

Pantheon Report

Generated at 2018-02-13 13:16:27 (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).

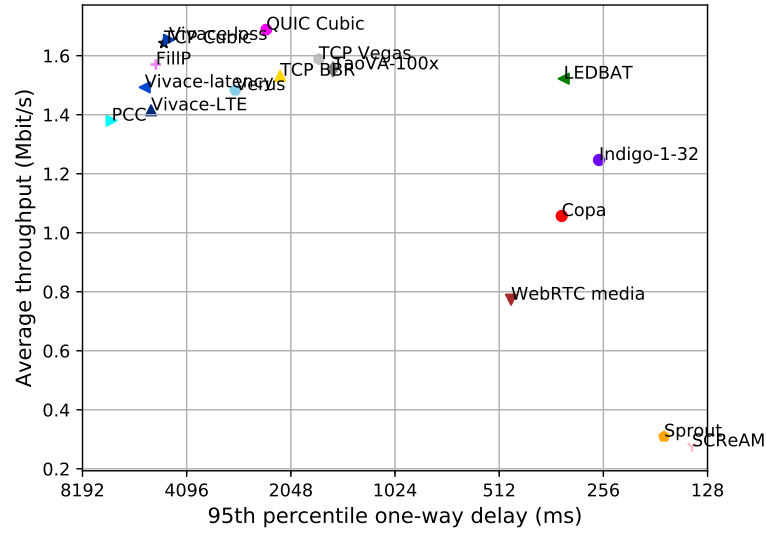
Tested BBR with qdisc of Fair Queuing (**fq**), and other schemes with the default Linux qdisc (**pfifo_fast**).

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

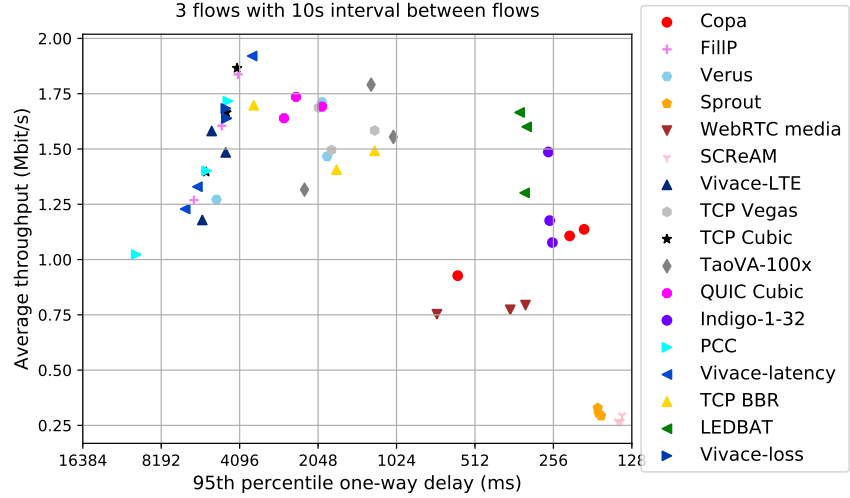
Git summary:

```
branch: master @ 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 @ 2601c92e4aa9d58d38dc4dfe0ecdbf90c077e64d
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 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



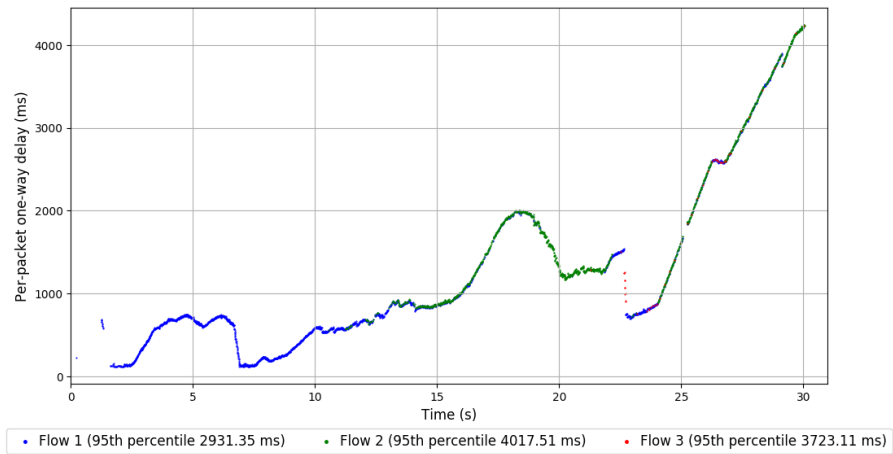
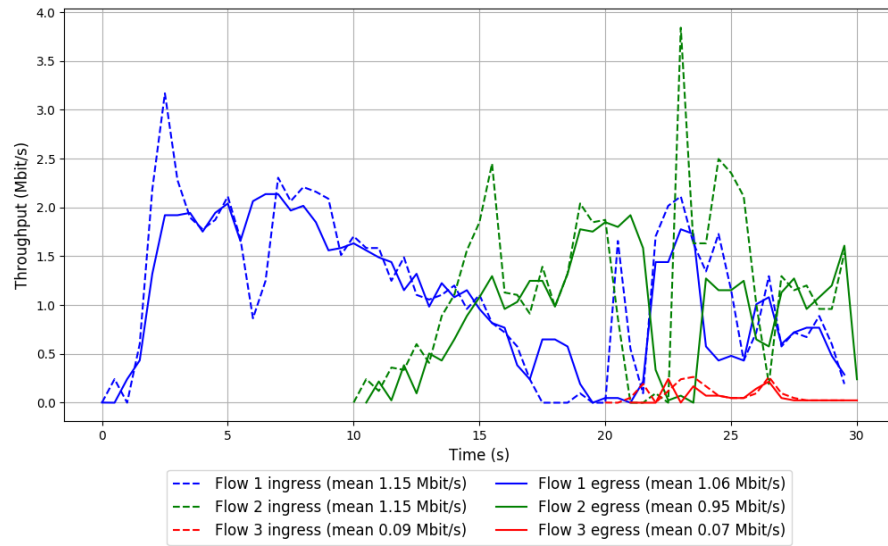
scheme	# runs	mean avg tput (Mbit/s)			mean 95th-%ile delay (ms)			mean loss rate (%)		
		flow 1	flow 2	flow 3	flow 1	flow 2	flow 3	flow 1	flow 2	flow 3
TCP BBR	3	0.98	0.64	0.44	1932.75	2347.97	2076.60	4.25	9.03	18.71
TCP Cubic	3	1.61	0.06	0.00	4763.33	4799.95	4815.29	19.53	36.33	69.85
LEDBAT	3	1.14	0.41	0.35	324.22	345.86	345.45	0.41	0.59	2.23
PCC	3	1.38	0.00	0.00	6747.99	6700.26	6099.46	72.30	1.60	39.18
QUIC Cubic	3	1.37	0.42	0.13	2341.22	2502.81	2393.29	6.41	15.89	35.50
SCReAM	3	0.08	0.19	0.19	131.97	142.02	150.31	0.13	0.25	0.23
WebRTC media	3	0.43	0.25	0.10	470.48	476.31	405.67	0.22	0.80	5.86
Sprout	3	0.15	0.16	0.17	173.39	163.11	170.59	0.01	0.44	0.03
TaoVA-100x	3	0.88	0.70	0.68	1257.07	1998.31	1495.38	1.41	2.79	4.92
TCP Vegas	3	1.14	0.39	0.68	1525.65	1844.37	1804.80	2.81	5.18	23.38
Verus	3	1.38	0.19	0.03	2983.75	2901.68	2451.56	13.95	12.85	8.62
Copa	3	0.56	0.50	0.49	306.51	331.50	411.48	0.11	0.17	0.51
FillP	3	1.48	0.18	0.00	5028.33	4969.61	4909.50	99.01	70.32	92.44
Indigo-1-32	3	0.64	0.63	0.56	257.23	257.01	283.76	0.09	0.28	0.36
Vivace-latency	3	1.04	0.68	0.00	5397.37	5443.33	4434.13	22.99	23.31	20.59
Vivace-loss	3	1.65	0.00	0.00	4608.69	4619.25	3585.32	30.42	9.15	0.00
Vivace-LTE	3	1.00	0.63	0.00	5153.31	5270.89	5024.27	26.27	32.87	32.73

Run 1: Statistics of TCP BBR

Start at: 2018-02-13 12:08:38
End at: 2018-02-13 12:09:08
Local clock offset: -2.009 ms
Remote clock offset: -4.507 ms

Below is generated by plot.py at 2018-02-13 13:15:38
Datalink statistics
-- Total of 3 flows:
Average throughput: 1.70 Mbit/s
95th percentile per-packet one-way delay: 3615.770 ms
Loss rate: 13.11%
-- Flow 1:
Average throughput: 1.06 Mbit/s
95th percentile per-packet one-way delay: 2931.347 ms
Loss rate: 8.50%
-- Flow 2:
Average throughput: 0.95 Mbit/s
95th percentile per-packet one-way delay: 4017.511 ms
Loss rate: 19.27%
-- Flow 3:
Average throughput: 0.07 Mbit/s
95th percentile per-packet one-way delay: 3723.106 ms
Loss rate: 33.22%

Run 1: Report of TCP BBR — Data Link



Run 2: Statistics of TCP BBR

Start at: 2018-02-13 12:31:15

End at: 2018-02-13 12:31:45

Local clock offset: -6.001 ms

Remote clock offset: 1.118 ms

Below is generated by plot.py at 2018-02-13 13:15:38

Datalink statistics

-- Total of 3 flows:

Average throughput: 1.49 Mbit/s

95th percentile per-packet one-way delay: 1242.477 ms

Loss rate: 2.09%

-- Flow 1:

Average throughput: 0.97 Mbit/s

95th percentile per-packet one-way delay: 1208.065 ms

Loss rate: 1.07%

-- Flow 2:

Average throughput: 0.55 Mbit/s

95th percentile per-packet one-way delay: 1309.438 ms

Loss rate: 2.60%

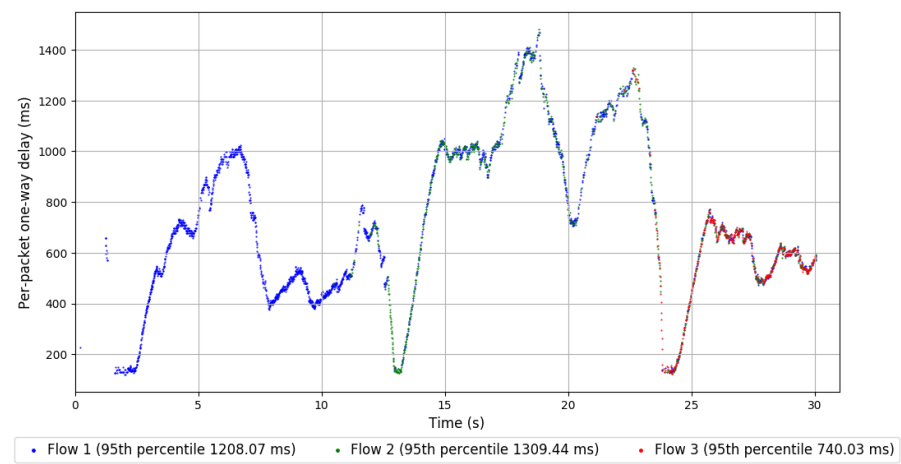
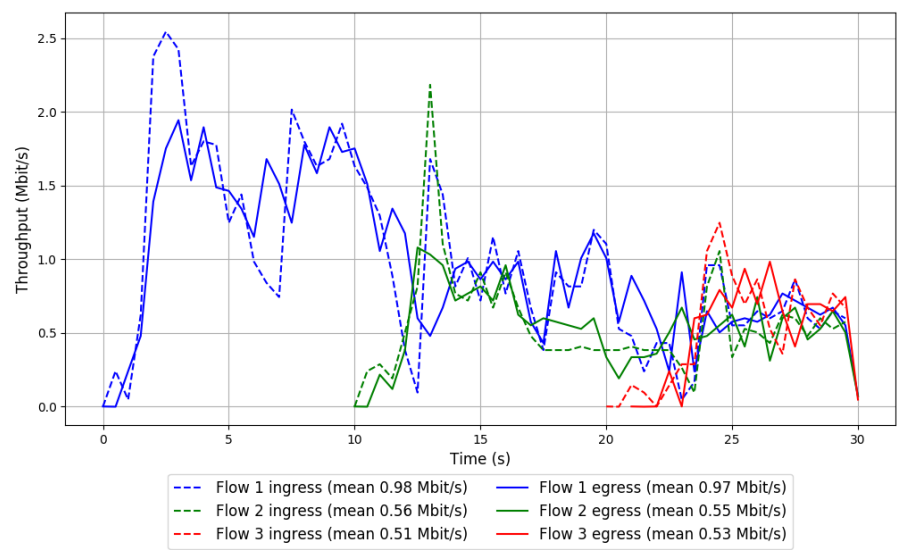
-- Flow 3:

Average throughput: 0.53 Mbit/s

95th percentile per-packet one-way delay: 740.027 ms

Loss rate: 6.87%

Run 2: Report of TCP BBR — Data Link



Run 3: Statistics of TCP BBR

Start at: 2018-02-13 12:53:50

End at: 2018-02-13 12:54:20

Local clock offset: -4.428 ms

Remote clock offset: 2.202 ms

Below is generated by plot.py at 2018-02-13 13:15:38

Datalink statistics

-- Total of 3 flows:

Average throughput: 1.41 Mbit/s

95th percentile per-packet one-way delay: 1739.602 ms

Loss rate: 5.90%

-- Flow 1:

Average throughput: 0.92 Mbit/s

95th percentile per-packet one-way delay: 1658.847 ms

Loss rate: 3.19%

-- Flow 2:

Average throughput: 0.41 Mbit/s

95th percentile per-packet one-way delay: 1716.952 ms

Loss rate: 5.22%

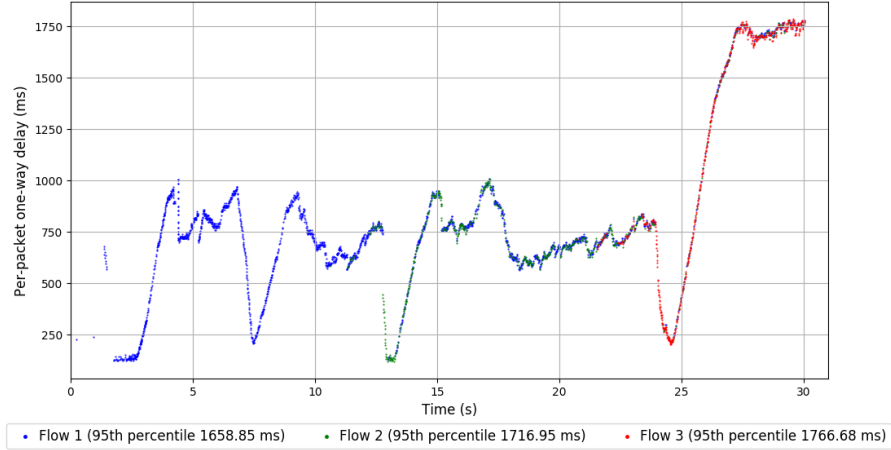
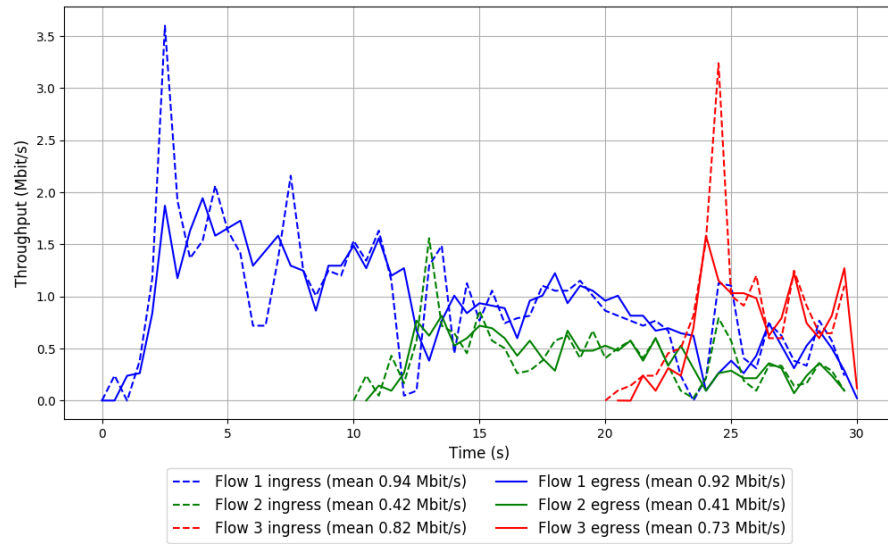
-- Flow 3:

Average throughput: 0.73 Mbit/s

95th percentile per-packet one-way delay: 1766.676 ms

Loss rate: 16.04%

Run 3: Report of TCP BBR — Data Link

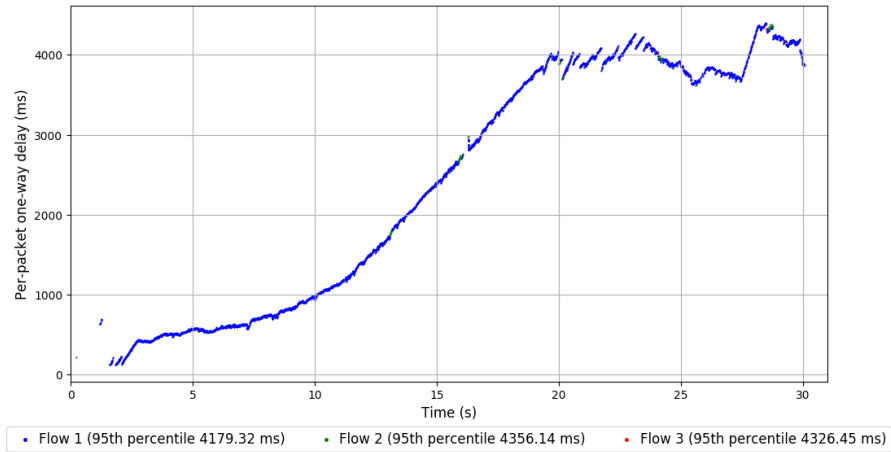
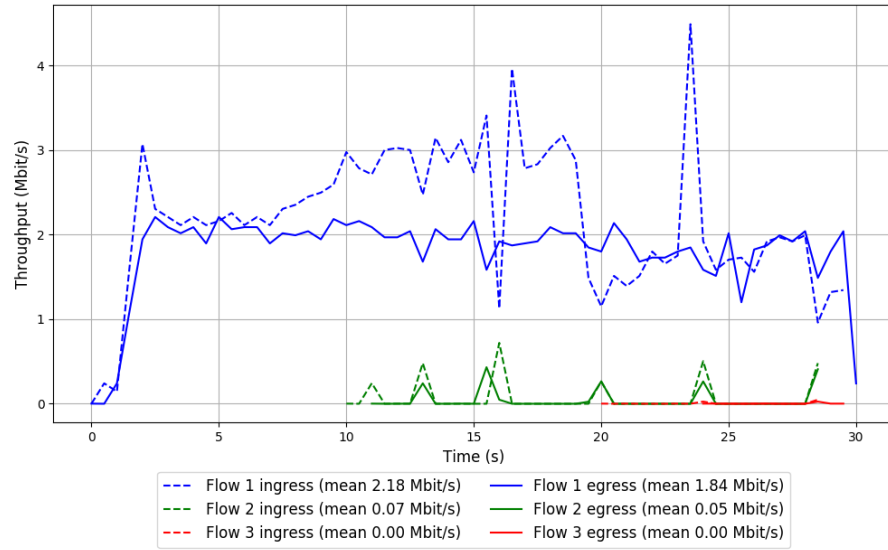


Run 1: Statistics of TCP Cubic

Start at: 2018-02-13 12:28:44
End at: 2018-02-13 12:29:14
Local clock offset: -5.868 ms
Remote clock offset: -4.597 ms

Below is generated by plot.py at 2018-02-13 13:15:38
Datalink statistics
-- Total of 3 flows:
Average throughput: 1.87 Mbit/s
95th percentile per-packet one-way delay: 4189.206 ms
Loss rate: 16.64%
-- Flow 1:
Average throughput: 1.84 Mbit/s
95th percentile per-packet one-way delay: 4179.316 ms
Loss rate: 16.19%
-- Flow 2:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 4356.142 ms
Loss rate: 37.42%
-- Flow 3:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 4326.451 ms
Loss rate: 60.08%

Run 1: Report of TCP Cubic — Data Link

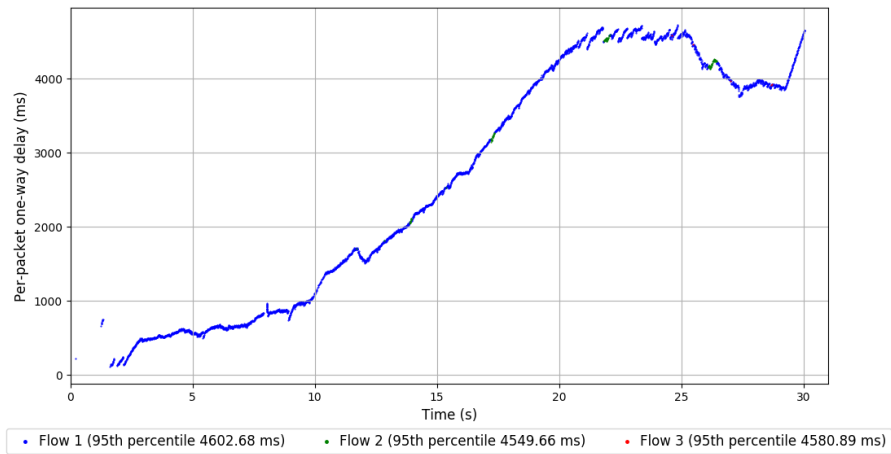
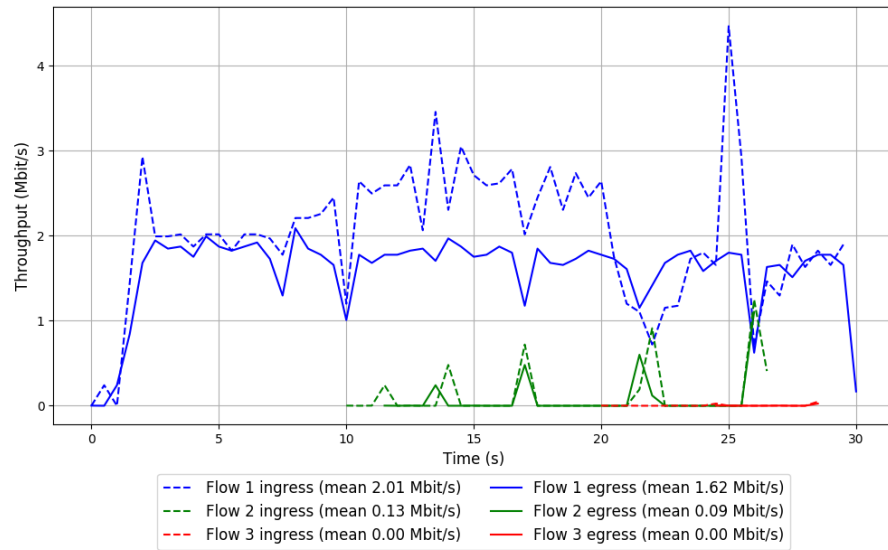


Run 2: Statistics of TCP Cubic

Start at: 2018-02-13 12:51:19
End at: 2018-02-13 12:51:49
Local clock offset: -4.782 ms
Remote clock offset: -4.341 ms

Below is generated by plot.py at 2018-02-13 13:15:38
Datalink statistics
-- Total of 3 flows:
Average throughput: 1.67 Mbit/s
95th percentile per-packet one-way delay: 4602.557 ms
Loss rate: 20.49%
-- Flow 1:
Average throughput: 1.62 Mbit/s
95th percentile per-packet one-way delay: 4602.679 ms
Loss rate: 19.80%
-- Flow 2:
Average throughput: 0.09 Mbit/s
95th percentile per-packet one-way delay: 4549.659 ms
Loss rate: 39.37%
-- Flow 3:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 4580.885 ms
Loss rate: 63.50%

Run 2: Report of TCP Cubic — Data Link

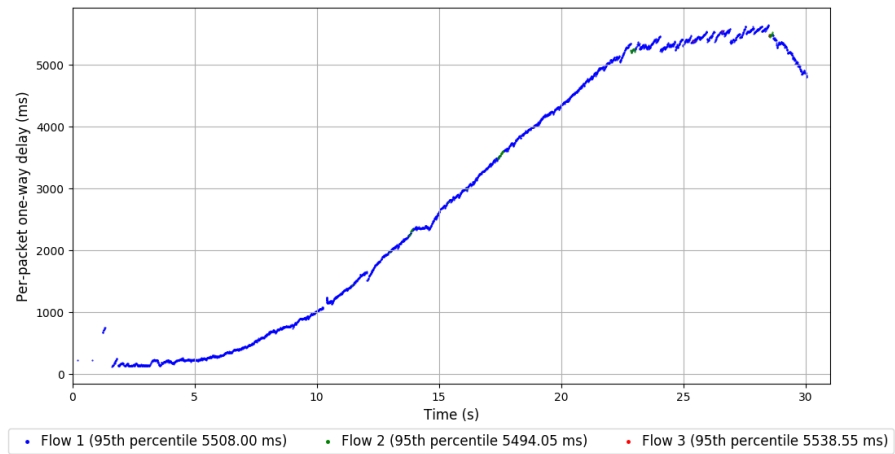
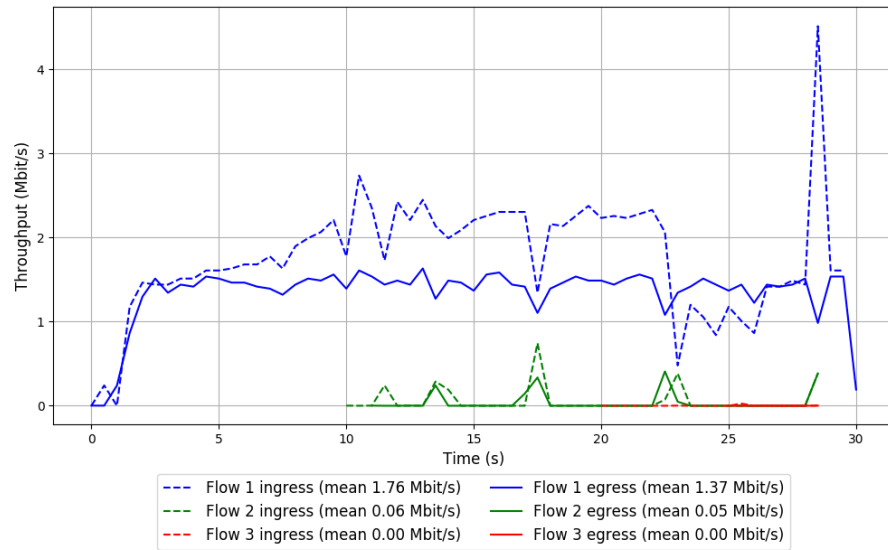


Run 3: Statistics of TCP Cubic

Start at: 2018-02-13 13:13:54
End at: 2018-02-13 13:14:24
Local clock offset: -3.232 ms
Remote clock offset: -4.291 ms

Below is generated by plot.py at 2018-02-13 13:15:38
Datalink statistics
-- Total of 3 flows:
Average throughput: 1.40 Mbit/s
95th percentile per-packet one-way delay: 5507.975 ms
Loss rate: 22.84%
-- Flow 1:
Average throughput: 1.37 Mbit/s
95th percentile per-packet one-way delay: 5507.997 ms
Loss rate: 22.61%
-- Flow 2:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 5494.048 ms
Loss rate: 32.19%
-- Flow 3:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 5538.545 ms
Loss rate: 85.96%

Run 3: Report of TCP Cubic — Data Link

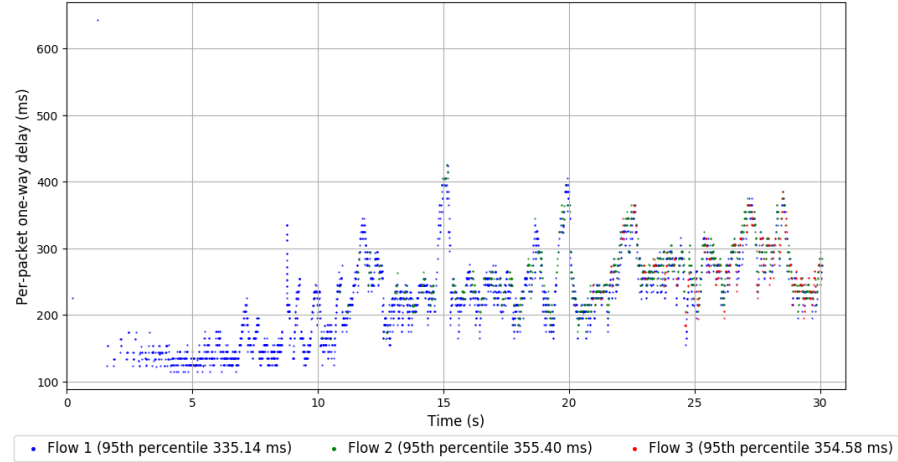
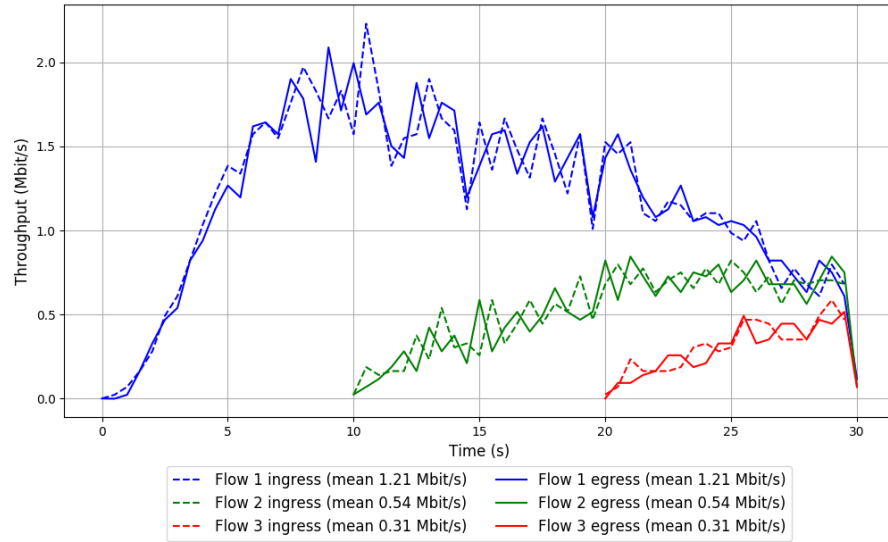


```
Run 1: Statistics of LEDBAT

Start at: 2018-02-13 12:26:11
End at: 2018-02-13 12:26:41
Local clock offset: -5.695 ms
Remote clock offset: 0.277 ms

# Below is generated by plot.py at 2018-02-13 13:15:38
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1.67 Mbit/s
95th percentile per-packet one-way delay: 345.266 ms
Loss rate: 0.66%
-- Flow 1:
Average throughput: 1.21 Mbit/s
95th percentile per-packet one-way delay: 335.145 ms
Loss rate: 0.39%
-- Flow 2:
Average throughput: 0.54 Mbit/s
95th percentile per-packet one-way delay: 355.405 ms
Loss rate: 0.65%
-- Flow 3:
Average throughput: 0.31 Mbit/s
95th percentile per-packet one-way delay: 354.584 ms
Loss rate: 3.77%
```


Run 1: Report of LEDBAT — Data Link

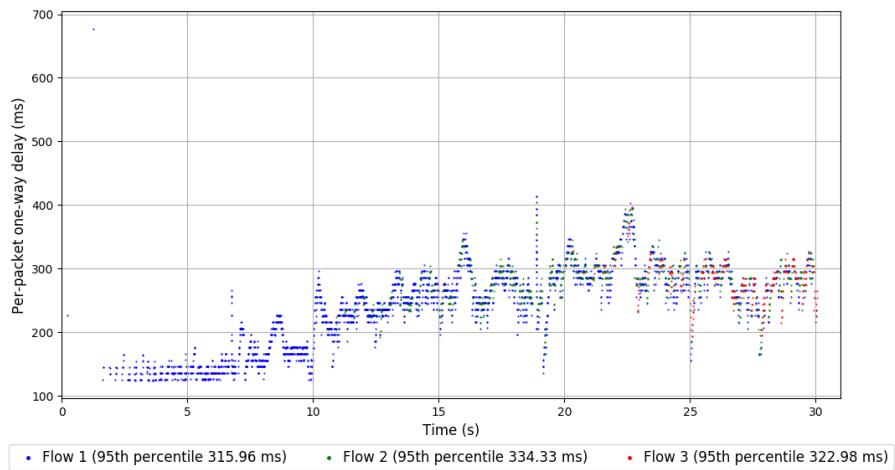
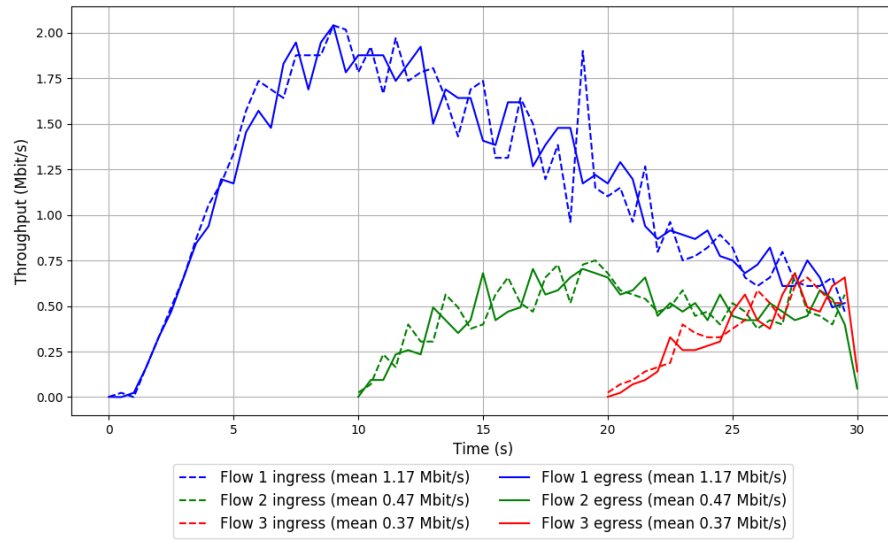


Run 2: Statistics of LEDBAT

Start at: 2018-02-13 12:48:45
End at: 2018-02-13 12:49:16
Local clock offset: -5.117 ms
Remote clock offset: 2.176 ms

Below is generated by plot.py at 2018-02-13 13:15:38
Datalink statistics
-- Total of 3 flows:
Average throughput: 1.60 Mbit/s
95th percentile per-packet one-way delay: 324.429 ms
Loss rate: 0.68%
-- Flow 1:
Average throughput: 1.17 Mbit/s
95th percentile per-packet one-way delay: 315.958 ms
Loss rate: 0.50%
-- Flow 2:
Average throughput: 0.47 Mbit/s
95th percentile per-packet one-way delay: 334.329 ms
Loss rate: 1.12%
-- Flow 3:
Average throughput: 0.37 Mbit/s
95th percentile per-packet one-way delay: 322.975 ms
Loss rate: 1.29%

Run 2: Report of LEDBAT — Data Link

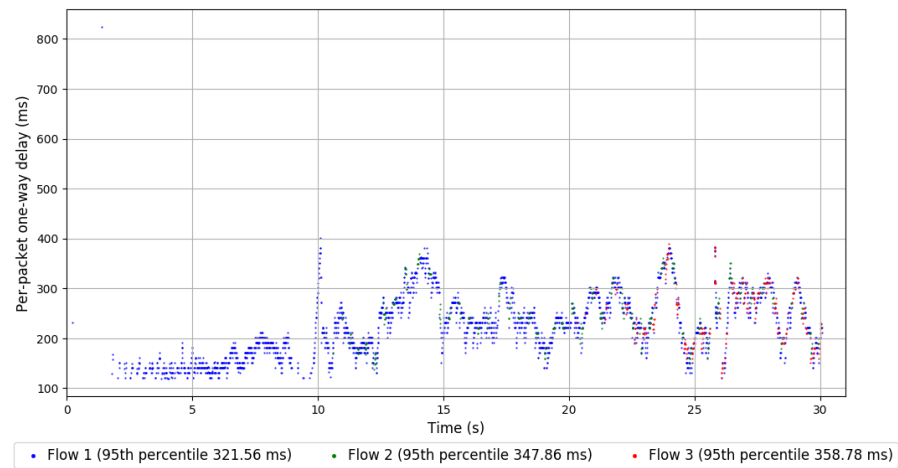
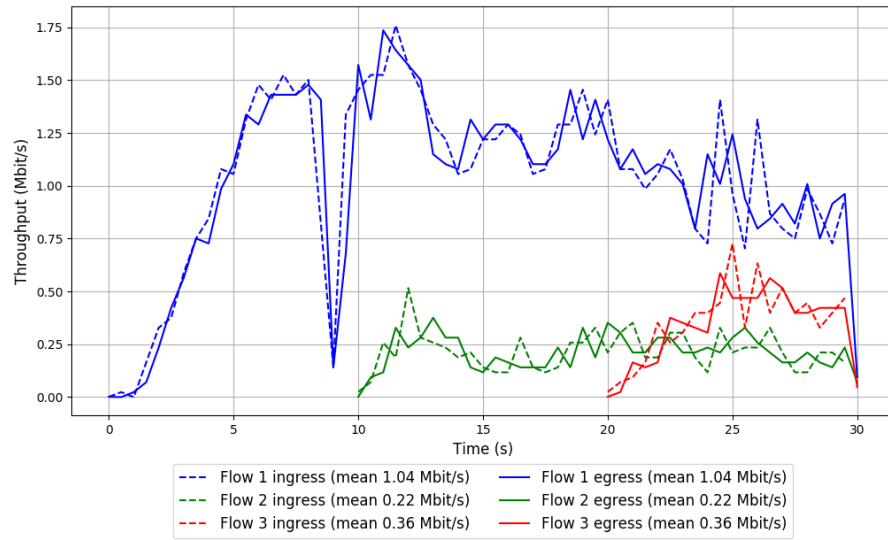


Run 3: Statistics of LEDBAT

Start at: 2018-02-13 13:11:20
End at: 2018-02-13 13:11:50
Local clock offset: -3.314 ms
Remote clock offset: -3.492 ms

Below is generated by plot.py at 2018-02-13 13:15:40
Datalink statistics
-- Total of 3 flows:
Average throughput: 1.30 Mbit/s
95th percentile per-packet one-way delay: 330.388 ms
Loss rate: 0.42%
-- Flow 1:
Average throughput: 1.04 Mbit/s
95th percentile per-packet one-way delay: 321.561 ms
Loss rate: 0.34%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 347.855 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.36 Mbit/s
95th percentile per-packet one-way delay: 358.780 ms
Loss rate: 1.64%

Run 3: Report of LEDBAT — Data Link

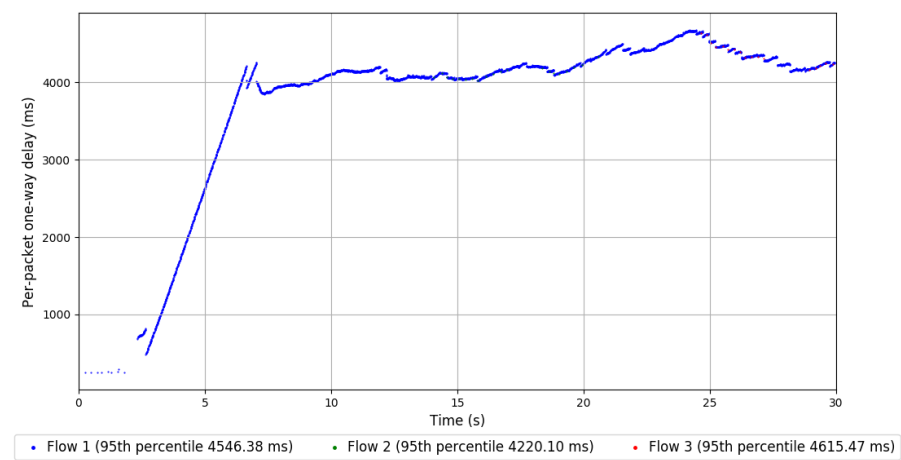
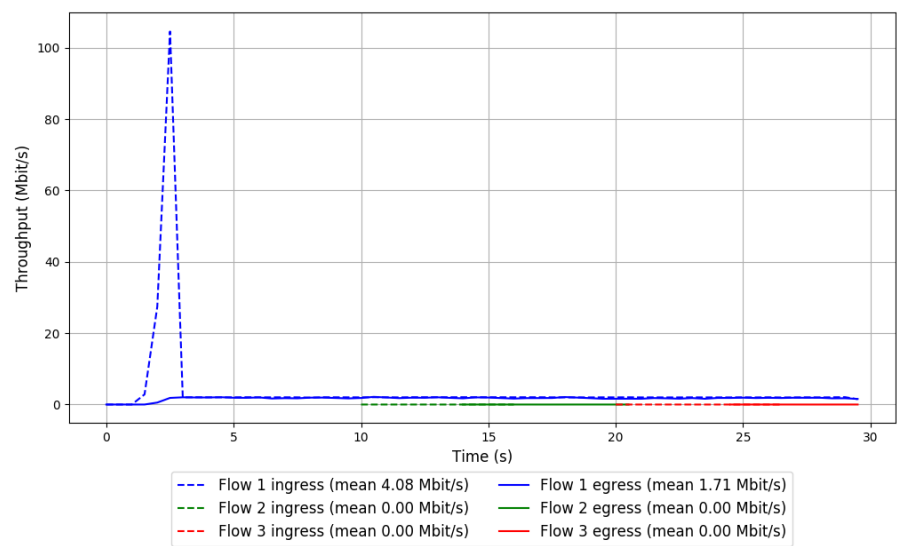


Run 1: Statistics of PCC

Start at: 2018-02-13 12:22:24
End at: 2018-02-13 12:22:54
Local clock offset: -5.327 ms
Remote clock offset: -3.649 ms

Below is generated by plot.py at 2018-02-13 13:15:44
Datalink statistics
-- Total of 3 flows:
Average throughput: 1.72 Mbit/s
95th percentile per-packet one-way delay: 4546.376 ms
Loss rate: 58.20%
-- Flow 1:
Average throughput: 1.71 Mbit/s
95th percentile per-packet one-way delay: 4546.376 ms
Loss rate: 58.22%
-- Flow 2:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 4220.104 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 4615.470 ms
Loss rate: 16.81%

Run 1: Report of PCC — Data Link



Run 2: Statistics of PCC

Start at: 2018-02-13 12:44:59

End at: 2018-02-13 12:45:29

Local clock offset: -5.918 ms

Remote clock offset: 2.174 ms

Below is generated by plot.py at 2018-02-13 13:15:47

Datalink statistics

-- Total of 3 flows:

Average throughput: 1.02 Mbit/s

95th percentile per-packet one-way delay: 10217.541 ms

Loss rate: 84.96%

-- Flow 1:

Average throughput: 1.02 Mbit/s

95th percentile per-packet one-way delay: 10215.374 ms

Loss rate: 84.98%

-- Flow 2:

Average throughput: 0.00 Mbit/s

95th percentile per-packet one-way delay: 10370.834 ms

Loss rate: 4.80%

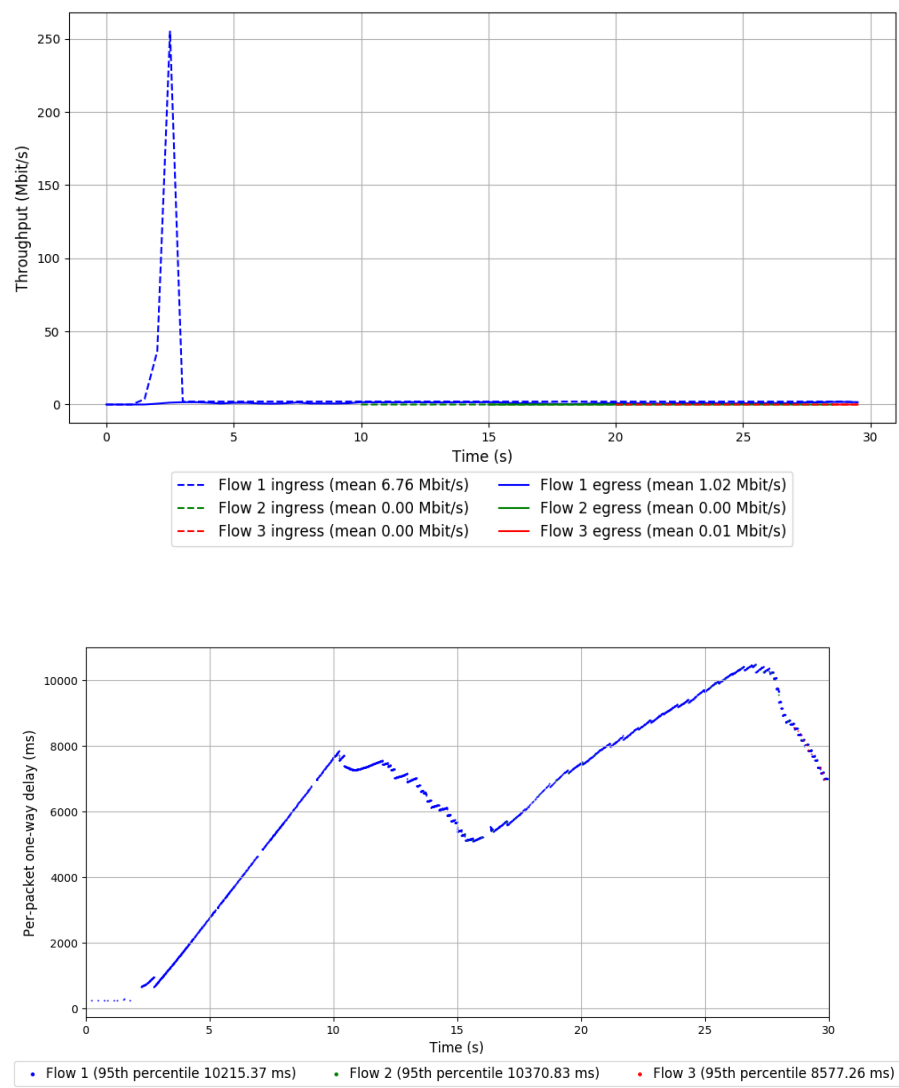
-- Flow 3:

Average throughput: 0.01 Mbit/s

95th percentile per-packet one-way delay: 8577.261 ms

Loss rate: 51.29%

Run 2: Report of PCC — Data Link

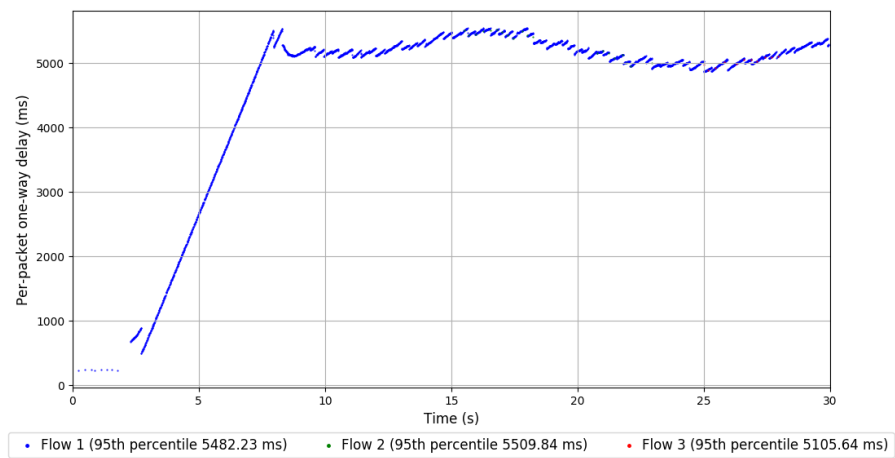
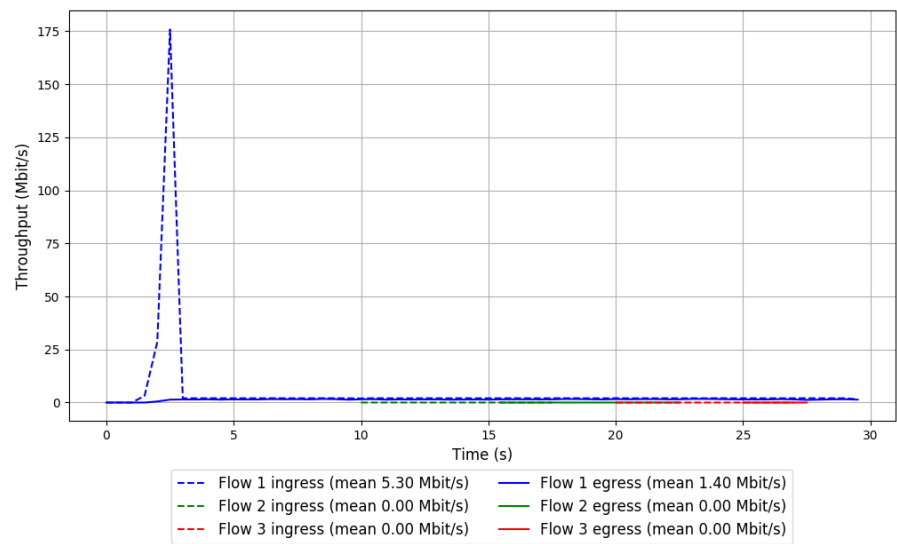


Run 3: Statistics of PCC

Start at: 2018-02-13 13:07:34
End at: 2018-02-13 13:08:04
Local clock offset: -3.49 ms
Remote clock offset: -3.303 ms

Below is generated by plot.py at 2018-02-13 13:15:47
Datalink statistics
-- Total of 3 flows:
Average throughput: 1.40 Mbit/s
95th percentile per-packet one-way delay: 5483.017 ms
Loss rate: 73.70%
-- Flow 1:
Average throughput: 1.40 Mbit/s
95th percentile per-packet one-way delay: 5482.225 ms
Loss rate: 73.71%
-- Flow 2:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 5509.837 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 5105.644 ms
Loss rate: 49.43%

Run 3: Report of PCC — Data Link

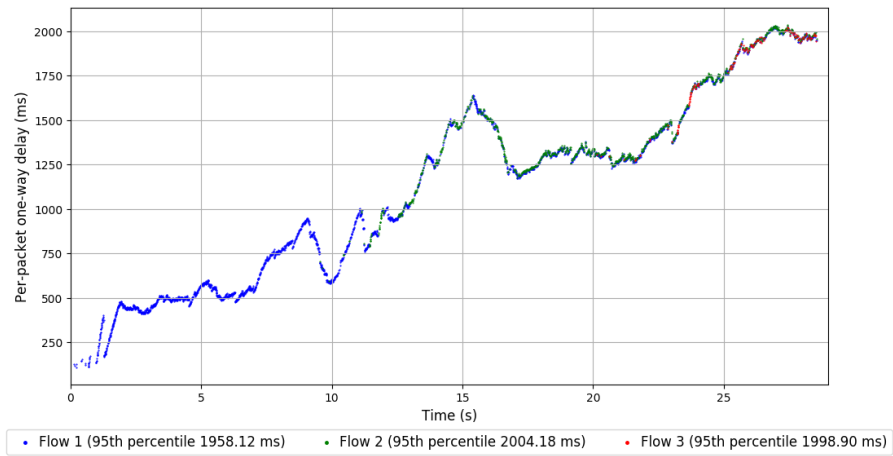
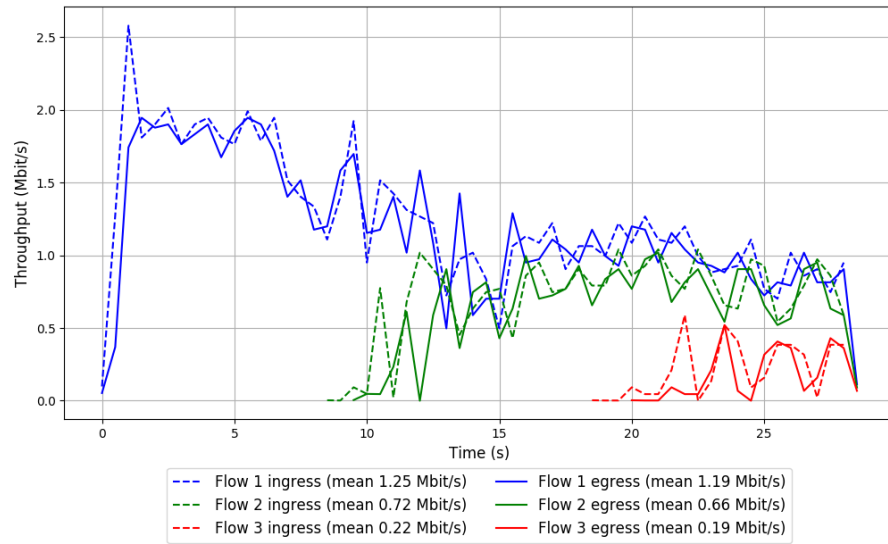


Run 1: Statistics of QUIC Cubic

Start at: 2018-02-13 12:11:08
End at: 2018-02-13 12:11:38
Local clock offset: -2.922 ms
Remote clock offset: -4.548 ms

Below is generated by plot.py at 2018-02-13 13:15:47
Datalink statistics
-- Total of 3 flows:
Average throughput: 1.69 Mbit/s
95th percentile per-packet one-way delay: 1978.025 ms
Loss rate: 7.18%
-- Flow 1:
Average throughput: 1.19 Mbit/s
95th percentile per-packet one-way delay: 1958.115 ms
Loss rate: 4.70%
-- Flow 2:
Average throughput: 0.66 Mbit/s
95th percentile per-packet one-way delay: 2004.176 ms
Loss rate: 10.93%
-- Flow 3:
Average throughput: 0.19 Mbit/s
95th percentile per-packet one-way delay: 1998.899 ms
Loss rate: 24.36%

Run 1: Report of QUIC Cubic — Data Link



Run 2: Statistics of QUIC Cubic

Start at: 2018-02-13 12:33:45

End at: 2018-02-13 12:34:15

Local clock offset: -6.123 ms

Remote clock offset: 1.121 ms

Below is generated by plot.py at 2018-02-13 13:15:47

Datalink statistics

-- Total of 3 flows:

Average throughput: 1.74 Mbit/s

95th percentile per-packet one-way delay: 2489.341 ms

Loss rate: 8.74%

-- Flow 1:

Average throughput: 1.50 Mbit/s

95th percentile per-packet one-way delay: 2466.797 ms

Loss rate: 6.90%

-- Flow 2:

Average throughput: 0.31 Mbit/s

95th percentile per-packet one-way delay: 2521.108 ms

Loss rate: 17.00%

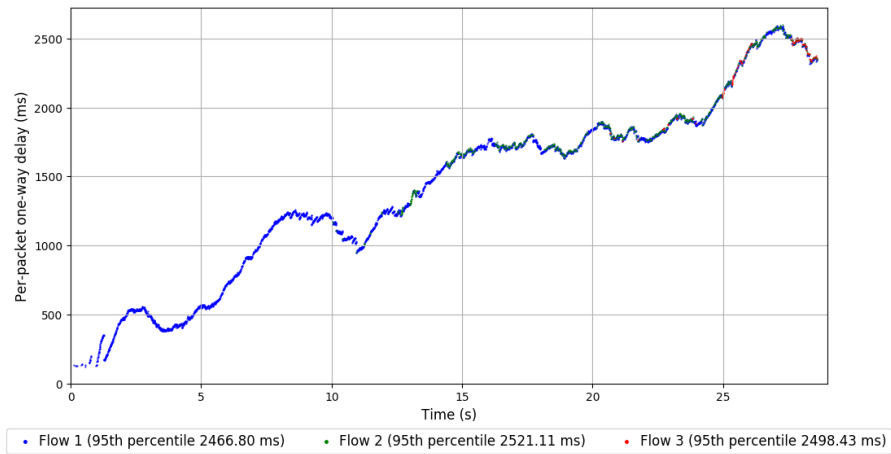
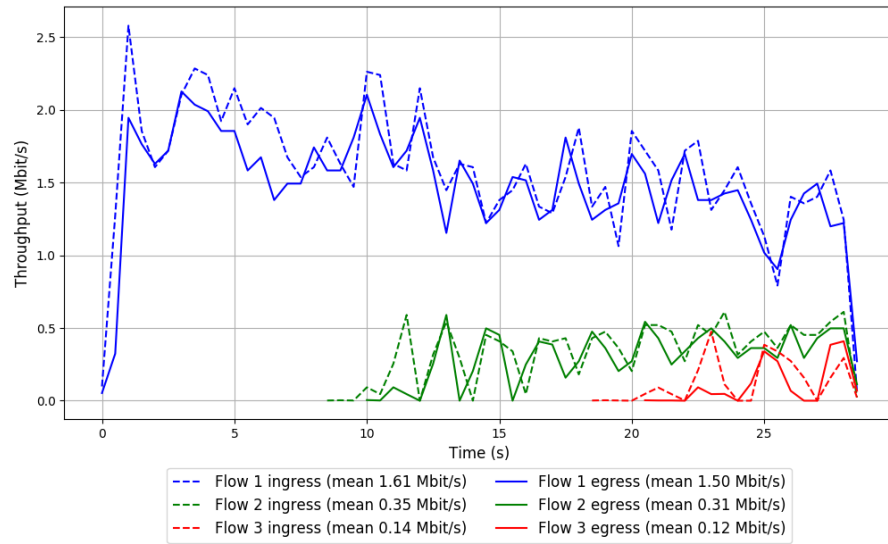
-- Flow 3:

Average throughput: 0.12 Mbit/s

95th percentile per-packet one-way delay: 2498.433 ms

Loss rate: 29.38%

Run 2: Report of QUIC Cubic — Data Link



Run 3: Statistics of QUIC Cubic

Start at: 2018-02-13 12:56:20

End at: 2018-02-13 12:56:50

Local clock offset: -4.266 ms

Remote clock offset: 0.633 ms

Below is generated by plot.py at 2018-02-13 13:15:47

Datalink statistics

-- Total of 3 flows:

Average throughput: 1.64 Mbit/s

95th percentile per-packet one-way delay: 2768.820 ms

Loss rate: 10.22%

-- Flow 1:

Average throughput: 1.42 Mbit/s

95th percentile per-packet one-way delay: 2598.744 ms

Loss rate: 7.63%

-- Flow 2:

Average throughput: 0.30 Mbit/s

95th percentile per-packet one-way delay: 2983.132 ms

Loss rate: 19.75%

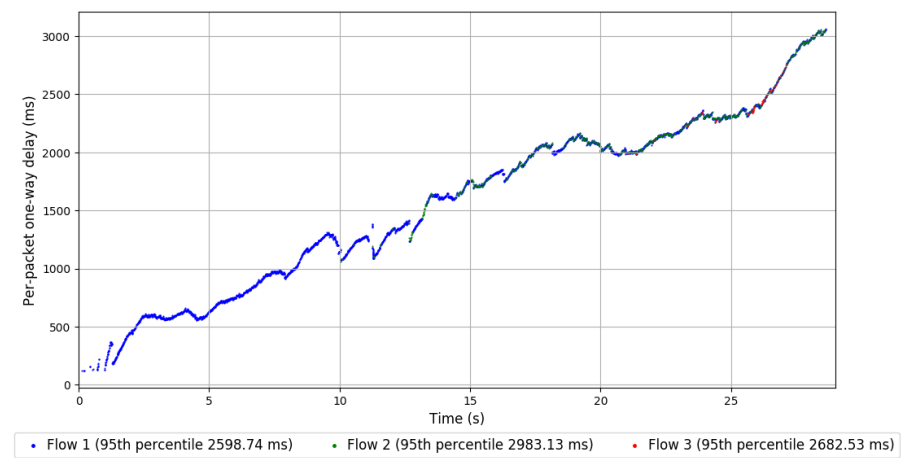
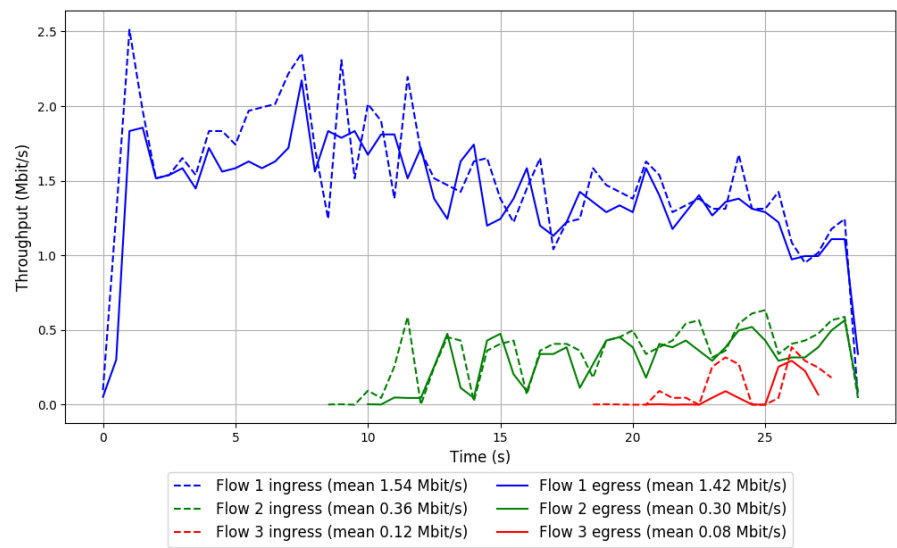
-- Flow 3:

Average throughput: 0.08 Mbit/s

95th percentile per-packet one-way delay: 2682.530 ms

Loss rate: 52.77%

Run 3: Report of QUIC Cubic — Data Link

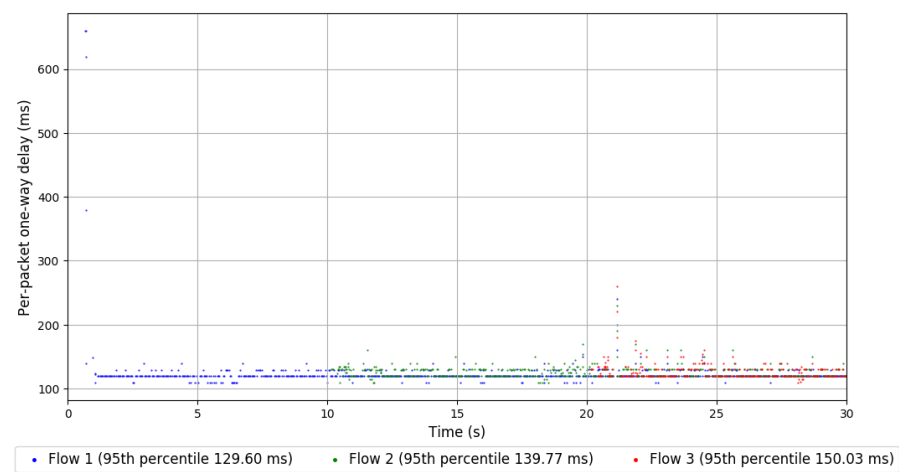
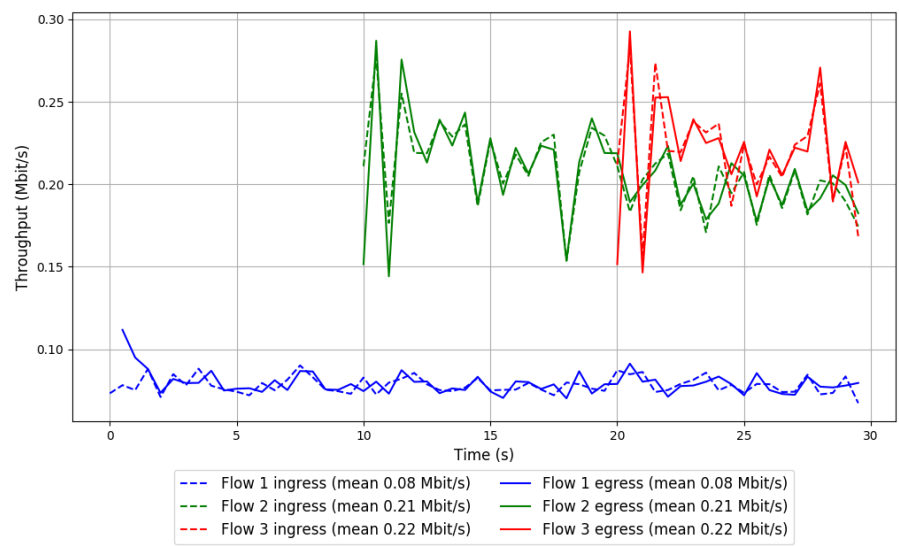


```
Run 1: Statistics of SReAM

Start at: 2018-02-13 12:14:53
End at: 2018-02-13 12:15:23
Local clock offset: -4.098 ms
Remote clock offset: -4.588 ms

# Below is generated by plot.py at 2018-02-13 13:15:47
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.30 Mbit/s
95th percentile per-packet one-way delay: 139.724 ms
Loss rate: 0.31%
-- Flow 1:
Average throughput: 0.08 Mbit/s
95th percentile per-packet one-way delay: 129.601 ms
Loss rate: 0.13%
-- Flow 2:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 139.767 ms
Loss rate: 0.38%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 150.033 ms
Loss rate: 0.35%
```

Run 1: Report of SReAM — Data Link

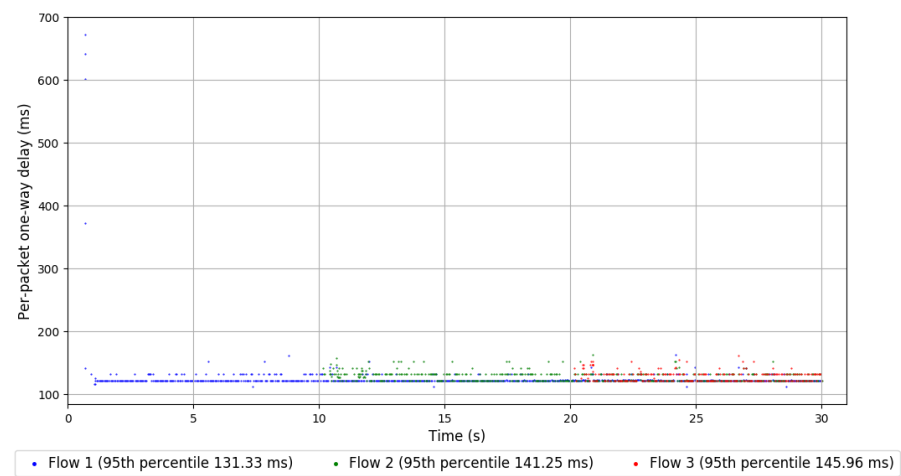
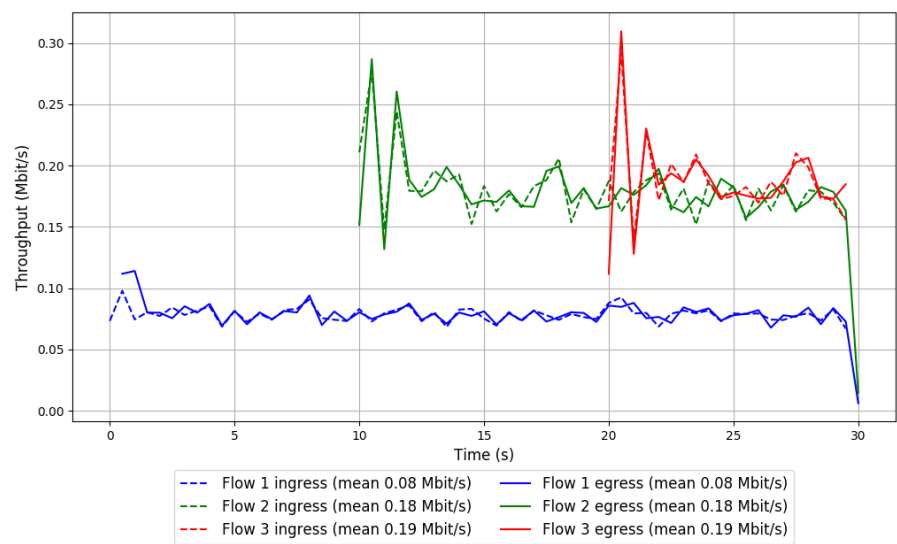


Run 2: Statistics of SReAM

Start at: 2018-02-13 12:37:29
End at: 2018-02-13 12:37:59
Local clock offset: -6.285 ms
Remote clock offset: -3.626 ms

Below is generated by plot.py at 2018-02-13 13:15:47
Datalink statistics
-- Total of 3 flows:
Average throughput: 0.27 Mbit/s
95th percentile per-packet one-way delay: 141.174 ms
Loss rate: 0.21%
-- Flow 1:
Average throughput: 0.08 Mbit/s
95th percentile per-packet one-way delay: 131.332 ms
Loss rate: 0.13%
-- Flow 2:
Average throughput: 0.18 Mbit/s
95th percentile per-packet one-way delay: 141.245 ms
Loss rate: 0.19%
-- Flow 3:
Average throughput: 0.19 Mbit/s
95th percentile per-packet one-way delay: 145.963 ms
Loss rate: 0.35%

Run 2: Report of SReAM — Data Link

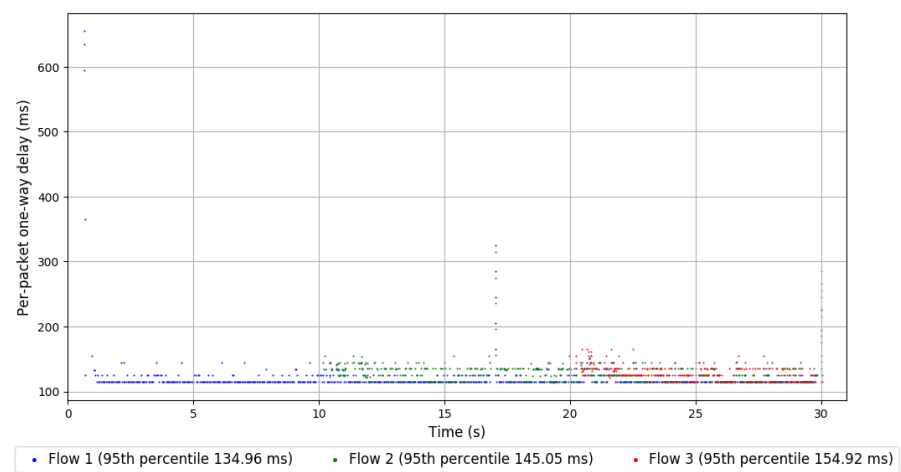
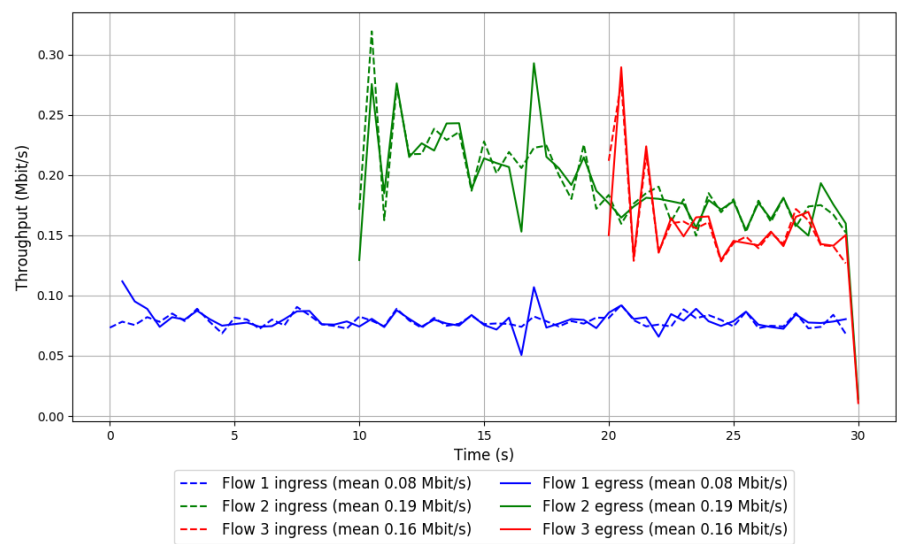


Run 3: Statistics of SCReAM

Start at: 2018-02-13 13:00:05
End at: 2018-02-13 13:00:35
Local clock offset: -3.886 ms
Remote clock offset: 0.685 ms

Below is generated by plot.py at 2018-02-13 13:15:47
Datalink statistics
-- Total of 3 flows:
Average throughput: 0.27 Mbit/s
95th percentile per-packet one-way delay: 144.958 ms
Loss rate: 0.12%
-- Flow 1:
Average throughput: 0.08 Mbit/s
95th percentile per-packet one-way delay: 134.964 ms
Loss rate: 0.13%
-- Flow 2:
Average throughput: 0.19 Mbit/s
95th percentile per-packet one-way delay: 145.047 ms
Loss rate: 0.17%
-- Flow 3:
Average throughput: 0.16 Mbit/s
95th percentile per-packet one-way delay: 154.924 ms
Loss rate: 0.00%

Run 3: Report of SReAM — Data Link



Run 1: Statistics of WebRTC media

Start at: 2018-02-13 12:24:56

End at: 2018-02-13 12:25:26

Local clock offset: -5.588 ms

Remote clock offset: 1.071 ms

Below is generated by plot.py at 2018-02-13 13:15:50

Datalink statistics

-- Total of 3 flows:

Average throughput: 0.79 Mbit/s

95th percentile per-packet one-way delay: 327.648 ms

Loss rate: 0.38%

-- Flow 1:

Average throughput: 0.47 Mbit/s

95th percentile per-packet one-way delay: 305.284 ms

Loss rate: 0.05%

-- Flow 2:

Average throughput: 0.21 Mbit/s

95th percentile per-packet one-way delay: 361.853 ms

Loss rate: 0.27%

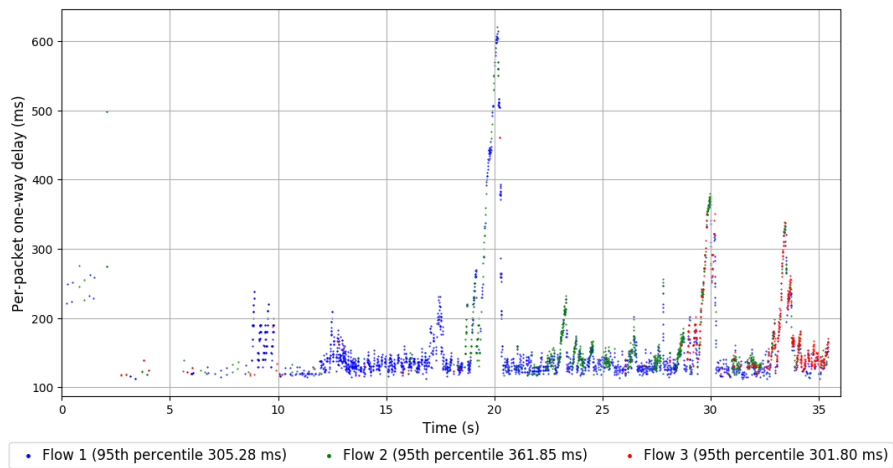
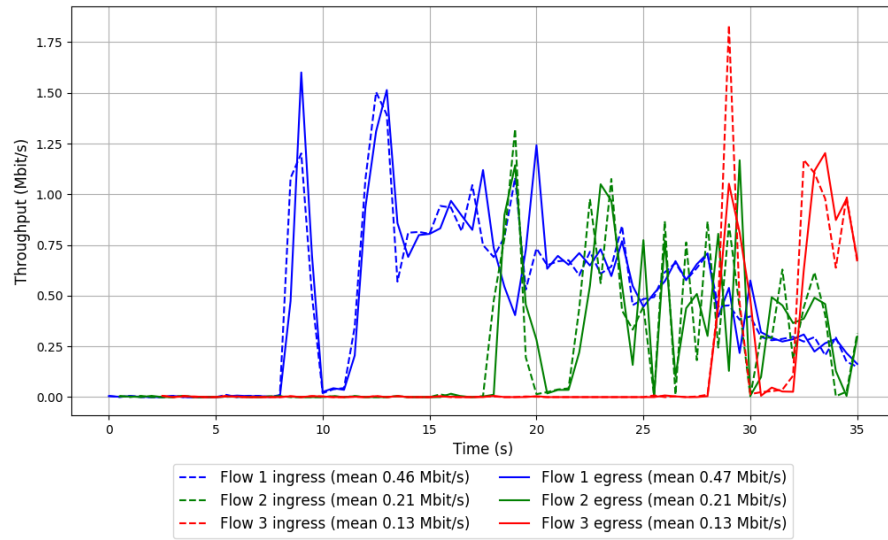
-- Flow 3:

Average throughput: 0.13 Mbit/s

95th percentile per-packet one-way delay: 301.798 ms

Loss rate: 1.86%

Run 1: Report of WebRTC media — Data Link



Run 2: Statistics of WebRTC media

Start at: 2018-02-13 12:47:30

End at: 2018-02-13 12:48:00

Local clock offset: -5.441 ms

Remote clock offset: 1.378 ms

Below is generated by plot.py at 2018-02-13 13:15:51

Datalink statistics

-- Total of 3 flows:

Average throughput: 0.77 Mbit/s

95th percentile per-packet one-way delay: 374.917 ms

Loss rate: 1.57%

-- Flow 1:

Average throughput: 0.40 Mbit/s

95th percentile per-packet one-way delay: 372.498 ms

Loss rate: 0.45%

-- Flow 2:

Average throughput: 0.30 Mbit/s

95th percentile per-packet one-way delay: 365.502 ms

Loss rate: 1.23%

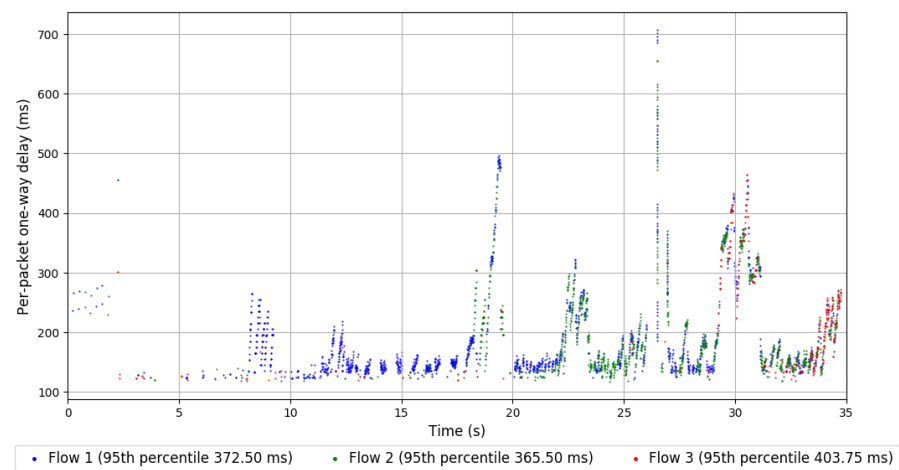
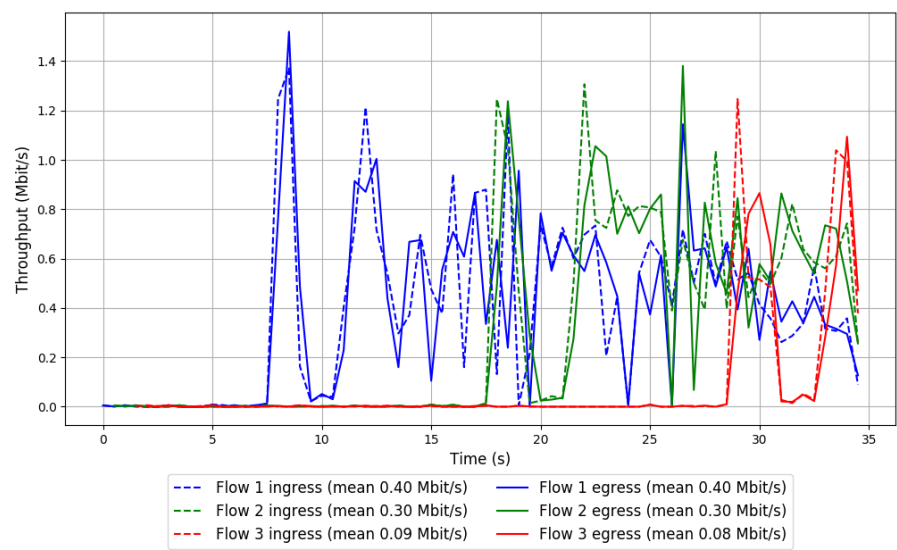
-- Flow 3:

Average throughput: 0.08 Mbit/s

95th percentile per-packet one-way delay: 403.746 ms

Loss rate: 8.03%

Run 2: Report of WebRTC media — Data Link

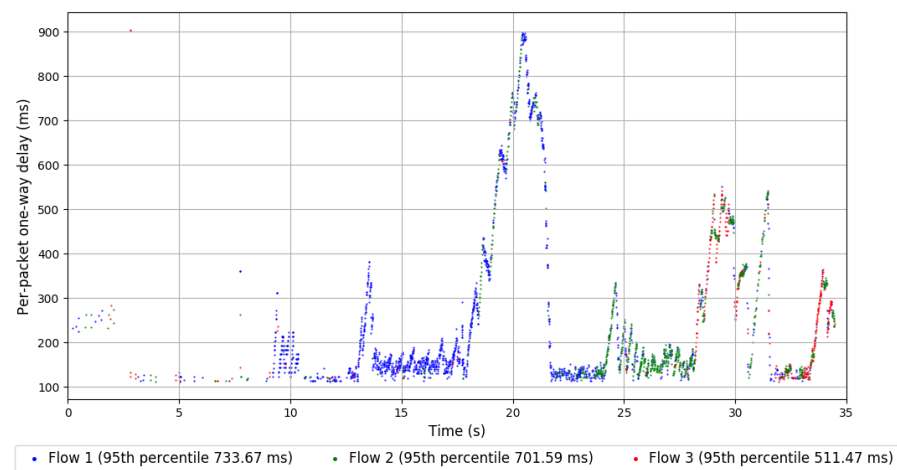
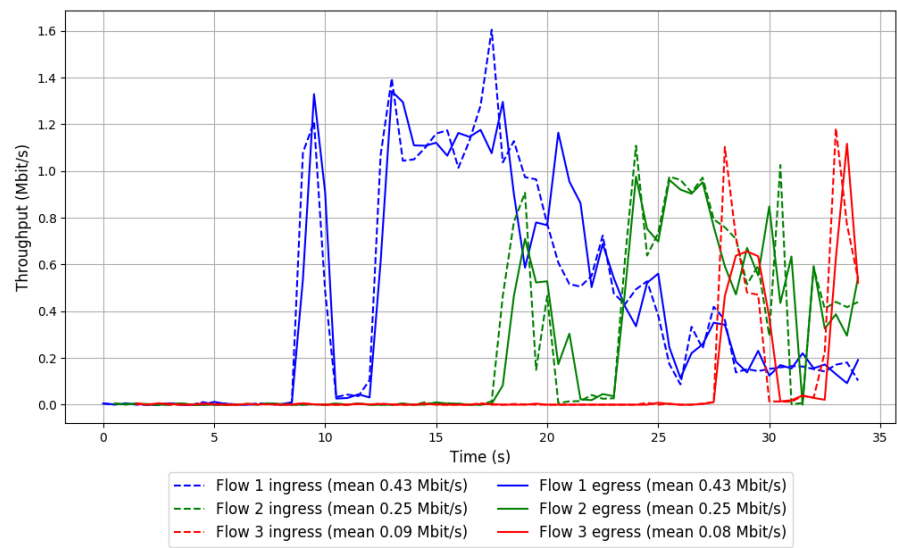


Run 3: Statistics of WebRTC media

Start at: 2018-02-13 13:10:06
End at: 2018-02-13 13:10:36
Local clock offset: -3.386 ms
Remote clock offset: -3.482 ms

Below is generated by plot.py at 2018-02-13 13:15:52
Datalink statistics
-- Total of 3 flows:
Average throughput: 0.75 Mbit/s
95th percentile per-packet one-way delay: 716.973 ms
Loss rate: 1.22%
-- Flow 1:
Average throughput: 0.43 Mbit/s
95th percentile per-packet one-way delay: 733.670 ms
Loss rate: 0.15%
-- Flow 2:
Average throughput: 0.25 Mbit/s
95th percentile per-packet one-way delay: 701.588 ms
Loss rate: 0.91%
-- Flow 3:
Average throughput: 0.08 Mbit/s
95th percentile per-packet one-way delay: 511.468 ms
Loss rate: 7.70%

Run 3: Report of WebRTC media — Data Link

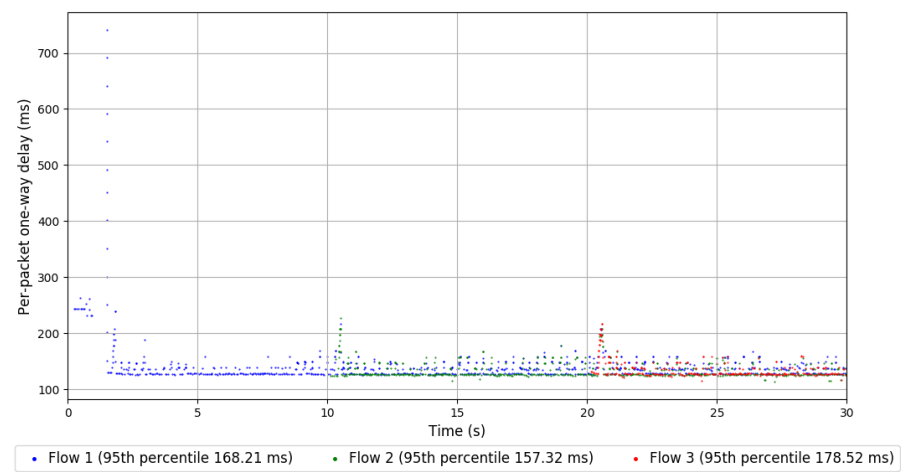
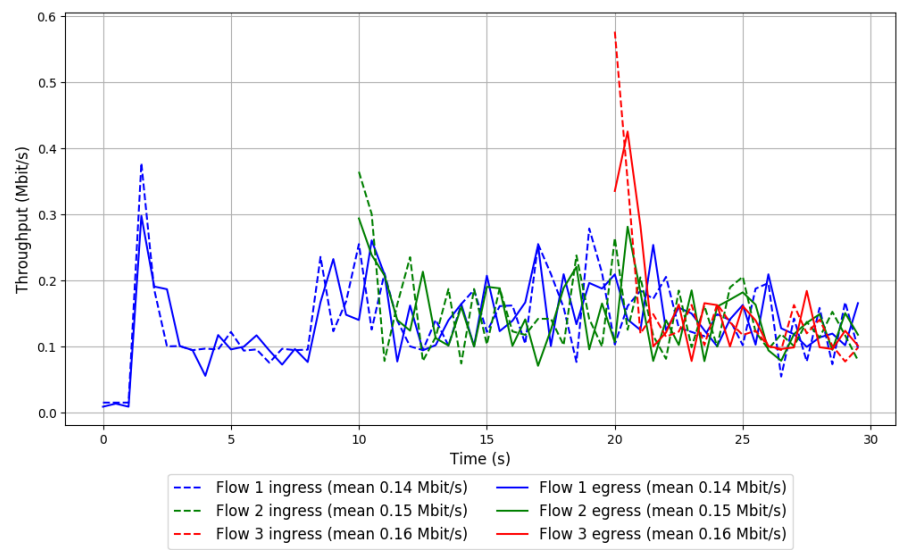


Run 1: Statistics of Sprout

Start at: 2018-02-13 12:12:23
End at: 2018-02-13 12:12:53
Local clock offset: -3.416 ms
Remote clock offset: -3.668 ms

Below is generated by plot.py at 2018-02-13 13:15:52
Datalink statistics
-- Total of 3 flows:
Average throughput: 0.29 Mbit/s
95th percentile per-packet one-way delay: 168.024 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 0.14 Mbit/s
95th percentile per-packet one-way delay: 168.214 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.15 Mbit/s
95th percentile per-packet one-way delay: 157.316 ms
Loss rate: 0.03%
-- Flow 3:
Average throughput: 0.16 Mbit/s
95th percentile per-packet one-way delay: 178.524 ms
Loss rate: 0.00%

Run 1: Report of Sprout — Data Link

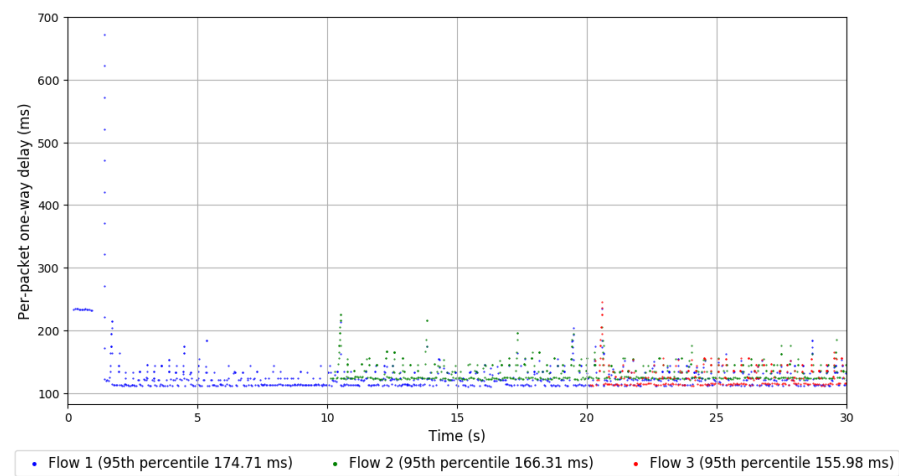
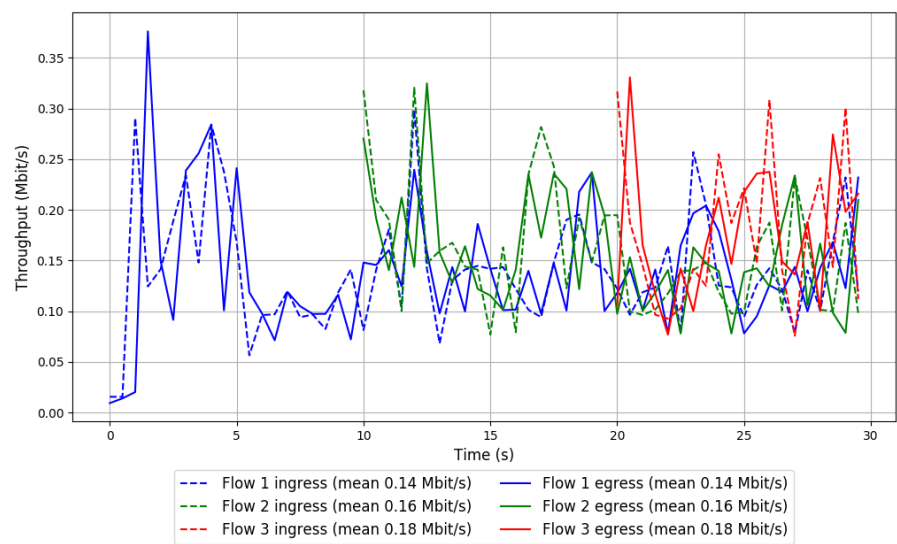


Run 2: Statistics of Sprout

Start at: 2018-02-13 12:35:00
End at: 2018-02-13 12:35:30
Local clock offset: -6.253 ms
Remote clock offset: -3.666 ms

```
# Below is generated by plot.py at 2018-02-13 13:15:52
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.31 Mbit/s
95th percentile per-packet one-way delay: 171.723 ms
Loss rate: 0.02%
-- Flow 1:
Average throughput: 0.14 Mbit/s
95th percentile per-packet one-way delay: 174.713 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.16 Mbit/s
95th percentile per-packet one-way delay: 166.308 ms
Loss rate: 0.03%
-- Flow 3:
Average throughput: 0.18 Mbit/s
95th percentile per-packet one-way delay: 155.984 ms
Loss rate: 0.05%
```


Run 2: Report of Sprout — Data Link

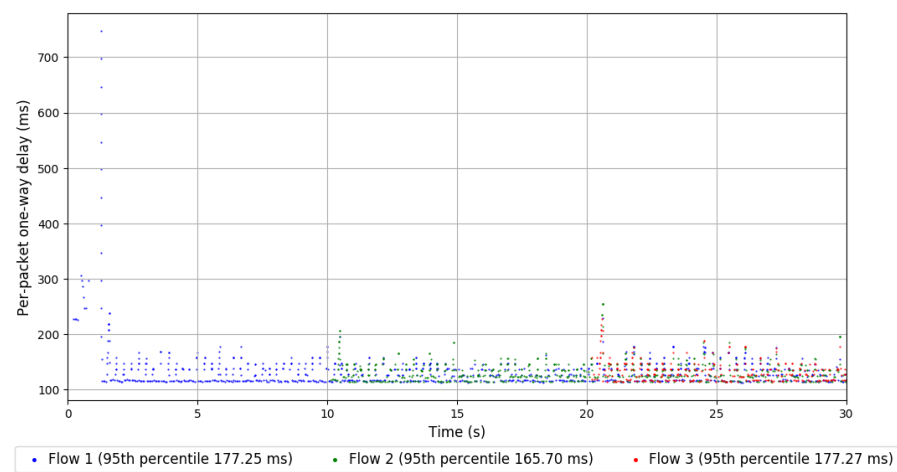
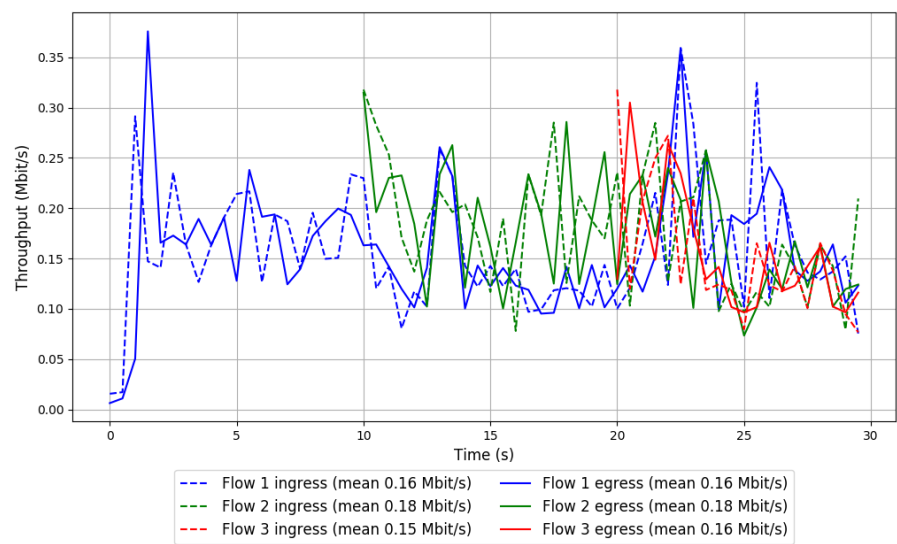


Run 3: Statistics of Sprout

Start at: 2018-02-13 12:57:35
End at: 2018-02-13 12:58:05
Local clock offset: -4.068 ms
Remote clock offset: 1.341 ms

```
# Below is generated by plot.py at 2018-02-13 13:15:53
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.33 Mbit/s
95th percentile per-packet one-way delay: 173.117 ms
Loss rate: 0.47%
-- Flow 1:
Average throughput: 0.16 Mbit/s
95th percentile per-packet one-way delay: 177.255 ms
Loss rate: 0.02%
-- Flow 2:
Average throughput: 0.18 Mbit/s
95th percentile per-packet one-way delay: 165.703 ms
Loss rate: 1.25%
-- Flow 3:
Average throughput: 0.16 Mbit/s
95th percentile per-packet one-way delay: 177.271 ms
Loss rate: 0.05%
```

Run 3: Report of Sprout — Data Link

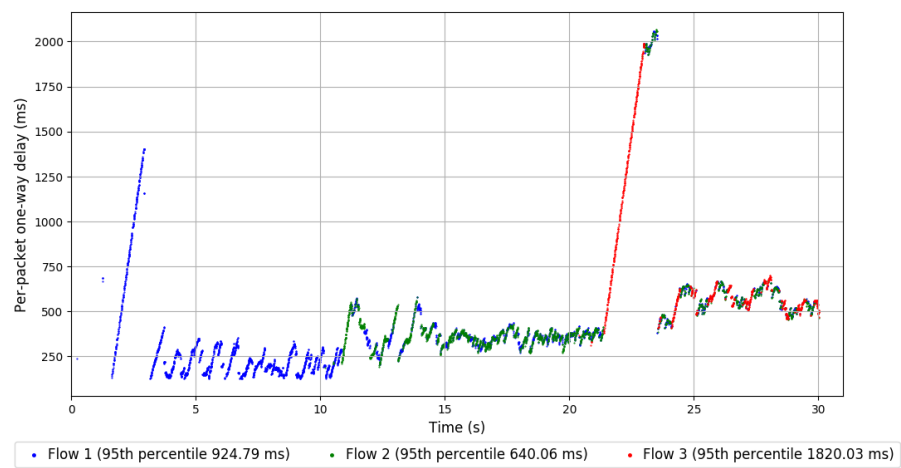
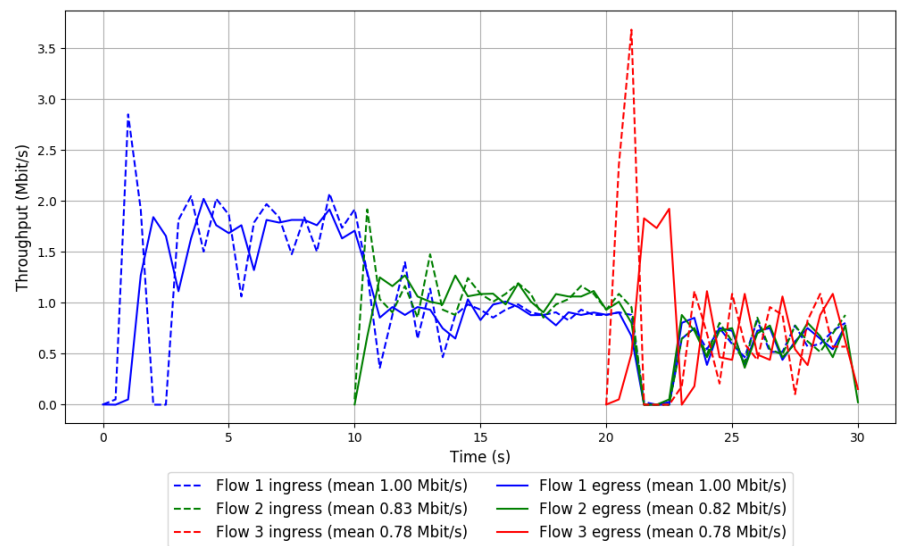


```
Run 1: Statistics of TaoVA-100x

Start at: 2018-02-13 12:13:38
End at: 2018-02-13 12:14:08
Local clock offset: -3.749 ms
Remote clock offset: 1.957 ms

# Below is generated by plot.py at 2018-02-13 13:15:57
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1.79 Mbit/s
95th percentile per-packet one-way delay: 1281.662 ms
Loss rate: 1.84%
-- Flow 1:
Average throughput: 1.00 Mbit/s
95th percentile per-packet one-way delay: 924.786 ms
Loss rate: 1.34%
-- Flow 2:
Average throughput: 0.82 Mbit/s
95th percentile per-packet one-way delay: 640.058 ms
Loss rate: 2.51%
-- Flow 3:
Average throughput: 0.78 Mbit/s
95th percentile per-packet one-way delay: 1820.030 ms
Loss rate: 2.37%
```

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

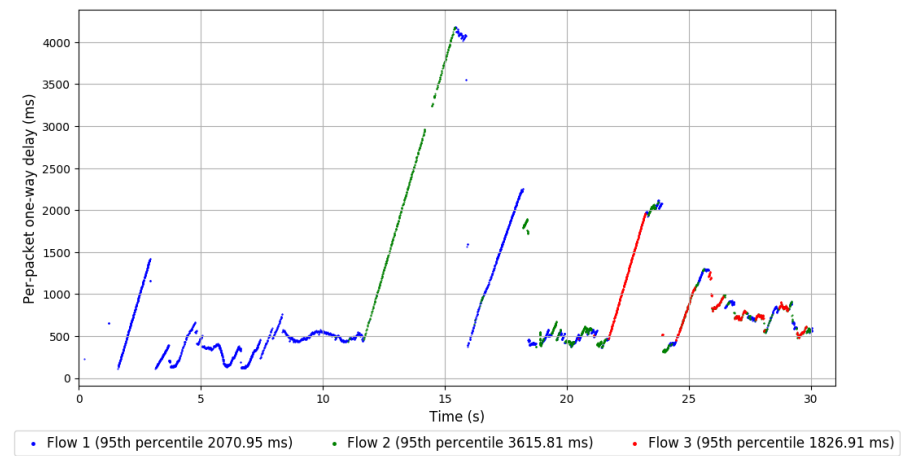
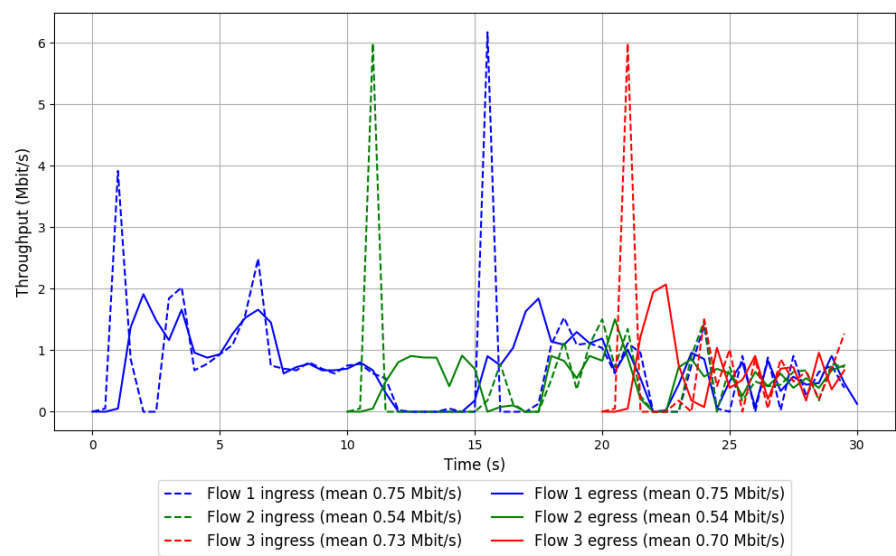


Run 2: Statistics of TaoVA-100x

Start at: 2018-02-13 12:36:14
End at: 2018-02-13 12:36:44
Local clock offset: -6.233 ms
Remote clock offset: -4.463 ms

Below is generated by plot.py at 2018-02-13 13:15:57
Datalink statistics
-- Total of 3 flows:
Average throughput: 1.32 Mbit/s
95th percentile per-packet one-way delay: 2308.987 ms
Loss rate: 3.14%
-- Flow 1:
Average throughput: 0.75 Mbit/s
95th percentile per-packet one-way delay: 2070.952 ms
Loss rate: 1.21%
-- Flow 2:
Average throughput: 0.54 Mbit/s
95th percentile per-packet one-way delay: 3615.811 ms
Loss rate: 3.34%
-- Flow 3:
Average throughput: 0.70 Mbit/s
95th percentile per-packet one-way delay: 1826.907 ms
Loss rate: 8.92%

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

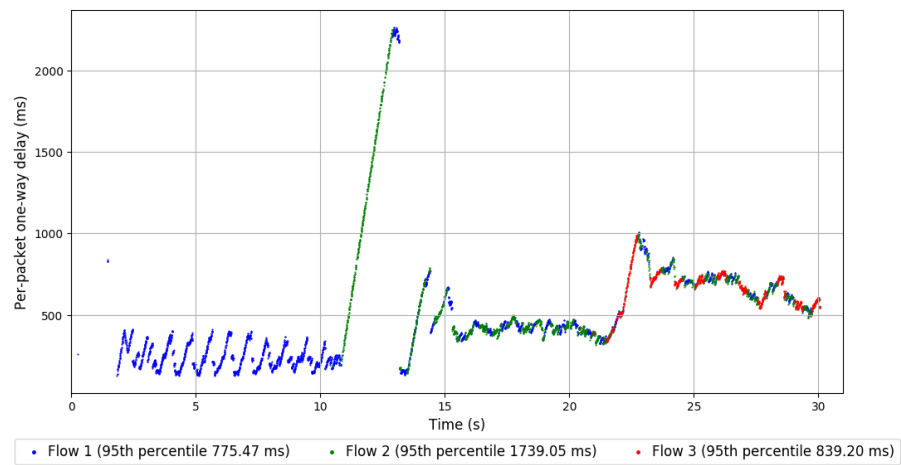
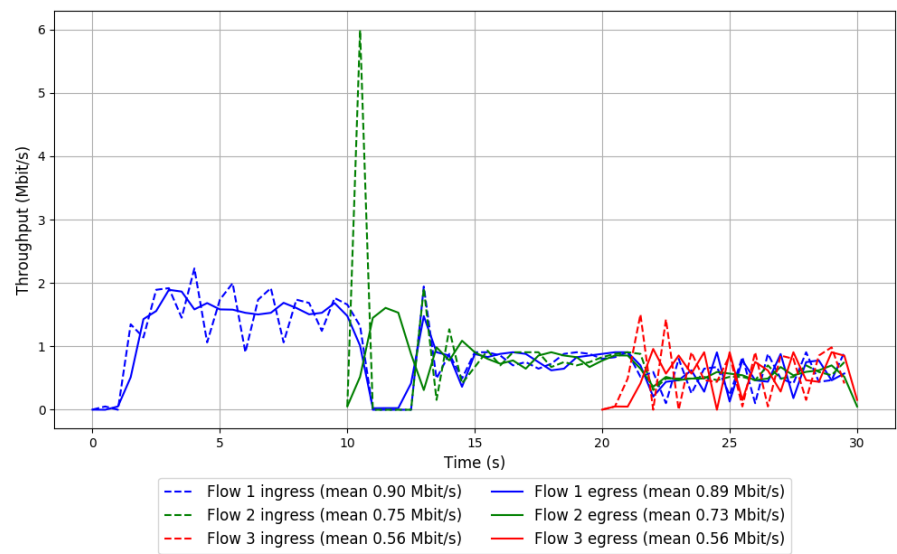


Run 3: Statistics of TaoVA-100x

Start at: 2018-02-13 12:58:49
End at: 2018-02-13 12:59:19
Local clock offset: -4.053 ms
Remote clock offset: -3.345 ms

Below is generated by plot.py at 2018-02-13 13:15:59
Datalink statistics
-- Total of 3 flows:
Average throughput: 1.55 Mbit/s
95th percentile per-packet one-way delay: 1052.971 ms
Loss rate: 2.17%
-- Flow 1:
Average throughput: 0.89 Mbit/s
95th percentile per-packet one-way delay: 775.465 ms
Loss rate: 1.69%
-- Flow 2:
Average throughput: 0.73 Mbit/s
95th percentile per-packet one-way delay: 1739.054 ms
Loss rate: 2.52%
-- Flow 3:
Average throughput: 0.56 Mbit/s
95th percentile per-packet one-way delay: 839.203 ms
Loss rate: 3.48%

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

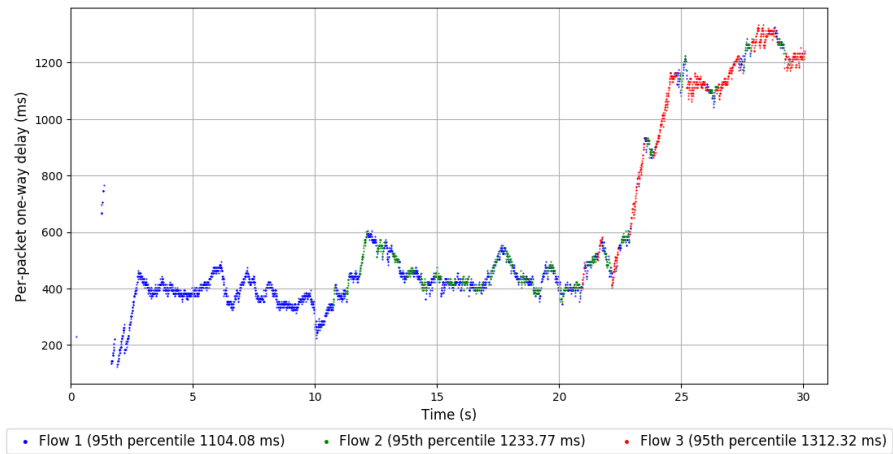
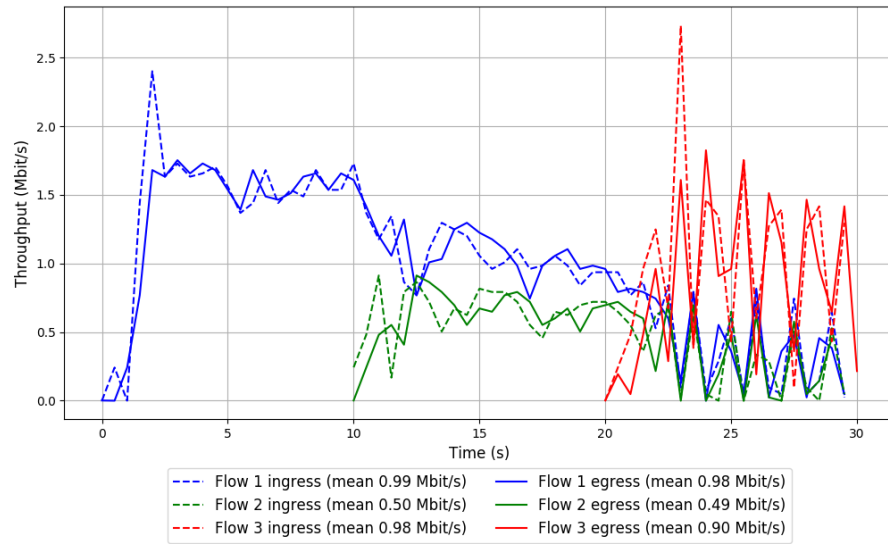


Run 1: Statistics of TCP Vegas

Start at: 2018-02-13 12:16:07
End at: 2018-02-13 12:16:38
Local clock offset: -4.318 ms
Remote clock offset: -3.673 ms

Below is generated by plot.py at 2018-02-13 13:15:59
Datalink statistics
-- Total of 3 flows:
Average throughput: 1.58 Mbit/s
95th percentile per-packet one-way delay: 1242.589 ms
Loss rate: 3.53%
-- Flow 1:
Average throughput: 0.98 Mbit/s
95th percentile per-packet one-way delay: 1104.084 ms
Loss rate: 1.30%
-- Flow 2:
Average throughput: 0.49 Mbit/s
95th percentile per-packet one-way delay: 1233.765 ms
Loss rate: 2.95%
-- Flow 3:
Average throughput: 0.90 Mbit/s
95th percentile per-packet one-way delay: 1312.323 ms
Loss rate: 10.85%

Run 1: Report of TCP Vegas — Data Link

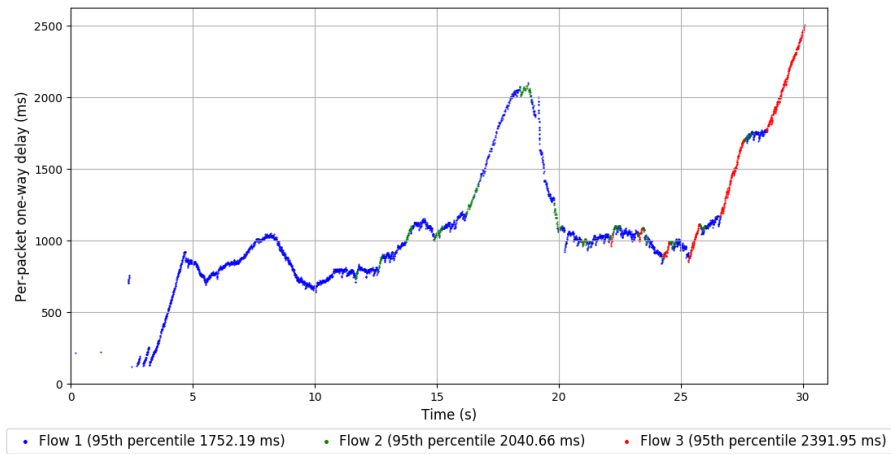
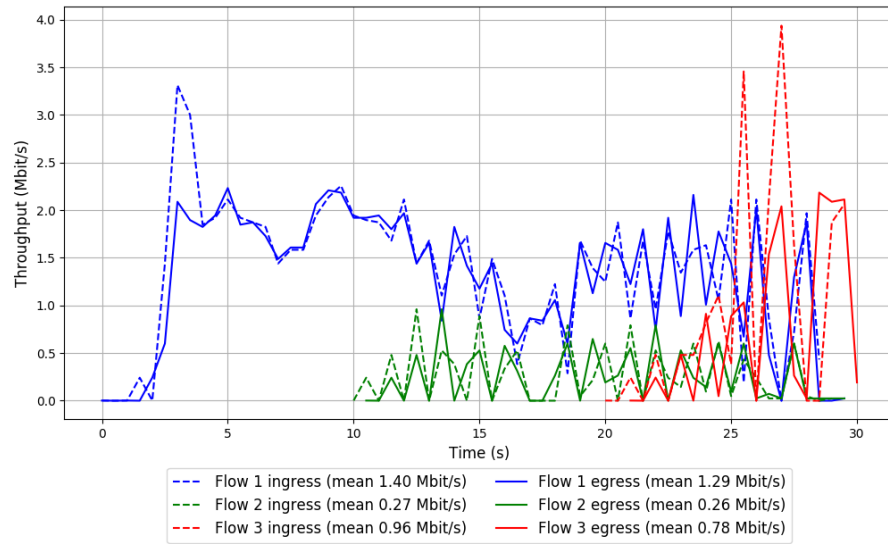


Run 2: Statistics of TCP Vegas

Start at: 2018-02-13 12:38:44
End at: 2018-02-13 12:39:14
Local clock offset: -6.335 ms
Remote clock offset: 1.19 ms

Below is generated by plot.py at 2018-02-13 13:15:59
Datalink statistics
-- Total of 3 flows:
Average throughput: 1.69 Mbit/s
95th percentile per-packet one-way delay: 2040.276 ms
Loss rate: 8.00%
-- Flow 1:
Average throughput: 1.29 Mbit/s
95th percentile per-packet one-way delay: 1752.186 ms
Loss rate: 3.87%
-- Flow 2:
Average throughput: 0.26 Mbit/s
95th percentile per-packet one-way delay: 2040.662 ms
Loss rate: 6.19%
-- Flow 3:
Average throughput: 0.78 Mbit/s
95th percentile per-packet one-way delay: 2391.945 ms
Loss rate: 26.31%

Run 2: Report of TCP Vegas — Data Link

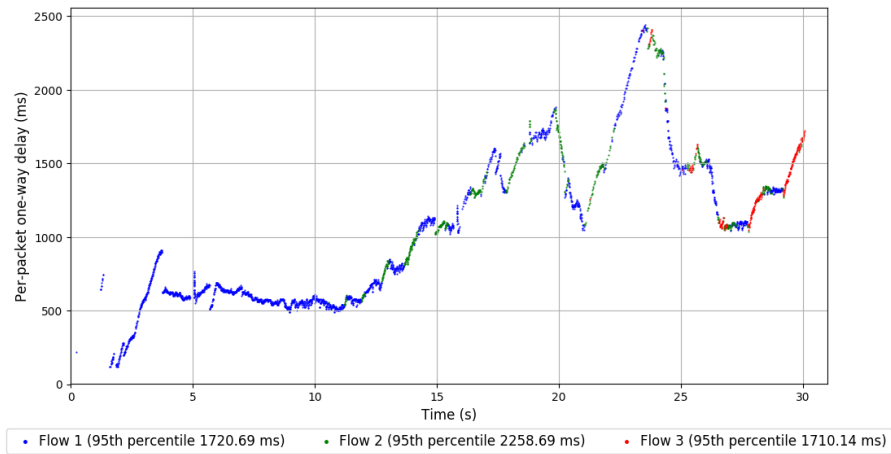
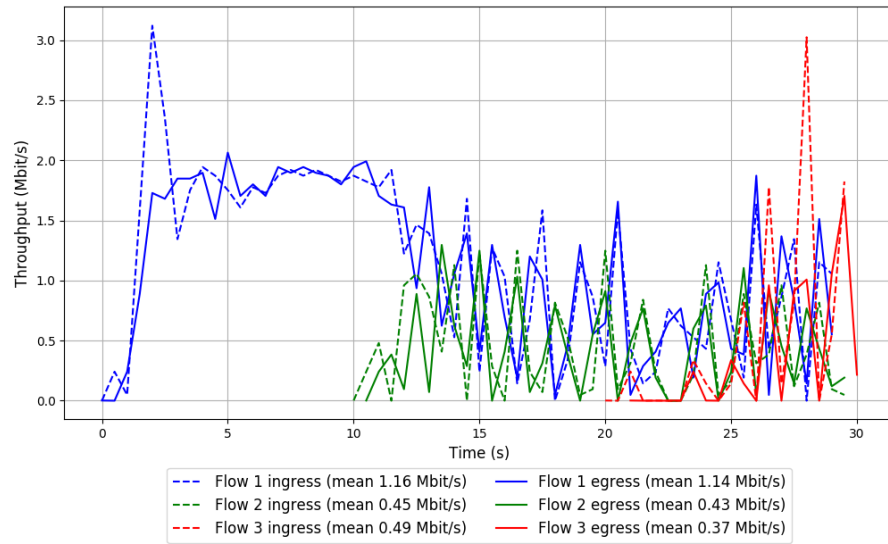


Run 3: Statistics of TCP Vegas

Start at: 2018-02-13 13:01:20
End at: 2018-02-13 13:01:50
Local clock offset: -3.8 ms
Remote clock offset: -3.399 ms

Below is generated by plot.py at 2018-02-13 13:15:59
Datalink statistics
-- Total of 3 flows:
Average throughput: 1.50 Mbit/s
95th percentile per-packet one-way delay: 1820.506 ms
Loss rate: 6.89%
-- Flow 1:
Average throughput: 1.14 Mbit/s
95th percentile per-packet one-way delay: 1720.695 ms
Loss rate: 3.25%
-- Flow 2:
Average throughput: 0.43 Mbit/s
95th percentile per-packet one-way delay: 2258.694 ms
Loss rate: 6.40%
-- Flow 3:
Average throughput: 0.37 Mbit/s
95th percentile per-packet one-way delay: 1710.139 ms
Loss rate: 32.98%

Run 3: Report of TCP Vegas — Data Link

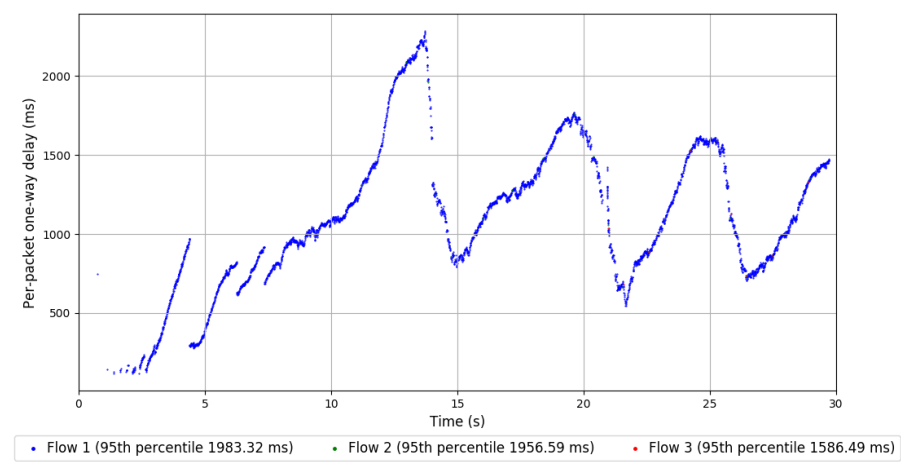
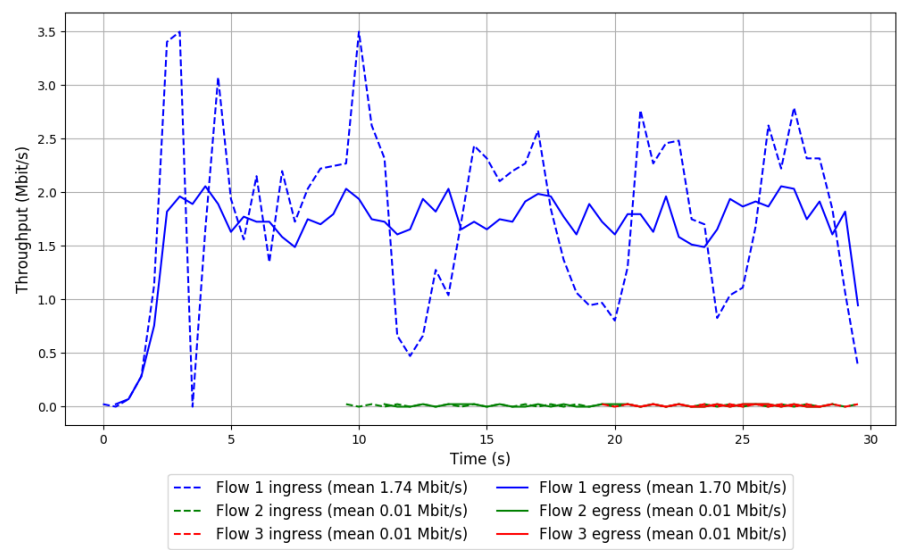


Run 1: Statistics of Verus

Start at: 2018-02-13 12:07:22
End at: 2018-02-13 12:07:52
Local clock offset: -2.08 ms
Remote clock offset: -3.714 ms

Below is generated by plot.py at 2018-02-13 13:15:59
Datalink statistics
-- Total of 3 flows:
Average throughput: 1.71 Mbit/s
95th percentile per-packet one-way delay: 1976.001 ms
Loss rate: 4.33%
-- Flow 1:
Average throughput: 1.70 Mbit/s
95th percentile per-packet one-way delay: 1983.323 ms
Loss rate: 4.27%
-- Flow 2:
Average throughput: 0.01 Mbit/s
95th percentile per-packet one-way delay: 1956.592 ms
Loss rate: 9.52%
-- Flow 3:
Average throughput: 0.01 Mbit/s
95th percentile per-packet one-way delay: 1586.494 ms
Loss rate: 18.18%

Run 1: Report of Verus — Data Link

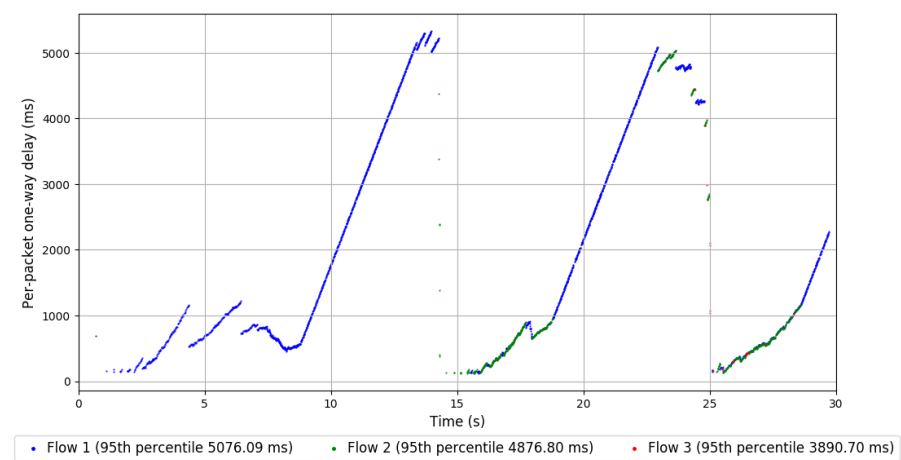
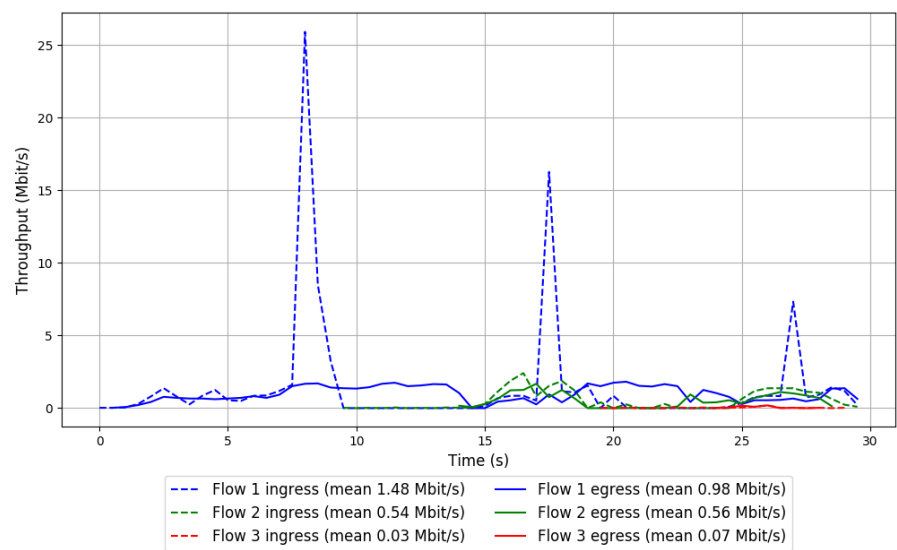


Run 2: Statistics of Verus

Start at: 2018-02-13 12:29:59
End at: 2018-02-13 12:30:29
Local clock offset: -6.022 ms
Remote clock offset: -3.739 ms

Below is generated by plot.py at 2018-02-13 13:15:59
Datalink statistics
-- Total of 3 flows:
Average throughput: 1.27 Mbit/s
95th percentile per-packet one-way delay: 5025.742 ms
Loss rate: 32.73%
-- Flow 1:
Average throughput: 0.98 Mbit/s
95th percentile per-packet one-way delay: 5076.093 ms
Loss rate: 34.92%
-- Flow 2:
Average throughput: 0.56 Mbit/s
95th percentile per-packet one-way delay: 4876.804 ms
Loss rate: 24.48%
-- Flow 3:
Average throughput: 0.07 Mbit/s
95th percentile per-packet one-way delay: 3890.700 ms
Loss rate: 7.69%

Run 2: Report of Verus — Data Link



Run 3: Statistics of Verus

Start at: 2018-02-13 12:52:35

End at: 2018-02-13 12:53:05

Local clock offset: -4.576 ms

Remote clock offset: 2.194 ms

Below is generated by plot.py at 2018-02-13 13:16:00

Datalink statistics

-- Total of 3 flows:

Average throughput: 1.47 Mbit/s

95th percentile per-packet one-way delay: 1891.820 ms

Loss rate: 2.65%

-- Flow 1:

Average throughput: 1.45 Mbit/s

95th percentile per-packet one-way delay: 1891.820 ms

Loss rate: 2.65%

-- Flow 2:

Average throughput: 0.01 Mbit/s

95th percentile per-packet one-way delay: 1871.643 ms

Loss rate: 4.55%

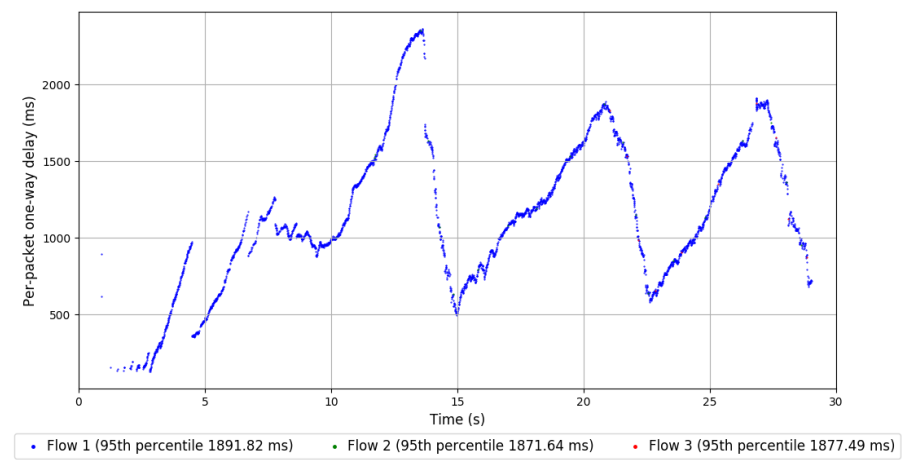
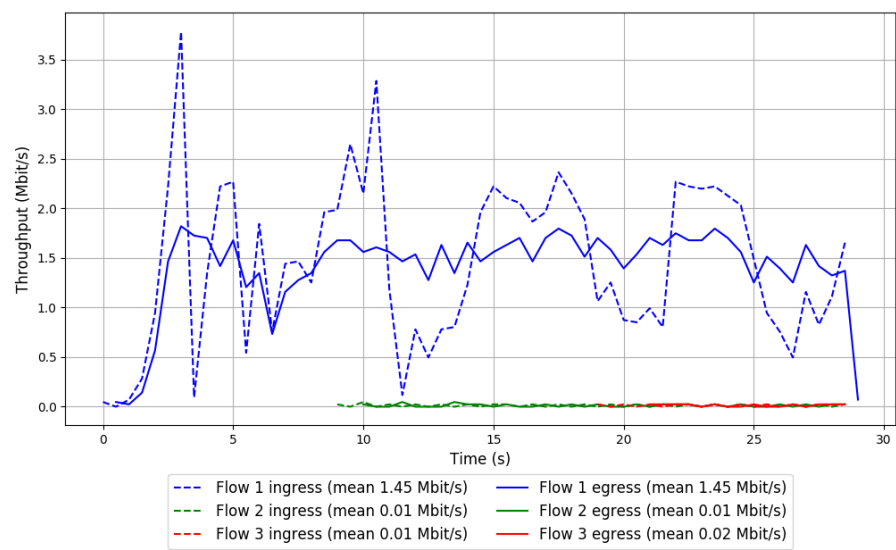
-- Flow 3:

Average throughput: 0.02 Mbit/s

95th percentile per-packet one-way delay: 1877.493 ms

Loss rate: 0.00%

Run 3: Report of Verus — Data Link



Run 1: Statistics of Copa

Start at: 2018-02-13 12:19:52

End at: 2018-02-13 12:20:22

Local clock offset: -5.033 ms

Remote clock offset: 0.263 ms

Below is generated by plot.py at 2018-02-13 13:16:02

Datalink statistics

-- Total of 3 flows:

Average throughput: 0.93 Mbit/s

95th percentile per-packet one-way delay: 596.419 ms

Loss rate: 0.14%

-- Flow 1:

Average throughput: 0.49 Mbit/s

95th percentile per-packet one-way delay: 554.037 ms

Loss rate: 0.09%

-- Flow 2:

Average throughput: 0.48 Mbit/s

95th percentile per-packet one-way delay: 555.815 ms

Loss rate: 0.13%

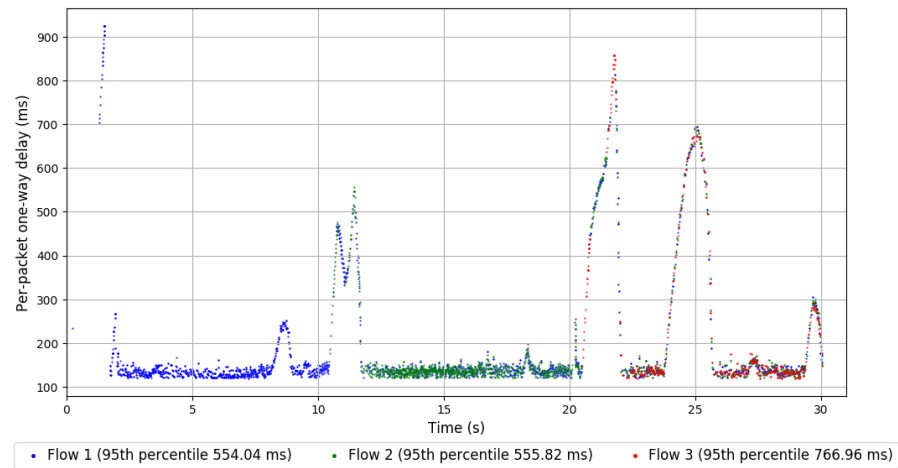
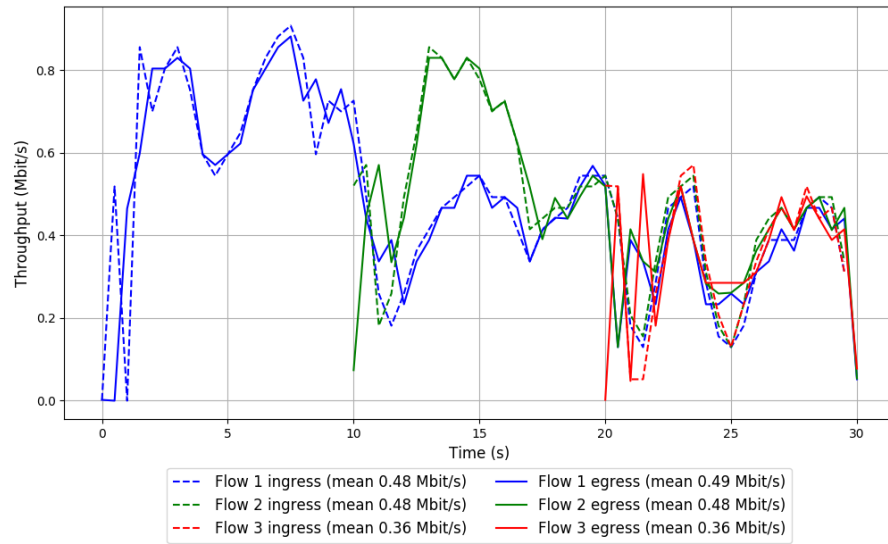
-- Flow 3:

Average throughput: 0.36 Mbit/s

95th percentile per-packet one-way delay: 766.961 ms

Loss rate: 0.36%

Run 1: Report of Copa — Data Link

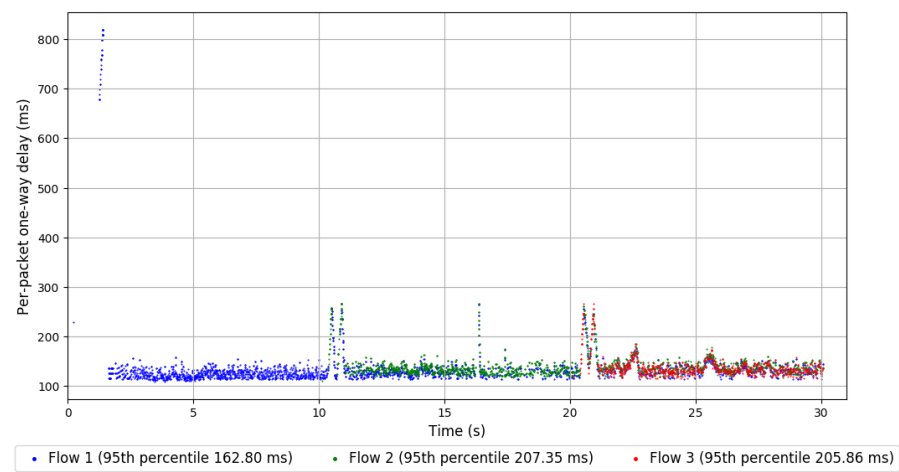
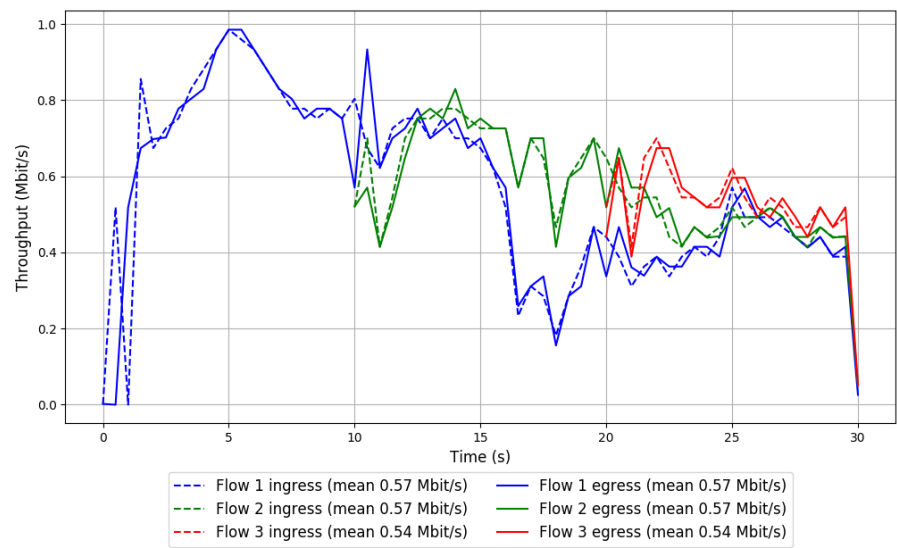


Run 2: Statistics of Copa

Start at: 2018-02-13 12:42:29
End at: 2018-02-13 12:42:59
Local clock offset: -6.515 ms
Remote clock offset: -4.386 ms

Below is generated by plot.py at 2018-02-13 13:16:04
Datalink statistics
-- Total of 3 flows:
Average throughput: 1.14 Mbit/s
95th percentile per-packet one-way delay: 195.166 ms
Loss rate: 0.23%
-- Flow 1:
Average throughput: 0.57 Mbit/s
95th percentile per-packet one-way delay: 162.797 ms
Loss rate: 0.15%
-- Flow 2:
Average throughput: 0.57 Mbit/s
95th percentile per-packet one-way delay: 207.346 ms
Loss rate: 0.23%
-- Flow 3:
Average throughput: 0.54 Mbit/s
95th percentile per-packet one-way delay: 205.864 ms
Loss rate: 0.48%

Run 2: Report of Copa — Data Link

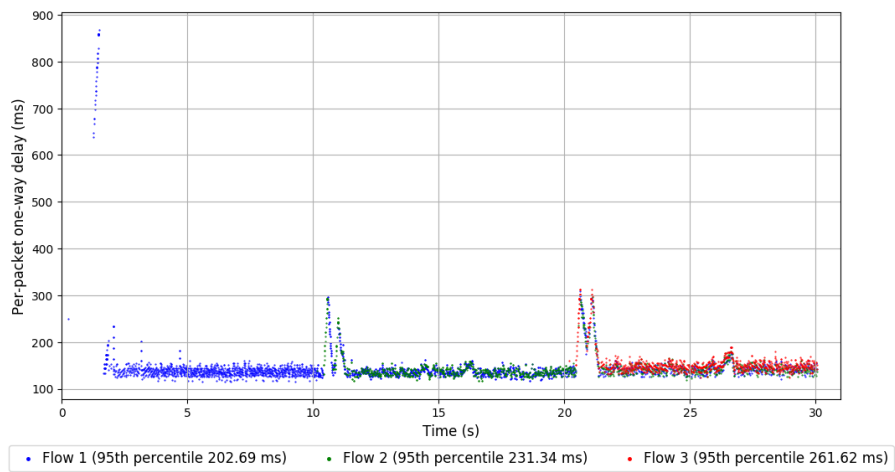
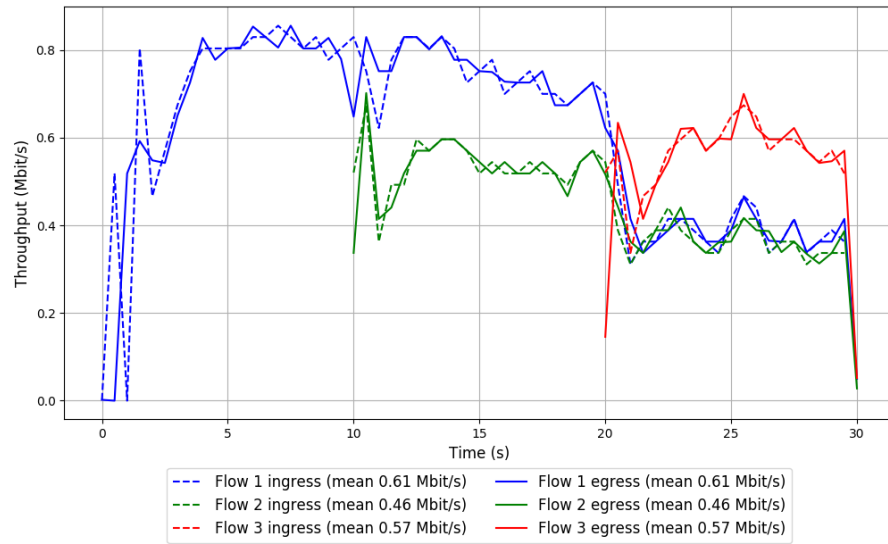


Run 3: Statistics of Copa

Start at: 2018-02-13 13:05:05
End at: 2018-02-13 13:05:35
Local clock offset: -3.612 ms
Remote clock offset: -3.366 ms

```
# Below is generated by plot.py at 2018-02-13 13:16:05
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1.11 Mbit/s
95th percentile per-packet one-way delay: 221.812 ms
Loss rate: 0.20%
-- Flow 1:
Average throughput: 0.61 Mbit/s
95th percentile per-packet one-way delay: 202.687 ms
Loss rate: 0.08%
-- Flow 2:
Average throughput: 0.46 Mbit/s
95th percentile per-packet one-way delay: 231.340 ms
Loss rate: 0.14%
-- Flow 3:
Average throughput: 0.57 Mbit/s
95th percentile per-packet one-way delay: 261.622 ms
Loss rate: 0.69%
```

Run 3: Report of Copa — Data Link



Run 1: Statistics of FillP

Start at: 2018-02-13 12:27:26

End at: 2018-02-13 12:27:56

Local clock offset: -5.805 ms

Remote clock offset: -4.54 ms

Below is generated by plot.py at 2018-02-13 13:16:24

Datalink statistics

-- Total of 3 flows:

Average throughput: 1.84 Mbit/s

95th percentile per-packet one-way delay: 4156.210 ms

Loss rate: 99.18%

-- Flow 1:

Average throughput: 1.64 Mbit/s

95th percentile per-packet one-way delay: 4157.173 ms

Loss rate: 98.79%

-- Flow 2:

Average throughput: 0.37 Mbit/s

95th percentile per-packet one-way delay: 4138.330 ms

Loss rate: 99.68%

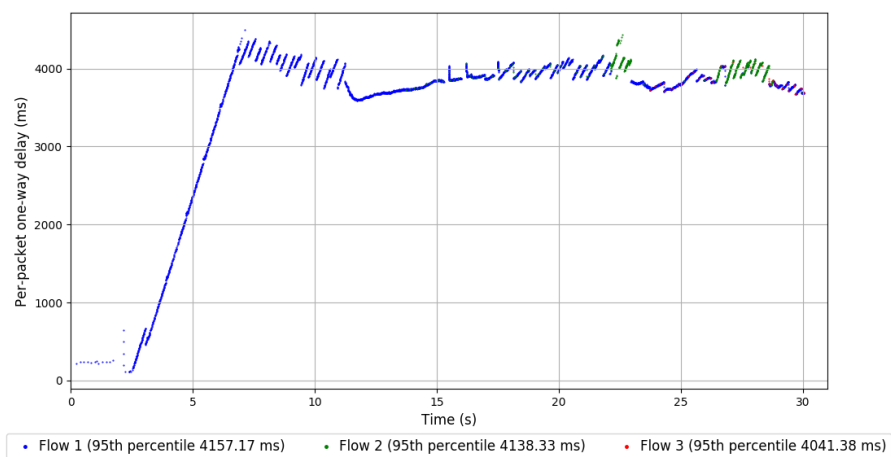
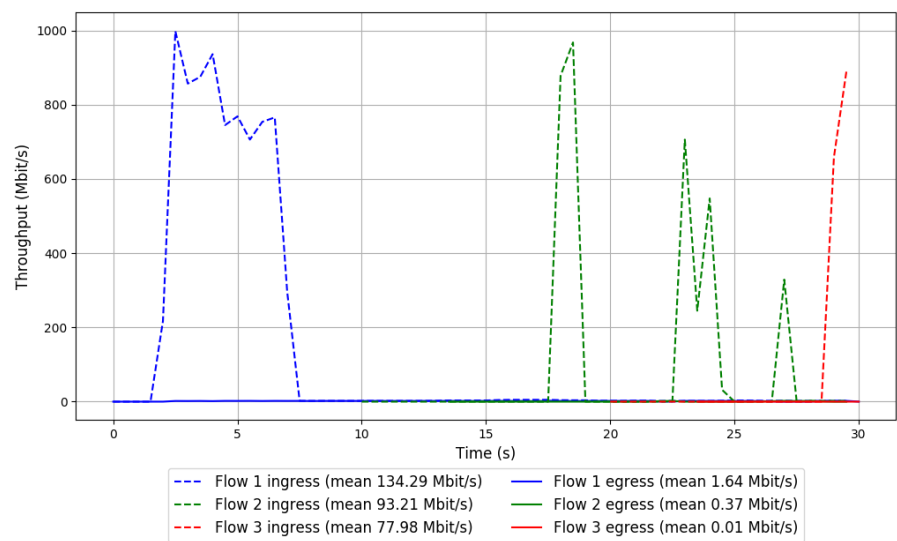
-- Flow 3:

Average throughput: 0.01 Mbit/s

95th percentile per-packet one-way delay: 4041.376 ms

Loss rate: 99.99%

Run 1: Report of FillP — Data Link



Run 2: Statistics of FillP

Start at: 2018-02-13 12:50:00

End at: 2018-02-13 12:50:30

Local clock offset: -5.003 ms

Remote clock offset: 1.373 ms

Below is generated by plot.py at 2018-02-13 13:16:25

Datalink statistics

-- Total of 3 flows:

Average throughput: 1.61 Mbit/s

95th percentile per-packet one-way delay: 4796.036 ms

Loss rate: 99.29%

-- Flow 1:

Average throughput: 1.53 Mbit/s

95th percentile per-packet one-way delay: 4791.489 ms

Loss rate: 99.02%

-- Flow 2:

Average throughput: 0.15 Mbit/s

95th percentile per-packet one-way delay: 4945.663 ms

Loss rate: 99.86%

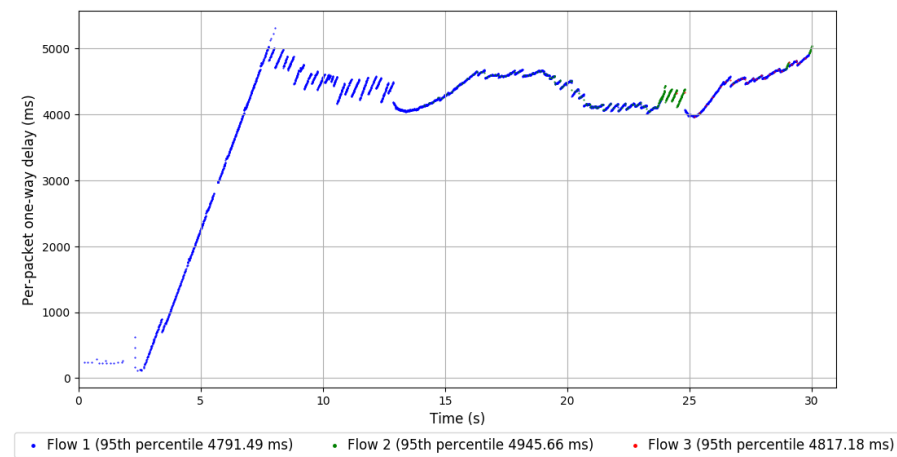
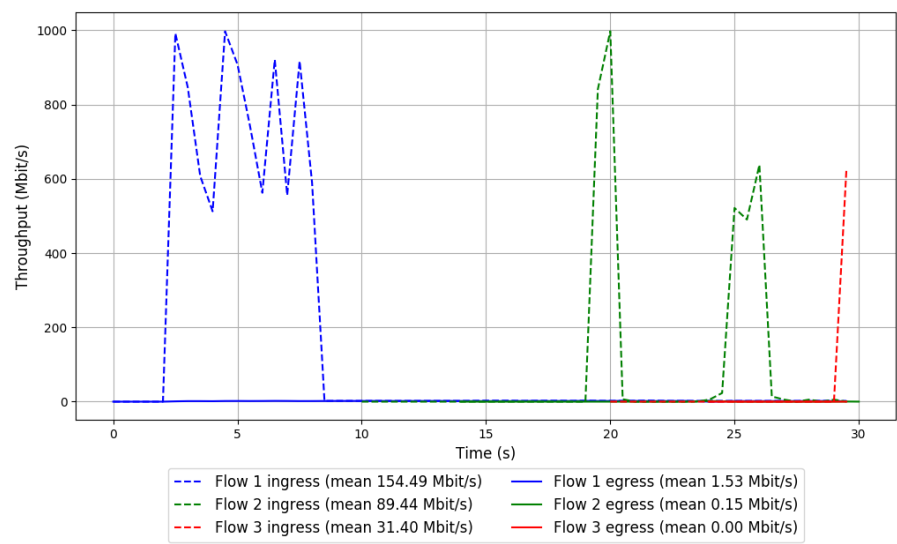
-- Flow 3:

Average throughput: 0.00 Mbit/s

95th percentile per-packet one-way delay: 4817.177 ms

Loss rate: 99.99%

Run 2: Report of FillP — Data Link



Run 3: Statistics of FillP

Start at: 2018-02-13 13:12:36

End at: 2018-02-13 13:13:07

Local clock offset: -3.282 ms

Remote clock offset: 1.371 ms

Below is generated by plot.py at 2018-02-13 13:16:25

Datalink statistics

-- Total of 3 flows:

Average throughput: 1.27 Mbit/s

95th percentile per-packet one-way delay: 6133.877 ms

Loss rate: 99.22%

-- Flow 1:

Average throughput: 1.26 Mbit/s

95th percentile per-packet one-way delay: 6136.329 ms

Loss rate: 99.23%

-- Flow 2:

Average throughput: 0.01 Mbit/s

95th percentile per-packet one-way delay: 5824.847 ms

Loss rate: 11.41%

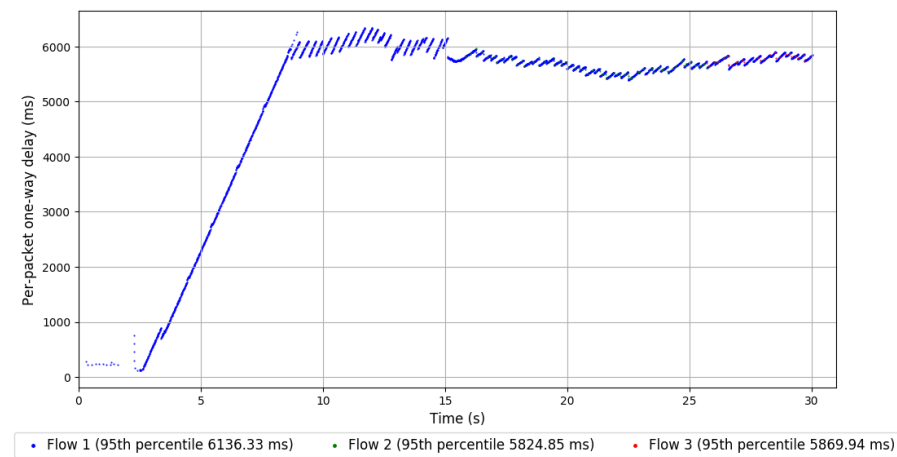
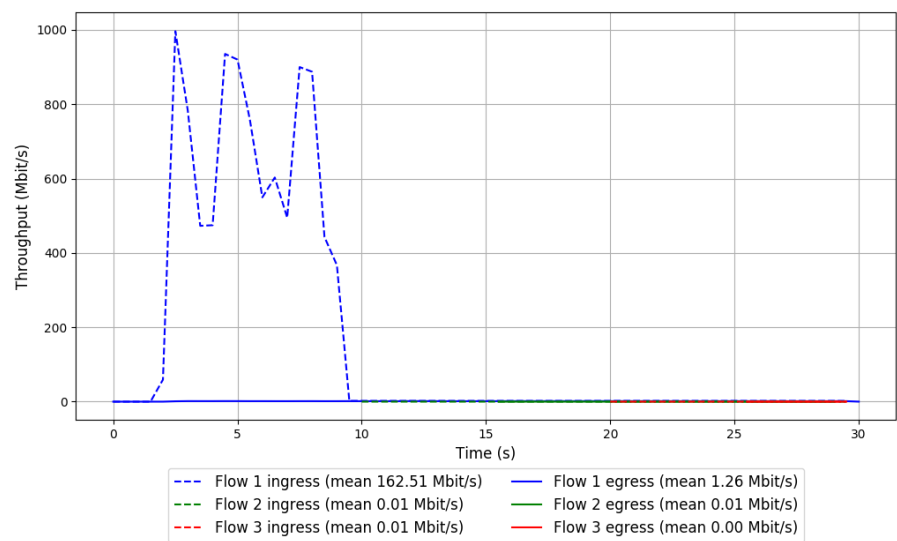
-- Flow 3:

Average throughput: 0.00 Mbit/s

95th percentile per-packet one-way delay: 5869.935 ms

Loss rate: 77.34%

Run 3: Report of FillP — Data Link



Run 1: Statistics of Indigo-1-32

Start at: 2018-02-13 12:21:10

End at: 2018-02-13 12:21:40

Local clock offset: -5.173 ms

Remote clock offset: -4.57 ms

Below is generated by plot.py at 2018-02-13 13:16:25

Datalink statistics

-- Total of 3 flows:

Average throughput: 1.49 Mbit/s

95th percentile per-packet one-way delay: 267.682 ms

Loss rate: 0.25%

-- Flow 1:

Average throughput: 0.70 Mbit/s

95th percentile per-packet one-way delay: 277.398 ms

Loss rate: 0.12%

-- Flow 2:

Average throughput: 0.87 Mbit/s

95th percentile per-packet one-way delay: 237.633 ms

Loss rate: 0.49%

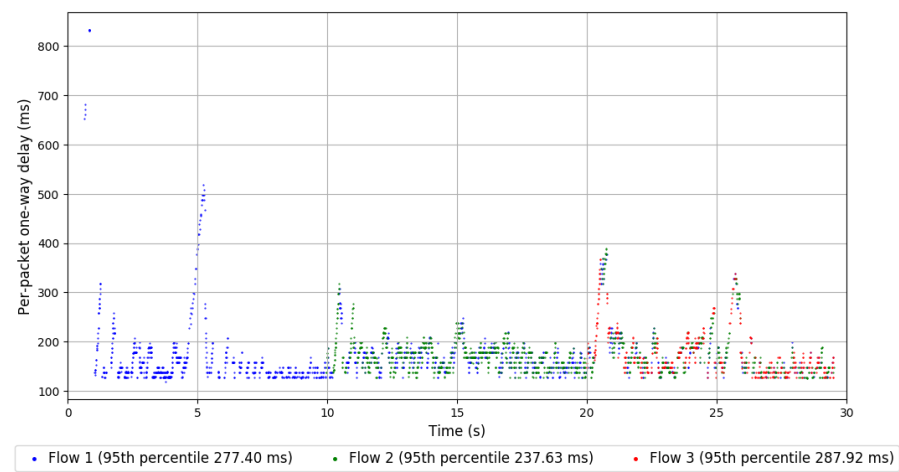
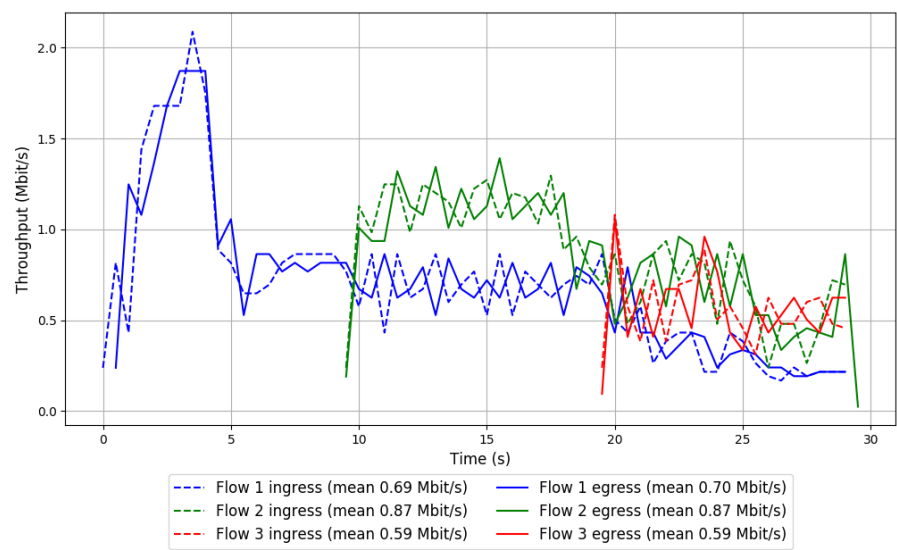
-- Flow 3:

Average throughput: 0.59 Mbit/s

95th percentile per-packet one-way delay: 287.915 ms

Loss rate: 0.00%

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

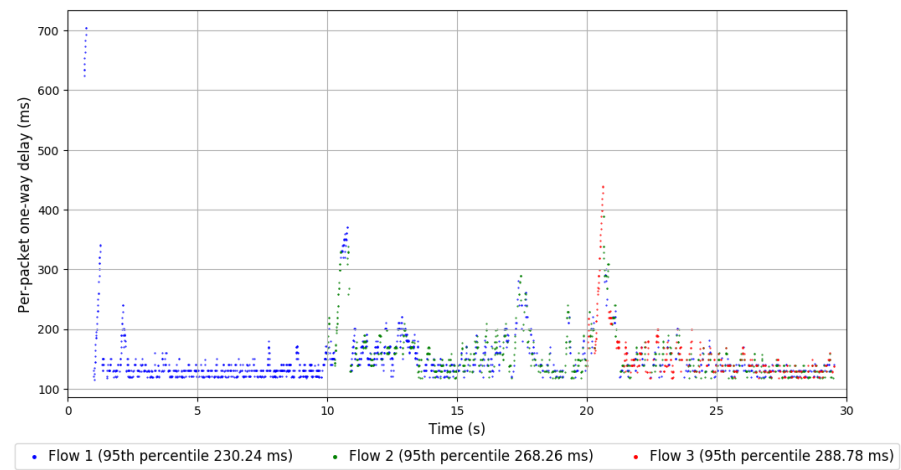
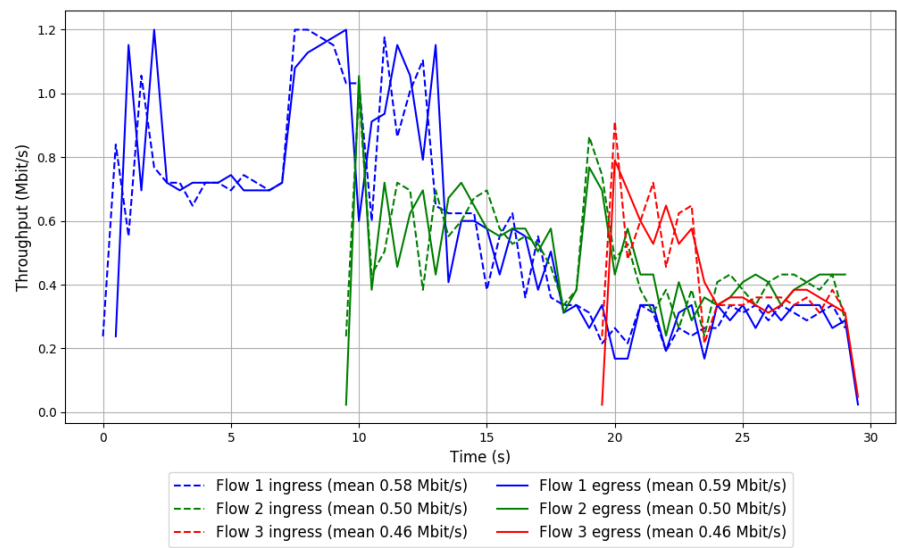


Run 2: Statistics of Indigo-1-32

Start at: 2018-02-13 12:43:44
End at: 2018-02-13 12:44:14
Local clock offset: -6.198 ms
Remote clock offset: -3.498 ms

Below is generated by plot.py at 2018-02-13 13:16:25
Datalink statistics
-- Total of 3 flows:
Average throughput: 1.08 Mbit/s
95th percentile per-packet one-way delay: 258.346 ms
Loss rate: 0.12%
-- Flow 1:
Average throughput: 0.59 Mbit/s
95th percentile per-packet one-way delay: 230.244 ms
Loss rate: 0.14%
-- Flow 2:
Average throughput: 0.50 Mbit/s
95th percentile per-packet one-way delay: 268.264 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.46 Mbit/s
95th percentile per-packet one-way delay: 288.776 ms
Loss rate: 0.28%

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



Run 3: Statistics of Indigo-1-32

Start at: 2018-02-13 13:06:20

End at: 2018-02-13 13:06:50

Local clock offset: -3.555 ms

Remote clock offset: -3.42 ms

Below is generated by plot.py at 2018-02-13 13:16:25

Datalink statistics

-- Total of 3 flows:

Average throughput: 1.18 Mbit/s

95th percentile per-packet one-way delay: 264.617 ms

Loss rate: 0.25%

-- Flow 1:

Average throughput: 0.62 Mbit/s

95th percentile per-packet one-way delay: 264.035 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 0.52 Mbit/s

95th percentile per-packet one-way delay: 265.122 ms

Loss rate: 0.35%

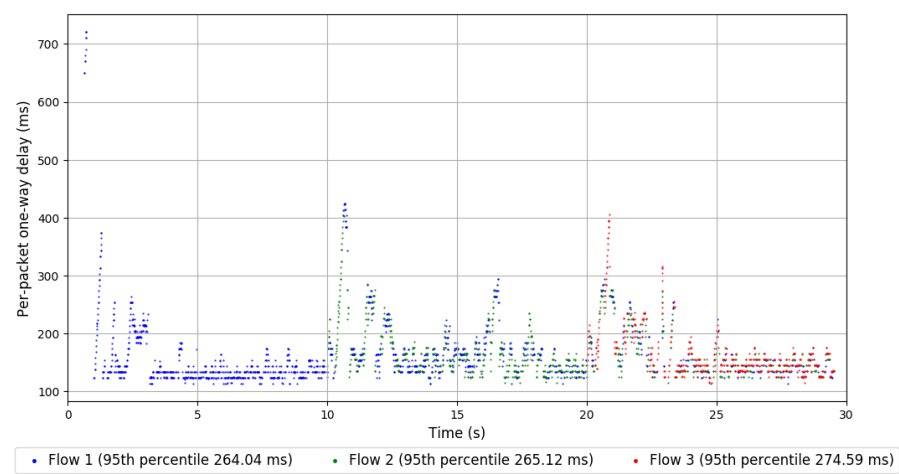
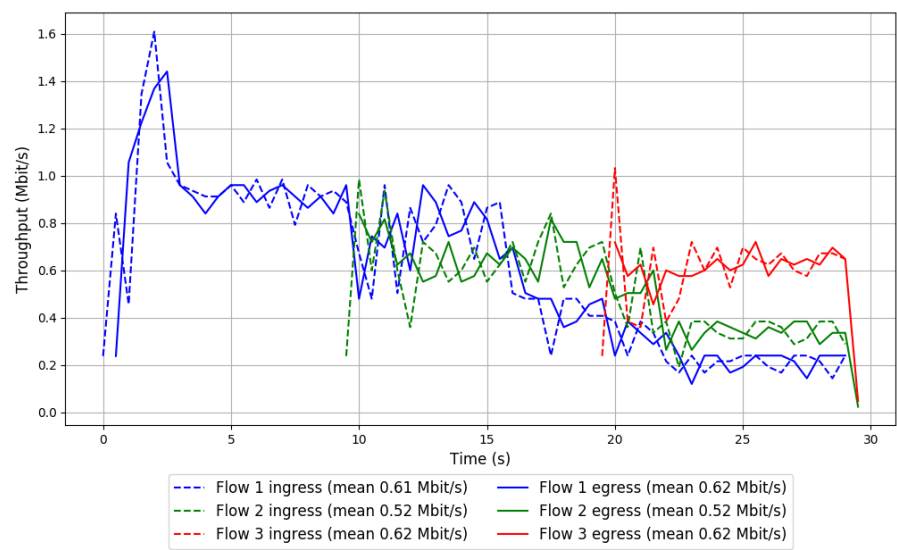
-- Flow 3:

Average throughput: 0.62 Mbit/s

95th percentile per-packet one-way delay: 274.593 ms

Loss rate: 0.80%

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

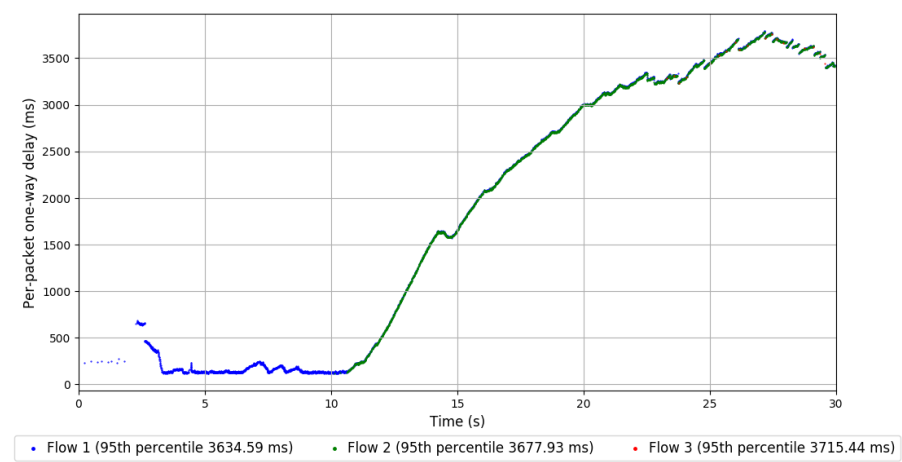
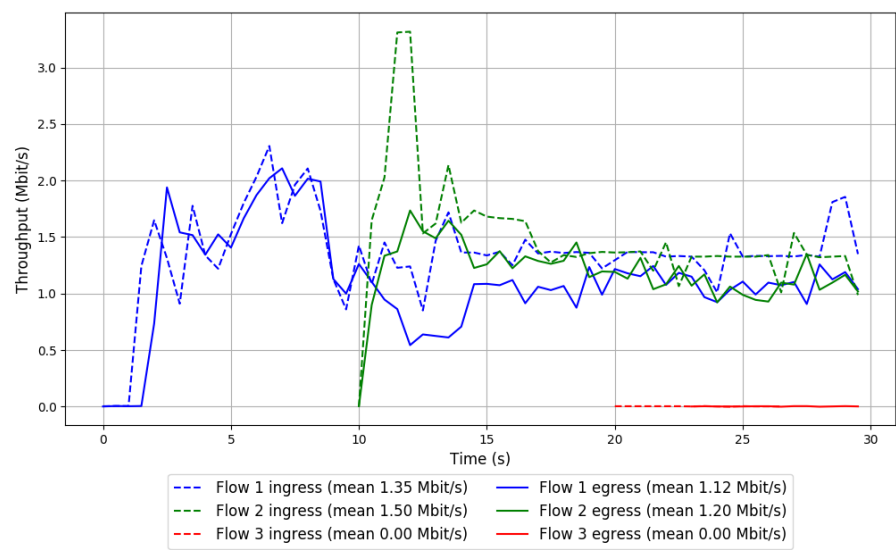


Run 1: Statistics of Vivace-latency

Start at: 2018-02-13 12:23:39
End at: 2018-02-13 12:24:09
Local clock offset: -5.46 ms
Remote clock offset: -4.563 ms

Below is generated by plot.py at 2018-02-13 13:16:25
Datalink statistics
-- Total of 3 flows:
Average throughput: 1.92 Mbit/s
95th percentile per-packet one-way delay: 3667.370 ms
Loss rate: 18.68%
-- Flow 1:
Average throughput: 1.12 Mbit/s
95th percentile per-packet one-way delay: 3634.592 ms
Loss rate: 17.50%
-- Flow 2:
Average throughput: 1.20 Mbit/s
95th percentile per-packet one-way delay: 3677.930 ms
Loss rate: 20.29%
-- Flow 3:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 3715.442 ms
Loss rate: 14.01%

Run 1: Report of Vivace-latency — Data Link



Run 2: Statistics of Vivace-latency

Start at: 2018-02-13 12:46:14

End at: 2018-02-13 12:46:44

Local clock offset: -5.611 ms

Remote clock offset: 1.365 ms

Below is generated by plot.py at 2018-02-13 13:16:25

Datalink statistics

-- Total of 3 flows:

Average throughput: 1.23 Mbit/s

95th percentile per-packet one-way delay: 6628.939 ms

Loss rate: 12.05%

-- Flow 1:

Average throughput: 1.23 Mbit/s

95th percentile per-packet one-way delay: 6628.785 ms

Loss rate: 12.07%

-- Flow 2:

Average throughput: 0.00 Mbit/s

95th percentile per-packet one-way delay: 6683.940 ms

Loss rate: 0.00%

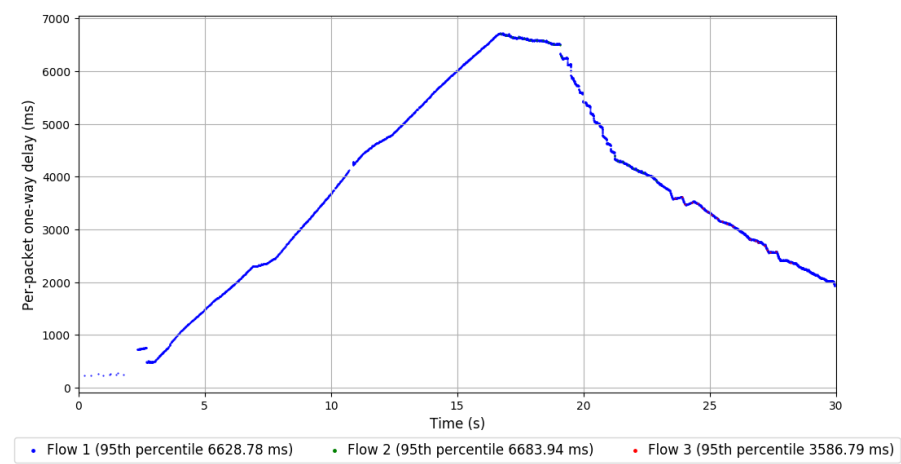
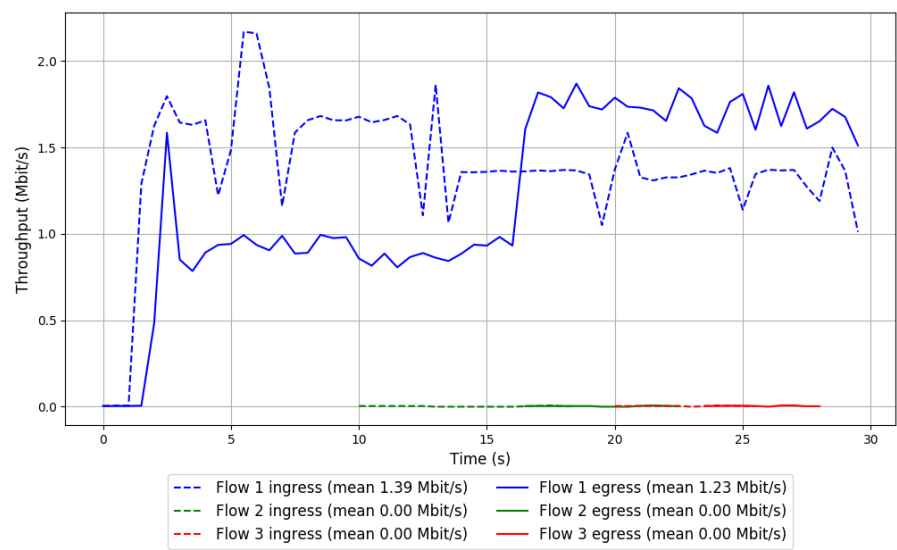
-- Flow 3:

Average throughput: 0.00 Mbit/s

95th percentile per-packet one-way delay: 3586.789 ms

Loss rate: 0.00%

Run 2: Report of Vivace-latency — Data Link



Run 3: Statistics of Vivace-latency

Start at: 2018-02-13 13:08:50

End at: 2018-02-13 13:09:20

Local clock offset: -3.508 ms

Remote clock offset: 0.678 ms

Below is generated by plot.py at 2018-02-13 13:16:25

Datalink statistics

-- Total of 3 flows:

Average throughput: 1.33 Mbit/s

95th percentile per-packet one-way delay: 5950.260 ms

Loss rate: 44.20%

-- Flow 1:

Average throughput: 0.77 Mbit/s

95th percentile per-packet one-way delay: 5928.743 ms

Loss rate: 39.40%

-- Flow 2:

Average throughput: 0.84 Mbit/s

95th percentile per-packet one-way delay: 5968.114 ms

Loss rate: 49.65%

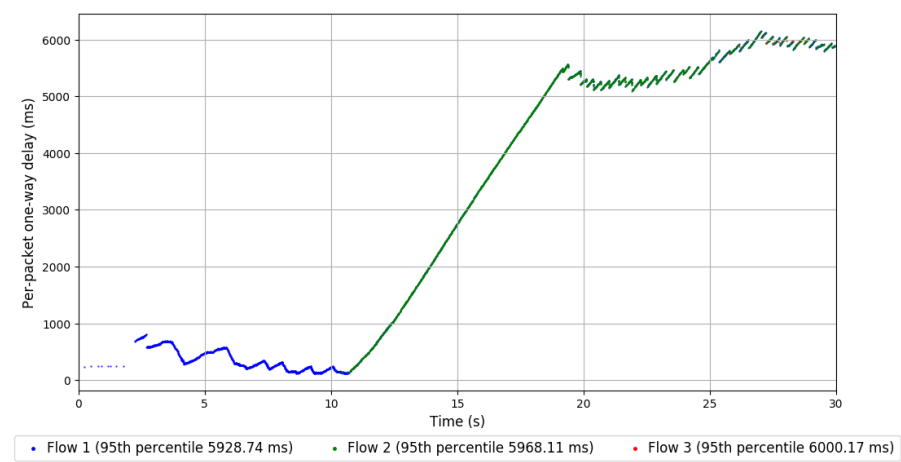
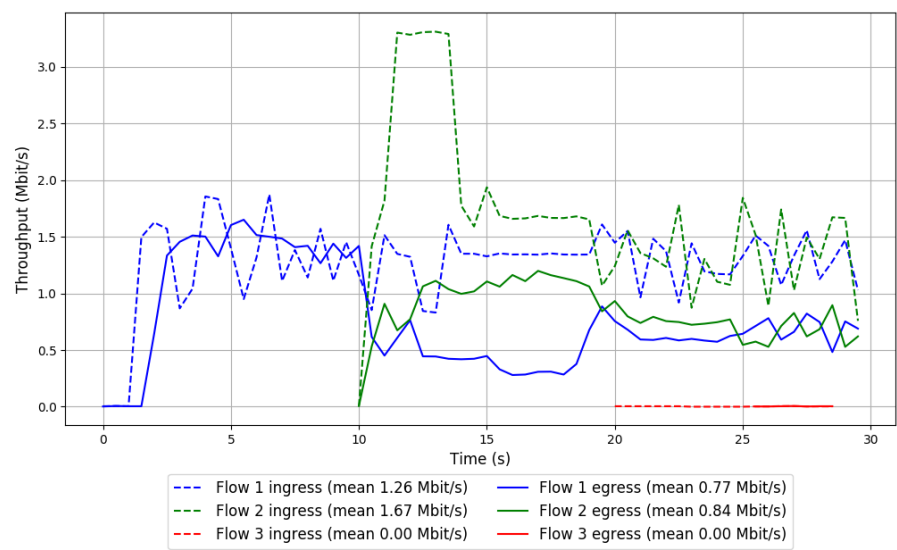
-- Flow 3:

Average throughput: 0.00 Mbit/s

95th percentile per-packet one-way delay: 6000.171 ms

Loss rate: 47.76%

Run 3: Report of Vivace-latency — Data Link

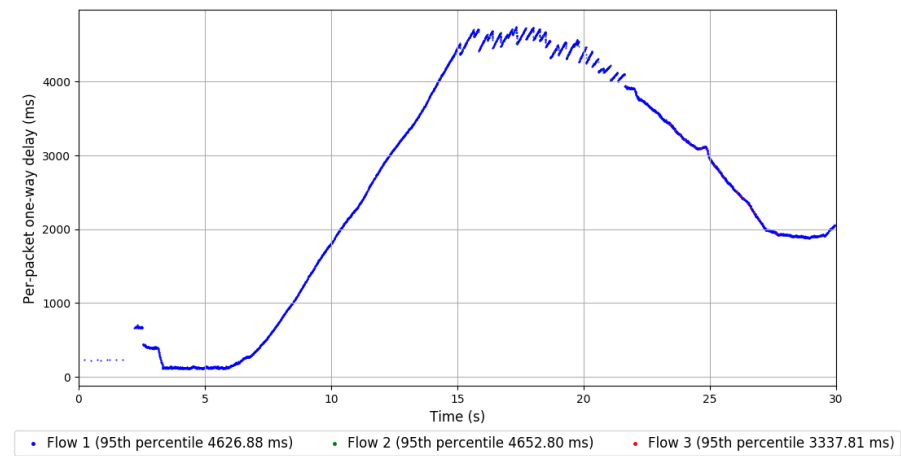
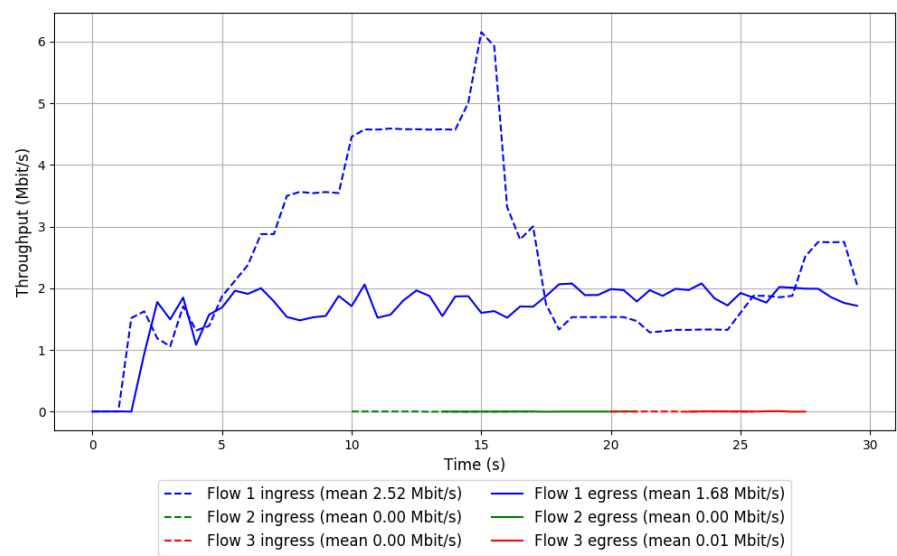


Run 1: Statistics of Vivace-loss

Start at: 2018-02-13 12:09:53
End at: 2018-02-13 12:10:23
Local clock offset: -2.496 ms
Remote clock offset: -4.582 ms

Below is generated by plot.py at 2018-02-13 13:16:25
Datalink statistics
-- Total of 3 flows:
Average throughput: 1.68 Mbit/s
95th percentile per-packet one-way delay: 4626.878 ms
Loss rate: 33.48%
-- Flow 1:
Average throughput: 1.68 Mbit/s
95th percentile per-packet one-way delay: 4626.878 ms
Loss rate: 33.50%
-- Flow 2:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 4652.796 ms
Loss rate: 4.35%
-- Flow 3:
Average throughput: 0.01 Mbit/s
95th percentile per-packet one-way delay: 3337.807 ms
Loss rate: 0.00%

Run 1: Report of Vivace-loss — Data Link



Run 2: Statistics of Vivace-loss

Start at: 2018-02-13 12:32:30

End at: 2018-02-13 12:33:00

Local clock offset: -6.144 ms

Remote clock offset: 1.093 ms

Below is generated by plot.py at 2018-02-13 13:16:25

Datalink statistics

-- Total of 3 flows:

Average throughput: 1.64 Mbit/s

95th percentile per-packet one-way delay: 4605.304 ms

Loss rate: 30.91%

-- Flow 1:

Average throughput: 1.64 Mbit/s

95th percentile per-packet one-way delay: 4605.671 ms

Loss rate: 30.93%

-- Flow 2:

Average throughput: 0.00 Mbit/s

95th percentile per-packet one-way delay: 4604.094 ms

Loss rate: 5.31%

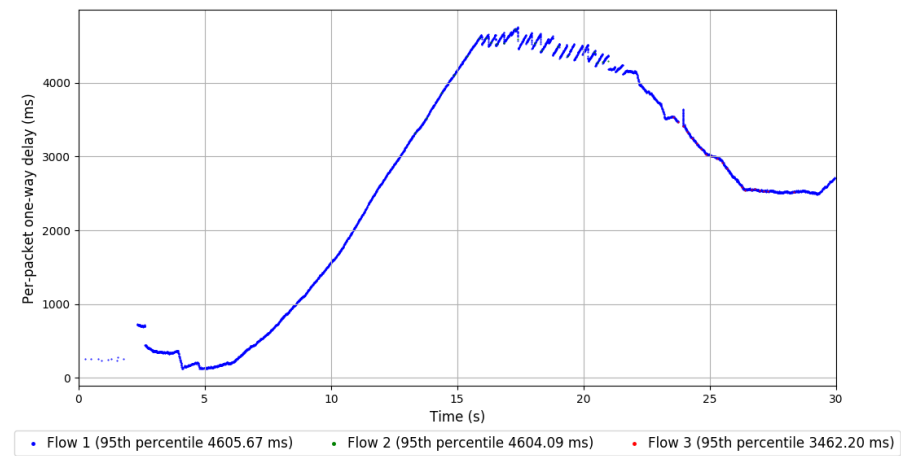
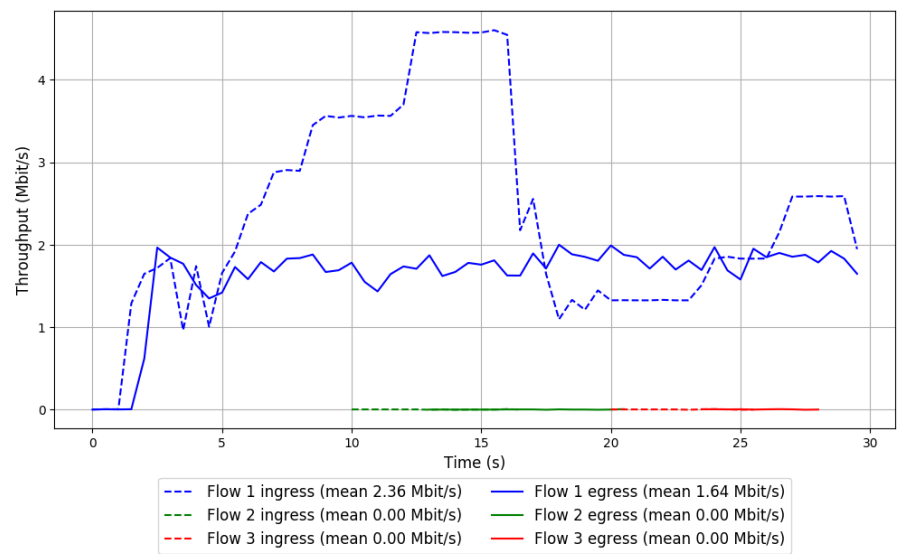
-- Flow 3:

Average throughput: 0.00 Mbit/s

95th percentile per-packet one-way delay: 3462.204 ms

Loss rate: 0.00%

Run 2: Report of Vivace-loss — Data Link

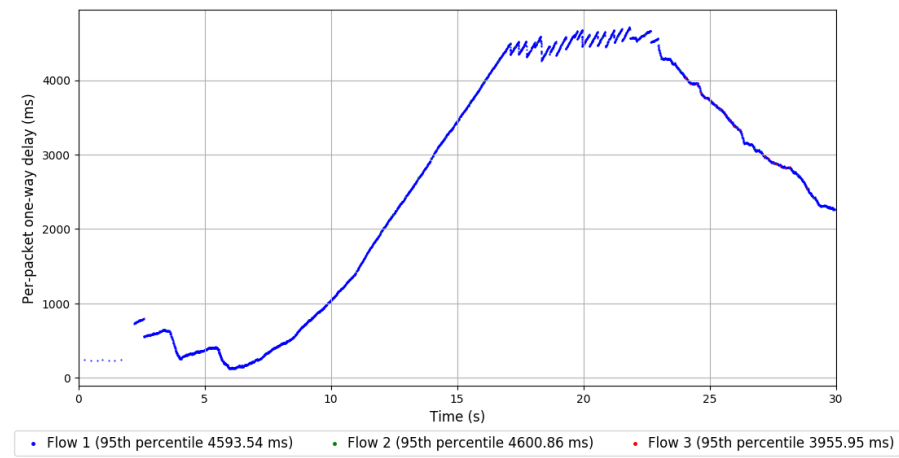
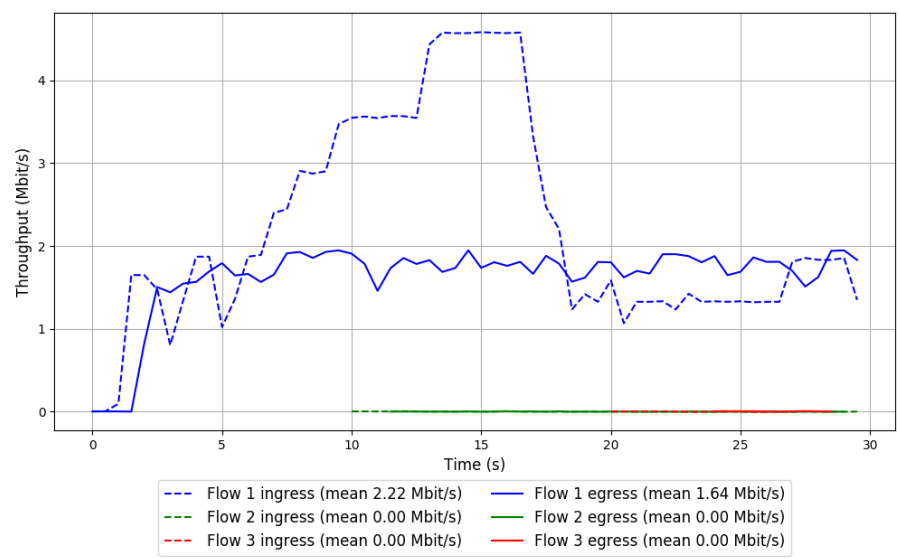


Run 3: Statistics of Vivace-loss

Start at: 2018-02-13 12:55:05
End at: 2018-02-13 12:55:35
Local clock offset: -4.354 ms
Remote clock offset: -4.198 ms

Below is generated by plot.py at 2018-02-13 13:16:25
Datalink statistics
-- Total of 3 flows:
Average throughput: 1.64 Mbit/s
95th percentile per-packet one-way delay: 4593.488 ms
Loss rate: 26.81%
-- Flow 1:
Average throughput: 1.64 Mbit/s
95th percentile per-packet one-way delay: 4593.536 ms
Loss rate: 26.82%
-- Flow 2:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 4600.858 ms
Loss rate: 17.80%
-- Flow 3:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 3955.952 ms
Loss rate: 0.00%

Run 3: Report of Vivace-loss — Data Link



Run 1: Statistics of Vivace-LTE

Start at: 2018-02-13 12:18:38

End at: 2018-02-13 12:19:08

Local clock offset: -4.84 ms

Remote clock offset: 2.031 ms

Below is generated by plot.py at 2018-02-13 13:16:25

Datalink statistics

-- Total of 3 flows:

Average throughput: 1.18 Mbit/s

95th percentile per-packet one-way delay: 5697.894 ms

Loss rate: 13.92%

-- Flow 1:

Average throughput: 1.18 Mbit/s

95th percentile per-packet one-way delay: 5697.132 ms

Loss rate: 13.92%

-- Flow 2:

Average throughput: 0.00 Mbit/s

95th percentile per-packet one-way delay: 5835.452 ms

Loss rate: 11.06%

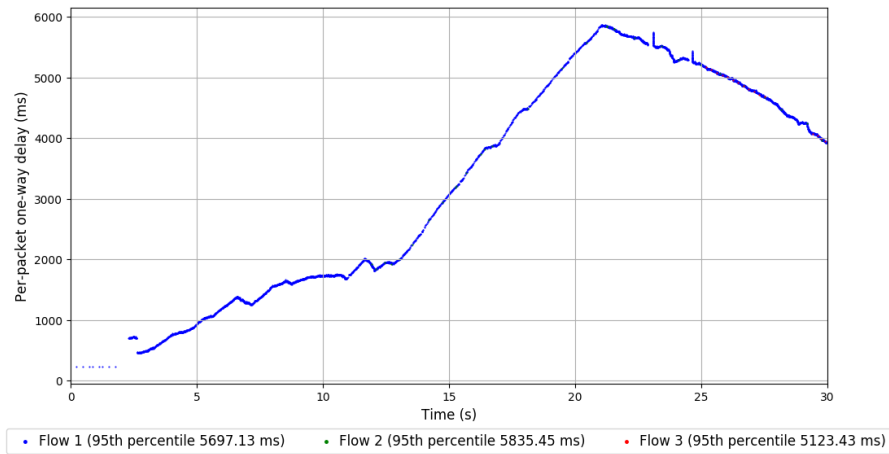
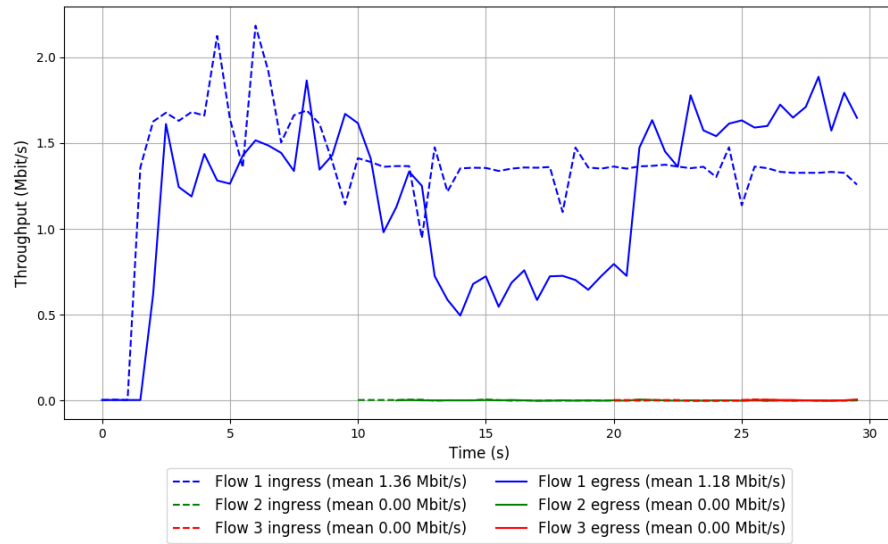
-- Flow 3:

Average throughput: 0.00 Mbit/s

95th percentile per-packet one-way delay: 5123.425 ms

Loss rate: 22.41%

Run 1: Report of Vivace-LTE — Data Link



Run 2: Statistics of Vivace-LTE

Start at: 2018-02-13 12:41:14

End at: 2018-02-13 12:41:44

Local clock offset: -6.413 ms

Remote clock offset: 0.37 ms

Below is generated by plot.py at 2018-02-13 13:16:25

Datalink statistics

-- Total of 3 flows:

Average throughput: 1.58 Mbit/s

95th percentile per-packet one-way delay: 5243.351 ms

Loss rate: 37.63%

-- Flow 1:

Average throughput: 0.97 Mbit/s

95th percentile per-packet one-way delay: 5154.220 ms

Loss rate: 31.87%

-- Flow 2:

Average throughput: 0.94 Mbit/s

95th percentile per-packet one-way delay: 5305.555 ms

Loss rate: 44.94%

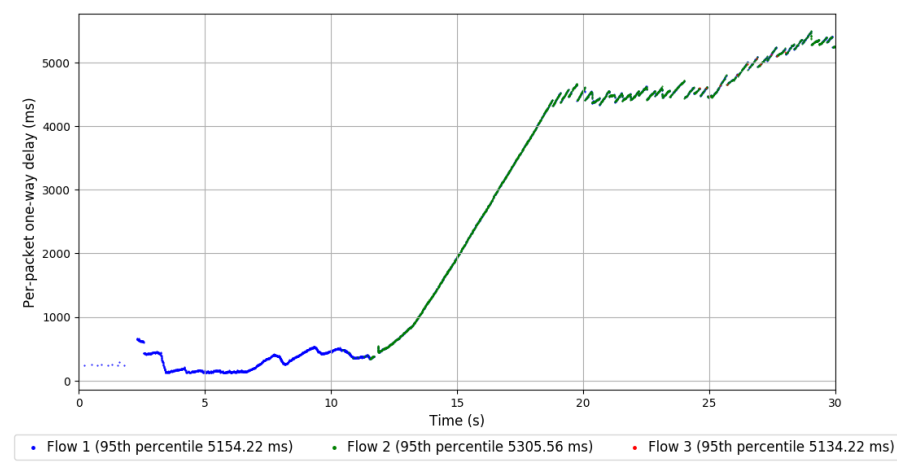
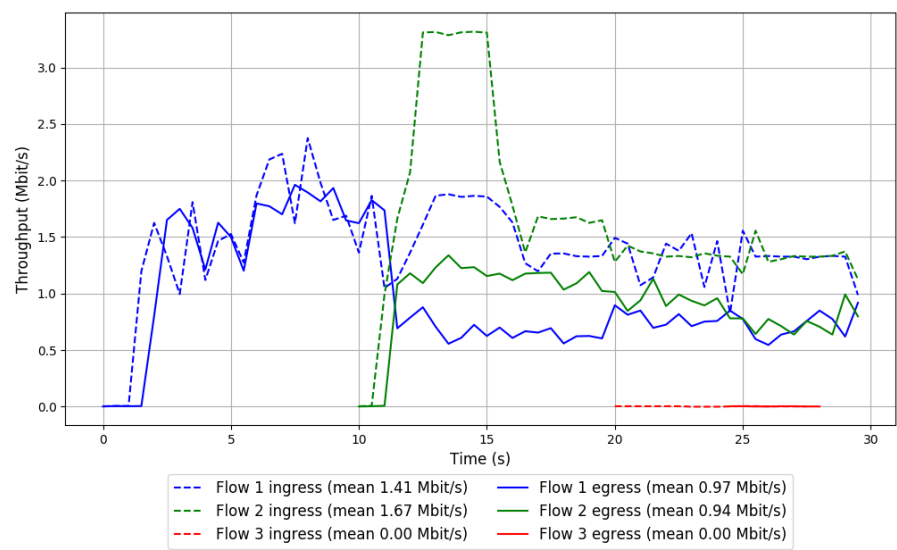
-- Flow 3:

Average throughput: 0.00 Mbit/s

95th percentile per-packet one-way delay: 5134.224 ms

Loss rate: 47.76%

Run 2: Report of Vivace-LTE — Data Link



Run 3: Statistics of Vivace-LTE

Start at: 2018-02-13 13:03:50
End at: 2018-02-13 13:04:20
Local clock offset: -3.679 ms
Remote clock offset: -3.295 ms

Below is generated by plot.py at 2018-02-13 13:16:25
Datalink statistics
-- Total of 3 flows:
Average throughput: 1.48 Mbit/s
95th percentile per-packet one-way delay: 4633.634 ms
Loss rate: 37.39%
-- Flow 1:
Average throughput: 0.86 Mbit/s
95th percentile per-packet one-way delay: 4608.588 ms
Loss rate: 33.02%
-- Flow 2:
Average throughput: 0.94 Mbit/s
95th percentile per-packet one-way delay: 4671.676 ms
Loss rate: 42.60%
-- Flow 3:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 4815.174 ms
Loss rate: 28.02%

Run 3: Report of Vivace-LTE — Data Link

