

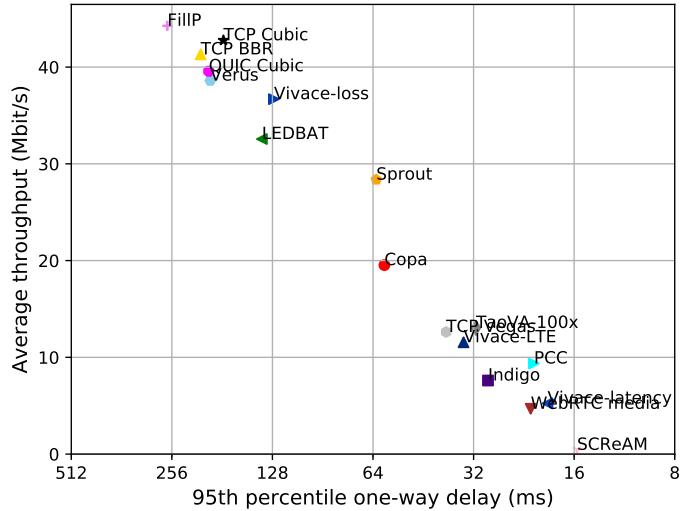
## Pantheon Report

Generated at 2018-01-18 13:36:42 (UTC).  
Data path: AWS California 1 Ethernet (*local*) →Stanford ppp0 (*remote*).  
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.

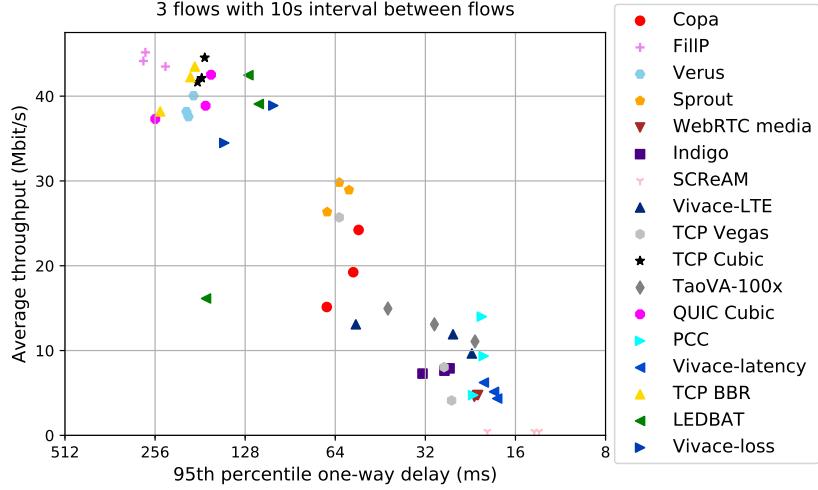
### Git summary:

```
branch: master @ 54510ce29f849c716ac5c8199ca1604b6abdfbc3
third_party/calibrated_koho @ 3cb73c0d1c0322cdfae446ea37a522e53227db50
  M datagrump/sender.cc
third_party/fillp @ ec9585325218d5048c4d4152fa42240af54c6e67
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 @ 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 @ 423cbca3e8ea1d599e7b5cf725835e8a2b6bfac6
third_party/webrtc @ a488197ddd041ace68a42849b2540ad834825f42
```

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



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



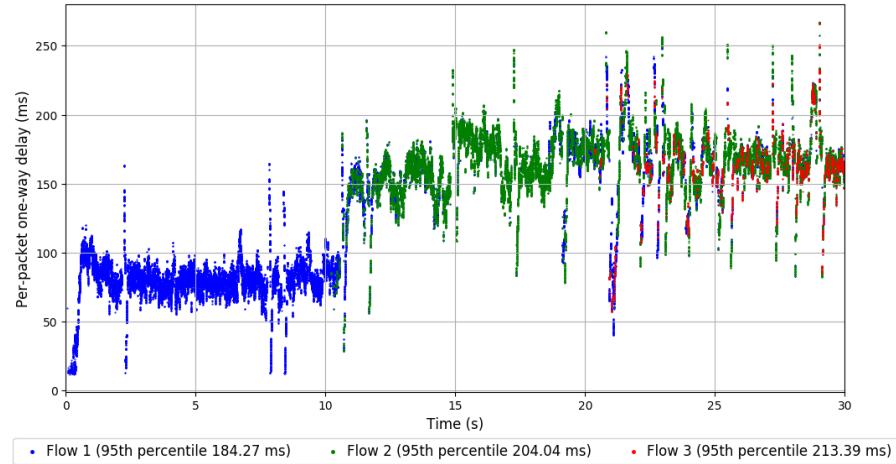
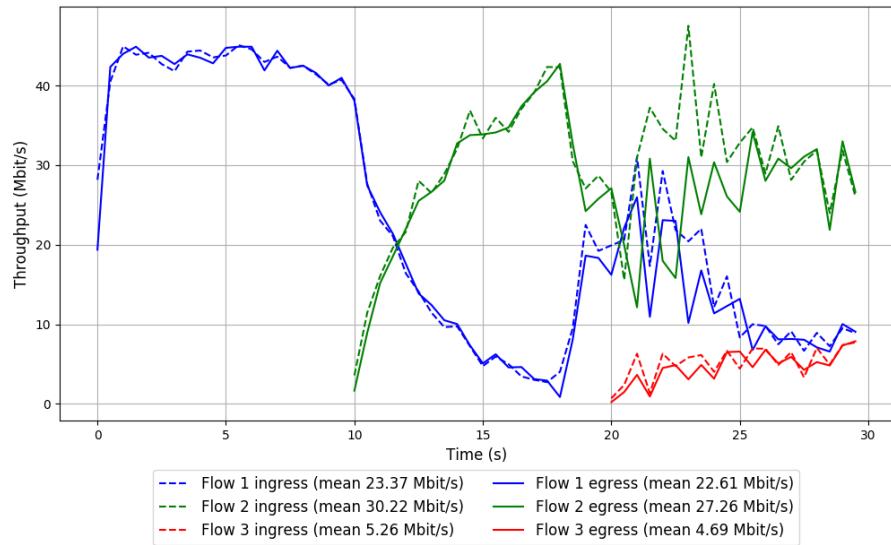
scheme	# runs	mean avg tput (Mbit/s)			mean 95th-%ile delay (ms)			mean loss rate (%)		
		flow 1	flow 2	flow 3	flow 1	flow 2	flow 3	flow 1	flow 2	flow 3
TCP BBR	3	21.32	22.15	16.77	186.75	205.01	247.11	2.13	6.14	12.40
TCP Cubic		30.89	12.89	10.18	177.74	178.27	190.40	0.33	0.93	1.70
LEDBAT		25.50	8.42	4.44	136.82	154.43	146.43	0.20	0.39	0.94
PCC		12.13	4.75	6.98	1750.41	20.24	22.69	0.00	0.00	0.00
QUIC Cubic		28.15	13.17	8.35	192.30	210.47	216.23	0.39	1.02	2.44
SCReAM		0.22	0.22	0.22	15.61	13.41	15.84	0.00	0.00	0.00
WebRTC media		2.35	1.74	0.64	21.62	21.21	23.54	0.00	0.10	0.00
Sprout		14.19	14.00	12.63	58.05	62.61	73.58	0.00	0.04	0.13
TaoVA-100x		5.91	7.21	8.60	28.39	35.88	34.25	0.02	0.12	0.00
TCP Vegas		2.36	12.50	4.72	28.90	41.23	31.41	0.00	0.03	0.00
Verus		23.24	17.42	13.51	195.10	197.79	198.45	18.99	23.69	27.40
Copa		13.06	6.54	9.03	53.84	48.46	66.61	0.11	0.10	0.40
FillP		18.94	22.57	31.66	254.36	258.33	283.79	51.38	54.86	62.39
Indigo		3.30	3.11	6.88	29.25	29.35	28.55	0.00	0.00	0.00
Vivace-latency		3.08	2.03	2.41	18.70	19.56	20.07	0.00	0.00	0.00
Vivace-loss		24.70	13.43	8.23	141.28	107.00	100.81	18.43	16.39	18.93
Vivace-LTE		5.57	5.64	6.68	22.62	25.91	54.88	0.02	0.06	2.55

Run 1: Statistics of TCP BBR

```
Start at: 2018-01-18 12:35:24
End at: 2018-01-18 12:35:54
Local clock offset: 1.558 ms
Remote clock offset: -2.471 ms

# Below is generated by plot.py at 2018-01-18 13:34:22
# Datalink statistics
-- Total of 3 flows:
Average throughput: 42.25 Mbit/s
95th percentile per-packet one-way delay: 194.943 ms
Loss rate: 6.71%
-- Flow 1:
Average throughput: 22.61 Mbit/s
95th percentile per-packet one-way delay: 184.267 ms
Loss rate: 3.41%
-- Flow 2:
Average throughput: 27.26 Mbit/s
95th percentile per-packet one-way delay: 204.045 ms
Loss rate: 10.07%
-- Flow 3:
Average throughput: 4.69 Mbit/s
95th percentile per-packet one-way delay: 213.389 ms
Loss rate: 12.20%
```

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

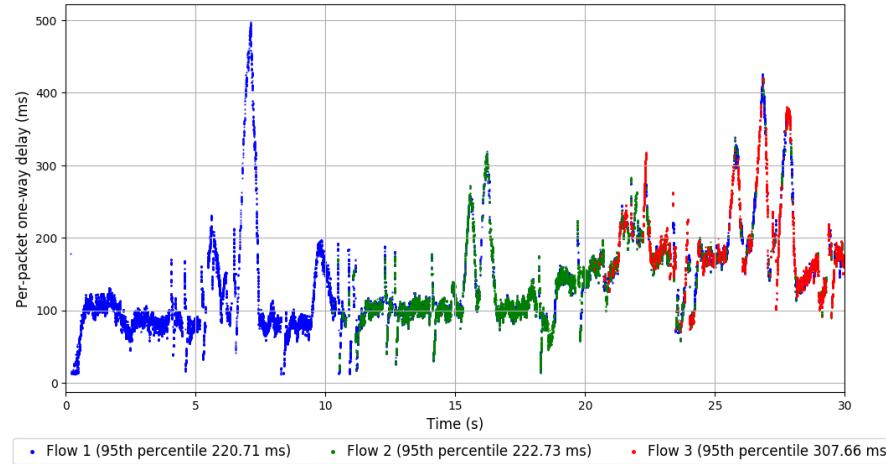
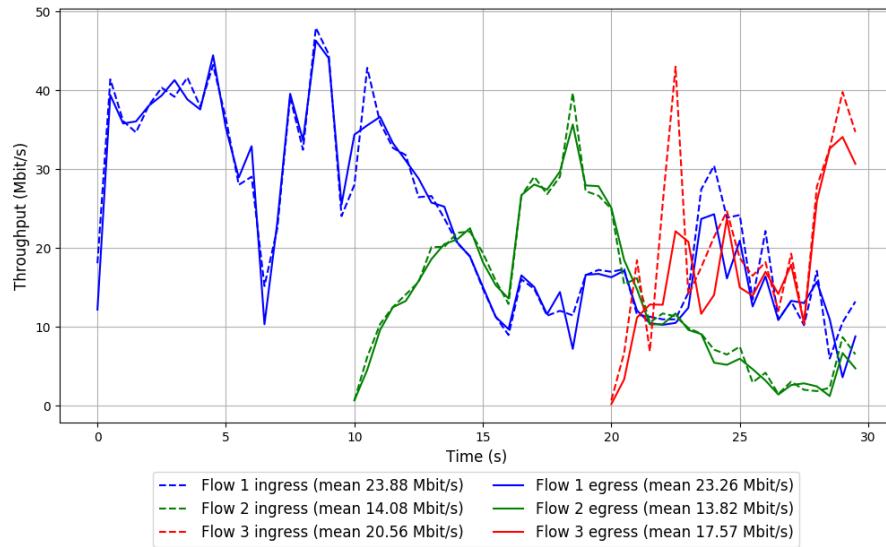


Run 2: Statistics of TCP BBR

```
Start at: 2018-01-18 12:57:03
End at: 2018-01-18 12:57:33
Local clock offset: 1.254 ms
Remote clock offset: -2.411 ms

# Below is generated by plot.py at 2018-01-18 13:34:22
# Datalink statistics
-- Total of 3 flows:
Average throughput: 38.20 Mbit/s
95th percentile per-packet one-way delay: 246.065 ms
Loss rate: 5.04%
-- Flow 1:
Average throughput: 23.26 Mbit/s
95th percentile per-packet one-way delay: 220.712 ms
Loss rate: 2.90%
-- Flow 2:
Average throughput: 13.82 Mbit/s
95th percentile per-packet one-way delay: 222.730 ms
Loss rate: 2.66%
-- Flow 3:
Average throughput: 17.57 Mbit/s
95th percentile per-packet one-way delay: 307.657 ms
Loss rate: 15.76%
```

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

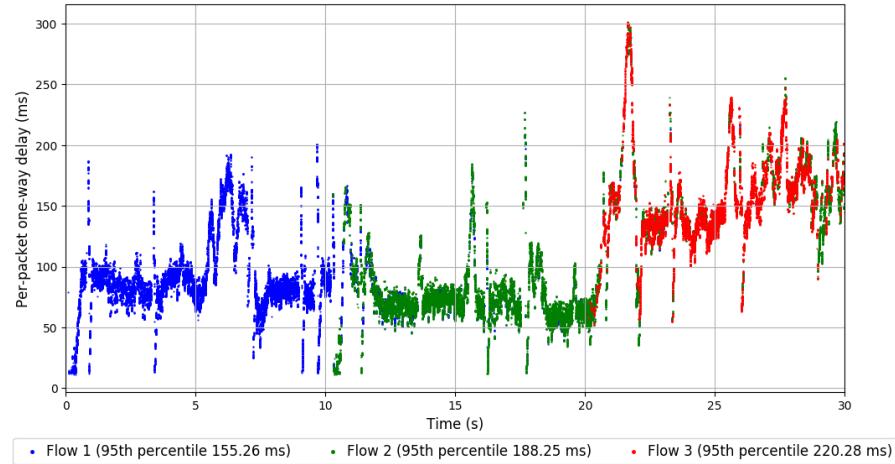
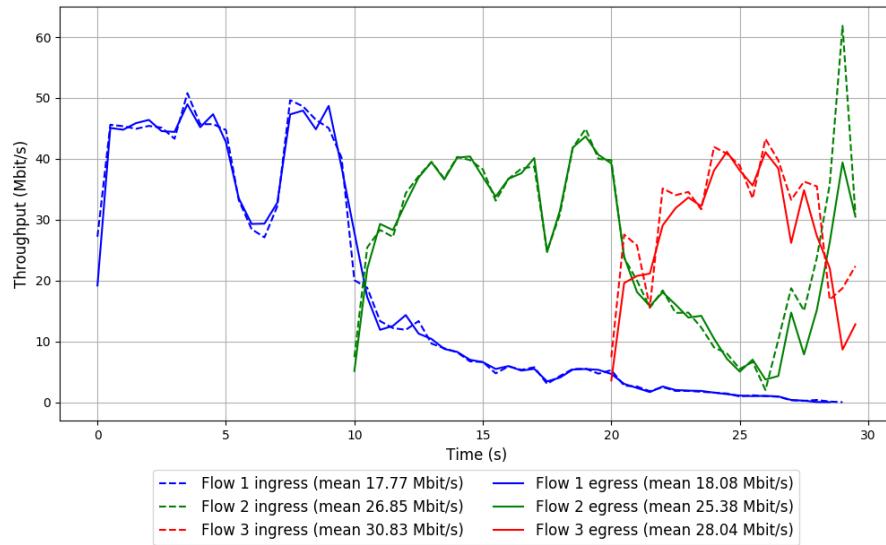


Run 3: Statistics of TCP BBR

```
Start at: 2018-01-18 13:18:42
End at: 2018-01-18 13:19:12
Local clock offset: 1.284 ms
Remote clock offset: -2.082 ms

# Below is generated by plot.py at 2018-01-18 13:34:23
# Datalink statistics
-- Total of 3 flows:
Average throughput: 43.49 Mbit/s
95th percentile per-packet one-way delay: 188.570 ms
Loss rate: 4.36%
-- Flow 1:
Average throughput: 18.08 Mbit/s
95th percentile per-packet one-way delay: 155.256 ms
Loss rate: 0.09%
-- Flow 2:
Average throughput: 25.38 Mbit/s
95th percentile per-packet one-way delay: 188.251 ms
Loss rate: 5.70%
-- Flow 3:
Average throughput: 28.04 Mbit/s
95th percentile per-packet one-way delay: 220.276 ms
Loss rate: 9.25%
```

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

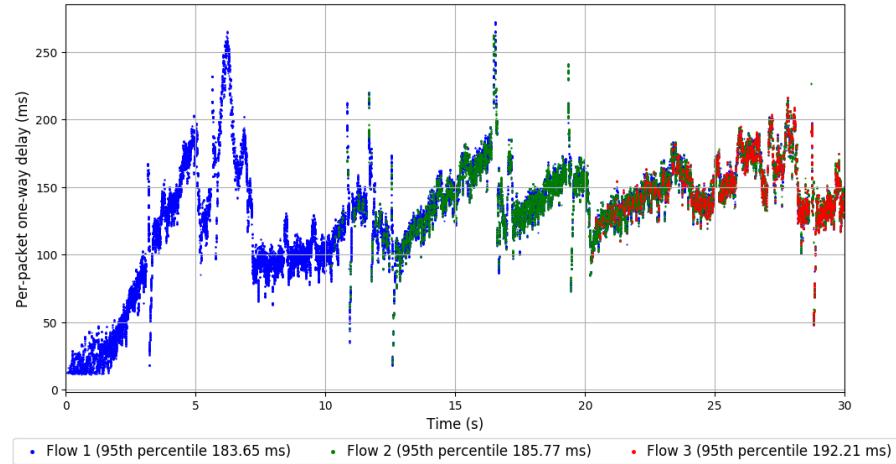
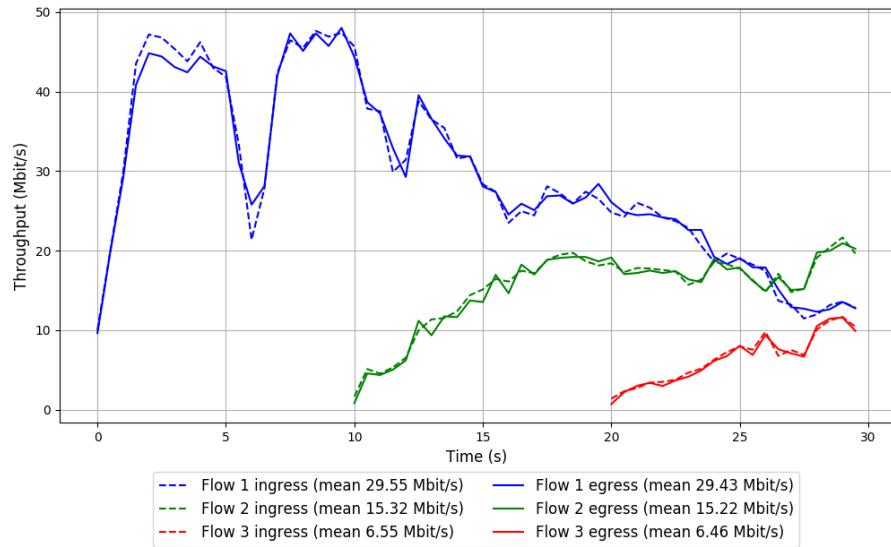


```
Run 1: Statistics of TCP Cubic
```

```
Start at: 2018-01-18 12:47:26
End at: 2018-01-18 12:47:56
Local clock offset: 1.503 ms
Remote clock offset: -2.533 ms

# Below is generated by plot.py at 2018-01-18 13:34:23
# Datalink statistics
-- Total of 3 flows:
Average throughput: 41.64 Mbit/s
95th percentile per-packet one-way delay: 184.658 ms
Loss rate: 0.66%
-- Flow 1:
Average throughput: 29.43 Mbit/s
95th percentile per-packet one-way delay: 183.654 ms
Loss rate: 0.39%
-- Flow 2:
Average throughput: 15.22 Mbit/s
95th percentile per-packet one-way delay: 185.773 ms
Loss rate: 1.07%
-- Flow 3:
Average throughput: 6.46 Mbit/s
95th percentile per-packet one-way delay: 192.212 ms
Loss rate: 2.49%
```

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

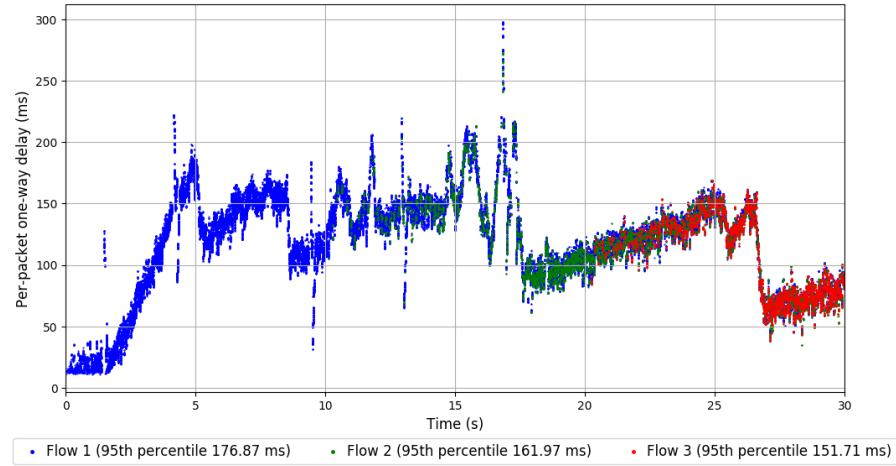
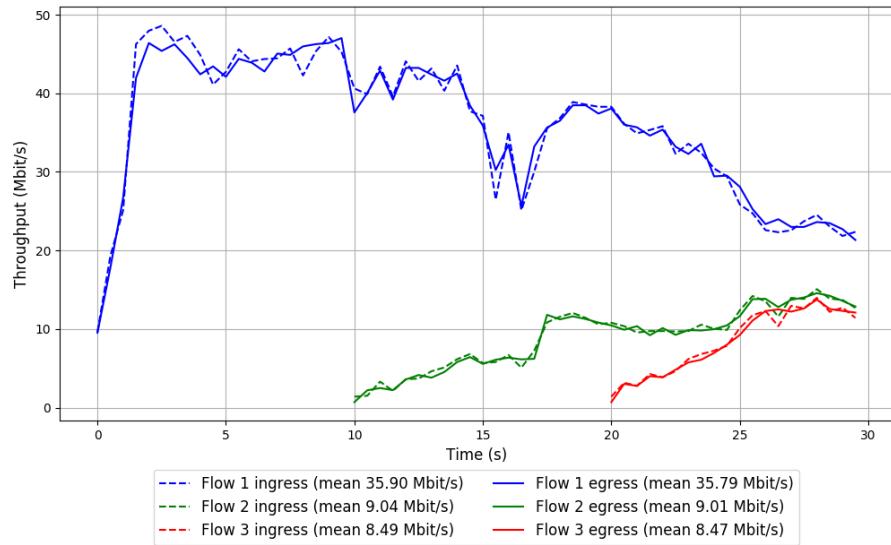


Run 2: Statistics of TCP Cubic

```
Start at: 2018-01-18 13:09:04
End at: 2018-01-18 13:09:34
Local clock offset: 1.258 ms
Remote clock offset: -2.305 ms

# Below is generated by plot.py at 2018-01-18 13:34:24
# Datalink statistics
-- Total of 3 flows:
Average throughput: 44.54 Mbit/s
95th percentile per-packet one-way delay: 174.702 ms
Loss rate: 0.44%
-- Flow 1:
Average throughput: 35.79 Mbit/s
95th percentile per-packet one-way delay: 176.874 ms
Loss rate: 0.32%
-- Flow 2:
Average throughput: 9.01 Mbit/s
95th percentile per-packet one-way delay: 161.968 ms
Loss rate: 0.76%
-- Flow 3:
Average throughput: 8.47 Mbit/s
95th percentile per-packet one-way delay: 151.710 ms
Loss rate: 1.20%
```

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

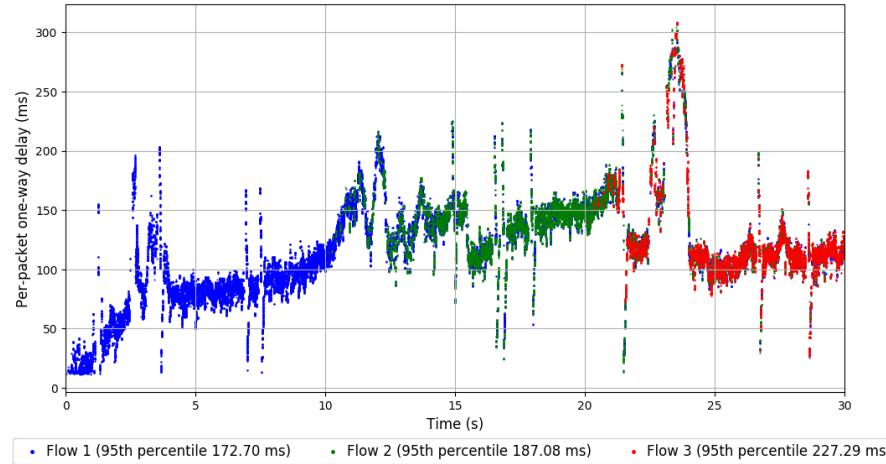
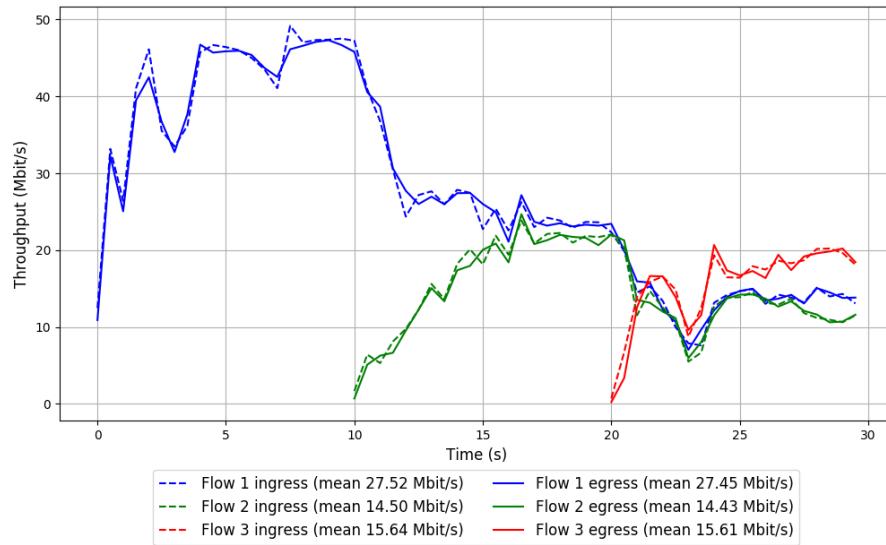


Run 3: Statistics of TCP Cubic

```
Start at: 2018-01-18 13:30:39
End at: 2018-01-18 13:31:09
Local clock offset: 1.395 ms
Remote clock offset: -2.206 ms

# Below is generated by plot.py at 2018-01-18 13:34:24
# Datalink statistics
-- Total of 3 flows:
Average throughput: 42.12 Mbit/s
95th percentile per-packet one-way delay: 178.842 ms
Loss rate: 0.56%
-- Flow 1:
Average throughput: 27.45 Mbit/s
95th percentile per-packet one-way delay: 172.702 ms
Loss rate: 0.27%
-- Flow 2:
Average throughput: 14.43 Mbit/s
95th percentile per-packet one-way delay: 187.077 ms
Loss rate: 0.95%
-- Flow 3:
Average throughput: 15.61 Mbit/s
95th percentile per-packet one-way delay: 227.291 ms
Loss rate: 1.40%
```

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

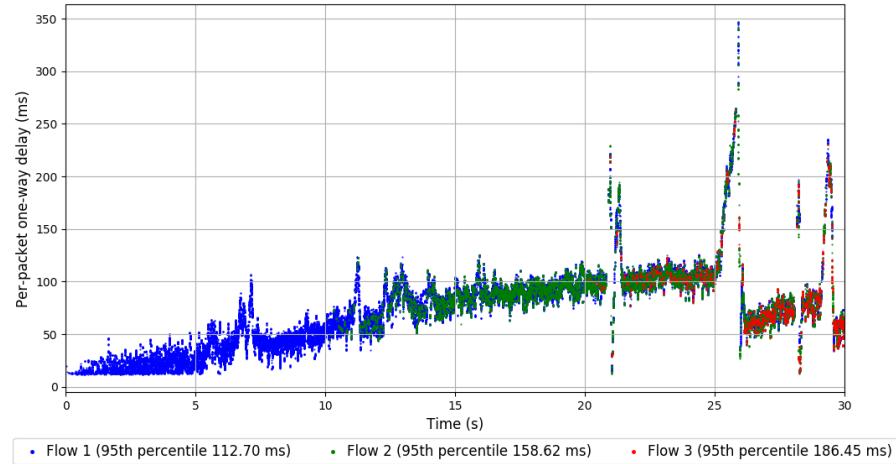
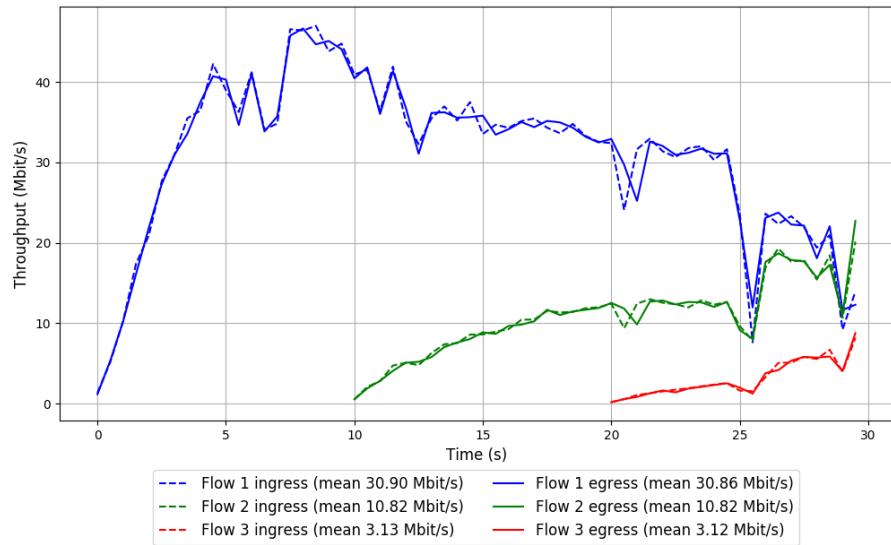


```
Run 1: Statistics of LEDBAT
```

```
Start at: 2018-01-18 12:45:01
End at: 2018-01-18 12:45:31
Local clock offset: 1.449 ms
Remote clock offset: -2.499 ms

# Below is generated by plot.py at 2018-01-18 13:34:24
# Datalink statistics
-- Total of 3 flows:
Average throughput: 39.08 Mbit/s
95th percentile per-packet one-way delay: 115.259 ms
Loss rate: 0.15%
-- Flow 1:
Average throughput: 30.86 Mbit/s
95th percentile per-packet one-way delay: 112.704 ms
Loss rate: 0.12%
-- Flow 2:
Average throughput: 10.82 Mbit/s
95th percentile per-packet one-way delay: 158.615 ms
Loss rate: 0.16%
-- Flow 3:
Average throughput: 3.12 Mbit/s
95th percentile per-packet one-way delay: 186.446 ms
Loss rate: 1.13%
```

Run 1: Report of LEDBAT — Data Link

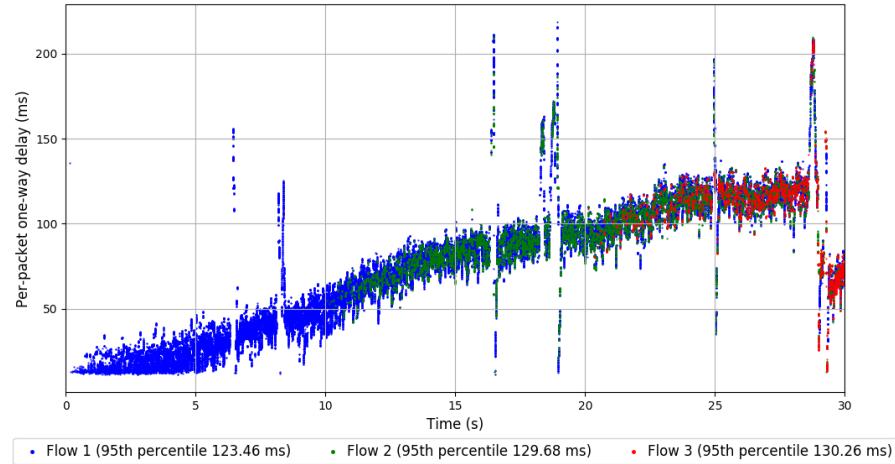
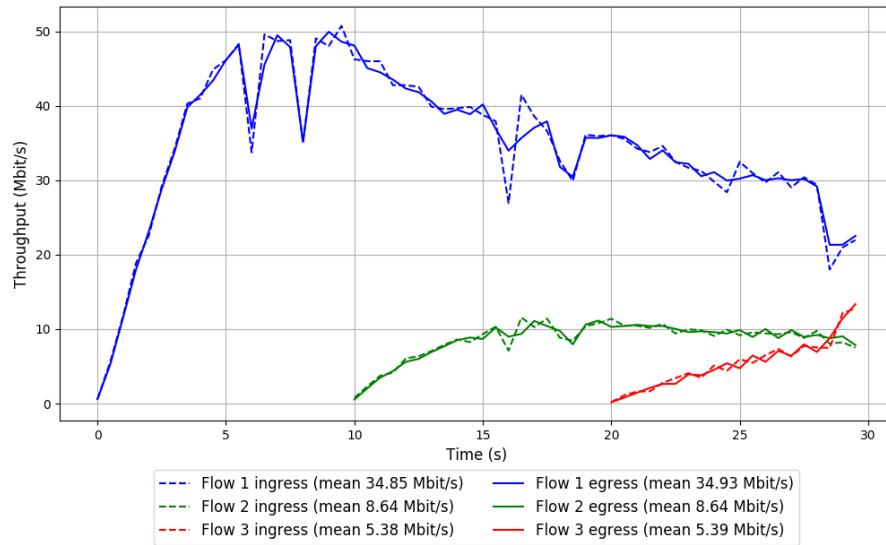


Run 2: Statistics of LEDBAT

```
Start at: 2018-01-18 13:06:40
End at: 2018-01-18 13:07:10
Local clock offset: 1.149 ms
Remote clock offset: -2.365 ms

# Below is generated by plot.py at 2018-01-18 13:34:24
# Datalink statistics
-- Total of 3 flows:
Average throughput: 42.47 Mbit/s
95th percentile per-packet one-way delay: 124.836 ms
Loss rate: 0.18%
-- Flow 1:
Average throughput: 34.93 Mbit/s
95th percentile per-packet one-way delay: 123.461 ms
Loss rate: 0.16%
-- Flow 2:
Average throughput: 8.64 Mbit/s
95th percentile per-packet one-way delay: 129.676 ms
Loss rate: 0.14%
-- Flow 3:
Average throughput: 5.39 Mbit/s
95th percentile per-packet one-way delay: 130.265 ms
Loss rate: 0.77%
```

## Run 2: Report of LEDBAT — Data Link

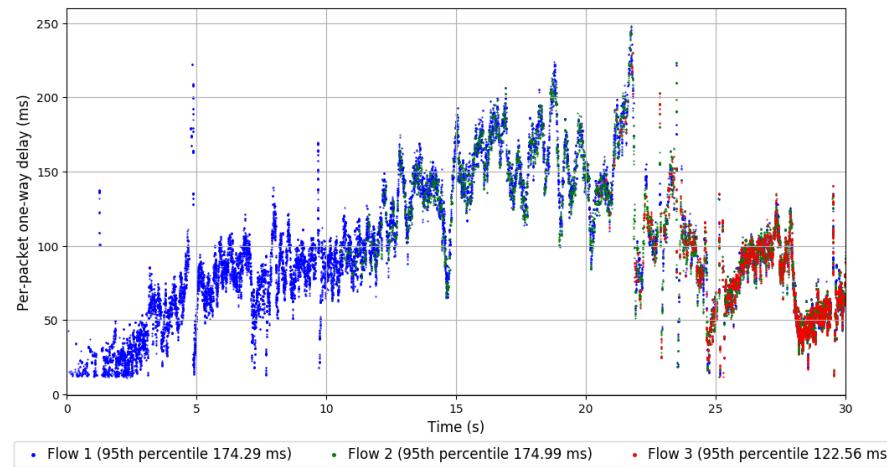
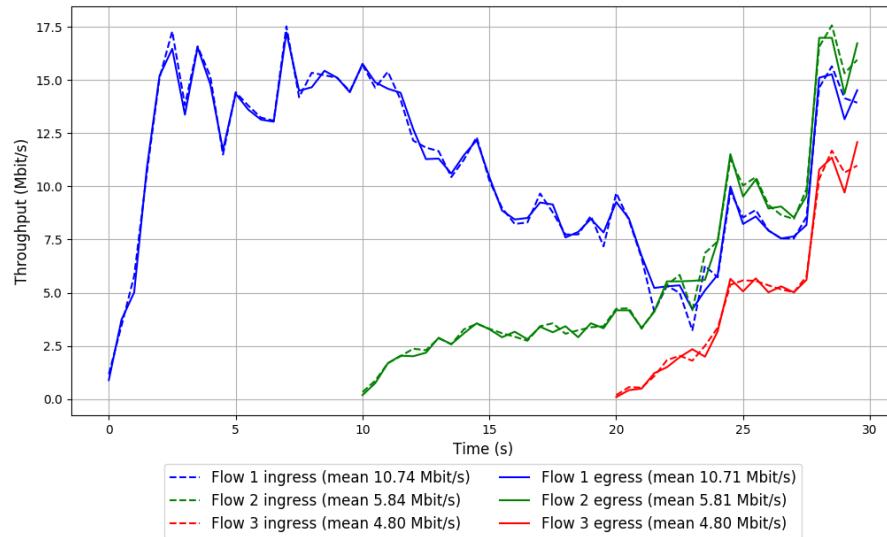


Run 3: Statistics of LEDBAT

```
Start at: 2018-01-18 13:28:15
End at: 2018-01-18 13:28:45
Local clock offset: 1.301 ms
Remote clock offset: -2.189 ms

# Below is generated by plot.py at 2018-01-18 13:34:38
# Datalink statistics
-- Total of 3 flows:
Average throughput: 16.14 Mbit/s
95th percentile per-packet one-way delay: 172.980 ms
Loss rate: 0.50%
-- Flow 1:
Average throughput: 10.71 Mbit/s
95th percentile per-packet one-way delay: 174.294 ms
Loss rate: 0.31%
-- Flow 2:
Average throughput: 5.81 Mbit/s
95th percentile per-packet one-way delay: 174.989 ms
Loss rate: 0.87%
-- Flow 3:
Average throughput: 4.80 Mbit/s
95th percentile per-packet one-way delay: 122.565 ms
Loss rate: 0.91%
```

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

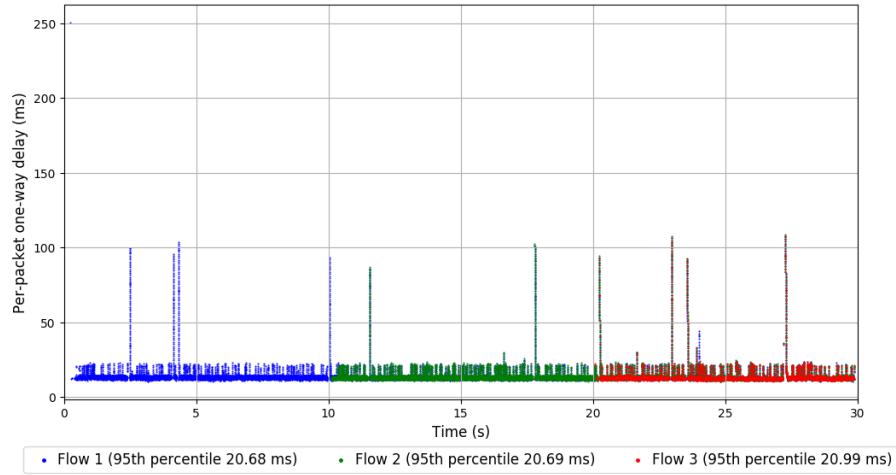
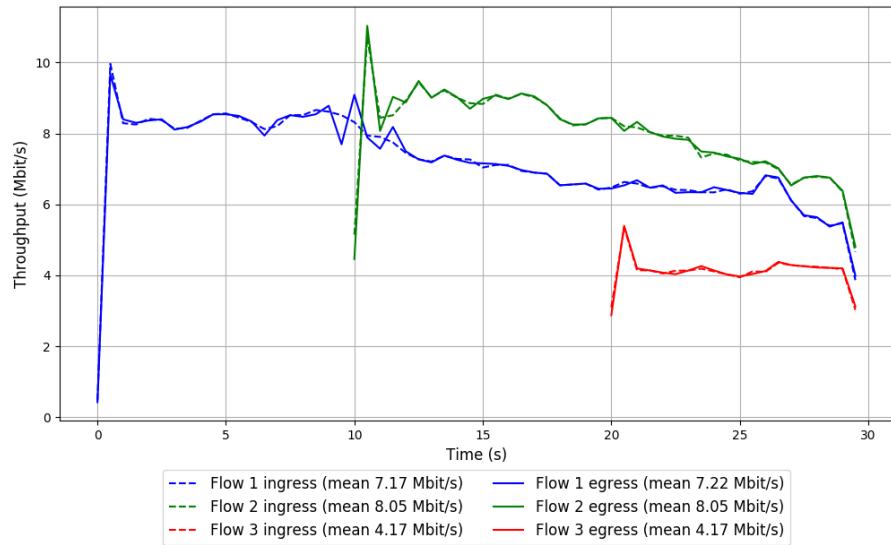


```
Run 1: Statistics of PCC

Start at: 2018-01-18 12:31:47
End at: 2018-01-18 12:32:17
Local clock offset: 1.713 ms
Remote clock offset: -2.366 ms

# Below is generated by plot.py at 2018-01-18 13:34:39
# Datalink statistics
-- Total of 3 flows:
Average throughput: 14.00 Mbit/s
95th percentile per-packet one-way delay: 20.724 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 7.22 Mbit/s
95th percentile per-packet one-way delay: 20.682 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 8.05 Mbit/s
95th percentile per-packet one-way delay: 20.686 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 4.17 Mbit/s
95th percentile per-packet one-way delay: 20.992 ms
Loss rate: 0.00%
```

## Run 1: Report of PCC — Data Link

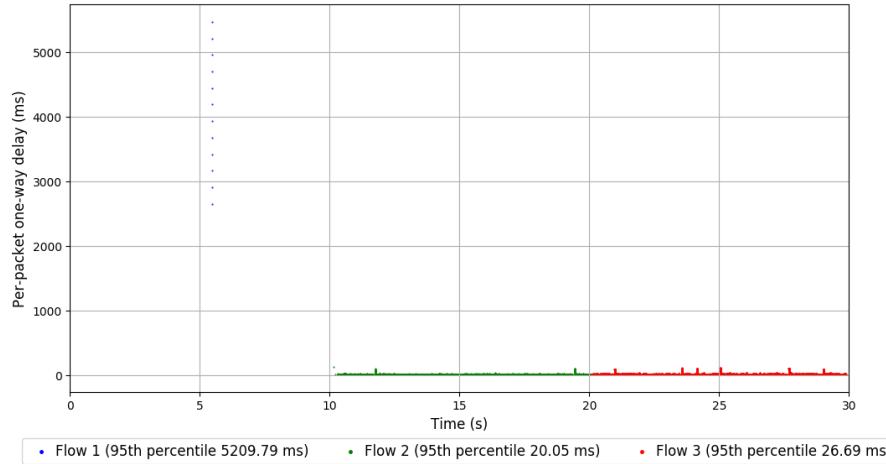
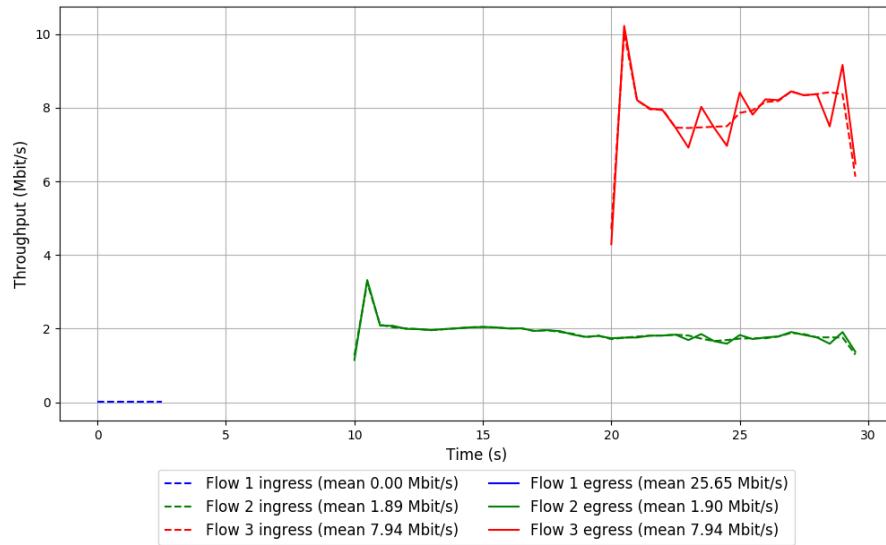


Run 2: Statistics of PCC

```
Start at: 2018-01-18 12:53:25
End at: 2018-01-18 12:53:55
Local clock offset: 1.38 ms
Remote clock offset: -2.487 ms

# Below is generated by plot.py at 2018-01-18 13:34:39
# Datalink statistics
-- Total of 3 flows:
Average throughput: 4.74 Mbit/s
95th percentile per-packet one-way delay: 22.167 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 25.65 Mbit/s
95th percentile per-packet one-way delay: 5209.788 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 1.90 Mbit/s
95th percentile per-packet one-way delay: 20.054 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 7.94 Mbit/s
95th percentile per-packet one-way delay: 26.693 ms
Loss rate: 0.00%
```

## Run 2: Report of PCC — Data Link

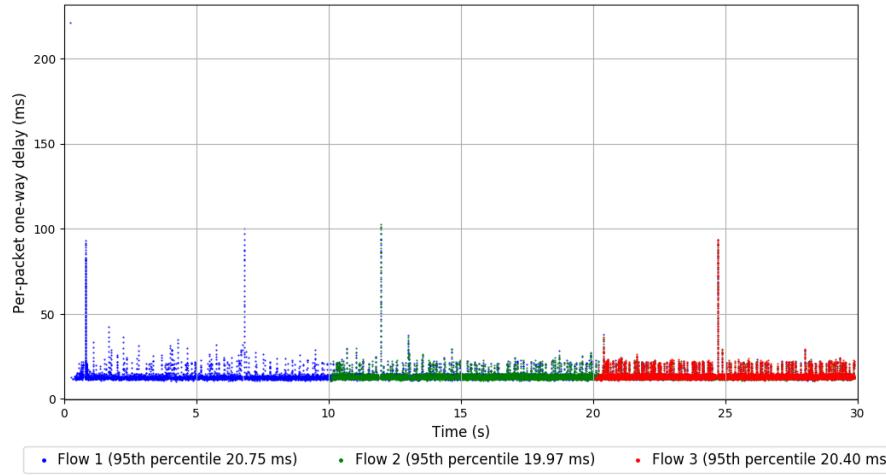
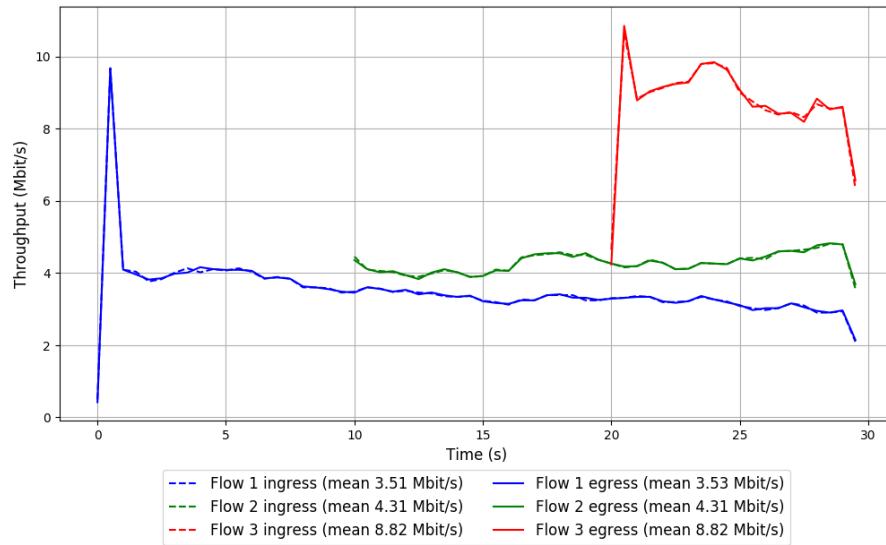


Run 3: Statistics of PCC

```
Start at: 2018-01-18 13:15:05
End at: 2018-01-18 13:15:35
Local clock offset: 1.18 ms
Remote clock offset: -2.199 ms

# Below is generated by plot.py at 2018-01-18 13:34:39
# Datalink statistics
-- Total of 3 flows:
Average throughput: 9.35 Mbit/s
95th percentile per-packet one-way delay: 20.428 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 3.53 Mbit/s
95th percentile per-packet one-way delay: 20.755 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 4.31 Mbit/s
95th percentile per-packet one-way delay: 19.967 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 8.82 Mbit/s
95th percentile per-packet one-way delay: 20.397 ms
Loss rate: 0.00%
```

### Run 3: Report of PCC — Data Link

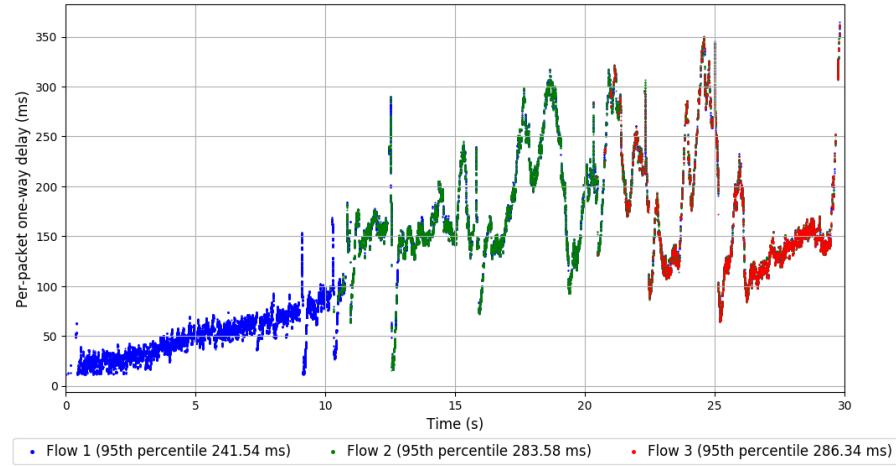
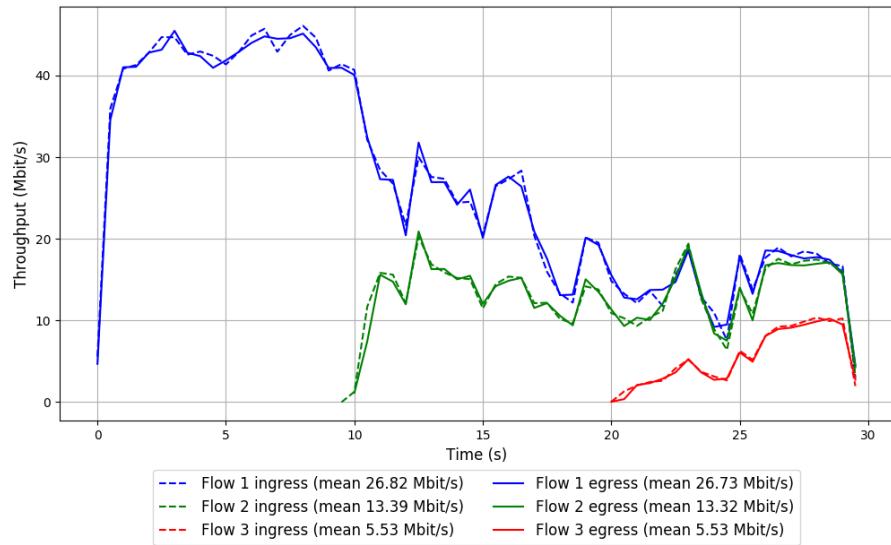


```
Run 1: Statistics of QUIC Cubic

Start at: 2018-01-18 12:41:23
End at: 2018-01-18 12:41:53
Local clock offset: 1.495 ms
Remote clock offset: -2.527 ms

# Below is generated by plot.py at 2018-01-18 13:35:06
# Datalink statistics
-- Total of 3 flows:
Average throughput: 37.31 Mbit/s
95th percentile per-packet one-way delay: 255.630 ms
Loss rate: 0.57%
-- Flow 1:
Average throughput: 26.73 Mbit/s
95th percentile per-packet one-way delay: 241.539 ms
Loss rate: 0.31%
-- Flow 2:
Average throughput: 13.32 Mbit/s
95th percentile per-packet one-way delay: 283.582 ms
Loss rate: 0.93%
-- Flow 3:
Average throughput: 5.53 Mbit/s
95th percentile per-packet one-way delay: 286.342 ms
Loss rate: 2.75%
```

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

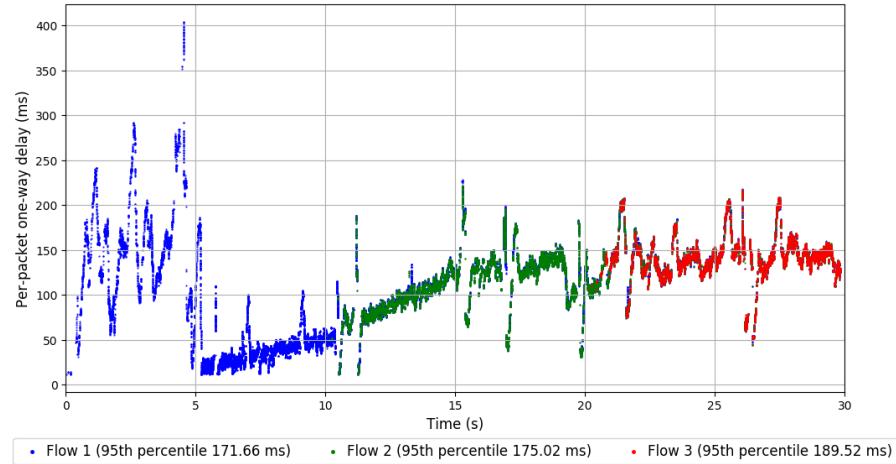
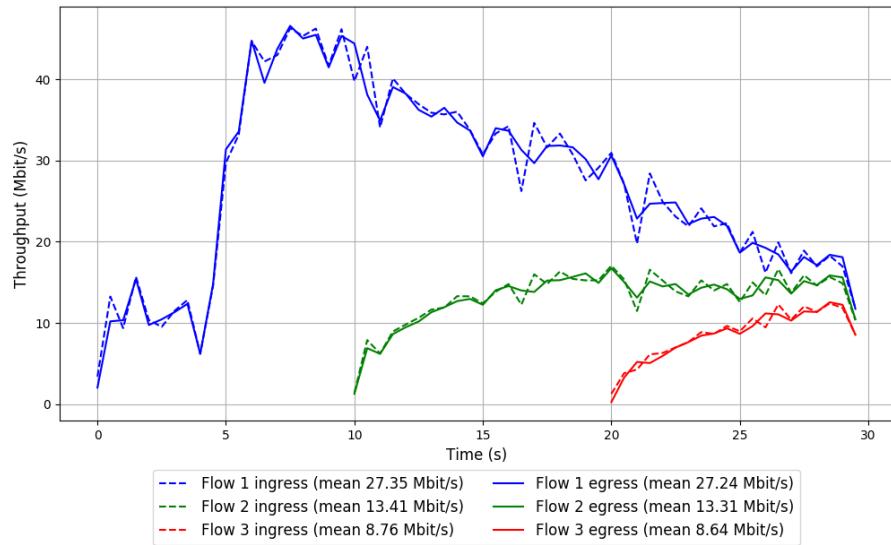


Run 2: Statistics of QUIC Cubic

```
Start at: 2018-01-18 13:03:00
End at: 2018-01-18 13:03:30
Local clock offset: 1.137 ms
Remote clock offset: -2.381 ms

# Below is generated by plot.py at 2018-01-18 13:35:09
# Datalink statistics
-- Total of 3 flows:
Average throughput: 38.87 Mbit/s
95th percentile per-packet one-way delay: 173.537 ms
Loss rate: 0.65%
-- Flow 1:
Average throughput: 27.24 Mbit/s
95th percentile per-packet one-way delay: 171.664 ms
Loss rate: 0.40%
-- Flow 2:
Average throughput: 13.31 Mbit/s
95th percentile per-packet one-way delay: 175.018 ms
Loss rate: 0.93%
-- Flow 3:
Average throughput: 8.64 Mbit/s
95th percentile per-packet one-way delay: 189.524 ms
Loss rate: 2.19%
```

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

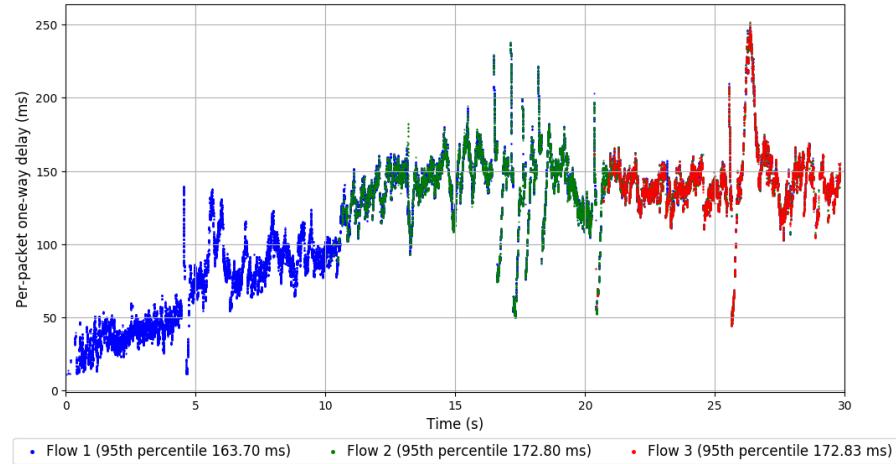
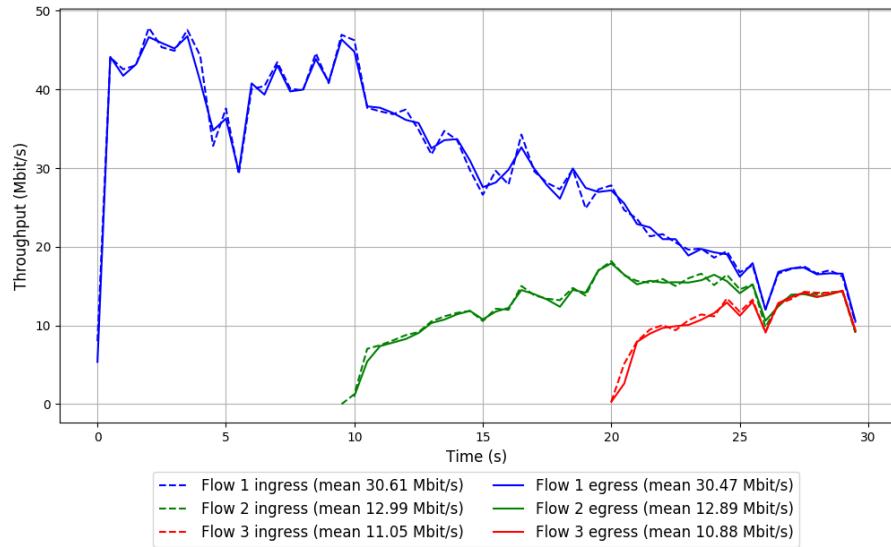


Run 3: Statistics of QUIC Cubic

```
Start at: 2018-01-18 13:24:40
End at: 2018-01-18 13:25:10
Local clock offset: 1.356 ms
Remote clock offset: -2.139 ms

# Below is generated by plot.py at 2018-01-18 13:35:14
# Datalink statistics
-- Total of 3 flows:
Average throughput: 42.52 Mbit/s
95th percentile per-packet one-way delay: 166.438 ms
Loss rate: 0.77%
-- Flow 1:
Average throughput: 30.47 Mbit/s
95th percentile per-packet one-way delay: 163.698 ms
Loss rate: 0.45%
-- Flow 2:
Average throughput: 12.89 Mbit/s
95th percentile per-packet one-way delay: 172.803 ms
Loss rate: 1.21%
-- Flow 3:
Average throughput: 10.88 Mbit/s
95th percentile per-packet one-way delay: 172.827 ms
Loss rate: 2.39%
```

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

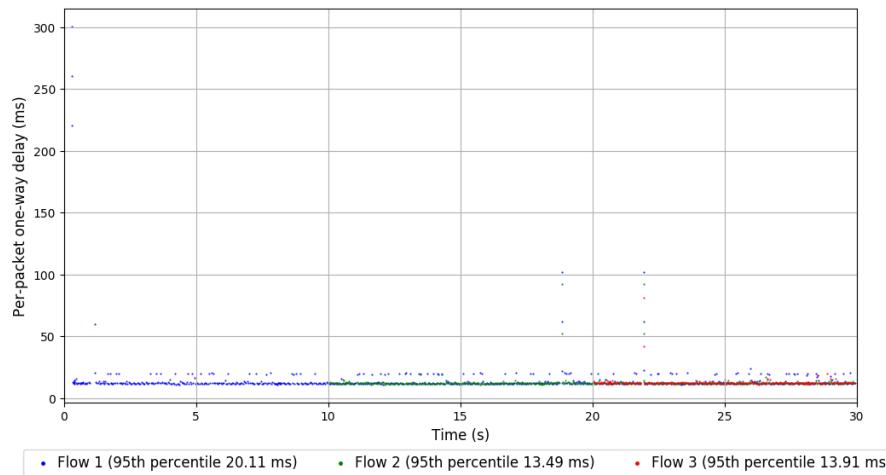
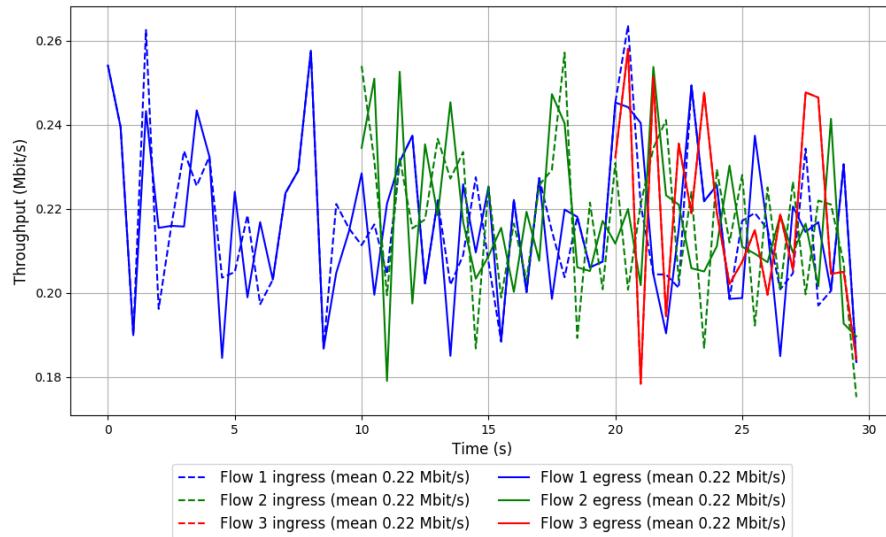


```
Run 1: Statistics of SCReAM
```

```
Start at: 2018-01-18 12:40:12
End at: 2018-01-18 12:40:42
Local clock offset: 1.576 ms
Remote clock offset: -2.537 ms

# Below is generated by plot.py at 2018-01-18 13:35:14
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 19.868 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 20.110 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 13.495 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 13.915 ms
Loss rate: 0.00%
```

Run 1: Report of SCReAM — Data Link

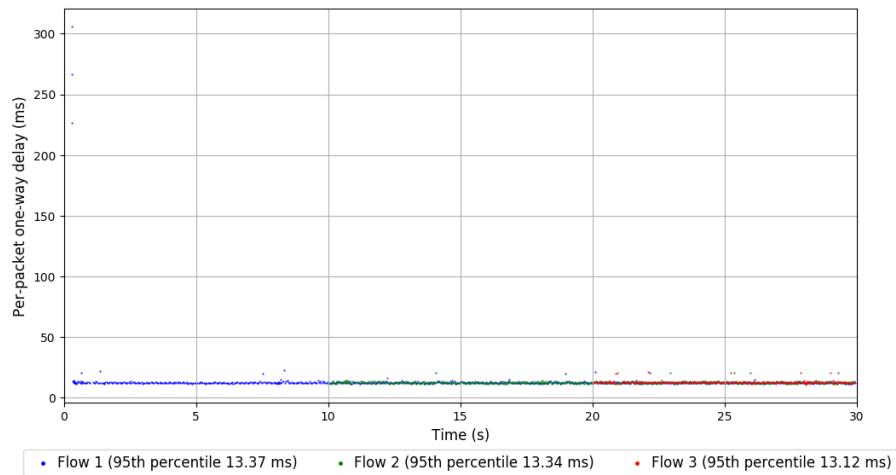
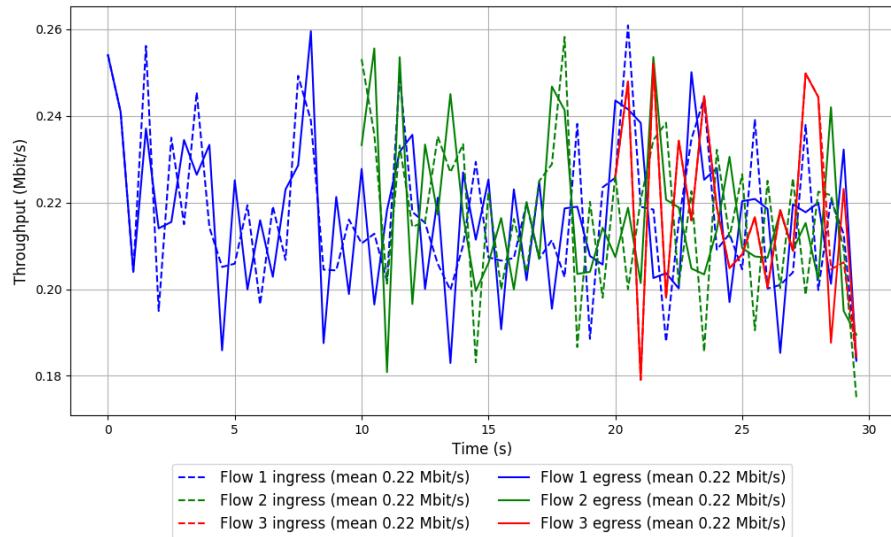


Run 2: Statistics of SCReAM

```
Start at: 2018-01-18 13:01:50
End at: 2018-01-18 13:02:20
Local clock offset: 1.275 ms
Remote clock offset: -2.351 ms

# Below is generated by plot.py at 2018-01-18 13:35:14
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 13.341 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 13.371 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 13.336 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 13.116 ms
Loss rate: 0.00%
```

## Run 2: Report of SCReAM — Data Link

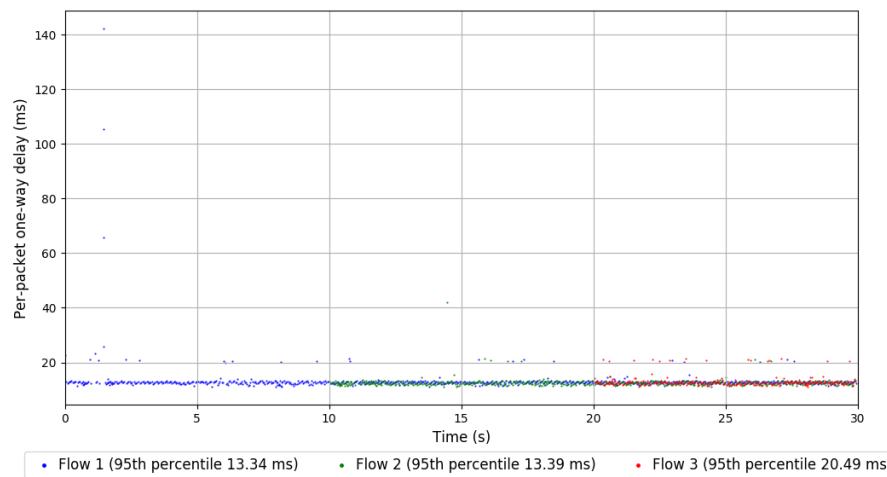
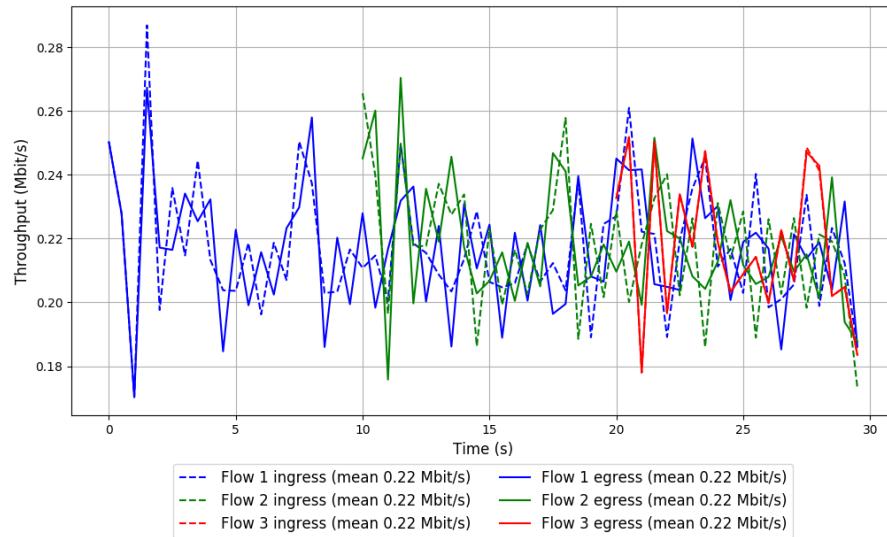


Run 3: Statistics of SCReAM

```
Start at: 2018-01-18 13:23:29
End at: 2018-01-18 13:23:59
Local clock offset: 1.317 ms
Remote clock offset: -2.175 ms

# Below is generated by plot.py at 2018-01-18 13:35:14
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 13.844 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 13.339 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 13.386 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 20.490 ms
Loss rate: 0.00%
```

Run 3: Report of SCReAM — Data Link

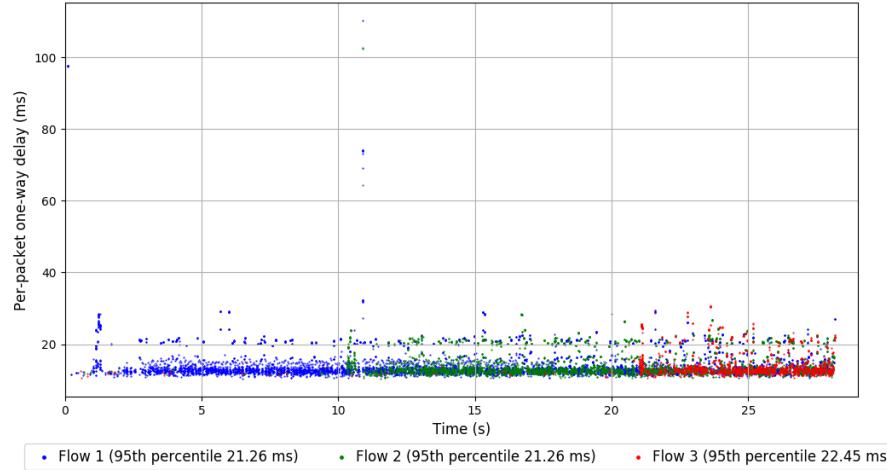
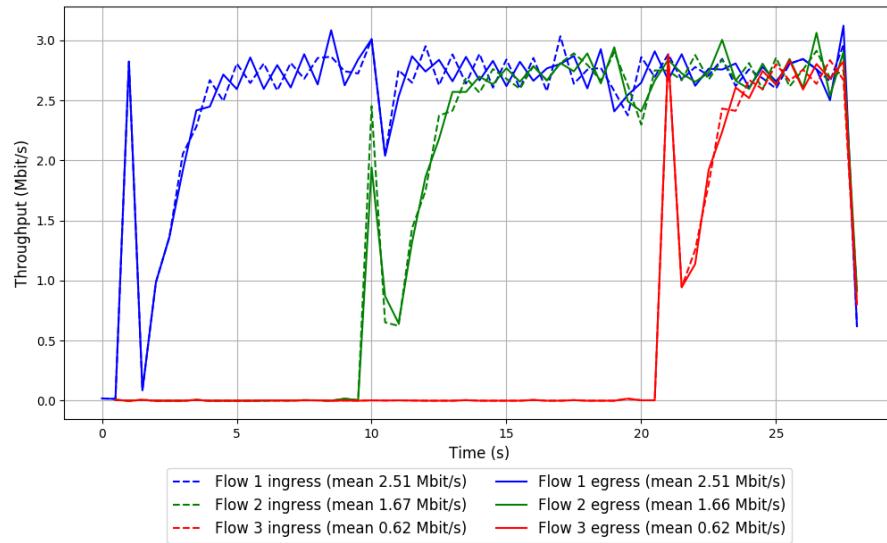


```
Run 1: Statistics of WebRTC media

Start at: 2018-01-18 12:37:49
End at: 2018-01-18 12:38:19
Local clock offset: 1.526 ms
Remote clock offset: -2.515 ms

# Below is generated by plot.py at 2018-01-18 13:35:14
# Datalink statistics
-- Total of 3 flows:
Average throughput: 4.75 Mbit/s
95th percentile per-packet one-way delay: 21.325 ms
Loss rate: 0.10%
-- Flow 1:
Average throughput: 2.51 Mbit/s
95th percentile per-packet one-way delay: 21.256 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 1.66 Mbit/s
95th percentile per-packet one-way delay: 21.258 ms
Loss rate: 0.29%
-- Flow 3:
Average throughput: 0.62 Mbit/s
95th percentile per-packet one-way delay: 22.447 ms
Loss rate: 0.00%
```

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

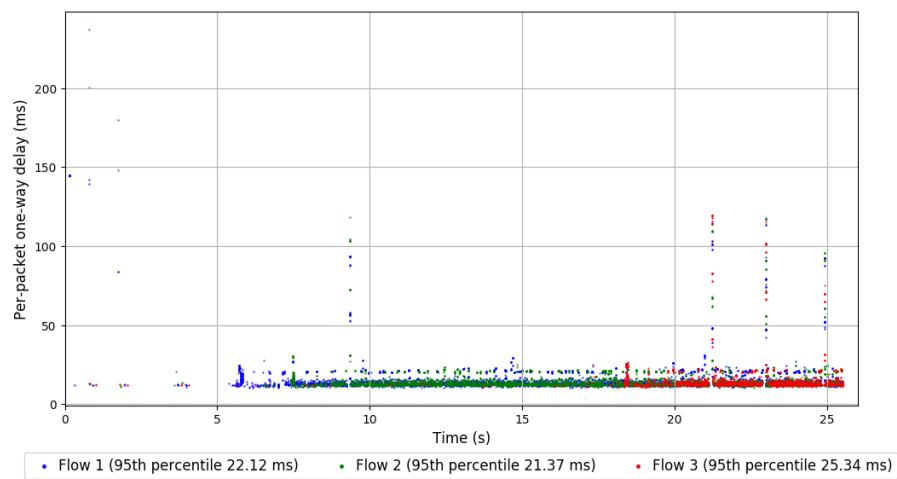
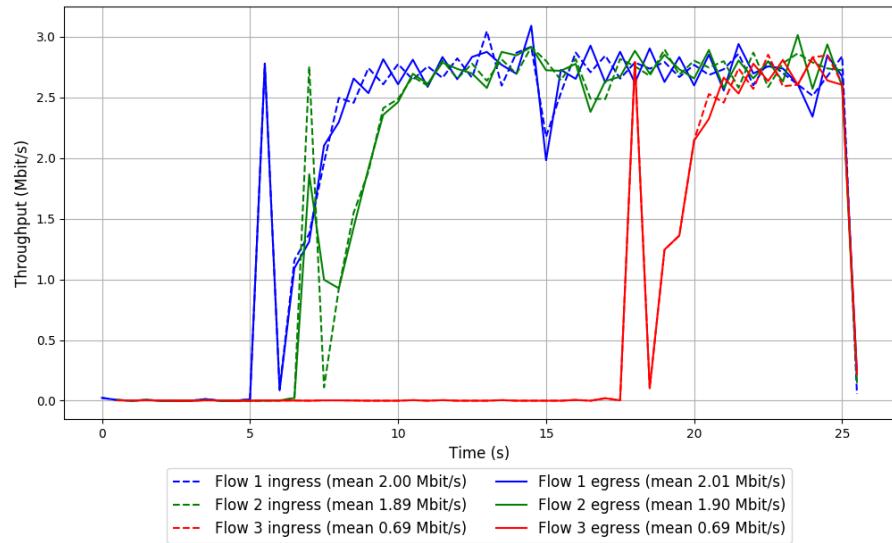


Run 2: Statistics of WebRTC media

```
Start at: 2018-01-18 12:59:27
End at: 2018-01-18 12:59:57
Local clock offset: 1.324 ms
Remote clock offset: -2.289 ms

# Below is generated by plot.py at 2018-01-18 13:35:14
# Datalink statistics
-- Total of 3 flows:
Average throughput: 4.54 Mbit/s
95th percentile per-packet one-way delay: 21.948 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 2.01 Mbit/s
95th percentile per-packet one-way delay: 22.118 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 1.90 Mbit/s
95th percentile per-packet one-way delay: 21.374 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.69 Mbit/s
95th percentile per-packet one-way delay: 25.340 ms
Loss rate: 0.00%
```

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

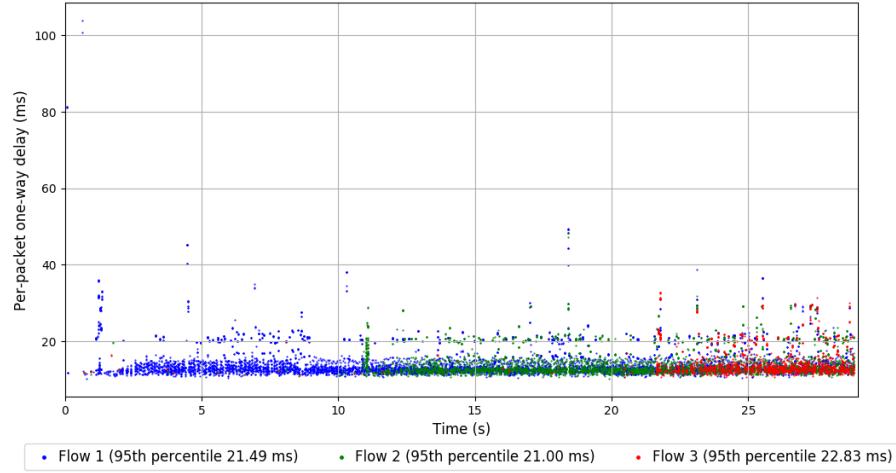
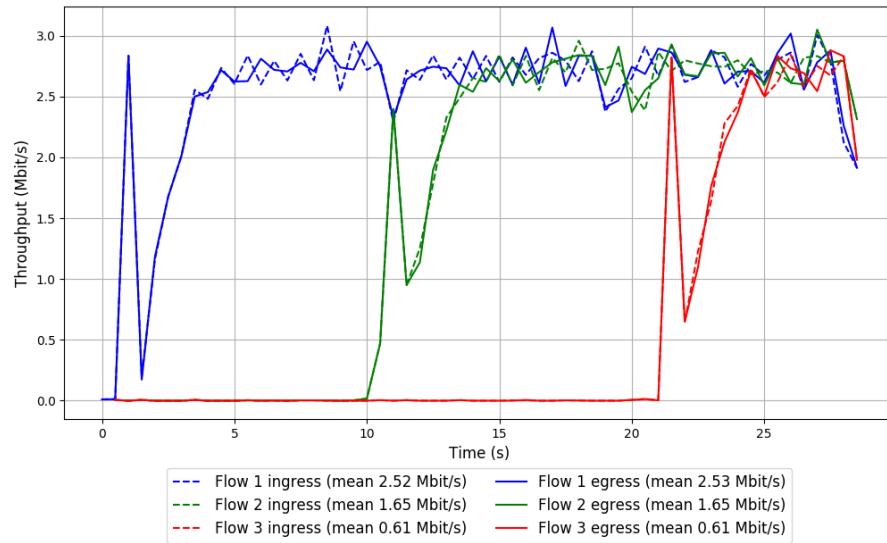


```
Run 3: Statistics of WebRTC media

Start at: 2018-01-18 13:21:07
End at: 2018-01-18 13:21:37
Local clock offset: 1.322 ms
Remote clock offset: -2.233 ms

# Below is generated by plot.py at 2018-01-18 13:35:14
# Datalink statistics
-- Total of 3 flows:
Average throughput: 4.74 Mbit/s
95th percentile per-packet one-way delay: 21.505 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 2.53 Mbit/s
95th percentile per-packet one-way delay: 21.494 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 1.65 Mbit/s
95th percentile per-packet one-way delay: 20.996 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.61 Mbit/s
95th percentile per-packet one-way delay: 22.831 ms
Loss rate: 0.00%
```

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

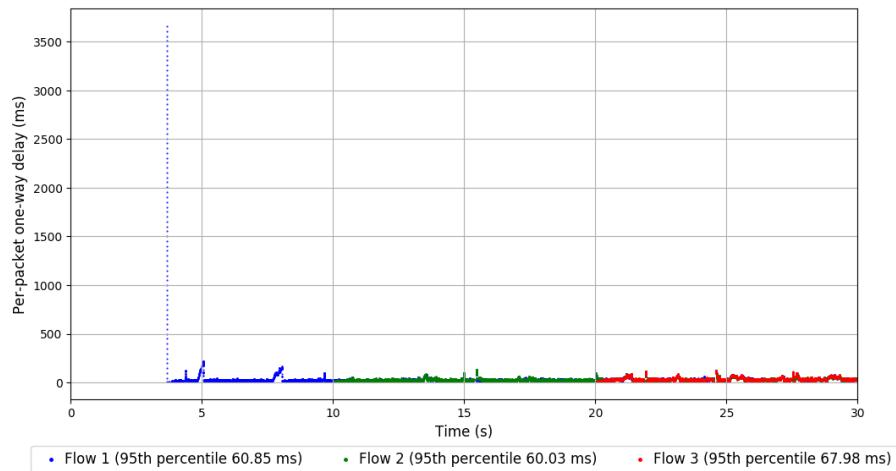
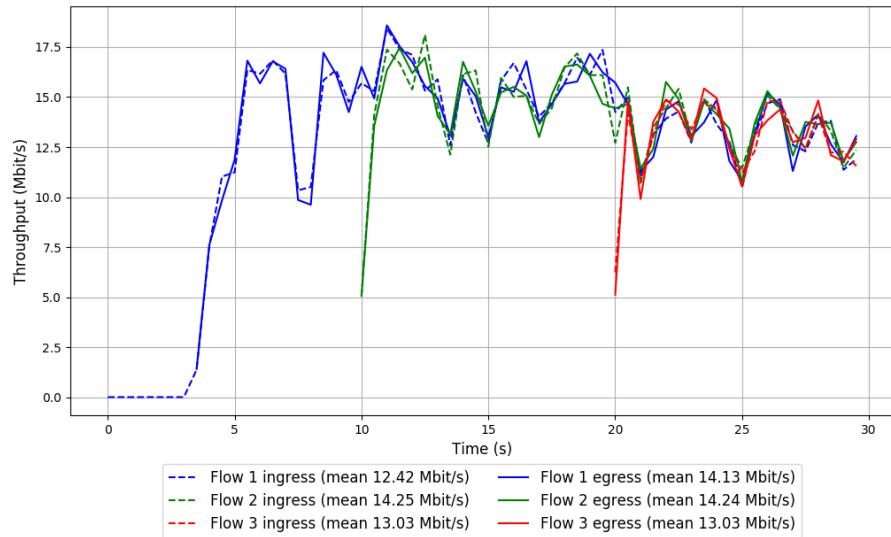


Run 1: Statistics of Sprout

```
Start at: 2018-01-18 12:43:50
End at: 2018-01-18 12:44:20
Local clock offset: 1.56 ms
Remote clock offset: -2.516 ms

# Below is generated by plot.py at 2018-01-18 13:35:14
# Datalink statistics
-- Total of 3 flows:
Average throughput: 29.82 Mbit/s
95th percentile per-packet one-way delay: 62.042 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 14.13 Mbit/s
95th percentile per-packet one-way delay: 60.846 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 14.24 Mbit/s
95th percentile per-packet one-way delay: 60.032 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 13.03 Mbit/s
95th percentile per-packet one-way delay: 67.981 ms
Loss rate: 0.07%
```

## Run 1: Report of Sprout — Data Link

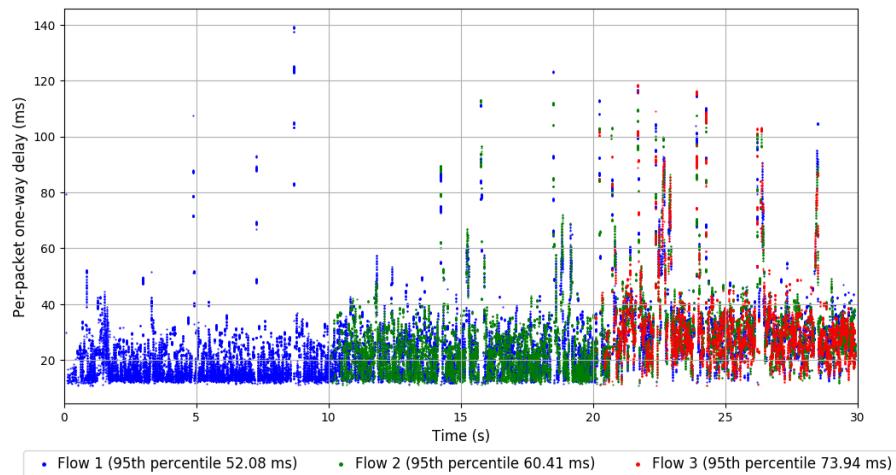
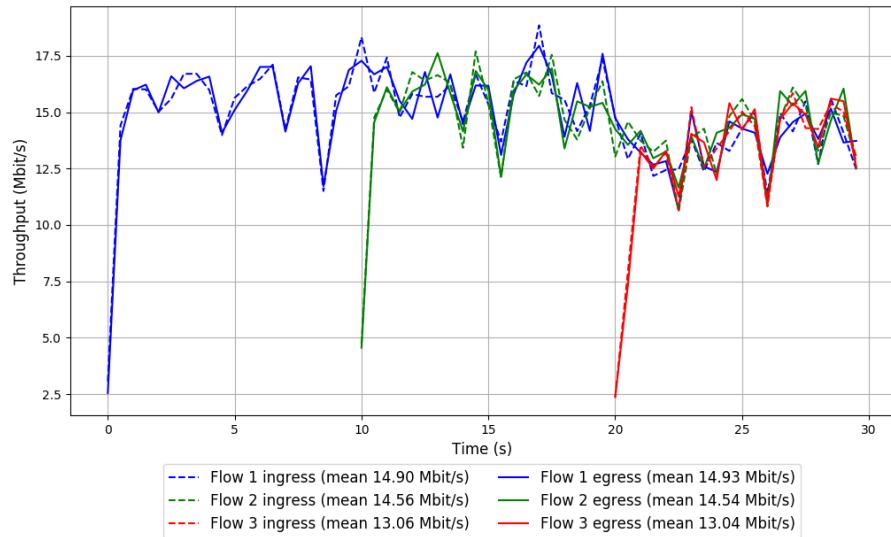


Run 2: Statistics of Sprout

```
Start at: 2018-01-18 13:05:27
End at: 2018-01-18 13:05:57
Local clock offset: 1.261 ms
Remote clock offset: -2.386 ms

# Below is generated by plot.py at 2018-01-18 13:35:14
# Datalink statistics
-- Total of 3 flows:
Average throughput: 28.94 Mbit/s
95th percentile per-packet one-way delay: 57.585 ms
Loss rate: 0.09%
-- Flow 1:
Average throughput: 14.93 Mbit/s
95th percentile per-packet one-way delay: 52.082 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 14.54 Mbit/s
95th percentile per-packet one-way delay: 60.412 ms
Loss rate: 0.12%
-- Flow 3:
Average throughput: 13.04 Mbit/s
95th percentile per-packet one-way delay: 73.942 ms
Loss rate: 0.32%
```

## Run 2: Report of Sprout — Data Link

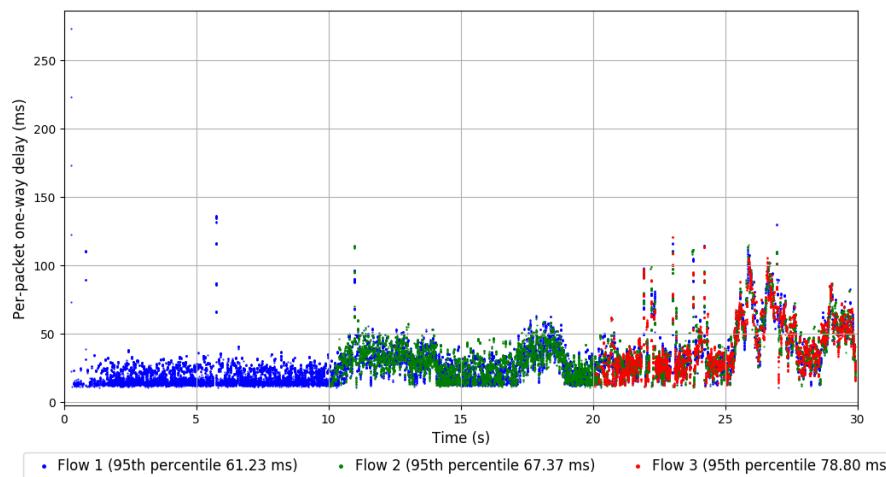
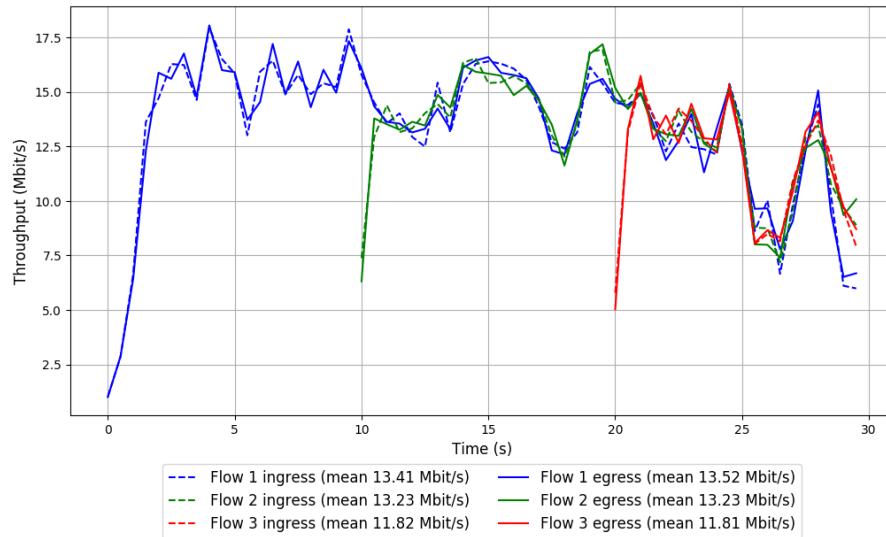


Run 3: Statistics of Sprout

```
Start at: 2018-01-18 13:27:04
End at: 2018-01-18 13:27:34
Local clock offset: 1.298 ms
Remote clock offset: -2.186 ms

# Below is generated by plot.py at 2018-01-18 13:35:14
# Datalink statistics
-- Total of 3 flows:
Average throughput: 26.34 Mbit/s
95th percentile per-packet one-way delay: 68.129 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 13.52 Mbit/s
95th percentile per-packet one-way delay: 61.235 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 13.23 Mbit/s
95th percentile per-packet one-way delay: 67.372 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 11.81 Mbit/s
95th percentile per-packet one-way delay: 78.803 ms
Loss rate: 0.00%
```

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

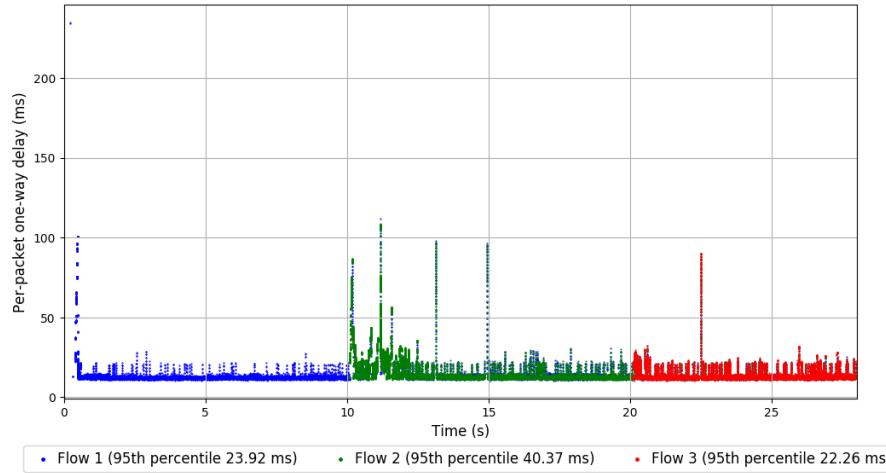
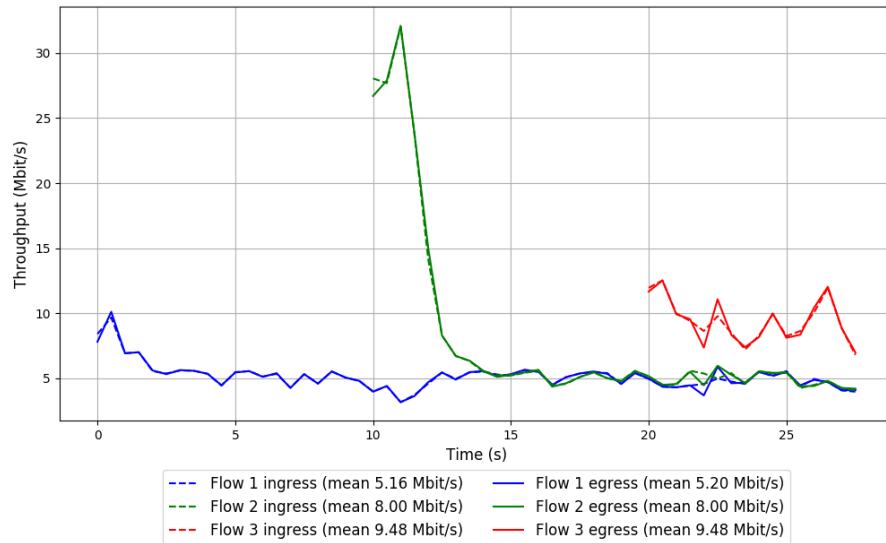


Run 1: Statistics of TaoVA-100x

```
Start at: 2018-01-18 12:34:12
End at: 2018-01-18 12:34:42
Local clock offset: 1.657 ms
Remote clock offset: -2.344 ms

# Below is generated by plot.py at 2018-01-18 13:35:14
# Datalink statistics
-- Total of 3 flows:
Average throughput: 13.09 Mbit/s
95th percentile per-packet one-way delay: 29.846 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 5.20 Mbit/s
95th percentile per-packet one-way delay: 23.924 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 8.00 Mbit/s
95th percentile per-packet one-way delay: 40.370 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 9.48 Mbit/s
95th percentile per-packet one-way delay: 22.262 ms
Loss rate: 0.00%
```

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

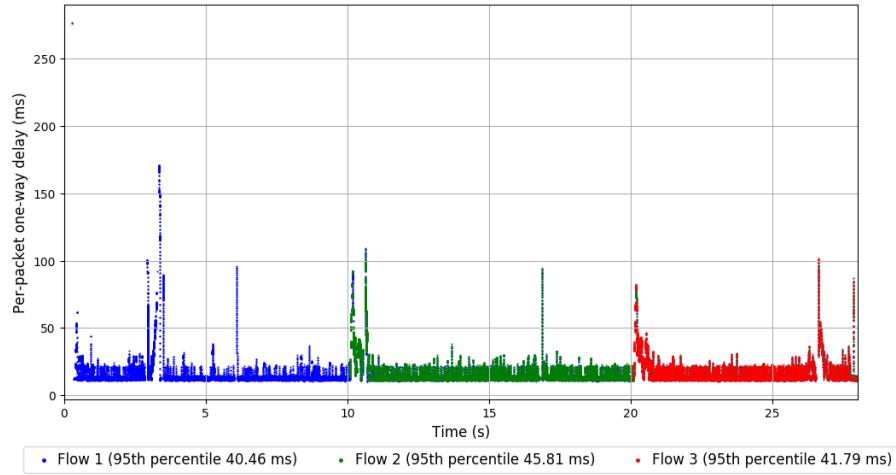
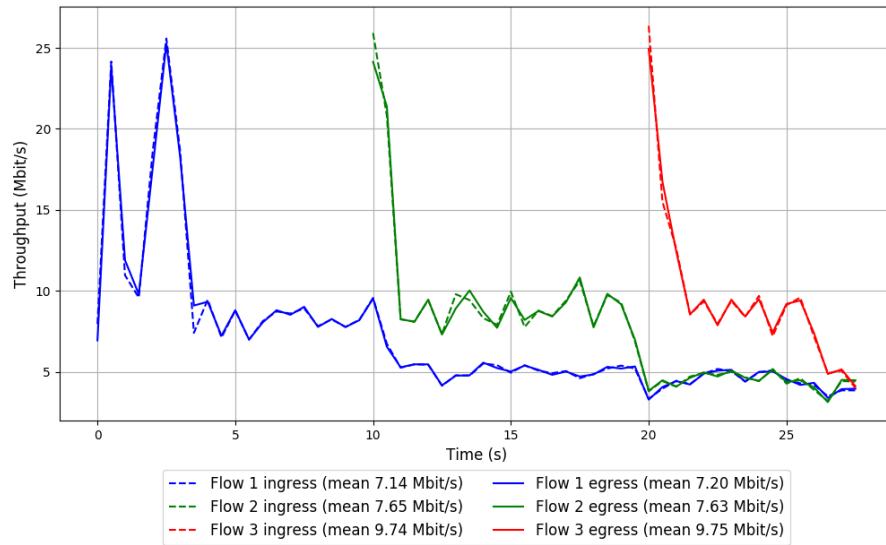


Run 2: Statistics of TaoVA-100x

```
Start at: 2018-01-18 12:55:50
End at: 2018-01-18 12:56:20
Local clock offset: 1.368 ms
Remote clock offset: -2.442 ms

# Below is generated by plot.py at 2018-01-18 13:35:14
# Datalink statistics
-- Total of 3 flows:
Average throughput: 14.95 Mbit/s
95th percentile per-packet one-way delay: 42.688 ms
Loss rate: 0.15%
-- Flow 1:
Average throughput: 7.20 Mbit/s
95th percentile per-packet one-way delay: 40.463 ms
Loss rate: 0.06%
-- Flow 2:
Average throughput: 7.63 Mbit/s
95th percentile per-packet one-way delay: 45.814 ms
Loss rate: 0.37%
-- Flow 3:
Average throughput: 9.75 Mbit/s
95th percentile per-packet one-way delay: 41.789 ms
Loss rate: 0.00%
```

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

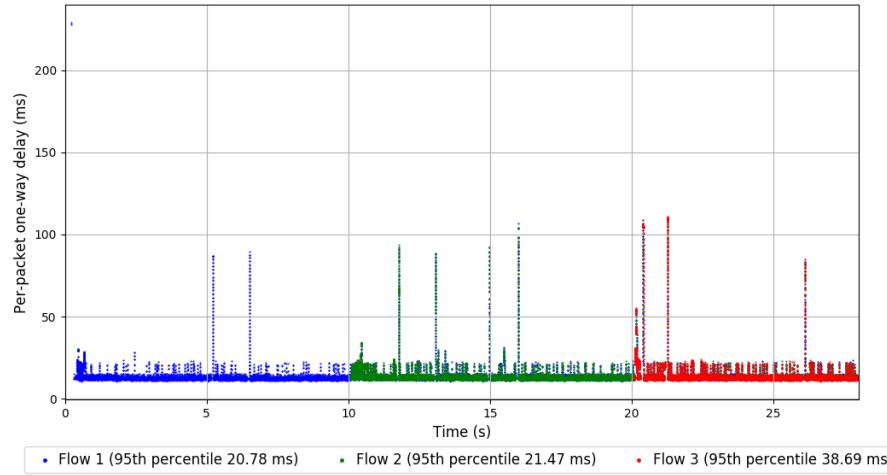
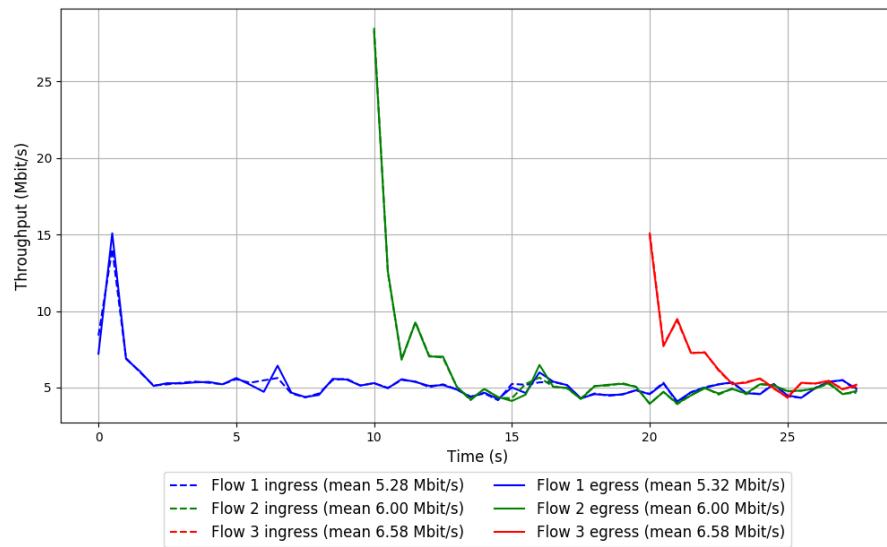


Run 3: Statistics of TaoVA-100x

```
Start at: 2018-01-18 13:17:30
End at: 2018-01-18 13:18:00
Local clock offset: 1.286 ms
Remote clock offset: -2.161 ms

# Below is generated by plot.py at 2018-01-18 13:35:21
# Datalink statistics
-- Total of 3 flows:
Average throughput: 11.08 Mbit/s
95th percentile per-packet one-way delay: 21.842 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 5.32 Mbit/s
95th percentile per-packet one-way delay: 20.781 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 6.00 Mbit/s
95th percentile per-packet one-way delay: 21.471 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 6.58 Mbit/s
95th percentile per-packet one-way delay: 38.688 ms
Loss rate: 0.00%
```

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

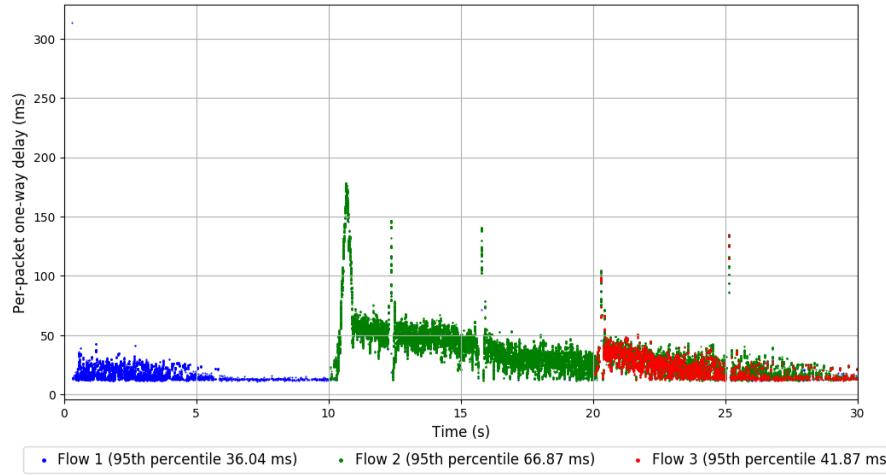
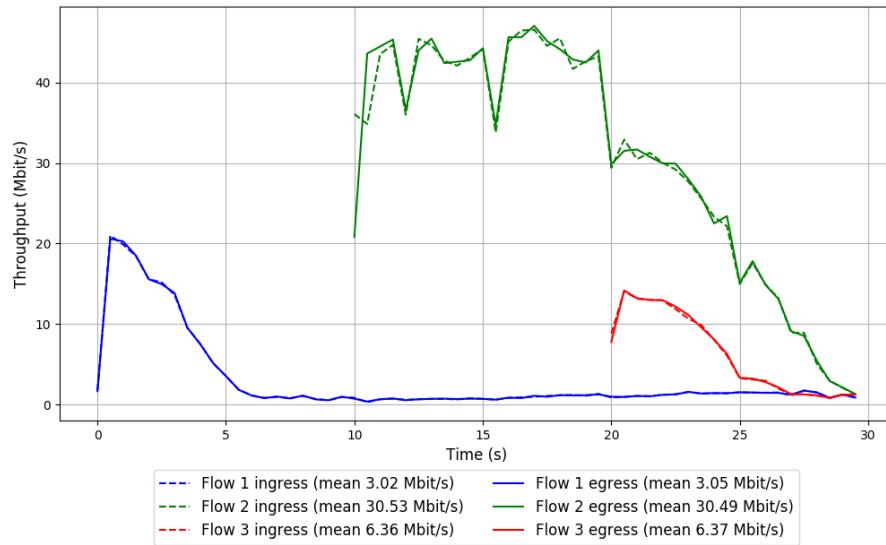


Run 1: Statistics of TCP Vegas

```
Start at: 2018-01-18 12:29:23
End at: 2018-01-18 12:29:53
Local clock offset: 1.654 ms
Remote clock offset: -2.393 ms

# Below is generated by plot.py at 2018-01-18 13:35:28
# Datalink statistics
-- Total of 3 flows:
Average throughput: 25.70 Mbit/s
95th percentile per-packet one-way delay: 62.081 ms
Loss rate: 0.07%
-- Flow 1:
Average throughput: 3.05 Mbit/s
95th percentile per-packet one-way delay: 36.036 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 30.49 Mbit/s
95th percentile per-packet one-way delay: 66.871 ms
Loss rate: 0.09%
-- Flow 3:
Average throughput: 6.37 Mbit/s
95th percentile per-packet one-way delay: 41.870 ms
Loss rate: 0.00%
```

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

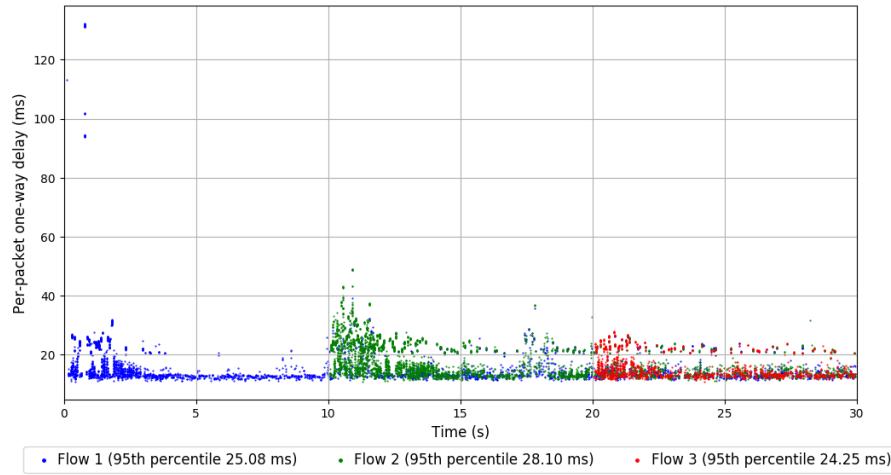
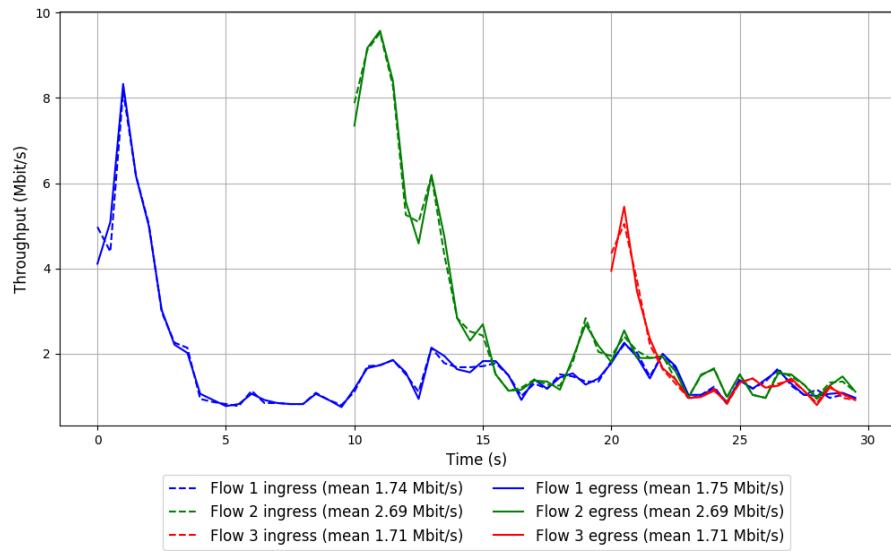


Run 2: Statistics of TCP Vegas

```
Start at: 2018-01-18 12:51:03
End at: 2018-01-18 12:51:33
Local clock offset: 1.436 ms
Remote clock offset: -2.489 ms

# Below is generated by plot.py at 2018-01-18 13:35:28
# Datalink statistics
-- Total of 3 flows:
Average throughput: 4.11 Mbit/s
95th percentile per-packet one-way delay: 26.155 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 1.75 Mbit/s
95th percentile per-packet one-way delay: 25.082 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 2.69 Mbit/s
95th percentile per-packet one-way delay: 28.097 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 1.71 Mbit/s
95th percentile per-packet one-way delay: 24.246 ms
Loss rate: 0.00%
```

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

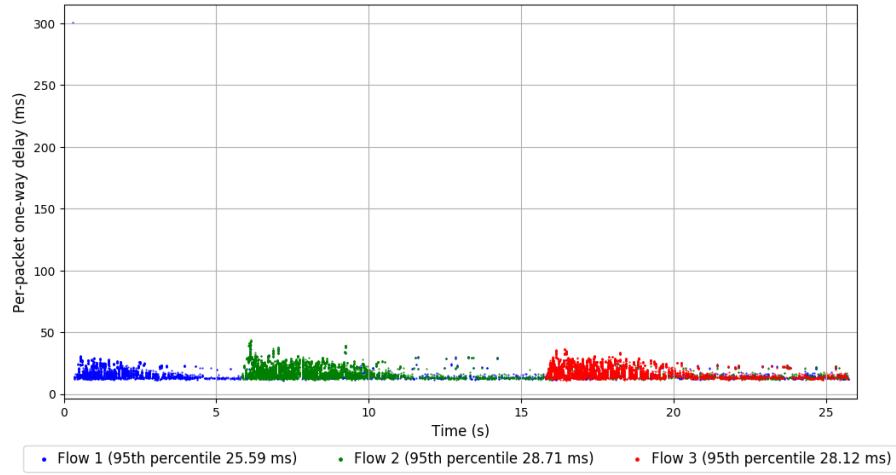
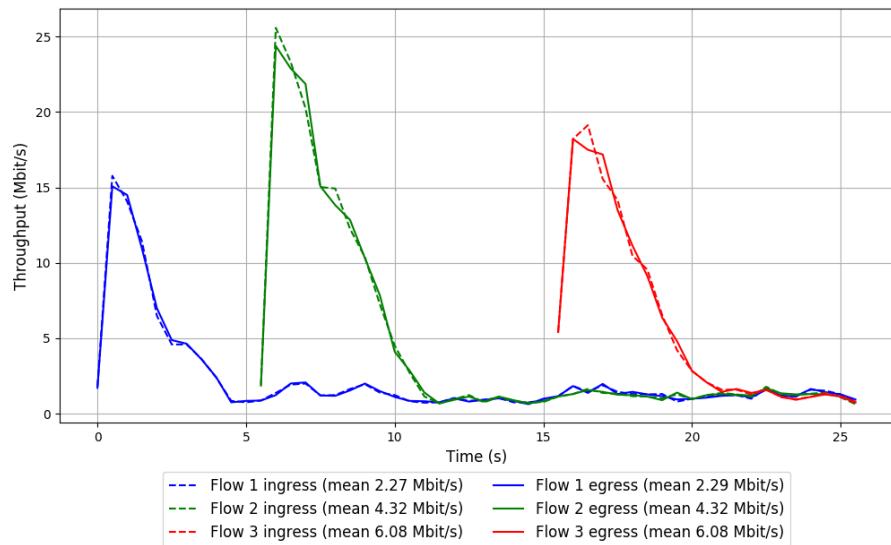


Run 3: Statistics of TCP Vegas

```
Start at: 2018-01-18 13:12:42
End at: 2018-01-18 13:13:12
Local clock offset: 1.164 ms
Remote clock offset: -2.193 ms

# Below is generated by plot.py at 2018-01-18 13:35:28
# Datalink statistics
-- Total of 3 flows:
Average throughput: 8.04 Mbit/s
95th percentile per-packet one-way delay: 27.713 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 2.29 Mbit/s
95th percentile per-packet one-way delay: 25.590 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 4.32 Mbit/s
95th percentile per-packet one-way delay: 28.712 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 6.08 Mbit/s
95th percentile per-packet one-way delay: 28.117 ms
Loss rate: 0.00%
```

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

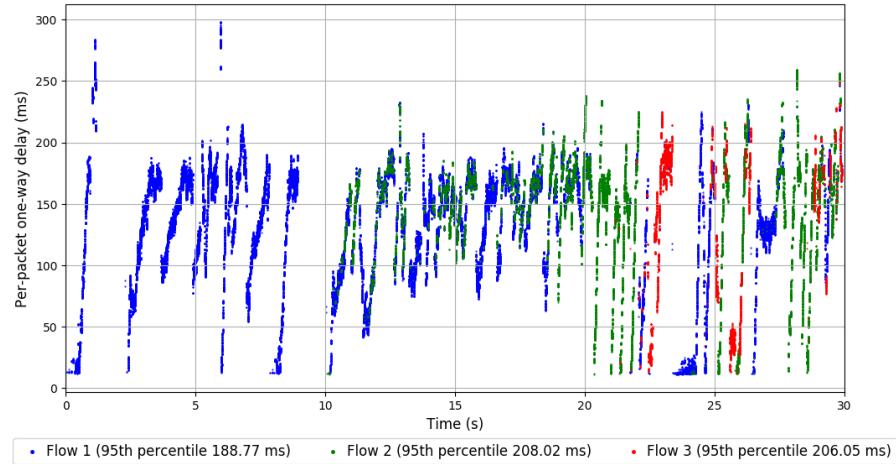
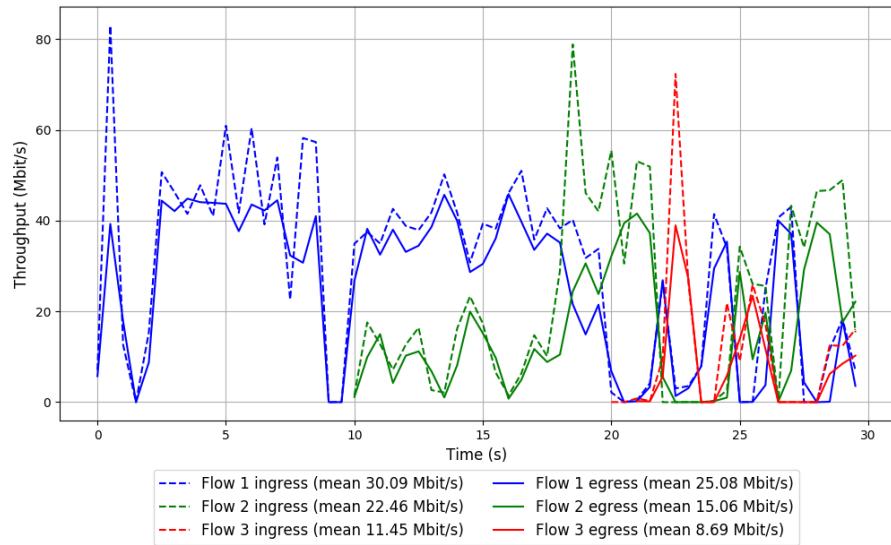


```
Run 1: Statistics of Verus
```

```
Start at: 2018-01-18 12:28:09
End at: 2018-01-18 12:28:39
Local clock offset: 1.733 ms
Remote clock offset: -2.374 ms

# Below is generated by plot.py at 2018-01-18 13:35:49
# Datalink statistics
-- Total of 3 flows:
Average throughput: 37.58 Mbit/s
95th percentile per-packet one-way delay: 197.993 ms
Loss rate: 22.53%
-- Flow 1:
Average throughput: 25.08 Mbit/s
95th percentile per-packet one-way delay: 188.771 ms
Loss rate: 16.53%
-- Flow 2:
Average throughput: 15.06 Mbit/s
95th percentile per-packet one-way delay: 208.024 ms
Loss rate: 32.29%
-- Flow 3:
Average throughput: 8.69 Mbit/s
95th percentile per-packet one-way delay: 206.047 ms
Loss rate: 32.24%
```

## Run 1: Report of Verus — Data Link

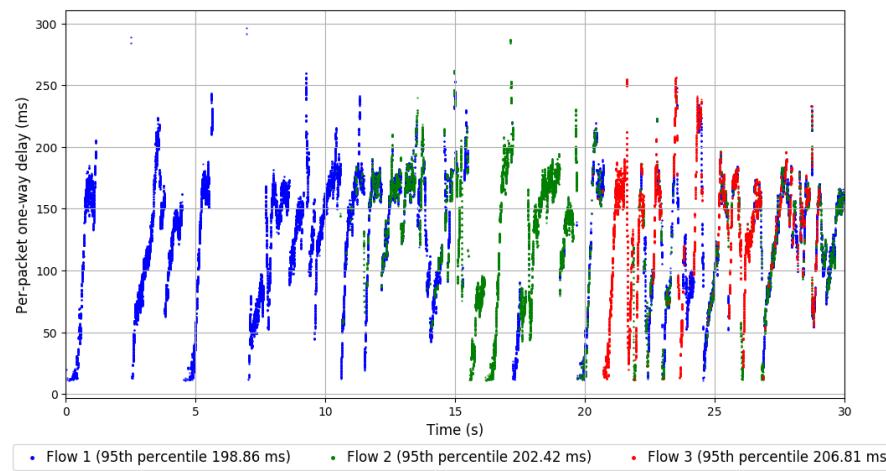
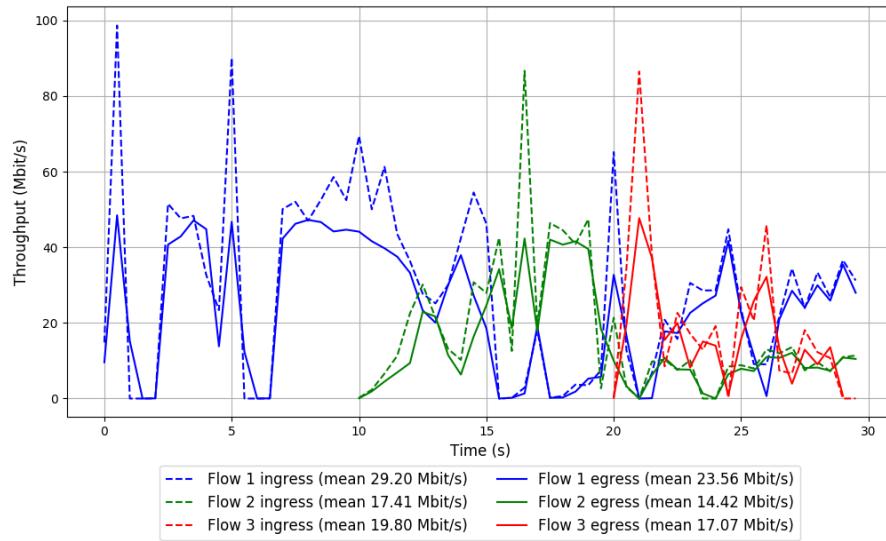


Run 2: Statistics of Verus

```
Start at: 2018-01-18 12:49:49
End at: 2018-01-18 12:50:19
Local clock offset: 1.483 ms
Remote clock offset: -2.569 ms

# Below is generated by plot.py at 2018-01-18 13:35:50
# Datalink statistics
-- Total of 3 flows:
Average throughput: 38.17 Mbit/s
95th percentile per-packet one-way delay: 201.116 ms
Loss rate: 19.29%
-- Flow 1:
Average throughput: 23.56 Mbit/s
95th percentile per-packet one-way delay: 198.864 ms
Loss rate: 19.33%
-- Flow 2:
Average throughput: 14.42 Mbit/s
95th percentile per-packet one-way delay: 202.423 ms
Loss rate: 17.82%
-- Flow 3:
Average throughput: 17.07 Mbit/s
95th percentile per-packet one-way delay: 206.807 ms
Loss rate: 21.75%
```

## Run 2: Report of Verus — Data Link

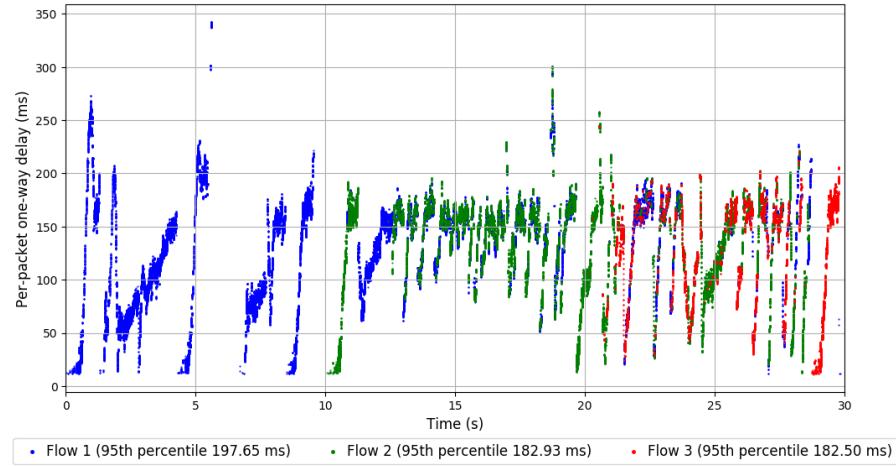
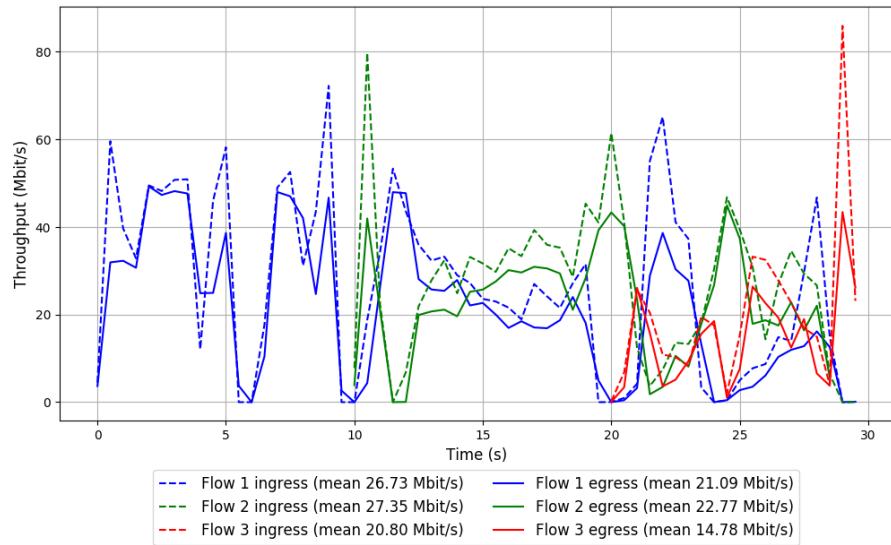


Run 3: Statistics of Verus

```
Start at: 2018-01-18 13:11:29
End at: 2018-01-18 13:11:59
Local clock offset: 1.172 ms
Remote clock offset: -2.284 ms

# Below is generated by plot.py at 2018-01-18 13:35:53
# Datalink statistics
-- Total of 3 flows:
Average throughput: 40.06 Mbit/s
95th percentile per-packet one-way delay: 190.422 ms
Loss rate: 21.98%
-- Flow 1:
Average throughput: 21.09 Mbit/s
95th percentile per-packet one-way delay: 197.651 ms
Loss rate: 21.12%
-- Flow 2:
Average throughput: 22.77 Mbit/s
95th percentile per-packet one-way delay: 182.928 ms
Loss rate: 20.96%
-- Flow 3:
Average throughput: 14.78 Mbit/s
95th percentile per-packet one-way delay: 182.498 ms
Loss rate: 28.20%
```

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

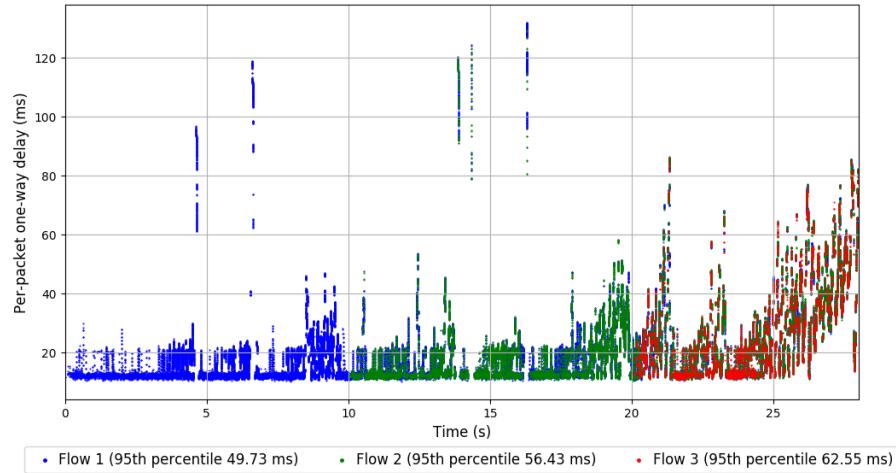
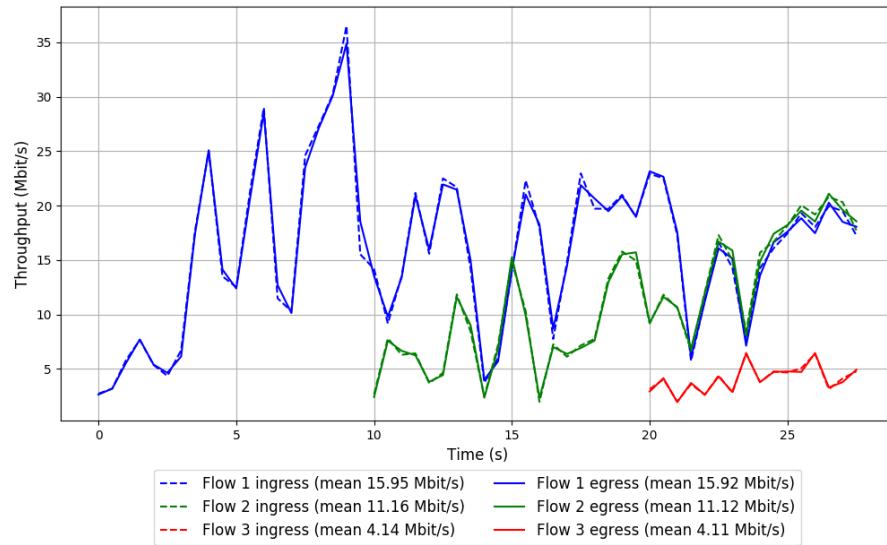


Run 1: Statistics of Copa

```
Start at: 2018-01-18 12:36:37
End at: 2018-01-18 12:37:07
Local clock offset: 1.629 ms
Remote clock offset: -2.43 ms

# Below is generated by plot.py at 2018-01-18 13:35:53
# Datalink statistics
-- Total of 3 flows:
Average throughput: 24.22 Mbit/s
95th percentile per-packet one-way delay: 53.478 ms
Loss rate: 0.21%
-- Flow 1:
Average throughput: 15.92 Mbit/s
95th percentile per-packet one-way delay: 49.725 ms
Loss rate: 0.15%
-- Flow 2:
Average throughput: 11.12 Mbit/s
95th percentile per-packet one-way delay: 56.427 ms
Loss rate: 0.29%
-- Flow 3:
Average throughput: 4.11 Mbit/s
95th percentile per-packet one-way delay: 62.546 ms
Loss rate: 0.55%
```

## Run 1: Report of Copa — Data Link

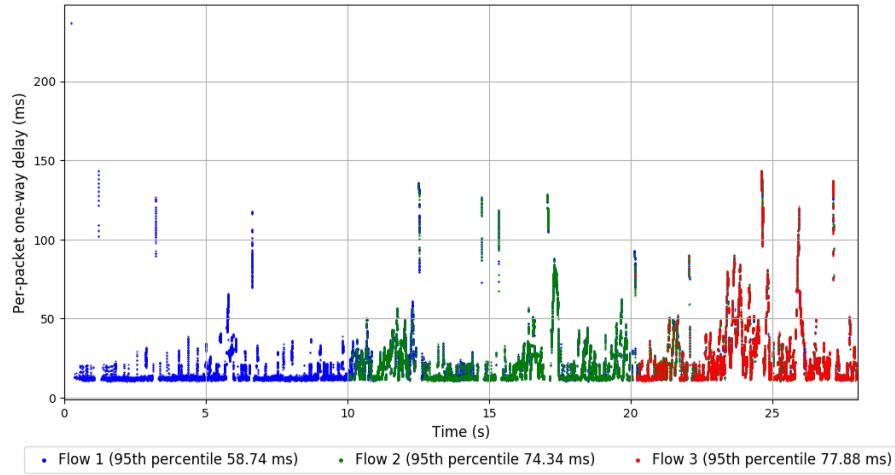
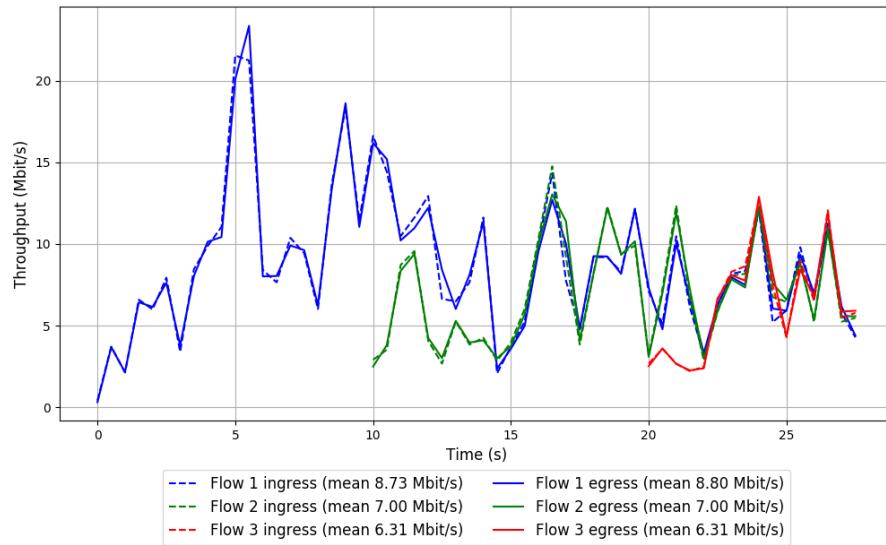


Run 2: Statistics of Copa

```
Start at: 2018-01-18 12:58:15
End at: 2018-01-18 12:58:45
Local clock offset: 1.342 ms
Remote clock offset: -2.352 ms

# Below is generated by plot.py at 2018-01-18 13:35:53
# Datalink statistics
-- Total of 3 flows:
Average throughput: 15.14 Mbit/s
95th percentile per-packet one-way delay: 68.311 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 8.80 Mbit/s
95th percentile per-packet one-way delay: 58.742 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 7.00 Mbit/s
95th percentile per-packet one-way delay: 74.345 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 6.31 Mbit/s
95th percentile per-packet one-way delay: 77.877 ms
Loss rate: 0.00%
```

## Run 2: Report of Copa — Data Link

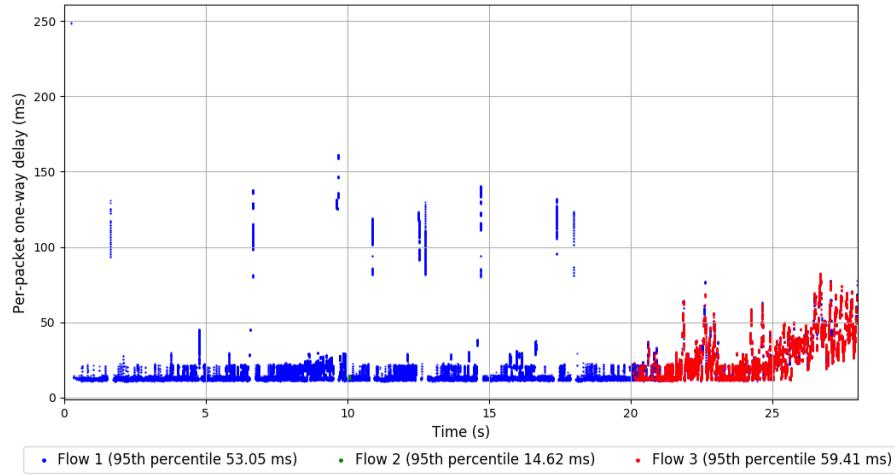
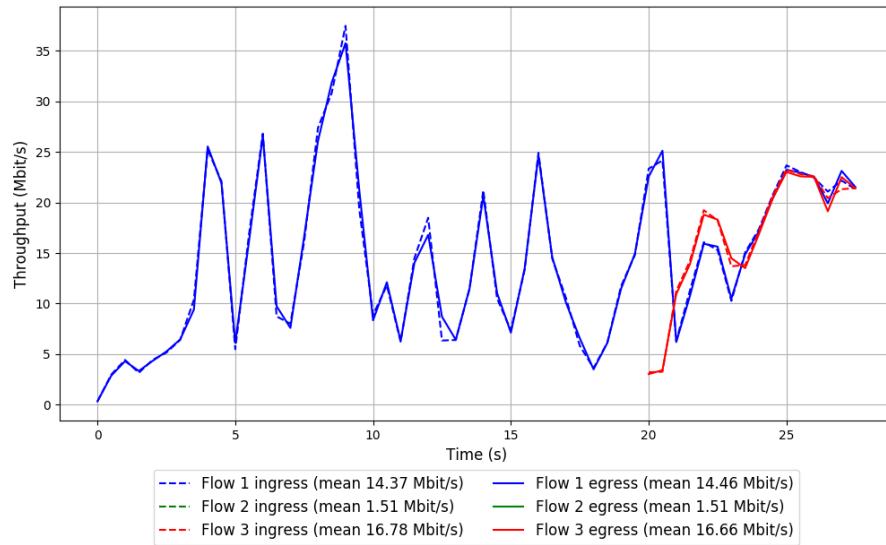


Run 3: Statistics of Copa

```
Start at: 2018-01-18 13:19:55
End at: 2018-01-18 13:20:25
Local clock offset: 1.334 ms
Remote clock offset: -2.154 ms

# Below is generated by plot.py at 2018-01-18 13:35:53
# Datalink statistics
-- Total of 3 flows:
Average throughput: 19.24 Mbit/s
95th percentile per-packet one-way delay: 55.727 ms
Loss rate: 0.30%
-- Flow 1:
Average throughput: 14.46 Mbit/s
95th percentile per-packet one-way delay: 53.047 ms
Loss rate: 0.19%
-- Flow 2:
Average throughput: 1.51 Mbit/s
95th percentile per-packet one-way delay: 14.622 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 16.66 Mbit/s
95th percentile per-packet one-way delay: 59.411 ms
Loss rate: 0.66%
```

### Run 3: Report of Copa — Data Link

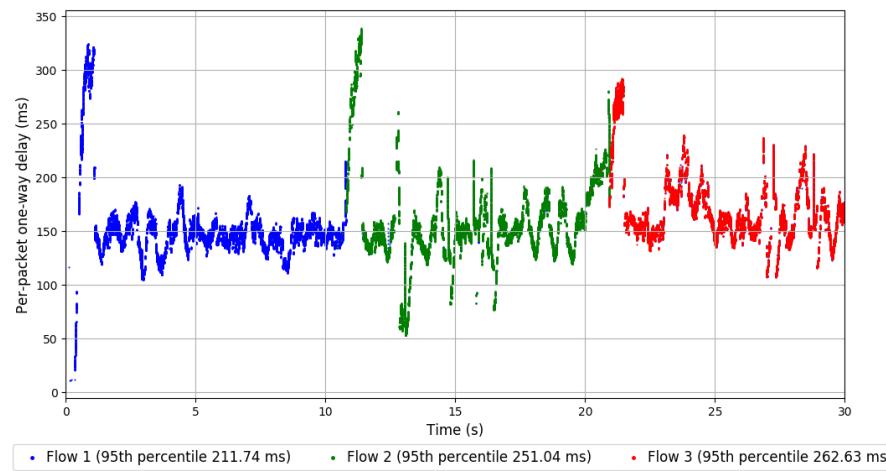
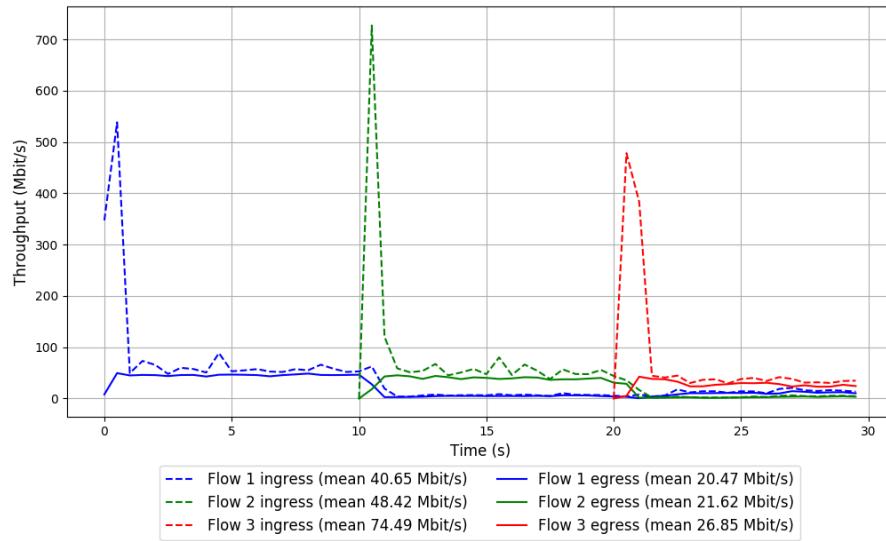


```
Run 1: Statistics of FillP

Start at: 2018-01-18 12:32:58
End at: 2018-01-18 12:33:28
Local clock offset: 1.58 ms
Remote clock offset: -2.451 ms

# Below is generated by plot.py at 2018-01-18 13:36:27
# Datalink statistics
-- Total of 3 flows:
Average throughput: 43.49 Mbit/s
95th percentile per-packet one-way delay: 236.328 ms
Loss rate: 55.57%
-- Flow 1:
Average throughput: 20.47 Mbit/s
95th percentile per-packet one-way delay: 211.740 ms
Loss rate: 49.80%
-- Flow 2:
Average throughput: 21.62 Mbit/s
95th percentile per-packet one-way delay: 251.038 ms
Loss rate: 55.96%
-- Flow 3:
Average throughput: 26.85 Mbit/s
95th percentile per-packet one-way delay: 262.626 ms
Loss rate: 64.56%
```

Run 1: Report of FillP — Data Link

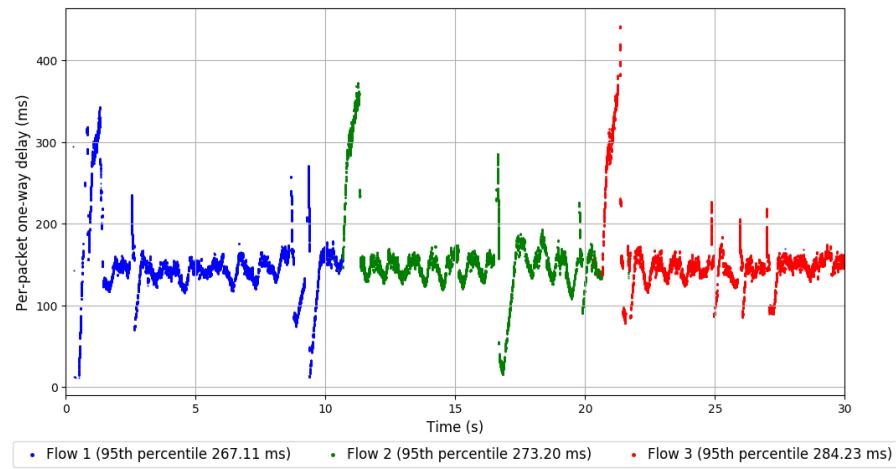
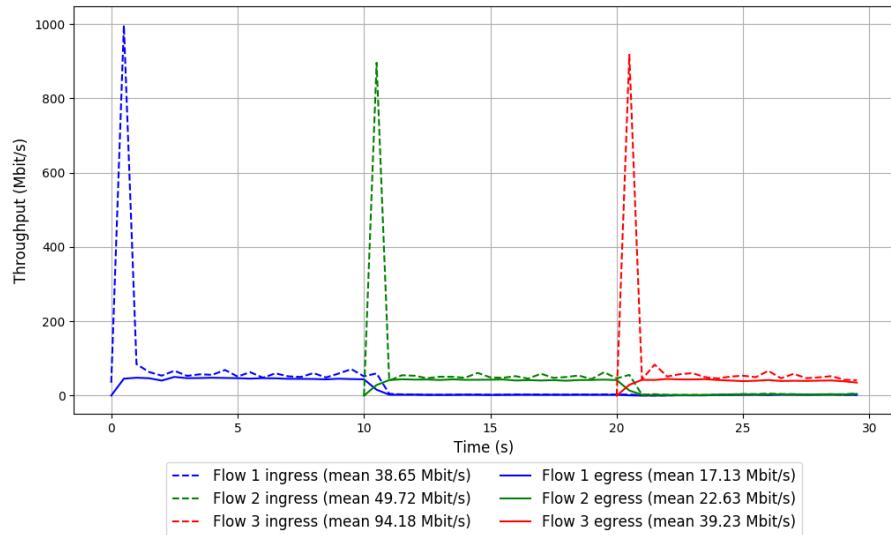


Run 2: Statistics of FillP

```
Start at: 2018-01-18 12:54:37
End at: 2018-01-18 12:55:07
Local clock offset: 1.394 ms
Remote clock offset: -2.415 ms

# Below is generated by plot.py at 2018-01-18 13:36:34
# Datalink statistics
-- Total of 3 flows:
Average throughput: 45.16 Mbit/s
95th percentile per-packet one-way delay: 275.748 ms
Loss rate: 56.53%
-- Flow 1:
Average throughput: 17.13 Mbit/s
95th percentile per-packet one-way delay: 267.107 ms
Loss rate: 56.10%
-- Flow 2:
Average throughput: 22.63 Mbit/s
95th percentile per-packet one-way delay: 273.203 ms
Loss rate: 54.79%
-- Flow 3:
Average throughput: 39.23 Mbit/s
95th percentile per-packet one-way delay: 284.229 ms
Loss rate: 58.92%
```

## Run 2: Report of FillP — Data Link

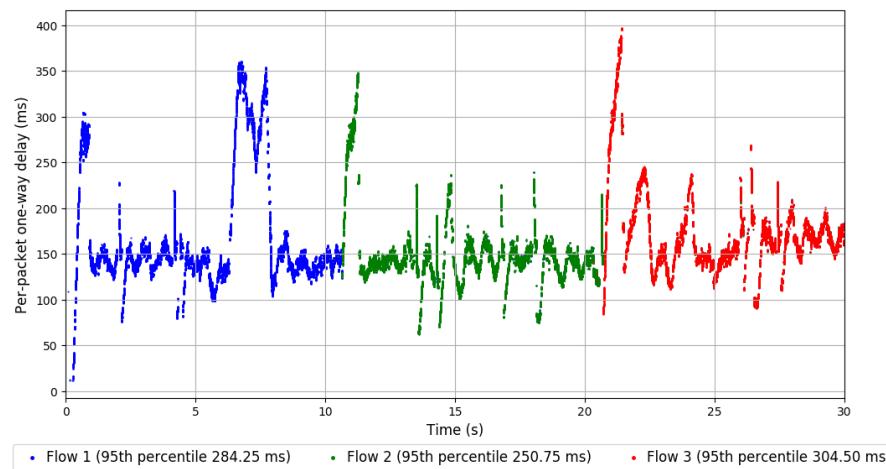
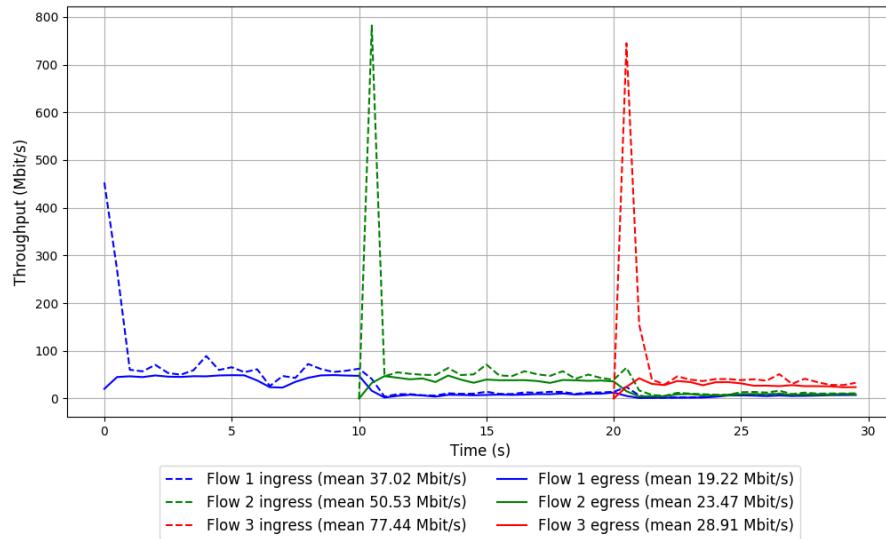


Run 3: Statistics of FillP

```
Start at: 2018-01-18 13:16:17
End at: 2018-01-18 13:16:47
Local clock offset: 1.277 ms
Remote clock offset: -2.198 ms

# Below is generated by plot.py at 2018-01-18 13:36:35
# Datalink statistics
-- Total of 3 flows:
Average throughput: 44.15 Mbit/s
95th percentile per-packet one-way delay: 280.048 ms
Loss rate: 54.31%
-- Flow 1:
Average throughput: 19.22 Mbit/s
95th percentile per-packet one-way delay: 284.247 ms
Loss rate: 48.23%
-- Flow 2:
Average throughput: 23.47 Mbit/s
95th percentile per-packet one-way delay: 250.749 ms
Loss rate: 53.84%
-- Flow 3:
Average throughput: 28.91 Mbit/s
95th percentile per-packet one-way delay: 304.500 ms
Loss rate: 63.68%
```

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

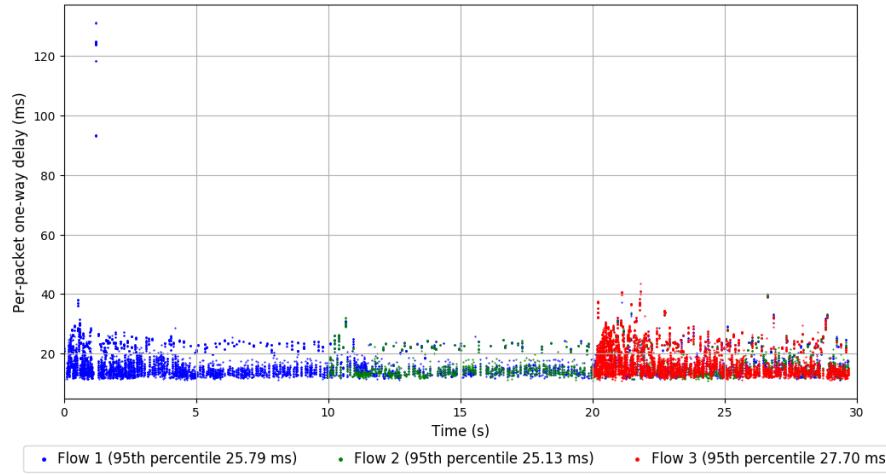
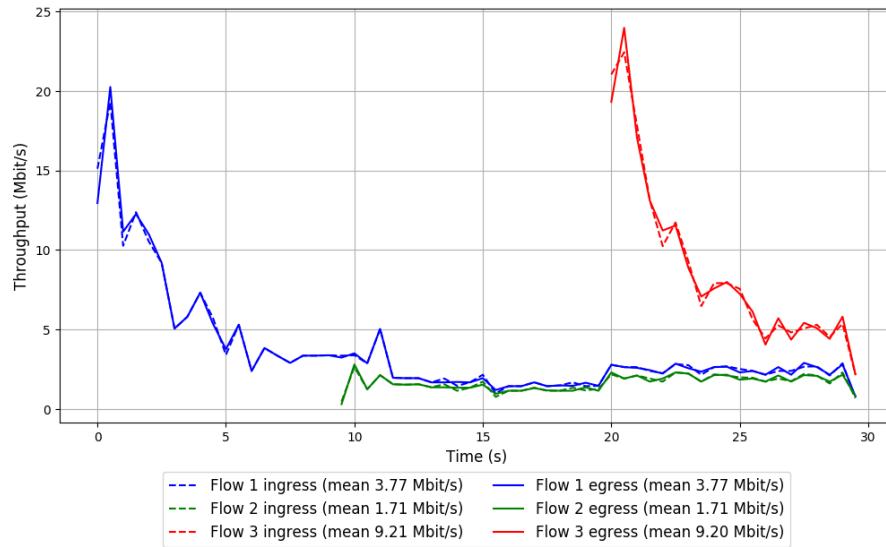


Run 1: Statistics of Indigo

```
Start at: 2018-01-18 12:39:01
End at: 2018-01-18 12:39:31
Local clock offset: 1.597 ms
Remote clock offset: -2.527 ms

# Below is generated by plot.py at 2018-01-18 13:36:35
# Datalink statistics
-- Total of 3 flows:
Average throughput: 7.90 Mbit/s
95th percentile per-packet one-way delay: 26.567 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 3.77 Mbit/s
95th percentile per-packet one-way delay: 25.786 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 1.71 Mbit/s
95th percentile per-packet one-way delay: 25.132 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 9.20 Mbit/s
95th percentile per-packet one-way delay: 27.695 ms
Loss rate: 0.00%
```

## Run 1: Report of Indigo — Data Link

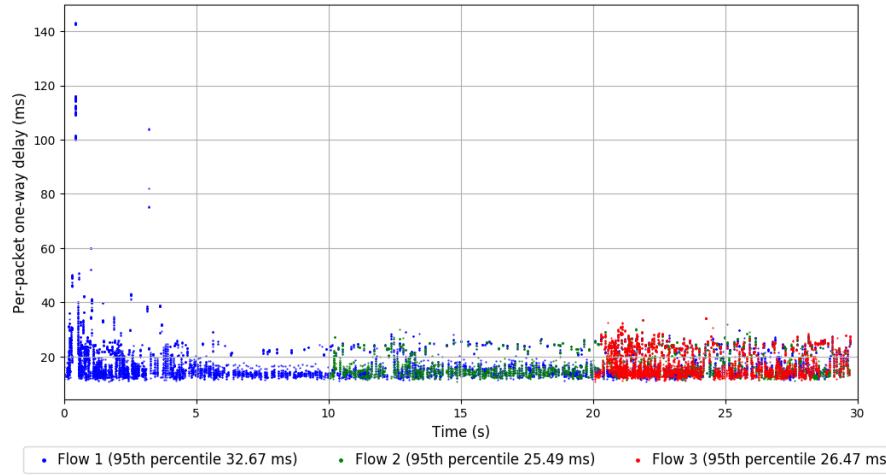
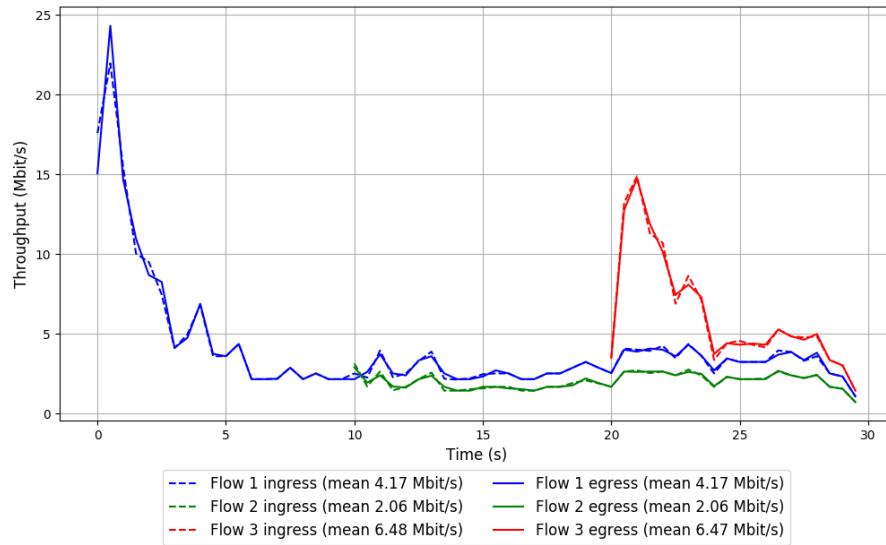


Run 2: Statistics of Indigo

```
Start at: 2018-01-18 13:00:38
End at: 2018-01-18 13:01:08
Local clock offset: 1.217 ms
Remote clock offset: -2.393 ms

# Below is generated by plot.py at 2018-01-18 13:36:35
# Datalink statistics
-- Total of 3 flows:
Average throughput: 7.63 Mbit/s
95th percentile per-packet one-way delay: 27.638 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 4.17 Mbit/s
95th percentile per-packet one-way delay: 32.672 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 2.06 Mbit/s
95th percentile per-packet one-way delay: 25.491 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 6.47 Mbit/s
95th percentile per-packet one-way delay: 26.468 ms
Loss rate: 0.00%
```

## Run 2: Report of Indigo — Data Link

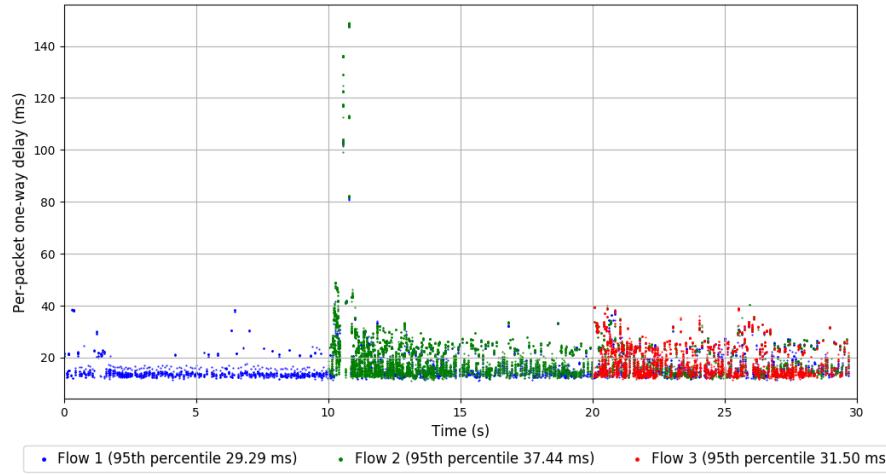
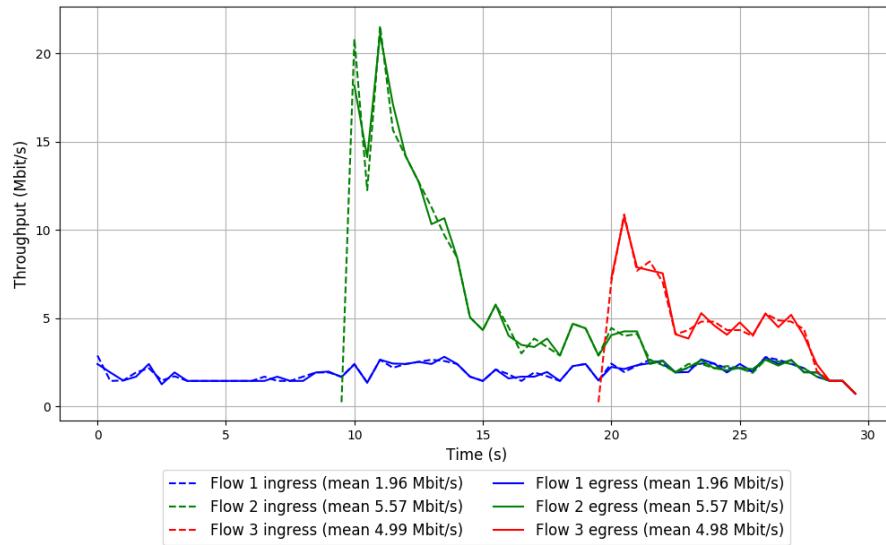


Run 3: Statistics of Indigo

```
Start at: 2018-01-18 13:22:18
End at: 2018-01-18 13:22:48
Local clock offset: 1.241 ms
Remote clock offset: -2.192 ms

# Below is generated by plot.py at 2018-01-18 13:36:35
# Datalink statistics
-- Total of 3 flows:
Average throughput: 7.28 Mbit/s
95th percentile per-packet one-way delay: 32.711 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 1.96 Mbit/s
95th percentile per-packet one-way delay: 29.291 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 5.57 Mbit/s
95th percentile per-packet one-way delay: 37.440 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 4.98 Mbit/s
95th percentile per-packet one-way delay: 31.500 ms
Loss rate: 0.00%
```

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

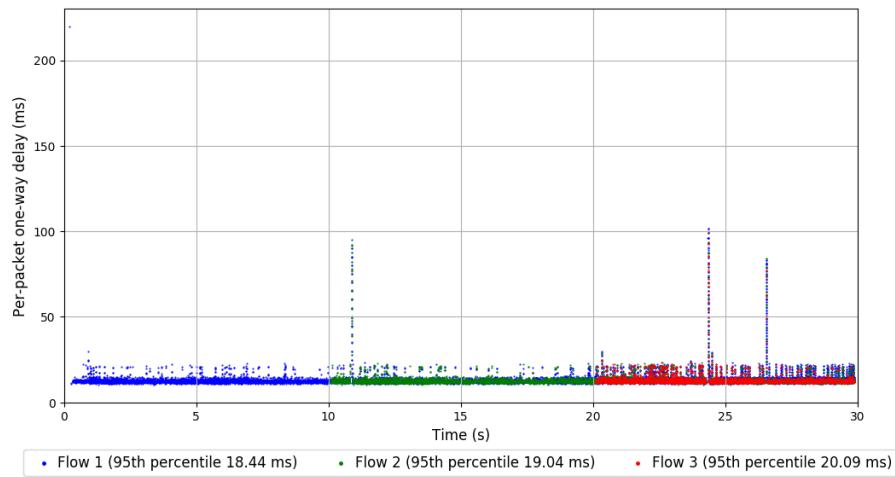
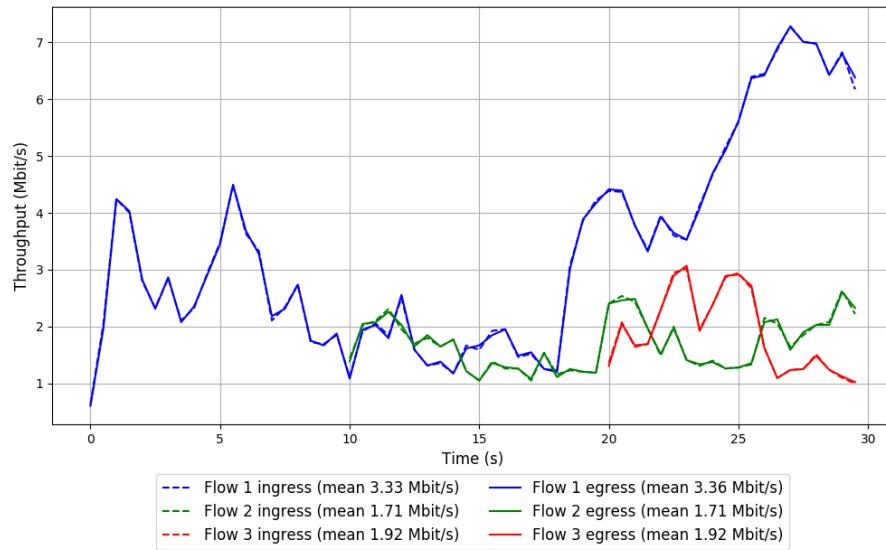


```
Run 1: Statistics of Vivace-latency
```

```
Start at: 2018-01-18 12:46:14
End at: 2018-01-18 12:46:44
Local clock offset: 1.384 ms
Remote clock offset: -2.58 ms

# Below is generated by plot.py at 2018-01-18 13:36:35
# Datalink statistics
-- Total of 3 flows:
Average throughput: 5.14 Mbit/s
95th percentile per-packet one-way delay: 18.867 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 3.36 Mbit/s
95th percentile per-packet one-way delay: 18.440 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 1.71 Mbit/s
95th percentile per-packet one-way delay: 19.036 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 1.92 Mbit/s
95th percentile per-packet one-way delay: 20.094 ms
Loss rate: 0.00%
```

Run 1: Report of Vivace-latency — Data Link

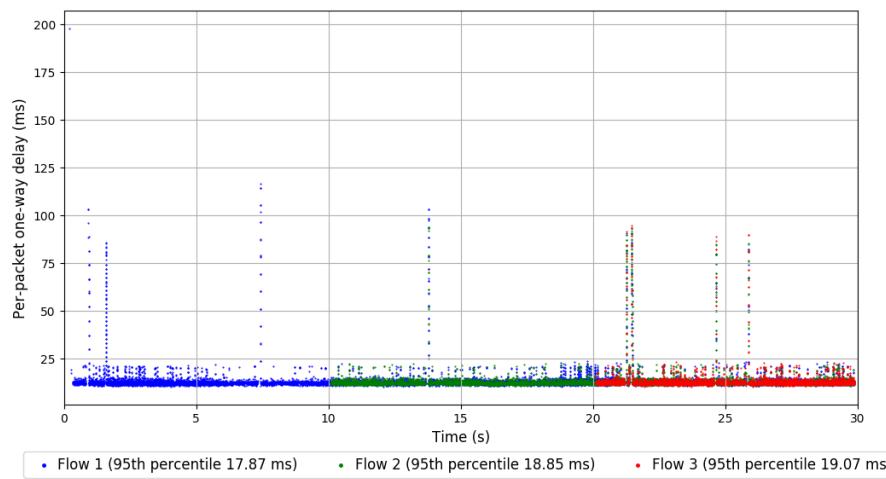
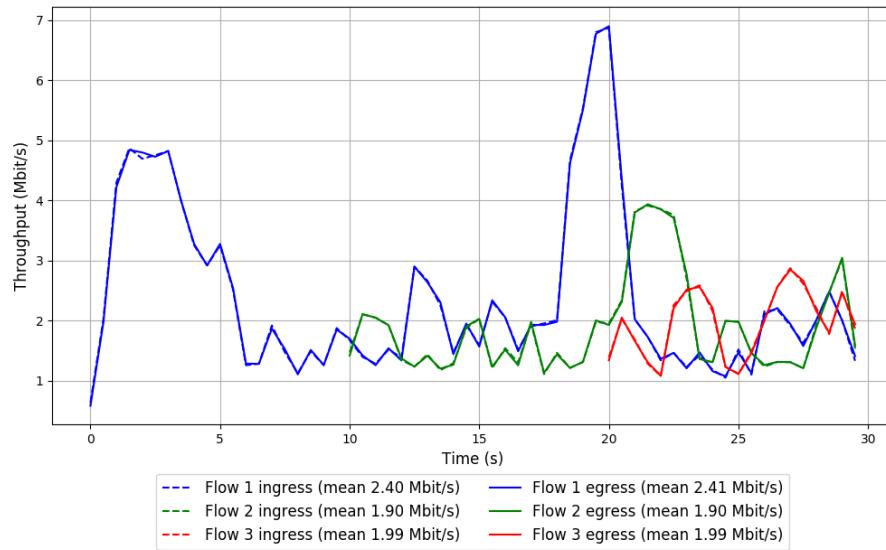


Run 2: Statistics of Vivace-latency

```
Start at: 2018-01-18 13:07:53
End at: 2018-01-18 13:08:23
Local clock offset: 1.26 ms
Remote clock offset: -2.236 ms

# Below is generated by plot.py at 2018-01-18 13:36:35
# Datalink statistics
-- Total of 3 flows:
Average throughput: 4.34 Mbit/s
95th percentile per-packet one-way delay: 18.415 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 2.41 Mbit/s
95th percentile per-packet one-way delay: 17.873 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 1.90 Mbit/s
95th percentile per-packet one-way delay: 18.849 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 1.99 Mbit/s
95th percentile per-packet one-way delay: 19.073 ms
Loss rate: 0.00%
```

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

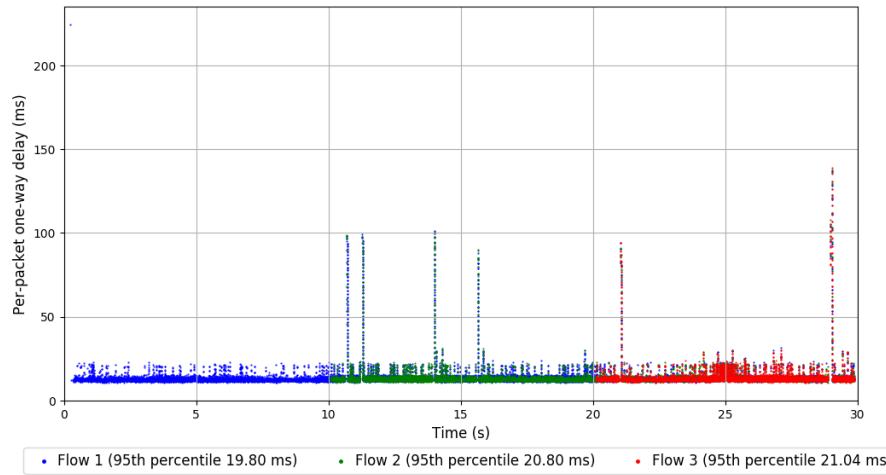
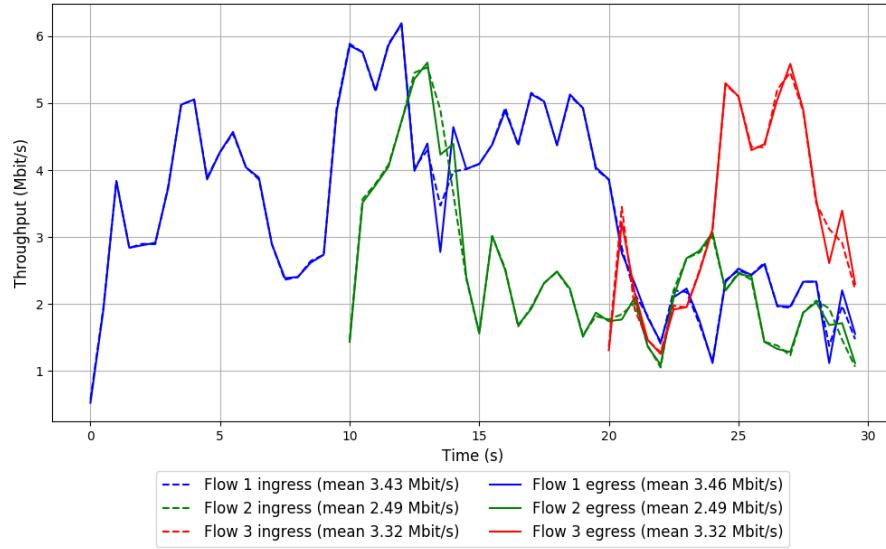


Run 3: Statistics of Vivace-latency

```
Start at: 2018-01-18 13:29:27
End at: 2018-01-18 13:29:57
Local clock offset: 1.297 ms
Remote clock offset: -2.088 ms

# Below is generated by plot.py at 2018-01-18 13:36:35
# Datalink statistics
-- Total of 3 flows:
Average throughput: 6.23 Mbit/s
95th percentile per-packet one-way delay: 20.406 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 3.46 Mbit/s
95th percentile per-packet one-way delay: 19.796 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 2.49 Mbit/s
95th percentile per-packet one-way delay: 20.799 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 3.32 Mbit/s
95th percentile per-packet one-way delay: 21.043 ms
Loss rate: 0.00%
```

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

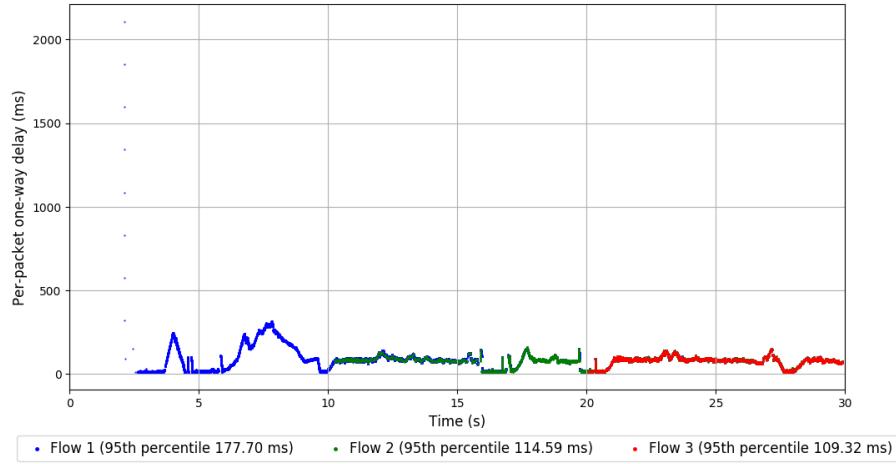
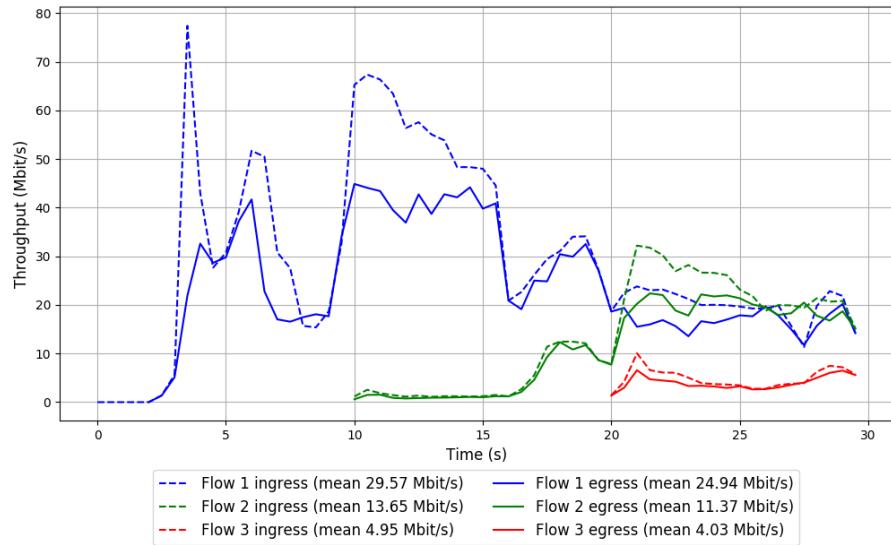


```
Run 1: Statistics of Vivace-loss

Start at: 2018-01-18 12:42:36
End at: 2018-01-18 12:43:06
Local clock offset: 1.485 ms
Remote clock offset: -2.488 ms

# Below is generated by plot.py at 2018-01-18 13:36:39
# Datalink statistics
-- Total of 3 flows:
Average throughput: 34.48 Mbit/s
95th percentile per-packet one-way delay: 150.298 ms
Loss rate: 20.37%
-- Flow 1:
Average throughput: 24.94 Mbit/s
95th percentile per-packet one-way delay: 177.699 ms
Loss rate: 21.58%
-- Flow 2:
Average throughput: 11.37 Mbit/s
95th percentile per-packet one-way delay: 114.589 ms
Loss rate: 16.77%
-- Flow 3:
Average throughput: 4.03 Mbit/s
95th percentile per-packet one-way delay: 109.323 ms
Loss rate: 18.58%
```

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

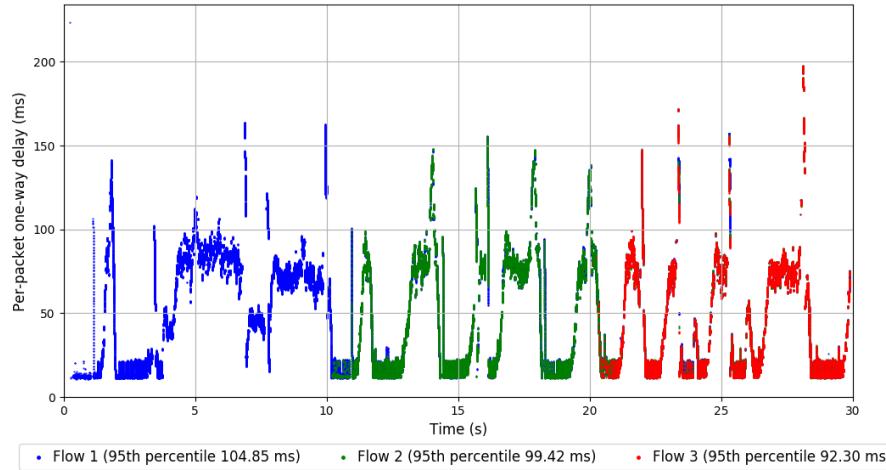
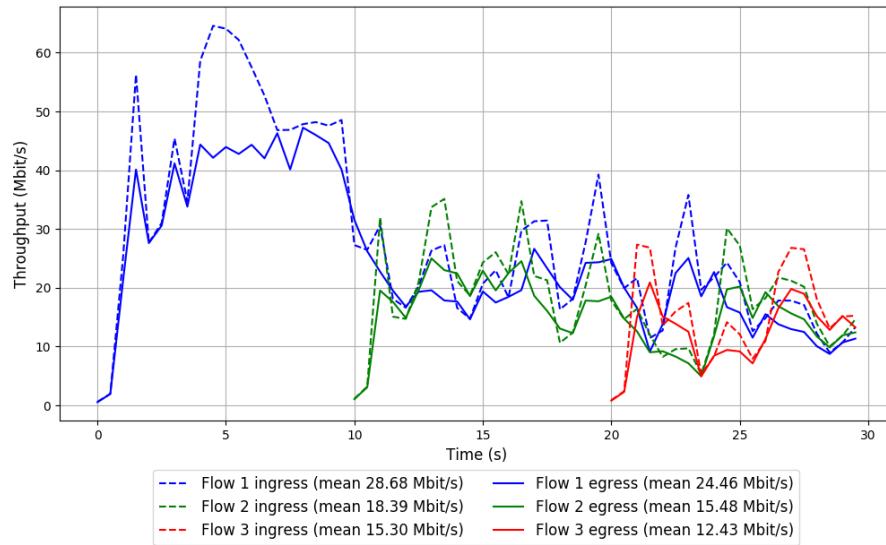


Run 2: Statistics of Vivace-loss

```
Start at: 2018-01-18 13:04:13
End at: 2018-01-18 13:04:43
Local clock offset: 1.252 ms
Remote clock offset: -2.297 ms

# Below is generated by plot.py at 2018-01-18 13:36:40
# Datalink statistics
-- Total of 3 flows:
Average throughput: 38.89 Mbit/s
95th percentile per-packet one-way delay: 103.068 ms
Loss rate: 15.92%
-- Flow 1:
Average throughput: 24.46 Mbit/s
95th percentile per-packet one-way delay: 104.851 ms
Loss rate: 15.29%
-- Flow 2:
Average throughput: 15.48 Mbit/s
95th percentile per-packet one-way delay: 99.416 ms
Loss rate: 16.02%
-- Flow 3:
Average throughput: 12.43 Mbit/s
95th percentile per-packet one-way delay: 92.303 ms
Loss rate: 19.29%
```

Run 2: Report of Vivace-loss — Data Link



Run 3: Statistics of Vivace-loss

Start at: 2018-01-18 13:25:53

End at: 2018-01-18 13:26:23

Local clock offset: 1.259 ms

Remote clock offset: -2.121 ms

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

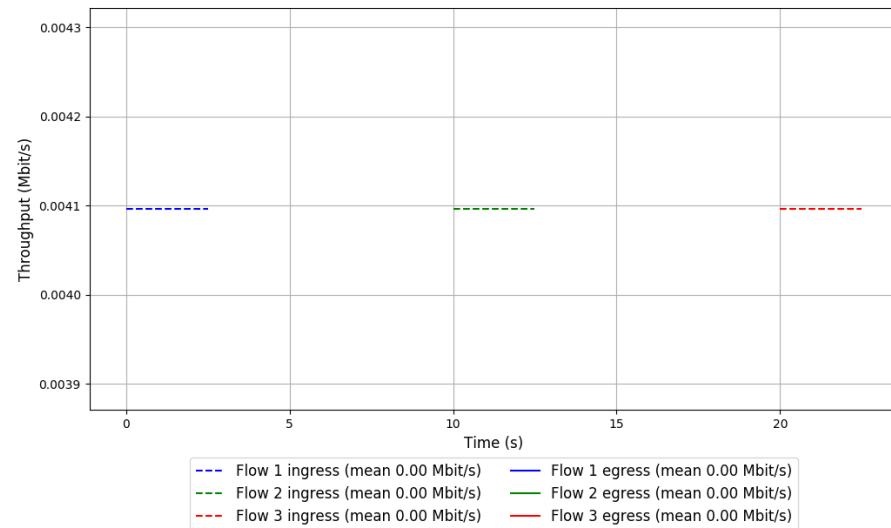


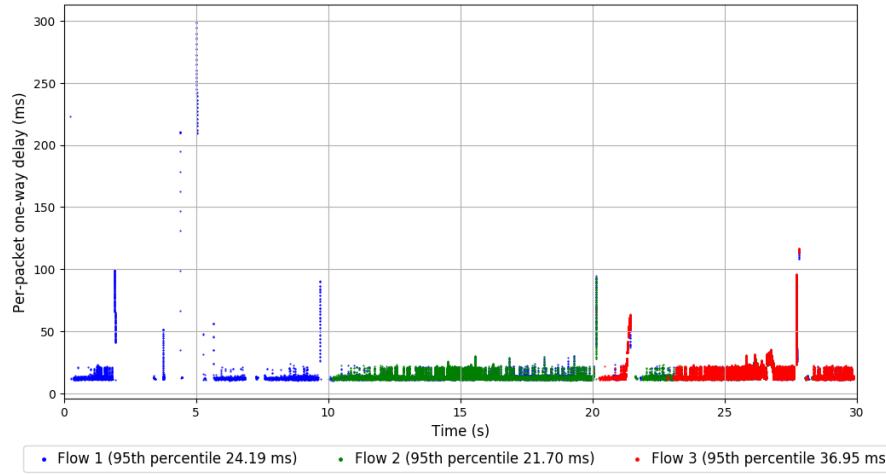
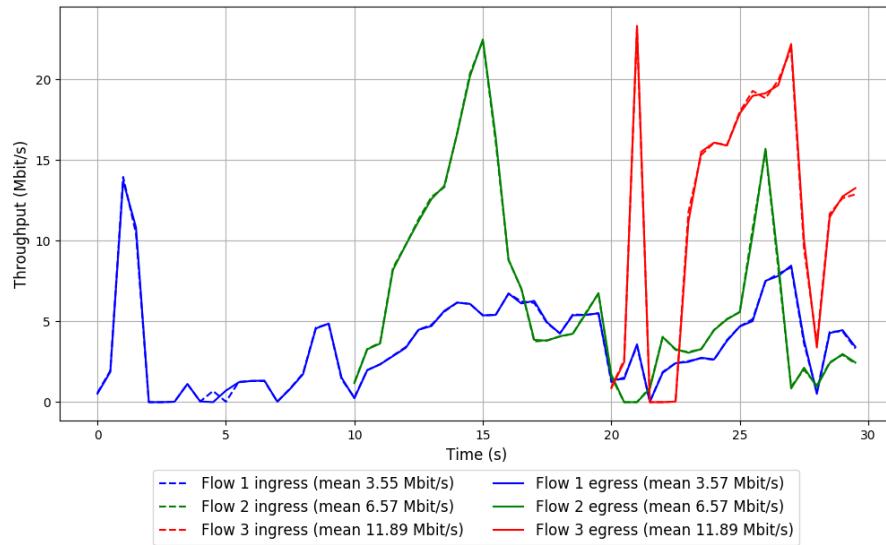
Figure is missing

Run 1: Statistics of Vivace-LTE

```
Start at: 2018-01-18 12:30:35
End at: 2018-01-18 12:31:05
Local clock offset: 1.615 ms
Remote clock offset: -2.296 ms

# Below is generated by plot.py at 2018-01-18 13:36:40
# Datalink statistics
-- Total of 3 flows:
Average throughput: 11.92 Mbit/s
95th percentile per-packet one-way delay: 25.863 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 3.57 Mbit/s
95th percentile per-packet one-way delay: 24.187 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 6.57 Mbit/s
95th percentile per-packet one-way delay: 21.702 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 11.89 Mbit/s
95th percentile per-packet one-way delay: 36.945 ms
Loss rate: 0.00%
```

Run 1: Report of Vivace-LTE — Data Link

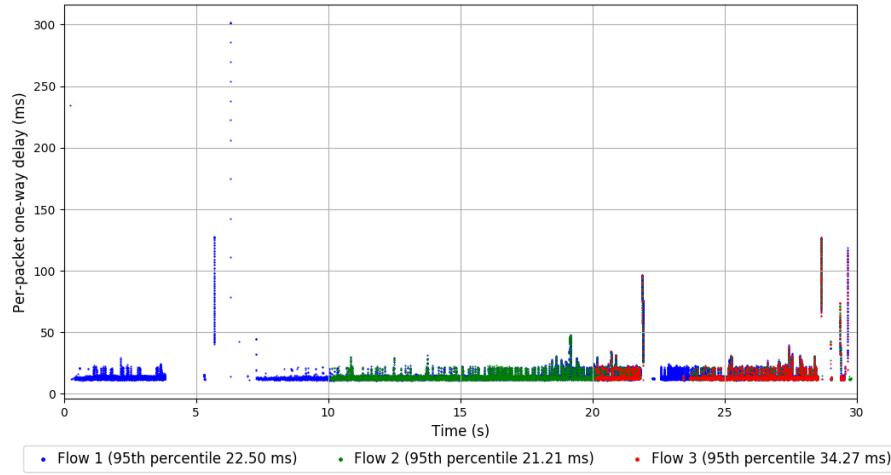
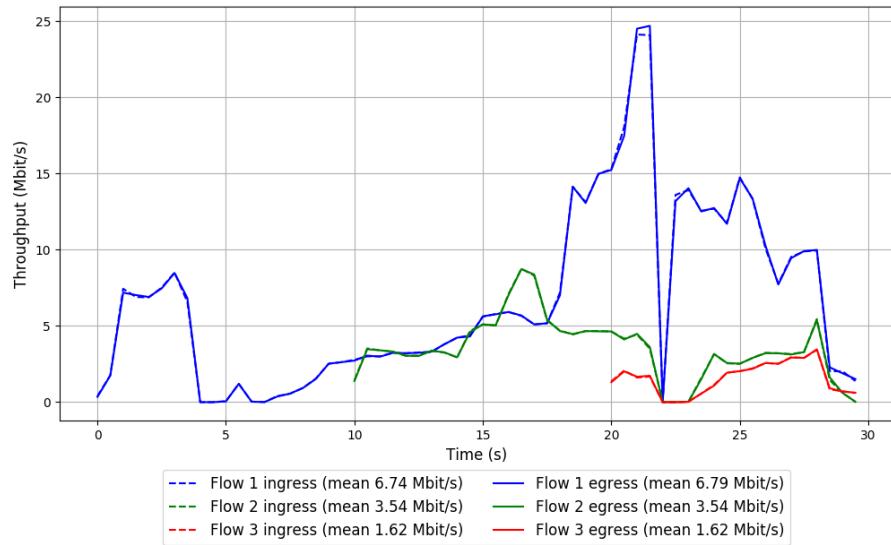


Run 2: Statistics of Vivace-LTE

```
Start at: 2018-01-18 12:52:14
End at: 2018-01-18 12:52:44
Local clock offset: 1.363 ms
Remote clock offset: -2.511 ms

# Below is generated by plot.py at 2018-01-18 13:36:40
# Datalink statistics
-- Total of 3 flows:
Average throughput: 9.65 Mbit/s
95th percentile per-packet one-way delay: 22.380 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 6.79 Mbit/s
95th percentile per-packet one-way delay: 22.502 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 3.54 Mbit/s
95th percentile per-packet one-way delay: 21.206 ms
Loss rate: 0.03%
-- Flow 3:
Average throughput: 1.62 Mbit/s
95th percentile per-packet one-way delay: 34.274 ms
Loss rate: 0.00%
```

Run 2: Report of Vivace-LTE — Data Link



Run 3: Statistics of Vivace-LTE

```
Start at: 2018-01-18 13:13:53
End at: 2018-01-18 13:14:23
Local clock offset: 1.254 ms
Remote clock offset: -2.173 ms

# Below is generated by plot.py at 2018-01-18 13:36:40
# Datalink statistics
-- Total of 3 flows:
Average throughput: 13.09 Mbit/s
95th percentile per-packet one-way delay: 54.630 ms
Loss rate: 1.43%
-- Flow 1:
Average throughput: 6.36 Mbit/s
95th percentile per-packet one-way delay: 21.164 ms
Loss rate: 0.05%
-- Flow 2:
Average throughput: 6.82 Mbit/s
95th percentile per-packet one-way delay: 34.809 ms
Loss rate: 0.16%
-- Flow 3:
Average throughput: 6.53 Mbit/s
95th percentile per-packet one-way delay: 93.418 ms
Loss rate: 7.65%
```

Run 3: Report of Vivace-LTE — Data Link

