

## Pantheon Report

Generated at 2018-02-13 13:24:28 (UTC).

Data path: Stanford ppp0 (*remote*) → AWS California 1 Ethernet (*local*).

Repeated the test of 17 congestion control schemes 3 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).

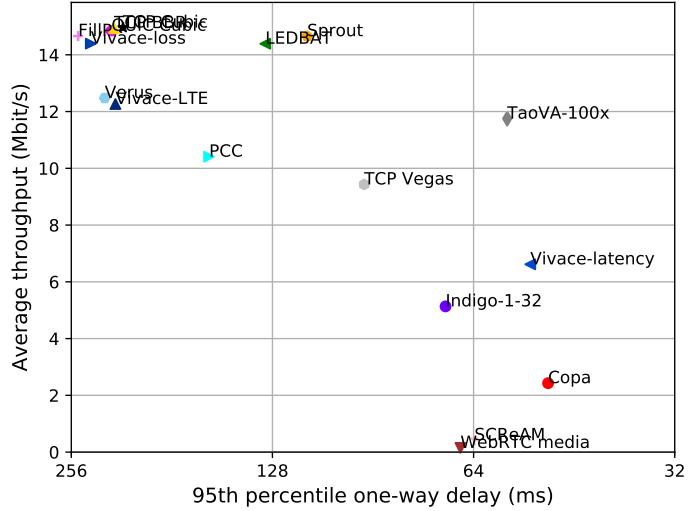
Tested BBR with qdisc of Fair Queuing (**fq**), and other schemes with the default Linux qdisc (**pfifo\_fast**).

NTP offsets were measured against `time.stanford.edu` and have been applied to correct the timestamps in logs.

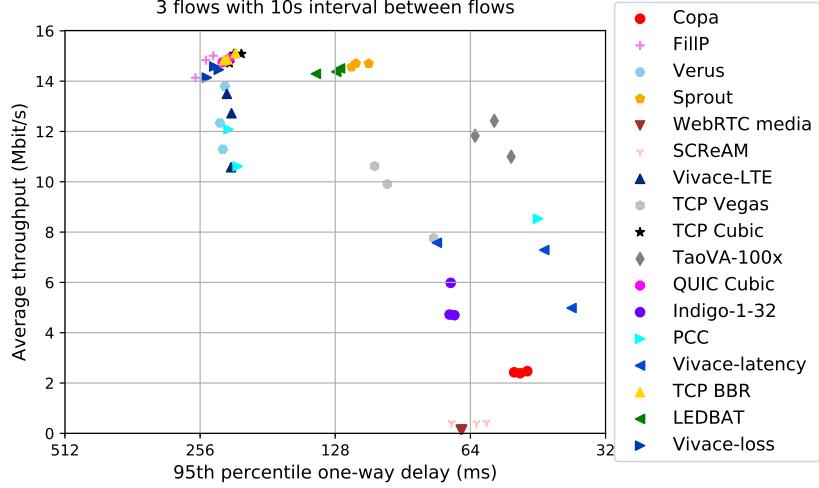
**Git summary:**

```
branch: master @ 2efdadc57c2c56a9458b0d01ff33345e11732665
third_party/calibrated_koho @ 3cb73c0d1c0322cdfae446ea37a522e53227db50
  M datagrump/sender.cc
third_party/fillp @ 828bbf95fd4941149b5cec90f281d1c69ae1a5c6
third_party/genericCC @ 80b516c448f795fd6e9675f7177b69c622f07da8
third_party/indigo @ a9b2060d39e4da2e8987e893e3eca2a6c7cd0ab9
third_party/indigo-1-layer-128-unit @ 3ae9e4ef4230db7484501f82ce8b377695f2f66d
third_party/indigo-1-layer-32-unit @ 2601c92e4aa9d58d38dc4dfe0ecdbf90c077e64d
third_party/indigo-1-layer-32-unit-no-calib @ 1f3a7f75b41135ed5b540c0fd3505939528e2a5f
third_party/indigo-no-calib @ 7224f2202e8a044d8306fa0b983ad84360c53d89
third_party/koho_cc @ f0f2e693303aeee82ea808e6928eac4f1083a6681
  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 @ f1a14bffe749737437f61b1eaeeb30b267cde681
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/vivace @ 7a4ba531e75b4a6f66f5c4580192120401784ce3
third_party/webrtc @ a488197ddd041ace68a42849b2540ad834825f42
```

test from Stanford ppp0 to AWS California 1 Ethernet, 3 runs of 30s each per scheme  
 3 flows with 10s interval between flows (mean of all runs by scheme)



test from Stanford ppp0 to AWS California 1 Ethernet, 3 runs of 30s each per scheme  
 3 flows with 10s interval between flows



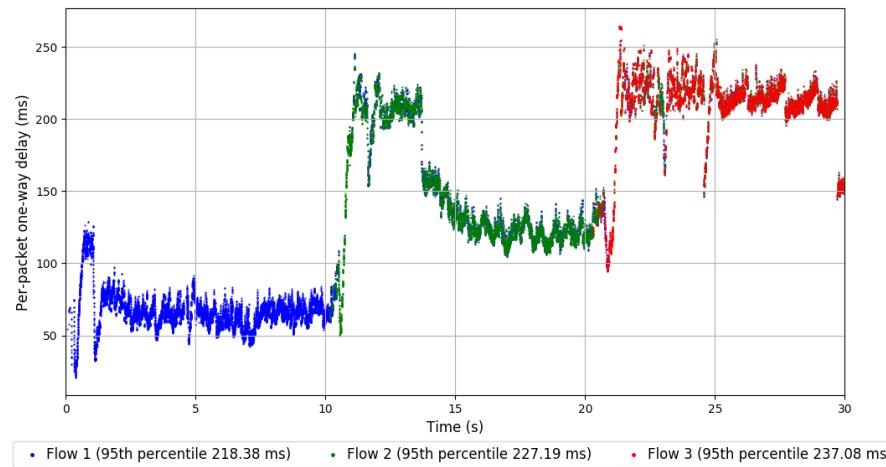
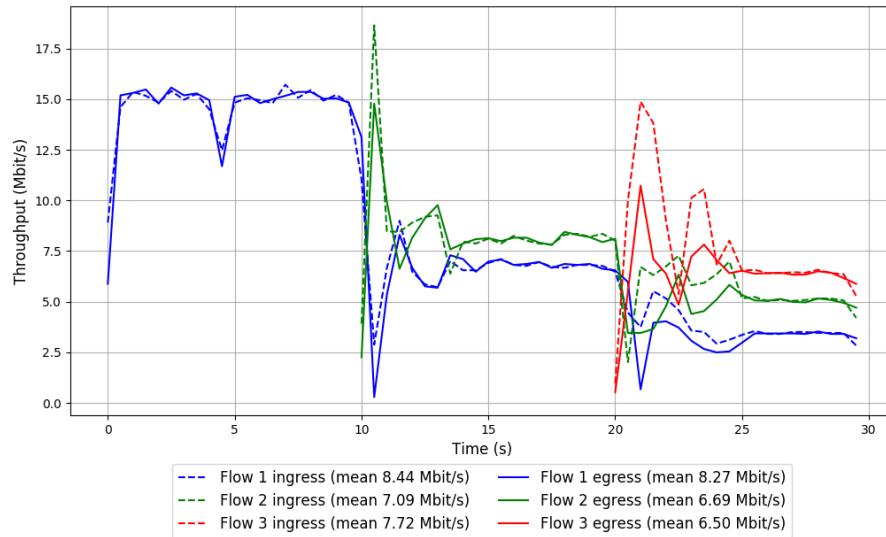
scheme	# runs	mean avg tput (Mbit/s)			mean 95th-%ile delay (ms)			mean loss rate (%)		
		flow 1	flow 2	flow 3	flow 1	flow 2	flow 3	flow 1	flow 2	flow 3
TCP BBR	3	8.99	5.98	6.06	212.55	223.51	228.10	1.94	4.90	10.72
TCP Cubic	3	9.91	5.21	4.93	215.47	215.73	194.56	0.58	1.04	2.40
LEDBAT	3	10.07	3.96	5.18	131.33	131.81	130.17	0.21	0.62	1.25
PCC	3	5.15	6.89	2.05	156.84	161.40	161.32	2.40	3.56	6.76
QUIC Cubic	3	10.85	4.21	3.69	222.11	225.13	223.94	1.32	2.43	3.55
SCReAM	3	0.21	0.21	0.21	63.47	63.38	57.51	0.11	0.21	0.46
WebRTC media	3	0.05	0.05	0.05	67.05	61.20	69.19	0.00	0.00	0.00
Sprout	3	9.04	6.16	4.66	107.79	114.71	121.48	1.62	1.76	2.51
TaoVA-100x	3	5.47	6.38	6.17	56.00	56.44	59.97	0.52	0.59	2.18
TCP Vegas	3	5.15	3.44	6.07	98.59	83.38	73.60	0.07	0.25	0.28
Verus	3	7.34	6.26	3.08	221.84	230.36	236.57	17.71	9.94	27.82
Copa	3	1.15	1.18	1.52	55.78	45.57	39.17	0.58	0.36	1.44
FillP	3	11.32	3.06	4.11	247.07	260.25	262.07	49.75	86.40	90.52
Indigo-1-32	3	2.38	2.45	3.41	73.01	69.06	62.17	0.17	0.26	0.50
Vivace-latency	3	2.45	4.41	3.76	47.64	53.85	44.58	0.11	0.17	0.33
Vivace-loss	3	11.03	3.86	2.52	239.54	238.87	238.45	18.54	14.18	13.16
Vivace-LTE	3	8.64	4.05	2.84	218.45	220.88	224.02	1.80	2.86	5.87

Run 1: Statistics of TCP BBR

```
Start at: 2018-02-13 11:01:14
End at: 2018-02-13 11:01:44
Local clock offset: -0.1 ms
Remote clock offset: -5.887 ms

# Below is generated by plot.py at 2018-02-13 13:23:04
# Datalink statistics
-- Total of 3 flows:
Average throughput: 14.83 Mbit/s
95th percentile per-packet one-way delay: 226.518 ms
Loss rate: 5.80%
-- Flow 1:
Average throughput: 8.27 Mbit/s
95th percentile per-packet one-way delay: 218.377 ms
Loss rate: 2.23%
-- Flow 2:
Average throughput: 6.69 Mbit/s
95th percentile per-packet one-way delay: 227.187 ms
Loss rate: 6.12%
-- Flow 3:
Average throughput: 6.50 Mbit/s
95th percentile per-packet one-way delay: 237.080 ms
Loss rate: 16.99%
```

## Run 1: Report of TCP BBR — Data Link

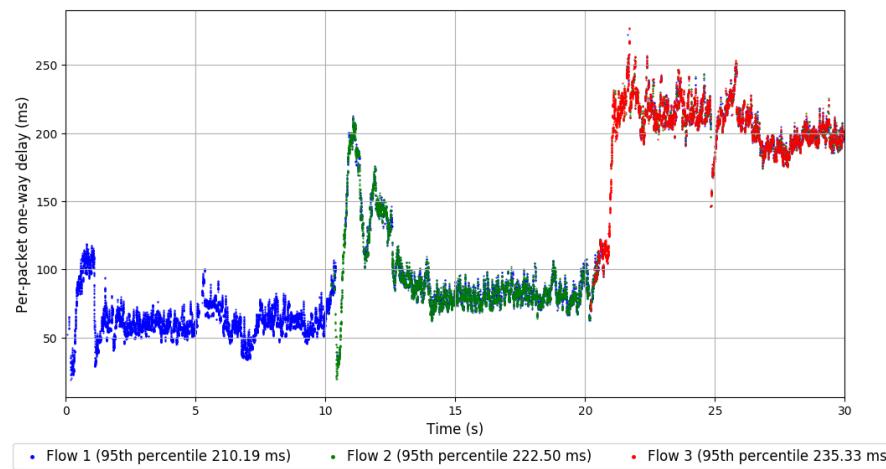
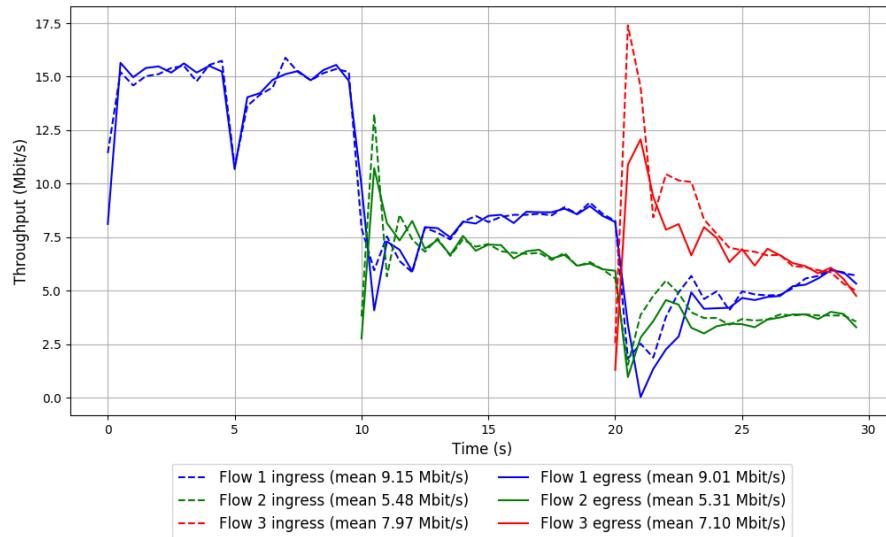


Run 2: Statistics of TCP BBR

```
Start at: 2018-02-13 11:25:02
End at: 2018-02-13 11:25:32
Local clock offset: -0.458 ms
Remote clock offset: -4.996 ms

# Below is generated by plot.py at 2018-02-13 13:23:04
# Datalink statistics
-- Total of 3 flows:
Average throughput: 14.87 Mbit/s
95th percentile per-packet one-way delay: 222.753 ms
Loss rate: 3.92%
-- Flow 1:
Average throughput: 9.01 Mbit/s
95th percentile per-packet one-way delay: 210.192 ms
Loss rate: 1.82%
-- Flow 2:
Average throughput: 5.31 Mbit/s
95th percentile per-packet one-way delay: 222.504 ms
Loss rate: 3.48%
-- Flow 3:
Average throughput: 7.10 Mbit/s
95th percentile per-packet one-way delay: 235.332 ms
Loss rate: 11.78%
```

## Run 2: Report of TCP BBR — Data Link

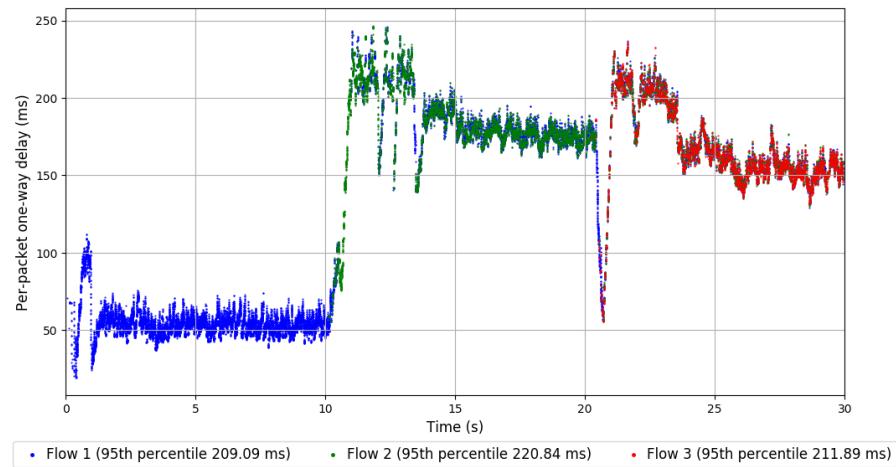
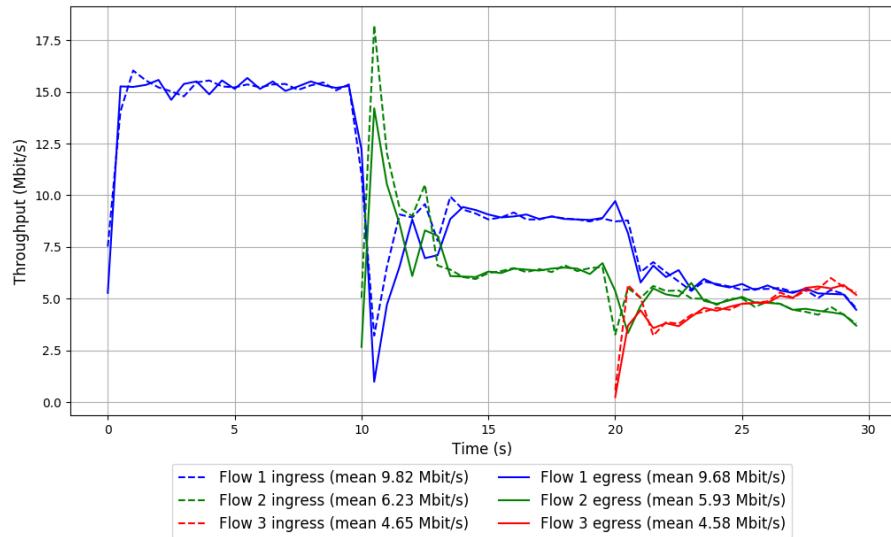


Run 3: Statistics of TCP BBR

```
Start at: 2018-02-13 11:48:51
End at: 2018-02-13 11:49:21
Local clock offset: -0.323 ms
Remote clock offset: -5.241 ms

# Below is generated by plot.py at 2018-02-13 13:23:04
# Datalink statistics
-- Total of 3 flows:
Average throughput: 15.12 Mbit/s
95th percentile per-packet one-way delay: 213.553 ms
Loss rate: 2.81%
-- Flow 1:
Average throughput: 9.68 Mbit/s
95th percentile per-packet one-way delay: 209.089 ms
Loss rate: 1.77%
-- Flow 2:
Average throughput: 5.93 Mbit/s
95th percentile per-packet one-way delay: 220.835 ms
Loss rate: 5.09%
-- Flow 3:
Average throughput: 4.58 Mbit/s
95th percentile per-packet one-way delay: 211.888 ms
Loss rate: 3.38%
```

### Run 3: Report of TCP BBR — Data Link

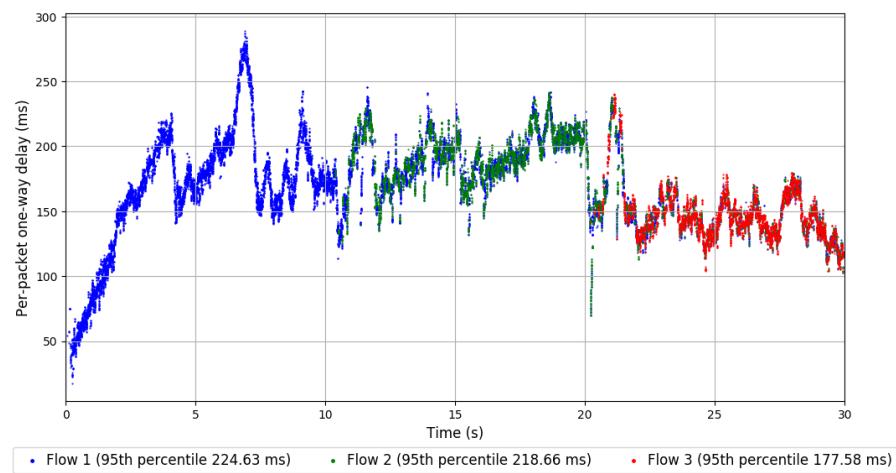
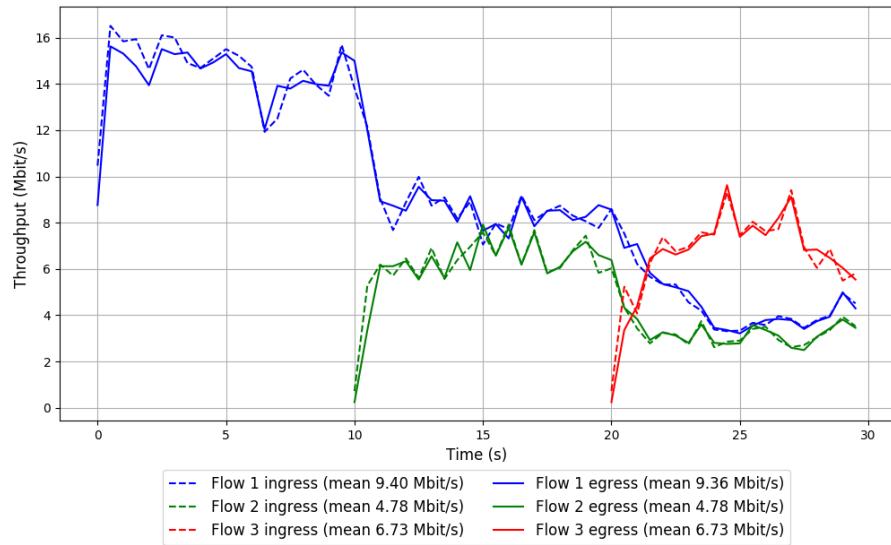


Run 1: Statistics of TCP Cubic

```
Start at: 2018-02-13 11:15:47
End at: 2018-02-13 11:16:17
Local clock offset: -0.428 ms
Remote clock offset: -5.353 ms

# Below is generated by plot.py at 2018-02-13 13:23:04
# Datalink statistics
-- Total of 3 flows:
Average throughput: 14.72 Mbit/s
95th percentile per-packet one-way delay: 220.052 ms
Loss rate: 0.83%
-- Flow 1:
Average throughput: 9.36 Mbit/s
95th percentile per-packet one-way delay: 224.629 ms
Loss rate: 0.65%
-- Flow 2:
Average throughput: 4.78 Mbit/s
95th percentile per-packet one-way delay: 218.664 ms
Loss rate: 0.84%
-- Flow 3:
Average throughput: 6.73 Mbit/s
95th percentile per-packet one-way delay: 177.583 ms
Loss rate: 1.55%
```

## Run 1: Report of TCP Cubic — Data Link

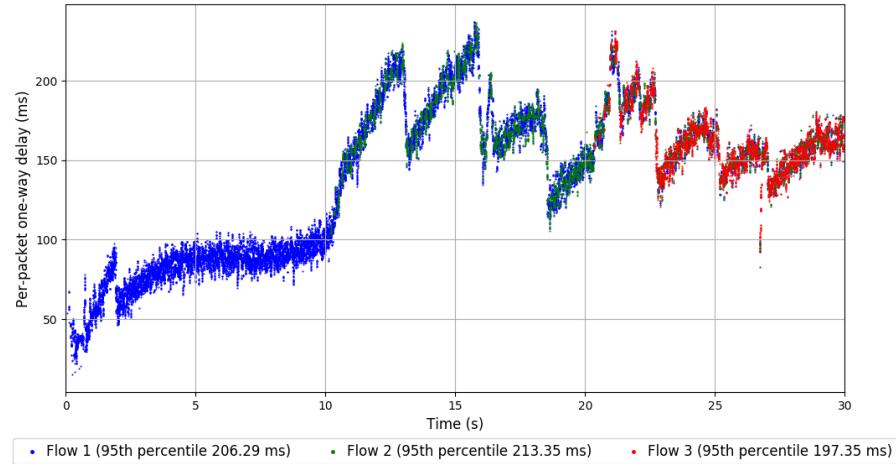
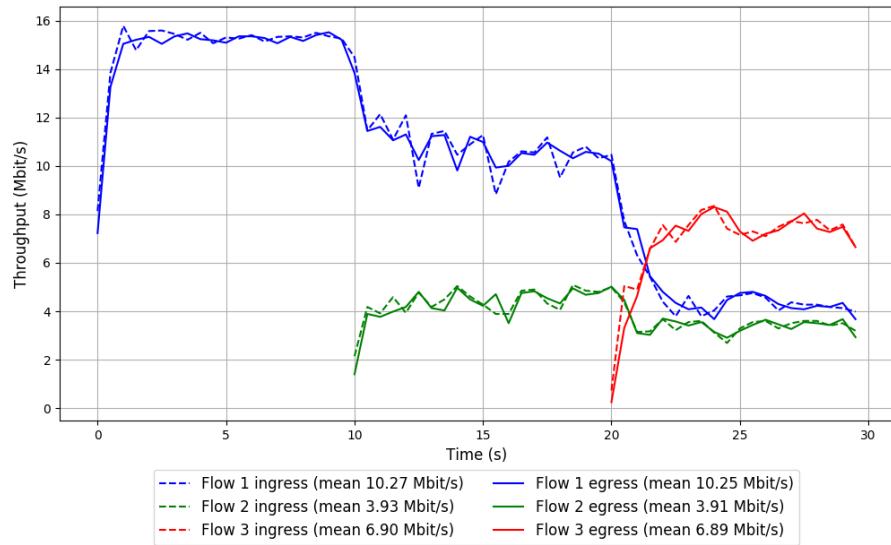


Run 2: Statistics of TCP Cubic

```
Start at: 2018-02-13 11:39:35
End at: 2018-02-13 11:40:05
Local clock offset: -0.47 ms
Remote clock offset: -5.291 ms

# Below is generated by plot.py at 2018-02-13 13:23:04
# Datalink statistics
-- Total of 3 flows:
Average throughput: 15.08 Mbit/s
95th percentile per-packet one-way delay: 207.147 ms
Loss rate: 0.79%
-- Flow 1:
Average throughput: 10.25 Mbit/s
95th percentile per-packet one-way delay: 206.286 ms
Loss rate: 0.43%
-- Flow 2:
Average throughput: 3.91 Mbit/s
95th percentile per-packet one-way delay: 213.346 ms
Loss rate: 1.26%
-- Flow 3:
Average throughput: 6.89 Mbit/s
95th percentile per-packet one-way delay: 197.350 ms
Loss rate: 1.89%
```

## Run 2: Report of TCP Cubic — Data Link

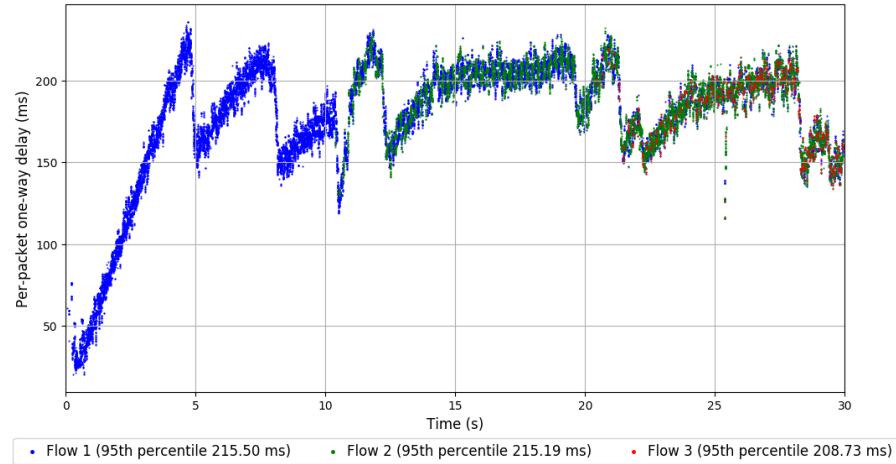
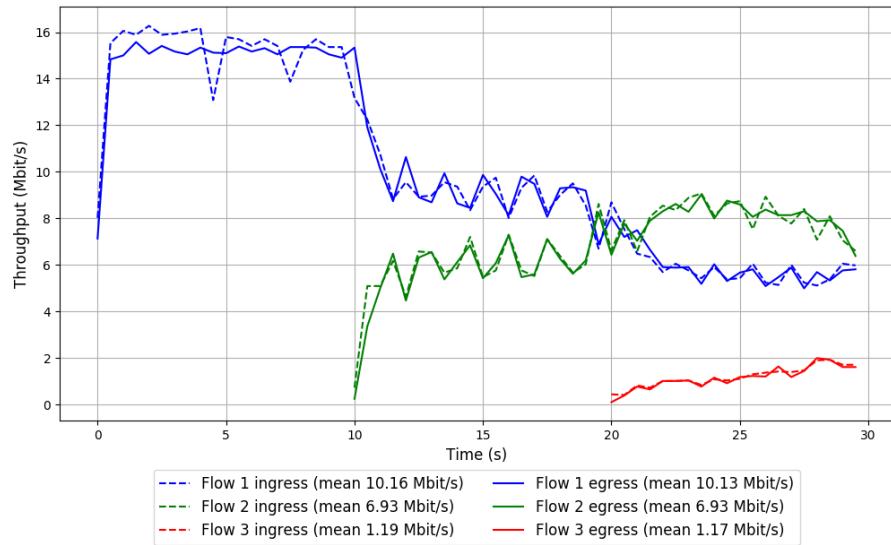


Run 3: Statistics of TCP Cubic

```
Start at: 2018-02-13 12:03:23
End at: 2018-02-13 12:03:53
Local clock offset: -0.233 ms
Remote clock offset: -5.159 ms

# Below is generated by plot.py at 2018-02-13 13:23:04
# Datalink statistics
-- Total of 3 flows:
Average throughput: 15.08 Mbit/s
95th percentile per-packet one-way delay: 215.271 ms
Loss rate: 0.85%
-- Flow 1:
Average throughput: 10.13 Mbit/s
95th percentile per-packet one-way delay: 215.501 ms
Loss rate: 0.66%
-- Flow 2:
Average throughput: 6.93 Mbit/s
95th percentile per-packet one-way delay: 215.190 ms
Loss rate: 1.03%
-- Flow 3:
Average throughput: 1.17 Mbit/s
95th percentile per-packet one-way delay: 208.733 ms
Loss rate: 3.76%
```

### Run 3: Report of TCP Cubic — Data Link

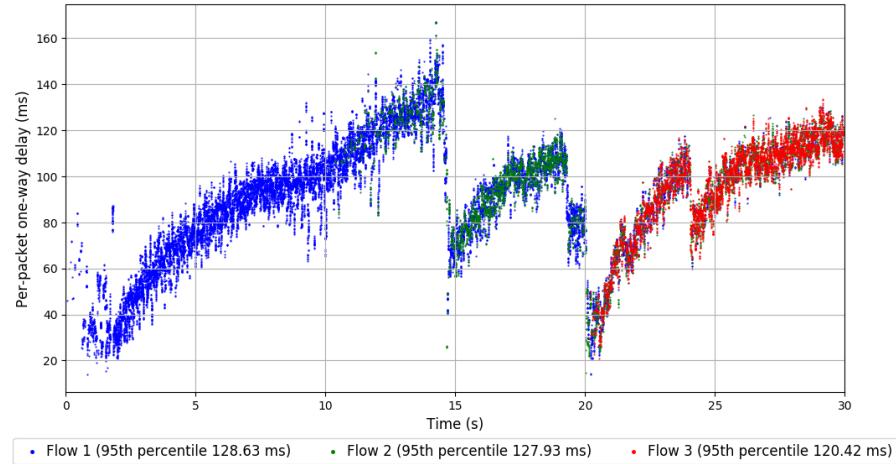
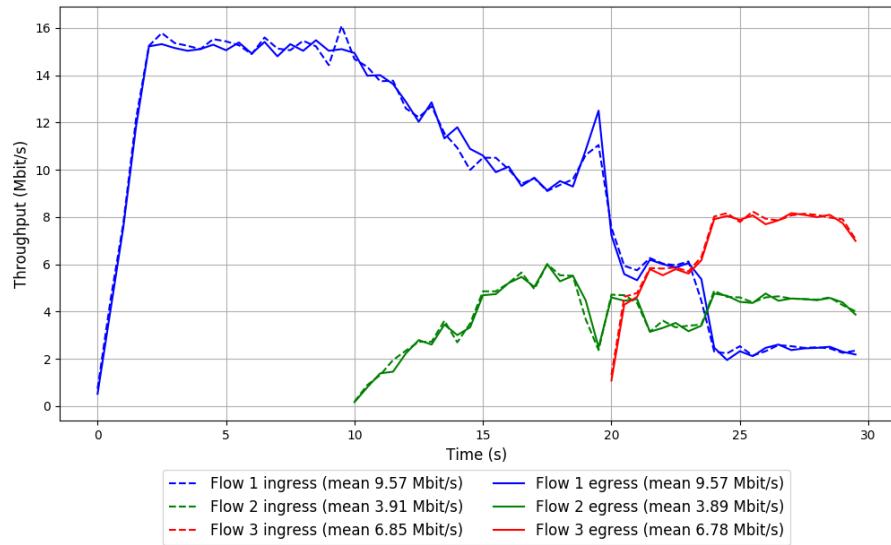


```
Run 1: Statistics of LEDBAT
```

```
Start at: 2018-02-13 11:19:45
End at: 2018-02-13 11:20:15
Local clock offset: -0.429 ms
Remote clock offset: -5.19 ms

# Below is generated by plot.py at 2018-02-13 13:23:04
# Datalink statistics
-- Total of 3 flows:
Average throughput: 14.37 Mbit/s
95th percentile per-packet one-way delay: 127.319 ms
Loss rate: 0.55%
-- Flow 1:
Average throughput: 9.57 Mbit/s
95th percentile per-packet one-way delay: 128.626 ms
Loss rate: 0.23%
-- Flow 2:
Average throughput: 3.89 Mbit/s
95th percentile per-packet one-way delay: 127.930 ms
Loss rate: 0.91%
-- Flow 3:
Average throughput: 6.78 Mbit/s
95th percentile per-packet one-way delay: 120.422 ms
Loss rate: 1.52%
```

Run 1: Report of LEDBAT — Data Link

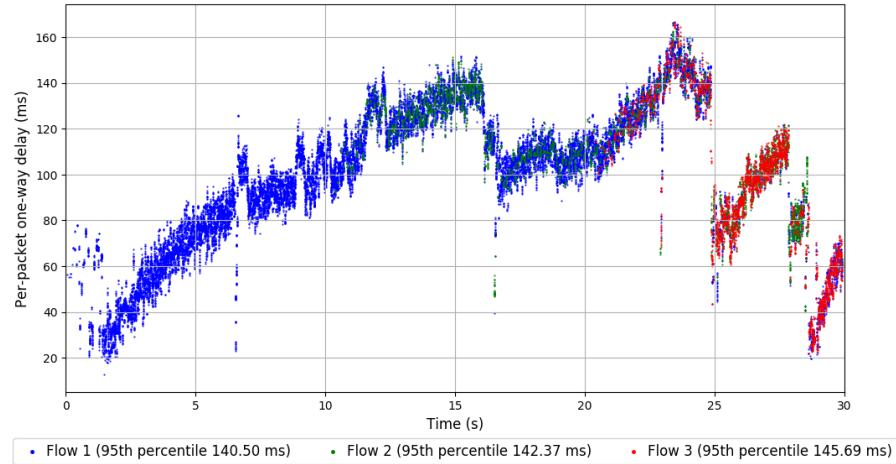
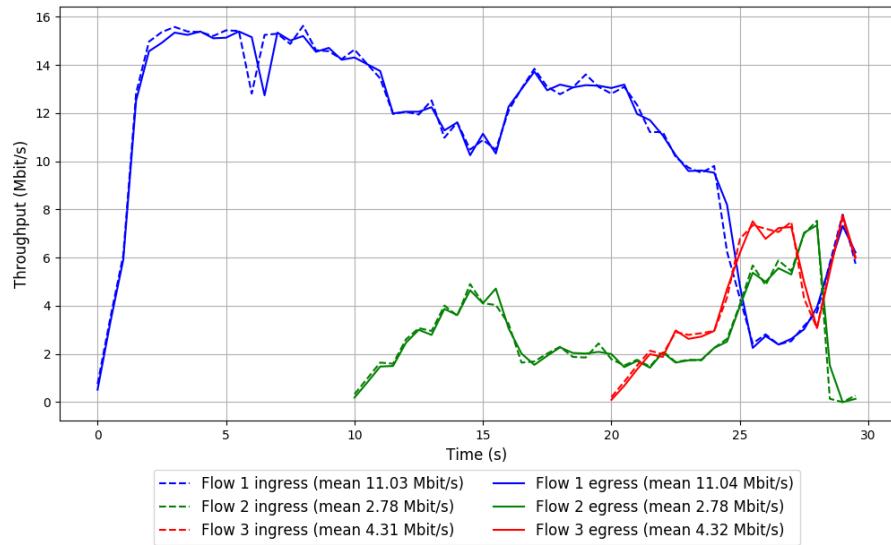


Run 2: Statistics of LEDBAT

```
Start at: 2018-02-13 11:43:33
End at: 2018-02-13 11:44:03
Local clock offset: -0.462 ms
Remote clock offset: -5.27 ms

# Below is generated by plot.py at 2018-02-13 13:23:04
# Datalink statistics
-- Total of 3 flows:
Average throughput: 14.29 Mbit/s
95th percentile per-packet one-way delay: 141.372 ms
Loss rate: 0.22%
-- Flow 1:
Average throughput: 11.04 Mbit/s
95th percentile per-packet one-way delay: 140.495 ms
Loss rate: 0.10%
-- Flow 2:
Average throughput: 2.78 Mbit/s
95th percentile per-packet one-way delay: 142.368 ms
Loss rate: 0.42%
-- Flow 3:
Average throughput: 4.32 Mbit/s
95th percentile per-packet one-way delay: 145.691 ms
Loss rate: 0.86%
```

## Run 2: Report of LEDBAT — Data Link

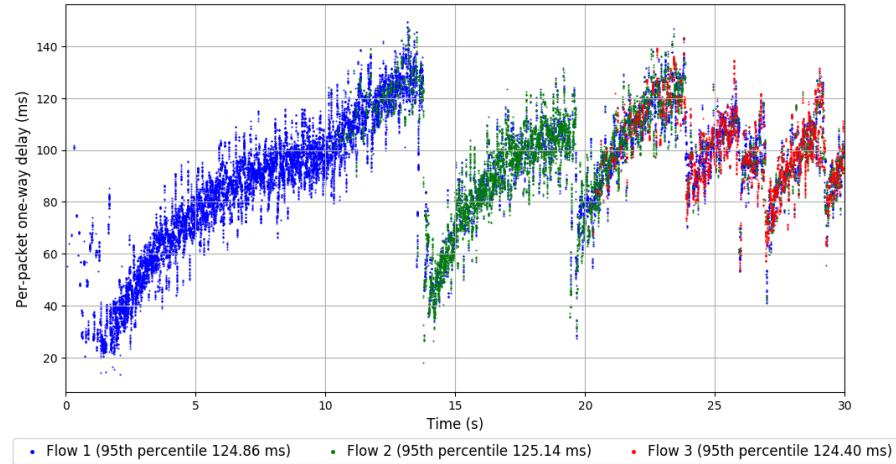
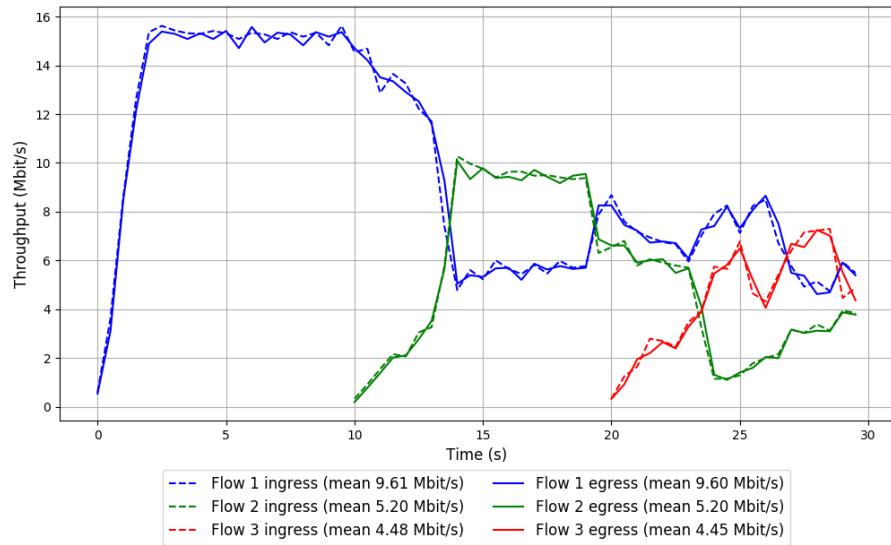


Run 3: Statistics of LEDBAT

```
Start at: 2018-02-13 12:07:21
End at: 2018-02-13 12:07:51
Local clock offset: -0.24 ms
Remote clock offset: -5.242 ms

# Below is generated by plot.py at 2018-02-13 13:23:23
# Datalink statistics
-- Total of 3 flows:
Average throughput: 14.51 Mbit/s
95th percentile per-packet one-way delay: 124.910 ms
Loss rate: 0.46%
-- Flow 1:
Average throughput: 9.60 Mbit/s
95th percentile per-packet one-way delay: 124.862 ms
Loss rate: 0.29%
-- Flow 2:
Average throughput: 5.20 Mbit/s
95th percentile per-packet one-way delay: 125.140 ms
Loss rate: 0.54%
-- Flow 3:
Average throughput: 4.45 Mbit/s
95th percentile per-packet one-way delay: 124.404 ms
Loss rate: 1.38%
```

### Run 3: Report of LEDBAT — Data Link

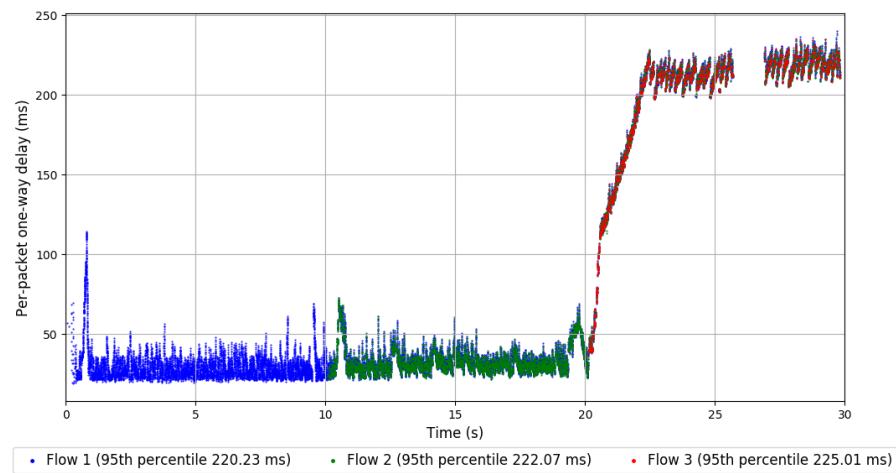
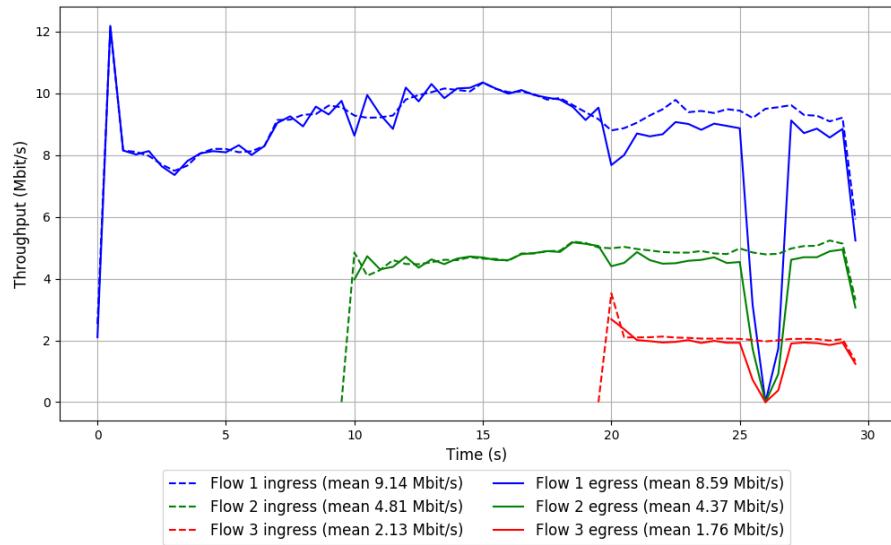


Run 1: Statistics of PCC

```
Start at: 2018-02-13 11:22:24
End at: 2018-02-13 11:22:54
Local clock offset: -0.363 ms
Remote clock offset: -5.152 ms

# Below is generated by plot.py at 2018-02-13 13:23:23
# Datalink statistics
-- Total of 3 flows:
Average throughput: 12.08 Mbit/s
95th percentile per-packet one-way delay: 221.252 ms
Loss rate: 7.57%
-- Flow 1:
Average throughput: 8.59 Mbit/s
95th percentile per-packet one-way delay: 220.230 ms
Loss rate: 6.23%
-- Flow 2:
Average throughput: 4.37 Mbit/s
95th percentile per-packet one-way delay: 222.067 ms
Loss rate: 9.24%
-- Flow 3:
Average throughput: 1.76 Mbit/s
95th percentile per-packet one-way delay: 225.013 ms
Loss rate: 17.43%
```

Run 1: Report of PCC — Data Link

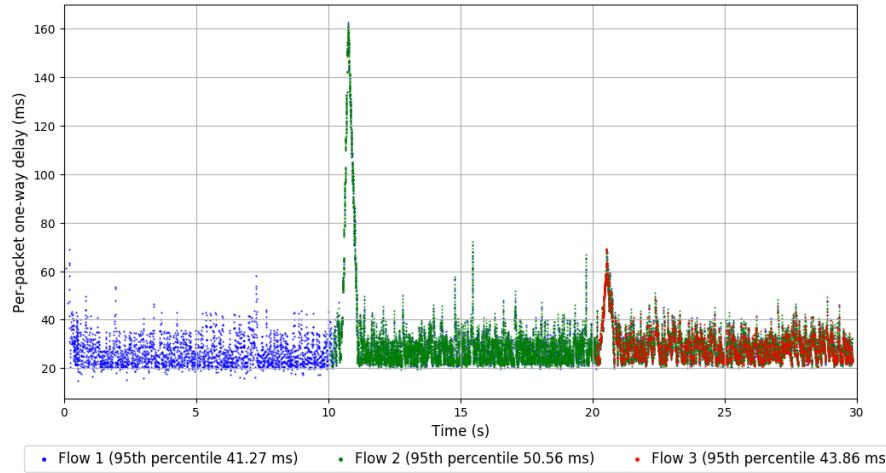
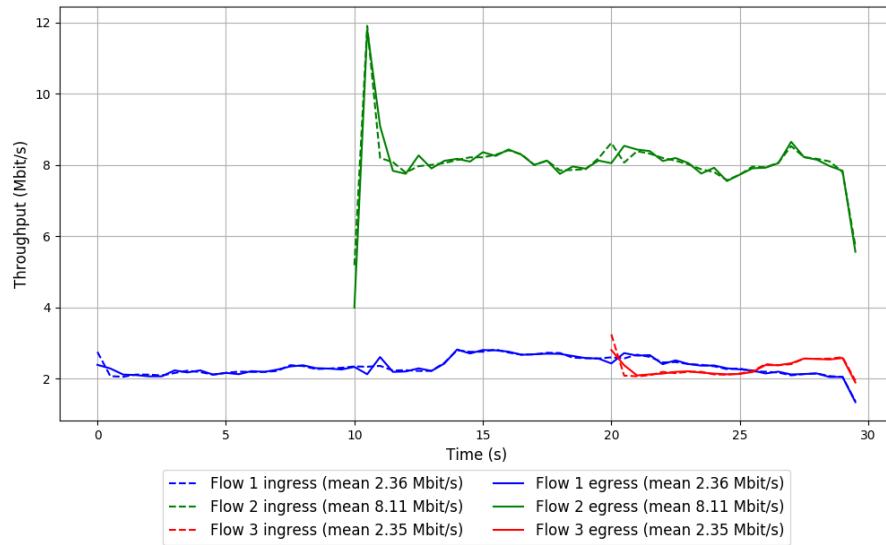


Run 2: Statistics of PCC

```
Start at: 2018-02-13 11:46:12
End at: 2018-02-13 11:46:42
Local clock offset: -0.343 ms
Remote clock offset: -5.26 ms

# Below is generated by plot.py at 2018-02-13 13:23:23
# Datalink statistics
-- Total of 3 flows:
Average throughput: 8.53 Mbit/s
95th percentile per-packet one-way delay: 45.228 ms
Loss rate: 0.20%
-- Flow 1:
Average throughput: 2.36 Mbit/s
95th percentile per-packet one-way delay: 41.269 ms
Loss rate: 0.11%
-- Flow 2:
Average throughput: 8.11 Mbit/s
95th percentile per-packet one-way delay: 50.564 ms
Loss rate: 0.20%
-- Flow 3:
Average throughput: 2.35 Mbit/s
95th percentile per-packet one-way delay: 43.859 ms
Loss rate: 0.48%
```

## Run 2: Report of PCC — Data Link

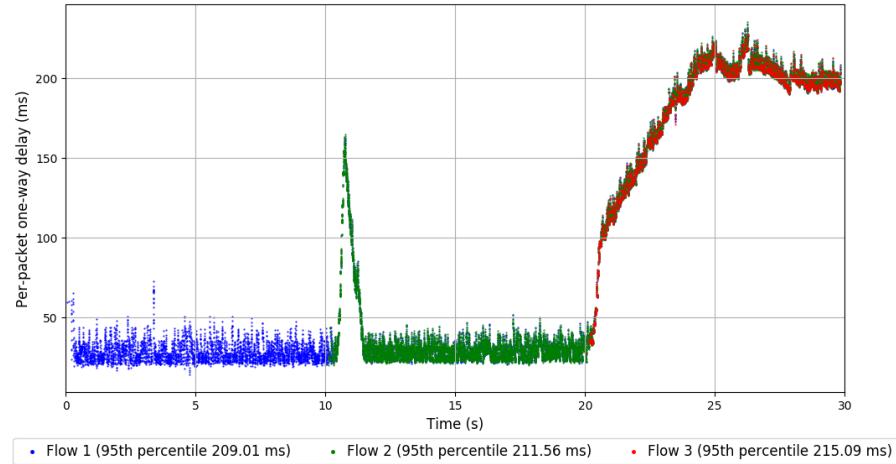
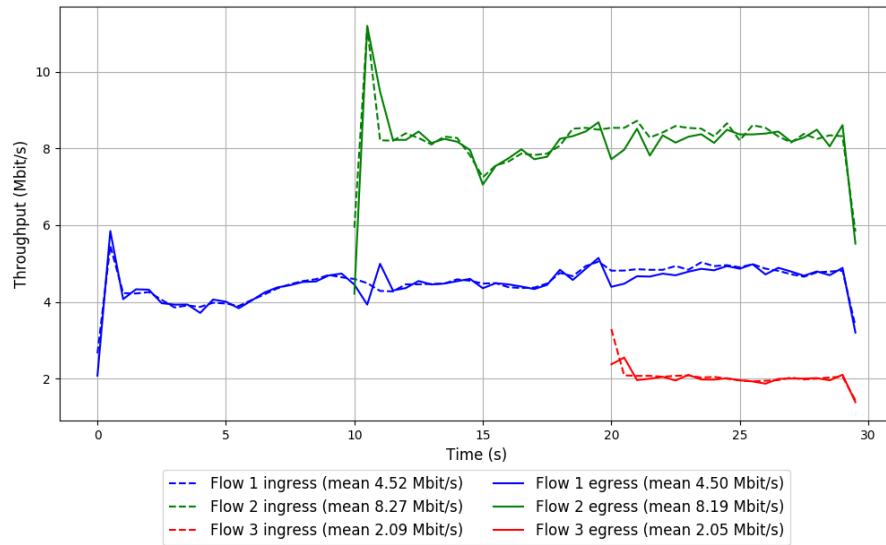


Run 3: Statistics of PCC

```
Start at: 2018-02-13 12:09:59
End at: 2018-02-13 12:10:29
Local clock offset: -0.236 ms
Remote clock offset: -5.262 ms

# Below is generated by plot.py at 2018-02-13 13:23:23
# Datalink statistics
-- Total of 3 flows:
Average throughput: 10.61 Mbit/s
95th percentile per-packet one-way delay: 211.157 ms
Loss rate: 1.14%
-- Flow 1:
Average throughput: 4.50 Mbit/s
95th percentile per-packet one-way delay: 209.009 ms
Loss rate: 0.85%
-- Flow 2:
Average throughput: 8.19 Mbit/s
95th percentile per-packet one-way delay: 211.559 ms
Loss rate: 1.23%
-- Flow 3:
Average throughput: 2.05 Mbit/s
95th percentile per-packet one-way delay: 215.087 ms
Loss rate: 2.36%
```

### Run 3: Report of PCC — Data Link

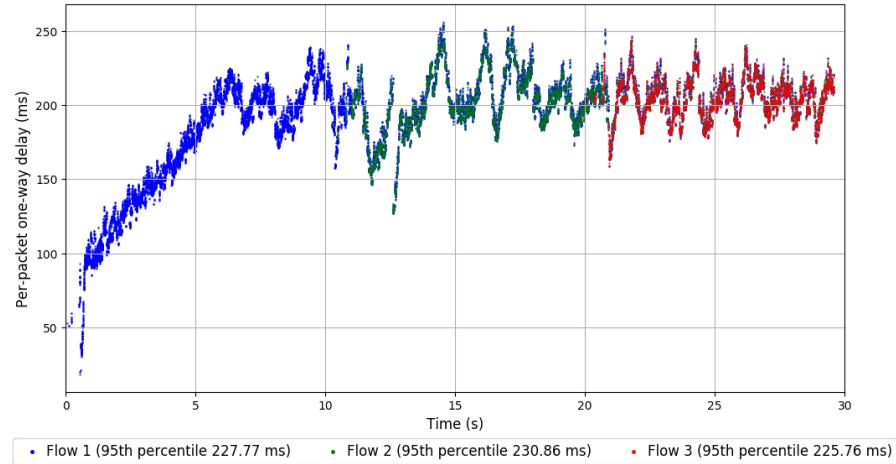
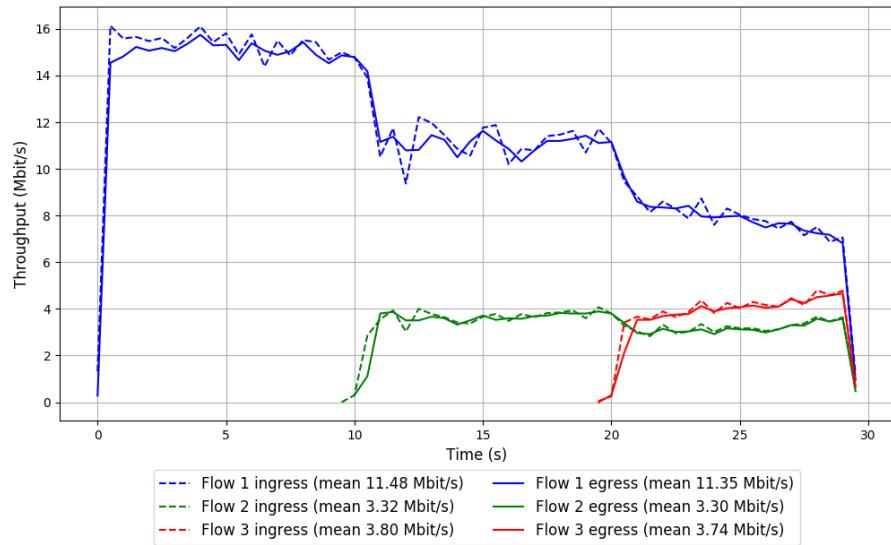


```
Run 1: Statistics of QUIC Cubic
```

```
Start at: 2018-02-13 11:03:53
End at: 2018-02-13 11:04:23
Local clock offset: -0.117 ms
Remote clock offset: -5.689 ms

# Below is generated by plot.py at 2018-02-13 13:23:24
# Datalink statistics
-- Total of 3 flows:
Average throughput: 14.75 Mbit/s
95th percentile per-packet one-way delay: 228.132 ms
Loss rate: 1.73%
-- Flow 1:
Average throughput: 11.35 Mbit/s
95th percentile per-packet one-way delay: 227.769 ms
Loss rate: 1.39%
-- Flow 2:
Average throughput: 3.30 Mbit/s
95th percentile per-packet one-way delay: 230.861 ms
Loss rate: 2.38%
-- Flow 3:
Average throughput: 3.74 Mbit/s
95th percentile per-packet one-way delay: 225.759 ms
Loss rate: 3.71%
```

## Run 1: Report of QUIC Cubic — Data Link

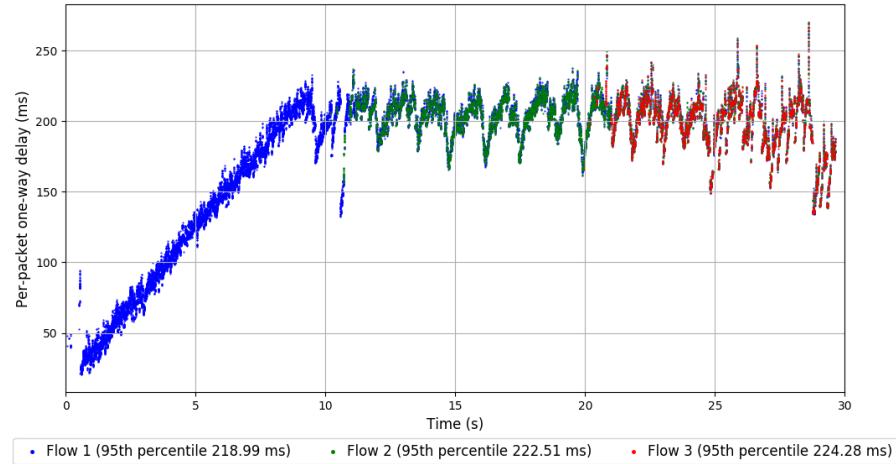
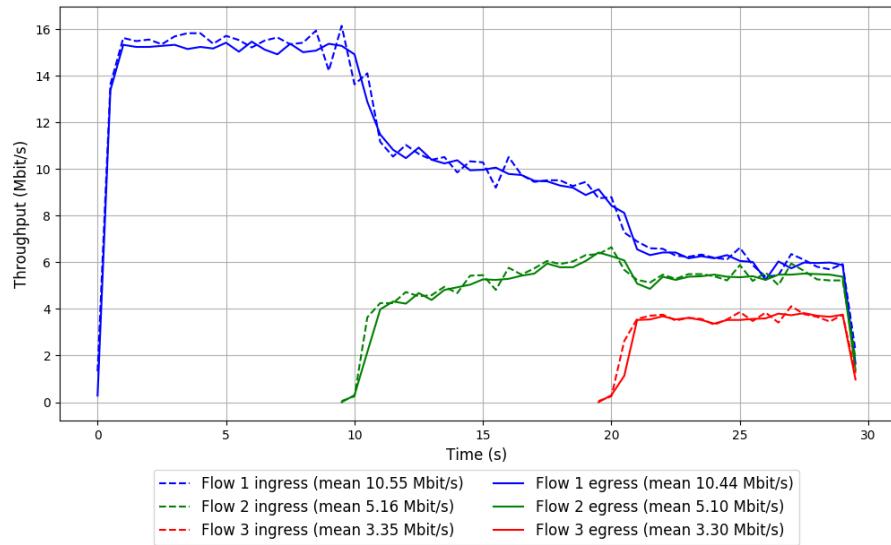


Run 2: Statistics of QUIC Cubic

```
Start at: 2018-02-13 11:27:41
End at: 2018-02-13 11:28:11
Local clock offset: -0.381 ms
Remote clock offset: -5.027 ms

# Below is generated by plot.py at 2018-02-13 13:23:25
# Datalink statistics
-- Total of 3 flows:
Average throughput: 14.90 Mbit/s
95th percentile per-packet one-way delay: 220.310 ms
Loss rate: 1.69%
-- Flow 1:
Average throughput: 10.44 Mbit/s
95th percentile per-packet one-way delay: 218.994 ms
Loss rate: 1.29%
-- Flow 2:
Average throughput: 5.10 Mbit/s
95th percentile per-packet one-way delay: 222.513 ms
Loss rate: 2.37%
-- Flow 3:
Average throughput: 3.30 Mbit/s
95th percentile per-packet one-way delay: 224.279 ms
Loss rate: 3.35%
```

## Run 2: Report of QUIC Cubic — Data Link

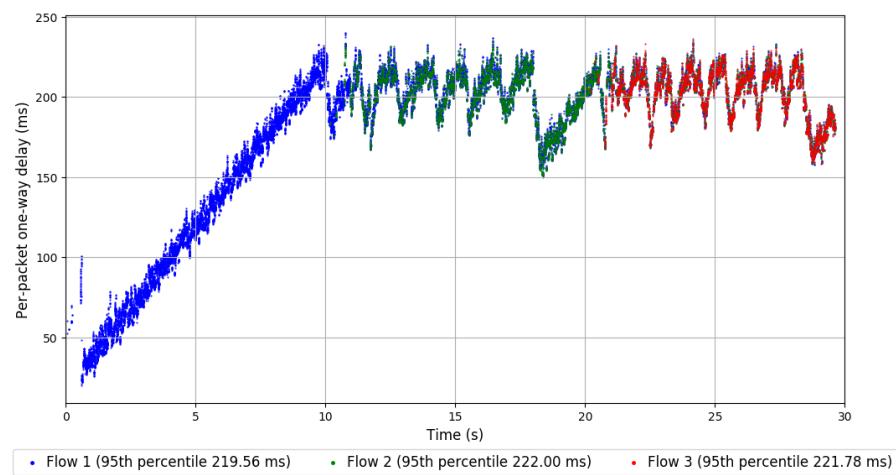
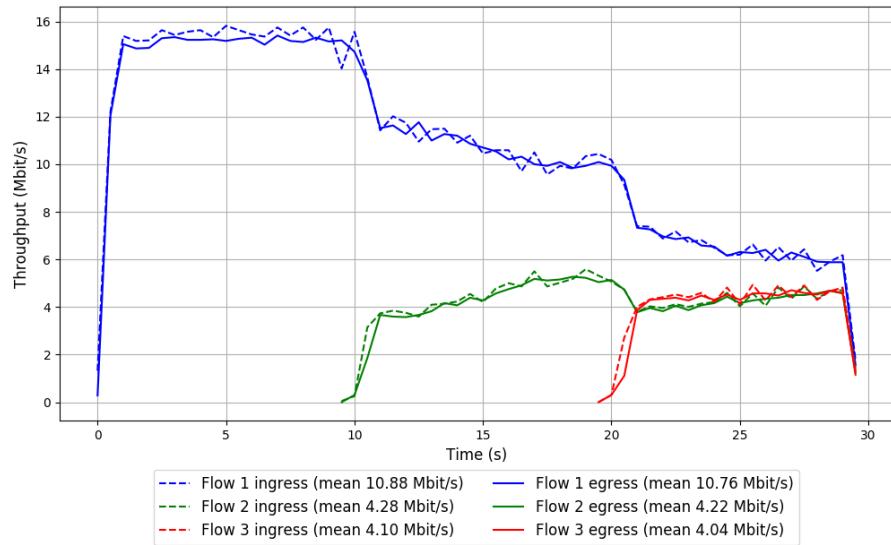


Run 3: Statistics of QUIC Cubic

```
Start at: 2018-02-13 11:51:29
End at: 2018-02-13 11:51:59
Local clock offset: -0.287 ms
Remote clock offset: -5.197 ms

# Below is generated by plot.py at 2018-02-13 13:23:25
# Datalink statistics
-- Total of 3 flows:
Average throughput: 14.88 Mbit/s
95th percentile per-packet one-way delay: 220.463 ms
Loss rate: 1.73%
-- Flow 1:
Average throughput: 10.76 Mbit/s
95th percentile per-packet one-way delay: 219.565 ms
Loss rate: 1.28%
-- Flow 2:
Average throughput: 4.22 Mbit/s
95th percentile per-packet one-way delay: 222.002 ms
Loss rate: 2.54%
-- Flow 3:
Average throughput: 4.04 Mbit/s
95th percentile per-packet one-way delay: 221.784 ms
Loss rate: 3.58%
```

### Run 3: Report of QUIC Cubic — Data Link

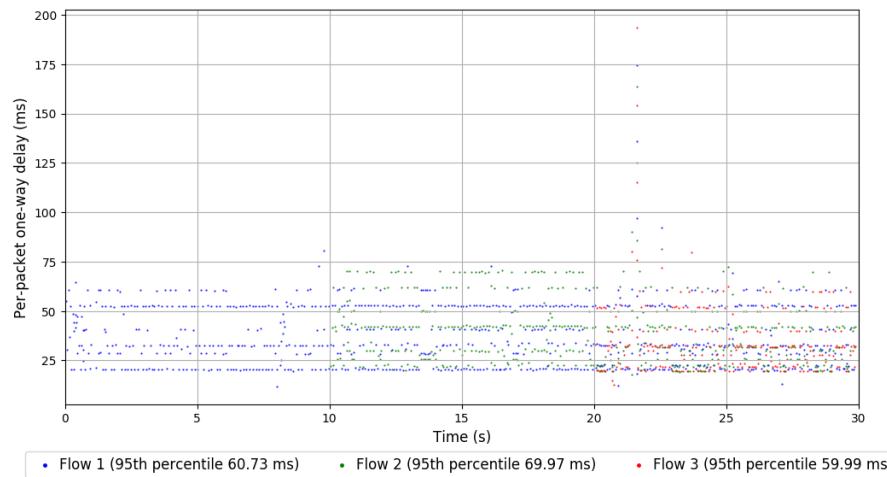
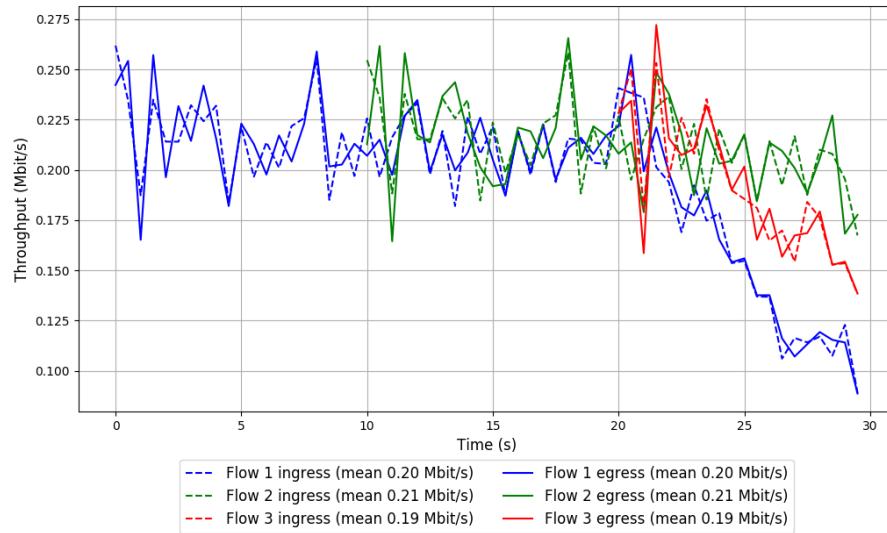


```
Run 1: Statistics of SCReAM

Start at: 2018-02-13 11:05:13
End at: 2018-02-13 11:05:43
Local clock offset: -0.157 ms
Remote clock offset: -5.582 ms

# Below is generated by plot.py at 2018-02-13 13:23:25
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.40 Mbit/s
95th percentile per-packet one-way delay: 62.038 ms
Loss rate: 0.16%
-- Flow 1:
Average throughput: 0.20 Mbit/s
95th percentile per-packet one-way delay: 60.735 ms
Loss rate: 0.08%
-- Flow 2:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 69.968 ms
Loss rate: 0.20%
-- Flow 3:
Average throughput: 0.19 Mbit/s
95th percentile per-packet one-way delay: 59.994 ms
Loss rate: 0.30%
```

## Run 1: Report of SCReAM — Data Link

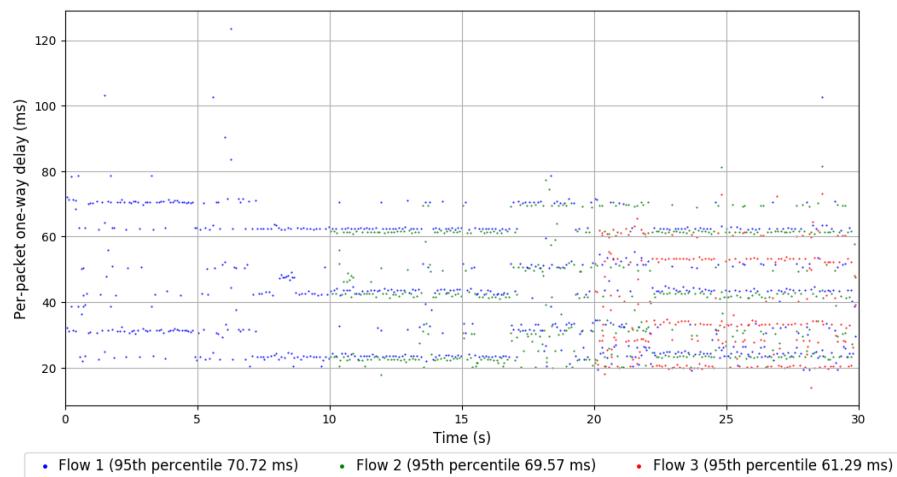
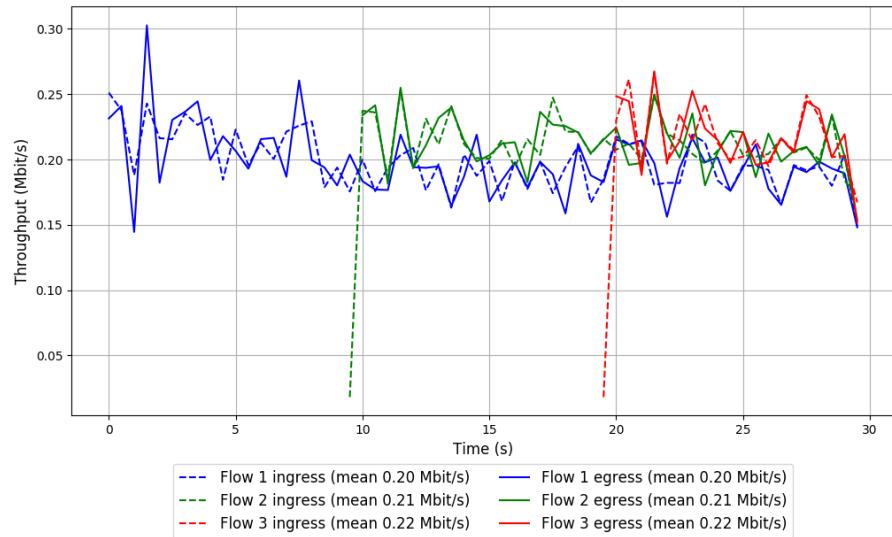


Run 2: Statistics of SCReAM

```
Start at: 2018-02-13 11:29:00
End at: 2018-02-13 11:29:30
Local clock offset: -0.475 ms
Remote clock offset: -5.149 ms

# Below is generated by plot.py at 2018-02-13 13:23:25
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.42 Mbit/s
95th percentile per-packet one-way delay: 70.493 ms
Loss rate: 0.19%
-- Flow 1:
Average throughput: 0.20 Mbit/s
95th percentile per-packet one-way delay: 70.718 ms
Loss rate: 0.13%
-- Flow 2:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 69.574 ms
Loss rate: 0.21%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 61.287 ms
Loss rate: 0.35%
```

## Run 2: Report of SCReAM — Data Link

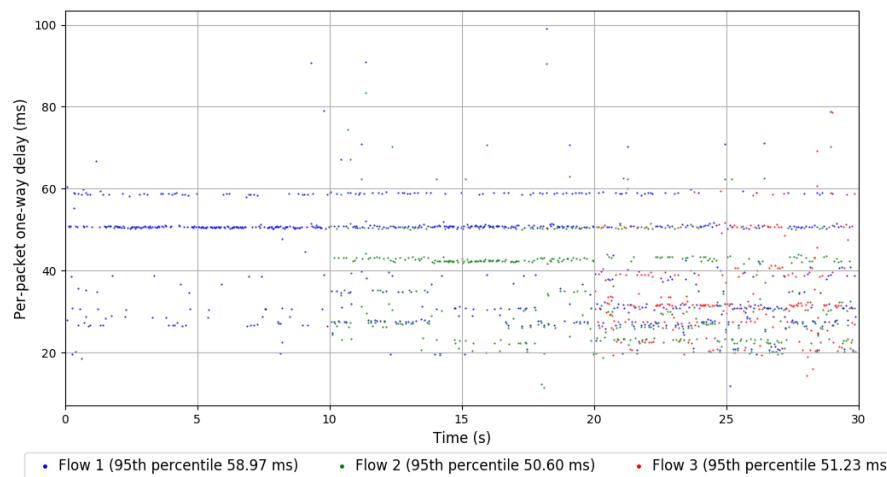
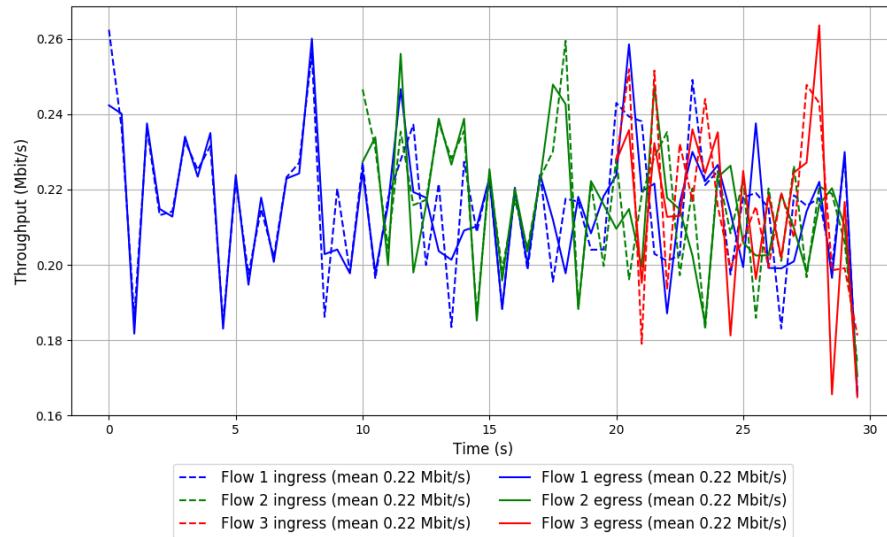


Run 3: Statistics of SCReAM

```
Start at: 2018-02-13 11:52:49
End at: 2018-02-13 11:53:19
Local clock offset: -0.278 ms
Remote clock offset: -5.125 ms

# Below is generated by plot.py at 2018-02-13 13:23:25
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.43 Mbit/s
95th percentile per-packet one-way delay: 58.922 ms
Loss rate: 0.26%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 58.968 ms
Loss rate: 0.13%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 50.603 ms
Loss rate: 0.21%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 51.234 ms
Loss rate: 0.73%
```

### Run 3: Report of SCReAM — Data Link

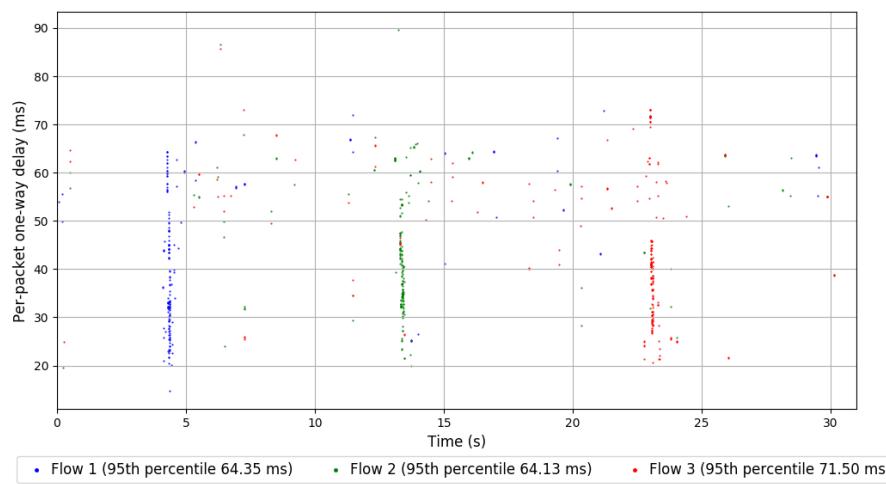
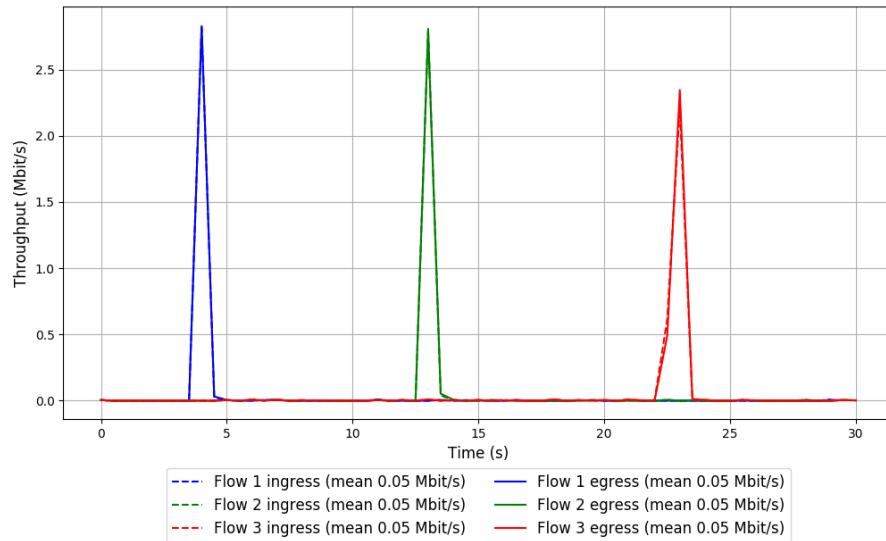


```
Run 1: Statistics of WebRTC media

Start at: 2018-02-13 11:21:05
End at: 2018-02-13 11:21:35
Local clock offset: -0.365 ms
Remote clock offset: -5.144 ms

# Below is generated by plot.py at 2018-02-13 13:23:25
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.15 Mbit/s
95th percentile per-packet one-way delay: 66.748 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 64.354 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 64.130 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 71.500 ms
Loss rate: 0.00%
```

## Run 1: Report of WebRTC media — Data Link

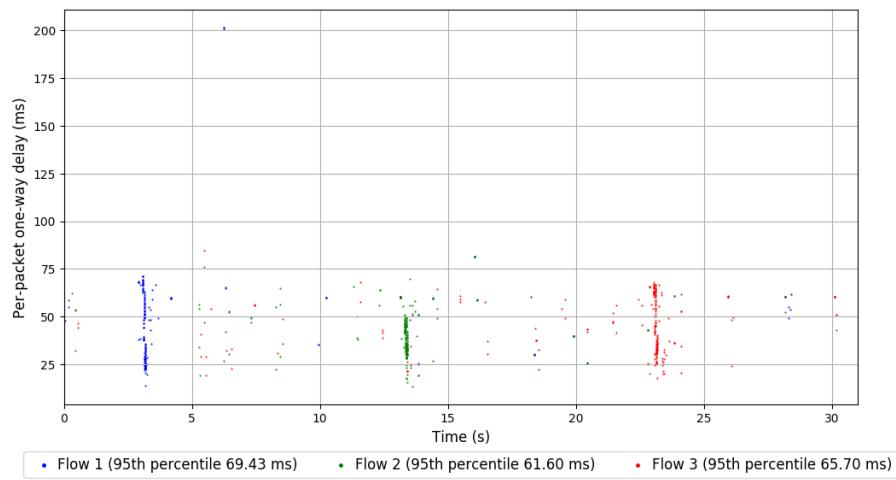
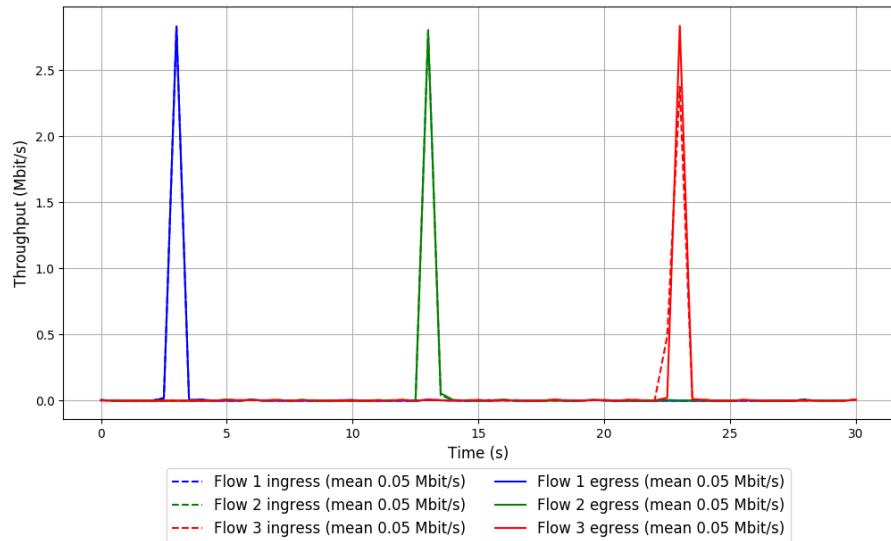


Run 2: Statistics of WebRTC media

```
Start at: 2018-02-13 11:44:53
End at: 2018-02-13 11:45:23
Local clock offset: -0.435 ms
Remote clock offset: -5.206 ms

# Below is generated by plot.py at 2018-02-13 13:23:25
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.15 Mbit/s
95th percentile per-packet one-way delay: 66.900 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 69.429 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 61.598 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 65.705 ms
Loss rate: 0.00%
```

## Run 2: Report of WebRTC media — Data Link

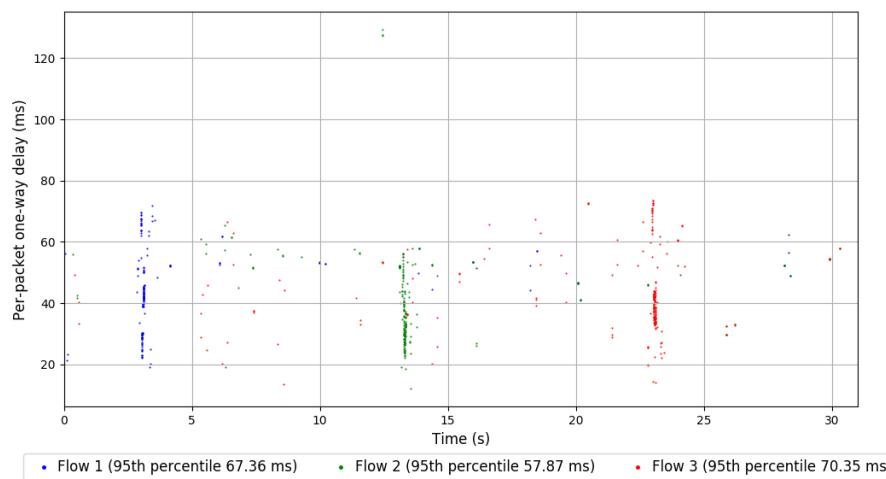
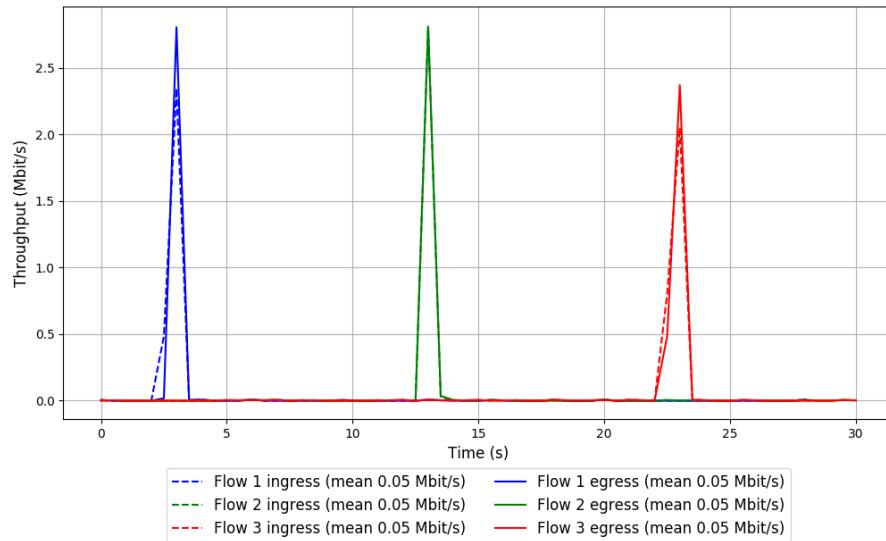


Run 3: Statistics of WebRTC media

```
Start at: 2018-02-13 12:08:41
End at: 2018-02-13 12:09:11
Local clock offset: -0.252 ms
Remote clock offset: -5.206 ms

# Below is generated by plot.py at 2018-02-13 13:23:25
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.15 Mbit/s
95th percentile per-packet one-way delay: 67.282 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 67.360 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 57.868 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 70.352 ms
Loss rate: 0.00%
```

### Run 3: Report of WebRTC media — Data Link

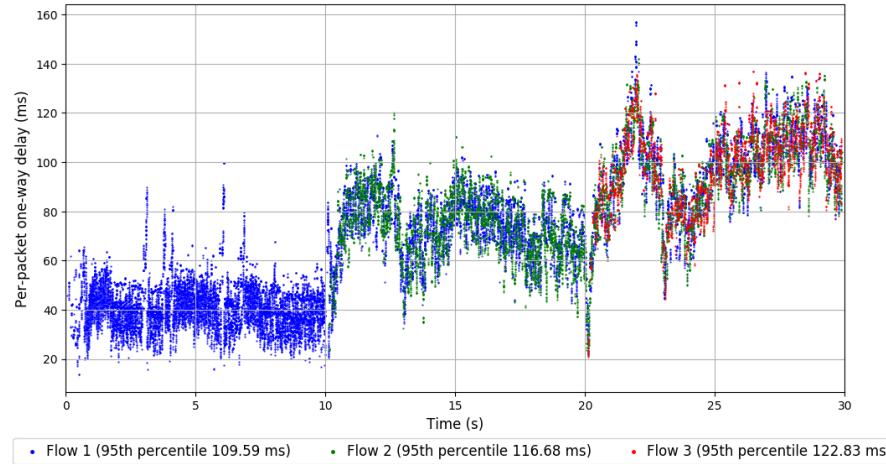
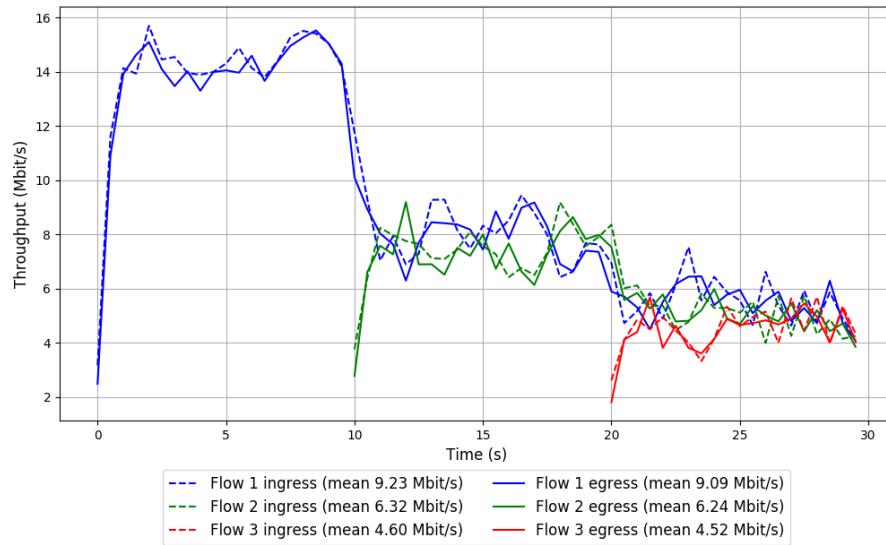


Run 1: Statistics of Sprout

```
Start at: 2018-02-13 11:09:11
End at: 2018-02-13 11:09:41
Local clock offset: -0.258 ms
Remote clock offset: -5.474 ms

# Below is generated by plot.py at 2018-02-13 13:23:32
# Datalink statistics
-- Total of 3 flows:
Average throughput: 14.71 Mbit/s
95th percentile per-packet one-way delay: 115.162 ms
Loss rate: 1.77%
-- Flow 1:
Average throughput: 9.09 Mbit/s
95th percentile per-packet one-way delay: 109.592 ms
Loss rate: 1.74%
-- Flow 2:
Average throughput: 6.24 Mbit/s
95th percentile per-packet one-way delay: 116.682 ms
Loss rate: 1.65%
-- Flow 3:
Average throughput: 4.52 Mbit/s
95th percentile per-packet one-way delay: 122.831 ms
Loss rate: 2.25%
```

## Run 1: Report of Sprout — Data Link

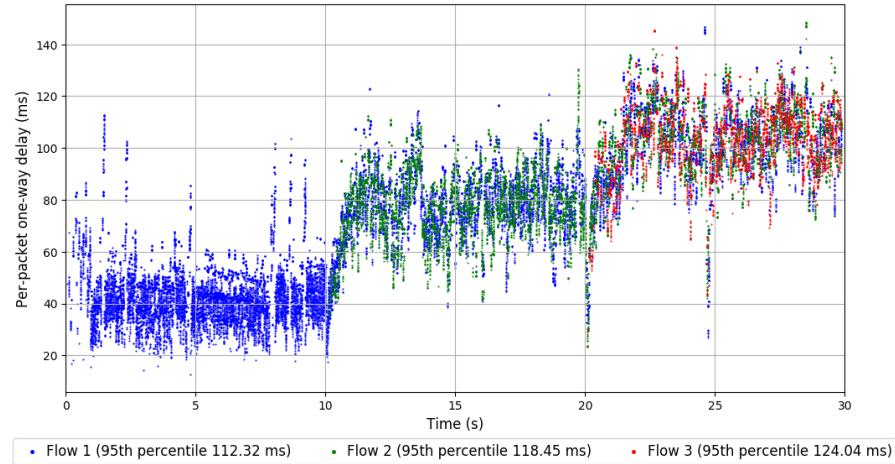
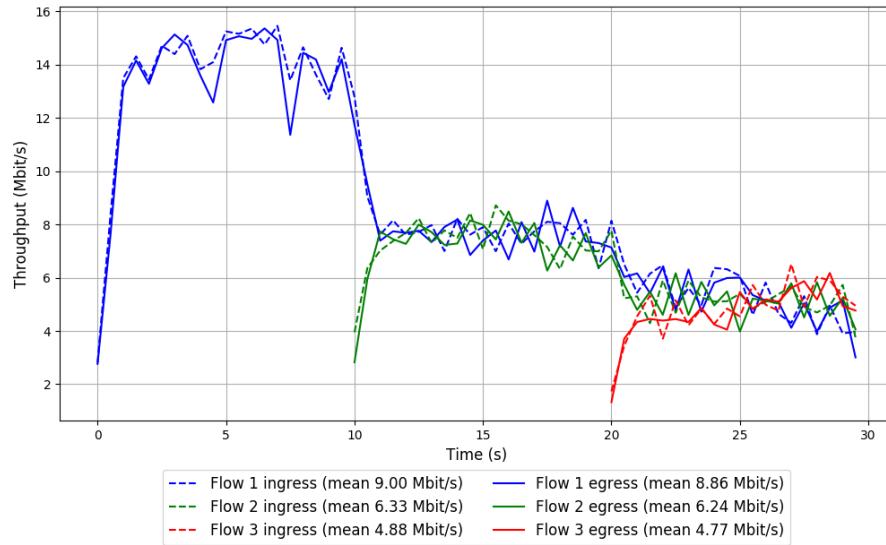


Run 2: Statistics of Sprout

```
Start at: 2018-02-13 11:32:59
End at: 2018-02-13 11:33:29
Local clock offset: -0.397 ms
Remote clock offset: -5.248 ms

# Below is generated by plot.py at 2018-02-13 13:23:36
# Datalink statistics
-- Total of 3 flows:
Average throughput: 14.56 Mbit/s
95th percentile per-packet one-way delay: 117.737 ms
Loss rate: 1.75%
-- Flow 1:
Average throughput: 8.86 Mbit/s
95th percentile per-packet one-way delay: 112.319 ms
Loss rate: 1.65%
-- Flow 2:
Average throughput: 6.24 Mbit/s
95th percentile per-packet one-way delay: 118.454 ms
Loss rate: 1.69%
-- Flow 3:
Average throughput: 4.77 Mbit/s
95th percentile per-packet one-way delay: 124.041 ms
Loss rate: 2.50%
```

## Run 2: Report of Sprout — Data Link

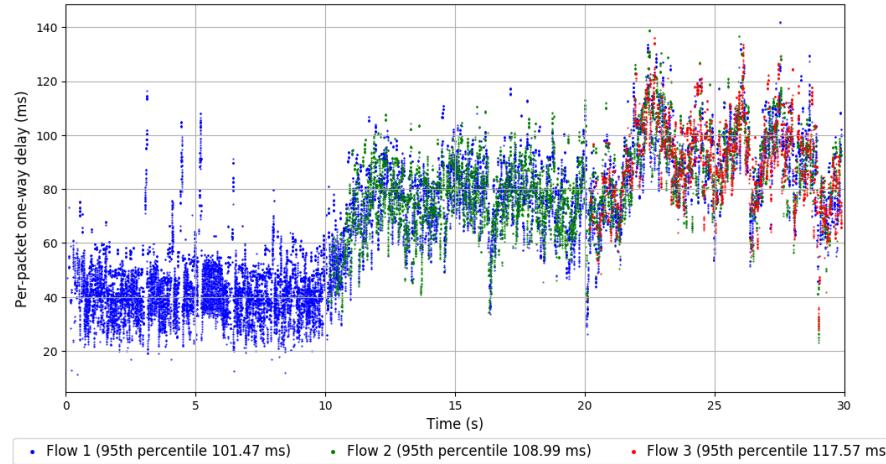
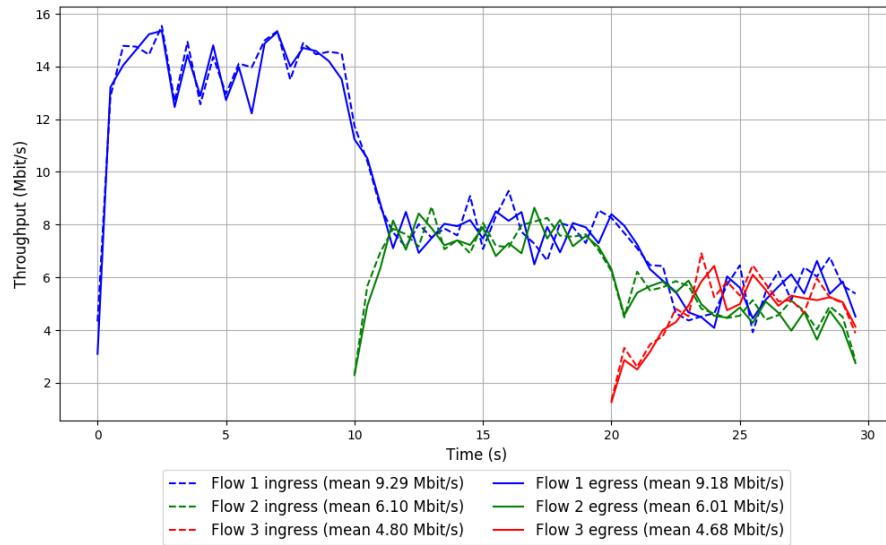


Run 3: Statistics of Sprout

```
Start at: 2018-02-13 11:56:47
End at: 2018-02-13 11:57:17
Local clock offset: -0.36 ms
Remote clock offset: -5.058 ms

# Below is generated by plot.py at 2018-02-13 13:23:38
# Datalink statistics
-- Total of 3 flows:
Average throughput: 14.70 Mbit/s
95th percentile per-packet one-way delay: 107.829 ms
Loss rate: 1.74%
-- Flow 1:
Average throughput: 9.18 Mbit/s
95th percentile per-packet one-way delay: 101.465 ms
Loss rate: 1.48%
-- Flow 2:
Average throughput: 6.01 Mbit/s
95th percentile per-packet one-way delay: 108.988 ms
Loss rate: 1.93%
-- Flow 3:
Average throughput: 4.68 Mbit/s
95th percentile per-packet one-way delay: 117.568 ms
Loss rate: 2.79%
```

### Run 3: Report of Sprout — Data Link

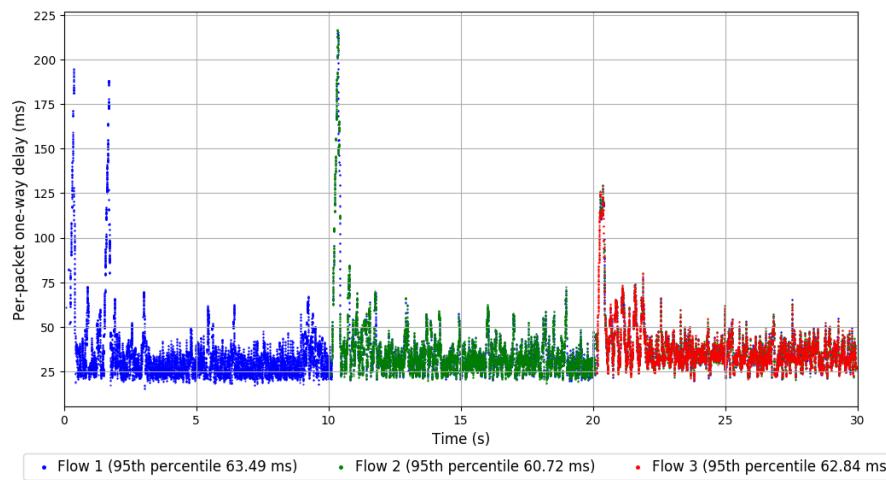
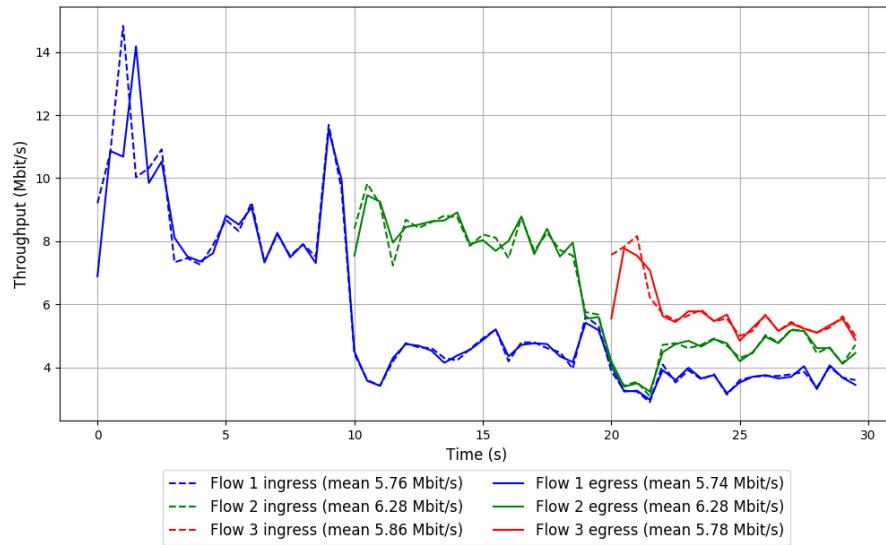


Run 1: Statistics of TaoVA-100x

```
Start at: 2018-02-13 11:10:30
End at: 2018-02-13 11:11:00
Local clock offset: -0.28 ms
Remote clock offset: -5.514 ms

# Below is generated by plot.py at 2018-02-13 13:23:48
# Datalink statistics
-- Total of 3 flows:
Average throughput: 11.83 Mbit/s
95th percentile per-packet one-way delay: 62.464 ms
Loss rate: 0.69%
-- Flow 1:
Average throughput: 5.74 Mbit/s
95th percentile per-packet one-way delay: 63.486 ms
Loss rate: 0.66%
-- Flow 2:
Average throughput: 6.28 Mbit/s
95th percentile per-packet one-way delay: 60.719 ms
Loss rate: 0.25%
-- Flow 3:
Average throughput: 5.78 Mbit/s
95th percentile per-packet one-way delay: 62.837 ms
Loss rate: 1.73%
```

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

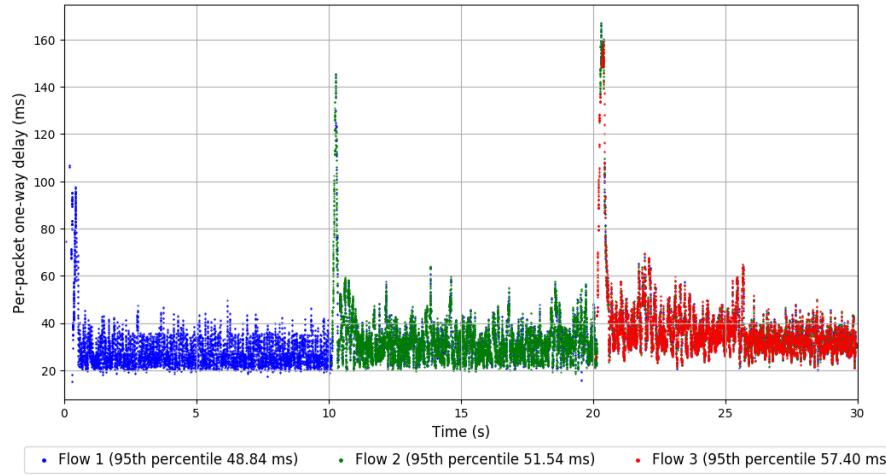
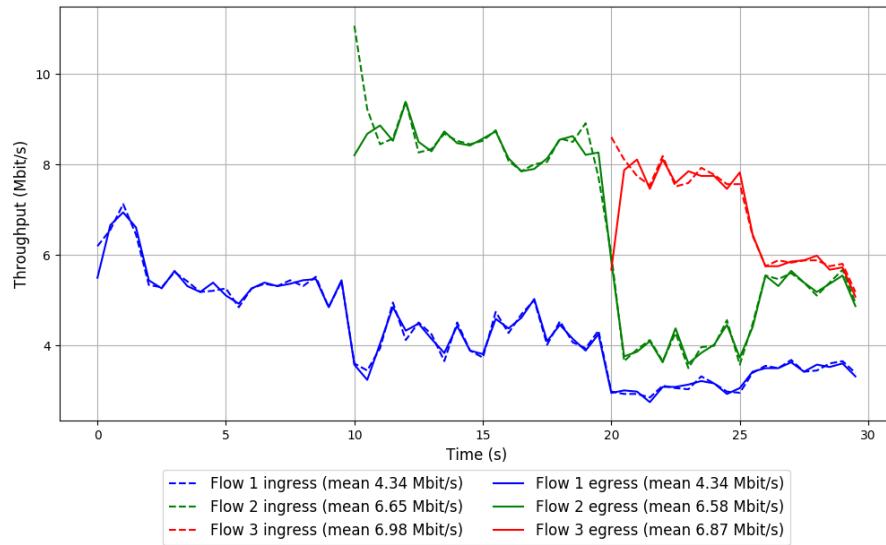


Run 2: Statistics of TaoVA-100x

```
Start at: 2018-02-13 11:34:18
End at: 2018-02-13 11:34:48
Local clock offset: -0.391 ms
Remote clock offset: -5.165 ms

# Below is generated by plot.py at 2018-02-13 13:23:48
# Datalink statistics
-- Total of 3 flows:
Average throughput: 11.00 Mbit/s
95th percentile per-packet one-way delay: 51.922 ms
Loss rate: 1.03%
-- Flow 1:
Average throughput: 4.34 Mbit/s
95th percentile per-packet one-way delay: 48.844 ms
Loss rate: 0.27%
-- Flow 2:
Average throughput: 6.58 Mbit/s
95th percentile per-packet one-way delay: 51.537 ms
Loss rate: 1.23%
-- Flow 3:
Average throughput: 6.87 Mbit/s
95th percentile per-packet one-way delay: 57.396 ms
Loss rate: 2.10%
```

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

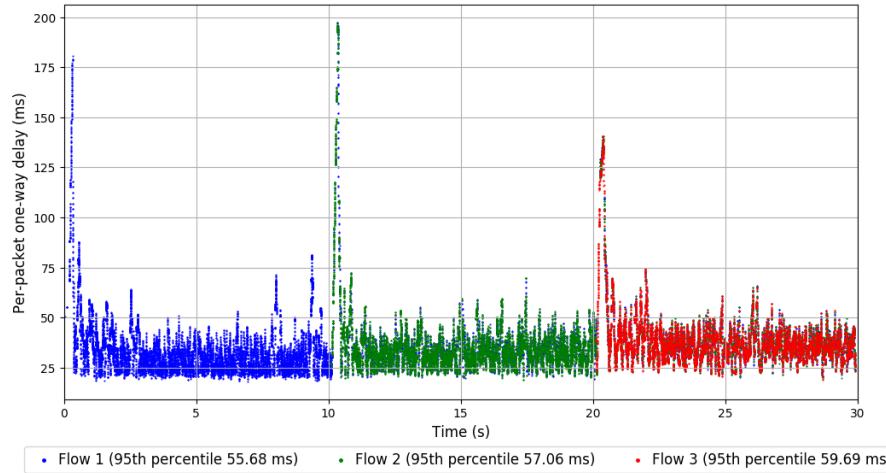
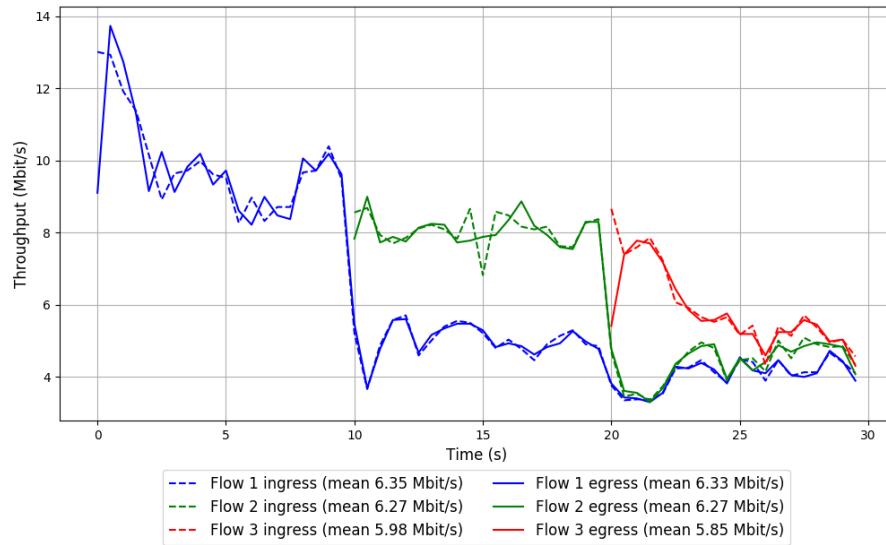


Run 3: Statistics of TaoVA-100x

```
Start at: 2018-02-13 11:58:06
End at: 2018-02-13 11:58:36
Local clock offset: -0.273 ms
Remote clock offset: -5.148 ms

# Below is generated by plot.py at 2018-02-13 13:23:54
# Datalink statistics
-- Total of 3 flows:
Average throughput: 12.42 Mbit/s
95th percentile per-packet one-way delay: 56.619 ms
Loss rate: 0.85%
-- Flow 1:
Average throughput: 6.33 Mbit/s
95th percentile per-packet one-way delay: 55.679 ms
Loss rate: 0.63%
-- Flow 2:
Average throughput: 6.27 Mbit/s
95th percentile per-packet one-way delay: 57.059 ms
Loss rate: 0.30%
-- Flow 3:
Average throughput: 5.85 Mbit/s
95th percentile per-packet one-way delay: 59.686 ms
Loss rate: 2.70%
```

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

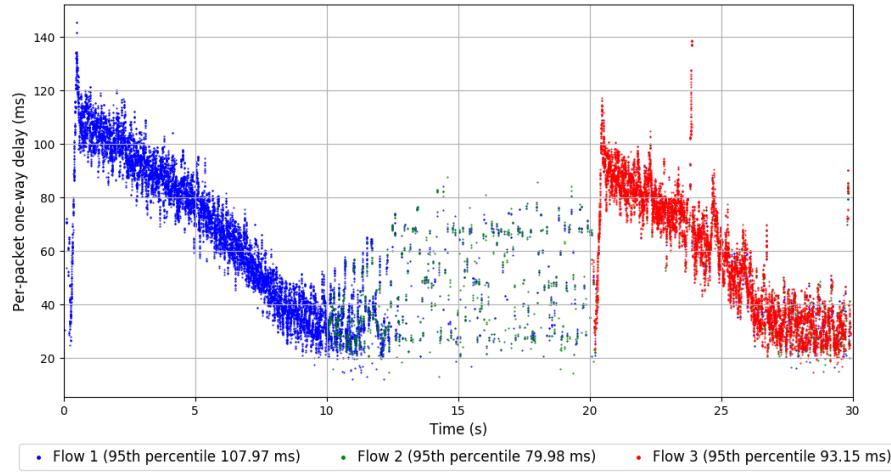
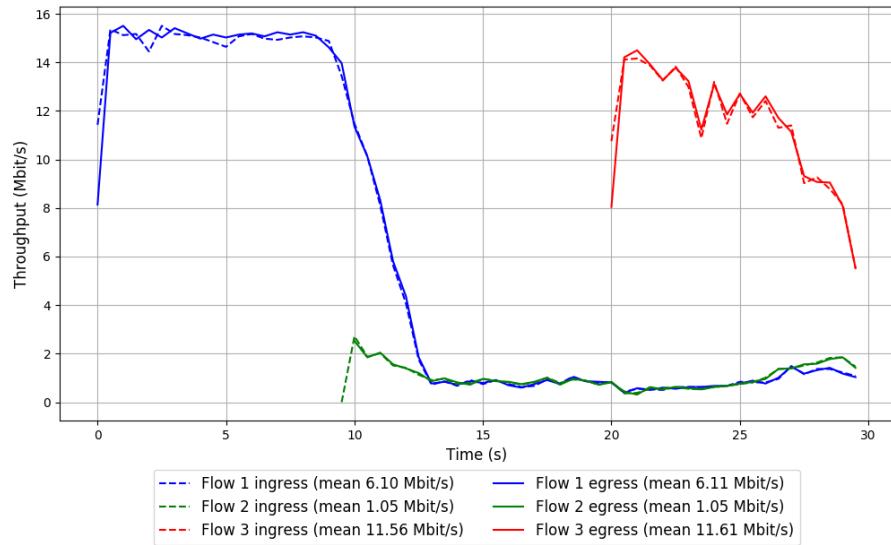


Run 1: Statistics of TCP Vegas

```
Start at: 2018-02-13 11:02:34
End at: 2018-02-13 11:03:04
Local clock offset: -0.196 ms
Remote clock offset: -5.83 ms

# Below is generated by plot.py at 2018-02-13 13:23:54
# Datalink statistics
-- Total of 3 flows:
Average throughput: 10.62 Mbit/s
95th percentile per-packet one-way delay: 104.616 ms
Loss rate: 0.15%
-- Flow 1:
Average throughput: 6.11 Mbit/s
95th percentile per-packet one-way delay: 107.965 ms
Loss rate: 0.04%
-- Flow 2:
Average throughput: 1.05 Mbit/s
95th percentile per-packet one-way delay: 79.976 ms
Loss rate: 0.51%
-- Flow 3:
Average throughput: 11.61 Mbit/s
95th percentile per-packet one-way delay: 93.152 ms
Loss rate: 0.25%
```

## Run 1: Report of TCP Vegas — Data Link

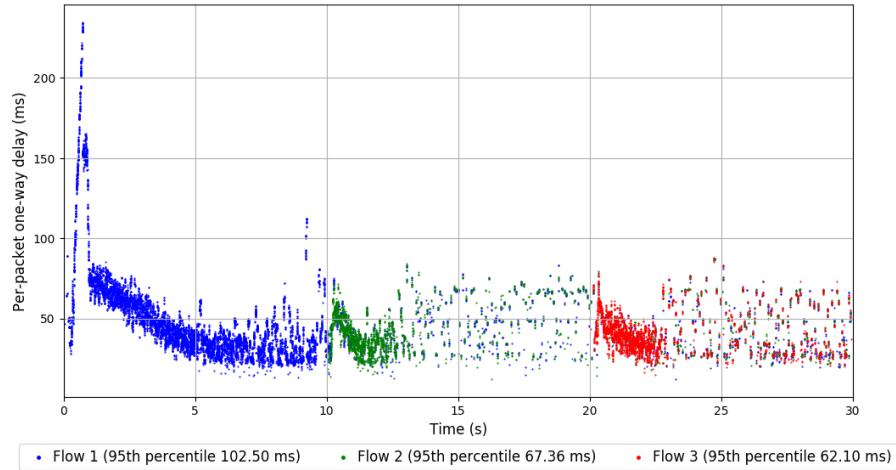
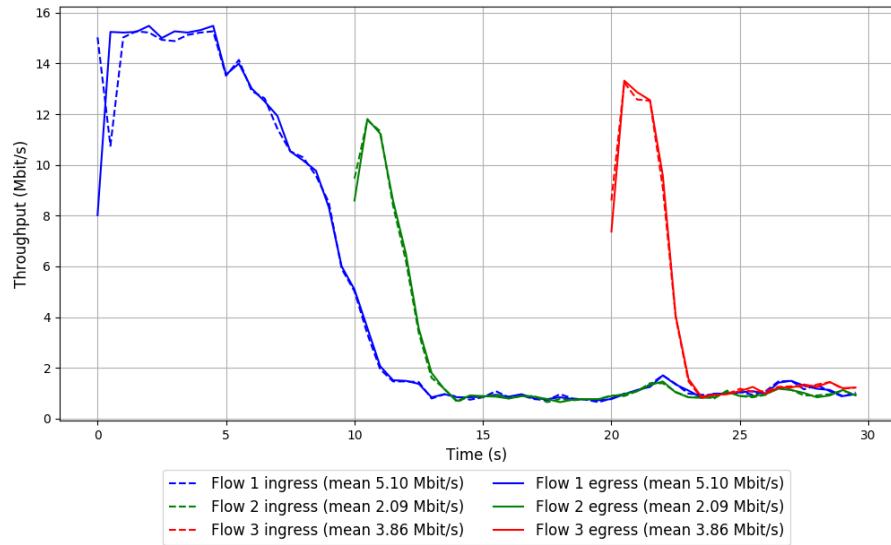


Run 2: Statistics of TCP Vegas

```
Start at: 2018-02-13 11:26:22
End at: 2018-02-13 11:26:52
Local clock offset: -0.471 ms
Remote clock offset: -5.078 ms

# Below is generated by plot.py at 2018-02-13 13:23:54
# Datalink statistics
-- Total of 3 flows:
Average throughput: 7.76 Mbit/s
95th percentile per-packet one-way delay: 77.301 ms
Loss rate: 0.17%
-- Flow 1:
Average throughput: 5.10 Mbit/s
95th percentile per-packet one-way delay: 102.499 ms
Loss rate: 0.14%
-- Flow 2:
Average throughput: 2.09 Mbit/s
95th percentile per-packet one-way delay: 67.365 ms
Loss rate: 0.17%
-- Flow 3:
Average throughput: 3.86 Mbit/s
95th percentile per-packet one-way delay: 62.104 ms
Loss rate: 0.28%
```

## Run 2: Report of TCP Vegas — Data Link

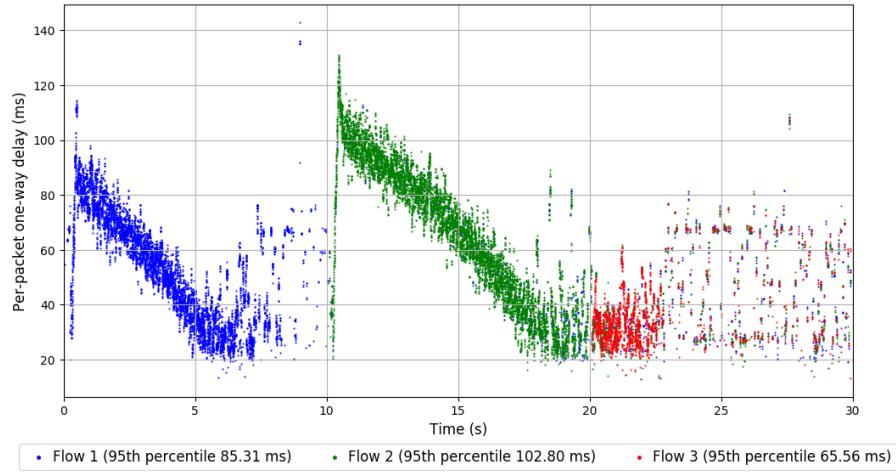
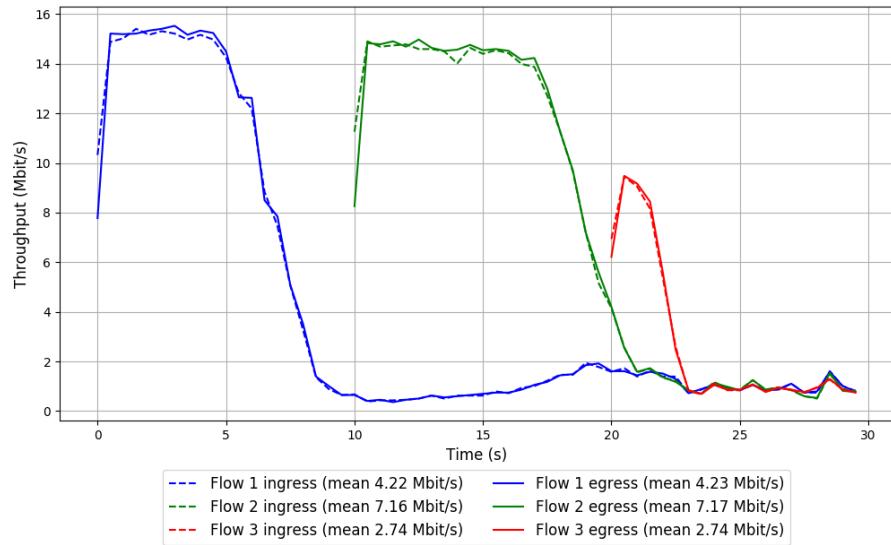


Run 3: Statistics of TCP Vegas

```
Start at: 2018-02-13 11:50:10
End at: 2018-02-13 11:50:40
Local clock offset: -0.294 ms
Remote clock offset: -5.22 ms

# Below is generated by plot.py at 2018-02-13 13:23:54
# Datalink statistics
-- Total of 3 flows:
Average throughput: 9.91 Mbit/s
95th percentile per-packet one-way delay: 97.989 ms
Loss rate: 0.07%
-- Flow 1:
Average throughput: 4.23 Mbit/s
95th percentile per-packet one-way delay: 85.305 ms
Loss rate: 0.04%
-- Flow 2:
Average throughput: 7.17 Mbit/s
95th percentile per-packet one-way delay: 102.802 ms
Loss rate: 0.06%
-- Flow 3:
Average throughput: 2.74 Mbit/s
95th percentile per-packet one-way delay: 65.556 ms
Loss rate: 0.31%
```

### Run 3: Report of TCP Vegas — Data Link

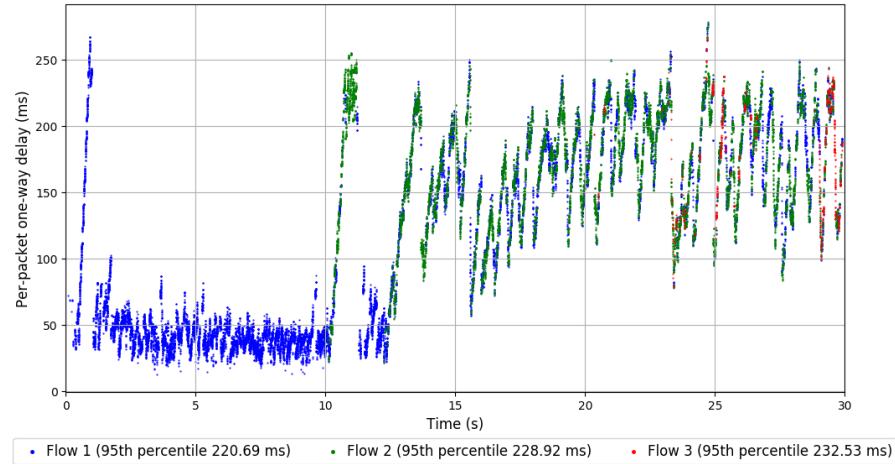
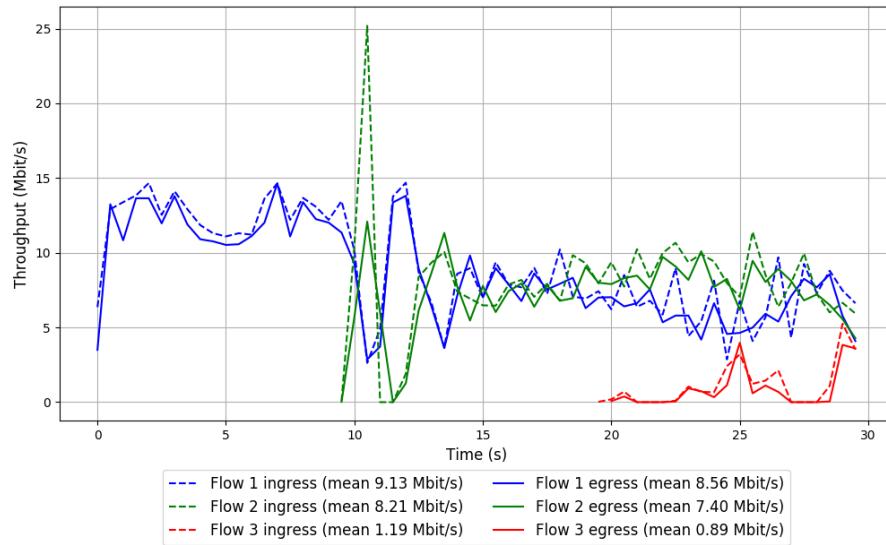


Run 1: Statistics of Verus

```
Start at: 2018-02-13 11:17:06
End at: 2018-02-13 11:17:36
Local clock offset: -0.345 ms
Remote clock offset: -5.341 ms

# Below is generated by plot.py at 2018-02-13 13:23:55
# Datalink statistics
-- Total of 3 flows:
Average throughput: 13.80 Mbit/s
95th percentile per-packet one-way delay: 225.415 ms
Loss rate: 8.31%
-- Flow 1:
Average throughput: 8.56 Mbit/s
95th percentile per-packet one-way delay: 220.693 ms
Loss rate: 6.53%
-- Flow 2:
Average throughput: 7.40 Mbit/s
95th percentile per-packet one-way delay: 228.923 ms
Loss rate: 9.97%
-- Flow 3:
Average throughput: 0.89 Mbit/s
95th percentile per-packet one-way delay: 232.527 ms
Loss rate: 26.27%
```

## Run 1: Report of Verus — Data Link

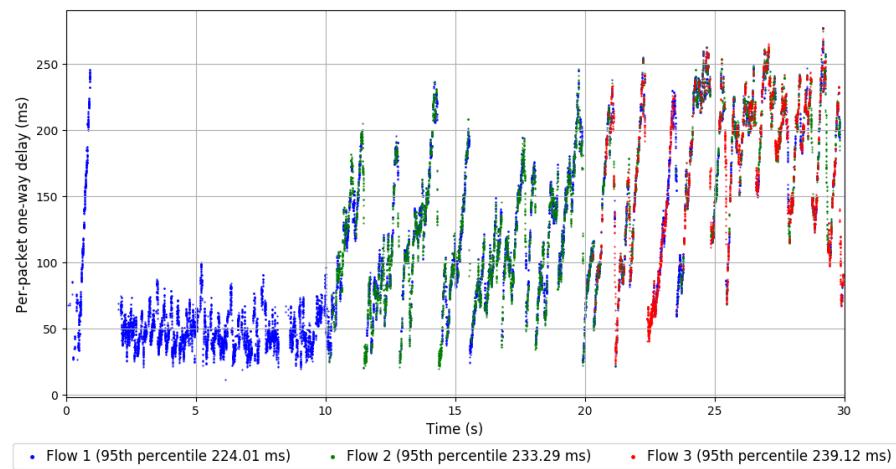
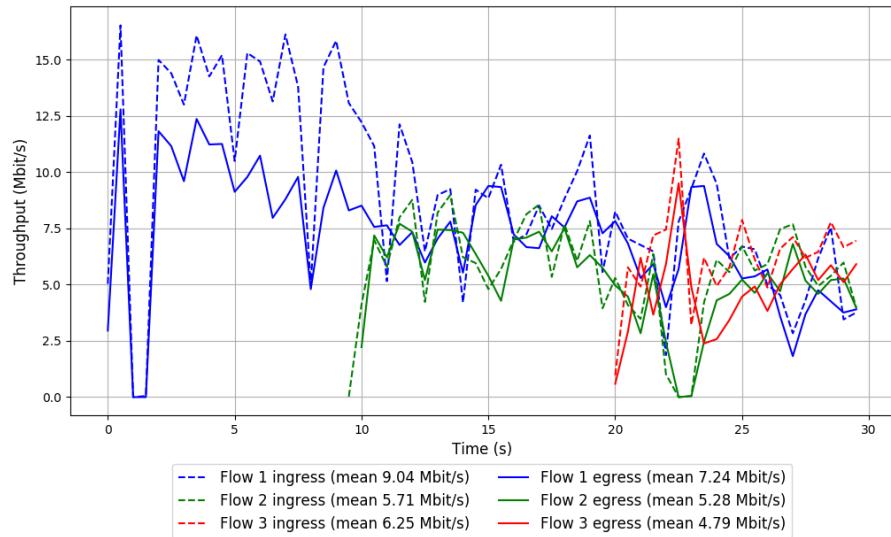


Run 2: Statistics of Verus

```
Start at: 2018-02-13 11:40:55
End at: 2018-02-13 11:41:25
Local clock offset: -0.475 ms
Remote clock offset: -5.313 ms

# Below is generated by plot.py at 2018-02-13 13:23:55
# Datalink statistics
-- Total of 3 flows:
Average throughput: 12.34 Mbit/s
95th percentile per-packet one-way delay: 231.176 ms
Loss rate: 17.51%
-- Flow 1:
Average throughput: 7.24 Mbit/s
95th percentile per-packet one-way delay: 224.009 ms
Loss rate: 20.04%
-- Flow 2:
Average throughput: 5.28 Mbit/s
95th percentile per-packet one-way delay: 233.290 ms
Loss rate: 7.85%
-- Flow 3:
Average throughput: 4.79 Mbit/s
95th percentile per-packet one-way delay: 239.118 ms
Loss rate: 24.19%
```

## Run 2: Report of Verus — Data Link

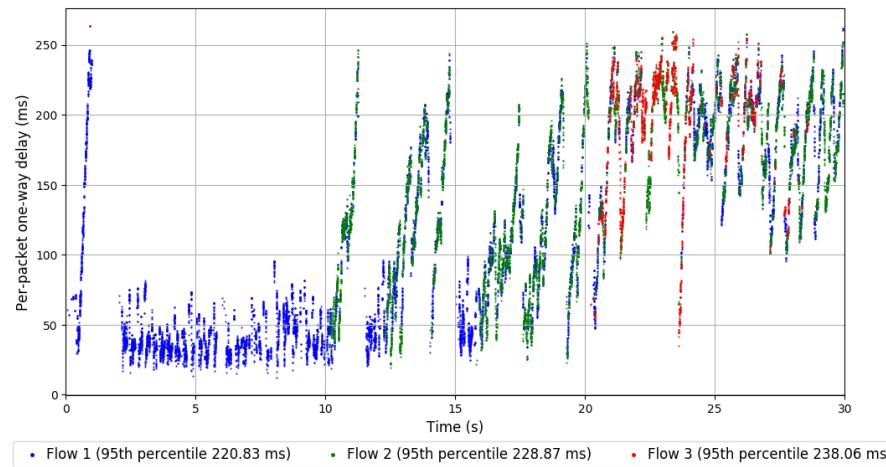
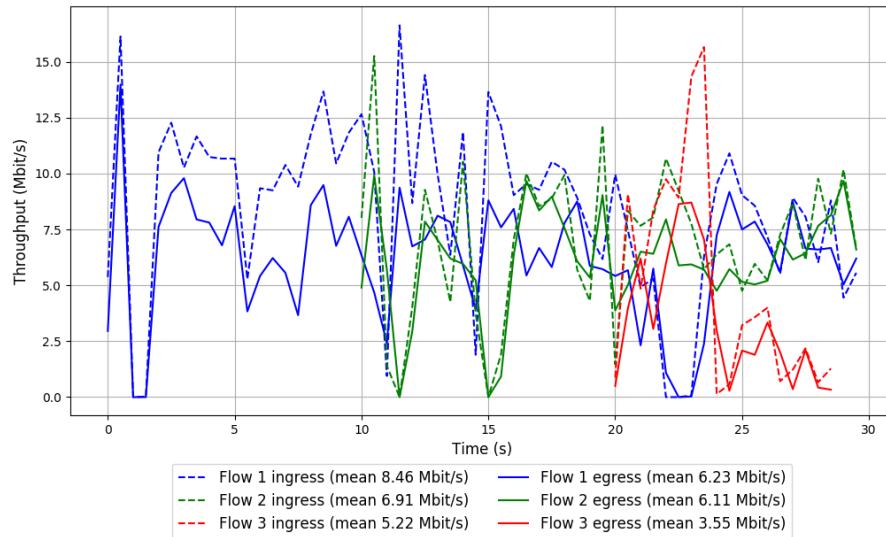


Run 3: Statistics of Verus

```
Start at: 2018-02-13 12:04:43
End at: 2018-02-13 12:05:13
Local clock offset: -0.24 ms
Remote clock offset: -5.22 ms

# Below is generated by plot.py at 2018-02-13 13:23:56
# Datalink statistics
-- Total of 3 flows:
Average throughput: 11.29 Mbit/s
95th percentile per-packet one-way delay: 227.808 ms
Loss rate: 22.62%
-- Flow 1:
Average throughput: 6.23 Mbit/s
95th percentile per-packet one-way delay: 220.828 ms
Loss rate: 26.57%
-- Flow 2:
Average throughput: 6.11 Mbit/s
95th percentile per-packet one-way delay: 228.867 ms
Loss rate: 11.99%
-- Flow 3:
Average throughput: 3.55 Mbit/s
95th percentile per-packet one-way delay: 238.056 ms
Loss rate: 33.00%
```

### Run 3: Report of Verus — Data Link

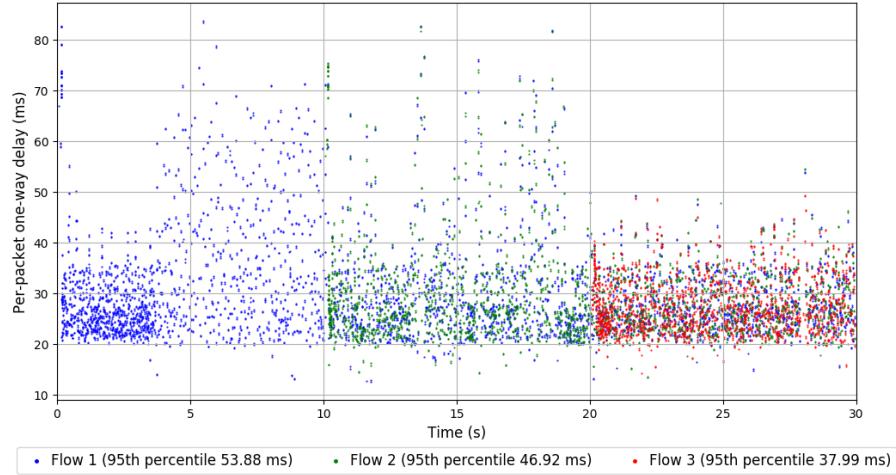
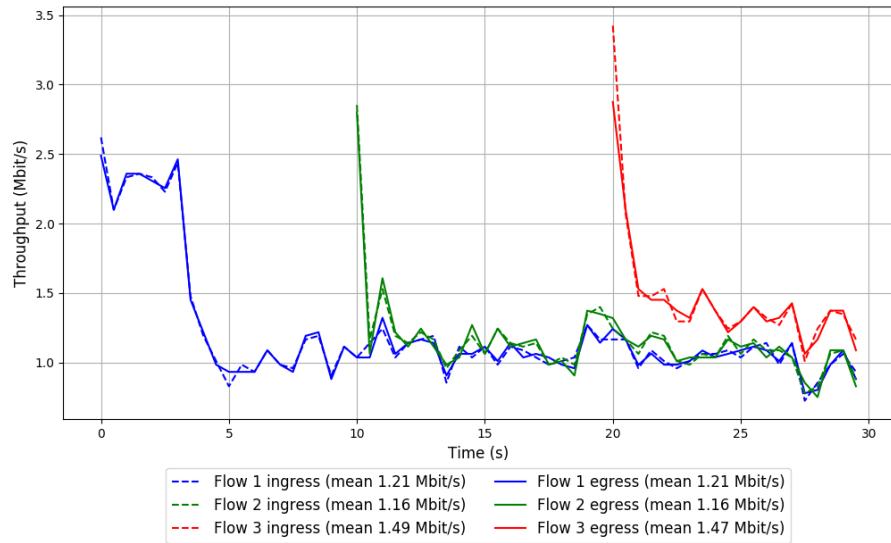


Run 1: Statistics of Copa

```
Start at: 2018-02-13 11:13:09
End at: 2018-02-13 11:13:39
Local clock offset: -0.31 ms
Remote clock offset: -5.387 ms

# Below is generated by plot.py at 2018-02-13 13:23:56
# Datalink statistics
-- Total of 3 flows:
Average throughput: 2.47 Mbit/s
95th percentile per-packet one-way delay: 47.815 ms
Loss rate: 0.49%
-- Flow 1:
Average throughput: 1.21 Mbit/s
95th percentile per-packet one-way delay: 53.879 ms
Loss rate: 0.11%
-- Flow 2:
Average throughput: 1.16 Mbit/s
95th percentile per-packet one-way delay: 46.920 ms
Loss rate: 0.22%
-- Flow 3:
Average throughput: 1.47 Mbit/s
95th percentile per-packet one-way delay: 37.989 ms
Loss rate: 1.85%
```

## Run 1: Report of Copa — Data Link

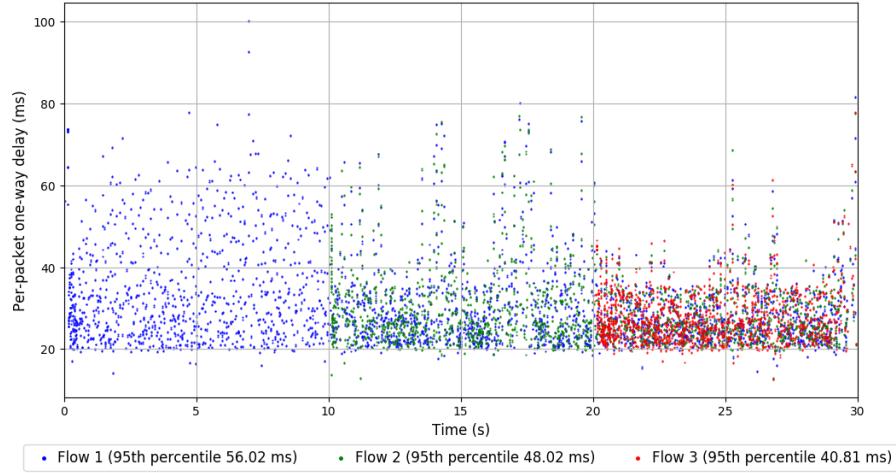
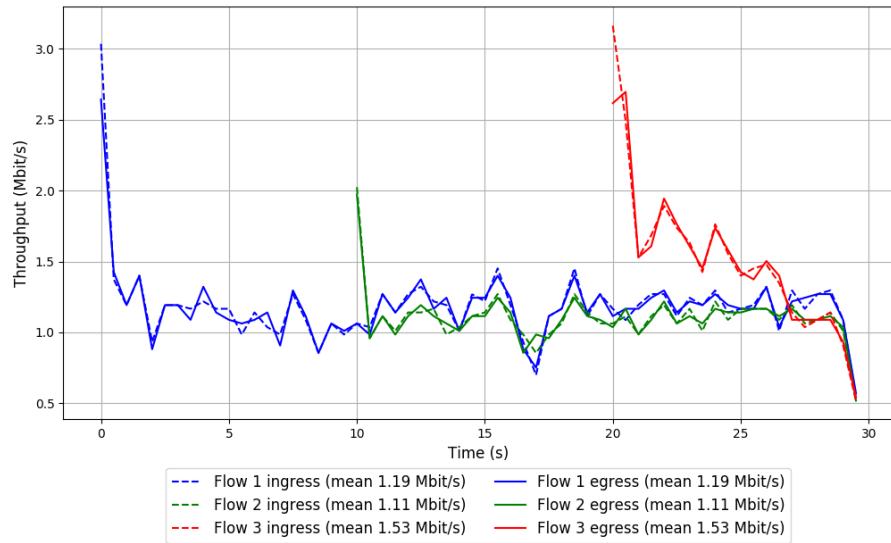


Run 2: Statistics of Copa

```
Start at: 2018-02-13 11:36:57
End at: 2018-02-13 11:37:27
Local clock offset: -0.492 ms
Remote clock offset: -5.174 ms

# Below is generated by plot.py at 2018-02-13 13:23:56
# Datalink statistics
-- Total of 3 flows:
Average throughput: 2.43 Mbit/s
95th percentile per-packet one-way delay: 51.141 ms
Loss rate: 0.50%
-- Flow 1:
Average throughput: 1.19 Mbit/s
95th percentile per-packet one-way delay: 56.023 ms
Loss rate: 0.52%
-- Flow 2:
Average throughput: 1.11 Mbit/s
95th percentile per-packet one-way delay: 48.018 ms
Loss rate: 0.12%
-- Flow 3:
Average throughput: 1.53 Mbit/s
95th percentile per-packet one-way delay: 40.810 ms
Loss rate: 1.04%
```

## Run 2: Report of Copa — Data Link

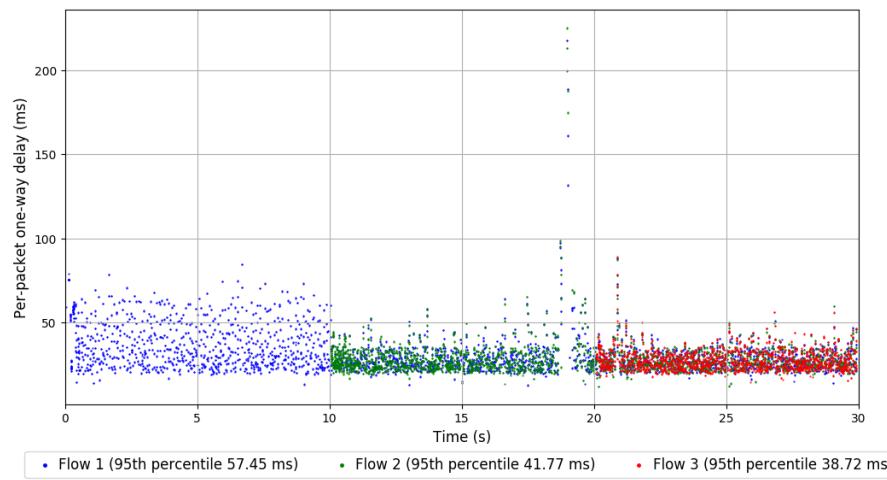
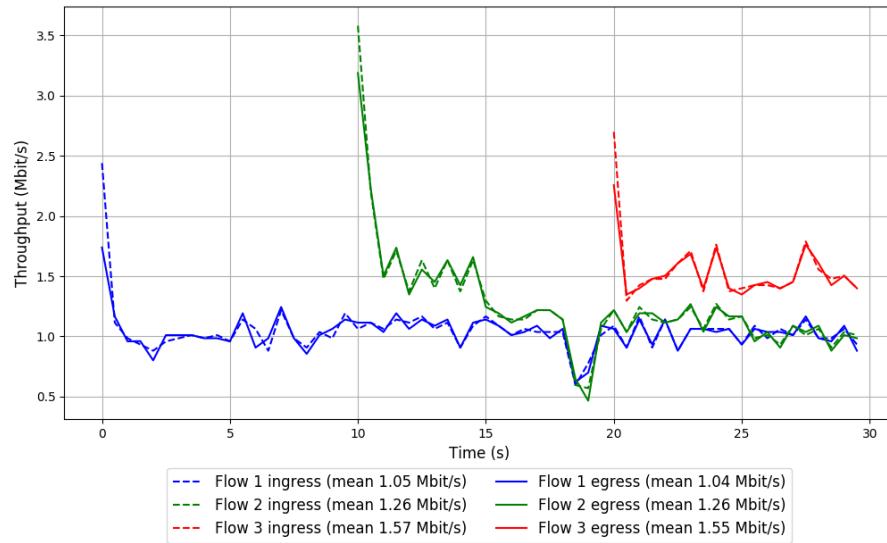


Run 3: Statistics of Copa

```
Start at: 2018-02-13 12:00:45
End at: 2018-02-13 12:01:15
Local clock offset: -0.252 ms
Remote clock offset: -5.059 ms

# Below is generated by plot.py at 2018-02-13 13:23:56
# Datalink statistics
-- Total of 3 flows:
Average throughput: 2.39 Mbit/s
95th percentile per-packet one-way delay: 49.571 ms
Loss rate: 1.05%
-- Flow 1:
Average throughput: 1.04 Mbit/s
95th percentile per-packet one-way delay: 57.445 ms
Loss rate: 1.11%
-- Flow 2:
Average throughput: 1.26 Mbit/s
95th percentile per-packet one-way delay: 41.766 ms
Loss rate: 0.73%
-- Flow 3:
Average throughput: 1.55 Mbit/s
95th percentile per-packet one-way delay: 38.724 ms
Loss rate: 1.43%
```

### Run 3: Report of Copa — Data Link

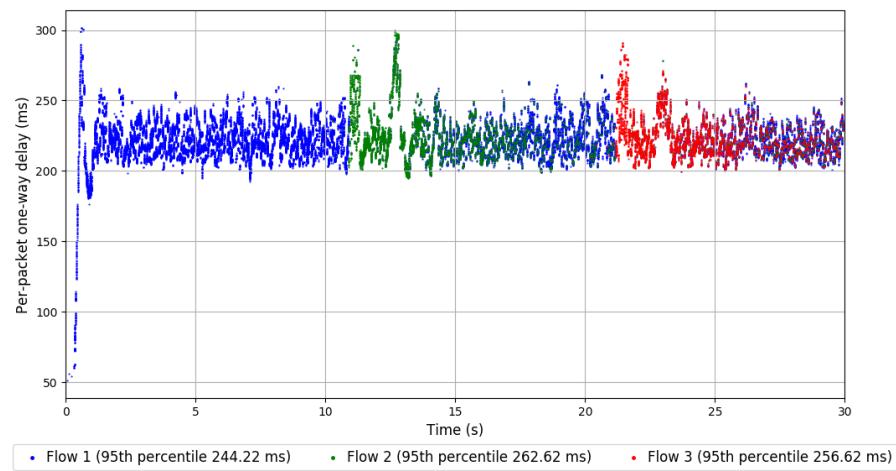
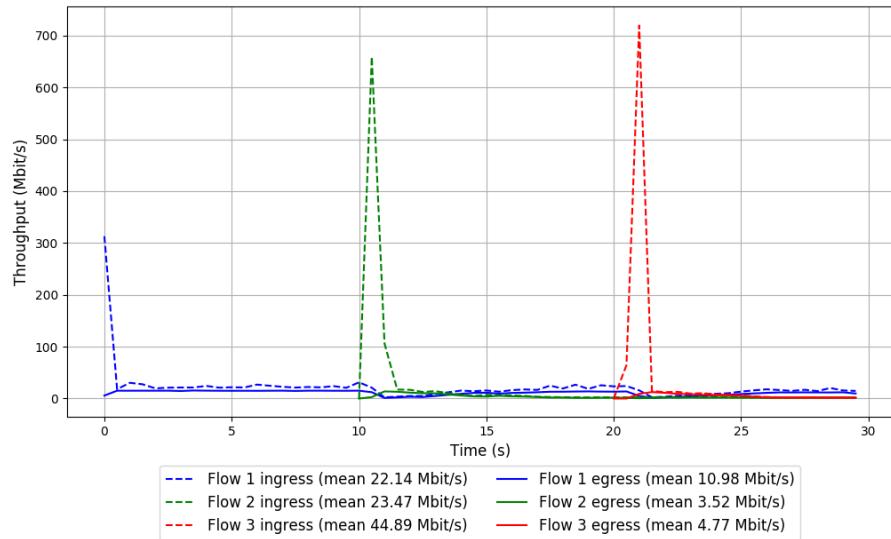


```
Run 1: Statistics of FillP

Start at: 2018-02-13 11:07:50
End at: 2018-02-13 11:08:20
Local clock offset: -0.318 ms
Remote clock offset: -5.501 ms

# Below is generated by plot.py at 2018-02-13 13:24:24
# Datalink statistics
-- Total of 3 flows:
Average throughput: 14.84 Mbit/s
95th percentile per-packet one-way delay: 248.535 ms
Loss rate: 71.84%
-- Flow 1:
Average throughput: 10.98 Mbit/s
95th percentile per-packet one-way delay: 244.216 ms
Loss rate: 50.54%
-- Flow 2:
Average throughput: 3.52 Mbit/s
95th percentile per-packet one-way delay: 262.622 ms
Loss rate: 85.17%
-- Flow 3:
Average throughput: 4.77 Mbit/s
95th percentile per-packet one-way delay: 256.615 ms
Loss rate: 89.62%
```

## Run 1: Report of FillP — Data Link

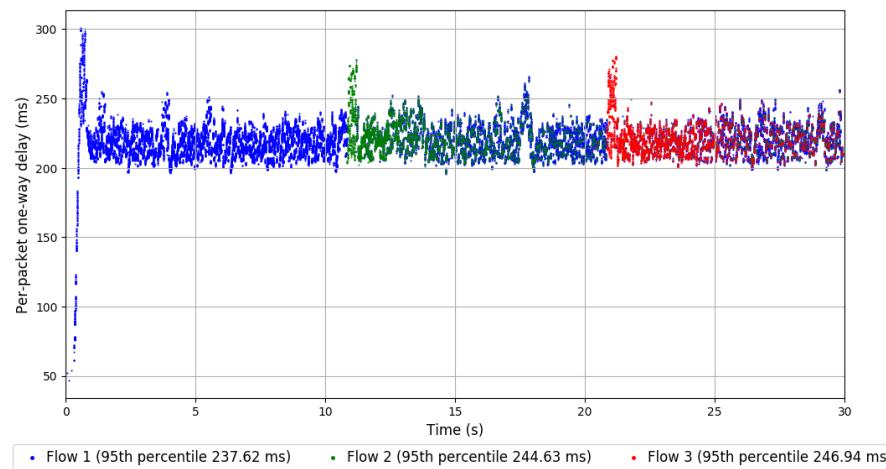
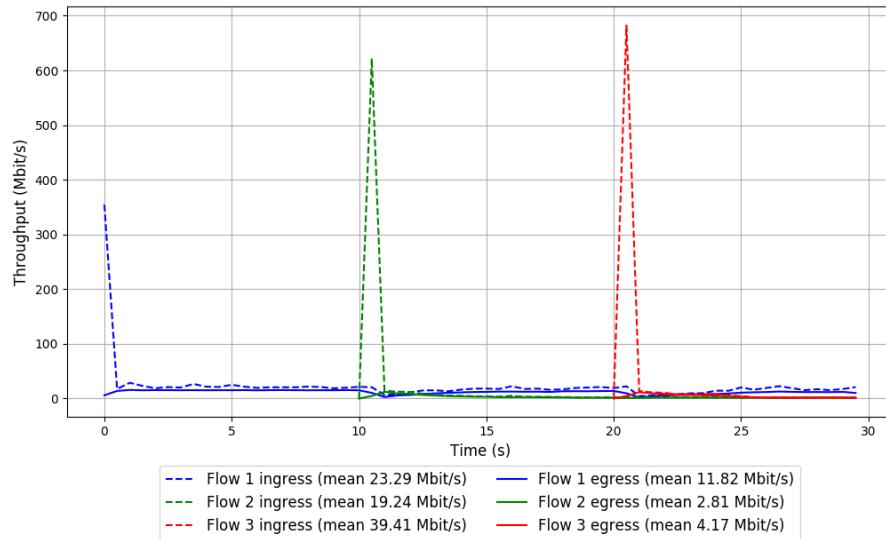


Run 2: Statistics of FillP

```
Start at: 2018-02-13 11:31:39
End at: 2018-02-13 11:32:09
Local clock offset: -0.408 ms
Remote clock offset: -5.166 ms

# Below is generated by plot.py at 2018-02-13 13:24:24
# Datalink statistics
-- Total of 3 flows:
Average throughput: 15.01 Mbit/s
95th percentile per-packet one-way delay: 239.229 ms
Loss rate: 69.50%
-- Flow 1:
Average throughput: 11.82 Mbit/s
95th percentile per-packet one-way delay: 237.619 ms
Loss rate: 49.38%
-- Flow 2:
Average throughput: 2.81 Mbit/s
95th percentile per-packet one-way delay: 244.633 ms
Loss rate: 85.60%
-- Flow 3:
Average throughput: 4.17 Mbit/s
95th percentile per-packet one-way delay: 246.935 ms
Loss rate: 89.67%
```

## Run 2: Report of FillP — Data Link

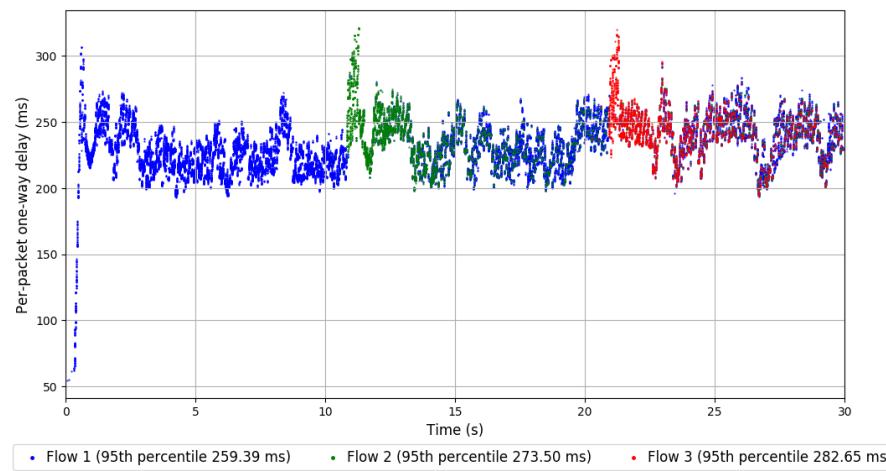
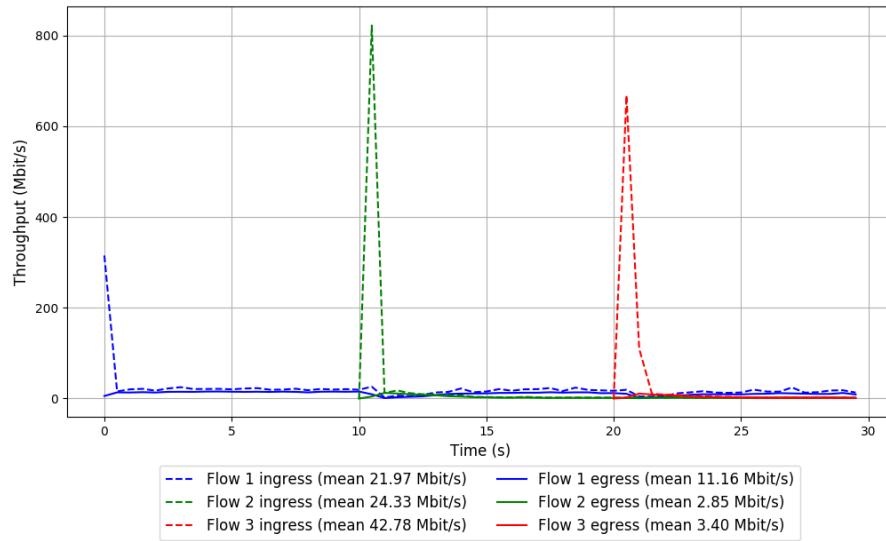


Run 3: Statistics of FillP

```
Start at: 2018-02-13 11:55:27
End at: 2018-02-13 11:55:57
Local clock offset: -0.355 ms
Remote clock offset: -5.16 ms

# Below is generated by plot.py at 2018-02-13 13:24:26
# Datalink statistics
-- Total of 3 flows:
Average throughput: 14.13 Mbit/s
95th percentile per-packet one-way delay: 262.196 ms
Loss rate: 73.04%
-- Flow 1:
Average throughput: 11.16 Mbit/s
95th percentile per-packet one-way delay: 259.389 ms
Loss rate: 49.33%
-- Flow 2:
Average throughput: 2.85 Mbit/s
95th percentile per-packet one-way delay: 273.499 ms
Loss rate: 88.42%
-- Flow 3:
Average throughput: 3.40 Mbit/s
95th percentile per-packet one-way delay: 282.648 ms
Loss rate: 92.26%
```

### Run 3: Report of FillP — Data Link

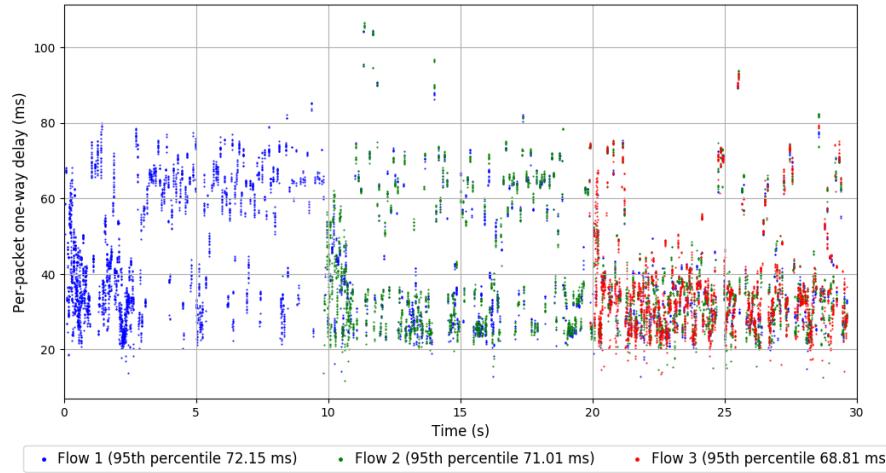
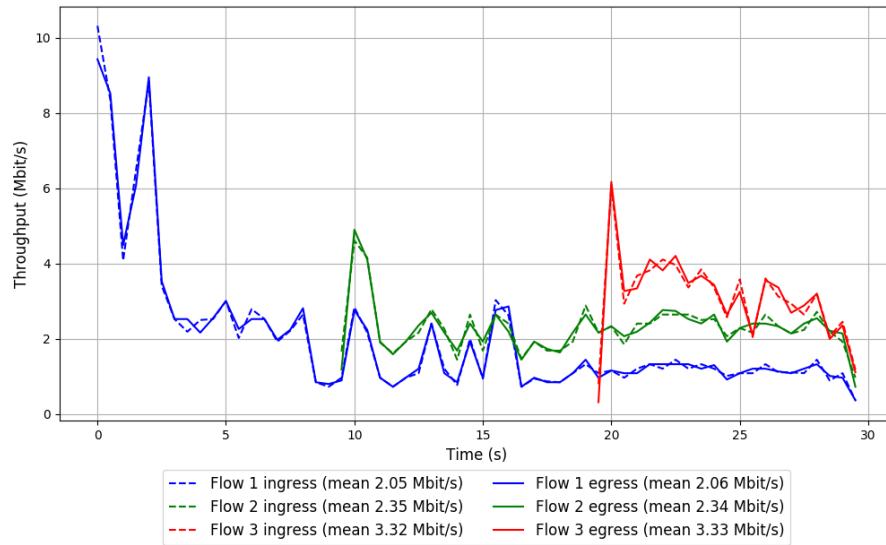


Run 1: Statistics of Indigo-1-32

```
Start at: 2018-02-13 11:06:31
End at: 2018-02-13 11:07:01
Local clock offset: -0.29 ms
Remote clock offset: -5.636 ms

# Below is generated by plot.py at 2018-02-13 13:24:26
# Datalink statistics
-- Total of 3 flows:
Average throughput: 4.72 Mbit/s
95th percentile per-packet one-way delay: 71.209 ms
Loss rate: 0.31%
-- Flow 1:
Average throughput: 2.06 Mbit/s
95th percentile per-packet one-way delay: 72.154 ms
Loss rate: 0.20%
-- Flow 2:
Average throughput: 2.34 Mbit/s
95th percentile per-packet one-way delay: 71.013 ms
Loss rate: 0.26%
-- Flow 3:
Average throughput: 3.33 Mbit/s
95th percentile per-packet one-way delay: 68.805 ms
Loss rate: 0.59%
```

Run 1: Report of Indigo-1-32 — Data Link

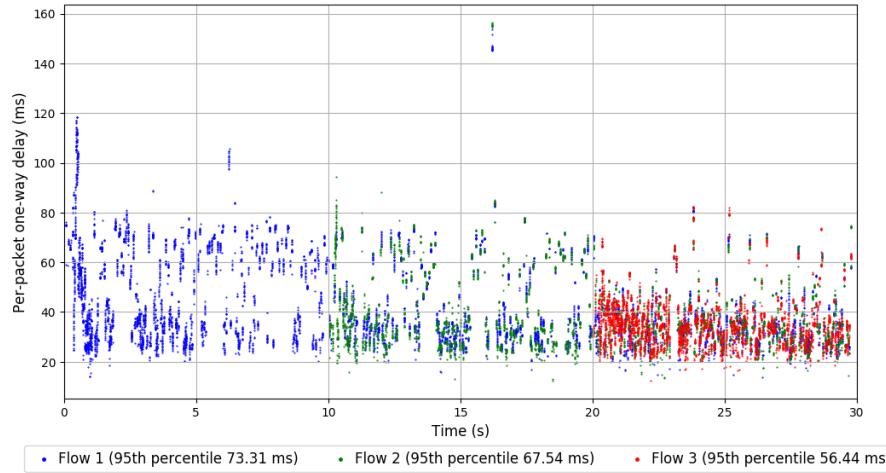
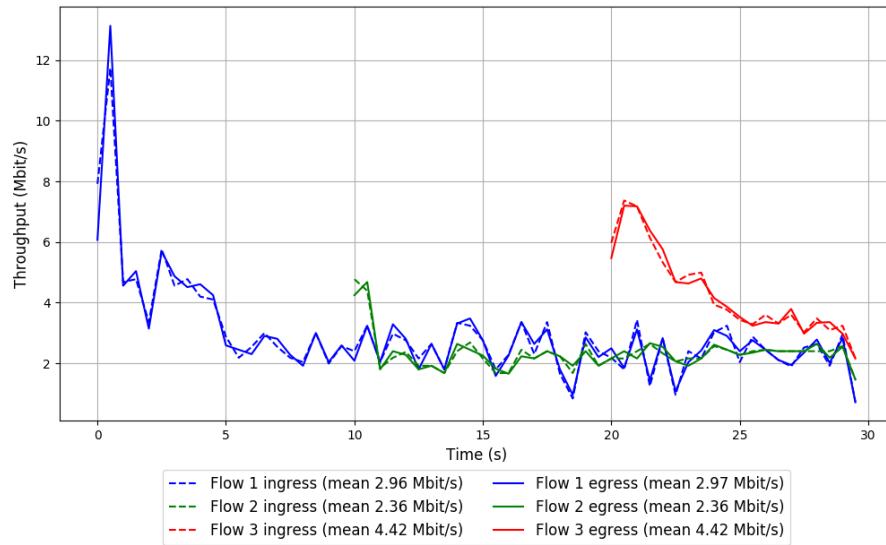


Run 2: Statistics of Indigo-1-32

```
Start at: 2018-02-13 11:30:19
End at: 2018-02-13 11:30:49
Local clock offset: -0.391 ms
Remote clock offset: -5.193 ms

# Below is generated by plot.py at 2018-02-13 13:24:26
# Datalink statistics
-- Total of 3 flows:
Average throughput: 5.98 Mbit/s
95th percentile per-packet one-way delay: 70.800 ms
Loss rate: 0.22%
-- Flow 1:
Average throughput: 2.97 Mbit/s
95th percentile per-packet one-way delay: 73.306 ms
Loss rate: 0.08%
-- Flow 2:
Average throughput: 2.36 Mbit/s
95th percentile per-packet one-way delay: 67.542 ms
Loss rate: 0.31%
-- Flow 3:
Average throughput: 4.42 Mbit/s
95th percentile per-packet one-way delay: 56.438 ms
Loss rate: 0.42%
```

Run 2: Report of Indigo-1-32 — Data Link

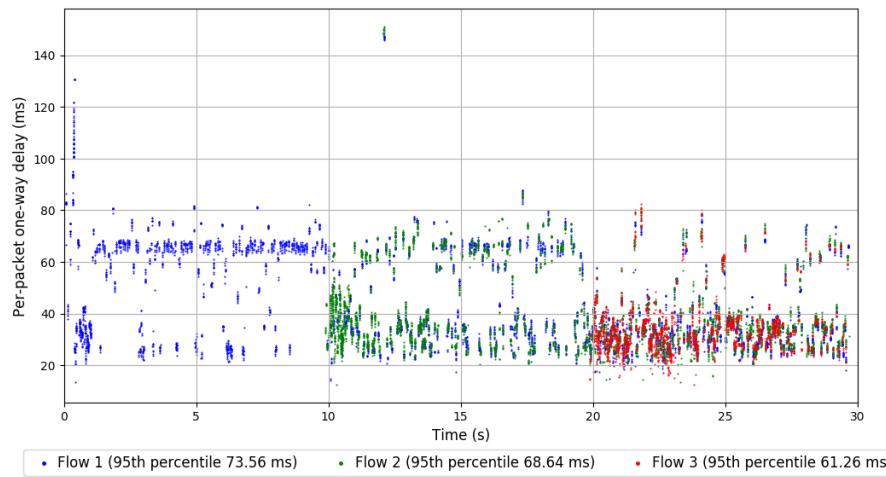
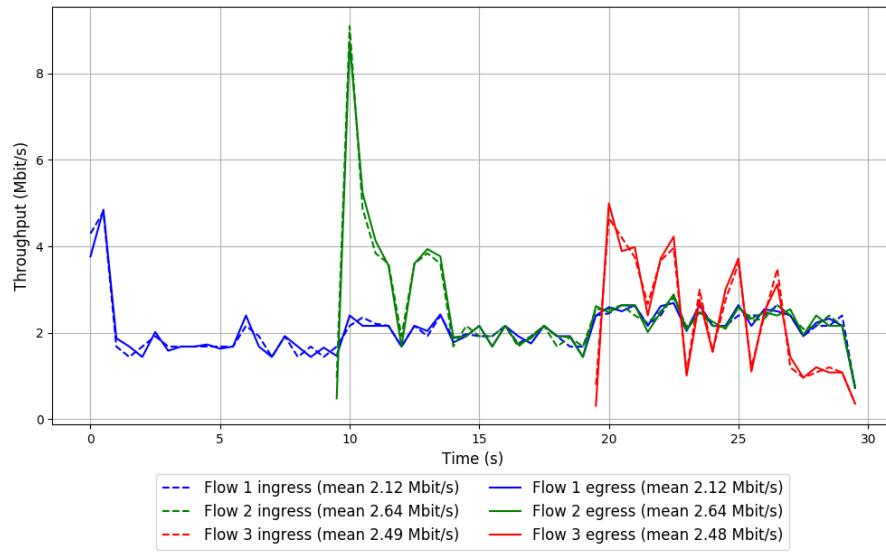


Run 3: Statistics of Indigo-1-32

```
Start at: 2018-02-13 11:54:08
End at: 2018-02-13 11:54:38
Local clock offset: -0.386 ms
Remote clock offset: -5.103 ms

# Below is generated by plot.py at 2018-02-13 13:24:26
# Datalink statistics
-- Total of 3 flows:
Average throughput: 4.70 Mbit/s
95th percentile per-packet one-way delay: 69.466 ms
Loss rate: 0.27%
-- Flow 1:
Average throughput: 2.12 Mbit/s
95th percentile per-packet one-way delay: 73.557 ms
Loss rate: 0.23%
-- Flow 2:
Average throughput: 2.64 Mbit/s
95th percentile per-packet one-way delay: 68.638 ms
Loss rate: 0.21%
-- Flow 3:
Average throughput: 2.48 Mbit/s
95th percentile per-packet one-way delay: 61.258 ms
Loss rate: 0.49%
```

Run 3: Report of Indigo-1-32 — Data Link

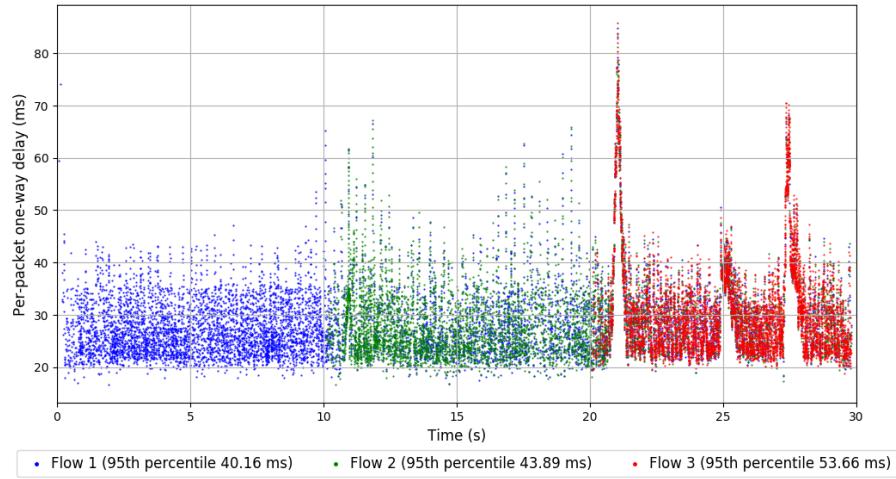
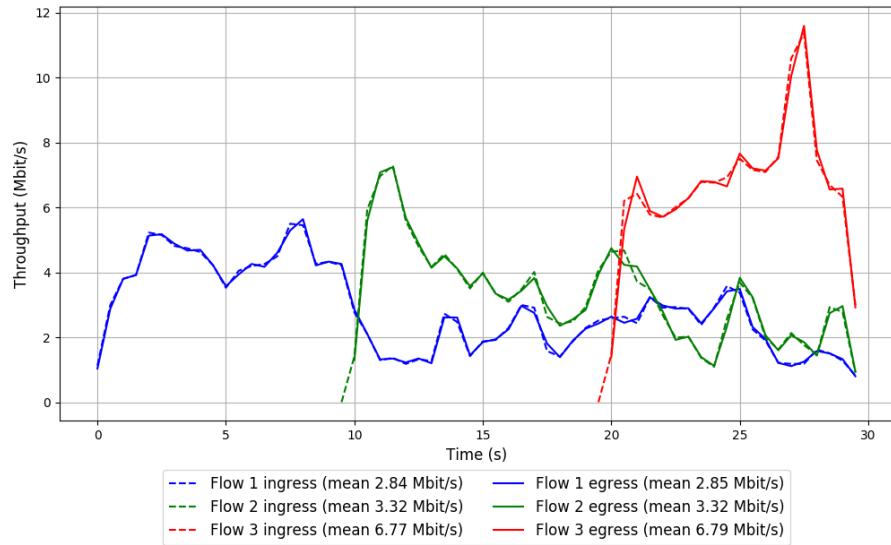


Run 1: Statistics of Vivace-latency

```
Start at: 2018-02-13 11:18:26
End at: 2018-02-13 11:18:56
Local clock offset: -0.35 ms
Remote clock offset: -5.23 ms

# Below is generated by plot.py at 2018-02-13 13:24:26
# Datalink statistics
-- Total of 3 flows:
Average throughput: 7.29 Mbit/s
95th percentile per-packet one-way delay: 43.820 ms
Loss rate: 0.11%
-- Flow 1:
Average throughput: 2.85 Mbit/s
95th percentile per-packet one-way delay: 40.160 ms
Loss rate: 0.04%
-- Flow 2:
Average throughput: 3.32 Mbit/s
95th percentile per-packet one-way delay: 43.894 ms
Loss rate: 0.05%
-- Flow 3:
Average throughput: 6.79 Mbit/s
95th percentile per-packet one-way delay: 53.660 ms
Loss rate: 0.24%
```

Run 1: Report of Vivace-latency — Data Link

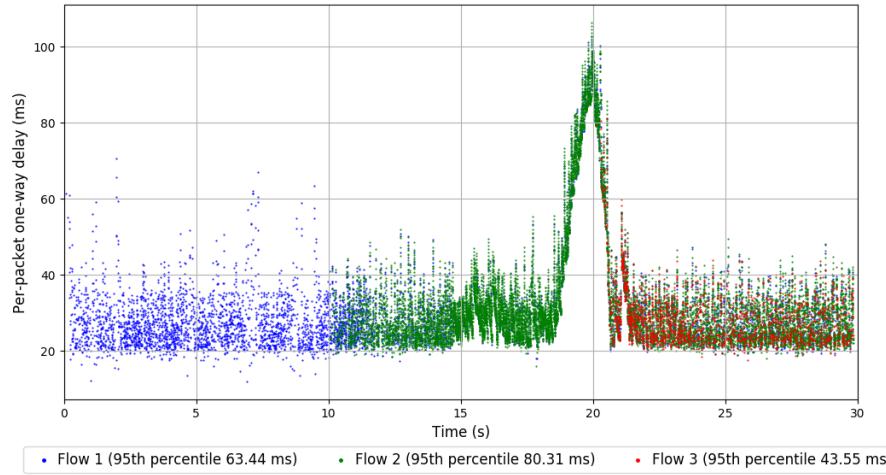
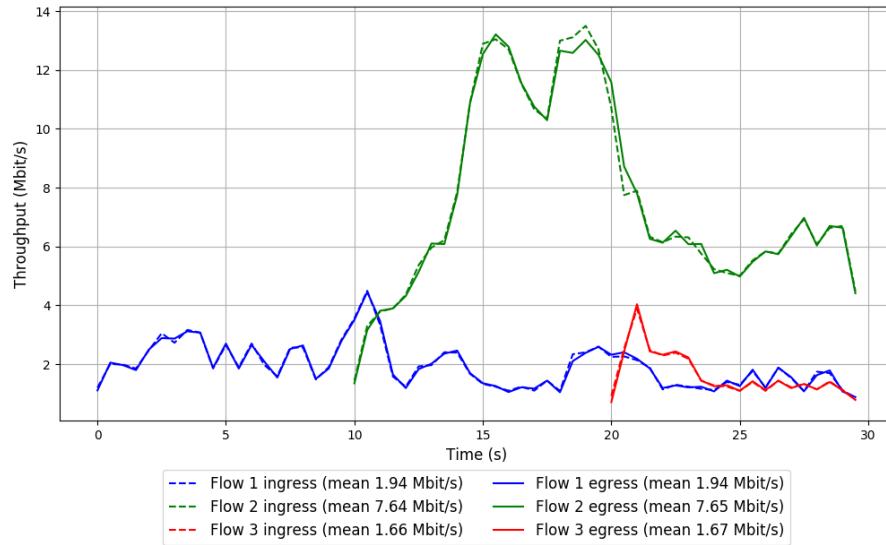


Run 2: Statistics of Vivace-latency

```
Start at: 2018-02-13 11:42:14
End at: 2018-02-13 11:42:44
Local clock offset: -0.367 ms
Remote clock offset: -5.288 ms

# Below is generated by plot.py at 2018-02-13 13:24:26
# Datalink statistics
-- Total of 3 flows:
Average throughput: 7.58 Mbit/s
95th percentile per-packet one-way delay: 76.024 ms
Loss rate: 0.14%
-- Flow 1:
Average throughput: 1.94 Mbit/s
95th percentile per-packet one-way delay: 63.438 ms
Loss rate: 0.08%
-- Flow 2:
Average throughput: 7.65 Mbit/s
95th percentile per-packet one-way delay: 80.314 ms
Loss rate: 0.15%
-- Flow 3:
Average throughput: 1.67 Mbit/s
95th percentile per-packet one-way delay: 43.549 ms
Loss rate: 0.22%
```

## Run 2: Report of Vivace-latency — Data Link

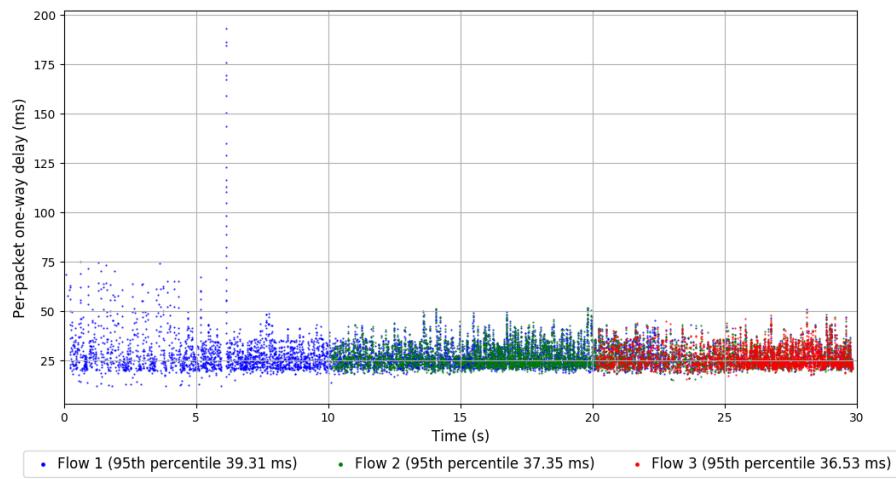
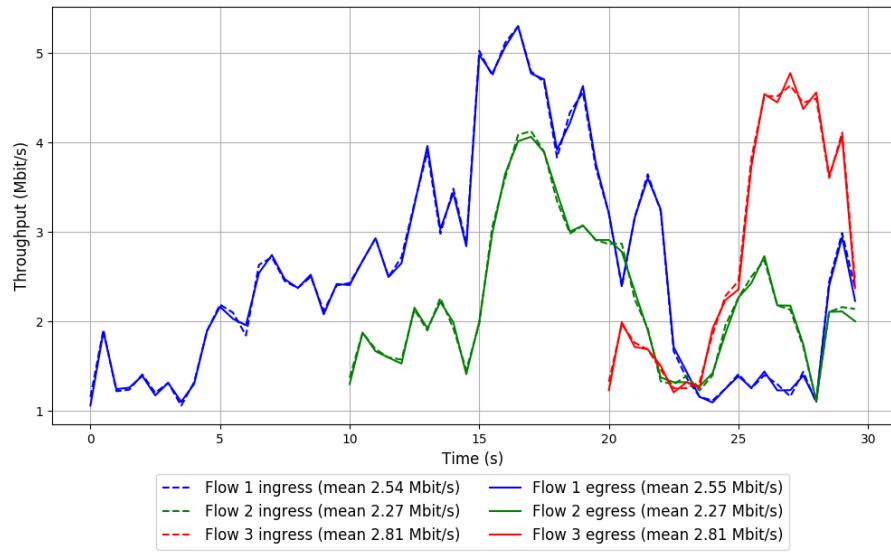


Run 3: Statistics of Vivace-latency

```
Start at: 2018-02-13 12:06:02
End at: 2018-02-13 12:06:32
Local clock offset: -0.24 ms
Remote clock offset: -5.168 ms

# Below is generated by plot.py at 2018-02-13 13:24:26
# Datalink statistics
-- Total of 3 flows:
Average throughput: 4.98 Mbit/s
95th percentile per-packet one-way delay: 38.106 ms
Loss rate: 0.30%
-- Flow 1:
Average throughput: 2.55 Mbit/s
95th percentile per-packet one-way delay: 39.308 ms
Loss rate: 0.20%
-- Flow 2:
Average throughput: 2.27 Mbit/s
95th percentile per-packet one-way delay: 37.353 ms
Loss rate: 0.31%
-- Flow 3:
Average throughput: 2.81 Mbit/s
95th percentile per-packet one-way delay: 36.530 ms
Loss rate: 0.54%
```

### Run 3: Report of Vivace-latency — Data Link

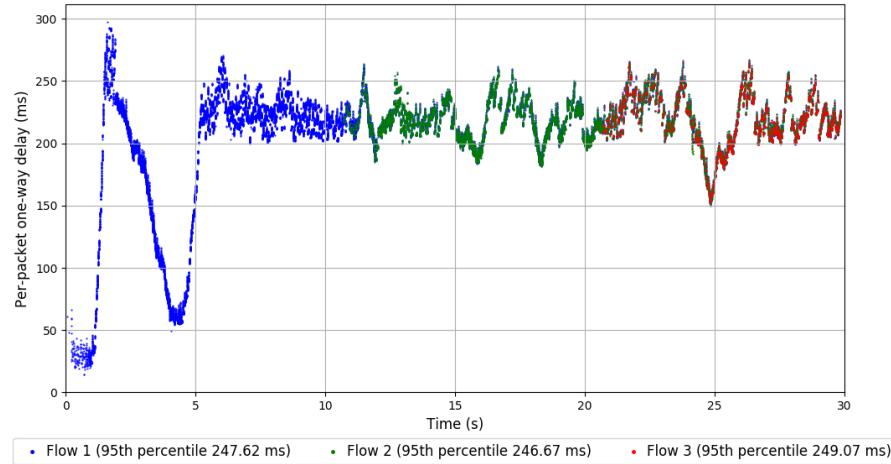
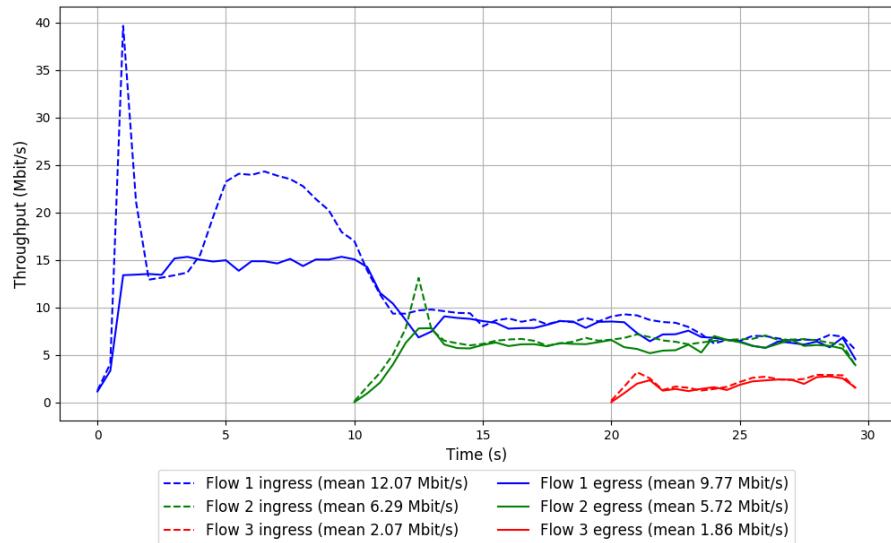


```
Run 1: Statistics of Vivace-loss
```

```
Start at: 2018-02-13 11:11:49
End at: 2018-02-13 11:12:19
Local clock offset: -0.296 ms
Remote clock offset: -5.472 ms

# Below is generated by plot.py at 2018-02-13 13:24:26
# Datalink statistics
-- Total of 3 flows:
Average throughput: 14.14 Mbit/s
95th percentile per-packet one-way delay: 247.349 ms
Loss rate: 16.69%
-- Flow 1:
Average throughput: 9.77 Mbit/s
95th percentile per-packet one-way delay: 247.617 ms
Loss rate: 19.21%
-- Flow 2:
Average throughput: 5.72 Mbit/s
95th percentile per-packet one-way delay: 246.671 ms
Loss rate: 10.11%
-- Flow 3:
Average throughput: 1.86 Mbit/s
95th percentile per-packet one-way delay: 249.070 ms
Loss rate: 12.52%
```

Run 1: Report of Vivace-loss — Data Link

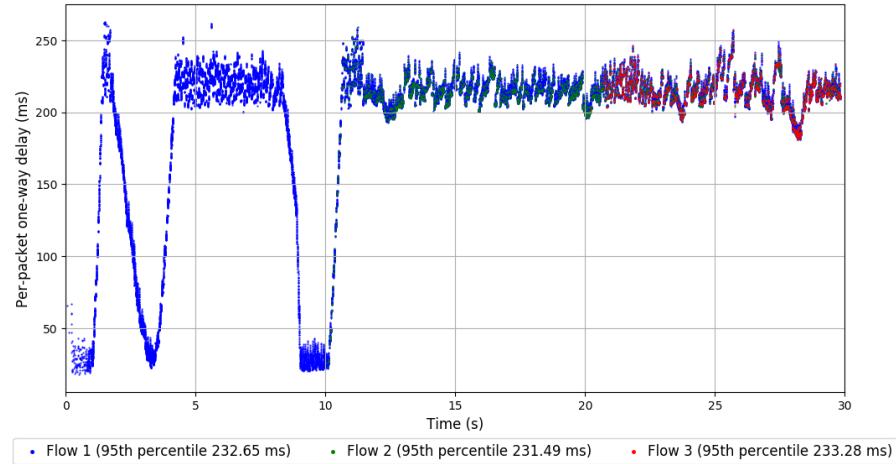
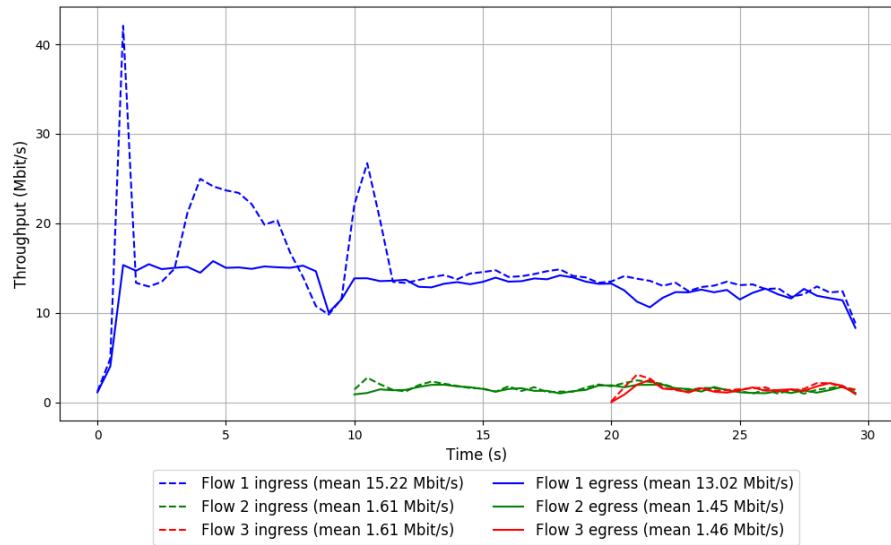


Run 2: Statistics of Vivace-loss

```
Start at: 2018-02-13 11:35:37
End at: 2018-02-13 11:36:07
Local clock offset: -0.424 ms
Remote clock offset: -5.234 ms

# Below is generated by plot.py at 2018-02-13 13:24:26
# Datalink statistics
-- Total of 3 flows:
Average throughput: 14.45 Mbit/s
95th percentile per-packet one-way delay: 232.607 ms
Loss rate: 14.29%
-- Flow 1:
Average throughput: 13.02 Mbit/s
95th percentile per-packet one-way delay: 232.654 ms
Loss rate: 14.66%
-- Flow 2:
Average throughput: 1.45 Mbit/s
95th percentile per-packet one-way delay: 231.485 ms
Loss rate: 10.53%
-- Flow 3:
Average throughput: 1.46 Mbit/s
95th percentile per-packet one-way delay: 233.275 ms
Loss rate: 11.31%
```

Run 2: Report of Vivace-loss — Data Link

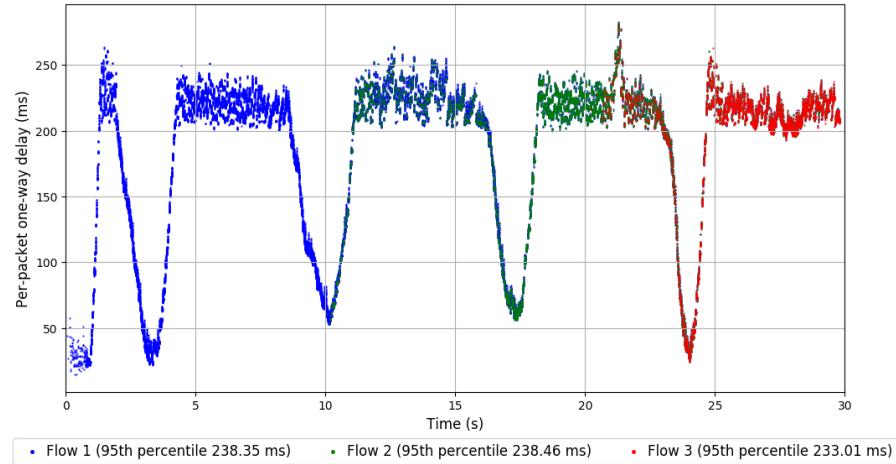
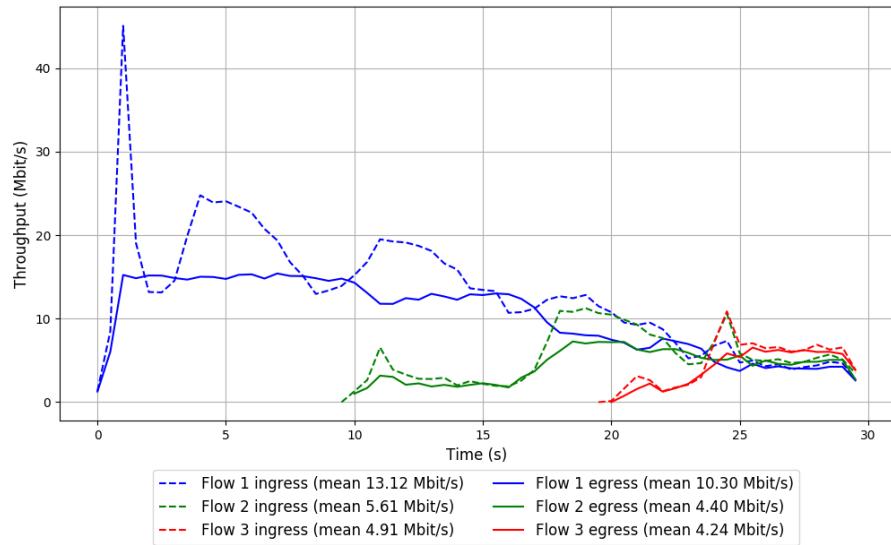


Run 3: Statistics of Vivace-loss

```
Start at: 2018-02-13 11:59:26
End at: 2018-02-13 11:59:56
Local clock offset: -0.241 ms
Remote clock offset: -5.076 ms

# Below is generated by plot.py at 2018-02-13 13:24:26
# Datalink statistics
-- Total of 3 flows:
Average throughput: 14.58 Mbit/s
95th percentile per-packet one-way delay: 238.093 ms
Loss rate: 21.24%
-- Flow 1:
Average throughput: 10.30 Mbit/s
95th percentile per-packet one-way delay: 238.353 ms
Loss rate: 21.74%
-- Flow 2:
Average throughput: 4.40 Mbit/s
95th percentile per-packet one-way delay: 238.458 ms
Loss rate: 21.90%
-- Flow 3:
Average throughput: 4.24 Mbit/s
95th percentile per-packet one-way delay: 233.008 ms
Loss rate: 15.65%
```

Run 3: Report of Vivace-loss — Data Link

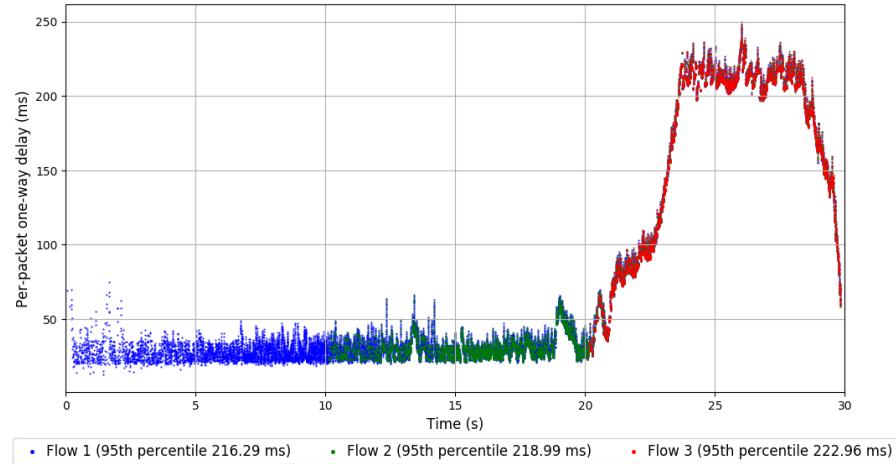
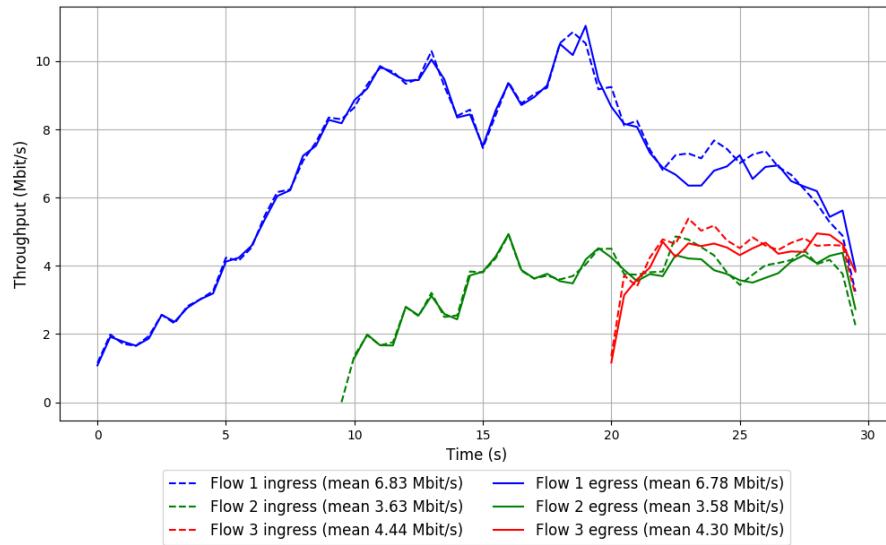


Run 1: Statistics of Vivace-LTE

```
Start at: 2018-02-13 10:59:55
End at: 2018-02-13 11:00:25
Local clock offset: -0.12 ms
Remote clock offset: -5.907 ms

# Below is generated by plot.py at 2018-02-13 13:24:26
# Datalink statistics
-- Total of 3 flows:
Average throughput: 10.58 Mbit/s
95th percentile per-packet one-way delay: 218.436 ms
Loss rate: 1.50%
-- Flow 1:
Average throughput: 6.78 Mbit/s
95th percentile per-packet one-way delay: 216.289 ms
Loss rate: 1.00%
-- Flow 2:
Average throughput: 3.58 Mbit/s
95th percentile per-packet one-way delay: 218.989 ms
Loss rate: 1.71%
-- Flow 3:
Average throughput: 4.30 Mbit/s
95th percentile per-packet one-way delay: 222.962 ms
Loss rate: 3.49%
```

## Run 1: Report of Vivace-LTE — Data Link

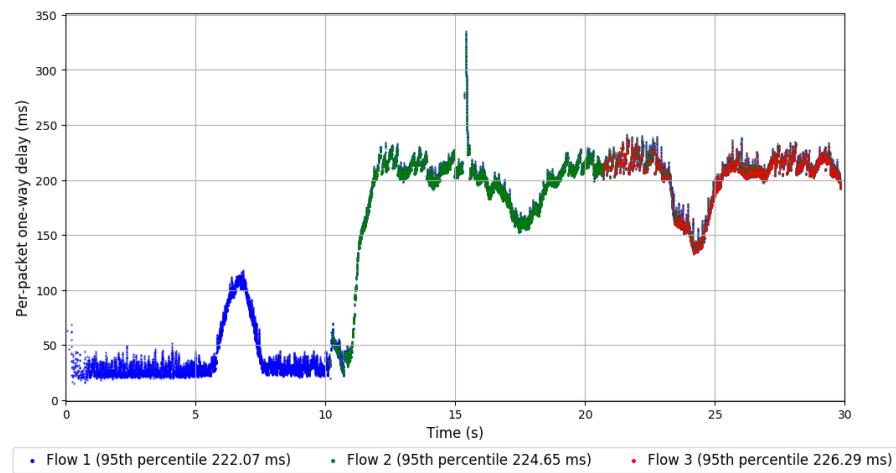
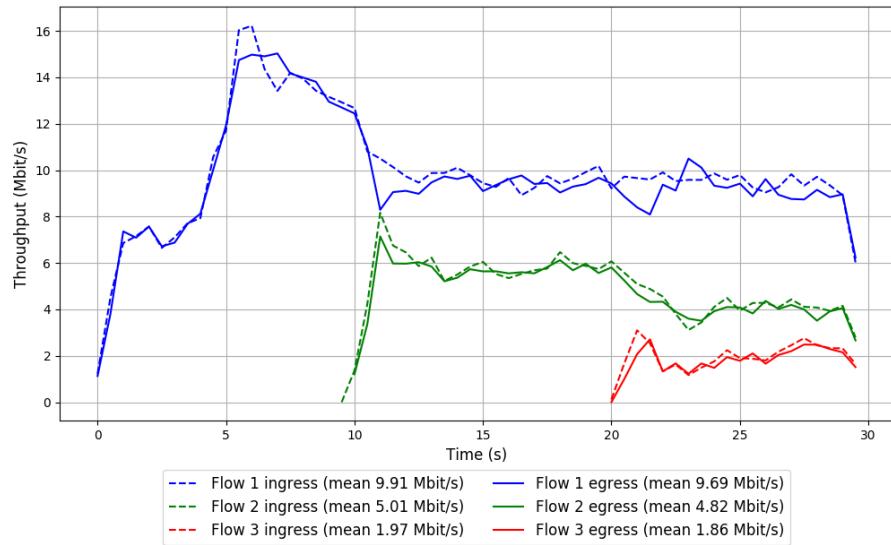


Run 2: Statistics of Vivace-LTE

```
Start at: 2018-02-13 11:23:43
End at: 2018-02-13 11:24:13
Local clock offset: -0.36 ms
Remote clock offset: -5.103 ms

# Below is generated by plot.py at 2018-02-13 13:24:26
# Datalink statistics
-- Total of 3 flows:
Average throughput: 13.50 Mbit/s
95th percentile per-packet one-way delay: 223.213 ms
Loss rate: 3.07%
-- Flow 1:
Average throughput: 9.69 Mbit/s
95th percentile per-packet one-way delay: 222.069 ms
Loss rate: 2.49%
-- Flow 2:
Average throughput: 4.82 Mbit/s
95th percentile per-packet one-way delay: 224.651 ms
Loss rate: 3.94%
-- Flow 3:
Average throughput: 1.86 Mbit/s
95th percentile per-packet one-way delay: 226.287 ms
Loss rate: 7.61%
```

## Run 2: Report of Vivace-LTE — Data Link



Run 3: Statistics of Vivace-LTE

```
Start at: 2018-02-13 11:47:31
End at: 2018-02-13 11:48:01
Local clock offset: -0.329 ms
Remote clock offset: -5.248 ms

# Below is generated by plot.py at 2018-02-13 13:24:26
# Datalink statistics
-- Total of 3 flows:
Average throughput: 12.72 Mbit/s
95th percentile per-packet one-way delay: 217.966 ms
Loss rate: 2.40%
-- Flow 1:
Average throughput: 9.46 Mbit/s
95th percentile per-packet one-way delay: 217.002 ms
Loss rate: 1.91%
-- Flow 2:
Average throughput: 3.74 Mbit/s
95th percentile per-packet one-way delay: 218.996 ms
Loss rate: 2.93%
-- Flow 3:
Average throughput: 2.35 Mbit/s
95th percentile per-packet one-way delay: 222.809 ms
Loss rate: 6.50%
```

Run 3: Report of Vivace-LTE — Data Link

