

## Pantheon Report

Generated at 2018-02-13 12:59:52 (UTC).

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

Repeated the test of 17 congestion control schemes 3 times.

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

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

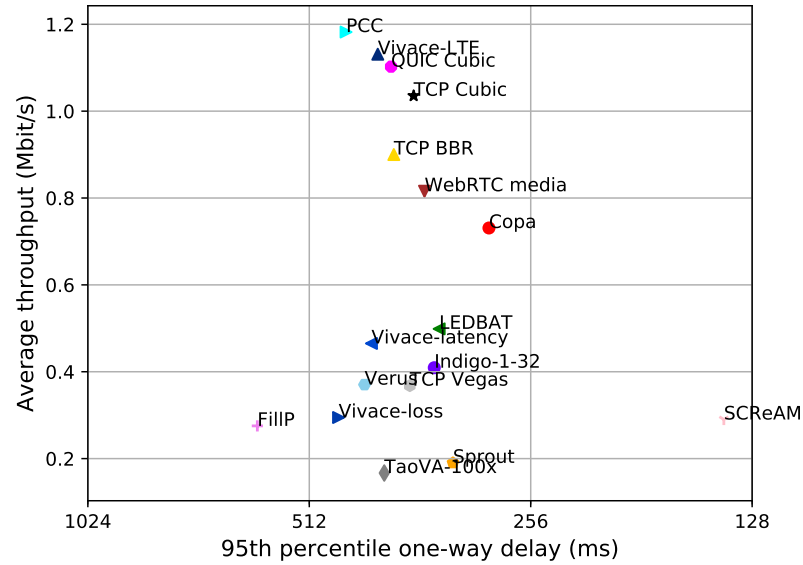
Tested BBR with qdisc of Fair Queuing (**fq**), and other schemes with the default Linux qdisc (**pfifo\_fast**).

NTP offsets were measured against **nets.org.sg** and have been applied to correct the timestamps in logs.

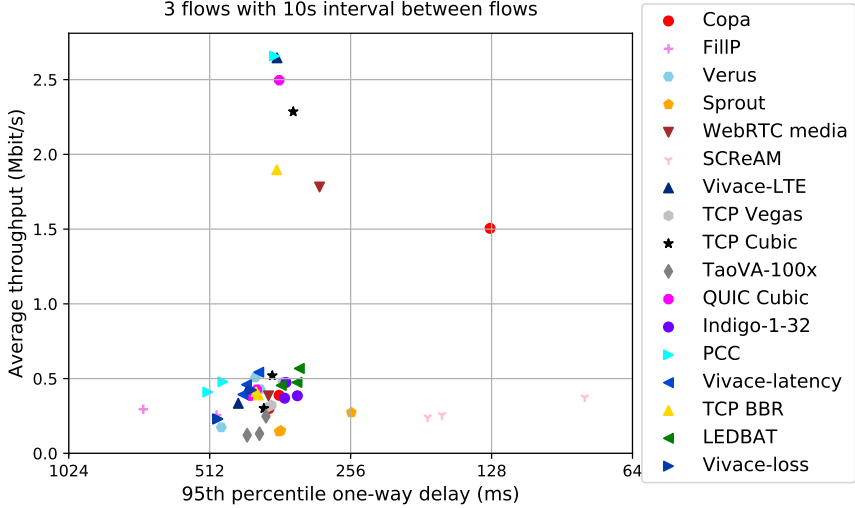
Git summary:

```
branch: master @ 2efdad57c2c56a9458b0d01ff33345e11732665
third_party/calibrated_koho @ 3cb73c0d1c0322cdfae446ea37a522e53227db50
  M datagrump/sender.cc
third_party/fillp @ 828bbf95fd4941149b5cec90f281d1c69ae1a5c6
third_party/genericCC @ 80b516c448f795fd6e9675f7177b69c622f07da8
third_party/indigo @ a9b2060d39e4da2e8987e893e3eca2a6c7cd0ab9
third_party/indigo-1-layer-128-unit @ 3ae9e4ef4230db7484501f82ce8b377695f2f66d
third_party/indigo-1-layer-32-unit @ 2601c92e4aa9d58d38dc4dfe0ecd90c077e64d
third_party/indigo-1-layer-32-unit-no-calib @ 1f3a7f75b41135ed5b540c0fd3505939528e2a5f
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 @ f1a14bffe749737437f61b1eae30b267cde681
third_party/sprout @ 6f2efe6e088d91066a9f023df375eee2665089ce
  M src/examples/cellsim.cc
  M src/examples/sproutbt2.cc
  M src/network/sproutconn.cc
third_party/verus @ d4b447ea74c6c60a261149af2629562939f9a494
  M src/verus.hpp
  M tools/plot.py
third_party/vivace @ 7a4ba531e75b4a6f66f5c4580192120401784ce3
third_party/webrtc @ a488197ddd041ace68a42849b2540ad834825f42
```

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



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



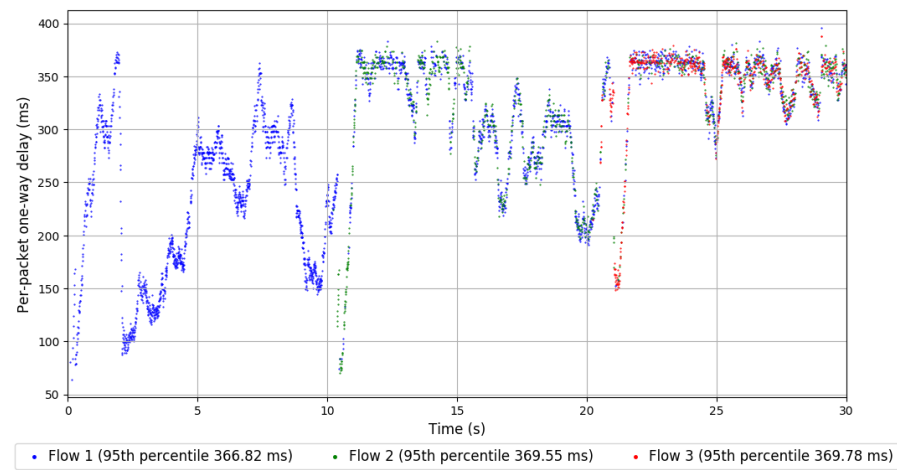
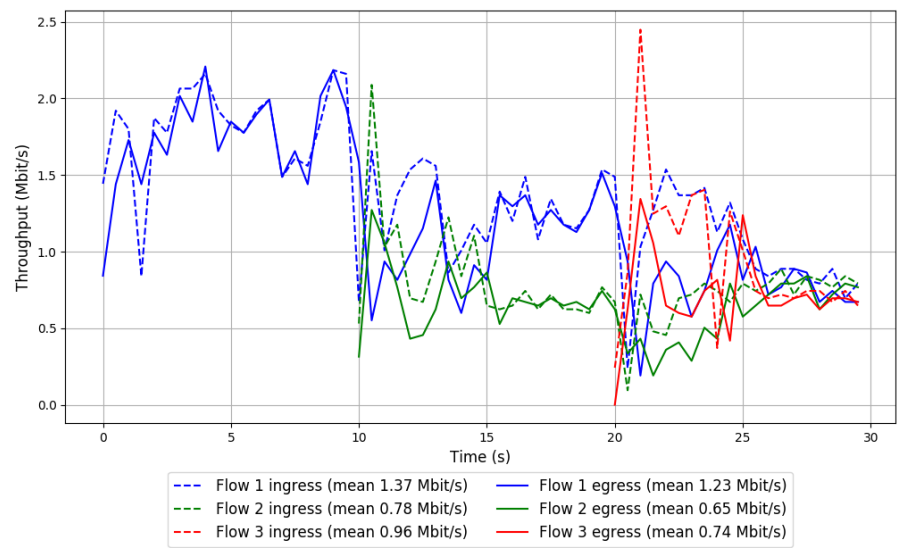
scheme	# runs	mean avg tput (Mbit/s)			mean 95th-%ile delay (ms)			mean loss rate (%)		
		flow 1	flow 2	flow 3	flow 1	flow 2	flow 3	flow 1	flow 2	flow 3
TCP BBR	3	0.58	0.32	0.35	392.10	394.48	393.47	19.04	27.69	35.38
TCP Cubic	3	0.73	0.36	0.22	367.31	373.07	369.67	6.62	11.95	16.73
LEDBAT	3	0.28	0.24	0.20	332.57	350.97	347.79	2.66	3.81	5.73
PCC	3	0.74	0.41	1.27	414.44	370.21	756.17	73.25	44.83	79.02
QUIC Cubic	3	0.72	0.41	0.37	392.26	410.01	384.58	22.72	30.18	39.27
SCReAM	3	0.12	0.16	0.18	151.49	134.73	128.83	0.47	0.28	0.73
WebRTC media	3	0.47	0.22	0.14	364.32	351.92	299.86	17.55	19.36	23.60
Sprout	3	0.10	0.10	0.09	311.61	327.58	346.63	8.44	12.50	16.89
TaoVA-100x	3	0.08	0.09	0.11	407.90	396.53	409.19	82.94	79.79	82.51
TCP Vegas	3	0.20	0.19	0.15	375.48	373.06	383.38	7.01	8.73	11.78
Verus	3	0.31	0.10	0.02	429.76	467.25	401.48	43.98	73.71	63.49
Copa	3	0.40	0.35	0.32	294.42	288.31	304.77	24.01	21.15	35.49
FillP	2	0.24	0.06	0.00	520.60	561.61	376.25	99.34	94.80	92.38
Indigo-1-32	3	0.20	0.21	0.22	321.25	351.65	351.06	7.75	12.27	19.48
Vivace-latency	3	0.37	0.07	0.13	419.78	381.59	422.61	72.62	87.39	87.80
Vivace-loss	3	0.24	0.06	0.00	467.43	426.75	357.03	82.22	86.58	92.31
Vivace-LTE	3	0.75	0.39	0.44	411.12	389.80	400.43	55.48	67.67	57.21

Run 1: Statistics of TCP BBR

Start at: 2018-02-13 11:07:33  
End at: 2018-02-13 11:08:03  
Local clock offset: 5.254 ms  
Remote clock offset: -20.765 ms

# Below is generated by plot.py at 2018-02-13 12:59:12  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 1.90 Mbit/s  
95th percentile per-packet one-way delay: 368.080 ms  
Loss rate: 14.13%  
-- Flow 1:  
Average throughput: 1.23 Mbit/s  
95th percentile per-packet one-way delay: 366.822 ms  
Loss rate: 10.64%  
-- Flow 2:  
Average throughput: 0.65 Mbit/s  
95th percentile per-packet one-way delay: 369.546 ms  
Loss rate: 16.82%  
-- Flow 3:  
Average throughput: 0.74 Mbit/s  
95th percentile per-packet one-way delay: 369.776 ms  
Loss rate: 24.79%

Run 1: Report of TCP BBR — Data Link

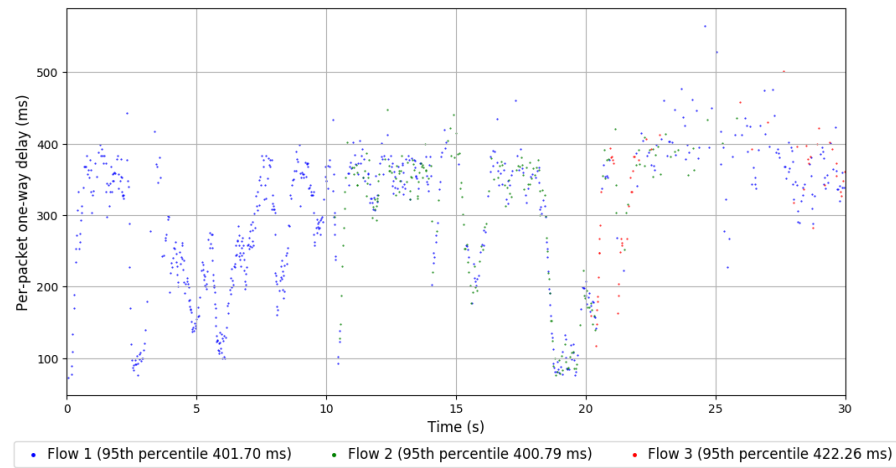
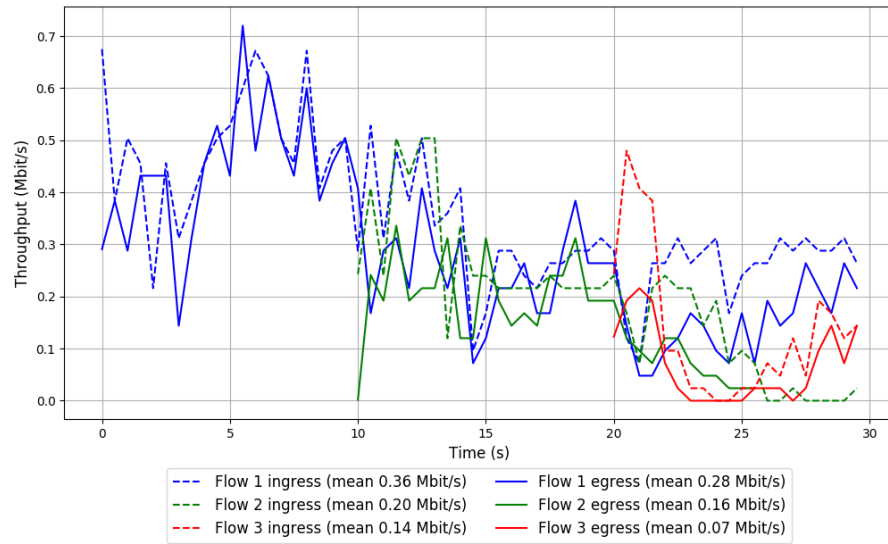


Run 2: Statistics of TCP BBR

Start at: 2018-02-13 11:27:31  
End at: 2018-02-13 11:28:01  
Local clock offset: 2.84 ms  
Remote clock offset: -20.059 ms

# Below is generated by plot.py at 2018-02-13 12:59:12  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 0.39 Mbit/s  
95th percentile per-packet one-way delay: 403.250 ms  
Loss rate: 26.39%  
-- Flow 1:  
Average throughput: 0.28 Mbit/s  
95th percentile per-packet one-way delay: 401.698 ms  
Loss rate: 20.40%  
-- Flow 2:  
Average throughput: 0.16 Mbit/s  
95th percentile per-packet one-way delay: 400.787 ms  
Loss rate: 34.77%  
-- Flow 3:  
Average throughput: 0.07 Mbit/s  
95th percentile per-packet one-way delay: 422.261 ms  
Loss rate: 49.50%

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



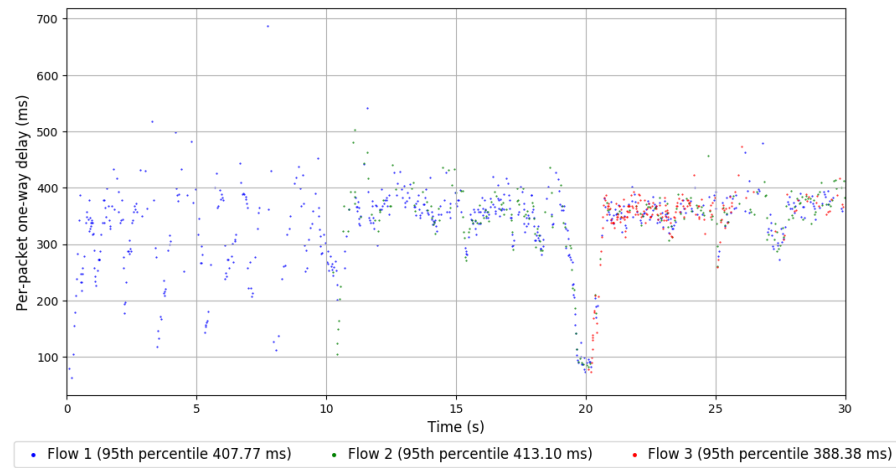
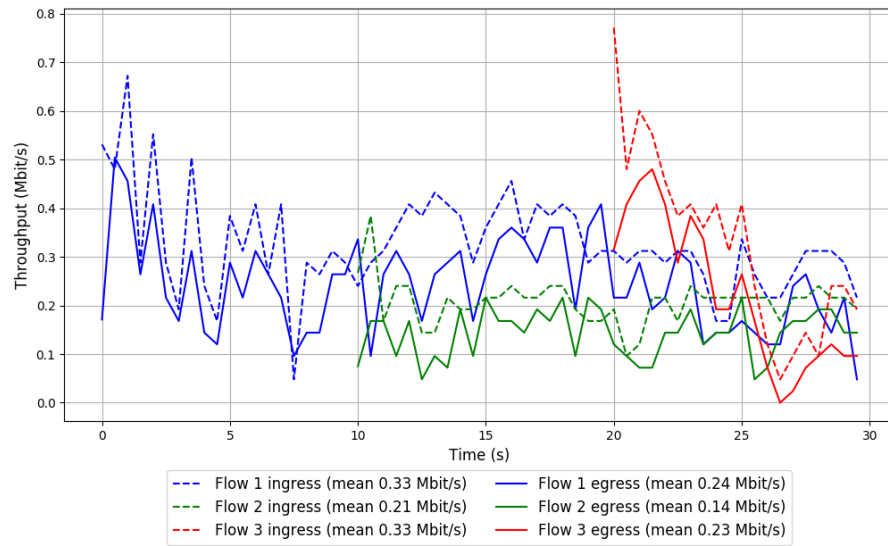
Run 3: Statistics of TCP BBR

Start at: 2018-02-13 11:47:28  
End at: 2018-02-13 11:47:58  
Local clock offset: 1.493 ms  
Remote clock offset: -19.594 ms

# Below is generated by plot.py at 2018-02-13 12:59:12  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 0.41 Mbit/s  
95th percentile per-packet one-way delay: 407.542 ms  
Loss rate: 28.47%  
-- Flow 1:  
Average throughput: 0.24 Mbit/s  
95th percentile per-packet one-way delay: 407.766 ms  
Loss rate: 26.07%  
-- Flow 2:  
Average throughput: 0.14 Mbit/s  
95th percentile per-packet one-way delay: 413.104 ms  
Loss rate: 31.49%  
-- Flow 3:  
Average throughput: 0.23 Mbit/s  
95th percentile per-packet one-way delay: 388.377 ms  
Loss rate: 31.85%



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

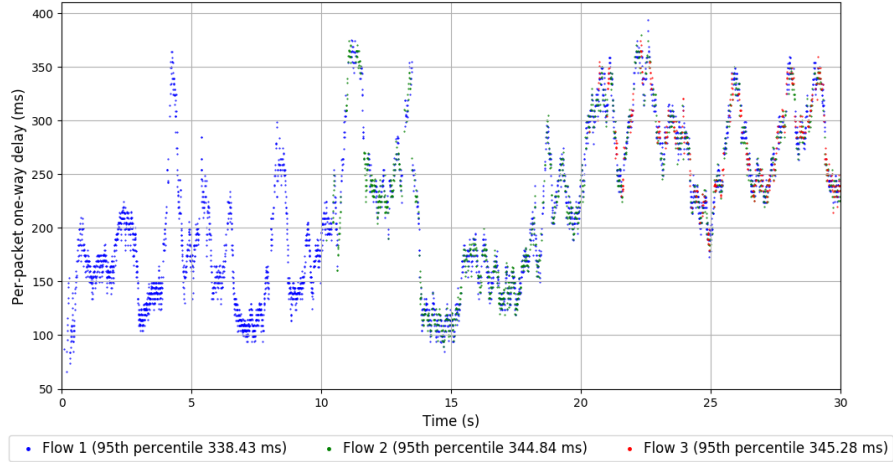
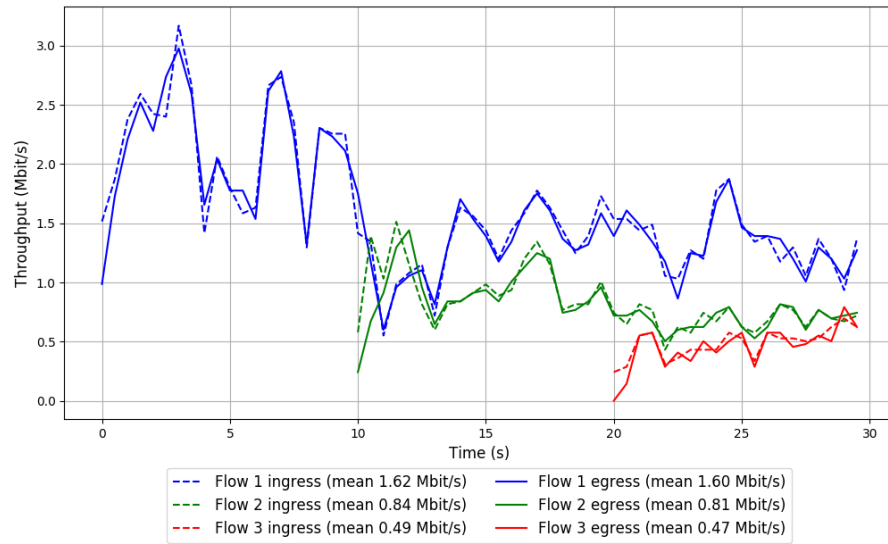


Run 1: Statistics of TCP Cubic

Start at: 2018-02-13 11:05:21  
End at: 2018-02-13 11:05:51  
Local clock offset: 5.225 ms  
Remote clock offset: -20.525 ms

# Below is generated by plot.py at 2018-02-13 12:59:13  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 2.29 Mbit/s  
95th percentile per-packet one-way delay: 339.506 ms  
Loss rate: 2.28%  
-- Flow 1:  
Average throughput: 1.60 Mbit/s  
95th percentile per-packet one-way delay: 338.433 ms  
Loss rate: 1.51%  
-- Flow 2:  
Average throughput: 0.81 Mbit/s  
95th percentile per-packet one-way delay: 344.836 ms  
Loss rate: 3.60%  
-- Flow 3:  
Average throughput: 0.47 Mbit/s  
95th percentile per-packet one-way delay: 345.283 ms  
Loss rate: 5.46%

# Run 1: Report of TCP Cubic — Data Link

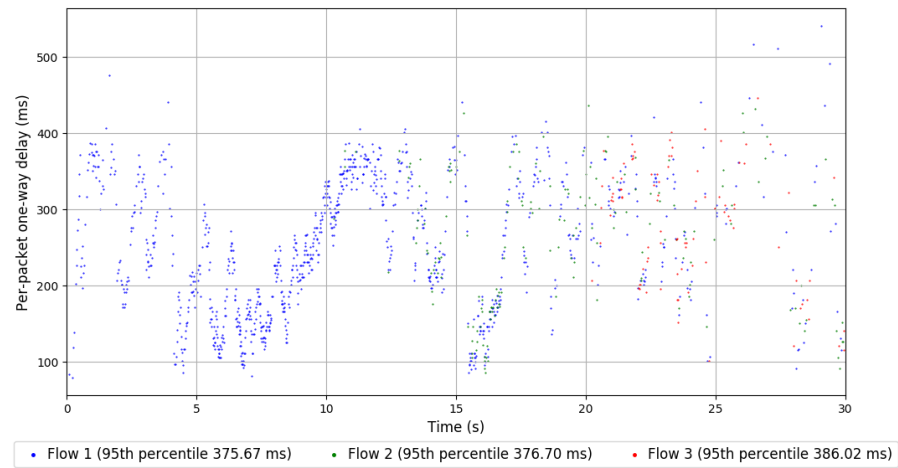
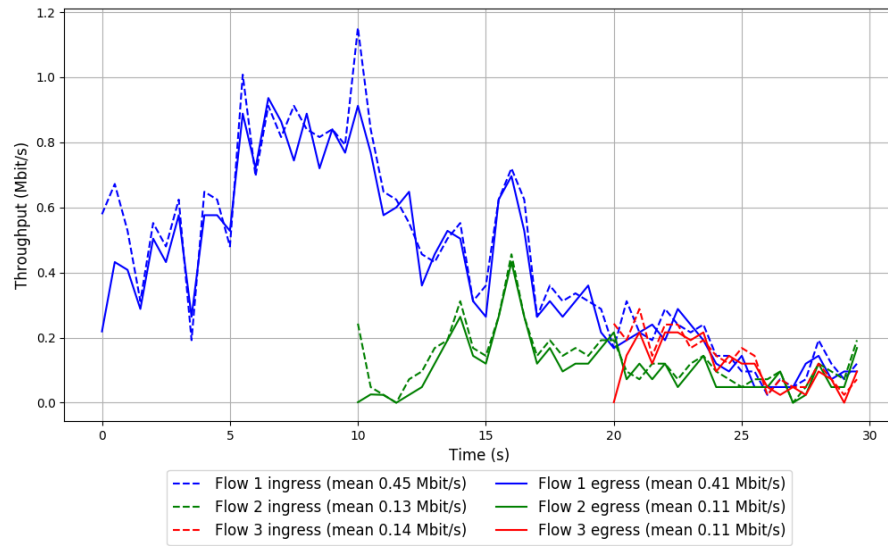


Run 2: Statistics of TCP Cubic

Start at: 2018-02-13 11:25:19  
End at: 2018-02-13 11:25:49  
Local clock offset: 4.274 ms  
Remote clock offset: -21.218 ms

# Below is generated by plot.py at 2018-02-13 12:59:13  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 0.52 Mbit/s  
95th percentile per-packet one-way delay: 376.269 ms  
Loss rate: 10.76%  
-- Flow 1:  
Average throughput: 0.41 Mbit/s  
95th percentile per-packet one-way delay: 375.671 ms  
Loss rate: 8.19%  
-- Flow 2:  
Average throughput: 0.11 Mbit/s  
95th percentile per-packet one-way delay: 376.703 ms  
Loss rate: 18.82%  
-- Flow 3:  
Average throughput: 0.11 Mbit/s  
95th percentile per-packet one-way delay: 386.022 ms  
Loss rate: 19.98%

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

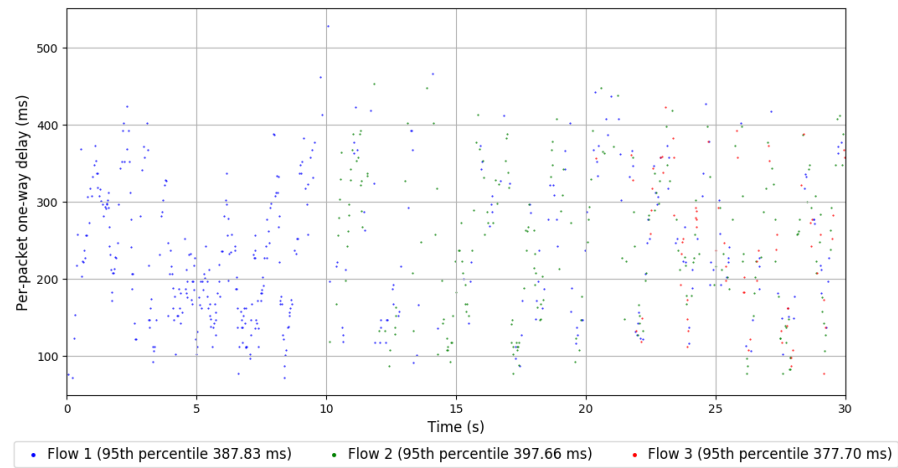
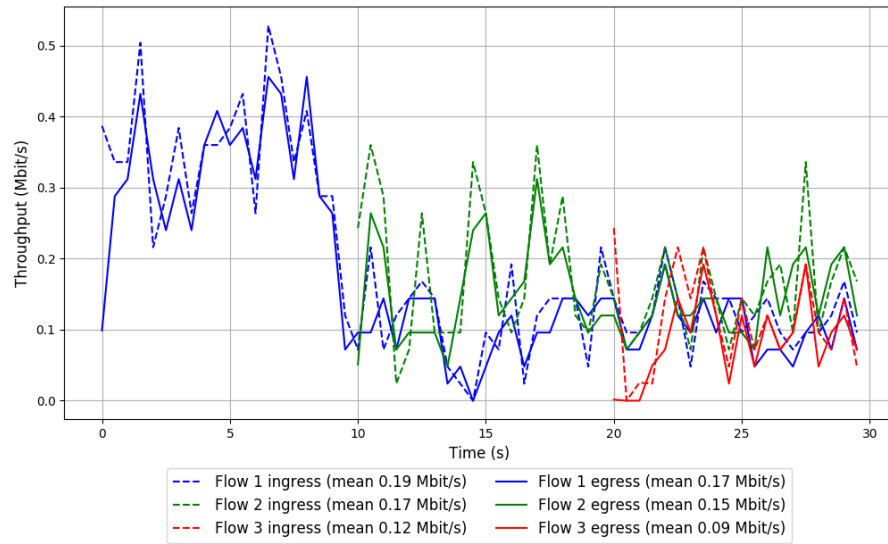


Run 3: Statistics of TCP Cubic

Start at: 2018-02-13 11:45:16  
End at: 2018-02-13 11:45:46  
Local clock offset: 1.31 ms  
Remote clock offset: -18.924 ms

# Below is generated by plot.py at 2018-02-13 12:59:13  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 0.30 Mbit/s  
95th percentile per-packet one-way delay: 392.218 ms  
Loss rate: 12.82%  
-- Flow 1:  
Average throughput: 0.17 Mbit/s  
95th percentile per-packet one-way delay: 387.831 ms  
Loss rate: 10.16%  
-- Flow 2:  
Average throughput: 0.15 Mbit/s  
95th percentile per-packet one-way delay: 397.661 ms  
Loss rate: 13.42%  
-- Flow 3:  
Average throughput: 0.09 Mbit/s  
95th percentile per-packet one-way delay: 377.703 ms  
Loss rate: 24.75%

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



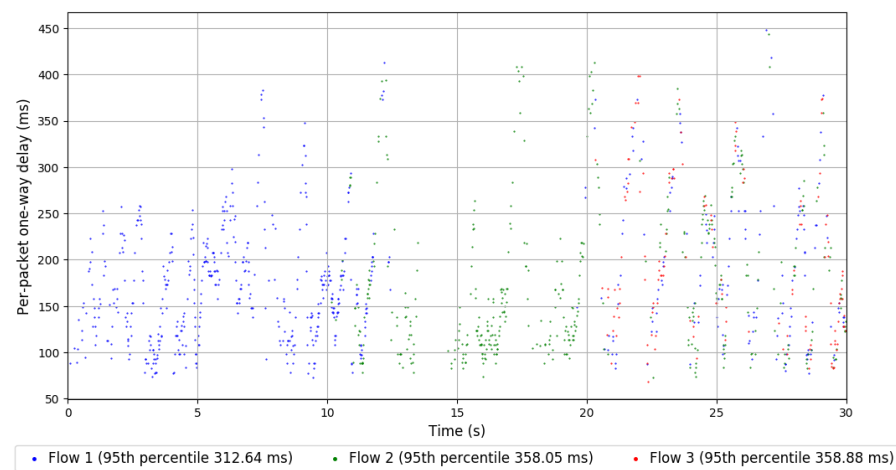
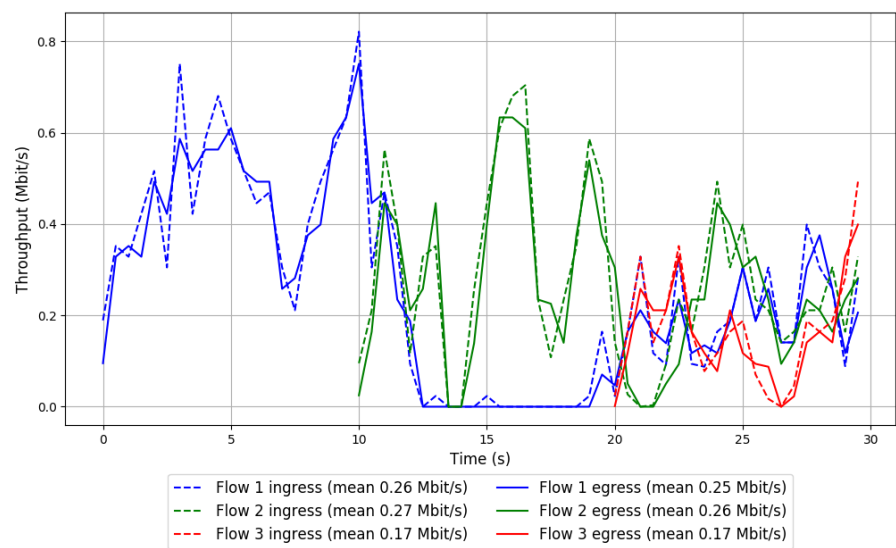
Run 1: Statistics of LEDBAT

Start at: 2018-02-13 11:14:11  
End at: 2018-02-13 11:14:41  
Local clock offset: 4.122 ms  
Remote clock offset: -19.246 ms

# Below is generated by plot.py at 2018-02-13 12:59:13  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 0.47 Mbit/s  
95th percentile per-packet one-way delay: 333.312 ms  
Loss rate: 4.66%  
-- Flow 1:  
Average throughput: 0.25 Mbit/s  
95th percentile per-packet one-way delay: 312.642 ms  
Loss rate: 3.80%  
-- Flow 2:  
Average throughput: 0.26 Mbit/s  
95th percentile per-packet one-way delay: 358.045 ms  
Loss rate: 5.59%  
-- Flow 3:  
Average throughput: 0.17 Mbit/s  
95th percentile per-packet one-way delay: 358.885 ms  
Loss rate: 5.55%



Run 1: Report of LEDBAT — Data Link

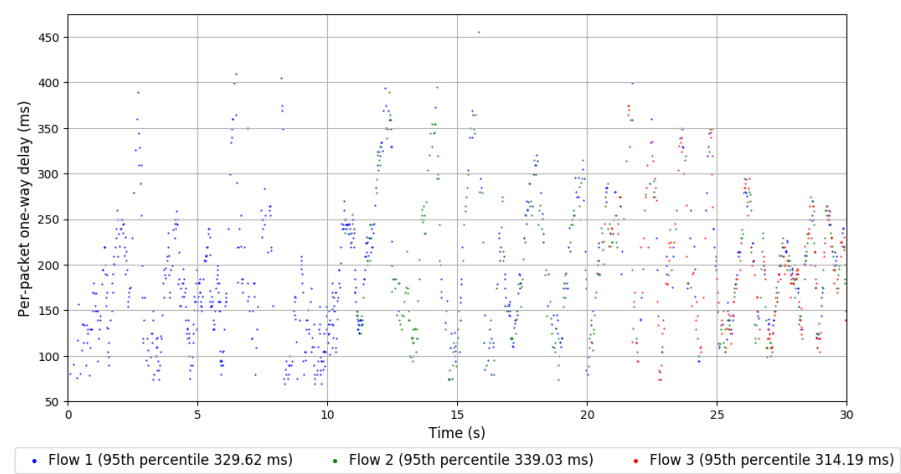
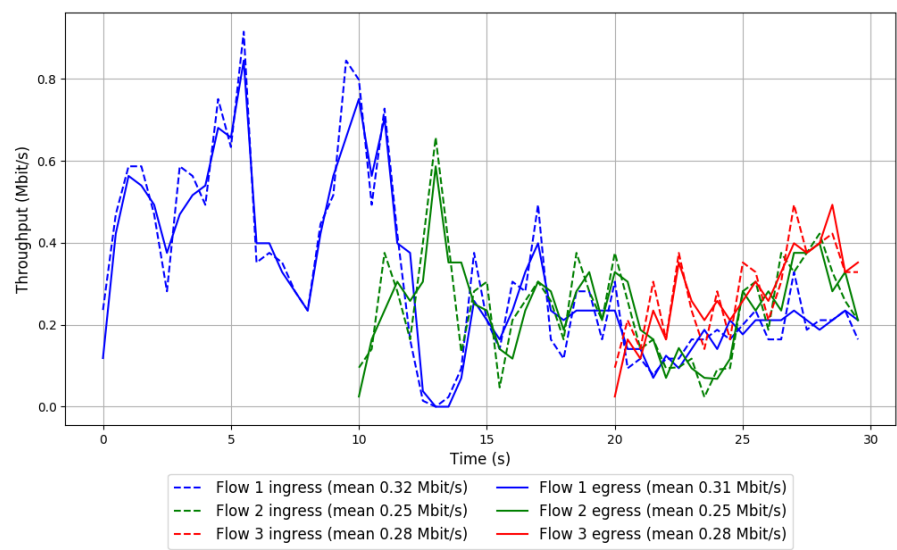


Run 2: Statistics of LEDBAT

Start at: 2018-02-13 11:34:07  
End at: 2018-02-13 11:34:37  
Local clock offset: 1.046 ms  
Remote clock offset: -18.646 ms

# Below is generated by plot.py at 2018-02-13 12:59:13  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 0.57 Mbit/s  
95th percentile per-packet one-way delay: 329.501 ms  
Loss rate: 2.10%  
-- Flow 1:  
Average throughput: 0.31 Mbit/s  
95th percentile per-packet one-way delay: 329.623 ms  
Loss rate: 2.08%  
-- Flow 2:  
Average throughput: 0.25 Mbit/s  
95th percentile per-packet one-way delay: 339.027 ms  
Loss rate: 1.66%  
-- Flow 3:  
Average throughput: 0.28 Mbit/s  
95th percentile per-packet one-way delay: 314.185 ms  
Loss rate: 2.90%

Run 2: Report of LEDBAT — Data Link

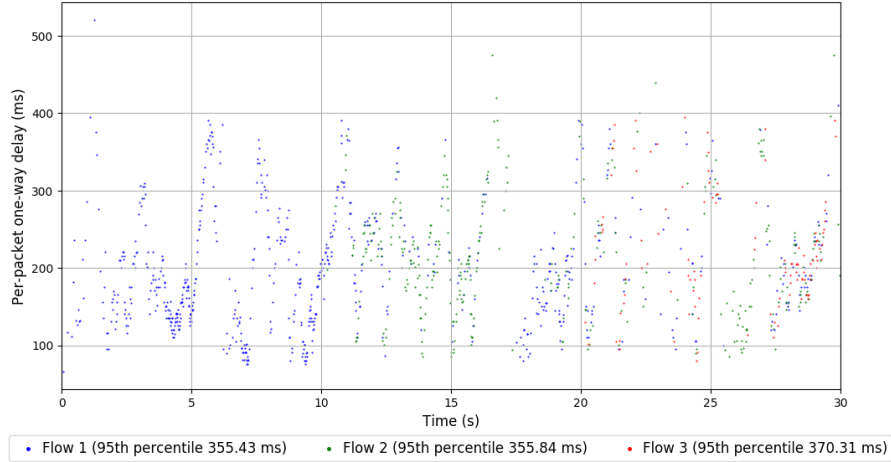
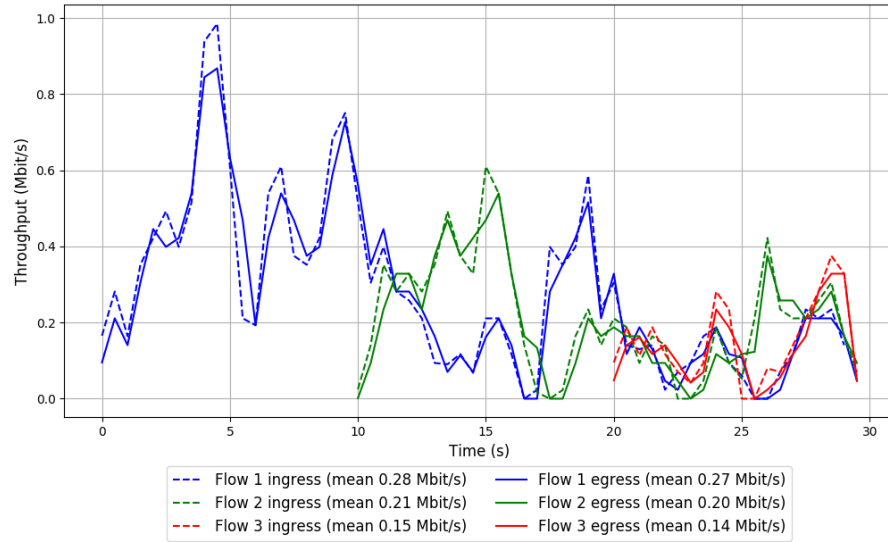


Run 3: Statistics of LEDBAT

Start at: 2018-02-13 11:54:06  
End at: 2018-02-13 11:54:36  
Local clock offset: 2.336 ms  
Remote clock offset: -18.159 ms

# Below is generated by plot.py at 2018-02-13 12:59:14  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 0.45 Mbit/s  
95th percentile per-packet one-way delay: 360.185 ms  
Loss rate: 3.42%  
-- Flow 1:  
Average throughput: 0.27 Mbit/s  
95th percentile per-packet one-way delay: 355.433 ms  
Loss rate: 2.10%  
-- Flow 2:  
Average throughput: 0.20 Mbit/s  
95th percentile per-packet one-way delay: 355.841 ms  
Loss rate: 4.18%  
-- Flow 3:  
Average throughput: 0.14 Mbit/s  
95th percentile per-packet one-way delay: 370.308 ms  
Loss rate: 8.73%

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

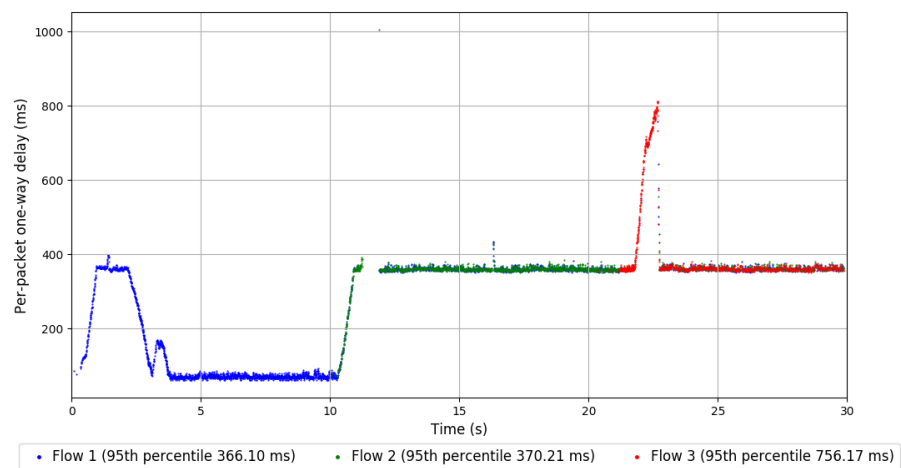
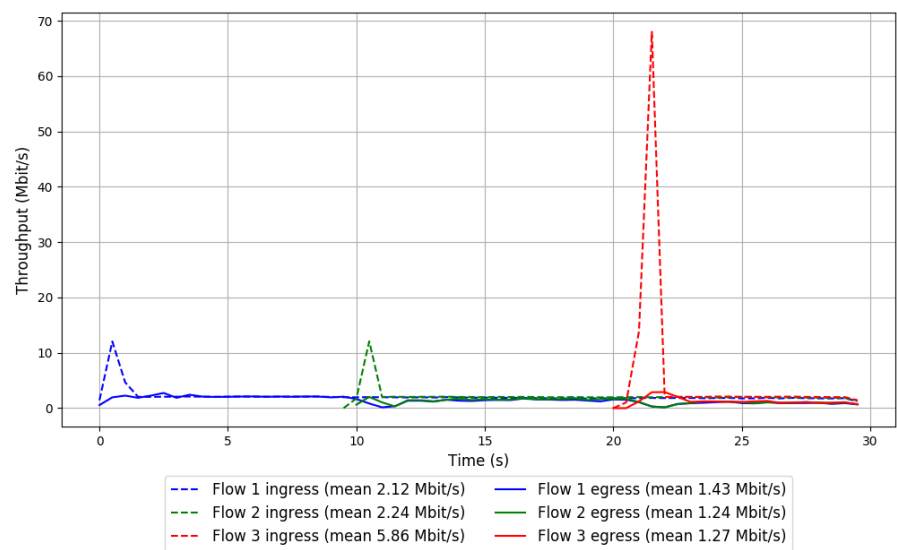


Run 1: Statistics of PCC

Start at: 2018-02-13 11:01:56  
End at: 2018-02-13 11:02:26  
Local clock offset: 3.389 ms  
Remote clock offset: -16.397 ms

# Below is generated by plot.py at 2018-02-13 12:59:22  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 2.66 Mbit/s  
95th percentile per-packet one-way delay: 372.311 ms  
Loss rate: 52.12%  
-- Flow 1:  
Average throughput: 1.43 Mbit/s  
95th percentile per-packet one-way delay: 366.101 ms  
Loss rate: 32.76%  
-- Flow 2:  
Average throughput: 1.24 Mbit/s  
95th percentile per-packet one-way delay: 370.214 ms  
Loss rate: 44.83%  
-- Flow 3:  
Average throughput: 1.27 Mbit/s  
95th percentile per-packet one-way delay: 756.174 ms  
Loss rate: 79.02%

Run 1: Report of PCC — Data Link



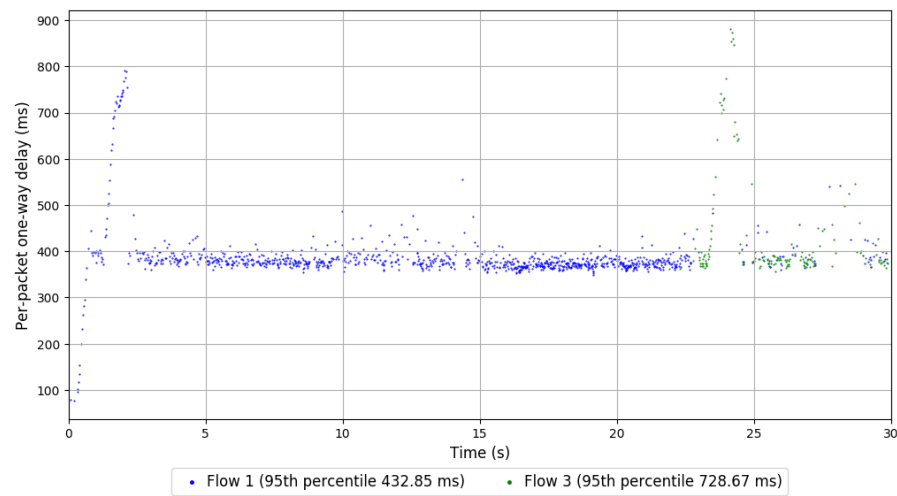
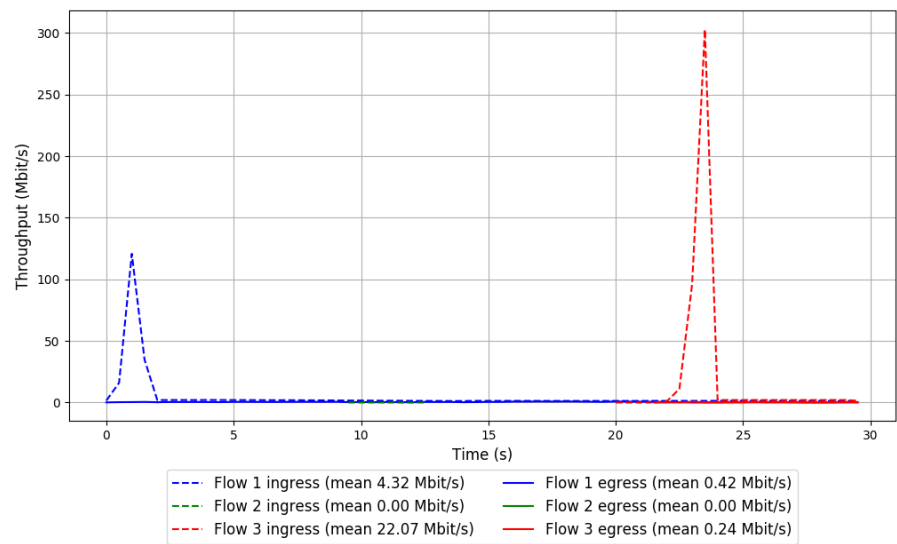
Run 2: Statistics of PCC

Start at: 2018-02-13 11:21:58  
End at: 2018-02-13 11:22:28  
Local clock offset: 4.811 ms  
Remote clock offset: -19.822 ms

# Below is generated by plot.py at 2018-02-13 12:59:24  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 0.48 Mbit/s  
95th percentile per-packet one-way delay: 479.832 ms  
Loss rate: 95.88%  
-- Flow 1:  
Average throughput: 0.42 Mbit/s  
95th percentile per-packet one-way delay: 432.845 ms  
Loss rate: 90.43%  
-- Flow 2:  
Average throughput: 0.00 Mbit/s  
-- Flow 3:  
Average throughput: 0.24 Mbit/s  
95th percentile per-packet one-way delay: 728.671 ms  
Loss rate: 99.12%



Run 2: Report of PCC — Data Link

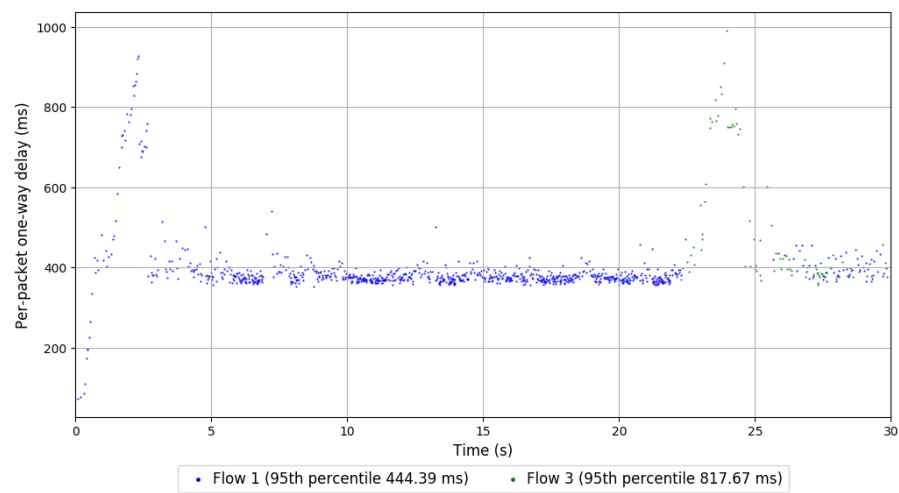
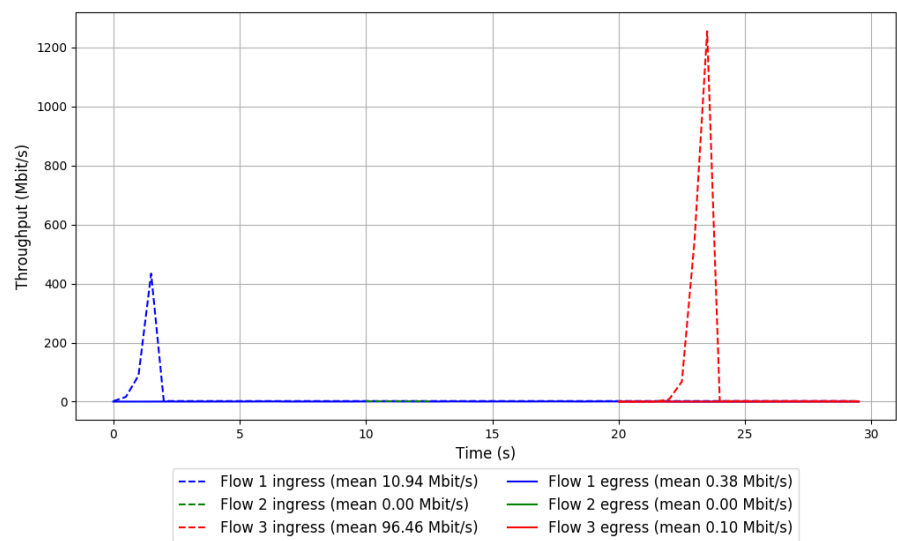


Run 3: Statistics of PCC

Start at: 2018-02-13 11:41:50  
End at: 2018-02-13 11:42:20  
Local clock offset: 2.178 ms  
Remote clock offset: -16.453 ms

# Below is generated by plot.py at 2018-02-13 12:59:41  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 0.41 Mbit/s  
95th percentile per-packet one-way delay: 516.736 ms  
Loss rate: 99.04%  
-- Flow 1:  
Average throughput: 0.38 Mbit/s  
95th percentile per-packet one-way delay: 444.389 ms  
Loss rate: 96.56%  
-- Flow 2:  
Average throughput: 0.00 Mbit/s  
-- Flow 3:  
Average throughput: 0.10 Mbit/s  
95th percentile per-packet one-way delay: 817.669 ms  
Loss rate: 99.90%

Run 3: Report of PCC — Data Link

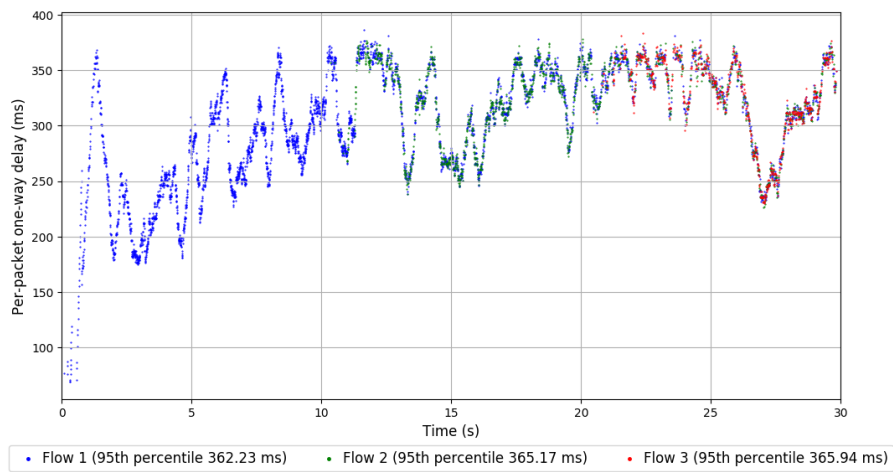
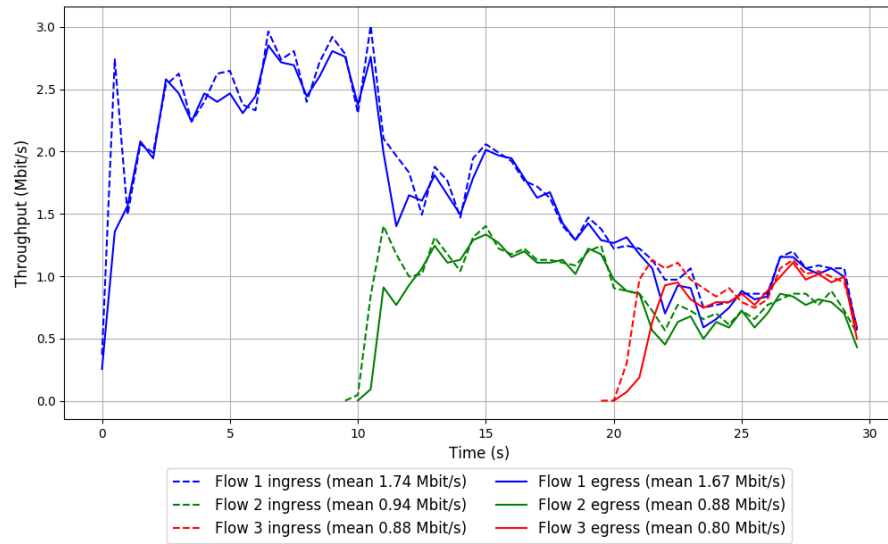


Run 1: Statistics of QUIC Cubic

Start at: 2018-02-13 11:06:27  
End at: 2018-02-13 11:06:57  
Local clock offset: 4.082 ms  
Remote clock offset: -19.854 ms

# Below is generated by plot.py at 2018-02-13 12:59:41  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 2.50 Mbit/s  
95th percentile per-packet one-way delay: 363.725 ms  
Loss rate: 6.38%  
-- Flow 1:  
Average throughput: 1.67 Mbit/s  
95th percentile per-packet one-way delay: 362.230 ms  
Loss rate: 4.54%  
-- Flow 2:  
Average throughput: 0.88 Mbit/s  
95th percentile per-packet one-way delay: 365.170 ms  
Loss rate: 8.08%  
-- Flow 3:  
Average throughput: 0.80 Mbit/s  
95th percentile per-packet one-way delay: 365.943 ms  
Loss rate: 13.71%

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

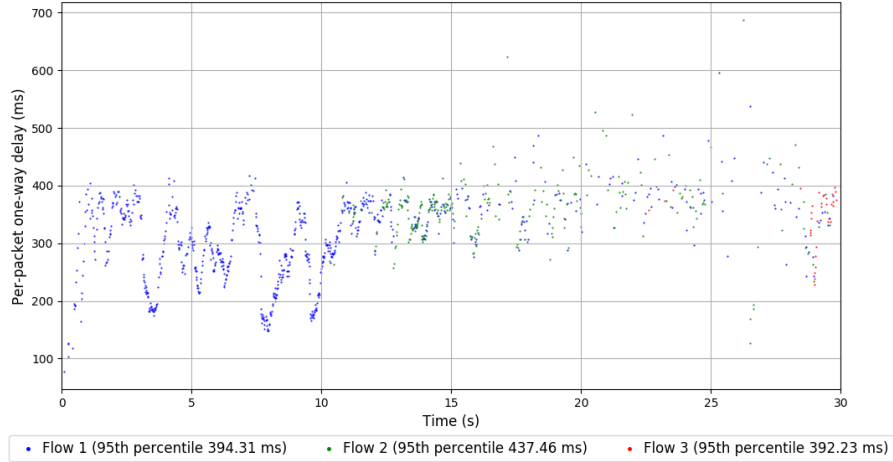
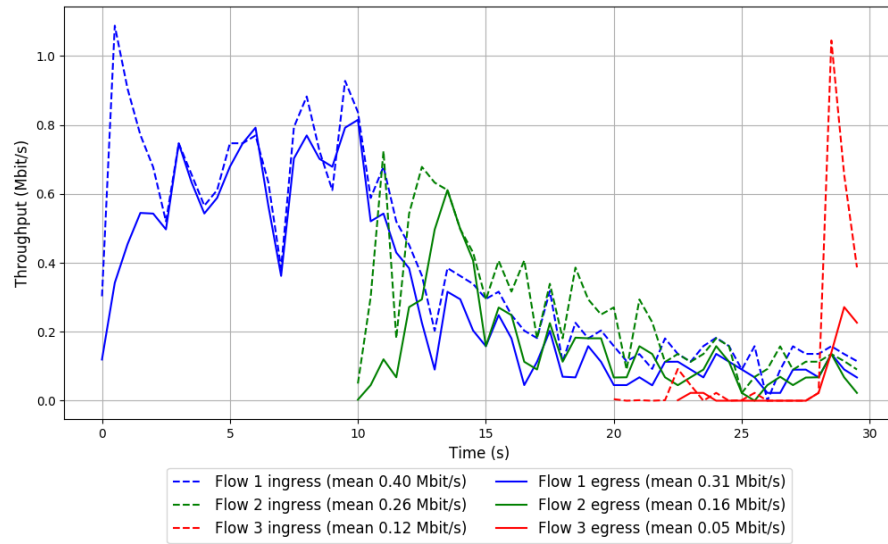


Run 2: Statistics of QUIC Cubic

Start at: 2018-02-13 11:26:25  
End at: 2018-02-13 11:26:55  
Local clock offset: 2.544 ms  
Remote clock offset: -20.518 ms

# Below is generated by plot.py at 2018-02-13 12:59:41  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 0.43 Mbit/s  
95th percentile per-packet one-way delay: 406.268 ms  
Loss rate: 30.33%  
-- Flow 1:  
Average throughput: 0.31 Mbit/s  
95th percentile per-packet one-way delay: 394.315 ms  
Loss rate: 21.63%  
-- Flow 2:  
Average throughput: 0.16 Mbit/s  
95th percentile per-packet one-way delay: 437.465 ms  
Loss rate: 41.52%  
-- Flow 3:  
Average throughput: 0.05 Mbit/s  
95th percentile per-packet one-way delay: 392.228 ms  
Loss rate: 69.29%

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



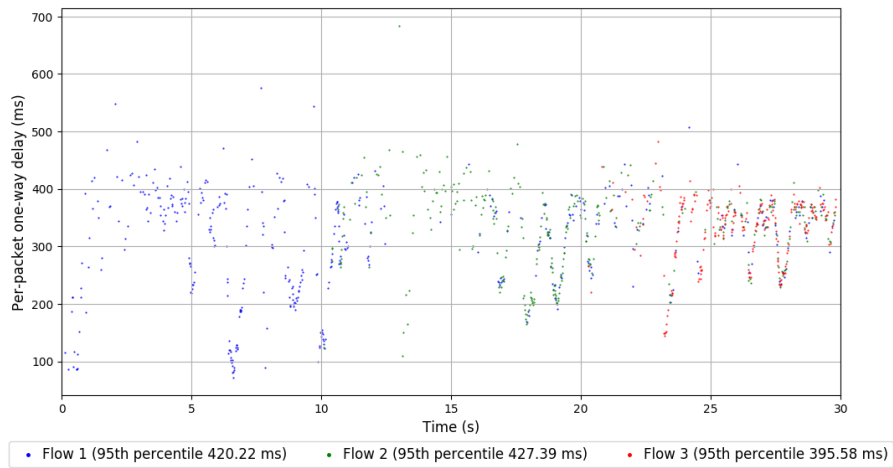
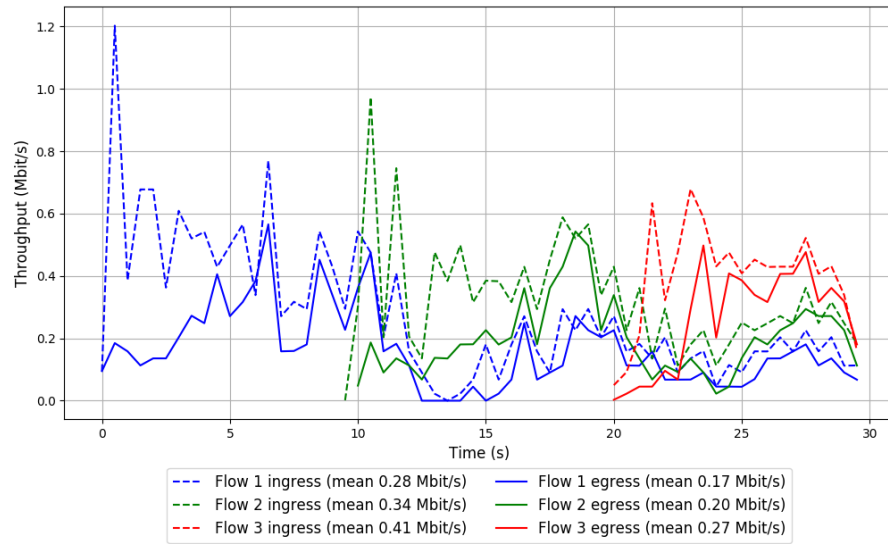
Run 3: Statistics of QUIC Cubic

Start at: 2018-02-13 11:46:22  
End at: 2018-02-13 11:46:52  
Local clock offset: 4.497 ms  
Remote clock offset: -19.108 ms

# Below is generated by plot.py at 2018-02-13 12:59:41  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 0.39 Mbit/s  
95th percentile per-packet one-way delay: 419.155 ms  
Loss rate: 40.13%  
-- Flow 1:  
Average throughput: 0.17 Mbit/s  
95th percentile per-packet one-way delay: 420.222 ms  
Loss rate: 42.00%  
-- Flow 2:  
Average throughput: 0.20 Mbit/s  
95th percentile per-packet one-way delay: 427.392 ms  
Loss rate: 40.94%  
-- Flow 3:  
Average throughput: 0.27 Mbit/s  
95th percentile per-packet one-way delay: 395.580 ms  
Loss rate: 34.80%



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

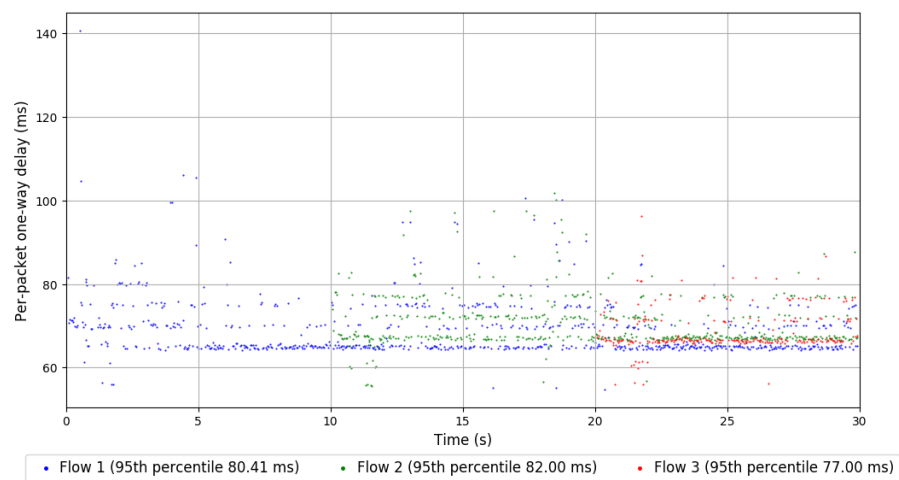
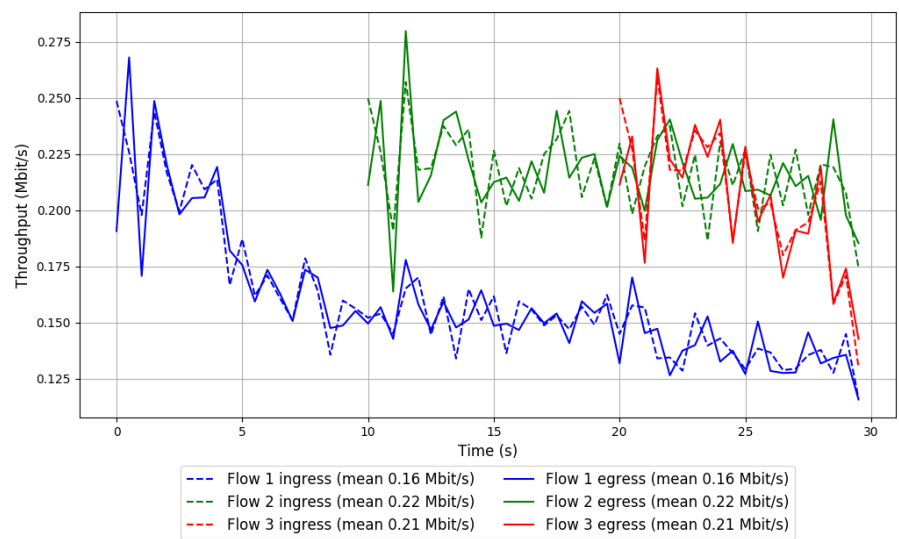


```
Run 1: Statistics of SReAM

Start at: 2018-02-13 11:08:39
End at: 2018-02-13 11:09:09
Local clock offset: 0.974 ms
Remote clock offset: -18.919 ms

# Below is generated by plot.py at 2018-02-13 12:59:41
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.37 Mbit/s
95th percentile per-packet one-way delay: 80.931 ms
Loss rate: 0.43%
-- Flow 1:
Average throughput: 0.16 Mbit/s
95th percentile per-packet one-way delay: 80.412 ms
Loss rate: 0.54%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 81.999 ms
Loss rate: 0.20%
-- Flow 3:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 76.995 ms
Loss rate: 0.65%
```

Run 1: Report of SReAM — Data Link

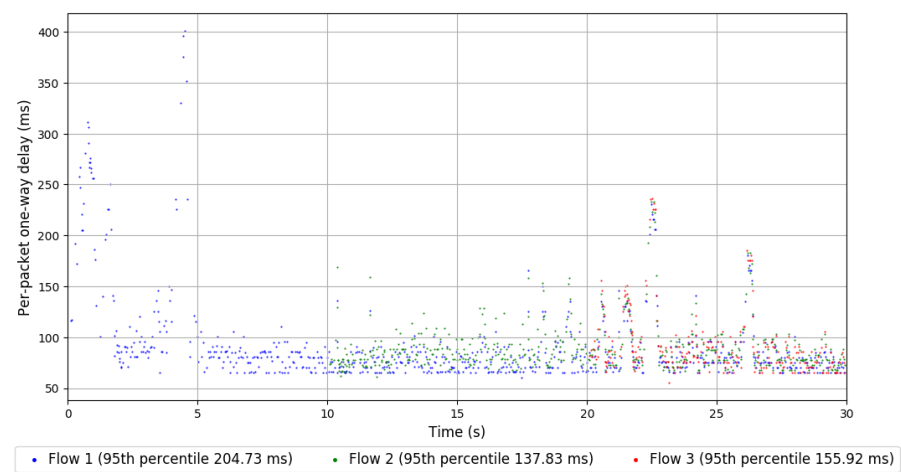
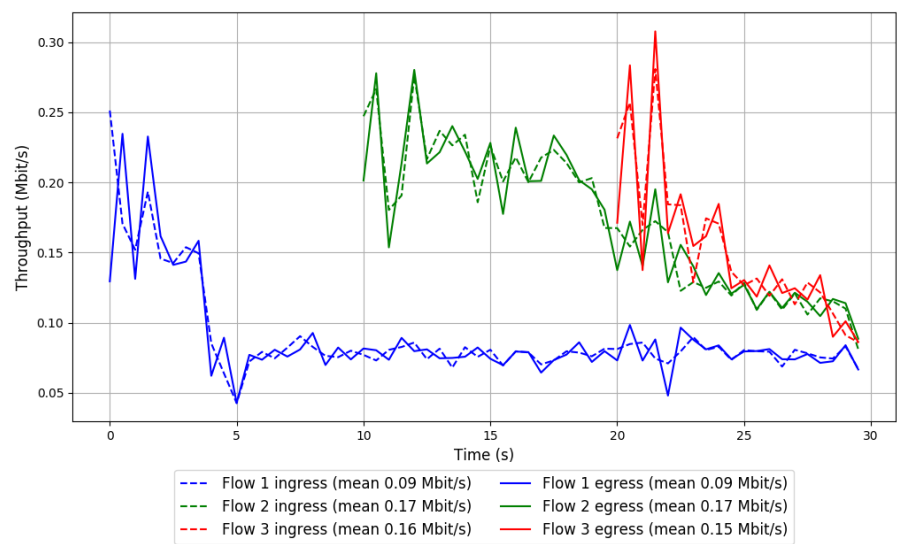


Run 2: Statistics of SCReAM

Start at: 2018-02-13 11:28:37  
End at: 2018-02-13 11:29:07  
Local clock offset: 1.925 ms  
Remote clock offset: -20.552 ms

# Below is generated by plot.py at 2018-02-13 12:59:41  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 0.26 Mbit/s  
95th percentile per-packet one-way delay: 163.314 ms  
Loss rate: 0.56%  
-- Flow 1:  
Average throughput: 0.09 Mbit/s  
95th percentile per-packet one-way delay: 204.730 ms  
Loss rate: 0.68%  
-- Flow 2:  
Average throughput: 0.17 Mbit/s  
95th percentile per-packet one-way delay: 137.831 ms  
Loss rate: 0.31%  
-- Flow 3:  
Average throughput: 0.15 Mbit/s  
95th percentile per-packet one-way delay: 155.918 ms  
Loss rate: 0.93%

Run 2: Report of SReAM — Data Link

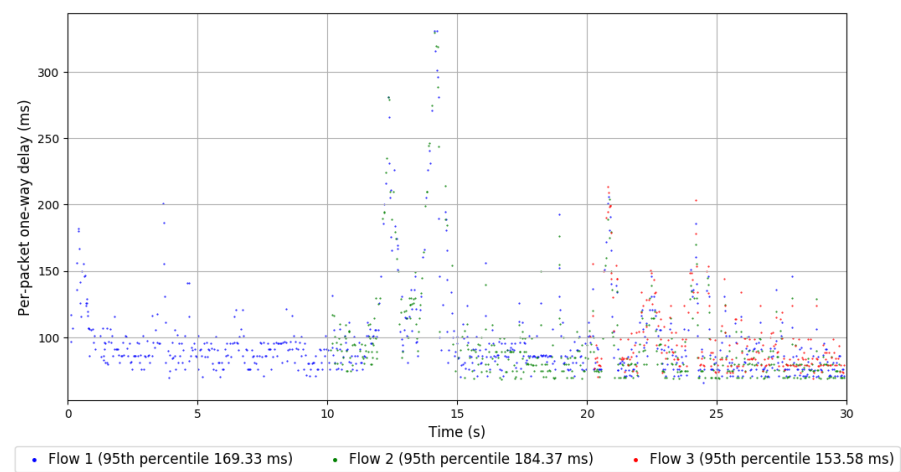
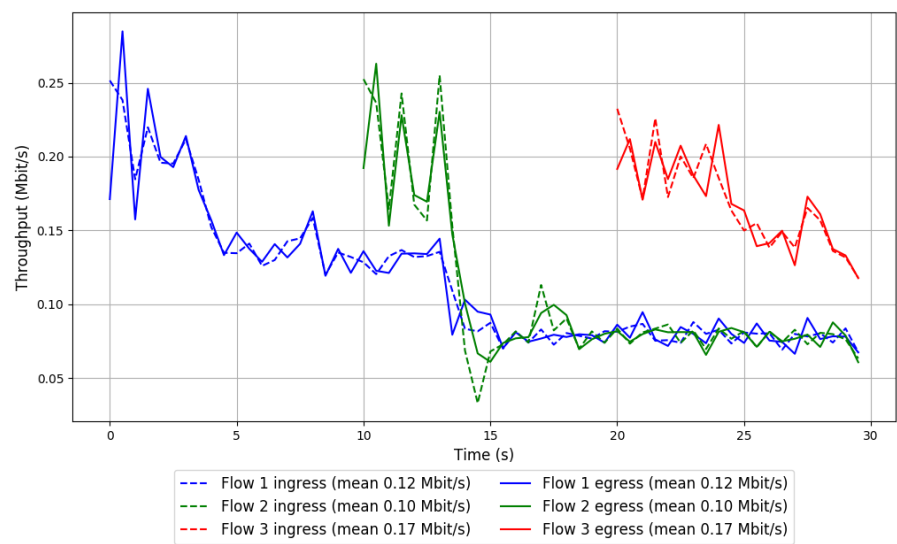


Run 3: Statistics of SCReAM

Start at: 2018-02-13 11:48:35  
End at: 2018-02-13 11:49:05  
Local clock offset: 5.655 ms  
Remote clock offset: -17.761 ms

# Below is generated by plot.py at 2018-02-13 12:59:41  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 0.24 Mbit/s  
95th percentile per-packet one-way delay: 175.312 ms  
Loss rate: 0.32%  
-- Flow 1:  
Average throughput: 0.12 Mbit/s  
95th percentile per-packet one-way delay: 169.332 ms  
Loss rate: 0.18%  
-- Flow 2:  
Average throughput: 0.10 Mbit/s  
95th percentile per-packet one-way delay: 184.368 ms  
Loss rate: 0.32%  
-- Flow 3:  
Average throughput: 0.17 Mbit/s  
95th percentile per-packet one-way delay: 153.584 ms  
Loss rate: 0.61%

Run 3: Report of SReAM — Data Link



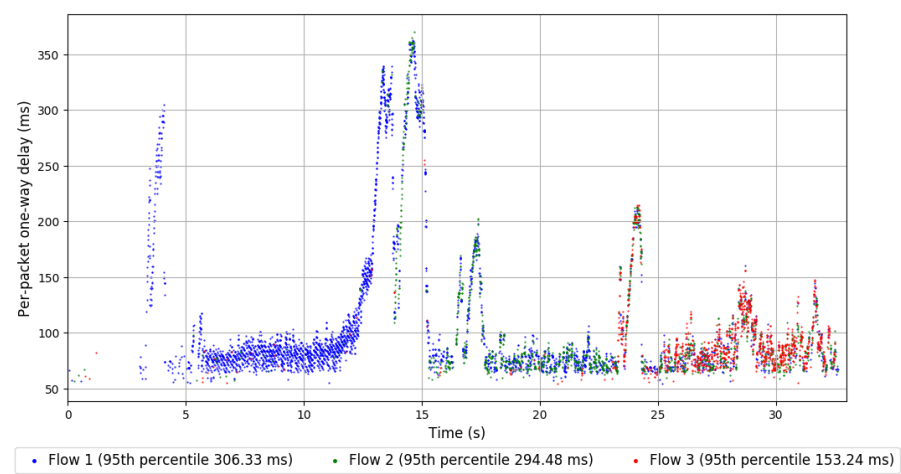
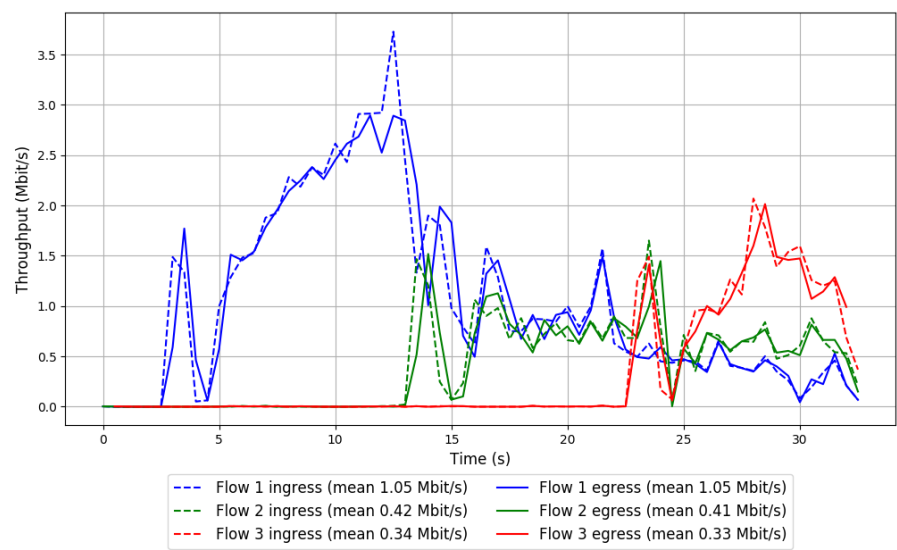
Run 1: Statistics of WebRTC media

Start at: 2018-02-13 11:04:15  
End at: 2018-02-13 11:04:45  
Local clock offset: 2.369 ms  
Remote clock offset: -18.418 ms

# Below is generated by plot.py at 2018-02-13 12:59:41  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 1.78 Mbit/s  
95th percentile per-packet one-way delay: 298.261 ms  
Loss rate: 1.60%  
-- Flow 1:  
Average throughput: 1.05 Mbit/s  
95th percentile per-packet one-way delay: 306.326 ms  
Loss rate: 0.91%  
-- Flow 2:  
Average throughput: 0.41 Mbit/s  
95th percentile per-packet one-way delay: 294.481 ms  
Loss rate: 1.40%  
-- Flow 3:  
Average throughput: 0.33 Mbit/s  
95th percentile per-packet one-way delay: 153.240 ms  
Loss rate: 4.01%



Run 1: Report of WebRTC media — Data Link

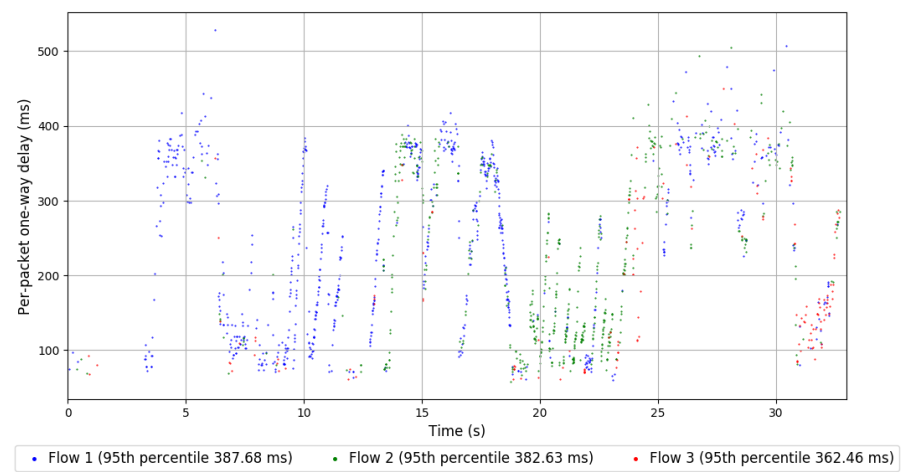
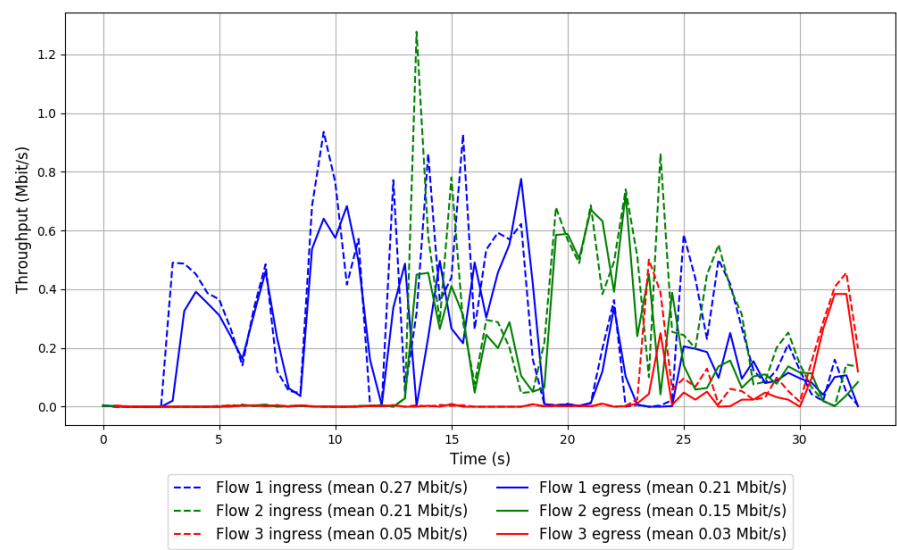


Run 2: Statistics of WebRTC media

Start at: 2018-02-13 11:24:12  
End at: 2018-02-13 11:24:42  
Local clock offset: 3.933 ms  
Remote clock offset: -22.714 ms

# Below is generated by plot.py at 2018-02-13 12:59:41  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 0.38 Mbit/s  
95th percentile per-packet one-way delay: 383.377 ms  
Loss rate: 26.72%  
-- Flow 1:  
Average throughput: 0.21 Mbit/s  
95th percentile per-packet one-way delay: 387.683 ms  
Loss rate: 22.52%  
-- Flow 2:  
Average throughput: 0.15 Mbit/s  
95th percentile per-packet one-way delay: 382.633 ms  
Loss rate: 28.95%  
-- Flow 3:  
Average throughput: 0.03 Mbit/s  
95th percentile per-packet one-way delay: 362.457 ms  
Loss rate: 40.24%

Run 2: Report of WebRTC media — Data Link

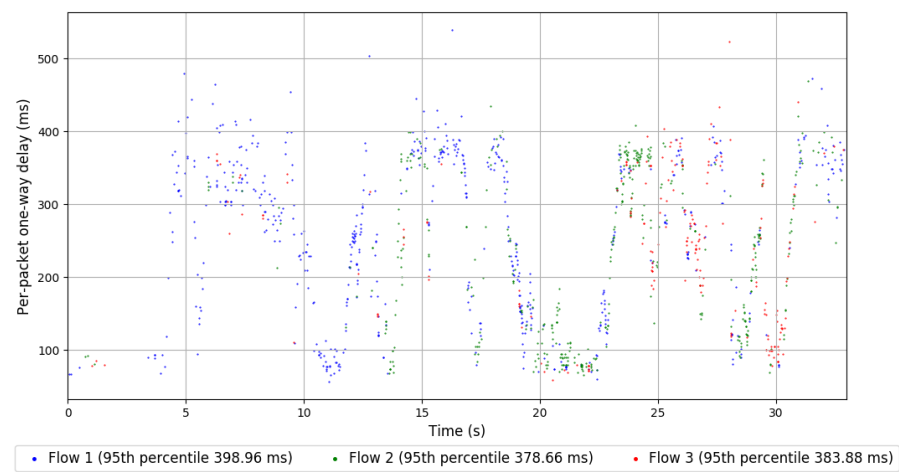
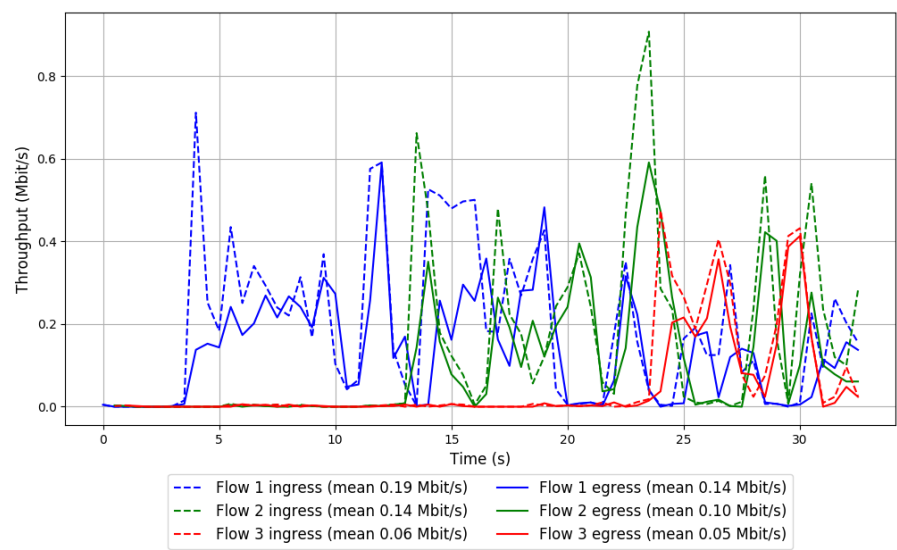


Run 3: Statistics of WebRTC media

Start at: 2018-02-13 11:44:09  
End at: 2018-02-13 11:44:39  
Local clock offset: 3.525 ms  
Remote clock offset: -18.396 ms

# Below is generated by plot.py at 2018-02-13 12:59:41  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 0.28 Mbit/s  
95th percentile per-packet one-way delay: 389.294 ms  
Loss rate: 28.27%  
-- Flow 1:  
Average throughput: 0.14 Mbit/s  
95th percentile per-packet one-way delay: 398.961 ms  
Loss rate: 29.21%  
-- Flow 2:  
Average throughput: 0.10 Mbit/s  
95th percentile per-packet one-way delay: 378.656 ms  
Loss rate: 27.72%  
-- Flow 3:  
Average throughput: 0.05 Mbit/s  
95th percentile per-packet one-way delay: 383.883 ms  
Loss rate: 26.56%

Run 3: Report of WebRTC media — Data Link

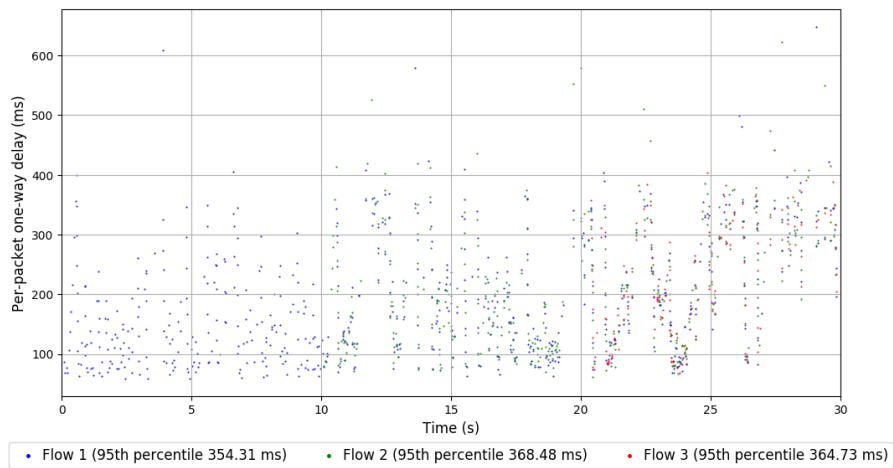
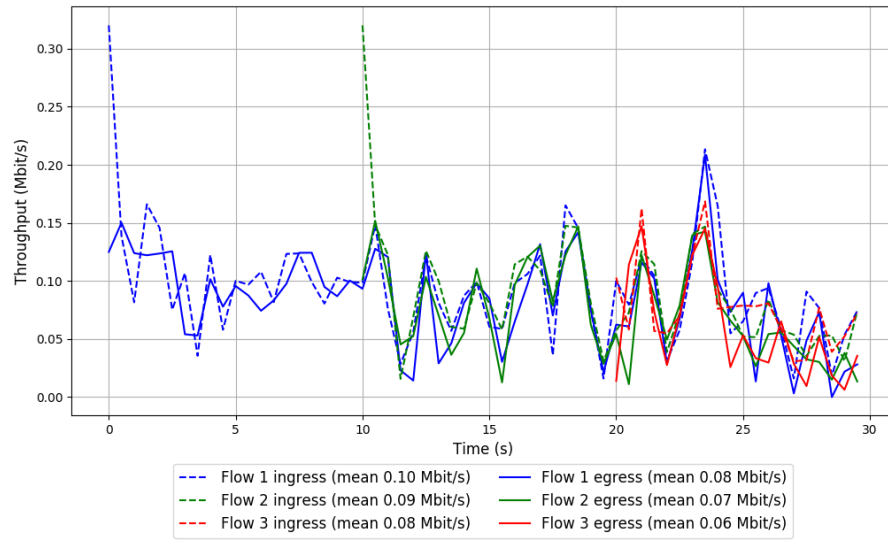


Run 1: Statistics of Sprout

Start at: 2018-02-13 11:11:58  
End at: 2018-02-13 11:12:28  
Local clock offset: 4.988 ms  
Remote clock offset: -19.91 ms

# Below is generated by plot.py at 2018-02-13 12:59:41  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 0.15 Mbit/s  
95th percentile per-packet one-way delay: 360.740 ms  
Loss rate: 16.05%  
-- Flow 1:  
Average throughput: 0.08 Mbit/s  
95th percentile per-packet one-way delay: 354.311 ms  
Loss rate: 11.95%  
-- Flow 2:  
Average throughput: 0.07 Mbit/s  
95th percentile per-packet one-way delay: 368.476 ms  
Loss rate: 18.85%  
-- Flow 3:  
Average throughput: 0.06 Mbit/s  
95th percentile per-packet one-way delay: 364.732 ms  
Loss rate: 24.65%

## Run 1: Report of Sprout — Data Link



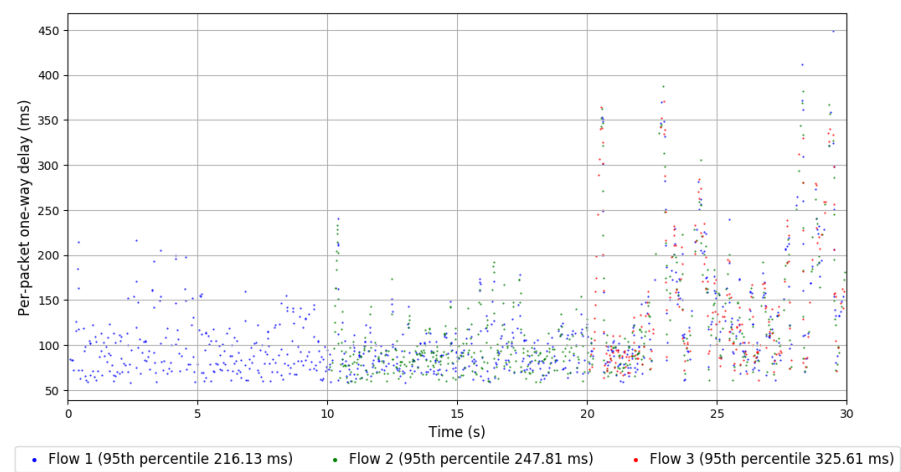
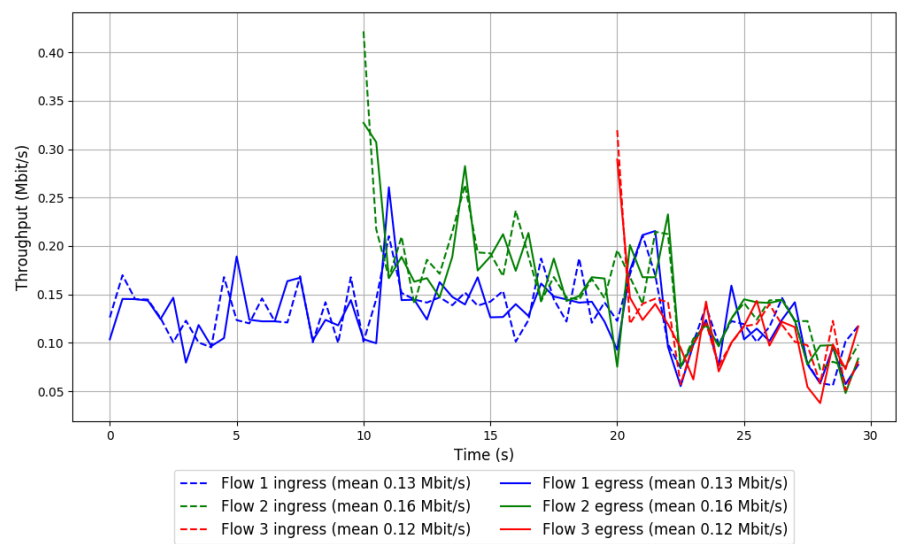
## Run 2: Statistics of Sprout

Start at: 2018-02-13 11:31:55  
End at: 2018-02-13 11:32:25  
Local clock offset: 5.085 ms  
Remote clock offset: -20.036 ms

```
# Below is generated by plot.py at 2018-02-13 12:59:41
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.27 Mbit/s
95th percentile per-packet one-way delay: 255.065 ms
Loss rate: 1.92%
-- Flow 1:
Average throughput: 0.13 Mbit/s
95th percentile per-packet one-way delay: 216.131 ms
Loss rate: 1.47%
-- Flow 2:
Average throughput: 0.16 Mbit/s
95th percentile per-packet one-way delay: 247.809 ms
Loss rate: 2.23%
-- Flow 3:
Average throughput: 0.12 Mbit/s
95th percentile per-packet one-way delay: 325.610 ms
Loss rate: 2.58%
```



Run 2: Report of Sprout — Data Link

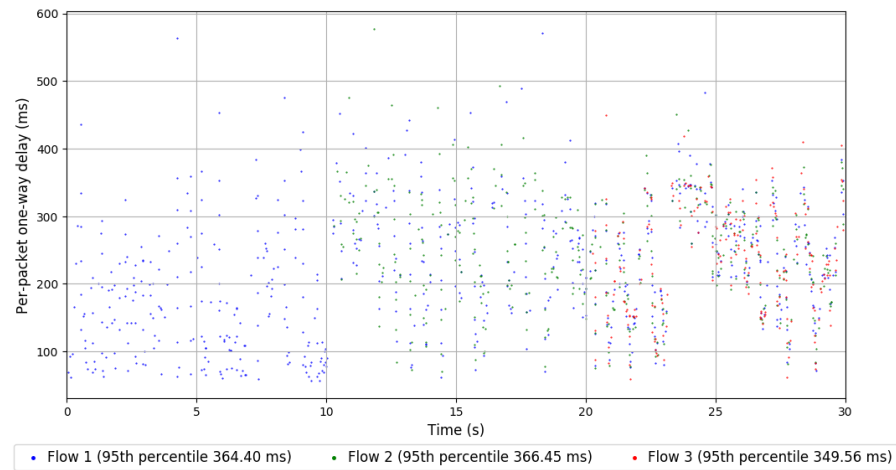
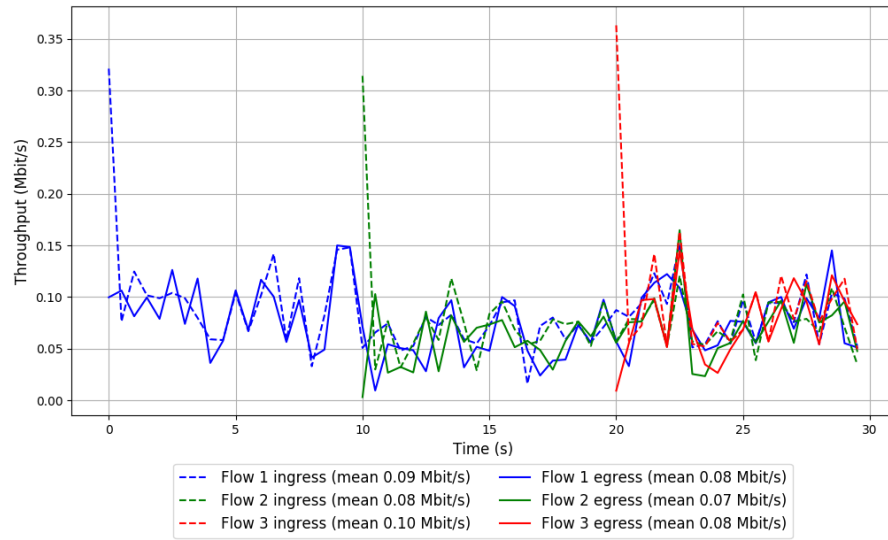


### Run 3: Statistics of Sprout

Start at: 2018-02-13 11:51:54  
End at: 2018-02-13 11:52:24  
Local clock offset: 2.909 ms  
Remote clock offset: -17.244 ms

```
# Below is generated by plot.py at 2018-02-13 12:59:41
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.15 Mbit/s
95th percentile per-packet one-way delay: 363.953 ms
Loss rate: 15.50%
-- Flow 1:
Average throughput: 0.08 Mbit/s
95th percentile per-packet one-way delay: 364.396 ms
Loss rate: 11.90%
-- Flow 2:
Average throughput: 0.07 Mbit/s
95th percentile per-packet one-way delay: 366.452 ms
Loss rate: 16.43%
-- Flow 3:
Average throughput: 0.08 Mbit/s
95th percentile per-packet one-way delay: 349.562 ms
Loss rate: 23.45%
```

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

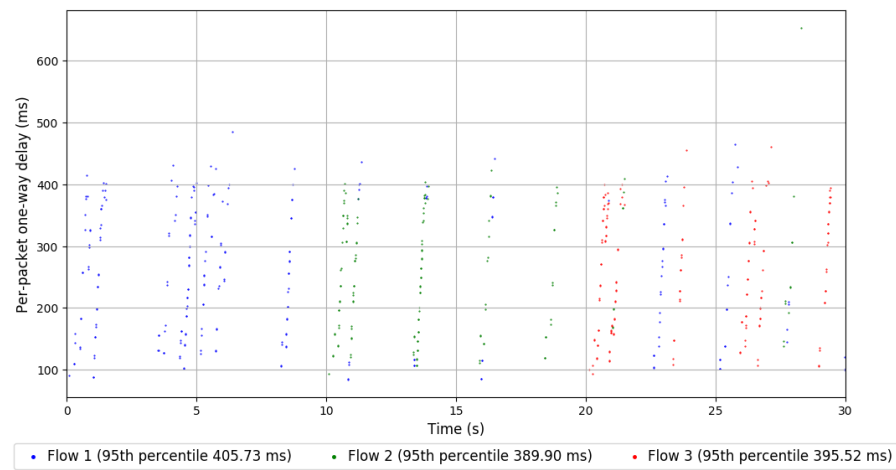
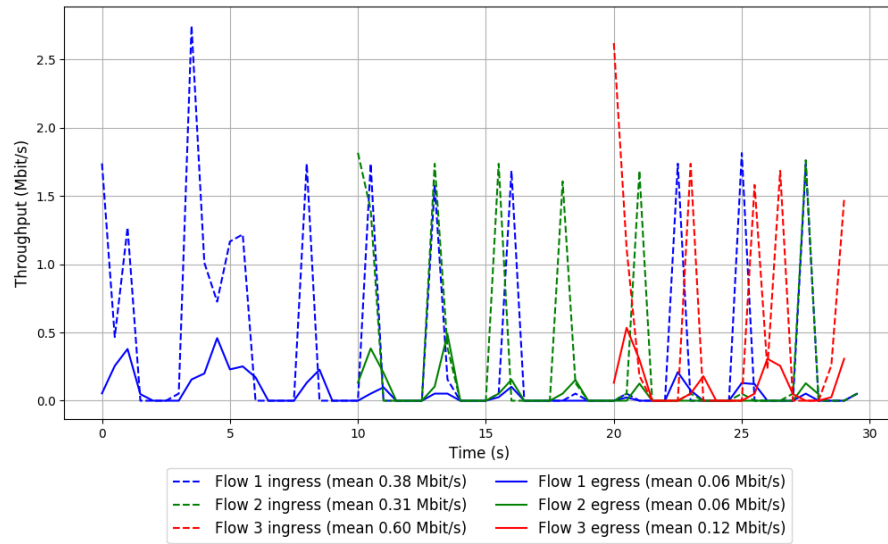


```
Run 1: Statistics of TaoVA-100x

Start at: 2018-02-13 11:18:36
End at: 2018-02-13 11:19:06
Local clock offset: 2.866 ms
Remote clock offset: -21.712 ms

# Below is generated by plot.py at 2018-02-13 12:59:41
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.13 Mbit/s
95th percentile per-packet one-way delay: 400.737 ms
Loss rate: 83.07%
-- Flow 1:
Average throughput: 0.06 Mbit/s
95th percentile per-packet one-way delay: 405.732 ms
Loss rate: 84.19%
-- Flow 2:
Average throughput: 0.06 Mbit/s
95th percentile per-packet one-way delay: 389.901 ms
Loss rate: 83.85%
-- Flow 3:
Average throughput: 0.12 Mbit/s
95th percentile per-packet one-way delay: 395.522 ms
Loss rate: 79.86%
```

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

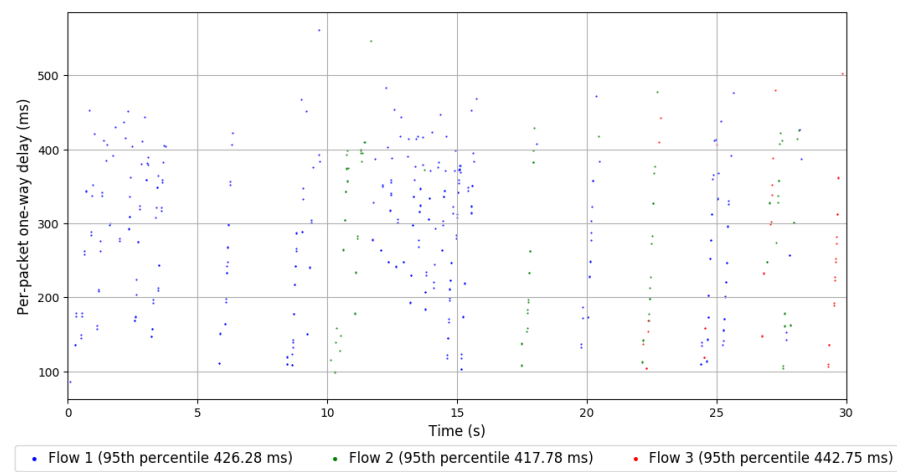
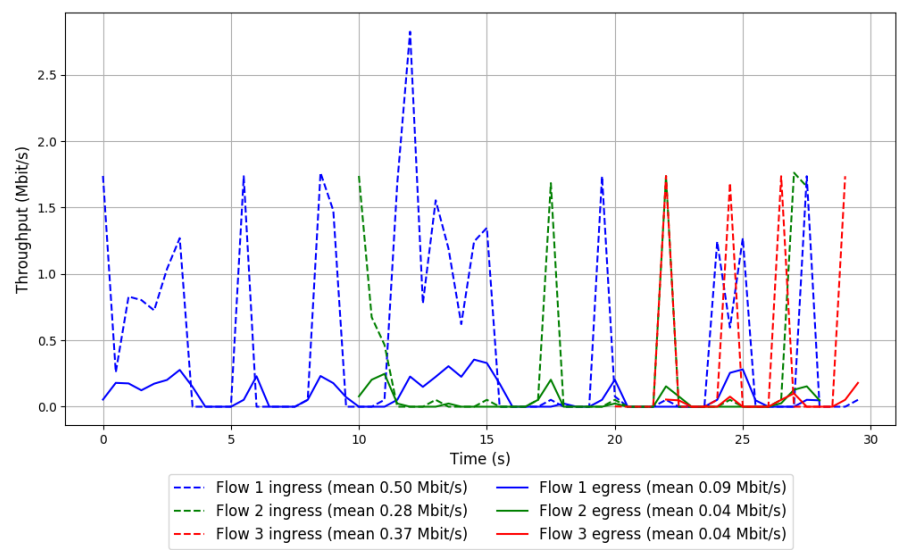


Run 2: Statistics of TaoVA-100x

Start at: 2018-02-13 11:38:31  
End at: 2018-02-13 11:39:01  
Local clock offset: 4.584 ms  
Remote clock offset: -20.758 ms

# Below is generated by plot.py at 2018-02-13 12:59:41  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 0.12 Mbit/s  
95th percentile per-packet one-way delay: 425.773 ms  
Loss rate: 84.60%  
-- Flow 1:  
Average throughput: 0.09 Mbit/s  
95th percentile per-packet one-way delay: 426.278 ms  
Loss rate: 82.54%  
-- Flow 2:  
Average throughput: 0.04 Mbit/s  
95th percentile per-packet one-way delay: 417.780 ms  
Loss rate: 85.63%  
-- Flow 3:  
Average throughput: 0.04 Mbit/s  
95th percentile per-packet one-way delay: 442.749 ms  
Loss rate: 91.94%

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



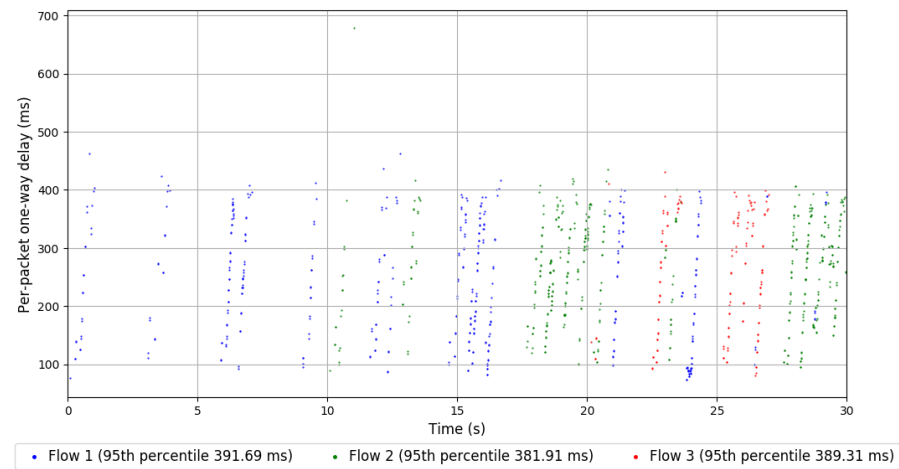
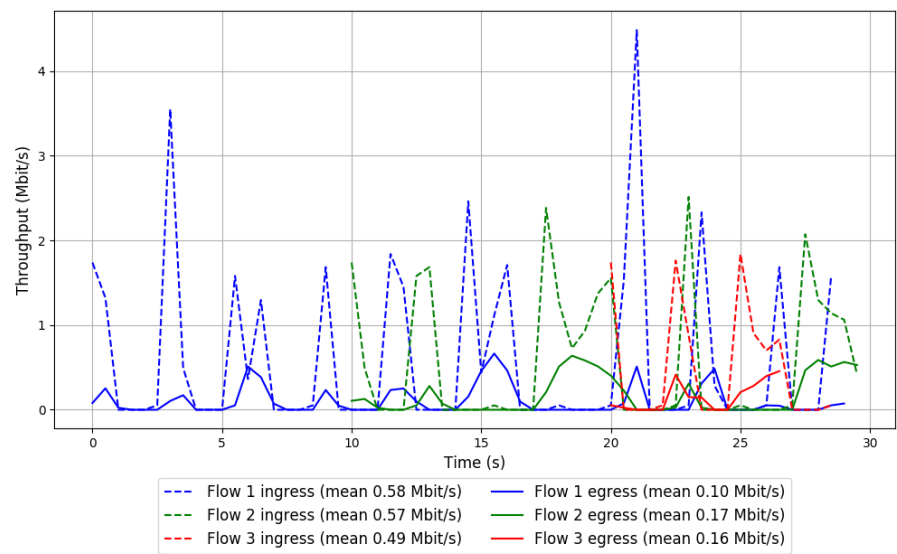
Run 3: Statistics of TaoVA-100x

Start at: 2018-02-13 11:58:31  
End at: 2018-02-13 11:59:01  
Local clock offset: 4.7 ms  
Remote clock offset: -15.936 ms

# Below is generated by plot.py at 2018-02-13 12:59:41  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 0.25 Mbit/s  
95th percentile per-packet one-way delay: 388.155 ms  
Loss rate: 76.97%  
-- Flow 1:  
Average throughput: 0.10 Mbit/s  
95th percentile per-packet one-way delay: 391.687 ms  
Loss rate: 82.08%  
-- Flow 2:  
Average throughput: 0.17 Mbit/s  
95th percentile per-packet one-way delay: 381.910 ms  
Loss rate: 69.89%  
-- Flow 3:  
Average throughput: 0.16 Mbit/s  
95th percentile per-packet one-way delay: 389.305 ms  
Loss rate: 75.72%



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

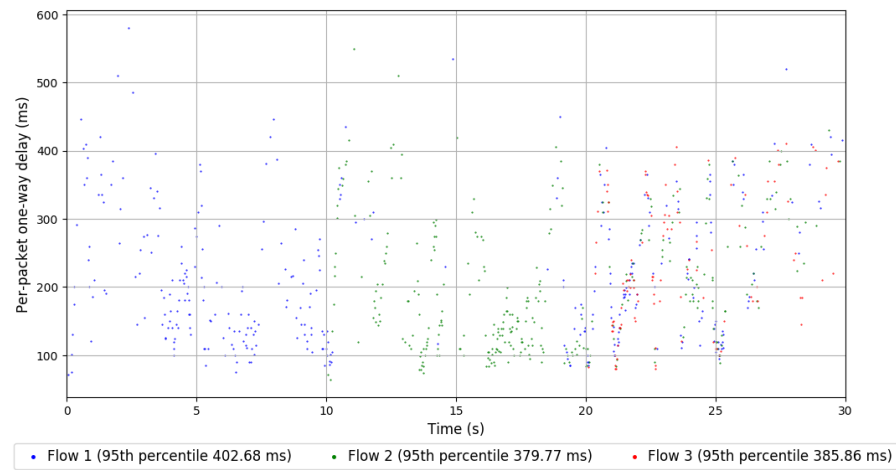
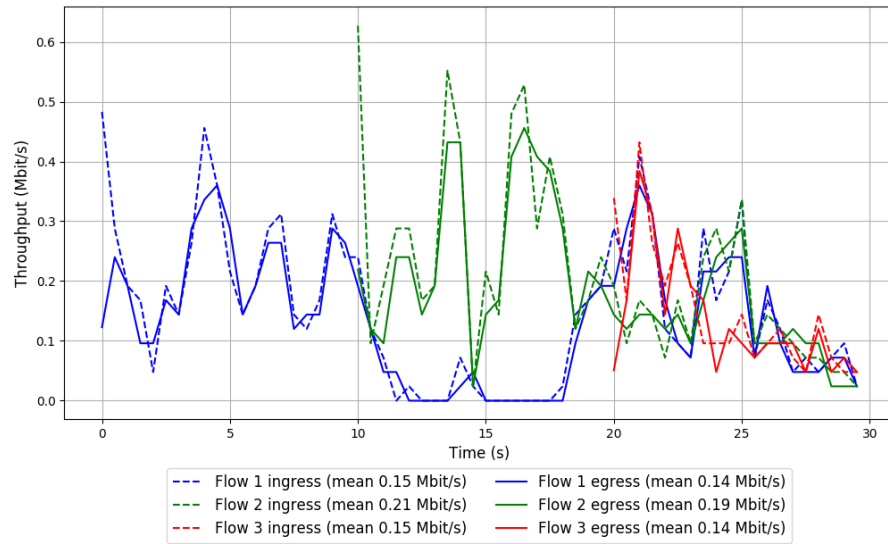


Run 1: Statistics of TCP Vegas

Start at: 2018-02-13 11:16:24  
End at: 2018-02-13 11:16:54  
Local clock offset: 4.715 ms  
Remote clock offset: -21.141 ms

# Below is generated by plot.py at 2018-02-13 12:59:41  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 0.31 Mbit/s  
95th percentile per-packet one-way delay: 385.860 ms  
Loss rate: 10.98%  
-- Flow 1:  
Average throughput: 0.14 Mbit/s  
95th percentile per-packet one-way delay: 402.681 ms  
Loss rate: 9.81%  
-- Flow 2:  
Average throughput: 0.19 Mbit/s  
95th percentile per-packet one-way delay: 379.770 ms  
Loss rate: 12.14%  
-- Flow 3:  
Average throughput: 0.14 Mbit/s  
95th percentile per-packet one-way delay: 385.860 ms  
Loss rate: 11.19%

# Run 1: Report of TCP Vegas — Data Link

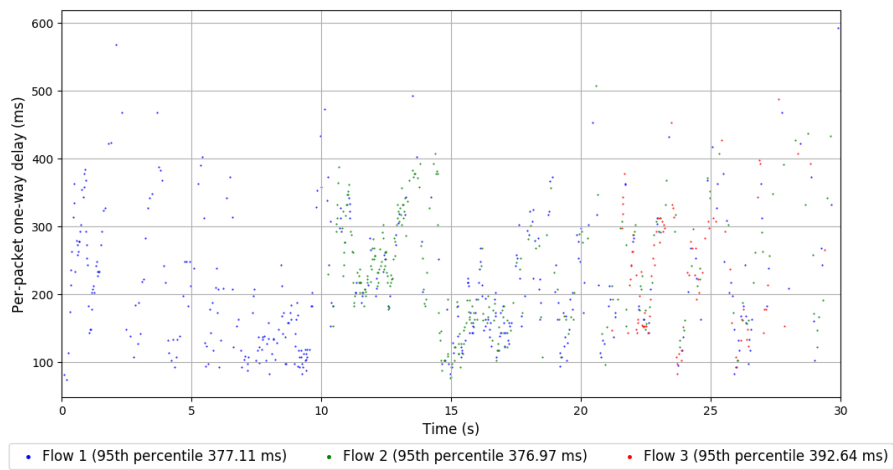
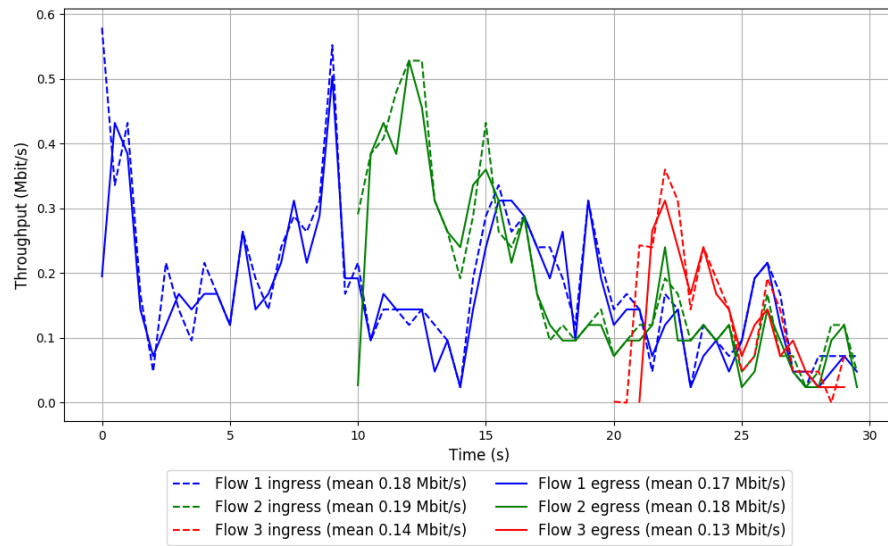


Run 2: Statistics of TCP Vegas

Start at: 2018-02-13 11:36:19  
End at: 2018-02-13 11:36:49  
Local clock offset: 4.068 ms  
Remote clock offset: -19.065 ms

# Below is generated by plot.py at 2018-02-13 12:59:41  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 0.32 Mbit/s  
95th percentile per-packet one-way delay: 377.732 ms  
Loss rate: 9.00%  
-- Flow 1:  
Average throughput: 0.17 Mbit/s  
95th percentile per-packet one-way delay: 377.105 ms  
Loss rate: 8.59%  
-- Flow 2:  
Average throughput: 0.18 Mbit/s  
95th percentile per-packet one-way delay: 376.974 ms  
Loss rate: 7.54%  
-- Flow 3:  
Average throughput: 0.13 Mbit/s  
95th percentile per-packet one-way delay: 392.638 ms  
Loss rate: 15.13%

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

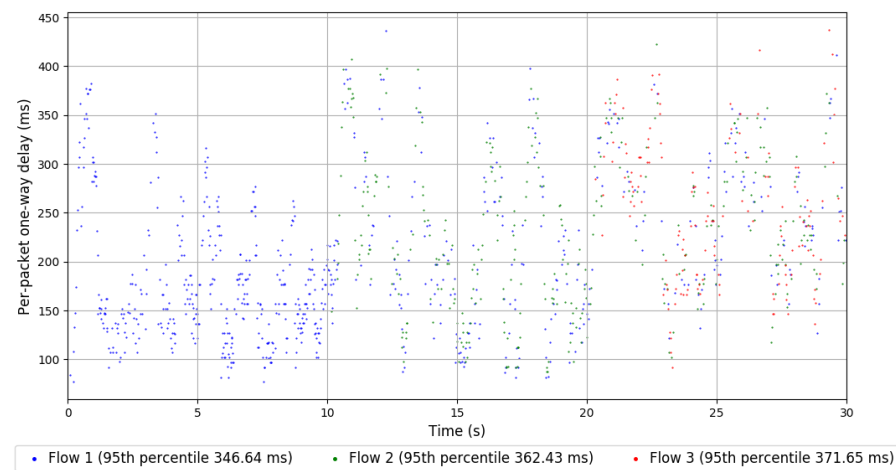
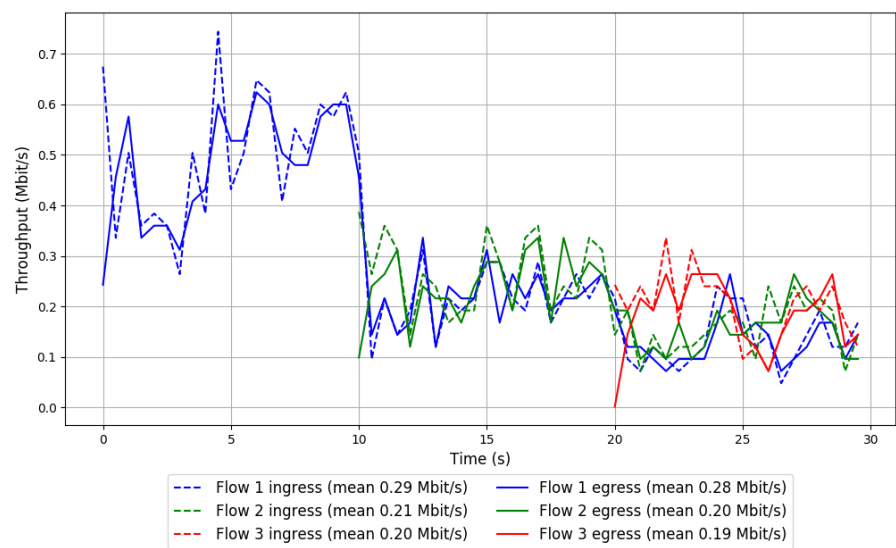


Run 3: Statistics of TCP Vegas

Start at: 2018-02-13 11:56:19  
End at: 2018-02-13 11:56:49  
Local clock offset: 4.163 ms  
Remote clock offset: -18.662 ms

# Below is generated by plot.py at 2018-02-13 12:59:41  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 0.48 Mbit/s  
95th percentile per-packet one-way delay: 357.784 ms  
Loss rate: 4.60%  
-- Flow 1:  
Average throughput: 0.28 Mbit/s  
95th percentile per-packet one-way delay: 346.639 ms  
Loss rate: 2.63%  
-- Flow 2:  
Average throughput: 0.20 Mbit/s  
95th percentile per-packet one-way delay: 362.434 ms  
Loss rate: 6.51%  
-- Flow 3:  
Average throughput: 0.19 Mbit/s  
95th percentile per-packet one-way delay: 371.649 ms  
Loss rate: 9.03%

Run 3: Report of TCP Vegas — Data Link



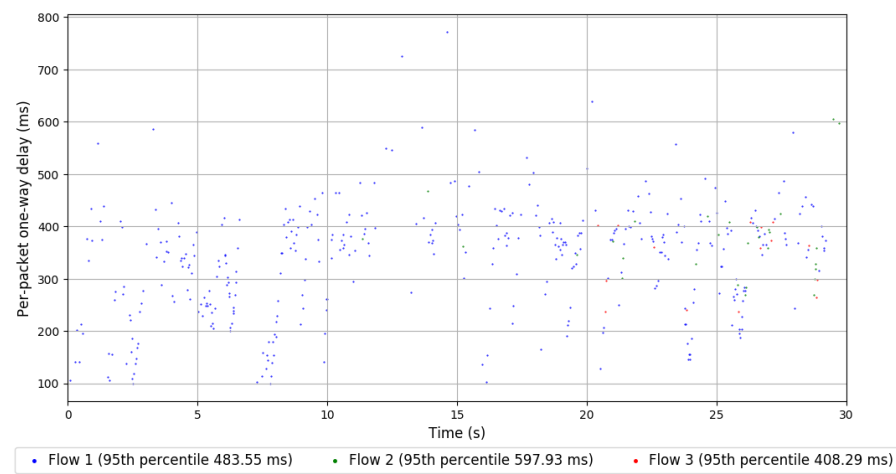
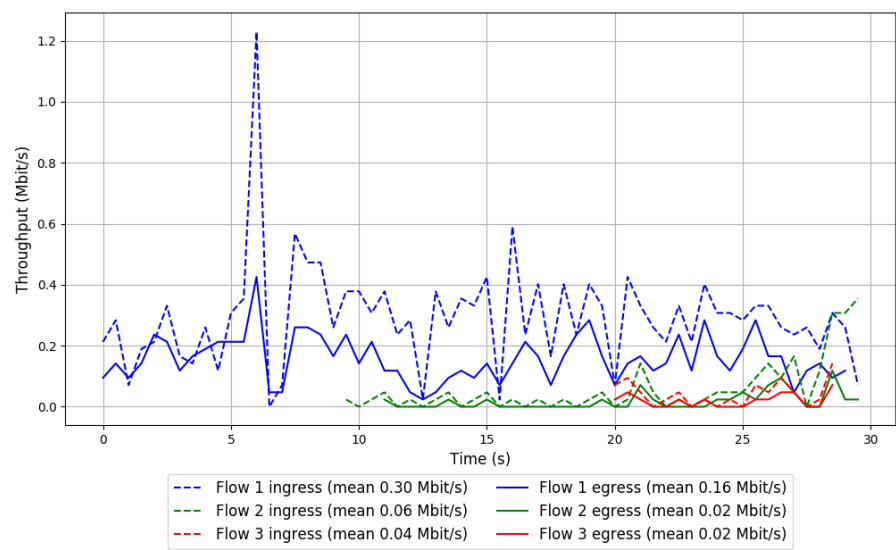
Run 1: Statistics of Verus

Start at: 2018-02-13 11:17:30  
End at: 2018-02-13 11:18:00  
Local clock offset: 4.744 ms  
Remote clock offset: -20.328 ms

# Below is generated by plot.py at 2018-02-13 12:59:41  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 0.17 Mbit/s  
95th percentile per-packet one-way delay: 483.548 ms  
Loss rate: 50.40%  
-- Flow 1:  
Average throughput: 0.16 Mbit/s  
95th percentile per-packet one-way delay: 483.548 ms  
Loss rate: 47.45%  
-- Flow 2:  
Average throughput: 0.02 Mbit/s  
95th percentile per-packet one-way delay: 597.927 ms  
Loss rate: 71.29%  
-- Flow 3:  
Average throughput: 0.02 Mbit/s  
95th percentile per-packet one-way delay: 408.291 ms  
Loss rate: 53.12%



Run 1: Report of Verus — Data Link

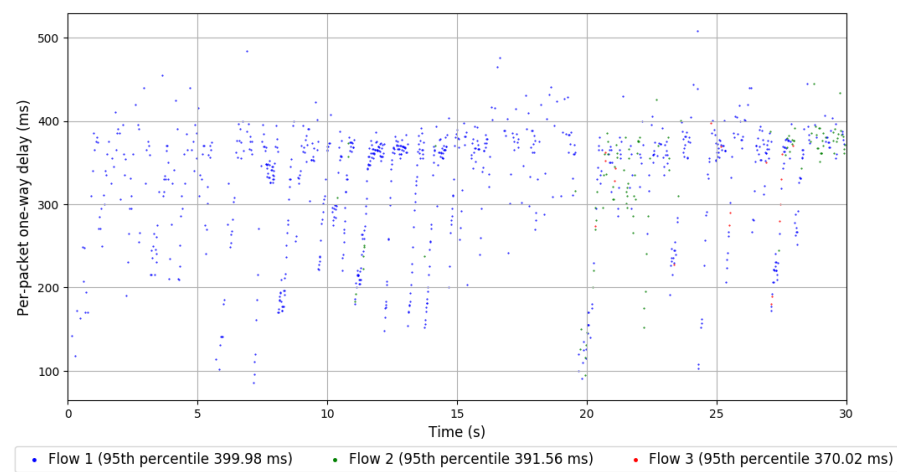
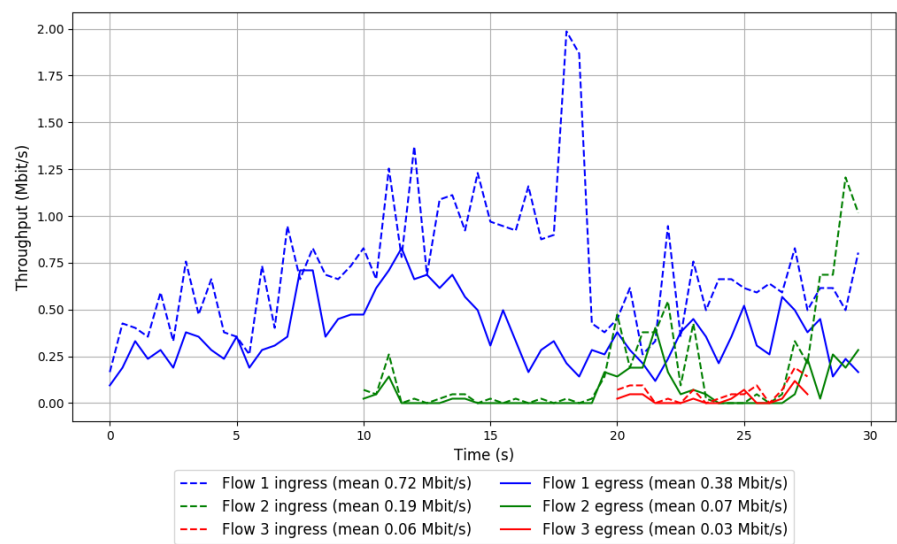


Run 2: Statistics of Verus

Start at: 2018-02-13 11:37:25  
End at: 2018-02-13 11:37:55  
Local clock offset: 2.062 ms  
Remote clock offset: -19.276 ms

# Below is generated by plot.py at 2018-02-13 12:59:41  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 0.43 Mbit/s  
95th percentile per-packet one-way delay: 399.386 ms  
Loss rate: 50.34%  
-- Flow 1:  
Average throughput: 0.38 Mbit/s  
95th percentile per-packet one-way delay: 399.975 ms  
Loss rate: 47.85%  
-- Flow 2:  
Average throughput: 0.07 Mbit/s  
95th percentile per-packet one-way delay: 391.555 ms  
Loss rate: 63.84%  
-- Flow 3:  
Average throughput: 0.03 Mbit/s  
95th percentile per-packet one-way delay: 370.020 ms  
Loss rate: 56.10%

Run 2: Report of Verus — Data Link

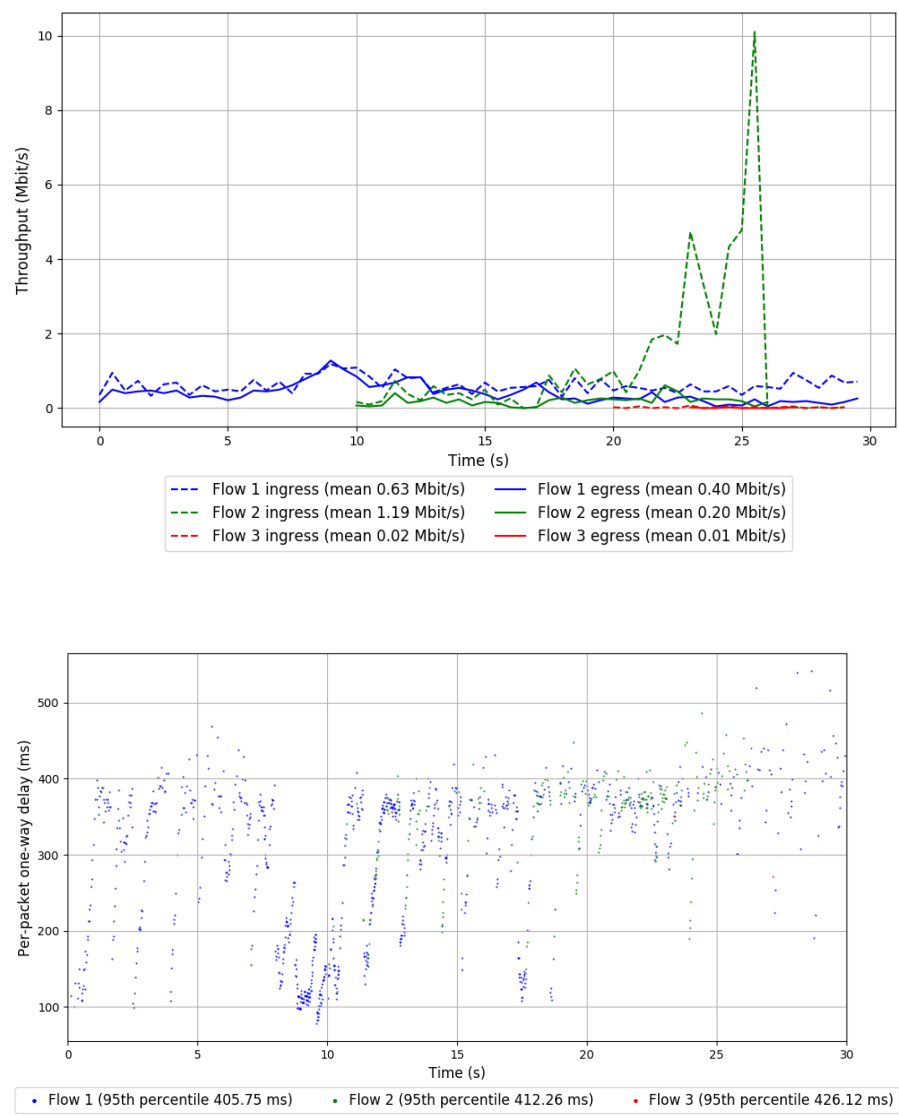


Run 3: Statistics of Verus

Start at: 2018-02-13 11:57:25  
End at: 2018-02-13 11:57:55  
Local clock offset: 5.412 ms  
Remote clock offset: -18.671 ms

# Below is generated by plot.py at 2018-02-13 12:59:41  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 0.51 Mbit/s  
95th percentile per-packet one-way delay: 409.134 ms  
Loss rate: 63.67%  
-- Flow 1:  
Average throughput: 0.40 Mbit/s  
95th percentile per-packet one-way delay: 405.752 ms  
Loss rate: 36.64%  
-- Flow 2:  
Average throughput: 0.20 Mbit/s  
95th percentile per-packet one-way delay: 412.256 ms  
Loss rate: 86.01%  
-- Flow 3:  
Average throughput: 0.01 Mbit/s  
95th percentile per-packet one-way delay: 426.118 ms  
Loss rate: 81.25%

Run 3: Report of Verus — Data Link

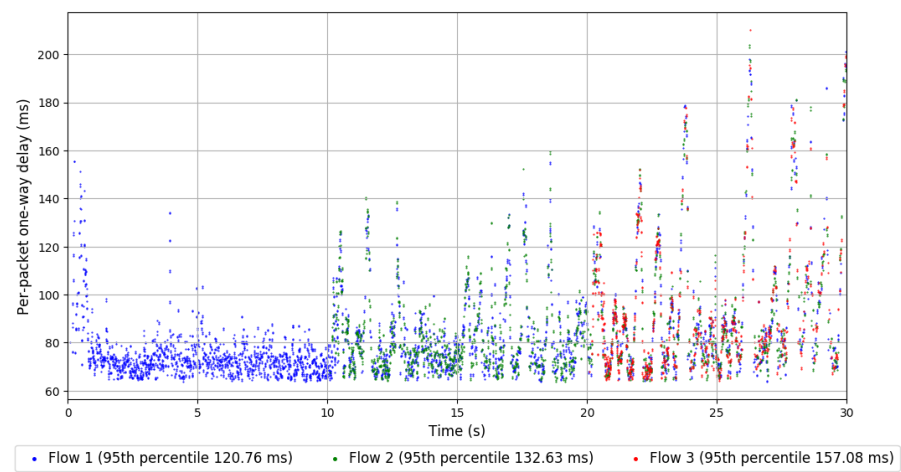
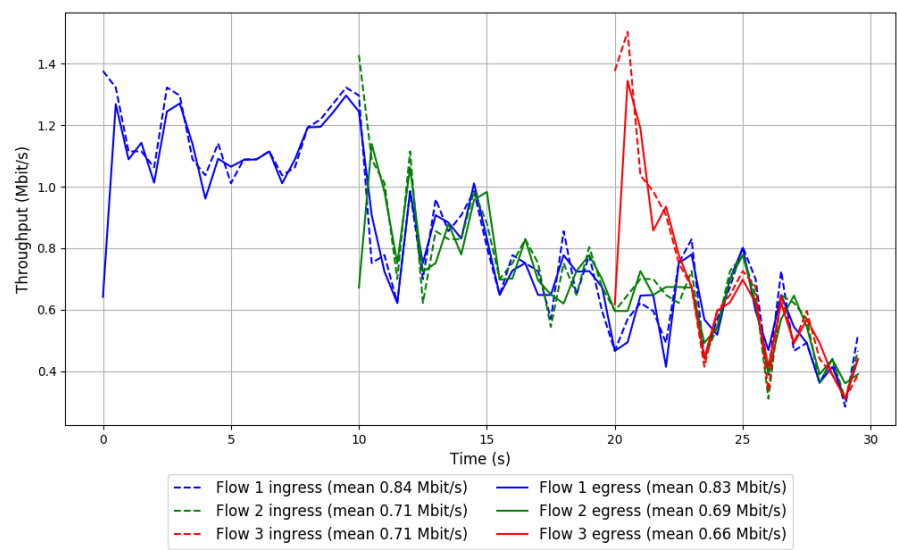


Run 1: Statistics of Copa

Start at: 2018-02-13 10:59:43  
End at: 2018-02-13 11:00:13  
Local clock offset: 1.423 ms  
Remote clock offset: -15.984 ms

# Below is generated by plot.py at 2018-02-13 12:59:41  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 1.51 Mbit/s  
95th percentile per-packet one-way delay: 128.935 ms  
Loss rate: 2.92%  
-- Flow 1:  
Average throughput: 0.83 Mbit/s  
95th percentile per-packet one-way delay: 120.764 ms  
Loss rate: 2.26%  
-- Flow 2:  
Average throughput: 0.69 Mbit/s  
95th percentile per-packet one-way delay: 132.626 ms  
Loss rate: 2.74%  
-- Flow 3:  
Average throughput: 0.66 Mbit/s  
95th percentile per-packet one-way delay: 157.076 ms  
Loss rate: 5.68%

Run 1: Report of Copa — Data Link



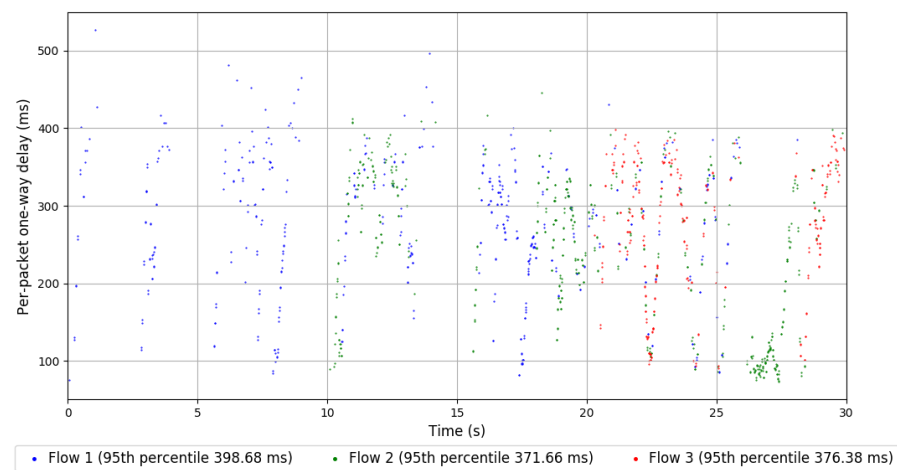
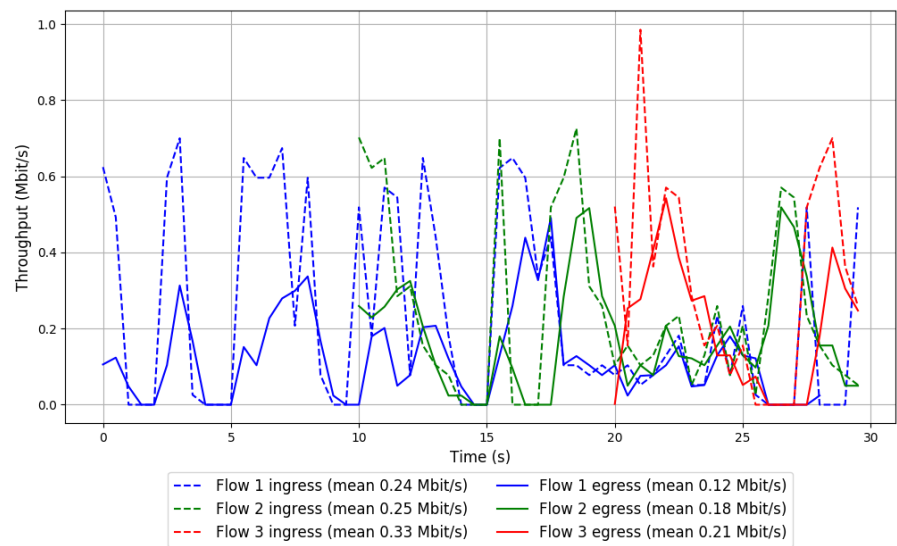
Run 2: Statistics of Copa

Start at: 2018-02-13 11:19:44  
End at: 2018-02-13 11:20:14  
Local clock offset: 1.967 ms  
Remote clock offset: -21.55 ms

# Below is generated by plot.py at 2018-02-13 12:59:41  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 0.30 Mbit/s  
95th percentile per-packet one-way delay: 382.418 ms  
Loss rate: 41.53%  
-- Flow 1:  
Average throughput: 0.12 Mbit/s  
95th percentile per-packet one-way delay: 398.684 ms  
Loss rate: 52.59%  
-- Flow 2:  
Average throughput: 0.18 Mbit/s  
95th percentile per-packet one-way delay: 371.663 ms  
Loss rate: 26.88%  
-- Flow 3:  
Average throughput: 0.21 Mbit/s  
95th percentile per-packet one-way delay: 376.375 ms  
Loss rate: 38.97%



Run 2: Report of Copa — Data Link

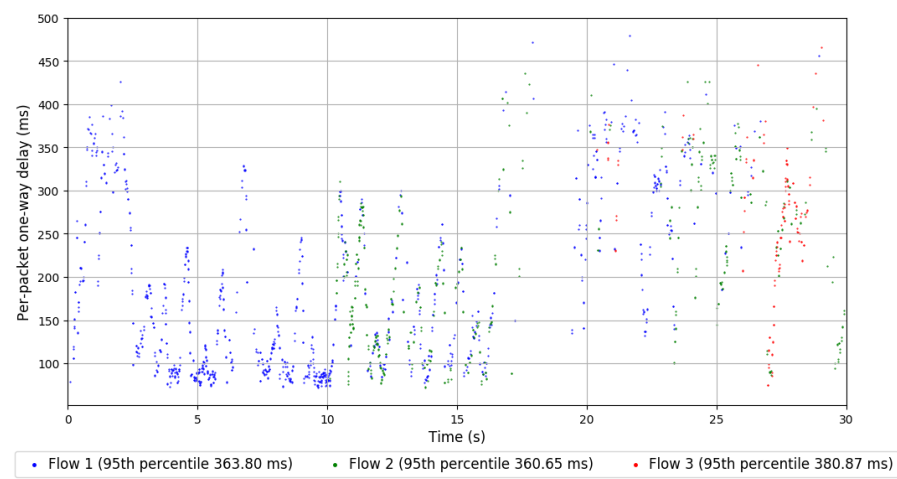
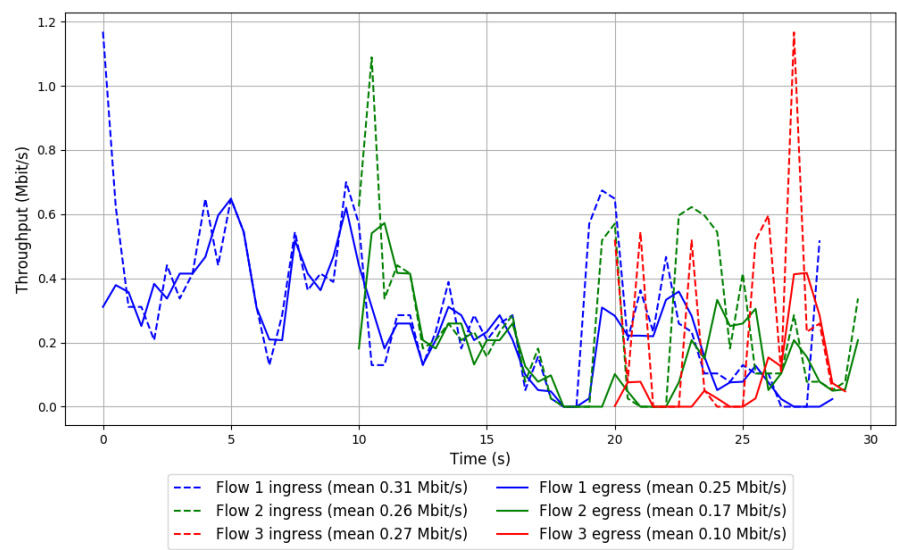


Run 3: Statistics of Copa

Start at: 2018-02-13 11:39:38  
End at: 2018-02-13 11:40:08  
Local clock offset: 3.882 ms  
Remote clock offset: -18.211 ms

# Below is generated by plot.py at 2018-02-13 12:59:41  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 0.39 Mbit/s  
95th percentile per-packet one-way delay: 363.909 ms  
Loss rate: 28.79%  
-- Flow 1:  
Average throughput: 0.25 Mbit/s  
95th percentile per-packet one-way delay: 363.800 ms  
Loss rate: 17.18%  
-- Flow 2:  
Average throughput: 0.17 Mbit/s  
95th percentile per-packet one-way delay: 360.650 ms  
Loss rate: 33.82%  
-- Flow 3:  
Average throughput: 0.10 Mbit/s  
95th percentile per-packet one-way delay: 380.866 ms  
Loss rate: 61.81%

Run 3: Report of Copa — Data Link



Run 1: Statistics of FillP

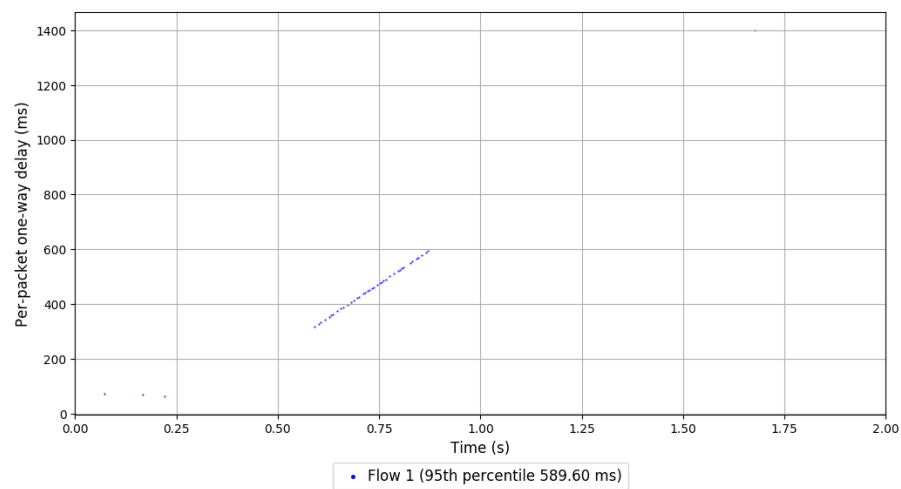
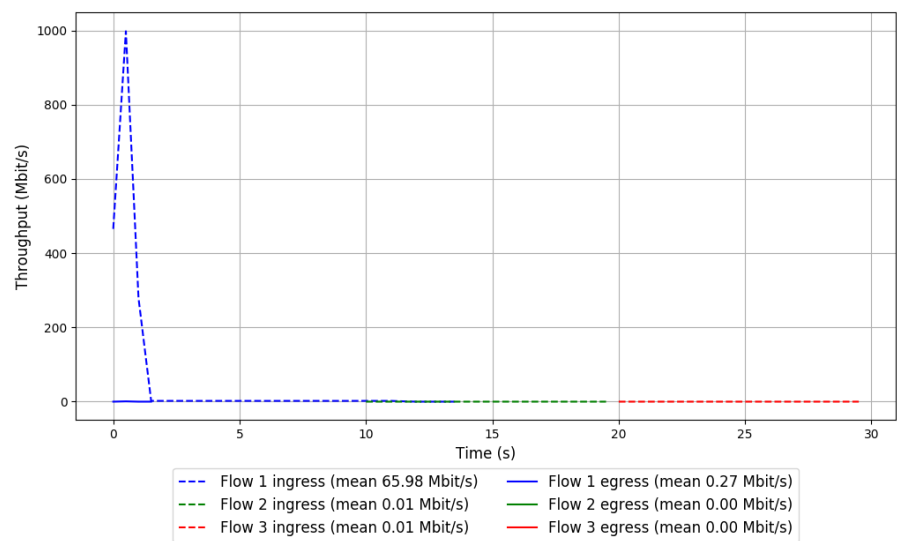
Start at: 2018-02-13 11:03:04

End at: 2018-02-13 11:03:34

Local clock offset: 4.659 ms

Remote clock offset: -18.689 ms

Run 1: Report of FillP — Data Link

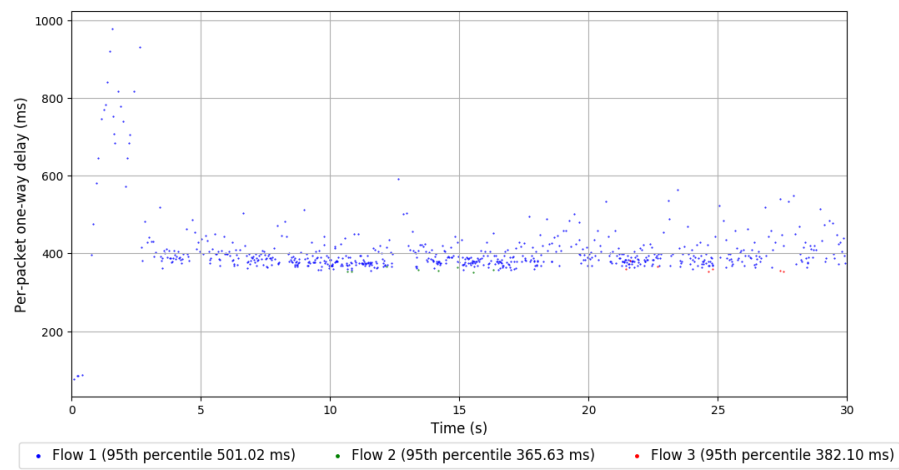
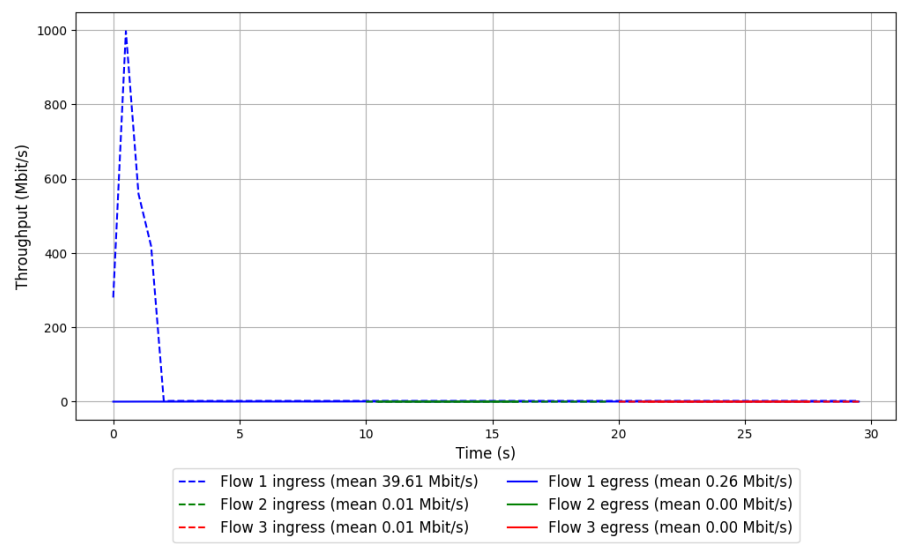


Run 2: Statistics of FillP

Start at: 2018-02-13 11:23:04  
End at: 2018-02-13 11:23:34  
Local clock offset: 1.708 ms  
Remote clock offset: -22.509 ms

# Below is generated by plot.py at 2018-02-13 12:59:49  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 0.26 Mbit/s  
95th percentile per-packet one-way delay: 495.088 ms  
Loss rate: 99.36%  
-- Flow 1:  
Average throughput: 0.26 Mbit/s  
95th percentile per-packet one-way delay: 501.020 ms  
Loss rate: 99.36%  
-- Flow 2:  
Average throughput: 0.00 Mbit/s  
95th percentile per-packet one-way delay: 365.633 ms  
Loss rate: 89.81%  
-- Flow 3:  
Average throughput: 0.00 Mbit/s  
95th percentile per-packet one-way delay: 382.102 ms  
Loss rate: 91.31%

Run 2: Report of FillP — Data Link



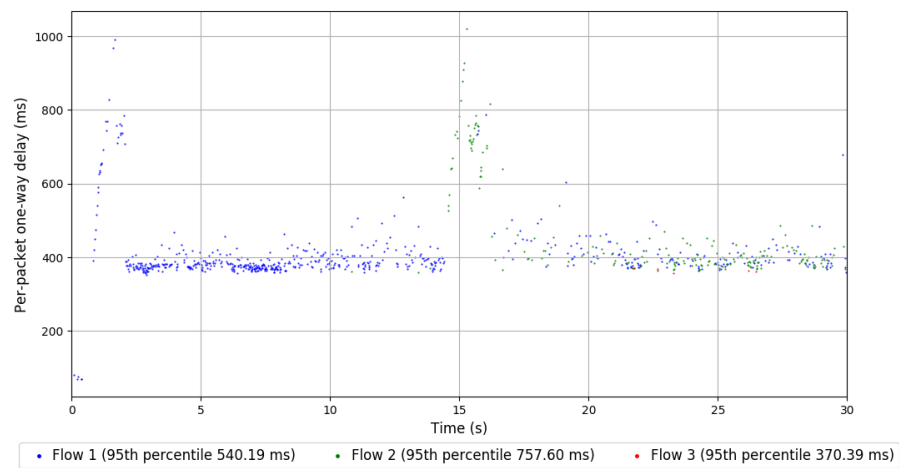
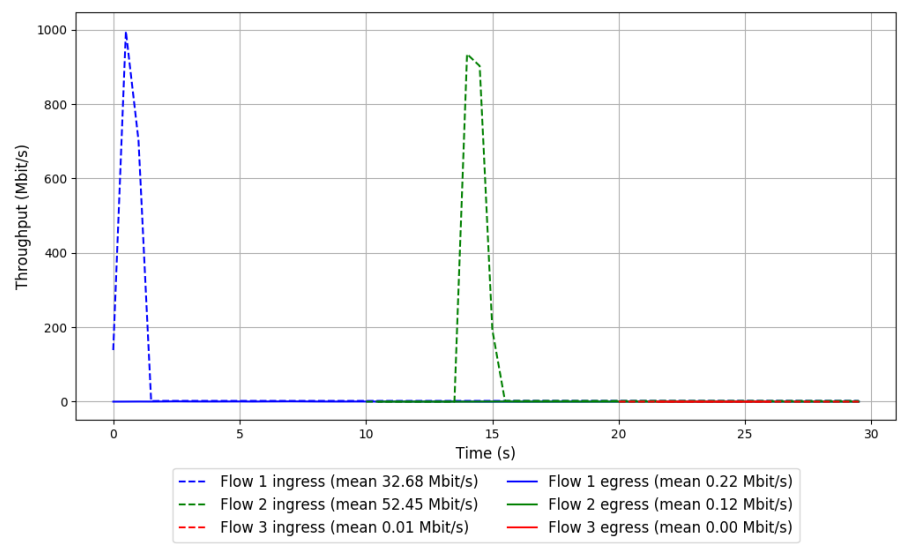
Run 3: Statistics of FillP

Start at: 2018-02-13 11:43:00  
End at: 2018-02-13 11:43:30  
Local clock offset: 4.451 ms  
Remote clock offset: -18.471 ms

# Below is generated by plot.py at 2018-02-13 12:59:50  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 0.29 Mbit/s  
95th percentile per-packet one-way delay: 709.692 ms  
Loss rate: 99.57%  
-- Flow 1:  
Average throughput: 0.22 Mbit/s  
95th percentile per-packet one-way delay: 540.186 ms  
Loss rate: 99.33%  
-- Flow 2:  
Average throughput: 0.12 Mbit/s  
95th percentile per-packet one-way delay: 757.596 ms  
Loss rate: 99.79%  
-- Flow 3:  
Average throughput: 0.00 Mbit/s  
95th percentile per-packet one-way delay: 370.389 ms  
Loss rate: 93.46%



Run 3: Report of FillP — Data Link

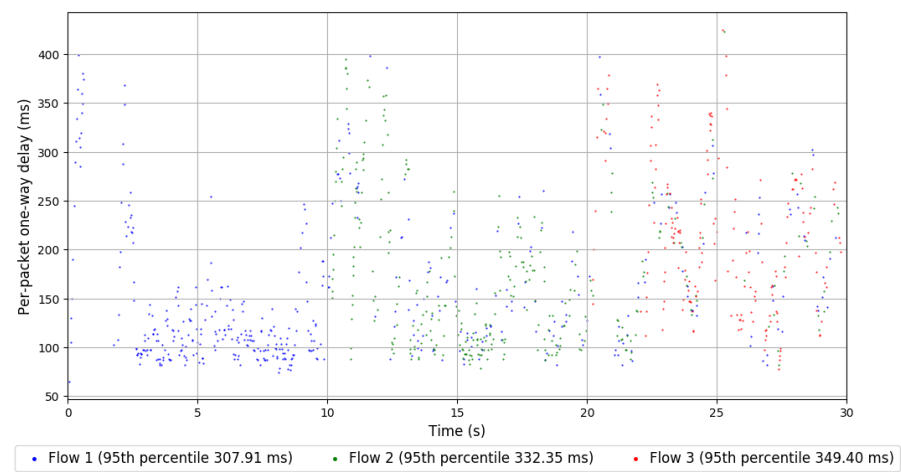
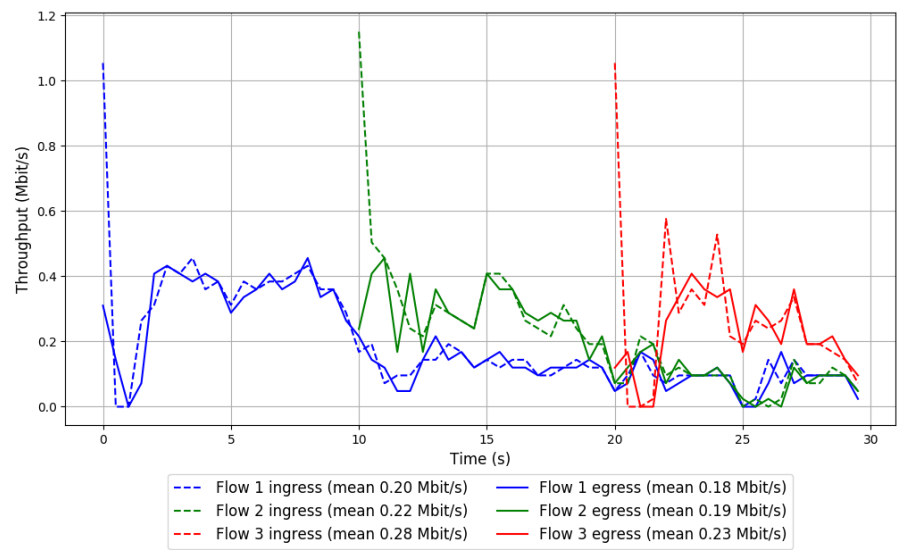


Run 1: Statistics of Indigo-1-32

Start at: 2018-02-13 11:15:18  
End at: 2018-02-13 11:15:48  
Local clock offset: 4.592 ms  
Remote clock offset: -20.642 ms

# Below is generated by plot.py at 2018-02-13 12:59:50  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 0.39 Mbit/s  
95th percentile per-packet one-way delay: 332.681 ms  
Loss rate: 11.35%  
-- Flow 1:  
Average throughput: 0.18 Mbit/s  
95th percentile per-packet one-way delay: 307.908 ms  
Loss rate: 8.16%  
-- Flow 2:  
Average throughput: 0.19 Mbit/s  
95th percentile per-packet one-way delay: 332.345 ms  
Loss rate: 11.98%  
-- Flow 3:  
Average throughput: 0.23 Mbit/s  
95th percentile per-packet one-way delay: 349.404 ms  
Loss rate: 17.23%

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

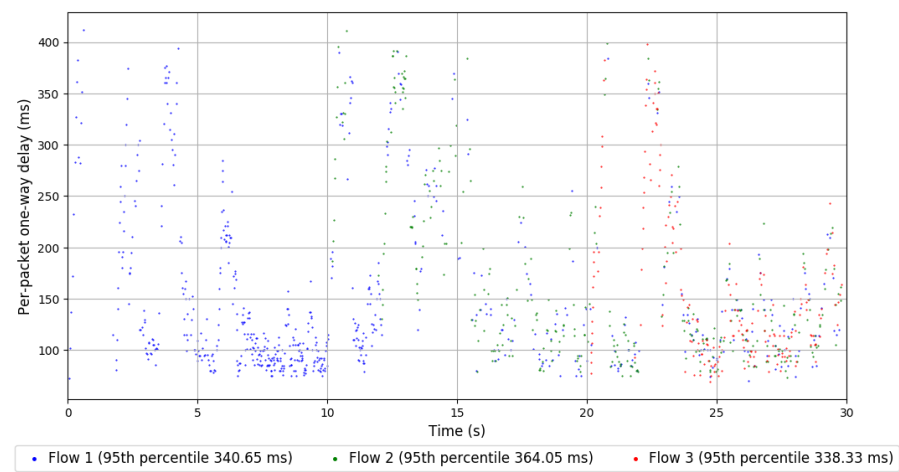
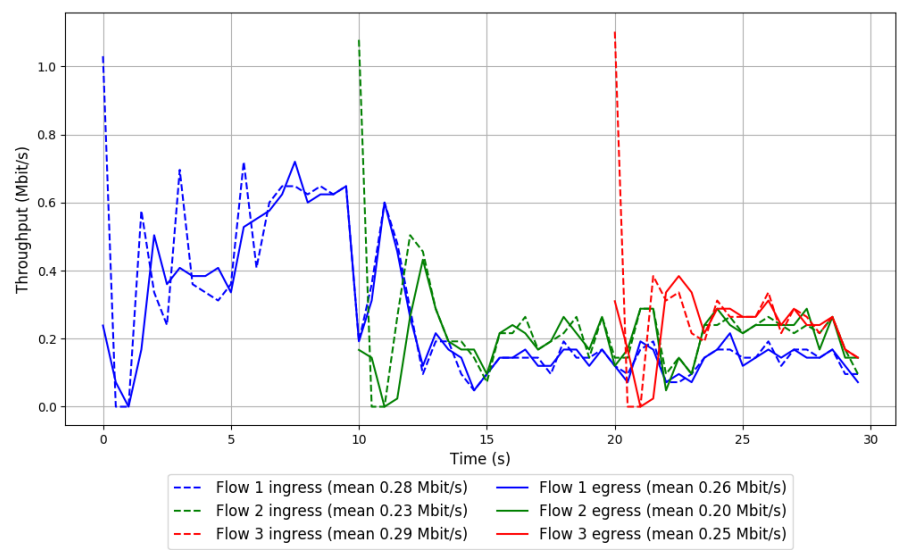


Run 2: Statistics of Indigo-1-32

Start at: 2018-02-13 11:35:13  
End at: 2018-02-13 11:35:43  
Local clock offset: 1.707 ms  
Remote clock offset: -20.86 ms

# Below is generated by plot.py at 2018-02-13 12:59:50  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 0.47 Mbit/s  
95th percentile per-packet one-way delay: 351.862 ms  
Loss rate: 9.97%  
-- Flow 1:  
Average throughput: 0.26 Mbit/s  
95th percentile per-packet one-way delay: 340.648 ms  
Loss rate: 6.68%  
-- Flow 2:  
Average throughput: 0.20 Mbit/s  
95th percentile per-packet one-way delay: 364.047 ms  
Loss rate: 13.50%  
-- Flow 3:  
Average throughput: 0.25 Mbit/s  
95th percentile per-packet one-way delay: 338.328 ms  
Loss rate: 13.86%

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

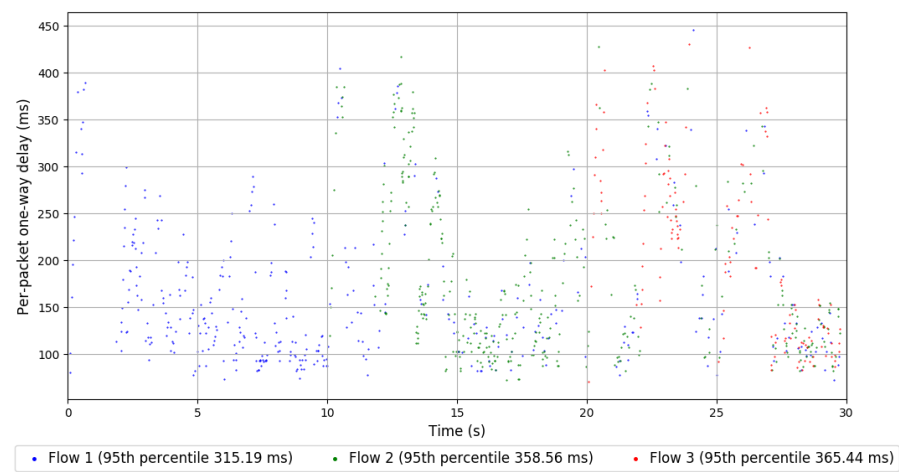
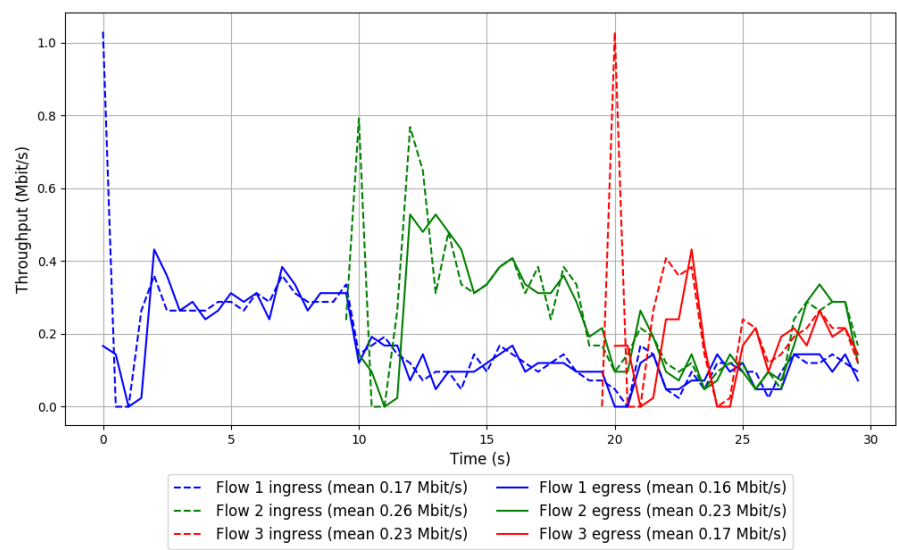


Run 3: Statistics of Indigo-1-32

Start at: 2018-02-13 11:55:12  
End at: 2018-02-13 11:55:42  
Local clock offset: 3.143 ms  
Remote clock offset: -17.28 ms

# Below is generated by plot.py at 2018-02-13 12:59:50  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 0.37 Mbit/s  
95th percentile per-packet one-way delay: 354.157 ms  
Loss rate: 13.05%  
-- Flow 1:  
Average throughput: 0.16 Mbit/s  
95th percentile per-packet one-way delay: 315.185 ms  
Loss rate: 8.42%  
-- Flow 2:  
Average throughput: 0.23 Mbit/s  
95th percentile per-packet one-way delay: 358.558 ms  
Loss rate: 11.33%  
-- Flow 3:  
Average throughput: 0.17 Mbit/s  
95th percentile per-packet one-way delay: 365.443 ms  
Loss rate: 27.36%

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



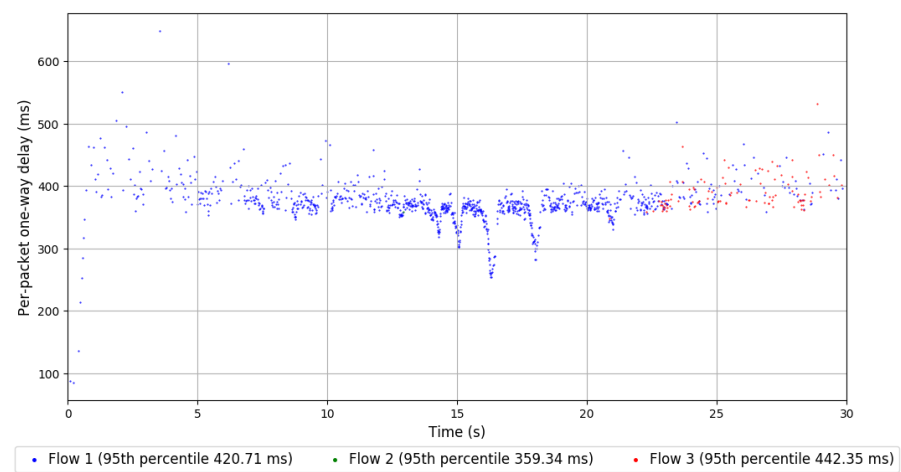
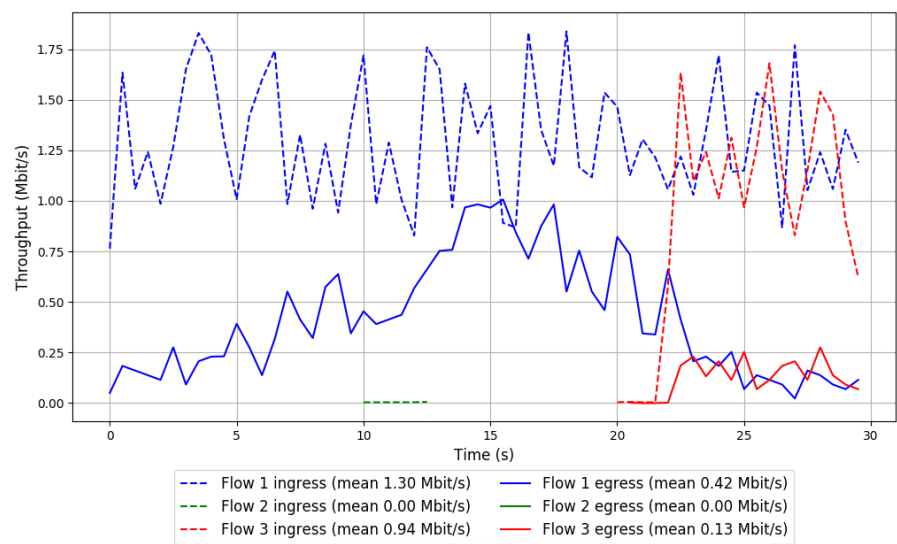
Run 1: Statistics of Vivace-latency

Start at: 2018-02-13 11:09:45  
End at: 2018-02-13 11:10:15  
Local clock offset: 2.382 ms  
Remote clock offset: -20.306 ms

# Below is generated by plot.py at 2018-02-13 12:59:50  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 0.46 Mbit/s  
95th percentile per-packet one-way delay: 427.277 ms  
Loss rate: 71.60%  
-- Flow 1:  
Average throughput: 0.42 Mbit/s  
95th percentile per-packet one-way delay: 420.710 ms  
Loss rate: 67.93%  
-- Flow 2:  
Average throughput: 0.00 Mbit/s  
95th percentile per-packet one-way delay: 359.338 ms  
Loss rate: 92.31%  
-- Flow 3:  
Average throughput: 0.13 Mbit/s  
95th percentile per-packet one-way delay: 442.348 ms  
Loss rate: 87.03%



Run 1: Report of Vivace-latency — Data Link

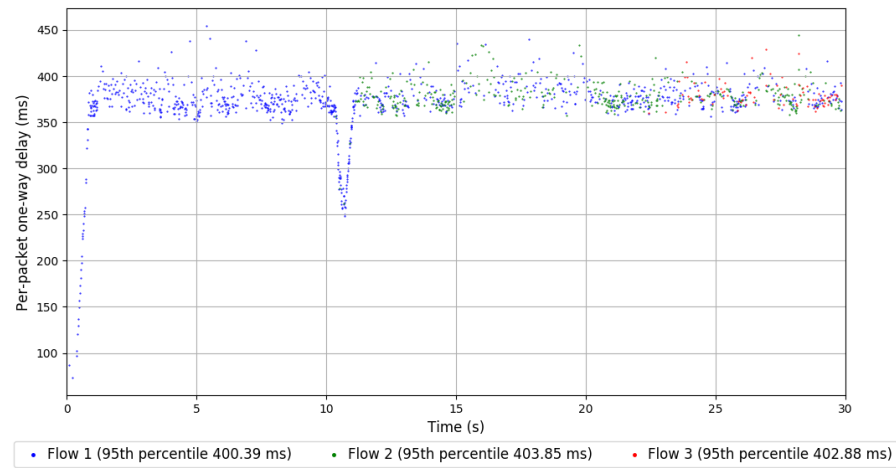
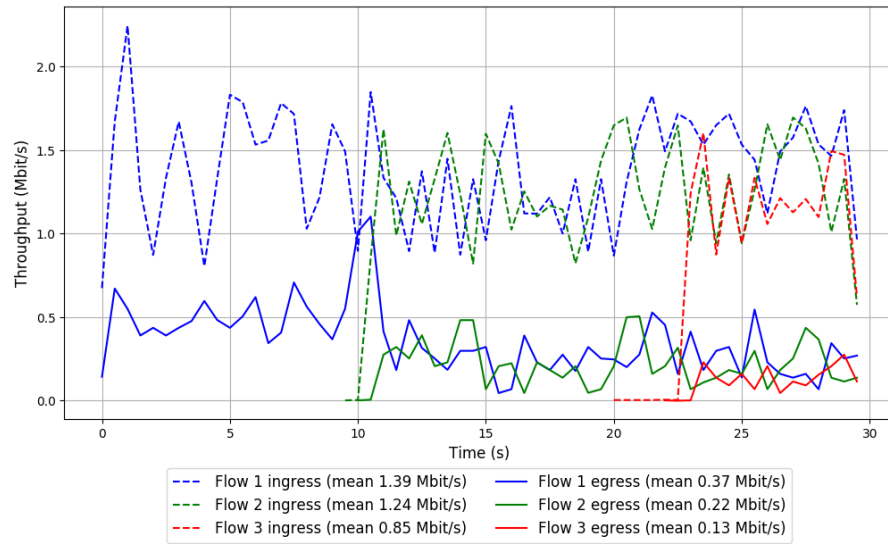


Run 2: Statistics of Vivace-latency

Start at: 2018-02-13 11:29:43  
End at: 2018-02-13 11:30:13  
Local clock offset: 1.661 ms  
Remote clock offset: -21.114 ms

# Below is generated by plot.py at 2018-02-13 12:59:50  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 0.54 Mbit/s  
95th percentile per-packet one-way delay: 402.249 ms  
Loss rate: 78.33%  
-- Flow 1:  
Average throughput: 0.37 Mbit/s  
95th percentile per-packet one-way delay: 400.389 ms  
Loss rate: 73.82%  
-- Flow 2:  
Average throughput: 0.22 Mbit/s  
95th percentile per-packet one-way delay: 403.847 ms  
Loss rate: 82.47%  
-- Flow 3:  
Average throughput: 0.13 Mbit/s  
95th percentile per-packet one-way delay: 402.876 ms  
Loss rate: 88.56%

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

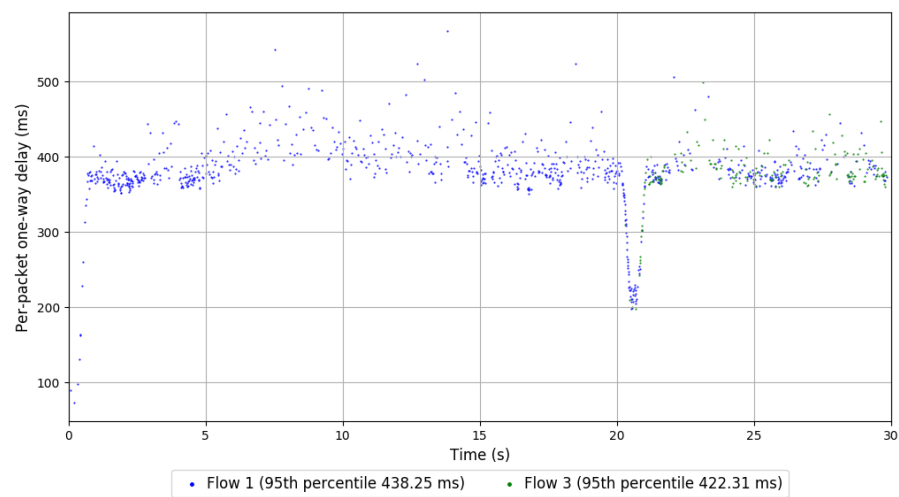
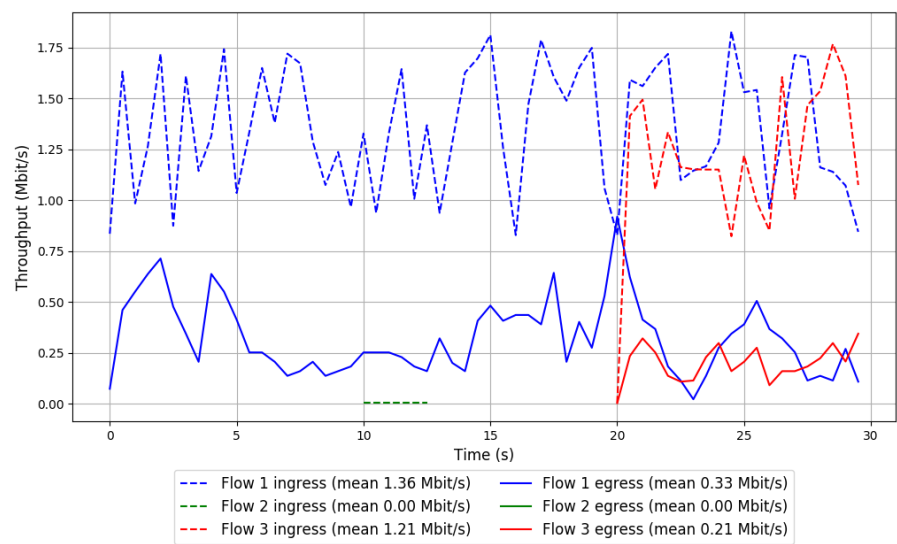


Run 3: Statistics of Vivace-latency

Start at: 2018-02-13 11:49:41  
End at: 2018-02-13 11:50:11  
Local clock offset: 3.841 ms  
Remote clock offset: -17.426 ms

# Below is generated by plot.py at 2018-02-13 12:59:50  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 0.39 Mbit/s  
95th percentile per-packet one-way delay: 435.008 ms  
Loss rate: 77.71%  
-- Flow 1:  
Average throughput: 0.33 Mbit/s  
95th percentile per-packet one-way delay: 438.247 ms  
Loss rate: 76.11%  
-- Flow 2:  
Average throughput: 0.00 Mbit/s  
-- Flow 3:  
Average throughput: 0.21 Mbit/s  
95th percentile per-packet one-way delay: 422.305 ms  
Loss rate: 83.15%

Run 3: Report of Vivace-latency — Data Link

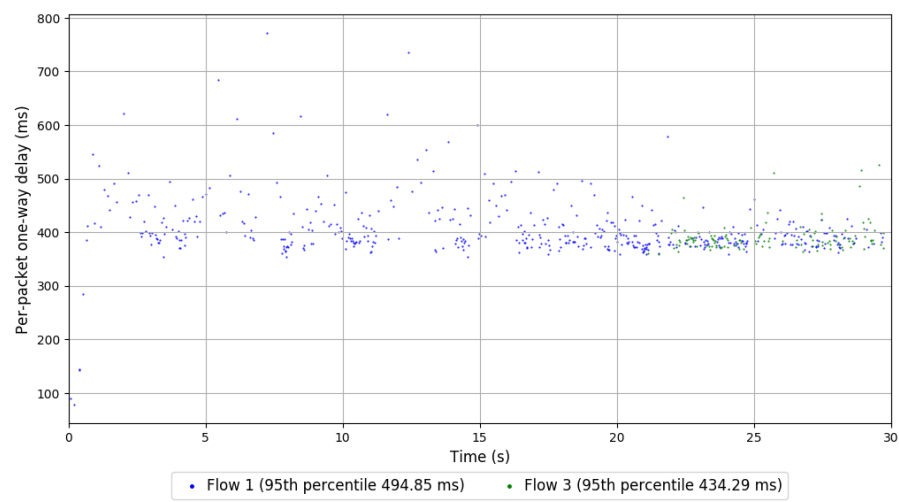
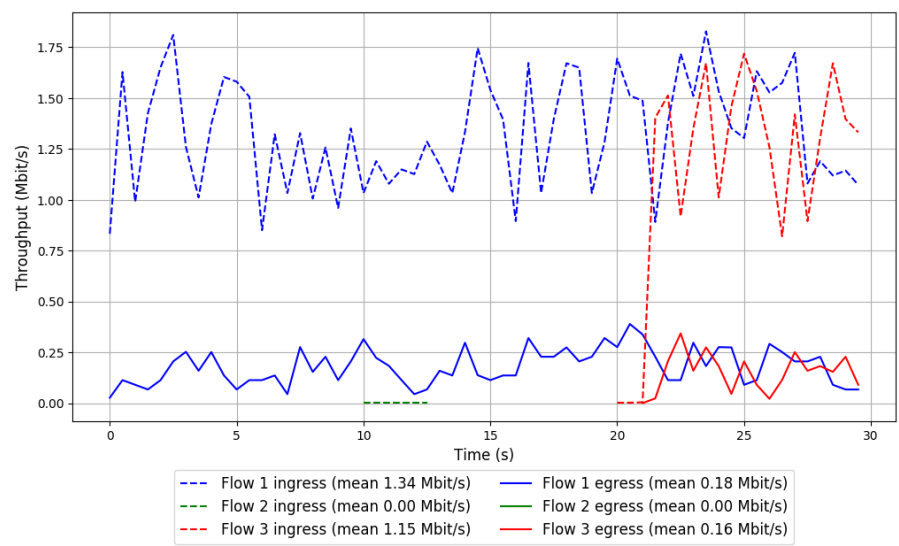


Run 1: Statistics of Vivace-loss

Start at: 2018-02-13 11:13:05  
End at: 2018-02-13 11:13:35  
Local clock offset: 3.546 ms  
Remote clock offset: -19.689 ms

# Below is generated by plot.py at 2018-02-13 12:59:50  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 0.23 Mbit/s  
95th percentile per-packet one-way delay: 491.633 ms  
Loss rate: 86.66%  
-- Flow 1:  
Average throughput: 0.18 Mbit/s  
95th percentile per-packet one-way delay: 494.849 ms  
Loss rate: 86.31%  
-- Flow 2:  
Average throughput: 0.00 Mbit/s  
-- Flow 3:  
Average throughput: 0.16 Mbit/s  
95th percentile per-packet one-way delay: 434.288 ms  
Loss rate: 87.85%

Run 1: Report of Vivace-loss — Data Link



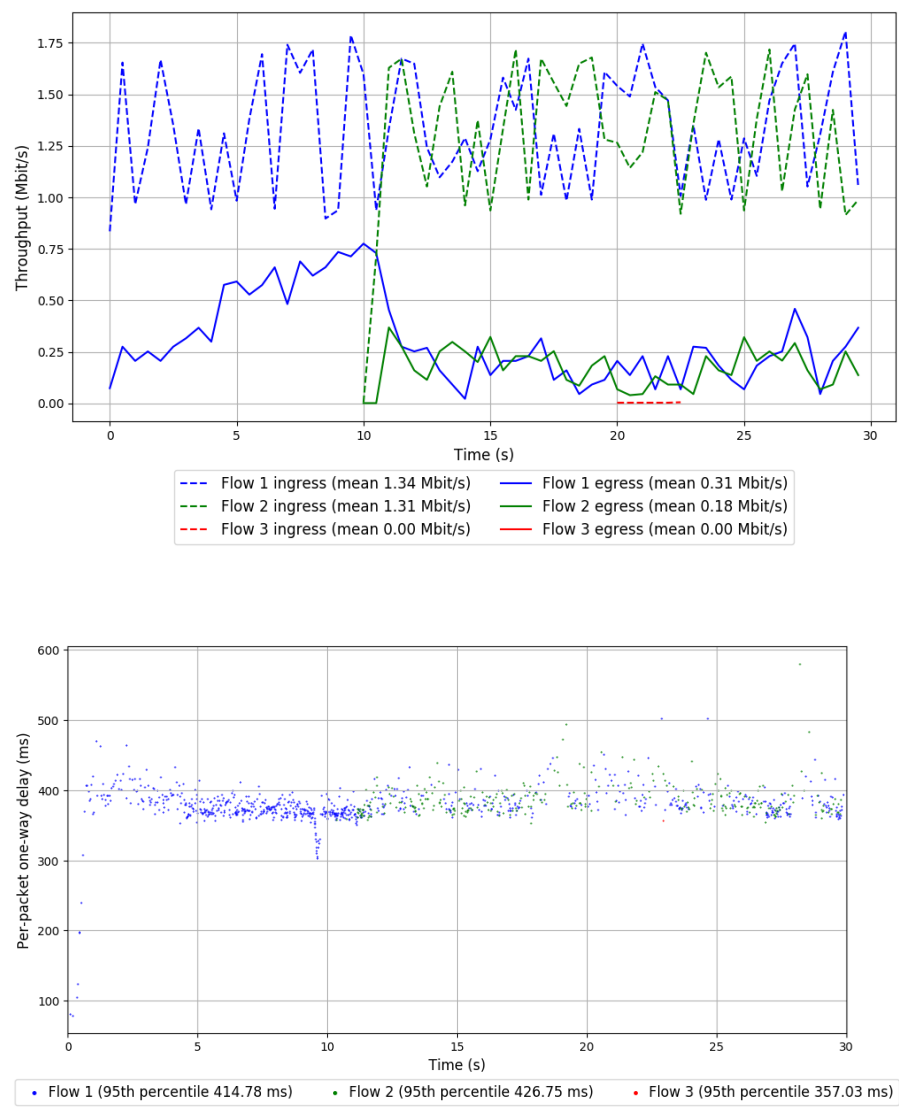
Run 2: Statistics of Vivace-loss

Start at: 2018-02-13 11:33:01  
End at: 2018-02-13 11:33:31  
Local clock offset: 3.988 ms  
Remote clock offset: -19.988 ms

# Below is generated by plot.py at 2018-02-13 12:59:50  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 0.42 Mbit/s  
95th percentile per-packet one-way delay: 417.029 ms  
Loss rate: 80.86%  
-- Flow 1:  
Average throughput: 0.31 Mbit/s  
95th percentile per-packet one-way delay: 414.784 ms  
Loss rate: 77.13%  
-- Flow 2:  
Average throughput: 0.18 Mbit/s  
95th percentile per-packet one-way delay: 426.755 ms  
Loss rate: 86.58%  
-- Flow 3:  
Average throughput: 0.00 Mbit/s  
95th percentile per-packet one-way delay: 357.032 ms  
Loss rate: 92.31%



Run 2: Report of Vivace-loss — Data Link

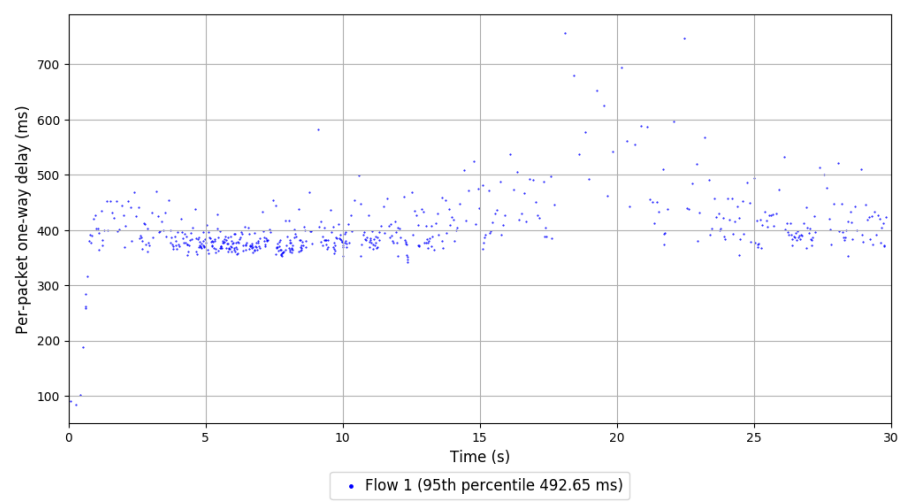
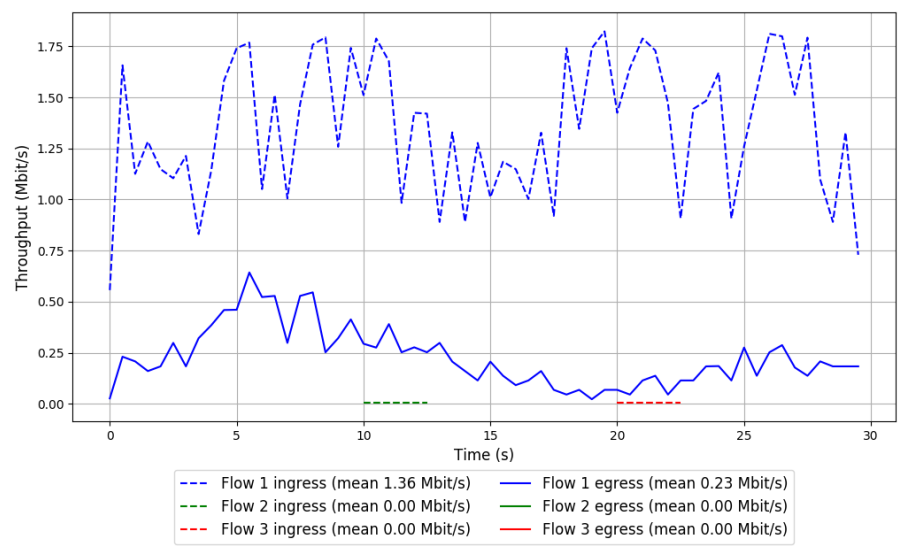


Run 3: Statistics of Vivace-loss

Start at: 2018-02-13 11:53:00  
End at: 2018-02-13 11:53:30  
Local clock offset: 2.528 ms  
Remote clock offset: -16.441 ms

# Below is generated by plot.py at 2018-02-13 12:59:50  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 0.23 Mbit/s  
95th percentile per-packet one-way delay: 492.650 ms  
Loss rate: 83.24%  
-- Flow 1:  
Average throughput: 0.23 Mbit/s  
95th percentile per-packet one-way delay: 492.650 ms  
Loss rate: 83.23%  
-- Flow 2:  
Average throughput: 0.00 Mbit/s  
-- Flow 3:  
Average throughput: 0.00 Mbit/s

Run 3: Report of Vivace-loss — Data Link

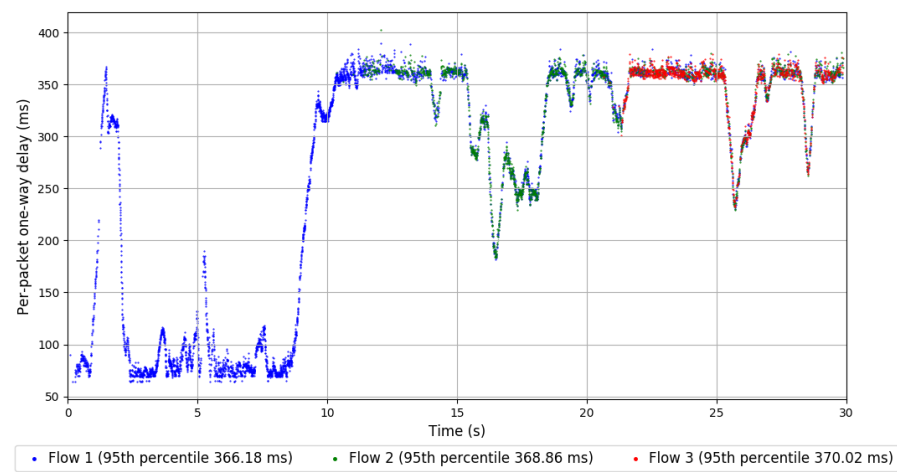
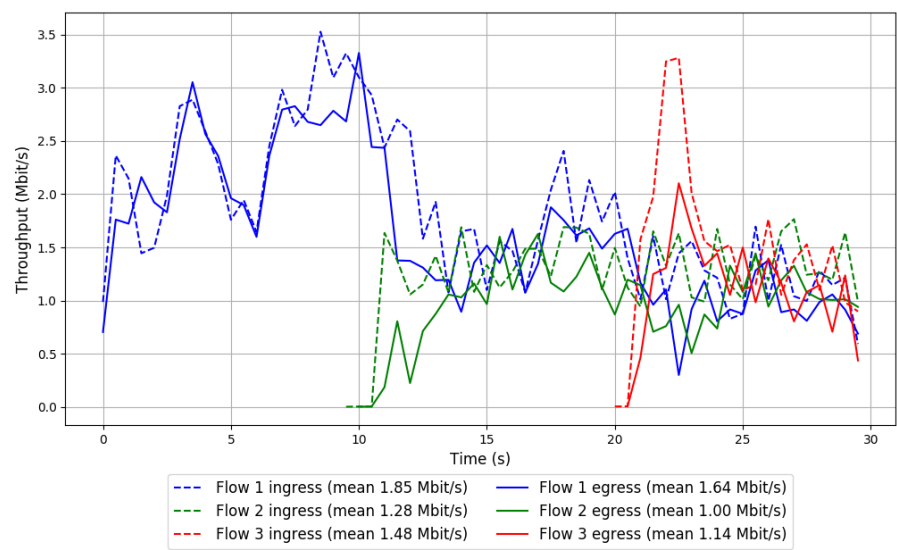


Run 1: Statistics of Vivace-LTE

Start at: 2018-02-13 11:00:49  
End at: 2018-02-13 11:01:19  
Local clock offset: 4.362 ms  
Remote clock offset: -18.097 ms

# Below is generated by plot.py at 2018-02-13 12:59:50  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 2.65 Mbit/s  
95th percentile per-packet one-way delay: 367.670 ms  
Loss rate: 17.16%  
-- Flow 1:  
Average throughput: 1.64 Mbit/s  
95th percentile per-packet one-way delay: 366.184 ms  
Loss rate: 11.48%  
-- Flow 2:  
Average throughput: 1.00 Mbit/s  
95th percentile per-packet one-way delay: 368.862 ms  
Loss rate: 23.50%  
-- Flow 3:  
Average throughput: 1.14 Mbit/s  
95th percentile per-packet one-way delay: 370.022 ms  
Loss rate: 27.60%

Run 1: Report of Vivace-LTE — Data Link

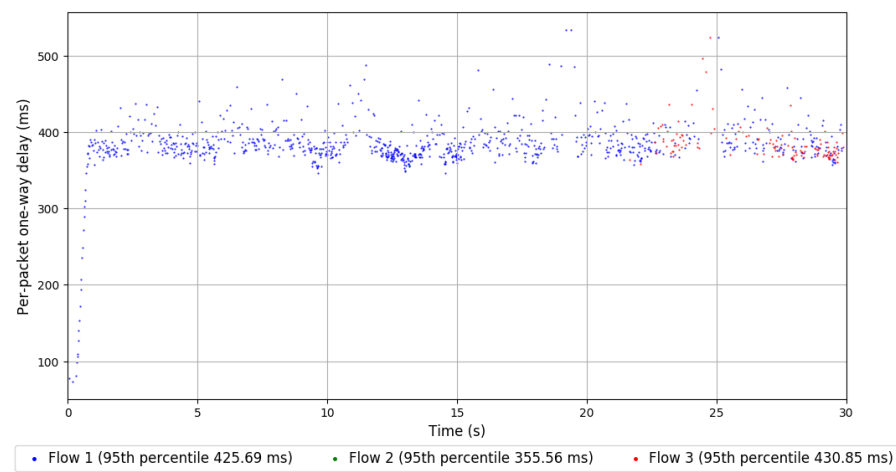
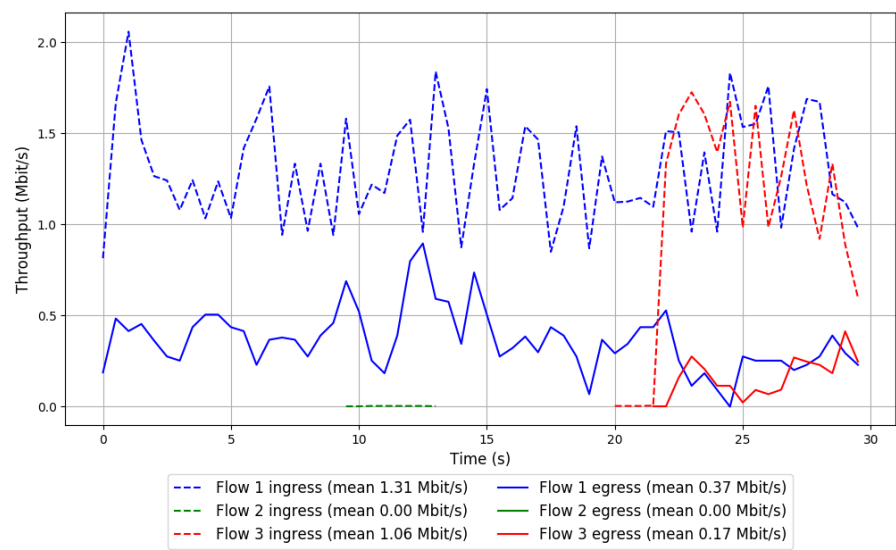


Run 2: Statistics of Vivace-LTE

Start at: 2018-02-13 11:20:51  
End at: 2018-02-13 11:21:21  
Local clock offset: 3.934 ms  
Remote clock offset: -21.756 ms

# Below is generated by plot.py at 2018-02-13 12:59:50  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 0.41 Mbit/s  
95th percentile per-packet one-way delay: 427.144 ms  
Loss rate: 75.19%  
-- Flow 1:  
Average throughput: 0.37 Mbit/s  
95th percentile per-packet one-way delay: 425.688 ms  
Loss rate: 72.09%  
-- Flow 2:  
Average throughput: 0.00 Mbit/s  
95th percentile per-packet one-way delay: 355.564 ms  
Loss rate: 92.43%  
-- Flow 3:  
Average throughput: 0.17 Mbit/s  
95th percentile per-packet one-way delay: 430.846 ms  
Loss rate: 86.82%

Run 2: Report of Vivace-LTE — Data Link



Run 3: Statistics of Vivace-LTE

Start at: 2018-02-13 11:40:44  
End at: 2018-02-13 11:41:14  
Local clock offset: 2.366 ms  
Remote clock offset: -18.802 ms

# Below is generated by plot.py at 2018-02-13 12:59:50  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 0.33 Mbit/s  
95th percentile per-packet one-way delay: 444.795 ms  
Loss rate: 84.45%  
-- Flow 1:  
Average throughput: 0.23 Mbit/s  
95th percentile per-packet one-way delay: 441.487 ms  
Loss rate: 82.88%  
-- Flow 2:  
Average throughput: 0.16 Mbit/s  
95th percentile per-packet one-way delay: 444.985 ms  
Loss rate: 87.09%  
-- Flow 3:  
Average throughput: 0.00 Mbit/s



Run 3: Report of Vivace-LTE — Data Link

