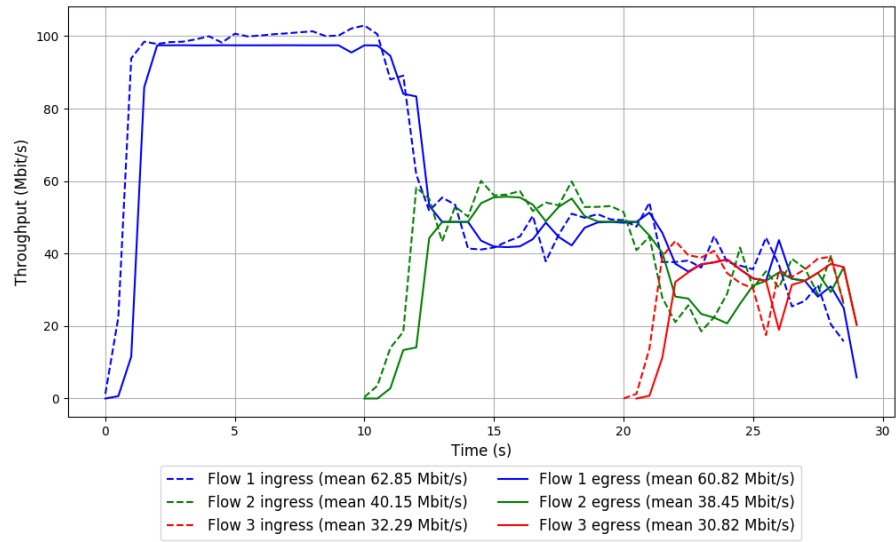
-- Flow 3:

Average throughput: 30.82 Mbit/s

95th percentile per-packet one-way delay: 261.251 ms

Loss rate: 6.53%

Run 1: Report of Indigo-MusesC5 — Data Link

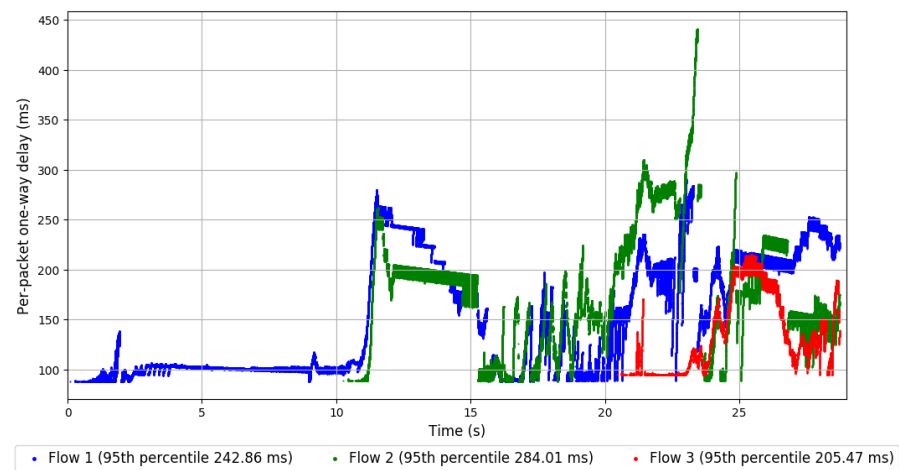
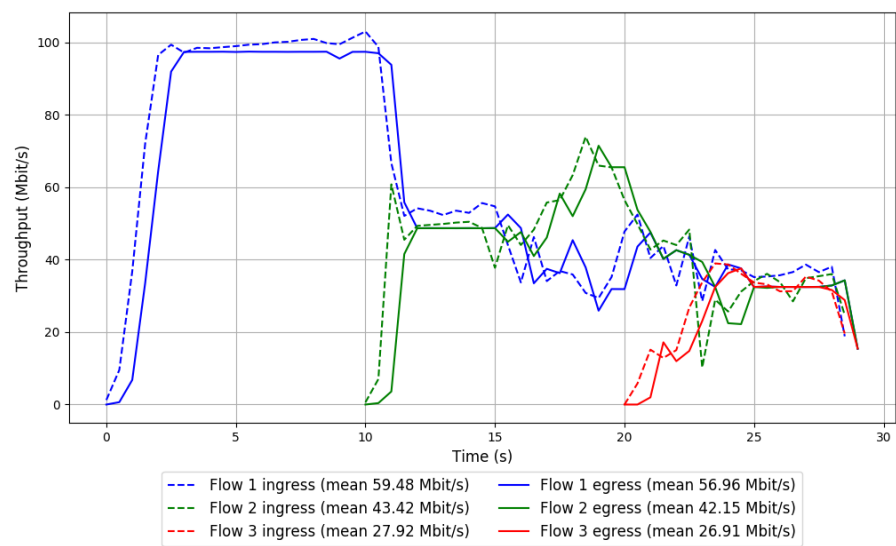


Run 2: Statistics of Indigo-MusesC5

Start at: 2019-01-25 19:51:13
End at: 2019-01-25 19:51:43
Local clock offset: -6.332 ms
Remote clock offset: 7.215 ms

Below is generated by plot.py at 2019-01-25 21:33:37
Datalink statistics
-- Total of 3 flows:
Average throughput: 91.94 Mbit/s
95th percentile per-packet one-way delay: 252.048 ms
Loss rate: 4.41%
-- Flow 1:
Average throughput: 56.96 Mbit/s
95th percentile per-packet one-way delay: 242.856 ms
Loss rate: 4.53%
-- Flow 2:
Average throughput: 42.15 Mbit/s
95th percentile per-packet one-way delay: 284.009 ms
Loss rate: 3.80%
-- Flow 3:
Average throughput: 26.91 Mbit/s
95th percentile per-packet one-way delay: 205.470 ms
Loss rate: 5.65%

Run 2: Report of Indigo-MusesC5 — Data Link



Run 3: Statistics of Indigo-MusesC5

Start at: 2019-01-25 20:18:09

End at: 2019-01-25 20:18:39

Local clock offset: -2.526 ms

Remote clock offset: 1.506 ms

Below is generated by plot.py at 2019-01-25 21:33:42

Datalink statistics

-- Total of 3 flows:

Average throughput: 93.54 Mbit/s

95th percentile per-packet one-way delay: 248.739 ms

Loss rate: 4.00%

-- Flow 1:

Average throughput: 56.88 Mbit/s

95th percentile per-packet one-way delay: 239.972 ms

Loss rate: 3.12%

-- Flow 2:

Average throughput: 43.55 Mbit/s

95th percentile per-packet one-way delay: 267.264 ms

Loss rate: 4.41%

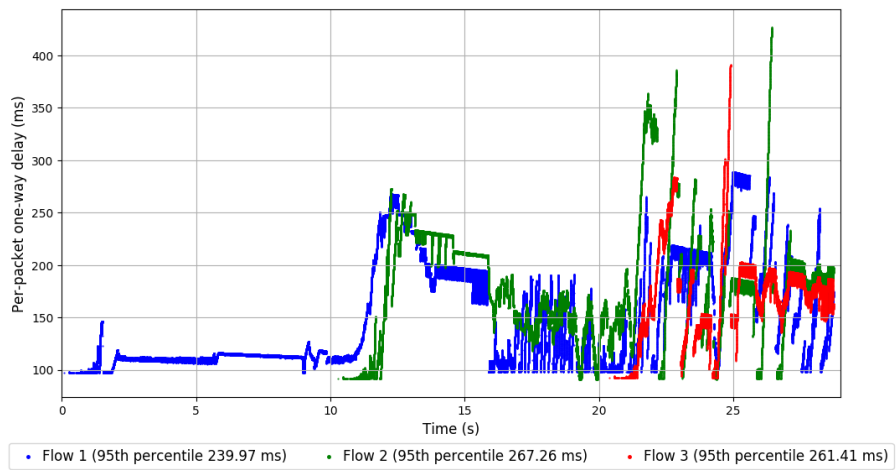
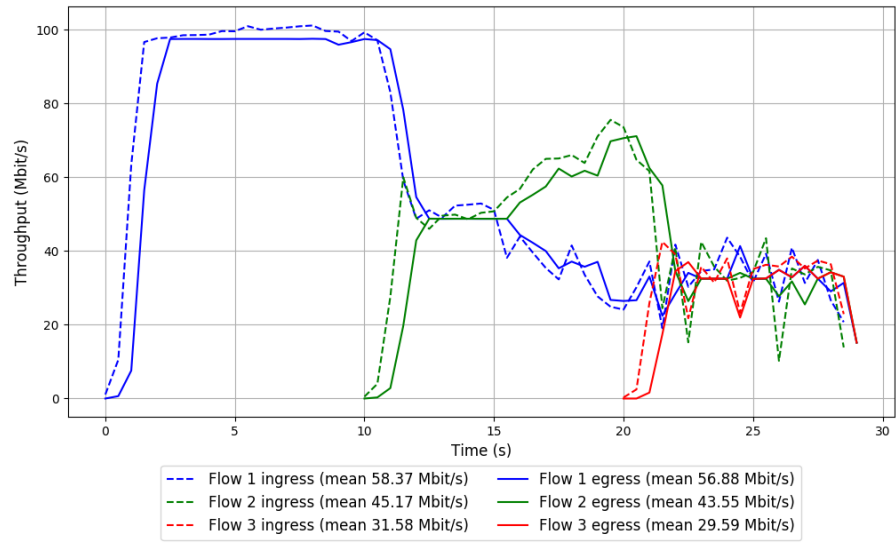
-- Flow 3:

Average throughput: 29.59 Mbit/s

95th percentile per-packet one-way delay: 261.414 ms

Loss rate: 8.22%

Run 3: Report of Indigo-MusesC5 — Data Link



Run 4: Statistics of Indigo-MusesC5

Start at: 2019-01-25 20:45:09

End at: 2019-01-25 20:45:39

Local clock offset: -3.049 ms

Remote clock offset: 5.9 ms

Below is generated by plot.py at 2019-01-25 21:33:43

Datalink statistics

-- Total of 3 flows:

Average throughput: 91.51 Mbit/s

95th percentile per-packet one-way delay: 253.159 ms

Loss rate: 3.74%

-- Flow 1:

Average throughput: 58.03 Mbit/s

95th percentile per-packet one-way delay: 254.948 ms

Loss rate: 3.15%

-- Flow 2:

Average throughput: 38.61 Mbit/s

95th percentile per-packet one-way delay: 211.069 ms

Loss rate: 4.40%

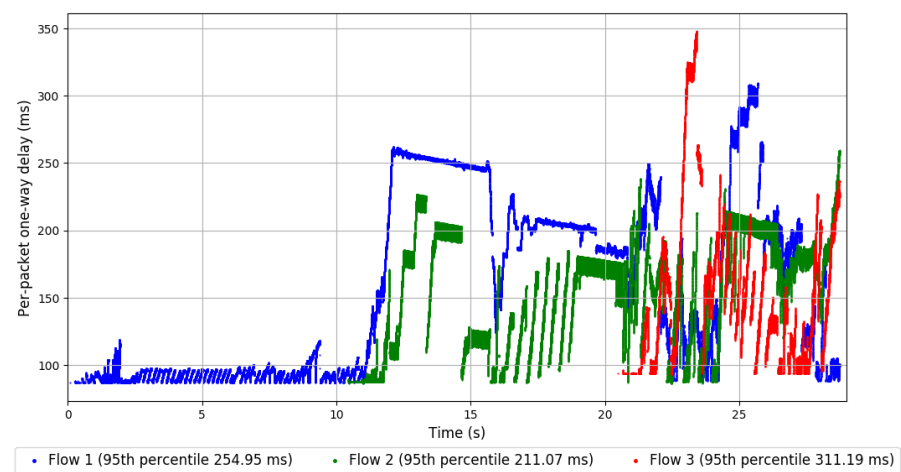
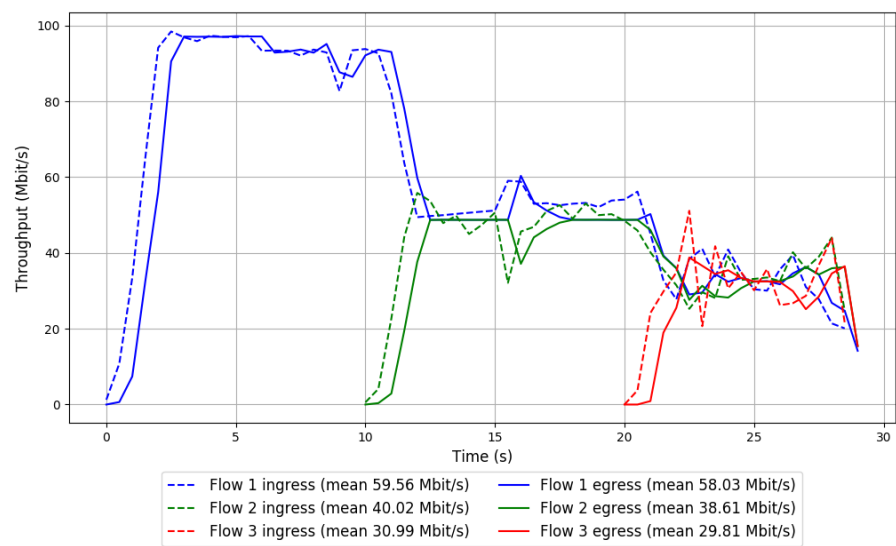
-- Flow 3:

Average throughput: 29.81 Mbit/s

95th percentile per-packet one-way delay: 311.195 ms

Loss rate: 5.76%

Run 4: Report of Indigo-MusesC5 — Data Link



Run 5: Statistics of Indigo-MusesC5

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

End at: 2019-01-25 21:12:38

Local clock offset: -6.288 ms

Remote clock offset: 1.854 ms

Below is generated by plot.py at 2019-01-25 21:34:05

Datalink statistics

-- Total of 3 flows:

Average throughput: 92.62 Mbit/s

95th percentile per-packet one-way delay: 253.064 ms

Loss rate: 3.36%

-- Flow 1:

Average throughput: 56.24 Mbit/s

95th percentile per-packet one-way delay: 234.497 ms

Loss rate: 2.56%

-- Flow 2:

Average throughput: 41.46 Mbit/s

95th percentile per-packet one-way delay: 335.637 ms

Loss rate: 3.55%

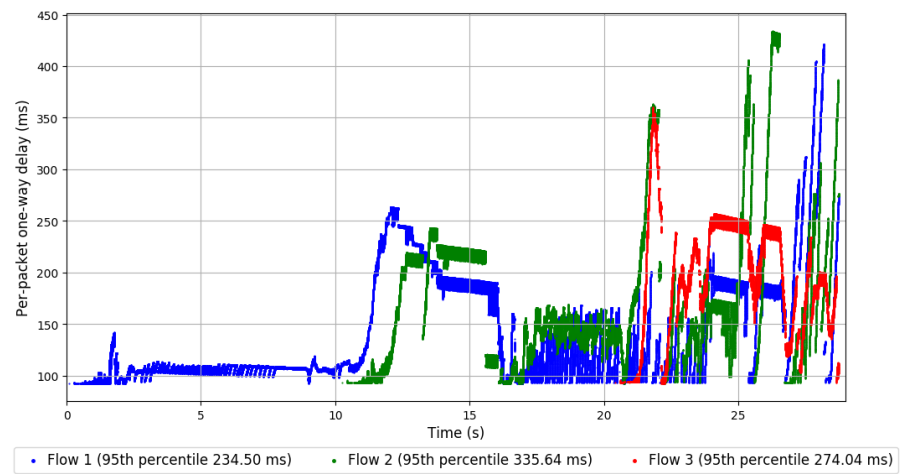
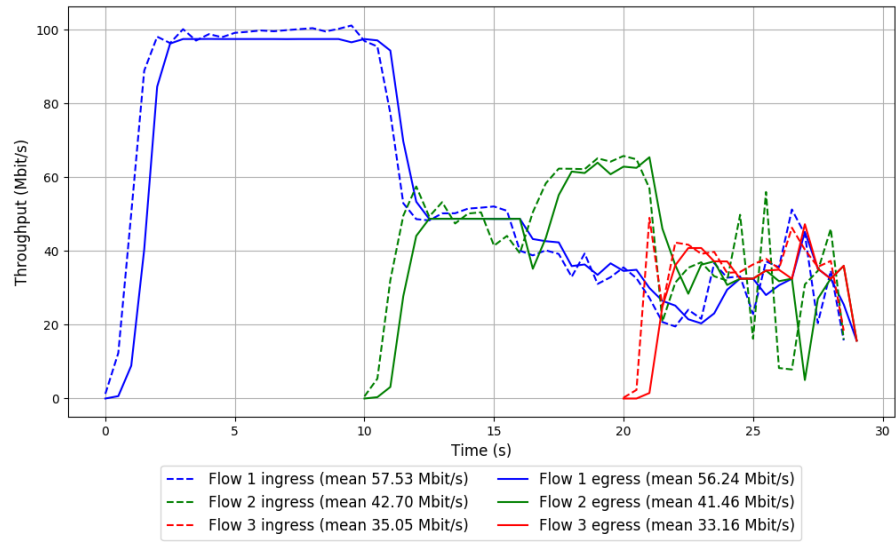
-- Flow 3:

Average throughput: 33.16 Mbit/s

95th percentile per-packet one-way delay: 274.042 ms

Loss rate: 7.26%

Run 5: Report of Indigo-MusesC5 — Data Link



Run 1: Statistics of Indigo-MusesD

Start at: 2019-01-25 19:26:44

End at: 2019-01-25 19:27:14

Local clock offset: -7.642 ms

Remote clock offset: 7.598 ms

Below is generated by plot.py at 2019-01-25 21:34:09

Datalink statistics

-- Total of 3 flows:

Average throughput: 94.10 Mbit/s

95th percentile per-packet one-way delay: 288.321 ms

Loss rate: 5.57%

-- Flow 1:

Average throughput: 61.17 Mbit/s

95th percentile per-packet one-way delay: 296.487 ms

Loss rate: 4.95%

-- Flow 2:

Average throughput: 38.95 Mbit/s

95th percentile per-packet one-way delay: 190.414 ms

Loss rate: 6.60%

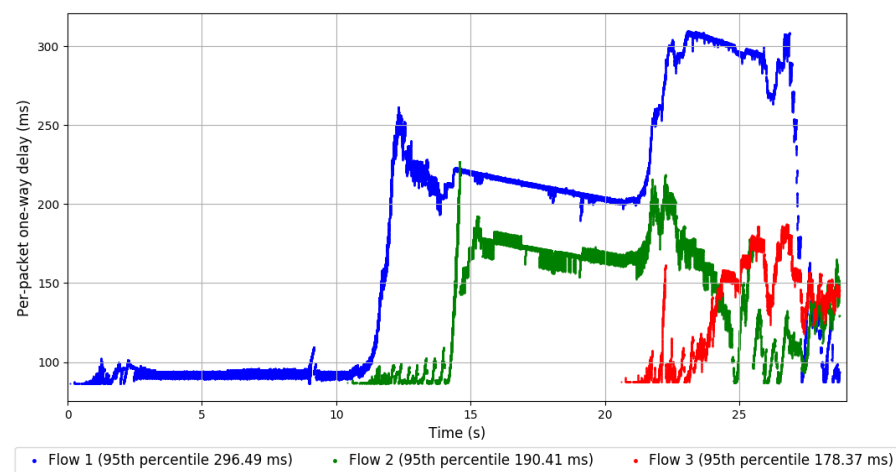
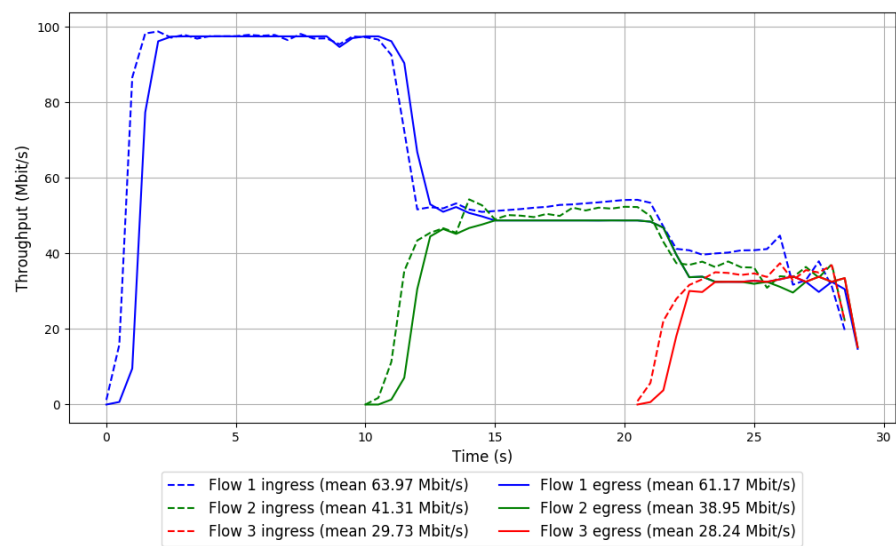
-- Flow 3:

Average throughput: 28.24 Mbit/s

95th percentile per-packet one-way delay: 178.373 ms

Loss rate: 6.96%

Run 1: Report of Indigo-MusesD — Data Link



Run 2: Statistics of Indigo-MusesD

Start at: 2019-01-25 19:53:42

End at: 2019-01-25 19:54:12

Local clock offset: -6.385 ms

Remote clock offset: 3.366 ms

Below is generated by plot.py at 2019-01-25 21:34:09

Datalink statistics

-- Total of 3 flows:

Average throughput: 93.92 Mbit/s

95th percentile per-packet one-way delay: 201.801 ms

Loss rate: 4.19%

-- Flow 1:

Average throughput: 60.20 Mbit/s

95th percentile per-packet one-way delay: 201.882 ms

Loss rate: 4.18%

-- Flow 2:

Average throughput: 40.31 Mbit/s

95th percentile per-packet one-way delay: 199.239 ms

Loss rate: 3.55%

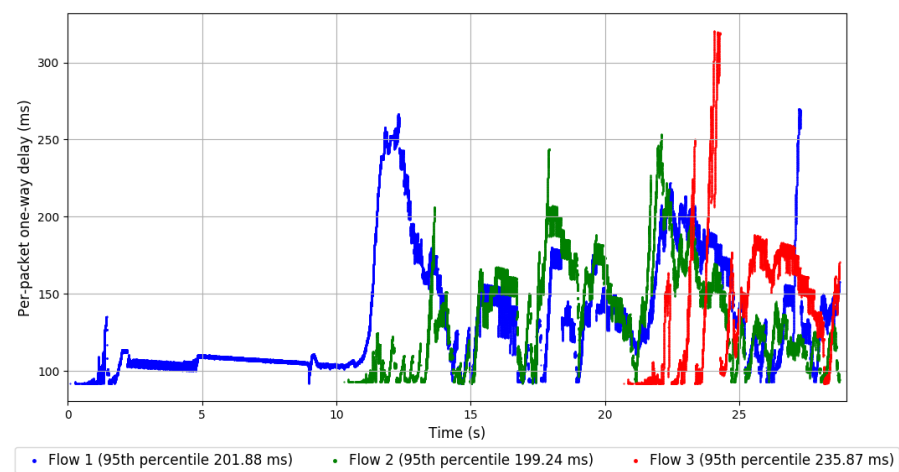
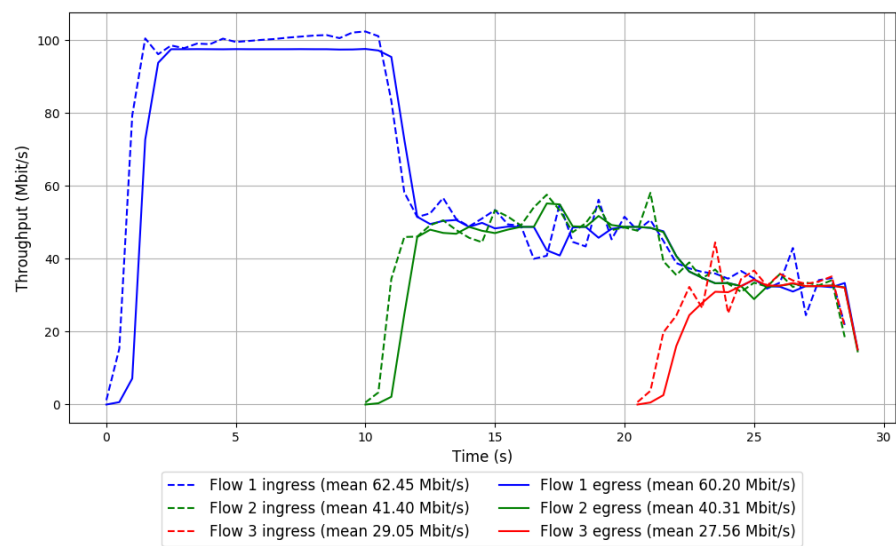
-- Flow 3:

Average throughput: 27.56 Mbit/s

95th percentile per-packet one-way delay: 235.867 ms

Loss rate: 6.40%

Run 2: Report of Indigo-MusesD — Data Link



Run 3: Statistics of Indigo-MusesD

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

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

Local clock offset: -1.546 ms

Remote clock offset: 5.712 ms

Below is generated by plot.py at 2019-01-25 21:34:17

Datalink statistics

-- Total of 3 flows:

Average throughput: 93.73 Mbit/s

95th percentile per-packet one-way delay: 249.075 ms

Loss rate: 3.87%

-- Flow 1:

Average throughput: 63.40 Mbit/s

95th percentile per-packet one-way delay: 245.071 ms

Loss rate: 3.35%

-- Flow 2:

Average throughput: 33.84 Mbit/s

95th percentile per-packet one-way delay: 261.058 ms

Loss rate: 3.90%

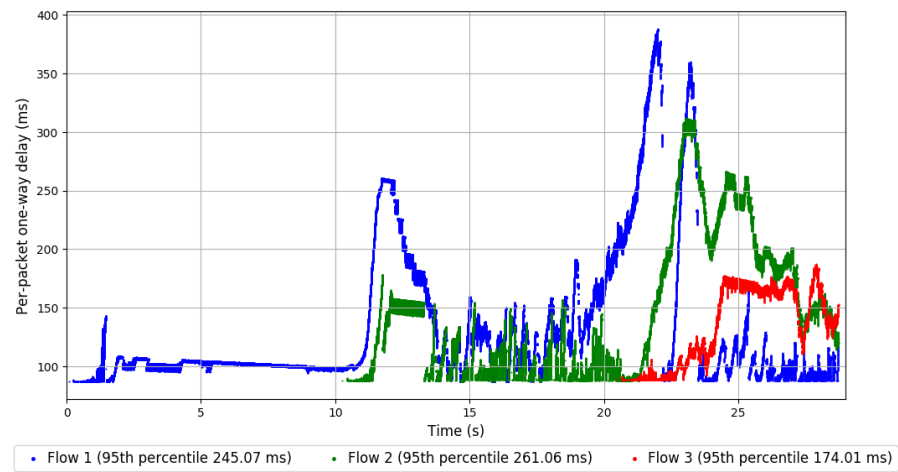
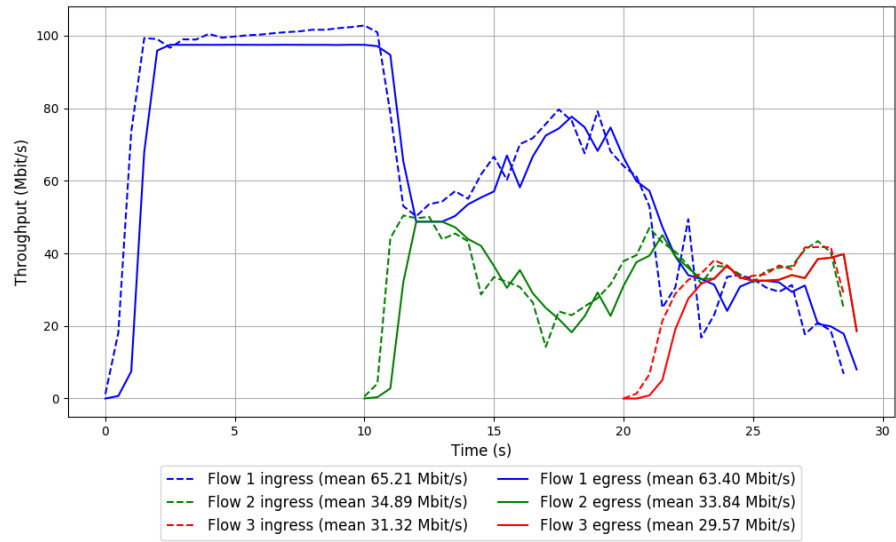
-- Flow 3:

Average throughput: 29.57 Mbit/s

95th percentile per-packet one-way delay: 174.013 ms

Loss rate: 7.53%

Run 3: Report of Indigo-MusesD — Data Link



Run 4: Statistics of Indigo-MusesD

Start at: 2019-01-25 20:47:38

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

Local clock offset: -2.352 ms

Remote clock offset: 6.016 ms

Below is generated by plot.py at 2019-01-25 21:34:41

Datalink statistics

-- Total of 3 flows:

Average throughput: 93.62 Mbit/s

95th percentile per-packet one-way delay: 231.653 ms

Loss rate: 7.10%

-- Flow 1:

Average throughput: 60.03 Mbit/s

95th percentile per-packet one-way delay: 243.424 ms

Loss rate: 8.05%

-- Flow 2:

Average throughput: 39.71 Mbit/s

95th percentile per-packet one-way delay: 181.811 ms

Loss rate: 4.88%

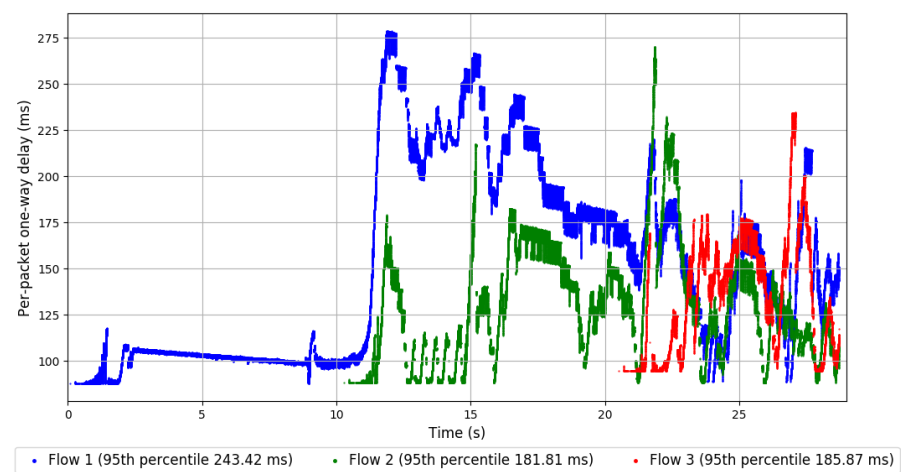
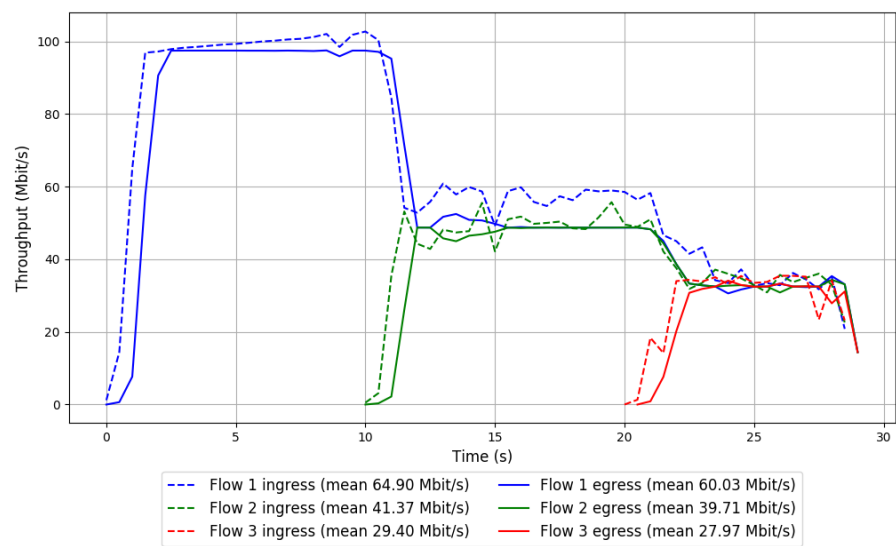
-- Flow 3:

Average throughput: 27.97 Mbit/s

95th percentile per-packet one-way delay: 185.866 ms

Loss rate: 6.83%

Run 4: Report of Indigo-MusesD — Data Link



Run 5: Statistics of Indigo-MusesD

Start at: 2019-01-25 21:14:38

End at: 2019-01-25 21:15:08

Local clock offset: -6.616 ms

Remote clock offset: 2.146 ms

Below is generated by plot.py at 2019-01-25 21:34:41

Datalink statistics

-- Total of 3 flows:

Average throughput: 93.93 Mbit/s

95th percentile per-packet one-way delay: 284.637 ms

Loss rate: 3.90%

-- Flow 1:

Average throughput: 63.95 Mbit/s

95th percentile per-packet one-way delay: 290.167 ms

Loss rate: 3.45%

-- Flow 2:

Average throughput: 33.47 Mbit/s

95th percentile per-packet one-way delay: 284.438 ms

Loss rate: 3.57%

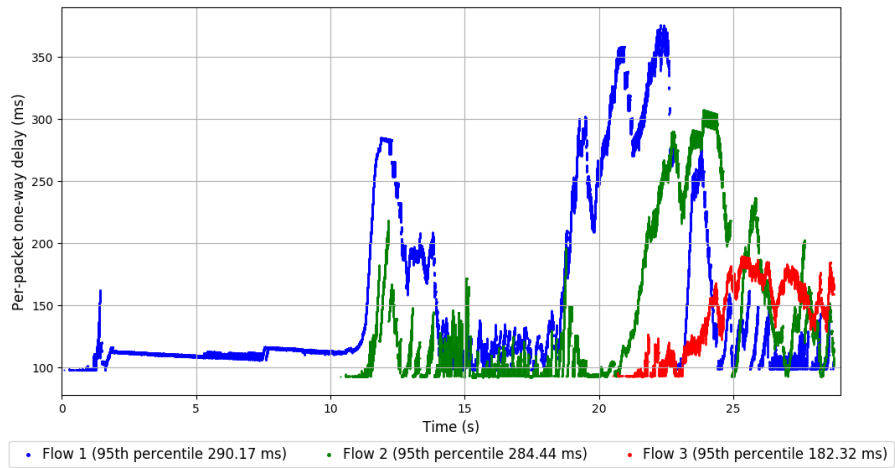
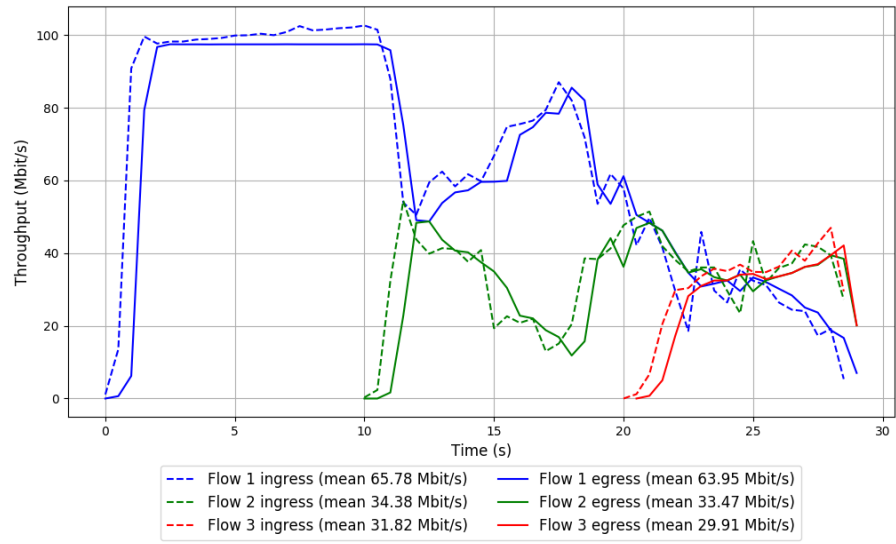
-- Flow 3:

Average throughput: 29.91 Mbit/s

95th percentile per-packet one-way delay: 182.320 ms

Loss rate: 7.89%

Run 5: Report of Indigo-MusesD — Data Link



Run 1: Statistics of Indigo-MusesT

Start at: 2019-01-25 19:33:17

End at: 2019-01-25 19:33:47

Local clock offset: -7.478 ms

Remote clock offset: 7.655 ms

Below is generated by plot.py at 2019-01-25 21:34:49

Datalink statistics

-- Total of 3 flows:

Average throughput: 94.77 Mbit/s

95th percentile per-packet one-way delay: 411.004 ms

Loss rate: 6.97%

-- Flow 1:

Average throughput: 60.89 Mbit/s

95th percentile per-packet one-way delay: 393.256 ms

Loss rate: 7.26%

-- Flow 2:

Average throughput: 39.01 Mbit/s

95th percentile per-packet one-way delay: 445.882 ms

Loss rate: 6.53%

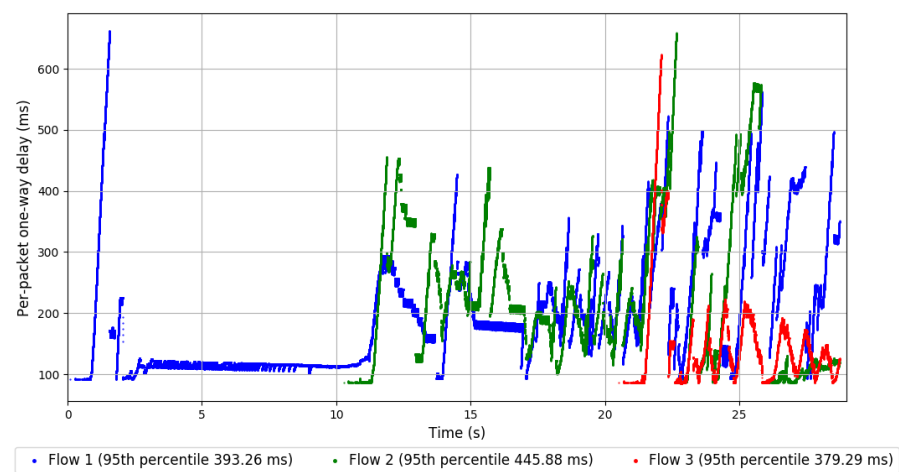
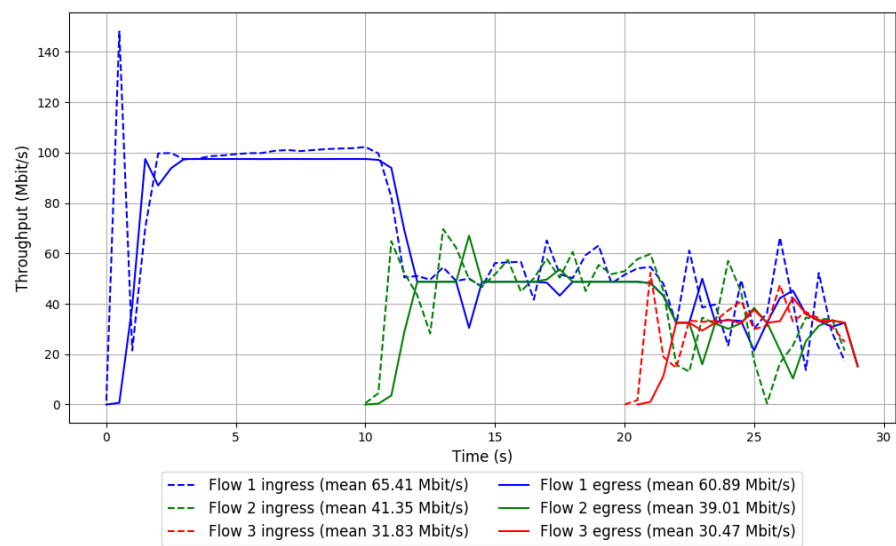
-- Flow 3:

Average throughput: 30.47 Mbit/s

95th percentile per-packet one-way delay: 379.288 ms

Loss rate: 6.18%

Run 1: Report of Indigo-MusesT — Data Link



Run 2: Statistics of Indigo-MusesT

Start at: 2019-01-25 20:00:14

End at: 2019-01-25 20:00:44

Local clock offset: -6.854 ms

Remote clock offset: 2.514 ms

Below is generated by plot.py at 2019-01-25 21:34:49

Datalink statistics

-- Total of 3 flows:

Average throughput: 92.10 Mbit/s

95th percentile per-packet one-way delay: 466.196 ms

Loss rate: 5.32%

-- Flow 1:

Average throughput: 59.30 Mbit/s

95th percentile per-packet one-way delay: 440.333 ms

Loss rate: 4.79%

-- Flow 2:

Average throughput: 38.90 Mbit/s

95th percentile per-packet one-way delay: 475.734 ms

Loss rate: 6.26%

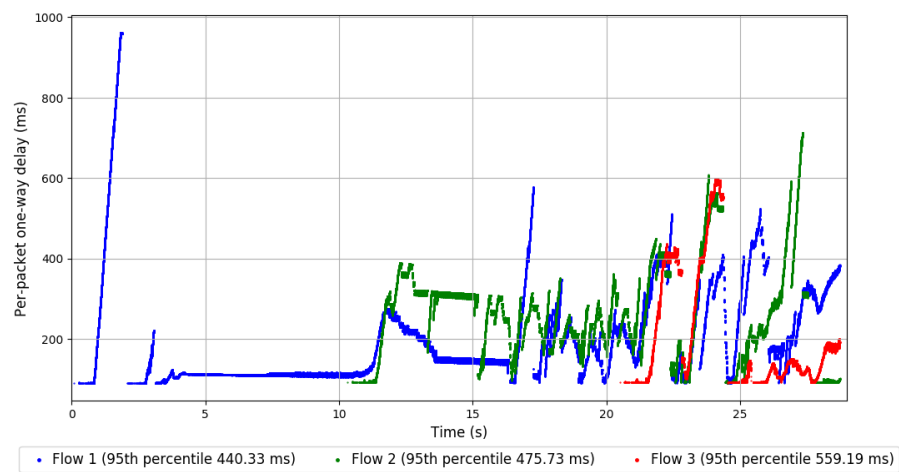
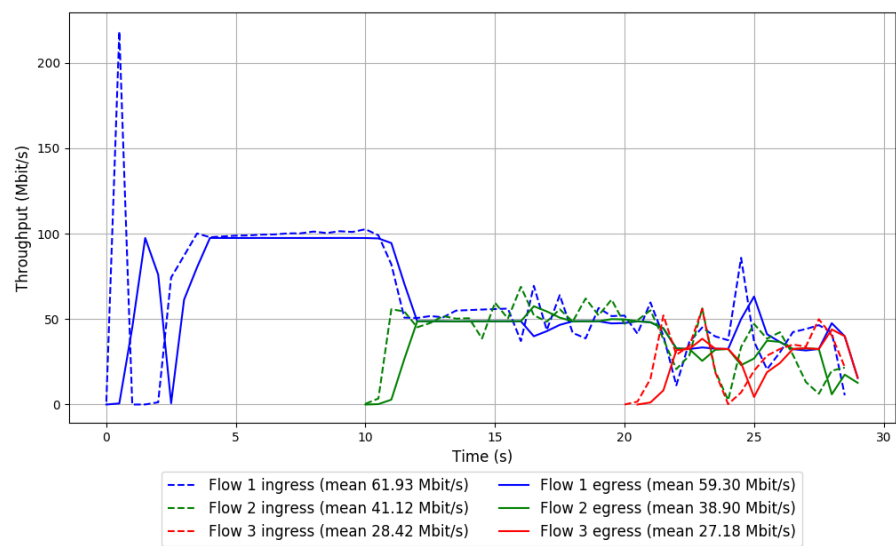
-- Flow 3:

Average throughput: 27.18 Mbit/s

95th percentile per-packet one-way delay: 559.189 ms

Loss rate: 6.23%

Run 2: Report of Indigo-MusesT — Data Link



Run 3: Statistics of Indigo-MusesT

Start at: 2019-01-25 20:27:12

End at: 2019-01-25 20:27:42

Local clock offset: -1.841 ms

Remote clock offset: 1.74 ms

Below is generated by plot.py at 2019-01-25 21:35:10

Datalink statistics

-- Total of 3 flows:

Average throughput: 91.49 Mbit/s

95th percentile per-packet one-way delay: 493.721 ms

Loss rate: 6.26%

-- Flow 1:

Average throughput: 56.11 Mbit/s

95th percentile per-packet one-way delay: 570.187 ms

Loss rate: 4.87%

-- Flow 2:

Average throughput: 41.48 Mbit/s

95th percentile per-packet one-way delay: 367.056 ms

Loss rate: 7.40%

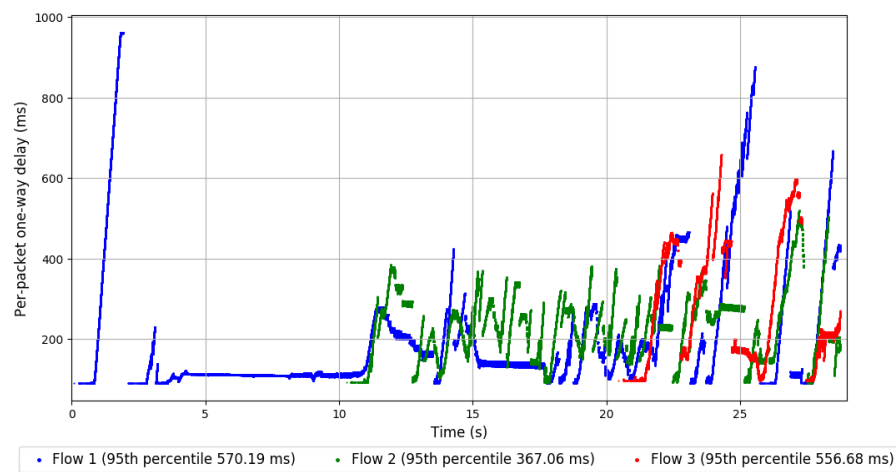
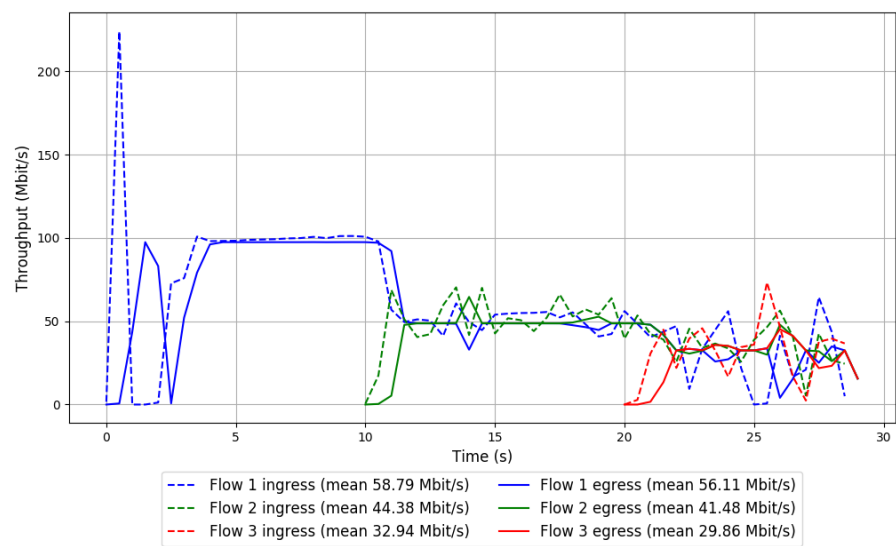
-- Flow 3:

Average throughput: 29.86 Mbit/s

95th percentile per-packet one-way delay: 556.683 ms

Loss rate: 11.27%

Run 3: Report of Indigo-MusesT — Data Link



Run 4: Statistics of Indigo-MusesT

Start at: 2019-01-25 20:54:12

End at: 2019-01-25 20:54:42

Local clock offset: -2.441 ms

Remote clock offset: 1.544 ms

Below is generated by plot.py at 2019-01-25 21:35:17

Datalink statistics

-- Total of 3 flows:

Average throughput: 95.18 Mbit/s

95th percentile per-packet one-way delay: 420.808 ms

Loss rate: 6.78%

-- Flow 1:

Average throughput: 61.02 Mbit/s

95th percentile per-packet one-way delay: 347.528 ms

Loss rate: 6.82%

-- Flow 2:

Average throughput: 38.73 Mbit/s

95th percentile per-packet one-way delay: 514.212 ms

Loss rate: 6.85%

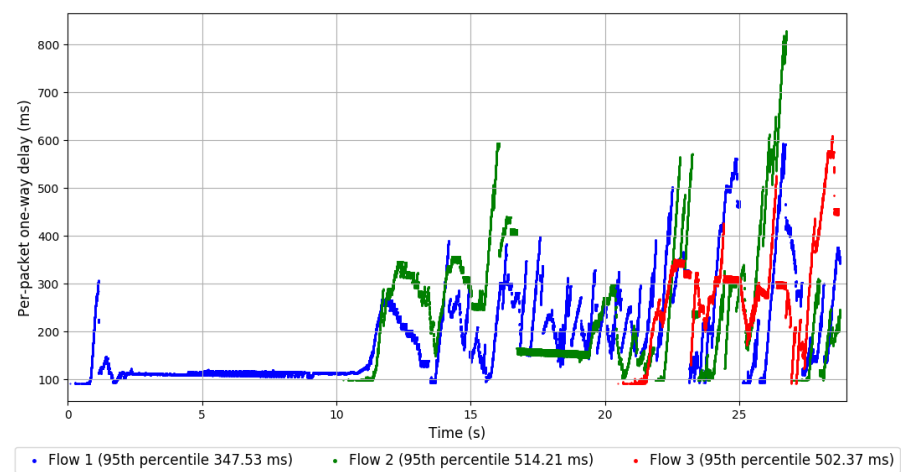
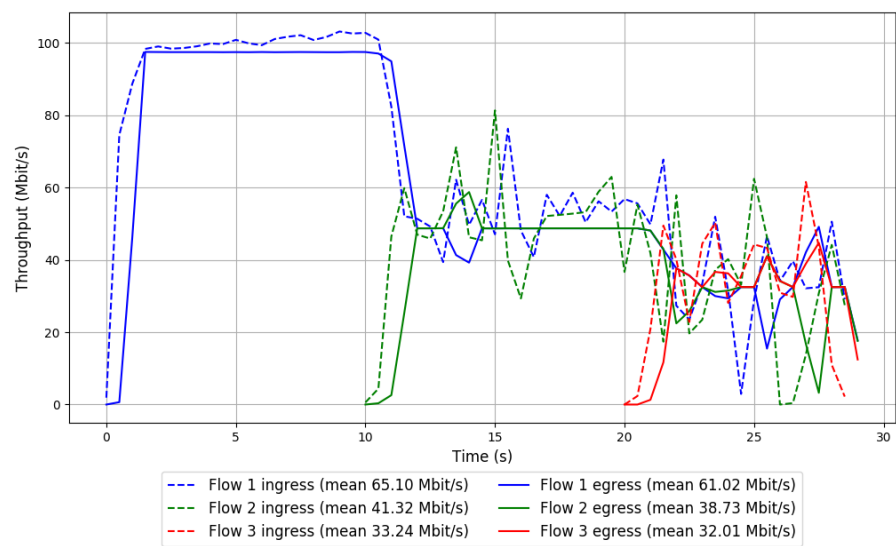
-- Flow 3:

Average throughput: 32.01 Mbit/s

95th percentile per-packet one-way delay: 502.373 ms

Loss rate: 6.27%

Run 4: Report of Indigo-MusesT — Data Link



Run 5: Statistics of Indigo-MusesT

Start at: 2019-01-25 21:21:11

End at: 2019-01-25 21:21:41

Local clock offset: -7.391 ms

Remote clock offset: 2.502 ms

Below is generated by plot.py at 2019-01-25 21:35:17

Datalink statistics

-- Total of 3 flows:

Average throughput: 93.97 Mbit/s

95th percentile per-packet one-way delay: 439.845 ms

Loss rate: 6.95%

-- Flow 1:

Average throughput: 60.72 Mbit/s

95th percentile per-packet one-way delay: 368.655 ms

Loss rate: 7.15%

-- Flow 2:

Average throughput: 38.10 Mbit/s

95th percentile per-packet one-way delay: 403.755 ms

Loss rate: 5.75%

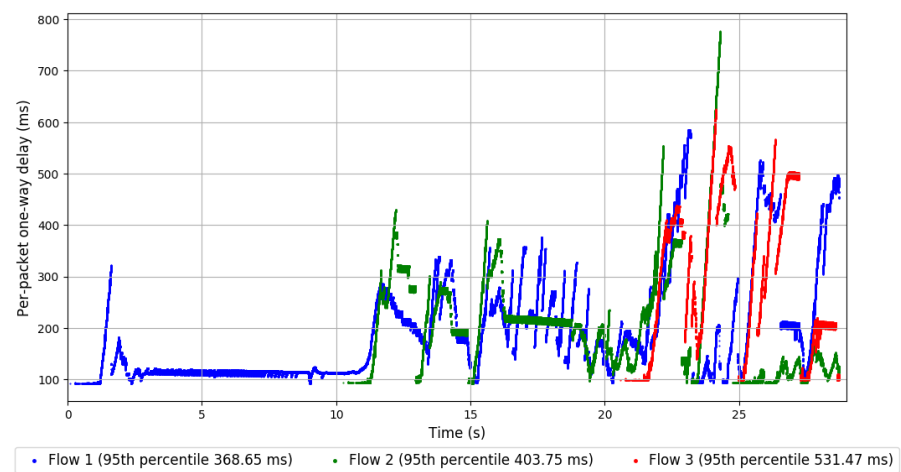
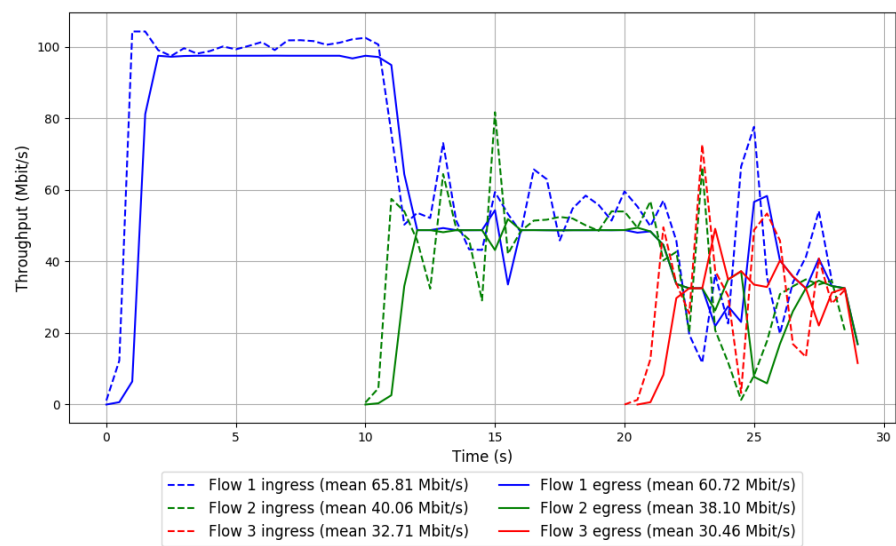
-- Flow 3:

Average throughput: 30.46 Mbit/s

95th percentile per-packet one-way delay: 531.474 ms

Loss rate: 8.86%

Run 5: Report of Indigo-MusesT — Data Link



Run 1: Statistics of LEDBAT

Start at: 2019-01-25 19:17:50

End at: 2019-01-25 19:18:20

Local clock offset: -6.27 ms

Remote clock offset: 6.356 ms

Below is generated by plot.py at 2019-01-25 21:35:17

Datalink statistics

-- Total of 3 flows:

Average throughput: 18.17 Mbit/s

95th percentile per-packet one-way delay: 89.272 ms

Loss rate: 1.47%

-- Flow 1:

Average throughput: 11.72 Mbit/s

95th percentile per-packet one-way delay: 89.116 ms

Loss rate: 1.12%

-- Flow 2:

Average throughput: 7.87 Mbit/s

95th percentile per-packet one-way delay: 89.579 ms

Loss rate: 1.75%

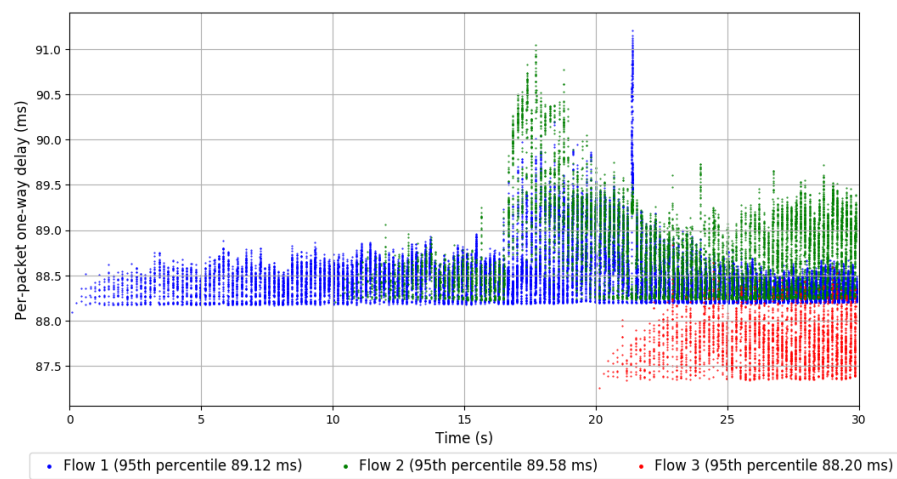
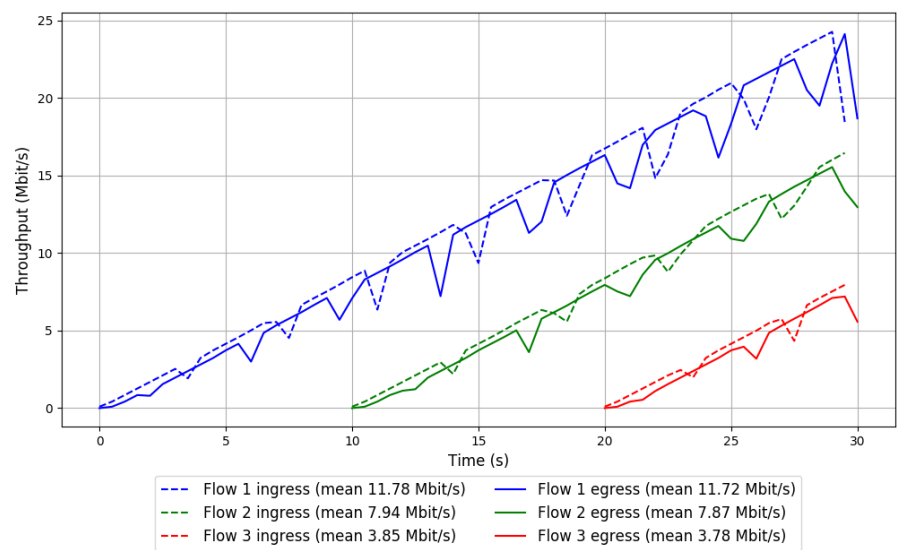
-- Flow 3:

Average throughput: 3.78 Mbit/s

95th percentile per-packet one-way delay: 88.198 ms

Loss rate: 3.53%

Run 1: Report of LEDBAT — Data Link



Run 2: Statistics of LEDBAT

Start at: 2019-01-25 19:44:49

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

Local clock offset: -7.11 ms

Remote clock offset: 3.133 ms

Below is generated by plot.py at 2019-01-25 21:35:17

Datalink statistics

-- Total of 3 flows:

Average throughput: 17.14 Mbit/s

95th percentile per-packet one-way delay: 98.371 ms

Loss rate: 1.55%

-- Flow 1:

Average throughput: 11.03 Mbit/s

95th percentile per-packet one-way delay: 97.996 ms

Loss rate: 1.20%

-- Flow 2:

Average throughput: 7.35 Mbit/s

95th percentile per-packet one-way delay: 99.197 ms

Loss rate: 1.81%

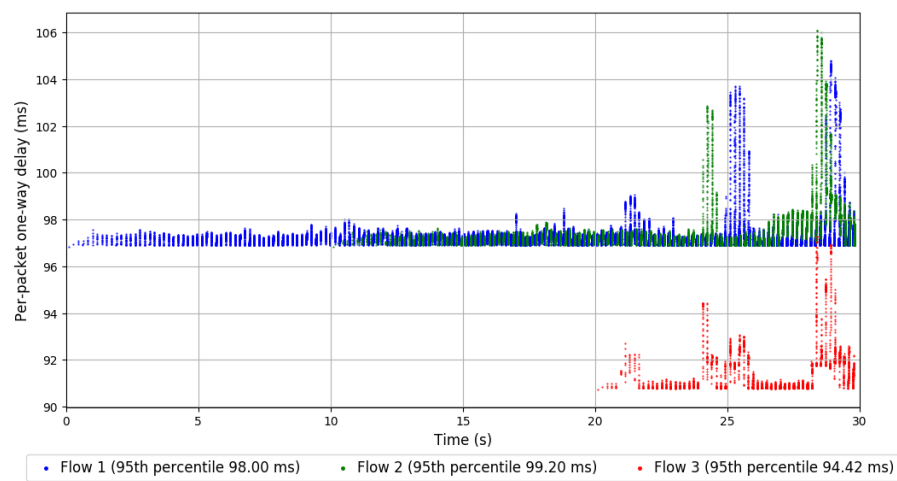
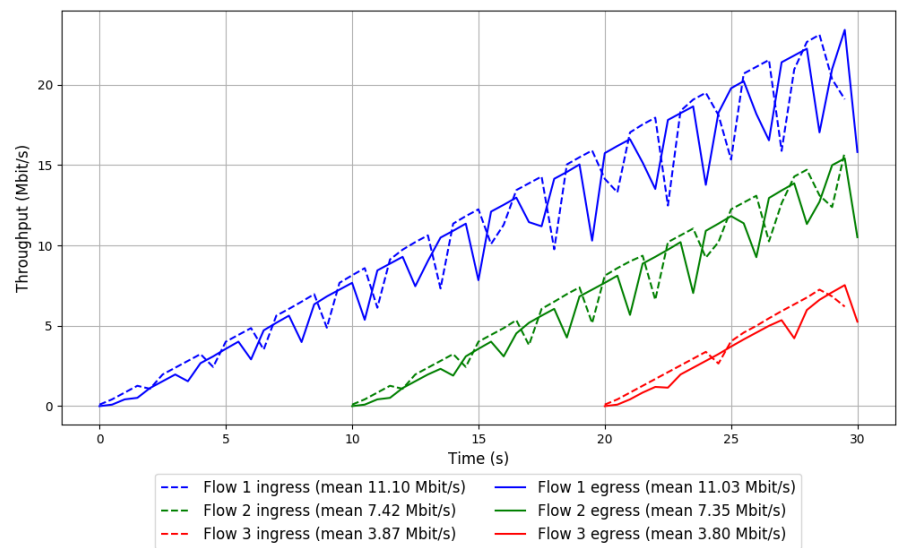
-- Flow 3:

Average throughput: 3.80 Mbit/s

95th percentile per-packet one-way delay: 94.418 ms

Loss rate: 3.54%

Run 2: Report of LEDBAT — Data Link

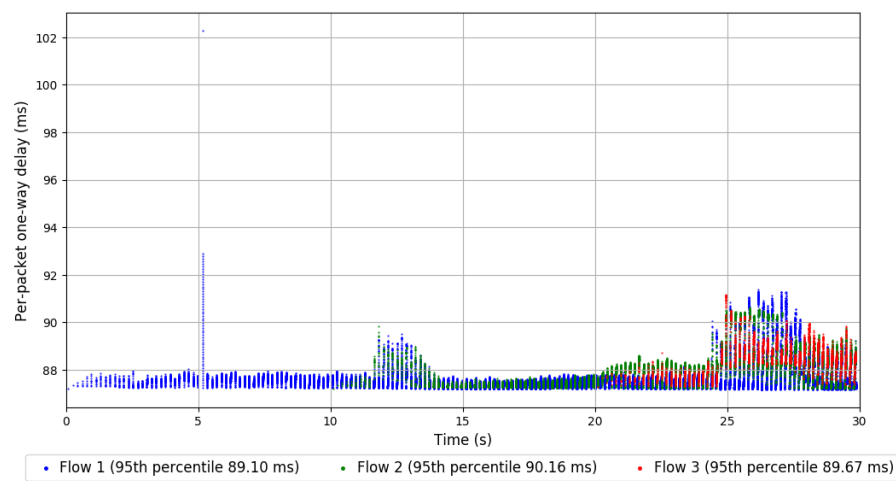
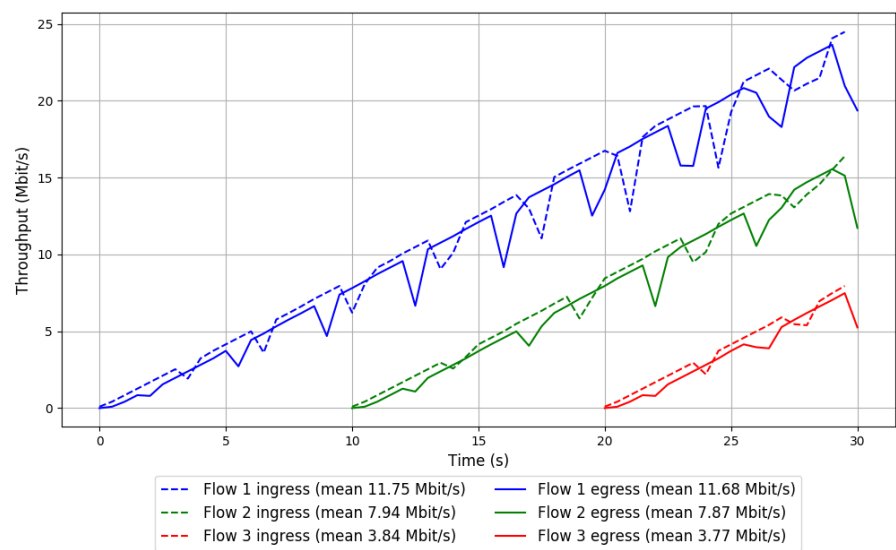


Run 3: Statistics of LEDBAT

Start at: 2019-01-25 20:11:46
End at: 2019-01-25 20:12:16
Local clock offset: -3.399 ms
Remote clock offset: 5.804 ms

```
# Below is generated by plot.py at 2019-01-25 21:35:17
# Datalink statistics
-- Total of 3 flows:
Average throughput: 18.14 Mbit/s
95th percentile per-packet one-way delay: 89.479 ms
Loss rate: 1.50%
-- Flow 1:
Average throughput: 11.68 Mbit/s
95th percentile per-packet one-way delay: 89.097 ms
Loss rate: 1.17%
-- Flow 2:
Average throughput: 7.87 Mbit/s
95th percentile per-packet one-way delay: 90.155 ms
Loss rate: 1.74%
-- Flow 3:
Average throughput: 3.77 Mbit/s
95th percentile per-packet one-way delay: 89.672 ms
Loss rate: 3.54%
```

Run 3: Report of LEDBAT — Data Link



Run 4: Statistics of LEDBAT

Start at: 2019-01-25 20:38:45

End at: 2019-01-25 20:39:15

Local clock offset: -2.798 ms

Remote clock offset: 2.03 ms

Below is generated by plot.py at 2019-01-25 21:35:17

Datalink statistics

-- Total of 3 flows:

Average throughput: 17.45 Mbit/s

95th percentile per-packet one-way delay: 98.167 ms

Loss rate: 1.53%

-- Flow 1:

Average throughput: 11.00 Mbit/s

95th percentile per-packet one-way delay: 99.128 ms

Loss rate: 1.20%

-- Flow 2:

Average throughput: 7.88 Mbit/s

95th percentile per-packet one-way delay: 92.745 ms

Loss rate: 1.75%

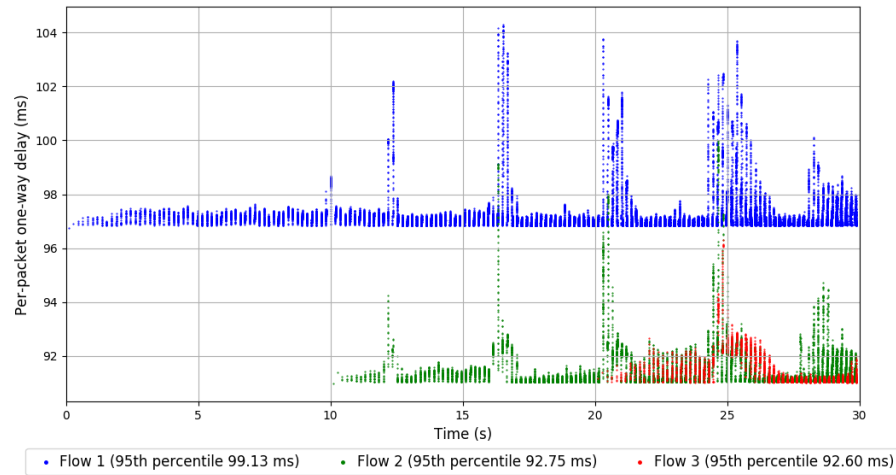
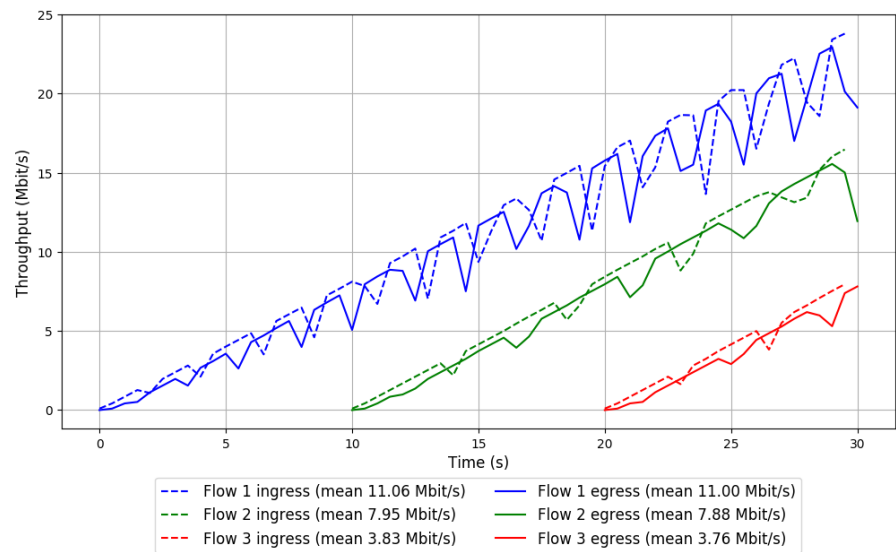
-- Flow 3:

Average throughput: 3.76 Mbit/s

95th percentile per-packet one-way delay: 92.598 ms

Loss rate: 3.54%

Run 4: Report of LEDBAT — Data Link



Run 5: Statistics of LEDBAT

Start at: 2019-01-25 21:05:44

End at: 2019-01-25 21:06:14

Local clock offset: -4.834 ms

Remote clock offset: 2.057 ms

Below is generated by plot.py at 2019-01-25 21:35:17

Datalink statistics

-- Total of 3 flows:

Average throughput: 18.34 Mbit/s

95th percentile per-packet one-way delay: 93.554 ms

Loss rate: 1.47%

-- Flow 1:

Average throughput: 11.98 Mbit/s

95th percentile per-packet one-way delay: 93.762 ms

Loss rate: 1.15%

-- Flow 2:

Average throughput: 7.72 Mbit/s

95th percentile per-packet one-way delay: 93.223 ms

Loss rate: 1.70%

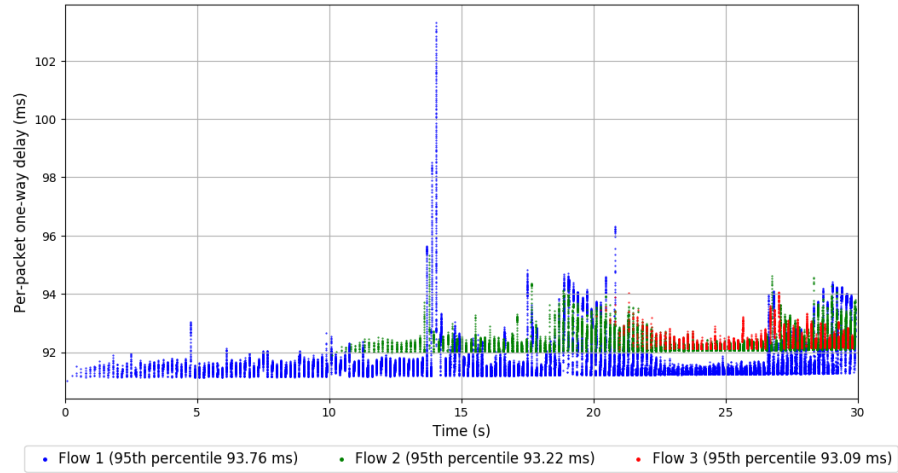
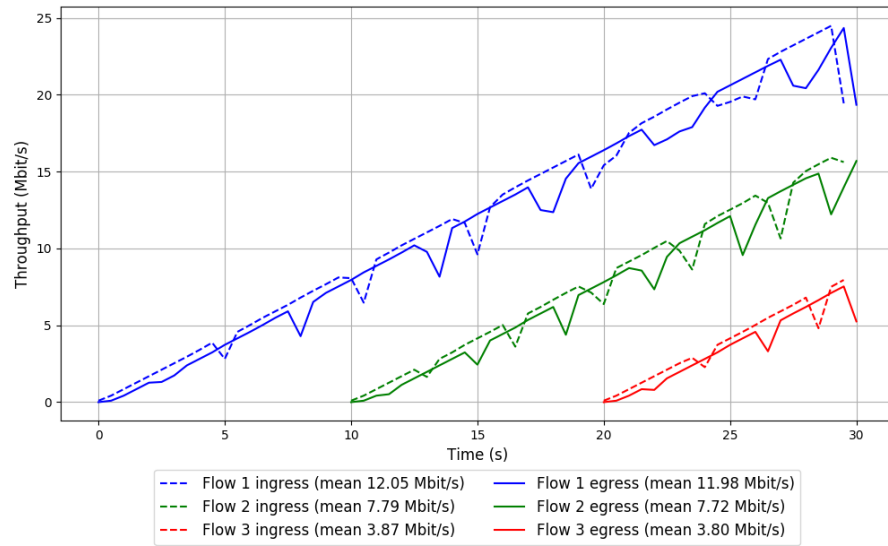
-- Flow 3:

Average throughput: 3.80 Mbit/s

95th percentile per-packet one-way delay: 93.095 ms

Loss rate: 3.53%

Run 5: Report of LEDBAT — Data Link

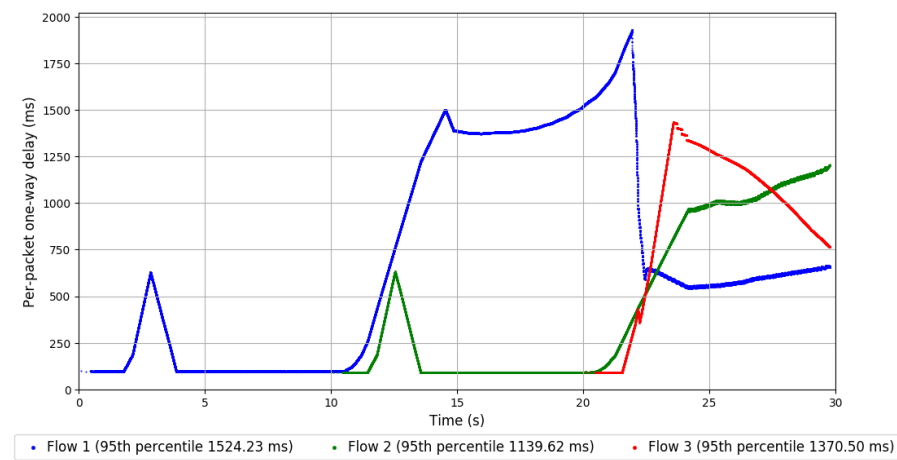
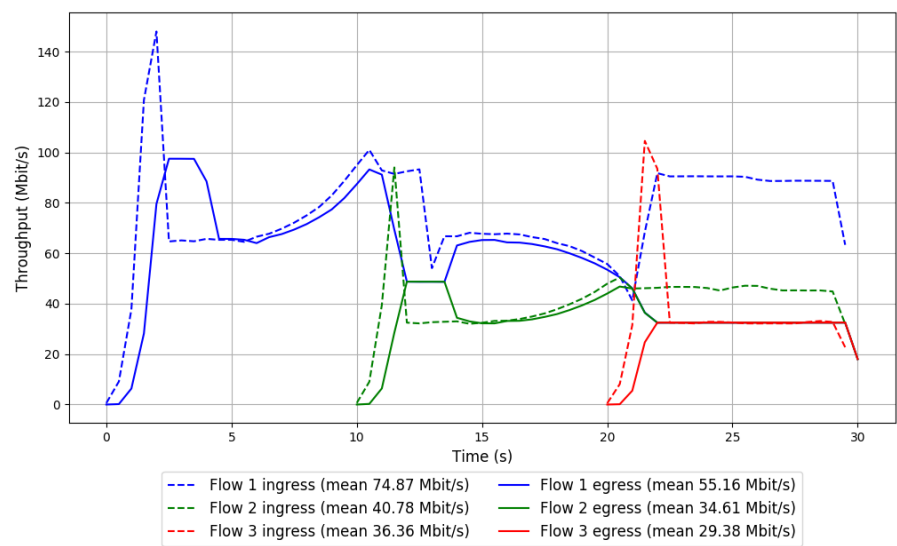


```
Run 1: Statistics of PCC-Allegro

Start at: 2019-01-25 19:37:08
End at: 2019-01-25 19:37:38
Local clock offset: -6.471 ms
Remote clock offset: 2.91 ms

# Below is generated by plot.py at 2019-01-25 21:35:53
# Datalink statistics
-- Total of 3 flows:
Average throughput: 87.68 Mbit/s
95th percentile per-packet one-way delay: 1468.884 ms
Loss rate: 23.52%
-- Flow 1:
Average throughput: 55.16 Mbit/s
95th percentile per-packet one-way delay: 1524.228 ms
Loss rate: 26.76%
-- Flow 2:
Average throughput: 34.61 Mbit/s
95th percentile per-packet one-way delay: 1139.625 ms
Loss rate: 15.87%
-- Flow 3:
Average throughput: 29.38 Mbit/s
95th percentile per-packet one-way delay: 1370.496 ms
Loss rate: 20.59%
```

Run 1: Report of PCC-Allegro — Data Link



Run 2: Statistics of PCC-Allegro

Start at: 2019-01-25 20:04:06

End at: 2019-01-25 20:04:36

Local clock offset: -4.551 ms

Remote clock offset: 2.554 ms

Below is generated by plot.py at 2019-01-25 21:35:53

Datalink statistics

-- Total of 3 flows:

Average throughput: 85.07 Mbit/s

95th percentile per-packet one-way delay: 1140.426 ms

Loss rate: 18.53%

-- Flow 1:

Average throughput: 52.52 Mbit/s

95th percentile per-packet one-way delay: 845.742 ms

Loss rate: 18.63%

-- Flow 2:

Average throughput: 34.61 Mbit/s

95th percentile per-packet one-way delay: 1093.530 ms

Loss rate: 16.62%

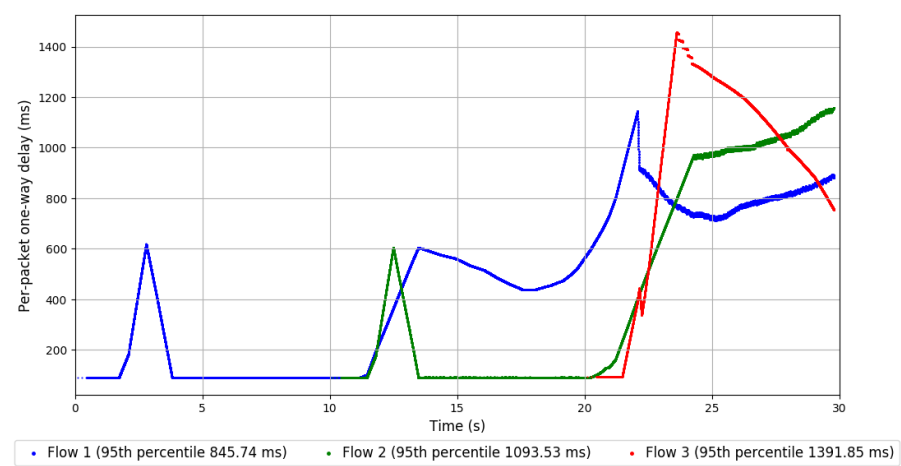
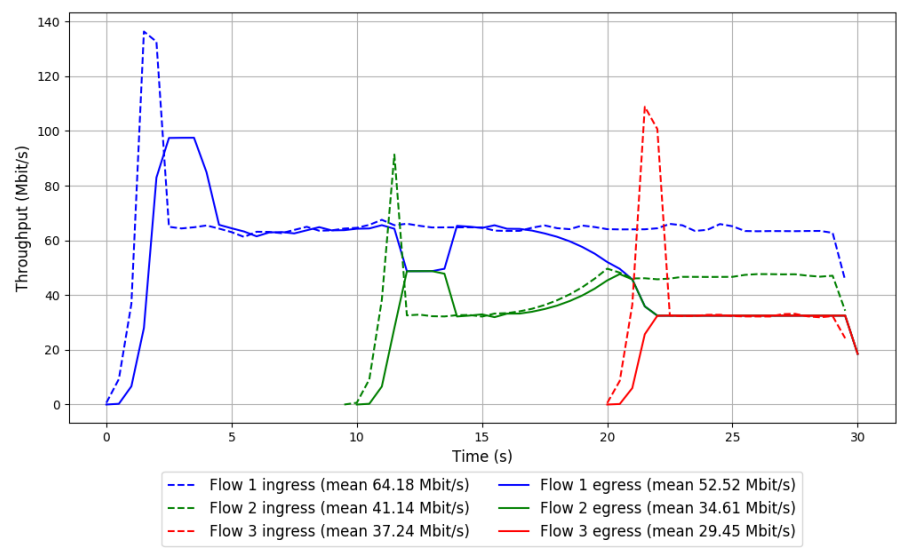
-- Flow 3:

Average throughput: 29.45 Mbit/s

95th percentile per-packet one-way delay: 1391.851 ms

Loss rate: 22.28%

Run 2: Report of PCC-Allegro — Data Link



Run 3: Statistics of PCC-Allegro

Start at: 2019-01-25 20:31:05

End at: 2019-01-25 20:31:35

Local clock offset: -1.974 ms

Remote clock offset: 1.43 ms

Below is generated by plot.py at 2019-01-25 21:36:00

Datalink statistics

-- Total of 3 flows:

Average throughput: 88.94 Mbit/s

95th percentile per-packet one-way delay: 1472.565 ms

Loss rate: 24.40%

-- Flow 1:

Average throughput: 56.24 Mbit/s

95th percentile per-packet one-way delay: 1550.839 ms

Loss rate: 27.99%

-- Flow 2:

Average throughput: 34.76 Mbit/s

95th percentile per-packet one-way delay: 1161.049 ms

Loss rate: 15.06%

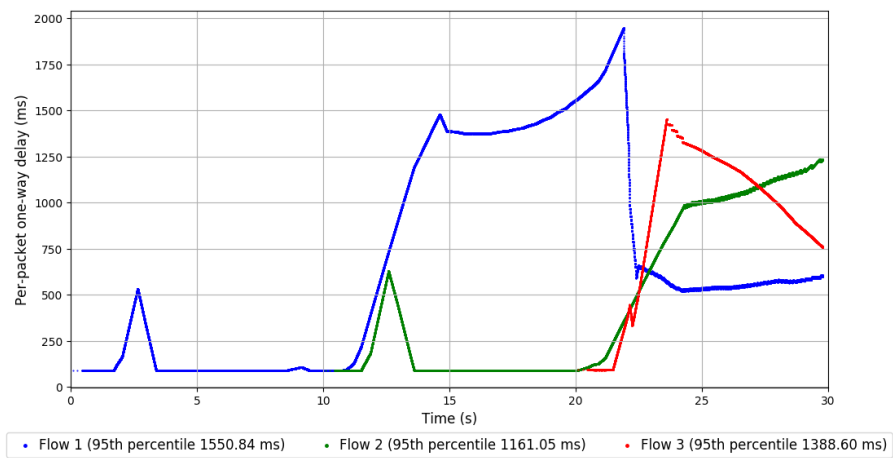
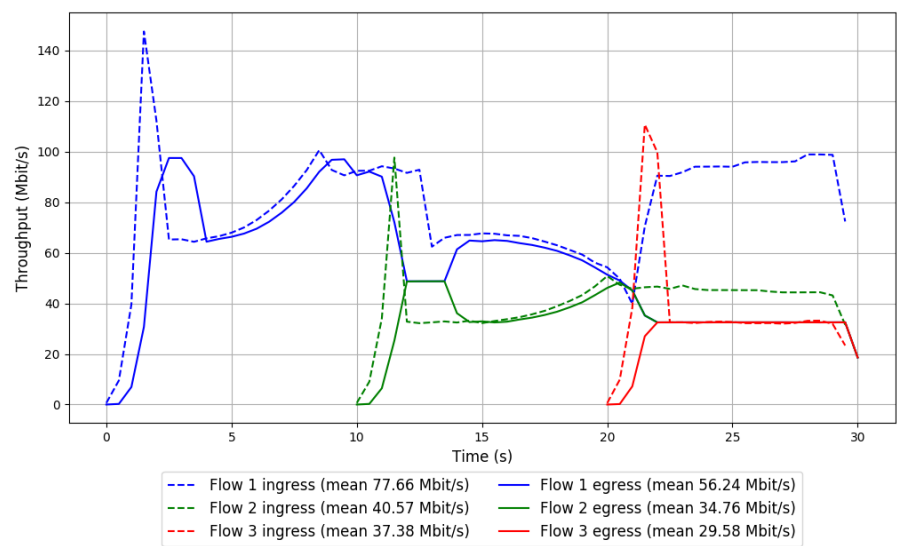
-- Flow 3:

Average throughput: 29.58 Mbit/s

95th percentile per-packet one-way delay: 1388.595 ms

Loss rate: 22.22%

Run 3: Report of PCC-Allegro — Data Link



Run 4: Statistics of PCC-Allegro

Start at: 2019-01-25 20:58:04

End at: 2019-01-25 20:58:34

Local clock offset: -2.382 ms

Remote clock offset: 1.855 ms

Below is generated by plot.py at 2019-01-25 21:36:00

Datalink statistics

-- Total of 3 flows:

Average throughput: 87.91 Mbit/s

95th percentile per-packet one-way delay: 1574.256 ms

Loss rate: 22.02%

-- Flow 1:

Average throughput: 56.05 Mbit/s

95th percentile per-packet one-way delay: 1414.879 ms

Loss rate: 27.04%

-- Flow 2:

Average throughput: 33.52 Mbit/s

95th percentile per-packet one-way delay: 484.719 ms

Loss rate: 6.36%

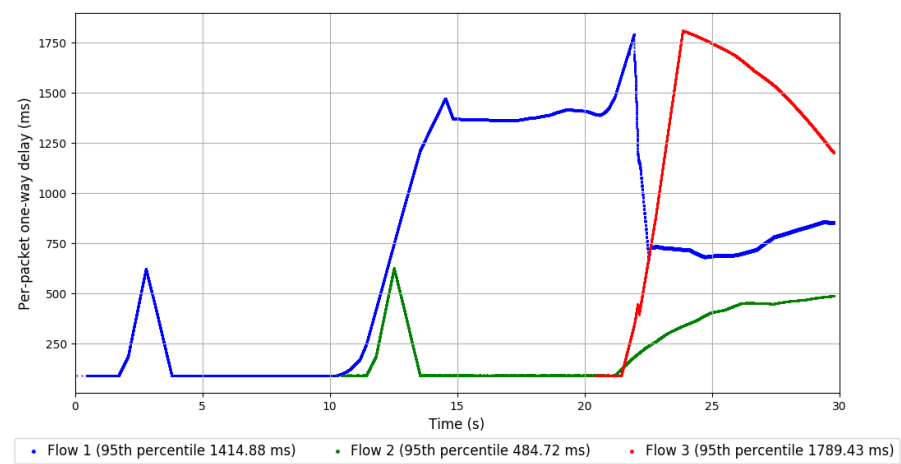
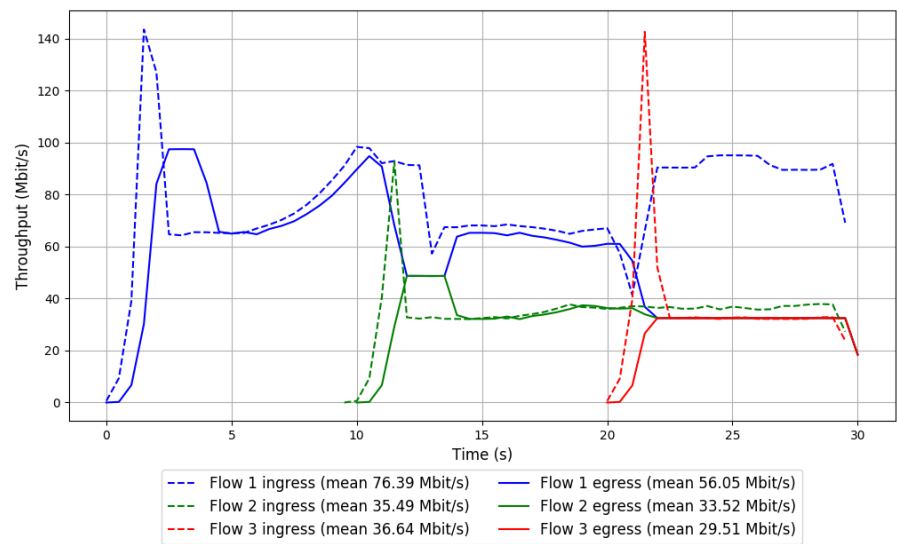
-- Flow 3:

Average throughput: 29.51 Mbit/s

95th percentile per-packet one-way delay: 1789.430 ms

Loss rate: 20.84%

Run 4: Report of PCC-Allegro — Data Link



Run 5: Statistics of PCC-Allegro

Start at: 2019-01-25 21:25:03

End at: 2019-01-25 21:25:33

Local clock offset: -8.395 ms

Remote clock offset: 2.669 ms

Below is generated by plot.py at 2019-01-25 21:36:04

Datalink statistics

-- Total of 3 flows:

Average throughput: 88.42 Mbit/s

95th percentile per-packet one-way delay: 1434.111 ms

Loss rate: 23.61%

-- Flow 1:

Average throughput: 56.02 Mbit/s

95th percentile per-packet one-way delay: 1487.255 ms

Loss rate: 26.86%

-- Flow 2:

Average throughput: 34.34 Mbit/s

95th percentile per-packet one-way delay: 1168.140 ms

Loss rate: 15.69%

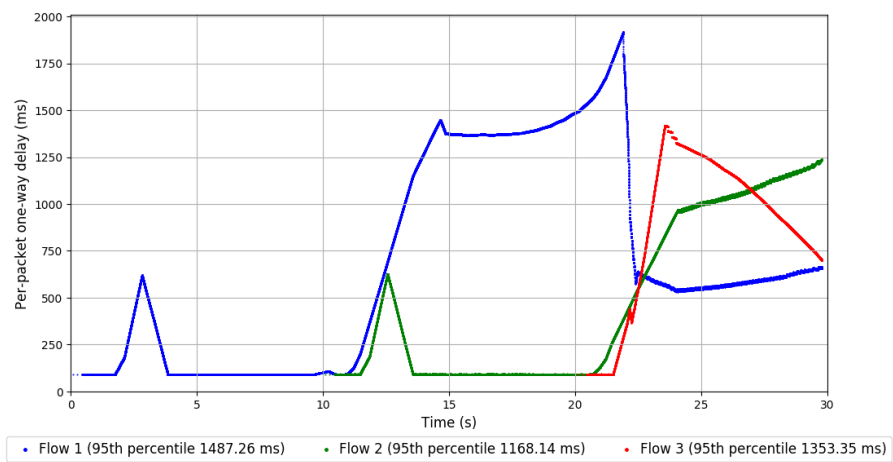
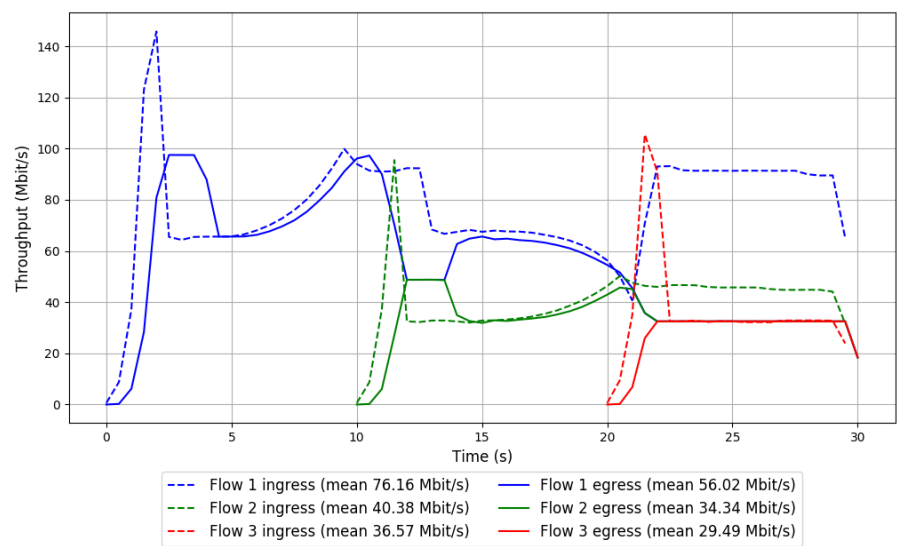
-- Flow 3:

Average throughput: 29.49 Mbit/s

95th percentile per-packet one-way delay: 1353.345 ms

Loss rate: 20.77%

Run 5: Report of PCC-Allegro — Data Link

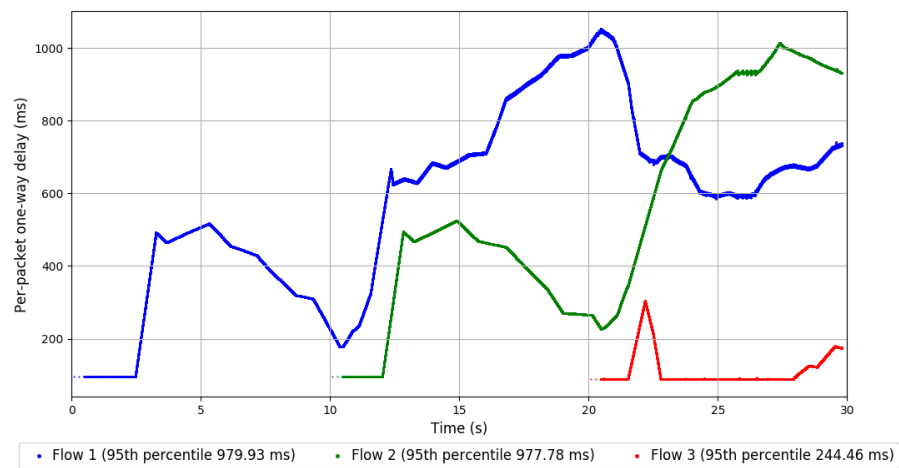
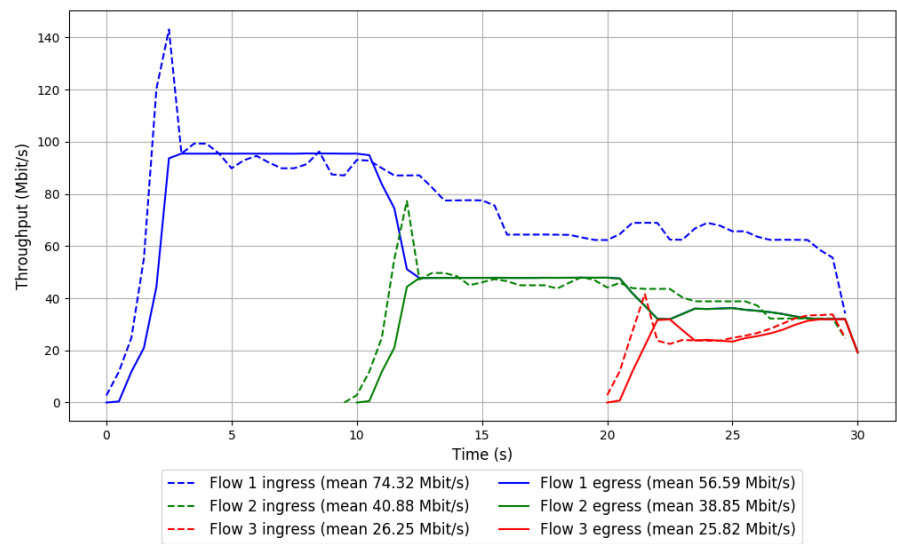



```
Run 1: Statistics of PCC-Expr

Start at: 2019-01-25 19:29:20
End at: 2019-01-25 19:29:50
Local clock offset: -7.022 ms
Remote clock offset: 5.533 ms

# Below is generated by plot.py at 2019-01-25 21:37:10
# Datalink statistics
-- Total of 3 flows:
Average throughput: 90.79 Mbit/s
95th percentile per-packet one-way delay: 977.226 ms
Loss rate: 17.96%
-- Flow 1:
Average throughput: 56.59 Mbit/s
95th percentile per-packet one-way delay: 979.929 ms
Loss rate: 24.12%
-- Flow 2:
Average throughput: 38.85 Mbit/s
95th percentile per-packet one-way delay: 977.777 ms
Loss rate: 5.83%
-- Flow 3:
Average throughput: 25.82 Mbit/s
95th percentile per-packet one-way delay: 244.455 ms
Loss rate: 3.33%
```

Run 1: Report of PCC-Expr — Data Link



Run 2: Statistics of PCC-Expr

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

End at: 2019-01-25 19:56:49

Local clock offset: -7.24 ms

Remote clock offset: 3.697 ms

Below is generated by plot.py at 2019-01-25 21:37:14

Datalink statistics

-- Total of 3 flows:

Average throughput: 90.83 Mbit/s

95th percentile per-packet one-way delay: 1239.405 ms

Loss rate: 10.16%

-- Flow 1:

Average throughput: 56.83 Mbit/s

95th percentile per-packet one-way delay: 1270.761 ms

Loss rate: 12.62%

-- Flow 2:

Average throughput: 38.57 Mbit/s

95th percentile per-packet one-way delay: 964.929 ms

Loss rate: 6.50%

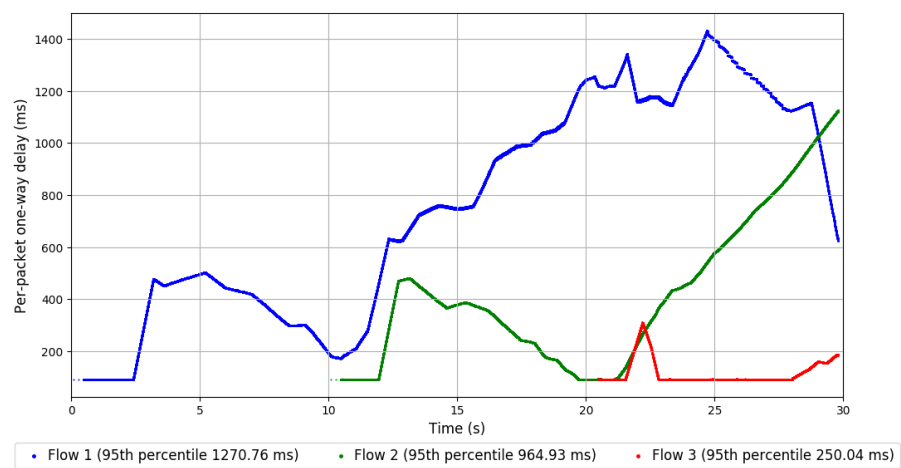
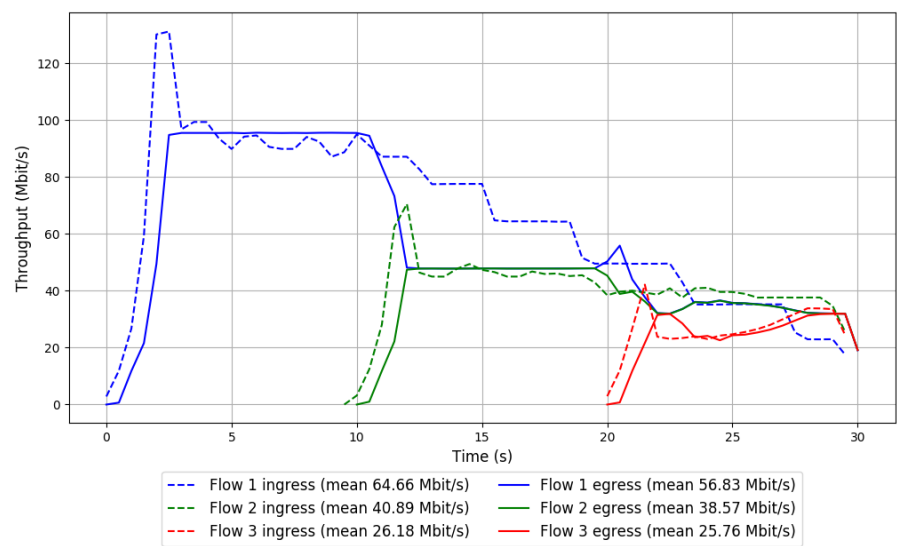
-- Flow 3:

Average throughput: 25.76 Mbit/s

95th percentile per-packet one-way delay: 250.043 ms

Loss rate: 3.33%

Run 2: Report of PCC-Expr — Data Link



Run 3: Statistics of PCC-Expr

Start at: 2019-01-25 20:23:15

End at: 2019-01-25 20:23:45

Local clock offset: -1.389 ms

Remote clock offset: 5.554 ms

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

Datalink statistics

-- Total of 3 flows:

Average throughput: 90.46 Mbit/s

95th percentile per-packet one-way delay: 761.009 ms

Loss rate: 25.42%

-- Flow 1:

Average throughput: 56.44 Mbit/s

95th percentile per-packet one-way delay: 789.007 ms

Loss rate: 34.79%

-- Flow 2:

Average throughput: 37.65 Mbit/s

95th percentile per-packet one-way delay: 670.190 ms

Loss rate: 2.05%

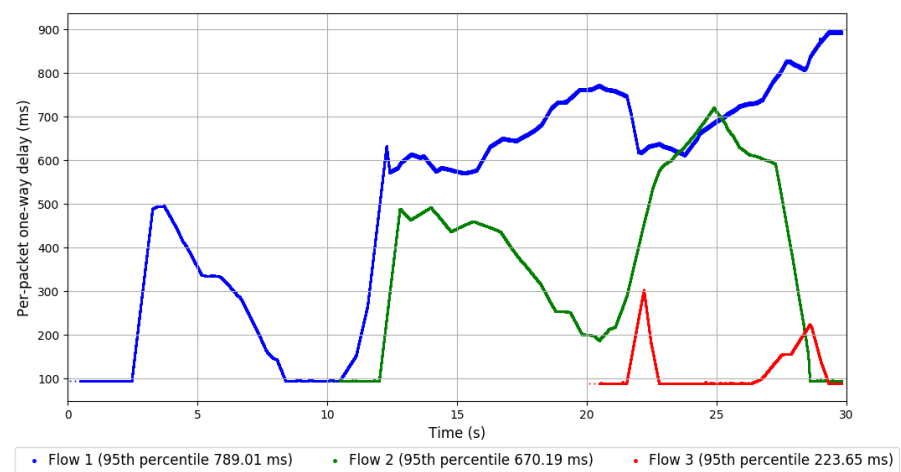
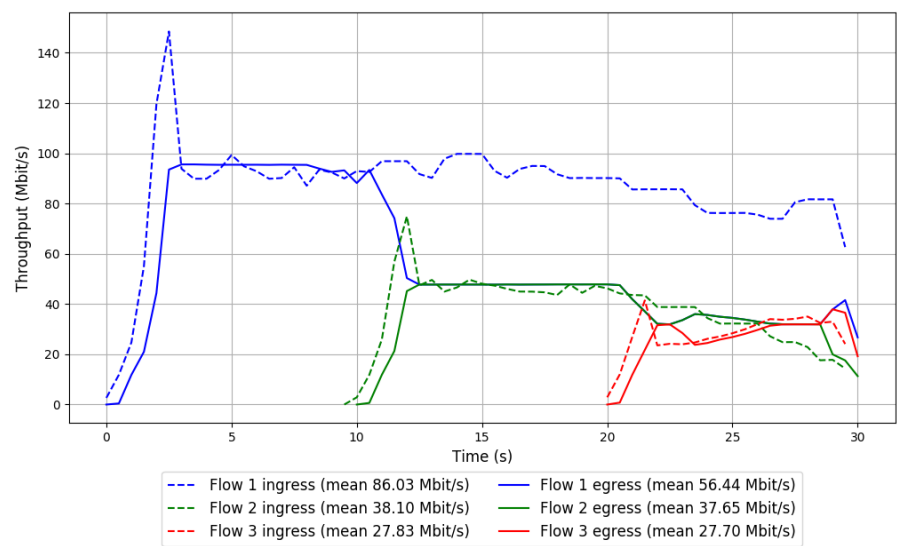
-- Flow 3:

Average throughput: 27.70 Mbit/s

95th percentile per-packet one-way delay: 223.645 ms

Loss rate: 2.19%

Run 3: Report of PCC-Expr — Data Link



Run 4: Statistics of PCC-Expr

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

End at: 2019-01-25 20:50:45

Local clock offset: -3.139 ms

Remote clock offset: 1.577 ms

Below is generated by plot.py at 2019-01-25 21:37:55

Datalink statistics

-- Total of 3 flows:

Average throughput: 90.94 Mbit/s

95th percentile per-packet one-way delay: 851.316 ms

Loss rate: 22.81%

-- Flow 1:

Average throughput: 56.47 Mbit/s

95th percentile per-packet one-way delay: 821.754 ms

Loss rate: 29.90%

-- Flow 2:

Average throughput: 38.60 Mbit/s

95th percentile per-packet one-way delay: 873.572 ms

Loss rate: 8.55%

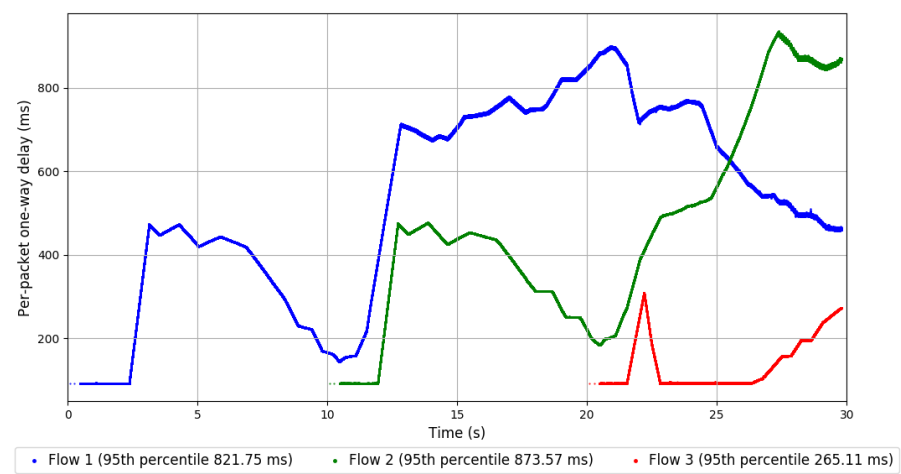
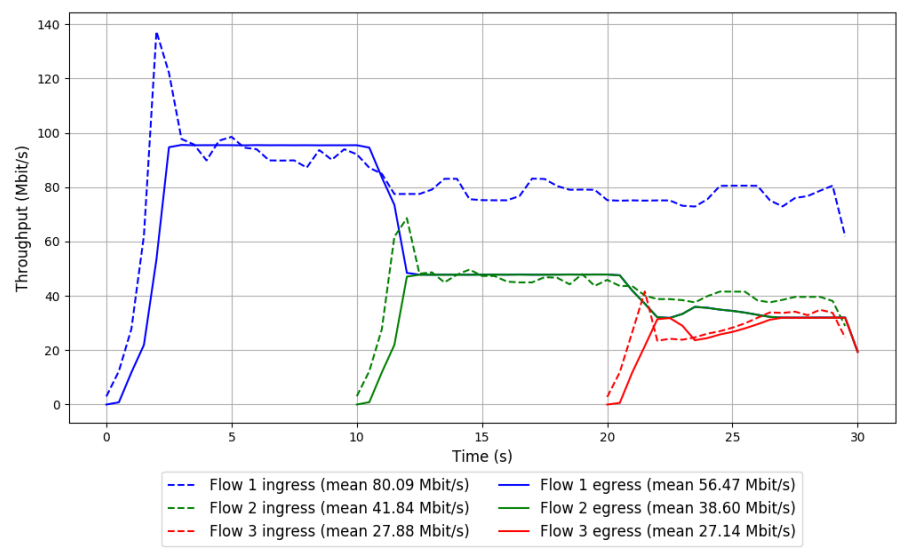
-- Flow 3:

Average throughput: 27.14 Mbit/s

95th percentile per-packet one-way delay: 265.110 ms

Loss rate: 4.33%

Run 4: Report of PCC-Expr — Data Link



Run 5: Statistics of PCC-Expr

Start at: 2019-01-25 21:17:14

End at: 2019-01-25 21:17:44

Local clock offset: -7.678 ms

Remote clock offset: 6.591 ms

Below is generated by plot.py at 2019-01-25 21:37:57

Datalink statistics

-- Total of 3 flows:

Average throughput: 90.49 Mbit/s

95th percentile per-packet one-way delay: 844.175 ms

Loss rate: 21.87%

-- Flow 1:

Average throughput: 56.23 Mbit/s

95th percentile per-packet one-way delay: 854.712 ms

Loss rate: 29.45%

-- Flow 2:

Average throughput: 38.93 Mbit/s

95th percentile per-packet one-way delay: 818.515 ms

Loss rate: 5.74%

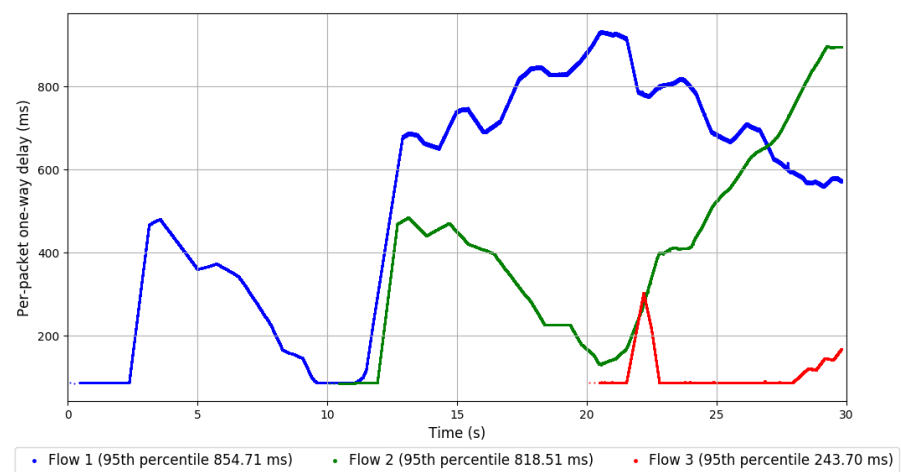
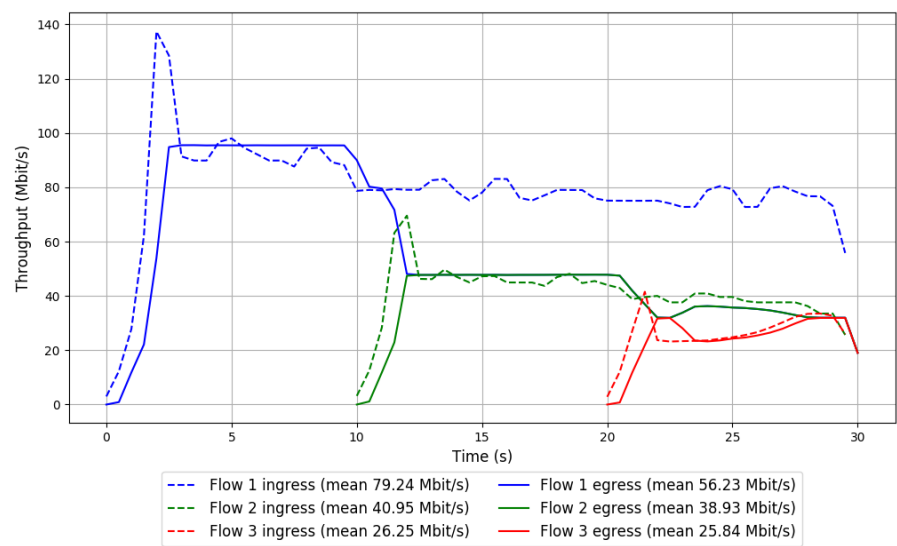
-- Flow 3:

Average throughput: 25.84 Mbit/s

95th percentile per-packet one-way delay: 243.701 ms

Loss rate: 3.33%

Run 5: Report of PCC-Expr — Data Link



Run 1: Statistics of QUIC Cubic

Start at: 2019-01-25 19:19:04

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

Local clock offset: -7.183 ms

Remote clock offset: 2.3 ms

Below is generated by plot.py at 2019-01-25 21:37:57

Datalink statistics

-- Total of 3 flows:

Average throughput: 55.48 Mbit/s

95th percentile per-packet one-way delay: 165.502 ms

Loss rate: 1.10%

-- Flow 1:

Average throughput: 34.96 Mbit/s

95th percentile per-packet one-way delay: 140.804 ms

Loss rate: 0.55%

-- Flow 2:

Average throughput: 18.92 Mbit/s

95th percentile per-packet one-way delay: 235.201 ms

Loss rate: 1.66%

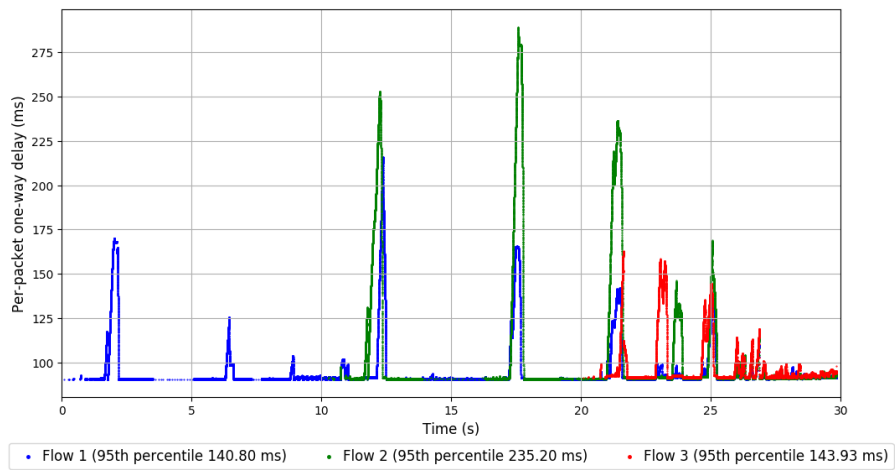
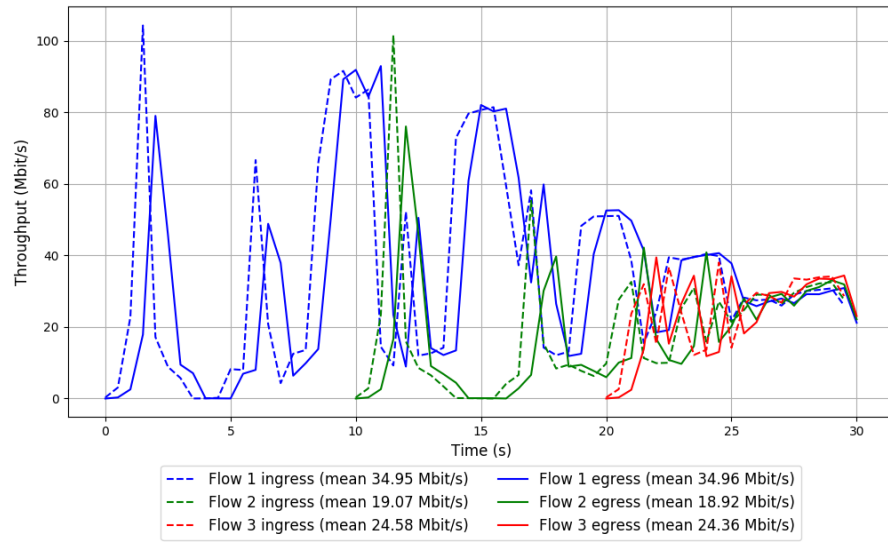
-- Flow 3:

Average throughput: 24.36 Mbit/s

95th percentile per-packet one-way delay: 143.928 ms

Loss rate: 2.57%

Run 1: Report of QUIC Cubic — Data Link



Run 2: Statistics of QUIC Cubic

Start at: 2019-01-25 19:46:04

End at: 2019-01-25 19:46:34

Local clock offset: -7.087 ms

Remote clock offset: 3.476 ms

Below is generated by plot.py at 2019-01-25 21:37:57

Datalink statistics

-- Total of 3 flows:

Average throughput: 48.44 Mbit/s

95th percentile per-packet one-way delay: 212.593 ms

Loss rate: 1.20%

-- Flow 1:

Average throughput: 29.82 Mbit/s

95th percentile per-packet one-way delay: 149.216 ms

Loss rate: 0.61%

-- Flow 2:

Average throughput: 17.51 Mbit/s

95th percentile per-packet one-way delay: 296.056 ms

Loss rate: 1.69%

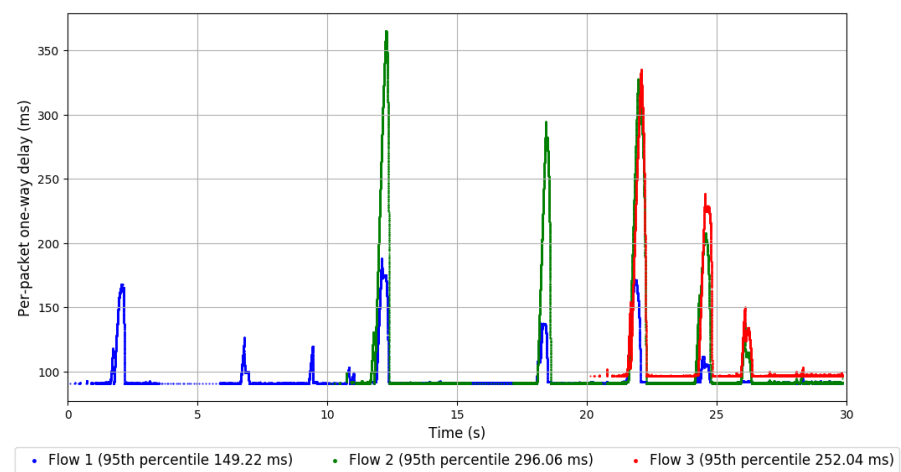
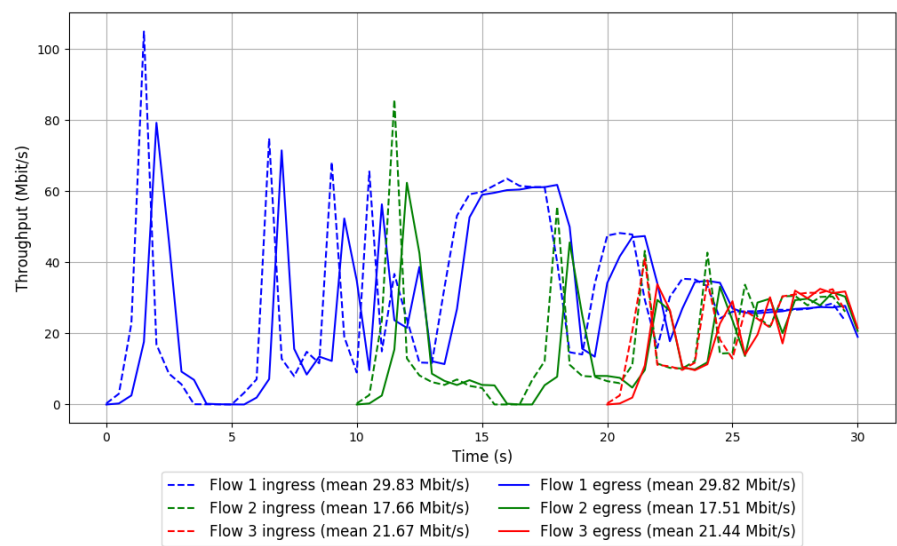
-- Flow 3:

Average throughput: 21.44 Mbit/s

95th percentile per-packet one-way delay: 252.042 ms

Loss rate: 2.82%

Run 2: Report of QUIC Cubic — Data Link



Run 3: Statistics of QUIC Cubic

Start at: 2019-01-25 20:13:00

End at: 2019-01-25 20:13:30

Local clock offset: -2.447 ms

Remote clock offset: 5.679 ms

Below is generated by plot.py at 2019-01-25 21:37:57

Datalink statistics

-- Total of 3 flows:

Average throughput: 50.70 Mbit/s

95th percentile per-packet one-way delay: 175.903 ms

Loss rate: 0.96%

-- Flow 1:

Average throughput: 29.66 Mbit/s

95th percentile per-packet one-way delay: 139.722 ms

Loss rate: 0.71%

-- Flow 2:

Average throughput: 24.92 Mbit/s

95th percentile per-packet one-way delay: 180.962 ms

Loss rate: 1.22%

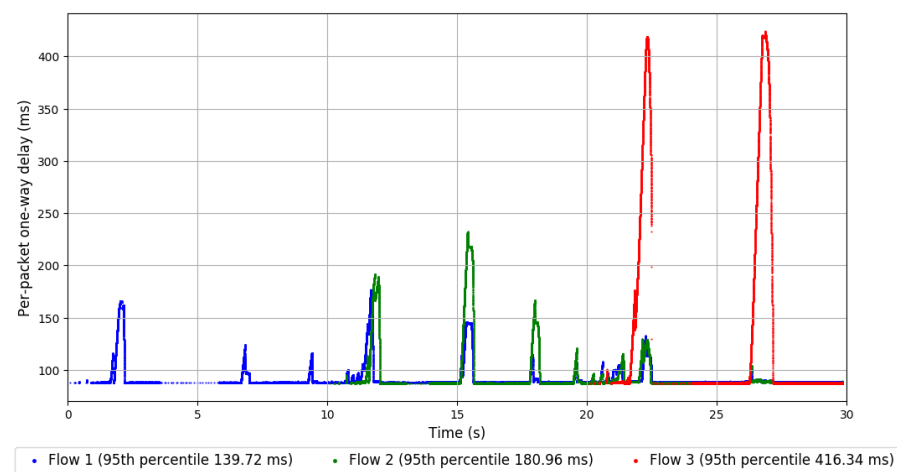
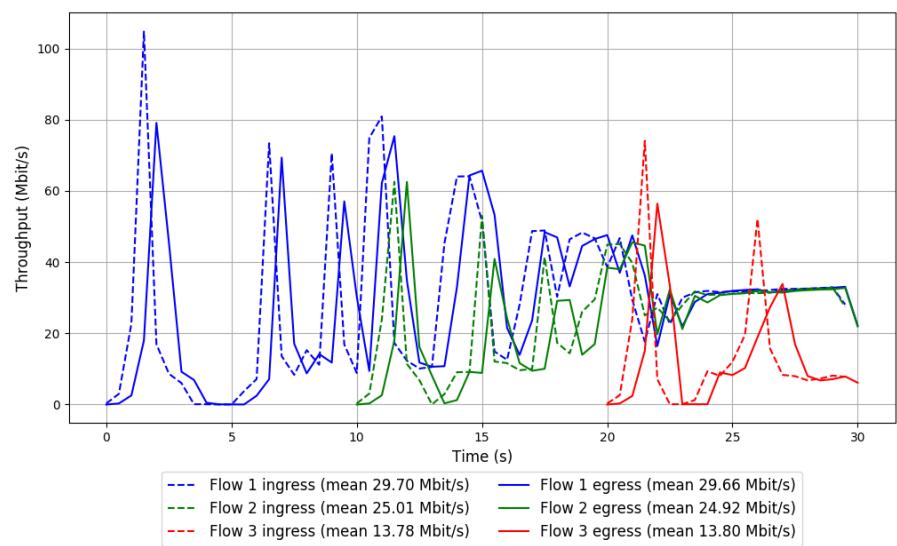
-- Flow 3:

Average throughput: 13.80 Mbit/s

95th percentile per-packet one-way delay: 416.341 ms

Loss rate: 1.57%

Run 3: Report of QUIC Cubic — Data Link



Run 4: Statistics of QUIC Cubic

Start at: 2019-01-25 20:39:59

End at: 2019-01-25 20:40:29

Local clock offset: -2.873 ms

Remote clock offset: 5.956 ms

Below is generated by plot.py at 2019-01-25 21:37:57

Datalink statistics

-- Total of 3 flows:

Average throughput: 54.31 Mbit/s

95th percentile per-packet one-way delay: 191.627 ms

Loss rate: 0.98%

-- Flow 1:

Average throughput: 35.41 Mbit/s

95th percentile per-packet one-way delay: 139.928 ms

Loss rate: 0.54%

-- Flow 2:

Average throughput: 22.51 Mbit/s

95th percentile per-packet one-way delay: 217.948 ms

Loss rate: 1.53%

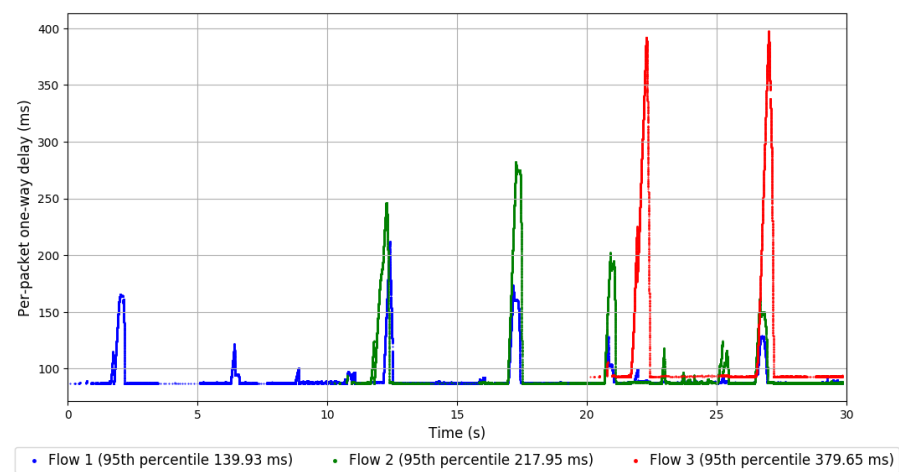
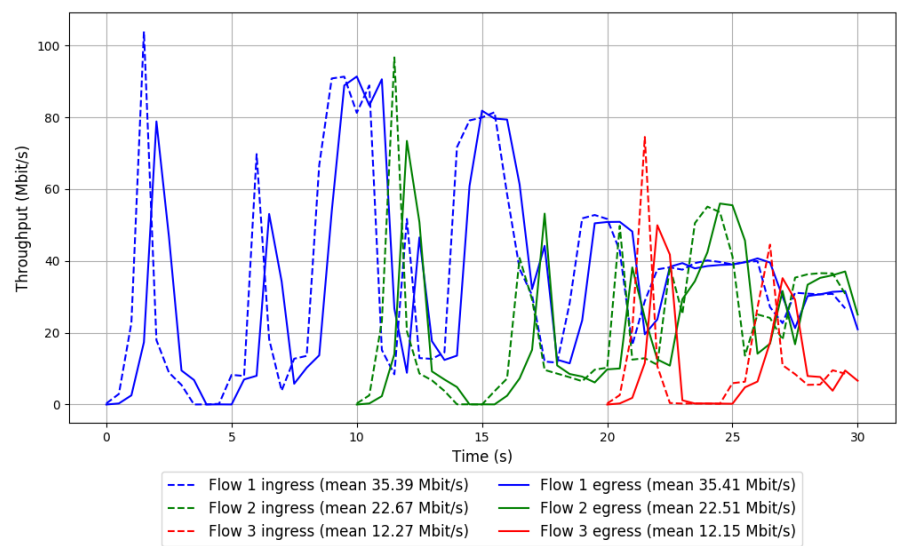
-- Flow 3:

Average throughput: 12.15 Mbit/s

95th percentile per-packet one-way delay: 379.653 ms

Loss rate: 2.77%

Run 4: Report of QUIC Cubic — Data Link



Run 5: Statistics of QUIC Cubic

Start at: 2019-01-25 21:06:58

End at: 2019-01-25 21:07:28

Local clock offset: -5.257 ms

Remote clock offset: 5.511 ms

Below is generated by plot.py at 2019-01-25 21:37:57

Datalink statistics

-- Total of 3 flows:

Average throughput: 52.04 Mbit/s

95th percentile per-packet one-way delay: 202.093 ms

Loss rate: 0.93%

-- Flow 1:

Average throughput: 32.48 Mbit/s

95th percentile per-packet one-way delay: 134.155 ms

Loss rate: 0.60%

-- Flow 2:

Average throughput: 22.22 Mbit/s

95th percentile per-packet one-way delay: 217.842 ms

Loss rate: 1.30%

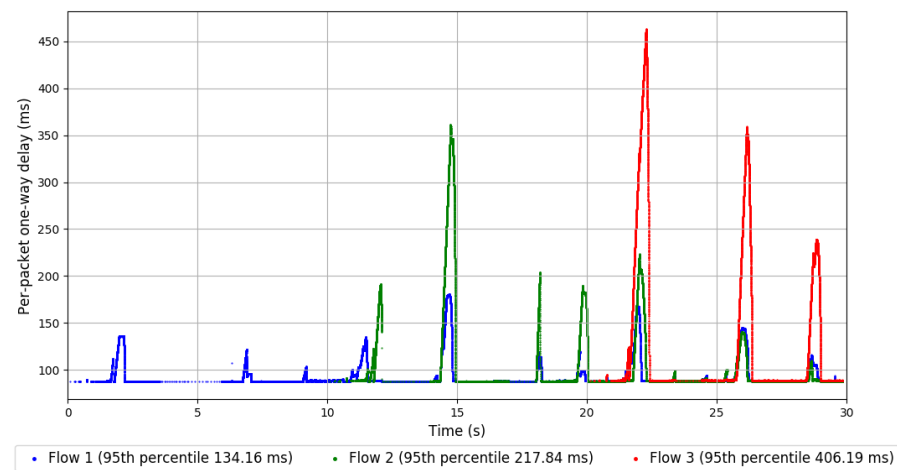
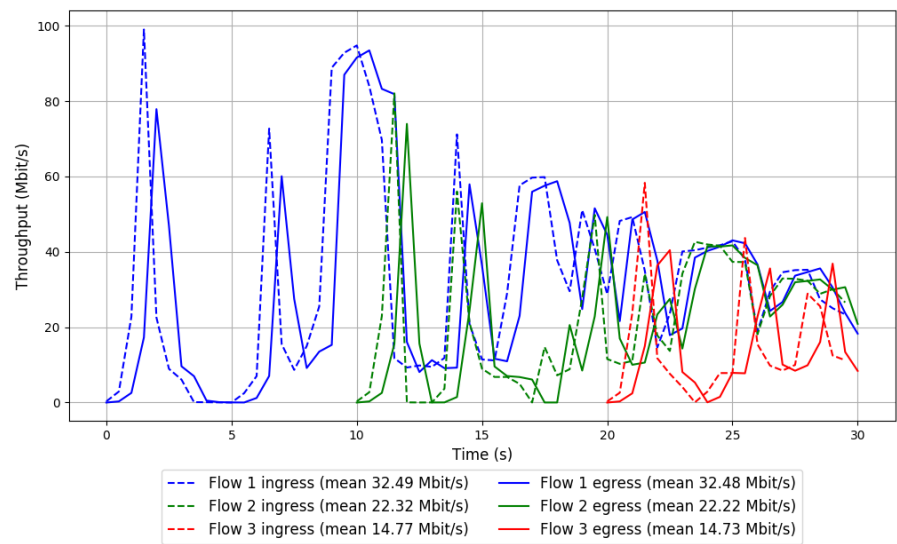
-- Flow 3:

Average throughput: 14.73 Mbit/s

95th percentile per-packet one-way delay: 406.186 ms

Loss rate: 2.00%

Run 5: Report of QUIC Cubic — Data Link

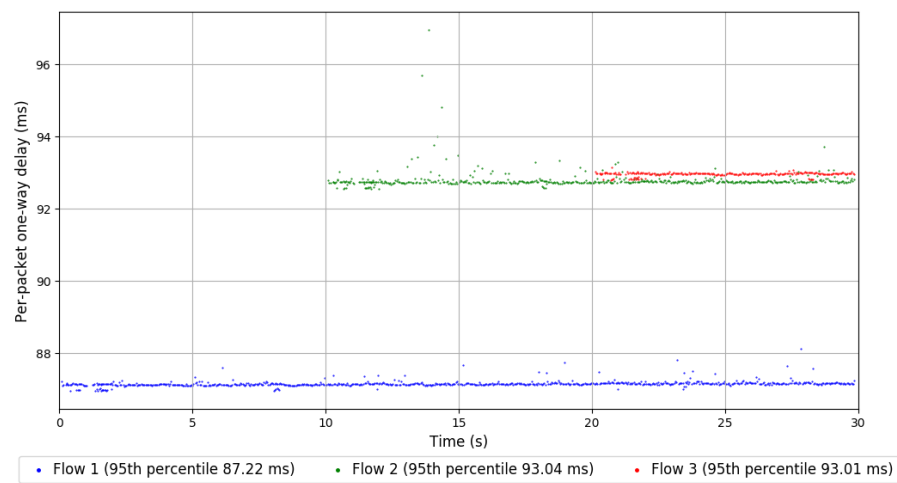
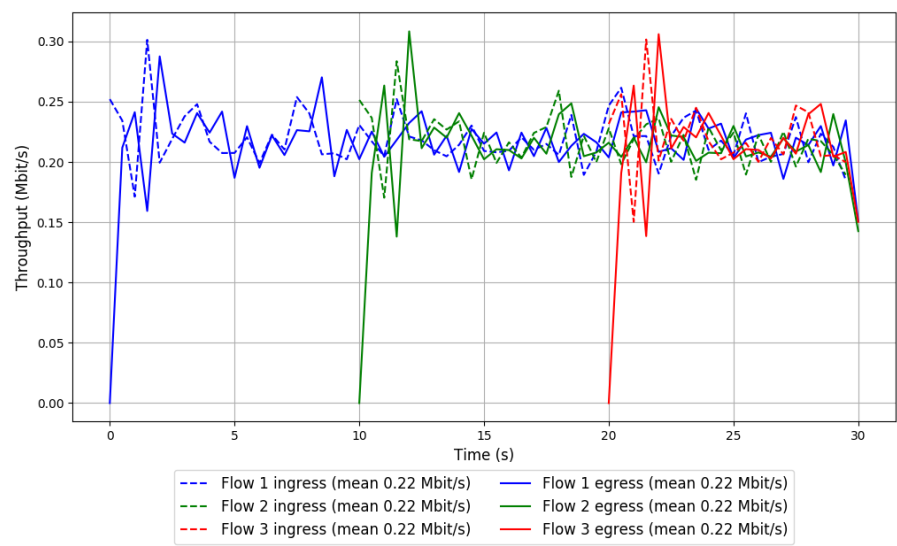


```
Run 1: Statistics of SReAM

Start at: 2019-01-25 19:25:32
End at: 2019-01-25 19:26:02
Local clock offset: -6.797 ms
Remote clock offset: 7.615 ms

# Below is generated by plot.py at 2019-01-25 21:37:57
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 92.990 ms
Loss rate: 0.91%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 87.225 ms
Loss rate: 0.51%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 93.044 ms
Loss rate: 1.03%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 93.010 ms
Loss rate: 1.85%
```

Run 1: Report of SReAM — Data Link

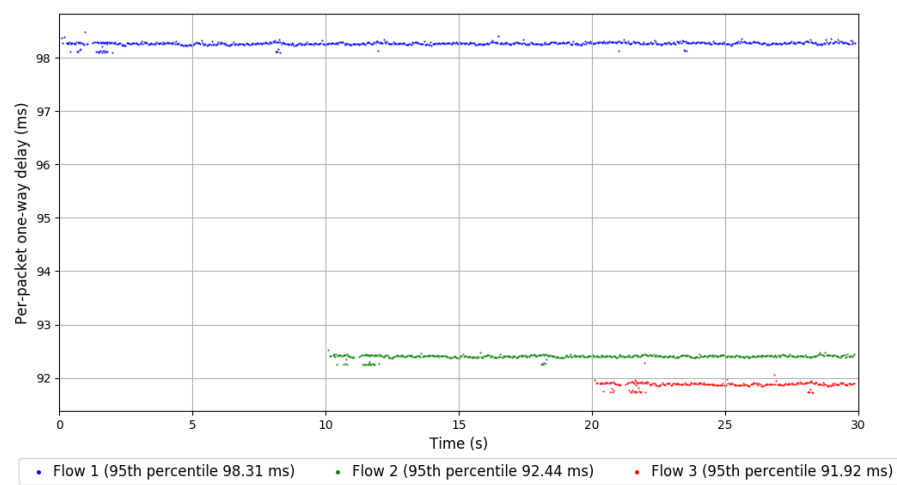
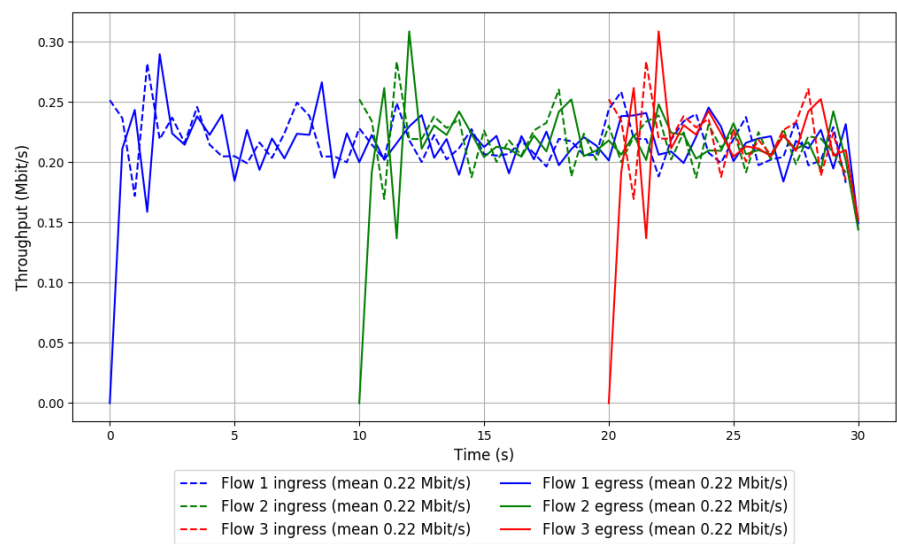


Run 2: Statistics of SReAM

Start at: 2019-01-25 19:52:30
End at: 2019-01-25 19:53:00
Local clock offset: -6.409 ms
Remote clock offset: 2.951 ms

Below is generated by plot.py at 2019-01-25 21:37:57
Datalink statistics
-- Total of 3 flows:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 98.298 ms
Loss rate: 0.91%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 98.305 ms
Loss rate: 0.51%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 92.436 ms
Loss rate: 1.04%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 91.921 ms
Loss rate: 1.85%

Run 2: Report of SReAM — Data Link



Run 3: Statistics of SReAM

Start at: 2019-01-25 20:19:27

End at: 2019-01-25 20:19:57

Local clock offset: -2.439 ms

Remote clock offset: 2.061 ms

Below is generated by plot.py at 2019-01-25 21:37:57

Datalink statistics

-- Total of 3 flows:

Average throughput: 0.44 Mbit/s

95th percentile per-packet one-way delay: 96.468 ms

Loss rate: 0.84%

-- Flow 1:

Average throughput: 0.22 Mbit/s

95th percentile per-packet one-way delay: 90.128 ms

Loss rate: 0.51%

-- Flow 2:

Average throughput: 0.22 Mbit/s

95th percentile per-packet one-way delay: 90.318 ms

Loss rate: 0.82%

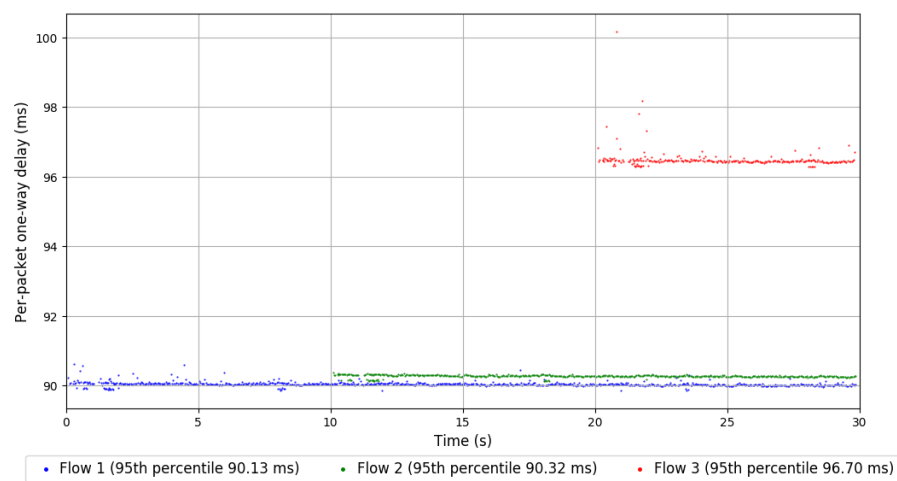
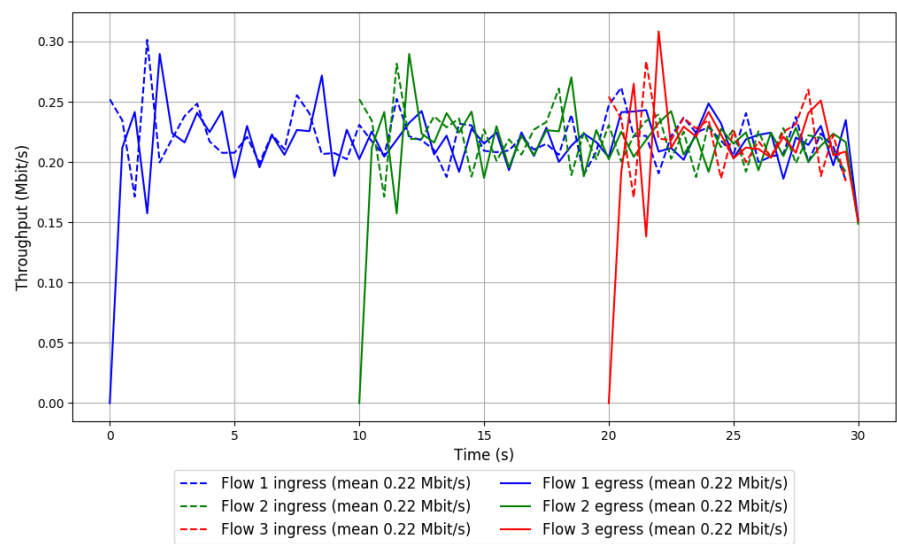
-- Flow 3:

Average throughput: 0.22 Mbit/s

95th percentile per-packet one-way delay: 96.703 ms

Loss rate: 1.84%

Run 3: Report of SReAM — Data Link



Run 4: Statistics of SReAM

Start at: 2019-01-25 20:46:26

End at: 2019-01-25 20:46:56

Local clock offset: -2.328 ms

Remote clock offset: 1.956 ms

Below is generated by plot.py at 2019-01-25 21:37:57

Datalink statistics

-- Total of 3 flows:

Average throughput: 0.44 Mbit/s

95th percentile per-packet one-way delay: 91.315 ms

Loss rate: 0.84%

-- Flow 1:

Average throughput: 0.22 Mbit/s

95th percentile per-packet one-way delay: 91.275 ms

Loss rate: 0.51%

-- Flow 2:

Average throughput: 0.22 Mbit/s

95th percentile per-packet one-way delay: 91.325 ms

Loss rate: 0.82%

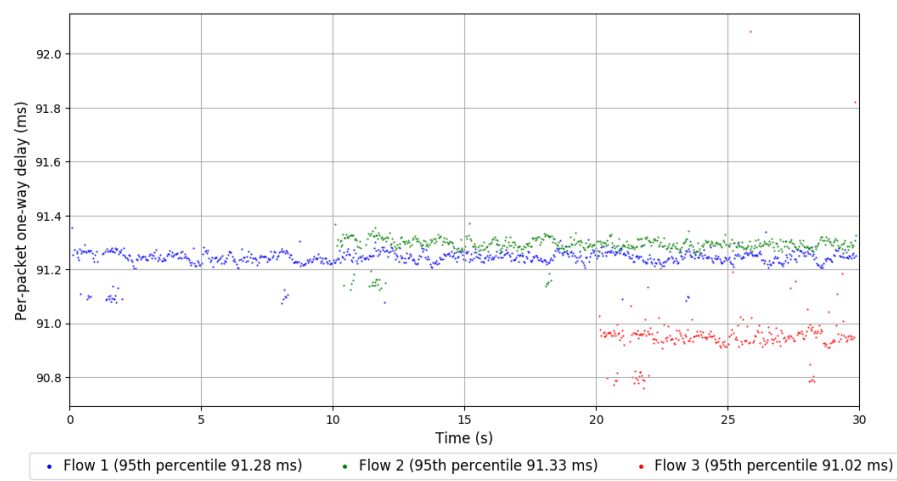
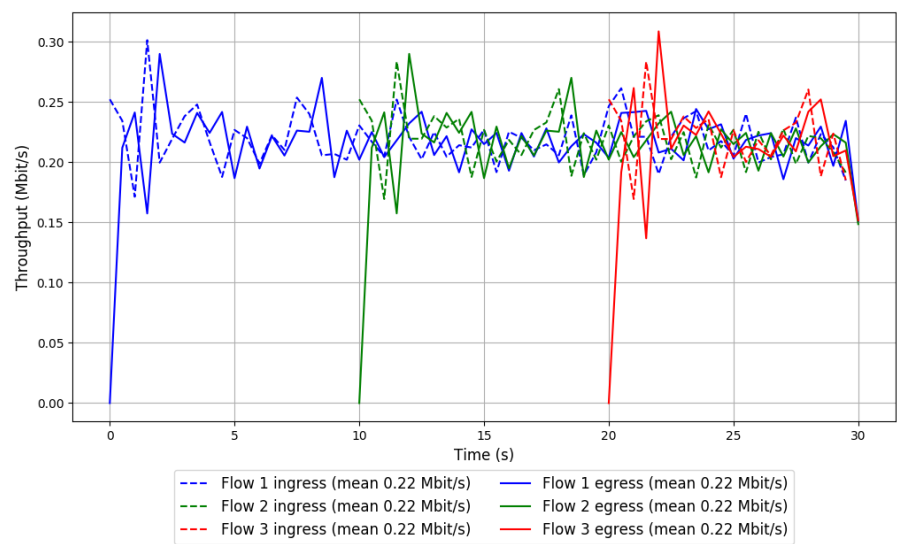
-- Flow 3:

Average throughput: 0.22 Mbit/s

95th percentile per-packet one-way delay: 91.022 ms

Loss rate: 1.85%

Run 4: Report of SReAM — Data Link



Run 5: Statistics of SReAM

Start at: 2019-01-25 21:13:26

End at: 2019-01-25 21:13:56

Local clock offset: -7.206 ms

Remote clock offset: 2.438 ms

Below is generated by plot.py at 2019-01-25 21:37:57

Datalink statistics

-- Total of 3 flows:

Average throughput: 0.44 Mbit/s

95th percentile per-packet one-way delay: 91.325 ms

Loss rate: 0.85%

-- Flow 1:

Average throughput: 0.22 Mbit/s

95th percentile per-packet one-way delay: 91.384 ms

Loss rate: 0.51%

-- Flow 2:

Average throughput: 0.22 Mbit/s

95th percentile per-packet one-way delay: 90.671 ms

Loss rate: 1.04%

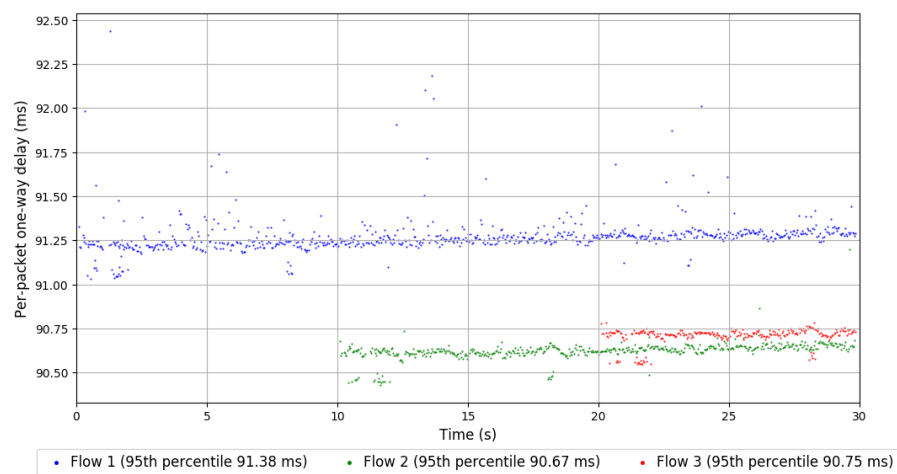
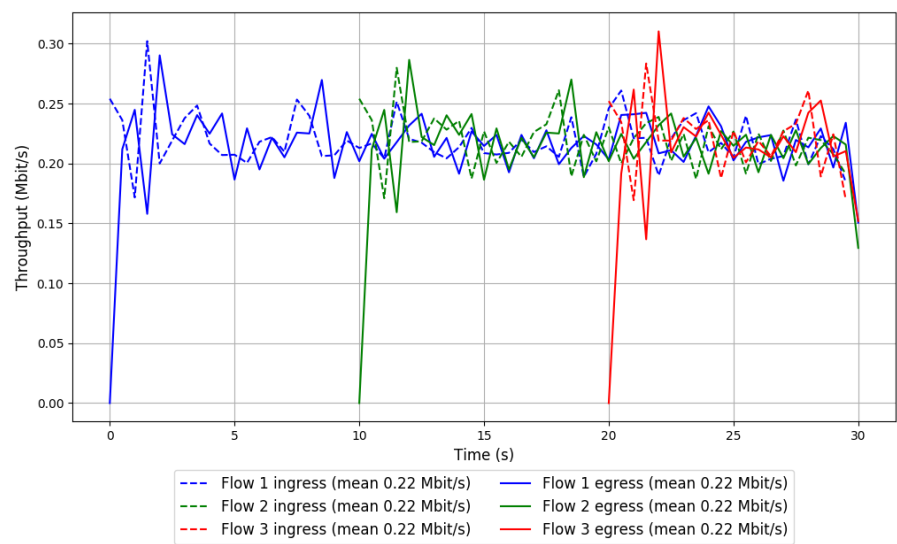
-- Flow 3:

Average throughput: 0.22 Mbit/s

95th percentile per-packet one-way delay: 90.751 ms

Loss rate: 1.50%

Run 5: Report of SReAM — Data Link



Run 1: Statistics of Sprout

Start at: 2019-01-25 19:12:39

End at: 2019-01-25 19:13:09

Local clock offset: -6.556 ms

Remote clock offset: 6.063 ms

Below is generated by plot.py at 2019-01-25 21:37:57

Datalink statistics

-- Total of 3 flows:

Average throughput: 5.02 Mbit/s

95th percentile per-packet one-way delay: 92.489 ms

Loss rate: 0.46%

-- Flow 1:

Average throughput: 3.13 Mbit/s

95th percentile per-packet one-way delay: 92.769 ms

Loss rate: 0.16%

-- Flow 2:

Average throughput: 2.12 Mbit/s

95th percentile per-packet one-way delay: 92.176 ms

Loss rate: 0.83%

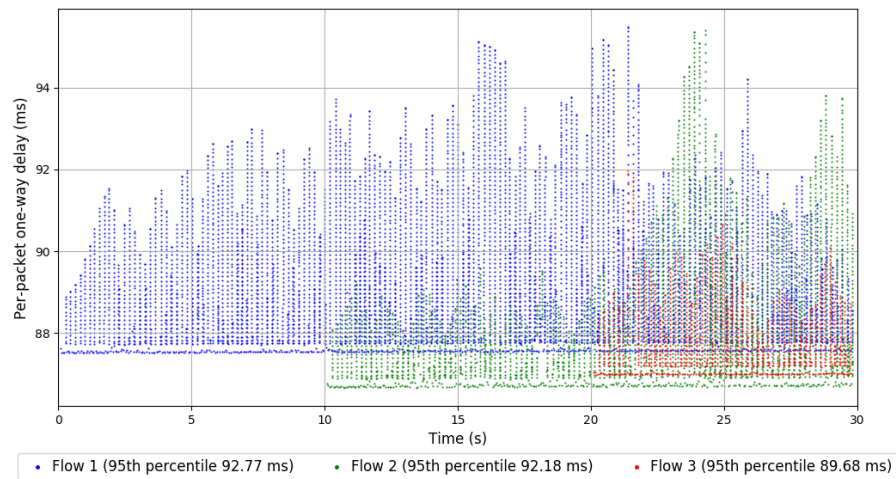
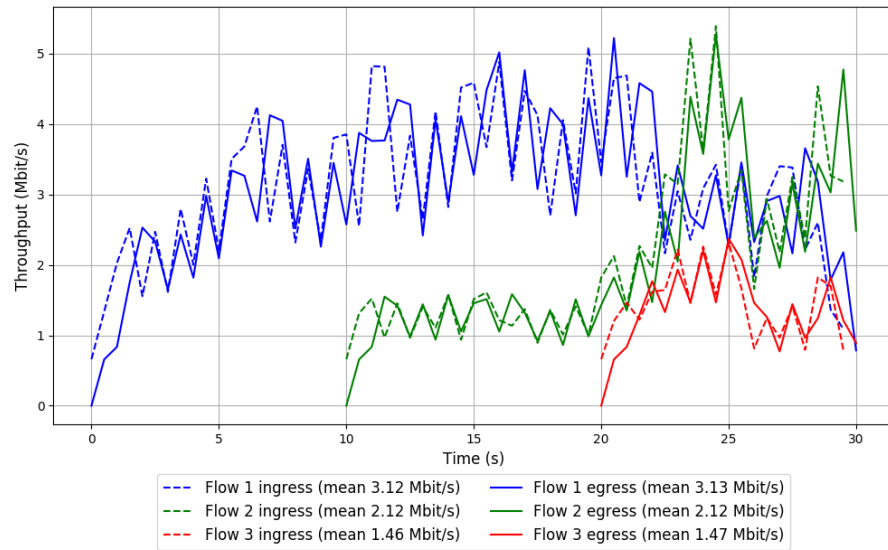
-- Flow 3:

Average throughput: 1.47 Mbit/s

95th percentile per-packet one-way delay: 89.679 ms

Loss rate: 1.35%

Run 1: Report of Sprout — Data Link

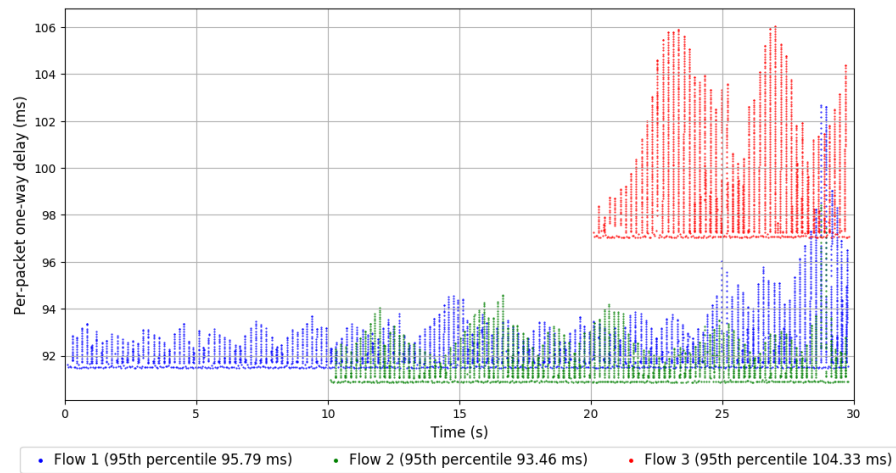
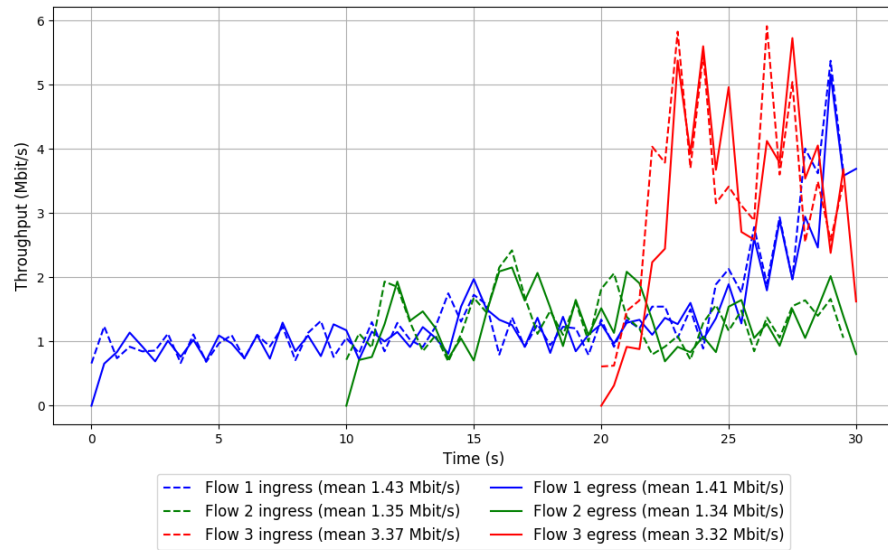


Run 2: Statistics of Sprout

Start at: 2019-01-25 19:39:38
End at: 2019-01-25 19:40:08
Local clock offset: -7.094 ms
Remote clock offset: 2.733 ms

```
# Below is generated by plot.py at 2019-01-25 21:37:57
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.39 Mbit/s
95th percentile per-packet one-way delay: 102.588 ms
Loss rate: 2.01%
-- Flow 1:
Average throughput: 1.41 Mbit/s
95th percentile per-packet one-way delay: 95.789 ms
Loss rate: 2.04%
-- Flow 2:
Average throughput: 1.34 Mbit/s
95th percentile per-packet one-way delay: 93.459 ms
Loss rate: 0.98%
-- Flow 3:
Average throughput: 3.32 Mbit/s
95th percentile per-packet one-way delay: 104.325 ms
Loss rate: 2.79%
```

Run 2: Report of Sprout — Data Link

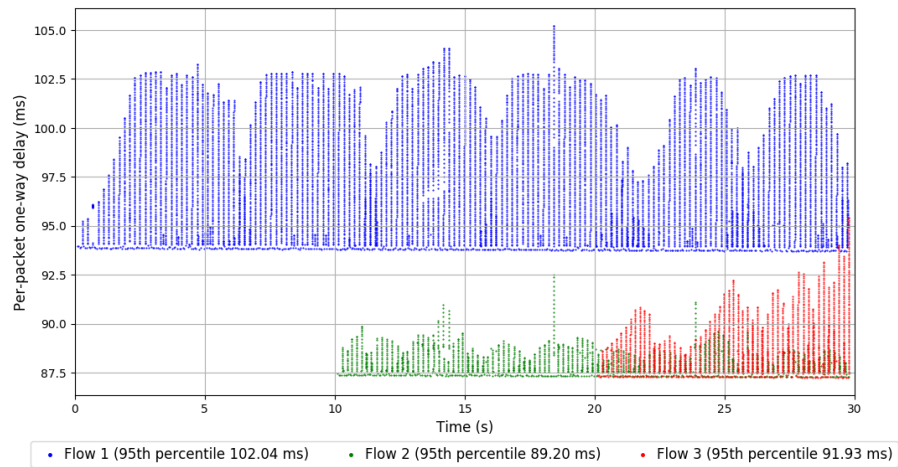
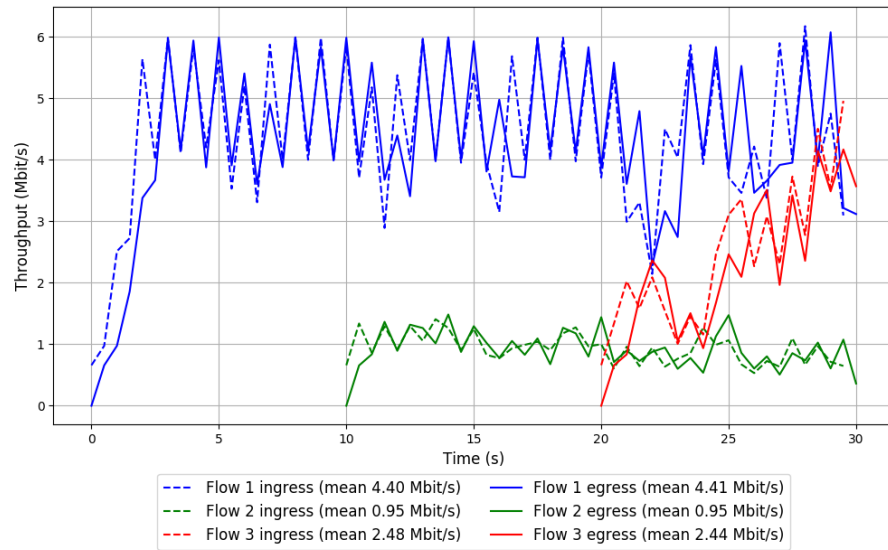


Run 3: Statistics of Sprout

Start at: 2019-01-25 20:06:35
End at: 2019-01-25 20:07:05
Local clock offset: -3.65 ms
Remote clock offset: 5.712 ms

```
# Below is generated by plot.py at 2019-01-25 21:37:57
# Datalink statistics
-- Total of 3 flows:
Average throughput: 5.83 Mbit/s
95th percentile per-packet one-way delay: 101.796 ms
Loss rate: 1.03%
-- Flow 1:
Average throughput: 4.41 Mbit/s
95th percentile per-packet one-way delay: 102.040 ms
Loss rate: 0.58%
-- Flow 2:
Average throughput: 0.95 Mbit/s
95th percentile per-packet one-way delay: 89.201 ms
Loss rate: 0.77%
-- Flow 3:
Average throughput: 2.44 Mbit/s
95th percentile per-packet one-way delay: 91.927 ms
Loss rate: 3.64%
```

Run 3: Report of Sprout — Data Link

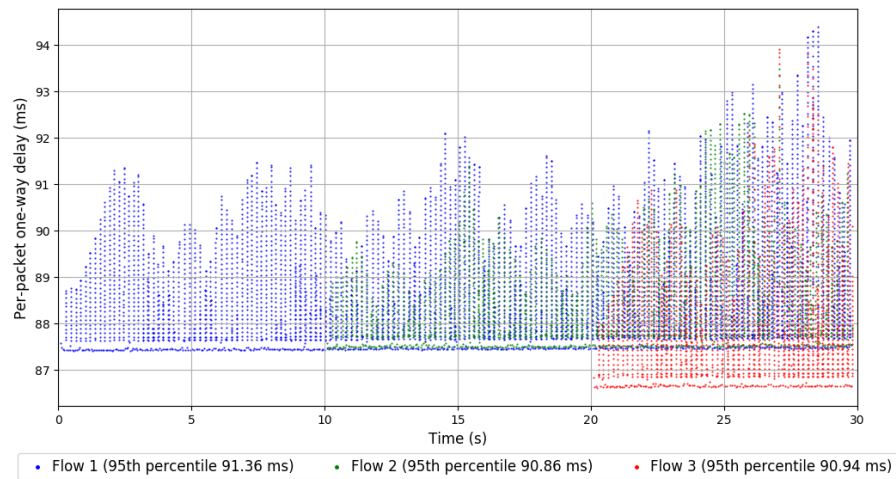
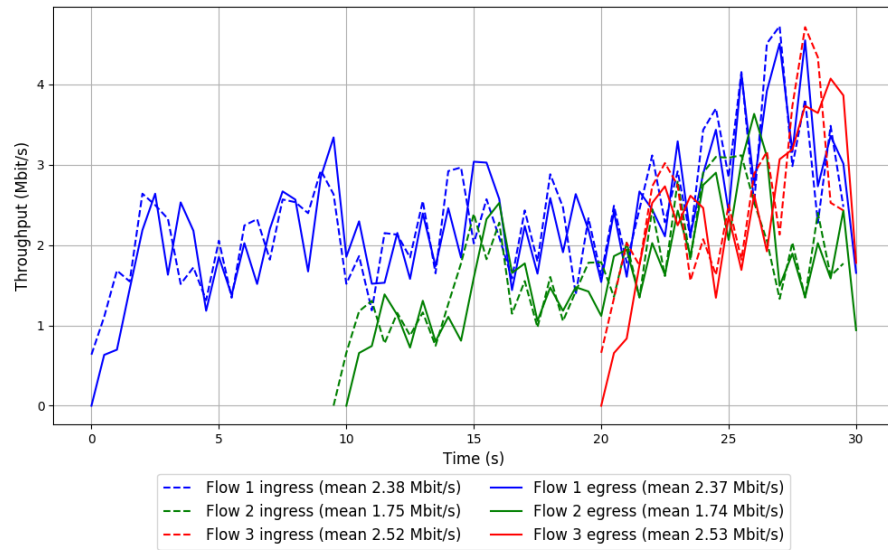


Run 4: Statistics of Sprout

Start at: 2019-01-25 20:33:35
End at: 2019-01-25 20:34:05
Local clock offset: -2.327 ms
Remote clock offset: 5.438 ms

```
# Below is generated by plot.py at 2019-01-25 21:37:57
# Datalink statistics
-- Total of 3 flows:
Average throughput: 4.34 Mbit/s
95th percentile per-packet one-way delay: 91.195 ms
Loss rate: 1.07%
-- Flow 1:
Average throughput: 2.37 Mbit/s
95th percentile per-packet one-way delay: 91.365 ms
Loss rate: 0.91%
-- Flow 2:
Average throughput: 1.74 Mbit/s
95th percentile per-packet one-way delay: 90.857 ms
Loss rate: 1.20%
-- Flow 3:
Average throughput: 2.53 Mbit/s
95th percentile per-packet one-way delay: 90.935 ms
Loss rate: 1.31%
```

Run 4: Report of Sprout — Data Link

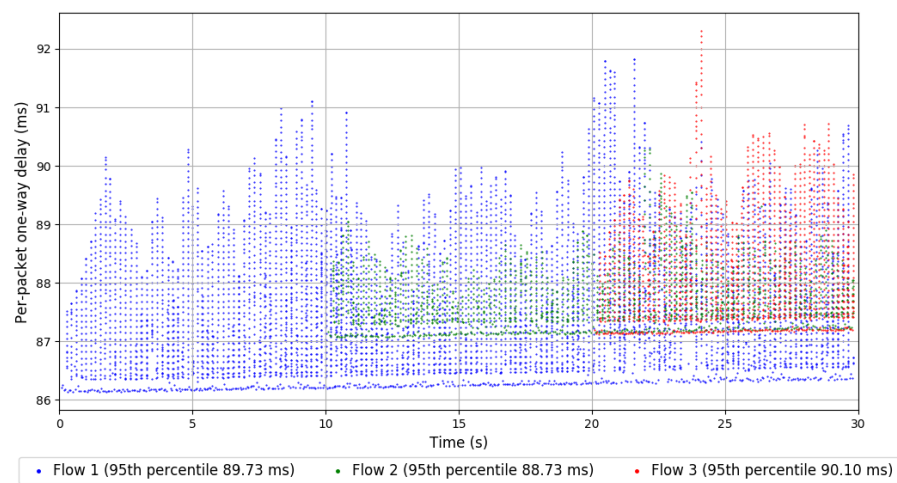
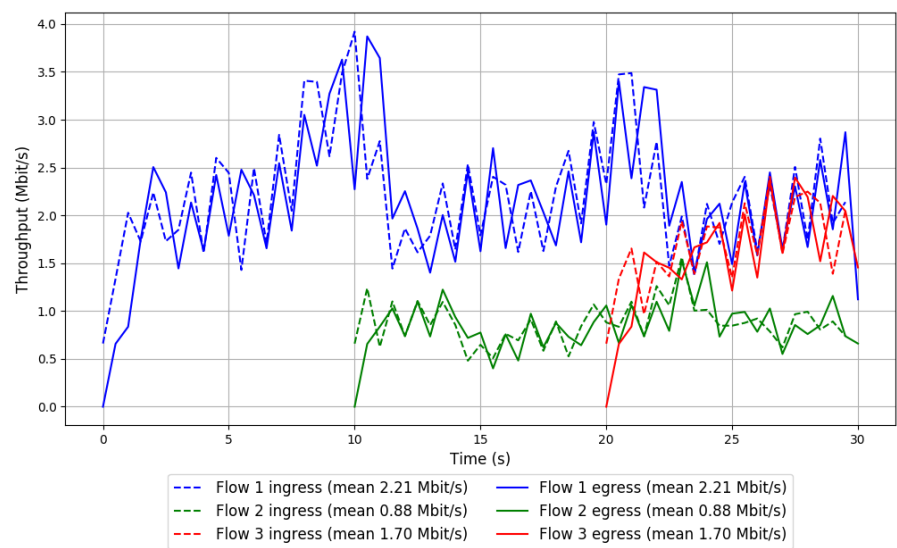


Run 5: Statistics of Sprout

Start at: 2019-01-25 21:00:33
End at: 2019-01-25 21:01:03
Local clock offset: -3.677 ms
Remote clock offset: 5.996 ms

```
# Below is generated by plot.py at 2019-01-25 21:37:57
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.35 Mbit/s
95th percentile per-packet one-way delay: 89.718 ms
Loss rate: 0.92%
-- Flow 1:
Average throughput: 2.21 Mbit/s
95th percentile per-packet one-way delay: 89.726 ms
Loss rate: 0.77%
-- Flow 2:
Average throughput: 0.88 Mbit/s
95th percentile per-packet one-way delay: 88.734 ms
Loss rate: 0.67%
-- Flow 3:
Average throughput: 1.70 Mbit/s
95th percentile per-packet one-way delay: 90.096 ms
Loss rate: 1.77%
```

Run 5: Report of Sprout — Data Link



Run 1: Statistics of TaoVA-100x

Start at: 2019-01-25 19:15:13

End at: 2019-01-25 19:15:43

Local clock offset: -6.778 ms

Remote clock offset: 6.37 ms

Below is generated by plot.py at 2019-01-25 21:38:57

Datalink statistics

-- Total of 3 flows:

Average throughput: 83.02 Mbit/s

95th percentile per-packet one-way delay: 156.397 ms

Loss rate: 0.79%

-- Flow 1:

Average throughput: 49.13 Mbit/s

95th percentile per-packet one-way delay: 152.187 ms

Loss rate: 0.45%

-- Flow 2:

Average throughput: 36.68 Mbit/s

95th percentile per-packet one-way delay: 163.560 ms

Loss rate: 1.02%

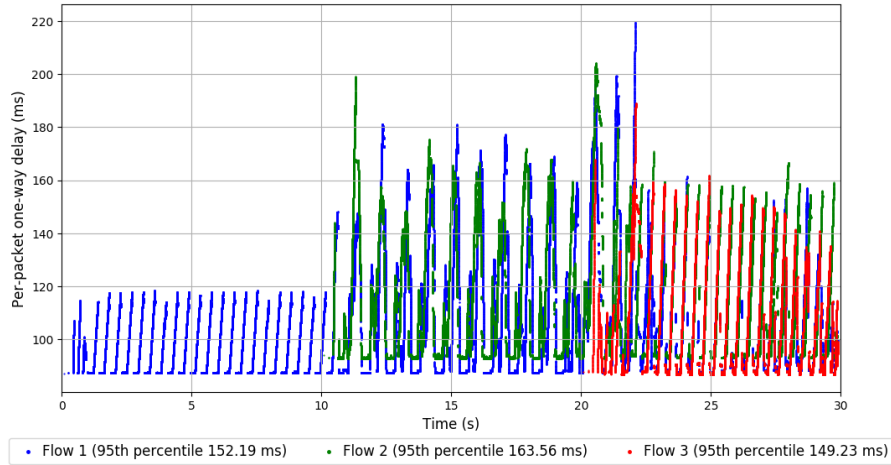
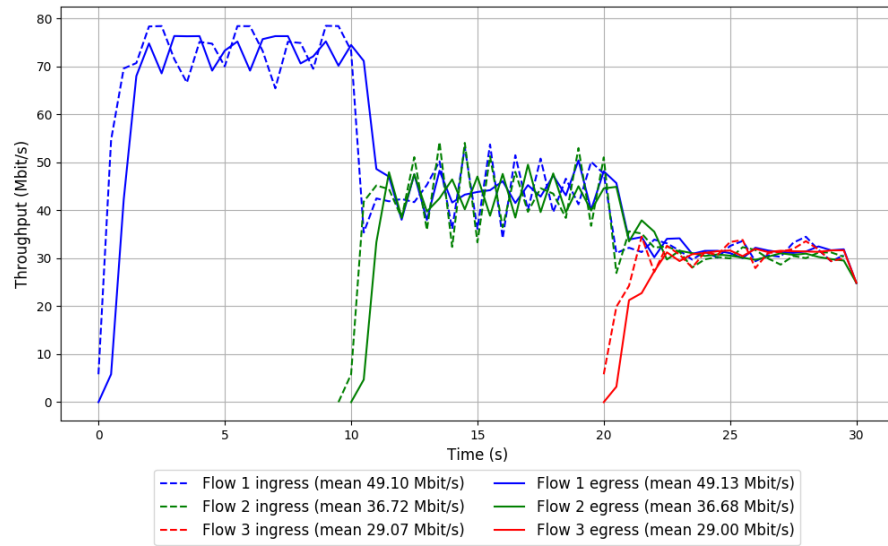
-- Flow 3:

Average throughput: 29.00 Mbit/s

95th percentile per-packet one-way delay: 149.231 ms

Loss rate: 1.96%

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



Run 2: Statistics of TaoVA-100x

Start at: 2019-01-25 19:42:12

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

Local clock offset: -6.294 ms

Remote clock offset: 8.131 ms

Below is generated by plot.py at 2019-01-25 21:39:01

Datalink statistics

-- Total of 3 flows:

Average throughput: 84.36 Mbit/s

95th percentile per-packet one-way delay: 154.327 ms

Loss rate: 0.82%

-- Flow 1:

Average throughput: 49.90 Mbit/s

95th percentile per-packet one-way delay: 153.153 ms

Loss rate: 0.48%

-- Flow 2:

Average throughput: 37.33 Mbit/s

95th percentile per-packet one-way delay: 155.347 ms

Loss rate: 0.95%

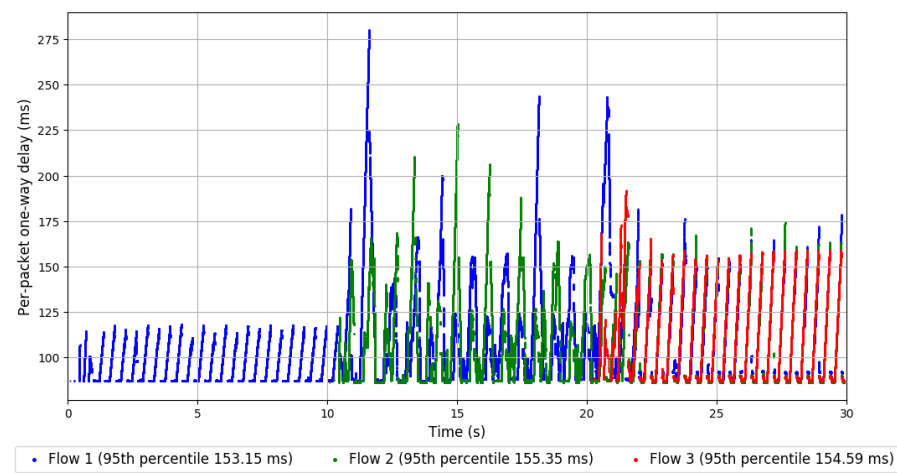
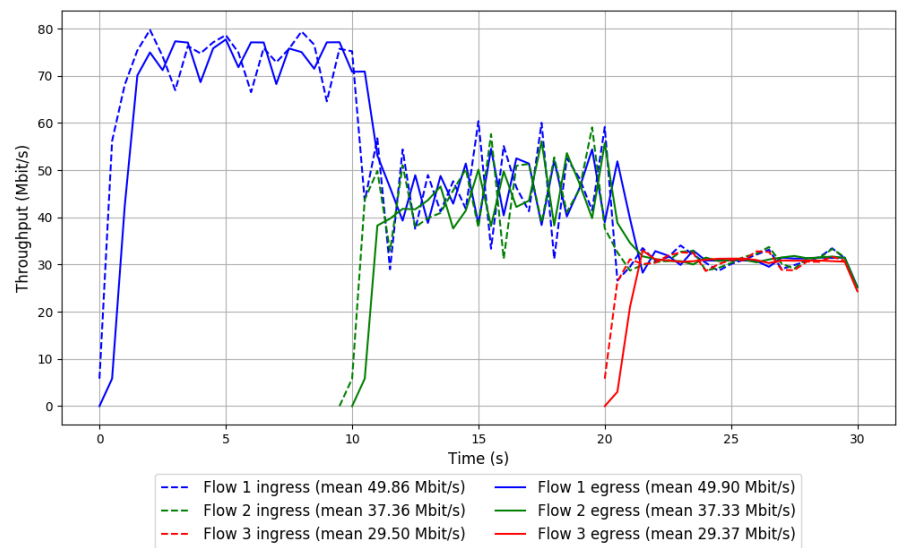
-- Flow 3:

Average throughput: 29.37 Mbit/s

95th percentile per-packet one-way delay: 154.592 ms

Loss rate: 2.19%

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



Run 3: Statistics of TaoVA-100x

Start at: 2019-01-25 20:09:08

End at: 2019-01-25 20:09:38

Local clock offset: -3.856 ms

Remote clock offset: 2.354 ms

Below is generated by plot.py at 2019-01-25 21:39:02

Datalink statistics

-- Total of 3 flows:

Average throughput: 82.87 Mbit/s

95th percentile per-packet one-way delay: 158.282 ms

Loss rate: 0.72%

-- Flow 1:

Average throughput: 48.58 Mbit/s

95th percentile per-packet one-way delay: 155.232 ms

Loss rate: 0.41%

-- Flow 2:

Average throughput: 36.98 Mbit/s

95th percentile per-packet one-way delay: 163.710 ms

Loss rate: 0.84%

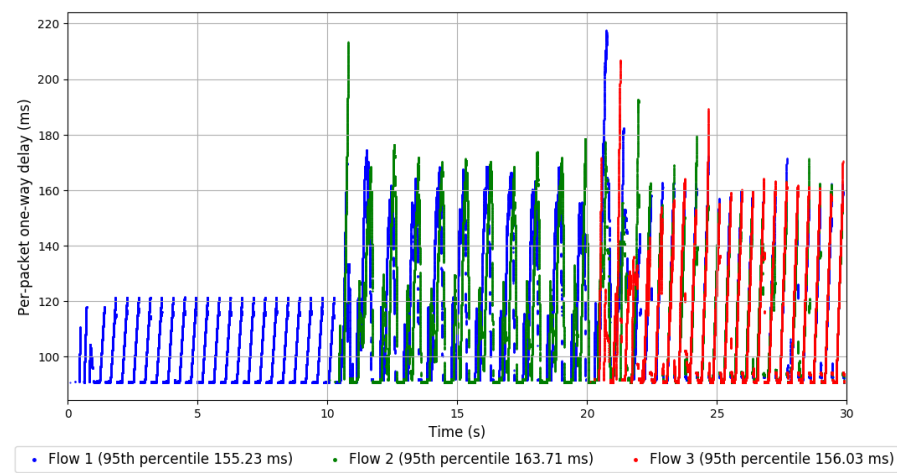
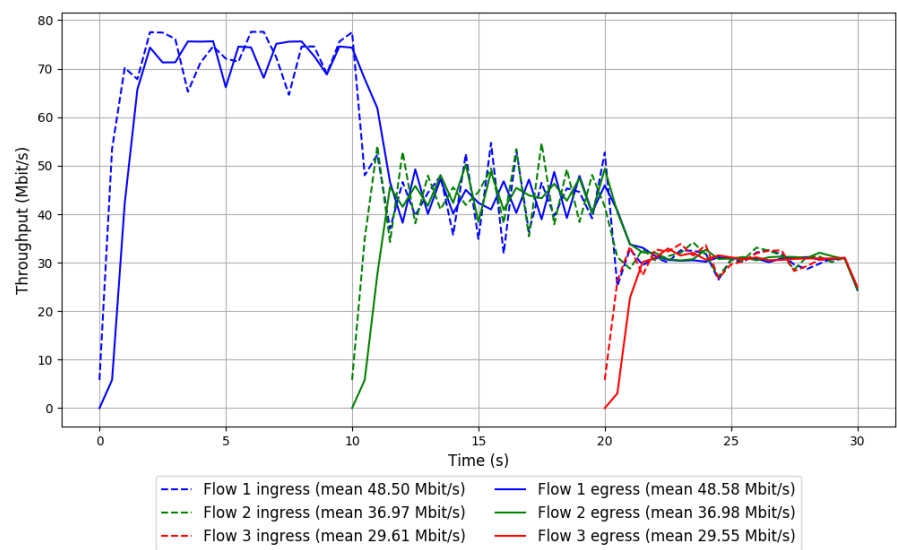
-- Flow 3:

Average throughput: 29.55 Mbit/s

95th percentile per-packet one-way delay: 156.025 ms

Loss rate: 1.94%

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



Run 4: Statistics of TaoVA-100x

Start at: 2019-01-25 20:36:07

End at: 2019-01-25 20:36:37

Local clock offset: -1.855 ms

Remote clock offset: 1.895 ms

Below is generated by plot.py at 2019-01-25 21:39:09

Datalink statistics

-- Total of 3 flows:

Average throughput: 83.88 Mbit/s

95th percentile per-packet one-way delay: 159.594 ms

Loss rate: 0.68%

-- Flow 1:

Average throughput: 49.44 Mbit/s

95th percentile per-packet one-way delay: 157.671 ms

Loss rate: 0.41%

-- Flow 2:

Average throughput: 37.18 Mbit/s

95th percentile per-packet one-way delay: 163.873 ms

Loss rate: 0.76%

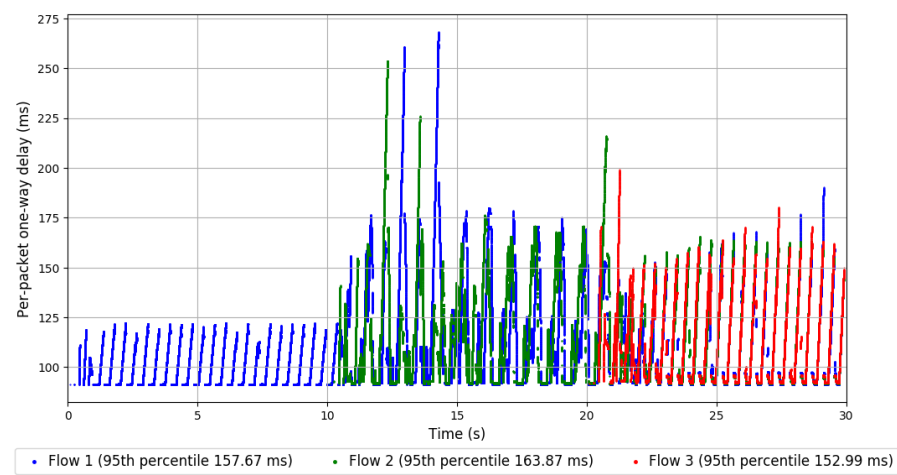
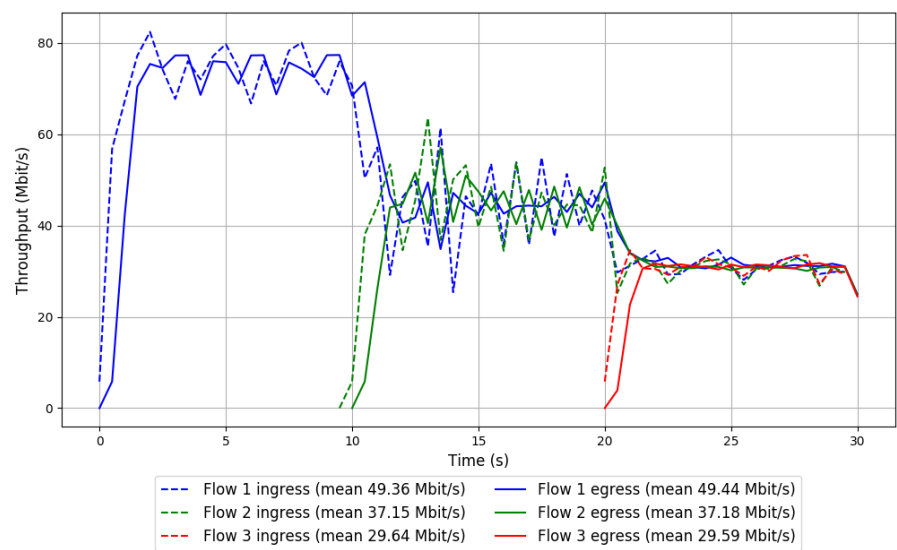
-- Flow 3:

Average throughput: 29.59 Mbit/s

95th percentile per-packet one-way delay: 152.993 ms

Loss rate: 1.87%

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



Run 5: Statistics of TaoVA-100x

Start at: 2019-01-25 21:03:06

End at: 2019-01-25 21:03:36

Local clock offset: -3.94 ms

Remote clock offset: 5.909 ms

Below is generated by plot.py at 2019-01-25 21:39:09

Datalink statistics

-- Total of 3 flows:

Average throughput: 81.73 Mbit/s

95th percentile per-packet one-way delay: 162.854 ms

Loss rate: 0.85%

-- Flow 1:

Average throughput: 47.58 Mbit/s

95th percentile per-packet one-way delay: 156.349 ms

Loss rate: 0.54%

-- Flow 2:

Average throughput: 37.83 Mbit/s

95th percentile per-packet one-way delay: 166.775 ms

Loss rate: 0.99%

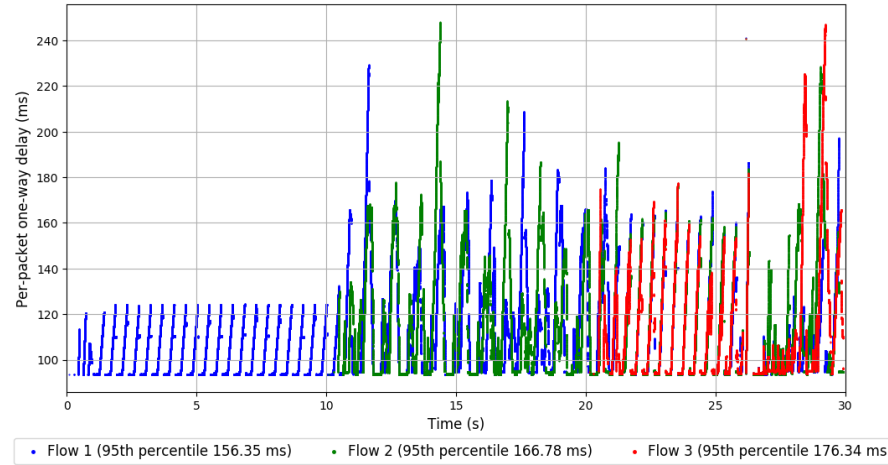
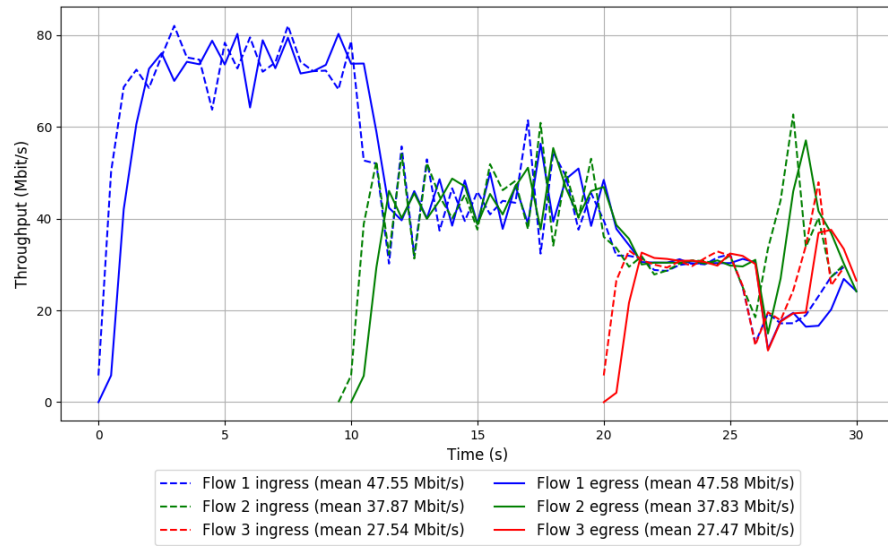
-- Flow 3:

Average throughput: 27.47 Mbit/s

95th percentile per-packet one-way delay: 176.344 ms

Loss rate: 2.05%

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



Run 1: Statistics of TCP Vegas

Start at: 2019-01-25 19:30:42

End at: 2019-01-25 19:31:12

Local clock offset: -6.891 ms

Remote clock offset: 5.228 ms

Below is generated by plot.py at 2019-01-25 21:39:09

Datalink statistics

-- Total of 3 flows:

Average throughput: 63.58 Mbit/s

95th percentile per-packet one-way delay: 156.022 ms

Loss rate: 0.78%

-- Flow 1:

Average throughput: 34.35 Mbit/s

95th percentile per-packet one-way delay: 186.958 ms

Loss rate: 0.42%

-- Flow 2:

Average throughput: 33.71 Mbit/s

95th percentile per-packet one-way delay: 112.898 ms

Loss rate: 0.98%

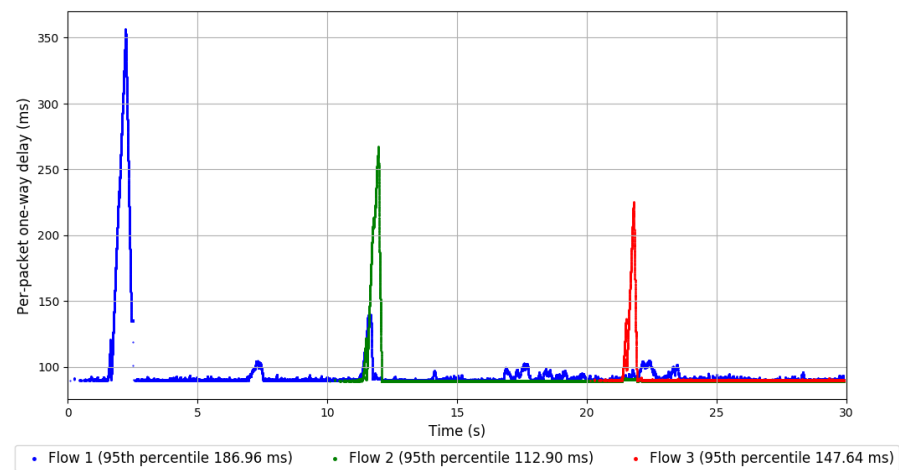
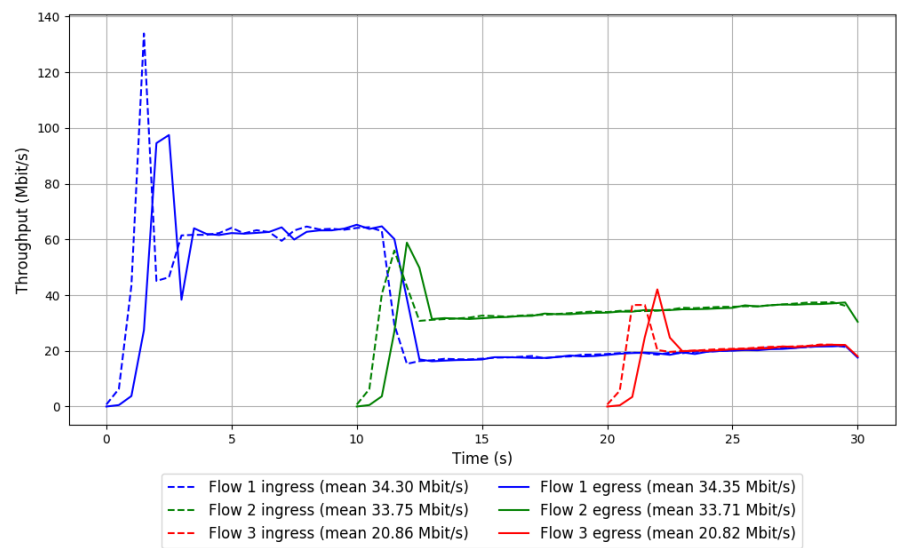
-- Flow 3:

Average throughput: 20.82 Mbit/s

95th percentile per-packet one-way delay: 147.643 ms

Loss rate: 1.93%

Run 1: Report of TCP Vegas — Data Link



Run 2: Statistics of TCP Vegas

Start at: 2019-01-25 19:57:40

End at: 2019-01-25 19:58:10

Local clock offset: -6.452 ms

Remote clock offset: 3.444 ms

Below is generated by plot.py at 2019-01-25 21:39:09

Datalink statistics

-- Total of 3 flows:

Average throughput: 64.03 Mbit/s

95th percentile per-packet one-way delay: 139.961 ms

Loss rate: 0.69%

-- Flow 1:

Average throughput: 36.22 Mbit/s

95th percentile per-packet one-way delay: 125.915 ms

Loss rate: 0.27%

-- Flow 2:

Average throughput: 32.65 Mbit/s

95th percentile per-packet one-way delay: 141.149 ms

Loss rate: 1.04%

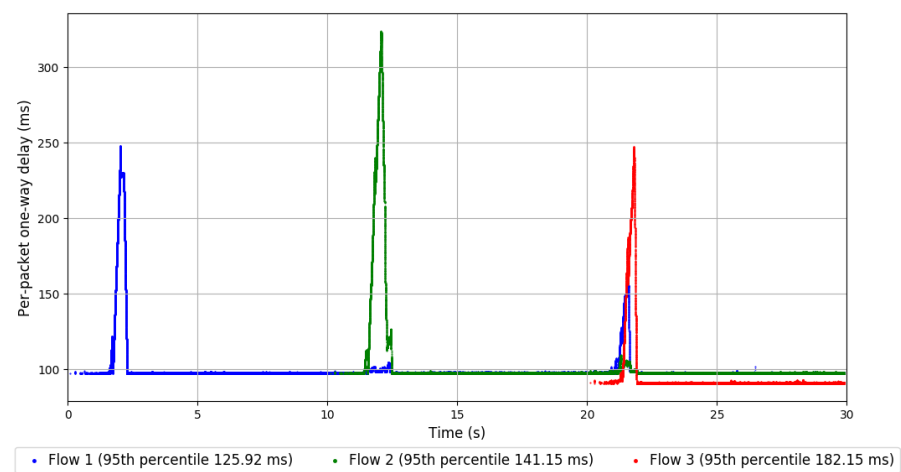
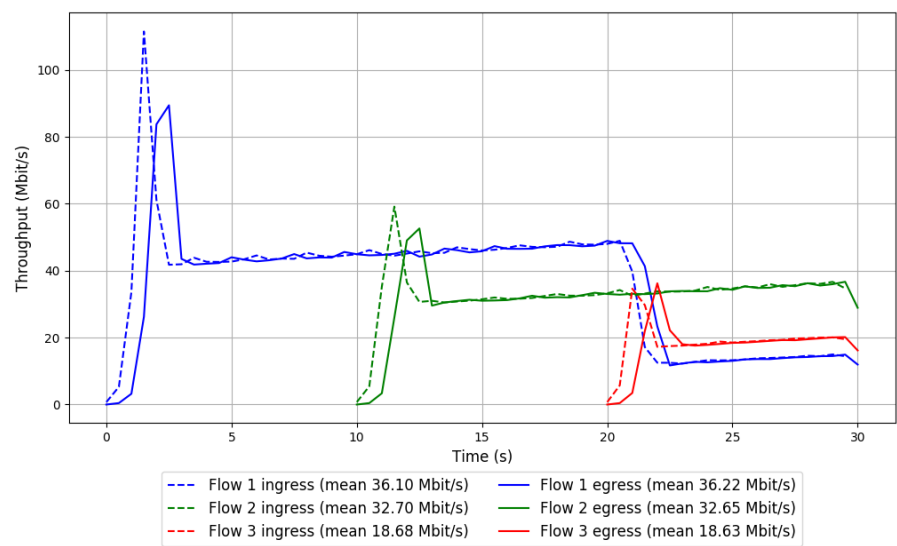
-- Flow 3:

Average throughput: 18.63 Mbit/s

95th percentile per-packet one-way delay: 182.145 ms

Loss rate: 1.94%

Run 2: Report of TCP Vegas — Data Link



Run 3: Statistics of TCP Vegas

Start at: 2019-01-25 20:24:38

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

Local clock offset: -1.252 ms

Remote clock offset: 1.443 ms

Below is generated by plot.py at 2019-01-25 21:39:09

Datalink statistics

-- Total of 3 flows:

Average throughput: 61.61 Mbit/s

95th percentile per-packet one-way delay: 198.198 ms

Loss rate: 0.83%

-- Flow 1:

Average throughput: 33.26 Mbit/s

95th percentile per-packet one-way delay: 197.020 ms

Loss rate: 0.43%

-- Flow 2:

Average throughput: 33.43 Mbit/s

95th percentile per-packet one-way delay: 116.602 ms

Loss rate: 0.98%

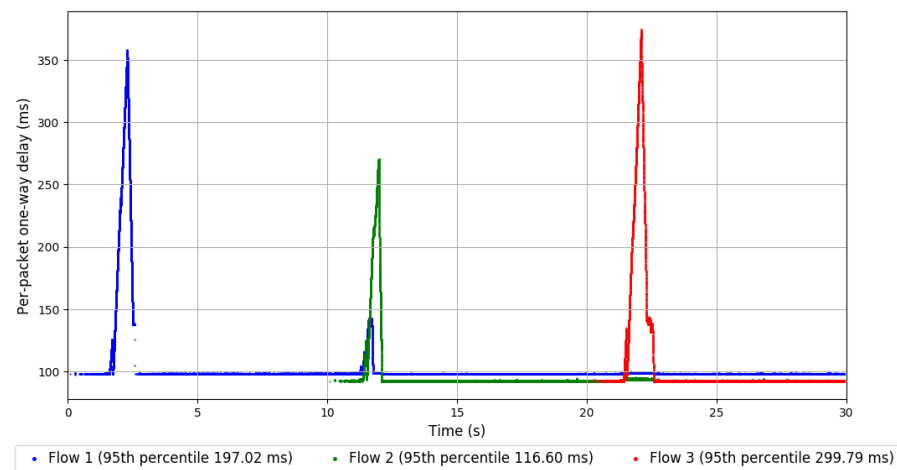
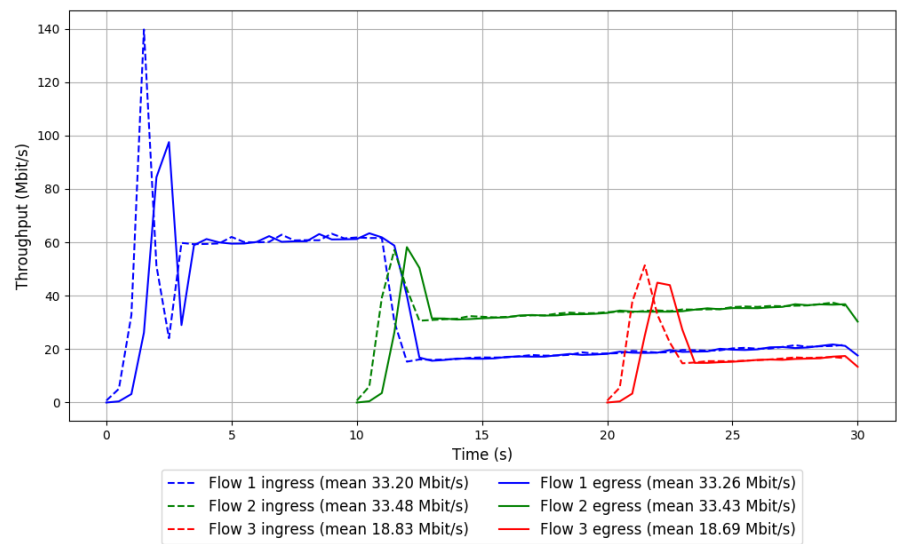
-- Flow 3:

Average throughput: 18.69 Mbit/s

95th percentile per-packet one-way delay: 299.785 ms

Loss rate: 2.46%

Run 3: Report of TCP Vegas — Data Link



Run 4: Statistics of TCP Vegas

Start at: 2019-01-25 20:51:37

End at: 2019-01-25 20:52:07

Local clock offset: -2.373 ms

Remote clock offset: 5.476 ms

Below is generated by plot.py at 2019-01-25 21:39:09

Datalink statistics

-- Total of 3 flows:

Average throughput: 62.76 Mbit/s

95th percentile per-packet one-way delay: 190.806 ms

Loss rate: 0.80%

-- Flow 1:

Average throughput: 35.16 Mbit/s

95th percentile per-packet one-way delay: 183.406 ms

Loss rate: 0.40%

-- Flow 2:

Average throughput: 31.94 Mbit/s

95th percentile per-packet one-way delay: 107.928 ms

Loss rate: 1.14%

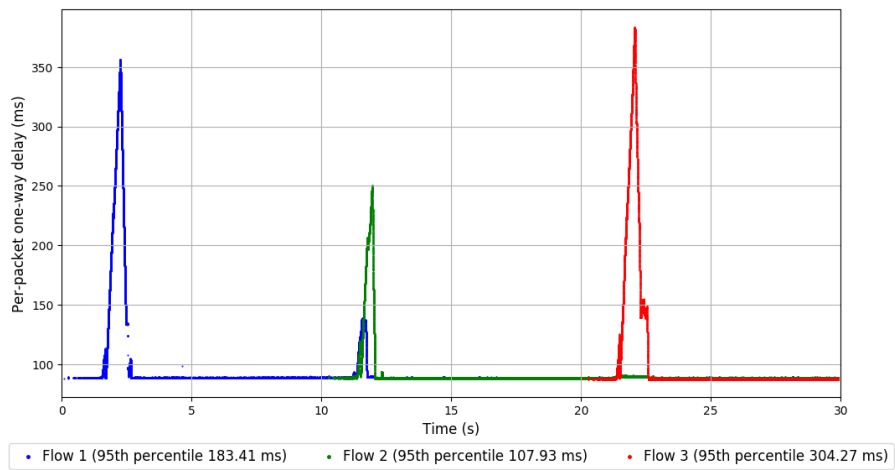
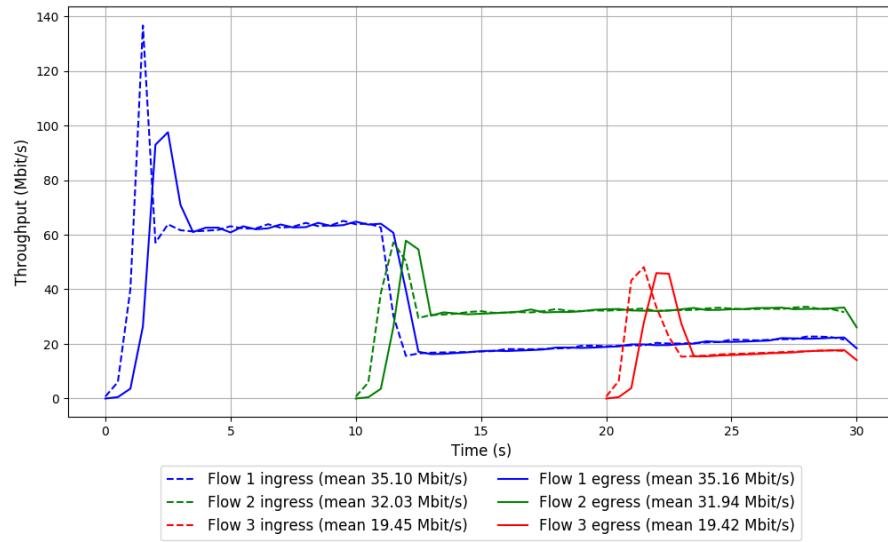
-- Flow 3:

Average throughput: 19.42 Mbit/s

95th percentile per-packet one-way delay: 304.275 ms

Loss rate: 1.83%

Run 4: Report of TCP Vegas — Data Link



Run 5: Statistics of TCP Vegas

Start at: 2019-01-25 21:18:36

End at: 2019-01-25 21:19:06

Local clock offset: -7.064 ms

Remote clock offset: 6.227 ms

Below is generated by plot.py at 2019-01-25 21:39:25

Datalink statistics

-- Total of 3 flows:

Average throughput: 58.94 Mbit/s

95th percentile per-packet one-way delay: 162.851 ms

Loss rate: 1.12%

-- Flow 1:

Average throughput: 37.09 Mbit/s

95th percentile per-packet one-way delay: 168.523 ms

Loss rate: 0.66%

-- Flow 2:

Average throughput: 22.16 Mbit/s

95th percentile per-packet one-way delay: 151.523 ms

Loss rate: 1.86%

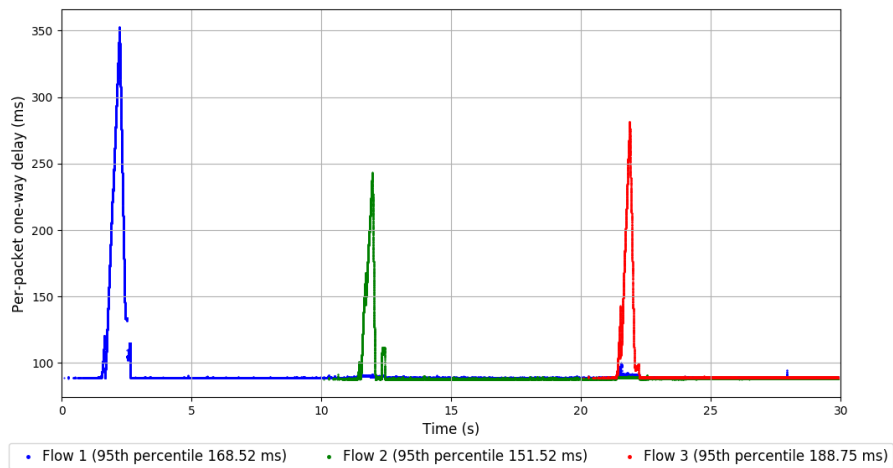
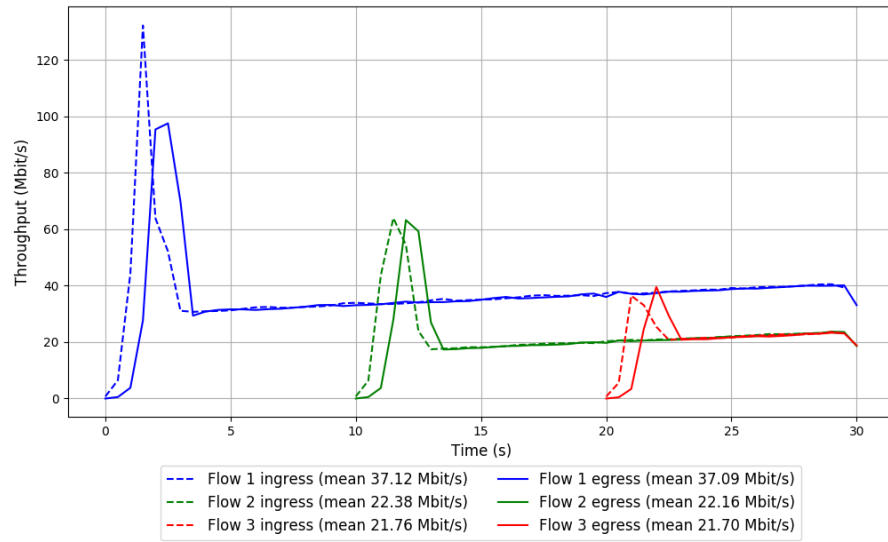
-- Flow 3:

Average throughput: 21.70 Mbit/s

95th percentile per-packet one-way delay: 188.752 ms

Loss rate: 1.98%

Run 5: Report of TCP Vegas — Data Link



Run 1: Statistics of Verus

Start at: 2019-01-25 19:35:51

End at: 2019-01-25 19:36:21

Local clock offset: -7.231 ms

Remote clock offset: 6.998 ms

Below is generated by plot.py at 2019-01-25 21:39:33

Datalink statistics

-- Total of 3 flows:

Average throughput: 70.09 Mbit/s

95th percentile per-packet one-way delay: 284.147 ms

Loss rate: 0.86%

-- Flow 1:

Average throughput: 44.09 Mbit/s

95th percentile per-packet one-way delay: 286.034 ms

Loss rate: 0.63%

-- Flow 2:

Average throughput: 26.79 Mbit/s

95th percentile per-packet one-way delay: 286.559 ms

Loss rate: 0.79%

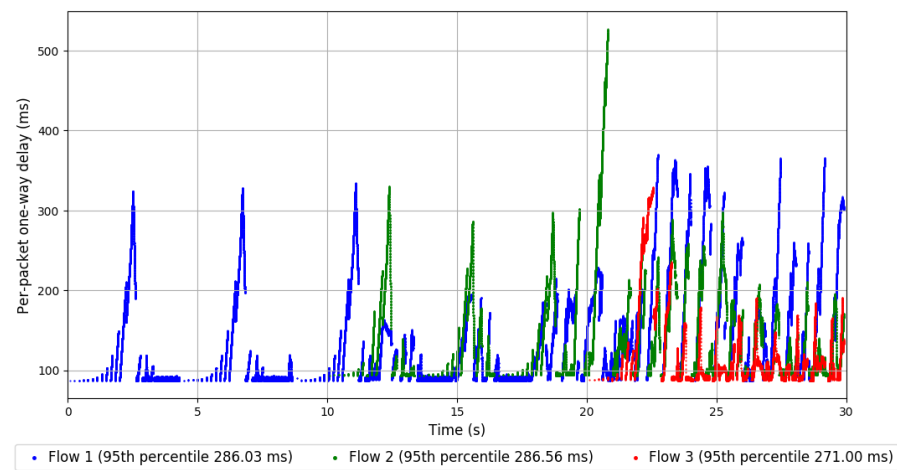
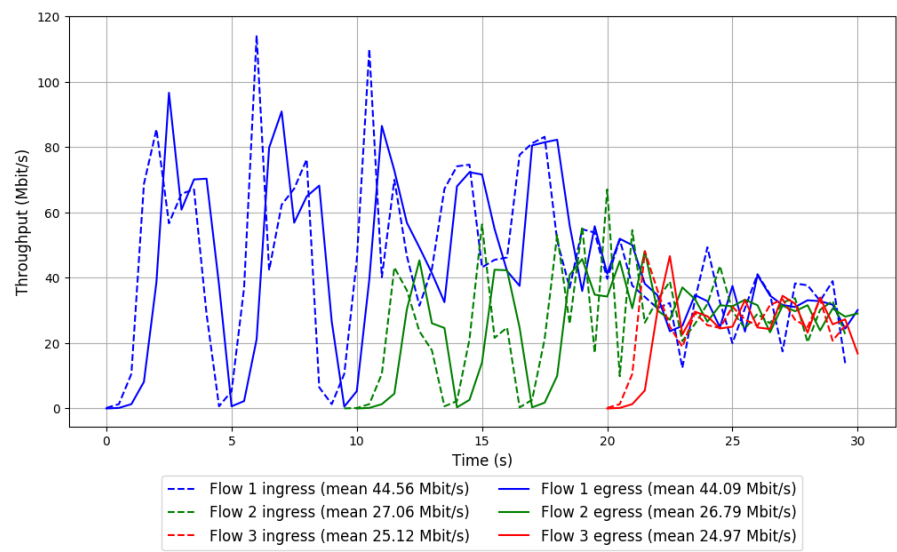
-- Flow 3:

Average throughput: 24.97 Mbit/s

95th percentile per-packet one-way delay: 271.004 ms

Loss rate: 2.20%

Run 1: Report of Verus — Data Link



Run 2: Statistics of Verus

Start at: 2019-01-25 20:02:49

End at: 2019-01-25 20:03:19

Local clock offset: -4.92 ms

Remote clock offset: 6.117 ms

Below is generated by plot.py at 2019-01-25 21:39:39

Datalink statistics

-- Total of 3 flows:

Average throughput: 67.85 Mbit/s

95th percentile per-packet one-way delay: 281.087 ms

Loss rate: 1.24%

-- Flow 1:

Average throughput: 43.05 Mbit/s

95th percentile per-packet one-way delay: 283.948 ms

Loss rate: 0.85%

-- Flow 2:

Average throughput: 27.06 Mbit/s

95th percentile per-packet one-way delay: 267.801 ms

Loss rate: 1.55%

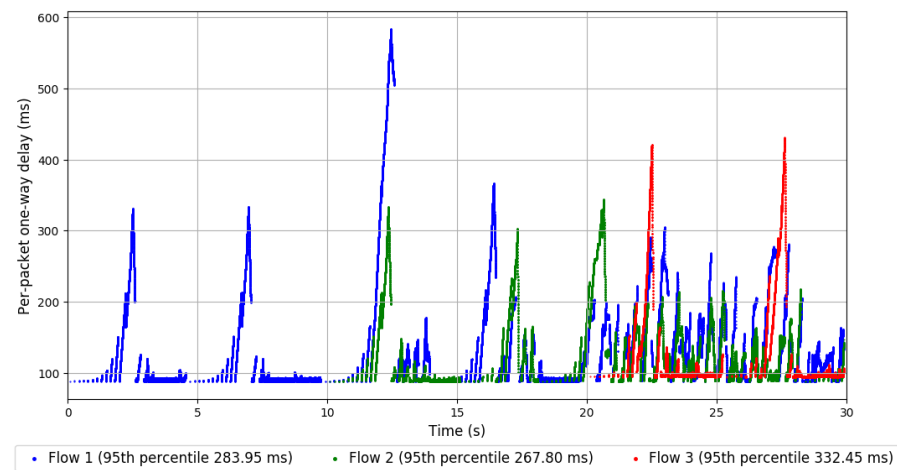
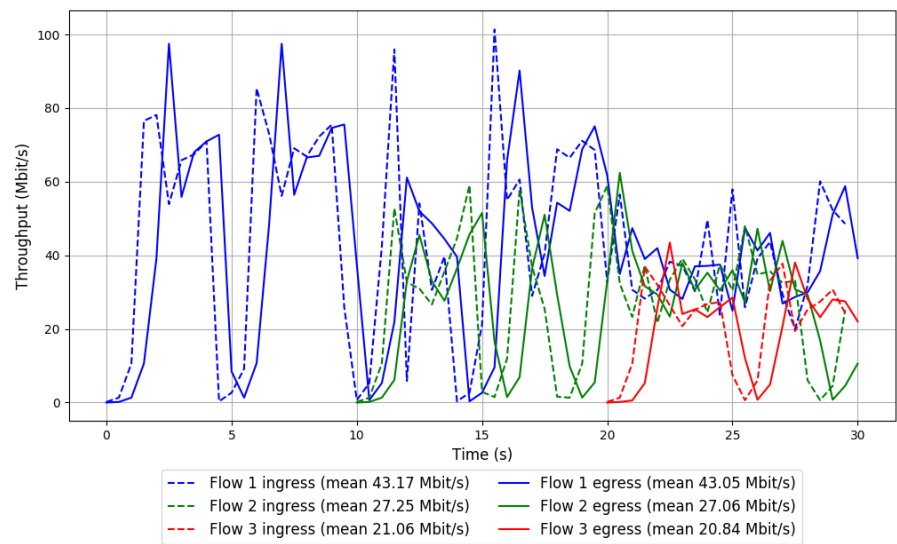
-- Flow 3:

Average throughput: 20.84 Mbit/s

95th percentile per-packet one-way delay: 332.448 ms

Loss rate: 2.85%

Run 2: Report of Verus — Data Link



Run 3: Statistics of Verus

Start at: 2019-01-25 20:29:47

End at: 2019-01-25 20:30:17

Local clock offset: -1.727 ms

Remote clock offset: 1.846 ms

Below is generated by plot.py at 2019-01-25 21:39:44

Datalink statistics

-- Total of 3 flows:

Average throughput: 70.61 Mbit/s

95th percentile per-packet one-way delay: 313.210 ms

Loss rate: 1.17%

-- Flow 1:

Average throughput: 42.64 Mbit/s

95th percentile per-packet one-way delay: 248.901 ms

Loss rate: 1.16%

-- Flow 2:

Average throughput: 31.32 Mbit/s

95th percentile per-packet one-way delay: 422.429 ms

Loss rate: 0.75%

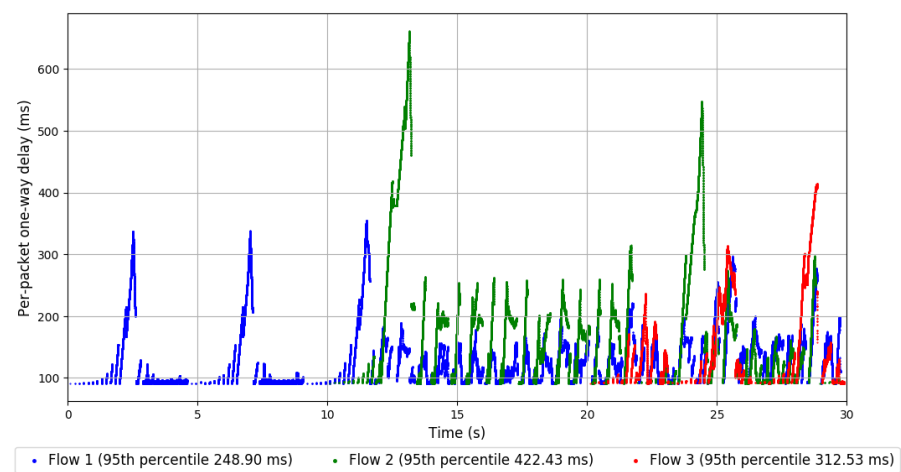
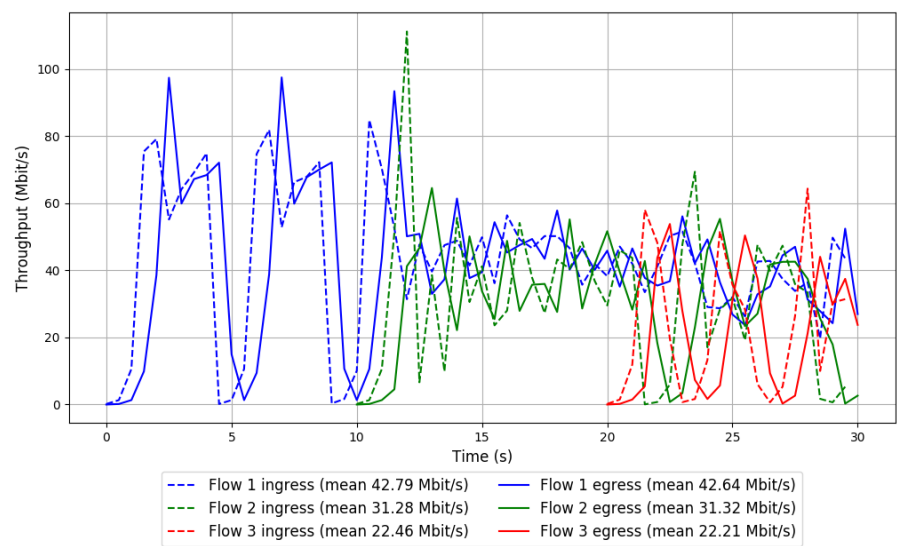
-- Flow 3:

Average throughput: 22.21 Mbit/s

95th percentile per-packet one-way delay: 312.532 ms

Loss rate: 2.42%

Run 3: Report of Verus — Data Link



Run 4: Statistics of Verus

Start at: 2019-01-25 20:56:46

End at: 2019-01-25 20:57:16

Local clock offset: -3.143 ms

Remote clock offset: 5.24 ms

Below is generated by plot.py at 2019-01-25 21:39:45

Datalink statistics

-- Total of 3 flows:

Average throughput: 66.72 Mbit/s

95th percentile per-packet one-way delay: 256.682 ms

Loss rate: 1.25%

-- Flow 1:

Average throughput: 40.87 Mbit/s

95th percentile per-packet one-way delay: 267.200 ms

Loss rate: 0.79%

-- Flow 2:

Average throughput: 28.40 Mbit/s

95th percentile per-packet one-way delay: 261.381 ms

Loss rate: 1.33%

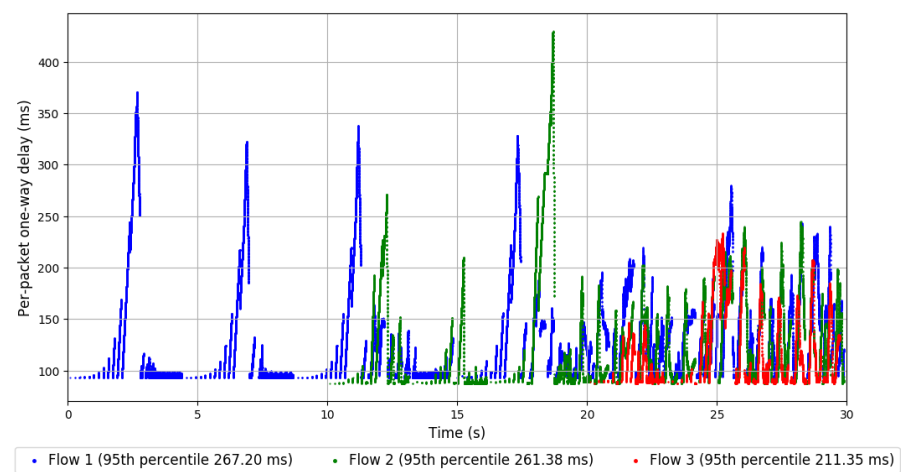
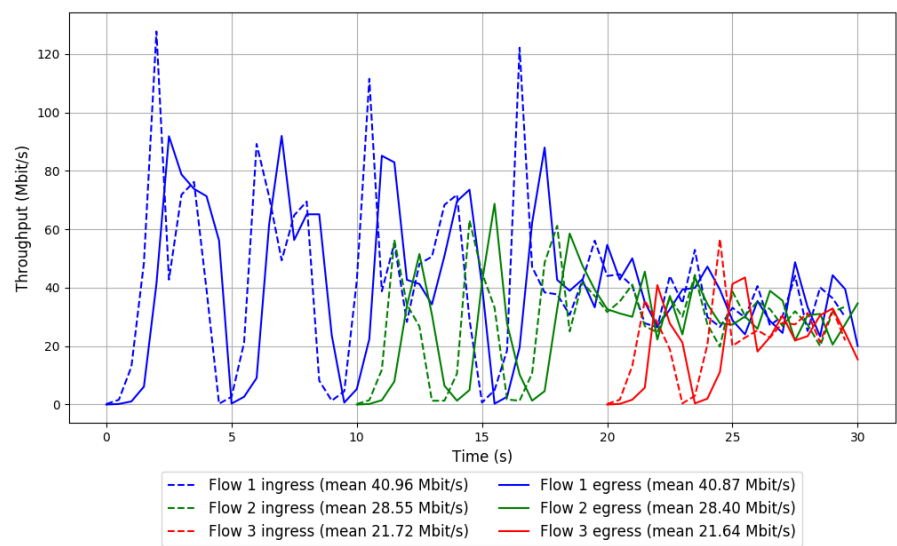
-- Flow 3:

Average throughput: 21.64 Mbit/s

95th percentile per-packet one-way delay: 211.354 ms

Loss rate: 3.61%

Run 4: Report of Verus — Data Link



Run 5: Statistics of Verus

Start at: 2019-01-25 21:23:46

End at: 2019-01-25 21:24:16

Local clock offset: -8.371 ms

Remote clock offset: 6.149 ms

Below is generated by plot.py at 2019-01-25 21:39:50

Datalink statistics

-- Total of 3 flows:

Average throughput: 69.74 Mbit/s

95th percentile per-packet one-way delay: 286.813 ms

Loss rate: 2.01%

-- Flow 1:

Average throughput: 45.51 Mbit/s

95th percentile per-packet one-way delay: 256.358 ms

Loss rate: 1.18%

-- Flow 2:

Average throughput: 27.54 Mbit/s

95th percentile per-packet one-way delay: 344.128 ms

Loss rate: 2.02%

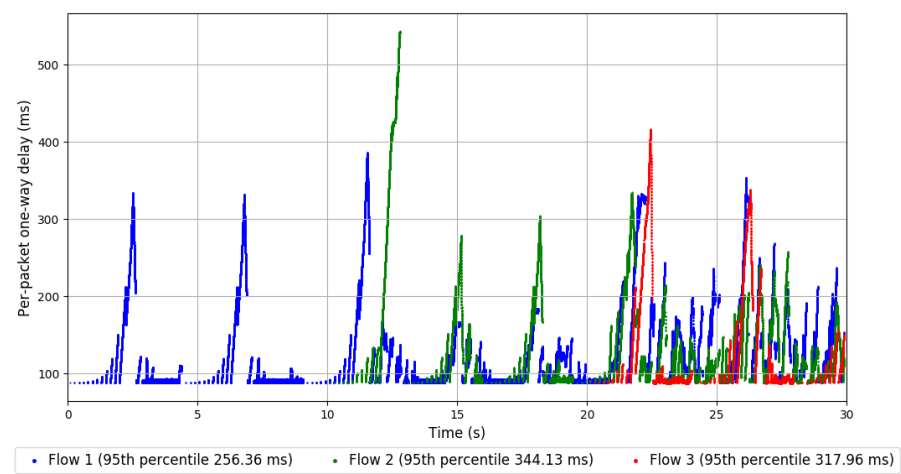
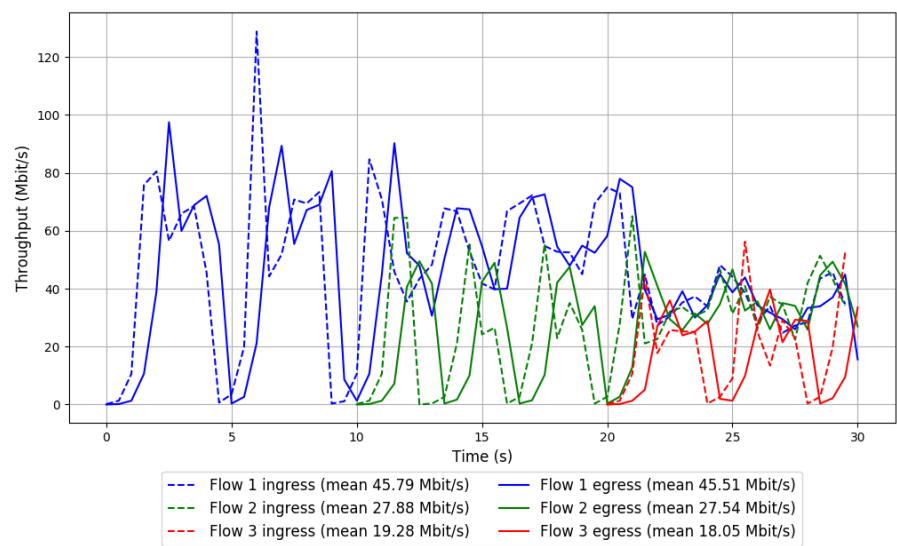
-- Flow 3:

Average throughput: 18.05 Mbit/s

95th percentile per-packet one-way delay: 317.963 ms

Loss rate: 7.96%

Run 5: Report of Verus — Data Link



Run 1: Statistics of PCC-Vivace

Start at: 2019-01-25 19:31:58

End at: 2019-01-25 19:32:28

Local clock offset: -6.754 ms

Remote clock offset: 2.718 ms

Below is generated by plot.py at 2019-01-25 21:40:04

Datalink statistics

-- Total of 3 flows:

Average throughput: 78.42 Mbit/s

95th percentile per-packet one-way delay: 686.971 ms

Loss rate: 2.22%

-- Flow 1:

Average throughput: 50.17 Mbit/s

95th percentile per-packet one-way delay: 703.566 ms

Loss rate: 2.48%

-- Flow 2:

Average throughput: 31.43 Mbit/s

95th percentile per-packet one-way delay: 185.968 ms

Loss rate: 1.41%

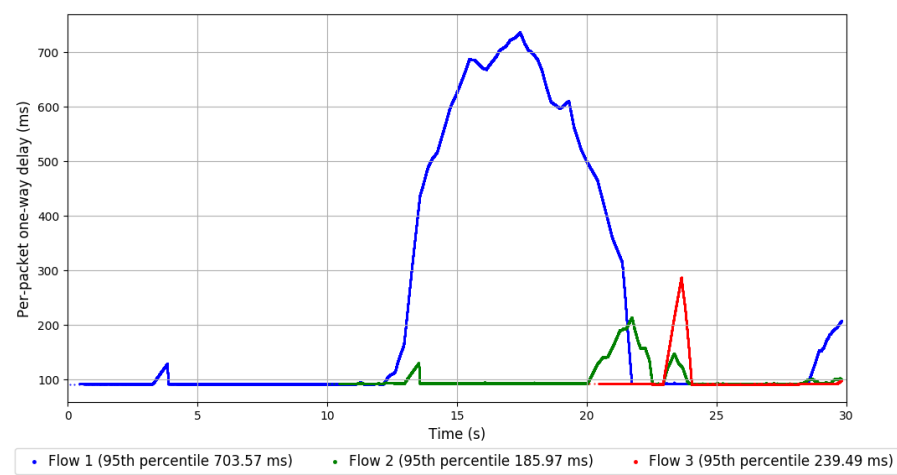
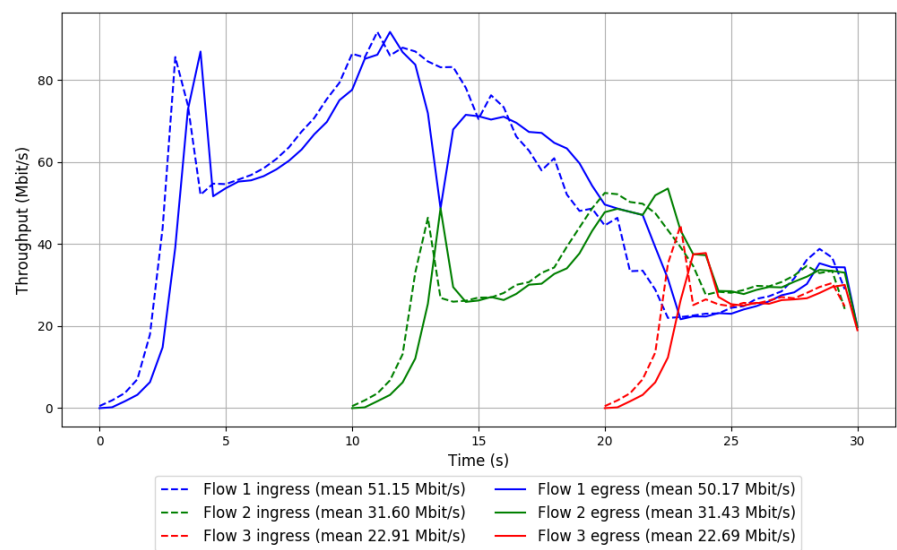
-- Flow 3:

Average throughput: 22.69 Mbit/s

95th percentile per-packet one-way delay: 239.493 ms

Loss rate: 2.69%

Run 1: Report of PCC-Vivace — Data Link



Run 2: Statistics of PCC-Vivace

Start at: 2019-01-25 19:58:56

End at: 2019-01-25 19:59:26

Local clock offset: -6.483 ms

Remote clock offset: 3.215 ms

Below is generated by plot.py at 2019-01-25 21:40:05

Datalink statistics

-- Total of 3 flows:

Average throughput: 77.69 Mbit/s

95th percentile per-packet one-way delay: 536.946 ms

Loss rate: 2.05%

-- Flow 1:

Average throughput: 50.50 Mbit/s

95th percentile per-packet one-way delay: 543.556 ms

Loss rate: 1.58%

-- Flow 2:

Average throughput: 29.89 Mbit/s

95th percentile per-packet one-way delay: 535.331 ms

Loss rate: 2.86%

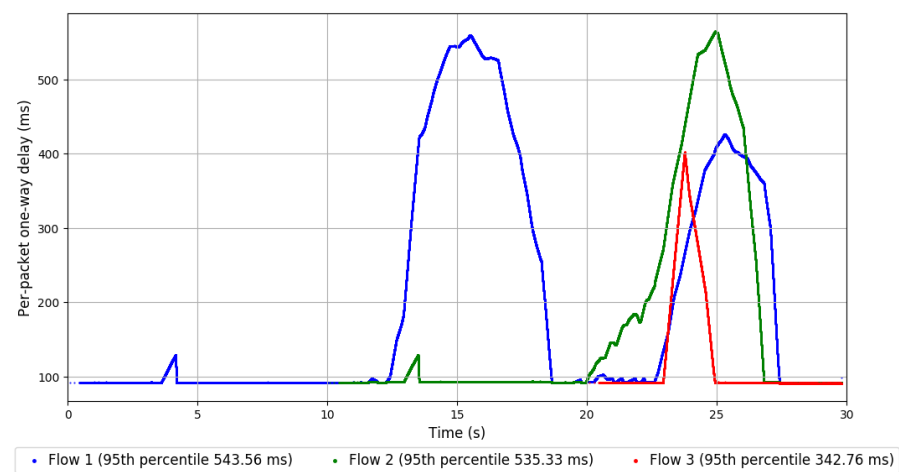
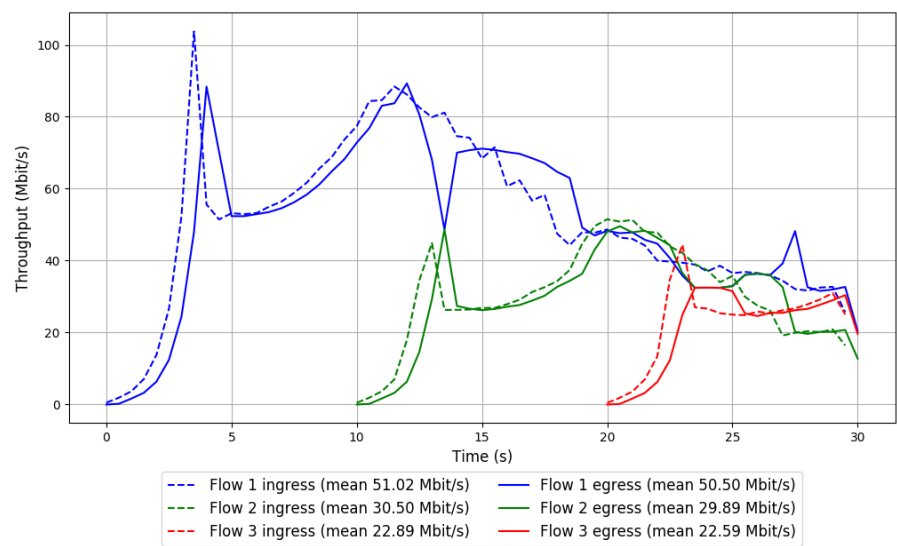
-- Flow 3:

Average throughput: 22.59 Mbit/s

95th percentile per-packet one-way delay: 342.761 ms

Loss rate: 3.02%

Run 2: Report of PCC-Vivace — Data Link



Run 3: Statistics of PCC-Vivace

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

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

Local clock offset: -1.925 ms

Remote clock offset: 1.232 ms

Below is generated by plot.py at 2019-01-25 21:40:15

Datalink statistics

-- Total of 3 flows:

Average throughput: 79.91 Mbit/s

95th percentile per-packet one-way delay: 1936.769 ms

Loss rate: 4.71%

-- Flow 1:

Average throughput: 52.32 Mbit/s

95th percentile per-packet one-way delay: 2048.225 ms

Loss rate: 5.50%

-- Flow 2:

Average throughput: 30.61 Mbit/s

95th percentile per-packet one-way delay: 554.382 ms

Loss rate: 3.20%

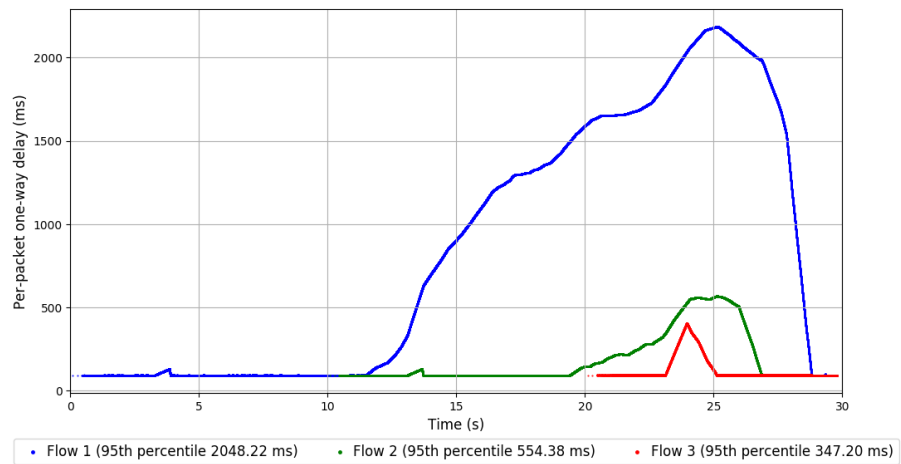
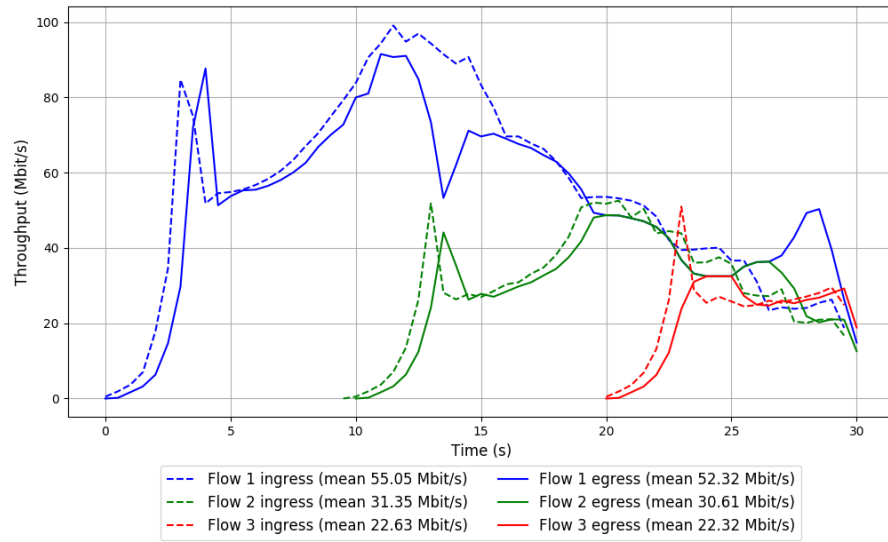
-- Flow 3:

Average throughput: 22.32 Mbit/s

95th percentile per-packet one-way delay: 347.205 ms

Loss rate: 3.09%

Run 3: Report of PCC-Vivace — Data Link



Run 4: Statistics of PCC-Vivace

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

End at: 2019-01-25 20:53:23

Local clock offset: -2.452 ms

Remote clock offset: 5.431 ms

Below is generated by plot.py at 2019-01-25 21:40:16

Datalink statistics

-- Total of 3 flows:

Average throughput: 79.31 Mbit/s

95th percentile per-packet one-way delay: 915.929 ms

Loss rate: 3.73%

-- Flow 1:

Average throughput: 49.77 Mbit/s

95th percentile per-packet one-way delay: 634.670 ms

Loss rate: 1.84%

-- Flow 2:

Average throughput: 33.66 Mbit/s

95th percentile per-packet one-way delay: 975.425 ms

Loss rate: 7.95%

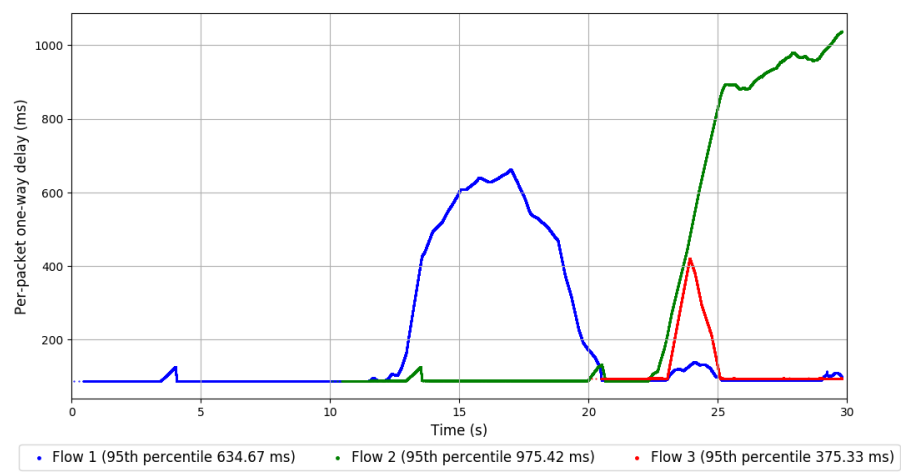
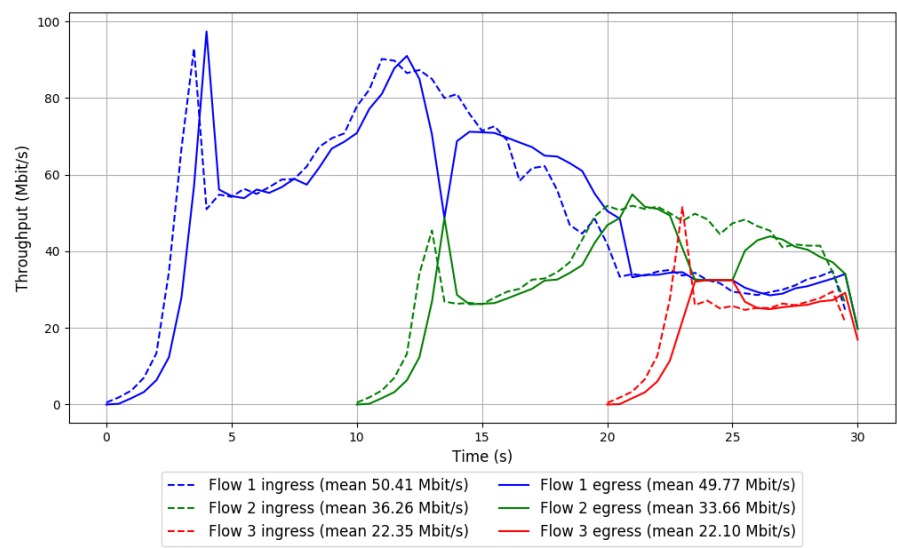
-- Flow 3:

Average throughput: 22.10 Mbit/s

95th percentile per-packet one-way delay: 375.327 ms

Loss rate: 2.94%

Run 4: Report of PCC-Vivace — Data Link



Run 5: Statistics of PCC-Vivace

Start at: 2019-01-25 21:19:52

End at: 2019-01-25 21:20:22

Local clock offset: -7.955 ms

Remote clock offset: 6.68 ms

Below is generated by plot.py at 2019-01-25 21:40:17

Datalink statistics

-- Total of 3 flows:

Average throughput: 79.65 Mbit/s

95th percentile per-packet one-way delay: 1492.494 ms

Loss rate: 5.07%

-- Flow 1:

Average throughput: 50.61 Mbit/s

95th percentile per-packet one-way delay: 1616.922 ms

Loss rate: 6.62%

-- Flow 2:

Average throughput: 32.23 Mbit/s

95th percentile per-packet one-way delay: 197.490 ms

Loss rate: 2.05%

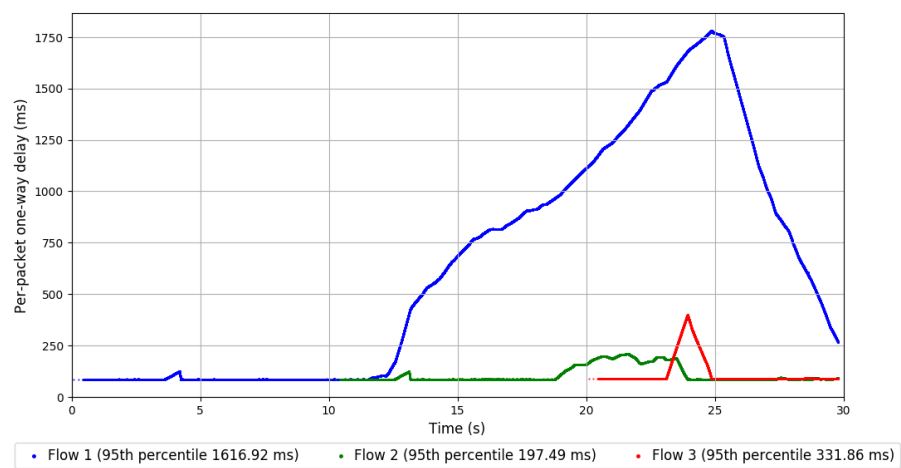
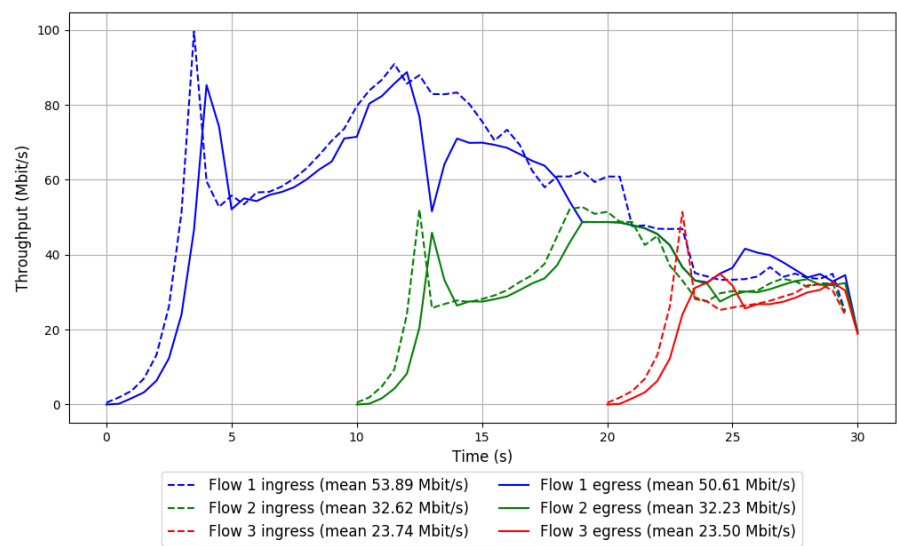
-- Flow 3:

Average throughput: 23.50 Mbit/s

95th percentile per-packet one-way delay: 331.858 ms

Loss rate: 2.74%

Run 5: Report of PCC-Vivace — Data Link



Run 1: Statistics of WebRTC media

Start at: 2019-01-25 19:11:26

End at: 2019-01-25 19:11:56

Local clock offset: -5.653 ms

Remote clock offset: 1.191 ms

Below is generated by plot.py at 2019-01-25 21:40:17

Datalink statistics

-- Total of 3 flows:

Average throughput: 2.96 Mbit/s

95th percentile per-packet one-way delay: 93.853 ms

Loss rate: 0.62%

-- Flow 1:

Average throughput: 1.69 Mbit/s

95th percentile per-packet one-way delay: 93.170 ms

Loss rate: 0.36%

-- Flow 2:

Average throughput: 0.91 Mbit/s

95th percentile per-packet one-way delay: 93.999 ms

Loss rate: 0.76%

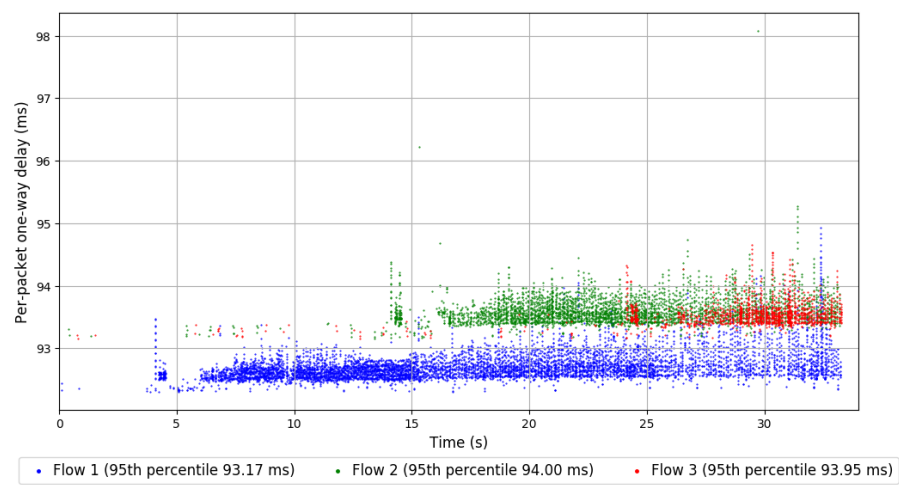
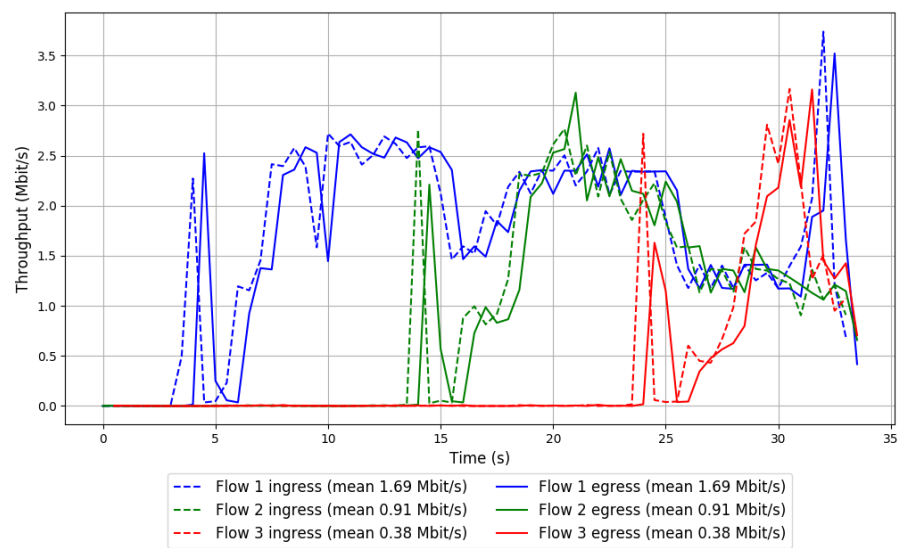
-- Flow 3:

Average throughput: 0.38 Mbit/s

95th percentile per-packet one-way delay: 93.947 ms

Loss rate: 1.47%

Run 1: Report of WebRTC media — Data Link



Run 2: Statistics of WebRTC media

Start at: 2019-01-25 19:38:25

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

Local clock offset: -6.448 ms

Remote clock offset: 6.91 ms

Below is generated by plot.py at 2019-01-25 21:40:17

Datalink statistics

-- Total of 3 flows:

Average throughput: 2.98 Mbit/s

95th percentile per-packet one-way delay: 88.583 ms

Loss rate: 0.54%

-- Flow 1:

Average throughput: 1.70 Mbit/s

95th percentile per-packet one-way delay: 88.586 ms

Loss rate: 0.33%

-- Flow 2:

Average throughput: 0.91 Mbit/s

95th percentile per-packet one-way delay: 88.175 ms

Loss rate: 0.77%

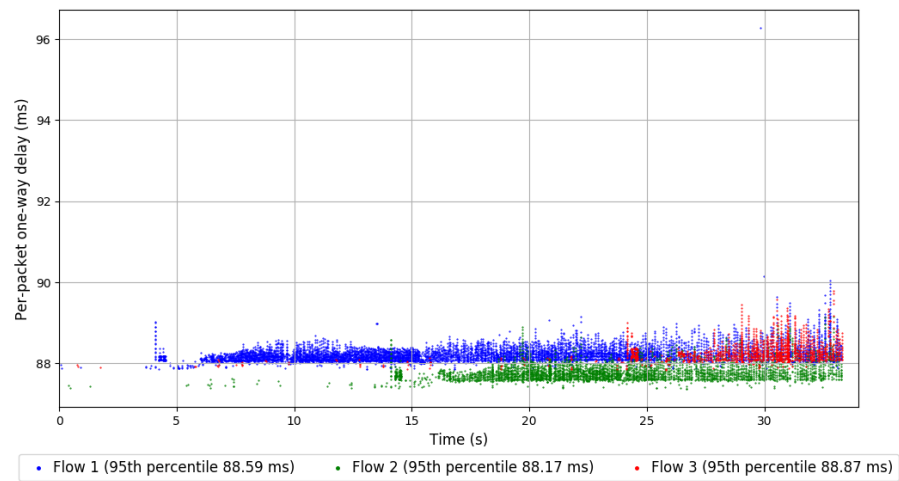
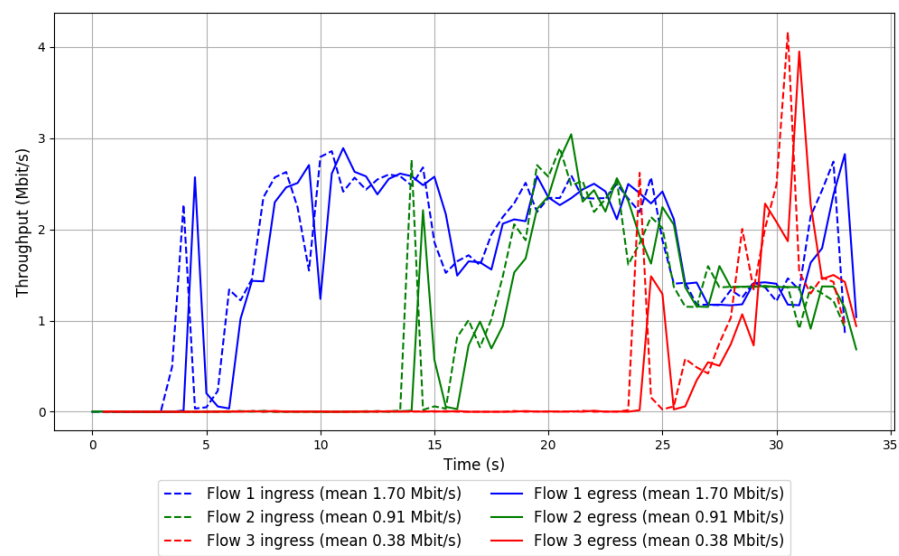
-- Flow 3:

Average throughput: 0.38 Mbit/s

95th percentile per-packet one-way delay: 88.871 ms

Loss rate: 0.94%

Run 2: Report of WebRTC media — Data Link



Run 3: Statistics of WebRTC media

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

End at: 2019-01-25 20:05:52

Local clock offset: -4.773 ms

Remote clock offset: 6.059 ms

Below is generated by plot.py at 2019-01-25 21:40:17

Datalink statistics

-- Total of 3 flows:

Average throughput: 2.98 Mbit/s

95th percentile per-packet one-way delay: 87.751 ms

Loss rate: 0.59%

-- Flow 1:

Average throughput: 1.70 Mbit/s

95th percentile per-packet one-way delay: 87.823 ms

Loss rate: 0.25%

-- Flow 2:

Average throughput: 0.92 Mbit/s

95th percentile per-packet one-way delay: 87.006 ms

Loss rate: 0.70%

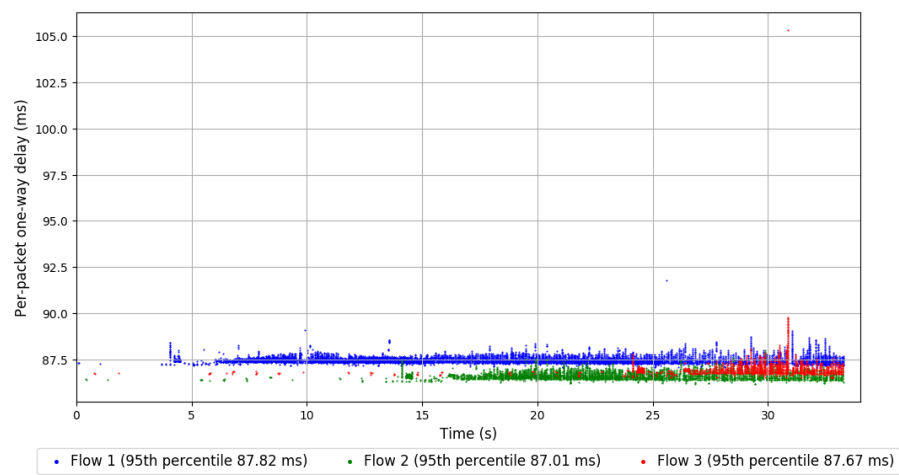
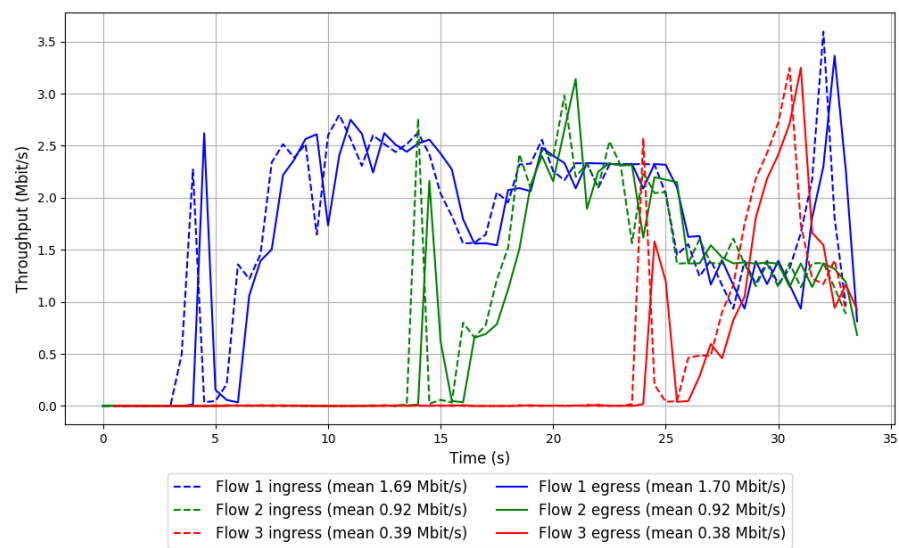
-- Flow 3:

Average throughput: 0.38 Mbit/s

95th percentile per-packet one-way delay: 87.666 ms

Loss rate: 1.82%

Run 3: Report of WebRTC media — Data Link



Run 4: Statistics of WebRTC media

Start at: 2019-01-25 20:32:22

End at: 2019-01-25 20:32:52

Local clock offset: -1.42 ms

Remote clock offset: 5.938 ms

Below is generated by plot.py at 2019-01-25 21:40:17

Datalink statistics

-- Total of 3 flows:

Average throughput: 2.99 Mbit/s

95th percentile per-packet one-way delay: 88.510 ms

Loss rate: 0.61%

-- Flow 1:

Average throughput: 1.70 Mbit/s

95th percentile per-packet one-way delay: 88.426 ms

Loss rate: 0.36%

-- Flow 2:

Average throughput: 0.93 Mbit/s

95th percentile per-packet one-way delay: 88.507 ms

Loss rate: 0.76%

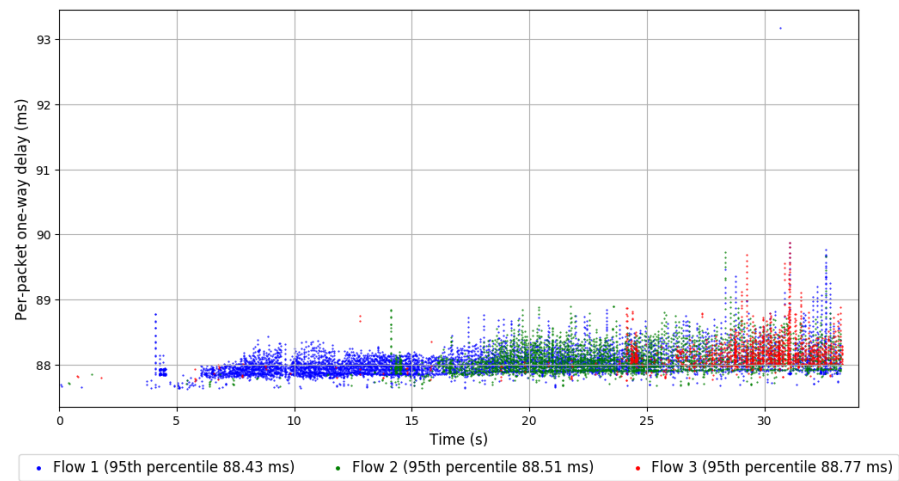
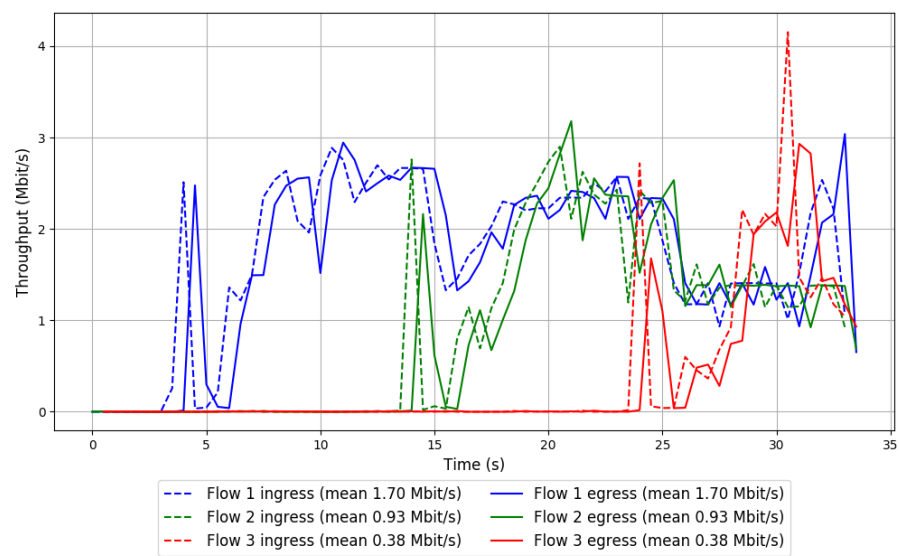
-- Flow 3:

Average throughput: 0.38 Mbit/s

95th percentile per-packet one-way delay: 88.773 ms

Loss rate: 1.39%

Run 4: Report of WebRTC media — Data Link



Run 5: Statistics of WebRTC media

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

End at: 2019-01-25 20:59:50

Local clock offset: -3.114 ms

Remote clock offset: 5.153 ms

Below is generated by plot.py at 2019-01-25 21:40:17

Datalink statistics

-- Total of 3 flows:

Average throughput: 2.89 Mbit/s

95th percentile per-packet one-way delay: 93.999 ms

Loss rate: 0.61%

-- Flow 1:

Average throughput: 1.64 Mbit/s

95th percentile per-packet one-way delay: 88.064 ms

Loss rate: 0.23%

-- Flow 2:

Average throughput: 0.91 Mbit/s

95th percentile per-packet one-way delay: 88.676 ms

Loss rate: 0.77%

-- Flow 3:

Average throughput: 0.36 Mbit/s

95th percentile per-packet one-way delay: 94.464 ms

Loss rate: 1.91%

Run 5: Report of WebRTC media — Data Link

