

Pantheon Report

Generated at 2017-12-06 08:56:55 (UTC).

Data path: GCE London Ethernet (*remote*) → GCE Iowa Ethernet (*local*).

Repeated the test of 14 congestion control schemes 10 times.

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

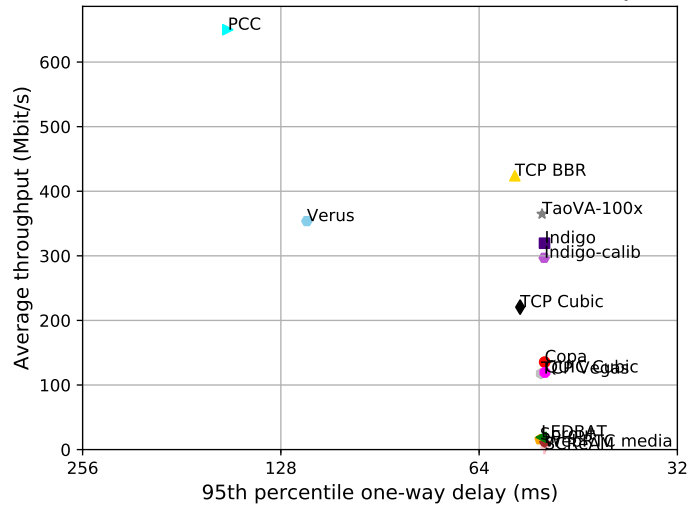
Increased UDP receive buffer to 16 MB (default) and 32 MB (max).

Tested BBR with qdisc of Fair Queuing (**fq**), and other schemes with the default Linux qdisc (**pfifo.fast**).

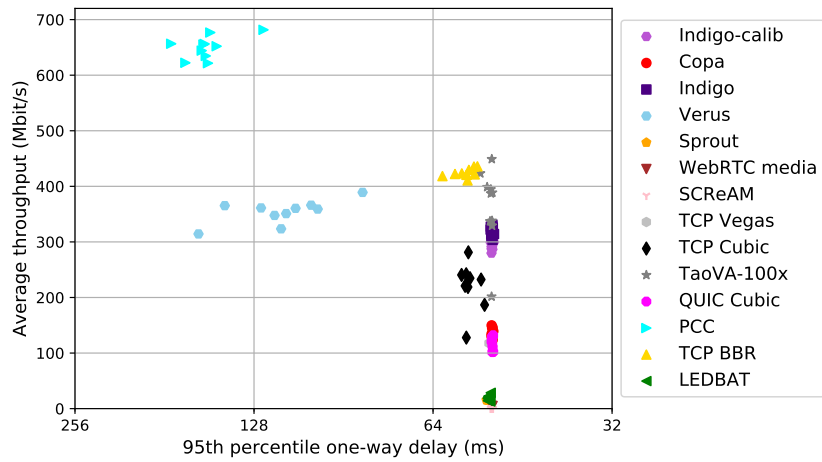
Git summary:

```
branch: indigos @ e3a57ad5ac5cfcaca0e3f983c8dd4cc3509e0262
third_party/calibrated_koho @ 3cb73c0d1c0322cdfae446ea37a522e53227db50
M datagrump/sender.cc
third_party/genericCC @ b5b7c38e8391001927dc41c6cfa2627d03dde737
third_party/indigo @ b19f3730105f9aa95452552af924e3719b03cc55
third_party/indigo-cellular @ aee99e8eb842cb053f8c9a80e28cd256a930bbc2
third_party/indigo-no-calib @ 7224f2202e8a044d8306fa0b983ad84360c53d89
third_party/indigo-no-cwnd @ 3e58442c04028a11d7b02456e137604633ba2d6c
third_party/indigo-no-delivery-rate @ 57caa40858b964906edff4876d5a7e5bfff666c5
third_party/indigo-no-queuing-delay @ 03455460fd1a8ffbdad86fab936fdca204b80db
third_party/indigo-no-send-rate @ b39dfa6b2c5f19cb7cd89626cb4f5bb81f9fecda
third_party/koho_cc @ f0f2e693303aee82ea808e6928eac4f1083a6681
M datagrump/sender.cc
third_party/libutp @ b3465b942e2826f2b179eaab4a906ce6bb7cf3cf
third_party/pantheon-tunnel @ baf443516dea3eeddeccaf9b916cc313273ca4f4
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/proto-quick @ 77961f1a82733a86b42f1bc8143ebc978f3cff42
third_party/scream @ c3370fd7bd17265a79aeb34e4016ad23f5965885
third_party/sourdough @ f1a14bffe749737437f61b1eae30b267cde681
third_party/sprout @ 6f2efe6e088d91066a9f023df375eee2665089ce
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/webRTC @ a488197ddd041ace68a42849b2540ad834825f42
```

test from GCE London Ethernet to GCE Iowa Ethernet, 10 runs of 30s each per scheme
 3 flows with 10s interval between flows (mean of all runs by scheme)



test from GCE London Ethernet to GCE Iowa Ethernet, 10 runs of 30s each per scheme
 3 flows with 10s interval between flows



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	10	216.24	212.81	201.33	55.40	56.58	58.58	0.35	0.52	1.07
TCP Cubic	9	111.74	105.94	116.89	55.26	54.79	54.71	0.34	0.53	1.14
LEDBAT	10	9.87	9.66	8.28	51.49	51.43	51.31	0.94	1.33	2.25
PCC	10	600.19	60.50	30.13	154.89	152.27	151.80	1.57	1.69	2.80
QUIC Cubic	10	65.90	55.11	51.63	50.80	50.49	50.64	0.32	0.55	1.33
SCReAM	10	0.22	0.22	0.22	50.88	50.79	50.71	0.25	0.48	1.11
WebRTC media	2	2.14	1.83	0.75	50.74	50.55	50.69	0.50	0.65	1.40
Sprout	10	7.90	7.80	7.52	51.73	51.74	51.51	0.48	0.81	1.11
TaoVA-100x	10	183.20	203.73	185.51	63.24	51.18	52.63	7.50	0.69	1.75
TCP Vegas	1	34.26	48.08	156.55	51.19	51.38	51.99	0.35	0.47	0.21
Verus	10	193.99	183.04	117.84	113.86	124.50	112.59	1.20	0.65	2.03
Copa	10	72.60	69.50	65.30	50.85	50.87	50.84	0.31	0.41	1.47
Indigo	10	172.33	158.77	129.37	50.86	51.00	50.97	0.33	0.48	1.08
Indigo-calib	10	156.44	147.65	131.24	50.93	51.02	50.91	0.25	0.39	0.94

Run 1: Statistics of TCP BBR

Start at: 2017-12-06 03:40:25

End at: 2017-12-06 03:40:55

Below is generated by plot.py at 2017-12-06 07:50:03

Datalink statistics

-- Total of 3 flows:

Average throughput: 410.44 Mbit/s

95th percentile per-packet one-way delay: 55.993 ms

Loss rate: 0.53%

-- Flow 1:

Average throughput: 210.27 Mbit/s

95th percentile per-packet one-way delay: 55.157 ms

Loss rate: 0.40%

-- Flow 2:

Average throughput: 203.51 Mbit/s

95th percentile per-packet one-way delay: 55.812 ms

Loss rate: 0.60%

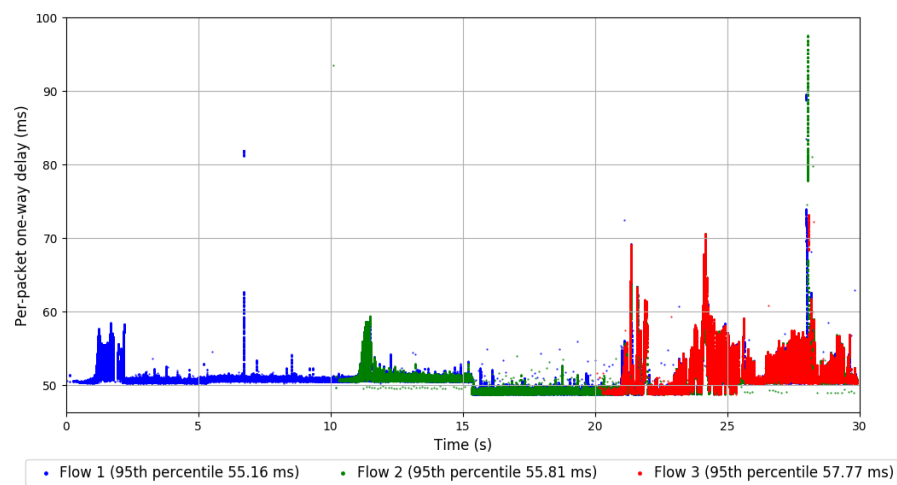
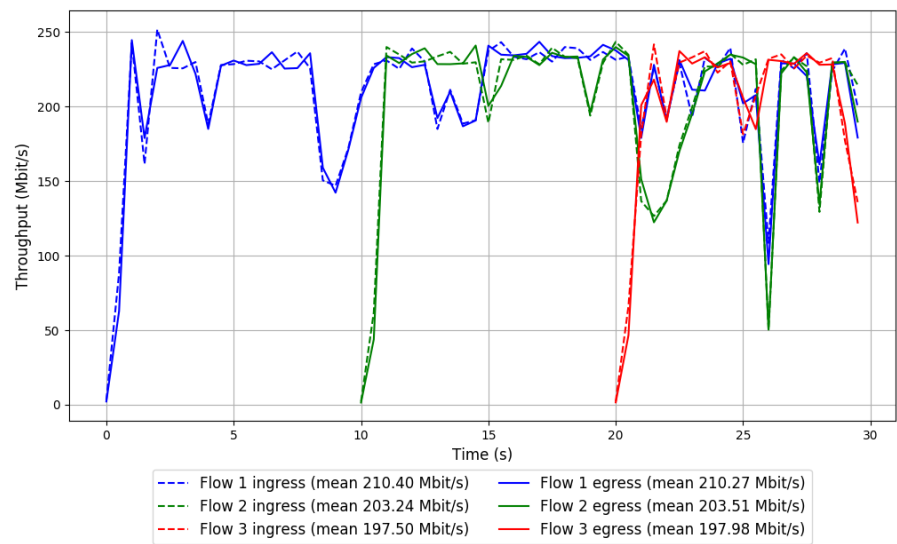
-- Flow 3:

Average throughput: 197.98 Mbit/s

95th percentile per-packet one-way delay: 57.775 ms

Loss rate: 0.80%

Run 1: Report of TCP BBR — Data Link



Run 2: Statistics of TCP BBR

Start at: 2017-12-06 03:52:57

End at: 2017-12-06 03:53:27

Below is generated by plot.py at 2017-12-06 07:50:17

Datalink statistics

-- Total of 3 flows:

Average throughput: 418.39 Mbit/s

95th percentile per-packet one-way delay: 61.714 ms

Loss rate: 0.63%

-- Flow 1:

Average throughput: 212.11 Mbit/s

95th percentile per-packet one-way delay: 59.617 ms

Loss rate: 0.51%

-- Flow 2:

Average throughput: 208.83 Mbit/s

95th percentile per-packet one-way delay: 61.943 ms

Loss rate: 0.58%

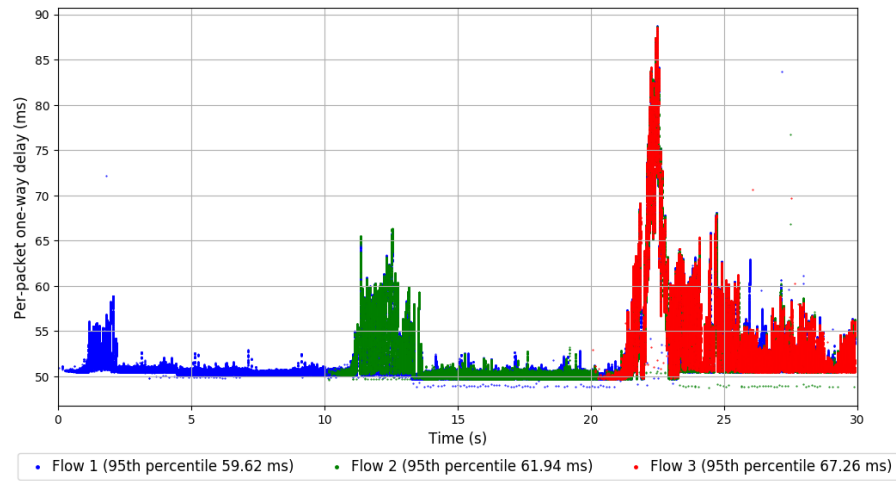
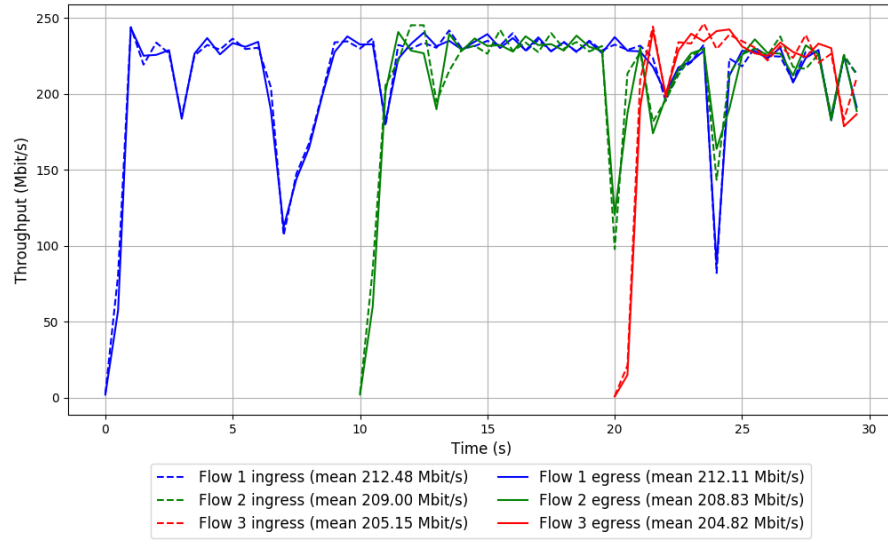
-- Flow 3:

Average throughput: 204.82 Mbit/s

95th percentile per-packet one-way delay: 67.259 ms

Loss rate: 1.12%

Run 2: Report of TCP BBR — Data Link



Run 3: Statistics of TCP BBR

Start at: 2017-12-06 04:05:32

End at: 2017-12-06 04:06:02

Below is generated by plot.py at 2017-12-06 07:50:17

Datalink statistics

-- Total of 3 flows:

Average throughput: 421.13 Mbit/s

95th percentile per-packet one-way delay: 56.200 ms

Loss rate: 0.56%

-- Flow 1:

Average throughput: 213.91 Mbit/s

95th percentile per-packet one-way delay: 54.805 ms

Loss rate: 0.36%

-- Flow 2:

Average throughput: 209.49 Mbit/s

95th percentile per-packet one-way delay: 57.125 ms

Loss rate: 0.57%

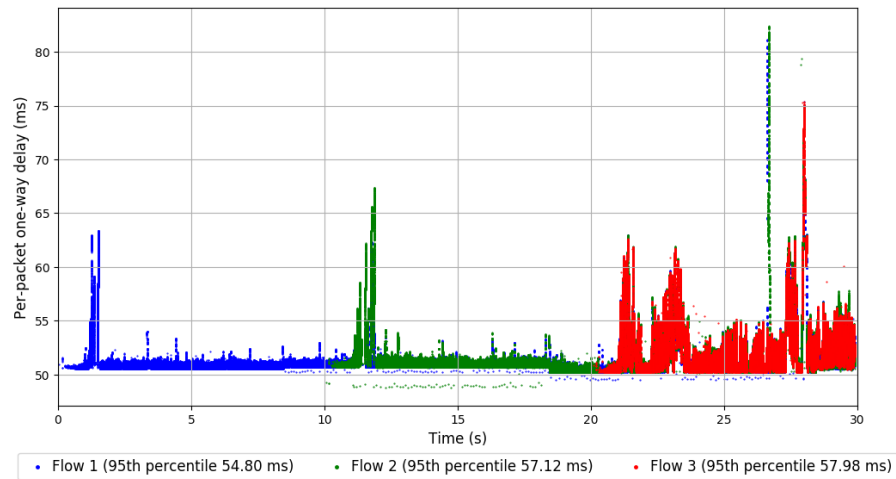
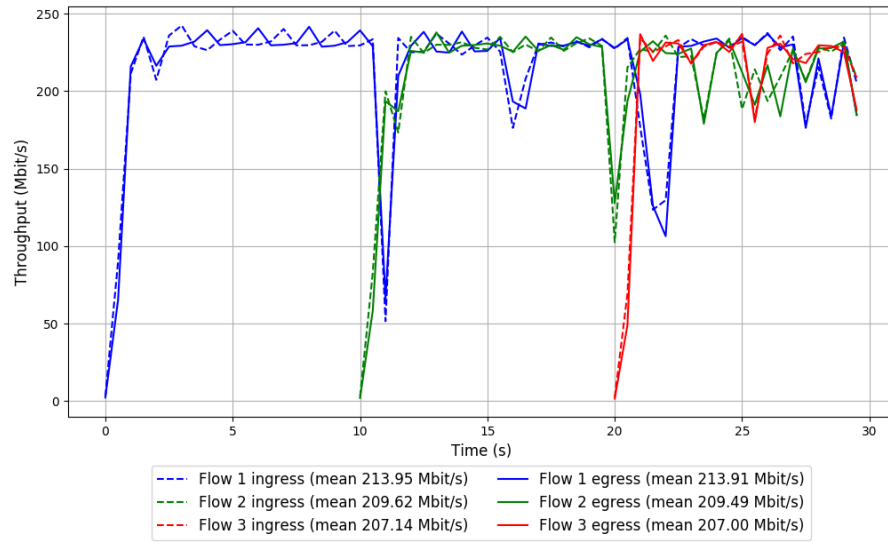
-- Flow 3:

Average throughput: 207.00 Mbit/s

95th percentile per-packet one-way delay: 57.978 ms

Loss rate: 1.17%

Run 3: Report of TCP BBR — Data Link



Run 4: Statistics of TCP BBR

Start at: 2017-12-06 04:17:46

End at: 2017-12-06 04:18:16

Below is generated by plot.py at 2017-12-06 07:50:27

Datalink statistics

-- Total of 3 flows:

Average throughput: 429.63 Mbit/s

95th percentile per-packet one-way delay: 55.717 ms

Loss rate: 0.55%

-- Flow 1:

Average throughput: 219.82 Mbit/s

95th percentile per-packet one-way delay: 55.086 ms

Loss rate: 0.35%

-- Flow 2:

Average throughput: 213.79 Mbit/s

95th percentile per-packet one-way delay: 56.427 ms

Loss rate: 0.64%

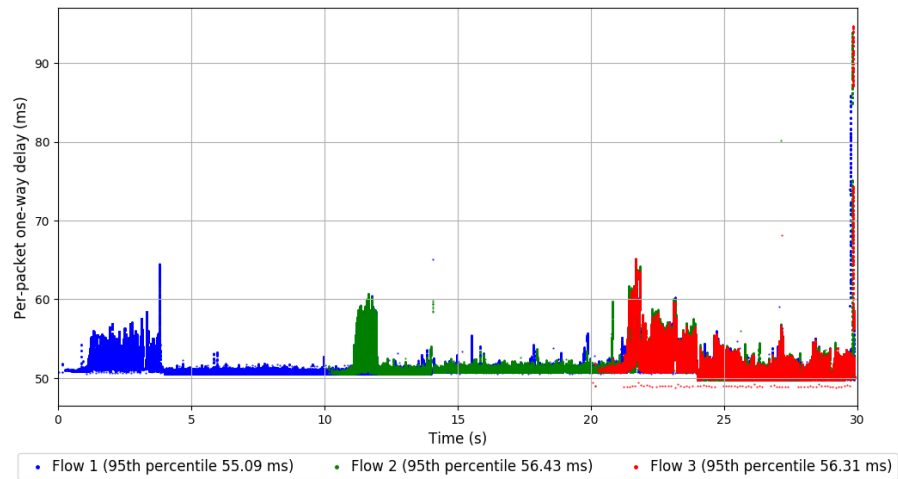
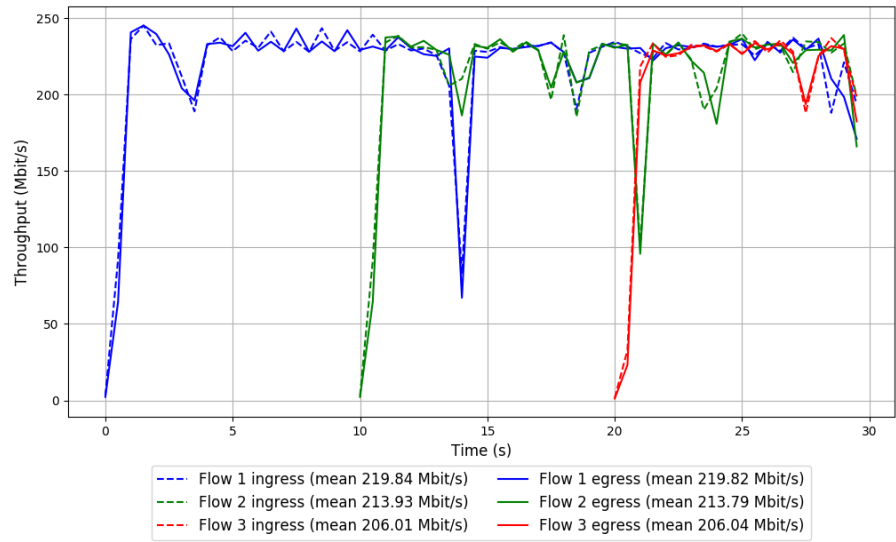
-- Flow 3:

Average throughput: 206.04 Mbit/s

95th percentile per-packet one-way delay: 56.313 ms

Loss rate: 0.99%

Run 4: Report of TCP BBR — Data Link



Run 5: Statistics of TCP BBR

Start at: 2017-12-06 04:30:04

End at: 2017-12-06 04:30:34

Below is generated by plot.py at 2017-12-06 07:50:27

Datalink statistics

-- Total of 3 flows:

Average throughput: 421.54 Mbit/s

95th percentile per-packet one-way delay: 54.467 ms

Loss rate: 0.54%

-- Flow 1:

Average throughput: 215.07 Mbit/s

95th percentile per-packet one-way delay: 53.930 ms

Loss rate: 0.36%

-- Flow 2:

Average throughput: 211.71 Mbit/s

95th percentile per-packet one-way delay: 54.132 ms

Loss rate: 0.58%

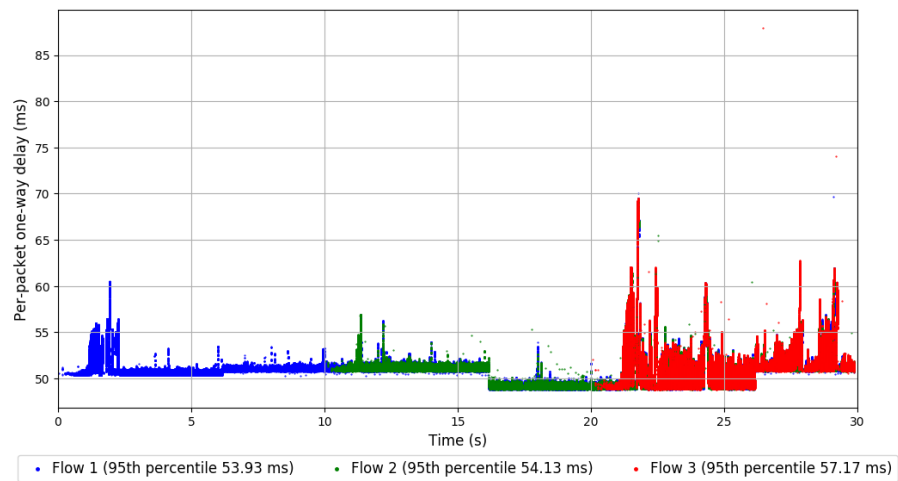
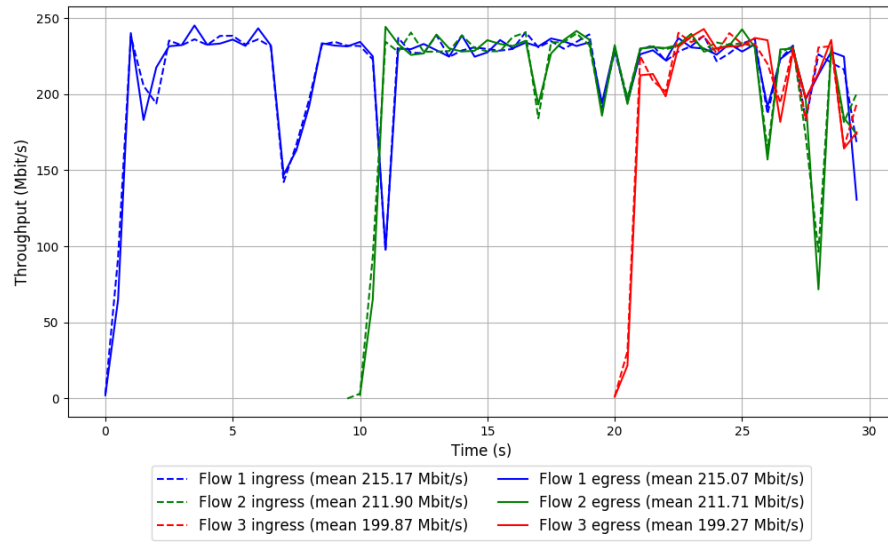
-- Flow 3:

Average throughput: 199.27 Mbit/s

95th percentile per-packet one-way delay: 57.167 ms

Loss rate: 1.05%

Run 5: Report of TCP BBR — Data Link



Run 6: Statistics of TCP BBR

Start at: 2017-12-06 04:42:43

End at: 2017-12-06 04:43:13

Below is generated by plot.py at 2017-12-06 07:50:36

Datalink statistics

-- Total of 3 flows:

Average throughput: 435.59 Mbit/s

95th percentile per-packet one-way delay: 54.628 ms

Loss rate: 0.29%

-- Flow 1:

Average throughput: 222.52 Mbit/s

95th percentile per-packet one-way delay: 54.451 ms

Loss rate: 0.35%

-- Flow 2:

Average throughput: 221.46 Mbit/s

95th percentile per-packet one-way delay: 54.319 ms

Loss rate: 0.00%

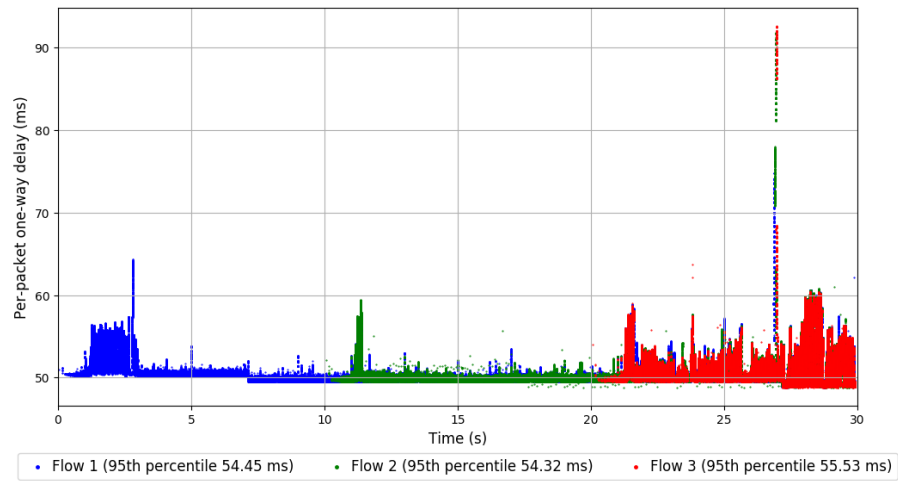
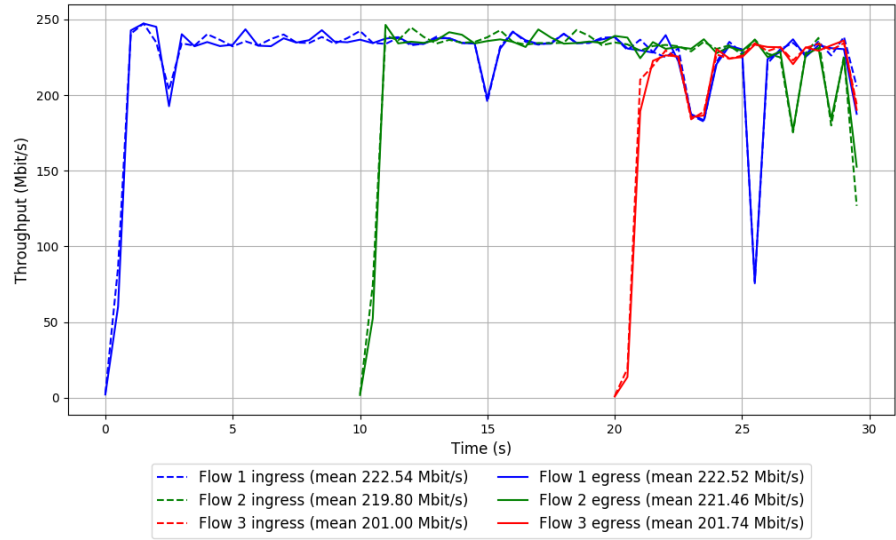
-- Flow 3:

Average throughput: 201.74 Mbit/s

95th percentile per-packet one-way delay: 55.530 ms

Loss rate: 0.70%

Run 6: Report of TCP BBR — Data Link

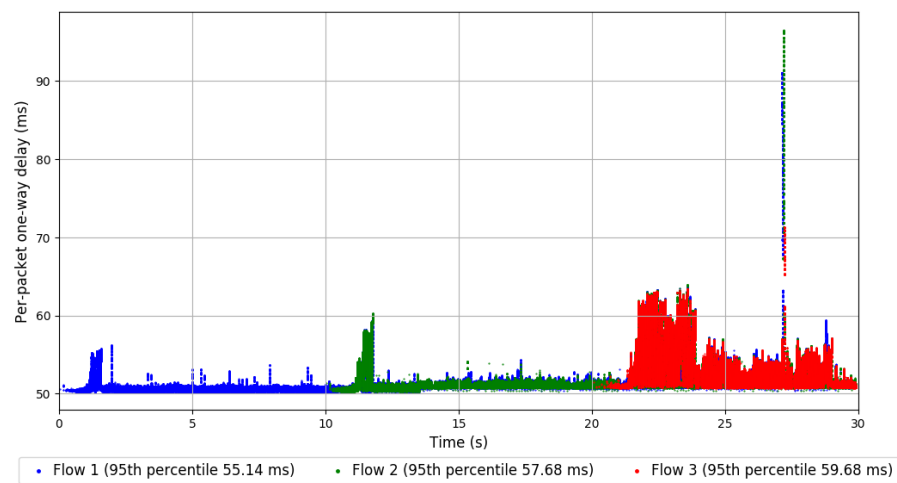
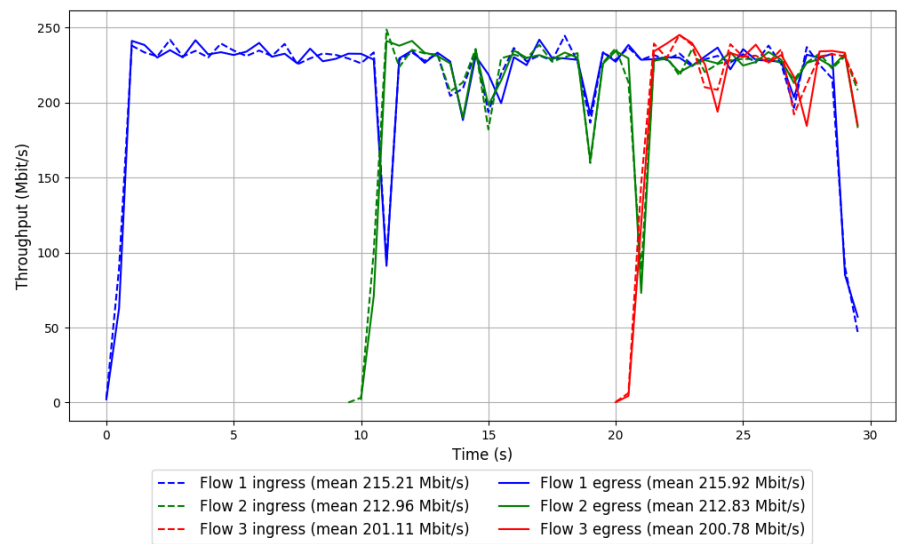


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Run 7: Statistics of TCP BBR

Start at: 2017-12-06 04:55:07
End at: 2017-12-06 04:55:37

# Below is generated by plot.py at 2017-12-06 07:50:36
# Datalink statistics
-- Total of 3 flows:
Average throughput: 423.33 Mbit/s
95th percentile per-packet one-way delay: 57.258 ms
Loss rate: 0.38%
-- Flow 1:
Average throughput: 215.92 Mbit/s
95th percentile per-packet one-way delay: 55.142 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 212.83 Mbit/s
95th percentile per-packet one-way delay: 57.677 ms
Loss rate: 0.58%
-- Flow 3:
Average throughput: 200.78 Mbit/s
95th percentile per-packet one-way delay: 59.678 ms
Loss rate: 1.17%
```

Run 7: Report of TCP BBR — Data Link



Run 8: Statistics of TCP BBR

Start at: 2017-12-06 05:07:17

End at: 2017-12-06 05:07:47

Below is generated by plot.py at 2017-12-06 07:50:36

Datalink statistics

-- Total of 3 flows:

Average throughput: 436.02 Mbit/s

95th percentile per-packet one-way delay: 53.898 ms

Loss rate: 0.55%

-- Flow 1:

Average throughput: 223.94 Mbit/s

95th percentile per-packet one-way delay: 53.508 ms

Loss rate: 0.36%

-- Flow 2:

Average throughput: 220.56 Mbit/s

95th percentile per-packet one-way delay: 53.784 ms

Loss rate: 0.54%

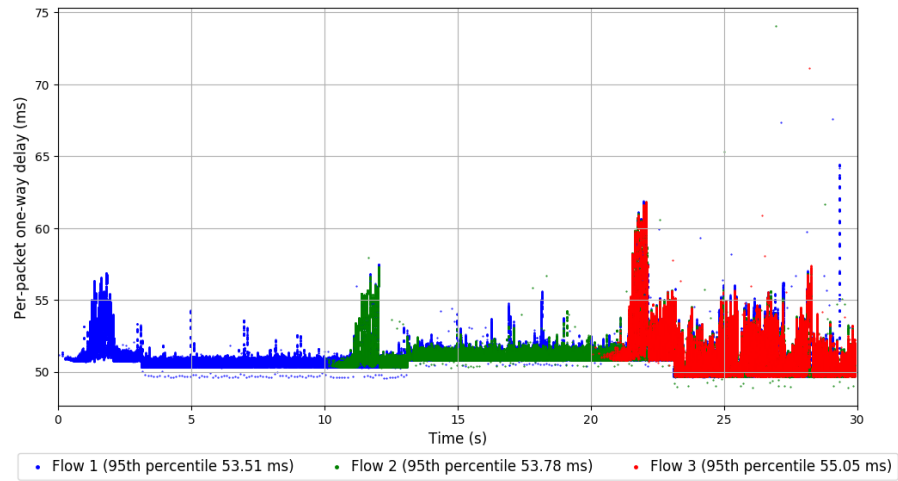
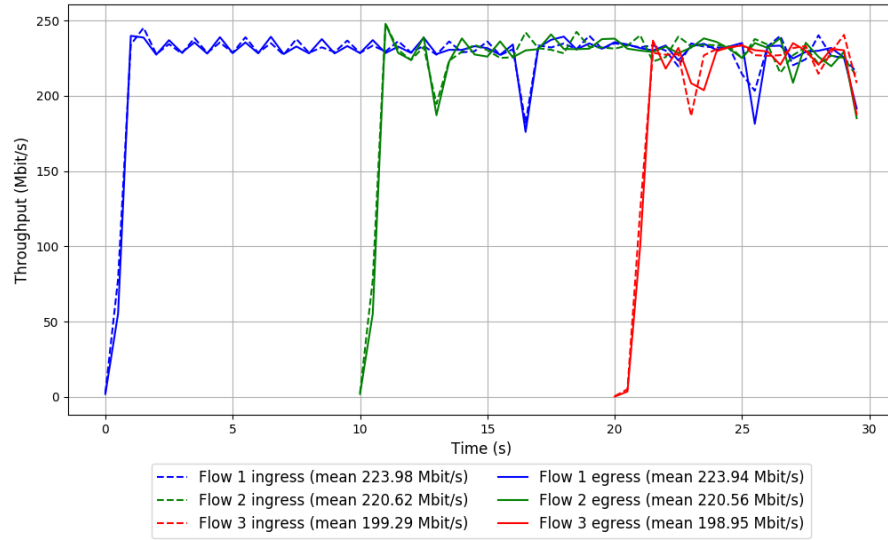
-- Flow 3:

Average throughput: 198.95 Mbit/s

95th percentile per-packet one-way delay: 55.053 ms

Loss rate: 1.20%

Run 8: Report of TCP BBR — Data Link



Run 9: Statistics of TCP BBR

Start at: 2017-12-06 05:19:45

End at: 2017-12-06 05:20:15

Below is generated by plot.py at 2017-12-06 07:57:35

Datalink statistics

-- Total of 3 flows:

Average throughput: 420.66 Mbit/s

95th percentile per-packet one-way delay: 56.207 ms

Loss rate: 0.56%

-- Flow 1:

Average throughput: 213.08 Mbit/s

95th percentile per-packet one-way delay: 55.736 ms

Loss rate: 0.38%

-- Flow 2:

Average throughput: 213.33 Mbit/s

95th percentile per-packet one-way delay: 55.994 ms

Loss rate: 0.55%

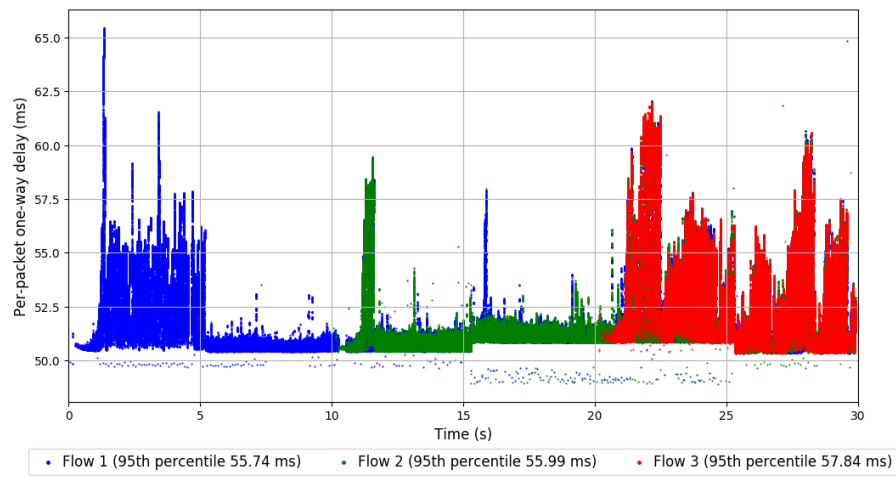
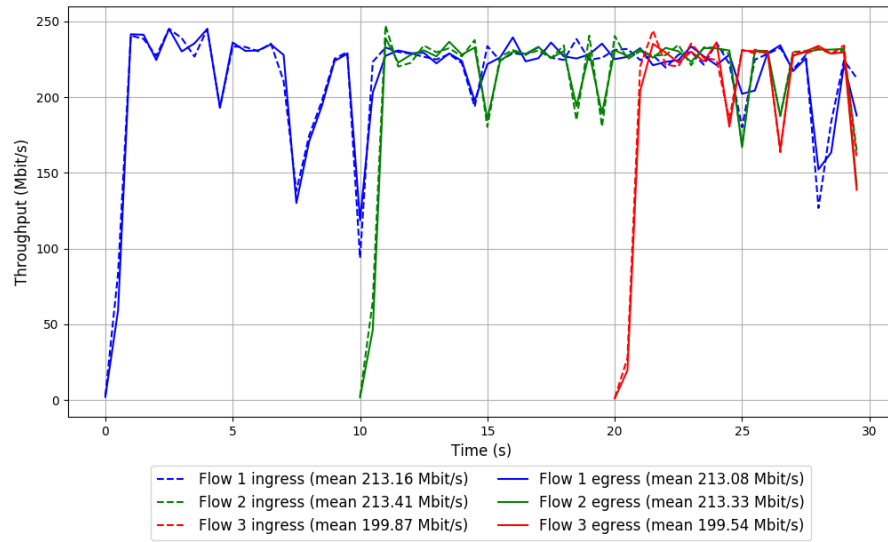
-- Flow 3:

Average throughput: 199.54 Mbit/s

95th percentile per-packet one-way delay: 57.841 ms

Loss rate: 1.20%

Run 9: Report of TCP BBR — Data Link



Run 10: Statistics of TCP BBR

Start at: 2017-12-06 05:32:09

End at: 2017-12-06 05:32:39

Below is generated by plot.py at 2017-12-06 07:57:42

Datalink statistics

-- Total of 3 flows:

Average throughput: 422.24 Mbit/s

95th percentile per-packet one-way delay: 58.786 ms

Loss rate: 0.59%

-- Flow 1:

Average throughput: 215.78 Mbit/s

95th percentile per-packet one-way delay: 56.565 ms

Loss rate: 0.38%

-- Flow 2:

Average throughput: 212.62 Mbit/s

95th percentile per-packet one-way delay: 58.625 ms

Loss rate: 0.57%

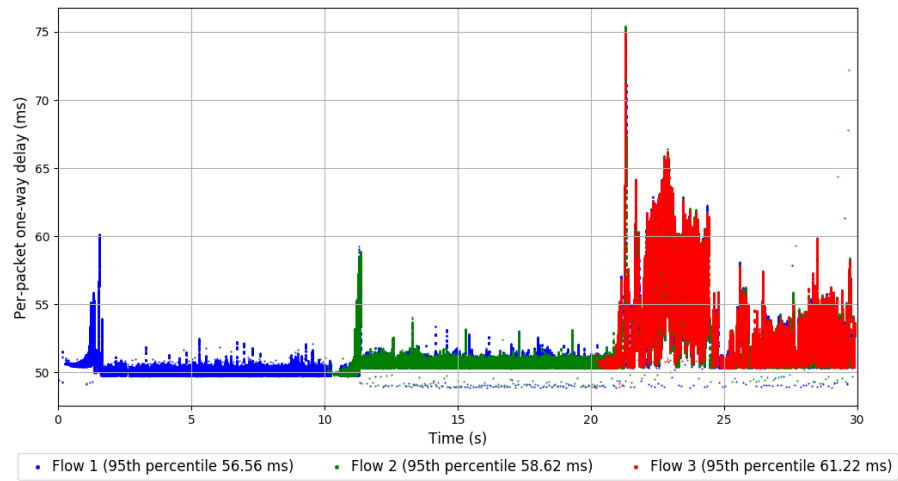
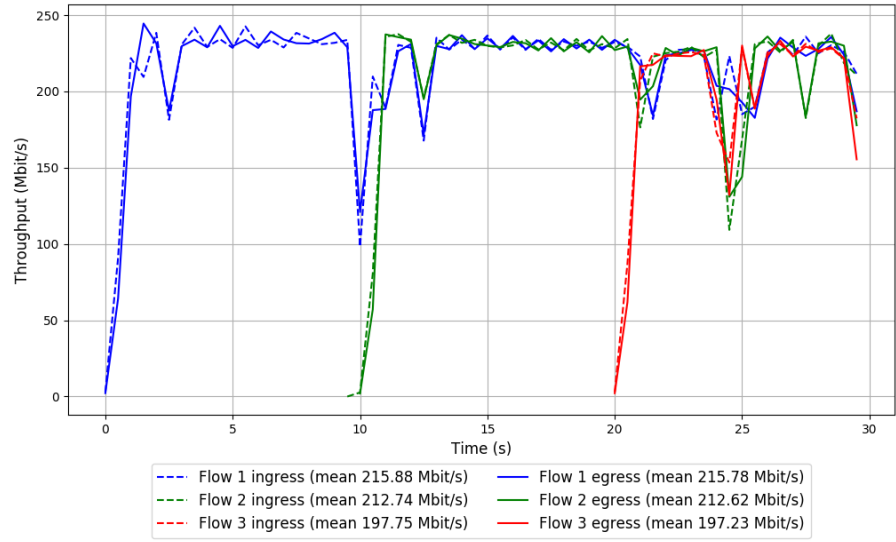
-- Flow 3:

Average throughput: 197.23 Mbit/s

95th percentile per-packet one-way delay: 61.218 ms

Loss rate: 1.28%

Run 10: Report of TCP BBR — Data Link



Run 1: Statistics of TCP Cubic

Start at: 2017-12-06 03:30:48

End at: 2017-12-06 03:31:18

Below is generated by plot.py at 2017-12-06 07:57:42

Datalink statistics

-- Total of 3 flows:

Average throughput: 220.93 Mbit/s

95th percentile per-packet one-way delay: 56.534 ms

Loss rate: 0.42%

-- Flow 1:

Average throughput: 130.15 Mbit/s

95th percentile per-packet one-way delay: 57.095 ms

Loss rate: 0.23%

-- Flow 2:

Average throughput: 80.75 Mbit/s

95th percentile per-packet one-way delay: 54.910 ms

Loss rate: 0.47%

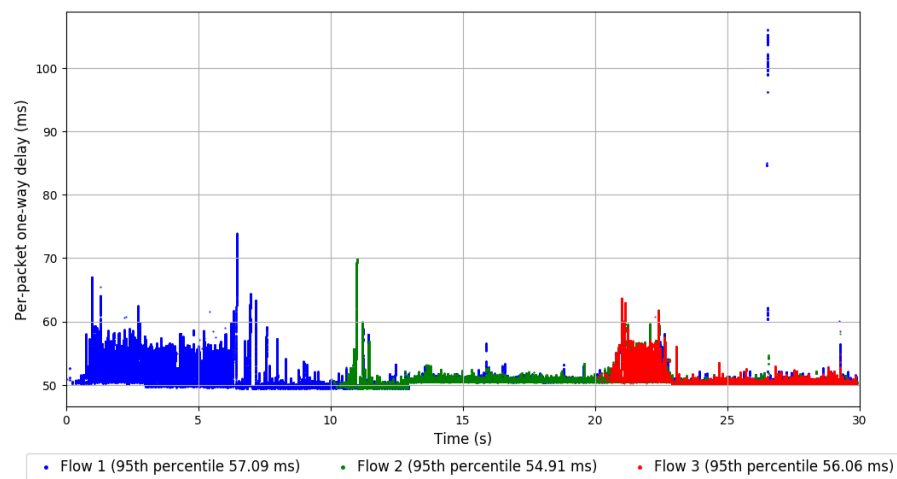
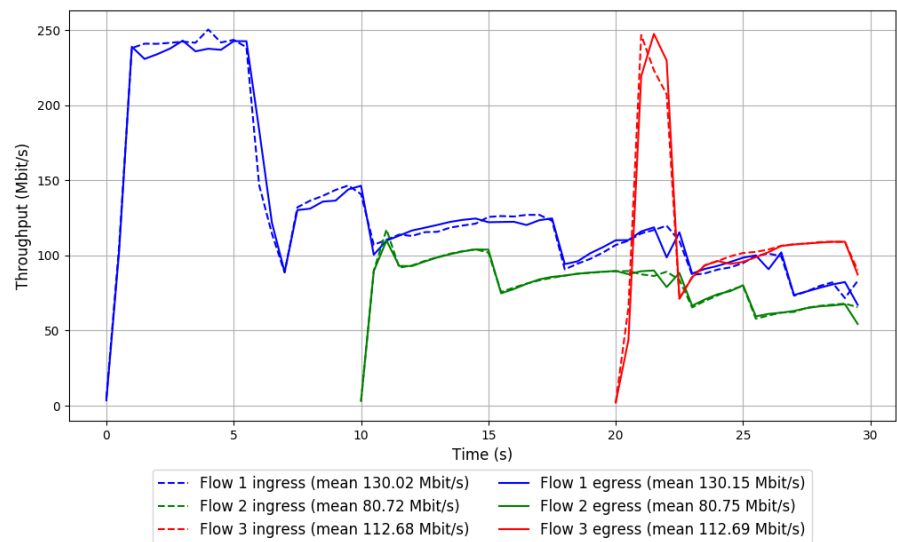
-- Flow 3:

Average throughput: 112.69 Mbit/s

95th percentile per-packet one-way delay: 56.065 ms

Loss rate: 1.01%

Run 1: Report of TCP Cubic — Data Link



Run 2: Statistics of TCP Cubic

Start at: 2017-12-06 03:43:12

End at: 2017-12-06 03:43:42

Below is generated by plot.py at 2017-12-06 07:57:42

Datalink statistics

-- Total of 3 flows:

Average throughput: 241.82 Mbit/s

95th percentile per-packet one-way delay: 56.286 ms

Loss rate: 0.59%

-- Flow 1:

Average throughput: 121.08 Mbit/s

95th percentile per-packet one-way delay: 55.420 ms

Loss rate: 0.55%

-- Flow 2:

Average throughput: 137.84 Mbit/s

95th percentile per-packet one-way delay: 57.389 ms

Loss rate: 0.57%

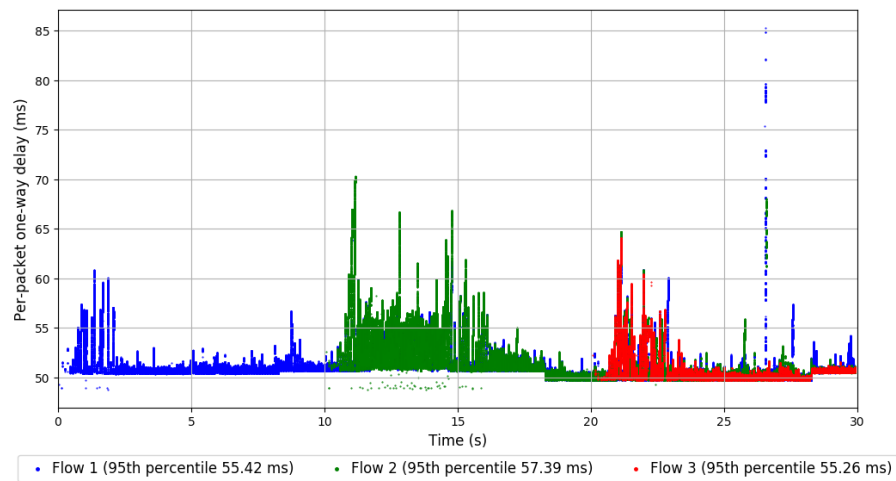
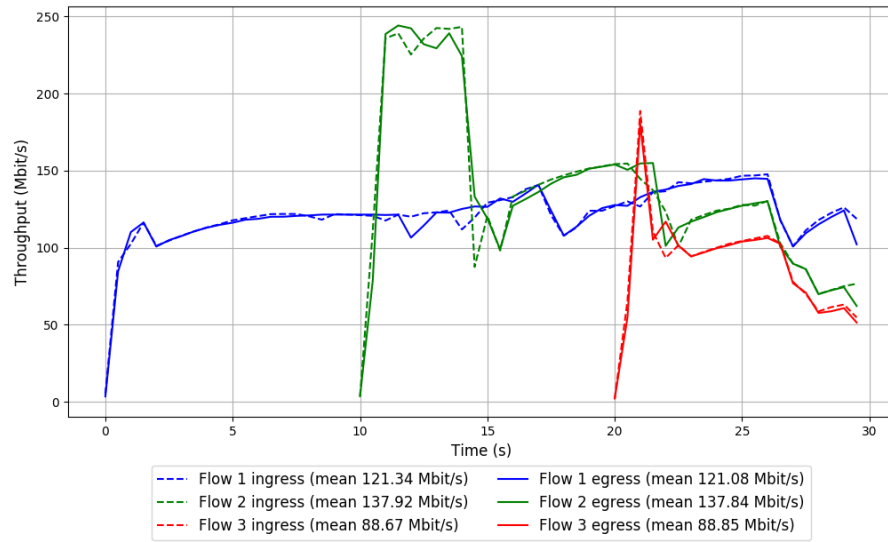
-- Flow 3:

Average throughput: 88.85 Mbit/s

95th percentile per-packet one-way delay: 55.255 ms

Loss rate: 0.83%

Run 2: Report of TCP Cubic — Data Link



Run 3: Statistics of TCP Cubic

Start at: 2017-12-06 03:55:44

End at: 2017-12-06 03:56:14

Below is generated by plot.py at 2017-12-06 07:57:42

Datalink statistics

-- Total of 3 flows:

Average throughput: 234.70 Mbit/s

95th percentile per-packet one-way delay: 55.463 ms

Loss rate: 0.38%

-- Flow 1:

Average throughput: 135.31 Mbit/s

95th percentile per-packet one-way delay: 55.588 ms

Loss rate: 0.19%

-- Flow 2:

Average throughput: 97.38 Mbit/s

95th percentile per-packet one-way delay: 55.676 ms

Loss rate: 0.50%

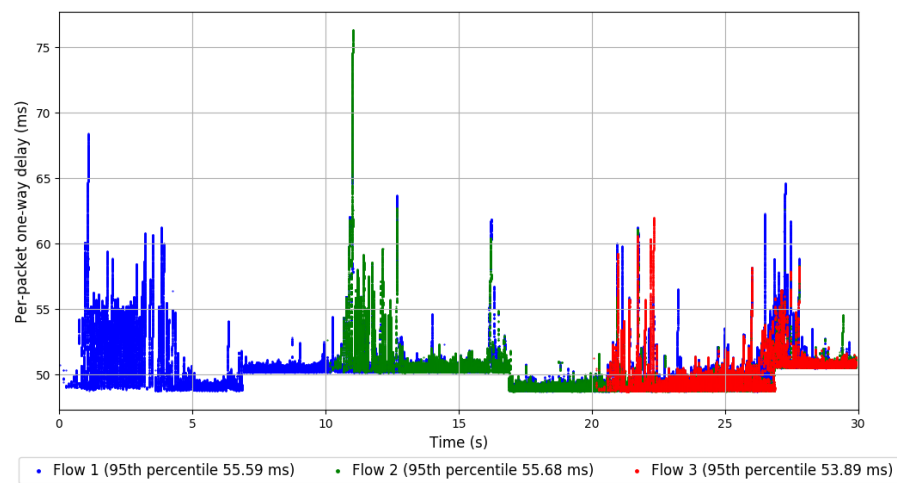
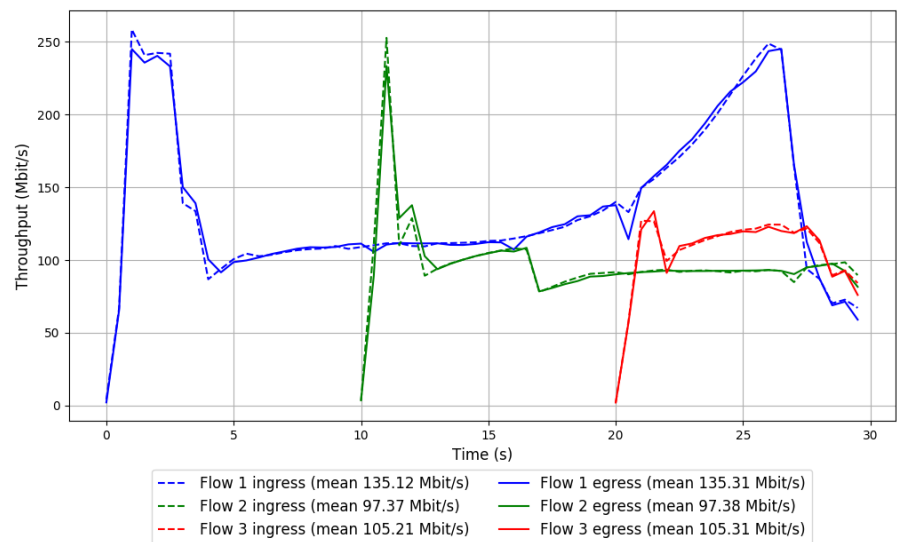
-- Flow 3:

Average throughput: 105.31 Mbit/s

95th percentile per-packet one-way delay: 53.889 ms

Loss rate: 0.93%

Run 3: Report of TCP Cubic — Data Link

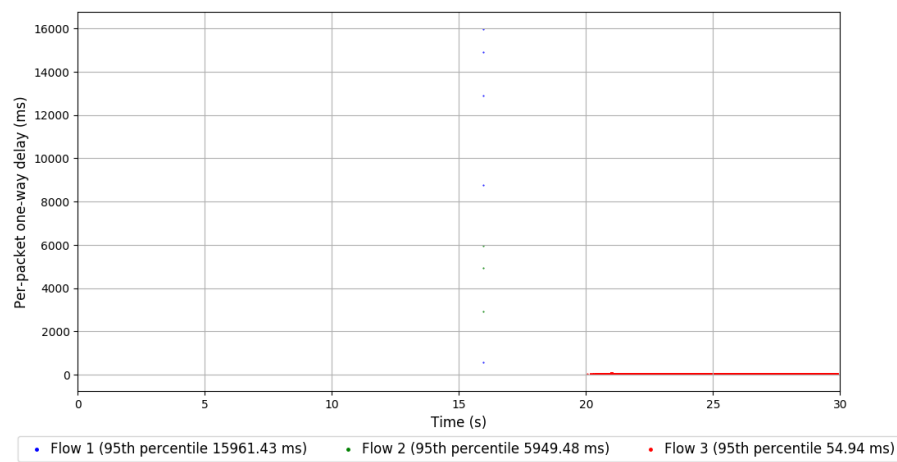
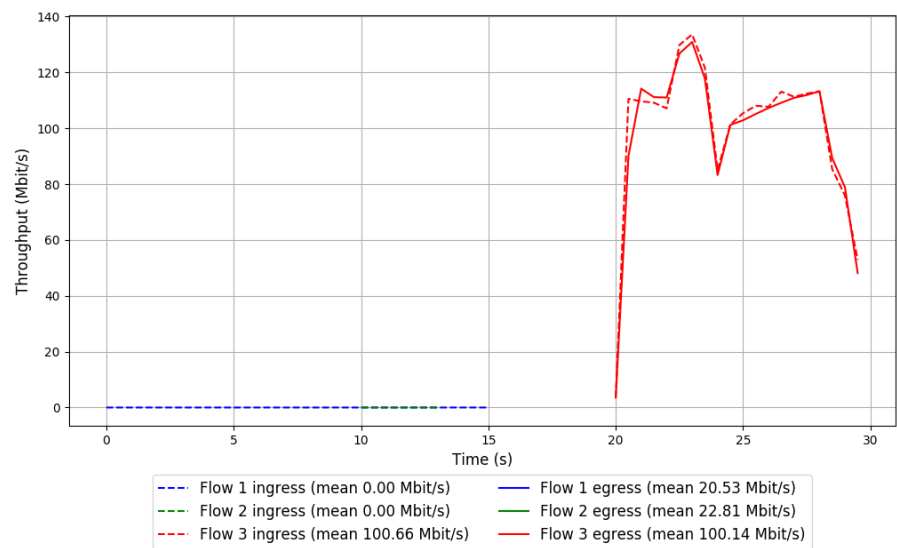


Run 4: Statistics of TCP Cubic

Start at: 2017-12-06 04:08:20

End at: 2017-12-06 04:08:50

Run 4: Report of TCP Cubic — Data Link



Run 5: Statistics of TCP Cubic

Start at: 2017-12-06 04:20:34

End at: 2017-12-06 04:21:04

Below is generated by plot.py at 2017-12-06 07:57:42

Datalink statistics

-- Total of 3 flows:

Average throughput: 186.74 Mbit/s

95th percentile per-packet one-way delay: 52.423 ms

Loss rate: 0.64%

-- Flow 1:

Average throughput: 77.17 Mbit/s

95th percentile per-packet one-way delay: 52.205 ms

Loss rate: 0.39%

-- Flow 2:

Average throughput: 107.38 Mbit/s

95th percentile per-packet one-way delay: 52.681 ms

Loss rate: 0.62%

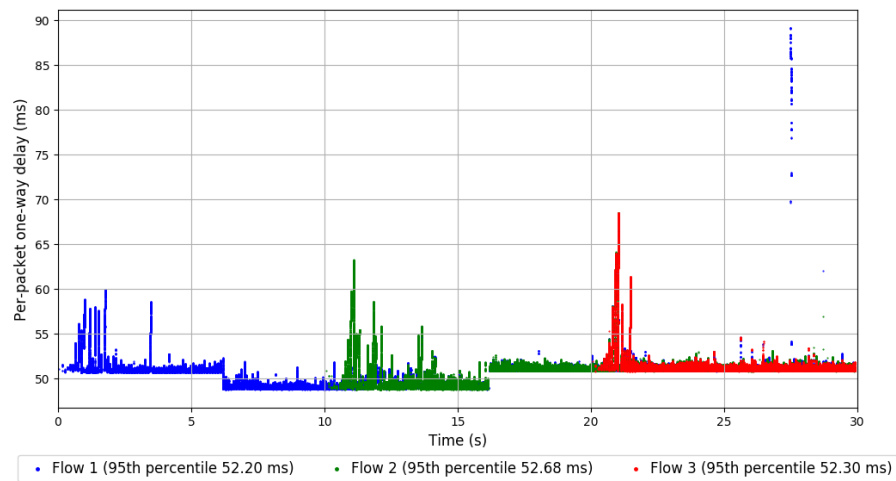
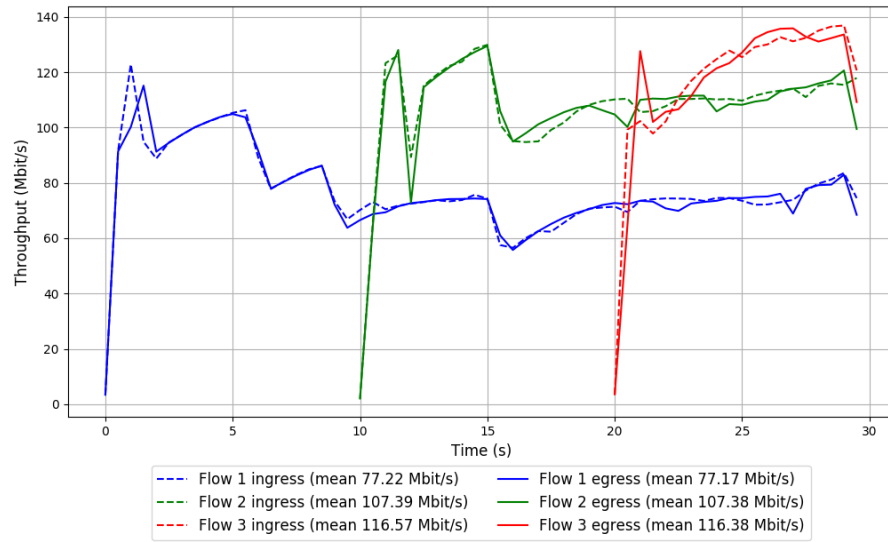
-- Flow 3:

Average throughput: 116.38 Mbit/s

95th percentile per-packet one-way delay: 52.297 ms

Loss rate: 1.19%

Run 5: Report of TCP Cubic — Data Link



Run 6: Statistics of TCP Cubic

Start at: 2017-12-06 04:32:52

End at: 2017-12-06 04:33:22

Below is generated by plot.py at 2017-12-06 07:57:42

Datalink statistics

-- Total of 3 flows:

Average throughput: 240.55 Mbit/s

95th percentile per-packet one-way delay: 57.309 ms

Loss rate: 0.73%

-- Flow 1:

Average throughput: 95.71 Mbit/s

95th percentile per-packet one-way delay: 55.444 ms

Loss rate: 0.43%

-- Flow 2:

Average throughput: 109.62 Mbit/s

95th percentile per-packet one-way delay: 56.309 ms

Loss rate: 0.71%

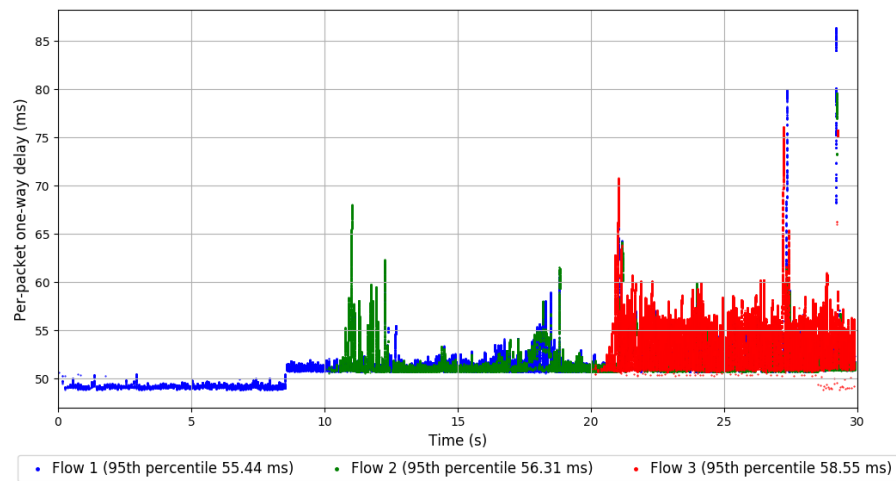
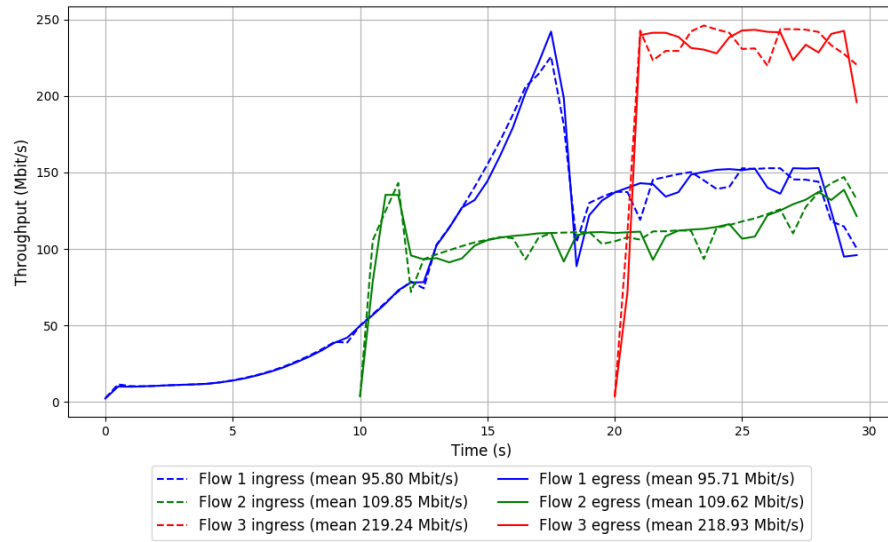
-- Flow 3:

Average throughput: 218.93 Mbit/s

95th percentile per-packet one-way delay: 58.555 ms

Loss rate: 1.14%

Run 6: Report of TCP Cubic — Data Link



Run 7: Statistics of TCP Cubic

Start at: 2017-12-06 04:45:31

End at: 2017-12-06 04:46:01

Below is generated by plot.py at 2017-12-06 07:57:42

Datalink statistics

-- Total of 3 flows:

Average throughput: 232.29 Mbit/s

95th percentile per-packet one-way delay: 53.134 ms

Loss rate: 0.51%

-- Flow 1:

Average throughput: 123.12 Mbit/s

95th percentile per-packet one-way delay: 52.531 ms

Loss rate: 0.33%

-- Flow 2:

Average throughput: 98.83 Mbit/s

95th percentile per-packet one-way delay: 52.814 ms

Loss rate: 0.38%

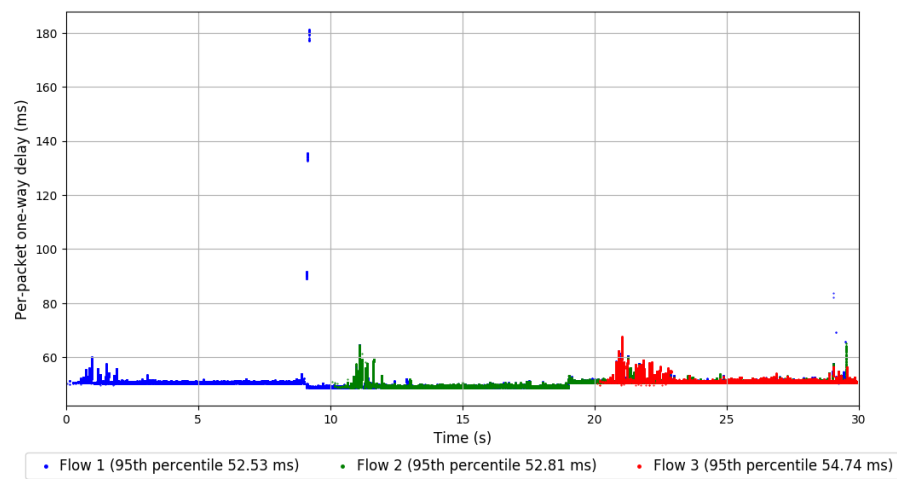
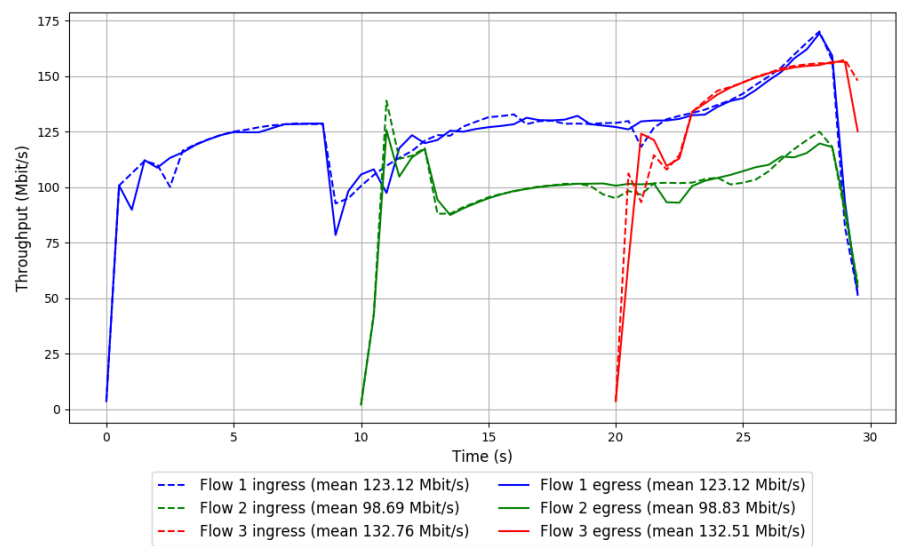
-- Flow 3:

Average throughput: 132.51 Mbit/s

95th percentile per-packet one-way delay: 54.739 ms

Loss rate: 1.19%

Run 7: Report of TCP Cubic — Data Link



Run 8: Statistics of TCP Cubic

Start at: 2017-12-06 04:57:55

End at: 2017-12-06 04:58:25

Below is generated by plot.py at 2017-12-06 07:57:42

Datalink statistics

-- Total of 3 flows:

Average throughput: 218.84 Mbit/s

95th percentile per-packet one-way delay: 55.906 ms

Loss rate: 0.47%

-- Flow 1:

Average throughput: 112.08 Mbit/s

95th percentile per-packet one-way delay: 55.896 ms

Loss rate: 0.38%

-- Flow 2:

Average throughput: 96.42 Mbit/s

95th percentile per-packet one-way delay: 55.467 ms

Loss rate: 0.38%

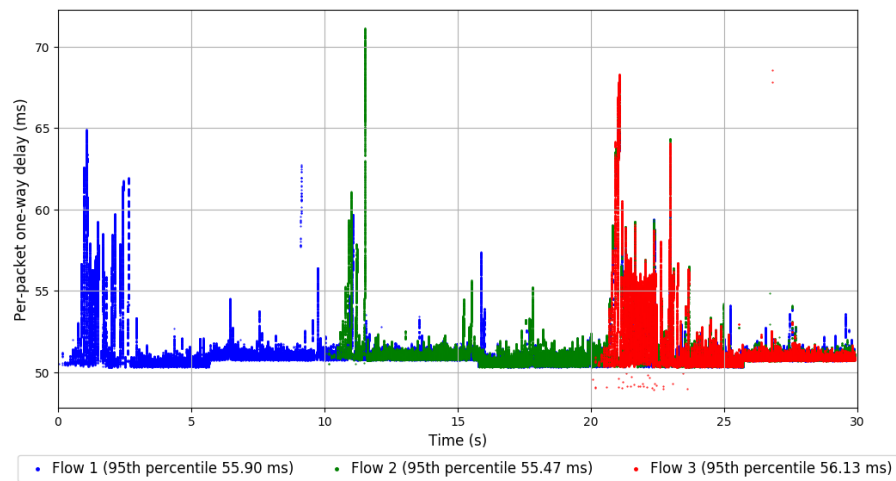
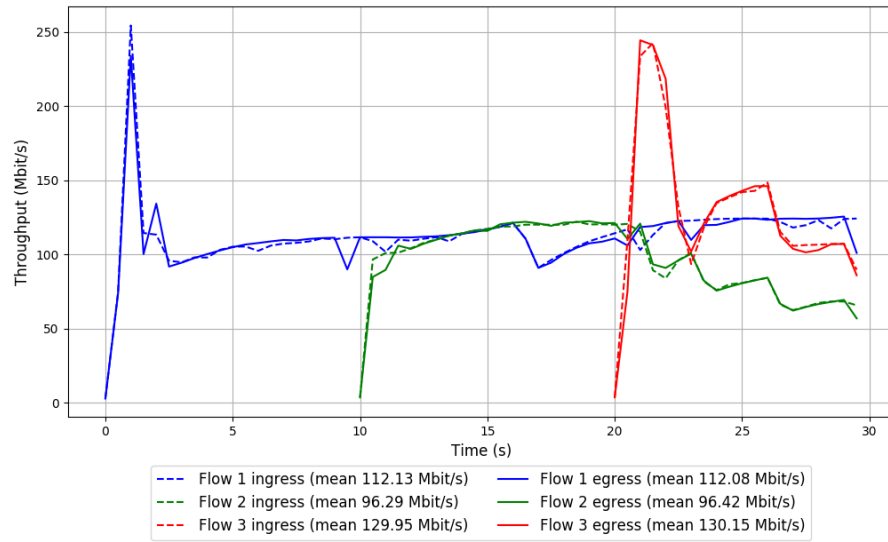
-- Flow 3:

Average throughput: 130.15 Mbit/s

95th percentile per-packet one-way delay: 56.130 ms

Loss rate: 0.84%

Run 8: Report of TCP Cubic — Data Link



Run 9: Statistics of TCP Cubic

Start at: 2017-12-06 05:10:05

End at: 2017-12-06 05:10:35

Below is generated by plot.py at 2017-12-06 07:57:42

Datalink statistics

-- Total of 3 flows:

Average throughput: 127.81 Mbit/s

95th percentile per-packet one-way delay: 56.258 ms

Loss rate: 0.43%

-- Flow 1:

Average throughput: 72.76 Mbit/s

95th percentile per-packet one-way delay: 56.917 ms

Loss rate: 0.34%

-- Flow 2:

Average throughput: 81.07 Mbit/s

95th percentile per-packet one-way delay: 54.830 ms

Loss rate: 0.51%

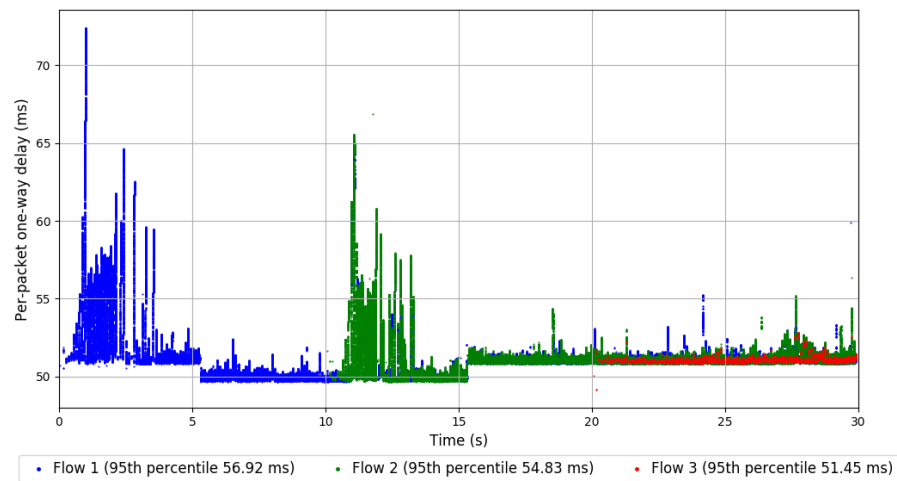
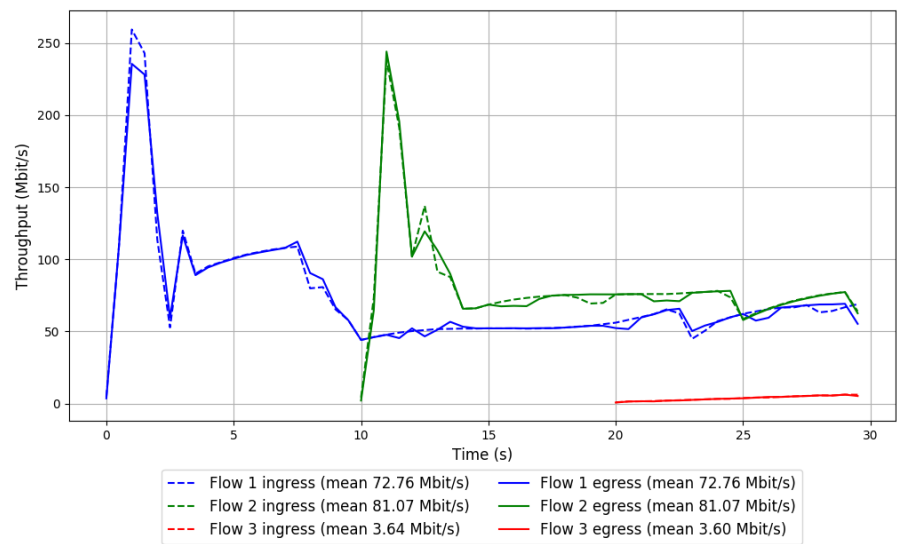
-- Flow 3:

Average throughput: 3.60 Mbit/s

95th percentile per-packet one-way delay: 51.446 ms

Loss rate: 2.06%

Run 9: Report of TCP Cubic — Data Link



Run 10: Statistics of TCP Cubic

Start at: 2017-12-06 05:22:32

End at: 2017-12-06 05:23:02

Below is generated by plot.py at 2017-12-06 07:59:10

Datalink statistics

-- Total of 3 flows:

Average throughput: 281.26 Mbit/s

95th percentile per-packet one-way delay: 55.819 ms

Loss rate: 0.53%

-- Flow 1:

Average throughput: 138.25 Mbit/s

95th percentile per-packet one-way delay: 56.284 ms

Loss rate: 0.23%

-- Flow 2:

Average throughput: 144.14 Mbit/s

95th percentile per-packet one-way delay: 53.057 ms

Loss rate: 0.67%

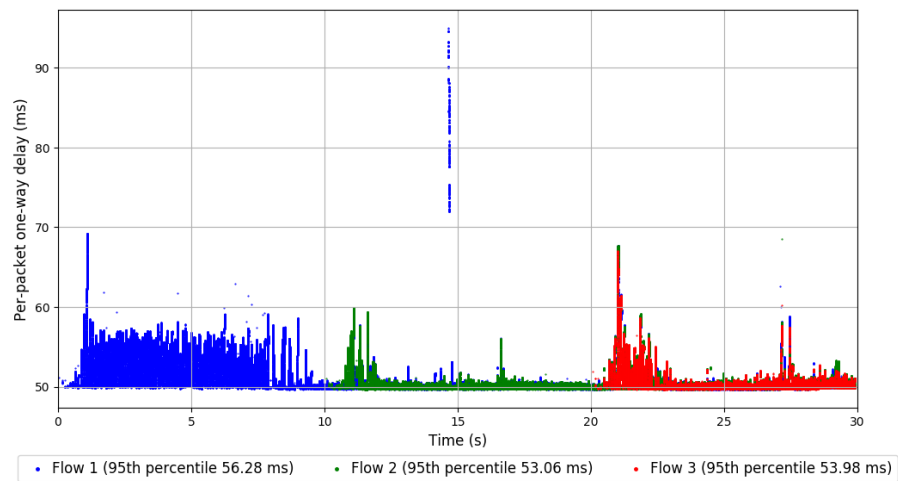
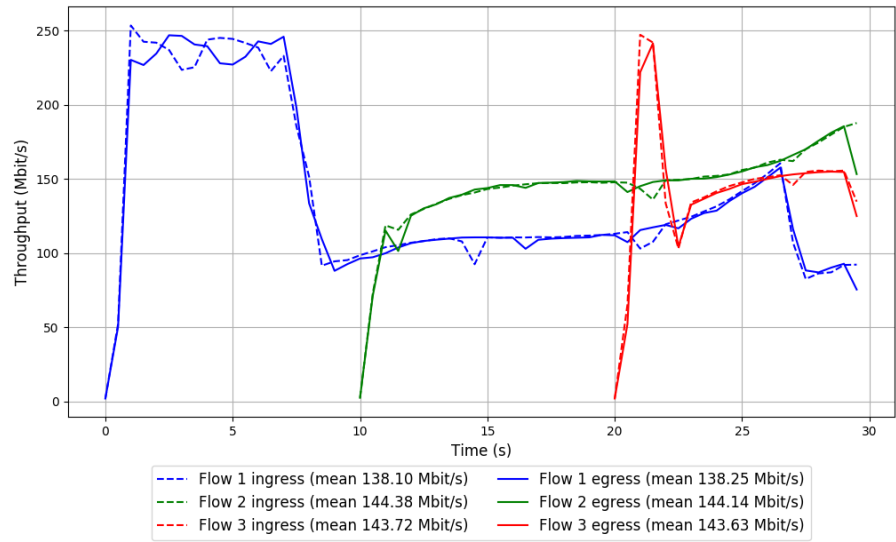
-- Flow 3:

Average throughput: 143.63 Mbit/s

95th percentile per-packet one-way delay: 53.978 ms

Loss rate: 1.08%

Run 10: Report of TCP Cubic — Data Link

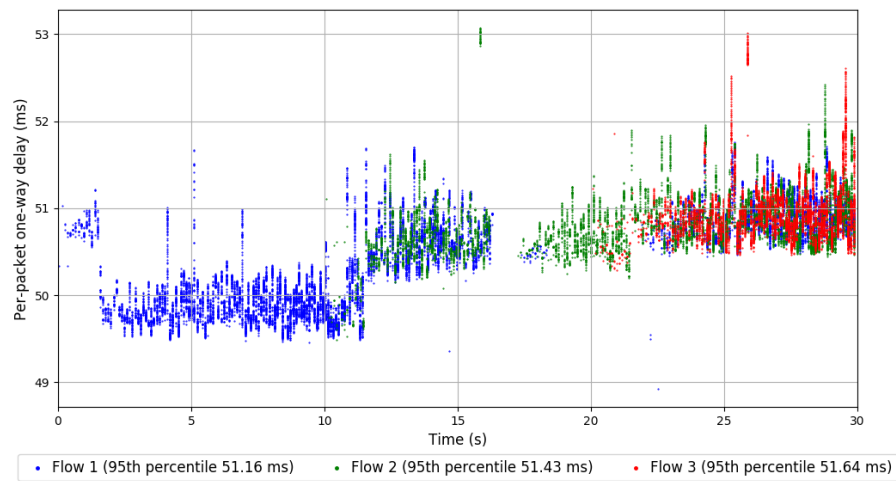
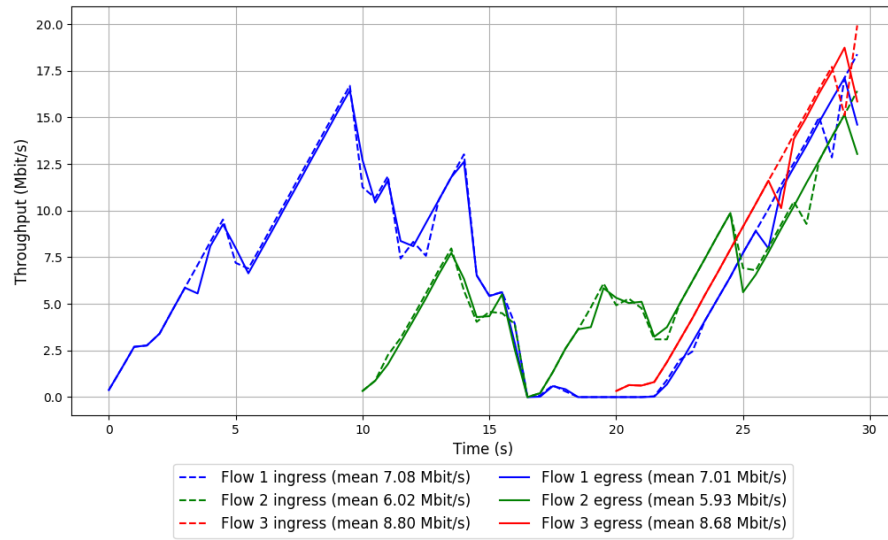


```
Run 1: Statistics of LEDBAT

Start at: 2017-12-06 03:38:29
End at: 2017-12-06 03:38:59

# Below is generated by plot.py at 2017-12-06 07:59:10
# Datalink statistics
-- Total of 3 flows:
Average throughput: 13.80 Mbit/s
95th percentile per-packet one-way delay: 51.358 ms
Loss rate: 1.69%
-- Flow 1:
Average throughput: 7.01 Mbit/s
95th percentile per-packet one-way delay: 51.156 ms
Loss rate: 1.23%
-- Flow 2:
Average throughput: 5.93 Mbit/s
95th percentile per-packet one-way delay: 51.434 ms
Loss rate: 2.01%
-- Flow 3:
Average throughput: 8.68 Mbit/s
95th percentile per-packet one-way delay: 51.641 ms
Loss rate: 2.34%
```


Run 1: Report of LEDBAT — Data Link

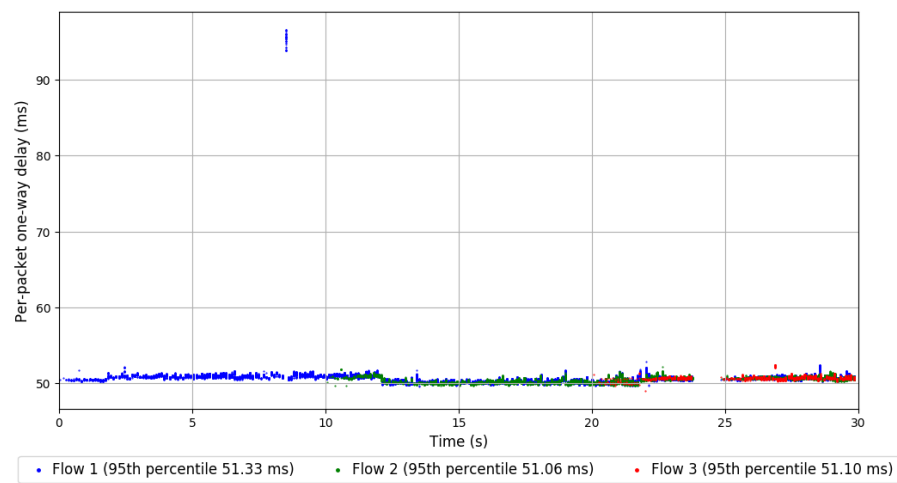
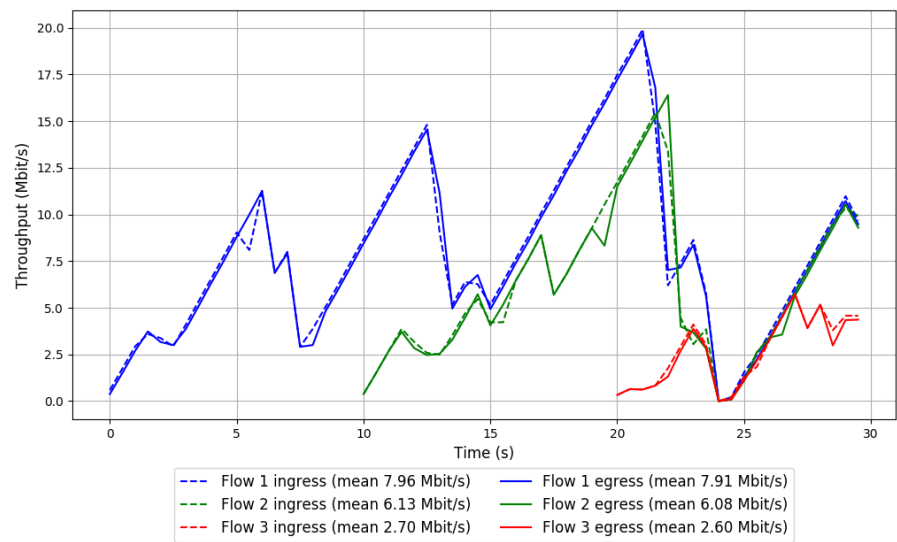


```
Run 2: Statistics of LEDBAT

Start at: 2017-12-06 03:50:59
End at: 2017-12-06 03:51:29

# Below is generated by plot.py at 2017-12-06 07:59:10
# Datalink statistics
-- Total of 3 flows:
Average throughput: 12.79 Mbit/s
95th percentile per-packet one-way delay: 51.270 ms
Loss rate: 1.35%
-- Flow 1:
Average throughput: 7.91 Mbit/s
95th percentile per-packet one-way delay: 51.329 ms
Loss rate: 0.97%
-- Flow 2:
Average throughput: 6.08 Mbit/s
95th percentile per-packet one-way delay: 51.061 ms
Loss rate: 1.43%
-- Flow 3:
Average throughput: 2.60 Mbit/s
95th percentile per-packet one-way delay: 51.101 ms
Loss rate: 4.37%
```

Run 2: Report of LEDBAT — Data Link



Run 3: Statistics of LEDBAT

Start at: 2017-12-06 04:03:36

End at: 2017-12-06 04:04:06

Below is generated by plot.py at 2017-12-06 07:59:10

Datalink statistics

-- Total of 3 flows:

Average throughput: 18.90 Mbit/s

95th percentile per-packet one-way delay: 51.820 ms

Loss rate: 1.26%

-- Flow 1:

Average throughput: 7.47 Mbit/s

95th percentile per-packet one-way delay: 51.892 ms

Loss rate: 0.89%

-- Flow 2:

Average throughput: 11.60 Mbit/s

95th percentile per-packet one-way delay: 51.740 ms

Loss rate: 1.22%

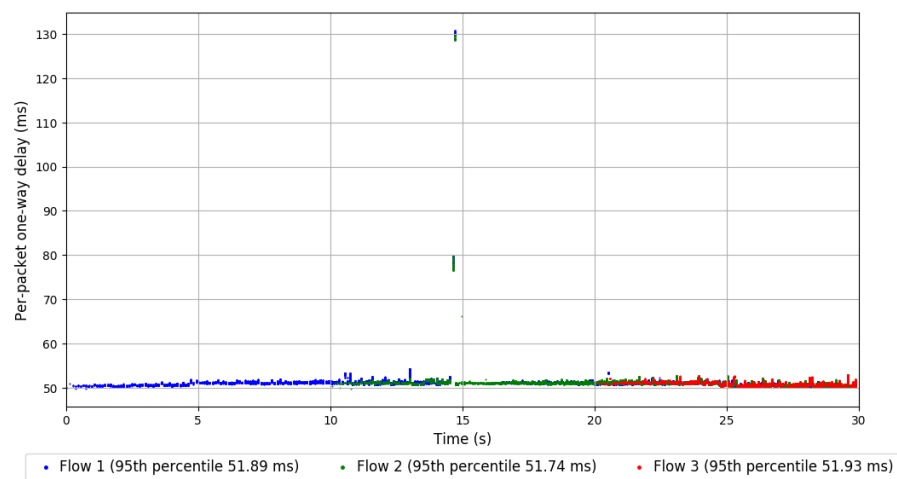
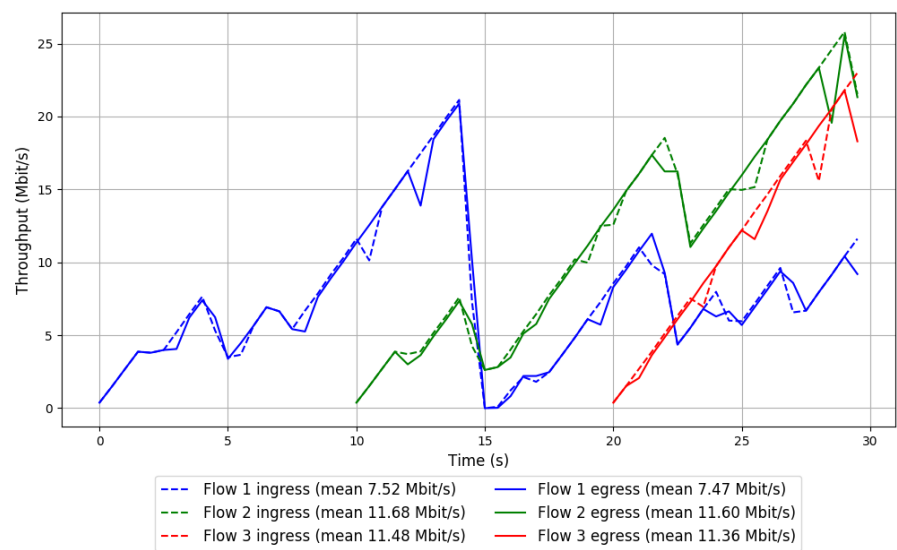
-- Flow 3:

Average throughput: 11.36 Mbit/s

95th percentile per-packet one-way delay: 51.930 ms

Loss rate: 2.06%

Run 3: Report of LEDBAT — Data Link



Run 4: Statistics of LEDBAT

Start at: 2017-12-06 04:15:52

End at: 2017-12-06 04:16:22

Below is generated by plot.py at 2017-12-06 07:59:10

Datalink statistics

-- Total of 3 flows:

Average throughput: 22.23 Mbit/s

95th percentile per-packet one-way delay: 51.697 ms

Loss rate: 1.24%

-- Flow 1:

Average throughput: 11.19 Mbit/s

95th percentile per-packet one-way delay: 51.754 ms

Loss rate: 1.48%

-- Flow 2:

Average throughput: 12.01 Mbit/s

95th percentile per-packet one-way delay: 51.583 ms

Loss rate: 1.09%

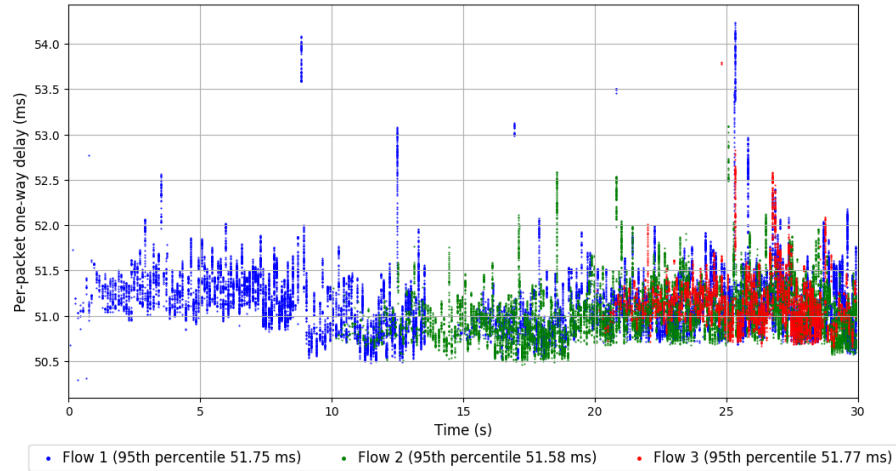
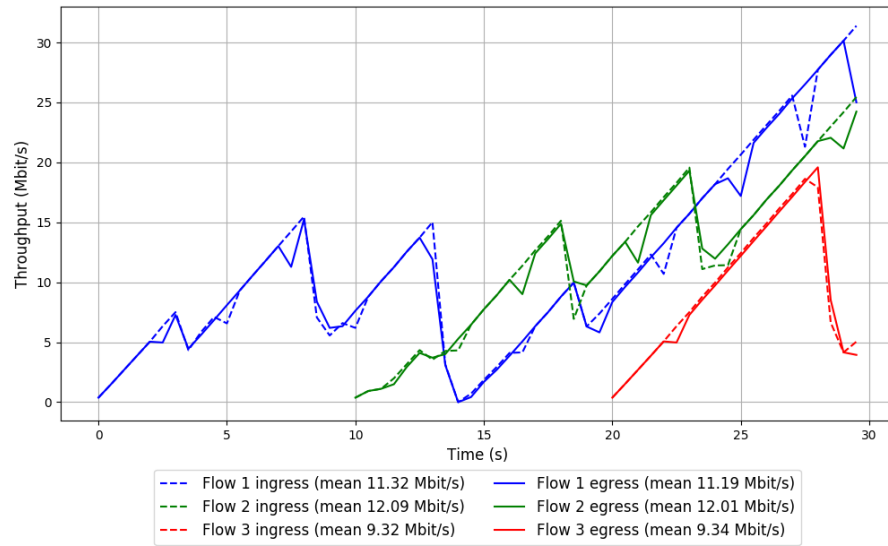
-- Flow 3:

Average throughput: 9.34 Mbit/s

95th percentile per-packet one-way delay: 51.769 ms

Loss rate: 0.75%

Run 4: Report of LEDBAT — Data Link



Run 5: Statistics of LEDBAT

Start at: 2017-12-06 04:28:14

End at: 2017-12-06 04:28:44

Below is generated by plot.py at 2017-12-06 07:59:10

Datalink statistics

-- Total of 3 flows:

Average throughput: 17.78 Mbit/s

95th percentile per-packet one-way delay: 51.728 ms

Loss rate: 1.66%

-- Flow 1:

Average throughput: 7.87 Mbit/s

95th percentile per-packet one-way delay: 51.444 ms

Loss rate: 1.05%

-- Flow 2:

Average throughput: 9.42 Mbit/s

95th percentile per-packet one-way delay: 51.800 ms

Loss rate: 2.16%

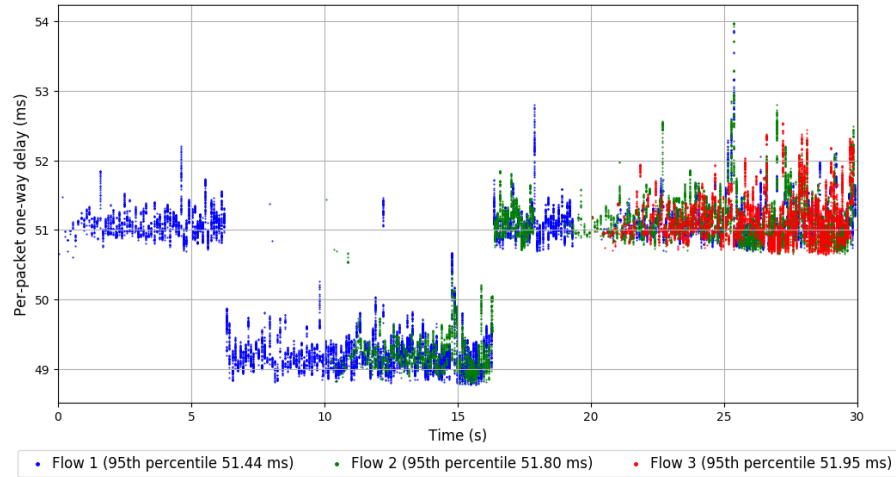
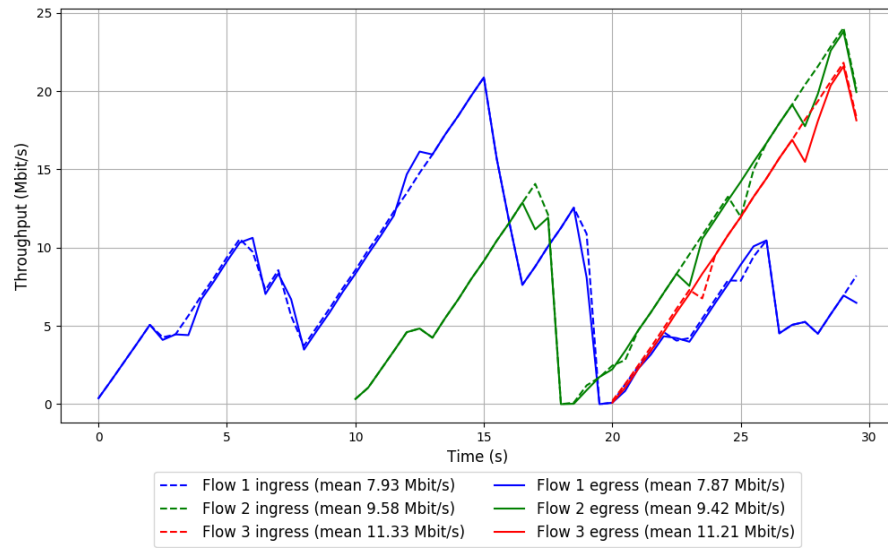
-- Flow 3:

Average throughput: 11.21 Mbit/s

95th percentile per-packet one-way delay: 51.954 ms

Loss rate: 2.09%

Run 5: Report of LEDBAT — Data Link



Run 6: Statistics of LEDBAT

Start at: 2017-12-06 04:40:46

End at: 2017-12-06 04:41:16

Below is generated by plot.py at 2017-12-06 07:59:10

Datalink statistics

-- Total of 3 flows:

Average throughput: 28.56 Mbit/s

95th percentile per-packet one-way delay: 51.199 ms

Loss rate: 0.71%

-- Flow 1:

Average throughput: 11.04 Mbit/s

95th percentile per-packet one-way delay: 51.292 ms

Loss rate: 0.91%

-- Flow 2:

Average throughput: 22.99 Mbit/s

95th percentile per-packet one-way delay: 51.086 ms

Loss rate: 0.54%

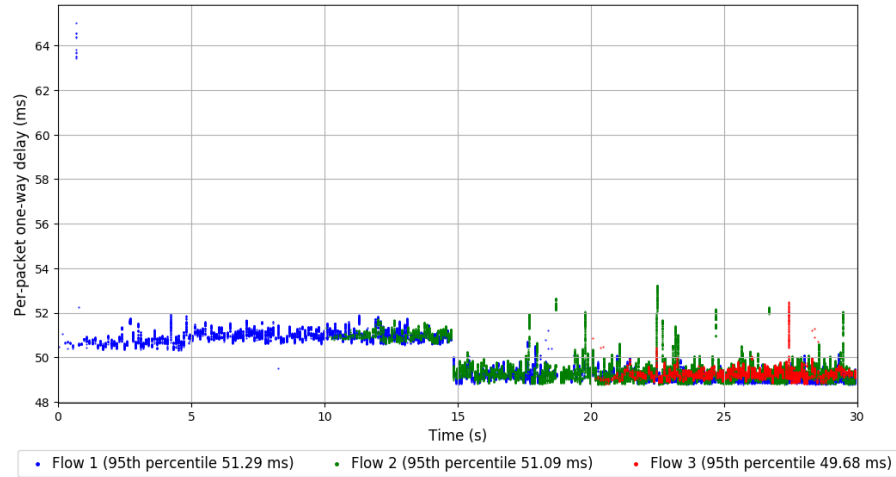
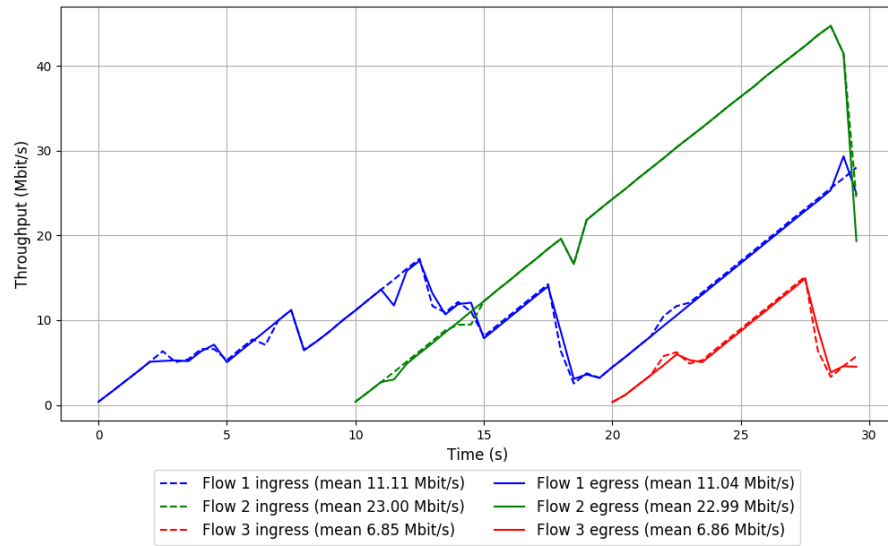
-- Flow 3:

Average throughput: 6.86 Mbit/s

95th percentile per-packet one-way delay: 49.681 ms

Loss rate: 0.93%

Run 6: Report of LEDBAT — Data Link



Run 7: Statistics of LEDBAT

Start at: 2017-12-06 04:53:16

End at: 2017-12-06 04:53:46

Below is generated by plot.py at 2017-12-06 07:59:10

Datalink statistics

-- Total of 3 flows:

Average throughput: 18.78 Mbit/s

95th percentile per-packet one-way delay: 51.627 ms

Loss rate: 1.10%

-- Flow 1:

Average throughput: 12.01 Mbit/s

95th percentile per-packet one-way delay: 51.661 ms

Loss rate: 0.75%

-- Flow 2:

Average throughput: 6.71 Mbit/s

95th percentile per-packet one-way delay: 51.614 ms

Loss rate: 1.13%

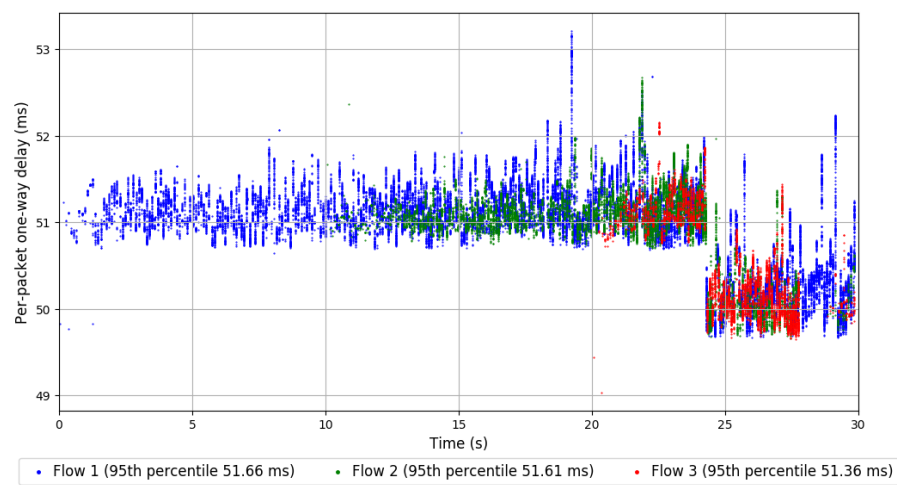
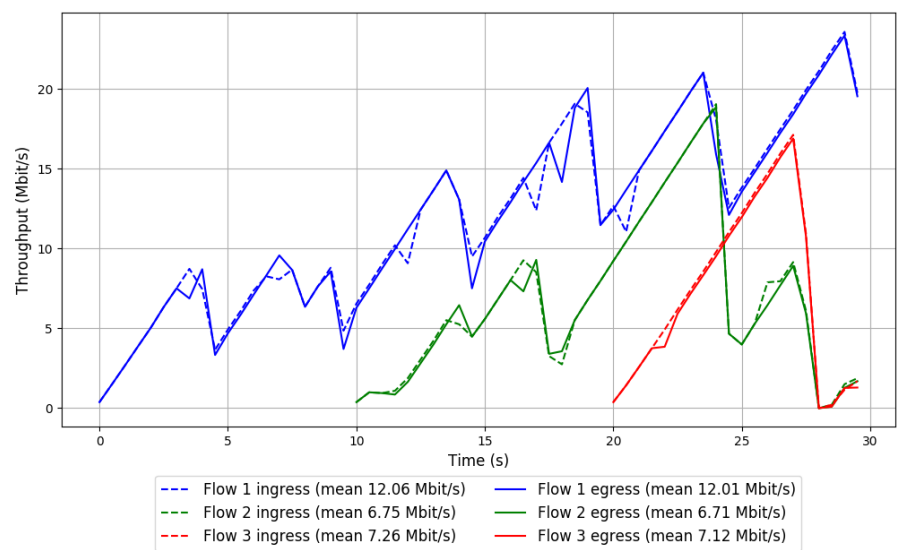
-- Flow 3:

Average throughput: 7.12 Mbit/s

95th percentile per-packet one-way delay: 51.360 ms

Loss rate: 2.85%

Run 7: Report of LEDBAT — Data Link



Run 8: Statistics of LEDBAT

Start at: 2017-12-06 05:05:39

End at: 2017-12-06 05:06:09

Below is generated by plot.py at 2017-12-06 07:59:10

Datalink statistics

-- Total of 3 flows:

Average throughput: 20.62 Mbit/s

95th percentile per-packet one-way delay: 51.330 ms

Loss rate: 0.78%

-- Flow 1:

Average throughput: 13.23 Mbit/s

95th percentile per-packet one-way delay: 51.429 ms

Loss rate: 0.13%

-- Flow 2:

Average throughput: 7.40 Mbit/s

95th percentile per-packet one-way delay: 50.673 ms

Loss rate: 1.62%

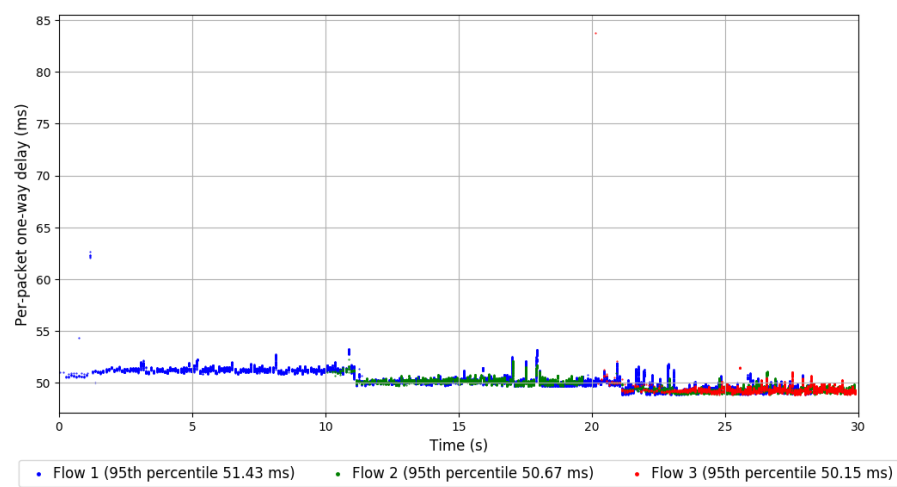
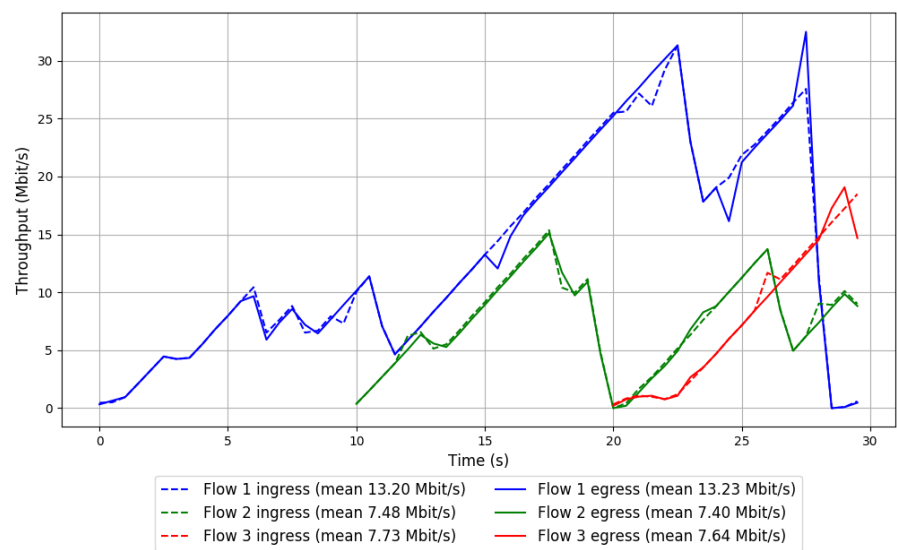
-- Flow 3:

Average throughput: 7.64 Mbit/s

95th percentile per-packet one-way delay: 50.149 ms

Loss rate: 2.49%

Run 8: Report of LEDBAT — Data Link



Run 9: Statistics of LEDBAT

Start at: 2017-12-06 05:17:43

End at: 2017-12-06 05:18:13

Below is generated by plot.py at 2017-12-06 07:59:10

Datalink statistics

-- Total of 3 flows:

Average throughput: 22.35 Mbit/s

95th percentile per-packet one-way delay: 51.396 ms

Loss rate: 1.34%

-- Flow 1:

Average throughput: 12.90 Mbit/s

95th percentile per-packet one-way delay: 51.408 ms

Loss rate: 1.35%

-- Flow 2:

Average throughput: 8.50 Mbit/s

95th percentile per-packet one-way delay: 51.389 ms

Loss rate: 0.84%

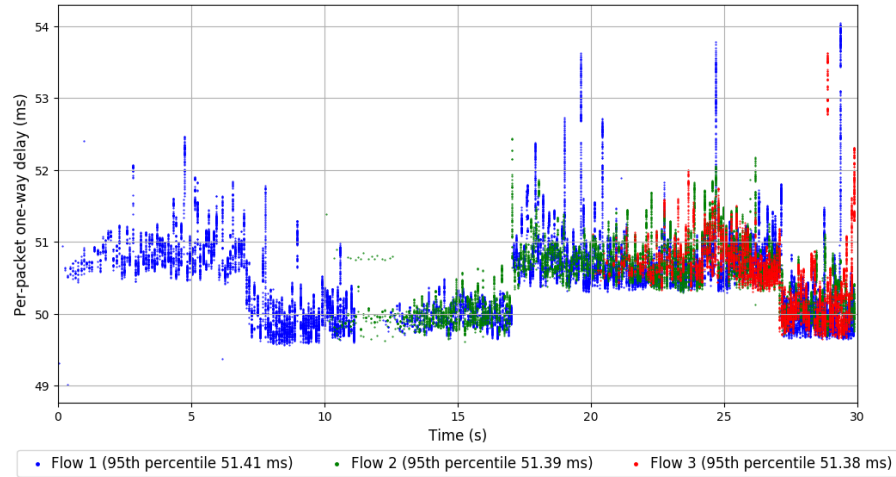
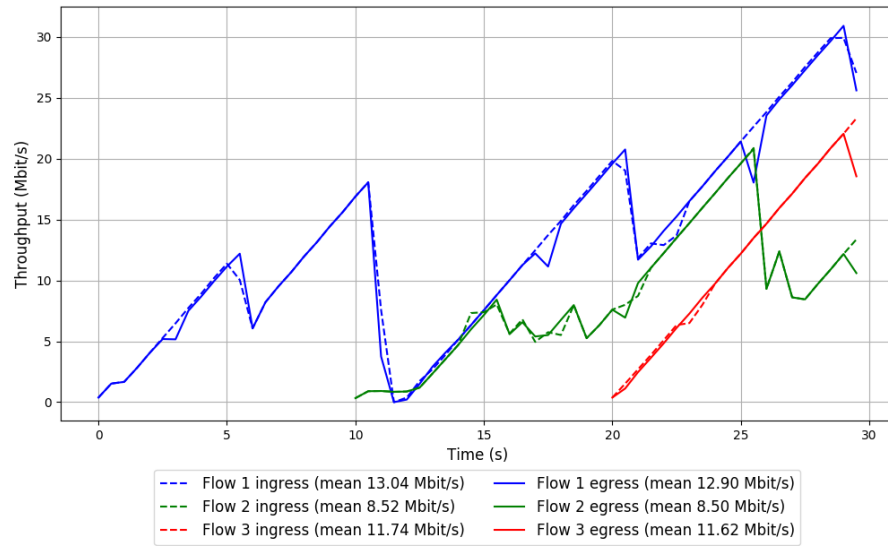
-- Flow 3:

Average throughput: 11.62 Mbit/s

95th percentile per-packet one-way delay: 51.381 ms

Loss rate: 2.05%

Run 9: Report of LEDBAT — Data Link



Run 10: Statistics of LEDBAT

Start at: 2017-12-06 05:30:18

End at: 2017-12-06 05:30:48

Below is generated by plot.py at 2017-12-06 07:59:10

Datalink statistics

-- Total of 3 flows:

Average throughput: 14.17 Mbit/s

95th percentile per-packet one-way delay: 51.747 ms

Loss rate: 1.09%

-- Flow 1:

Average throughput: 8.10 Mbit/s

95th percentile per-packet one-way delay: 51.562 ms

Loss rate: 0.63%

-- Flow 2:

Average throughput: 6.01 Mbit/s

95th percentile per-packet one-way delay: 51.924 ms

Loss rate: 1.25%

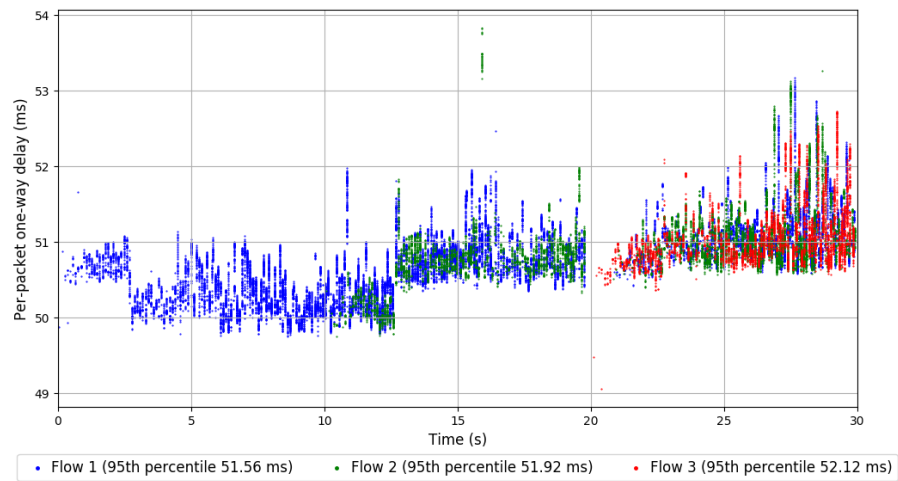
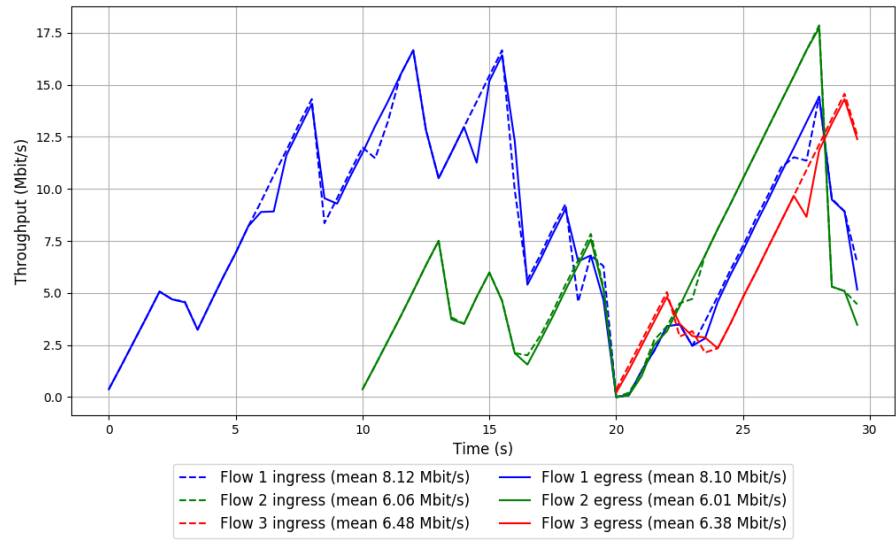
-- Flow 3:

Average throughput: 6.38 Mbit/s

95th percentile per-packet one-way delay: 52.121 ms

Loss rate: 2.53%

Run 10: Report of LEDBAT — Data Link

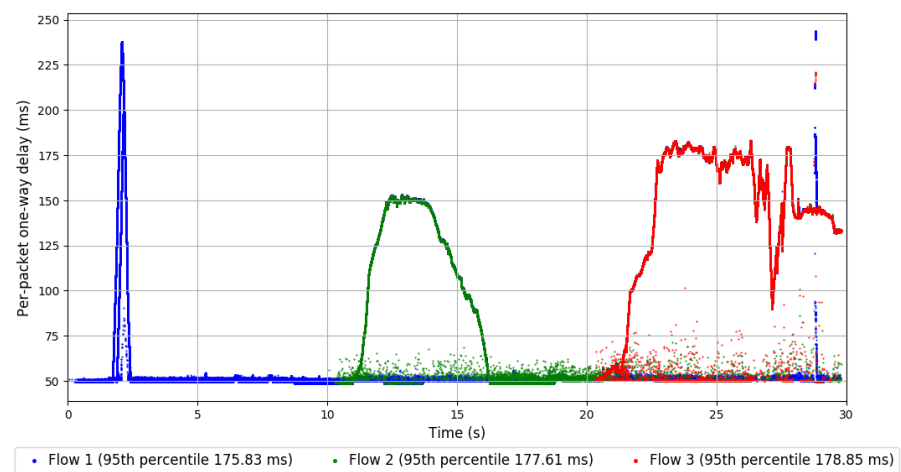
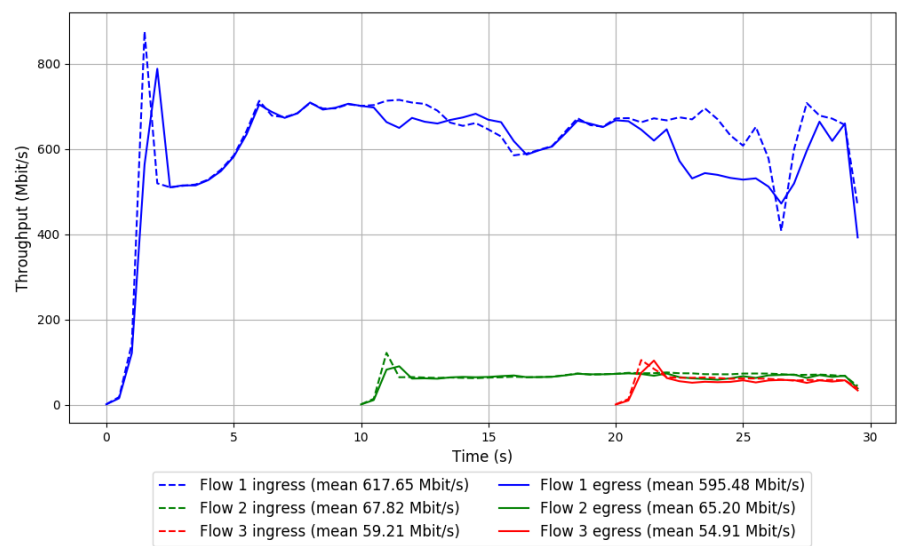


```
Run 1: Statistics of PCC

Start at: 2017-12-06 03:29:02
End at: 2017-12-06 03:29:32

# Below is generated by plot.py at 2017-12-06 08:07:23
# Datalink statistics
-- Total of 3 flows:
Average throughput: 656.59 Mbit/s
95th percentile per-packet one-way delay: 176.379 ms
Loss rate: 4.08%
-- Flow 1:
Average throughput: 595.48 Mbit/s
95th percentile per-packet one-way delay: 175.831 ms
Loss rate: 3.92%
-- Flow 2:
Average throughput: 65.20 Mbit/s
95th percentile per-packet one-way delay: 177.607 ms
Loss rate: 4.37%
-- Flow 3:
Average throughput: 54.91 Mbit/s
95th percentile per-packet one-way delay: 178.848 ms
Loss rate: 8.31%
```

Run 1: Report of PCC — Data Link



Run 2: Statistics of PCC

Start at: 2017-12-06 03:41:28

End at: 2017-12-06 03:41:58

Below is generated by plot.py at 2017-12-06 08:07:23

Datalink statistics

-- Total of 3 flows:

Average throughput: 644.18 Mbit/s

95th percentile per-packet one-way delay: 156.712 ms

Loss rate: 0.81%

-- Flow 1:

Average throughput: 630.94 Mbit/s

95th percentile per-packet one-way delay: 156.599 ms

Loss rate: 0.79%

-- Flow 2:

Average throughput: 5.34 Mbit/s

95th percentile per-packet one-way delay: 156.467 ms

Loss rate: 1.20%

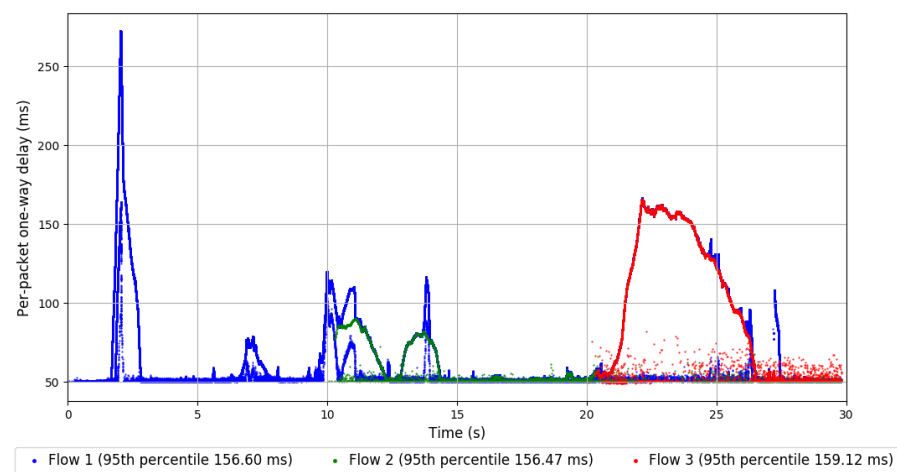
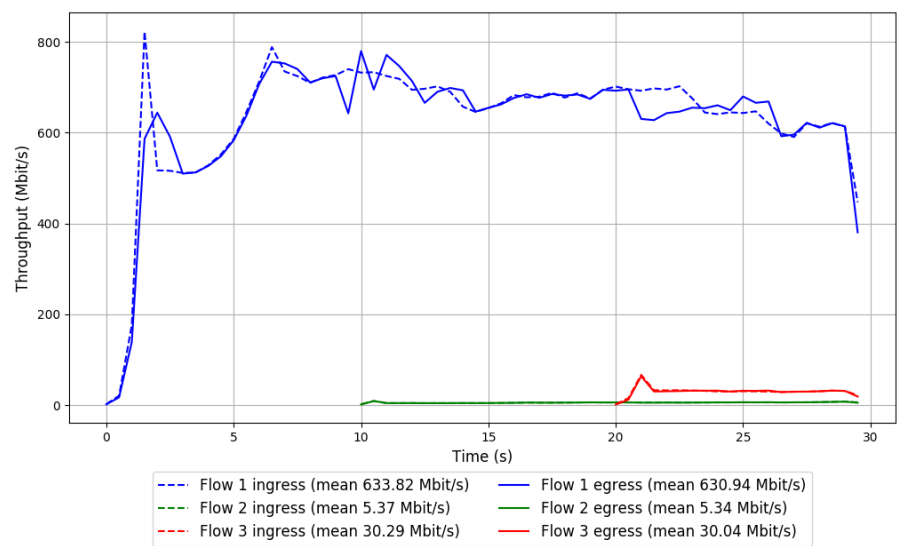
-- Flow 3:

Average throughput: 30.04 Mbit/s

95th percentile per-packet one-way delay: 159.118 ms

Loss rate: 1.77%

Run 2: Report of PCC — Data Link



Run 3: Statistics of PCC

Start at: 2017-12-06 03:54:00

End at: 2017-12-06 03:54:30

Below is generated by plot.py at 2017-12-06 08:07:23

Datalink statistics

-- Total of 3 flows:

Average throughput: 634.63 Mbit/s

95th percentile per-packet one-way delay: 154.266 ms

Loss rate: 0.95%

-- Flow 1:

Average throughput: 537.24 Mbit/s

95th percentile per-packet one-way delay: 154.151 ms

Loss rate: 0.91%

-- Flow 2:

Average throughput: 142.90 Mbit/s

95th percentile per-packet one-way delay: 155.132 ms

Loss rate: 1.18%

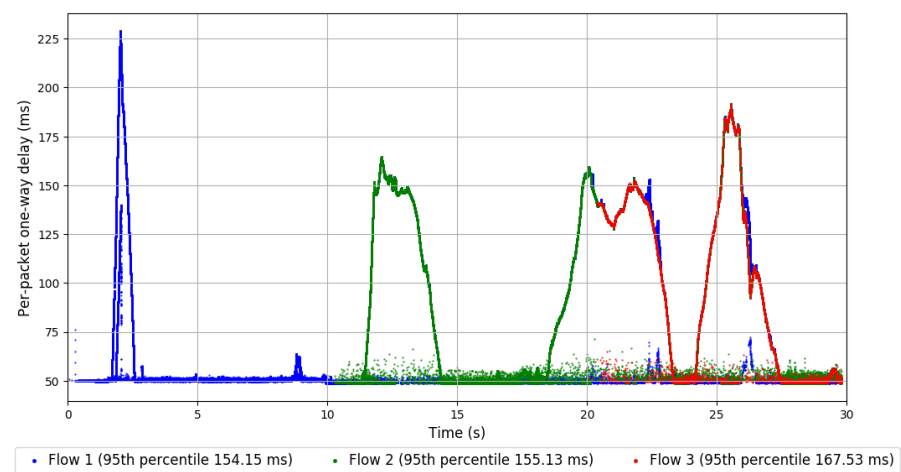
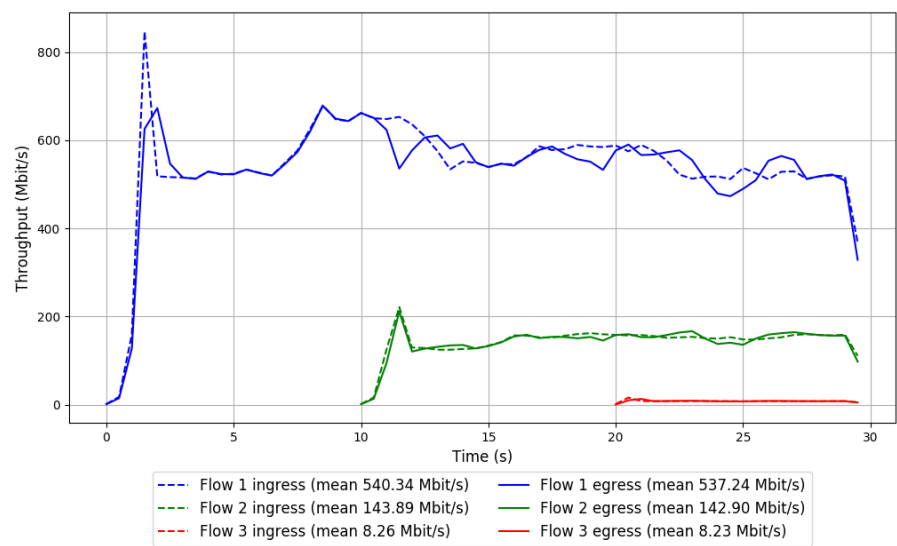
-- Flow 3:

Average throughput: 8.23 Mbit/s

95th percentile per-packet one-way delay: 167.530 ms

Loss rate: 1.30%

Run 3: Report of PCC — Data Link

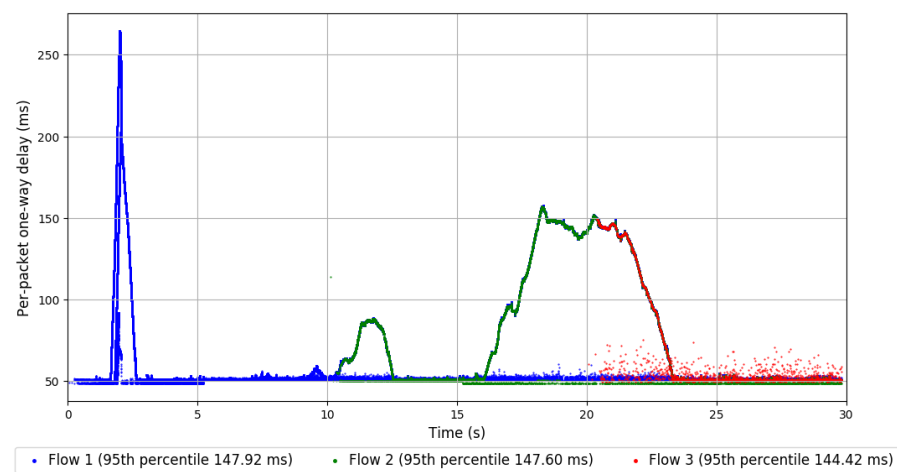
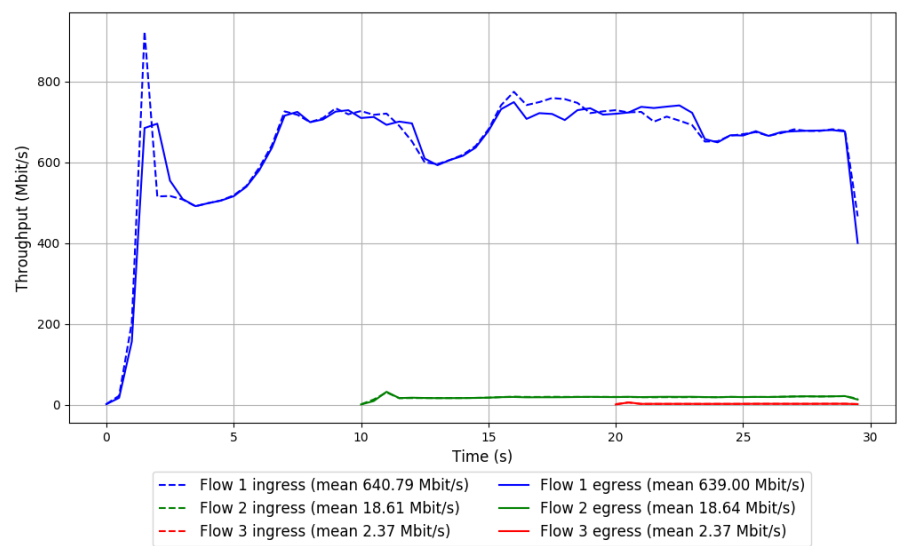


```
Run 4: Statistics of PCC

Start at: 2017-12-06 04:06:35
End at: 2017-12-06 04:07:05

# Below is generated by plot.py at 2017-12-06 08:07:35
# Datalink statistics
-- Total of 3 flows:
Average throughput: 652.08 Mbit/s
95th percentile per-packet one-way delay: 147.905 ms
Loss rate: 0.61%
-- Flow 1:
Average throughput: 639.00 Mbit/s
95th percentile per-packet one-way delay: 147.924 ms
Loss rate: 0.61%
-- Flow 2:
Average throughput: 18.64 Mbit/s
95th percentile per-packet one-way delay: 147.605 ms
Loss rate: 0.68%
-- Flow 3:
Average throughput: 2.37 Mbit/s
95th percentile per-packet one-way delay: 144.424 ms
Loss rate: 1.05%
```

Run 4: Report of PCC — Data Link



Run 5: Statistics of PCC

Start at: 2017-12-06 04:18:50

End at: 2017-12-06 04:19:20

Below is generated by plot.py at 2017-12-06 08:09:27

Datalink statistics

-- Total of 3 flows:

Average throughput: 676.76 Mbit/s

95th percentile per-packet one-way delay: 151.597 ms

Loss rate: 0.92%

-- Flow 1:

Average throughput: 627.18 Mbit/s

95th percentile per-packet one-way delay: 151.748 ms

Loss rate: 0.92%

-- Flow 2:

Average throughput: 66.66 Mbit/s

95th percentile per-packet one-way delay: 150.491 ms

Loss rate: 0.90%

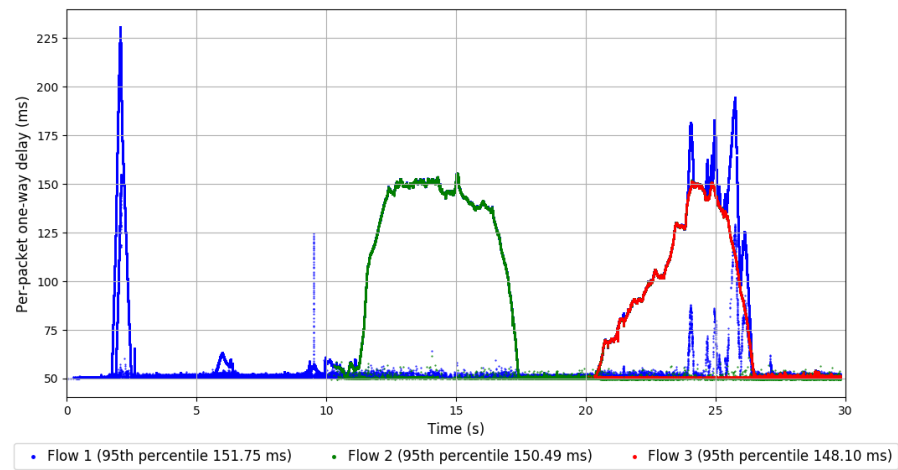
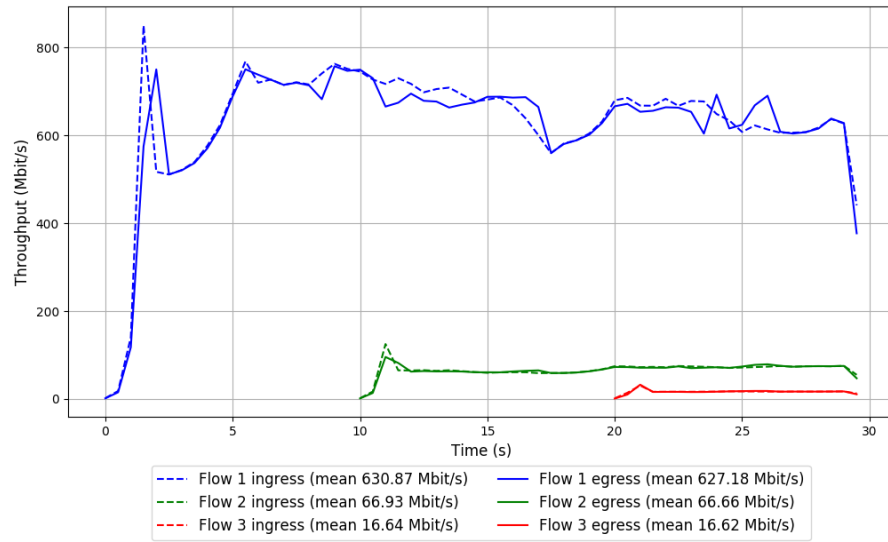
-- Flow 3:

Average throughput: 16.62 Mbit/s

95th percentile per-packet one-way delay: 148.098 ms

Loss rate: 1.15%

Run 5: Report of PCC — Data Link



Run 6: Statistics of PCC

Start at: 2017-12-06 04:31:08

End at: 2017-12-06 04:31:38

Below is generated by plot.py at 2017-12-06 08:09:27

Datalink statistics

-- Total of 3 flows:

Average throughput: 655.01 Mbit/s

95th percentile per-packet one-way delay: 155.657 ms

Loss rate: 3.07%

-- Flow 1:

Average throughput: 594.80 Mbit/s

95th percentile per-packet one-way delay: 155.627 ms

Loss rate: 3.04%

-- Flow 2:

Average throughput: 61.08 Mbit/s

95th percentile per-packet one-way delay: 156.265 ms

Loss rate: 2.75%

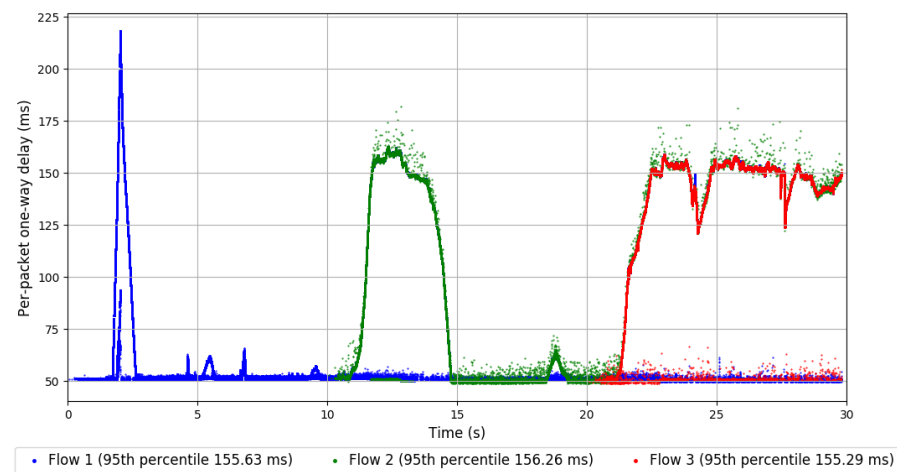
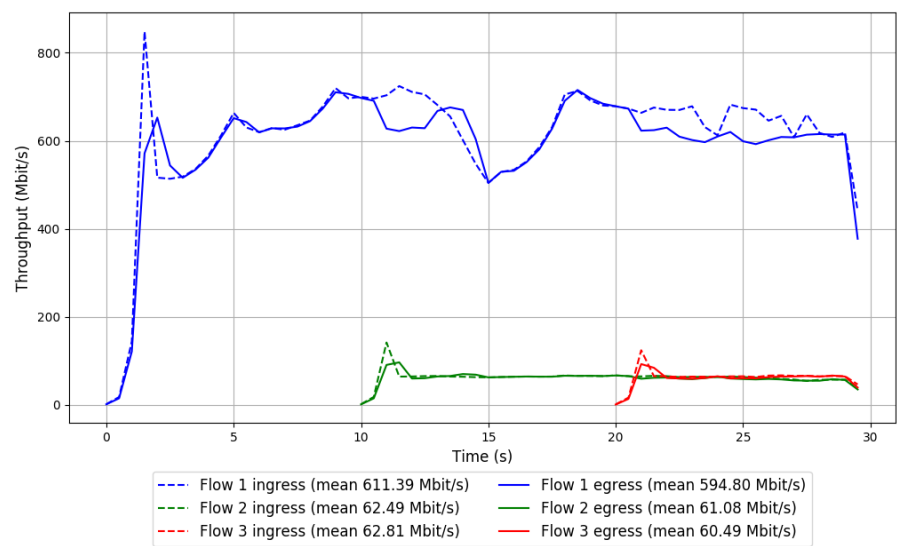
-- Flow 3:

Average throughput: 60.49 Mbit/s

95th percentile per-packet one-way delay: 155.293 ms

Loss rate: 4.64%

Run 6: Report of PCC — Data Link



Run 7: Statistics of PCC

Start at: 2017-12-06 04:43:47

End at: 2017-12-06 04:44:17

Below is generated by plot.py at 2017-12-06 08:09:27

Datalink statistics

-- Total of 3 flows:

Average throughput: 621.59 Mbit/s

95th percentile per-packet one-way delay: 152.984 ms

Loss rate: 0.96%

-- Flow 1:

Average throughput: 575.19 Mbit/s

95th percentile per-packet one-way delay: 152.909 ms

Loss rate: 0.94%

-- Flow 2:

Average throughput: 67.77 Mbit/s

95th percentile per-packet one-way delay: 153.408 ms

Loss rate: 1.17%

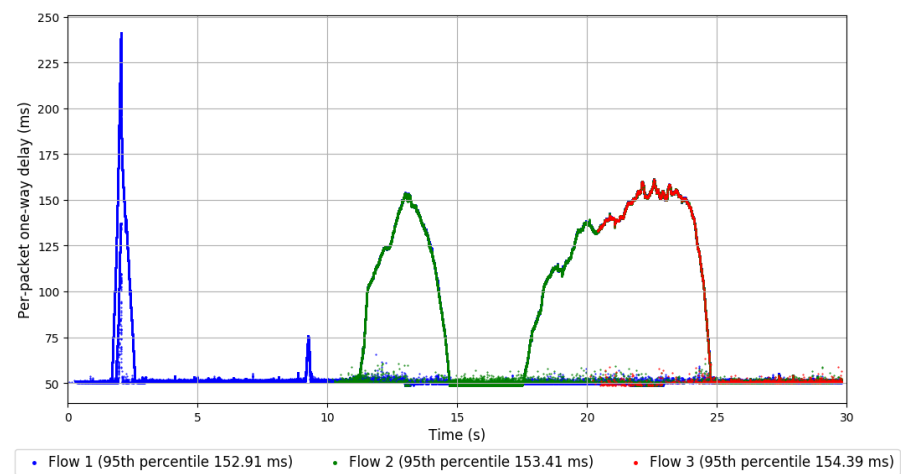
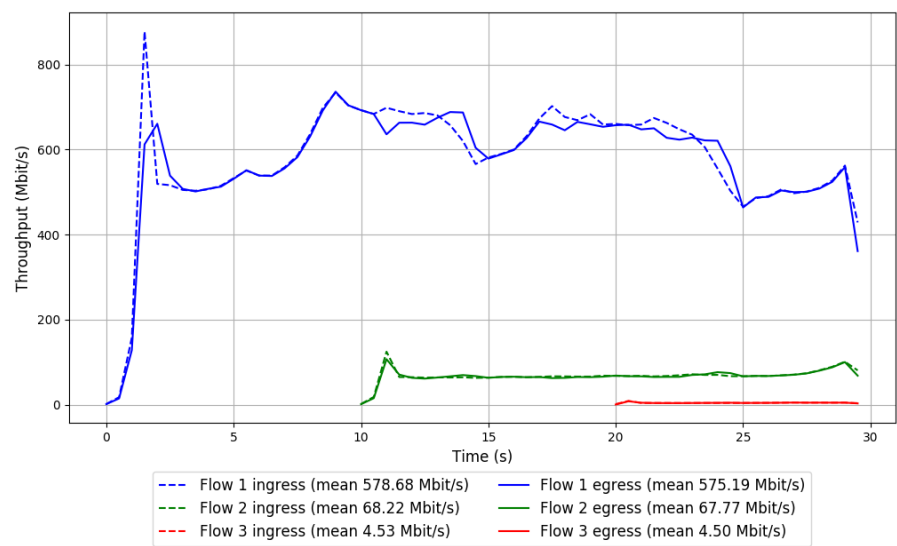
-- Flow 3:

Average throughput: 4.50 Mbit/s

95th percentile per-packet one-way delay: 154.391 ms

Loss rate: 1.85%

Run 7: Report of PCC — Data Link



Run 8: Statistics of PCC

Start at: 2017-12-06 04:56:10

End at: 2017-12-06 04:56:40

Below is generated by plot.py at 2017-12-06 08:12:21

Datalink statistics

-- Total of 3 flows:

Average throughput: 681.63 Mbit/s

95th percentile per-packet one-way delay: 123.360 ms

Loss rate: 0.49%

-- Flow 1:

Average throughput: 647.24 Mbit/s

95th percentile per-packet one-way delay: 123.452 ms

Loss rate: 0.48%

-- Flow 2:

Average throughput: 36.20 Mbit/s

95th percentile per-packet one-way delay: 122.703 ms

Loss rate: 0.58%

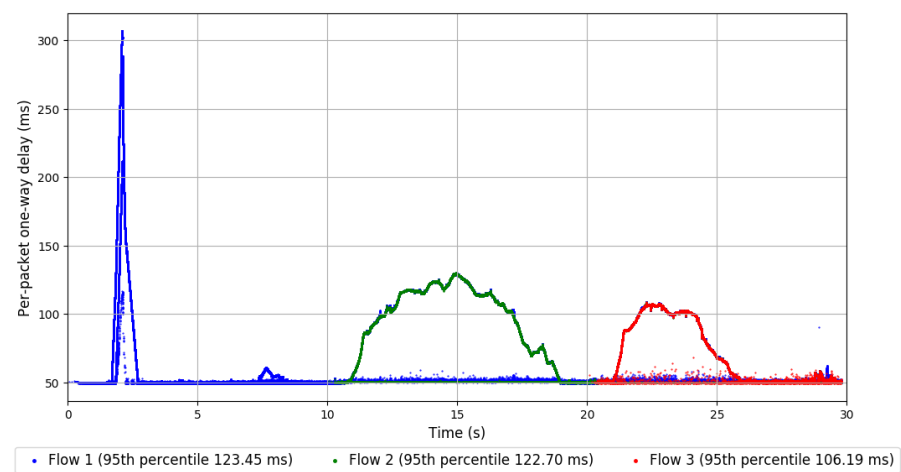
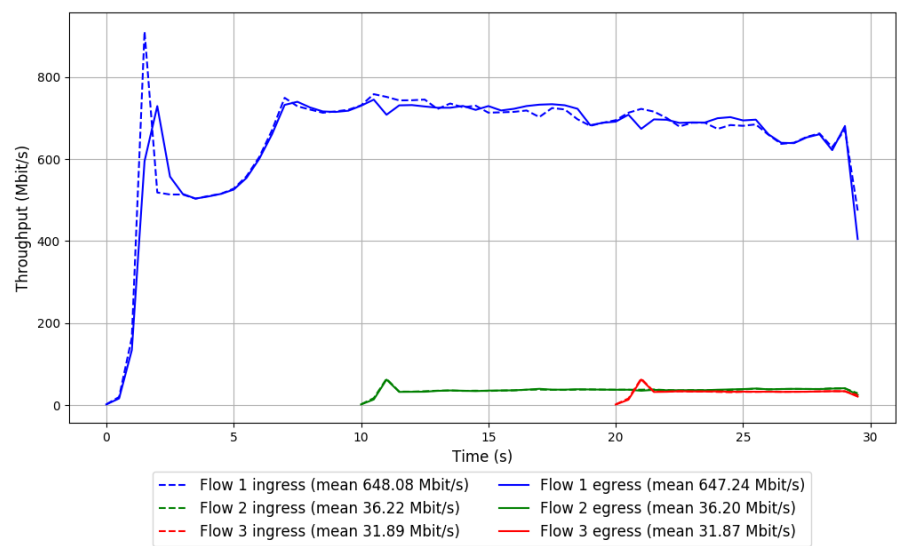
-- Flow 3:

Average throughput: 31.87 Mbit/s

95th percentile per-packet one-way delay: 106.190 ms

Loss rate: 1.14%

Run 8: Report of PCC — Data Link



Run 9: Statistics of PCC

Start at: 2017-12-06 05:08:21

End at: 2017-12-06 05:08:51

Below is generated by plot.py at 2017-12-06 08:18:45

Datalink statistics

-- Total of 3 flows:

Average throughput: 656.20 Mbit/s

95th percentile per-packet one-way delay: 154.930 ms

Loss rate: 2.07%

-- Flow 1:

Average throughput: 632.88 Mbit/s

95th percentile per-packet one-way delay: 155.720 ms

Loss rate: 2.04%

-- Flow 2:

Average throughput: 4.15 Mbit/s

95th percentile per-packet one-way delay: 148.203 ms

Loss rate: 1.92%

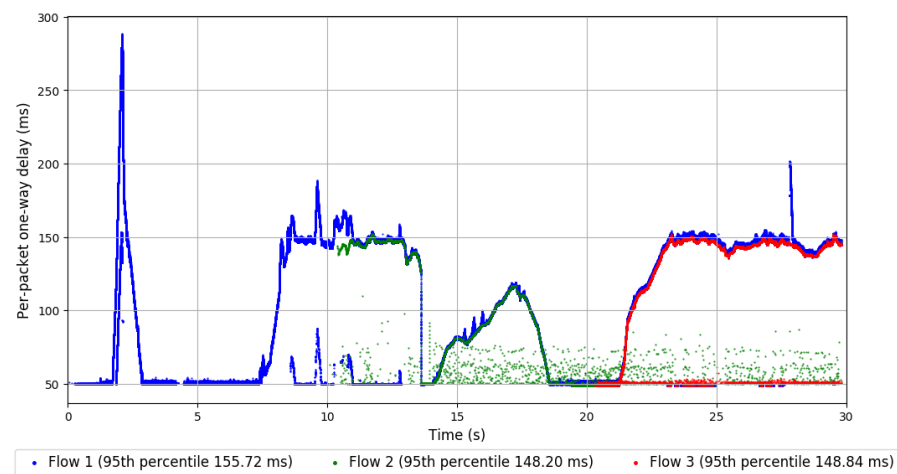
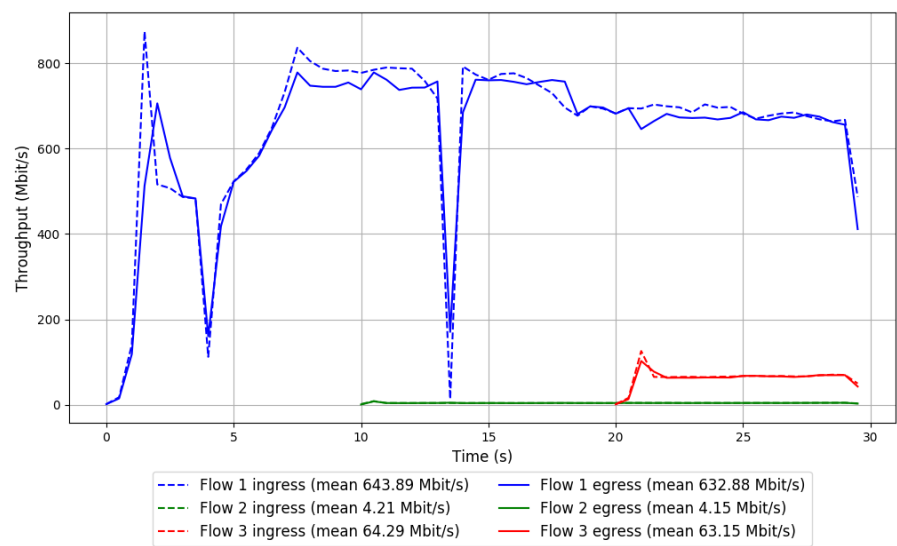
-- Flow 3:

Average throughput: 63.15 Mbit/s

95th percentile per-packet one-way delay: 148.835 ms

Loss rate: 2.79%

Run 9: Report of PCC — Data Link

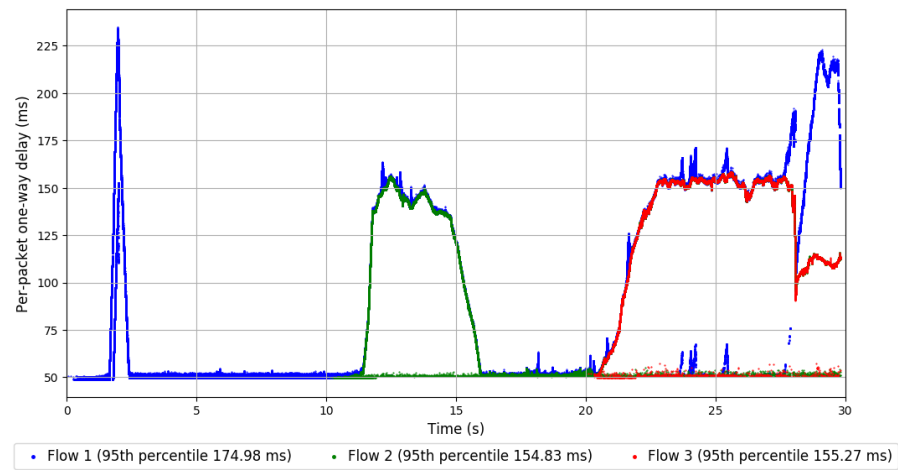
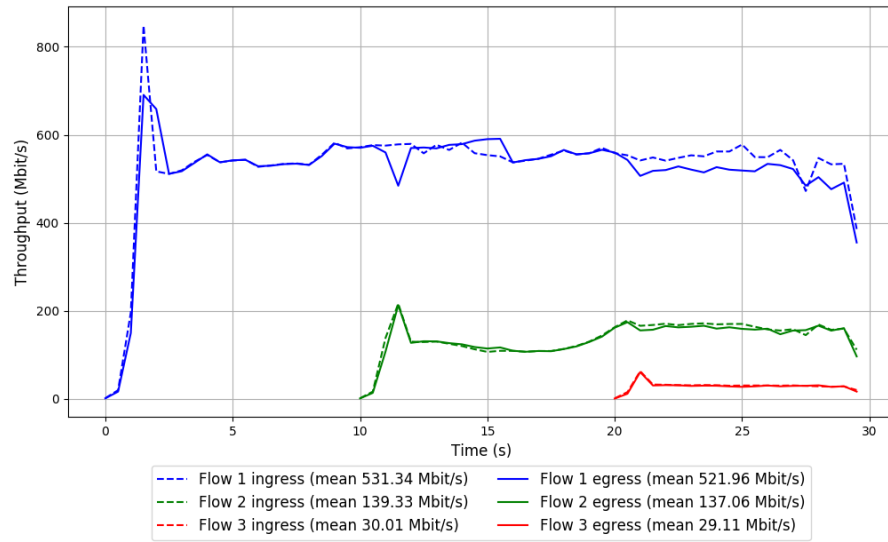


```
Run 10: Statistics of PCC

Start at: 2017-12-06 05:20:48
End at: 2017-12-06 05:21:18

# Below is generated by plot.py at 2017-12-06 08:18:45
# Datalink statistics
-- Total of 3 flows:
Average throughput: 622.31 Mbit/s
95th percentile per-packet one-way delay: 166.943 ms
Loss rate: 2.13%
-- Flow 1:
Average throughput: 521.96 Mbit/s
95th percentile per-packet one-way delay: 174.976 ms
Loss rate: 2.10%
-- Flow 2:
Average throughput: 137.06 Mbit/s
95th percentile per-packet one-way delay: 154.832 ms
Loss rate: 2.14%
-- Flow 3:
Average throughput: 29.11 Mbit/s
95th percentile per-packet one-way delay: 155.273 ms
Loss rate: 4.03%
```

Run 10: Report of PCC — Data Link

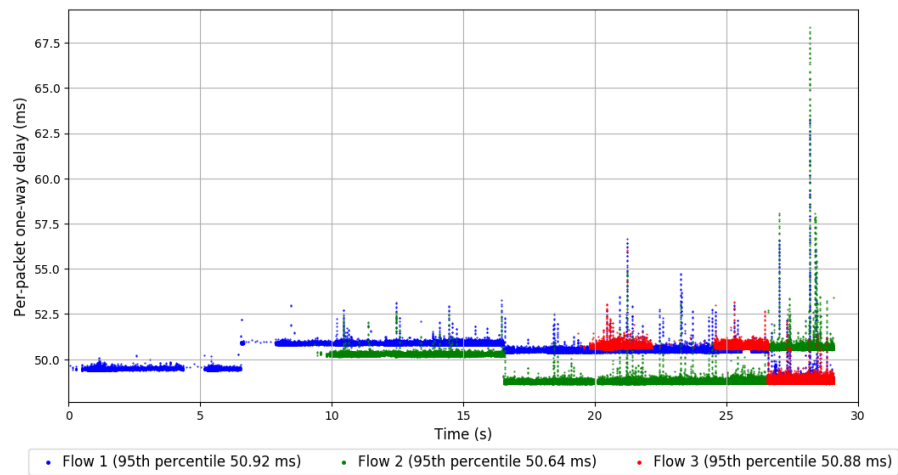
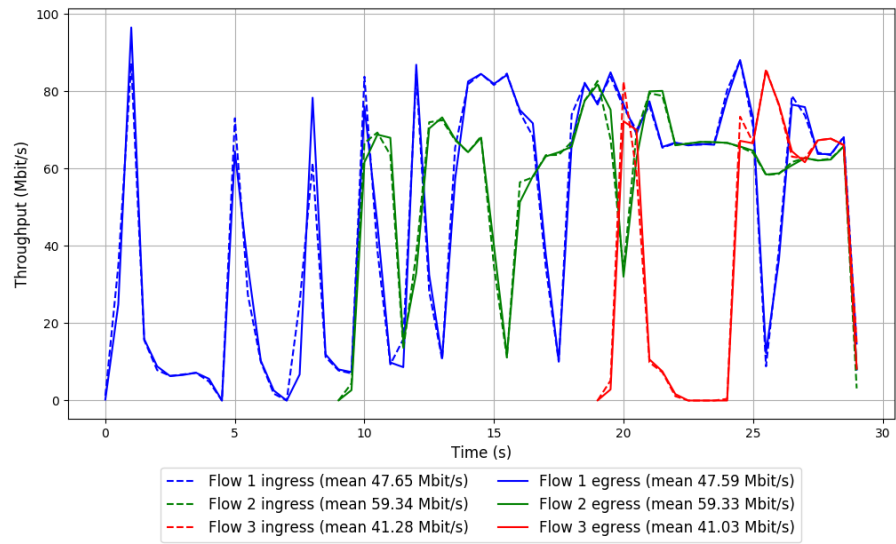


```
Run 1: Statistics of QUIC Cubic

Start at: 2017-12-06 03:32:33
End at: 2017-12-06 03:33:03

# Below is generated by plot.py at 2017-12-06 08:18:45
# Datalink statistics
-- Total of 3 flows:
Average throughput: 101.62 Mbit/s
95th percentile per-packet one-way delay: 50.884 ms
Loss rate: 0.47%
-- Flow 1:
Average throughput: 47.59 Mbit/s
95th percentile per-packet one-way delay: 50.918 ms
Loss rate: 0.46%
-- Flow 2:
Average throughput: 59.33 Mbit/s
95th percentile per-packet one-way delay: 50.641 ms
Loss rate: 0.07%
-- Flow 3:
Average throughput: 41.03 Mbit/s
95th percentile per-packet one-way delay: 50.884 ms
Loss rate: 1.64%
```


Run 1: Report of QUIC Cubic — Data Link



Run 2: Statistics of QUIC Cubic

Start at: 2017-12-06 03:44:57

End at: 2017-12-06 03:45:27

Below is generated by plot.py at 2017-12-06 08:18:45

Datalink statistics

-- Total of 3 flows:

Average throughput: 101.97 Mbit/s

95th percentile per-packet one-way delay: 50.679 ms

Loss rate: 0.65%

-- Flow 1:

Average throughput: 68.89 Mbit/s

95th percentile per-packet one-way delay: 50.703 ms

Loss rate: 0.33%

-- Flow 2:

Average throughput: 24.59 Mbit/s

95th percentile per-packet one-way delay: 50.394 ms

Loss rate: 1.49%

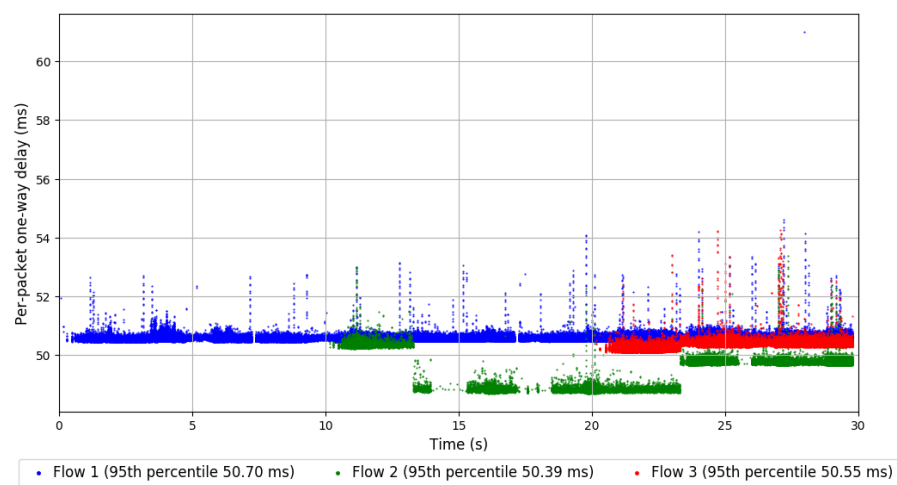
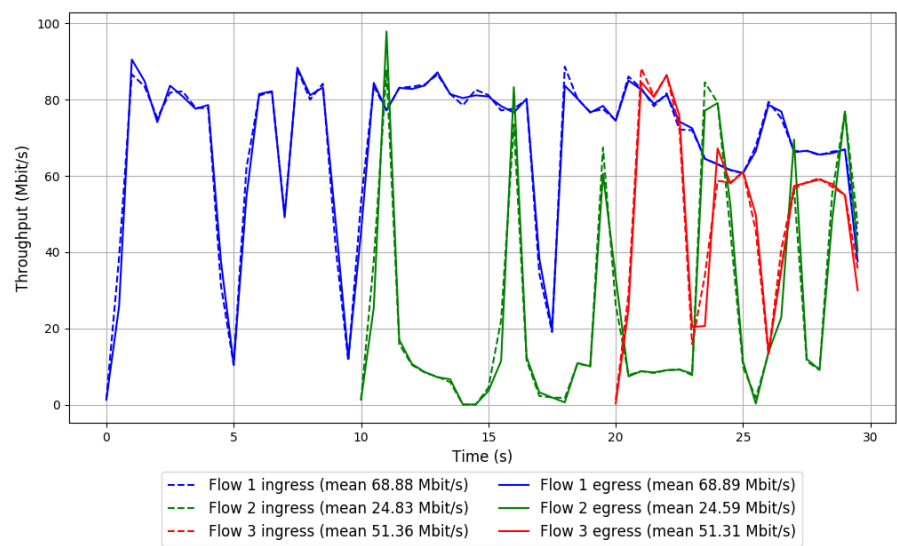
-- Flow 3:

Average throughput: 51.31 Mbit/s

95th percentile per-packet one-way delay: 50.546 ms

Loss rate: 1.12%

Run 2: Report of QUIC Cubic — Data Link



Run 3: Statistics of QUIC Cubic

Start at: 2017-12-06 03:57:31

End at: 2017-12-06 03:58:01

Below is generated by plot.py at 2017-12-06 08:18:45

Datalink statistics

-- Total of 3 flows:

Average throughput: 129.65 Mbit/s

95th percentile per-packet one-way delay: 50.874 ms

Loss rate: 0.30%

-- Flow 1:

Average throughput: 69.08 Mbit/s

95th percentile per-packet one-way delay: 50.871 ms

Loss rate: 0.32%

-- Flow 2:

Average throughput: 60.22 Mbit/s

95th percentile per-packet one-way delay: 50.909 ms

Loss rate: 0.32%

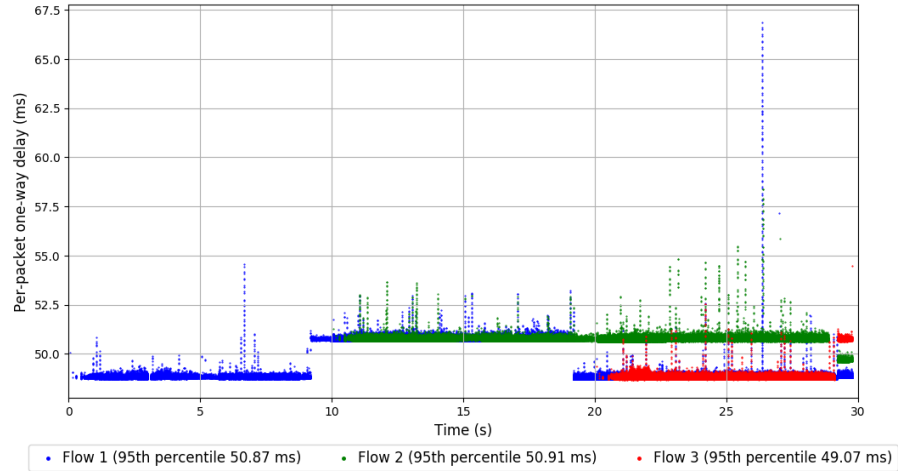
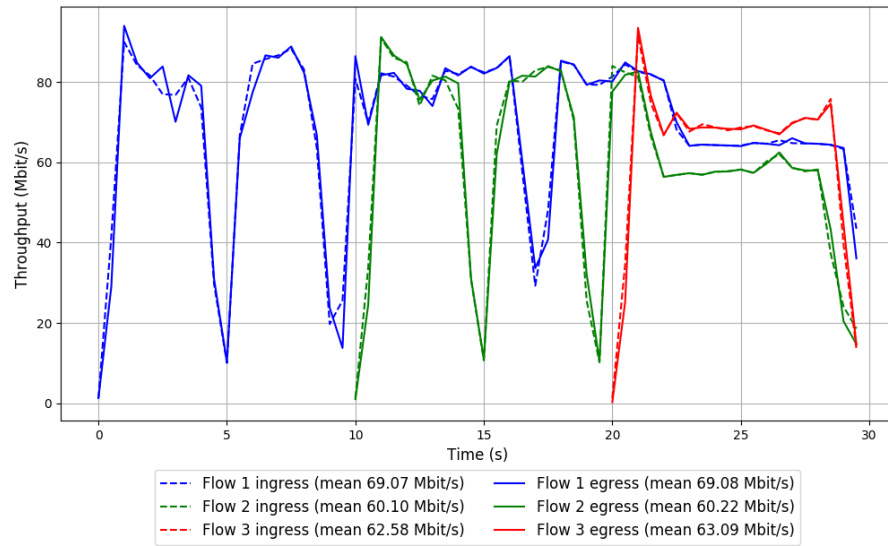
-- Flow 3:

Average throughput: 63.09 Mbit/s

95th percentile per-packet one-way delay: 49.067 ms

Loss rate: 0.18%

Run 3: Report of QUIC Cubic — Data Link



Run 4: Statistics of QUIC Cubic

Start at: 2017-12-06 04:09:53

End at: 2017-12-06 04:10:23

Below is generated by plot.py at 2017-12-06 08:18:45

Datalink statistics

-- Total of 3 flows:

Average throughput: 131.07 Mbit/s

95th percentile per-packet one-way delay: 50.717 ms

Loss rate: 0.50%

-- Flow 1:

Average throughput: 70.24 Mbit/s

95th percentile per-packet one-way delay: 50.268 ms

Loss rate: 0.31%

-- Flow 2:

Average throughput: 58.75 Mbit/s

95th percentile per-packet one-way delay: 50.844 ms

Loss rate: 0.49%

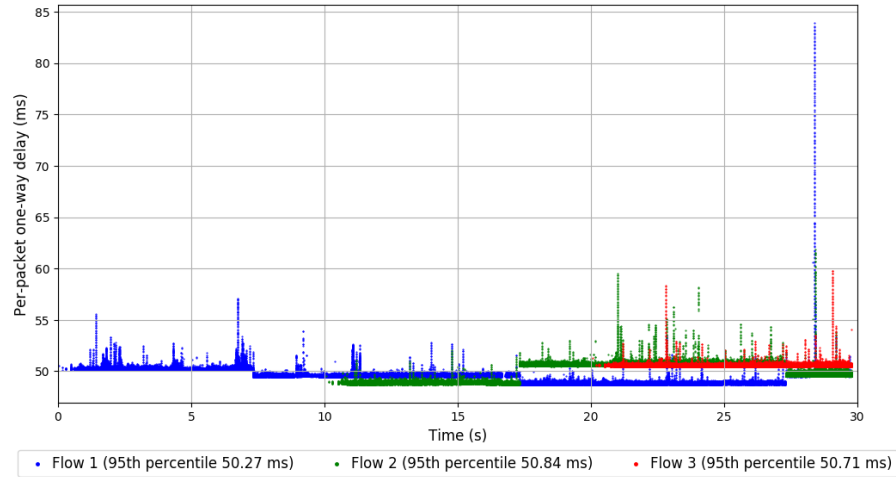
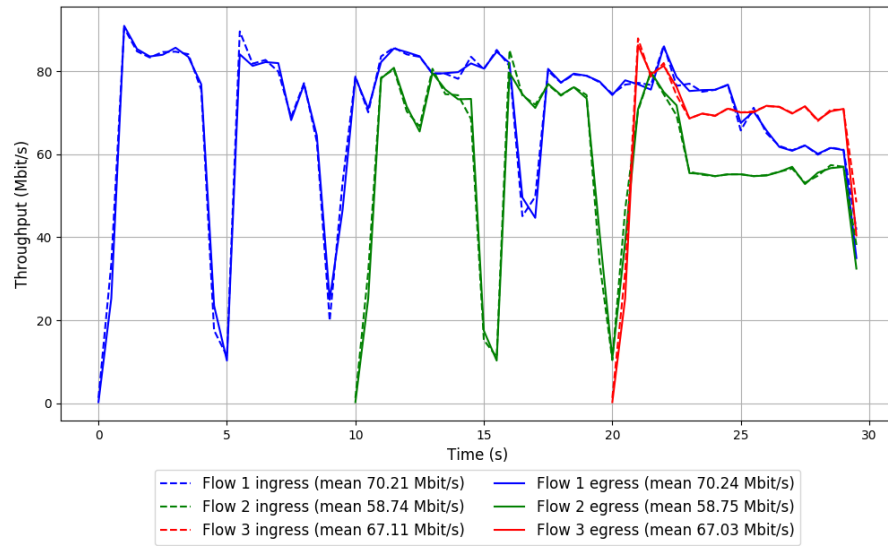
-- Flow 3:

Average throughput: 67.03 Mbit/s

95th percentile per-packet one-way delay: 50.710 ms

Loss rate: 1.15%

Run 4: Report of QUIC Cubic — Data Link



Run 5: Statistics of QUIC Cubic

Start at: 2017-12-06 04:22:17

End at: 2017-12-06 04:22:47

Below is generated by plot.py at 2017-12-06 08:18:45

Datalink statistics

-- Total of 3 flows:

Average throughput: 114.33 Mbit/s

95th percentile per-packet one-way delay: 50.870 ms

Loss rate: 0.50%

-- Flow 1:

Average throughput: 71.74 Mbit/s

95th percentile per-packet one-way delay: 50.901 ms

Loss rate: 0.34%

-- Flow 2:

Average throughput: 41.19 Mbit/s

95th percentile per-packet one-way delay: 50.455 ms

Loss rate: 0.92%

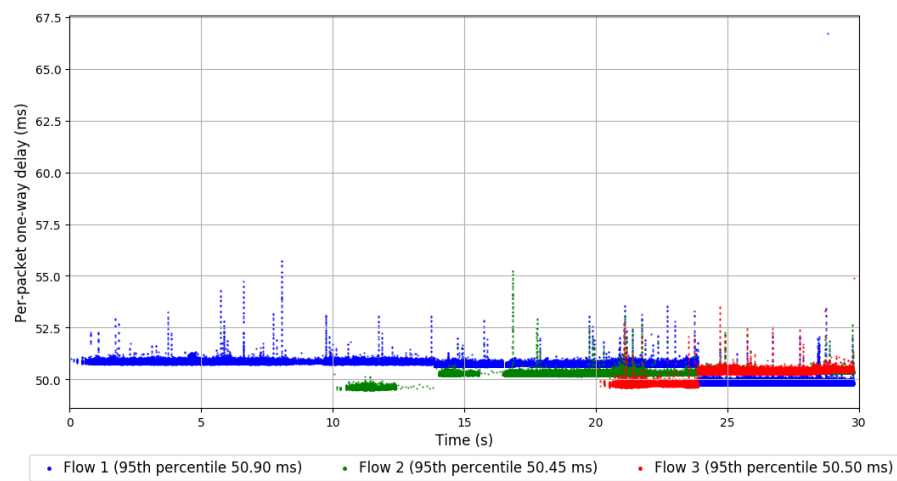
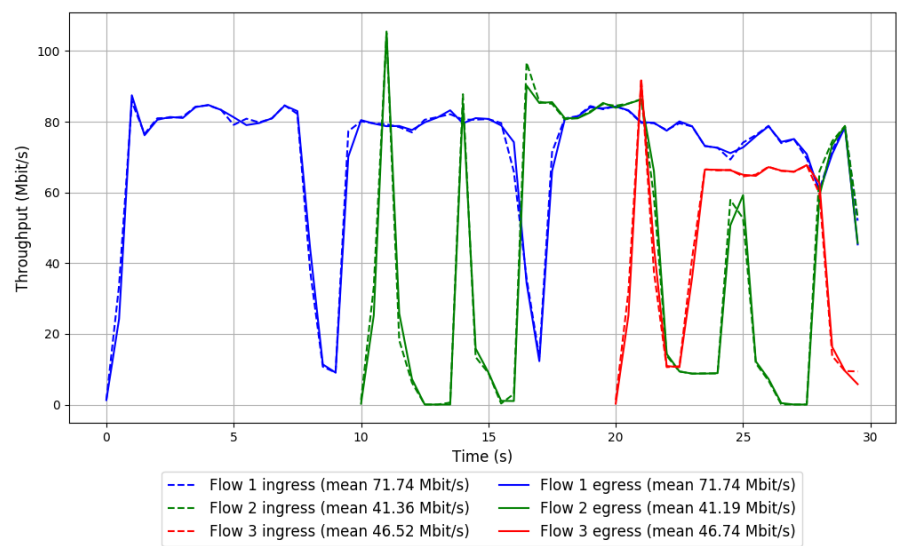
-- Flow 3:

Average throughput: 46.74 Mbit/s

95th percentile per-packet one-way delay: 50.502 ms

Loss rate: 0.50%

Run 5: Report of QUIC Cubic — Data Link



Run 6: Statistics of QUIC Cubic

Start at: 2017-12-06 04:34:39

End at: 2017-12-06 04:35:09

Below is generated by plot.py at 2017-12-06 08:18:45

Datalink statistics

-- Total of 3 flows:

Average throughput: 128.53 Mbit/s

95th percentile per-packet one-way delay: 50.972 ms

Loss rate: 0.39%

-- Flow 1:

Average throughput: 69.67 Mbit/s

95th percentile per-packet one-way delay: 50.871 ms

Loss rate: 0.30%

-- Flow 2:

Average throughput: 63.54 Mbit/s

95th percentile per-packet one-way delay: 49.794 ms

Loss rate: 0.07%

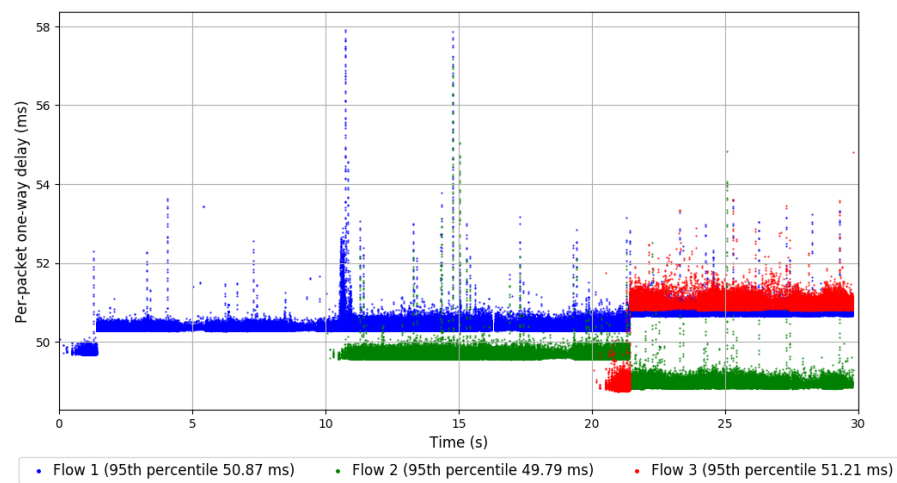
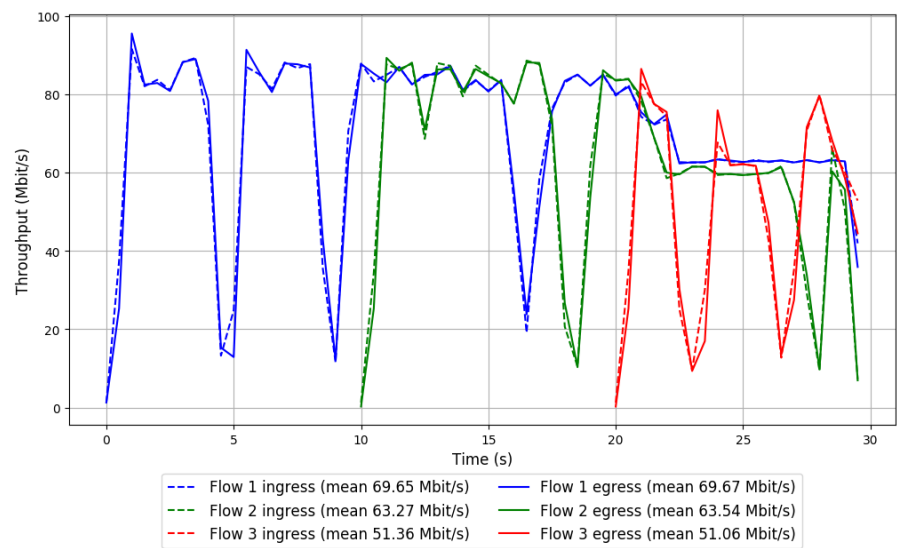
-- Flow 3:

Average throughput: 51.06 Mbit/s

95th percentile per-packet one-way delay: 51.212 ms

Loss rate: 1.56%

Run 6: Report of QUIC Cubic — Data Link



Run 7: Statistics of QUIC Cubic

Start at: 2017-12-06 04:47:16

End at: 2017-12-06 04:47:46

Below is generated by plot.py at 2017-12-06 08:18:45

Datalink statistics

-- Total of 3 flows:

Average throughput: 120.72 Mbit/s

95th percentile per-packet one-way delay: 51.037 ms

Loss rate: 0.58%

-- Flow 1:

Average throughput: 63.74 Mbit/s

95th percentile per-packet one-way delay: 51.051 ms

Loss rate: 0.32%

-- Flow 2:

Average throughput: 63.50 Mbit/s

95th percentile per-packet one-way delay: 50.529 ms

Loss rate: 0.55%

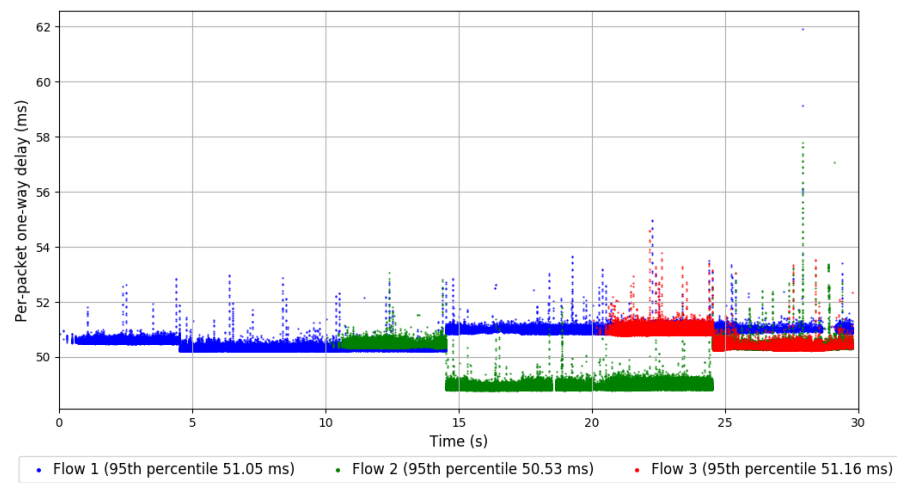
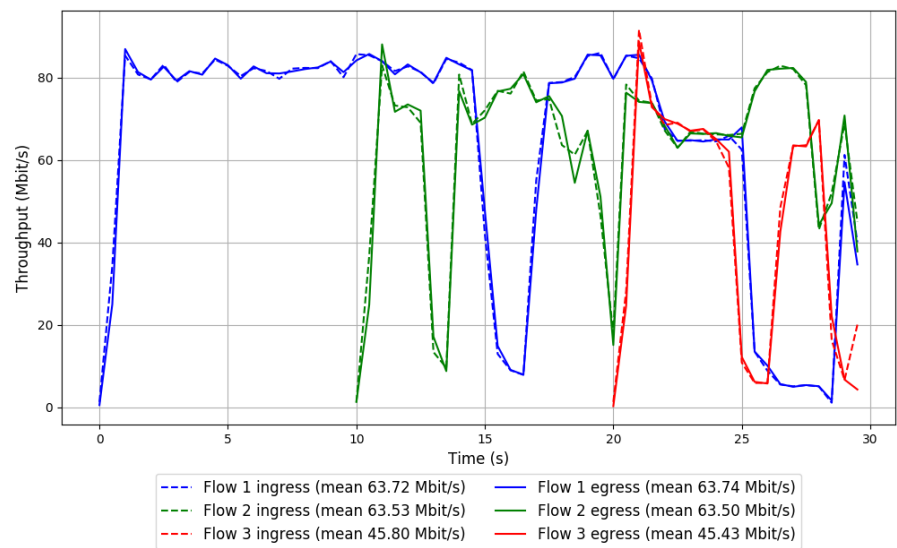
-- Flow 3:

Average throughput: 45.43 Mbit/s

95th percentile per-packet one-way delay: 51.165 ms

Loss rate: 1.81%

Run 7: Report of QUIC Cubic — Data Link



Run 8: Statistics of QUIC Cubic

Start at: 2017-12-06 04:59:40

End at: 2017-12-06 05:00:10

Below is generated by plot.py at 2017-12-06 08:18:45

Datalink statistics

-- Total of 3 flows:

Average throughput: 132.19 Mbit/s

95th percentile per-packet one-way delay: 50.719 ms

Loss rate: 0.54%

-- Flow 1:

Average throughput: 74.34 Mbit/s

95th percentile per-packet one-way delay: 50.752 ms

Loss rate: 0.38%

-- Flow 2:

Average throughput: 57.65 Mbit/s

95th percentile per-packet one-way delay: 50.510 ms

Loss rate: 0.53%

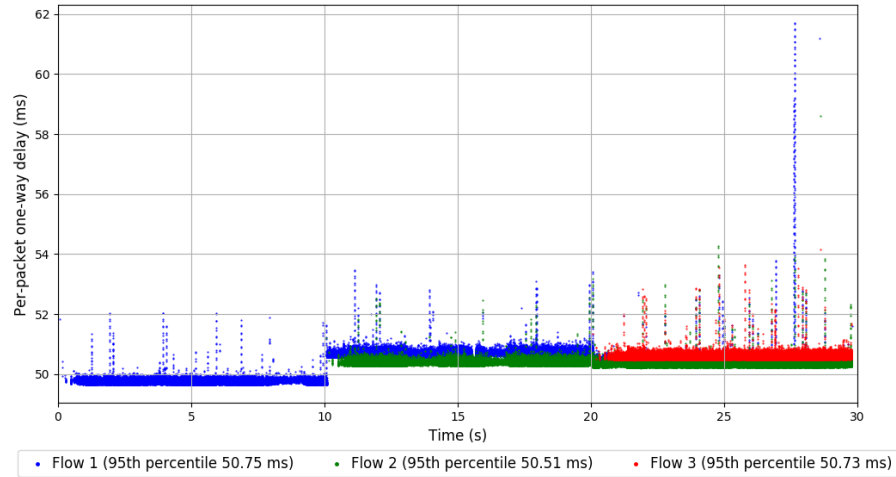
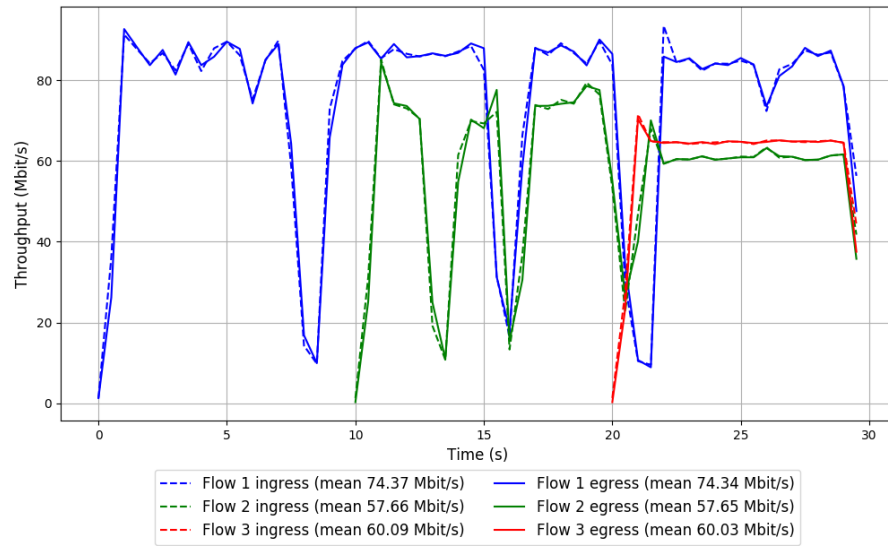
-- Flow 3:

Average throughput: 60.03 Mbit/s

95th percentile per-packet one-way delay: 50.733 ms

Loss rate: 1.13%

Run 8: Report of QUIC Cubic — Data Link



Run 9: Statistics of QUIC Cubic

Start at: 2017-12-06 05:11:45

End at: 2017-12-06 05:12:15

Below is generated by plot.py at 2017-12-06 08:18:45

Datalink statistics

-- Total of 3 flows:

Average throughput: 110.07 Mbit/s

95th percentile per-packet one-way delay: 50.804 ms

Loss rate: 0.64%

-- Flow 1:

Average throughput: 63.35 Mbit/s

95th percentile per-packet one-way delay: 50.730 ms

Loss rate: 0.41%

-- Flow 2:

Average throughput: 58.63 Mbit/s

95th percentile per-packet one-way delay: 50.832 ms

Loss rate: 0.55%

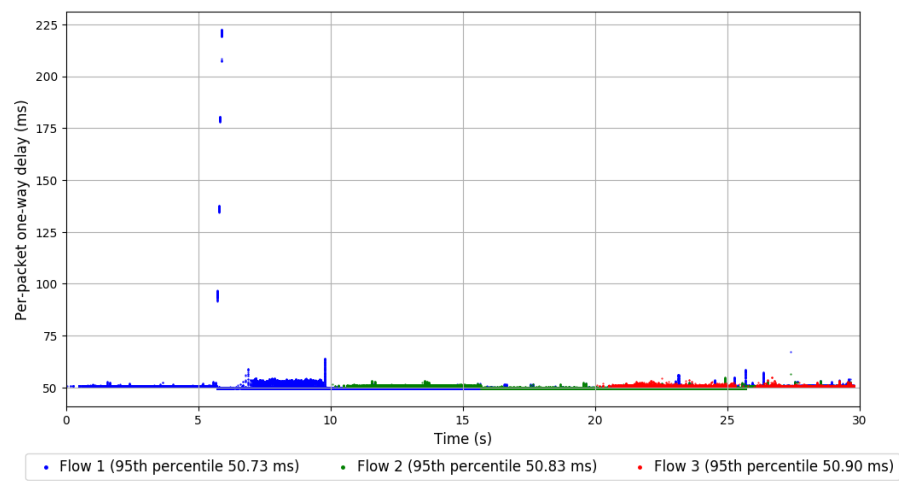
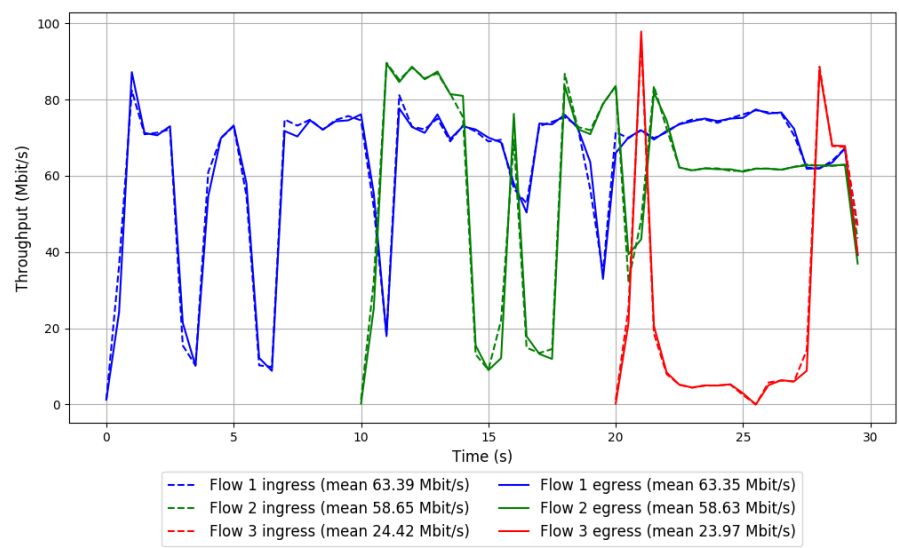
-- Flow 3:

Average throughput: 23.97 Mbit/s

95th percentile per-packet one-way delay: 50.902 ms

Loss rate: 2.90%

Run 9: Report of QUIC Cubic — Data Link

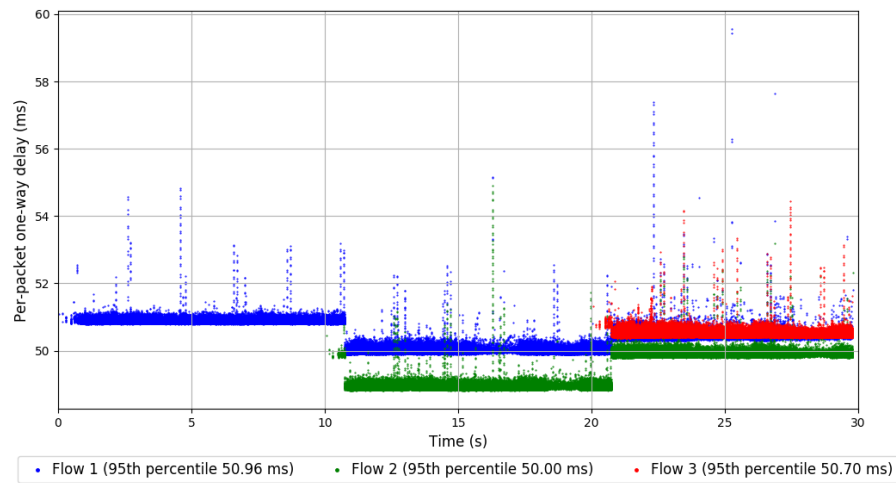
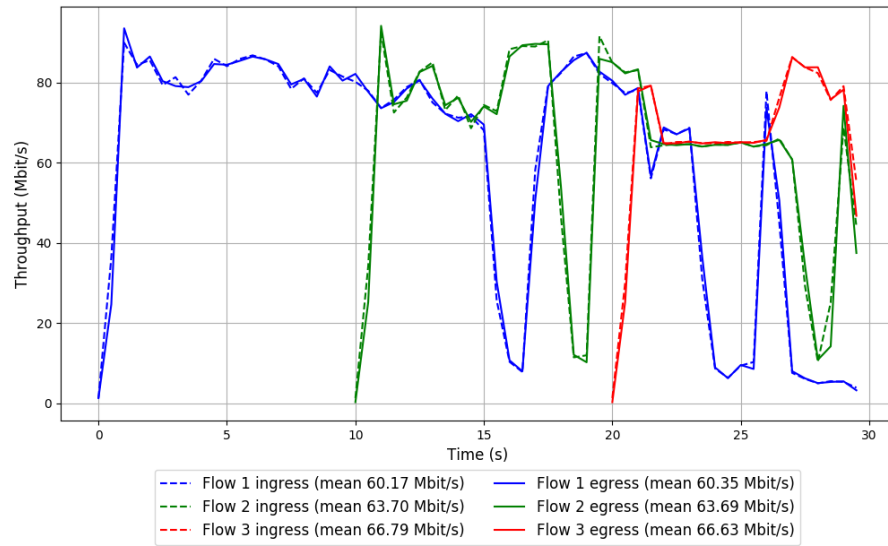


```
Run 10: Statistics of QUIC Cubic

Start at: 2017-12-06 05:24:20
End at: 2017-12-06 05:24:50

# Below is generated by plot.py at 2017-12-06 08:18:45
# Datalink statistics
-- Total of 3 flows:
Average throughput: 124.41 Mbit/s
95th percentile per-packet one-way delay: 50.906 ms
Loss rate: 0.42%
-- Flow 1:
Average throughput: 60.35 Mbit/s
95th percentile per-packet one-way delay: 50.957 ms
Loss rate: 0.03%
-- Flow 2:
Average throughput: 63.69 Mbit/s
95th percentile per-packet one-way delay: 50.004 ms
Loss rate: 0.52%
-- Flow 3:
Average throughput: 66.63 Mbit/s
95th percentile per-packet one-way delay: 50.704 ms
Loss rate: 1.27%
```

Run 10: Report of QUIC Cubic — Data Link

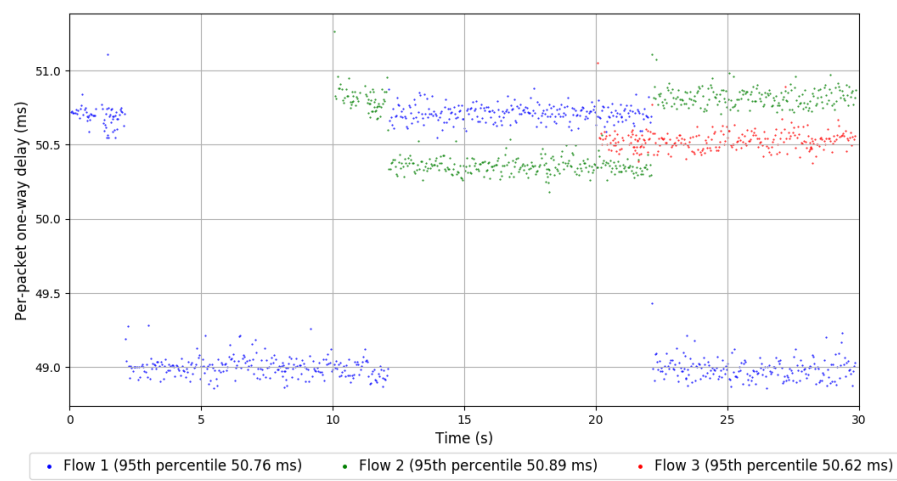
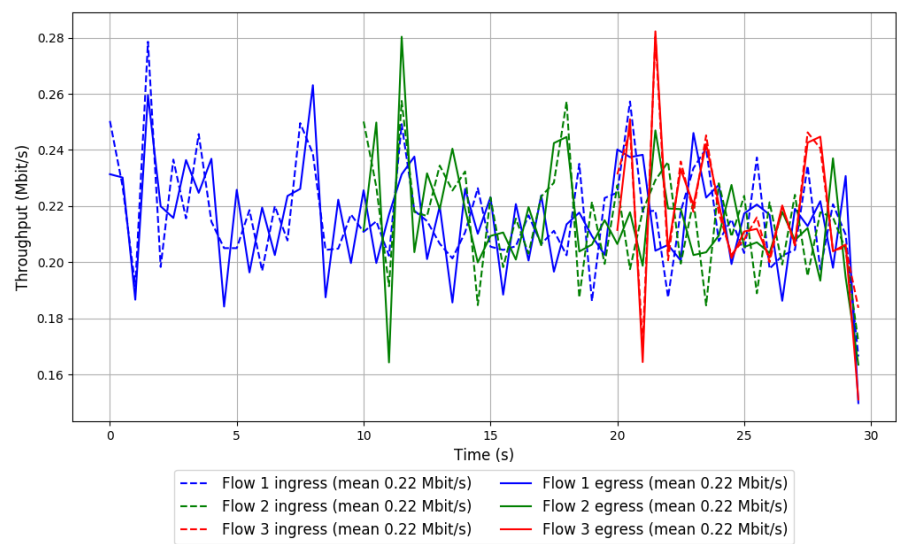


```
Run 1: Statistics of SCReAM

Start at: 2017-12-06 03:30:08
End at: 2017-12-06 03:30:38

# Below is generated by plot.py at 2017-12-06 08:18:45
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.43 Mbit/s
95th percentile per-packet one-way delay: 50.853 ms
Loss rate: 0.45%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 50.762 ms
Loss rate: 0.25%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 50.886 ms
Loss rate: 0.42%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 50.618 ms
Loss rate: 1.10%
```

Run 1: Report of SReAM — Data Link

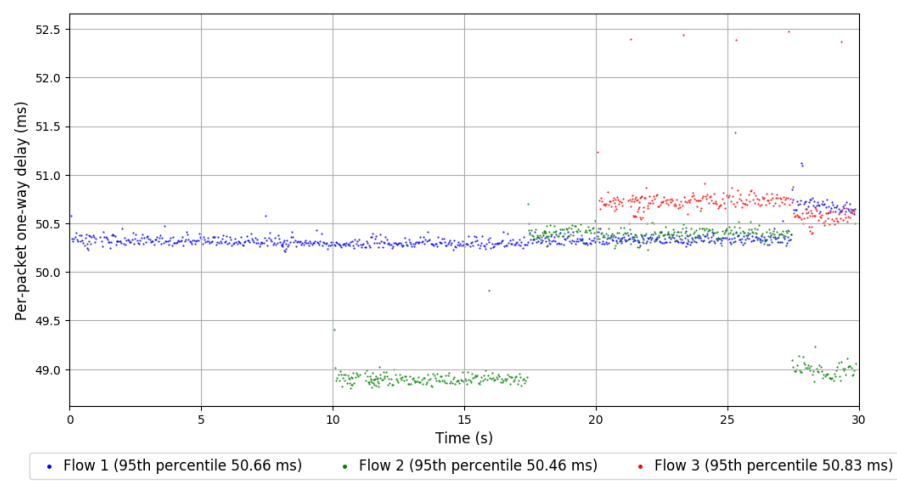
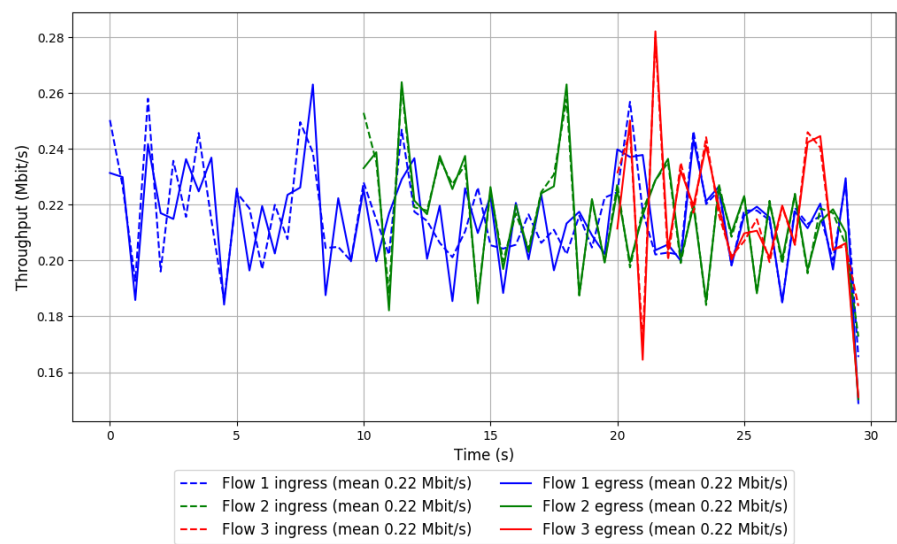


```
Run 2: Statistics of SReAM

Start at: 2017-12-06 03:42:33
End at: 2017-12-06 03:43:03

# Below is generated by plot.py at 2017-12-06 08:18:45
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.43 Mbit/s
95th percentile per-packet one-way delay: 50.751 ms
Loss rate: 0.45%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 50.663 ms
Loss rate: 0.25%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 50.458 ms
Loss rate: 0.42%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 50.827 ms
Loss rate: 1.11%
```

Run 2: Report of SReAM — Data Link

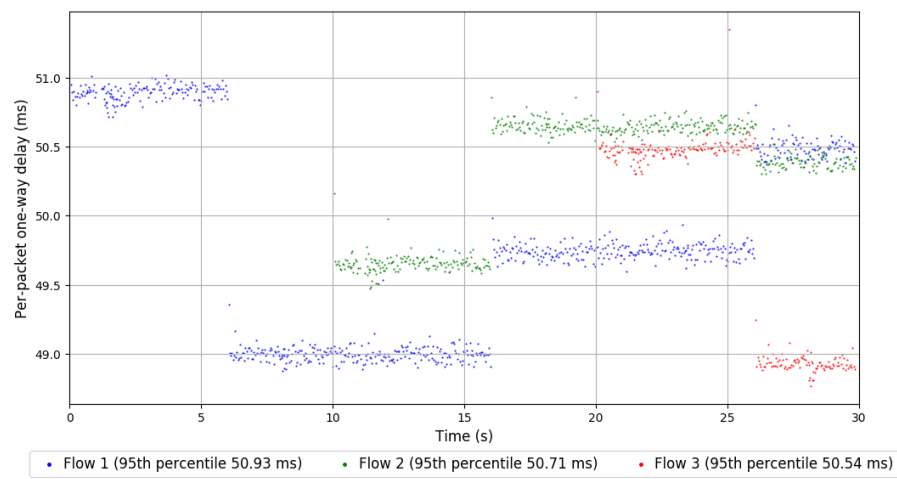
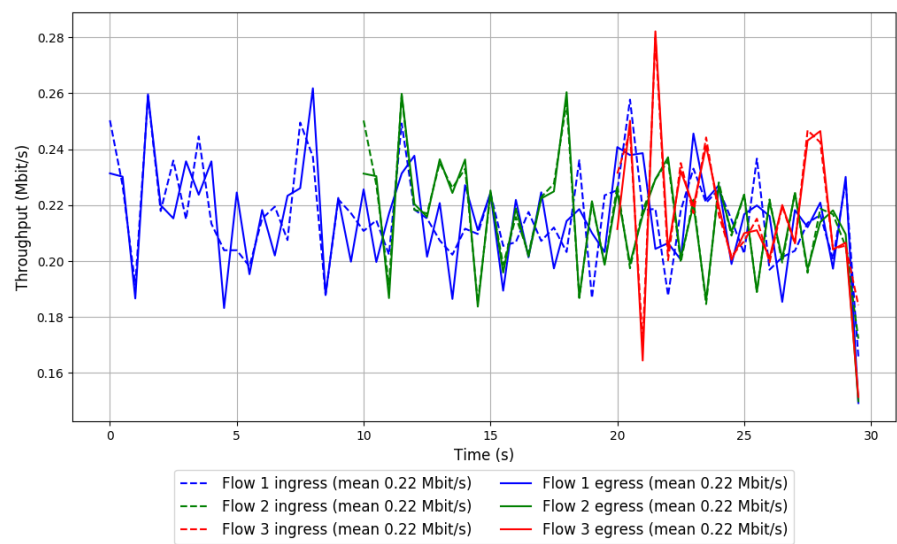


```
Run 3: Statistics of SCReAM

Start at: 2017-12-06 03:55:04
End at: 2017-12-06 03:55:34

# Below is generated by plot.py at 2017-12-06 08:18:45
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.43 Mbit/s
95th percentile per-packet one-way delay: 50.903 ms
Loss rate: 0.45%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 50.927 ms
Loss rate: 0.25%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 50.712 ms
Loss rate: 0.42%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 50.543 ms
Loss rate: 1.11%
```


Run 3: Report of SReAM — Data Link

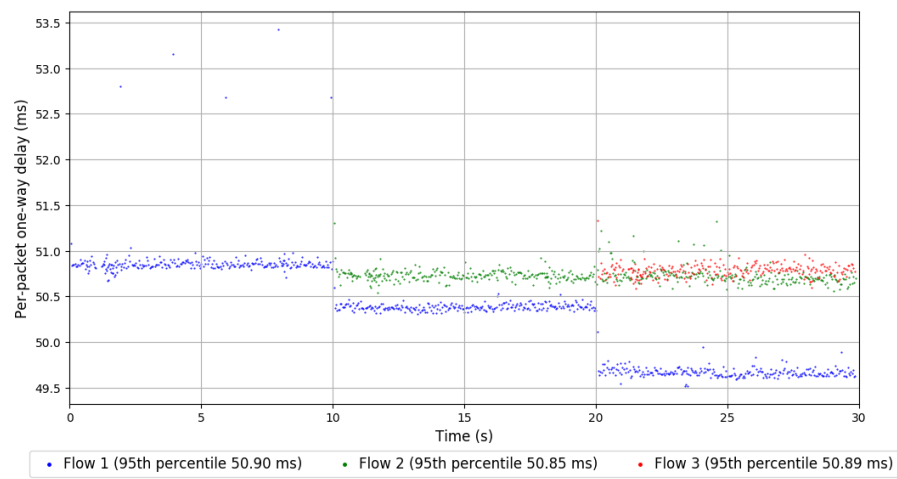
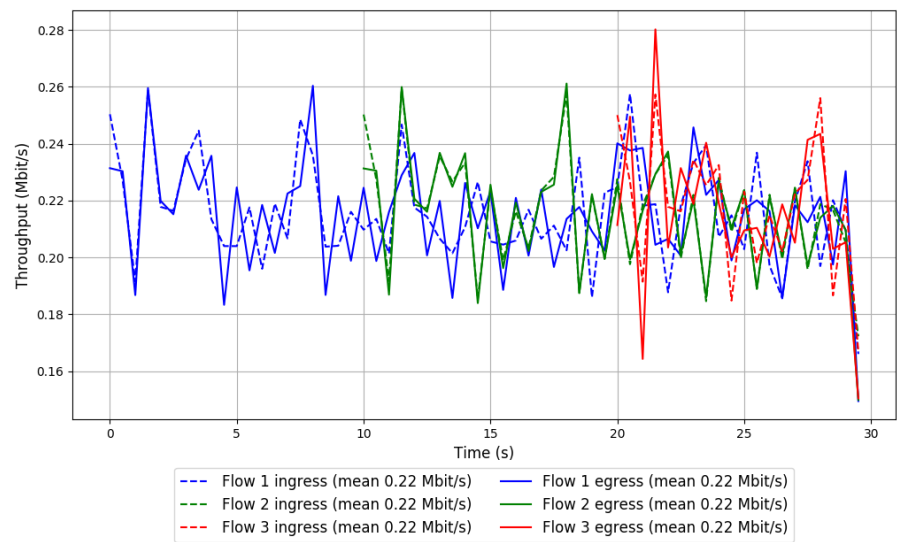


```
Run 4: Statistics of SReAM

Start at: 2017-12-06 04:07:40
End at: 2017-12-06 04:08:10

# Below is generated by plot.py at 2017-12-06 08:18:45
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.43 Mbit/s
95th percentile per-packet one-way delay: 50.892 ms
Loss rate: 0.45%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 50.897 ms
Loss rate: 0.25%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 50.847 ms
Loss rate: 0.42%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 50.889 ms
Loss rate: 1.11%
```

Run 4: Report of SReAM — Data Link



Run 5: Statistics of SReAM

Start at: 2017-12-06 04:19:55

End at: 2017-12-06 04:20:25

Below is generated by plot.py at 2017-12-06 08:18:45

Datalink statistics

-- Total of 3 flows:

Average throughput: 0.43 Mbit/s

95th percentile per-packet one-way delay: 50.776 ms

Loss rate: 0.45%

-- Flow 1:

Average throughput: 0.22 Mbit/s

95th percentile per-packet one-way delay: 50.554 ms

Loss rate: 0.25%

-- Flow 2:

Average throughput: 0.22 Mbit/s

95th percentile per-packet one-way delay: 50.735 ms

Loss rate: 0.42%

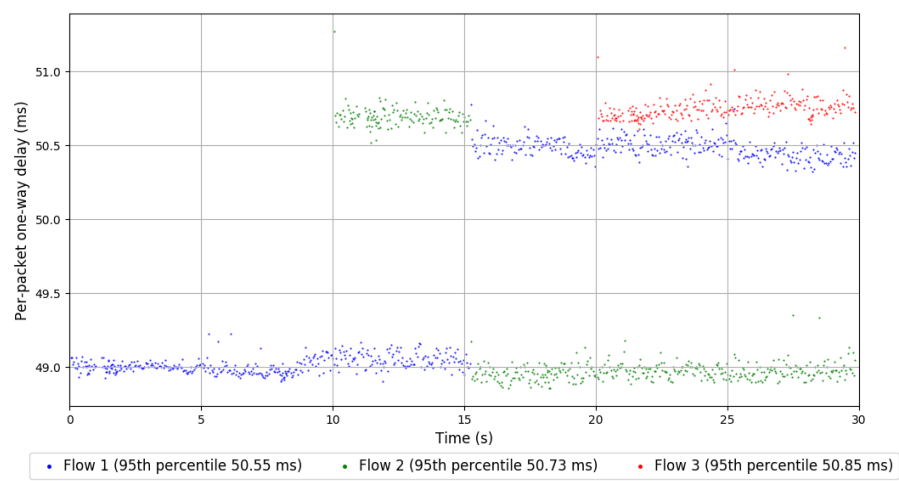
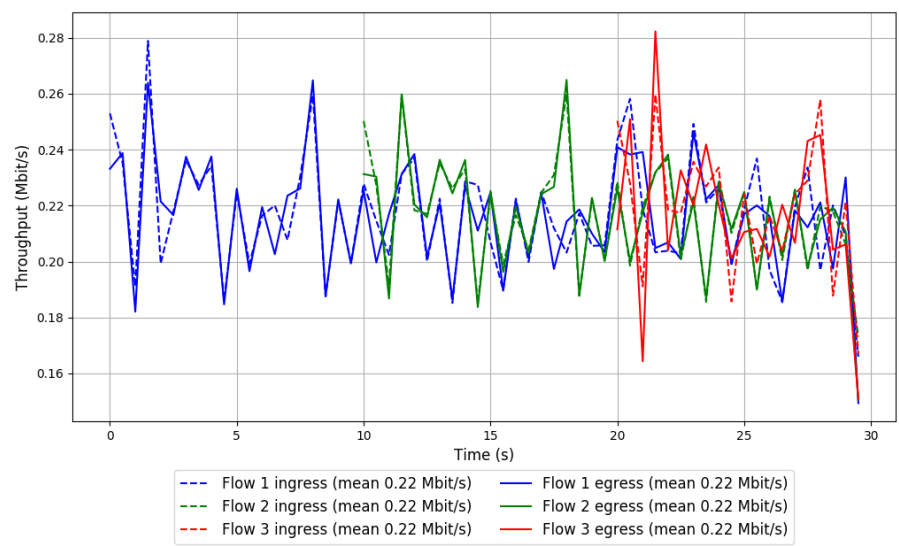
-- Flow 3:

Average throughput: 0.22 Mbit/s

95th percentile per-packet one-way delay: 50.847 ms

Loss rate: 1.10%

Run 5: Report of SReAM — Data Link

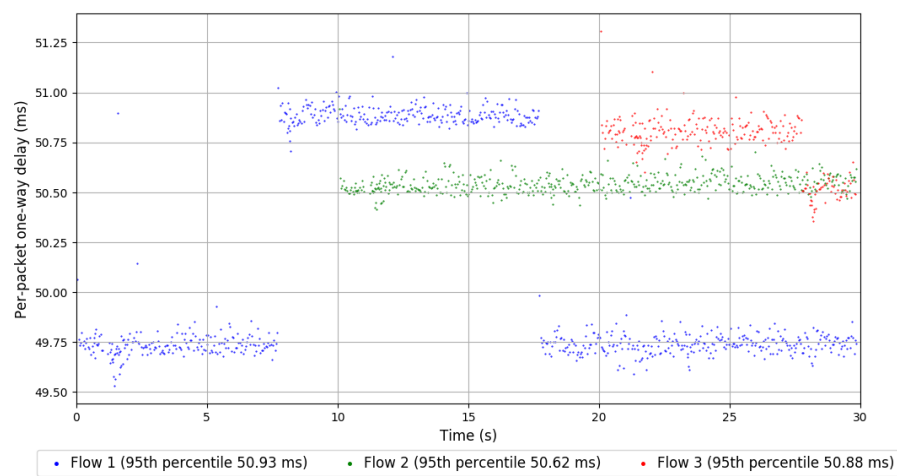
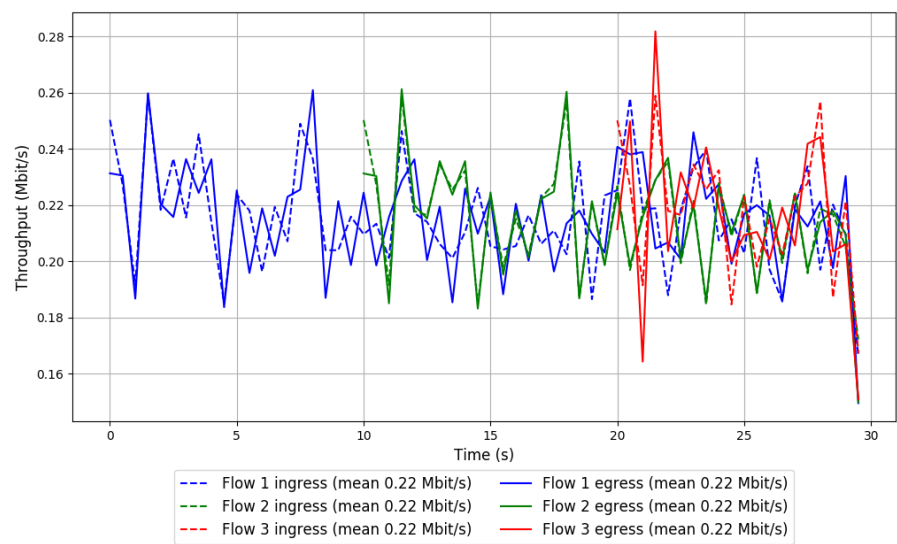


```
Run 6: Statistics of SCReAM

Start at: 2017-12-06 04:32:13
End at: 2017-12-06 04:32:43

# Below is generated by plot.py at 2017-12-06 08:18:45
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.43 Mbit/s
95th percentile per-packet one-way delay: 50.910 ms
Loss rate: 0.45%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 50.931 ms
Loss rate: 0.25%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 50.616 ms
Loss rate: 0.42%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 50.884 ms
Loss rate: 1.11%
```

Run 6: Report of SReAM — Data Link

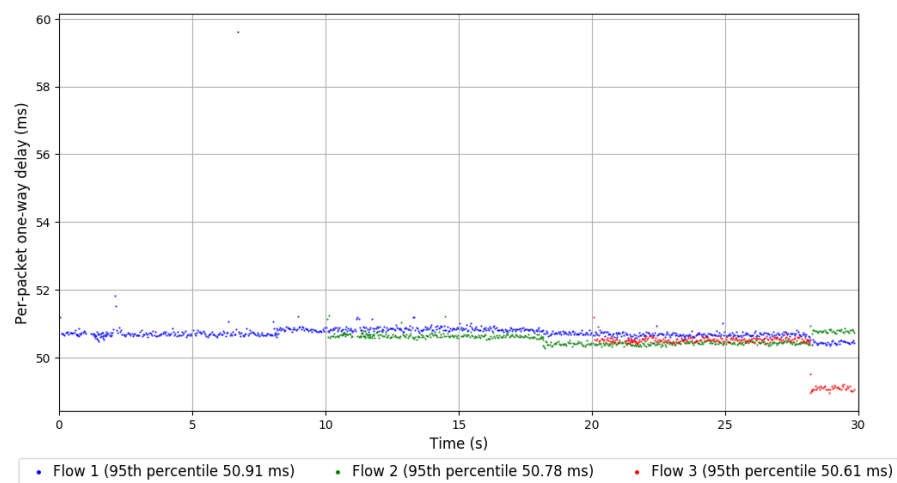
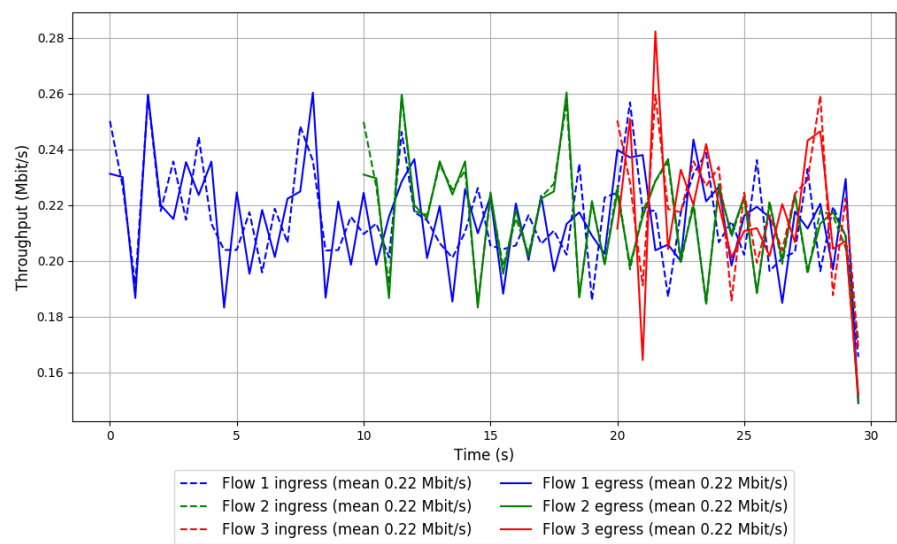


```
Run 7: Statistics of SCReAM

Start at: 2017-12-06 04:44:52
End at: 2017-12-06 04:45:22

# Below is generated by plot.py at 2017-12-06 08:18:45
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.43 Mbit/s
95th percentile per-packet one-way delay: 50.879 ms
Loss rate: 0.46%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 50.907 ms
Loss rate: 0.25%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 50.784 ms
Loss rate: 0.42%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 50.608 ms
Loss rate: 1.11%
```


Run 7: Report of SReAM — Data Link



Run 8: Statistics of SReAM

Start at: 2017-12-06 04:57:16

End at: 2017-12-06 04:57:46

Below is generated by plot.py at 2017-12-06 08:18:45

Datalink statistics

-- Total of 3 flows:

Average throughput: 0.43 Mbit/s

95th percentile per-packet one-way delay: 51.141 ms

Loss rate: 0.52%

-- Flow 1:

Average throughput: 0.22 Mbit/s

95th percentile per-packet one-way delay: 50.793 ms

Loss rate: 0.25%

-- Flow 2:

Average throughput: 0.22 Mbit/s

95th percentile per-packet one-way delay: 51.205 ms

Loss rate: 0.63%

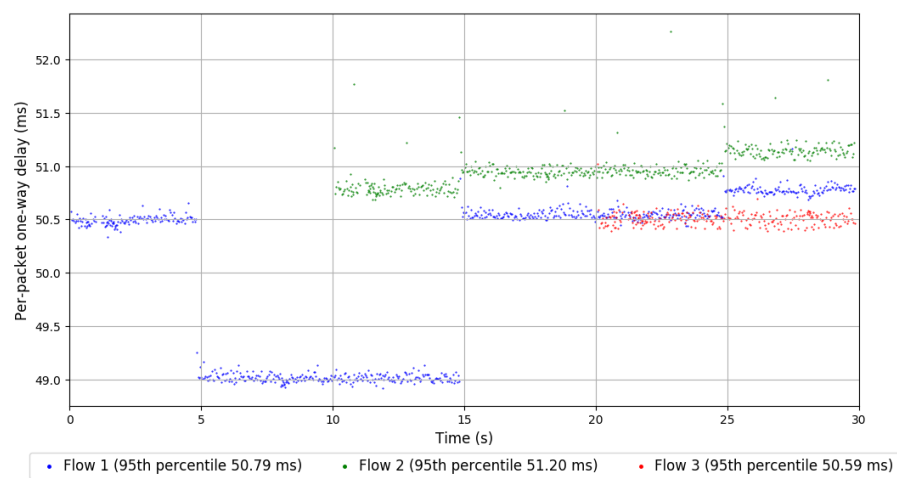
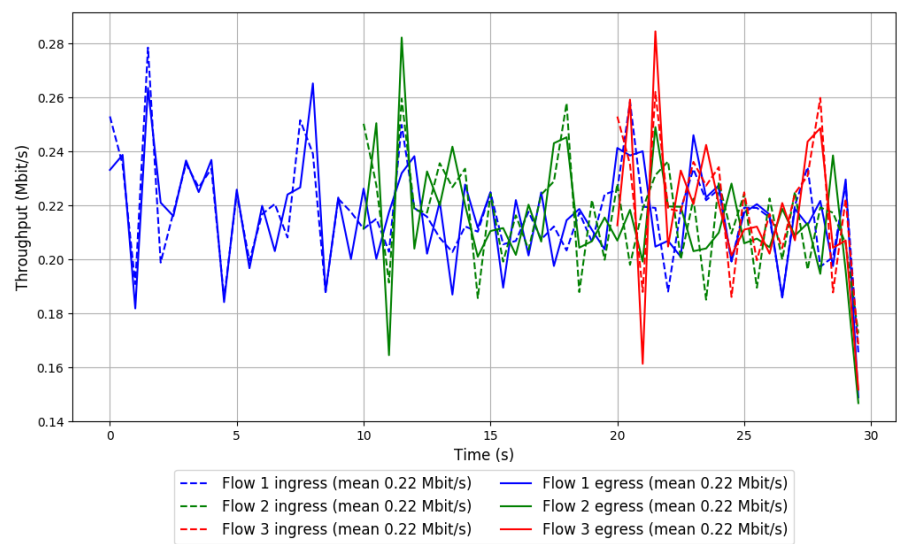
-- Flow 3:

Average throughput: 0.22 Mbit/s

95th percentile per-packet one-way delay: 50.589 ms

Loss rate: 1.11%

Run 8: Report of SReAM — Data Link



Run 9: Statistics of SCReAM

Start at: 2017-12-06 05:09:26

End at: 2017-12-06 05:09:56

Below is generated by plot.py at 2017-12-06 08:18:45

Datalink statistics

-- Total of 3 flows:

Average throughput: 0.43 Mbit/s

95th percentile per-packet one-way delay: 51.204 ms

Loss rate: 0.52%

-- Flow 1:

Average throughput: 0.22 Mbit/s

95th percentile per-packet one-way delay: 51.215 ms

Loss rate: 0.25%

-- Flow 2:

Average throughput: 0.22 Mbit/s

95th percentile per-packet one-way delay: 50.664 ms

Loss rate: 0.63%

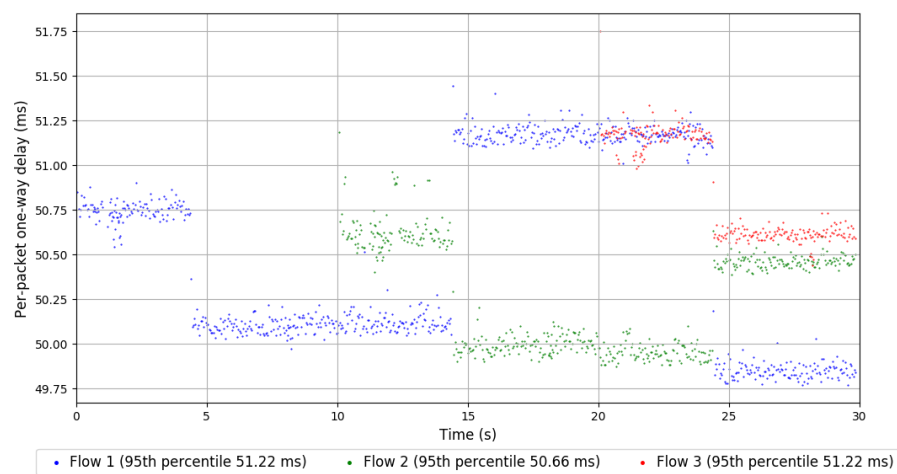
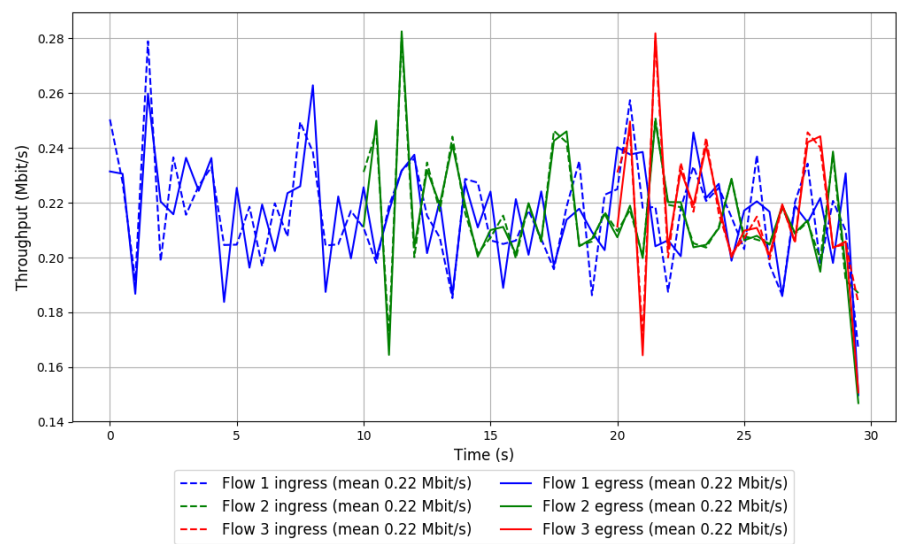
-- Flow 3:

Average throughput: 0.22 Mbit/s

95th percentile per-packet one-way delay: 51.216 ms

Loss rate: 1.11%

Run 9: Report of SReAM — Data Link

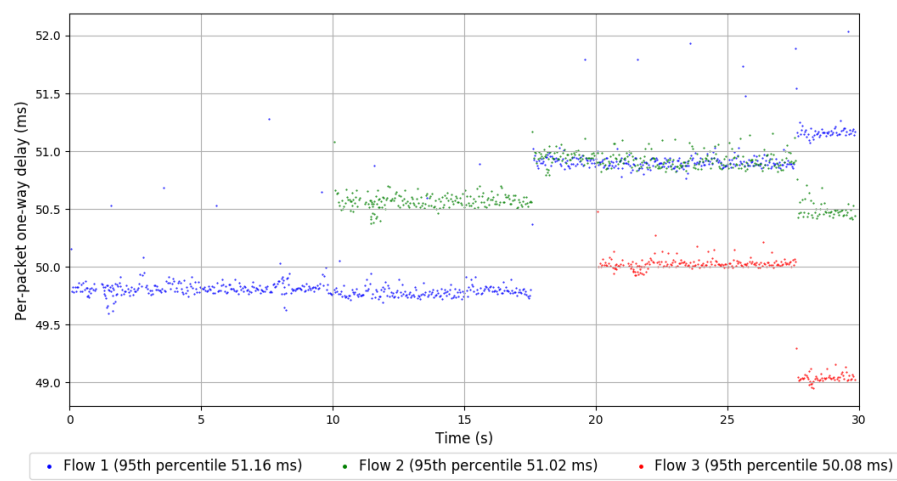
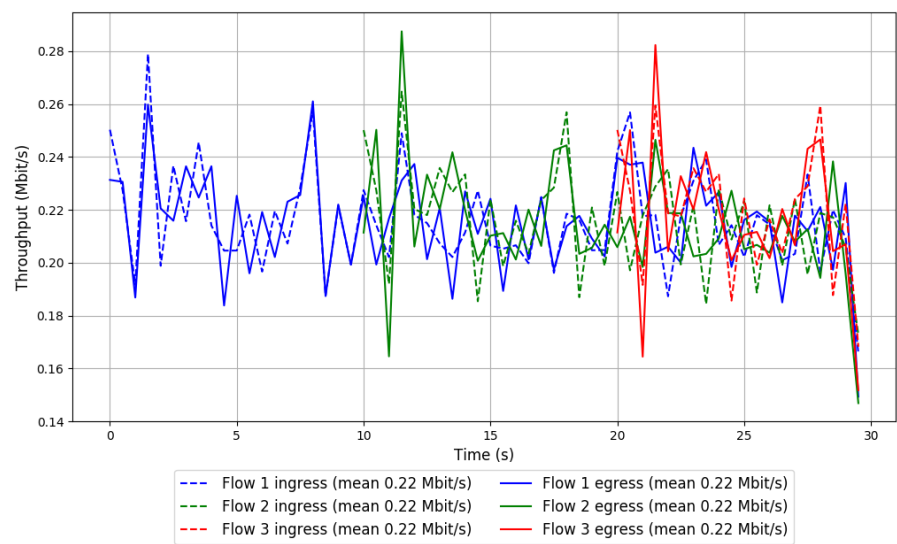


```
Run 10: Statistics of SReAM

Start at: 2017-12-06 05:21:53
End at: 2017-12-06 05:22:23

# Below is generated by plot.py at 2017-12-06 08:18:45
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.43 Mbit/s
95th percentile per-packet one-way delay: 51.065 ms
Loss rate: 0.52%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 51.157 ms
Loss rate: 0.25%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 51.018 ms
Loss rate: 0.63%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 50.083 ms
Loss rate: 1.11%
```

Run 10: Report of SReAM — Data Link

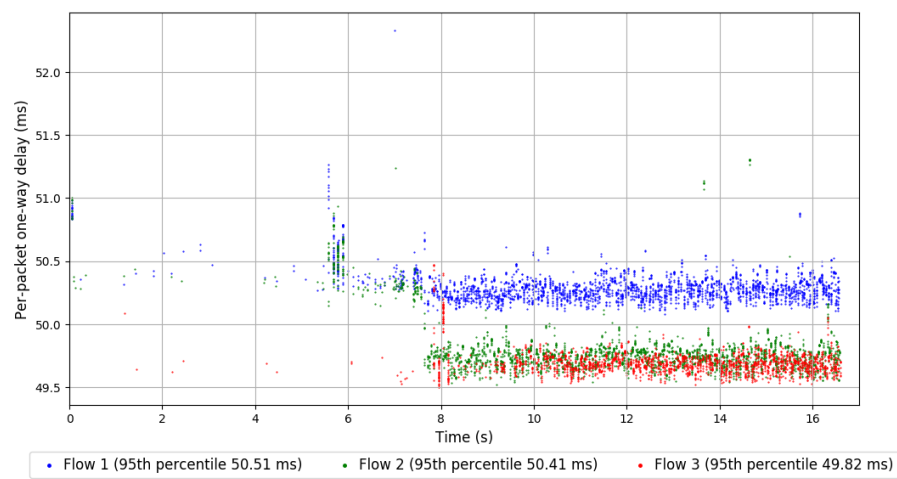
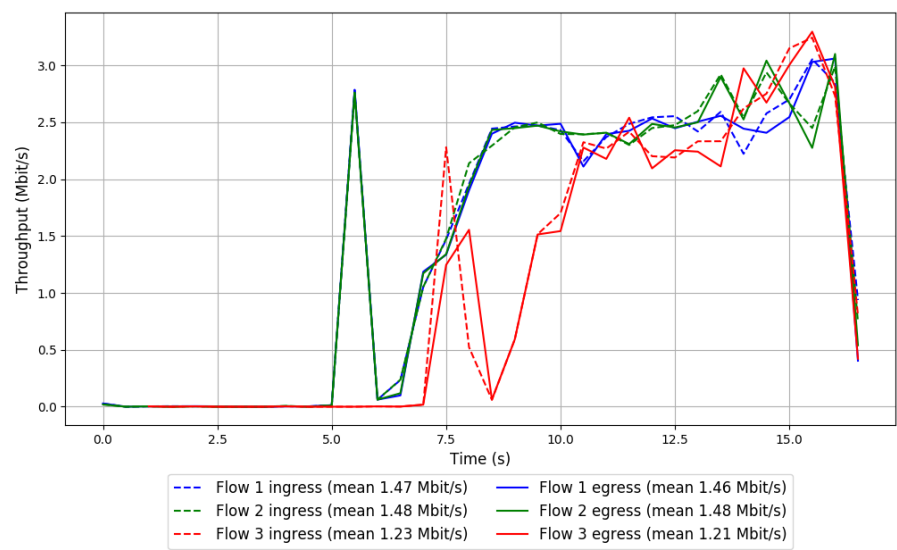


Run 1: Statistics of WebRTC media

Start at: 2017-12-06 03:37:50

End at: 2017-12-06 03:38:20

Run 1: Report of WebRTC media — Data Link

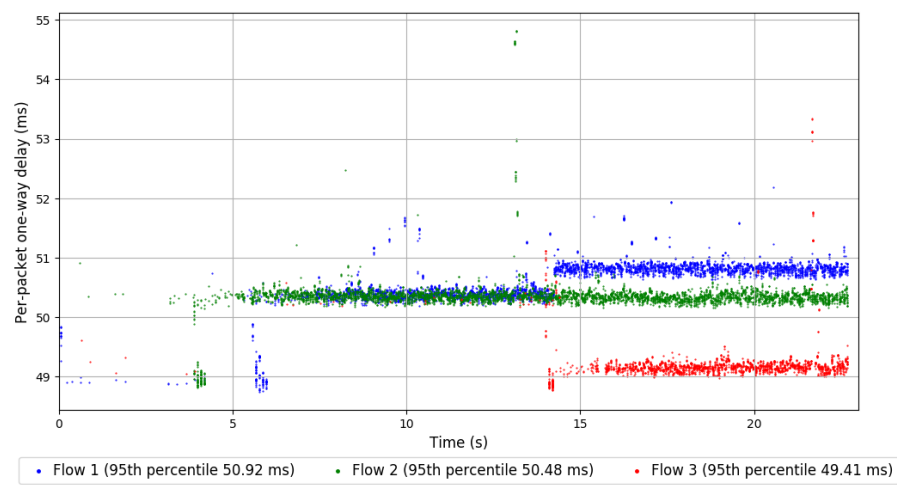
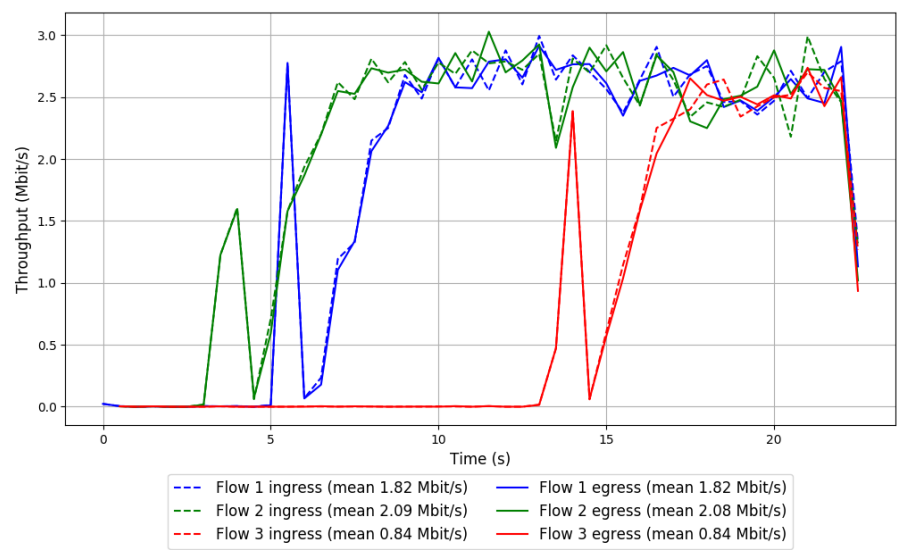


Run 2: Statistics of WebRTC media

Start at: 2017-12-06 03:50:19

End at: 2017-12-06 03:50:49

Run 2: Report of WebRTC media — Data Link



Run 3: Statistics of WebRTC media

Start at: 2017-12-06 04:02:56

End at: 2017-12-06 04:03:26

Below is generated by plot.py at 2017-12-06 08:18:45

Datalink statistics

-- Total of 3 flows:

Average throughput: 4.55 Mbit/s

95th percentile per-packet one-way delay: 50.881 ms

Loss rate: 0.82%

-- Flow 1:

Average throughput: 1.88 Mbit/s

95th percentile per-packet one-way delay: 50.599 ms

Loss rate: 0.59%

-- Flow 2:

Average throughput: 1.94 Mbit/s

95th percentile per-packet one-way delay: 50.926 ms

Loss rate: 0.76%

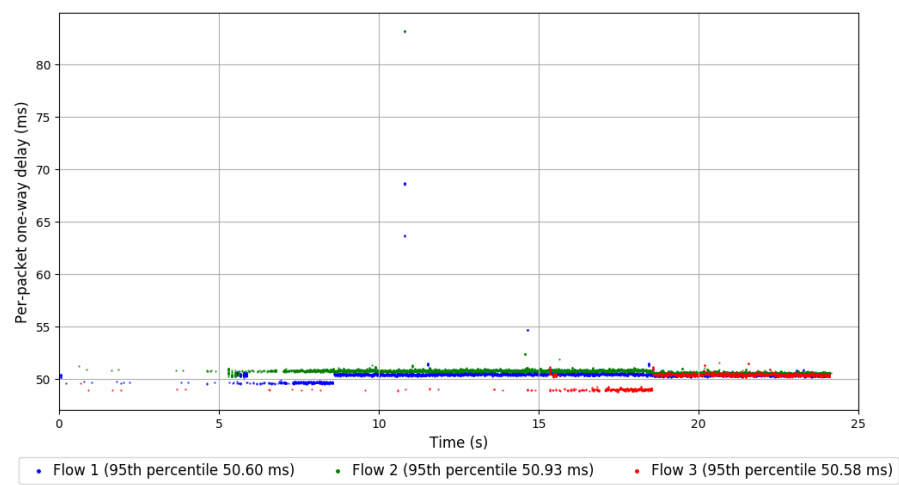
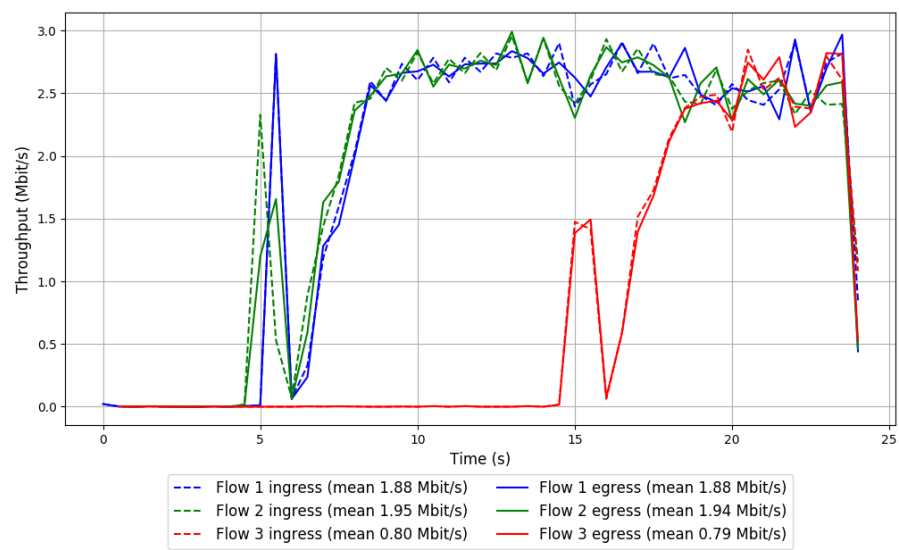
-- Flow 3:

Average throughput: 0.79 Mbit/s

95th percentile per-packet one-way delay: 50.575 ms

Loss rate: 1.52%

Run 3: Report of WebRTC media — Data Link

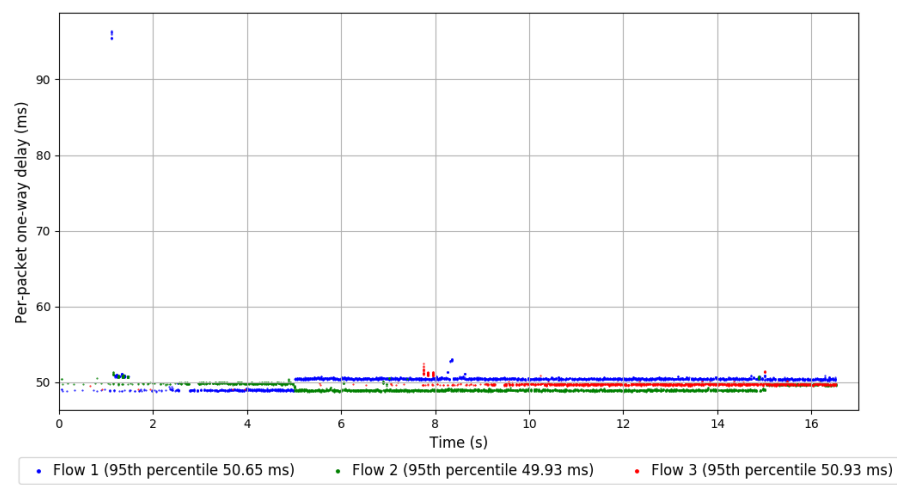
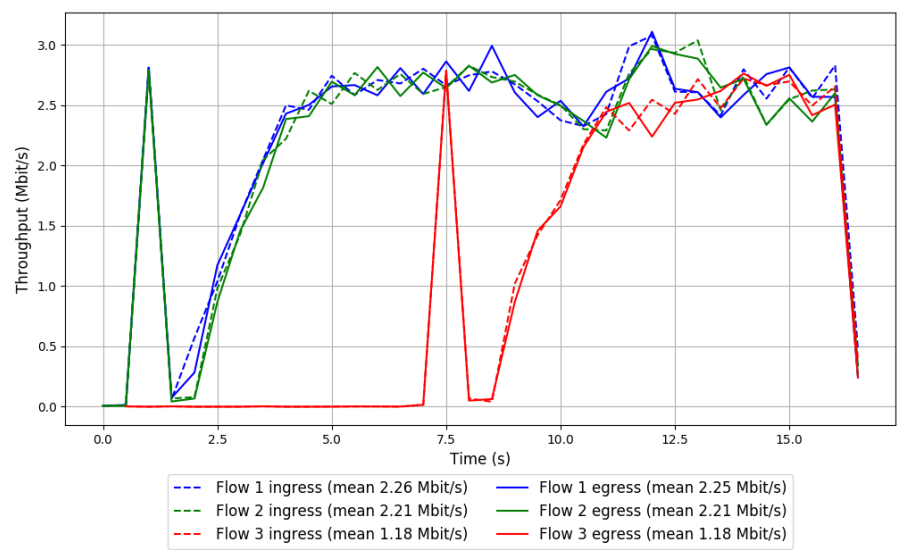


Run 4: Statistics of WebRTC media

Start at: 2017-12-06 04:15:12

End at: 2017-12-06 04:15:42

Run 4: Report of WebRTC media — Data Link

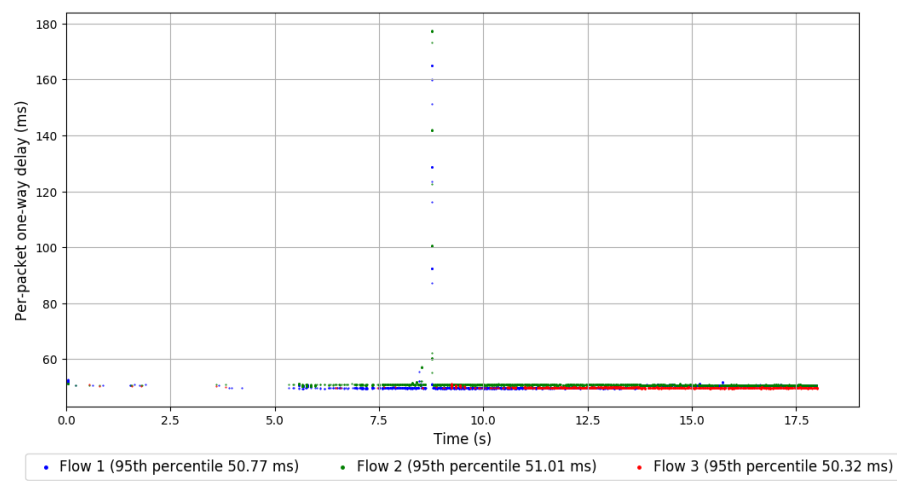
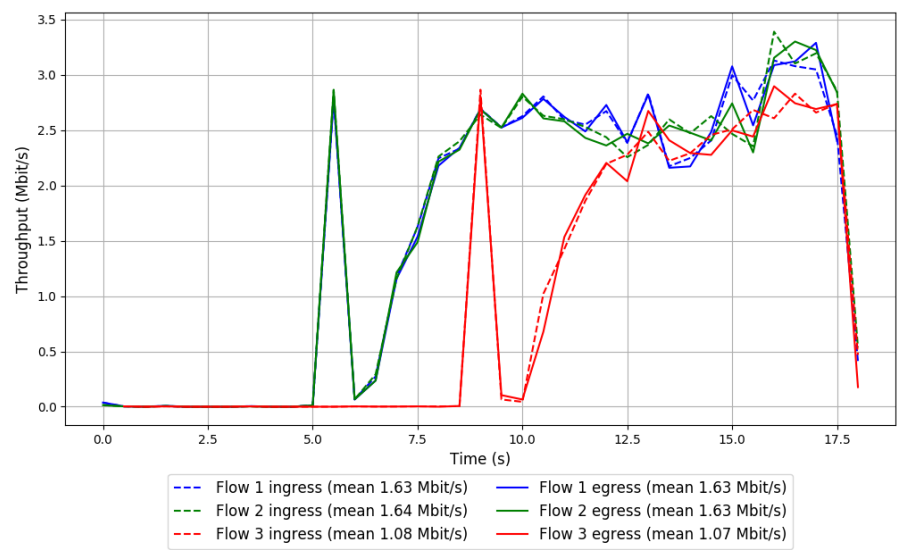


Run 5: Statistics of WebRTC media

Start at: 2017-12-06 04:27:35

End at: 2017-12-06 04:28:05

Run 5: Report of WebRTC media — Data Link



Run 6: Statistics of WebRTC media

Start at: 2017-12-06 04:40:06

End at: 2017-12-06 04:40:36

Below is generated by plot.py at 2017-12-06 08:18:45

Datalink statistics

-- Total of 3 flows:

Average throughput: 4.84 Mbit/s

95th percentile per-packet one-way delay: 50.850 ms

Loss rate: 0.58%

-- Flow 1:

Average throughput: 2.40 Mbit/s

95th percentile per-packet one-way delay: 50.880 ms

Loss rate: 0.41%

-- Flow 2:

Average throughput: 1.73 Mbit/s

95th percentile per-packet one-way delay: 50.165 ms

Loss rate: 0.53%

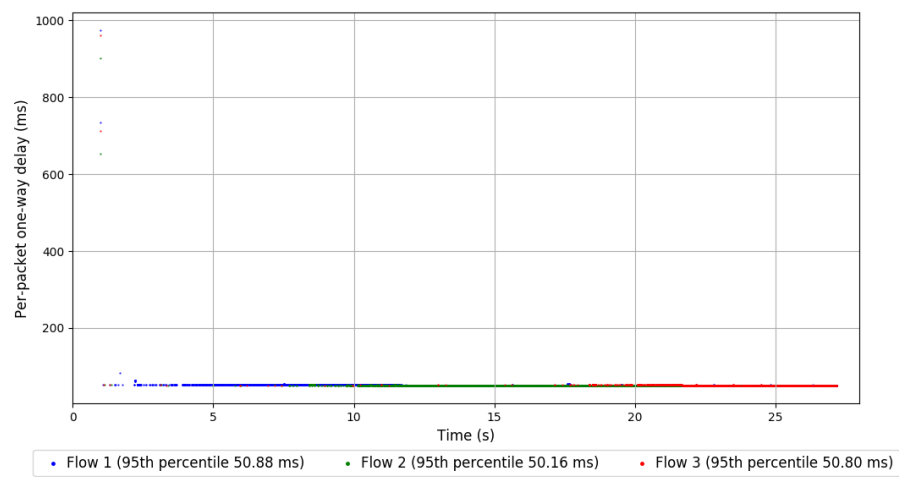
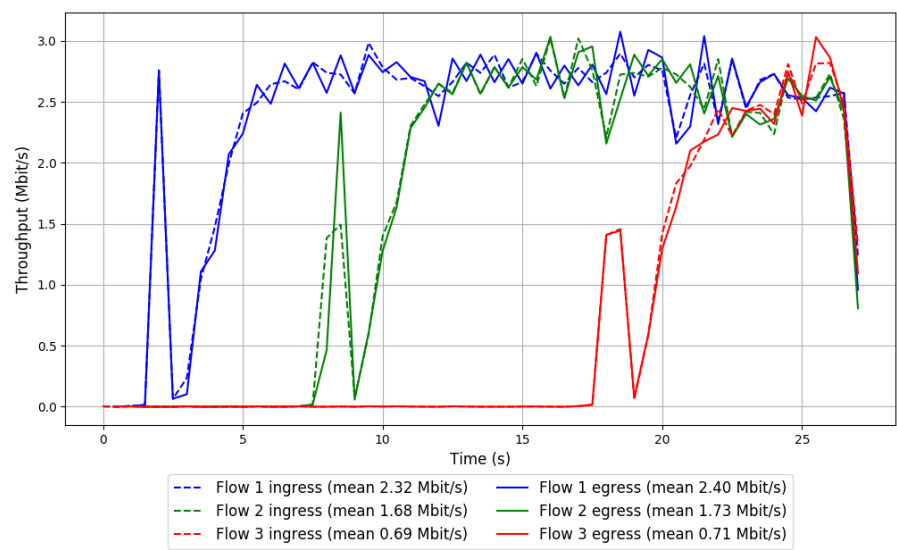
-- Flow 3:

Average throughput: 0.71 Mbit/s

95th percentile per-packet one-way delay: 50.802 ms

Loss rate: 1.27%

Run 6: Report of WebRTC media — Data Link

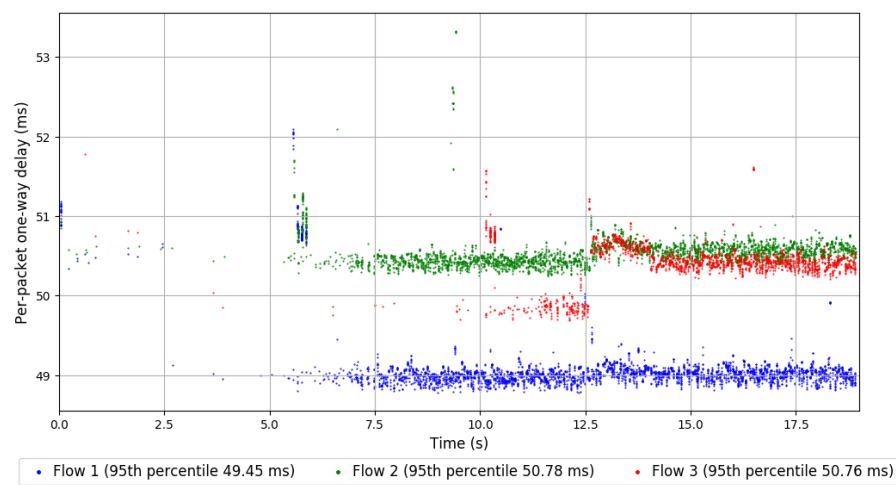
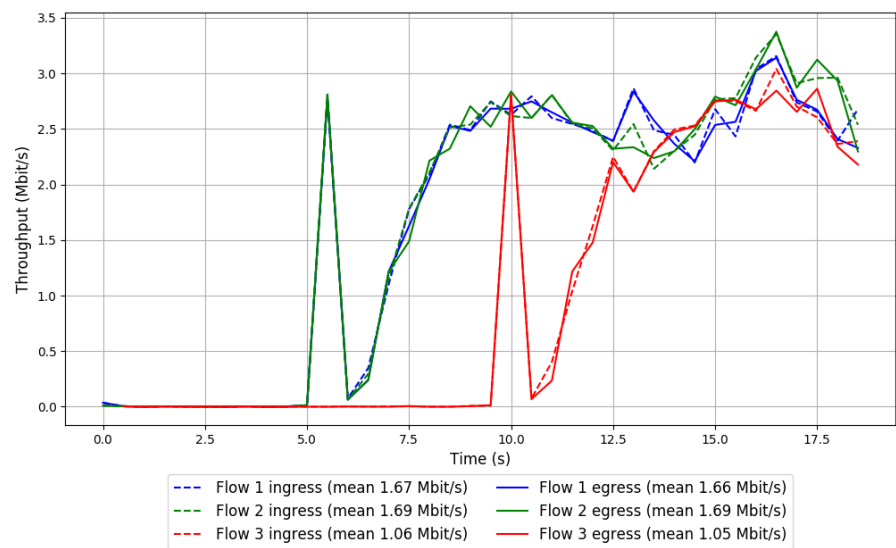


Run 7: Statistics of WebRTC media

Start at: 2017-12-06 04:52:37

End at: 2017-12-06 04:53:07

Run 7: Report of WebRTC media — Data Link

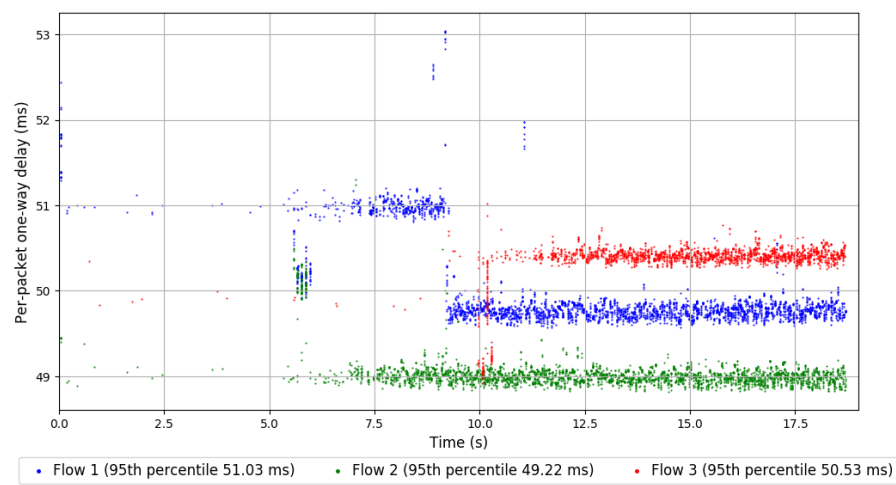
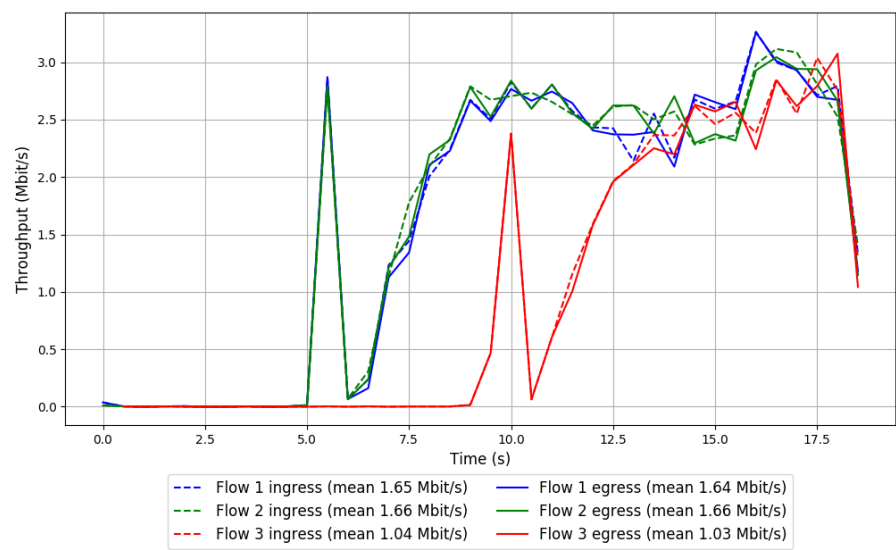


Run 8: Statistics of WebRTC media

Start at: 2017-12-06 05:05:00

End at: 2017-12-06 05:05:30

Run 8: Report of WebRTC media — Data Link

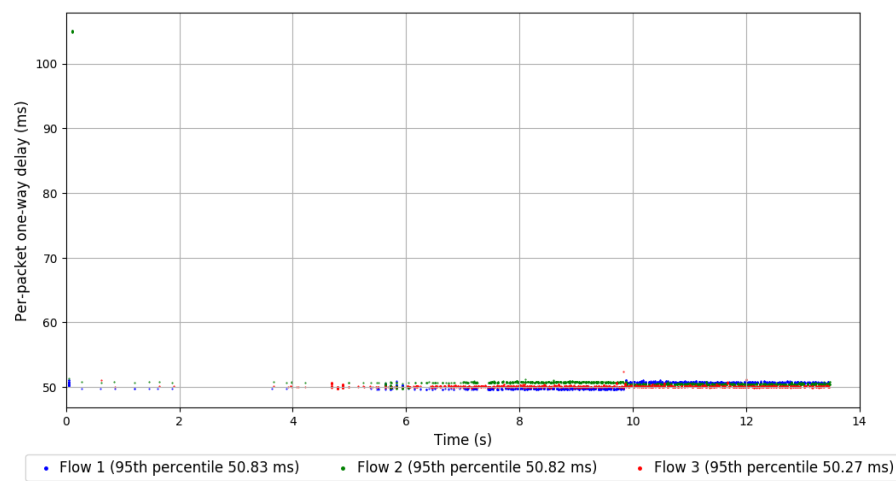
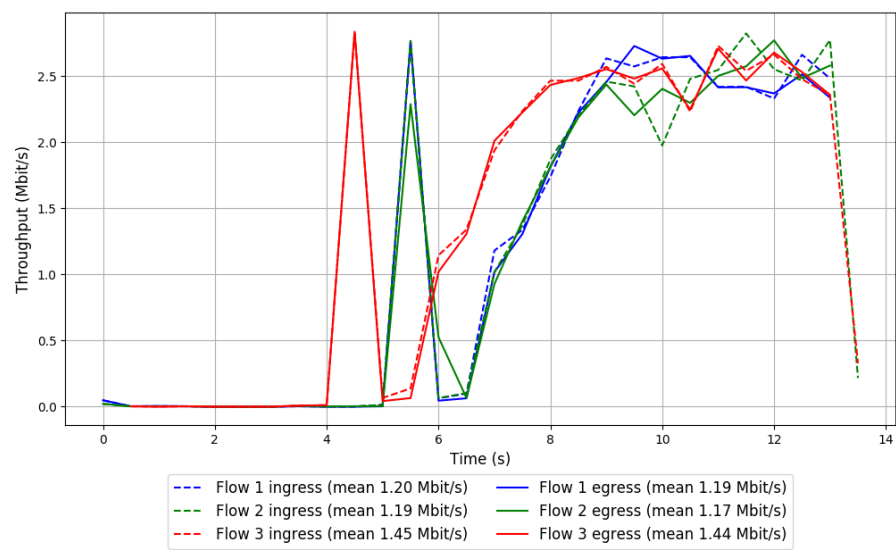


Run 9: Statistics of WebRTC media

Start at: 2017-12-06 05:17:04

End at: 2017-12-06 05:17:34

Run 9: Report of WebRTC media — Data Link

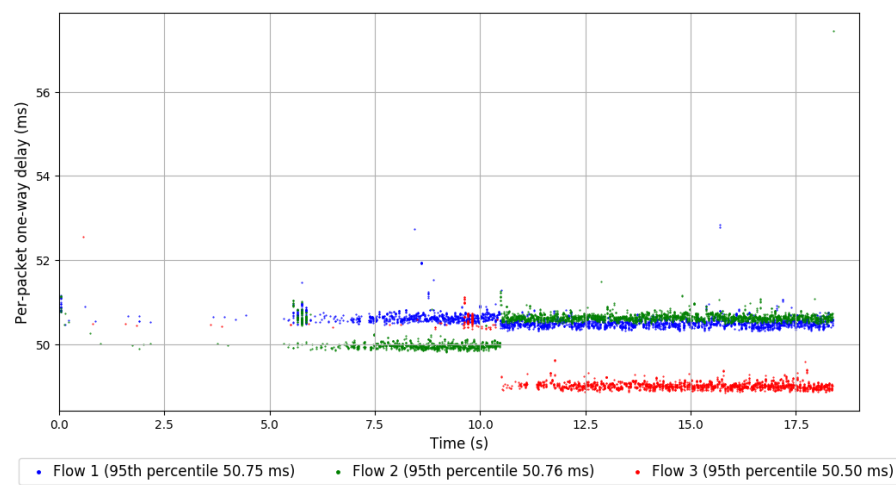
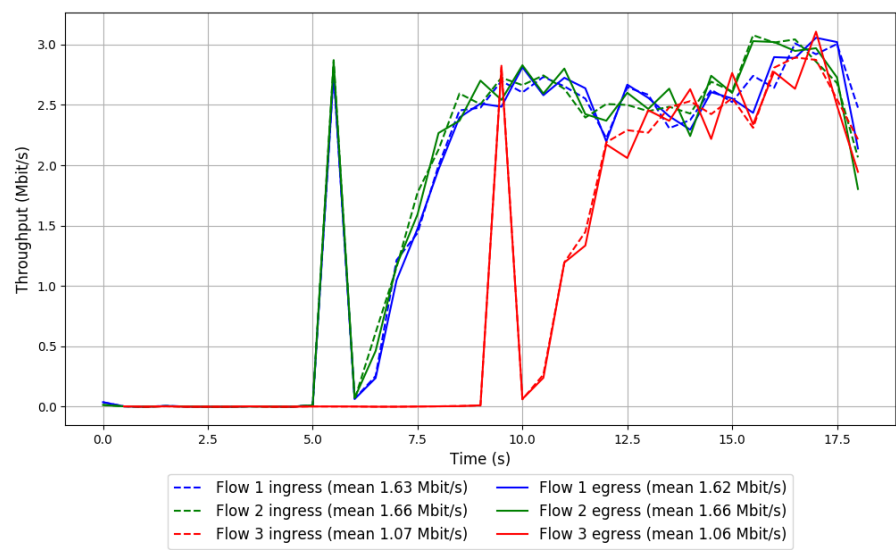


Run 10: Statistics of WebRTC media

Start at: 2017-12-06 05:29:39

End at: 2017-12-06 05:30:09

Run 10: Report of WebRTC media — Data Link

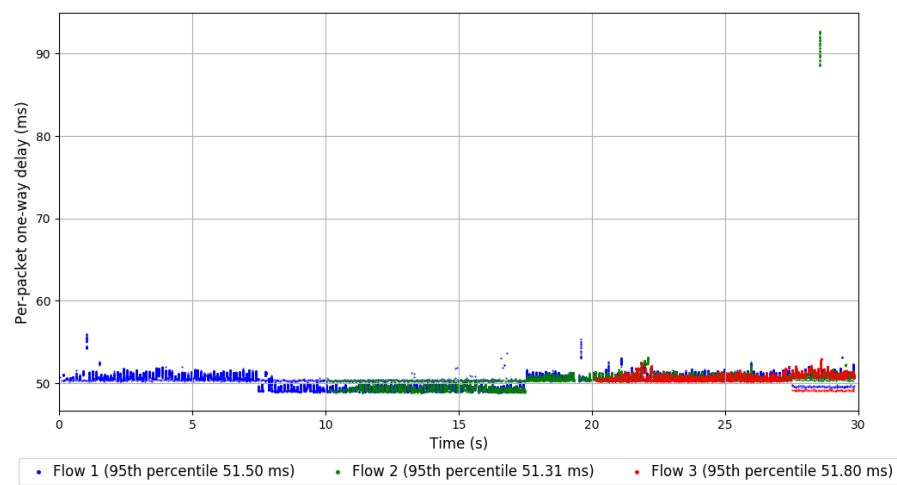
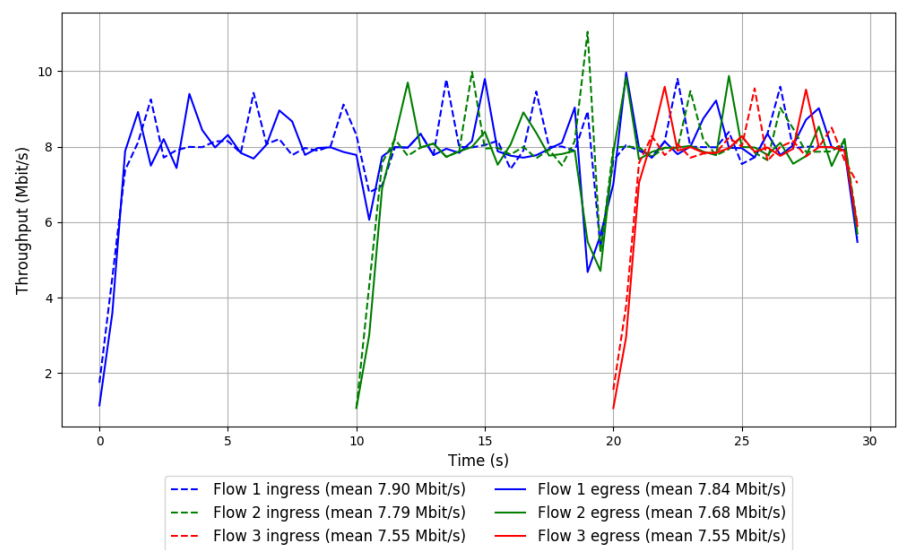


```
Run 1: Statistics of Sprout

Start at: 2017-12-06 03:35:03
End at: 2017-12-06 03:35:33

# Below is generated by plot.py at 2017-12-06 08:18:45
# Datalink statistics
-- Total of 3 flows:
Average throughput: 15.40 Mbit/s
95th percentile per-packet one-way delay: 51.511 ms
Loss rate: 1.44%
-- Flow 1:
Average throughput: 7.84 Mbit/s
95th percentile per-packet one-way delay: 51.501 ms
Loss rate: 1.18%
-- Flow 2:
Average throughput: 7.68 Mbit/s
95th percentile per-packet one-way delay: 51.309 ms
Loss rate: 2.08%
-- Flow 3:
Average throughput: 7.55 Mbit/s
95th percentile per-packet one-way delay: 51.802 ms
Loss rate: 0.94%
```

Run 1: Report of Sprout — Data Link



Run 2: Statistics of Sprout

Start at: 2017-12-06 03:47:31

End at: 2017-12-06 03:48:01

Below is generated by plot.py at 2017-12-06 08:18:45

Datalink statistics

-- Total of 3 flows:

Average throughput: 15.45 Mbit/s

95th percentile per-packet one-way delay: 51.554 ms

Loss rate: 0.62%

-- Flow 1:

Average throughput: 7.76 Mbit/s

95th percentile per-packet one-way delay: 51.503 ms

Loss rate: 0.42%

-- Flow 2:

Average throughput: 7.85 Mbit/s

95th percentile per-packet one-way delay: 51.648 ms

Loss rate: 0.62%

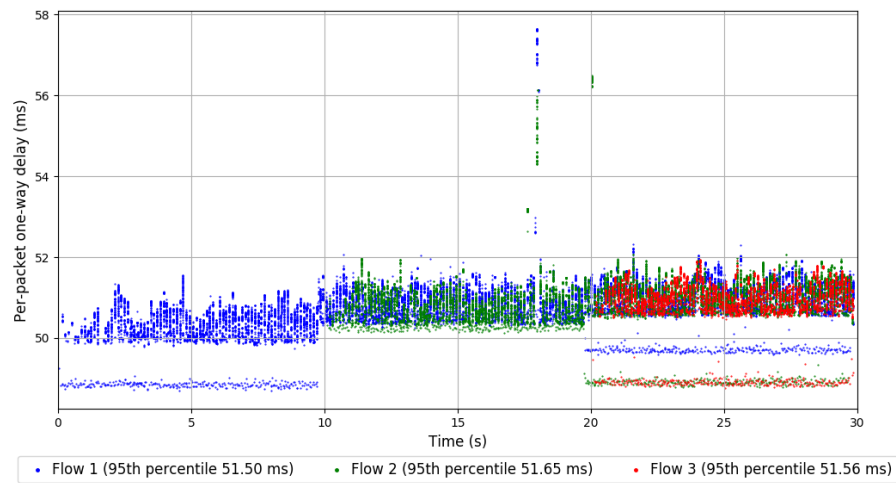
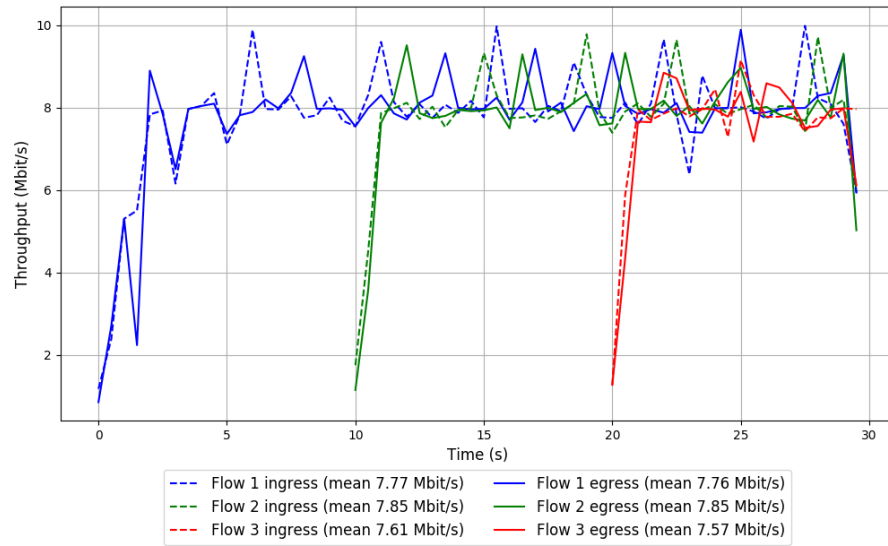
-- Flow 3:

Average throughput: 7.57 Mbit/s

95th percentile per-packet one-way delay: 51.561 ms

Loss rate: 1.25%

Run 2: Report of Sprout — Data Link



Run 3: Statistics of Sprout

Start at: 2017-12-06 04:00:05

End at: 2017-12-06 04:00:35

Below is generated by plot.py at 2017-12-06 08:18:45

Datalink statistics

-- Total of 3 flows:

Average throughput: 15.51 Mbit/s

95th percentile per-packet one-way delay: 51.890 ms

Loss rate: 0.63%

-- Flow 1:

Average throughput: 7.93 Mbit/s

95th percentile per-packet one-way delay: 51.883 ms

Loss rate: 0.42%

-- Flow 2:

Average throughput: 7.77 Mbit/s

95th percentile per-packet one-way delay: 51.884 ms

Loss rate: 0.64%

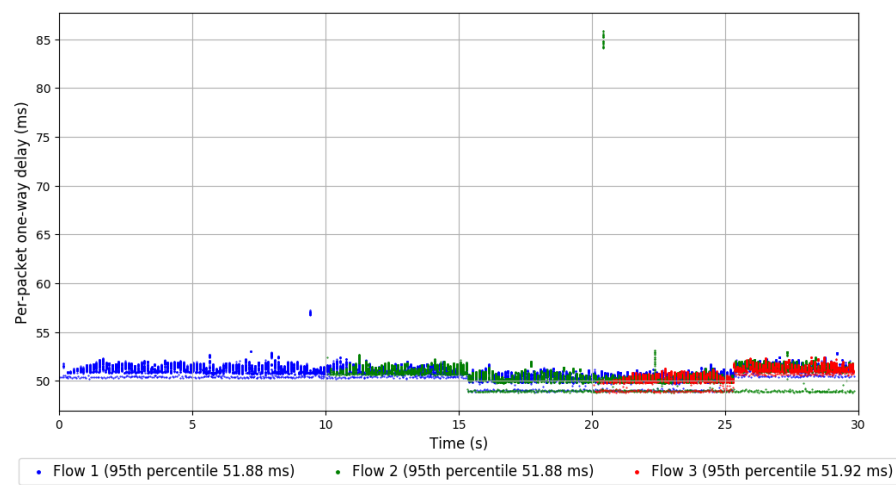
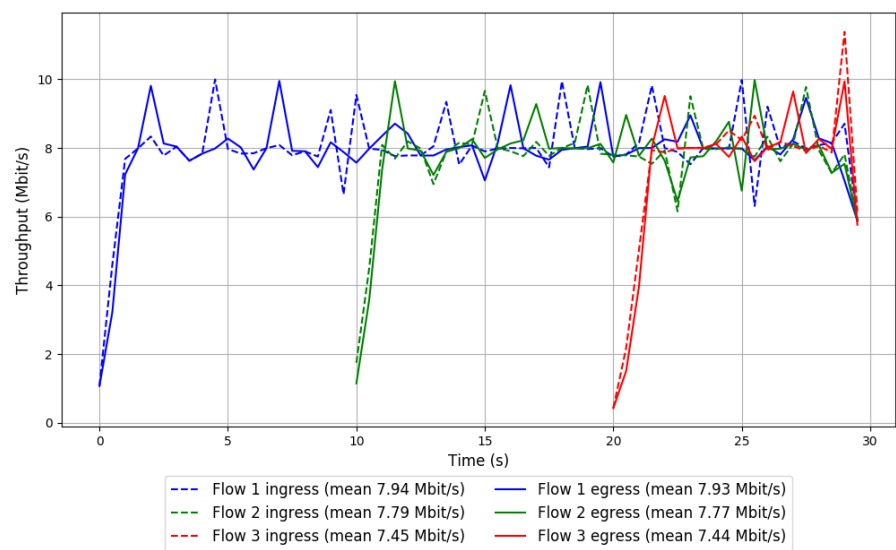
-- Flow 3:

Average throughput: 7.44 Mbit/s

95th percentile per-packet one-way delay: 51.923 ms

Loss rate: 1.32%

Run 3: Report of Sprout — Data Link



Run 4: Statistics of Sprout

Start at: 2017-12-06 04:12:24

End at: 2017-12-06 04:12:54

Below is generated by plot.py at 2017-12-06 08:18:45

Datalink statistics

-- Total of 3 flows:

Average throughput: 15.55 Mbit/s

95th percentile per-packet one-way delay: 51.799 ms

Loss rate: 0.57%

-- Flow 1:

Average throughput: 7.89 Mbit/s

95th percentile per-packet one-way delay: 51.801 ms

Loss rate: 0.15%

-- Flow 2:

Average throughput: 7.86 Mbit/s

95th percentile per-packet one-way delay: 51.855 ms

Loss rate: 0.80%

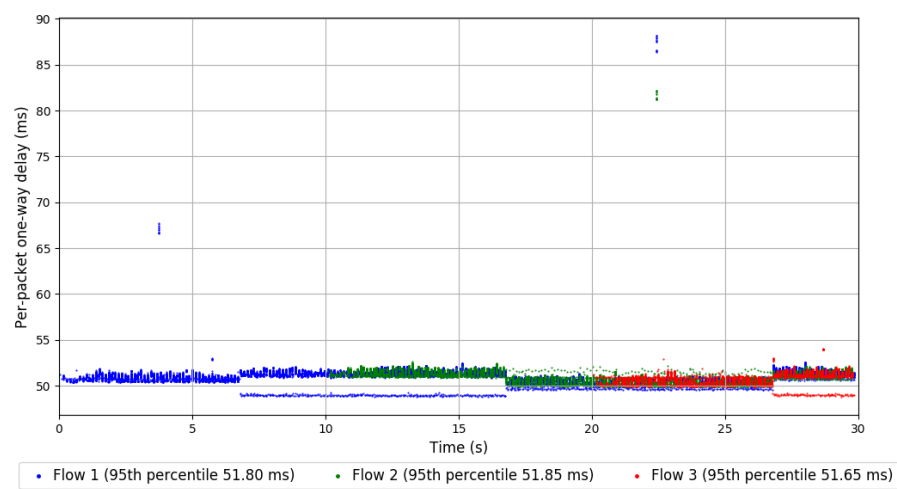
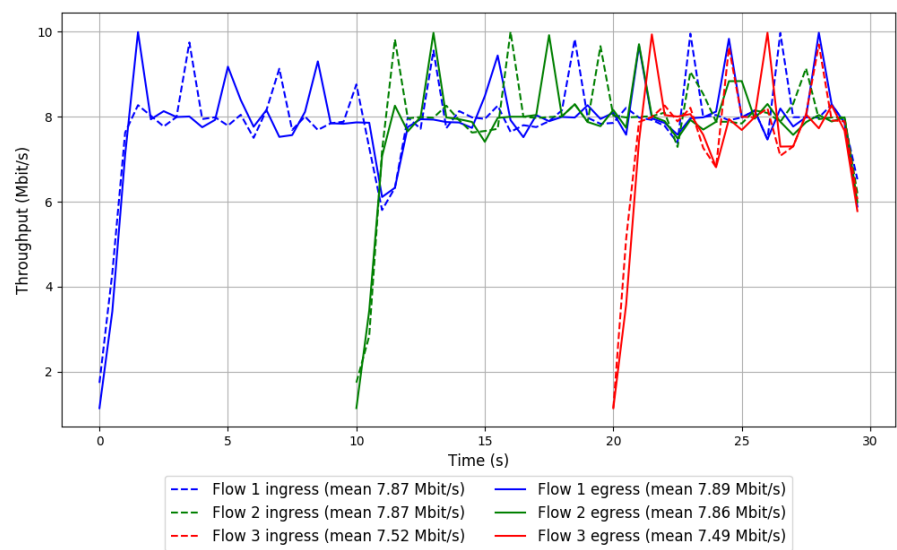
-- Flow 3:

Average throughput: 7.49 Mbit/s

95th percentile per-packet one-way delay: 51.654 ms

Loss rate: 1.43%

Run 4: Report of Sprout — Data Link



Run 5: Statistics of Sprout

Start at: 2017-12-06 04:24:47

End at: 2017-12-06 04:25:17

Below is generated by plot.py at 2017-12-06 08:18:45

Datalink statistics

-- Total of 3 flows:

Average throughput: 15.56 Mbit/s

95th percentile per-packet one-way delay: 51.734 ms

Loss rate: 0.35%

-- Flow 1:

Average throughput: 7.85 Mbit/s

95th percentile per-packet one-way delay: 51.678 ms

Loss rate: 0.24%

-- Flow 2:

Average throughput: 7.84 Mbit/s

95th percentile per-packet one-way delay: 51.836 ms

Loss rate: 0.10%

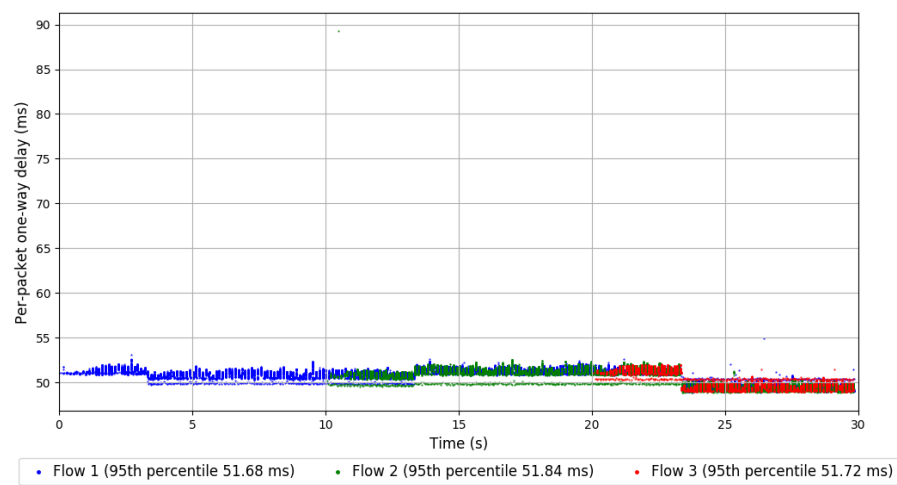
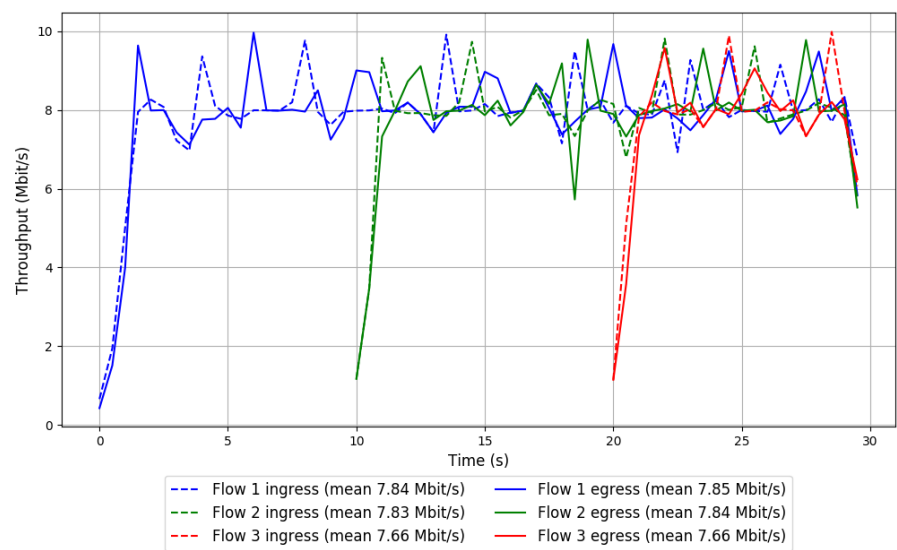
-- Flow 3:

Average throughput: 7.66 Mbit/s

95th percentile per-packet one-way delay: 51.720 ms

Loss rate: 1.21%

Run 5: Report of Sprout — Data Link



Run 6: Statistics of Sprout

Start at: 2017-12-06 04:37:15

End at: 2017-12-06 04:37:45

Below is generated by plot.py at 2017-12-06 08:18:45

Datalink statistics

-- Total of 3 flows:

Average throughput: 15.61 Mbit/s

95th percentile per-packet one-way delay: 51.799 ms

Loss rate: 0.64%

-- Flow 1:

Average throughput: 7.89 Mbit/s

95th percentile per-packet one-way delay: 51.750 ms

Loss rate: 0.50%

-- Flow 2:

Average throughput: 7.85 Mbit/s

95th percentile per-packet one-way delay: 51.909 ms

Loss rate: 0.54%

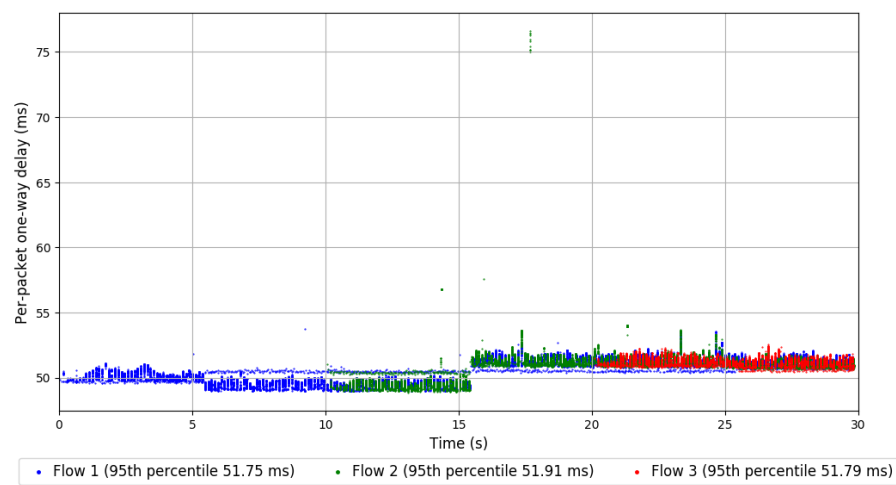
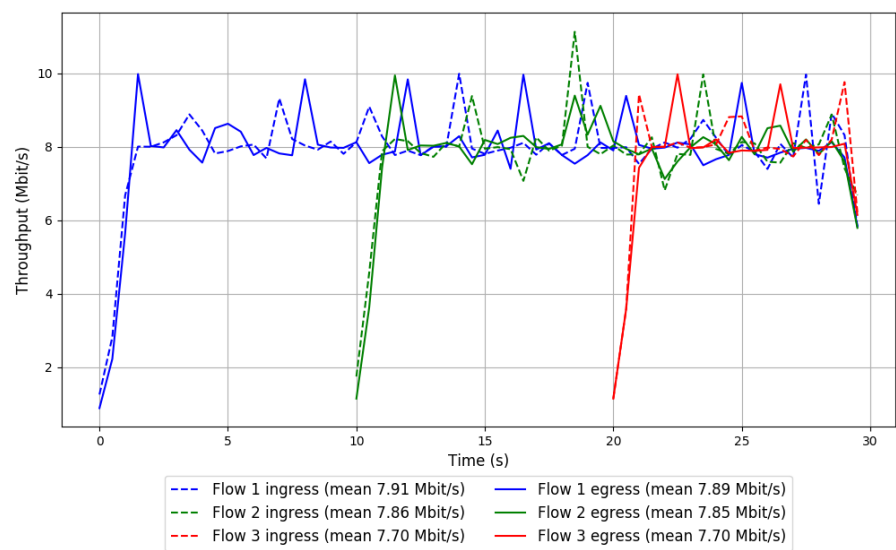
-- Flow 3:

Average throughput: 7.70 Mbit/s

95th percentile per-packet one-way delay: 51.788 ms

Loss rate: 1.29%

Run 6: Report of Sprout — Data Link



Run 7: Statistics of Sprout

Start at: 2017-12-06 04:49:50

End at: 2017-12-06 04:50:20

Below is generated by plot.py at 2017-12-06 08:18:45

Datalink statistics

-- Total of 3 flows:

Average throughput: 15.69 Mbit/s

95th percentile per-packet one-way delay: 51.669 ms

Loss rate: 0.52%

-- Flow 1:

Average throughput: 8.02 Mbit/s

95th percentile per-packet one-way delay: 51.714 ms

Loss rate: 0.41%

-- Flow 2:

Average throughput: 7.87 Mbit/s

95th percentile per-packet one-way delay: 51.647 ms

Loss rate: 0.56%

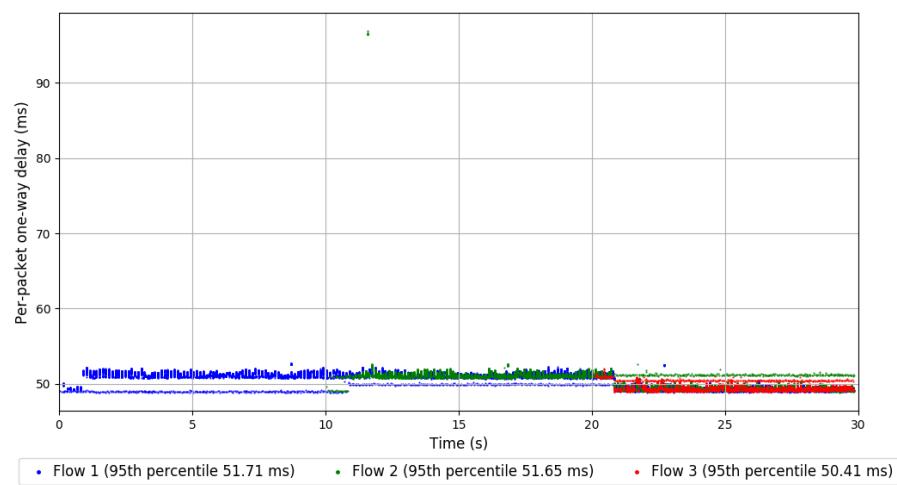
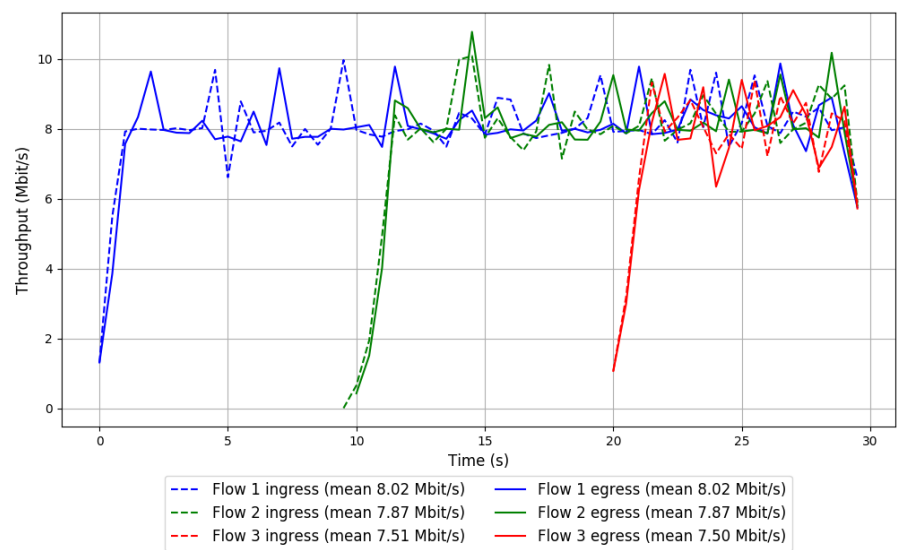
-- Flow 3:

Average throughput: 7.50 Mbit/s

95th percentile per-packet one-way delay: 50.407 ms

Loss rate: 0.80%

Run 7: Report of Sprout — Data Link



Run 8: Statistics of Sprout

Start at: 2017-12-06 05:02:10

End at: 2017-12-06 05:02:40

Below is generated by plot.py at 2017-12-06 08:18:45

Datalink statistics

-- Total of 3 flows:

Average throughput: 15.69 Mbit/s

95th percentile per-packet one-way delay: 51.679 ms

Loss rate: 0.48%

-- Flow 1:

Average throughput: 8.03 Mbit/s

95th percentile per-packet one-way delay: 51.765 ms

Loss rate: 0.41%

-- Flow 2:

Average throughput: 7.78 Mbit/s

95th percentile per-packet one-way delay: 51.625 ms

Loss rate: 0.83%

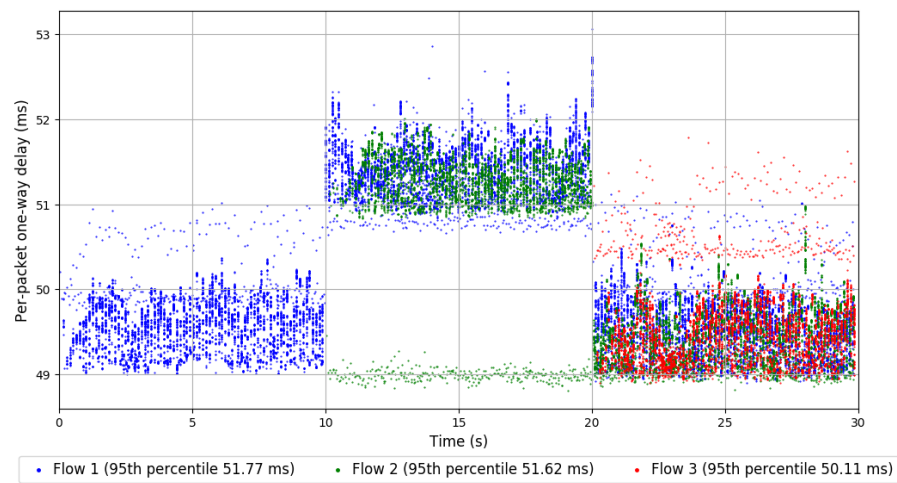
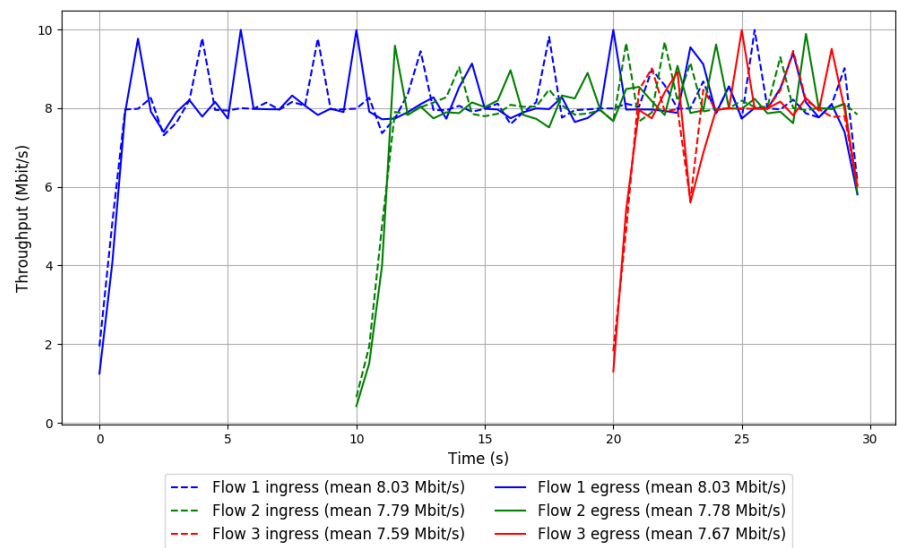
-- Flow 3:

Average throughput: 7.67 Mbit/s

95th percentile per-packet one-way delay: 50.106 ms

Loss rate: 0.00%

Run 8: Report of Sprout — Data Link



Run 9: Statistics of Sprout

Start at: 2017-12-06 05:14:17

End at: 2017-12-06 05:14:47

Below is generated by plot.py at 2017-12-06 08:18:45

Datalink statistics

-- Total of 3 flows:

Average throughput: 15.57 Mbit/s

95th percentile per-packet one-way delay: 51.738 ms

Loss rate: 0.64%

-- Flow 1:

Average throughput: 7.87 Mbit/s

95th percentile per-packet one-way delay: 51.700 ms

Loss rate: 0.42%

-- Flow 2:

Average throughput: 7.86 Mbit/s

95th percentile per-packet one-way delay: 51.673 ms

Loss rate: 0.66%

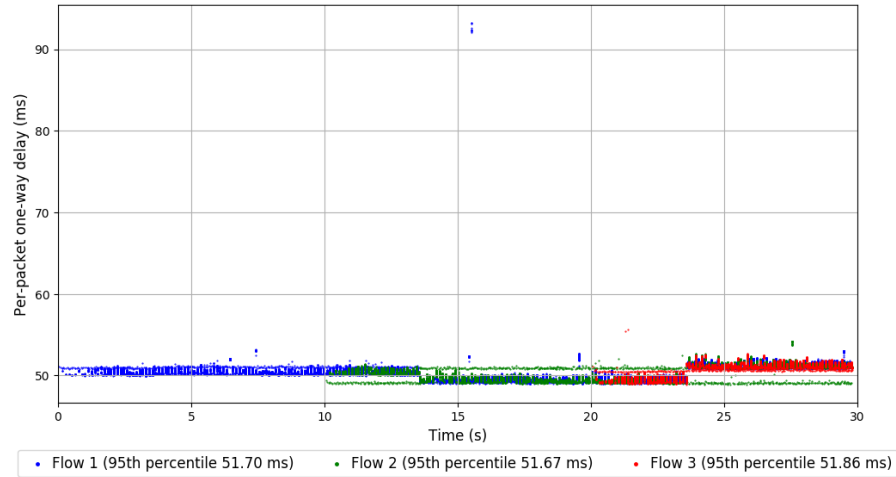
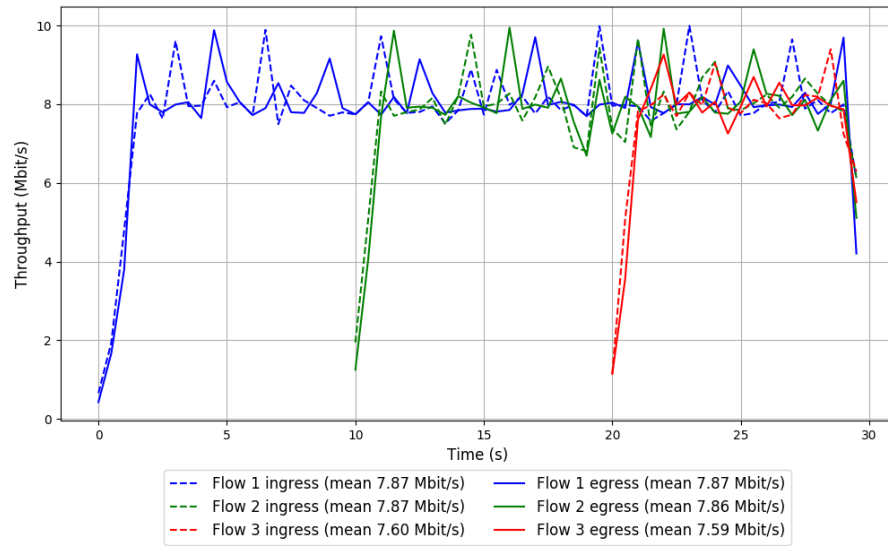
-- Flow 3:

Average throughput: 7.59 Mbit/s

95th percentile per-packet one-way delay: 51.857 ms

Loss rate: 1.28%

Run 9: Report of Sprout — Data Link



Run 10: Statistics of Sprout

Start at: 2017-12-06 05:26:53

End at: 2017-12-06 05:27:23

Below is generated by plot.py at 2017-12-06 08:18:45

Datalink statistics

-- Total of 3 flows:

Average throughput: 15.27 Mbit/s

95th percentile per-packet one-way delay: 52.054 ms

Loss rate: 1.01%

-- Flow 1:

Average throughput: 7.91 Mbit/s

95th percentile per-packet one-way delay: 51.975 ms

Loss rate: 0.66%

-- Flow 2:

Average throughput: 7.63 Mbit/s

95th percentile per-packet one-way delay: 52.043 ms

Loss rate: 1.30%

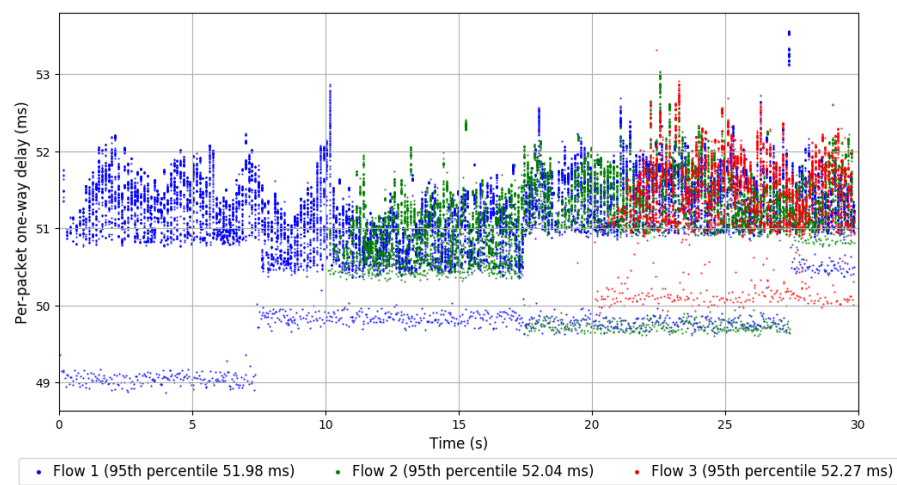
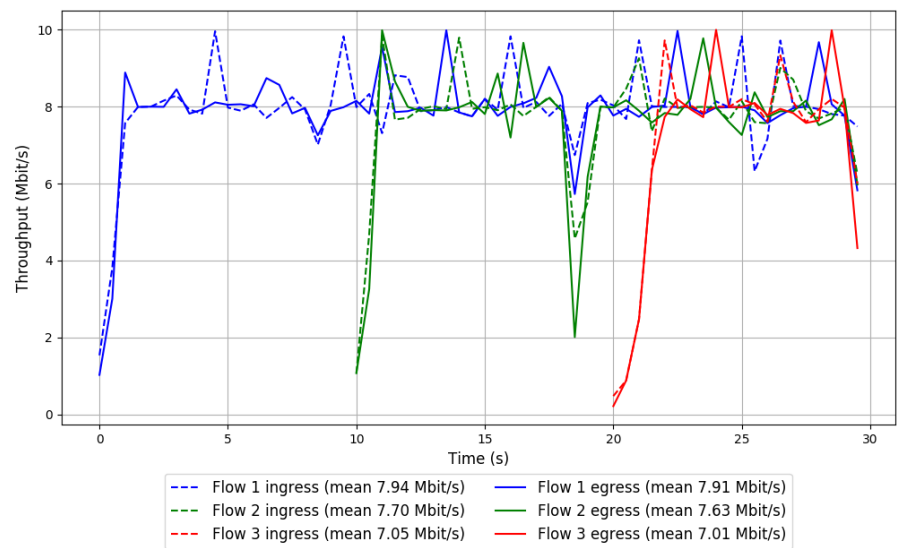
-- Flow 3:

Average throughput: 7.01 Mbit/s

95th percentile per-packet one-way delay: 52.270 ms

Loss rate: 1.55%

Run 10: Report of Sprout — Data Link

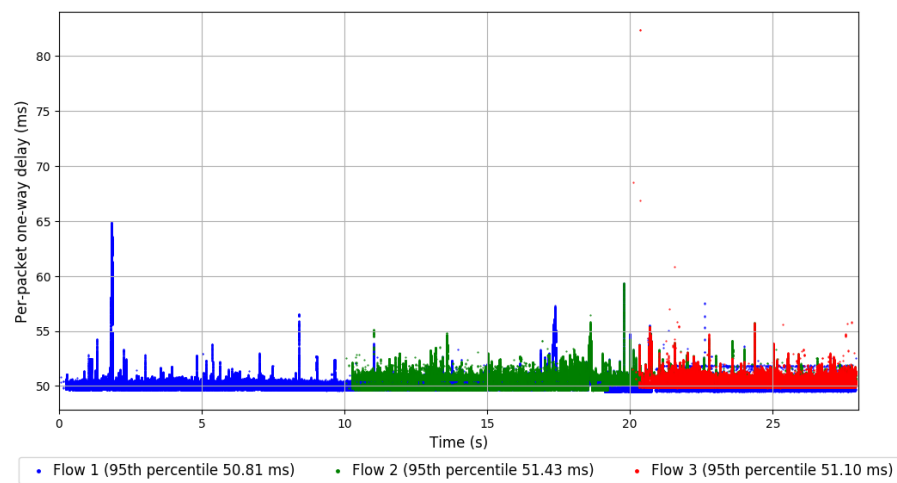
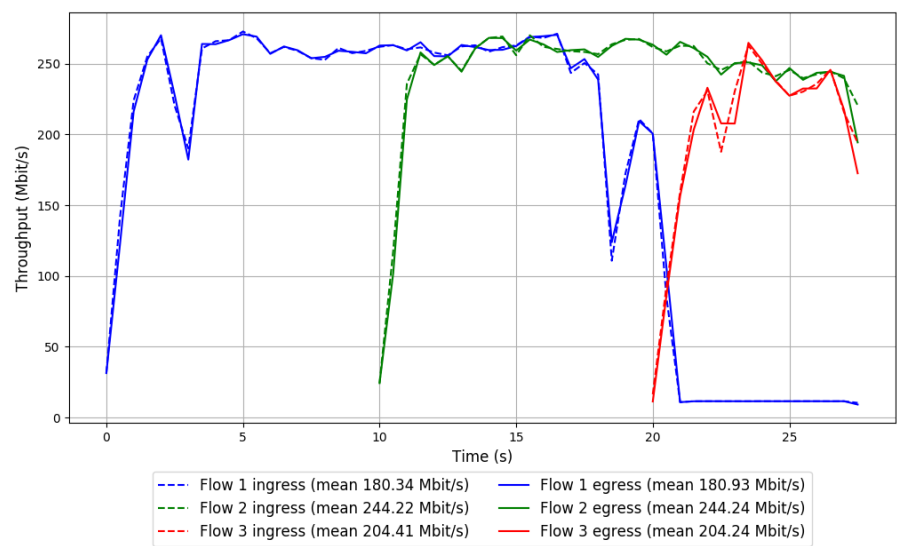


```
Run 1: Statistics of TaoVA-100x

Start at: 2017-12-06 03:39:09
End at: 2017-12-06 03:39:39

# Below is generated by plot.py at 2017-12-06 08:24:52
# Datalink statistics
-- Total of 3 flows:
Average throughput: 394.62 Mbit/s
95th percentile per-packet one-way delay: 51.165 ms
Loss rate: 0.44%
-- Flow 1:
Average throughput: 180.93 Mbit/s
95th percentile per-packet one-way delay: 50.813 ms
Loss rate: 0.02%
-- Flow 2:
Average throughput: 244.24 Mbit/s
95th percentile per-packet one-way delay: 51.426 ms
Loss rate: 0.56%
-- Flow 3:
Average throughput: 204.24 Mbit/s
95th percentile per-packet one-way delay: 51.103 ms
Loss rate: 1.40%
```


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

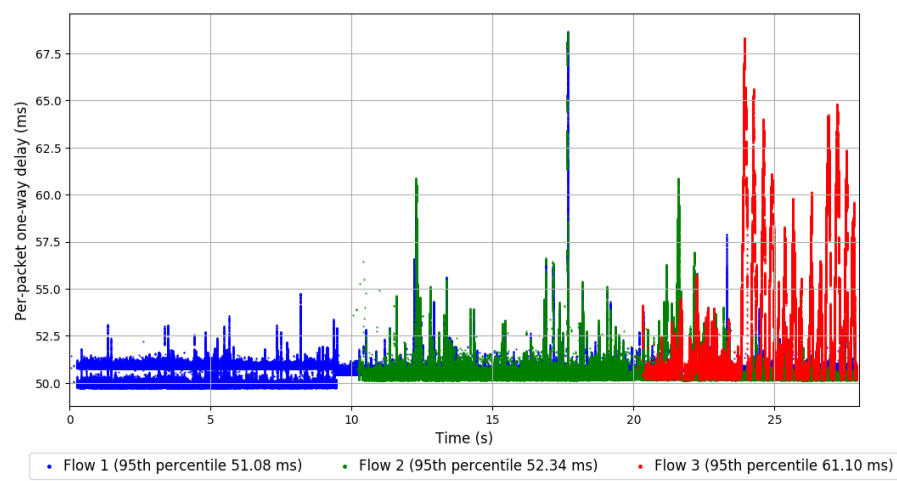
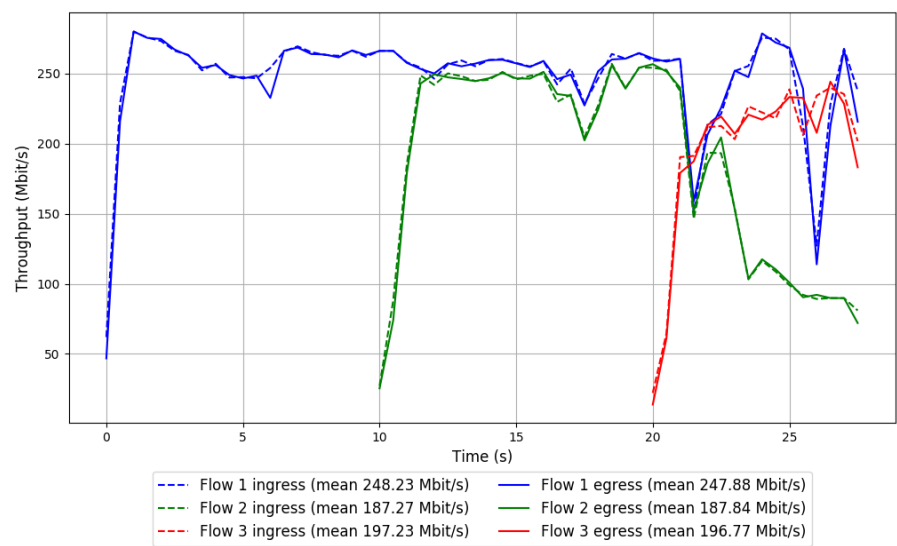


```
Run 2: Statistics of TaoVA-100x

Start at: 2017-12-06 03:51:39
End at: 2017-12-06 03:52:09

# Below is generated by plot.py at 2017-12-06 08:26:12
# Datalink statistics
-- Total of 3 flows:
Average throughput: 423.32 Mbit/s
95th percentile per-packet one-way delay: 53.300 ms
Loss rate: 0.57%
-- Flow 1:
Average throughput: 247.88 Mbit/s
95th percentile per-packet one-way delay: 51.080 ms
Loss rate: 0.50%
-- Flow 2:
Average throughput: 187.84 Mbit/s
95th percentile per-packet one-way delay: 52.339 ms
Loss rate: 0.27%
-- Flow 3:
Average throughput: 196.77 Mbit/s
95th percentile per-packet one-way delay: 61.100 ms
Loss rate: 1.53%
```

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

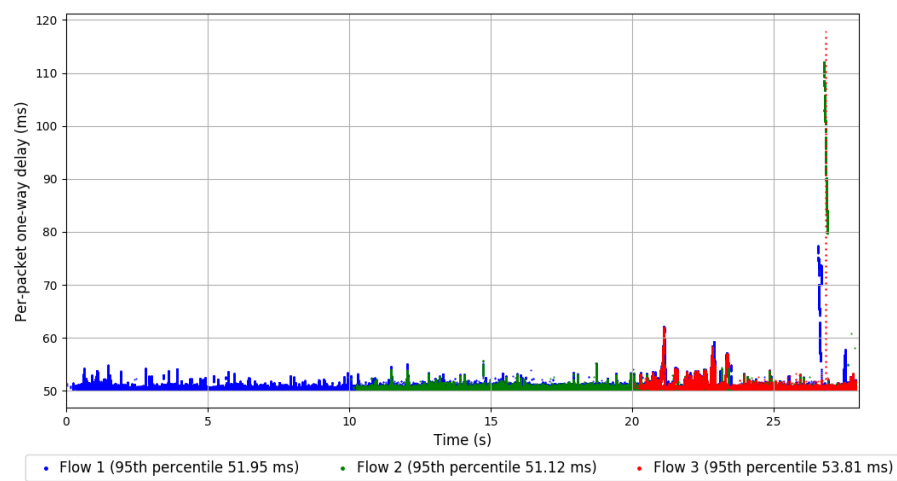
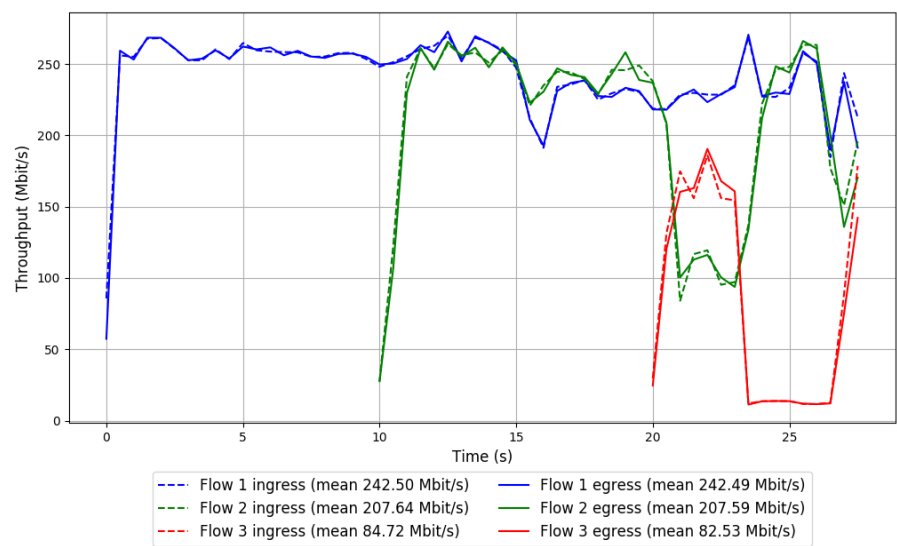


```
Run 3: Statistics of TaoVA-100x

Start at: 2017-12-06 04:04:16
End at: 2017-12-06 04:04:46

# Below is generated by plot.py at 2017-12-06 08:26:12
# Datalink statistics
-- Total of 3 flows:
Average throughput: 398.68 Mbit/s
95th percentile per-packet one-way delay: 51.903 ms
Loss rate: 0.65%
-- Flow 1:
Average throughput: 242.49 Mbit/s
95th percentile per-packet one-way delay: 51.952 ms
Loss rate: 0.37%
-- Flow 2:
Average throughput: 207.59 Mbit/s
95th percentile per-packet one-way delay: 51.121 ms
Loss rate: 0.60%
-- Flow 3:
Average throughput: 82.53 Mbit/s
95th percentile per-packet one-way delay: 53.809 ms
Loss rate: 3.83%
```

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

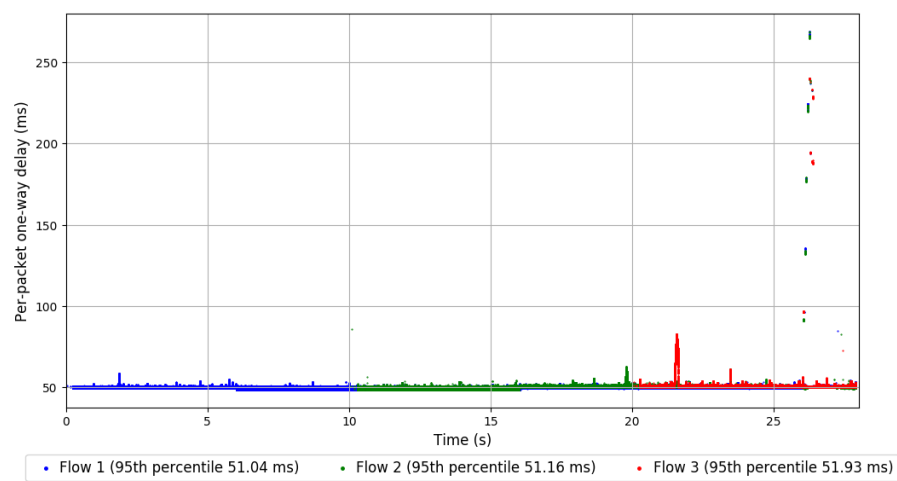
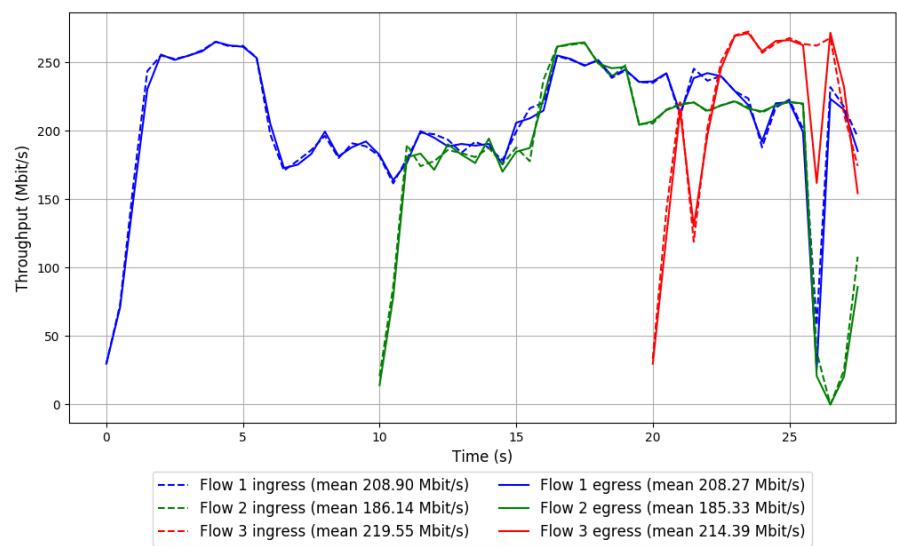


```
Run 4: Statistics of TaoVA-100x

Start at: 2017-12-06 04:16:32
End at: 2017-12-06 04:17:02

# Below is generated by plot.py at 2017-12-06 08:26:12
# Datalink statistics
-- Total of 3 flows:
Average throughput: 387.22 Mbit/s
95th percentile per-packet one-way delay: 51.156 ms
Loss rate: 1.23%
-- Flow 1:
Average throughput: 208.27 Mbit/s
95th percentile per-packet one-way delay: 51.038 ms
Loss rate: 0.66%
-- Flow 2:
Average throughput: 185.33 Mbit/s
95th percentile per-packet one-way delay: 51.165 ms
Loss rate: 1.00%
-- Flow 3:
Average throughput: 214.39 Mbit/s
95th percentile per-packet one-way delay: 51.932 ms
Loss rate: 3.60%
```

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



Run 5: Statistics of TaoVA-100x

Start at: 2017-12-06 04:28:55

End at: 2017-12-06 04:29:25

Below is generated by plot.py at 2017-12-06 08:26:12

Datalink statistics

-- Total of 3 flows:

Average throughput: 329.28 Mbit/s

95th percentile per-packet one-way delay: 50.934 ms

Loss rate: 0.38%

-- Flow 1:

Average throughput: 147.76 Mbit/s

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

Loss rate: 0.21%

-- Flow 2:

Average throughput: 225.46 Mbit/s

95th percentile per-packet one-way delay: 50.910 ms

Loss rate: 0.42%

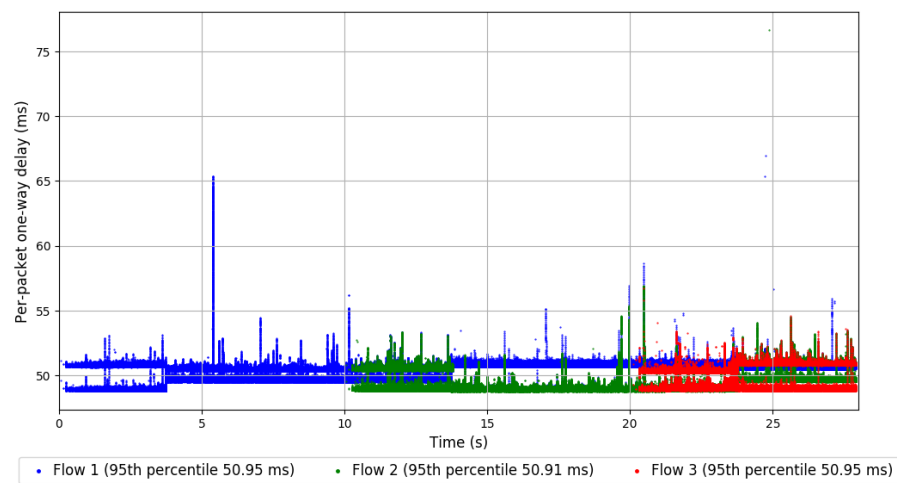
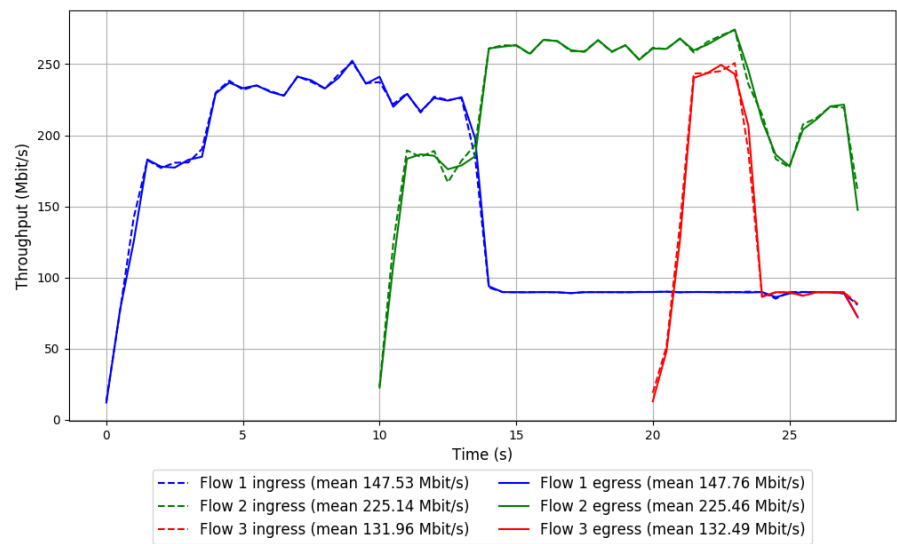
-- Flow 3:

Average throughput: 132.49 Mbit/s

95th percentile per-packet one-way delay: 50.949 ms

Loss rate: 0.89%

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



Run 6: Statistics of TaoVA-100x

Start at: 2017-12-06 04:41:27

End at: 2017-12-06 04:41:57

Below is generated by plot.py at 2017-12-06 08:26:12

Datalink statistics

-- Total of 3 flows:

Average throughput: 388.67 Mbit/s

95th percentile per-packet one-way delay: 50.873 ms

Loss rate: 0.60%

-- Flow 1:

Average throughput: 208.44 Mbit/s

95th percentile per-packet one-way delay: 51.380 ms

Loss rate: 0.30%

-- Flow 2:

Average throughput: 207.03 Mbit/s

95th percentile per-packet one-way delay: 50.497 ms

Loss rate: 0.79%

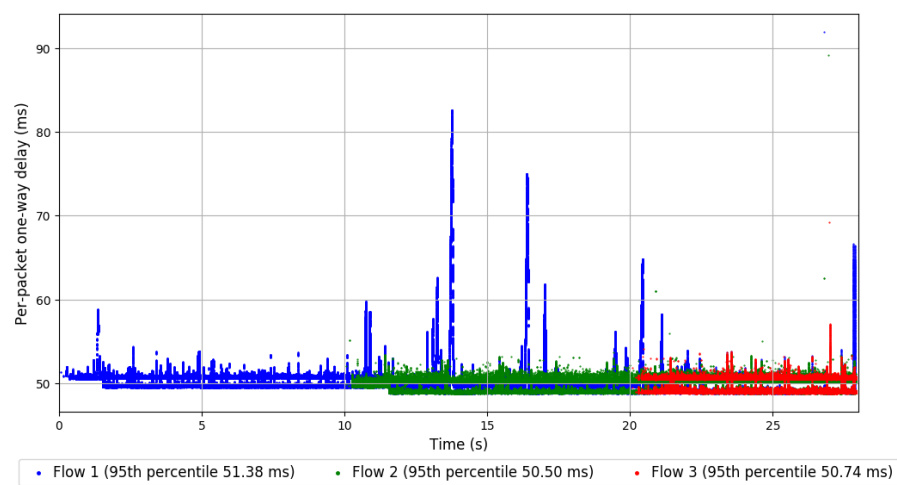
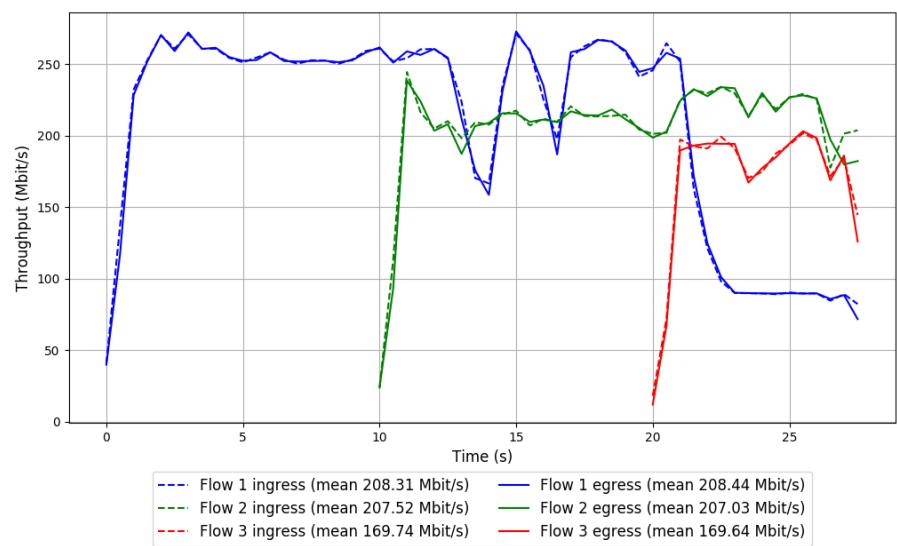
-- Flow 3:

Average throughput: 169.64 Mbit/s

95th percentile per-packet one-way delay: 50.739 ms

Loss rate: 1.33%

Run 6: Report of TaoVA-100x — Data Link

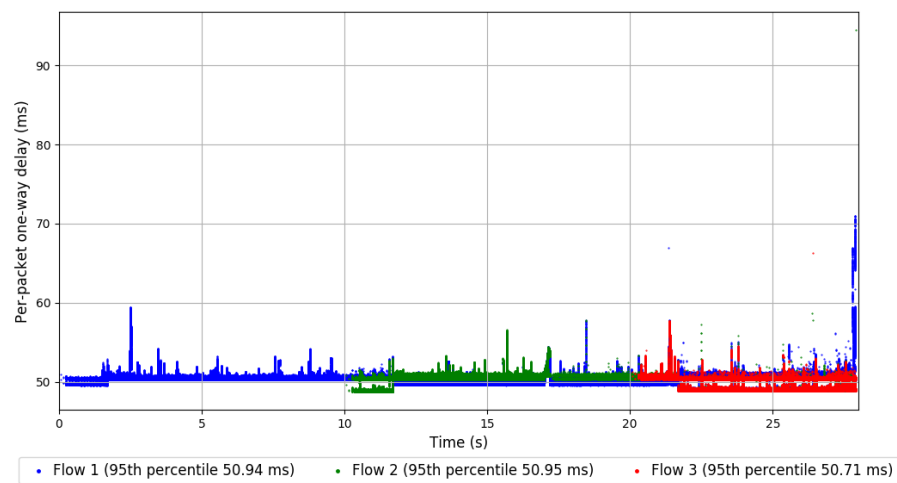
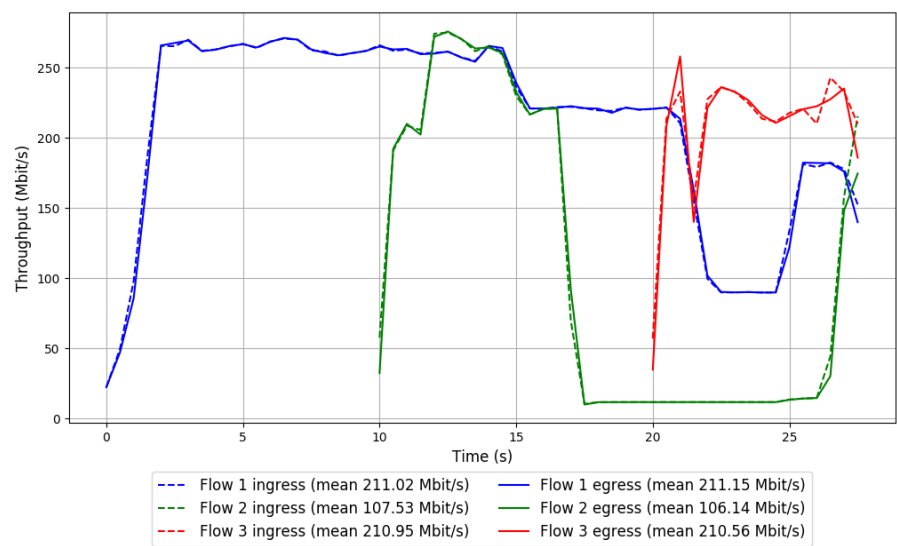


```
Run 7: Statistics of TaoVA-100x

Start at: 2017-12-06 04:53:57
End at: 2017-12-06 04:54:27

# Below is generated by plot.py at 2017-12-06 08:29:37
# Datalink statistics
-- Total of 3 flows:
Average throughput: 338.09 Mbit/s
95th percentile per-packet one-way delay: 50.925 ms
Loss rate: 0.77%
-- Flow 1:
Average throughput: 211.15 Mbit/s
95th percentile per-packet one-way delay: 50.941 ms
Loss rate: 0.27%
-- Flow 2:
Average throughput: 106.14 Mbit/s
95th percentile per-packet one-way delay: 50.950 ms
Loss rate: 1.72%
-- Flow 3:
Average throughput: 210.56 Mbit/s
95th percentile per-packet one-way delay: 50.707 ms
Loss rate: 1.43%
```

Run 7: Report of TaoVA-100x — Data Link



Run 8: Statistics of TaoVA-100x

Start at: 2017-12-06 05:06:20

End at: 2017-12-06 05:06:50

Below is generated by plot.py at 2017-12-06 08:29:37

Datalink statistics

-- Total of 3 flows:

Average throughput: 201.61 Mbit/s

95th percentile per-packet one-way delay: 51.026 ms

Loss rate: 1.02%

-- Flow 1:

Average throughput: 9.79 Mbit/s

95th percentile per-packet one-way delay: 172.780 ms

Loss rate: 71.68%

-- Flow 2:

Average throughput: 210.22 Mbit/s

95th percentile per-packet one-way delay: 50.968 ms

Loss rate: 0.65%

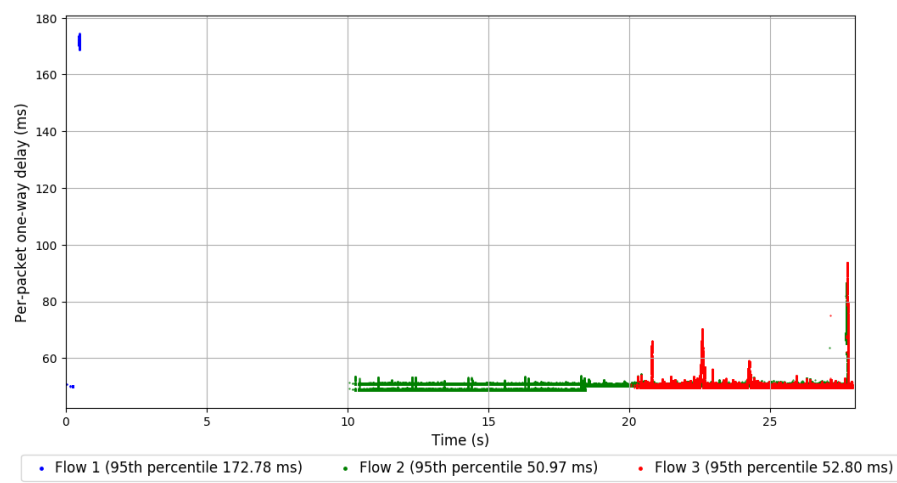
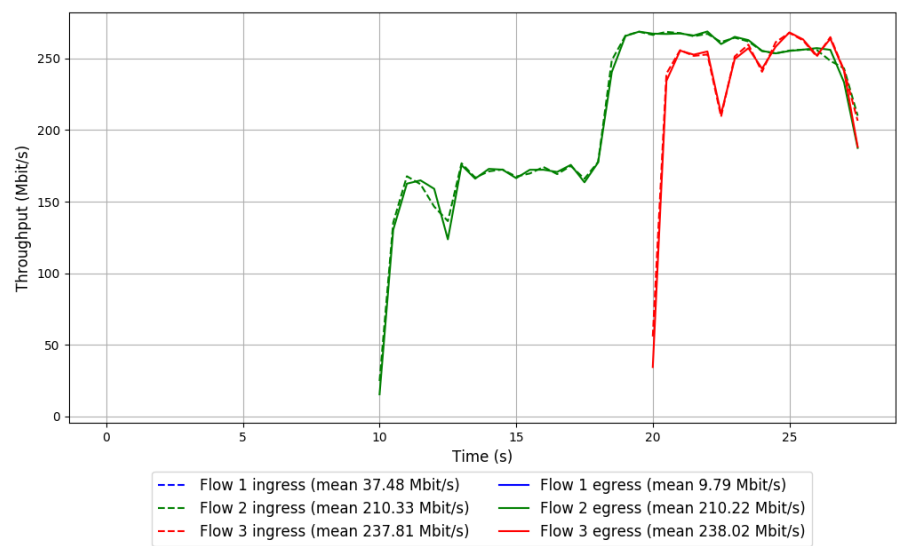
-- Flow 3:

Average throughput: 238.02 Mbit/s

95th percentile per-packet one-way delay: 52.799 ms

Loss rate: 1.20%

Run 8: Report of TaoVA-100x — Data Link

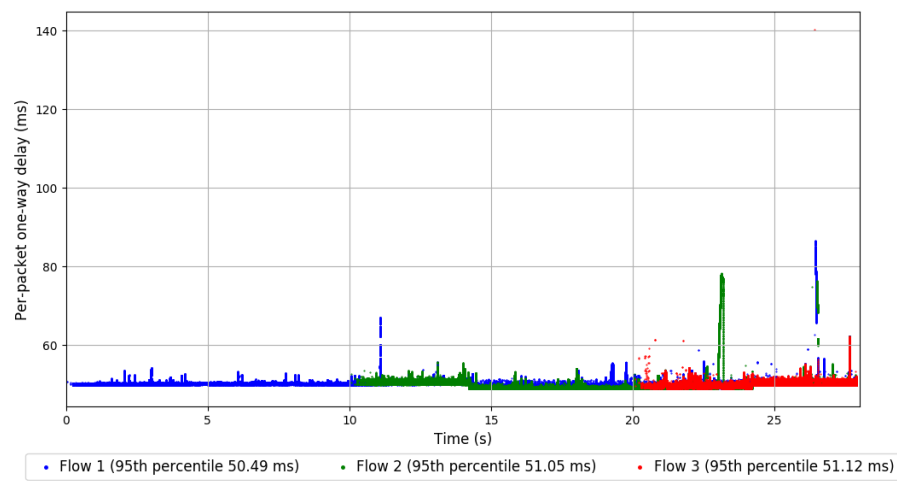
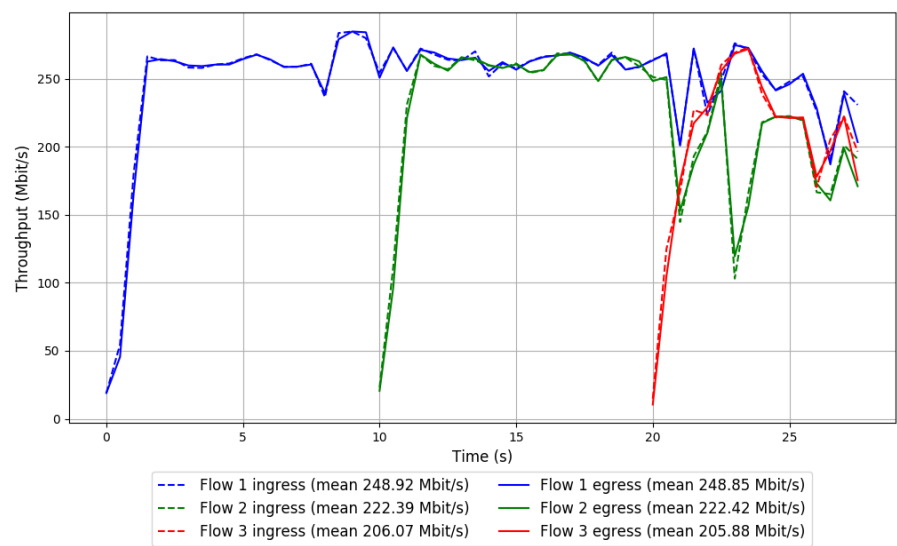


```
Run 9: Statistics of TaoVA-100x

Start at: 2017-12-06 05:18:24
End at: 2017-12-06 05:18:54

# Below is generated by plot.py at 2017-12-06 08:37:13
# Datalink statistics
-- Total of 3 flows:
Average throughput: 449.03 Mbit/s
95th percentile per-packet one-way delay: 50.984 ms
Loss rate: 0.56%
-- Flow 1:
Average throughput: 248.85 Mbit/s
95th percentile per-packet one-way delay: 50.490 ms
Loss rate: 0.39%
-- Flow 2:
Average throughput: 222.42 Mbit/s
95th percentile per-packet one-way delay: 51.045 ms
Loss rate: 0.53%
-- Flow 3:
Average throughput: 205.88 Mbit/s
95th percentile per-packet one-way delay: 51.122 ms
Loss rate: 1.32%
```


Run 9: Report of TaoVA-100x — Data Link

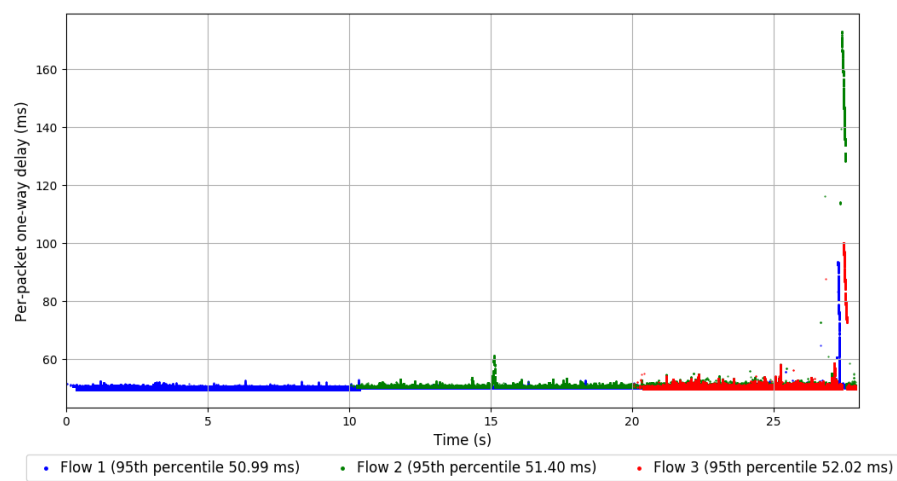
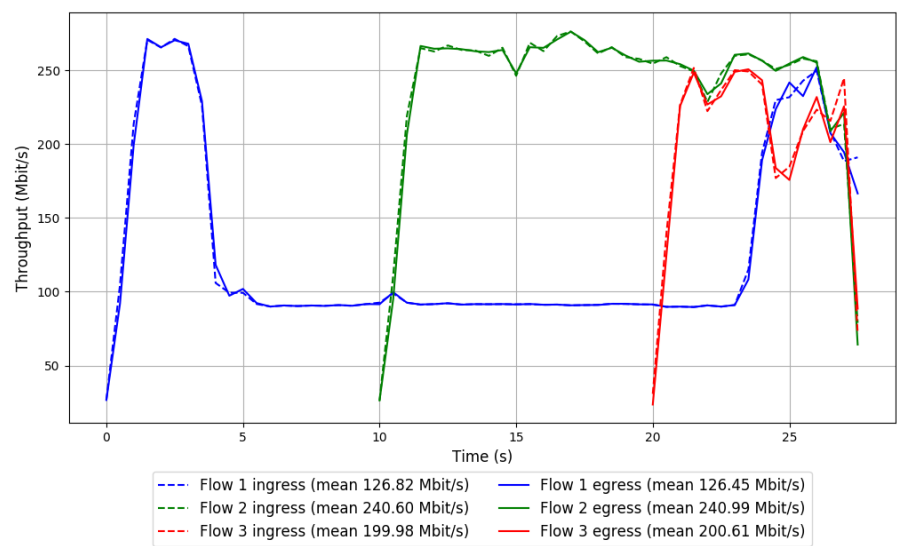


```
Run 10: Statistics of TaoVA-100x

Start at: 2017-12-06 05:30:58
End at: 2017-12-06 05:31:28

# Below is generated by plot.py at 2017-12-06 08:37:13
# Datalink statistics
-- Total of 3 flows:
Average throughput: 337.24 Mbit/s
95th percentile per-packet one-way delay: 51.335 ms
Loss rate: 0.58%
-- Flow 1:
Average throughput: 126.45 Mbit/s
95th percentile per-packet one-way delay: 50.989 ms
Loss rate: 0.63%
-- Flow 2:
Average throughput: 240.99 Mbit/s
95th percentile per-packet one-way delay: 51.398 ms
Loss rate: 0.40%
-- Flow 3:
Average throughput: 200.61 Mbit/s
95th percentile per-packet one-way delay: 52.018 ms
Loss rate: 0.98%
```

Run 10: Report of TaoVA-100x — Data Link

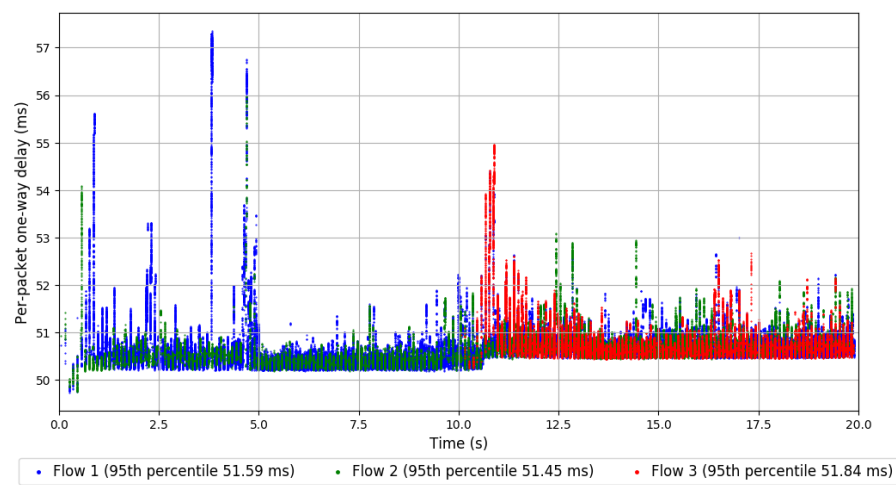
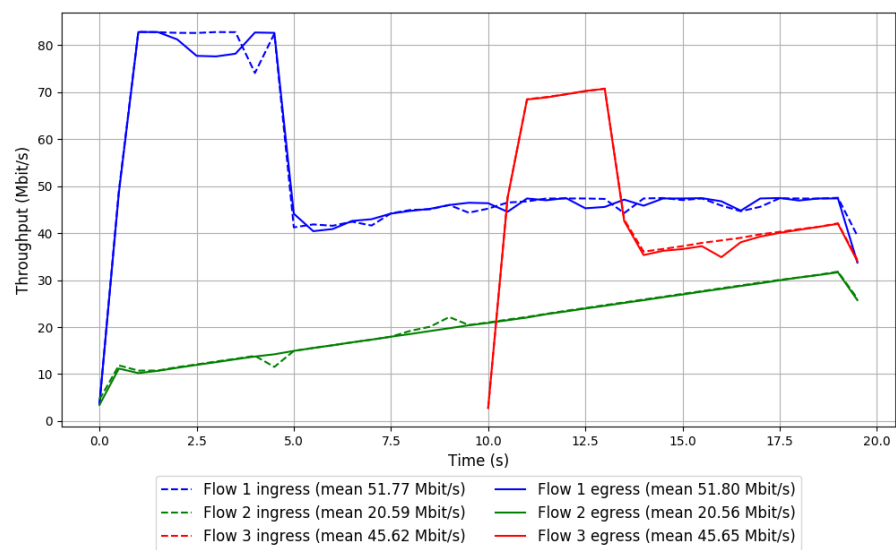


Run 1: Statistics of TCP Vegas

Start at: 2017-12-06 03:34:20

End at: 2017-12-06 03:34:50

Run 1: Report of TCP Vegas — Data Link

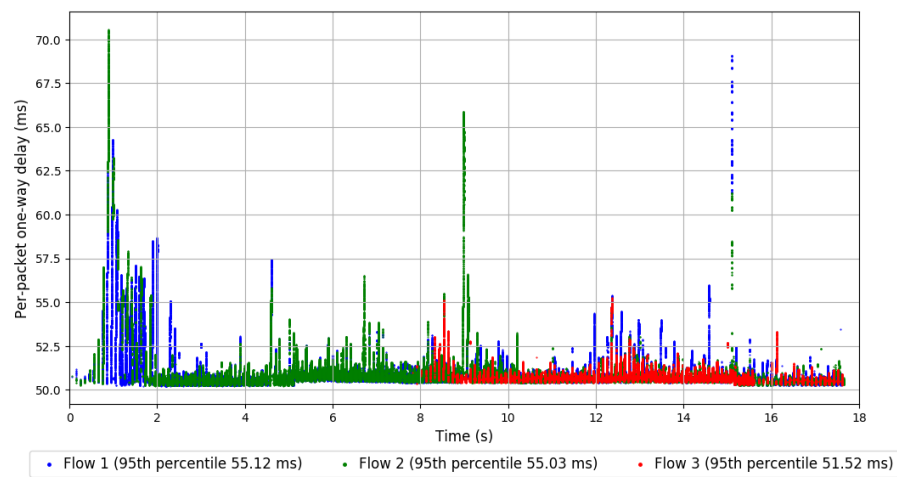
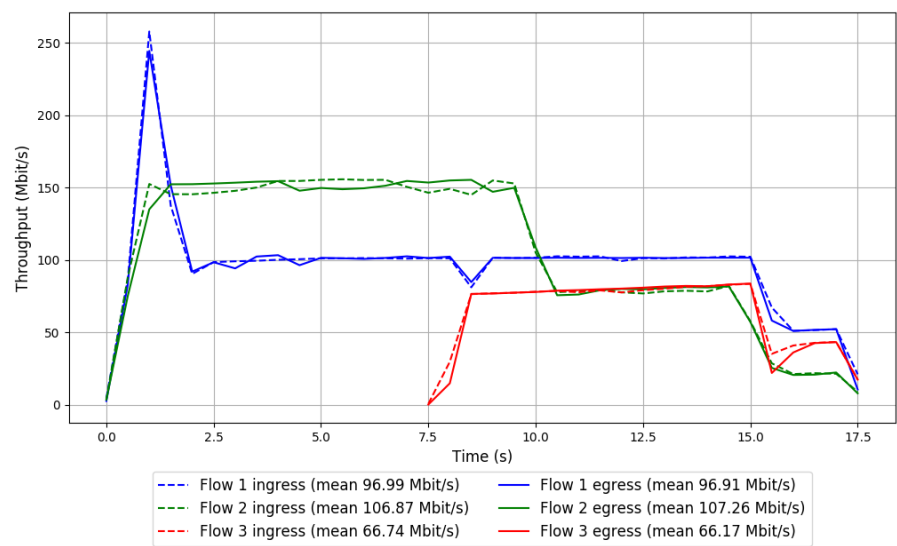


Run 2: Statistics of TCP Vegas

Start at: 2017-12-06 03:46:43

End at: 2017-12-06 03:47:13

Run 2: Report of TCP Vegas — Data Link

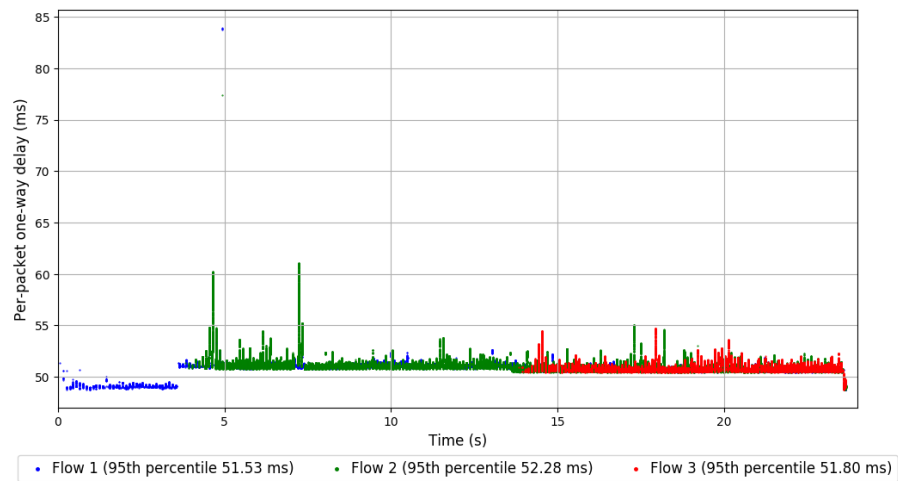
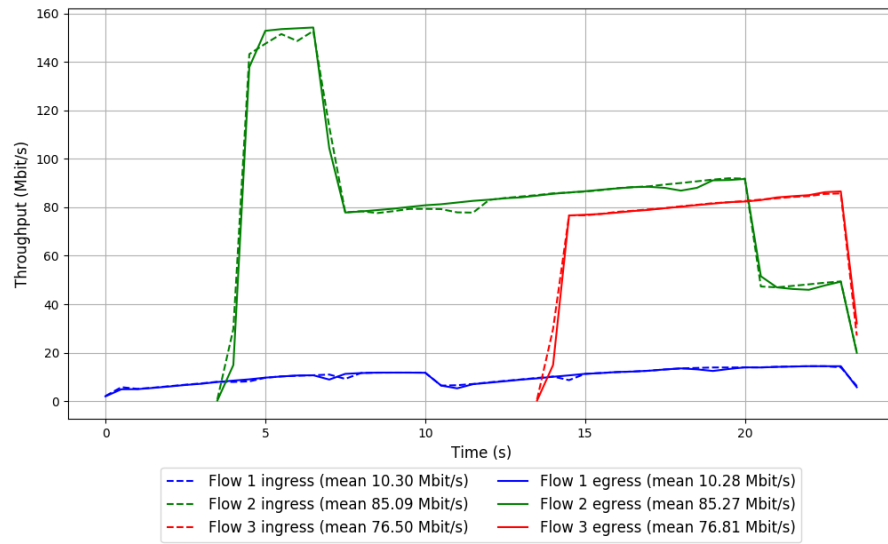


Run 3: Statistics of TCP Vegas

Start at: 2017-12-06 03:59:21

End at: 2017-12-06 03:59:51

Run 3: Report of TCP Vegas — Data Link

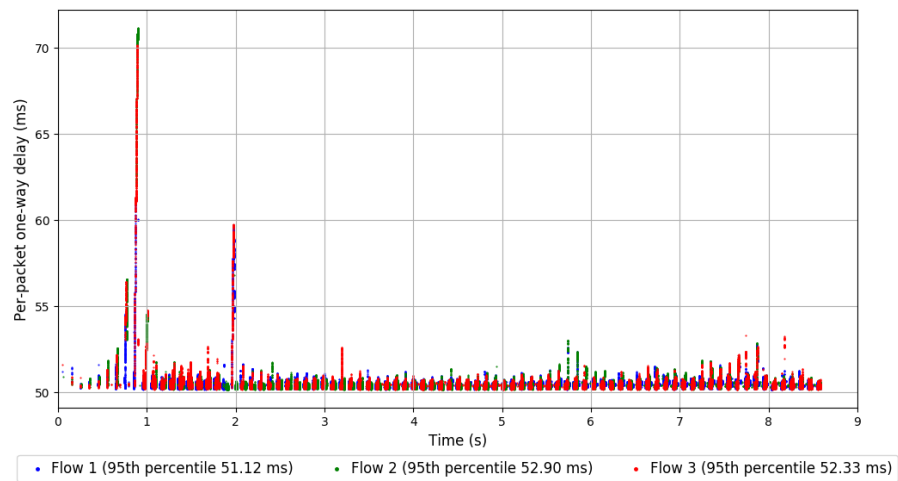
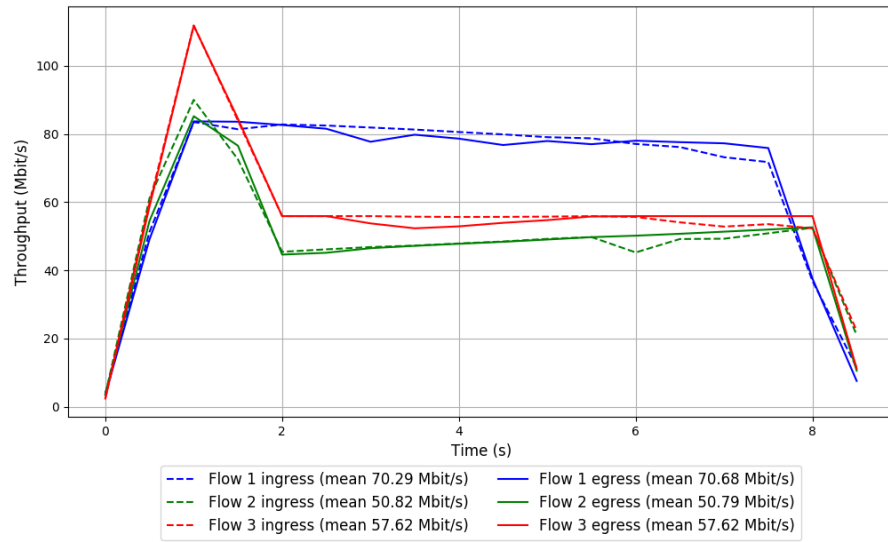


Run 4: Statistics of TCP Vegas

Start at: 2017-12-06 04:11:41

End at: 2017-12-06 04:12:11

Run 4: Report of TCP Vegas — Data Link

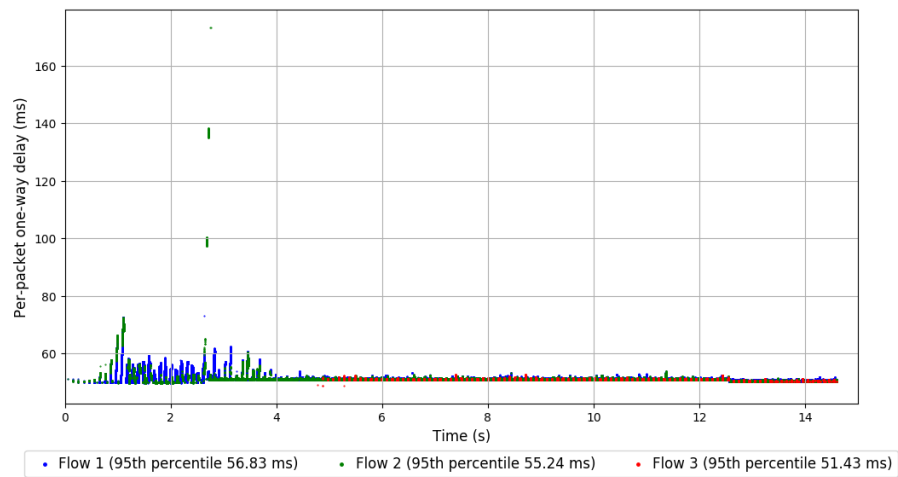
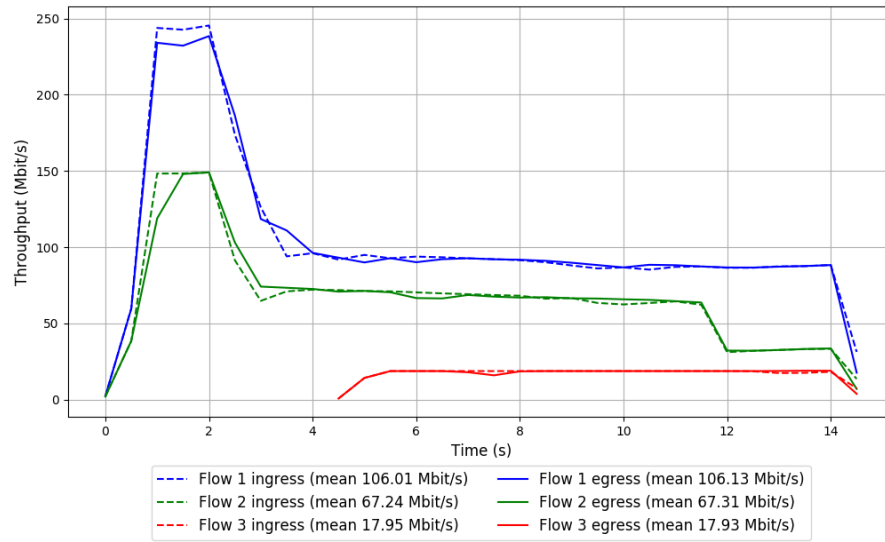


Run 5: Statistics of TCP Vegas

Start at: 2017-12-06 04:24:03

End at: 2017-12-06 04:24:33

Run 5: Report of TCP Vegas — Data Link

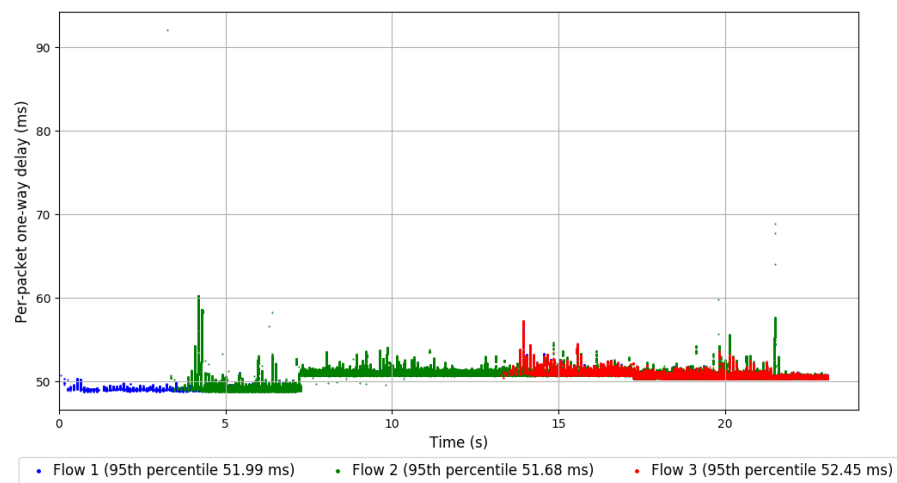
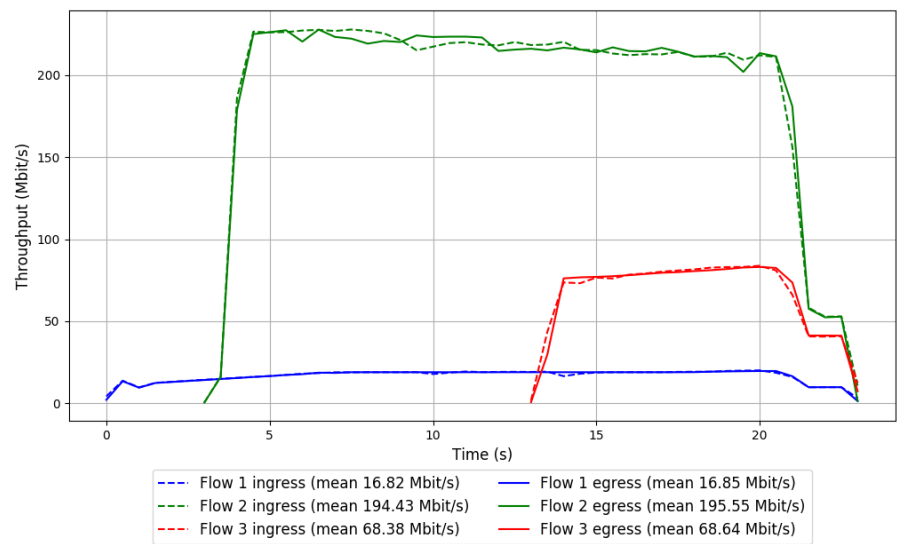


Run 6: Statistics of TCP Vegas

Start at: 2017-12-06 04:36:26

End at: 2017-12-06 04:36:56

Run 6: Report of TCP Vegas — Data Link



Run 7: Statistics of TCP Vegas

Start at: 2017-12-06 04:49:04

End at: 2017-12-06 04:49:34

Below is generated by plot.py at 2017-12-06 08:37:13

Datalink statistics

-- Total of 3 flows:

Average throughput: 117.70 Mbit/s

95th percentile per-packet one-way delay: 51.538 ms

Loss rate: 0.32%

-- Flow 1:

Average throughput: 34.26 Mbit/s

95th percentile per-packet one-way delay: 51.194 ms

Loss rate: 0.35%

-- Flow 2:

Average throughput: 48.08 Mbit/s

95th percentile per-packet one-way delay: 51.381 ms

Loss rate: 0.47%

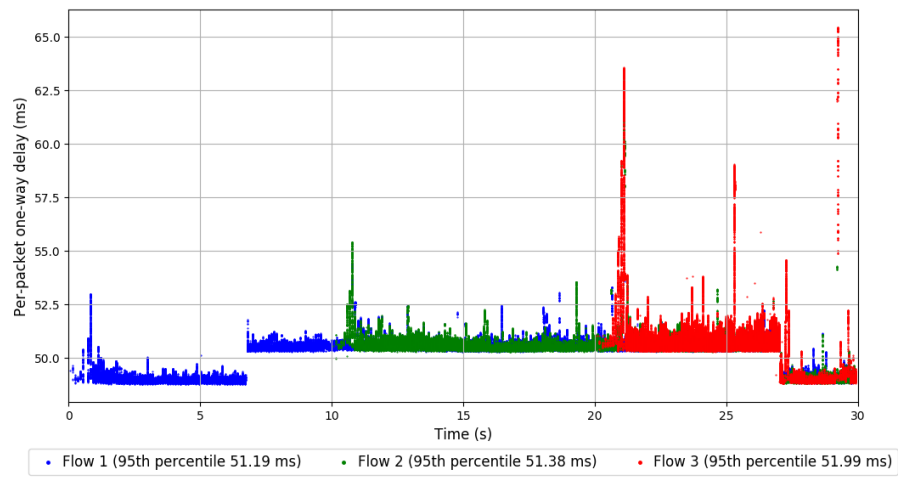
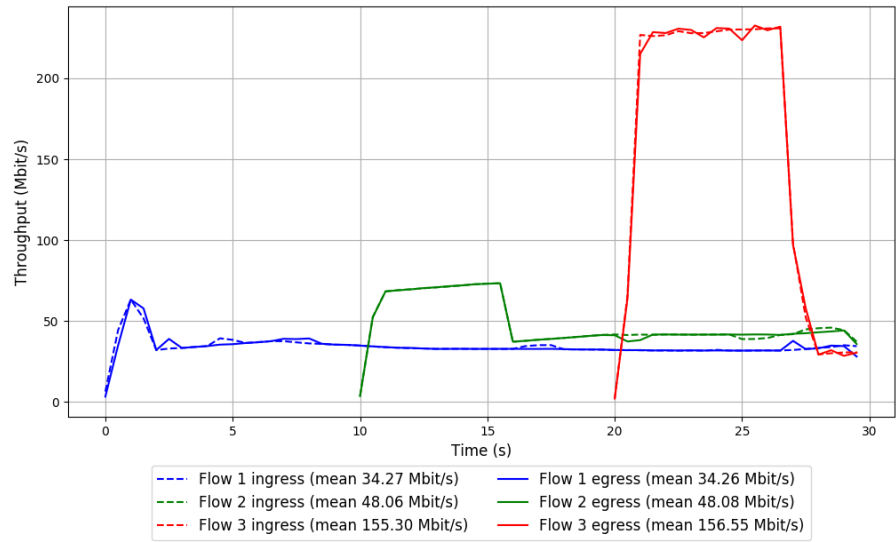
-- Flow 3:

Average throughput: 156.55 Mbit/s

95th percentile per-packet one-way delay: 51.992 ms

Loss rate: 0.21%

Run 7: Report of TCP Vegas — Data Link

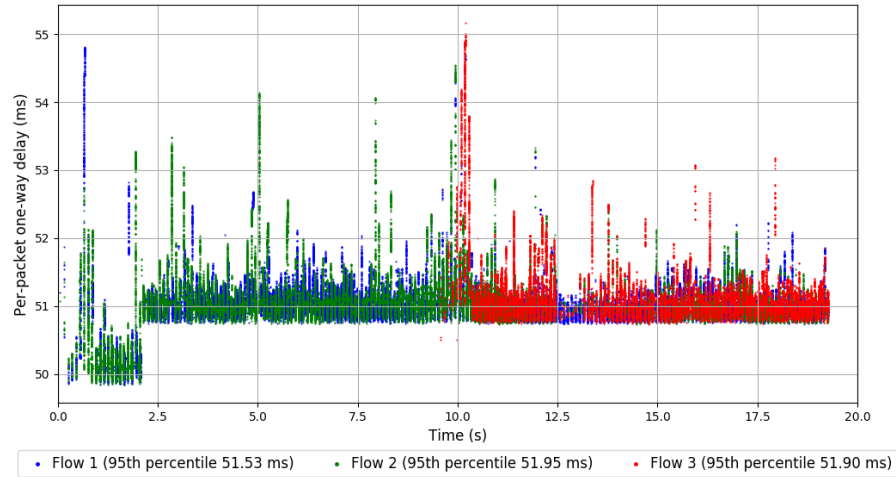
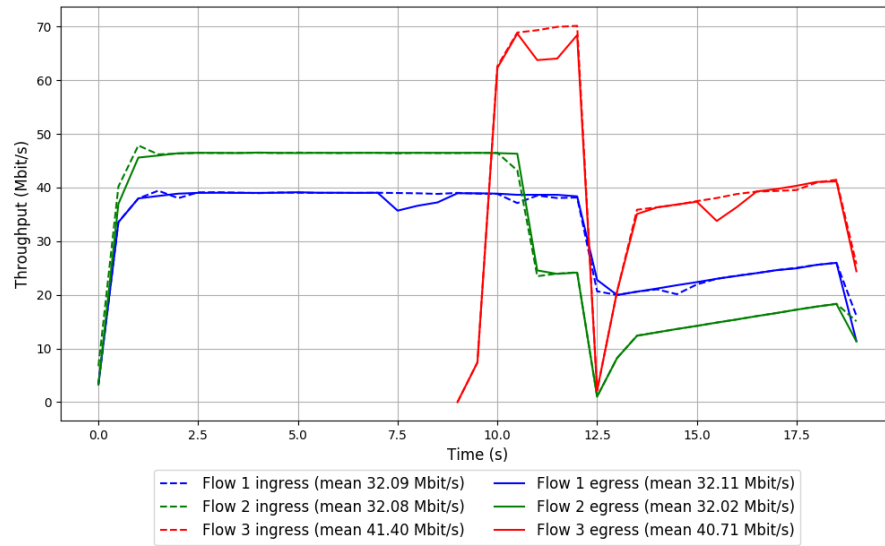


Run 8: Statistics of TCP Vegas

Start at: 2017-12-06 05:01:28

End at: 2017-12-06 05:01:58

Run 8: Report of TCP Vegas — Data Link

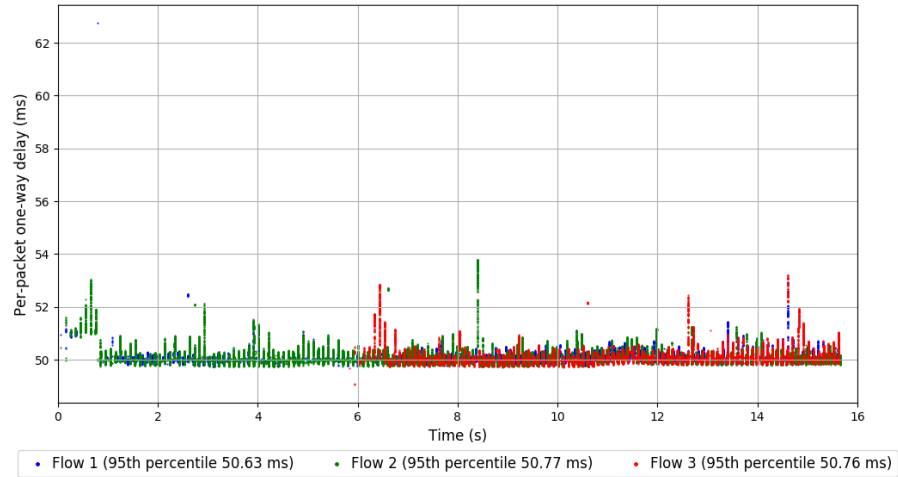
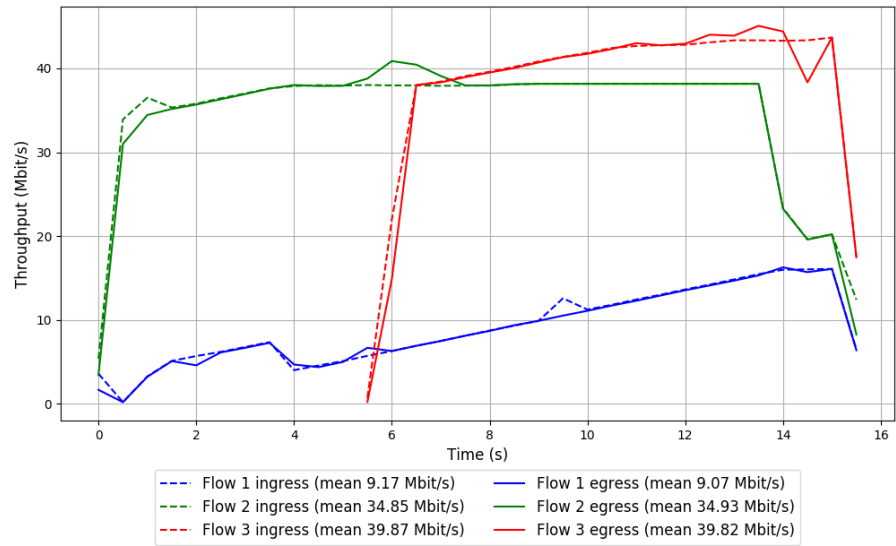


Run 9: Statistics of TCP Vegas

Start at: 2017-12-06 05:13:36

End at: 2017-12-06 05:14:06

Run 9: Report of TCP Vegas — Data Link

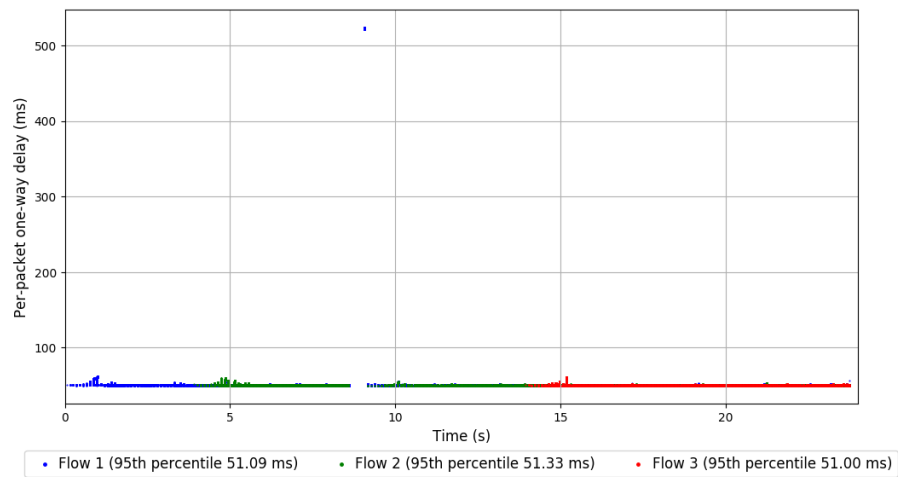
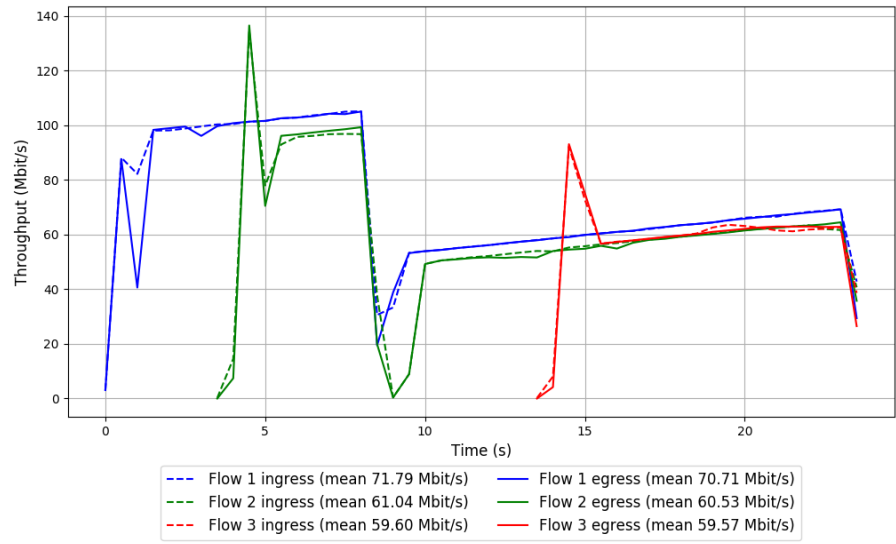


Run 10: Statistics of TCP Vegas

Start at: 2017-12-06 05:26:07

End at: 2017-12-06 05:26:37

Run 10: Report of TCP Vegas — Data Link



Run 1: Statistics of Verus

Start at: 2017-12-06 03:35:43

End at: 2017-12-06 03:36:13

Below is generated by plot.py at 2017-12-06 08:37:13

Datalink statistics

-- Total of 3 flows:

Average throughput: 323.56 Mbit/s

95th percentile per-packet one-way delay: 115.248 ms

Loss rate: 2.42%

-- Flow 1:

Average throughput: 182.62 Mbit/s

95th percentile per-packet one-way delay: 123.042 ms

Loss rate: 3.42%

-- Flow 2:

Average throughput: 177.50 Mbit/s

95th percentile per-packet one-way delay: 114.120 ms

Loss rate: 0.40%

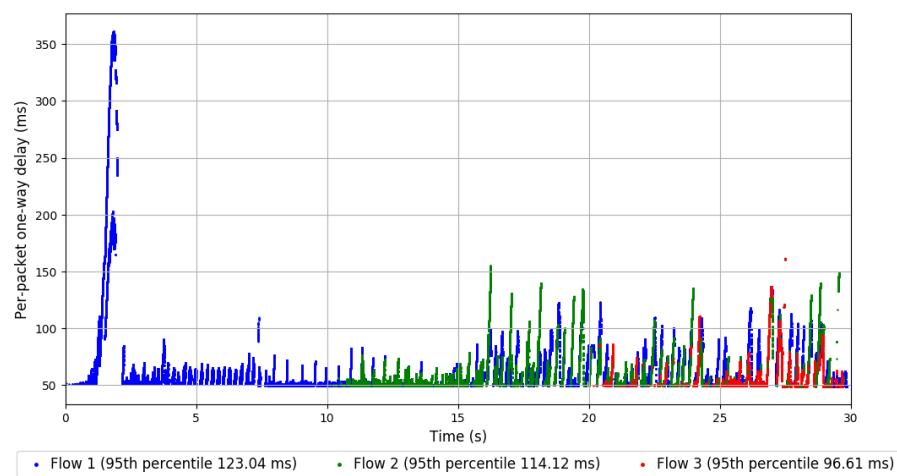
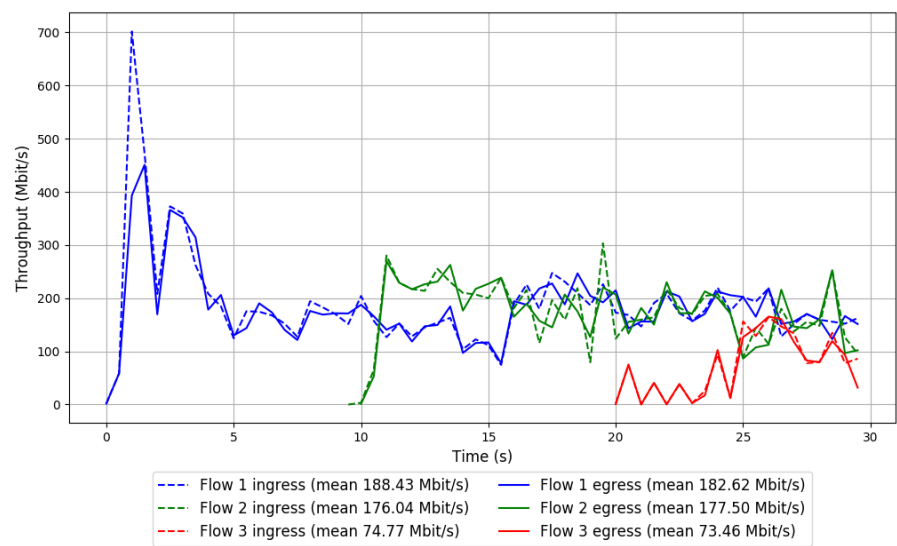
-- Flow 3:

Average throughput: 73.46 Mbit/s

95th percentile per-packet one-way delay: 96.606 ms

Loss rate: 4.46%

Run 1: Report of Verus — Data Link



Run 2: Statistics of Verus

Start at: 2017-12-06 03:48:11

End at: 2017-12-06 03:48:41

Below is generated by plot.py at 2017-12-06 08:37:13

Datalink statistics

-- Total of 3 flows:

Average throughput: 361.16 Mbit/s

95th percentile per-packet one-way delay: 124.563 ms

Loss rate: 2.24%

-- Flow 1:

Average throughput: 195.20 Mbit/s

95th percentile per-packet one-way delay: 181.067 ms

Loss rate: 3.58%

-- Flow 2:

Average throughput: 187.37 Mbit/s

95th percentile per-packet one-way delay: 113.220 ms

Loss rate: 0.38%

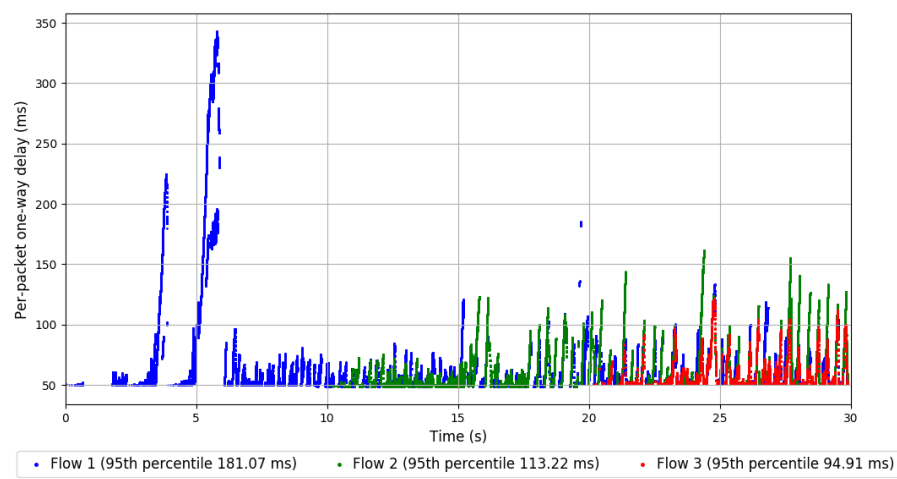
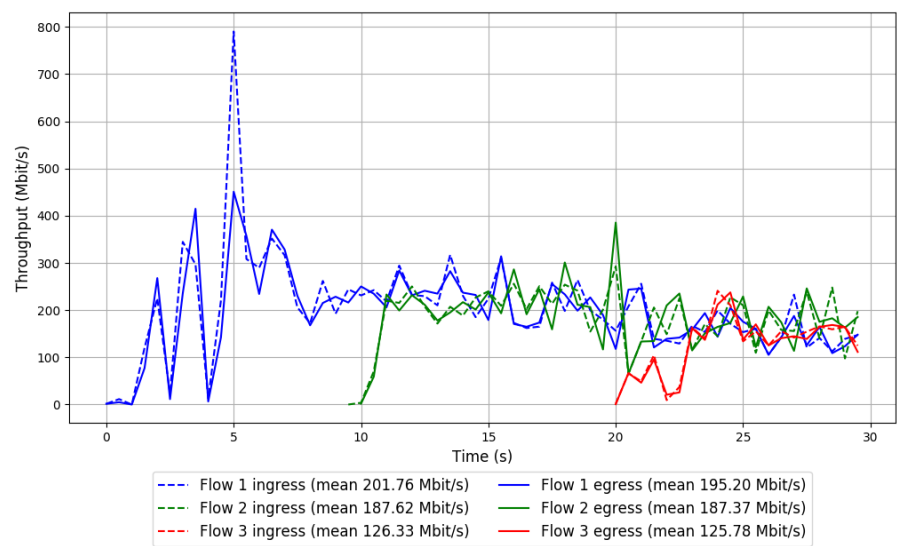
-- Flow 3:

Average throughput: 125.78 Mbit/s

95th percentile per-packet one-way delay: 94.912 ms

Loss rate: 1.32%

Run 2: Report of Verus — Data Link



Run 3: Statistics of Verus

Start at: 2017-12-06 04:00:45

End at: 2017-12-06 04:01:15

Below is generated by plot.py at 2017-12-06 08:37:13

Datalink statistics

-- Total of 3 flows:

Average throughput: 389.10 Mbit/s

95th percentile per-packet one-way delay: 84.069 ms

Loss rate: 0.87%

-- Flow 1:

Average throughput: 211.93 Mbit/s

95th percentile per-packet one-way delay: 77.897 ms

Loss rate: 0.70%

-- Flow 2:

Average throughput: 194.96 Mbit/s

95th percentile per-packet one-way delay: 90.056 ms

Loss rate: 0.66%

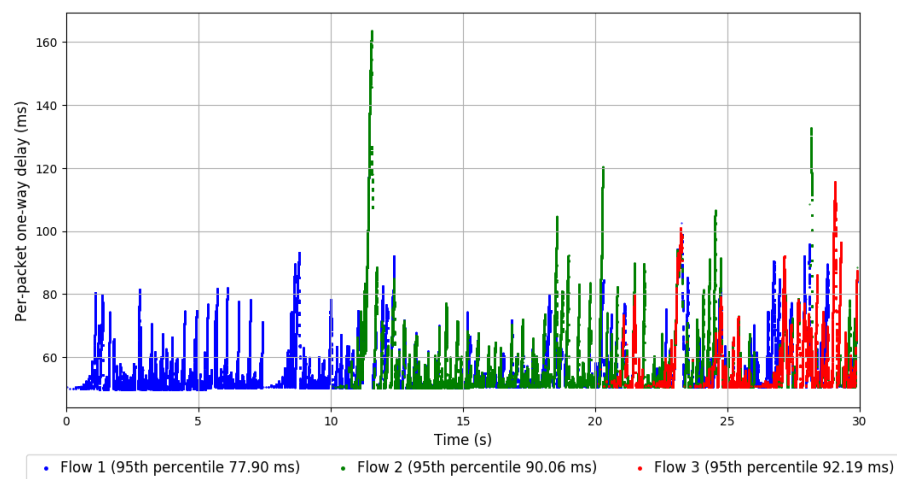
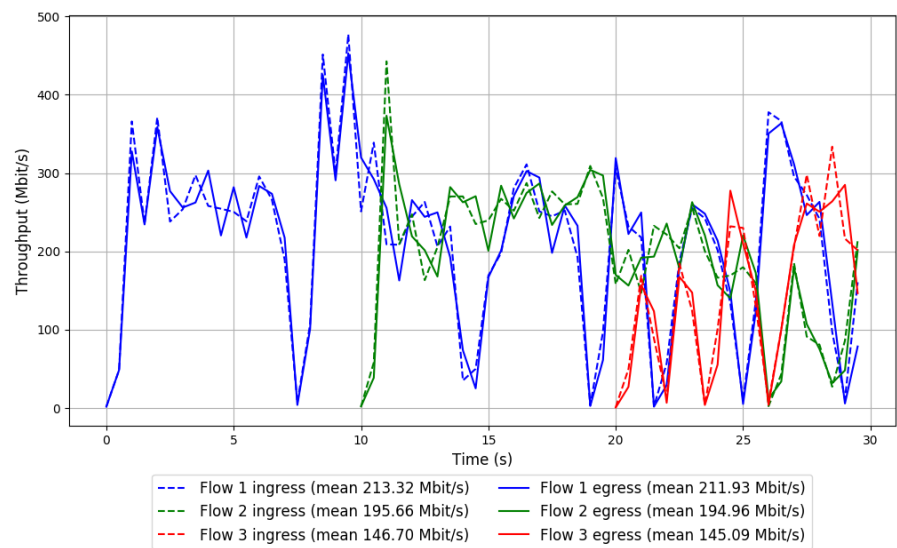
-- Flow 3:

Average throughput: 145.09 Mbit/s

95th percentile per-packet one-way delay: 92.195 ms

Loss rate: 2.18%

Run 3: Report of Verus — Data Link



Run 4: Statistics of Verus

Start at: 2017-12-06 04:13:04

End at: 2017-12-06 04:13:34

Below is generated by plot.py at 2017-12-06 08:37:13

Datalink statistics

-- Total of 3 flows:

Average throughput: 366.08 Mbit/s

95th percentile per-packet one-way delay: 102.590 ms

Loss rate: 0.45%

-- Flow 1:

Average throughput: 214.06 Mbit/s

95th percentile per-packet one-way delay: 86.616 ms

Loss rate: 0.10%

-- Flow 2:

Average throughput: 194.30 Mbit/s

95th percentile per-packet one-way delay: 140.855 ms

Loss rate: 0.91%

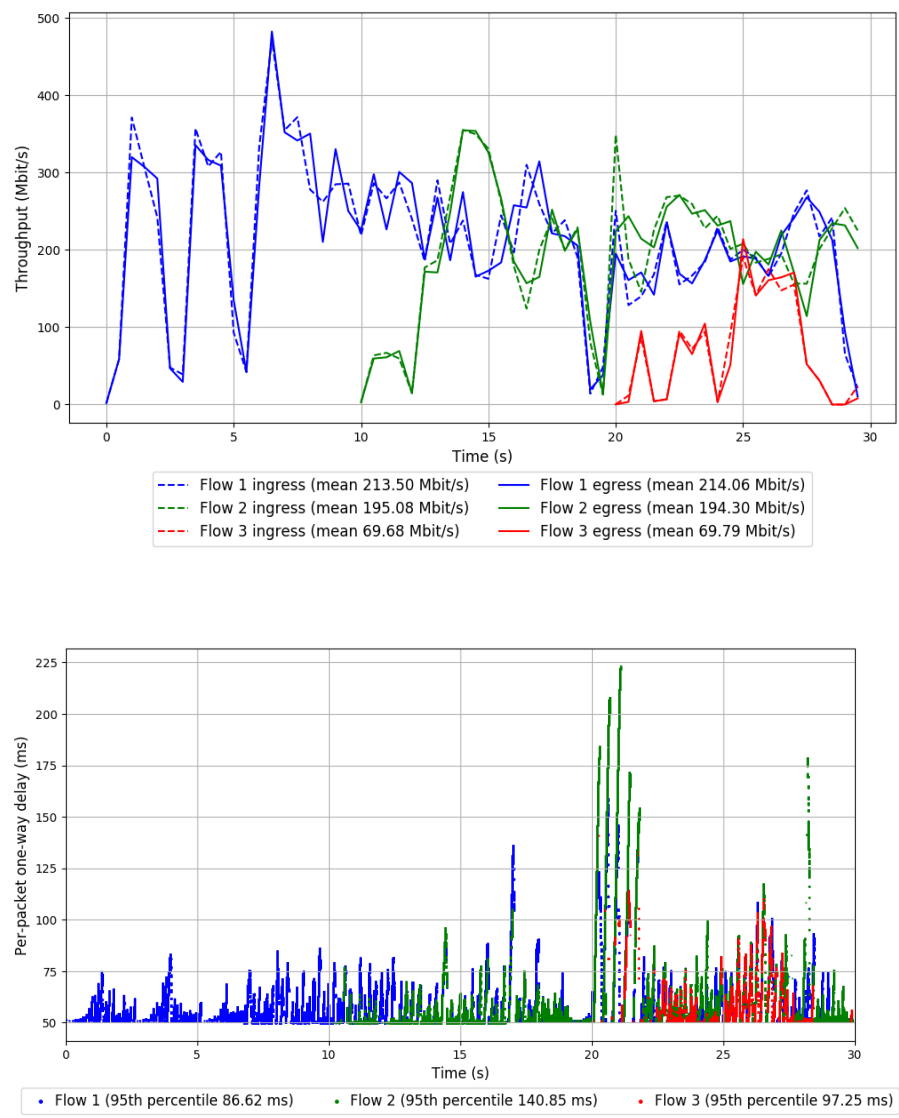
-- Flow 3:

Average throughput: 69.79 Mbit/s

95th percentile per-packet one-way delay: 97.246 ms

Loss rate: 1.16%

Run 4: Report of Verus — Data Link



Run 5: Statistics of Verus

Start at: 2017-12-06 04:25:27

End at: 2017-12-06 04:25:57

Below is generated by plot.py at 2017-12-06 08:37:13

Datalink statistics

-- Total of 3 flows:

Average throughput: 359.08 Mbit/s

95th percentile per-packet one-way delay: 100.025 ms

Loss rate: 0.60%

-- Flow 1:

Average throughput: 181.87 Mbit/s

95th percentile per-packet one-way delay: 98.339 ms

Loss rate: 0.66%

-- Flow 2:

Average throughput: 205.76 Mbit/s

95th percentile per-packet one-way delay: 102.634 ms

Loss rate: 0.54%

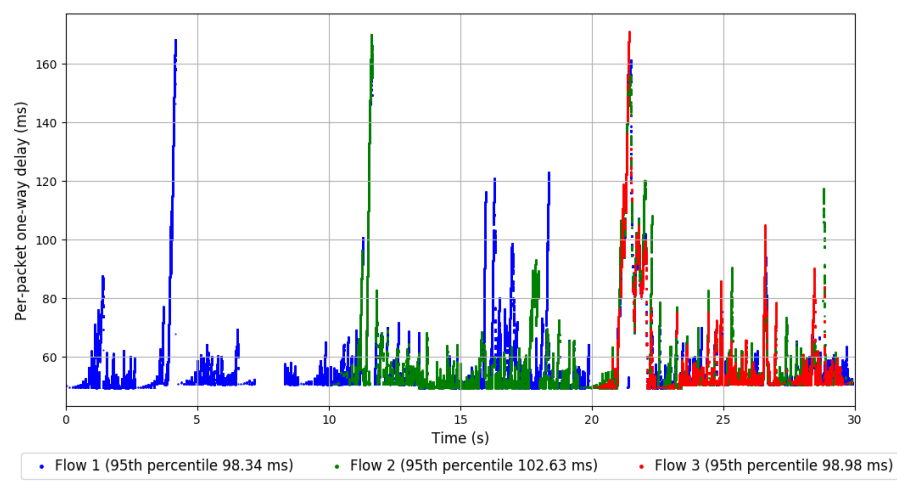
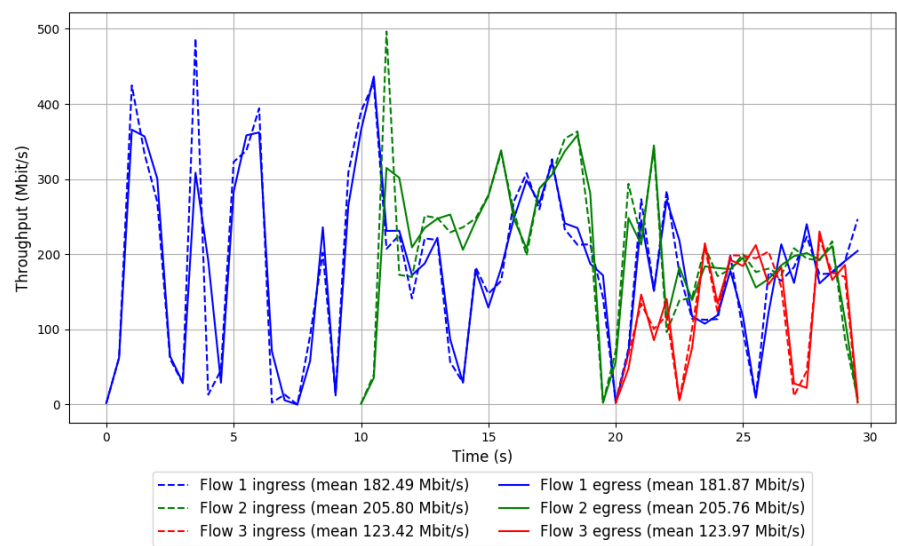
-- Flow 3:

Average throughput: 123.97 Mbit/s

95th percentile per-packet one-way delay: 98.976 ms

Loss rate: 0.57%

Run 5: Report of Verus — Data Link



Run 6: Statistics of Verus

Start at: 2017-12-06 04:37:55

End at: 2017-12-06 04:38:25

Below is generated by plot.py at 2017-12-06 08:37:13

Datalink statistics

-- Total of 3 flows:

Average throughput: 350.95 Mbit/s

95th percentile per-packet one-way delay: 113.027 ms

Loss rate: 0.66%

-- Flow 1:

Average throughput: 212.20 Mbit/s

95th percentile per-packet one-way delay: 104.839 ms

Loss rate: 0.32%

-- Flow 2:

Average throughput: 151.15 Mbit/s

95th percentile per-packet one-way delay: 82.920 ms

Loss rate: 0.78%

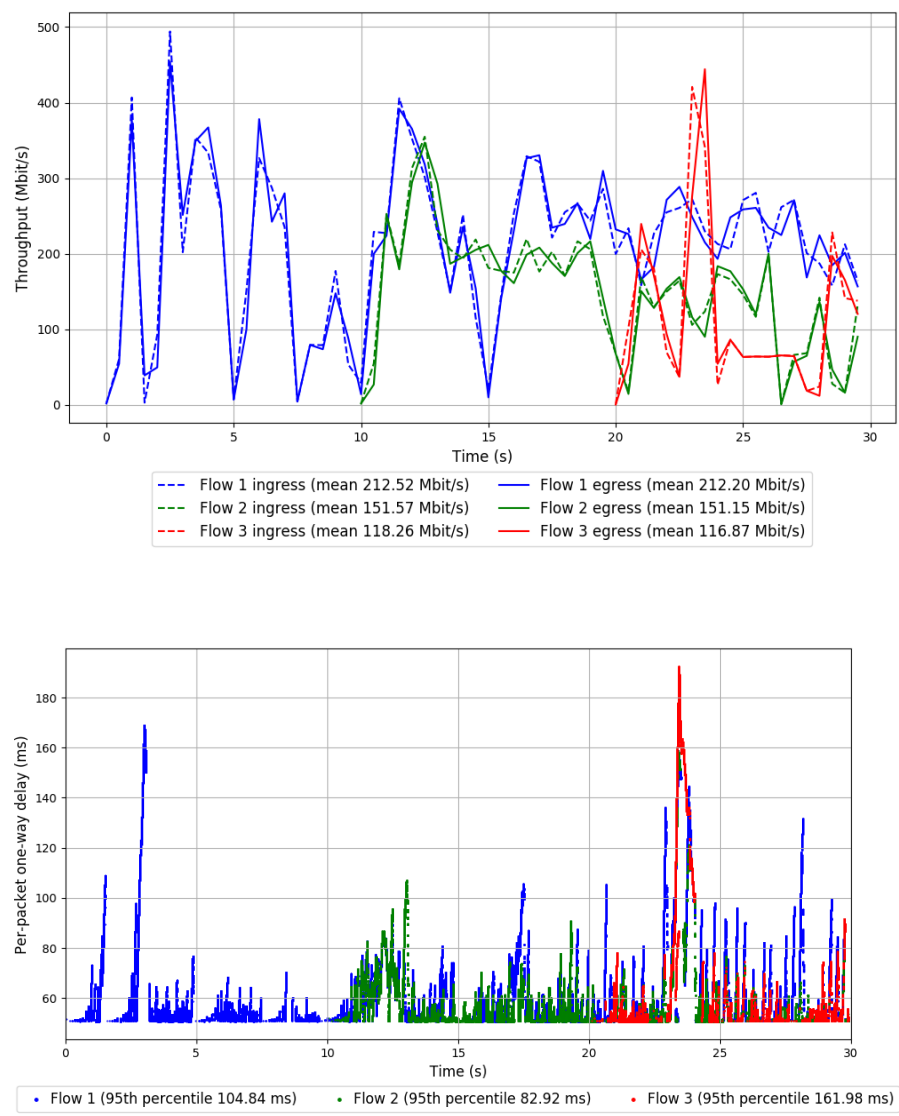
-- Flow 3:

Average throughput: 116.87 Mbit/s

95th percentile per-packet one-way delay: 161.980 ms

Loss rate: 2.19%

Run 6: Report of Verus — Data Link



Run 7: Statistics of Verus

Start at: 2017-12-06 04:50:30

End at: 2017-12-06 04:51:00

Below is generated by plot.py at 2017-12-06 08:40:34

Datalink statistics

-- Total of 3 flows:

Average throughput: 360.42 Mbit/s

95th percentile per-packet one-way delay: 108.976 ms

Loss rate: 0.51%

-- Flow 1:

Average throughput: 207.35 Mbit/s

95th percentile per-packet one-way delay: 85.696 ms

Loss rate: 0.20%

-- Flow 2:

Average throughput: 166.14 Mbit/s

95th percentile per-packet one-way delay: 171.642 ms

Loss rate: 0.56%

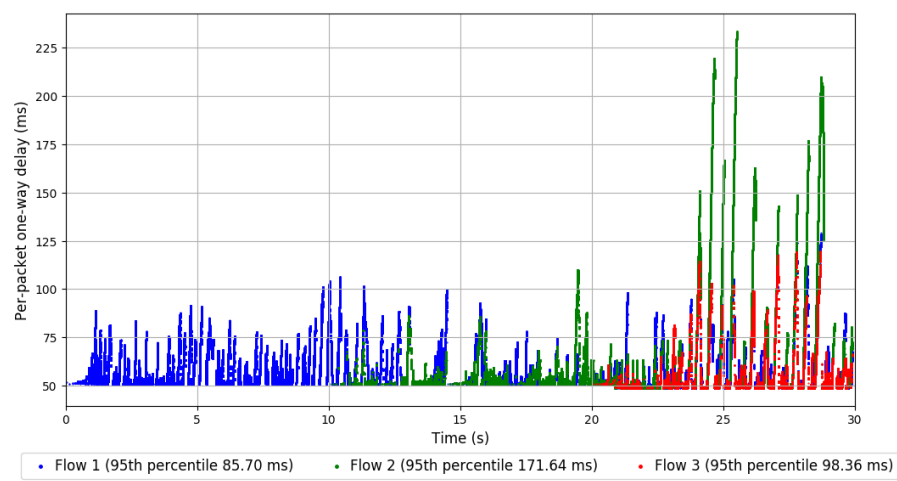
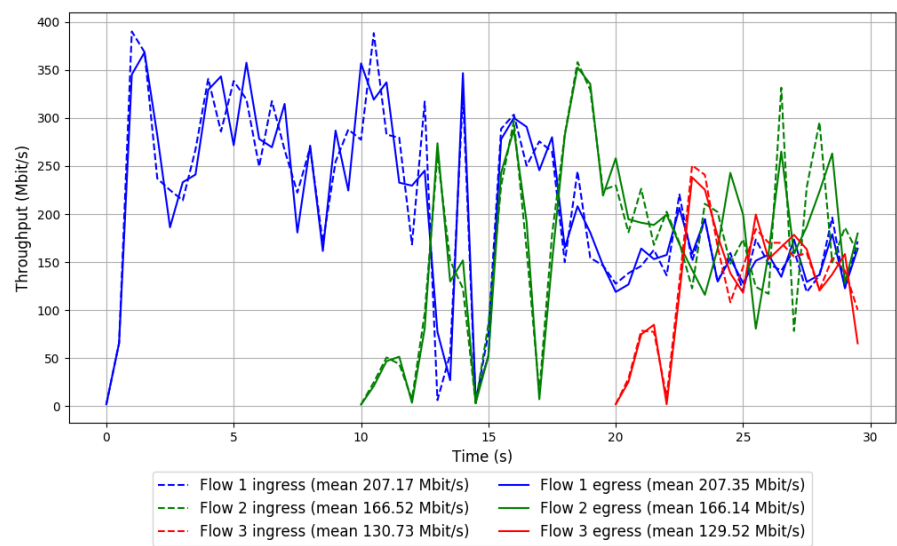
-- Flow 3:

Average throughput: 129.52 Mbit/s

95th percentile per-packet one-way delay: 98.362 ms

Loss rate: 1.83%

Run 7: Report of Verus — Data Link



Run 8: Statistics of Verus

Start at: 2017-12-06 05:02:51

End at: 2017-12-06 05:03:21

Below is generated by plot.py at 2017-12-06 08:41:07

Datalink statistics

-- Total of 3 flows:

Average throughput: 365.25 Mbit/s

95th percentile per-packet one-way delay: 143.350 ms

Loss rate: 1.19%

-- Flow 1:

Average throughput: 189.01 Mbit/s

95th percentile per-packet one-way delay: 149.358 ms

Loss rate: 1.31%

-- Flow 2:

Average throughput: 208.20 Mbit/s

95th percentile per-packet one-way delay: 138.248 ms

Loss rate: 0.64%

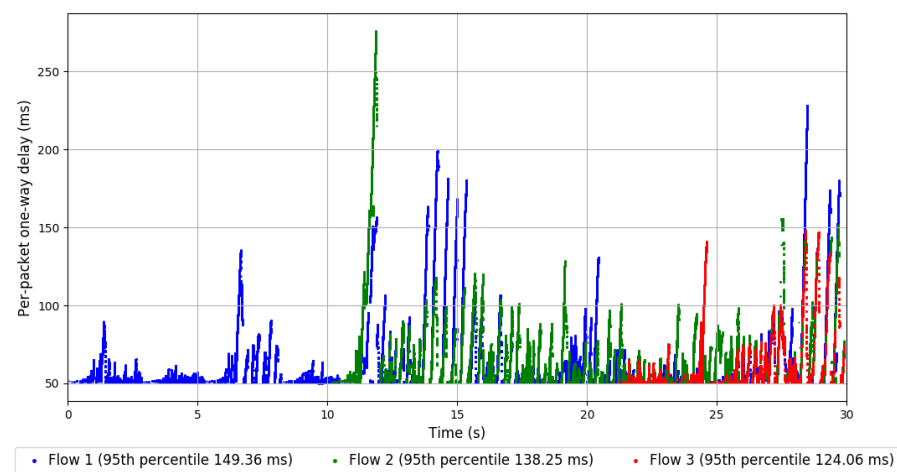
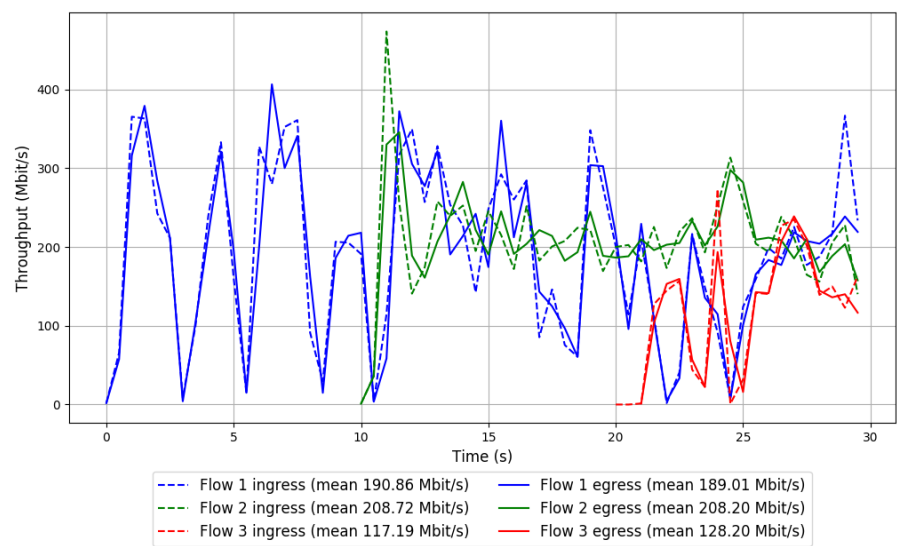
-- Flow 3:

Average throughput: 128.20 Mbit/s

95th percentile per-packet one-way delay: 124.061 ms

Loss rate: 2.59%

Run 8: Report of Verus — Data Link



Run 9: Statistics of Verus

Start at: 2017-12-06 05:14:57

End at: 2017-12-06 05:15:27

Below is generated by plot.py at 2017-12-06 08:41:17

Datalink statistics

-- Total of 3 flows:

Average throughput: 347.67 Mbit/s

95th percentile per-packet one-way delay: 118.217 ms

Loss rate: 1.31%

-- Flow 1:

Average throughput: 191.73 Mbit/s

95th percentile per-packet one-way delay: 101.091 ms

Loss rate: 0.98%

-- Flow 2:

Average throughput: 137.62 Mbit/s

95th percentile per-packet one-way delay: 99.453 ms

Loss rate: 0.53%

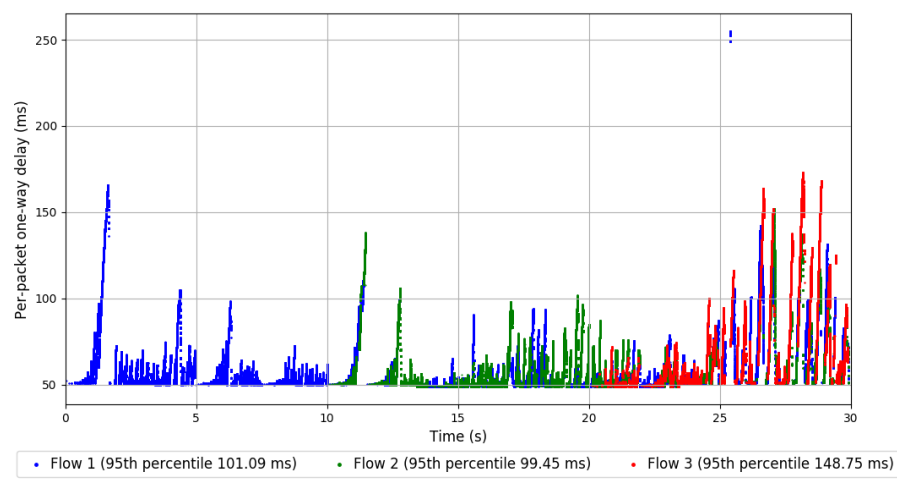
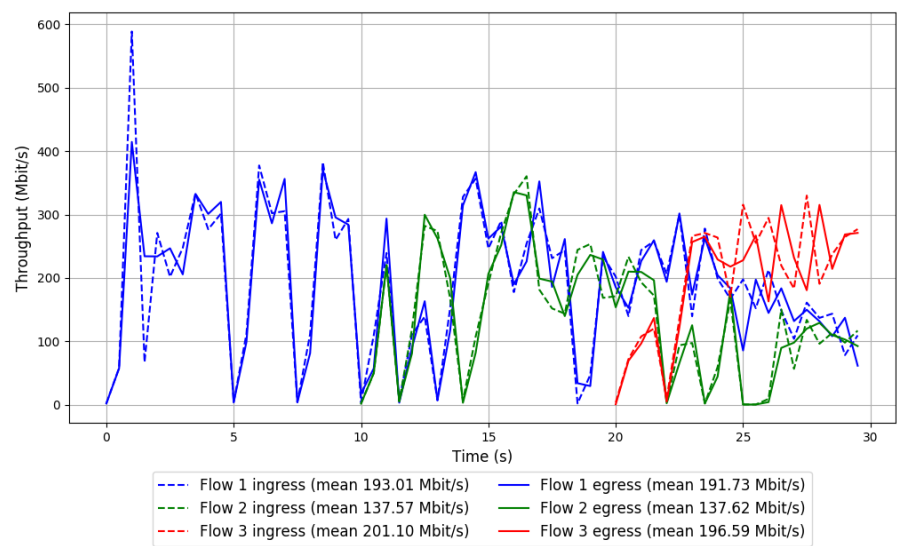
-- Flow 3:

Average throughput: 196.59 Mbit/s

95th percentile per-packet one-way delay: 148.747 ms

Loss rate: 3.36%

Run 9: Report of Verus — Data Link



Run 10: Statistics of Verus

Start at: 2017-12-06 05:27:33

End at: 2017-12-06 05:28:03

Below is generated by plot.py at 2017-12-06 08:41:17

Datalink statistics

-- Total of 3 flows:

Average throughput: 314.37 Mbit/s

95th percentile per-packet one-way delay: 158.687 ms

Loss rate: 0.88%

-- Flow 1:

Average throughput: 153.95 Mbit/s

95th percentile per-packet one-way delay: 130.665 ms

Loss rate: 0.76%

-- Flow 2:

Average throughput: 207.36 Mbit/s

95th percentile per-packet one-way delay: 191.807 ms

Loss rate: 1.06%

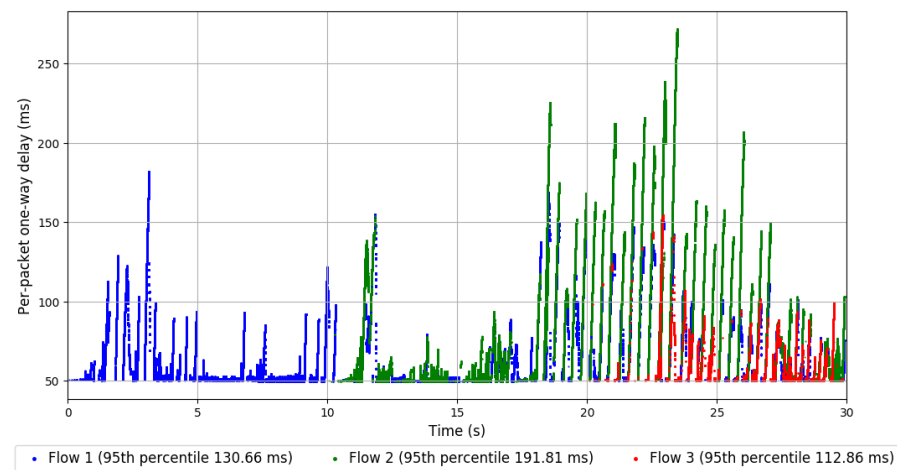
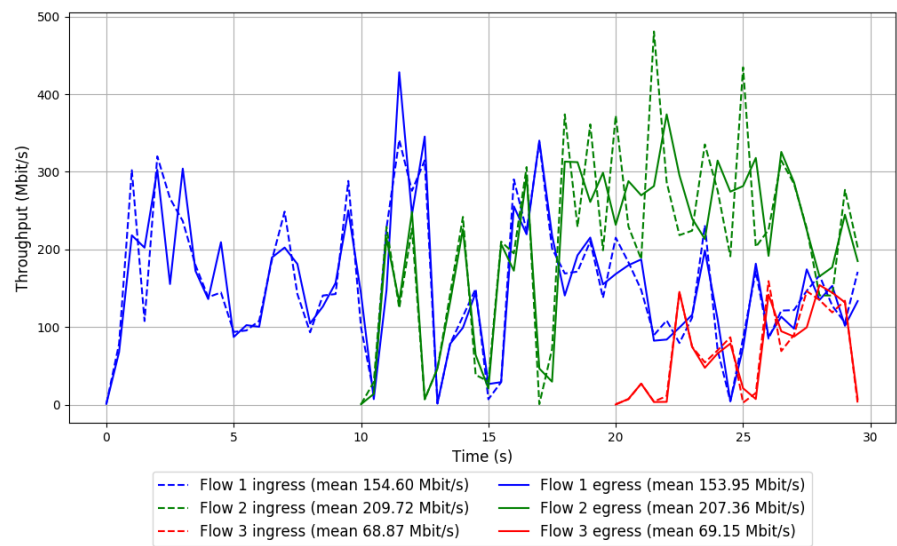
-- Flow 3:

Average throughput: 69.15 Mbit/s

95th percentile per-packet one-way delay: 112.861 ms

Loss rate: 0.63%

Run 10: Report of Verus — Data Link

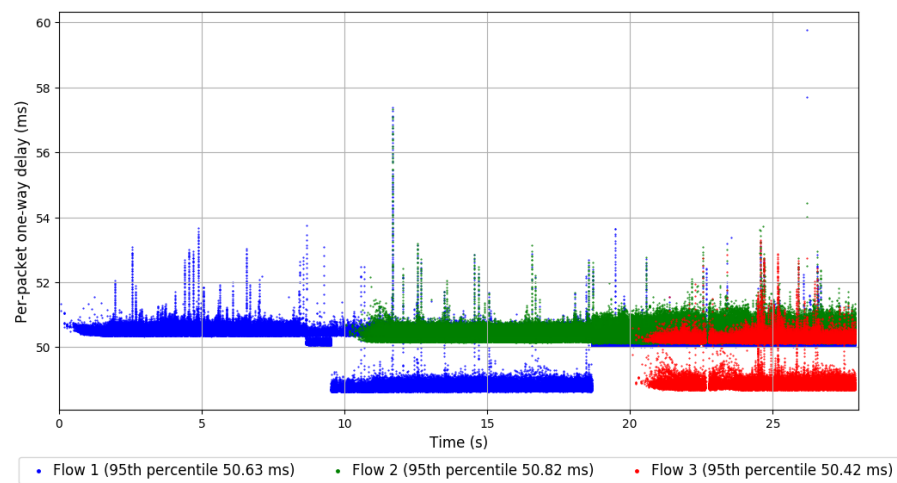
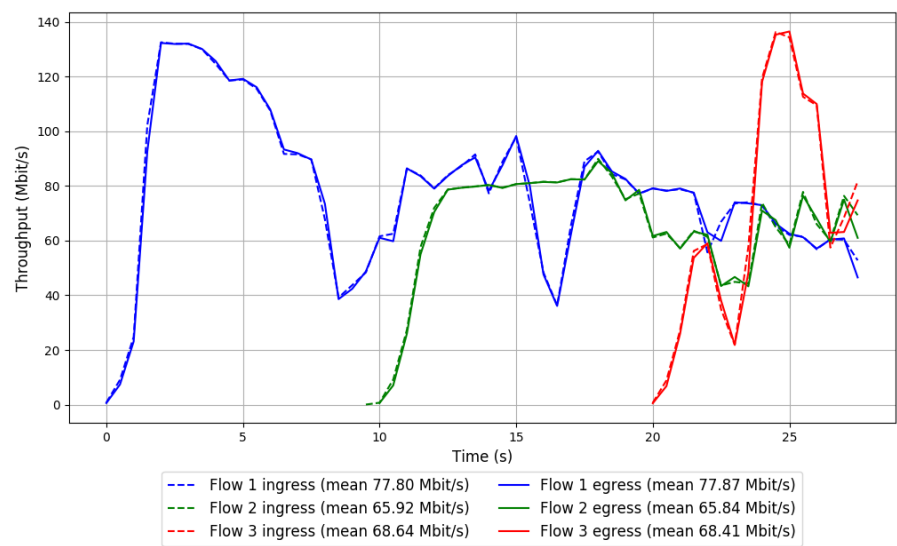


```
Run 1: Statistics of Copa

Start at: 2017-12-06 03:31:40
End at: 2017-12-06 03:32:10

# Below is generated by plot.py at 2017-12-06 08:41:17
# Datalink statistics
-- Total of 3 flows:
Average throughput: 139.26 Mbit/s
95th percentile per-packet one-way delay: 50.683 ms
Loss rate: 0.58%
-- Flow 1:
Average throughput: 77.87 Mbit/s
95th percentile per-packet one-way delay: 50.632 ms
Loss rate: 0.27%
-- Flow 2:
Average throughput: 65.84 Mbit/s
95th percentile per-packet one-way delay: 50.821 ms
Loss rate: 0.68%
-- Flow 3:
Average throughput: 68.41 Mbit/s
95th percentile per-packet one-way delay: 50.420 ms
Loss rate: 1.61%
```

Run 1: Report of Copa — Data Link



Run 2: Statistics of Copa

Start at: 2017-12-06 03:44:06

End at: 2017-12-06 03:44:36

Below is generated by plot.py at 2017-12-06 08:41:17

Datalink statistics

-- Total of 3 flows:

Average throughput: 124.27 Mbit/s

95th percentile per-packet one-way delay: 50.832 ms

Loss rate: 0.45%

-- Flow 1:

Average throughput: 68.13 Mbit/s

95th percentile per-packet one-way delay: 50.432 ms

Loss rate: 0.45%

-- Flow 2:

Average throughput: 56.17 Mbit/s

95th percentile per-packet one-way delay: 51.010 ms

Loss rate: 0.15%

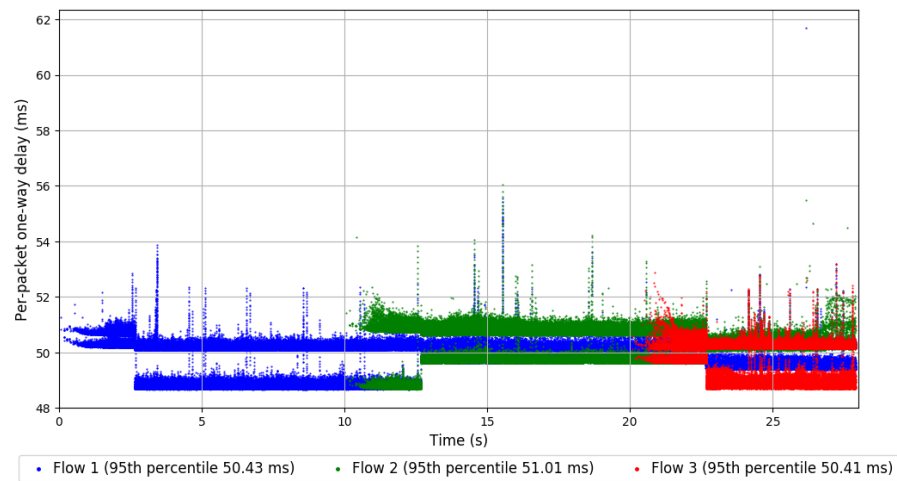
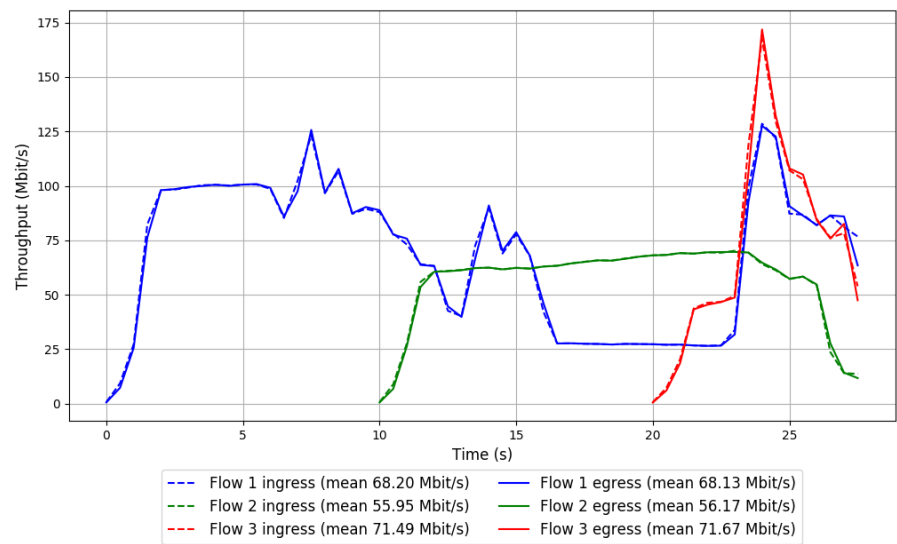
-- Flow 3:

Average throughput: 71.67 Mbit/s

95th percentile per-packet one-way delay: 50.411 ms

Loss rate: 1.00%

Run 2: Report of Copa — Data Link



Run 3: Statistics of Copa

Start at: 2017-12-06 03:56:37

End at: 2017-12-06 03:57:07

Below is generated by plot.py at 2017-12-06 08:41:17

Datalink statistics

-- Total of 3 flows:

Average throughput: 149.82 Mbit/s

95th percentile per-packet one-way delay: 51.010 ms

Loss rate: 0.40%

-- Flow 1:

Average throughput: 79.31 Mbit/s

95th percentile per-packet one-way delay: 51.012 ms

Loss rate: 0.16%

-- Flow 2:

Average throughput: 75.60 Mbit/s

95th percentile per-packet one-way delay: 50.968 ms

Loss rate: 0.47%

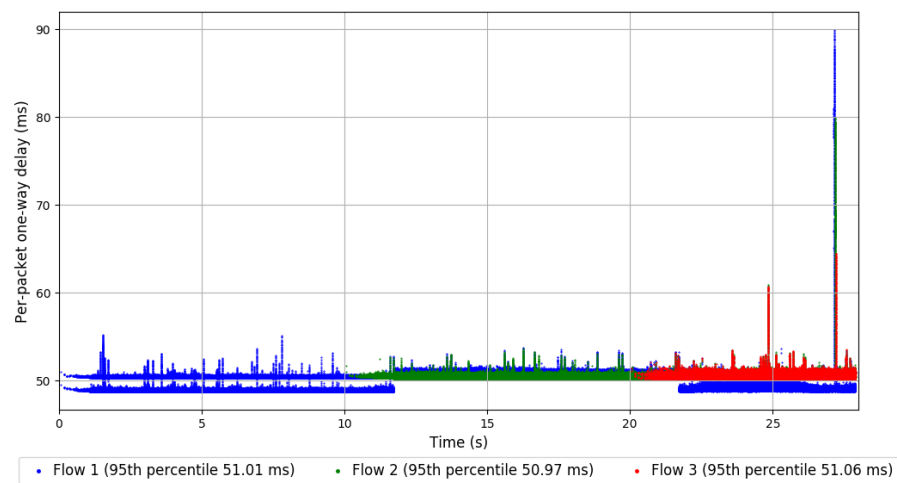
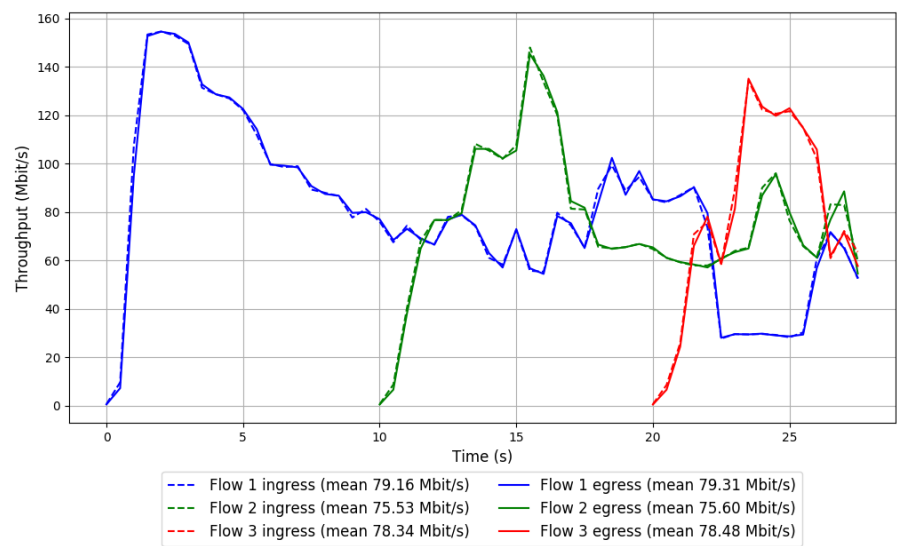
-- Flow 3:

Average throughput: 78.48 Mbit/s

95th percentile per-packet one-way delay: 51.059 ms

Loss rate: 1.10%

Run 3: Report of Copa — Data Link



Run 4: Statistics of Copa

Start at: 2017-12-06 04:09:01

End at: 2017-12-06 04:09:31

Below is generated by plot.py at 2017-12-06 08:41:47

Datalink statistics

-- Total of 3 flows:

Average throughput: 134.83 Mbit/s

95th percentile per-packet one-way delay: 51.007 ms

Loss rate: 0.58%

-- Flow 1:

Average throughput: 74.56 Mbit/s

95th percentile per-packet one-way delay: 50.970 ms

Loss rate: 0.38%

-- Flow 2:

Average throughput: 65.84 Mbit/s

95th percentile per-packet one-way delay: 51.026 ms

Loss rate: 0.53%

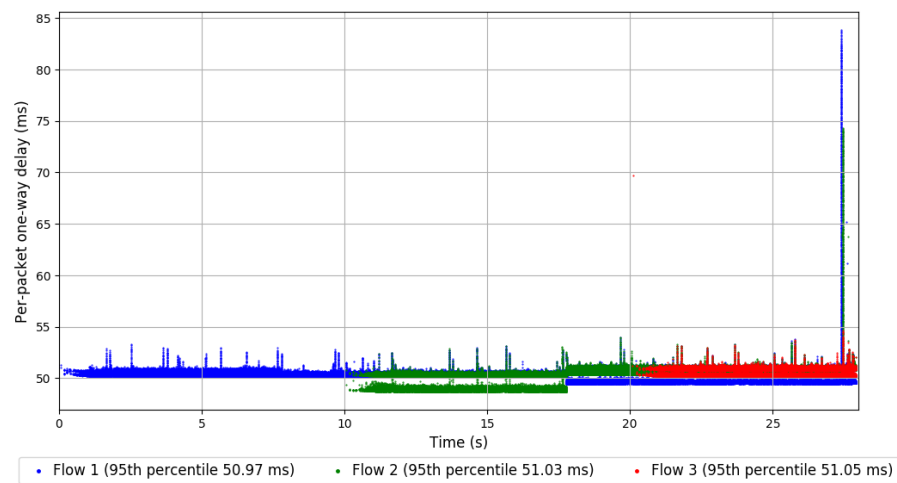
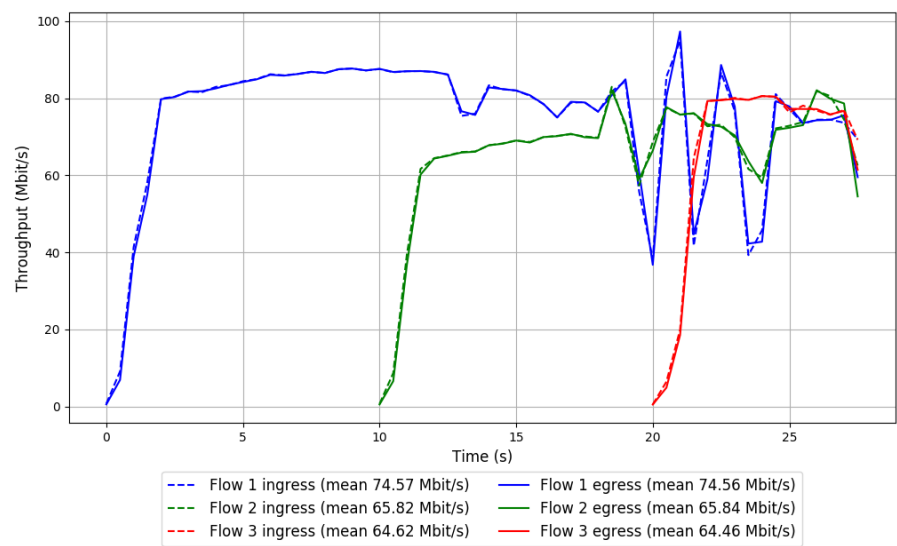
-- Flow 3:

Average throughput: 64.46 Mbit/s

95th percentile per-packet one-way delay: 51.050 ms

Loss rate: 1.53%

Run 4: Report of Copa — Data Link



Run 5: Statistics of Copa

Start at: 2017-12-06 04:21:25

End at: 2017-12-06 04:21:55

Below is generated by plot.py at 2017-12-06 08:43:51

Datalink statistics

-- Total of 3 flows:

Average throughput: 127.90 Mbit/s

95th percentile per-packet one-way delay: 50.955 ms

Loss rate: 0.67%

-- Flow 1:

Average throughput: 74.09 Mbit/s

95th percentile per-packet one-way delay: 50.948 ms

Loss rate: 0.39%

-- Flow 2:

Average throughput: 65.51 Mbit/s

95th percentile per-packet one-way delay: 50.935 ms

Loss rate: 0.73%

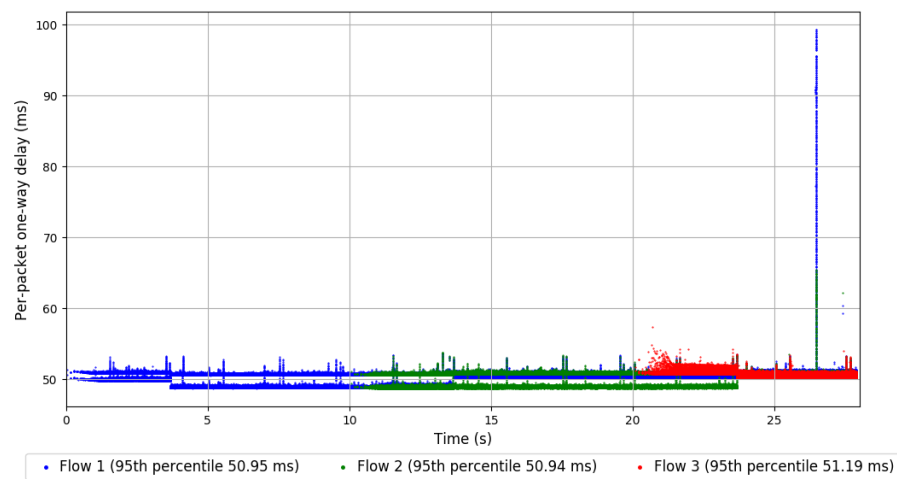
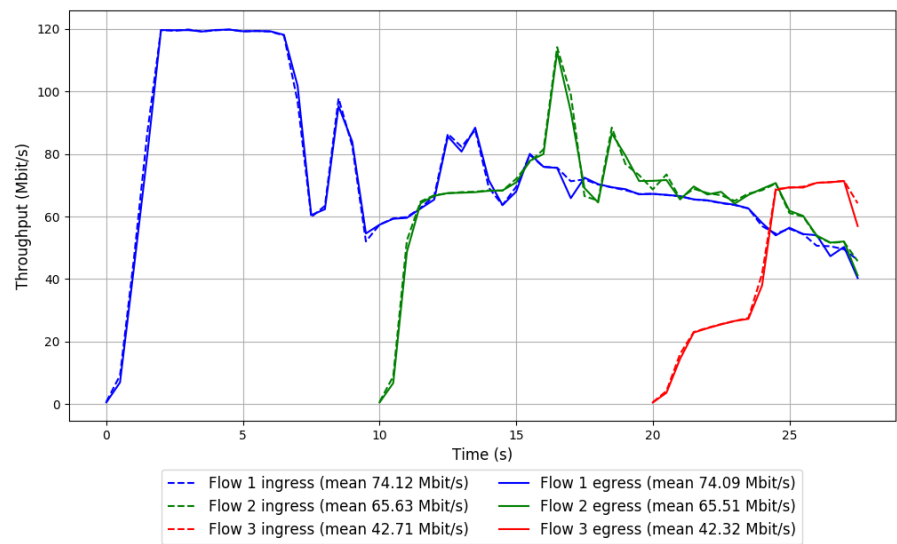
-- Flow 3:

Average throughput: 42.32 Mbit/s

95th percentile per-packet one-way delay: 51.185 ms

Loss rate: 2.16%

Run 5: Report of Copa — Data Link



Run 6: Statistics of Copa

Start at: 2017-12-06 04:33:45

End at: 2017-12-06 04:34:15

Below is generated by plot.py at 2017-12-06 08:44:11

Datalink statistics

-- Total of 3 flows:

Average throughput: 144.70 Mbit/s

95th percentile per-packet one-way delay: 50.905 ms

Loss rate: 0.41%

-- Flow 1:

Average throughput: 72.50 Mbit/s

95th percentile per-packet one-way delay: 50.900 ms

Loss rate: 0.15%

-- Flow 2:

Average throughput: 82.98 Mbit/s

95th percentile per-packet one-way delay: 50.922 ms

Loss rate: 0.35%

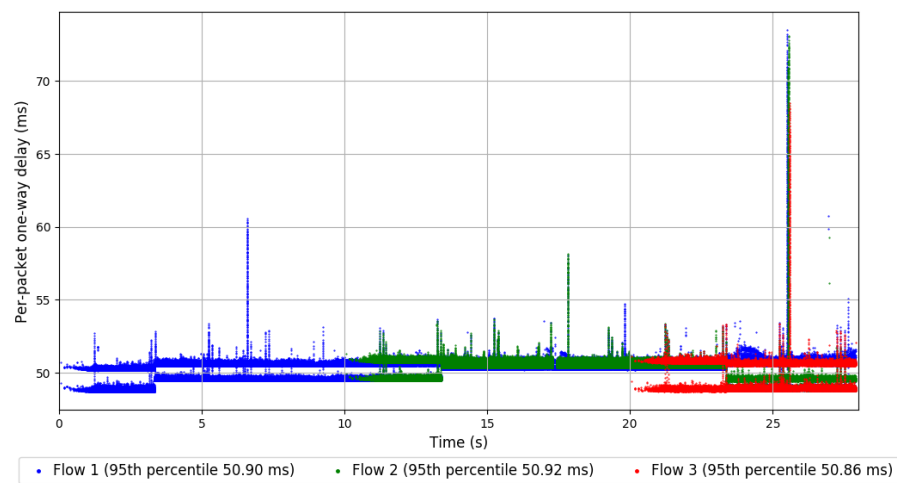
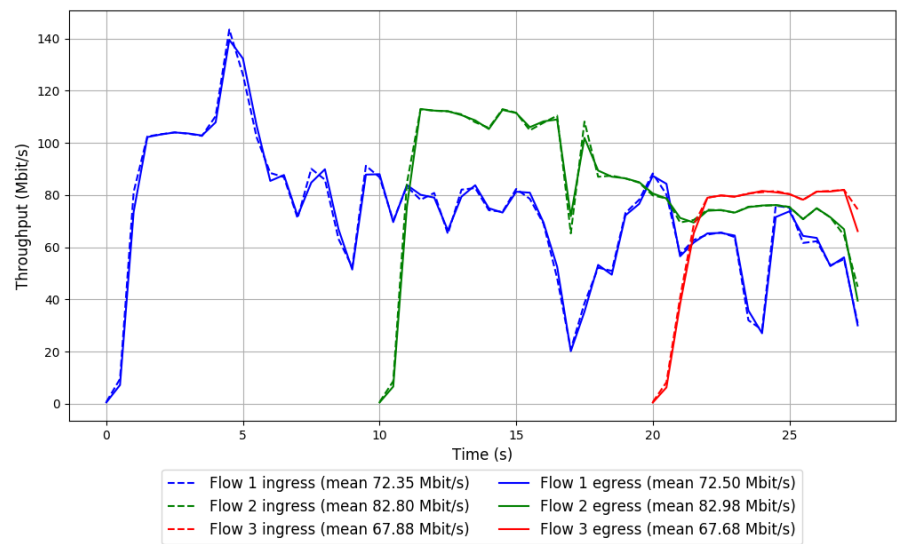
-- Flow 3:

Average throughput: 67.68 Mbit/s

95th percentile per-packet one-way delay: 50.856 ms

Loss rate: 1.53%

Run 6: Report of Copa — Data Link



Run 7: Statistics of Copa

Start at: 2017-12-06 04:46:24

End at: 2017-12-06 04:46:54

Below is generated by plot.py at 2017-12-06 08:44:11

Datalink statistics

-- Total of 3 flows:

Average throughput: 121.92 Mbit/s

95th percentile per-packet one-way delay: 50.901 ms

Loss rate: 0.54%

-- Flow 1:

Average throughput: 63.08 Mbit/s

95th percentile per-packet one-way delay: 50.968 ms

Loss rate: 0.25%

-- Flow 2:

Average throughput: 68.97 Mbit/s

95th percentile per-packet one-way delay: 50.381 ms

Loss rate: 0.53%

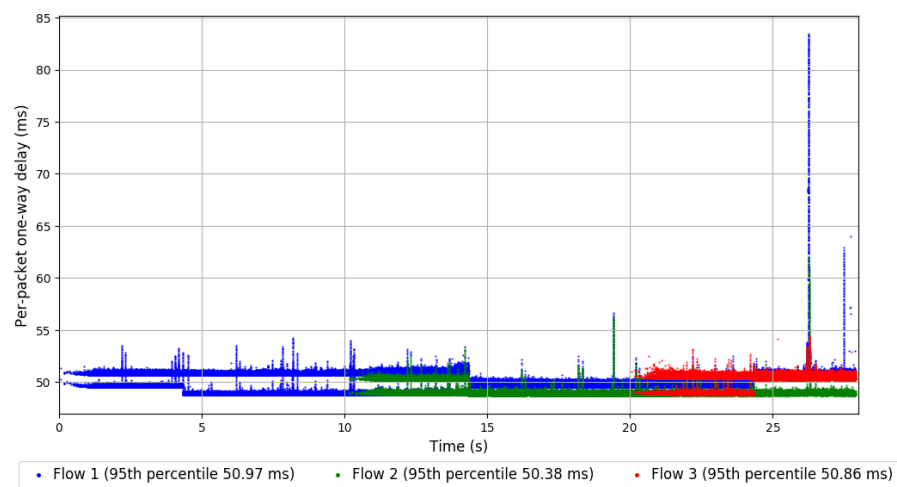
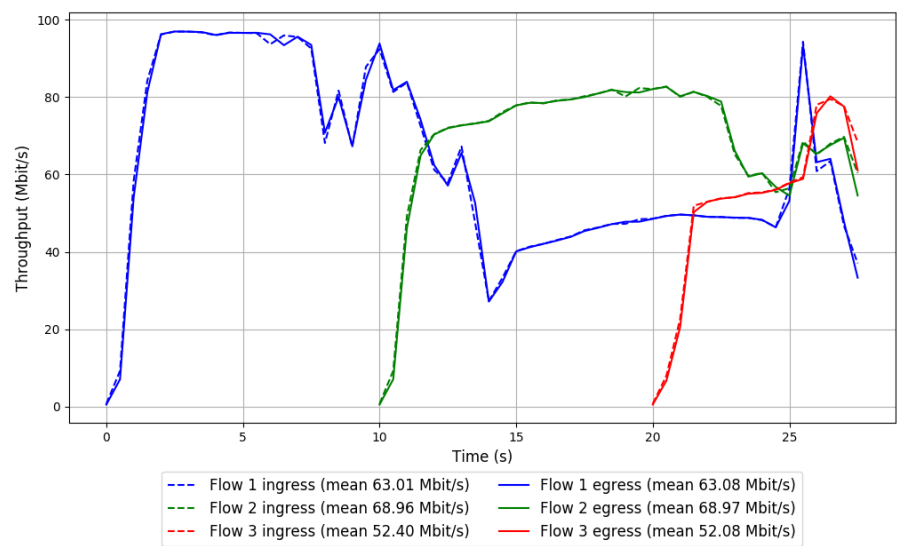
-- Flow 3:

Average throughput: 52.08 Mbit/s

95th percentile per-packet one-way delay: 50.862 ms

Loss rate: 1.83%

Run 7: Report of Copa — Data Link



Run 8: Statistics of Copa

Start at: 2017-12-06 04:58:47

End at: 2017-12-06 04:59:17

Below is generated by plot.py at 2017-12-06 08:45:11

Datalink statistics

-- Total of 3 flows:

Average throughput: 146.26 Mbit/s

95th percentile per-packet one-way delay: 50.831 ms

Loss rate: 0.38%

-- Flow 1:

Average throughput: 78.90 Mbit/s

95th percentile per-packet one-way delay: 50.824 ms

Loss rate: 0.27%

-- Flow 2:

Average throughput: 67.91 Mbit/s

95th percentile per-packet one-way delay: 50.803 ms

Loss rate: 0.32%

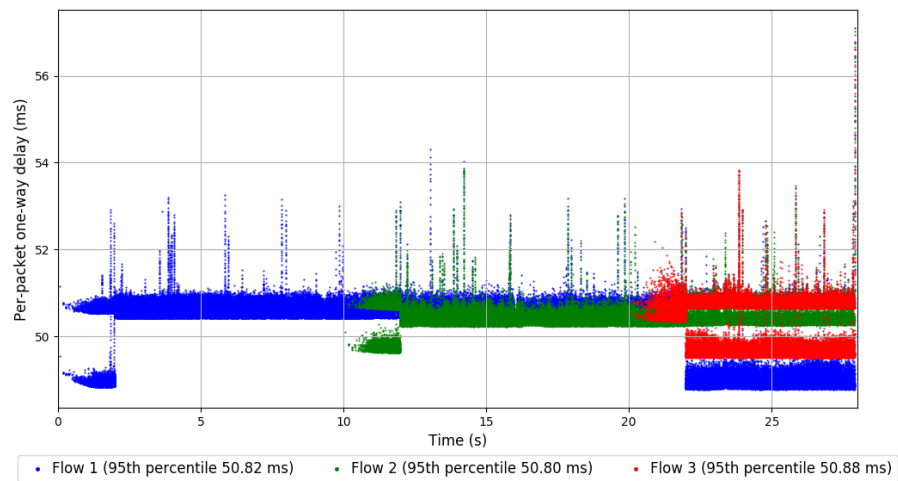
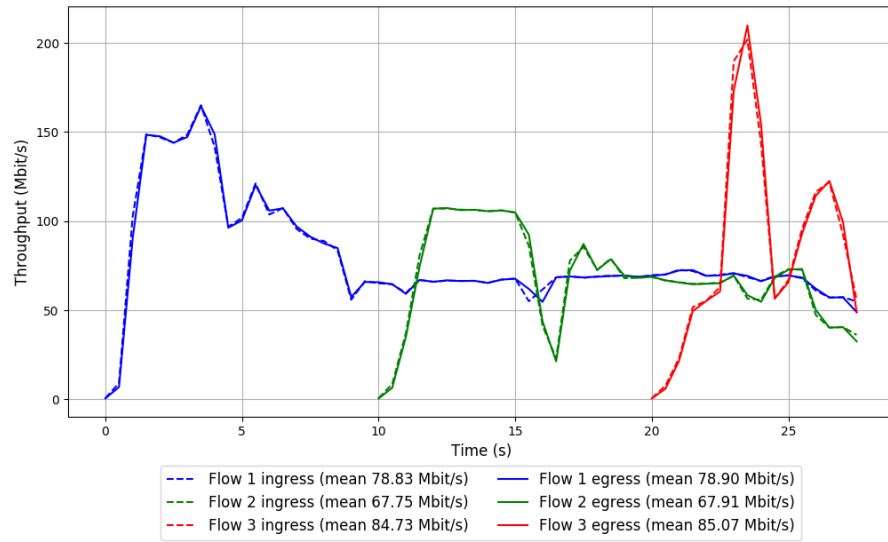
-- Flow 3:

Average throughput: 85.07 Mbit/s

95th percentile per-packet one-way delay: 50.876 ms

Loss rate: 0.88%

Run 8: Report of Copa — Data Link



Run 9: Statistics of Copa

Start at: 2017-12-06 05:10:52

End at: 2017-12-06 05:11:22

Below is generated by plot.py at 2017-12-06 08:45:11

Datalink statistics

-- Total of 3 flows:

Average throughput: 134.32 Mbit/s

95th percentile per-packet one-way delay: 50.799 ms

Loss rate: 0.46%

-- Flow 1:

Average throughput: 71.64 Mbit/s

95th percentile per-packet one-way delay: 50.790 ms

Loss rate: 0.39%

-- Flow 2:

Average throughput: 70.97 Mbit/s

95th percentile per-packet one-way delay: 50.826 ms

Loss rate: 0.16%

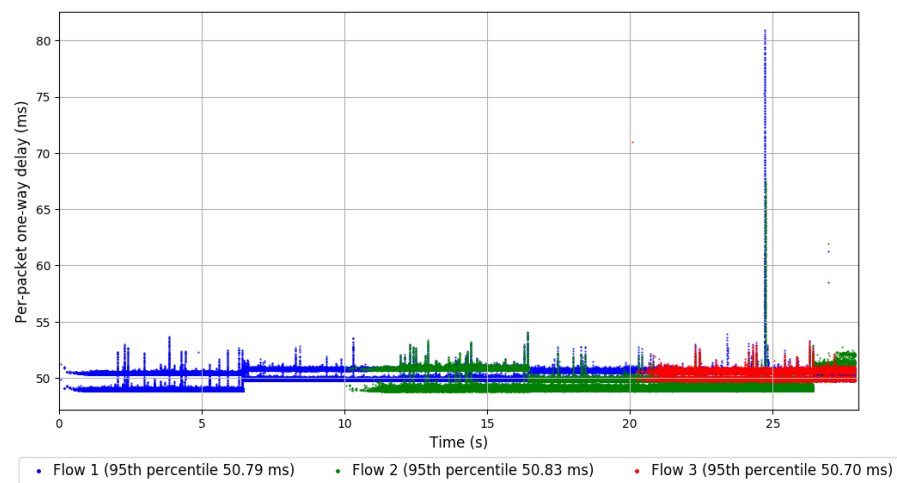
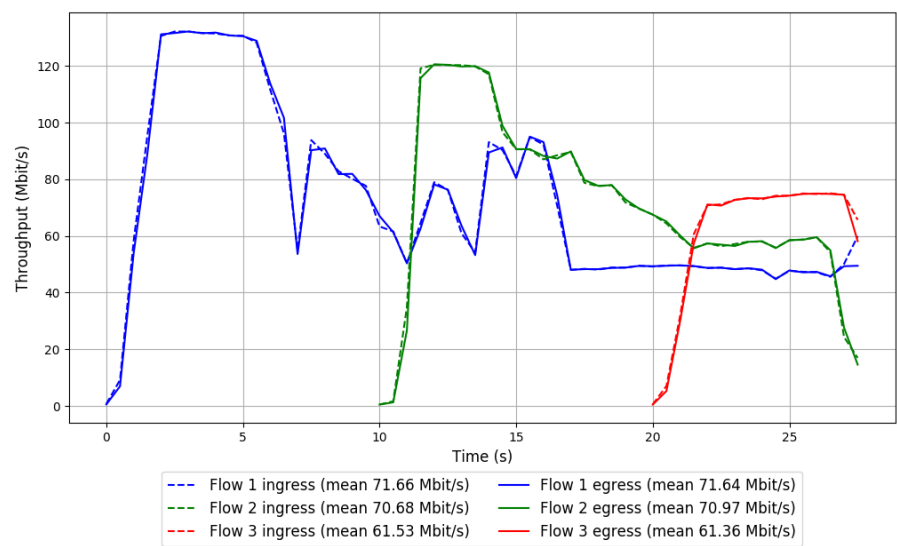
-- Flow 3:

Average throughput: 61.36 Mbit/s

95th percentile per-packet one-way delay: 50.702 ms

Loss rate: 1.54%

Run 9: Report of Copa — Data Link



Run 10: Statistics of Copa

Start at: 2017-12-06 05:23:27

End at: 2017-12-06 05:23:57

Below is generated by plot.py at 2017-12-06 08:45:11

Datalink statistics

-- Total of 3 flows:

Average throughput: 131.32 Mbit/s

95th percentile per-packet one-way delay: 51.033 ms

Loss rate: 0.46%

-- Flow 1:

Average throughput: 65.90 Mbit/s

95th percentile per-packet one-way delay: 51.039 ms

Loss rate: 0.41%

-- Flow 2:

Average throughput: 75.18 Mbit/s

95th percentile per-packet one-way delay: 51.032 ms

Loss rate: 0.15%

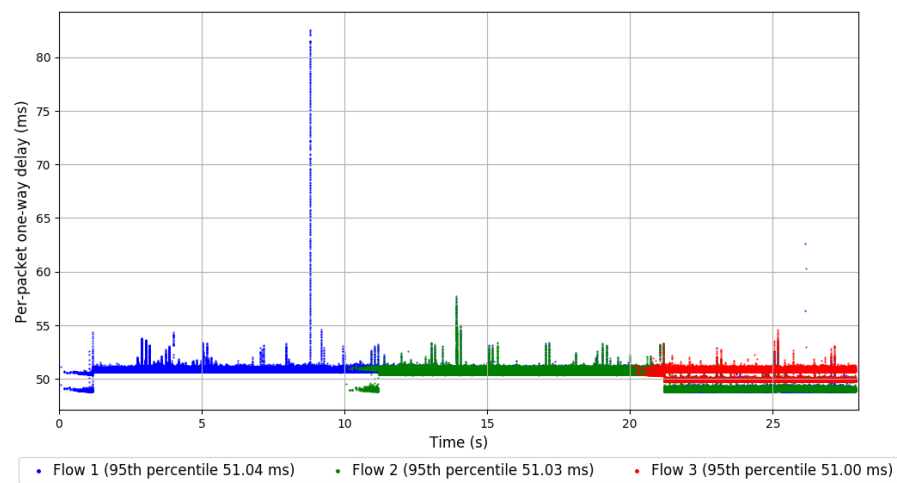
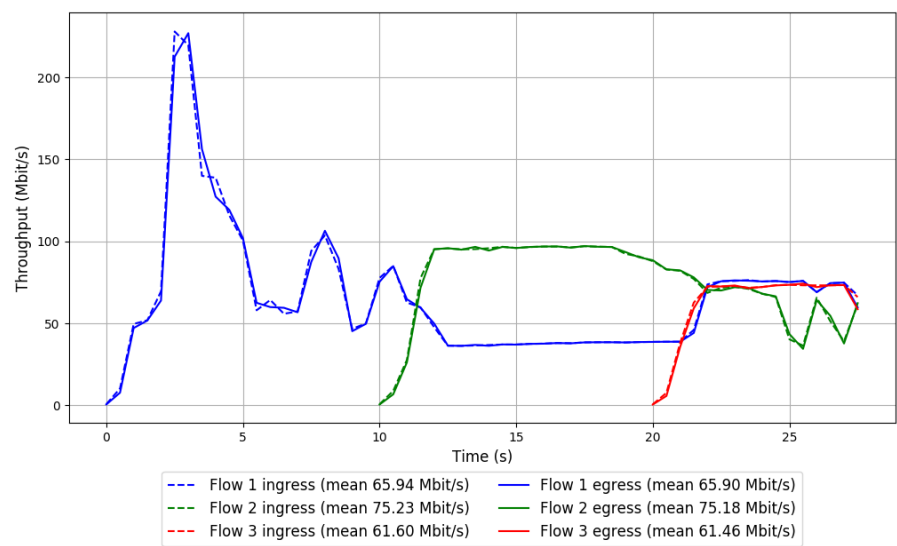
-- Flow 3:

Average throughput: 61.46 Mbit/s

95th percentile per-packet one-way delay: 51.002 ms

Loss rate: 1.53%

Run 10: Report of Copa — Data Link

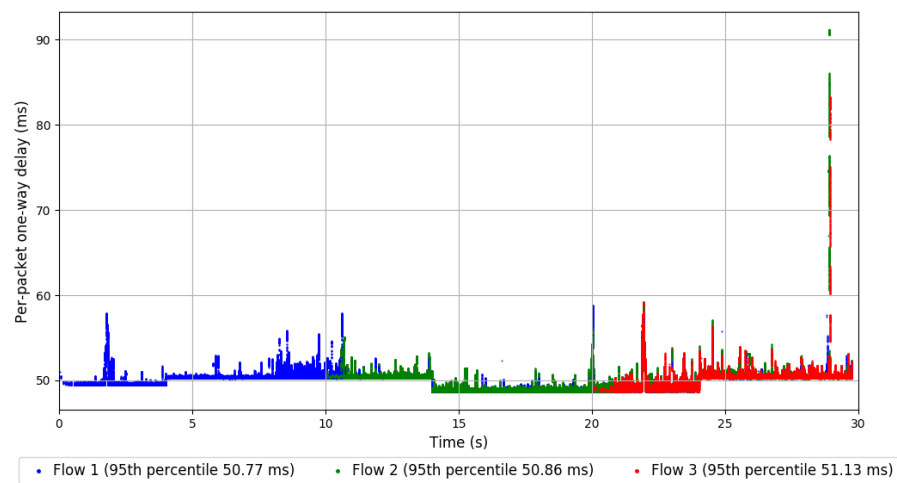
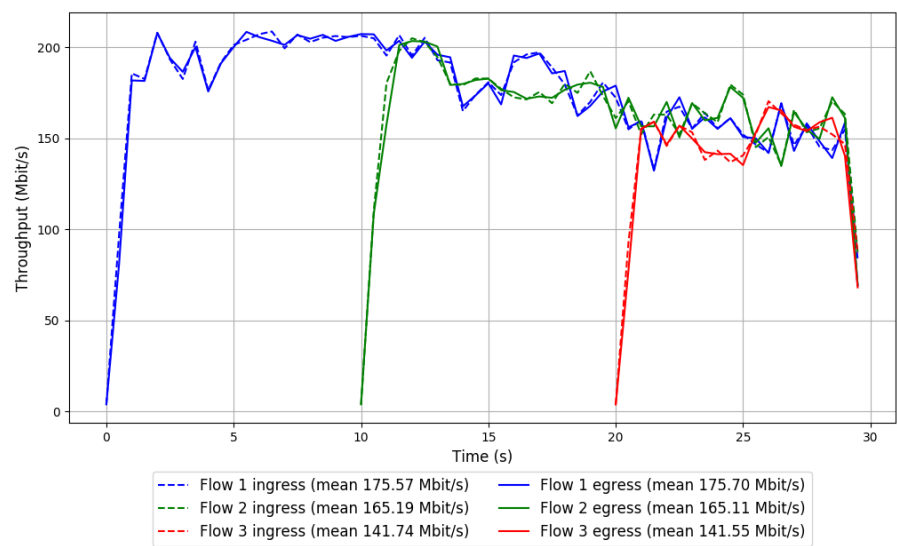


```
Run 1: Statistics of Indigo

Start at: 2017-12-06 03:36:46
End at: 2017-12-06 03:37:16

# Below is generated by plot.py at 2017-12-06 08:46:50
# Datalink statistics
-- Total of 3 flows:
Average throughput: 331.20 Mbit/s
95th percentile per-packet one-way delay: 50.859 ms
Loss rate: 0.49%
-- Flow 1:
Average throughput: 175.70 Mbit/s
95th percentile per-packet one-way delay: 50.769 ms
Loss rate: 0.27%
-- Flow 2:
Average throughput: 165.11 Mbit/s
95th percentile per-packet one-way delay: 50.860 ms
Loss rate: 0.55%
-- Flow 3:
Average throughput: 141.55 Mbit/s
95th percentile per-packet one-way delay: 51.128 ms
Loss rate: 1.17%
```


Run 1: Report of Indigo — Data Link



Run 2: Statistics of Indigo

Start at: 2017-12-06 03:49:16

End at: 2017-12-06 03:49:46

Below is generated by plot.py at 2017-12-06 08:47:28

Datalink statistics

-- Total of 3 flows:

Average throughput: 321.06 Mbit/s

95th percentile per-packet one-way delay: 50.797 ms

Loss rate: 0.49%

-- Flow 1:

Average throughput: 175.60 Mbit/s

95th percentile per-packet one-way delay: 50.715 ms

Loss rate: 0.32%

-- Flow 2:

Average throughput: 161.33 Mbit/s

95th percentile per-packet one-way delay: 50.975 ms

Loss rate: 0.59%

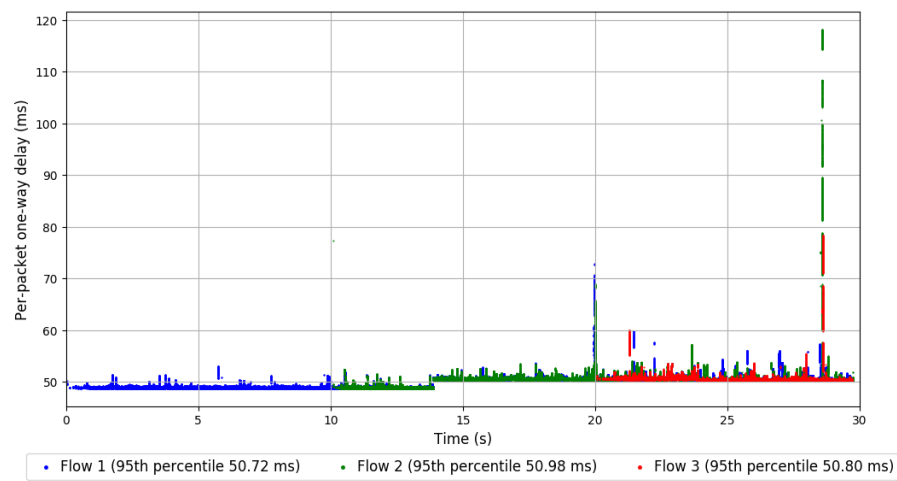
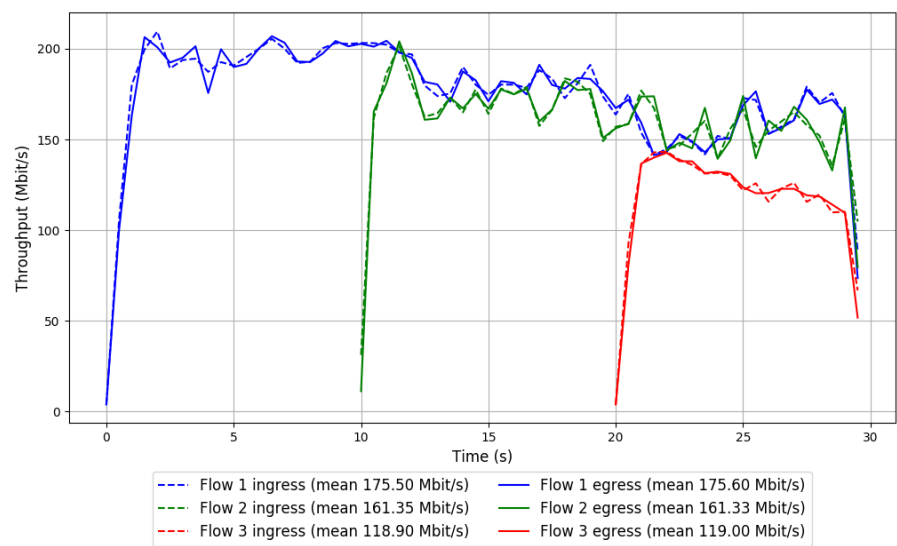
-- Flow 3:

Average throughput: 119.00 Mbit/s

95th percentile per-packet one-way delay: 50.805 ms

Loss rate: 1.00%

Run 2: Report of Indigo — Data Link



Run 3: Statistics of Indigo

Start at: 2017-12-06 04:01:53

End at: 2017-12-06 04:02:23

Below is generated by plot.py at 2017-12-06 08:49:24

Datalink statistics

-- Total of 3 flows:

Average throughput: 327.44 Mbit/s

95th percentile per-packet one-way delay: 51.174 ms

Loss rate: 0.68%

-- Flow 1:

Average throughput: 175.11 Mbit/s

95th percentile per-packet one-way delay: 51.177 ms

Loss rate: 0.54%

-- Flow 2:

Average throughput: 161.28 Mbit/s

95th percentile per-packet one-way delay: 51.143 ms

Loss rate: 0.51%

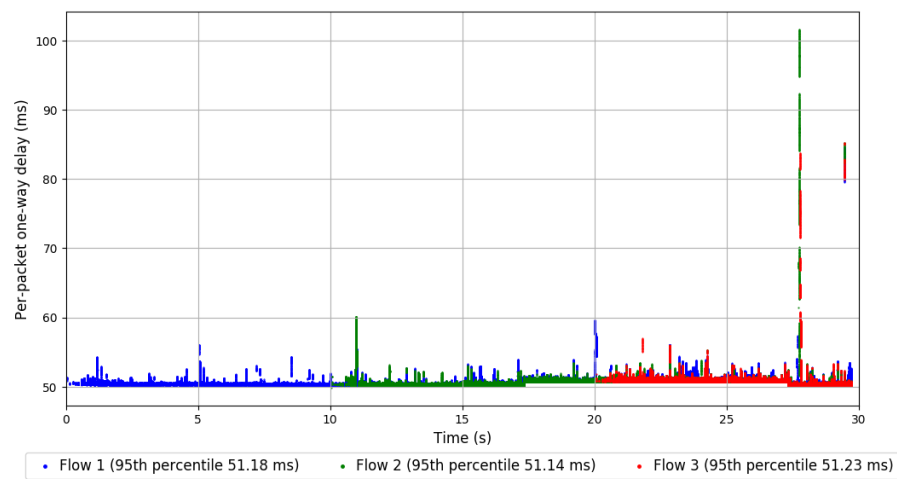
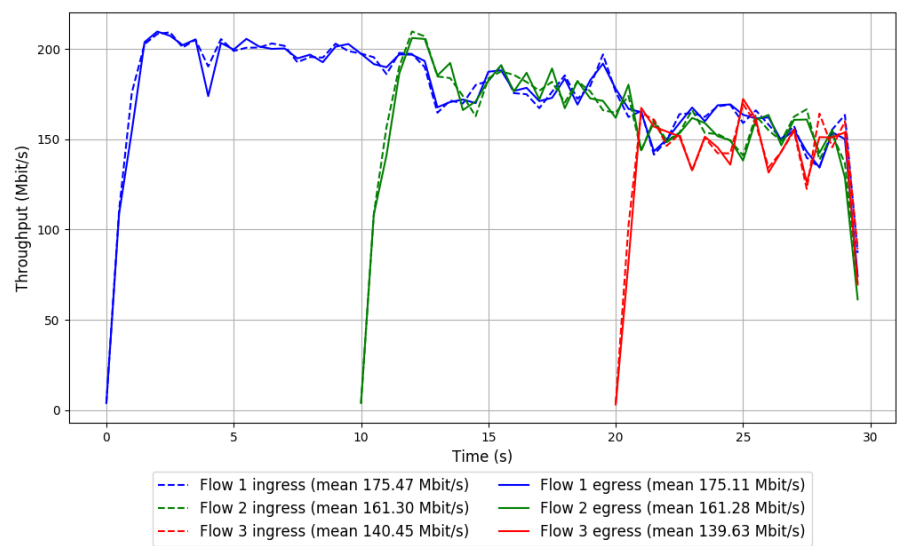
-- Flow 3:

Average throughput: 139.63 Mbit/s

95th percentile per-packet one-way delay: 51.234 ms

Loss rate: 1.58%

Run 3: Report of Indigo — Data Link

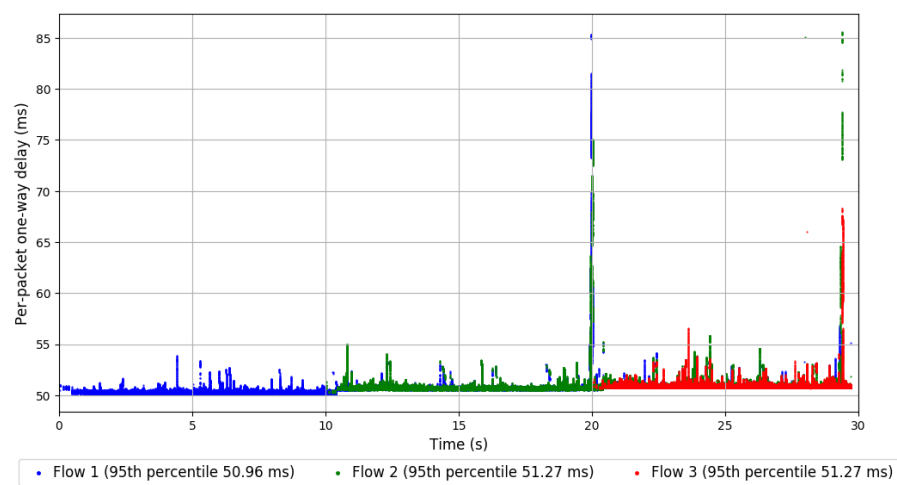
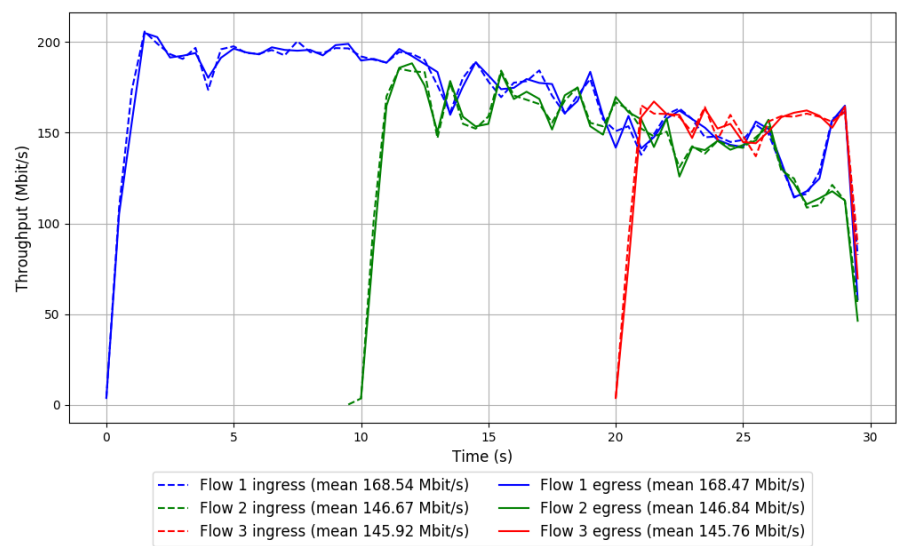


```
Run 4: Statistics of Indigo

Start at: 2017-12-06 04:14:10
End at: 2017-12-06 04:14:40

# Below is generated by plot.py at 2017-12-06 08:49:26
# Datalink statistics
-- Total of 3 flows:
Average throughput: 313.23 Mbit/s
95th percentile per-packet one-way delay: 51.089 ms
Loss rate: 0.50%
-- Flow 1:
Average throughput: 168.47 Mbit/s
95th percentile per-packet one-way delay: 50.959 ms
Loss rate: 0.37%
-- Flow 2:
Average throughput: 146.84 Mbit/s
95th percentile per-packet one-way delay: 51.267 ms
Loss rate: 0.39%
-- Flow 3:
Average throughput: 145.76 Mbit/s
95th percentile per-packet one-way delay: 51.274 ms
Loss rate: 1.17%
```

Run 4: Report of Indigo — Data Link



Run 5: Statistics of Indigo

Start at: 2017-12-06 04:26:32

End at: 2017-12-06 04:27:02

Below is generated by plot.py at 2017-12-06 08:49:44

Datalink statistics

-- Total of 3 flows:

Average throughput: 322.11 Mbit/s

95th percentile per-packet one-way delay: 51.208 ms

Loss rate: 0.44%

-- Flow 1:

Average throughput: 173.21 Mbit/s

95th percentile per-packet one-way delay: 51.119 ms

Loss rate: 0.28%

-- Flow 2:

Average throughput: 168.41 Mbit/s

95th percentile per-packet one-way delay: 51.401 ms

Loss rate: 0.46%

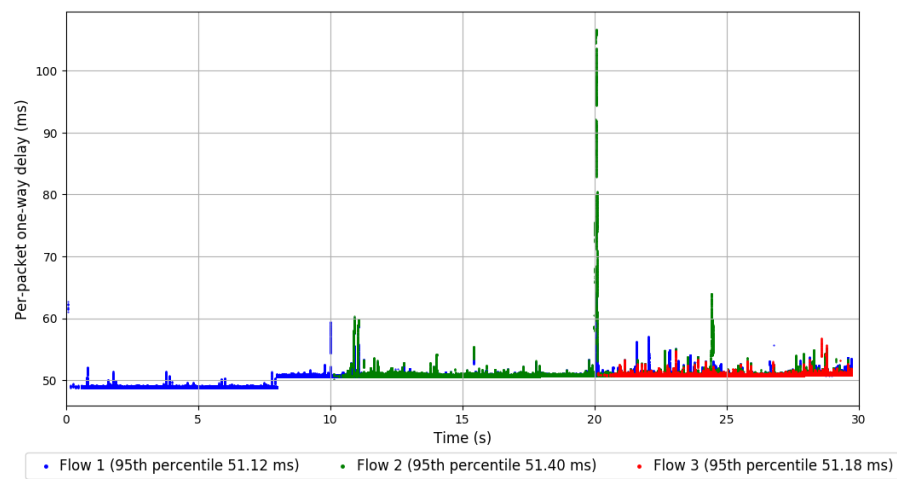
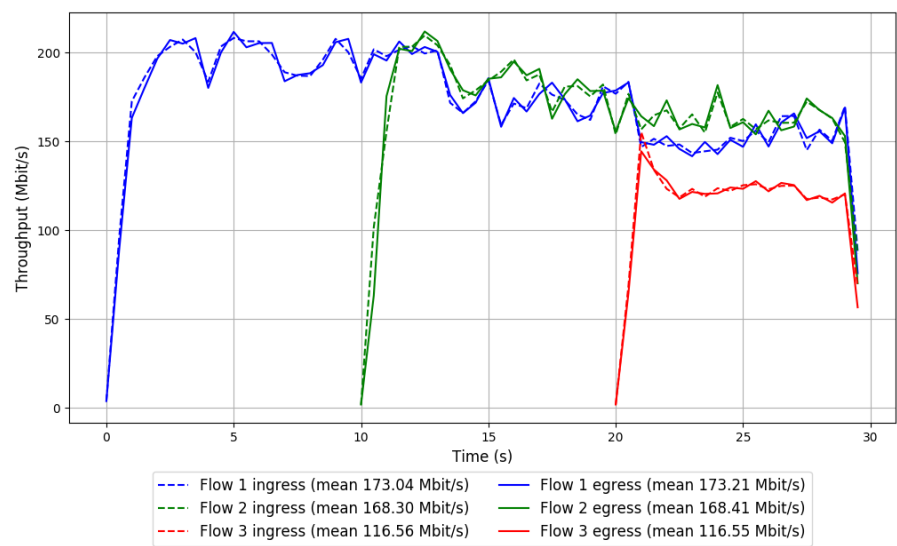
-- Flow 3:

Average throughput: 116.55 Mbit/s

95th percentile per-packet one-way delay: 51.179 ms

Loss rate: 1.07%

Run 5: Report of Indigo — Data Link



Run 6: Statistics of Indigo

Start at: 2017-12-06 04:39:03

End at: 2017-12-06 04:39:33

Below is generated by plot.py at 2017-12-06 08:50:05

Datalink statistics

-- Total of 3 flows:

Average throughput: 303.76 Mbit/s

95th percentile per-packet one-way delay: 50.830 ms

Loss rate: 0.40%

-- Flow 1:

Average throughput: 166.28 Mbit/s

95th percentile per-packet one-way delay: 50.792 ms

Loss rate: 0.31%

-- Flow 2:

Average throughput: 147.02 Mbit/s

95th percentile per-packet one-way delay: 50.852 ms

Loss rate: 0.37%

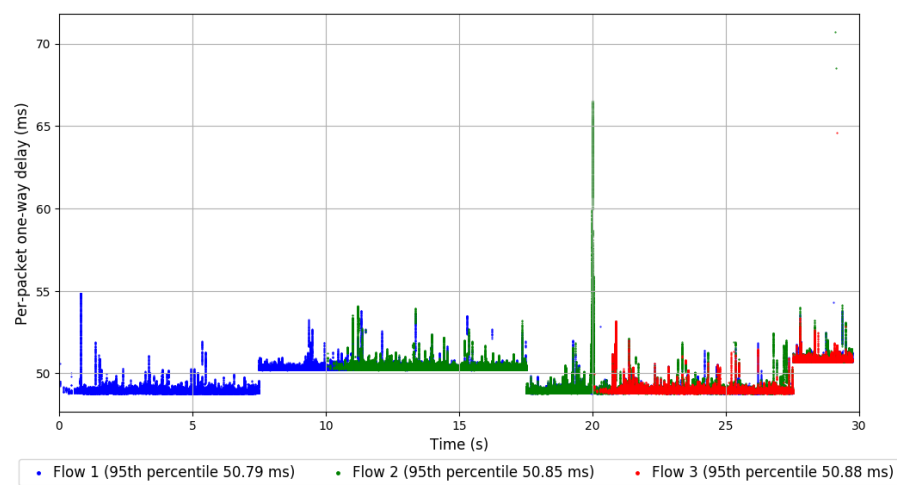
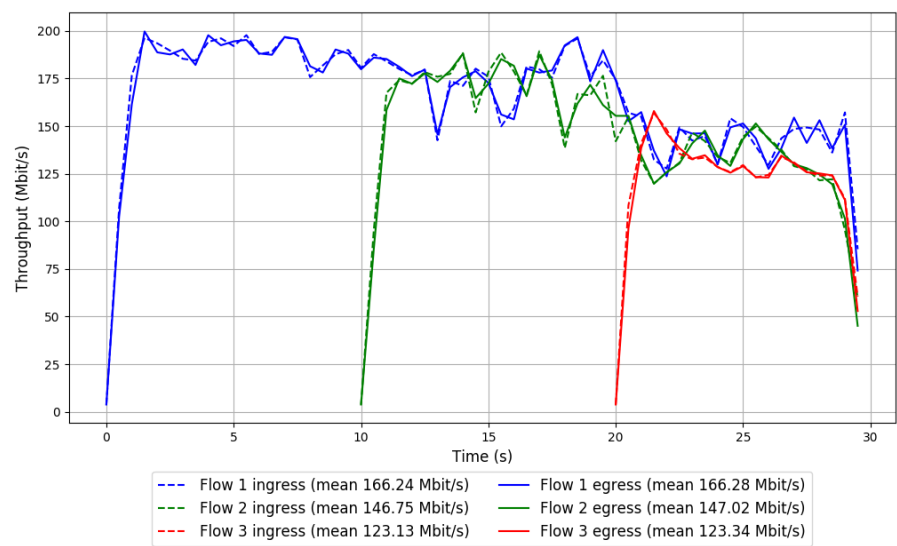
-- Flow 3:

Average throughput: 123.34 Mbit/s

95th percentile per-packet one-way delay: 50.880 ms

Loss rate: 0.86%

Run 6: Report of Indigo — Data Link



Run 7: Statistics of Indigo

Start at: 2017-12-06 04:51:35

End at: 2017-12-06 04:52:05

Below is generated by plot.py at 2017-12-06 08:50:20

Datalink statistics

-- Total of 3 flows:

Average throughput: 309.10 Mbit/s

95th percentile per-packet one-way delay: 51.048 ms

Loss rate: 0.45%

-- Flow 1:

Average throughput: 166.54 Mbit/s

95th percentile per-packet one-way delay: 51.048 ms

Loss rate: 0.30%

-- Flow 2:

Average throughput: 155.05 Mbit/s

95th percentile per-packet one-way delay: 51.093 ms

Loss rate: 0.52%

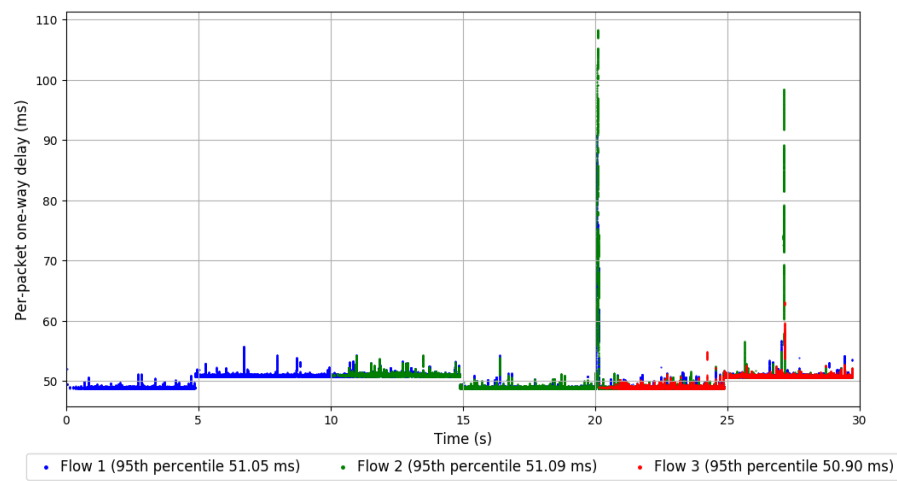
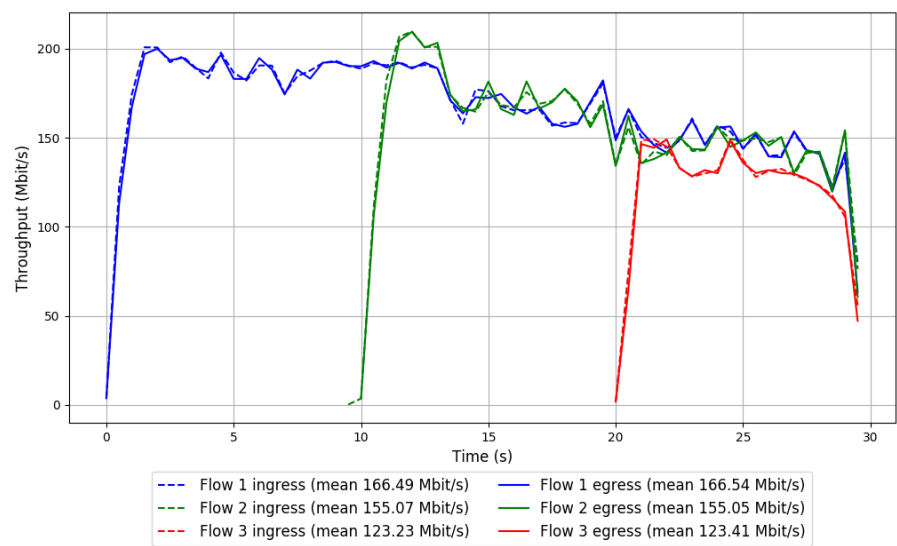
-- Flow 3:

Average throughput: 123.41 Mbit/s

95th percentile per-packet one-way delay: 50.902 ms

Loss rate: 0.89%

Run 7: Report of Indigo — Data Link



Run 8: Statistics of Indigo

Start at: 2017-12-06 05:03:57

End at: 2017-12-06 05:04:27

Below is generated by plot.py at 2017-12-06 08:50:49

Datalink statistics

-- Total of 3 flows:

Average throughput: 327.87 Mbit/s

95th percentile per-packet one-way delay: 50.870 ms

Loss rate: 0.42%

-- Flow 1:

Average throughput: 177.60 Mbit/s

95th percentile per-packet one-way delay: 50.875 ms

Loss rate: 0.27%

-- Flow 2:

Average throughput: 160.11 Mbit/s

95th percentile per-packet one-way delay: 50.801 ms

Loss rate: 0.40%

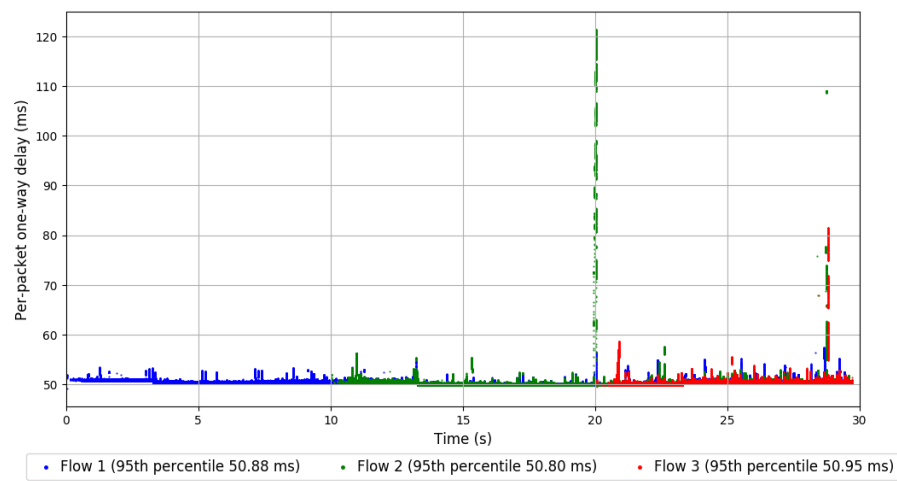
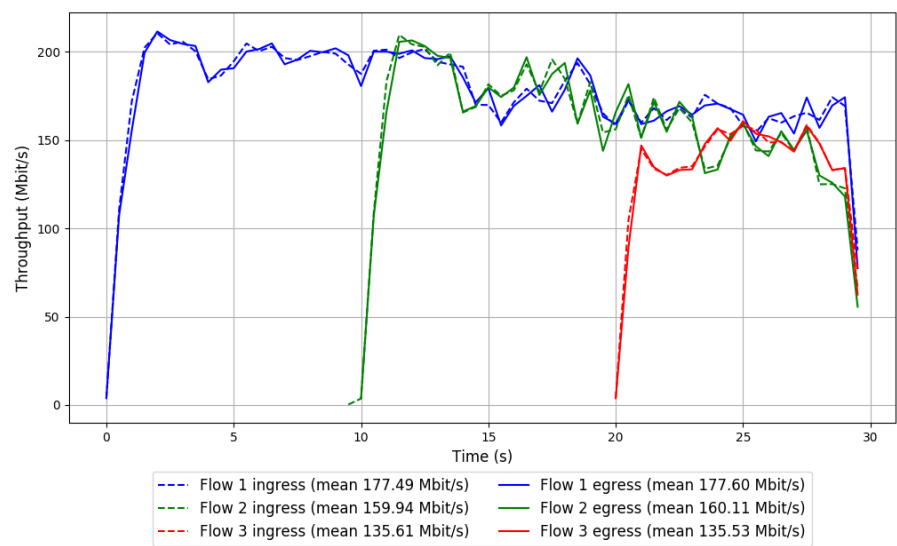
-- Flow 3:

Average throughput: 135.53 Mbit/s

95th percentile per-packet one-way delay: 50.947 ms

Loss rate: 1.06%

Run 8: Report of Indigo — Data Link



Run 9: Statistics of Indigo

Start at: 2017-12-06 05:16:02

End at: 2017-12-06 05:16:32

Below is generated by plot.py at 2017-12-06 08:52:40

Datalink statistics

-- Total of 3 flows:

Average throughput: 314.16 Mbit/s

95th percentile per-packet one-way delay: 50.552 ms

Loss rate: 0.47%

-- Flow 1:

Average throughput: 168.03 Mbit/s

95th percentile per-packet one-way delay: 50.550 ms

Loss rate: 0.33%

-- Flow 2:

Average throughput: 155.38 Mbit/s

95th percentile per-packet one-way delay: 50.571 ms

Loss rate: 0.47%

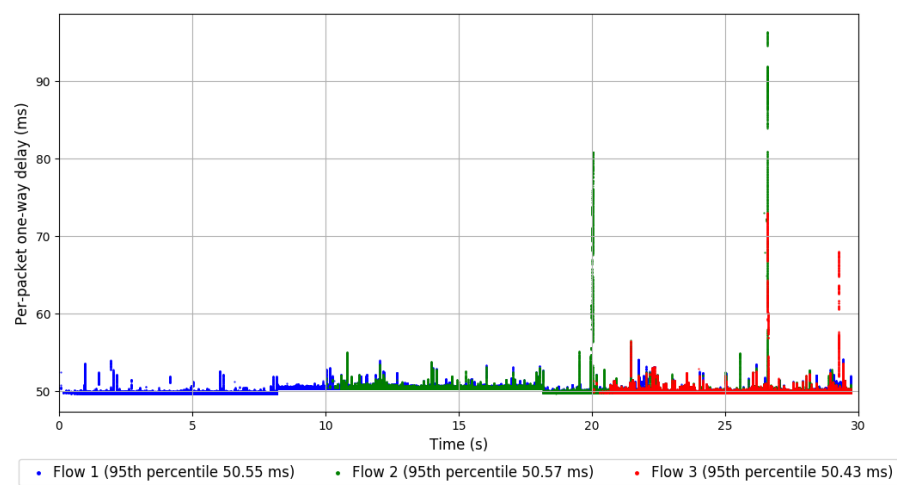
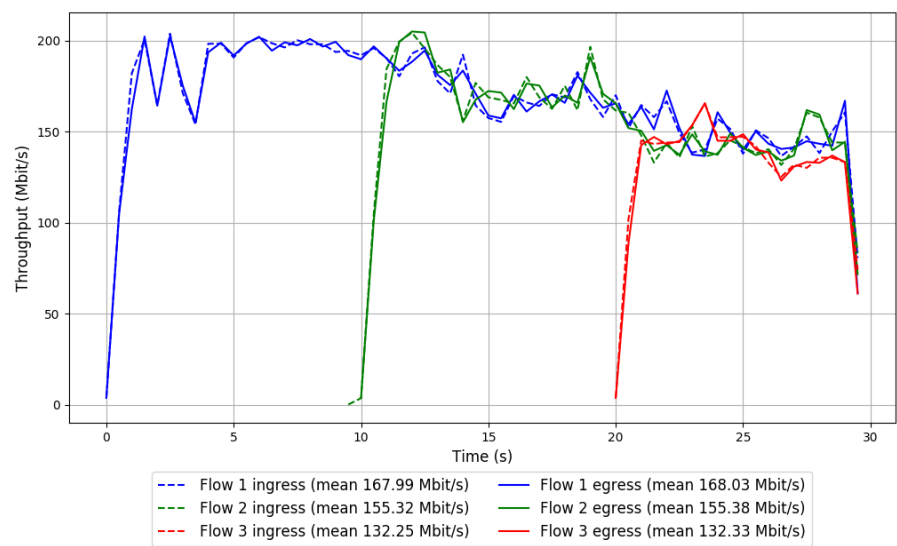
-- Flow 3:

Average throughput: 132.33 Mbit/s

95th percentile per-packet one-way delay: 50.428 ms

Loss rate: 0.99%

Run 9: Report of Indigo — Data Link



Run 10: Statistics of Indigo

Start at: 2017-12-06 05:28:36

End at: 2017-12-06 05:29:06

Below is generated by plot.py at 2017-12-06 08:53:03

Datalink statistics

-- Total of 3 flows:

Average throughput: 325.26 Mbit/s

95th percentile per-packet one-way delay: 50.782 ms

Loss rate: 0.47%

-- Flow 1:

Average throughput: 176.77 Mbit/s

95th percentile per-packet one-way delay: 50.628 ms

Loss rate: 0.33%

-- Flow 2:

Average throughput: 167.14 Mbit/s

95th percentile per-packet one-way delay: 51.017 ms

Loss rate: 0.53%

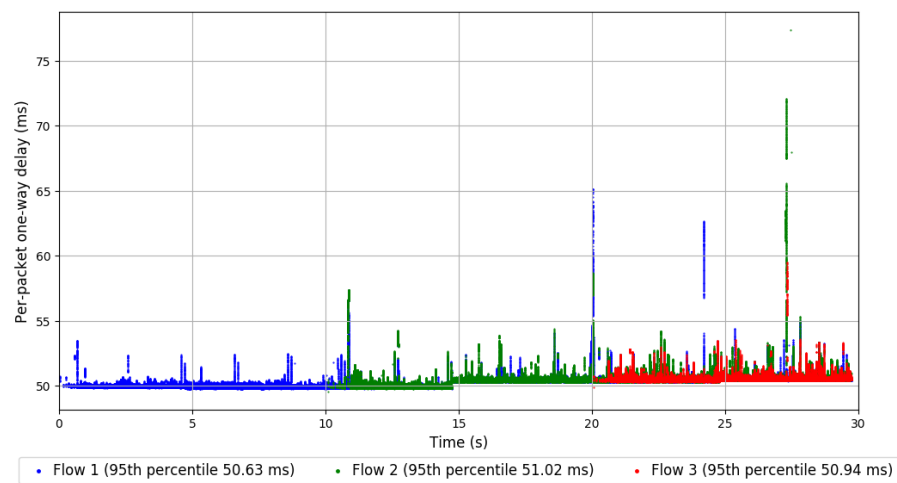
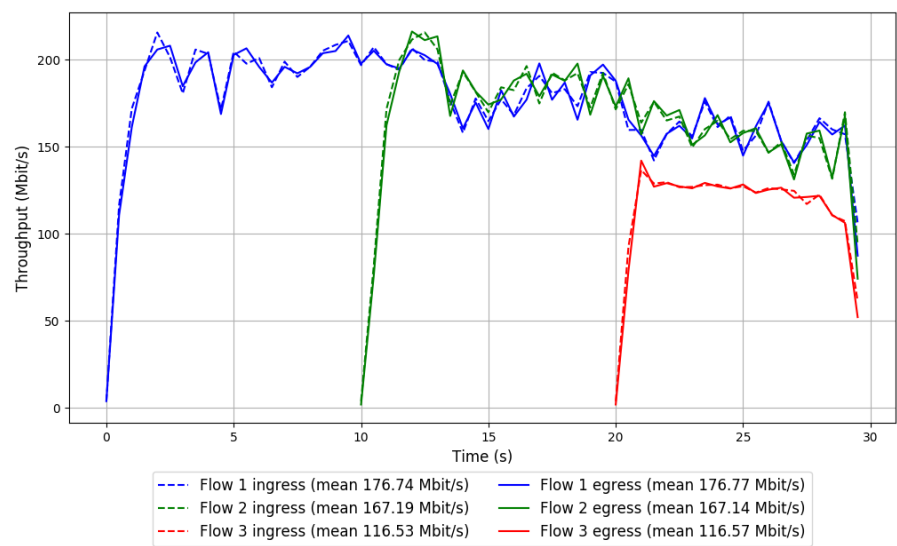
-- Flow 3:

Average throughput: 116.57 Mbit/s

95th percentile per-packet one-way delay: 50.941 ms

Loss rate: 0.99%

Run 10: Report of Indigo — Data Link

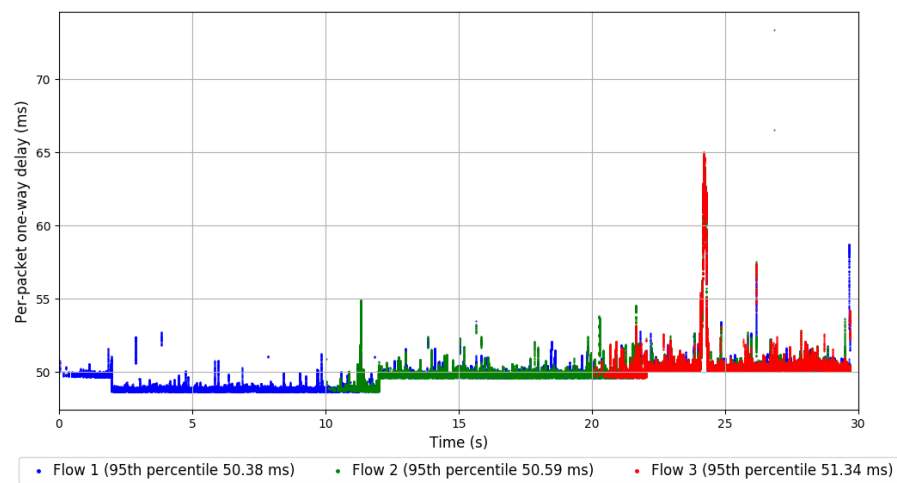
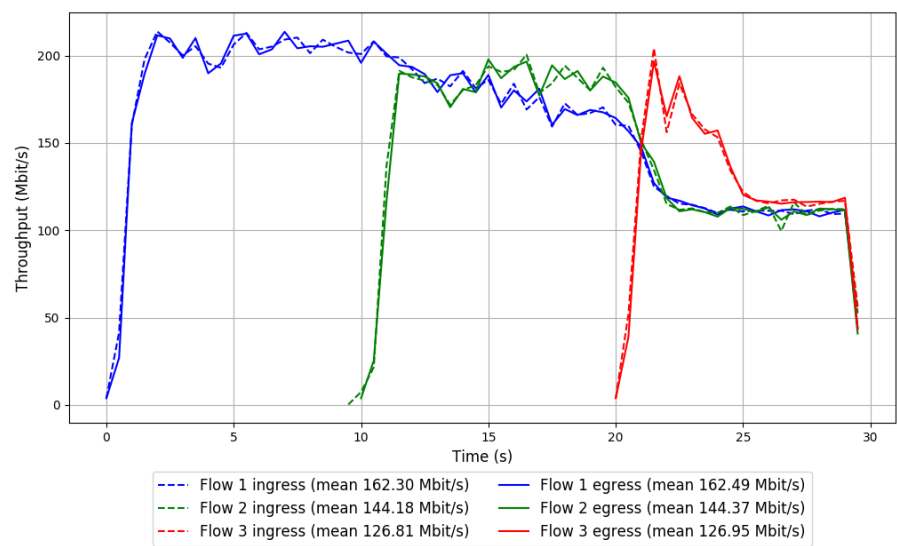


```
Run 1: Statistics of Indigo-calib

Start at: 2017-12-06 03:33:18
End at: 2017-12-06 03:33:48

# Below is generated by plot.py at 2017-12-06 08:54:35
# Datalink statistics
-- Total of 3 flows:
Average throughput: 299.55 Mbit/s
95th percentile per-packet one-way delay: 50.552 ms
Loss rate: 0.39%
-- Flow 1:
Average throughput: 162.49 Mbit/s
95th percentile per-packet one-way delay: 50.383 ms
Loss rate: 0.23%
-- Flow 2:
Average throughput: 144.37 Mbit/s
95th percentile per-packet one-way delay: 50.592 ms
Loss rate: 0.42%
-- Flow 3:
Average throughput: 126.95 Mbit/s
95th percentile per-packet one-way delay: 51.335 ms
Loss rate: 0.93%
```

Run 1: Report of Indigo-calib — Data Link

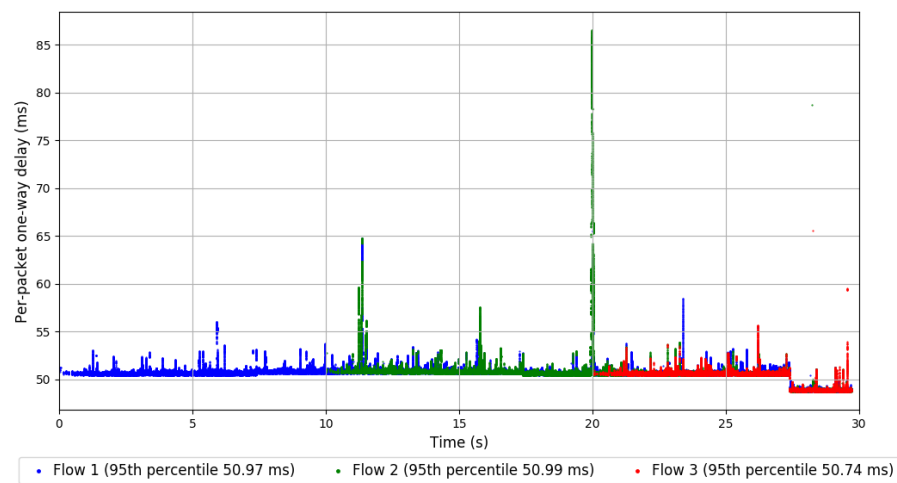
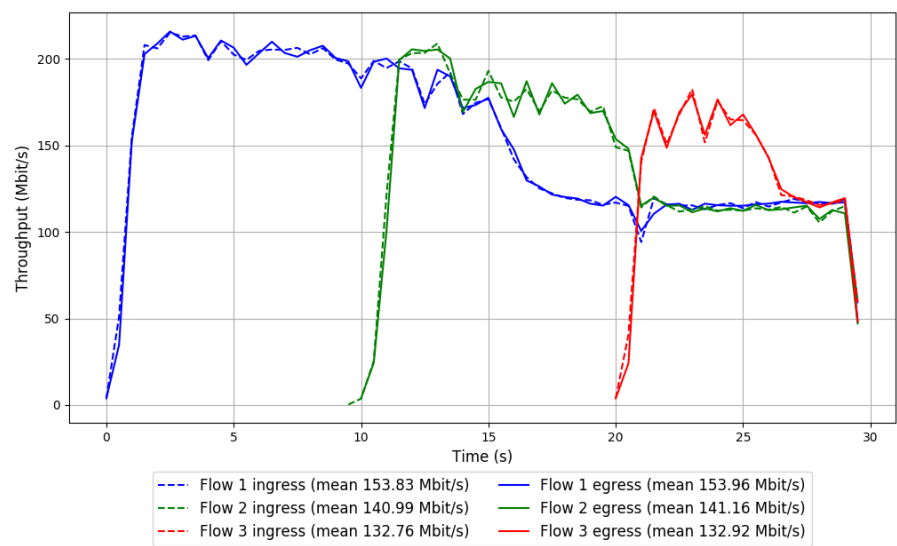


```
Run 2: Statistics of Indigo-calib

Start at: 2017-12-06 03:45:43
End at: 2017-12-06 03:46:13

# Below is generated by plot.py at 2017-12-06 08:54:35
# Datalink statistics
-- Total of 3 flows:
Average throughput: 290.70 Mbit/s
95th percentile per-packet one-way delay: 50.945 ms
Loss rate: 0.40%
-- Flow 1:
Average throughput: 153.96 Mbit/s
95th percentile per-packet one-way delay: 50.965 ms
Loss rate: 0.26%
-- Flow 2:
Average throughput: 141.16 Mbit/s
95th percentile per-packet one-way delay: 50.990 ms
Loss rate: 0.40%
-- Flow 3:
Average throughput: 132.92 Mbit/s
95th percentile per-packet one-way delay: 50.744 ms
Loss rate: 0.92%
```

Run 2: Report of Indigo-calib — Data Link

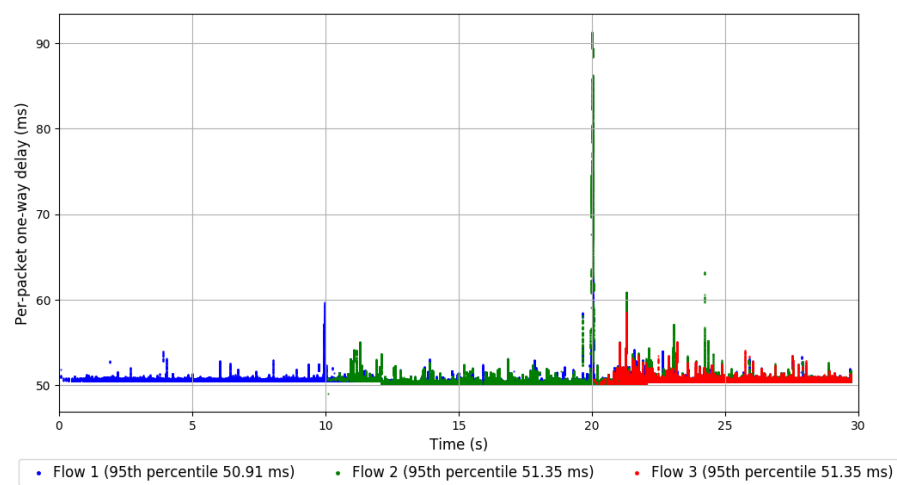
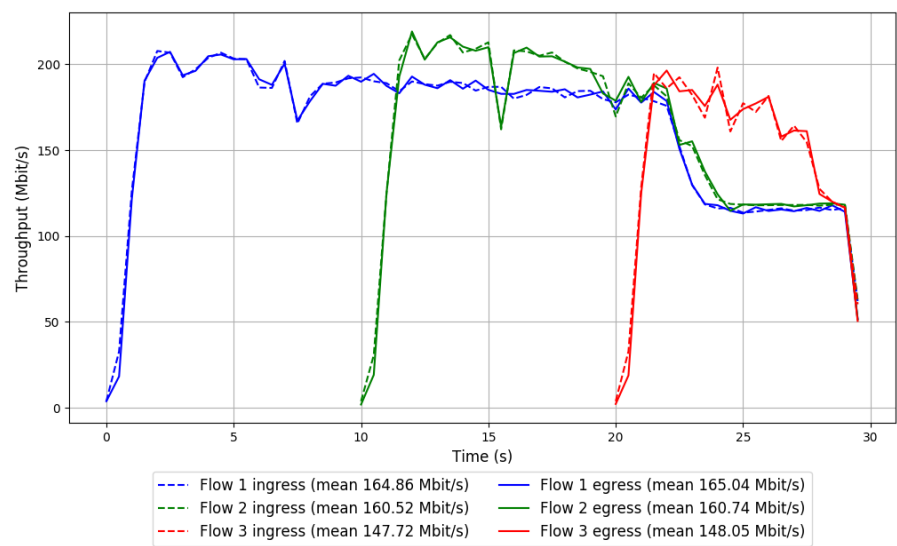


```
Run 3: Statistics of Indigo-calib

Start at: 2017-12-06 03:58:18
End at: 2017-12-06 03:58:48

# Below is generated by plot.py at 2017-12-06 08:55:14
# Datalink statistics
-- Total of 3 flows:
Average throughput: 319.53 Mbit/s
95th percentile per-packet one-way delay: 51.125 ms
Loss rate: 0.36%
-- Flow 1:
Average throughput: 165.04 Mbit/s
95th percentile per-packet one-way delay: 50.911 ms
Loss rate: 0.23%
-- Flow 2:
Average throughput: 160.74 Mbit/s
95th percentile per-packet one-way delay: 51.350 ms
Loss rate: 0.36%
-- Flow 3:
Average throughput: 148.05 Mbit/s
95th percentile per-packet one-way delay: 51.355 ms
Loss rate: 0.81%
```


Run 3: Report of Indigo-calib — Data Link

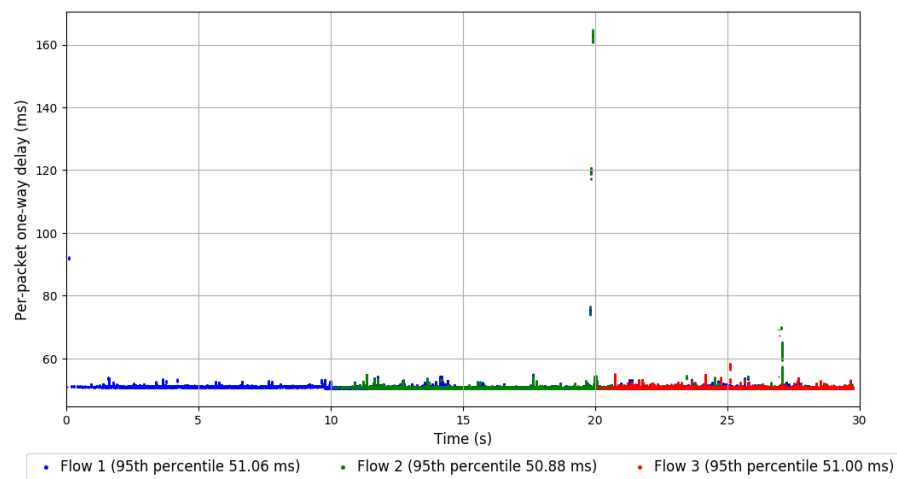
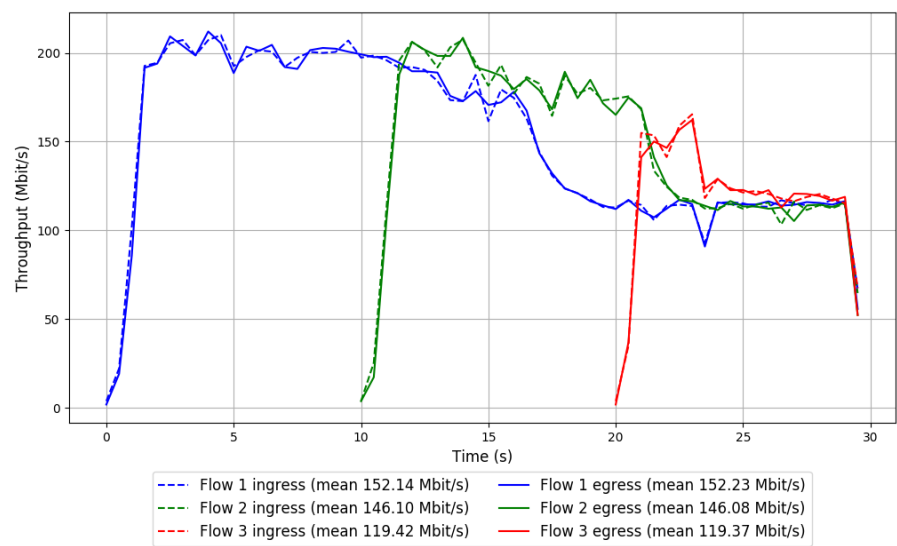


```
Run 4: Statistics of Indigo-calib

Start at: 2017-12-06 04:10:41
End at: 2017-12-06 04:11:11

# Below is generated by plot.py at 2017-12-06 08:55:14
# Datalink statistics
-- Total of 3 flows:
Average throughput: 287.72 Mbit/s
95th percentile per-packet one-way delay: 51.025 ms
Loss rate: 0.47%
-- Flow 1:
Average throughput: 152.23 Mbit/s
95th percentile per-packet one-way delay: 51.060 ms
Loss rate: 0.28%
-- Flow 2:
Average throughput: 146.08 Mbit/s
95th percentile per-packet one-way delay: 50.879 ms
Loss rate: 0.52%
-- Flow 3:
Average throughput: 119.37 Mbit/s
95th percentile per-packet one-way delay: 51.002 ms
Loss rate: 1.06%
```

Run 4: Report of Indigo-calib — Data Link

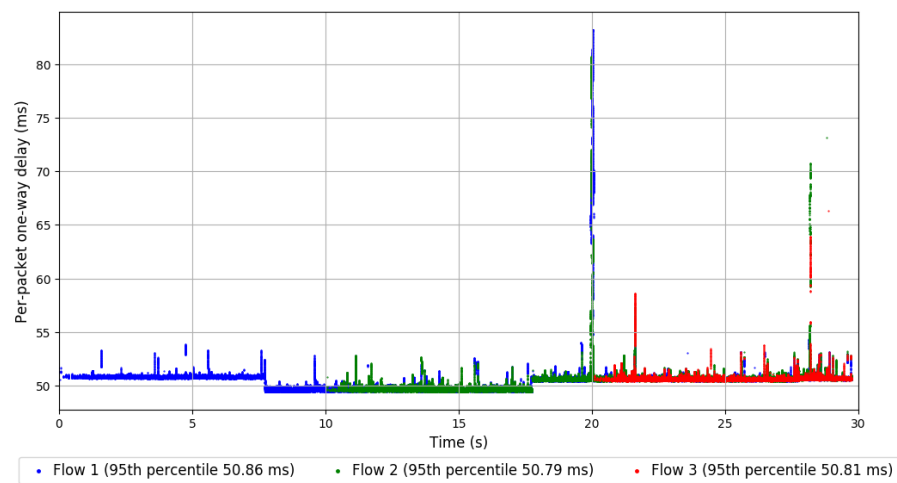
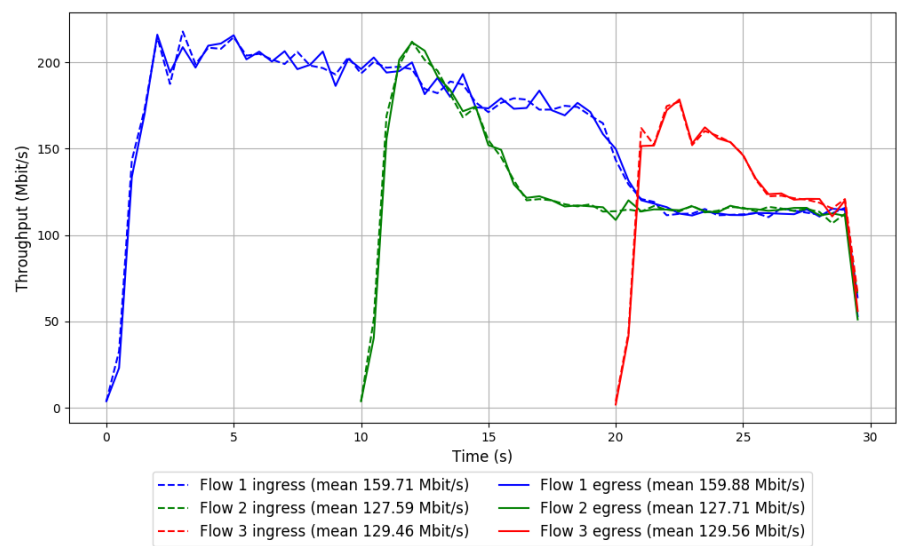


```
Run 5: Statistics of Indigo-calib

Start at: 2017-12-06 04:23:03
End at: 2017-12-06 04:23:33

# Below is generated by plot.py at 2017-12-06 08:55:18
# Datalink statistics
-- Total of 3 flows:
Average throughput: 286.62 Mbit/s
95th percentile per-packet one-way delay: 50.856 ms
Loss rate: 0.41%
-- Flow 1:
Average throughput: 159.88 Mbit/s
95th percentile per-packet one-way delay: 50.864 ms
Loss rate: 0.23%
-- Flow 2:
Average throughput: 127.71 Mbit/s
95th percentile per-packet one-way delay: 50.793 ms
Loss rate: 0.44%
-- Flow 3:
Average throughput: 129.56 Mbit/s
95th percentile per-packet one-way delay: 50.812 ms
Loss rate: 0.99%
```

Run 5: Report of Indigo-calib — Data Link

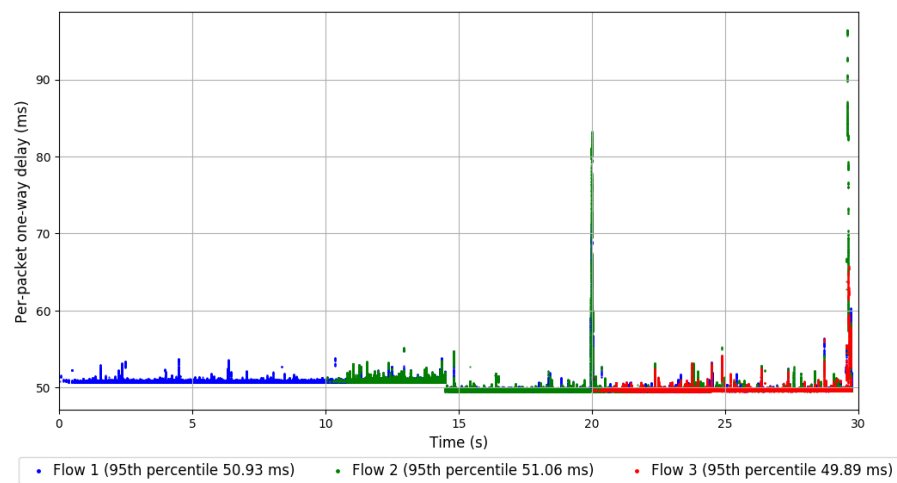
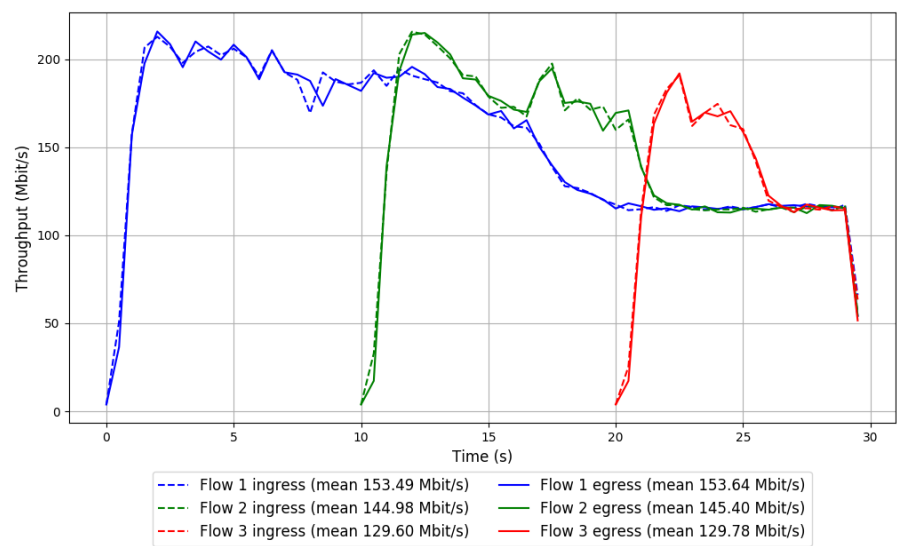


```
Run 6: Statistics of Indigo-calib

Start at: 2017-12-06 04:35:26
End at: 2017-12-06 04:35:56

# Below is generated by plot.py at 2017-12-06 08:55:34
# Datalink statistics
-- Total of 3 flows:
Average throughput: 292.22 Mbit/s
95th percentile per-packet one-way delay: 50.942 ms
Loss rate: 0.35%
-- Flow 1:
Average throughput: 153.64 Mbit/s
95th percentile per-packet one-way delay: 50.931 ms
Loss rate: 0.26%
-- Flow 2:
Average throughput: 145.40 Mbit/s
95th percentile per-packet one-way delay: 51.059 ms
Loss rate: 0.23%
-- Flow 3:
Average throughput: 129.78 Mbit/s
95th percentile per-packet one-way delay: 49.893 ms
Loss rate: 0.96%
```

Run 6: Report of Indigo-calib — Data Link

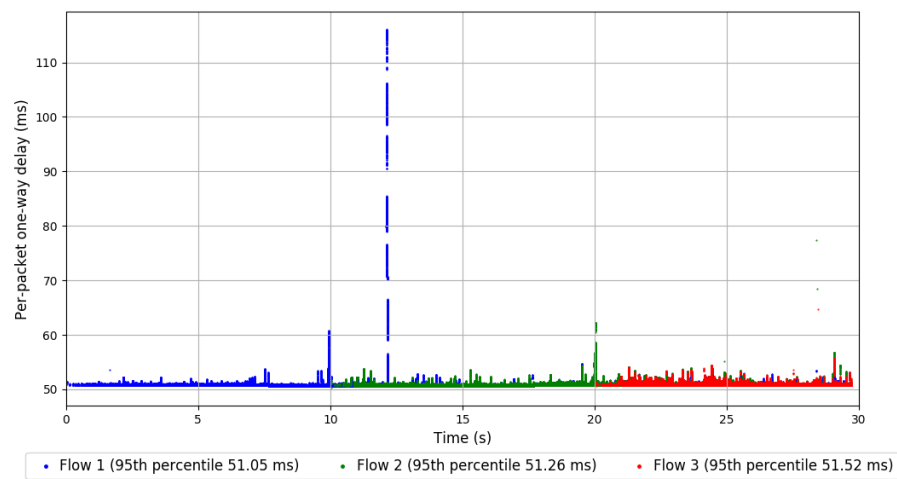
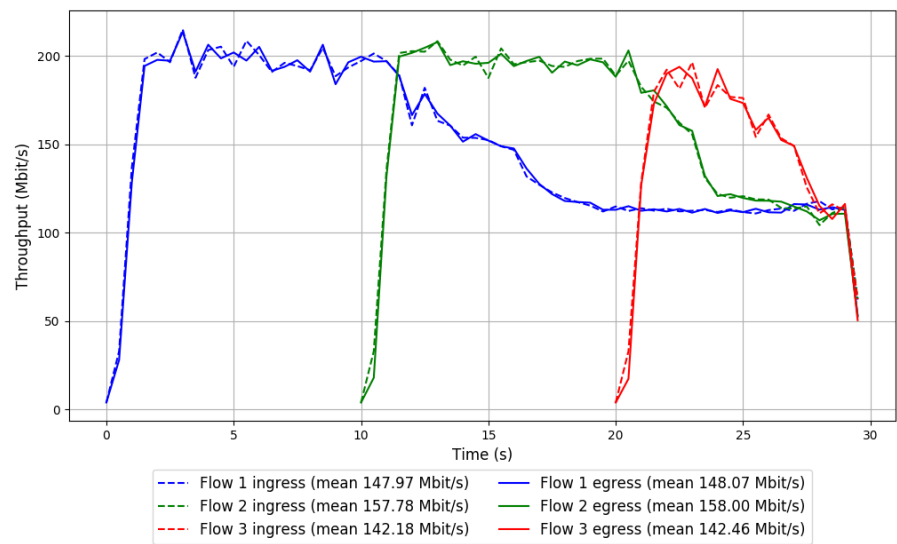


```
Run 7: Statistics of Indigo-calib

Start at: 2017-12-06 04:48:03
End at: 2017-12-06 04:48:33

# Below is generated by plot.py at 2017-12-06 08:56:23
# Datalink statistics
-- Total of 3 flows:
Average throughput: 299.16 Mbit/s
95th percentile per-packet one-way delay: 51.213 ms
Loss rate: 0.39%
-- Flow 1:
Average throughput: 148.07 Mbit/s
95th percentile per-packet one-way delay: 51.051 ms
Loss rate: 0.27%
-- Flow 2:
Average throughput: 158.00 Mbit/s
95th percentile per-packet one-way delay: 51.262 ms
Loss rate: 0.37%
-- Flow 3:
Average throughput: 142.46 Mbit/s
95th percentile per-packet one-way delay: 51.516 ms
Loss rate: 0.81%
```


Run 7: Report of Indigo-calib — Data Link



Run 8: Statistics of Indigo-calib

Start at: 2017-12-06 05:00:28

End at: 2017-12-06 05:00:58

Below is generated by plot.py at 2017-12-06 08:56:33

Datalink statistics

-- Total of 3 flows:

Average throughput: 279.84 Mbit/s

95th percentile per-packet one-way delay: 51.041 ms

Loss rate: 0.41%

-- Flow 1:

Average throughput: 146.89 Mbit/s

95th percentile per-packet one-way delay: 51.026 ms

Loss rate: 0.24%

-- Flow 2:

Average throughput: 142.13 Mbit/s

95th percentile per-packet one-way delay: 51.097 ms

Loss rate: 0.41%

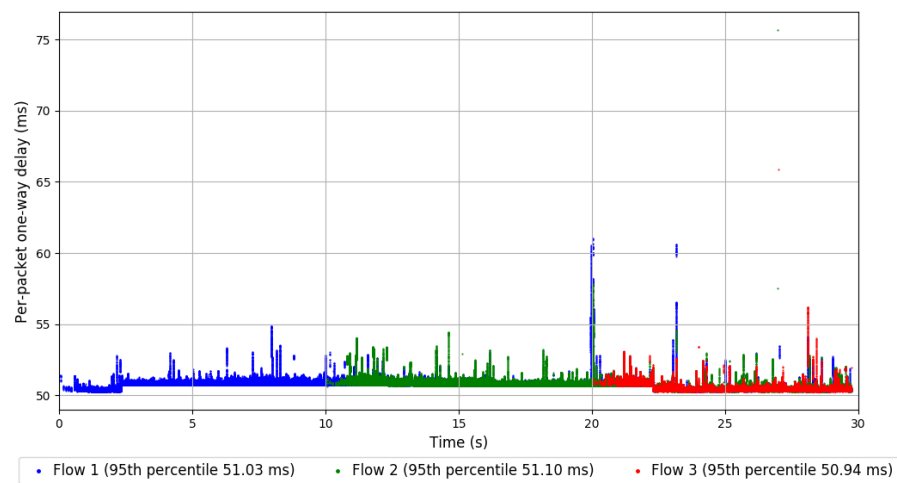
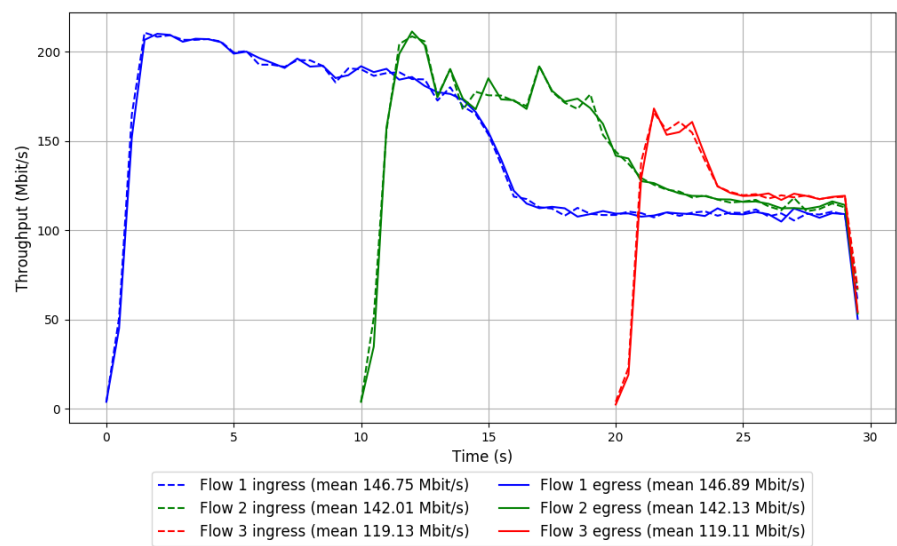
-- Flow 3:

Average throughput: 119.11 Mbit/s

95th percentile per-packet one-way delay: 50.942 ms

Loss rate: 1.03%

Run 8: Report of Indigo-calib — Data Link

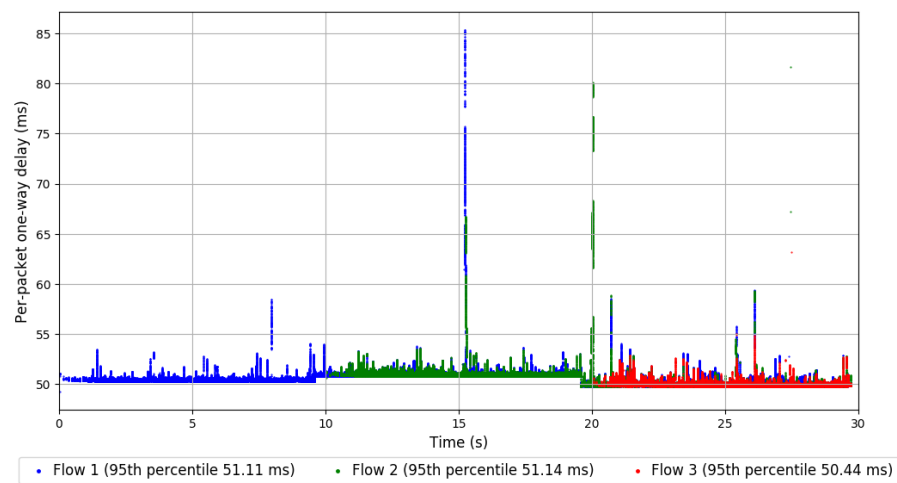
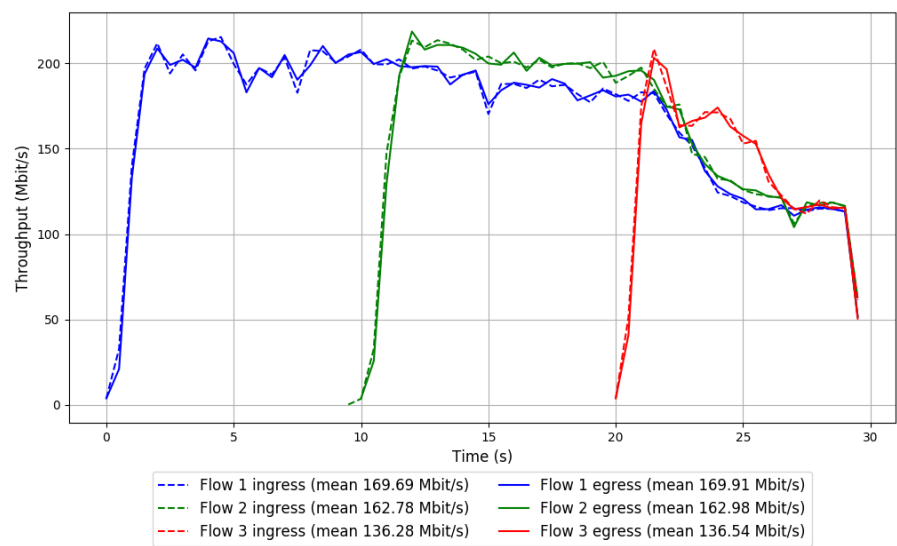


```
Run 9: Statistics of Indigo-calib

Start at: 2017-12-06 05:12:31
End at: 2017-12-06 05:13:01

# Below is generated by plot.py at 2017-12-06 08:56:53
# Datalink statistics
-- Total of 3 flows:
Average throughput: 322.43 Mbit/s
95th percentile per-packet one-way delay: 51.096 ms
Loss rate: 0.35%
-- Flow 1:
Average throughput: 169.91 Mbit/s
95th percentile per-packet one-way delay: 51.111 ms
Loss rate: 0.21%
-- Flow 2:
Average throughput: 162.98 Mbit/s
95th percentile per-packet one-way delay: 51.139 ms
Loss rate: 0.36%
-- Flow 3:
Average throughput: 136.54 Mbit/s
95th percentile per-packet one-way delay: 50.442 ms
Loss rate: 0.86%
```

Run 9: Report of Indigo-calib — Data Link



Run 10: Statistics of Indigo-calib

Start at: 2017-12-06 05:25:07

End at: 2017-12-06 05:25:37

Below is generated by plot.py at 2017-12-06 08:56:53

Datalink statistics

-- Total of 3 flows:

Average throughput: 291.75 Mbit/s

95th percentile per-packet one-way delay: 51.010 ms

Loss rate: 0.42%

-- Flow 1:

Average throughput: 152.34 Mbit/s

95th percentile per-packet one-way delay: 50.983 ms

Loss rate: 0.25%

-- Flow 2:

Average throughput: 147.93 Mbit/s

95th percentile per-packet one-way delay: 51.015 ms

Loss rate: 0.41%

-- Flow 3:

Average throughput: 127.65 Mbit/s

95th percentile per-packet one-way delay: 51.096 ms

Loss rate: 1.03%

Run 10: Report of Indigo-calib — Data Link

