

## Pantheon Report

Generated at 2018-04-03 04:18:19 (UTC).

Data path: AWS Brazil 2 Ethernet (*local*) → Colombia 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).

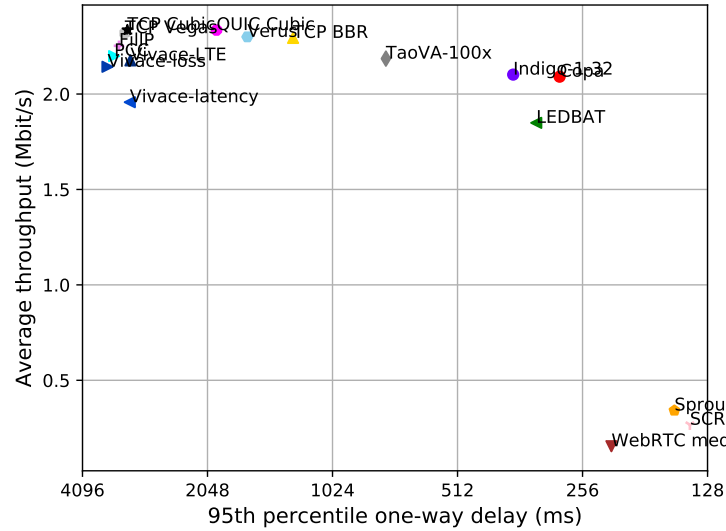
Tested BBR with qdisc of Fair Queuing (**fq**), and other schemes with the default Linux qdisc (**pfifo\_fast**).

NTP offsets were measured against **gps.ntp.br** and have been applied to correct the timestamps in logs.

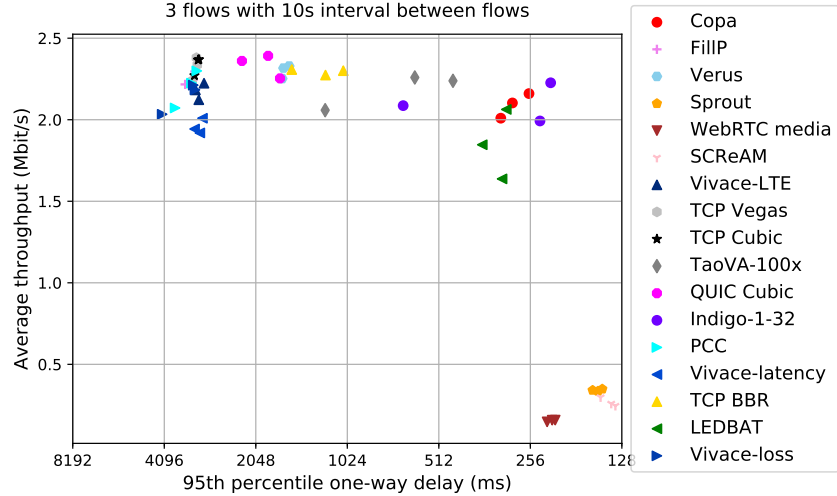
Git summary:

```
branch: master @ eb420b5be9bafccd22cf68b99ff5a2000462fc59
third_party/calibrated_koho @ 3cb73c0d1c0322cdfae446ea37a522e53227db50
  M datagrump/sender.cc
third_party/fillp @ 11f8c46a2bf1dc797253db7e8ca04076272b2a44
third_party/genericCC @ 9249eea3238475c4d8cca1443d28df70bff6c4a2
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 @ f271183af822eee5d0031620f4bebf38aedc5581
```

test from AWS Brazil 2 Ethernet to Colombia ppp0, 3 runs of 30s each per scheme  
3 flows with 10s interval between flows (mean of all runs by scheme)



test from AWS Brazil 2 Ethernet to Colombia 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	1.42	1.01	0.68	1262.54	1298.39	1067.42	1.09	2.47	5.08
TCP Cubic	3	2.22	0.18	0.04	3190.51	3207.39	3179.26	12.94	16.98	34.97
LEDBAT	3	1.43	0.50	0.28	327.70	327.31	337.72	0.67	0.80	4.55
PCC	3	1.80	0.00	1.29	3218.26	3025.92	3614.73	55.18	13.79	83.02
QUIC Cubic	3	1.86	0.64	0.18	1923.43	1980.49	2023.32	4.96	10.95	30.04
SCReAM	3	0.08	0.17	0.22	131.06	137.48	145.95	0.13	0.25	0.10
WebRTC media	3	0.06	0.05	0.05	214.50	215.17	225.00	0.00	0.00	0.02
Sprout	3	0.17	0.17	0.19	159.78	153.16	159.78	0.16	0.01	0.46
TaoVA-100x	3	1.26	0.99	0.83	717.92	490.69	958.75	1.71	1.52	6.13
TCP Vegas	3	2.18	0.24	0.04	3242.32	3101.85	2973.63	14.87	36.71	50.06
Verus	3	2.29	0.01	0.01	1642.23	1652.21	1687.11	4.56	4.92	9.39
Copa	3	1.25	0.91	0.68	276.15	299.38	299.70	0.24	0.35	1.12
FillP	3	1.64	1.07	0.01	3295.13	3384.35	3380.58	35.24	71.61	98.13
Indigo-1-32	3	1.18	0.93	0.92	239.36	584.88	253.65	0.15	0.13	0.82
Vivace-latency	3	1.25	0.85	0.43	3086.19	2963.33	3206.53	12.29	13.33	11.26
Vivace-loss	3	2.07	0.00	0.25	3559.06	3630.35	2852.06	33.09	29.67	29.32
Vivace-LTE	3	1.35	1.26	0.00	3132.82	3150.28	3130.37	15.65	22.29	1.53

Run 1: Statistics of TCP BBR

Start at: 2018-04-03 03:19:02

End at: 2018-04-03 03:19:32

Local clock offset: -4.045 ms

Remote clock offset: 6.721 ms

# Below is generated by plot.py at 2018-04-03 04:17:35

# Datalink statistics

-- Total of 3 flows:

Average throughput: 2.31 Mbit/s

95th percentile per-packet one-way delay: 1559.579 ms

Loss rate: 1.58%

-- Flow 1:

Average throughput: 1.31 Mbit/s

95th percentile per-packet one-way delay: 1546.638 ms

Loss rate: 0.80%

-- Flow 2:

Average throughput: 1.23 Mbit/s

95th percentile per-packet one-way delay: 1580.135 ms

Loss rate: 2.37%

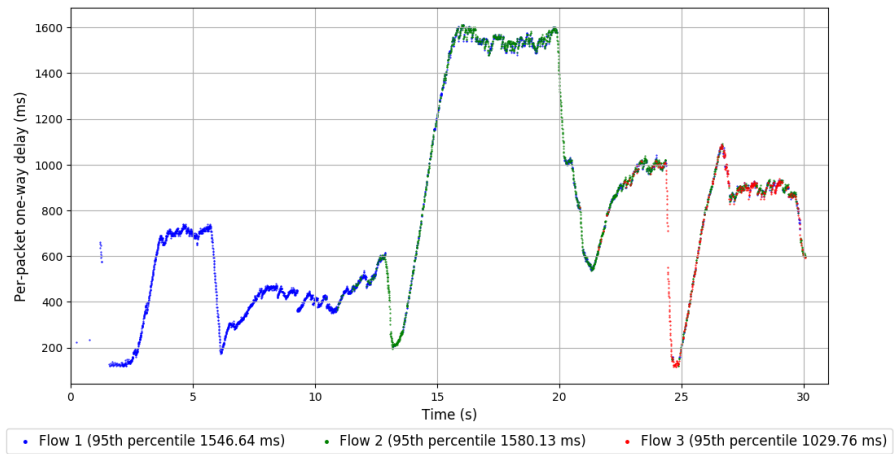
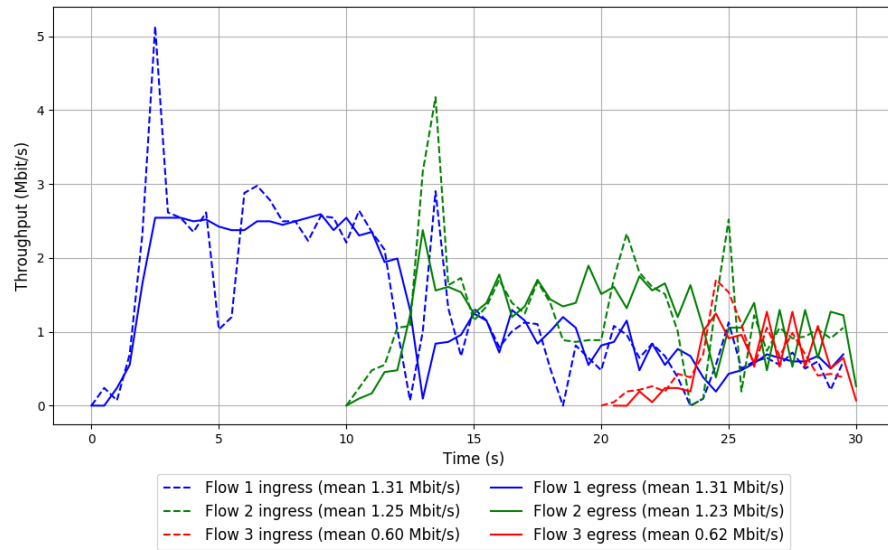
-- Flow 3:

Average throughput: 0.62 Mbit/s

95th percentile per-packet one-way delay: 1029.759 ms

Loss rate: 3.42%

# Run 1: Report of TCP BBR — Data Link

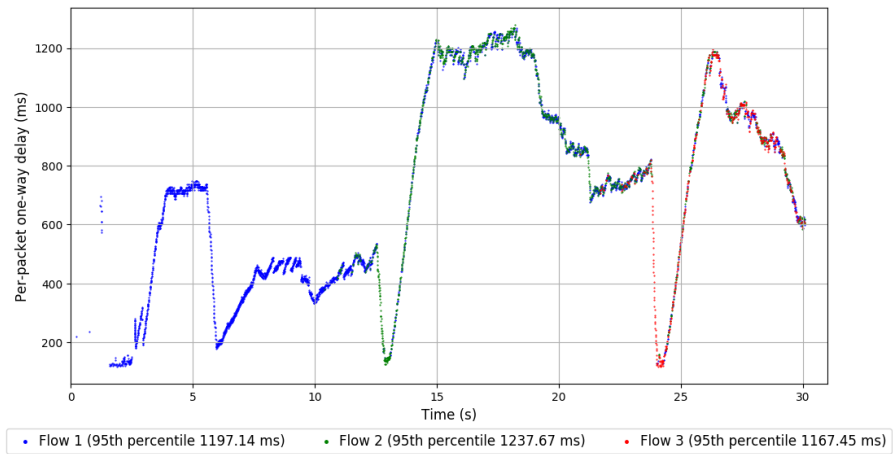
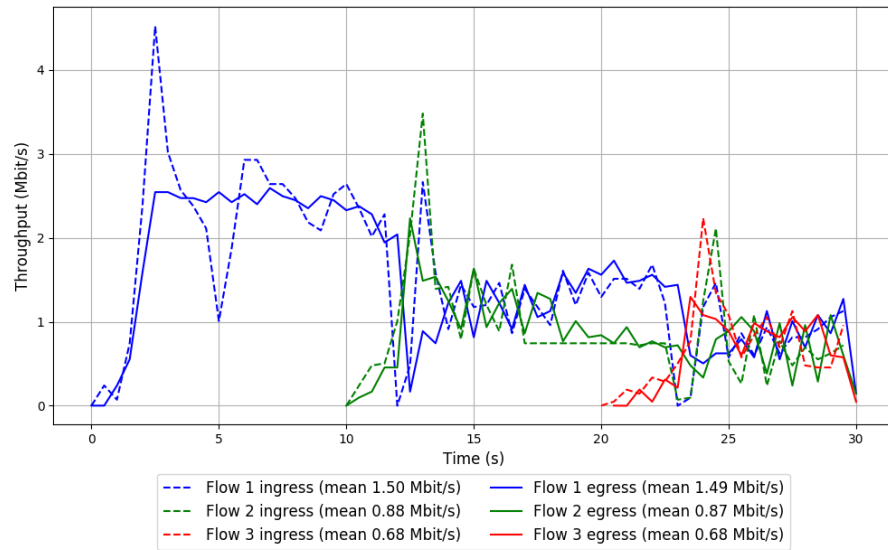


Run 2: Statistics of TCP BBR

Start at: 2018-04-03 03:41:46  
End at: 2018-04-03 03:42:16  
Local clock offset: -5.694 ms  
Remote clock offset: 11.233 ms

# Below is generated by plot.py at 2018-04-03 04:17:35  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 2.27 Mbit/s  
95th percentile per-packet one-way delay: 1207.994 ms  
Loss rate: 2.13%  
-- Flow 1:  
Average throughput: 1.49 Mbit/s  
95th percentile per-packet one-way delay: 1197.136 ms  
Loss rate: 1.33%  
-- Flow 2:  
Average throughput: 0.87 Mbit/s  
95th percentile per-packet one-way delay: 1237.672 ms  
Loss rate: 2.19%  
-- Flow 3:  
Average throughput: 0.68 Mbit/s  
95th percentile per-packet one-way delay: 1167.453 ms  
Loss rate: 7.24%

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



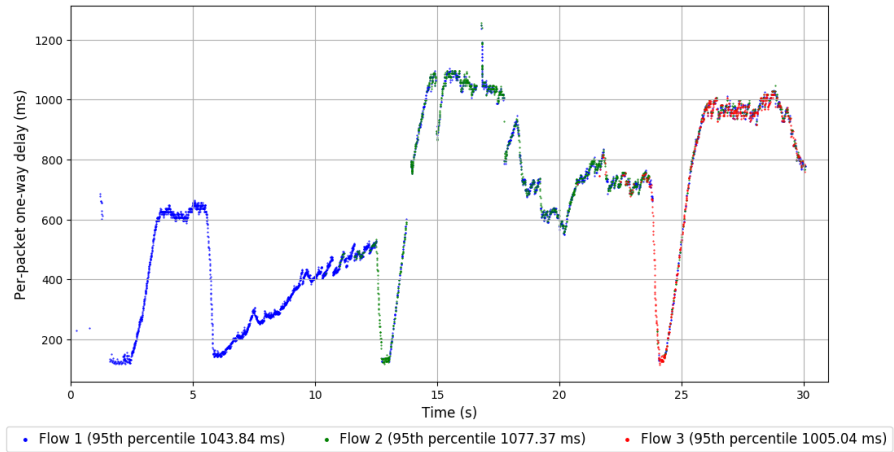
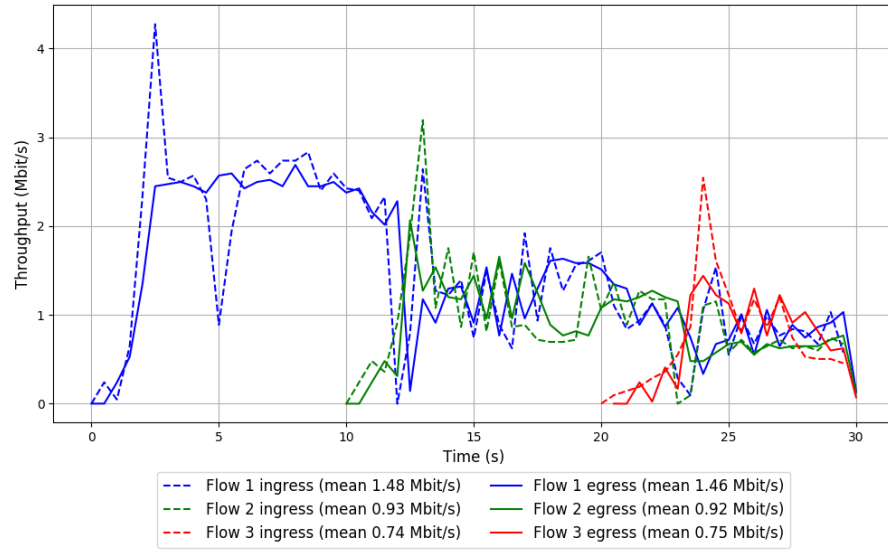
Run 3: Statistics of TCP BBR

Start at: 2018-04-03 04:04:31  
End at: 2018-04-03 04:05:01  
Local clock offset: -7.599 ms  
Remote clock offset: 12.262 ms

# Below is generated by plot.py at 2018-04-03 04:17:35  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 2.30 Mbit/s  
95th percentile per-packet one-way delay: 1055.446 ms  
Loss rate: 1.95%  
-- Flow 1:  
Average throughput: 1.46 Mbit/s  
95th percentile per-packet one-way delay: 1043.840 ms  
Loss rate: 1.14%  
-- Flow 2:  
Average throughput: 0.92 Mbit/s  
95th percentile per-packet one-way delay: 1077.371 ms  
Loss rate: 2.86%  
-- Flow 3:  
Average throughput: 0.75 Mbit/s  
95th percentile per-packet one-way delay: 1005.041 ms  
Loss rate: 4.58%



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



Run 1: Statistics of TCP Cubic

Start at: 2018-04-03 03:08:57

End at: 2018-04-03 03:09:27

Local clock offset: -5.12 ms

Remote clock offset: 6.606 ms

# Below is generated by plot.py at 2018-04-03 04:17:36

# Datalink statistics

-- Total of 3 flows:

Average throughput: 2.37 Mbit/s

95th percentile per-packet one-way delay: 3170.936 ms

Loss rate: 14.25%

-- Flow 1:

Average throughput: 2.27 Mbit/s

95th percentile per-packet one-way delay: 3170.758 ms

Loss rate: 14.01%

-- Flow 2:

Average throughput: 0.13 Mbit/s

95th percentile per-packet one-way delay: 3211.465 ms

Loss rate: 12.21%

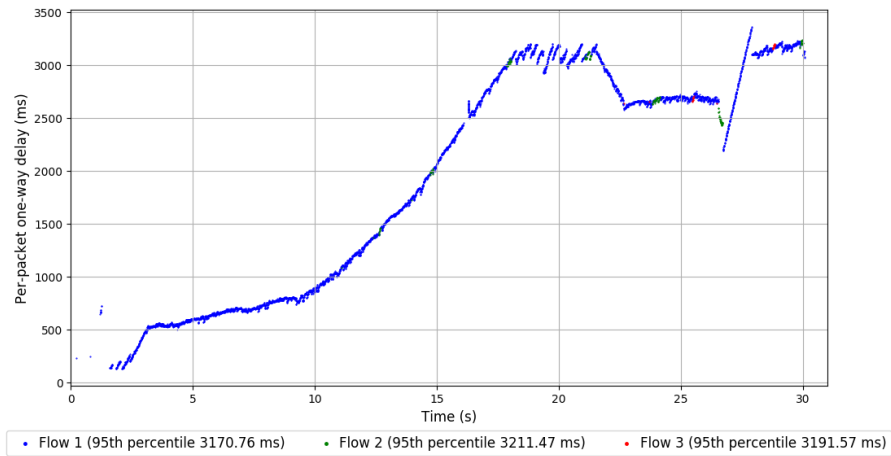
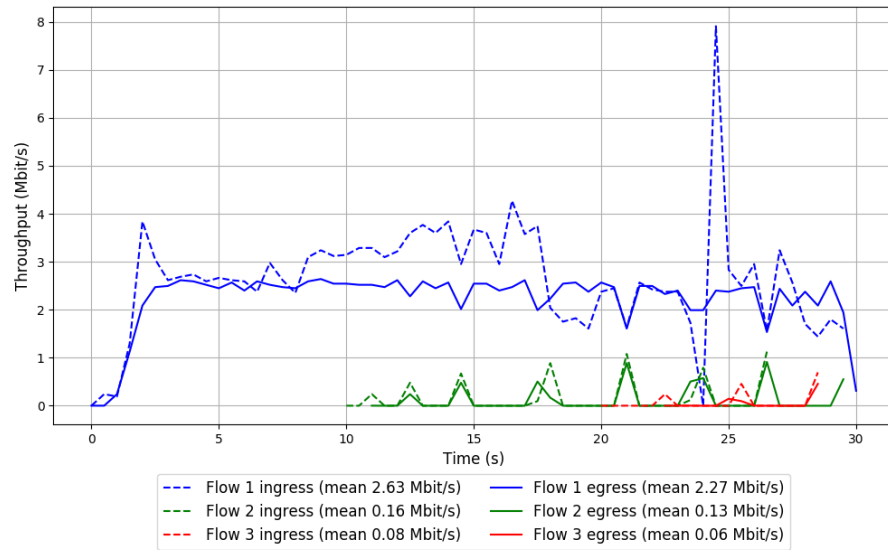
-- Flow 3:

Average throughput: 0.06 Mbit/s

95th percentile per-packet one-way delay: 3191.566 ms

Loss rate: 49.79%

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



Run 2: Statistics of TCP Cubic

Start at: 2018-04-03 03:31:41

End at: 2018-04-03 03:32:11

Local clock offset: -3.619 ms

Remote clock offset: 5.802 ms

# Below is generated by plot.py at 2018-04-03 04:17:36

# Datalink statistics

-- Total of 3 flows:

Average throughput: 2.27 Mbit/s

95th percentile per-packet one-way delay: 3258.954 ms

Loss rate: 14.22%

-- Flow 1:

Average throughput: 2.08 Mbit/s

95th percentile per-packet one-way delay: 3249.794 ms

Loss rate: 13.36%

-- Flow 2:

Average throughput: 0.32 Mbit/s

95th percentile per-packet one-way delay: 3269.254 ms

Loss rate: 22.56%

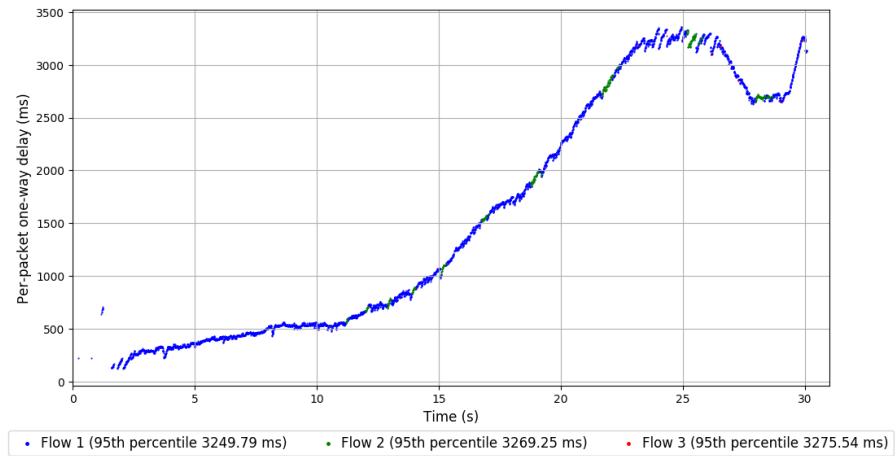
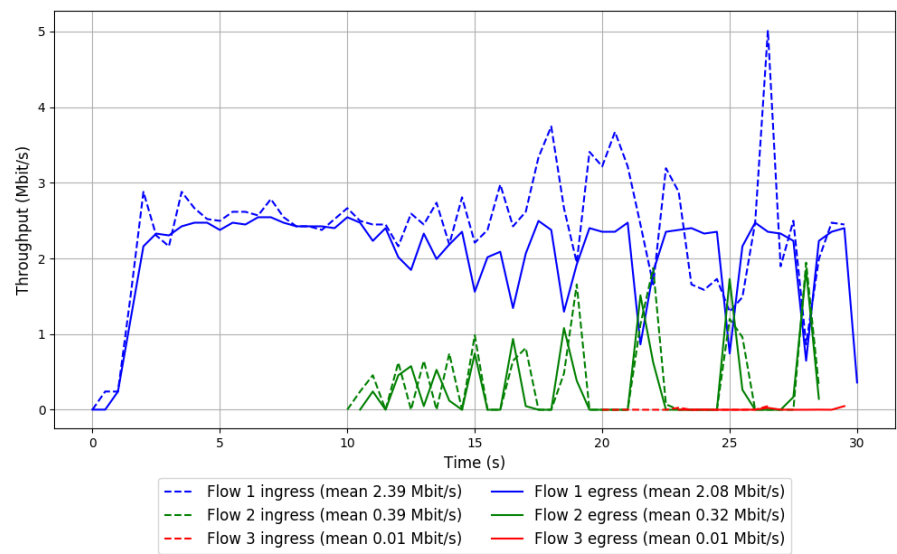
-- Flow 3:

Average throughput: 0.01 Mbit/s

95th percentile per-packet one-way delay: 3275.541 ms

Loss rate: 0.00%

Run 2: Report of TCP Cubic — Data Link

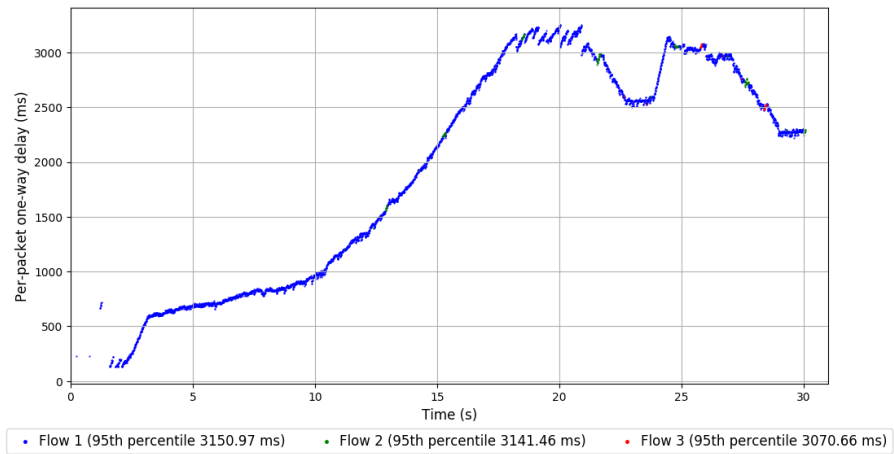
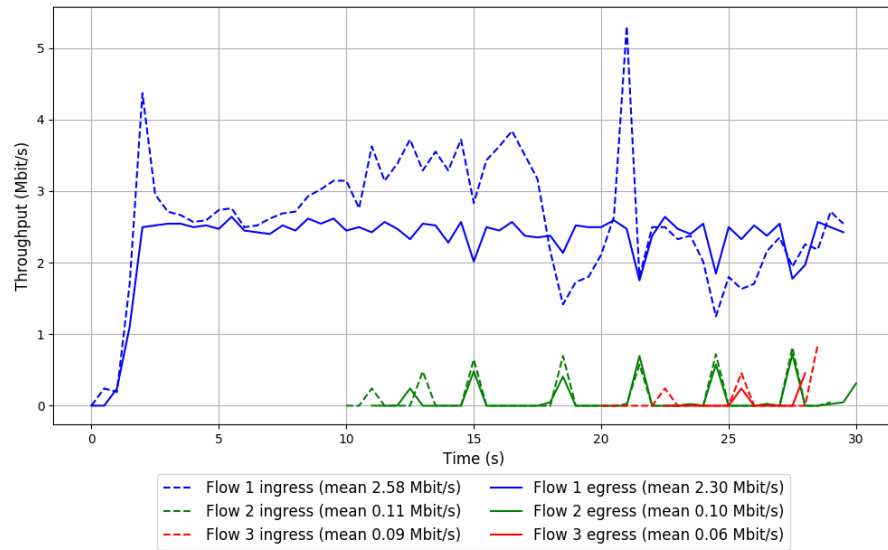


Run 3: Statistics of TCP Cubic

Start at: 2018-04-03 03:54:25  
End at: 2018-04-03 03:54:55  
Local clock offset: -7.054 ms  
Remote clock offset: 12.239 ms

# Below is generated by plot.py at 2018-04-03 04:17:36  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 2.37 Mbit/s  
95th percentile per-packet one-way delay: 3150.889 ms  
Loss rate: 12.01%  
-- Flow 1:  
Average throughput: 2.30 Mbit/s  
95th percentile per-packet one-way delay: 3150.974 ms  
Loss rate: 11.45%  
-- Flow 2:  
Average throughput: 0.10 Mbit/s  
95th percentile per-packet one-way delay: 3141.464 ms  
Loss rate: 16.18%  
-- Flow 3:  
Average throughput: 0.06 Mbit/s  
95th percentile per-packet one-way delay: 3070.661 ms  
Loss rate: 55.13%

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



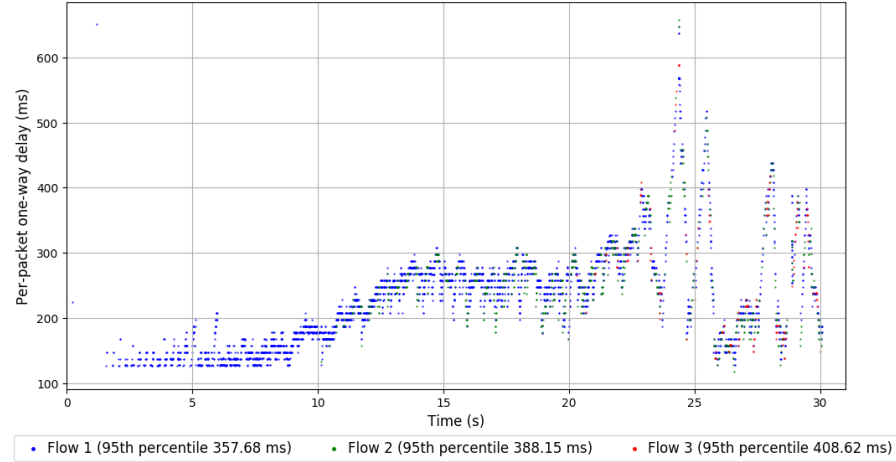
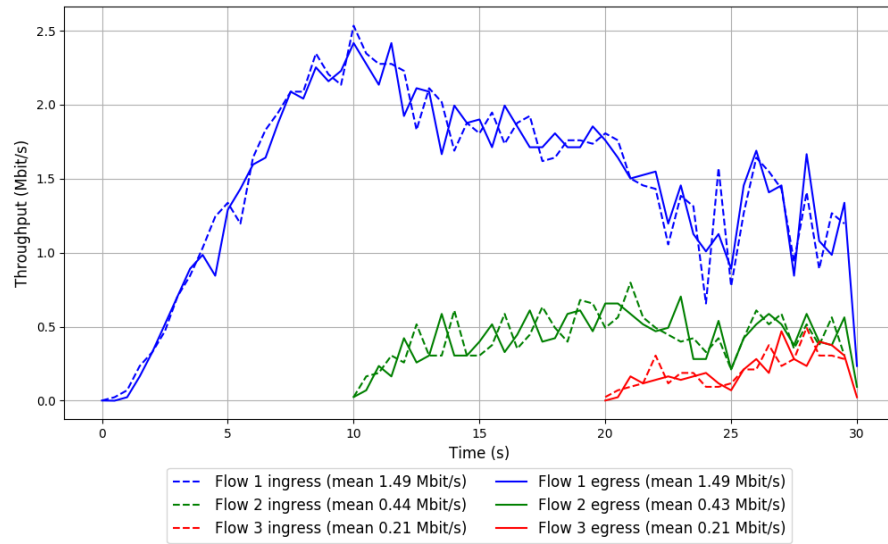
```
Run 1: Statistics of LEDBAT

Start at: 2018-04-03 03:12:43
End at: 2018-04-03 03:13:13
Local clock offset: -4.589 ms
Remote clock offset: 6.603 ms

# Below is generated by plot.py at 2018-04-03 04:17:36
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1.85 Mbit/s
95th percentile per-packet one-way delay: 368.501 ms
Loss rate: 0.21%
-- Flow 1:
Average throughput: 1.49 Mbit/s
95th percentile per-packet one-way delay: 357.675 ms
Loss rate: 0.21%
-- Flow 2:
Average throughput: 0.43 Mbit/s
95th percentile per-packet one-way delay: 388.150 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 408.620 ms
Loss rate: 1.14%
```



# Run 1: Report of LEDBAT — Data Link

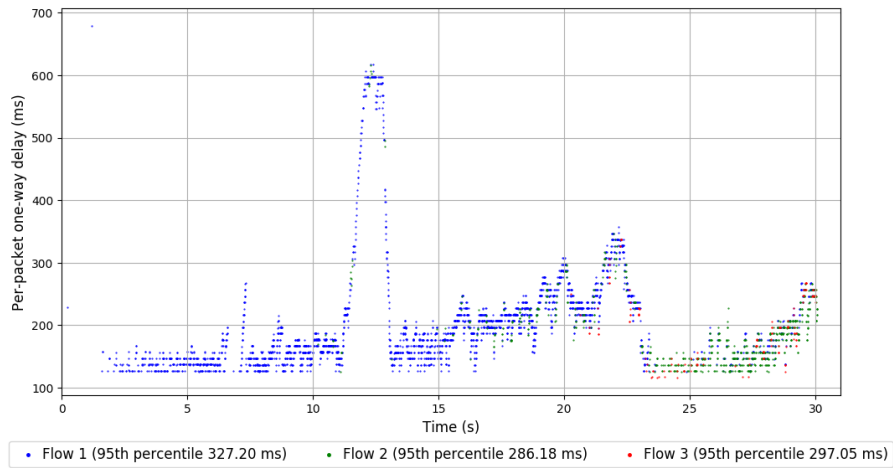
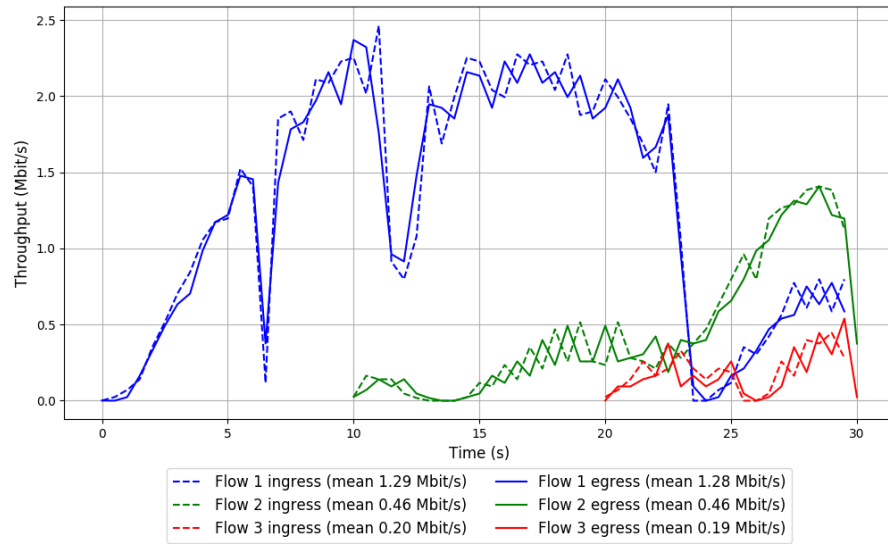


Run 2: Statistics of LEDBAT

Start at: 2018-04-03 03:35:28  
End at: 2018-04-03 03:35:58  
Local clock offset: -4.127 ms  
Remote clock offset: 12.243 ms

# Below is generated by plot.py at 2018-04-03 04:17:36  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 1.64 Mbit/s  
95th percentile per-packet one-way delay: 317.157 ms  
Loss rate: 1.81%  
-- Flow 1:  
Average throughput: 1.28 Mbit/s  
95th percentile per-packet one-way delay: 327.205 ms  
Loss rate: 1.61%  
-- Flow 2:  
Average throughput: 0.46 Mbit/s  
95th percentile per-packet one-way delay: 286.178 ms  
Loss rate: 1.53%  
-- Flow 3:  
Average throughput: 0.19 Mbit/s  
95th percentile per-packet one-way delay: 297.048 ms  
Loss rate: 7.18%

## Run 2: Report of LEDBAT — Data Link



Run 3: Statistics of LEDBAT

Start at: 2018-04-03 03:58:12

End at: 2018-04-03 03:58:42

Local clock offset: -7.296 ms

Remote clock offset: 5.883 ms

# Below is generated by plot.py at 2018-04-03 04:17:39

# Datalink statistics

-- Total of 3 flows:

Average throughput: 2.06 Mbit/s

95th percentile per-packet one-way delay: 307.208 ms

Loss rate: 0.70%

-- Flow 1:

Average throughput: 1.51 Mbit/s

95th percentile per-packet one-way delay: 298.235 ms

Loss rate: 0.18%

-- Flow 2:

Average throughput: 0.61 Mbit/s

95th percentile per-packet one-way delay: 307.589 ms

Loss rate: 0.86%

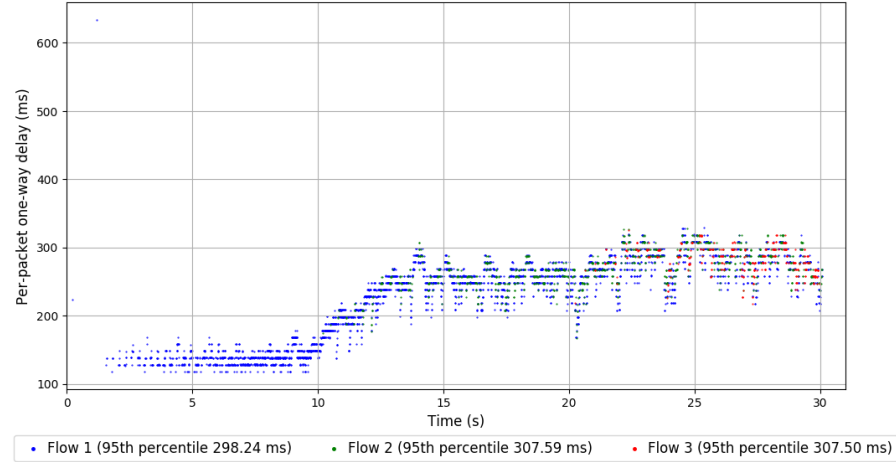
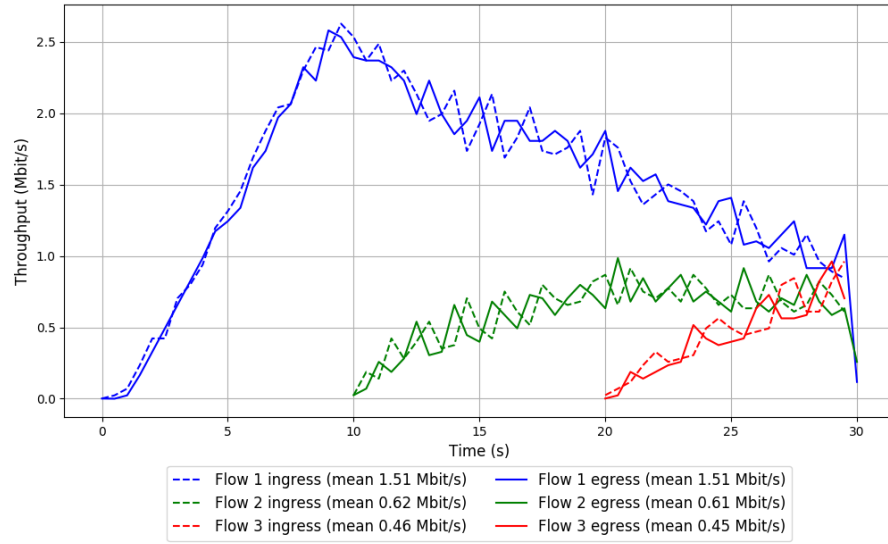
-- Flow 3:

Average throughput: 0.45 Mbit/s

95th percentile per-packet one-way delay: 307.499 ms

Loss rate: 5.34%

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



Run 1: Statistics of PCC

Start at: 2018-04-03 03:27:52

End at: 2018-04-03 03:28:22

Local clock offset: -3.62 ms

Remote clock offset: 5.872 ms

# Below is generated by plot.py at 2018-04-03 04:17:57

# Datalink statistics

-- Total of 3 flows:

Average throughput: 2.07 Mbit/s

95th percentile per-packet one-way delay: 3773.327 ms

Loss rate: 93.09%

-- Flow 1:

Average throughput: 1.80 Mbit/s

95th percentile per-packet one-way delay: 3207.971 ms

Loss rate: 48.84%

-- Flow 2:

Average throughput: 0.00 Mbit/s

95th percentile per-packet one-way delay: 3614.292 ms

Loss rate: 14.11%

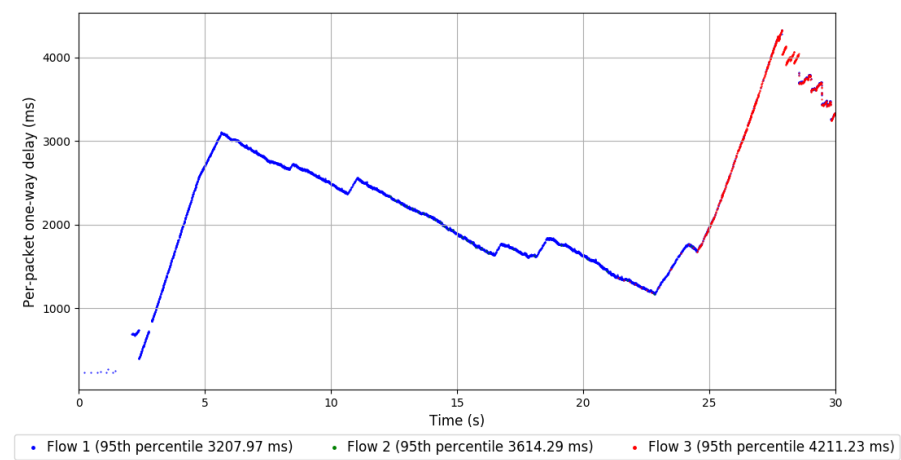
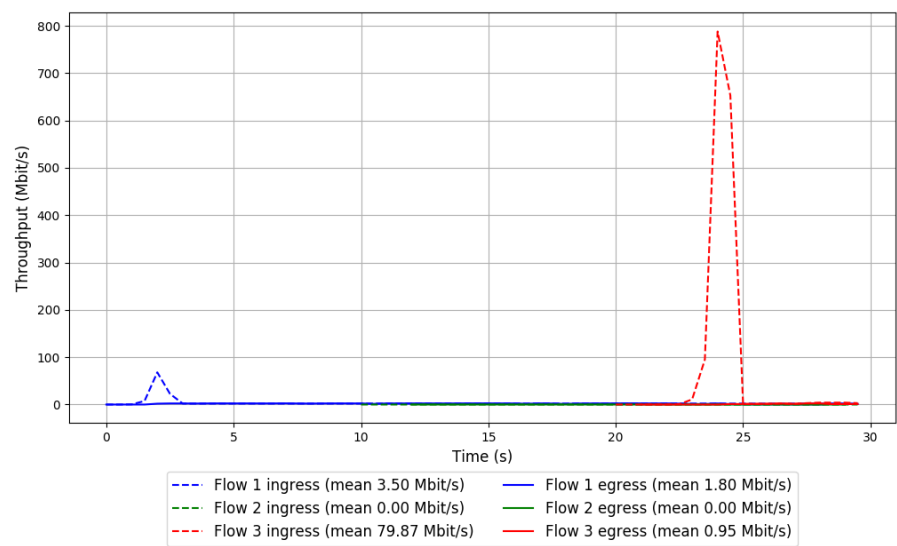
-- Flow 3:

Average throughput: 0.95 Mbit/s

95th percentile per-packet one-way delay: 4211.228 ms

Loss rate: 98.97%

Run 1: Report of PCC — Data Link



Run 2: Statistics of PCC

Start at: 2018-04-03 03:50:37

End at: 2018-04-03 03:51:07

Local clock offset: -6.837 ms

Remote clock offset: 5.921 ms

# Below is generated by plot.py at 2018-04-03 04:17:57

# Datalink statistics

-- Total of 3 flows:

Average throughput: 2.30 Mbit/s

95th percentile per-packet one-way delay: 3201.652 ms

Loss rate: 56.37%

-- Flow 1:

Average throughput: 1.80 Mbit/s

95th percentile per-packet one-way delay: 3169.242 ms

Loss rate: 54.69%

-- Flow 2:

Average throughput: 0.00 Mbit/s

95th percentile per-packet one-way delay: 3262.082 ms

Loss rate: 11.31%

-- Flow 3:

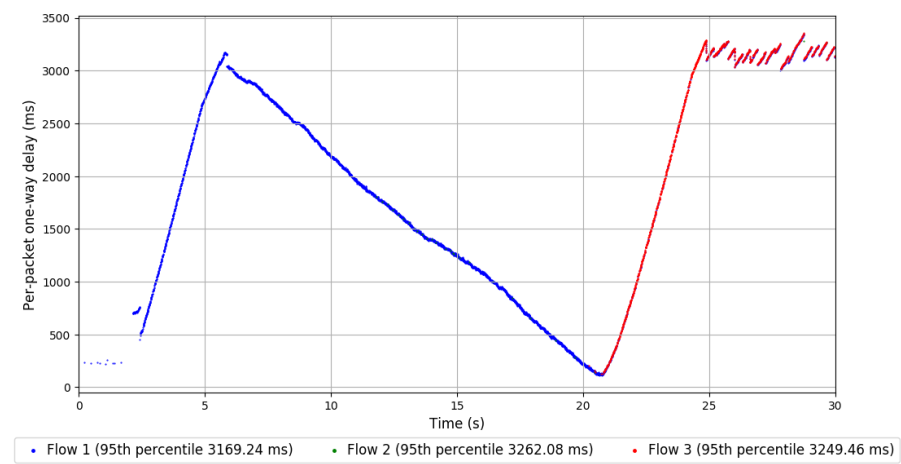
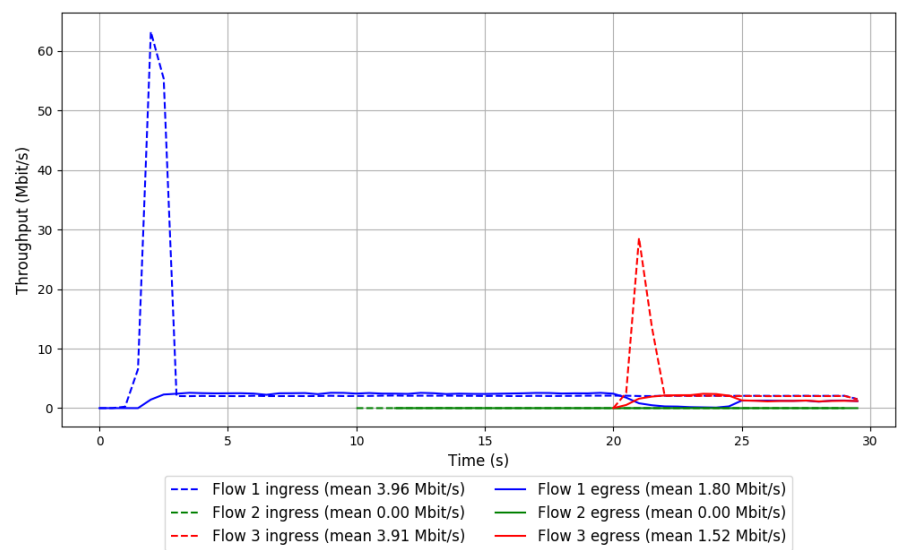
Average throughput: 1.52 Mbit/s

95th percentile per-packet one-way delay: 3249.463 ms

Loss rate: 61.56%



Run 2: Report of PCC — Data Link



Run 3: Statistics of PCC

Start at: 2018-04-03 04:13:22

End at: 2018-04-03 04:13:52

Local clock offset: -6.575 ms

Remote clock offset: 6.702 ms

# Below is generated by plot.py at 2018-04-03 04:17:57

# Datalink statistics

-- Total of 3 flows:

Average throughput: 2.22 Mbit/s

95th percentile per-packet one-way delay: 3333.089 ms

Loss rate: 73.69%

-- Flow 1:

Average throughput: 1.80 Mbit/s

95th percentile per-packet one-way delay: 3277.553 ms

Loss rate: 62.02%

-- Flow 2:

Average throughput: 0.00 Mbit/s

95th percentile per-packet one-way delay: 2201.391 ms

Loss rate: 15.94%

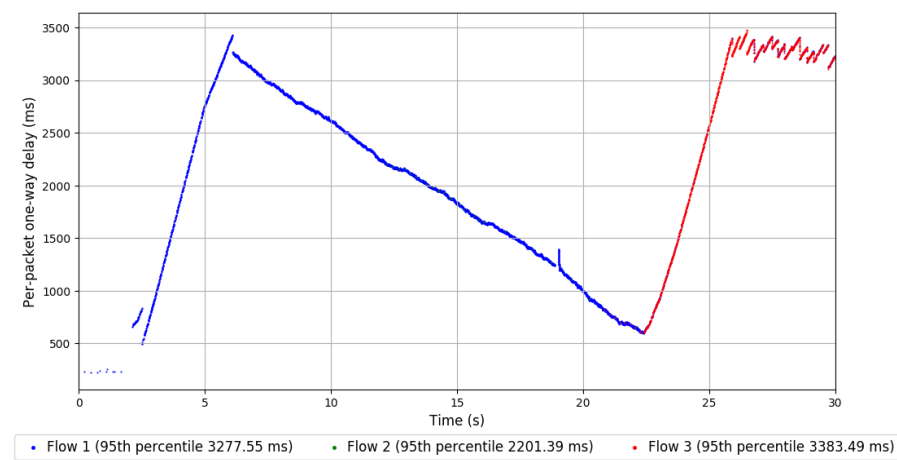
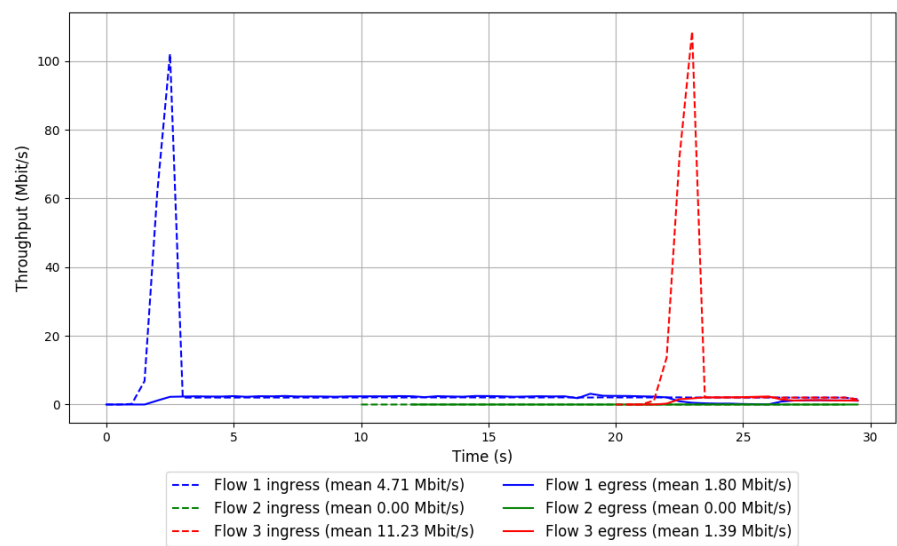
-- Flow 3:

Average throughput: 1.39 Mbit/s

95th percentile per-packet one-way delay: 3383.489 ms

Loss rate: 88.54%

Run 3: Report of PCC — Data Link



Run 1: Statistics of QUIC Cubic

Start at: 2018-04-03 03:24:05

End at: 2018-04-03 03:24:35

Local clock offset: -3.76 ms

Remote clock offset: 5.839 ms

# Below is generated by plot.py at 2018-04-03 04:17:57

# Datalink statistics

-- Total of 3 flows:

Average throughput: 2.25 Mbit/s

95th percentile per-packet one-way delay: 1704.915 ms

Loss rate: 6.60%

-- Flow 1:

Average throughput: 1.76 Mbit/s

95th percentile per-packet one-way delay: 1692.098 ms

Loss rate: 4.75%

-- Flow 2:

Average throughput: 0.65 Mbit/s

95th percentile per-packet one-way delay: 1726.157 ms

Loss rate: 10.03%

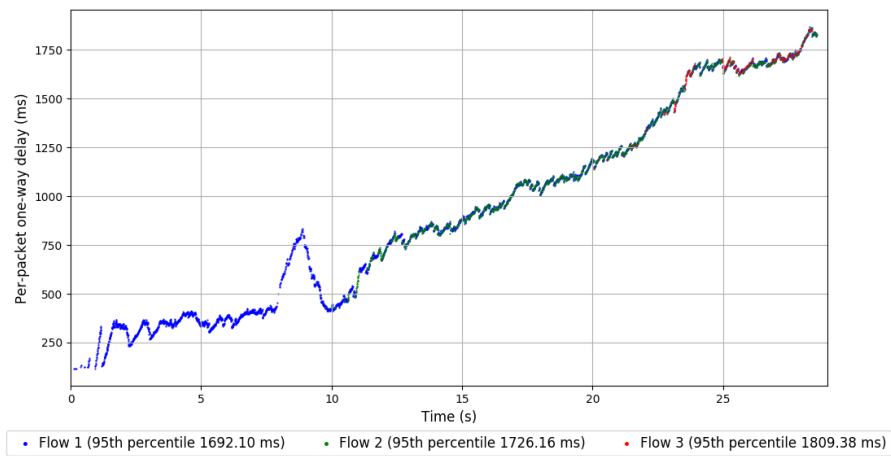
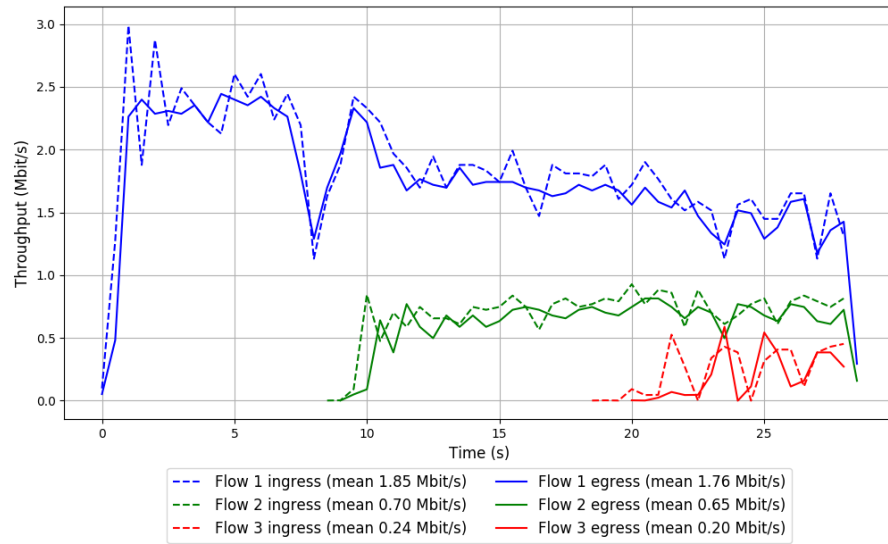
-- Flow 3:

Average throughput: 0.20 Mbit/s

95th percentile per-packet one-way delay: 1809.382 ms

Loss rate: 28.20%

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



Run 2: Statistics of QUIC Cubic

Start at: 2018-04-03 03:46:50

End at: 2018-04-03 03:47:20

Local clock offset: -6.399 ms

Remote clock offset: 12.18 ms

# Below is generated by plot.py at 2018-04-03 04:17:57

# Datalink statistics

-- Total of 3 flows:

Average throughput: 2.39 Mbit/s

95th percentile per-packet one-way delay: 1865.515 ms

Loss rate: 6.64%

-- Flow 1:

Average throughput: 1.93 Mbit/s

95th percentile per-packet one-way delay: 1837.101 ms

Loss rate: 4.86%

-- Flow 2:

Average throughput: 0.60 Mbit/s

95th percentile per-packet one-way delay: 1901.837 ms

Loss rate: 11.50%

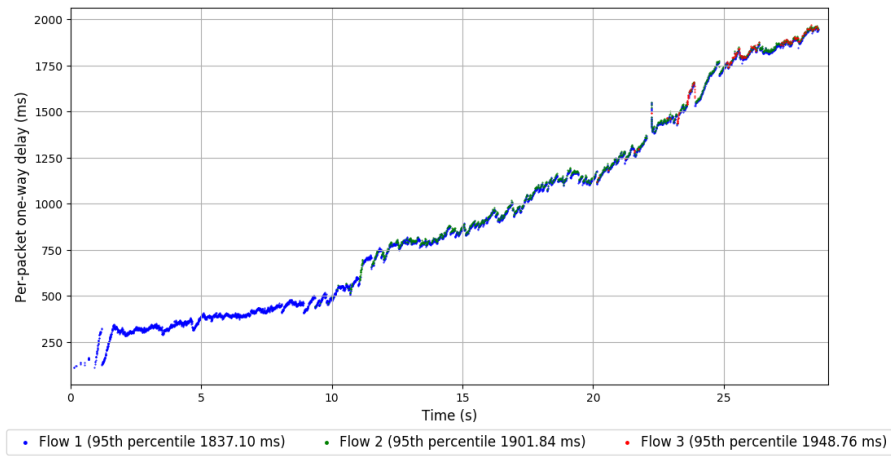
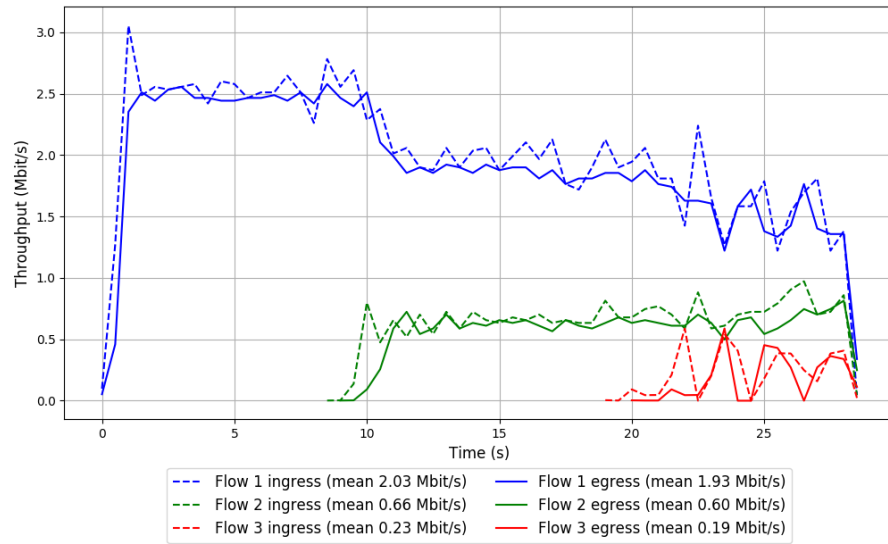
-- Flow 3:

Average throughput: 0.19 Mbit/s

95th percentile per-packet one-way delay: 1948.761 ms

Loss rate: 25.17%

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



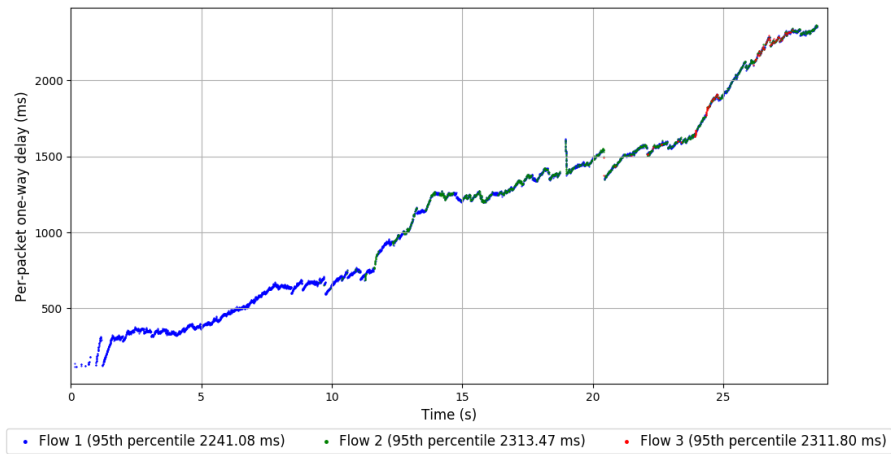
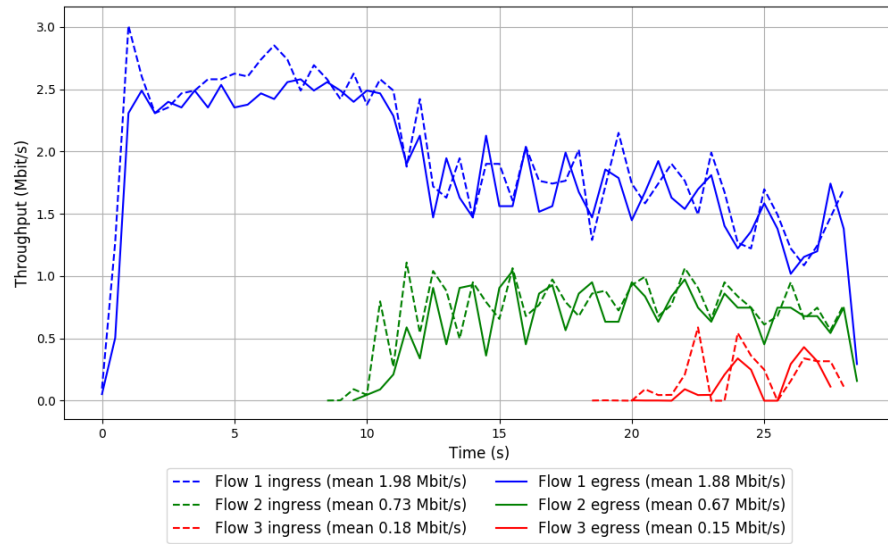
Run 3: Statistics of QUIC Cubic

Start at: 2018-04-03 04:09:34  
End at: 2018-04-03 04:10:04  
Local clock offset: -7.267 ms  
Remote clock offset: 11.082 ms

# Below is generated by plot.py at 2018-04-03 04:17:57  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 2.36 Mbit/s  
95th percentile per-packet one-way delay: 2274.677 ms  
Loss rate: 7.20%  
-- Flow 1:  
Average throughput: 1.88 Mbit/s  
95th percentile per-packet one-way delay: 2241.083 ms  
Loss rate: 5.28%  
-- Flow 2:  
Average throughput: 0.67 Mbit/s  
95th percentile per-packet one-way delay: 2313.471 ms  
Loss rate: 11.31%  
-- Flow 3:  
Average throughput: 0.15 Mbit/s  
95th percentile per-packet one-way delay: 2311.804 ms  
Loss rate: 36.75%



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

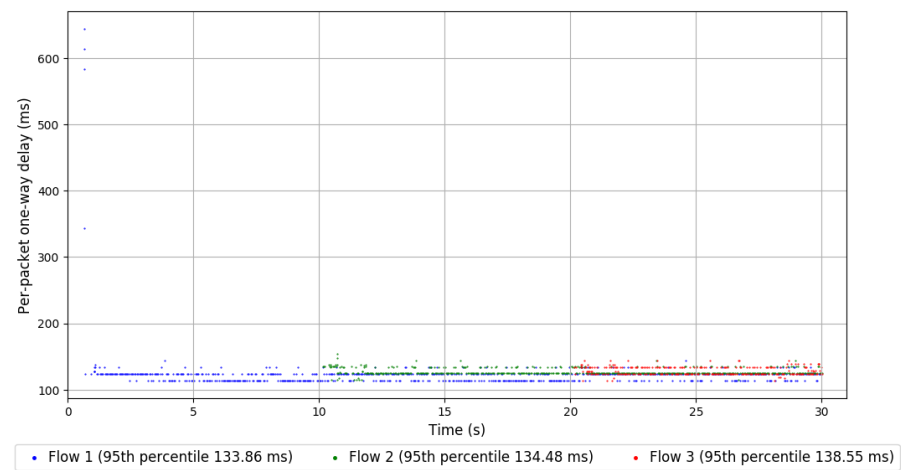
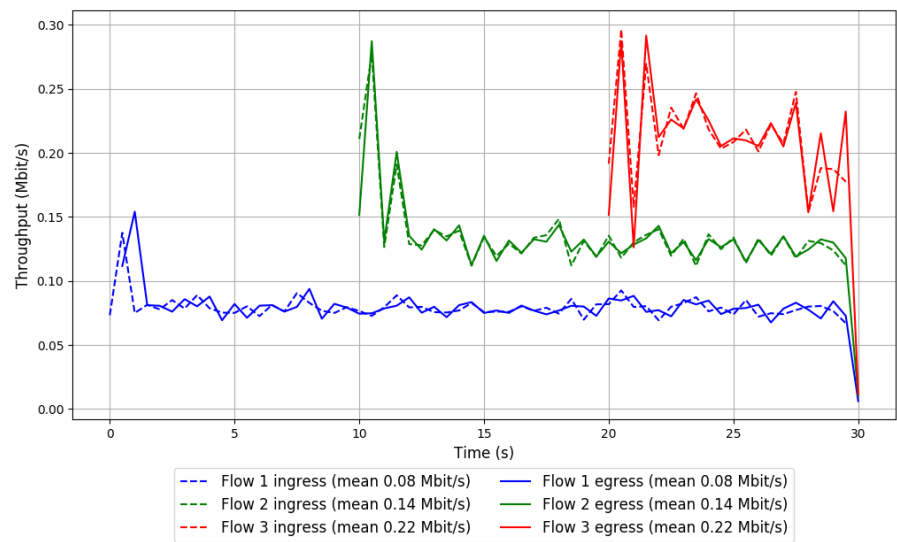


```
Run 1: Statistics of SCReAM

Start at: 2018-04-03 03:13:59
End at: 2018-04-03 03:14:29
Local clock offset: -4.372 ms
Remote clock offset: 6.627 ms

# Below is generated by plot.py at 2018-04-03 04:17:57
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.25 Mbit/s
95th percentile per-packet one-way delay: 134.425 ms
Loss rate: 0.11%
-- Flow 1:
Average throughput: 0.08 Mbit/s
95th percentile per-packet one-way delay: 133.860 ms
Loss rate: 0.13%
-- Flow 2:
Average throughput: 0.14 Mbit/s
95th percentile per-packet one-way delay: 134.479 ms
Loss rate: 0.18%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 138.552 ms
Loss rate: 0.00%
```

Run 1: Report of SReAM — Data Link

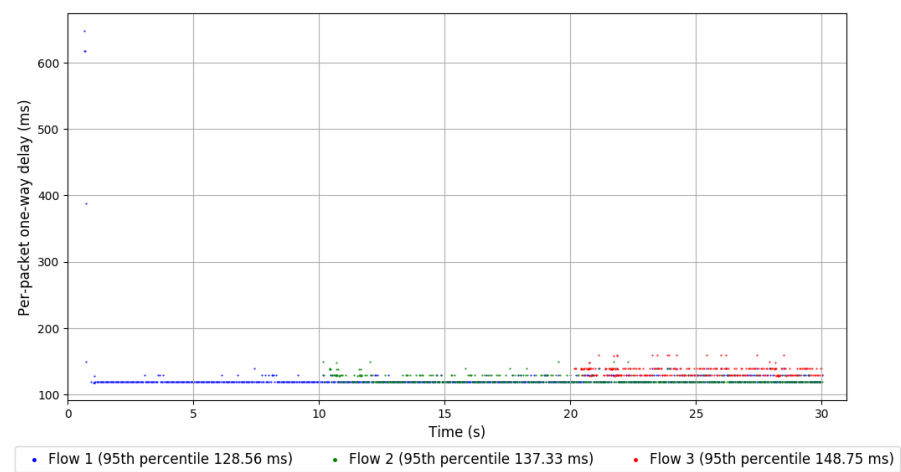
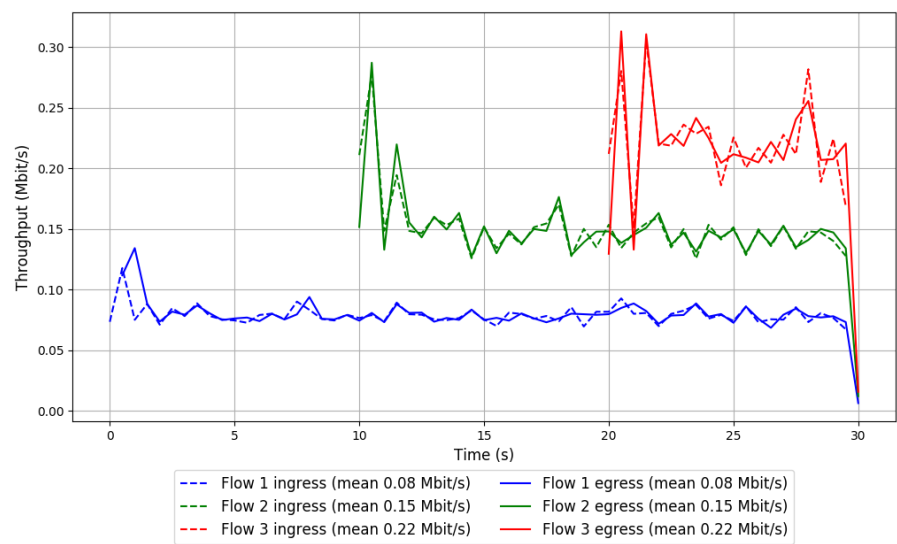


Run 2: Statistics of SReAM

Start at: 2018-04-03 03:36:44  
End at: 2018-04-03 03:37:14  
Local clock offset: -4.628 ms  
Remote clock offset: 11.216 ms

# Below is generated by plot.py at 2018-04-03 04:17:57  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 0.26 Mbit/s  
95th percentile per-packet one-way delay: 138.748 ms  
Loss rate: 0.11%  
-- Flow 1:  
Average throughput: 0.08 Mbit/s  
95th percentile per-packet one-way delay: 128.560 ms  
Loss rate: 0.13%  
-- Flow 2:  
Average throughput: 0.15 Mbit/s  
95th percentile per-packet one-way delay: 137.332 ms  
Loss rate: 0.18%  
-- Flow 3:  
Average throughput: 0.22 Mbit/s  
95th percentile per-packet one-way delay: 148.753 ms  
Loss rate: 0.00%

Run 2: Report of SReAM — Data Link

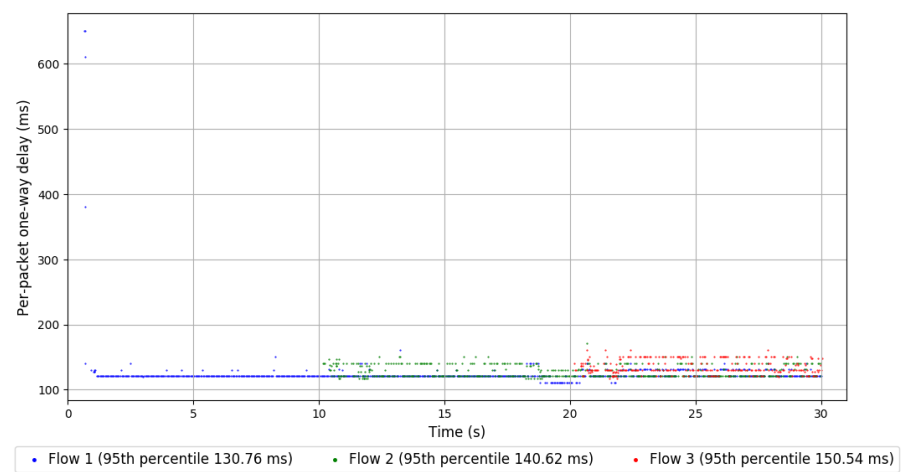
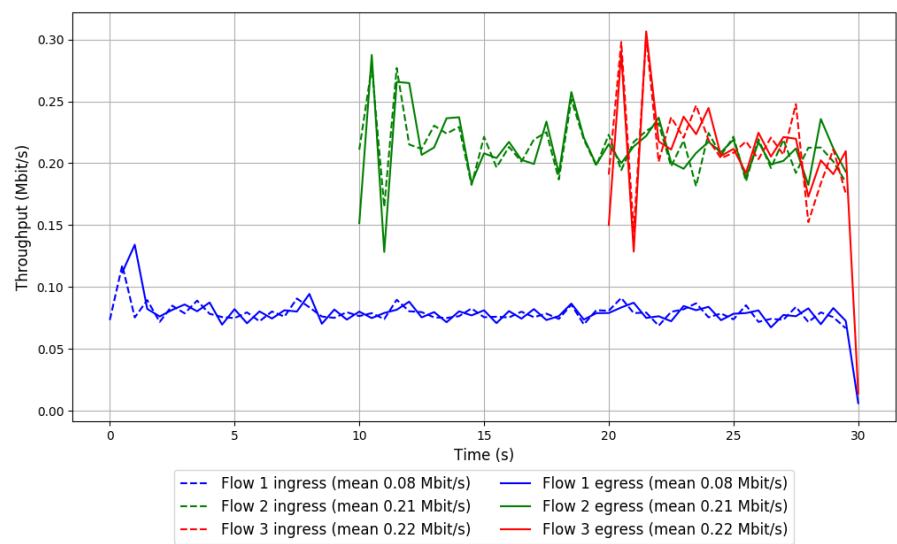


Run 3: Statistics of SReAM

Start at: 2018-04-03 03:59:28  
End at: 2018-04-03 03:59:58  
Local clock offset: -7.347 ms  
Remote clock offset: 13.232 ms

# Below is generated by plot.py at 2018-04-03 04:17:57  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 0.30 Mbit/s  
95th percentile per-packet one-way delay: 150.361 ms  
Loss rate: 0.30%  
-- Flow 1:  
Average throughput: 0.08 Mbit/s  
95th percentile per-packet one-way delay: 130.756 ms  
Loss rate: 0.12%  
-- Flow 2:  
Average throughput: 0.21 Mbit/s  
95th percentile per-packet one-way delay: 140.616 ms  
Loss rate: 0.39%  
-- Flow 3:  
Average throughput: 0.22 Mbit/s  
95th percentile per-packet one-way delay: 150.542 ms  
Loss rate: 0.30%

Run 3: Report of SReAM — Data Link



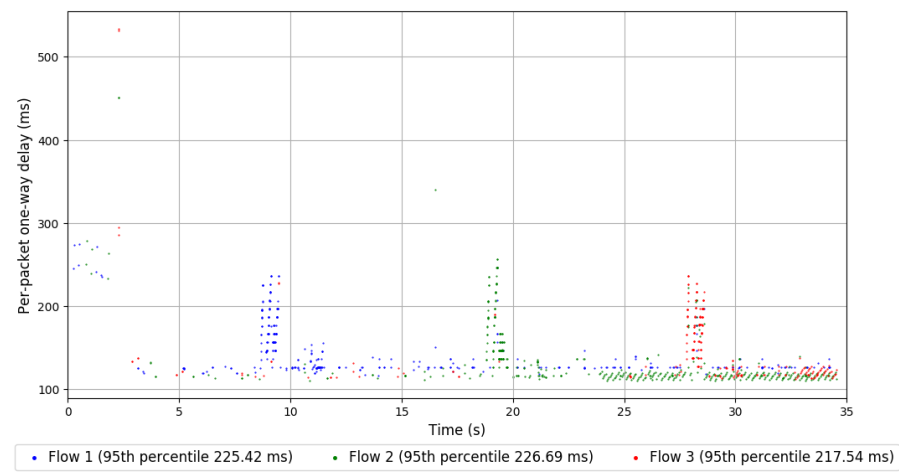
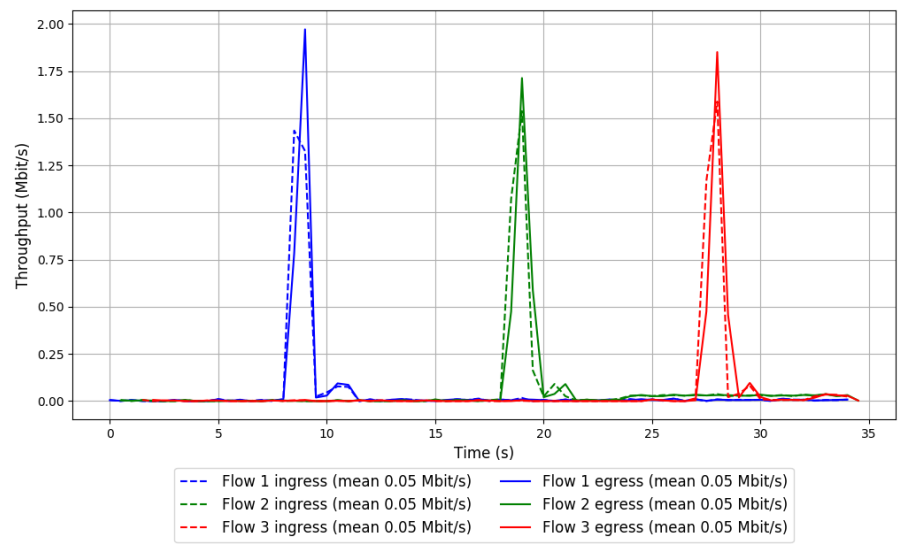
Run 1: Statistics of WebRTC media

Start at: 2018-04-03 03:17:46  
End at: 2018-04-03 03:18:16  
Local clock offset: -4.053 ms  
Remote clock offset: 12.059 ms

# Below is generated by plot.py at 2018-04-03 04:17:57  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 0.15 Mbit/s  
95th percentile per-packet one-way delay: 225.433 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 0.05 Mbit/s  
95th percentile per-packet one-way delay: 225.423 ms  
Loss rate: 0.00%  
-- Flow 2:  
Average throughput: 0.05 Mbit/s  
95th percentile per-packet one-way delay: 226.695 ms  
Loss rate: 0.00%  
-- Flow 3:  
Average throughput: 0.05 Mbit/s  
95th percentile per-packet one-way delay: 217.536 ms  
Loss rate: 0.00%



Run 1: Report of WebRTC media — Data Link

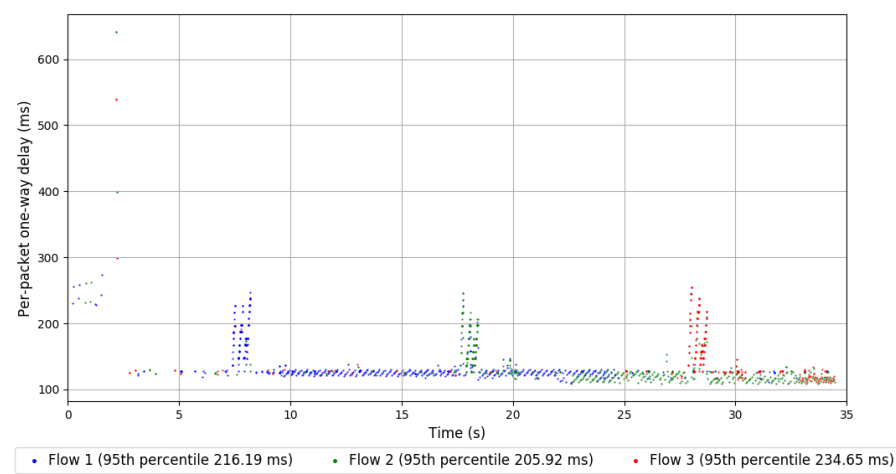
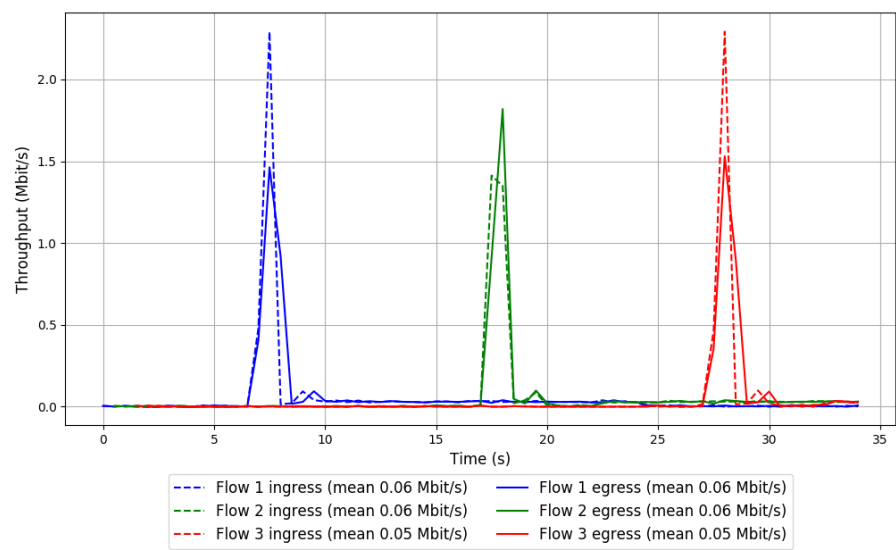


Run 2: Statistics of WebRTC media

Start at: 2018-04-03 03:40:31  
End at: 2018-04-03 03:41:01  
Local clock offset: -5.413 ms  
Remote clock offset: 13.135 ms

# Below is generated by plot.py at 2018-04-03 04:17:57  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 0.16 Mbit/s  
95th percentile per-packet one-way delay: 216.946 ms  
Loss rate: 0.01%  
-- Flow 1:  
Average throughput: 0.06 Mbit/s  
95th percentile per-packet one-way delay: 216.193 ms  
Loss rate: 0.00%  
-- Flow 2:  
Average throughput: 0.06 Mbit/s  
95th percentile per-packet one-way delay: 205.922 ms  
Loss rate: 0.00%  
-- Flow 3:  
Average throughput: 0.05 Mbit/s  
95th percentile per-packet one-way delay: 234.648 ms  
Loss rate: 0.05%

Run 2: Report of WebRTC media — Data Link



Run 3: Statistics of WebRTC media

Start at: 2018-04-03 04:03:16

End at: 2018-04-03 04:03:46

Local clock offset: -7.54 ms

Remote clock offset: 13.25 ms

# Below is generated by plot.py at 2018-04-03 04:17:57

# Datalink statistics

-- Total of 3 flows:

Average throughput: 0.16 Mbit/s

95th percentile per-packet one-way delay: 212.050 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 0.06 Mbit/s

95th percentile per-packet one-way delay: 201.870 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 0.05 Mbit/s

95th percentile per-packet one-way delay: 212.891 ms

Loss rate: 0.00%

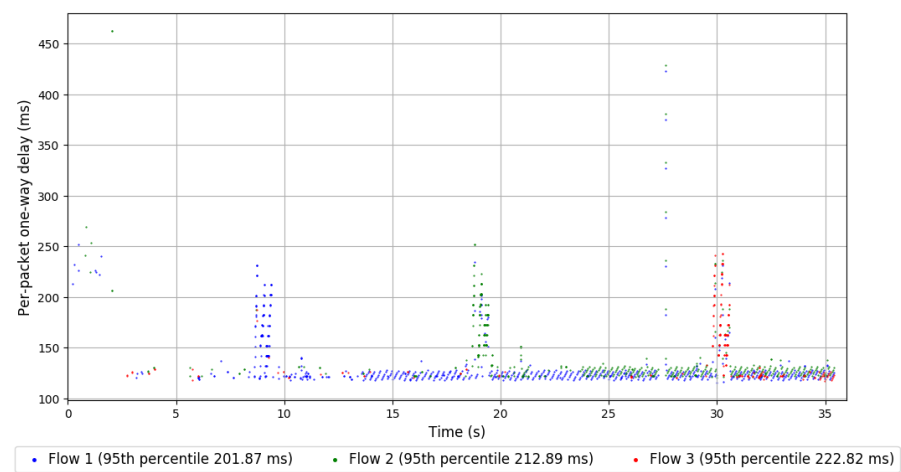
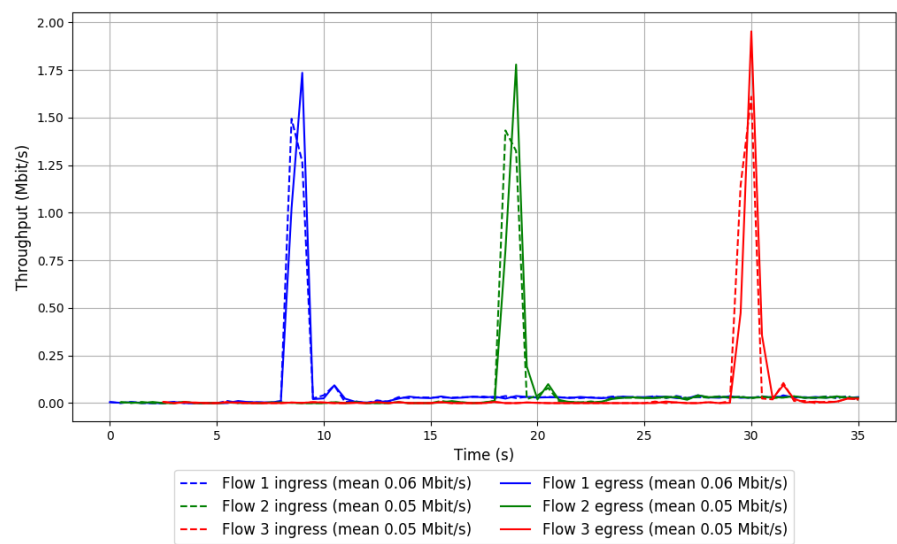
-- Flow 3:

Average throughput: 0.05 Mbit/s

95th percentile per-packet one-way delay: 222.824 ms

Loss rate: 0.00%

Run 3: Report of WebRTC media — Data Link



Run 1: Statistics of Sprout

Start at: 2018-04-03 03:15:15

End at: 2018-04-03 03:15:45

Local clock offset: -4.271 ms

Remote clock offset: 6.669 ms

# Below is generated by plot.py at 2018-04-03 04:17:57

# Datalink statistics

-- Total of 3 flows:

Average throughput: 0.35 Mbit/s

95th percentile per-packet one-way delay: 148.454 ms

Loss rate: 0.01%

-- Flow 1:

Average throughput: 0.17 Mbit/s

95th percentile per-packet one-way delay: 148.702 ms

Loss rate: 0.02%

-- Flow 2:

Average throughput: 0.16 Mbit/s

95th percentile per-packet one-way delay: 148.714 ms

Loss rate: 0.00%

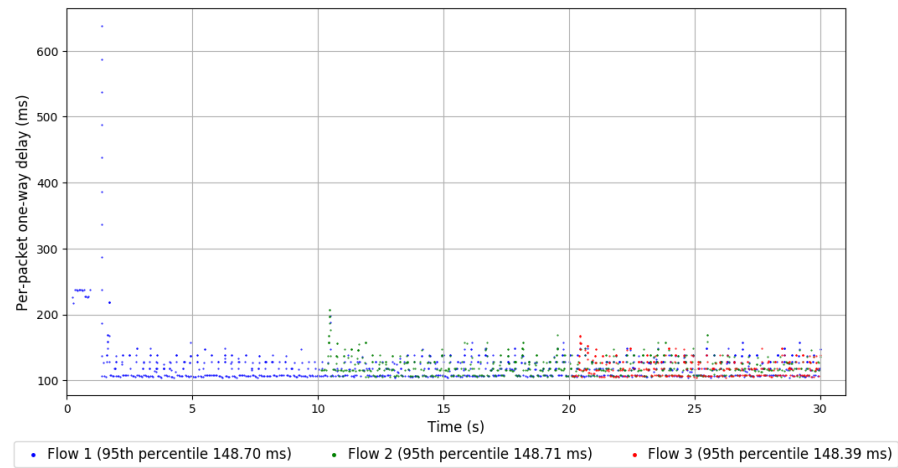
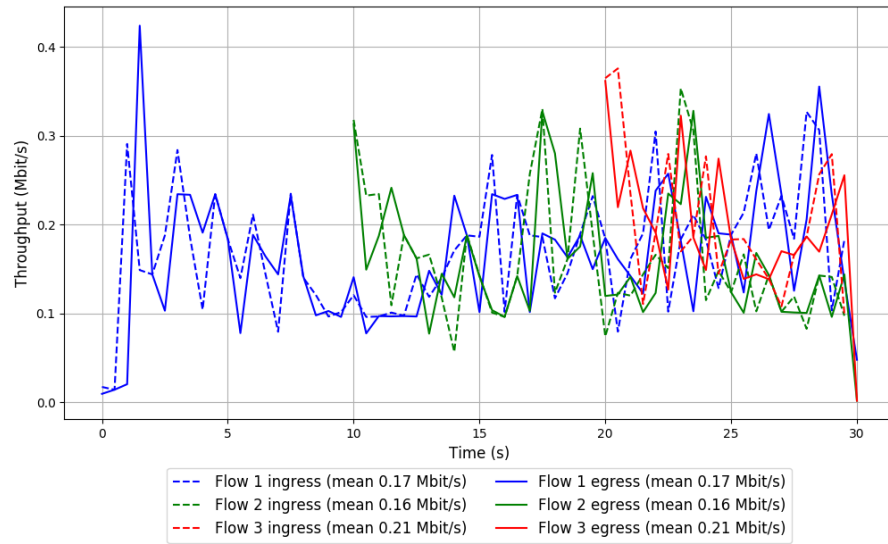
-- Flow 3:

Average throughput: 0.21 Mbit/s

95th percentile per-packet one-way delay: 148.388 ms

Loss rate: 0.00%

## Run 1: Report of Sprout — Data Link



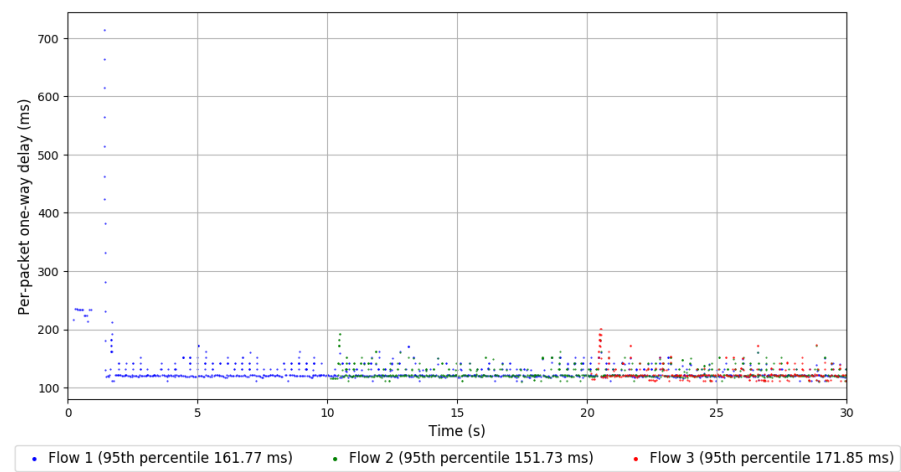
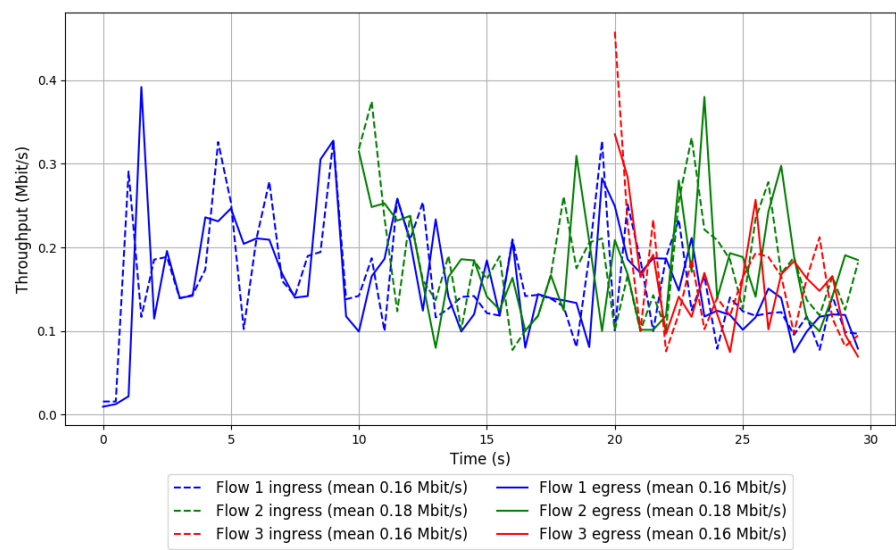
## Run 2: Statistics of Sprout

Start at: 2018-04-03 03:37:59  
End at: 2018-04-03 03:38:29  
Local clock offset: -4.905 ms  
Remote clock offset: 5.843 ms

```
# Below is generated by plot.py at 2018-04-03 04:17:57
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.34 Mbit/s
95th percentile per-packet one-way delay: 153.295 ms
Loss rate: 0.25%
-- Flow 1:
Average throughput: 0.16 Mbit/s
95th percentile per-packet one-way delay: 161.774 ms
Loss rate: 0.24%
-- Flow 2:
Average throughput: 0.18 Mbit/s
95th percentile per-packet one-way delay: 151.733 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.16 Mbit/s
95th percentile per-packet one-way delay: 171.848 ms
Loss rate: 0.87%
```



Run 2: Report of Sprout — Data Link

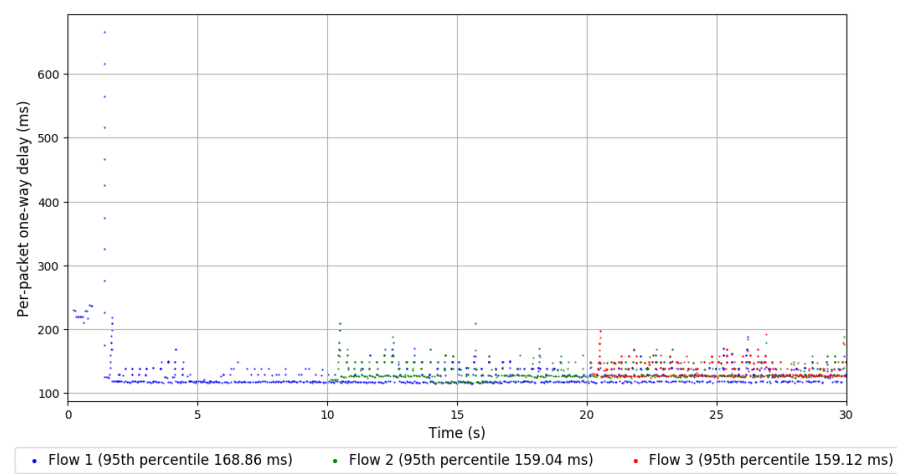
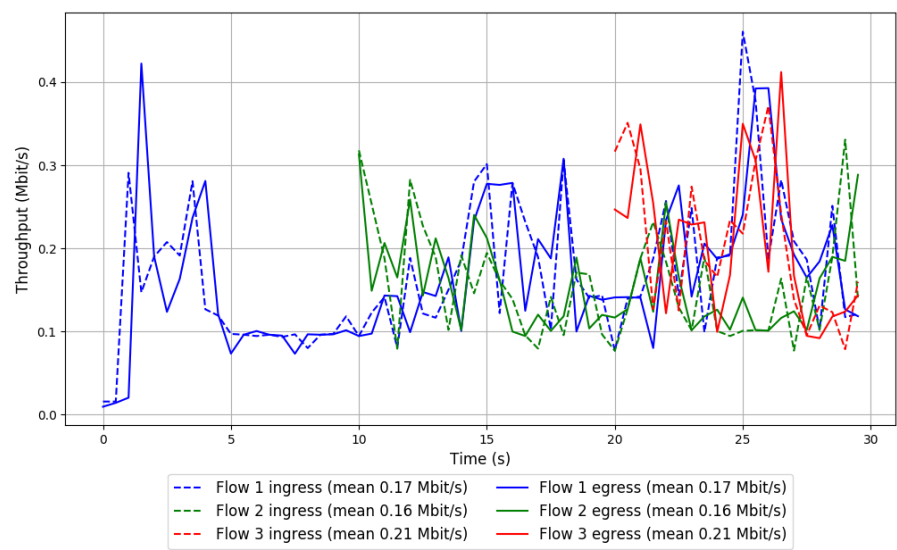


### Run 3: Statistics of Sprout

Start at: 2018-04-03 04:00:43  
End at: 2018-04-03 04:01:13  
Local clock offset: -7.425 ms  
Remote clock offset: 11.271 ms

```
# Below is generated by plot.py at 2018-04-03 04:17:57
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.34 Mbit/s
95th percentile per-packet one-way delay: 159.715 ms
Loss rate: 0.22%
-- Flow 1:
Average throughput: 0.17 Mbit/s
95th percentile per-packet one-way delay: 168.856 ms
Loss rate: 0.22%
-- Flow 2:
Average throughput: 0.16 Mbit/s
95th percentile per-packet one-way delay: 159.043 ms
Loss rate: 0.03%
-- Flow 3:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 159.118 ms
Loss rate: 0.50%
```

Run 3: Report of Sprout — Data Link



Run 1: Statistics of TaoVA-100x

Start at: 2018-04-03 03:21:33

End at: 2018-04-03 03:22:03

Local clock offset: -3.919 ms

Remote clock offset: 6.82 ms

# Below is generated by plot.py at 2018-04-03 04:17:57

# Datalink statistics

-- Total of 3 flows:

Average throughput: 2.06 Mbit/s

95th percentile per-packet one-way delay: 1210.871 ms

Loss rate: 3.05%

-- Flow 1:

Average throughput: 1.12 Mbit/s

95th percentile per-packet one-way delay: 1245.435 ms

Loss rate: 4.07%

-- Flow 2:

Average throughput: 0.97 Mbit/s

95th percentile per-packet one-way delay: 462.705 ms

Loss rate: 1.24%

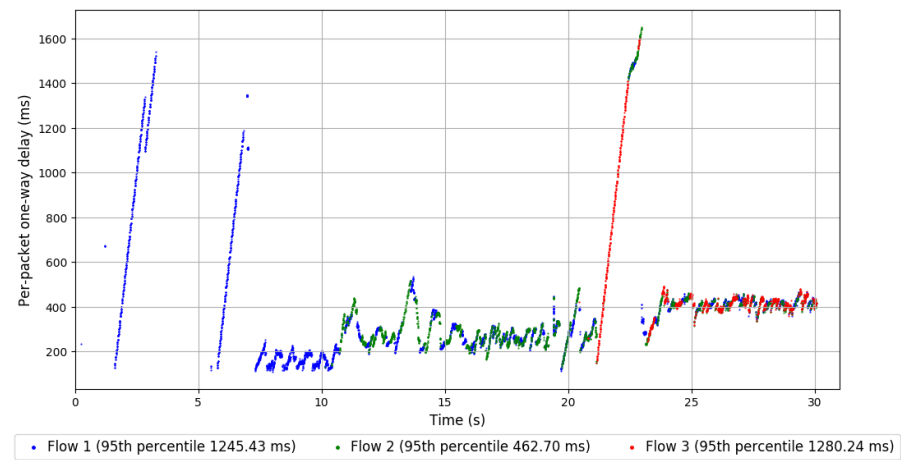
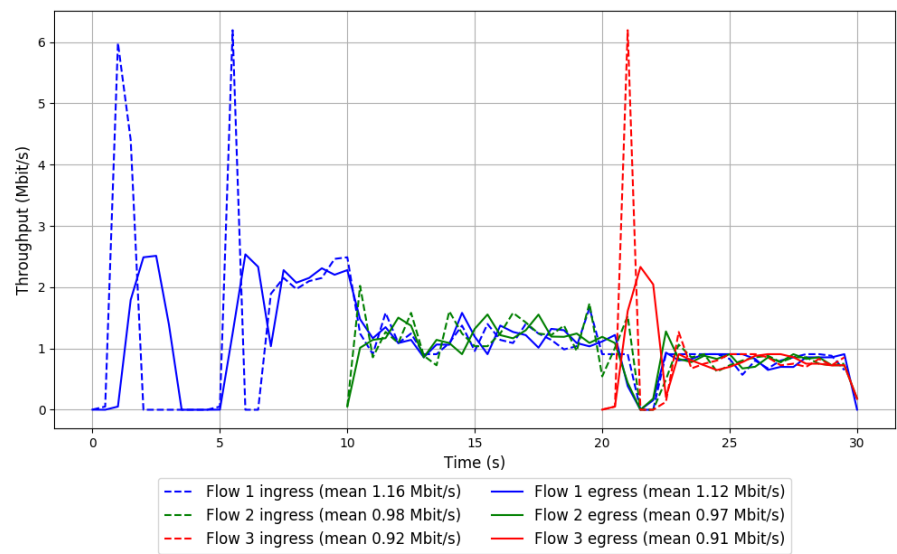
-- Flow 3:

Average throughput: 0.91 Mbit/s

95th percentile per-packet one-way delay: 1280.241 ms

Loss rate: 3.02%

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

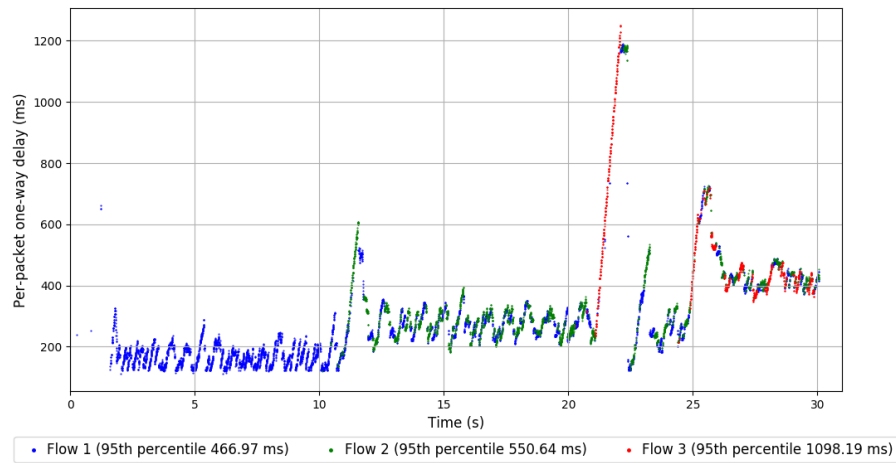
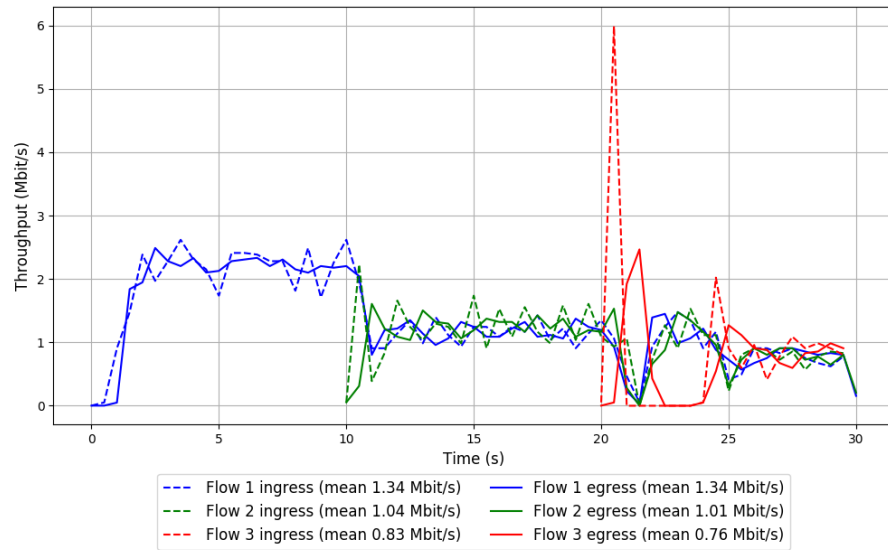


Run 2: Statistics of TaoVA-100x

Start at: 2018-04-03 03:44:18  
End at: 2018-04-03 03:44:48  
Local clock offset: -6.13 ms  
Remote clock offset: 13.168 ms

# Below is generated by plot.py at 2018-04-03 04:17:57  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 2.26 Mbit/s  
95th percentile per-packet one-way delay: 614.141 ms  
Loss rate: 2.35%  
-- Flow 1:  
Average throughput: 1.34 Mbit/s  
95th percentile per-packet one-way delay: 466.972 ms  
Loss rate: 0.37%  
-- Flow 2:  
Average throughput: 1.01 Mbit/s  
95th percentile per-packet one-way delay: 550.639 ms  
Loss rate: 2.36%  
-- Flow 3:  
Average throughput: 0.76 Mbit/s  
95th percentile per-packet one-way delay: 1098.194 ms  
Loss rate: 11.98%

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



Run 3: Statistics of TaoVA-100x

Start at: 2018-04-03 04:07:02

End at: 2018-04-03 04:07:32

Local clock offset: -7.714 ms

Remote clock offset: 5.756 ms

# Below is generated by plot.py at 2018-04-03 04:17:58

# Datalink statistics

-- Total of 3 flows:

Average throughput: 2.24 Mbit/s

95th percentile per-packet one-way delay: 459.968 ms

Loss rate: 1.09%

-- Flow 1:

Average throughput: 1.31 Mbit/s

95th percentile per-packet one-way delay: 441.357 ms

Loss rate: 0.69%

-- Flow 2:

Average throughput: 1.00 Mbit/s

95th percentile per-packet one-way delay: 458.739 ms

Loss rate: 0.96%

-- Flow 3:

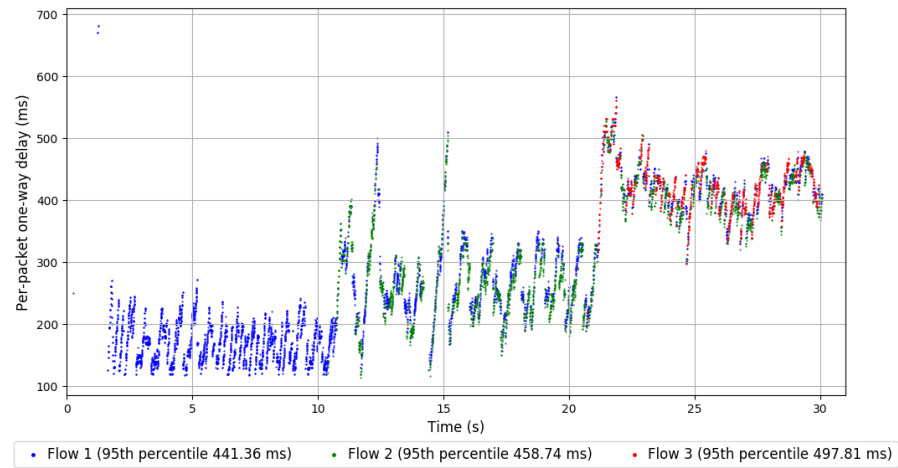
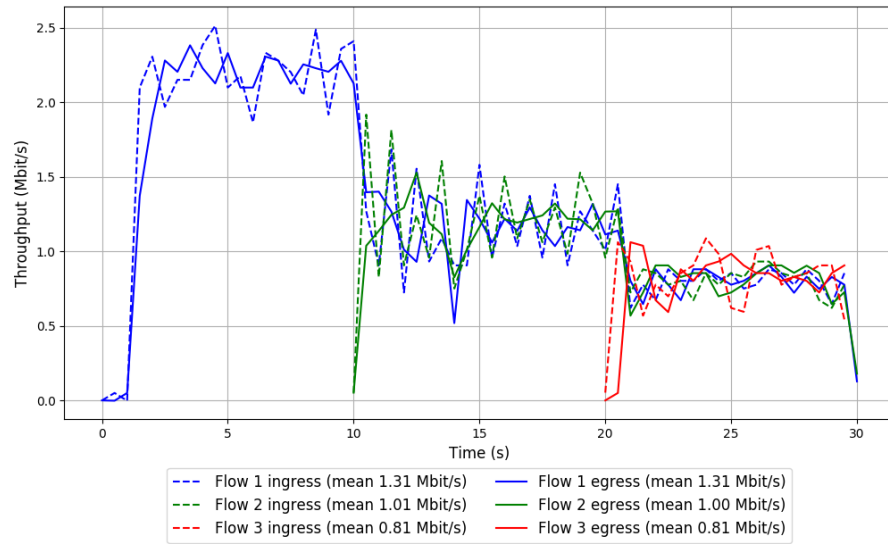
Average throughput: 0.81 Mbit/s

95th percentile per-packet one-way delay: 497.806 ms

Loss rate: 3.40%



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

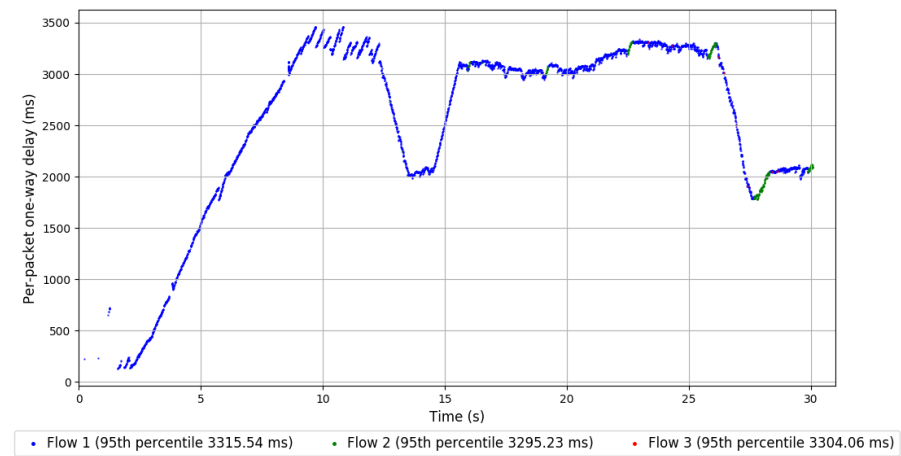
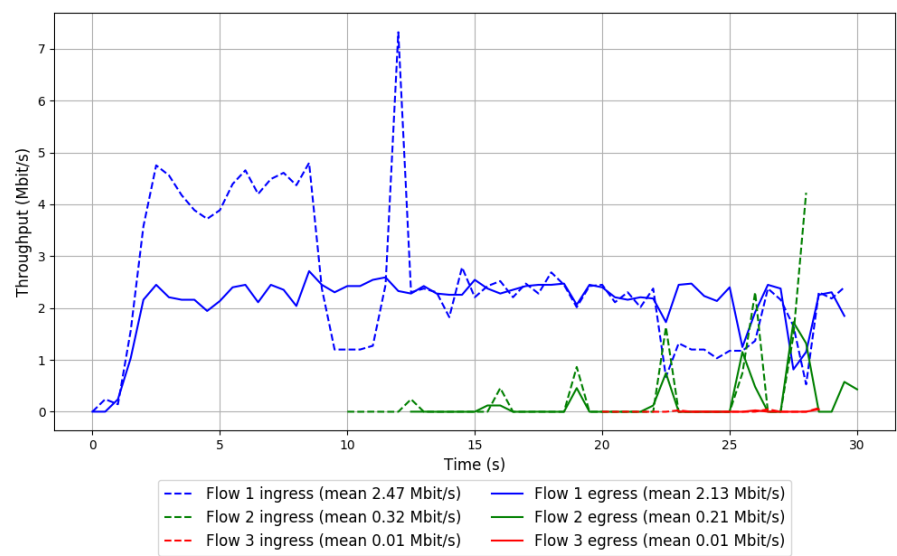


Run 1: Statistics of TCP Vegas

Start at: 2018-04-03 03:30:25  
End at: 2018-04-03 03:30:55  
Local clock offset: -3.576 ms  
Remote clock offset: 13.274 ms

# Below is generated by plot.py at 2018-04-03 04:17:58  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 2.24 Mbit/s  
95th percentile per-packet one-way delay: 3315.485 ms  
Loss rate: 16.65%  
-- Flow 1:  
Average throughput: 2.13 Mbit/s  
95th percentile per-packet one-way delay: 3315.538 ms  
Loss rate: 14.81%  
-- Flow 2:  
Average throughput: 0.21 Mbit/s  
95th percentile per-packet one-way delay: 3295.232 ms  
Loss rate: 39.21%  
-- Flow 3:  
Average throughput: 0.01 Mbit/s  
95th percentile per-packet one-way delay: 3304.061 ms  
Loss rate: 46.68%

Run 1: Report of TCP Vegas — Data Link

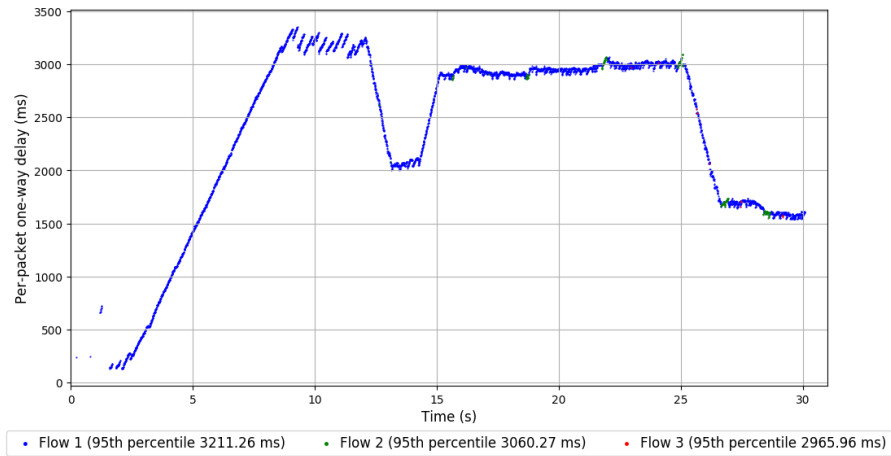
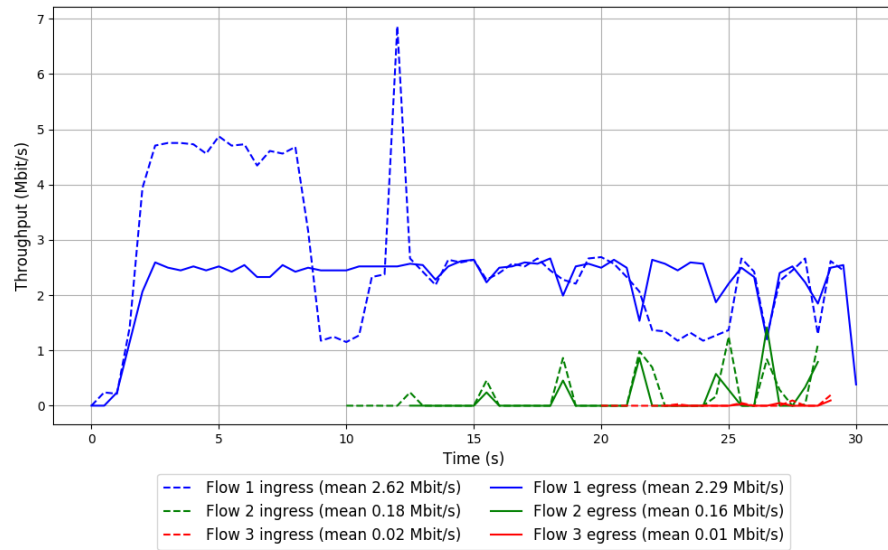


Run 2: Statistics of TCP Vegas

Start at: 2018-04-03 03:53:09  
End at: 2018-04-03 03:53:39  
Local clock offset: -6.953 ms  
Remote clock offset: 13.127 ms

# Below is generated by plot.py at 2018-04-03 04:17:58  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 2.38 Mbit/s  
95th percentile per-packet one-way delay: 3211.168 ms  
Loss rate: 13.74%  
-- Flow 1:  
Average throughput: 2.29 Mbit/s  
95th percentile per-packet one-way delay: 3211.263 ms  
Loss rate: 13.01%  
-- Flow 2:  
Average throughput: 0.16 Mbit/s  
95th percentile per-packet one-way delay: 3060.268 ms  
Loss rate: 28.10%  
-- Flow 3:  
Average throughput: 0.01 Mbit/s  
95th percentile per-packet one-way delay: 2965.960 ms  
Loss rate: 52.06%

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

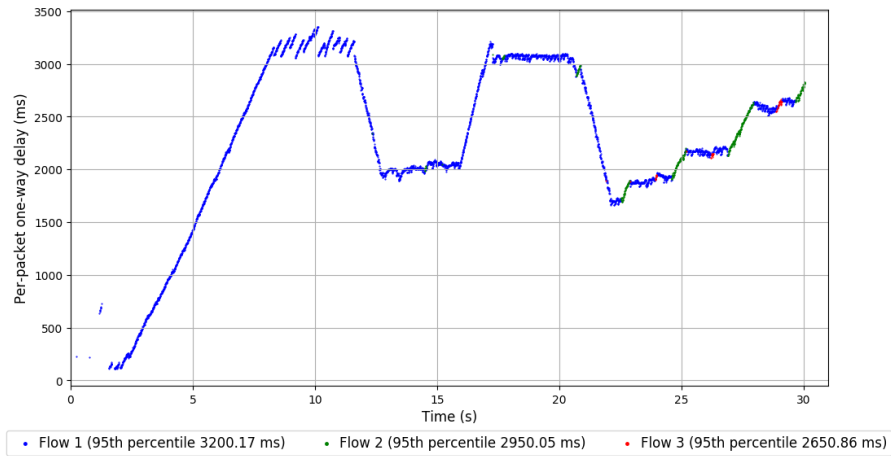
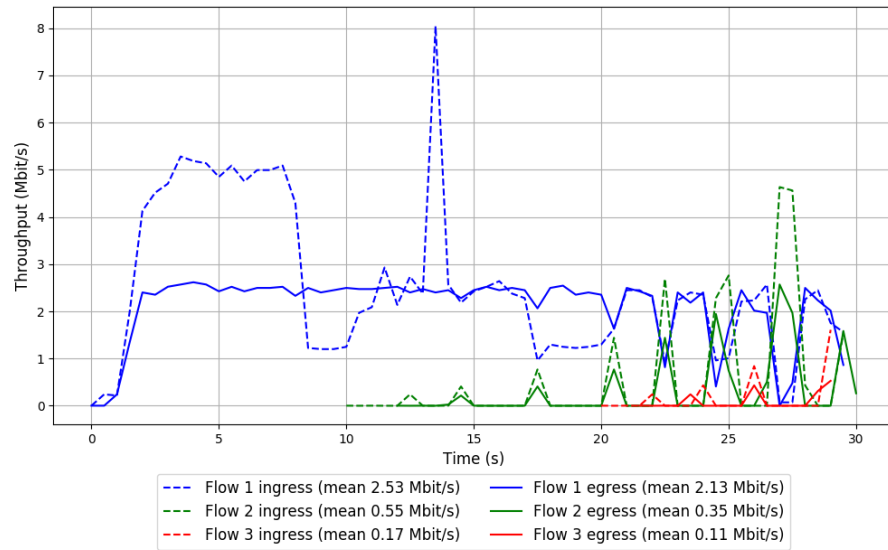


Run 3: Statistics of TCP Vegas

Start at: 2018-04-03 04:15:53  
End at: 2018-04-03 04:16:23  
Local clock offset: -6.329 ms  
Remote clock offset: 5.527 ms

```
# Below is generated by plot.py at 2018-04-03 04:17:58
# Datalink statistics
-- Total of 3 flows:
Average throughput: 2.34 Mbit/s
95th percentile per-packet one-way delay: 3190.217 ms
Loss rate: 20.62%
-- Flow 1:
Average throughput: 2.13 Mbit/s
95th percentile per-packet one-way delay: 3200.174 ms
Loss rate: 16.78%
-- Flow 2:
Average throughput: 0.35 Mbit/s
95th percentile per-packet one-way delay: 2950.045 ms
Loss rate: 42.81%
-- Flow 3:
Average throughput: 0.11 Mbit/s
95th percentile per-packet one-way delay: 2650.857 ms
Loss rate: 51.44%
```

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



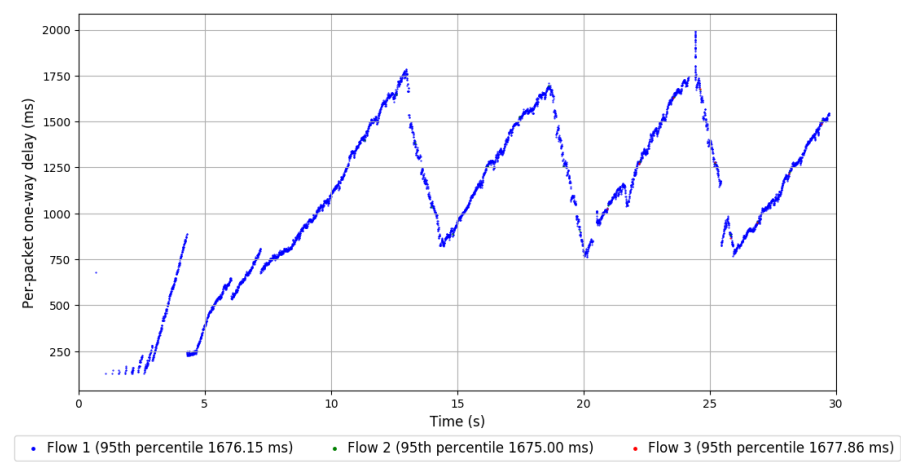
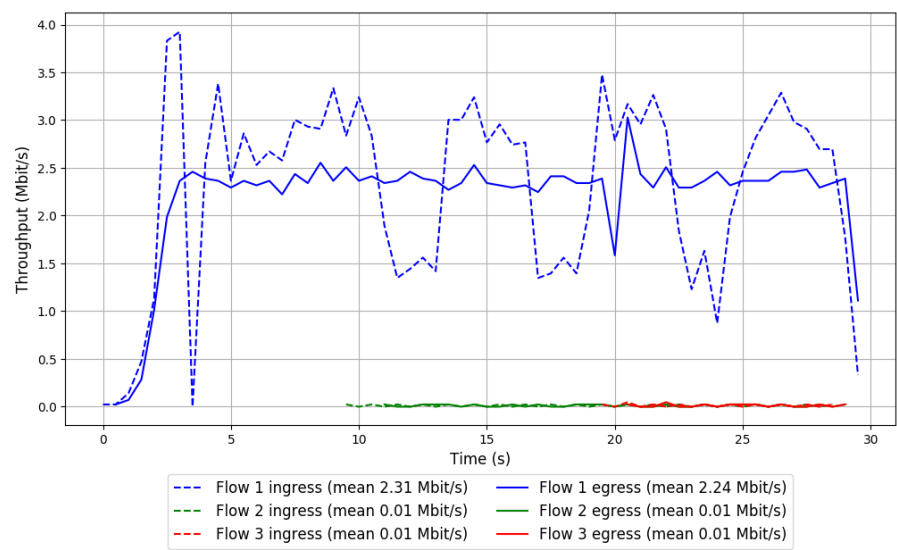
Run 1: Statistics of Verus

Start at: 2018-04-03 03:10:12  
End at: 2018-04-03 03:10:42  
Local clock offset: -4.821 ms  
Remote clock offset: 11.963 ms

# Below is generated by plot.py at 2018-04-03 04:17:58  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 2.25 Mbit/s  
95th percentile per-packet one-way delay: 1676.155 ms  
Loss rate: 4.72%  
-- Flow 1:  
Average throughput: 2.24 Mbit/s  
95th percentile per-packet one-way delay: 1676.155 ms  
Loss rate: 4.71%  
-- Flow 2:  
Average throughput: 0.01 Mbit/s  
95th percentile per-packet one-way delay: 1675.002 ms  
Loss rate: 5.00%  
-- Flow 3:  
Average throughput: 0.01 Mbit/s  
95th percentile per-packet one-way delay: 1677.856 ms  
Loss rate: 9.09%



Run 1: Report of Verus — Data Link



Run 2: Statistics of Verus

Start at: 2018-04-03 03:32:56

End at: 2018-04-03 03:33:26

Local clock offset: -3.524 ms

Remote clock offset: 6.883 ms

# Below is generated by plot.py at 2018-04-03 04:18:01

# Datalink statistics

-- Total of 3 flows:

Average throughput: 2.33 Mbit/s

95th percentile per-packet one-way delay: 1589.804 ms

Loss rate: 3.98%

-- Flow 1:

Average throughput: 2.32 Mbit/s

95th percentile per-packet one-way delay: 1589.670 ms

Loss rate: 3.96%

-- Flow 2:

Average throughput: 0.01 Mbit/s

95th percentile per-packet one-way delay: 1608.497 ms

Loss rate: 5.00%

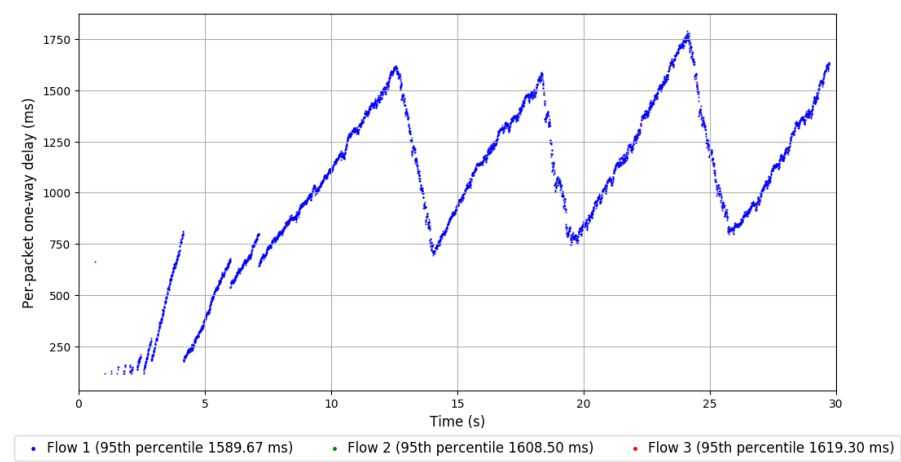
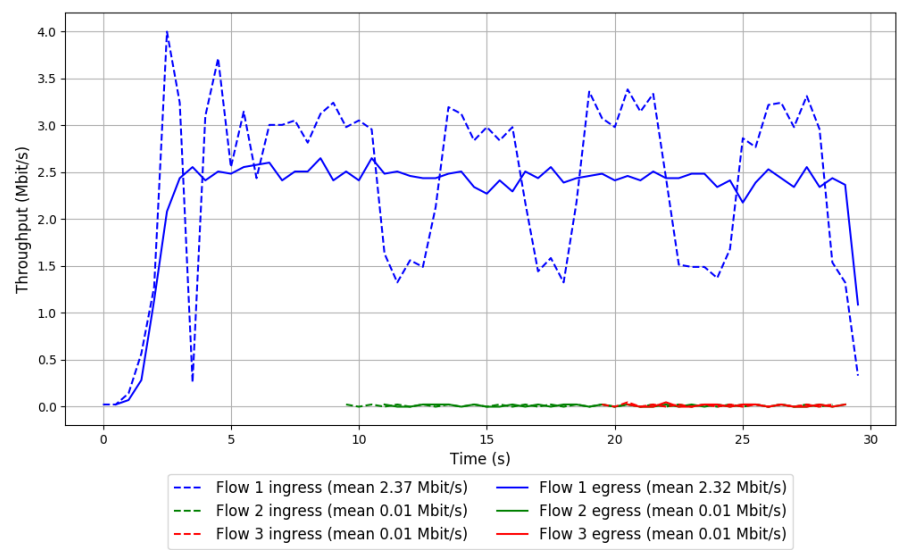
-- Flow 3:

Average throughput: 0.01 Mbit/s

95th percentile per-packet one-way delay: 1619.295 ms

Loss rate: 9.09%

Run 2: Report of Verus — Data Link

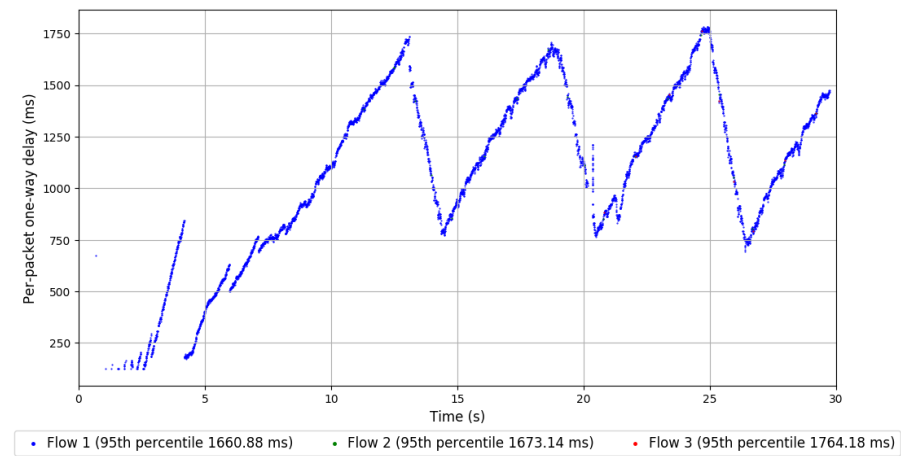
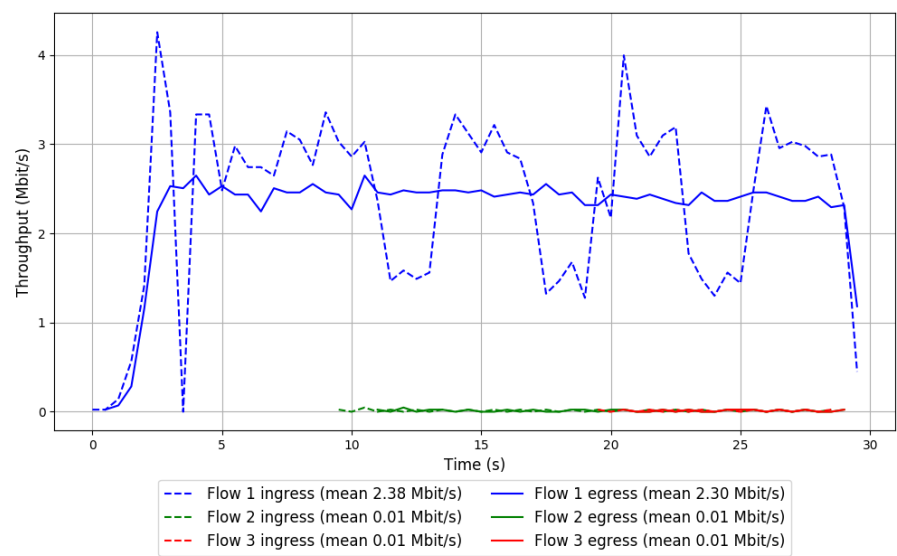


Run 3: Statistics of Verus

Start at: 2018-04-03 03:55:41  
End at: 2018-04-03 03:56:11  
Local clock offset: -7.135 ms  
Remote clock offset: 6.913 ms

# Below is generated by plot.py at 2018-04-03 04:18:01  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 2.32 Mbit/s  
95th percentile per-packet one-way delay: 1660.879 ms  
Loss rate: 5.02%  
-- Flow 1:  
Average throughput: 2.30 Mbit/s  
95th percentile per-packet one-way delay: 1660.876 ms  
Loss rate: 5.01%  
-- Flow 2:  
Average throughput: 0.01 Mbit/s  
95th percentile per-packet one-way delay: 1673.140 ms  
Loss rate: 4.76%  
-- Flow 3:  
Average throughput: 0.01 Mbit/s  
95th percentile per-packet one-way delay: 1764.183 ms  
Loss rate: 10.00%

Run 3: Report of Verus — Data Link

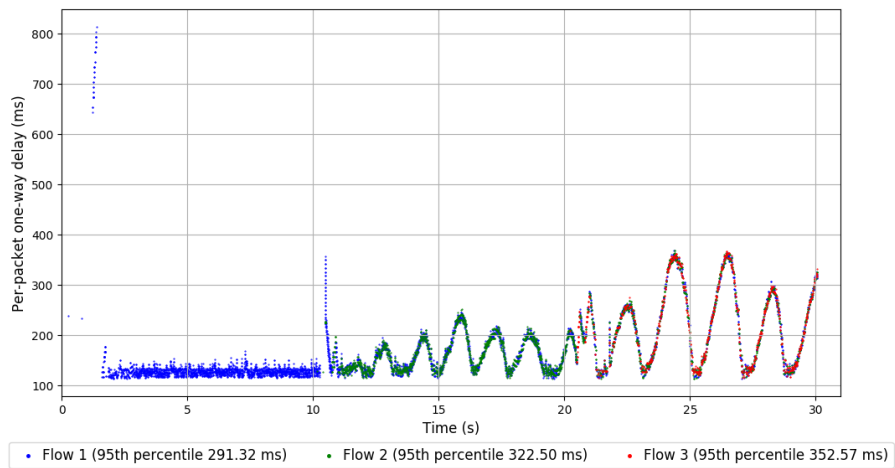
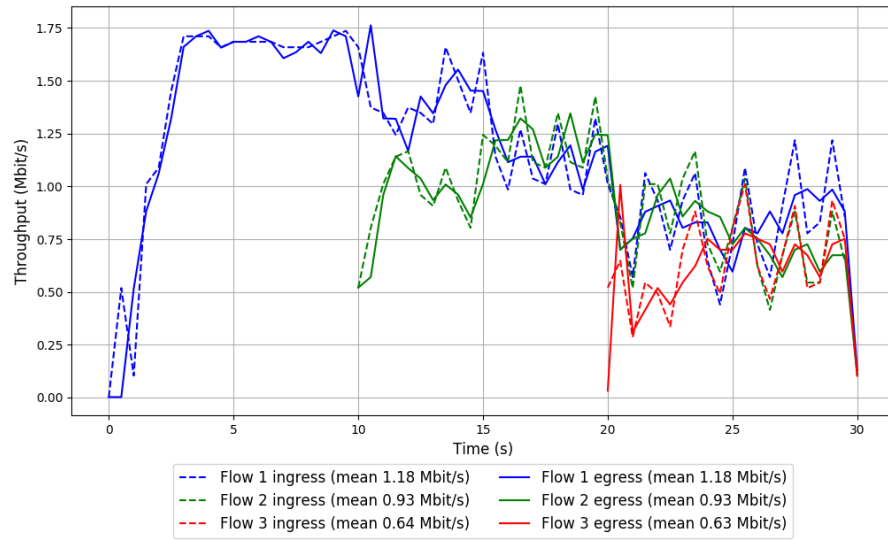


Run 1: Statistics of Copa

Start at: 2018-04-03 03:25:21  
End at: 2018-04-03 03:25:51  
Local clock offset: -3.711 ms  
Remote clock offset: 12.157 ms

# Below is generated by plot.py at 2018-04-03 04:18:04  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 2.01 Mbit/s  
95th percentile per-packet one-way delay: 320.230 ms  
Loss rate: 0.75%  
-- Flow 1:  
Average throughput: 1.18 Mbit/s  
95th percentile per-packet one-way delay: 291.323 ms  
Loss rate: 0.48%  
-- Flow 2:  
Average throughput: 0.93 Mbit/s  
95th percentile per-packet one-way delay: 322.503 ms  
Loss rate: 0.69%  
-- Flow 3:  
Average throughput: 0.63 Mbit/s  
95th percentile per-packet one-way delay: 352.571 ms  
Loss rate: 2.44%

## Run 1: Report of Copa — Data Link



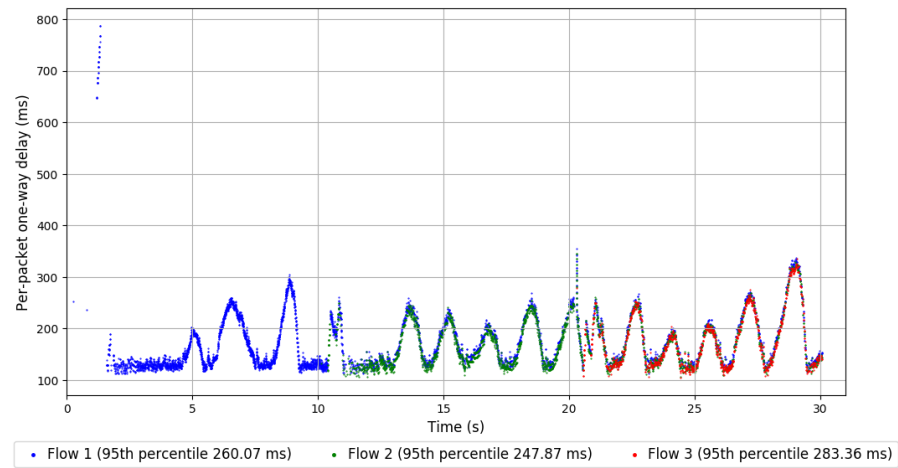
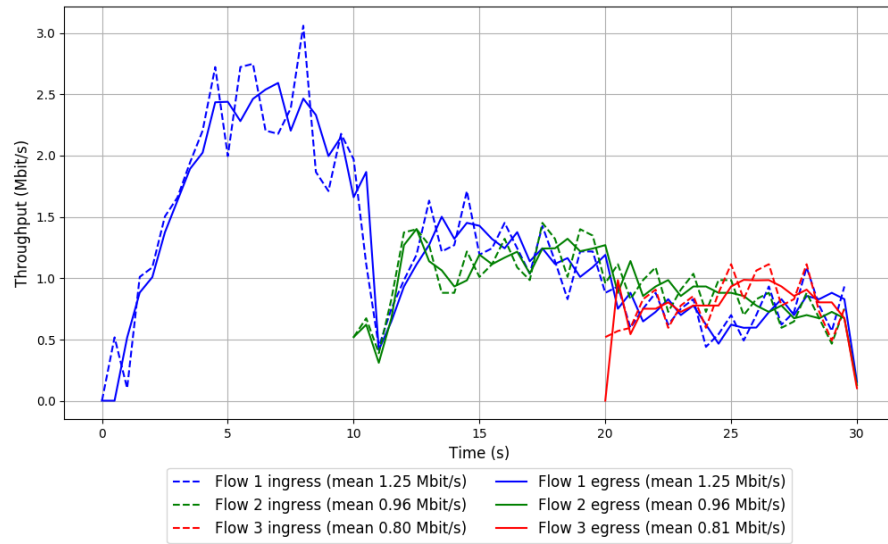
Run 2: Statistics of Copa

Start at: 2018-04-03 03:48:05  
End at: 2018-04-03 03:48:35  
Local clock offset: -6.507 ms  
Remote clock offset: 6.815 ms

```
# Below is generated by plot.py at 2018-04-03 04:18:06
# Datalink statistics
-- Total of 3 flows:
Average throughput: 2.16 Mbit/s
95th percentile per-packet one-way delay: 258.613 ms
Loss rate: 0.20%
-- Flow 1:
Average throughput: 1.25 Mbit/s
95th percentile per-packet one-way delay: 260.072 ms
Loss rate: 0.14%
-- Flow 2:
Average throughput: 0.96 Mbit/s
95th percentile per-packet one-way delay: 247.865 ms
Loss rate: 0.20%
-- Flow 3:
Average throughput: 0.81 Mbit/s
95th percentile per-packet one-way delay: 283.363 ms
Loss rate: 0.49%
```



## Run 2: Report of Copa — Data Link



Run 3: Statistics of Copa

Start at: 2018-04-03 04:10:50

End at: 2018-04-03 04:11:20

Local clock offset: -7.032 ms

Remote clock offset: 6.54 ms

# Below is generated by plot.py at 2018-04-03 04:18:07

# Datalink statistics

-- Total of 3 flows:

Average throughput: 2.10 Mbit/s

95th percentile per-packet one-way delay: 293.228 ms

Loss rate: 0.14%

-- Flow 1:

Average throughput: 1.33 Mbit/s

95th percentile per-packet one-way delay: 277.070 ms

Loss rate: 0.10%

-- Flow 2:

Average throughput: 0.85 Mbit/s

95th percentile per-packet one-way delay: 327.766 ms

Loss rate: 0.15%

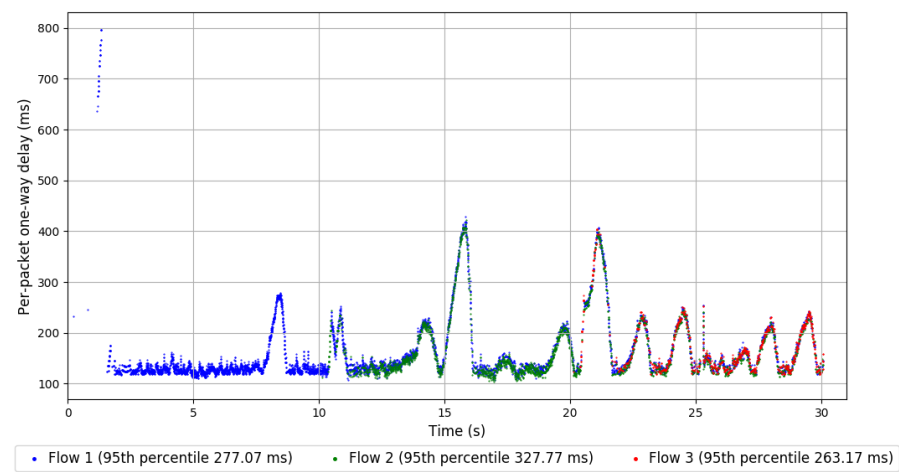
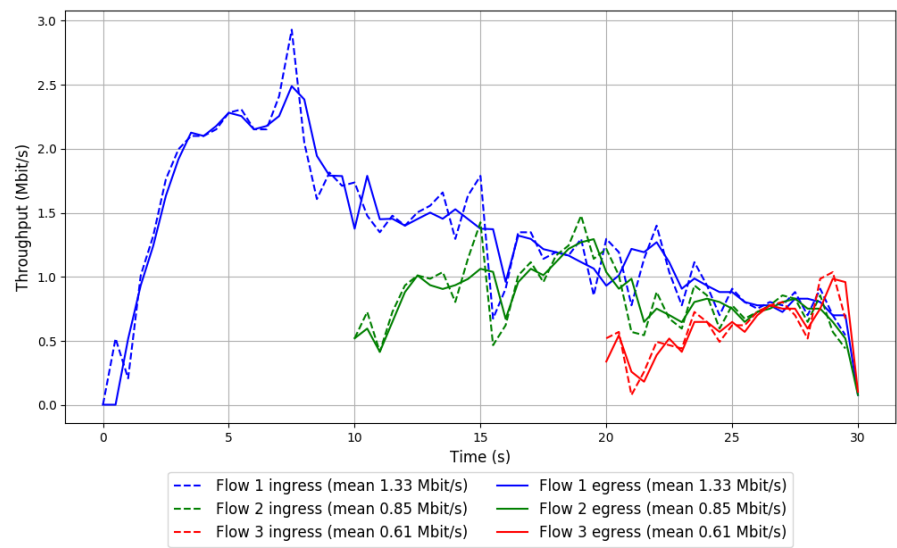
-- Flow 3:

Average throughput: 0.61 Mbit/s

95th percentile per-packet one-way delay: 263.168 ms

Loss rate: 0.43%

Run 3: Report of Copa — Data Link

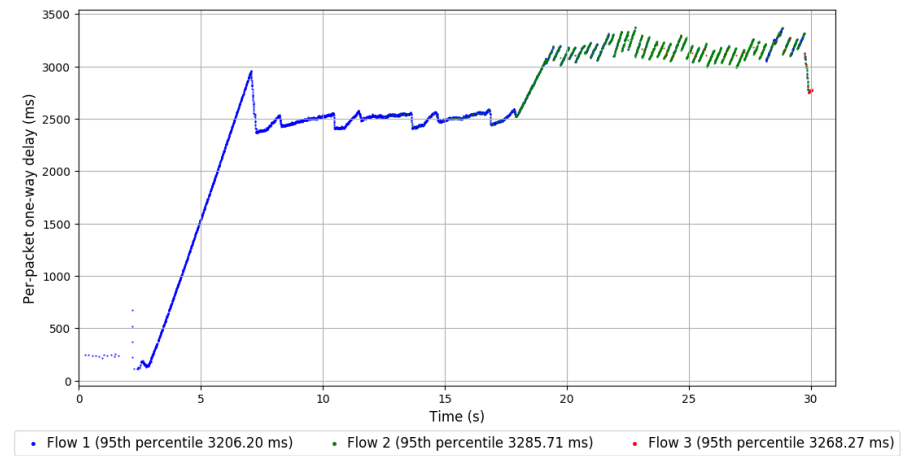
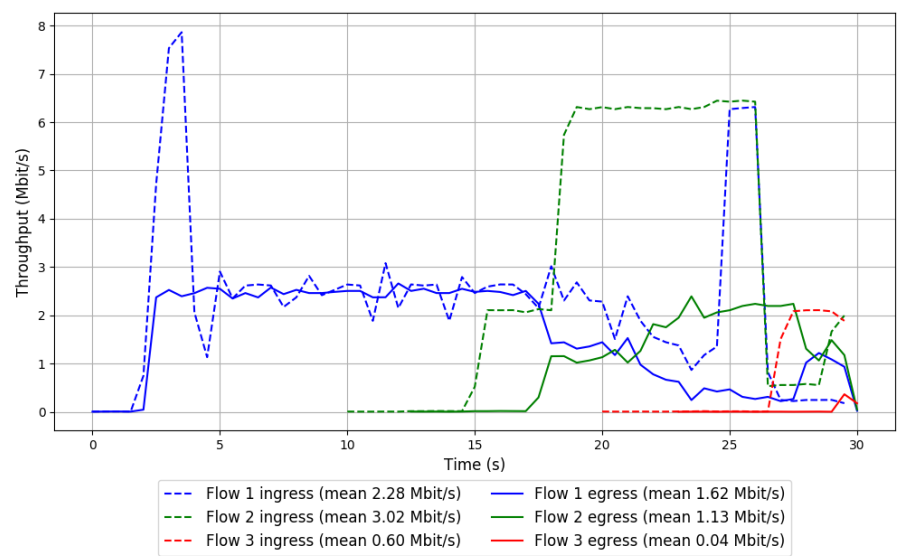


Run 1: Statistics of FillP

Start at: 2018-04-03 03:16:30  
End at: 2018-04-03 03:17:00  
Local clock offset: -4.154 ms  
Remote clock offset: 12.116 ms

# Below is generated by plot.py at 2018-04-03 04:18:07  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 2.30 Mbit/s  
95th percentile per-packet one-way delay: 3250.236 ms  
Loss rate: 49.11%  
-- Flow 1:  
Average throughput: 1.62 Mbit/s  
95th percentile per-packet one-way delay: 3206.202 ms  
Loss rate: 29.28%  
-- Flow 2:  
Average throughput: 1.13 Mbit/s  
95th percentile per-packet one-way delay: 3285.712 ms  
Loss rate: 67.07%  
-- Flow 3:  
Average throughput: 0.04 Mbit/s  
95th percentile per-packet one-way delay: 3268.269 ms  
Loss rate: 95.16%

Run 1: Report of FillP — Data Link



Run 2: Statistics of FillP

Start at: 2018-04-03 03:39:14

End at: 2018-04-03 03:39:44

Local clock offset: -5.166 ms

Remote clock offset: 5.819 ms

# Below is generated by plot.py at 2018-04-03 04:18:07

# Datalink statistics

-- Total of 3 flows:

Average throughput: 2.25 Mbit/s

95th percentile per-packet one-way delay: 3289.303 ms

Loss rate: 56.76%

-- Flow 1:

Average throughput: 1.65 Mbit/s

95th percentile per-packet one-way delay: 3277.513 ms

Loss rate: 38.25%

-- Flow 2:

Average throughput: 1.05 Mbit/s

95th percentile per-packet one-way delay: 3313.895 ms

Loss rate: 74.15%

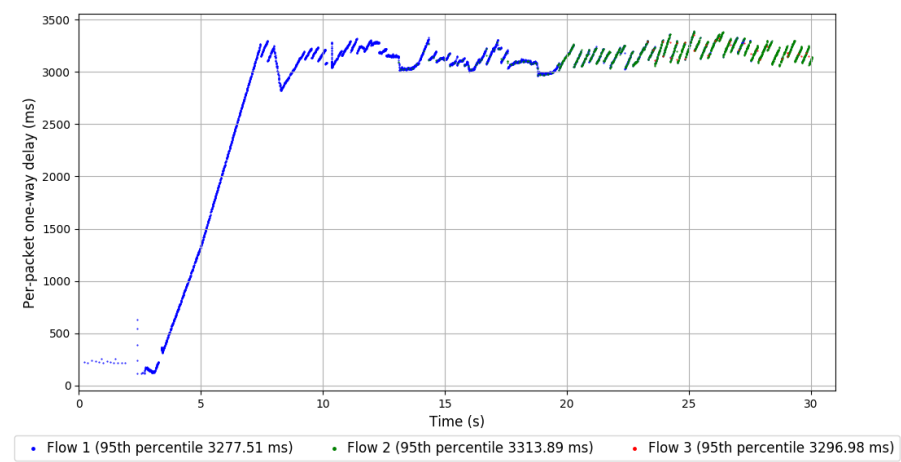
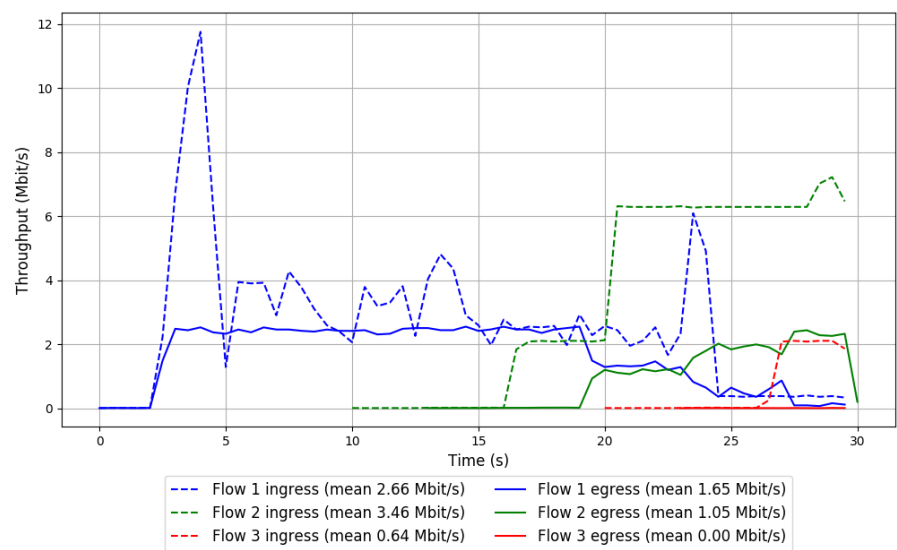
-- Flow 3:

Average throughput: 0.00 Mbit/s

95th percentile per-packet one-way delay: 3296.977 ms

Loss rate: 99.54%

Run 2: Report of FillP — Data Link



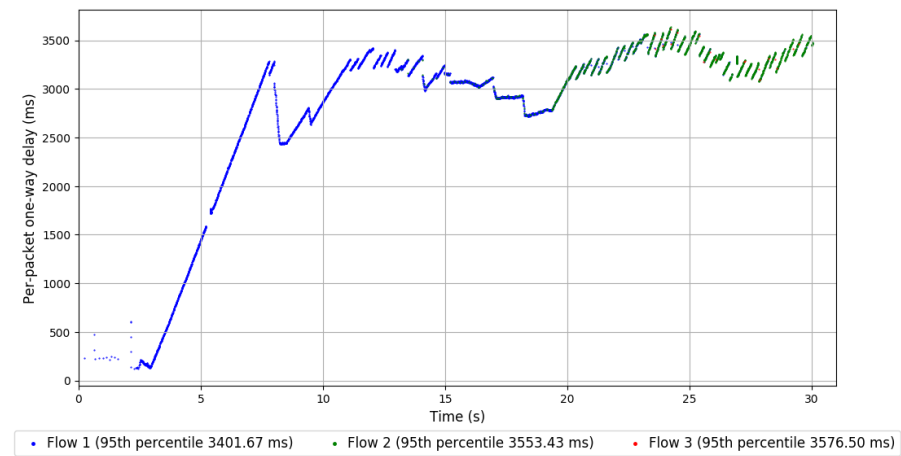
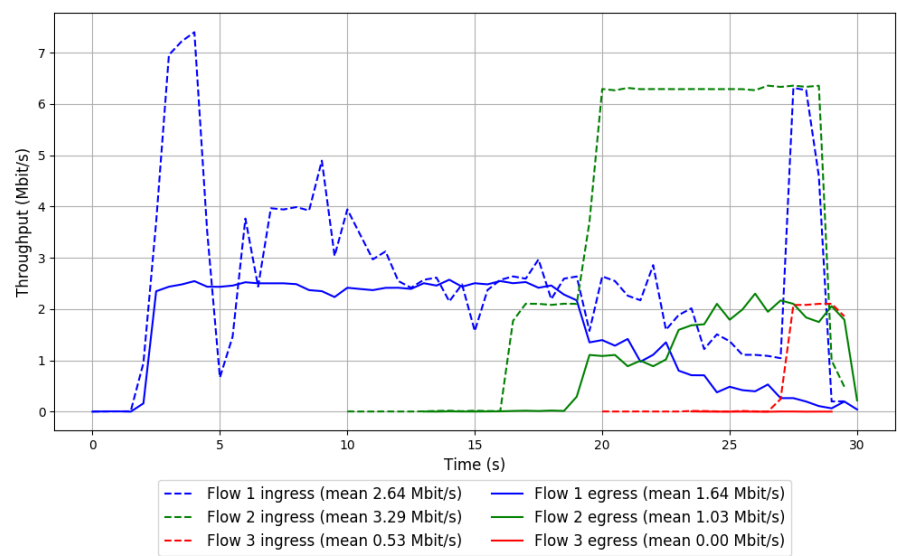
Run 3: Statistics of FillP

Start at: 2018-04-03 04:01:59  
End at: 2018-04-03 04:02:29  
Local clock offset: -7.541 ms  
Remote clock offset: 13.234 ms

# Below is generated by plot.py at 2018-04-03 04:18:07  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 2.22 Mbit/s  
95th percentile per-packet one-way delay: 3497.379 ms  
Loss rate: 55.87%  
-- Flow 1:  
Average throughput: 1.64 Mbit/s  
95th percentile per-packet one-way delay: 3401.669 ms  
Loss rate: 38.19%  
-- Flow 2:  
Average throughput: 1.03 Mbit/s  
95th percentile per-packet one-way delay: 3553.435 ms  
Loss rate: 73.62%  
-- Flow 3:  
Average throughput: 0.00 Mbit/s  
95th percentile per-packet one-way delay: 3576.498 ms  
Loss rate: 99.68%



Run 3: Report of FillP — Data Link

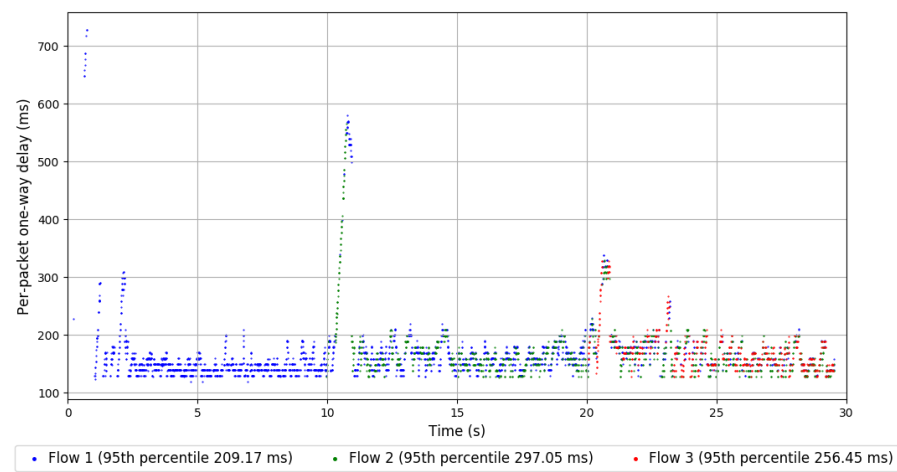
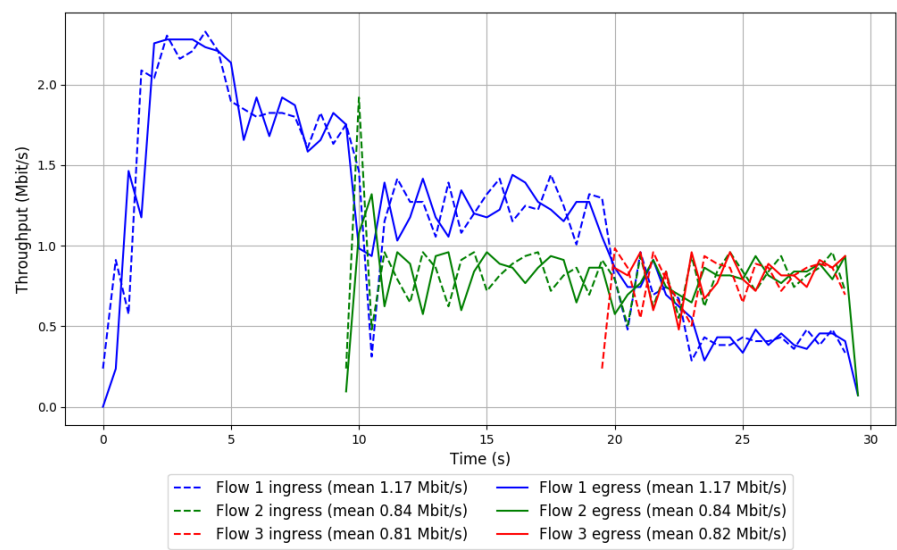


Run 1: Statistics of Indigo-1-32

Start at: 2018-04-03 03:20:18  
End at: 2018-04-03 03:20:48  
Local clock offset: -3.985 ms  
Remote clock offset: 11.169 ms

# Below is generated by plot.py at 2018-04-03 04:18:08  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 1.99 Mbit/s  
95th percentile per-packet one-way delay: 237.986 ms  
Loss rate: 0.14%  
-- Flow 1:  
Average throughput: 1.17 Mbit/s  
95th percentile per-packet one-way delay: 209.172 ms  
Loss rate: 0.03%  
-- Flow 2:  
Average throughput: 0.84 Mbit/s  
95th percentile per-packet one-way delay: 297.048 ms  
Loss rate: 0.22%  
-- Flow 3:  
Average throughput: 0.82 Mbit/s  
95th percentile per-packet one-way delay: 256.449 ms  
Loss rate: 0.47%

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

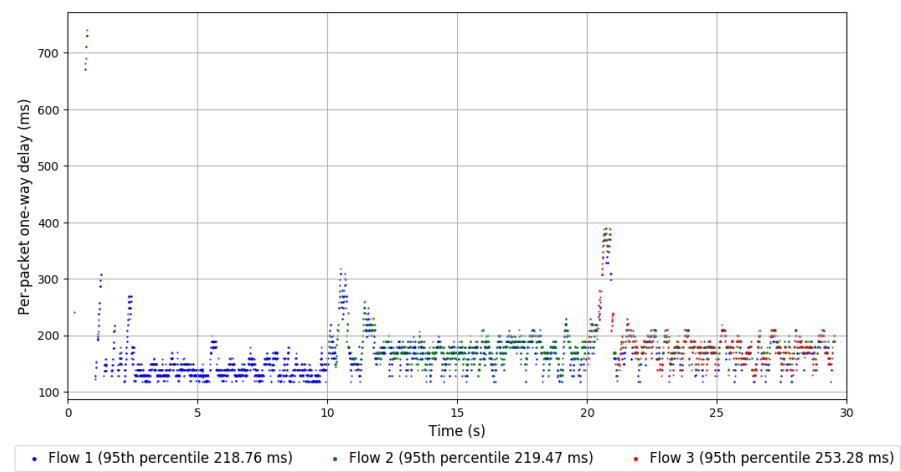
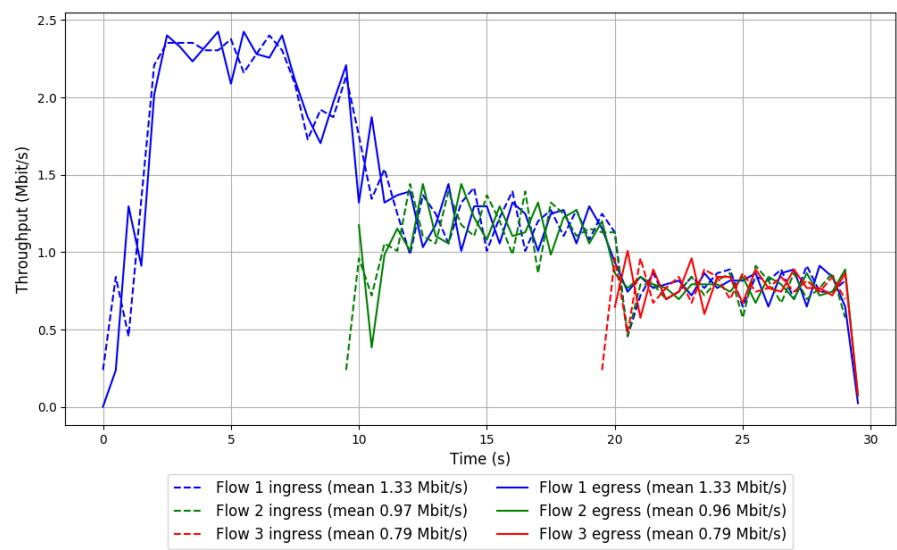


Run 2: Statistics of Indigo-1-32

Start at: 2018-04-03 03:43:02  
End at: 2018-04-03 03:43:32  
Local clock offset: -5.9 ms  
Remote clock offset: 11.119 ms

# Below is generated by plot.py at 2018-04-03 04:18:09  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 2.23 Mbit/s  
95th percentile per-packet one-way delay: 219.482 ms  
Loss rate: 0.31%  
-- Flow 1:  
Average throughput: 1.33 Mbit/s  
95th percentile per-packet one-way delay: 218.763 ms  
Loss rate: 0.37%  
-- Flow 2:  
Average throughput: 0.96 Mbit/s  
95th percentile per-packet one-way delay: 219.467 ms  
Loss rate: 0.00%  
-- Flow 3:  
Average throughput: 0.79 Mbit/s  
95th percentile per-packet one-way delay: 253.280 ms  
Loss rate: 0.80%

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

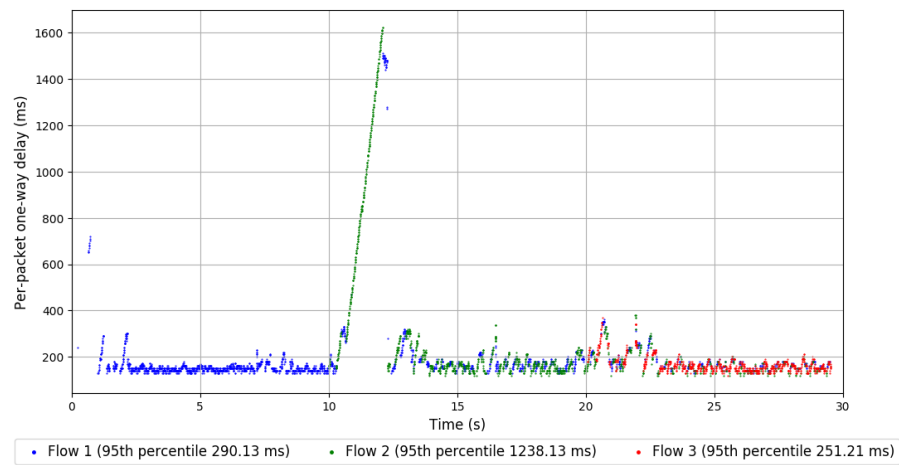
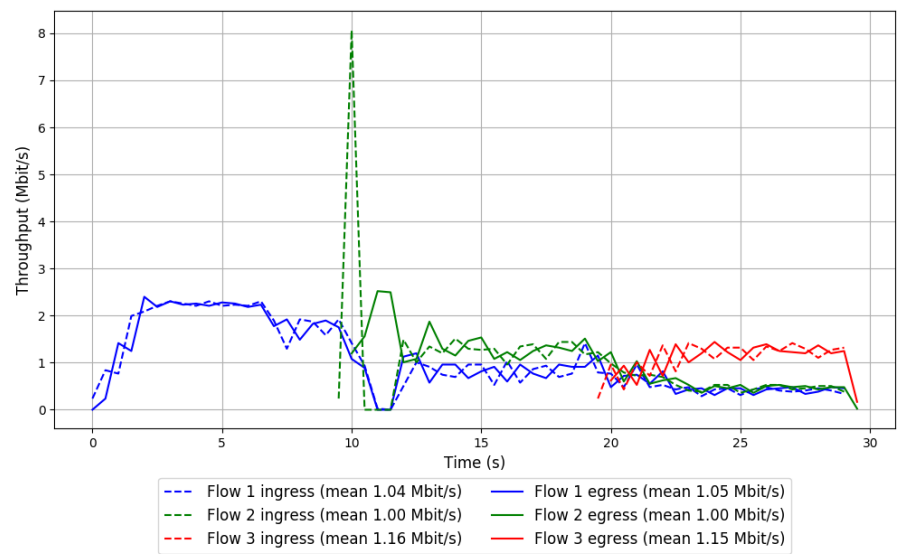


Run 3: Statistics of Indigo-1-32

Start at: 2018-04-03 04:05:47  
End at: 2018-04-03 04:06:17  
Local clock offset: -7.717 ms  
Remote clock offset: 11.153 ms

# Below is generated by plot.py at 2018-04-03 04:18:10  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 2.09 Mbit/s  
95th percentile per-packet one-way delay: 670.734 ms  
Loss rate: 0.29%  
-- Flow 1:  
Average throughput: 1.05 Mbit/s  
95th percentile per-packet one-way delay: 290.134 ms  
Loss rate: 0.04%  
-- Flow 2:  
Average throughput: 1.00 Mbit/s  
95th percentile per-packet one-way delay: 1238.131 ms  
Loss rate: 0.18%  
-- Flow 3:  
Average throughput: 1.15 Mbit/s  
95th percentile per-packet one-way delay: 251.210 ms  
Loss rate: 1.20%

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



Run 1: Statistics of Vivace-latency

Start at: 2018-04-03 03:26:37

End at: 2018-04-03 03:27:07

Local clock offset: -3.681 ms

Remote clock offset: 6.893 ms

# Below is generated by plot.py at 2018-04-03 04:18:13

# Datalink statistics

-- Total of 3 flows:

Average throughput: 1.92 Mbit/s

95th percentile per-packet one-way delay: 3129.349 ms

Loss rate: 14.86%

-- Flow 1:

Average throughput: 1.50 Mbit/s

95th percentile per-packet one-way delay: 2939.784 ms

Loss rate: 9.74%

-- Flow 2:

Average throughput: 0.00 Mbit/s

95th percentile per-packet one-way delay: 2559.355 ms

Loss rate: 8.32%

-- Flow 3:

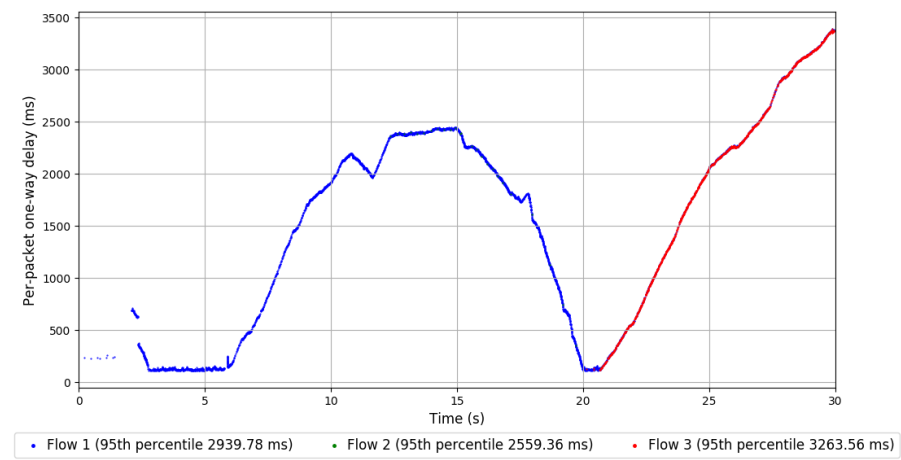
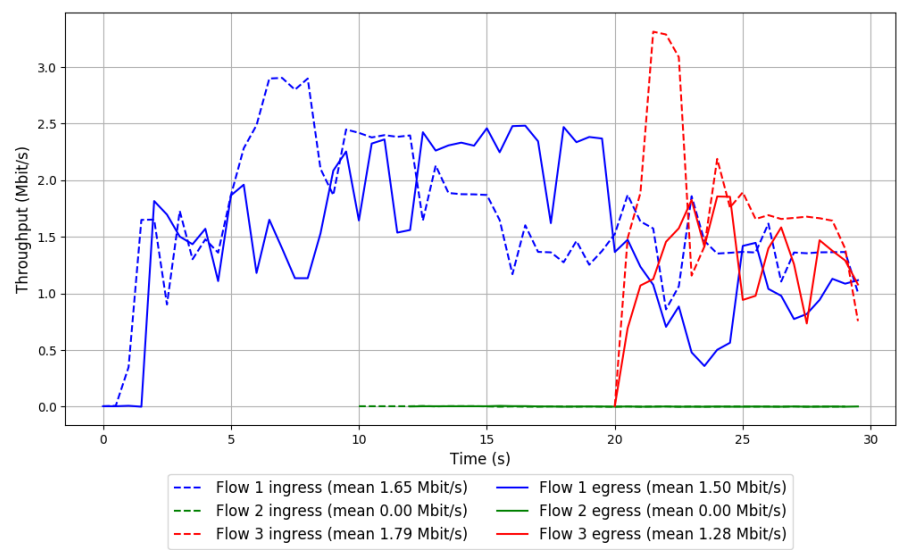
Average throughput: 1.28 Mbit/s

95th percentile per-packet one-way delay: 3263.557 ms

Loss rate: 29.18%



Run 1: Report of Vivace-latency — Data Link

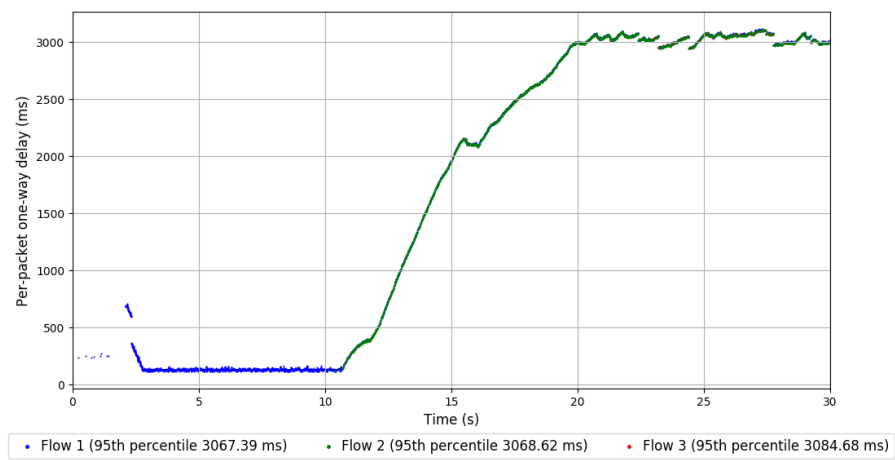
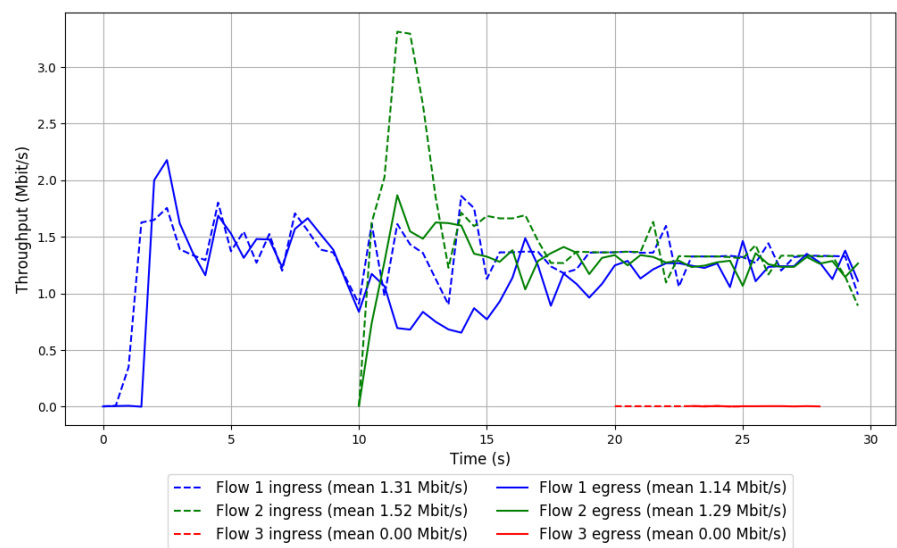


Run 2: Statistics of Vivace-latency

Start at: 2018-04-03 03:49:21  
End at: 2018-04-03 03:49:51  
Local clock offset: -6.72 ms  
Remote clock offset: 12.254 ms

# Below is generated by plot.py at 2018-04-03 04:18:14  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 2.01 Mbit/s  
95th percentile per-packet one-way delay: 3068.099 ms  
Loss rate: 13.63%  
-- Flow 1:  
Average throughput: 1.14 Mbit/s  
95th percentile per-packet one-way delay: 3067.386 ms  
Loss rate: 12.82%  
-- Flow 2:  
Average throughput: 1.29 Mbit/s  
95th percentile per-packet one-way delay: 3068.617 ms  
Loss rate: 14.70%  
-- Flow 3:  
Average throughput: 0.00 Mbit/s  
95th percentile per-packet one-way delay: 3084.681 ms  
Loss rate: 0.00%

Run 2: Report of Vivace-latency — Data Link

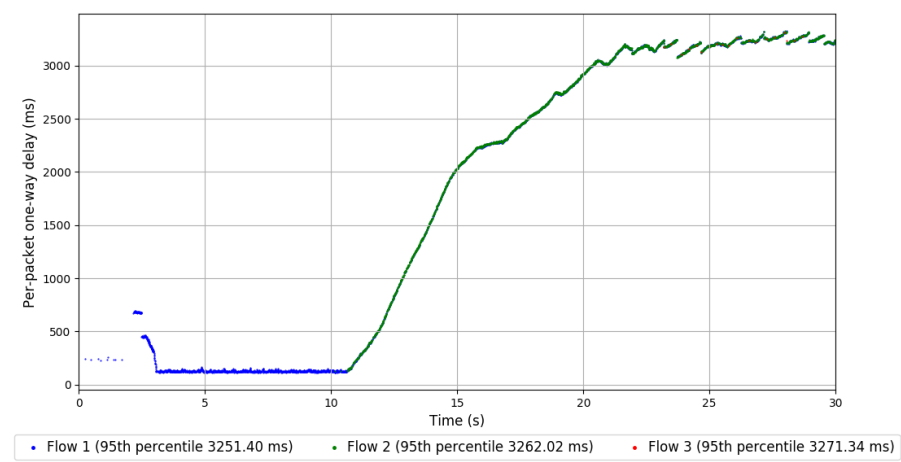
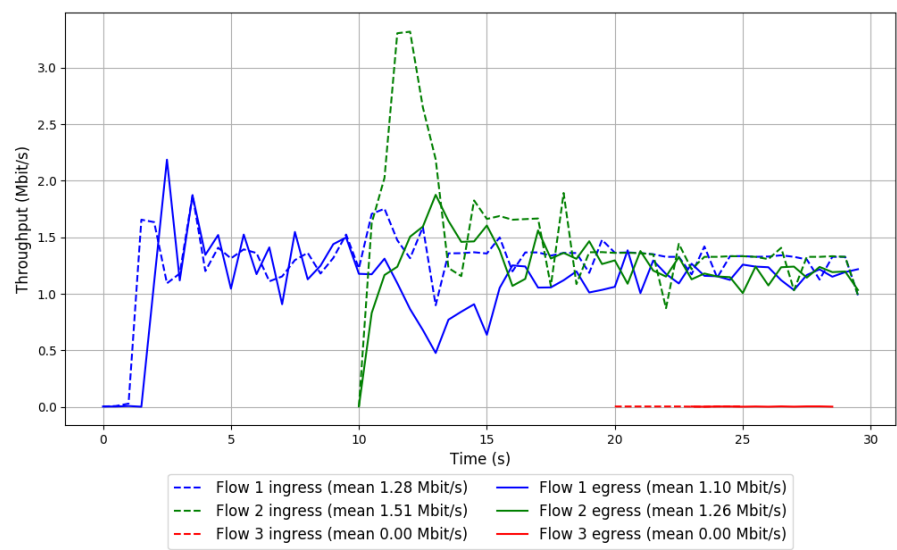


Run 3: Statistics of Vivace-latency

Start at: 2018-04-03 04:12:06  
End at: 2018-04-03 04:12:36  
Local clock offset: -6.787 ms  
Remote clock offset: 12.038 ms

# Below is generated by plot.py at 2018-04-03 04:18:15  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 1.94 Mbit/s  
95th percentile per-packet one-way delay: 3257.153 ms  
Loss rate: 15.47%  
-- Flow 1:  
Average throughput: 1.10 Mbit/s  
95th percentile per-packet one-way delay: 3251.398 ms  
Loss rate: 14.30%  
-- Flow 2:  
Average throughput: 1.26 Mbit/s  
95th percentile per-packet one-way delay: 3262.023 ms  
Loss rate: 16.97%  
-- Flow 3:  
Average throughput: 0.00 Mbit/s  
95th percentile per-packet one-way delay: 3271.339 ms  
Loss rate: 4.60%

Run 3: Report of Vivace-latency — Data Link

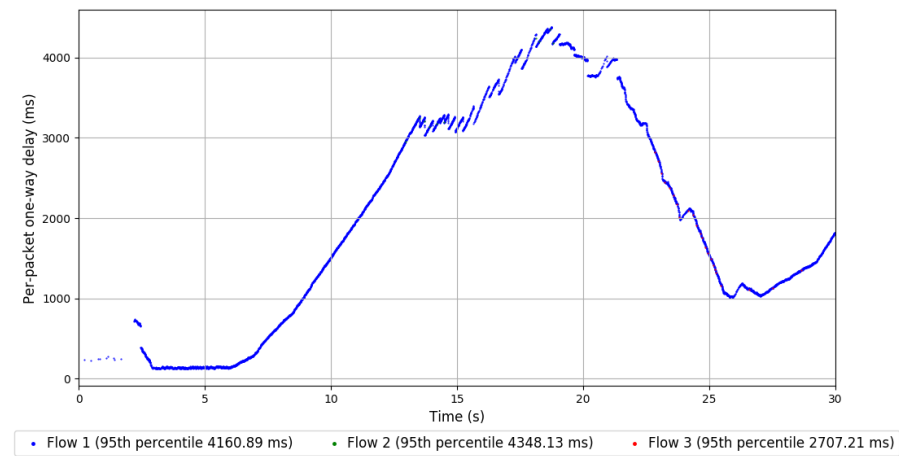
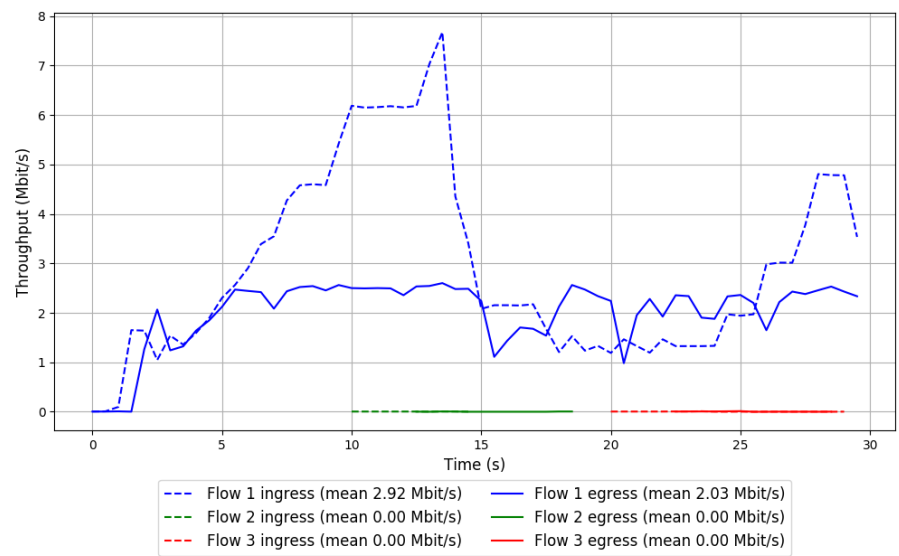


Run 1: Statistics of Vivace-loss

Start at: 2018-04-03 03:29:09  
End at: 2018-04-03 03:29:39  
Local clock offset: -3.611 ms  
Remote clock offset: 12.308 ms

# Below is generated by plot.py at 2018-04-03 04:18:15  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 2.03 Mbit/s  
95th percentile per-packet one-way delay: 4162.077 ms  
Loss rate: 30.83%  
-- Flow 1:  
Average throughput: 2.03 Mbit/s  
95th percentile per-packet one-way delay: 4160.888 ms  
Loss rate: 30.83%  
-- Flow 2:  
Average throughput: 0.00 Mbit/s  
95th percentile per-packet one-way delay: 4348.129 ms  
Loss rate: 43.69%  
-- Flow 3:  
Average throughput: 0.00 Mbit/s  
95th percentile per-packet one-way delay: 2707.213 ms  
Loss rate: 7.73%

Run 1: Report of Vivace-loss — Data Link



Run 2: Statistics of Vivace-loss

Start at: 2018-04-03 03:51:53

End at: 2018-04-03 03:52:23

Local clock offset: -6.876 ms

Remote clock offset: 6.87 ms

# Below is generated by plot.py at 2018-04-03 04:18:16

# Datalink statistics

-- Total of 3 flows:

Average throughput: 2.21 Mbit/s

95th percentile per-packet one-way delay: 3288.194 ms

Loss rate: 34.30%

-- Flow 1:

Average throughput: 2.21 Mbit/s

95th percentile per-packet one-way delay: 3288.067 ms

Loss rate: 34.31%

-- Flow 2:

Average throughput: 0.00 Mbit/s

95th percentile per-packet one-way delay: 3307.955 ms

Loss rate: 25.00%

-- Flow 3:

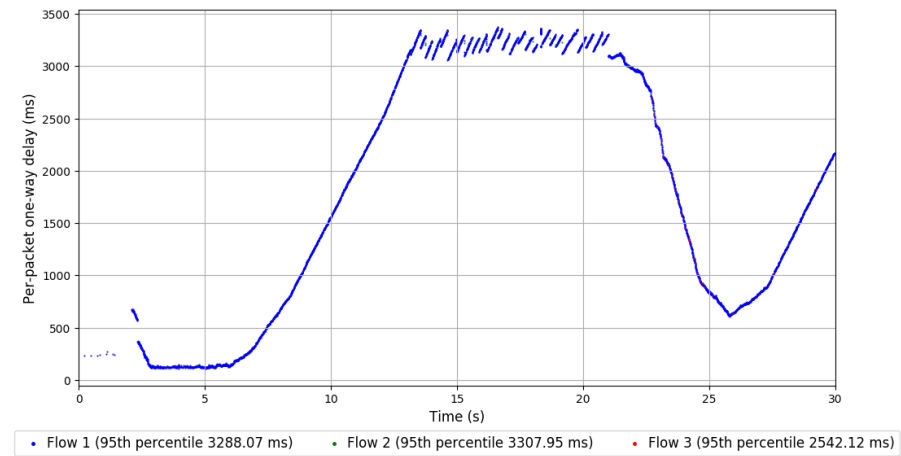
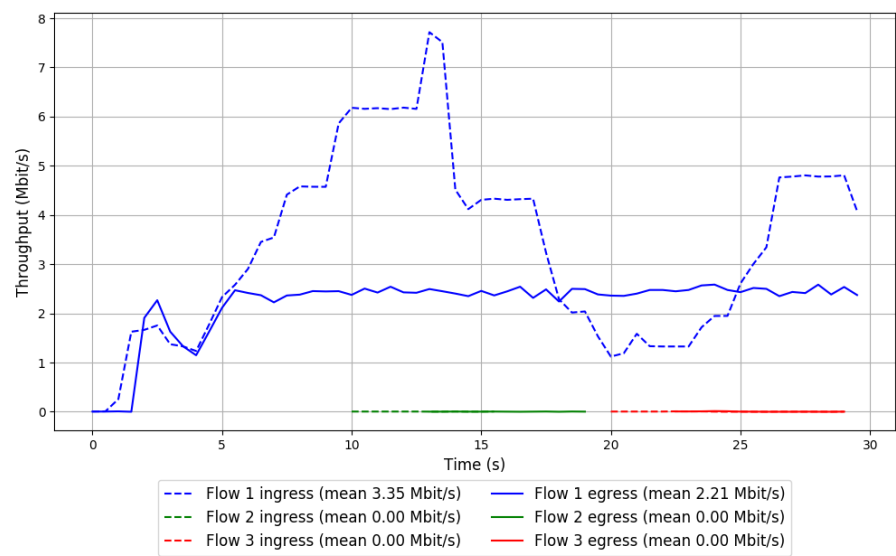
Average throughput: 0.00 Mbit/s

95th percentile per-packet one-way delay: 2542.122 ms

Loss rate: 7.45%



Run 2: Report of Vivace-loss — Data Link



Run 3: Statistics of Vivace-loss

Start at: 2018-04-03 04:14:37

End at: 2018-04-03 04:15:08

Local clock offset: -6.473 ms

Remote clock offset: 6.606 ms

# Below is generated by plot.py at 2018-04-03 04:18:16

# Datalink statistics

-- Total of 3 flows:

Average throughput: 2.18 Mbit/s

95th percentile per-packet one-way delay: 3246.310 ms

Loss rate: 42.07%

-- Flow 1:

Average throughput: 1.97 Mbit/s

95th percentile per-packet one-way delay: 3228.239 ms

Loss rate: 34.14%

-- Flow 2:

Average throughput: 0.00 Mbit/s

95th percentile per-packet one-way delay: 3234.959 ms

Loss rate: 20.31%

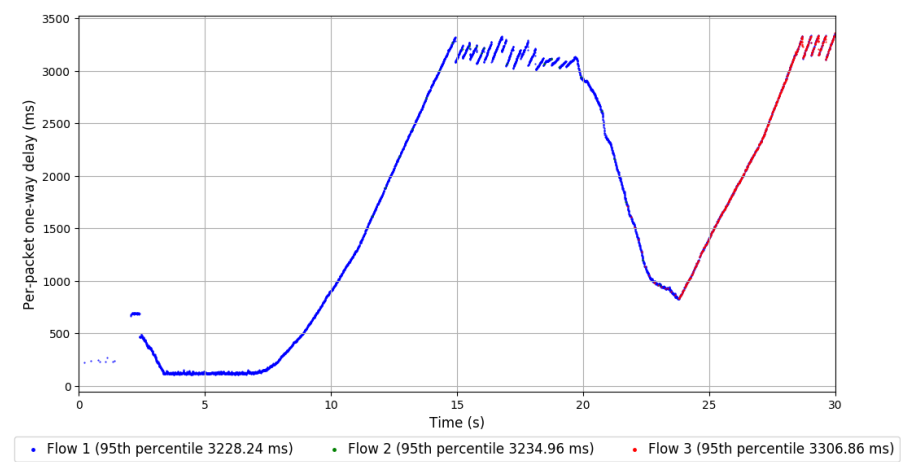
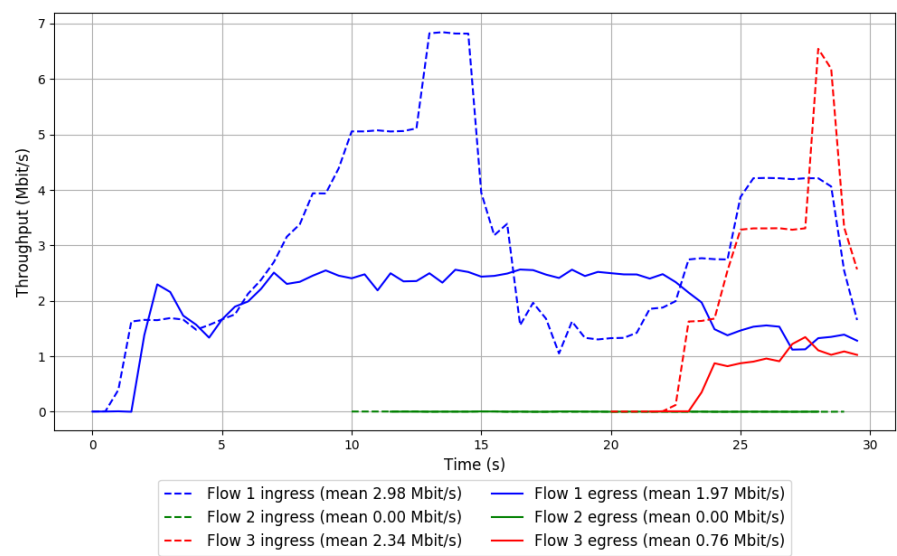
-- Flow 3:

Average throughput: 0.76 Mbit/s

95th percentile per-packet one-way delay: 3306.856 ms

Loss rate: 72.78%

Run 3: Report of Vivace-loss — Data Link



Run 1: Statistics of Vivace-LTE

Start at: 2018-04-03 03:22:49

End at: 2018-04-03 03:23:19

Local clock offset: -3.873 ms

Remote clock offset: 6.826 ms

# Below is generated by plot.py at 2018-04-03 04:18:16

# Datalink statistics

-- Total of 3 flows:

Average throughput: 2.12 Mbit/s

95th percentile per-packet one-way delay: 3153.903 ms

Loss rate: 20.01%

-- Flow 1:

Average throughput: 1.29 Mbit/s

95th percentile per-packet one-way delay: 3141.159 ms

Loss rate: 17.00%

-- Flow 2:

Average throughput: 1.30 Mbit/s

95th percentile per-packet one-way delay: 3170.655 ms

Loss rate: 24.33%

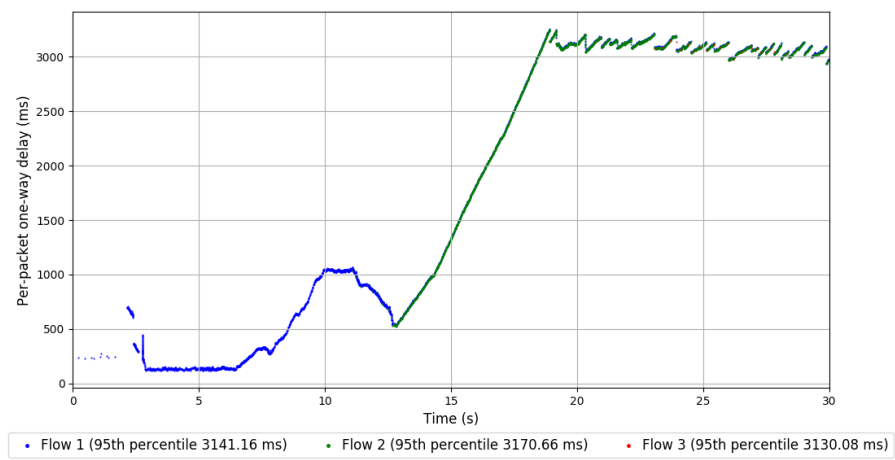
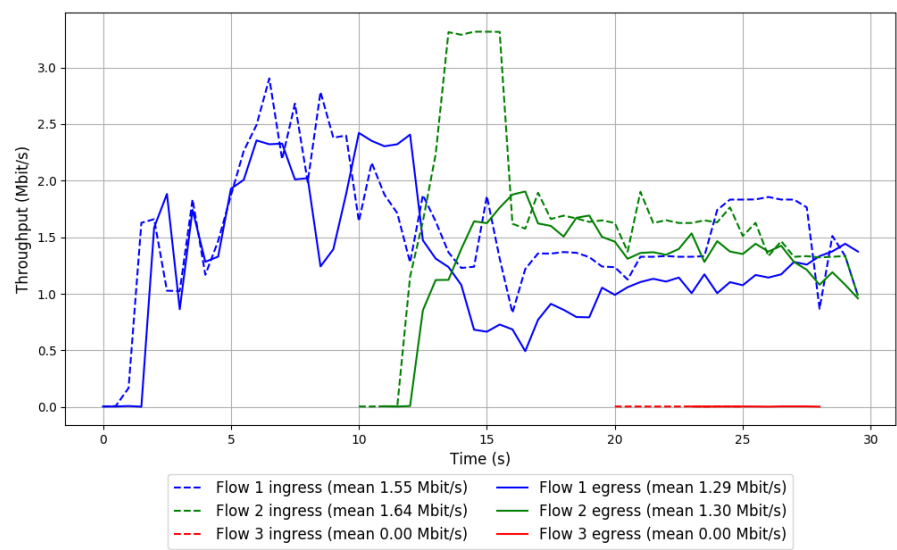
-- Flow 3:

Average throughput: 0.00 Mbit/s

95th percentile per-packet one-way delay: 3130.080 ms

Loss rate: 0.00%

Run 1: Report of Vivace-LTE — Data Link

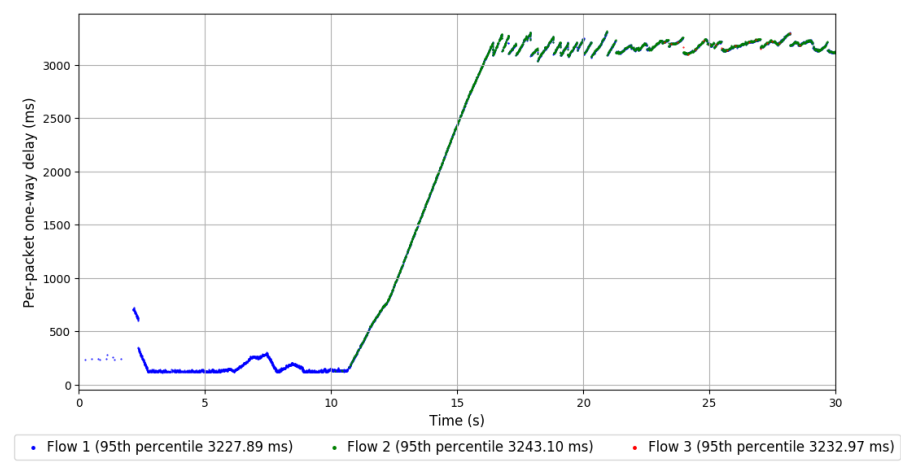
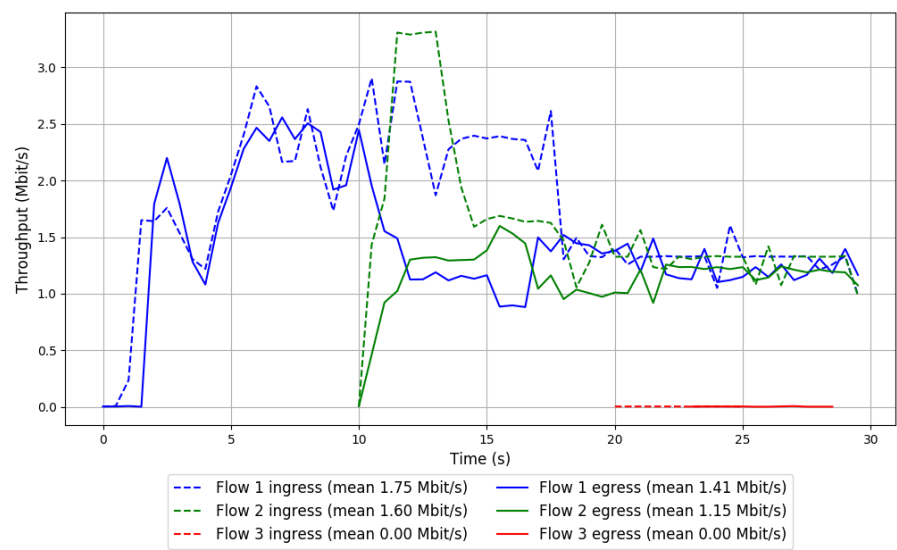


Run 2: Statistics of Vivace-LTE

Start at: 2018-04-03 03:45:34  
End at: 2018-04-03 03:46:04  
Local clock offset: -6.26 ms  
Remote clock offset: 11.172 ms

# Below is generated by plot.py at 2018-04-03 04:18:17  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 2.18 Mbit/s  
95th percentile per-packet one-way delay: 3234.971 ms  
Loss rate: 22.78%  
-- Flow 1:  
Average throughput: 1.41 Mbit/s  
95th percentile per-packet one-way delay: 3227.892 ms  
Loss rate: 19.48%  
-- Flow 2:  
Average throughput: 1.15 Mbit/s  
95th percentile per-packet one-way delay: 3243.096 ms  
Loss rate: 28.20%  
-- Flow 3:  
Average throughput: 0.00 Mbit/s  
95th percentile per-packet one-way delay: 3232.972 ms  
Loss rate: 0.00%

Run 2: Report of Vivace-LTE — Data Link



Run 3: Statistics of Vivace-LTE

Start at: 2018-04-03 04:08:18

End at: 2018-04-03 04:08:48

Local clock offset: -7.61 ms

Remote clock offset: 6.683 ms

# Below is generated by plot.py at 2018-04-03 04:18:17

# Datalink statistics

-- Total of 3 flows:

Average throughput: 2.22 Mbit/s

95th percentile per-packet one-way delay: 3031.539 ms

Loss rate: 12.03%

-- Flow 1:

Average throughput: 1.35 Mbit/s

95th percentile per-packet one-way delay: 3029.394 ms

Loss rate: 10.46%

-- Flow 2:

Average throughput: 1.32 Mbit/s

95th percentile per-packet one-way delay: 3037.099 ms

Loss rate: 14.33%

-- Flow 3:

Average throughput: 0.00 Mbit/s

95th percentile per-packet one-way delay: 3028.059 ms

Loss rate: 4.60%



Run 3: Report of Vivace-LTE — Data Link

