

Pantheon Report

Generated at 2018-03-05 22:20:57 (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).

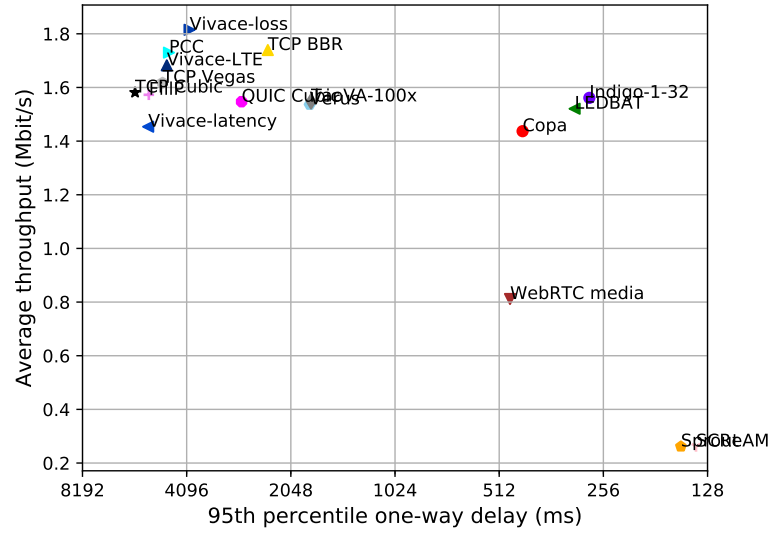
Tested BBR with qdisc of Fair Queuing (**fq**), and other schemes with the default Linux qdisc (**pfifo_fast**).

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

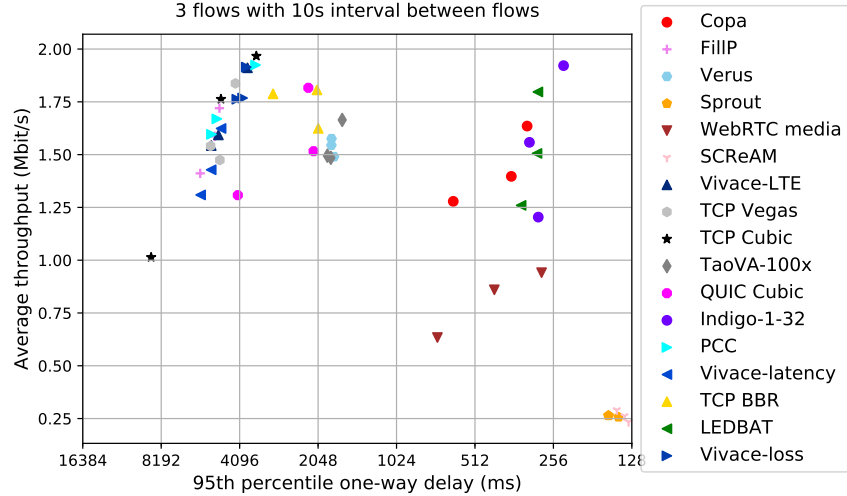
Git summary:

```
branch: master @ f12c42a2c63fdd9a862eefa0468859bf379b6623
third_party/calibrated_koho @ 3cb73c0d1c0322cdfae446ea37a522e53227db50
M datagrump/sender.cc
third_party/fillp @ 828bbf95fd4941149b5cec90f281d1c69ae1a5c6
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 @ 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	1.10	0.91	0.14	2339.66	2434.09	2183.97	3.28	6.40	15.32
TCP Cubic	3	1.56	0.04	0.00	5780.78	4791.00	5978.06	19.55	45.88	72.12
LEDBAT	3	1.16	0.36	0.36	309.72	374.33	297.09	0.44	0.49	1.77
PCC	3	1.73	0.00	0.00	4607.61	4463.01	4077.80	62.73	1.45	11.21
QUIC Cubic	3	1.22	0.45	0.11	2702.12	2976.48	2504.69	5.95	14.67	41.90
SCReAM	3	0.08	0.18	0.18	124.74	135.72	141.23	0.13	0.07	0.34
WebRTC media	3	0.46	0.25	0.11	413.98	531.84	477.39	0.10	0.18	0.97
Sprout	3	0.13	0.14	0.13	165.32	148.34	144.23	0.22	0.03	0.04
TaoVA-100x	3	0.87	0.70	0.67	819.12	1914.53	1863.76	1.28	2.47	4.76
TCP Vegas	3	1.60	0.02	0.04	4808.77	4715.42	3563.37	20.08	50.02	55.16
Verus	3	1.52	0.01	0.01	1805.70	1857.17	1818.99	4.08	6.43	6.36
Copa	3	0.85	0.62	0.52	394.44	450.60	498.18	0.28	0.60	1.52
FillP	3	1.57	0.01	0.01	5267.58	5303.98	4628.04	95.28	11.62	92.09
Indigo-1-32	3	0.89	0.66	0.74	247.39	303.88	339.41	0.09	0.42	0.79
Vivace-latency	3	0.87	0.89	0.00	5224.12	5331.57	5045.35	33.47	49.43	42.82
Vivace-loss	3	1.81	0.00	0.00	4017.68	3989.75	3645.52	33.12	20.46	0.00
Vivace-LTE	3	1.22	0.70	0.00	4658.54	4661.11	4484.93	22.68	28.52	12.74

Run 1: Statistics of TCP BBR

Start at: 2018-03-05 21:13:37

End at: 2018-03-05 21:14:07

Local clock offset: -5.686 ms

Remote clock offset: 0.314 ms

Below is generated by plot.py at 2018-03-05 22:20:13

Datalink statistics

-- Total of 3 flows:

Average throughput: 1.79 Mbit/s

95th percentile per-packet one-way delay: 3048.369 ms

Loss rate: 8.88%

-- Flow 1:

Average throughput: 1.12 Mbit/s

95th percentile per-packet one-way delay: 2924.305 ms

Loss rate: 6.88%

-- Flow 2:

Average throughput: 0.97 Mbit/s

95th percentile per-packet one-way delay: 3151.840 ms

Loss rate: 11.31%

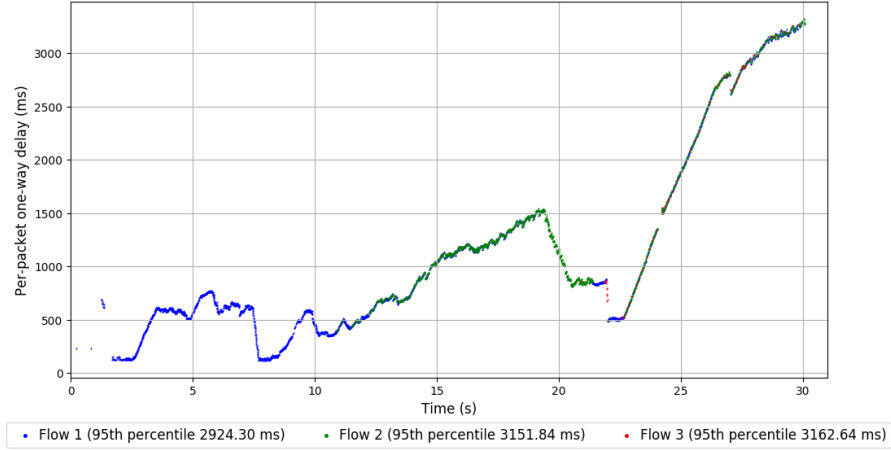
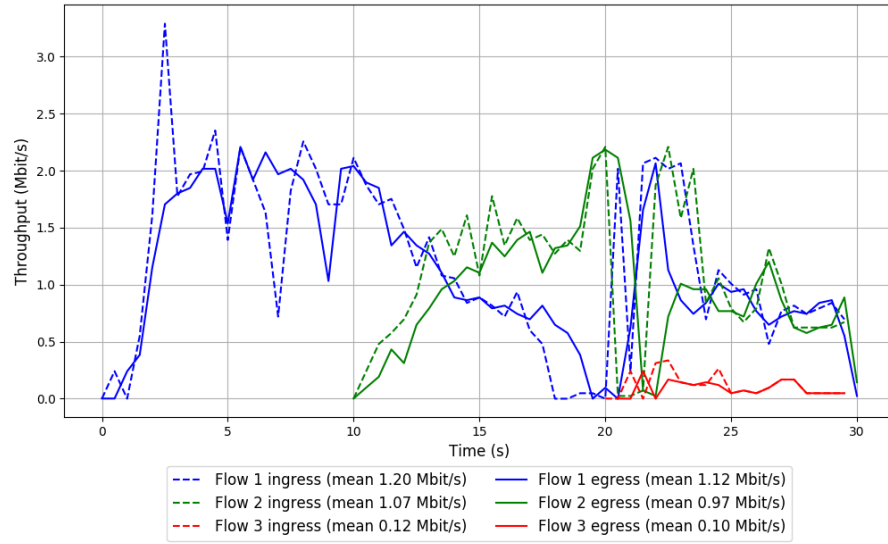
-- Flow 3:

Average throughput: 0.10 Mbit/s

95th percentile per-packet one-way delay: 3162.640 ms

Loss rate: 25.74%

Run 1: Report of TCP BBR — Data Link



Run 2: Statistics of TCP BBR

Start at: 2018-03-05 21:36:03

End at: 2018-03-05 21:36:33

Local clock offset: -5.521 ms

Remote clock offset: 0.259 ms

Below is generated by plot.py at 2018-03-05 22:20:13

Datalink statistics

-- Total of 3 flows:

Average throughput: 1.62 Mbit/s

95th percentile per-packet one-way delay: 2044.277 ms

Loss rate: 3.44%

-- Flow 1:

Average throughput: 1.08 Mbit/s

95th percentile per-packet one-way delay: 2036.632 ms

Loss rate: 1.61%

-- Flow 2:

Average throughput: 0.77 Mbit/s

95th percentile per-packet one-way delay: 2062.326 ms

Loss rate: 5.87%

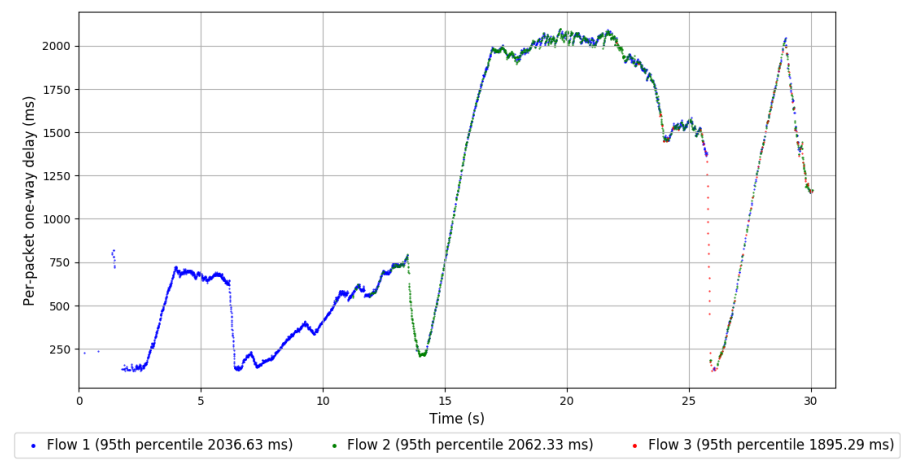
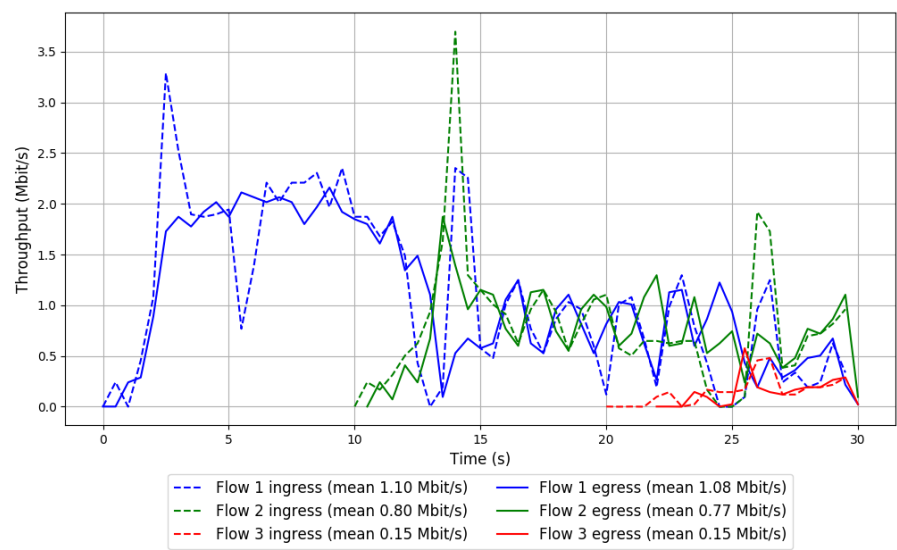
-- Flow 3:

Average throughput: 0.15 Mbit/s

95th percentile per-packet one-way delay: 1895.290 ms

Loss rate: 17.85%

Run 2: Report of TCP BBR — Data Link

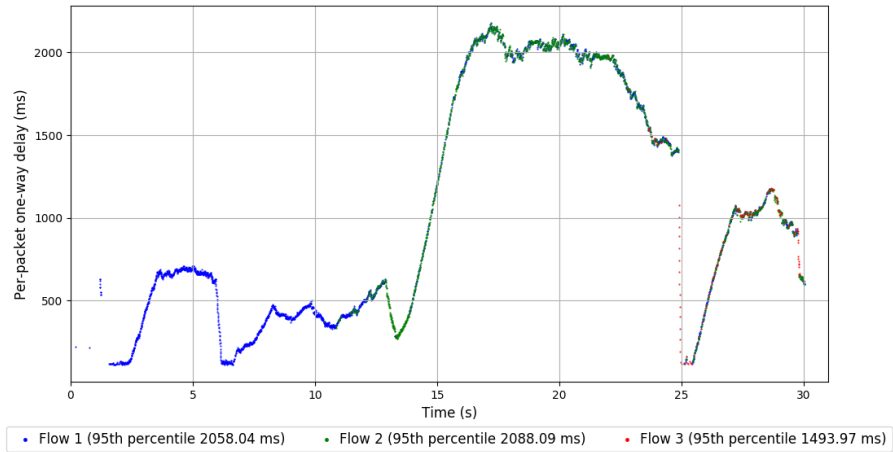
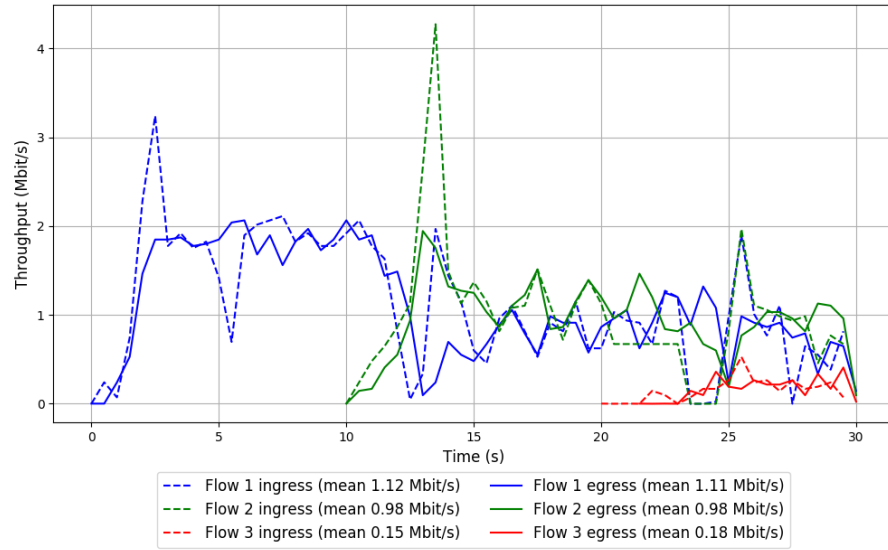


Run 3: Statistics of TCP BBR

Start at: 2018-03-05 21:58:32
End at: 2018-03-05 21:59:02
Local clock offset: -6.262 ms
Remote clock offset: -4.562 ms

Below is generated by plot.py at 2018-03-05 22:20:13
Datalink statistics
-- Total of 3 flows:
Average throughput: 1.81 Mbit/s
95th percentile per-packet one-way delay: 2068.078 ms
Loss rate: 1.62%
-- Flow 1:
Average throughput: 1.11 Mbit/s
95th percentile per-packet one-way delay: 2058.036 ms
Loss rate: 1.36%
-- Flow 2:
Average throughput: 0.98 Mbit/s
95th percentile per-packet one-way delay: 2088.089 ms
Loss rate: 2.02%
-- Flow 3:
Average throughput: 0.18 Mbit/s
95th percentile per-packet one-way delay: 1493.972 ms
Loss rate: 2.38%

Run 3: Report of TCP BBR — Data Link

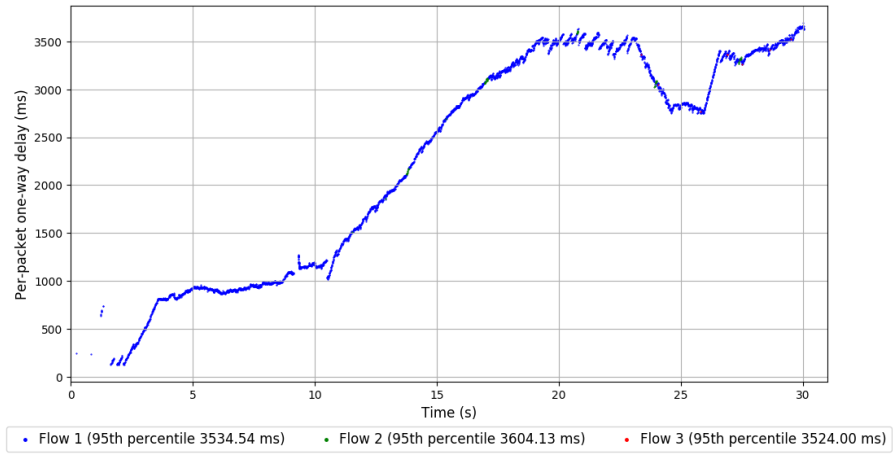
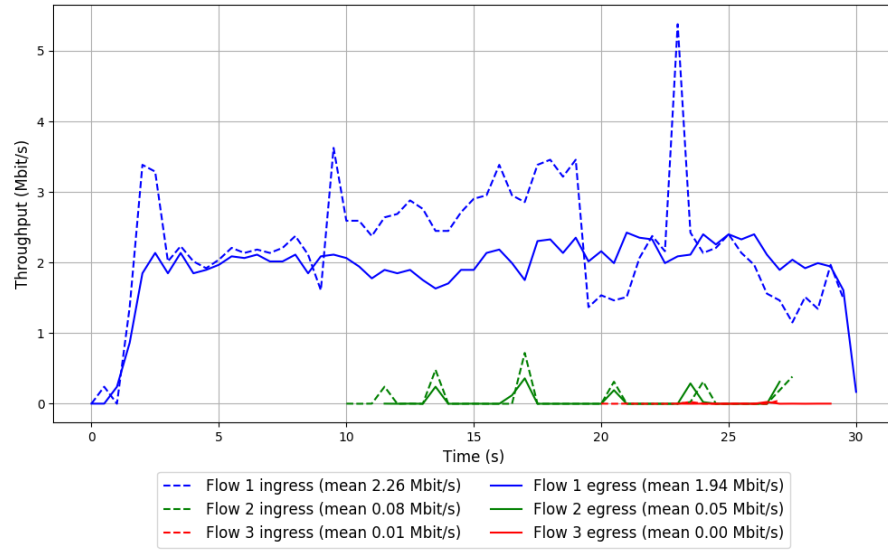


Run 1: Statistics of TCP Cubic

Start at: 2018-03-05 21:32:17
End at: 2018-03-05 21:32:47
Local clock offset: -5.551 ms
Remote clock offset: -5.433 ms

Below is generated by plot.py at 2018-03-05 22:20:13
Datalink statistics
-- Total of 3 flows:
Average throughput: 1.97 Mbit/s
95th percentile per-packet one-way delay: 3534.651 ms
Loss rate: 15.15%
-- Flow 1:
Average throughput: 1.94 Mbit/s
95th percentile per-packet one-way delay: 3534.537 ms
Loss rate: 14.59%
-- Flow 2:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 3604.133 ms
Loss rate: 42.25%
-- Flow 3:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 3524.003 ms
Loss rate: 58.37%

Run 1: Report of TCP Cubic — Data Link

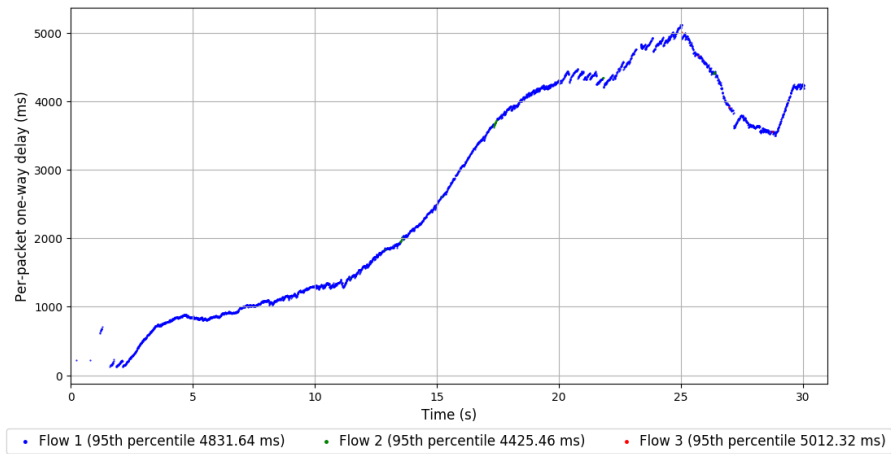
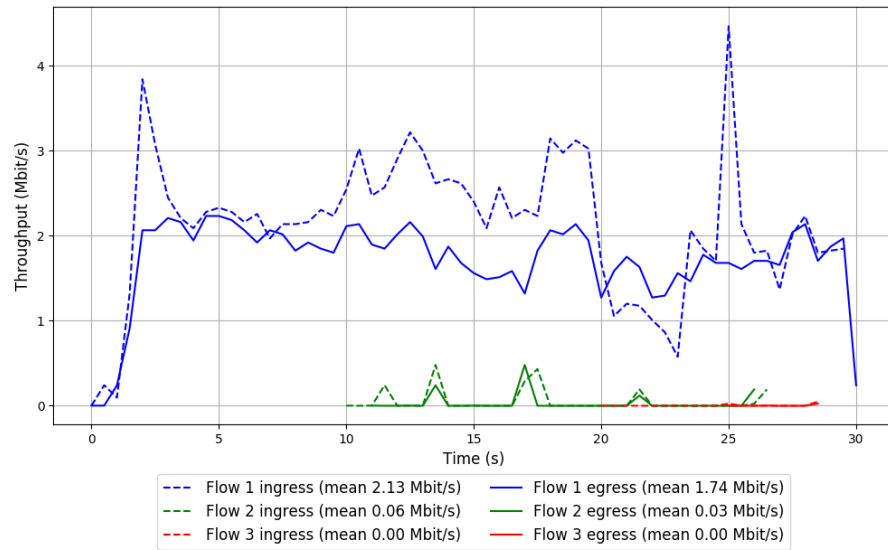


Run 2: Statistics of TCP Cubic

Start at: 2018-03-05 21:54:46
End at: 2018-03-05 21:55:16
Local clock offset: -6.174 ms
Remote clock offset: -4.529 ms

Below is generated by plot.py at 2018-03-05 22:20:13
Datalink statistics
-- Total of 3 flows:
Average throughput: 1.76 Mbit/s
95th percentile per-packet one-way delay: 4831.630 ms
Loss rate: 18.92%
-- Flow 1:
Average throughput: 1.74 Mbit/s
95th percentile per-packet one-way delay: 4831.643 ms
Loss rate: 18.53%
-- Flow 2:
Average throughput: 0.03 Mbit/s
95th percentile per-packet one-way delay: 4425.463 ms
Loss rate: 44.02%
-- Flow 3:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 5012.318 ms
Loss rate: 62.87%

Run 2: Report of TCP Cubic — Data Link



Run 3: Statistics of TCP Cubic

Start at: 2018-03-05 22:17:12

End at: 2018-03-05 22:17:43

Local clock offset: -6.358 ms

Remote clock offset: 0.824 ms

Below is generated by plot.py at 2018-03-05 22:20:13

Datalink statistics

-- Total of 3 flows:

Average throughput: 1.01 Mbit/s

95th percentile per-packet one-way delay: 8956.847 ms

Loss rate: 26.04%

-- Flow 1:

Average throughput: 1.00 Mbit/s

95th percentile per-packet one-way delay: 8976.173 ms

Loss rate: 25.54%

-- Flow 2:

Average throughput: 0.03 Mbit/s

95th percentile per-packet one-way delay: 6343.412 ms

Loss rate: 51.36%

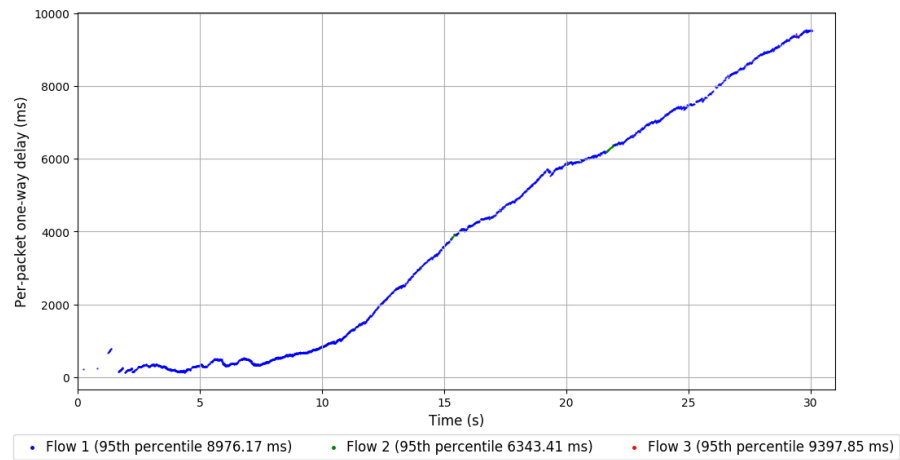
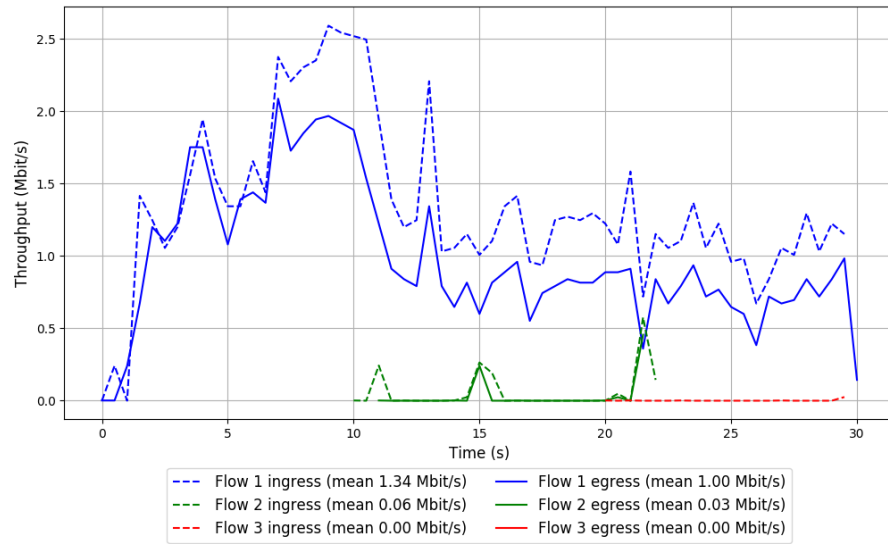
-- Flow 3:

Average throughput: 0.00 Mbit/s

95th percentile per-packet one-way delay: 9397.849 ms

Loss rate: 95.13%

Run 3: Report of TCP Cubic — Data Link

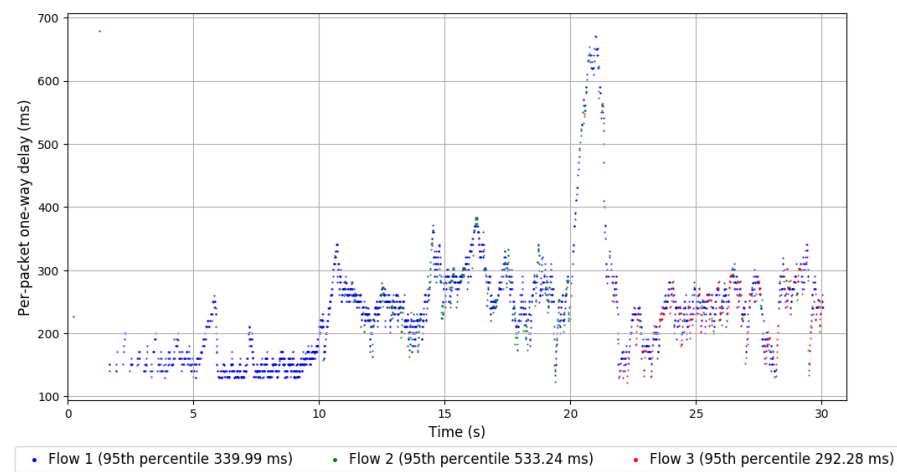
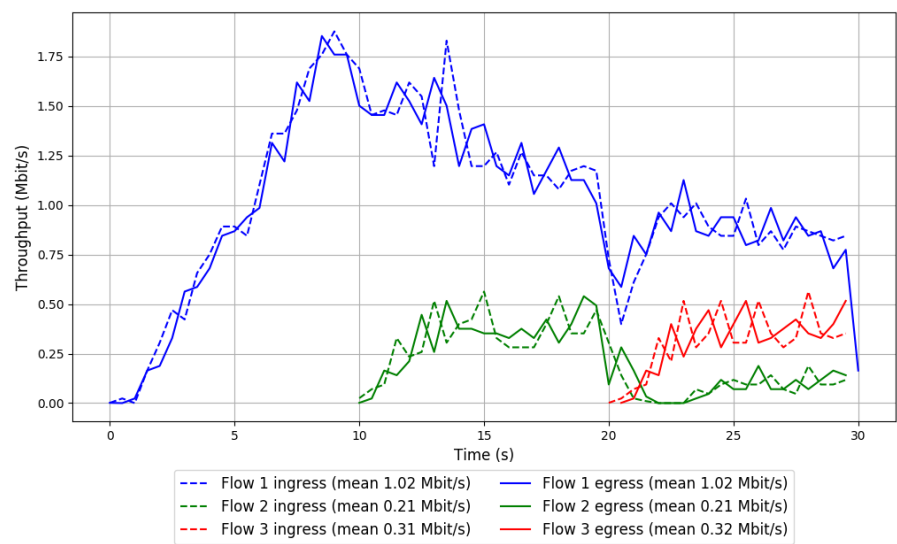


```
Run 1: Statistics of LEDBAT

Start at: 2018-03-05 21:23:35
End at: 2018-03-05 21:24:05
Local clock offset: -5.591 ms
Remote clock offset: 0.217 ms

# Below is generated by plot.py at 2018-03-05 22:20:13
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1.26 Mbit/s
95th percentile per-packet one-way delay: 340.628 ms
Loss rate: 0.53%
-- Flow 1:
Average throughput: 1.02 Mbit/s
95th percentile per-packet one-way delay: 339.986 ms
Loss rate: 0.57%
-- Flow 2:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 533.242 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.32 Mbit/s
95th percentile per-packet one-way delay: 292.276 ms
Loss rate: 0.77%
```

Run 1: Report of LEDBAT — Data Link

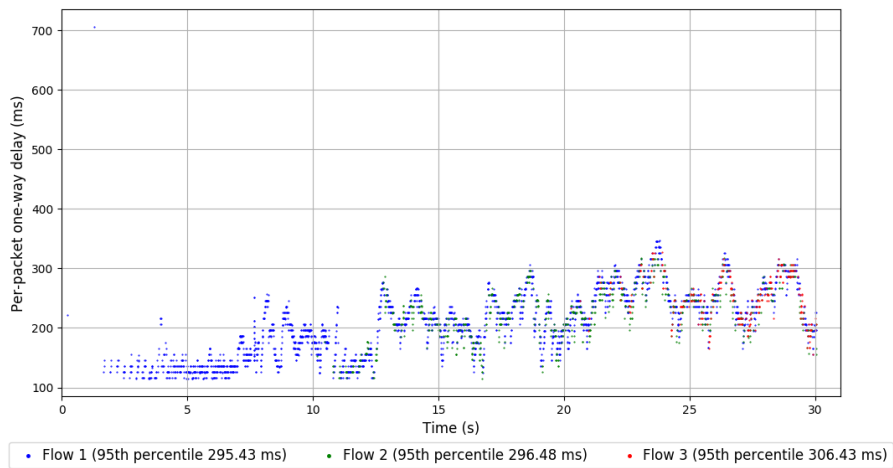
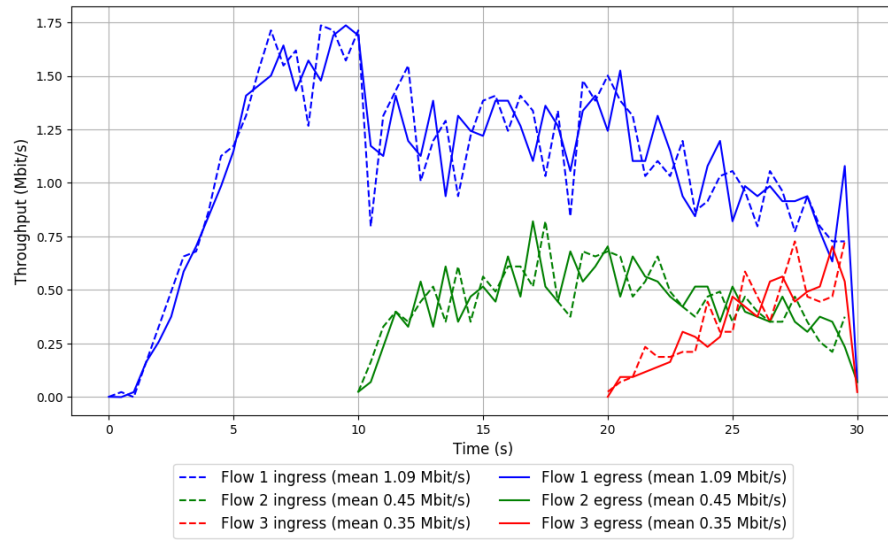


Run 2: Statistics of LEDBAT

Start at: 2018-03-05 21:46:03
End at: 2018-03-05 21:46:33
Local clock offset: -5.918 ms
Remote clock offset: -4.513 ms

Below is generated by plot.py at 2018-03-05 22:20:13
Datalink statistics
-- Total of 3 flows:
Average throughput: 1.51 Mbit/s
95th percentile per-packet one-way delay: 295.949 ms
Loss rate: 0.47%
-- Flow 1:
Average throughput: 1.09 Mbit/s
95th percentile per-packet one-way delay: 295.430 ms
Loss rate: 0.11%
-- Flow 2:
Average throughput: 0.45 Mbit/s
95th percentile per-packet one-way delay: 296.481 ms
Loss rate: 0.52%
-- Flow 3:
Average throughput: 0.35 Mbit/s
95th percentile per-packet one-way delay: 306.429 ms
Loss rate: 3.65%

Run 2: Report of LEDBAT — Data Link



Run 3: Statistics of LEDBAT

Start at: 2018-03-05 22:08:30

End at: 2018-03-05 22:09:00

Local clock offset: -6.36 ms

Remote clock offset: -5.53 ms

Below is generated by plot.py at 2018-03-05 22:20:16

Datalink statistics

-- Total of 3 flows:

Average throughput: 1.80 Mbit/s

95th percentile per-packet one-way delay: 293.617 ms

Loss rate: 0.72%

-- Flow 1:

Average throughput: 1.38 Mbit/s

95th percentile per-packet one-way delay: 293.733 ms

Loss rate: 0.65%

-- Flow 2:

Average throughput: 0.43 Mbit/s

95th percentile per-packet one-way delay: 293.253 ms

Loss rate: 0.94%

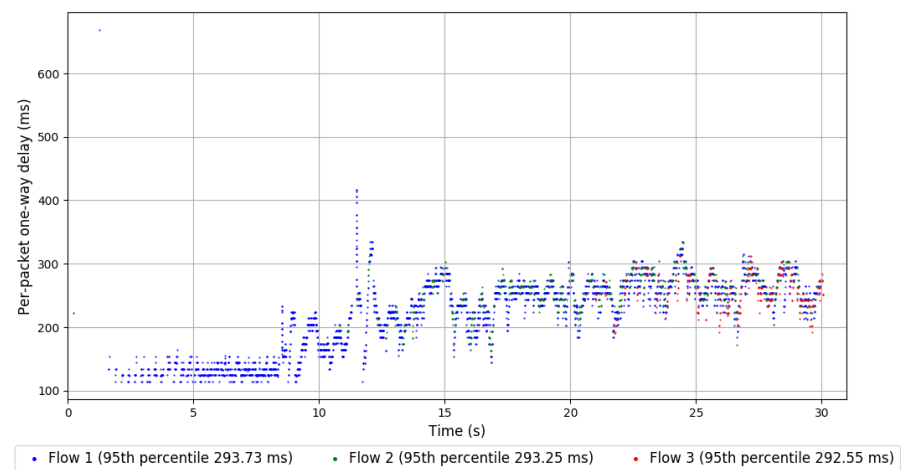
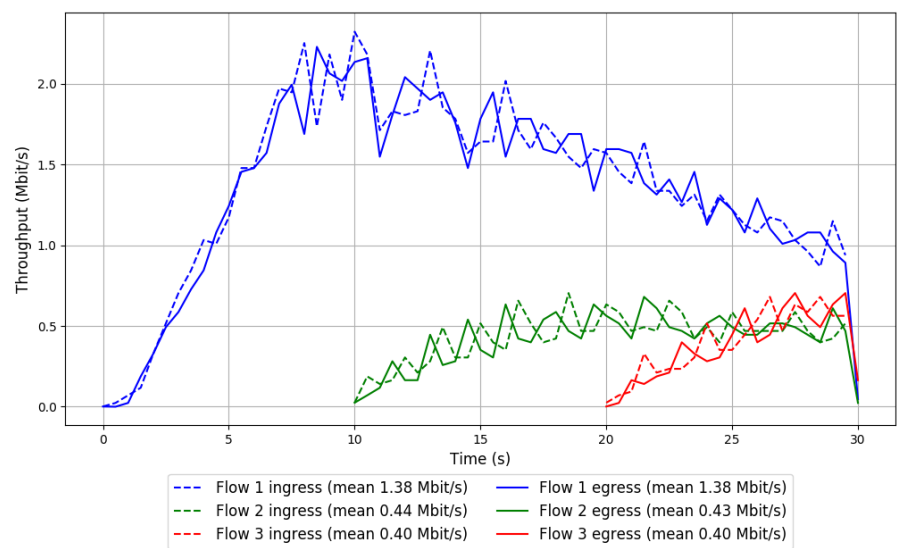
-- Flow 3:

Average throughput: 0.40 Mbit/s

95th percentile per-packet one-way delay: 292.551 ms

Loss rate: 0.89%

Run 3: Report of LEDBAT — Data Link

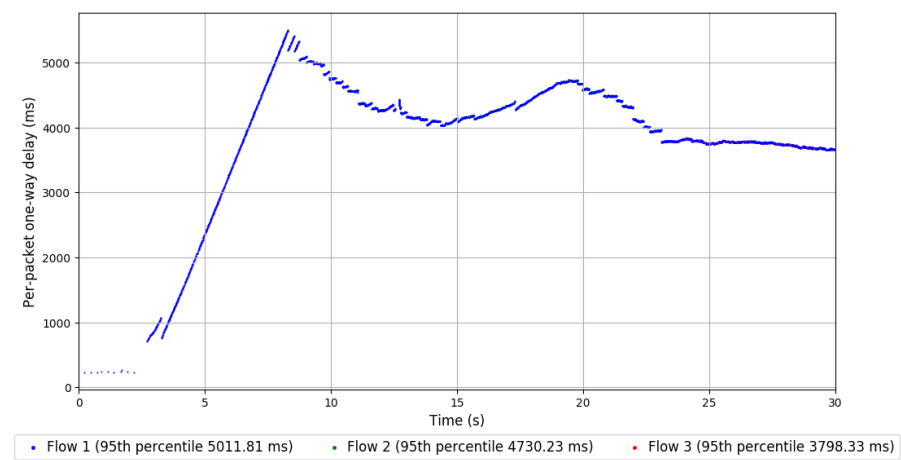
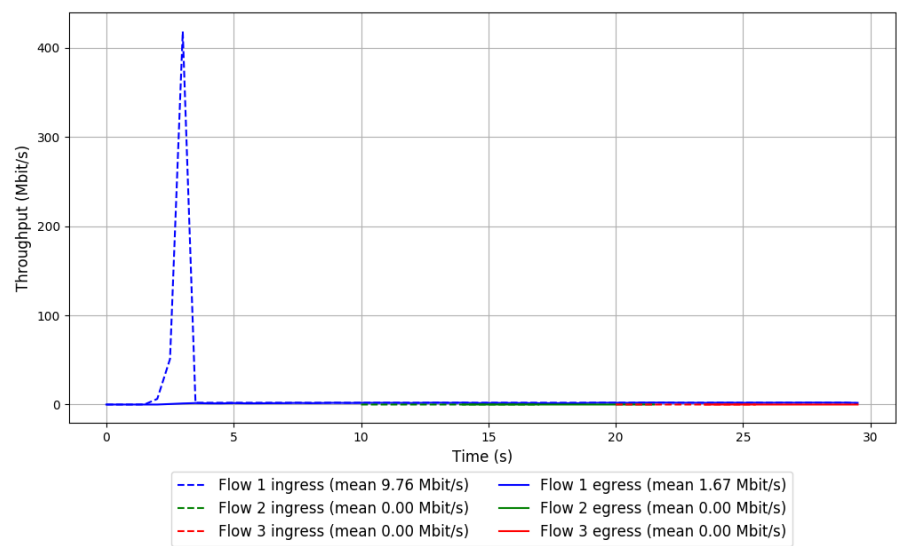


Run 1: Statistics of PCC

Start at: 2018-03-05 21:24:50
End at: 2018-03-05 21:25:20
Local clock offset: -5.587 ms
Remote clock offset: -0.496 ms

Below is generated by plot.py at 2018-03-05 22:20:23
Datalink statistics
-- Total of 3 flows:
Average throughput: 1.67 Mbit/s
95th percentile per-packet one-way delay: 5010.427 ms
Loss rate: 82.99%
-- Flow 1:
Average throughput: 1.67 Mbit/s
95th percentile per-packet one-way delay: 5011.810 ms
Loss rate: 83.01%
-- Flow 2:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 4730.233 ms
Loss rate: 4.35%
-- Flow 3:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 3798.334 ms
Loss rate: 0.00%

Run 1: Report of PCC — Data Link



Run 2: Statistics of PCC

Start at: 2018-03-05 21:47:18

End at: 2018-03-05 21:47:48

Local clock offset: -5.945 ms

Remote clock offset: 0.33 ms

Below is generated by plot.py at 2018-03-05 22:20:23

Datalink statistics

-- Total of 3 flows:

Average throughput: 1.92 Mbit/s

95th percentile per-packet one-way delay: 3557.502 ms

Loss rate: 46.67%

-- Flow 1:

Average throughput: 1.92 Mbit/s

95th percentile per-packet one-way delay: 3557.655 ms

Loss rate: 46.69%

-- Flow 2:

Average throughput: 0.00 Mbit/s

95th percentile per-packet one-way delay: 3409.684 ms

Loss rate: 0.00%

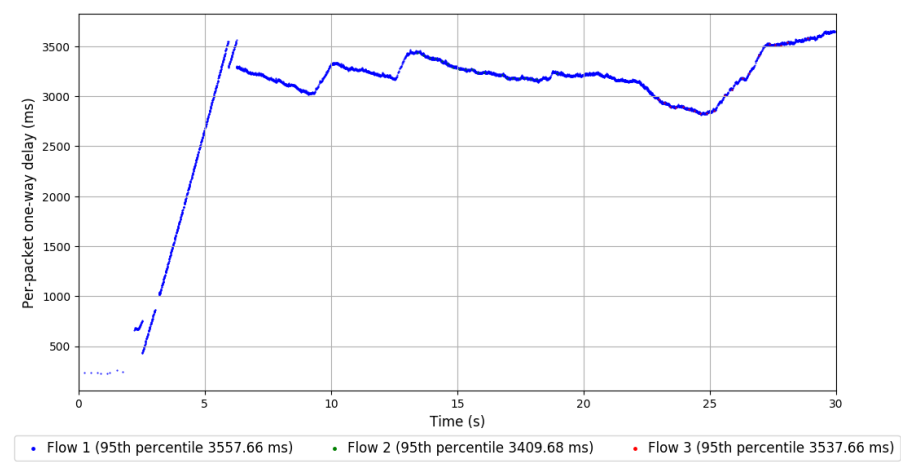
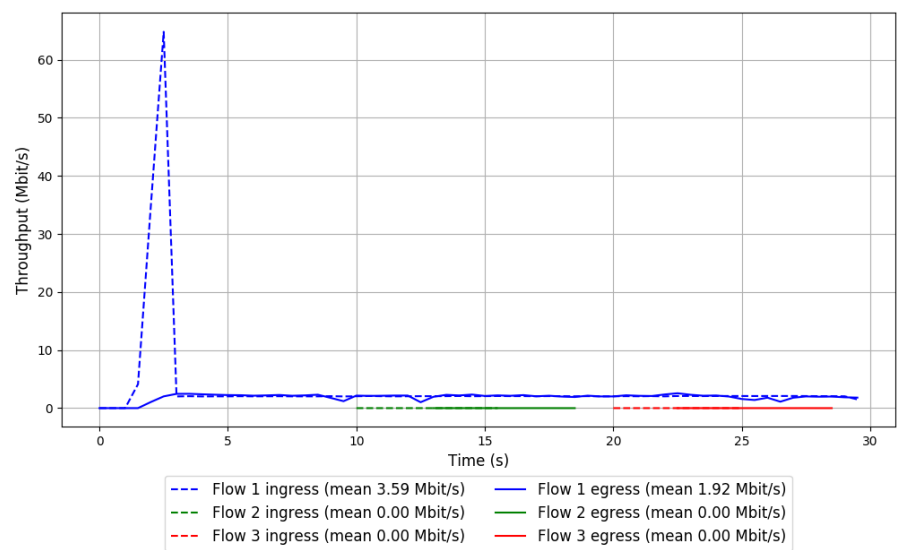
-- Flow 3:

Average throughput: 0.00 Mbit/s

95th percentile per-packet one-way delay: 3537.662 ms

Loss rate: 0.00%

Run 2: Report of PCC — Data Link



Run 3: Statistics of PCC

Start at: 2018-03-05 22:09:45

End at: 2018-03-05 22:10:15

Local clock offset: -6.325 ms

Remote clock offset: 0.151 ms

Below is generated by plot.py at 2018-03-05 22:20:23

Datalink statistics

-- Total of 3 flows:

Average throughput: 1.60 Mbit/s

95th percentile per-packet one-way delay: 5252.930 ms

Loss rate: 58.47%

-- Flow 1:

Average throughput: 1.59 Mbit/s

95th percentile per-packet one-way delay: 5253.371 ms

Loss rate: 58.48%

-- Flow 2:

Average throughput: 0.00 Mbit/s

95th percentile per-packet one-way delay: 5249.119 ms

Loss rate: 0.00%

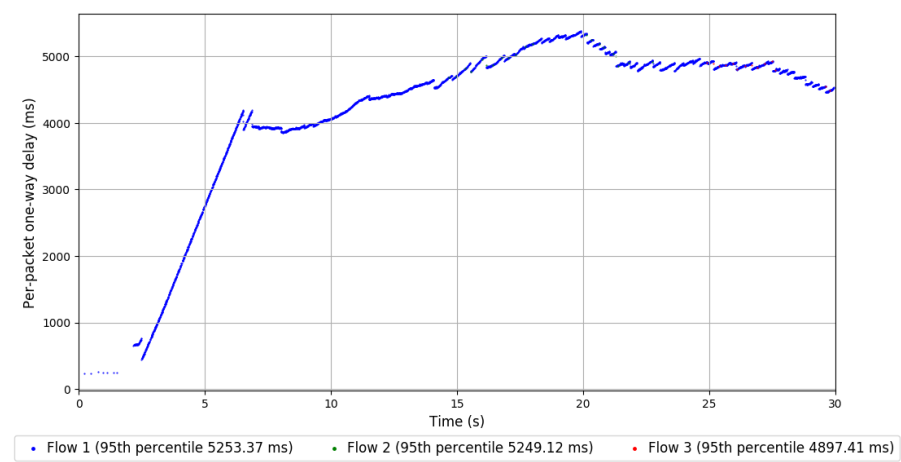
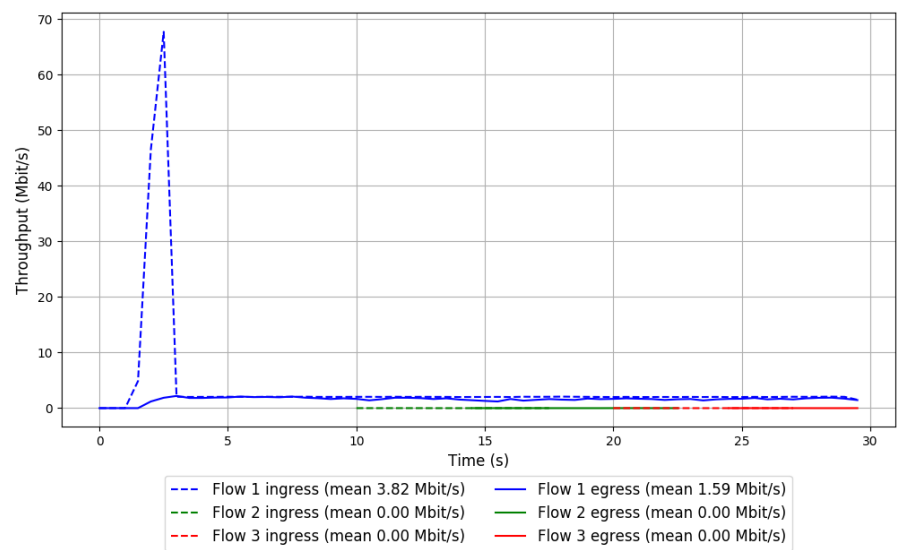
-- Flow 3:

Average throughput: 0.00 Mbit/s

95th percentile per-packet one-way delay: 4897.411 ms

Loss rate: 33.62%

Run 3: Report of PCC — Data Link

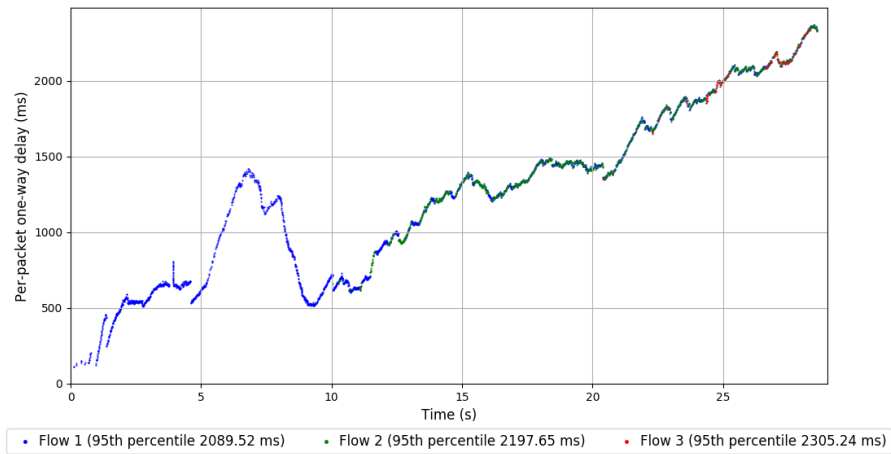
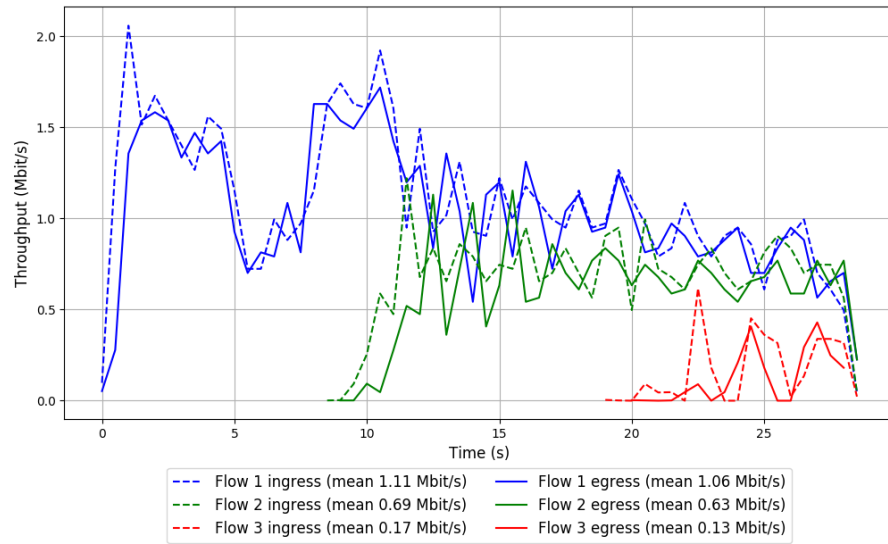


Run 1: Statistics of QUIC Cubic

Start at: 2018-03-05 21:21:06
End at: 2018-03-05 21:21:36
Local clock offset: -5.623 ms
Remote clock offset: -0.611 ms

Below is generated by plot.py at 2018-03-05 22:20:23
Datalink statistics
-- Total of 3 flows:
Average throughput: 1.52 Mbit/s
95th percentile per-packet one-way delay: 2131.334 ms
Loss rate: 8.04%
-- Flow 1:
Average throughput: 1.06 Mbit/s
95th percentile per-packet one-way delay: 2089.522 ms
Loss rate: 5.14%
-- Flow 2:
Average throughput: 0.63 Mbit/s
95th percentile per-packet one-way delay: 2197.647 ms
Loss rate: 11.53%
-- Flow 3:
Average throughput: 0.13 Mbit/s
95th percentile per-packet one-way delay: 2305.235 ms
Loss rate: 35.05%

Run 1: Report of QUIC Cubic — Data Link

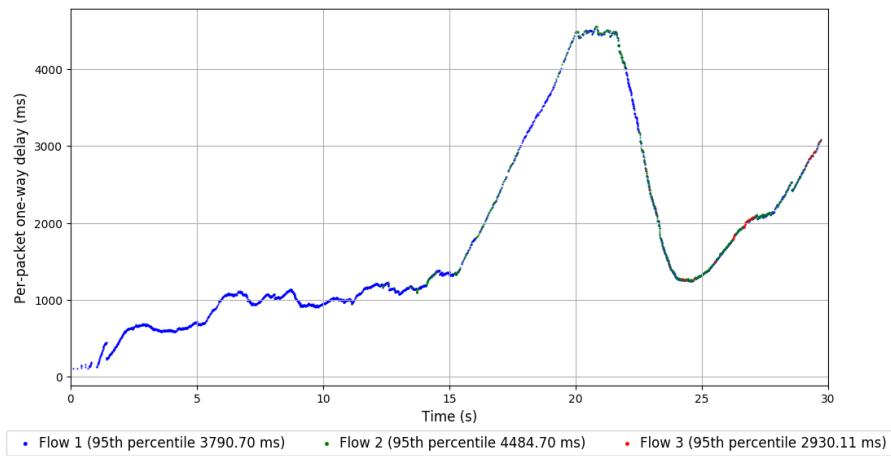
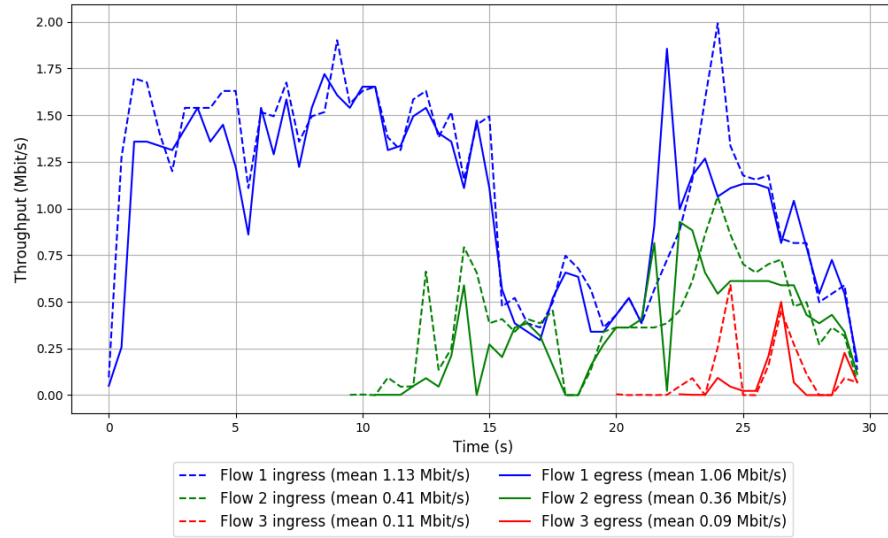


Run 2: Statistics of QUIC Cubic

Start at: 2018-03-05 21:43:34
End at: 2018-03-05 21:44:04
Local clock offset: -5.771 ms
Remote clock offset: -5.326 ms

Below is generated by plot.py at 2018-03-05 22:20:23
Datalink statistics
-- Total of 3 flows:
Average throughput: 1.31 Mbit/s
95th percentile per-packet one-way delay: 4162.537 ms
Loss rate: 8.94%
-- Flow 1:
Average throughput: 1.06 Mbit/s
95th percentile per-packet one-way delay: 3790.697 ms
Loss rate: 6.19%
-- Flow 2:
Average throughput: 0.36 Mbit/s
95th percentile per-packet one-way delay: 4484.697 ms
Loss rate: 16.14%
-- Flow 3:
Average throughput: 0.09 Mbit/s
95th percentile per-packet one-way delay: 2930.106 ms
Loss rate: 41.22%

Run 2: Report of QUIC Cubic — Data Link



Run 3: Statistics of QUIC Cubic

Start at: 2018-03-05 22:06:01

End at: 2018-03-05 22:06:31

Local clock offset: -6.324 ms

Remote clock offset: 0.081 ms

Below is generated by plot.py at 2018-03-05 22:20:23

Datalink statistics

-- Total of 3 flows:

Average throughput: 1.82 Mbit/s

95th percentile per-packet one-way delay: 2232.788 ms

Loss rate: 9.17%

-- Flow 1:

Average throughput: 1.55 Mbit/s

95th percentile per-packet one-way delay: 2226.147 ms

Loss rate: 6.51%

-- Flow 2:

Average throughput: 0.36 Mbit/s

95th percentile per-packet one-way delay: 2247.101 ms

Loss rate: 16.35%

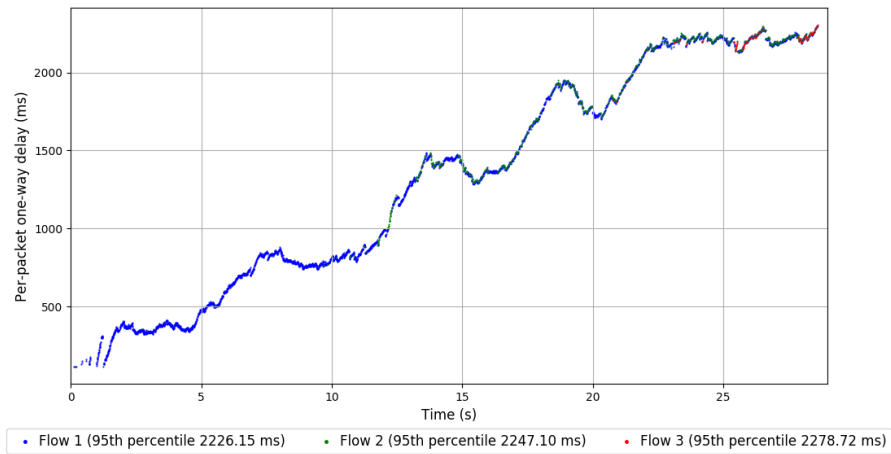
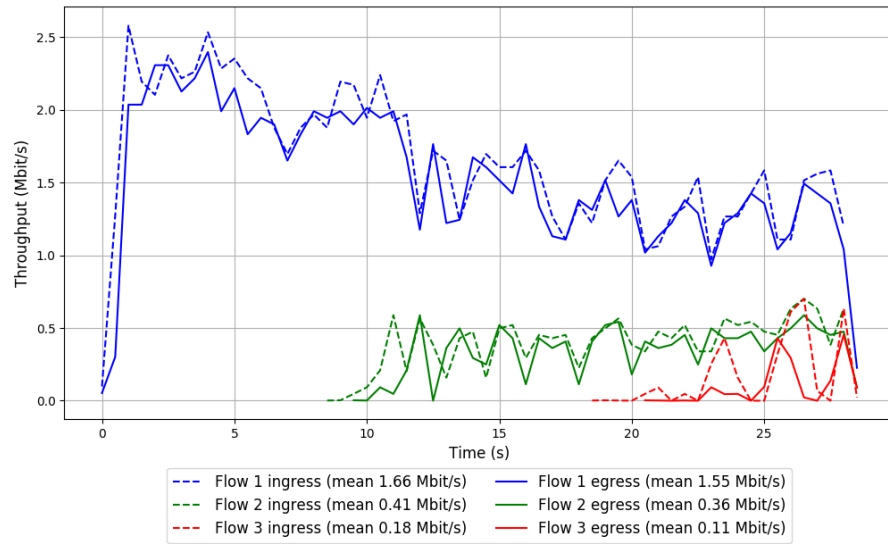
-- Flow 3:

Average throughput: 0.11 Mbit/s

95th percentile per-packet one-way delay: 2278.721 ms

Loss rate: 49.43%

Run 3: Report of QUIC Cubic — Data Link

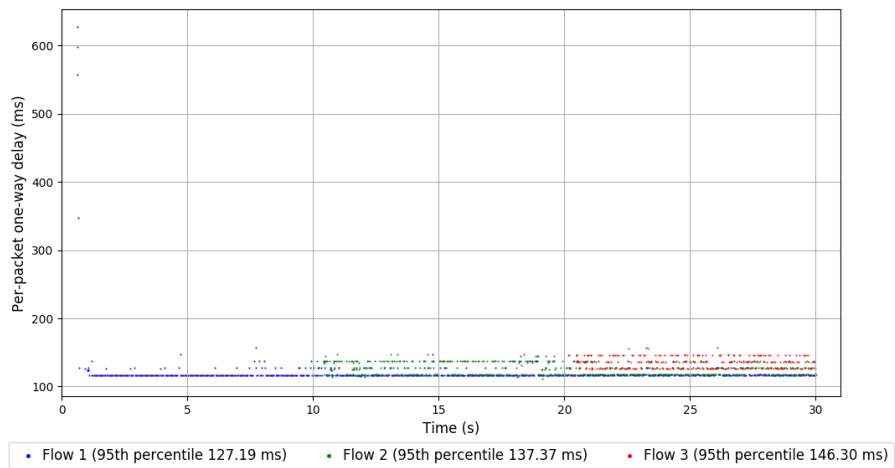
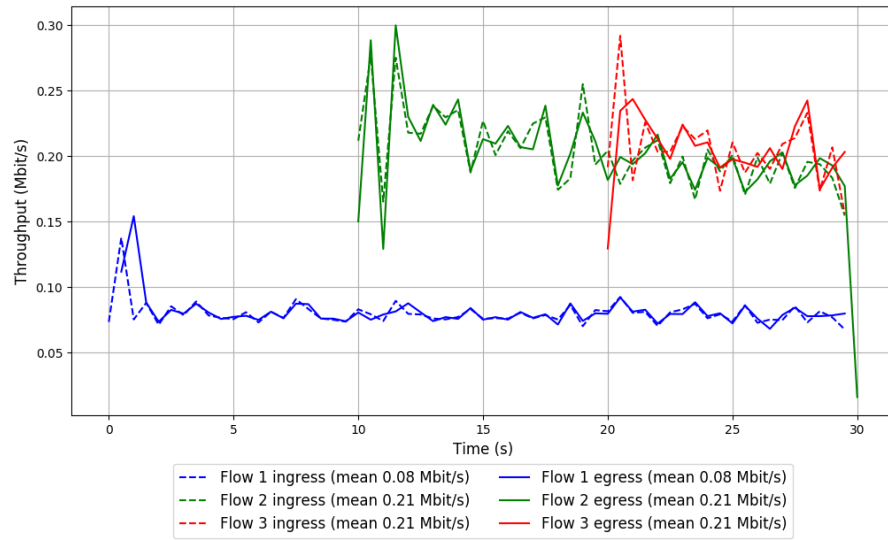


```
Run 1: Statistics of SCReAM

Start at: 2018-03-05 21:31:03
End at: 2018-03-05 21:31:33
Local clock offset: -5.6 ms
Remote clock offset: 1.161 ms

# Below is generated by plot.py at 2018-03-05 22:20:23
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.29 Mbit/s
95th percentile per-packet one-way delay: 146.202 ms
Loss rate: 0.12%
-- Flow 1:
Average throughput: 0.08 Mbit/s
95th percentile per-packet one-way delay: 127.194 ms
Loss rate: 0.13%
-- Flow 2:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 137.365 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 146.299 ms
Loss rate: 0.35%
```

Run 1: Report of SReAM — Data Link

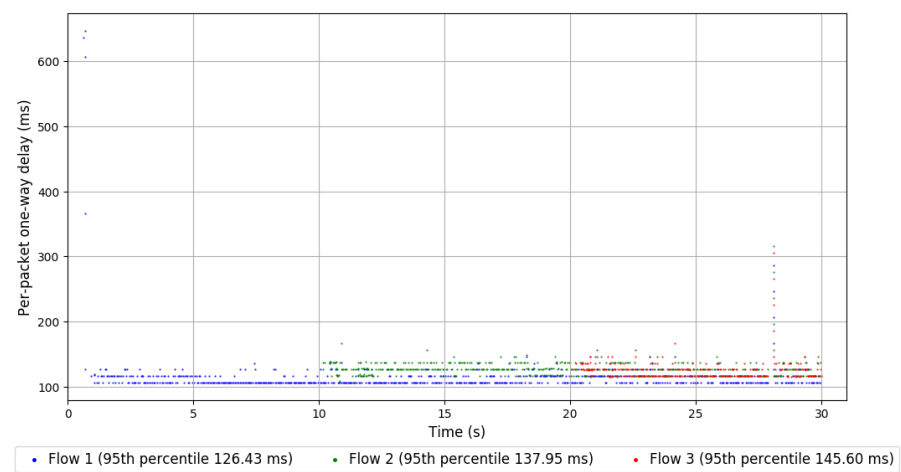
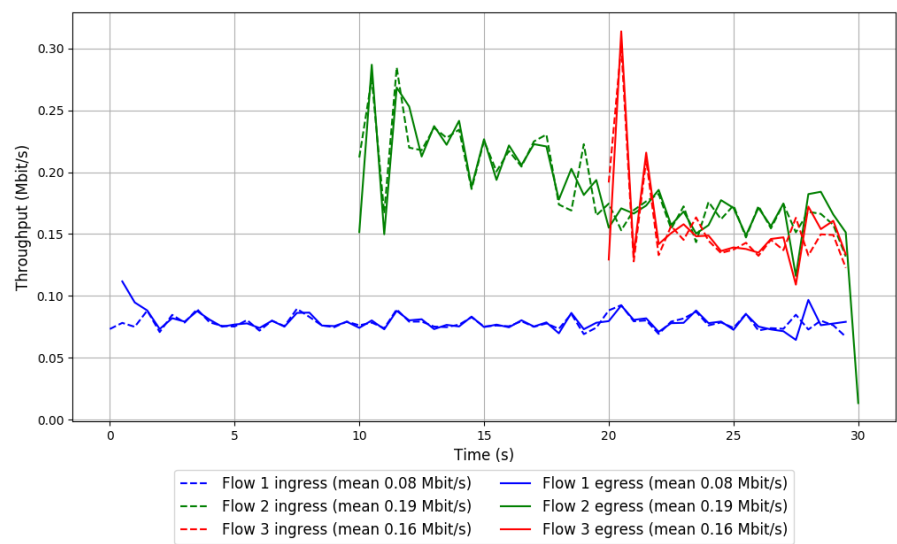


Run 2: Statistics of SCReAM

Start at: 2018-03-05 21:53:31
End at: 2018-03-05 21:54:01
Local clock offset: -6.175 ms
Remote clock offset: 0.38 ms

Below is generated by plot.py at 2018-03-05 22:20:23
Datalink statistics
-- Total of 3 flows:
Average throughput: 0.26 Mbit/s
95th percentile per-packet one-way delay: 136.669 ms
Loss rate: 0.11%
-- Flow 1:
Average throughput: 0.08 Mbit/s
95th percentile per-packet one-way delay: 126.426 ms
Loss rate: 0.13%
-- Flow 2:
Average throughput: 0.19 Mbit/s
95th percentile per-packet one-way delay: 137.951 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.16 Mbit/s
95th percentile per-packet one-way delay: 145.604 ms
Loss rate: 0.33%

Run 2: Report of SReAM — Data Link

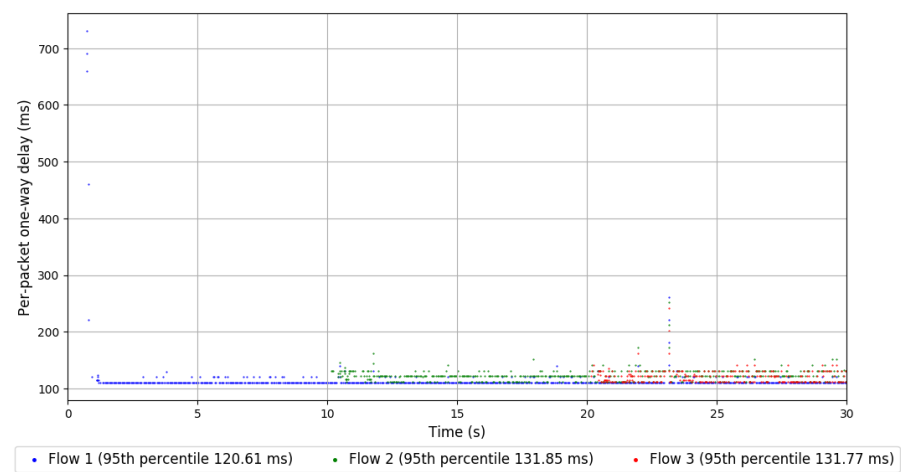
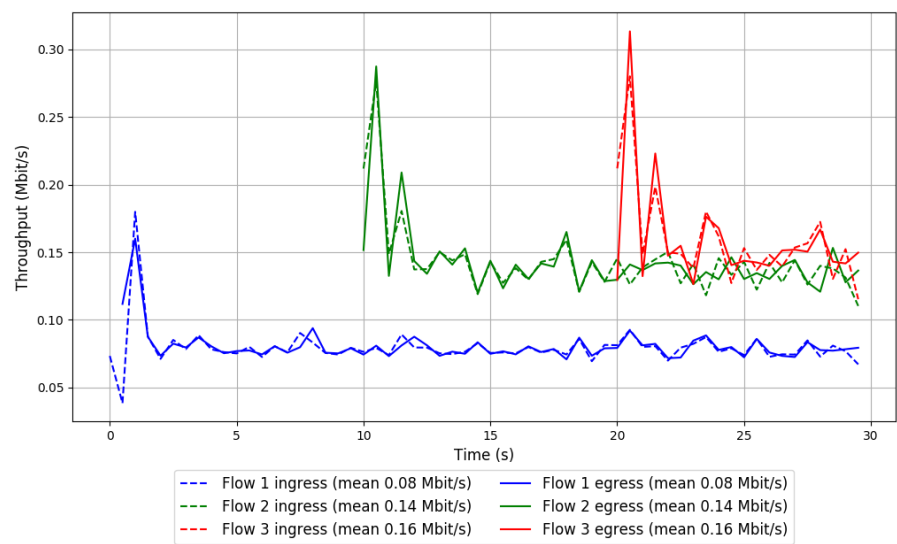


Run 3: Statistics of SCReAM

Start at: 2018-03-05 22:15:58
End at: 2018-03-05 22:16:28
Local clock offset: -6.35 ms
Remote clock offset: -4.729 ms

Below is generated by plot.py at 2018-03-05 22:20:23
Datalink statistics
-- Total of 3 flows:
Average throughput: 0.23 Mbit/s
95th percentile per-packet one-way delay: 131.754 ms
Loss rate: 0.20%
-- Flow 1:
Average throughput: 0.08 Mbit/s
95th percentile per-packet one-way delay: 120.611 ms
Loss rate: 0.13%
-- Flow 2:
Average throughput: 0.14 Mbit/s
95th percentile per-packet one-way delay: 131.846 ms
Loss rate: 0.20%
-- Flow 3:
Average throughput: 0.16 Mbit/s
95th percentile per-packet one-way delay: 131.774 ms
Loss rate: 0.33%

Run 3: Report of SReAM — Data Link



Run 1: Statistics of WebRTC media

Start at: 2018-03-05 21:33:33

End at: 2018-03-05 21:34:03

Local clock offset: -5.533 ms

Remote clock offset: 1.166 ms

Below is generated by plot.py at 2018-03-05 22:20:26

Datalink statistics

-- Total of 3 flows:

Average throughput: 0.63 Mbit/s

95th percentile per-packet one-way delay: 713.497 ms

Loss rate: 0.20%

-- Flow 1:

Average throughput: 0.42 Mbit/s

95th percentile per-packet one-way delay: 577.908 ms

Loss rate: 0.15%

-- Flow 2:

Average throughput: 0.13 Mbit/s

95th percentile per-packet one-way delay: 814.034 ms

Loss rate: 0.47%

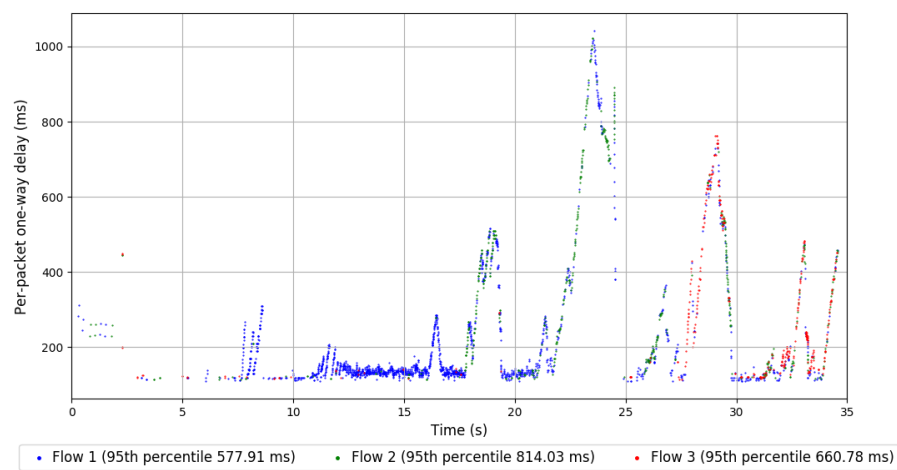
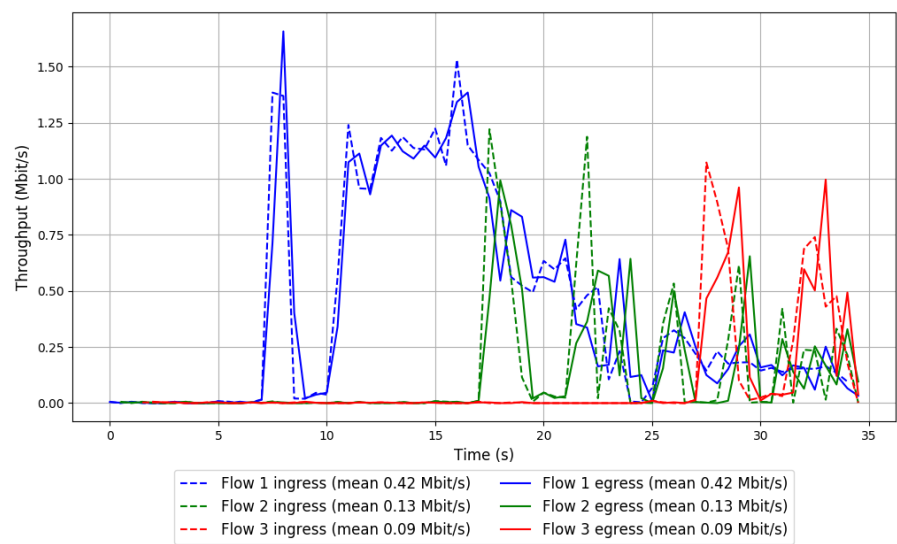
-- Flow 3:

Average throughput: 0.09 Mbit/s

95th percentile per-packet one-way delay: 660.781 ms

Loss rate: 0.06%

Run 1: Report of WebRTC media — Data Link

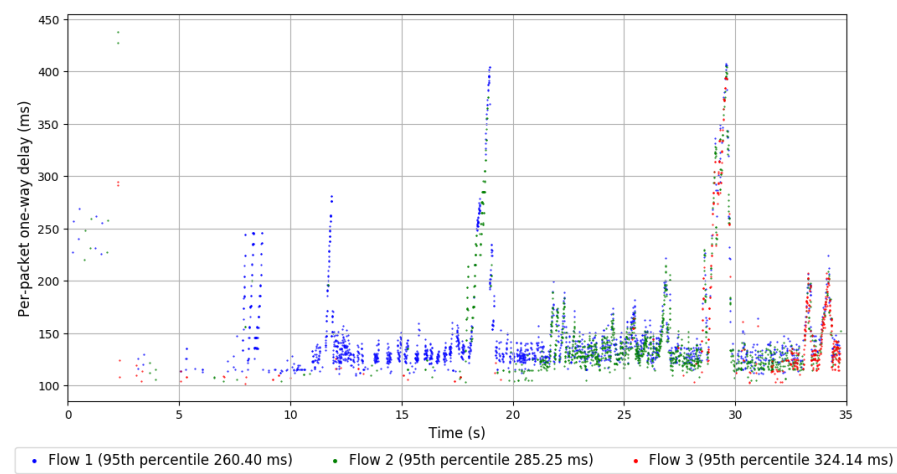
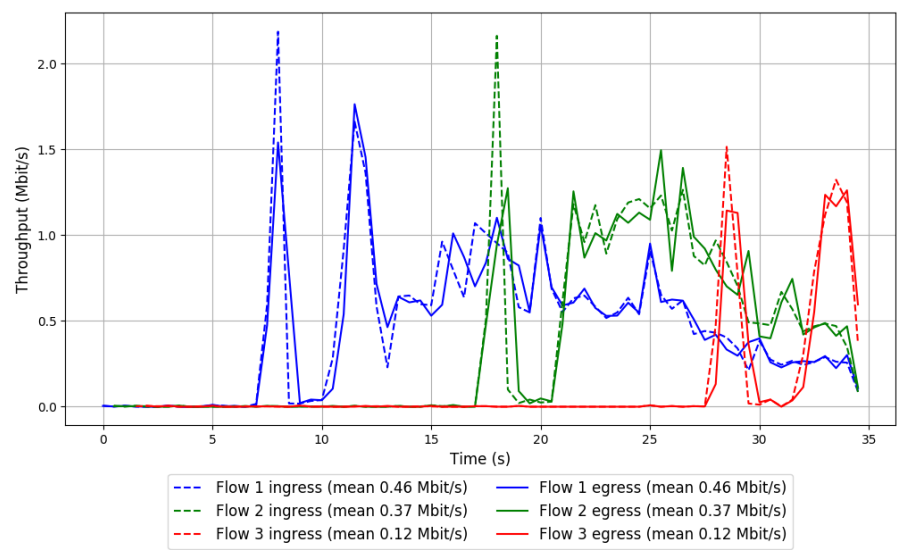


Run 2: Statistics of WebRTC media

Start at: 2018-03-05 21:56:01
End at: 2018-03-05 21:56:31
Local clock offset: -6.275 ms
Remote clock offset: -4.478 ms

Below is generated by plot.py at 2018-03-05 22:20:26
Datalink statistics
-- Total of 3 flows:
Average throughput: 0.94 Mbit/s
95th percentile per-packet one-way delay: 284.238 ms
Loss rate: 0.37%
-- Flow 1:
Average throughput: 0.46 Mbit/s
95th percentile per-packet one-way delay: 260.397 ms
Loss rate: 0.14%
-- Flow 2:
Average throughput: 0.37 Mbit/s
95th percentile per-packet one-way delay: 285.253 ms
Loss rate: 0.08%
-- Flow 3:
Average throughput: 0.12 Mbit/s
95th percentile per-packet one-way delay: 324.142 ms
Loss rate: 2.18%

Run 2: Report of WebRTC media — Data Link

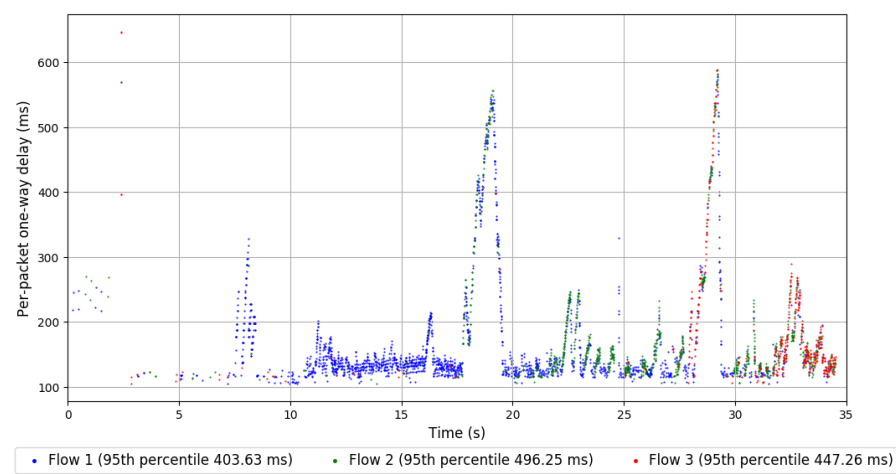
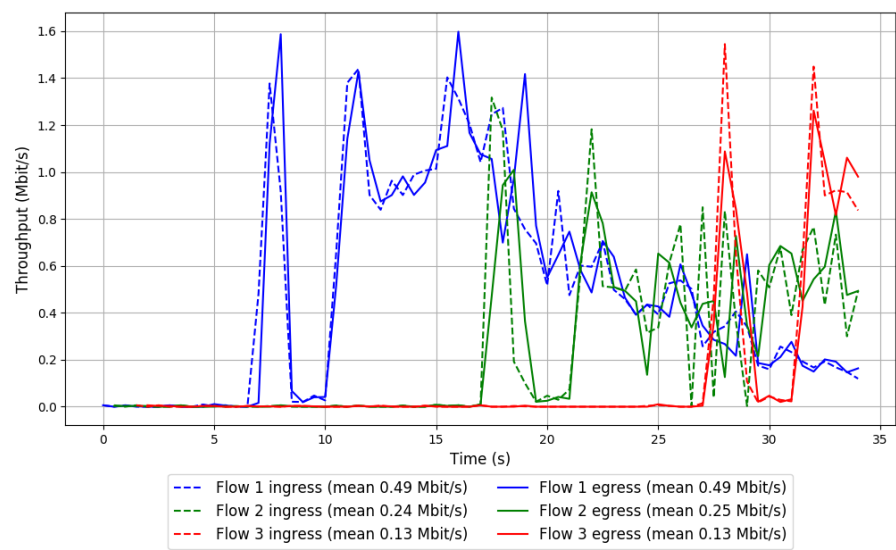


Run 3: Statistics of WebRTC media

Start at: 2018-03-05 22:18:28
End at: 2018-03-05 22:18:58
Local clock offset: -6.408 ms
Remote clock offset: -0.771 ms

Below is generated by plot.py at 2018-03-05 22:20:28
Datalink statistics
-- Total of 3 flows:
Average throughput: 0.86 Mbit/s
95th percentile per-packet one-way delay: 431.431 ms
Loss rate: 0.10%
-- Flow 1:
Average throughput: 0.49 Mbit/s
95th percentile per-packet one-way delay: 403.635 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.25 Mbit/s
95th percentile per-packet one-way delay: 496.246 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.13 Mbit/s
95th percentile per-packet one-way delay: 447.259 ms
Loss rate: 0.68%

Run 3: Report of WebRTC media — Data Link

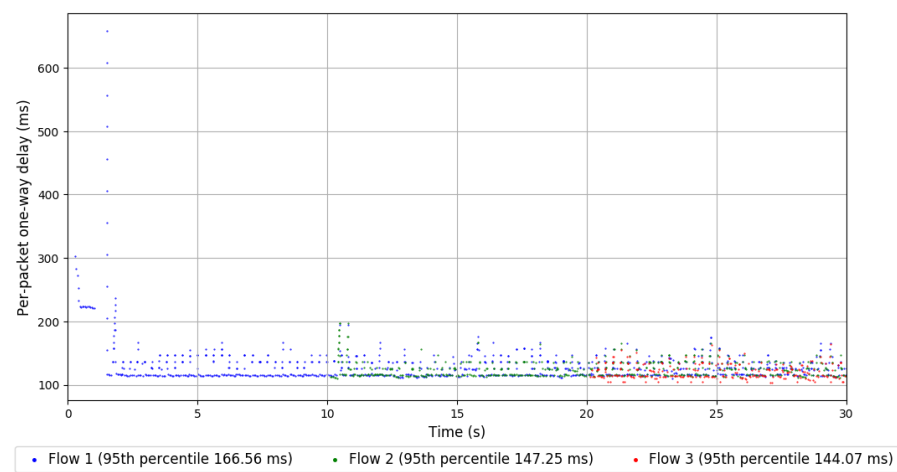
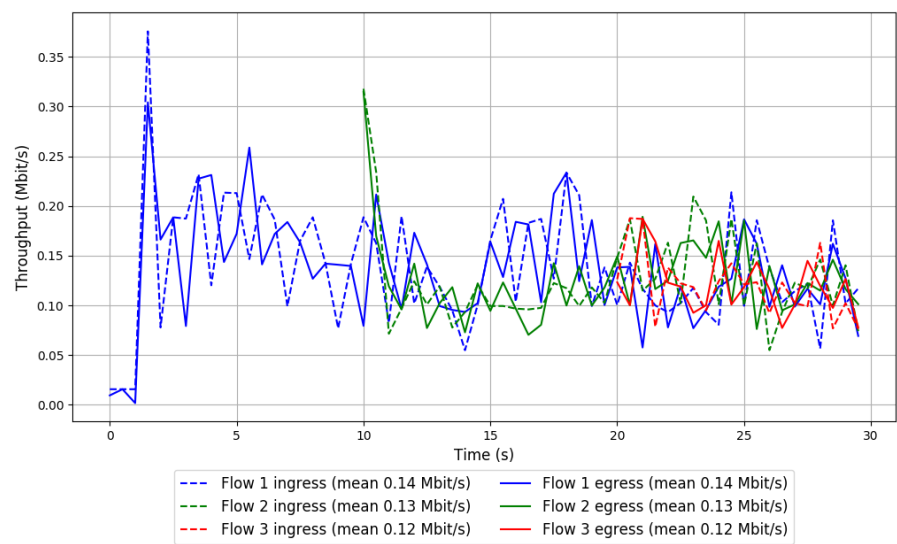


Run 1: Statistics of Sprout

Start at: 2018-03-05 21:28:34
End at: 2018-03-05 21:29:04
Local clock offset: -5.557 ms
Remote clock offset: -5.374 ms

Below is generated by plot.py at 2018-03-05 22:20:28
Datalink statistics
-- Total of 3 flows:
Average throughput: 0.26 Mbit/s
95th percentile per-packet one-way delay: 156.882 ms
Loss rate: 0.35%
-- Flow 1:
Average throughput: 0.14 Mbit/s
95th percentile per-packet one-way delay: 166.563 ms
Loss rate: 0.62%
-- Flow 2:
Average throughput: 0.13 Mbit/s
95th percentile per-packet one-way delay: 147.255 ms
Loss rate: 0.03%
-- Flow 3:
Average throughput: 0.12 Mbit/s
95th percentile per-packet one-way delay: 144.068 ms
Loss rate: 0.07%

Run 1: Report of Sprout — Data Link

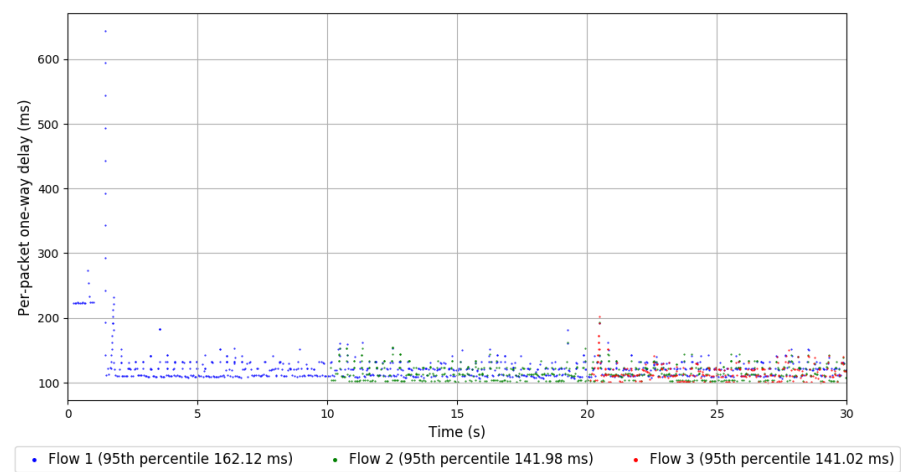
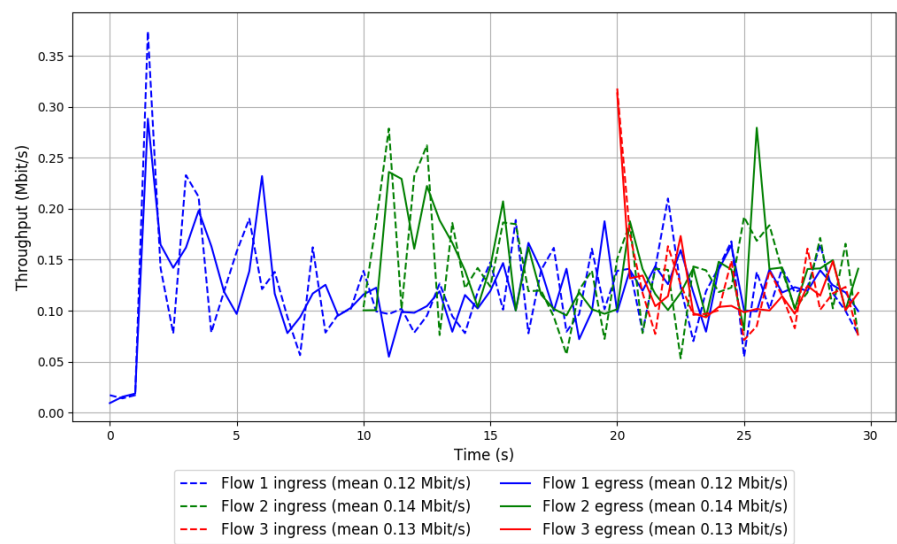


Run 2: Statistics of Sprout

Start at: 2018-03-05 21:51:02
End at: 2018-03-05 21:51:32
Local clock offset: -6.113 ms
Remote clock offset: -4.508 ms

Below is generated by plot.py at 2018-03-05 22:20:28
Datalink statistics
-- Total of 3 flows:
Average throughput: 0.26 Mbit/s
95th percentile per-packet one-way delay: 143.924 ms
Loss rate: 0.02%
-- Flow 1:
Average throughput: 0.12 Mbit/s
95th percentile per-packet one-way delay: 162.125 ms
Loss rate: 0.02%
-- Flow 2:
Average throughput: 0.14 Mbit/s
95th percentile per-packet one-way delay: 141.982 ms
Loss rate: 0.03%
-- Flow 3:
Average throughput: 0.13 Mbit/s
95th percentile per-packet one-way delay: 141.020 ms
Loss rate: 0.00%

Run 2: Report of Sprout — Data Link

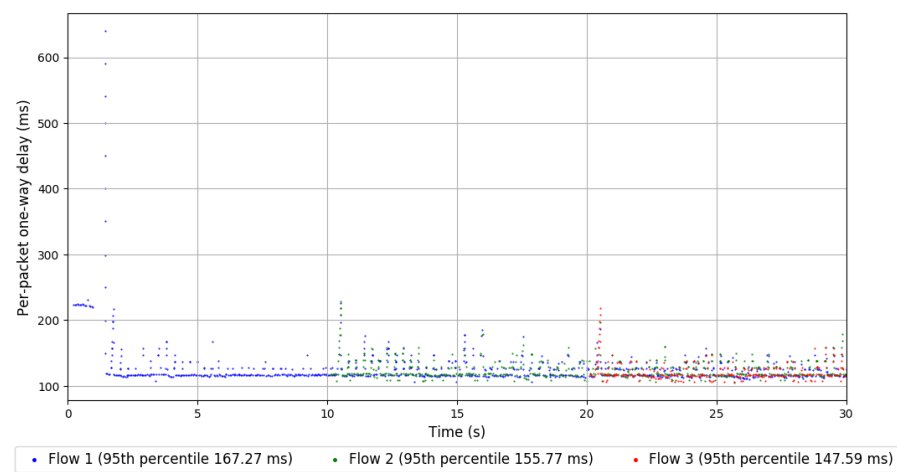
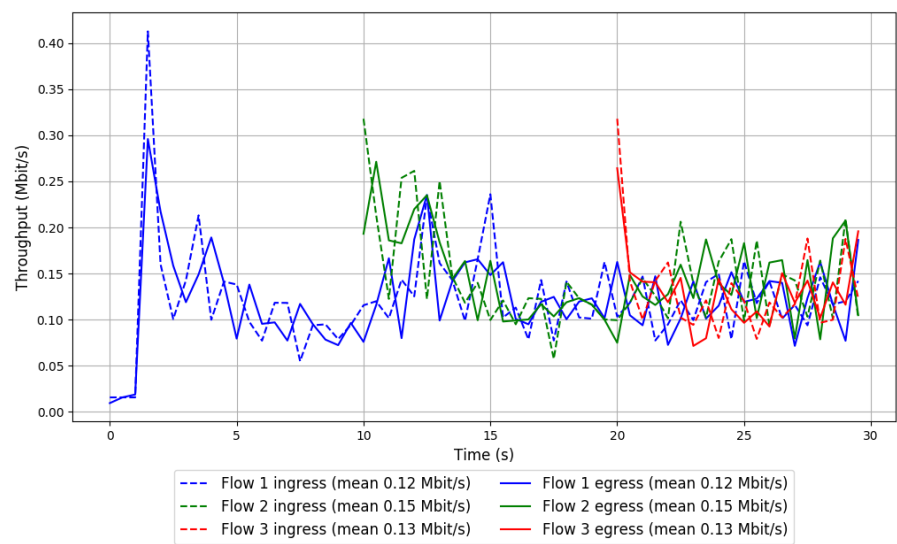


Run 3: Statistics of Sprout

Start at: 2018-03-05 22:13:29
End at: 2018-03-05 22:13:59
Local clock offset: -6.427 ms
Remote clock offset: -4.807 ms

```
# Below is generated by plot.py at 2018-03-05 22:20:28
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.26 Mbit/s
95th percentile per-packet one-way delay: 157.732 ms
Loss rate: 0.03%
-- Flow 1:
Average throughput: 0.12 Mbit/s
95th percentile per-packet one-way delay: 167.272 ms
Loss rate: 0.02%
-- Flow 2:
Average throughput: 0.15 Mbit/s
95th percentile per-packet one-way delay: 155.769 ms
Loss rate: 0.03%
-- Flow 3:
Average throughput: 0.13 Mbit/s
95th percentile per-packet one-way delay: 147.591 ms
Loss rate: 0.06%
```

Run 3: Report of Sprout — Data Link

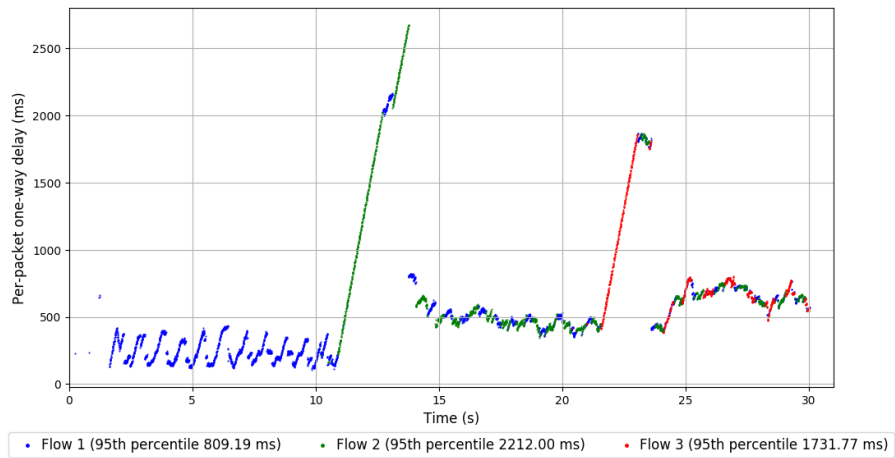
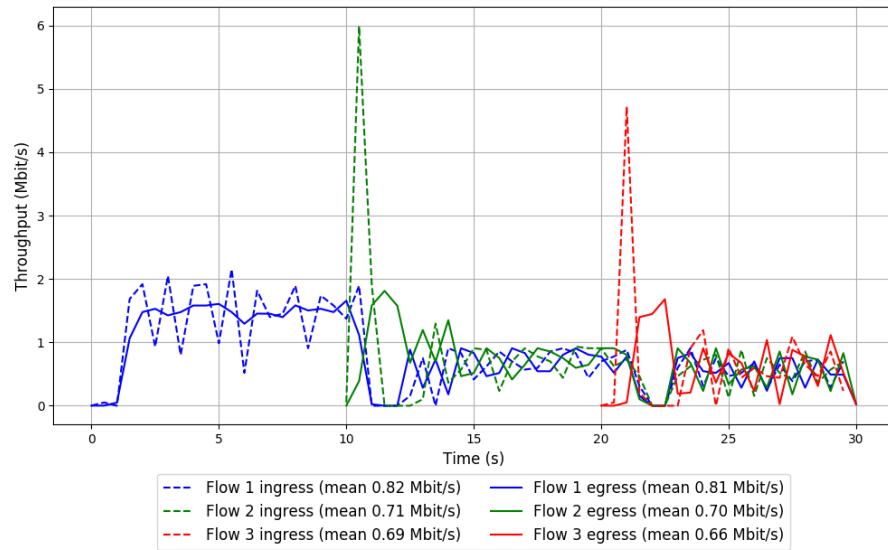


```
Run 1: Statistics of TaoVA-100x

Start at: 2018-03-05 21:18:36
End at: 2018-03-05 21:19:06
Local clock offset: -5.741 ms
Remote clock offset: -5.455 ms

# Below is generated by plot.py at 2018-03-05 22:20:30
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1.48 Mbit/s
95th percentile per-packet one-way delay: 1829.899 ms
Loss rate: 2.26%
-- Flow 1:
Average throughput: 0.81 Mbit/s
95th percentile per-packet one-way delay: 809.194 ms
Loss rate: 1.64%
-- Flow 2:
Average throughput: 0.70 Mbit/s
95th percentile per-packet one-way delay: 2211.998 ms
Loss rate: 2.47%
-- Flow 3:
Average throughput: 0.66 Mbit/s
95th percentile per-packet one-way delay: 1731.765 ms
Loss rate: 4.12%
```

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



Run 2: Statistics of TaoVA-100x

Start at: 2018-03-05 21:41:03

End at: 2018-03-05 21:41:33

Local clock offset: -5.619 ms

Remote clock offset: 0.362 ms

Below is generated by plot.py at 2018-03-05 22:20:31

Datalink statistics

-- Total of 3 flows:

Average throughput: 1.49 Mbit/s

95th percentile per-packet one-way delay: 1886.638 ms

Loss rate: 2.25%

-- Flow 1:

Average throughput: 0.84 Mbit/s

95th percentile per-packet one-way delay: 912.605 ms

Loss rate: 1.38%

-- Flow 2:

Average throughput: 0.66 Mbit/s

95th percentile per-packet one-way delay: 1807.192 ms

Loss rate: 2.77%

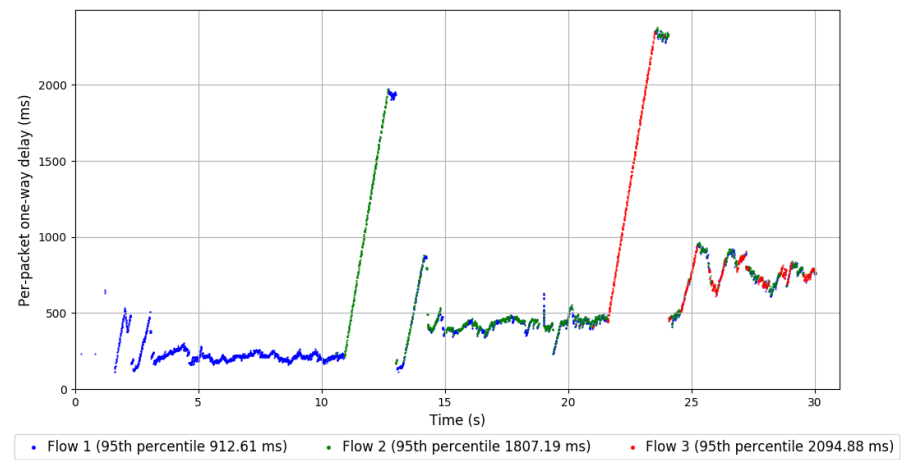
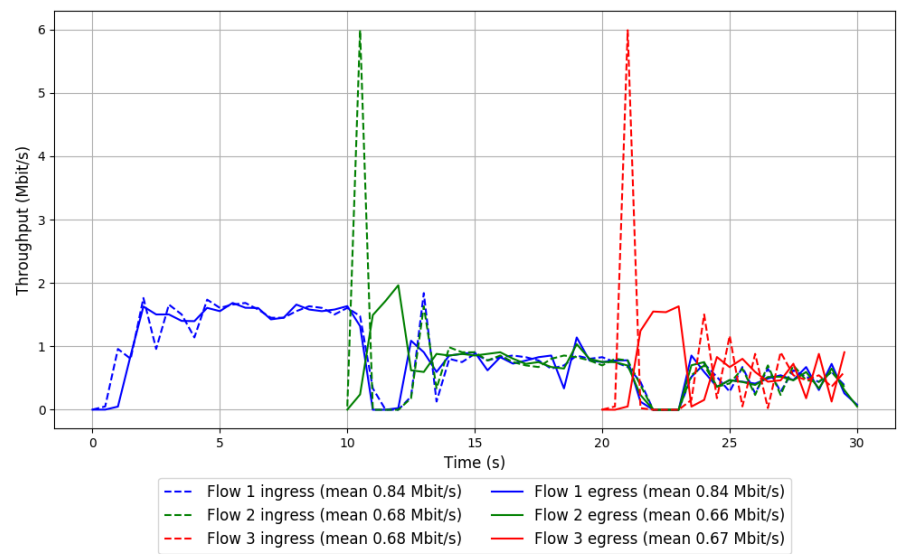
-- Flow 3:

Average throughput: 0.67 Mbit/s

95th percentile per-packet one-way delay: 2094.875 ms

Loss rate: 4.43%

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

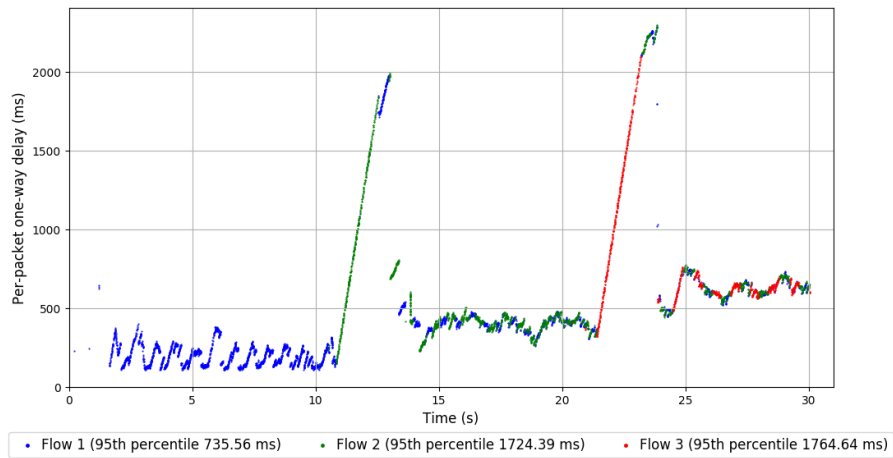
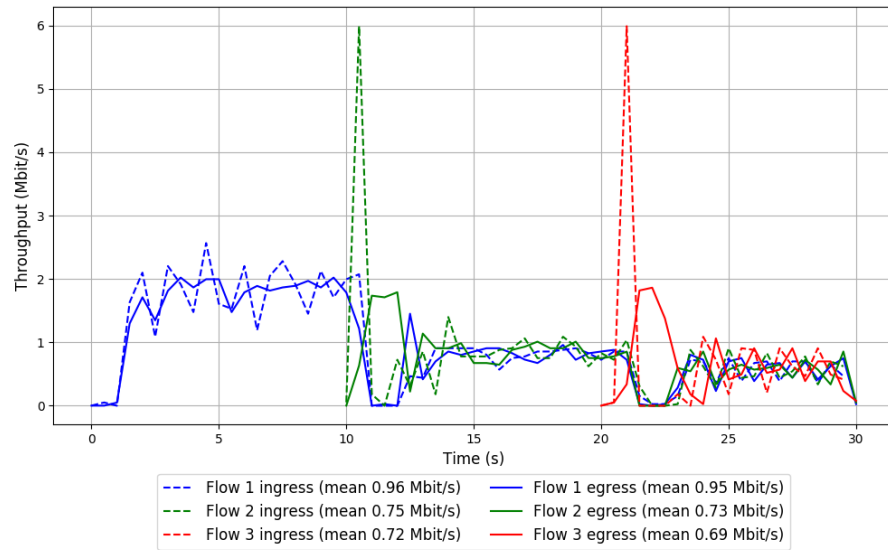


Run 3: Statistics of TaoVA-100x

Start at: 2018-03-05 22:03:31
End at: 2018-03-05 22:04:01
Local clock offset: -6.331 ms
Remote clock offset: -5.519 ms

Below is generated by plot.py at 2018-03-05 22:20:35
Datalink statistics
-- Total of 3 flows:
Average throughput: 1.66 Mbit/s
95th percentile per-packet one-way delay: 1654.826 ms
Loss rate: 1.89%
-- Flow 1:
Average throughput: 0.95 Mbit/s
95th percentile per-packet one-way delay: 735.559 ms
Loss rate: 0.81%
-- Flow 2:
Average throughput: 0.73 Mbit/s
95th percentile per-packet one-way delay: 1724.389 ms
Loss rate: 2.17%
-- Flow 3:
Average throughput: 0.69 Mbit/s
95th percentile per-packet one-way delay: 1764.645 ms
Loss rate: 5.73%

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



Run 1: Statistics of TCP Vegas

Start at: 2018-03-05 21:14:51

End at: 2018-03-05 21:15:21

Local clock offset: -5.679 ms

Remote clock offset: 0.223 ms

Below is generated by plot.py at 2018-03-05 22:20:35

Datalink statistics

-- Total of 3 flows:

Average throughput: 1.47 Mbit/s

95th percentile per-packet one-way delay: 4878.908 ms

Loss rate: 22.03%

-- Flow 1:

Average throughput: 1.46 Mbit/s

95th percentile per-packet one-way delay: 4878.992 ms

Loss rate: 21.34%

-- Flow 2:

Average throughput: 0.01 Mbit/s

95th percentile per-packet one-way delay: 4816.312 ms

Loss rate: 49.39%

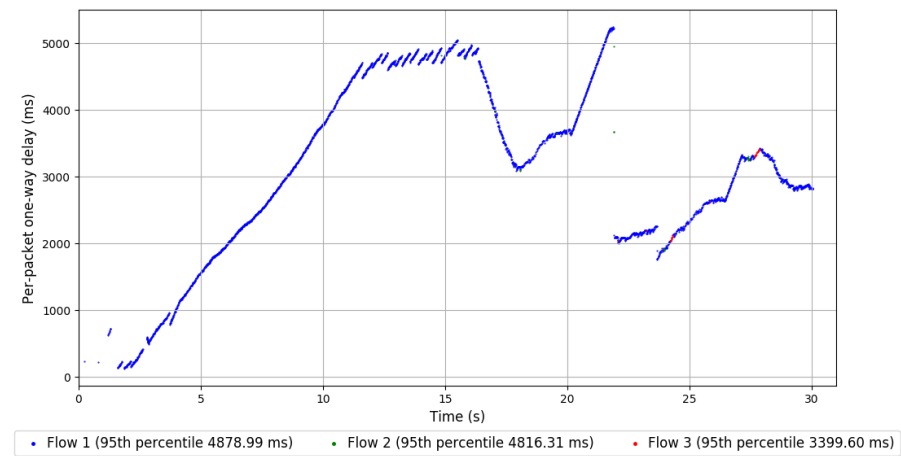
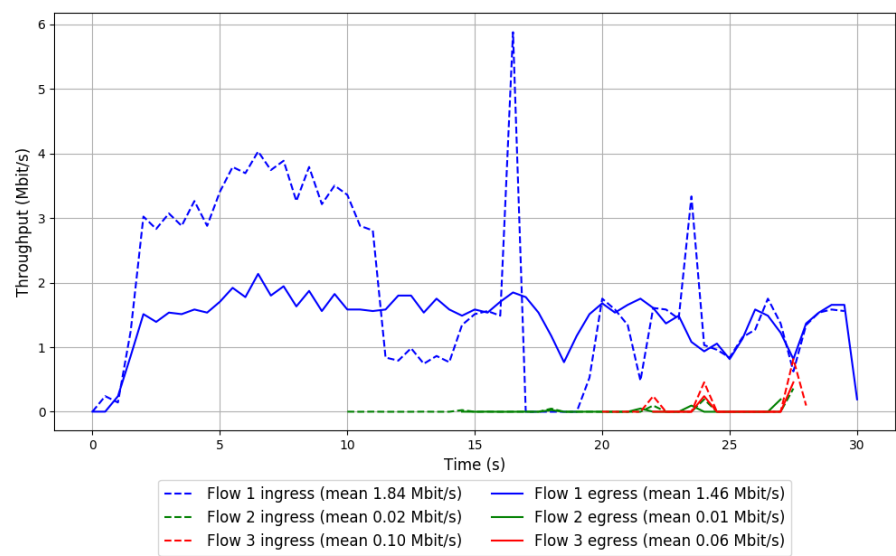
-- Flow 3:

Average throughput: 0.06 Mbit/s

95th percentile per-packet one-way delay: 3399.596 ms

Loss rate: 56.51%

Run 1: Report of TCP Vegas — Data Link

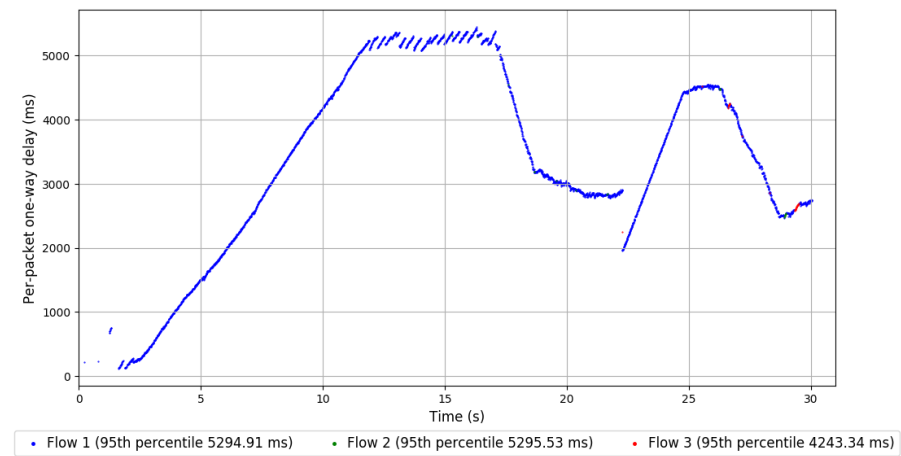
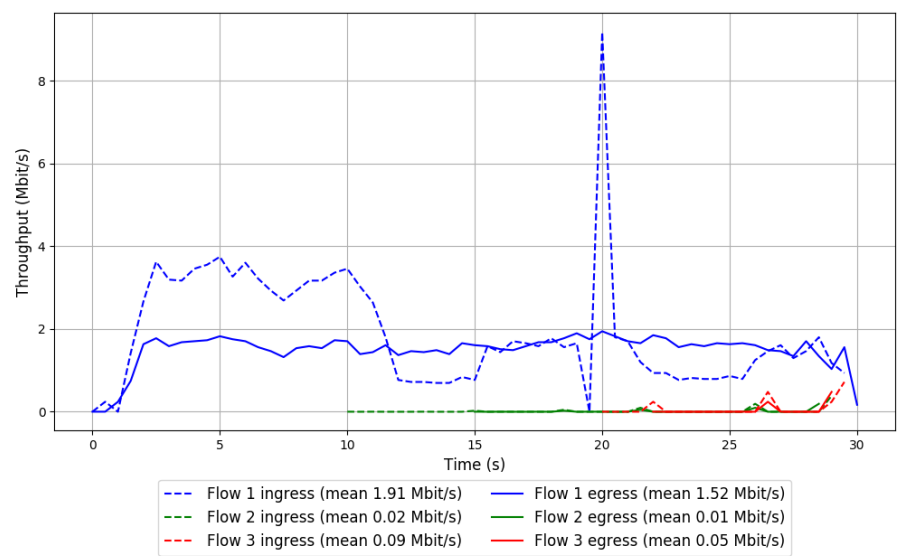


Run 2: Statistics of TCP Vegas

Start at: 2018-03-05 21:37:18
End at: 2018-03-05 21:37:48
Local clock offset: -5.546 ms
Remote clock offset: -4.459 ms

Below is generated by plot.py at 2018-03-05 22:20:35
Datalink statistics
-- Total of 3 flows:
Average throughput: 1.54 Mbit/s
95th percentile per-packet one-way delay: 5294.867 ms
Loss rate: 21.10%
-- Flow 1:
Average throughput: 1.52 Mbit/s
95th percentile per-packet one-way delay: 5294.912 ms
Loss rate: 20.37%
-- Flow 2:
Average throughput: 0.01 Mbit/s
95th percentile per-packet one-way delay: 5295.532 ms
Loss rate: 51.01%
-- Flow 3:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 4243.343 ms
Loss rate: 56.90%

Run 2: Report of TCP Vegas — Data Link

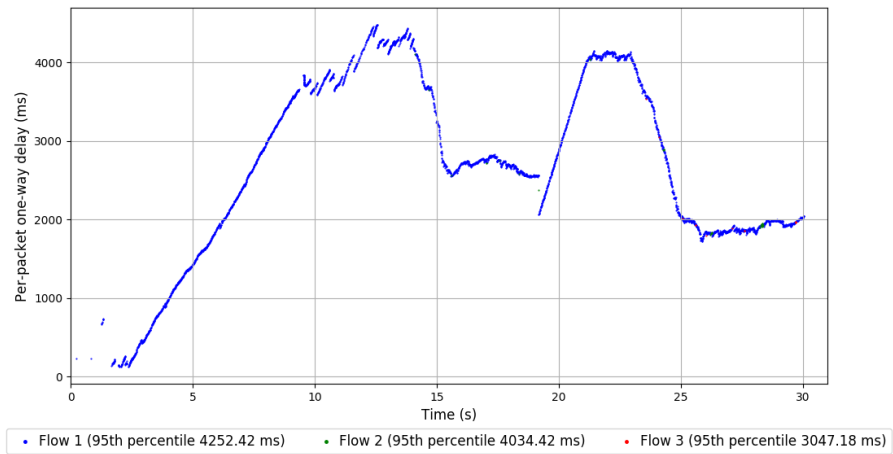
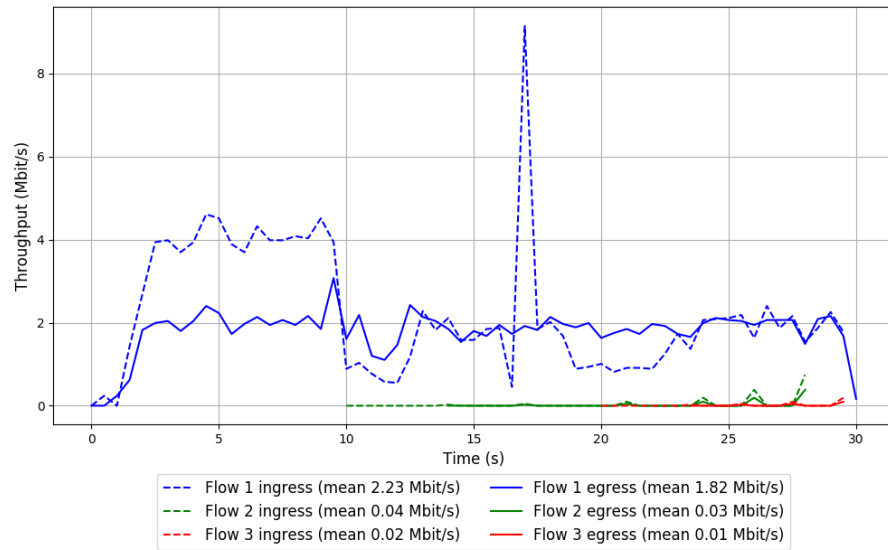


Run 3: Statistics of TCP Vegas

Start at: 2018-03-05 21:59:46
End at: 2018-03-05 22:00:16
Local clock offset: -6.31 ms
Remote clock offset: -0.632 ms

Below is generated by plot.py at 2018-03-05 22:20:35
Datalink statistics
-- Total of 3 flows:
Average throughput: 1.84 Mbit/s
95th percentile per-packet one-way delay: 4252.049 ms
Loss rate: 18.97%
-- Flow 1:
Average throughput: 1.82 Mbit/s
95th percentile per-packet one-way delay: 4252.419 ms
Loss rate: 18.54%
-- Flow 2:
Average throughput: 0.03 Mbit/s
95th percentile per-packet one-way delay: 4034.421 ms
Loss rate: 49.66%
-- Flow 3:
Average throughput: 0.01 Mbit/s
95th percentile per-packet one-way delay: 3047.175 ms
Loss rate: 52.06%

Run 3: Report of TCP Vegas — Data Link



Run 1: Statistics of Verus

Start at: 2018-03-05 21:29:48

End at: 2018-03-05 21:30:18

Local clock offset: -5.556 ms

Remote clock offset: 0.289 ms

Below is generated by plot.py at 2018-03-05 22:20:35

Datalink statistics

-- Total of 3 flows:

Average throughput: 1.58 Mbit/s

95th percentile per-packet one-way delay: 1818.713 ms

Loss rate: 4.33%

-- Flow 1:

Average throughput: 1.56 Mbit/s

95th percentile per-packet one-way delay: 1818.547 ms

Loss rate: 4.33%

-- Flow 2:

Average throughput: 0.01 Mbit/s

95th percentile per-packet one-way delay: 1959.268 ms

Loss rate: 4.76%

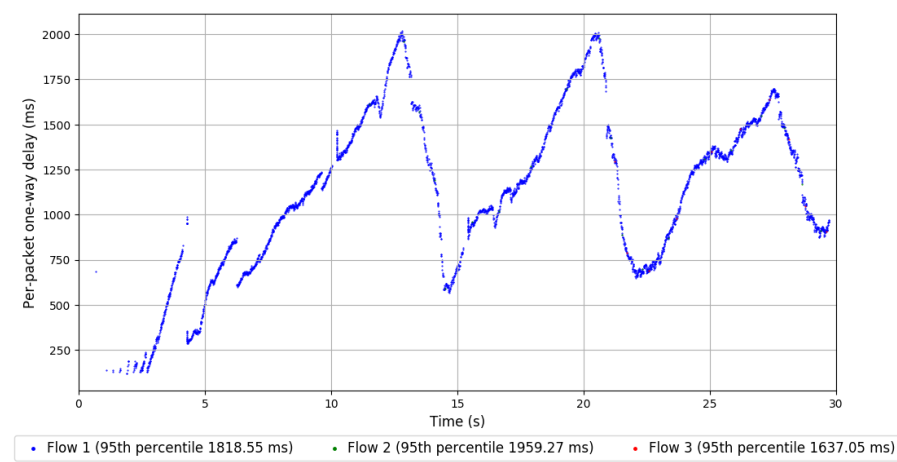
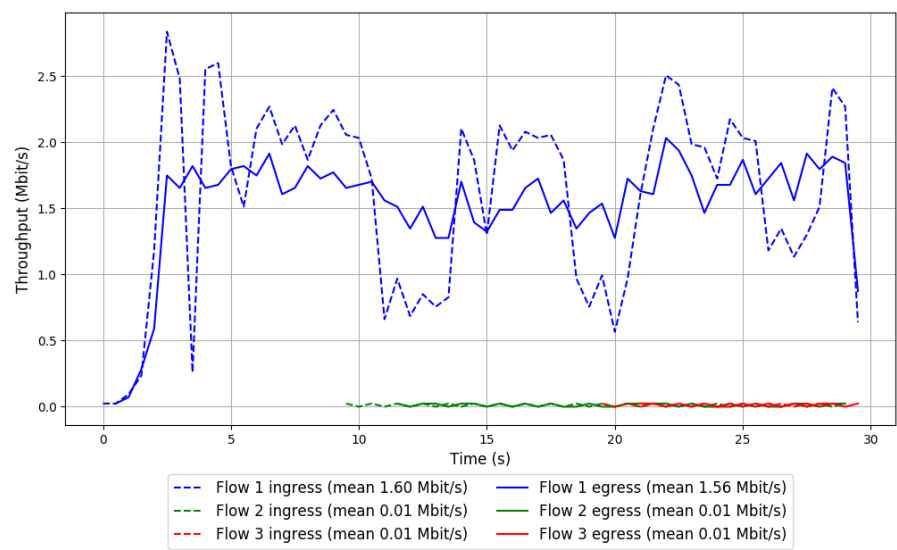
-- Flow 3:

Average throughput: 0.01 Mbit/s

95th percentile per-packet one-way delay: 1637.049 ms

Loss rate: 0.00%

Run 1: Report of Verus — Data Link

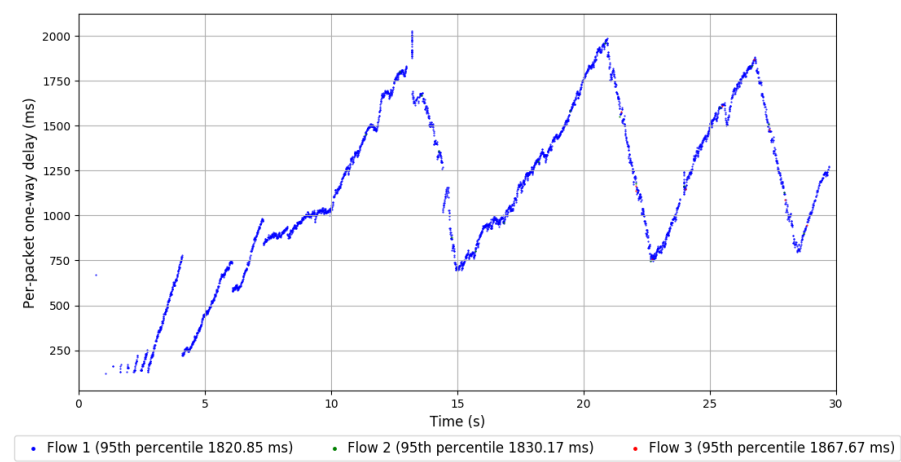
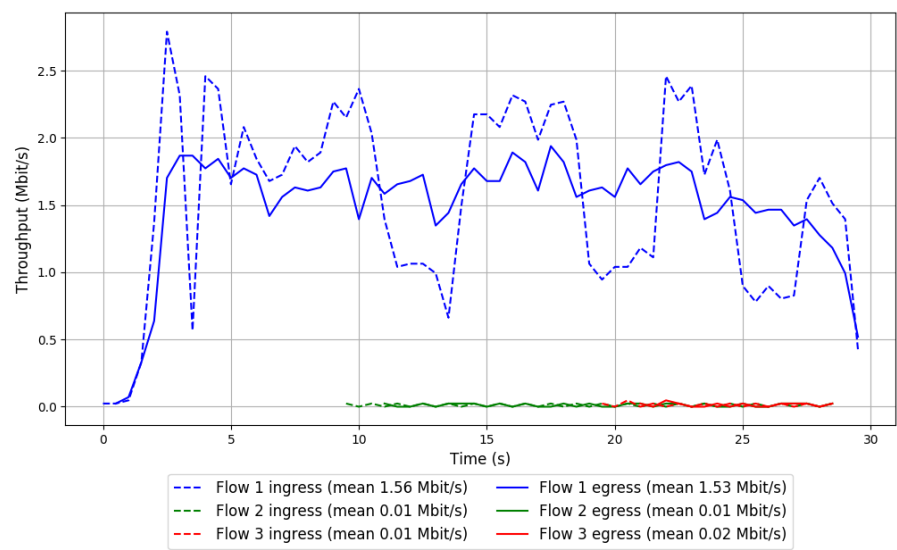


Run 2: Statistics of Verus

Start at: 2018-03-05 21:52:17
End at: 2018-03-05 21:52:47
Local clock offset: -6.125 ms
Remote clock offset: -4.506 ms

Below is generated by plot.py at 2018-03-05 22:20:35
Datalink statistics
-- Total of 3 flows:
Average throughput: 1.54 Mbit/s
95th percentile per-packet one-way delay: 1820.989 ms
Loss rate: 3.85%
-- Flow 1:
Average throughput: 1.53 Mbit/s
95th percentile per-packet one-way delay: 1820.847 ms
Loss rate: 3.83%
-- Flow 2:
Average throughput: 0.01 Mbit/s
95th percentile per-packet one-way delay: 1830.170 ms
Loss rate: 5.00%
-- Flow 3:
Average throughput: 0.02 Mbit/s
95th percentile per-packet one-way delay: 1867.673 ms
Loss rate: 9.09%

Run 2: Report of Verus — Data Link

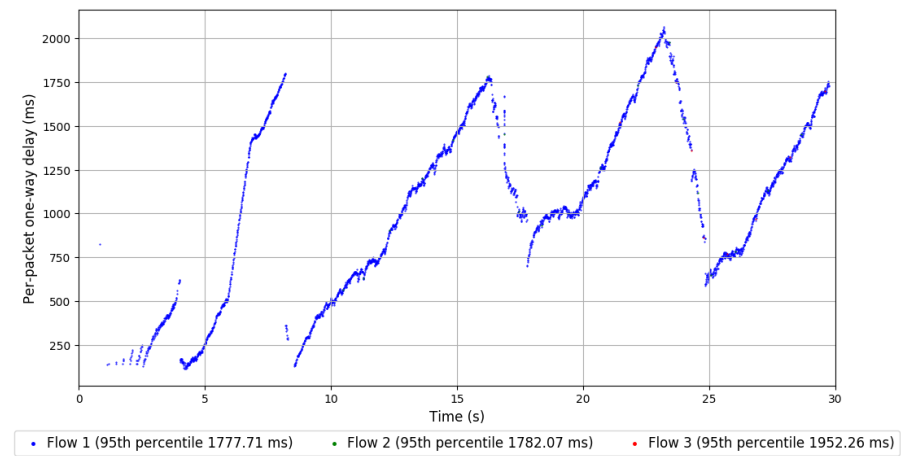
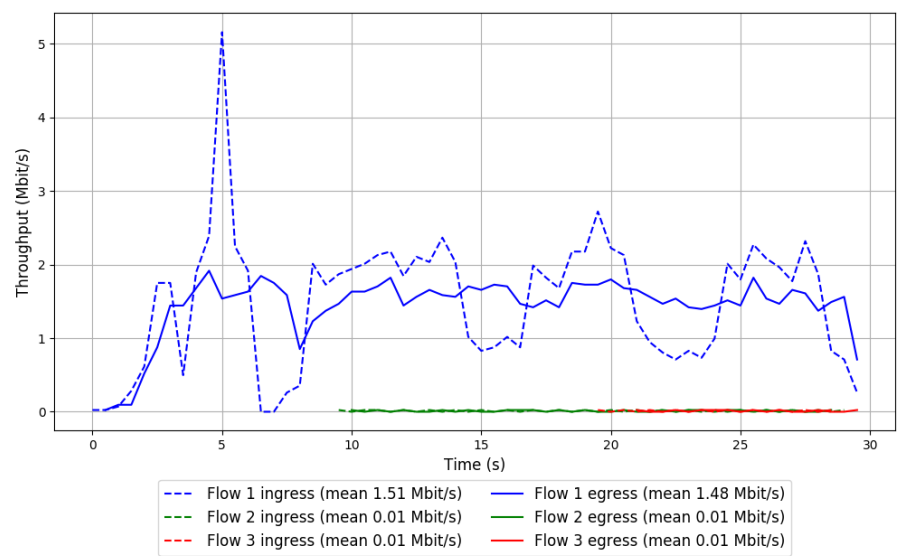


Run 3: Statistics of Verus

Start at: 2018-03-05 22:14:43
End at: 2018-03-05 22:15:13
Local clock offset: -6.378 ms
Remote clock offset: -0.022 ms

Below is generated by plot.py at 2018-03-05 22:20:35
Datalink statistics
-- Total of 3 flows:
Average throughput: 1.49 Mbit/s
95th percentile per-packet one-way delay: 1778.886 ms
Loss rate: 4.13%
-- Flow 1:
Average throughput: 1.48 Mbit/s
95th percentile per-packet one-way delay: 1777.713 ms
Loss rate: 4.09%
-- Flow 2:
Average throughput: 0.01 Mbit/s
95th percentile per-packet one-way delay: 1782.065 ms
Loss rate: 9.52%
-- Flow 3:
Average throughput: 0.01 Mbit/s
95th percentile per-packet one-way delay: 1952.258 ms
Loss rate: 10.00%

Run 3: Report of Verus — Data Link

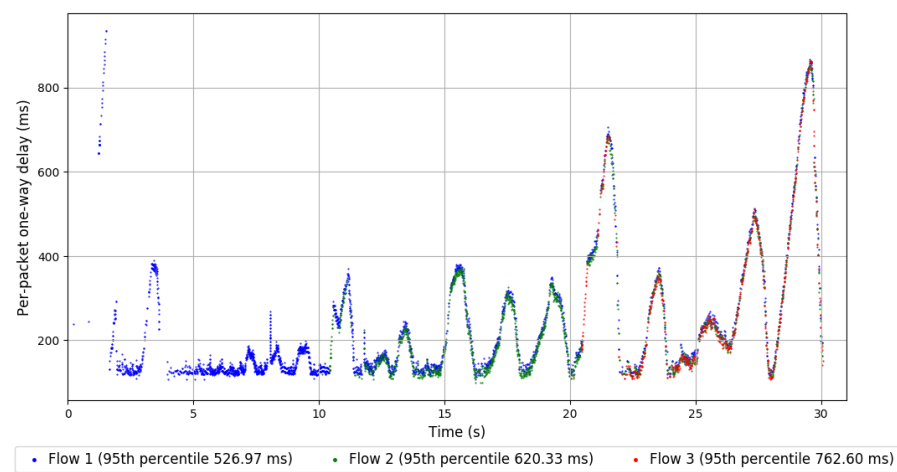
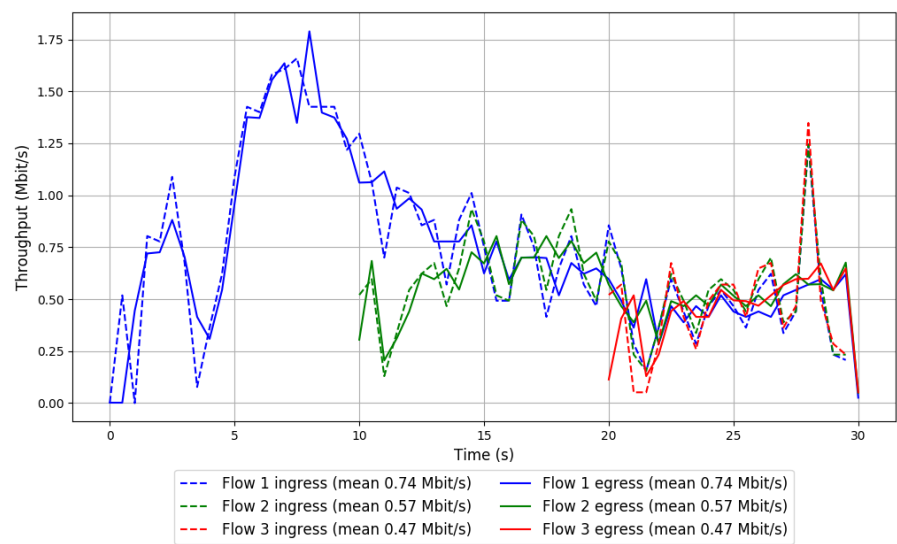


Run 1: Statistics of Copa

Start at: 2018-03-05 21:16:06
End at: 2018-03-05 21:16:36
Local clock offset: -5.749 ms
Remote clock offset: -5.469 ms

Below is generated by plot.py at 2018-03-05 22:20:38
Datalink statistics
-- Total of 3 flows:
Average throughput: 1.28 Mbit/s
95th percentile per-packet one-way delay: 620.330 ms
Loss rate: 0.17%
-- Flow 1:
Average throughput: 0.74 Mbit/s
95th percentile per-packet one-way delay: 526.966 ms
Loss rate: 0.12%
-- Flow 2:
Average throughput: 0.57 Mbit/s
95th percentile per-packet one-way delay: 620.330 ms
Loss rate: 0.23%
-- Flow 3:
Average throughput: 0.47 Mbit/s
95th percentile per-packet one-way delay: 762.602 ms
Loss rate: 0.28%

Run 1: Report of Copa — Data Link



Run 2: Statistics of Copa

Start at: 2018-03-05 21:38:32

End at: 2018-03-05 21:39:02

Local clock offset: -5.473 ms

Remote clock offset: -5.41 ms

Below is generated by plot.py at 2018-03-05 22:20:39

Datalink statistics

-- Total of 3 flows:

Average throughput: 1.40 Mbit/s

95th percentile per-packet one-way delay: 371.313 ms

Loss rate: 0.37%

-- Flow 1:

Average throughput: 0.81 Mbit/s

95th percentile per-packet one-way delay: 354.335 ms

Loss rate: 0.21%

-- Flow 2:

Average throughput: 0.61 Mbit/s

95th percentile per-packet one-way delay: 402.573 ms

Loss rate: 0.43%

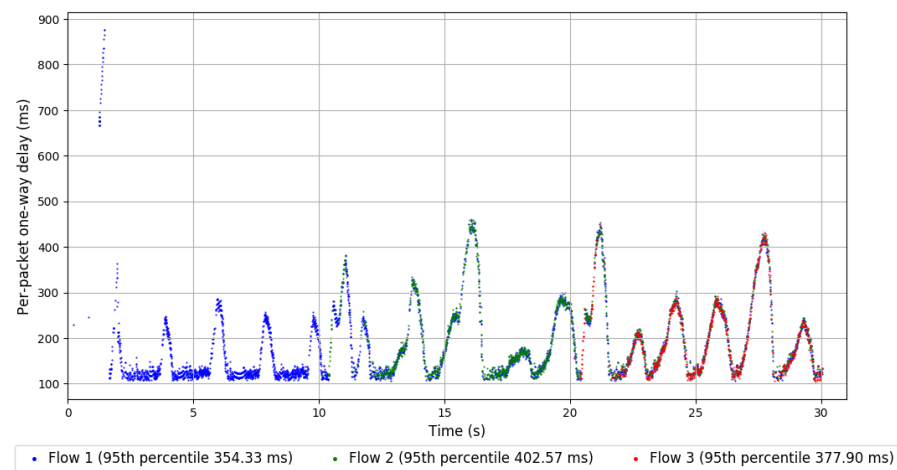
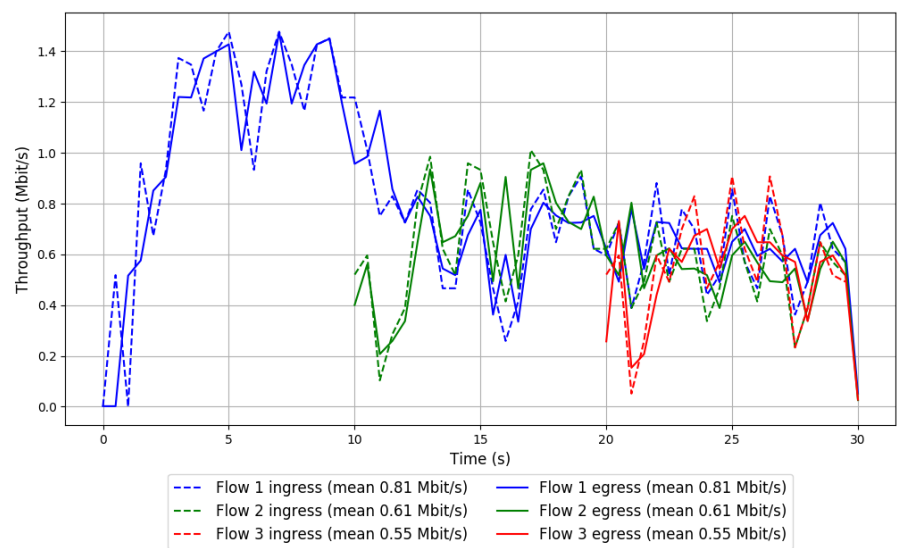
-- Flow 3:

Average throughput: 0.55 Mbit/s

95th percentile per-packet one-way delay: 377.902 ms

Loss rate: 0.93%

Run 2: Report of Copa — Data Link



Run 3: Statistics of Copa

Start at: 2018-03-05 22:01:01

End at: 2018-03-05 22:01:31

Local clock offset: -6.259 ms

Remote clock offset: -5.46 ms

Below is generated by plot.py at 2018-03-05 22:20:41

Datalink statistics

-- Total of 3 flows:

Average throughput: 1.64 Mbit/s

95th percentile per-packet one-way delay: 322.981 ms

Loss rate: 1.00%

-- Flow 1:

Average throughput: 1.01 Mbit/s

95th percentile per-packet one-way delay: 302.020 ms

Loss rate: 0.52%

-- Flow 2:

Average throughput: 0.68 Mbit/s

95th percentile per-packet one-way delay: 328.906 ms

Loss rate: 1.13%

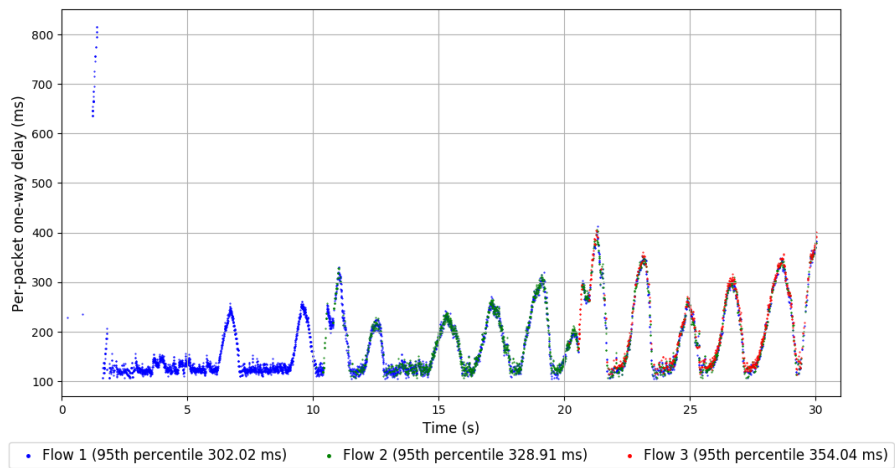
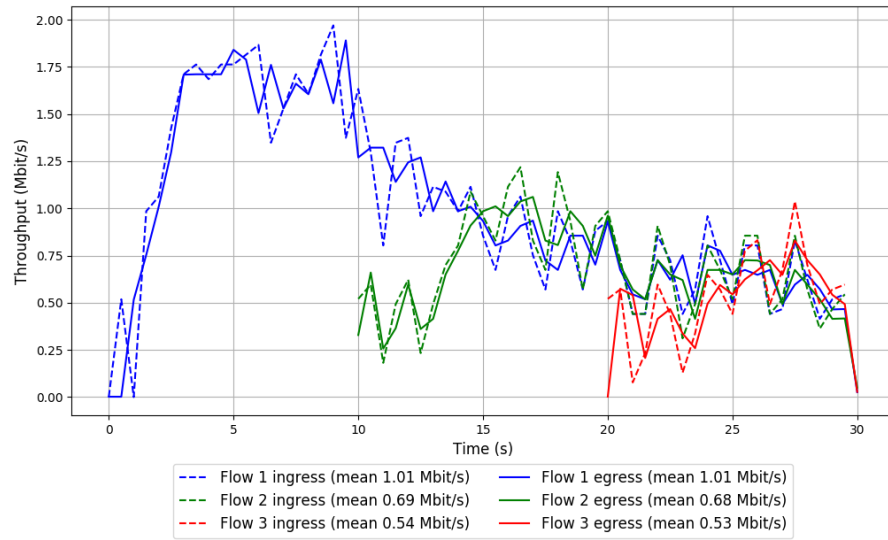
-- Flow 3:

Average throughput: 0.53 Mbit/s

95th percentile per-packet one-way delay: 354.044 ms

Loss rate: 3.36%

Run 3: Report of Copa — Data Link

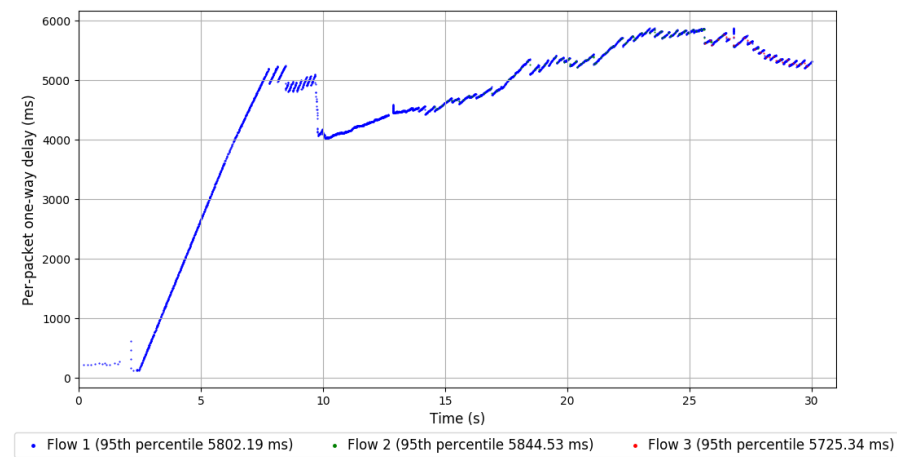
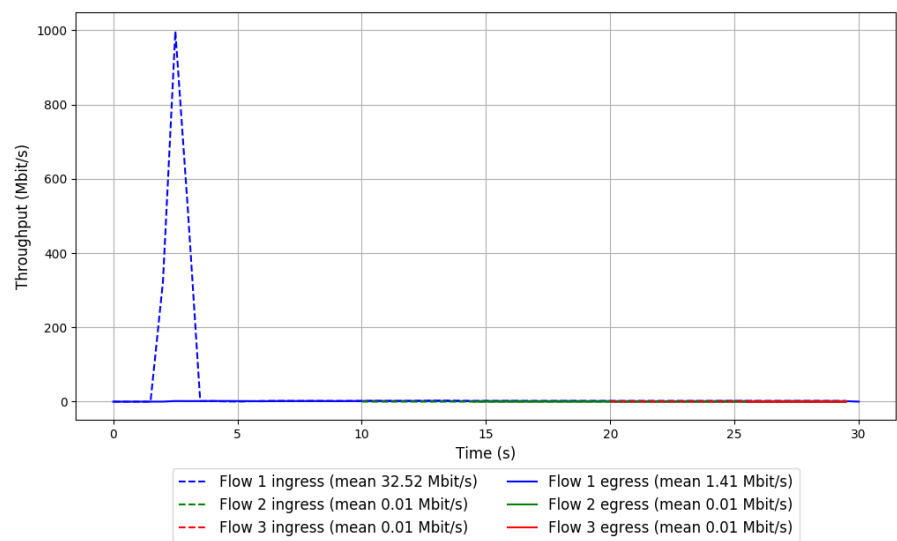


Run 1: Statistics of FillP

Start at: 2018-03-05 21:17:21
End at: 2018-03-05 21:17:51
Local clock offset: -5.65 ms
Remote clock offset: -4.539 ms

Below is generated by plot.py at 2018-03-05 22:20:53
Datalink statistics
-- Total of 3 flows:
Average throughput: 1.41 Mbit/s
95th percentile per-packet one-way delay: 5803.856 ms
Loss rate: 95.68%
-- Flow 1:
Average throughput: 1.41 Mbit/s
95th percentile per-packet one-way delay: 5802.188 ms
Loss rate: 95.69%
-- Flow 2:
Average throughput: 0.01 Mbit/s
95th percentile per-packet one-way delay: 5844.530 ms
Loss rate: 10.77%
-- Flow 3:
Average throughput: 0.01 Mbit/s
95th percentile per-packet one-way delay: 5725.335 ms
Loss rate: 76.29%

Run 1: Report of FillP — Data Link



Run 2: Statistics of FillP

Start at: 2018-03-05 21:39:47

End at: 2018-03-05 21:40:17

Local clock offset: -5.576 ms

Remote clock offset: -5.32 ms

Below is generated by plot.py at 2018-03-05 22:20:54

Datalink statistics

-- Total of 3 flows:

Average throughput: 1.72 Mbit/s

95th percentile per-packet one-way delay: 4896.784 ms

Loss rate: 97.32%

-- Flow 1:

Average throughput: 1.71 Mbit/s

95th percentile per-packet one-way delay: 4895.368 ms

Loss rate: 94.85%

-- Flow 2:

Average throughput: 0.01 Mbit/s

95th percentile per-packet one-way delay: 4967.838 ms

Loss rate: 20.35%

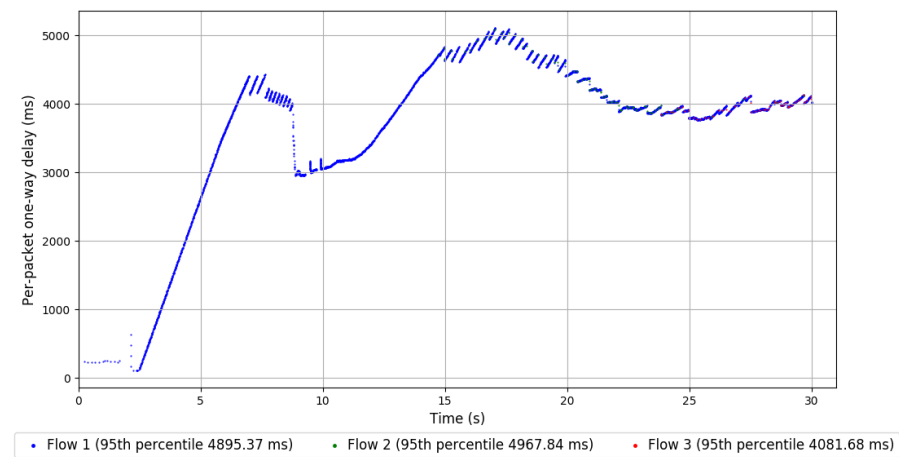
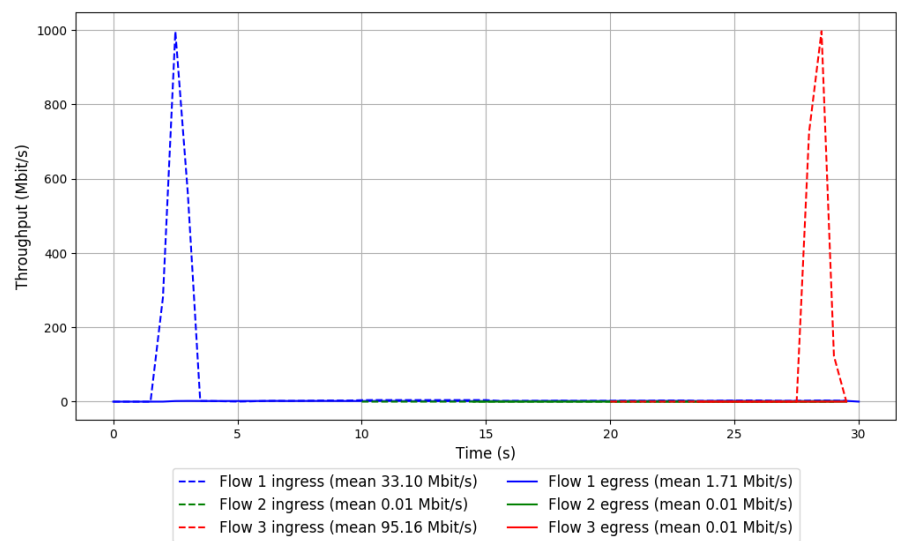
-- Flow 3:

Average throughput: 0.01 Mbit/s

95th percentile per-packet one-way delay: 4081.685 ms

Loss rate: 99.99%

Run 2: Report of FillP — Data Link



Run 3: Statistics of FillP

Start at: 2018-03-05 22:02:16

End at: 2018-03-05 22:02:46

Local clock offset: -6.363 ms

Remote clock offset: 0.98 ms

Below is generated by plot.py at 2018-03-05 22:20:55

Datalink statistics

-- Total of 3 flows:

Average throughput: 1.59 Mbit/s

95th percentile per-packet one-way delay: 5104.846 ms

Loss rate: 97.55%

-- Flow 1:

Average throughput: 1.58 Mbit/s

95th percentile per-packet one-way delay: 5105.175 ms

Loss rate: 95.30%

-- Flow 2:

Average throughput: 0.01 Mbit/s

95th percentile per-packet one-way delay: 5099.578 ms

Loss rate: 3.74%

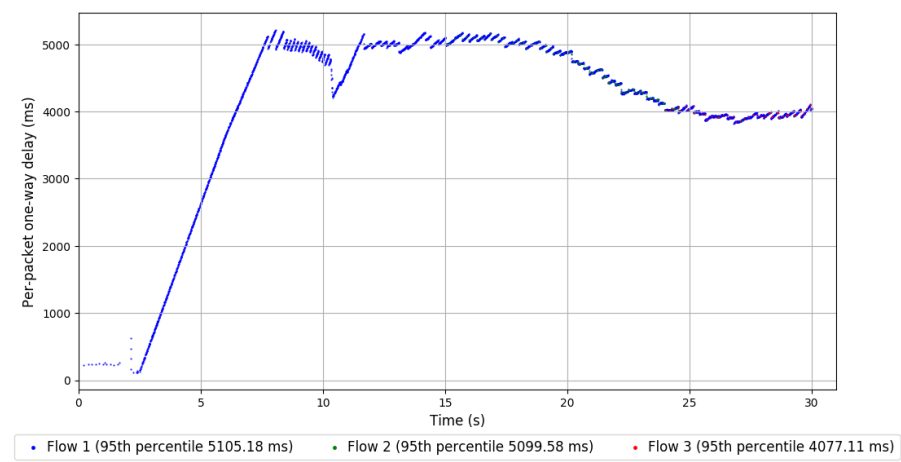
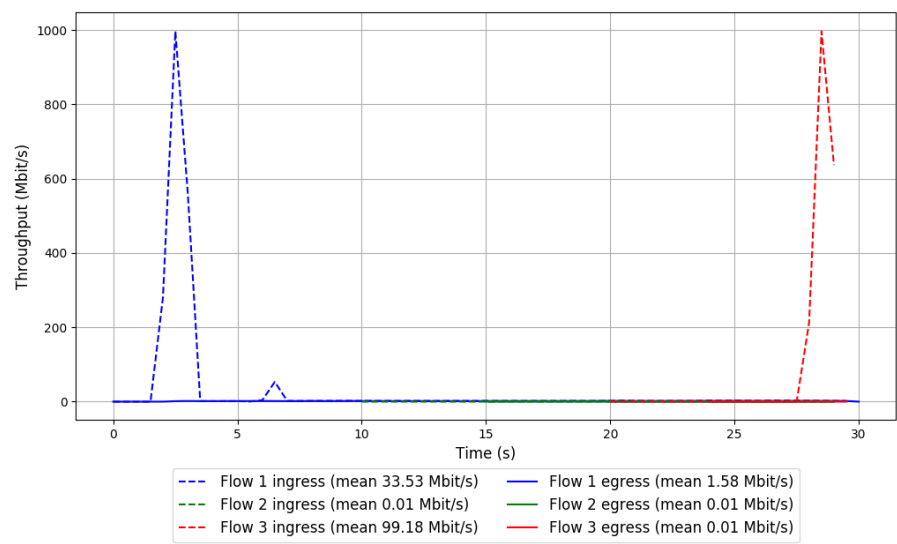
-- Flow 3:

Average throughput: 0.01 Mbit/s

95th percentile per-packet one-way delay: 4077.106 ms

Loss rate: 99.99%

Run 3: Report of FillP — Data Link

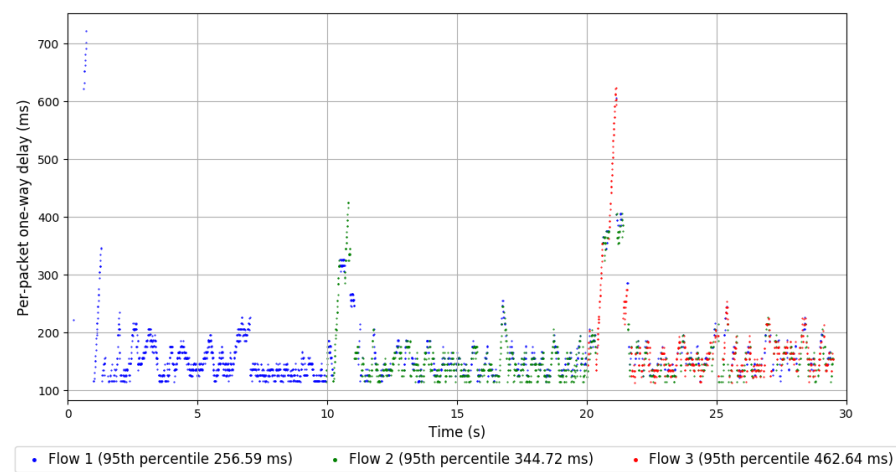
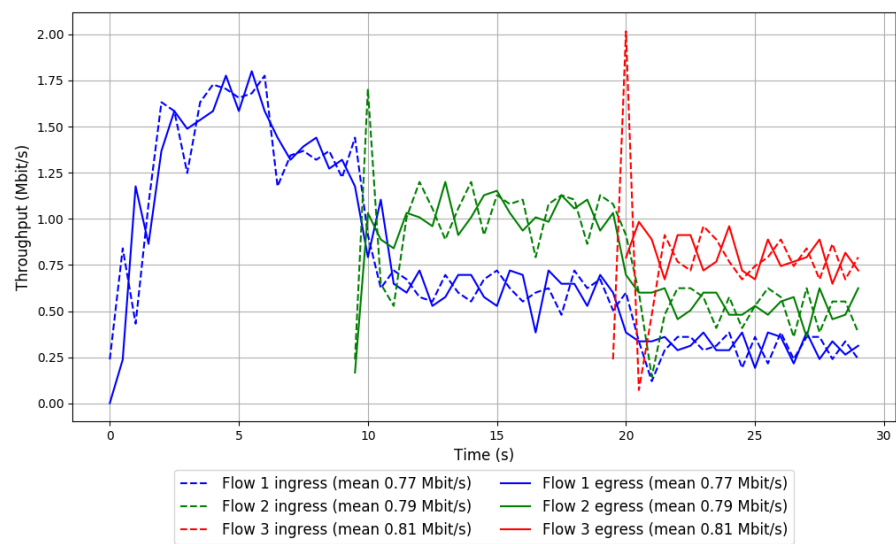


Run 1: Statistics of Indigo-1-32

Start at: 2018-03-05 21:22:20
End at: 2018-03-05 21:22:50
Local clock offset: -5.631 ms
Remote clock offset: -5.392 ms

Below is generated by plot.py at 2018-03-05 22:20:55
Datalink statistics
-- Total of 3 flows:
Average throughput: 1.56 Mbit/s
95th percentile per-packet one-way delay: 316.391 ms
Loss rate: 0.31%
-- Flow 1:
Average throughput: 0.77 Mbit/s
95th percentile per-packet one-way delay: 256.586 ms
Loss rate: 0.11%
-- Flow 2:
Average throughput: 0.79 Mbit/s
95th percentile per-packet one-way delay: 344.717 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.81 Mbit/s
95th percentile per-packet one-way delay: 462.639 ms
Loss rate: 1.55%

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

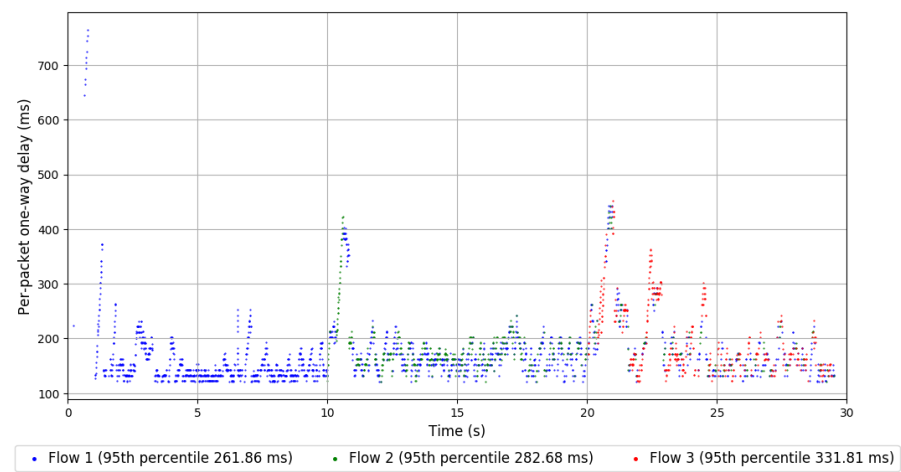
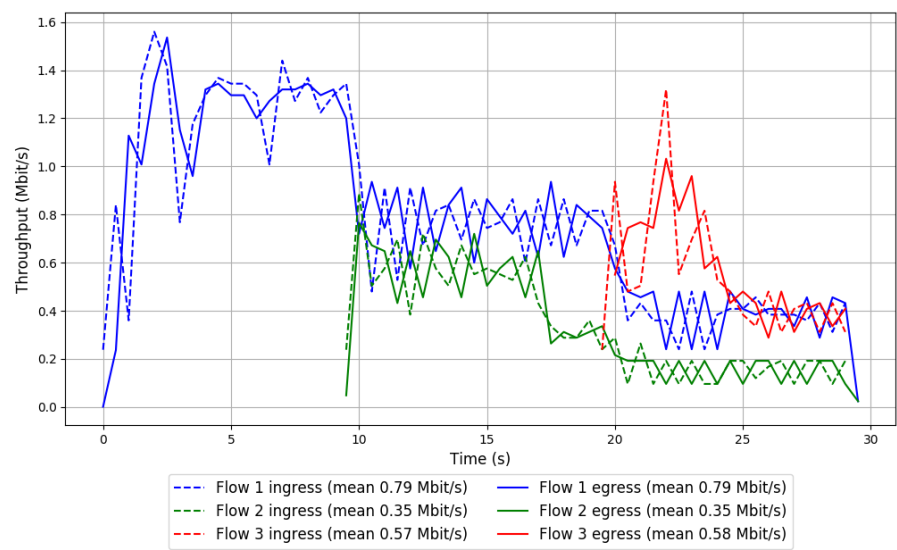


Run 2: Statistics of Indigo-1-32

Start at: 2018-03-05 21:44:49
End at: 2018-03-05 21:45:19
Local clock offset: -5.842 ms
Remote clock offset: -0.468 ms

Below is generated by plot.py at 2018-03-05 22:20:55
Datalink statistics
-- Total of 3 flows:
Average throughput: 1.20 Mbit/s
95th percentile per-packet one-way delay: 292.672 ms
Loss rate: 0.24%
-- Flow 1:
Average throughput: 0.79 Mbit/s
95th percentile per-packet one-way delay: 261.860 ms
Loss rate: 0.05%
-- Flow 2:
Average throughput: 0.35 Mbit/s
95th percentile per-packet one-way delay: 282.684 ms
Loss rate: 0.53%
-- Flow 3:
Average throughput: 0.58 Mbit/s
95th percentile per-packet one-way delay: 331.810 ms
Loss rate: 0.66%

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

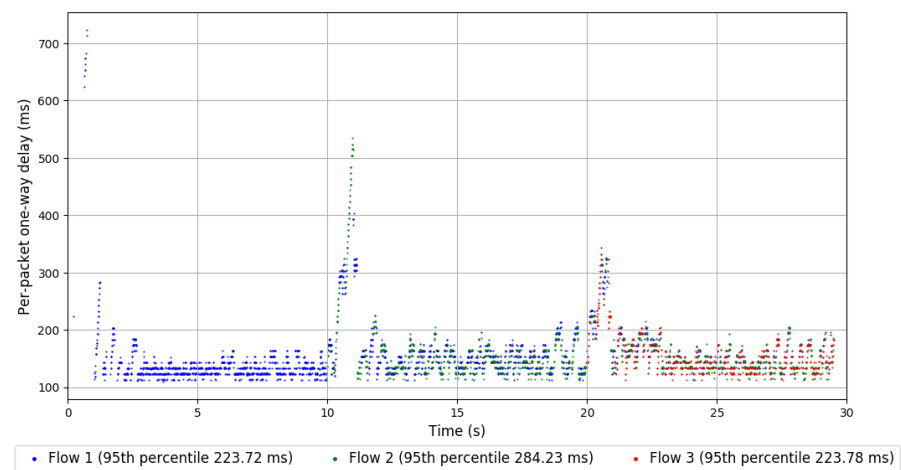
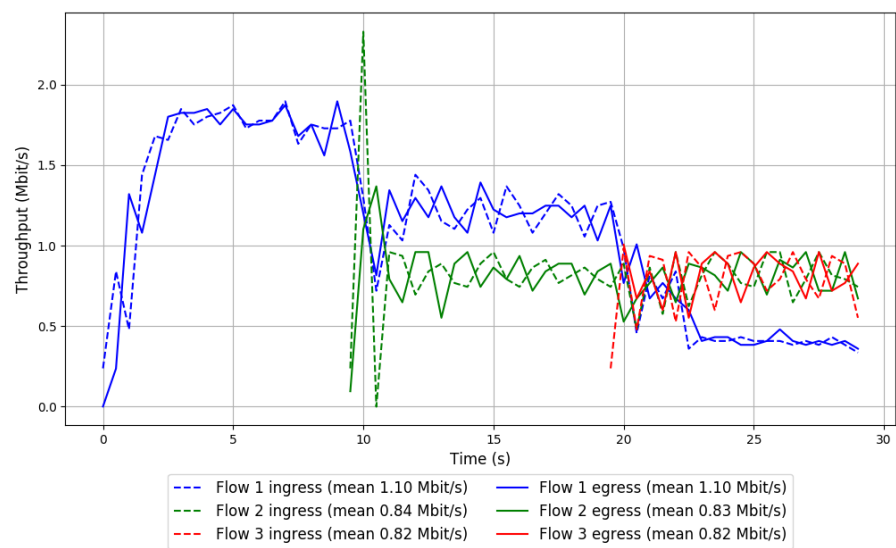


Run 3: Statistics of Indigo-1-32

Start at: 2018-03-05 22:07:16
End at: 2018-03-05 22:07:46
Local clock offset: -6.407 ms
Remote clock offset: -5.532 ms

Below is generated by plot.py at 2018-03-05 22:20:55
Datalink statistics
-- Total of 3 flows:
Average throughput: 1.92 Mbit/s
95th percentile per-packet one-way delay: 234.014 ms
Loss rate: 0.30%
-- Flow 1:
Average throughput: 1.10 Mbit/s
95th percentile per-packet one-way delay: 223.725 ms
Loss rate: 0.11%
-- Flow 2:
Average throughput: 0.83 Mbit/s
95th percentile per-packet one-way delay: 284.232 ms
Loss rate: 0.73%
-- Flow 3:
Average throughput: 0.82 Mbit/s
95th percentile per-packet one-way delay: 223.780 ms
Loss rate: 0.15%

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

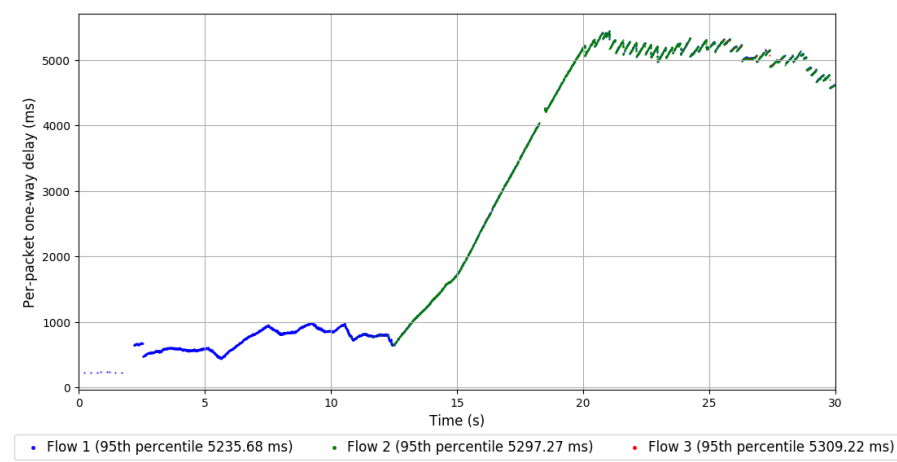
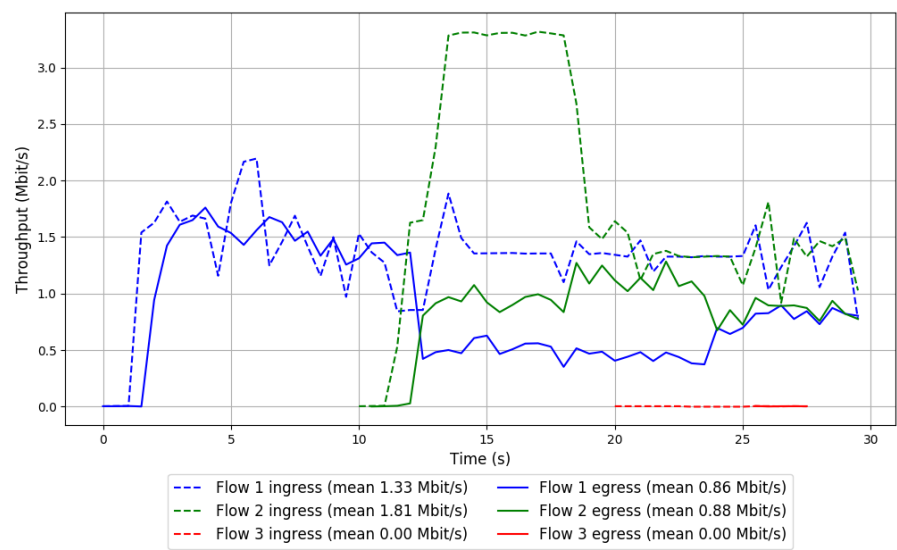


Run 1: Statistics of Vivace-latency

Start at: 2018-03-05 21:19:51
End at: 2018-03-05 21:20:21
Local clock offset: -5.632 ms
Remote clock offset: -5.406 ms

Below is generated by plot.py at 2018-03-05 22:20:55
Datalink statistics
-- Total of 3 flows:
Average throughput: 1.43 Mbit/s
95th percentile per-packet one-way delay: 5267.388 ms
Loss rate: 43.91%
-- Flow 1:
Average throughput: 0.86 Mbit/s
95th percentile per-packet one-way delay: 5235.683 ms
Loss rate: 35.34%
-- Flow 2:
Average throughput: 0.88 Mbit/s
95th percentile per-packet one-way delay: 5297.270 ms
Loss rate: 53.35%
-- Flow 3:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 5309.218 ms
Loss rate: 54.02%

Run 1: Report of Vivace-latency — Data Link

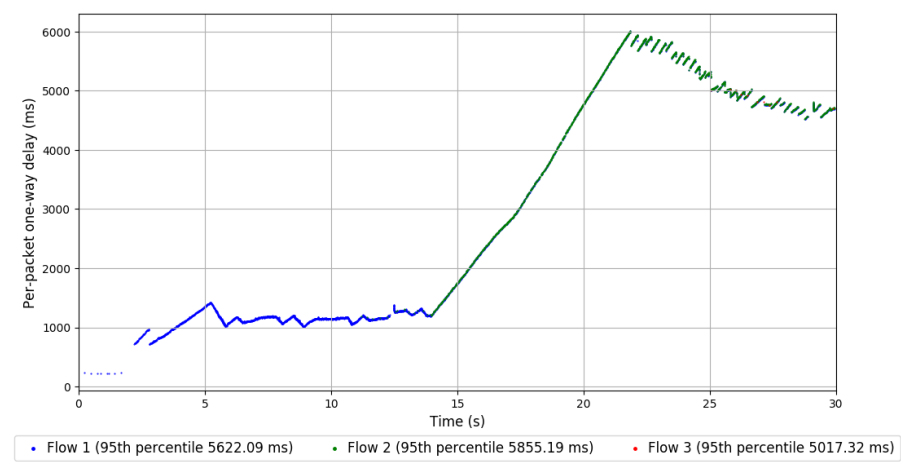
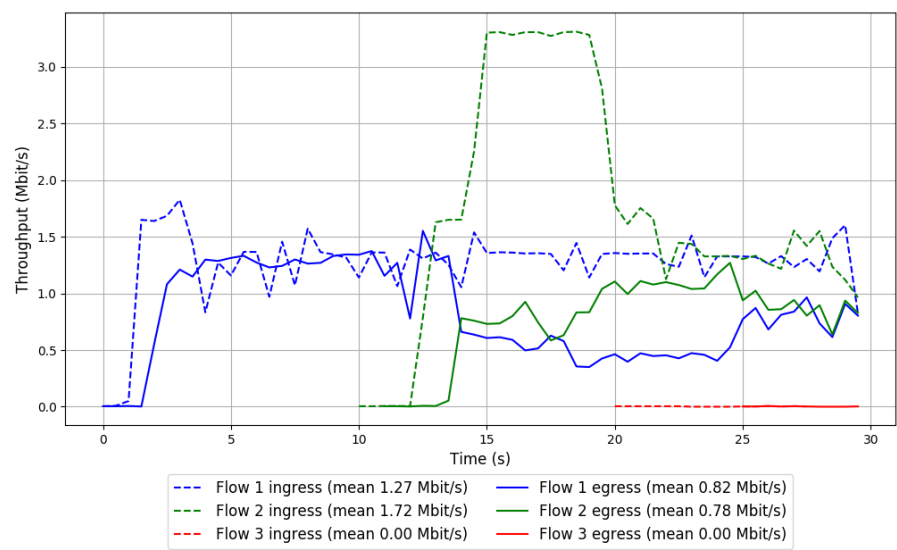


Run 2: Statistics of Vivace-latency

Start at: 2018-03-05 21:42:18
End at: 2018-03-05 21:42:48
Local clock offset: -5.687 ms
Remote clock offset: -4.525 ms

Below is generated by plot.py at 2018-03-05 22:20:55
Datalink statistics
-- Total of 3 flows:
Average throughput: 1.31 Mbit/s
95th percentile per-packet one-way delay: 5783.739 ms
Loss rate: 45.95%
-- Flow 1:
Average throughput: 0.82 Mbit/s
95th percentile per-packet one-way delay: 5622.088 ms
Loss rate: 35.76%
-- Flow 2:
Average throughput: 0.78 Mbit/s
95th percentile per-packet one-way delay: 5855.194 ms
Loss rate: 57.24%
-- Flow 3:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 5017.317 ms
Loss rate: 53.02%

Run 2: Report of Vivace-latency — Data Link



Run 3: Statistics of Vivace-latency

Start at: 2018-03-05 22:04:46

End at: 2018-03-05 22:05:16

Local clock offset: -6.303 ms

Remote clock offset: 0.055 ms

Below is generated by plot.py at 2018-03-05 22:20:55

Datalink statistics

-- Total of 3 flows:

Average throughput: 1.62 Mbit/s

95th percentile per-packet one-way delay: 4827.238 ms

Loss rate: 33.07%

-- Flow 1:

Average throughput: 0.94 Mbit/s

95th percentile per-packet one-way delay: 4814.588 ms

Loss rate: 29.31%

-- Flow 2:

Average throughput: 1.02 Mbit/s

95th percentile per-packet one-way delay: 4842.254 ms

Loss rate: 37.69%

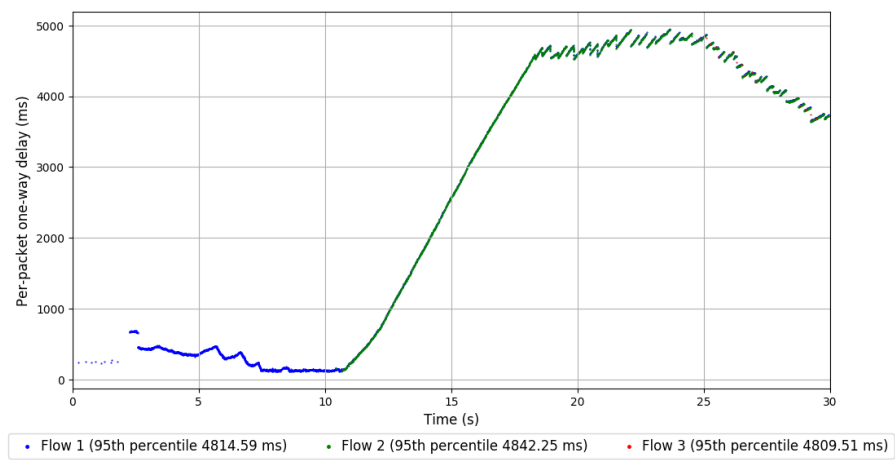
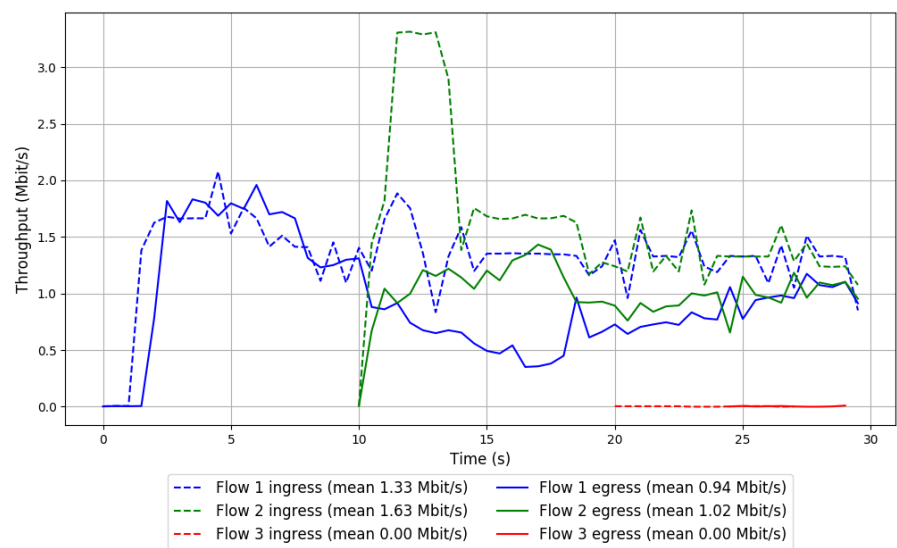
-- Flow 3:

Average throughput: 0.00 Mbit/s

95th percentile per-packet one-way delay: 4809.507 ms

Loss rate: 21.41%

Run 3: Report of Vivace-latency — Data Link

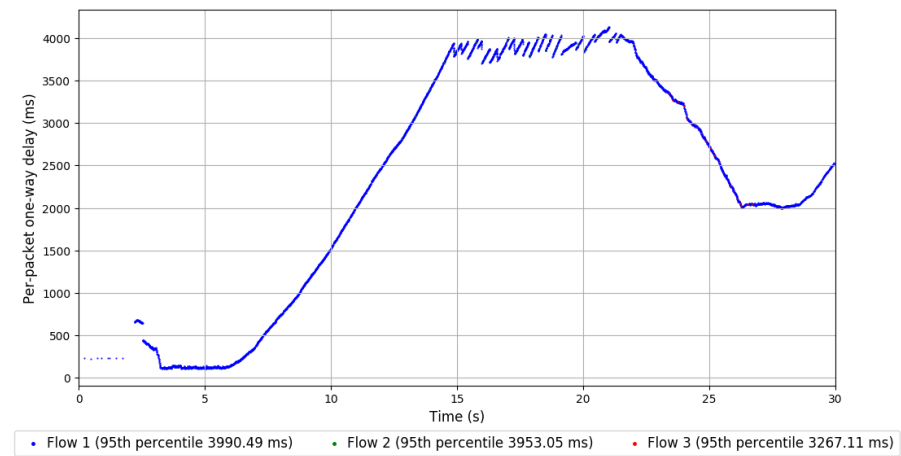
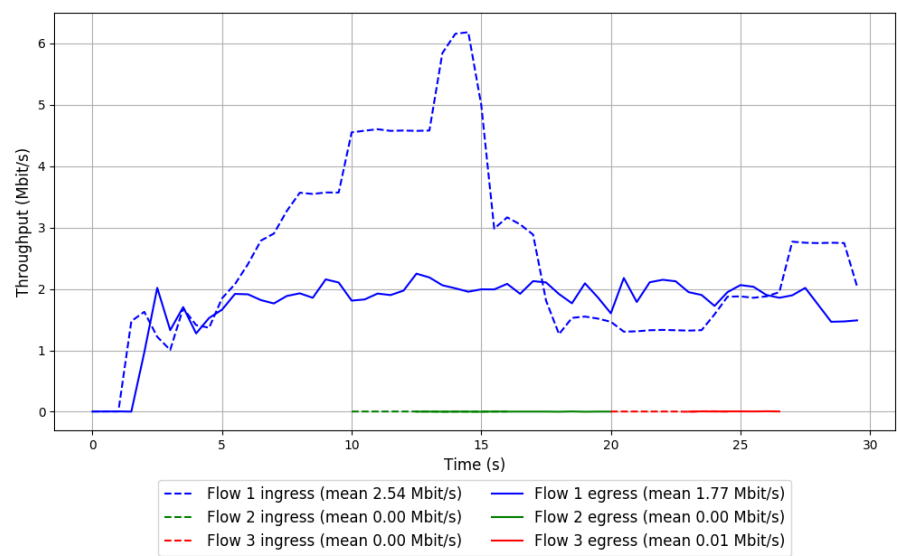


```
Run 1: Statistics of Vivace-loss

Start at: 2018-03-05 21:12:22
End at: 2018-03-05 21:12:52
Local clock offset: -5.76 ms
Remote clock offset: -5.425 ms

# Below is generated by plot.py at 2018-03-05 22:20:55
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1.77 Mbit/s
95th percentile per-packet one-way delay: 3989.961 ms
Loss rate: 30.84%
-- Flow 1:
Average throughput: 1.77 Mbit/s
95th percentile per-packet one-way delay: 3990.490 ms
Loss rate: 30.85%
-- Flow 2:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 3953.049 ms
Loss rate: 23.99%
-- Flow 3:
Average throughput: 0.01 Mbit/s
95th percentile per-packet one-way delay: 3267.105 ms
Loss rate: 0.00%
```

Run 1: Report of Vivace-loss — Data Link



Run 2: Statistics of Vivace-loss

Start at: 2018-03-05 21:34:48

End at: 2018-03-05 21:35:18

Local clock offset: -5.497 ms

Remote clock offset: 0.365 ms

Below is generated by plot.py at 2018-03-05 22:20:55

Datalink statistics

-- Total of 3 flows:

Average throughput: 1.91 Mbit/s

95th percentile per-packet one-way delay: 3863.690 ms

Loss rate: 37.46%

-- Flow 1:

Average throughput: 1.91 Mbit/s

95th percentile per-packet one-way delay: 3863.065 ms

Loss rate: 37.48%

-- Flow 2:

Average throughput: 0.00 Mbit/s

95th percentile per-packet one-way delay: 3873.502 ms

Loss rate: 9.66%

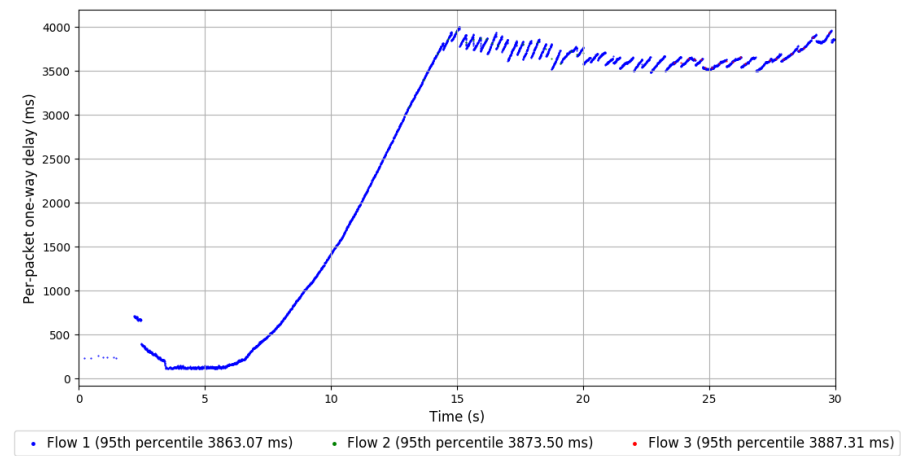
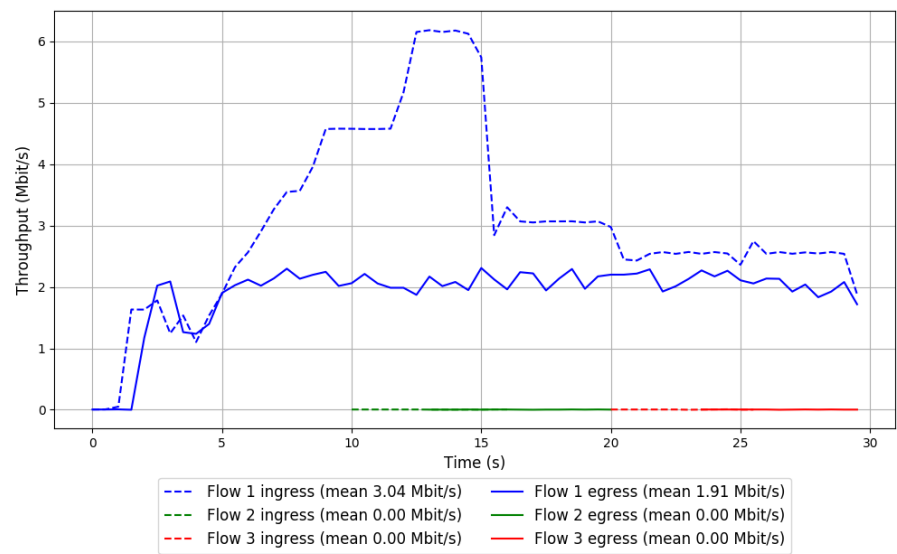
-- Flow 3:

Average throughput: 0.00 Mbit/s

95th percentile per-packet one-way delay: 3887.309 ms

Loss rate: 0.00%

Run 2: Report of Vivace-loss — Data Link

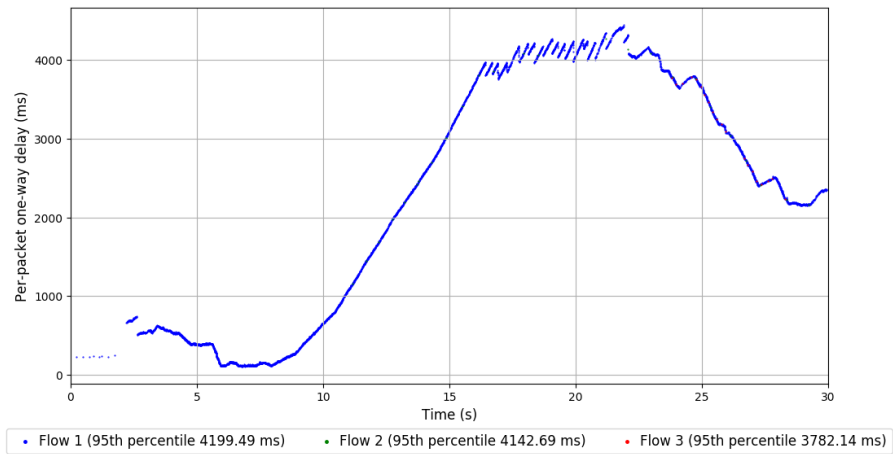
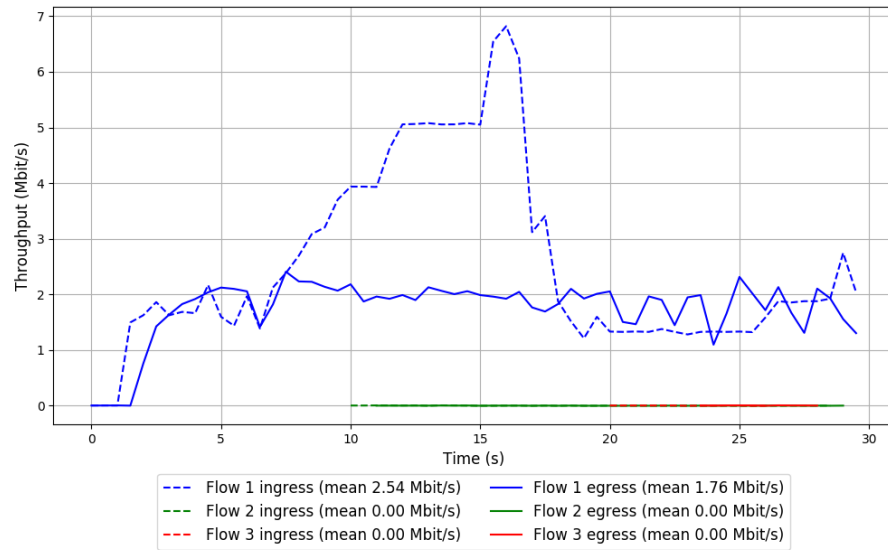


Run 3: Statistics of Vivace-loss

Start at: 2018-03-05 21:57:16
End at: 2018-03-05 21:57:46
Local clock offset: -6.237 ms
Remote clock offset: -5.382 ms

Below is generated by plot.py at 2018-03-05 22:20:55
Datalink statistics
-- Total of 3 flows:
Average throughput: 1.76 Mbit/s
95th percentile per-packet one-way delay: 4199.355 ms
Loss rate: 31.01%
-- Flow 1:
Average throughput: 1.76 Mbit/s
95th percentile per-packet one-way delay: 4199.493 ms
Loss rate: 31.02%
-- Flow 2:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 4142.685 ms
Loss rate: 27.72%
-- Flow 3:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 3782.143 ms
Loss rate: 0.00%

Run 3: Report of Vivace-loss — Data Link

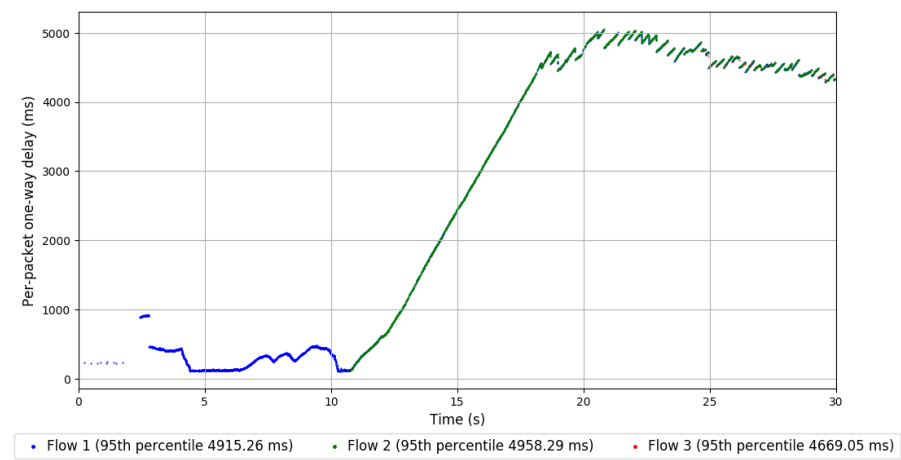
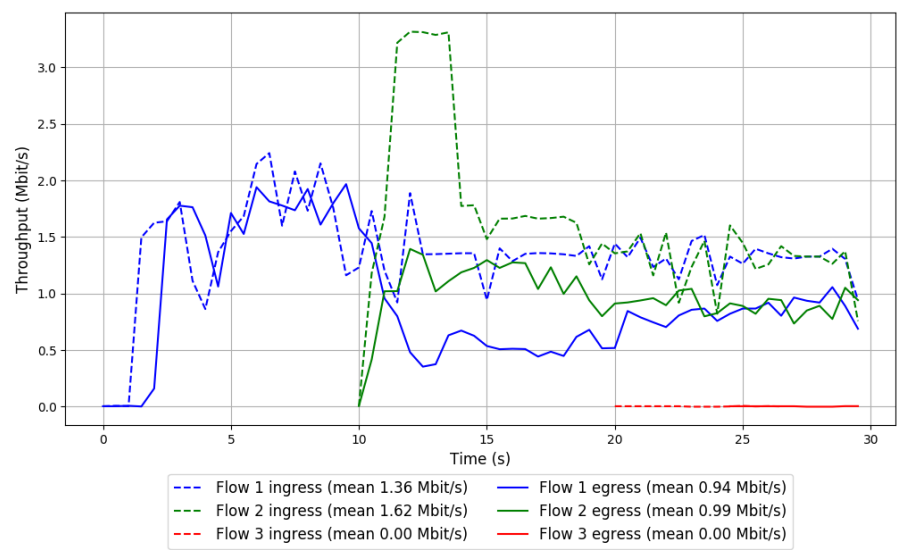


Run 1: Statistics of Vivace-LTE

Start at: 2018-03-05 21:26:04
End at: 2018-03-05 21:26:34
Local clock offset: -5.669 ms
Remote clock offset: -5.465 ms

Below is generated by plot.py at 2018-03-05 22:20:55
Datalink statistics
-- Total of 3 flows:
Average throughput: 1.59 Mbit/s
95th percentile per-packet one-way delay: 4941.137 ms
Loss rate: 34.89%
-- Flow 1:
Average throughput: 0.94 Mbit/s
95th percentile per-packet one-way delay: 4915.256 ms
Loss rate: 31.34%
-- Flow 2:
Average throughput: 0.99 Mbit/s
95th percentile per-packet one-way delay: 4958.286 ms
Loss rate: 39.35%
-- Flow 3:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 4669.048 ms
Loss rate: 22.41%

Run 1: Report of Vivace-LTE — Data Link



Run 2: Statistics of Vivace-LTE

Start at: 2018-03-05 21:48:33

End at: 2018-03-05 21:49:03

Local clock offset: -6.005 ms

Remote clock offset: 0.379 ms

Below is generated by plot.py at 2018-03-05 22:20:55

Datalink statistics

-- Total of 3 flows:

Average throughput: 1.54 Mbit/s

95th percentile per-packet one-way delay: 5263.243 ms

Loss rate: 16.46%

-- Flow 1:

Average throughput: 1.54 Mbit/s

95th percentile per-packet one-way delay: 5264.154 ms

Loss rate: 16.46%

-- Flow 2:

Average throughput: 0.00 Mbit/s

95th percentile per-packet one-way delay: 5188.686 ms

Loss rate: 18.93%

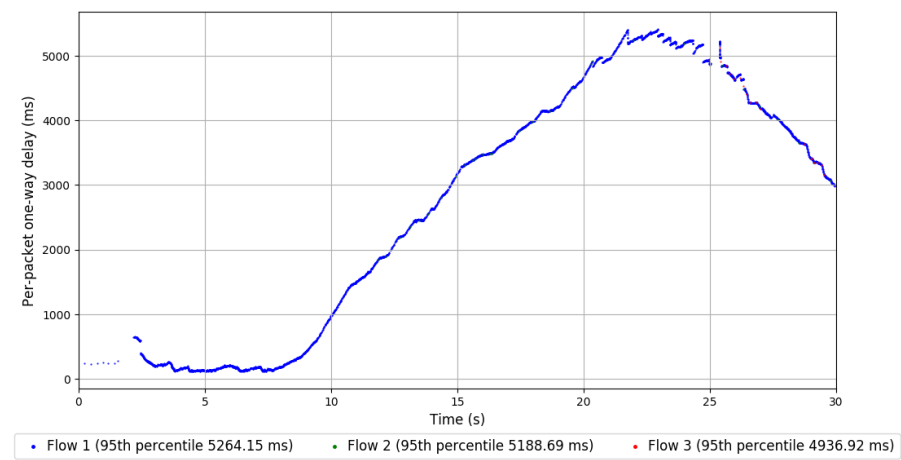
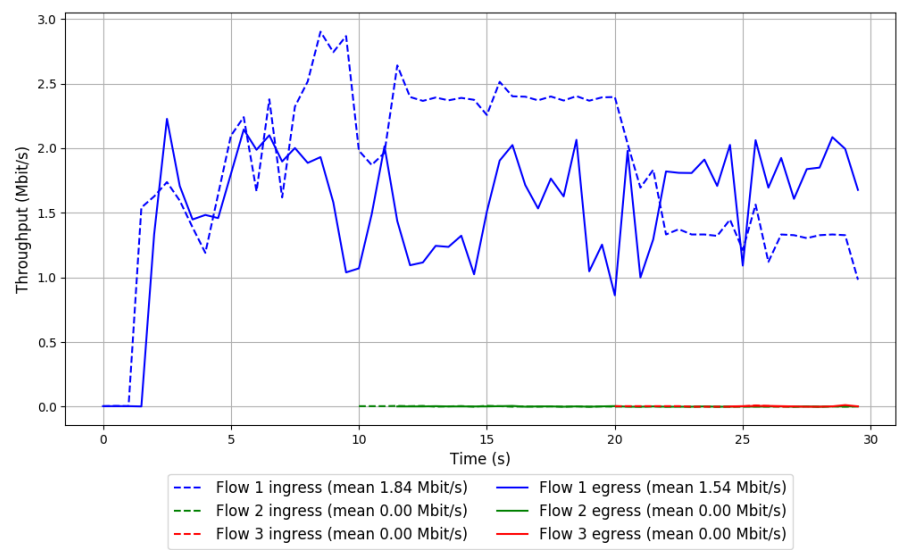
-- Flow 3:

Average throughput: 0.00 Mbit/s

95th percentile per-packet one-way delay: 4936.924 ms

Loss rate: 5.60%

Run 2: Report of Vivace-LTE — Data Link



Run 3: Statistics of Vivace-LTE

Start at: 2018-03-05 22:11:00
End at: 2018-03-05 22:11:30
Local clock offset: -6.418 ms
Remote clock offset: -5.616 ms

Below is generated by plot.py at 2018-03-05 22:20:55
Datalink statistics
-- Total of 3 flows:
Average throughput: 1.91 Mbit/s
95th percentile per-packet one-way delay: 3821.706 ms
Loss rate: 23.08%
-- Flow 1:
Average throughput: 1.18 Mbit/s
95th percentile per-packet one-way delay: 3796.222 ms
Loss rate: 20.23%
-- Flow 2:
Average throughput: 1.10 Mbit/s
95th percentile per-packet one-way delay: 3836.360 ms
Loss rate: 27.27%
-- Flow 3:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 3848.831 ms
Loss rate: 10.20%

Run 3: Report of Vivace-LTE — Data Link

