

Pantheon Report

Generated at 2018-10-02 18:42:44 (UTC).

Data path: China on **eno1** (*remote*) → AWS Korea on **ens5** (*local*).

Repeated the test of 18 congestion control schemes 5 times.

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

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

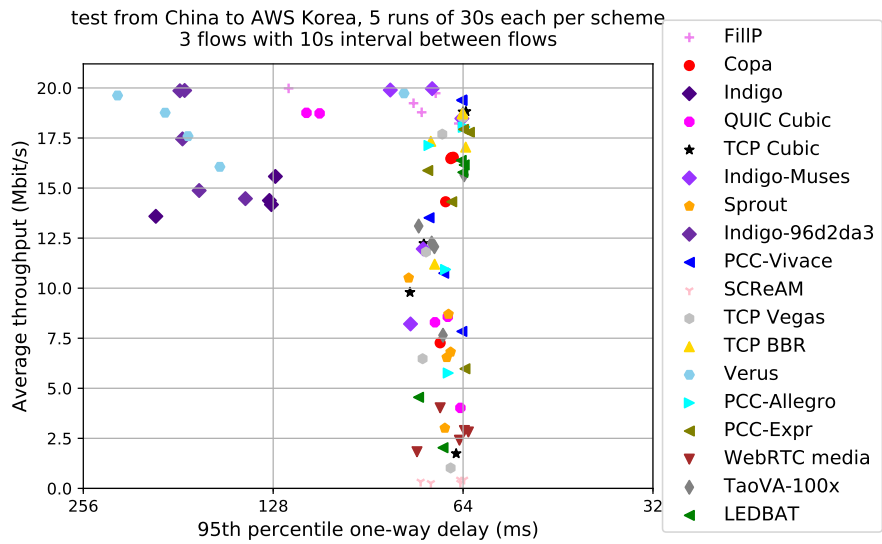
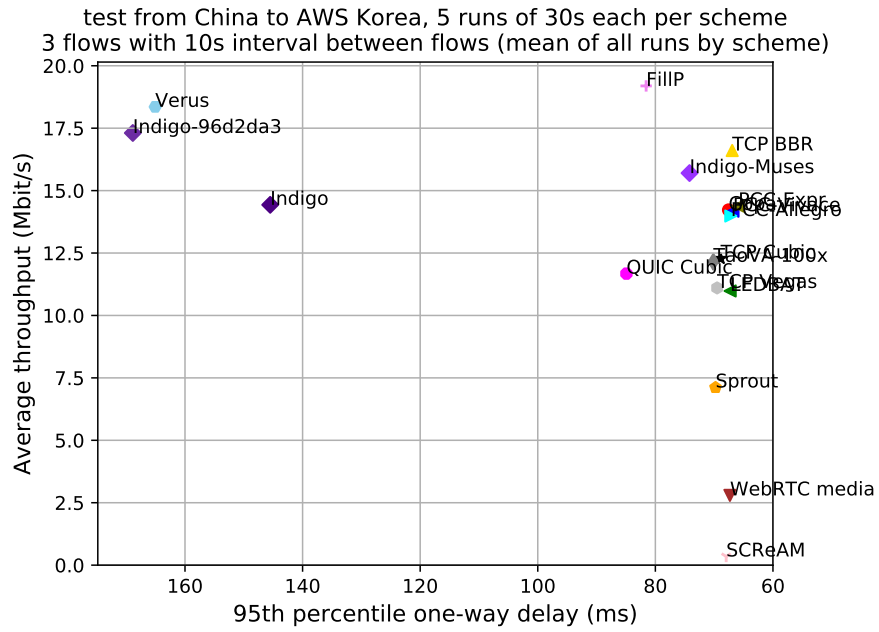
System info:

```
Linux 4.15.0-1021-aws
net.core.default_qdisc = fq
net.core.rmem_default = 16777216
net.core.rmem_max = 536870912
net.core.wmem_default = 16777216
net.core.wmem_max = 536870912
net.ipv4.tcp_rmem = 4096 16777216 536870912
net.ipv4.tcp_wmem = 4096 16777216 536870912
```

Git summary:

```
branch: muses @ 2e19c0464530faa92c63f8217c9971438a26a3be
third_party/fillp @ 5332fc9127c63565e13f4933b336c02d1aabdac6
third_party/genericCC @ d0153f8e594aa89e93b032143cedbdf58e562f4
third_party/indigo @ 2601c92e4aa9d58d38dc4dfe0ecdbf90c077e64d
third_party/indigo-96d2da3 @ 8413272d46f8aa0bcb967ed7048b6a8f994abb95
third_party/libutp @ b3465b942e2826f2b179eaab4a906ce6bb7cf3cf
third_party/muses @ 65ac1b19bbefed0c6349ae986009b4fa8643c40a
third_party/pantheon-tunnel @ f866d3f58d27afd942717625ee3a354cc2e802bd
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/pcc-experimental @ cd43e34e3f5f5613e8acd08fab92c4eb24f974ab
third_party/proto-quick @ 77961f1a82733a86b42f1bc8143ebc978f3cff42
third_party/scream-reproduce @ f099118d1421aa3131bf11ff1964974e1da3bdb2
M src/ScreamClient
M src/ScreamServer
third_party/sprout @ 366e35c6178b01e31d4a46ad18c74f9415f19a26
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 @ 2baf86211435ae071a32f96b7d8c504587f5d7f4
third_party/webrtc @ 3f0cc2a9061a41b6f9dde4735770d143a1fa2851



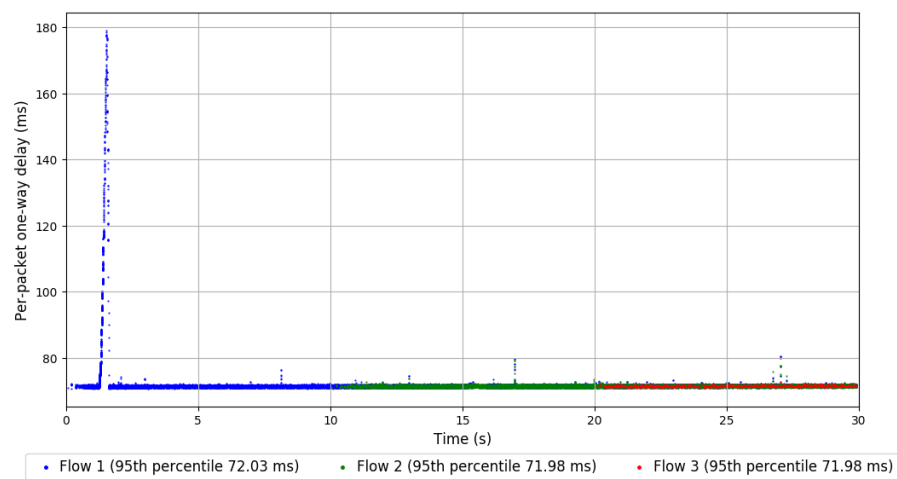
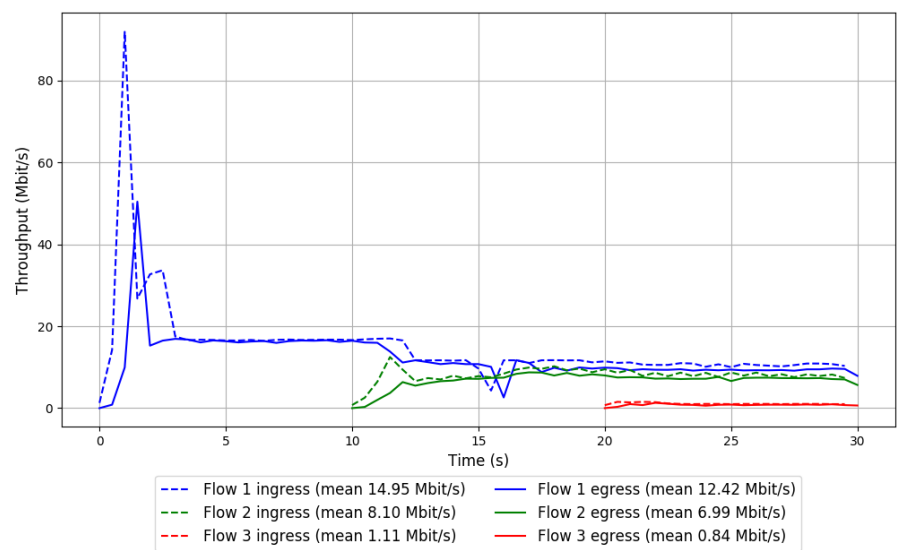
scheme	# runs	mean avg tput (Mbit/s)			mean 95th-%ile delay (ms)			mean loss rate (%)		
		flow 1	flow 2	flow 3	flow 1	flow 2	flow 3	flow 1	flow 2	flow 3
TCP BBR	5	11.77	6.12	2.36	67.02	66.87	66.84	31.27	18.18	24.62
Copa	5	8.82	6.12	4.13	68.20	65.70	65.32	64.66	46.73	55.51
TCP Cubic	5	7.25	5.62	3.92	74.64	67.86	67.72	11.86	6.84	3.07
FillP	5	11.79	7.67	7.03	95.88	67.19	67.40	31.31	30.35	31.88
Indigo	4	10.60	3.67	4.30	142.91	127.00	137.08	81.74	84.23	85.62
Indigo-96d2da3	5	9.67	7.89	7.70	172.22	167.13	157.03	66.49	68.94	68.88
LEDBAT	5	5.82	5.64	4.79	67.30	67.10	67.41	3.32	3.30	4.33
Indigo-Muses	5	13.49	1.89	2.98	73.96	72.99	71.67	46.05	53.66	49.40
PCC-Allegro	5	8.71	6.55	2.84	68.99	67.00	66.90	46.61	11.02	15.13
PCC-Expr	5	7.84	7.59	4.57	66.01	65.80	65.77	42.42	30.13	32.58
QUIC Cubic	5	8.28	3.45	3.37	85.78	66.01	65.89	9.72	4.40	4.07
SCReAM	5	0.17	0.17	0.20	67.88	67.64	67.86	0.94	1.15	1.63
Sprout	5	2.80	4.85	4.62	68.26	69.89	69.97	6.78	4.94	6.05
TaoVA-100x	5	3.49	8.98	8.18	66.67	69.15	74.41	58.81	21.87	21.02
TCP Vegas	5	4.83	5.03	8.89	67.33	70.44	69.16	24.02	7.63	10.40
Verus	5	15.31	2.86	4.38	147.50	128.20	153.37	76.39	65.85	71.44
PCC-Vivace	5	10.65	3.34	3.99	67.41	66.57	66.58	7.15	9.03	14.94
WebRTC media	5	1.07	1.30	0.43	66.77	67.13	66.94	38.01	4.20	5.34

Run 1: Statistics of TCP BBR

Start at: 2018-10-02 16:43:20
End at: 2018-10-02 16:43:50
Local clock offset: -5.46 ms
Remote clock offset: 80.358 ms

Below is generated by plot.py at 2018-10-02 18:39:32
Datalink statistics
-- Total of 3 flows:
Average throughput: 17.34 Mbit/s
95th percentile per-packet one-way delay: 72.010 ms
Loss rate: 16.71%
-- Flow 1:
Average throughput: 12.42 Mbit/s
95th percentile per-packet one-way delay: 72.034 ms
Loss rate: 17.33%
-- Flow 2:
Average throughput: 6.99 Mbit/s
95th percentile per-packet one-way delay: 71.982 ms
Loss rate: 14.36%
-- Flow 3:
Average throughput: 0.84 Mbit/s
95th percentile per-packet one-way delay: 71.983 ms
Loss rate: 25.70%

Run 1: Report of TCP BBR — Data Link

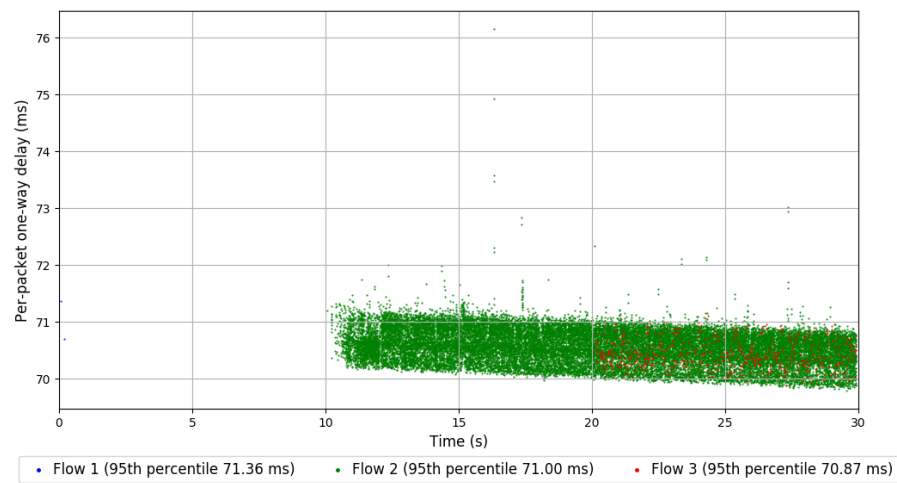
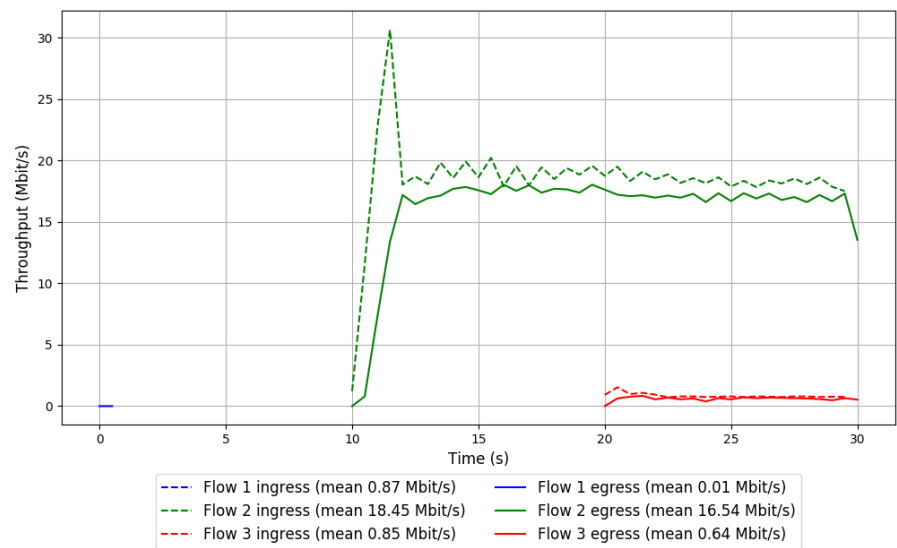


Run 2: Statistics of TCP BBR

Start at: 2018-10-02 17:06:46
End at: 2018-10-02 17:07:16
Local clock offset: -10.88 ms
Remote clock offset: 59.298 ms

Below is generated by plot.py at 2018-10-02 18:39:32
Datalink statistics
-- Total of 3 flows:
Average throughput: 11.20 Mbit/s
95th percentile per-packet one-way delay: 70.998 ms
Loss rate: 11.34%
-- Flow 1:
Average throughput: 0.01 Mbit/s
95th percentile per-packet one-way delay: 71.358 ms
Loss rate: 98.79%
-- Flow 2:
Average throughput: 16.54 Mbit/s
95th percentile per-packet one-way delay: 70.999 ms
Loss rate: 10.97%
-- Flow 3:
Average throughput: 0.64 Mbit/s
95th percentile per-packet one-way delay: 70.868 ms
Loss rate: 26.34%

Run 2: Report of TCP BBR — Data Link

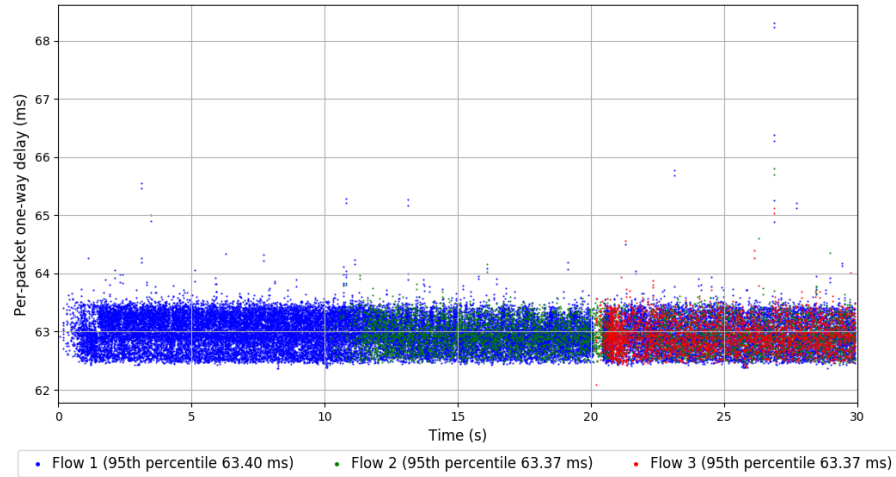
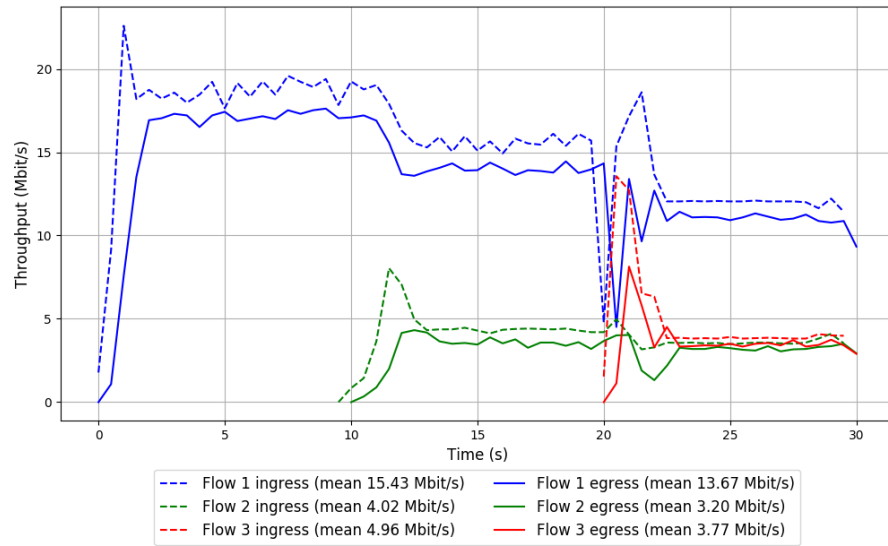


Run 3: Statistics of TCP BBR

Start at: 2018-10-02 17:36:10
End at: 2018-10-02 17:36:40
Local clock offset: -12.627 ms
Remote clock offset: 53.706 ms

Below is generated by plot.py at 2018-10-02 18:39:32
Datalink statistics
-- Total of 3 flows:
Average throughput: 17.05 Mbit/s
95th percentile per-packet one-way delay: 63.393 ms
Loss rate: 14.05%
-- Flow 1:
Average throughput: 13.67 Mbit/s
95th percentile per-packet one-way delay: 63.397 ms
Loss rate: 11.73%
-- Flow 2:
Average throughput: 3.20 Mbit/s
95th percentile per-packet one-way delay: 63.374 ms
Loss rate: 20.70%
-- Flow 3:
Average throughput: 3.77 Mbit/s
95th percentile per-packet one-way delay: 63.373 ms
Loss rate: 24.91%

Run 3: Report of TCP BBR — Data Link

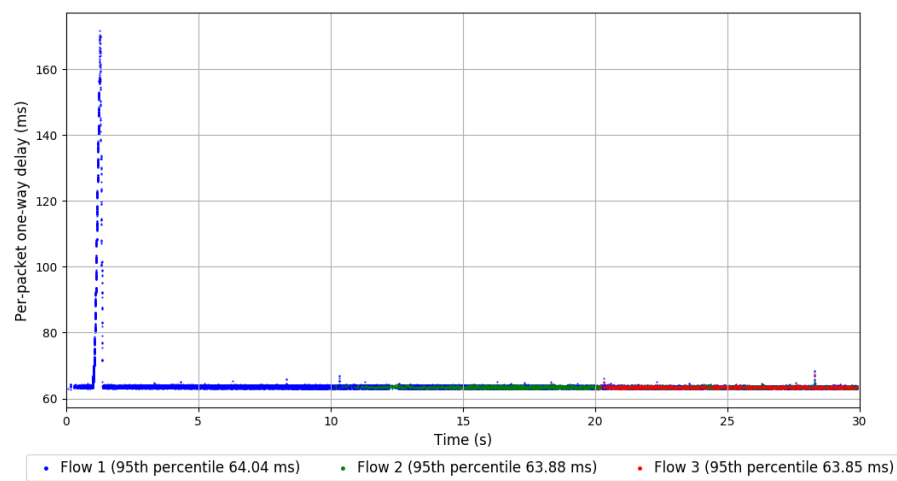
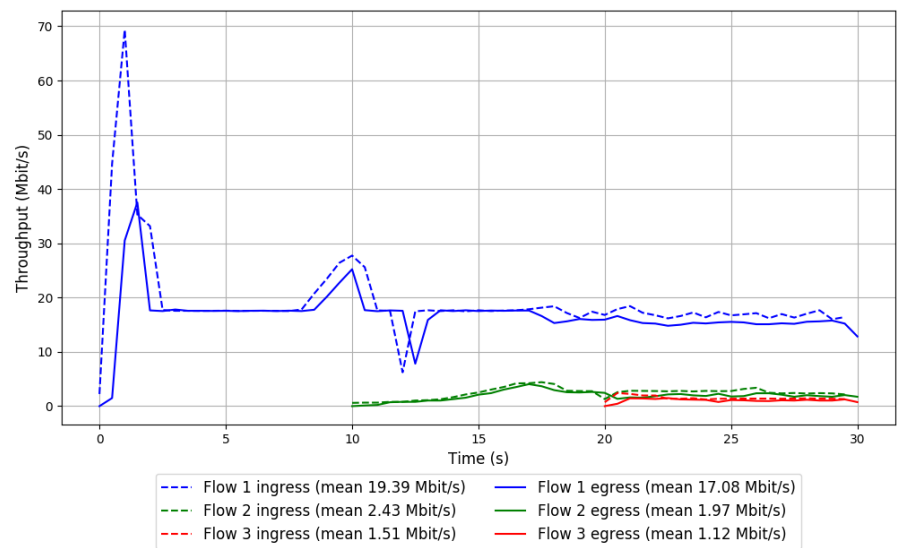


Run 4: Statistics of TCP BBR

Start at: 2018-10-02 18:02:13
End at: 2018-10-02 18:02:43
Local clock offset: -1.713 ms
Remote clock offset: 48.451 ms

Below is generated by plot.py at 2018-10-02 18:39:33
Datalink statistics
-- Total of 3 flows:
Average throughput: 18.75 Mbit/s
95th percentile per-packet one-way delay: 64.029 ms
Loss rate: 13.21%
-- Flow 1:
Average throughput: 17.08 Mbit/s
95th percentile per-packet one-way delay: 64.042 ms
Loss rate: 12.32%
-- Flow 2:
Average throughput: 1.97 Mbit/s
95th percentile per-packet one-way delay: 63.884 ms
Loss rate: 19.69%
-- Flow 3:
Average throughput: 1.12 Mbit/s
95th percentile per-packet one-way delay: 63.854 ms
Loss rate: 26.72%

Run 4: Report of TCP BBR — Data Link

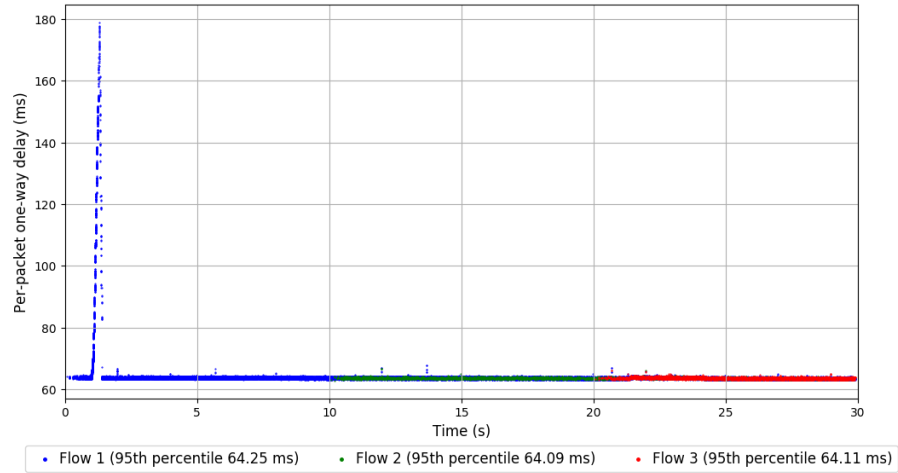
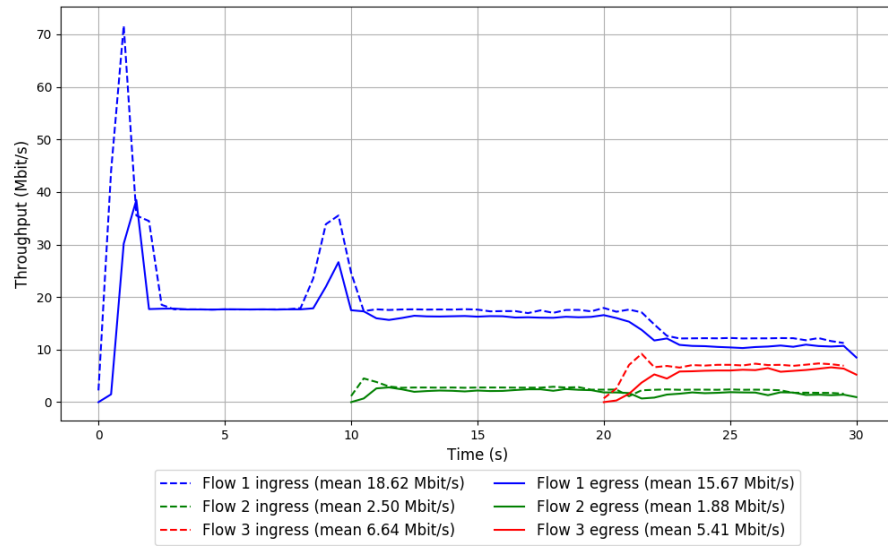


Run 5: Statistics of TCP BBR

Start at: 2018-10-02 18:25:31
End at: 2018-10-02 18:26:01
Local clock offset: -0.985 ms
Remote clock offset: 22.718 ms

Below is generated by plot.py at 2018-10-02 18:39:34
Datalink statistics
-- Total of 3 flows:
Average throughput: 18.70 Mbit/s
95th percentile per-packet one-way delay: 64.229 ms
Loss rate: 17.16%
-- Flow 1:
Average throughput: 15.67 Mbit/s
95th percentile per-packet one-way delay: 64.253 ms
Loss rate: 16.17%
-- Flow 2:
Average throughput: 1.88 Mbit/s
95th percentile per-packet one-way delay: 64.094 ms
Loss rate: 25.20%
-- Flow 3:
Average throughput: 5.41 Mbit/s
95th percentile per-packet one-way delay: 64.110 ms
Loss rate: 19.42%

Run 5: Report of TCP BBR — Data Link

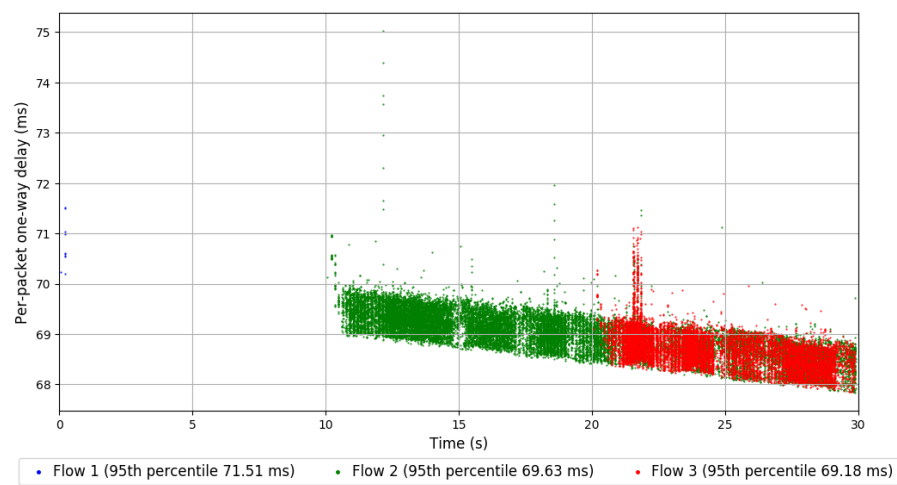
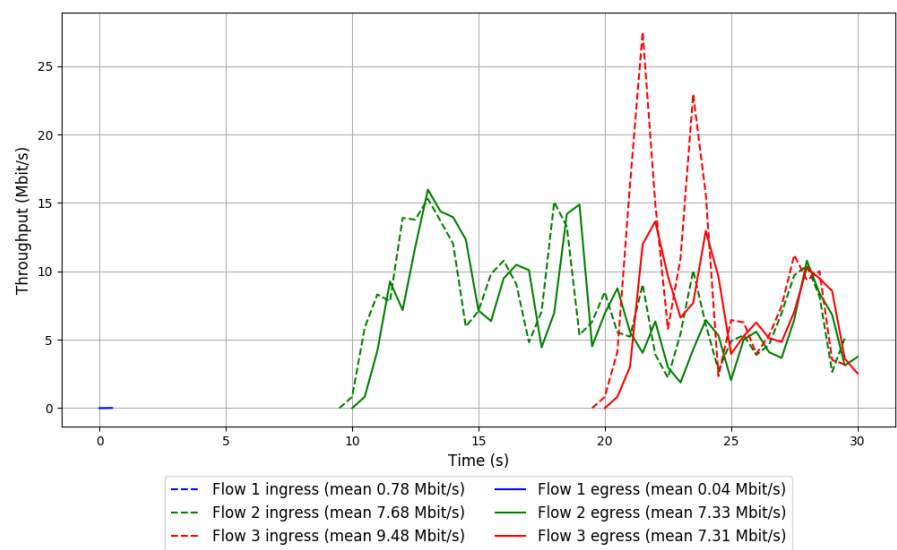


Run 1: Statistics of Copa

Start at: 2018-10-02 16:56:18
End at: 2018-10-02 16:56:48
Local clock offset: -9.334 ms
Remote clock offset: 84.126 ms

Below is generated by plot.py at 2018-10-02 18:39:34
Datalink statistics
-- Total of 3 flows:
Average throughput: 7.27 Mbit/s
95th percentile per-packet one-way delay: 69.587 ms
Loss rate: 12.39%
-- Flow 1:
Average throughput: 0.04 Mbit/s
95th percentile per-packet one-way delay: 71.514 ms
Loss rate: 95.12%
-- Flow 2:
Average throughput: 7.33 Mbit/s
95th percentile per-packet one-way delay: 69.633 ms
Loss rate: 5.19%
-- Flow 3:
Average throughput: 7.31 Mbit/s
95th percentile per-packet one-way delay: 69.177 ms
Loss rate: 24.00%

Run 1: Report of Copa — Data Link

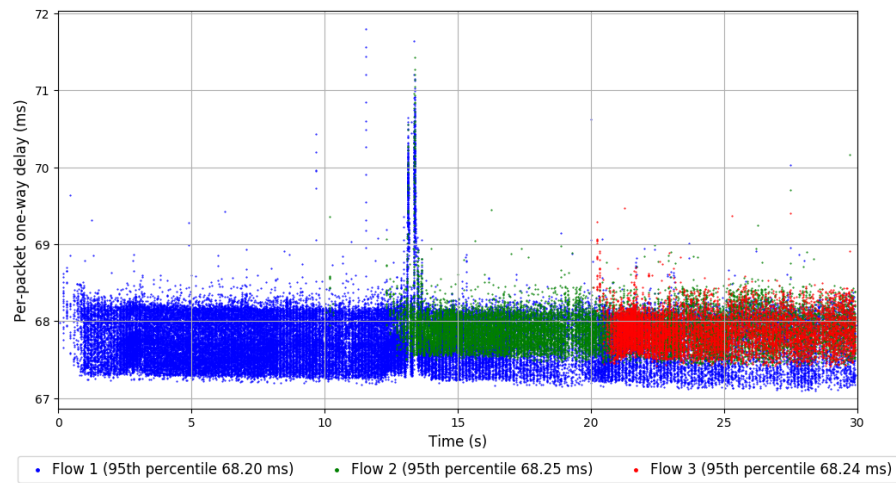
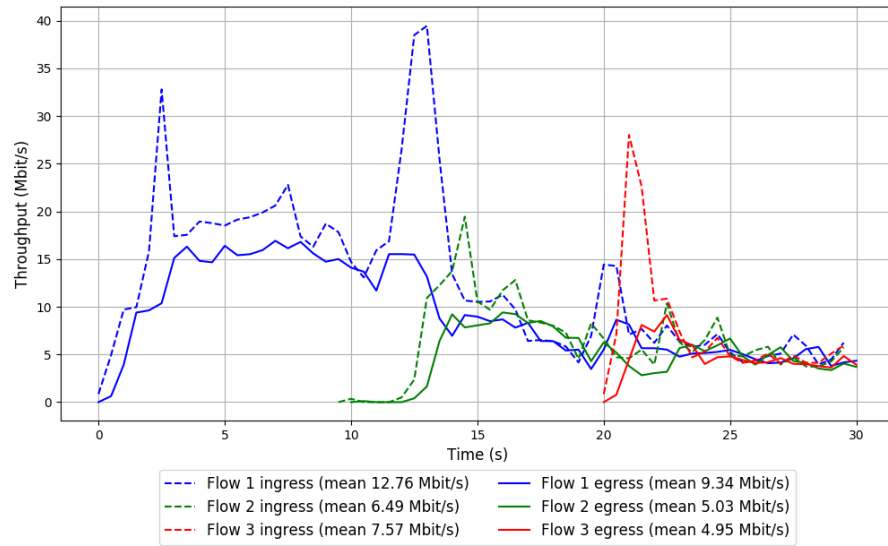


Run 2: Statistics of Copa

Start at: 2018-10-02 17:22:53
End at: 2018-10-02 17:23:23
Local clock offset: -12.103 ms
Remote clock offset: 51.098 ms

Below is generated by plot.py at 2018-10-02 18:39:45
Datalink statistics
-- Total of 3 flows:
Average throughput: 14.32 Mbit/s
95th percentile per-packet one-way delay: 68.211 ms
Loss rate: 27.24%
-- Flow 1:
Average throughput: 9.34 Mbit/s
95th percentile per-packet one-way delay: 68.196 ms
Loss rate: 27.05%
-- Flow 2:
Average throughput: 5.03 Mbit/s
95th percentile per-packet one-way delay: 68.247 ms
Loss rate: 23.00%
-- Flow 3:
Average throughput: 4.95 Mbit/s
95th percentile per-packet one-way delay: 68.238 ms
Loss rate: 35.45%

Run 2: Report of Copa — Data Link

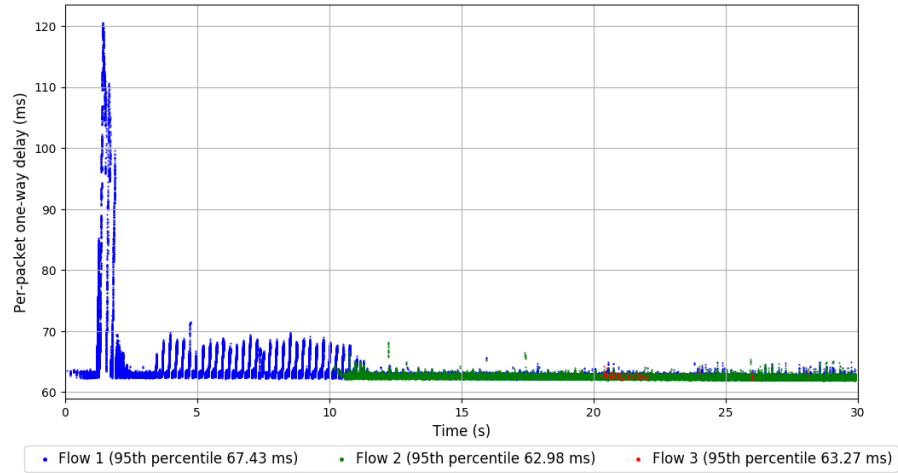
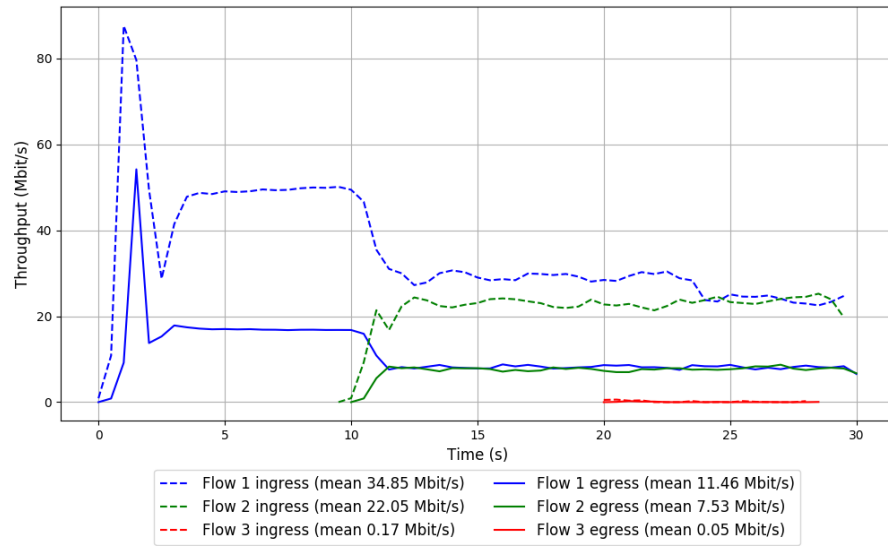


Run 3: Statistics of Copa

Start at: 2018-10-02 17:51:57
End at: 2018-10-02 17:52:27
Local clock offset: -6.939 ms
Remote clock offset: 50.242 ms

Below is generated by plot.py at 2018-10-02 18:40:11
Datalink statistics
-- Total of 3 flows:
Average throughput: 16.47 Mbit/s
95th percentile per-packet one-way delay: 66.940 ms
Loss rate: 66.91%
-- Flow 1:
Average throughput: 11.46 Mbit/s
95th percentile per-packet one-way delay: 67.434 ms
Loss rate: 67.26%
-- Flow 2:
Average throughput: 7.53 Mbit/s
95th percentile per-packet one-way delay: 62.982 ms
Loss rate: 66.07%
-- Flow 3:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 63.274 ms
Loss rate: 74.16%

Run 3: Report of Copa — Data Link

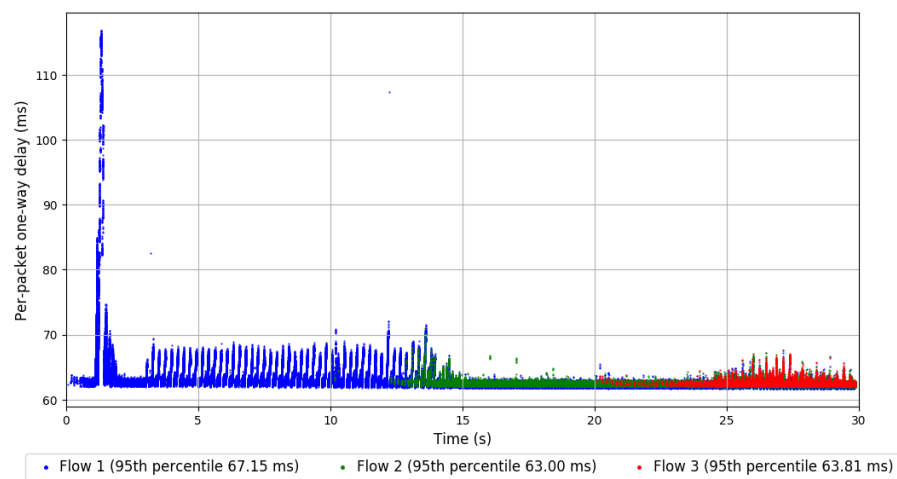
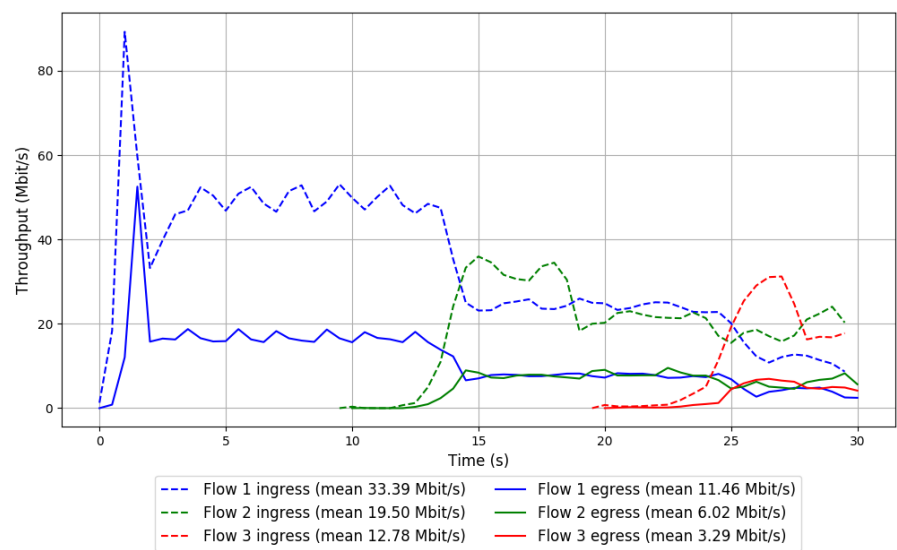


Run 4: Statistics of Copa

Start at: 2018-10-02 18:15:03
End at: 2018-10-02 18:15:33
Local clock offset: 1.385 ms
Remote clock offset: 31.113 ms

Below is generated by plot.py at 2018-10-02 18:40:20
Datalink statistics
-- Total of 3 flows:
Average throughput: 16.53 Mbit/s
95th percentile per-packet one-way delay: 66.704 ms
Loss rate: 67.45%
-- Flow 1:
Average throughput: 11.46 Mbit/s
95th percentile per-packet one-way delay: 67.152 ms
Loss rate: 65.80%
-- Flow 2:
Average throughput: 6.02 Mbit/s
95th percentile per-packet one-way delay: 63.001 ms
Loss rate: 69.34%
-- Flow 3:
Average throughput: 3.29 Mbit/s
95th percentile per-packet one-way delay: 63.809 ms
Loss rate: 74.62%

Run 4: Report of Copa — Data Link

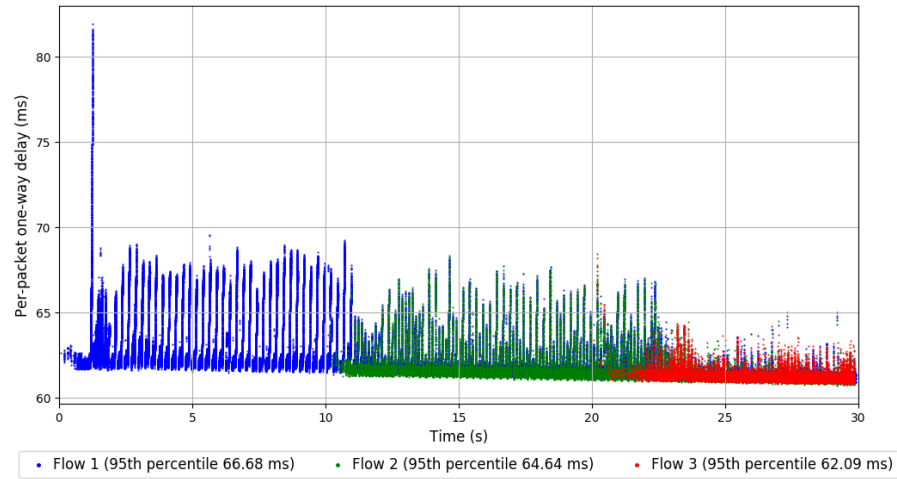
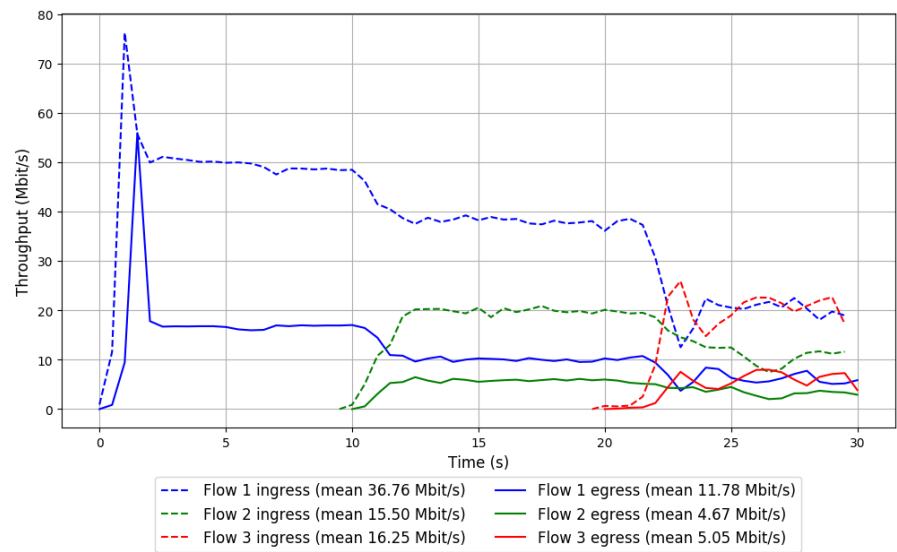


Run 5: Statistics of Copa

Start at: 2018-10-02 18:38:06
End at: 2018-10-02 18:38:36
Local clock offset: -1.642 ms
Remote clock offset: 16.206 ms

Below is generated by plot.py at 2018-10-02 18:40:24
Datalink statistics
-- Total of 3 flows:
Average throughput: 16.54 Mbit/s
95th percentile per-packet one-way delay: 66.321 ms
Loss rate: 68.60%
-- Flow 1:
Average throughput: 11.78 Mbit/s
95th percentile per-packet one-way delay: 66.681 ms
Loss rate: 68.08%
-- Flow 2:
Average throughput: 4.67 Mbit/s
95th percentile per-packet one-way delay: 64.643 ms
Loss rate: 70.07%
-- Flow 3:
Average throughput: 5.05 Mbit/s
95th percentile per-packet one-way delay: 62.086 ms
Loss rate: 69.30%

Run 5: Report of Copa — Data Link

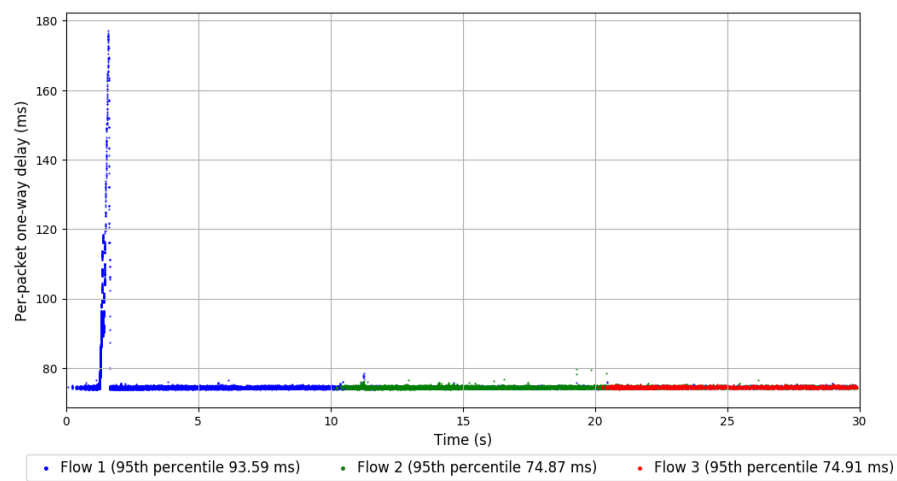
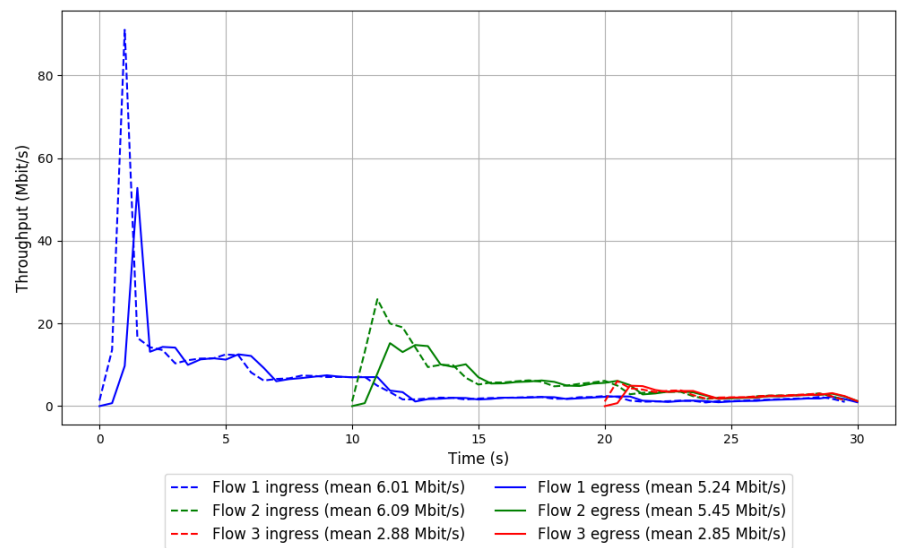


Run 1: Statistics of TCP Cubic

Start at: 2018-10-02 16:35:33
End at: 2018-10-02 16:36:03
Local clock offset: -5.759 ms
Remote clock offset: 74.226 ms

Below is generated by plot.py at 2018-10-02 18:40:24
Datalink statistics
-- Total of 3 flows:
Average throughput: 9.79 Mbit/s
95th percentile per-packet one-way delay: 77.686 ms
Loss rate: 11.47%
-- Flow 1:
Average throughput: 5.24 Mbit/s
95th percentile per-packet one-way delay: 93.590 ms
Loss rate: 13.16%
-- Flow 2:
Average throughput: 5.45 Mbit/s
95th percentile per-packet one-way delay: 74.873 ms
Loss rate: 11.07%
-- Flow 3:
Average throughput: 2.85 Mbit/s
95th percentile per-packet one-way delay: 74.907 ms
Loss rate: 2.56%

Run 1: Report of TCP Cubic — Data Link

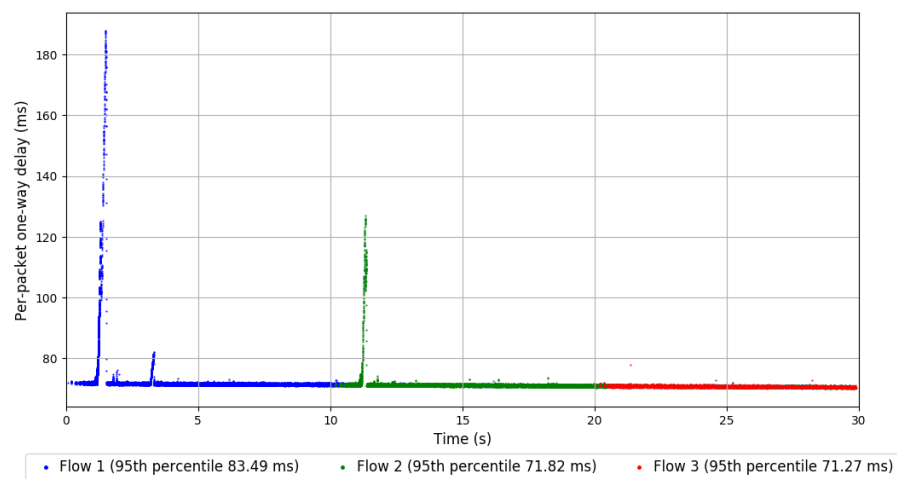
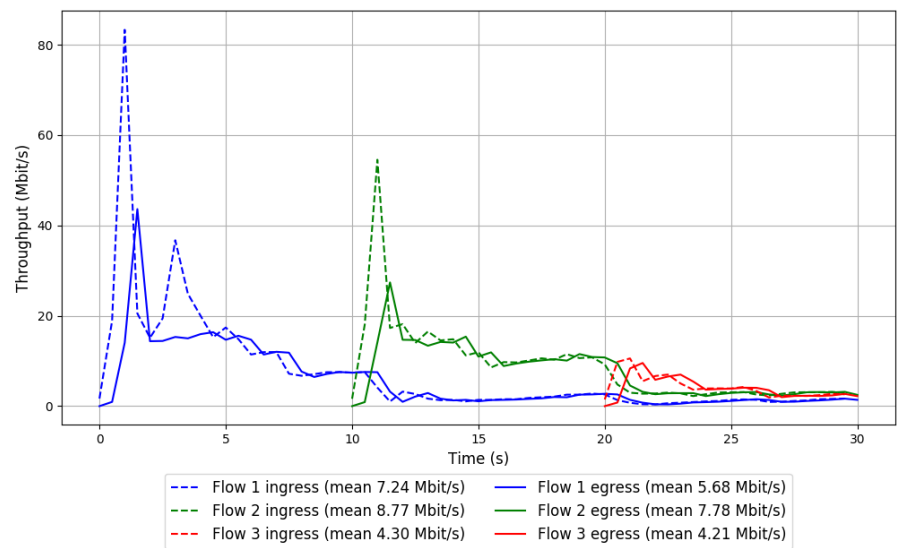


Run 2: Statistics of TCP Cubic

Start at: 2018-10-02 16:59:05
End at: 2018-10-02 16:59:35
Local clock offset: -10.044 ms
Remote clock offset: 73.253 ms

Below is generated by plot.py at 2018-10-02 18:40:24
Datalink statistics
-- Total of 3 flows:
Average throughput: 12.23 Mbit/s
95th percentile per-packet one-way delay: 73.856 ms
Loss rate: 16.09%
-- Flow 1:
Average throughput: 5.68 Mbit/s
95th percentile per-packet one-way delay: 83.493 ms
Loss rate: 21.98%
-- Flow 2:
Average throughput: 7.78 Mbit/s
95th percentile per-packet one-way delay: 71.816 ms
Loss rate: 11.87%
-- Flow 3:
Average throughput: 4.21 Mbit/s
95th percentile per-packet one-way delay: 71.271 ms
Loss rate: 3.53%

Run 2: Report of TCP Cubic — Data Link

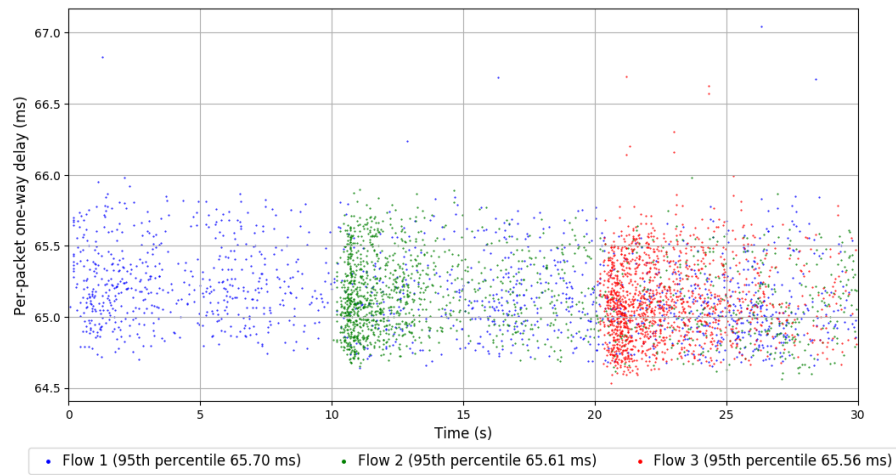
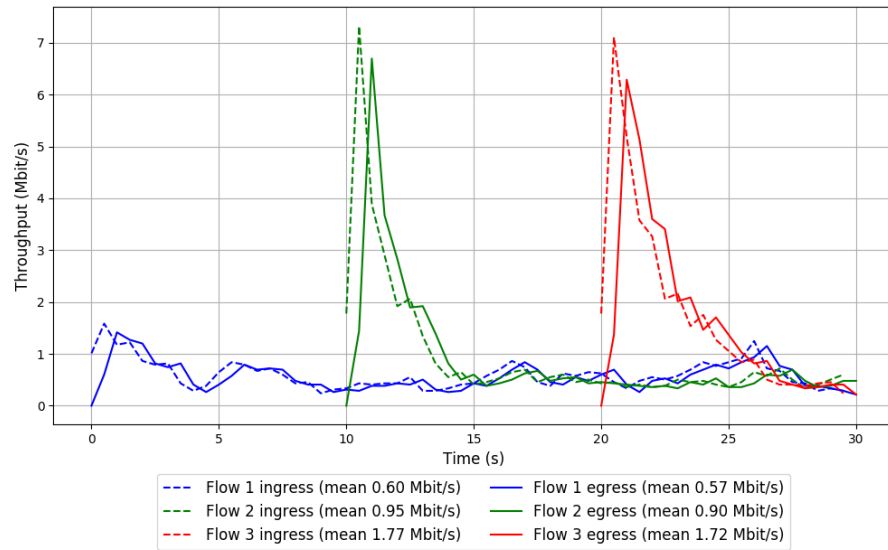


Run 3: Statistics of TCP Cubic

Start at: 2018-10-02 17:26:39
End at: 2018-10-02 17:27:09
Local clock offset: -12.234 ms
Remote clock offset: 53.097 ms

Below is generated by plot.py at 2018-10-02 18:40:24
Datalink statistics
-- Total of 3 flows:
Average throughput: 1.74 Mbit/s
95th percentile per-packet one-way delay: 65.635 ms
Loss rate: 5.18%
-- Flow 1:
Average throughput: 0.57 Mbit/s
95th percentile per-packet one-way delay: 65.699 ms
Loss rate: 5.43%
-- Flow 2:
Average throughput: 0.90 Mbit/s
95th percentile per-packet one-way delay: 65.615 ms
Loss rate: 5.70%
-- Flow 3:
Average throughput: 1.72 Mbit/s
95th percentile per-packet one-way delay: 65.565 ms
Loss rate: 4.35%

Run 3: Report of TCP Cubic — Data Link

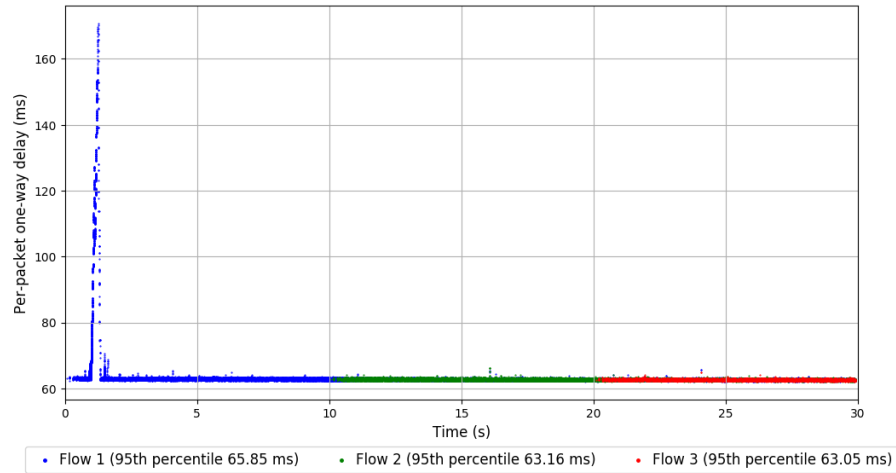
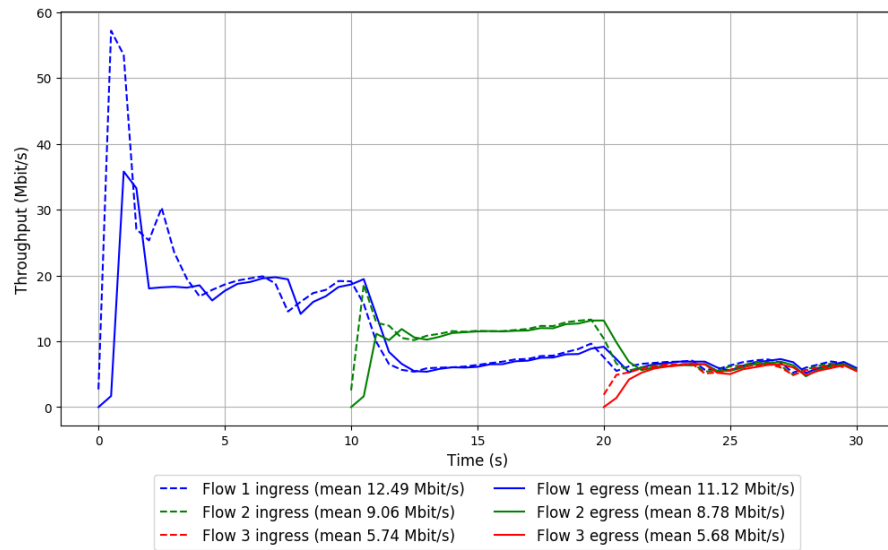


Run 4: Statistics of TCP Cubic

Start at: 2018-10-02 17:54:39
End at: 2018-10-02 17:55:09
Local clock offset: -5.021 ms
Remote clock offset: 50.327 ms

Below is generated by plot.py at 2018-10-02 18:40:24
Datalink statistics
-- Total of 3 flows:
Average throughput: 18.82 Mbit/s
95th percentile per-packet one-way delay: 63.337 ms
Loss rate: 8.16%
-- Flow 1:
Average throughput: 11.12 Mbit/s
95th percentile per-packet one-way delay: 65.852 ms
Loss rate: 11.25%
-- Flow 2:
Average throughput: 8.78 Mbit/s
95th percentile per-packet one-way delay: 63.159 ms
Loss rate: 3.67%
-- Flow 3:
Average throughput: 5.68 Mbit/s
95th percentile per-packet one-way delay: 63.047 ms
Loss rate: 2.15%

Run 4: Report of TCP Cubic — Data Link



Run 5: Statistics of TCP Cubic

Start at: 2018-10-02 18:17:35

End at: 2018-10-02 18:18:05

Local clock offset: 0.719 ms

Remote clock offset: 28.74 ms

Below is generated by plot.py at 2018-10-02 18:40:24

Datalink statistics

-- Total of 3 flows:

Average throughput: 18.81 Mbit/s

95th percentile per-packet one-way delay: 64.015 ms

Loss rate: 6.08%

-- Flow 1:

Average throughput: 13.66 Mbit/s

95th percentile per-packet one-way delay: 64.563 ms

Loss rate: 7.48%

-- Flow 2:

Average throughput: 5.20 Mbit/s

95th percentile per-packet one-way delay: 63.861 ms

Loss rate: 1.87%

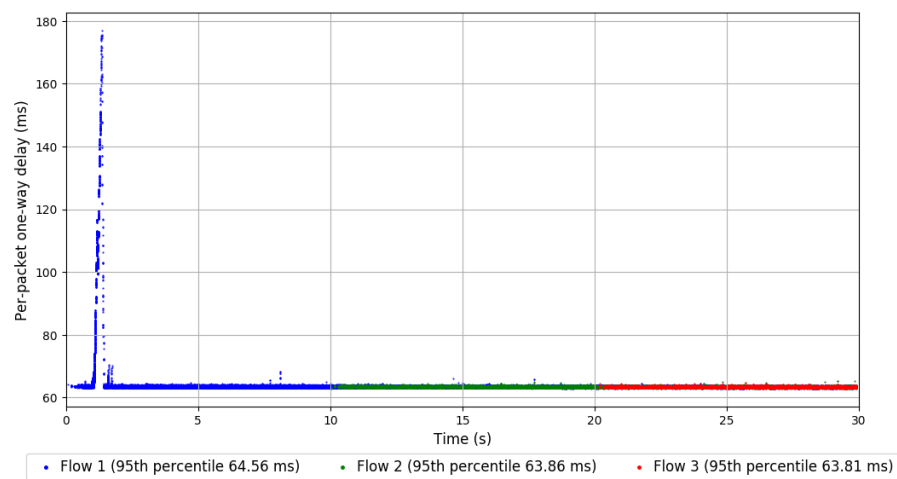
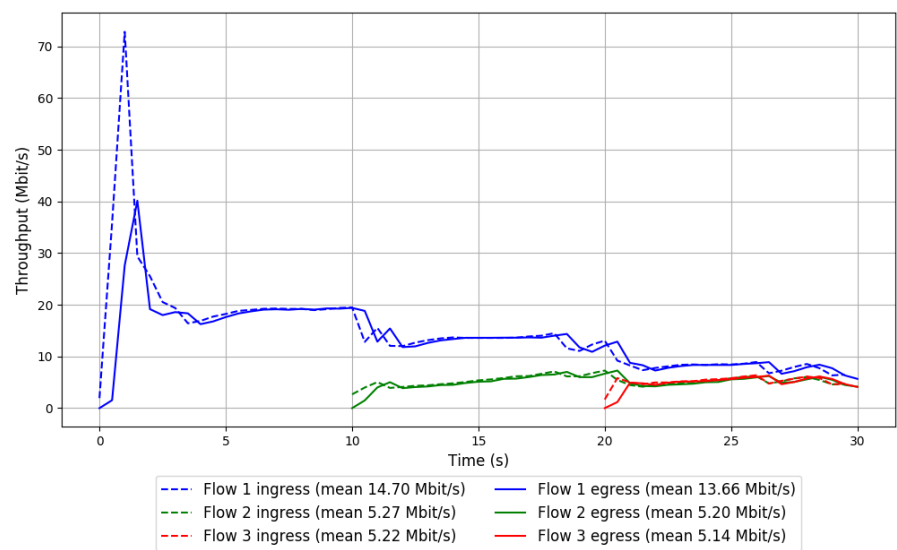
-- Flow 3:

Average throughput: 5.14 Mbit/s

95th percentile per-packet one-way delay: 63.808 ms

Loss rate: 2.75%

Run 5: Report of TCP Cubic — Data Link

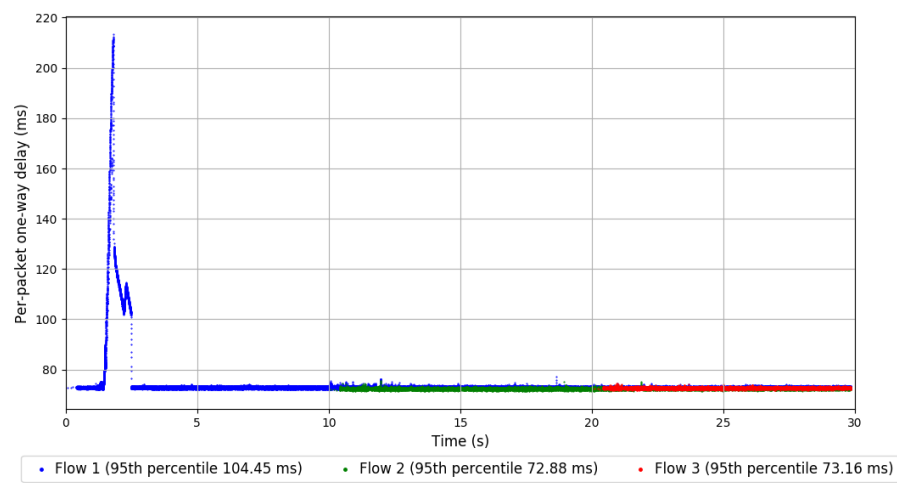
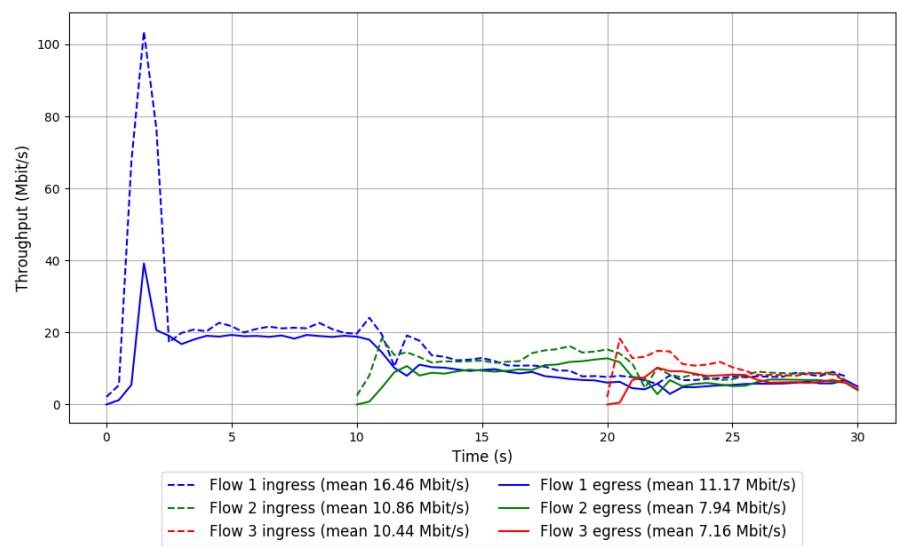


Run 1: Statistics of FillP

Start at: 2018-10-02 16:38:09
End at: 2018-10-02 16:38:39
Local clock offset: -5.471 ms
Remote clock offset: 77.257 ms

Below is generated by plot.py at 2018-10-02 18:40:24
Datalink statistics
-- Total of 3 flows:
Average throughput: 18.78 Mbit/s
95th percentile per-packet one-way delay: 74.439 ms
Loss rate: 31.09%
-- Flow 1:
Average throughput: 11.17 Mbit/s
95th percentile per-packet one-way delay: 104.455 ms
Loss rate: 32.46%
-- Flow 2:
Average throughput: 7.94 Mbit/s
95th percentile per-packet one-way delay: 72.881 ms
Loss rate: 27.36%
-- Flow 3:
Average throughput: 7.16 Mbit/s
95th percentile per-packet one-way delay: 73.155 ms
Loss rate: 32.40%

Run 1: Report of FillP — Data Link

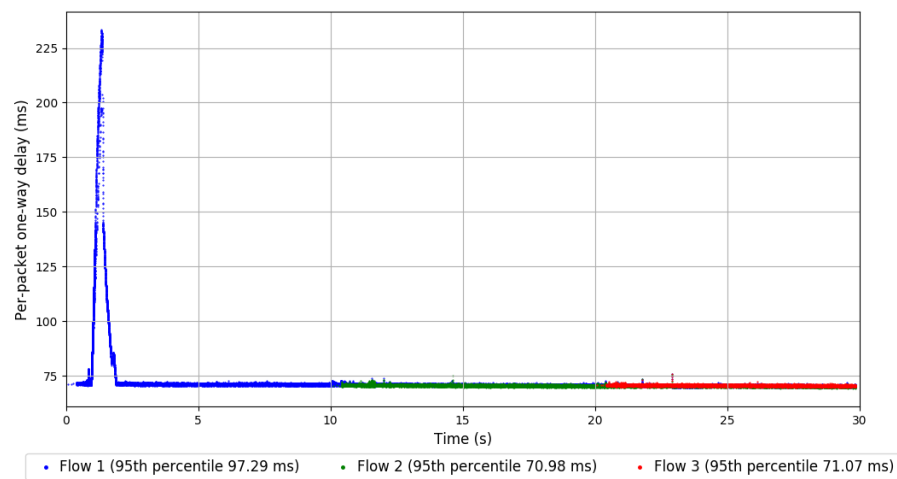
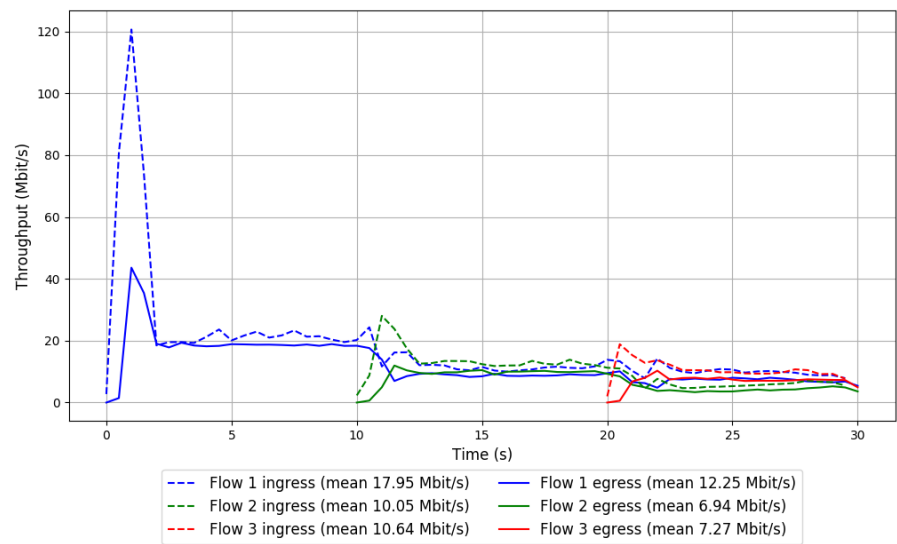


Run 2: Statistics of FillP

Start at: 2018-10-02 17:01:39
End at: 2018-10-02 17:02:09
Local clock offset: -10.257 ms
Remote clock offset: 67.697 ms

Below is generated by plot.py at 2018-10-02 18:40:24
Datalink statistics
-- Total of 3 flows:
Average throughput: 19.24 Mbit/s
95th percentile per-packet one-way delay: 76.686 ms
Loss rate: 32.02%
-- Flow 1:
Average throughput: 12.25 Mbit/s
95th percentile per-packet one-way delay: 97.288 ms
Loss rate: 32.07%
-- Flow 2:
Average throughput: 6.94 Mbit/s
95th percentile per-packet one-way delay: 70.984 ms
Loss rate: 31.48%
-- Flow 3:
Average throughput: 7.27 Mbit/s
95th percentile per-packet one-way delay: 71.069 ms
Loss rate: 32.74%

Run 2: Report of FillP — Data Link

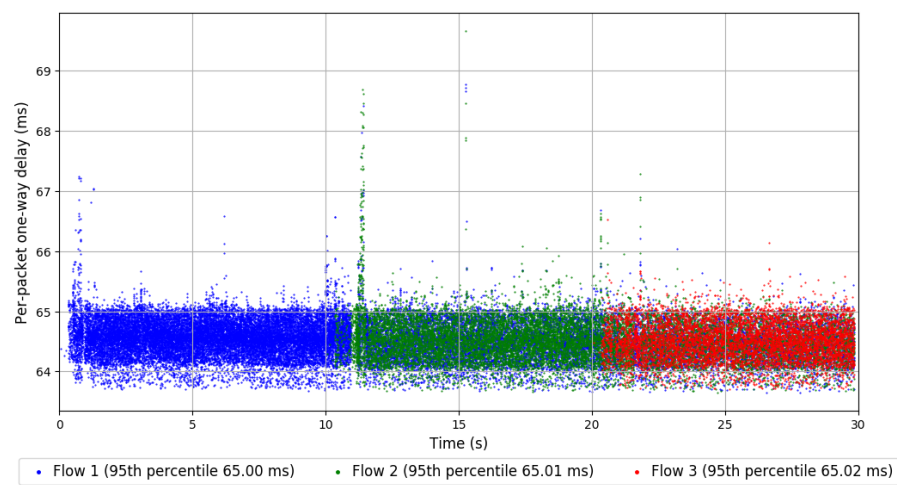
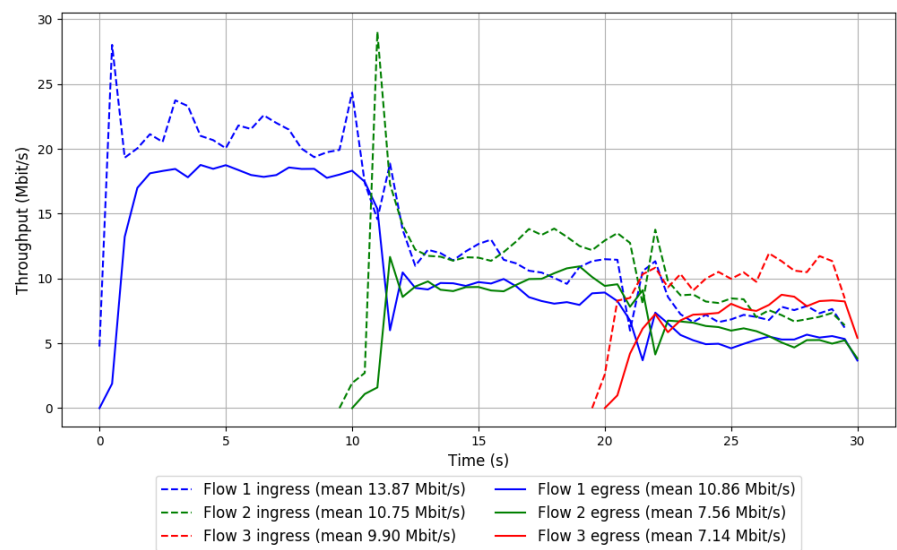


Run 3: Statistics of FillP

Start at: 2018-10-02 17:29:21
End at: 2018-10-02 17:29:51
Local clock offset: -12.176 ms
Remote clock offset: 52.776 ms

Below is generated by plot.py at 2018-10-02 18:40:24
Datalink statistics
-- Total of 3 flows:
Average throughput: 18.23 Mbit/s
95th percentile per-packet one-way delay: 65.006 ms
Loss rate: 25.31%
-- Flow 1:
Average throughput: 10.86 Mbit/s
95th percentile per-packet one-way delay: 65.001 ms
Loss rate: 22.04%
-- Flow 2:
Average throughput: 7.56 Mbit/s
95th percentile per-packet one-way delay: 65.011 ms
Loss rate: 30.09%
-- Flow 3:
Average throughput: 7.14 Mbit/s
95th percentile per-packet one-way delay: 65.015 ms
Loss rate: 28.72%

Run 3: Report of FillP — Data Link

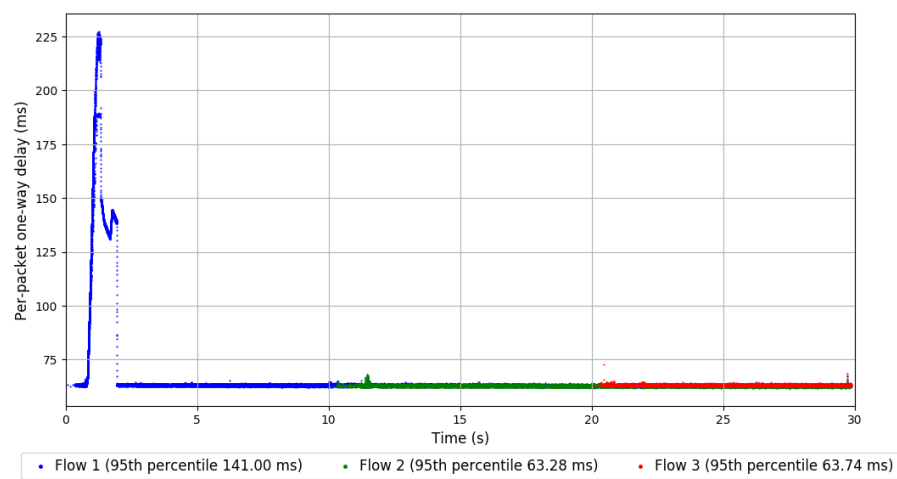
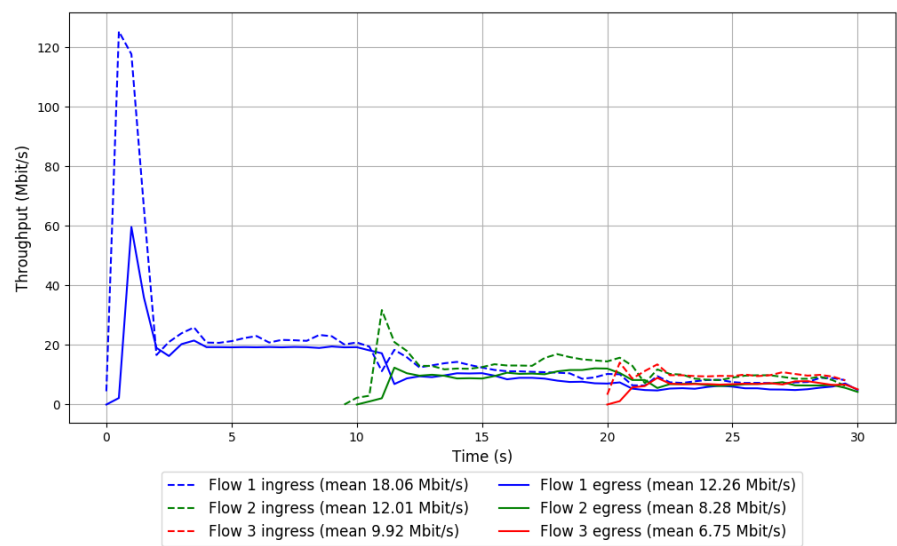


Run 4: Statistics of FillP

Start at: 2018-10-02 17:57:11
End at: 2018-10-02 17:57:41
Local clock offset: -3.684 ms
Remote clock offset: 49.543 ms

Below is generated by plot.py at 2018-10-02 18:40:24
Datalink statistics
-- Total of 3 flows:
Average throughput: 19.98 Mbit/s
95th percentile per-packet one-way delay: 120.990 ms
Loss rate: 32.19%
-- Flow 1:
Average throughput: 12.26 Mbit/s
95th percentile per-packet one-way delay: 140.998 ms
Loss rate: 32.42%
-- Flow 2:
Average throughput: 8.28 Mbit/s
95th percentile per-packet one-way delay: 63.279 ms
Loss rate: 31.45%
-- Flow 3:
Average throughput: 6.75 Mbit/s
95th percentile per-packet one-way delay: 63.736 ms
Loss rate: 32.72%

Run 4: Report of FillP — Data Link



Run 5: Statistics of FillP

Start at: 2018-10-02 18:20:09

End at: 2018-10-02 18:20:39

Local clock offset: -0.008 ms

Remote clock offset: 26.33 ms

Below is generated by plot.py at 2018-10-02 18:40:24

Datalink statistics

-- Total of 3 flows:

Average throughput: 19.74 Mbit/s

95th percentile per-packet one-way delay: 70.728 ms

Loss rate: 35.56%

-- Flow 1:

Average throughput: 12.42 Mbit/s

95th percentile per-packet one-way delay: 71.643 ms

Loss rate: 37.57%

-- Flow 2:

Average throughput: 7.64 Mbit/s

95th percentile per-packet one-way delay: 63.808 ms

Loss rate: 31.38%

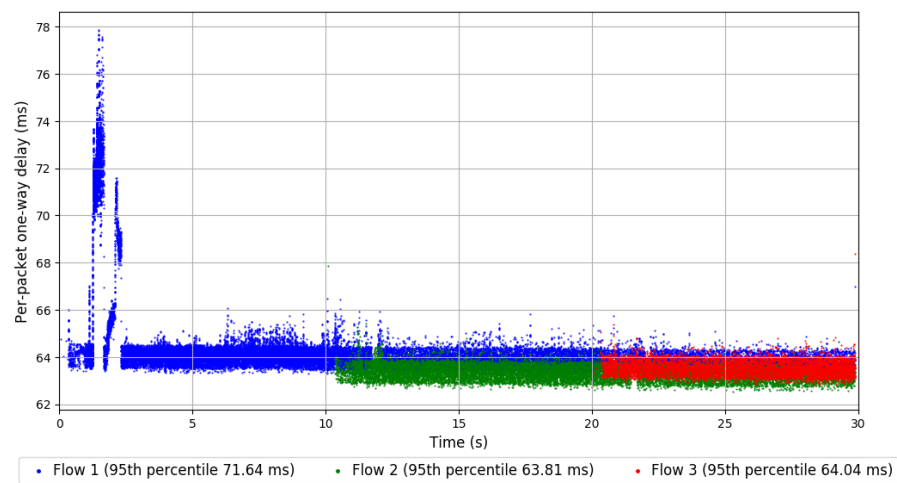
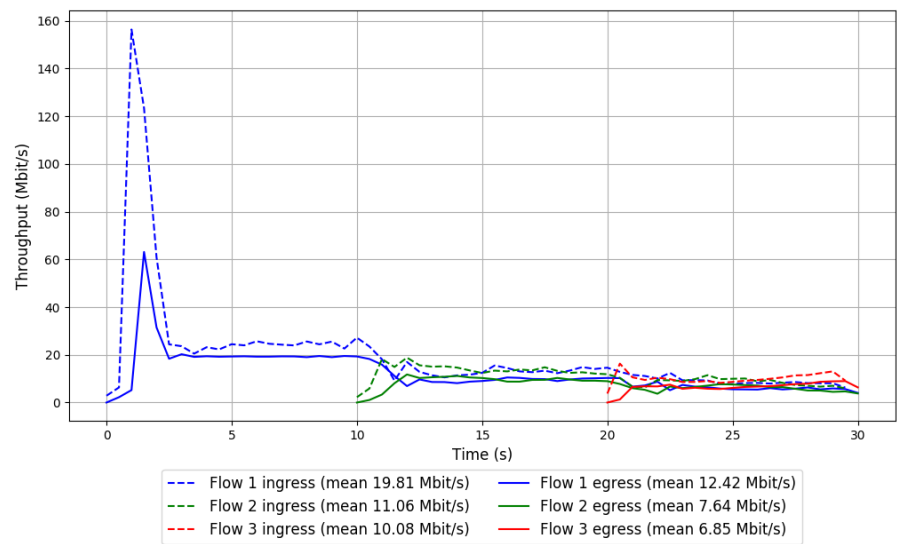
-- Flow 3:

Average throughput: 6.85 Mbit/s

95th percentile per-packet one-way delay: 64.039 ms

Loss rate: 32.82%

Run 5: Report of FillP — Data Link

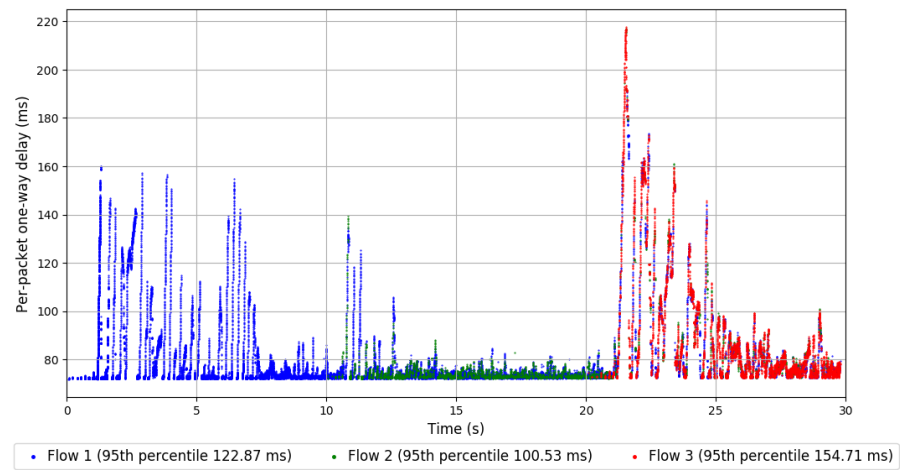
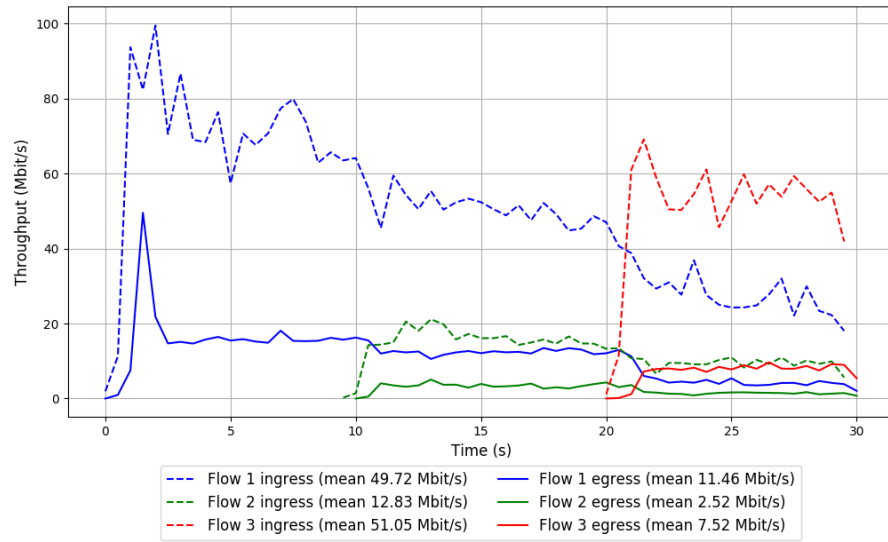


Run 1: Statistics of Indigo

Start at: 2018-10-02 16:49:47
End at: 2018-10-02 16:50:17
Local clock offset: -7.537 ms
Remote clock offset: 82.686 ms

Below is generated by plot.py at 2018-10-02 18:40:25
Datalink statistics
-- Total of 3 flows:
Average throughput: 15.58 Mbit/s
95th percentile per-packet one-way delay: 126.977 ms
Loss rate: 79.33%
-- Flow 1:
Average throughput: 11.46 Mbit/s
95th percentile per-packet one-way delay: 122.870 ms
Loss rate: 77.06%
-- Flow 2:
Average throughput: 2.52 Mbit/s
95th percentile per-packet one-way delay: 100.530 ms
Loss rate: 80.47%
-- Flow 3:
Average throughput: 7.52 Mbit/s
95th percentile per-packet one-way delay: 154.706 ms
Loss rate: 85.48%

Run 1: Report of Indigo — Data Link

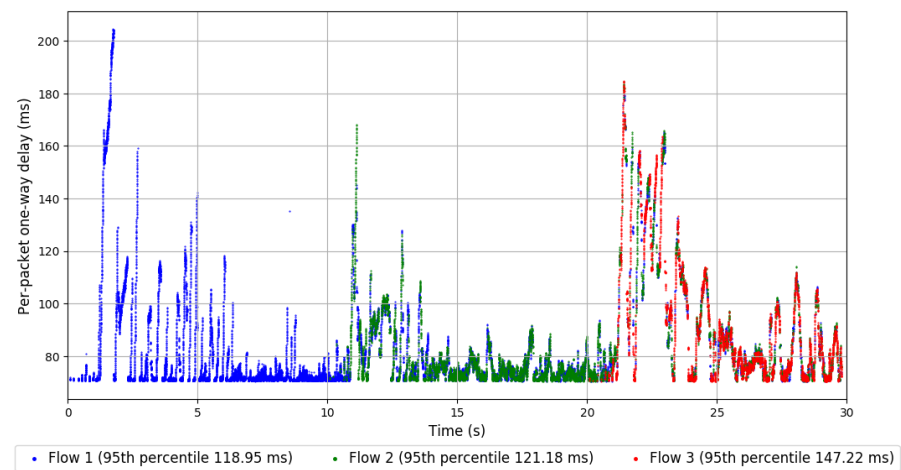
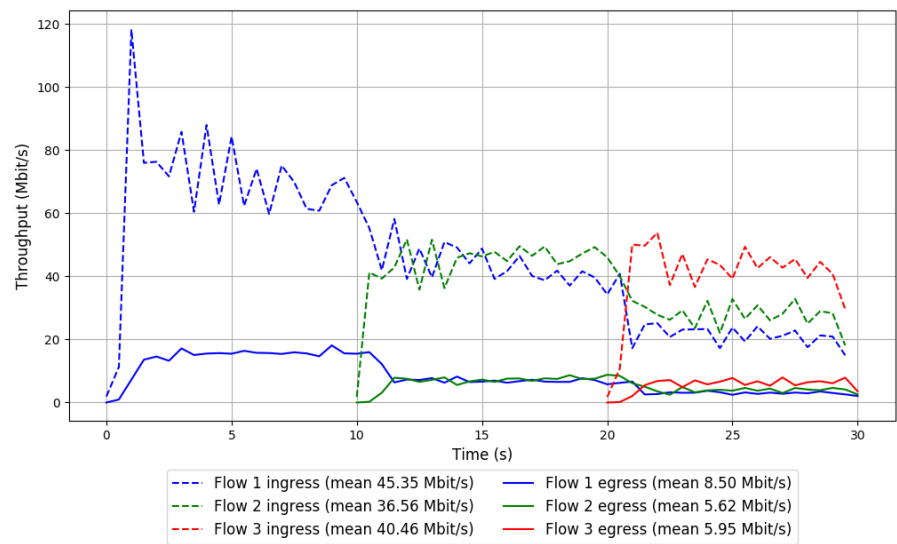


Run 2: Statistics of Indigo

Start at: 2018-10-02 17:14:04
End at: 2018-10-02 17:14:34
Local clock offset: -11.386 ms
Remote clock offset: 52.591 ms

Below is generated by plot.py at 2018-10-02 18:40:29
Datalink statistics
-- Total of 3 flows:
Average throughput: 14.17 Mbit/s
95th percentile per-packet one-way delay: 128.826 ms
Loss rate: 82.98%
-- Flow 1:
Average throughput: 8.50 Mbit/s
95th percentile per-packet one-way delay: 118.952 ms
Loss rate: 81.30%
-- Flow 2:
Average throughput: 5.62 Mbit/s
95th percentile per-packet one-way delay: 121.181 ms
Loss rate: 84.74%
-- Flow 3:
Average throughput: 5.95 Mbit/s
95th percentile per-packet one-way delay: 147.219 ms
Loss rate: 85.49%

Run 2: Report of Indigo — Data Link

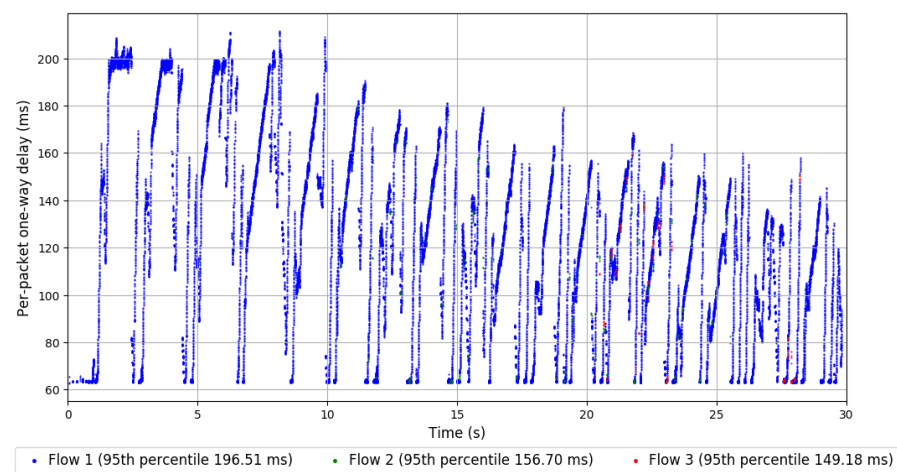
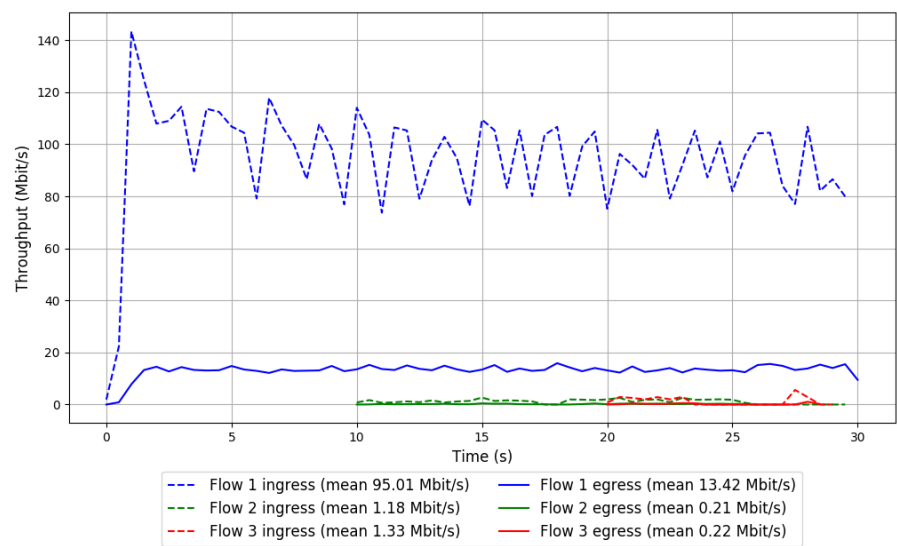


Run 3: Statistics of Indigo

Start at: 2018-10-02 17:42:51
End at: 2018-10-02 17:43:21
Local clock offset: -12.983 ms
Remote clock offset: 52.09 ms

Below is generated by plot.py at 2018-10-02 18:40:31
Datalink statistics
-- Total of 3 flows:
Average throughput: 13.59 Mbit/s
95th percentile per-packet one-way delay: 196.446 ms
Loss rate: 85.93%
-- Flow 1:
Average throughput: 13.42 Mbit/s
95th percentile per-packet one-way delay: 196.514 ms
Loss rate: 85.93%
-- Flow 2:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 156.699 ms
Loss rate: 85.66%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 149.178 ms
Loss rate: 85.43%

Run 3: Report of Indigo — Data Link



Run 4: Statistics of Indigo

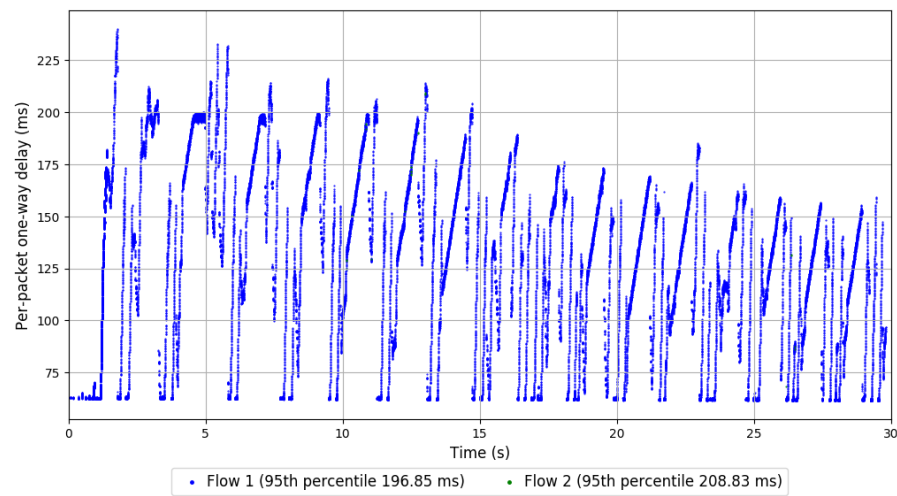
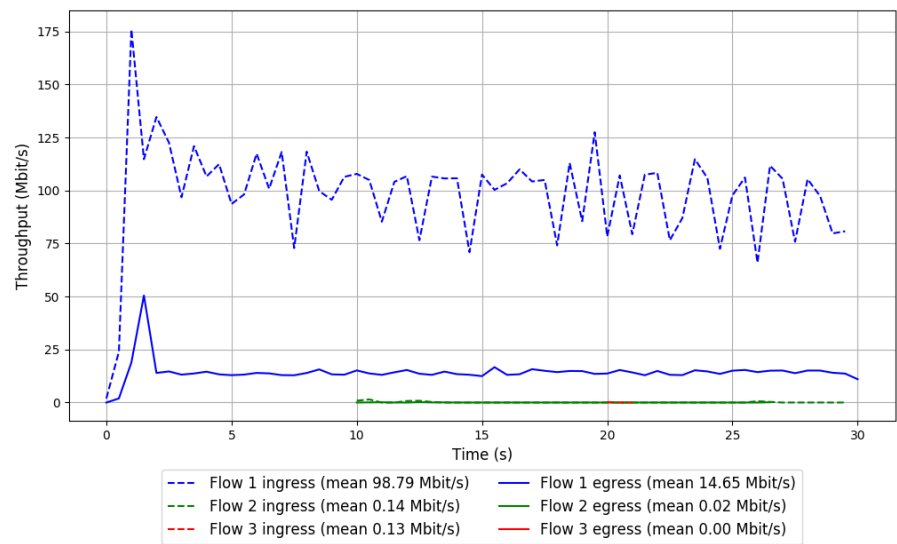
Start at: 2018-10-02 18:08:25

End at: 2018-10-02 18:08:55

Local clock offset: 0.148 ms

Remote clock offset: 39.989 ms

Run 4: Report of Indigo — Data Link

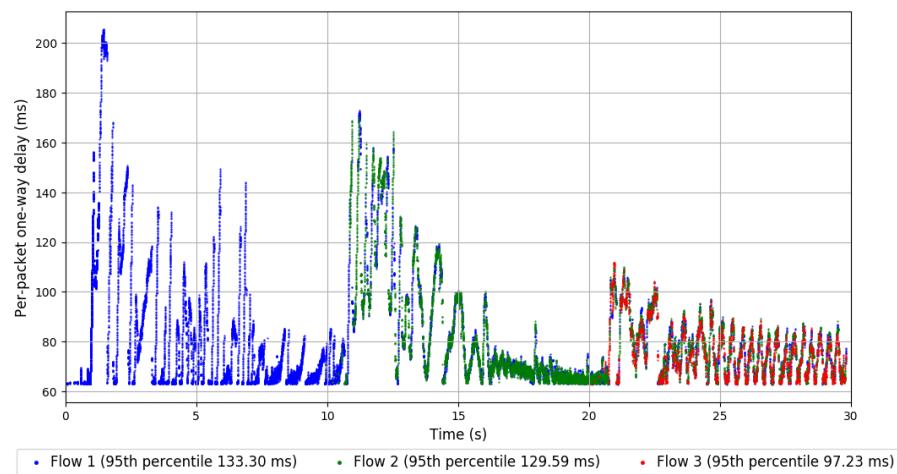
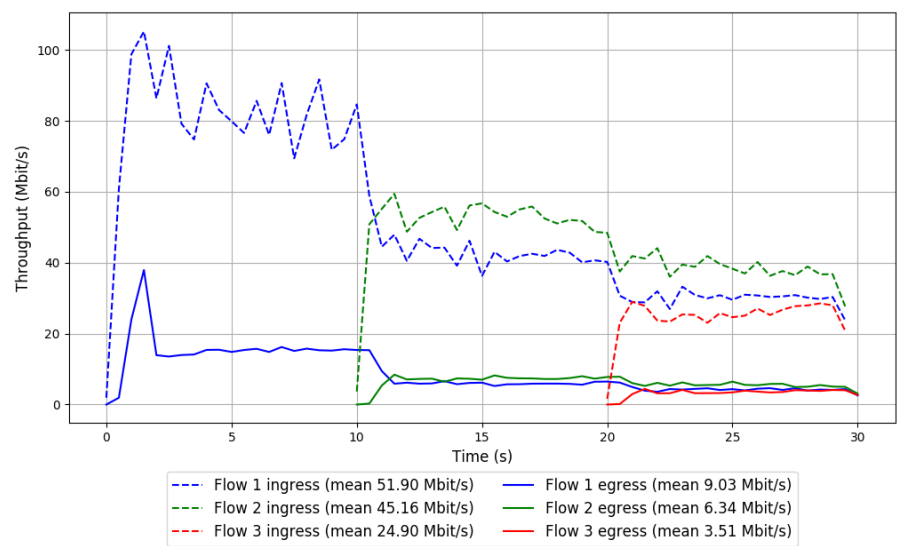


Run 5: Statistics of Indigo

Start at: 2018-10-02 18:31:43
End at: 2018-10-02 18:32:13
Local clock offset: -1.44 ms
Remote clock offset: 19.077 ms

Below is generated by plot.py at 2018-10-02 18:40:41
Datalink statistics
-- Total of 3 flows:
Average throughput: 14.38 Mbit/s
95th percentile per-packet one-way delay: 129.779 ms
Loss rate: 84.10%
-- Flow 1:
Average throughput: 9.03 Mbit/s
95th percentile per-packet one-way delay: 133.301 ms
Loss rate: 82.67%
-- Flow 2:
Average throughput: 6.34 Mbit/s
95th percentile per-packet one-way delay: 129.594 ms
Loss rate: 86.04%
-- Flow 3:
Average throughput: 3.51 Mbit/s
95th percentile per-packet one-way delay: 97.231 ms
Loss rate: 86.07%

Run 5: Report of Indigo — Data Link

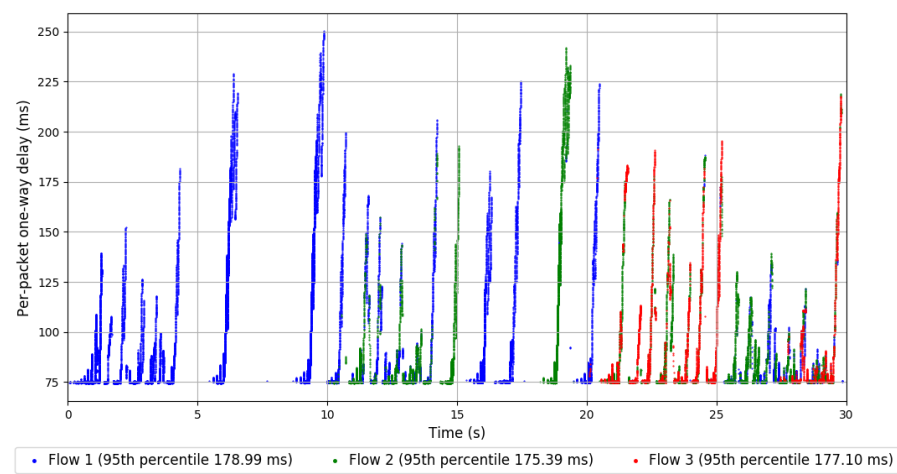
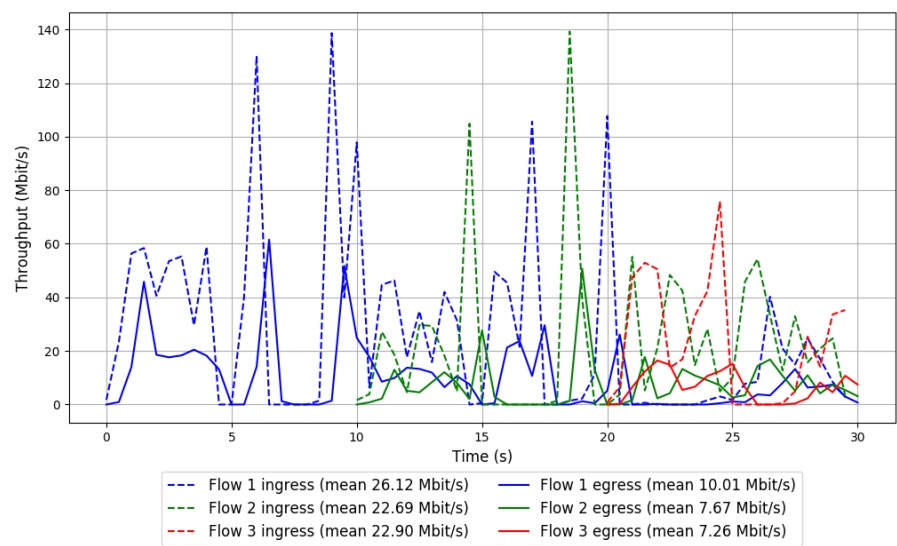


Run 1: Statistics of Indigo-96d2da3

Start at: 2018-10-02 16:52:25
End at: 2018-10-02 16:52:55
Local clock offset: -8.305 ms
Remote clock offset: 81.868 ms

Below is generated by plot.py at 2018-10-02 18:40:41
Datalink statistics
-- Total of 3 flows:
Average throughput: 17.46 Mbit/s
95th percentile per-packet one-way delay: 178.231 ms
Loss rate: 64.37%
-- Flow 1:
Average throughput: 10.01 Mbit/s
95th percentile per-packet one-way delay: 178.994 ms
Loss rate: 61.85%
-- Flow 2:
Average throughput: 7.67 Mbit/s
95th percentile per-packet one-way delay: 175.387 ms
Loss rate: 66.43%
-- Flow 3:
Average throughput: 7.26 Mbit/s
95th percentile per-packet one-way delay: 177.101 ms
Loss rate: 68.98%

Run 1: Report of Indigo-96d2da3 — Data Link

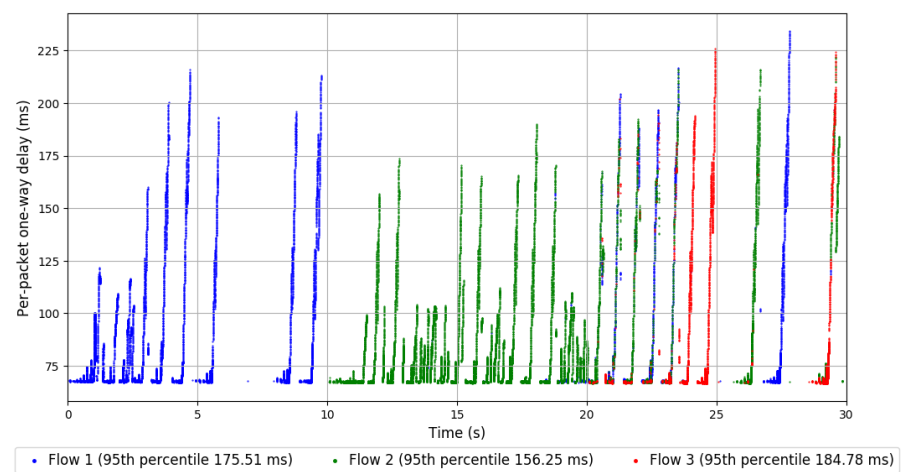
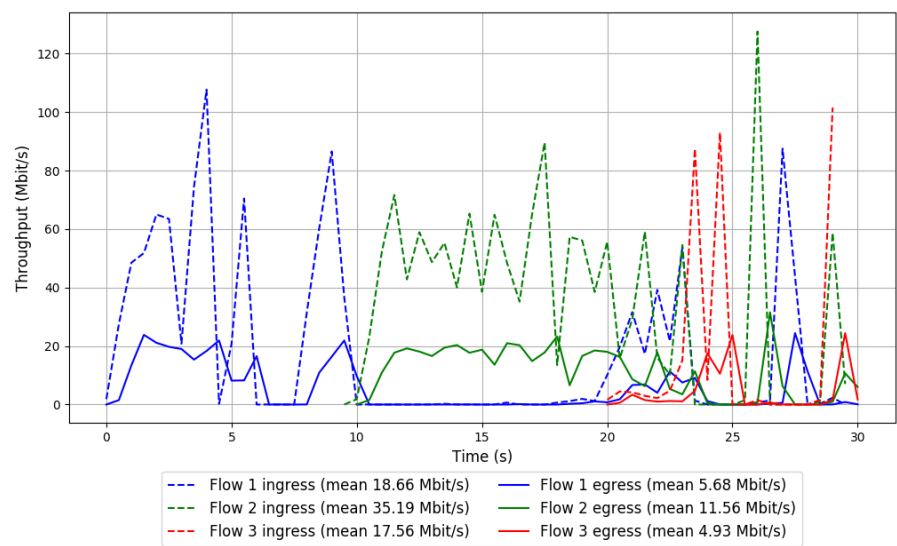


Run 2: Statistics of Indigo-96d2da3

Start at: 2018-10-02 17:18:56
End at: 2018-10-02 17:19:26
Local clock offset: -11.872 ms
Remote clock offset: 53.879 ms

Below is generated by plot.py at 2018-10-02 18:40:41
Datalink statistics
-- Total of 3 flows:
Average throughput: 14.88 Mbit/s
95th percentile per-packet one-way delay: 167.715 ms
Loss rate: 68.78%
-- Flow 1:
Average throughput: 5.68 Mbit/s
95th percentile per-packet one-way delay: 175.506 ms
Loss rate: 69.66%
-- Flow 2:
Average throughput: 11.56 Mbit/s
95th percentile per-packet one-way delay: 156.252 ms
Loss rate: 67.45%
-- Flow 3:
Average throughput: 4.93 Mbit/s
95th percentile per-packet one-way delay: 184.776 ms
Loss rate: 71.47%

Run 2: Report of Indigo-96d2da3 — Data Link

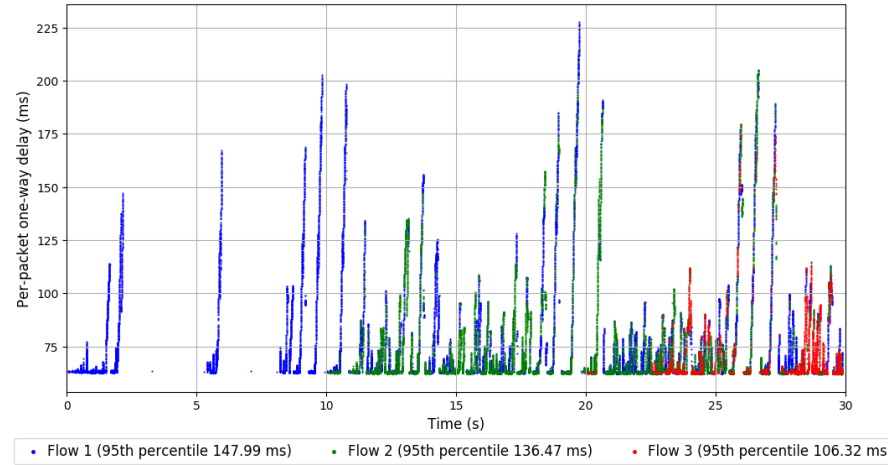
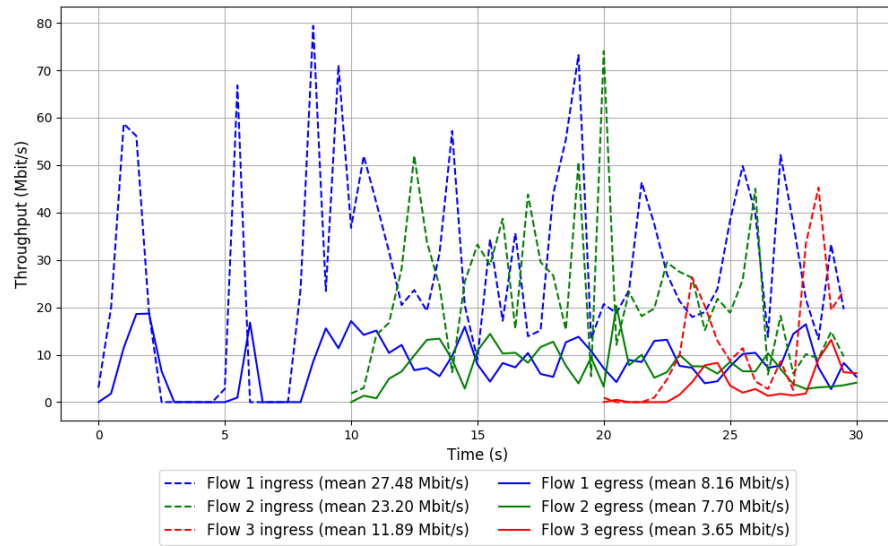


Run 3: Statistics of Indigo-96d2da3

Start at: 2018-10-02 17:47:34
End at: 2018-10-02 17:48:04
Local clock offset: -10.734 ms
Remote clock offset: 51.374 ms

Below is generated by plot.py at 2018-10-02 18:40:45
Datalink statistics
-- Total of 3 flows:
Average throughput: 14.47 Mbit/s
95th percentile per-packet one-way delay: 141.657 ms
Loss rate: 69.25%
-- Flow 1:
Average throughput: 8.16 Mbit/s
95th percentile per-packet one-way delay: 147.989 ms
Loss rate: 70.43%
-- Flow 2:
Average throughput: 7.70 Mbit/s
95th percentile per-packet one-way delay: 136.468 ms
Loss rate: 67.03%
-- Flow 3:
Average throughput: 3.65 Mbit/s
95th percentile per-packet one-way delay: 106.324 ms
Loss rate: 69.71%

Run 3: Report of Indigo-96d2da3 — Data Link

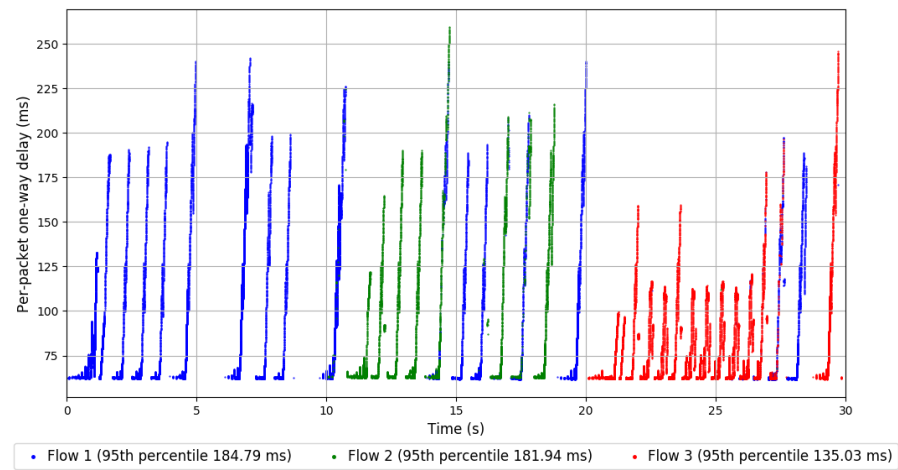
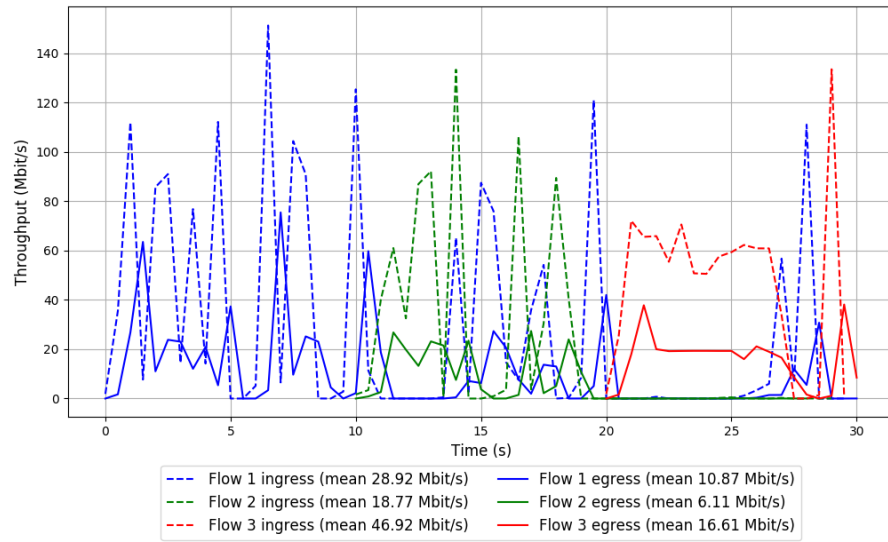


Run 4: Statistics of Indigo-96d2da3

Start at: 2018-10-02 18:11:16
End at: 2018-10-02 18:11:46
Local clock offset: 0.872 ms
Remote clock offset: 35.998 ms

Below is generated by plot.py at 2018-10-02 18:40:54
Datalink statistics
-- Total of 3 flows:
Average throughput: 19.86 Mbit/s
95th percentile per-packet one-way delay: 179.932 ms
Loss rate: 64.87%
-- Flow 1:
Average throughput: 10.87 Mbit/s
95th percentile per-packet one-way delay: 184.787 ms
Loss rate: 62.27%
-- Flow 2:
Average throughput: 6.11 Mbit/s
95th percentile per-packet one-way delay: 181.935 ms
Loss rate: 70.62%
-- Flow 3:
Average throughput: 16.61 Mbit/s
95th percentile per-packet one-way delay: 135.029 ms
Loss rate: 65.14%

Run 4: Report of Indigo-96d2da3 — Data Link

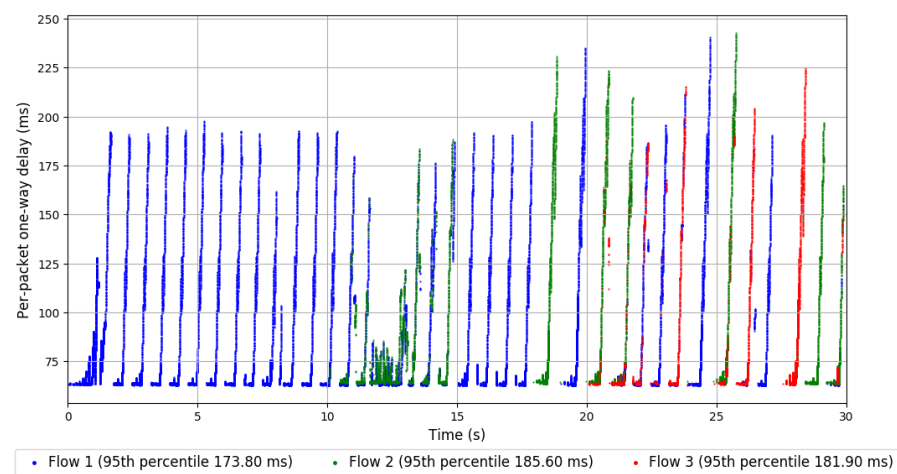
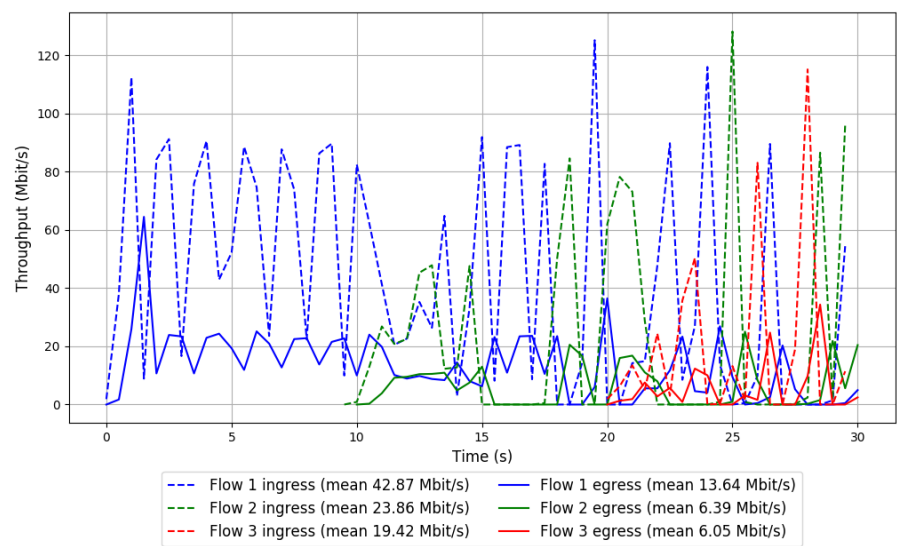


Run 5: Statistics of Indigo-96d2da3

Start at: 2018-10-02 18:34:18
End at: 2018-10-02 18:34:48
Local clock offset: -1.588 ms
Remote clock offset: 17.229 ms

Below is generated by plot.py at 2018-10-02 18:41:00
Datalink statistics
-- Total of 3 flows:
Average throughput: 19.87 Mbit/s
95th percentile per-packet one-way delay: 176.842 ms
Loss rate: 69.51%
-- Flow 1:
Average throughput: 13.64 Mbit/s
95th percentile per-packet one-way delay: 173.801 ms
Loss rate: 68.22%
-- Flow 2:
Average throughput: 6.39 Mbit/s
95th percentile per-packet one-way delay: 185.604 ms
Loss rate: 73.17%
-- Flow 3:
Average throughput: 6.05 Mbit/s
95th percentile per-packet one-way delay: 181.897 ms
Loss rate: 69.11%

Run 5: Report of Indigo-96d2da3 — Data Link

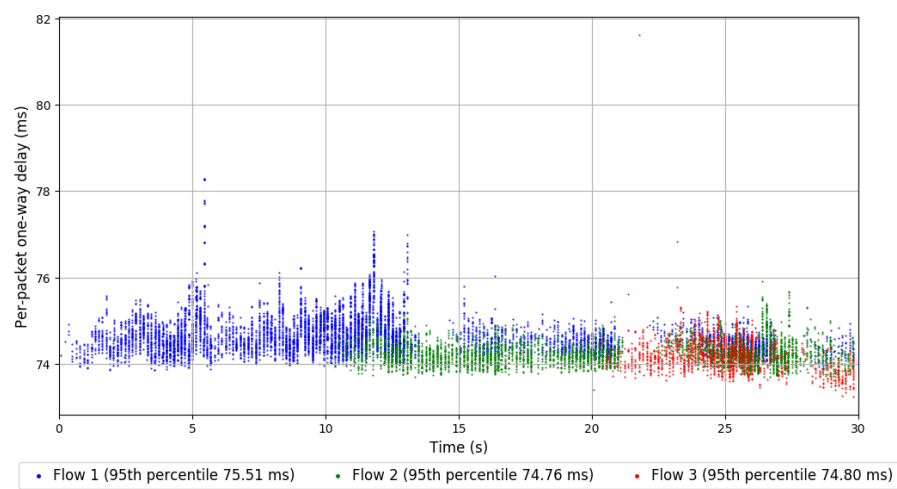
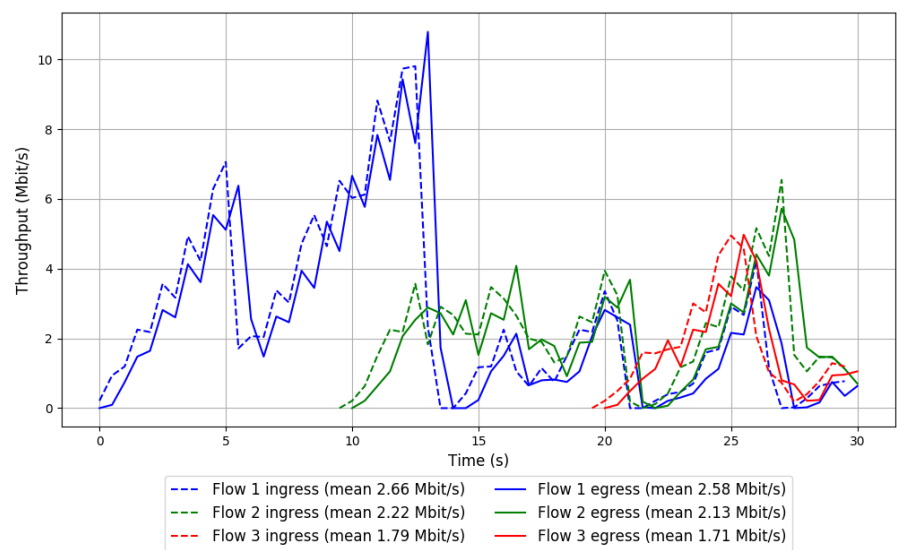


```
Run 1: Statistics of LEDBAT

Start at: 2018-10-02 16:55:02
End at: 2018-10-02 16:55:32
Local clock offset: -9.154 ms
Remote clock offset: 83.856 ms

# Below is generated by plot.py at 2018-10-02 18:41:00
# Datalink statistics
-- Total of 3 flows:
Average throughput: 4.55 Mbit/s
95th percentile per-packet one-way delay: 75.297 ms
Loss rate: 4.23%
-- Flow 1:
Average throughput: 2.58 Mbit/s
95th percentile per-packet one-way delay: 75.513 ms
Loss rate: 3.58%
-- Flow 2:
Average throughput: 2.13 Mbit/s
95th percentile per-packet one-way delay: 74.761 ms
Loss rate: 4.55%
-- Flow 3:
Average throughput: 1.71 Mbit/s
95th percentile per-packet one-way delay: 74.804 ms
Loss rate: 6.28%
```

Run 1: Report of LEDBAT — Data Link

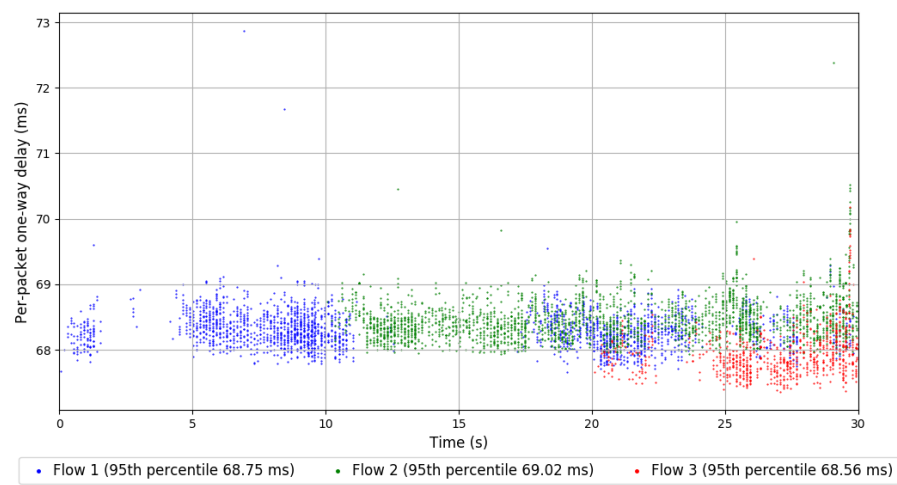
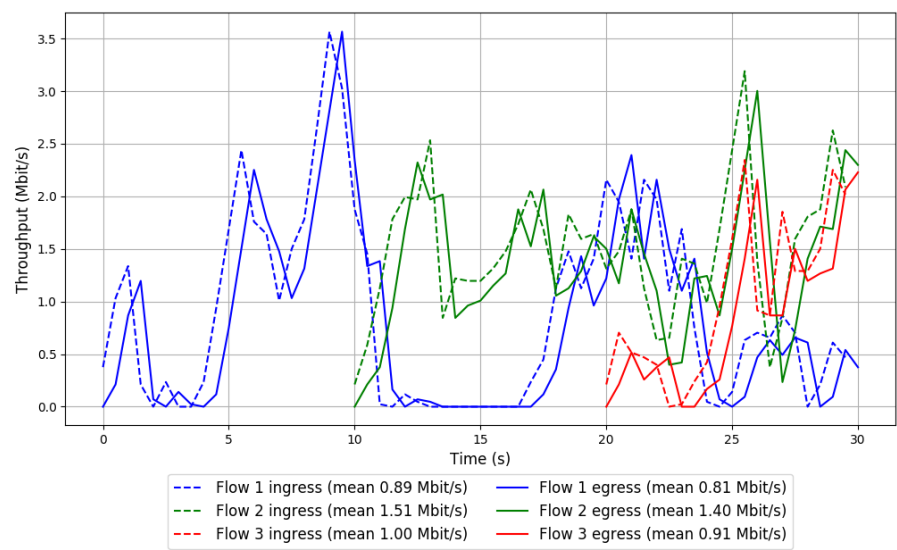


Run 2: Statistics of LEDBAT

Start at: 2018-10-02 17:21:37
End at: 2018-10-02 17:22:07
Local clock offset: -11.778 ms
Remote clock offset: 51.798 ms

Below is generated by plot.py at 2018-10-02 18:41:00
Datalink statistics
-- Total of 3 flows:
Average throughput: 2.03 Mbit/s
95th percentile per-packet one-way delay: 68.872 ms
Loss rate: 8.59%
-- Flow 1:
Average throughput: 0.81 Mbit/s
95th percentile per-packet one-way delay: 68.752 ms
Loss rate: 9.34%
-- Flow 2:
Average throughput: 1.40 Mbit/s
95th percentile per-packet one-way delay: 69.018 ms
Loss rate: 7.48%
-- Flow 3:
Average throughput: 0.91 Mbit/s
95th percentile per-packet one-way delay: 68.557 ms
Loss rate: 9.92%

Run 2: Report of LEDBAT — Data Link

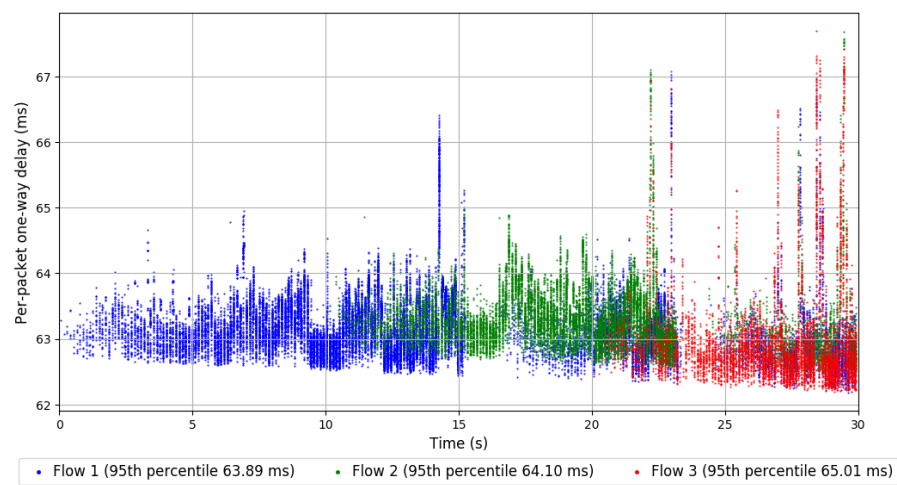
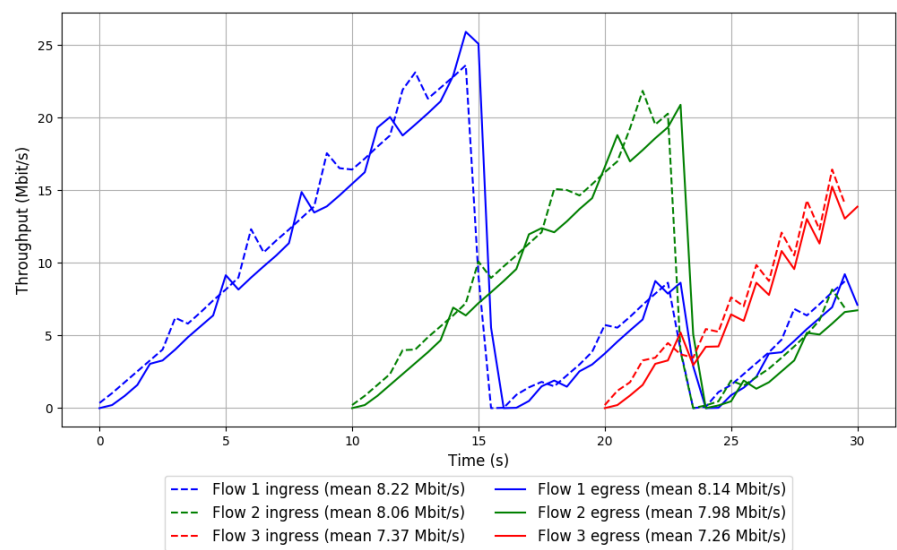


Run 3: Statistics of LEDBAT

Start at: 2018-10-02 17:50:42
End at: 2018-10-02 17:51:12
Local clock offset: -7.76 ms
Remote clock offset: 50.713 ms

Below is generated by plot.py at 2018-10-02 18:41:00
Datalink statistics
-- Total of 3 flows:
Average throughput: 15.79 Mbit/s
95th percentile per-packet one-way delay: 64.068 ms
Loss rate: 1.65%
-- Flow 1:
Average throughput: 8.14 Mbit/s
95th percentile per-packet one-way delay: 63.892 ms
Loss rate: 1.42%
-- Flow 2:
Average throughput: 7.98 Mbit/s
95th percentile per-packet one-way delay: 64.096 ms
Loss rate: 1.59%
-- Flow 3:
Average throughput: 7.26 Mbit/s
95th percentile per-packet one-way delay: 65.012 ms
Loss rate: 2.62%

Run 3: Report of LEDBAT — Data Link

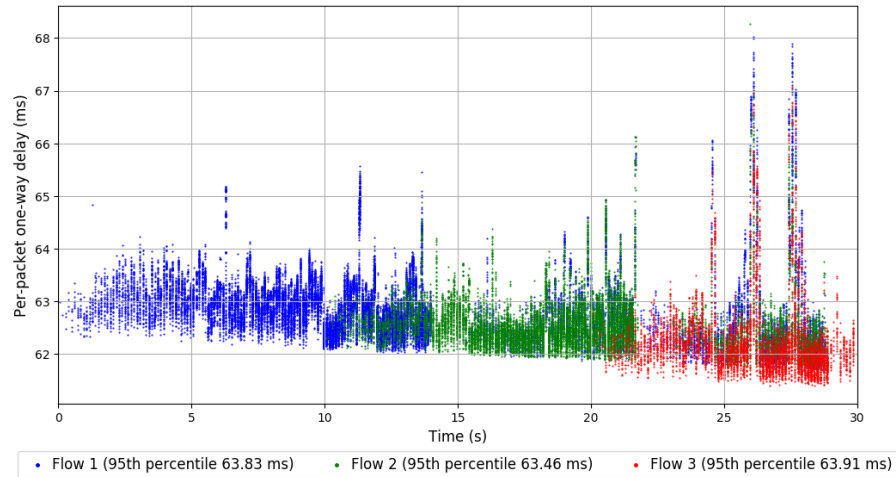
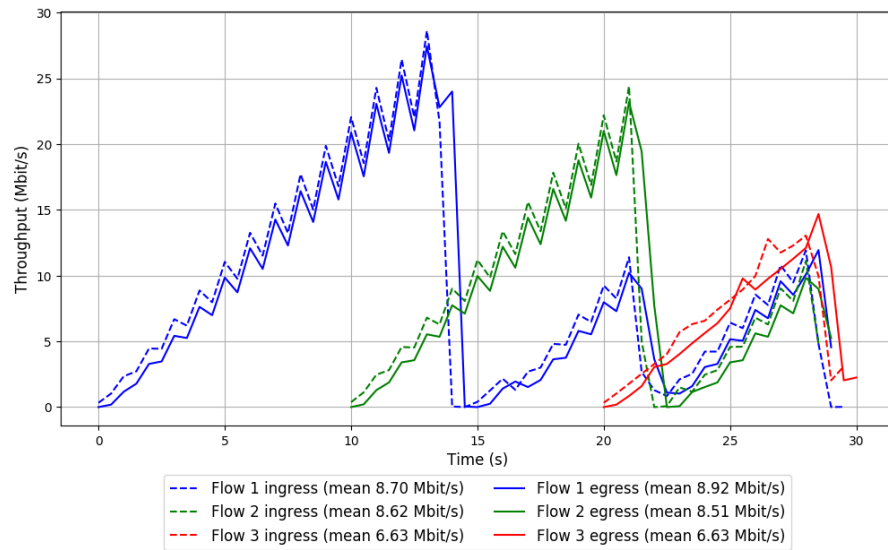


Run 4: Statistics of LEDBAT

Start at: 2018-10-02 18:13:48
End at: 2018-10-02 18:14:18
Local clock offset: 1.355 ms
Remote clock offset: 33.058 ms

Below is generated by plot.py at 2018-10-02 18:41:00
Datalink statistics
-- Total of 3 flows:
Average throughput: 16.16 Mbit/s
95th percentile per-packet one-way delay: 63.750 ms
Loss rate: 1.29%
-- Flow 1:
Average throughput: 8.92 Mbit/s
95th percentile per-packet one-way delay: 63.830 ms
Loss rate: 1.32%
-- Flow 2:
Average throughput: 8.51 Mbit/s
95th percentile per-packet one-way delay: 63.456 ms
Loss rate: 1.26%
-- Flow 3:
Average throughput: 6.63 Mbit/s
95th percentile per-packet one-way delay: 63.913 ms
Loss rate: 1.27%

Run 4: Report of LEDBAT — Data Link

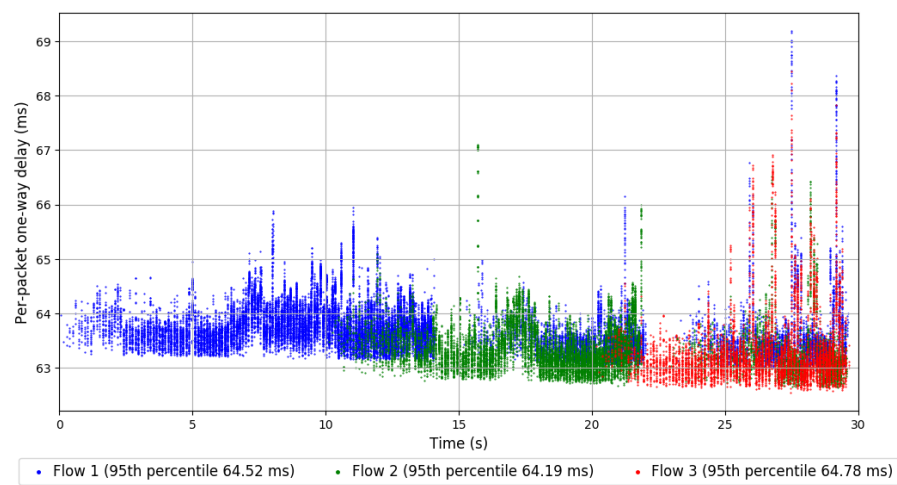
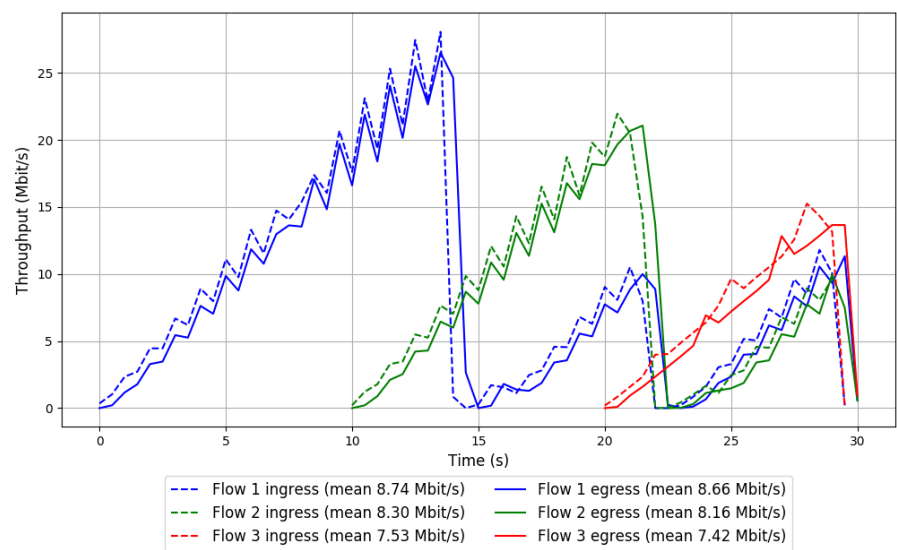


Run 5: Statistics of LEDBAT

Start at: 2018-10-02 18:36:51
End at: 2018-10-02 18:37:21
Local clock offset: -1.618 ms
Remote clock offset: 16.116 ms

Below is generated by plot.py at 2018-10-02 18:41:00
Datalink statistics
-- Total of 3 flows:
Average throughput: 16.38 Mbit/s
95th percentile per-packet one-way delay: 64.443 ms
Loss rate: 1.24%
-- Flow 1:
Average throughput: 8.66 Mbit/s
95th percentile per-packet one-way delay: 64.520 ms
Loss rate: 0.94%
-- Flow 2:
Average throughput: 8.16 Mbit/s
95th percentile per-packet one-way delay: 64.186 ms
Loss rate: 1.60%
-- Flow 3:
Average throughput: 7.42 Mbit/s
95th percentile per-packet one-way delay: 64.783 ms
Loss rate: 1.54%

Run 5: Report of LEDBAT — Data Link

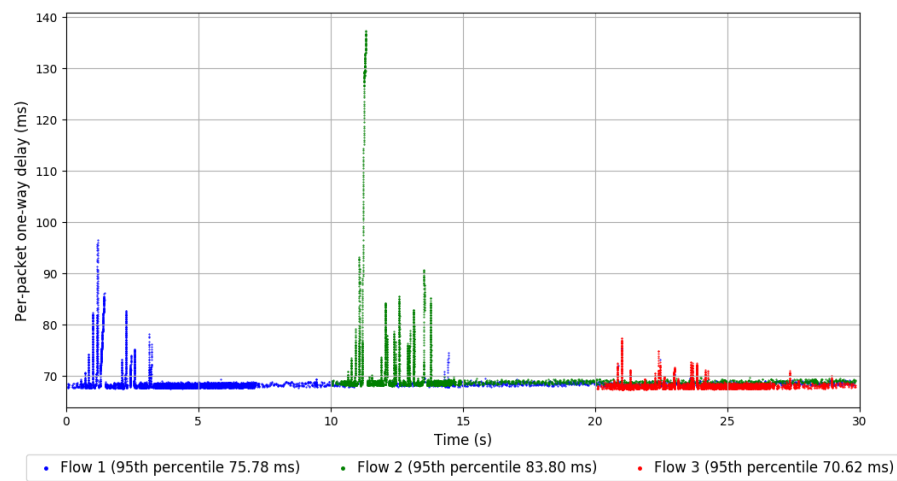
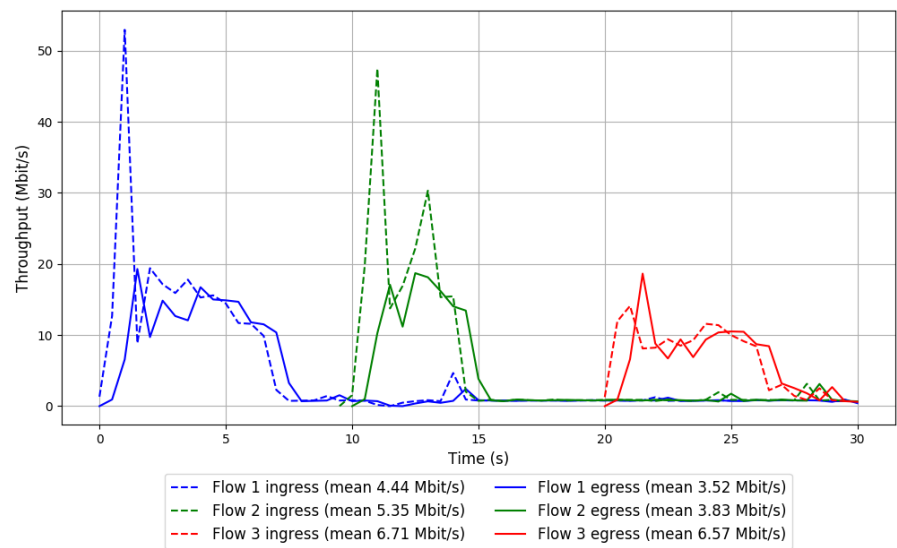


Run 1: Statistics of Indigo-Muses

Start at: 2018-10-02 16:47:09
End at: 2018-10-02 16:47:39
Local clock offset: -6.186 ms
Remote clock offset: 85.681 ms

Below is generated by plot.py at 2018-10-02 18:41:00
Datalink statistics
-- Total of 3 flows:
Average throughput: 8.21 Mbit/s
95th percentile per-packet one-way delay: 77.535 ms
Loss rate: 20.03%
-- Flow 1:
Average throughput: 3.52 Mbit/s
95th percentile per-packet one-way delay: 75.782 ms
Loss rate: 21.11%
-- Flow 2:
Average throughput: 3.83 Mbit/s
95th percentile per-packet one-way delay: 83.804 ms
Loss rate: 28.91%
-- Flow 3:
Average throughput: 6.57 Mbit/s
95th percentile per-packet one-way delay: 70.625 ms
Loss rate: 3.63%

Run 1: Report of Indigo-Muses — Data Link

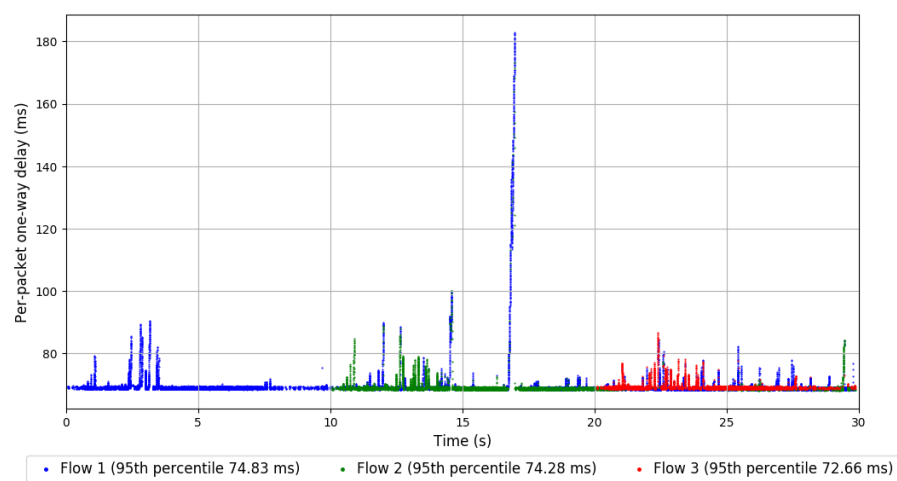
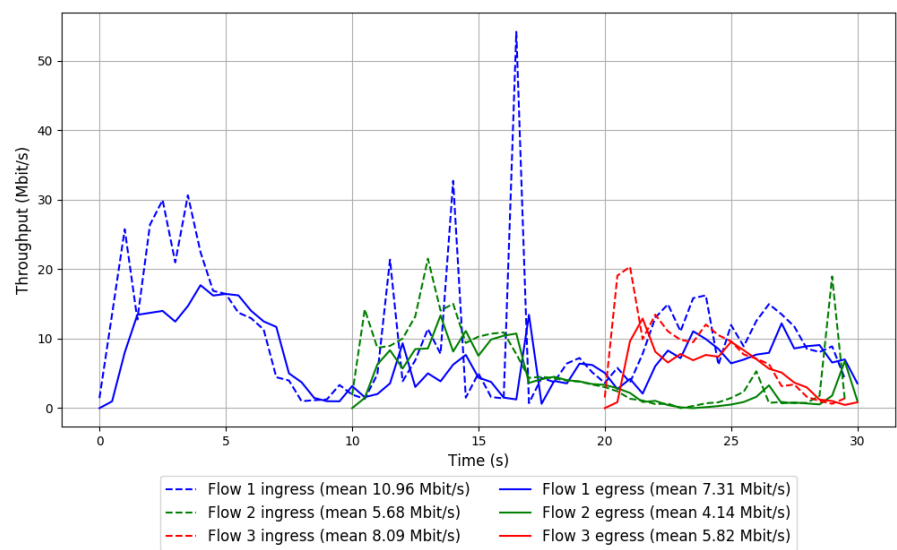


Run 2: Statistics of Indigo-Muses

Start at: 2018-10-02 17:10:47
End at: 2018-10-02 17:11:17
Local clock offset: -11.257 ms
Remote clock offset: 56.988 ms

Below is generated by plot.py at 2018-10-02 18:41:00
Datalink statistics
-- Total of 3 flows:
Average throughput: 11.96 Mbit/s
95th percentile per-packet one-way delay: 74.021 ms
Loss rate: 31.56%
-- Flow 1:
Average throughput: 7.31 Mbit/s
95th percentile per-packet one-way delay: 74.828 ms
Loss rate: 33.64%
-- Flow 2:
Average throughput: 4.14 Mbit/s
95th percentile per-packet one-way delay: 74.277 ms
Loss rate: 27.62%
-- Flow 3:
Average throughput: 5.82 Mbit/s
95th percentile per-packet one-way delay: 72.657 ms
Loss rate: 28.56%

Run 2: Report of Indigo-Muses — Data Link

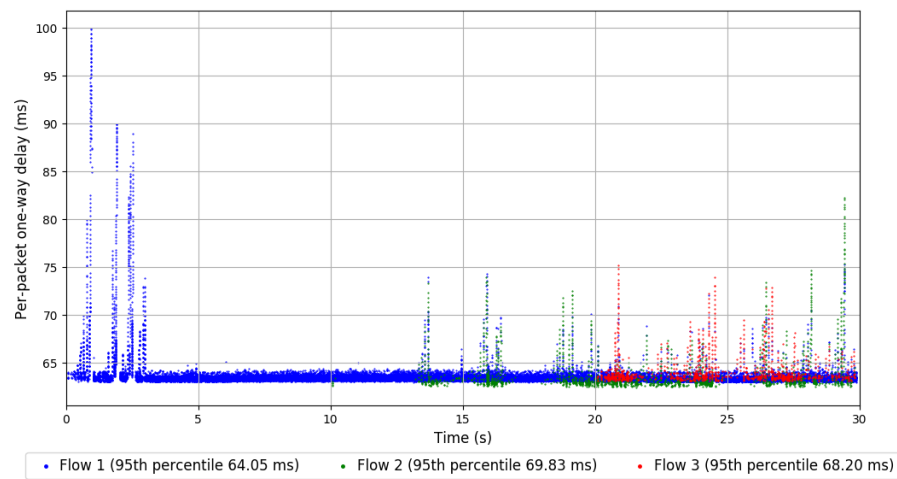
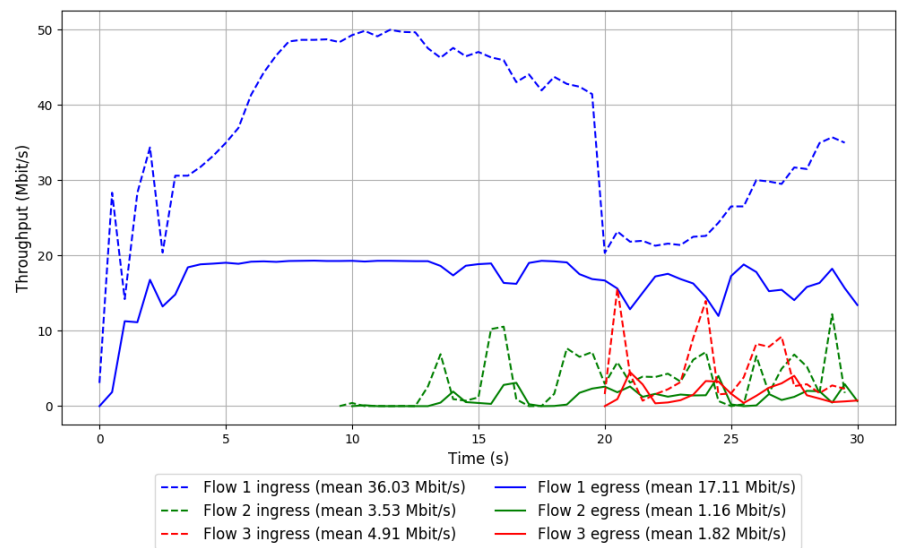


Run 3: Statistics of Indigo-Muses

Start at: 2018-10-02 17:40:12
End at: 2018-10-02 17:40:42
Local clock offset: -12.935 ms
Remote clock offset: 52.585 ms

Below is generated by plot.py at 2018-10-02 18:41:09
Datalink statistics
-- Total of 3 flows:
Average throughput: 18.47 Mbit/s
95th percentile per-packet one-way delay: 64.287 ms
Loss rate: 53.98%
-- Flow 1:
Average throughput: 17.11 Mbit/s
95th percentile per-packet one-way delay: 64.051 ms
Loss rate: 52.68%
-- Flow 2:
Average throughput: 1.16 Mbit/s
95th percentile per-packet one-way delay: 69.828 ms
Loss rate: 67.25%
-- Flow 3:
Average throughput: 1.82 Mbit/s
95th percentile per-packet one-way delay: 68.202 ms
Loss rate: 63.49%

Run 3: Report of Indigo-Muses — Data Link

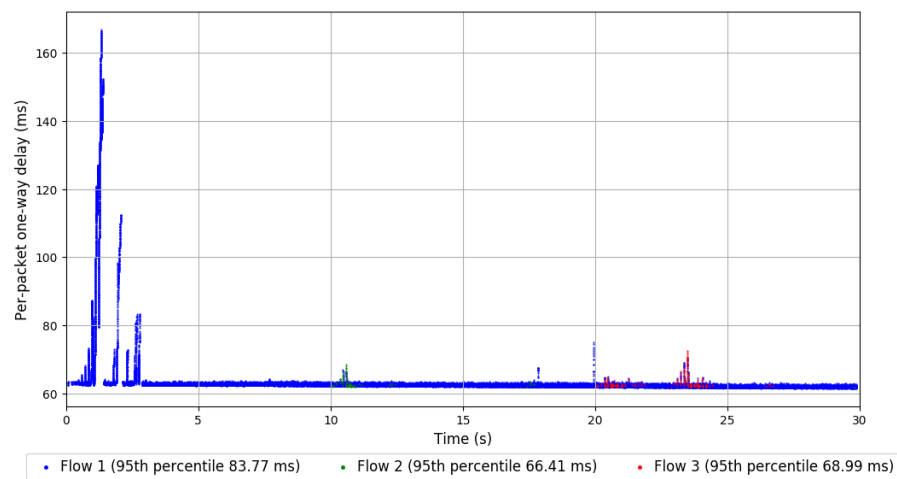
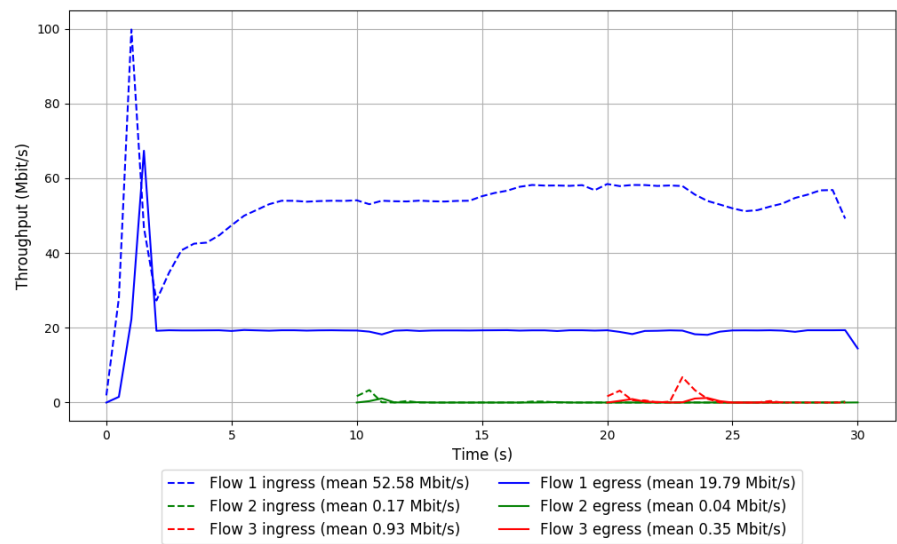


Run 4: Statistics of Indigo-Muses

Start at: 2018-10-02 18:05:54
End at: 2018-10-02 18:06:24
Local clock offset: -0.489 ms
Remote clock offset: 44.387 ms

Below is generated by plot.py at 2018-10-02 18:41:16
Datalink statistics
-- Total of 3 flows:
Average throughput: 19.90 Mbit/s
95th percentile per-packet one-way delay: 83.469 ms
Loss rate: 62.60%
-- Flow 1:
Average throughput: 19.79 Mbit/s
95th percentile per-packet one-way delay: 83.769 ms
Loss rate: 62.52%
-- Flow 2:
Average throughput: 0.04 Mbit/s
95th percentile per-packet one-way delay: 66.405 ms
Loss rate: 73.23%
-- Flow 3:
Average throughput: 0.35 Mbit/s
95th percentile per-packet one-way delay: 68.987 ms
Loss rate: 74.34%

Run 4: Report of Indigo-Muses — Data Link

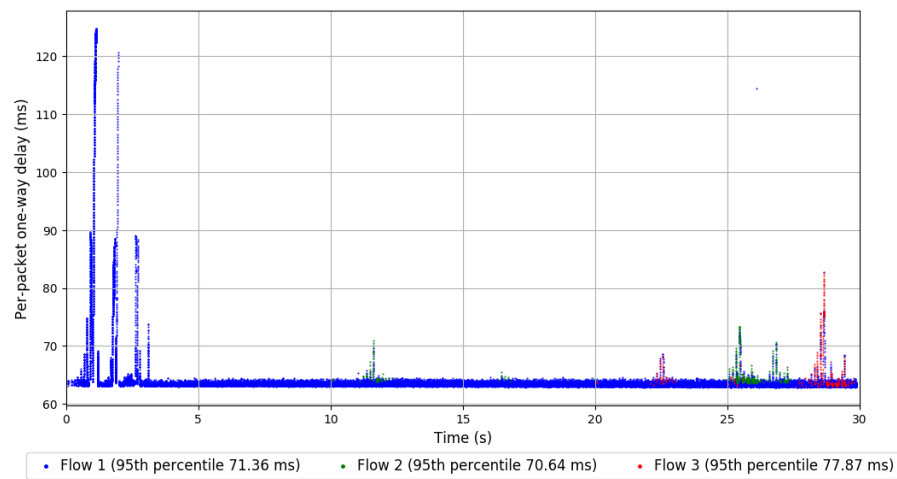
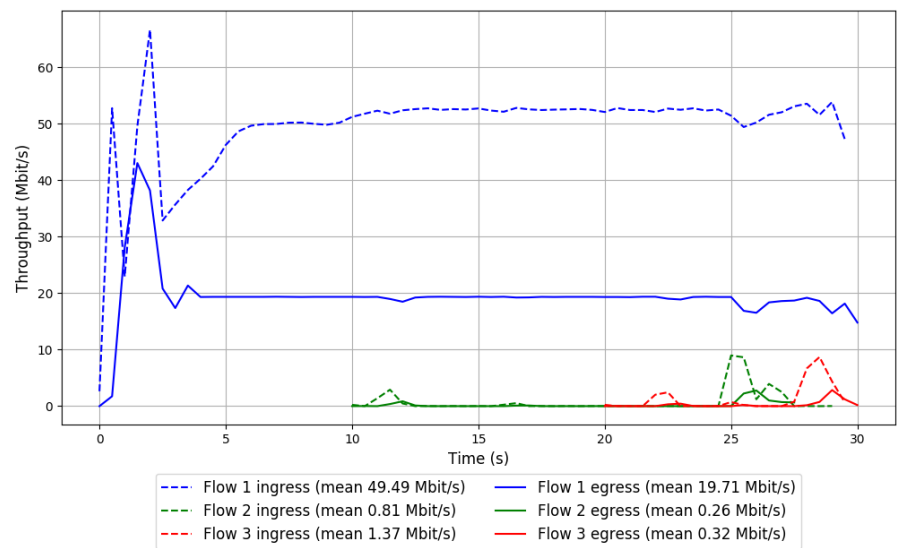


Run 5: Statistics of Indigo-Muses

Start at: 2018-10-02 18:29:13
End at: 2018-10-02 18:29:43
Local clock offset: -1.346 ms
Remote clock offset: 20.398 ms

Below is generated by plot.py at 2018-10-02 18:41:16
Datalink statistics
-- Total of 3 flows:
Average throughput: 19.97 Mbit/s
95th percentile per-packet one-way delay: 71.639 ms
Loss rate: 60.58%
-- Flow 1:
Average throughput: 19.71 Mbit/s
95th percentile per-packet one-way delay: 71.364 ms
Loss rate: 60.32%
-- Flow 2:
Average throughput: 0.26 Mbit/s
95th percentile per-packet one-way delay: 70.635 ms
Loss rate: 71.27%
-- Flow 3:
Average throughput: 0.32 Mbit/s
95th percentile per-packet one-way delay: 77.870 ms
Loss rate: 76.97%

Run 5: Report of Indigo-Muses — Data Link

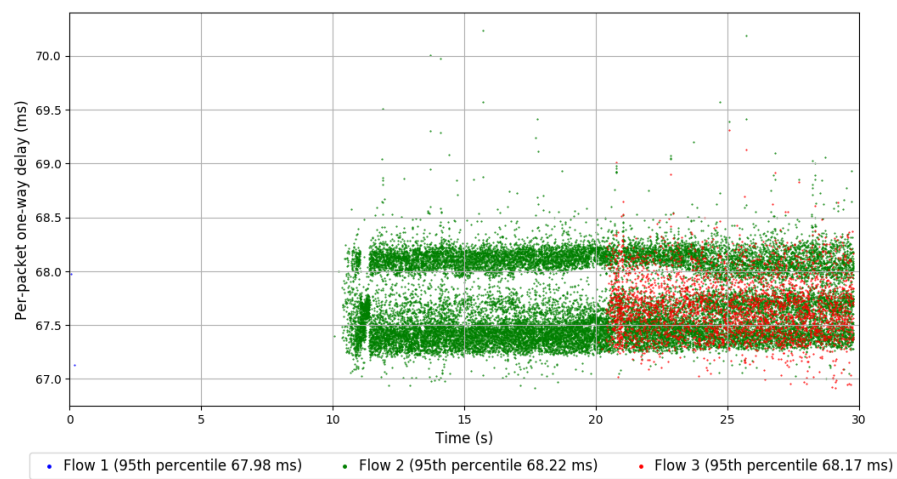
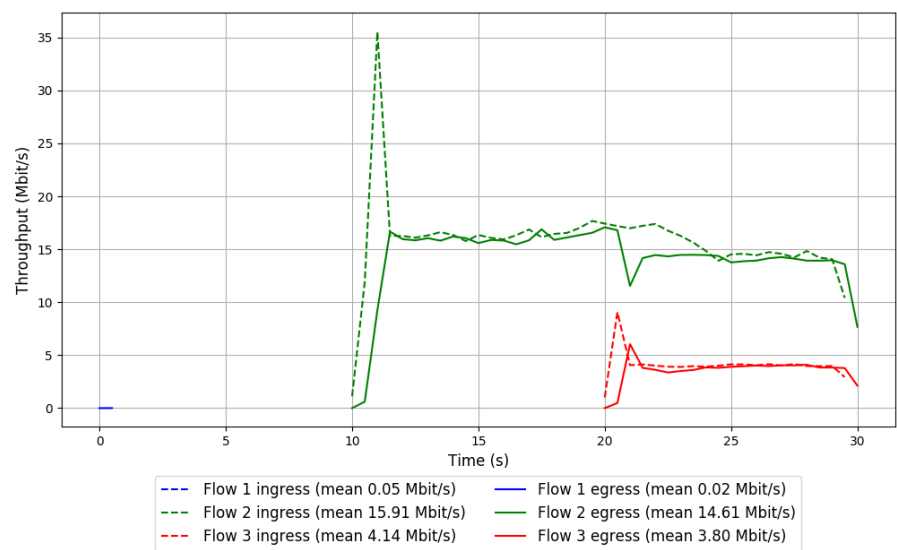



```
Run 1: Statistics of PCC-Allegro

Start at: 2018-10-02 16:34:18
End at: 2018-10-02 16:34:48
Local clock offset: -5.689 ms
Remote clock offset: 80.584 ms

# Below is generated by plot.py at 2018-10-02 18:41:16
# Datalink statistics
-- Total of 3 flows:
Average throughput: 10.93 Mbit/s
95th percentile per-packet one-way delay: 68.218 ms
Loss rate: 8.90%
-- Flow 1:
Average throughput: 0.02 Mbit/s
95th percentile per-packet one-way delay: 67.978 ms
Loss rate: 85.42%
-- Flow 2:
Average throughput: 14.61 Mbit/s
95th percentile per-packet one-way delay: 68.220 ms
Loss rate: 8.82%
-- Flow 3:
Average throughput: 3.80 Mbit/s
95th percentile per-packet one-way delay: 68.168 ms
Loss rate: 9.53%
```

Run 1: Report of PCC-Allegro — Data Link

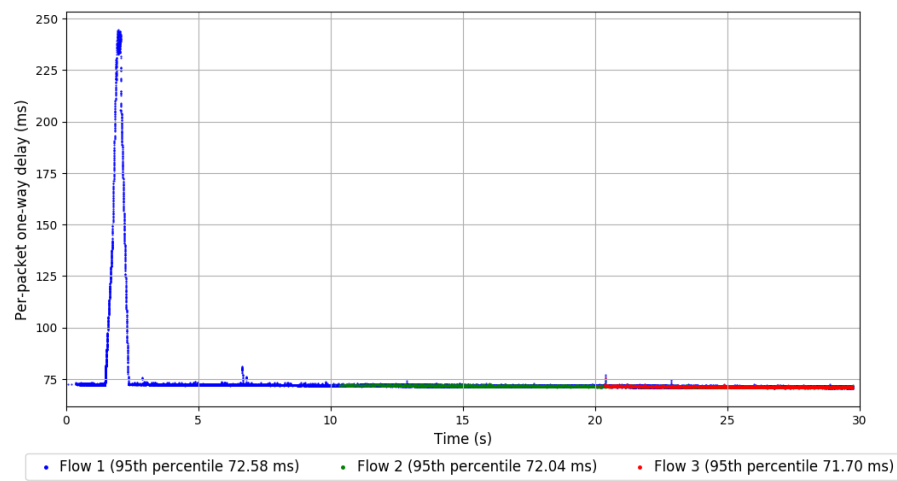
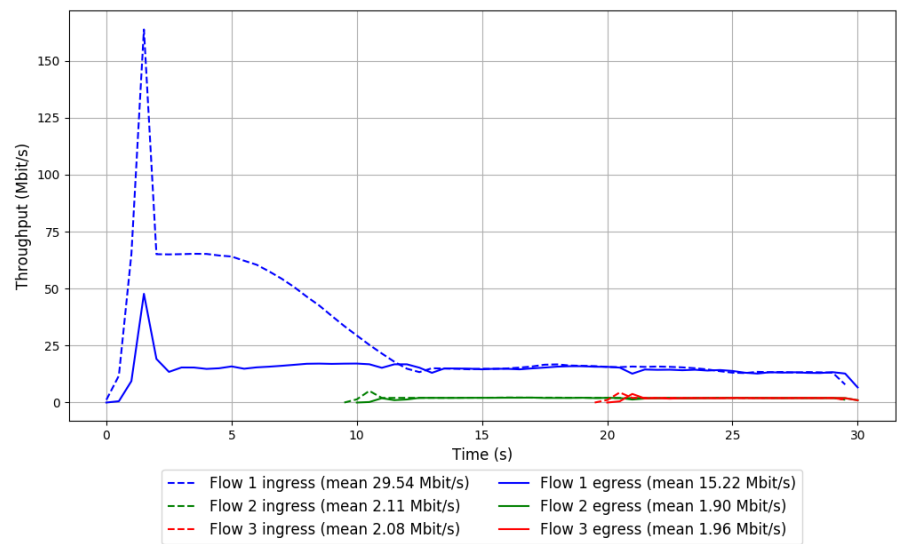


Run 2: Statistics of PCC-Allegro

Start at: 2018-10-02 16:57:40
End at: 2018-10-02 16:58:10
Local clock offset: -9.55 ms
Remote clock offset: 77.153 ms

Below is generated by plot.py at 2018-10-02 18:41:16
Datalink statistics
-- Total of 3 flows:
Average throughput: 17.13 Mbit/s
95th percentile per-packet one-way delay: 72.474 ms
Loss rate: 46.08%
-- Flow 1:
Average throughput: 15.22 Mbit/s
95th percentile per-packet one-way delay: 72.579 ms
Loss rate: 48.68%
-- Flow 2:
Average throughput: 1.90 Mbit/s
95th percentile per-packet one-way delay: 72.041 ms
Loss rate: 10.47%
-- Flow 3:
Average throughput: 1.96 Mbit/s
95th percentile per-packet one-way delay: 71.697 ms
Loss rate: 6.91%

Run 2: Report of PCC-Allegro — Data Link

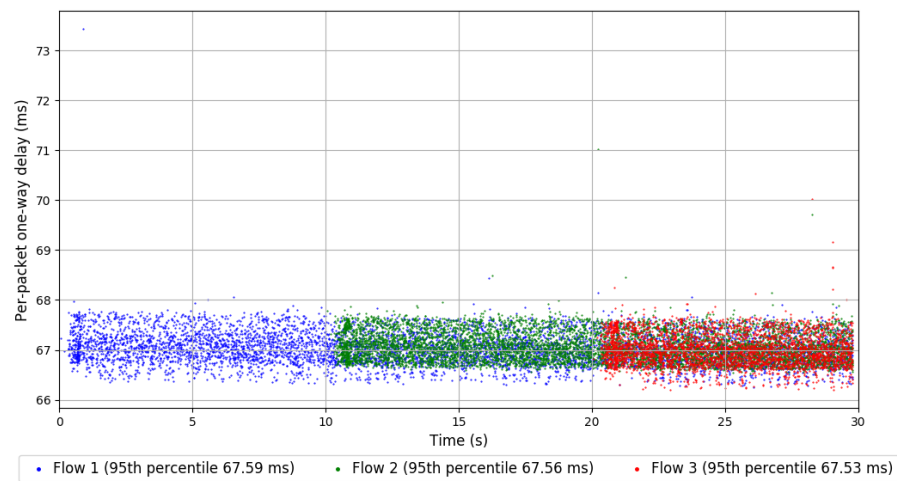
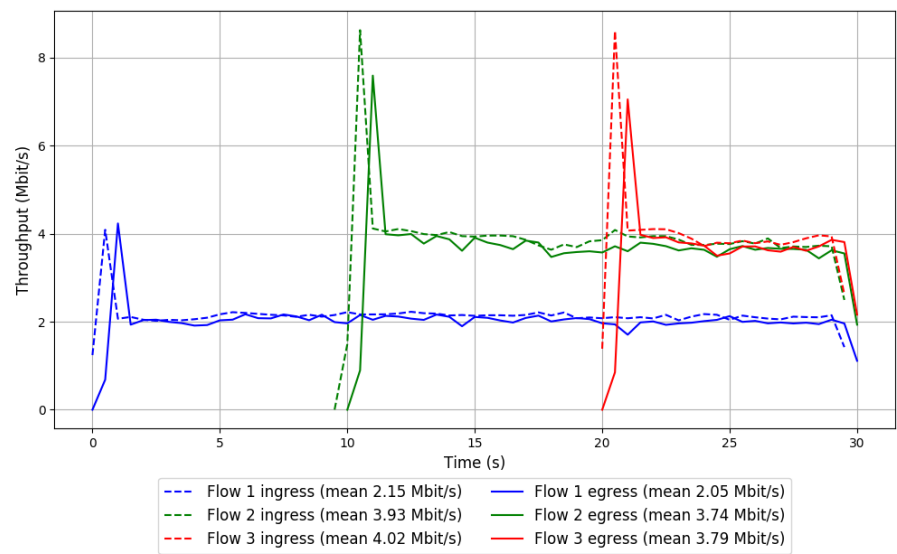


Run 3: Statistics of PCC-Allegro

Start at: 2018-10-02 17:25:15
End at: 2018-10-02 17:25:45
Local clock offset: -12.101 ms
Remote clock offset: 51.482 ms

Below is generated by plot.py at 2018-10-02 18:41:16
Datalink statistics
-- Total of 3 flows:
Average throughput: 5.76 Mbit/s
95th percentile per-packet one-way delay: 67.565 ms
Loss rate: 5.62%
-- Flow 1:
Average throughput: 2.05 Mbit/s
95th percentile per-packet one-way delay: 67.586 ms
Loss rate: 5.06%
-- Flow 2:
Average throughput: 3.74 Mbit/s
95th percentile per-packet one-way delay: 67.563 ms
Loss rate: 5.43%
-- Flow 3:
Average throughput: 3.79 Mbit/s
95th percentile per-packet one-way delay: 67.534 ms
Loss rate: 6.89%

Run 3: Report of PCC-Allegro — Data Link



Run 4: Statistics of PCC-Allegro

Start at: 2018-10-02 17:53:24

End at: 2018-10-02 17:53:54

Local clock offset: -5.774 ms

Remote clock offset: 50.18 ms

Below is generated by plot.py at 2018-10-02 18:41:16

Datalink statistics

-- Total of 3 flows:

Average throughput: 18.06 Mbit/s

95th percentile per-packet one-way delay: 63.598 ms

Loss rate: 40.82%

-- Flow 1:

Average throughput: 13.40 Mbit/s

95th percentile per-packet one-way delay: 67.178 ms

Loss rate: 46.19%

-- Flow 2:

Average throughput: 6.29 Mbit/s

95th percentile per-packet one-way delay: 63.402 ms

Loss rate: 15.35%

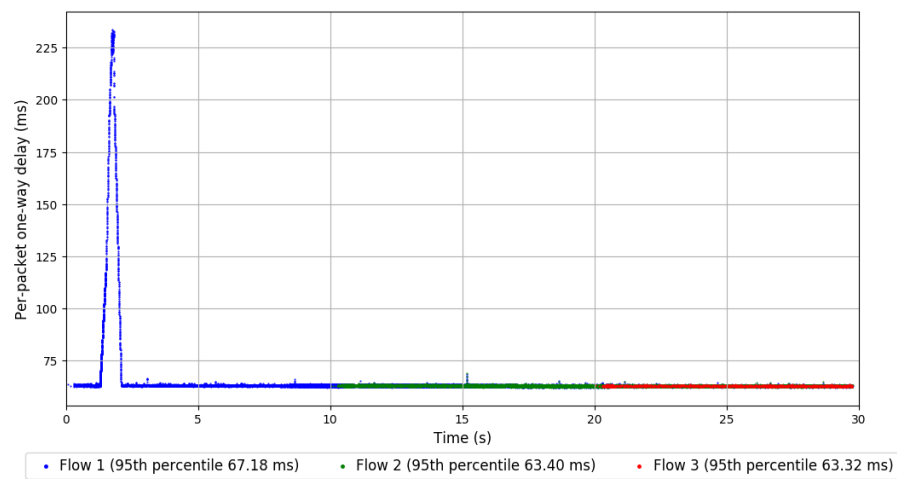
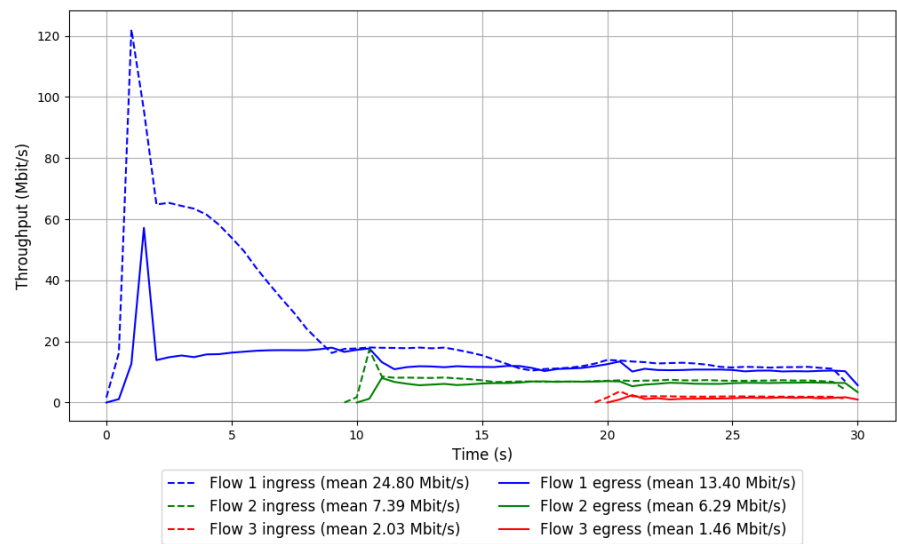
-- Flow 3:

Average throughput: 1.46 Mbit/s

95th percentile per-packet one-way delay: 63.319 ms

Loss rate: 28.89%

Run 4: Report of PCC-Allegro — Data Link

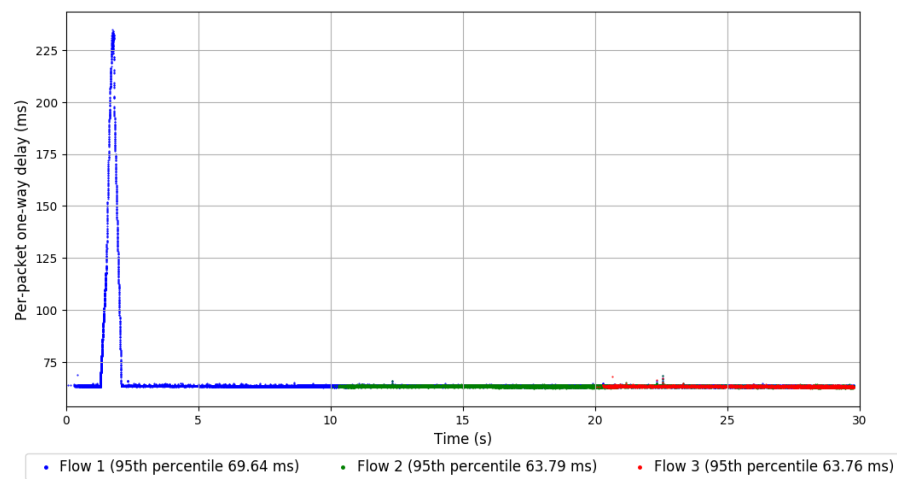
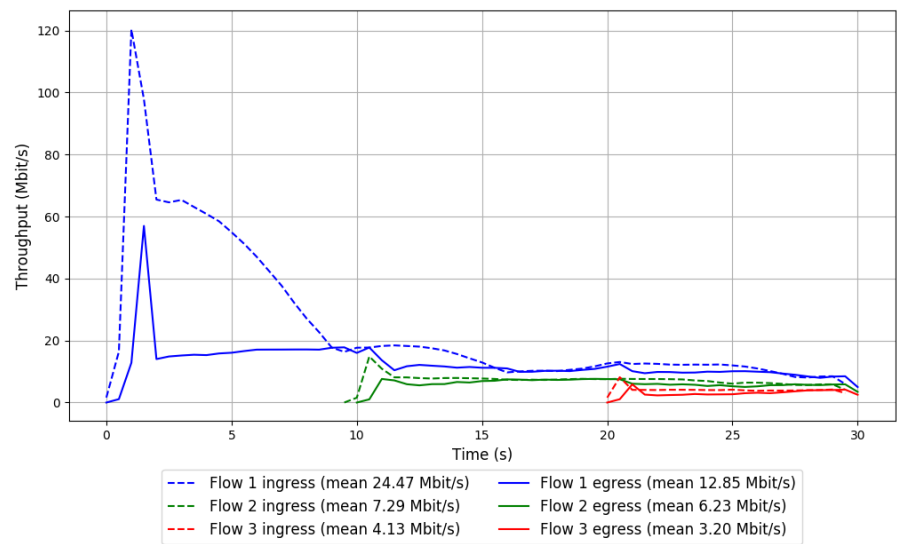


Run 5: Statistics of PCC-Allegro

Start at: 2018-10-02 18:16:21
End at: 2018-10-02 18:16:51
Local clock offset: 1.418 ms
Remote clock offset: 30.032 ms

Below is generated by plot.py at 2018-10-02 18:41:20
Datalink statistics
-- Total of 3 flows:
Average throughput: 18.03 Mbit/s
95th percentile per-packet one-way delay: 63.957 ms
Loss rate: 41.46%
-- Flow 1:
Average throughput: 12.85 Mbit/s
95th percentile per-packet one-way delay: 69.637 ms
Loss rate: 47.69%
-- Flow 2:
Average throughput: 6.23 Mbit/s
95th percentile per-packet one-way delay: 63.789 ms
Loss rate: 15.03%
-- Flow 3:
Average throughput: 3.20 Mbit/s
95th percentile per-packet one-way delay: 63.759 ms
Loss rate: 23.43%

Run 5: Report of PCC-Allegro — Data Link

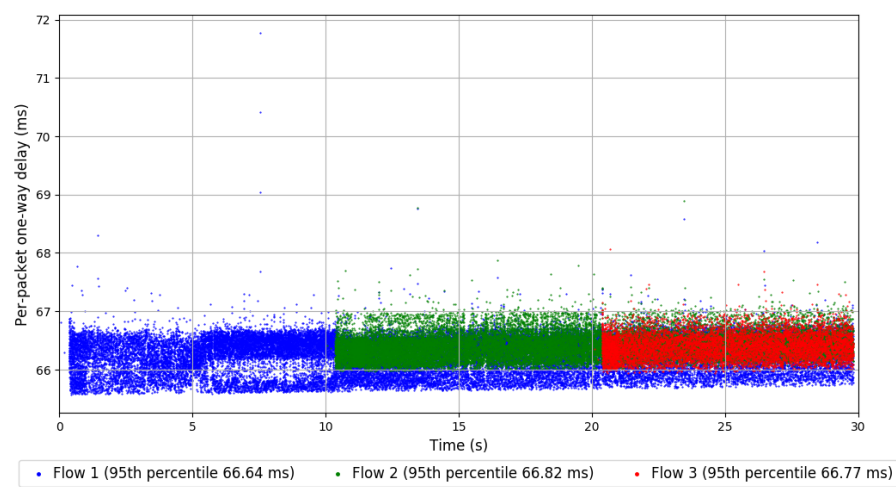
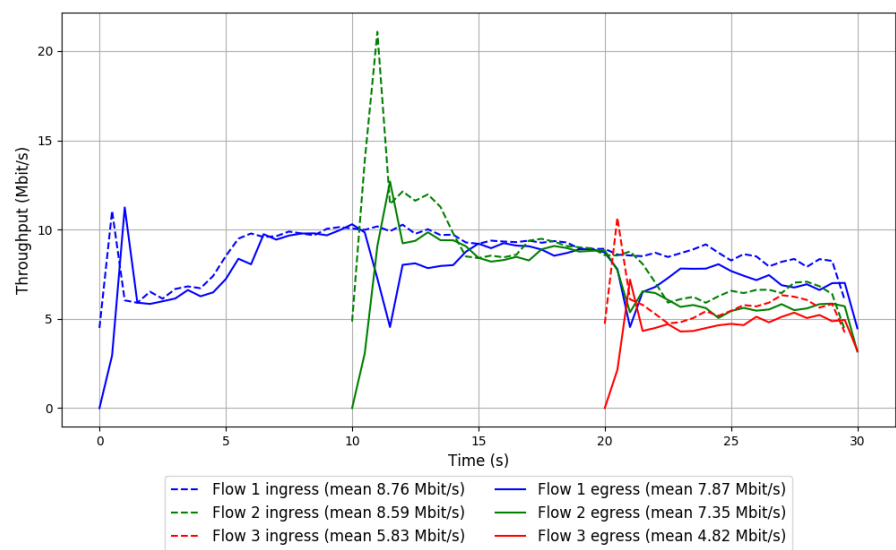


```
Run 1: Statistics of PCC-Expr

Start at: 2018-10-02 16:36:50
End at: 2018-10-02 16:37:20
Local clock offset: -5.782 ms
Remote clock offset: 82.324 ms

# Below is generated by plot.py at 2018-10-02 18:41:28
# Datalink statistics
-- Total of 3 flows:
Average throughput: 14.32 Mbit/s
95th percentile per-packet one-way delay: 66.712 ms
Loss rate: 13.09%
-- Flow 1:
Average throughput: 7.87 Mbit/s
95th percentile per-packet one-way delay: 66.645 ms
Loss rate: 10.58%
-- Flow 2:
Average throughput: 7.35 Mbit/s
95th percentile per-packet one-way delay: 66.824 ms
Loss rate: 15.11%
-- Flow 3:
Average throughput: 4.82 Mbit/s
95th percentile per-packet one-way delay: 66.766 ms
Loss rate: 18.50%
```

Run 1: Report of PCC-Expr — Data Link

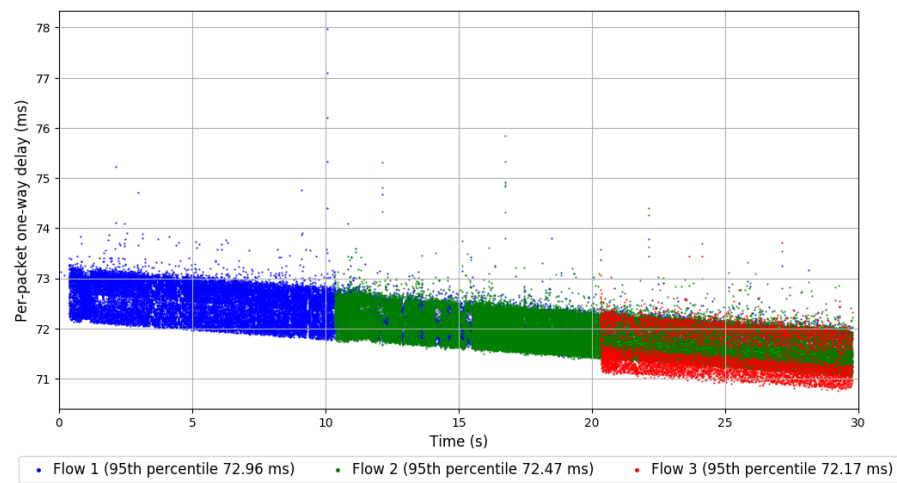
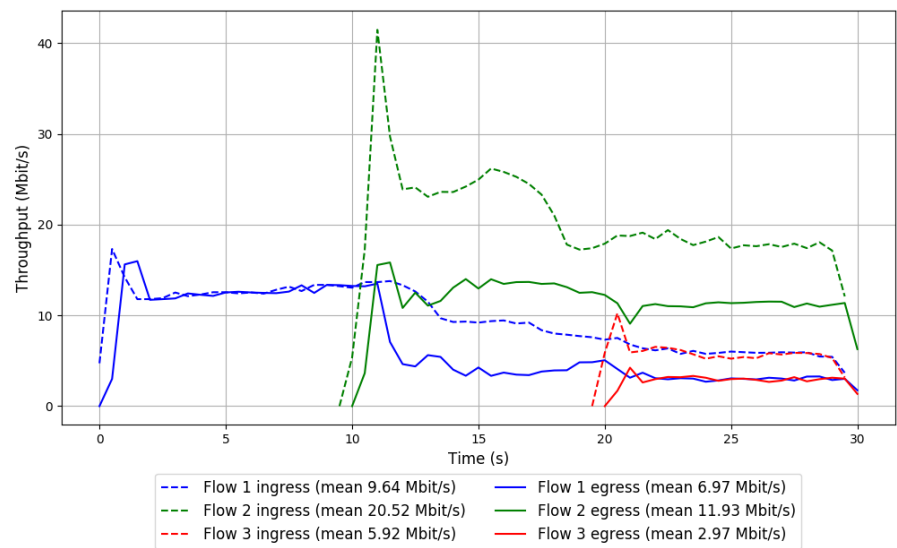


Run 2: Statistics of PCC-Expr

Start at: 2018-10-02 17:00:21
End at: 2018-10-02 17:00:51
Local clock offset: -10.176 ms
Remote clock offset: 68.611 ms

Below is generated by plot.py at 2018-10-02 18:41:42
Datalink statistics
-- Total of 3 flows:
Average throughput: 15.88 Mbit/s
95th percentile per-packet one-way delay: 72.815 ms
Loss rate: 37.47%
-- Flow 1:
Average throughput: 6.97 Mbit/s
95th percentile per-packet one-way delay: 72.957 ms
Loss rate: 28.02%
-- Flow 2:
Average throughput: 11.93 Mbit/s
95th percentile per-packet one-way delay: 72.467 ms
Loss rate: 42.28%
-- Flow 3:
Average throughput: 2.97 Mbit/s
95th percentile per-packet one-way delay: 72.172 ms
Loss rate: 50.47%

Run 2: Report of PCC-Expr — Data Link

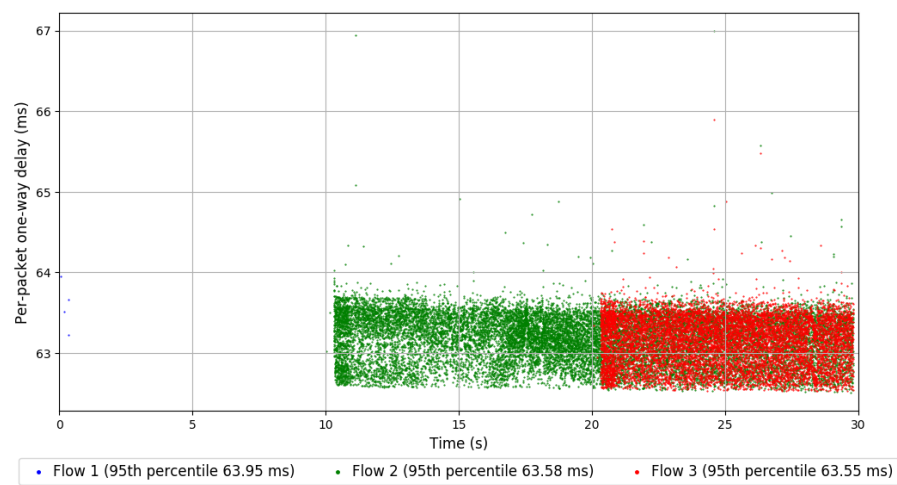
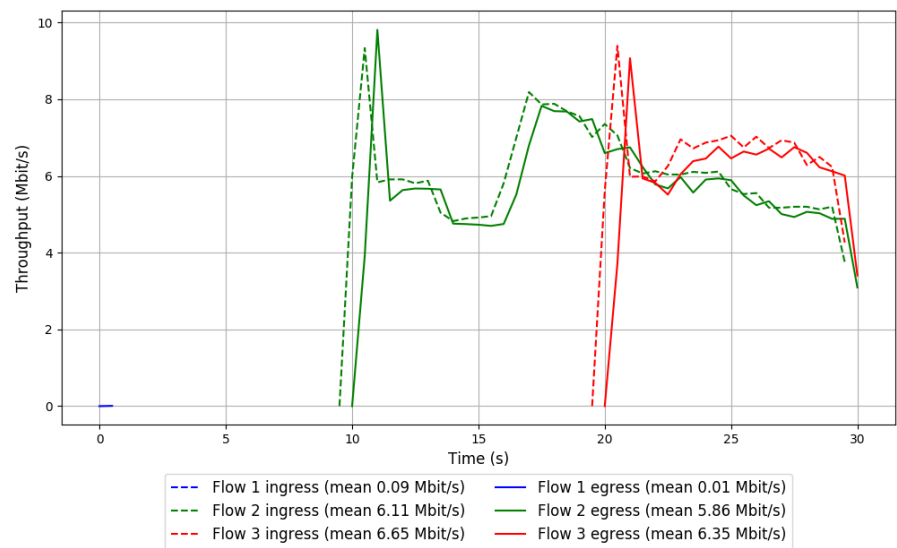


Run 3: Statistics of PCC-Expr

Start at: 2018-10-02 17:27:54
End at: 2018-10-02 17:28:24
Local clock offset: -12.336 ms
Remote clock offset: 54.228 ms

Below is generated by plot.py at 2018-10-02 18:41:42
Datalink statistics
-- Total of 3 flows:
Average throughput: 5.97 Mbit/s
95th percentile per-packet one-way delay: 63.569 ms
Loss rate: 5.03%
-- Flow 1:
Average throughput: 0.01 Mbit/s
95th percentile per-packet one-way delay: 63.945 ms
Loss rate: 86.98%
-- Flow 2:
Average throughput: 5.86 Mbit/s
95th percentile per-packet one-way delay: 63.577 ms
Loss rate: 4.63%
-- Flow 3:
Average throughput: 6.35 Mbit/s
95th percentile per-packet one-way delay: 63.546 ms
Loss rate: 5.73%

Run 3: Report of PCC-Expr — Data Link

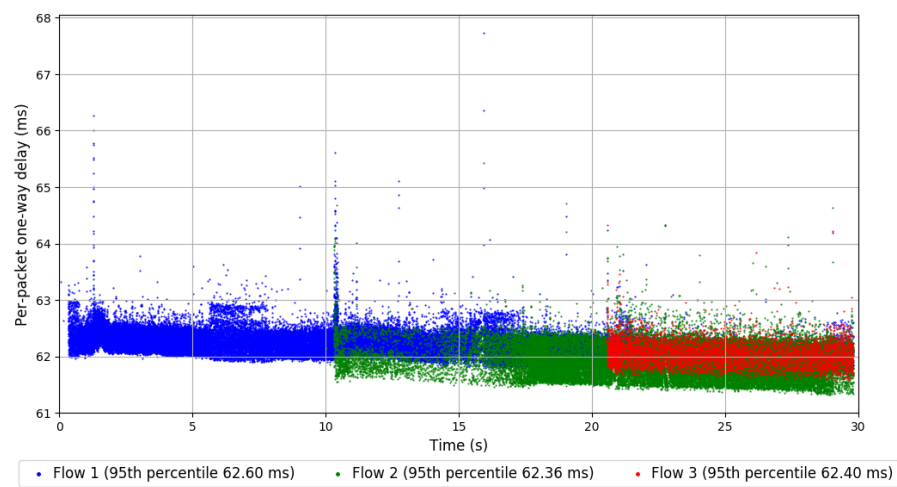
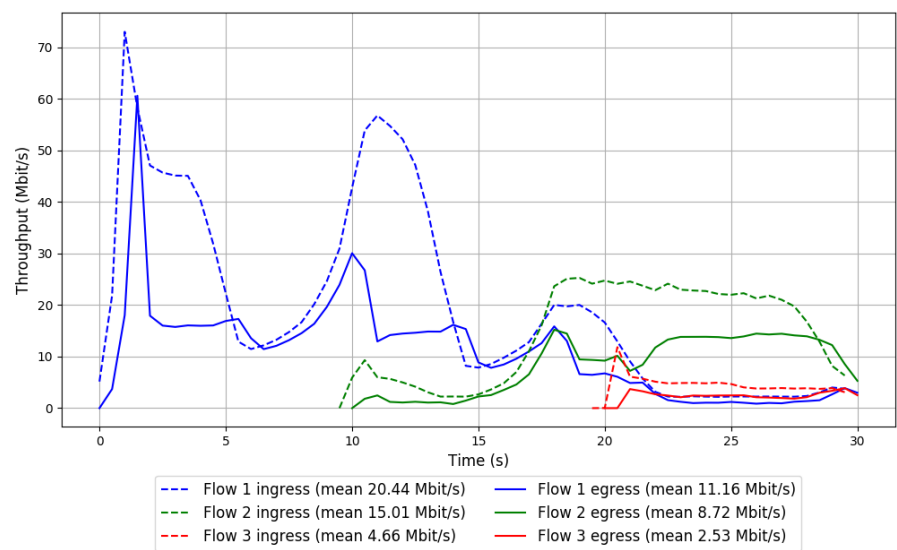


Run 4: Statistics of PCC-Expr

Start at: 2018-10-02 17:55:54
End at: 2018-10-02 17:56:24
Local clock offset: -4.382 ms
Remote clock offset: 50.397 ms

Below is generated by plot.py at 2018-10-02 18:42:00
Datalink statistics
-- Total of 3 flows:
Average throughput: 17.78 Mbit/s
95th percentile per-packet one-way delay: 62.549 ms
Loss rate: 44.59%
-- Flow 1:
Average throughput: 11.16 Mbit/s
95th percentile per-packet one-way delay: 62.601 ms
Loss rate: 45.60%
-- Flow 2:
Average throughput: 8.72 Mbit/s
95th percentile per-packet one-way delay: 62.356 ms
Loss rate: 42.28%
-- Flow 3:
Average throughput: 2.53 Mbit/s
95th percentile per-packet one-way delay: 62.396 ms
Loss rate: 46.24%

Run 4: Report of PCC-Expr — Data Link

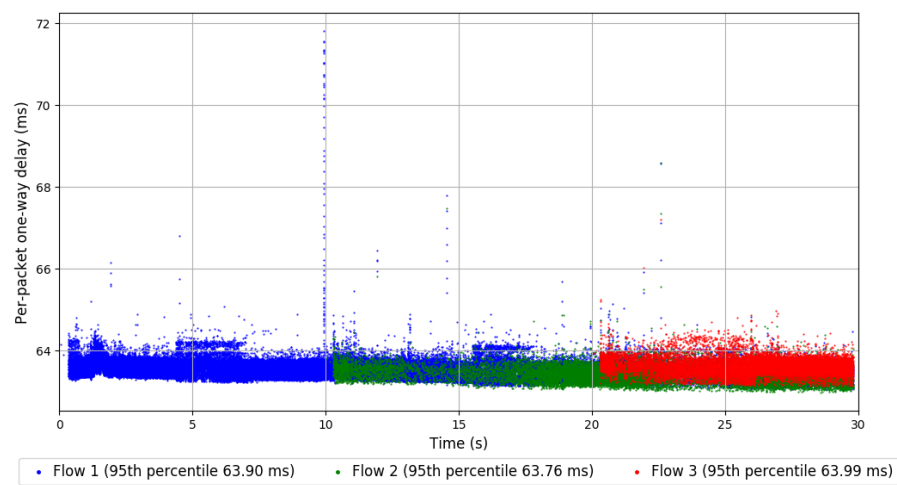
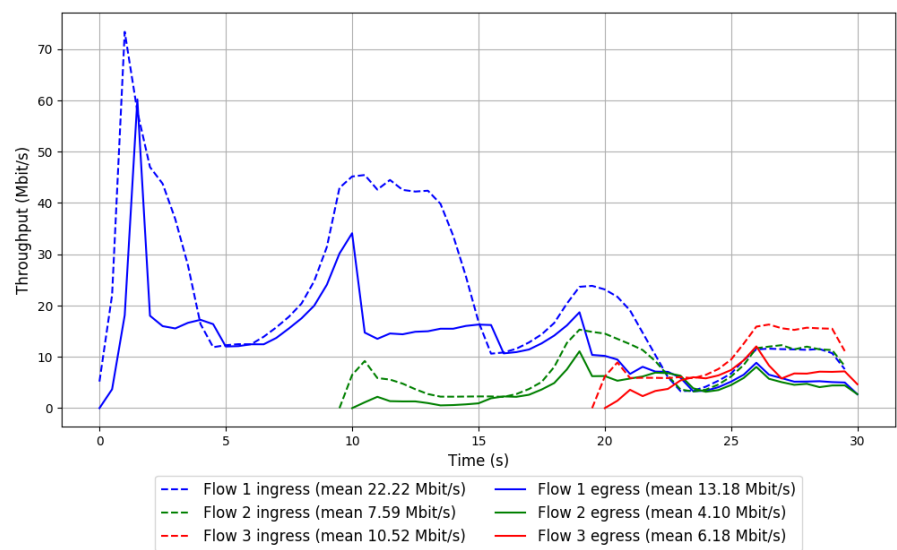


Run 5: Statistics of PCC-Expr

Start at: 2018-10-02 18:18:51
End at: 2018-10-02 18:19:21
Local clock offset: 0.396 ms
Remote clock offset: 27.469 ms

Below is generated by plot.py at 2018-10-02 18:42:00
Datalink statistics
-- Total of 3 flows:
Average throughput: 17.93 Mbit/s
95th percentile per-packet one-way delay: 63.898 ms
Loss rate: 41.92%
-- Flow 1:
Average throughput: 13.18 Mbit/s
95th percentile per-packet one-way delay: 63.904 ms
Loss rate: 40.91%
-- Flow 2:
Average throughput: 4.10 Mbit/s
95th percentile per-packet one-way delay: 63.762 ms
Loss rate: 46.33%
-- Flow 3:
Average throughput: 6.18 Mbit/s
95th percentile per-packet one-way delay: 63.992 ms
Loss rate: 41.94%

Run 5: Report of PCC-Expr — Data Link

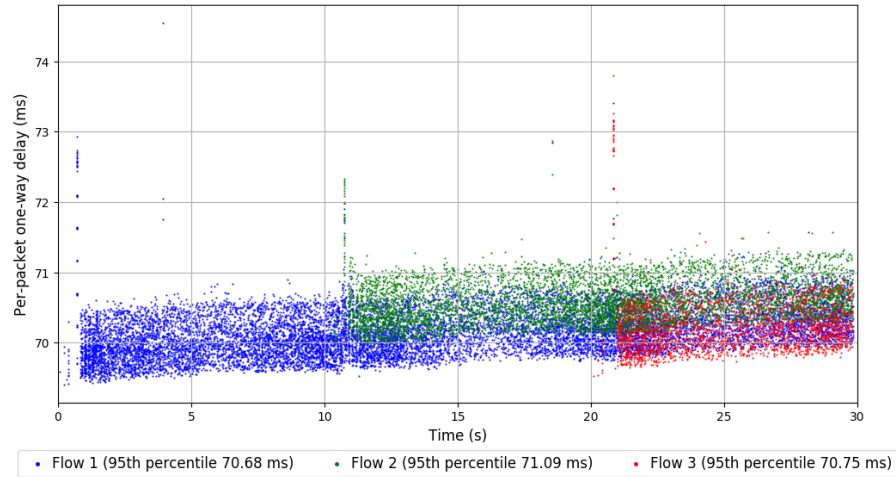
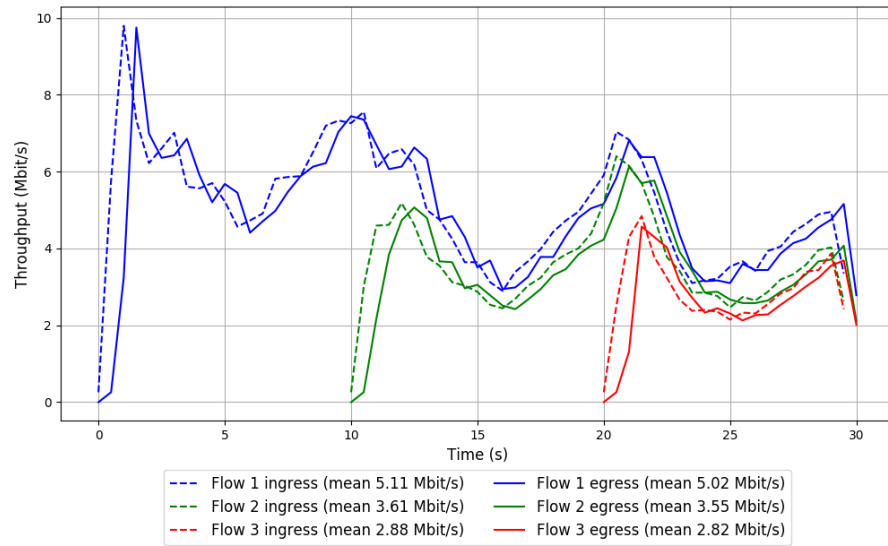


Run 1: Statistics of QUIC Cubic

Start at: 2018-10-02 16:48:25
End at: 2018-10-02 16:48:55
Local clock offset: -6.787 ms
Remote clock offset: 84.828 ms

Below is generated by plot.py at 2018-10-02 18:42:00
Datalink statistics
-- Total of 3 flows:
Average throughput: 8.30 Mbit/s
95th percentile per-packet one-way delay: 70.918 ms
Loss rate: 2.50%
-- Flow 1:
Average throughput: 5.02 Mbit/s
95th percentile per-packet one-way delay: 70.680 ms
Loss rate: 2.29%
-- Flow 2:
Average throughput: 3.55 Mbit/s
95th percentile per-packet one-way delay: 71.095 ms
Loss rate: 2.45%
-- Flow 3:
Average throughput: 2.82 Mbit/s
95th percentile per-packet one-way delay: 70.745 ms
Loss rate: 3.69%

Run 1: Report of QUIC Cubic — Data Link

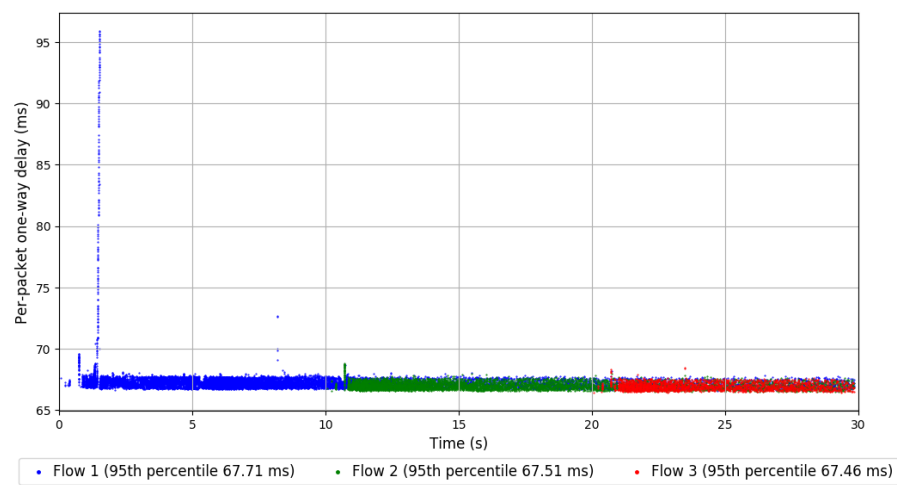
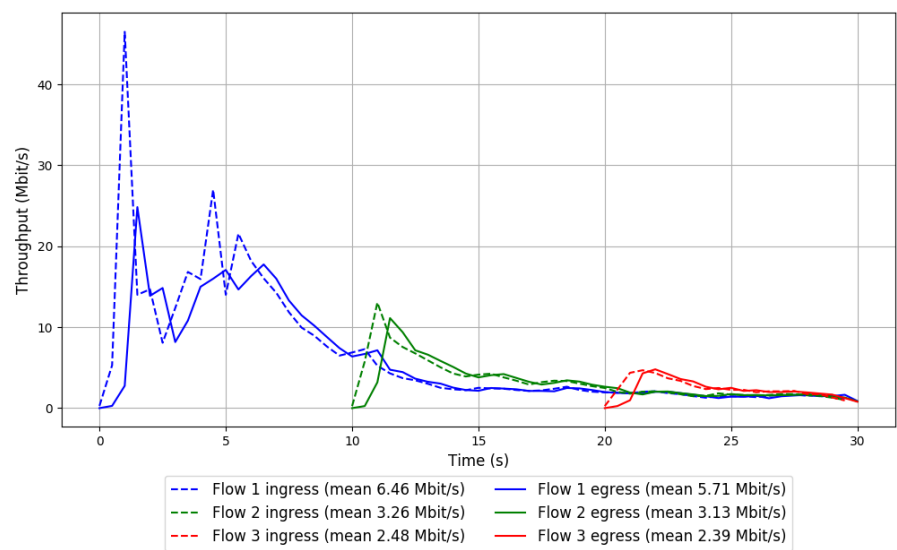


Run 2: Statistics of QUIC Cubic

Start at: 2018-10-02 17:12:25
End at: 2018-10-02 17:12:55
Local clock offset: -11.503 ms
Remote clock offset: 57.261 ms

Below is generated by plot.py at 2018-10-02 18:42:00
Datalink statistics
-- Total of 3 flows:
Average throughput: 8.57 Mbit/s
95th percentile per-packet one-way delay: 67.673 ms
Loss rate: 9.70%
-- Flow 1:
Average throughput: 5.71 Mbit/s
95th percentile per-packet one-way delay: 67.708 ms
Loss rate: 12.04%
-- Flow 2:
Average throughput: 3.13 Mbit/s
95th percentile per-packet one-way delay: 67.509 ms
Loss rate: 4.62%
-- Flow 3:
Average throughput: 2.39 Mbit/s
95th percentile per-packet one-way delay: 67.458 ms
Loss rate: 4.70%

Run 2: Report of QUIC Cubic — Data Link

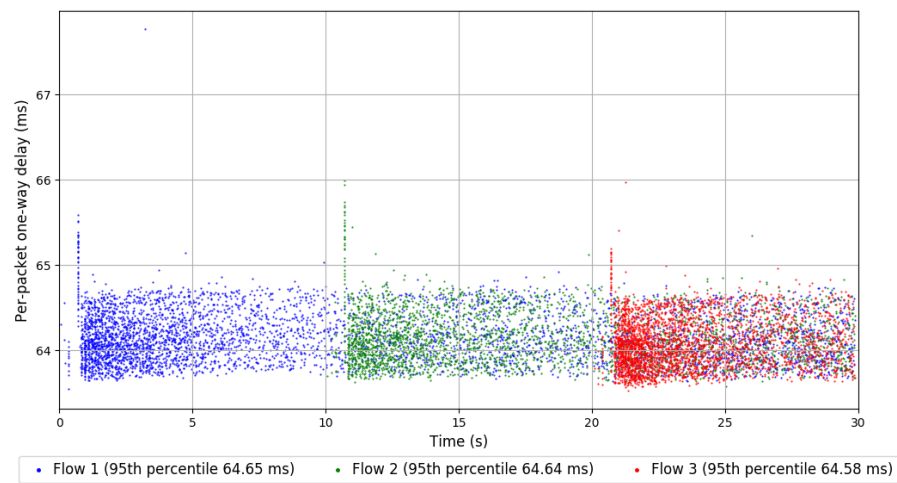
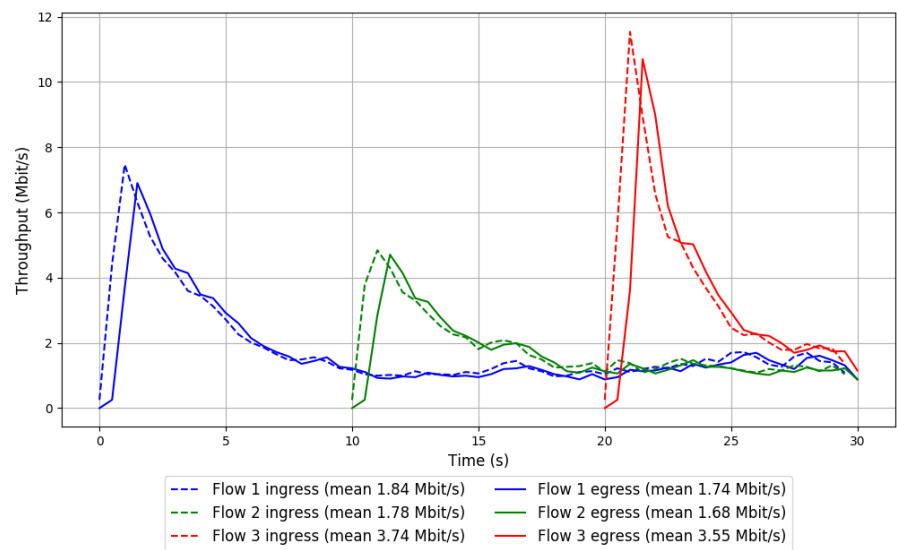


Run 3: Statistics of QUIC Cubic

Start at: 2018-10-02 17:41:35
End at: 2018-10-02 17:42:05
Local clock offset: -12.884 ms
Remote clock offset: 51.695 ms

Below is generated by plot.py at 2018-10-02 18:42:00
Datalink statistics
-- Total of 3 flows:
Average throughput: 4.02 Mbit/s
95th percentile per-packet one-way delay: 64.628 ms
Loss rate: 6.00%
-- Flow 1:
Average throughput: 1.74 Mbit/s
95th percentile per-packet one-way delay: 64.647 ms
Loss rate: 5.78%
-- Flow 2:
Average throughput: 1.68 Mbit/s
95th percentile per-packet one-way delay: 64.643 ms
Loss rate: 6.11%
-- Flow 3:
Average throughput: 3.55 Mbit/s
95th percentile per-packet one-way delay: 64.578 ms
Loss rate: 6.21%

Run 3: Report of QUIC Cubic — Data Link

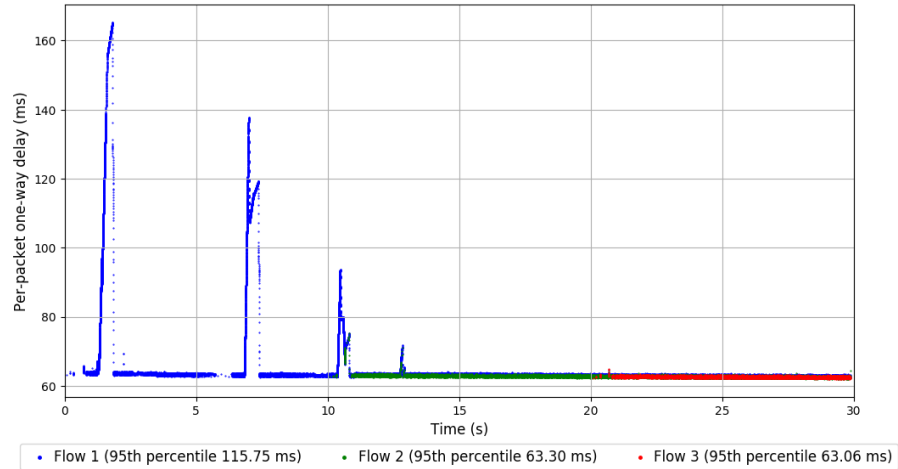
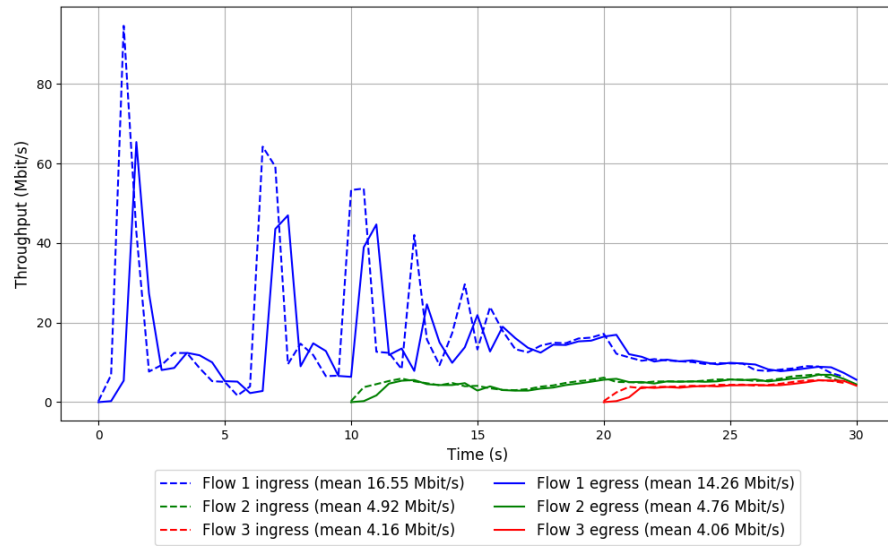


Run 4: Statistics of QUIC Cubic

Start at: 2018-10-02 18:07:10
End at: 2018-10-02 18:07:40
Local clock offset: 0.026 ms
Remote clock offset: 41.591 ms

Below is generated by plot.py at 2018-10-02 18:42:00
Datalink statistics
-- Total of 3 flows:
Average throughput: 18.76 Mbit/s
95th percentile per-packet one-way delay: 113.350 ms
Loss rate: 11.86%
-- Flow 1:
Average throughput: 14.26 Mbit/s
95th percentile per-packet one-way delay: 115.747 ms
Loss rate: 14.15%
-- Flow 2:
Average throughput: 4.76 Mbit/s
95th percentile per-packet one-way delay: 63.303 ms
Loss rate: 3.84%
-- Flow 3:
Average throughput: 4.06 Mbit/s
95th percentile per-packet one-way delay: 63.063 ms
Loss rate: 3.38%

Run 4: Report of QUIC Cubic — Data Link

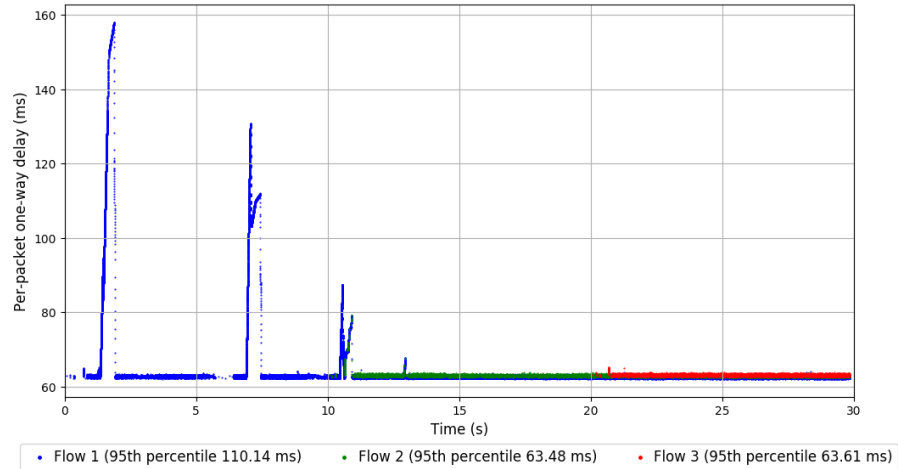
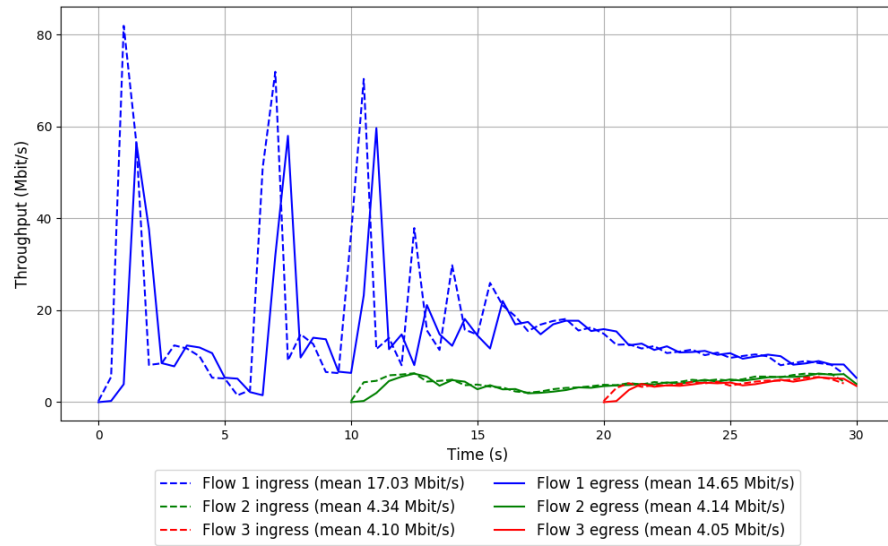


Run 5: Statistics of QUIC Cubic

Start at: 2018-10-02 18:30:28
End at: 2018-10-02 18:30:58
Local clock offset: -1.482 ms
Remote clock offset: 20.081 ms

Below is generated by plot.py at 2018-10-02 18:42:00
Datalink statistics
-- Total of 3 flows:
Average throughput: 18.73 Mbit/s
95th percentile per-packet one-way delay: 108.043 ms
Loss rate: 12.30%
-- Flow 1:
Average throughput: 14.65 Mbit/s
95th percentile per-packet one-way delay: 110.139 ms
Loss rate: 14.33%
-- Flow 2:
Average throughput: 4.14 Mbit/s
95th percentile per-packet one-way delay: 63.478 ms
Loss rate: 4.99%
-- Flow 3:
Average throughput: 4.05 Mbit/s
95th percentile per-packet one-way delay: 63.613 ms
Loss rate: 2.37%

Run 5: Report of QUIC Cubic — Data Link

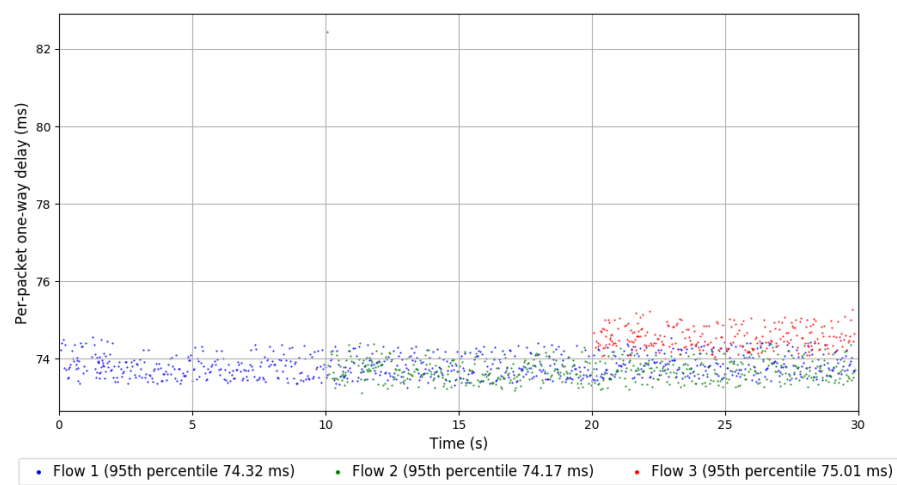
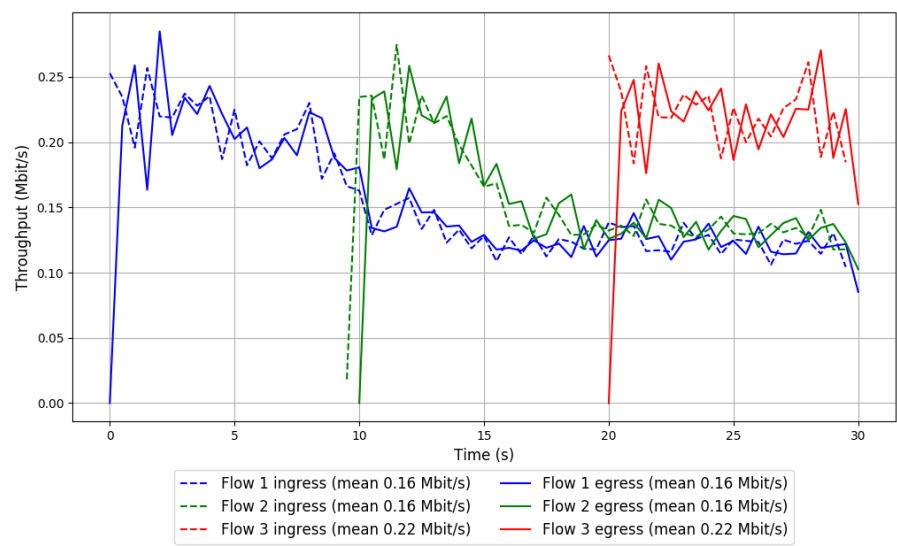


```
Run 1: Statistics of SCReAM

Start at: 2018-10-02 16:44:37
End at: 2018-10-02 16:45:07
Local clock offset: -5.482 ms
Remote clock offset: 78.401 ms

# Below is generated by plot.py at 2018-10-02 18:42:00
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.33 Mbit/s
95th percentile per-packet one-way delay: 74.719 ms
Loss rate: 0.99%
-- Flow 1:
Average throughput: 0.16 Mbit/s
95th percentile per-packet one-way delay: 74.323 ms
Loss rate: 0.87%
-- Flow 2:
Average throughput: 0.16 Mbit/s
95th percentile per-packet one-way delay: 74.173 ms
Loss rate: 0.83%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 75.009 ms
Loss rate: 1.45%
```

Run 1: Report of SReAM — Data Link

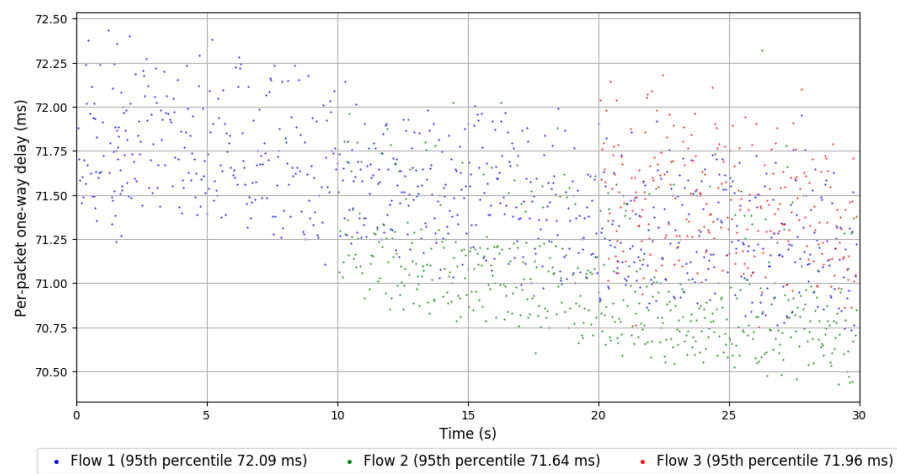
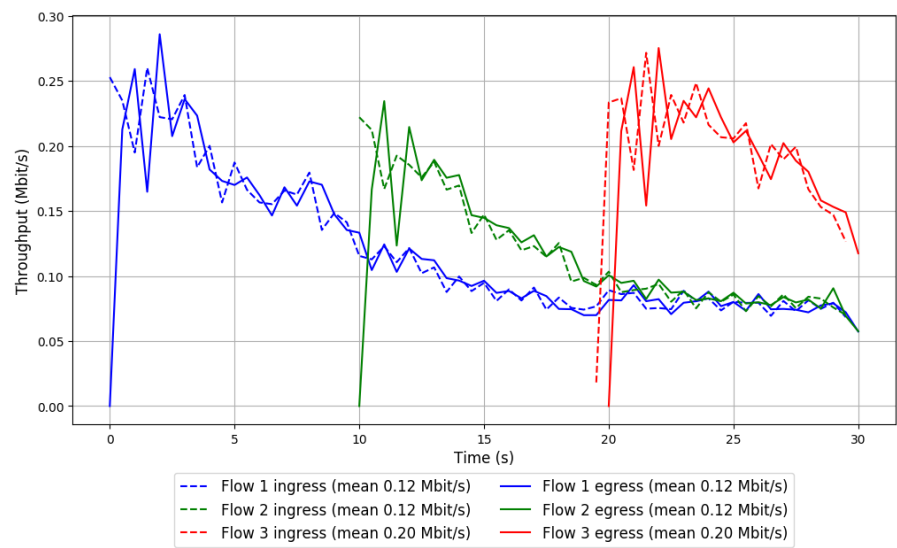


Run 2: Statistics of SReAM

Start at: 2018-10-02 17:08:10
End at: 2018-10-02 17:08:40
Local clock offset: -10.855 ms
Remote clock offset: 56.837 ms

Below is generated by plot.py at 2018-10-02 18:42:00
Datalink statistics
-- Total of 3 flows:
Average throughput: 0.26 Mbit/s
95th percentile per-packet one-way delay: 71.980 ms
Loss rate: 1.91%
-- Flow 1:
Average throughput: 0.12 Mbit/s
95th percentile per-packet one-way delay: 72.092 ms
Loss rate: 1.85%
-- Flow 2:
Average throughput: 0.12 Mbit/s
95th percentile per-packet one-way delay: 71.637 ms
Loss rate: 1.86%
-- Flow 3:
Average throughput: 0.20 Mbit/s
95th percentile per-packet one-way delay: 71.957 ms
Loss rate: 2.07%

Run 2: Report of SReAM — Data Link

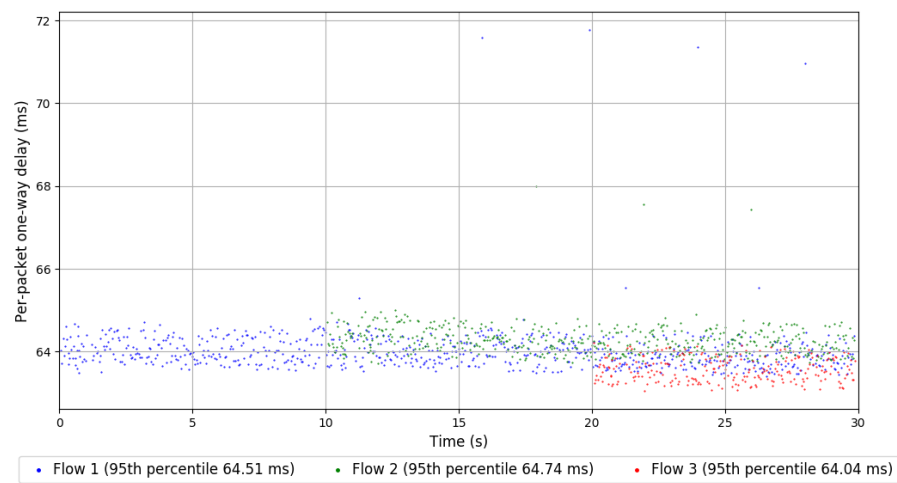
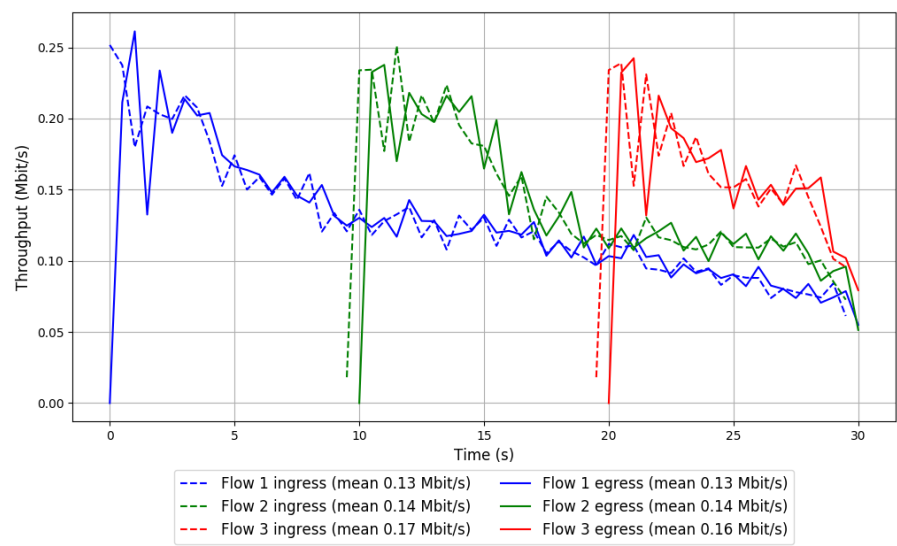


Run 3: Statistics of SCReAM

Start at: 2018-10-02 17:37:38
End at: 2018-10-02 17:38:08
Local clock offset: -12.921 ms
Remote clock offset: 52.206 ms

Below is generated by plot.py at 2018-10-02 18:42:00
Datalink statistics
-- Total of 3 flows:
Average throughput: 0.27 Mbit/s
95th percentile per-packet one-way delay: 64.632 ms
Loss rate: 1.66%
-- Flow 1:
Average throughput: 0.13 Mbit/s
95th percentile per-packet one-way delay: 64.510 ms
Loss rate: 1.21%
-- Flow 2:
Average throughput: 0.14 Mbit/s
95th percentile per-packet one-way delay: 64.743 ms
Loss rate: 1.82%
-- Flow 3:
Average throughput: 0.16 Mbit/s
95th percentile per-packet one-way delay: 64.038 ms
Loss rate: 2.46%

Run 3: Report of SReAM — Data Link

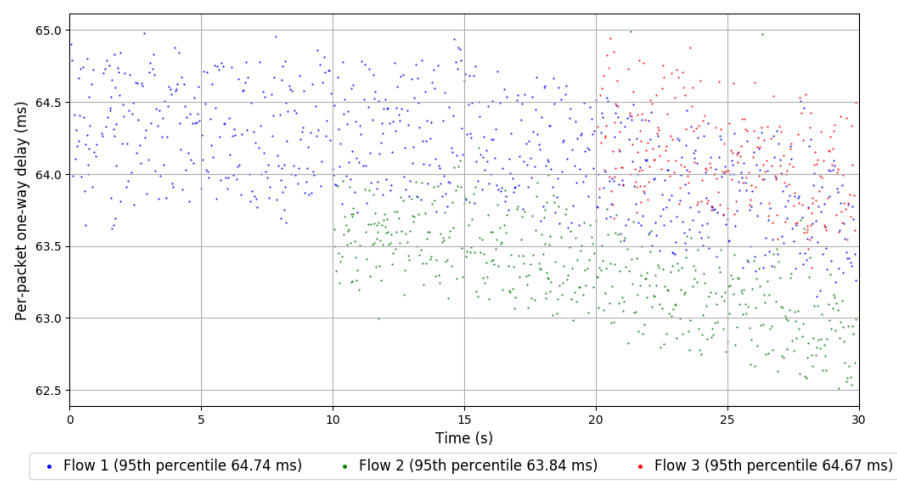
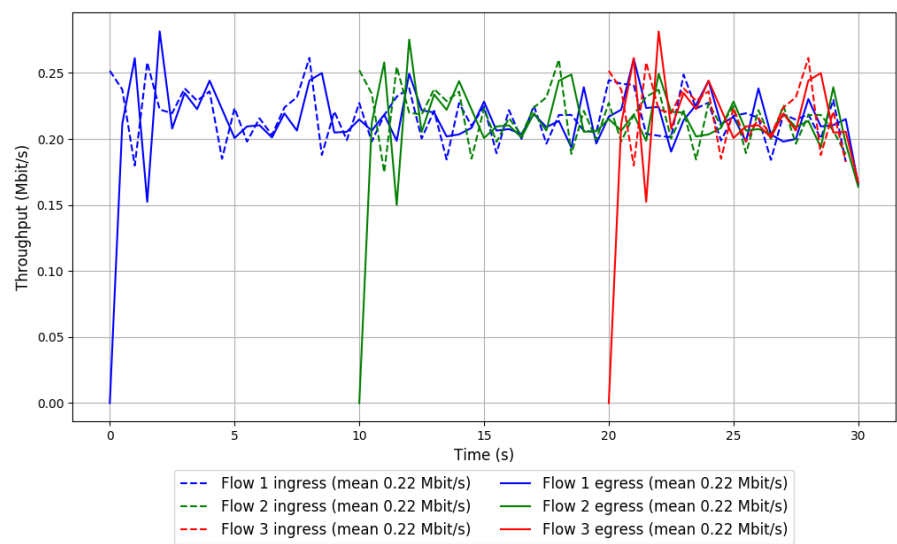


Run 4: Statistics of SReAM

Start at: 2018-10-02 18:03:28
End at: 2018-10-02 18:03:58
Local clock offset: -0.931 ms
Remote clock offset: 48.212 ms

```
# Below is generated by plot.py at 2018-10-02 18:42:00
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.43 Mbit/s
95th percentile per-packet one-way delay: 64.684 ms
Loss rate: 0.57%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 64.740 ms
Loss rate: 0.38%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 63.843 ms
Loss rate: 0.61%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 64.669 ms
Loss rate: 1.08%
```

Run 4: Report of SReAM — Data Link

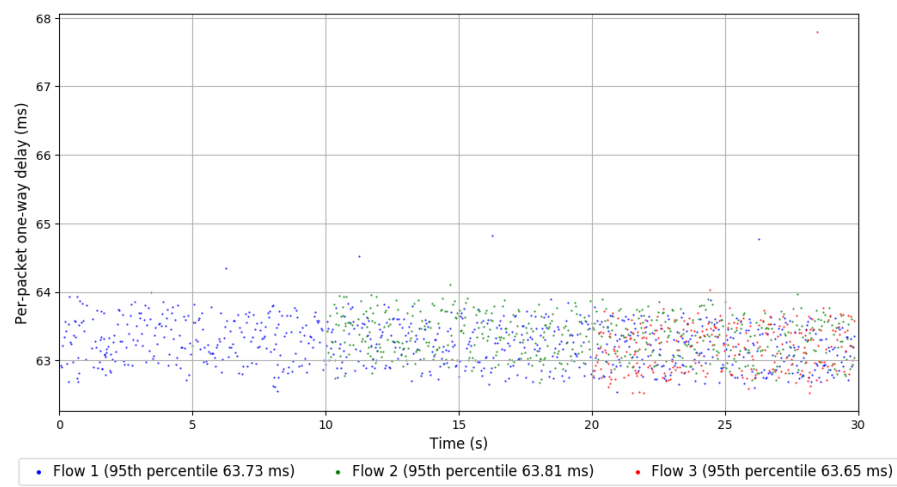
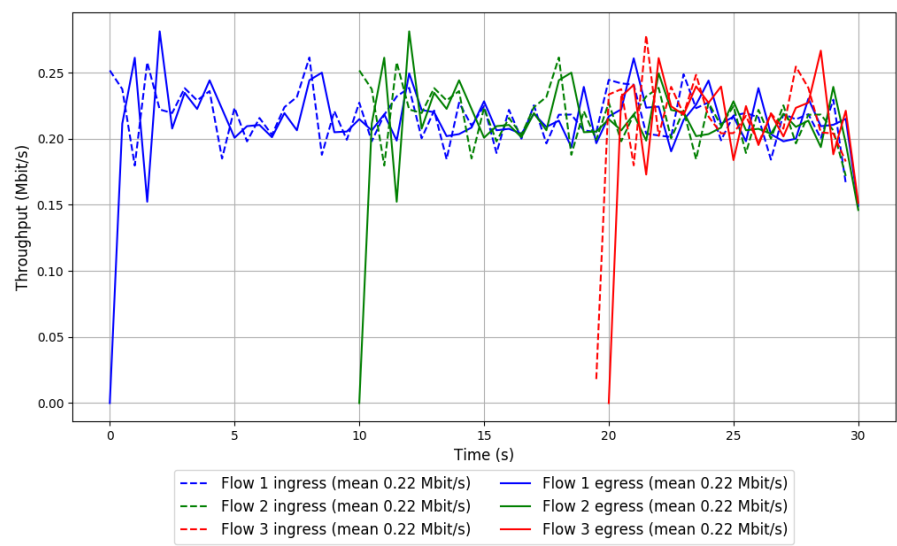


Run 5: Statistics of SReAM

Start at: 2018-10-02 18:26:47
End at: 2018-10-02 18:27:17
Local clock offset: -1.29 ms
Remote clock offset: 22.224 ms

Below is generated by plot.py at 2018-10-02 18:42:00
Datalink statistics
-- Total of 3 flows:
Average throughput: 0.43 Mbit/s
95th percentile per-packet one-way delay: 63.763 ms
Loss rate: 0.58%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 63.729 ms
Loss rate: 0.38%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 63.814 ms
Loss rate: 0.63%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 63.652 ms
Loss rate: 1.08%

Run 5: Report of SReAM — Data Link

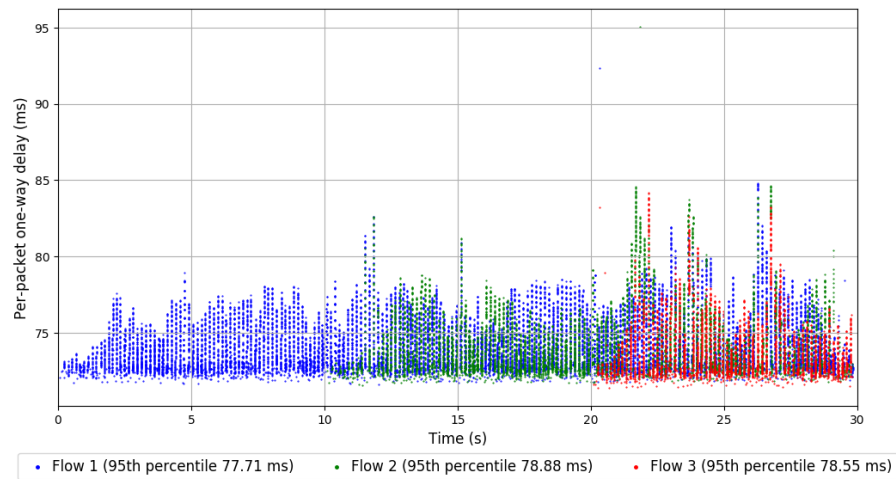
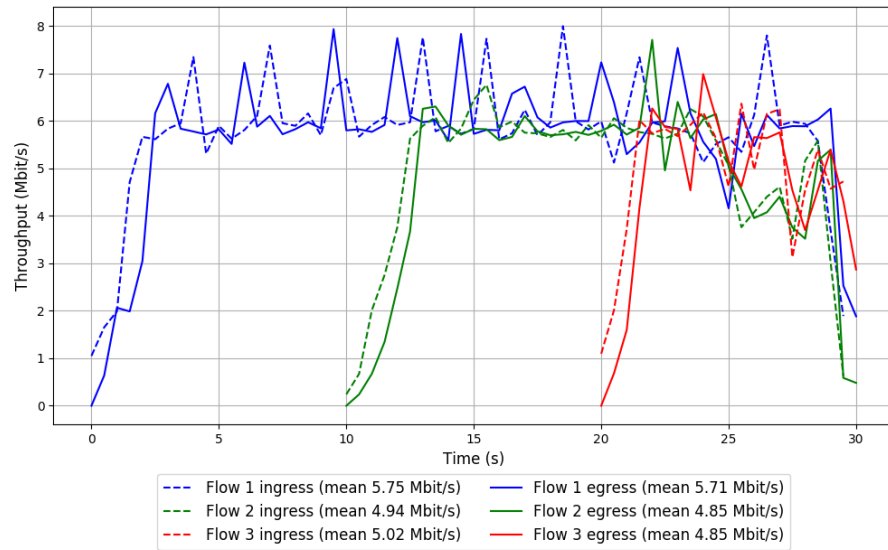


Run 1: Statistics of Sprout

Start at: 2018-10-02 16:40:49
End at: 2018-10-02 16:41:19
Local clock offset: -5.541 ms
Remote clock offset: 78.278 ms

Below is generated by plot.py at 2018-10-02 18:42:00
Datalink statistics
-- Total of 3 flows:
Average throughput: 10.51 Mbit/s
95th percentile per-packet one-way delay: 78.056 ms
Loss rate: 1.94%
-- Flow 1:
Average throughput: 5.71 Mbit/s
95th percentile per-packet one-way delay: 77.712 ms
Loss rate: 0.96%
-- Flow 2:
Average throughput: 4.85 Mbit/s
95th percentile per-packet one-way delay: 78.876 ms
Loss rate: 2.42%
-- Flow 3:
Average throughput: 4.85 Mbit/s
95th percentile per-packet one-way delay: 78.548 ms
Loss rate: 4.41%

Run 1: Report of Sprout — Data Link

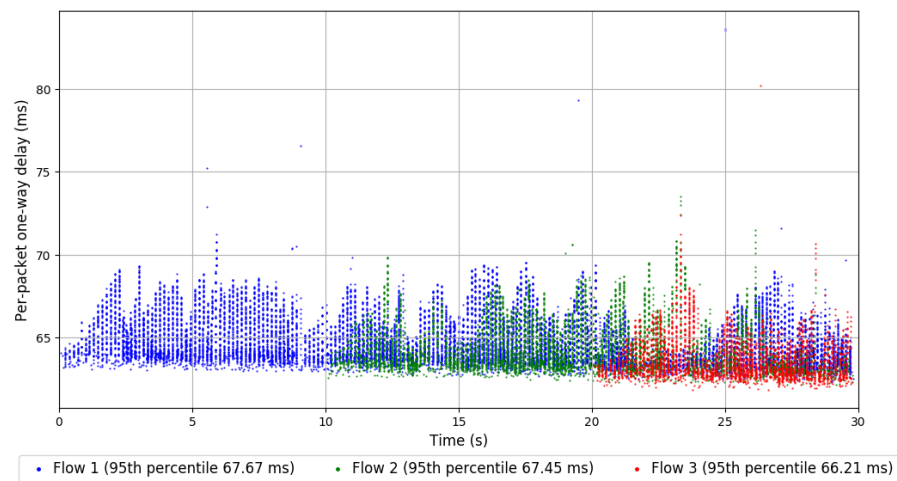
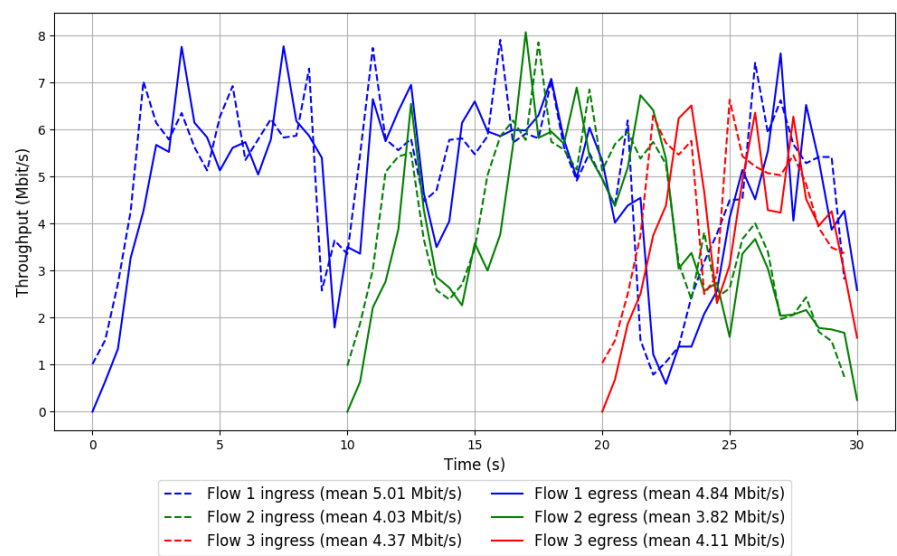


Run 2: Statistics of Sprout

Start at: 2018-10-02 17:04:15
End at: 2018-10-02 17:04:45
Local clock offset: -10.731 ms
Remote clock offset: 70.302 ms

Below is generated by plot.py at 2018-10-02 18:42:00
Datalink statistics
-- Total of 3 flows:
Average throughput: 8.70 Mbit/s
95th percentile per-packet one-way delay: 67.496 ms
Loss rate: 5.07%
-- Flow 1:
Average throughput: 4.84 Mbit/s
95th percentile per-packet one-way delay: 67.666 ms
Loss rate: 3.85%
-- Flow 2:
Average throughput: 3.82 Mbit/s
95th percentile per-packet one-way delay: 67.448 ms
Loss rate: 6.03%
-- Flow 3:
Average throughput: 4.11 Mbit/s
95th percentile per-packet one-way delay: 66.214 ms
Loss rate: 7.55%

Run 2: Report of Sprout — Data Link

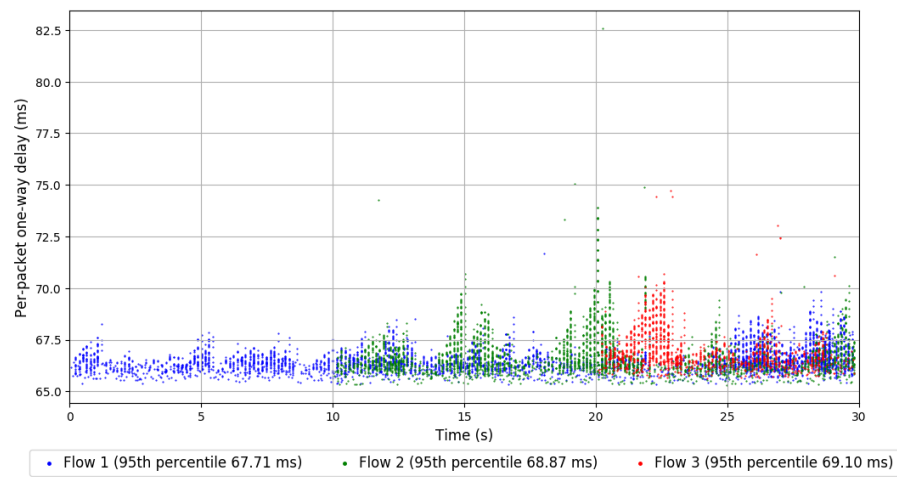
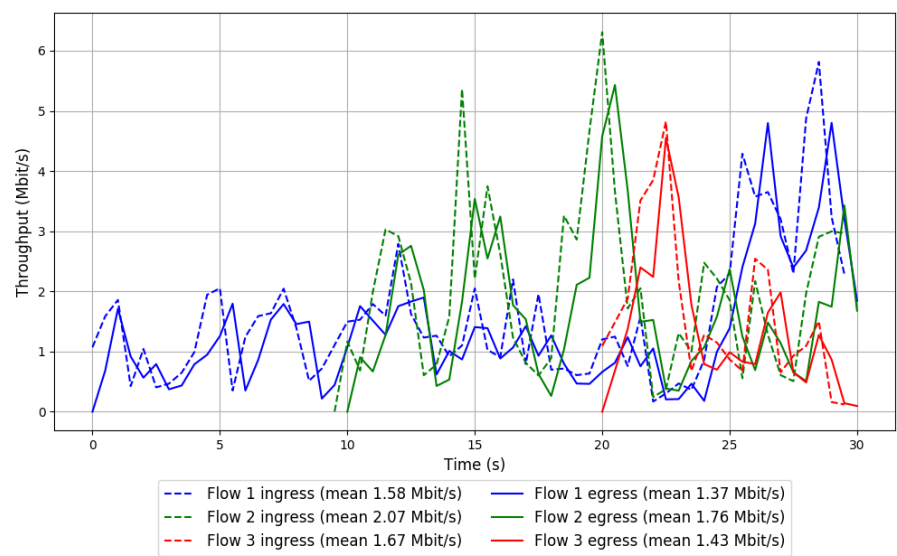


Run 3: Statistics of Sprout

Start at: 2018-10-02 17:33:22
End at: 2018-10-02 17:33:52
Local clock offset: -12.355 ms
Remote clock offset: 51.138 ms

```
# Below is generated by plot.py at 2018-10-02 18:42:00
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.01 Mbit/s
95th percentile per-packet one-way delay: 68.403 ms
Loss rate: 14.59%
-- Flow 1:
Average throughput: 1.37 Mbit/s
95th percentile per-packet one-way delay: 67.706 ms
Loss rate: 13.66%
-- Flow 2:
Average throughput: 1.76 Mbit/s
95th percentile per-packet one-way delay: 68.866 ms
Loss rate: 15.40%
-- Flow 3:
Average throughput: 1.43 Mbit/s
95th percentile per-packet one-way delay: 69.098 ms
Loss rate: 15.20%
```

Run 3: Report of Sprout — Data Link

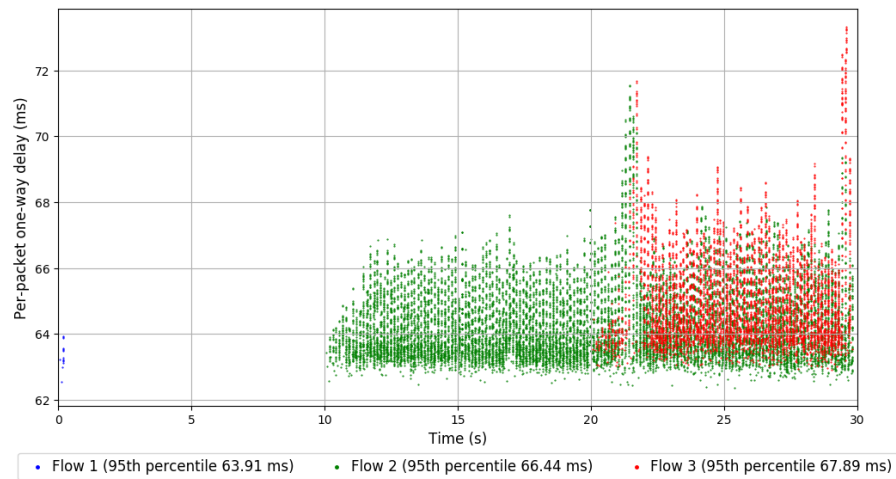
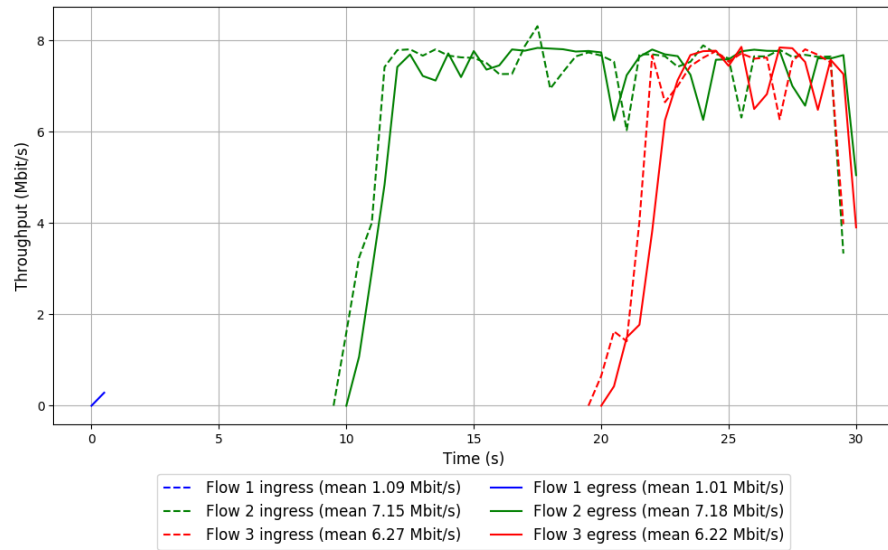


Run 4: Statistics of Sprout

Start at: 2018-10-02 17:59:44
End at: 2018-10-02 18:00:14
Local clock offset: -2.394 ms
Remote clock offset: 49.123 ms

```
# Below is generated by plot.py at 2018-10-02 18:42:00
# Datalink statistics
-- Total of 3 flows:
Average throughput: 6.81 Mbit/s
95th percentile per-packet one-way delay: 66.977 ms
Loss rate: 0.55%
-- Flow 1:
Average throughput: 1.01 Mbit/s
95th percentile per-packet one-way delay: 63.909 ms
Loss rate: 7.72%
-- Flow 2:
Average throughput: 7.18 Mbit/s
95th percentile per-packet one-way delay: 66.444 ms
Loss rate: 0.08%
-- Flow 3:
Average throughput: 6.22 Mbit/s
95th percentile per-packet one-way delay: 67.885 ms
Loss rate: 1.62%
```

Run 4: Report of Sprout — Data Link

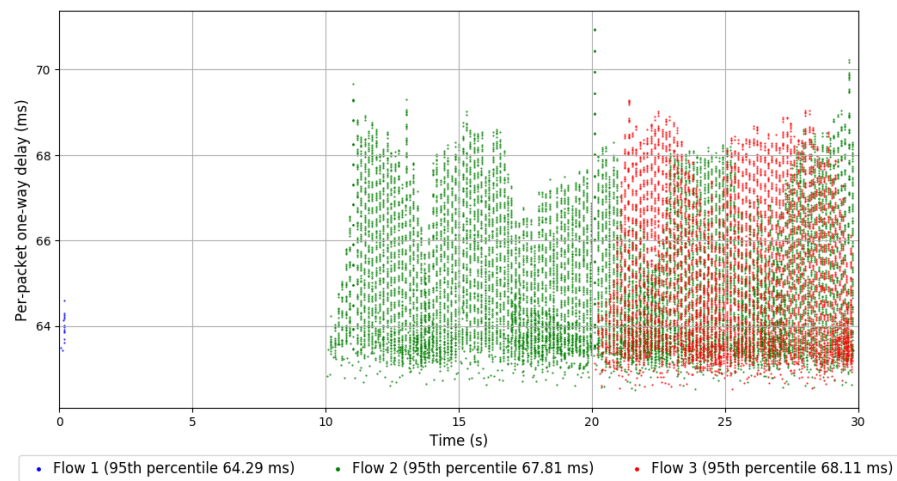
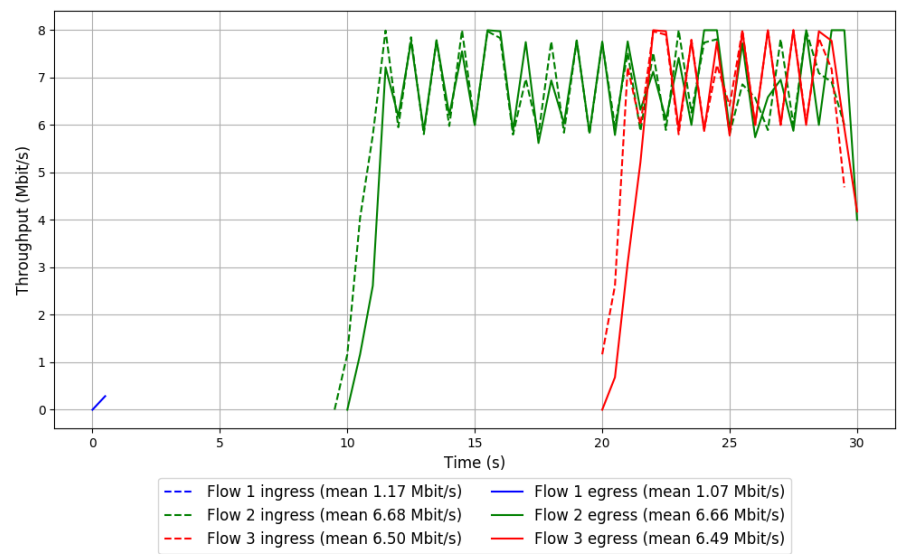


Run 5: Statistics of Sprout

Start at: 2018-10-02 18:22:53
End at: 2018-10-02 18:23:23
Local clock offset: -0.754 ms
Remote clock offset: 24.463 ms

```
# Below is generated by plot.py at 2018-10-02 18:42:00
# Datalink statistics
-- Total of 3 flows:
Average throughput: 6.54 Mbit/s
95th percentile per-packet one-way delay: 67.923 ms
Loss rate: 1.00%
-- Flow 1:
Average throughput: 1.07 Mbit/s
95th percentile per-packet one-way delay: 64.293 ms
Loss rate: 7.72%
-- Flow 2:
Average throughput: 6.66 Mbit/s
95th percentile per-packet one-way delay: 67.810 ms
Loss rate: 0.75%
-- Flow 3:
Average throughput: 6.49 Mbit/s
95th percentile per-packet one-way delay: 68.111 ms
Loss rate: 1.48%
```

Run 5: Report of Sprout — Data Link

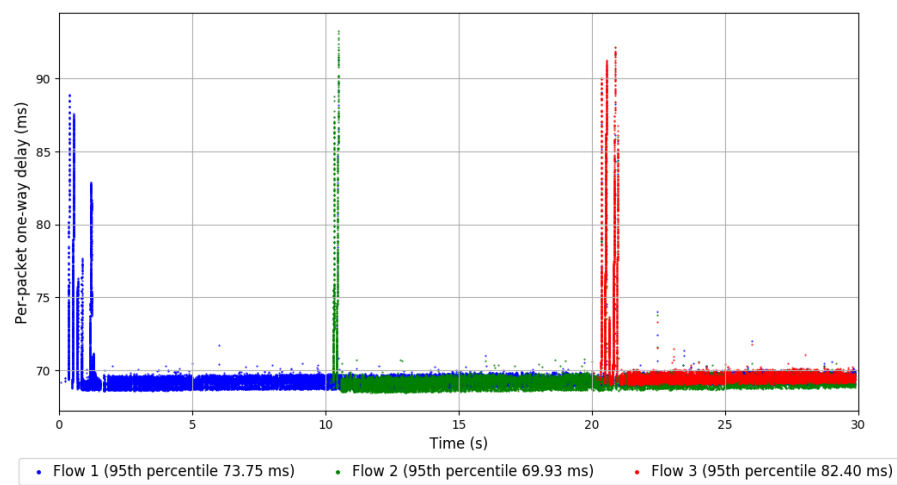
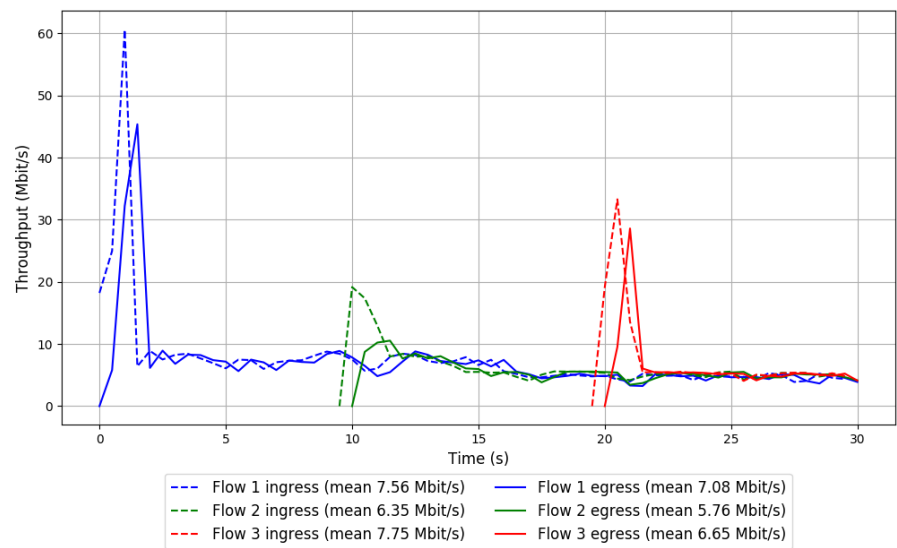


Run 1: Statistics of TaoVA-100x

Start at: 2018-10-02 16:51:07
End at: 2018-10-02 16:51:37
Local clock offset: -7.845 ms
Remote clock offset: 86.686 ms

Below is generated by plot.py at 2018-10-02 18:42:06
Datalink statistics
-- Total of 3 flows:
Average throughput: 13.10 Mbit/s
95th percentile per-packet one-way delay: 75.260 ms
Loss rate: 9.21%
-- Flow 1:
Average throughput: 7.08 Mbit/s
95th percentile per-packet one-way delay: 73.748 ms
Loss rate: 6.71%
-- Flow 2:
Average throughput: 5.76 Mbit/s
95th percentile per-packet one-way delay: 69.929 ms
Loss rate: 9.96%
-- Flow 3:
Average throughput: 6.65 Mbit/s
95th percentile per-packet one-way delay: 82.398 ms
Loss rate: 15.35%

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

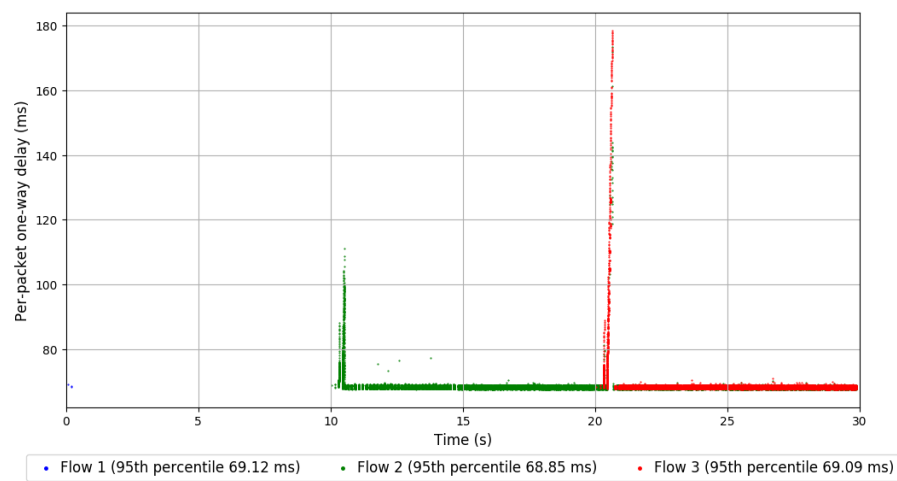
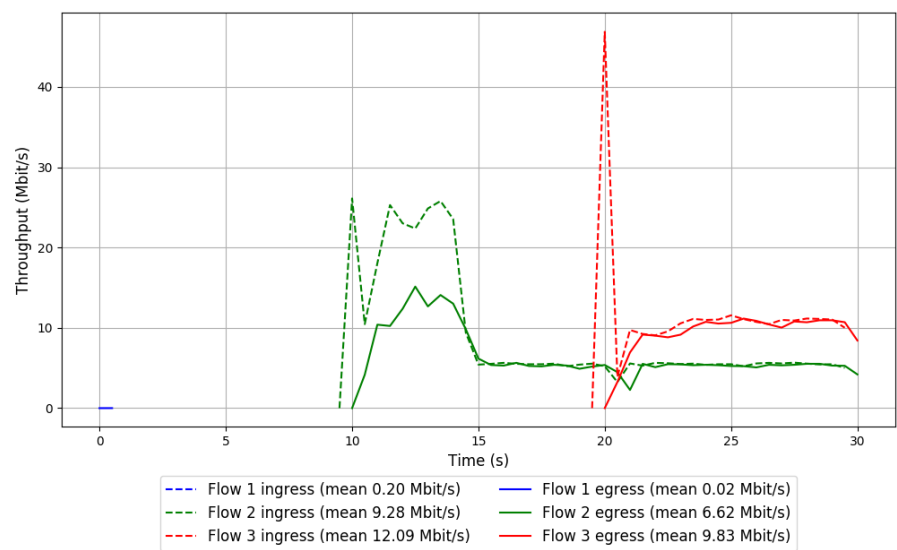


Run 2: Statistics of TaoVA-100x

Start at: 2018-10-02 17:17:27
End at: 2018-10-02 17:17:57
Local clock offset: -11.643 ms
Remote clock offset: 52.855 ms

Below is generated by plot.py at 2018-10-02 18:42:06
Datalink statistics
-- Total of 3 flows:
Average throughput: 7.65 Mbit/s
95th percentile per-packet one-way delay: 68.866 ms
Loss rate: 25.43%
-- Flow 1:
Average throughput: 0.02 Mbit/s
95th percentile per-packet one-way delay: 69.119 ms
Loss rate: 92.12%
-- Flow 2:
Average throughput: 6.62 Mbit/s
95th percentile per-packet one-way delay: 68.850 ms
Loss rate: 29.09%
-- Flow 3:
Average throughput: 9.83 Mbit/s
95th percentile per-packet one-way delay: 69.089 ms
Loss rate: 19.78%

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

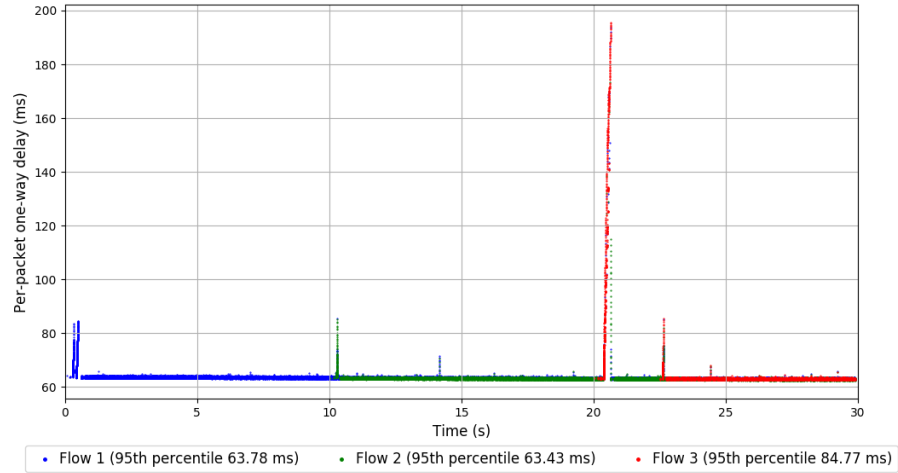
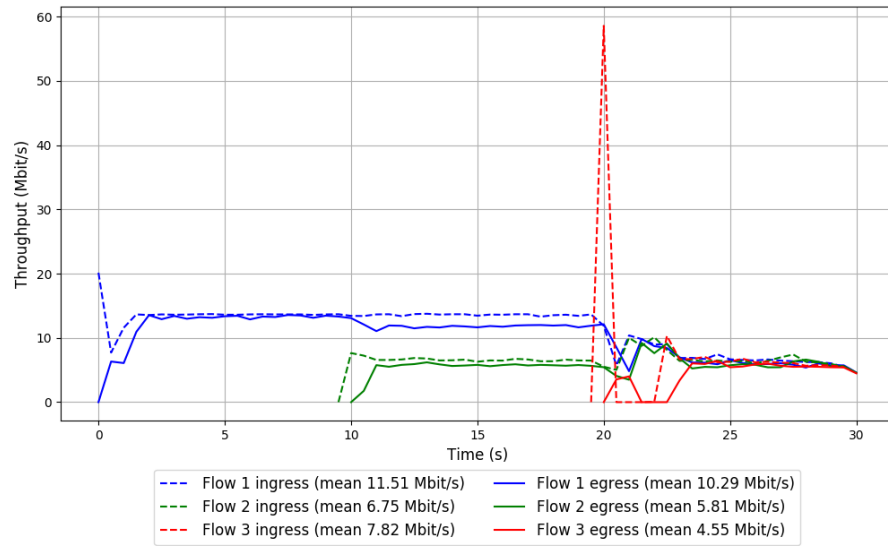


Run 3: Statistics of TaoVA-100x

Start at: 2018-10-02 17:45:14
End at: 2018-10-02 17:45:44
Local clock offset: -13.205 ms
Remote clock offset: 51.351 ms

Below is generated by plot.py at 2018-10-02 18:42:12
Datalink statistics
-- Total of 3 flows:
Average throughput: 15.66 Mbit/s
95th percentile per-packet one-way delay: 63.749 ms
Loss rate: 16.20%
-- Flow 1:
Average throughput: 10.29 Mbit/s
95th percentile per-packet one-way delay: 63.777 ms
Loss rate: 10.96%
-- Flow 2:
Average throughput: 5.81 Mbit/s
95th percentile per-packet one-way delay: 63.428 ms
Loss rate: 14.41%
-- Flow 3:
Average throughput: 4.55 Mbit/s
95th percentile per-packet one-way delay: 84.768 ms
Loss rate: 42.50%

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

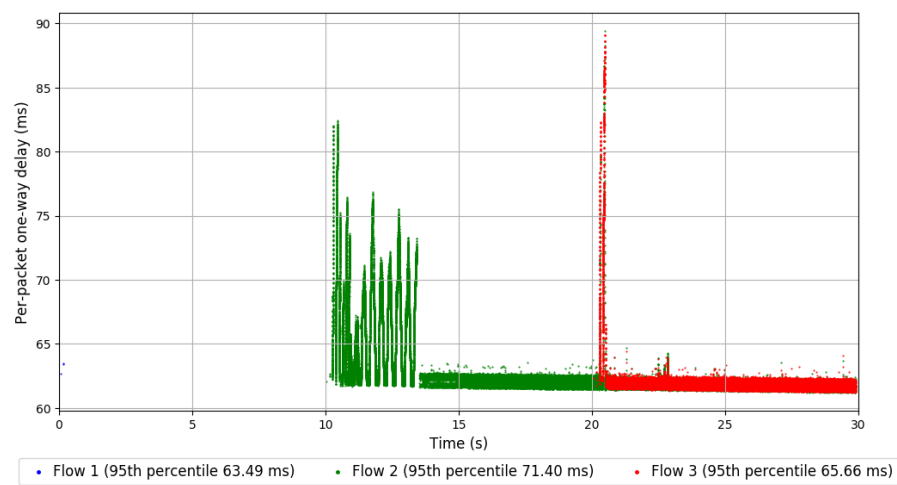
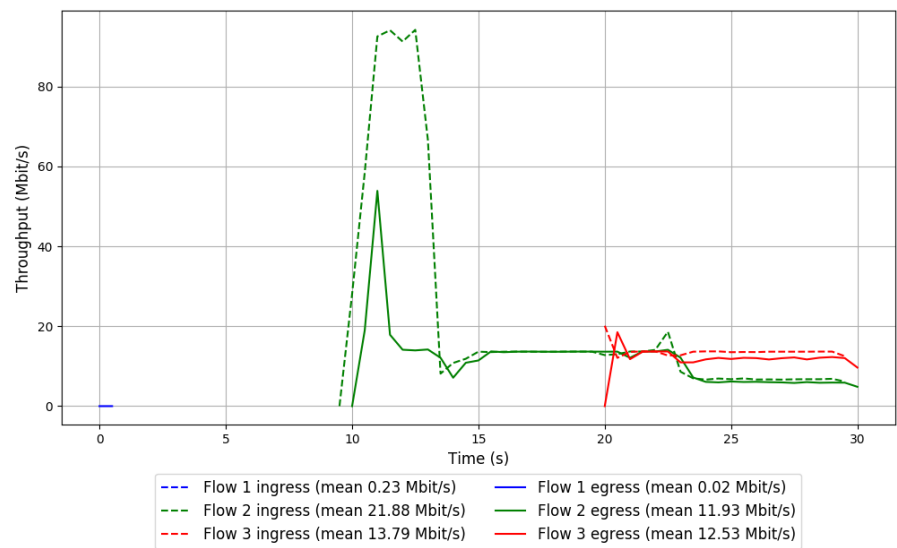


Run 4: Statistics of TaoVA-100x

Start at: 2018-10-02 18:09:52
End at: 2018-10-02 18:10:22
Local clock offset: 0.716 ms
Remote clock offset: 37.887 ms

Below is generated by plot.py at 2018-10-02 18:42:12
Datalink statistics
-- Total of 3 flows:
Average throughput: 12.07 Mbit/s
95th percentile per-packet one-way delay: 71.048 ms
Loss rate: 37.29%
-- Flow 1:
Average throughput: 0.02 Mbit/s
95th percentile per-packet one-way delay: 63.492 ms
Loss rate: 92.12%
-- Flow 2:
Average throughput: 11.93 Mbit/s
95th percentile per-packet one-way delay: 71.404 ms
Loss rate: 45.79%
-- Flow 3:
Average throughput: 12.53 Mbit/s
95th percentile per-packet one-way delay: 65.657 ms
Loss rate: 10.21%

Run 4: Report of TaoVA-100x — Data Link

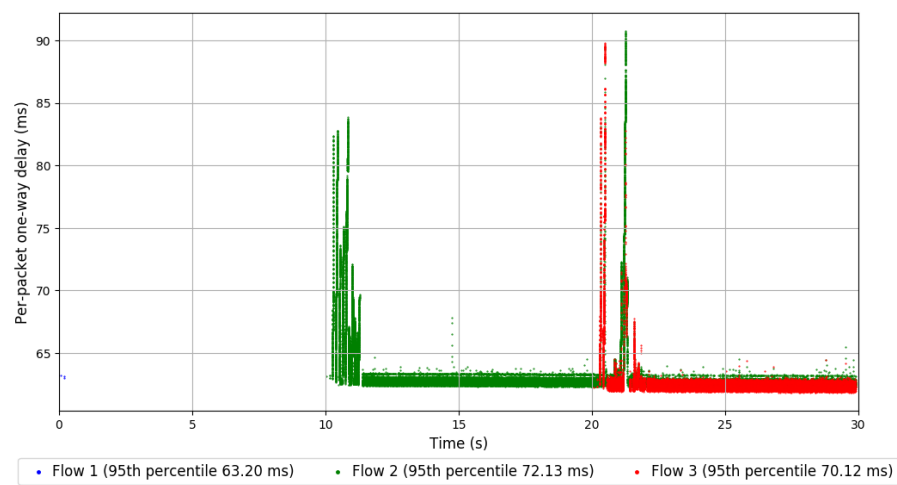
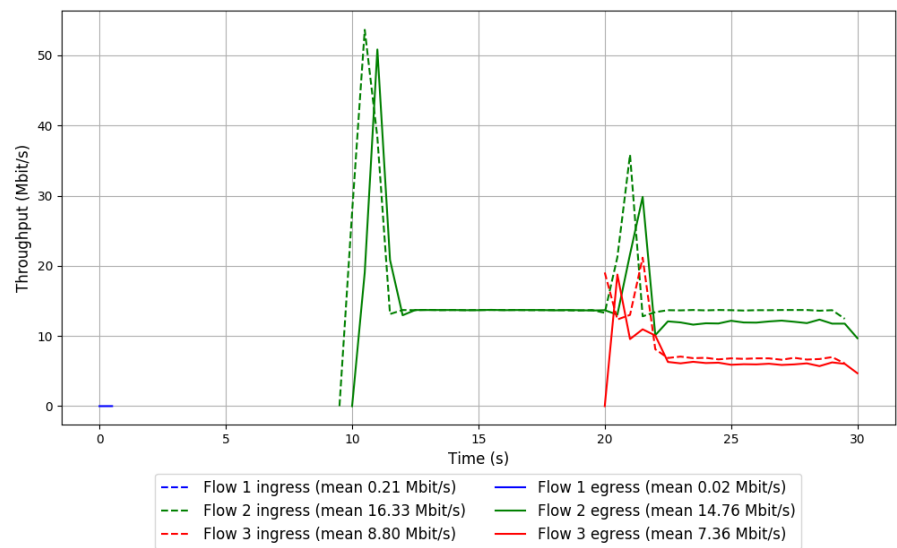


Run 5: Statistics of TaoVA-100x

Start at: 2018-10-02 18:33:01
End at: 2018-10-02 18:33:31
Local clock offset: -1.778 ms
Remote clock offset: 18.419 ms

Below is generated by plot.py at 2018-10-02 18:42:12
Datalink statistics
-- Total of 3 flows:
Average throughput: 12.25 Mbit/s
95th percentile per-packet one-way delay: 71.778 ms
Loss rate: 11.64%
-- Flow 1:
Average throughput: 0.02 Mbit/s
95th percentile per-packet one-way delay: 63.196 ms
Loss rate: 92.12%
-- Flow 2:
Average throughput: 14.76 Mbit/s
95th percentile per-packet one-way delay: 72.126 ms
Loss rate: 10.12%
-- Flow 3:
Average throughput: 7.36 Mbit/s
95th percentile per-packet one-way delay: 70.124 ms
Loss rate: 17.28%

Run 5: Report of TaoVA-100x — Data Link

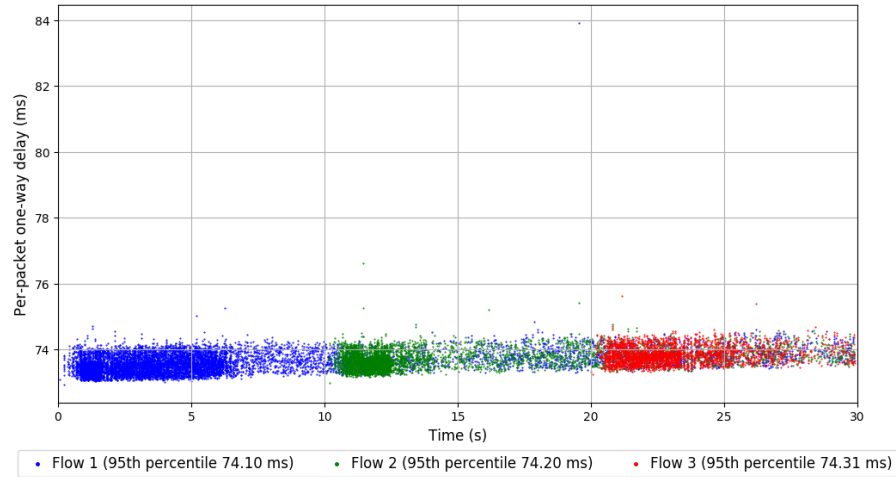
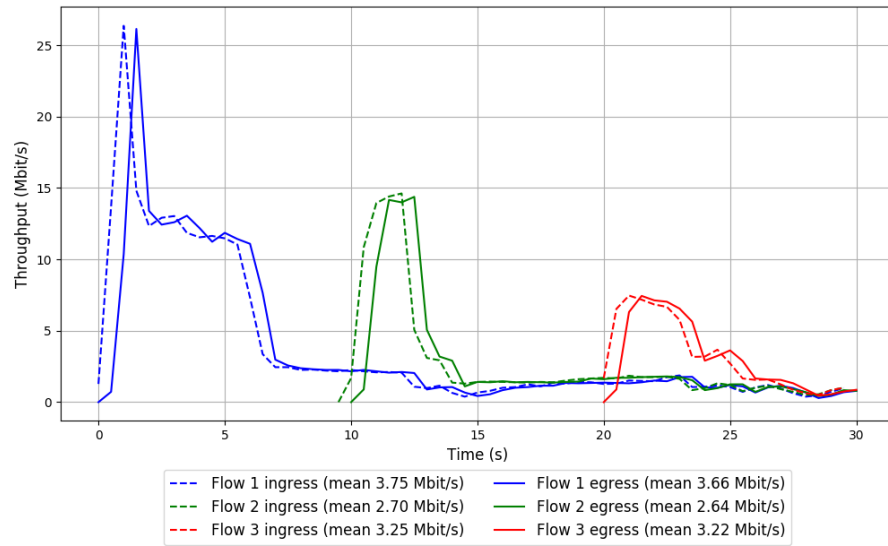


Run 1: Statistics of TCP Vegas

Start at: 2018-10-02 16:53:44
End at: 2018-10-02 16:54:14
Local clock offset: -8.706 ms
Remote clock offset: 83.806 ms

Below is generated by plot.py at 2018-10-02 18:42:12
Datalink statistics
-- Total of 3 flows:
Average throughput: 6.48 Mbit/s
95th percentile per-packet one-way delay: 74.189 ms
Loss rate: 2.78%
-- Flow 1:
Average throughput: 3.66 Mbit/s
95th percentile per-packet one-way delay: 74.101 ms
Loss rate: 2.82%
-- Flow 2:
Average throughput: 2.64 Mbit/s
95th percentile per-packet one-way delay: 74.197 ms
Loss rate: 3.01%
-- Flow 3:
Average throughput: 3.22 Mbit/s
95th percentile per-packet one-way delay: 74.309 ms
Loss rate: 2.30%

Run 1: Report of TCP Vegas — Data Link

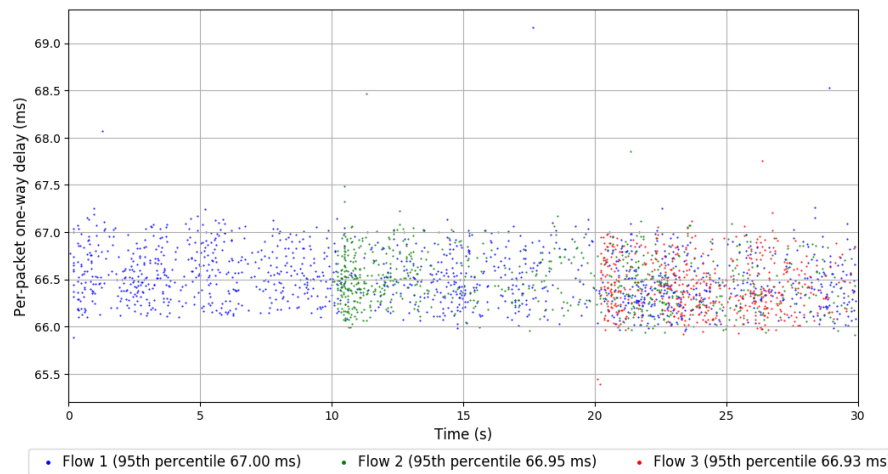
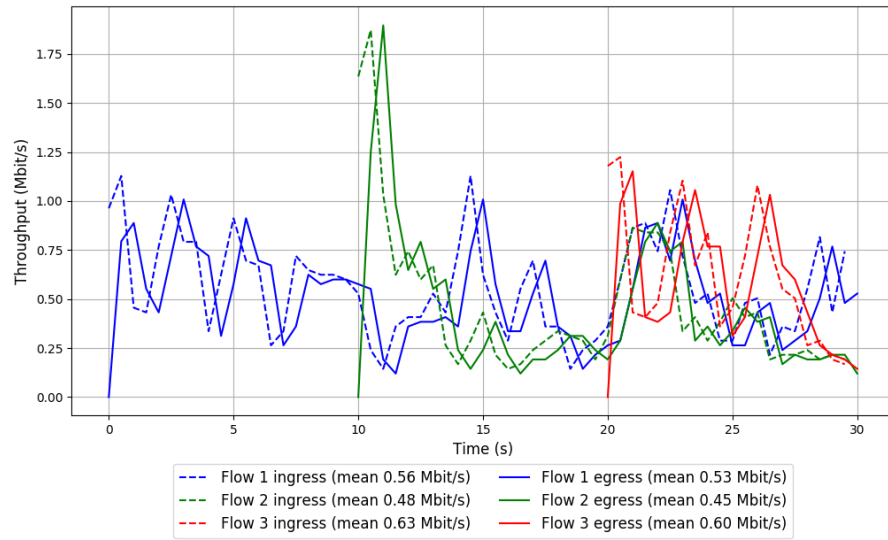


Run 2: Statistics of TCP Vegas

Start at: 2018-10-02 17:20:21
End at: 2018-10-02 17:20:51
Local clock offset: -11.953 ms
Remote clock offset: 53.835 ms

Below is generated by plot.py at 2018-10-02 18:42:12
Datalink statistics
-- Total of 3 flows:
Average throughput: 1.02 Mbit/s
95th percentile per-packet one-way delay: 66.976 ms
Loss rate: 6.42%
-- Flow 1:
Average throughput: 0.53 Mbit/s
95th percentile per-packet one-way delay: 67.005 ms
Loss rate: 6.15%
-- Flow 2:
Average throughput: 0.45 Mbit/s
95th percentile per-packet one-way delay: 66.954 ms
Loss rate: 6.97%
-- Flow 3:
Average throughput: 0.60 Mbit/s
95th percentile per-packet one-way delay: 66.927 ms
Loss rate: 6.32%

Run 2: Report of TCP Vegas — Data Link

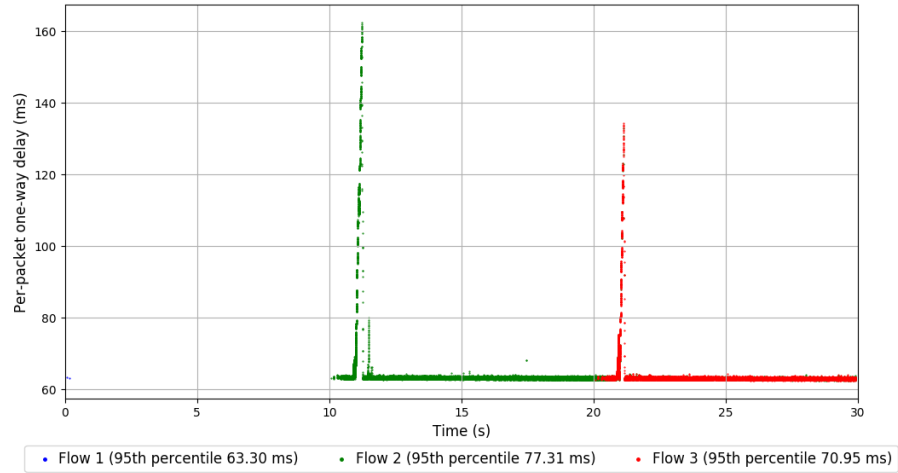
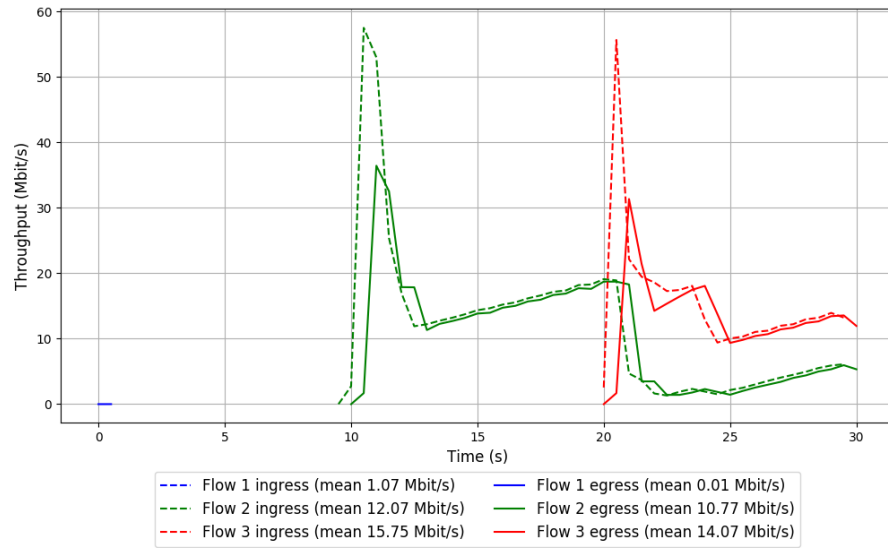


Run 3: Statistics of TCP Vegas

Start at: 2018-10-02 17:49:22
End at: 2018-10-02 17:49:52
Local clock offset: -8.741 ms
Remote clock offset: 50.845 ms

Below is generated by plot.py at 2018-10-02 18:42:12
Datalink statistics
-- Total of 3 flows:
Average throughput: 11.81 Mbit/s
95th percentile per-packet one-way delay: 73.265 ms
Loss rate: 11.44%
-- Flow 1:
Average throughput: 0.01 Mbit/s
95th percentile per-packet one-way delay: 63.297 ms
Loss rate: 98.79%
-- Flow 2:
Average throughput: 10.77 Mbit/s
95th percentile per-packet one-way delay: 77.312 ms
Loss rate: 11.26%
-- Flow 3:
Average throughput: 14.07 Mbit/s
95th percentile per-packet one-way delay: 70.950 ms
Loss rate: 11.64%

Run 3: Report of TCP Vegas — Data Link

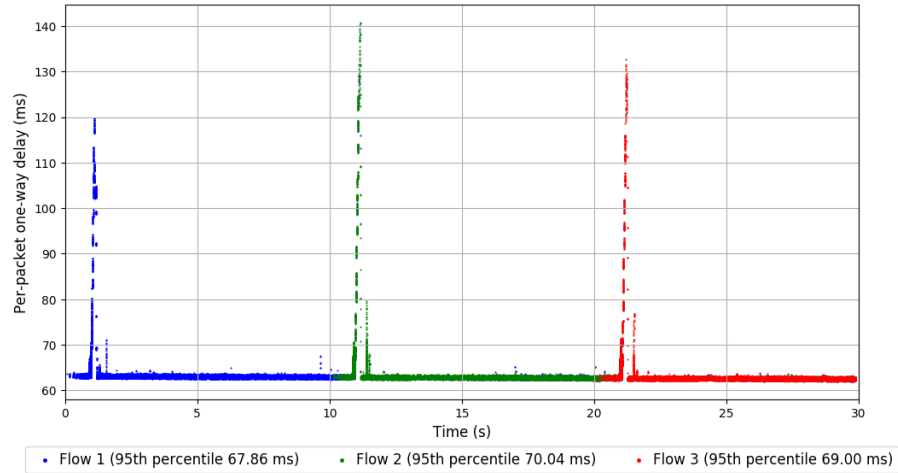
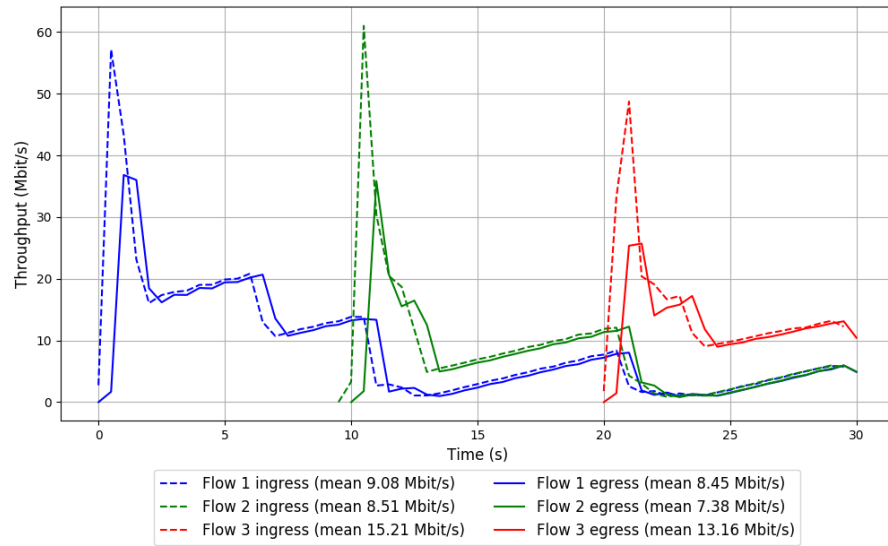


Run 4: Statistics of TCP Vegas

Start at: 2018-10-02 18:12:33
End at: 2018-10-02 18:13:03
Local clock offset: 1.146 ms
Remote clock offset: 34.155 ms

Below is generated by plot.py at 2018-10-02 18:42:14
Datalink statistics
-- Total of 3 flows:
Average throughput: 17.69 Mbit/s
95th percentile per-packet one-way delay: 69.041 ms
Loss rate: 10.99%
-- Flow 1:
Average throughput: 8.45 Mbit/s
95th percentile per-packet one-way delay: 67.857 ms
Loss rate: 7.33%
-- Flow 2:
Average throughput: 7.38 Mbit/s
95th percentile per-packet one-way delay: 70.042 ms
Loss rate: 13.71%
-- Flow 3:
Average throughput: 13.16 Mbit/s
95th percentile per-packet one-way delay: 69.005 ms
Loss rate: 14.52%

Run 4: Report of TCP Vegas — Data Link

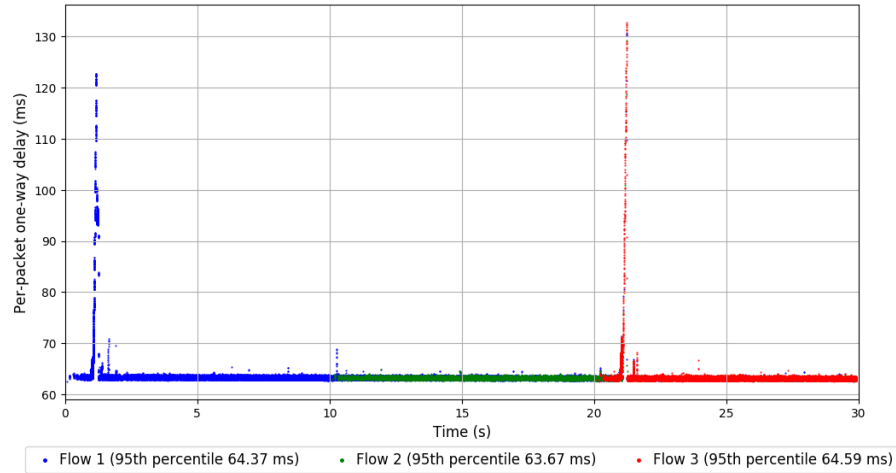
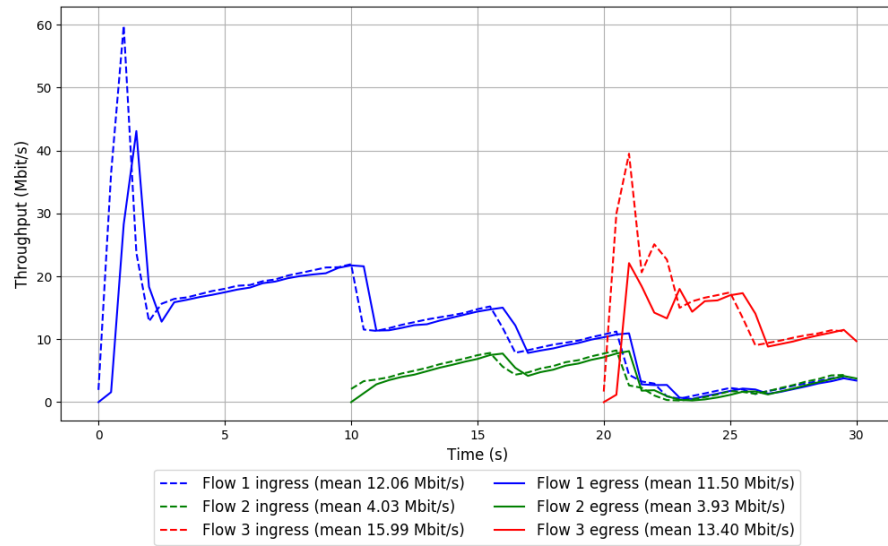


Run 5: Statistics of TCP Vegas

Start at: 2018-10-02 18:35:36
End at: 2018-10-02 18:36:06
Local clock offset: -1.436 ms
Remote clock offset: 17.036 ms

Below is generated by plot.py at 2018-10-02 18:42:16
Datalink statistics
-- Total of 3 flows:
Average throughput: 18.51 Mbit/s
95th percentile per-packet one-way delay: 64.029 ms
Loss rate: 7.99%
-- Flow 1:
Average throughput: 11.50 Mbit/s
95th percentile per-packet one-way delay: 64.371 ms
Loss rate: 5.00%
-- Flow 2:
Average throughput: 3.93 Mbit/s
95th percentile per-packet one-way delay: 63.672 ms
Loss rate: 3.18%
-- Flow 3:
Average throughput: 13.40 Mbit/s
95th percentile per-packet one-way delay: 64.593 ms
Loss rate: 17.23%

Run 5: Report of TCP Vegas — Data Link

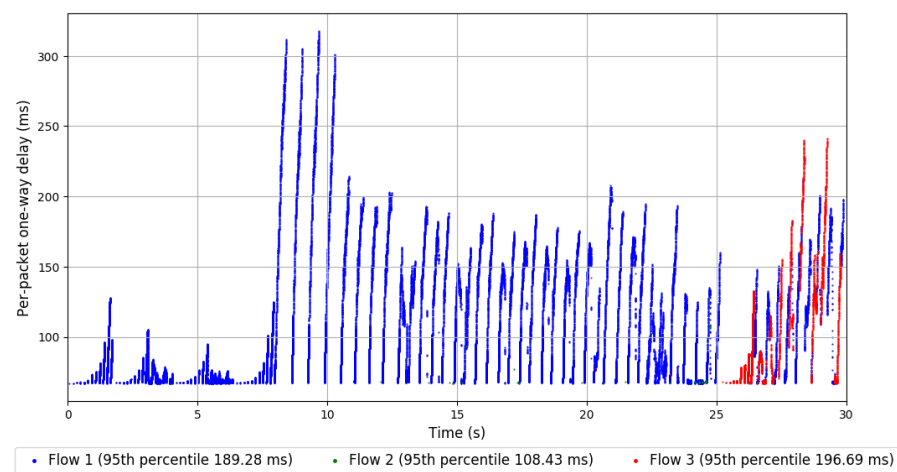
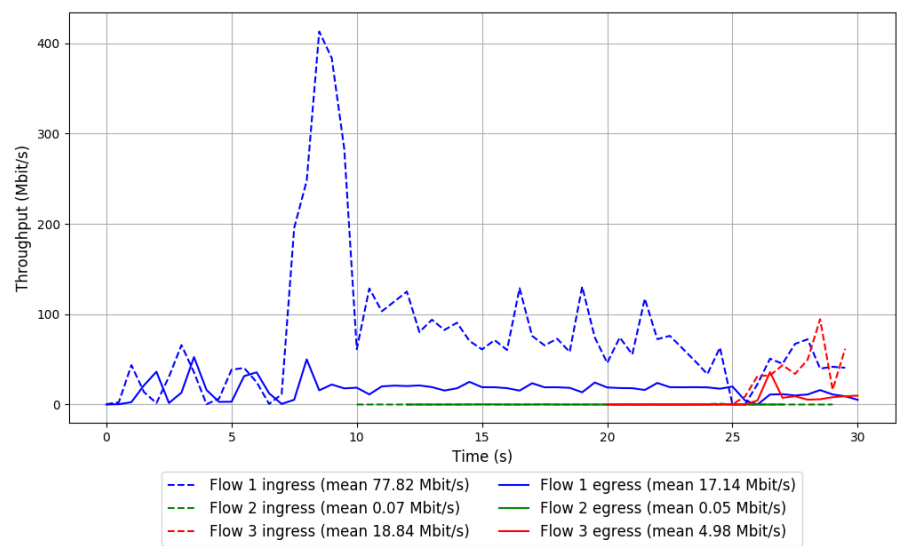


Run 1: Statistics of Verus

Start at: 2018-10-02 16:39:29
End at: 2018-10-02 16:39:59
Local clock offset: -5.663 ms
Remote clock offset: 82.516 ms

Below is generated by plot.py at 2018-10-02 18:42:34
Datalink statistics
-- Total of 3 flows:
Average throughput: 18.76 Mbit/s
95th percentile per-packet one-way delay: 189.868 ms
Loss rate: 77.61%
-- Flow 1:
Average throughput: 17.14 Mbit/s
95th percentile per-packet one-way delay: 189.278 ms
Loss rate: 77.89%
-- Flow 2:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 108.426 ms
Loss rate: 50.41%
-- Flow 3:
Average throughput: 4.98 Mbit/s
95th percentile per-packet one-way delay: 196.688 ms
Loss rate: 74.36%

Run 1: Report of Verus — Data Link

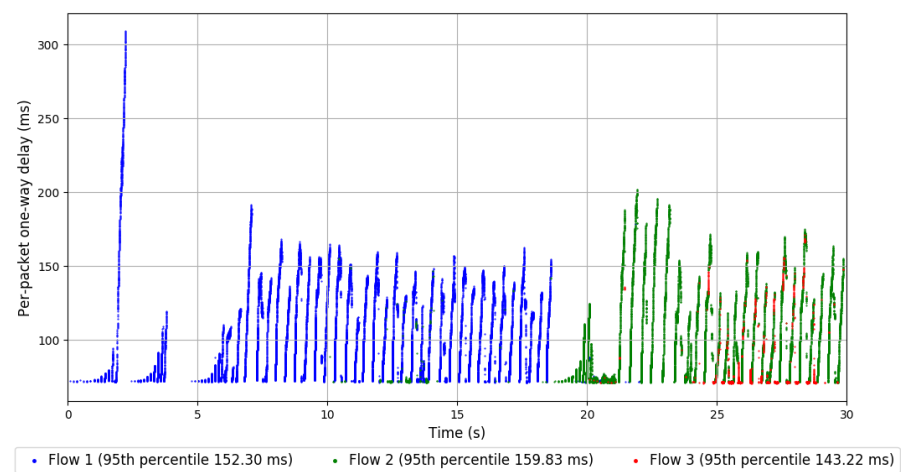
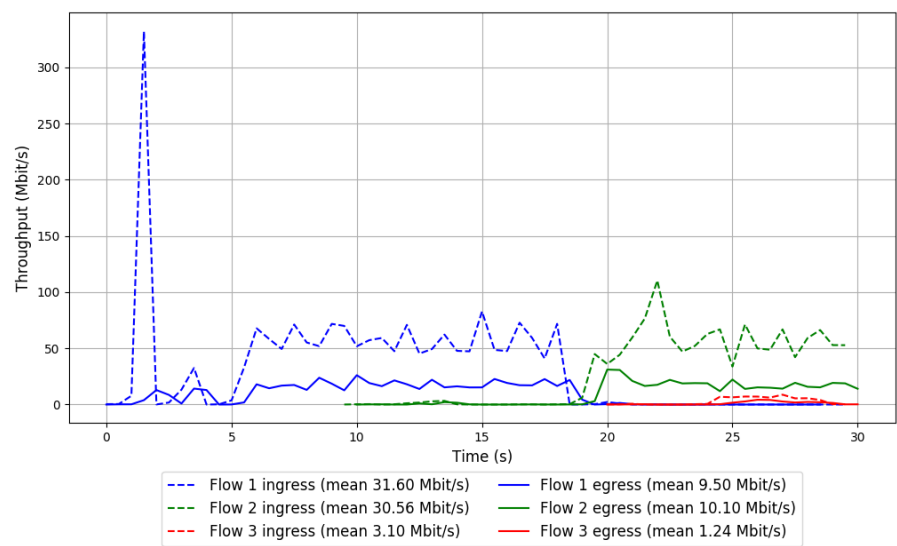


Run 2: Statistics of Verus

Start at: 2018-10-02 17:02:56
End at: 2018-10-02 17:03:26
Local clock offset: -10.308 ms
Remote clock offset: 64.081 ms

Below is generated by plot.py at 2018-10-02 18:42:34
Datalink statistics
-- Total of 3 flows:
Average throughput: 16.06 Mbit/s
95th percentile per-packet one-way delay: 155.506 ms
Loss rate: 69.80%
-- Flow 1:
Average throughput: 9.50 Mbit/s
95th percentile per-packet one-way delay: 152.301 ms
Loss rate: 71.75%
-- Flow 2:
Average throughput: 10.10 Mbit/s
95th percentile per-packet one-way delay: 159.826 ms
Loss rate: 67.30%
-- Flow 3:
Average throughput: 1.24 Mbit/s
95th percentile per-packet one-way delay: 143.225 ms
Loss rate: 59.69%

Run 2: Report of Verus — Data Link

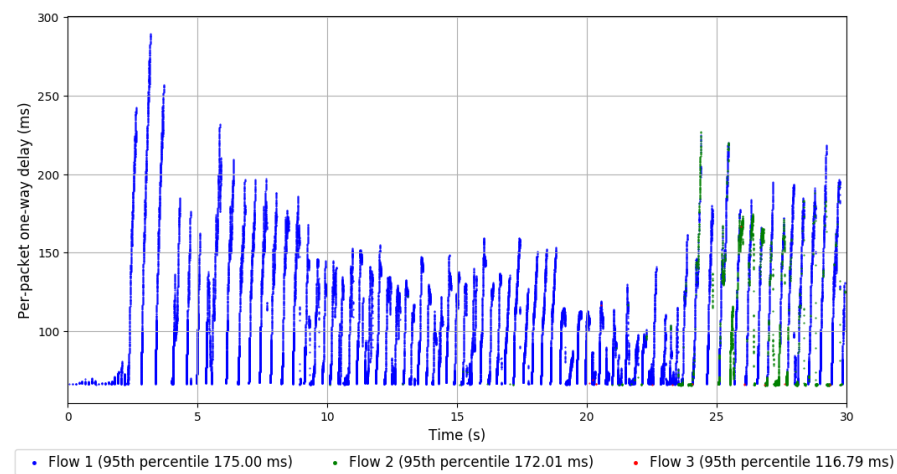
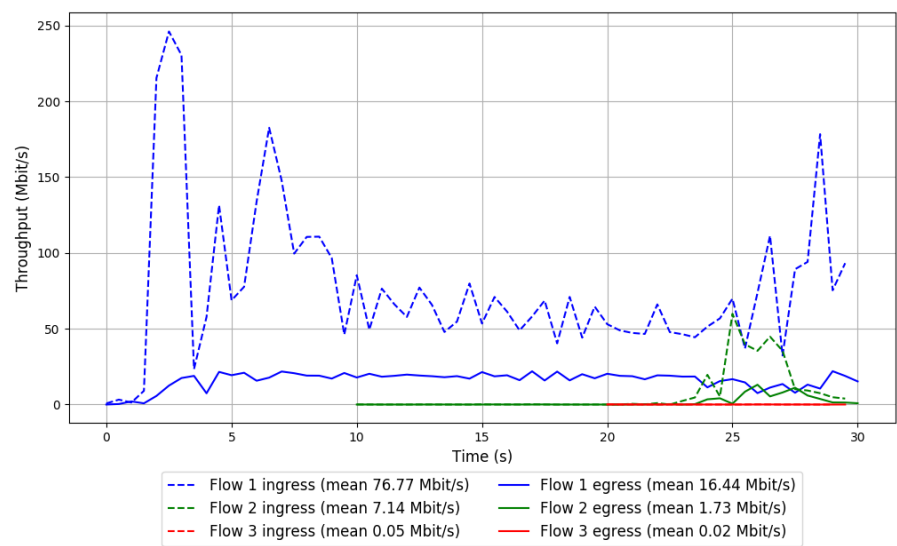


Run 3: Statistics of Verus

Start at: 2018-10-02 17:31:12
End at: 2018-10-02 17:31:42
Local clock offset: -12.353 ms
Remote clock offset: 51.29 ms

Below is generated by plot.py at 2018-10-02 18:42:38
Datalink statistics
-- Total of 3 flows:
Average throughput: 17.59 Mbit/s
95th percentile per-packet one-way delay: 174.692 ms
Loss rate: 78.49%
-- Flow 1:
Average throughput: 16.44 Mbit/s
95th percentile per-packet one-way delay: 174.999 ms
Loss rate: 78.65%
-- Flow 2:
Average throughput: 1.73 Mbit/s
95th percentile per-packet one-way delay: 172.006 ms
Loss rate: 75.99%
-- Flow 3:
Average throughput: 0.02 Mbit/s
95th percentile per-packet one-way delay: 116.791 ms
Loss rate: 65.85%

Run 3: Report of Verus — Data Link



Run 4: Statistics of Verus

Start at: 2018-10-02 17:58:27

End at: 2018-10-02 17:58:57

Local clock offset: -2.975 ms

Remote clock offset: 49.44 ms

Below is generated by plot.py at 2018-10-02 18:42:41

Datalink statistics

-- Total of 3 flows:

Average throughput: 19.62 Mbit/s

95th percentile per-packet one-way delay: 225.896 ms

Loss rate: 76.96%

-- Flow 1:

Average throughput: 14.08 Mbit/s

95th percentile per-packet one-way delay: 141.417 ms

Loss rate: 62.55%

-- Flow 2:

Average throughput: 1.96 Mbit/s

95th percentile per-packet one-way delay: 127.833 ms

Loss rate: 62.20%

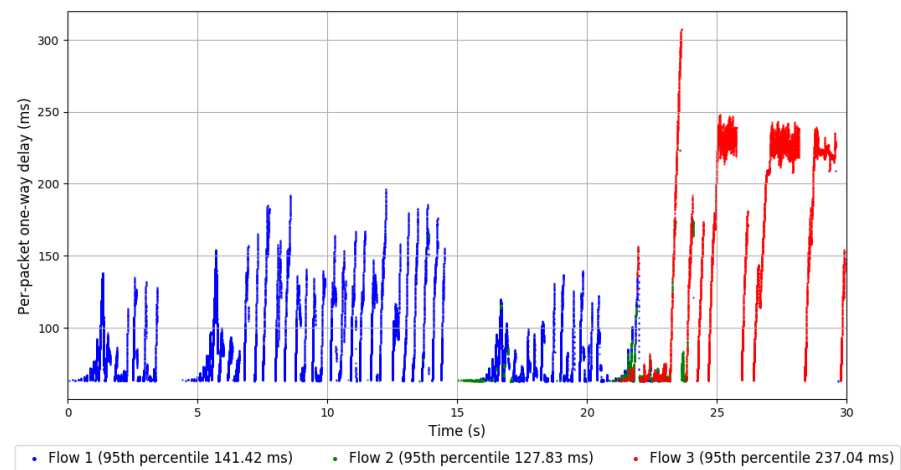
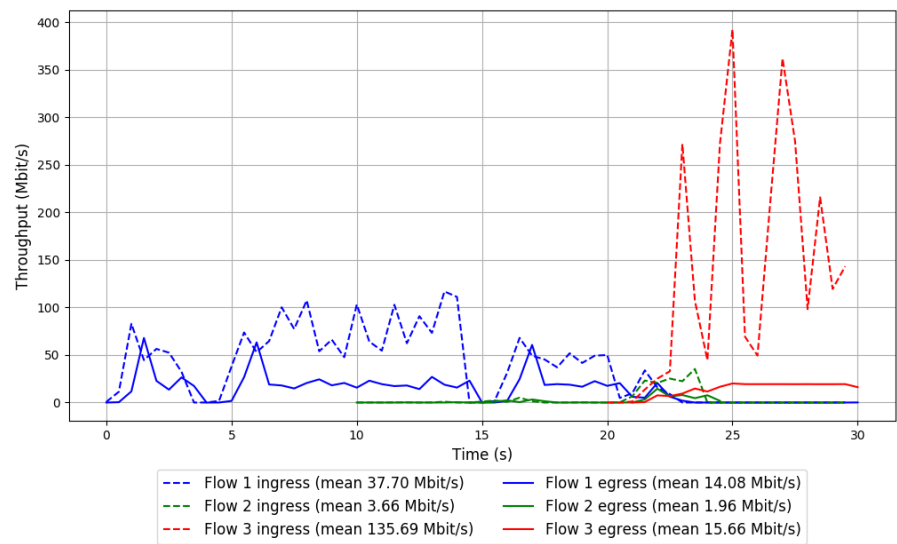
-- Flow 3:

Average throughput: 15.66 Mbit/s

95th percentile per-packet one-way delay: 237.040 ms

Loss rate: 89.73%

Run 4: Report of Verus — Data Link

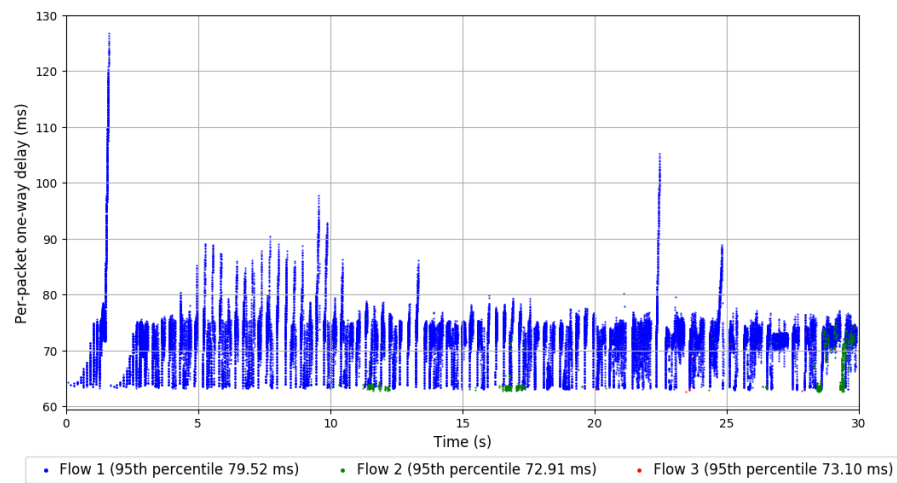
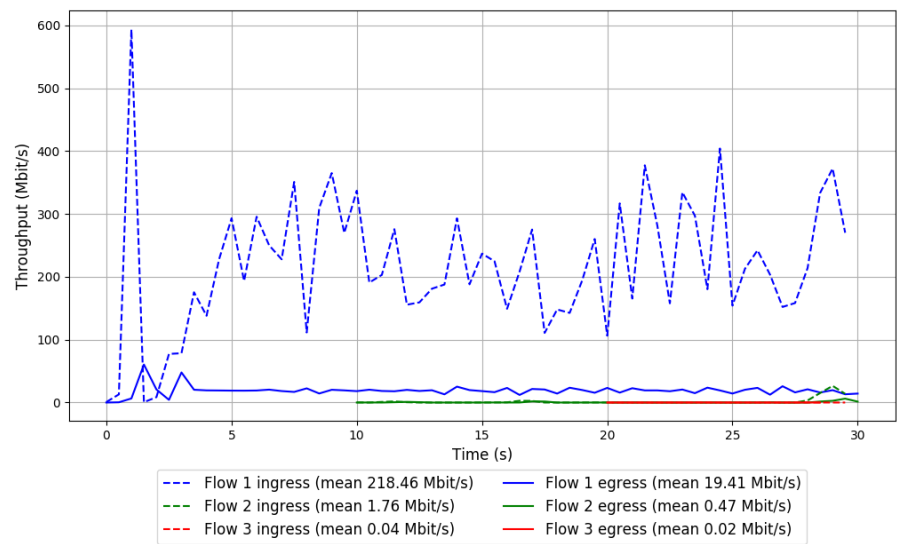


Run 5: Statistics of Verus

Start at: 2018-10-02 18:21:31
End at: 2018-10-02 18:22:01
Local clock offset: -0.487 ms
Remote clock offset: 25.625 ms

Below is generated by plot.py at 2018-10-02 18:42:43
Datalink statistics
-- Total of 3 flows:
Average throughput: 19.73 Mbit/s
95th percentile per-packet one-way delay: 79.394 ms
Loss rate: 91.01%
-- Flow 1:
Average throughput: 19.41 Mbit/s
95th percentile per-packet one-way delay: 79.519 ms
Loss rate: 91.11%
-- Flow 2:
Average throughput: 0.47 Mbit/s
95th percentile per-packet one-way delay: 72.909 ms
Loss rate: 73.36%
-- Flow 3:
Average throughput: 0.02 Mbit/s
95th percentile per-packet one-way delay: 73.096 ms
Loss rate: 67.57%

Run 5: Report of Verus — Data Link



Run 1: Statistics of PCC-Vivace

Start at: 2018-10-02 16:42:04

End at: 2018-10-02 16:42:34

Local clock offset: -5.585 ms

Remote clock offset: 79.3 ms

Below is generated by plot.py at 2018-10-02 18:42:43

Datalink statistics

-- Total of 3 flows:

Average throughput: 13.52 Mbit/s

95th percentile per-packet one-way delay: 72.472 ms

Loss rate: 4.09%

-- Flow 1:

Average throughput: 10.86 Mbit/s

95th percentile per-packet one-way delay: 72.489 ms

Loss rate: 3.46%

-- Flow 2:

Average throughput: 1.83 Mbit/s

95th percentile per-packet one-way delay: 71.878 ms

Loss rate: 6.18%

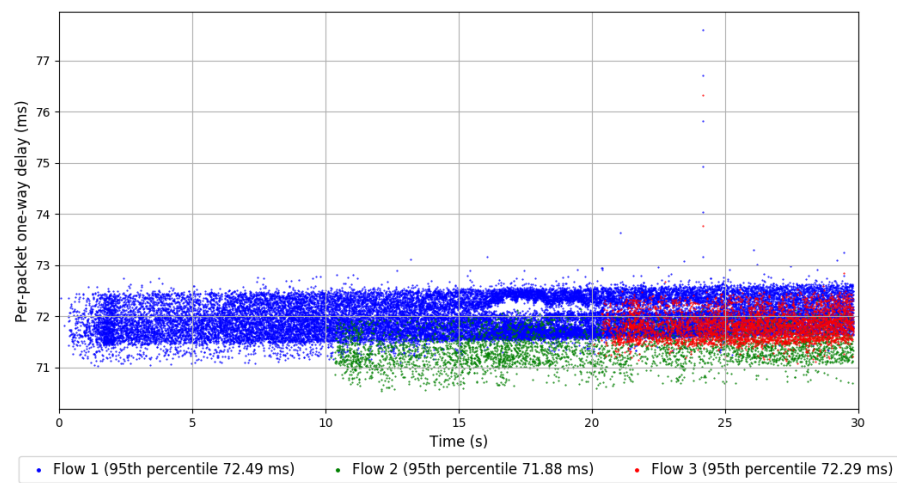
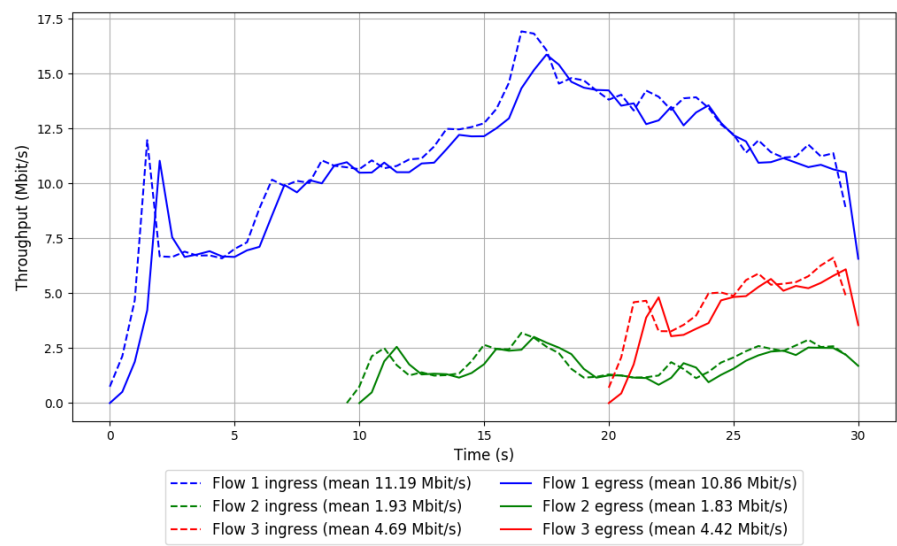
-- Flow 3:

Average throughput: 4.42 Mbit/s

95th percentile per-packet one-way delay: 72.291 ms

Loss rate: 6.95%

Run 1: Report of PCC-Vivace — Data Link

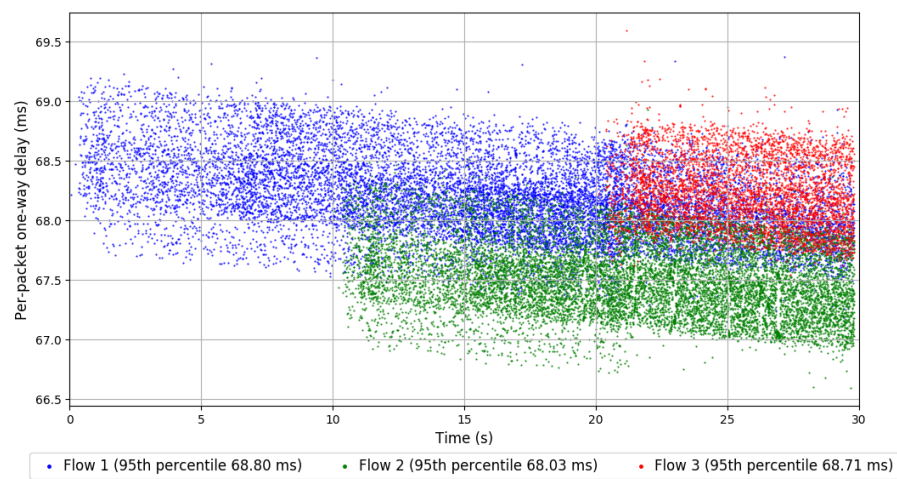
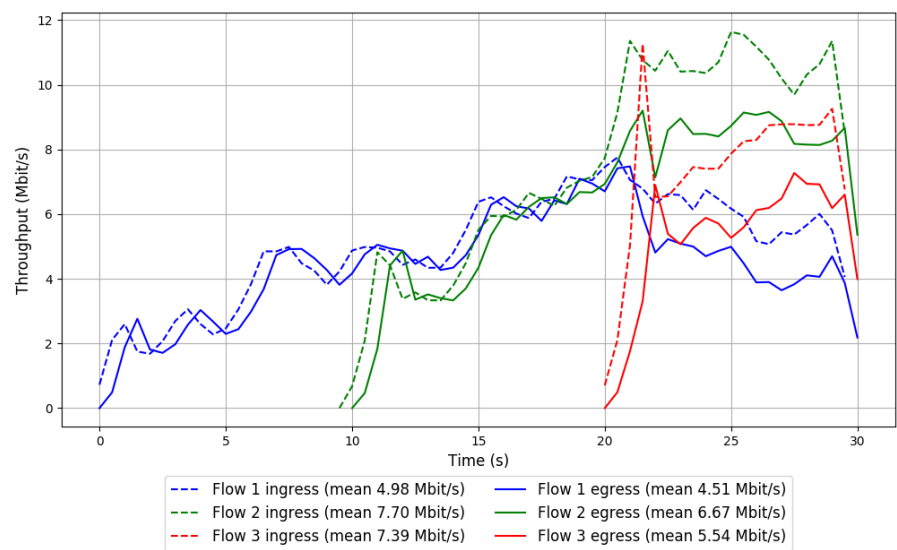


Run 2: Statistics of PCC-Vivace

Start at: 2018-10-02 17:05:29
End at: 2018-10-02 17:05:59
Local clock offset: -10.775 ms
Remote clock offset: 63.27 ms

Below is generated by plot.py at 2018-10-02 18:42:43
Datalink statistics
-- Total of 3 flows:
Average throughput: 10.75 Mbit/s
95th percentile per-packet one-way delay: 68.688 ms
Loss rate: 14.72%
-- Flow 1:
Average throughput: 4.51 Mbit/s
95th percentile per-packet one-way delay: 68.799 ms
Loss rate: 9.96%
-- Flow 2:
Average throughput: 6.67 Mbit/s
95th percentile per-packet one-way delay: 68.027 ms
Loss rate: 13.92%
-- Flow 3:
Average throughput: 5.54 Mbit/s
95th percentile per-packet one-way delay: 68.714 ms
Loss rate: 26.12%

Run 2: Report of PCC-Vivace — Data Link

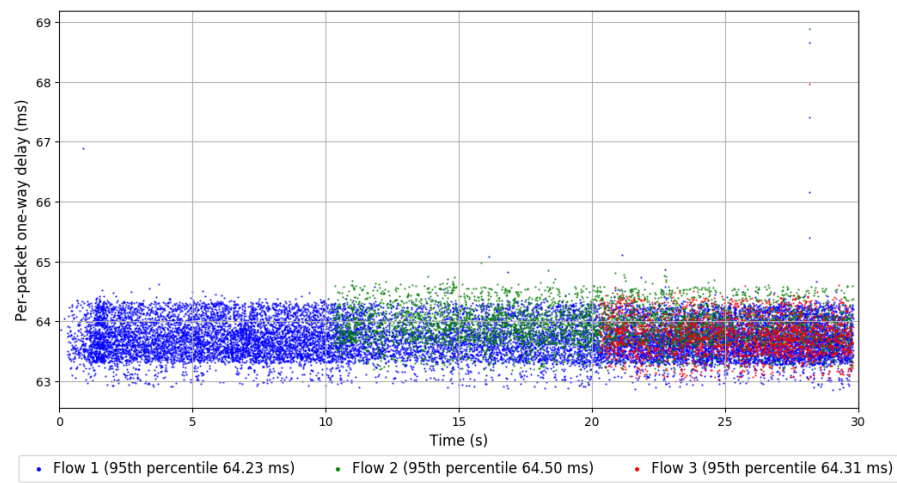
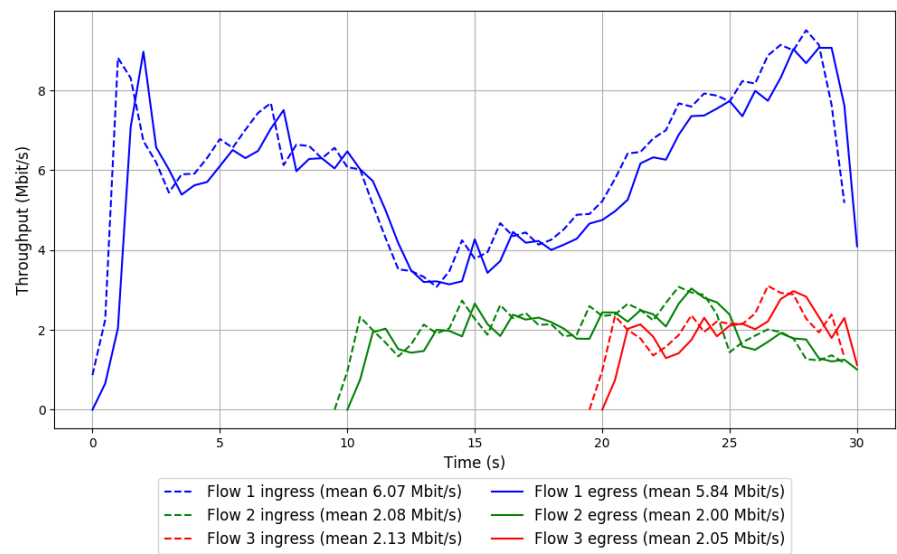


Run 3: Statistics of PCC-Vivace

Start at: 2018-10-02 17:34:39
End at: 2018-10-02 17:35:09
Local clock offset: -12.527 ms
Remote clock offset: 52.984 ms

Below is generated by plot.py at 2018-10-02 18:42:43
Datalink statistics
-- Total of 3 flows:
Average throughput: 7.84 Mbit/s
95th percentile per-packet one-way delay: 64.288 ms
Loss rate: 4.28%
-- Flow 1:
Average throughput: 5.84 Mbit/s
95th percentile per-packet one-way delay: 64.233 ms
Loss rate: 4.17%
-- Flow 2:
Average throughput: 2.00 Mbit/s
95th percentile per-packet one-way delay: 64.505 ms
Loss rate: 4.48%
-- Flow 3:
Average throughput: 2.05 Mbit/s
95th percentile per-packet one-way delay: 64.313 ms
Loss rate: 4.88%

Run 3: Report of PCC-Vivace — Data Link



Run 4: Statistics of PCC-Vivace

Start at: 2018-10-02 18:00:58

End at: 2018-10-02 18:01:28

Local clock offset: -1.901 ms

Remote clock offset: 49.02 ms

Below is generated by plot.py at 2018-10-02 18:42:43

Datalink statistics

-- Total of 3 flows:

Average throughput: 19.37 Mbit/s

95th percentile per-packet one-way delay: 64.266 ms

Loss rate: 10.09%

-- Flow 1:

Average throughput: 16.24 Mbit/s

95th percentile per-packet one-way delay: 65.396 ms

Loss rate: 9.86%

-- Flow 2:

Average throughput: 4.04 Mbit/s

95th percentile per-packet one-way delay: 64.231 ms

Loss rate: 9.31%

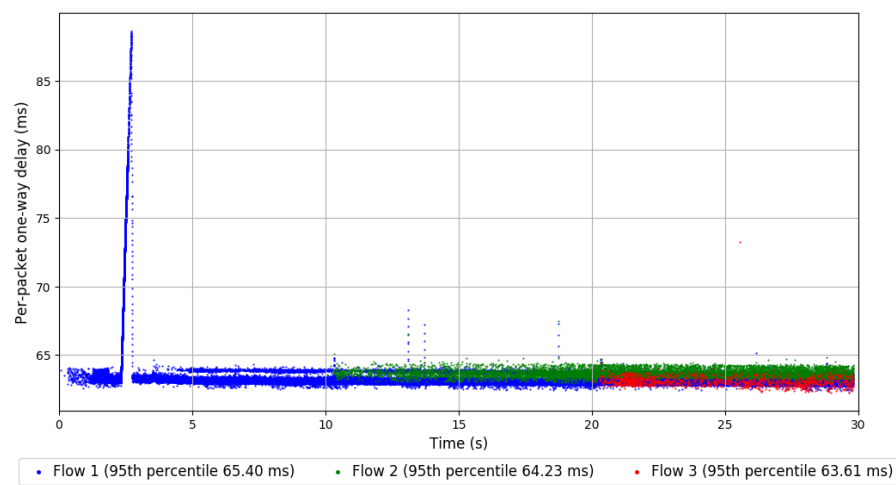
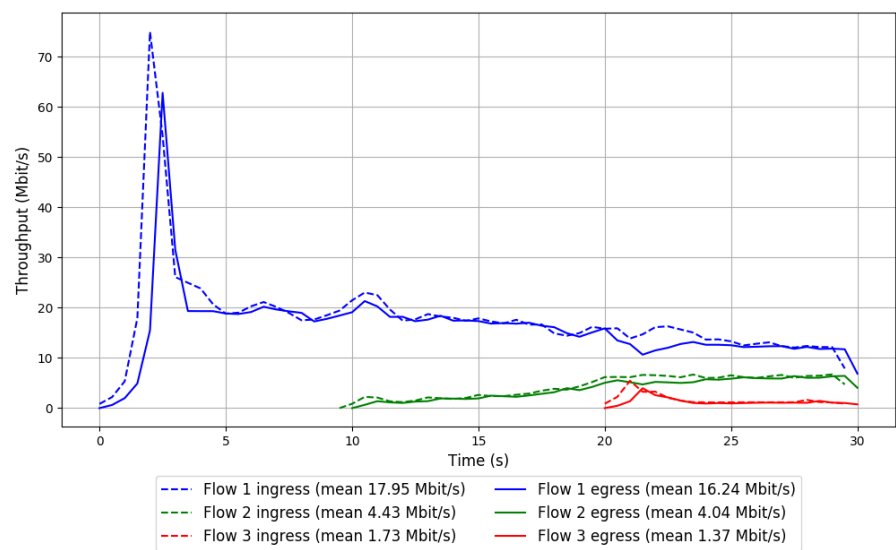
-- Flow 3:

Average throughput: 1.37 Mbit/s

95th percentile per-packet one-way delay: 63.607 ms

Loss rate: 21.65%

Run 4: Report of PCC-Vivace — Data Link

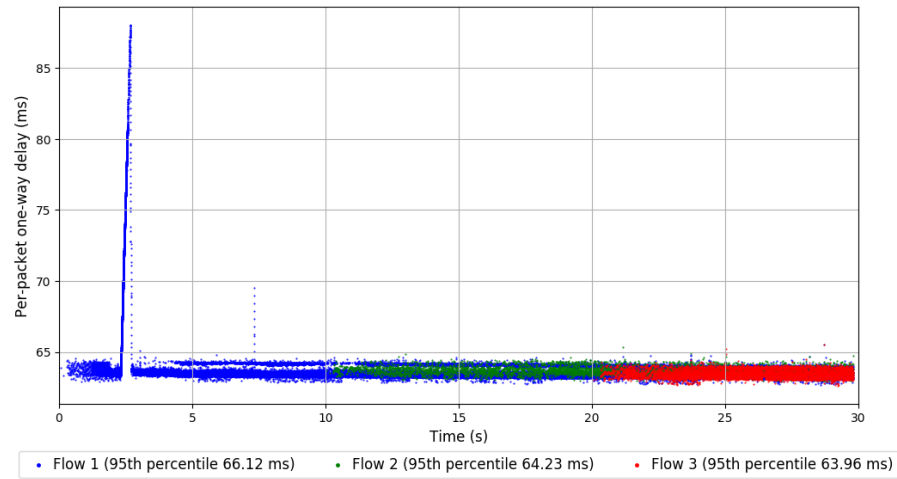
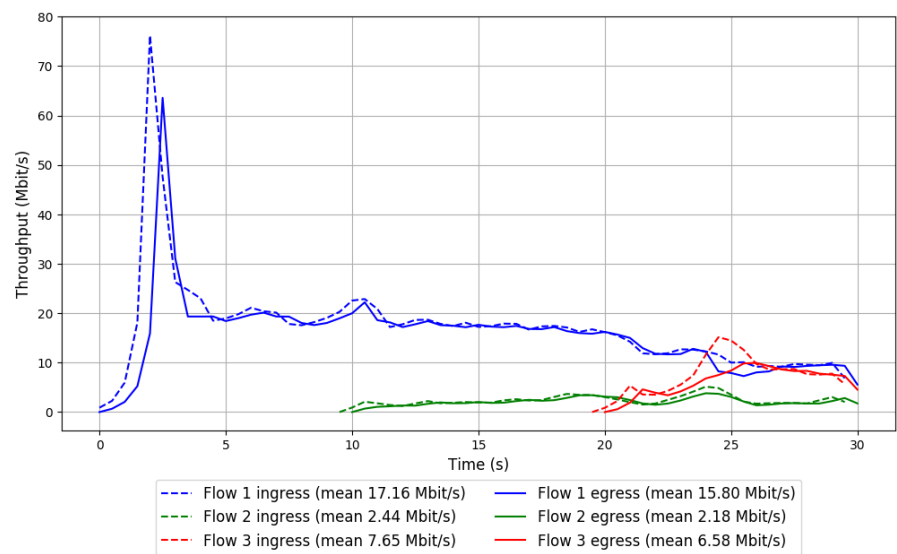


Run 5: Statistics of PCC-Vivace

Start at: 2018-10-02 18:24:07
End at: 2018-10-02 18:24:37
Local clock offset: -0.909 ms
Remote clock offset: 23.583 ms

Below is generated by plot.py at 2018-10-02 18:42:43
Datalink statistics
-- Total of 3 flows:
Average throughput: 19.40 Mbit/s
95th percentile per-packet one-way delay: 64.318 ms
Loss rate: 9.32%
-- Flow 1:
Average throughput: 15.80 Mbit/s
95th percentile per-packet one-way delay: 66.118 ms
Loss rate: 8.29%
-- Flow 2:
Average throughput: 2.18 Mbit/s
95th percentile per-packet one-way delay: 64.234 ms
Loss rate: 11.27%
-- Flow 3:
Average throughput: 6.58 Mbit/s
95th percentile per-packet one-way delay: 63.962 ms
Loss rate: 15.10%

Run 5: Report of PCC-Vivace — Data Link

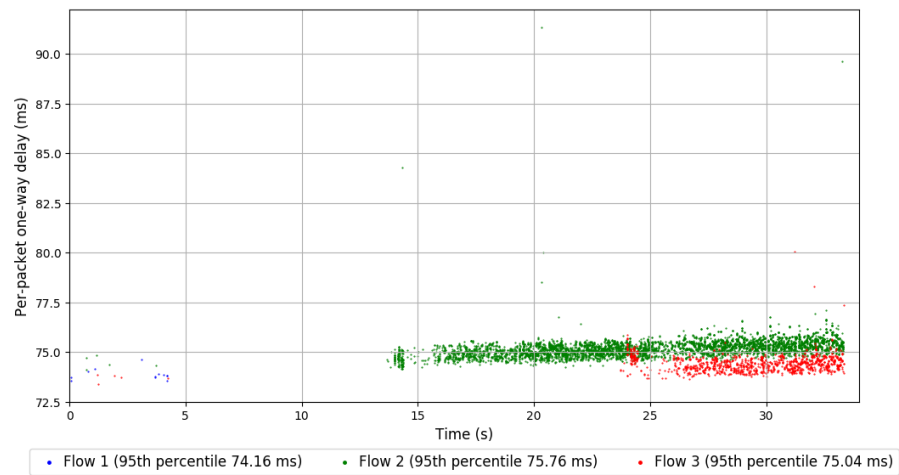
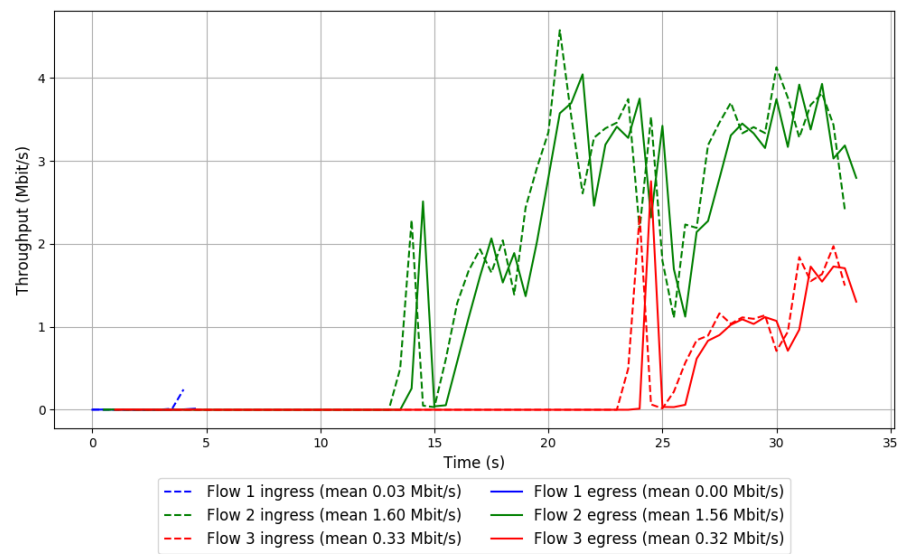


Run 1: Statistics of WebRTC media

Start at: 2018-10-02 16:45:51
End at: 2018-10-02 16:46:21
Local clock offset: -5.599 ms
Remote clock offset: 78.632 ms

Below is generated by plot.py at 2018-10-02 18:42:43
Datalink statistics
-- Total of 3 flows:
Average throughput: 1.83 Mbit/s
95th percentile per-packet one-way delay: 75.721 ms
Loss rate: 3.50%
-- Flow 1:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 74.160 ms
Loss rate: 90.59%
-- Flow 2:
Average throughput: 1.56 Mbit/s
95th percentile per-packet one-way delay: 75.757 ms
Loss rate: 3.16%
-- Flow 3:
Average throughput: 0.32 Mbit/s
95th percentile per-packet one-way delay: 75.037 ms
Loss rate: 4.09%

Run 1: Report of WebRTC media — Data Link

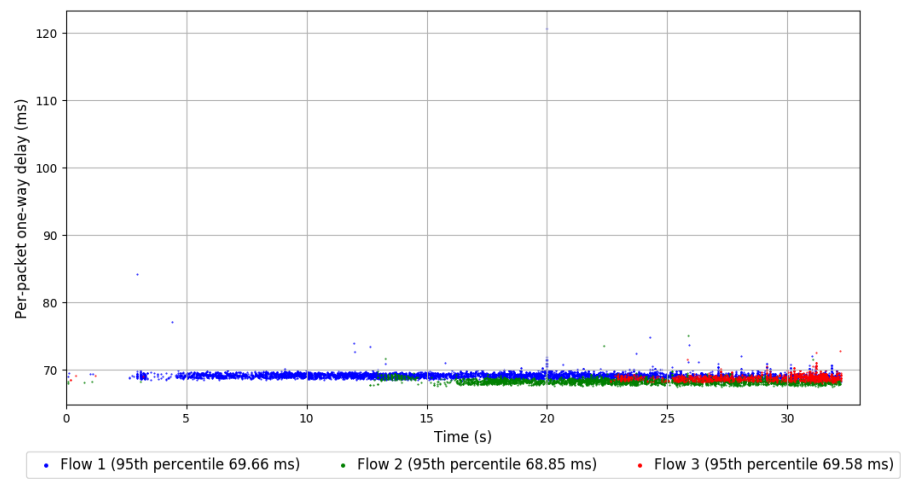
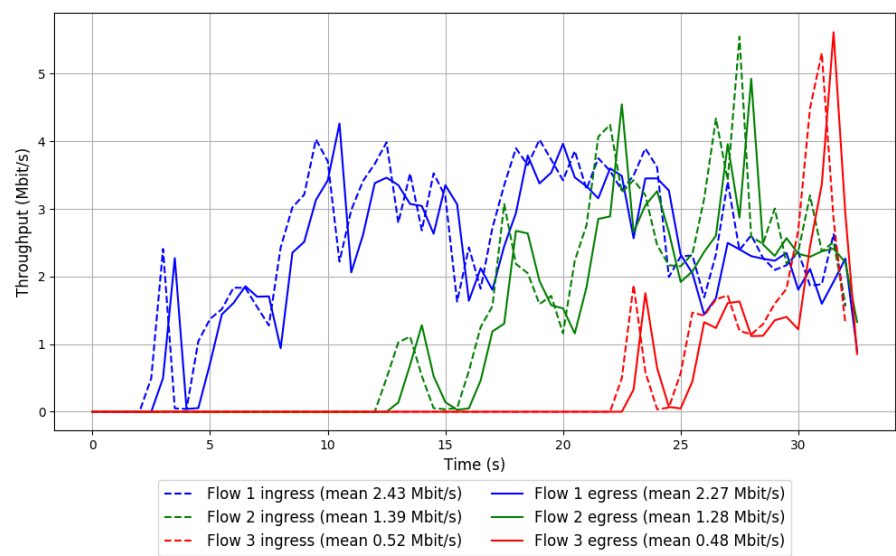


Run 2: Statistics of WebRTC media

Start at: 2018-10-02 17:09:24
End at: 2018-10-02 17:09:54
Local clock offset: -11.032 ms
Remote clock offset: 58.294 ms

Below is generated by plot.py at 2018-10-02 18:42:43
Datalink statistics
-- Total of 3 flows:
Average throughput: 4.02 Mbit/s
95th percentile per-packet one-way delay: 69.580 ms
Loss rate: 7.67%
-- Flow 1:
Average throughput: 2.27 Mbit/s
95th percentile per-packet one-way delay: 69.662 ms
Loss rate: 6.98%
-- Flow 2:
Average throughput: 1.28 Mbit/s
95th percentile per-packet one-way delay: 68.847 ms
Loss rate: 8.33%
-- Flow 3:
Average throughput: 0.48 Mbit/s
95th percentile per-packet one-way delay: 69.584 ms
Loss rate: 9.12%

Run 2: Report of WebRTC media — Data Link

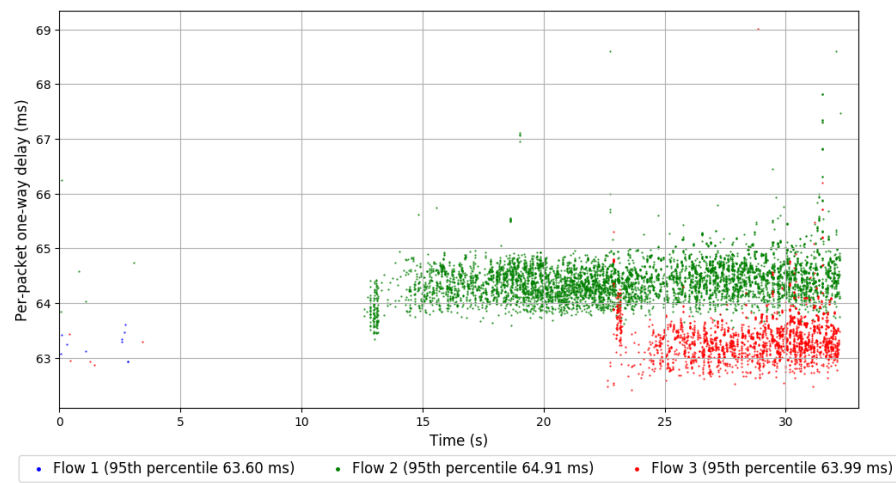
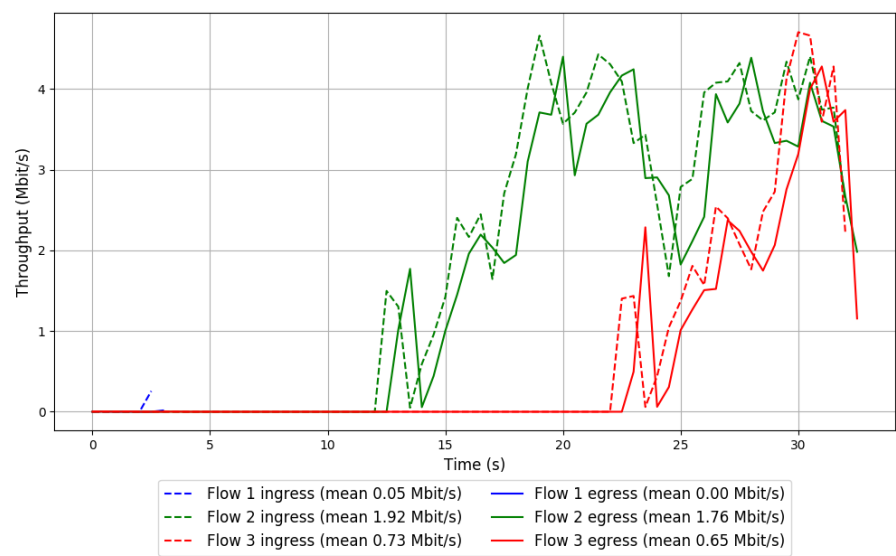


Run 3: Statistics of WebRTC media

Start at: 2018-10-02 17:38:51
End at: 2018-10-02 17:39:21
Local clock offset: -12.893 ms
Remote clock offset: 52.364 ms

Below is generated by plot.py at 2018-10-02 18:42:43
Datalink statistics
-- Total of 3 flows:
Average throughput: 2.41 Mbit/s
95th percentile per-packet one-way delay: 64.852 ms
Loss rate: 9.44%
-- Flow 1:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 63.604 ms
Loss rate: 91.65%
-- Flow 2:
Average throughput: 1.76 Mbit/s
95th percentile per-packet one-way delay: 64.908 ms
Loss rate: 8.69%
-- Flow 3:
Average throughput: 0.65 Mbit/s
95th percentile per-packet one-way delay: 63.988 ms
Loss rate: 10.97%

Run 3: Report of WebRTC media — Data Link

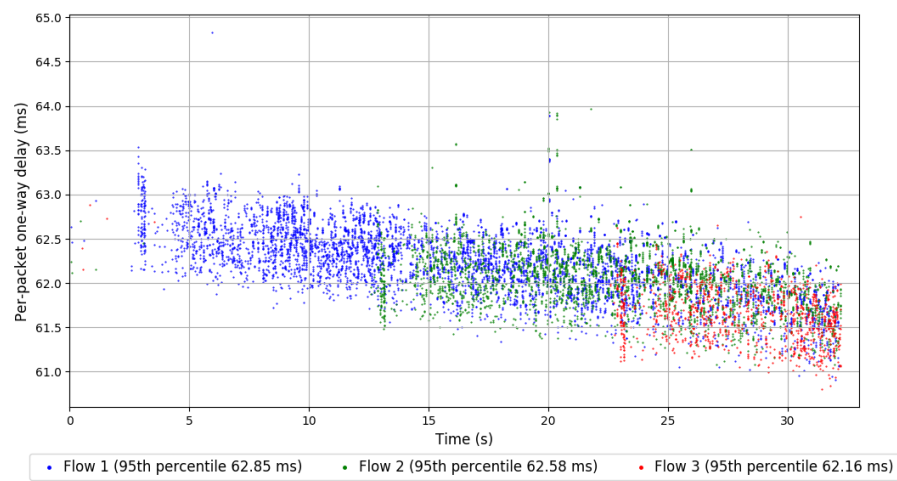
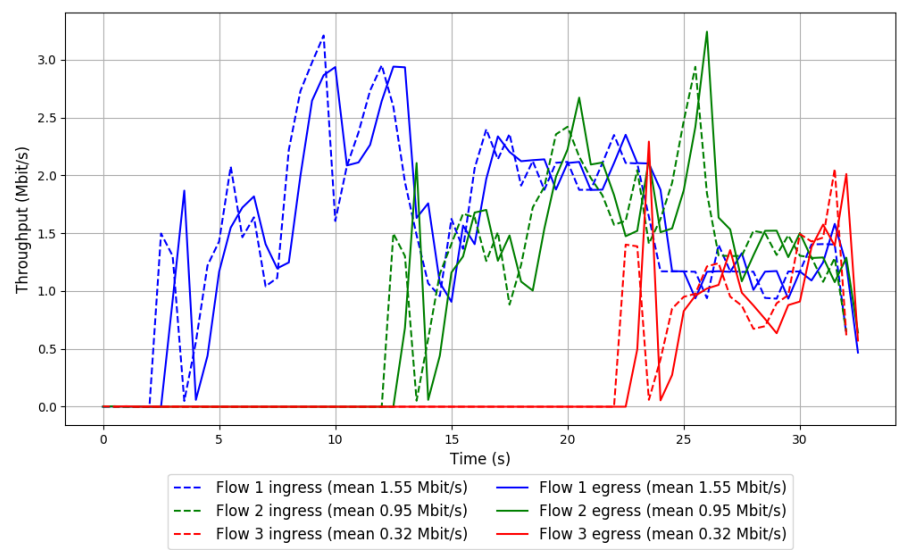


Run 4: Statistics of WebRTC media

Start at: 2018-10-02 18:04:41
End at: 2018-10-02 18:05:11
Local clock offset: -0.821 ms
Remote clock offset: 47.326 ms

Below is generated by plot.py at 2018-10-02 18:42:43
Datalink statistics
-- Total of 3 flows:
Average throughput: 2.82 Mbit/s
95th percentile per-packet one-way delay: 62.767 ms
Loss rate: 0.49%
-- Flow 1:
Average throughput: 1.55 Mbit/s
95th percentile per-packet one-way delay: 62.846 ms
Loss rate: 0.39%
-- Flow 2:
Average throughput: 0.95 Mbit/s
95th percentile per-packet one-way delay: 62.582 ms
Loss rate: 0.35%
-- Flow 3:
Average throughput: 0.32 Mbit/s
95th percentile per-packet one-way delay: 62.159 ms
Loss rate: 1.41%

Run 4: Report of WebRTC media — Data Link



Run 5: Statistics of WebRTC media

Start at: 2018-10-02 18:27:59
End at: 2018-10-02 18:28:29
Local clock offset: -1.367 ms
Remote clock offset: 21.533 ms

Below is generated by plot.py at 2018-10-02 18:42:43
Datalink statistics
-- Total of 3 flows:
Average throughput: 2.89 Mbit/s
95th percentile per-packet one-way delay: 63.680 ms
Loss rate: 0.52%
-- Flow 1:
Average throughput: 1.55 Mbit/s
95th percentile per-packet one-way delay: 63.580 ms
Loss rate: 0.42%
-- Flow 2:
Average throughput: 0.96 Mbit/s
95th percentile per-packet one-way delay: 63.578 ms
Loss rate: 0.45%
-- Flow 3:
Average throughput: 0.39 Mbit/s
95th percentile per-packet one-way delay: 63.944 ms
Loss rate: 1.11%

Run 5: Report of WebRTC media — Data Link

