

Pantheon Report

Generated at 2018-10-02 11:59:50 (UTC).

Data path: AWS India 1 on `ens5` (*local*) → India on `em1` (*remote*).

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 `nets.org.sg` and have been applied to correct the timestamps in logs.

System info:

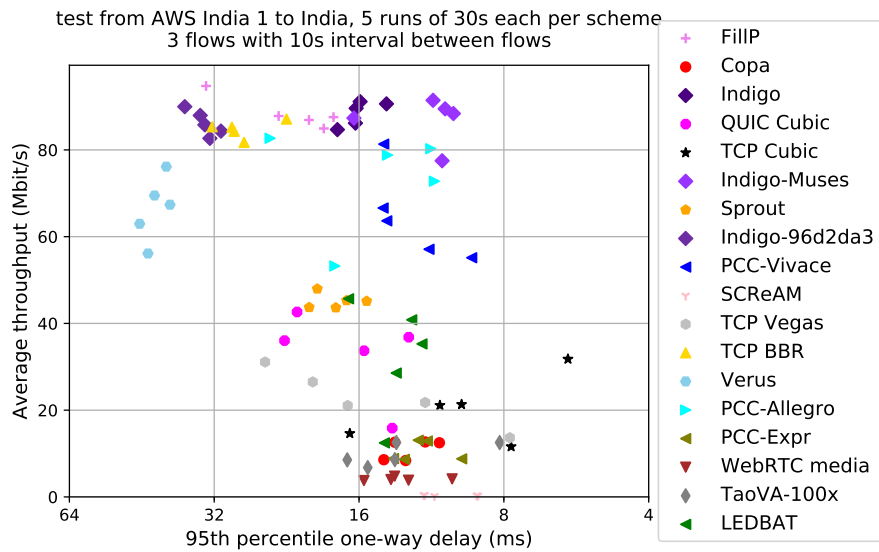
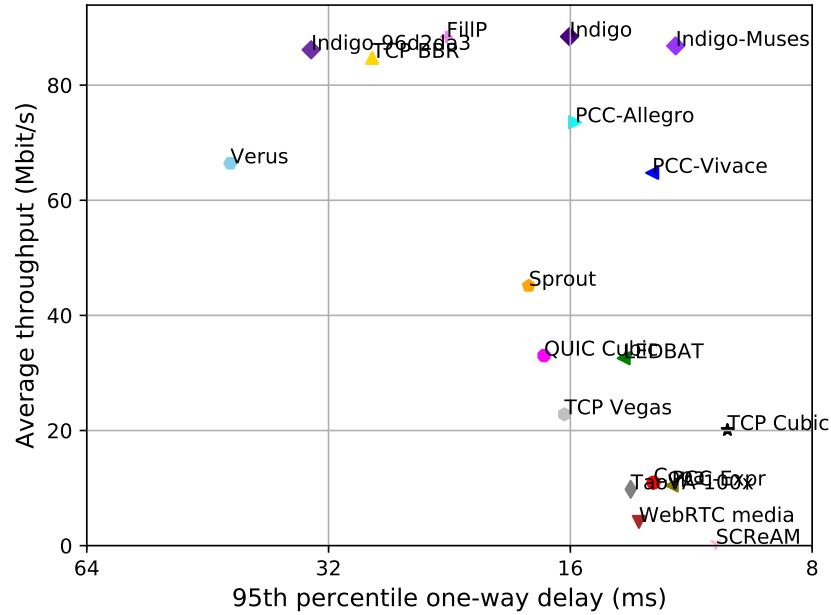
```
Linux 4.15.0-1021-aws
net.core.default_qdisc = fq
net.core.rmem_default = 16777216
net.core.rmem_max = 536870912
net.core.wmem_default = 16777216
net.core.wmem_max = 536870912
net.ipv4.tcp_rmem = 4096 16777216 536870912
net.ipv4.tcp_wmem = 4096 16777216 536870912
```

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

test from AWS India 1 to India, 5 runs of 30s each per scheme
 3 flows with 10s interval between flows (mean of all runs by scheme)



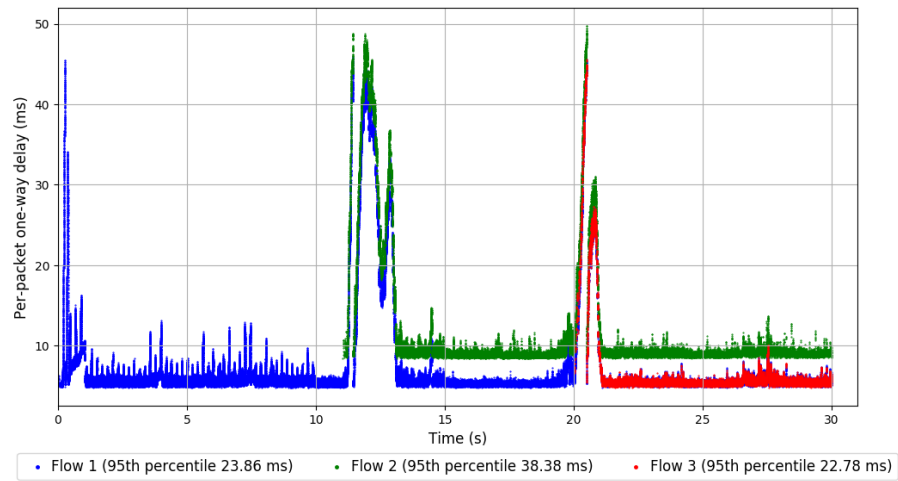
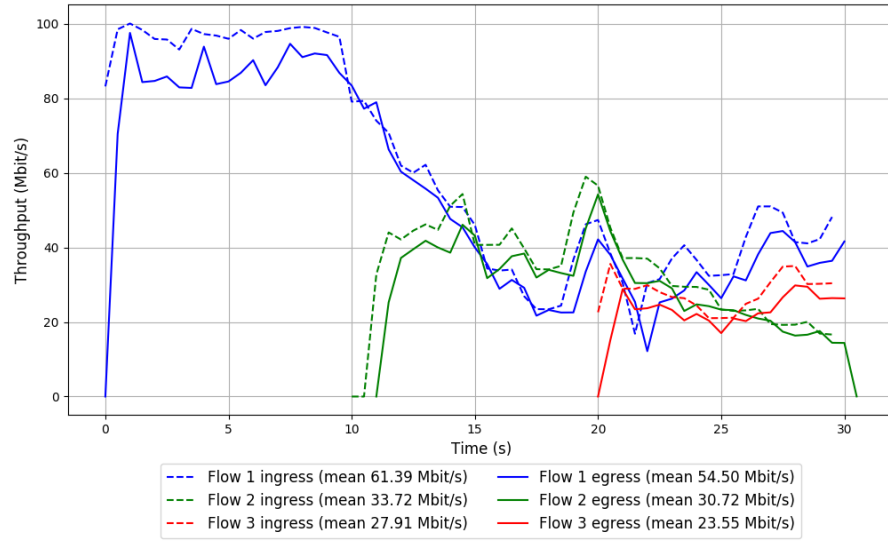
scheme	# runs	mean avg tput (Mbit/s)			mean 95th-%ile delay (ms)			mean loss rate (%)		
		flow 1	flow 2	flow 3	flow 1	flow 2	flow 3	flow 1	flow 2	flow 3
TCP BBR	5	50.43	36.97	29.80	23.91	33.61	28.06	12.16	14.89	14.96
Copa	5	5.44	7.09	2.38	10.78	13.53	10.90	80.68	69.86	86.80
TCP Cubic	5	10.31	9.89	9.60	7.84	11.31	9.48	0.73	0.72	0.70
FillP	5	52.68	36.83	34.48	22.68	18.70	20.78	21.17	31.38	35.23
Indigo	5	54.46	34.81	33.39	14.14	15.61	16.55	10.35	13.56	17.45
Indigo-96d2da3	5	53.58	34.57	29.19	33.98	32.11	31.73	47.55	50.90	54.59
LEDBAT	5	18.09	15.41	13.98	13.19	13.82	12.38	0.69	0.62	0.78
Indigo-Muses	5	49.81	40.34	31.07	11.30	11.19	11.43	7.56	7.54	7.62
PCC-Allegro	5	59.28	19.50	3.98	14.28	15.77	15.32	5.95	6.28	7.43
PCC-Expr	5	3.43	7.61	6.07	11.46	12.05	11.64	69.73	40.67	30.68
QUIC Cubic	5	18.15	15.10	14.63	22.61	13.33	17.65	2.02	2.01	3.12
SCReAM	5	0.17	0.16	0.19	9.62	9.83	8.99	0.81	0.79	0.53
Sprout	5	23.02	22.35	21.97	17.03	16.82	18.78	2.51	3.36	3.75
TaoVA-100x	5	2.84	7.78	6.08	10.82	13.55	14.81	93.29	82.22	84.62
TCP Vegas	5	12.65	10.76	9.04	16.51	11.72	18.21	1.72	1.35	2.46
Verus	5	44.73	25.26	17.61	38.40	45.19	44.89	28.60	57.39	48.64
PCC-Vivace	5	47.78	19.76	11.64	12.02	11.68	10.51	6.05	6.61	7.00
WebRTC media	5	2.28	1.46	0.39	12.49	12.71	12.12	0.62	0.49	0.65

Run 1: Statistics of TCP BBR

Start at: 2018-10-02 10:08:55
End at: 2018-10-02 10:09:25
Local clock offset: 1.627 ms
Remote clock offset: -2.754 ms

Below is generated by plot.py at 2018-10-02 11:53:18
Datalink statistics
-- Total of 3 flows:
Average throughput: 81.74 Mbit/s
95th percentile per-packet one-way delay: 27.733 ms
Loss rate: 12.23%
-- Flow 1:
Average throughput: 54.50 Mbit/s
95th percentile per-packet one-way delay: 23.862 ms
Loss rate: 11.21%
-- Flow 2:
Average throughput: 30.72 Mbit/s
95th percentile per-packet one-way delay: 38.379 ms
Loss rate: 13.58%
-- Flow 3:
Average throughput: 23.55 Mbit/s
95th percentile per-packet one-way delay: 22.783 ms
Loss rate: 15.66%

Run 1: Report of TCP BBR — Data Link

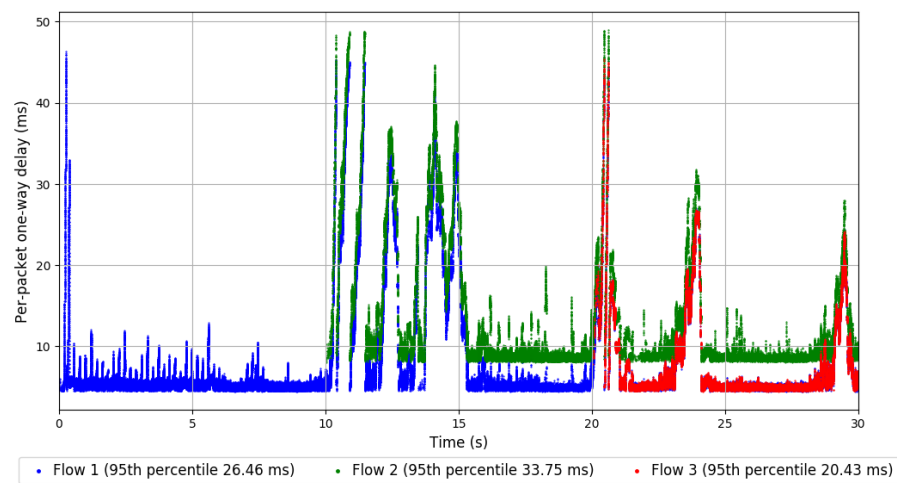
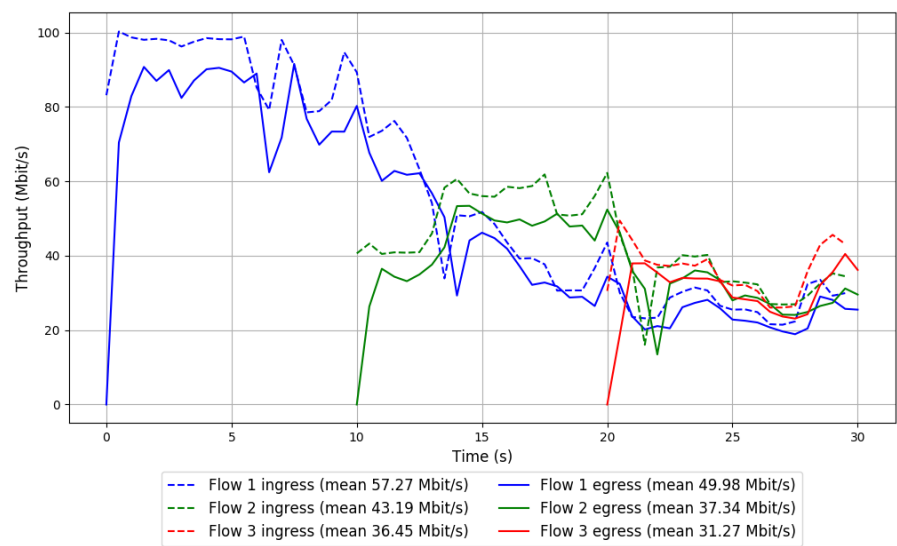


Run 2: Statistics of TCP BBR

Start at: 2018-10-02 10:30:24
End at: 2018-10-02 10:30:54
Local clock offset: 3.106 ms
Remote clock offset: -1.941 ms

Below is generated by plot.py at 2018-10-02 11:53:21
Datalink statistics
-- Total of 3 flows:
Average throughput: 85.24 Mbit/s
95th percentile per-packet one-way delay: 29.409 ms
Loss rate: 13.14%
-- Flow 1:
Average throughput: 49.98 Mbit/s
95th percentile per-packet one-way delay: 26.456 ms
Loss rate: 12.72%
-- Flow 2:
Average throughput: 37.34 Mbit/s
95th percentile per-packet one-way delay: 33.747 ms
Loss rate: 13.54%
-- Flow 3:
Average throughput: 31.27 Mbit/s
95th percentile per-packet one-way delay: 20.433 ms
Loss rate: 14.20%

Run 2: Report of TCP BBR — Data Link

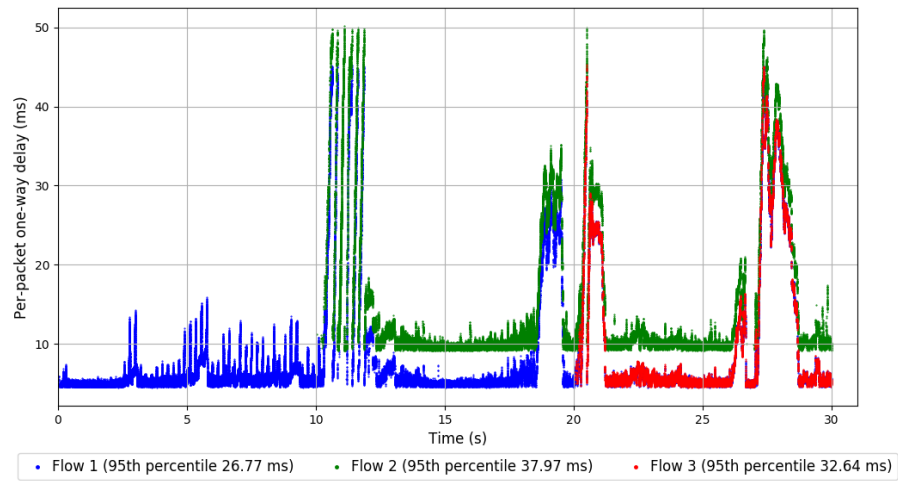
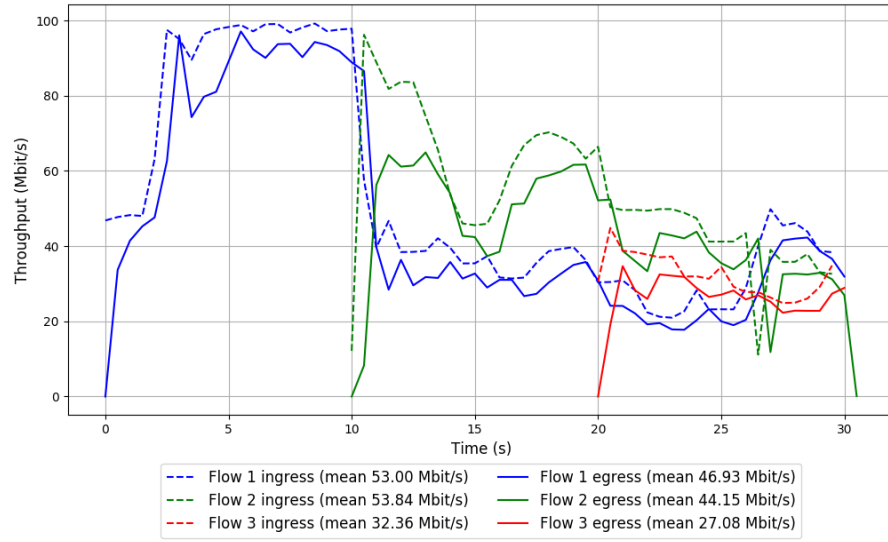


Run 3: Statistics of TCP BBR

Start at: 2018-10-02 10:52:01
End at: 2018-10-02 10:52:31
Local clock offset: 0.07 ms
Remote clock offset: -4.966 ms

Below is generated by plot.py at 2018-10-02 11:53:22
Datalink statistics
-- Total of 3 flows:
Average throughput: 85.34 Mbit/s
95th percentile per-packet one-way delay: 32.312 ms
Loss rate: 14.33%
-- Flow 1:
Average throughput: 46.93 Mbit/s
95th percentile per-packet one-way delay: 26.772 ms
Loss rate: 11.45%
-- Flow 2:
Average throughput: 44.15 Mbit/s
95th percentile per-packet one-way delay: 37.974 ms
Loss rate: 17.99%
-- Flow 3:
Average throughput: 27.08 Mbit/s
95th percentile per-packet one-way delay: 32.637 ms
Loss rate: 16.31%

Run 3: Report of TCP BBR — Data Link

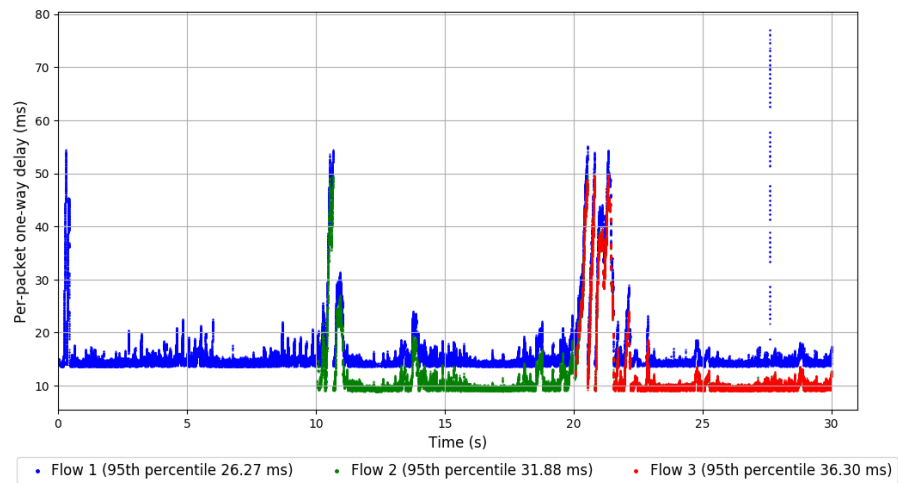
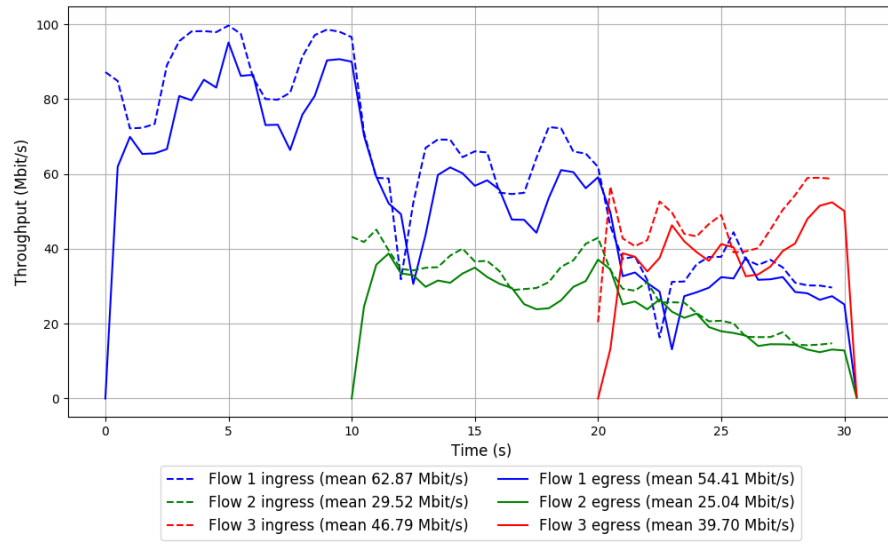


Run 4: Statistics of TCP BBR

Start at: 2018-10-02 11:13:06
End at: 2018-10-02 11:13:36
Local clock offset: -1.169 ms
Remote clock offset: -1.038 ms

Below is generated by plot.py at 2018-10-02 11:53:22
Datalink statistics
-- Total of 3 flows:
Average throughput: 84.30 Mbit/s
95th percentile per-packet one-way delay: 29.086 ms
Loss rate: 14.07%
-- Flow 1:
Average throughput: 54.41 Mbit/s
95th percentile per-packet one-way delay: 26.269 ms
Loss rate: 13.45%
-- Flow 2:
Average throughput: 25.04 Mbit/s
95th percentile per-packet one-way delay: 31.880 ms
Loss rate: 15.19%
-- Flow 3:
Average throughput: 39.70 Mbit/s
95th percentile per-packet one-way delay: 36.299 ms
Loss rate: 15.17%

Run 4: Report of TCP BBR — Data Link

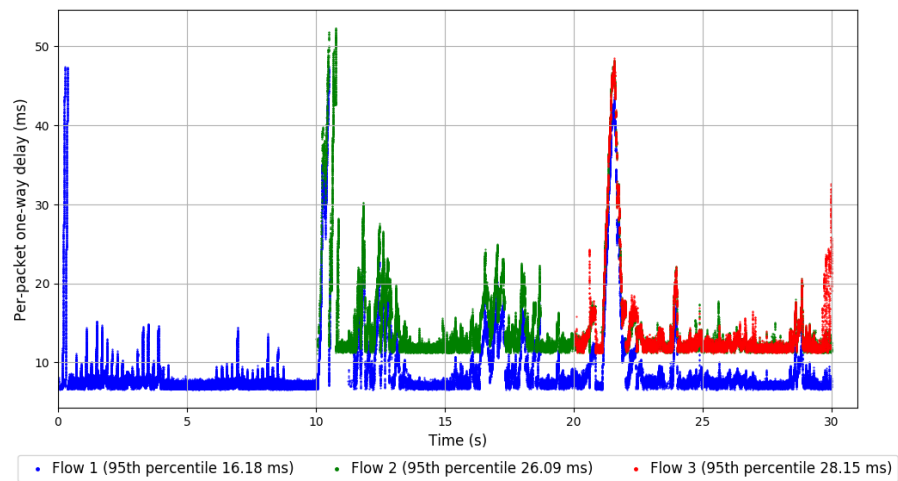
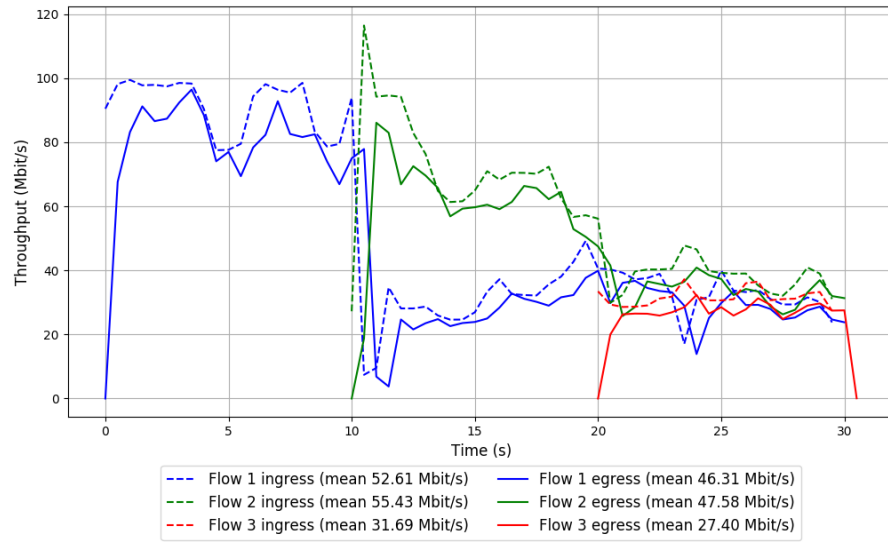


Run 5: Statistics of TCP BBR

Start at: 2018-10-02 11:34:01
End at: 2018-10-02 11:34:31
Local clock offset: 2.286 ms
Remote clock offset: -1.211 ms

Below is generated by plot.py at 2018-10-02 11:53:23
Datalink statistics
-- Total of 3 flows:
Average throughput: 87.11 Mbit/s
95th percentile per-packet one-way delay: 22.643 ms
Loss rate: 12.93%
-- Flow 1:
Average throughput: 46.31 Mbit/s
95th percentile per-packet one-way delay: 16.182 ms
Loss rate: 11.97%
-- Flow 2:
Average throughput: 47.58 Mbit/s
95th percentile per-packet one-way delay: 26.085 ms
Loss rate: 14.16%
-- Flow 3:
Average throughput: 27.40 Mbit/s
95th percentile per-packet one-way delay: 28.149 ms
Loss rate: 13.45%

Run 5: Report of TCP BBR — Data Link

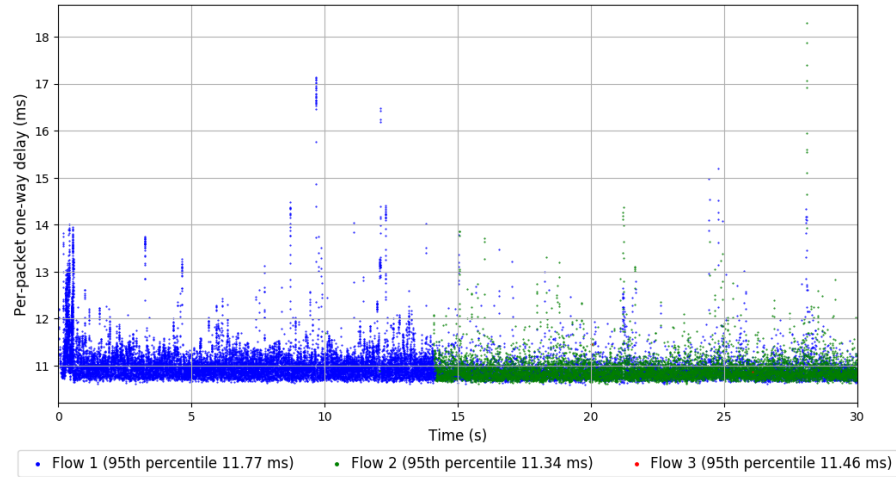
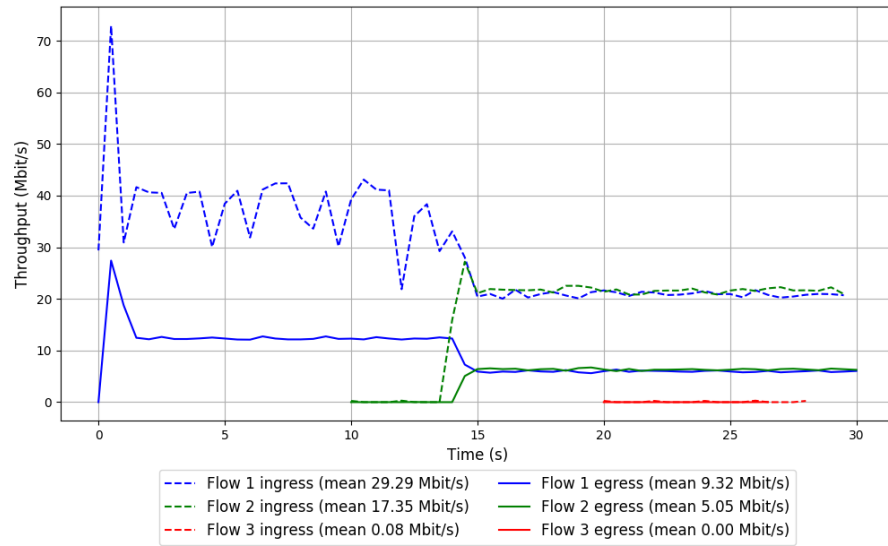


Run 1: Statistics of Copa

Start at: 2018-10-02 10:14:50
End at: 2018-10-02 10:15:20
Local clock offset: -1.126 ms
Remote clock offset: -3.077 ms

Below is generated by plot.py at 2018-10-02 11:53:23
Datalink statistics
-- Total of 3 flows:
Average throughput: 12.68 Mbit/s
95th percentile per-packet one-way delay: 11.654 ms
Loss rate: 68.97%
-- Flow 1:
Average throughput: 9.32 Mbit/s
95th percentile per-packet one-way delay: 11.766 ms
Loss rate: 68.19%
-- Flow 2:
Average throughput: 5.05 Mbit/s
95th percentile per-packet one-way delay: 11.340 ms
Loss rate: 70.92%
-- Flow 3:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 11.456 ms
Loss rate: 97.92%

Run 1: Report of Copa — Data Link

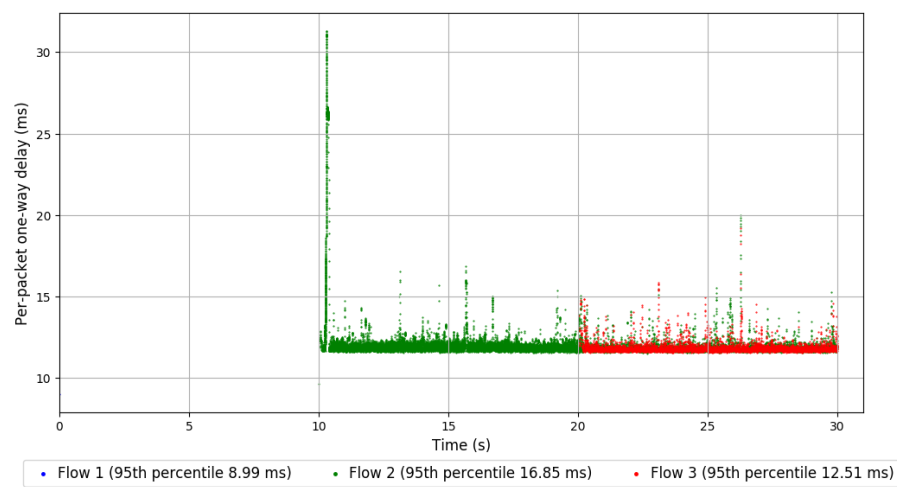
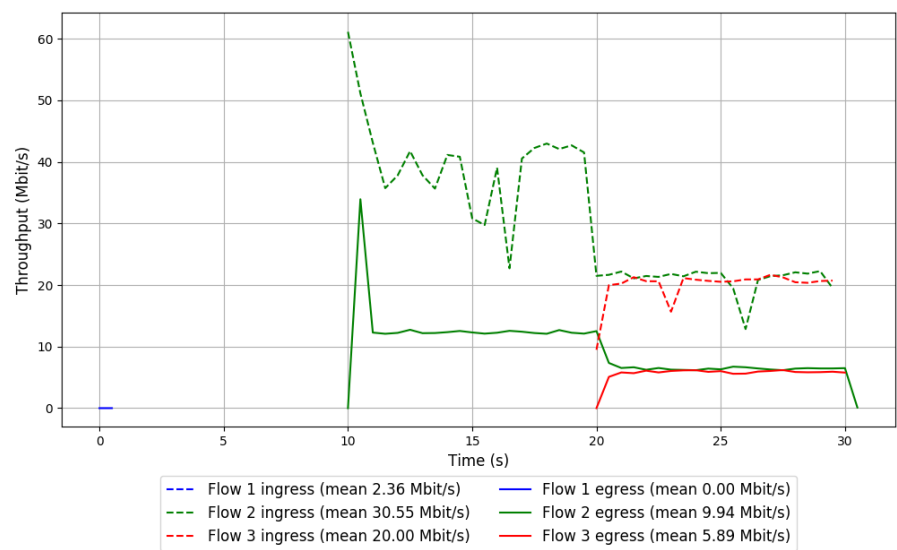


Run 2: Statistics of Copa

Start at: 2018-10-02 10:36:35
End at: 2018-10-02 10:37:05
Local clock offset: -0.924 ms
Remote clock offset: -2.438 ms

Below is generated by plot.py at 2018-10-02 11:53:23
Datalink statistics
-- Total of 3 flows:
Average throughput: 8.58 Mbit/s
95th percentile per-packet one-way delay: 14.210 ms
Loss rate: 68.23%
-- Flow 1:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 8.987 ms
Loss rate: 98.60%
-- Flow 2:
Average throughput: 9.94 Mbit/s
95th percentile per-packet one-way delay: 16.849 ms
Loss rate: 67.46%
-- Flow 3:
Average throughput: 5.89 Mbit/s
95th percentile per-packet one-way delay: 12.511 ms
Loss rate: 70.57%

Run 2: Report of Copa — Data Link

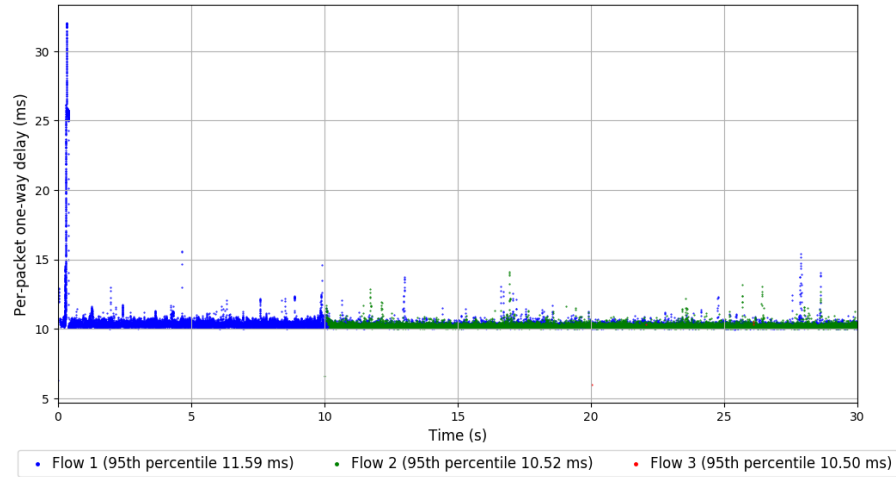
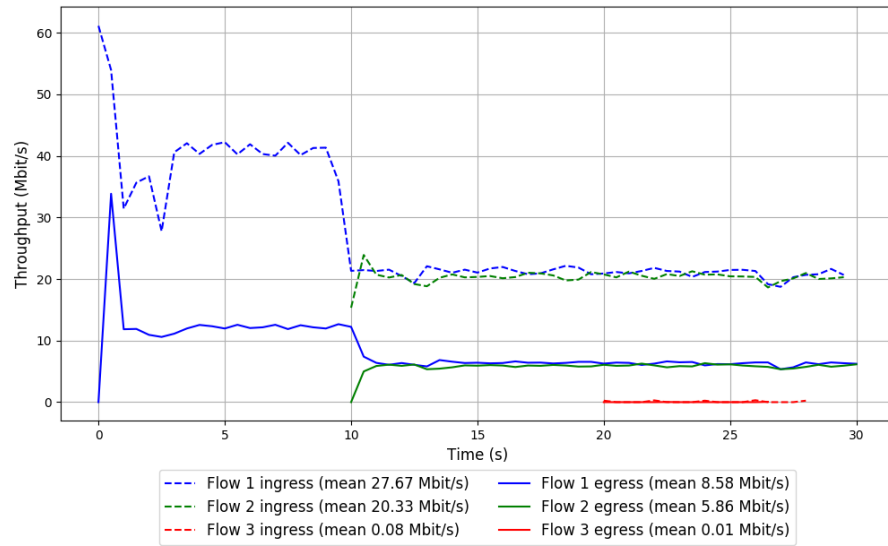


Run 3: Statistics of Copa

Start at: 2018-10-02 10:57:54
End at: 2018-10-02 10:58:24
Local clock offset: 1.674 ms
Remote clock offset: -2.114 ms

Below is generated by plot.py at 2018-10-02 11:53:23
Datalink statistics
-- Total of 3 flows:
Average throughput: 12.49 Mbit/s
95th percentile per-packet one-way delay: 10.891 ms
Loss rate: 69.71%
-- Flow 1:
Average throughput: 8.58 Mbit/s
95th percentile per-packet one-way delay: 11.586 ms
Loss rate: 68.97%
-- Flow 2:
Average throughput: 5.86 Mbit/s
95th percentile per-packet one-way delay: 10.520 ms
Loss rate: 71.16%
-- Flow 3:
Average throughput: 0.01 Mbit/s
95th percentile per-packet one-way delay: 10.502 ms
Loss rate: 94.40%

Run 3: Report of Copa — Data Link

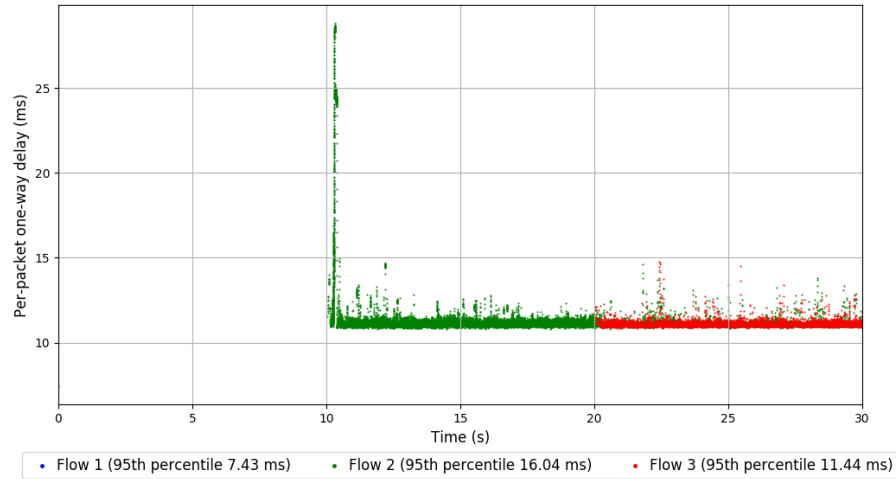
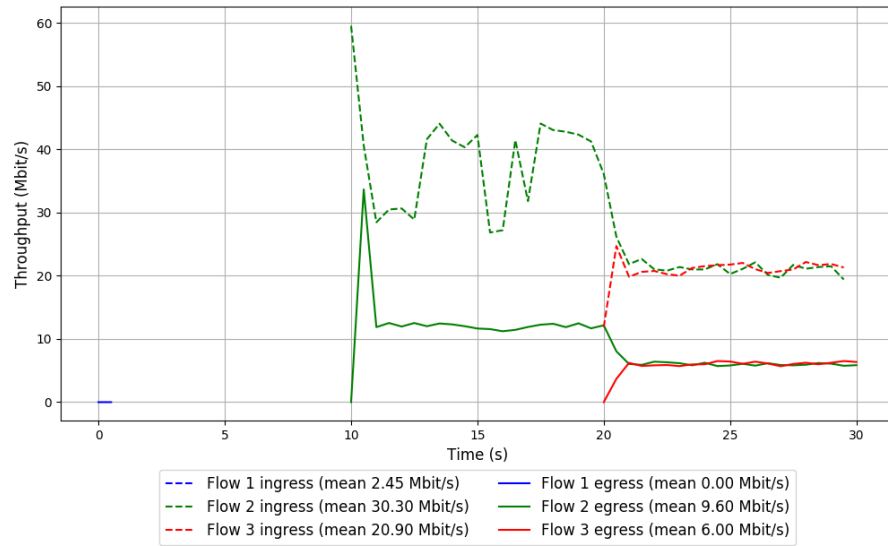


Run 4: Statistics of Copa

Start at: 2018-10-02 11:18:52
End at: 2018-10-02 11:19:22
Local clock offset: -1.316 ms
Remote clock offset: -4.386 ms

Below is generated by plot.py at 2018-10-02 11:53:23
Datalink statistics
-- Total of 3 flows:
Average throughput: 8.39 Mbit/s
95th percentile per-packet one-way delay: 12.804 ms
Loss rate: 69.08%
-- Flow 1:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 7.426 ms
Loss rate: 98.60%
-- Flow 2:
Average throughput: 9.60 Mbit/s
95th percentile per-packet one-way delay: 16.036 ms
Loss rate: 68.31%
-- Flow 3:
Average throughput: 6.00 Mbit/s
95th percentile per-packet one-way delay: 11.440 ms
Loss rate: 71.29%

Run 4: Report of Copa — Data Link

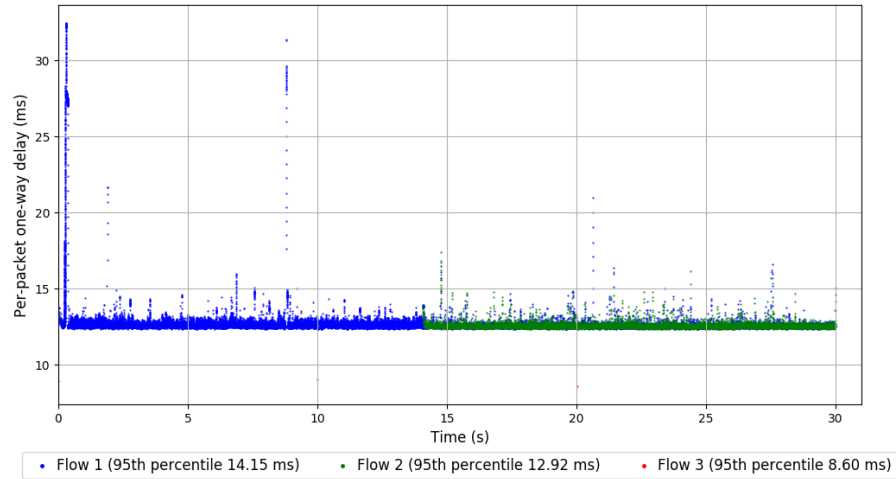
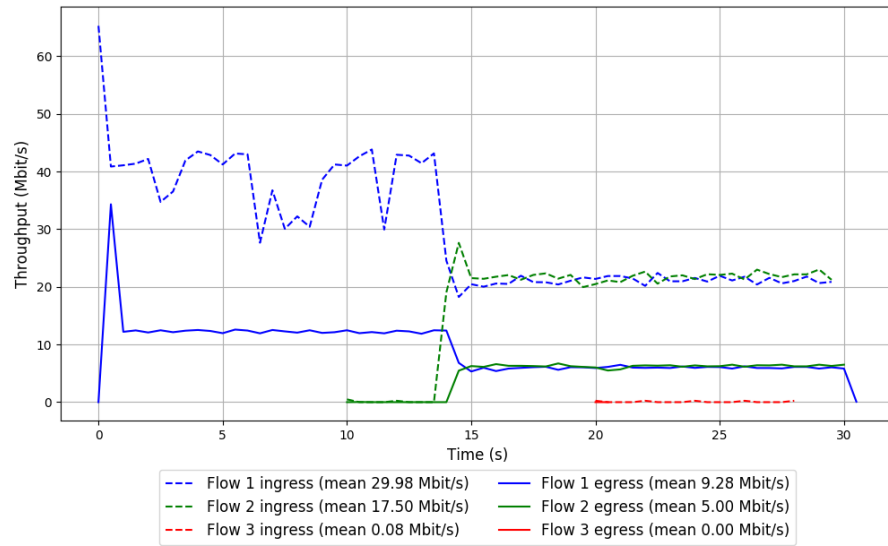


Run 5: Statistics of Copa

Start at: 2018-10-02 11:39:55
End at: 2018-10-02 11:40:25
Local clock offset: 0.942 ms
Remote clock offset: -1.592 ms

Below is generated by plot.py at 2018-10-02 11:53:23
Datalink statistics
-- Total of 3 flows:
Average throughput: 12.61 Mbit/s
95th percentile per-packet one-way delay: 13.483 ms
Loss rate: 69.73%
-- Flow 1:
Average throughput: 9.28 Mbit/s
95th percentile per-packet one-way delay: 14.151 ms
Loss rate: 69.04%
-- Flow 2:
Average throughput: 5.00 Mbit/s
95th percentile per-packet one-way delay: 12.921 ms
Loss rate: 71.43%
-- Flow 3:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 8.599 ms
Loss rate: 99.83%

Run 5: Report of Copa — Data Link

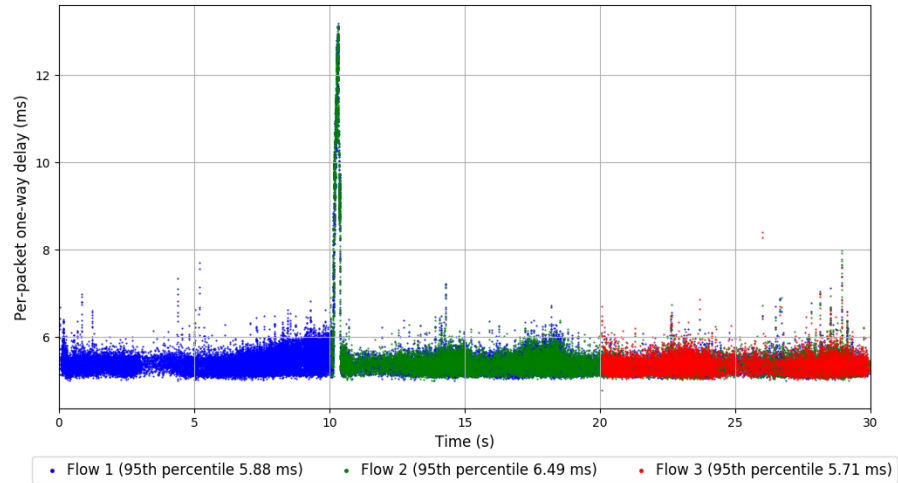
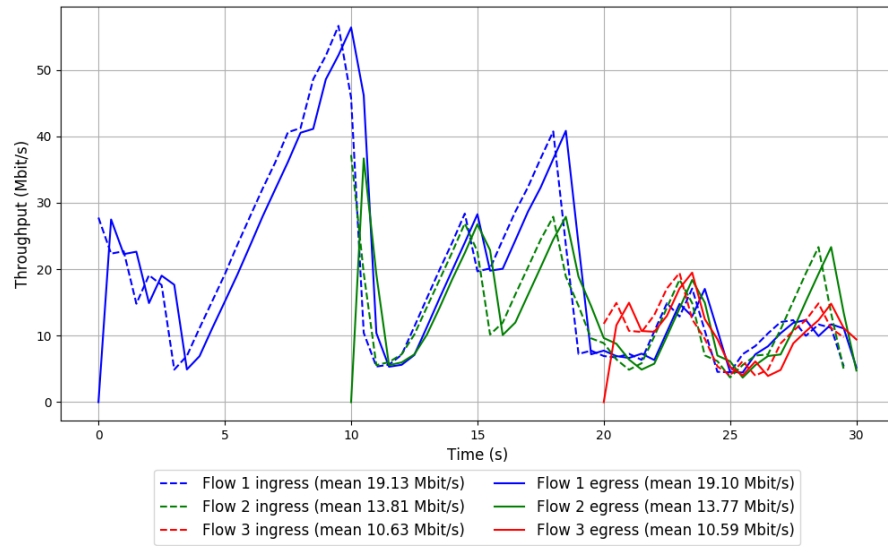


Run 1: Statistics of TCP Cubic

Start at: 2018-10-02 10:12:32
End at: 2018-10-02 10:13:02
Local clock offset: 1.606 ms
Remote clock offset: -2.453 ms

Below is generated by plot.py at 2018-10-02 11:53:23
Datalink statistics
-- Total of 3 flows:
Average throughput: 31.79 Mbit/s
95th percentile per-packet one-way delay: 5.887 ms
Loss rate: 0.22%
-- Flow 1:
Average throughput: 19.10 Mbit/s
95th percentile per-packet one-way delay: 5.878 ms
Loss rate: 0.15%
-- Flow 2:
Average throughput: 13.77 Mbit/s
95th percentile per-packet one-way delay: 6.487 ms
Loss rate: 0.30%
-- Flow 3:
Average throughput: 10.59 Mbit/s
95th percentile per-packet one-way delay: 5.707 ms
Loss rate: 0.42%

Run 1: Report of TCP Cubic — Data Link

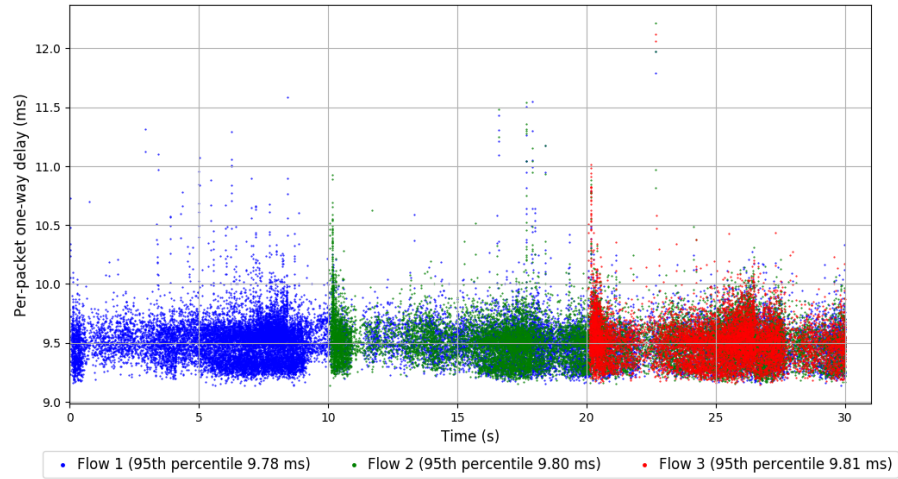
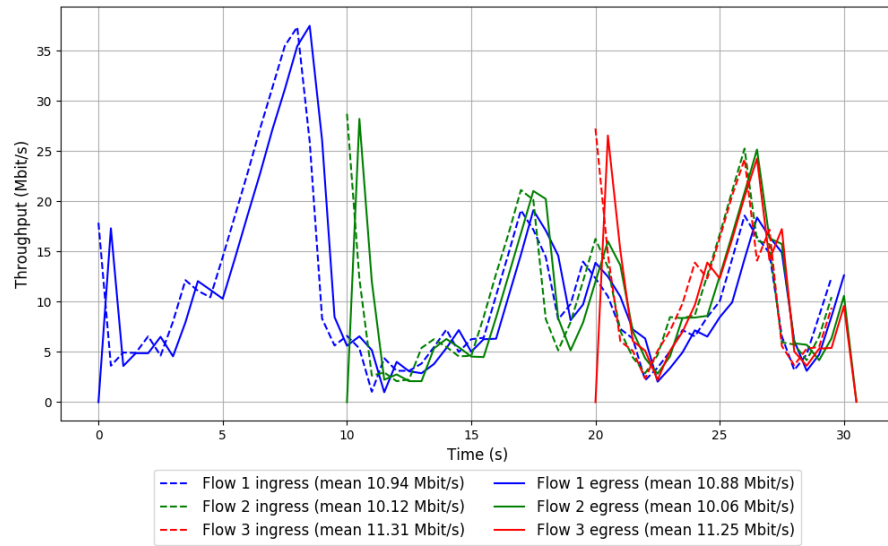


Run 2: Statistics of TCP Cubic

Start at: 2018-10-02 10:34:19
End at: 2018-10-02 10:34:49
Local clock offset: -0.962 ms
Remote clock offset: -1.268 ms

Below is generated by plot.py at 2018-10-02 11:53:23
Datalink statistics
-- Total of 3 flows:
Average throughput: 21.32 Mbit/s
95th percentile per-packet one-way delay: 9.795 ms
Loss rate: 0.56%
-- Flow 1:
Average throughput: 10.88 Mbit/s
95th percentile per-packet one-way delay: 9.783 ms
Loss rate: 0.53%
-- Flow 2:
Average throughput: 10.06 Mbit/s
95th percentile per-packet one-way delay: 9.803 ms
Loss rate: 0.63%
-- Flow 3:
Average throughput: 11.25 Mbit/s
95th percentile per-packet one-way delay: 9.809 ms
Loss rate: 0.53%

Run 2: Report of TCP Cubic — Data Link



Run 3: Statistics of TCP Cubic

Start at: 2018-10-02 10:55:39

End at: 2018-10-02 10:56:09

Local clock offset: 2.005 ms

Remote clock offset: -4.82 ms

Below is generated by plot.py at 2018-10-02 11:53:23

Datalink statistics

-- Total of 3 flows:

Average throughput: 11.60 Mbit/s

95th percentile per-packet one-way delay: 7.727 ms

Loss rate: 1.28%

-- Flow 1:

Average throughput: 5.42 Mbit/s

95th percentile per-packet one-way delay: 3.064 ms

Loss rate: 1.25%

-- Flow 2:

Average throughput: 5.94 Mbit/s

95th percentile per-packet one-way delay: 7.883 ms

Loss rate: 1.50%

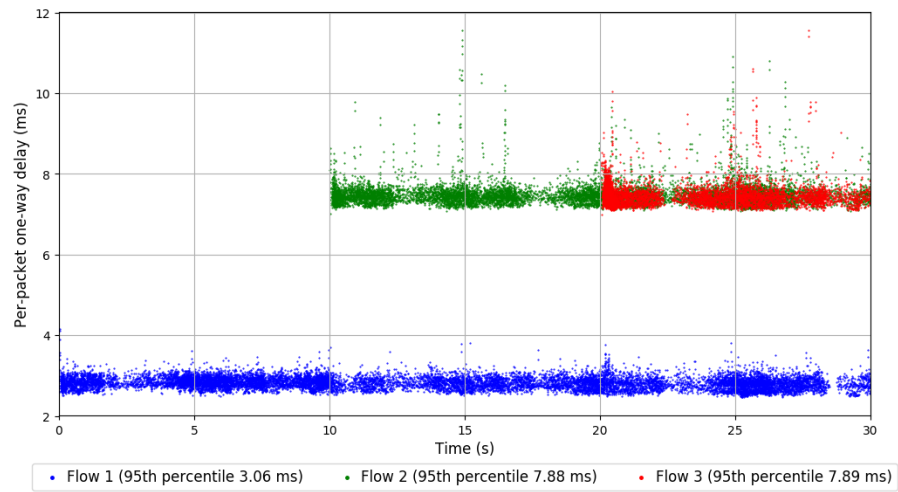
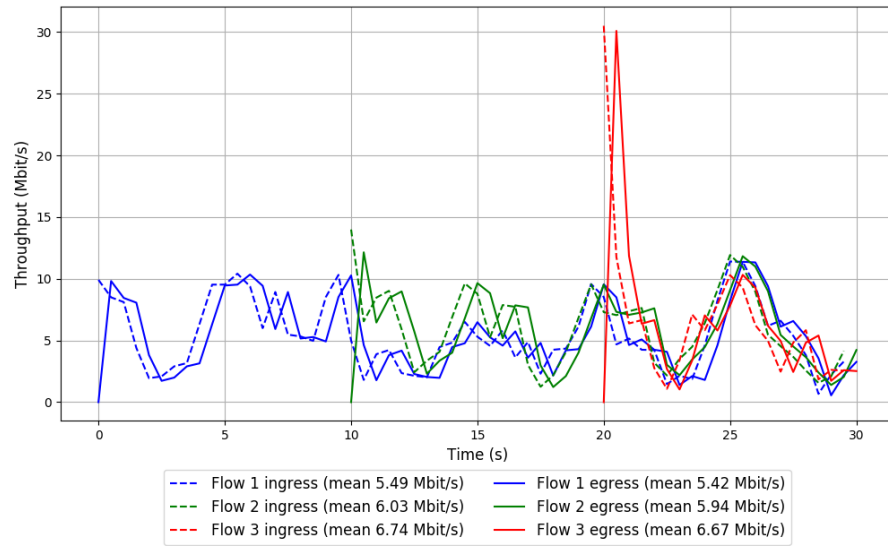
-- Flow 3:

Average throughput: 6.67 Mbit/s

95th percentile per-packet one-way delay: 7.893 ms

Loss rate: 0.96%

Run 3: Report of TCP Cubic — Data Link

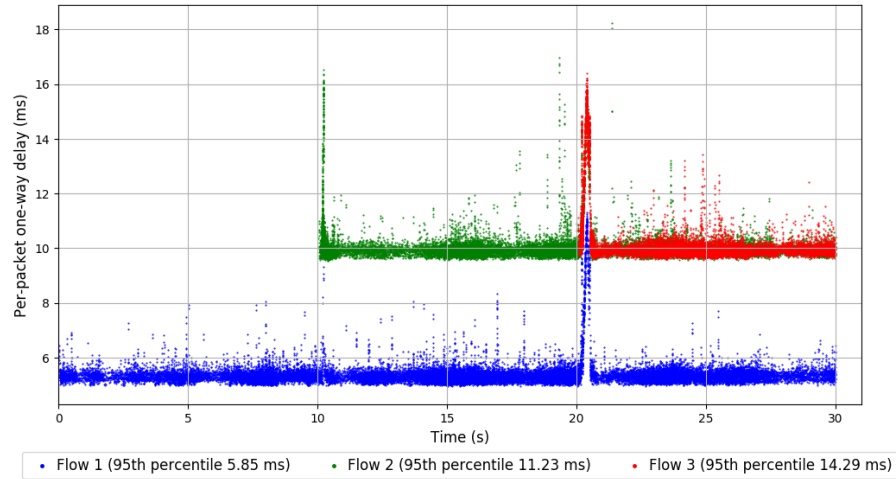
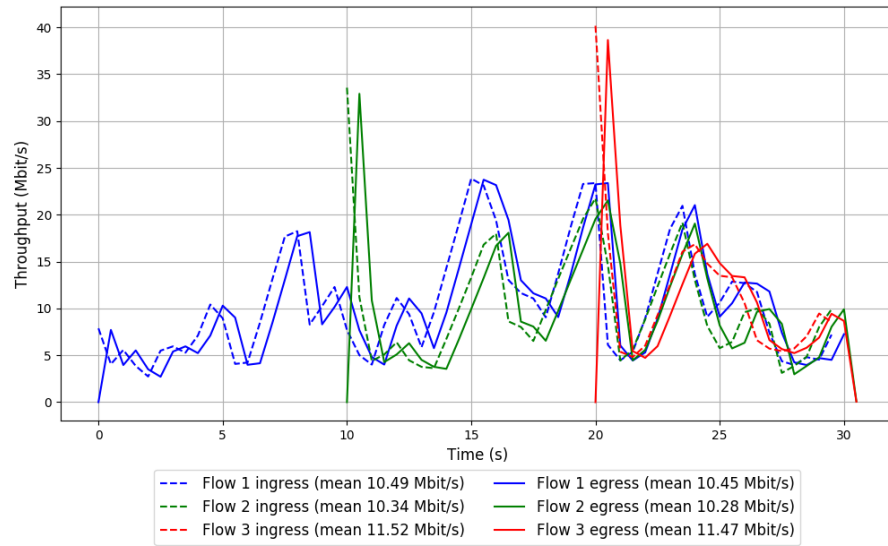


Run 4: Statistics of TCP Cubic

Start at: 2018-10-02 11:16:36
End at: 2018-10-02 11:17:06
Local clock offset: 1.63 ms
Remote clock offset: -2.419 ms

Below is generated by plot.py at 2018-10-02 11:53:23
Datalink statistics
-- Total of 3 flows:
Average throughput: 21.11 Mbit/s
95th percentile per-packet one-way delay: 10.865 ms
Loss rate: 0.45%
-- Flow 1:
Average throughput: 10.45 Mbit/s
95th percentile per-packet one-way delay: 5.849 ms
Loss rate: 0.41%
-- Flow 2:
Average throughput: 10.28 Mbit/s
95th percentile per-packet one-way delay: 11.232 ms
Loss rate: 0.53%
-- Flow 3:
Average throughput: 11.47 Mbit/s
95th percentile per-packet one-way delay: 14.289 ms
Loss rate: 0.44%

Run 4: Report of TCP Cubic — Data Link

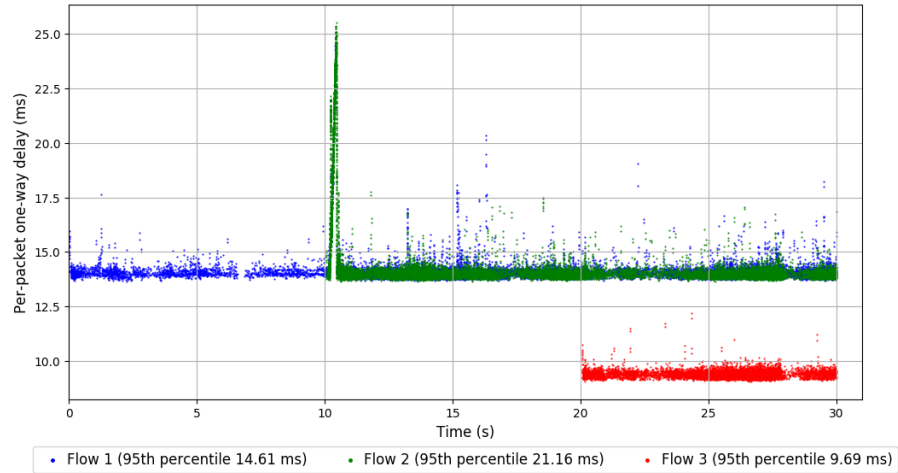
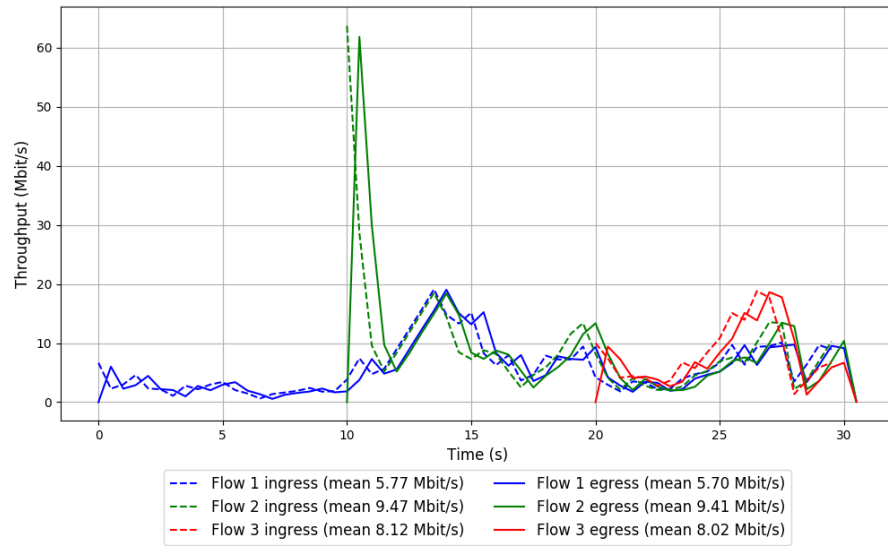


Run 5: Statistics of TCP Cubic

Start at: 2018-10-02 11:37:36
End at: 2018-10-02 11:38:06
Local clock offset: -0.119 ms
Remote clock offset: -1.235 ms

Below is generated by plot.py at 2018-10-02 11:53:23
Datalink statistics
-- Total of 3 flows:
Average throughput: 14.63 Mbit/s
95th percentile per-packet one-way delay: 16.724 ms
Loss rate: 0.99%
-- Flow 1:
Average throughput: 5.70 Mbit/s
95th percentile per-packet one-way delay: 14.605 ms
Loss rate: 1.29%
-- Flow 2:
Average throughput: 9.41 Mbit/s
95th percentile per-packet one-way delay: 21.156 ms
Loss rate: 0.65%
-- Flow 3:
Average throughput: 8.02 Mbit/s
95th percentile per-packet one-way delay: 9.691 ms
Loss rate: 1.17%

Run 5: Report of TCP Cubic — Data Link

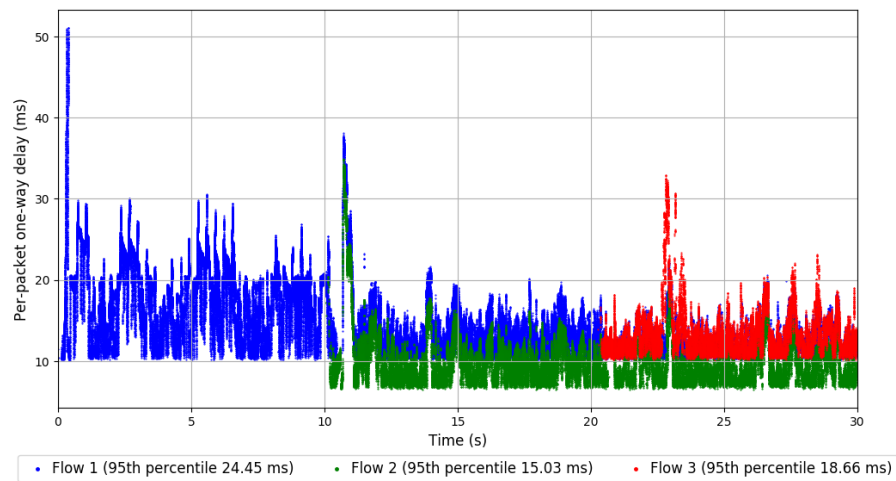
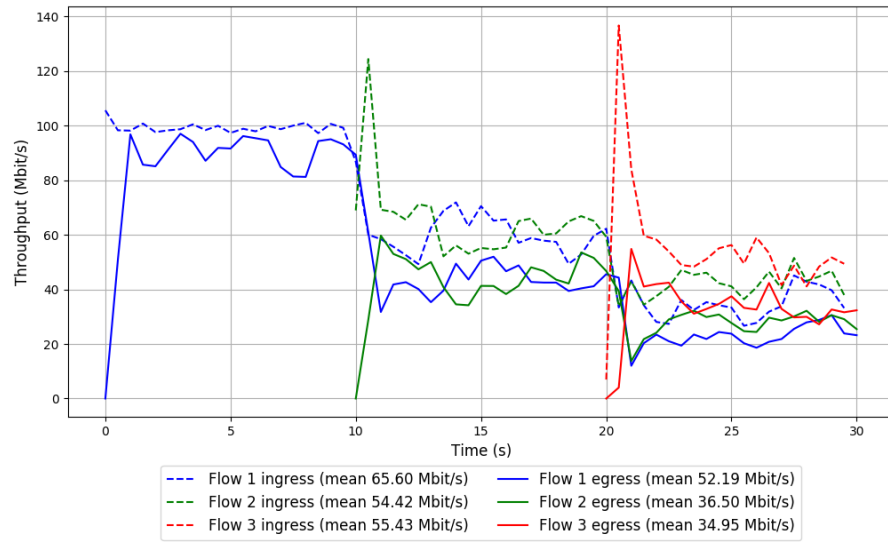


Run 1: Statistics of FillP

Start at: 2018-10-02 10:18:15
End at: 2018-10-02 10:18:45
Local clock offset: -4.632 ms
Remote clock offset: -7.147 ms

Below is generated by plot.py at 2018-10-02 11:54:20
Datalink statistics
-- Total of 3 flows:
Average throughput: 87.82 Mbit/s
95th percentile per-packet one-way delay: 23.511 ms
Loss rate: 26.93%
-- Flow 1:
Average throughput: 52.19 Mbit/s
95th percentile per-packet one-way delay: 24.450 ms
Loss rate: 20.44%
-- Flow 2:
Average throughput: 36.50 Mbit/s
95th percentile per-packet one-way delay: 15.027 ms
Loss rate: 32.96%
-- Flow 3:
Average throughput: 34.95 Mbit/s
95th percentile per-packet one-way delay: 18.661 ms
Loss rate: 38.23%

Run 1: Report of FillP — Data Link

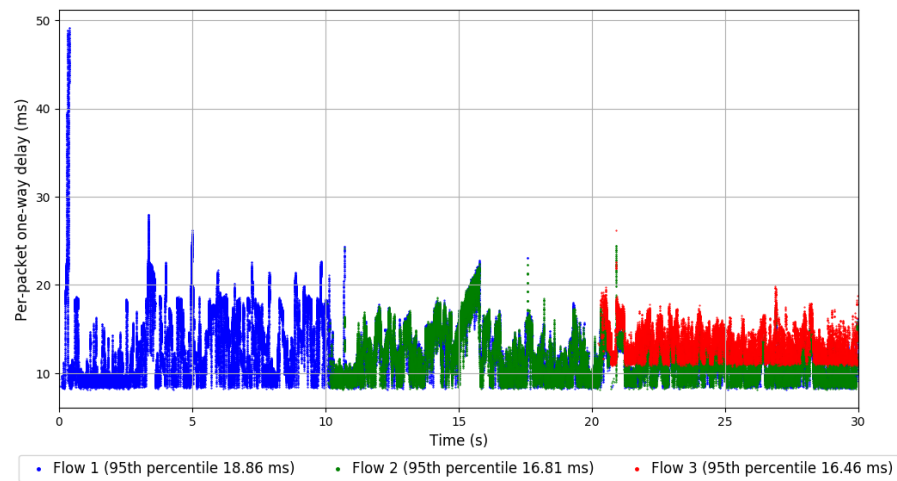
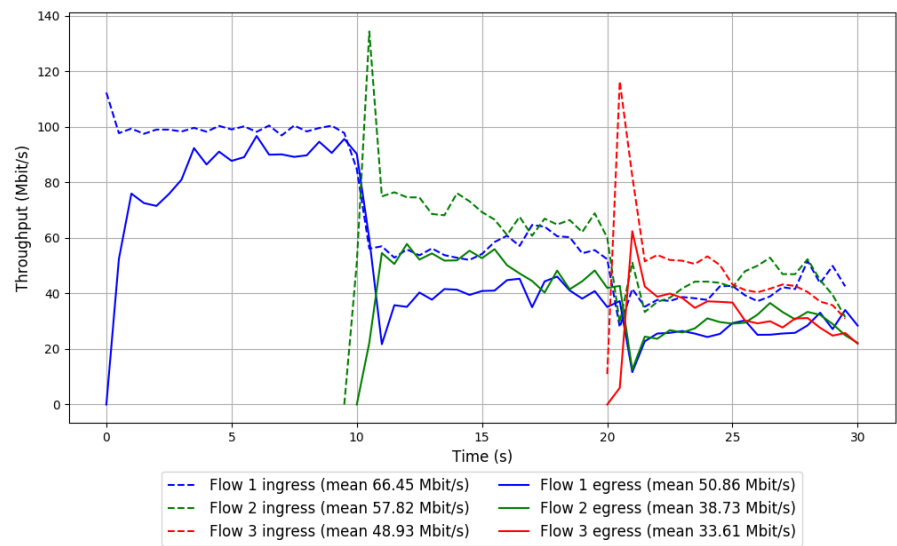


Run 2: Statistics of FillP

Start at: 2018-10-02 10:40:02
End at: 2018-10-02 10:40:32
Local clock offset: -0.229 ms
Remote clock offset: -2.251 ms

Below is generated by plot.py at 2018-10-02 11:54:30
Datalink statistics
-- Total of 3 flows:
Average throughput: 87.56 Mbit/s
95th percentile per-packet one-way delay: 18.079 ms
Loss rate: 27.72%
-- Flow 1:
Average throughput: 50.86 Mbit/s
95th percentile per-packet one-way delay: 18.856 ms
Loss rate: 23.44%
-- Flow 2:
Average throughput: 38.73 Mbit/s
95th percentile per-packet one-way delay: 16.812 ms
Loss rate: 33.03%
-- Flow 3:
Average throughput: 33.61 Mbit/s
95th percentile per-packet one-way delay: 16.464 ms
Loss rate: 32.66%

Run 2: Report of FillP — Data Link

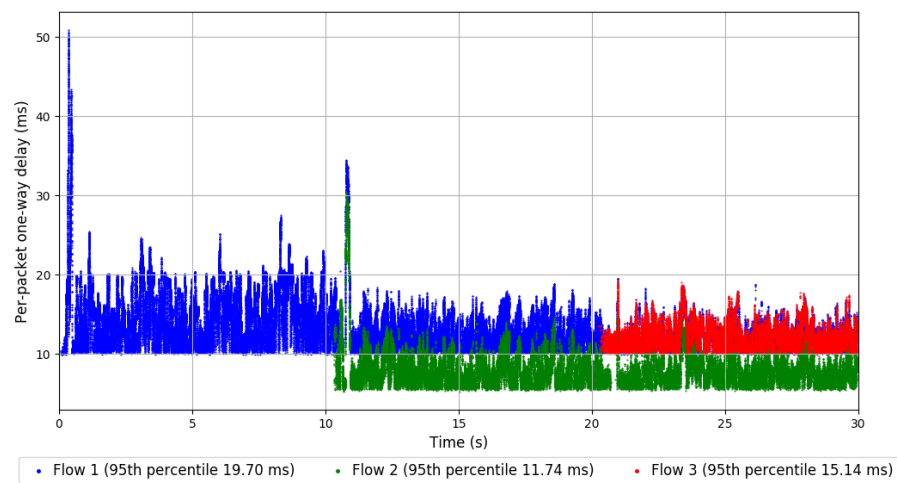
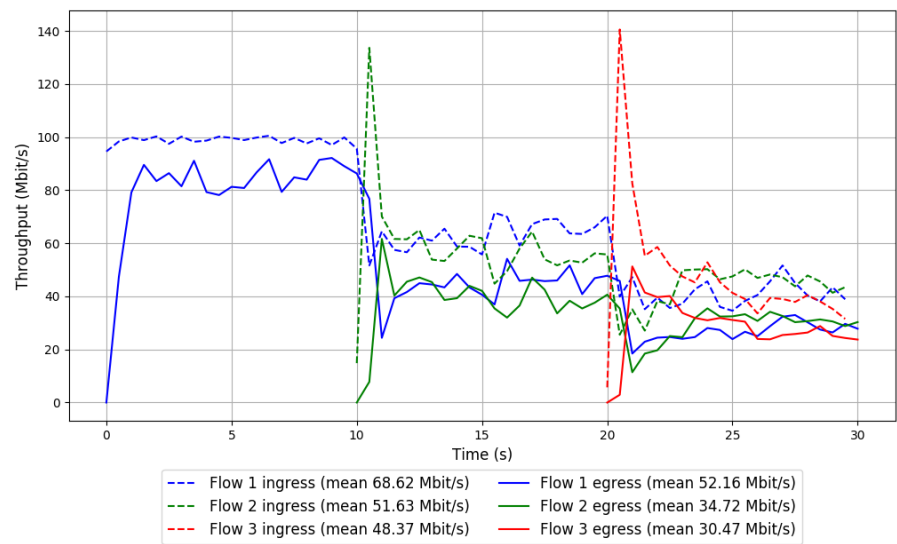


Run 3: Statistics of FillP

Start at: 2018-10-02 11:01:17
End at: 2018-10-02 11:01:47
Local clock offset: 1.515 ms
Remote clock offset: -2.014 ms

Below is generated by plot.py at 2018-10-02 11:54:32
Datalink statistics
-- Total of 3 flows:
Average throughput: 84.94 Mbit/s
95th percentile per-packet one-way delay: 18.943 ms
Loss rate: 28.64%
-- Flow 1:
Average throughput: 52.16 Mbit/s
95th percentile per-packet one-way delay: 19.704 ms
Loss rate: 23.98%
-- Flow 2:
Average throughput: 34.72 Mbit/s
95th percentile per-packet one-way delay: 11.738 ms
Loss rate: 33.43%
-- Flow 3:
Average throughput: 30.47 Mbit/s
95th percentile per-packet one-way delay: 15.137 ms
Loss rate: 38.29%

Run 3: Report of FillP — Data Link

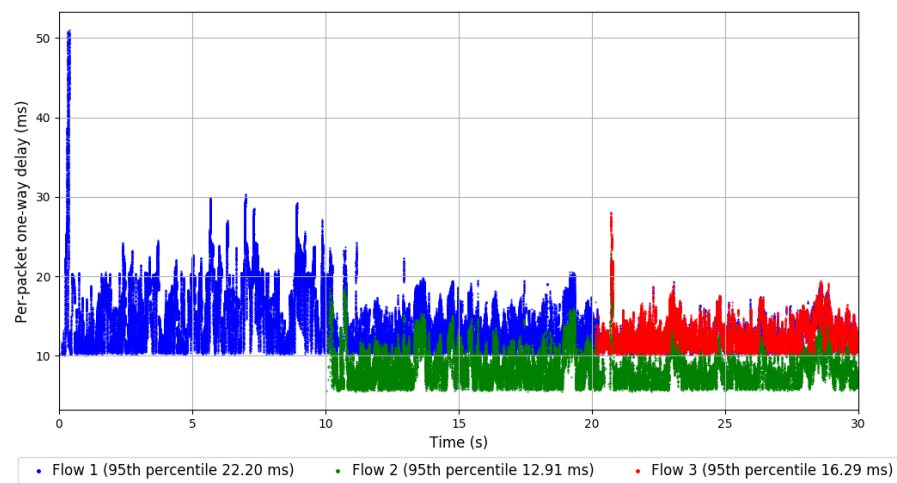
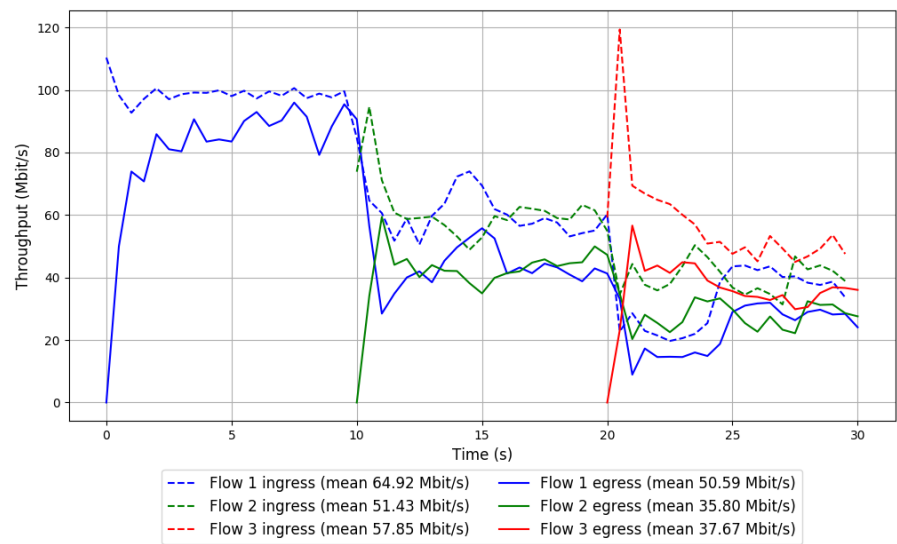


Run 4: Statistics of FillP

Start at: 2018-10-02 11:22:15
End at: 2018-10-02 11:22:45
Local clock offset: 0.185 ms
Remote clock offset: -3.703 ms

Below is generated by plot.py at 2018-10-02 11:54:41
Datalink statistics
-- Total of 3 flows:
Average throughput: 86.91 Mbit/s
95th percentile per-packet one-way delay: 20.330 ms
Loss rate: 26.57%
-- Flow 1:
Average throughput: 50.59 Mbit/s
95th percentile per-packet one-way delay: 22.203 ms
Loss rate: 22.08%
-- Flow 2:
Average throughput: 35.80 Mbit/s
95th percentile per-packet one-way delay: 12.907 ms
Loss rate: 30.41%
-- Flow 3:
Average throughput: 37.67 Mbit/s
95th percentile per-packet one-way delay: 16.289 ms
Loss rate: 34.91%

Run 4: Report of FillP — Data Link

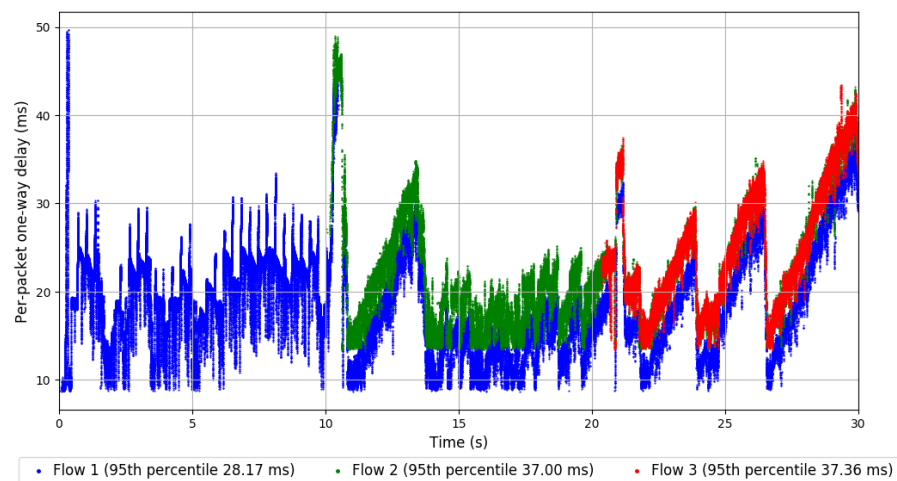
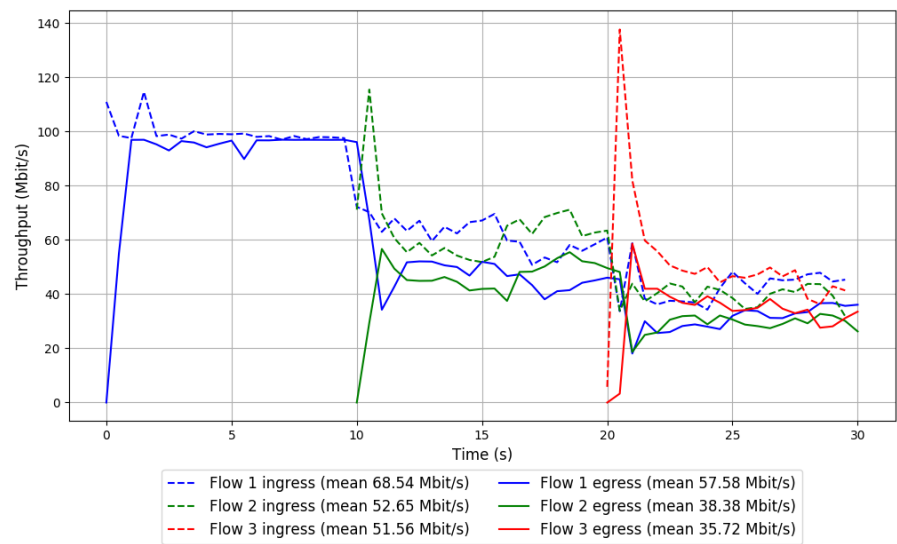


Run 5: Statistics of FillP

Start at: 2018-10-02 11:43:21
End at: 2018-10-02 11:43:51
Local clock offset: 0.361 ms
Remote clock offset: -1.127 ms

Below is generated by plot.py at 2018-10-02 11:54:47
Datalink statistics
-- Total of 3 flows:
Average throughput: 94.74 Mbit/s
95th percentile per-packet one-way delay: 33.273 ms
Loss rate: 21.46%
-- Flow 1:
Average throughput: 57.58 Mbit/s
95th percentile per-packet one-way delay: 28.173 ms
Loss rate: 15.93%
-- Flow 2:
Average throughput: 38.38 Mbit/s
95th percentile per-packet one-way delay: 36.997 ms
Loss rate: 27.08%
-- Flow 3:
Average throughput: 35.72 Mbit/s
95th percentile per-packet one-way delay: 37.357 ms
Loss rate: 32.05%

Run 5: Report of FillP — Data Link

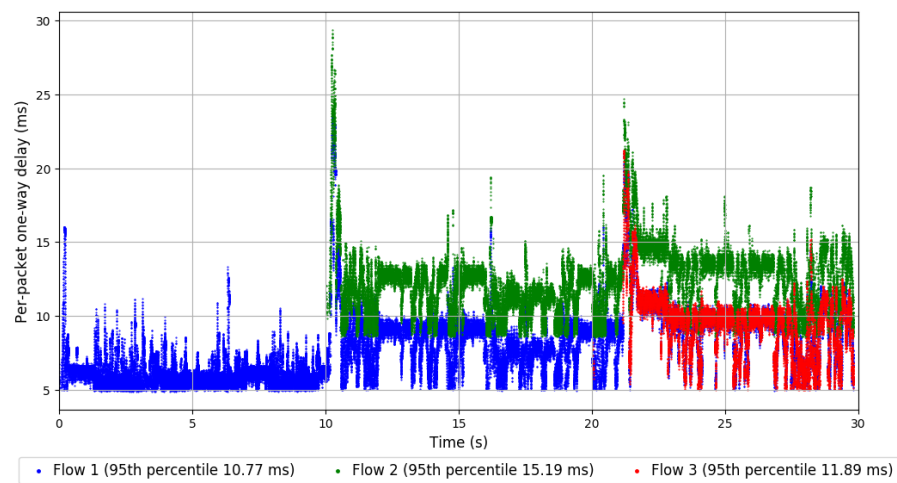
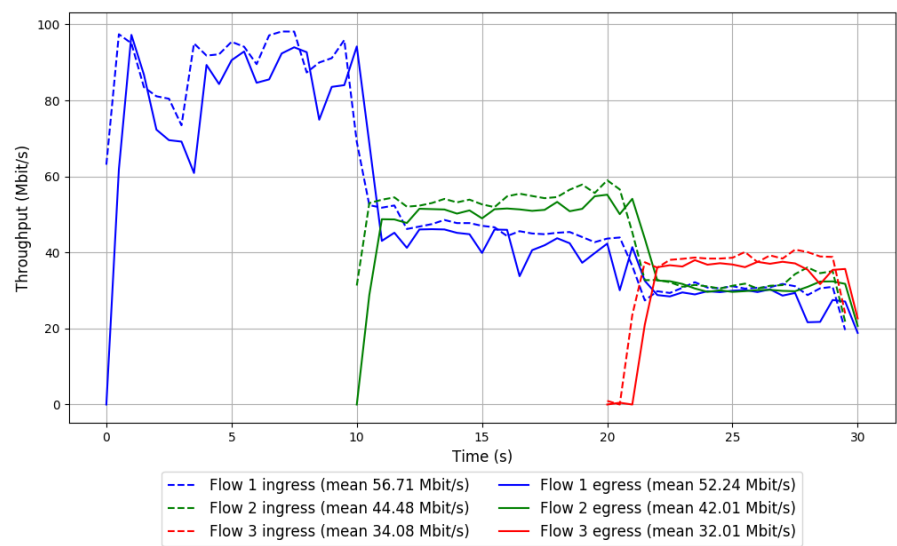



```
Run 1: Statistics of Indigo

Start at: 2018-10-02 10:19:30
End at: 2018-10-02 10:20:00
Local clock offset: 2.304 ms
Remote clock offset: -2.055 ms

# Below is generated by plot.py at 2018-10-02 11:54:47
# Datalink statistics
-- Total of 3 flows:
Average throughput: 90.62 Mbit/s
95th percentile per-packet one-way delay: 14.032 ms
Loss rate: 6.97%
-- Flow 1:
Average throughput: 52.24 Mbit/s
95th percentile per-packet one-way delay: 10.771 ms
Loss rate: 7.88%
-- Flow 2:
Average throughput: 42.01 Mbit/s
95th percentile per-packet one-way delay: 15.190 ms
Loss rate: 5.54%
-- Flow 3:
Average throughput: 32.01 Mbit/s
95th percentile per-packet one-way delay: 11.888 ms
Loss rate: 6.09%
```

Run 1: Report of Indigo — Data Link

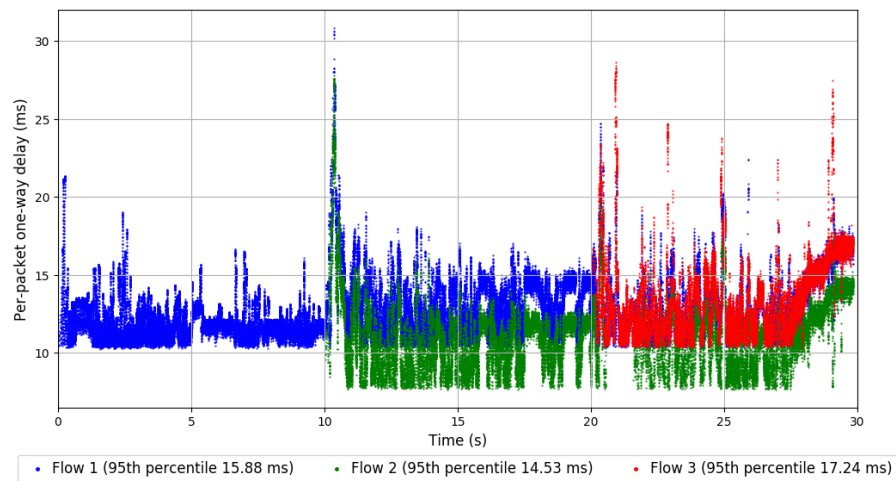
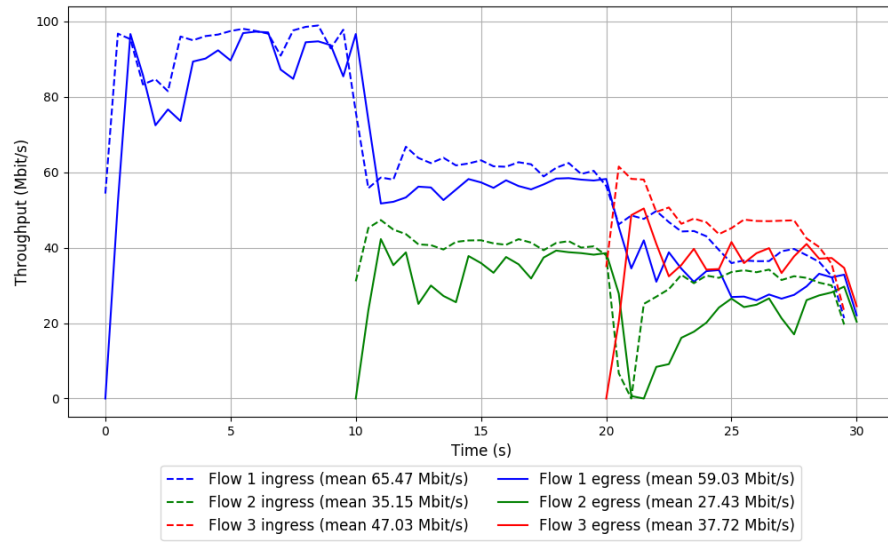


Run 2: Statistics of Indigo

Start at: 2018-10-02 10:41:15
End at: 2018-10-02 10:41:45
Local clock offset: -0.072 ms
Remote clock offset: -2.763 ms

Below is generated by plot.py at 2018-10-02 11:54:47
Datalink statistics
-- Total of 3 flows:
Average throughput: 89.59 Mbit/s
95th percentile per-packet one-way delay: 16.223 ms
Loss rate: 14.01%
-- Flow 1:
Average throughput: 59.03 Mbit/s
95th percentile per-packet one-way delay: 15.876 ms
Loss rate: 9.83%
-- Flow 2:
Average throughput: 27.43 Mbit/s
95th percentile per-packet one-way delay: 14.526 ms
Loss rate: 21.95%
-- Flow 3:
Average throughput: 37.72 Mbit/s
95th percentile per-packet one-way delay: 17.241 ms
Loss rate: 19.79%

Run 2: Report of Indigo — Data Link

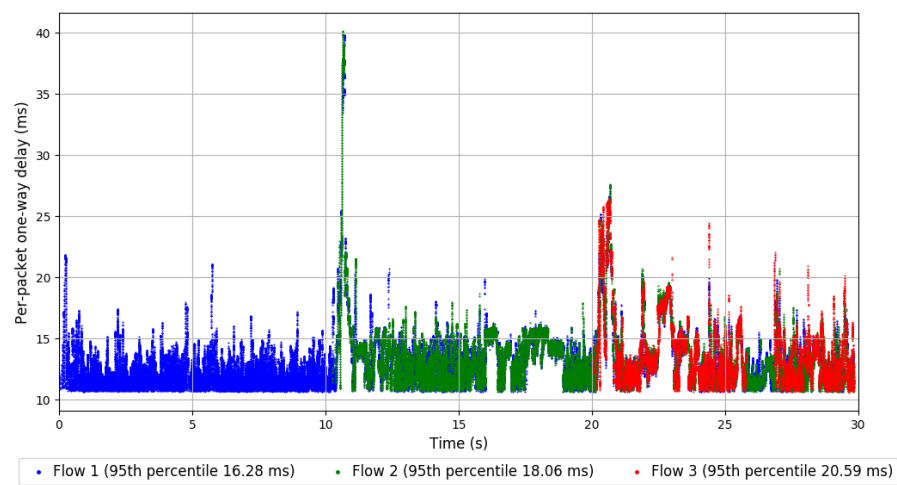
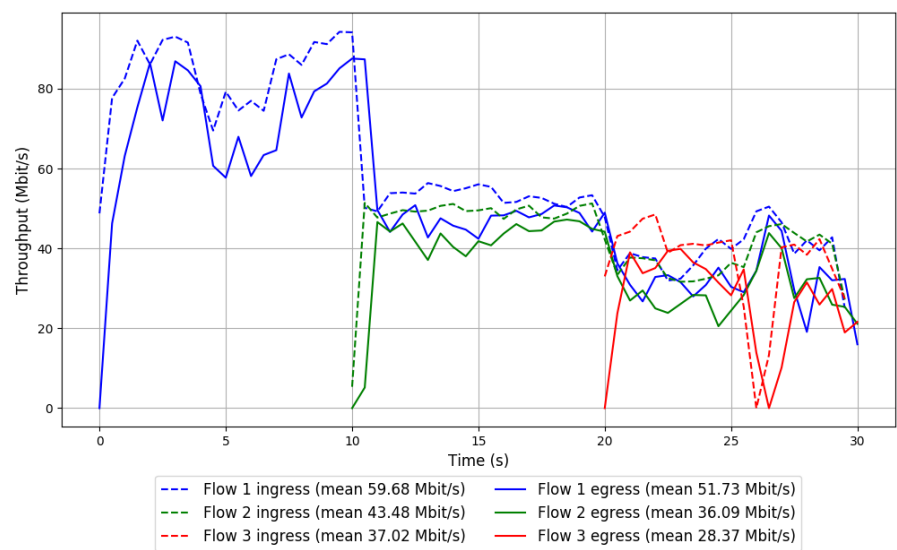


Run 3: Statistics of Indigo

Start at: 2018-10-02 11:02:30
End at: 2018-10-02 11:03:00
Local clock offset: 1.172 ms
Remote clock offset: -1.793 ms

Below is generated by plot.py at 2018-10-02 11:54:47
Datalink statistics
-- Total of 3 flows:
Average throughput: 84.68 Mbit/s
95th percentile per-packet one-way delay: 17.747 ms
Loss rate: 15.57%
-- Flow 1:
Average throughput: 51.73 Mbit/s
95th percentile per-packet one-way delay: 16.280 ms
Loss rate: 13.31%
-- Flow 2:
Average throughput: 36.09 Mbit/s
95th percentile per-packet one-way delay: 18.061 ms
Loss rate: 16.98%
-- Flow 3:
Average throughput: 28.37 Mbit/s
95th percentile per-packet one-way delay: 20.595 ms
Loss rate: 23.36%

Run 3: Report of Indigo — Data Link

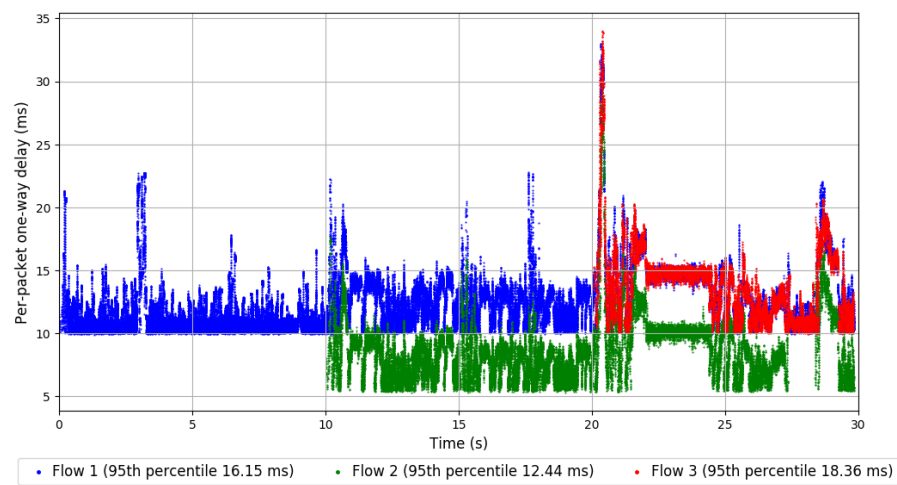
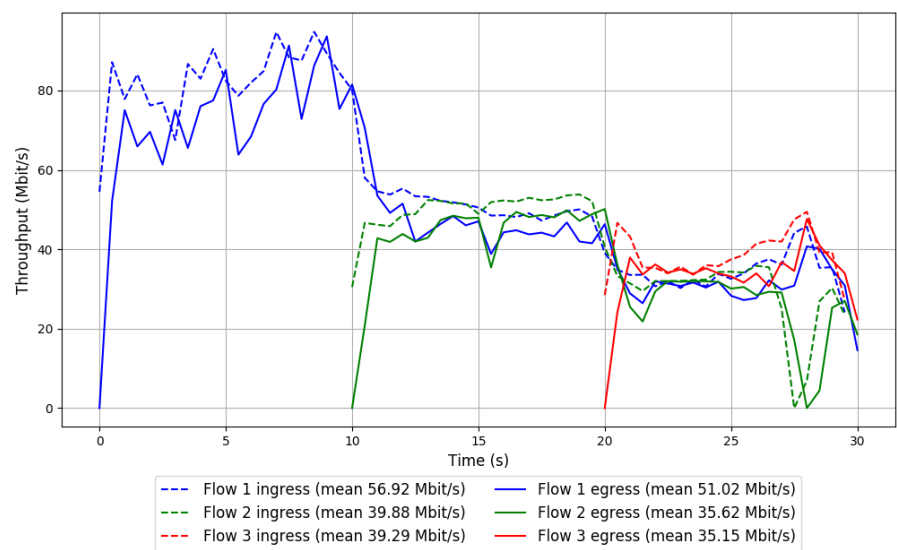


Run 4: Statistics of Indigo

Start at: 2018-10-02 11:23:28
End at: 2018-10-02 11:23:58
Local clock offset: 2.206 ms
Remote clock offset: -2.062 ms

Below is generated by plot.py at 2018-10-02 11:55:18
Datalink statistics
-- Total of 3 flows:
Average throughput: 86.17 Mbit/s
95th percentile per-packet one-way delay: 16.279 ms
Loss rate: 10.48%
-- Flow 1:
Average throughput: 51.02 Mbit/s
95th percentile per-packet one-way delay: 16.152 ms
Loss rate: 10.37%
-- Flow 2:
Average throughput: 35.62 Mbit/s
95th percentile per-packet one-way delay: 12.441 ms
Loss rate: 10.68%
-- Flow 3:
Average throughput: 35.15 Mbit/s
95th percentile per-packet one-way delay: 18.363 ms
Loss rate: 10.58%

Run 4: Report of Indigo — Data Link

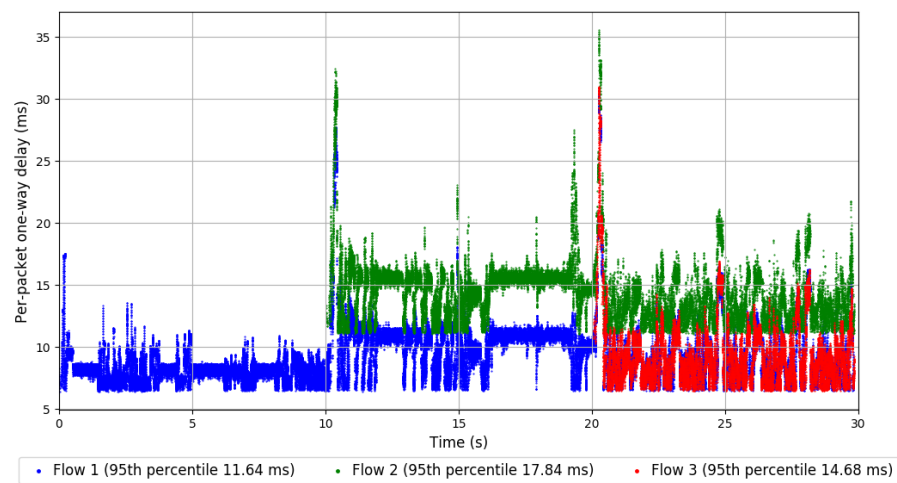
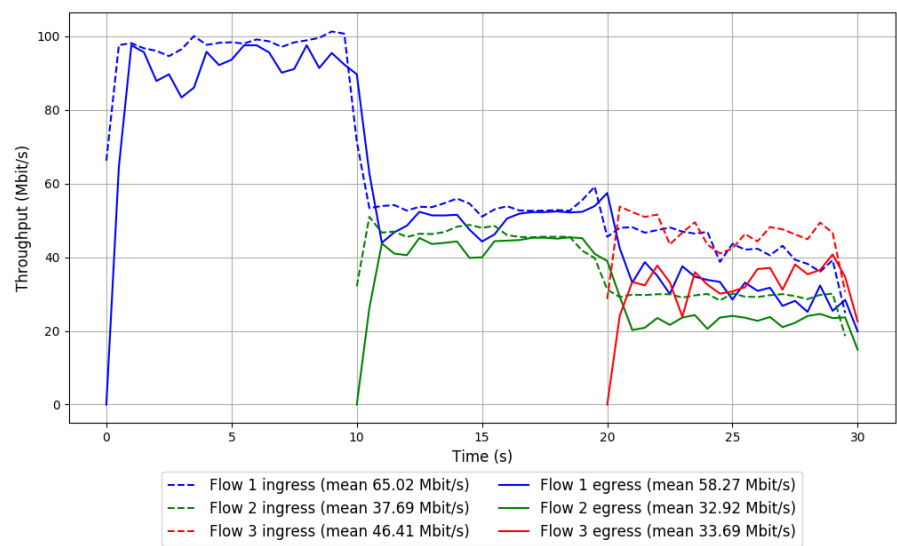


Run 5: Statistics of Indigo

Start at: 2018-10-02 11:44:36
End at: 2018-10-02 11:45:06
Local clock offset: 2.171 ms
Remote clock offset: -1.831 ms

Below is generated by plot.py at 2018-10-02 11:55:27
Datalink statistics
-- Total of 3 flows:
Average throughput: 91.14 Mbit/s
95th percentile per-packet one-way delay: 15.918 ms
Loss rate: 13.38%
-- Flow 1:
Average throughput: 58.27 Mbit/s
95th percentile per-packet one-way delay: 11.644 ms
Loss rate: 10.38%
-- Flow 2:
Average throughput: 32.92 Mbit/s
95th percentile per-packet one-way delay: 17.836 ms
Loss rate: 12.65%
-- Flow 3:
Average throughput: 33.69 Mbit/s
95th percentile per-packet one-way delay: 14.675 ms
Loss rate: 27.44%

Run 5: Report of Indigo — Data Link

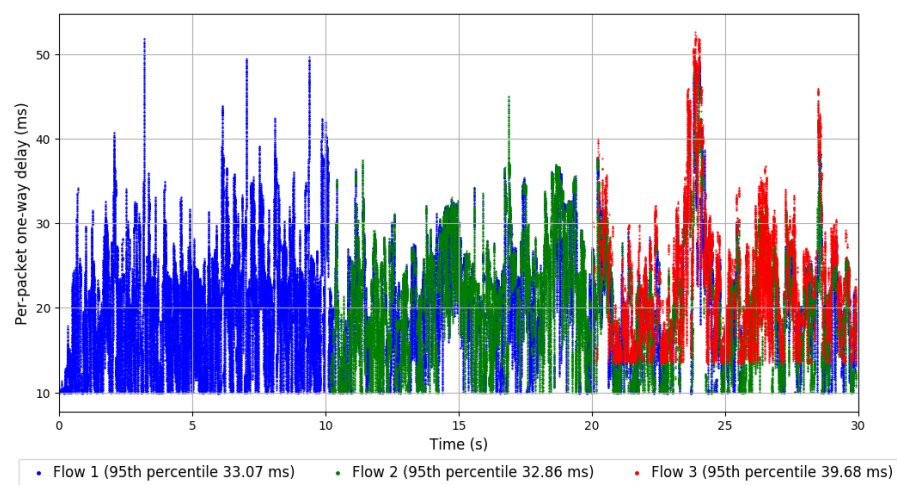
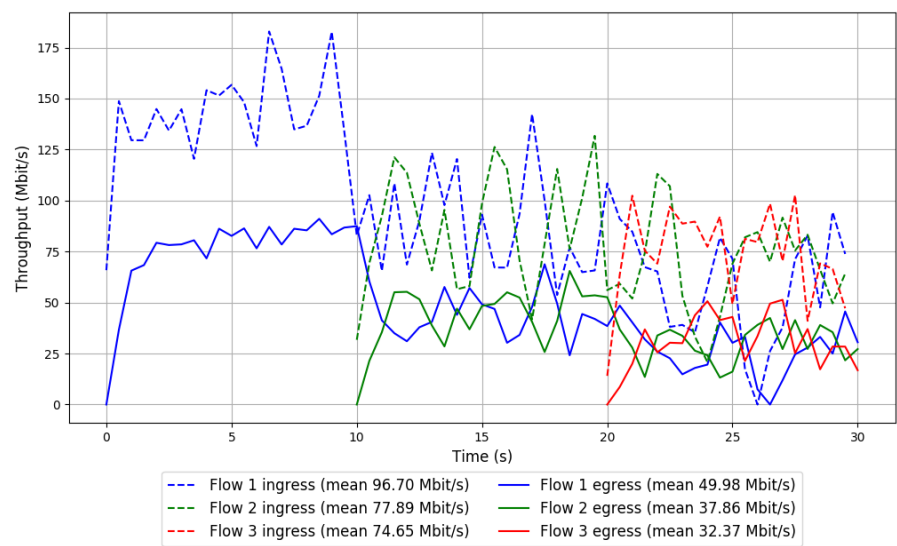


Run 1: Statistics of Indigo-96d2da3

Start at: 2018-10-02 10:06:36
End at: 2018-10-02 10:07:06
Local clock offset: -1.145 ms
Remote clock offset: -2.505 ms

Below is generated by plot.py at 2018-10-02 11:55:46
Datalink statistics
-- Total of 3 flows:
Average throughput: 85.78 Mbit/s
95th percentile per-packet one-way delay: 33.470 ms
Loss rate: 50.43%
-- Flow 1:
Average throughput: 49.98 Mbit/s
95th percentile per-packet one-way delay: 33.073 ms
Loss rate: 48.30%
-- Flow 2:
Average throughput: 37.86 Mbit/s
95th percentile per-packet one-way delay: 32.860 ms
Loss rate: 51.43%
-- Flow 3:
Average throughput: 32.37 Mbit/s
95th percentile per-packet one-way delay: 39.680 ms
Loss rate: 56.68%

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

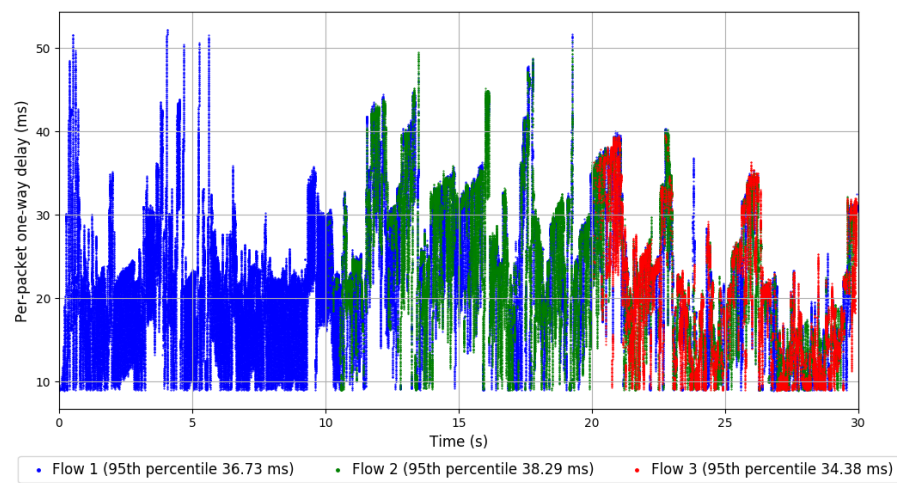
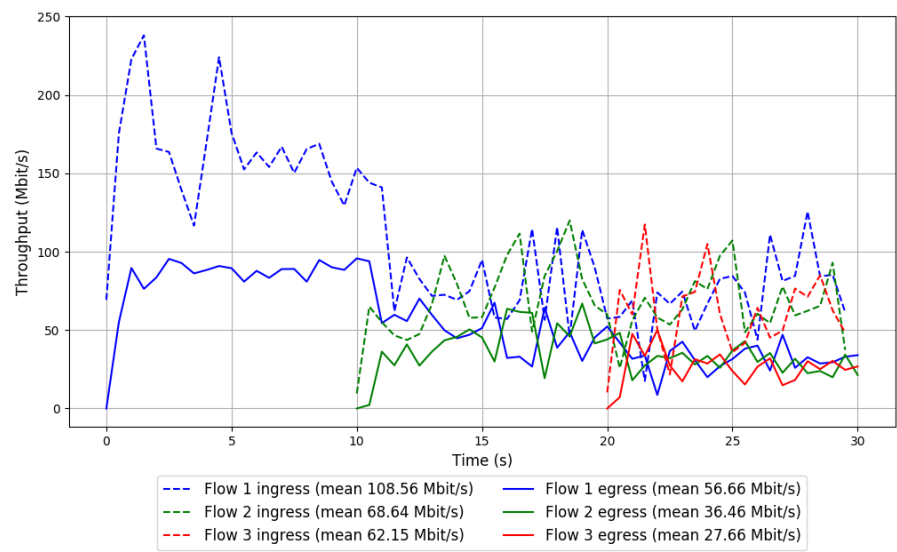


Run 2: Statistics of Indigo-96d2da3

Start at: 2018-10-02 10:28:01
End at: 2018-10-02 10:28:31
Local clock offset: 2.542 ms
Remote clock offset: -1.628 ms

Below is generated by plot.py at 2018-10-02 11:55:51
Datalink statistics
-- Total of 3 flows:
Average throughput: 89.97 Mbit/s
95th percentile per-packet one-way delay: 36.845 ms
Loss rate: 48.44%
-- Flow 1:
Average throughput: 56.66 Mbit/s
95th percentile per-packet one-way delay: 36.734 ms
Loss rate: 47.77%
-- Flow 2:
Average throughput: 36.46 Mbit/s
95th percentile per-packet one-way delay: 38.291 ms
Loss rate: 46.85%
-- Flow 3:
Average throughput: 27.66 Mbit/s
95th percentile per-packet one-way delay: 34.385 ms
Loss rate: 55.51%

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

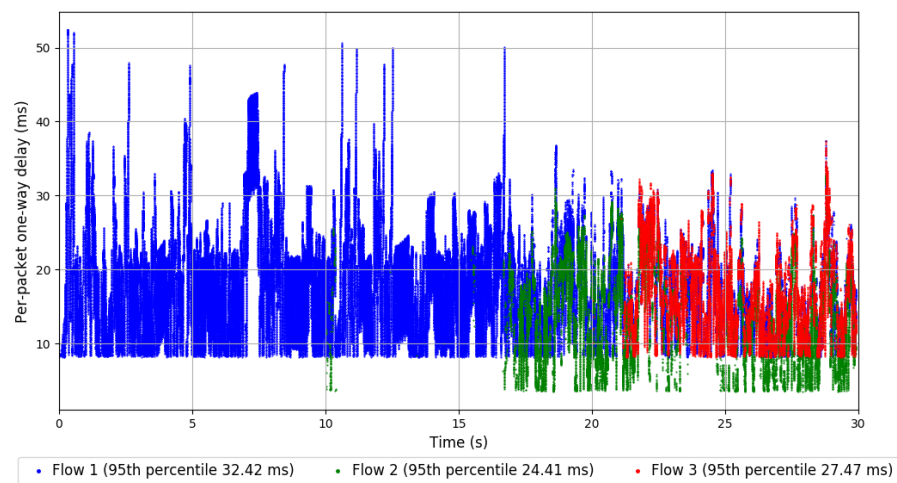
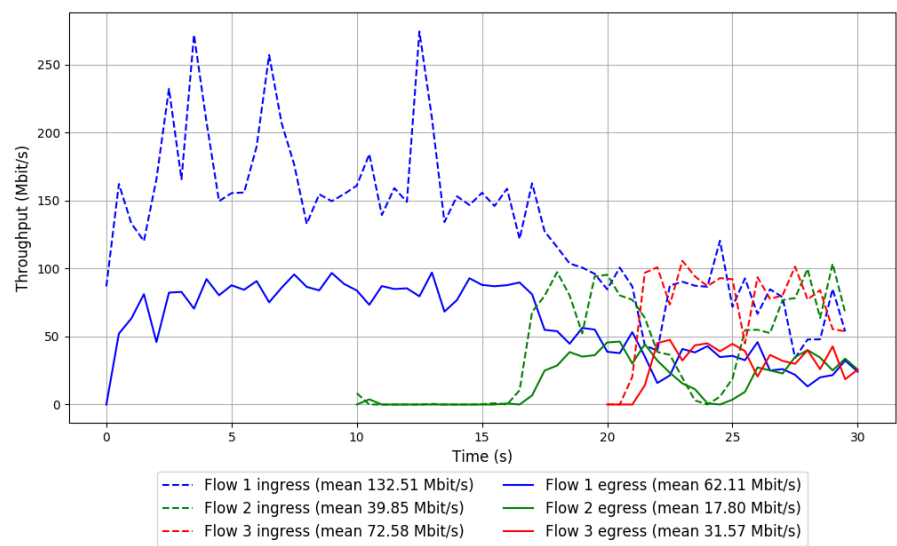


Run 3: Statistics of Indigo-96d2da3

Start at: 2018-10-02 10:49:37
End at: 2018-10-02 10:50:07
Local clock offset: 2.412 ms
Remote clock offset: -3.754 ms

Below is generated by plot.py at 2018-10-02 11:55:54
Datalink statistics
-- Total of 3 flows:
Average throughput: 84.34 Mbit/s
95th percentile per-packet one-way delay: 30.987 ms
Loss rate: 53.89%
-- Flow 1:
Average throughput: 62.11 Mbit/s
95th percentile per-packet one-way delay: 32.417 ms
Loss rate: 53.13%
-- Flow 2:
Average throughput: 17.80 Mbit/s
95th percentile per-packet one-way delay: 24.413 ms
Loss rate: 55.33%
-- Flow 3:
Average throughput: 31.57 Mbit/s
95th percentile per-packet one-way delay: 27.469 ms
Loss rate: 56.52%

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

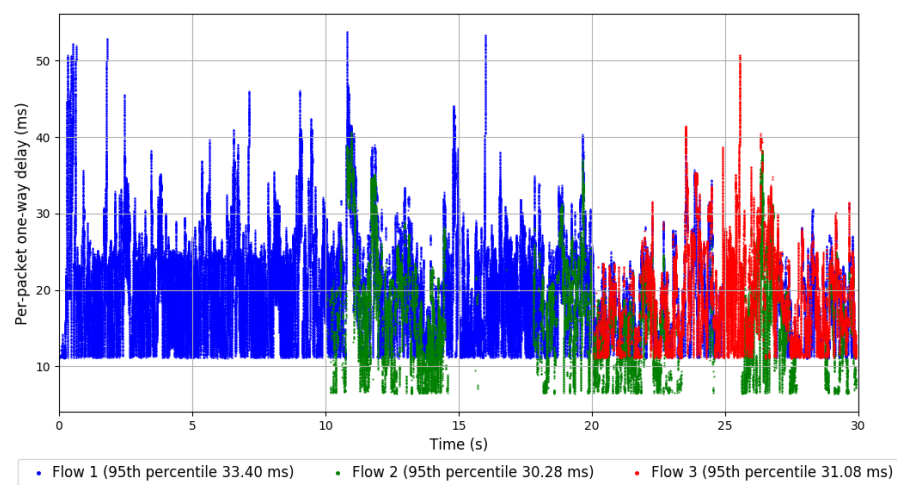
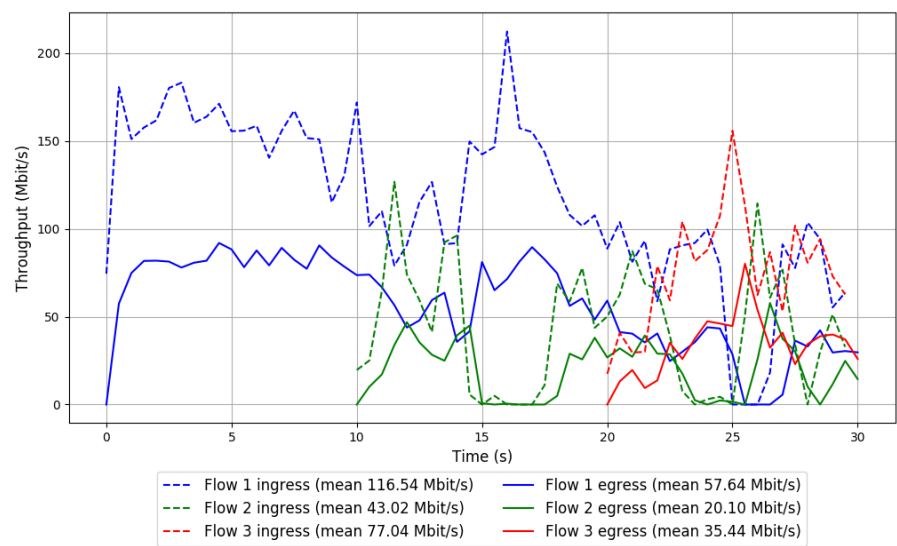


Run 4: Statistics of Indigo-96d2da3

Start at: 2018-10-02 11:10:44
End at: 2018-10-02 11:11:14
Local clock offset: 1.621 ms
Remote clock offset: -0.704 ms

Below is generated by plot.py at 2018-10-02 11:55:54
Datalink statistics
-- Total of 3 flows:
Average throughput: 82.67 Mbit/s
95th percentile per-packet one-way delay: 32.671 ms
Loss rate: 51.52%
-- Flow 1:
Average throughput: 57.64 Mbit/s
95th percentile per-packet one-way delay: 33.398 ms
Loss rate: 50.54%
-- Flow 2:
Average throughput: 20.10 Mbit/s
95th percentile per-packet one-way delay: 30.277 ms
Loss rate: 53.29%
-- Flow 3:
Average throughput: 35.44 Mbit/s
95th percentile per-packet one-way delay: 31.082 ms
Loss rate: 54.02%

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

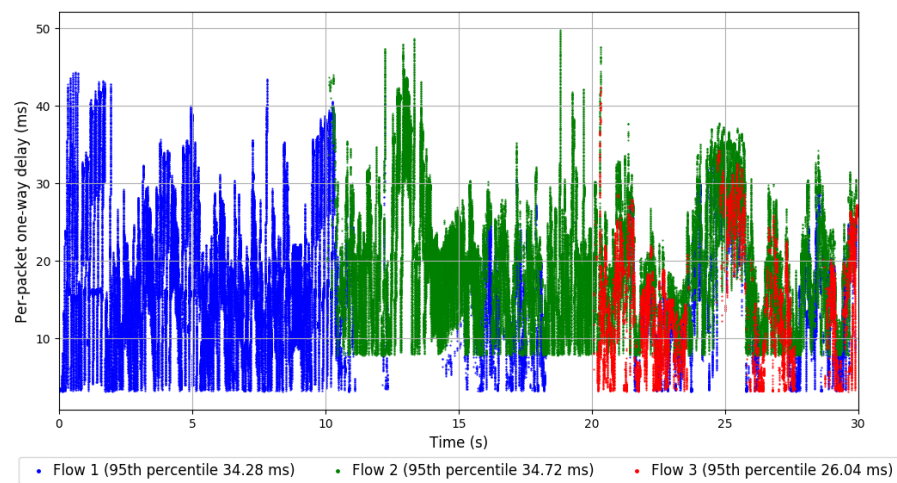
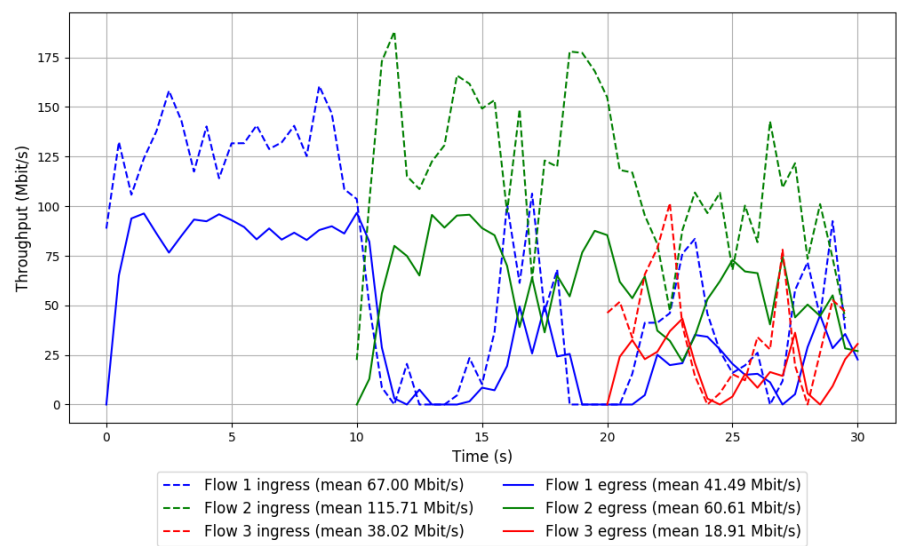


Run 5: Statistics of Indigo-96d2da3

Start at: 2018-10-02 11:31:41
End at: 2018-10-02 11:32:11
Local clock offset: 2.323 ms
Remote clock offset: -4.545 ms

Below is generated by plot.py at 2018-10-02 11:56:02
Datalink statistics
-- Total of 3 flows:
Average throughput: 87.95 Mbit/s
95th percentile per-packet one-way delay: 34.215 ms
Loss rate: 43.70%
-- Flow 1:
Average throughput: 41.49 Mbit/s
95th percentile per-packet one-way delay: 34.280 ms
Loss rate: 38.03%
-- Flow 2:
Average throughput: 60.61 Mbit/s
95th percentile per-packet one-way delay: 34.721 ms
Loss rate: 47.58%
-- Flow 3:
Average throughput: 18.91 Mbit/s
95th percentile per-packet one-way delay: 26.041 ms
Loss rate: 50.22%

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

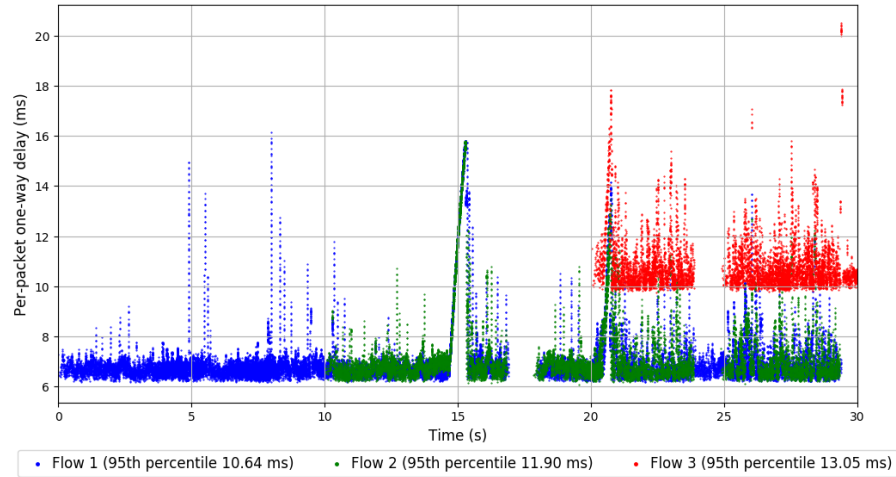
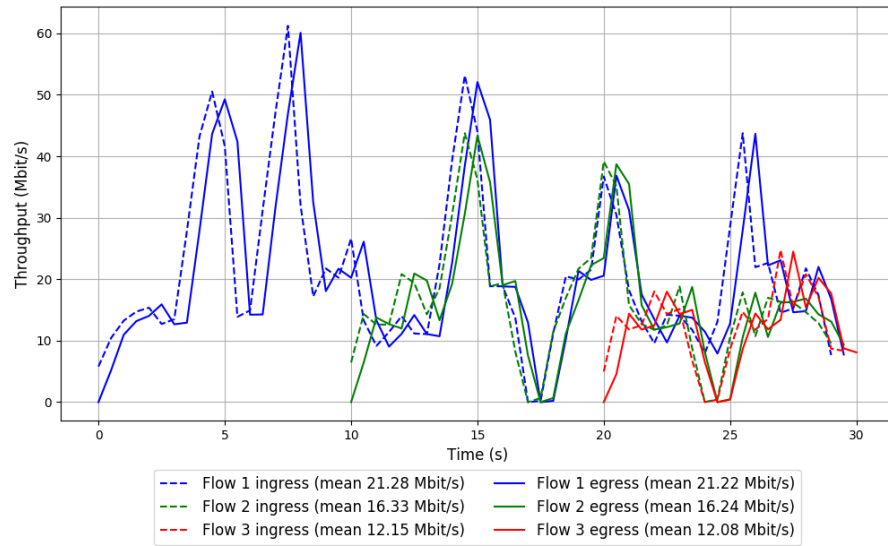


Run 1: Statistics of LEDBAT

Start at: 2018-10-02 10:17:05
End at: 2018-10-02 10:17:35
Local clock offset: 0.586 ms
Remote clock offset: -2.325 ms

Below is generated by plot.py at 2018-10-02 11:56:02
Datalink statistics
-- Total of 3 flows:
Average throughput: 35.27 Mbit/s
95th percentile per-packet one-way delay: 11.841 ms
Loss rate: 0.43%
-- Flow 1:
Average throughput: 21.22 Mbit/s
95th percentile per-packet one-way delay: 10.638 ms
Loss rate: 0.37%
-- Flow 2:
Average throughput: 16.24 Mbit/s
95th percentile per-packet one-way delay: 11.900 ms
Loss rate: 0.52%
-- Flow 3:
Average throughput: 12.08 Mbit/s
95th percentile per-packet one-way delay: 13.046 ms
Loss rate: 0.56%

Run 1: Report of LEDBAT — Data Link

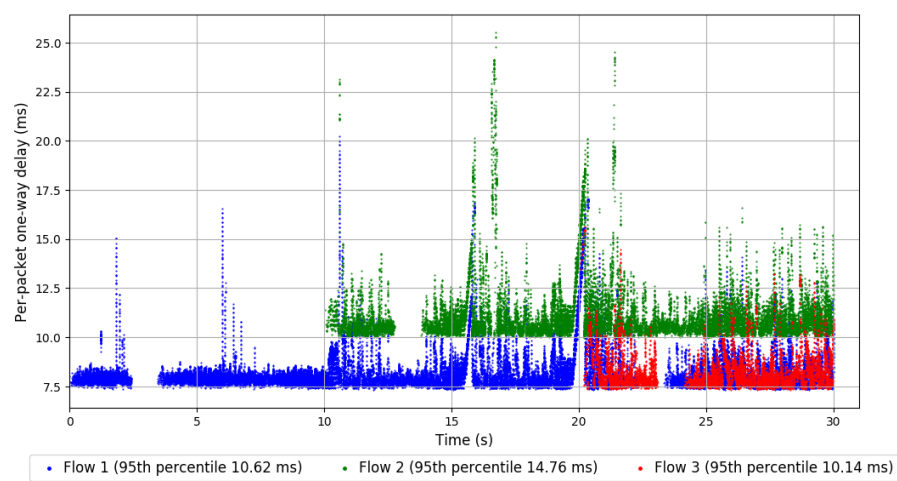
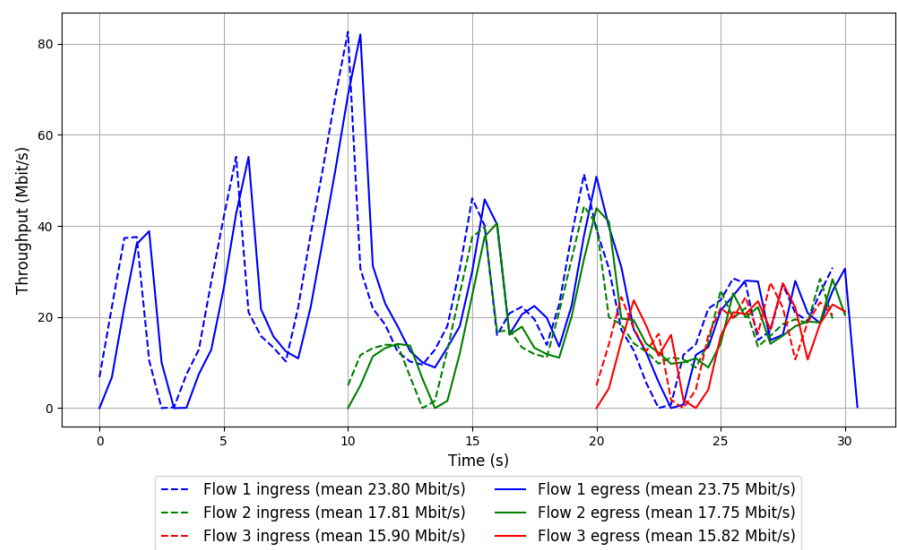


Run 2: Statistics of LEDBAT

Start at: 2018-10-02 10:38:51
End at: 2018-10-02 10:39:21
Local clock offset: 0.65 ms
Remote clock offset: -2.382 ms

Below is generated by plot.py at 2018-10-02 11:56:02
Datalink statistics
-- Total of 3 flows:
Average throughput: 40.83 Mbit/s
95th percentile per-packet one-way delay: 12.436 ms
Loss rate: 0.26%
-- Flow 1:
Average throughput: 23.75 Mbit/s
95th percentile per-packet one-way delay: 10.623 ms
Loss rate: 0.18%
-- Flow 2:
Average throughput: 17.75 Mbit/s
95th percentile per-packet one-way delay: 14.757 ms
Loss rate: 0.30%
-- Flow 3:
Average throughput: 15.82 Mbit/s
95th percentile per-packet one-way delay: 10.137 ms
Loss rate: 0.54%

Run 2: Report of LEDBAT — Data Link

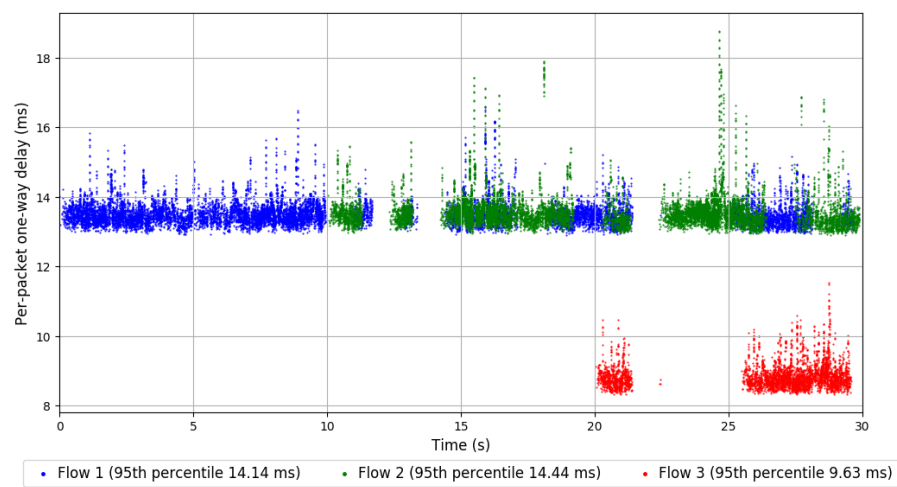
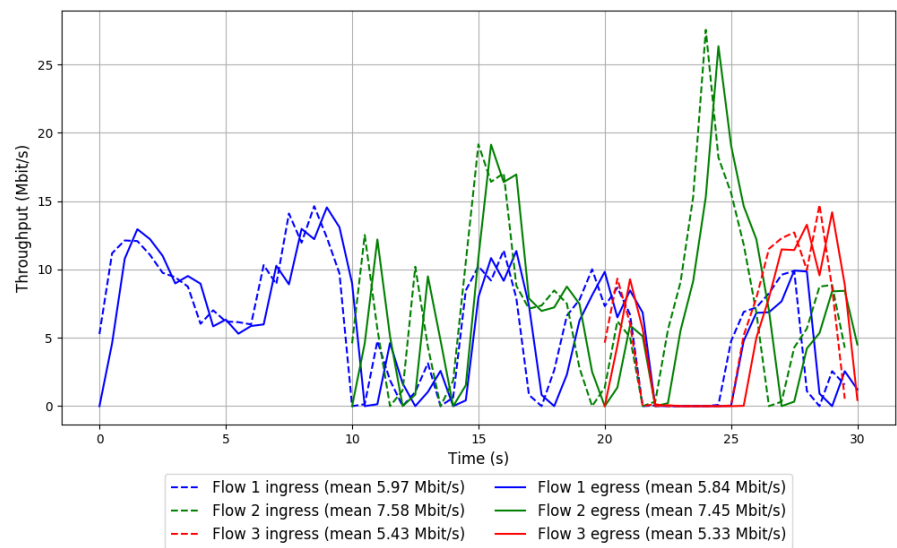


Run 3: Statistics of LEDBAT

Start at: 2018-10-02 11:00:09
End at: 2018-10-02 11:00:39
Local clock offset: -1.36 ms
Remote clock offset: -2.114 ms

Below is generated by plot.py at 2018-10-02 11:56:02
Datalink statistics
-- Total of 3 flows:
Average throughput: 12.46 Mbit/s
95th percentile per-packet one-way delay: 14.172 ms
Loss rate: 1.98%
-- Flow 1:
Average throughput: 5.84 Mbit/s
95th percentile per-packet one-way delay: 14.136 ms
Loss rate: 2.30%
-- Flow 2:
Average throughput: 7.45 Mbit/s
95th percentile per-packet one-way delay: 14.436 ms
Loss rate: 1.61%
-- Flow 3:
Average throughput: 5.33 Mbit/s
95th percentile per-packet one-way delay: 9.632 ms
Loss rate: 1.97%

Run 3: Report of LEDBAT — Data Link

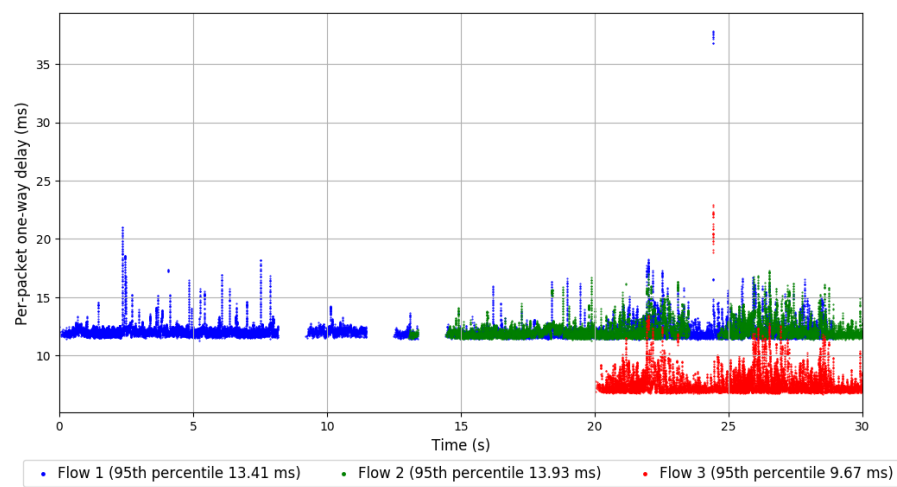
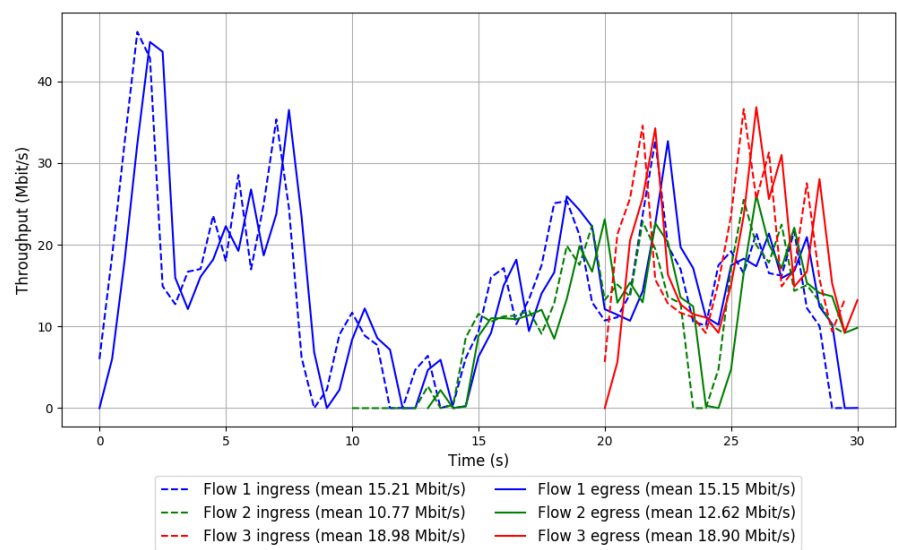


Run 4: Statistics of LEDBAT

Start at: 2018-10-02 11:21:06
End at: 2018-10-02 11:21:36
Local clock offset: 0.363 ms
Remote clock offset: -2.272 ms

Below is generated by plot.py at 2018-10-02 11:56:02
Datalink statistics
-- Total of 3 flows:
Average throughput: 28.56 Mbit/s
95th percentile per-packet one-way delay: 13.394 ms
Loss rate: 0.43%
-- Flow 1:
Average throughput: 15.15 Mbit/s
95th percentile per-packet one-way delay: 13.412 ms
Loss rate: 0.43%
-- Flow 2:
Average throughput: 12.62 Mbit/s
95th percentile per-packet one-way delay: 13.932 ms
Loss rate: 0.43%
-- Flow 3:
Average throughput: 18.90 Mbit/s
95th percentile per-packet one-way delay: 9.669 ms
Loss rate: 0.45%

Run 4: Report of LEDBAT — Data Link

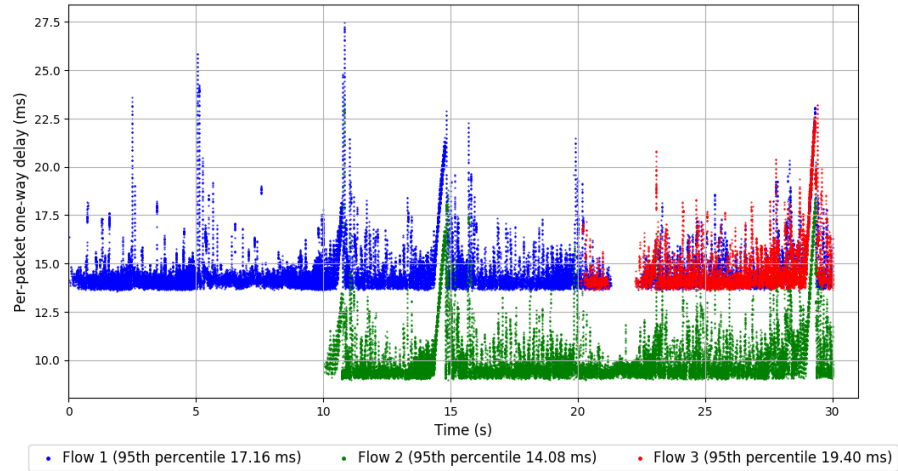
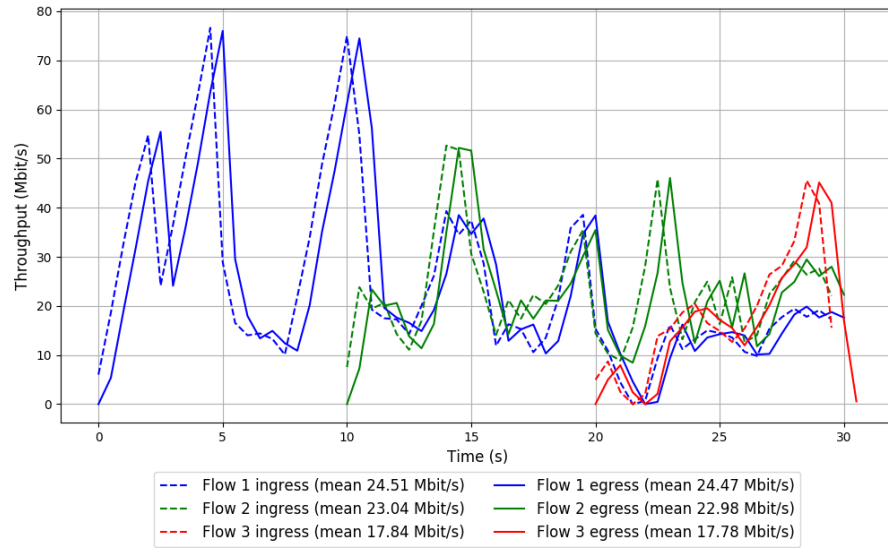


Run 5: Statistics of LEDBAT

Start at: 2018-10-02 11:42:10
End at: 2018-10-02 11:42:40
Local clock offset: 0.475 ms
Remote clock offset: -0.823 ms

Below is generated by plot.py at 2018-10-02 11:56:08
Datalink statistics
-- Total of 3 flows:
Average throughput: 45.68 Mbit/s
95th percentile per-packet one-way delay: 16.825 ms
Loss rate: 0.22%
-- Flow 1:
Average throughput: 24.47 Mbit/s
95th percentile per-packet one-way delay: 17.158 ms
Loss rate: 0.16%
-- Flow 2:
Average throughput: 22.98 Mbit/s
95th percentile per-packet one-way delay: 14.084 ms
Loss rate: 0.23%
-- Flow 3:
Average throughput: 17.78 Mbit/s
95th percentile per-packet one-way delay: 19.402 ms
Loss rate: 0.38%

Run 5: Report of LEDBAT — Data Link

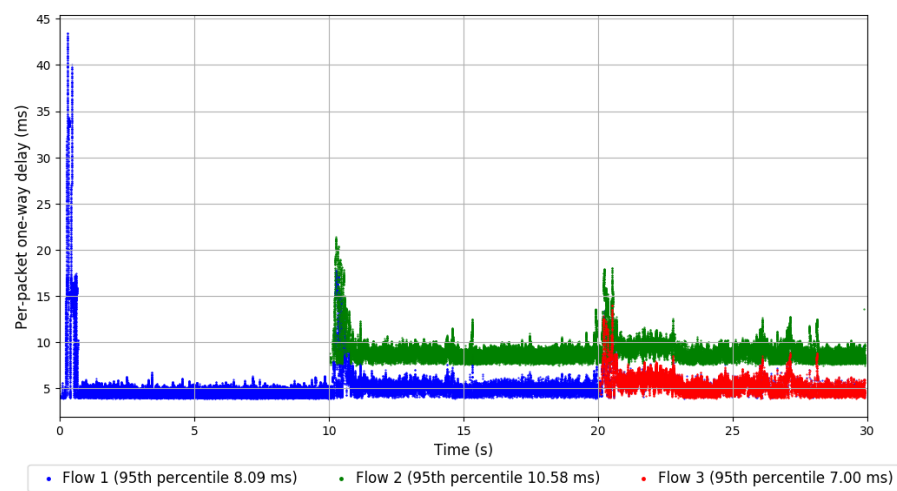
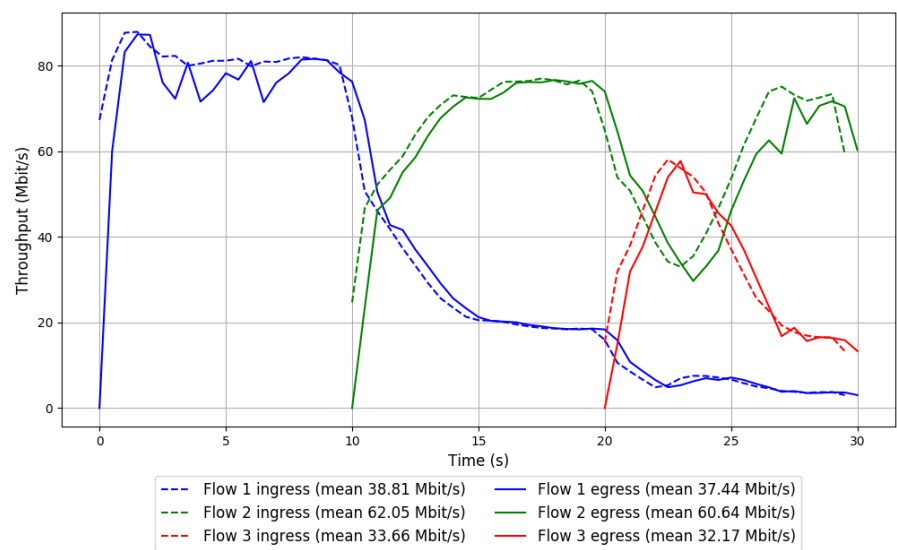


```
Run 1: Statistics of Indigo-Muses

Start at: 2018-10-02 10:24:31
End at: 2018-10-02 10:25:01
Local clock offset: 2.29 ms
Remote clock offset: -3.237 ms

# Below is generated by plot.py at 2018-10-02 11:56:54
# Datalink statistics
-- Total of 3 flows:
Average throughput: 88.38 Mbit/s
95th percentile per-packet one-way delay: 10.186 ms
Loss rate: 3.07%
-- Flow 1:
Average throughput: 37.44 Mbit/s
95th percentile per-packet one-way delay: 8.094 ms
Loss rate: 3.54%
-- Flow 2:
Average throughput: 60.64 Mbit/s
95th percentile per-packet one-way delay: 10.579 ms
Loss rate: 2.27%
-- Flow 3:
Average throughput: 32.17 Mbit/s
95th percentile per-packet one-way delay: 6.995 ms
Loss rate: 4.42%
```

Run 1: Report of Indigo-Muses — Data Link

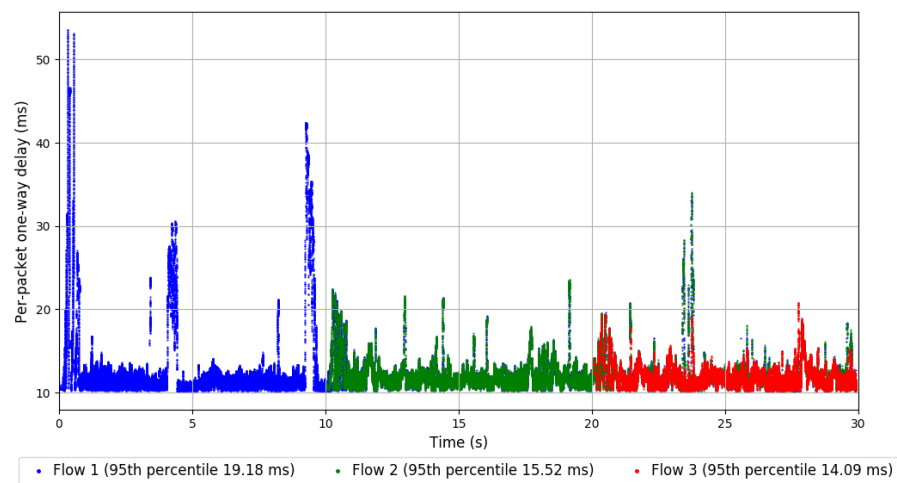
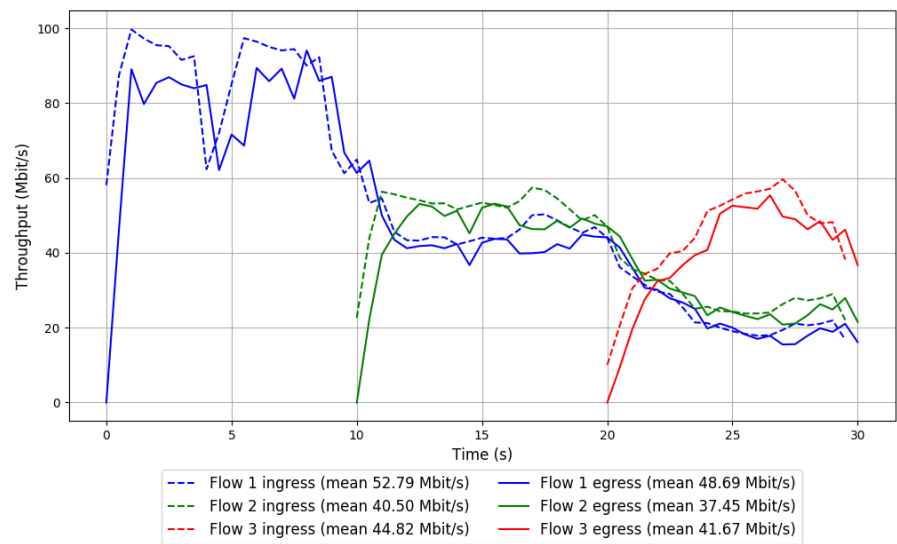


Run 2: Statistics of Indigo-Muses

Start at: 2018-10-02 10:46:00
End at: 2018-10-02 10:46:30
Local clock offset: 0.911 ms
Remote clock offset: -3.729 ms

Below is generated by plot.py at 2018-10-02 11:56:56
Datalink statistics
-- Total of 3 flows:
Average throughput: 87.33 Mbit/s
95th percentile per-packet one-way delay: 16.396 ms
Loss rate: 7.58%
-- Flow 1:
Average throughput: 48.69 Mbit/s
95th percentile per-packet one-way delay: 19.184 ms
Loss rate: 7.77%
-- Flow 2:
Average throughput: 37.45 Mbit/s
95th percentile per-packet one-way delay: 15.524 ms
Loss rate: 7.53%
-- Flow 3:
Average throughput: 41.67 Mbit/s
95th percentile per-packet one-way delay: 14.088 ms
Loss rate: 7.04%

Run 2: Report of Indigo-Muses — Data Link

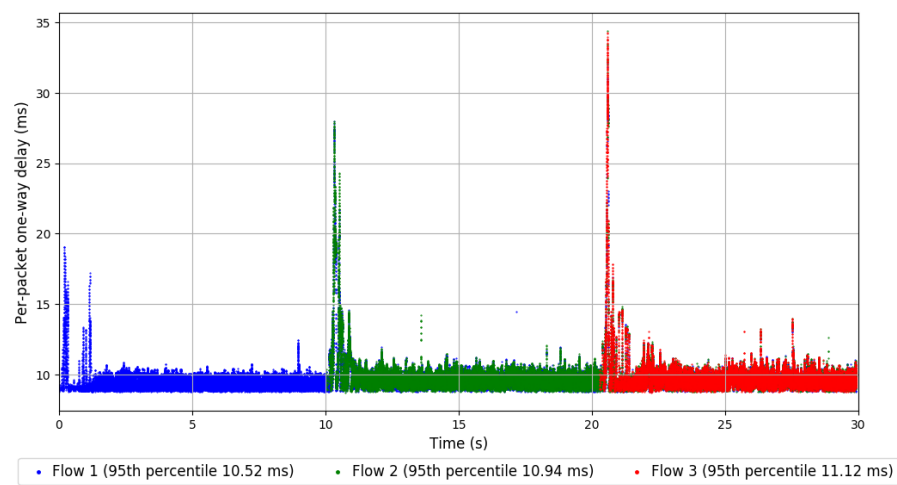
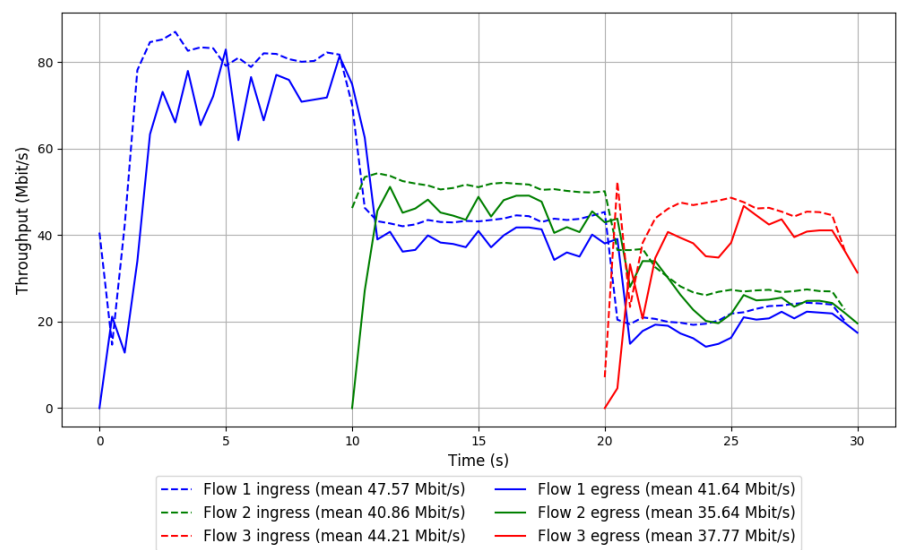


Run 3: Statistics of Indigo-Muses

Start at: 2018-10-02 11:07:12
End at: 2018-10-02 11:07:42
Local clock offset: -1.655 ms
Remote clock offset: -1.691 ms

```
# Below is generated by plot.py at 2018-10-02 11:56:56
# Datalink statistics
-- Total of 3 flows:
Average throughput: 77.50 Mbit/s
95th percentile per-packet one-way delay: 10.750 ms
Loss rate: 12.90%
-- Flow 1:
Average throughput: 41.64 Mbit/s
95th percentile per-packet one-way delay: 10.520 ms
Loss rate: 12.46%
-- Flow 2:
Average throughput: 35.64 Mbit/s
95th percentile per-packet one-way delay: 10.939 ms
Loss rate: 12.79%
-- Flow 3:
Average throughput: 37.77 Mbit/s
95th percentile per-packet one-way delay: 11.121 ms
Loss rate: 14.57%
```

Run 3: Report of Indigo-Muses — Data Link

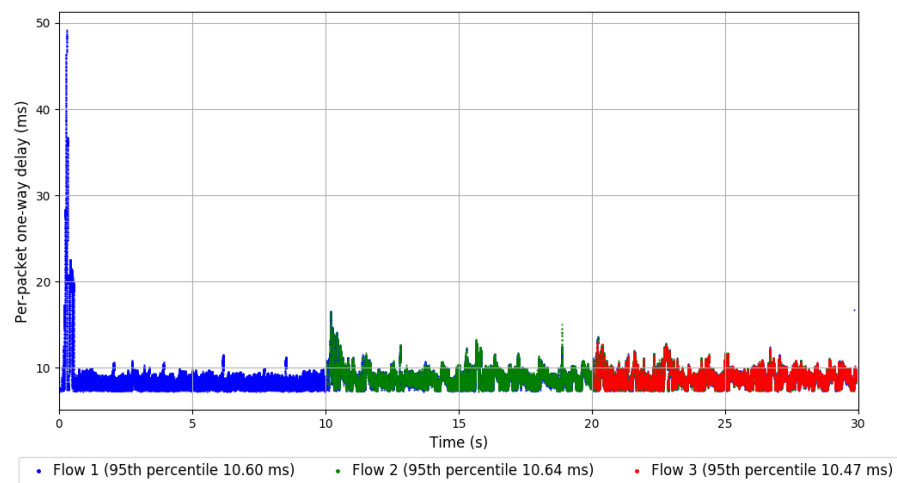
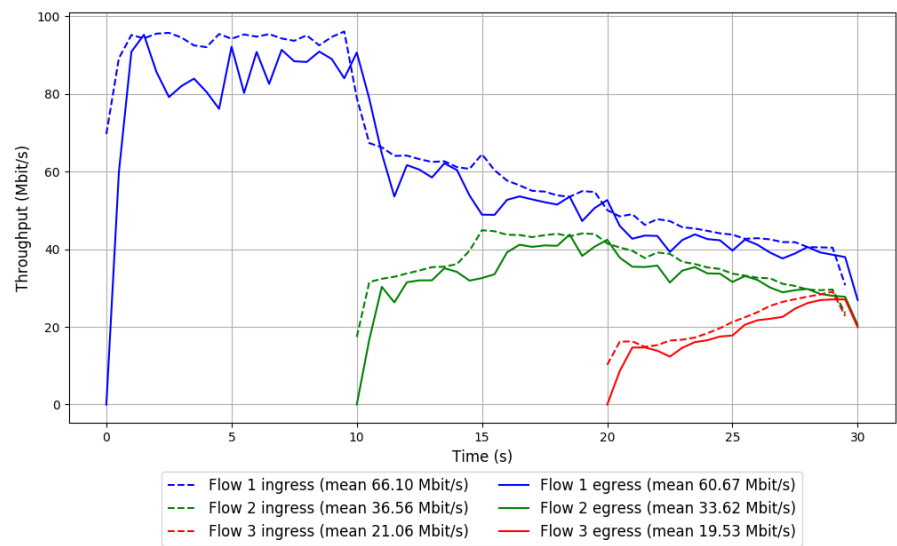


Run 4: Statistics of Indigo-Muses

Start at: 2018-10-02 11:28:10
End at: 2018-10-02 11:28:40
Local clock offset: 1.354 ms
Remote clock offset: -1.208 ms

Below is generated by plot.py at 2018-10-02 11:57:01
Datalink statistics
-- Total of 3 flows:
Average throughput: 89.47 Mbit/s
95th percentile per-packet one-way delay: 10.597 ms
Loss rate: 8.10%
-- Flow 1:
Average throughput: 60.67 Mbit/s
95th percentile per-packet one-way delay: 10.595 ms
Loss rate: 8.21%
-- Flow 2:
Average throughput: 33.62 Mbit/s
95th percentile per-packet one-way delay: 10.639 ms
Loss rate: 8.06%
-- Flow 3:
Average throughput: 19.53 Mbit/s
95th percentile per-packet one-way delay: 10.466 ms
Loss rate: 7.28%

Run 4: Report of Indigo-Muses — Data Link

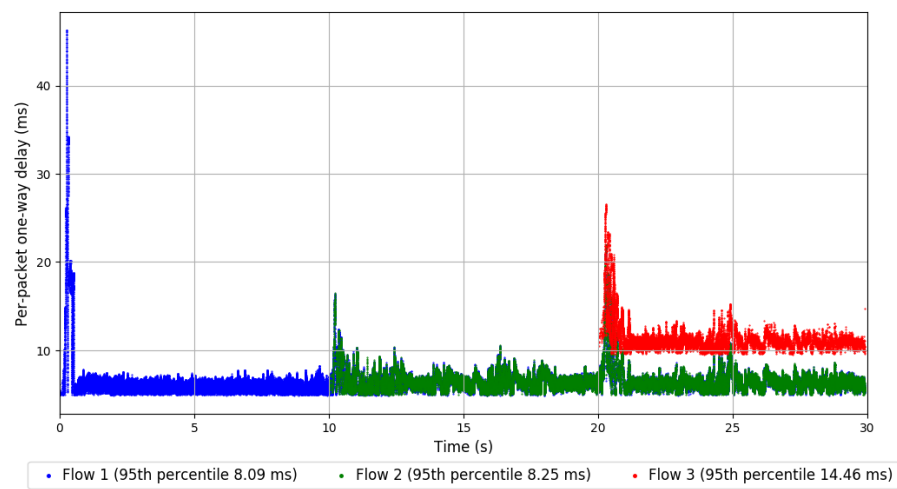
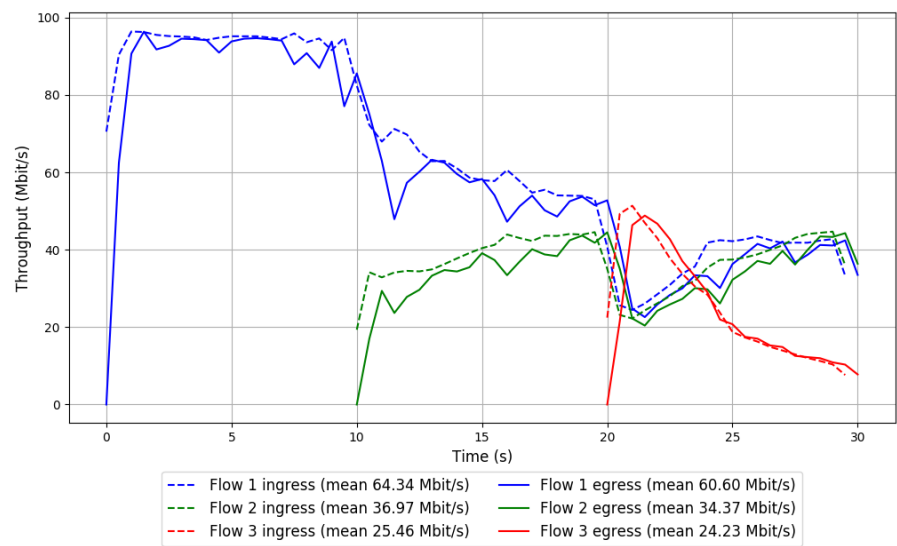


Run 5: Statistics of Indigo-Muses

Start at: 2018-10-02 11:49:20
End at: 2018-10-02 11:49:50
Local clock offset: 2.912 ms
Remote clock offset: -2.566 ms

Below is generated by plot.py at 2018-10-02 11:57:04
Datalink statistics
-- Total of 3 flows:
Average throughput: 91.44 Mbit/s
95th percentile per-packet one-way delay: 11.227 ms
Loss rate: 6.03%
-- Flow 1:
Average throughput: 60.60 Mbit/s
95th percentile per-packet one-way delay: 8.093 ms
Loss rate: 5.80%
-- Flow 2:
Average throughput: 34.37 Mbit/s
95th percentile per-packet one-way delay: 8.246 ms
Loss rate: 7.05%
-- Flow 3:
Average throughput: 24.23 Mbit/s
95th percentile per-packet one-way delay: 14.464 ms
Loss rate: 4.80%

Run 5: Report of Indigo-Muses — Data Link

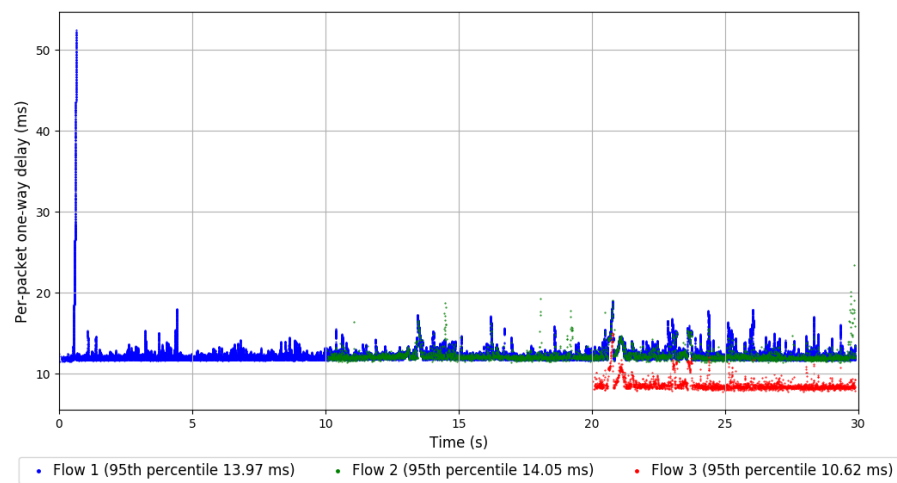
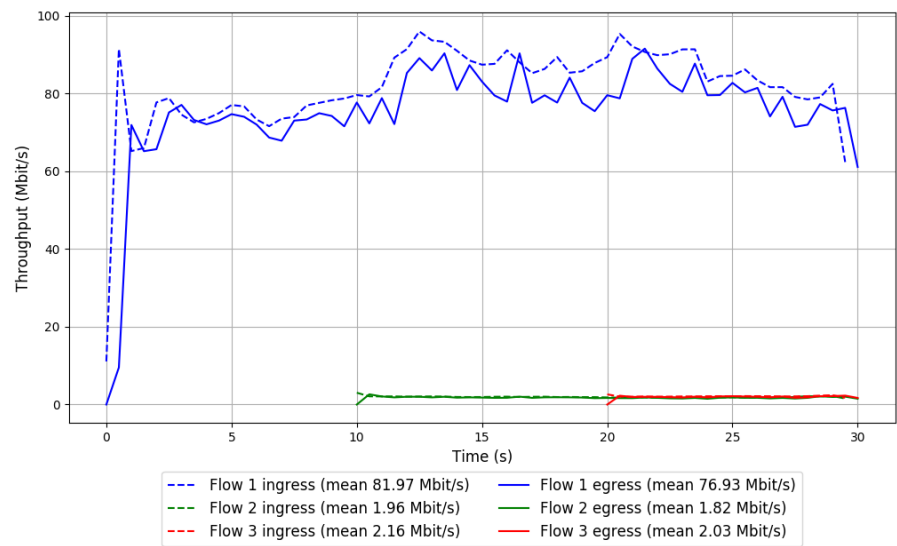



```
Run 1: Statistics of PCC-Allegro

Start at: 2018-10-02 10:11:21
End at: 2018-10-02 10:11:51
Local clock offset: -1.755 ms
Remote clock offset: -2.959 ms

# Below is generated by plot.py at 2018-10-02 11:57:04
# Datalink statistics
-- Total of 3 flows:
Average throughput: 78.80 Mbit/s
95th percentile per-packet one-way delay: 13.958 ms
Loss rate: 6.18%
-- Flow 1:
Average throughput: 76.93 Mbit/s
95th percentile per-packet one-way delay: 13.971 ms
Loss rate: 6.16%
-- Flow 2:
Average throughput: 1.82 Mbit/s
95th percentile per-packet one-way delay: 14.051 ms
Loss rate: 7.39%
-- Flow 3:
Average throughput: 2.03 Mbit/s
95th percentile per-packet one-way delay: 10.616 ms
Loss rate: 6.26%
```

Run 1: Report of PCC-Allegro — Data Link

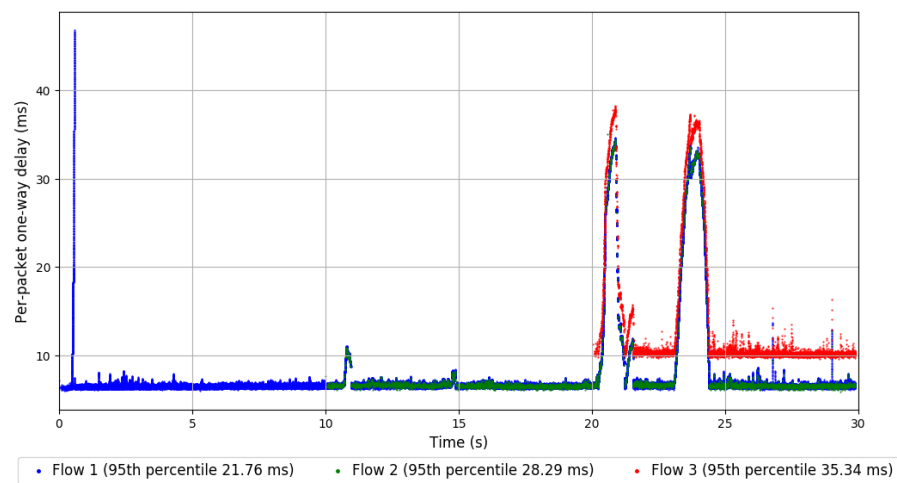
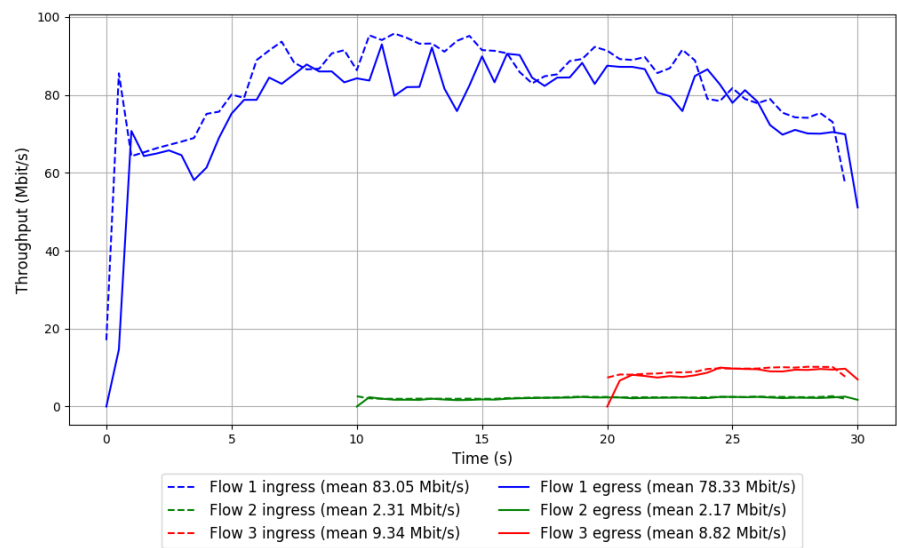


Run 2: Statistics of PCC-Allegro

Start at: 2018-10-02 10:32:47
End at: 2018-10-02 10:33:17
Local clock offset: 0.519 ms
Remote clock offset: -2.806 ms

Below is generated by plot.py at 2018-10-02 11:57:07
Datalink statistics
-- Total of 3 flows:
Average throughput: 82.68 Mbit/s
95th percentile per-packet one-way delay: 24.489 ms
Loss rate: 5.69%
-- Flow 1:
Average throughput: 78.33 Mbit/s
95th percentile per-packet one-way delay: 21.758 ms
Loss rate: 5.68%
-- Flow 2:
Average throughput: 2.17 Mbit/s
95th percentile per-packet one-way delay: 28.285 ms
Loss rate: 6.10%
-- Flow 3:
Average throughput: 8.82 Mbit/s
95th percentile per-packet one-way delay: 35.344 ms
Loss rate: 5.61%

Run 2: Report of PCC-Allegro — Data Link

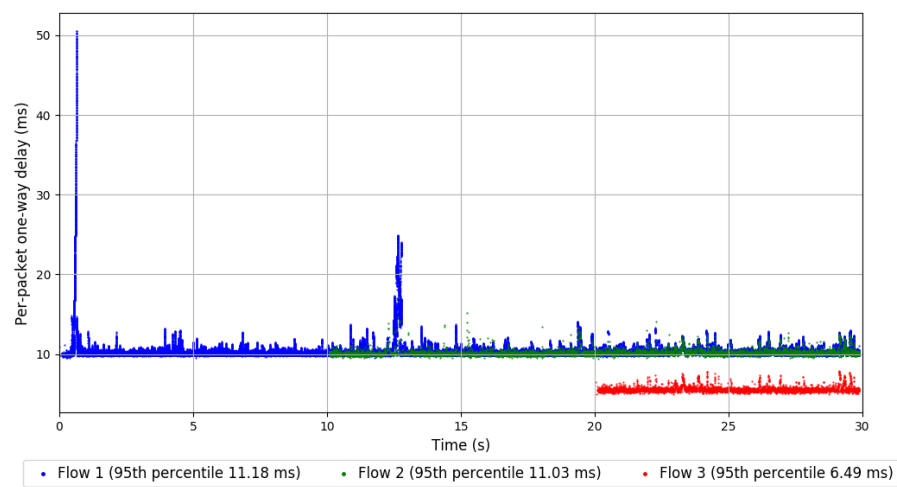
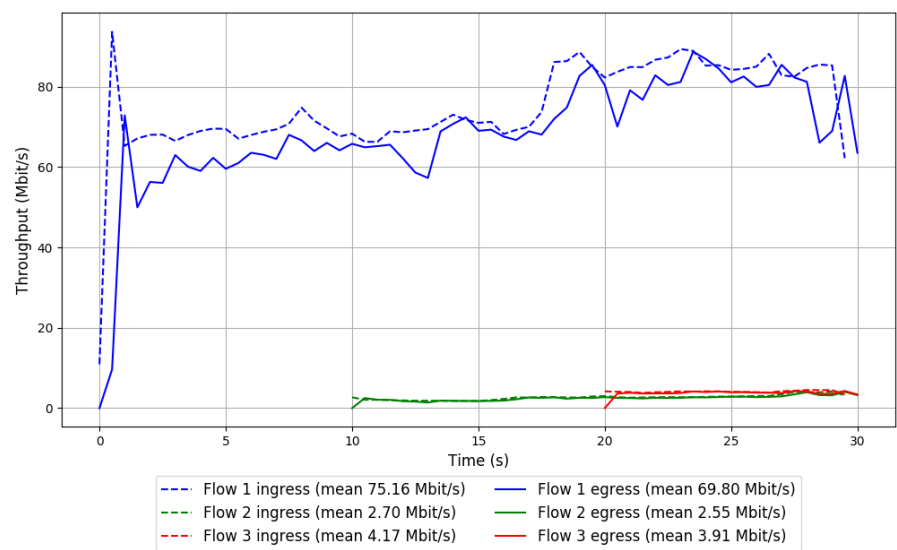


Run 3: Statistics of PCC-Allegro

Start at: 2018-10-02 10:54:27
End at: 2018-10-02 10:54:57
Local clock offset: 1.07 ms
Remote clock offset: -3.208 ms

Below is generated by plot.py at 2018-10-02 11:57:09
Datalink statistics
-- Total of 3 flows:
Average throughput: 72.78 Mbit/s
95th percentile per-packet one-way delay: 11.152 ms
Loss rate: 7.09%
-- Flow 1:
Average throughput: 69.80 Mbit/s
95th percentile per-packet one-way delay: 11.179 ms
Loss rate: 7.14%
-- Flow 2:
Average throughput: 2.55 Mbit/s
95th percentile per-packet one-way delay: 11.025 ms
Loss rate: 5.63%
-- Flow 3:
Average throughput: 3.91 Mbit/s
95th percentile per-packet one-way delay: 6.487 ms
Loss rate: 6.15%

Run 3: Report of PCC-Allegro — Data Link



Run 4: Statistics of PCC-Allegro

Start at: 2018-10-02 11:15:28

End at: 2018-10-02 11:15:58

Local clock offset: 1.425 ms

Remote clock offset: -1.51 ms

Below is generated by plot.py at 2018-10-02 11:57:38

Datalink statistics

-- Total of 3 flows:

Average throughput: 53.24 Mbit/s

95th percentile per-packet one-way delay: 17.965 ms

Loss rate: 6.05%

-- Flow 1:

Average throughput: 6.24 Mbit/s

95th percentile per-packet one-way delay: 12.894 ms

Loss rate: 5.59%

-- Flow 2:

Average throughput: 69.81 Mbit/s

95th percentile per-packet one-way delay: 18.624 ms

Loss rate: 6.04%

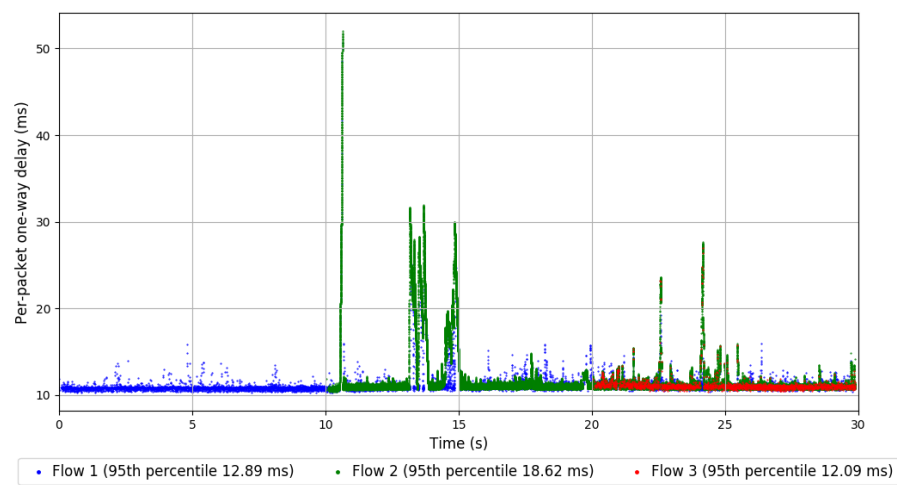
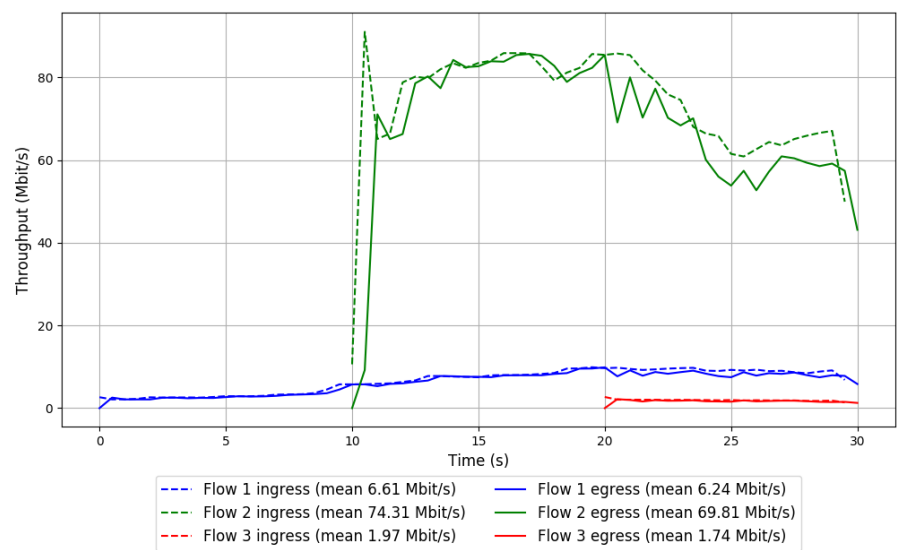
-- Flow 3:

Average throughput: 1.74 Mbit/s

95th percentile per-packet one-way delay: 12.093 ms

Loss rate: 11.46%

Run 4: Report of PCC-Allegro — Data Link

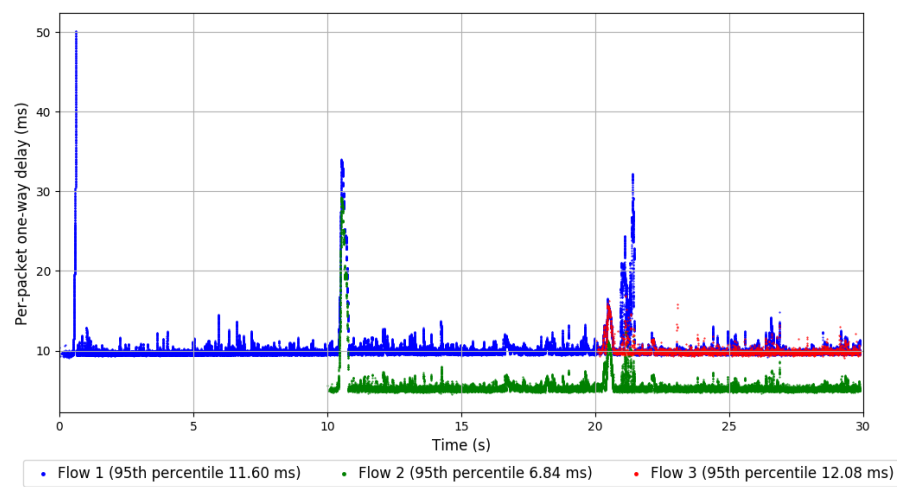
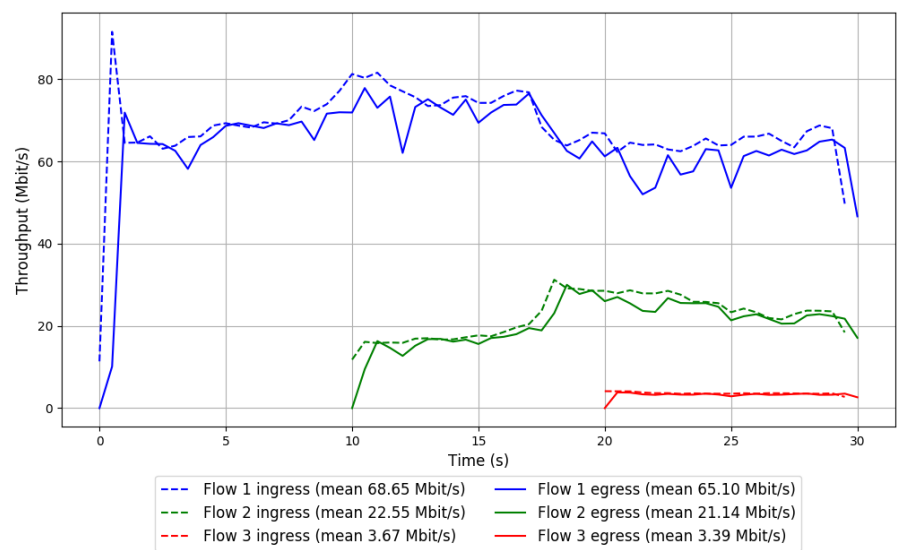


Run 5: Statistics of PCC-Allegro

Start at: 2018-10-02 11:36:25
End at: 2018-10-02 11:36:55
Local clock offset: 2.637 ms
Remote clock offset: -2.753 ms

Below is generated by plot.py at 2018-10-02 11:58:02
Datalink statistics
-- Total of 3 flows:
Average throughput: 80.27 Mbit/s
95th percentile per-packet one-way delay: 11.349 ms
Loss rate: 5.40%
-- Flow 1:
Average throughput: 65.10 Mbit/s
95th percentile per-packet one-way delay: 11.602 ms
Loss rate: 5.18%
-- Flow 2:
Average throughput: 21.14 Mbit/s
95th percentile per-packet one-way delay: 6.842 ms
Loss rate: 6.25%
-- Flow 3:
Average throughput: 3.39 Mbit/s
95th percentile per-packet one-way delay: 12.082 ms
Loss rate: 7.68%

Run 5: Report of PCC-Allegro — Data Link

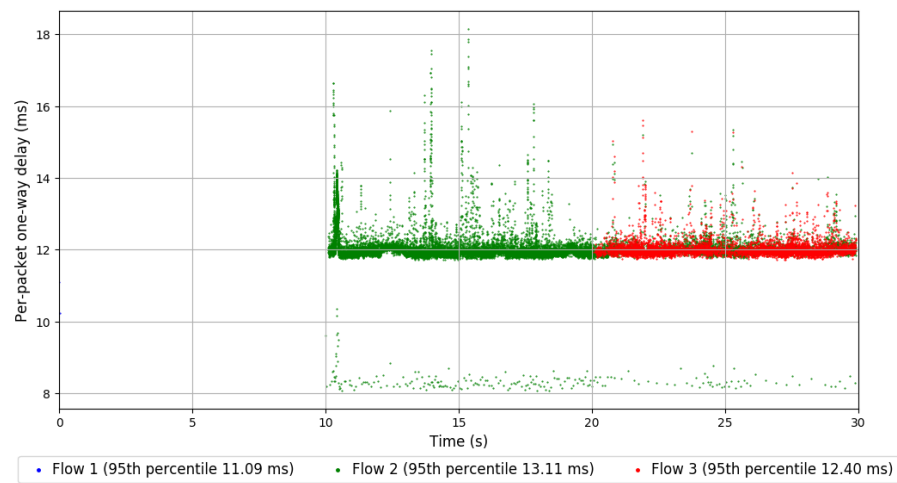
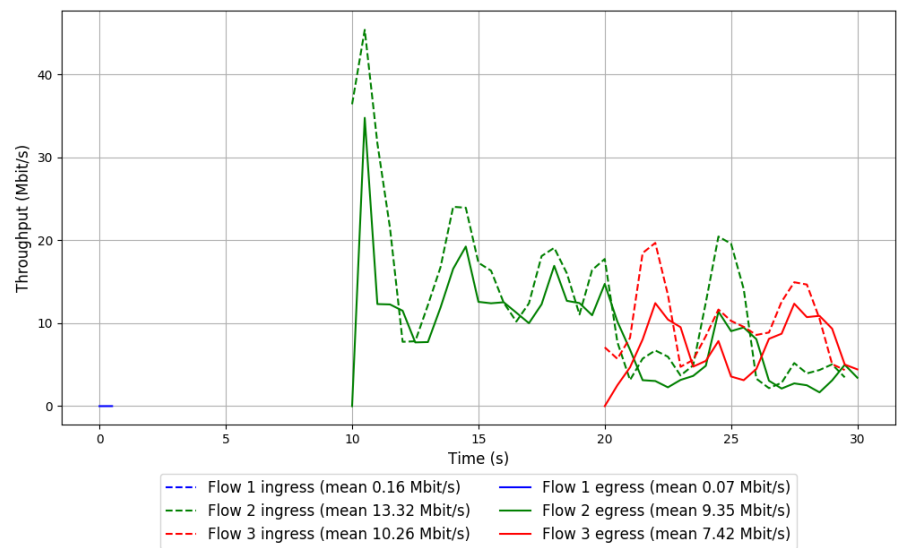


```
Run 1: Statistics of PCC-Expr

Start at: 2018-10-02 10:07:48
End at: 2018-10-02 10:08:18
Local clock offset: -1.098 ms
Remote clock offset: -2.171 ms

# Below is generated by plot.py at 2018-10-02 11:58:02
# Datalink statistics
-- Total of 3 flows:
Average throughput: 8.67 Mbit/s
95th percentile per-packet one-way delay: 12.883 ms
Loss rate: 29.23%
-- Flow 1:
Average throughput: 0.07 Mbit/s
95th percentile per-packet one-way delay: 11.091 ms
Loss rate: 85.71%
-- Flow 2:
Average throughput: 9.35 Mbit/s
95th percentile per-packet one-way delay: 13.107 ms
Loss rate: 29.83%
-- Flow 3:
Average throughput: 7.42 Mbit/s
95th percentile per-packet one-way delay: 12.398 ms
Loss rate: 27.66%
```

Run 1: Report of PCC-Expr — Data Link

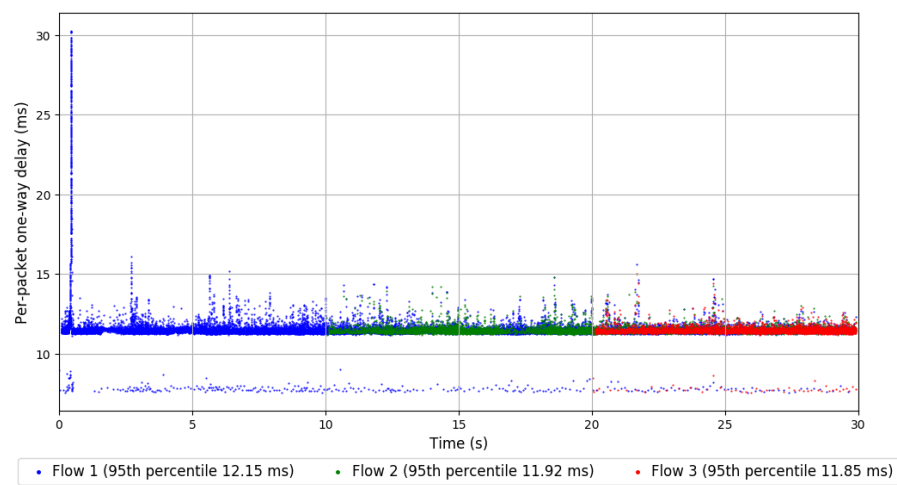
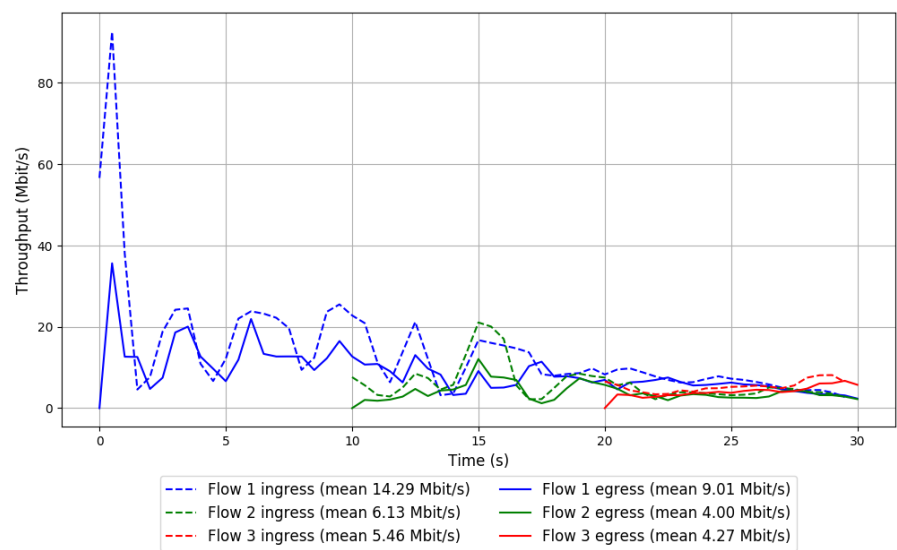


Run 2: Statistics of PCC-Expr

Start at: 2018-10-02 10:29:16
End at: 2018-10-02 10:29:46
Local clock offset: -0.078 ms
Remote clock offset: -1.995 ms

Below is generated by plot.py at 2018-10-02 11:58:02
Datalink statistics
-- Total of 3 flows:
Average throughput: 13.07 Mbit/s
95th percentile per-packet one-way delay: 12.056 ms
Loss rate: 35.16%
-- Flow 1:
Average throughput: 9.01 Mbit/s
95th percentile per-packet one-way delay: 12.155 ms
Loss rate: 36.96%
-- Flow 2:
Average throughput: 4.00 Mbit/s
95th percentile per-packet one-way delay: 11.916 ms
Loss rate: 34.77%
-- Flow 3:
Average throughput: 4.27 Mbit/s
95th percentile per-packet one-way delay: 11.846 ms
Loss rate: 21.72%

Run 2: Report of PCC-Expr — Data Link

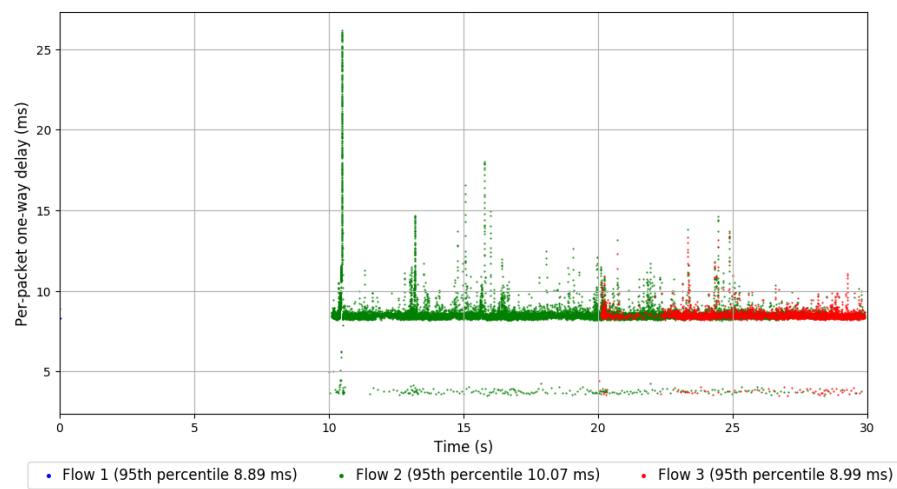
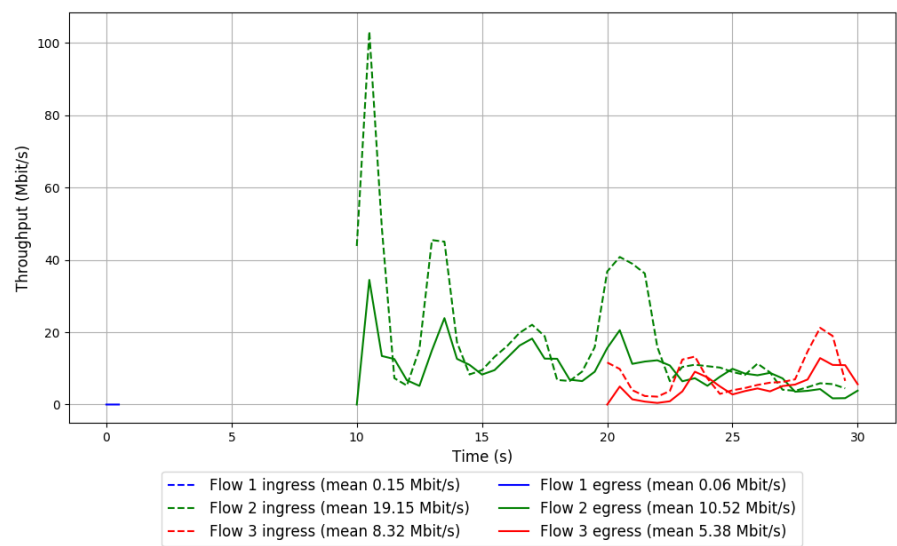


Run 3: Statistics of PCC-Expr

Start at: 2018-10-02 10:50:52
End at: 2018-10-02 10:51:22
Local clock offset: 1.884 ms
Remote clock offset: -4.159 ms

Below is generated by plot.py at 2018-10-02 11:58:02
Datalink statistics
-- Total of 3 flows:
Average throughput: 8.78 Mbit/s
95th percentile per-packet one-way delay: 9.790 ms
Loss rate: 43.32%
-- Flow 1:
Average throughput: 0.06 Mbit/s
95th percentile per-packet one-way delay: 8.894 ms
Loss rate: 85.71%
-- Flow 2:
Average throughput: 10.52 Mbit/s
95th percentile per-packet one-way delay: 10.069 ms
Loss rate: 45.06%
-- Flow 3:
Average throughput: 5.38 Mbit/s
95th percentile per-packet one-way delay: 8.990 ms
Loss rate: 35.26%

Run 3: Report of PCC-Expr — Data Link

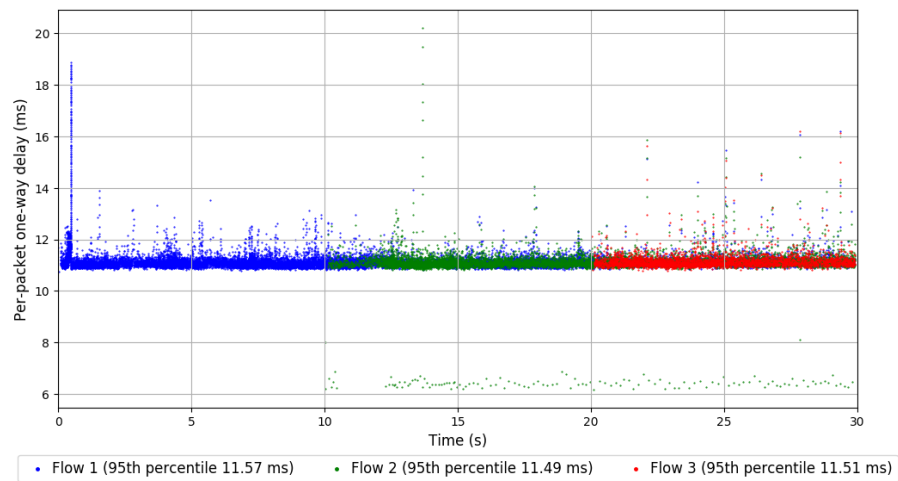
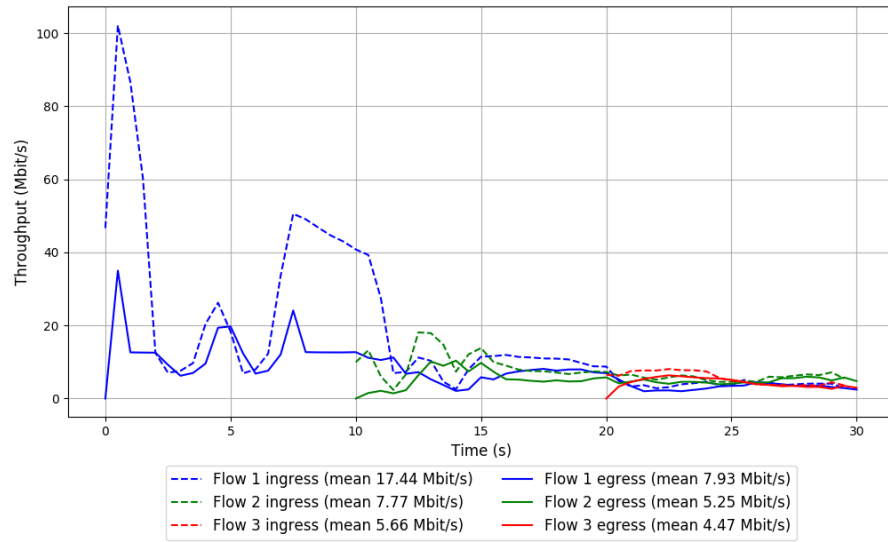


Run 4: Statistics of PCC-Expr

Start at: 2018-10-02 11:11:58
End at: 2018-10-02 11:12:28
Local clock offset: 1.584 ms
Remote clock offset: -1.002 ms

Below is generated by plot.py at 2018-10-02 11:58:02
Datalink statistics
-- Total of 3 flows:
Average throughput: 12.89 Mbit/s
95th percentile per-packet one-way delay: 11.539 ms
Loss rate: 47.33%
-- Flow 1:
Average throughput: 7.93 Mbit/s
95th percentile per-packet one-way delay: 11.569 ms
Loss rate: 54.56%
-- Flow 2:
Average throughput: 5.25 Mbit/s
95th percentile per-packet one-way delay: 11.494 ms
Loss rate: 32.40%
-- Flow 3:
Average throughput: 4.47 Mbit/s
95th percentile per-packet one-way delay: 11.511 ms
Loss rate: 21.14%

Run 4: Report of PCC-Expr — Data Link

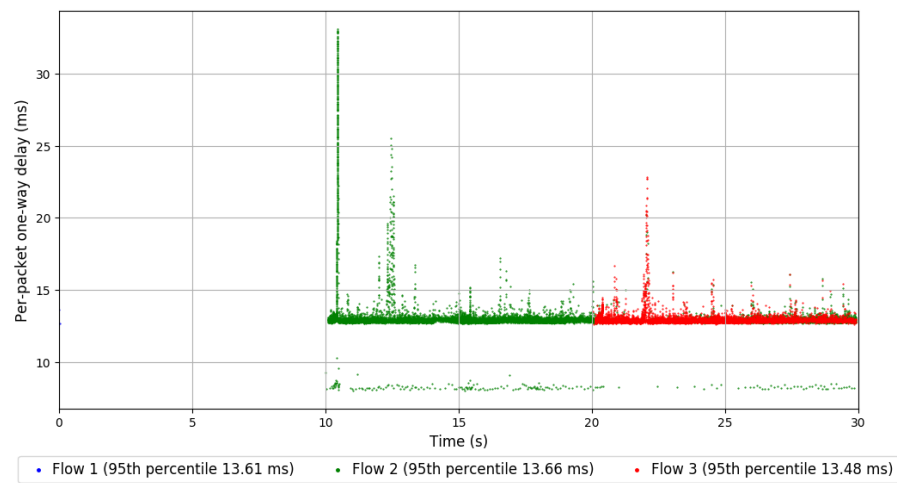
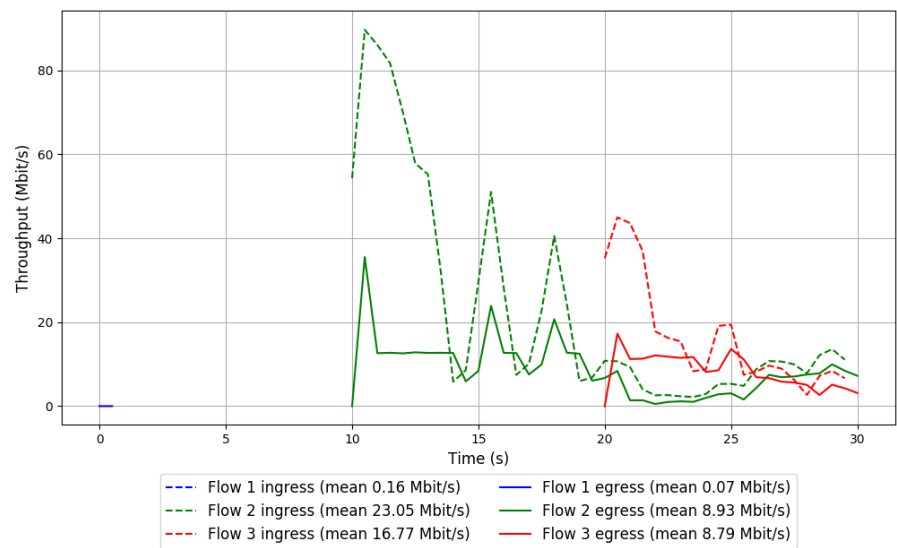


Run 5: Statistics of PCC-Expr

Start at: 2018-10-02 11:32:54
End at: 2018-10-02 11:33:24
Local clock offset: 0.461 ms
Remote clock offset: -1.512 ms

Below is generated by plot.py at 2018-10-02 11:58:02
Datalink statistics
-- Total of 3 flows:
Average throughput: 8.84 Mbit/s
95th percentile per-packet one-way delay: 13.565 ms
Loss rate: 57.64%
-- Flow 1:
Average throughput: 0.07 Mbit/s
95th percentile per-packet one-way delay: 13.605 ms
Loss rate: 85.71%
-- Flow 2:
Average throughput: 8.93 Mbit/s
95th percentile per-packet one-way delay: 13.656 ms
Loss rate: 61.27%
-- Flow 3:
Average throughput: 8.79 Mbit/s
95th percentile per-packet one-way delay: 13.477 ms
Loss rate: 47.61%

Run 5: Report of PCC-Expr — Data Link



Run 1: Statistics of QUIC Cubic

Start at: 2018-10-02 10:22:13

End at: 2018-10-02 10:22:43

Local clock offset: -0.825 ms

Remote clock offset: -2.93 ms

Below is generated by plot.py at 2018-10-02 11:58:02

Datalink statistics

-- Total of 3 flows:

Average throughput: 36.04 Mbit/s

95th percentile per-packet one-way delay: 22.858 ms

Loss rate: 2.31%

-- Flow 1:

Average throughput: 20.60 Mbit/s

95th percentile per-packet one-way delay: 27.673 ms

Loss rate: 2.14%

-- Flow 2:

Average throughput: 16.98 Mbit/s

95th percentile per-packet one-way delay: 23.783 ms

Loss rate: 3.14%

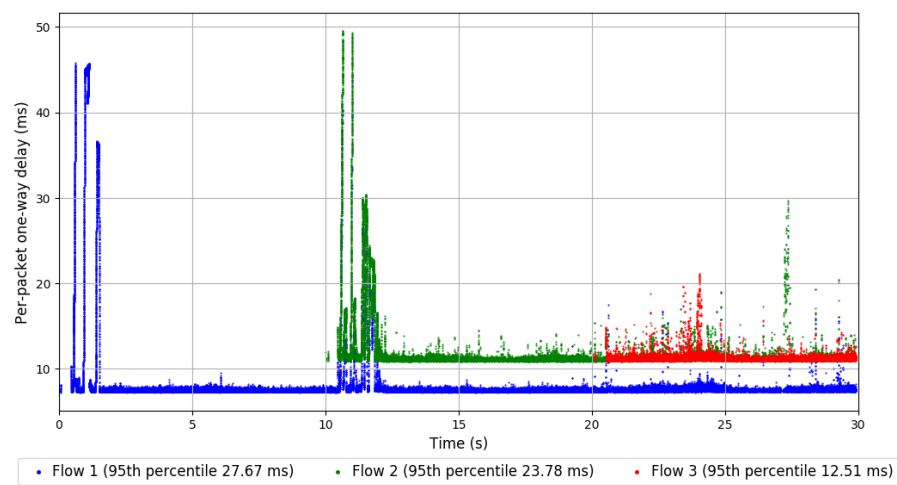
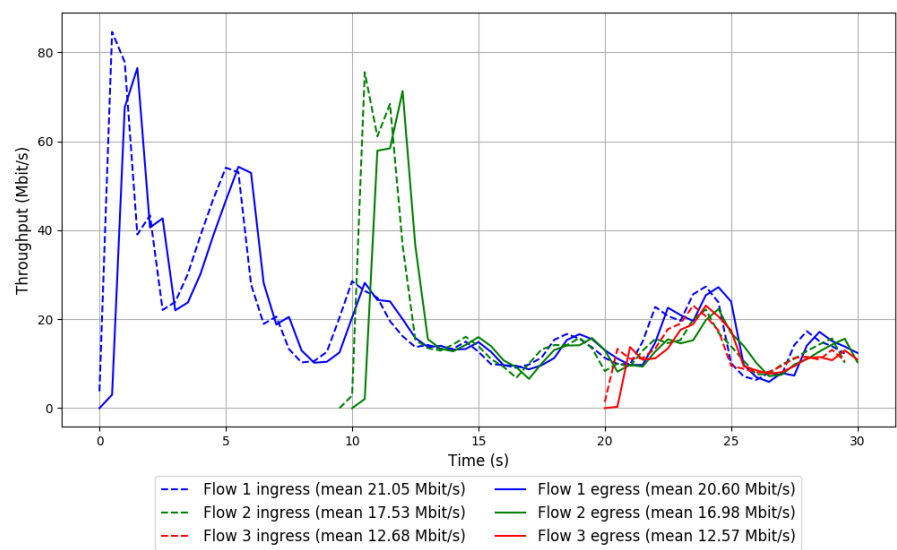
-- Flow 3:

Average throughput: 12.57 Mbit/s

95th percentile per-packet one-way delay: 12.514 ms

Loss rate: 0.81%

Run 1: Report of QUIC Cubic — Data Link

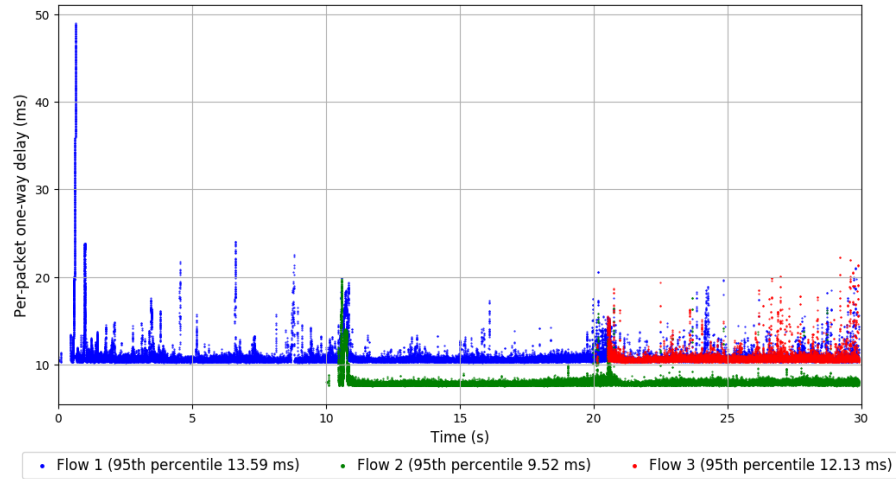
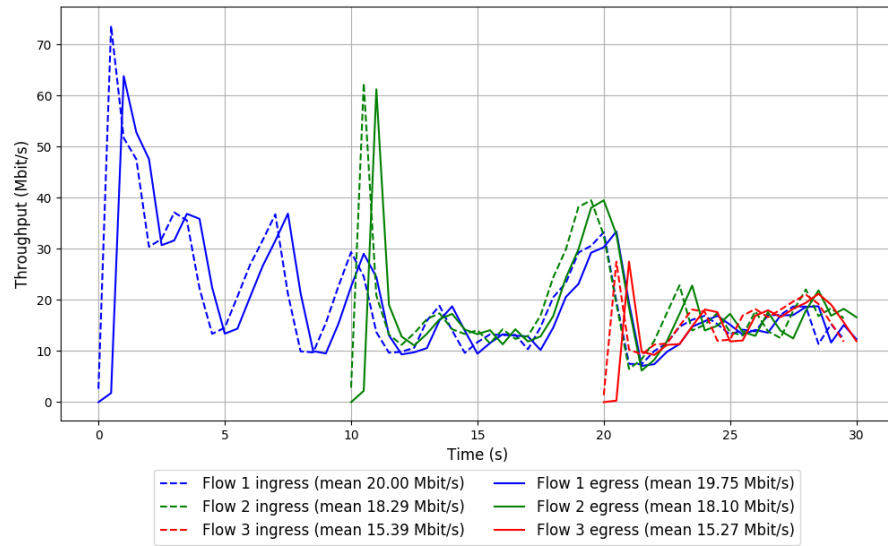


Run 2: Statistics of QUIC Cubic

Start at: 2018-10-02 10:43:40
End at: 2018-10-02 10:44:10
Local clock offset: -0.295 ms
Remote clock offset: -2.992 ms

Below is generated by plot.py at 2018-10-02 11:58:02
Datalink statistics
-- Total of 3 flows:
Average throughput: 36.83 Mbit/s
95th percentile per-packet one-way delay: 12.614 ms
Loss rate: 1.09%
-- Flow 1:
Average throughput: 19.75 Mbit/s
95th percentile per-packet one-way delay: 13.589 ms
Loss rate: 1.22%
-- Flow 2:
Average throughput: 18.10 Mbit/s
95th percentile per-packet one-way delay: 9.519 ms
Loss rate: 1.03%
-- Flow 3:
Average throughput: 15.27 Mbit/s
95th percentile per-packet one-way delay: 12.130 ms
Loss rate: 0.76%

Run 2: Report of QUIC Cubic — Data Link

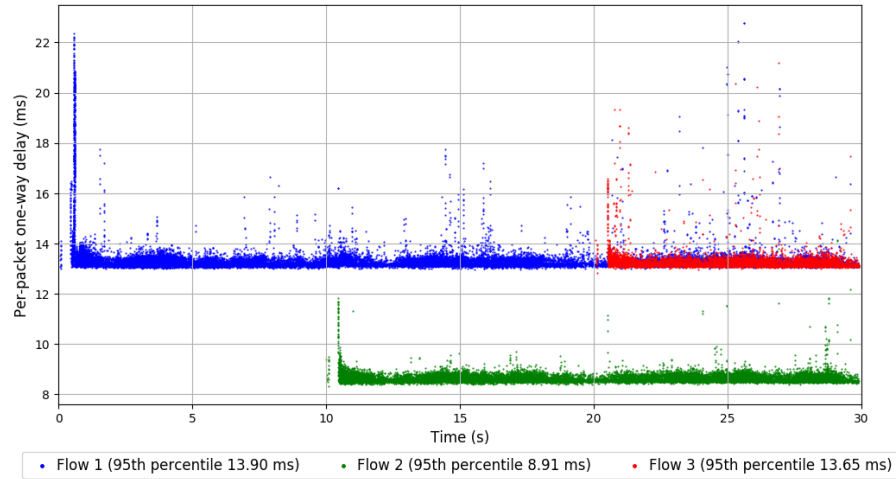
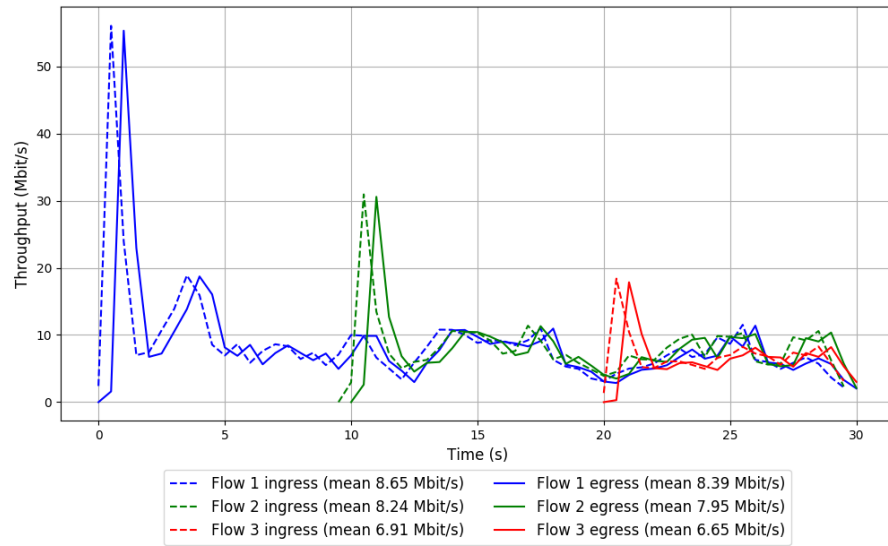


Run 3: Statistics of QUIC Cubic

Start at: 2018-10-02 11:04:56
End at: 2018-10-02 11:05:26
Local clock offset: -0.499 ms
Remote clock offset: -0.918 ms

Below is generated by plot.py at 2018-10-02 11:58:02
Datalink statistics
-- Total of 3 flows:
Average throughput: 15.87 Mbit/s
95th percentile per-packet one-way delay: 13.650 ms
Loss rate: 3.31%
-- Flow 1:
Average throughput: 8.39 Mbit/s
95th percentile per-packet one-way delay: 13.905 ms
Loss rate: 3.02%
-- Flow 2:
Average throughput: 7.95 Mbit/s
95th percentile per-packet one-way delay: 8.915 ms
Loss rate: 3.58%
-- Flow 3:
Average throughput: 6.65 Mbit/s
95th percentile per-packet one-way delay: 13.649 ms
Loss rate: 3.79%

Run 3: Report of QUIC Cubic — Data Link

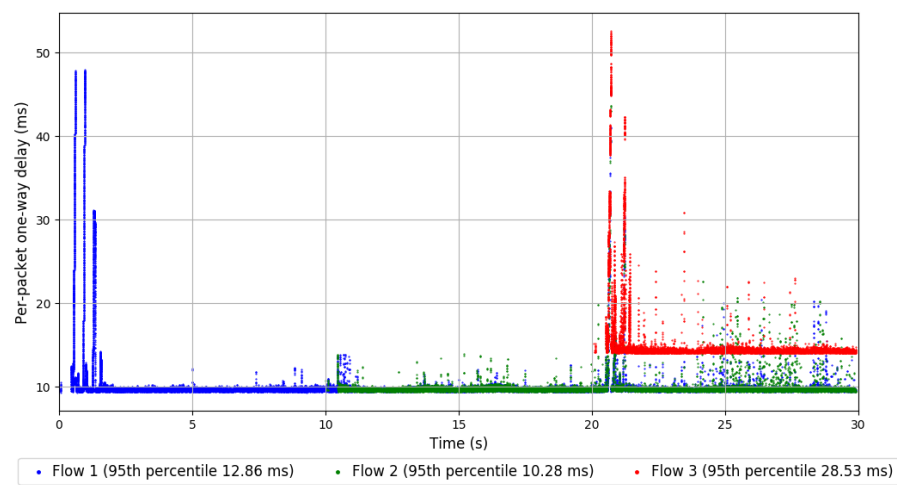
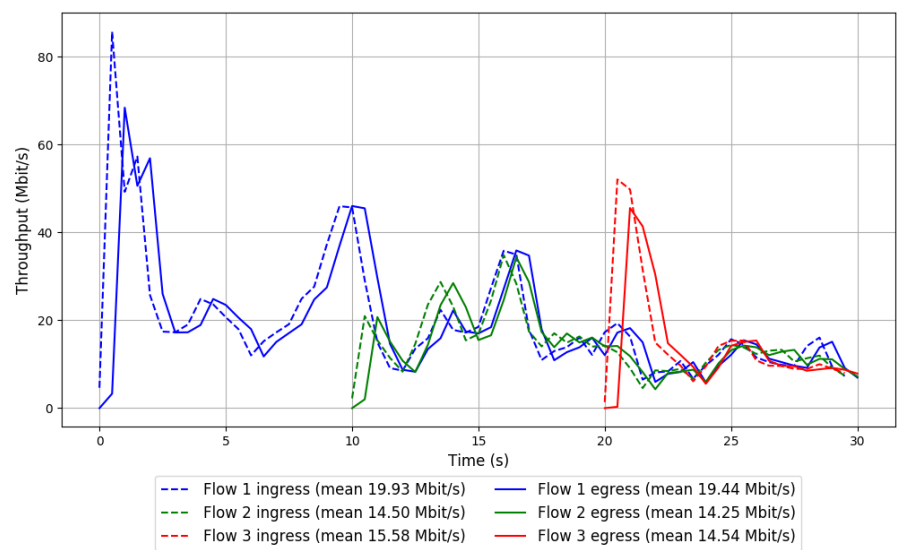


Run 4: Statistics of QUIC Cubic

Start at: 2018-10-02 11:25:53
End at: 2018-10-02 11:26:23
Local clock offset: -1.074 ms
Remote clock offset: -1.416 ms

Below is generated by plot.py at 2018-10-02 11:58:02
Datalink statistics
-- Total of 3 flows:
Average throughput: 33.70 Mbit/s
95th percentile per-packet one-way delay: 15.624 ms
Loss rate: 2.87%
-- Flow 1:
Average throughput: 19.44 Mbit/s
95th percentile per-packet one-way delay: 12.859 ms
Loss rate: 2.45%
-- Flow 2:
Average throughput: 14.25 Mbit/s
95th percentile per-packet one-way delay: 10.284 ms
Loss rate: 1.71%
-- Flow 3:
Average throughput: 14.54 Mbit/s
95th percentile per-packet one-way delay: 28.526 ms
Loss rate: 6.68%

Run 4: Report of QUIC Cubic — Data Link

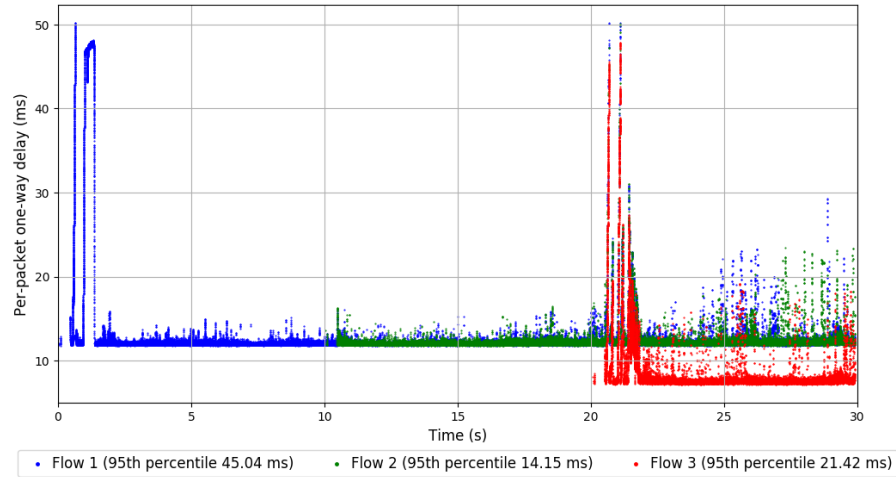
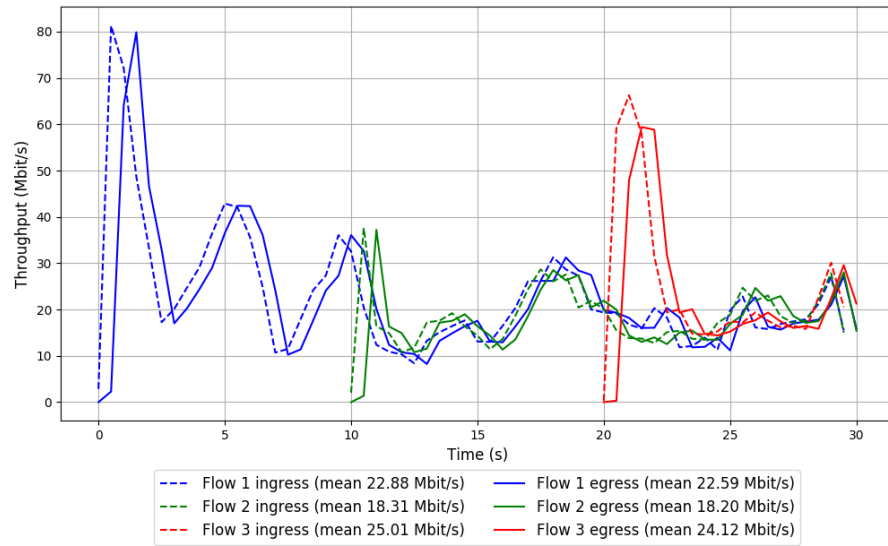


Run 5: Statistics of QUIC Cubic

Start at: 2018-10-02 11:47:03
End at: 2018-10-02 11:47:33
Local clock offset: 0.977 ms
Remote clock offset: -2.217 ms

Below is generated by plot.py at 2018-10-02 11:58:02
Datalink statistics
-- Total of 3 flows:
Average throughput: 42.64 Mbit/s
95th percentile per-packet one-way delay: 21.524 ms
Loss rate: 1.52%
-- Flow 1:
Average throughput: 22.59 Mbit/s
95th percentile per-packet one-way delay: 45.044 ms
Loss rate: 1.28%
-- Flow 2:
Average throughput: 18.20 Mbit/s
95th percentile per-packet one-way delay: 14.153 ms
Loss rate: 0.59%
-- Flow 3:
Average throughput: 24.12 Mbit/s
95th percentile per-packet one-way delay: 21.417 ms
Loss rate: 3.55%

Run 5: Report of QUIC Cubic — Data Link

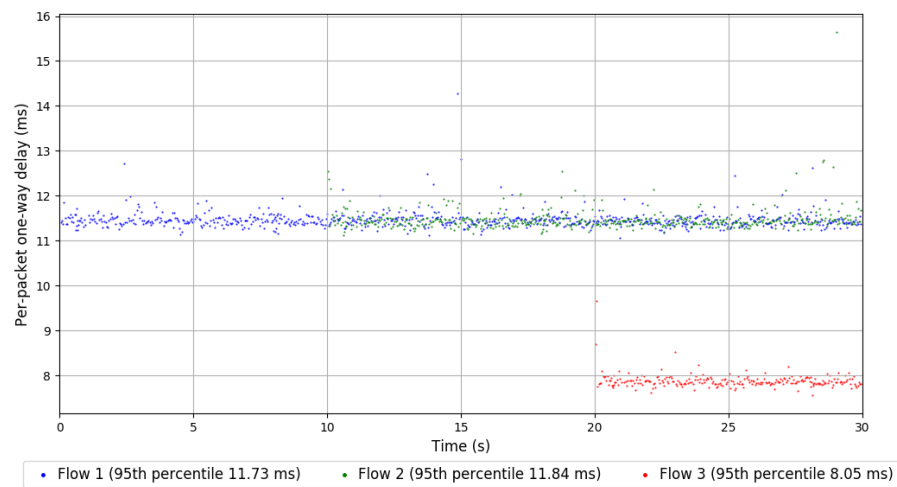
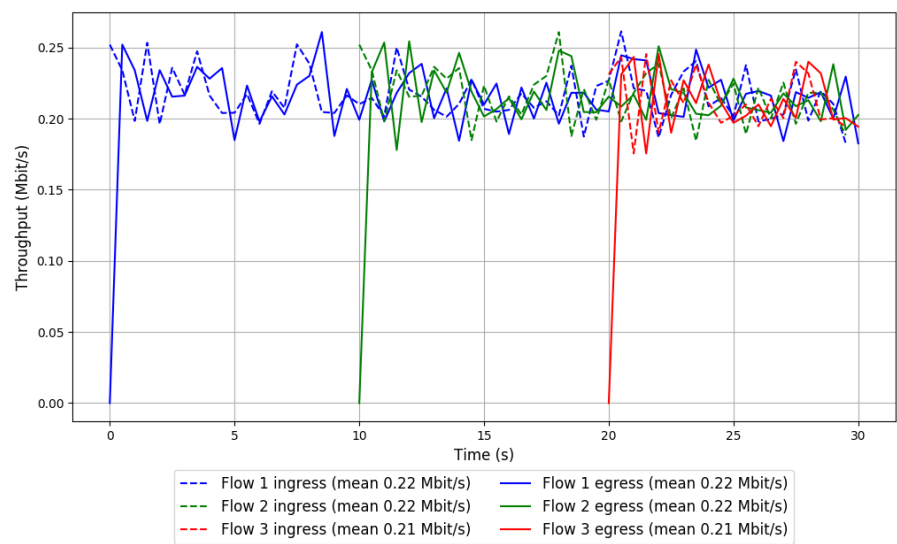


```
Run 1: Statistics of SReAM

Start at: 2018-10-02 10:25:42
End at: 2018-10-02 10:26:12
Local clock offset: -0.411 ms
Remote clock offset: -2.298 ms

# Below is generated by plot.py at 2018-10-02 11:58:02
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.43 Mbit/s
95th percentile per-packet one-way delay: 11.731 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 11.731 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 11.842 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 8.049 ms
Loss rate: 0.00%
```

Run 1: Report of SReAM — Data Link

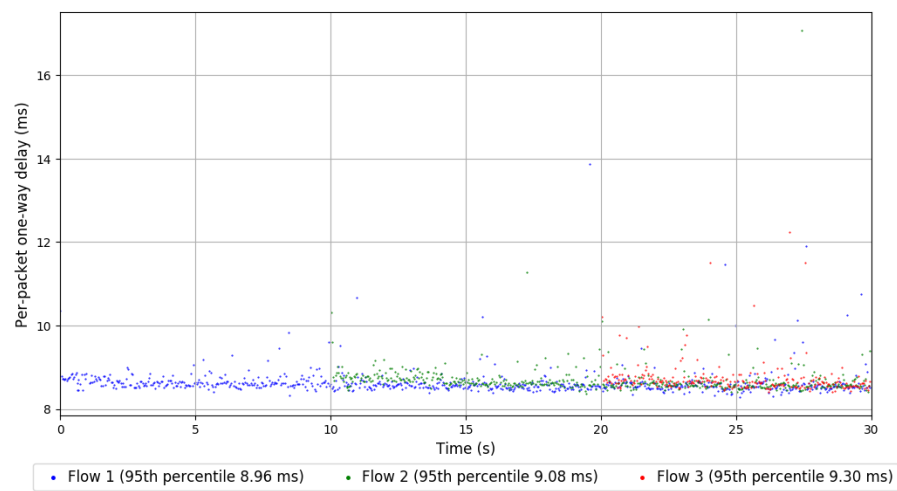
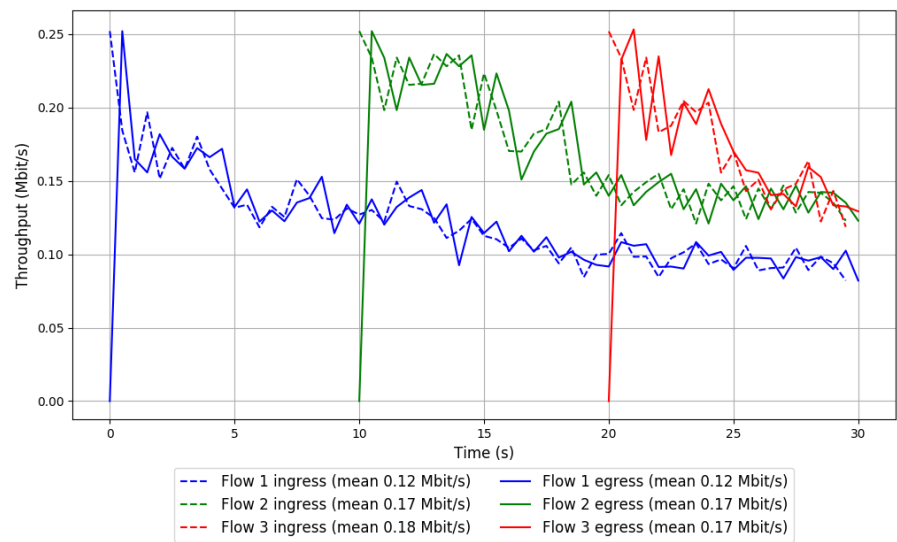


Run 2: Statistics of SCReAM

Start at: 2018-10-02 10:47:16
End at: 2018-10-02 10:47:46
Local clock offset: 2.324 ms
Remote clock offset: -3.843 ms

Below is generated by plot.py at 2018-10-02 11:58:02
Datalink statistics
-- Total of 3 flows:
Average throughput: 0.29 Mbit/s
95th percentile per-packet one-way delay: 9.057 ms
Loss rate: 0.39%
-- Flow 1:
Average throughput: 0.12 Mbit/s
95th percentile per-packet one-way delay: 8.960 ms
Loss rate: 0.39%
-- Flow 2:
Average throughput: 0.17 Mbit/s
95th percentile per-packet one-way delay: 9.081 ms
Loss rate: 0.29%
-- Flow 3:
Average throughput: 0.17 Mbit/s
95th percentile per-packet one-way delay: 9.297 ms
Loss rate: 0.56%

Run 2: Report of SReAM — Data Link

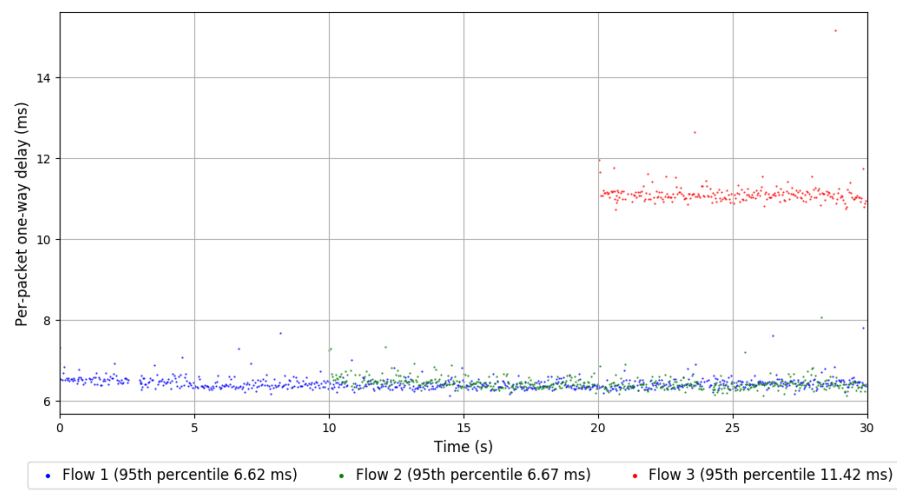
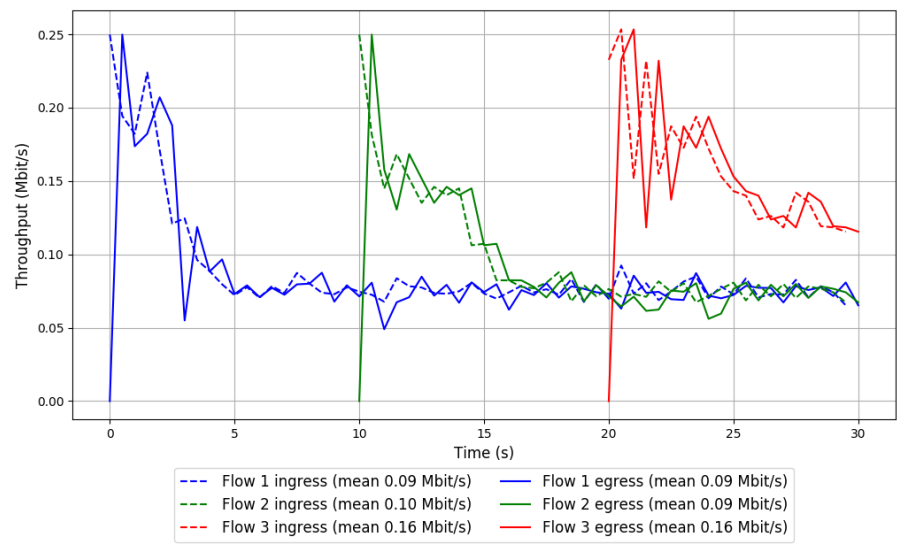


Run 3: Statistics of SCReAM

Start at: 2018-10-02 11:08:24
End at: 2018-10-02 11:08:54
Local clock offset: 1.688 ms
Remote clock offset: -0.833 ms

Below is generated by plot.py at 2018-10-02 11:58:02
Datalink statistics
-- Total of 3 flows:
Average throughput: 0.20 Mbit/s
95th percentile per-packet one-way delay: 11.148 ms
Loss rate: 2.61%
-- Flow 1:
Average throughput: 0.09 Mbit/s
95th percentile per-packet one-way delay: 6.624 ms
Loss rate: 3.13%
-- Flow 2:
Average throughput: 0.09 Mbit/s
95th percentile per-packet one-way delay: 6.665 ms
Loss rate: 2.74%
-- Flow 3:
Average throughput: 0.16 Mbit/s
95th percentile per-packet one-way delay: 11.418 ms
Loss rate: 1.59%

Run 3: Report of SReAM — Data Link

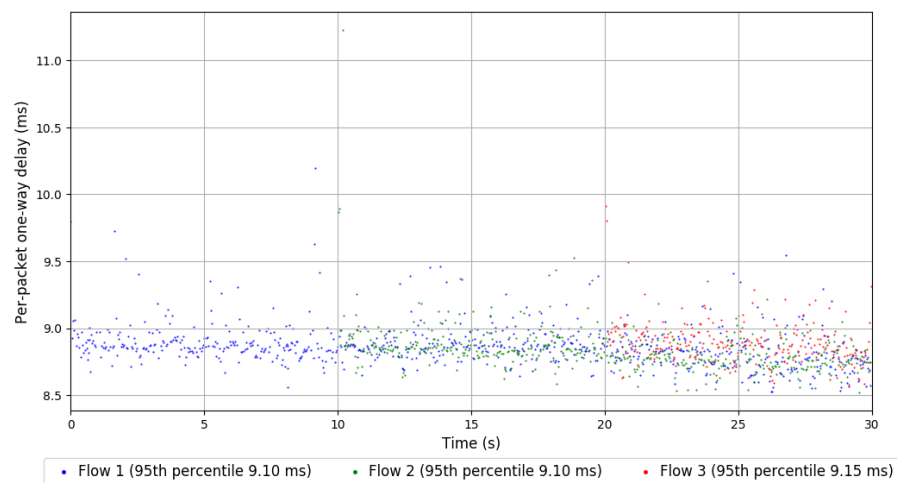
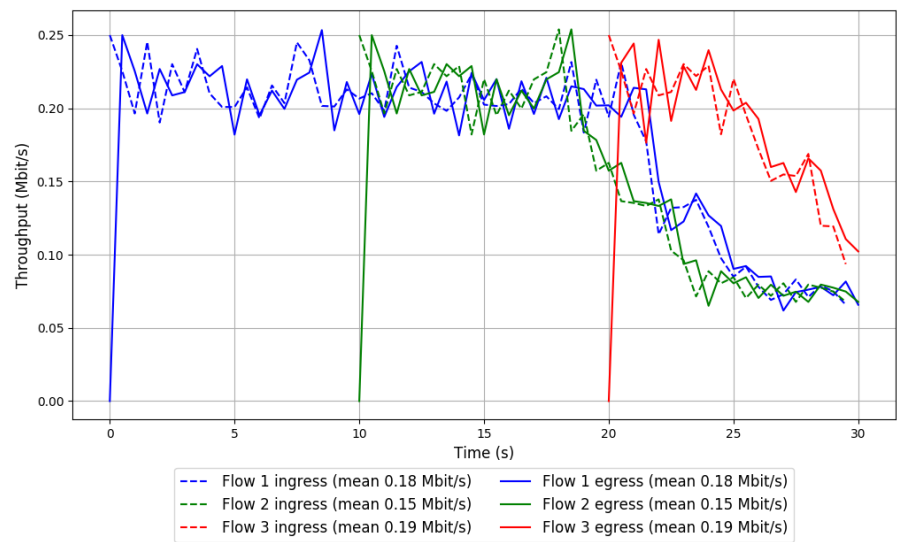


Run 4: Statistics of SCReAM

Start at: 2018-10-02 11:29:22
End at: 2018-10-02 11:29:52
Local clock offset: 0.067 ms
Remote clock offset: -1.178 ms

Below is generated by plot.py at 2018-10-02 11:58:02
Datalink statistics
-- Total of 3 flows:
Average throughput: 0.34 Mbit/s
95th percentile per-packet one-way delay: 9.110 ms
Loss rate: 0.56%
-- Flow 1:
Average throughput: 0.18 Mbit/s
95th percentile per-packet one-way delay: 9.103 ms
Loss rate: 0.54%
-- Flow 2:
Average throughput: 0.15 Mbit/s
95th percentile per-packet one-way delay: 9.095 ms
Loss rate: 0.63%
-- Flow 3:
Average throughput: 0.19 Mbit/s
95th percentile per-packet one-way delay: 9.154 ms
Loss rate: 0.51%

Run 4: Report of SReAM — Data Link

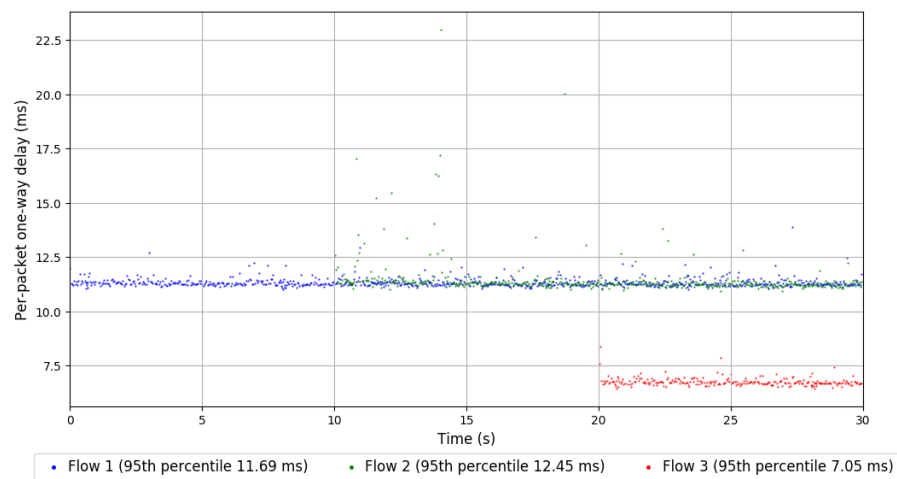
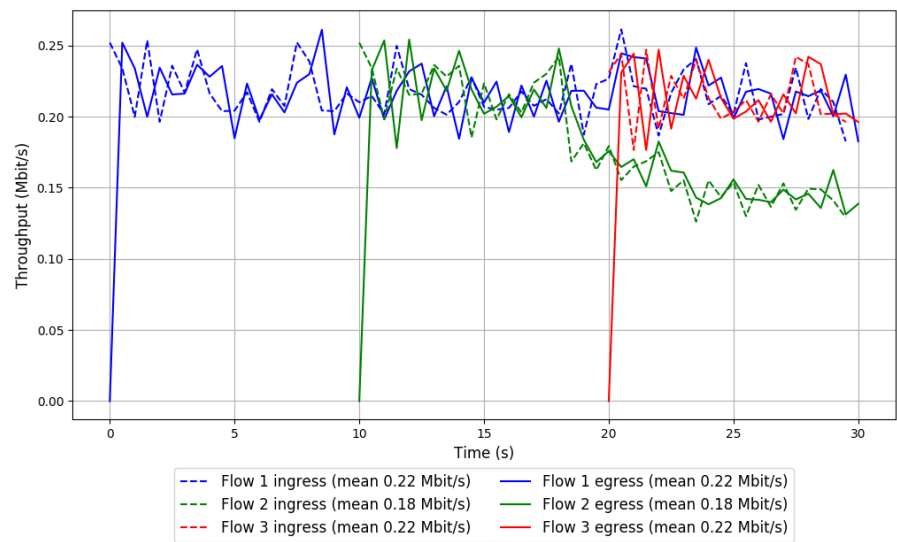


Run 5: Statistics of SCReAM

Start at: 2018-10-02 11:50:32
End at: 2018-10-02 11:51:02
Local clock offset: 0.665 ms
Remote clock offset: -3.201 ms

Below is generated by plot.py at 2018-10-02 11:58:02
Datalink statistics
-- Total of 3 flows:
Average throughput: 0.41 Mbit/s
95th percentile per-packet one-way delay: 11.689 ms
Loss rate: 0.08%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 11.689 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.18 Mbit/s
95th percentile per-packet one-way delay: 12.452 ms
Loss rate: 0.27%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 7.052 ms
Loss rate: 0.00%

Run 5: Report of SReAM — Data Link

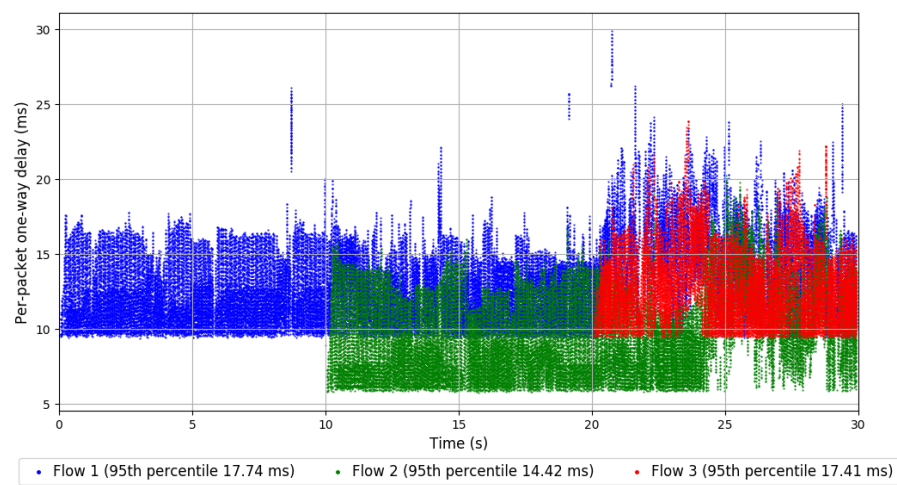
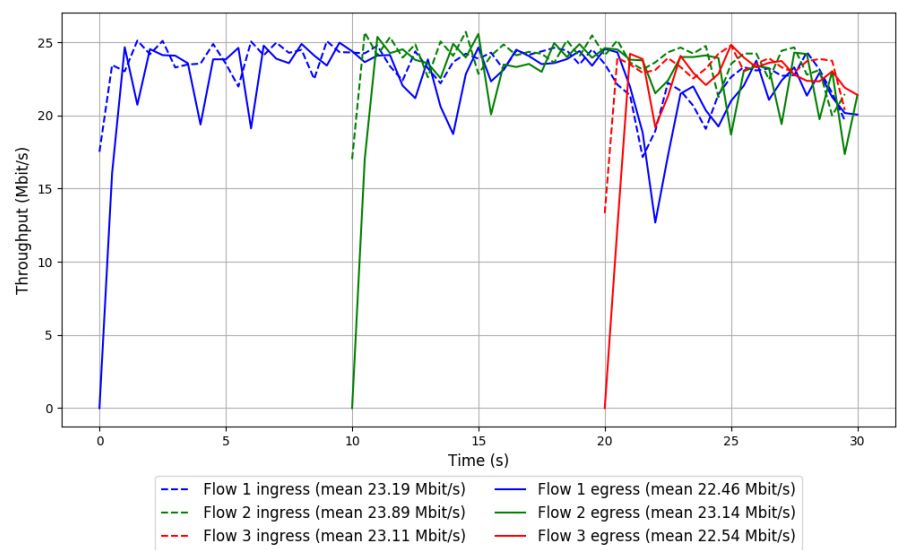


Run 1: Statistics of Sprout

Start at: 2018-10-02 10:10:11
End at: 2018-10-02 10:10:41
Local clock offset: 0.141 ms
Remote clock offset: -3.231 ms

Below is generated by plot.py at 2018-10-02 11:58:02
Datalink statistics
-- Total of 3 flows:
Average throughput: 45.29 Mbit/s
95th percentile per-packet one-way delay: 16.985 ms
Loss rate: 3.03%
-- Flow 1:
Average throughput: 22.46 Mbit/s
95th percentile per-packet one-way delay: 17.736 ms
Loss rate: 3.15%
-- Flow 2:
Average throughput: 23.14 Mbit/s
95th percentile per-packet one-way delay: 14.423 ms
Loss rate: 3.14%
-- Flow 3:
Average throughput: 22.54 Mbit/s
95th percentile per-packet one-way delay: 17.413 ms
Loss rate: 2.44%

Run 1: Report of Sprout — Data Link

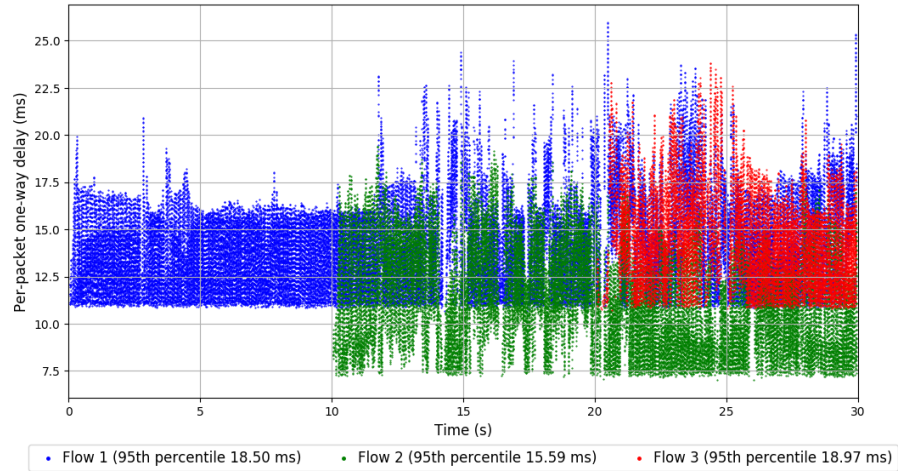
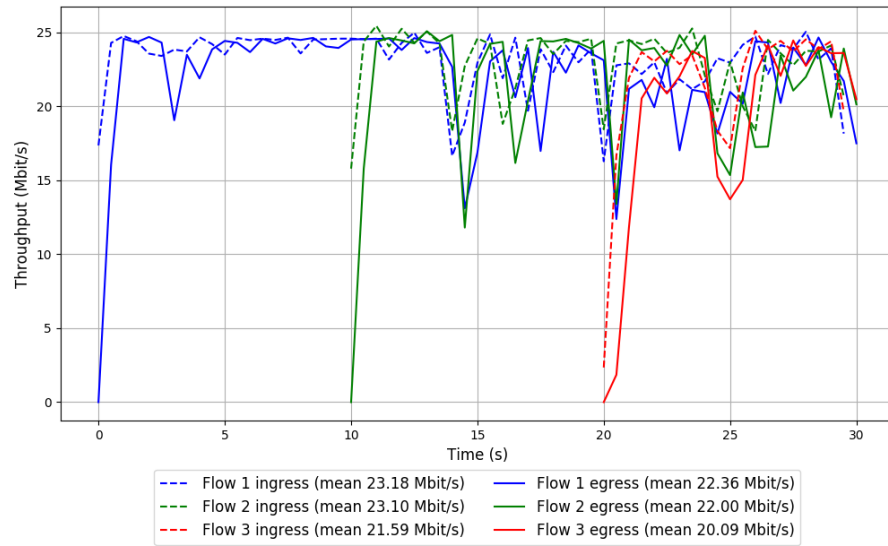


Run 2: Statistics of Sprout

Start at: 2018-10-02 10:31:38
End at: 2018-10-02 10:32:08
Local clock offset: -0.268 ms
Remote clock offset: -2.548 ms

Below is generated by plot.py at 2018-10-02 11:58:02
Datalink statistics
-- Total of 3 flows:
Average throughput: 43.63 Mbit/s
95th percentile per-packet one-way delay: 17.877 ms
Loss rate: 4.46%
-- Flow 1:
Average throughput: 22.36 Mbit/s
95th percentile per-packet one-way delay: 18.496 ms
Loss rate: 3.52%
-- Flow 2:
Average throughput: 22.00 Mbit/s
95th percentile per-packet one-way delay: 15.591 ms
Loss rate: 4.74%
-- Flow 3:
Average throughput: 20.09 Mbit/s
95th percentile per-packet one-way delay: 18.972 ms
Loss rate: 6.88%

Run 2: Report of Sprout — Data Link

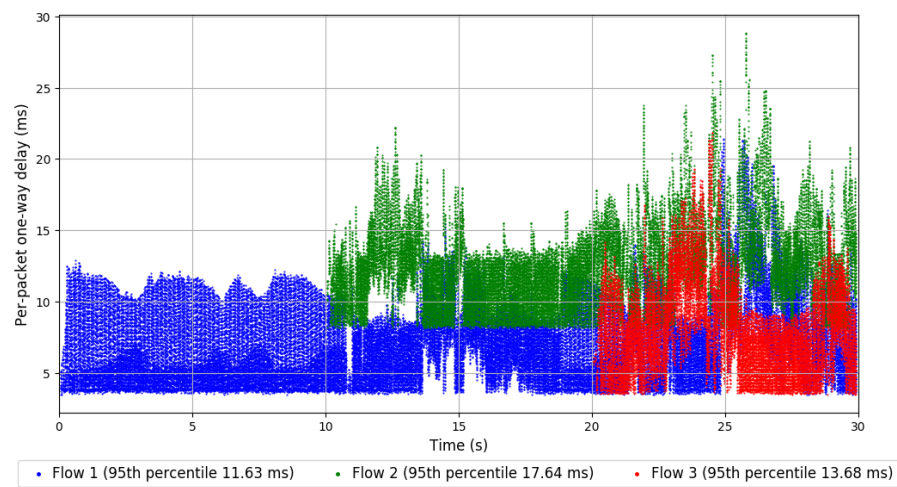
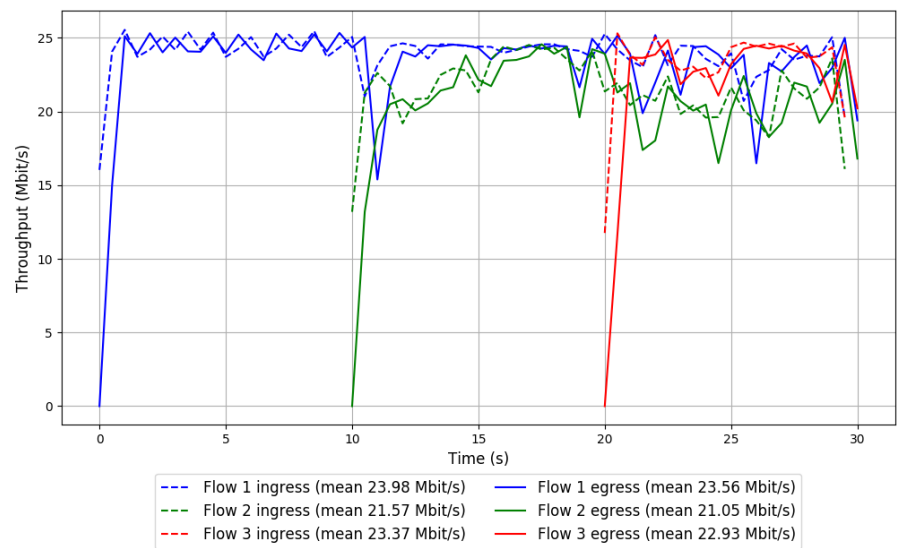


Run 3: Statistics of Sprout

Start at: 2018-10-02 10:53:17
End at: 2018-10-02 10:53:47
Local clock offset: 1.904 ms
Remote clock offset: -4.105 ms

```
# Below is generated by plot.py at 2018-10-02 11:58:16
# Datalink statistics
-- Total of 3 flows:
Average throughput: 45.13 Mbit/s
95th percentile per-packet one-way delay: 15.427 ms
Loss rate: 1.96%
-- Flow 1:
Average throughput: 23.56 Mbit/s
95th percentile per-packet one-way delay: 11.628 ms
Loss rate: 1.73%
-- Flow 2:
Average throughput: 21.05 Mbit/s
95th percentile per-packet one-way delay: 17.638 ms
Loss rate: 2.40%
-- Flow 3:
Average throughput: 22.93 Mbit/s
95th percentile per-packet one-way delay: 13.676 ms
Loss rate: 1.84%
```

Run 3: Report of Sprout — Data Link

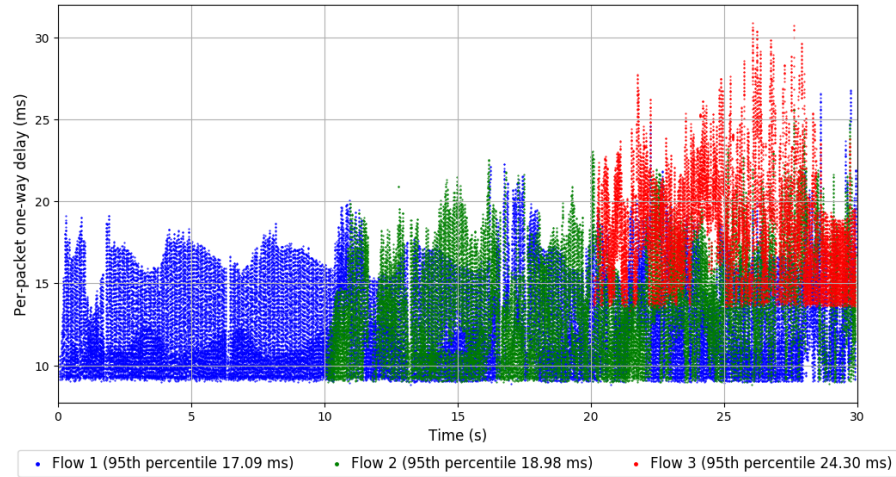
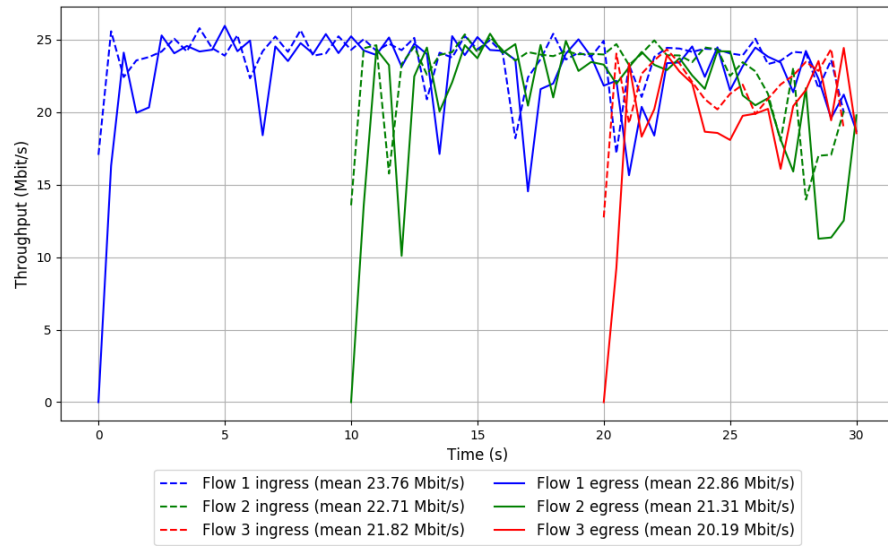


Run 4: Statistics of Sprout

Start at: 2018-10-02 11:14:19
End at: 2018-10-02 11:14:49
Local clock offset: -0.92 ms
Remote clock offset: -0.791 ms

```
# Below is generated by plot.py at 2018-10-02 11:58:16
# Datalink statistics
-- Total of 3 flows:
Average throughput: 43.70 Mbit/s
95th percentile per-packet one-way delay: 20.308 ms
Loss rate: 5.11%
-- Flow 1:
Average throughput: 22.86 Mbit/s
95th percentile per-packet one-way delay: 17.088 ms
Loss rate: 3.74%
-- Flow 2:
Average throughput: 21.31 Mbit/s
95th percentile per-packet one-way delay: 18.983 ms
Loss rate: 6.15%
-- Flow 3:
Average throughput: 20.19 Mbit/s
95th percentile per-packet one-way delay: 24.298 ms
Loss rate: 7.43%
```

Run 4: Report of Sprout — Data Link

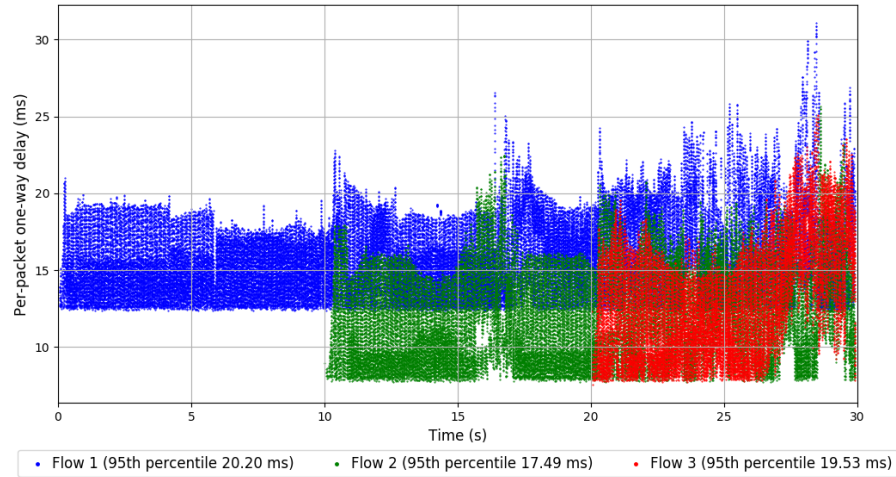
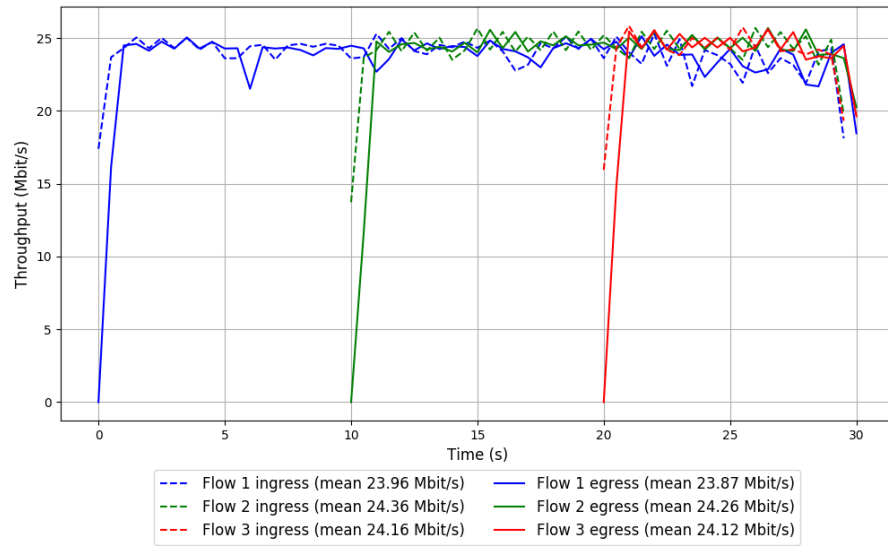


Run 5: Statistics of Sprout

Start at: 2018-10-02 11:35:16
End at: 2018-10-02 11:35:46
Local clock offset: 1.108 ms
Remote clock offset: -1.299 ms

```
# Below is generated by plot.py at 2018-10-02 11:58:19
# Datalink statistics
-- Total of 3 flows:
Average throughput: 47.97 Mbit/s
95th percentile per-packet one-way delay: 19.537 ms
Loss rate: 0.37%
-- Flow 1:
Average throughput: 23.87 Mbit/s
95th percentile per-packet one-way delay: 20.205 ms
Loss rate: 0.42%
-- Flow 2:
Average throughput: 24.26 Mbit/s
95th percentile per-packet one-way delay: 17.489 ms
Loss rate: 0.38%
-- Flow 3:
Average throughput: 24.12 Mbit/s
95th percentile per-packet one-way delay: 19.529 ms
Loss rate: 0.18%
```

Run 5: Report of Sprout — Data Link

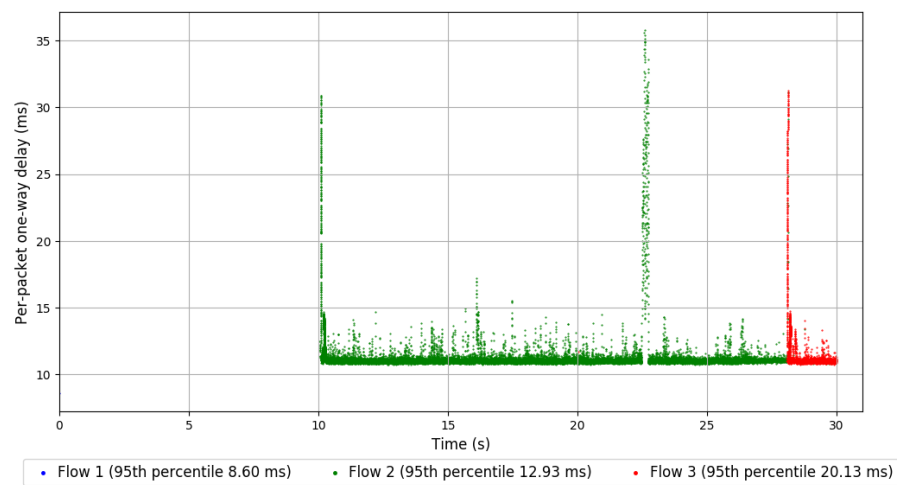
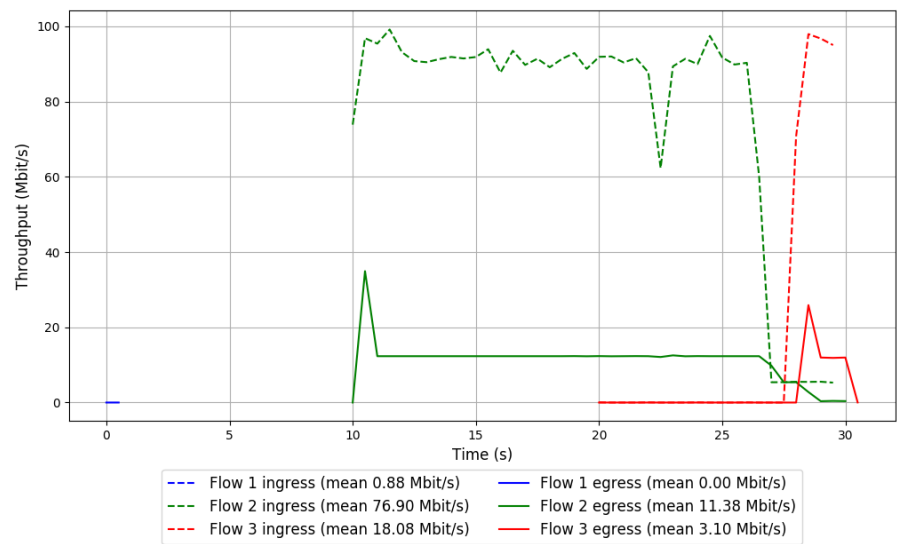


Run 1: Statistics of TaoVA-100x

Start at: 2018-10-02 10:23:23
End at: 2018-10-02 10:23:53
Local clock offset: -0.859 ms
Remote clock offset: -3.142 ms

Below is generated by plot.py at 2018-10-02 11:58:19
Datalink statistics
-- Total of 3 flows:
Average throughput: 8.59 Mbit/s
95th percentile per-packet one-way delay: 13.481 ms
Loss rate: 84.99%
-- Flow 1:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 8.600 ms
Loss rate: 95.92%
-- Flow 2:
Average throughput: 11.38 Mbit/s
95th percentile per-packet one-way delay: 12.925 ms
Loss rate: 85.23%
-- Flow 3:
Average throughput: 3.10 Mbit/s
95th percentile per-packet one-way delay: 20.128 ms
Loss rate: 82.89%

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



Run 2: Statistics of TaoVA-100x

Start at: 2018-10-02 10:44:50

End at: 2018-10-02 10:45:20

Local clock offset: 3.705 ms

Remote clock offset: -2.52 ms

Below is generated by plot.py at 2018-10-02 11:58:45

Datalink statistics

-- Total of 3 flows:

Average throughput: 12.53 Mbit/s

95th percentile per-packet one-way delay: 8.163 ms

Loss rate: 93.77%

-- Flow 1:

Average throughput: 8.78 Mbit/s

95th percentile per-packet one-way delay: 7.759 ms

Loss rate: 93.69%

-- Flow 2:

Average throughput: 5.62 Mbit/s

95th percentile per-packet one-way delay: 9.666 ms

Loss rate: 93.95%

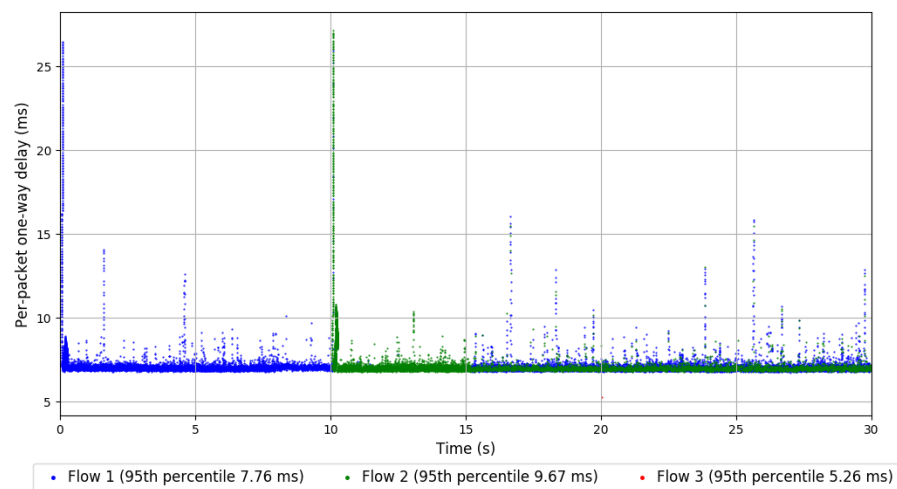
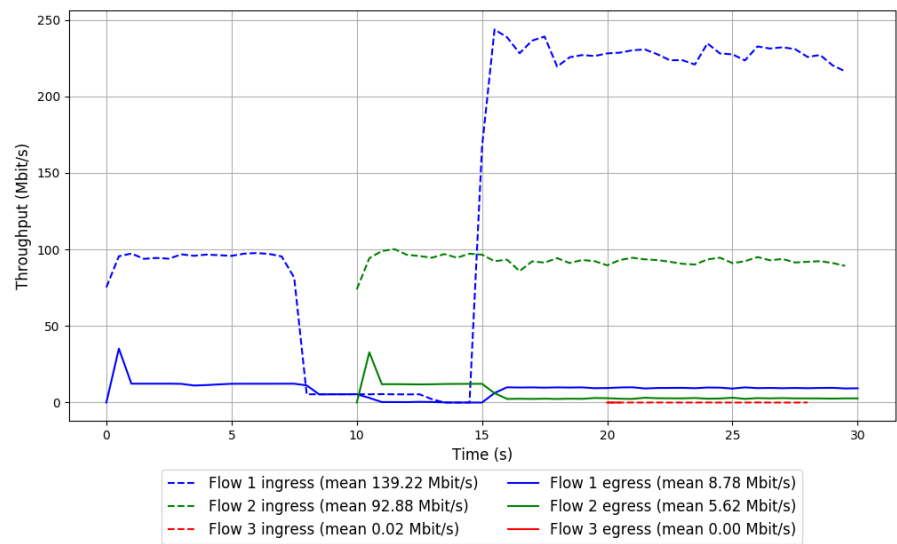
-- Flow 3:

Average throughput: 0.00 Mbit/s

95th percentile per-packet one-way delay: 5.260 ms

Loss rate: 99.16%

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



Run 3: Statistics of TaoVA-100x

Start at: 2018-10-02 11:06:04

End at: 2018-10-02 11:06:34

Local clock offset: 0.399 ms

Remote clock offset: -0.73 ms

Below is generated by plot.py at 2018-10-02 11:58:45

Datalink statistics

-- Total of 3 flows:

Average throughput: 6.77 Mbit/s

95th percentile per-packet one-way delay: 15.346 ms

Loss rate: 77.81%

-- Flow 1:

Average throughput: 0.00 Mbit/s

95th percentile per-packet one-way delay: 13.041 ms

Loss rate: 95.92%

-- Flow 2:

Average throughput: 4.64 Mbit/s

95th percentile per-packet one-way delay: 15.670 ms

Loss rate: 57.74%

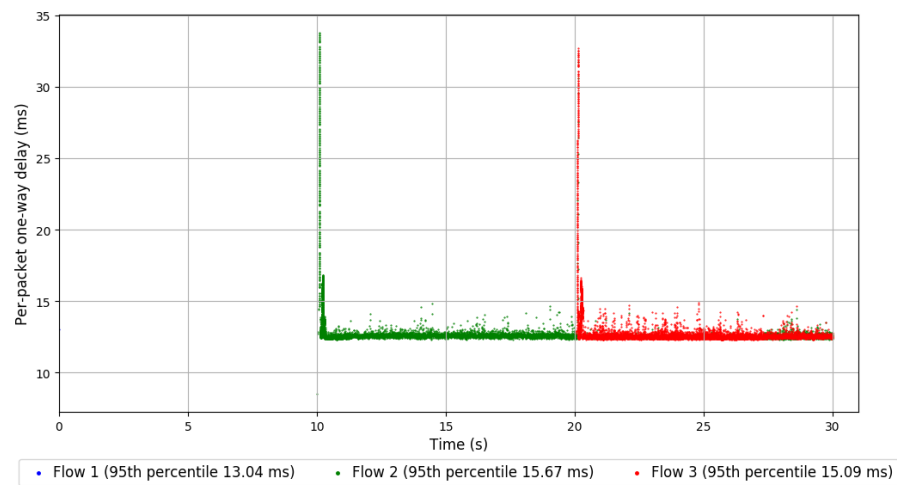
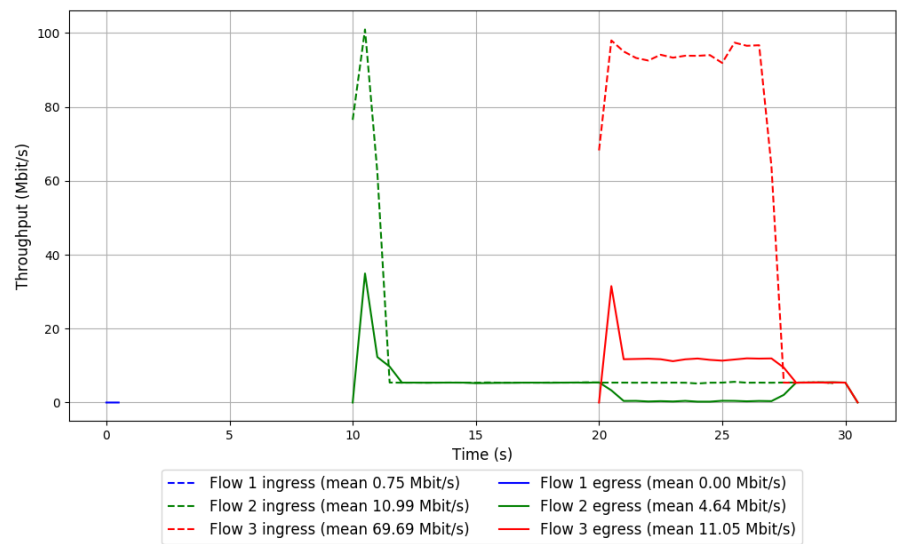
-- Flow 3:

Average throughput: 11.05 Mbit/s

95th percentile per-packet one-way delay: 15.089 ms

Loss rate: 84.15%

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

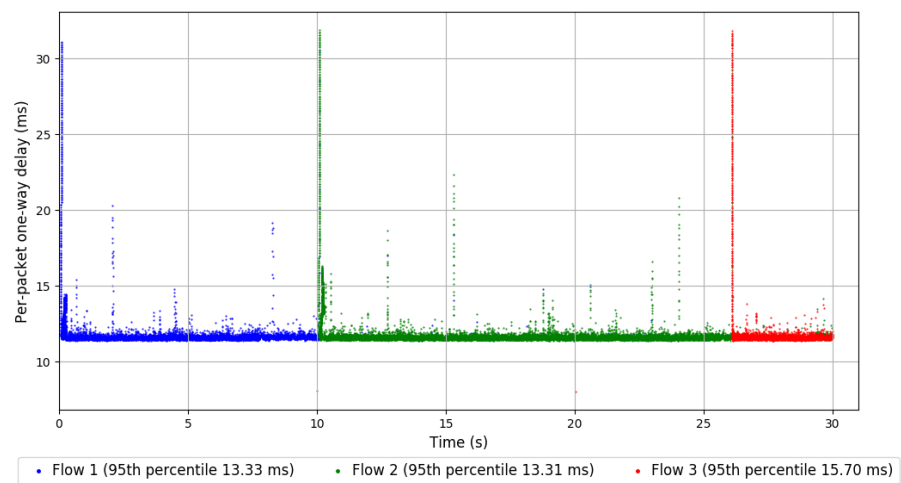
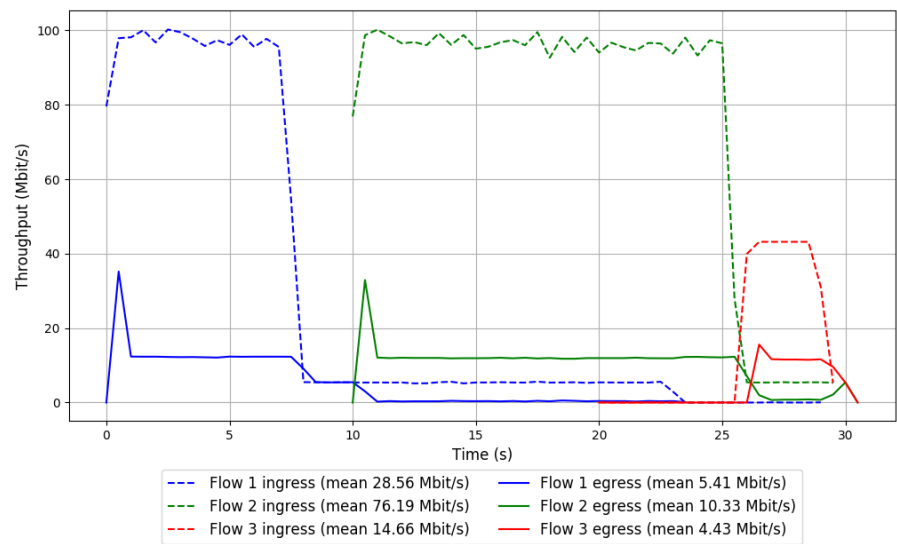


Run 4: Statistics of TaoVA-100x

Start at: 2018-10-02 11:27:02
End at: 2018-10-02 11:27:32
Local clock offset: -0.351 ms
Remote clock offset: -3.387 ms

Below is generated by plot.py at 2018-10-02 11:58:45
Datalink statistics
-- Total of 3 flows:
Average throughput: 12.53 Mbit/s
95th percentile per-packet one-way delay: 13.383 ms
Loss rate: 84.98%
-- Flow 1:
Average throughput: 5.41 Mbit/s
95th percentile per-packet one-way delay: 13.334 ms
Loss rate: 84.98%
-- Flow 2:
Average throughput: 10.33 Mbit/s
95th percentile per-packet one-way delay: 13.308 ms
Loss rate: 86.44%
-- Flow 3:
Average throughput: 4.43 Mbit/s
95th percentile per-packet one-way delay: 15.704 ms
Loss rate: 69.76%

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



Run 5: Statistics of TaoVA-100x

Start at: 2018-10-02 11:48:12

End at: 2018-10-02 11:48:42

Local clock offset: 0.376 ms

Remote clock offset: -0.29 ms

Below is generated by plot.py at 2018-10-02 11:58:45

Datalink statistics

-- Total of 3 flows:

Average throughput: 8.54 Mbit/s

95th percentile per-packet one-way delay: 16.928 ms

Loss rate: 87.49%

-- Flow 1:

Average throughput: 0.00 Mbit/s

95th percentile per-packet one-way delay: 11.346 ms

Loss rate: 95.92%

-- Flow 2:

Average throughput: 6.93 Mbit/s

95th percentile per-packet one-way delay: 16.177 ms

Loss rate: 87.75%

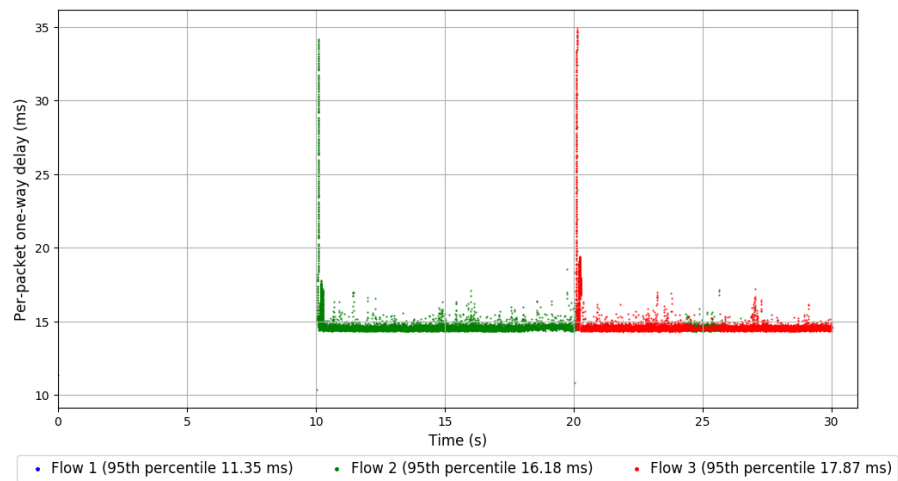
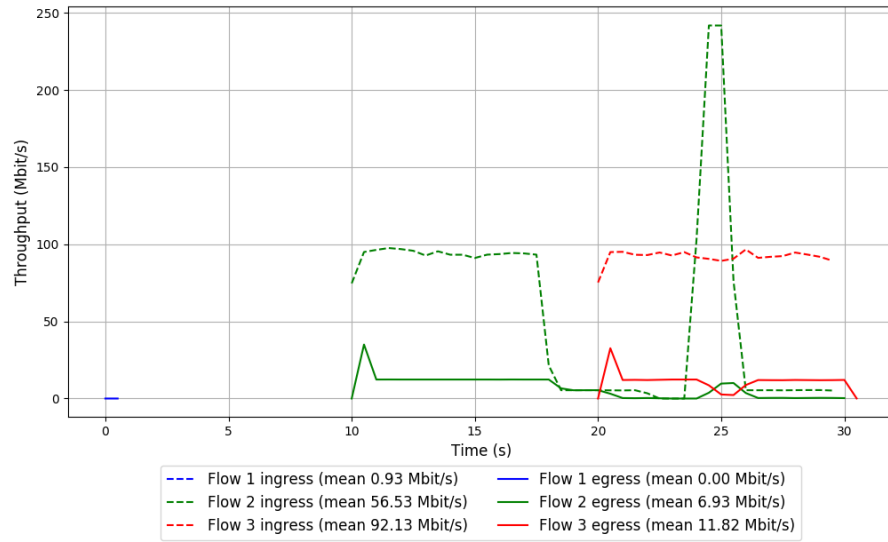
-- Flow 3:

Average throughput: 11.82 Mbit/s

95th percentile per-packet one-way delay: 17.868 ms

Loss rate: 87.16%

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

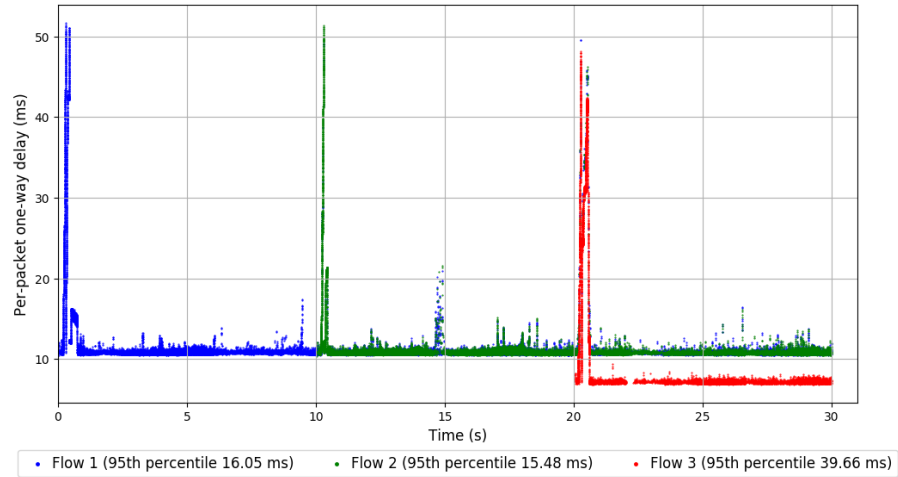
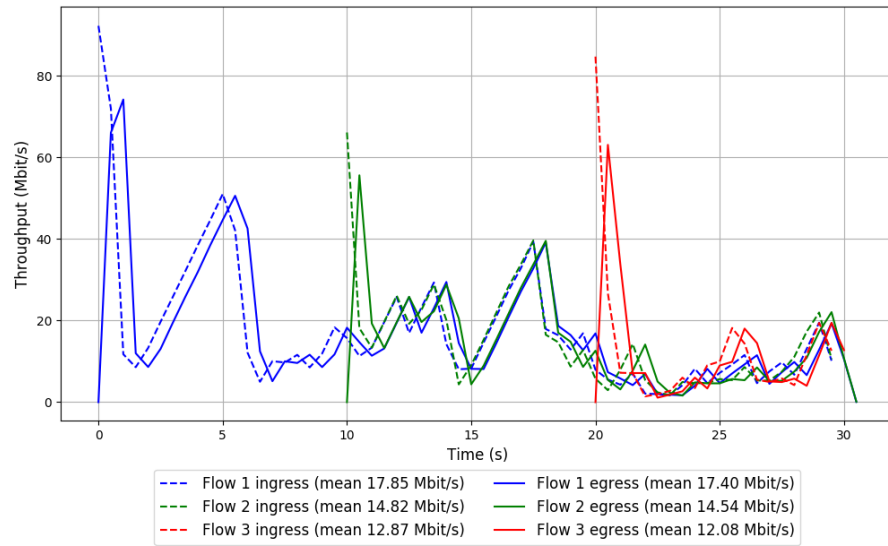


Run 1: Statistics of TCP Vegas

Start at: 2018-10-02 10:13:41
End at: 2018-10-02 10:14:11
Local clock offset: -0.881 ms
Remote clock offset: -3.016 ms

Below is generated by plot.py at 2018-10-02 11:58:45
Datalink statistics
-- Total of 3 flows:
Average throughput: 31.10 Mbit/s
95th percentile per-packet one-way delay: 25.088 ms
Loss rate: 2.80%
-- Flow 1:
Average throughput: 17.40 Mbit/s
95th percentile per-packet one-way delay: 16.051 ms
Loss rate: 2.50%
-- Flow 2:
Average throughput: 14.54 Mbit/s
95th percentile per-packet one-way delay: 15.476 ms
Loss rate: 1.88%
-- Flow 3:
Average throughput: 12.08 Mbit/s
95th percentile per-packet one-way delay: 39.663 ms
Loss rate: 6.17%

Run 1: Report of TCP Vegas — Data Link

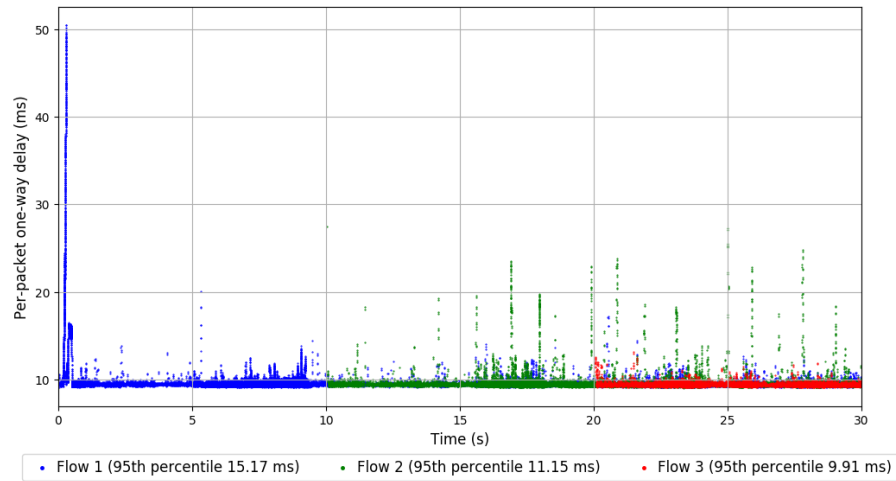
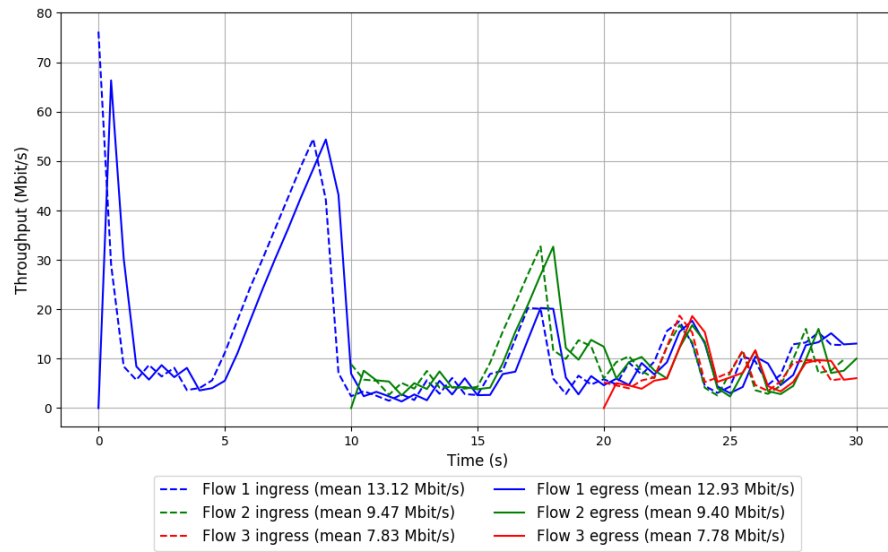


Run 2: Statistics of TCP Vegas

Start at: 2018-10-02 10:35:27
End at: 2018-10-02 10:35:57
Local clock offset: 1.913 ms
Remote clock offset: -2.035 ms

Below is generated by plot.py at 2018-10-02 11:58:45
Datalink statistics
-- Total of 3 flows:
Average throughput: 21.77 Mbit/s
95th percentile per-packet one-way delay: 11.661 ms
Loss rate: 1.18%
-- Flow 1:
Average throughput: 12.93 Mbit/s
95th percentile per-packet one-way delay: 15.166 ms
Loss rate: 1.46%
-- Flow 2:
Average throughput: 9.40 Mbit/s
95th percentile per-packet one-way delay: 11.151 ms
Loss rate: 0.82%
-- Flow 3:
Average throughput: 7.78 Mbit/s
95th percentile per-packet one-way delay: 9.911 ms
Loss rate: 0.63%

Run 2: Report of TCP Vegas — Data Link

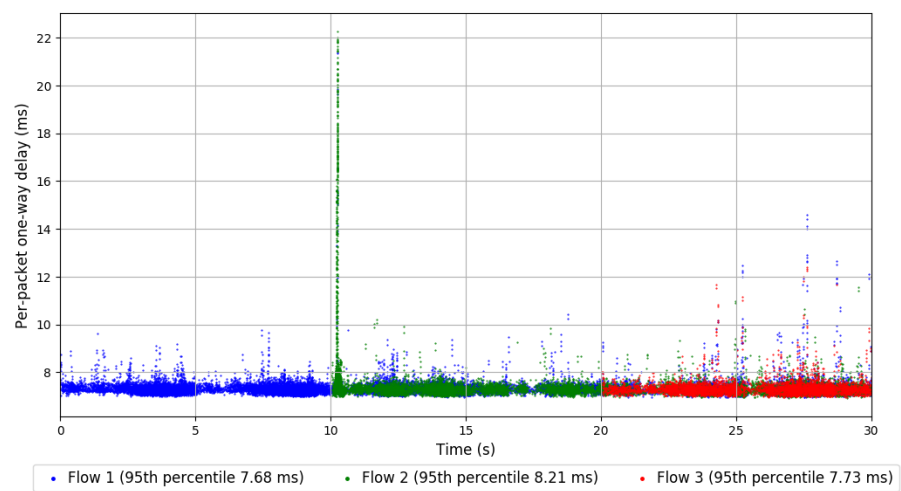
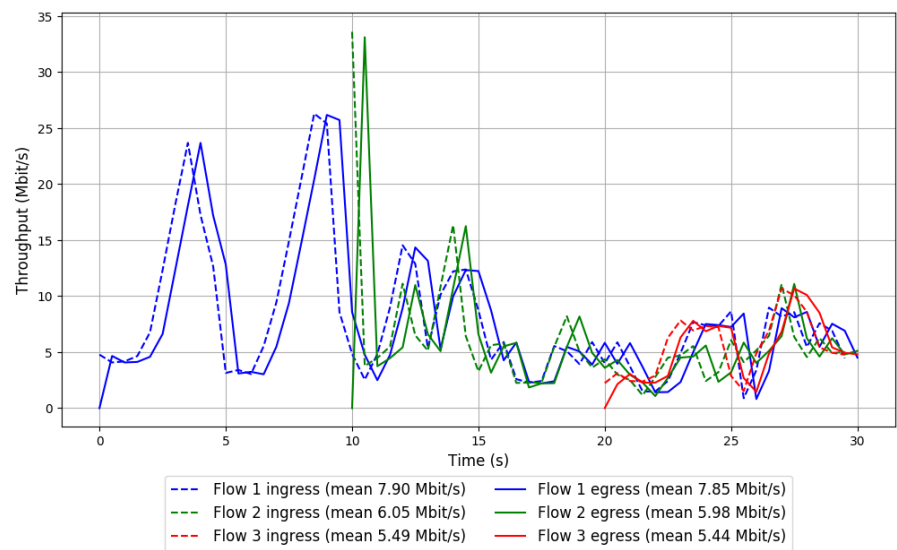


Run 3: Statistics of TCP Vegas

Start at: 2018-10-02 10:56:46
End at: 2018-10-02 10:57:16
Local clock offset: 2.2 ms
Remote clock offset: -4.694 ms

Below is generated by plot.py at 2018-10-02 11:58:45
Datalink statistics
-- Total of 3 flows:
Average throughput: 13.65 Mbit/s
95th percentile per-packet one-way delay: 7.774 ms
Loss rate: 0.77%
-- Flow 1:
Average throughput: 7.85 Mbit/s
95th percentile per-packet one-way delay: 7.678 ms
Loss rate: 0.59%
-- Flow 2:
Average throughput: 5.98 Mbit/s
95th percentile per-packet one-way delay: 8.209 ms
Loss rate: 1.08%
-- Flow 3:
Average throughput: 5.44 Mbit/s
95th percentile per-packet one-way delay: 7.727 ms
Loss rate: 0.88%

Run 3: Report of TCP Vegas — Data Link

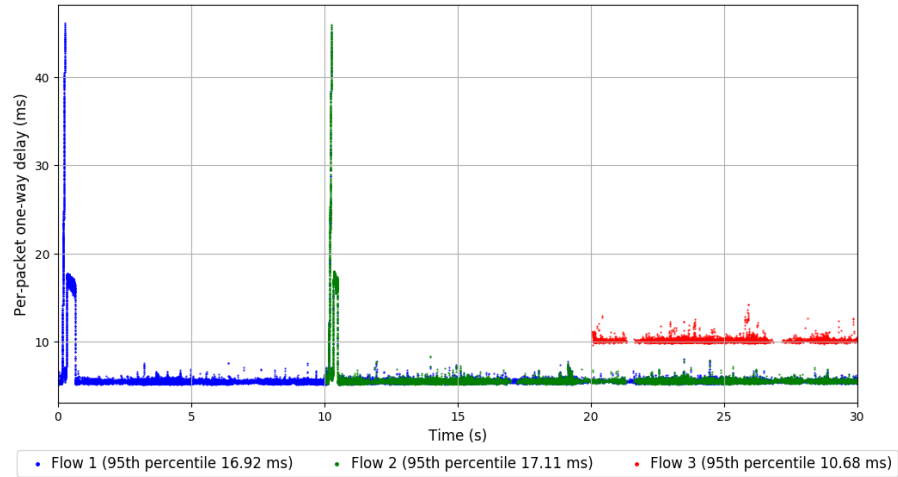
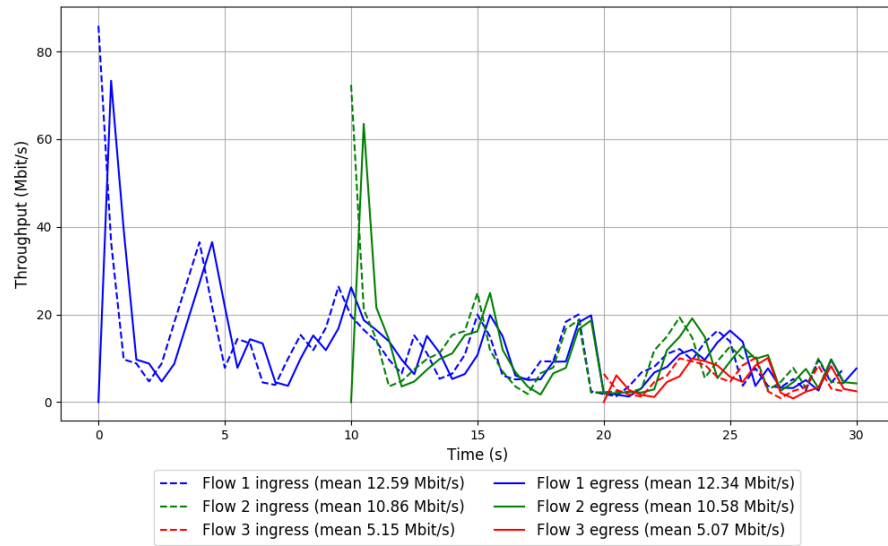


Run 4: Statistics of TCP Vegas

Start at: 2018-10-02 11:17:44
End at: 2018-10-02 11:18:14
Local clock offset: 1.689 ms
Remote clock offset: -2.306 ms

Below is generated by plot.py at 2018-10-02 11:58:45
Datalink statistics
-- Total of 3 flows:
Average throughput: 21.07 Mbit/s
95th percentile per-packet one-way delay: 16.892 ms
Loss rate: 2.15%
-- Flow 1:
Average throughput: 12.34 Mbit/s
95th percentile per-packet one-way delay: 16.921 ms
Loss rate: 1.97%
-- Flow 2:
Average throughput: 10.58 Mbit/s
95th percentile per-packet one-way delay: 17.109 ms
Loss rate: 2.58%
-- Flow 3:
Average throughput: 5.07 Mbit/s
95th percentile per-packet one-way delay: 10.676 ms
Loss rate: 1.64%

Run 4: Report of TCP Vegas — Data Link

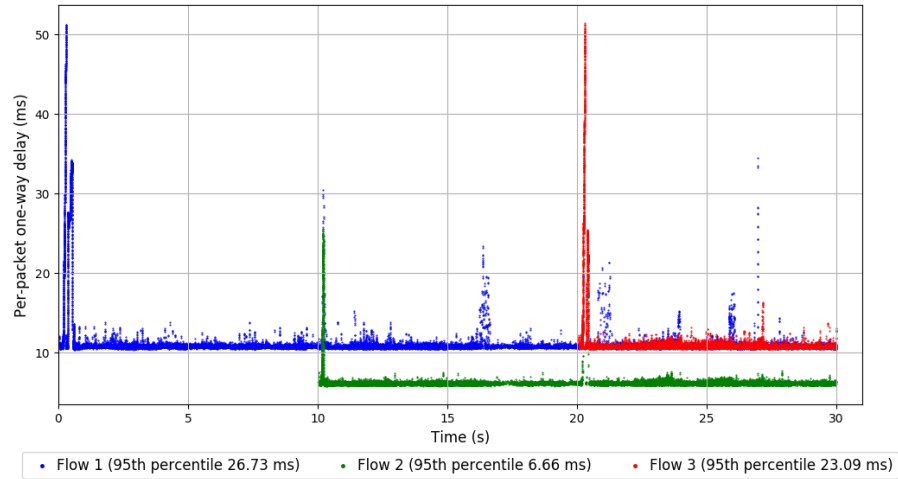
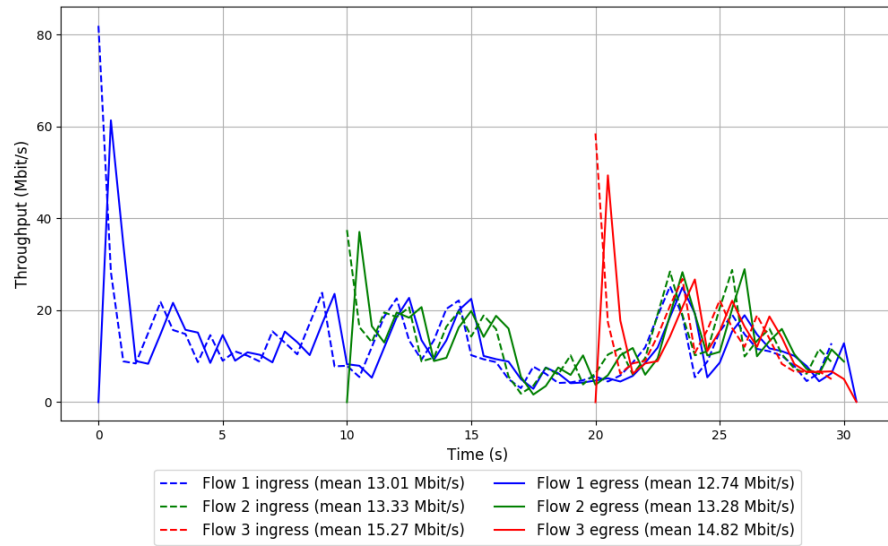


Run 5: Statistics of TCP Vegas

Start at: 2018-10-02 11:38:46
End at: 2018-10-02 11:39:16
Local clock offset: 2.191 ms
Remote clock offset: -2.217 ms

Below is generated by plot.py at 2018-10-02 11:58:45
Datalink statistics
-- Total of 3 flows:
Average throughput: 26.51 Mbit/s
95th percentile per-packet one-way delay: 19.968 ms
Loss rate: 1.69%
-- Flow 1:
Average throughput: 12.74 Mbit/s
95th percentile per-packet one-way delay: 26.735 ms
Loss rate: 2.08%
-- Flow 2:
Average throughput: 13.28 Mbit/s
95th percentile per-packet one-way delay: 6.655 ms
Loss rate: 0.37%
-- Flow 3:
Average throughput: 14.82 Mbit/s
95th percentile per-packet one-way delay: 23.085 ms
Loss rate: 2.99%

Run 5: Report of TCP Vegas — Data Link

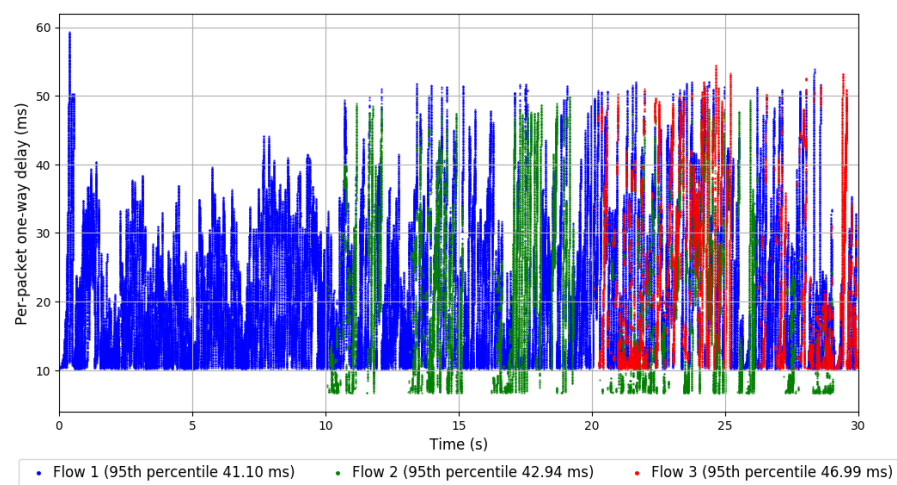
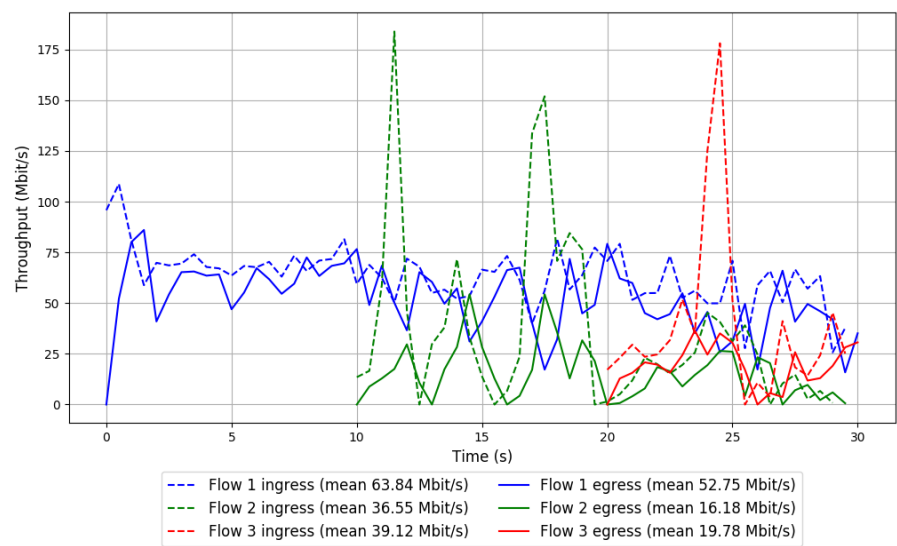


Run 1: Statistics of Verus

Start at: 2018-10-02 10:05:25
End at: 2018-10-02 10:05:55
Local clock offset: 1.548 ms
Remote clock offset: -3.103 ms

Below is generated by plot.py at 2018-10-02 11:59:17
Datalink statistics
-- Total of 3 flows:
Average throughput: 69.49 Mbit/s
95th percentile per-packet one-way delay: 42.587 ms
Loss rate: 30.45%
-- Flow 1:
Average throughput: 52.75 Mbit/s
95th percentile per-packet one-way delay: 41.103 ms
Loss rate: 17.32%
-- Flow 2:
Average throughput: 16.18 Mbit/s
95th percentile per-packet one-way delay: 42.937 ms
Loss rate: 55.82%
-- Flow 3:
Average throughput: 19.78 Mbit/s
95th percentile per-packet one-way delay: 46.986 ms
Loss rate: 49.55%

Run 1: Report of Verus — Data Link

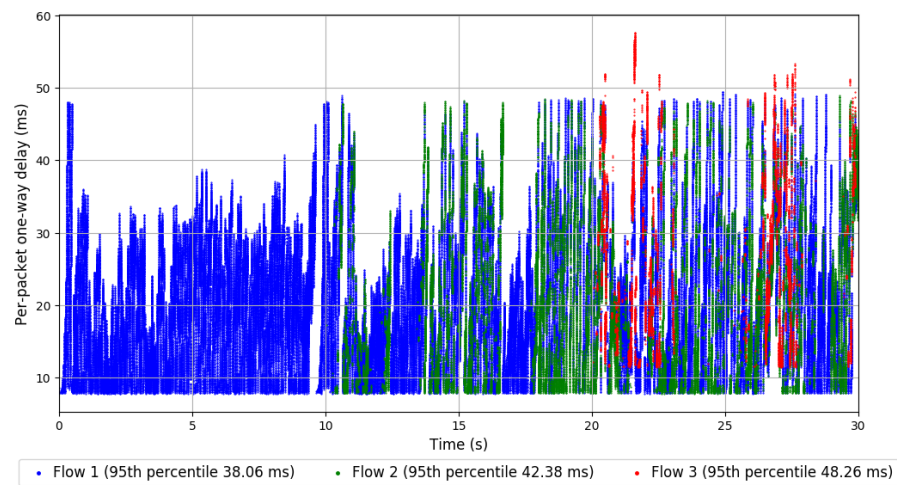
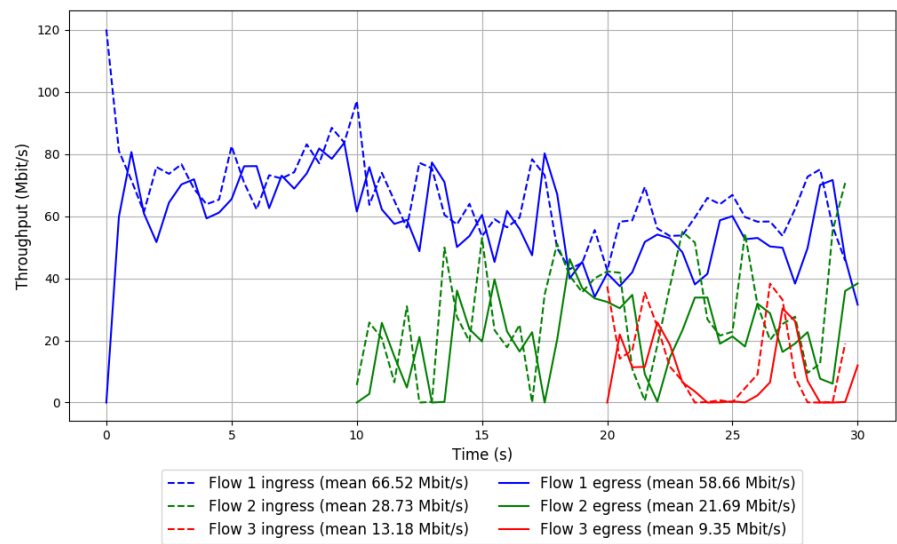


Run 2: Statistics of Verus

Start at: 2018-10-02 10:26:48
End at: 2018-10-02 10:27:18
Local clock offset: -0.814 ms
Remote clock offset: -2.503 ms

Below is generated by plot.py at 2018-10-02 11:59:22
Datalink statistics
-- Total of 3 flows:
Average throughput: 76.14 Mbit/s
95th percentile per-packet one-way delay: 40.254 ms
Loss rate: 15.28%
-- Flow 1:
Average throughput: 58.66 Mbit/s
95th percentile per-packet one-way delay: 38.058 ms
Loss rate: 11.73%
-- Flow 2:
Average throughput: 21.69 Mbit/s
95th percentile per-packet one-way delay: 42.378 ms
Loss rate: 24.46%
-- Flow 3:
Average throughput: 9.35 Mbit/s
95th percentile per-packet one-way delay: 48.259 ms
Loss rate: 29.19%

Run 2: Report of Verus — Data Link

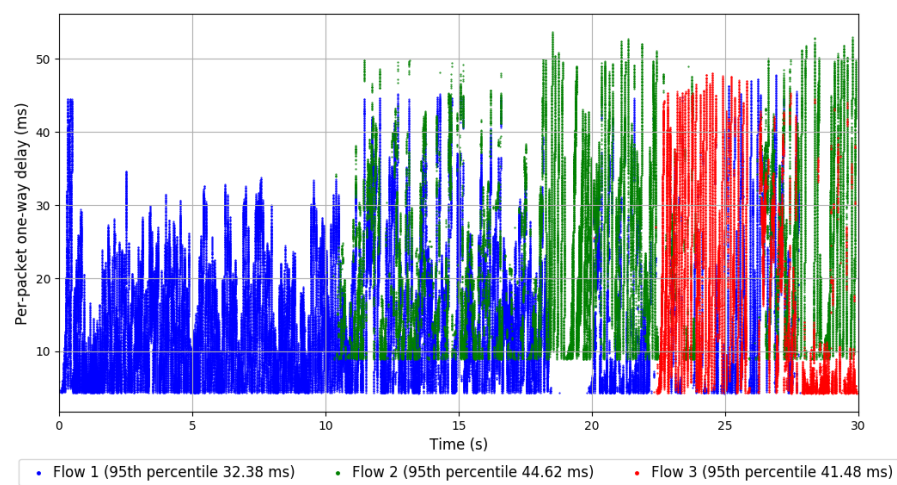
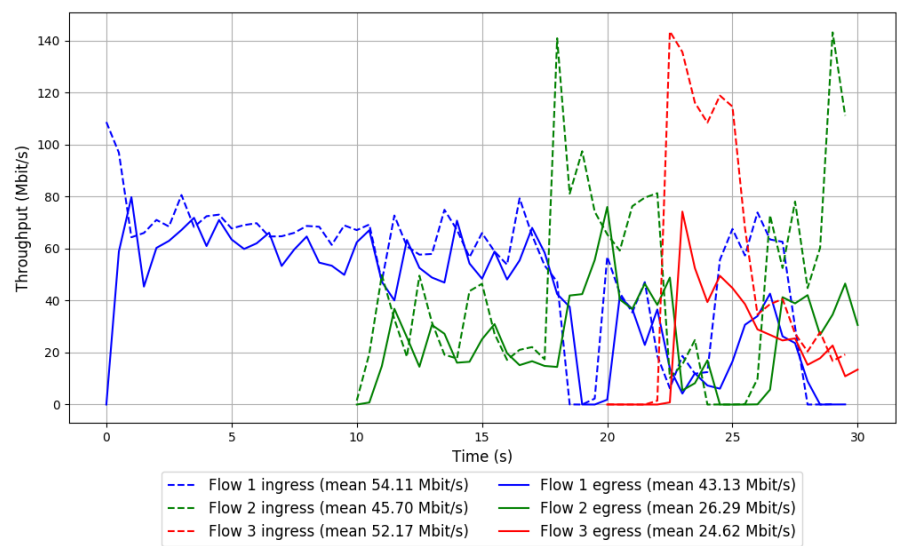


Run 3: Statistics of Verus

Start at: 2018-10-02 10:48:23
End at: 2018-10-02 10:48:53
Local clock offset: 3.23 ms
Remote clock offset: -2.389 ms

Below is generated by plot.py at 2018-10-02 11:59:22
Datalink statistics
-- Total of 3 flows:
Average throughput: 67.38 Mbit/s
95th percentile per-packet one-way delay: 39.541 ms
Loss rate: 32.85%
-- Flow 1:
Average throughput: 43.13 Mbit/s
95th percentile per-packet one-way delay: 32.378 ms
Loss rate: 20.78%
-- Flow 2:
Average throughput: 26.29 Mbit/s
95th percentile per-packet one-way delay: 44.622 ms
Loss rate: 42.44%
-- Flow 3:
Average throughput: 24.62 Mbit/s
95th percentile per-packet one-way delay: 41.475 ms
Loss rate: 52.92%

Run 3: Report of Verus — Data Link

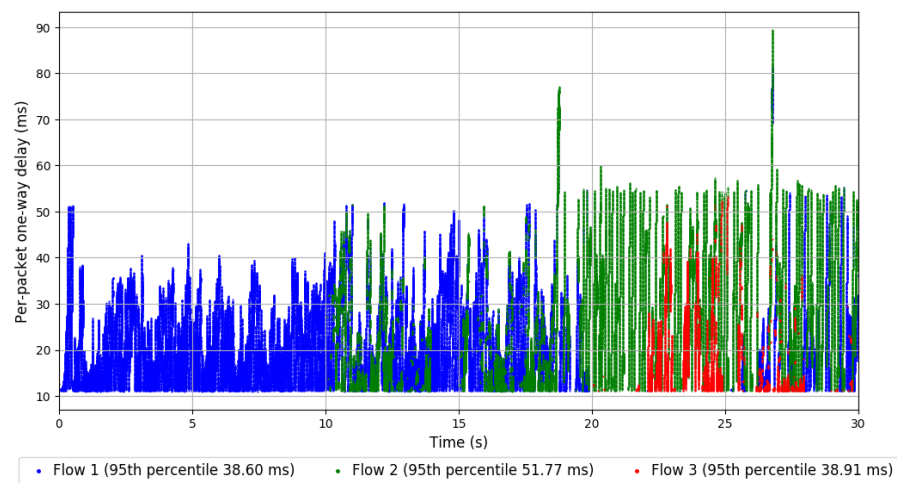
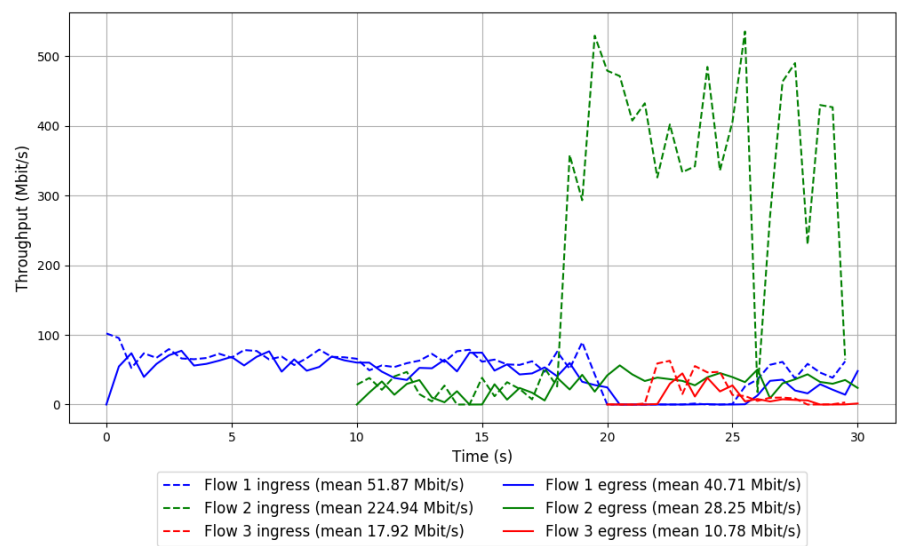


Run 4: Statistics of Verus

Start at: 2018-10-02 11:09:30
End at: 2018-10-02 11:10:00
Local clock offset: 1.312 ms
Remote clock offset: -1.053 ms

Below is generated by plot.py at 2018-10-02 11:59:42
Datalink statistics
-- Total of 3 flows:
Average throughput: 62.97 Mbit/s
95th percentile per-packet one-way delay: 45.727 ms
Loss rate: 69.56%
-- Flow 1:
Average throughput: 40.71 Mbit/s
95th percentile per-packet one-way delay: 38.603 ms
Loss rate: 21.45%
-- Flow 2:
Average throughput: 28.25 Mbit/s
95th percentile per-packet one-way delay: 51.766 ms
Loss rate: 87.43%
-- Flow 3:
Average throughput: 10.78 Mbit/s
95th percentile per-packet one-way delay: 38.908 ms
Loss rate: 40.02%

Run 4: Report of Verus — Data Link

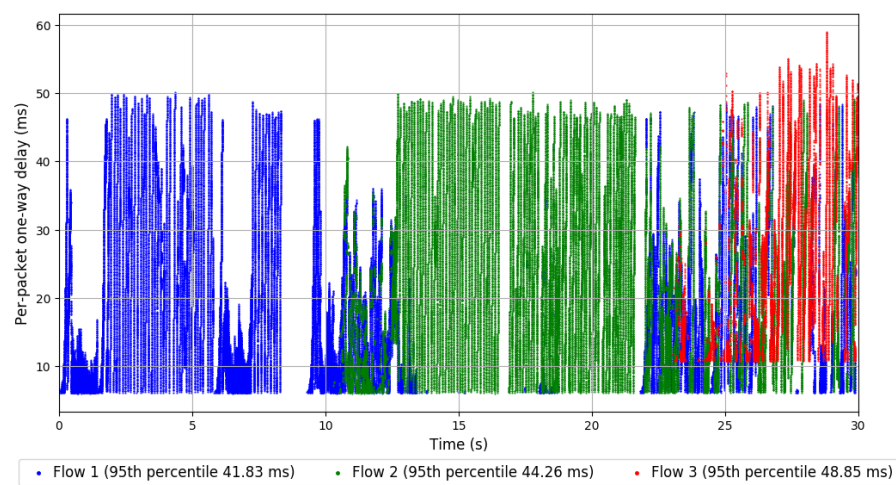
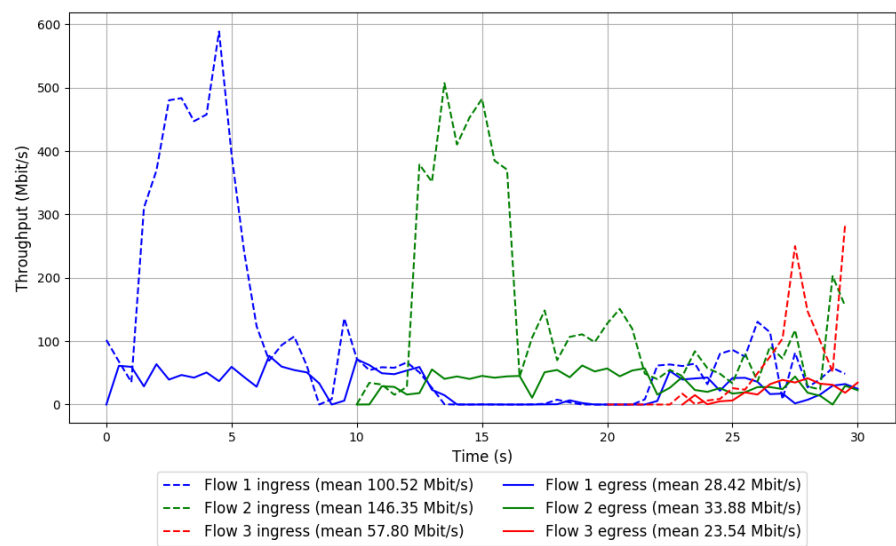


Run 5: Statistics of Verus

Start at: 2018-10-02 11:30:29
End at: 2018-10-02 11:30:59
Local clock offset: 2.231 ms
Remote clock offset: -1.619 ms

Below is generated by plot.py at 2018-10-02 11:59:42
Datalink statistics
-- Total of 3 flows:
Average throughput: 56.12 Mbit/s
95th percentile per-packet one-way delay: 43.937 ms
Loss rate: 73.97%
-- Flow 1:
Average throughput: 28.42 Mbit/s
95th percentile per-packet one-way delay: 41.834 ms
Loss rate: 71.72%
-- Flow 2:
Average throughput: 33.88 Mbit/s
95th percentile per-packet one-way delay: 44.264 ms
Loss rate: 76.82%
-- Flow 3:
Average throughput: 23.54 Mbit/s
95th percentile per-packet one-way delay: 48.846 ms
Loss rate: 71.51%

Run 5: Report of Verus — Data Link

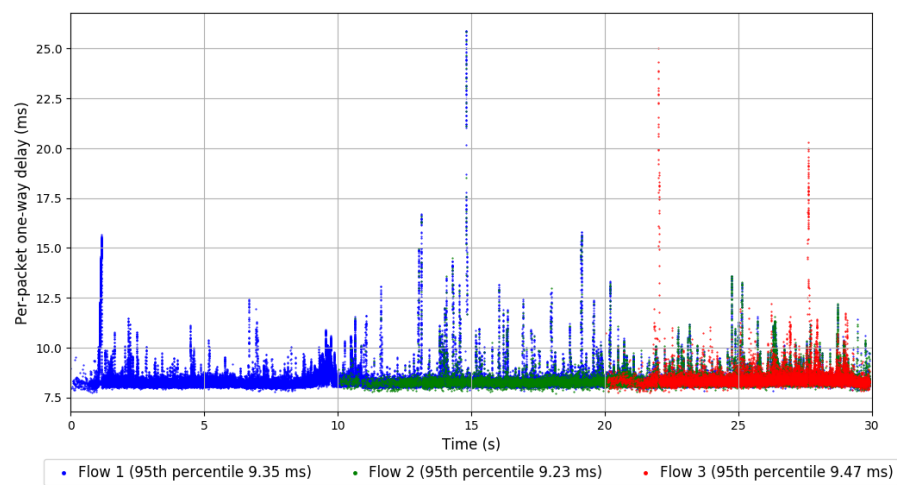
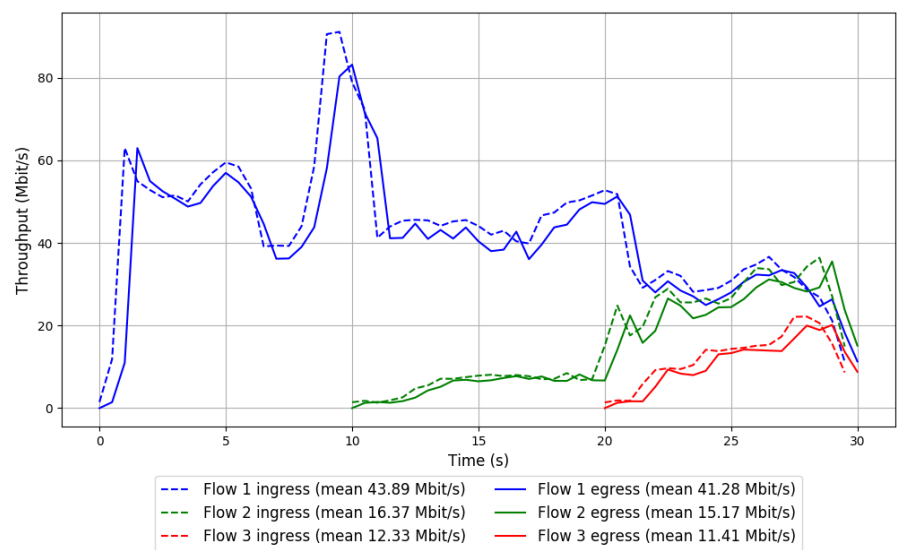


Run 1: Statistics of PCC-Vivace

Start at: 2018-10-02 10:20:44
End at: 2018-10-02 10:21:14
Local clock offset: 1.933 ms
Remote clock offset: -3.042 ms

Below is generated by plot.py at 2018-10-02 11:59:42
Datalink statistics
-- Total of 3 flows:
Average throughput: 55.14 Mbit/s
95th percentile per-packet one-way delay: 9.333 ms
Loss rate: 6.30%
-- Flow 1:
Average throughput: 41.28 Mbit/s
95th percentile per-packet one-way delay: 9.347 ms
Loss rate: 5.94%
-- Flow 2:
Average throughput: 15.17 Mbit/s
95th percentile per-packet one-way delay: 9.229 ms
Loss rate: 7.30%
-- Flow 3:
Average throughput: 11.41 Mbit/s
95th percentile per-packet one-way delay: 9.466 ms
Loss rate: 7.47%

Run 1: Report of PCC-Vivace — Data Link

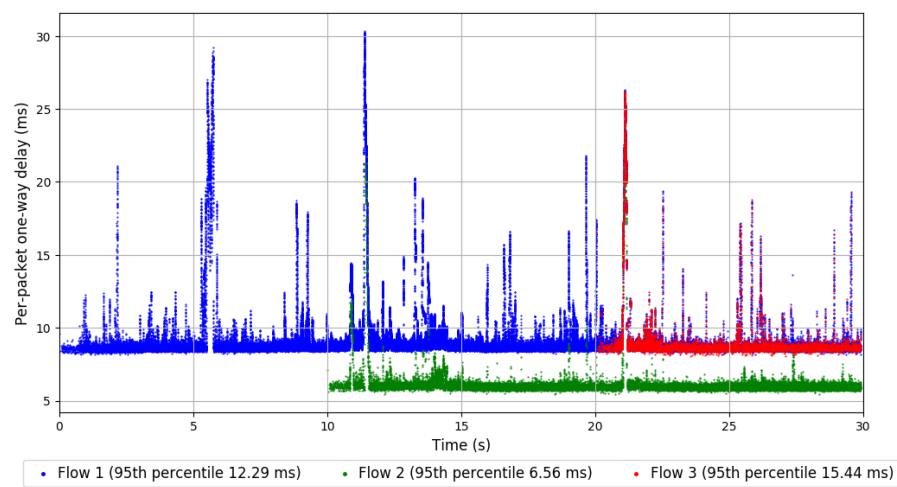
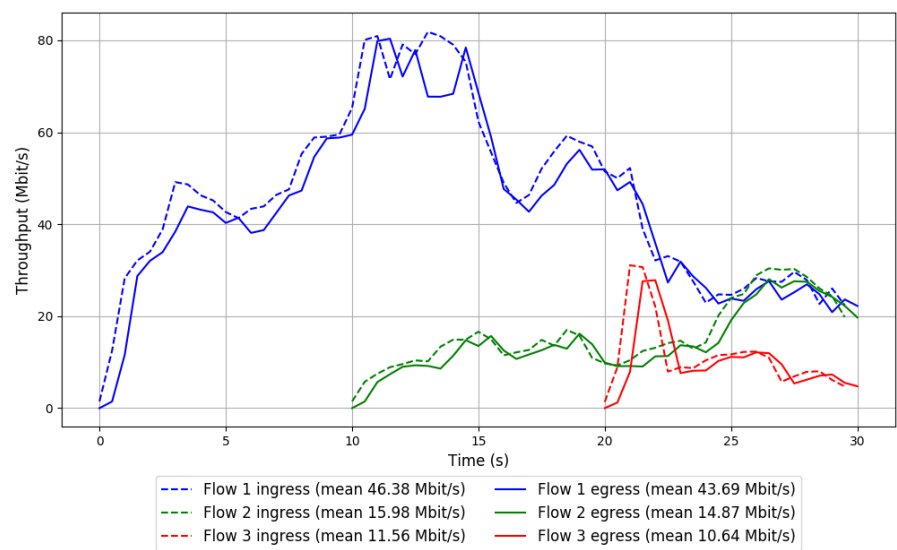


Run 2: Statistics of PCC-Vivace

Start at: 2018-10-02 10:42:29
End at: 2018-10-02 10:42:59
Local clock offset: -0.424 ms
Remote clock offset: -5.092 ms

Below is generated by plot.py at 2018-10-02 11:59:42
Datalink statistics
-- Total of 3 flows:
Average throughput: 57.09 Mbit/s
95th percentile per-packet one-way delay: 11.449 ms
Loss rate: 6.13%
-- Flow 1:
Average throughput: 43.69 Mbit/s
95th percentile per-packet one-way delay: 12.293 ms
Loss rate: 5.79%
-- Flow 2:
Average throughput: 14.87 Mbit/s
95th percentile per-packet one-way delay: 6.556 ms
Loss rate: 6.94%
-- Flow 3:
Average throughput: 10.64 Mbit/s
95th percentile per-packet one-way delay: 15.444 ms
Loss rate: 8.03%

Run 2: Report of PCC-Vivace — Data Link

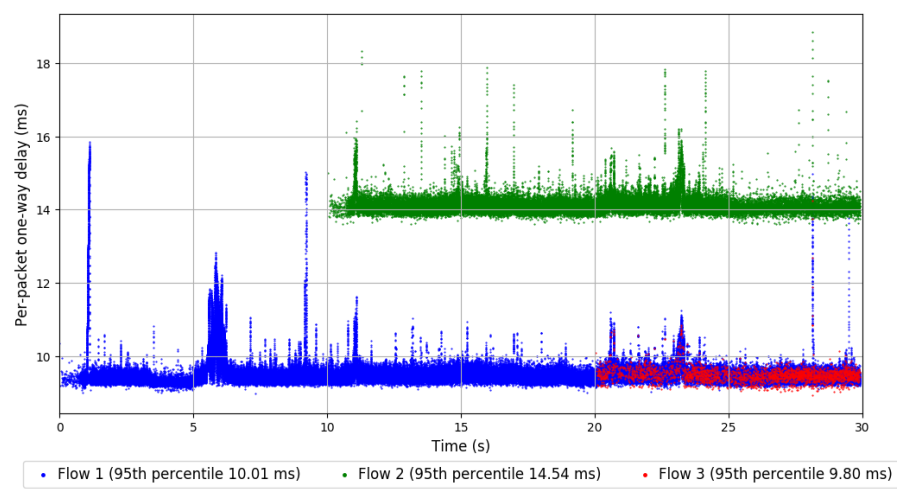
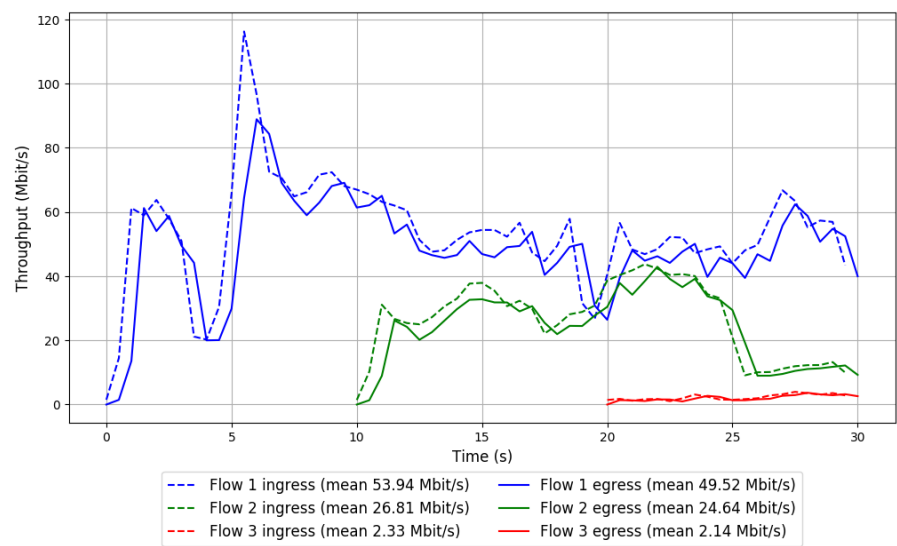


Run 3: Statistics of PCC-Vivace

Start at: 2018-10-02 11:03:44
End at: 2018-10-02 11:04:14
Local clock offset: -0.917 ms
Remote clock offset: -0.667 ms

Below is generated by plot.py at 2018-10-02 11:59:42
Datalink statistics
-- Total of 3 flows:
Average throughput: 66.61 Mbit/s
95th percentile per-packet one-way delay: 14.262 ms
Loss rate: 8.18%
-- Flow 1:
Average throughput: 49.52 Mbit/s
95th percentile per-packet one-way delay: 10.013 ms
Loss rate: 8.20%
-- Flow 2:
Average throughput: 24.64 Mbit/s
95th percentile per-packet one-way delay: 14.537 ms
Loss rate: 8.11%
-- Flow 3:
Average throughput: 2.14 Mbit/s
95th percentile per-packet one-way delay: 9.802 ms
Loss rate: 8.42%

Run 3: Report of PCC-Vivace — Data Link



Run 4: Statistics of PCC-Vivace

Start at: 2018-10-02 11:24:42

End at: 2018-10-02 11:25:12

Local clock offset: -0.39 ms

Remote clock offset: -1.68 ms

Below is generated by plot.py at 2018-10-02 11:59:46

Datalink statistics

-- Total of 3 flows:

Average throughput: 63.65 Mbit/s

95th percentile per-packet one-way delay: 14.011 ms

Loss rate: 6.92%

-- Flow 1:

Average throughput: 40.66 Mbit/s

95th percentile per-packet one-way delay: 14.114 ms

Loss rate: 6.59%

-- Flow 2:

Average throughput: 21.85 Mbit/s

95th percentile per-packet one-way delay: 14.104 ms

Loss rate: 7.61%

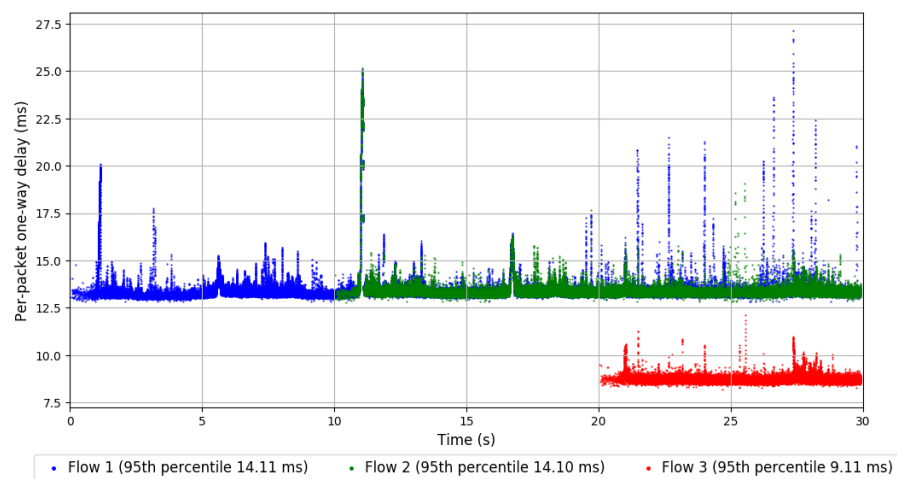
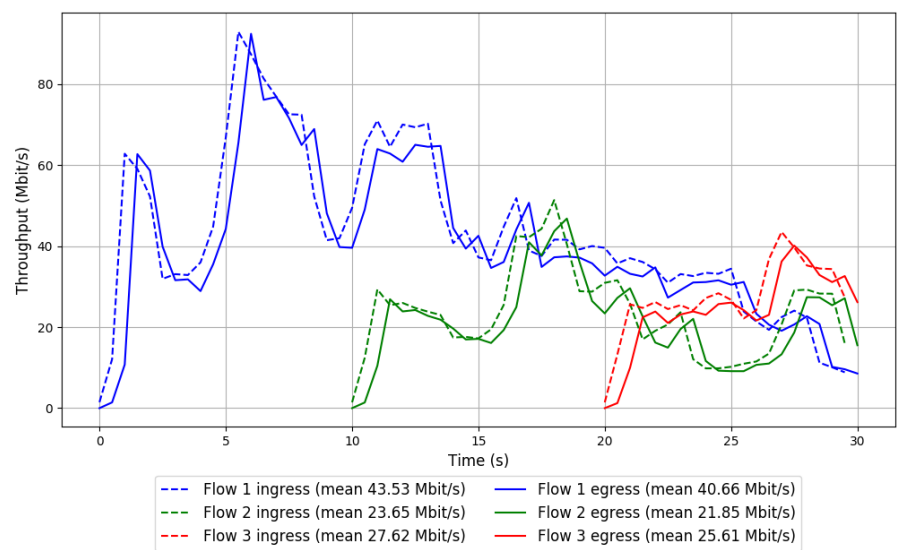
-- Flow 3:

Average throughput: 25.61 Mbit/s

95th percentile per-packet one-way delay: 9.106 ms

Loss rate: 7.30%

Run 4: Report of PCC-Vivace — Data Link

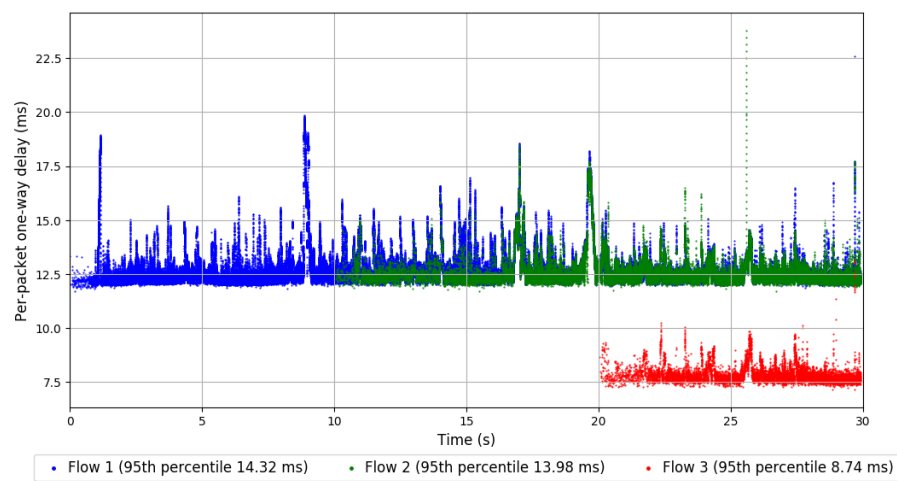
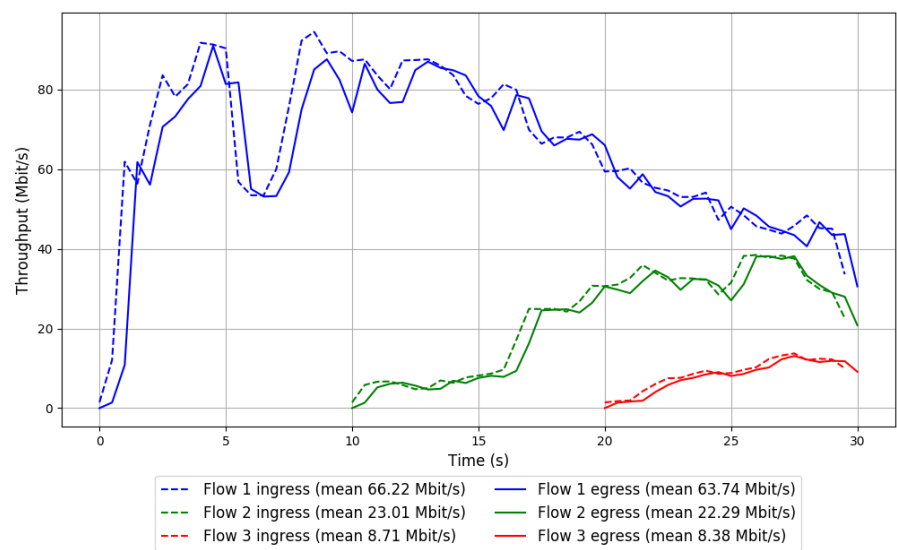


Run 5: Statistics of PCC-Vivace

Start at: 2018-10-02 11:45:50
End at: 2018-10-02 11:46:20
Local clock offset: 2.043 ms
Remote clock offset: -1.053 ms

Below is generated by plot.py at 2018-10-02 11:59:49
Datalink statistics
-- Total of 3 flows:
Average throughput: 81.34 Mbit/s
95th percentile per-packet one-way delay: 14.220 ms
Loss rate: 3.63%
-- Flow 1:
Average throughput: 63.74 Mbit/s
95th percentile per-packet one-way delay: 14.325 ms
Loss rate: 3.75%
-- Flow 2:
Average throughput: 22.29 Mbit/s
95th percentile per-packet one-way delay: 13.977 ms
Loss rate: 3.10%
-- Flow 3:
Average throughput: 8.38 Mbit/s
95th percentile per-packet one-way delay: 8.738 ms
Loss rate: 3.80%

Run 5: Report of PCC-Vivace — Data Link

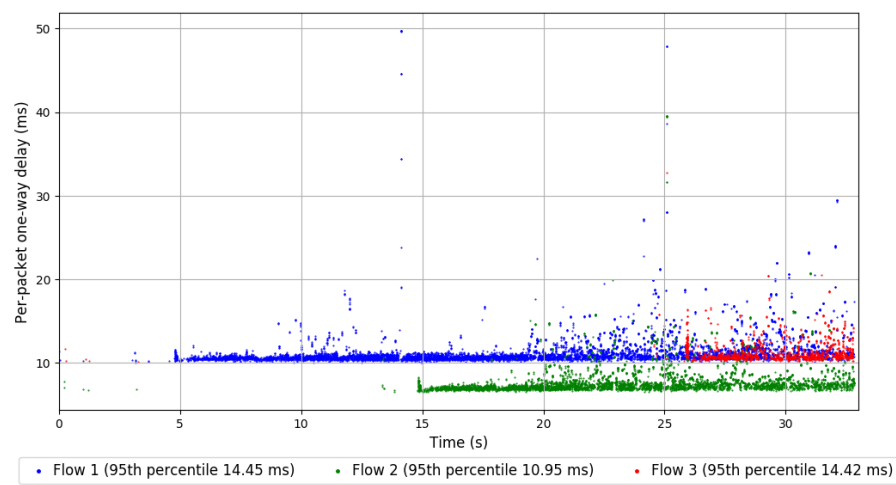
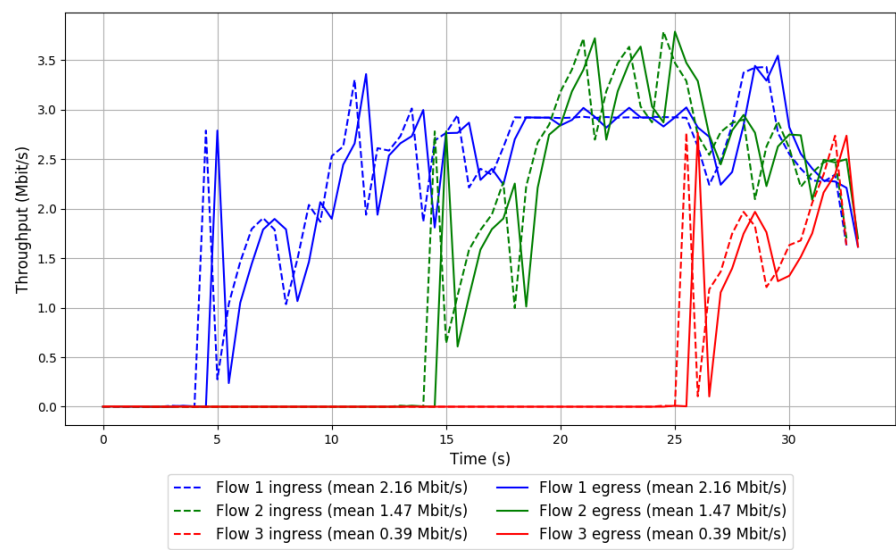


Run 1: Statistics of WebRTC media

Start at: 2018-10-02 10:15:58
End at: 2018-10-02 10:16:28
Local clock offset: -0.56 ms
Remote clock offset: -2.895 ms

Below is generated by plot.py at 2018-10-02 11:59:49
Datalink statistics
-- Total of 3 flows:
Average throughput: 4.01 Mbit/s
95th percentile per-packet one-way delay: 13.733 ms
Loss rate: 0.07%
-- Flow 1:
Average throughput: 2.16 Mbit/s
95th percentile per-packet one-way delay: 14.451 ms
Loss rate: 0.12%
-- Flow 2:
Average throughput: 1.47 Mbit/s
95th percentile per-packet one-way delay: 10.951 ms
Loss rate: 0.02%
-- Flow 3:
Average throughput: 0.39 Mbit/s
95th percentile per-packet one-way delay: 14.423 ms
Loss rate: 0.00%

Run 1: Report of WebRTC media — Data Link

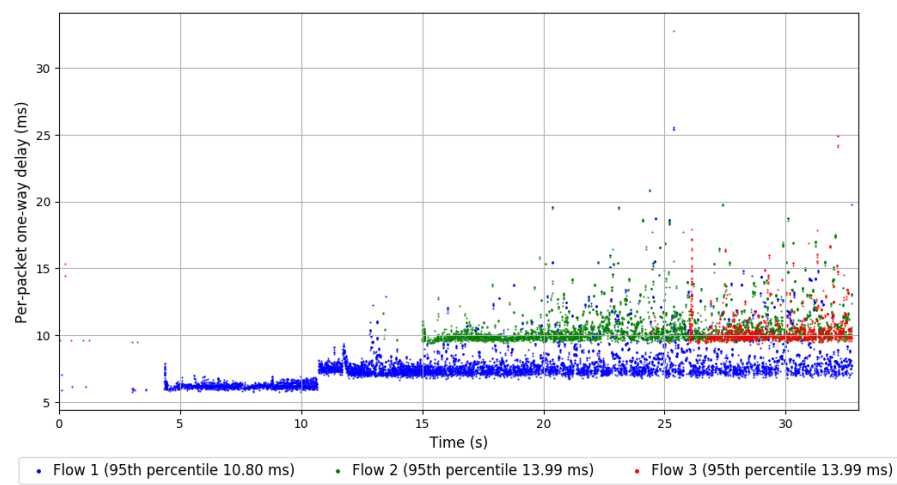
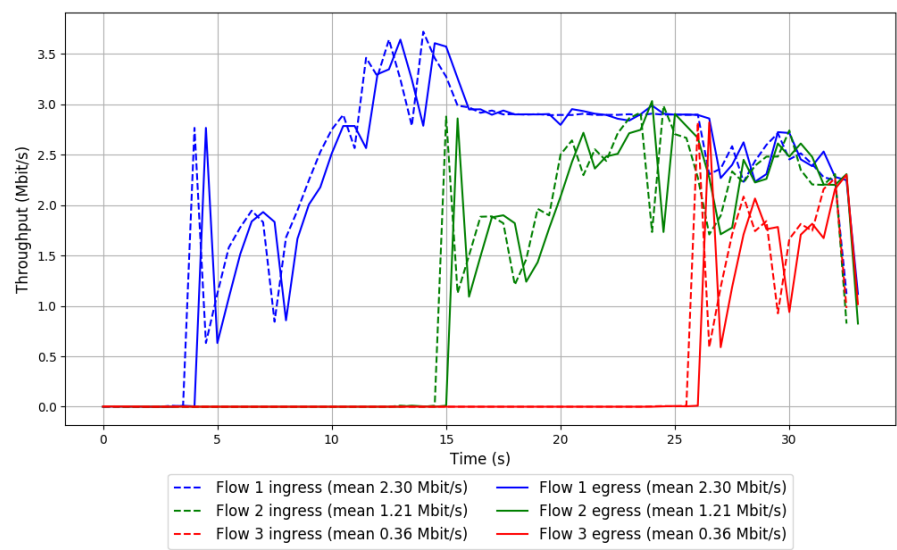


Run 2: Statistics of WebRTC media

Start at: 2018-10-02 10:37:43
End at: 2018-10-02 10:38:13
Local clock offset: 0.016 ms
Remote clock offset: -3.456 ms

Below is generated by plot.py at 2018-10-02 11:59:49
Datalink statistics
-- Total of 3 flows:
Average throughput: 3.86 Mbit/s
95th percentile per-packet one-way delay: 12.625 ms
Loss rate: 0.14%
-- Flow 1:
Average throughput: 2.30 Mbit/s
95th percentile per-packet one-way delay: 10.796 ms
Loss rate: 0.23%
-- Flow 2:
Average throughput: 1.21 Mbit/s
95th percentile per-packet one-way delay: 13.987 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.36 Mbit/s
95th percentile per-packet one-way delay: 13.993 ms
Loss rate: 0.00%

Run 2: Report of WebRTC media — Data Link

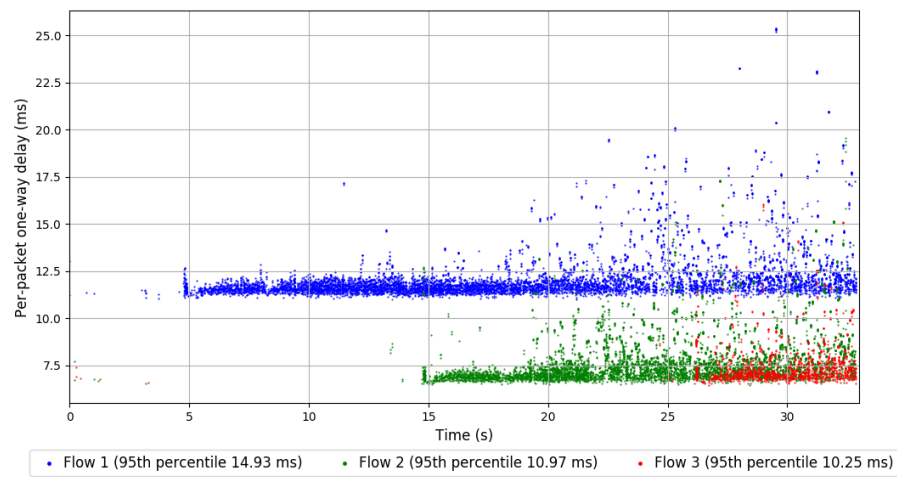
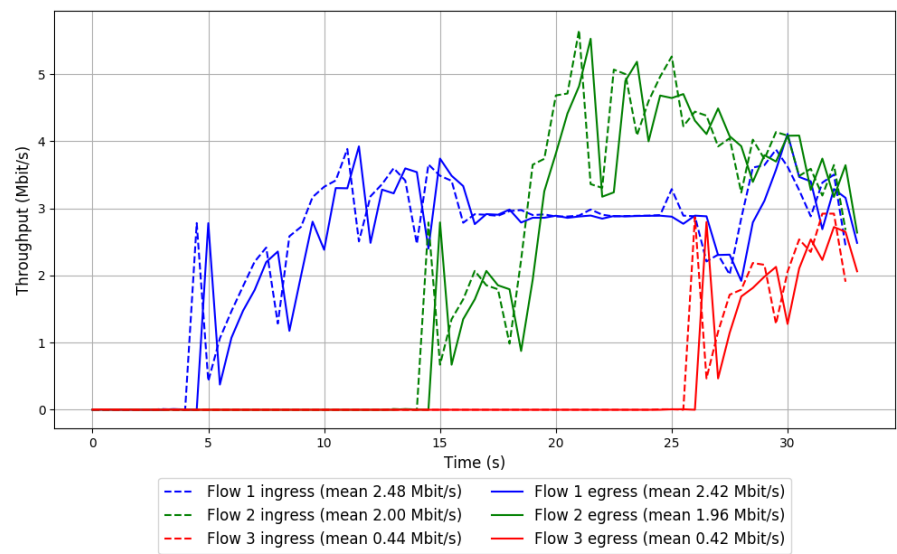


Run 3: Statistics of WebRTC media

Start at: 2018-10-02 10:59:02
End at: 2018-10-02 10:59:32
Local clock offset: 0.709 ms
Remote clock offset: -1.767 ms

Below is generated by plot.py at 2018-10-02 11:59:49
Datalink statistics
-- Total of 3 flows:
Average throughput: 4.79 Mbit/s
95th percentile per-packet one-way delay: 13.496 ms
Loss rate: 2.14%
-- Flow 1:
Average throughput: 2.42 Mbit/s
95th percentile per-packet one-way delay: 14.931 ms
Loss rate: 2.25%
-- Flow 2:
Average throughput: 1.96 Mbit/s
95th percentile per-packet one-way delay: 10.968 ms
Loss rate: 1.93%
-- Flow 3:
Average throughput: 0.42 Mbit/s
95th percentile per-packet one-way delay: 10.247 ms
Loss rate: 2.51%

Run 3: Report of WebRTC media — Data Link

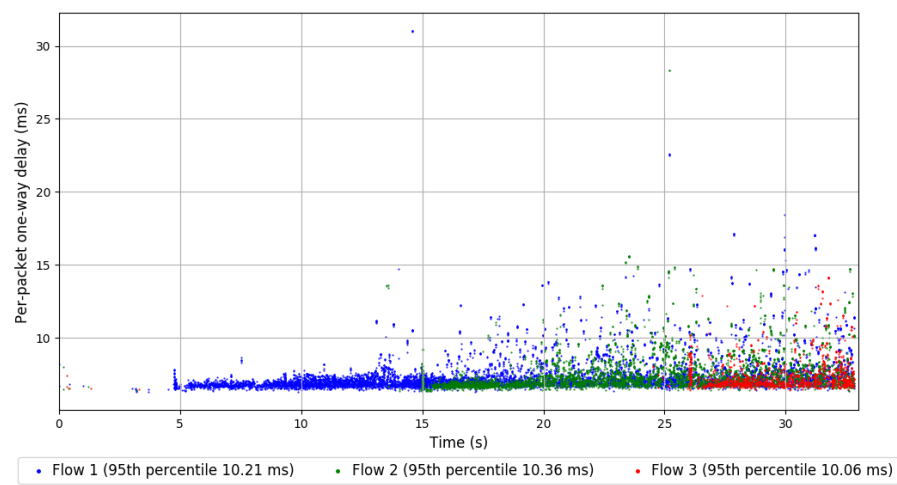
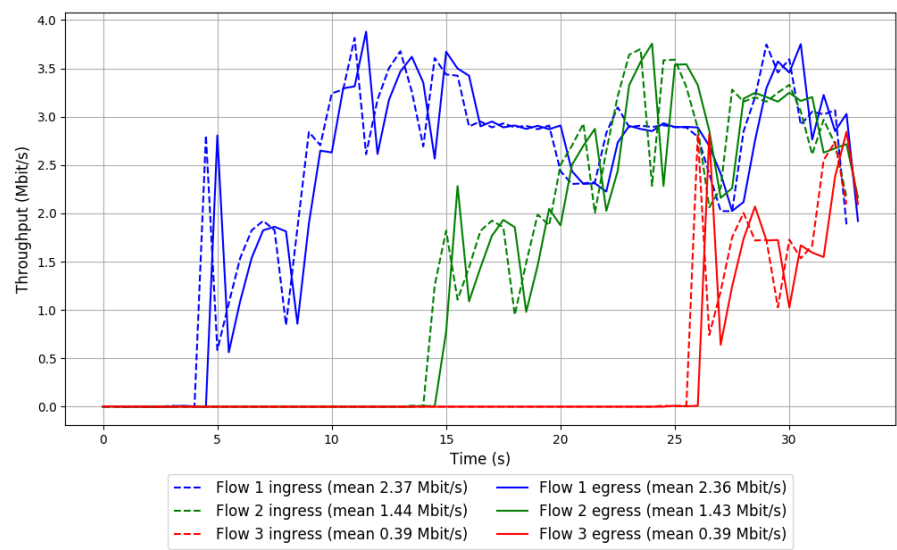


Run 4: Statistics of WebRTC media

Start at: 2018-10-02 11:20:00
End at: 2018-10-02 11:20:30
Local clock offset: -0.463 ms
Remote clock offset: -3.339 ms

Below is generated by plot.py at 2018-10-02 11:59:49
Datalink statistics
-- Total of 3 flows:
Average throughput: 4.16 Mbit/s
95th percentile per-packet one-way delay: 10.247 ms
Loss rate: 0.52%
-- Flow 1:
Average throughput: 2.36 Mbit/s
95th percentile per-packet one-way delay: 10.214 ms
Loss rate: 0.51%
-- Flow 2:
Average throughput: 1.43 Mbit/s
95th percentile per-packet one-way delay: 10.361 ms
Loss rate: 0.49%
-- Flow 3:
Average throughput: 0.39 Mbit/s
95th percentile per-packet one-way delay: 10.058 ms
Loss rate: 0.72%

Run 4: Report of WebRTC media — Data Link



Run 5: Statistics of WebRTC media

Start at: 2018-10-02 11:41:03
End at: 2018-10-02 11:41:33
Local clock offset: 0.492 ms
Remote clock offset: -1.292 ms

Below is generated by plot.py at 2018-10-02 11:59:49
Datalink statistics
-- Total of 3 flows:
Average throughput: 3.77 Mbit/s
95th percentile per-packet one-way delay: 15.631 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 2.18 Mbit/s
95th percentile per-packet one-way delay: 12.082 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 1.23 Mbit/s
95th percentile per-packet one-way delay: 17.292 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.38 Mbit/s
95th percentile per-packet one-way delay: 11.893 ms
Loss rate: 0.00%

Run 5: Report of WebRTC media — Data Link

