

Pantheon Report

Generated at 2018-01-03 14:07:23 (UTC).

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

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.

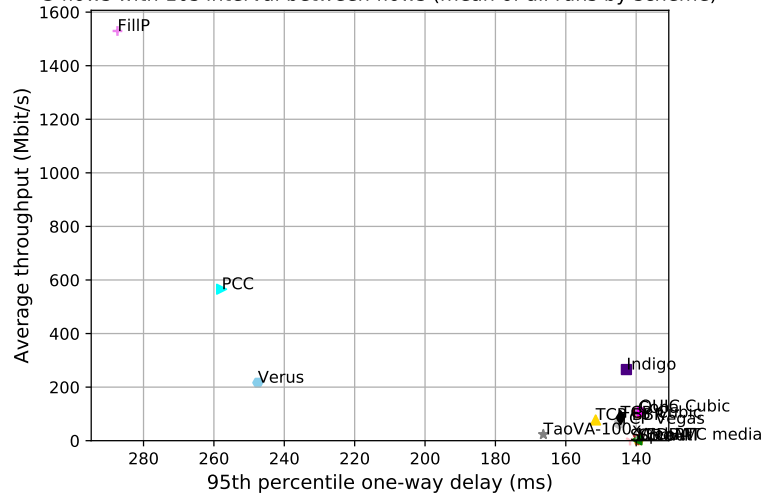
Increased UDP receive buffer to 16 MB (default) and 32 MB (max).

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

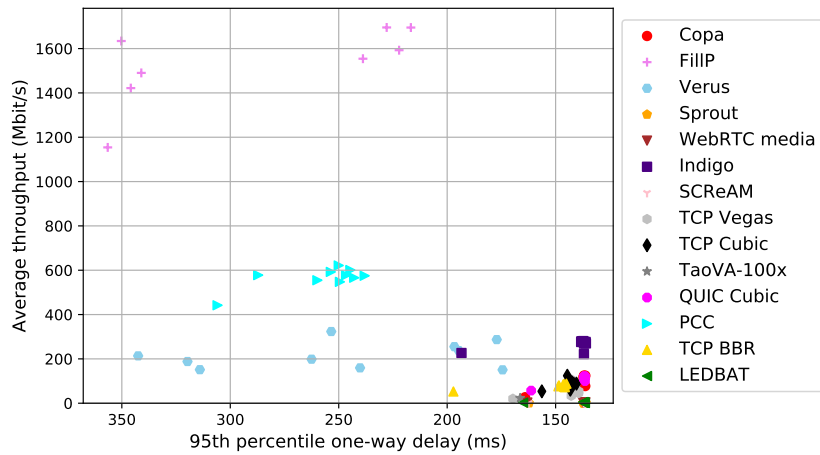
Git summary:

```
branch: master @ 904a5750834816b1e46a2c86405d707788d27c16
third_party/calibrated_koho @ 3cb73c0d1c0322cdfae446ea37a522e53227db50
  M datagrump/sender.cc
third_party/fillp @ dcaef6b00654e660f73f7ed679d2eab61ce08639
third_party/genericCC @ 80b516c448f795fd6e9675f7177b69c622f07da8
third_party/indigo @ b19f3730105f9aa95452552af924e3719b03cc55
third_party/indigo-no-calib @ 7224f2202e8a044d8306fa0b983ad84360c53d89
third_party/koho_cc @ f0f2e693303aee82ea808e6928eac4f1083a6681
  M datagrump/sender.cc
third_party/libutp @ b3465b942e2826f2b179eaab4a906ce6bb7cf3cf
third_party/pantheon-tunnel @ fb1053193c2861da659ba9013db26744ccfcf993
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-quic @ 77961f1a82733a86b42f1bc8143ebc978f3cff42
third_party/scream @ c3370fd7bd17265a79aeb34e4016ad23f5965885
third_party/sourdough @ f1a14bffe749737437f61b1eaaeb30b267cde681
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 Sydney Ethernet to GCE London Ethernet, 10 runs of 30s each per scheme
3 flows with 10s interval between flows (mean of all runs by scheme)



test from GCE Sydney Ethernet to GCE London 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	37.63	37.42	45.94	150.26	151.54	153.62	1.02	0.76	0.48
TCP Cubic	10	39.20	44.50	52.75	142.73	141.90	146.96	0.20	0.38	0.16
LEDBAT	10	2.01	1.30	0.81	139.89	137.26	137.24	0.45	0.90	0.68
PCC	10	446.22	144.94	69.96	259.79	254.25	246.27	4.15	3.40	2.93
QUIC Cubic	10	56.78	57.59	44.30	136.58	136.34	138.77	0.00	0.00	0.00
SCReAM	5	0.22	0.22	0.22	141.13	141.44	141.54	0.00	0.00	0.06
WebRTC media	10	2.04	1.33	0.43	139.05	139.30	136.93	0.00	0.00	0.07
Sprout	10	0.41	0.43	0.46	139.19	139.24	139.32	0.00	0.00	0.09
TaoVA-100x	1	11.56	7.93	23.81	169.75	169.19	162.00	3.45	0.08	0.00
TCP Vegas	10	24.50	39.05	39.19	142.18	144.77	145.92	0.88	0.50	0.00
Verus	10	157.99	62.17	56.13	223.83	234.08	210.53	3.25	1.12	1.29
Copa	10	60.26	55.20	30.65	136.42	139.47	136.55	0.01	0.00	0.00
FillP	8	781.44	764.66	683.73	256.68	289.04	269.29	6.31	9.29	10.41
Indigo	10	141.71	133.58	111.61	142.23	142.37	146.21	0.17	0.01	0.02

Run 1: Statistics of TCP BBR

Start at: 2018-01-03 09:20:48

End at: 2018-01-03 09:21:18

Below is generated by plot.py at 2018-01-03 12:58:43

Datalink statistics

-- Total of 3 flows:

Average throughput: 52.94 Mbit/s

95th percentile per-packet one-way delay: 197.123 ms

Loss rate: 4.41%

-- Flow 1:

Average throughput: 21.33 Mbit/s

95th percentile per-packet one-way delay: 192.199 ms

Loss rate: 6.14%

-- Flow 2:

Average throughput: 29.44 Mbit/s

95th percentile per-packet one-way delay: 195.792 ms

Loss rate: 3.87%

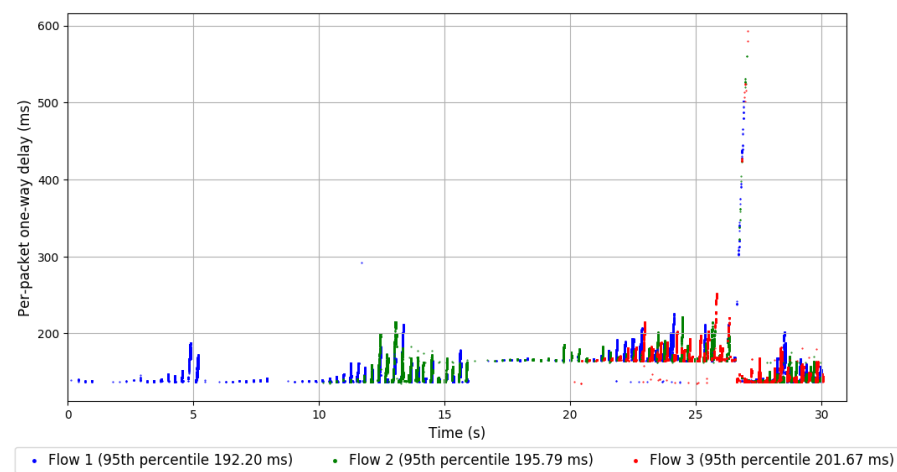
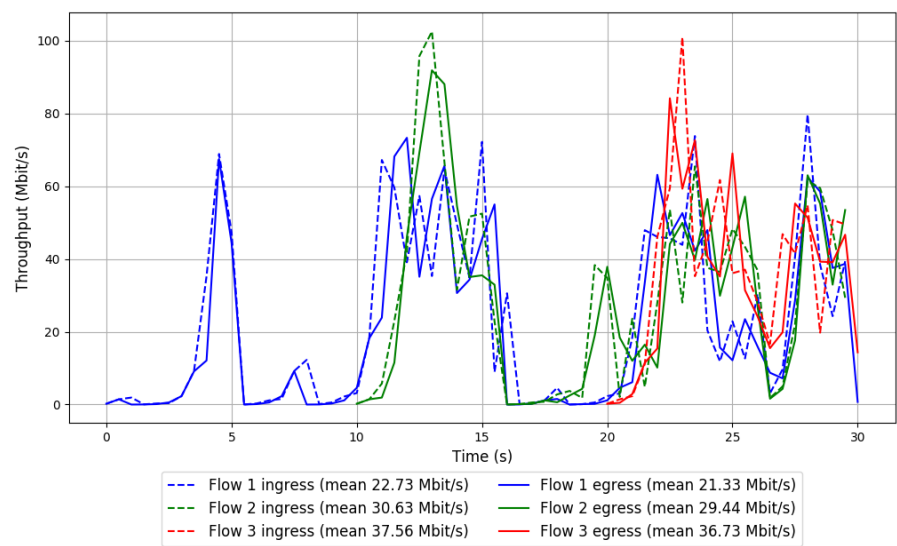
-- Flow 3:

Average throughput: 36.73 Mbit/s

95th percentile per-packet one-way delay: 201.666 ms

Loss rate: 2.15%

Run 1: Report of TCP BBR — Data Link



Run 2: Statistics of TCP BBR

Start at: 2018-01-03 09:36:22

End at: 2018-01-03 09:36:52

Below is generated by plot.py at 2018-01-03 12:59:05

Datalink statistics

-- Total of 3 flows:

Average throughput: 75.91 Mbit/s

95th percentile per-packet one-way delay: 145.971 ms

Loss rate: 1.08%

-- Flow 1:

Average throughput: 37.28 Mbit/s

95th percentile per-packet one-way delay: 146.457 ms

Loss rate: 0.82%

-- Flow 2:

Average throughput: 41.88 Mbit/s

95th percentile per-packet one-way delay: 143.950 ms

Loss rate: 0.99%

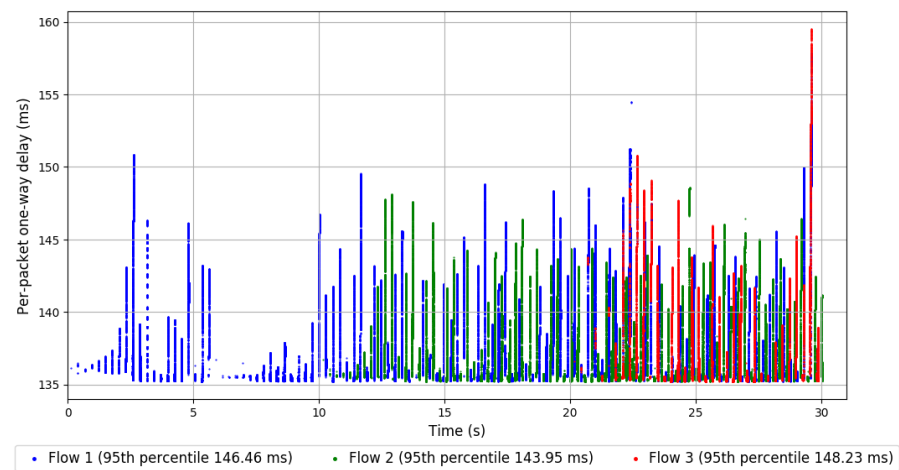
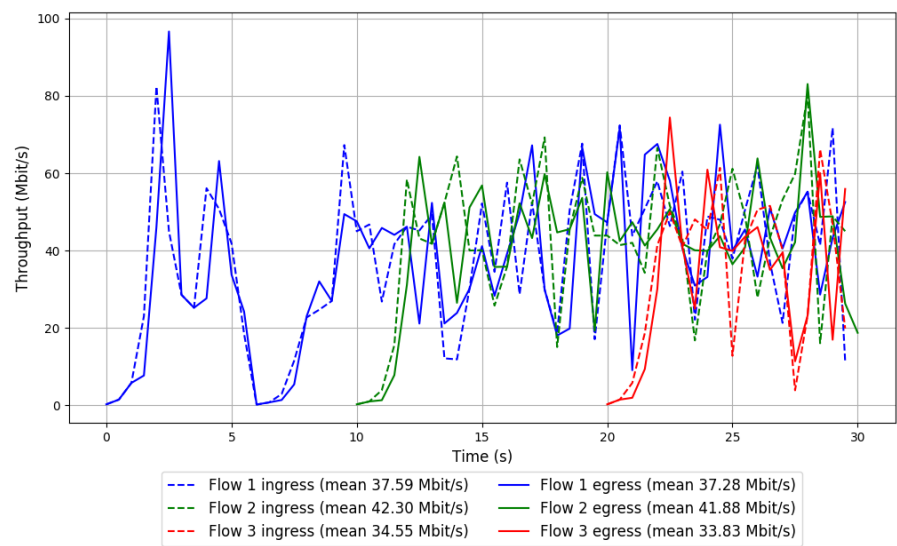
-- Flow 3:

Average throughput: 33.83 Mbit/s

95th percentile per-packet one-way delay: 148.234 ms

Loss rate: 2.12%

Run 2: Report of TCP BBR — Data Link



Run 3: Statistics of TCP BBR

Start at: 2018-01-03 09:52:21

End at: 2018-01-03 09:52:51

Below is generated by plot.py at 2018-01-03 12:59:09

Datalink statistics

-- Total of 3 flows:

Average throughput: 80.48 Mbit/s

95th percentile per-packet one-way delay: 148.480 ms

Loss rate: 0.02%

-- Flow 1:

Average throughput: 37.53 Mbit/s

95th percentile per-packet one-way delay: 147.995 ms

Loss rate: 0.02%

-- Flow 2:

Average throughput: 39.05 Mbit/s

95th percentile per-packet one-way delay: 150.516 ms

Loss rate: 0.02%

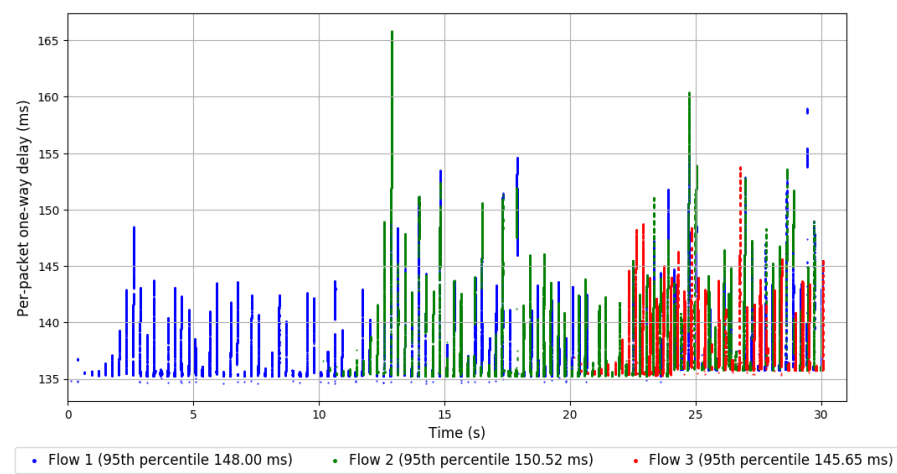
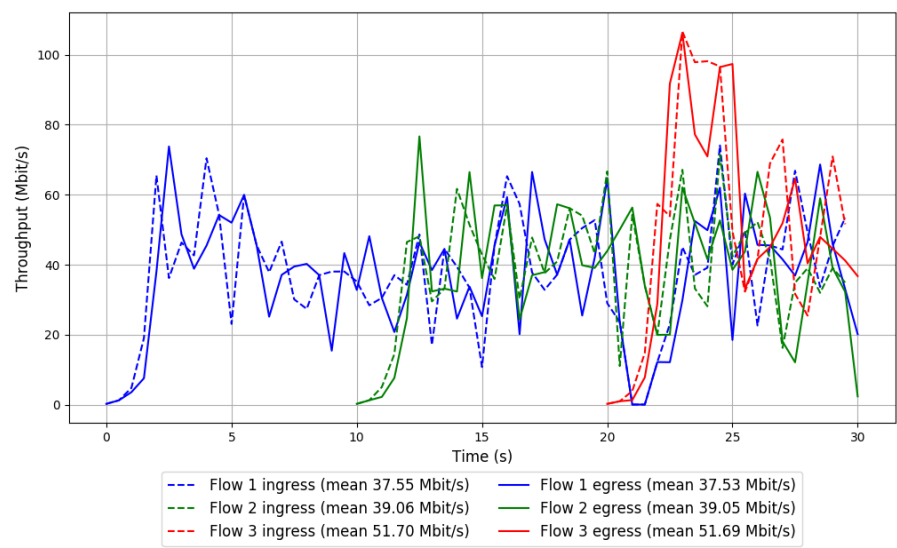
-- Flow 3:

Average throughput: 51.69 Mbit/s

95th percentile per-packet one-way delay: 145.647 ms

Loss rate: 0.01%

Run 3: Report of TCP BBR — Data Link



Run 4: Statistics of TCP BBR

Start at: 2018-01-03 10:08:22

End at: 2018-01-03 10:08:52

Below is generated by plot.py at 2018-01-03 12:59:17

Datalink statistics

-- Total of 3 flows:

Average throughput: 88.40 Mbit/s

95th percentile per-packet one-way delay: 145.013 ms

Loss rate: 0.67%

-- Flow 1:

Average throughput: 50.17 Mbit/s

95th percentile per-packet one-way delay: 144.370 ms

Loss rate: 0.79%

-- Flow 2:

Average throughput: 39.93 Mbit/s

95th percentile per-packet one-way delay: 145.589 ms

Loss rate: 0.73%

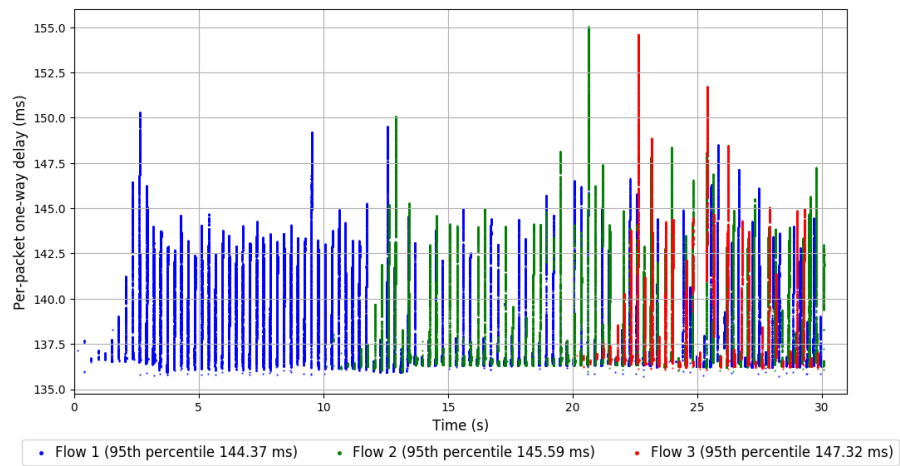
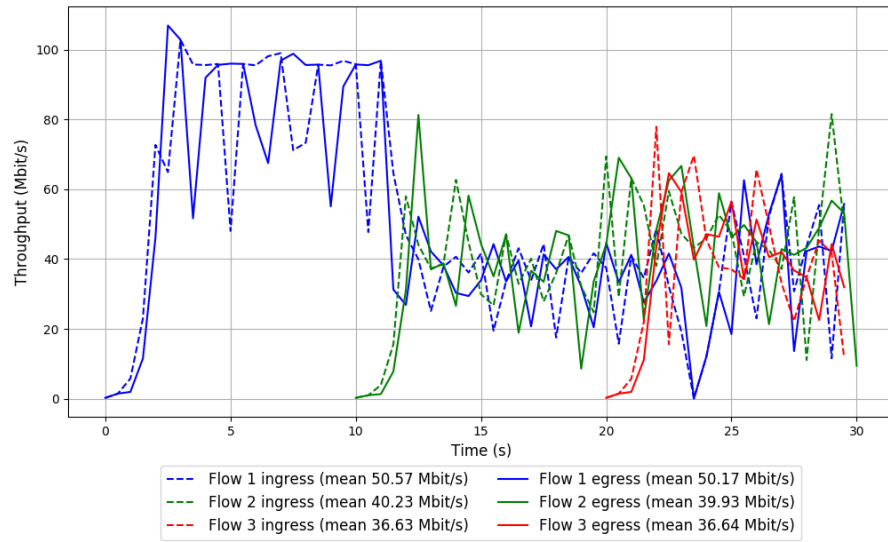
-- Flow 3:

Average throughput: 36.64 Mbit/s

95th percentile per-packet one-way delay: 147.323 ms

Loss rate: 0.00%

Run 4: Report of TCP BBR — Data Link



Run 5: Statistics of TCP BBR

Start at: 2018-01-03 10:23:45

End at: 2018-01-03 10:24:15

Below is generated by plot.py at 2018-01-03 12:59:17

Datalink statistics

-- Total of 3 flows:

Average throughput: 73.60 Mbit/s

95th percentile per-packet one-way delay: 146.008 ms

Loss rate: 0.53%

-- Flow 1:

Average throughput: 40.70 Mbit/s

95th percentile per-packet one-way delay: 145.996 ms

Loss rate: 0.57%

-- Flow 2:

Average throughput: 34.23 Mbit/s

95th percentile per-packet one-way delay: 146.089 ms

Loss rate: 0.70%

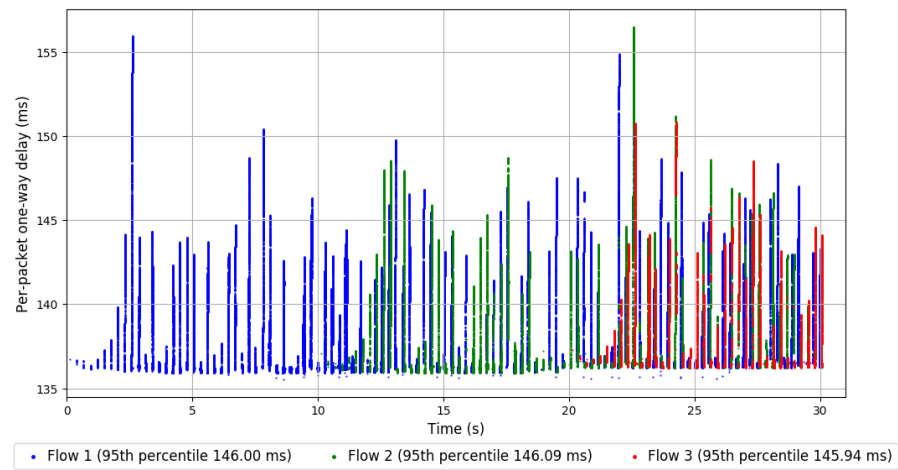
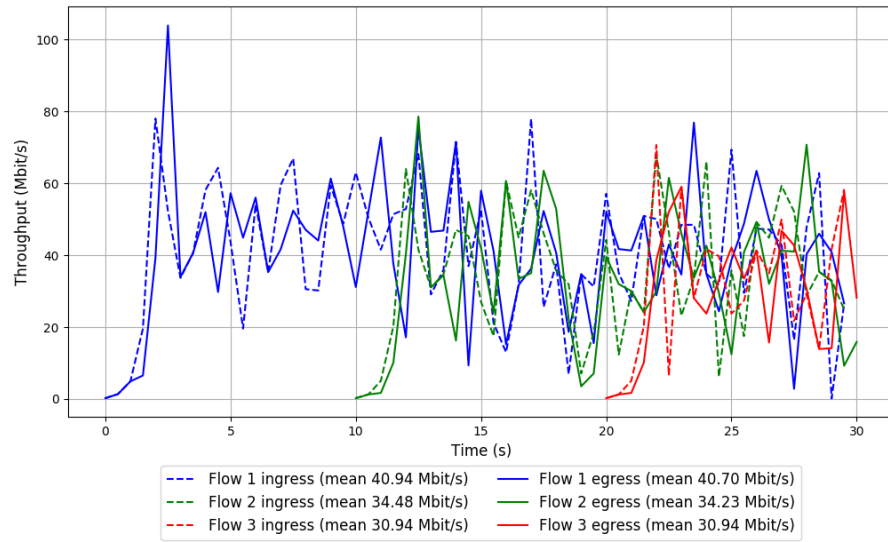
-- Flow 3:

Average throughput: 30.94 Mbit/s

95th percentile per-packet one-way delay: 145.944 ms

Loss rate: 0.00%

Run 5: Report of TCP BBR — Data Link



Run 6: Statistics of TCP BBR

Start at: 2018-01-03 10:39:52

End at: 2018-01-03 10:40:22

Below is generated by plot.py at 2018-01-03 12:59:17

Datalink statistics

-- Total of 3 flows:

Average throughput: 84.67 Mbit/s

95th percentile per-packet one-way delay: 145.783 ms

Loss rate: 0.09%

-- Flow 1:

Average throughput: 36.16 Mbit/s

95th percentile per-packet one-way delay: 145.544 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 38.91 Mbit/s

95th percentile per-packet one-way delay: 145.091 ms

Loss rate: 0.00%

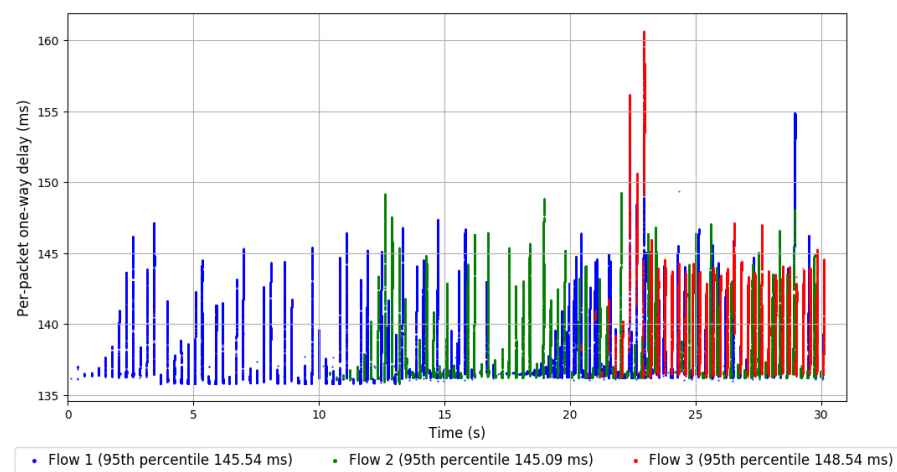
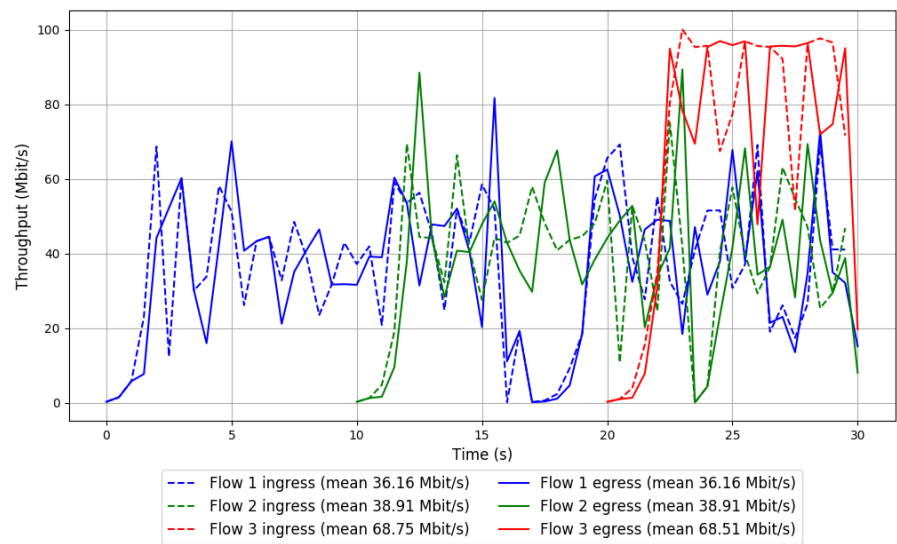
-- Flow 3:

Average throughput: 68.51 Mbit/s

95th percentile per-packet one-way delay: 148.537 ms

Loss rate: 0.33%

Run 6: Report of TCP BBR — Data Link



Run 7: Statistics of TCP BBR

Start at: 2018-01-03 10:56:07

End at: 2018-01-03 10:56:37

Below is generated by plot.py at 2018-01-03 12:59:17

Datalink statistics

-- Total of 3 flows:

Average throughput: 86.13 Mbit/s

95th percentile per-packet one-way delay: 146.394 ms

Loss rate: 0.52%

-- Flow 1:

Average throughput: 38.34 Mbit/s

95th percentile per-packet one-way delay: 144.633 ms

Loss rate: 1.07%

-- Flow 2:

Average throughput: 37.91 Mbit/s

95th percentile per-packet one-way delay: 145.501 ms

Loss rate: 0.00%

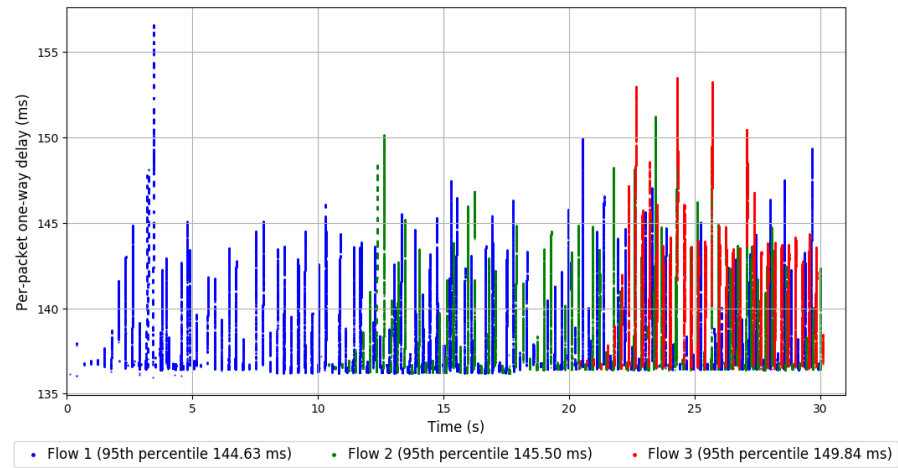
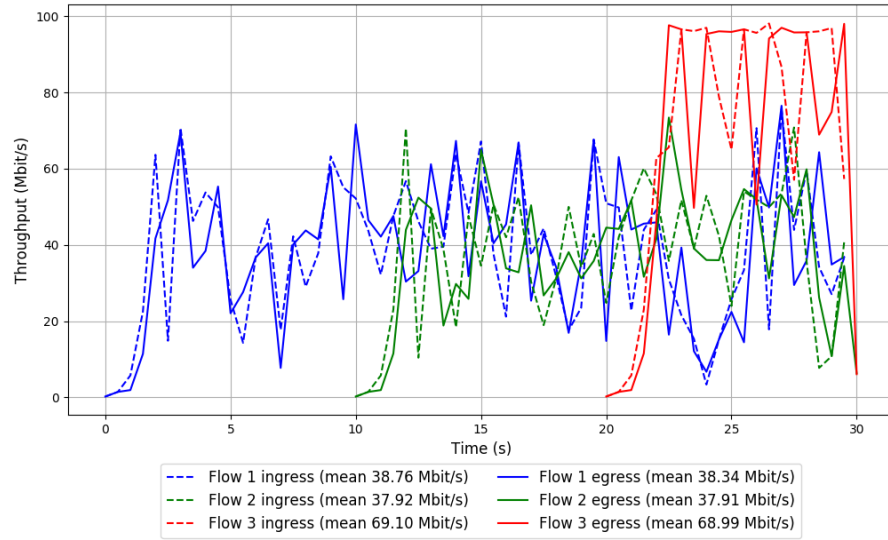
-- Flow 3:

Average throughput: 68.99 Mbit/s

95th percentile per-packet one-way delay: 149.835 ms

Loss rate: 0.17%

Run 7: Report of TCP BBR — Data Link



Run 8: Statistics of TCP BBR

Start at: 2018-01-03 11:12:09

End at: 2018-01-03 11:12:39

Below is generated by plot.py at 2018-01-03 12:59:17

Datalink statistics

-- Total of 3 flows:

Average throughput: 76.36 Mbit/s

95th percentile per-packet one-way delay: 148.683 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 38.48 Mbit/s

95th percentile per-packet one-way delay: 147.143 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 40.03 Mbit/s

95th percentile per-packet one-way delay: 150.100 ms

Loss rate: 0.00%

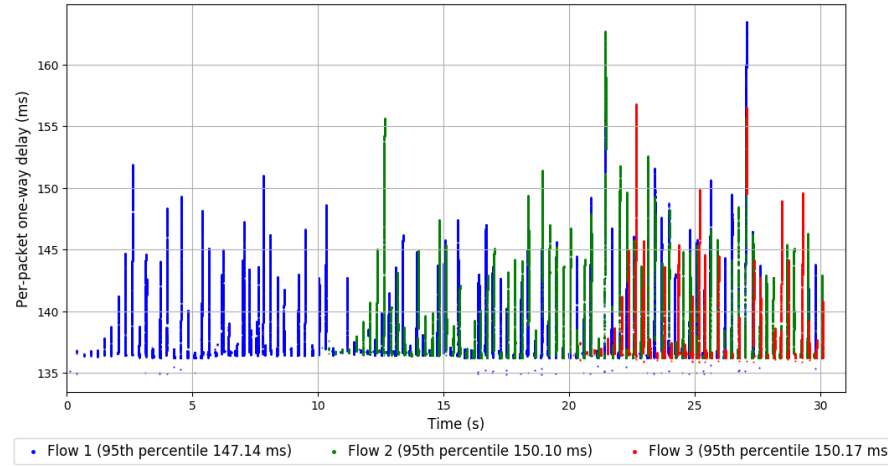
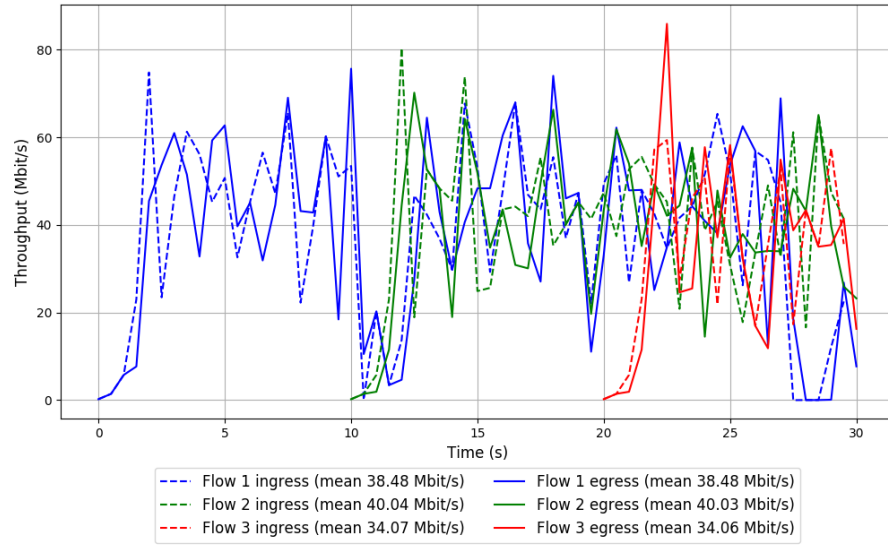
-- Flow 3:

Average throughput: 34.06 Mbit/s

95th percentile per-packet one-way delay: 150.166 ms

Loss rate: 0.00%

Run 8: Report of TCP BBR — Data Link



Run 9: Statistics of TCP BBR

Start at: 2018-01-03 11:27:40

End at: 2018-01-03 11:28:11

Below is generated by plot.py at 2018-01-03 13:00:07

Datalink statistics

-- Total of 3 flows:

Average throughput: 72.52 Mbit/s

95th percentile per-packet one-way delay: 145.773 ms

Loss rate: 0.62%

-- Flow 1:

Average throughput: 38.28 Mbit/s

95th percentile per-packet one-way delay: 144.385 ms

Loss rate: 0.65%

-- Flow 2:

Average throughput: 33.31 Mbit/s

95th percentile per-packet one-way delay: 146.655 ms

Loss rate: 0.90%

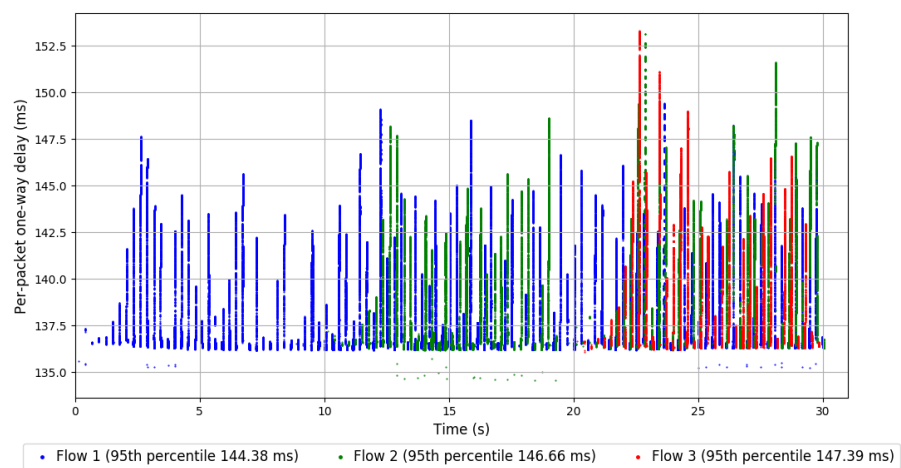
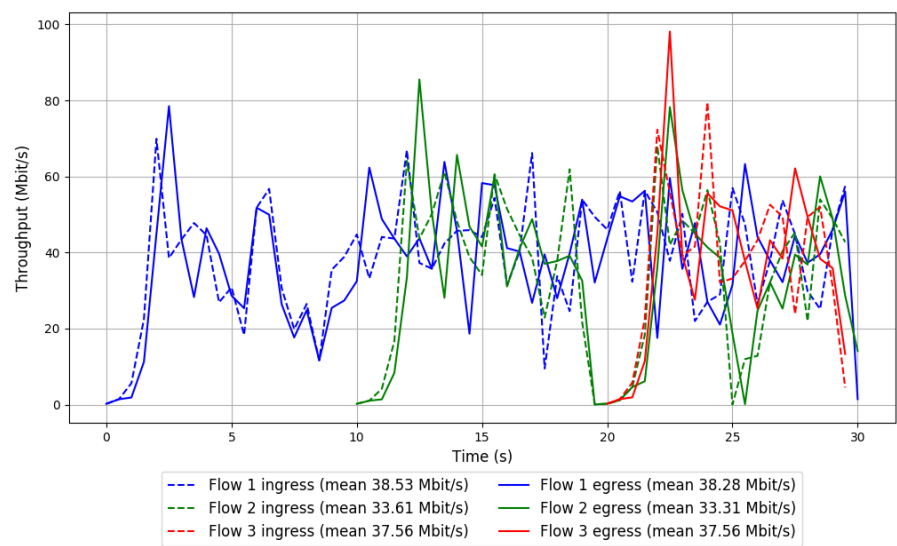
-- Flow 3:

Average throughput: 37.56 Mbit/s

95th percentile per-packet one-way delay: 147.393 ms

Loss rate: 0.00%

Run 9: Report of TCP BBR — Data Link



Run 10: Statistics of TCP BBR

Start at: 2018-01-03 11:43:48

End at: 2018-01-03 11:44:18

Below is generated by plot.py at 2018-01-03 13:00:29

Datalink statistics

-- Total of 3 flows:

Average throughput: 84.15 Mbit/s

95th percentile per-packet one-way delay: 145.959 ms

Loss rate: 0.20%

-- Flow 1:

Average throughput: 38.02 Mbit/s

95th percentile per-packet one-way delay: 143.870 ms

Loss rate: 0.13%

-- Flow 2:

Average throughput: 39.47 Mbit/s

95th percentile per-packet one-way delay: 146.132 ms

Loss rate: 0.40%

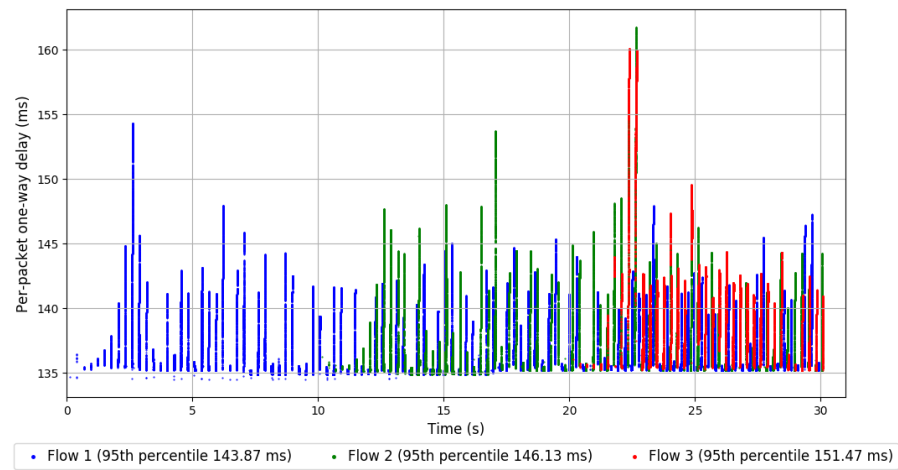
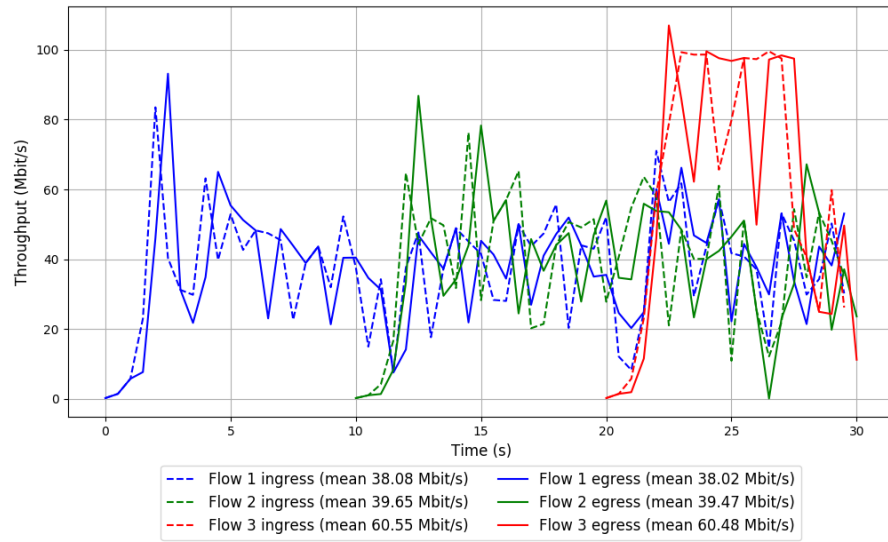
-- Flow 3:

Average throughput: 60.48 Mbit/s

95th percentile per-packet one-way delay: 151.469 ms

Loss rate: 0.07%

Run 10: Report of TCP BBR — Data Link



Run 1: Statistics of TCP Cubic

Start at: 2018-01-03 09:15:57

End at: 2018-01-03 09:16:27

Below is generated by plot.py at 2018-01-03 13:00:29

Datalink statistics

-- Total of 3 flows:

Average throughput: 53.58 Mbit/s

95th percentile per-packet one-way delay: 156.352 ms

Loss rate: 0.47%

-- Flow 1:

Average throughput: 37.37 Mbit/s

95th percentile per-packet one-way delay: 152.556 ms

Loss rate: 0.57%

-- Flow 2:

Average throughput: 7.51 Mbit/s

95th percentile per-packet one-way delay: 139.886 ms

Loss rate: 0.50%

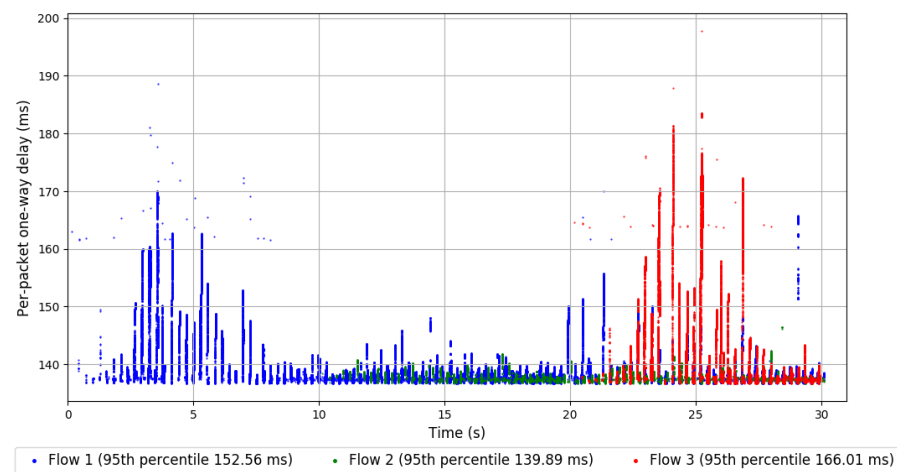
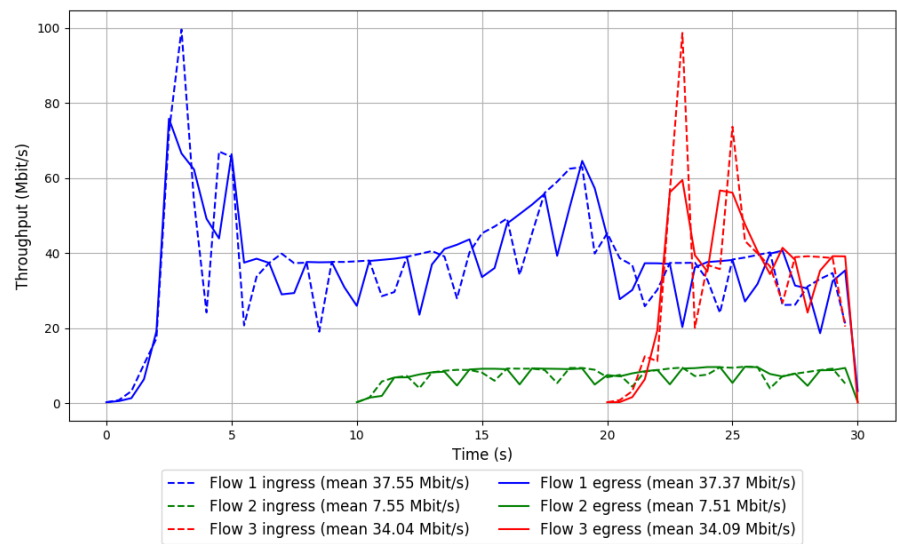
-- Flow 3:

Average throughput: 34.09 Mbit/s

95th percentile per-packet one-way delay: 166.015 ms

Loss rate: 0.13%

Run 1: Report of TCP Cubic — Data Link



Run 2: Statistics of TCP Cubic

Start at: 2018-01-03 09:31:23

End at: 2018-01-03 09:31:53

Below is generated by plot.py at 2018-01-03 13:00:35

Datalink statistics

-- Total of 3 flows:

Average throughput: 87.48 Mbit/s

95th percentile per-packet one-way delay: 143.223 ms

Loss rate: 0.31%

-- Flow 1:

Average throughput: 43.35 Mbit/s

95th percentile per-packet one-way delay: 142.681 ms

Loss rate: 0.10%

-- Flow 2:

Average throughput: 48.94 Mbit/s

95th percentile per-packet one-way delay: 143.609 ms

Loss rate: 0.40%

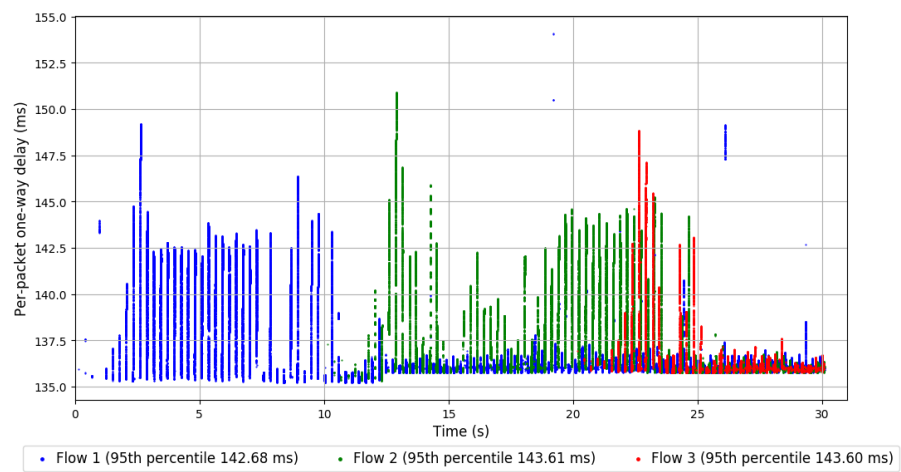
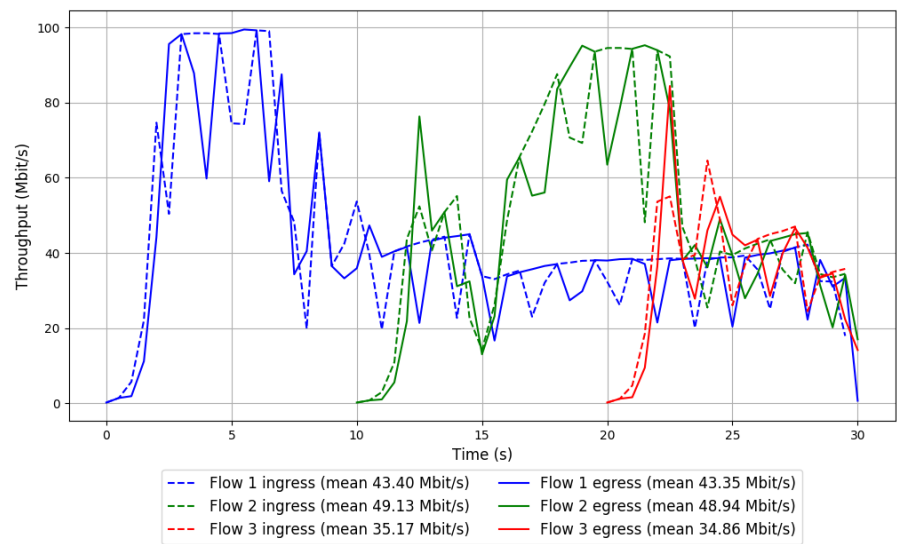
-- Flow 3:

Average throughput: 34.86 Mbit/s

95th percentile per-packet one-way delay: 143.603 ms

Loss rate: 0.88%

Run 2: Report of TCP Cubic — Data Link



Run 3: Statistics of TCP Cubic

Start at: 2018-01-03 09:47:14

End at: 2018-01-03 09:47:44

Below is generated by plot.py at 2018-01-03 13:00:44

Datalink statistics

-- Total of 3 flows:

Average throughput: 88.50 Mbit/s

95th percentile per-packet one-way delay: 141.697 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 46.96 Mbit/s

95th percentile per-packet one-way delay: 142.097 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 43.73 Mbit/s

95th percentile per-packet one-way delay: 137.828 ms

Loss rate: 0.01%

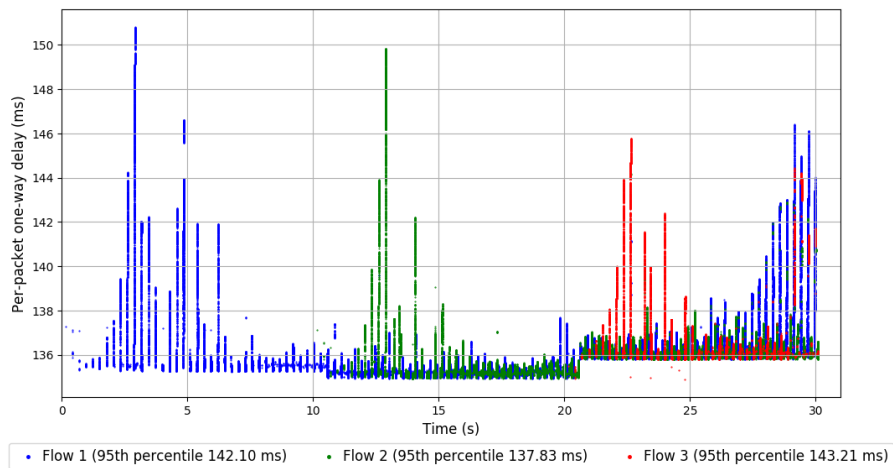
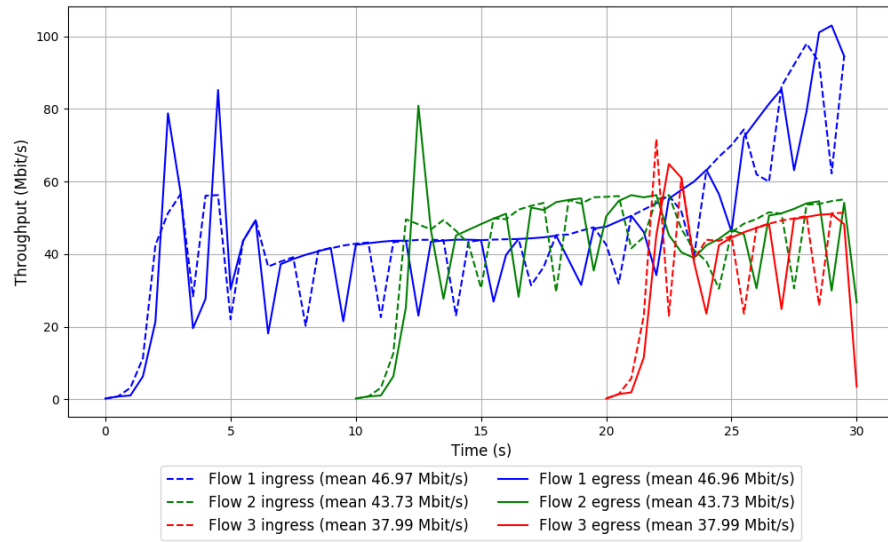
-- Flow 3:

Average throughput: 37.99 Mbit/s

95th percentile per-packet one-way delay: 143.207 ms

Loss rate: 0.00%

Run 3: Report of TCP Cubic — Data Link



Run 4: Statistics of TCP Cubic

Start at: 2018-01-03 10:03:18

End at: 2018-01-03 10:03:48

Below is generated by plot.py at 2018-01-03 13:00:44

Datalink statistics

-- Total of 3 flows:

Average throughput: 78.33 Mbit/s

95th percentile per-packet one-way delay: 143.826 ms

Loss rate: 0.01%

-- Flow 1:

Average throughput: 29.73 Mbit/s

95th percentile per-packet one-way delay: 142.509 ms

Loss rate: 0.02%

-- Flow 2:

Average throughput: 39.75 Mbit/s

95th percentile per-packet one-way delay: 140.340 ms

Loss rate: 0.00%

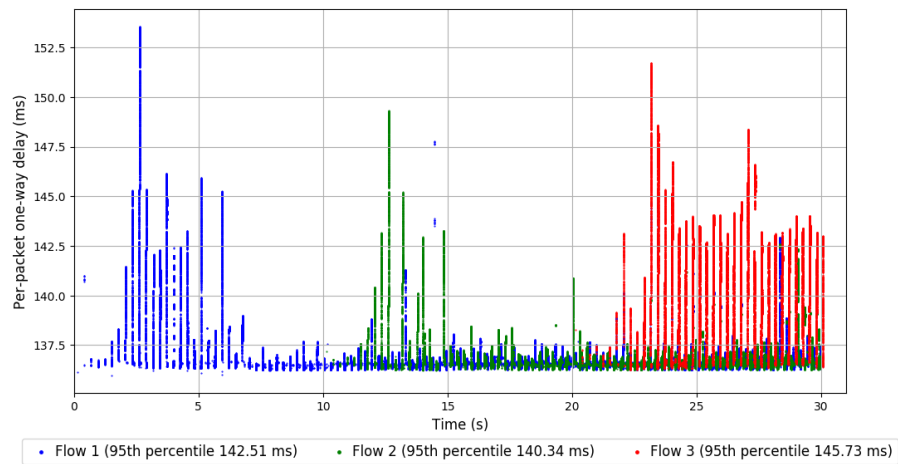
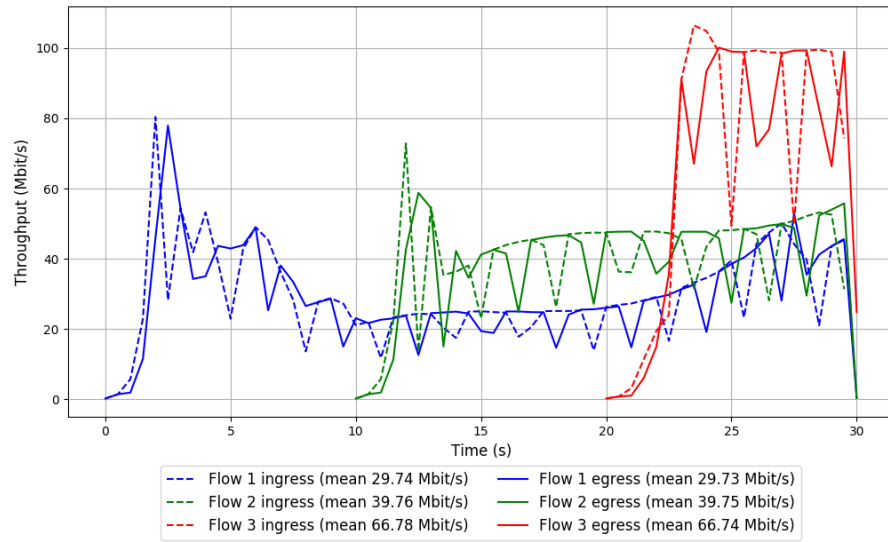
-- Flow 3:

Average throughput: 66.74 Mbit/s

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

Loss rate: 0.02%

Run 4: Report of TCP Cubic — Data Link



Run 5: Statistics of TCP Cubic

Start at: 2018-01-03 10:18:47

End at: 2018-01-03 10:19:17

Below is generated by plot.py at 2018-01-03 13:00:47

Datalink statistics

-- Total of 3 flows:

Average throughput: 85.23 Mbit/s

95th percentile per-packet one-way delay: 144.349 ms

Loss rate: 0.14%

-- Flow 1:

Average throughput: 33.17 Mbit/s

95th percentile per-packet one-way delay: 143.670 ms

Loss rate: 0.35%

-- Flow 2:

Average throughput: 43.93 Mbit/s

95th percentile per-packet one-way delay: 144.502 ms

Loss rate: 0.00%

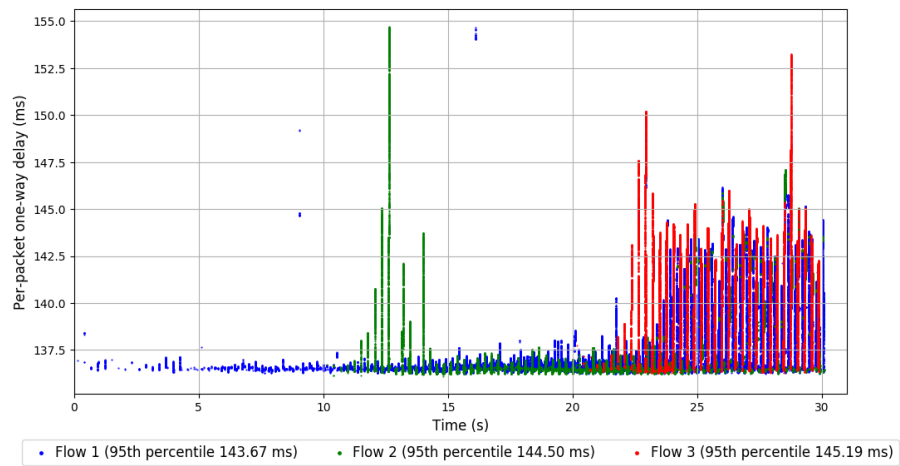
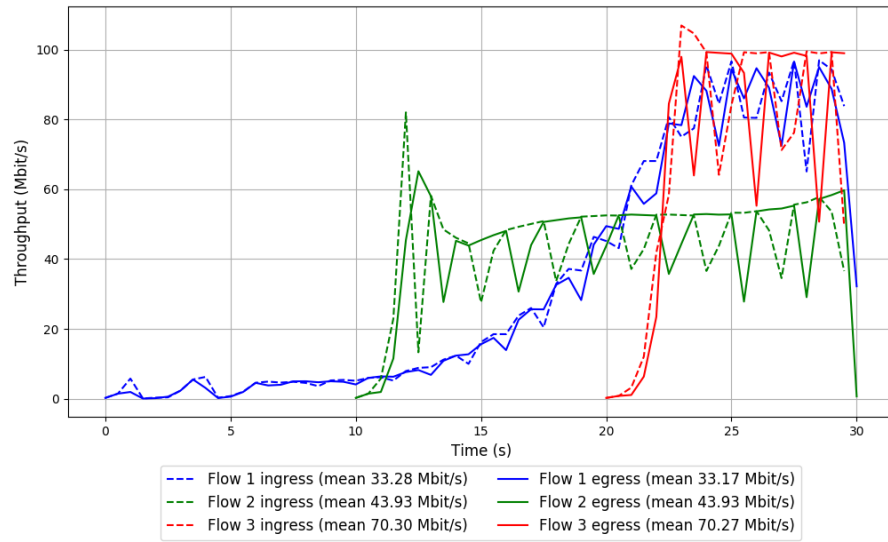
-- Flow 3:

Average throughput: 70.27 Mbit/s

95th percentile per-packet one-way delay: 145.195 ms

Loss rate: 0.00%

Run 5: Report of TCP Cubic — Data Link



Run 6: Statistics of TCP Cubic

Start at: 2018-01-03 10:34:51

End at: 2018-01-03 10:35:21

Below is generated by plot.py at 2018-01-03 13:01:37

Datalink statistics

-- Total of 3 flows:

Average throughput: 124.09 Mbit/s

95th percentile per-packet one-way delay: 144.598 ms

Loss rate: 0.09%

-- Flow 1:

Average throughput: 47.67 Mbit/s

95th percentile per-packet one-way delay: 144.535 ms

Loss rate: 0.23%

-- Flow 2:

Average throughput: 79.92 Mbit/s

95th percentile per-packet one-way delay: 143.966 ms

Loss rate: 0.00%

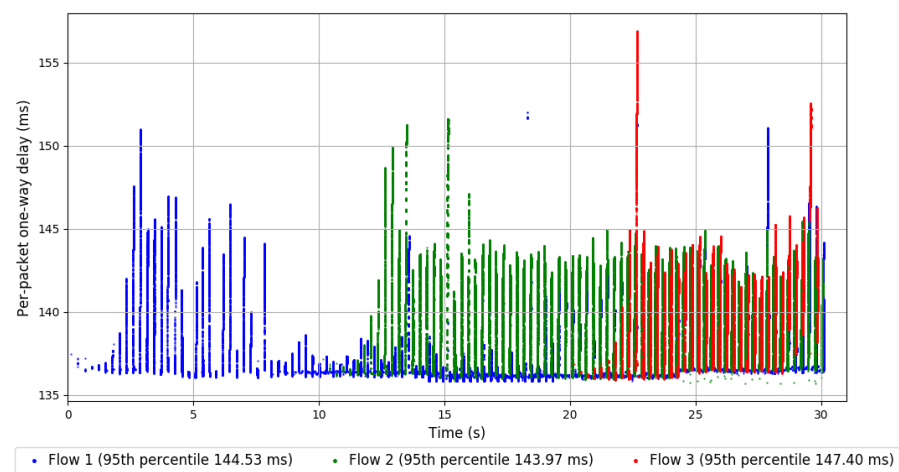
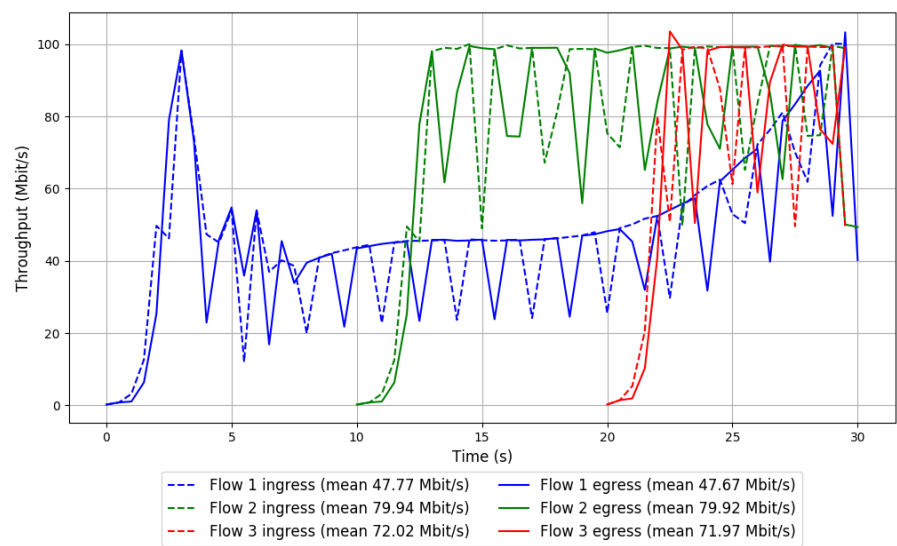
-- Flow 3:

Average throughput: 71.97 Mbit/s

95th percentile per-packet one-way delay: 147.404 ms

Loss rate: 0.00%

Run 6: Report of TCP Cubic — Data Link



Run 7: Statistics of TCP Cubic

Start at: 2018-01-03 10:51:10

End at: 2018-01-03 10:51:40

Below is generated by plot.py at 2018-01-03 13:01:54

Datalink statistics

-- Total of 3 flows:

Average throughput: 99.89 Mbit/s

95th percentile per-packet one-way delay: 144.335 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 47.04 Mbit/s

95th percentile per-packet one-way delay: 143.258 ms

Loss rate: 0.01%

-- Flow 2:

Average throughput: 44.38 Mbit/s

95th percentile per-packet one-way delay: 142.040 ms

Loss rate: 0.00%

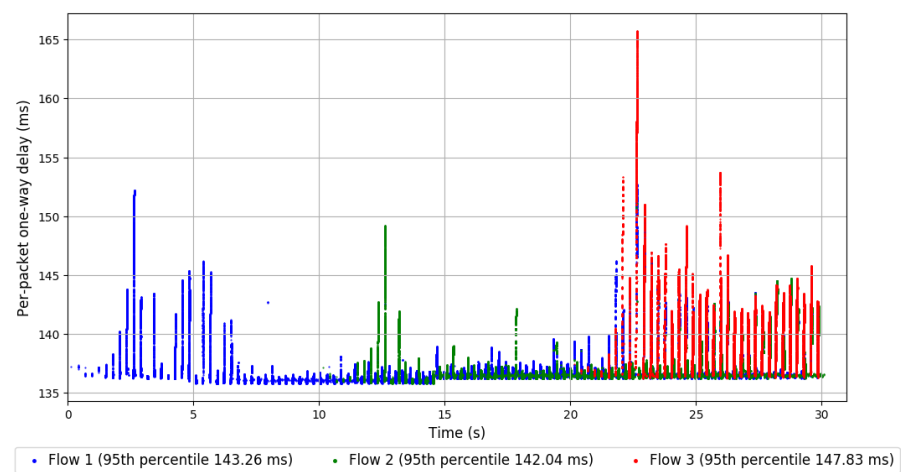
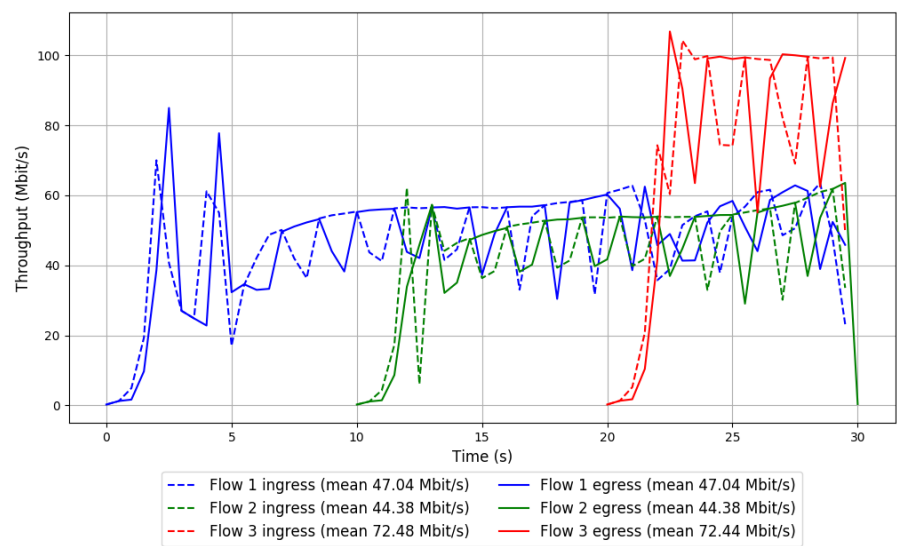
-- Flow 3:

Average throughput: 72.44 Mbit/s

95th percentile per-packet one-way delay: 147.833 ms

Loss rate: 0.00%

Run 7: Report of TCP Cubic — Data Link



Run 8: Statistics of TCP Cubic

Start at: 2018-01-03 11:07:09

End at: 2018-01-03 11:07:39

Below is generated by plot.py at 2018-01-03 13:01:54

Datalink statistics

-- Total of 3 flows:

Average throughput: 61.07 Mbit/s

95th percentile per-packet one-way delay: 143.204 ms

Loss rate: 0.98%

-- Flow 1:

Average throughput: 8.30 Mbit/s

95th percentile per-packet one-way delay: 137.062 ms

Loss rate: 0.62%

-- Flow 2:

Average throughput: 63.48 Mbit/s

95th percentile per-packet one-way delay: 143.381 ms

Loss rate: 1.18%

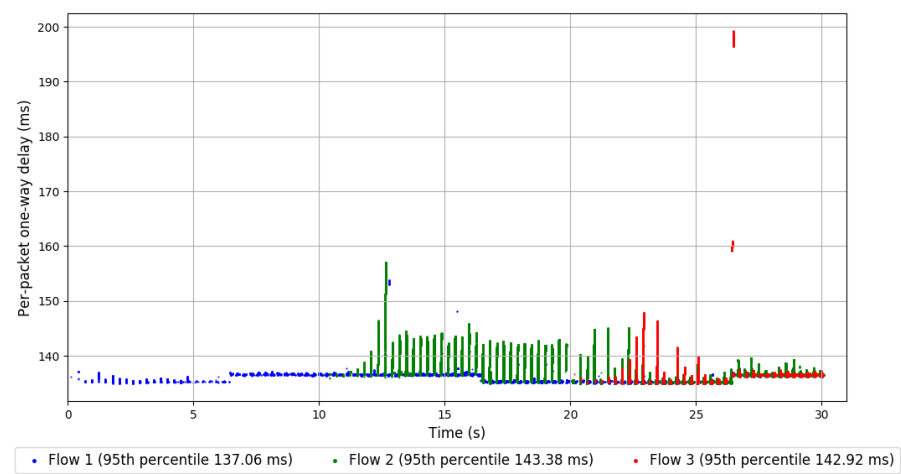
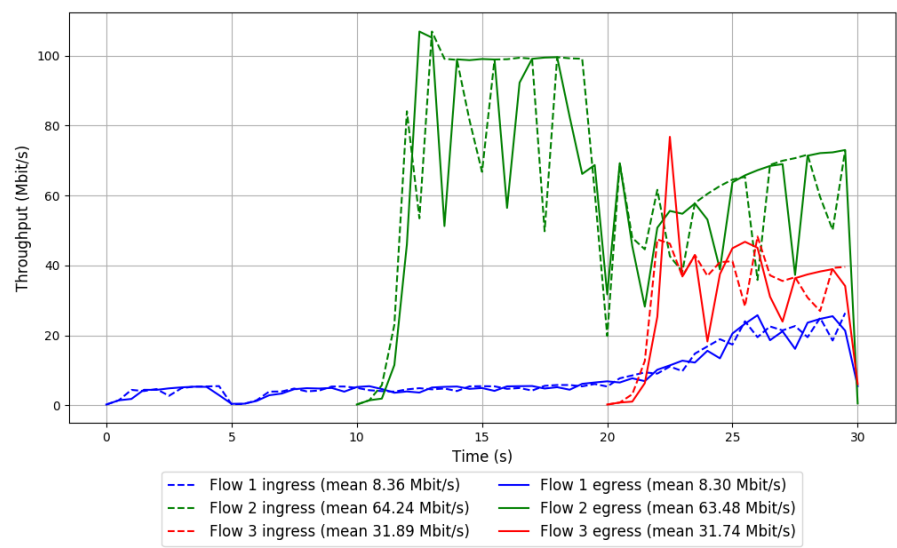
-- Flow 3:

Average throughput: 31.74 Mbit/s

95th percentile per-packet one-way delay: 142.918 ms

Loss rate: 0.48%

Run 8: Report of TCP Cubic — Data Link



Run 9: Statistics of TCP Cubic

Start at: 2018-01-03 11:22:40

End at: 2018-01-03 11:23:10

Below is generated by plot.py at 2018-01-03 13:02:04

Datalink statistics

-- Total of 3 flows:

Average throughput: 88.33 Mbit/s

95th percentile per-packet one-way delay: 140.386 ms

Loss rate: 0.47%

-- Flow 1:

Average throughput: 53.29 Mbit/s

95th percentile per-packet one-way delay: 138.192 ms

Loss rate: 0.03%

-- Flow 2:

Average throughput: 35.30 Mbit/s

95th percentile per-packet one-way delay: 140.741 ms

Loss rate: 1.69%

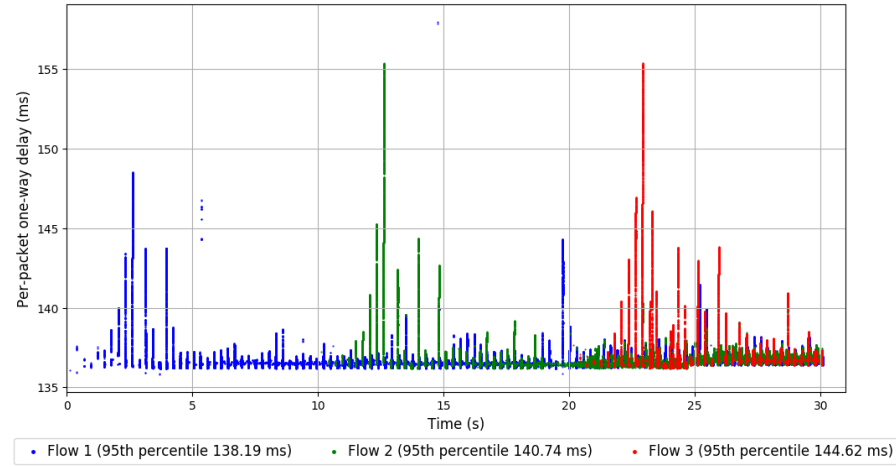
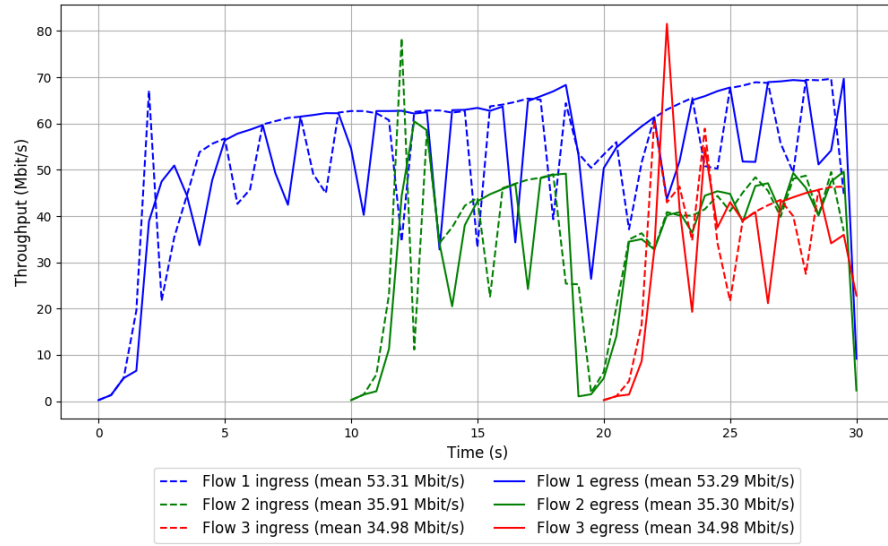
-- Flow 3:

Average throughput: 34.98 Mbit/s

95th percentile per-packet one-way delay: 144.618 ms

Loss rate: 0.00%

Run 9: Report of TCP Cubic — Data Link



Run 10: Statistics of TCP Cubic

Start at: 2018-01-03 11:38:43

End at: 2018-01-03 11:39:13

Below is generated by plot.py at 2018-01-03 13:02:15

Datalink statistics

-- Total of 3 flows:

Average throughput: 94.38 Mbit/s

95th percentile per-packet one-way delay: 142.554 ms

Loss rate: 0.07%

-- Flow 1:

Average throughput: 45.11 Mbit/s

95th percentile per-packet one-way delay: 140.710 ms

Loss rate: 0.11%

-- Flow 2:

Average throughput: 38.08 Mbit/s

95th percentile per-packet one-way delay: 142.699 ms

Loss rate: 0.01%

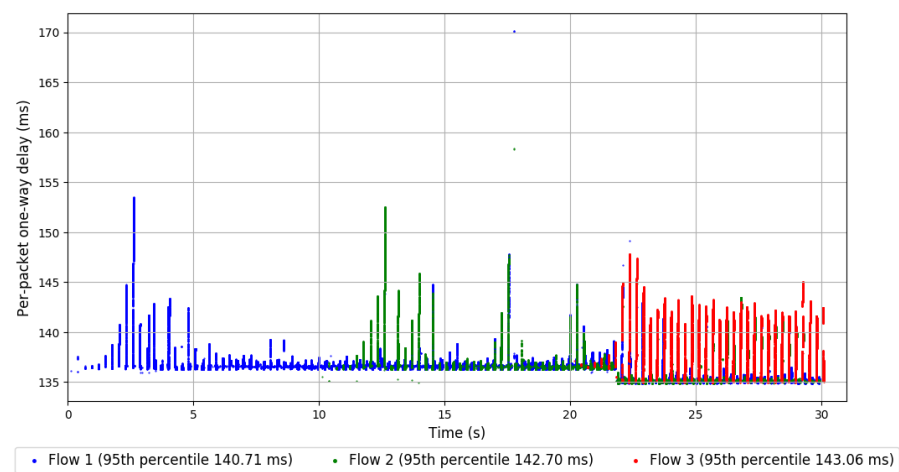
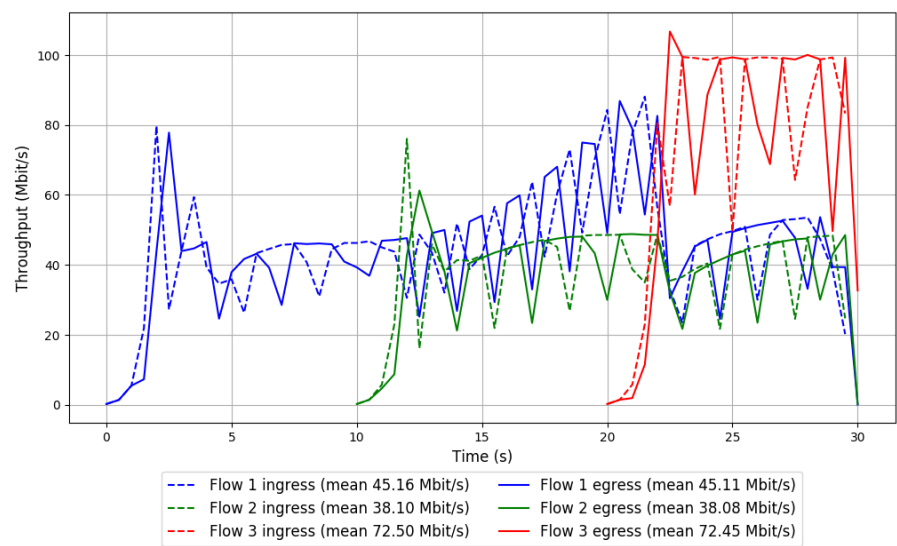
-- Flow 3:

Average throughput: 72.45 Mbit/s

95th percentile per-packet one-way delay: 143.062 ms

Loss rate: 0.07%

Run 10: Report of TCP Cubic — Data Link

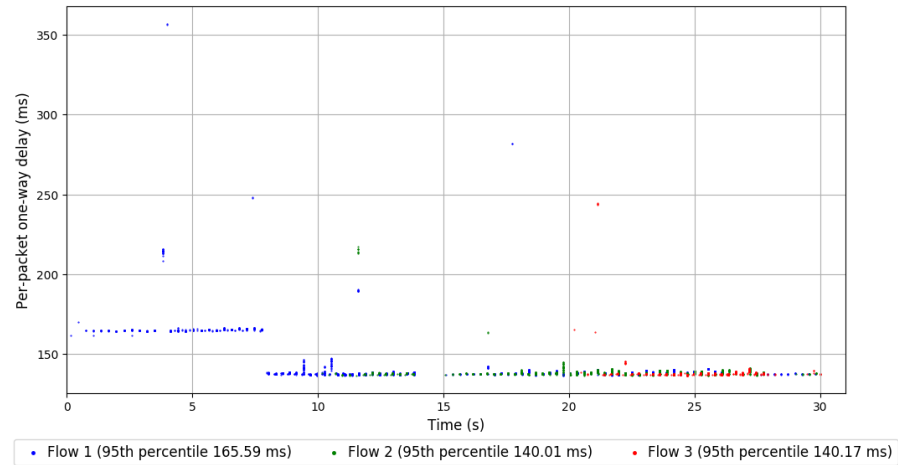
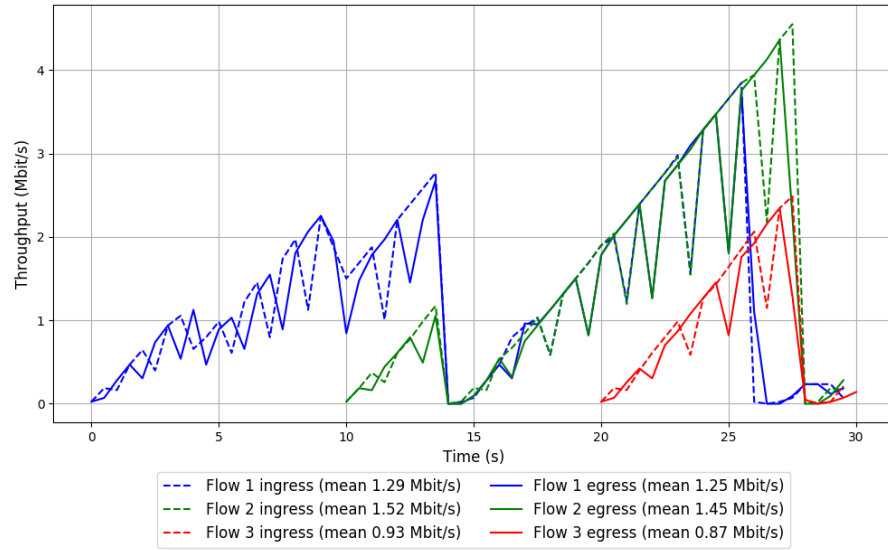


```
Run 1: Statistics of LEDBAT

Start at: 2018-01-03 09:19:57
End at: 2018-01-03 09:20:27

# Below is generated by plot.py at 2018-01-03 13:02:15
# Datalink statistics
-- Total of 3 flows:
Average throughput: 2.49 Mbit/s
95th percentile per-packet one-way delay: 165.011 ms
Loss rate: 4.15%
-- Flow 1:
Average throughput: 1.25 Mbit/s
95th percentile per-packet one-way delay: 165.590 ms
Loss rate: 2.97%
-- Flow 2:
Average throughput: 1.45 Mbit/s
95th percentile per-packet one-way delay: 140.009 ms
Loss rate: 4.85%
-- Flow 3:
Average throughput: 0.87 Mbit/s
95th percentile per-packet one-way delay: 140.170 ms
Loss rate: 6.80%
```


Run 1: Report of LEDBAT — Data Link

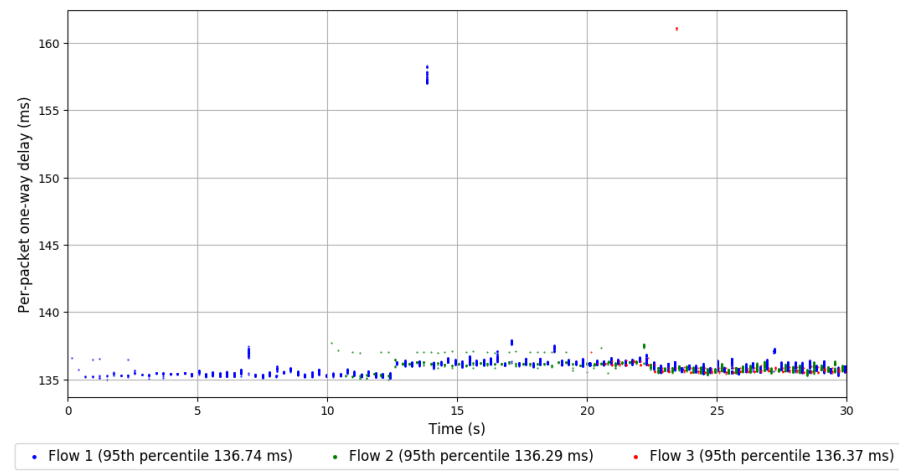
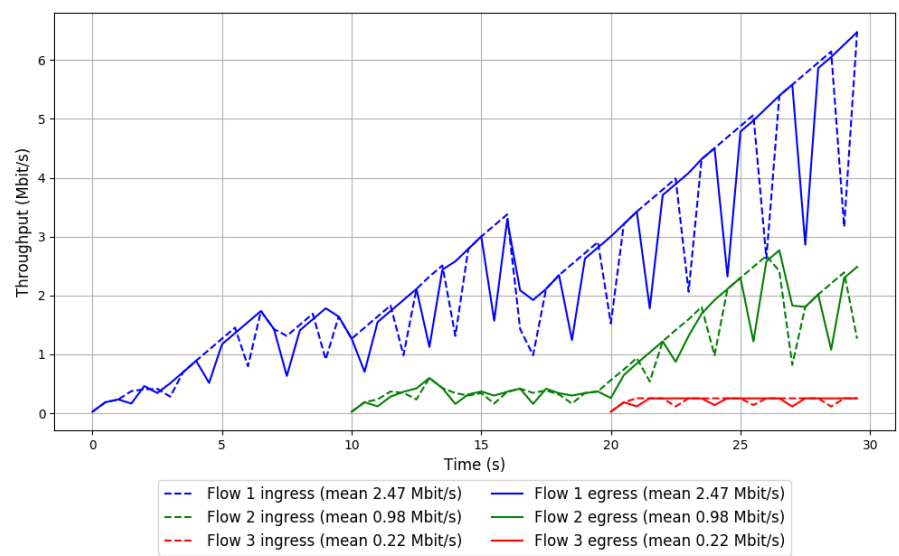


```
Run 2: Statistics of LEDBAT

Start at: 2018-01-03 09:35:32
End at: 2018-01-03 09:36:03

# Below is generated by plot.py at 2018-01-03 13:02:15
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.19 Mbit/s
95th percentile per-packet one-way delay: 136.631 ms
Loss rate: 0.06%
-- Flow 1:
Average throughput: 2.47 Mbit/s
95th percentile per-packet one-way delay: 136.743 ms
Loss rate: 0.08%
-- Flow 2:
Average throughput: 0.98 Mbit/s
95th percentile per-packet one-way delay: 136.293 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 136.365 ms
Loss rate: 0.00%
```

Run 2: Report of LEDBAT — Data Link

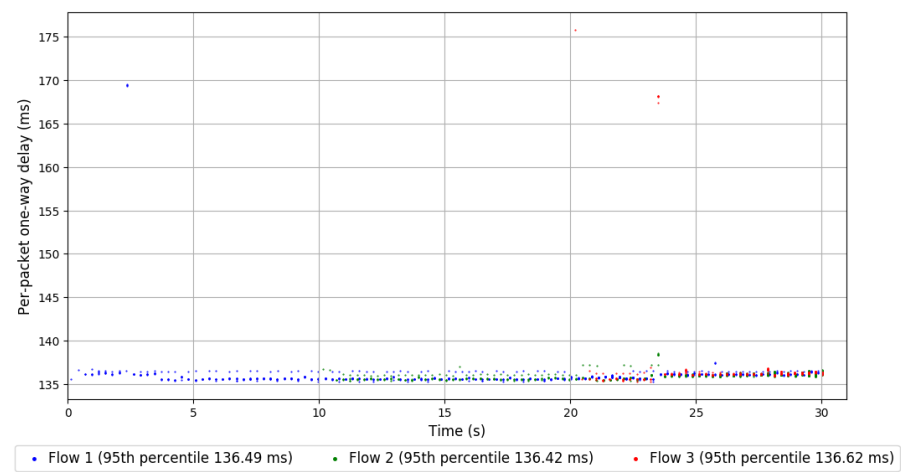
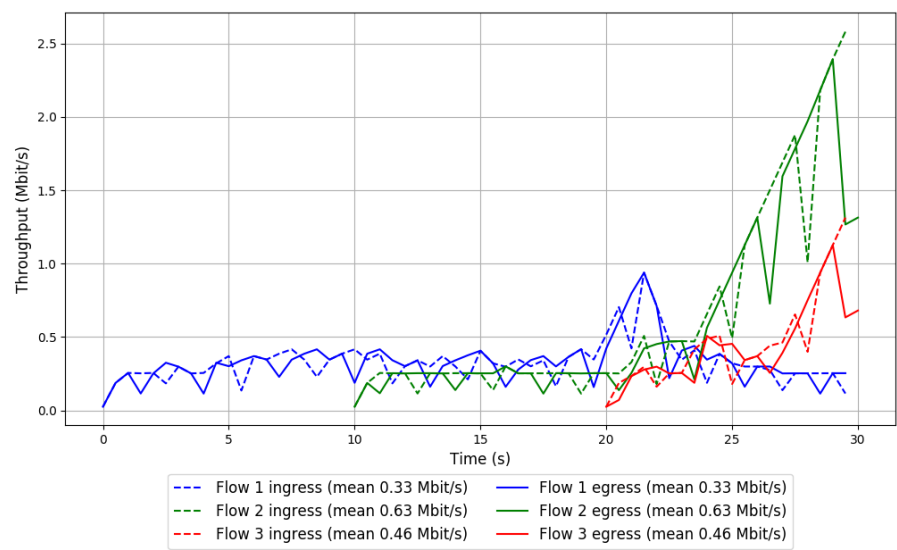


```
Run 3: Statistics of LEDBAT

Start at: 2018-01-03 09:51:32
End at: 2018-01-03 09:52:02

# Below is generated by plot.py at 2018-01-03 13:02:15
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.90 Mbit/s
95th percentile per-packet one-way delay: 136.485 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.33 Mbit/s
95th percentile per-packet one-way delay: 136.494 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.63 Mbit/s
95th percentile per-packet one-way delay: 136.424 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.46 Mbit/s
95th percentile per-packet one-way delay: 136.622 ms
Loss rate: 0.00%
```

Run 3: Report of LEDBAT — Data Link



Run 4: Statistics of LEDBAT

Start at: 2018-01-03 10:07:31

End at: 2018-01-03 10:08:01

Below is generated by plot.py at 2018-01-03 13:02:15

Datalink statistics

-- Total of 3 flows:

Average throughput: 5.13 Mbit/s

95th percentile per-packet one-way delay: 137.094 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 3.75 Mbit/s

95th percentile per-packet one-way delay: 137.045 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 1.77 Mbit/s

95th percentile per-packet one-way delay: 137.244 ms

Loss rate: 0.00%

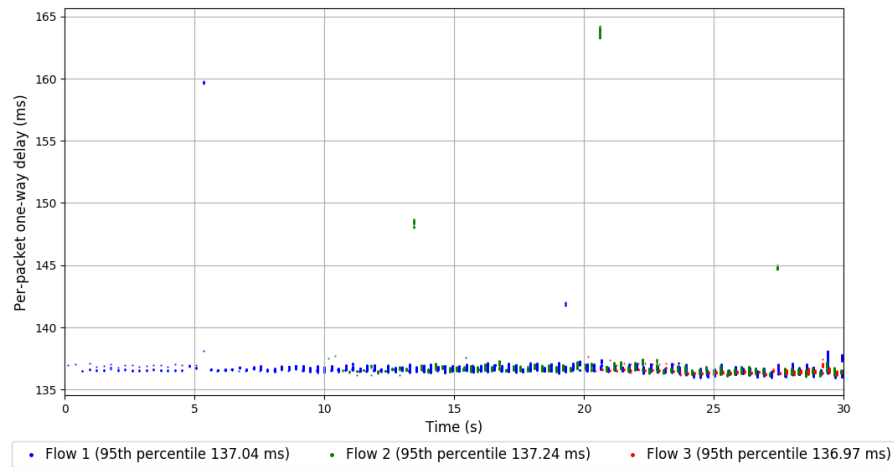
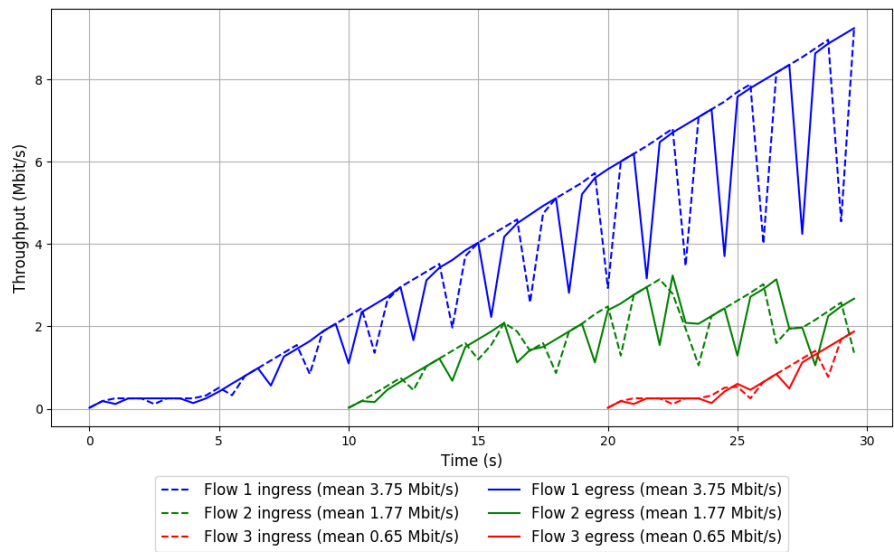
-- Flow 3:

Average throughput: 0.65 Mbit/s

95th percentile per-packet one-way delay: 136.974 ms

Loss rate: 0.00%

Run 4: Report of LEDBAT — Data Link



Run 5: Statistics of LEDBAT

Start at: 2018-01-03 10:22:56

End at: 2018-01-03 10:23:26

Below is generated by plot.py at 2018-01-03 13:02:15

Datalink statistics

-- Total of 3 flows:

Average throughput: 2.82 Mbit/s

95th percentile per-packet one-way delay: 137.085 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 1.42 Mbit/s

95th percentile per-packet one-way delay: 137.150 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 1.35 Mbit/s

95th percentile per-packet one-way delay: 136.961 ms

Loss rate: 0.00%

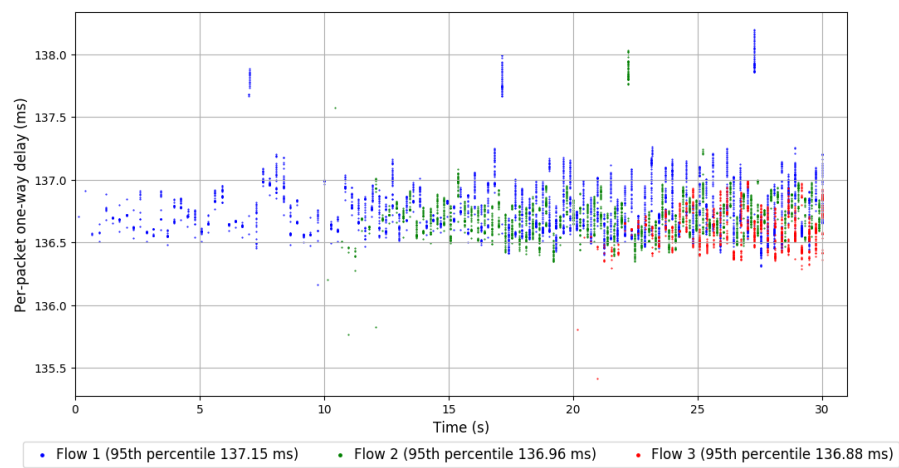
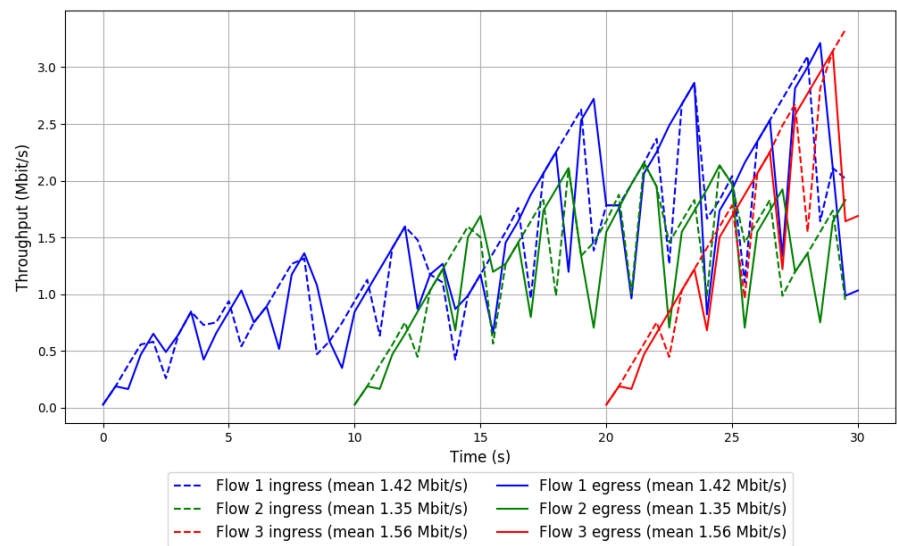
-- Flow 3:

Average throughput: 1.56 Mbit/s

95th percentile per-packet one-way delay: 136.877 ms

Loss rate: 0.00%

Run 5: Report of LEDBAT — Data Link



Run 6: Statistics of LEDBAT

Start at: 2018-01-03 10:39:02

End at: 2018-01-03 10:39:32

Below is generated by plot.py at 2018-01-03 13:02:15

Datalink statistics

-- Total of 3 flows:

Average throughput: 2.34 Mbit/s

95th percentile per-packet one-way delay: 136.995 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 1.46 Mbit/s

95th percentile per-packet one-way delay: 136.995 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 0.73 Mbit/s

95th percentile per-packet one-way delay: 137.097 ms

Loss rate: 0.00%

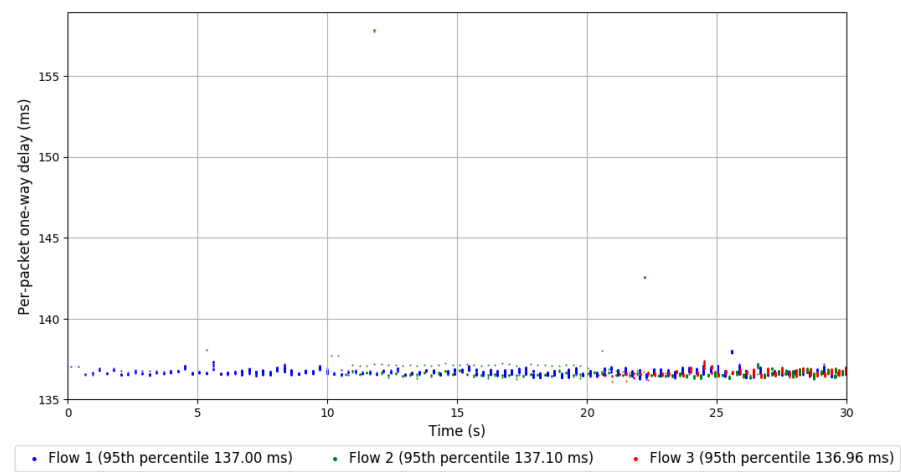
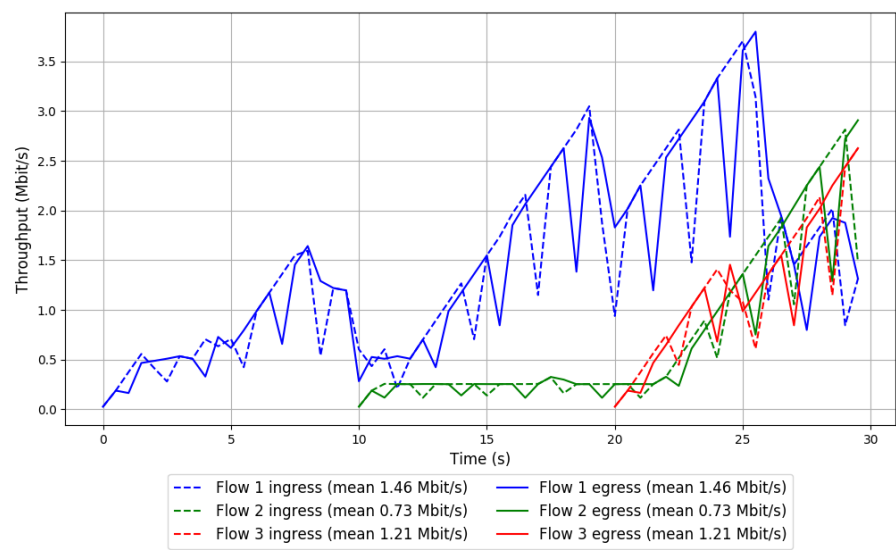
-- Flow 3:

Average throughput: 1.21 Mbit/s

95th percentile per-packet one-way delay: 136.959 ms

Loss rate: 0.00%

Run 6: Report of LEDBAT — Data Link



Run 7: Statistics of LEDBAT

Start at: 2018-01-03 10:55:17

End at: 2018-01-03 10:55:47

Below is generated by plot.py at 2018-01-03 13:02:15

Datalink statistics

-- Total of 3 flows:

Average throughput: 3.99 Mbit/s

95th percentile per-packet one-way delay: 137.288 ms

Loss rate: 0.02%

-- Flow 1:

Average throughput: 2.44 Mbit/s

95th percentile per-packet one-way delay: 137.326 ms

Loss rate: 0.03%

-- Flow 2:

Average throughput: 1.97 Mbit/s

95th percentile per-packet one-way delay: 137.225 ms

Loss rate: 0.00%

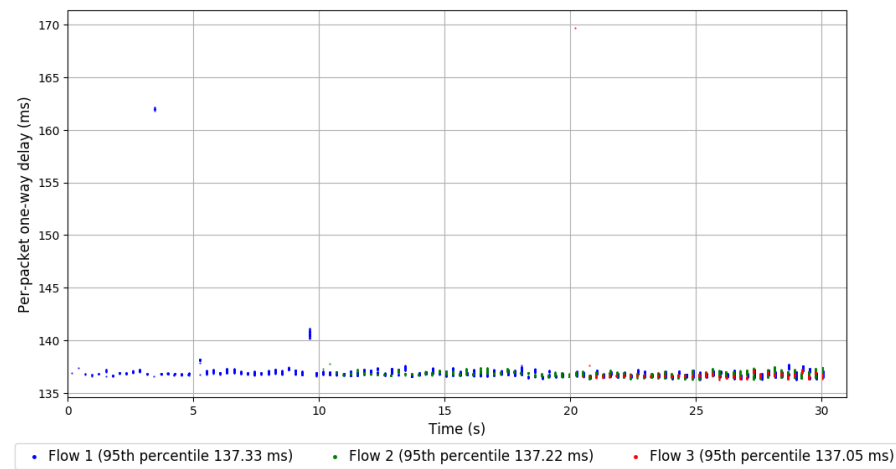
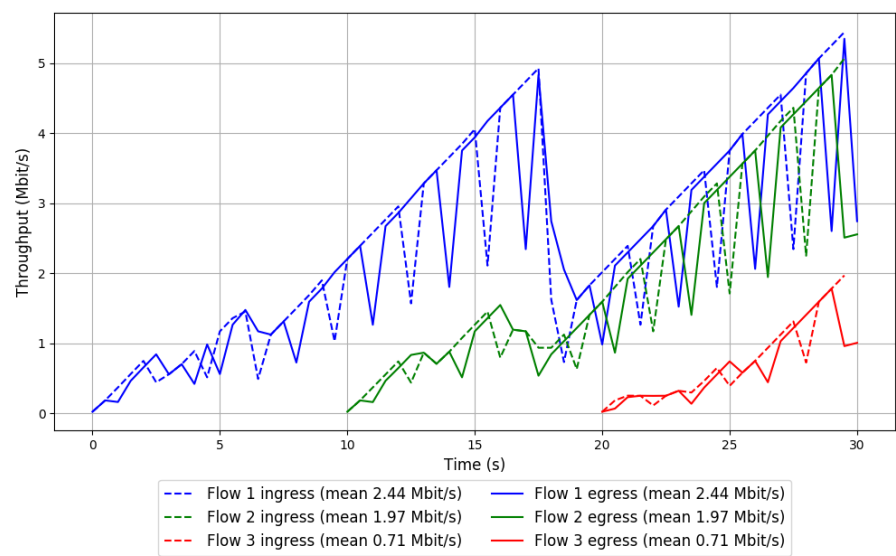
-- Flow 3:

Average throughput: 0.71 Mbit/s

95th percentile per-packet one-way delay: 137.054 ms

Loss rate: 0.00%

Run 7: Report of LEDBAT — Data Link



Run 8: Statistics of LEDBAT

Start at: 2018-01-03 11:11:19

End at: 2018-01-03 11:11:49

Below is generated by plot.py at 2018-01-03 13:02:15

Datalink statistics

-- Total of 3 flows:

Average throughput: 2.87 Mbit/s

95th percentile per-packet one-way delay: 137.224 ms

Loss rate: 1.04%

-- Flow 1:

Average throughput: 1.87 Mbit/s

95th percentile per-packet one-way delay: 137.205 ms

Loss rate: 1.46%

-- Flow 2:

Average throughput: 1.32 Mbit/s

95th percentile per-packet one-way delay: 137.281 ms

Loss rate: 0.27%

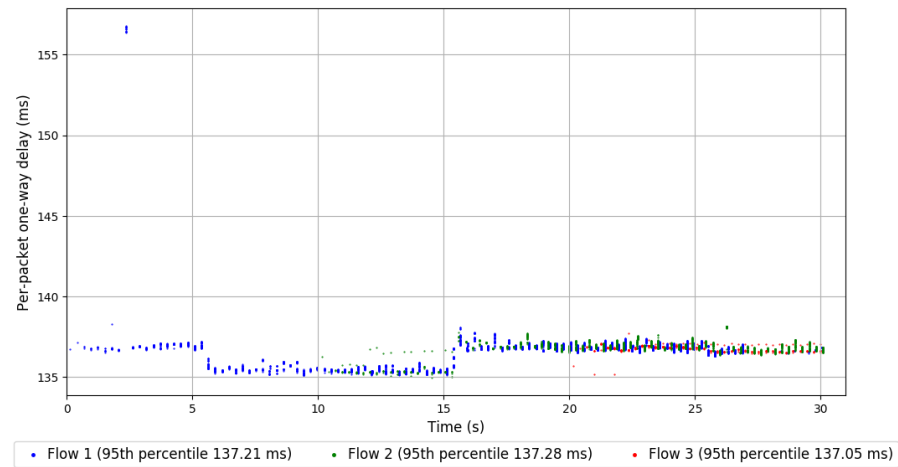
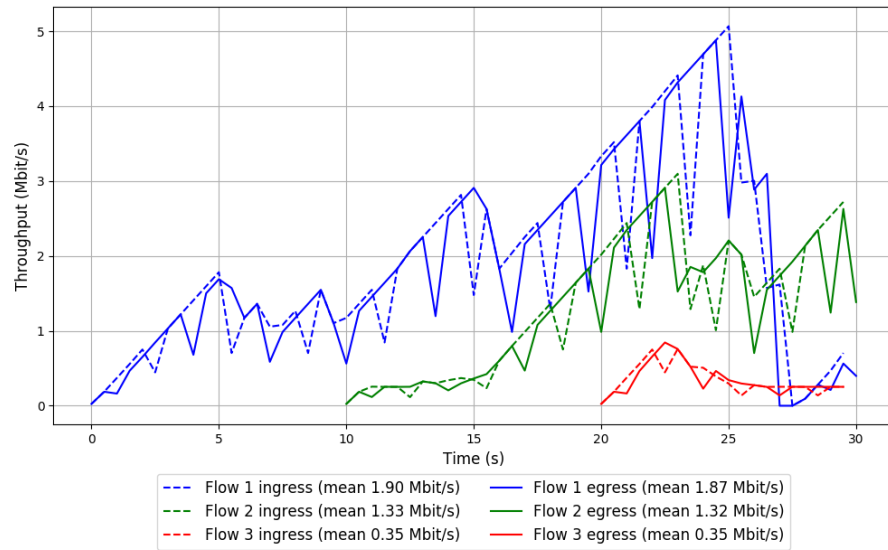
-- Flow 3:

Average throughput: 0.35 Mbit/s

95th percentile per-packet one-way delay: 137.049 ms

Loss rate: 0.00%

Run 8: Report of LEDBAT — Data Link



Run 9: Statistics of LEDBAT

Start at: 2018-01-03 11:26:51

End at: 2018-01-03 11:27:21

Below is generated by plot.py at 2018-01-03 13:02:15

Datalink statistics

-- Total of 3 flows:

Average throughput: 2.26 Mbit/s

95th percentile per-packet one-way delay: 137.105 ms

Loss rate: 1.13%

-- Flow 1:

Average throughput: 1.28 Mbit/s

95th percentile per-packet one-way delay: 137.208 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 0.97 Mbit/s

95th percentile per-packet one-way delay: 137.013 ms

Loss rate: 3.87%

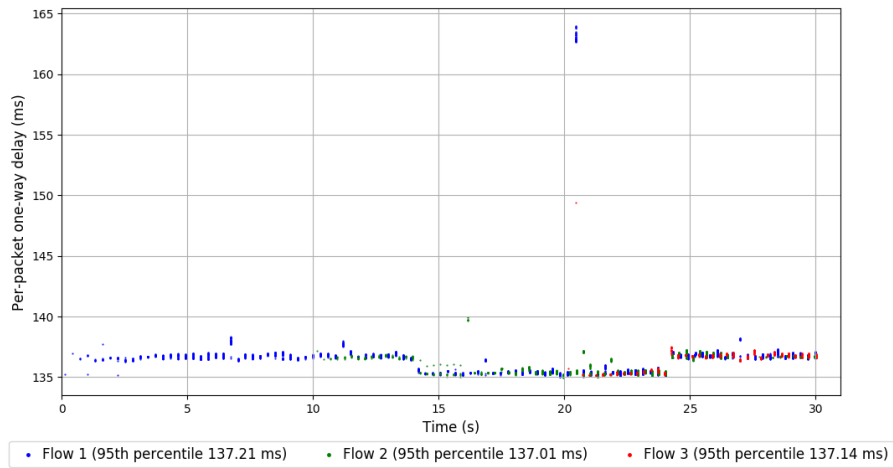
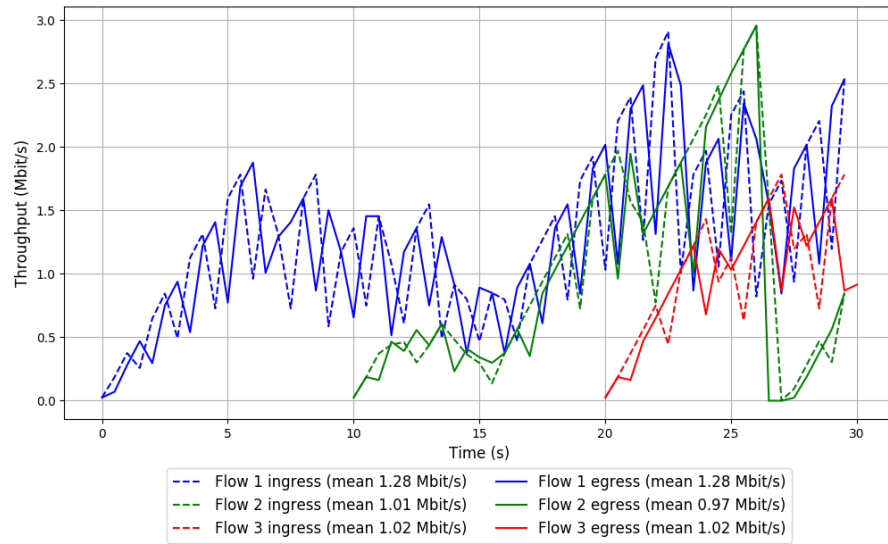
-- Flow 3:

Average throughput: 1.02 Mbit/s

95th percentile per-packet one-way delay: 137.138 ms

Loss rate: 0.00%

Run 9: Report of LEDBAT — Data Link

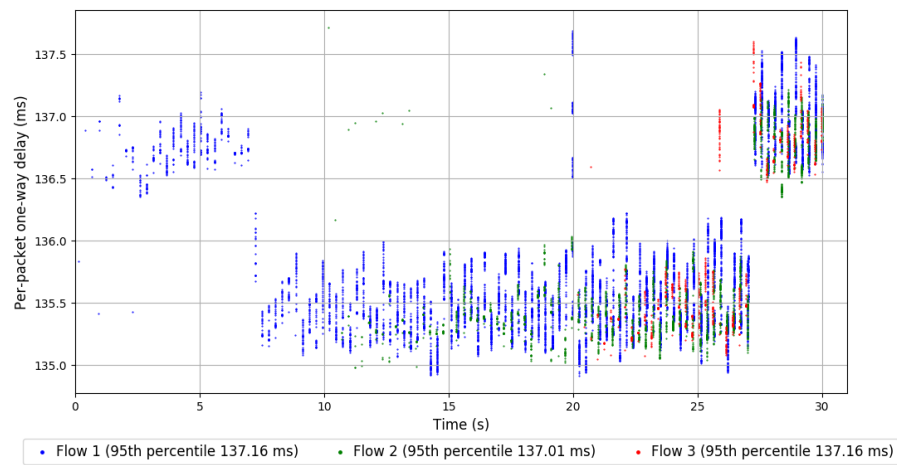
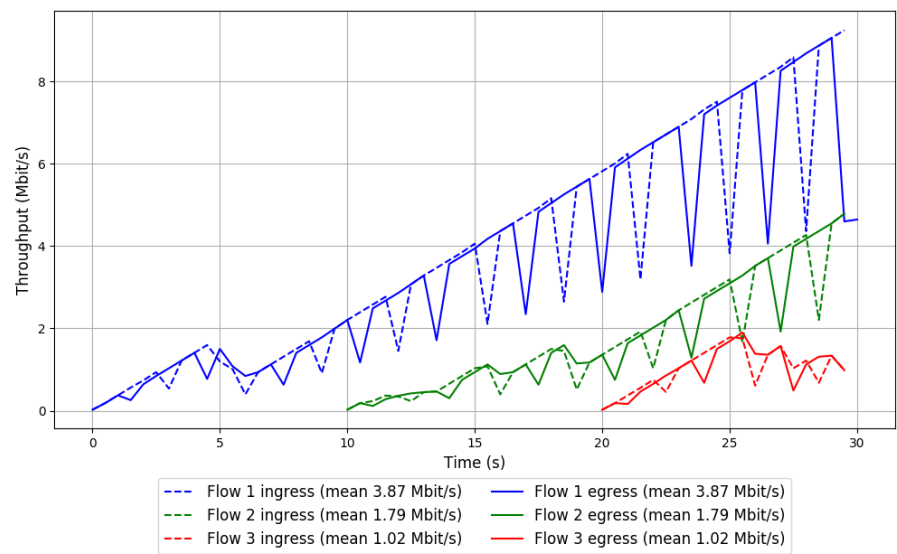


```
Run 10: Statistics of LEDBAT

Start at: 2018-01-03 11:42:58
End at: 2018-01-03 11:43:28

# Below is generated by plot.py at 2018-01-03 13:02:15
# Datalink statistics
-- Total of 3 flows:
Average throughput: 5.39 Mbit/s
95th percentile per-packet one-way delay: 137.119 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 3.87 Mbit/s
95th percentile per-packet one-way delay: 137.160 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 1.79 Mbit/s
95th percentile per-packet one-way delay: 137.006 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 1.02 Mbit/s
95th percentile per-packet one-way delay: 137.156 ms
Loss rate: 0.00%
```

Run 10: Report of LEDBAT — Data Link

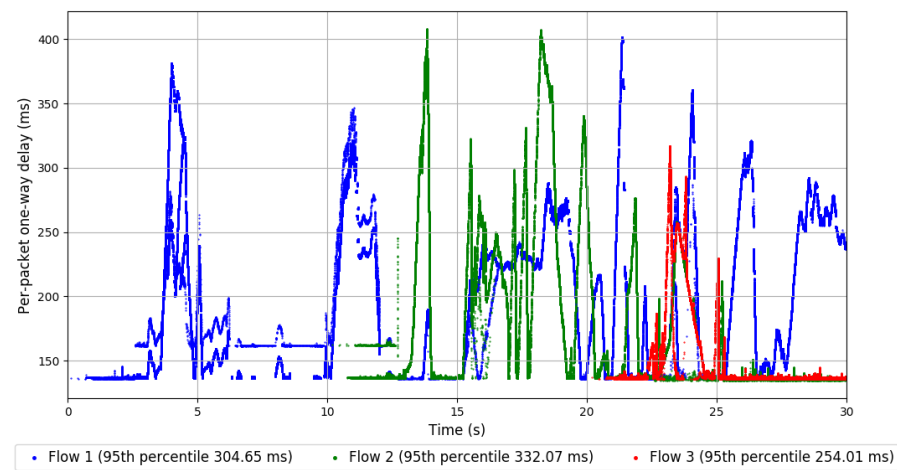
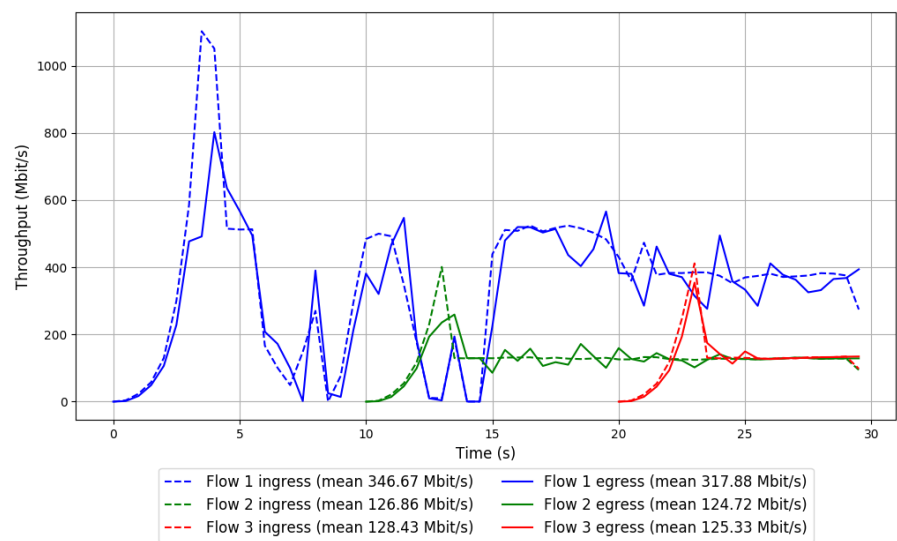


```
Run 1: Statistics of PCC

Start at: 2018-01-03 09:25:59
End at: 2018-01-03 09:26:29

# Below is generated by plot.py at 2018-01-03 13:09:22
# Datalink statistics
-- Total of 3 flows:
Average throughput: 441.84 Mbit/s
95th percentile per-packet one-way delay: 305.853 ms
Loss rate: 6.63%
-- Flow 1:
Average throughput: 317.88 Mbit/s
95th percentile per-packet one-way delay: 304.647 ms
Loss rate: 8.31%
-- Flow 2:
Average throughput: 124.72 Mbit/s
95th percentile per-packet one-way delay: 332.072 ms
Loss rate: 1.82%
-- Flow 3:
Average throughput: 125.33 Mbit/s
95th percentile per-packet one-way delay: 254.011 ms
Loss rate: 2.44%
```

Run 1: Report of PCC — Data Link

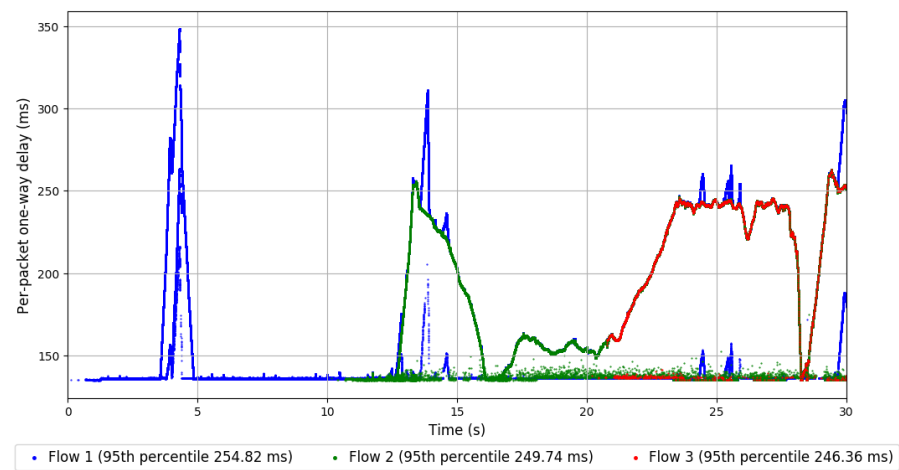
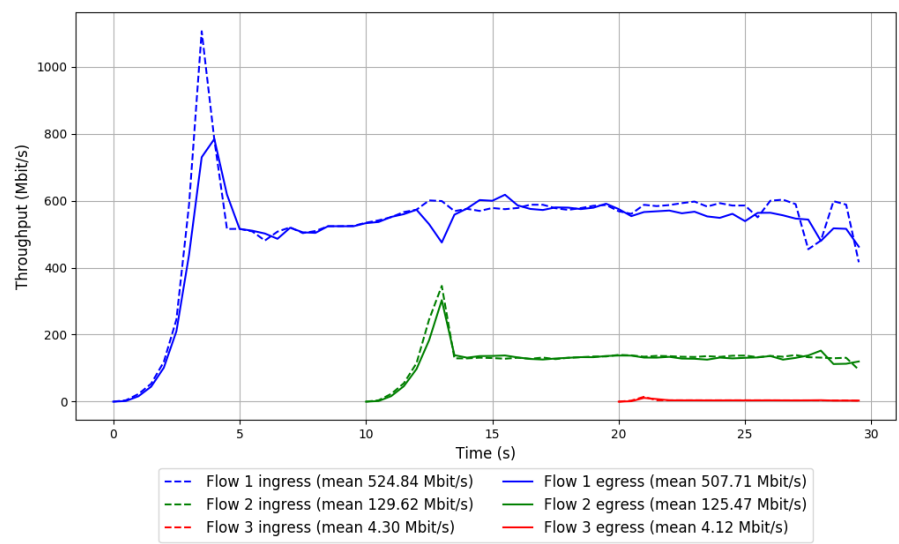


```
Run 2: Statistics of PCC

Start at: 2018-01-03 09:41:34
End at: 2018-01-03 09:42:04

# Below is generated by plot.py at 2018-01-03 13:10:56
# Datalink statistics
-- Total of 3 flows:
Average throughput: 592.42 Mbit/s
95th percentile per-packet one-way delay: 253.634 ms
Loss rate: 3.25%
-- Flow 1:
Average throughput: 507.71 Mbit/s
95th percentile per-packet one-way delay: 254.824 ms
Loss rate: 3.26%
-- Flow 2:
Average throughput: 125.47 Mbit/s
95th percentile per-packet one-way delay: 249.736 ms
Loss rate: 3.19%
-- Flow 3:
Average throughput: 4.12 Mbit/s
95th percentile per-packet one-way delay: 246.360 ms
Loss rate: 4.13%
```

Run 2: Report of PCC — Data Link



Run 3: Statistics of PCC

Start at: 2018-01-03 09:57:37

End at: 2018-01-03 09:58:07

Below is generated by plot.py at 2018-01-03 13:11:10

Datalink statistics

-- Total of 3 flows:

Average throughput: 600.94 Mbit/s

95th percentile per-packet one-way delay: 244.620 ms

Loss rate: 3.71%

-- Flow 1:

Average throughput: 499.15 Mbit/s

95th percentile per-packet one-way delay: 244.379 ms

Loss rate: 3.52%

-- Flow 2:

Average throughput: 123.08 Mbit/s

95th percentile per-packet one-way delay: 244.977 ms

Loss rate: 4.21%

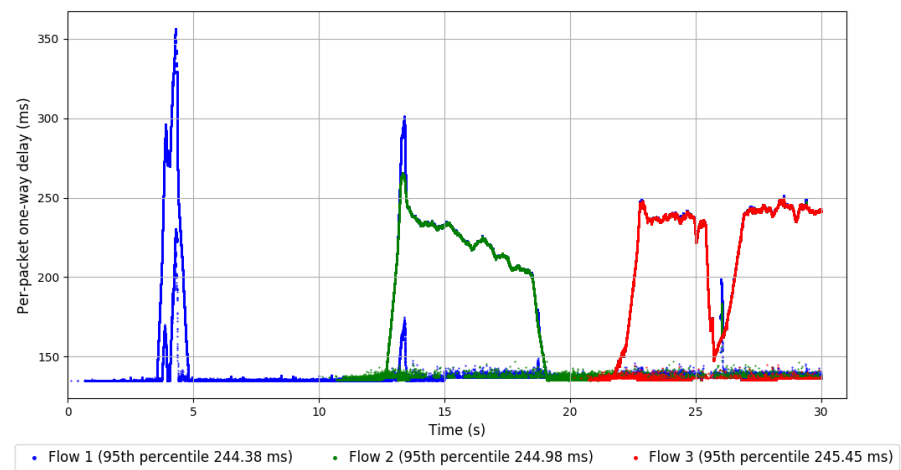
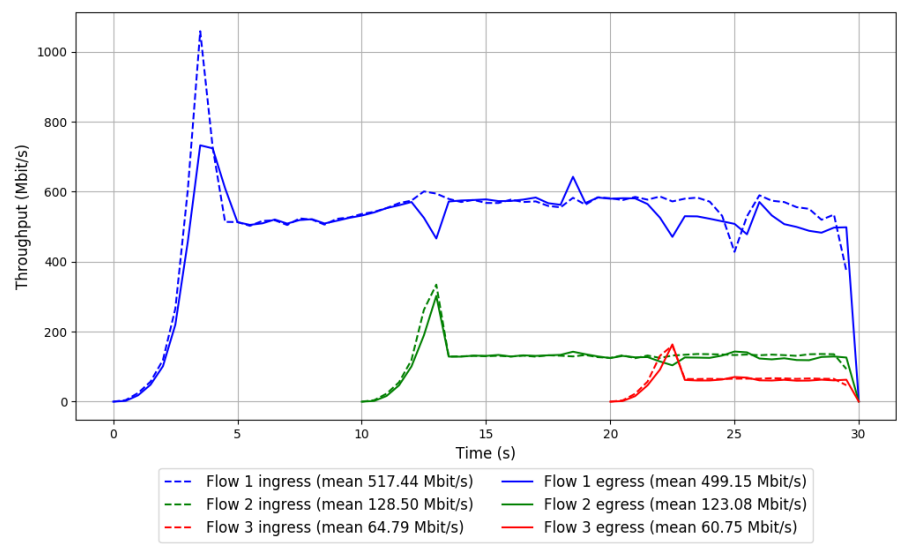
-- Flow 3:

Average throughput: 60.75 Mbit/s

95th percentile per-packet one-way delay: 245.454 ms

Loss rate: 6.19%

Run 3: Report of PCC — Data Link



Run 4: Statistics of PCC

Start at: 2018-01-03 10:13:50

End at: 2018-01-03 10:14:20

Below is generated by plot.py at 2018-01-03 13:11:10

Datalink statistics

-- Total of 3 flows:

Average throughput: 554.79 Mbit/s

95th percentile per-packet one-way delay: 259.823 ms

Loss rate: 4.54%

-- Flow 1:

Average throughput: 505.63 Mbit/s

95th percentile per-packet one-way delay: 259.828 ms

Loss rate: 4.64%

-- Flow 2:

Average throughput: 58.34 Mbit/s

95th percentile per-packet one-way delay: 258.822 ms

Loss rate: 3.55%

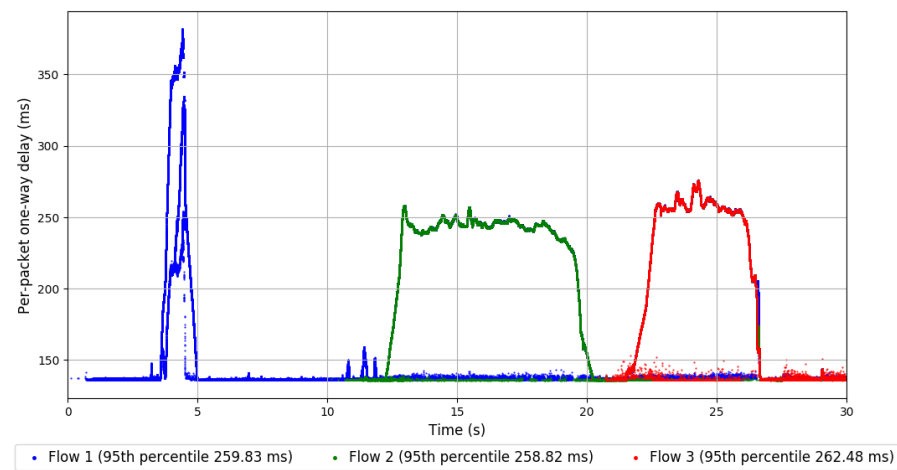
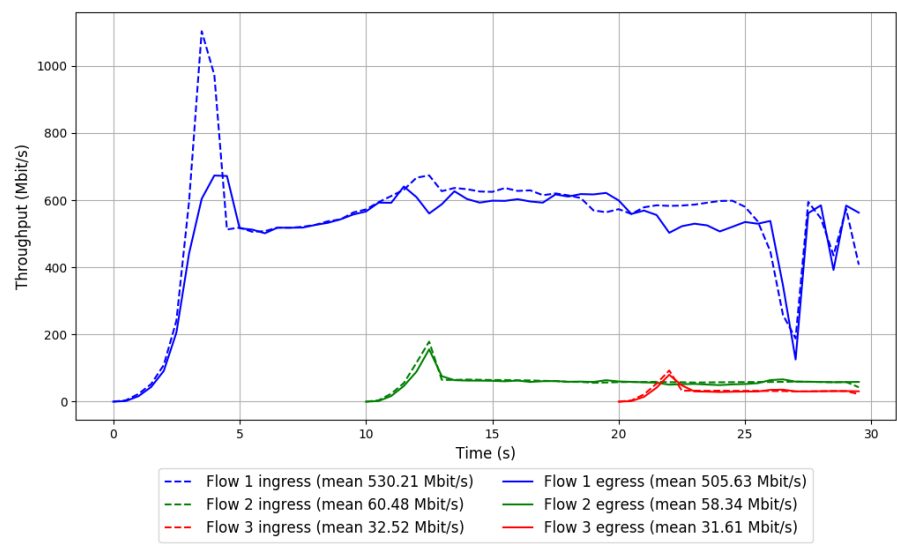
-- Flow 3:

Average throughput: 31.61 Mbit/s

95th percentile per-packet one-way delay: 262.484 ms

Loss rate: 2.81%

Run 4: Report of PCC — Data Link



Run 5: Statistics of PCC

Start at: 2018-01-03 10:29:12

End at: 2018-01-03 10:29:42

Below is generated by plot.py at 2018-01-03 13:11:12

Datalink statistics

-- Total of 3 flows:

Average throughput: 575.05 Mbit/s

95th percentile per-packet one-way delay: 238.023 ms

Loss rate: 2.72%

-- Flow 1:

Average throughput: 478.32 Mbit/s

95th percentile per-packet one-way delay: 238.006 ms

Loss rate: 2.89%

-- Flow 2:

Average throughput: 129.05 Mbit/s

95th percentile per-packet one-way delay: 238.177 ms

Loss rate: 1.91%

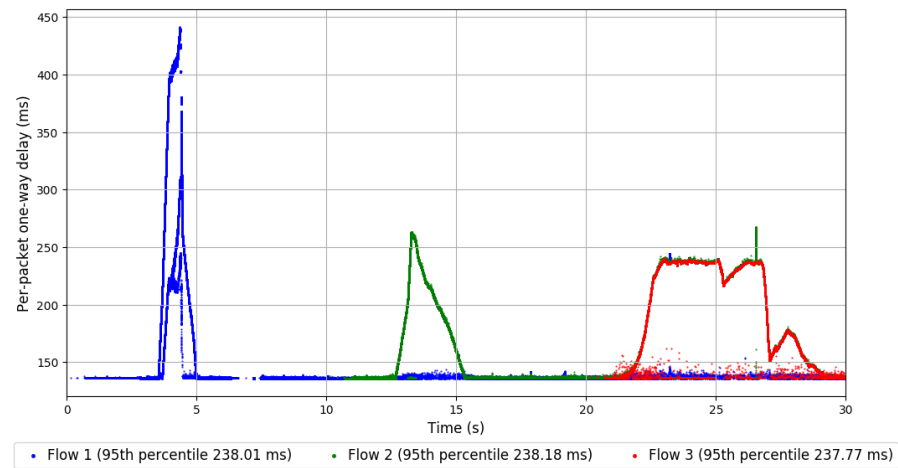
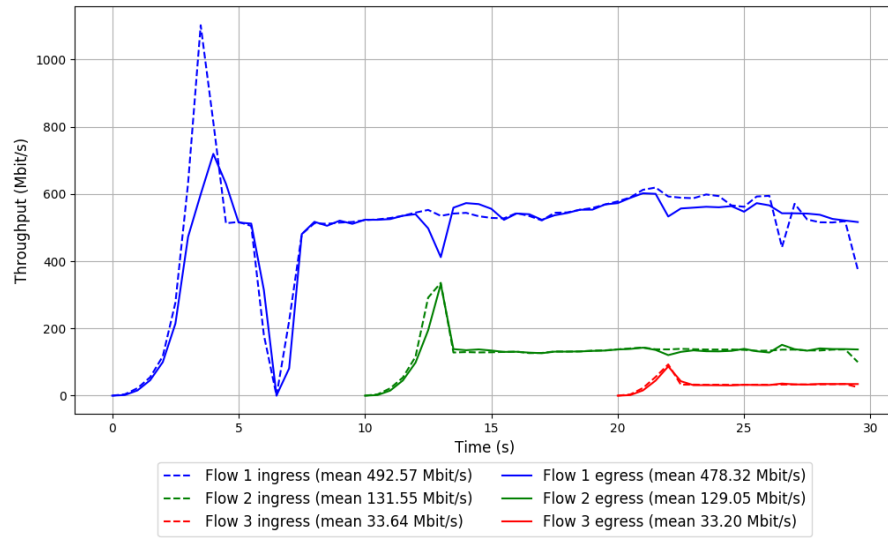
-- Flow 3:

Average throughput: 33.20 Mbit/s

95th percentile per-packet one-way delay: 237.766 ms

Loss rate: 1.31%

Run 5: Report of PCC — Data Link



Run 6: Statistics of PCC

Start at: 2018-01-03 10:45:25

End at: 2018-01-03 10:45:55

Below is generated by plot.py at 2018-01-03 13:11:36

Datalink statistics

-- Total of 3 flows:

Average throughput: 577.35 Mbit/s

95th percentile per-packet one-way delay: 246.602 ms

Loss rate: 3.18%

-- Flow 1:

Average throughput: 473.90 Mbit/s

95th percentile per-packet one-way delay: 246.977 ms

Loss rate: 3.15%

-- Flow 2:

Average throughput: 125.59 Mbit/s

95th percentile per-packet one-way delay: 243.387 ms

Loss rate: 2.92%

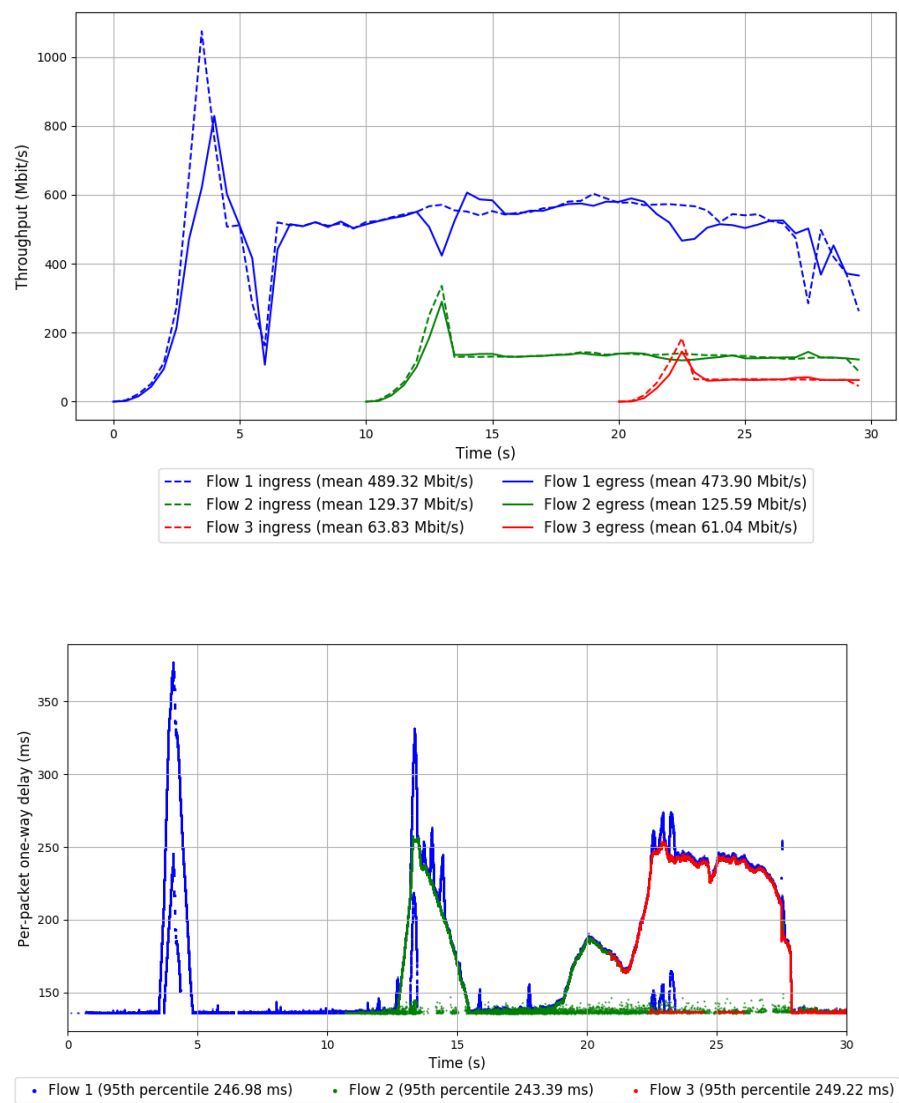
-- Flow 3:

Average throughput: 61.04 Mbit/s

95th percentile per-packet one-way delay: 249.221 ms

Loss rate: 4.86%

Run 6: Report of PCC — Data Link

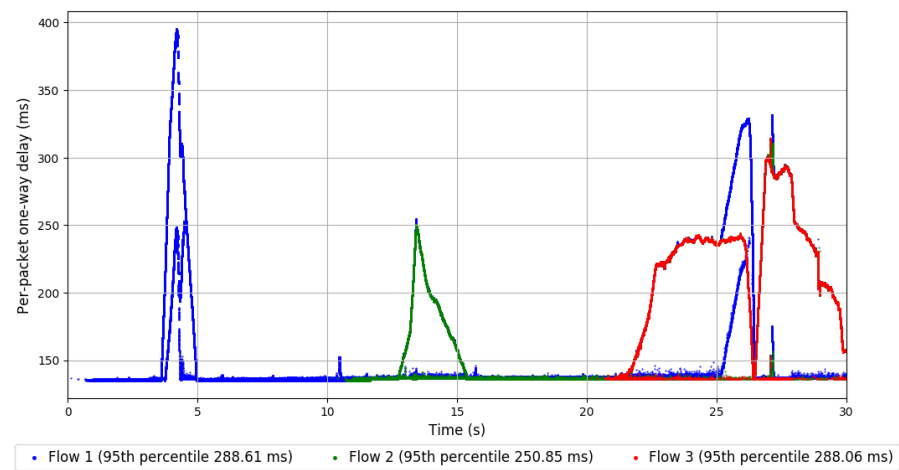
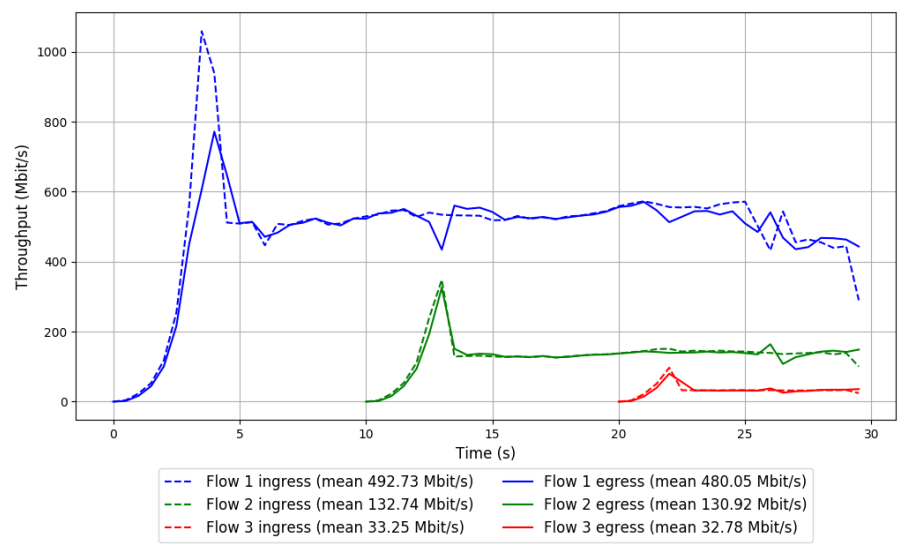


```
Run 7: Statistics of PCC

Start at: 2018-01-03 11:01:23
End at: 2018-01-03 11:01:53

# Below is generated by plot.py at 2018-01-03 13:11:51
# Datalink statistics
-- Total of 3 flows:
Average throughput: 577.86 Mbit/s
95th percentile per-packet one-way delay: 287.122 ms
Loss rate: 2.38%
-- Flow 1:
Average throughput: 480.05 Mbit/s
95th percentile per-packet one-way delay: 288.612 ms
Loss rate: 2.58%
-- Flow 2:
Average throughput: 130.92 Mbit/s
95th percentile per-packet one-way delay: 250.849 ms
Loss rate: 1.37%
-- Flow 3:
Average throughput: 32.78 Mbit/s
95th percentile per-packet one-way delay: 288.063 ms
Loss rate: 1.44%
```


Run 7: Report of PCC — Data Link



Run 8: Statistics of PCC

Start at: 2018-01-03 11:17:35

End at: 2018-01-03 11:18:05

Below is generated by plot.py at 2018-01-03 13:12:59

Datalink statistics

-- Total of 3 flows:

Average throughput: 621.50 Mbit/s

95th percentile per-packet one-way delay: 249.986 ms

Loss rate: 4.12%

-- Flow 1:

Average throughput: 466.51 Mbit/s

95th percentile per-packet one-way delay: 258.420 ms

Loss rate: 4.01%

-- Flow 2:

Average throughput: 230.95 Mbit/s

95th percentile per-packet one-way delay: 238.260 ms

Loss rate: 4.49%

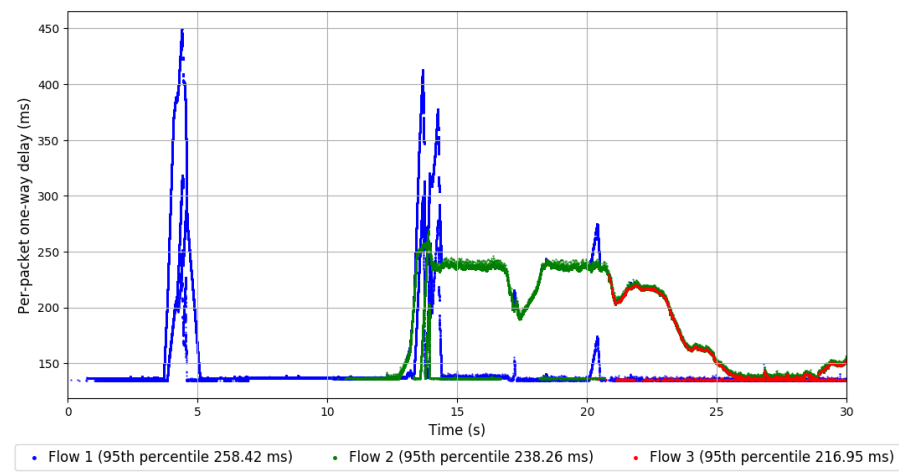
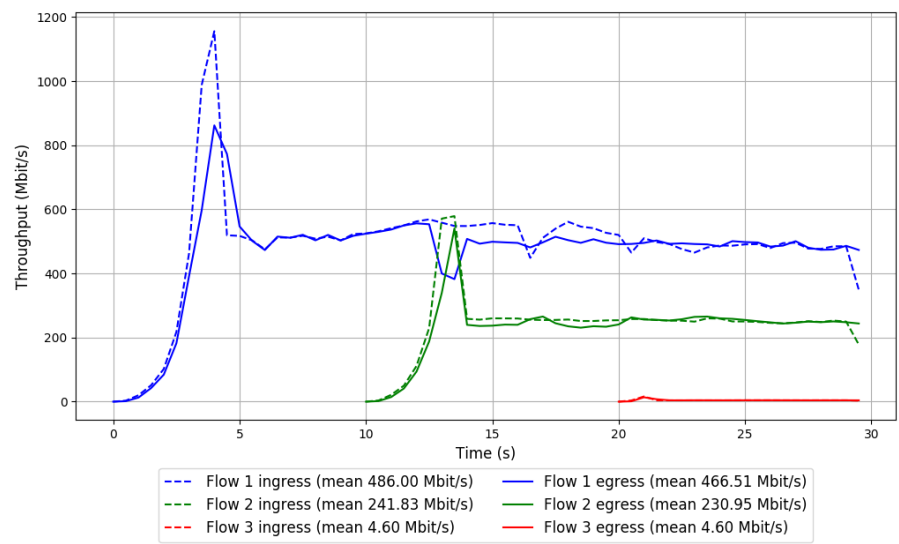
-- Flow 3:

Average throughput: 4.60 Mbit/s

95th percentile per-packet one-way delay: 216.952 ms

Loss rate: 0.16%

Run 8: Report of PCC — Data Link



Run 9: Statistics of PCC

Start at: 2018-01-03 11:33:05

End at: 2018-01-03 11:33:35

Below is generated by plot.py at 2018-01-03 13:19:53

Datalink statistics

-- Total of 3 flows:

Average throughput: 566.21 Mbit/s

95th percentile per-packet one-way delay: 242.877 ms

Loss rate: 4.56%

-- Flow 1:

Average throughput: 411.78 Mbit/s

95th percentile per-packet one-way delay: 242.728 ms

Loss rate: 4.45%

-- Flow 2:

Average throughput: 170.27 Mbit/s

95th percentile per-packet one-way delay: 247.035 ms

Loss rate: 5.88%

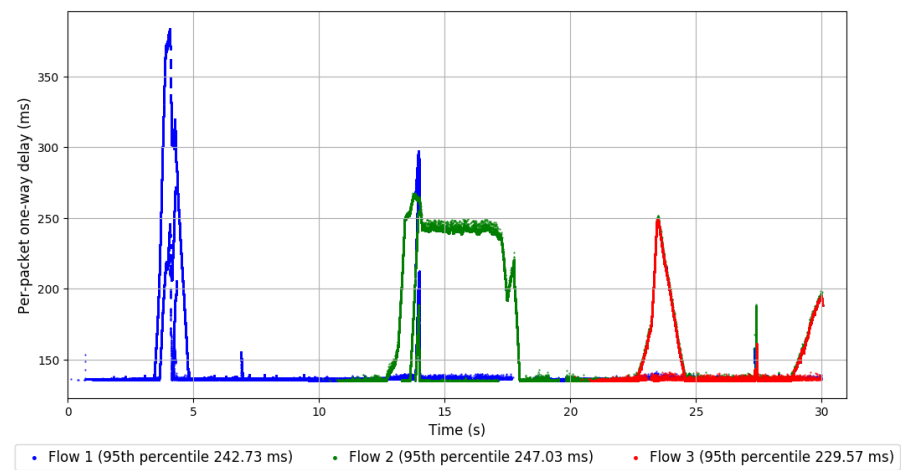
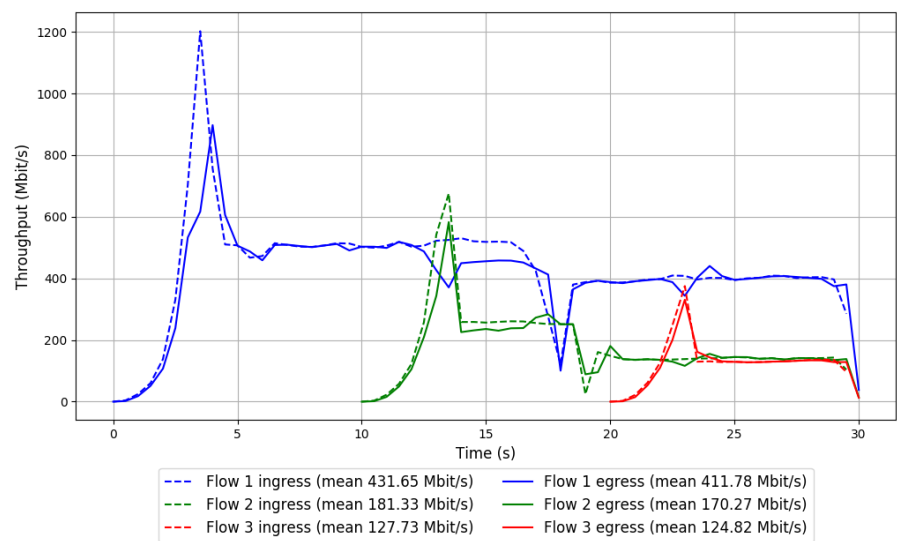
-- Flow 3:

Average throughput: 124.82 Mbit/s

95th percentile per-packet one-way delay: 229.568 ms

Loss rate: 1.83%

Run 9: Report of PCC — Data Link



Run 10: Statistics of PCC

Start at: 2018-01-03 11:48:58

End at: 2018-01-03 11:49:28

Below is generated by plot.py at 2018-01-03 13:21:15

Datalink statistics

-- Total of 3 flows:

Average throughput: 547.49 Mbit/s

95th percentile per-packet one-way delay: 249.448 ms

Loss rate: 4.63%

-- Flow 1:

Average throughput: 321.23 Mbit/s

95th percentile per-packet one-way delay: 259.486 ms

Loss rate: 4.71%

-- Flow 2:

Average throughput: 230.99 Mbit/s

95th percentile per-packet one-way delay: 239.216 ms

Loss rate: 4.70%

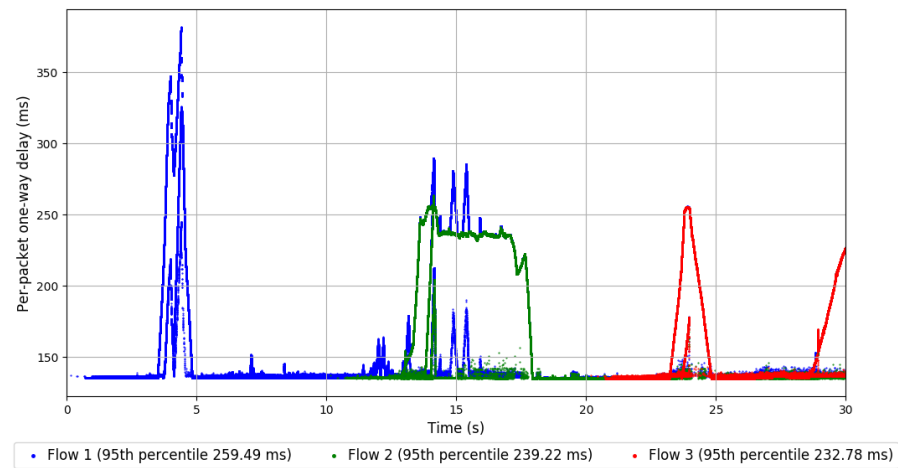
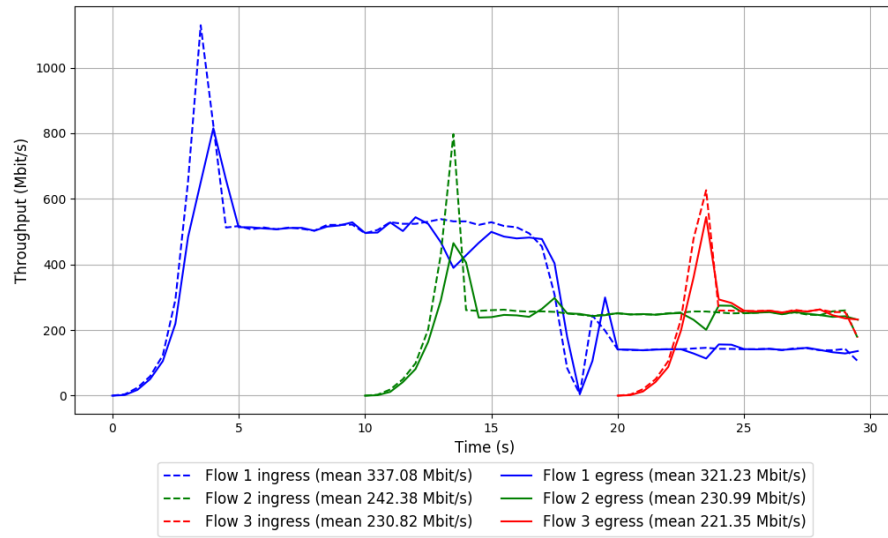
-- Flow 3:

Average throughput: 221.35 Mbit/s

95th percentile per-packet one-way delay: 232.778 ms

Loss rate: 4.11%

Run 10: Report of PCC — Data Link

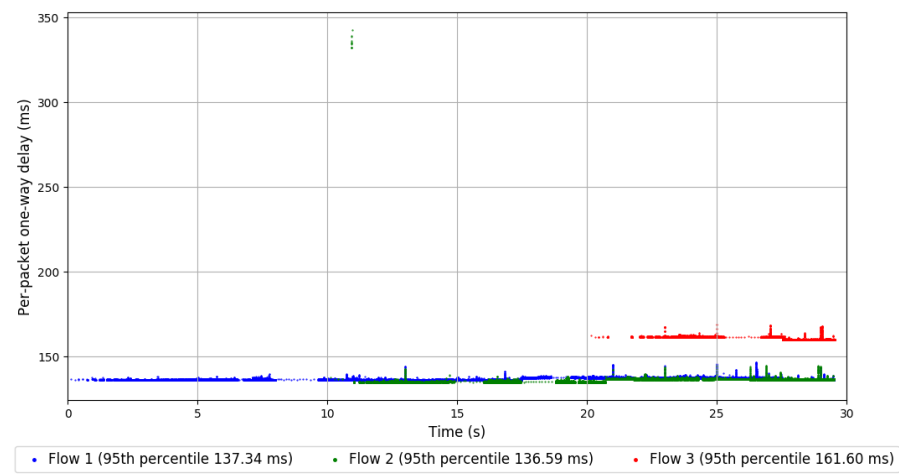
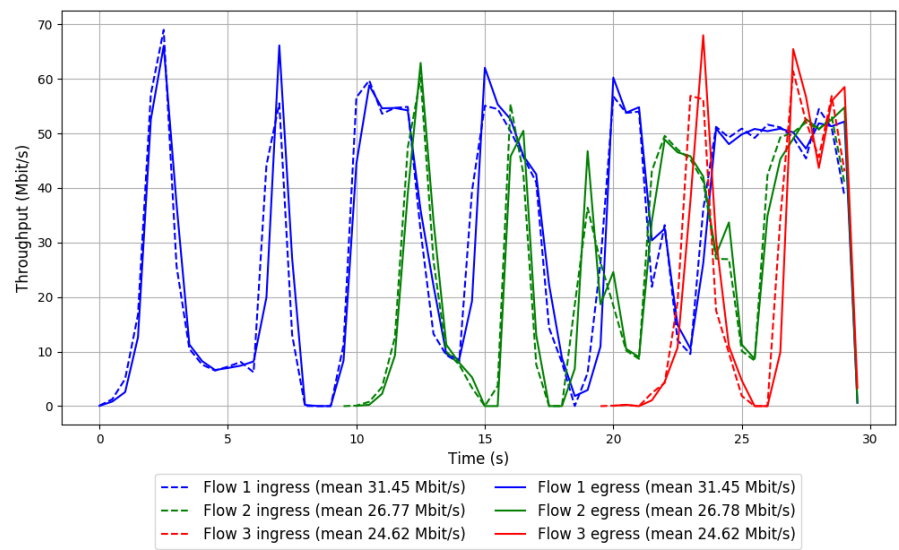


```
Run 1: Statistics of QUIC Cubic

Start at: 2018-01-03 09:22:34
End at: 2018-01-03 09:23:04

# Below is generated by plot.py at 2018-01-03 13:21:15
# Datalink statistics
-- Total of 3 flows:
Average throughput: 56.92 Mbit/s
95th percentile per-packet one-way delay: 161.281 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 31.45 Mbit/s
95th percentile per-packet one-way delay: 137.342 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 26.78 Mbit/s
95th percentile per-packet one-way delay: 136.594 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 24.62 Mbit/s
95th percentile per-packet one-way delay: 161.605 ms
Loss rate: 0.00%
```


Run 1: Report of QUIC Cubic — Data Link



Run 2: Statistics of QUIC Cubic

Start at: 2018-01-03 09:38:07

End at: 2018-01-03 09:38:37

Below is generated by plot.py at 2018-01-03 13:21:15

Datalink statistics

-- Total of 3 flows:

Average throughput: 117.86 Mbit/s

95th percentile per-packet one-way delay: 136.348 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 60.41 Mbit/s

95th percentile per-packet one-way delay: 135.834 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 58.49 Mbit/s

95th percentile per-packet one-way delay: 135.980 ms

Loss rate: 0.00%

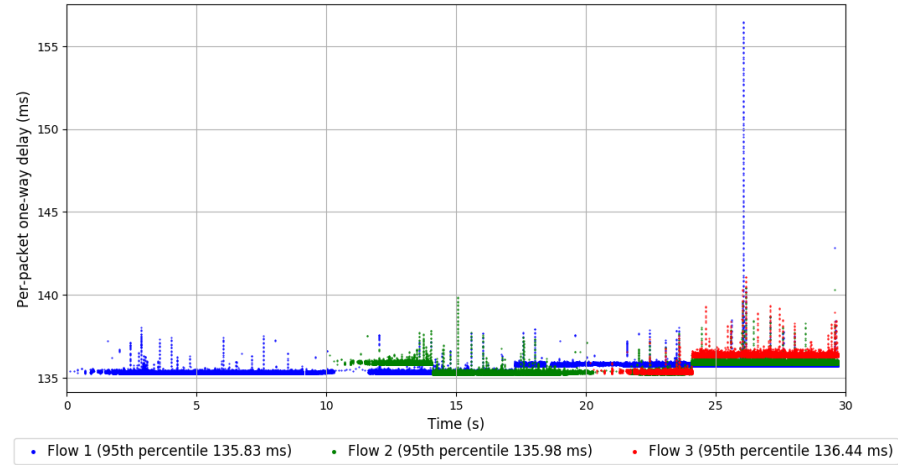
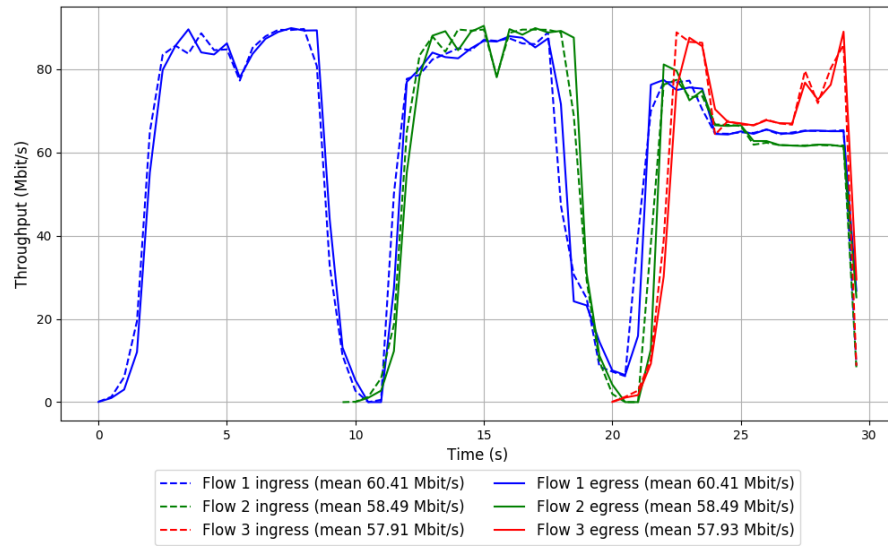
-- Flow 3:

Average throughput: 57.93 Mbit/s

95th percentile per-packet one-way delay: 136.444 ms

Loss rate: 0.00%

Run 2: Report of QUIC Cubic — Data Link



Run 3: Statistics of QUIC Cubic

Start at: 2018-01-03 09:54:06

End at: 2018-01-03 09:54:36

Below is generated by plot.py at 2018-01-03 13:21:15

Datalink statistics

-- Total of 3 flows:

Average throughput: 112.65 Mbit/s

95th percentile per-packet one-way delay: 136.958 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 60.12 Mbit/s

95th percentile per-packet one-way delay: 136.982 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 59.58 Mbit/s

95th percentile per-packet one-way delay: 136.452 ms

Loss rate: 0.00%

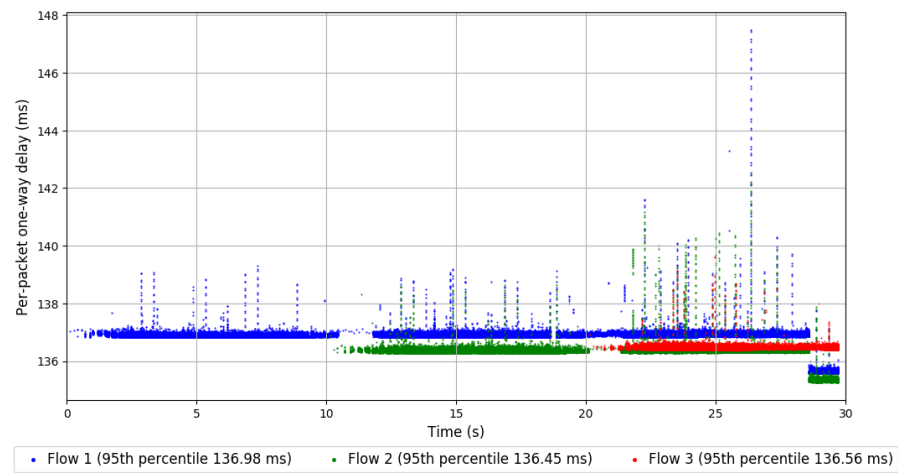
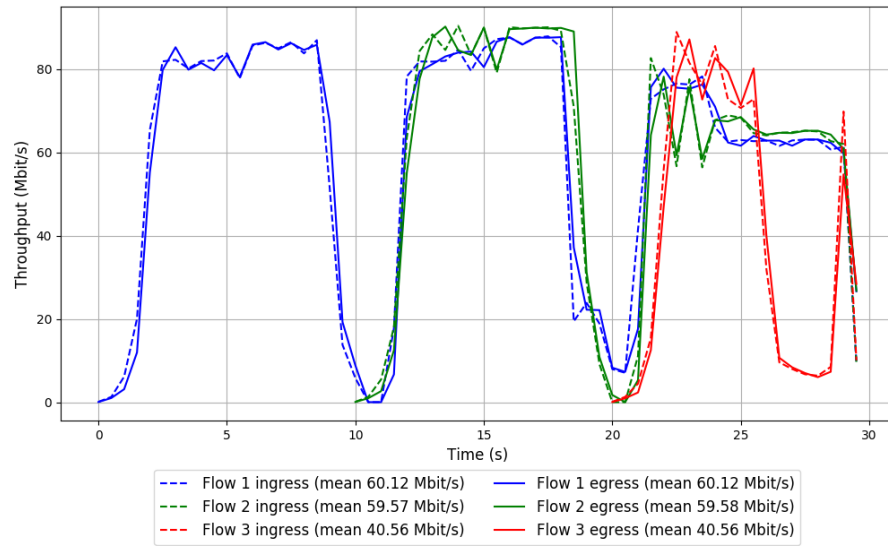
-- Flow 3:

Average throughput: 40.56 Mbit/s

95th percentile per-packet one-way delay: 136.563 ms

Loss rate: 0.00%

Run 3: Report of QUIC Cubic — Data Link



Run 4: Statistics of QUIC Cubic

Start at: 2018-01-03 10:10:07

End at: 2018-01-03 10:10:37

Below is generated by plot.py at 2018-01-03 13:21:15

Datalink statistics

-- Total of 3 flows:

Average throughput: 121.91 Mbit/s

95th percentile per-packet one-way delay: 136.900 ms

Loss rate: 0.01%

-- Flow 1:

Average throughput: 61.41 Mbit/s

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

Loss rate: 0.01%

-- Flow 2:

Average throughput: 60.38 Mbit/s

95th percentile per-packet one-way delay: 136.557 ms

Loss rate: 0.00%

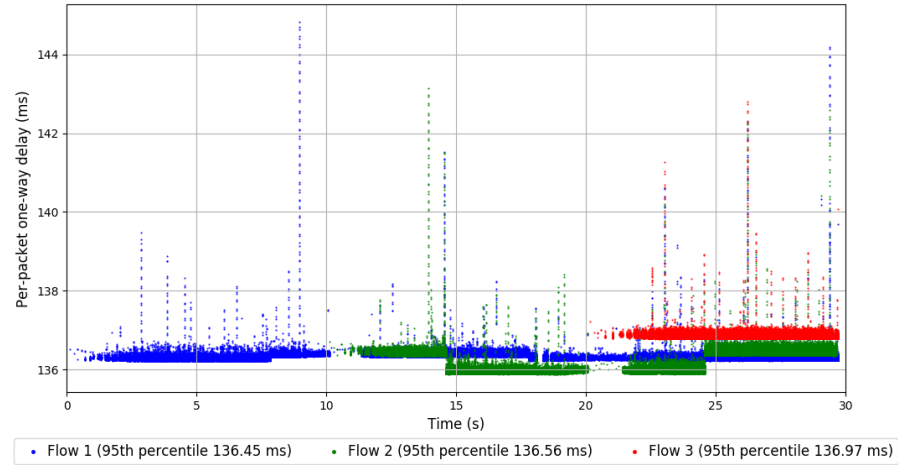
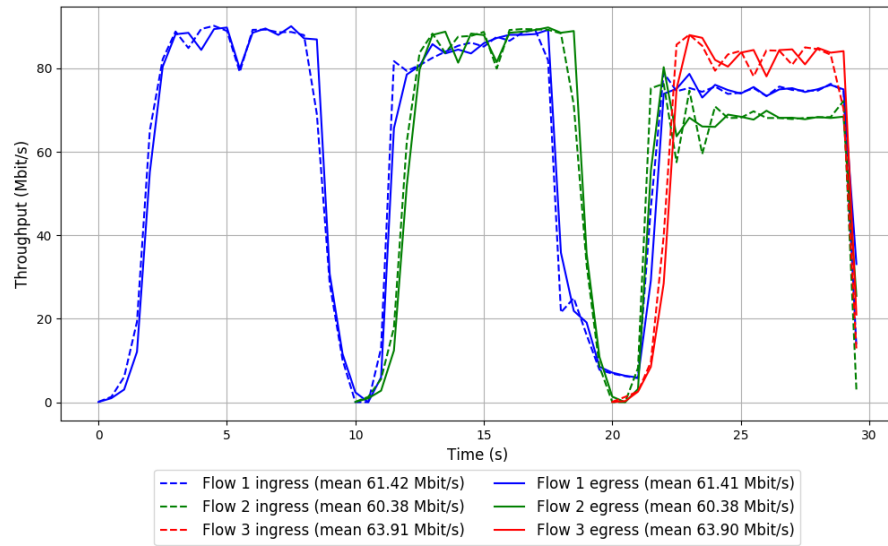
-- Flow 3:

Average throughput: 63.90 Mbit/s

95th percentile per-packet one-way delay: 136.974 ms

Loss rate: 0.03%

Run 4: Report of QUIC Cubic — Data Link



Run 5: Statistics of QUIC Cubic

Start at: 2018-01-03 10:25:30

End at: 2018-01-03 10:26:00

Below is generated by plot.py at 2018-01-03 13:21:15

Datalink statistics

-- Total of 3 flows:

Average throughput: 121.64 Mbit/s

95th percentile per-packet one-way delay: 136.469 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 60.82 Mbit/s

95th percentile per-packet one-way delay: 136.432 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 60.61 Mbit/s

95th percentile per-packet one-way delay: 136.507 ms

Loss rate: 0.00%

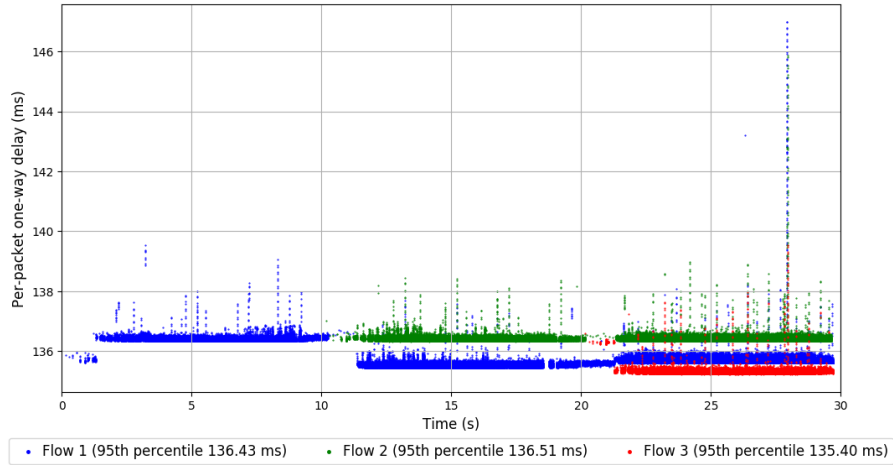
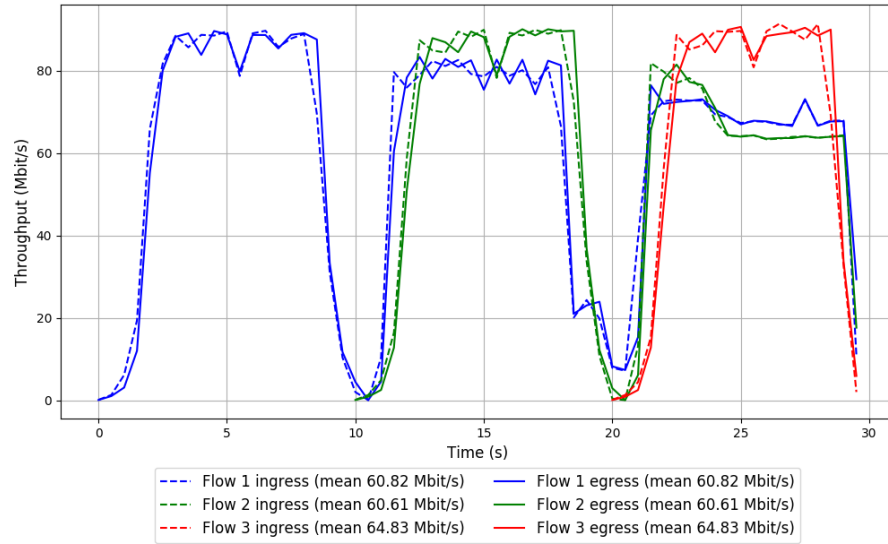
-- Flow 3:

Average throughput: 64.83 Mbit/s

95th percentile per-packet one-way delay: 135.397 ms

Loss rate: 0.00%

Run 5: Report of QUIC Cubic — Data Link



Run 6: Statistics of QUIC Cubic

Start at: 2018-01-03 10:41:37

End at: 2018-01-03 10:42:07

Below is generated by plot.py at 2018-01-03 13:21:15

Datalink statistics

-- Total of 3 flows:

Average throughput: 109.17 Mbit/s

95th percentile per-packet one-way delay: 136.973 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 53.14 Mbit/s

95th percentile per-packet one-way delay: 137.008 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 61.46 Mbit/s

95th percentile per-packet one-way delay: 135.937 ms

Loss rate: 0.00%

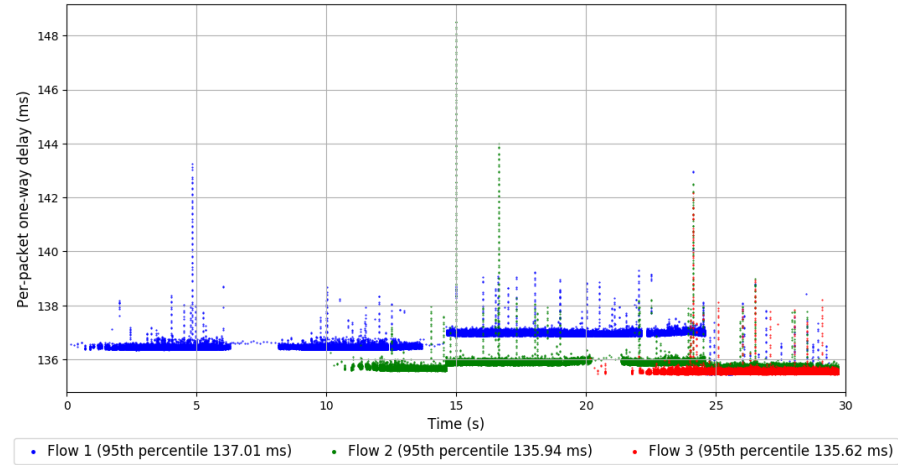
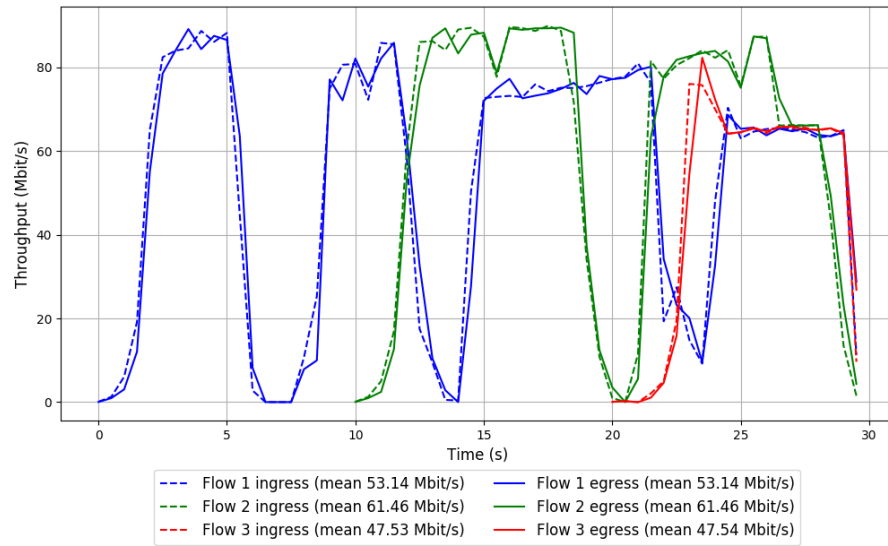
-- Flow 3:

Average throughput: 47.54 Mbit/s

95th percentile per-packet one-way delay: 135.621 ms

Loss rate: 0.00%

Run 6: Report of QUIC Cubic — Data Link



Run 7: Statistics of QUIC Cubic

Start at: 2018-01-03 10:57:52

End at: 2018-01-03 10:58:22

Below is generated by plot.py at 2018-01-03 13:21:15

Datalink statistics

-- Total of 3 flows:

Average throughput: 114.92 Mbit/s

95th percentile per-packet one-way delay: 136.564 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 58.22 Mbit/s

95th percentile per-packet one-way delay: 136.507 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 67.38 Mbit/s

95th percentile per-packet one-way delay: 136.099 ms

Loss rate: 0.00%

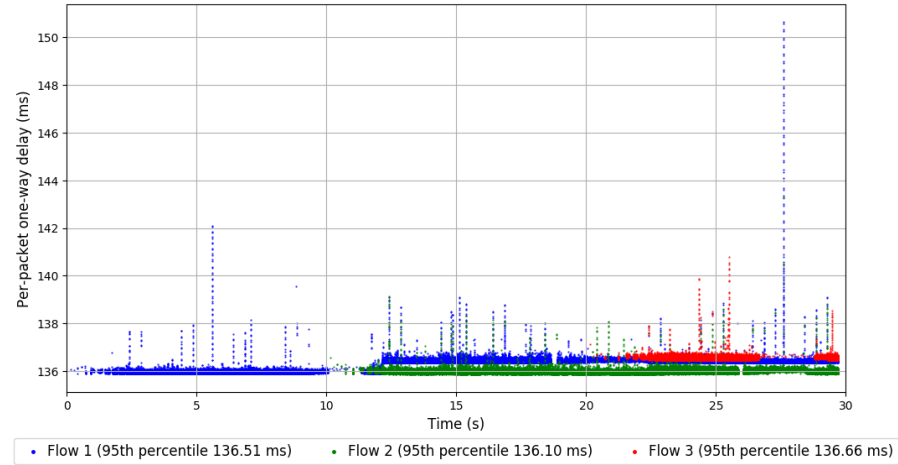
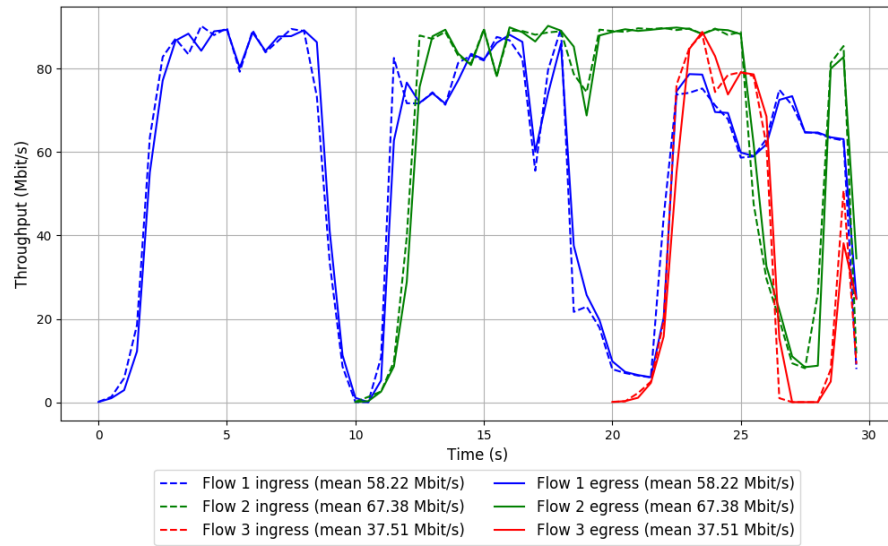
-- Flow 3:

Average throughput: 37.51 Mbit/s

95th percentile per-packet one-way delay: 136.662 ms

Loss rate: 0.00%

Run 7: Report of QUIC Cubic — Data Link



Run 8: Statistics of QUIC Cubic

Start at: 2018-01-03 11:13:54

End at: 2018-01-03 11:14:24

Below is generated by plot.py at 2018-01-03 13:21:15

Datalink statistics

-- Total of 3 flows:

Average throughput: 119.48 Mbit/s

95th percentile per-packet one-way delay: 136.742 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 62.92 Mbit/s

95th percentile per-packet one-way delay: 136.391 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 60.10 Mbit/s

95th percentile per-packet one-way delay: 136.437 ms

Loss rate: 0.00%

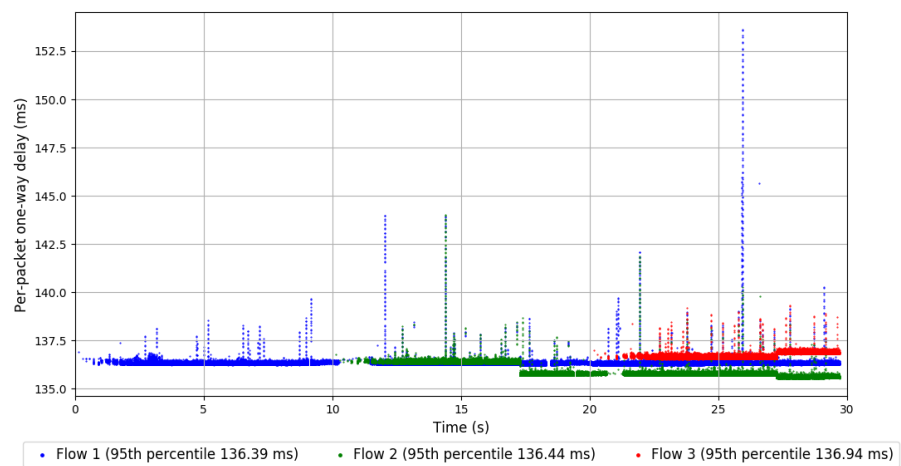
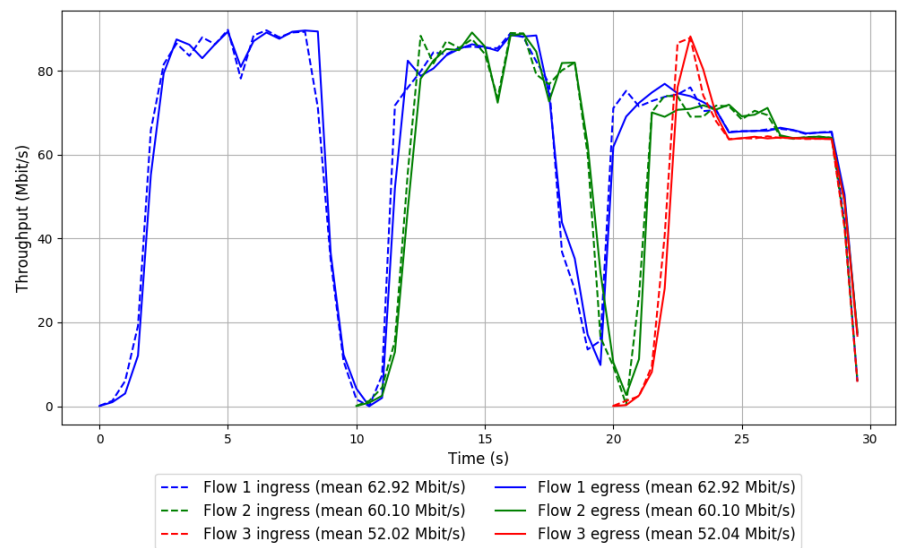
-- Flow 3:

Average throughput: 52.04 Mbit/s

95th percentile per-packet one-way delay: 136.937 ms

Loss rate: 0.00%

Run 8: Report of QUIC Cubic — Data Link



Run 9: Statistics of QUIC Cubic

Start at: 2018-01-03 11:29:25

End at: 2018-01-03 11:29:55

Below is generated by plot.py at 2018-01-03 13:21:15

Datalink statistics

-- Total of 3 flows:

Average throughput: 116.91 Mbit/s

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

Loss rate: 0.00%

-- Flow 1:

Average throughput: 60.41 Mbit/s

95th percentile per-packet one-way delay: 136.361 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 60.16 Mbit/s

95th percentile per-packet one-way delay: 136.457 ms

Loss rate: 0.00%

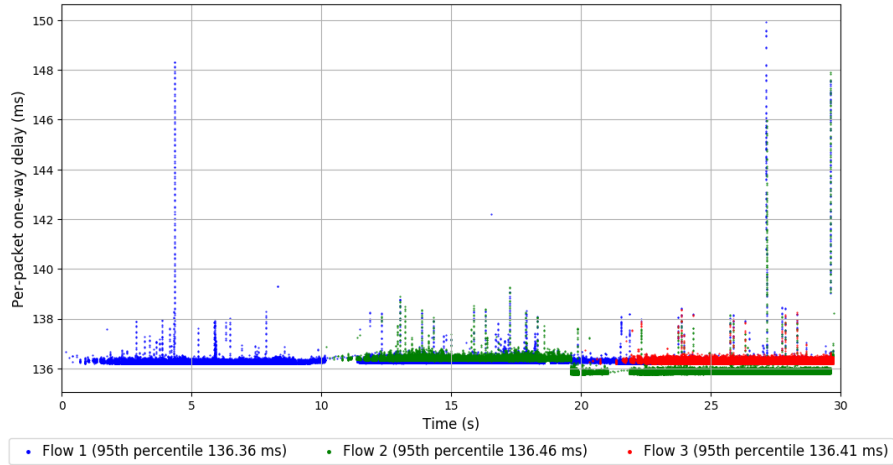
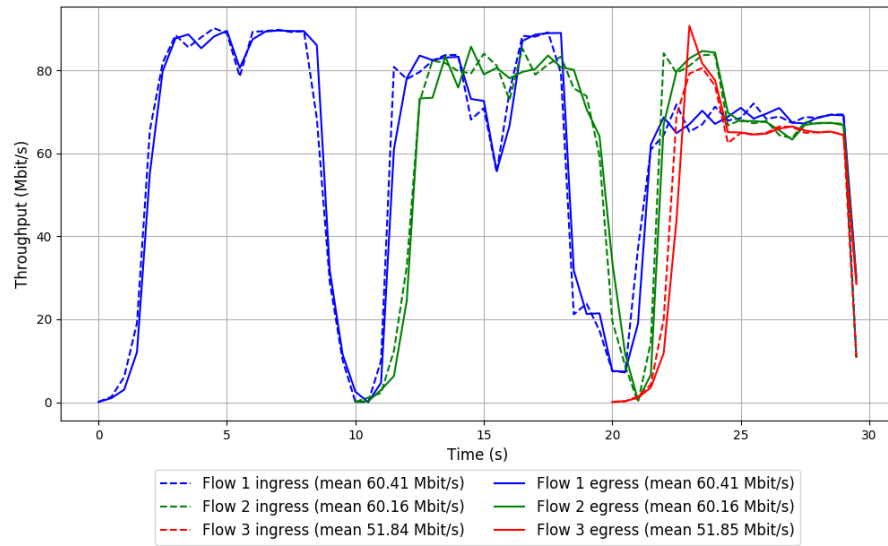
-- Flow 3:

Average throughput: 51.85 Mbit/s

95th percentile per-packet one-way delay: 136.408 ms

Loss rate: 0.00%

Run 9: Report of QUIC Cubic — Data Link



Run 10: Statistics of QUIC Cubic

Start at: 2018-01-03 11:45:33

End at: 2018-01-03 11:46:03

Below is generated by plot.py at 2018-01-03 13:21:15

Datalink statistics

-- Total of 3 flows:

Average throughput: 99.98 Mbit/s

95th percentile per-packet one-way delay: 136.460 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 58.90 Mbit/s

95th percentile per-packet one-way delay: 136.486 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 61.01 Mbit/s

95th percentile per-packet one-way delay: 136.358 ms

Loss rate: 0.00%

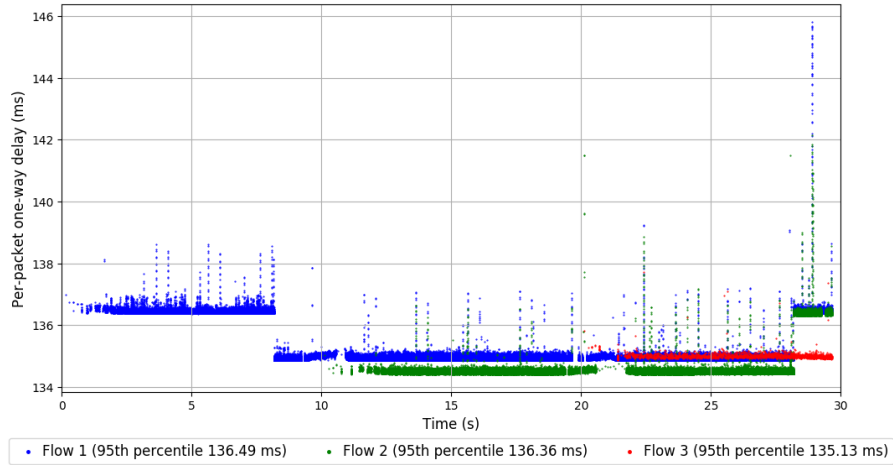
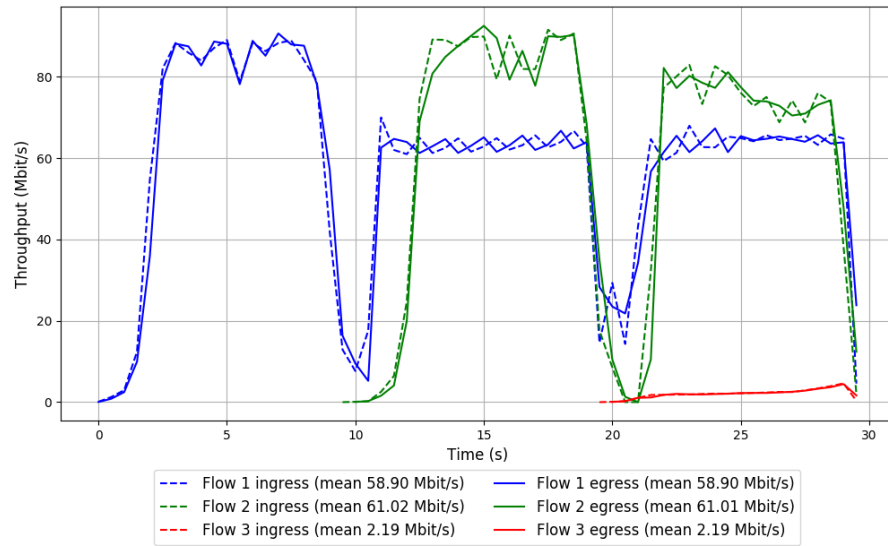
-- Flow 3:

Average throughput: 2.19 Mbit/s

95th percentile per-packet one-way delay: 135.133 ms

Loss rate: 0.00%

Run 10: Report of QUIC Cubic — Data Link

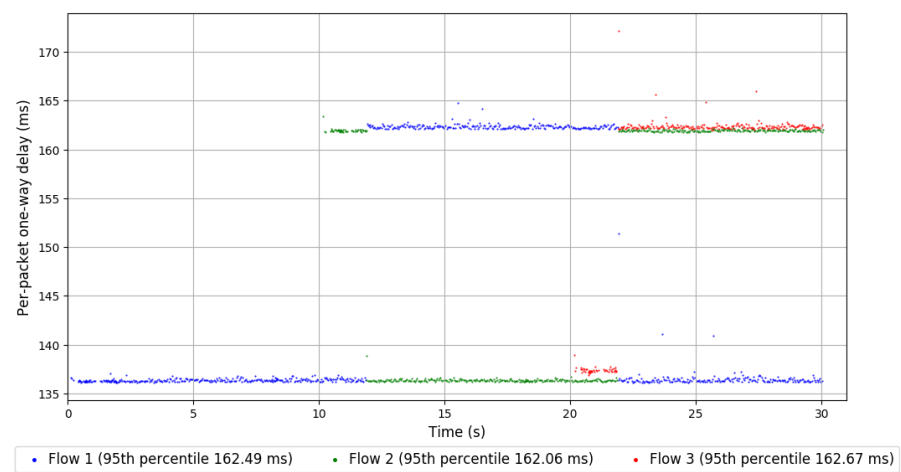
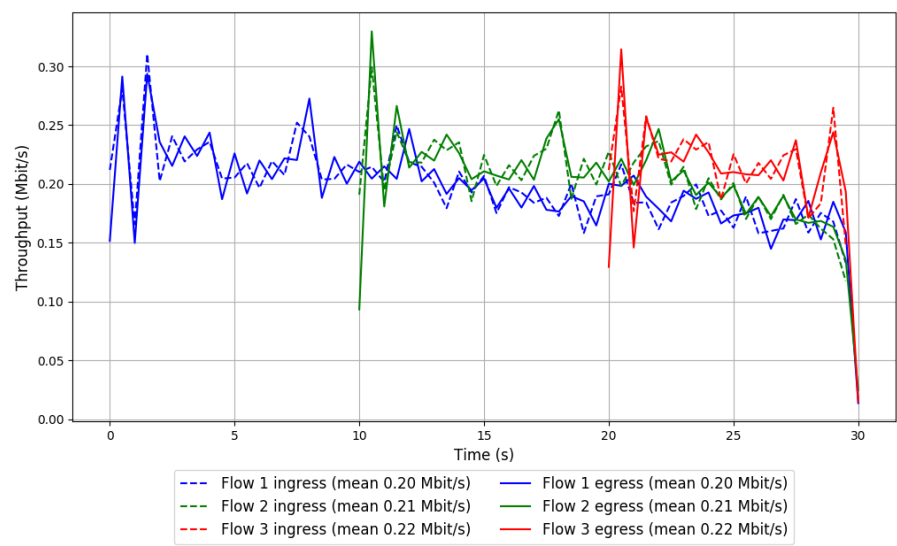


```
Run 1: Statistics of SCReAM

Start at: 2018-01-03 09:25:10
End at: 2018-01-03 09:25:40

# Below is generated by plot.py at 2018-01-03 13:21:15
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.41 Mbit/s
95th percentile per-packet one-way delay: 162.488 ms
Loss rate: 0.06%
-- Flow 1:
Average throughput: 0.20 Mbit/s
95th percentile per-packet one-way delay: 162.490 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 162.058 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 162.666 ms
Loss rate: 0.32%
```

Run 1: Report of SReAM — Data Link

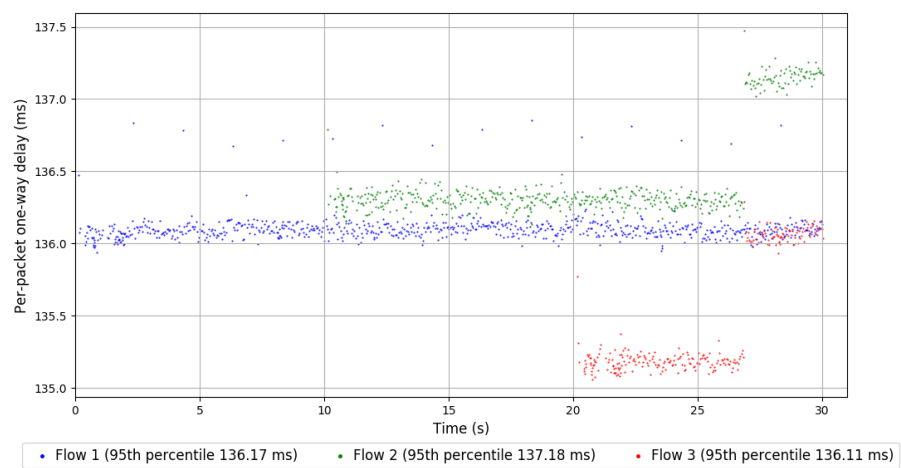
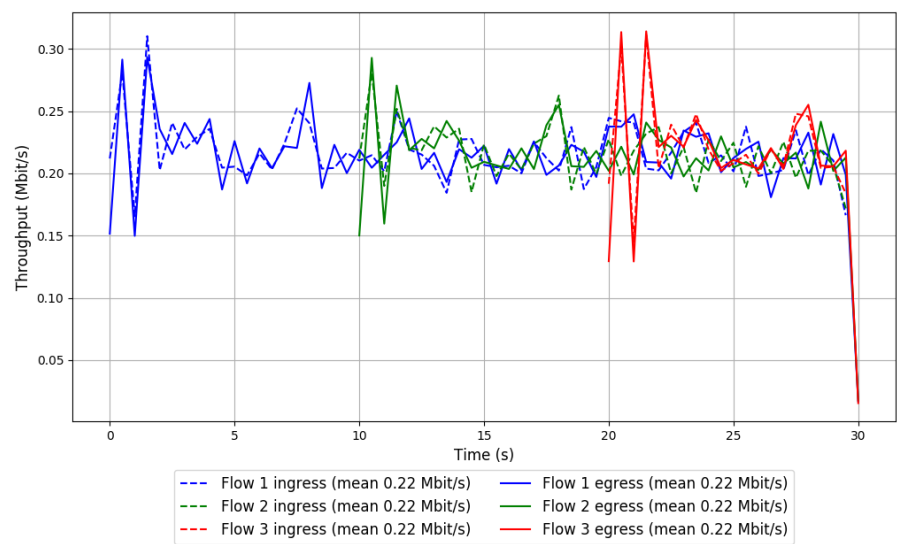


```
Run 2: Statistics of SReAM

Start at: 2018-01-03 09:40:45
End at: 2018-01-03 09:41:15

# Below is generated by plot.py at 2018-01-03 13:21:15
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 137.033 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 136.171 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 137.180 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 136.112 ms
Loss rate: 0.00%
```

Run 2: Report of SReAM — Data Link



Run 3: Statistics of SReAM

Start at: 2018-01-03 09:56:48

End at: 2018-01-03 09:57:18

Below is generated by plot.py at 2018-01-03 13:21:15

Datalink statistics

-- Total of 3 flows:

Average throughput: 0.44 Mbit/s

95th percentile per-packet one-way delay: 136.213 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 0.22 Mbit/s

95th percentile per-packet one-way delay: 134.756 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 0.22 Mbit/s

95th percentile per-packet one-way delay: 135.120 ms

Loss rate: 0.00%

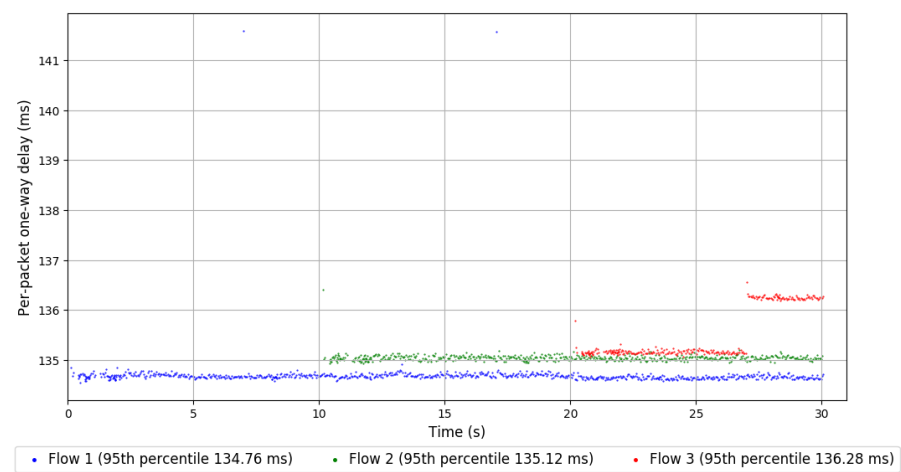
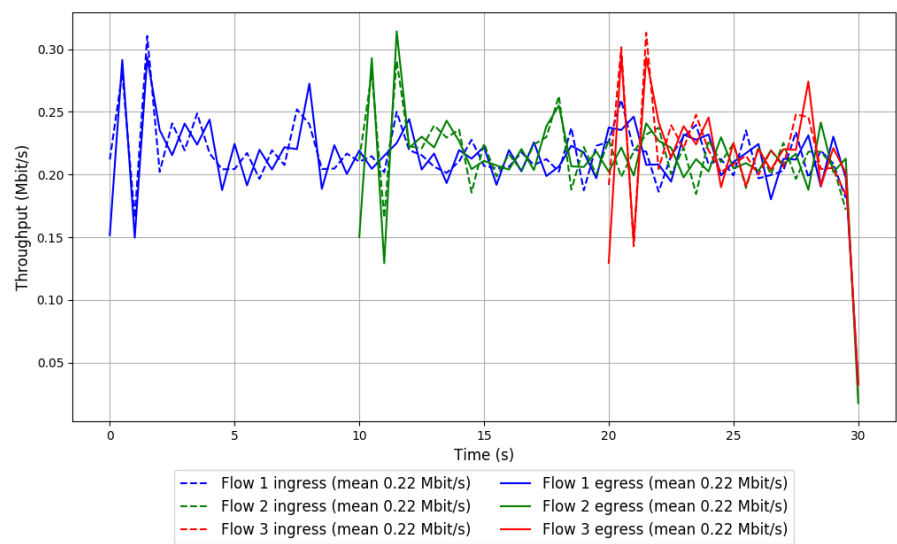
-- Flow 3:

Average throughput: 0.22 Mbit/s

95th percentile per-packet one-way delay: 136.280 ms

Loss rate: 0.00%

Run 3: Report of SReAM — Data Link

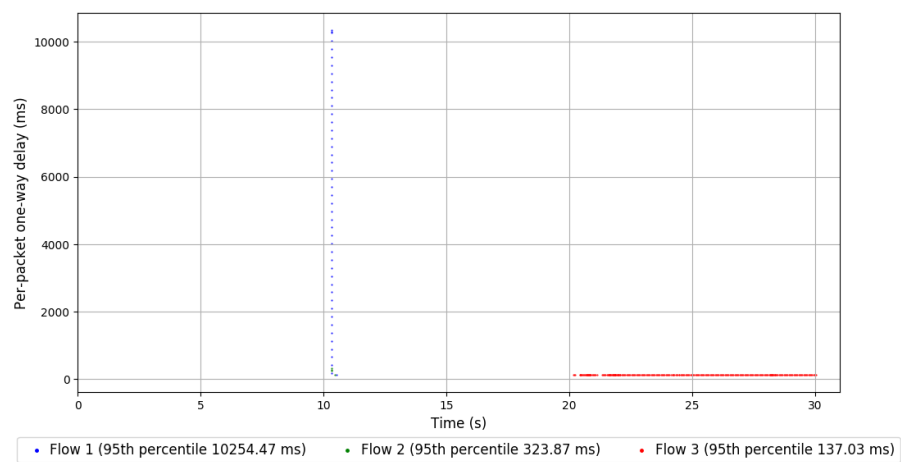
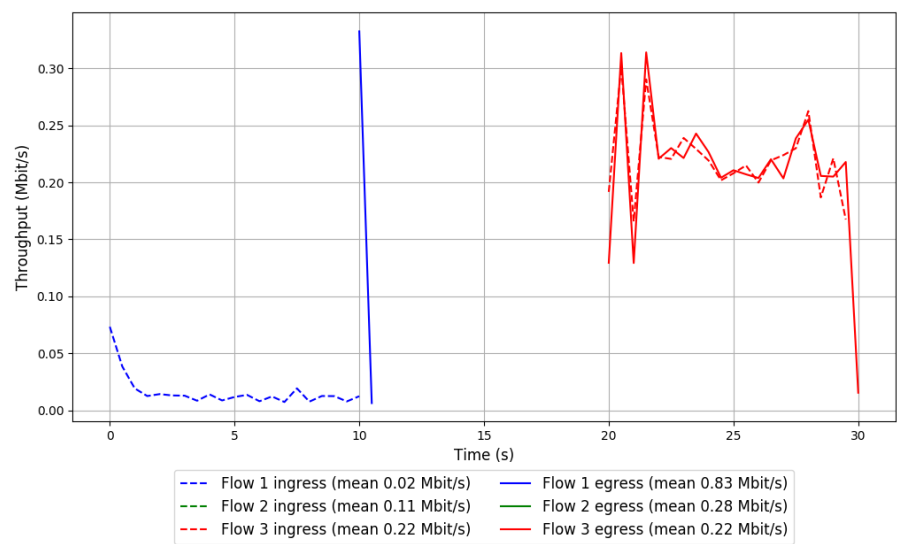


Run 4: Statistics of SReAM

Start at: 2018-01-03 10:13:02

End at: 2018-01-03 10:13:32

Run 4: Report of SReAM — Data Link

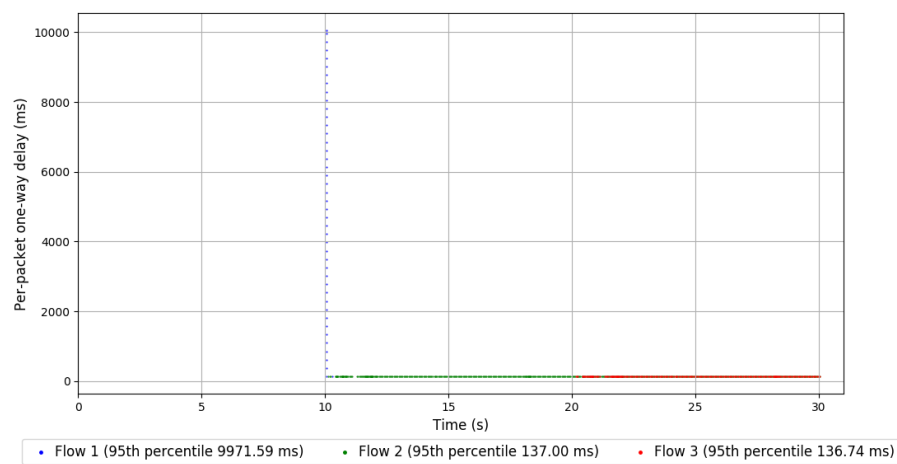
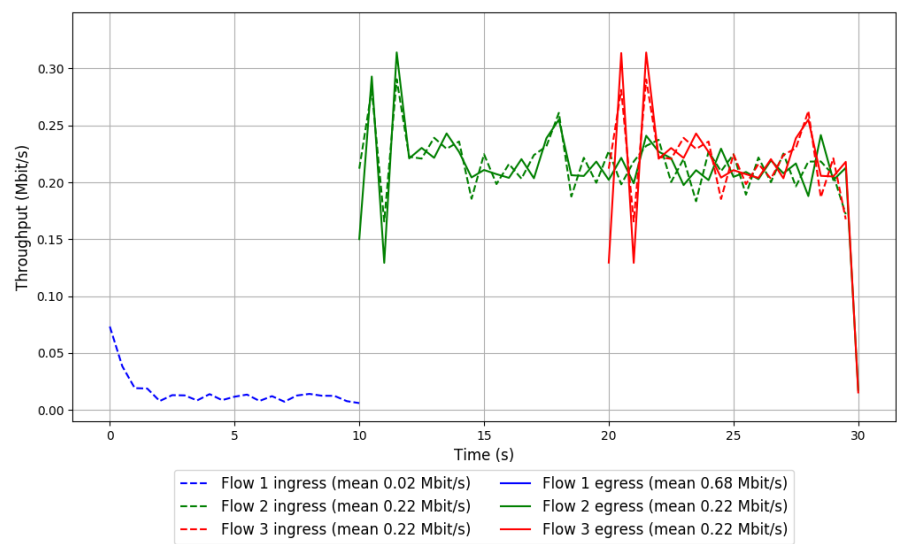


Run 5: Statistics of SReAM

Start at: 2018-01-03 10:28:24

End at: 2018-01-03 10:28:54

Run 5: Report of SReAM — Data Link

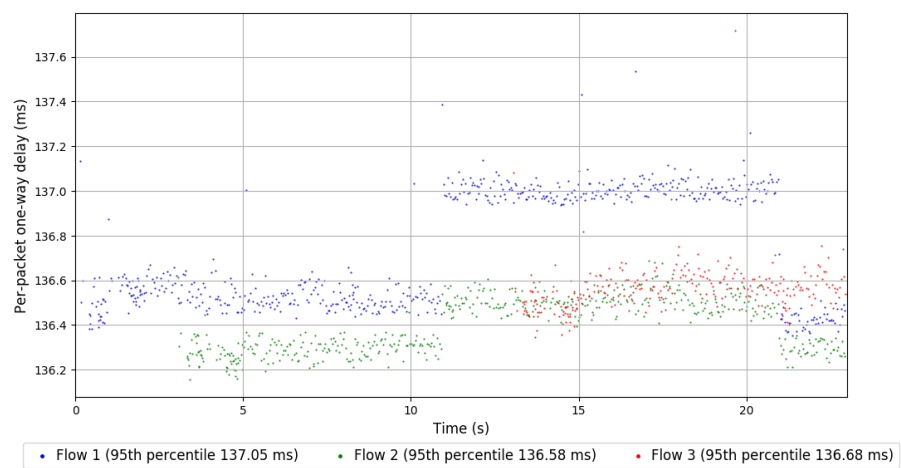
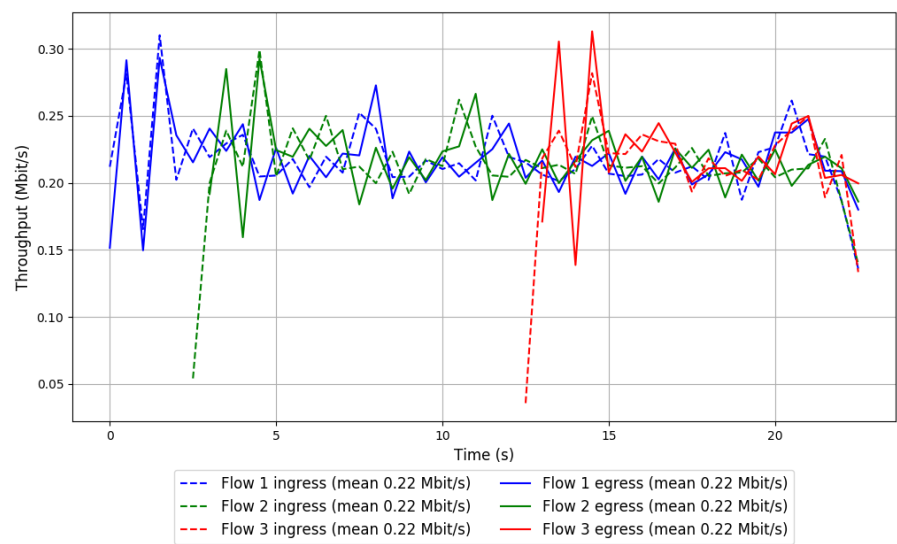


Run 6: Statistics of SReAM

Start at: 2018-01-03 10:44:37

End at: 2018-01-03 10:45:07

Run 6: Report of SReAM — Data Link

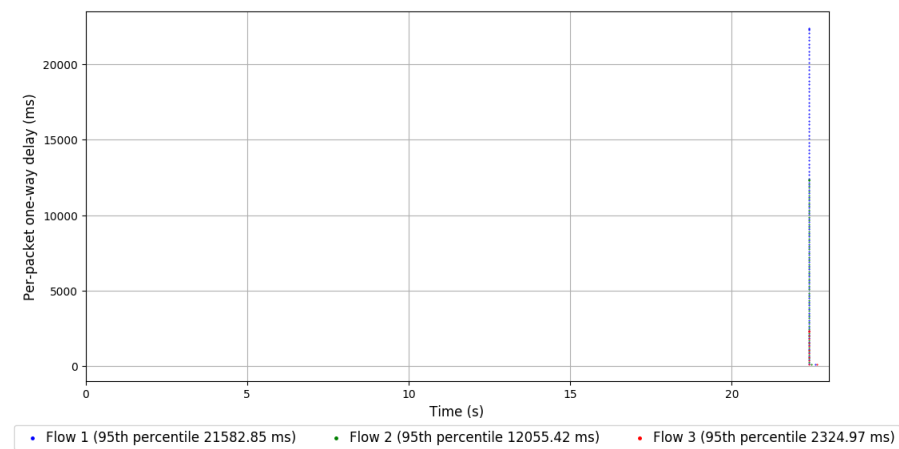
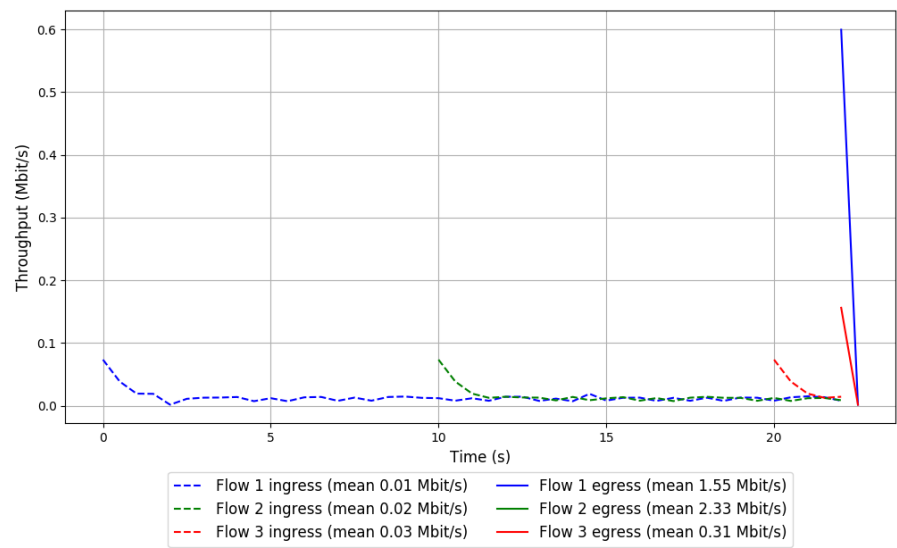


Run 7: Statistics of SReAM

Start at: 2018-01-03 11:00:35

End at: 2018-01-03 11:01:05

Run 7: Report of SReAM — Data Link

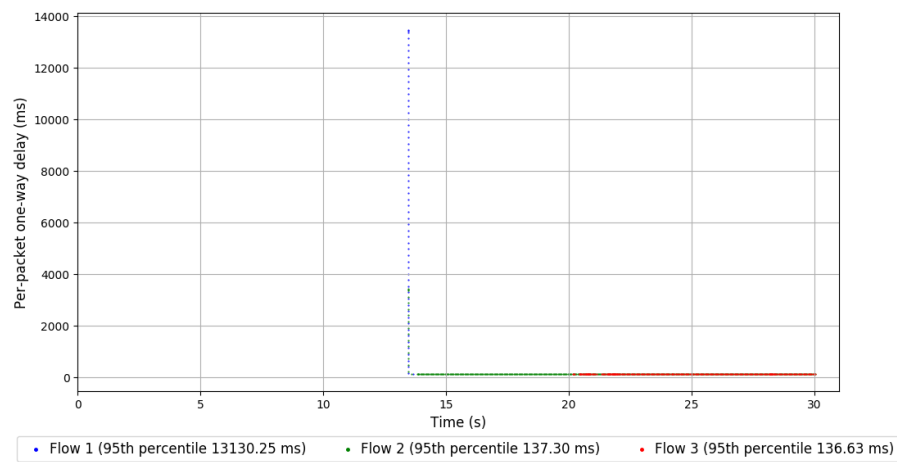
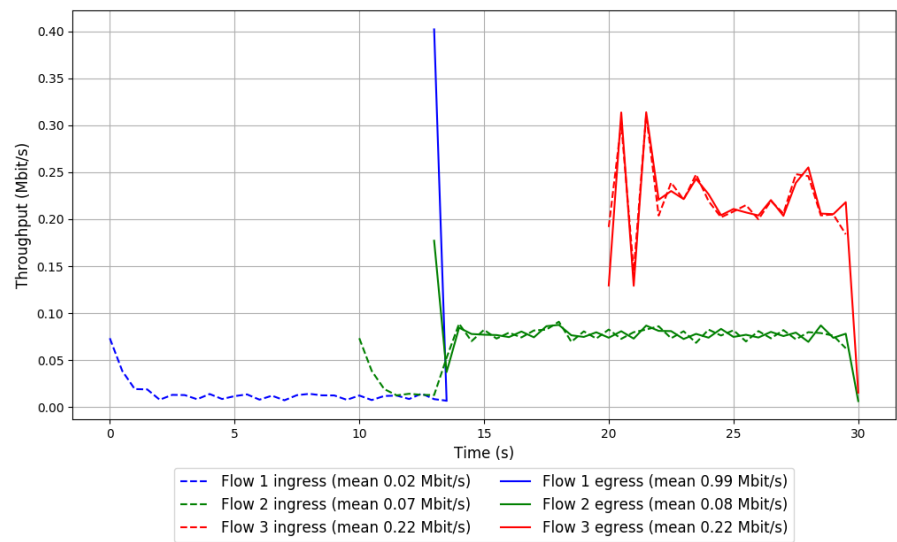


Run 8: Statistics of SReAM

Start at: 2018-01-03 11:16:46

End at: 2018-01-03 11:17:16

Run 8: Report of SReAM — Data Link

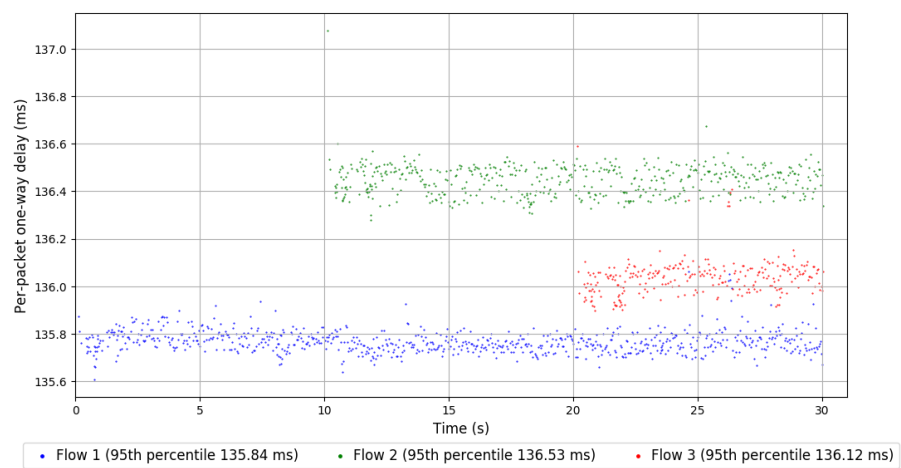
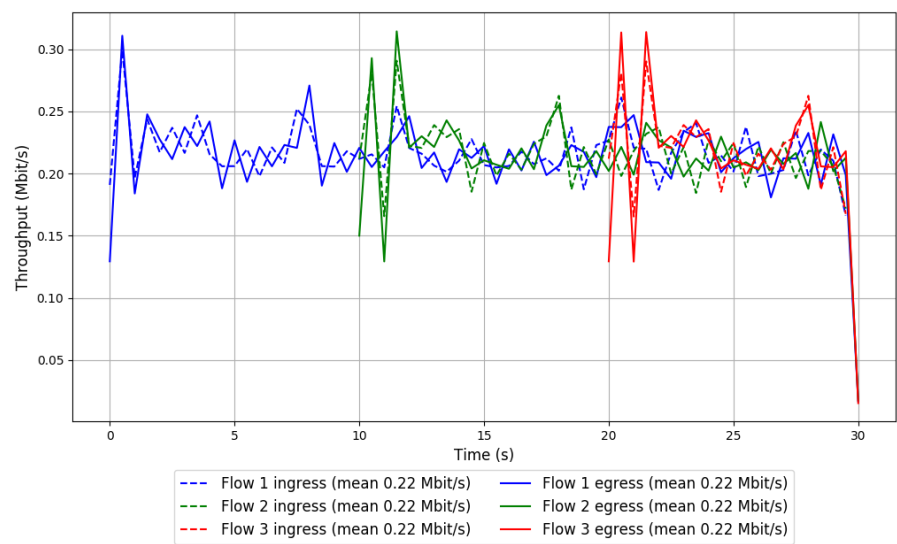


```
Run 9: Statistics of SCReAM

Start at: 2018-01-03 11:32:17
End at: 2018-01-03 11:32:47

# Below is generated by plot.py at 2018-01-03 13:21:15
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 136.505 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 135.843 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 136.525 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 136.115 ms
Loss rate: 0.00%
```

Run 9: Report of SReAM — Data Link

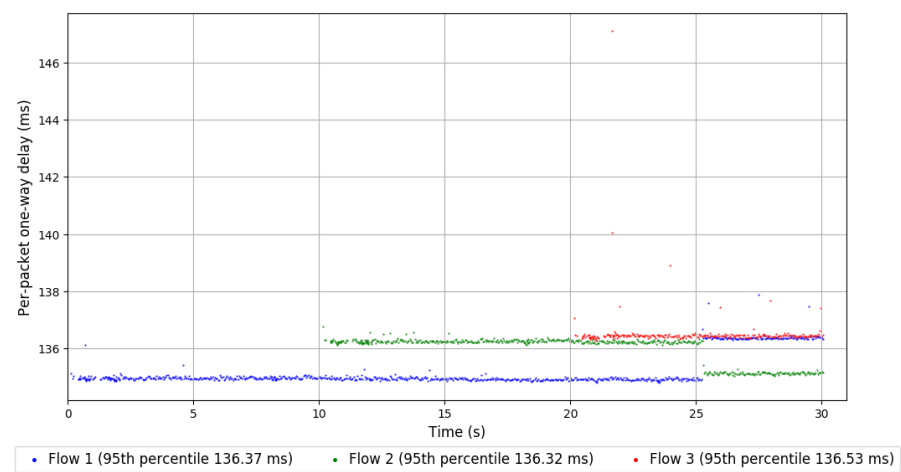
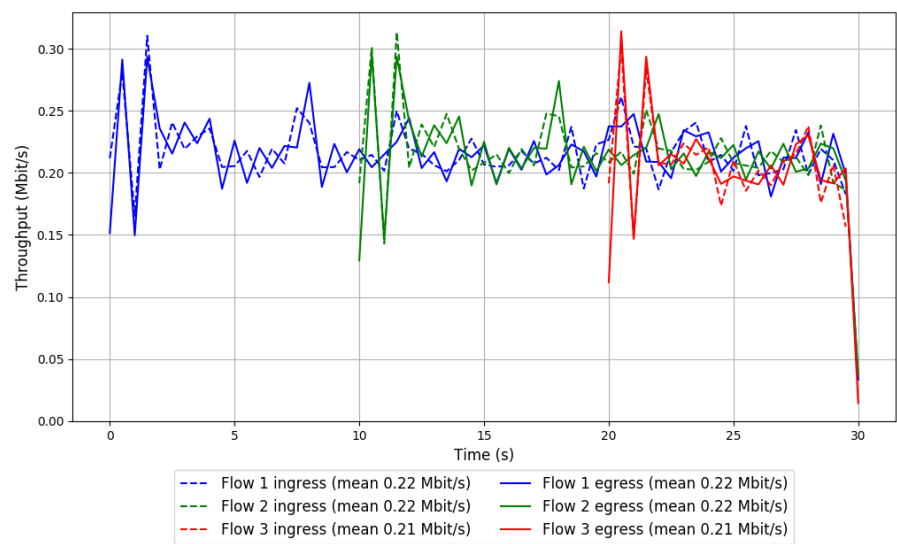


```
Run 10: Statistics of SReAM

Start at: 2018-01-03 11:48:10
End at: 2018-01-03 11:48:40

# Below is generated by plot.py at 2018-01-03 13:21:15
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.43 Mbit/s
95th percentile per-packet one-way delay: 136.468 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 136.373 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 136.324 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 136.534 ms
Loss rate: 0.00%
```

Run 10: Report of SReAM — Data Link

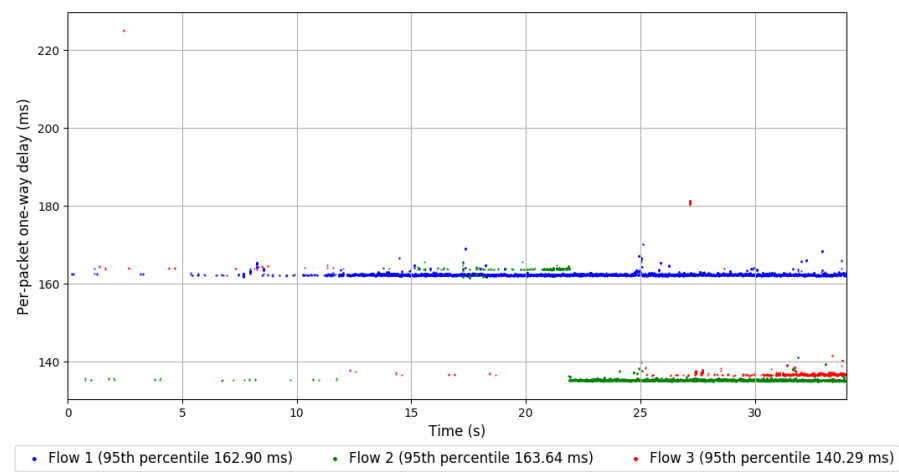
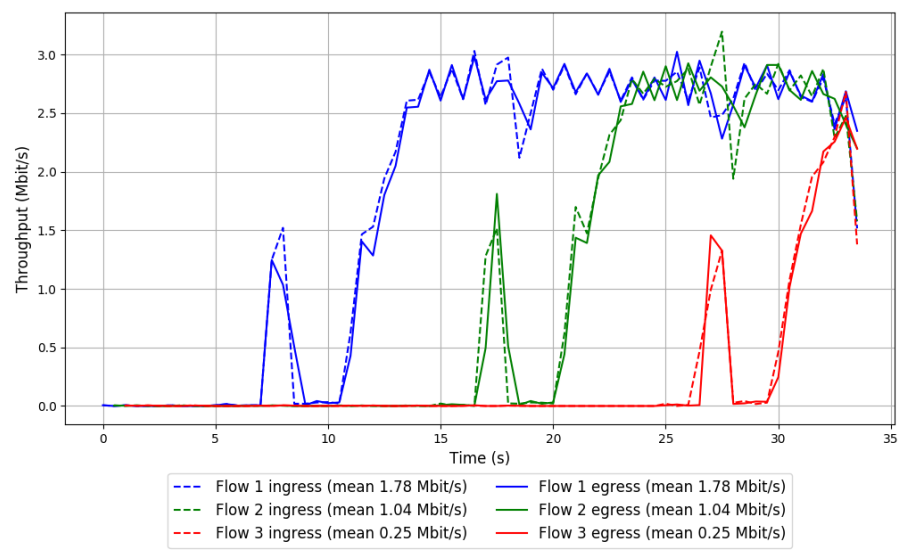


```
Run 1: Statistics of WebRTC media

Start at: 2018-01-03 09:21:44
End at: 2018-01-03 09:22:14

# Below is generated by plot.py at 2018-01-03 13:21:15
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.05 Mbit/s
95th percentile per-packet one-way delay: 163.036 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 1.78 Mbit/s
95th percentile per-packet one-way delay: 162.901 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 1.04 Mbit/s
95th percentile per-packet one-way delay: 163.641 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.25 Mbit/s
95th percentile per-packet one-way delay: 140.294 ms
Loss rate: 0.00%
```


Run 1: Report of WebRTC media — Data Link



Run 2: Statistics of WebRTC media

Start at: 2018-01-03 09:37:18

End at: 2018-01-03 09:37:48

Below is generated by plot.py at 2018-01-03 13:21:15

Datalink statistics

-- Total of 3 flows:

Average throughput: 3.60 Mbit/s

95th percentile per-packet one-way delay: 136.529 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 2.00 Mbit/s

95th percentile per-packet one-way delay: 135.297 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 1.21 Mbit/s

95th percentile per-packet one-way delay: 136.580 ms

Loss rate: 0.00%

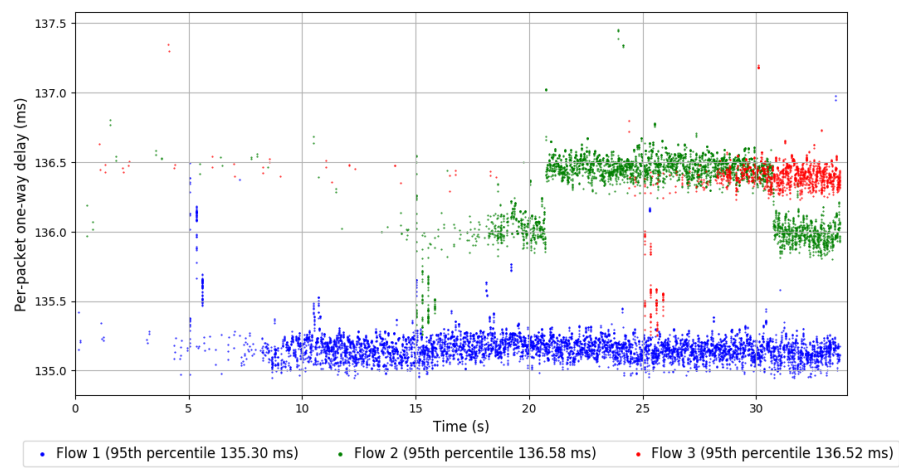
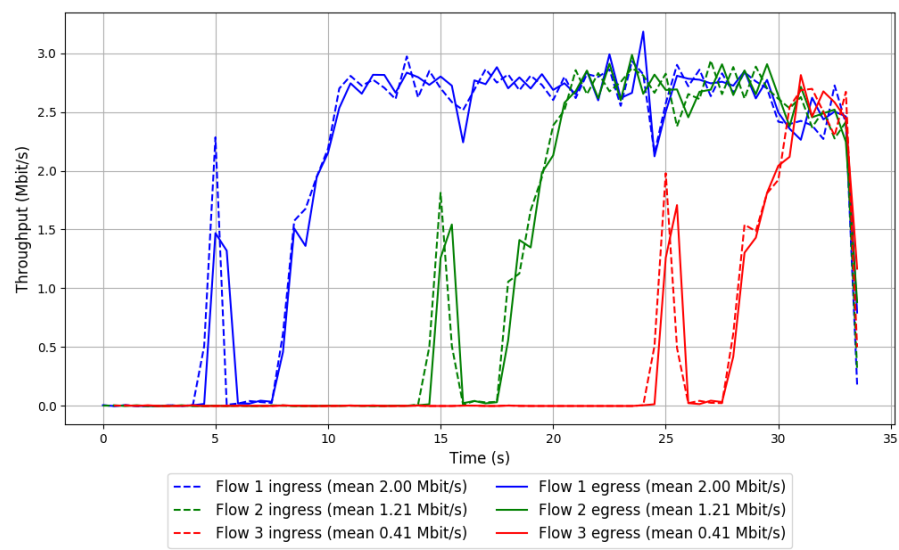
-- Flow 3:

Average throughput: 0.41 Mbit/s

95th percentile per-packet one-way delay: 136.524 ms

Loss rate: 0.00%

Run 2: Report of WebRTC media — Data Link



Run 3: Statistics of WebRTC media

Start at: 2018-01-03 09:53:17

End at: 2018-01-03 09:53:47

Below is generated by plot.py at 2018-01-03 13:21:15

Datalink statistics

-- Total of 3 flows:

Average throughput: 3.61 Mbit/s

95th percentile per-packet one-way delay: 137.012 ms

Loss rate: 0.01%

-- Flow 1:

Average throughput: 2.01 Mbit/s

95th percentile per-packet one-way delay: 137.062 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 1.22 Mbit/s

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

Loss rate: 0.00%

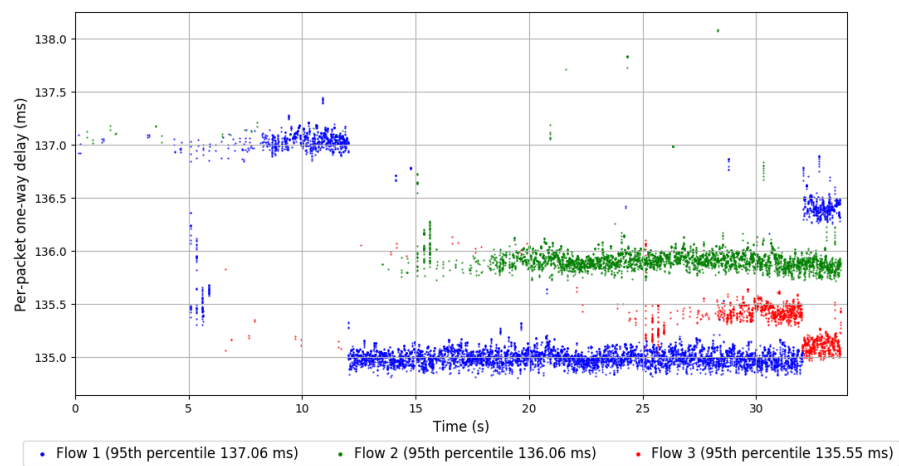
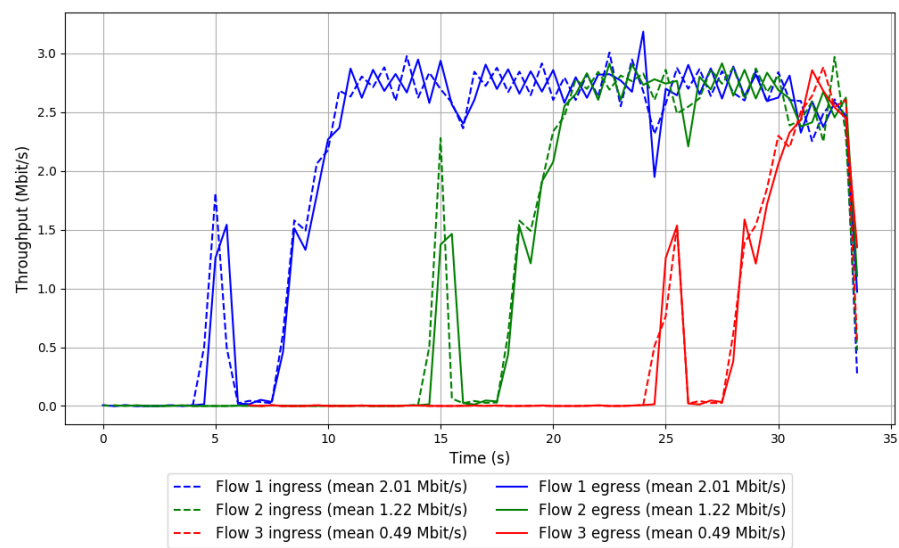
-- Flow 3:

Average throughput: 0.49 Mbit/s

95th percentile per-packet one-way delay: 135.554 ms

Loss rate: 0.07%

Run 3: Report of WebRTC media — Data Link



Run 4: Statistics of WebRTC media

Start at: 2018-01-03 10:09:17

End at: 2018-01-03 10:09:47

Below is generated by plot.py at 2018-01-03 13:21:15

Datalink statistics

-- Total of 3 flows:

Average throughput: 3.64 Mbit/s

95th percentile per-packet one-way delay: 136.598 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 2.02 Mbit/s

95th percentile per-packet one-way delay: 136.097 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 1.24 Mbit/s

95th percentile per-packet one-way delay: 136.640 ms

Loss rate: 0.00%

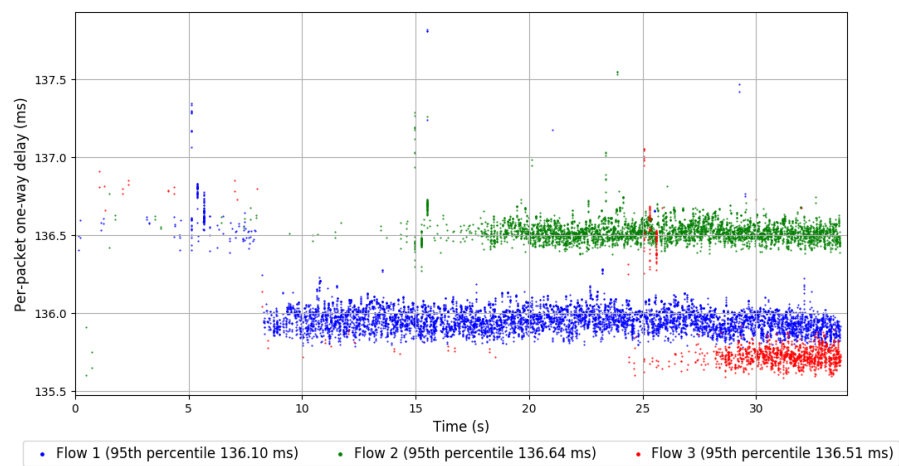
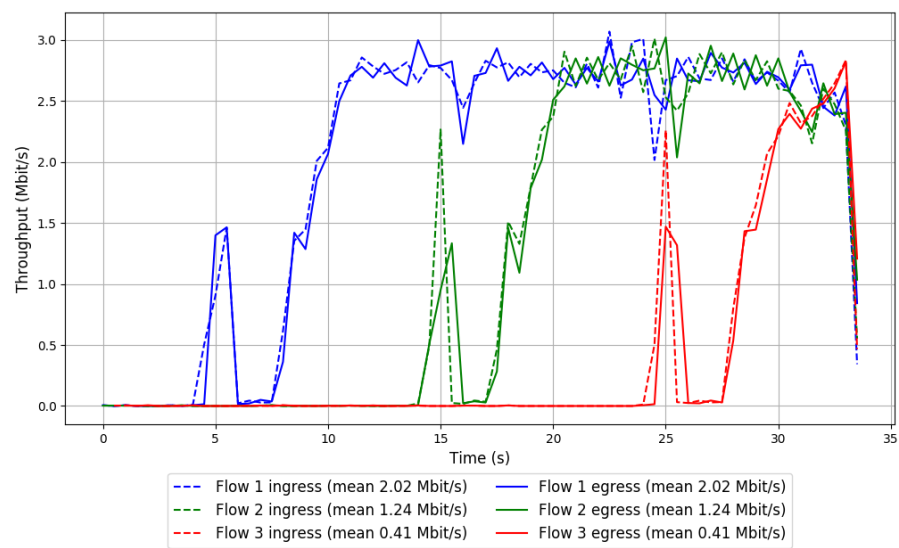
-- Flow 3:

Average throughput: 0.41 Mbit/s

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

Loss rate: 0.00%

Run 4: Report of WebRTC media — Data Link



Run 5: Statistics of WebRTC media

Start at: 2018-01-03 10:24:41

End at: 2018-01-03 10:25:11

Below is generated by plot.py at 2018-01-03 13:21:15

Datalink statistics

-- Total of 3 flows:

Average throughput: 3.60 Mbit/s

95th percentile per-packet one-way delay: 137.095 ms

Loss rate: 0.01%

-- Flow 1:

Average throughput: 2.01 Mbit/s

95th percentile per-packet one-way delay: 136.663 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 1.22 Mbit/s

95th percentile per-packet one-way delay: 137.061 ms

Loss rate: 0.00%

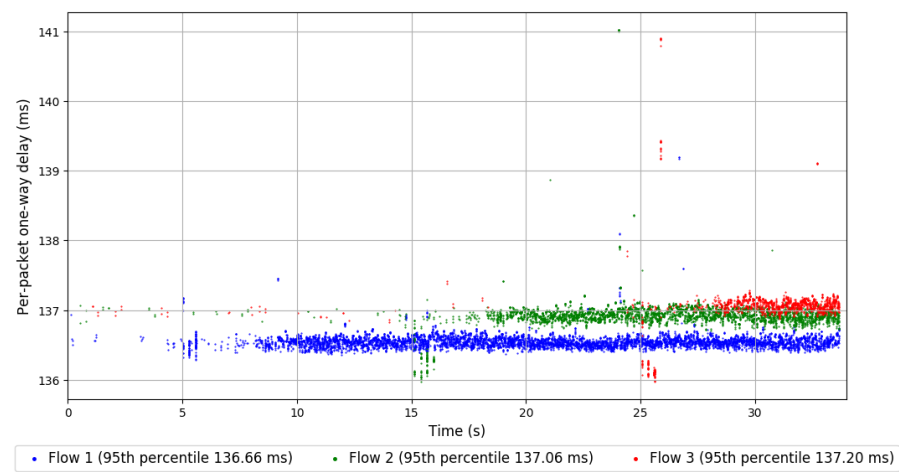
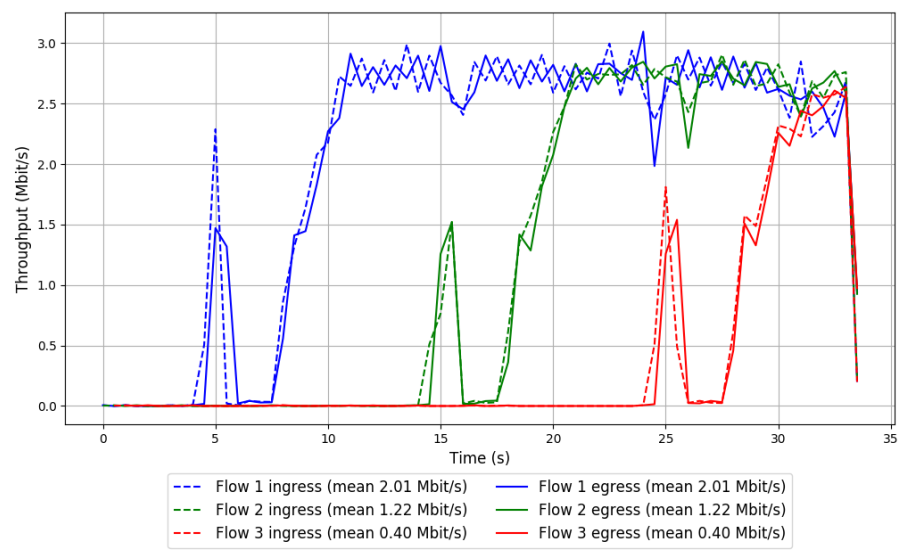
-- Flow 3:

Average throughput: 0.40 Mbit/s

95th percentile per-packet one-way delay: 137.196 ms

Loss rate: 0.07%

Run 5: Report of WebRTC media — Data Link



Run 6: Statistics of WebRTC media

Start at: 2018-01-03 10:40:47

End at: 2018-01-03 10:41:17

Below is generated by plot.py at 2018-01-03 13:21:15

Datalink statistics

-- Total of 3 flows:

Average throughput: 4.29 Mbit/s

95th percentile per-packet one-way delay: 137.391 ms

Loss rate: 0.06%

-- Flow 1:

Average throughput: 2.18 Mbit/s

95th percentile per-packet one-way delay: 136.667 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 1.64 Mbit/s

95th percentile per-packet one-way delay: 137.246 ms

Loss rate: 0.00%

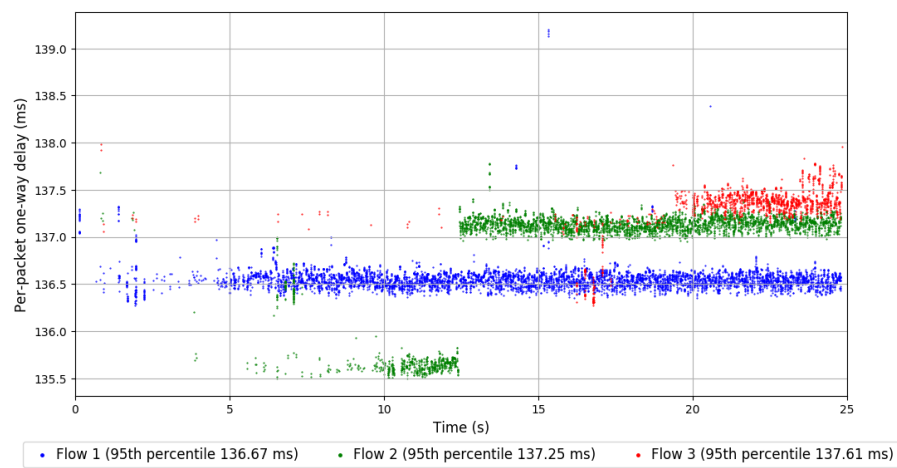
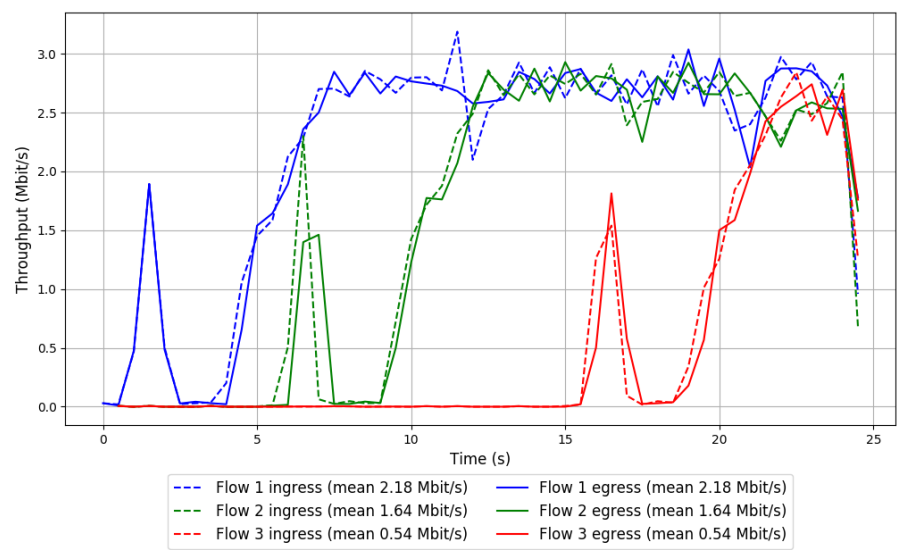
-- Flow 3:

Average throughput: 0.54 Mbit/s

95th percentile per-packet one-way delay: 137.609 ms

Loss rate: 0.52%

Run 6: Report of WebRTC media — Data Link



Run 7: Statistics of WebRTC media

Start at: 2018-01-03 10:57:03

End at: 2018-01-03 10:57:33

Below is generated by plot.py at 2018-01-03 13:21:16

Datalink statistics

-- Total of 3 flows:

Average throughput: 4.31 Mbit/s

95th percentile per-packet one-way delay: 136.972 ms

Loss rate: 0.01%

-- Flow 1:

Average throughput: 2.19 Mbit/s

95th percentile per-packet one-way delay: 136.260 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 1.66 Mbit/s

95th percentile per-packet one-way delay: 136.631 ms

Loss rate: 0.02%

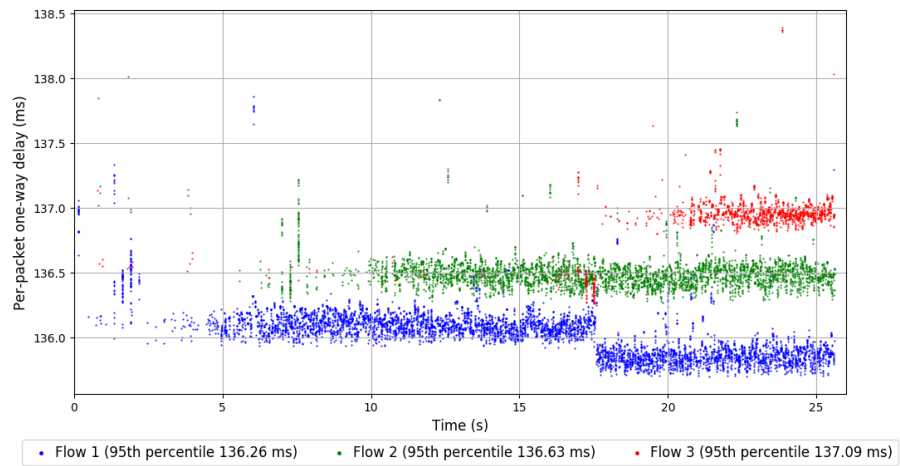
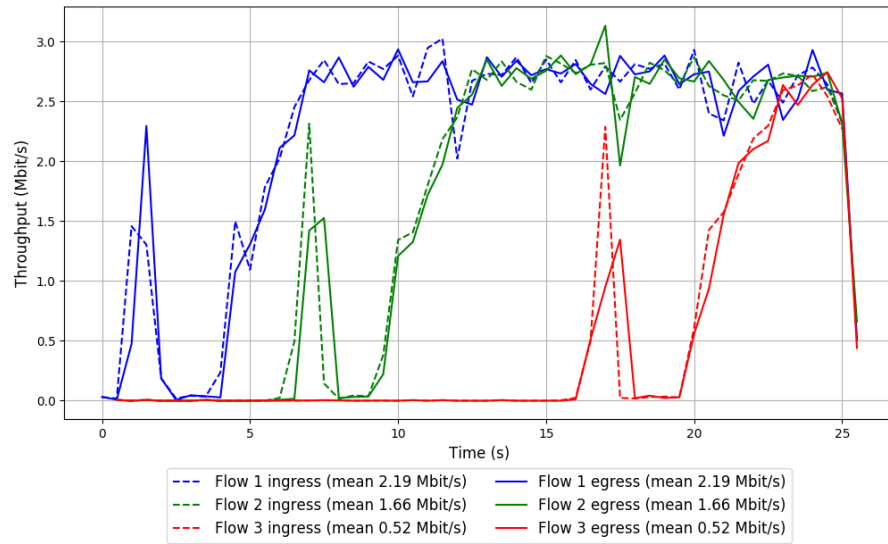
-- Flow 3:

Average throughput: 0.52 Mbit/s

95th percentile per-packet one-way delay: 137.089 ms

Loss rate: 0.00%

Run 7: Report of WebRTC media — Data Link



Run 8: Statistics of WebRTC media

Start at: 2018-01-03 11:13:05

End at: 2018-01-03 11:13:35

Below is generated by plot.py at 2018-01-03 13:21:16

Datalink statistics

-- Total of 3 flows:

Average throughput: 3.60 Mbit/s

95th percentile per-packet one-way delay: 136.672 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 2.01 Mbit/s

95th percentile per-packet one-way delay: 136.651 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 1.22 Mbit/s

95th percentile per-packet one-way delay: 136.699 ms

Loss rate: 0.00%

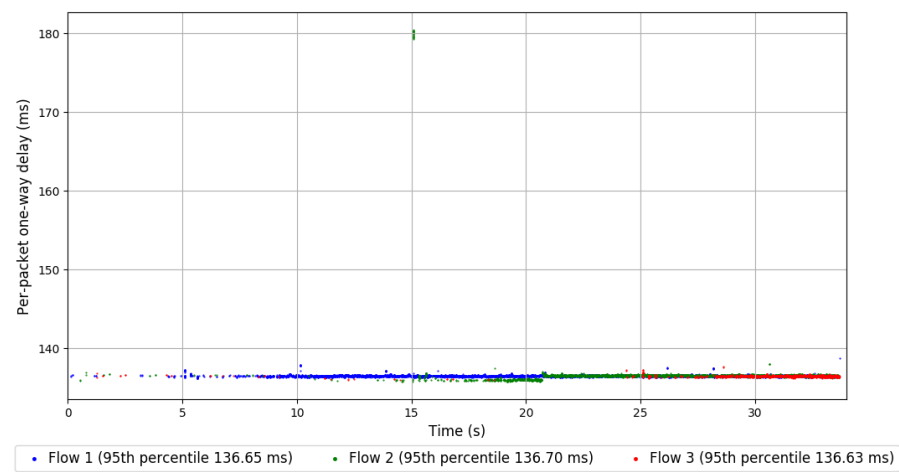
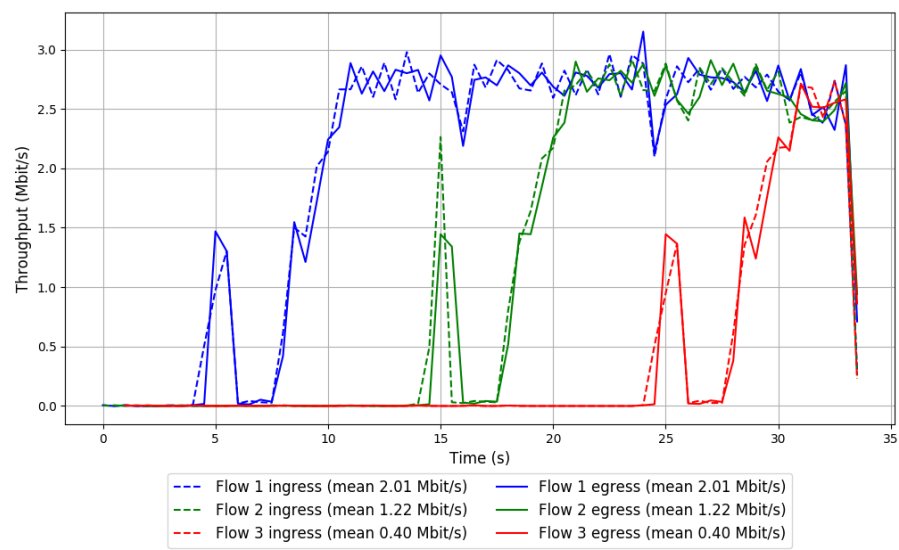
-- Flow 3:

Average throughput: 0.40 Mbit/s

95th percentile per-packet one-way delay: 136.631 ms

Loss rate: 0.00%

Run 8: Report of WebRTC media — Data Link



Run 9: Statistics of WebRTC media

Start at: 2018-01-03 11:28:36

End at: 2018-01-03 11:29:06

Below is generated by plot.py at 2018-01-03 13:21:16

Datalink statistics

-- Total of 3 flows:

Average throughput: 3.59 Mbit/s

95th percentile per-packet one-way delay: 136.611 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 2.01 Mbit/s

95th percentile per-packet one-way delay: 136.602 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 1.21 Mbit/s

95th percentile per-packet one-way delay: 136.637 ms

Loss rate: 0.00%

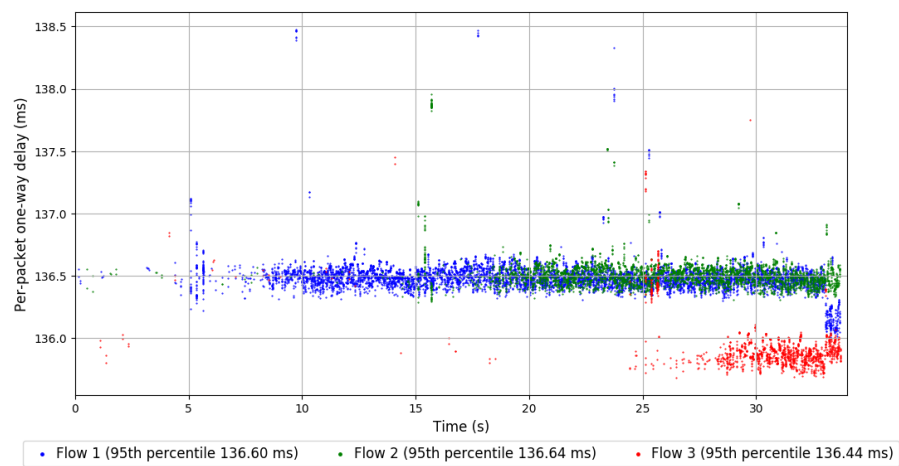
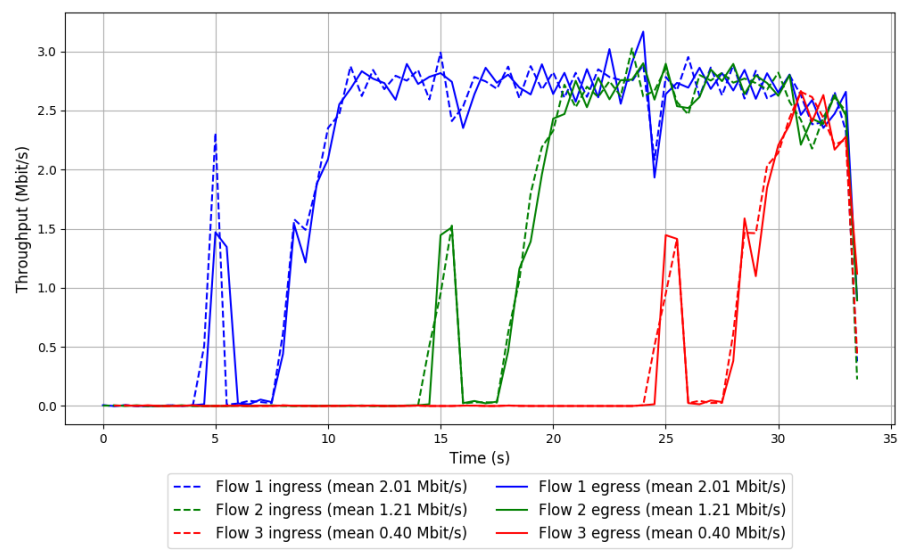
-- Flow 3:

Average throughput: 0.40 Mbit/s

95th percentile per-packet one-way delay: 136.444 ms

Loss rate: 0.00%

Run 9: Report of WebRTC media — Data Link



Run 10: Statistics of WebRTC media

Start at: 2018-01-03 11:44:44

End at: 2018-01-03 11:45:14

Below is generated by plot.py at 2018-01-03 13:21:16

Datalink statistics

-- Total of 3 flows:

Average throughput: 4.32 Mbit/s

95th percentile per-packet one-way delay: 136.253 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 2.20 Mbit/s

95th percentile per-packet one-way delay: 136.289 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 1.65 Mbit/s

95th percentile per-packet one-way delay: 135.793 ms

Loss rate: 0.00%

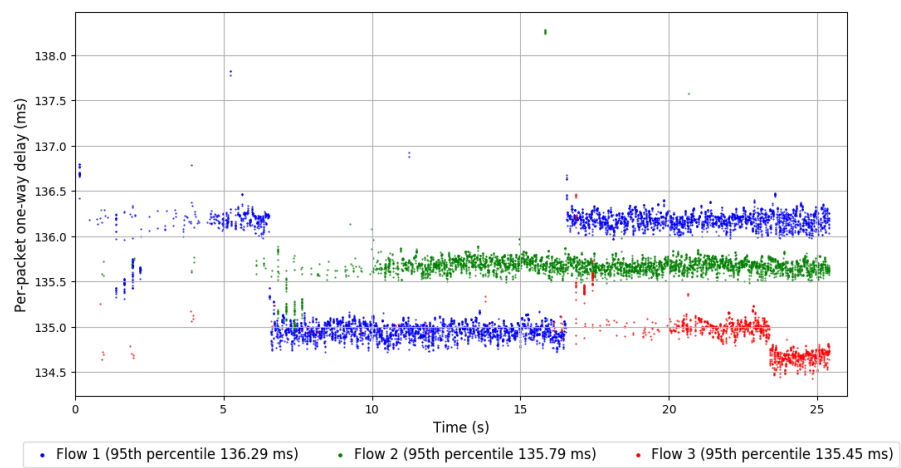
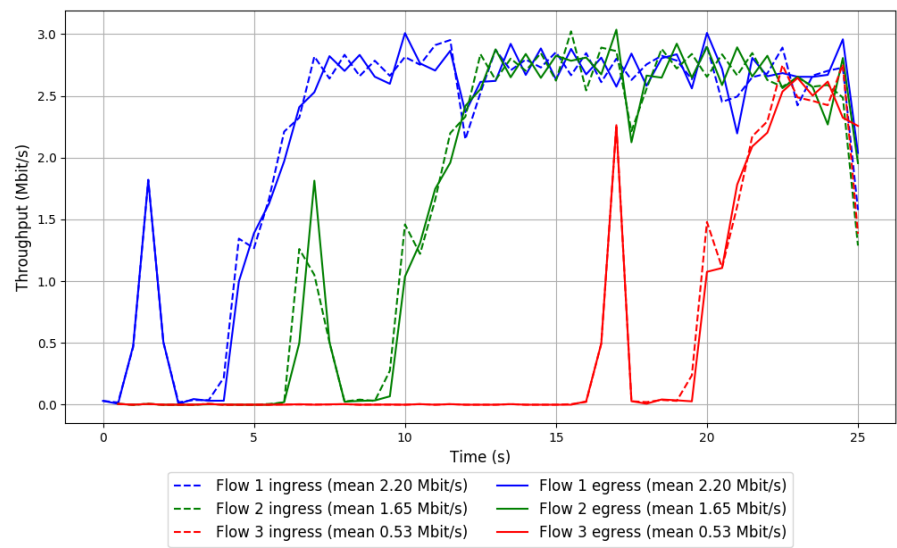
-- Flow 3:

Average throughput: 0.53 Mbit/s

95th percentile per-packet one-way delay: 135.454 ms

Loss rate: 0.00%

Run 10: Report of WebRTC media — Data Link

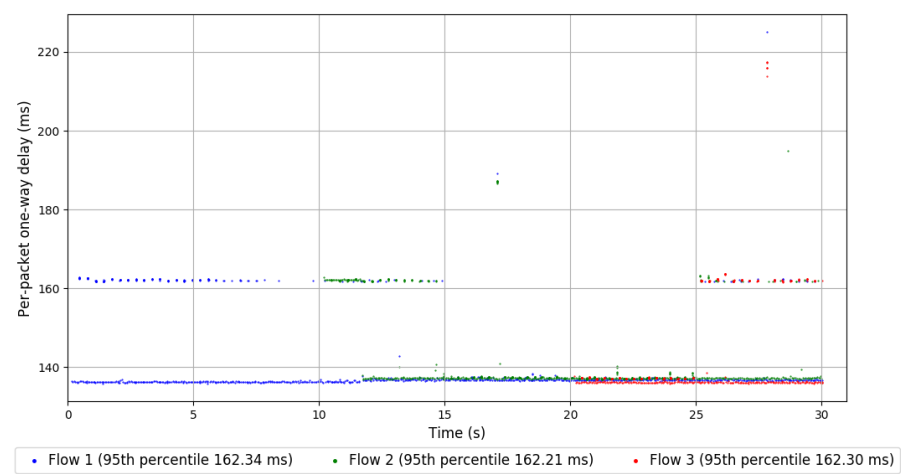
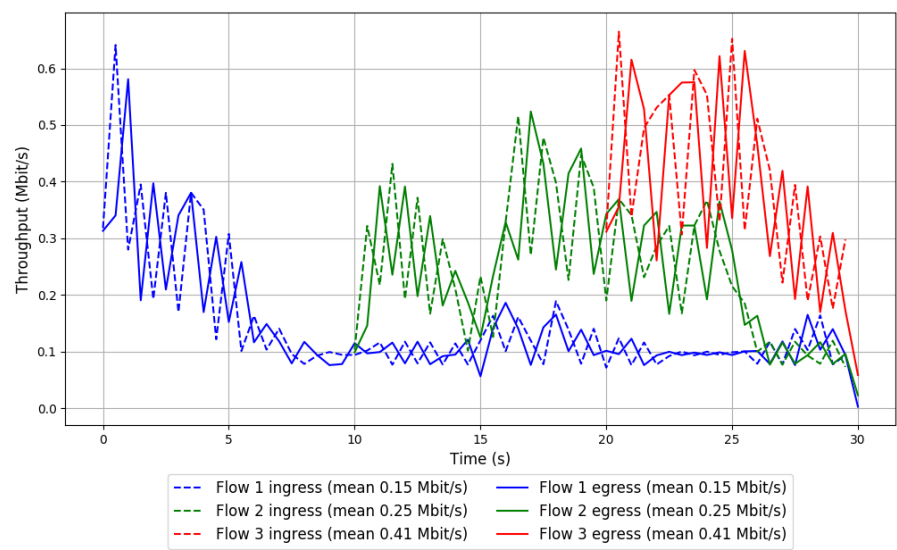


```
Run 1: Statistics of Sprout

Start at: 2018-01-03 09:24:20
End at: 2018-01-03 09:24:50

# Below is generated by plot.py at 2018-01-03 13:21:16
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.45 Mbit/s
95th percentile per-packet one-way delay: 162.269 ms
Loss rate: 0.27%
-- Flow 1:
Average throughput: 0.15 Mbit/s
95th percentile per-packet one-way delay: 162.335 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.25 Mbit/s
95th percentile per-packet one-way delay: 162.214 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.41 Mbit/s
95th percentile per-packet one-way delay: 162.298 ms
Loss rate: 0.87%
```

Run 1: Report of Sprout — Data Link



Run 2: Statistics of Sprout

Start at: 2018-01-03 09:39:56

End at: 2018-01-03 09:40:26

Below is generated by plot.py at 2018-01-03 13:21:16

Datalink statistics

-- Total of 3 flows:

Average throughput: 0.91 Mbit/s

95th percentile per-packet one-way delay: 136.451 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 0.42 Mbit/s

95th percentile per-packet one-way delay: 136.056 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 0.43 Mbit/s

95th percentile per-packet one-way delay: 136.450 ms

Loss rate: 0.00%

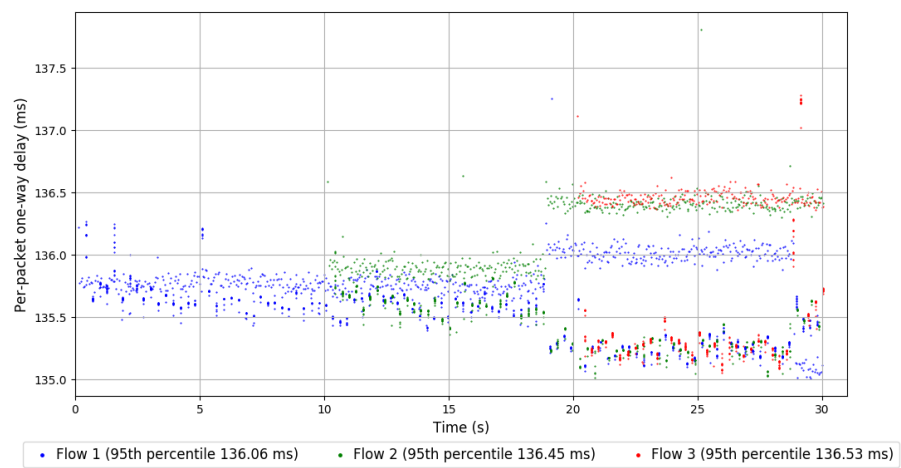
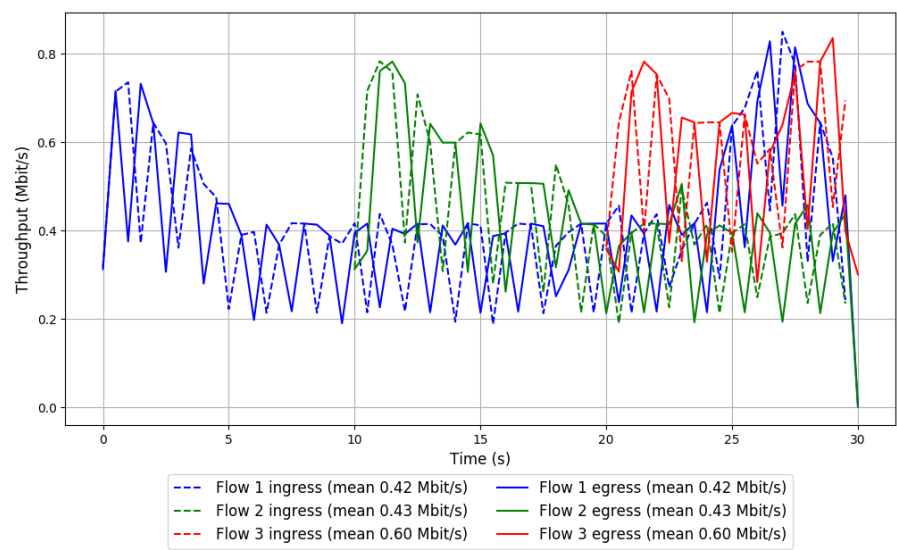
-- Flow 3:

Average throughput: 0.60 Mbit/s

95th percentile per-packet one-way delay: 136.529 ms

Loss rate: 0.00%

Run 2: Report of Sprout — Data Link



Run 3: Statistics of Sprout

Start at: 2018-01-03 09:55:59

End at: 2018-01-03 09:56:29

Below is generated by plot.py at 2018-01-03 13:21:16

Datalink statistics

-- Total of 3 flows:

Average throughput: 0.92 Mbit/s

95th percentile per-packet one-way delay: 136.542 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 0.49 Mbit/s

95th percentile per-packet one-way delay: 136.050 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 0.40 Mbit/s

95th percentile per-packet one-way delay: 136.573 ms

Loss rate: 0.00%

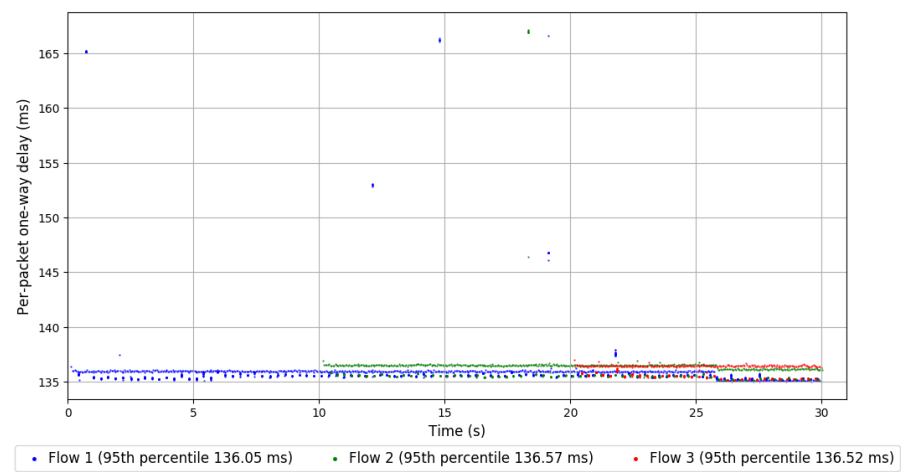
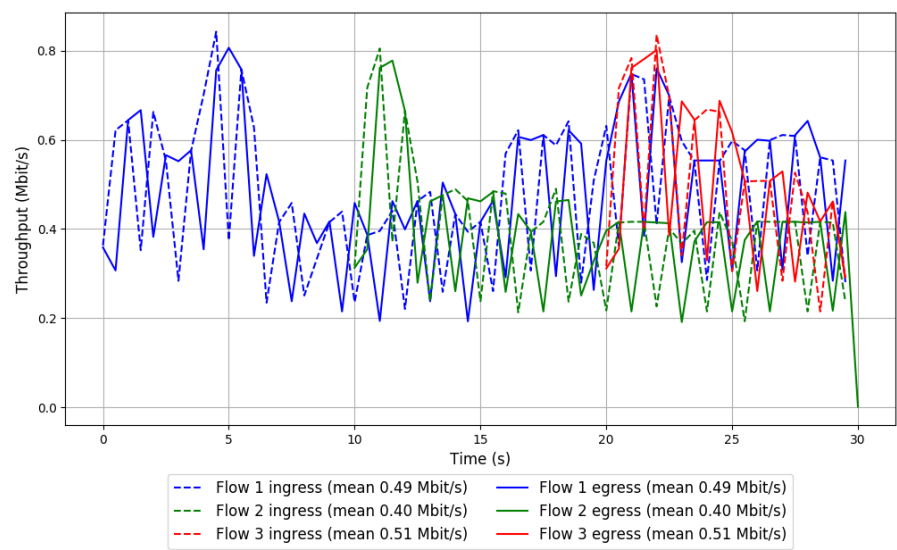
-- Flow 3:

Average throughput: 0.51 Mbit/s

95th percentile per-packet one-way delay: 136.521 ms

Loss rate: 0.00%

Run 3: Report of Sprout — Data Link



Run 4: Statistics of Sprout

Start at: 2018-01-03 10:12:13

End at: 2018-01-03 10:12:43

Below is generated by plot.py at 2018-01-03 13:21:16

Datalink statistics

-- Total of 3 flows:

Average throughput: 0.85 Mbit/s

95th percentile per-packet one-way delay: 137.102 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 0.38 Mbit/s

95th percentile per-packet one-way delay: 136.802 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 0.52 Mbit/s

95th percentile per-packet one-way delay: 137.130 ms

Loss rate: 0.00%

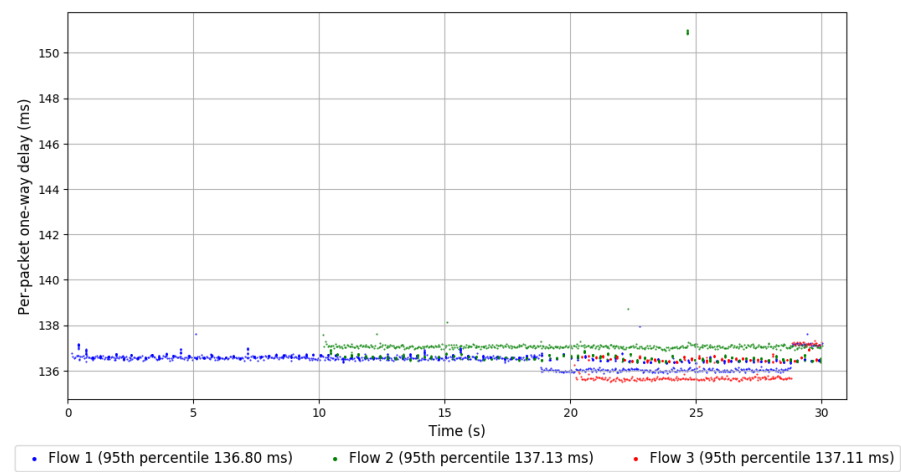
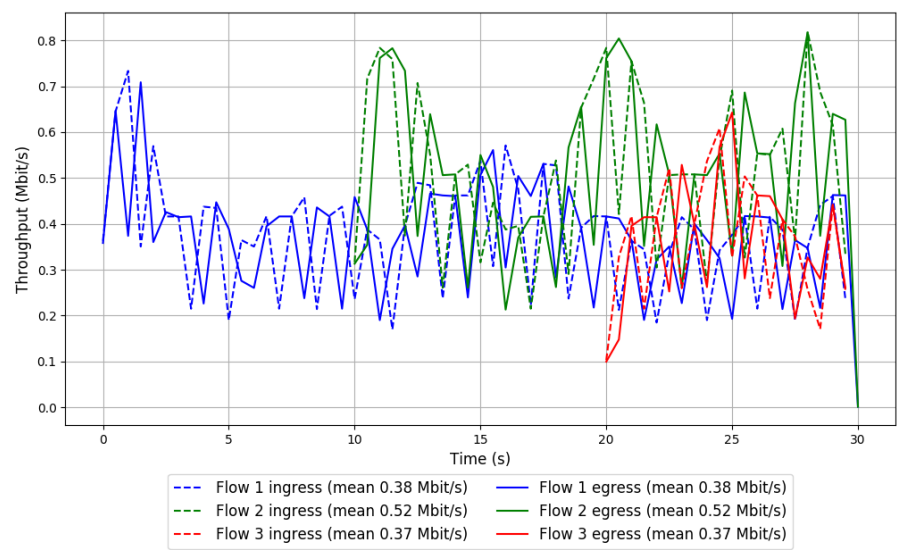
-- Flow 3:

Average throughput: 0.37 Mbit/s

95th percentile per-packet one-way delay: 137.110 ms

Loss rate: 0.00%

Run 4: Report of Sprout — Data Link



Run 5: Statistics of Sprout

Start at: 2018-01-03 10:27:35

End at: 2018-01-03 10:28:05

Below is generated by plot.py at 2018-01-03 13:21:16

Datalink statistics

-- Total of 3 flows:

Average throughput: 0.85 Mbit/s

95th percentile per-packet one-way delay: 137.200 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 0.44 Mbit/s

95th percentile per-packet one-way delay: 137.237 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 0.43 Mbit/s

95th percentile per-packet one-way delay: 136.737 ms

Loss rate: 0.00%

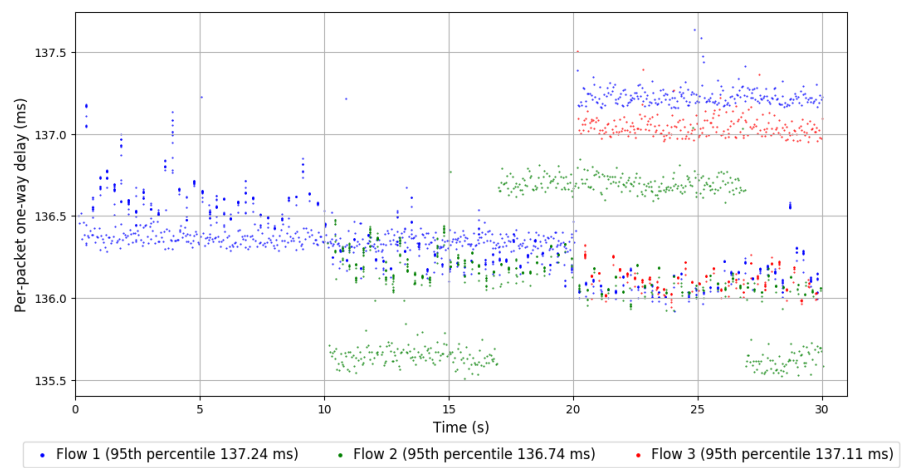
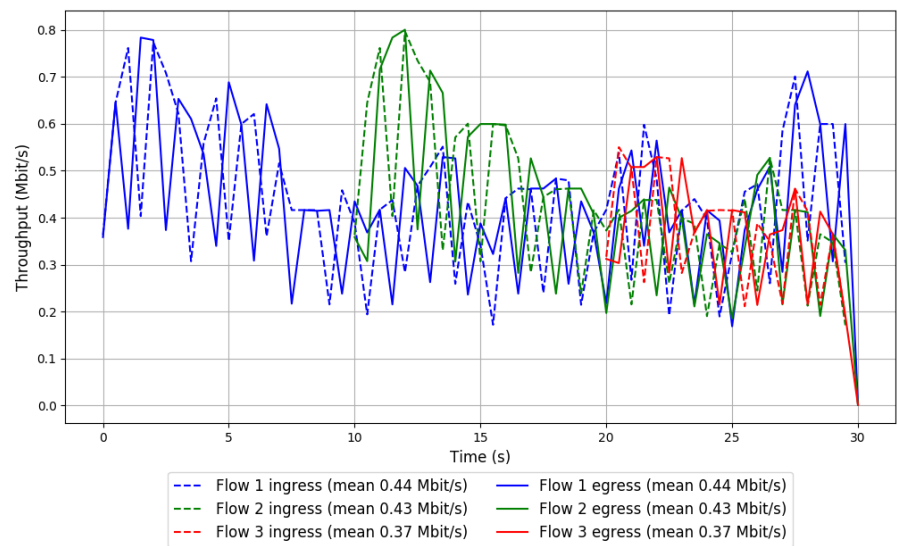
-- Flow 3:

Average throughput: 0.37 Mbit/s

95th percentile per-packet one-way delay: 137.113 ms

Loss rate: 0.00%

Run 5: Report of Sprout — Data Link



Run 6: Statistics of Sprout

Start at: 2018-01-03 10:43:48

End at: 2018-01-03 10:44:18

Below is generated by plot.py at 2018-01-03 13:21:16

Datalink statistics

-- Total of 3 flows:

Average throughput: 0.86 Mbit/s

95th percentile per-packet one-way delay: 136.614 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 0.36 Mbit/s

95th percentile per-packet one-way delay: 136.667 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 0.51 Mbit/s

95th percentile per-packet one-way delay: 136.603 ms

Loss rate: 0.00%

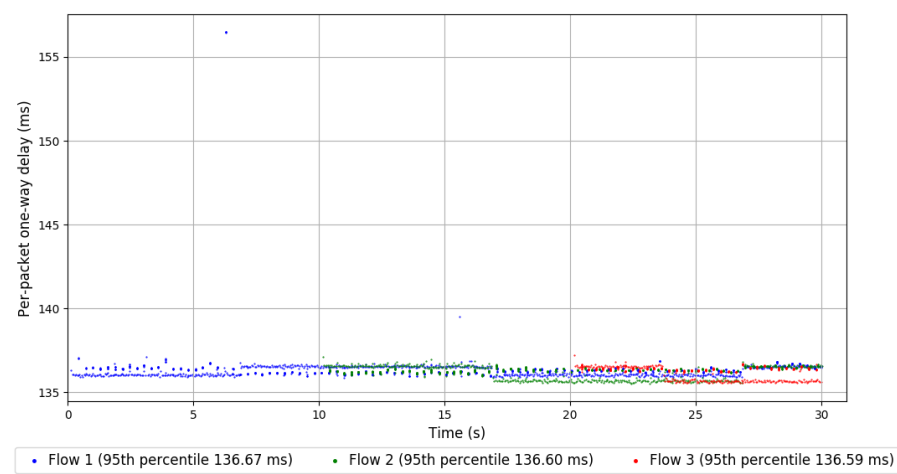
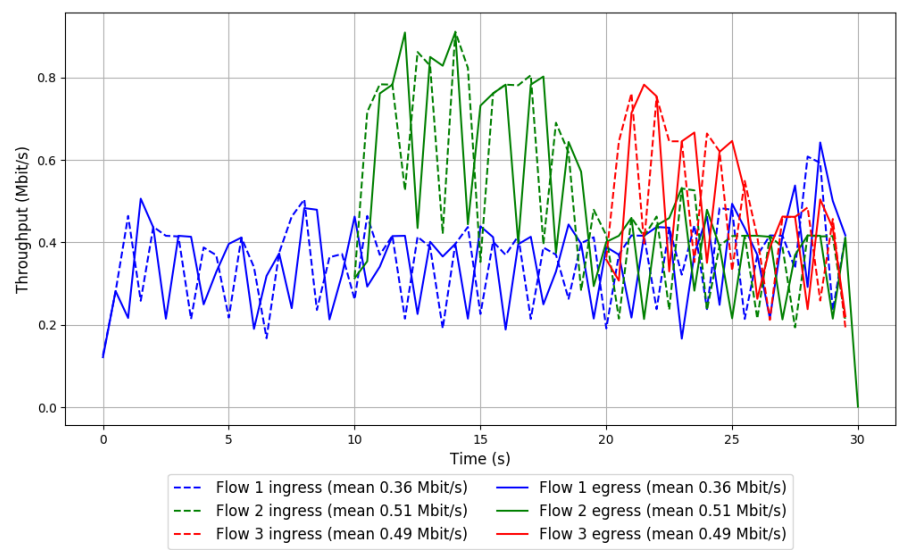
-- Flow 3:

Average throughput: 0.49 Mbit/s

95th percentile per-packet one-way delay: 136.590 ms

Loss rate: 0.00%

Run 6: Report of Sprout — Data Link



Run 7: Statistics of Sprout

Start at: 2018-01-03 10:59:46

End at: 2018-01-03 11:00:16

Below is generated by plot.py at 2018-01-03 13:21:16

Datalink statistics

-- Total of 3 flows:

Average throughput: 0.81 Mbit/s

95th percentile per-packet one-way delay: 137.188 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 0.38 Mbit/s

95th percentile per-packet one-way delay: 137.137 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 0.44 Mbit/s

95th percentile per-packet one-way delay: 137.222 ms

Loss rate: 0.00%

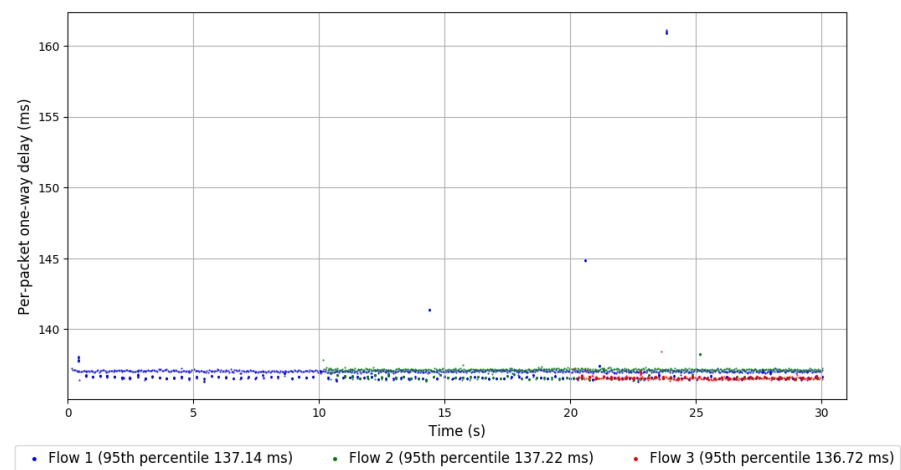
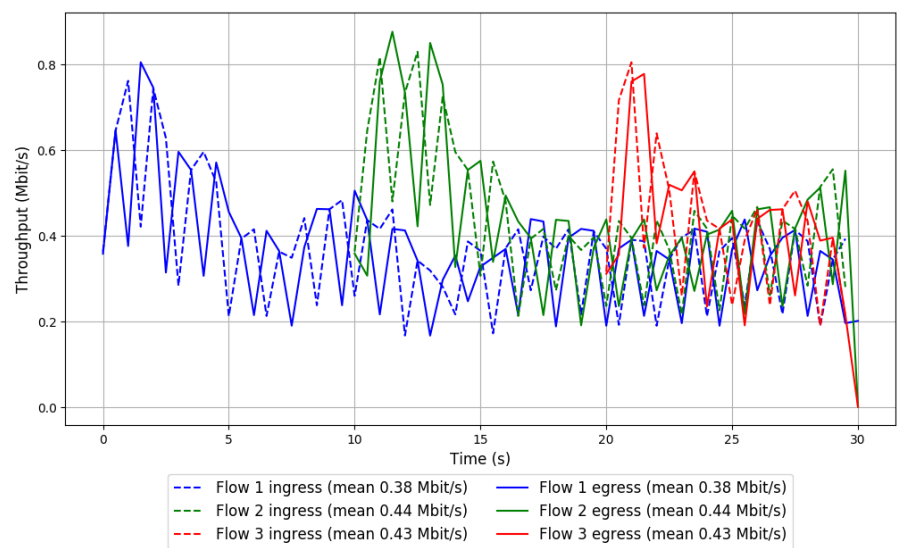
-- Flow 3:

Average throughput: 0.43 Mbit/s

95th percentile per-packet one-way delay: 136.725 ms

Loss rate: 0.00%

Run 7: Report of Sprout — Data Link



Run 8: Statistics of Sprout

Start at: 2018-01-03 11:15:57

End at: 2018-01-03 11:16:27

Below is generated by plot.py at 2018-01-03 13:21:16

Datalink statistics

-- Total of 3 flows:

Average throughput: 0.89 Mbit/s

95th percentile per-packet one-way delay: 137.002 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 0.48 Mbit/s

95th percentile per-packet one-way delay: 137.016 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 0.39 Mbit/s

95th percentile per-packet one-way delay: 136.662 ms

Loss rate: 0.00%

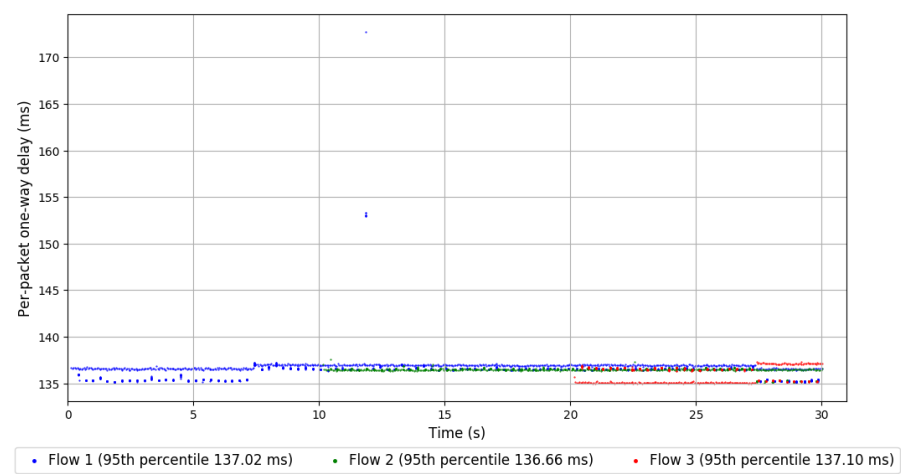
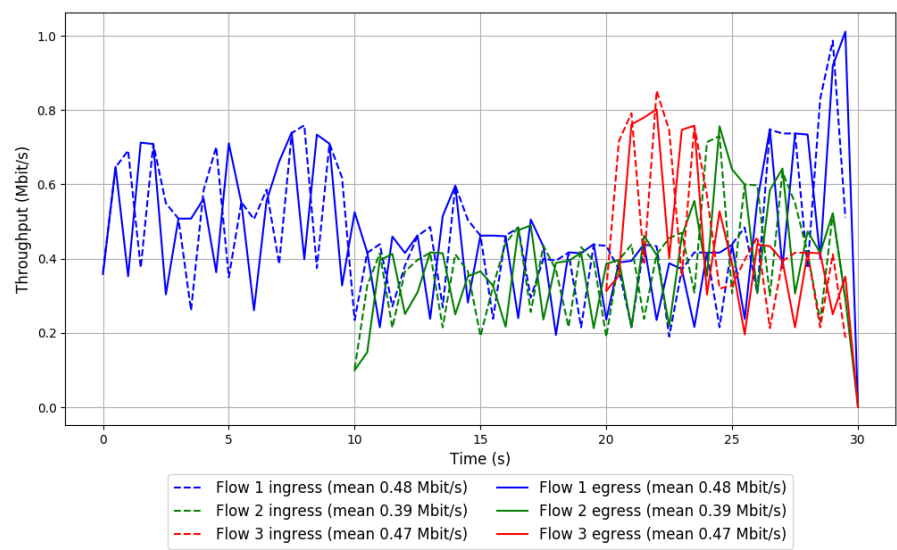
-- Flow 3:

Average throughput: 0.47 Mbit/s

95th percentile per-packet one-way delay: 137.105 ms

Loss rate: 0.00%

Run 8: Report of Sprout — Data Link



Run 9: Statistics of Sprout

Start at: 2018-01-03 11:31:28

End at: 2018-01-03 11:31:58

Below is generated by plot.py at 2018-01-03 13:21:16

Datalink statistics

-- Total of 3 flows:

Average throughput: 1.02 Mbit/s

95th percentile per-packet one-way delay: 136.030 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 0.56 Mbit/s

95th percentile per-packet one-way delay: 135.907 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 0.41 Mbit/s

95th percentile per-packet one-way delay: 136.048 ms

Loss rate: 0.00%

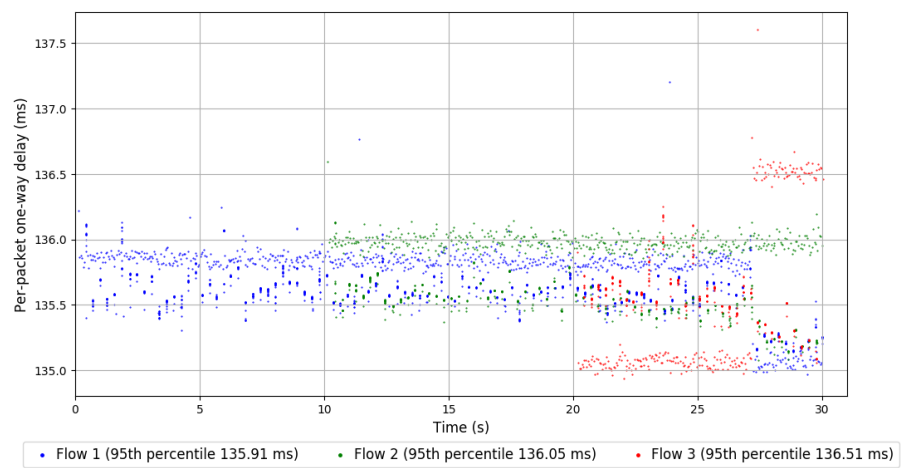
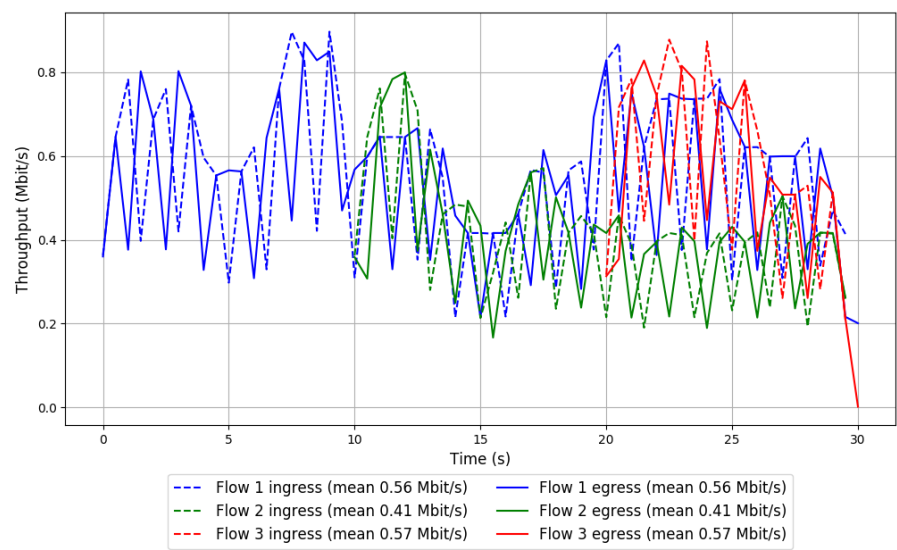
-- Flow 3:

Average throughput: 0.57 Mbit/s

95th percentile per-packet one-way delay: 136.513 ms

Loss rate: 0.00%

Run 9: Report of Sprout — Data Link



Run 10: Statistics of Sprout

Start at: 2018-01-03 11:47:21

End at: 2018-01-03 11:47:51

Below is generated by plot.py at 2018-01-03 13:21:16

Datalink statistics

-- Total of 3 flows:

Average throughput: 0.90 Mbit/s

95th percentile per-packet one-way delay: 136.720 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 0.42 Mbit/s

95th percentile per-packet one-way delay: 136.680 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 0.50 Mbit/s

95th percentile per-packet one-way delay: 136.729 ms

Loss rate: 0.00%

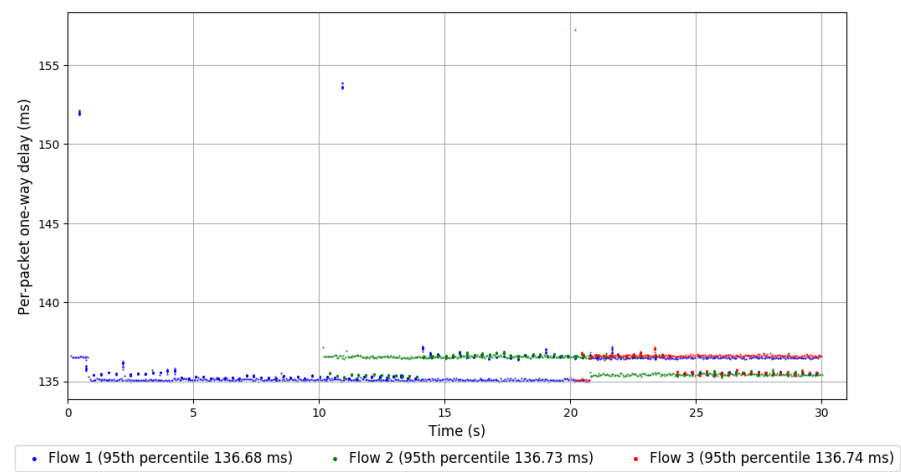
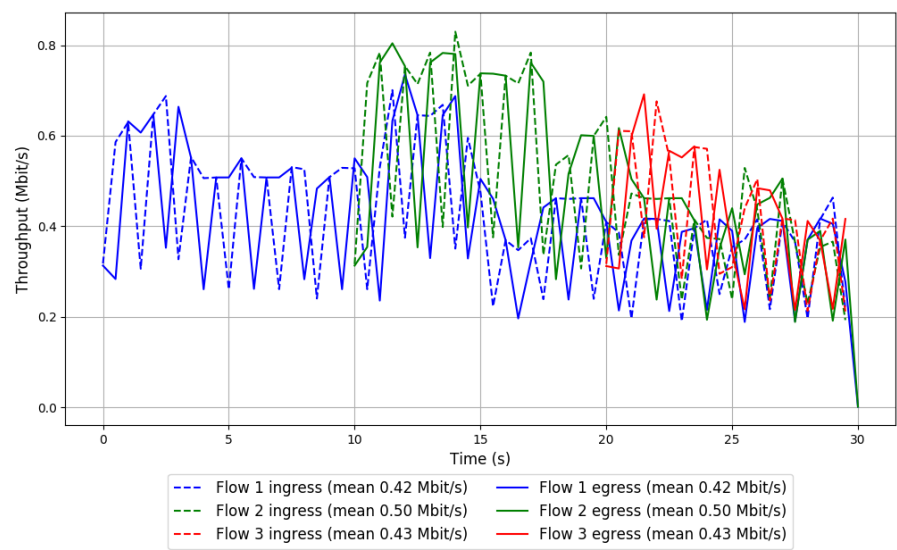
-- Flow 3:

Average throughput: 0.43 Mbit/s

95th percentile per-packet one-way delay: 136.744 ms

Loss rate: 0.00%

Run 10: Report of Sprout — Data Link

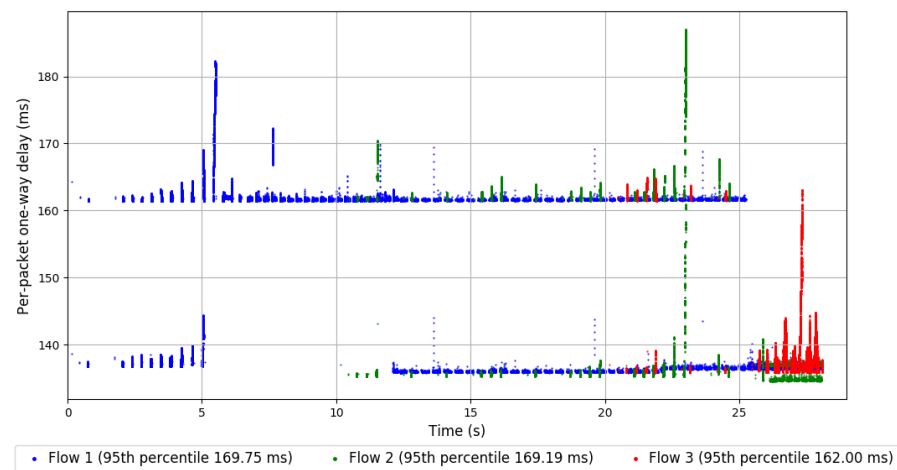
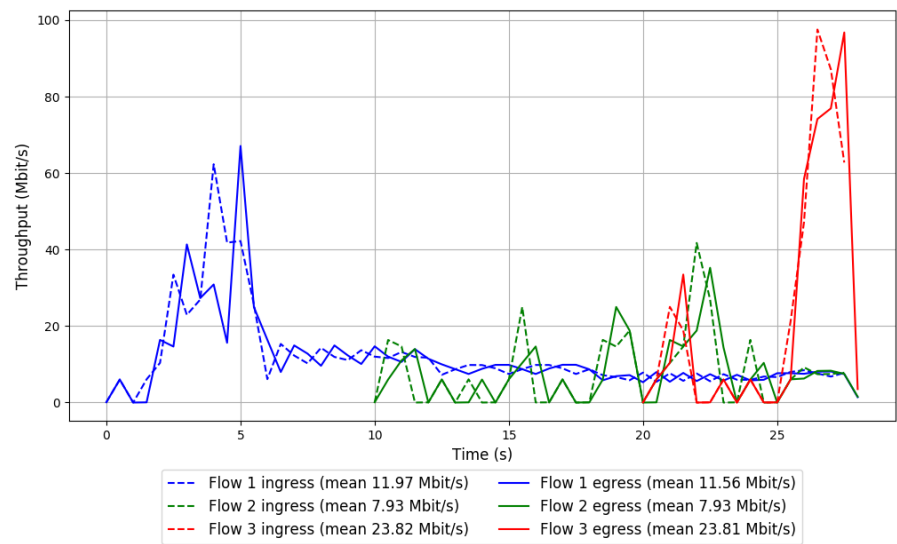


```
Run 1: Statistics of TaoVA-100x

Start at: 2018-01-03 09:23:28
End at: 2018-01-03 09:23:58

# Below is generated by plot.py at 2018-01-03 13:21:16
# Datalink statistics
-- Total of 3 flows:
Average throughput: 23.40 Mbit/s
95th percentile per-packet one-way delay: 166.380 ms
Loss rate: 1.75%
-- Flow 1:
Average throughput: 11.56 Mbit/s
95th percentile per-packet one-way delay: 169.750 ms
Loss rate: 3.45%
-- Flow 2:
Average throughput: 7.93 Mbit/s
95th percentile per-packet one-way delay: 169.188 ms
Loss rate: 0.08%
-- Flow 3:
Average throughput: 23.81 Mbit/s
95th percentile per-packet one-way delay: 161.997 ms
Loss rate: 0.00%
```


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

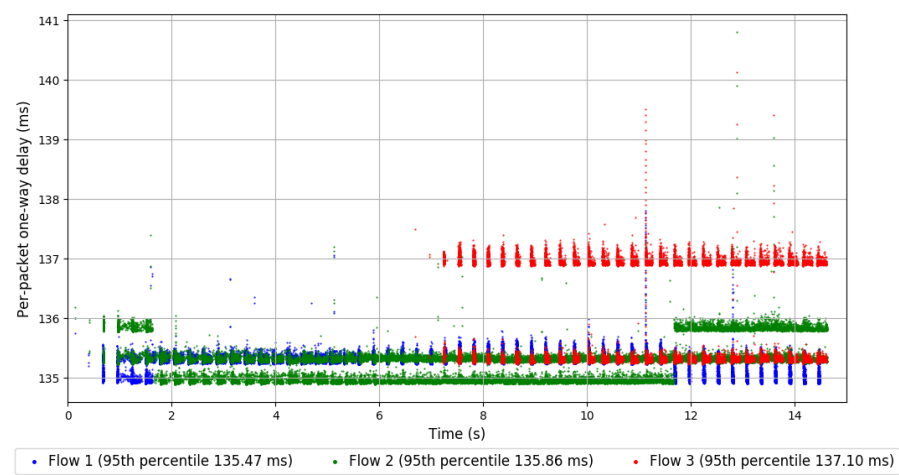
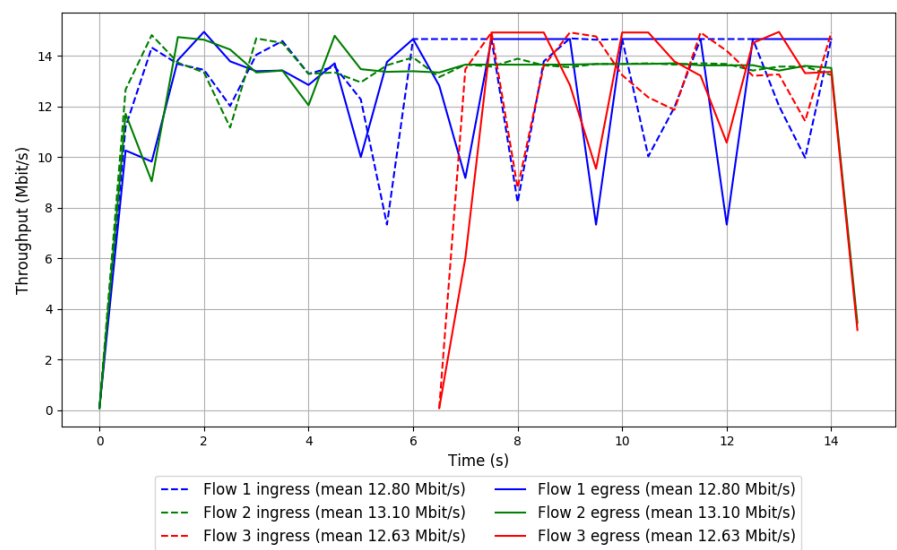


Run 2: Statistics of TaoVA-100x

Start at: 2018-01-03 09:39:05

End at: 2018-01-03 09:39:35

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

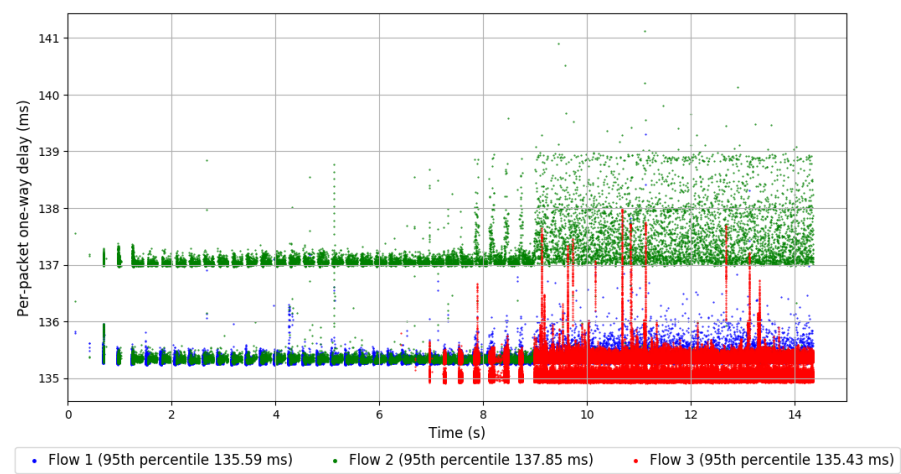
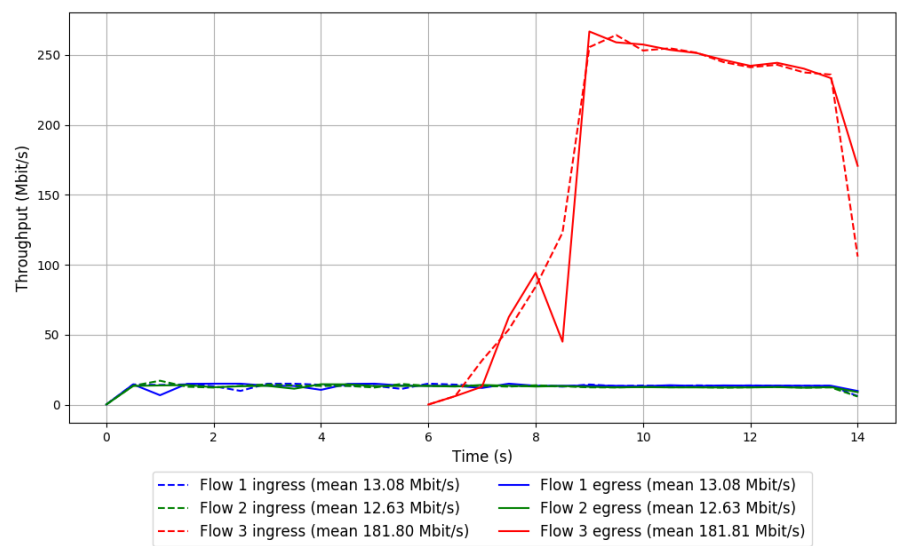


Run 3: Statistics of TaoVA-100x

Start at: 2018-01-03 09:55:03

End at: 2018-01-03 09:55:33

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

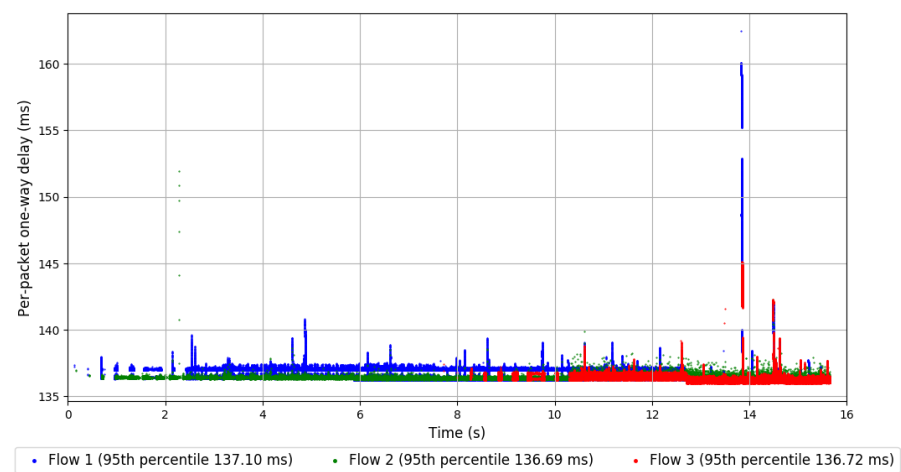
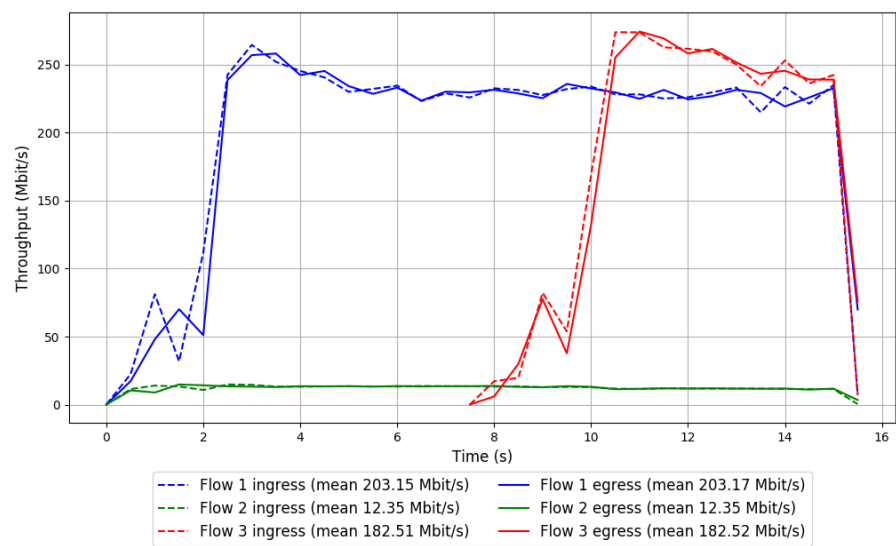


Run 4: Statistics of TaoVA-100x

Start at: 2018-01-03 10:11:05

End at: 2018-01-03 10:11:35

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

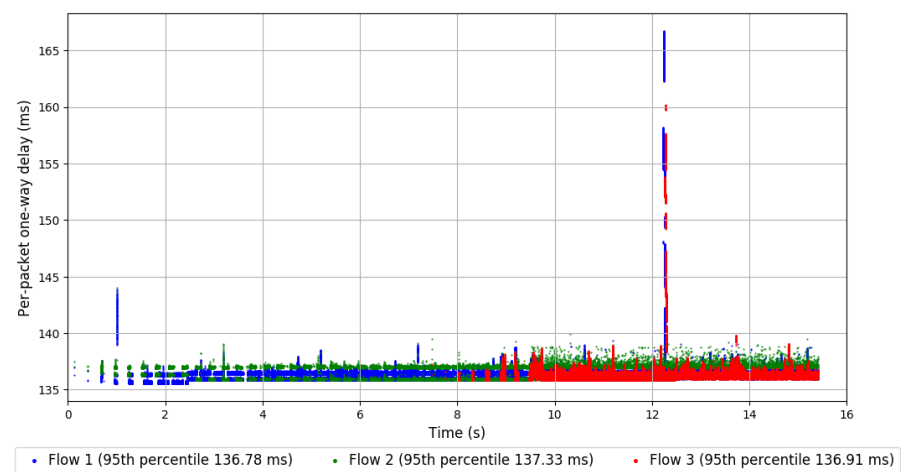
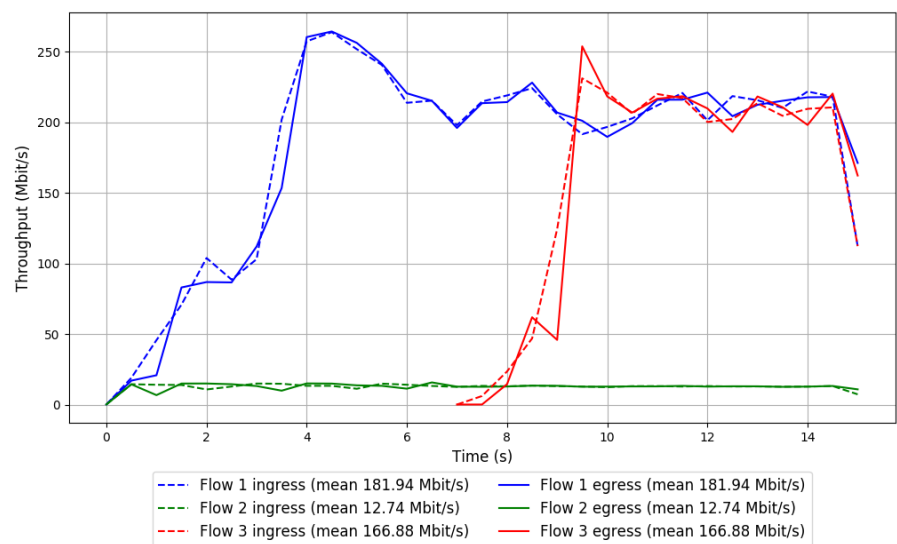


Run 5: Statistics of TaoVA-100x

Start at: 2018-01-03 10:26:28

End at: 2018-01-03 10:26:58

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

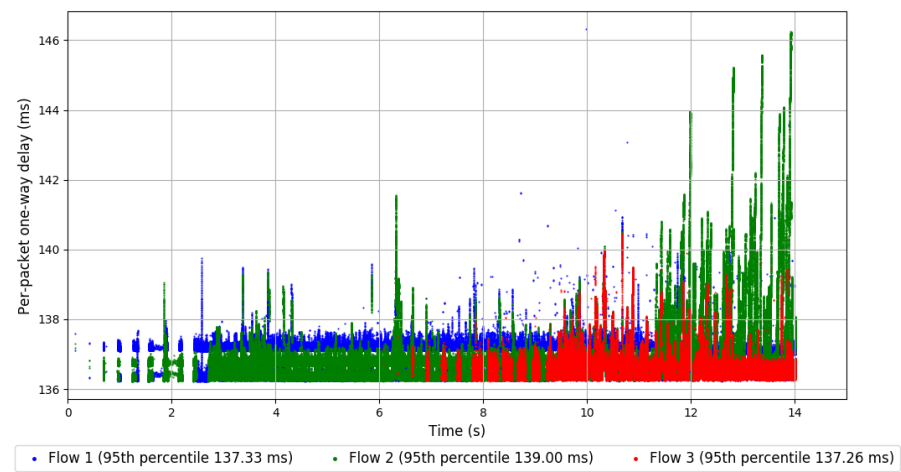
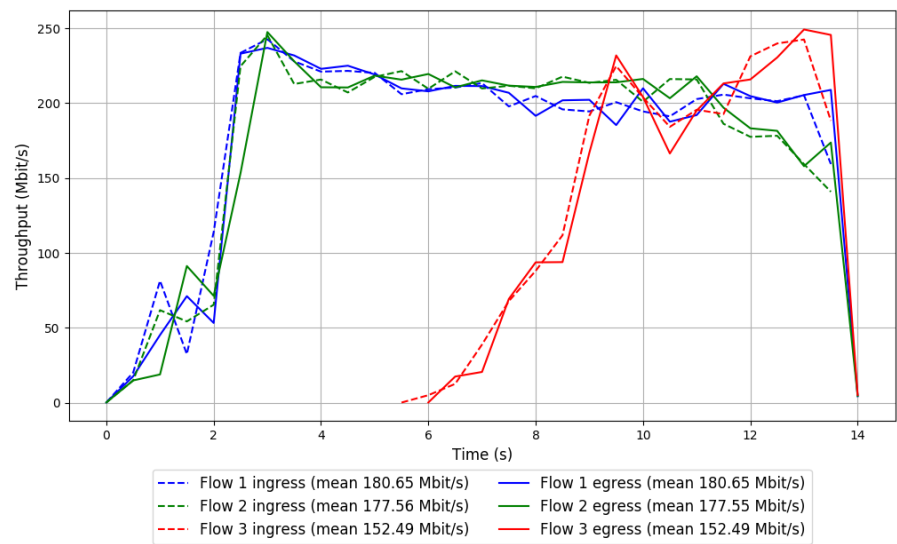


Run 6: Statistics of TaoVA-100x

Start at: 2018-01-03 10:42:33

End at: 2018-01-03 10:43:03

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

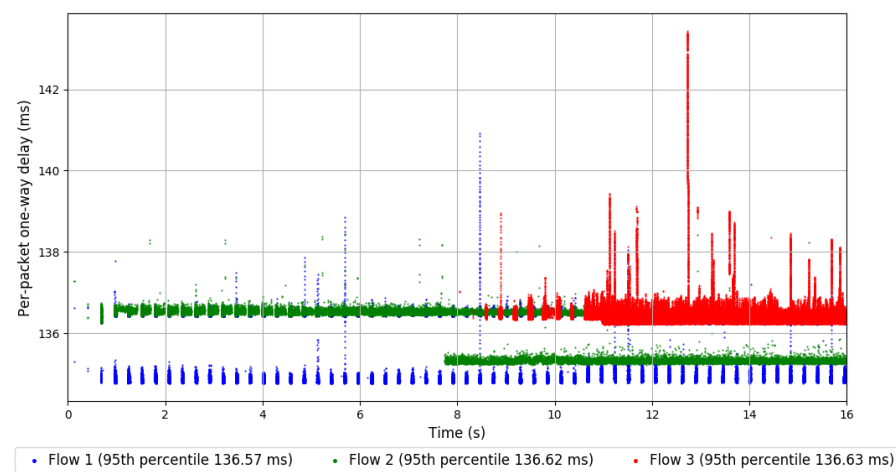
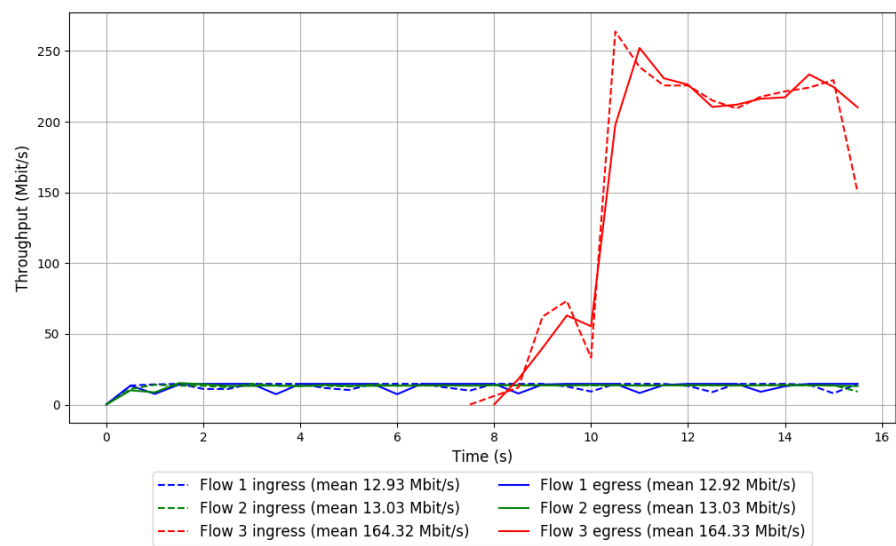


Run 7: Statistics of TaoVA-100x

Start at: 2018-01-03 10:58:50

End at: 2018-01-03 10:59:20

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

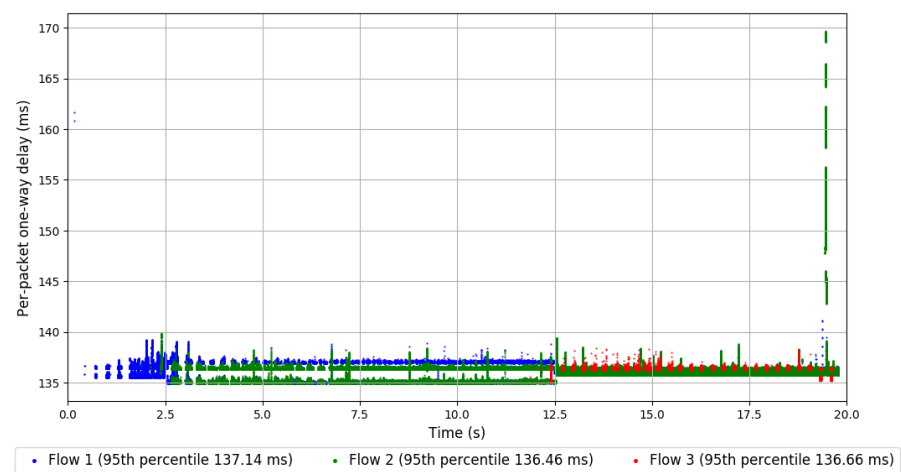
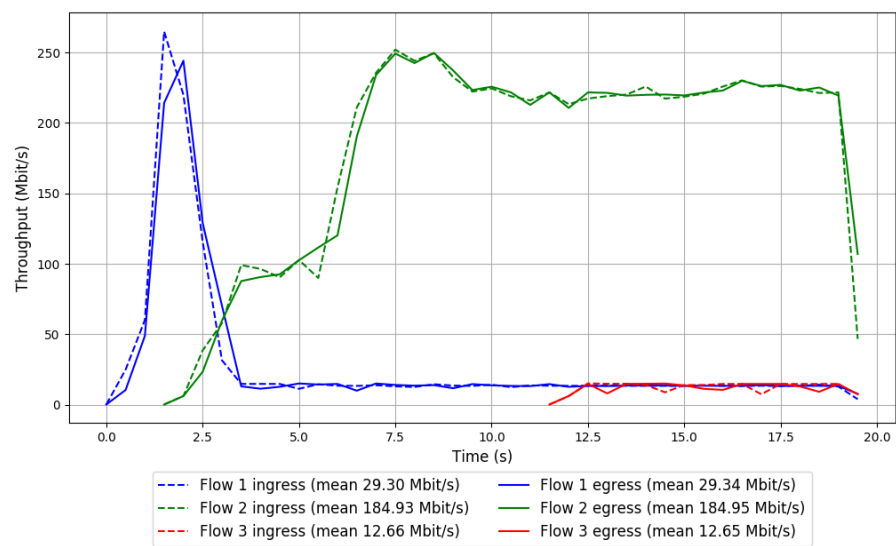


Run 8: Statistics of TaoVA-100x

Start at: 2018-01-03 11:14:52

End at: 2018-01-03 11:15:22

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

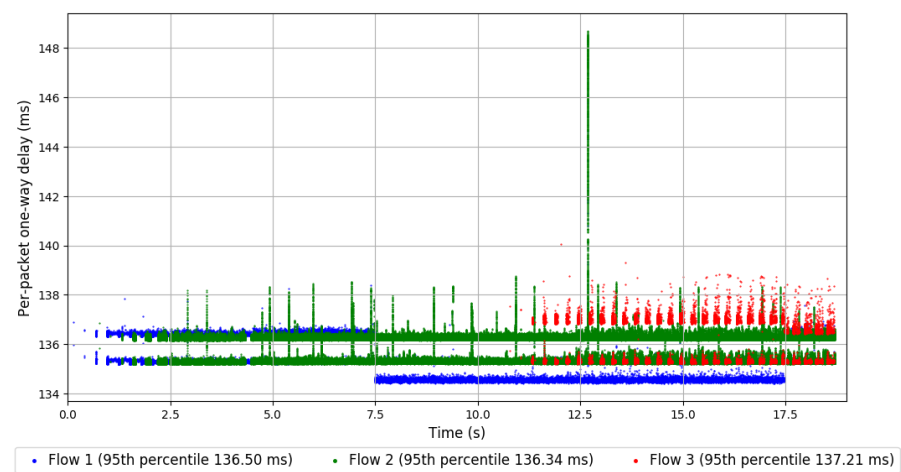
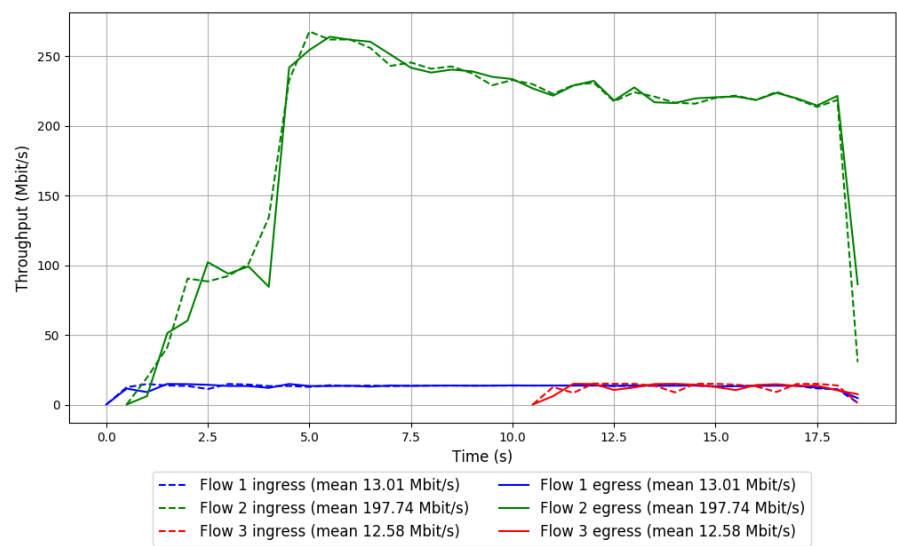


Run 9: Statistics of TaoVA-100x

Start at: 2018-01-03 11:30:23

End at: 2018-01-03 11:30:53

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

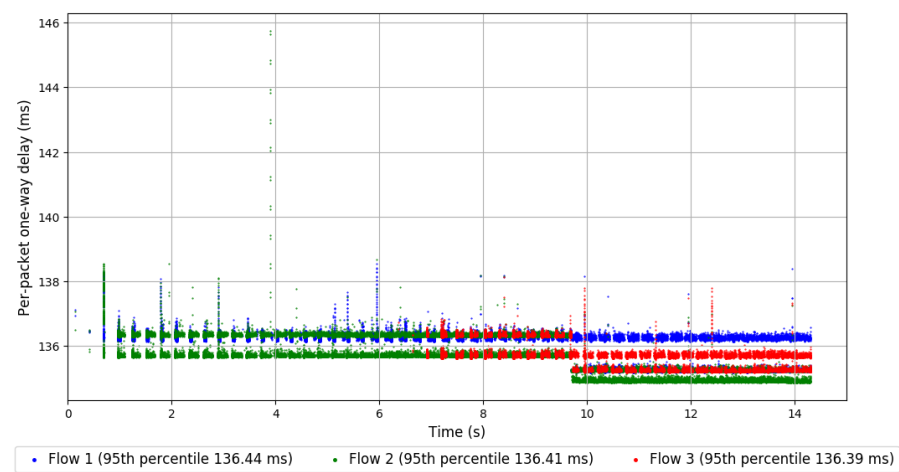
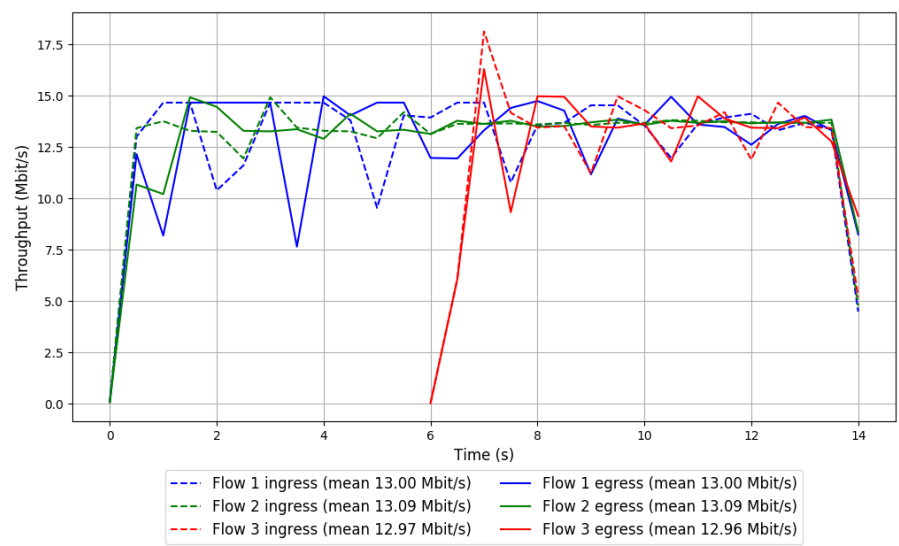


Run 10: Statistics of TaoVA-100x

Start at: 2018-01-03 11:46:29

End at: 2018-01-03 11:46:59

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



Run 1: Statistics of TCP Vegas

Start at: 2018-01-03 09:19:05

End at: 2018-01-03 09:19:35

Below is generated by plot.py at 2018-01-03 13:22:46

Datalink statistics

-- Total of 3 flows:

Average throughput: 20.26 Mbit/s

95th percentile per-packet one-way delay: 169.704 ms

Loss rate: 3.04%

-- Flow 1:

Average throughput: 3.74 Mbit/s

95th percentile per-packet one-way delay: 167.922 ms

Loss rate: 3.10%

-- Flow 2:

Average throughput: 24.11 Mbit/s

95th percentile per-packet one-way delay: 171.398 ms

Loss rate: 3.10%

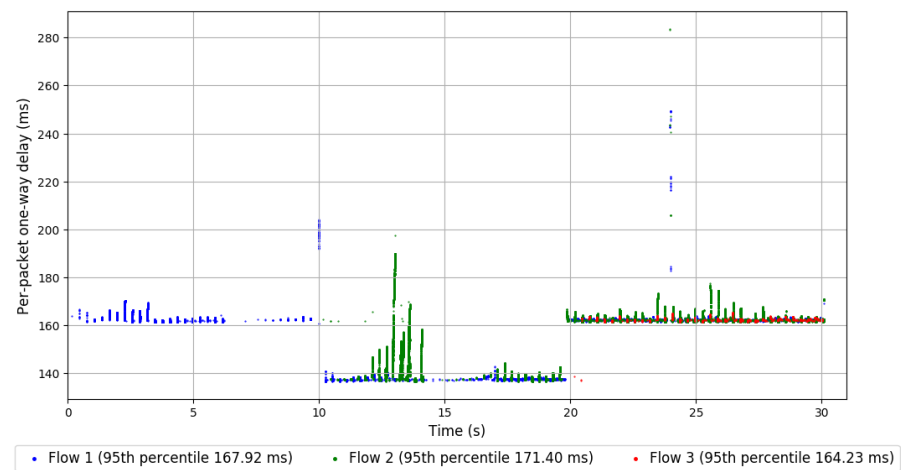
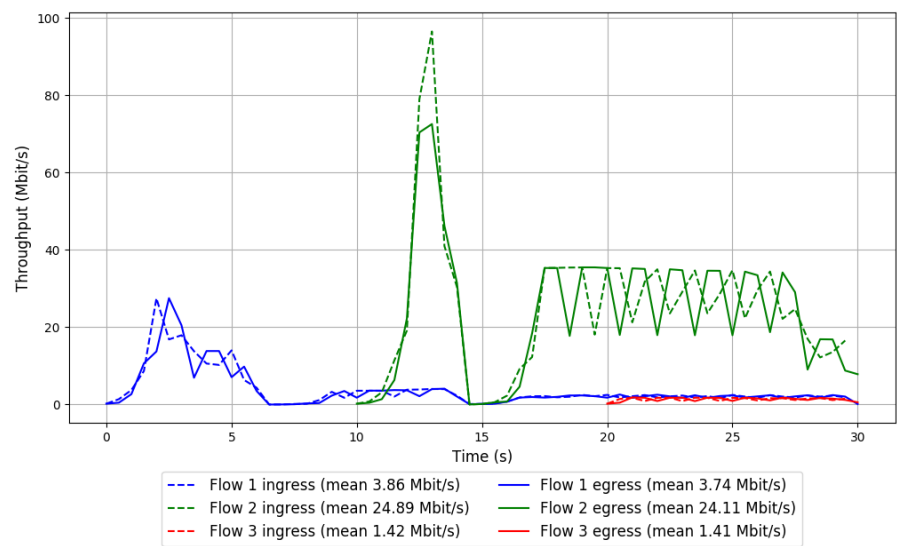
-- Flow 3:

Average throughput: 1.41 Mbit/s

95th percentile per-packet one-way delay: 164.229 ms

Loss rate: 0.00%

Run 1: Report of TCP Vegas — Data Link



Run 2: Statistics of TCP Vegas

Start at: 2018-01-03 09:34:38

End at: 2018-01-03 09:35:08

Below is generated by plot.py at 2018-01-03 13:22:46

Datalink statistics

-- Total of 3 flows:

Average throughput: 77.87 Mbit/s

95th percentile per-packet one-way delay: 142.551 ms

Loss rate: 0.18%

-- Flow 1:

Average throughput: 14.09 Mbit/s

95th percentile per-packet one-way delay: 142.255 ms

Loss rate: 1.00%

-- Flow 2:

Average throughput: 61.32 Mbit/s

95th percentile per-packet one-way delay: 138.000 ms

Loss rate: 0.00%

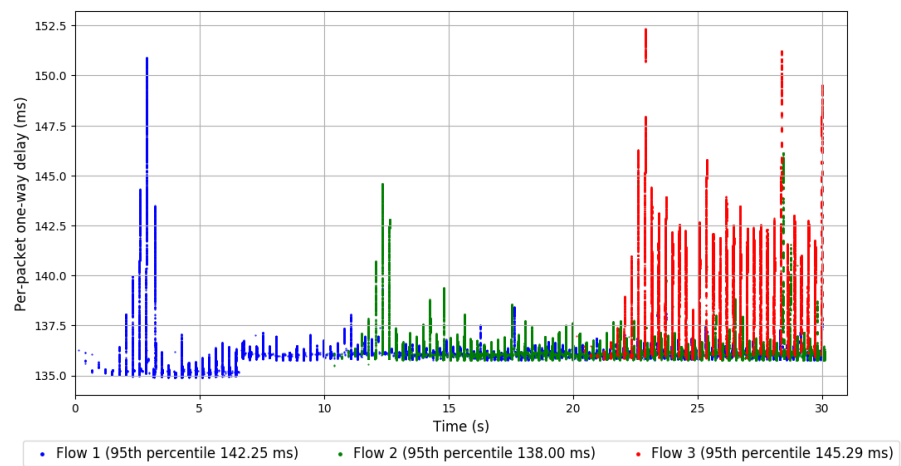
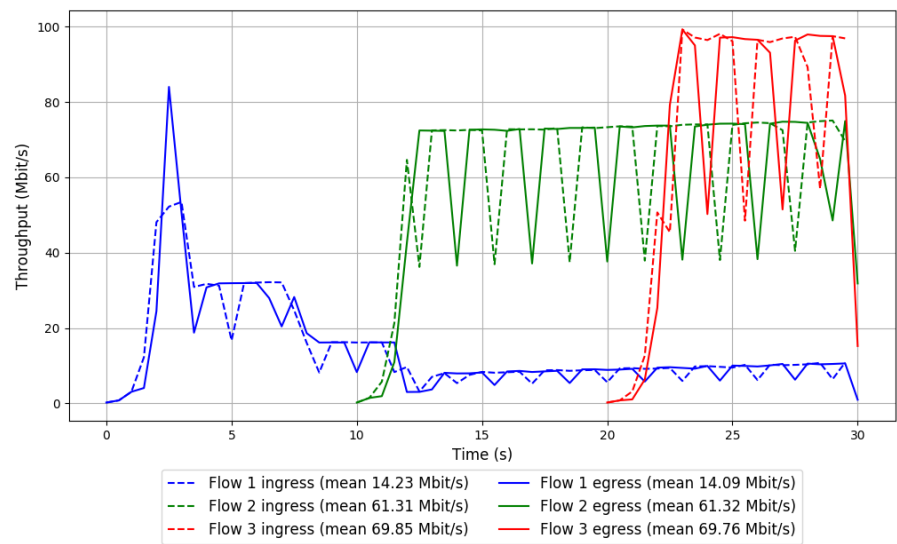
-- Flow 3:

Average throughput: 69.76 Mbit/s

95th percentile per-packet one-way delay: 145.289 ms

Loss rate: 0.00%

Run 2: Report of TCP Vegas — Data Link



Run 3: Statistics of TCP Vegas

Start at: 2018-01-03 09:50:40

End at: 2018-01-03 09:51:10

Below is generated by plot.py at 2018-01-03 13:22:46

Datalink statistics

-- Total of 3 flows:

Average throughput: 33.44 Mbit/s

95th percentile per-packet one-way delay: 142.809 ms

Loss rate: 0.70%

-- Flow 1:

Average throughput: 3.07 Mbit/s

95th percentile per-packet one-way delay: 136.258 ms

Loss rate: 0.51%

-- Flow 2:

Average throughput: 32.91 Mbit/s

95th percentile per-packet one-way delay: 142.757 ms

Loss rate: 1.00%

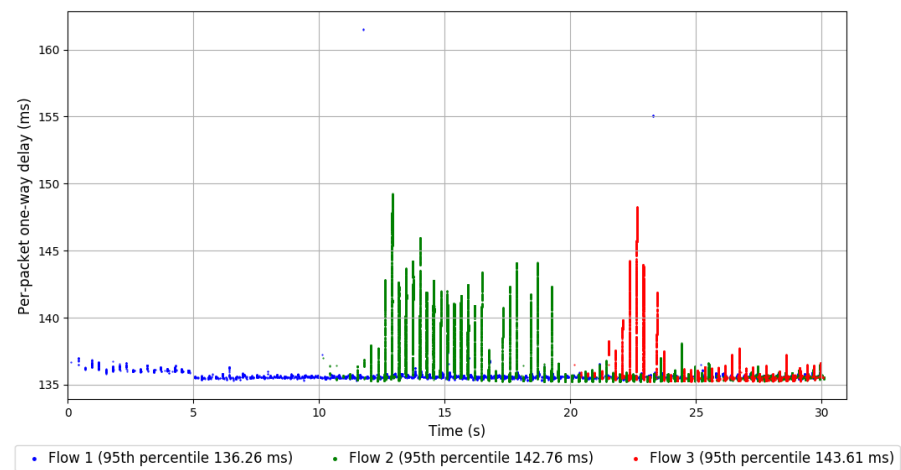
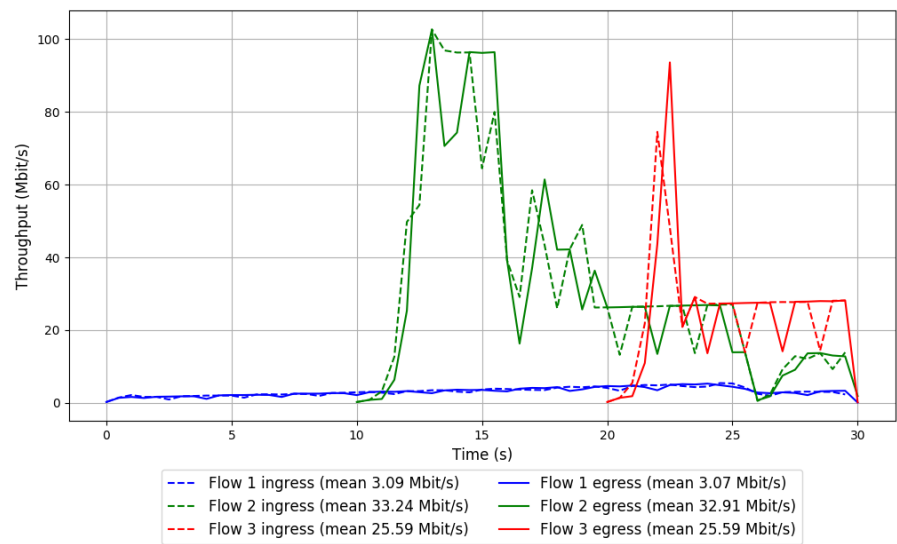
-- Flow 3:

Average throughput: 25.59 Mbit/s

95th percentile per-packet one-way delay: 143.607 ms

Loss rate: 0.00%

Run 3: Report of TCP Vegas — Data Link



Run 4: Statistics of TCP Vegas

Start at: 2018-01-03 10:06:37

End at: 2018-01-03 10:07:07

Below is generated by plot.py at 2018-01-03 13:22:46

Datalink statistics

-- Total of 3 flows:

Average throughput: 74.04 Mbit/s

95th percentile per-packet one-way delay: 143.266 ms

Loss rate: 0.52%

-- Flow 1:

Average throughput: 33.96 Mbit/s

95th percentile per-packet one-way delay: 139.389 ms

Loss rate: 1.12%

-- Flow 2:

Average throughput: 24.71 Mbit/s

95th percentile per-packet one-way delay: 143.726 ms

Loss rate: 0.01%

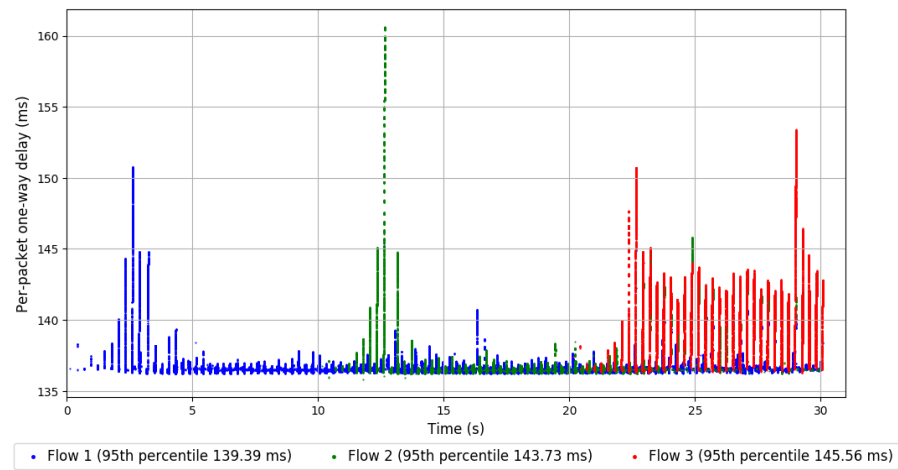
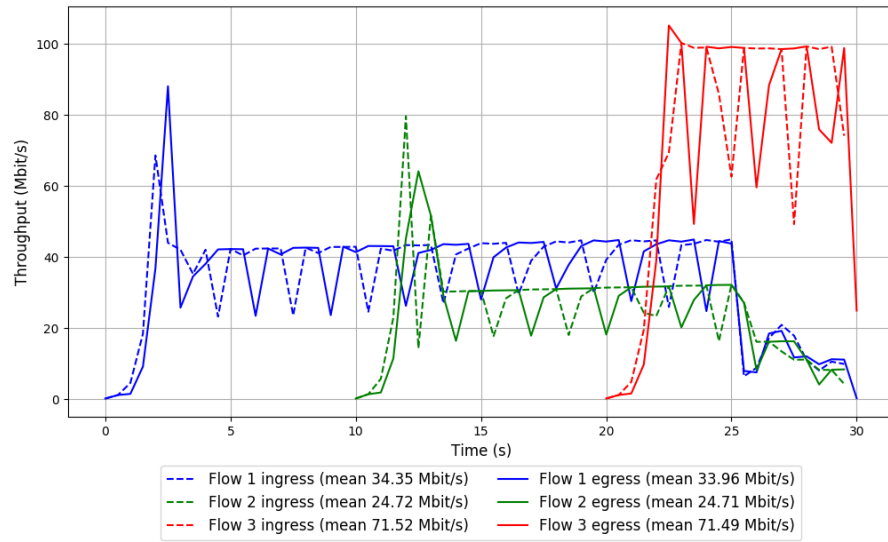
-- Flow 3:

Average throughput: 71.49 Mbit/s

95th percentile per-packet one-way delay: 145.565 ms

Loss rate: 0.00%

Run 4: Report of TCP Vegas — Data Link



Run 5: Statistics of TCP Vegas

Start at: 2018-01-03 10:21:59

End at: 2018-01-03 10:22:29

Below is generated by plot.py at 2018-01-03 13:22:46

Datalink statistics

-- Total of 3 flows:

Average throughput: 106.23 Mbit/s

95th percentile per-packet one-way delay: 142.672 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 47.42 Mbit/s

95th percentile per-packet one-way delay: 138.915 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 75.69 Mbit/s

95th percentile per-packet one-way delay: 143.115 ms

Loss rate: 0.00%

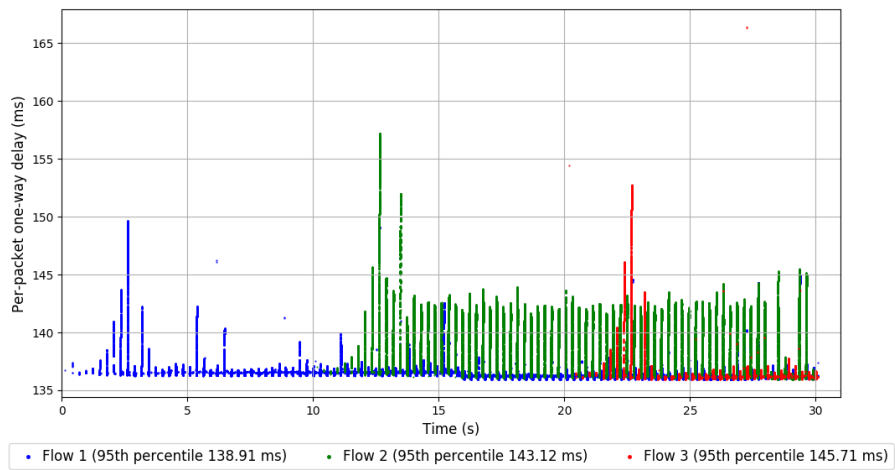
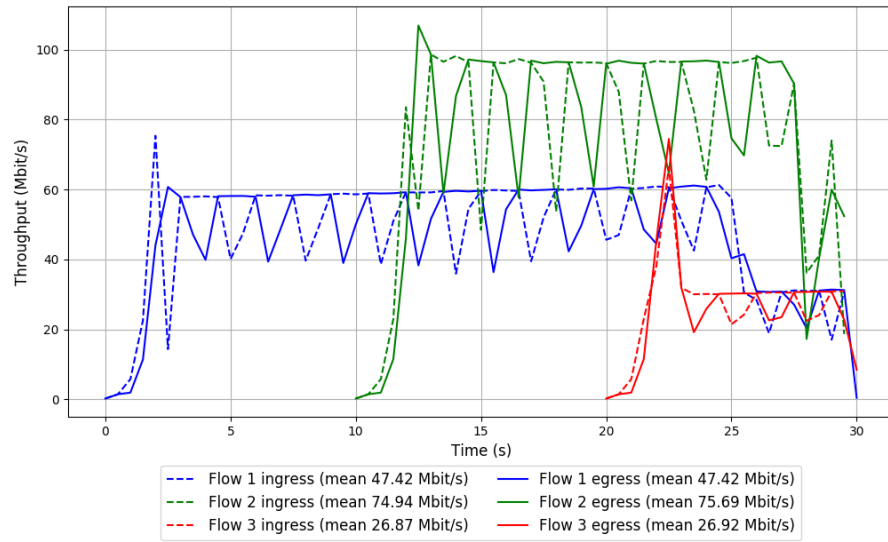
-- Flow 3:

Average throughput: 26.92 Mbit/s

95th percentile per-packet one-way delay: 145.711 ms

Loss rate: 0.00%

Run 5: Report of TCP Vegas — Data Link



Run 6: Statistics of TCP Vegas

Start at: 2018-01-03 10:38:09

End at: 2018-01-03 10:38:39

Below is generated by plot.py at 2018-01-03 13:22:46

Datalink statistics

-- Total of 3 flows:

Average throughput: 53.59 Mbit/s

95th percentile per-packet one-way delay: 139.304 ms

Loss rate: 0.41%

-- Flow 1:

Average throughput: 23.50 Mbit/s

95th percentile per-packet one-way delay: 139.175 ms

Loss rate: 0.85%

-- Flow 2:

Average throughput: 32.25 Mbit/s

95th percentile per-packet one-way delay: 137.534 ms

Loss rate: 0.10%

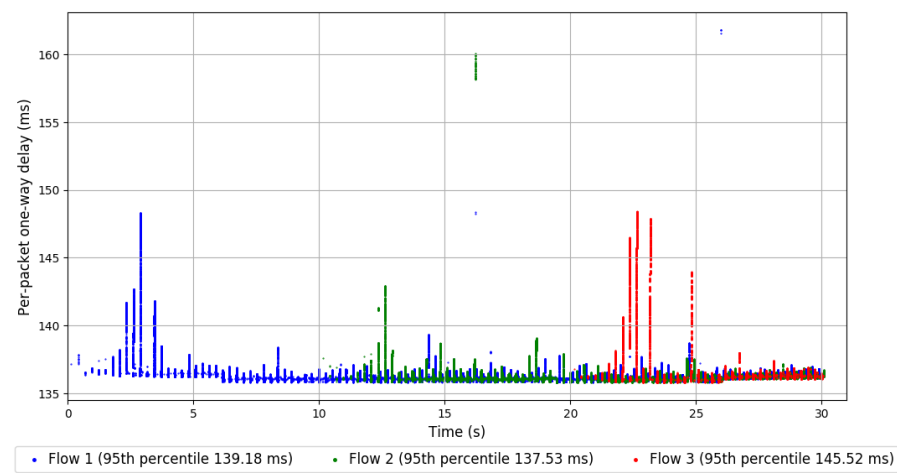
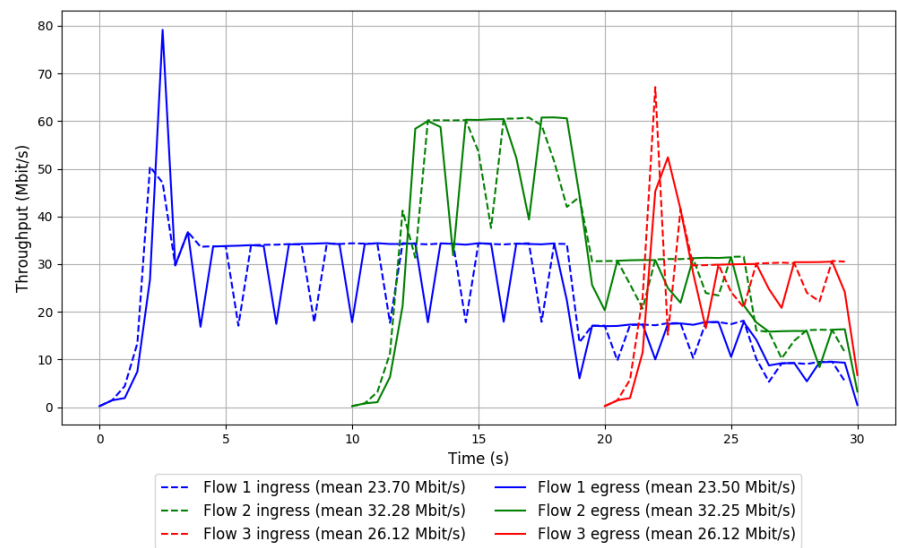
-- Flow 3:

Average throughput: 26.12 Mbit/s

95th percentile per-packet one-way delay: 145.522 ms

Loss rate: 0.00%

Run 6: Report of TCP Vegas — Data Link



Run 7: Statistics of TCP Vegas

Start at: 2018-01-03 10:54:24

End at: 2018-01-03 10:54:54

Below is generated by plot.py at 2018-01-03 13:22:46

Datalink statistics

-- Total of 3 flows:

Average throughput: 45.54 Mbit/s

95th percentile per-packet one-way delay: 139.411 ms

Loss rate: 0.26%

-- Flow 1:

Average throughput: 17.25 Mbit/s

95th percentile per-packet one-way delay: 137.491 ms

Loss rate: 0.02%

-- Flow 2:

Average throughput: 21.62 Mbit/s

95th percentile per-packet one-way delay: 143.799 ms

Loss rate: 0.81%

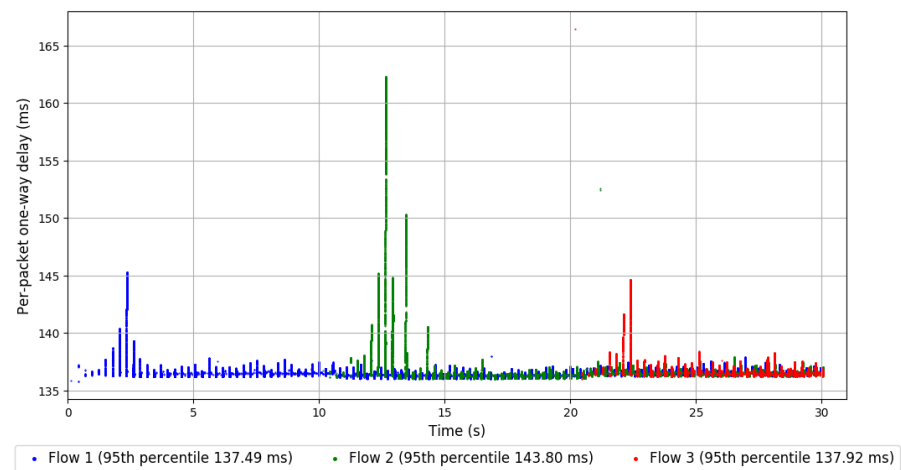
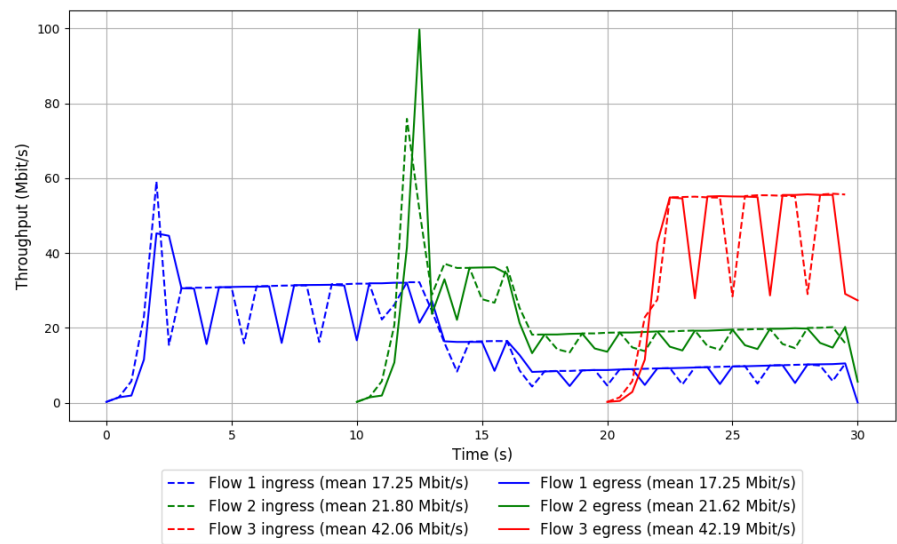
-- Flow 3:

Average throughput: 42.19 Mbit/s

95th percentile per-packet one-way delay: 137.920 ms

Loss rate: 0.00%

Run 7: Report of TCP Vegas — Data Link



Run 8: Statistics of TCP Vegas

Start at: 2018-01-03 11:10:24

End at: 2018-01-03 11:10:54

Below is generated by plot.py at 2018-01-03 13:22:46

Datalink statistics

-- Total of 3 flows:

Average throughput: 84.27 Mbit/s

95th percentile per-packet one-way delay: 144.065 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 52.78 Mbit/s

95th percentile per-packet one-way delay: 141.571 ms

Loss rate: 0.01%

-- Flow 2:

Average throughput: 12.43 Mbit/s

95th percentile per-packet one-way delay: 142.000 ms

Loss rate: 0.01%

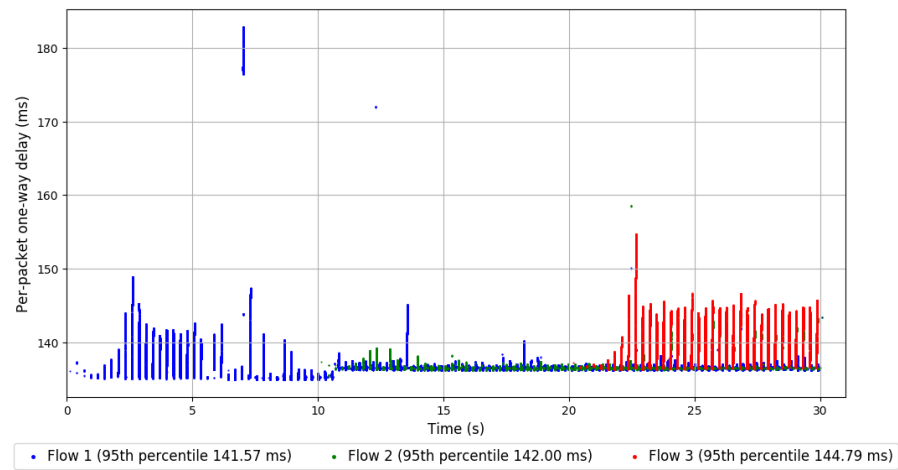
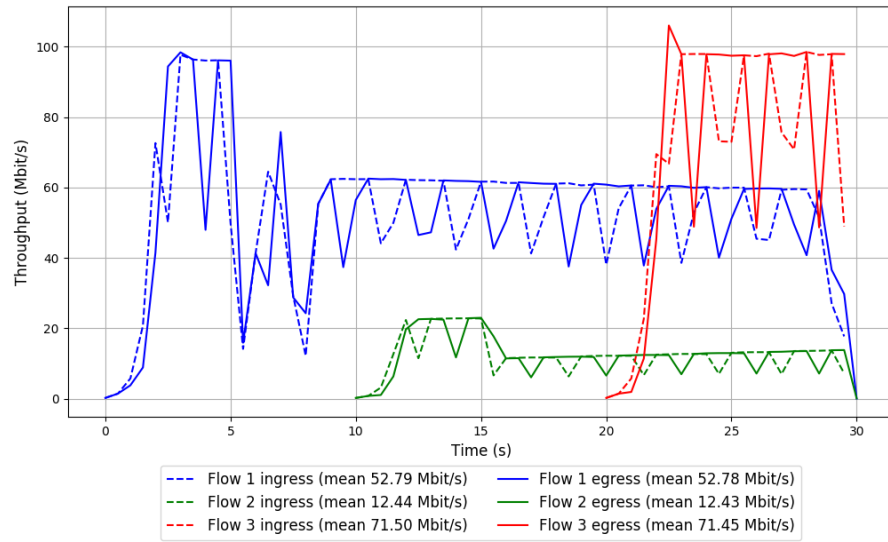
-- Flow 3:

Average throughput: 71.45 Mbit/s

95th percentile per-packet one-way delay: 144.795 ms

Loss rate: 0.00%

Run 8: Report of TCP Vegas — Data Link



Run 9: Statistics of TCP Vegas

Start at: 2018-01-03 11:25:56

End at: 2018-01-03 11:26:26

Below is generated by plot.py at 2018-01-03 13:22:46

Datalink statistics

-- Total of 3 flows:

Average throughput: 88.12 Mbit/s

95th percentile per-packet one-way delay: 143.277 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 31.34 Mbit/s

95th percentile per-packet one-way delay: 141.364 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 77.50 Mbit/s

95th percentile per-packet one-way delay: 143.746 ms

Loss rate: 0.00%

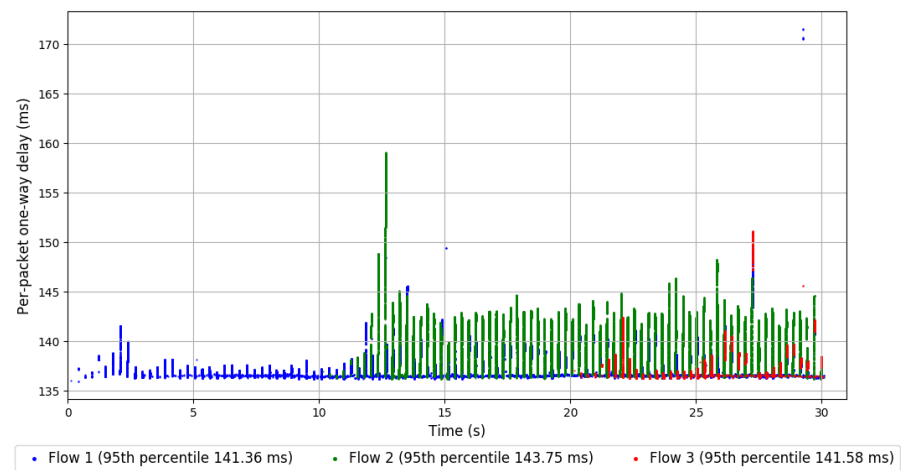
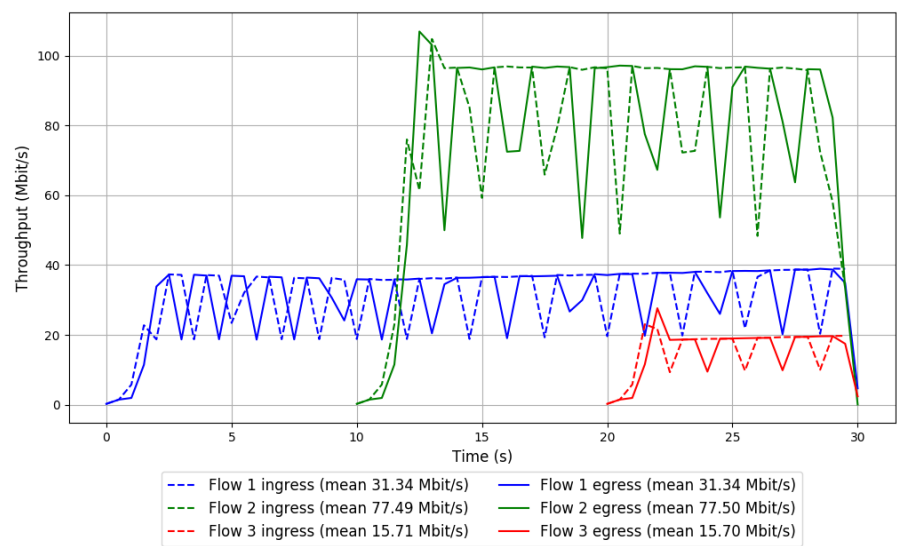
-- Flow 3:

Average throughput: 15.70 Mbit/s

95th percentile per-packet one-way delay: 141.583 ms

Loss rate: 0.04%

Run 9: Report of TCP Vegas — Data Link



Run 10: Statistics of TCP Vegas

Start at: 2018-01-03 11:42:05

End at: 2018-01-03 11:42:35

Below is generated by plot.py at 2018-01-03 13:22:46

Datalink statistics

-- Total of 3 flows:

Average throughput: 50.07 Mbit/s

95th percentile per-packet one-way delay: 141.287 ms

Loss rate: 0.77%

-- Flow 1:

Average throughput: 17.81 Mbit/s

95th percentile per-packet one-way delay: 137.457 ms

Loss rate: 2.15%

-- Flow 2:

Average throughput: 27.93 Mbit/s

95th percentile per-packet one-way delay: 141.656 ms

Loss rate: 0.00%

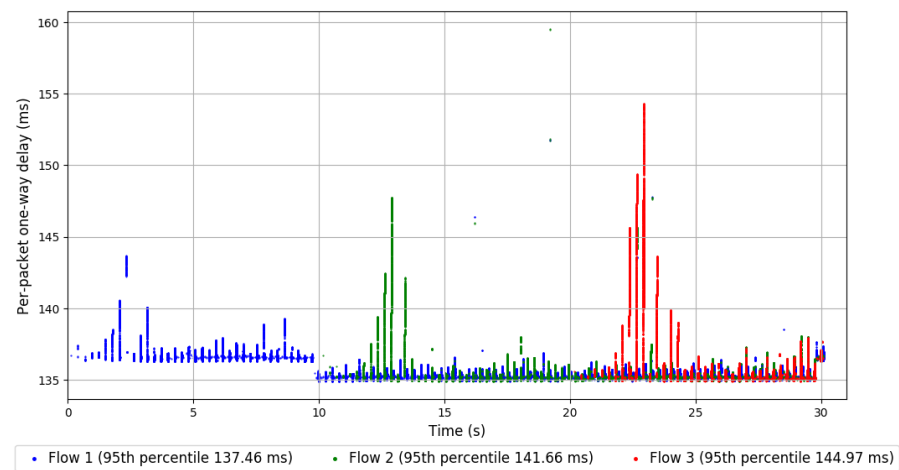
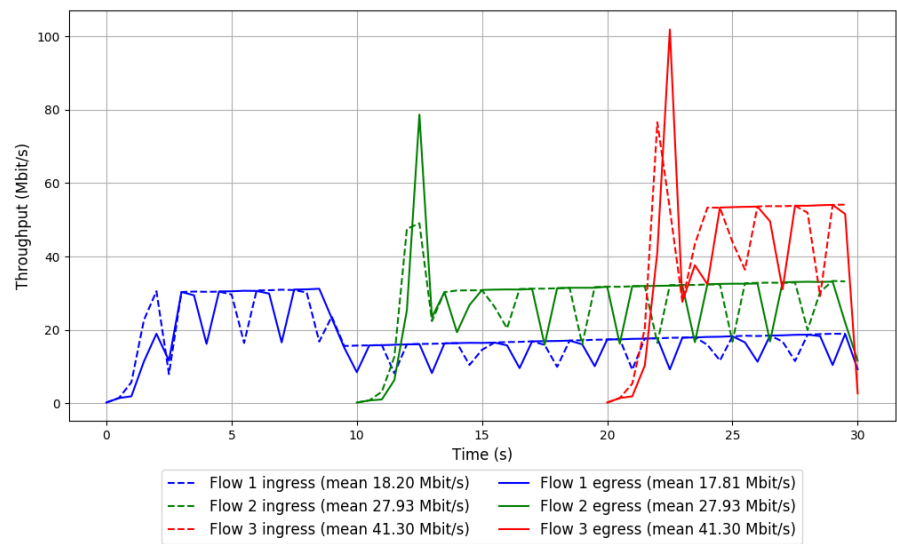
-- Flow 3:

Average throughput: 41.30 Mbit/s

95th percentile per-packet one-way delay: 144.967 ms

Loss rate: 0.00%

Run 10: Report of TCP Vegas — Data Link

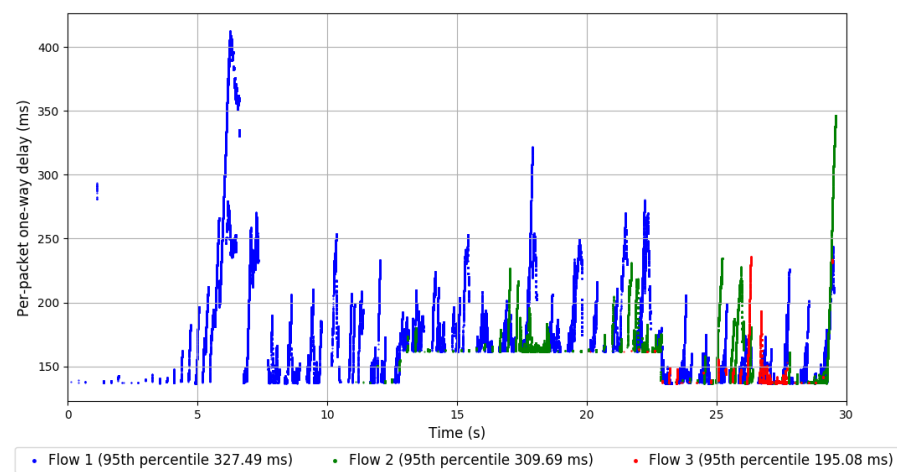
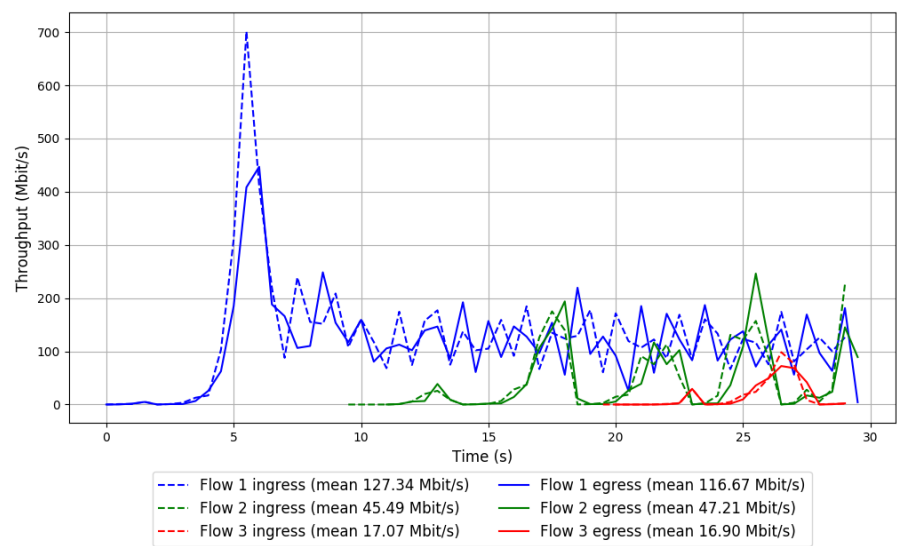


```
Run 1: Statistics of Verus

Start at: 2018-01-03 09:16:52
End at: 2018-01-03 09:17:22

# Below is generated by plot.py at 2018-01-03 13:24:05
# Datalink statistics
-- Total of 3 flows:
Average throughput: 151.35 Mbit/s
95th percentile per-packet one-way delay: 314.021 ms
Loss rate: 6.47%
-- Flow 1:
Average throughput: 116.67 Mbit/s
95th percentile per-packet one-way delay: 327.494 ms
Loss rate: 8.15%
-- Flow 2:
Average throughput: 47.21 Mbit/s
95th percentile per-packet one-way delay: 309.687 ms
Loss rate: 0.48%
-- Flow 3:
Average throughput: 16.90 Mbit/s
95th percentile per-packet one-way delay: 195.084 ms
Loss rate: 0.27%
```


Run 1: Report of Verus — Data Link



Run 2: Statistics of Verus

Start at: 2018-01-03 09:32:18

End at: 2018-01-03 09:32:48

Below is generated by plot.py at 2018-01-03 13:24:45

Datalink statistics

-- Total of 3 flows:

Average throughput: 188.19 Mbit/s

95th percentile per-packet one-way delay: 319.725 ms

Loss rate: 7.07%

-- Flow 1:

Average throughput: 152.45 Mbit/s

95th percentile per-packet one-way delay: 326.831 ms

Loss rate: 8.20%

-- Flow 2:

Average throughput: 50.36 Mbit/s

95th percentile per-packet one-way delay: 232.881 ms

Loss rate: 1.92%

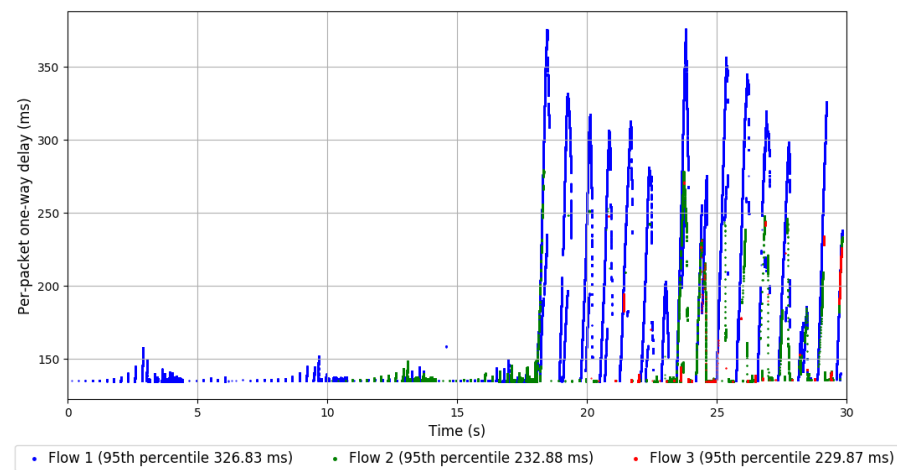
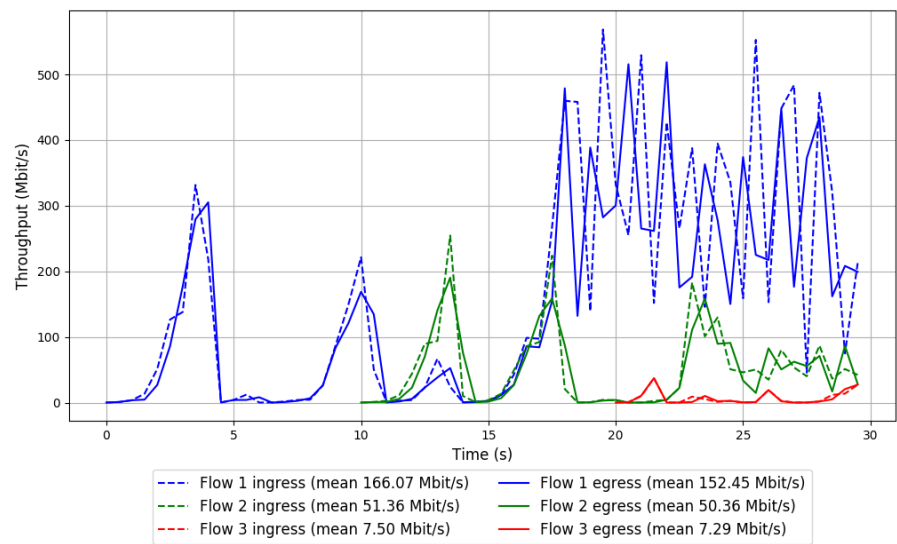
-- Flow 3:

Average throughput: 7.29 Mbit/s

95th percentile per-packet one-way delay: 229.872 ms

Loss rate: 1.95%

Run 2: Report of Verus — Data Link



Run 3: Statistics of Verus

Start at: 2018-01-03 09:48:10

End at: 2018-01-03 09:48:40

Below is generated by plot.py at 2018-01-03 13:27:38

Datalink statistics

-- Total of 3 flows:

Average throughput: 323.45 Mbit/s

95th percentile per-packet one-way delay: 253.441 ms

Loss rate: 2.01%

-- Flow 1:

Average throughput: 208.87 Mbit/s

95th percentile per-packet one-way delay: 169.250 ms

Loss rate: 0.54%

-- Flow 2:

Average throughput: 80.00 Mbit/s

95th percentile per-packet one-way delay: 221.030 ms

Loss rate: 1.30%

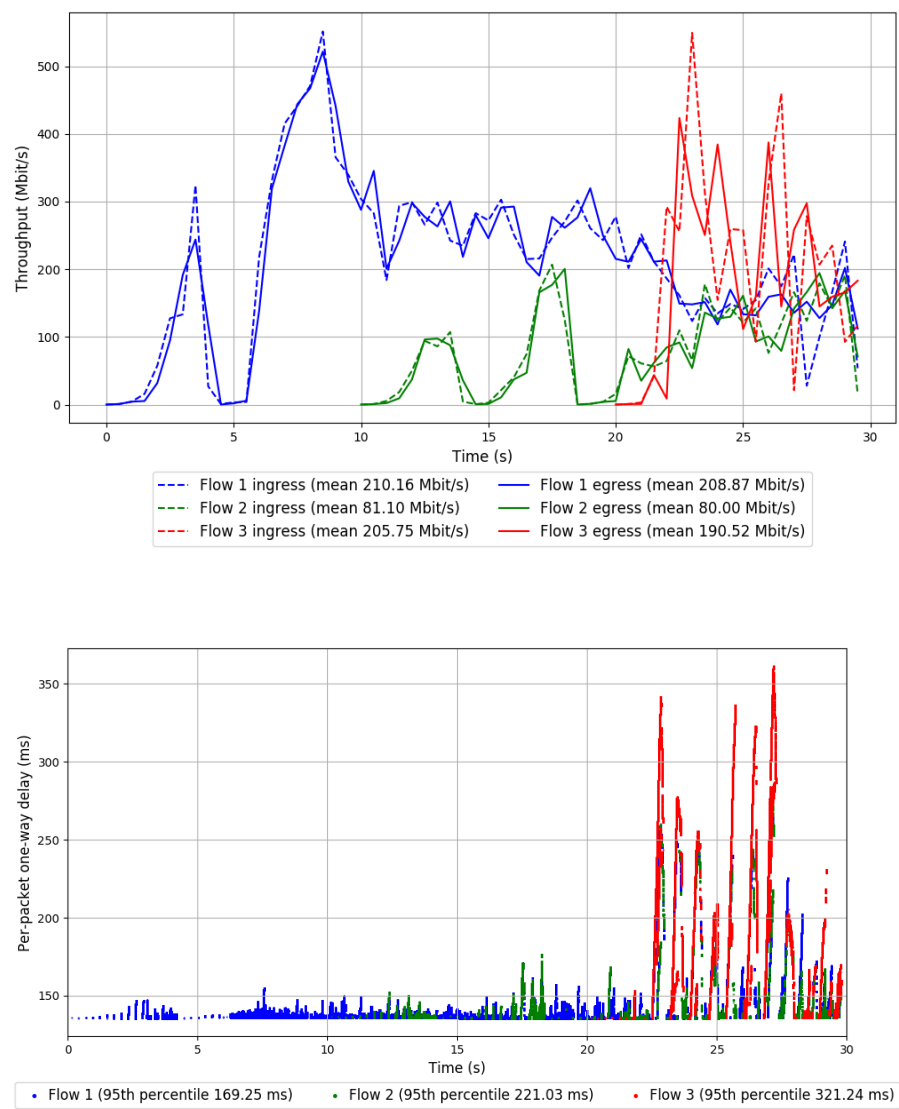
-- Flow 3:

Average throughput: 190.52 Mbit/s

95th percentile per-packet one-way delay: 321.238 ms

Loss rate: 7.18%

Run 3: Report of Verus — Data Link



Run 4: Statistics of Verus

Start at: 2018-01-03 10:04:13

End at: 2018-01-03 10:04:43

Below is generated by plot.py at 2018-01-03 13:27:39

Datalink statistics

-- Total of 3 flows:

Average throughput: 237.42 Mbit/s

95th percentile per-packet one-way delay: 194.660 ms

Loss rate: 0.01%

-- Flow 1:

Average throughput: 157.97 Mbit/s

95th percentile per-packet one-way delay: 195.393 ms

Loss rate: 0.01%

-- Flow 2:

Average throughput: 110.27 Mbit/s

95th percentile per-packet one-way delay: 195.919 ms

Loss rate: 0.01%

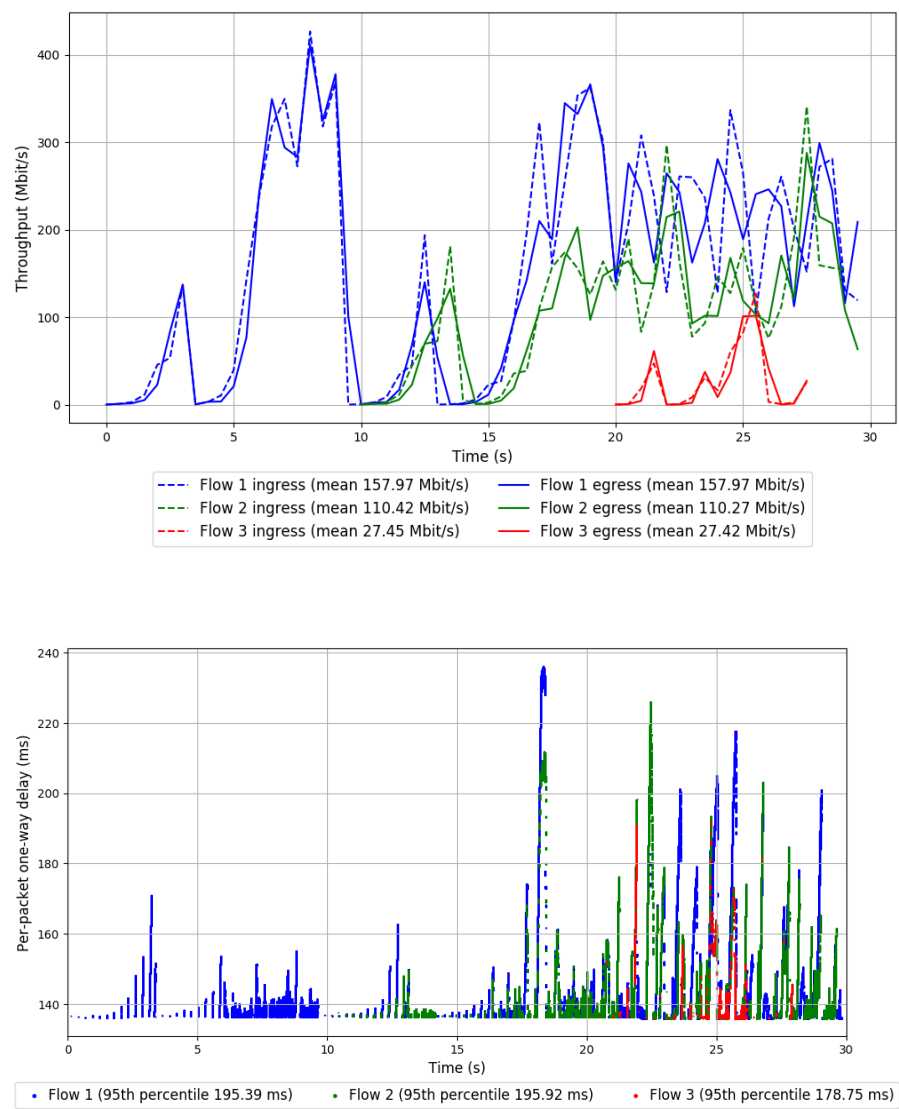
-- Flow 3:

Average throughput: 27.42 Mbit/s

95th percentile per-packet one-way delay: 178.751 ms

Loss rate: 0.00%

Run 4: Report of Verus — Data Link



Run 5: Statistics of Verus

Start at: 2018-01-03 10:19:42

End at: 2018-01-03 10:20:12

Below is generated by plot.py at 2018-01-03 13:27:39

Datalink statistics

-- Total of 3 flows:

Average throughput: 150.63 Mbit/s

95th percentile per-packet one-way delay: 174.454 ms

Loss rate: 0.09%

-- Flow 1:

Average throughput: 107.29 Mbit/s

95th percentile per-packet one-way delay: 161.972 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 58.34 Mbit/s

95th percentile per-packet one-way delay: 272.712 ms

Loss rate: 0.35%

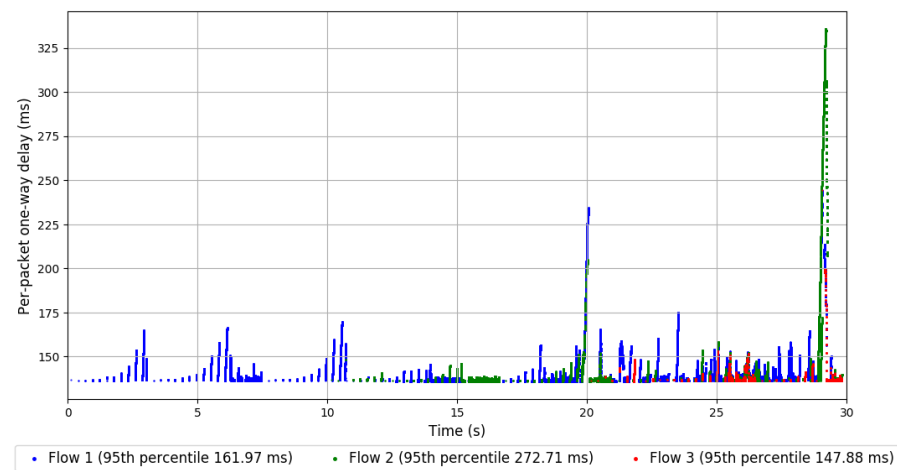
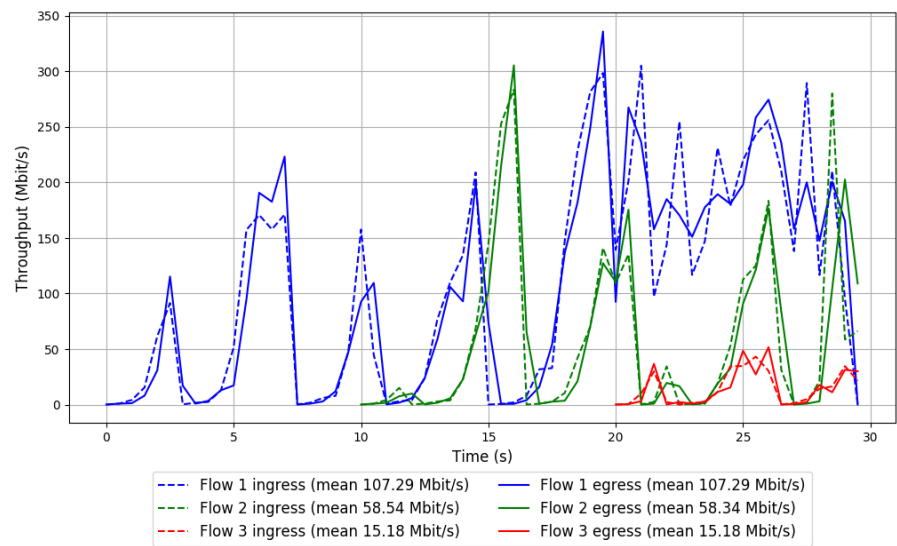
-- Flow 3:

Average throughput: 15.18 Mbit/s

95th percentile per-packet one-way delay: 147.883 ms

Loss rate: 0.00%

Run 5: Report of Verus — Data Link



Run 6: Statistics of Verus

Start at: 2018-01-03 10:35:48

End at: 2018-01-03 10:36:18

Below is generated by plot.py at 2018-01-03 13:27:39

Datalink statistics

-- Total of 3 flows:

Average throughput: 198.62 Mbit/s

95th percentile per-packet one-way delay: 262.511 ms

Loss rate: 0.42%

-- Flow 1:

Average throughput: 149.48 Mbit/s

95th percentile per-packet one-way delay: 191.573 ms

Loss rate: 0.19%

-- Flow 2:

Average throughput: 37.30 Mbit/s

95th percentile per-packet one-way delay: 242.294 ms

Loss rate: 0.10%

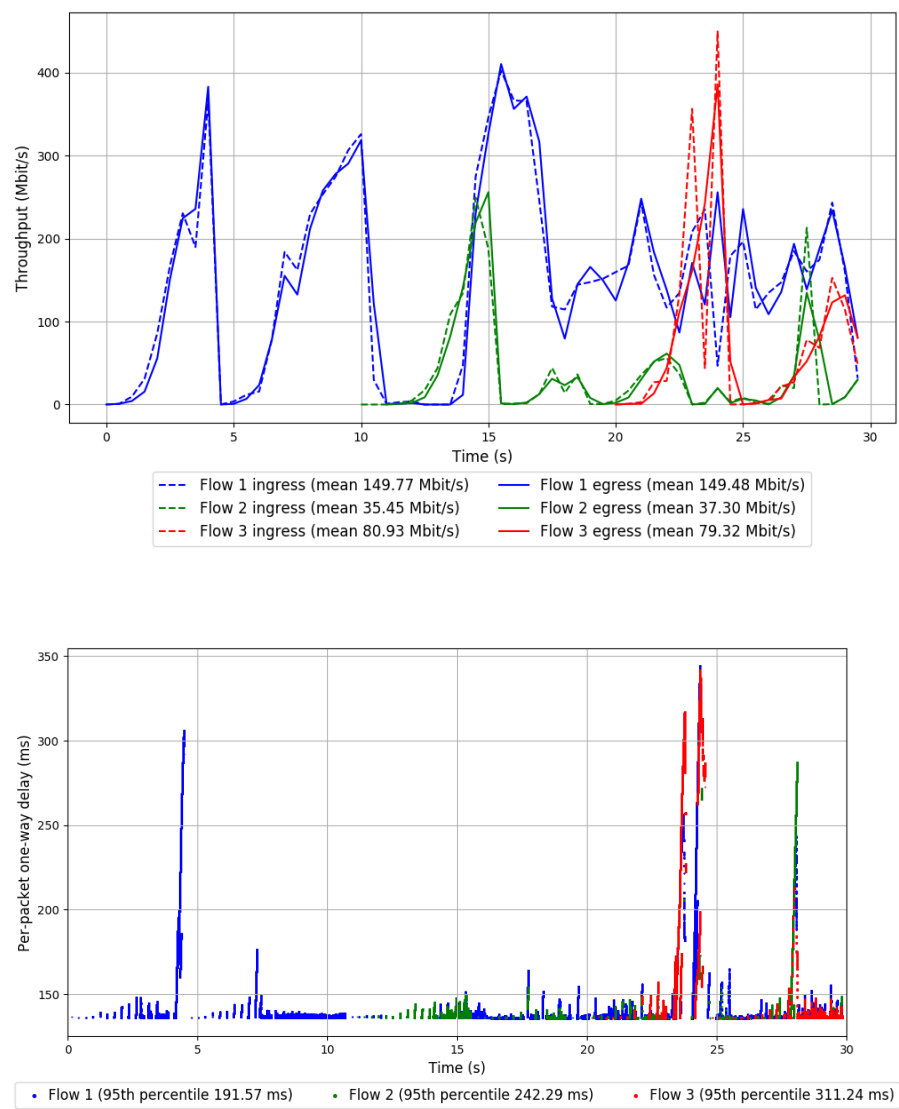
-- Flow 3:

Average throughput: 79.32 Mbit/s

95th percentile per-packet one-way delay: 311.243 ms

Loss rate: 1.99%

Run 6: Report of Verus — Data Link



Run 7: Statistics of Verus

Start at: 2018-01-03 10:52:06

End at: 2018-01-03 10:52:36

Below is generated by plot.py at 2018-01-03 13:27:39

Datalink statistics

-- Total of 3 flows:

Average throughput: 159.53 Mbit/s

95th percentile per-packet one-way delay: 240.161 ms

Loss rate: 1.23%

-- Flow 1:

Average throughput: 57.88 Mbit/s

95th percentile per-packet one-way delay: 148.782 ms

Loss rate: 0.34%

-- Flow 2:

Average throughput: 108.34 Mbit/s

95th percentile per-packet one-way delay: 268.507 ms

Loss rate: 1.87%

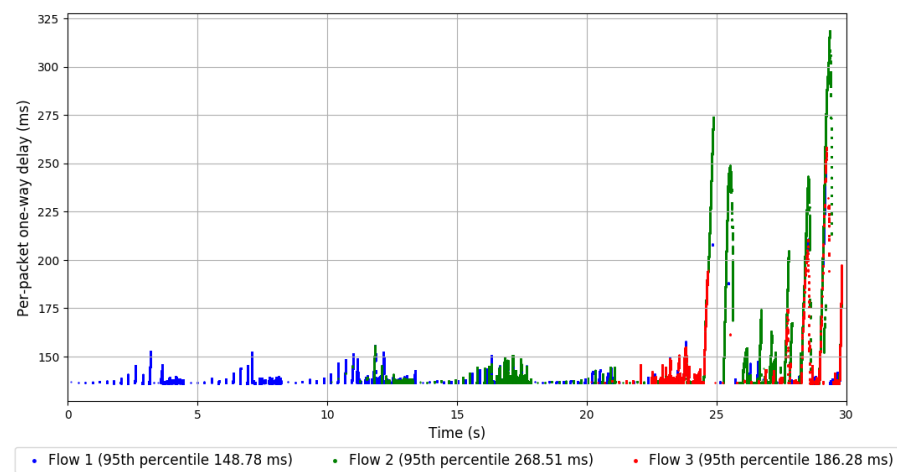
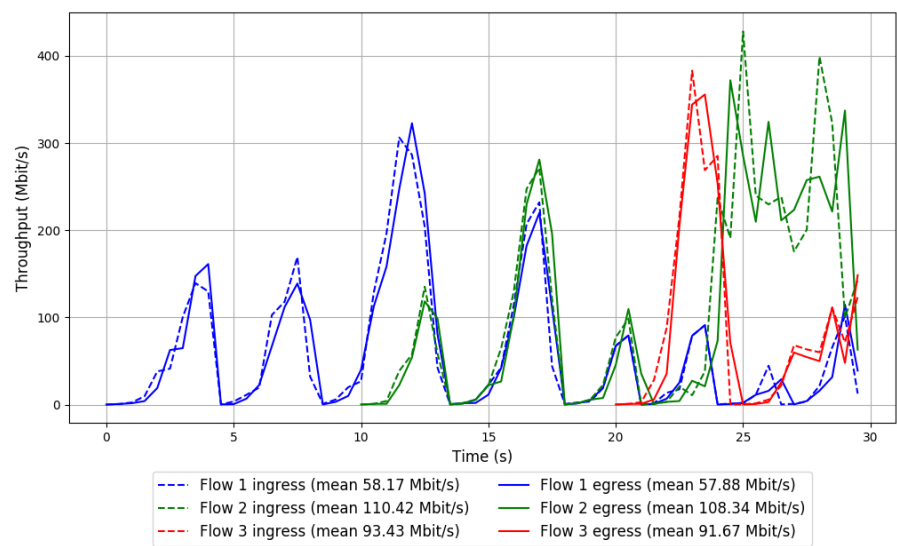
-- Flow 3:

Average throughput: 91.67 Mbit/s

95th percentile per-packet one-way delay: 186.280 ms

Loss rate: 1.39%

Run 7: Report of Verus — Data Link



Run 8: Statistics of Verus

Start at: 2018-01-03 11:08:02

End at: 2018-01-03 11:08:32

Below is generated by plot.py at 2018-01-03 13:27:39

Datalink statistics

-- Total of 3 flows:

Average throughput: 213.64 Mbit/s

95th percentile per-packet one-way delay: 342.479 ms

Loss rate: 13.64%

-- Flow 1:

Average throughput: 193.80 Mbit/s

95th percentile per-packet one-way delay: 344.227 ms

Loss rate: 14.72%

-- Flow 2:

Average throughput: 14.13 Mbit/s

95th percentile per-packet one-way delay: 218.455 ms

Loss rate: 4.95%

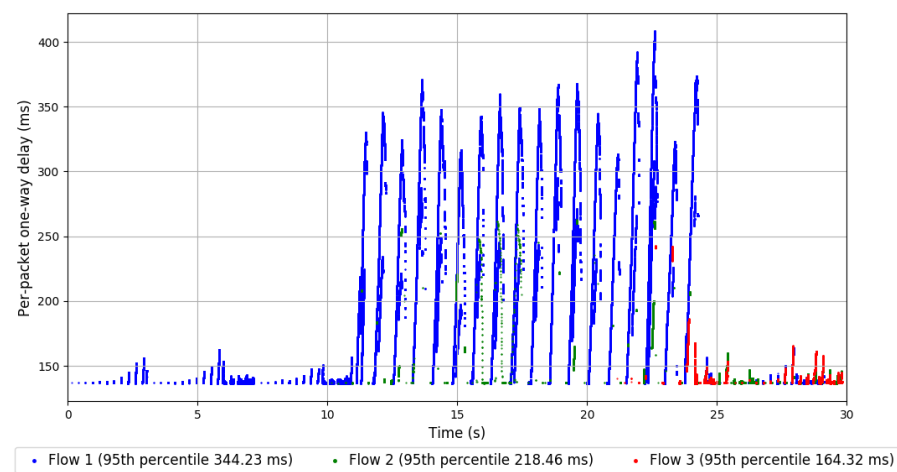
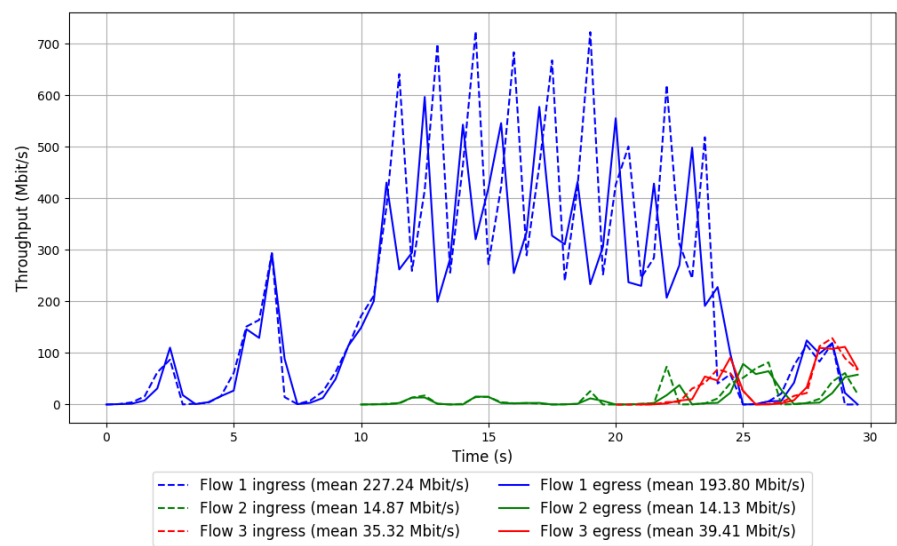
-- Flow 3:

Average throughput: 39.41 Mbit/s

95th percentile per-packet one-way delay: 164.325 ms

Loss rate: 0.01%

Run 8: Report of Verus — Data Link



Run 9: Statistics of Verus

Start at: 2018-01-03 11:23:36

End at: 2018-01-03 11:24:06

Below is generated by plot.py at 2018-01-03 13:28:43

Datalink statistics

-- Total of 3 flows:

Average throughput: 255.23 Mbit/s

95th percentile per-packet one-way delay: 196.682 ms

Loss rate: 0.15%

-- Flow 1:

Average throughput: 210.69 Mbit/s

95th percentile per-packet one-way delay: 197.827 ms

Loss rate: 0.15%

-- Flow 2:

Average throughput: 33.30 Mbit/s

95th percentile per-packet one-way delay: 180.521 ms

Loss rate: 0.19%

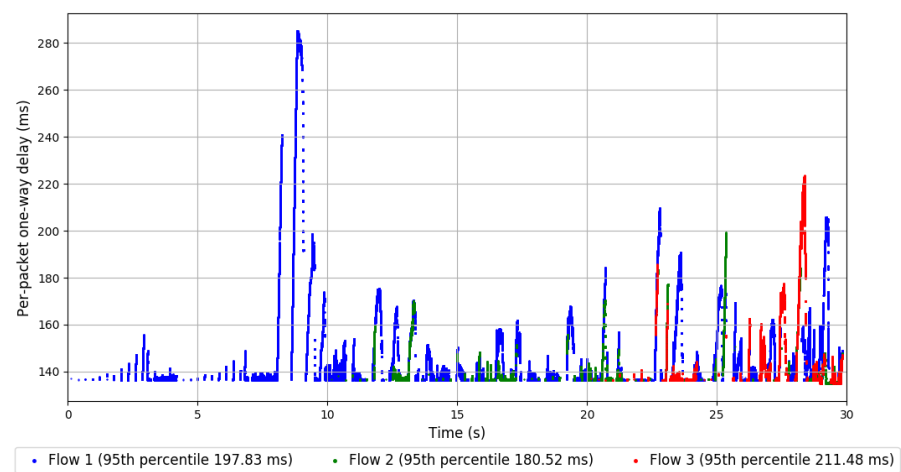
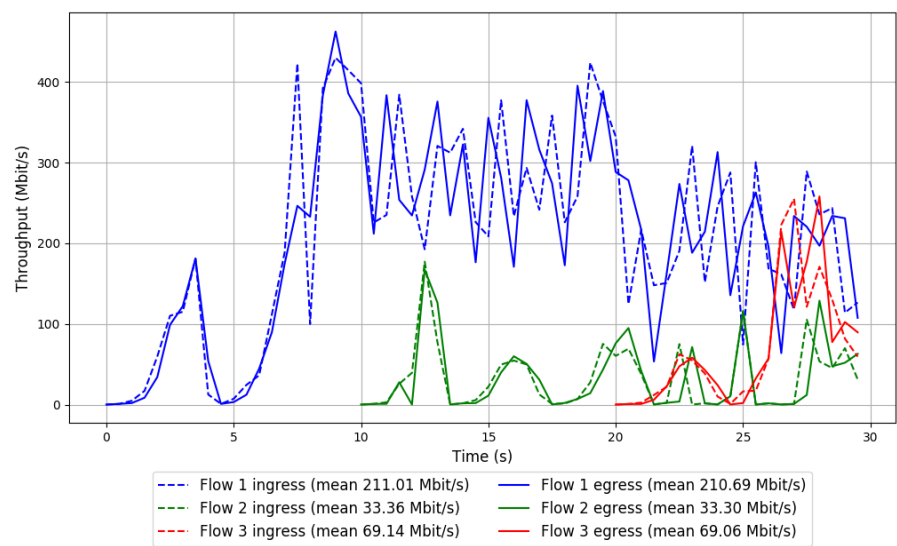
-- Flow 3:

Average throughput: 69.06 Mbit/s

95th percentile per-packet one-way delay: 211.484 ms

Loss rate: 0.14%

Run 9: Report of Verus — Data Link



Run 10: Statistics of Verus

Start at: 2018-01-03 11:39:39

End at: 2018-01-03 11:40:09

Below is generated by plot.py at 2018-01-03 13:29:47

Datalink statistics

-- Total of 3 flows:

Average throughput: 287.02 Mbit/s

95th percentile per-packet one-way delay: 177.141 ms

Loss rate: 0.17%

-- Flow 1:

Average throughput: 224.77 Mbit/s

95th percentile per-packet one-way delay: 174.942 ms

Loss rate: 0.22%

-- Flow 2:

Average throughput: 82.41 Mbit/s

95th percentile per-packet one-way delay: 198.817 ms

Loss rate: 0.00%

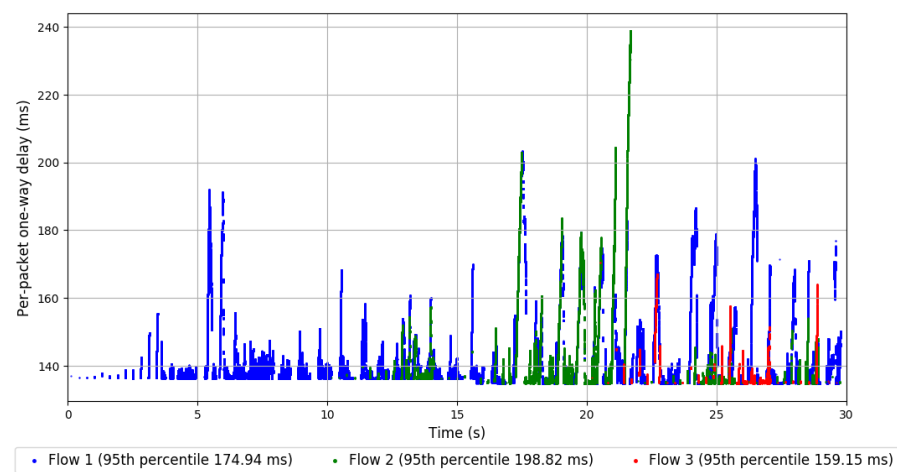
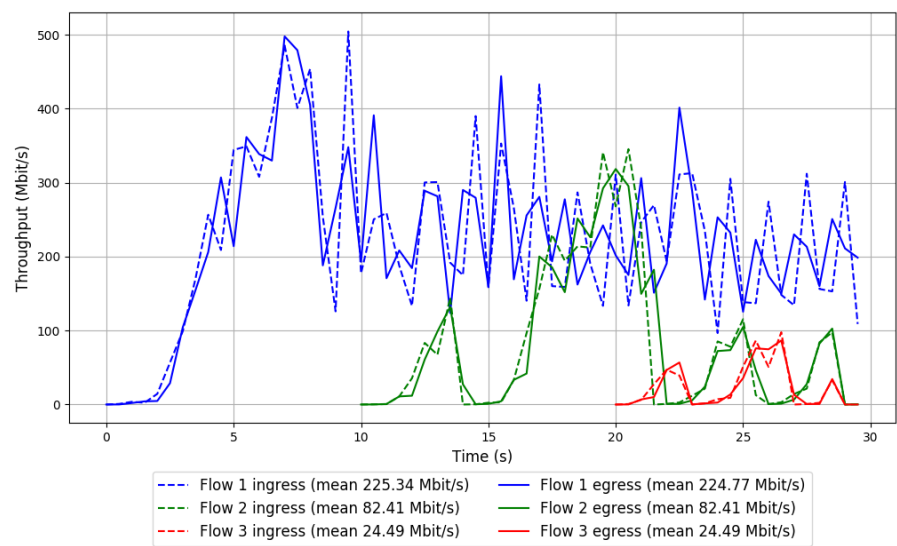
-- Flow 3:

Average throughput: 24.49 Mbit/s

95th percentile per-packet one-way delay: 159.148 ms

Loss rate: 0.00%

Run 10: Report of Verus — Data Link



Run 1: Statistics of Copa

Start at: 2018-01-03 09:30:18

End at: 2018-01-03 09:30:48

Below is generated by plot.py at 2018-01-03 13:29:47

Datalink statistics

-- Total of 3 flows:

Average throughput: 124.67 Mbit/s

95th percentile per-packet one-way delay: 136.919 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 66.28 Mbit/s

95th percentile per-packet one-way delay: 136.364 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 60.55 Mbit/s

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

Loss rate: 0.00%

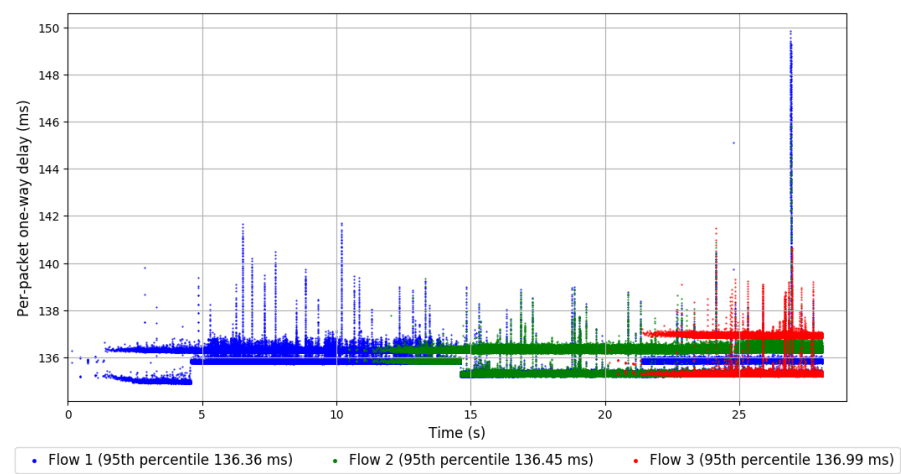
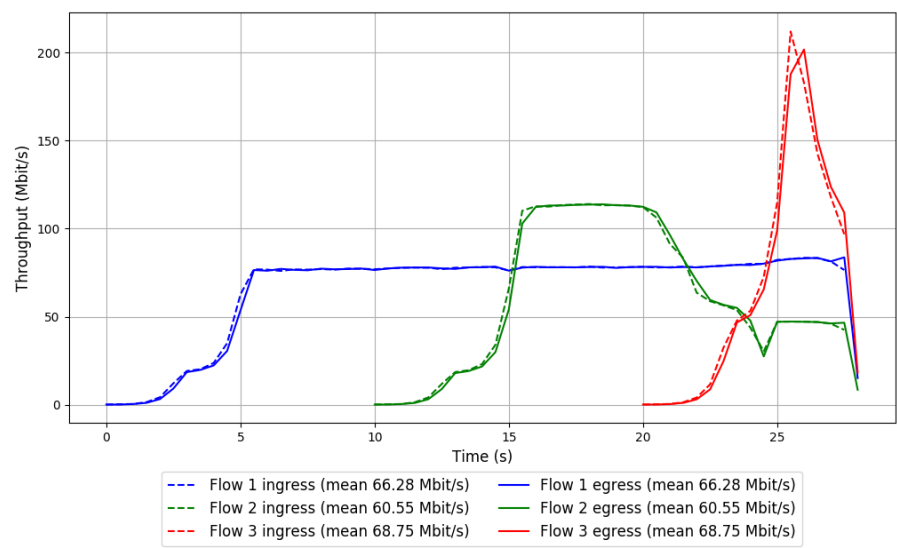
-- Flow 3:

Average throughput: 68.75 Mbit/s

95th percentile per-packet one-way delay: 136.994 ms

Loss rate: 0.00%

Run 1: Report of Copa — Data Link



Run 2: Statistics of Copa

Start at: 2018-01-03 09:46:10

End at: 2018-01-03 09:46:40

Below is generated by plot.py at 2018-01-03 13:29:47

Datalink statistics

-- Total of 3 flows:

Average throughput: 124.36 Mbit/s

95th percentile per-packet one-way delay: 136.308 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 69.16 Mbit/s

95th percentile per-packet one-way delay: 136.006 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 66.03 Mbit/s

95th percentile per-packet one-way delay: 135.945 ms

Loss rate: 0.00%

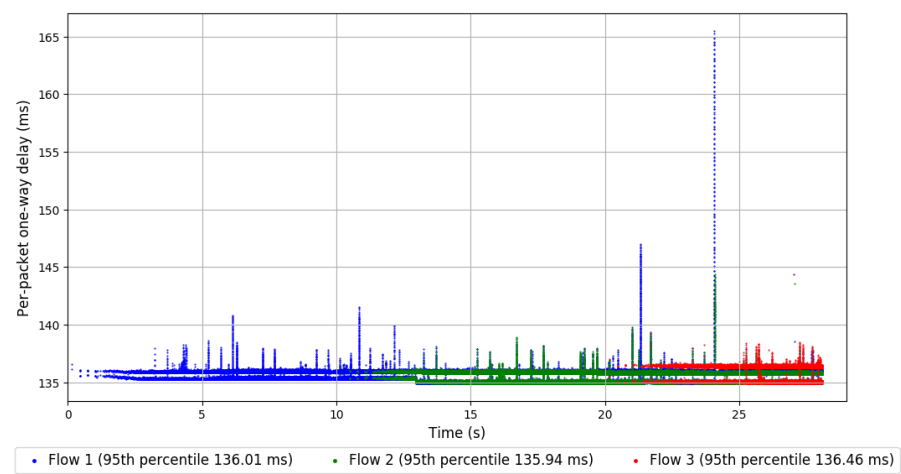
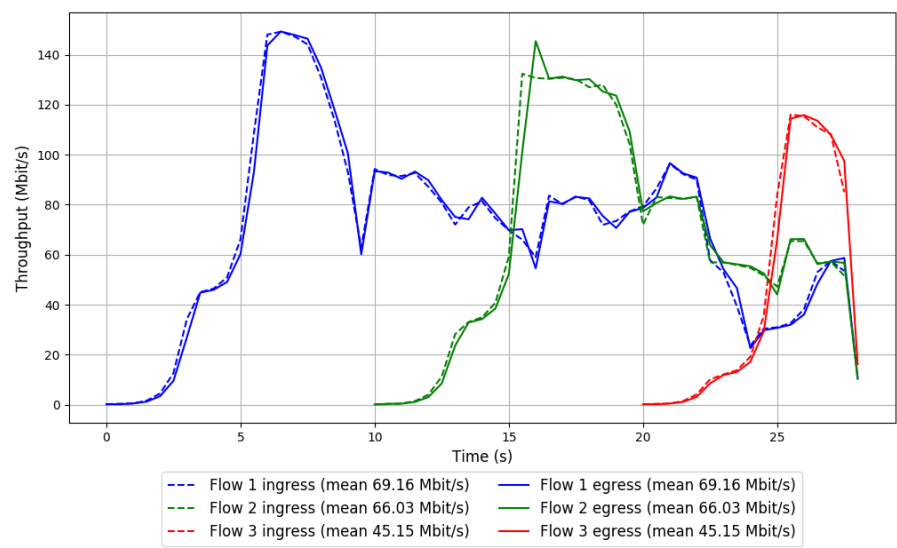
-- Flow 3:

Average throughput: 45.15 Mbit/s

95th percentile per-packet one-way delay: 136.462 ms

Loss rate: 0.00%

Run 2: Report of Copa — Data Link



Run 3: Statistics of Copa

Start at: 2018-01-03 10:02:14

End at: 2018-01-03 10:02:44

Below is generated by plot.py at 2018-01-03 13:29:47

Datalink statistics

-- Total of 3 flows:

Average throughput: 117.71 Mbit/s

95th percentile per-packet one-way delay: 137.121 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 68.64 Mbit/s

95th percentile per-packet one-way delay: 136.514 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 60.49 Mbit/s

95th percentile per-packet one-way delay: 137.229 ms

Loss rate: 0.00%

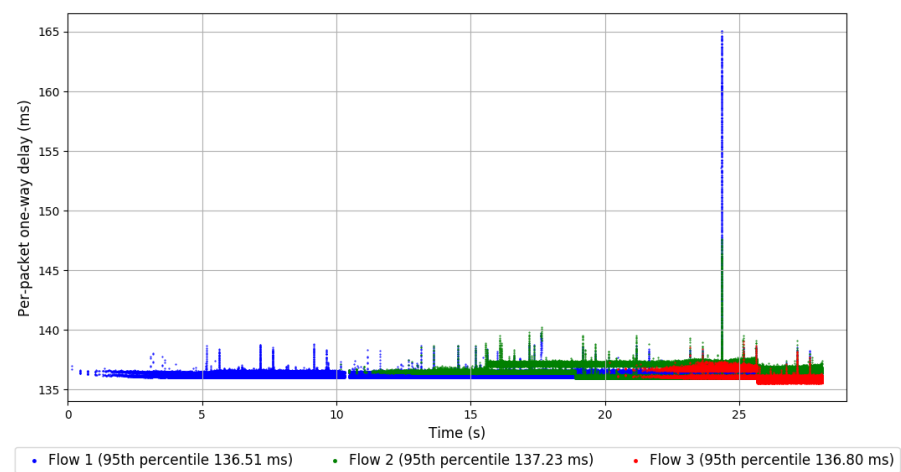
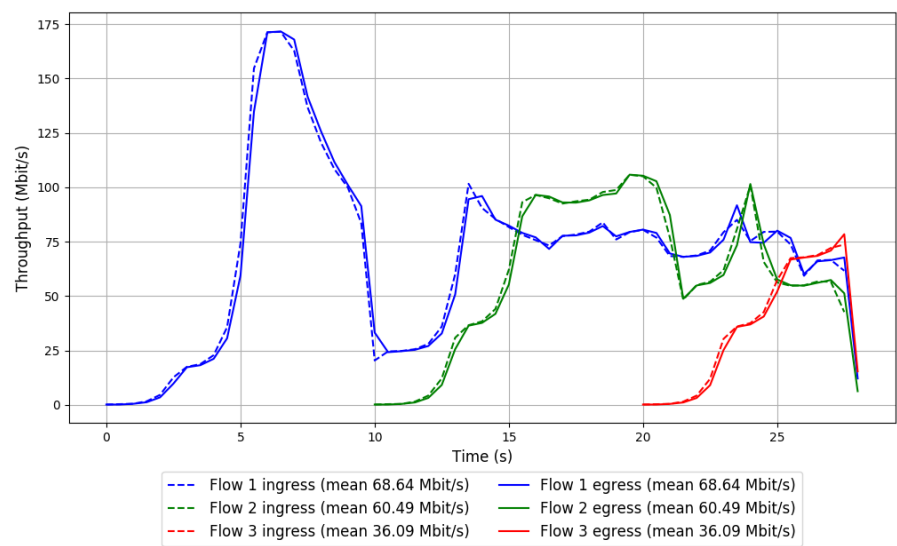
-- Flow 3:

Average throughput: 36.09 Mbit/s

95th percentile per-packet one-way delay: 136.796 ms

Loss rate: 0.00%

Run 3: Report of Copa — Data Link



Run 4: Statistics of Copa

Start at: 2018-01-03 10:17:43

End at: 2018-01-03 10:18:13

Below is generated by plot.py at 2018-01-03 13:30:03

Datalink statistics

-- Total of 3 flows:

Average throughput: 121.21 Mbit/s

95th percentile per-packet one-way delay: 136.947 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 68.76 Mbit/s

95th percentile per-packet one-way delay: 136.669 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 59.84 Mbit/s

95th percentile per-packet one-way delay: 137.003 ms

Loss rate: 0.00%

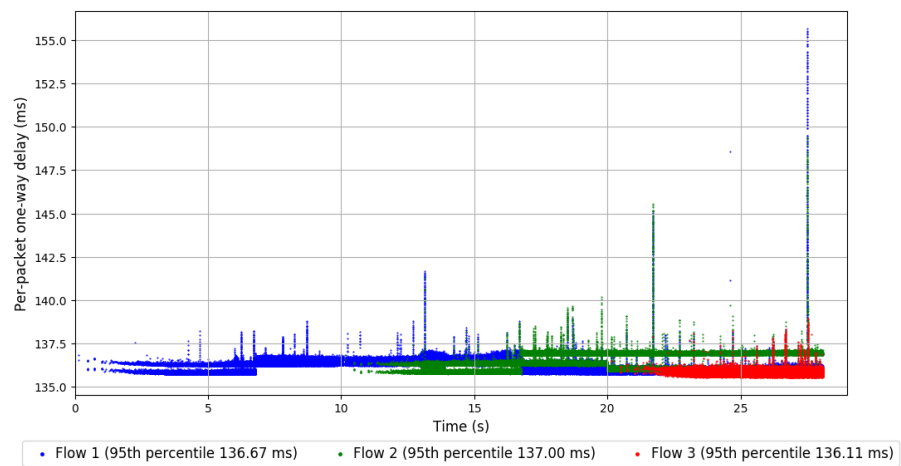
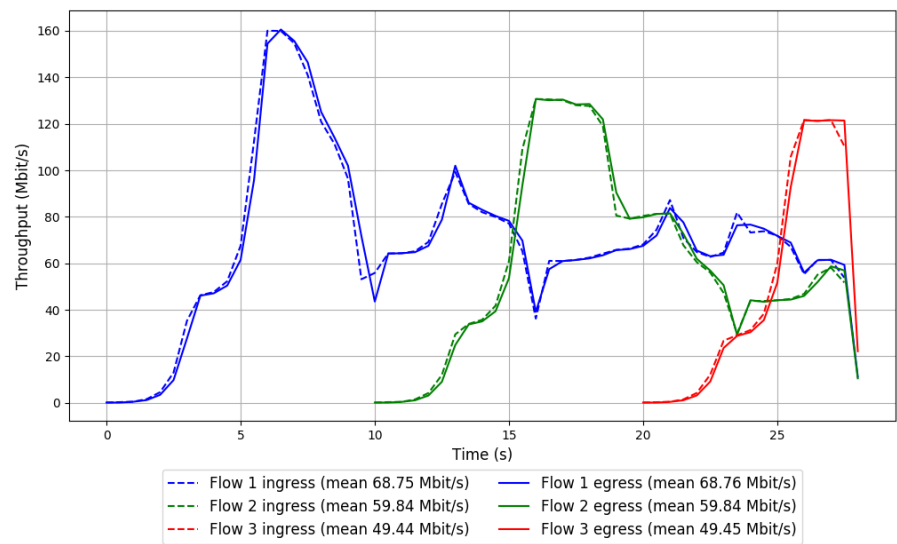
-- Flow 3:

Average throughput: 49.45 Mbit/s

95th percentile per-packet one-way delay: 136.108 ms

Loss rate: 0.00%

Run 4: Report of Copa — Data Link



Run 5: Statistics of Copa

Start at: 2018-01-03 10:33:51

End at: 2018-01-03 10:34:21

Below is generated by plot.py at 2018-01-03 13:30:03

Datalink statistics

-- Total of 3 flows:

Average throughput: 77.45 Mbit/s

95th percentile per-packet one-way delay: 136.330 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 67.10 Mbit/s

95th percentile per-packet one-way delay: 136.311 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 0.15 Mbit/s

95th percentile per-packet one-way delay: 137.192 ms

Loss rate: 0.00%

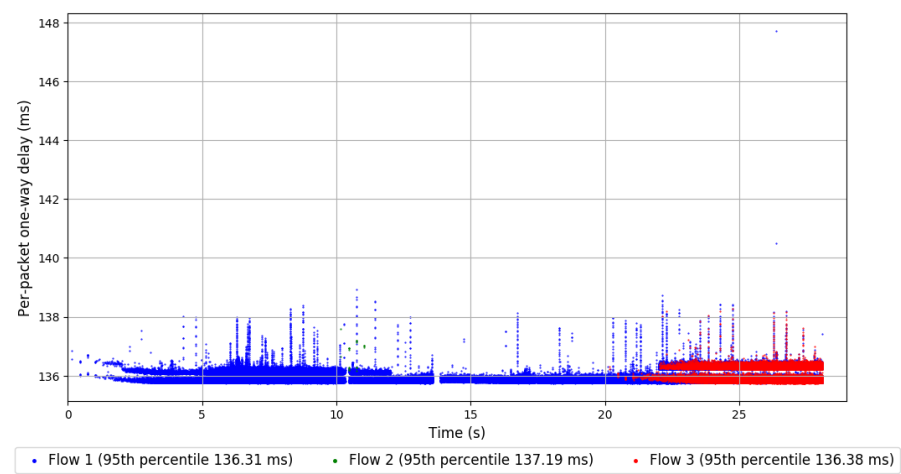
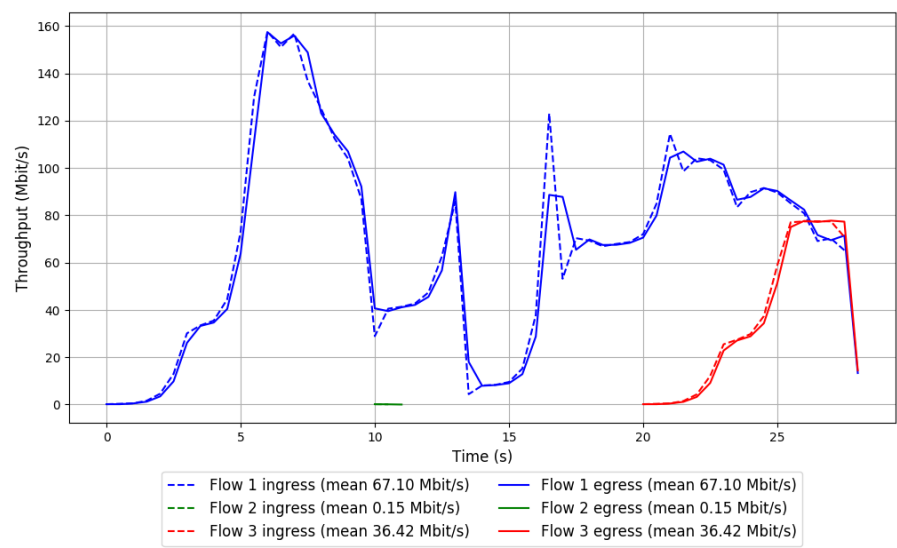
-- Flow 3:

Average throughput: 36.42 Mbit/s

95th percentile per-packet one-way delay: 136.380 ms

Loss rate: 0.00%

Run 5: Report of Copa — Data Link



Run 6: Statistics of Copa

Start at: 2018-01-03 10:50:05

End at: 2018-01-03 10:50:35

Below is generated by plot.py at 2018-01-03 13:31:27

Datalink statistics

-- Total of 3 flows:

Average throughput: 120.89 Mbit/s

95th percentile per-packet one-way delay: 136.547 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 75.81 Mbit/s

95th percentile per-packet one-way delay: 136.525 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 70.22 Mbit/s

95th percentile per-packet one-way delay: 136.577 ms

Loss rate: 0.00%

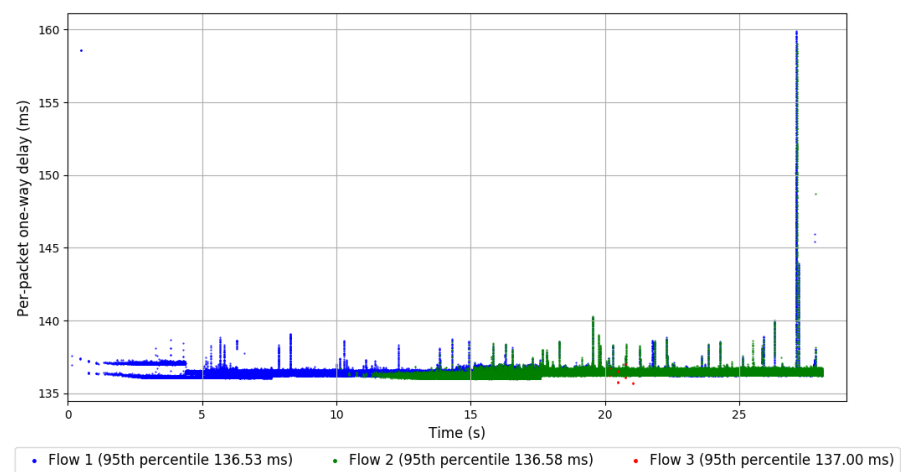
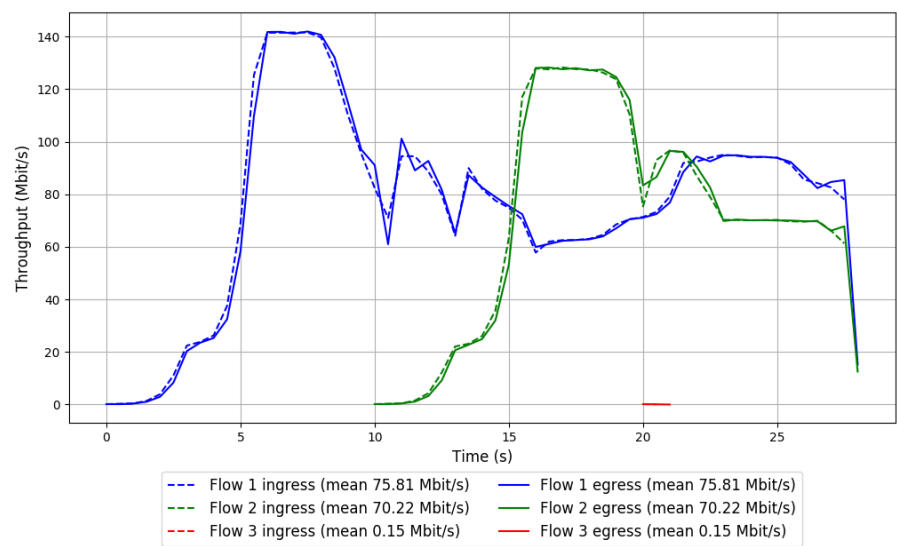
-- Flow 3:

Average throughput: 0.15 Mbit/s

95th percentile per-packet one-way delay: 136.995 ms

Loss rate: 0.00%

Run 6: Report of Copa — Data Link



Run 7: Statistics of Copa

Start at: 2018-01-03 11:06:07

End at: 2018-01-03 11:06:37

Below is generated by plot.py at 2018-01-03 13:31:35

Datalink statistics

-- Total of 3 flows:

Average throughput: 100.16 Mbit/s

95th percentile per-packet one-way delay: 137.104 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 60.15 Mbit/s

95th percentile per-packet one-way delay: 137.154 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 62.32 Mbit/s

95th percentile per-packet one-way delay: 136.585 ms

Loss rate: 0.00%

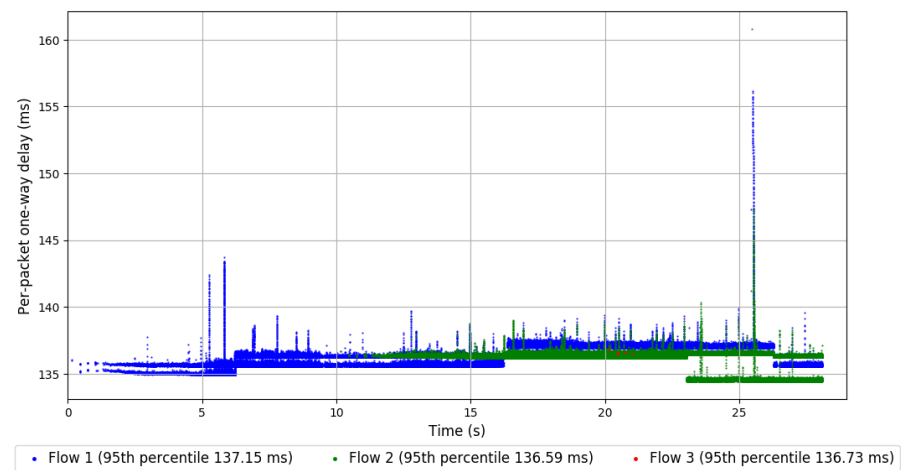
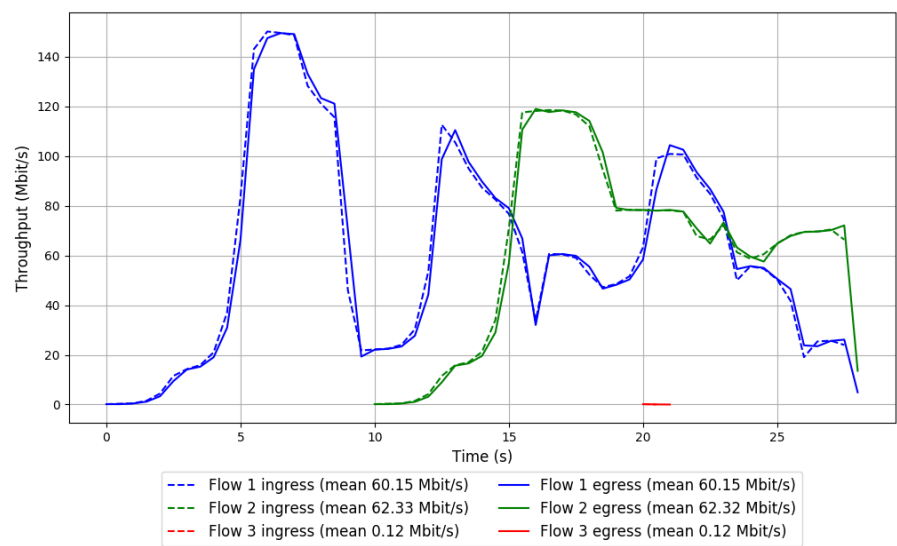
-- Flow 3:

Average throughput: 0.12 Mbit/s

95th percentile per-packet one-way delay: 136.731 ms

Loss rate: 0.00%

Run 7: Report of Copa — Data Link



Run 8: Statistics of Copa

Start at: 2018-01-03 11:21:36

End at: 2018-01-03 11:22:06

Below is generated by plot.py at 2018-01-03 13:32:04

Datalink statistics

-- Total of 3 flows:

Average throughput: 119.77 Mbit/s

95th percentile per-packet one-way delay: 136.830 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 71.80 Mbit/s

95th percentile per-packet one-way delay: 136.817 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 62.64 Mbit/s

95th percentile per-packet one-way delay: 136.567 ms

Loss rate: 0.00%

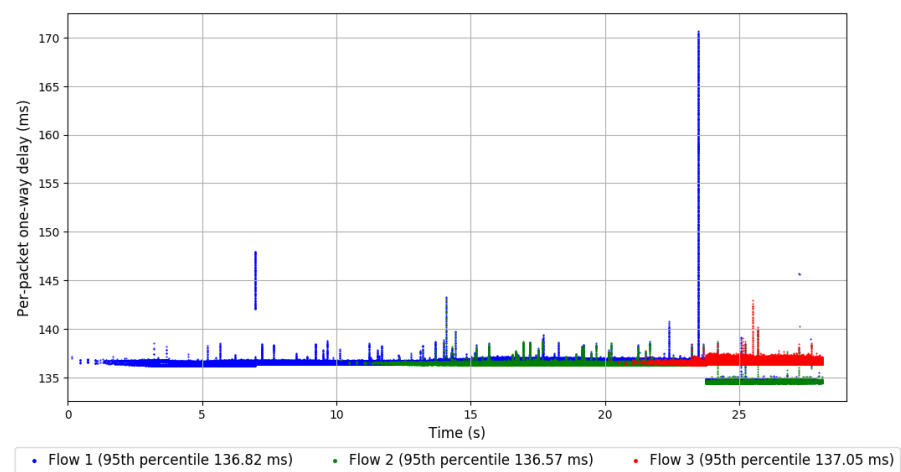
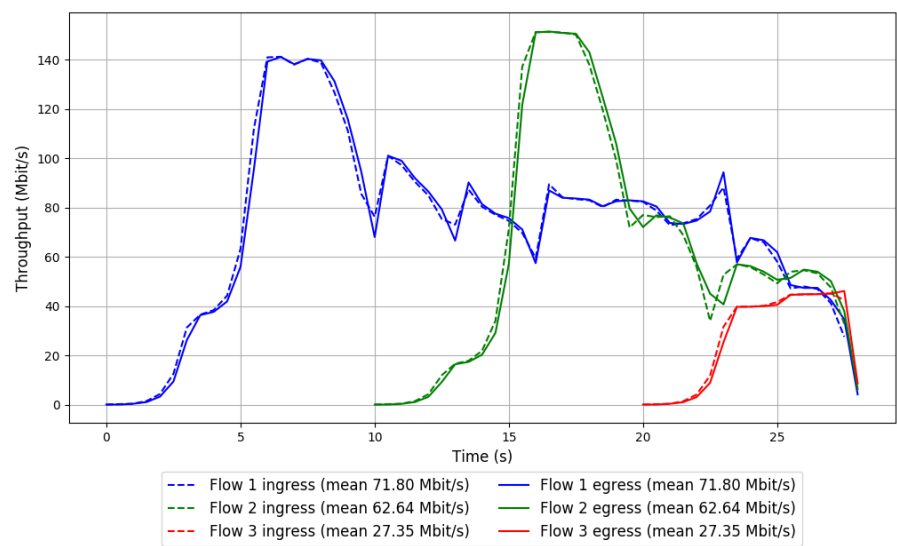
-- Flow 3:

Average throughput: 27.35 Mbit/s

95th percentile per-packet one-way delay: 137.046 ms

Loss rate: 0.01%

Run 8: Report of Copa — Data Link



Run 9: Statistics of Copa

Start at: 2018-01-03 11:37:40

End at: 2018-01-03 11:38:10

Below is generated by plot.py at 2018-01-03 13:32:04

Datalink statistics

-- Total of 3 flows:

Average throughput: 110.39 Mbit/s

95th percentile per-packet one-way delay: 136.944 ms

Loss rate: 0.06%

-- Flow 1:

Average throughput: 54.71 Mbit/s

95th percentile per-packet one-way delay: 136.403 ms

Loss rate: 0.10%

-- Flow 2:

Average throughput: 70.00 Mbit/s

95th percentile per-packet one-way delay: 136.996 ms

Loss rate: 0.02%

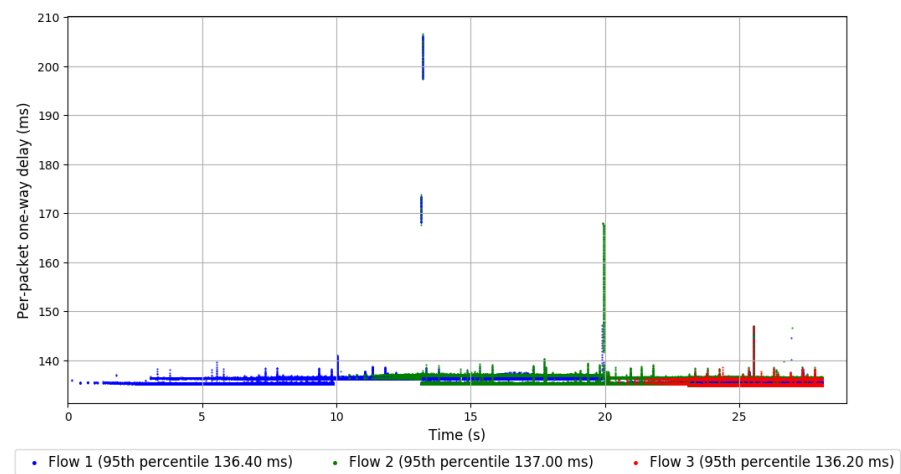
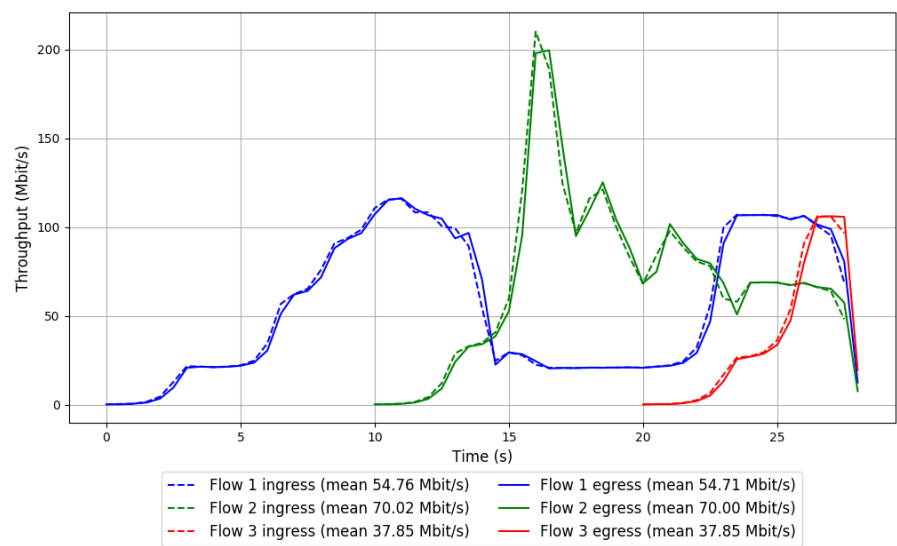
-- Flow 3:

Average throughput: 37.85 Mbit/s

95th percentile per-packet one-way delay: 136.199 ms

Loss rate: 0.00%

Run 9: Report of Copa — Data Link



Run 10: Statistics of Copa

Start at: 2018-01-03 11:53:34

End at: 2018-01-03 11:54:04

Below is generated by plot.py at 2018-01-03 13:32:04

Datalink statistics

-- Total of 3 flows:

Average throughput: 26.91 Mbit/s

95th percentile per-packet one-way delay: 164.100 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 0.15 Mbit/s

95th percentile per-packet one-way delay: 135.437 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 39.79 Mbit/s

95th percentile per-packet one-way delay: 164.107 ms

Loss rate: 0.00%

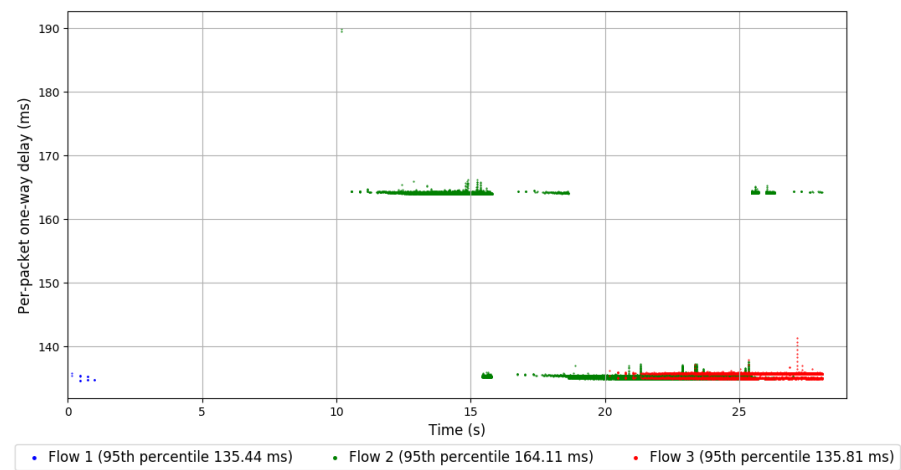
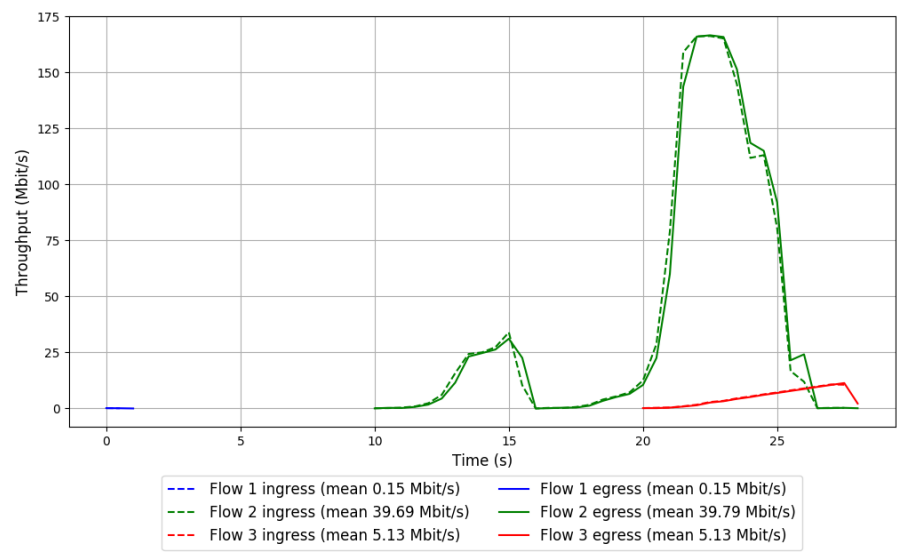
-- Flow 3:

Average throughput: 5.13 Mbit/s

95th percentile per-packet one-way delay: 135.810 ms

Loss rate: 0.00%

Run 10: Report of Copa — Data Link

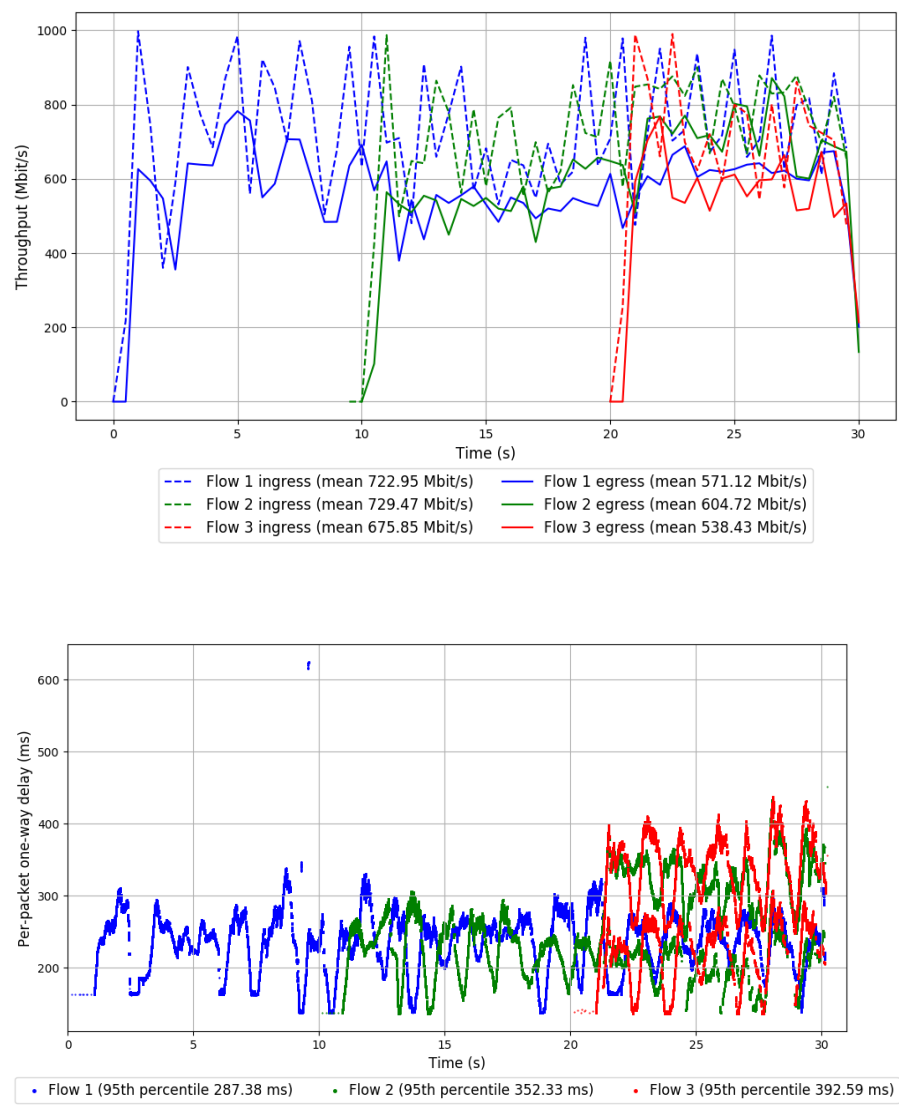


```
Run 1: Statistics of FillP

Start at: 2018-01-03 09:27:13
End at: 2018-01-03 09:27:43

# Below is generated by plot.py at 2018-01-03 13:50:13
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1154.15 Mbit/s
95th percentile per-packet one-way delay: 356.503 ms
Loss rate: 19.11%
-- Flow 1:
Average throughput: 571.12 Mbit/s
95th percentile per-packet one-way delay: 287.380 ms
Loss rate: 20.87%
-- Flow 2:
Average throughput: 604.72 Mbit/s
95th percentile per-packet one-way delay: 352.328 ms
Loss rate: 16.48%
-- Flow 3:
Average throughput: 538.43 Mbit/s
95th percentile per-packet one-way delay: 392.593 ms
Loss rate: 19.15%
```


Run 1: Report of FillP — Data Link



Run 2: Statistics of FillP

Start at: 2018-01-03 09:42:52

End at: 2018-01-03 09:43:22

Below is generated by plot.py at 2018-01-03 13:55:22

Datalink statistics

-- Total of 3 flows:

Average throughput: 1421.68 Mbit/s

95th percentile per-packet one-way delay: 345.862 ms

Loss rate: 7.63%

-- Flow 1:

Average throughput: 725.78 Mbit/s

95th percentile per-packet one-way delay: 330.802 ms

Loss rate: 3.08%

-- Flow 2:

Average throughput: 703.44 Mbit/s

95th percentile per-packet one-way delay: 358.038 ms

Loss rate: 13.07%

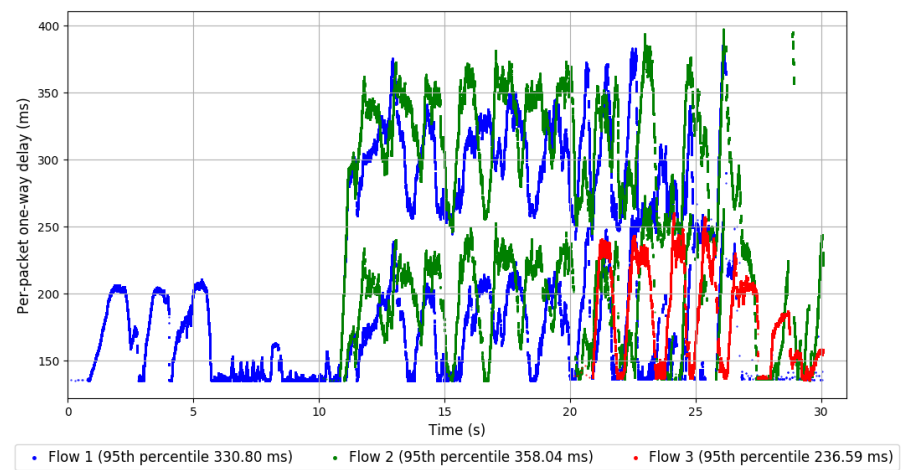
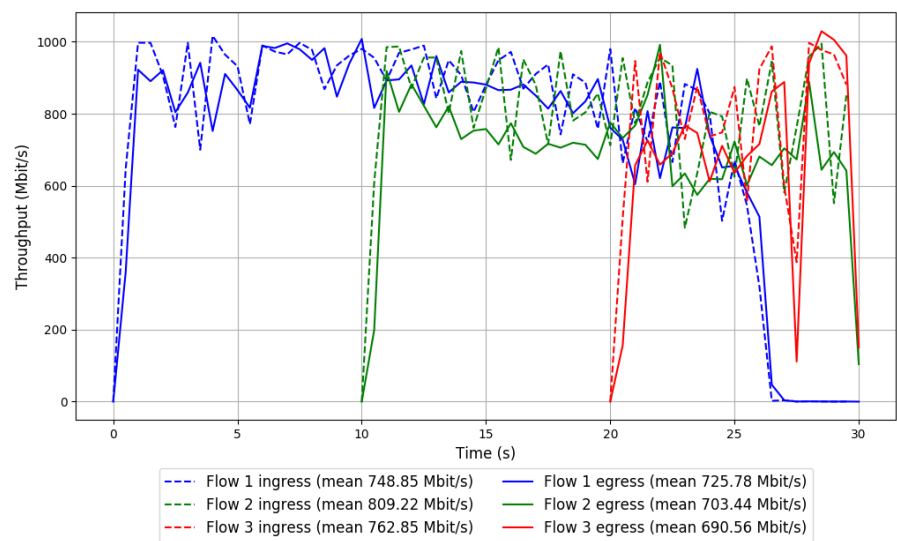
-- Flow 3:

Average throughput: 690.56 Mbit/s

95th percentile per-packet one-way delay: 236.587 ms

Loss rate: 9.50%

Run 2: Report of FillP — Data Link



Run 3: Statistics of FillP

Start at: 2018-01-03 09:58:56

End at: 2018-01-03 09:59:26

Below is generated by plot.py at 2018-01-03 13:56:29

Datalink statistics

-- Total of 3 flows:

Average throughput: 1490.22 Mbit/s

95th percentile per-packet one-way delay: 341.025 ms

Loss rate: 4.81%

-- Flow 1:

Average throughput: 713.86 Mbit/s

95th percentile per-packet one-way delay: 200.081 ms

Loss rate: 1.43%

-- Flow 2:

Average throughput: 793.07 Mbit/s

95th percentile per-packet one-way delay: 348.959 ms

Loss rate: 7.60%

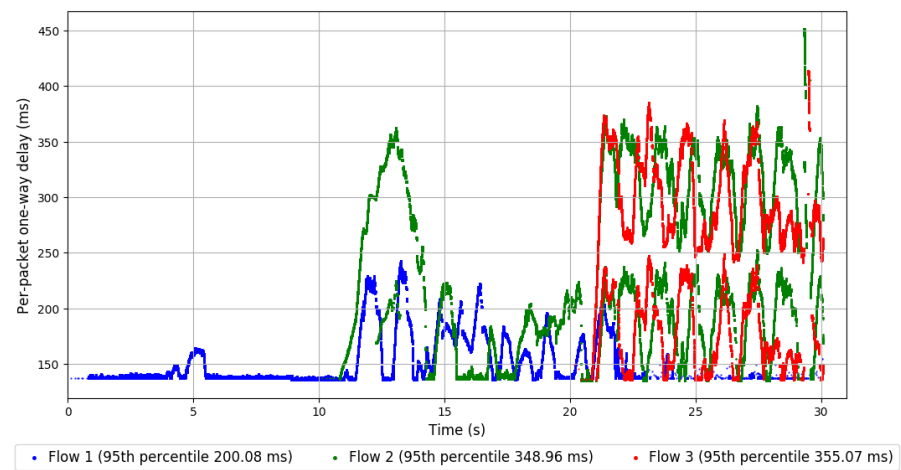
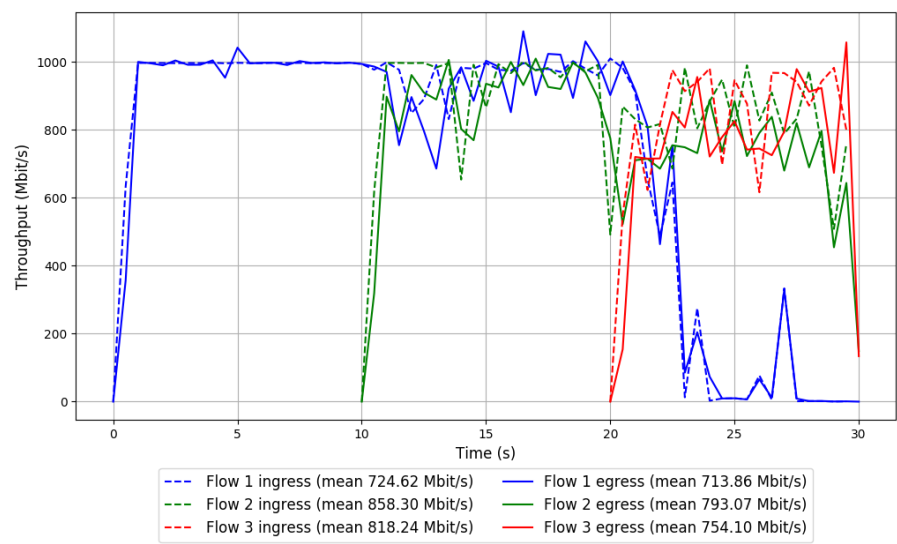
-- Flow 3:

Average throughput: 754.10 Mbit/s

95th percentile per-packet one-way delay: 355.070 ms

Loss rate: 7.96%

Run 3: Report of FillP — Data Link

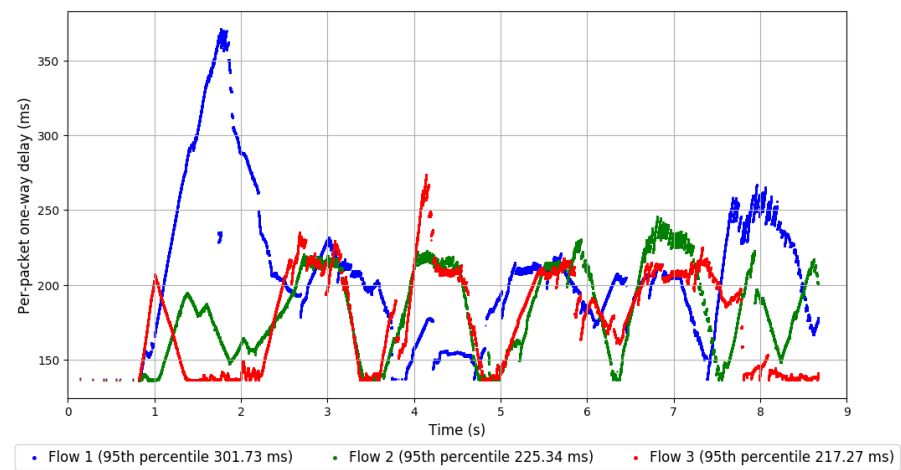
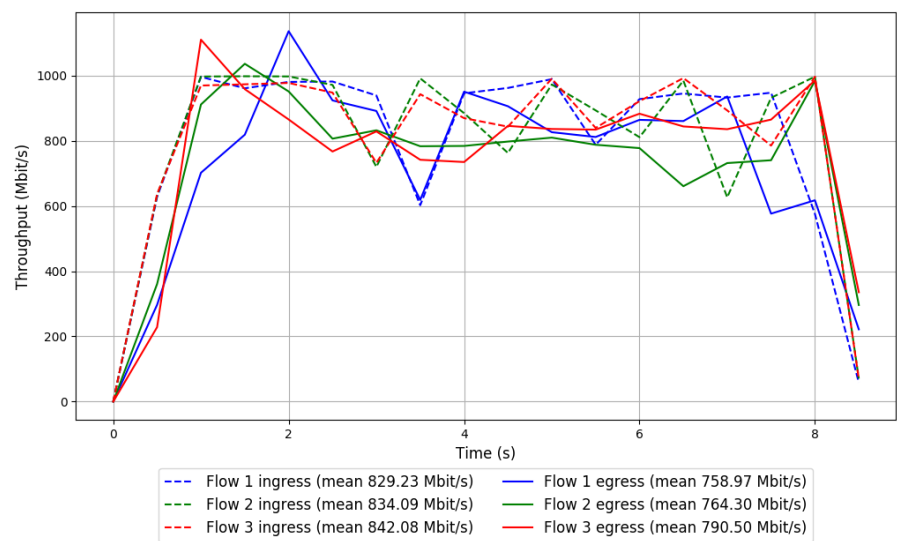


Run 4: Statistics of FillP

Start at: 2018-01-03 10:15:07

End at: 2018-01-03 10:15:37

Run 4: Report of FillP — Data Link



Run 5: Statistics of FillP

Start at: 2018-01-03 10:30:30

End at: 2018-01-03 10:31:00

Below is generated by plot.py at 2018-01-03 13:56:40

Datalink statistics

-- Total of 3 flows:

Average throughput: 1634.09 Mbit/s

95th percentile per-packet one-way delay: 350.252 ms

Loss rate: 6.76%

-- Flow 1:

Average throughput: 801.23 Mbit/s

95th percentile per-packet one-way delay: 357.476 ms

Loss rate: 7.86%

-- Flow 2:

Average throughput: 792.06 Mbit/s

95th percentile per-packet one-way delay: 347.628 ms

Loss rate: 6.70%

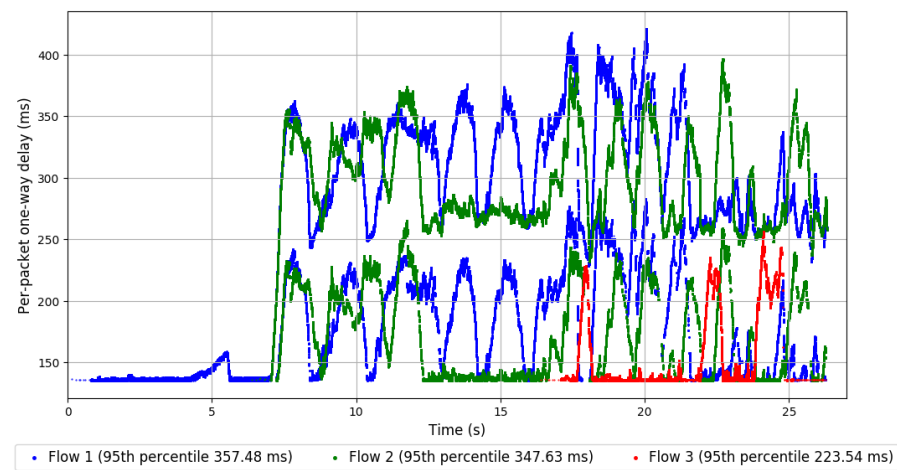
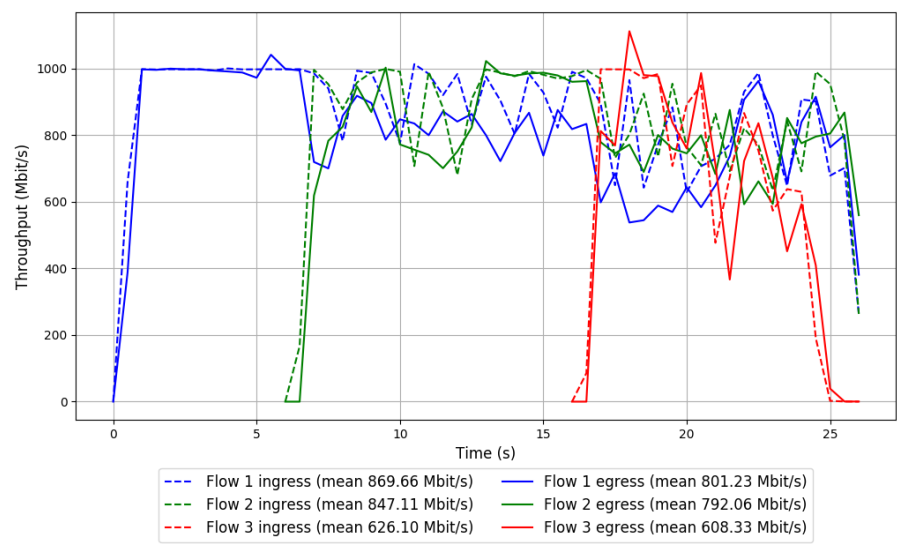
-- Flow 3:

Average throughput: 608.33 Mbit/s

95th percentile per-packet one-way delay: 223.543 ms

Loss rate: 2.84%

Run 5: Report of FillP — Data Link



Run 6: Statistics of FillP

Start at: 2018-01-03 10:46:44

End at: 2018-01-03 10:47:14

Below is generated by plot.py at 2018-01-03 14:03:13

Datalink statistics

-- Total of 3 flows:

Average throughput: 1695.28 Mbit/s

95th percentile per-packet one-way delay: 227.892 ms

Loss rate: 5.02%

-- Flow 1:

Average throughput: 917.93 Mbit/s

95th percentile per-packet one-way delay: 206.648 ms

Loss rate: 1.98%

-- Flow 2:

Average throughput: 814.77 Mbit/s

95th percentile per-packet one-way delay: 225.982 ms

Loss rate: 7.47%

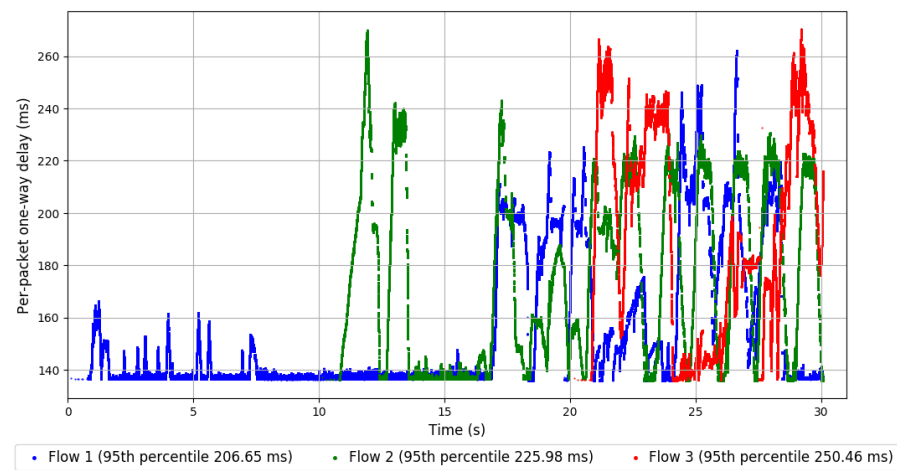
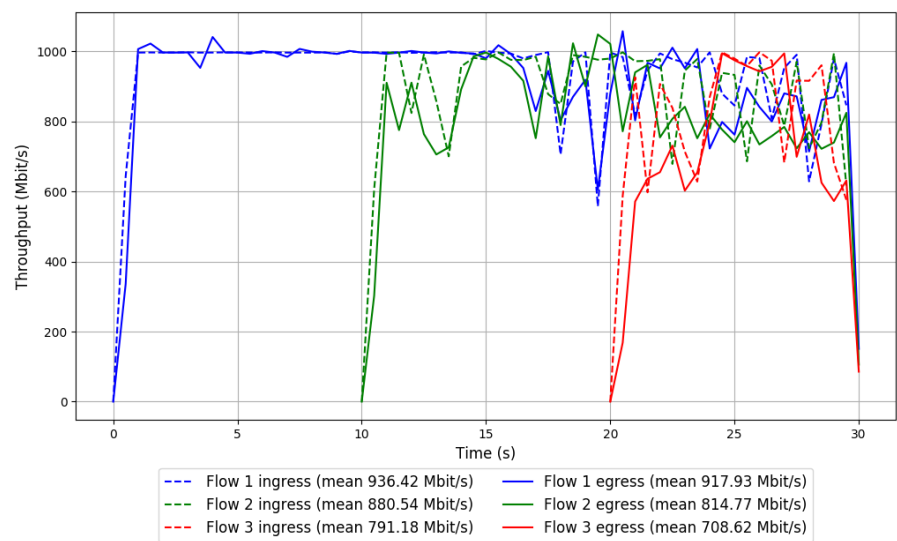
-- Flow 3:

Average throughput: 708.62 Mbit/s

95th percentile per-packet one-way delay: 250.463 ms

Loss rate: 10.43%

Run 6: Report of FillP — Data Link



Run 7: Statistics of FillP

Start at: 2018-01-03 11:02:41

End at: 2018-01-03 11:03:11

Below is generated by plot.py at 2018-01-03 14:03:41

Datalink statistics

-- Total of 3 flows:

Average throughput: 1694.90 Mbit/s

95th percentile per-packet one-way delay: 216.735 ms

Loss rate: 4.19%

-- Flow 1:

Average throughput: 856.66 Mbit/s

95th percentile per-packet one-way delay: 215.360 ms

Loss rate: 2.84%

-- Flow 2:

Average throughput: 872.58 Mbit/s

95th percentile per-packet one-way delay: 216.377 ms

Loss rate: 4.36%

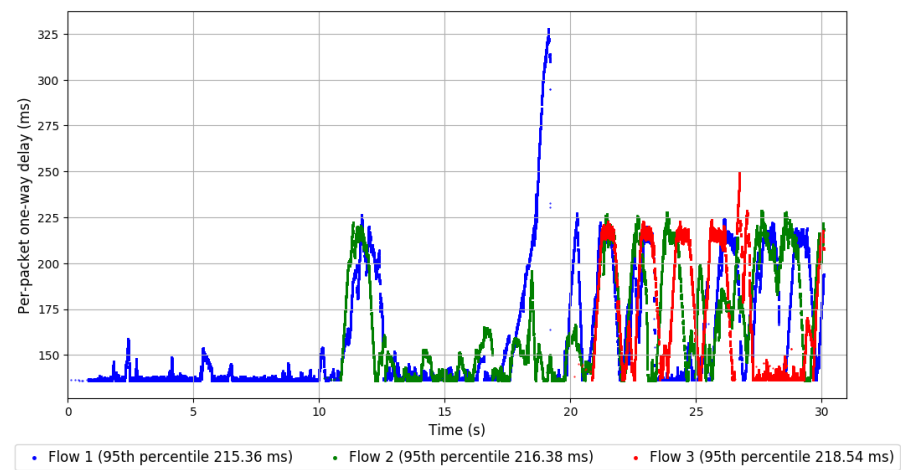
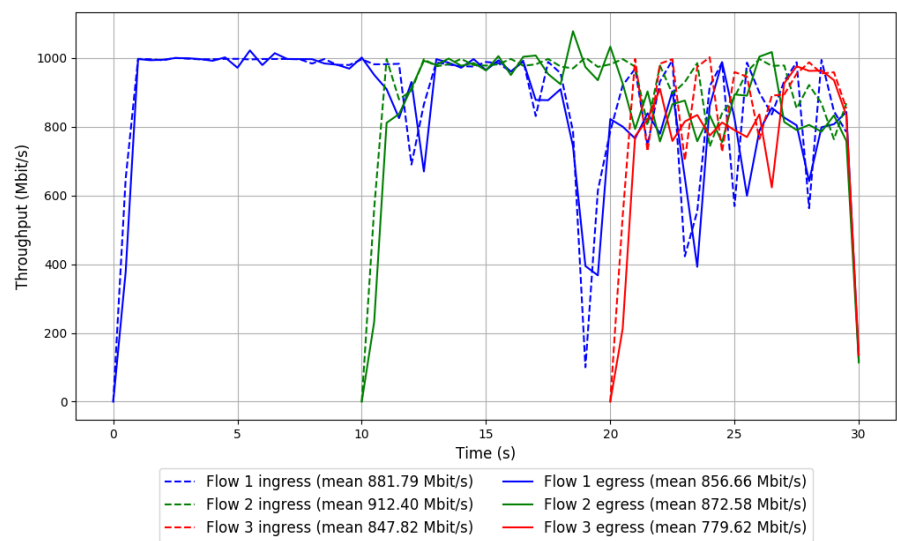
-- Flow 3:

Average throughput: 779.62 Mbit/s

95th percentile per-packet one-way delay: 218.543 ms

Loss rate: 8.04%

Run 7: Report of FillP — Data Link

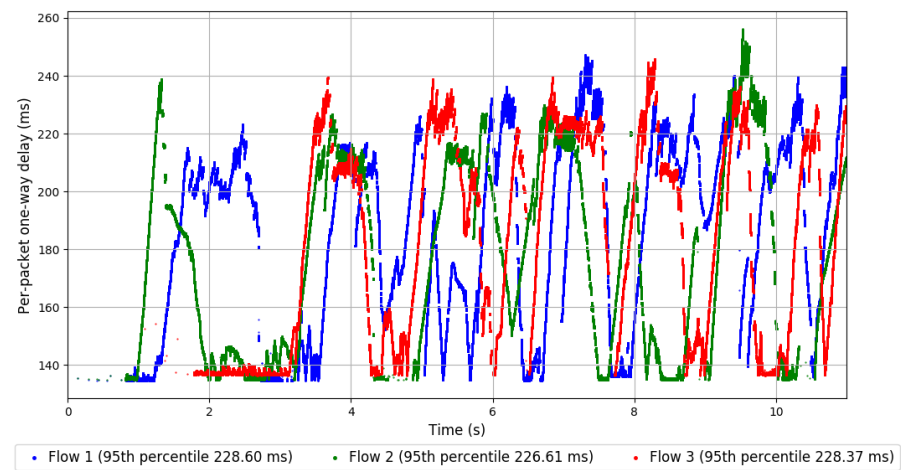
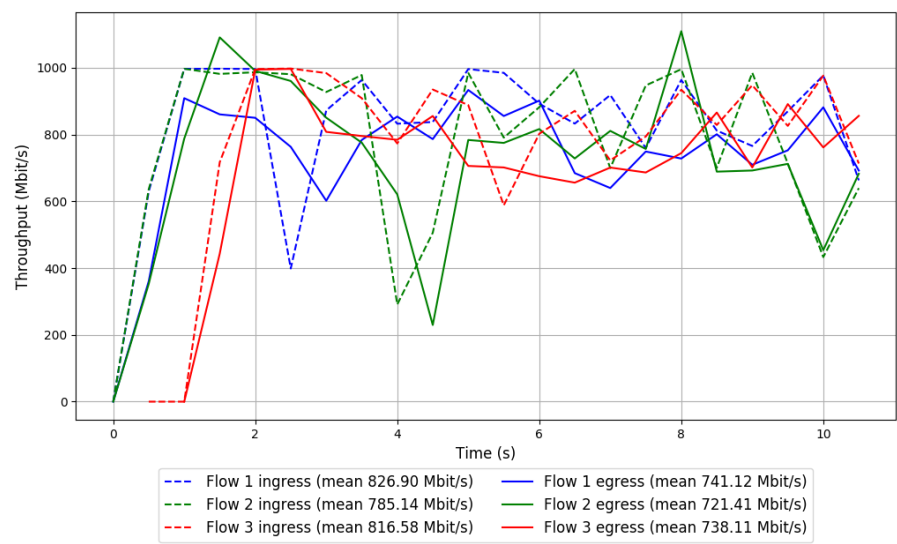


Run 8: Statistics of FillP

Start at: 2018-01-03 11:18:55

End at: 2018-01-03 11:19:26

Run 8: Report of FillP — Data Link



Run 9: Statistics of FillP

Start at: 2018-01-03 11:34:24

End at: 2018-01-03 11:34:54

Below is generated by plot.py at 2018-01-03 14:07:08

Datalink statistics

-- Total of 3 flows:

Average throughput: 1554.28 Mbit/s

95th percentile per-packet one-way delay: 238.834 ms

Loss rate: 9.41%

-- Flow 1:

Average throughput: 844.85 Mbit/s

95th percentile per-packet one-way delay: 234.493 ms

Loss rate: 6.03%

-- Flow 2:

Average throughput: 732.76 Mbit/s

95th percentile per-packet one-way delay: 241.288 ms

Loss rate: 11.96%

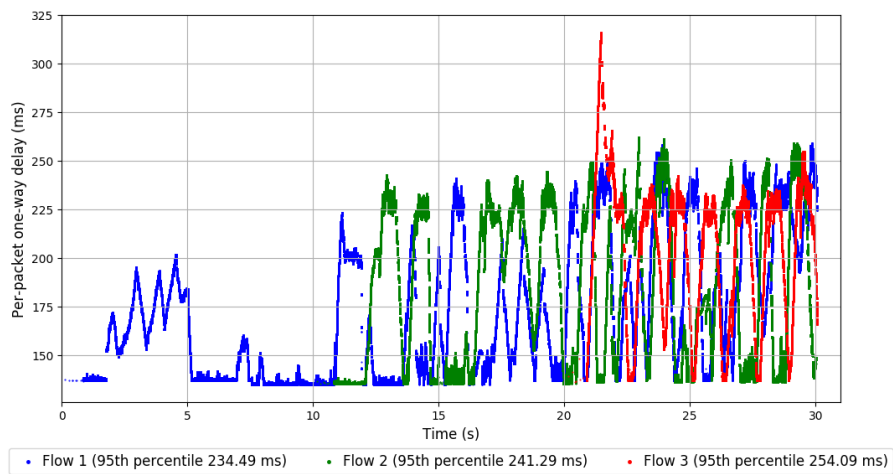
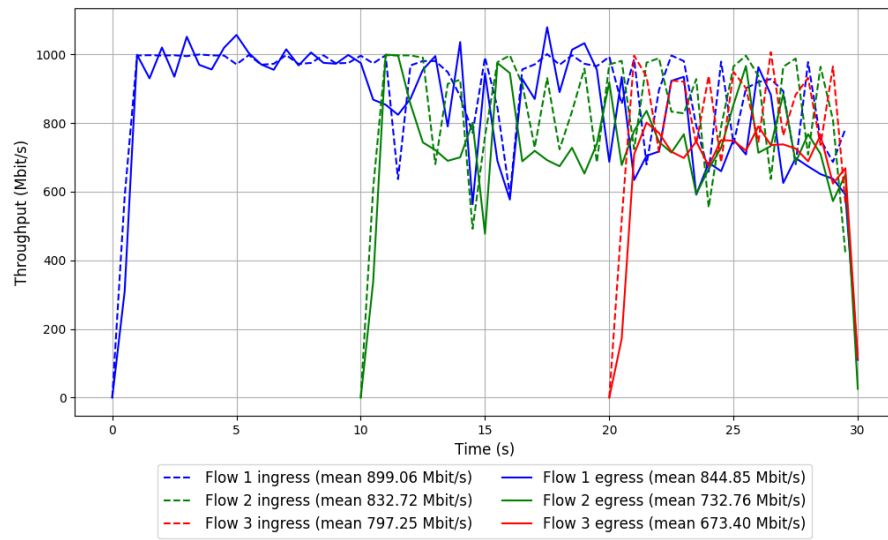
-- Flow 3:

Average throughput: 673.40 Mbit/s

95th percentile per-packet one-way delay: 254.085 ms

Loss rate: 15.56%

Run 9: Report of FillP — Data Link

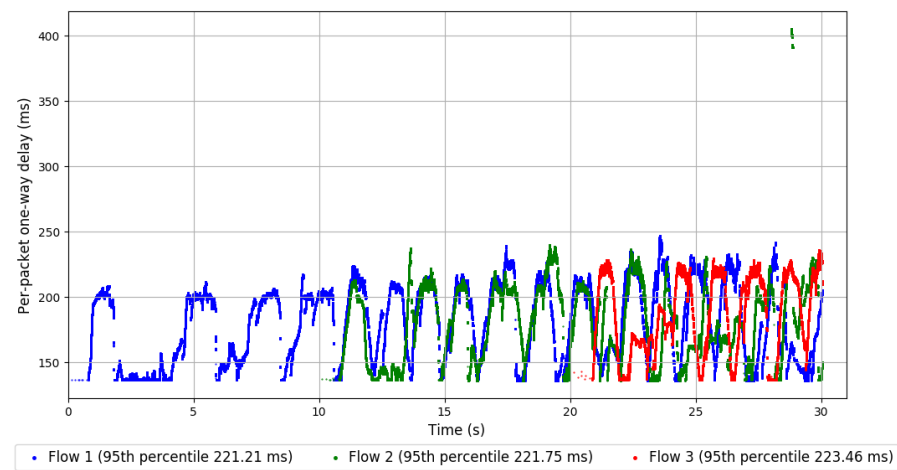
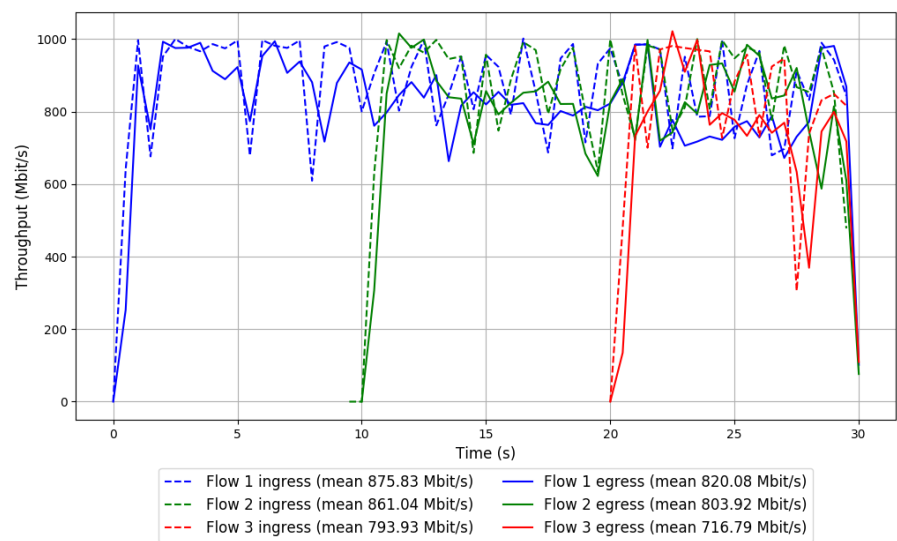


```
Run 10: Statistics of FillP

Start at: 2018-01-03 11:50:17
End at: 2018-01-03 11:50:47

# Below is generated by plot.py at 2018-01-03 14:07:20
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1592.73 Mbit/s
95th percentile per-packet one-way delay: 222.162 ms
Loss rate: 6.98%
-- Flow 1:
Average throughput: 820.08 Mbit/s
95th percentile per-packet one-way delay: 221.212 ms
Loss rate: 6.37%
-- Flow 2:
Average throughput: 803.92 Mbit/s
95th percentile per-packet one-way delay: 221.746 ms
Loss rate: 6.64%
-- Flow 3:
Average throughput: 716.79 Mbit/s
95th percentile per-packet one-way delay: 223.455 ms
Loss rate: 9.77%
```

Run 10: Report of FillP — Data Link

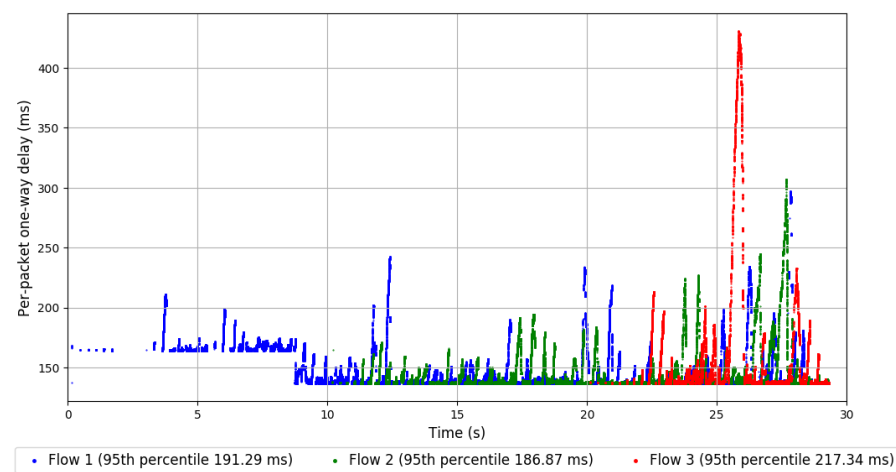
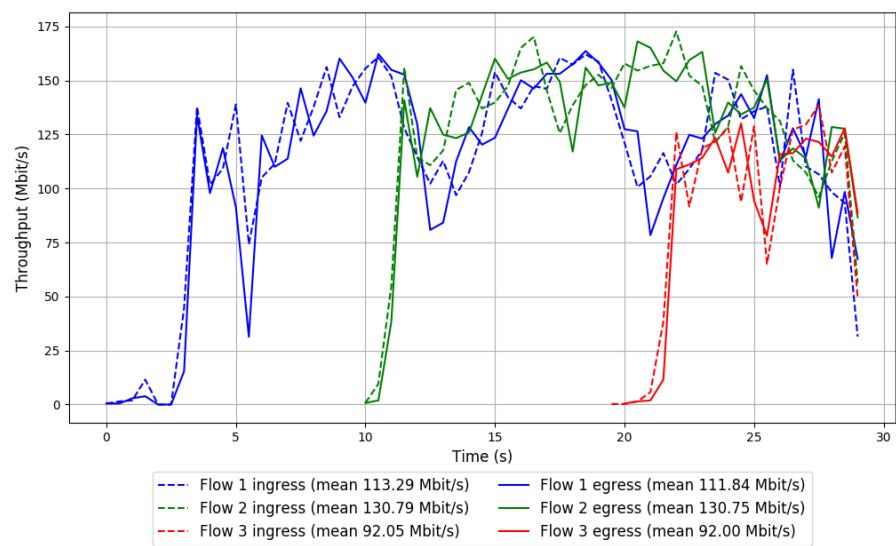


```
Run 1: Statistics of Indigo

Start at: 2018-01-03 09:17:55
End at: 2018-01-03 09:18:25

# Below is generated by plot.py at 2018-01-03 14:07:21
# Datalink statistics
-- Total of 3 flows:
Average throughput: 226.50 Mbit/s
95th percentile per-packet one-way delay: 193.404 ms
Loss rate: 0.66%
-- Flow 1:
Average throughput: 111.84 Mbit/s
95th percentile per-packet one-way delay: 191.290 ms
Loss rate: 1.28%
-- Flow 2:
Average throughput: 130.75 Mbit/s
95th percentile per-packet one-way delay: 186.868 ms
Loss rate: 0.04%
-- Flow 3:
Average throughput: 92.00 Mbit/s
95th percentile per-packet one-way delay: 217.345 ms
Loss rate: 0.06%
```

Run 1: Report of Indigo — Data Link



Run 2: Statistics of Indigo

Start at: 2018-01-03 09:33:24

End at: 2018-01-03 09:33:54

Below is generated by plot.py at 2018-01-03 14:07:21

Datalink statistics

-- Total of 3 flows:

Average throughput: 280.32 Mbit/s

95th percentile per-packet one-way delay: 137.360 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 149.03 Mbit/s

95th percentile per-packet one-way delay: 136.988 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 142.22 Mbit/s

95th percentile per-packet one-way delay: 137.194 ms

Loss rate: 0.00%

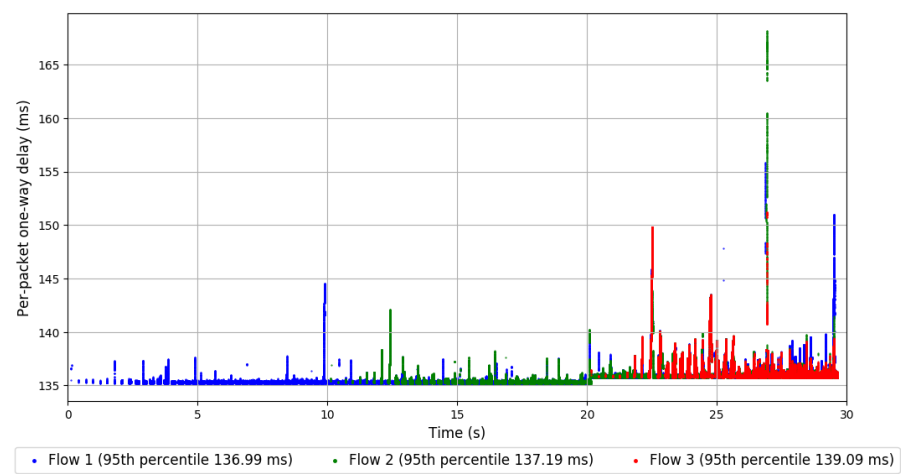
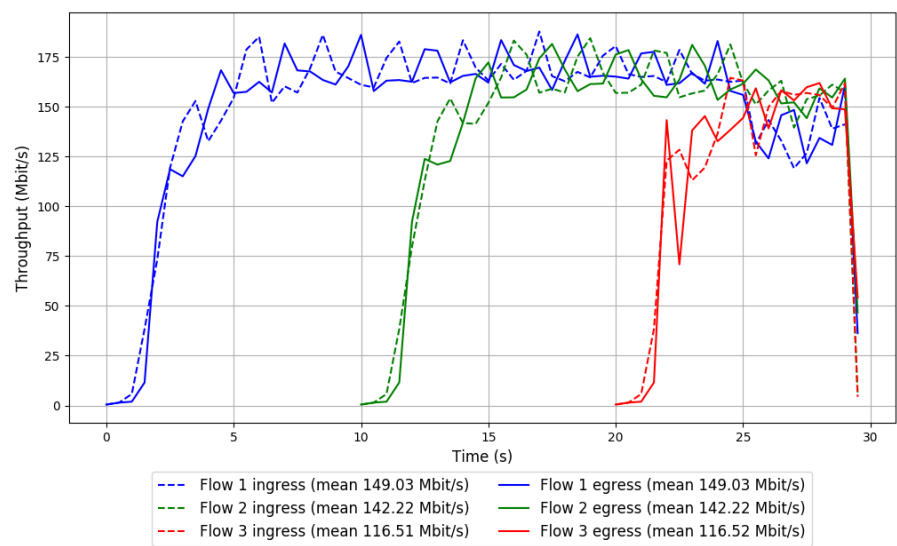
-- Flow 3:

Average throughput: 116.52 Mbit/s

95th percentile per-packet one-way delay: 139.091 ms

Loss rate: 0.00%

Run 2: Report of Indigo — Data Link



Run 3: Statistics of Indigo

Start at: 2018-01-03 09:49:27

End at: 2018-01-03 09:49:57

Below is generated by plot.py at 2018-01-03 14:07:21

Datalink statistics

-- Total of 3 flows:

Average throughput: 276.39 Mbit/s

95th percentile per-packet one-way delay: 136.144 ms

Loss rate: 0.02%

-- Flow 1:

Average throughput: 149.17 Mbit/s

95th percentile per-packet one-way delay: 136.016 ms

Loss rate: 0.04%

-- Flow 2:

Average throughput: 139.58 Mbit/s

95th percentile per-packet one-way delay: 136.252 ms

Loss rate: 0.00%

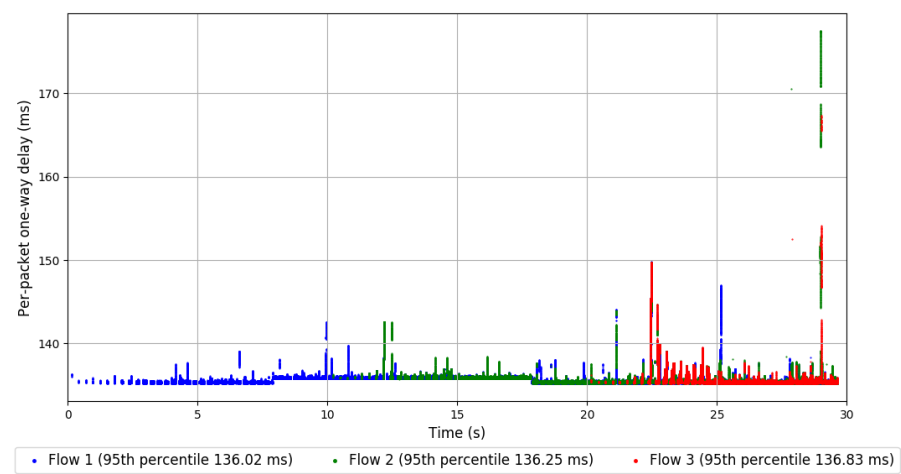
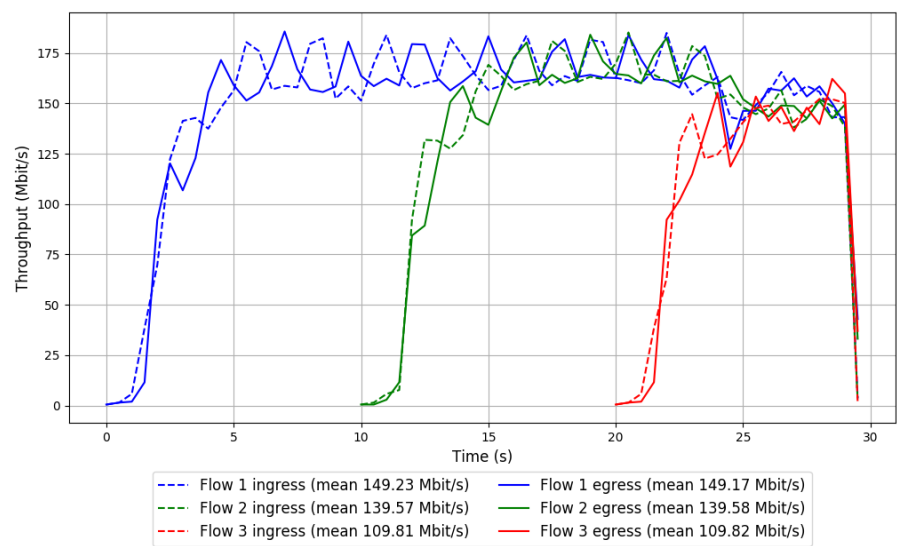
-- Flow 3:

Average throughput: 109.82 Mbit/s

95th percentile per-packet one-way delay: 136.832 ms

Loss rate: 0.00%

Run 3: Report of Indigo — Data Link



Run 4: Statistics of Indigo

Start at: 2018-01-03 10:05:23

End at: 2018-01-03 10:05:53

Below is generated by plot.py at 2018-01-03 14:07:21

Datalink statistics

-- Total of 3 flows:

Average throughput: 279.20 Mbit/s

95th percentile per-packet one-way delay: 138.135 ms

Loss rate: 0.16%

-- Flow 1:

Average throughput: 148.44 Mbit/s

95th percentile per-packet one-way delay: 137.721 ms

Loss rate: 0.31%

-- Flow 2:

Average throughput: 140.75 Mbit/s

95th percentile per-packet one-way delay: 138.327 ms

Loss rate: 0.00%

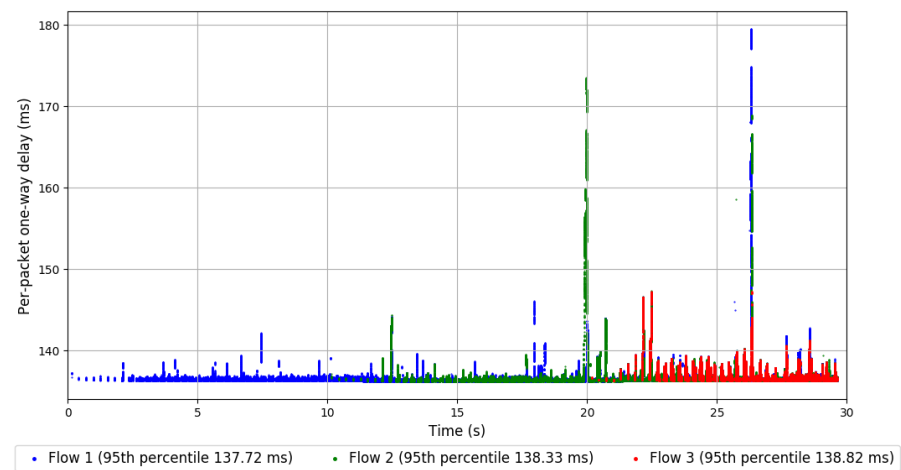
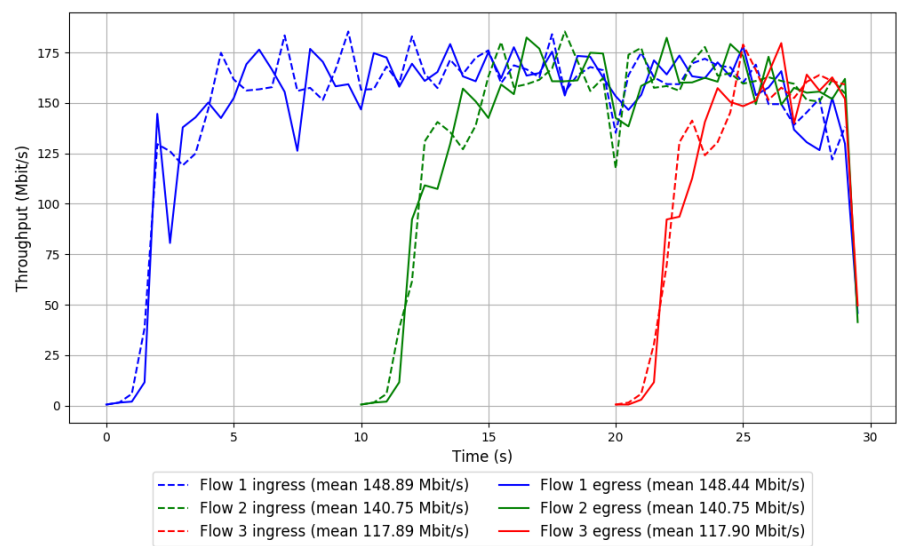
-- Flow 3:

Average throughput: 117.90 Mbit/s

95th percentile per-packet one-way delay: 138.818 ms

Loss rate: 0.00%

Run 4: Report of Indigo — Data Link



Run 5: Statistics of Indigo

Start at: 2018-01-03 10:20:45

End at: 2018-01-03 10:21:15

Below is generated by plot.py at 2018-01-03 14:07:21

Datalink statistics

-- Total of 3 flows:

Average throughput: 276.35 Mbit/s

95th percentile per-packet one-way delay: 138.226 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 146.55 Mbit/s

95th percentile per-packet one-way delay: 137.728 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 141.66 Mbit/s

95th percentile per-packet one-way delay: 138.708 ms

Loss rate: 0.01%

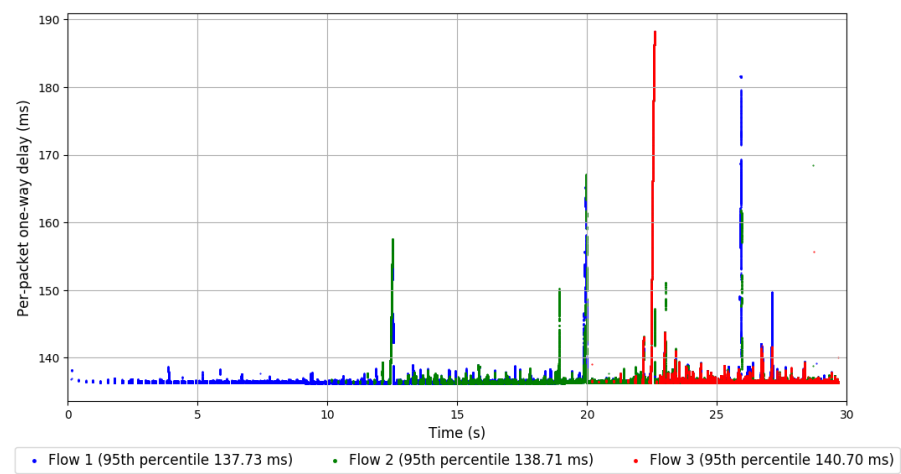
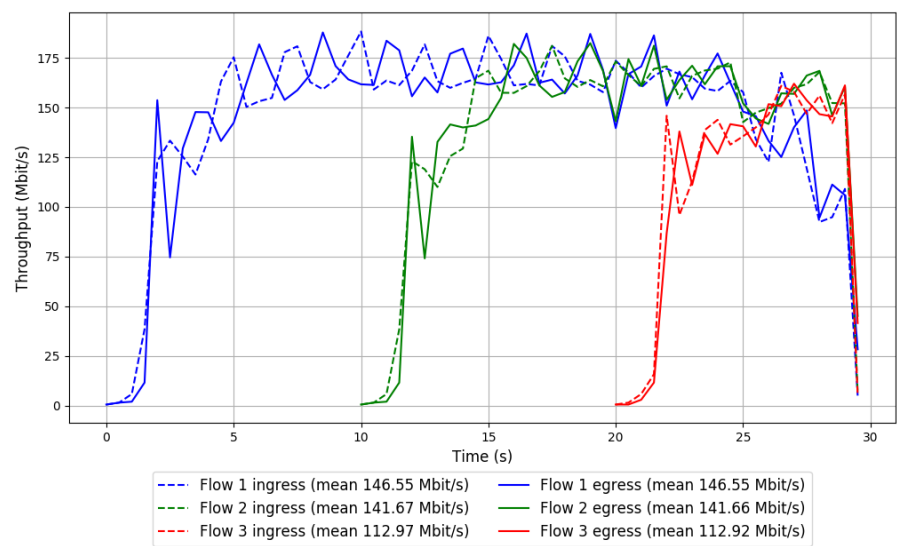
-- Flow 3:

Average throughput: 112.92 Mbit/s

95th percentile per-packet one-way delay: 140.697 ms

Loss rate: 0.01%

Run 5: Report of Indigo — Data Link



Run 6: Statistics of Indigo

Start at: 2018-01-03 10:36:55

End at: 2018-01-03 10:37:25

Below is generated by plot.py at 2018-01-03 14:07:21

Datalink statistics

-- Total of 3 flows:

Average throughput: 277.74 Mbit/s

95th percentile per-packet one-way delay: 136.945 ms

Loss rate: 0.08%

-- Flow 1:

Average throughput: 148.22 Mbit/s

95th percentile per-packet one-way delay: 136.556 ms

Loss rate: 0.11%

-- Flow 2:

Average throughput: 140.32 Mbit/s

95th percentile per-packet one-way delay: 137.195 ms

Loss rate: 0.00%

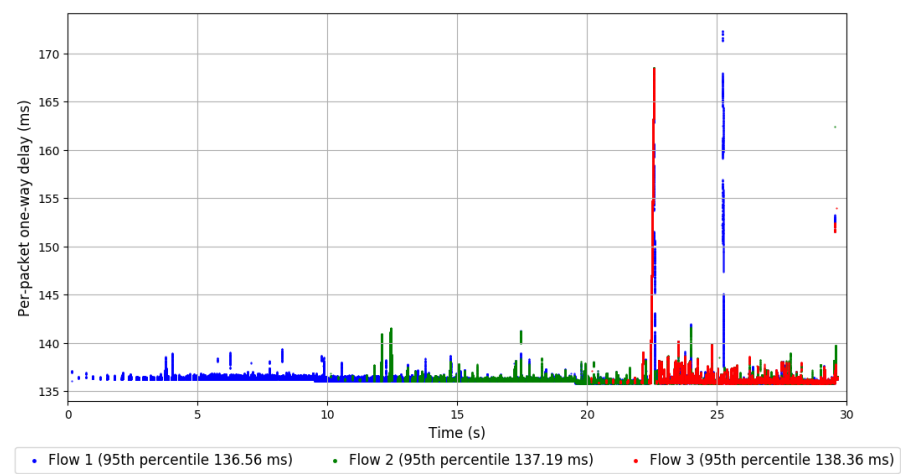
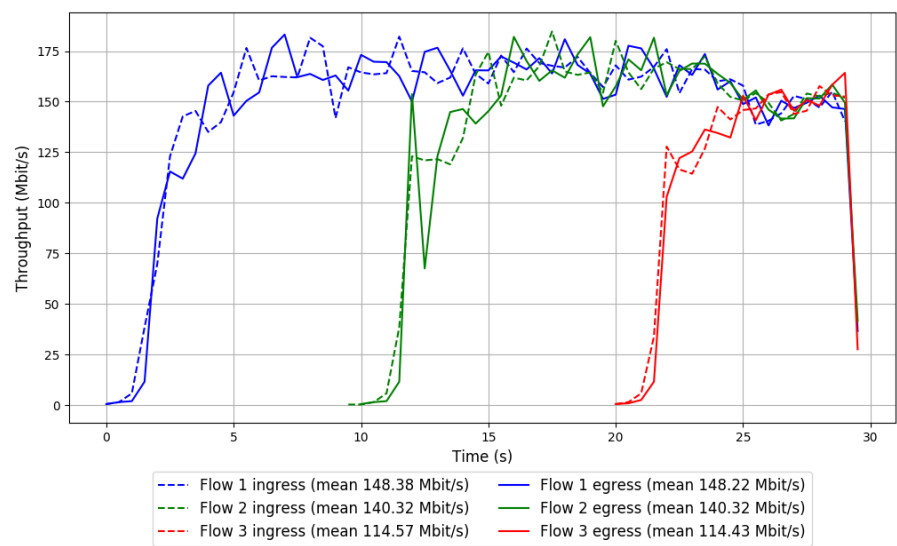
-- Flow 3:

Average throughput: 114.43 Mbit/s

95th percentile per-packet one-way delay: 138.361 ms

Loss rate: 0.13%

Run 6: Report of Indigo — Data Link



Run 7: Statistics of Indigo

Start at: 2018-01-03 10:53:10

End at: 2018-01-03 10:53:40

Below is generated by plot.py at 2018-01-03 14:07:21

Datalink statistics

-- Total of 3 flows:

Average throughput: 279.04 Mbit/s

95th percentile per-packet one-way delay: 137.669 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 151.58 Mbit/s

95th percentile per-packet one-way delay: 136.761 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 136.40 Mbit/s

95th percentile per-packet one-way delay: 139.072 ms

Loss rate: 0.00%

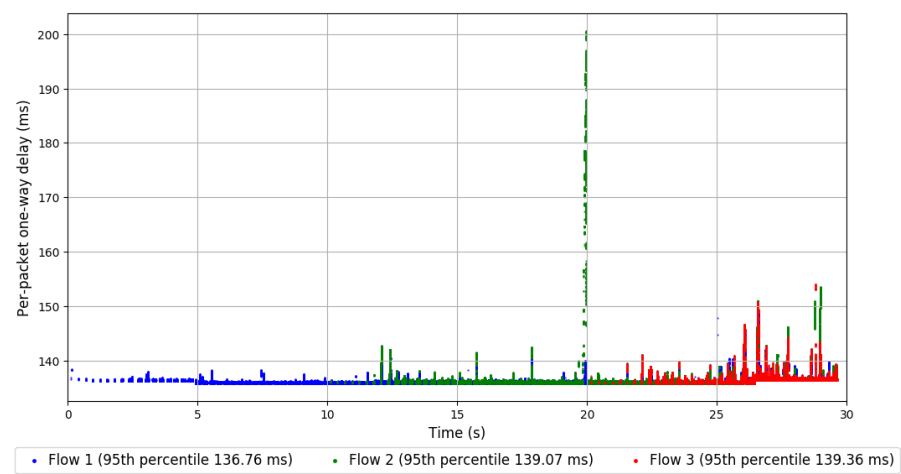
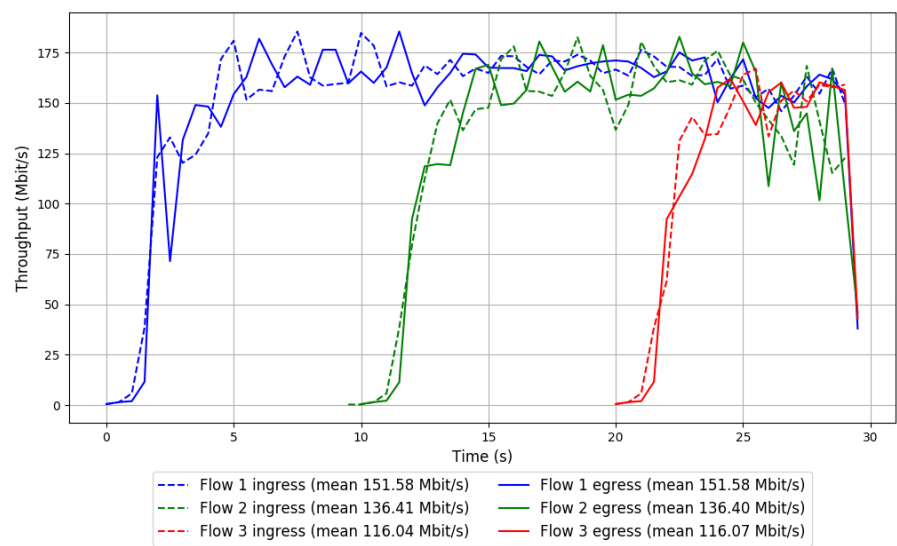
-- Flow 3:

Average throughput: 116.07 Mbit/s

95th percentile per-packet one-way delay: 139.362 ms

Loss rate: 0.00%

Run 7: Report of Indigo — Data Link



Run 8: Statistics of Indigo

Start at: 2018-01-03 11:09:11

End at: 2018-01-03 11:09:41

Below is generated by plot.py at 2018-01-03 14:07:21

Datalink statistics

-- Total of 3 flows:

Average throughput: 268.98 Mbit/s

95th percentile per-packet one-way delay: 136.933 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 139.78 Mbit/s

95th percentile per-packet one-way delay: 136.827 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 141.24 Mbit/s

95th percentile per-packet one-way delay: 136.908 ms

Loss rate: 0.00%

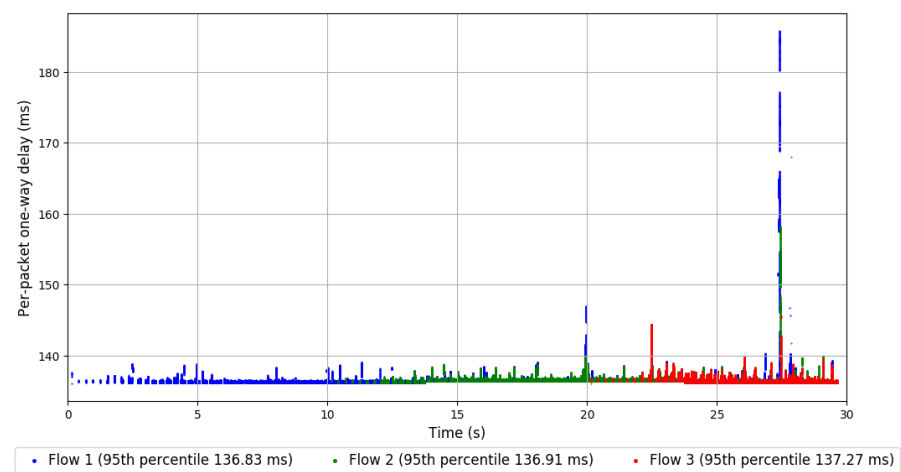
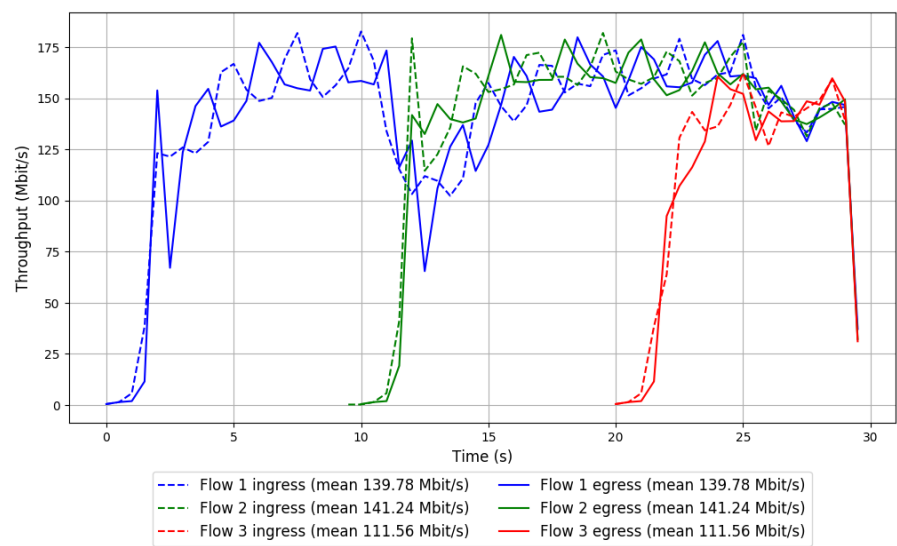
-- Flow 3:

Average throughput: 111.56 Mbit/s

95th percentile per-packet one-way delay: 137.266 ms

Loss rate: 0.00%

Run 8: Report of Indigo — Data Link



Run 9: Statistics of Indigo

Start at: 2018-01-03 11:24:47

End at: 2018-01-03 11:25:17

Below is generated by plot.py at 2018-01-03 14:07:21

Datalink statistics

-- Total of 3 flows:

Average throughput: 221.56 Mbit/s

95th percentile per-packet one-way delay: 136.943 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 120.64 Mbit/s

95th percentile per-packet one-way delay: 136.711 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 94.30 Mbit/s

95th percentile per-packet one-way delay: 136.971 ms

Loss rate: 0.00%

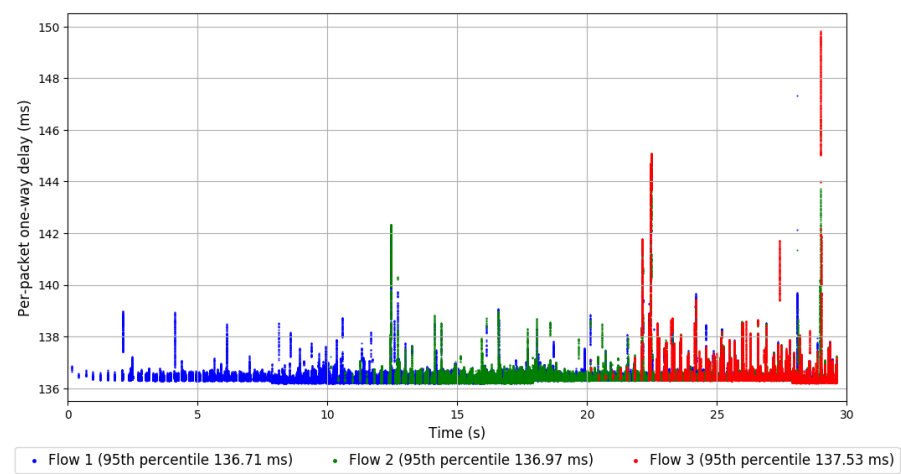
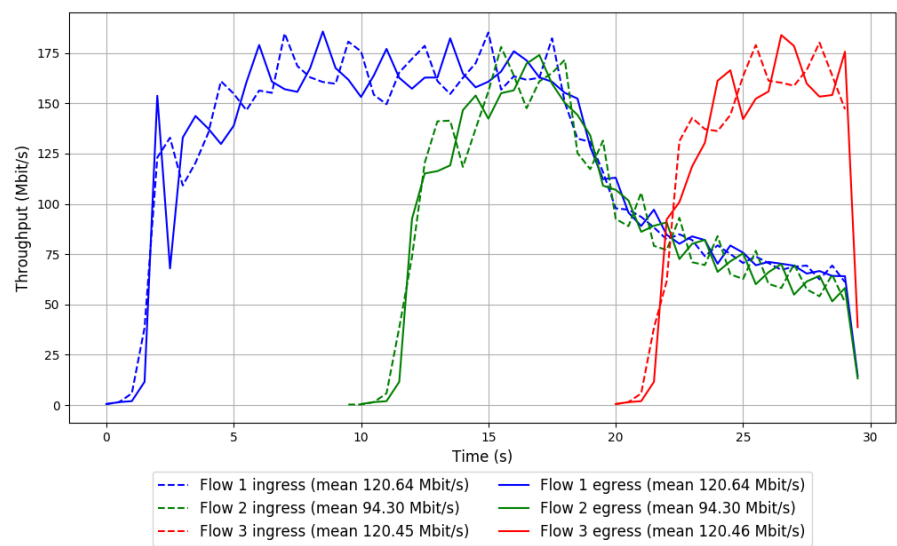
-- Flow 3:

Average throughput: 120.46 Mbit/s

95th percentile per-packet one-way delay: 137.527 ms

Loss rate: 0.00%

Run 9: Report of Indigo — Data Link



Run 10: Statistics of Indigo

Start at: 2018-01-03 11:40:53

End at: 2018-01-03 11:41:23

Below is generated by plot.py at 2018-01-03 14:07:21

Datalink statistics

-- Total of 3 flows:

Average throughput: 269.93 Mbit/s

95th percentile per-packet one-way delay: 136.034 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 151.89 Mbit/s

95th percentile per-packet one-way delay: 135.750 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 128.57 Mbit/s

95th percentile per-packet one-way delay: 136.163 ms

Loss rate: 0.00%

-- Flow 3:

Average throughput: 104.42 Mbit/s

95th percentile per-packet one-way delay: 136.766 ms

Loss rate: 0.00%

Run 10: Report of Indigo — Data Link

