

## 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).

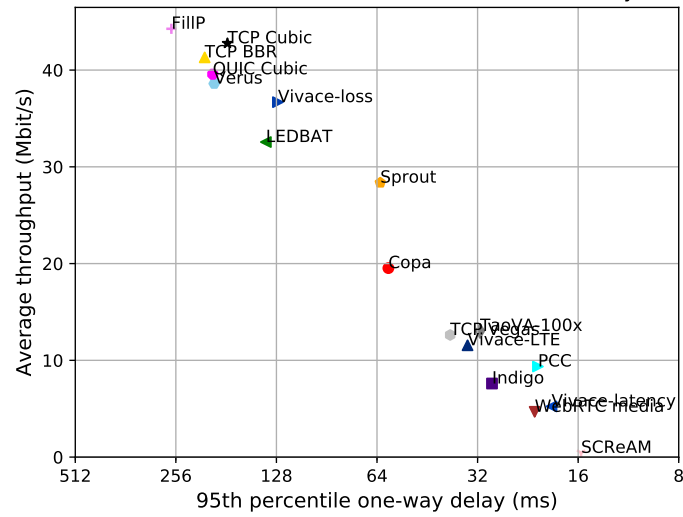
Tested BBR with qdisc of Fair Queuing (*fq*), and other schemes with the default Linux qdisc (*pfifo\_fast*).

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

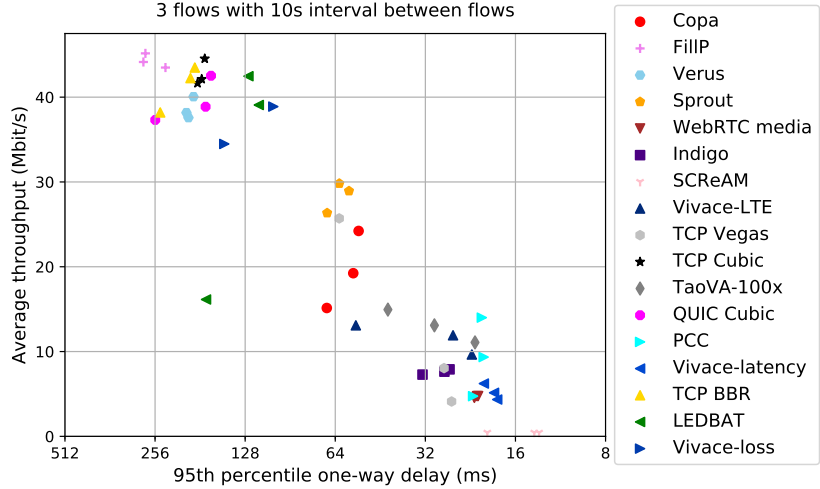
Git summary:

```
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 @ f1a14bffe749737437f61b1eaeab30b267cde681
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



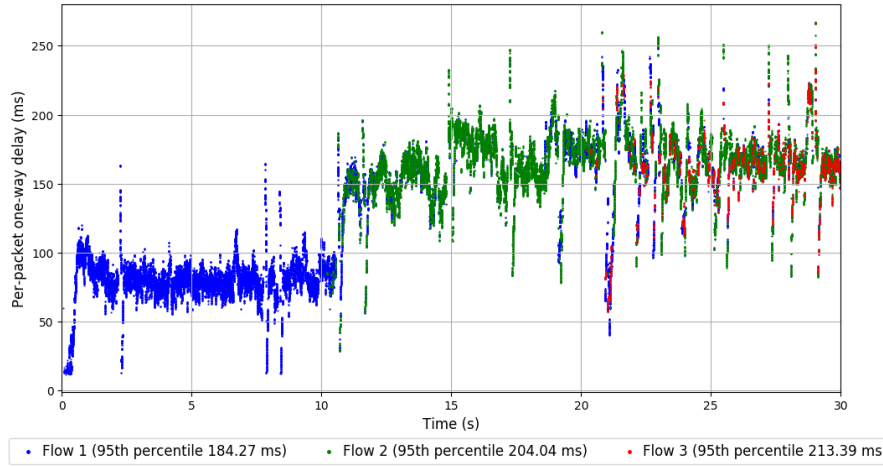
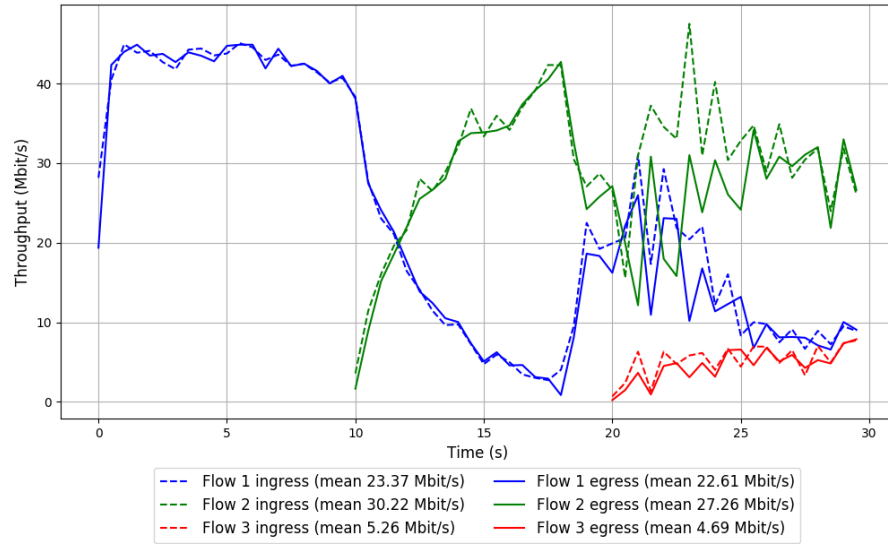
scheme	# runs	mean avg tput (Mbit/s)			mean 95th-%ile delay (ms)			mean loss rate (%)		
		flow 1	flow 2	flow 3	flow 1	flow 2	flow 3	flow 1	flow 2	flow 3
TCP BBR	3	21.32	22.15	16.77	186.75	205.01	247.11	2.13	6.14	12.40
TCP Cubic	3	30.89	12.89	10.18	177.74	178.27	190.40	0.33	0.93	1.70
LEDBAT	3	25.50	8.42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

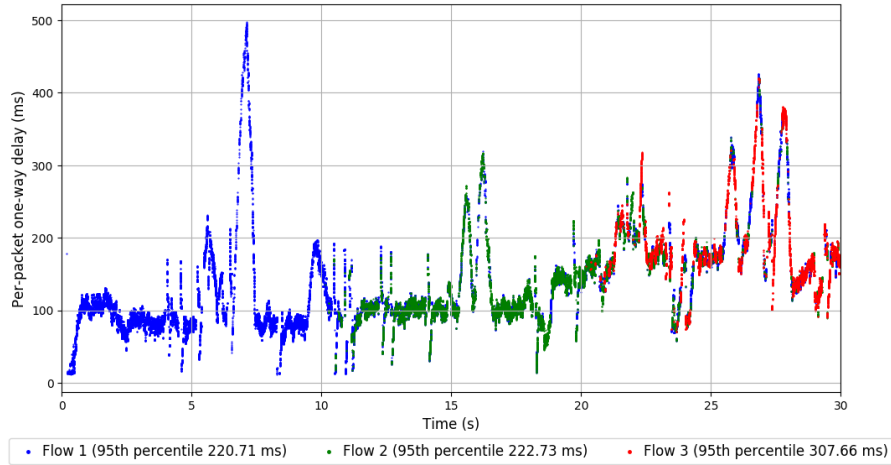
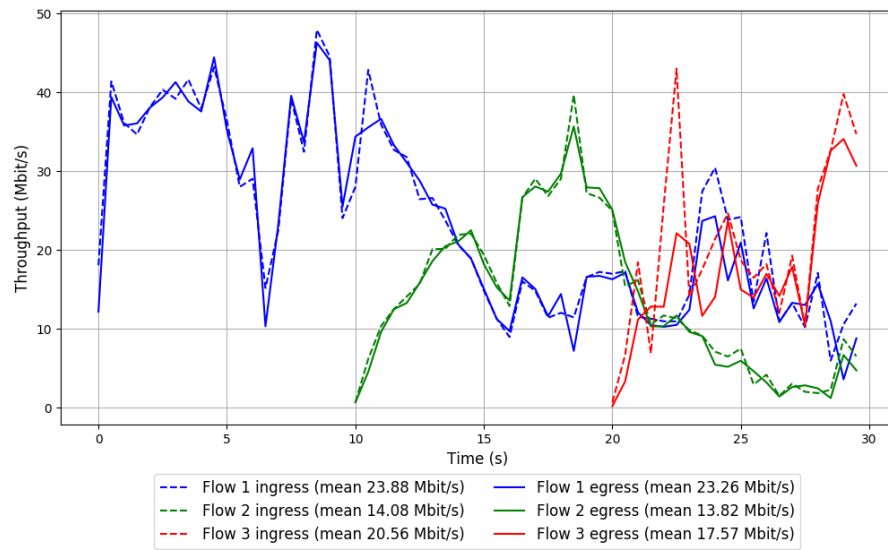


Run 2: Statistics of TCP BBR

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

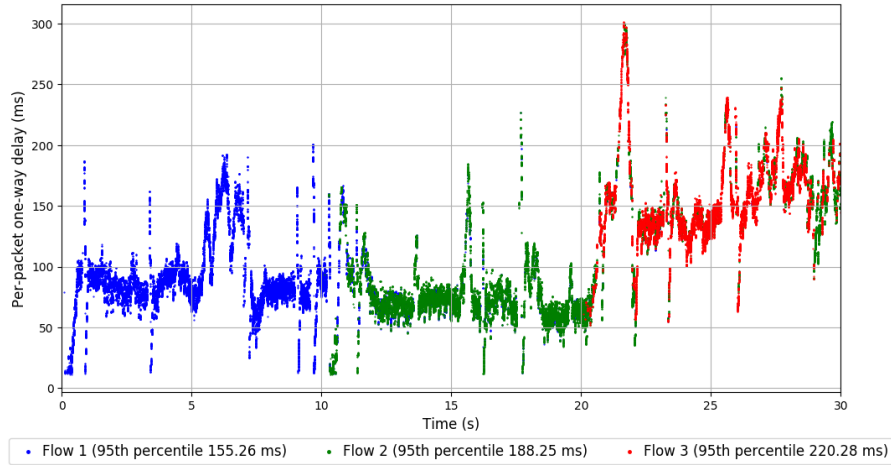
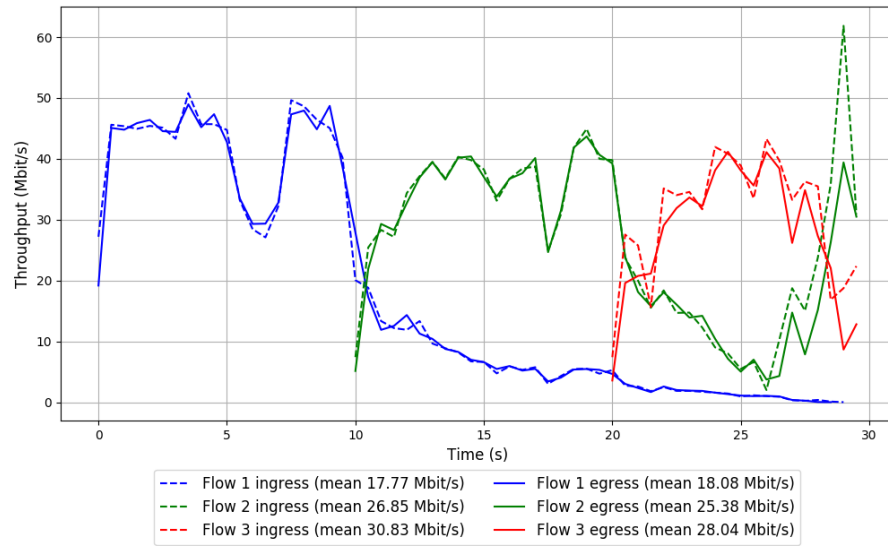


Run 3: Statistics of TCP BBR

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

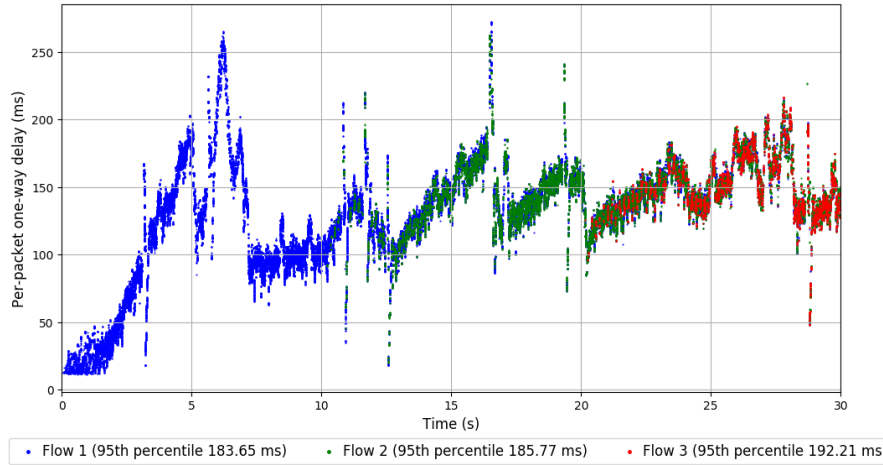
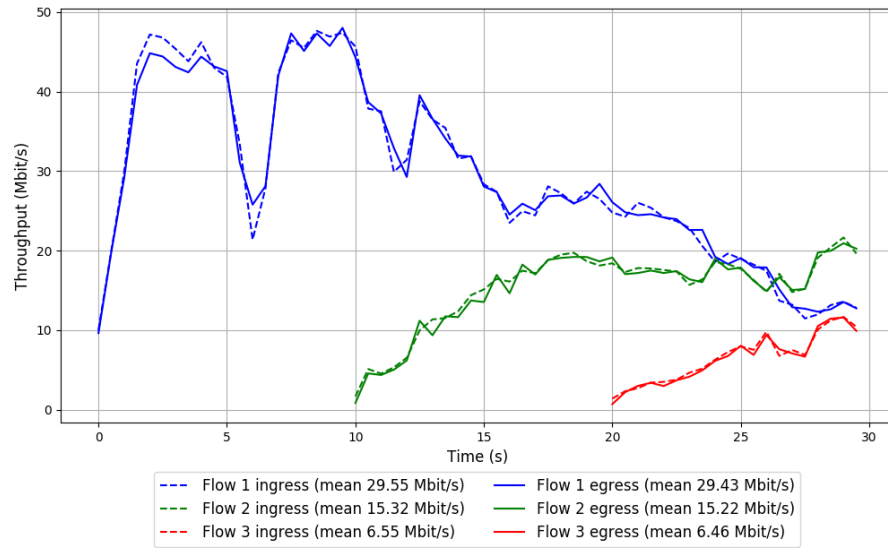


Run 1: Statistics of TCP Cubic

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

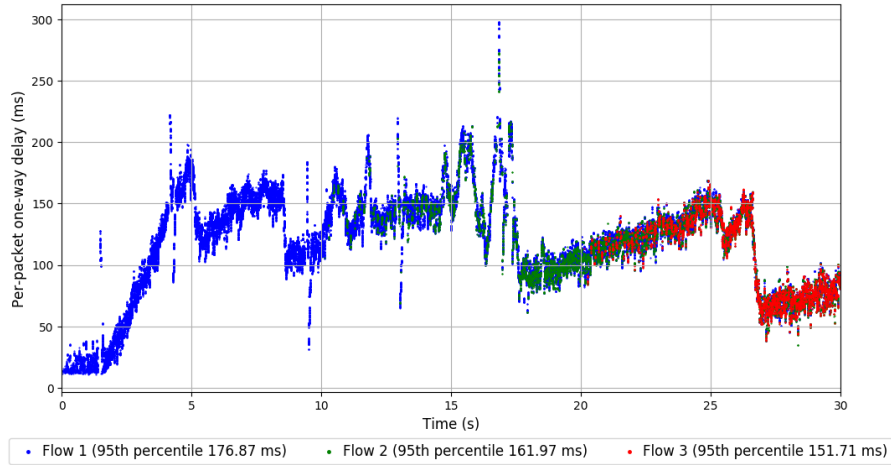
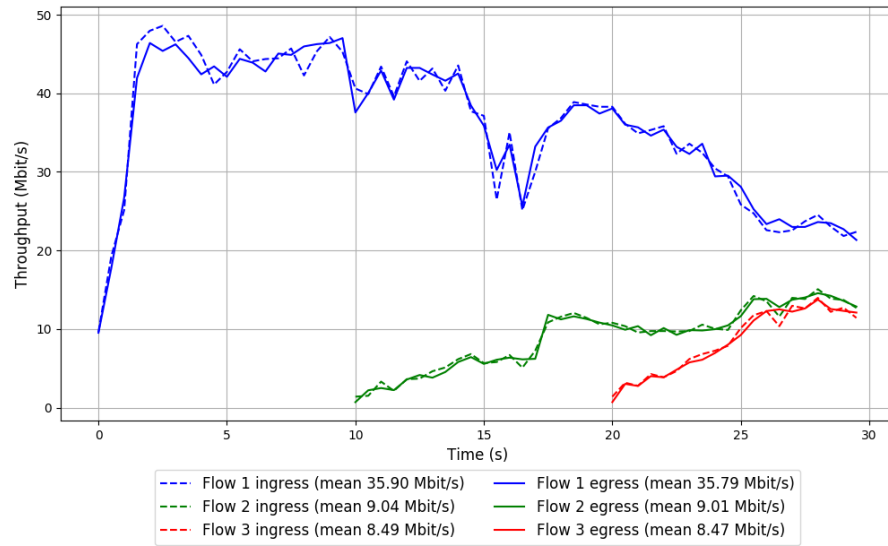


Run 2: Statistics of TCP Cubic

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

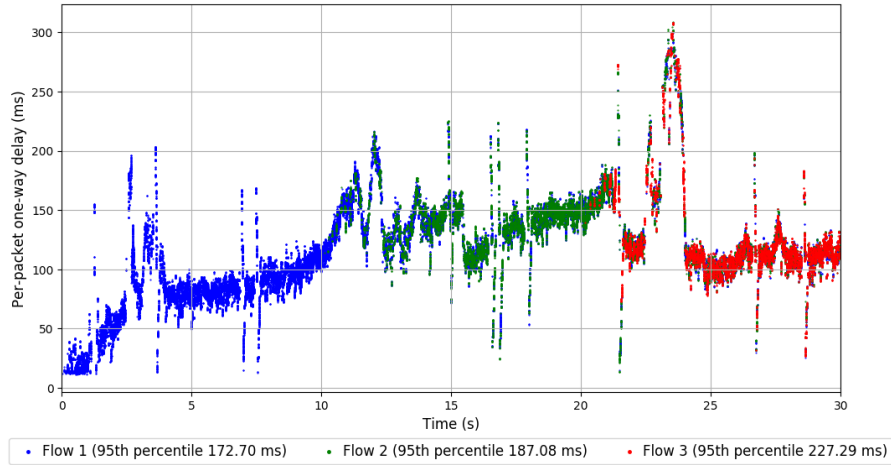
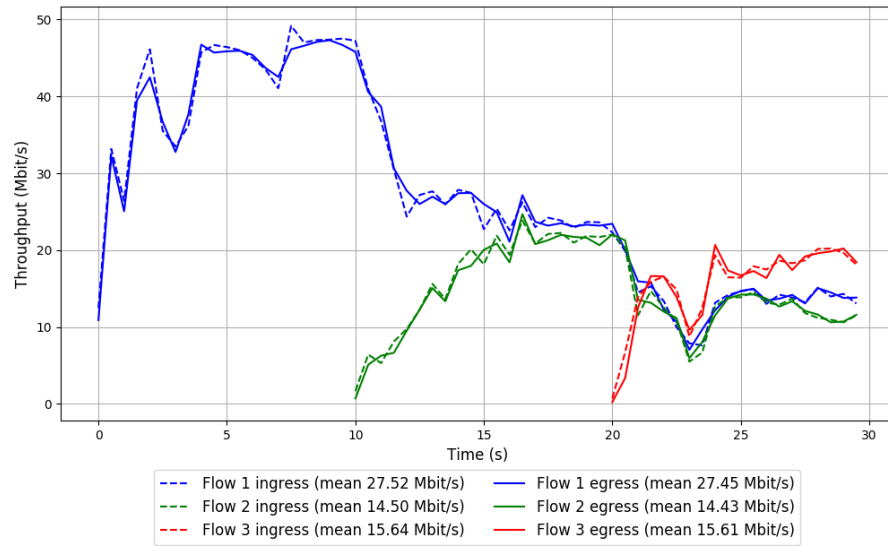


Run 3: Statistics of TCP Cubic

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

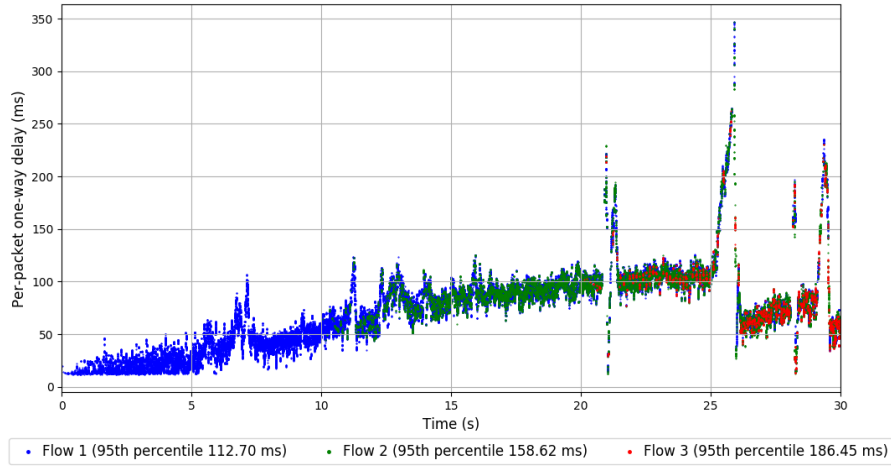
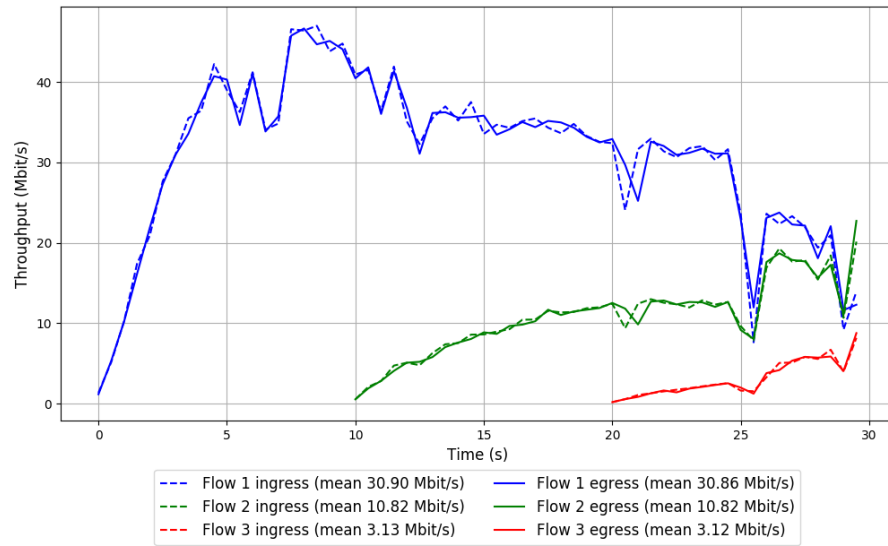


Run 1: Statistics of LEDBAT

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

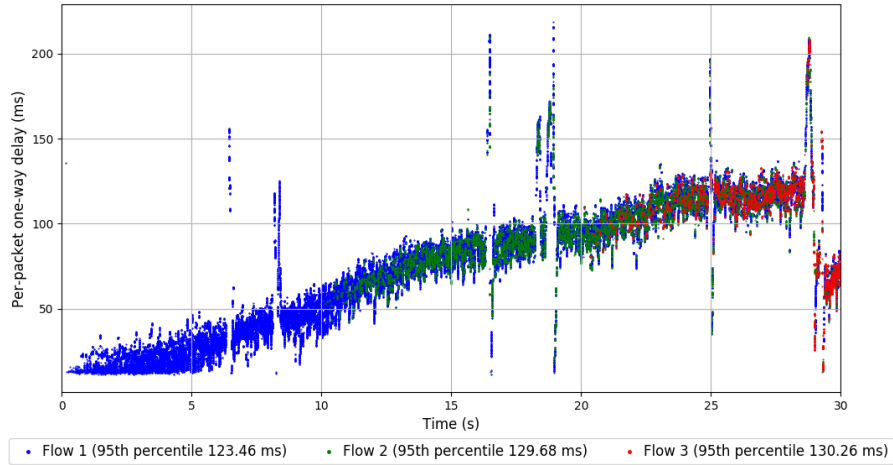
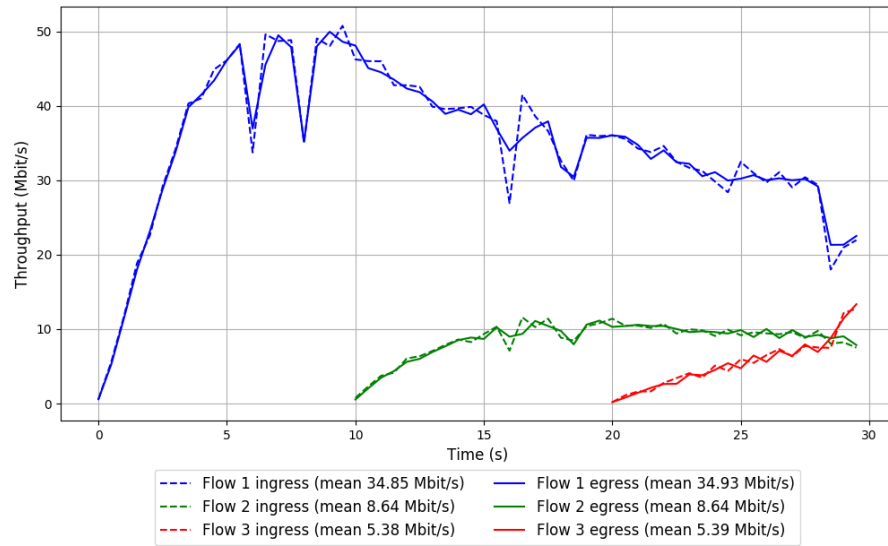


Run 2: Statistics of LEDBAT

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

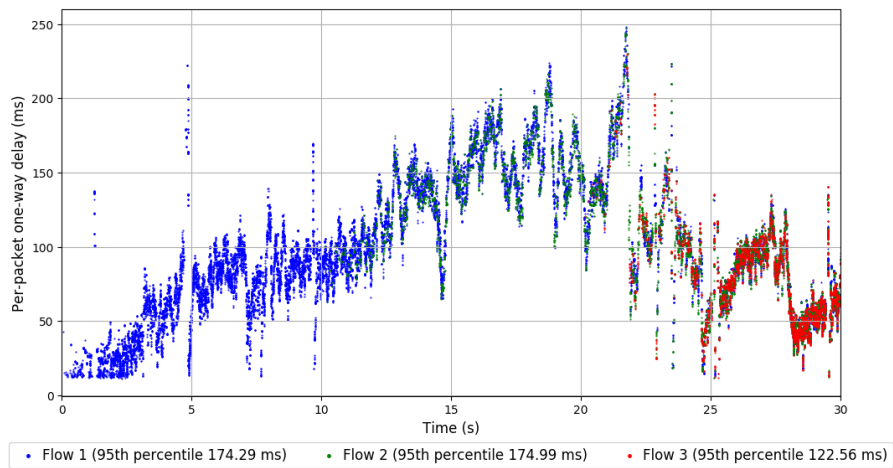
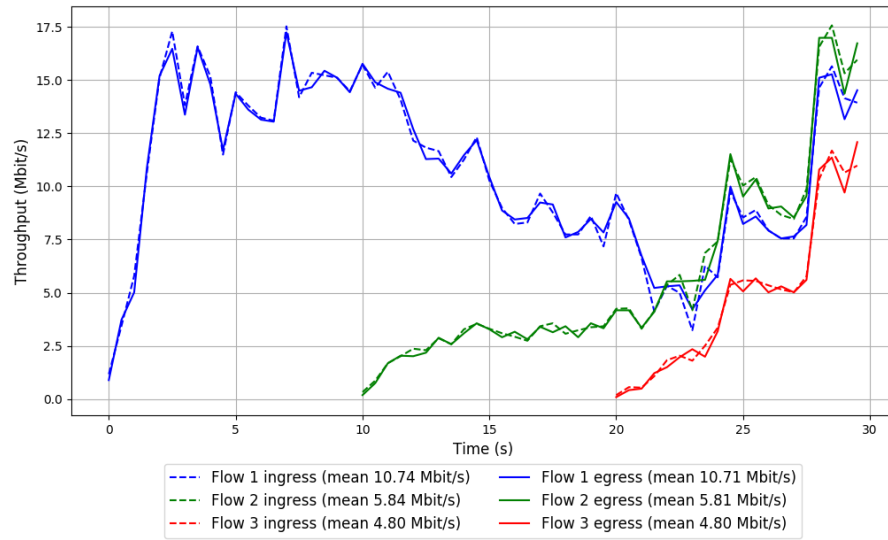


Run 3: Statistics of LEDBAT

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

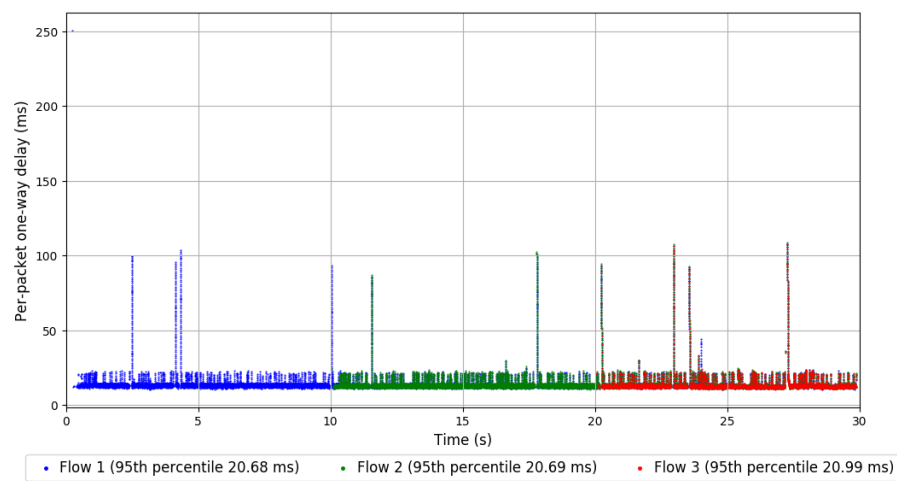
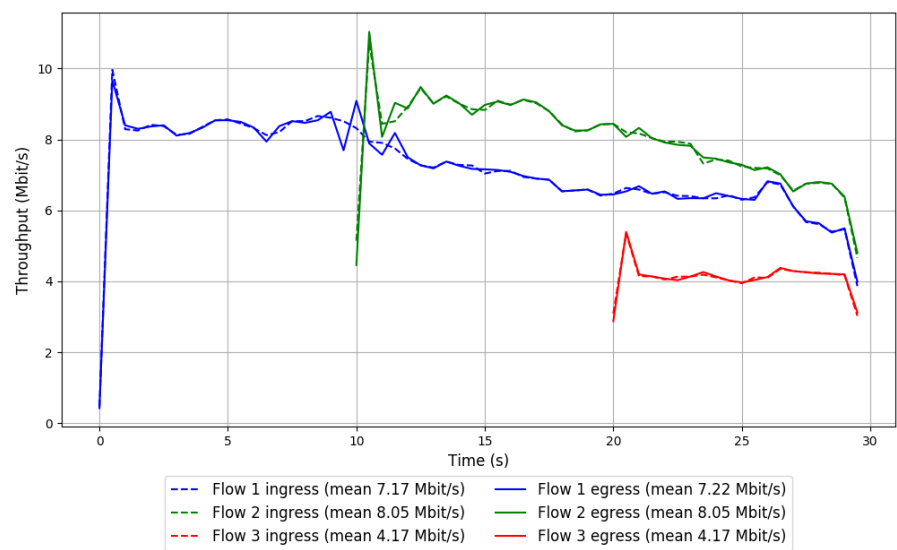


```
Run 1: Statistics of PCC

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

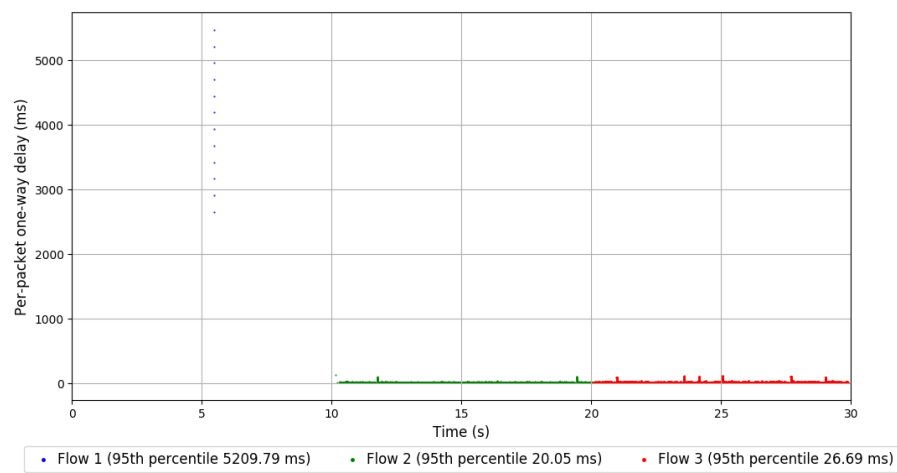
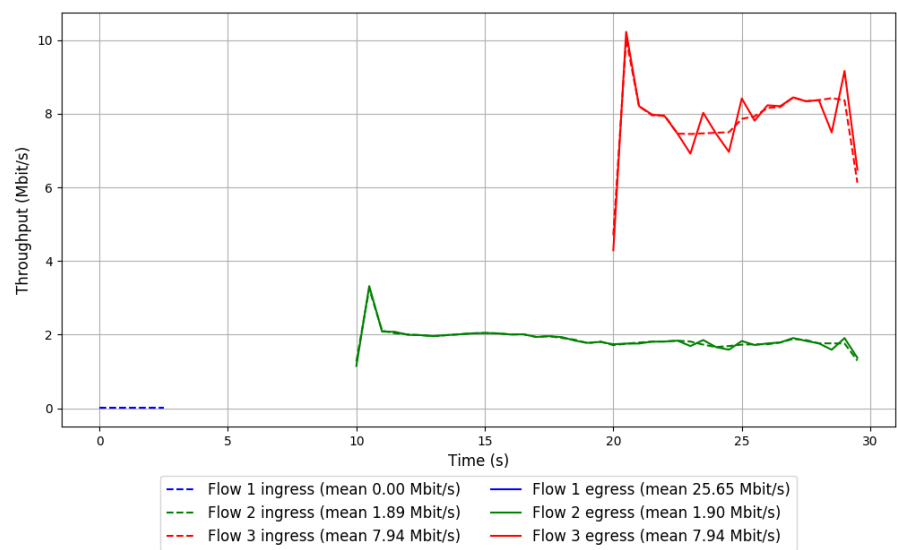


Run 2: Statistics of PCC

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

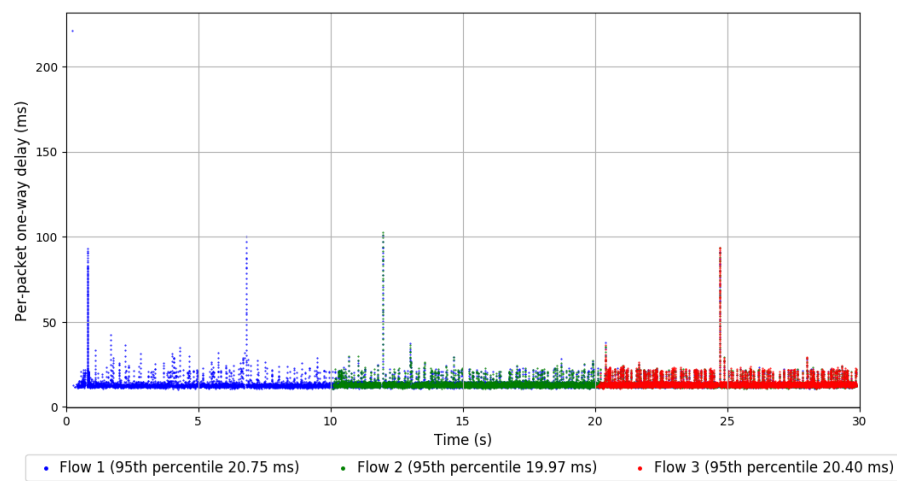
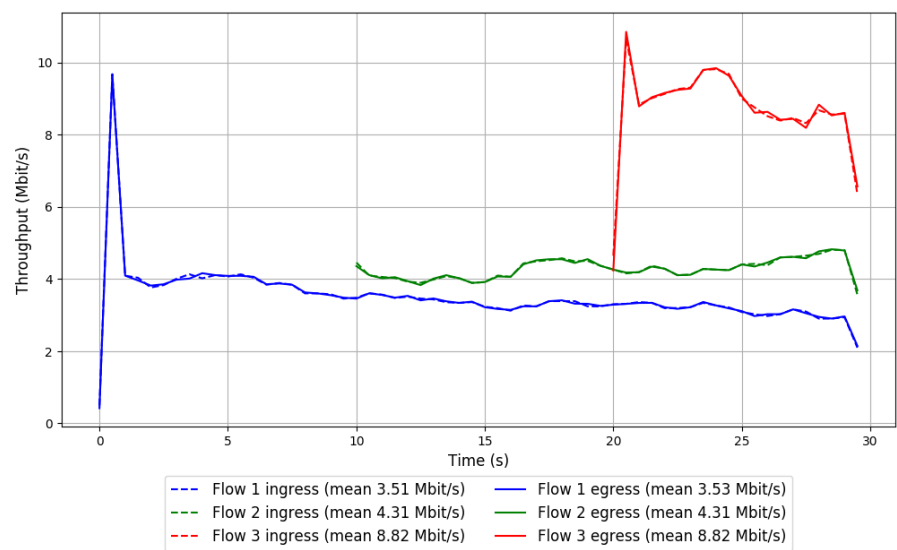


Run 3: Statistics of PCC

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

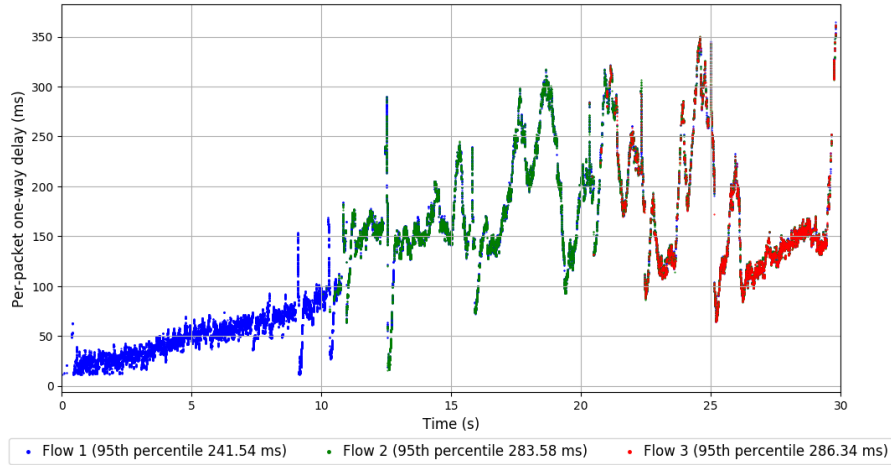
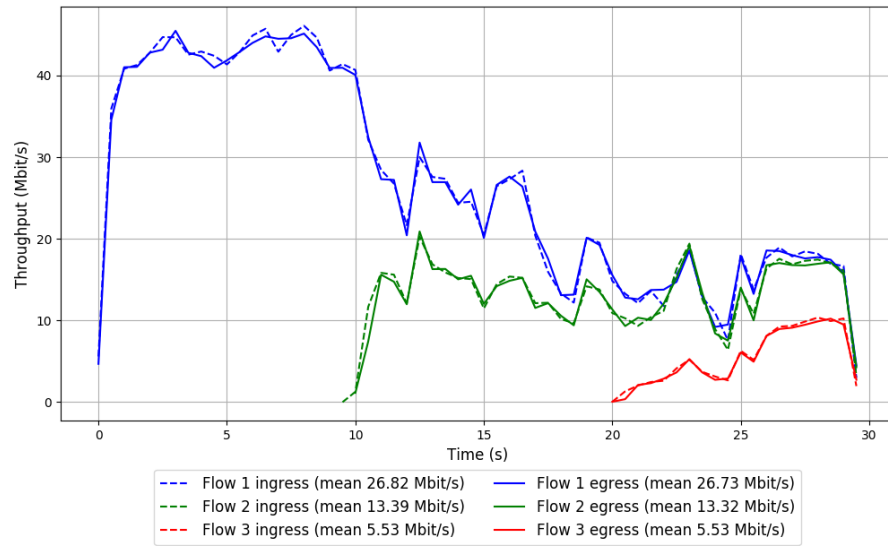


Run 1: Statistics of QUIC Cubic

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

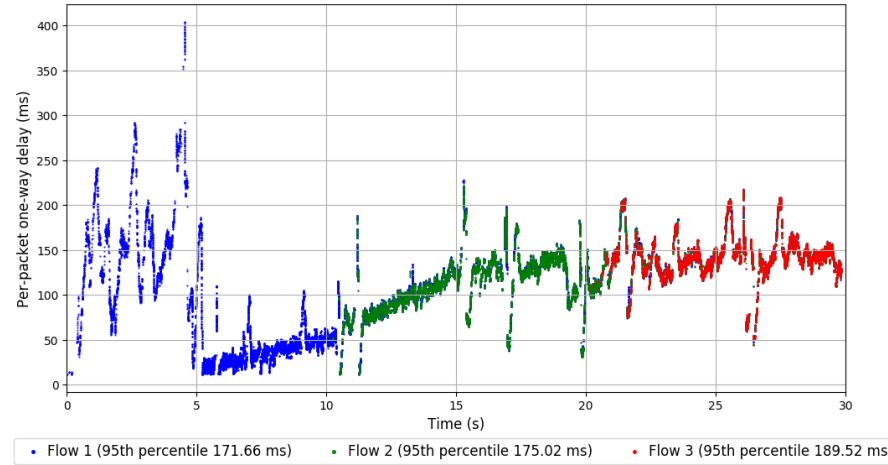
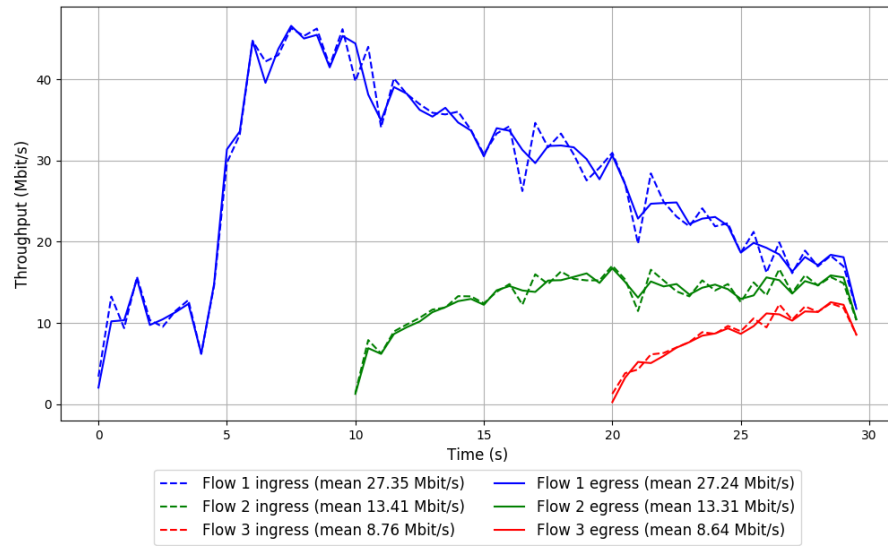


Run 2: Statistics of QUIC Cubic

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

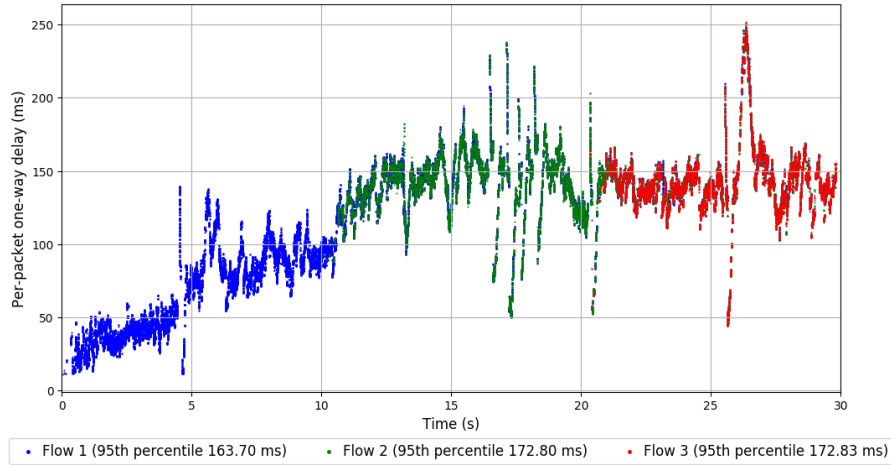
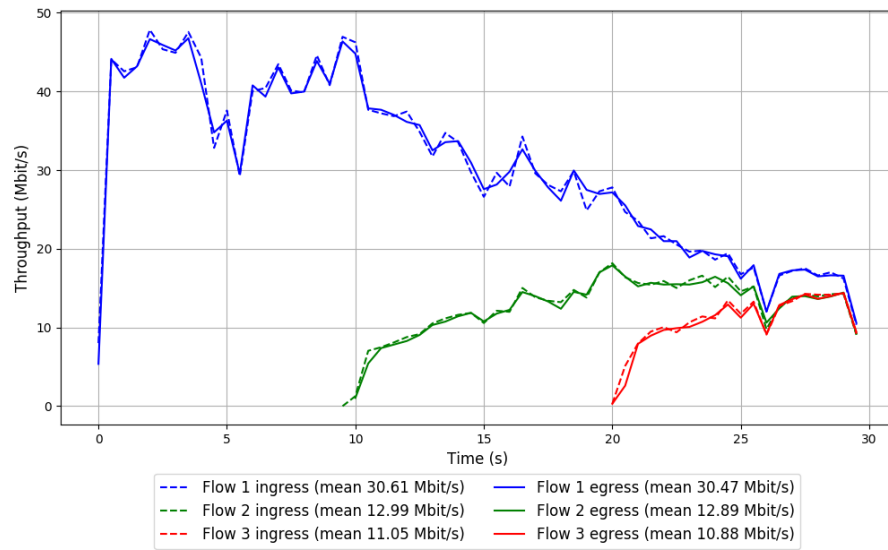


Run 3: Statistics of QUIC Cubic

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

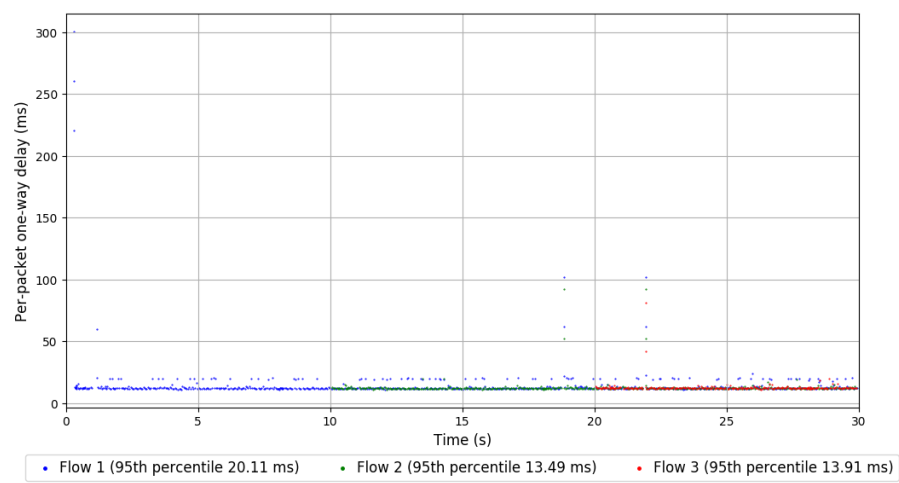
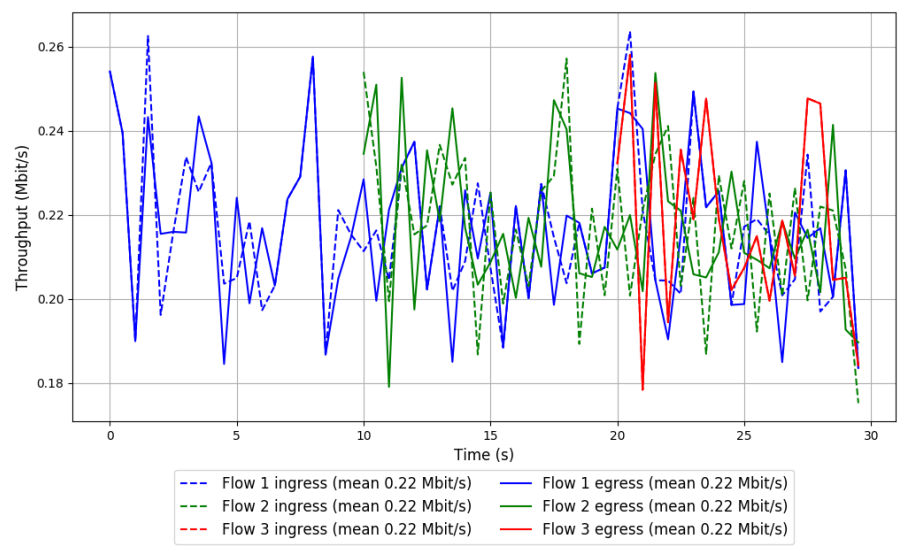


Run 1: Statistics of SReAM

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 SReAM — Data Link

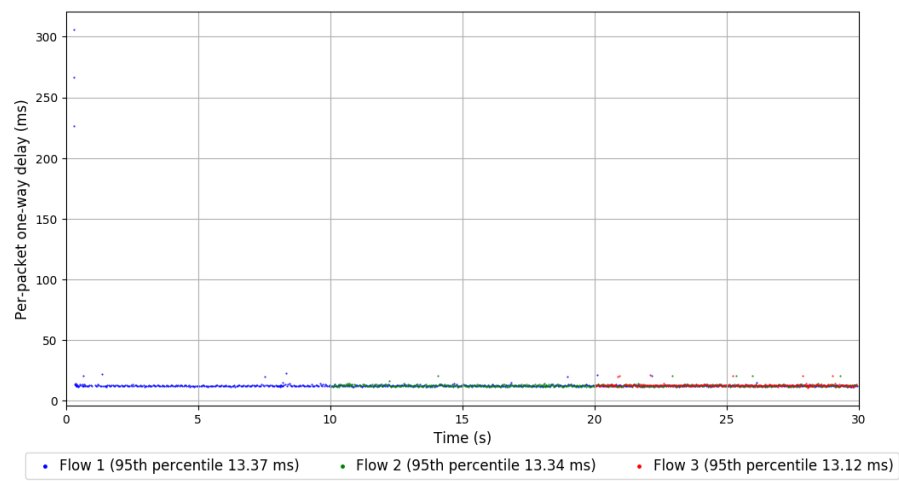
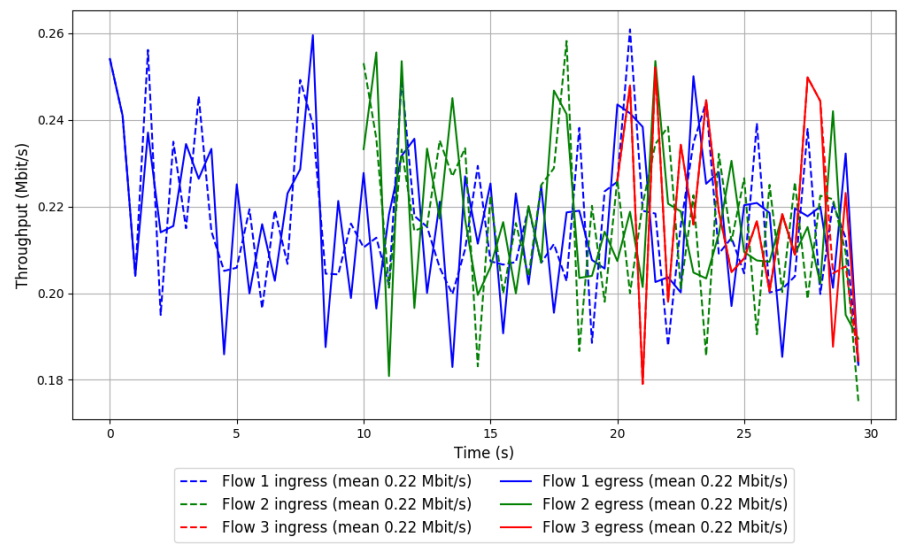


Run 2: Statistics of SReAM

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 SReAM — Data Link

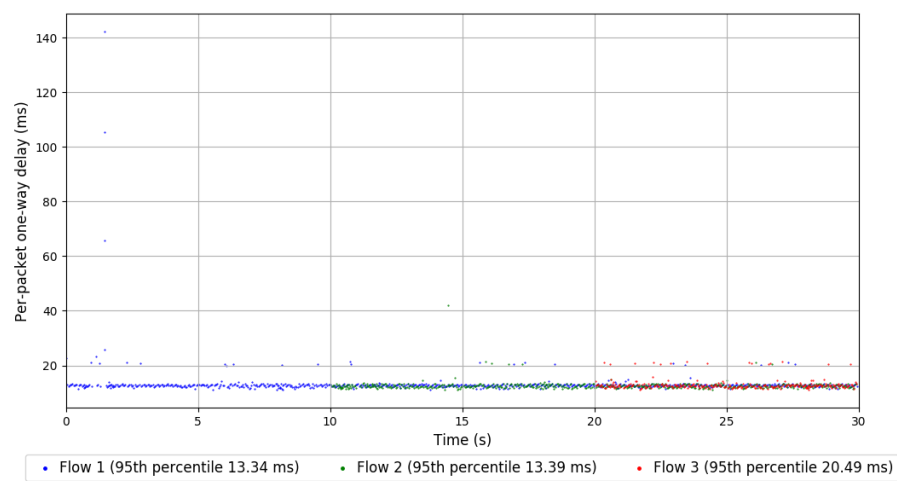
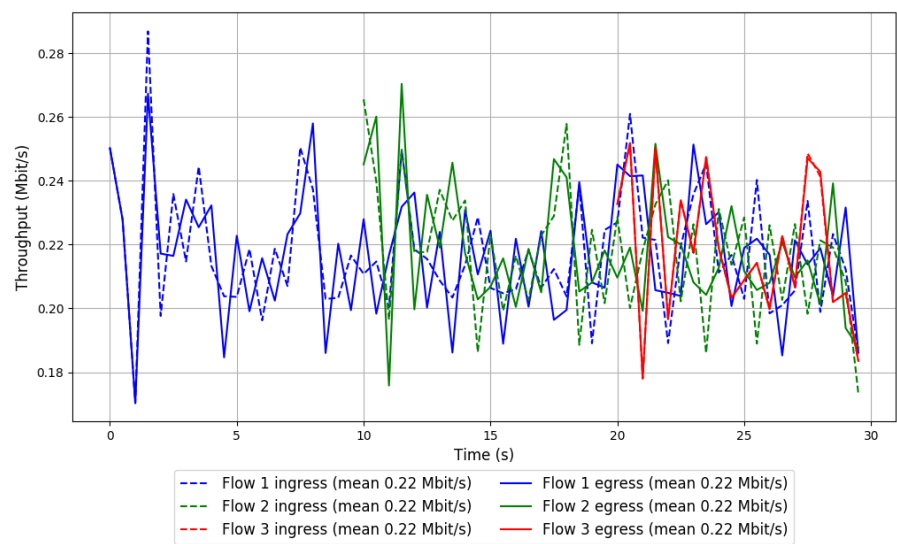


Run 3: Statistics of SReAM

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 SReAM — Data Link

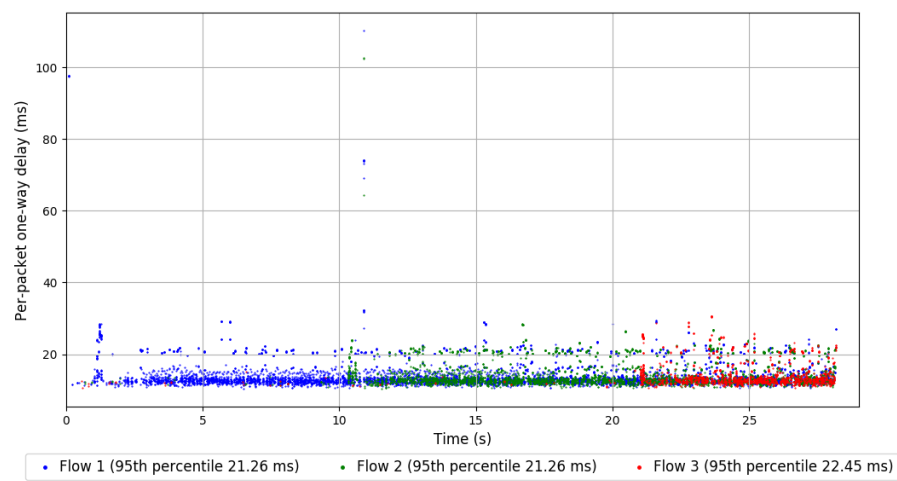
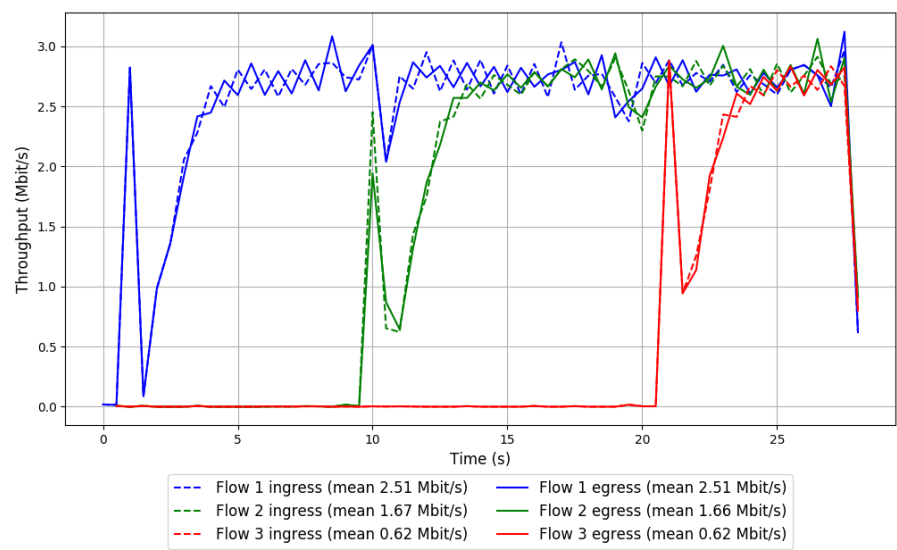


Run 1: Statistics of WebRTC media

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

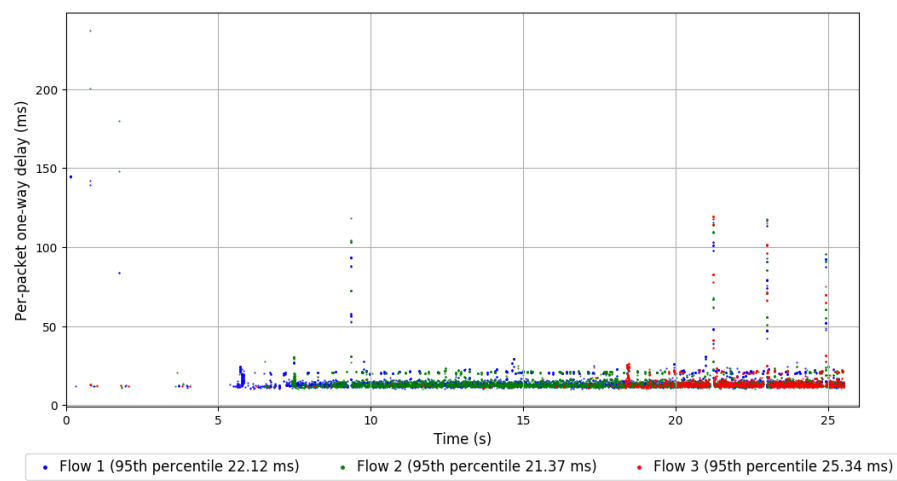
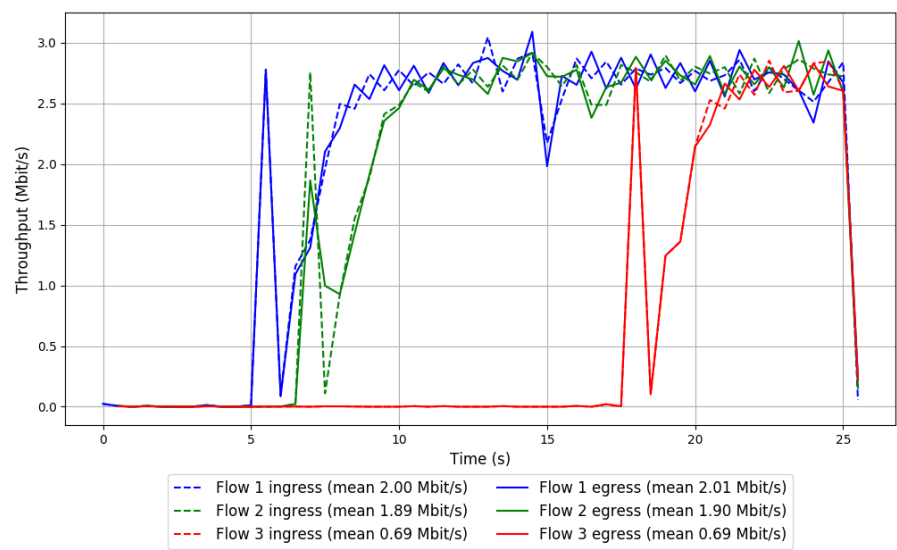


Run 2: Statistics of WebRTC media

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

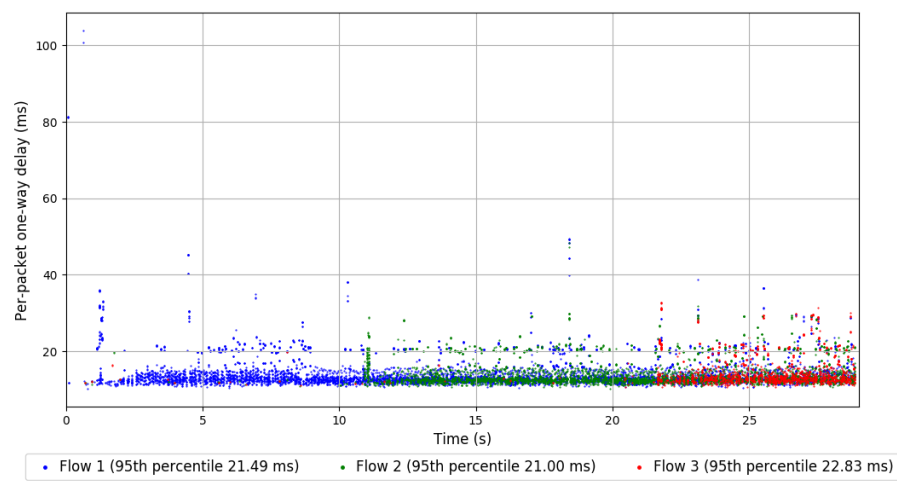
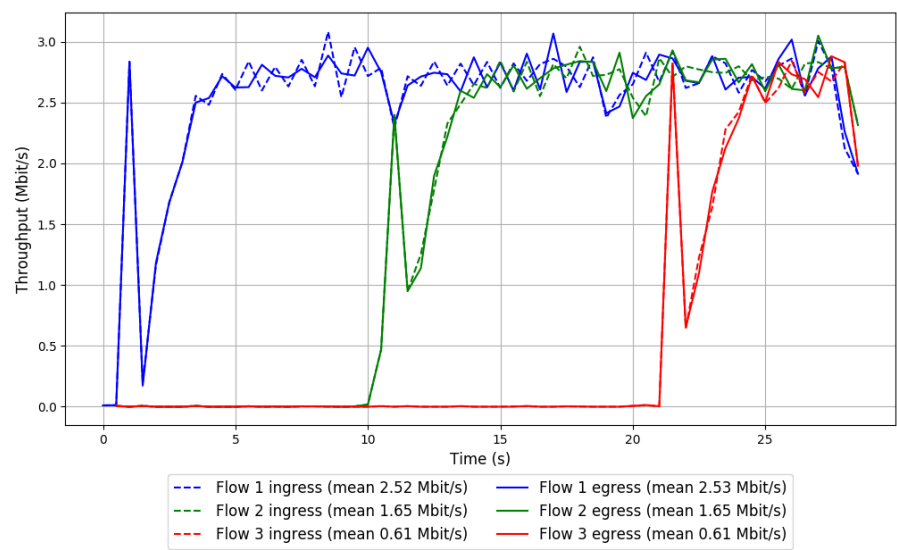


Run 3: Statistics of WebRTC media

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

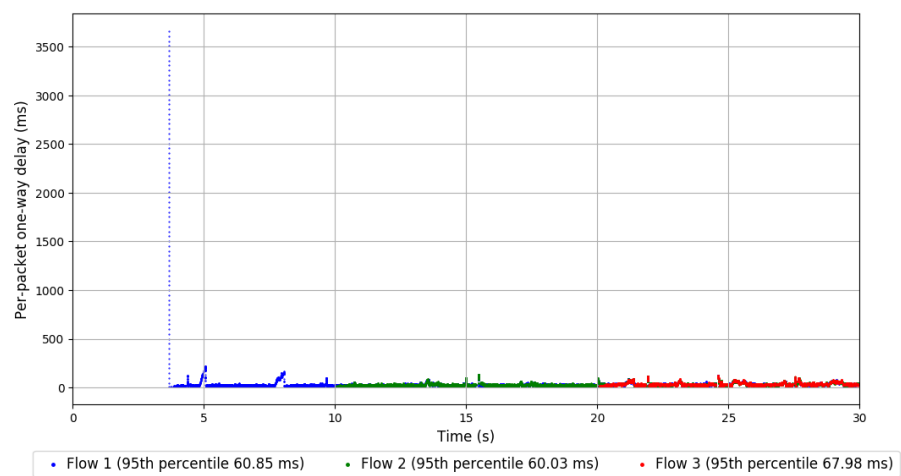
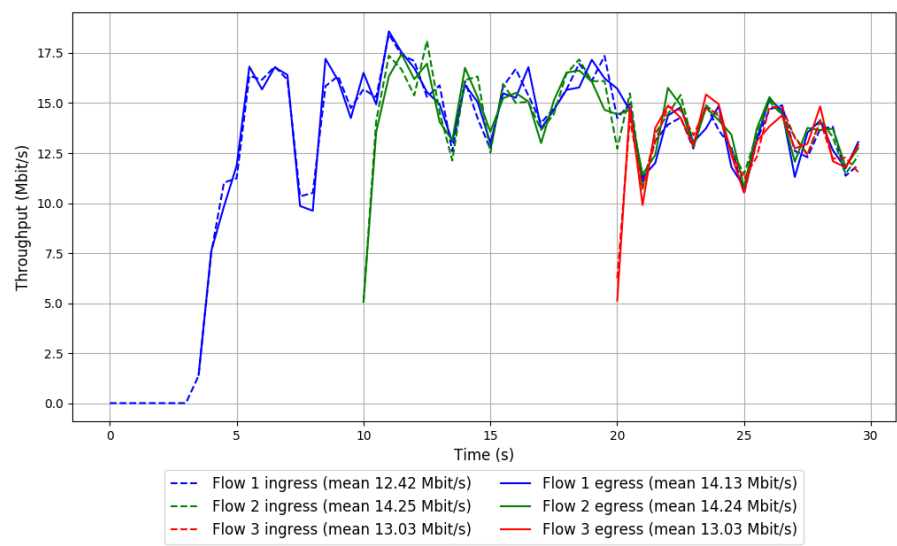


Run 1: Statistics of Sprout

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

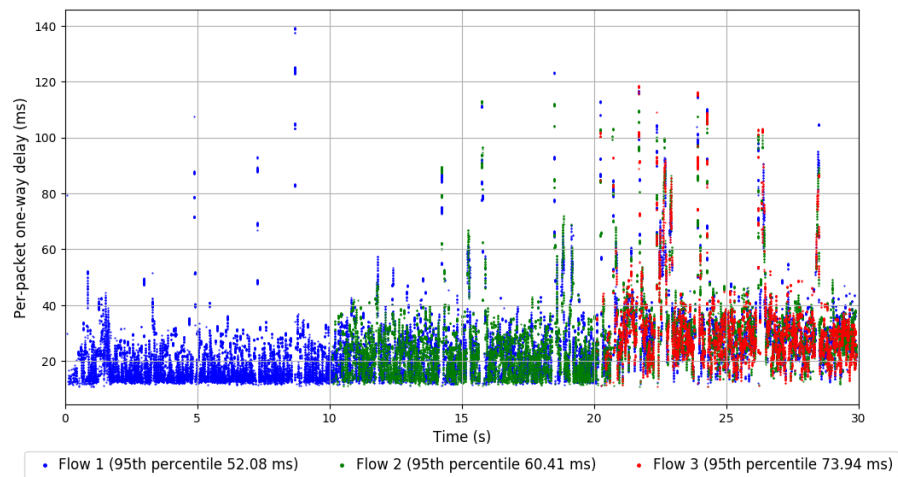
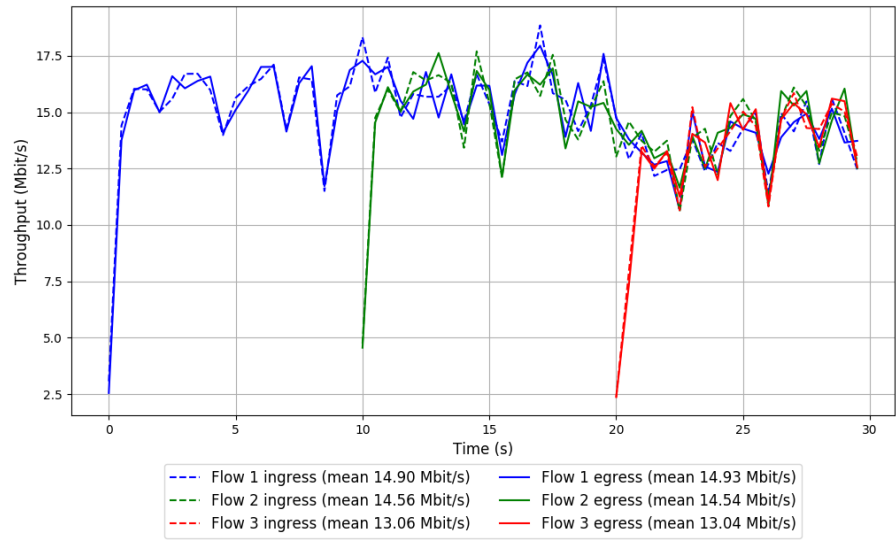


## Run 2: Statistics of Sprout

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

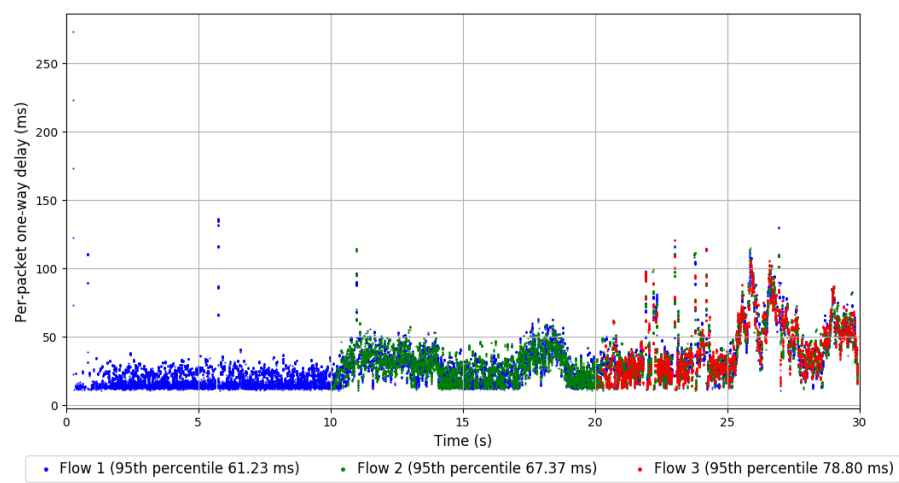
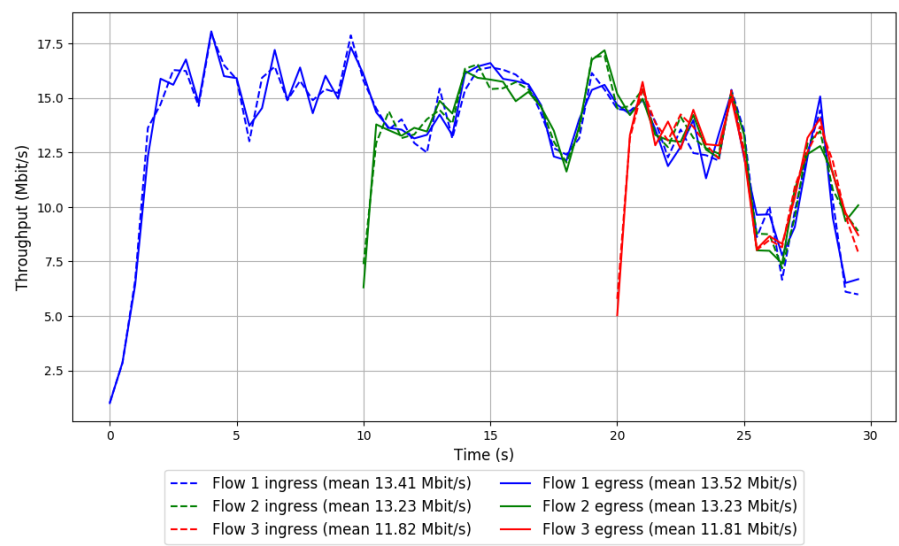


Run 3: Statistics of Sprout

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

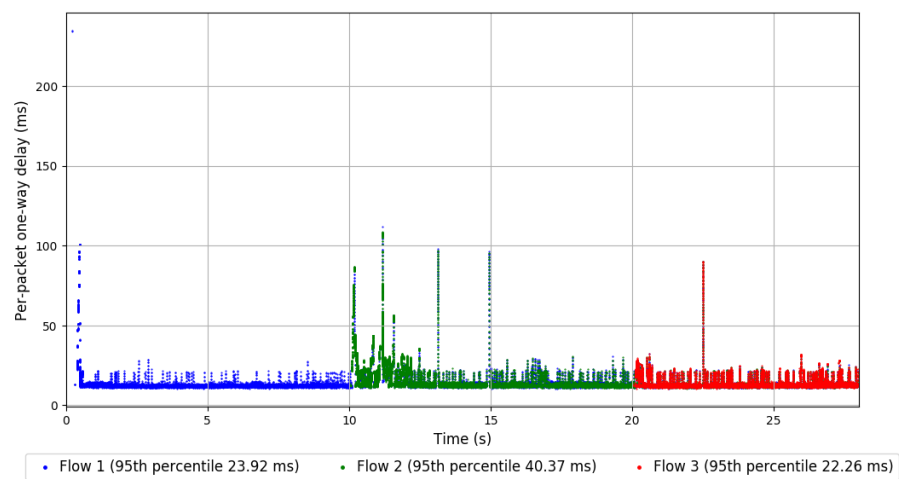
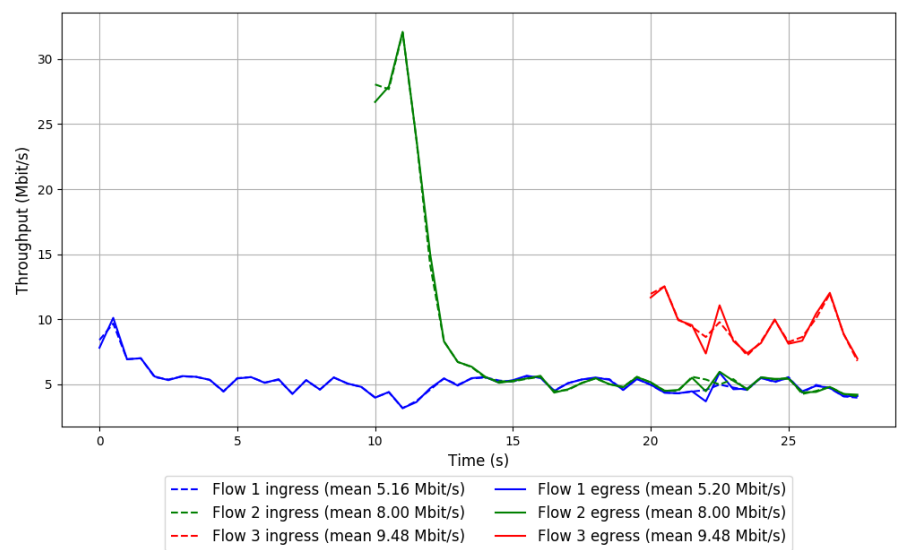


Run 1: Statistics of TaoVA-100x

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

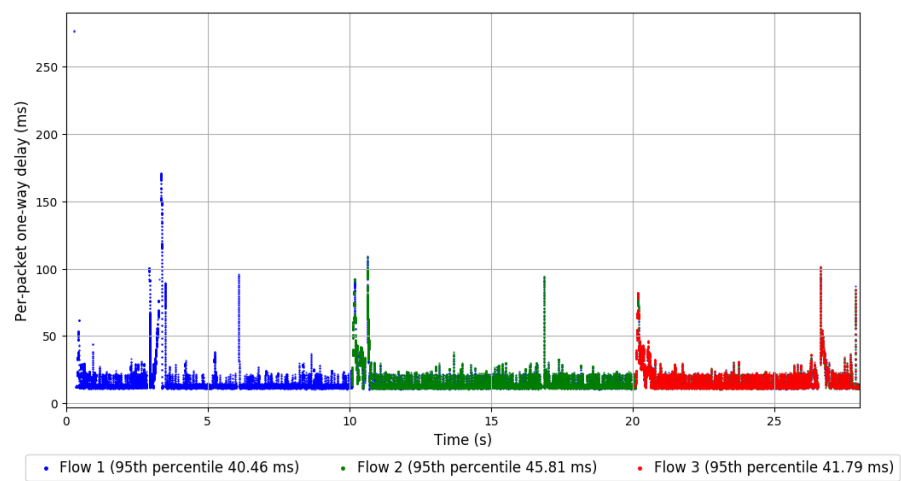
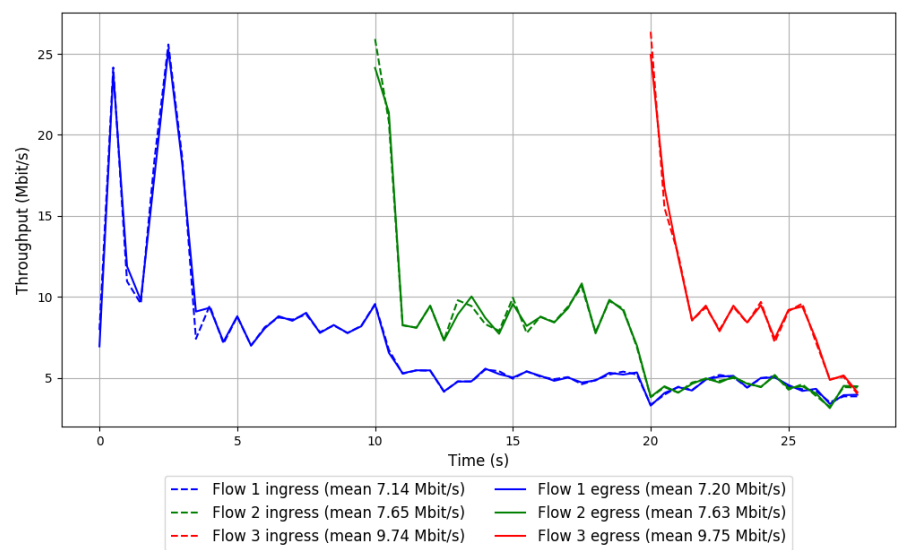


Run 2: Statistics of TaoVA-100x

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

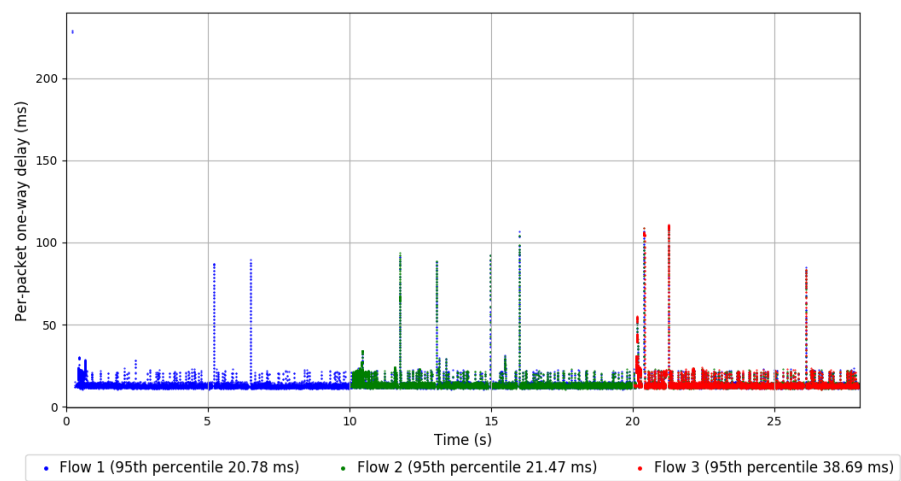
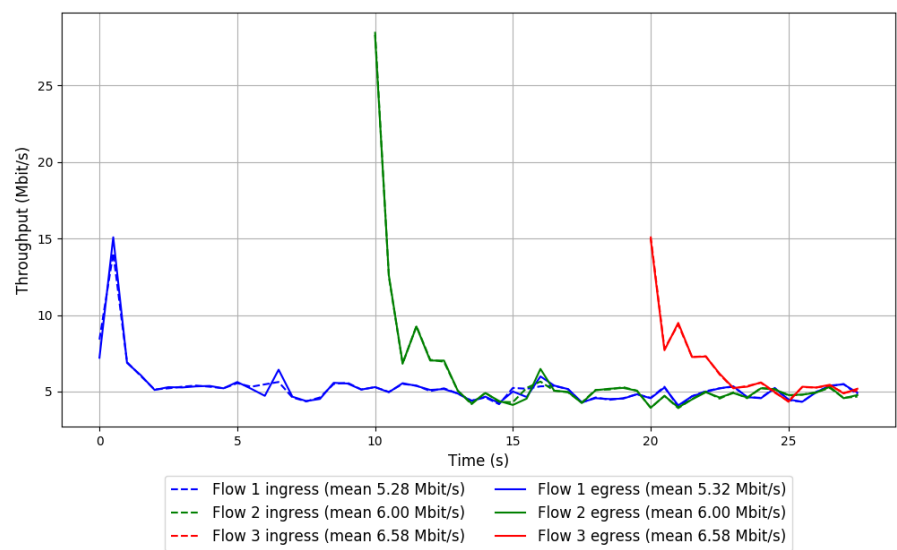


Run 3: Statistics of TaoVA-100x

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

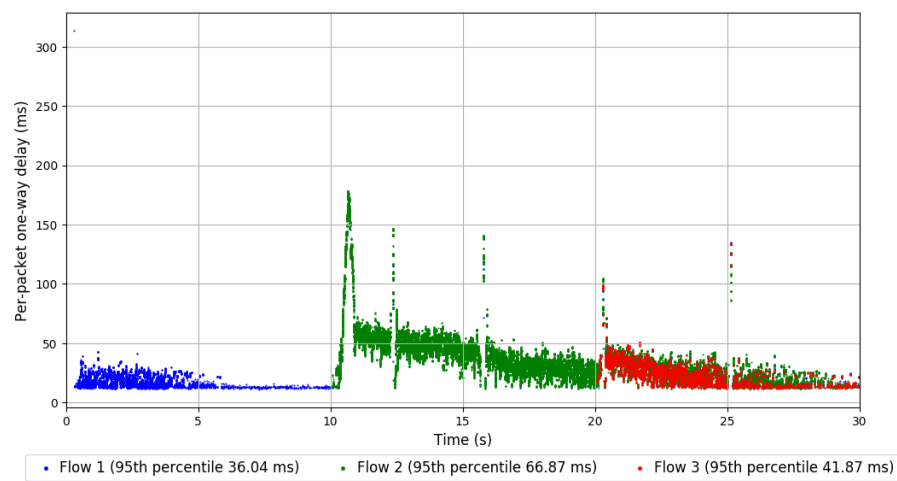
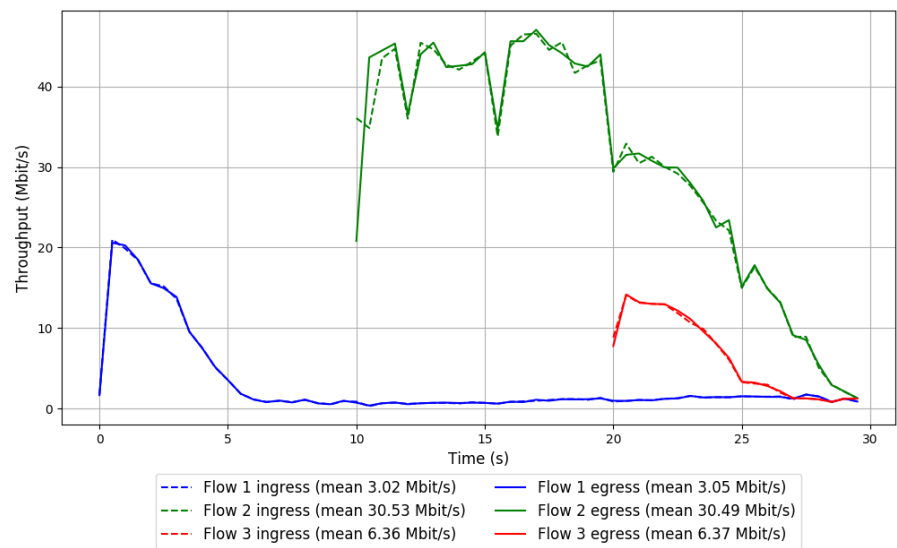


Run 1: Statistics of TCP Vegas

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

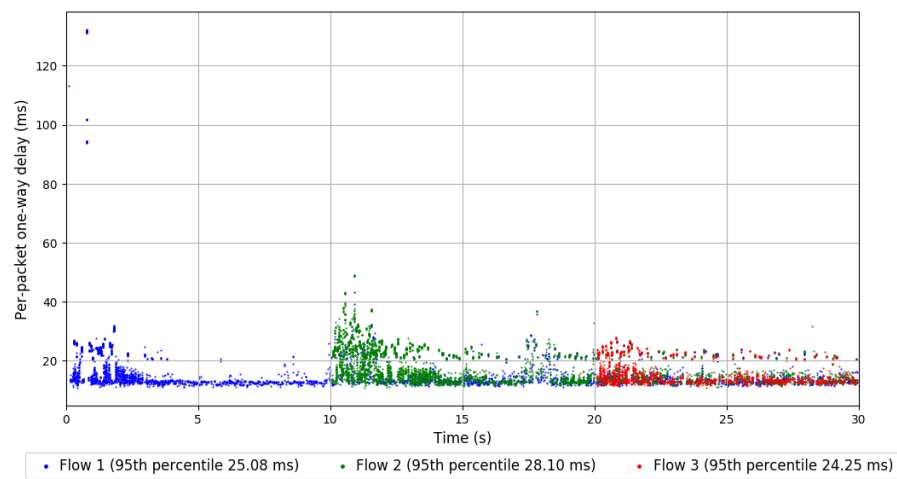
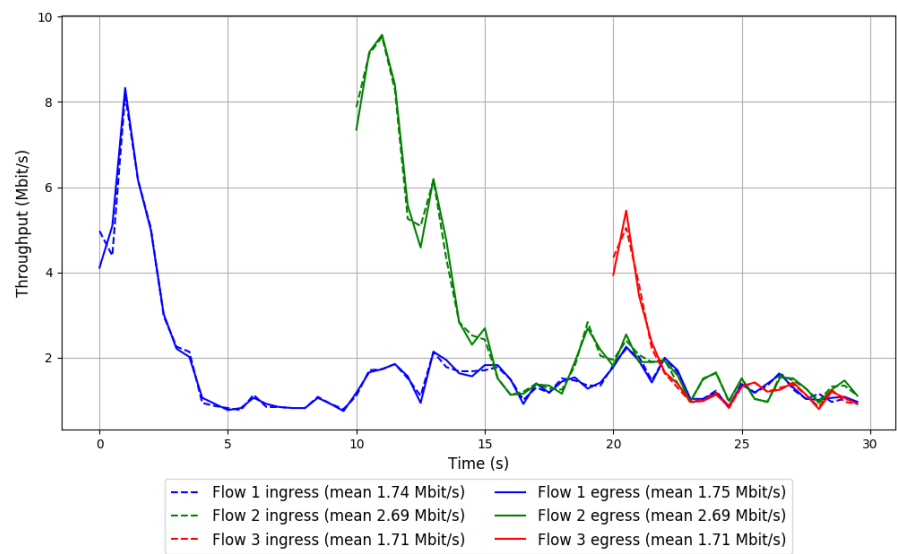


Run 2: Statistics of TCP Vegas

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

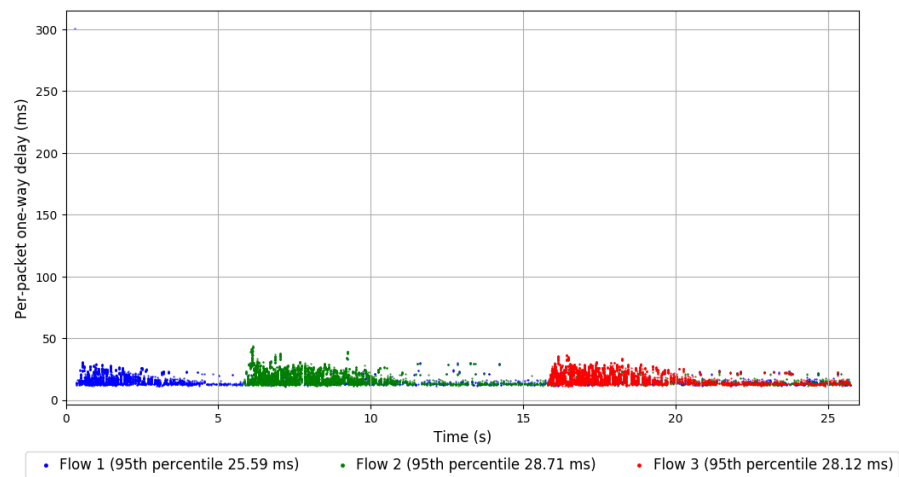
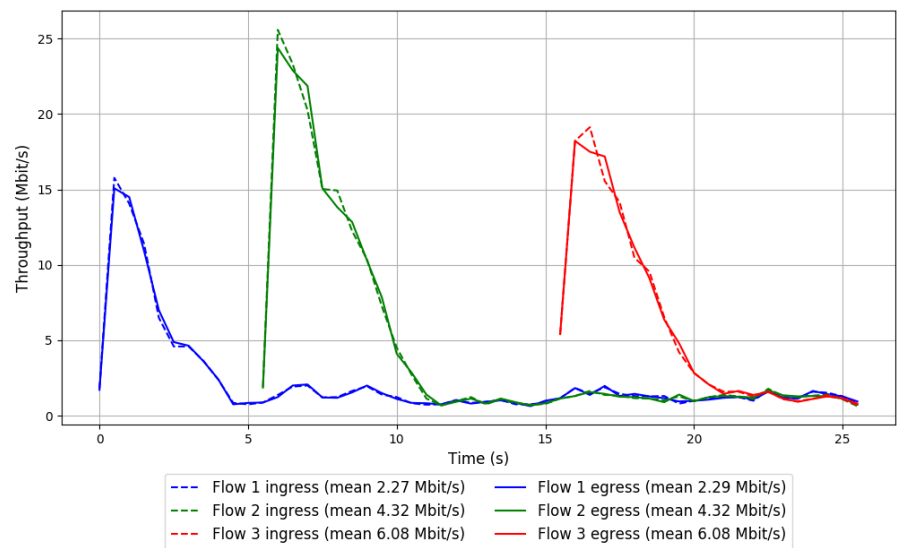


Run 3: Statistics of TCP Vegas

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

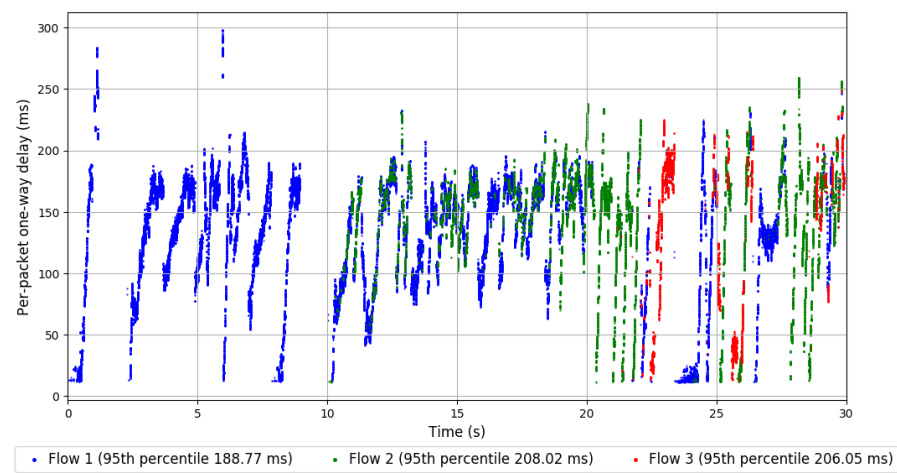
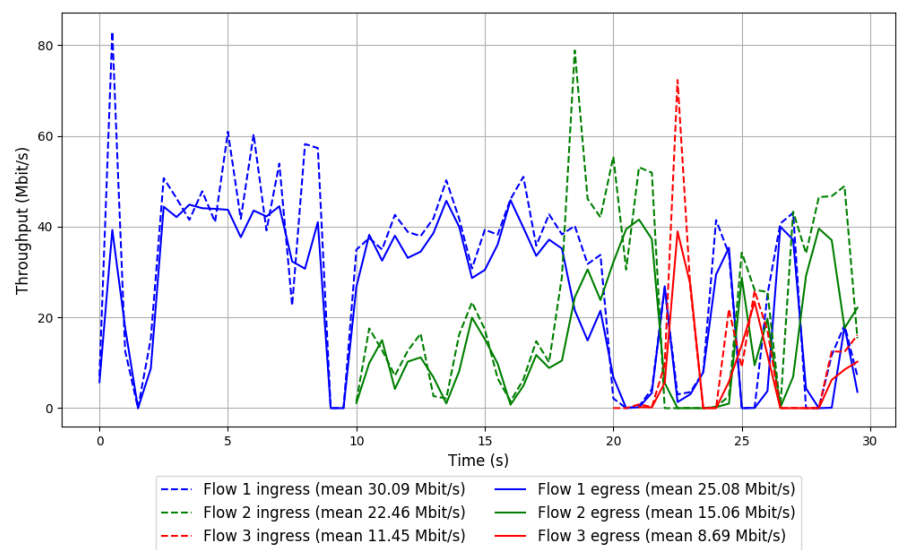


Run 1: Statistics of Verus

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

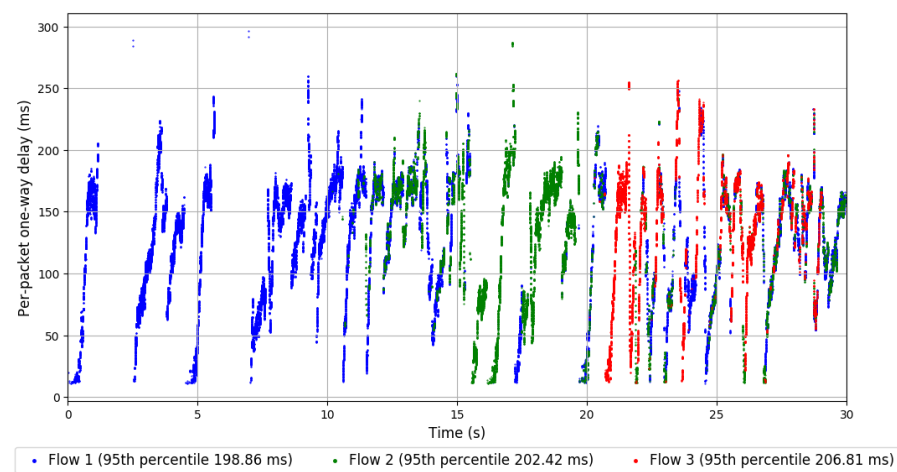
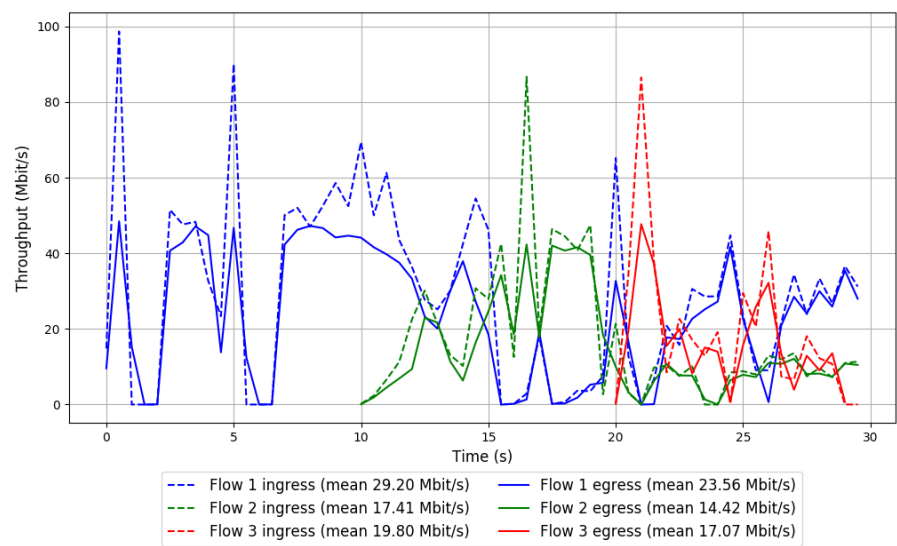


Run 2: Statistics of Verus

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

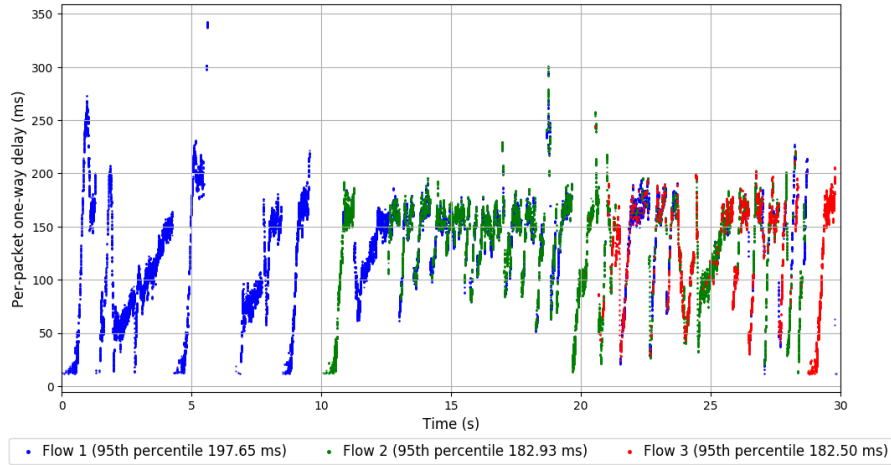
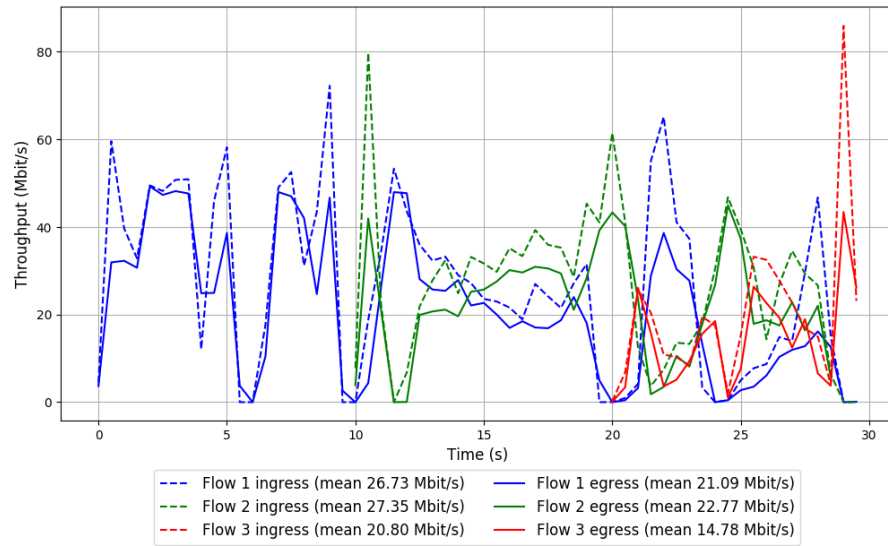


Run 3: Statistics of Verus

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%

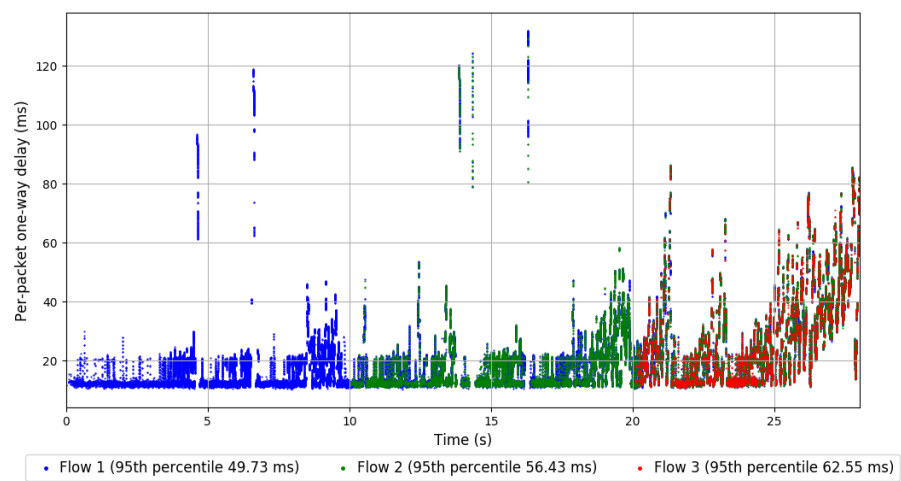
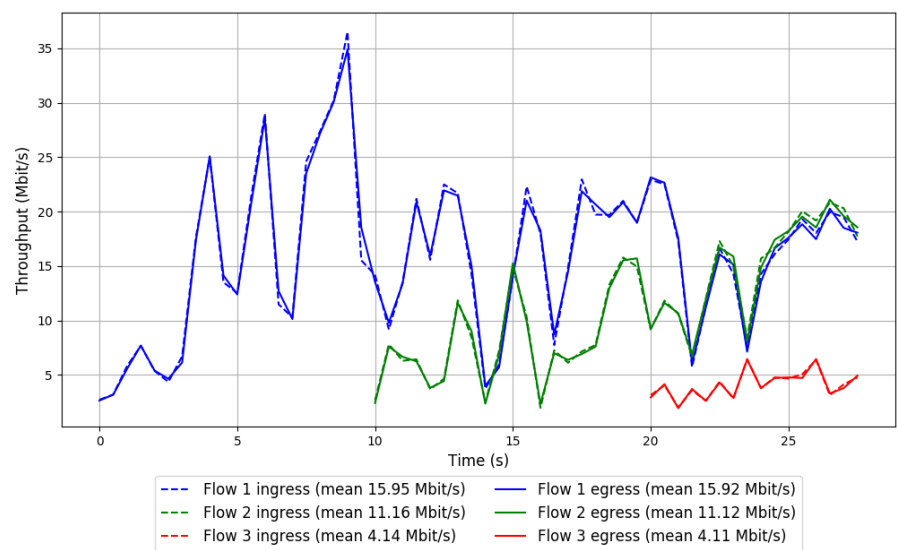
-- Flow 3:

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

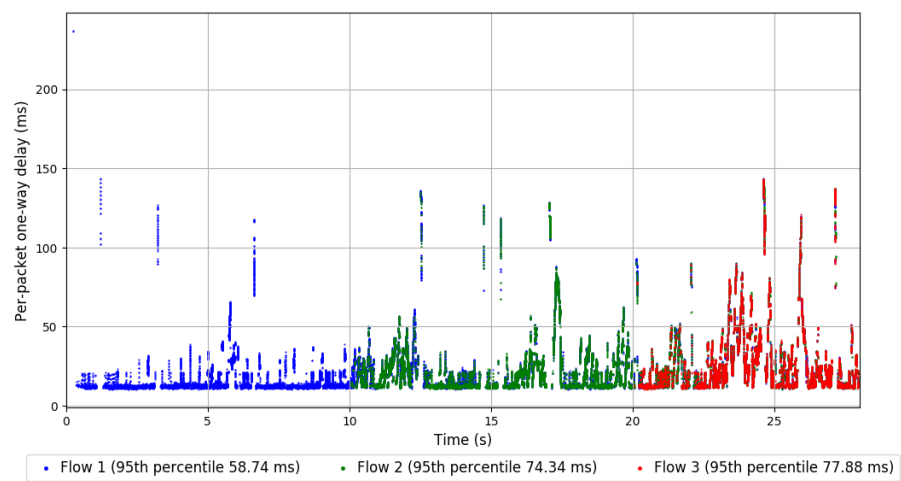
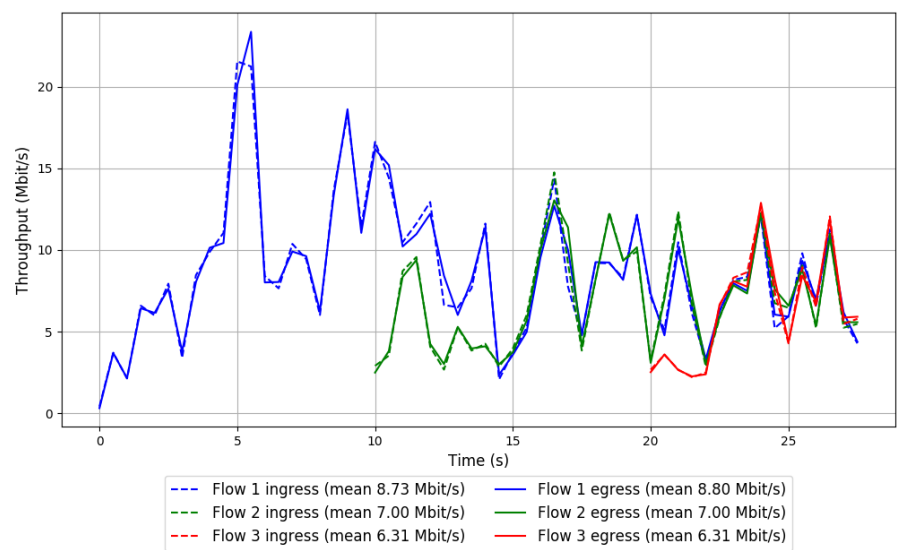


Run 2: Statistics of Copa

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

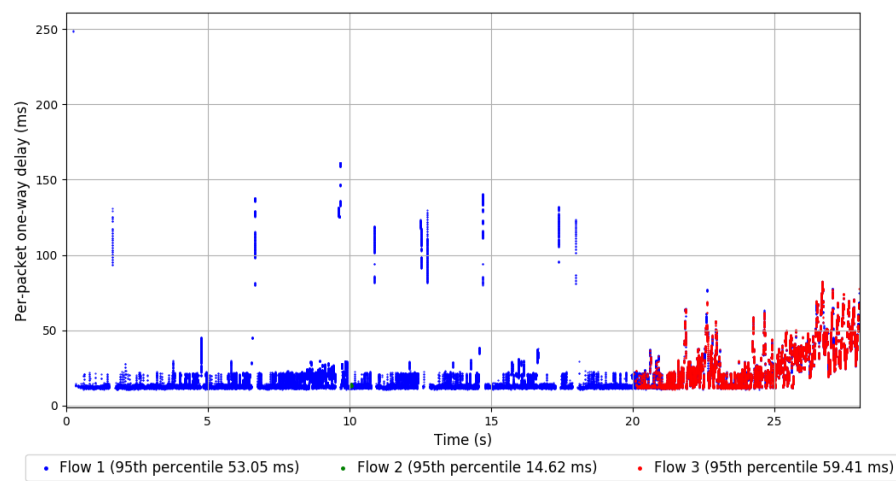
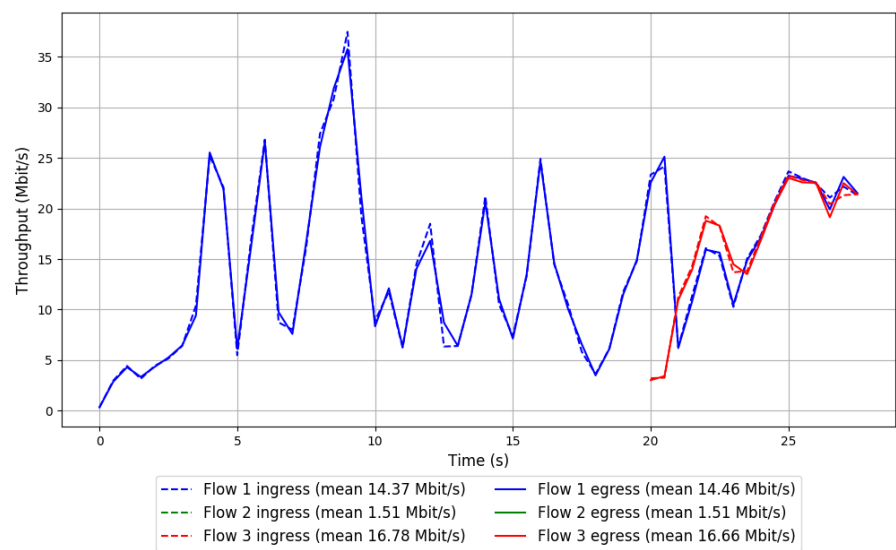


Run 3: Statistics of Copa

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

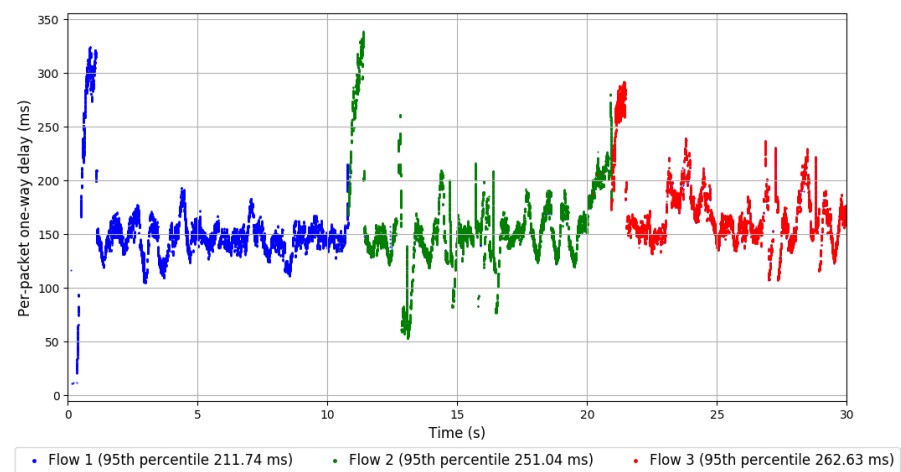
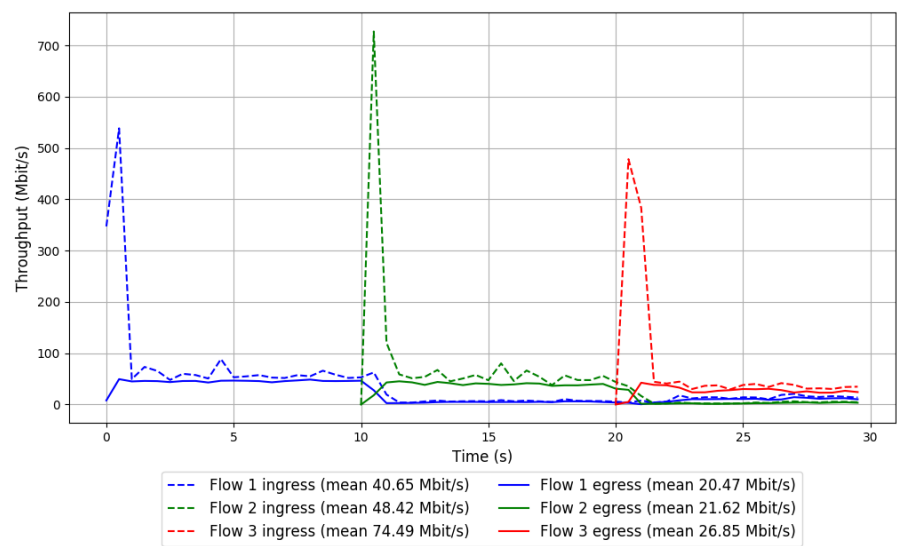


Run 1: Statistics of FillP

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

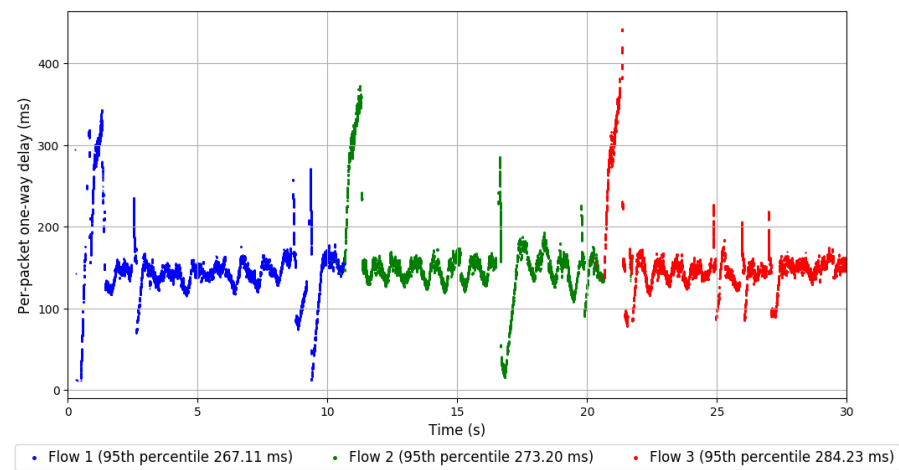
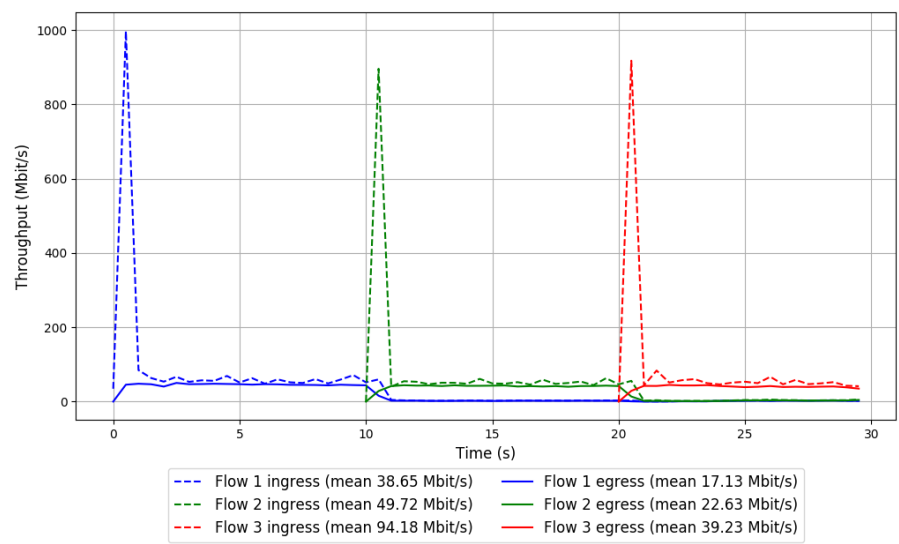


Run 2: Statistics of FillP

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

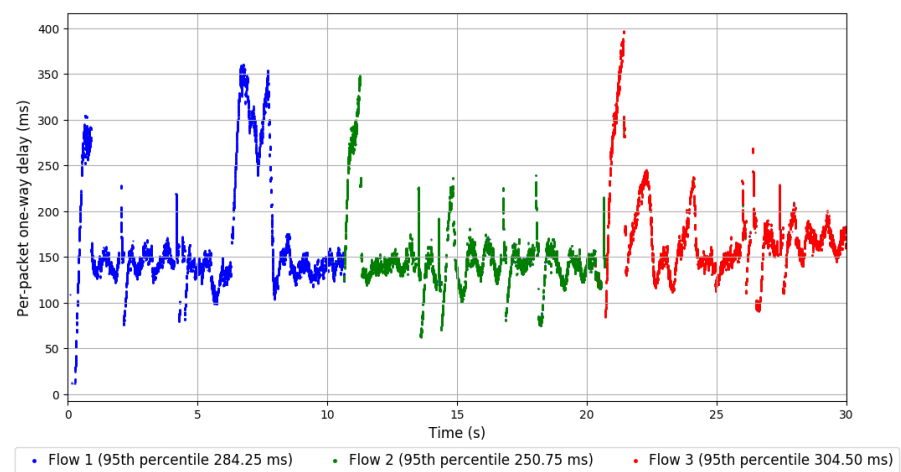
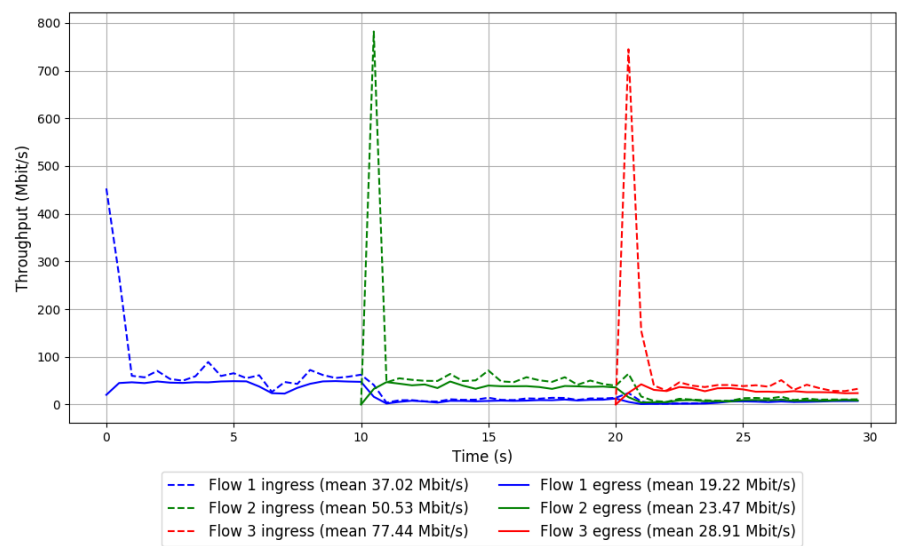


Run 3: Statistics of FillP

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

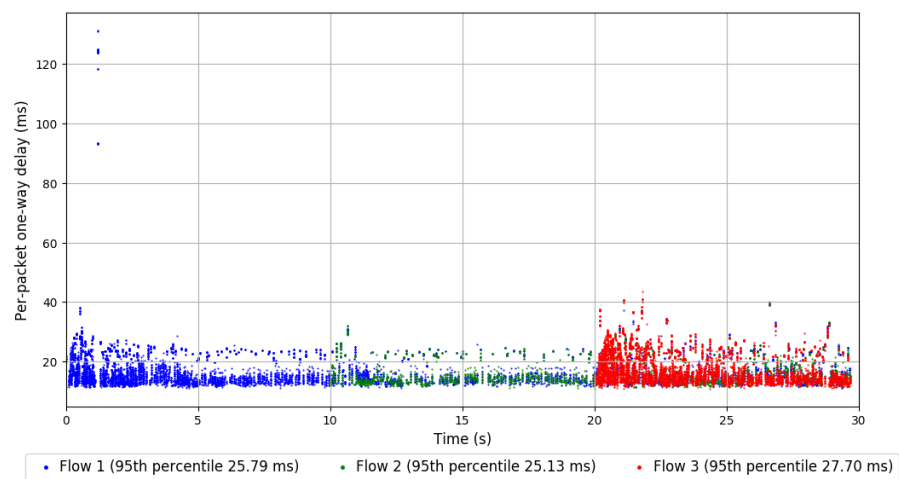
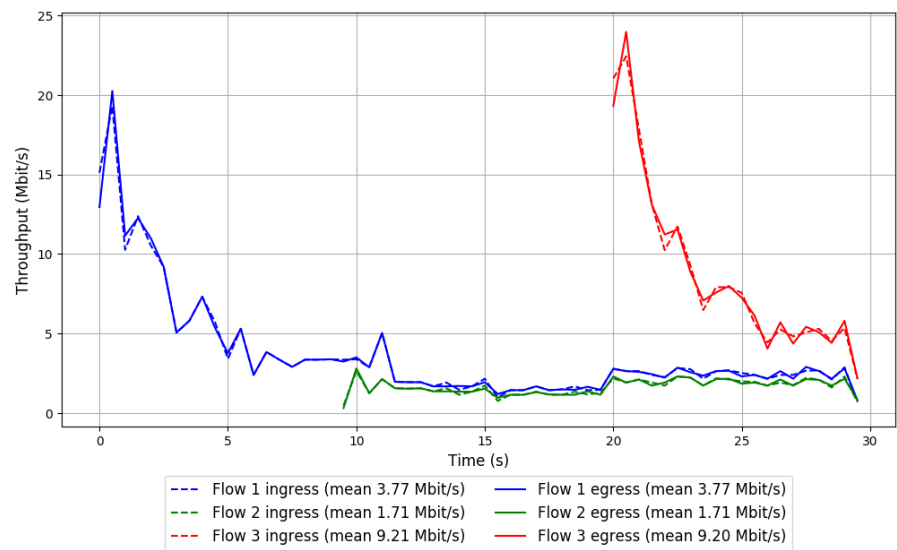


```
Run 1: Statistics of Indigo

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

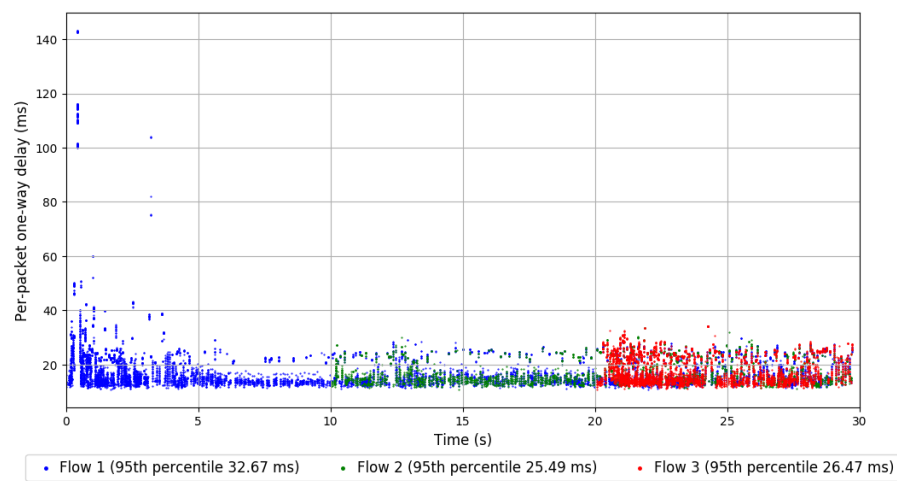
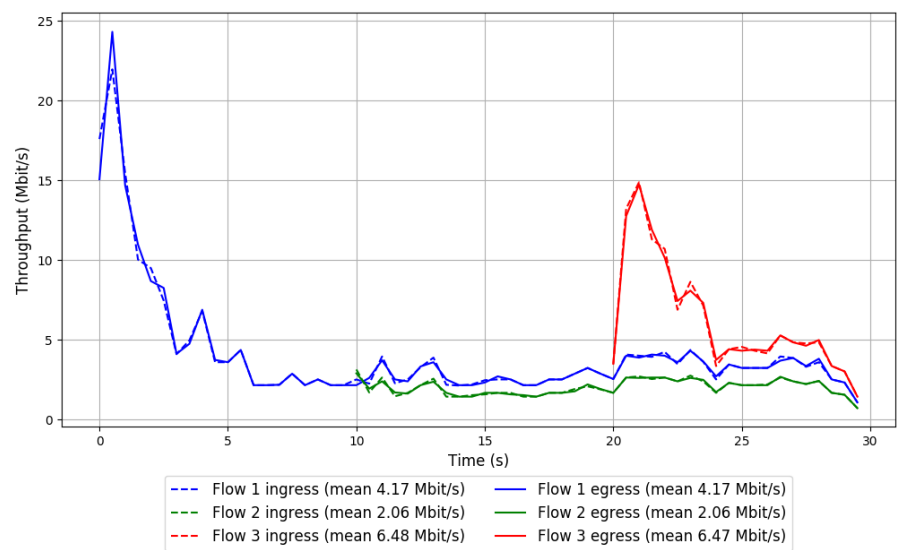


Run 2: Statistics of Indigo

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

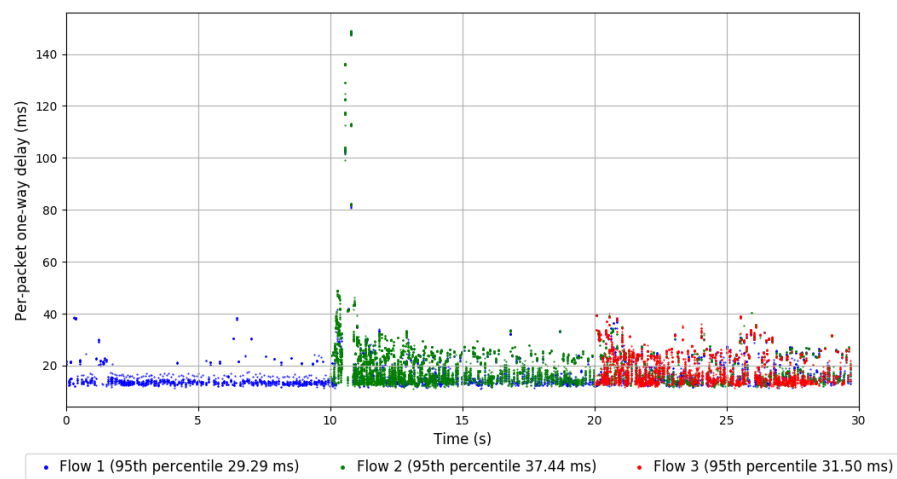
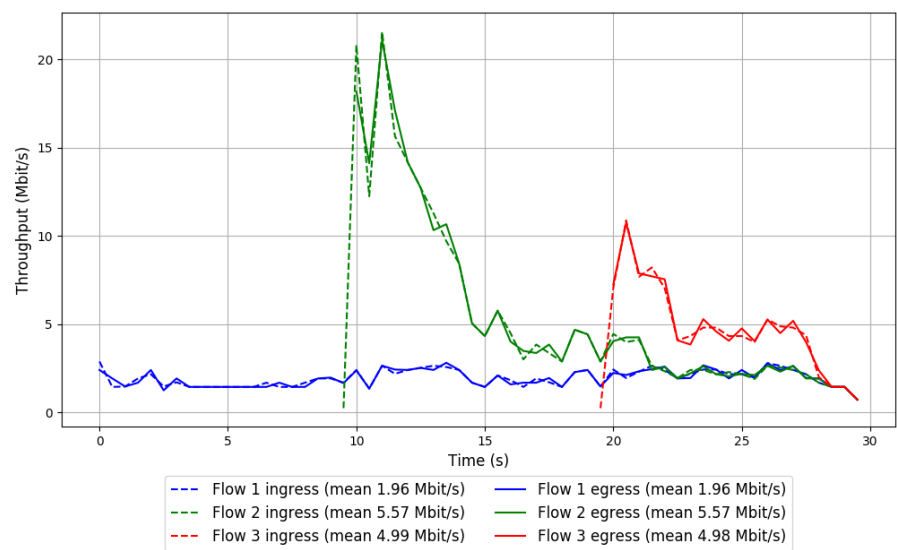


Run 3: Statistics of Indigo

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%

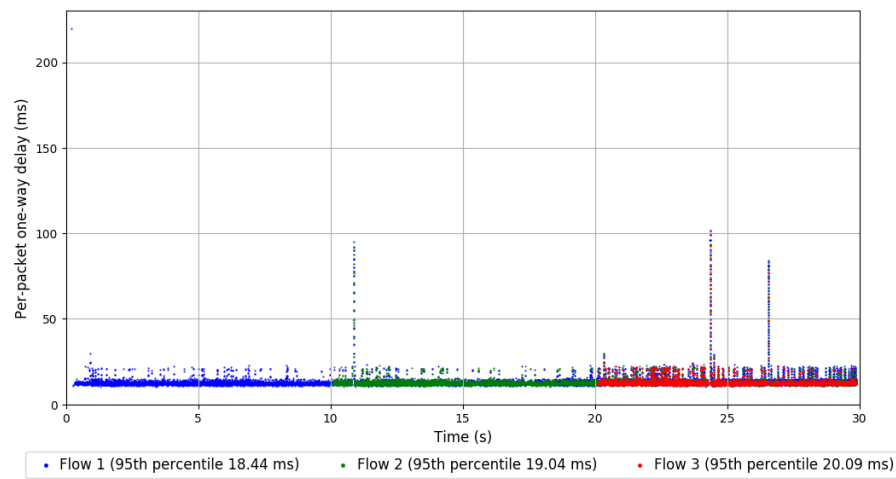
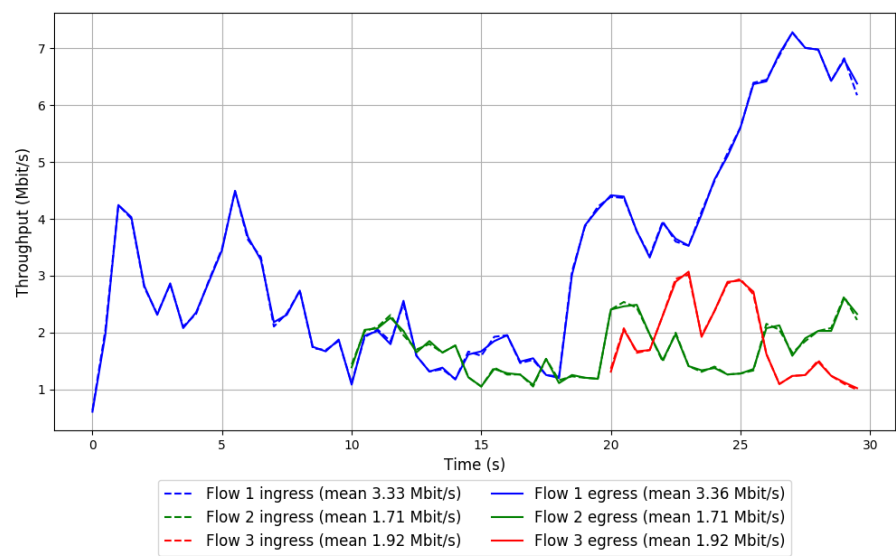
-- Flow 3:

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

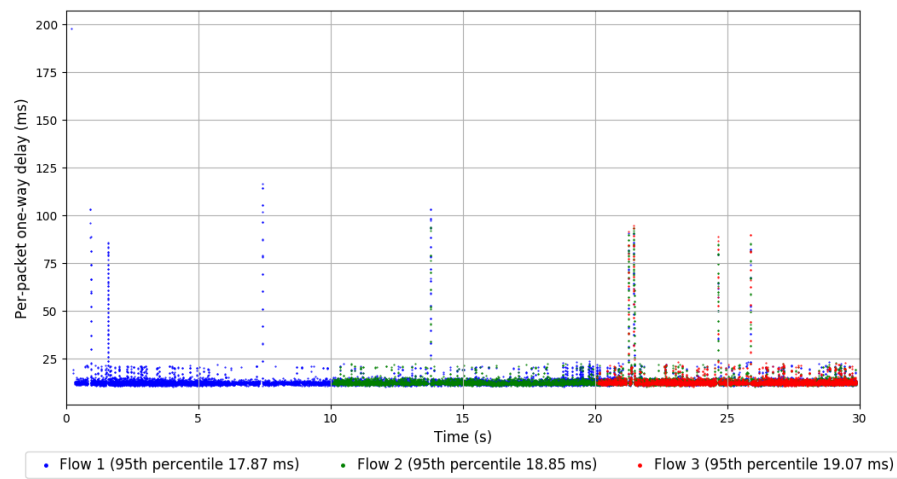
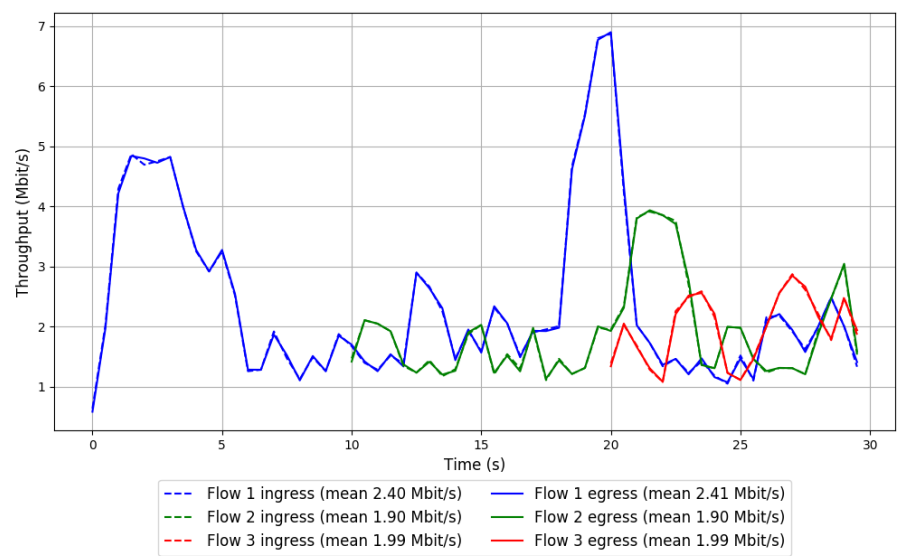


Run 2: Statistics of Vivace-latency

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

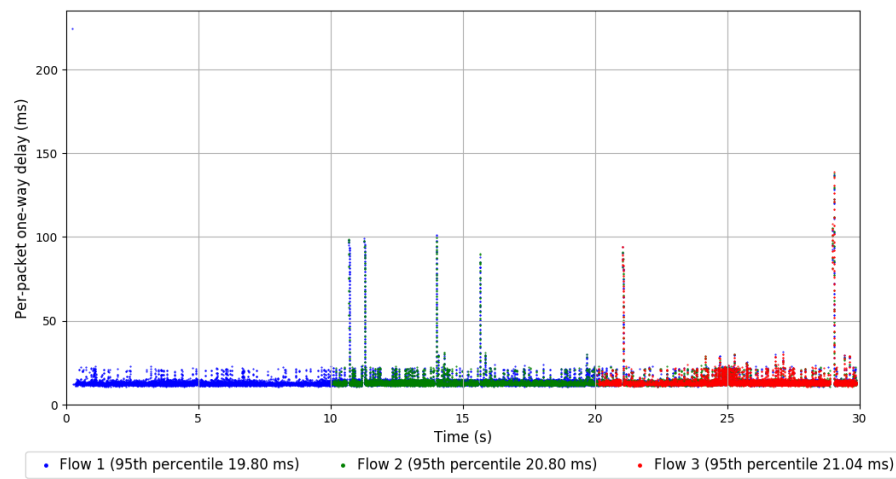
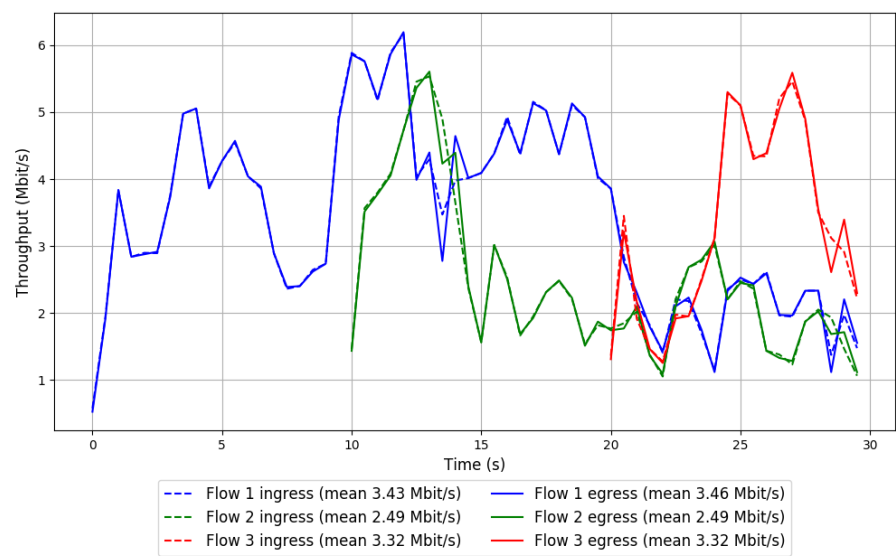


Run 3: Statistics of Vivace-latency

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

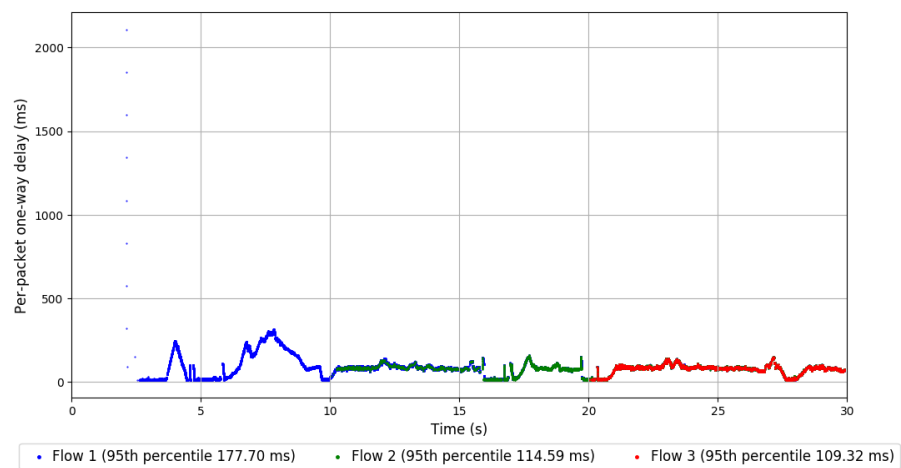
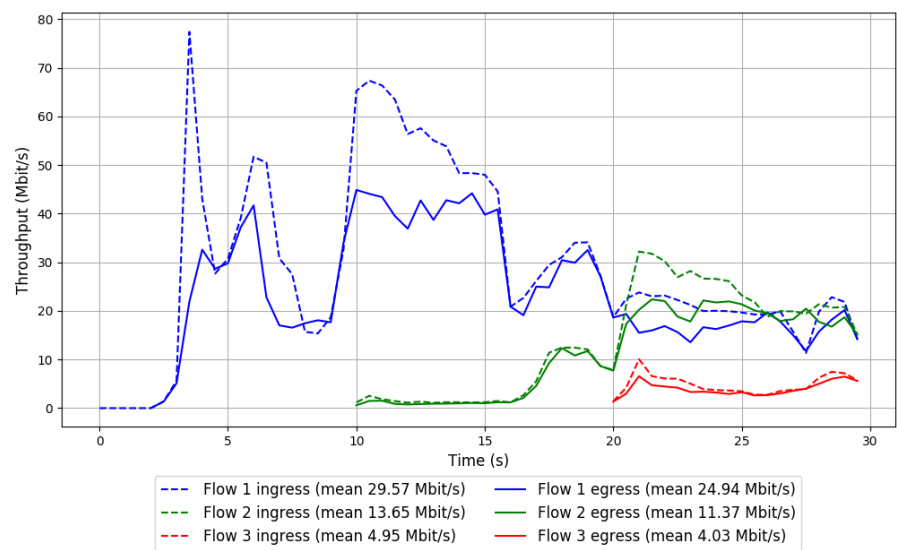


Run 1: Statistics of Vivace-loss

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

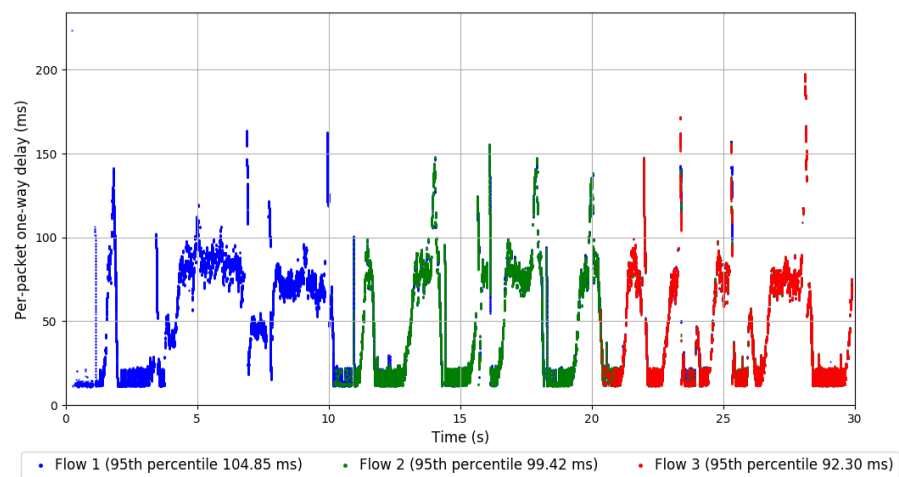
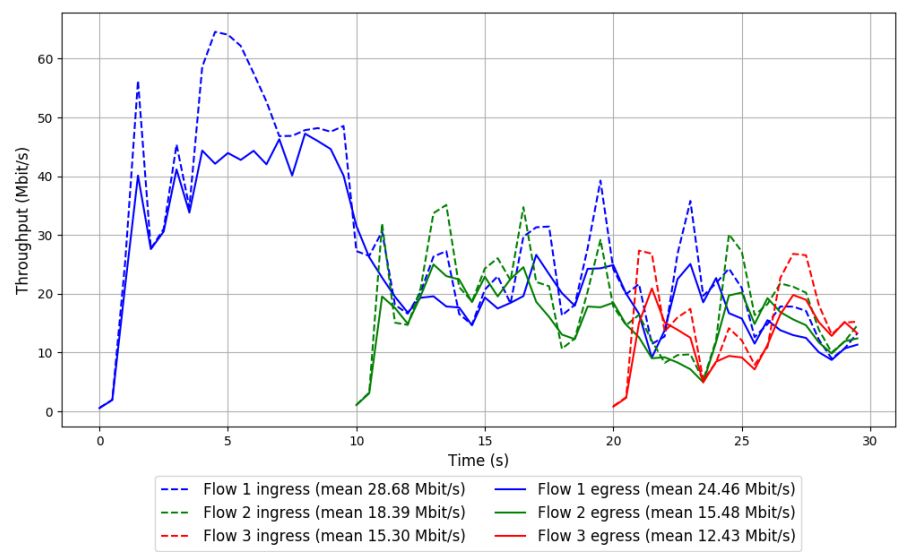


Run 2: Statistics of Vivace-loss

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

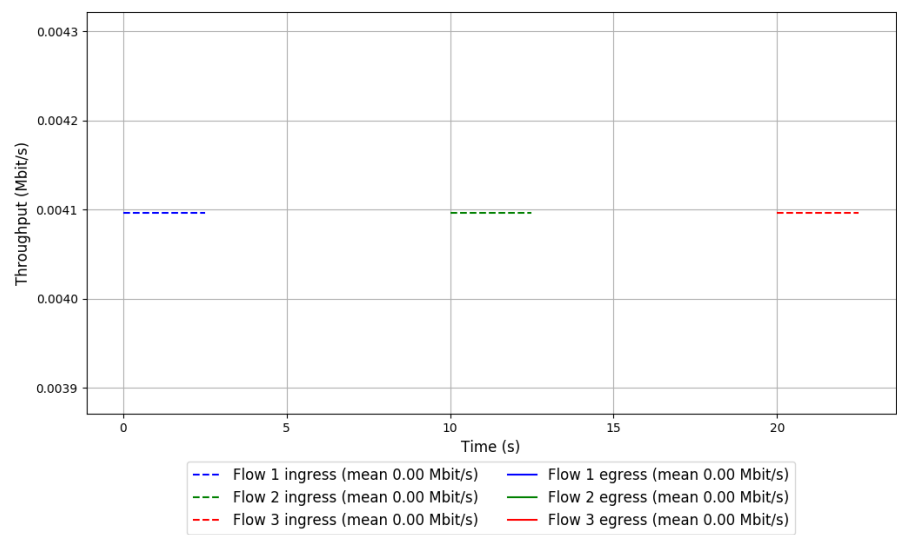


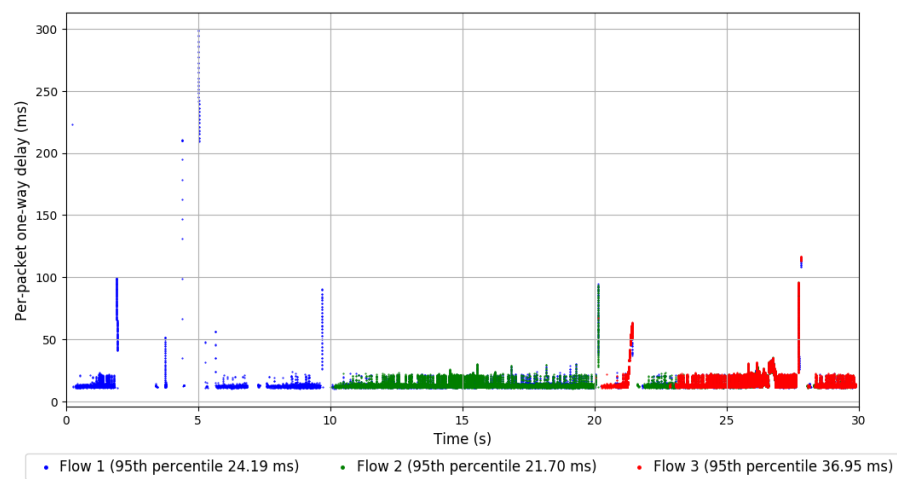
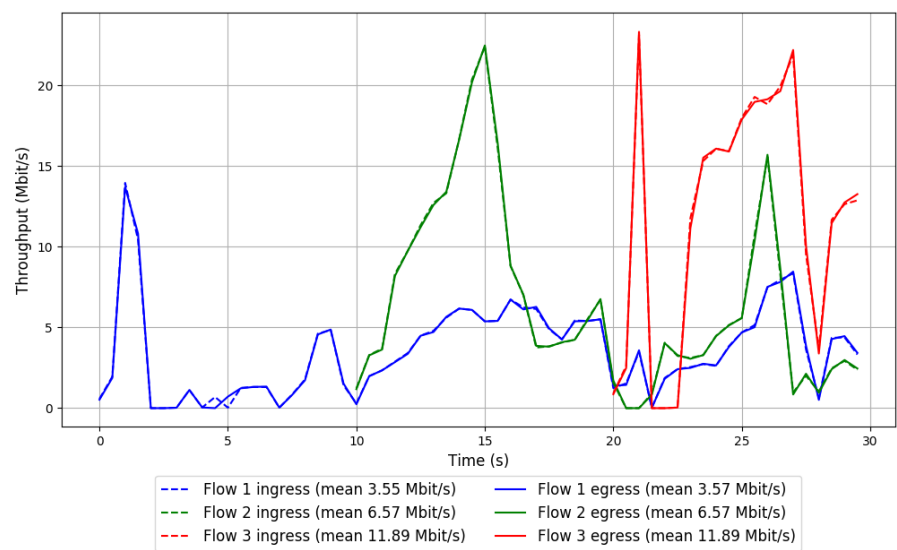
Figure is missing

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

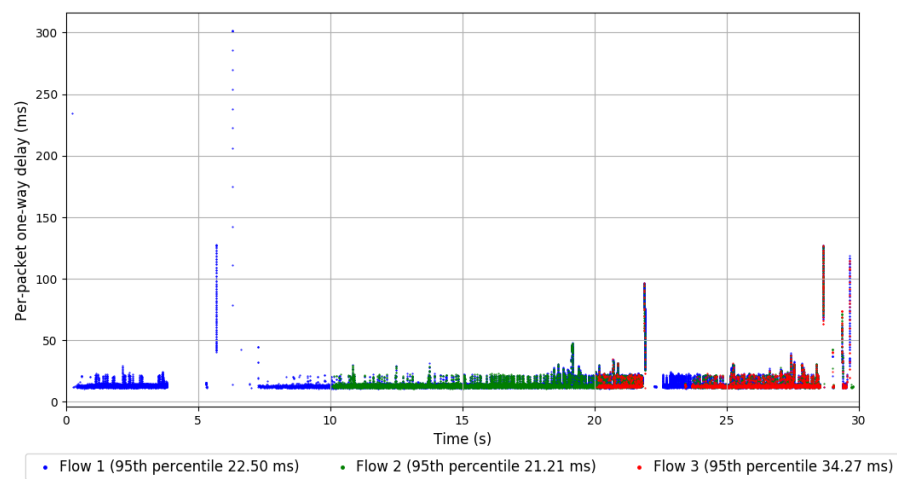
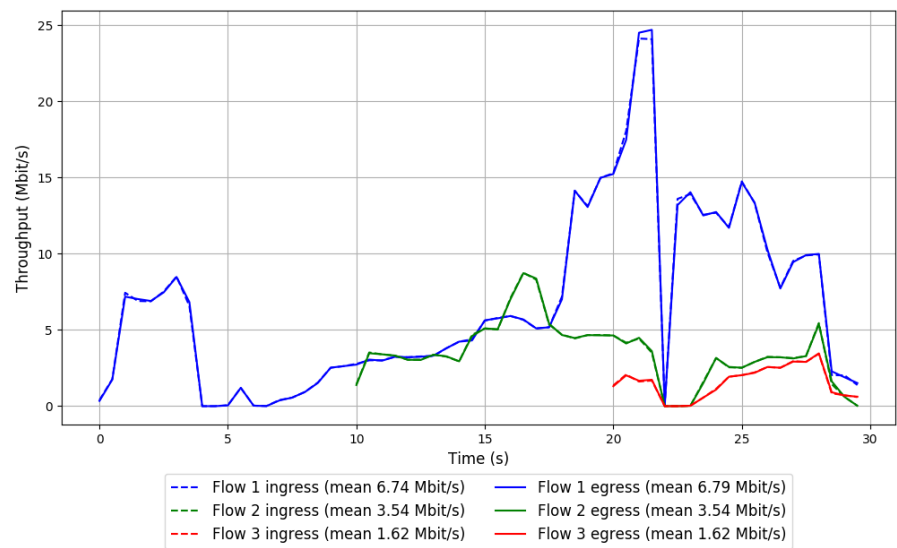


Run 2: Statistics of Vivace-LTE

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

