

Pantheon Report

Generated at 2018-10-10 00:20:51 (UTC).

Data path: AWS India 2 on **ens5** (*local*) → Saudi Arabia on **enp2s0** (*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:

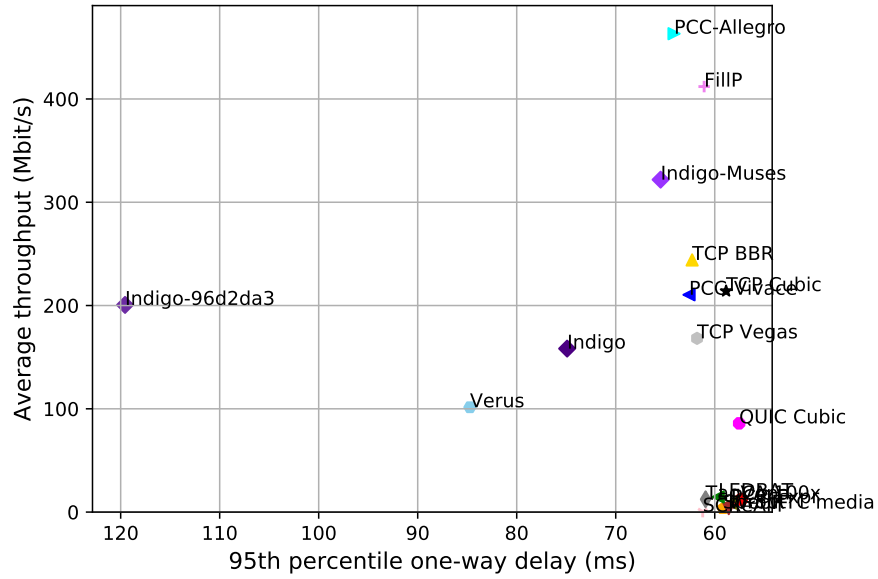
```
Linux 4.15.0-1023-aws
net.core.default_qdisc = fq
net.core.rmem_default = 16777216
net.core.rmem_max = 536870912
net.core.wmem_default = 16777216
net.core.wmem_max = 536870912
net.ipv4.tcp_rmem = 4096 16777216 536870912
net.ipv4.tcp_wmem = 4096 16777216 536870912
```

Git summary:

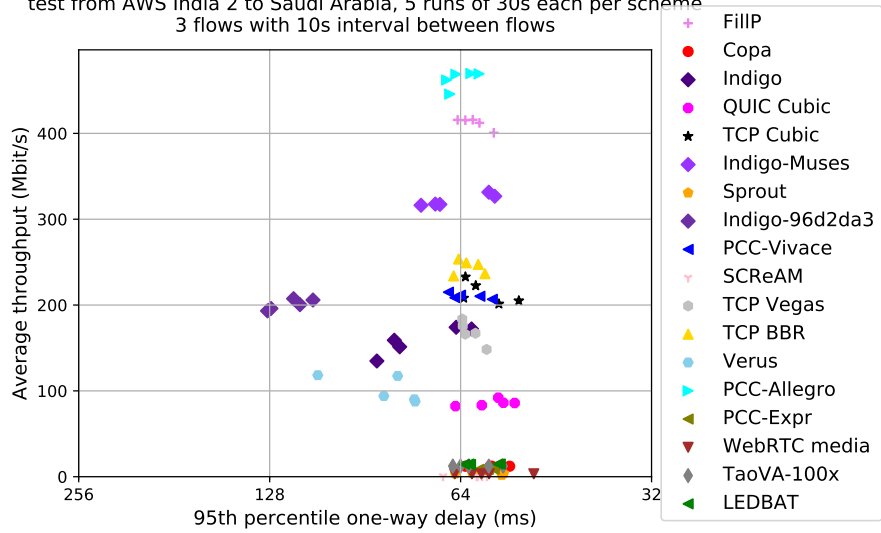
```
branch: muses @ 2e19c0464530faa92c63f8217c9971438a26a3be
third_party/fillp @ 5332fc9127c63565e13f4933b336c02d1aabdac6
third_party/genericCC @ d0153f8e594aa89e93b032143cedbdf58e562f4
third_party/indigo @ 2601c92e4aa9d58d38dc4dfe0ecdbf90c077e64d
third_party/indigo-96d2da3 @ 8413272d46f8aa0bcb967ed7048b6a8f994abb95
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 2 to Saudi Arabia, 5 runs of 30s each per scheme
 3 flows with 10s interval between flows (mean of all runs by scheme)



test from AWS India 2 to Saudi Arabia, 5 runs of 30s each per scheme
 3 flows with 10s interval between flows



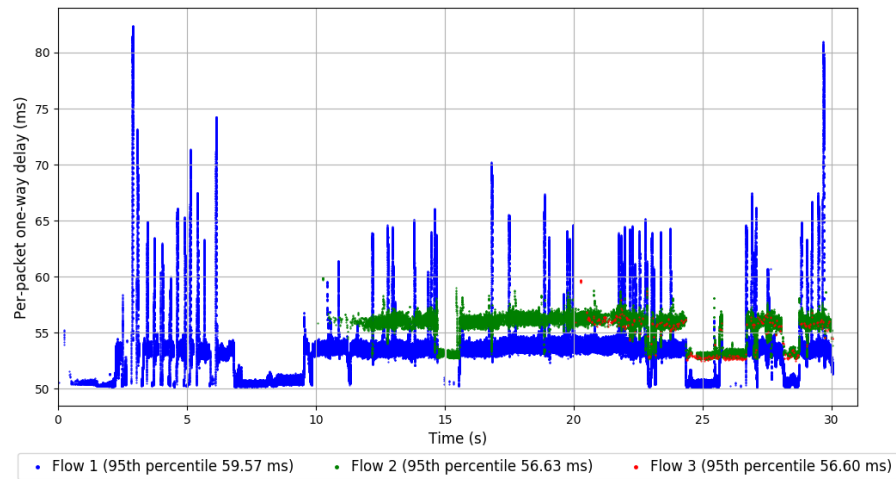
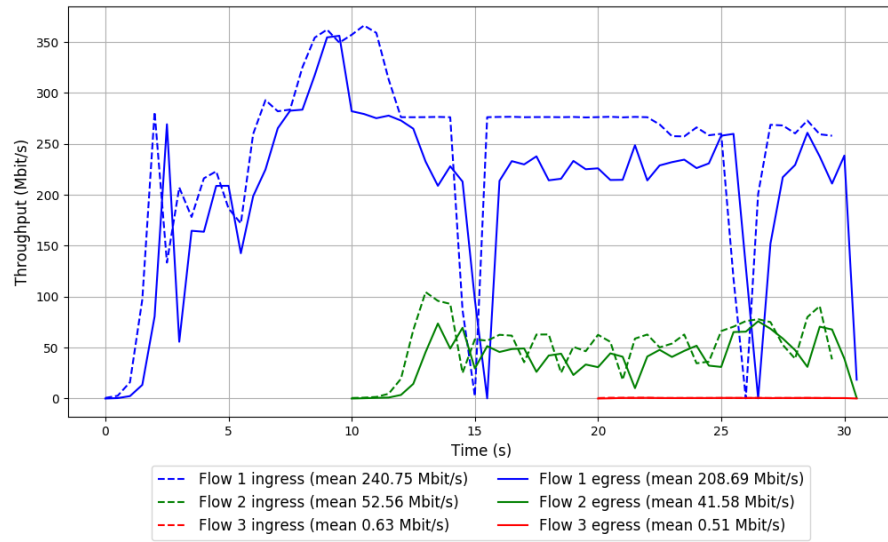
scheme	# runs	mean avg tput (Mbit/s)			mean 95th-%ile delay (ms)			mean loss rate (%)		
		flow 1	flow 2	flow 3	flow 1	flow 2	flow 3	flow 1	flow 2	flow 3
TCP BBR	5	198.55	49.79	40.00	63.36	59.78	59.98	11.36	19.61	18.83
Copa	5	9.14	6.54	2.31	57.60	56.93	59.63	63.95	69.30	63.42
TCP Cubic	5	133.81	73.83	93.22	58.86	57.75	59.46	1.02	1.38	1.81
FillP	5	265.23	158.37	125.81	60.42	61.15	59.62	18.29	22.70	24.60
Indigo	5	80.44	83.33	70.99	74.03	75.25	77.29	9.76	17.10	24.35
Indigo-96d2da3	5	115.16	96.20	67.58	121.87	118.36	105.93	42.56	44.98	48.44
LEDBAT	5	9.41	6.35	3.06	60.07	57.91	58.70	0.00	0.00	0.18
Indigo-Muses	5	297.71	26.51	21.20	66.66	61.91	68.22	30.80	46.87	49.63
PCC-Allegro	5	437.33	28.95	20.08	64.10	63.63	63.97	4.50	1.71	2.22
PCC-Expr	5	0.01	10.58	4.84	59.43	58.33	58.40	81.14	34.06	37.15
QUIC Cubic	5	50.47	40.54	26.35	56.50	57.90	58.18	0.00	0.01	0.00
SCReAM	5	0.22	0.22	0.22	60.27	60.55	60.43	0.00	0.00	0.00
Sprout	5	2.08	1.58	1.40	58.04	57.97	57.50	0.00	0.00	0.00
TaoVA-100x	5	7.86	4.81	3.98	63.40	57.57	57.54	27.55	33.50	47.42
TCP Vegas	5	97.32	59.30	94.35	61.61	60.94	63.43	1.44	1.80	3.28
Verus	5	67.18	37.13	34.71	81.42	85.12	66.38	46.25	49.87	27.97
PCC-Vivace	5	185.30	27.83	20.02	62.55	61.55	62.27	1.38	0.78	1.11
WebRTC media	5	1.83	1.16	0.40	57.08	58.03	59.40	0.00	0.01	0.04

Run 1: Statistics of TCP BBR

Start at: 2018-10-09 21:14:22
End at: 2018-10-09 21:14:52
Local clock offset: 0.405 ms
Remote clock offset: -48.034 ms

Below is generated by plot.py at 2018-10-10 00:02:06
Datalink statistics
-- Total of 3 flows:
Average throughput: 236.54 Mbit/s
95th percentile per-packet one-way delay: 58.585 ms
Loss rate: 14.28%
-- Flow 1:
Average throughput: 208.69 Mbit/s
95th percentile per-packet one-way delay: 59.570 ms
Loss rate: 13.32%
-- Flow 2:
Average throughput: 41.58 Mbit/s
95th percentile per-packet one-way delay: 56.629 ms
Loss rate: 20.90%
-- Flow 3:
Average throughput: 0.51 Mbit/s
95th percentile per-packet one-way delay: 56.598 ms
Loss rate: 18.30%

Run 1: Report of TCP BBR — Data Link

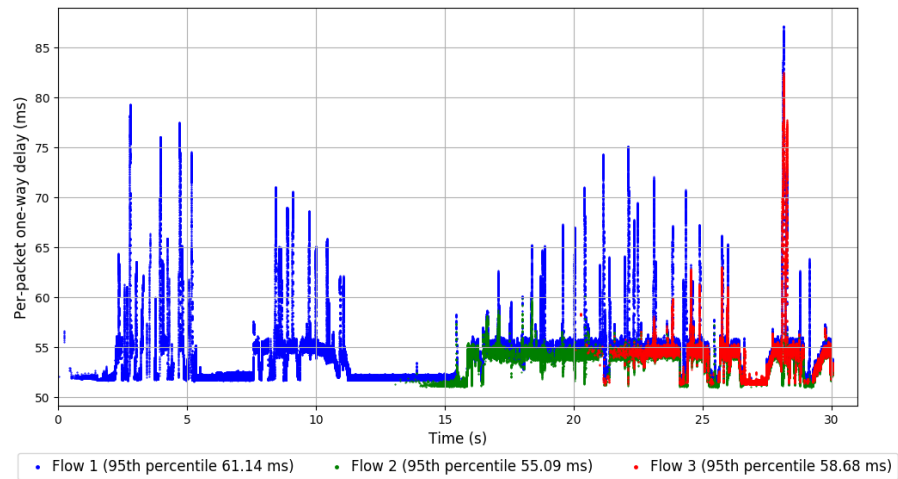
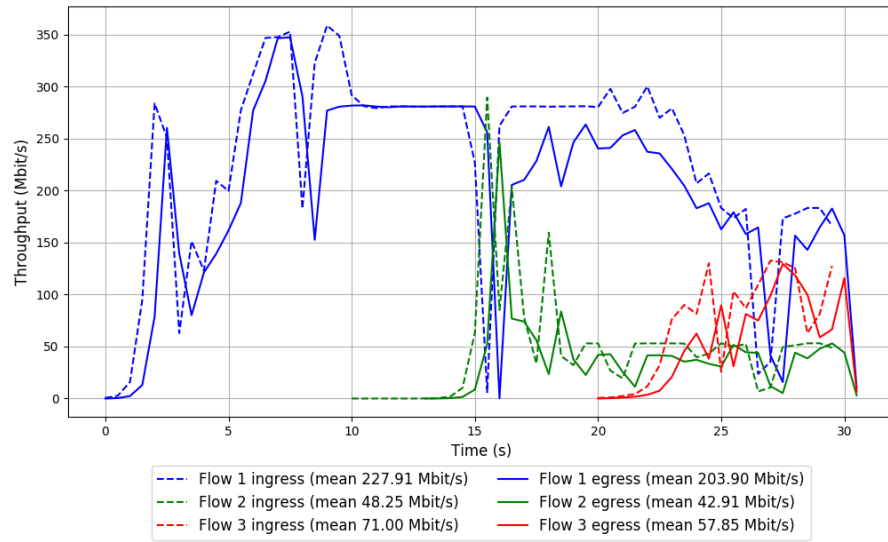


Run 2: Statistics of TCP BBR

Start at: 2018-10-09 21:46:31
End at: 2018-10-09 21:47:01
Local clock offset: 2.53 ms
Remote clock offset: -45.762 ms

Below is generated by plot.py at 2018-10-10 00:02:15
Datalink statistics
-- Total of 3 flows:
Average throughput: 247.39 Mbit/s
95th percentile per-packet one-way delay: 60.030 ms
Loss rate: 12.79%
-- Flow 1:
Average throughput: 203.90 Mbit/s
95th percentile per-packet one-way delay: 61.144 ms
Loss rate: 10.53%
-- Flow 2:
Average throughput: 42.91 Mbit/s
95th percentile per-packet one-way delay: 55.085 ms
Loss rate: 24.53%
-- Flow 3:
Average throughput: 57.85 Mbit/s
95th percentile per-packet one-way delay: 58.679 ms
Loss rate: 18.55%

Run 2: Report of TCP BBR — Data Link

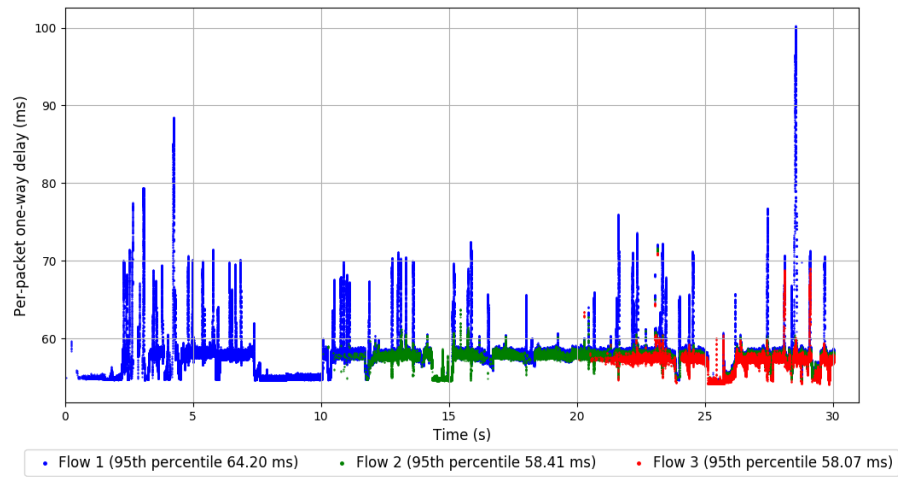
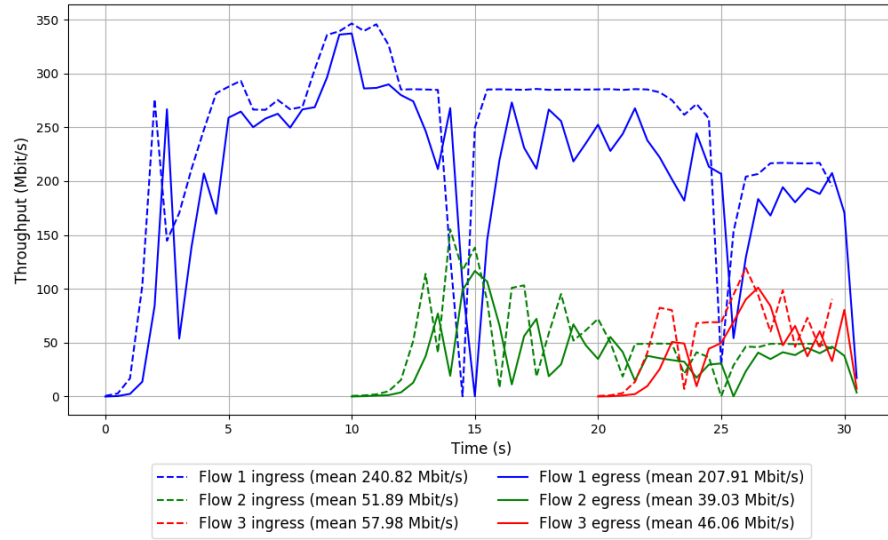


Run 3: Statistics of TCP BBR

Start at: 2018-10-09 22:35:11
End at: 2018-10-09 22:35:41
Local clock offset: 1.764 ms
Remote clock offset: -43.954 ms

Below is generated by plot.py at 2018-10-10 00:02:20
Datalink statistics
-- Total of 3 flows:
Average throughput: 249.22 Mbit/s
95th percentile per-packet one-way delay: 62.687 ms
Loss rate: 15.41%
-- Flow 1:
Average throughput: 207.91 Mbit/s
95th percentile per-packet one-way delay: 64.203 ms
Loss rate: 13.66%
-- Flow 2:
Average throughput: 39.03 Mbit/s
95th percentile per-packet one-way delay: 58.410 ms
Loss rate: 24.78%
-- Flow 3:
Average throughput: 46.06 Mbit/s
95th percentile per-packet one-way delay: 58.071 ms
Loss rate: 20.55%

Run 3: Report of TCP BBR — Data Link

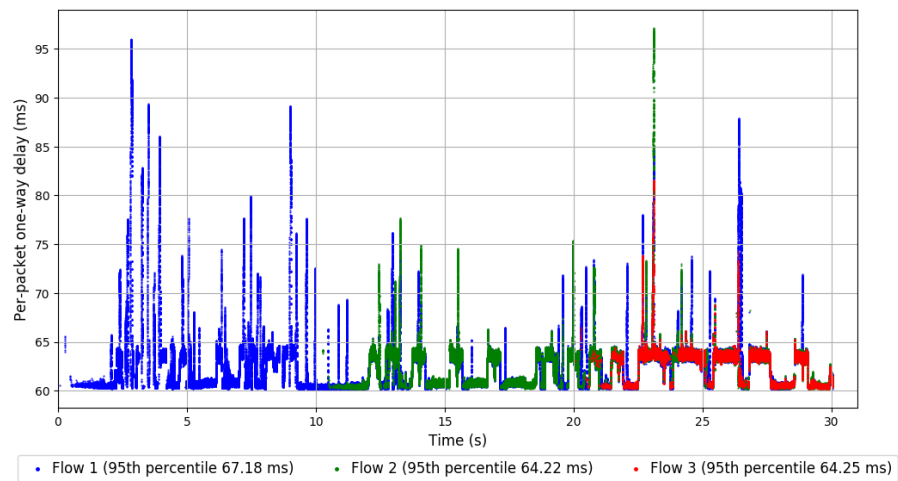
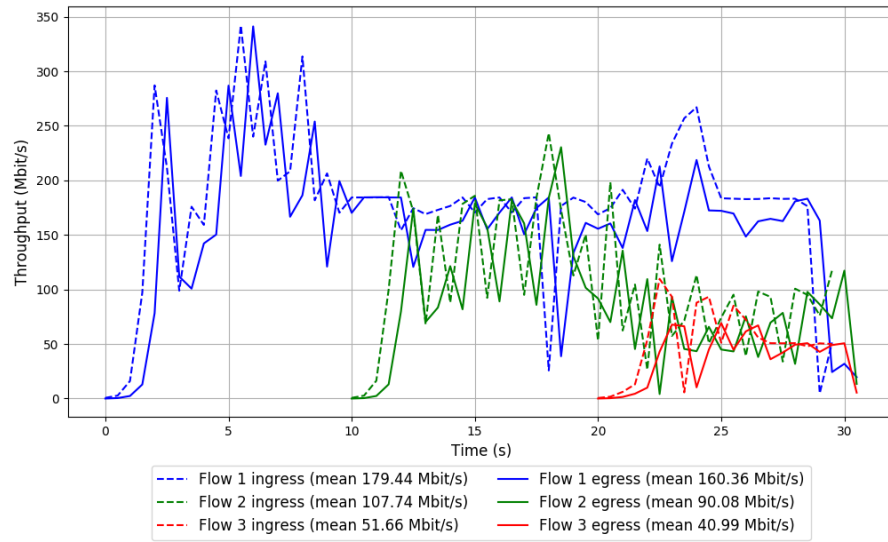


Run 4: Statistics of TCP BBR

Start at: 2018-10-09 23:12:42
End at: 2018-10-09 23:13:12
Local clock offset: -0.143 ms
Remote clock offset: -39.031 ms

Below is generated by plot.py at 2018-10-10 00:02:20
Datalink statistics
-- Total of 3 flows:
Average throughput: 234.00 Mbit/s
95th percentile per-packet one-way delay: 65.642 ms
Loss rate: 12.82%
-- Flow 1:
Average throughput: 160.36 Mbit/s
95th percentile per-packet one-way delay: 67.184 ms
Loss rate: 10.63%
-- Flow 2:
Average throughput: 90.08 Mbit/s
95th percentile per-packet one-way delay: 64.217 ms
Loss rate: 16.39%
-- Flow 3:
Average throughput: 40.99 Mbit/s
95th percentile per-packet one-way delay: 64.252 ms
Loss rate: 20.68%

Run 4: Report of TCP BBR — Data Link

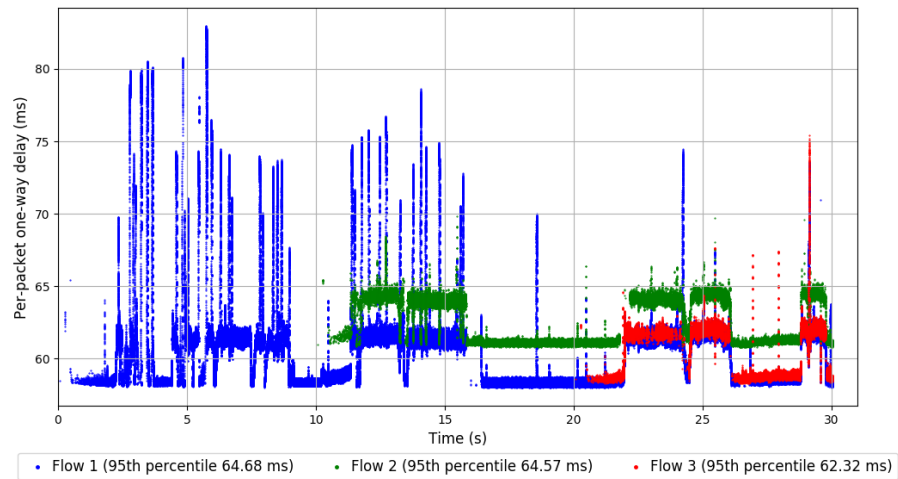
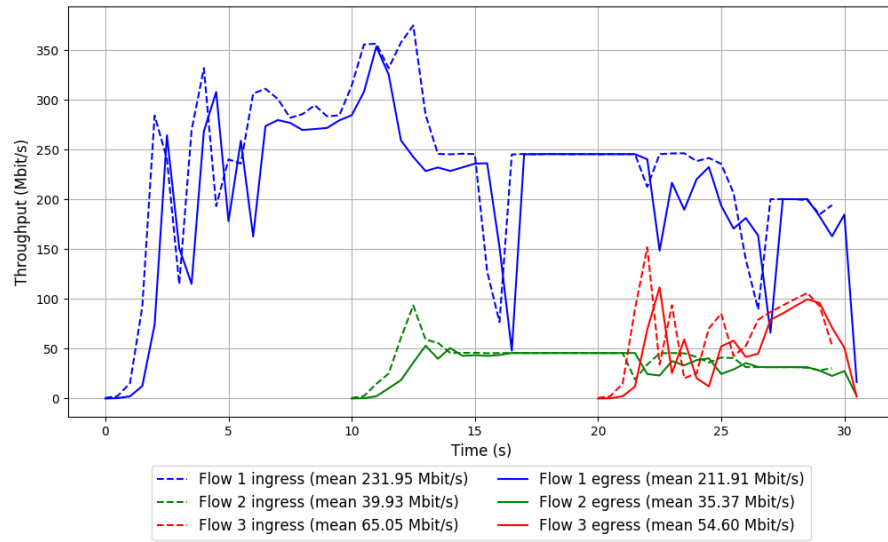


Run 5: Statistics of TCP BBR

Start at: 2018-10-09 23:45:00
End at: 2018-10-09 23:45:30
Local clock offset: 0.113 ms
Remote clock offset: -40.263 ms

Below is generated by plot.py at 2018-10-10 00:02:20
Datalink statistics
-- Total of 3 flows:
Average throughput: 253.60 Mbit/s
95th percentile per-packet one-way delay: 64.470 ms
Loss rate: 9.48%
-- Flow 1:
Average throughput: 211.91 Mbit/s
95th percentile per-packet one-way delay: 64.682 ms
Loss rate: 8.64%
-- Flow 2:
Average throughput: 35.37 Mbit/s
95th percentile per-packet one-way delay: 64.570 ms
Loss rate: 11.43%
-- Flow 3:
Average throughput: 54.60 Mbit/s
95th percentile per-packet one-way delay: 62.318 ms
Loss rate: 16.07%

Run 5: Report of TCP BBR — Data Link

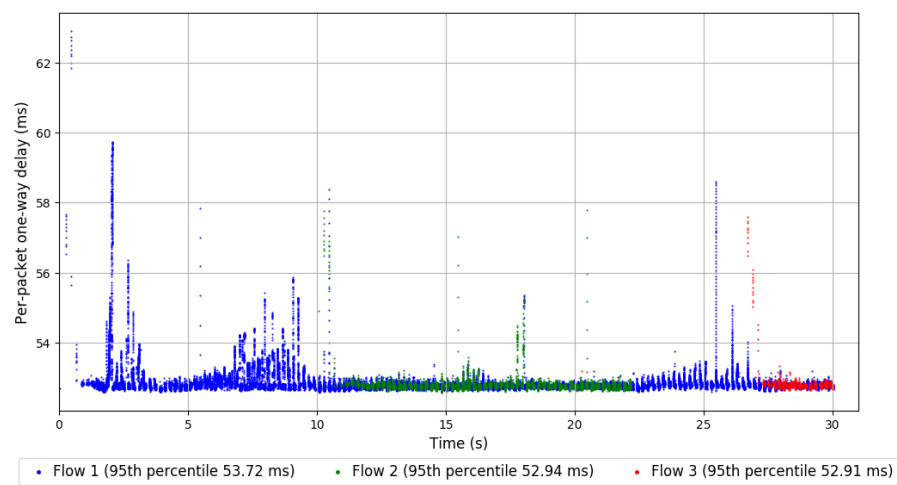
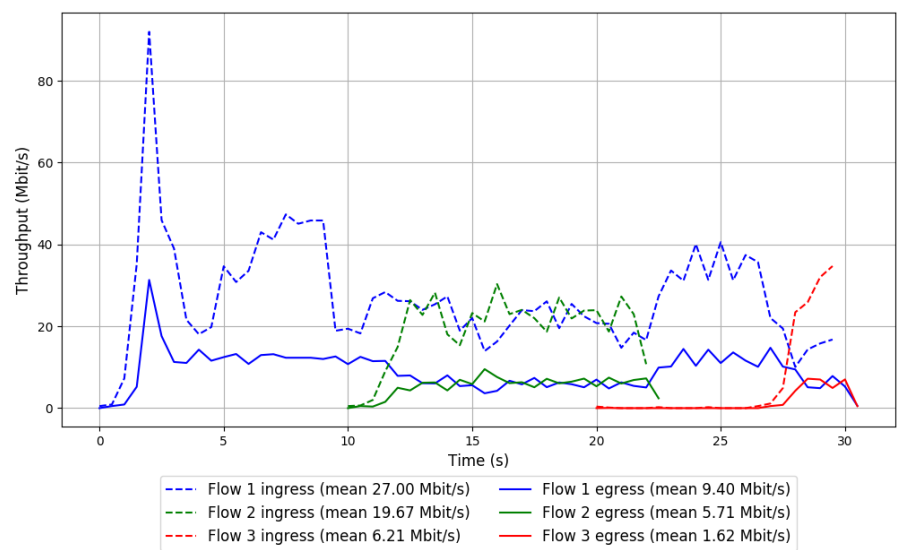


Run 1: Statistics of Copa

Start at: 2018-10-09 21:19:02
End at: 2018-10-09 21:19:32
Local clock offset: 0.019 ms
Remote clock offset: -45.982 ms

Below is generated by plot.py at 2018-10-10 00:02:20
Datalink statistics
-- Total of 3 flows:
Average throughput: 12.24 Mbit/s
95th percentile per-packet one-way delay: 53.563 ms
Loss rate: 66.92%
-- Flow 1:
Average throughput: 9.40 Mbit/s
95th percentile per-packet one-way delay: 53.718 ms
Loss rate: 65.19%
-- Flow 2:
Average throughput: 5.71 Mbit/s
95th percentile per-packet one-way delay: 52.938 ms
Loss rate: 70.99%
-- Flow 3:
Average throughput: 1.62 Mbit/s
95th percentile per-packet one-way delay: 52.911 ms
Loss rate: 73.93%

Run 1: Report of Copa — Data Link

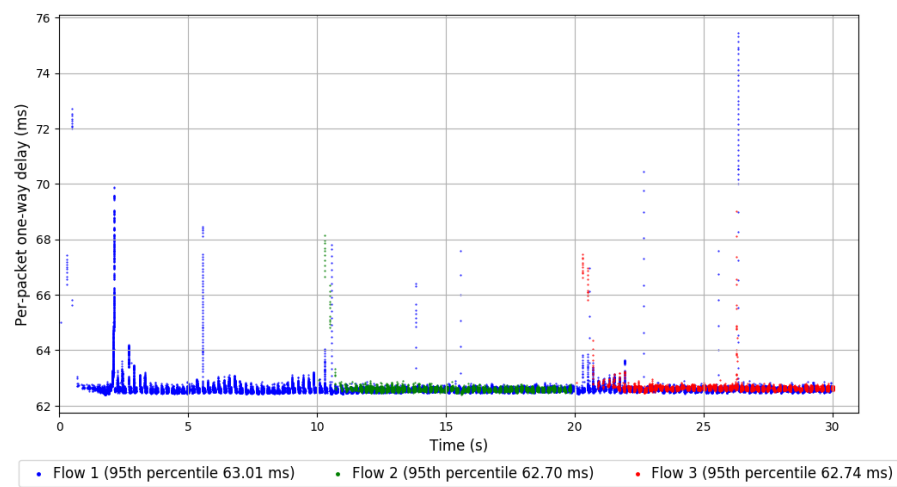
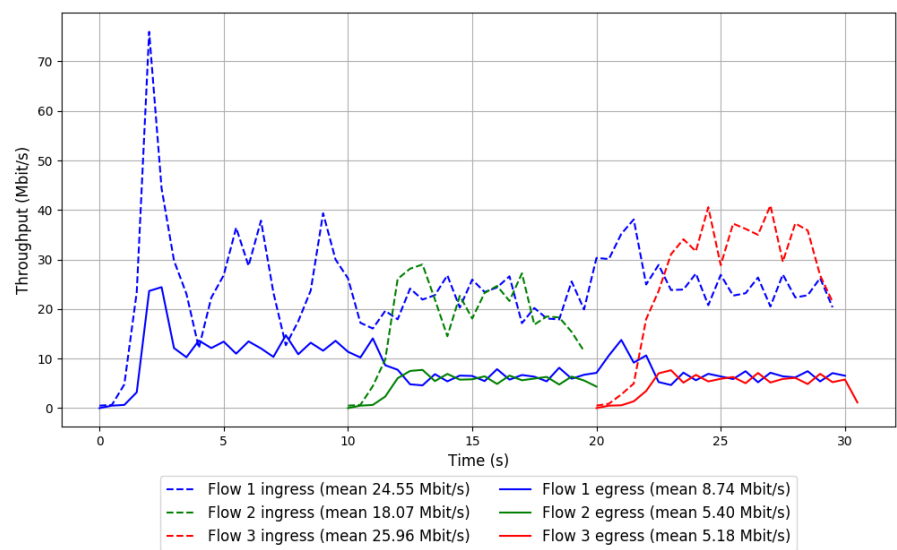


Run 2: Statistics of Copa

Start at: 2018-10-09 21:51:10
End at: 2018-10-09 21:51:40
Local clock offset: 2.78 ms
Remote clock offset: -34.43 ms

Below is generated by plot.py at 2018-10-10 00:02:20
Datalink statistics
-- Total of 3 flows:
Average throughput: 12.20 Mbit/s
95th percentile per-packet one-way delay: 62.915 ms
Loss rate: 68.72%
-- Flow 1:
Average throughput: 8.74 Mbit/s
95th percentile per-packet one-way delay: 63.005 ms
Loss rate: 64.40%
-- Flow 2:
Average throughput: 5.40 Mbit/s
95th percentile per-packet one-way delay: 62.695 ms
Loss rate: 70.11%
-- Flow 3:
Average throughput: 5.18 Mbit/s
95th percentile per-packet one-way delay: 62.737 ms
Loss rate: 80.03%

Run 2: Report of Copa — Data Link

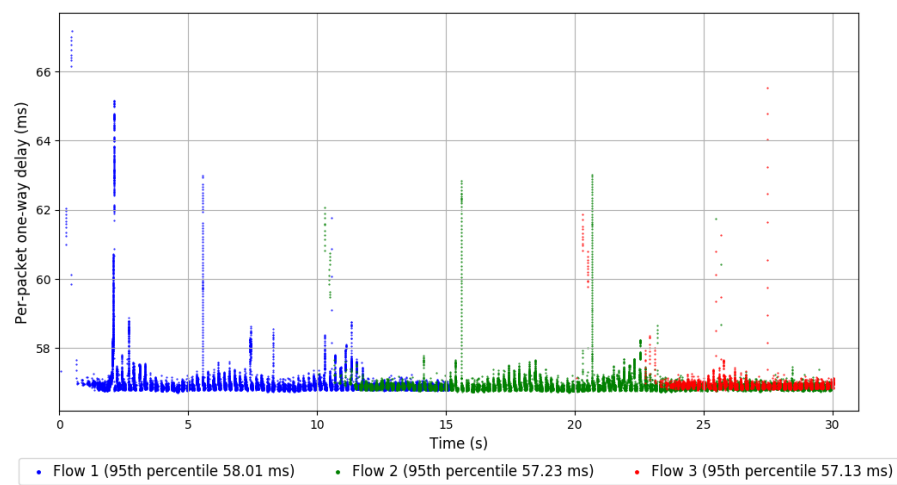
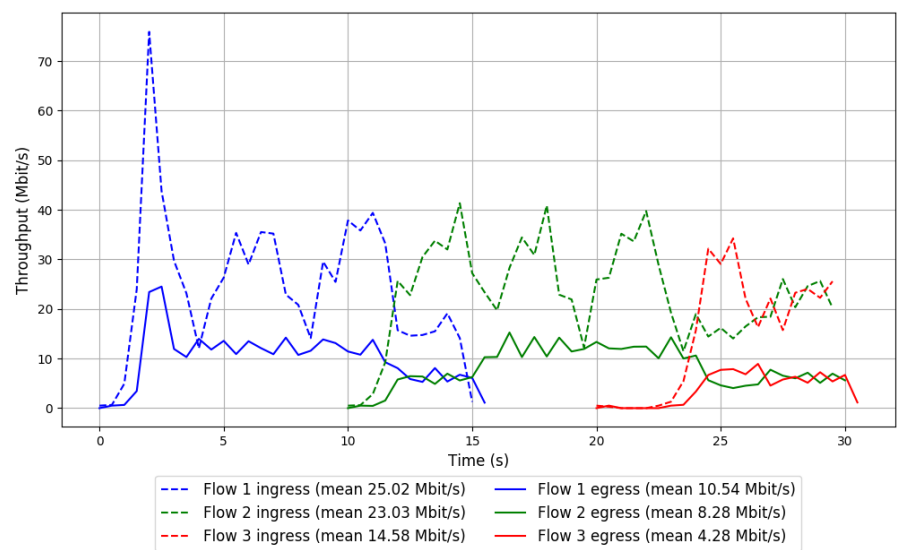


Run 3: Statistics of Copa

Start at: 2018-10-09 22:39:55
End at: 2018-10-09 22:40:25
Local clock offset: 2.347 ms
Remote clock offset: -41.184 ms

Below is generated by plot.py at 2018-10-10 00:02:20
Datalink statistics
-- Total of 3 flows:
Average throughput: 12.19 Mbit/s
95th percentile per-packet one-way delay: 57.512 ms
Loss rate: 62.65%
-- Flow 1:
Average throughput: 10.54 Mbit/s
95th percentile per-packet one-way delay: 58.014 ms
Loss rate: 57.88%
-- Flow 2:
Average throughput: 8.28 Mbit/s
95th percentile per-packet one-way delay: 57.226 ms
Loss rate: 64.04%
-- Flow 3:
Average throughput: 4.28 Mbit/s
95th percentile per-packet one-way delay: 57.128 ms
Loss rate: 70.64%

Run 3: Report of Copa — Data Link

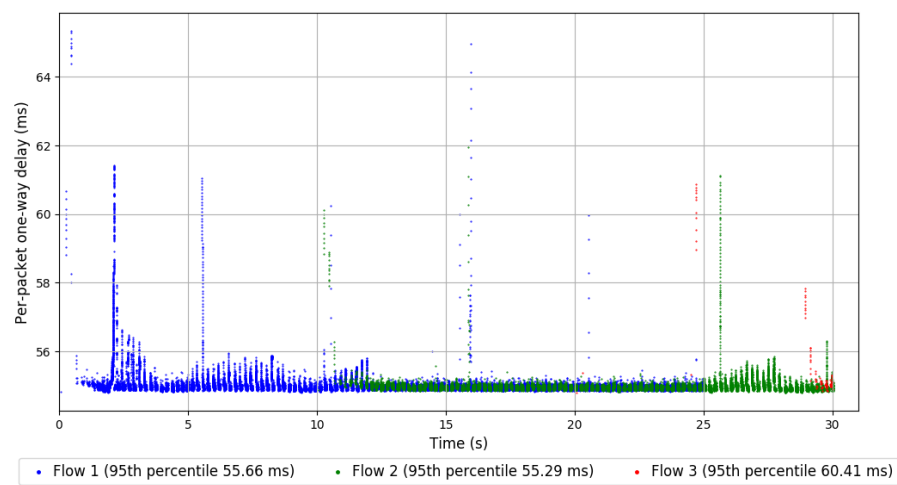
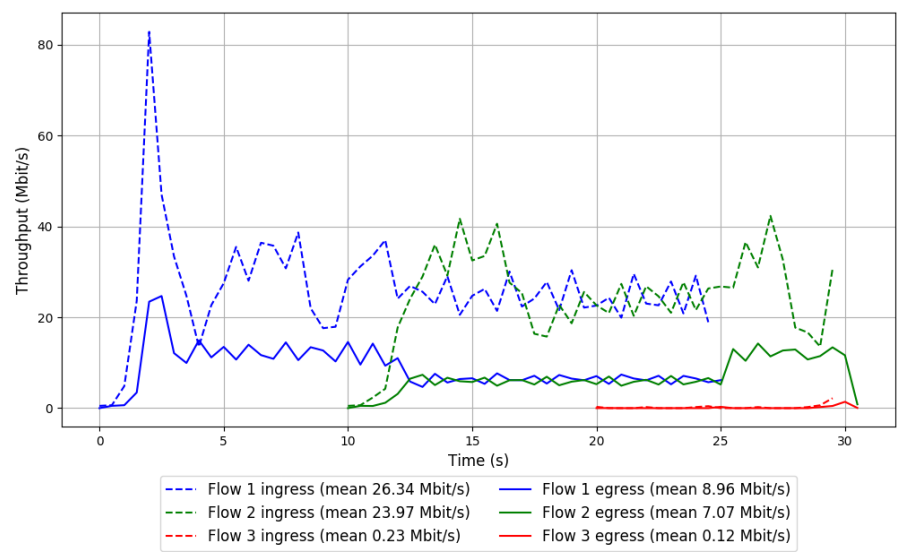


Run 4: Statistics of Copa

Start at: 2018-10-09 23:17:17
End at: 2018-10-09 23:17:47
Local clock offset: 0.497 ms
Remote clock offset: -44.019 ms

Below is generated by plot.py at 2018-10-10 00:02:20
Datalink statistics
-- Total of 3 flows:
Average throughput: 12.20 Mbit/s
95th percentile per-packet one-way delay: 55.468 ms
Loss rate: 67.84%
-- Flow 1:
Average throughput: 8.96 Mbit/s
95th percentile per-packet one-way delay: 55.655 ms
Loss rate: 65.99%
-- Flow 2:
Average throughput: 7.07 Mbit/s
95th percentile per-packet one-way delay: 55.286 ms
Loss rate: 70.48%
-- Flow 3:
Average throughput: 0.12 Mbit/s
95th percentile per-packet one-way delay: 60.412 ms
Loss rate: 44.90%

Run 4: Report of Copa — Data Link

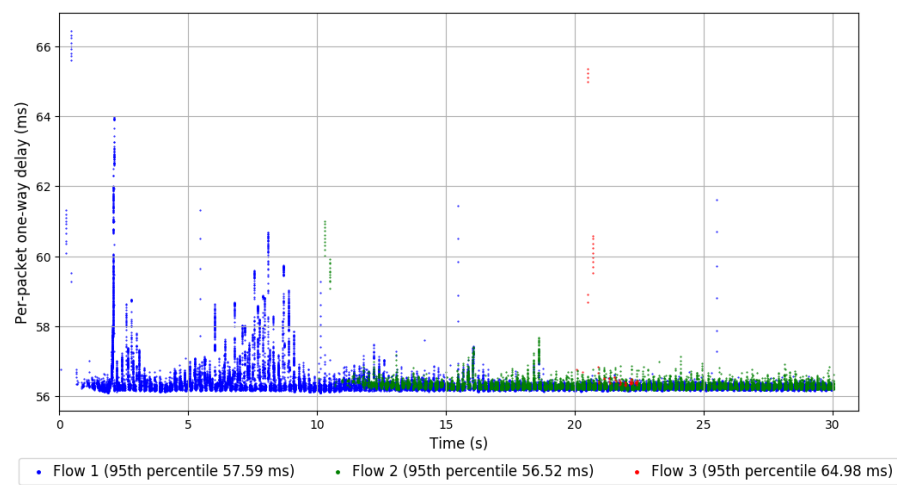
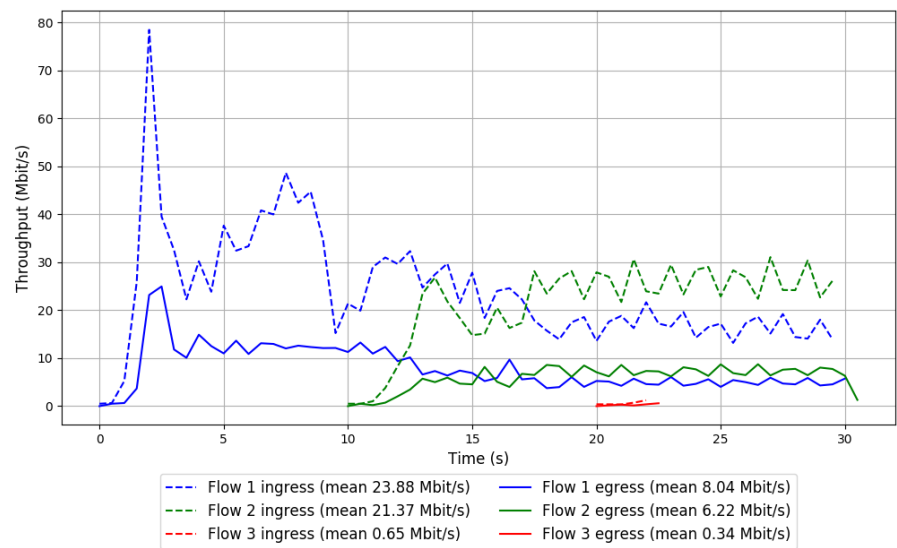


Run 5: Statistics of Copa

Start at: 2018-10-09 23:49:37
End at: 2018-10-09 23:50:07
Local clock offset: 2.911 ms
Remote clock offset: -39.667 ms

Below is generated by plot.py at 2018-10-10 00:02:20
Datalink statistics
-- Total of 3 flows:
Average throughput: 12.20 Mbit/s
95th percentile per-packet one-way delay: 57.130 ms
Loss rate: 68.00%
-- Flow 1:
Average throughput: 8.04 Mbit/s
95th percentile per-packet one-way delay: 57.587 ms
Loss rate: 66.31%
-- Flow 2:
Average throughput: 6.22 Mbit/s
95th percentile per-packet one-way delay: 56.523 ms
Loss rate: 70.89%
-- Flow 3:
Average throughput: 0.34 Mbit/s
95th percentile per-packet one-way delay: 64.982 ms
Loss rate: 47.62%

Run 5: Report of Copa — Data Link

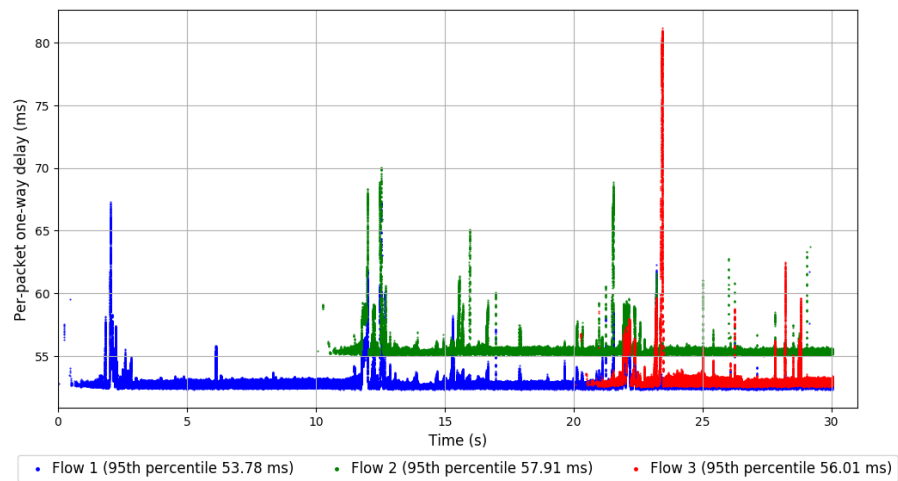
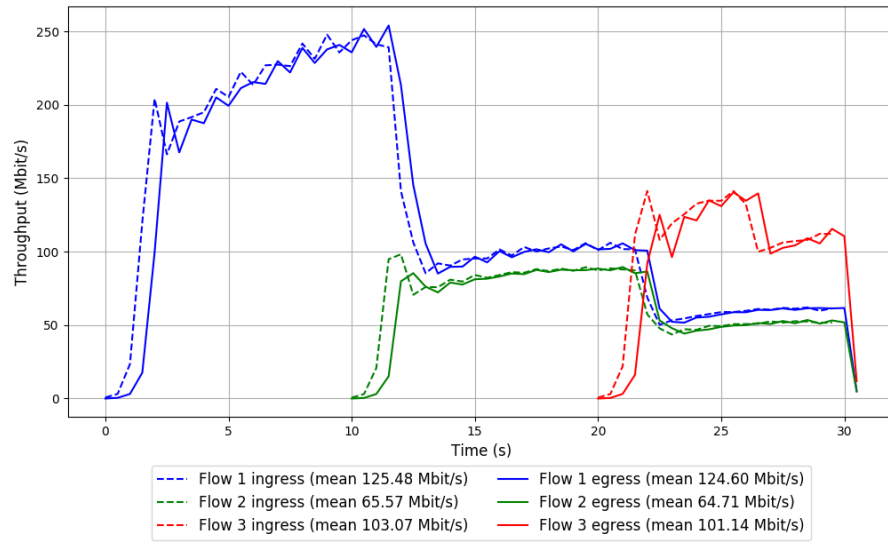


Run 1: Statistics of TCP Cubic

Start at: 2018-10-09 21:07:26
End at: 2018-10-09 21:07:56
Local clock offset: 0.971 ms
Remote clock offset: -45.037 ms

Below is generated by plot.py at 2018-10-10 00:02:20
Datalink statistics
-- Total of 3 flows:
Average throughput: 201.33 Mbit/s
95th percentile per-packet one-way delay: 55.695 ms
Loss rate: 1.03%
-- Flow 1:
Average throughput: 124.60 Mbit/s
95th percentile per-packet one-way delay: 53.781 ms
Loss rate: 0.70%
-- Flow 2:
Average throughput: 64.71 Mbit/s
95th percentile per-packet one-way delay: 57.913 ms
Loss rate: 1.31%
-- Flow 3:
Average throughput: 101.14 Mbit/s
95th percentile per-packet one-way delay: 56.014 ms
Loss rate: 1.86%

Run 1: Report of TCP Cubic — Data Link

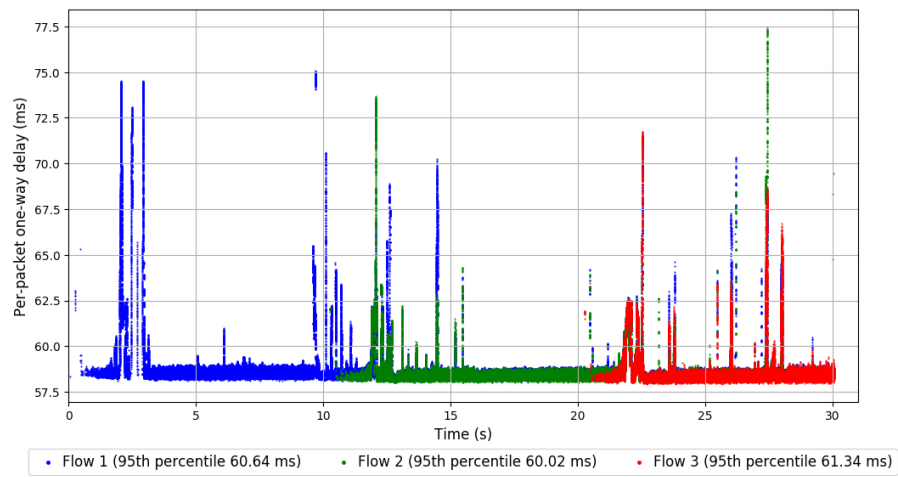
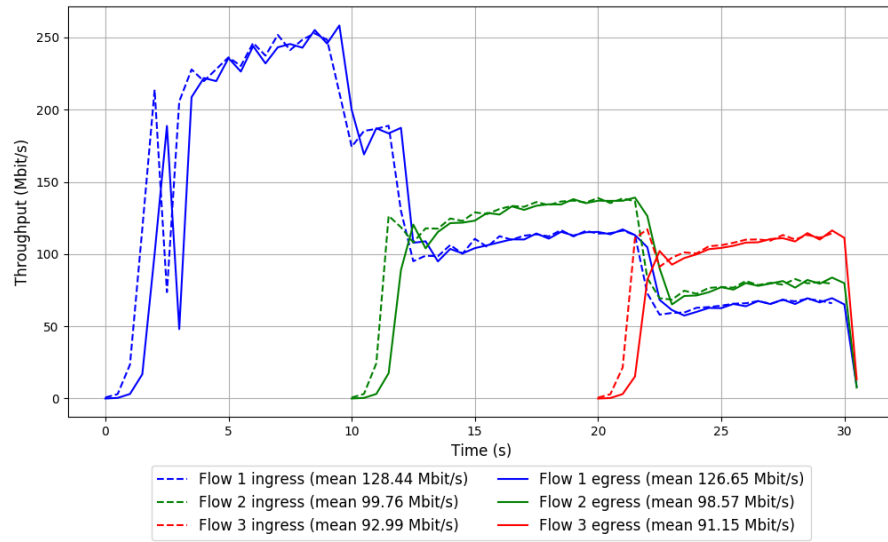


Run 2: Statistics of TCP Cubic

Start at: 2018-10-09 21:39:27
End at: 2018-10-09 21:39:57
Local clock offset: -0.731 ms
Remote clock offset: -42.032 ms

Below is generated by plot.py at 2018-10-10 00:02:20
Datalink statistics
-- Total of 3 flows:
Average throughput: 222.63 Mbit/s
95th percentile per-packet one-way delay: 60.580 ms
Loss rate: 1.41%
-- Flow 1:
Average throughput: 126.65 Mbit/s
95th percentile per-packet one-way delay: 60.636 ms
Loss rate: 1.40%
-- Flow 2:
Average throughput: 98.57 Mbit/s
95th percentile per-packet one-way delay: 60.015 ms
Loss rate: 1.19%
-- Flow 3:
Average throughput: 91.15 Mbit/s
95th percentile per-packet one-way delay: 61.342 ms
Loss rate: 1.98%

Run 2: Report of TCP Cubic — Data Link

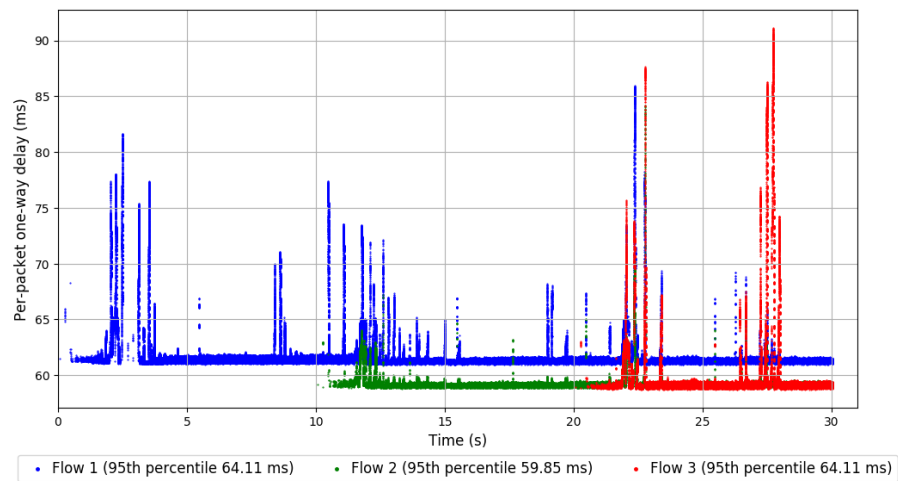
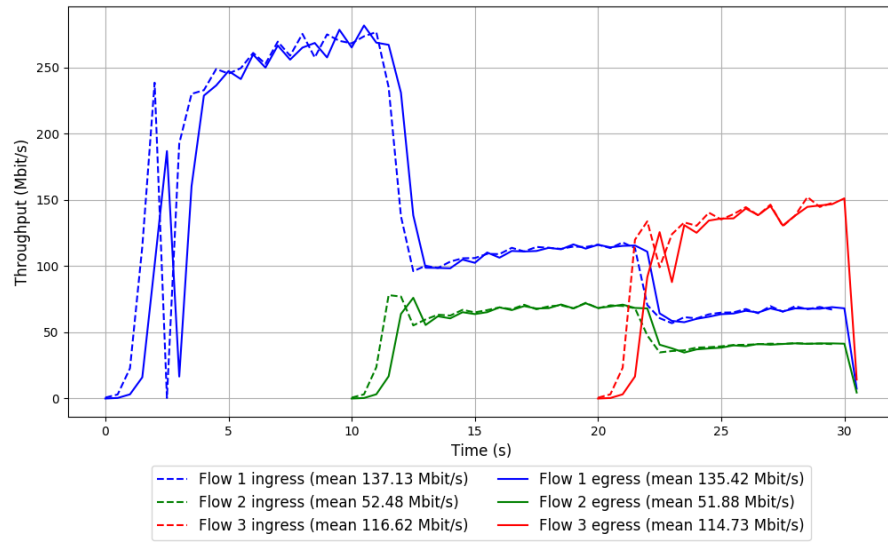


Run 3: Statistics of TCP Cubic

Start at: 2018-10-09 22:28:11
End at: 2018-10-09 22:28:41
Local clock offset: 0.576 ms
Remote clock offset: -40.715 ms

Below is generated by plot.py at 2018-10-10 00:02:20
Datalink statistics
-- Total of 3 flows:
Average throughput: 208.13 Mbit/s
95th percentile per-packet one-way delay: 63.291 ms
Loss rate: 1.30%
-- Flow 1:
Average throughput: 135.42 Mbit/s
95th percentile per-packet one-way delay: 64.114 ms
Loss rate: 1.25%
-- Flow 2:
Average throughput: 51.88 Mbit/s
95th percentile per-packet one-way delay: 59.853 ms
Loss rate: 1.14%
-- Flow 3:
Average throughput: 114.73 Mbit/s
95th percentile per-packet one-way delay: 64.108 ms
Loss rate: 1.62%

Run 3: Report of TCP Cubic — Data Link

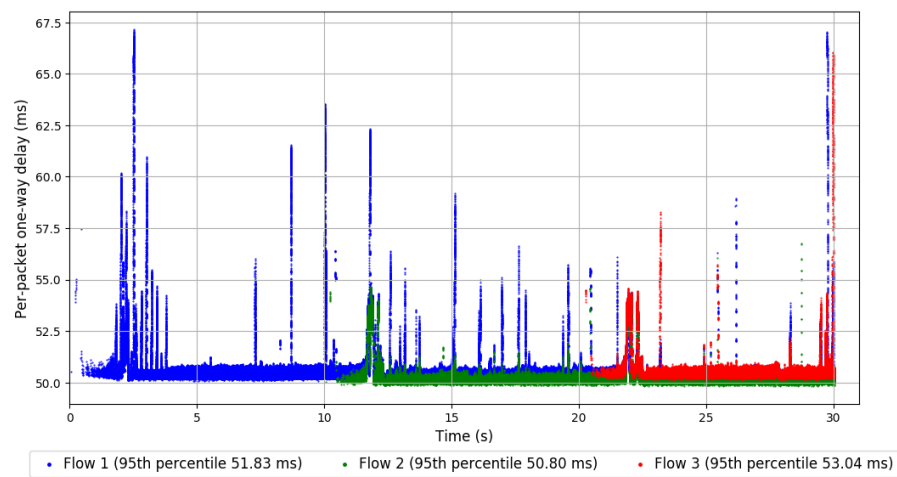
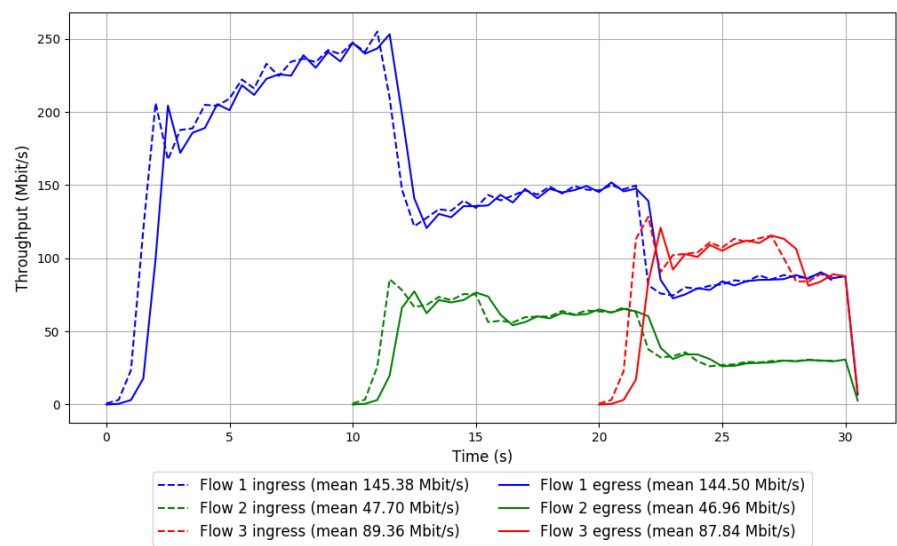


Run 4: Statistics of TCP Cubic

Start at: 2018-10-09 23:05:43
End at: 2018-10-09 23:06:13
Local clock offset: 0.833 ms
Remote clock offset: -48.248 ms

Below is generated by plot.py at 2018-10-10 00:03:55
Datalink statistics
-- Total of 3 flows:
Average throughput: 205.02 Mbit/s
95th percentile per-packet one-way delay: 51.808 ms
Loss rate: 0.91%
-- Flow 1:
Average throughput: 144.50 Mbit/s
95th percentile per-packet one-way delay: 51.826 ms
Loss rate: 0.60%
-- Flow 2:
Average throughput: 46.96 Mbit/s
95th percentile per-packet one-way delay: 50.799 ms
Loss rate: 1.56%
-- Flow 3:
Average throughput: 87.84 Mbit/s
95th percentile per-packet one-way delay: 53.038 ms
Loss rate: 1.71%

Run 4: Report of TCP Cubic — Data Link

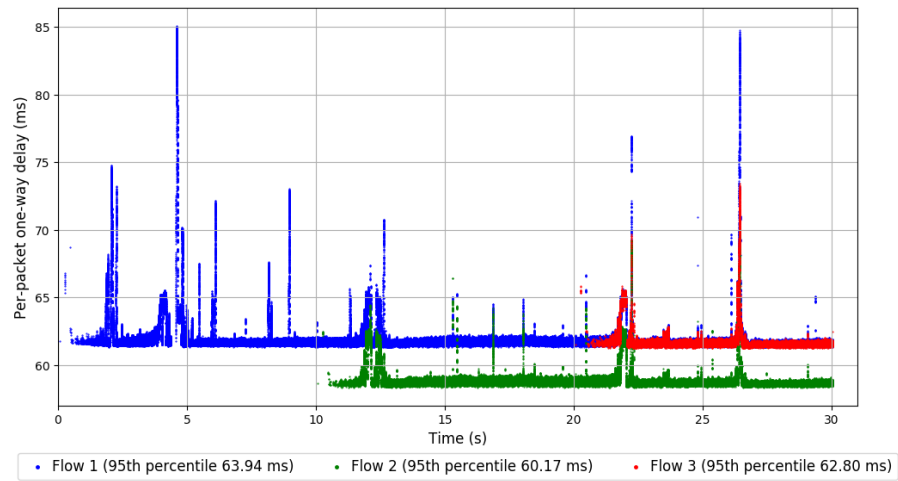
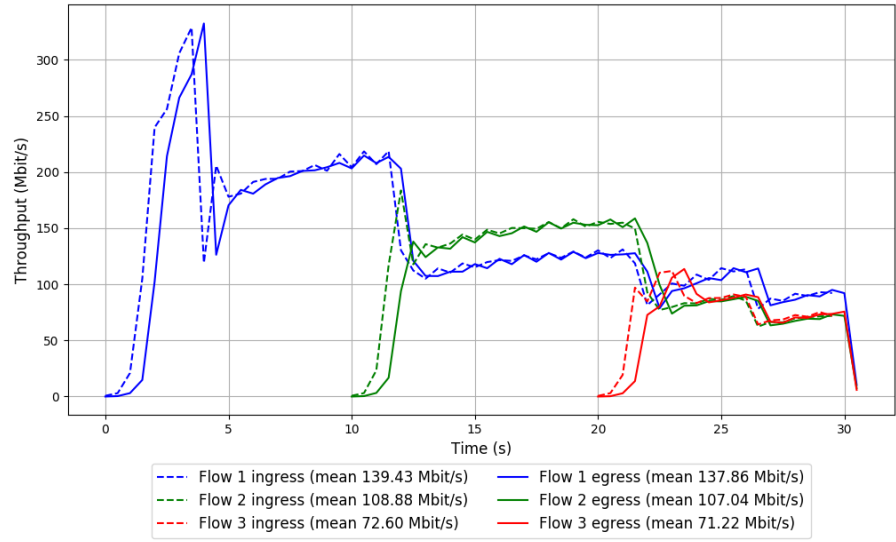


Run 5: Statistics of TCP Cubic

Start at: 2018-10-09 23:37:56
End at: 2018-10-09 23:38:26
Local clock offset: -0.962 ms
Remote clock offset: -40.819 ms

Below is generated by plot.py at 2018-10-10 00:04:20
Datalink statistics
-- Total of 3 flows:
Average throughput: 232.84 Mbit/s
95th percentile per-packet one-way delay: 62.888 ms
Loss rate: 1.38%
-- Flow 1:
Average throughput: 137.86 Mbit/s
95th percentile per-packet one-way delay: 63.940 ms
Loss rate: 1.14%
-- Flow 2:
Average throughput: 107.04 Mbit/s
95th percentile per-packet one-way delay: 60.171 ms
Loss rate: 1.69%
-- Flow 3:
Average throughput: 71.22 Mbit/s
95th percentile per-packet one-way delay: 62.799 ms
Loss rate: 1.89%

Run 5: Report of TCP Cubic — Data Link

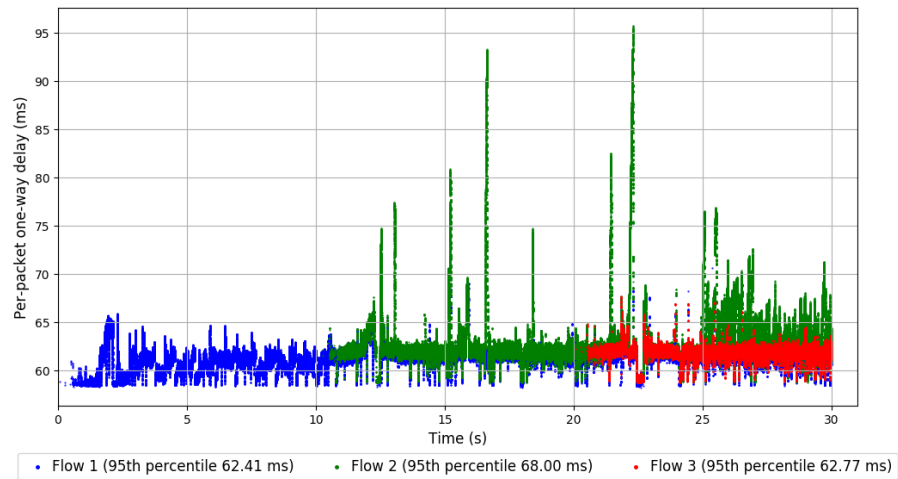
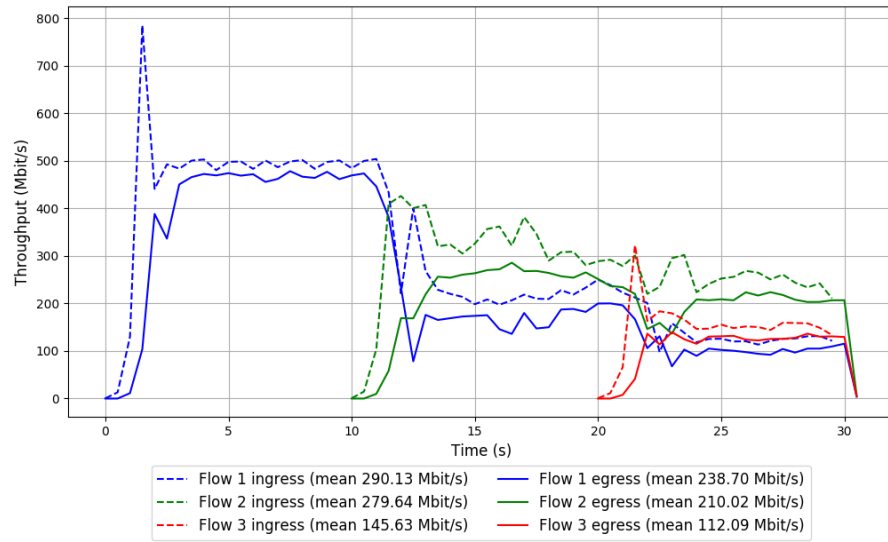


Run 1: Statistics of FillP

Start at: 2018-10-09 21:04:56
End at: 2018-10-09 21:05:26
Local clock offset: -0.09 ms
Remote clock offset: -39.946 ms

Below is generated by plot.py at 2018-10-10 00:08:12
Datalink statistics
-- Total of 3 flows:
Average throughput: 415.71 Mbit/s
95th percentile per-packet one-way delay: 64.693 ms
Loss rate: 20.75%
-- Flow 1:
Average throughput: 238.70 Mbit/s
95th percentile per-packet one-way delay: 62.408 ms
Loss rate: 17.72%
-- Flow 2:
Average throughput: 210.02 Mbit/s
95th percentile per-packet one-way delay: 68.000 ms
Loss rate: 24.89%
-- Flow 3:
Average throughput: 112.09 Mbit/s
95th percentile per-packet one-way delay: 62.766 ms
Loss rate: 23.03%

Run 1: Report of FillP — Data Link

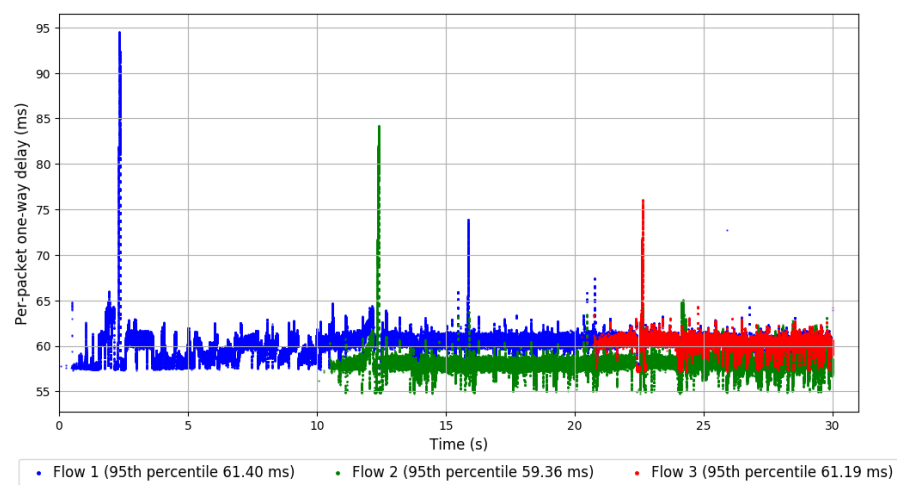
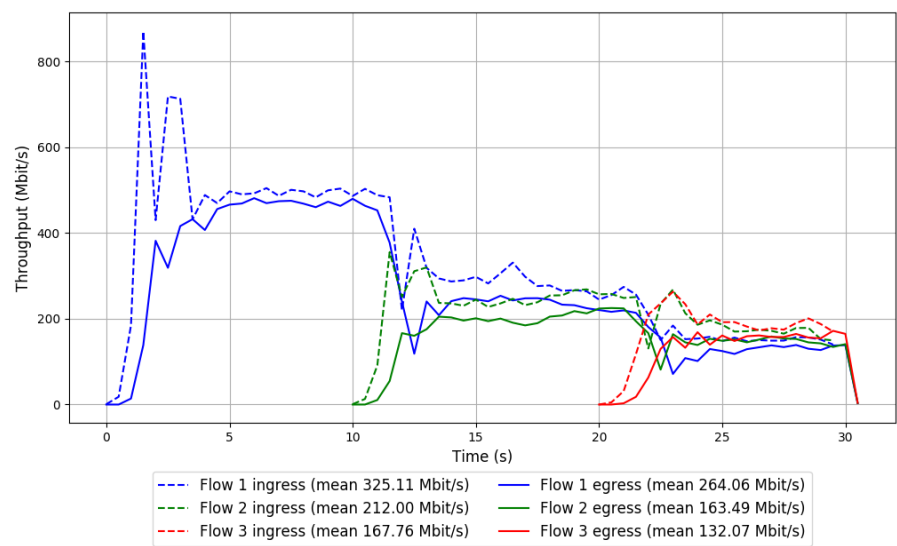


Run 2: Statistics of FillP

Start at: 2018-10-09 21:36:57
End at: 2018-10-09 21:37:27
Local clock offset: 1.492 ms
Remote clock offset: -43.004 ms

Below is generated by plot.py at 2018-10-10 00:08:15
Datalink statistics
-- Total of 3 flows:
Average throughput: 415.89 Mbit/s
95th percentile per-packet one-way delay: 61.239 ms
Loss rate: 20.31%
-- Flow 1:
Average throughput: 264.06 Mbit/s
95th percentile per-packet one-way delay: 61.403 ms
Loss rate: 18.76%
-- Flow 2:
Average throughput: 163.49 Mbit/s
95th percentile per-packet one-way delay: 59.361 ms
Loss rate: 22.88%
-- Flow 3:
Average throughput: 132.07 Mbit/s
95th percentile per-packet one-way delay: 61.194 ms
Loss rate: 22.85%

Run 2: Report of FillP — Data Link

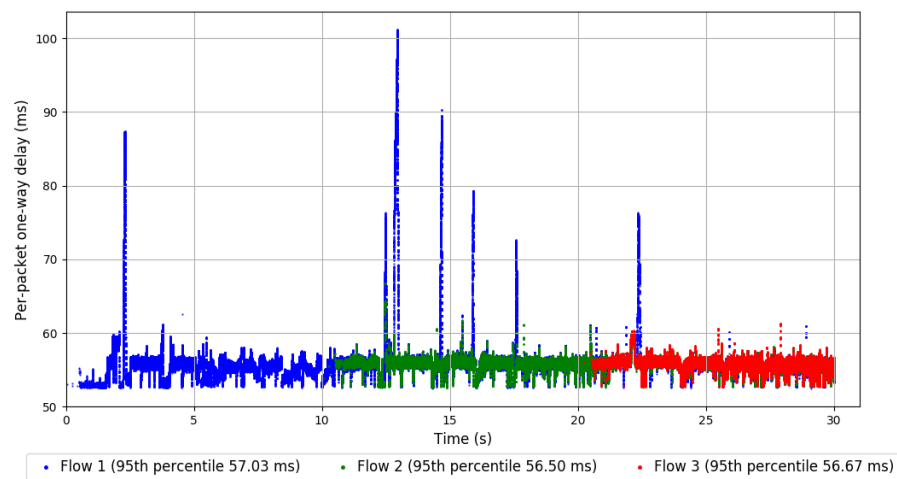
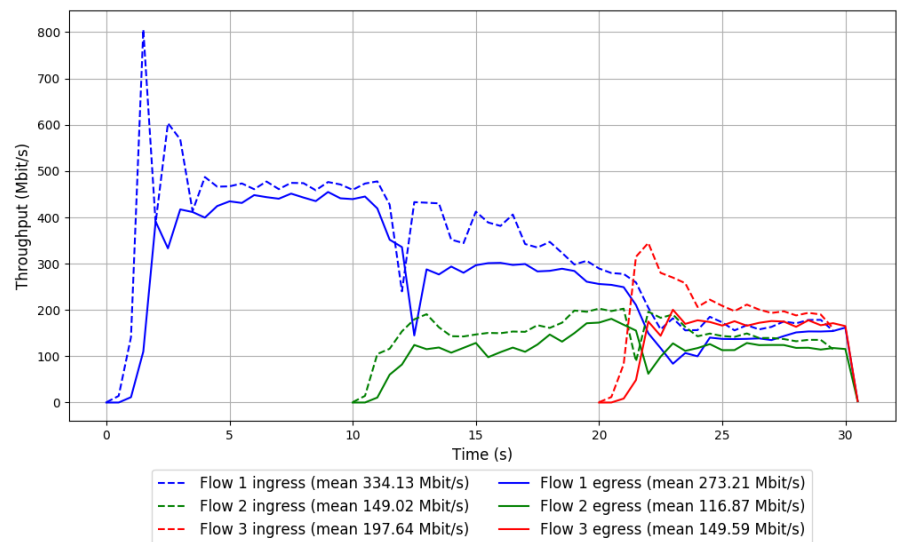


Run 3: Statistics of FillP

Start at: 2018-10-09 22:25:41
End at: 2018-10-09 22:26:11
Local clock offset: 1.493 ms
Remote clock offset: -45.865 ms

Below is generated by plot.py at 2018-10-10 00:08:15
Datalink statistics
-- Total of 3 flows:
Average throughput: 400.71 Mbit/s
95th percentile per-packet one-way delay: 56.740 ms
Loss rate: 19.69%
-- Flow 1:
Average throughput: 273.21 Mbit/s
95th percentile per-packet one-way delay: 57.028 ms
Loss rate: 18.22%
-- Flow 2:
Average throughput: 116.87 Mbit/s
95th percentile per-packet one-way delay: 56.498 ms
Loss rate: 21.56%
-- Flow 3:
Average throughput: 149.59 Mbit/s
95th percentile per-packet one-way delay: 56.670 ms
Loss rate: 24.31%

Run 3: Report of FillP — Data Link

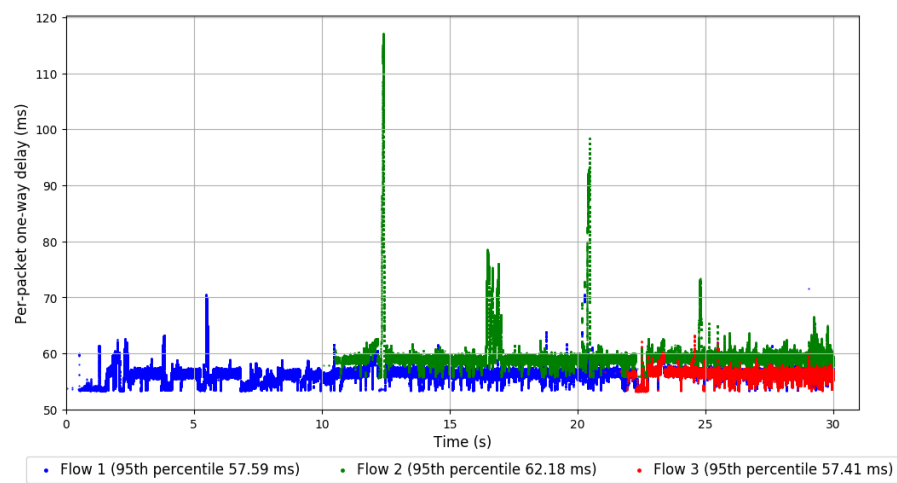
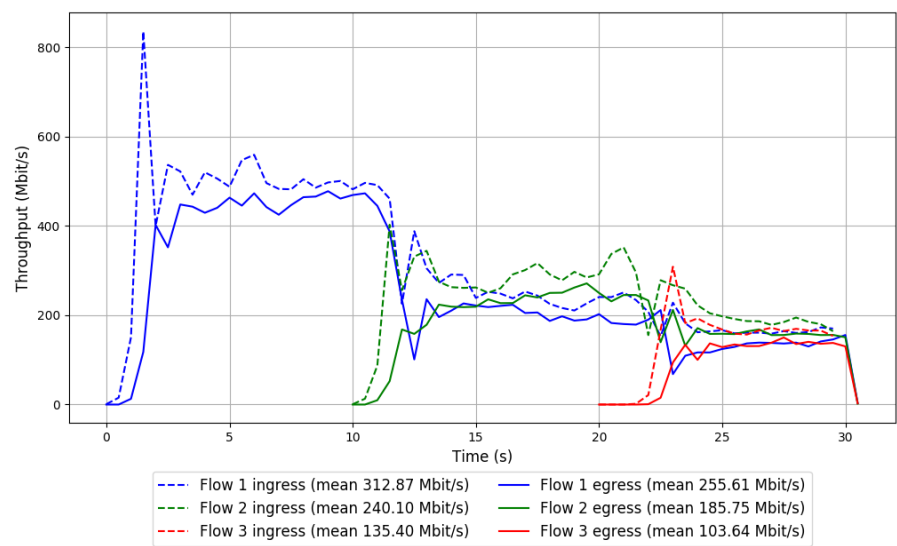


Run 4: Statistics of FillP

Start at: 2018-10-09 23:03:13
End at: 2018-10-09 23:03:43
Local clock offset: 1.347 ms
Remote clock offset: -44.881 ms

Below is generated by plot.py at 2018-10-10 00:08:18
Datalink statistics
-- Total of 3 flows:
Average throughput: 412.24 Mbit/s
95th percentile per-packet one-way delay: 59.769 ms
Loss rate: 20.35%
-- Flow 1:
Average throughput: 255.61 Mbit/s
95th percentile per-packet one-way delay: 57.592 ms
Loss rate: 18.30%
-- Flow 2:
Average throughput: 185.75 Mbit/s
95th percentile per-packet one-way delay: 62.181 ms
Loss rate: 22.63%
-- Flow 3:
Average throughput: 103.64 Mbit/s
95th percentile per-packet one-way delay: 57.406 ms
Loss rate: 26.58%

Run 4: Report of FillP — Data Link

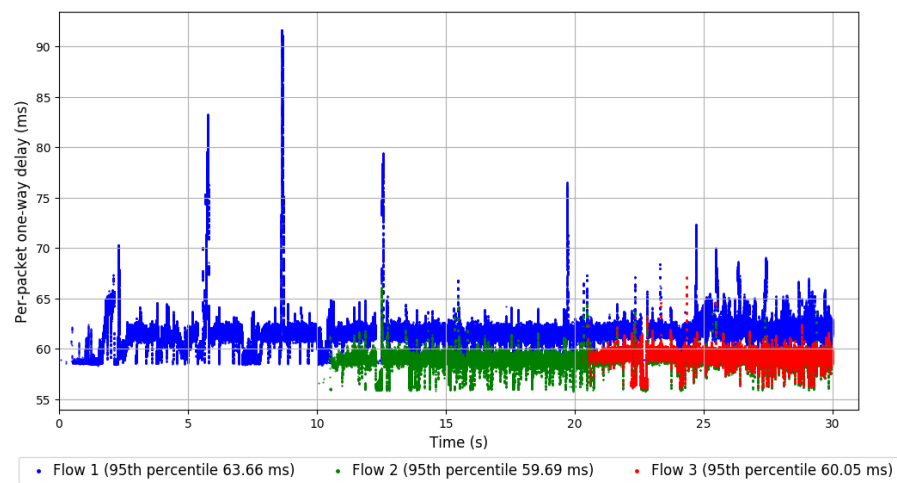
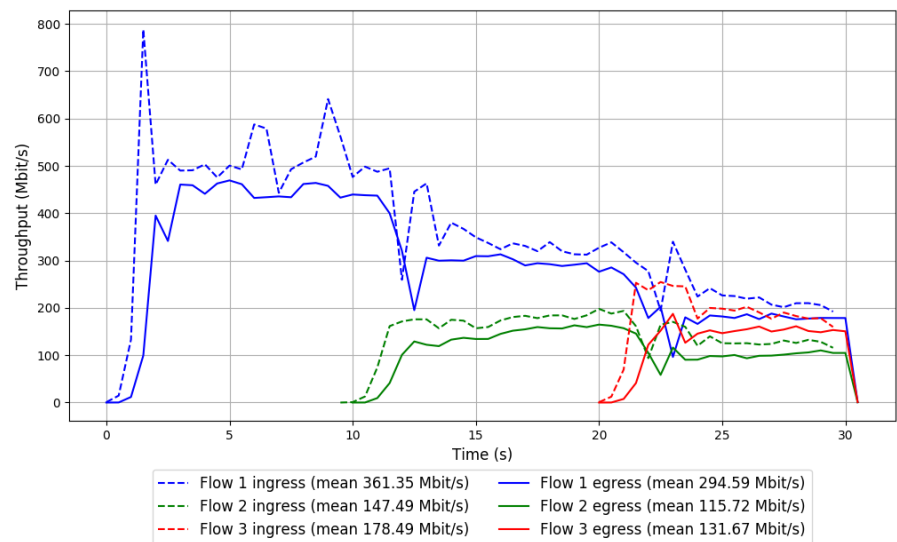


Run 5: Statistics of FillP

Start at: 2018-10-09 23:35:26
End at: 2018-10-09 23:35:56
Local clock offset: -1.234 ms
Remote clock offset: -43.908 ms

Below is generated by plot.py at 2018-10-10 00:08:22
Datalink statistics
-- Total of 3 flows:
Average throughput: 415.39 Mbit/s
95th percentile per-packet one-way delay: 62.911 ms
Loss rate: 19.93%
-- Flow 1:
Average throughput: 294.59 Mbit/s
95th percentile per-packet one-way delay: 63.662 ms
Loss rate: 18.47%
-- Flow 2:
Average throughput: 115.72 Mbit/s
95th percentile per-packet one-way delay: 59.691 ms
Loss rate: 21.53%
-- Flow 3:
Average throughput: 131.67 Mbit/s
95th percentile per-packet one-way delay: 60.051 ms
Loss rate: 26.22%

Run 5: Report of FillP — Data Link

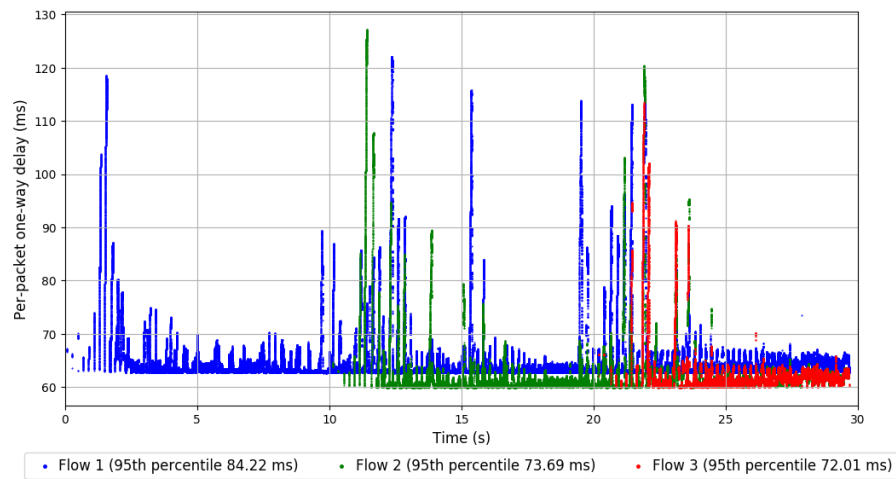
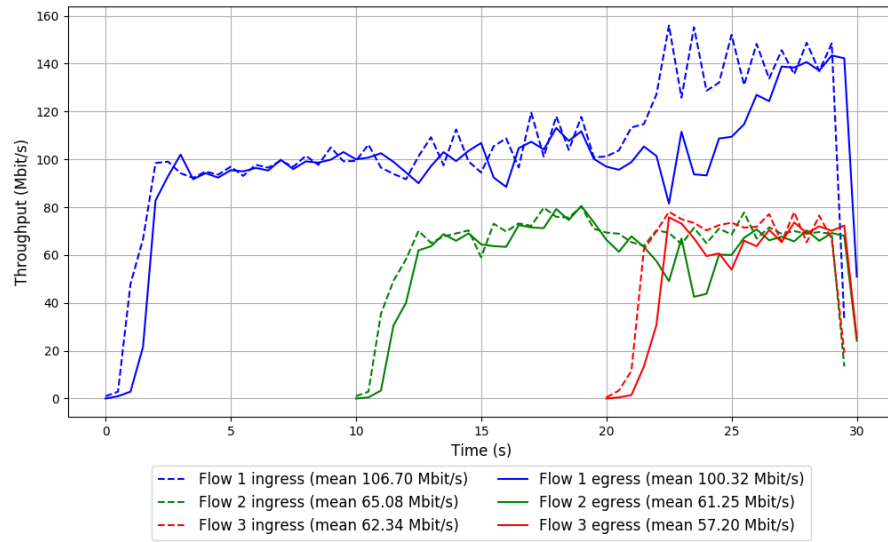



```
Run 1: Statistics of Indigo

Start at: 2018-10-09 20:57:27
End at: 2018-10-09 20:57:57
Local clock offset: 0.812 ms
Remote clock offset: -37.799 ms

# Below is generated by plot.py at 2018-10-10 00:08:22
# Datalink statistics
-- Total of 3 flows:
Average throughput: 159.03 Mbit/s
95th percentile per-packet one-way delay: 81.423 ms
Loss rate: 6.24%
-- Flow 1:
Average throughput: 100.32 Mbit/s
95th percentile per-packet one-way delay: 84.220 ms
Loss rate: 6.00%
-- Flow 2:
Average throughput: 61.25 Mbit/s
95th percentile per-packet one-way delay: 73.695 ms
Loss rate: 5.89%
-- Flow 3:
Average throughput: 57.20 Mbit/s
95th percentile per-packet one-way delay: 72.008 ms
Loss rate: 8.25%
```

Run 1: Report of Indigo — Data Link

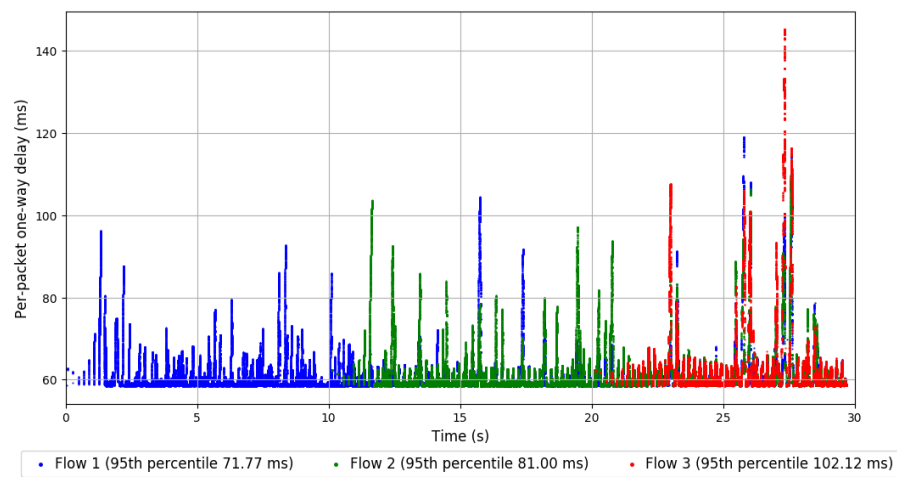
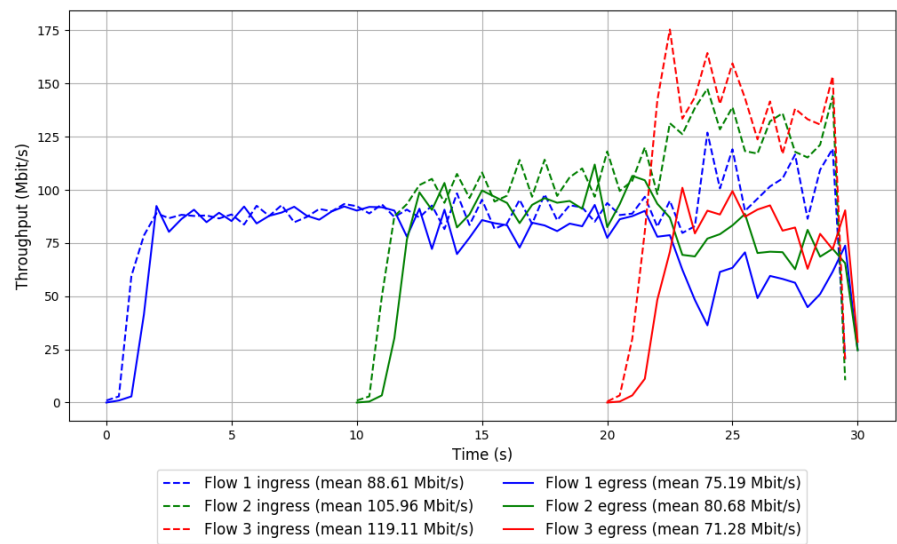


Run 2: Statistics of Indigo

Start at: 2018-10-09 21:29:29
End at: 2018-10-09 21:29:59
Local clock offset: 0.95 ms
Remote clock offset: -39.552 ms

Below is generated by plot.py at 2018-10-10 00:08:22
Datalink statistics
-- Total of 3 flows:
Average throughput: 151.33 Mbit/s
95th percentile per-packet one-way delay: 79.837 ms
Loss rate: 23.12%
-- Flow 1:
Average throughput: 75.19 Mbit/s
95th percentile per-packet one-way delay: 71.766 ms
Loss rate: 15.14%
-- Flow 2:
Average throughput: 80.68 Mbit/s
95th percentile per-packet one-way delay: 81.005 ms
Loss rate: 23.87%
-- Flow 3:
Average throughput: 71.28 Mbit/s
95th percentile per-packet one-way delay: 102.116 ms
Loss rate: 40.18%

Run 2: Report of Indigo — Data Link

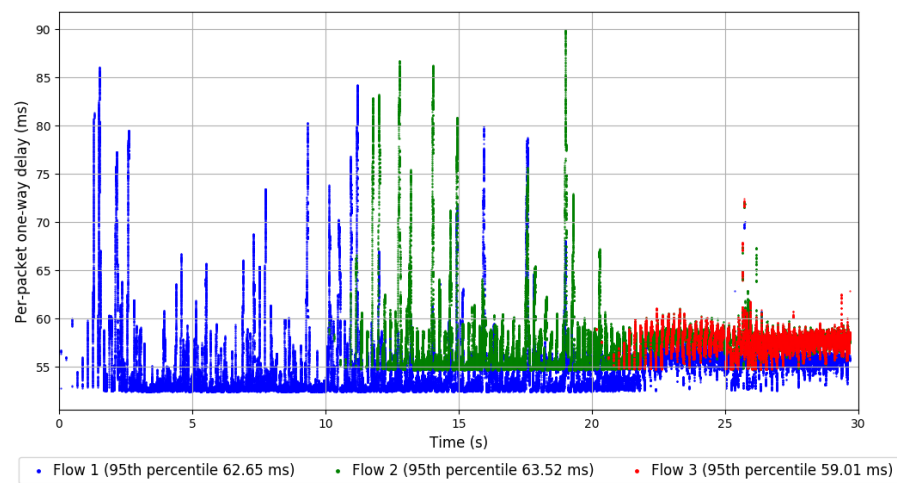
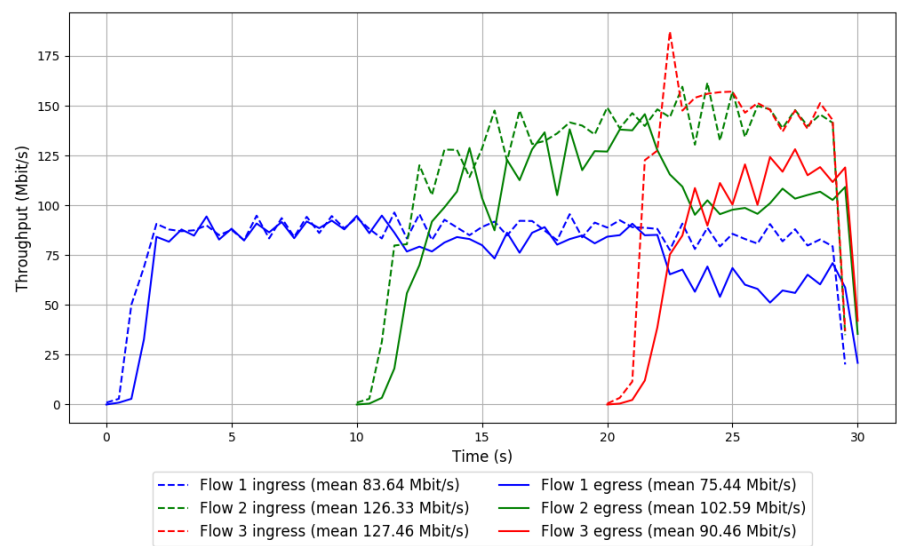


Run 3: Statistics of Indigo

Start at: 2018-10-09 22:07:09
End at: 2018-10-09 22:07:39
Local clock offset: 1.904 ms
Remote clock offset: -45.419 ms

Below is generated by plot.py at 2018-10-10 00:08:22
Datalink statistics
-- Total of 3 flows:
Average throughput: 172.17 Mbit/s
95th percentile per-packet one-way delay: 61.509 ms
Loss rate: 17.18%
-- Flow 1:
Average throughput: 75.44 Mbit/s
95th percentile per-packet one-way delay: 62.652 ms
Loss rate: 9.79%
-- Flow 2:
Average throughput: 102.59 Mbit/s
95th percentile per-packet one-way delay: 63.517 ms
Loss rate: 18.80%
-- Flow 3:
Average throughput: 90.46 Mbit/s
95th percentile per-packet one-way delay: 59.014 ms
Loss rate: 29.01%

Run 3: Report of Indigo — Data Link

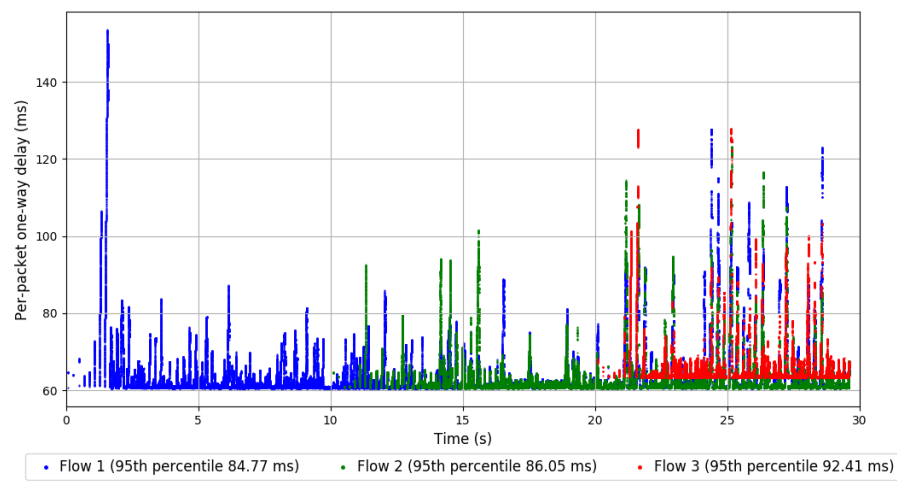
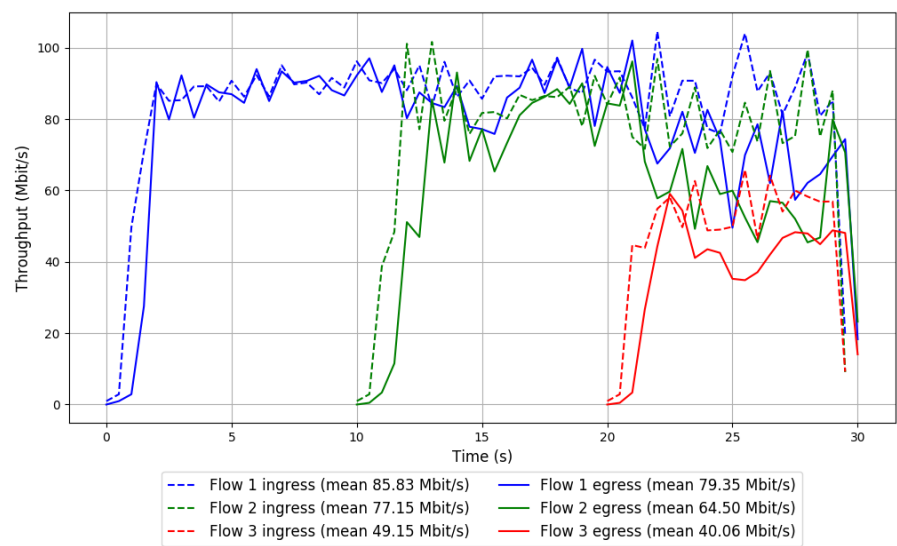


Run 4: Statistics of Indigo

Start at: 2018-10-09 22:50:20
End at: 2018-10-09 22:50:50
Local clock offset: 0.886 ms
Remote clock offset: -38.832 ms

Below is generated by plot.py at 2018-10-10 00:08:22
Datalink statistics
-- Total of 3 flows:
Average throughput: 134.82 Mbit/s
95th percentile per-packet one-way delay: 86.731 ms
Loss rate: 11.64%
-- Flow 1:
Average throughput: 79.35 Mbit/s
95th percentile per-packet one-way delay: 84.773 ms
Loss rate: 7.54%
-- Flow 2:
Average throughput: 64.50 Mbit/s
95th percentile per-packet one-way delay: 86.053 ms
Loss rate: 16.40%
-- Flow 3:
Average throughput: 40.06 Mbit/s
95th percentile per-packet one-way delay: 92.411 ms
Loss rate: 18.52%

Run 4: Report of Indigo — Data Link

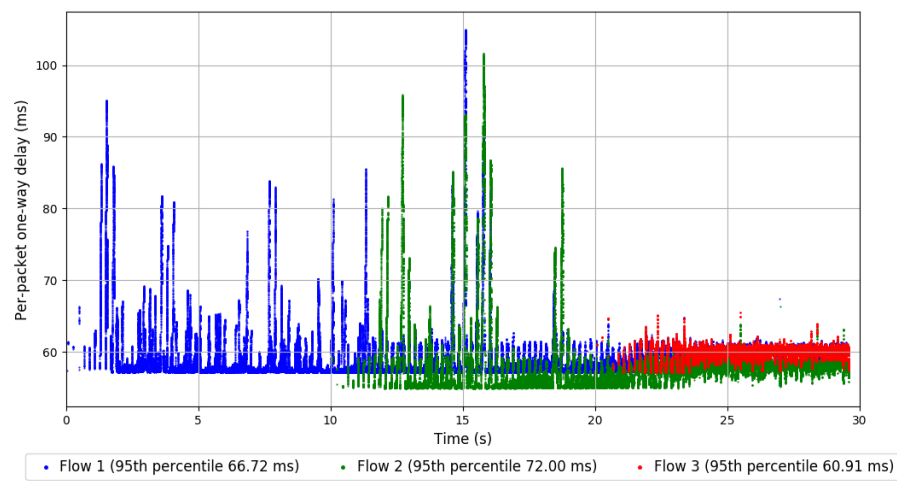
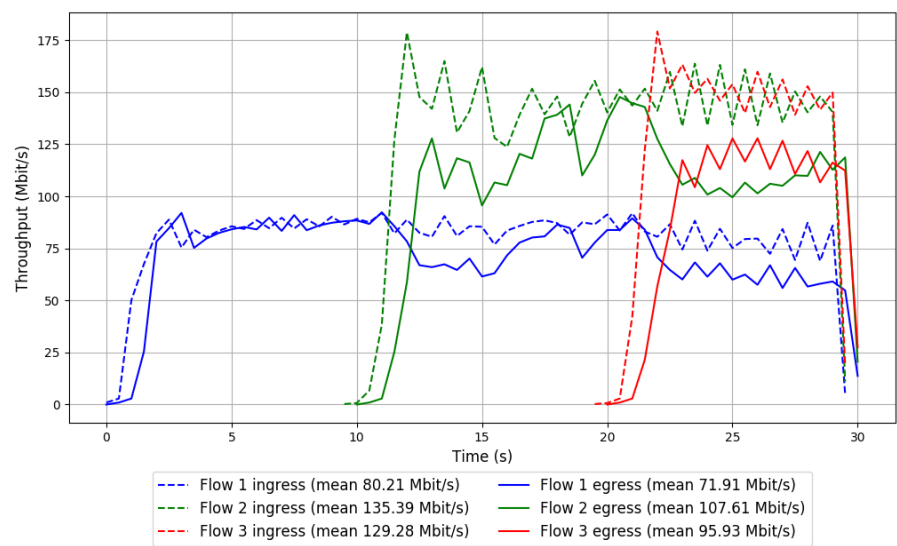


Run 5: Statistics of Indigo

Start at: 2018-10-09 23:27:54
End at: 2018-10-09 23:28:24
Local clock offset: -0.73 ms
Remote clock offset: -44.843 ms

Below is generated by plot.py at 2018-10-10 00:08:22
Datalink statistics
-- Total of 3 flows:
Average throughput: 174.11 Mbit/s
95th percentile per-packet one-way delay: 65.047 ms
Loss rate: 17.70%
-- Flow 1:
Average throughput: 71.91 Mbit/s
95th percentile per-packet one-way delay: 66.725 ms
Loss rate: 10.35%
-- Flow 2:
Average throughput: 107.61 Mbit/s
95th percentile per-packet one-way delay: 71.997 ms
Loss rate: 20.52%
-- Flow 3:
Average throughput: 95.93 Mbit/s
95th percentile per-packet one-way delay: 60.908 ms
Loss rate: 25.79%

Run 5: Report of Indigo — Data Link

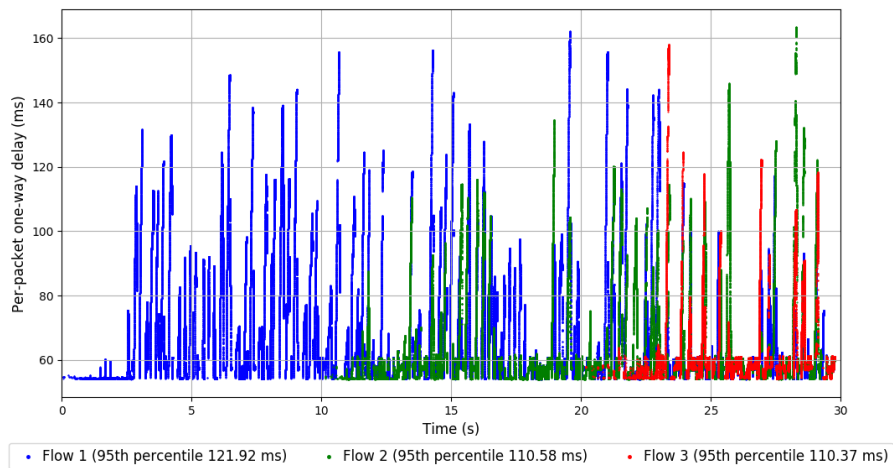
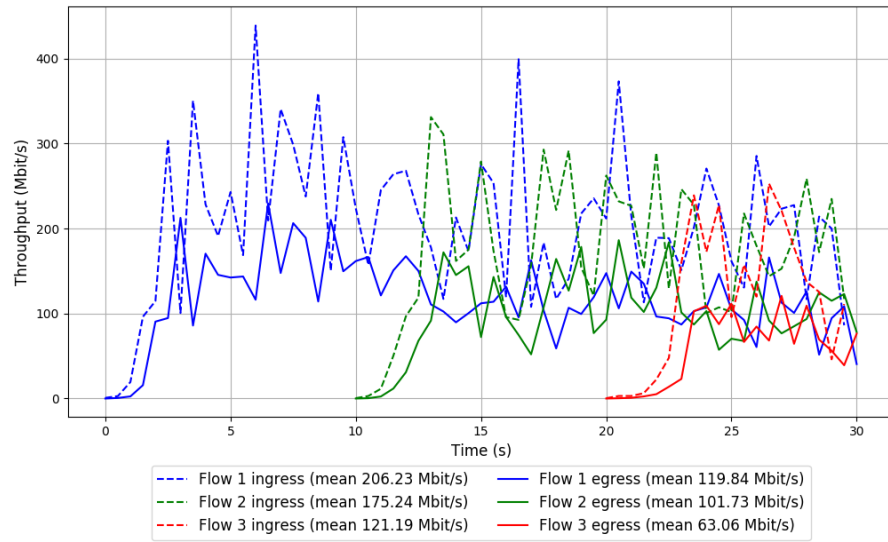


Run 1: Statistics of Indigo-96d2da3

Start at: 2018-10-09 20:59:24
End at: 2018-10-09 20:59:54
Local clock offset: -0.96 ms
Remote clock offset: -45.456 ms

Below is generated by plot.py at 2018-10-10 00:09:13
Datalink statistics
-- Total of 3 flows:
Average throughput: 207.43 Mbit/s
95th percentile per-packet one-way delay: 117.365 ms
Loss rate: 42.56%
-- Flow 1:
Average throughput: 119.84 Mbit/s
95th percentile per-packet one-way delay: 121.915 ms
Loss rate: 41.88%
-- Flow 2:
Average throughput: 101.73 Mbit/s
95th percentile per-packet one-way delay: 110.581 ms
Loss rate: 41.93%
-- Flow 3:
Average throughput: 63.06 Mbit/s
95th percentile per-packet one-way delay: 110.371 ms
Loss rate: 47.94%

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

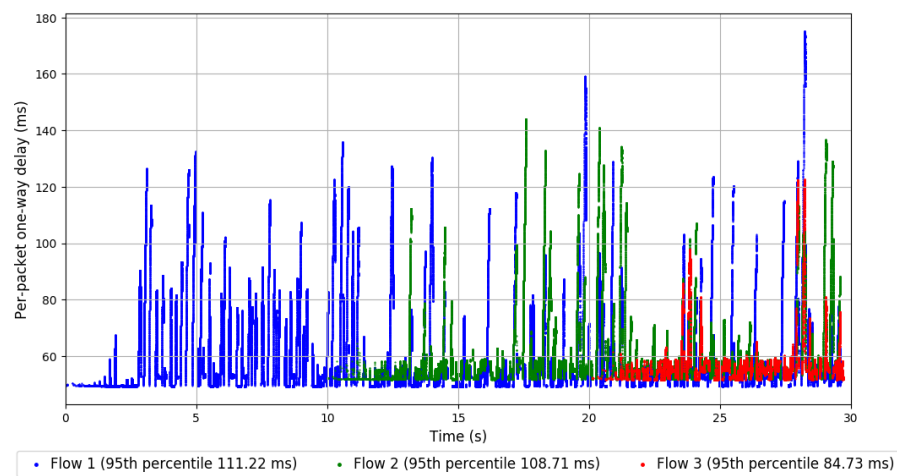
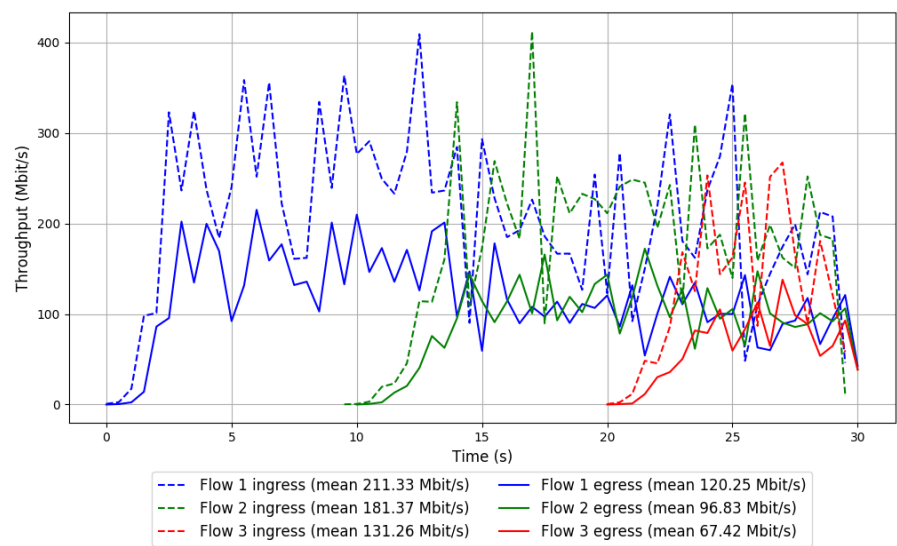


Run 2: Statistics of Indigo-96d2da3

Start at: 2018-10-09 21:31:26
End at: 2018-10-09 21:31:56
Local clock offset: 1.947 ms
Remote clock offset: -47.914 ms

Below is generated by plot.py at 2018-10-10 00:09:16
Datalink statistics
-- Total of 3 flows:
Average throughput: 205.87 Mbit/s
95th percentile per-packet one-way delay: 109.365 ms
Loss rate: 44.85%
-- Flow 1:
Average throughput: 120.25 Mbit/s
95th percentile per-packet one-way delay: 111.218 ms
Loss rate: 43.09%
-- Flow 2:
Average throughput: 96.83 Mbit/s
95th percentile per-packet one-way delay: 108.714 ms
Loss rate: 46.61%
-- Flow 3:
Average throughput: 67.42 Mbit/s
95th percentile per-packet one-way delay: 84.727 ms
Loss rate: 48.64%

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

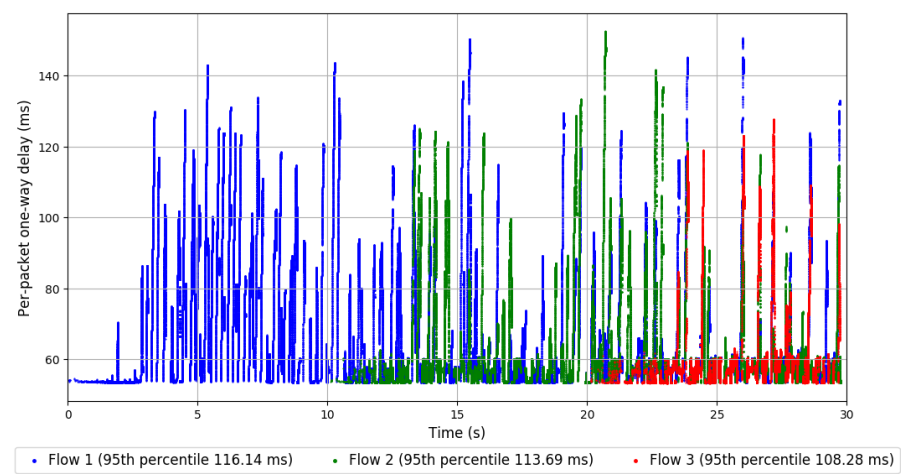
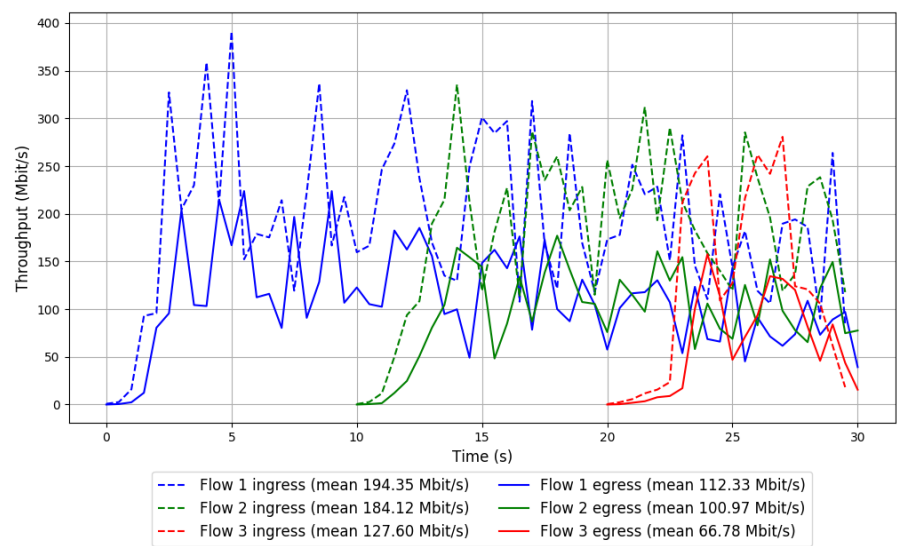


Run 3: Statistics of Indigo-96d2da3

Start at: 2018-10-09 22:09:11
End at: 2018-10-09 22:09:41
Local clock offset: 1.198 ms
Remote clock offset: -45.212 ms

Below is generated by plot.py at 2018-10-10 00:10:38
Datalink statistics
-- Total of 3 flows:
Average throughput: 200.42 Mbit/s
95th percentile per-packet one-way delay: 114.672 ms
Loss rate: 43.75%
-- Flow 1:
Average throughput: 112.33 Mbit/s
95th percentile per-packet one-way delay: 116.138 ms
Loss rate: 42.04%
-- Flow 2:
Average throughput: 100.97 Mbit/s
95th percentile per-packet one-way delay: 113.693 ms
Loss rate: 45.16%
-- Flow 3:
Average throughput: 66.78 Mbit/s
95th percentile per-packet one-way delay: 108.279 ms
Loss rate: 47.60%

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

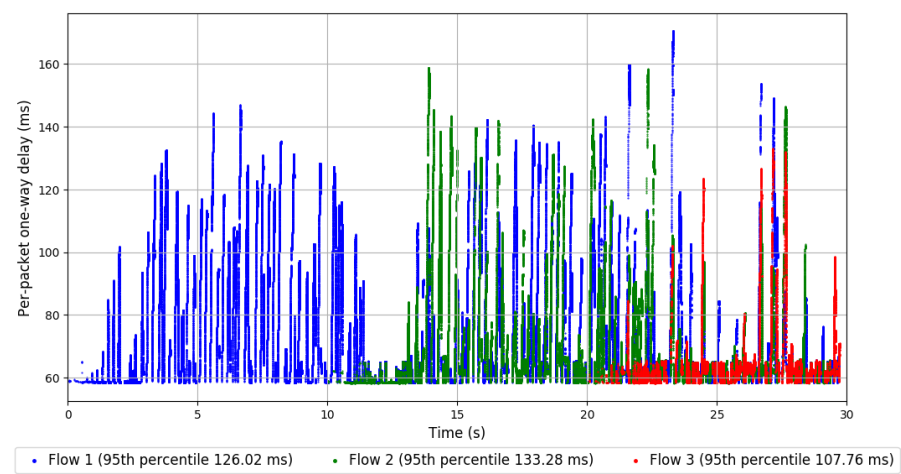
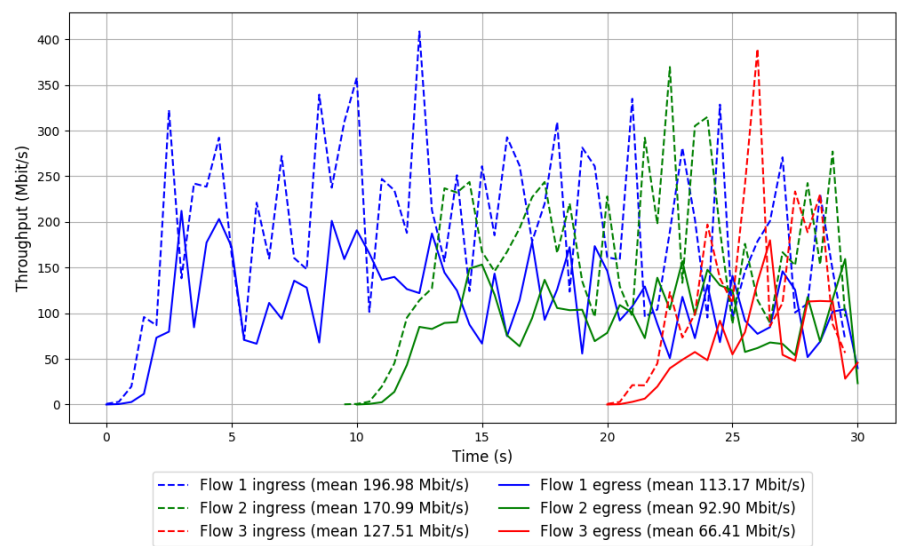


Run 4: Statistics of Indigo-96d2da3

Start at: 2018-10-09 22:52:11
End at: 2018-10-09 22:52:41
Local clock offset: 3.628 ms
Remote clock offset: -40.958 ms

Below is generated by plot.py at 2018-10-10 00:10:43
Datalink statistics
-- Total of 3 flows:
Average throughput: 196.04 Mbit/s
95th percentile per-packet one-way delay: 127.383 ms
Loss rate: 44.17%
-- Flow 1:
Average throughput: 113.17 Mbit/s
95th percentile per-packet one-way delay: 126.018 ms
Loss rate: 42.54%
-- Flow 2:
Average throughput: 92.90 Mbit/s
95th percentile per-packet one-way delay: 133.275 ms
Loss rate: 45.65%
-- Flow 3:
Average throughput: 66.41 Mbit/s
95th percentile per-packet one-way delay: 107.763 ms
Loss rate: 47.92%

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

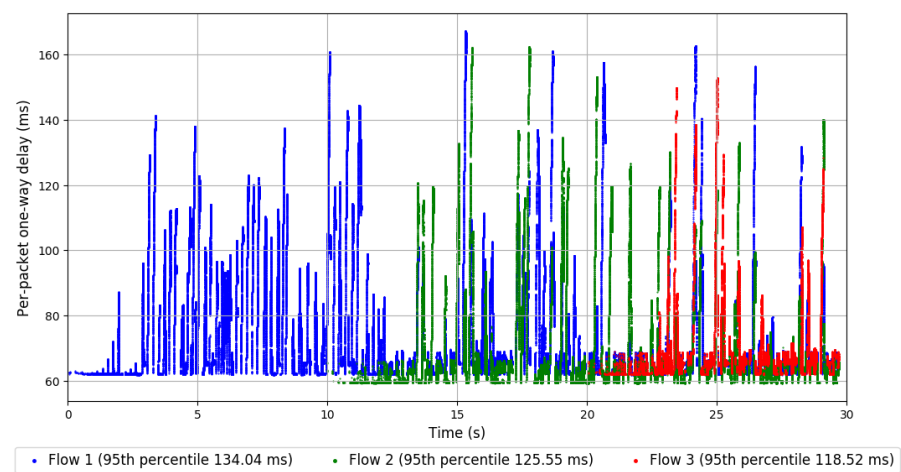
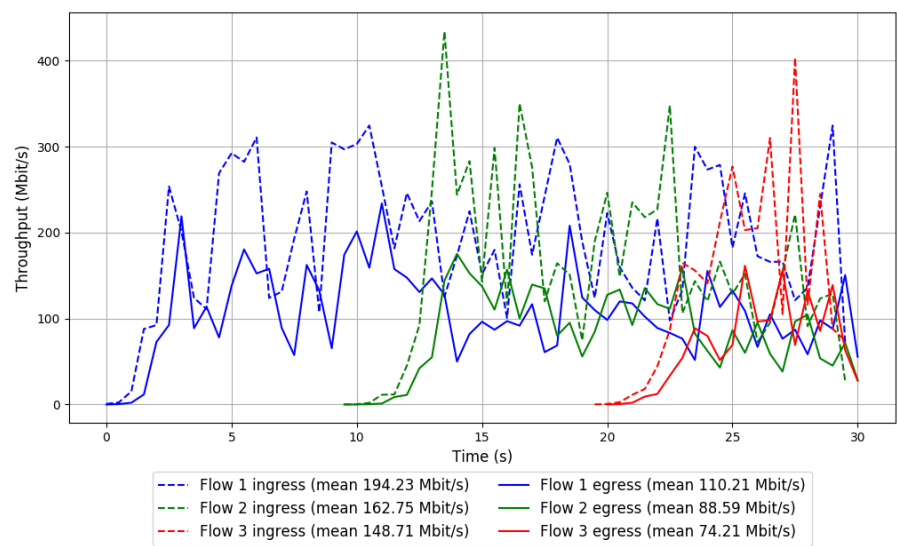


Run 5: Statistics of Indigo-96d2da3

Start at: 2018-10-09 23:29:57
End at: 2018-10-09 23:30:27
Local clock offset: -0.387 ms
Remote clock offset: -39.735 ms

Below is generated by plot.py at 2018-10-10 00:10:47
Datalink statistics
-- Total of 3 flows:
Average throughput: 193.20 Mbit/s
95th percentile per-packet one-way delay: 129.012 ms
Loss rate: 44.91%
-- Flow 1:
Average throughput: 110.21 Mbit/s
95th percentile per-packet one-way delay: 134.044 ms
Loss rate: 43.25%
-- Flow 2:
Average throughput: 88.59 Mbit/s
95th percentile per-packet one-way delay: 125.552 ms
Loss rate: 45.57%
-- Flow 3:
Average throughput: 74.21 Mbit/s
95th percentile per-packet one-way delay: 118.519 ms
Loss rate: 50.08%

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

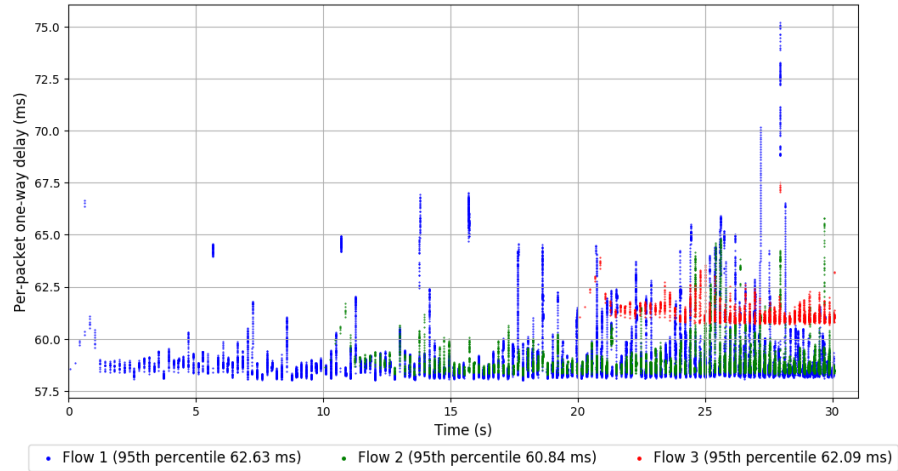
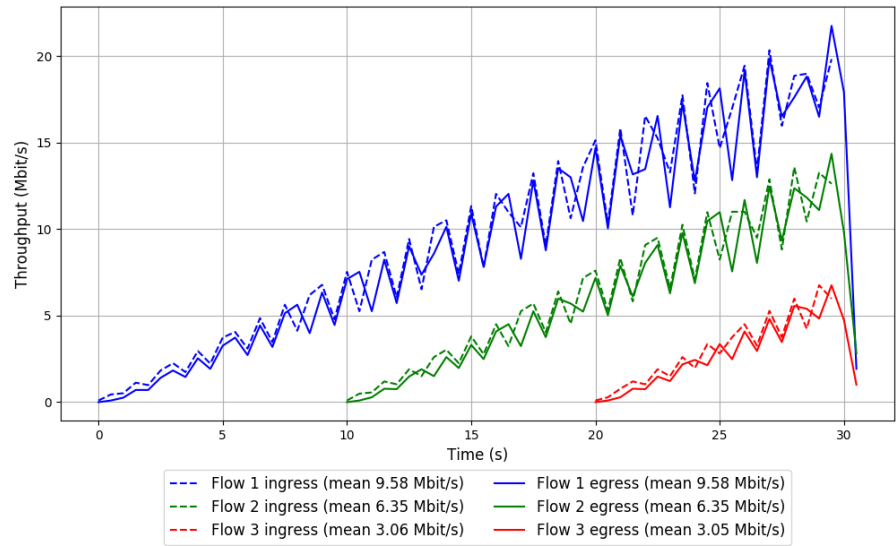


```
Run 1: Statistics of LEDBAT

Start at: 2018-10-09 21:24:52
End at: 2018-10-09 21:25:22
Local clock offset: -1.491 ms
Remote clock offset: -41.598 ms

# Below is generated by plot.py at 2018-10-10 00:10:47
# Datalink statistics
-- Total of 3 flows:
Average throughput: 14.82 Mbit/s
95th percentile per-packet one-way delay: 62.118 ms
Loss rate: 0.03%
-- Flow 1:
Average throughput: 9.58 Mbit/s
95th percentile per-packet one-way delay: 62.628 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 6.35 Mbit/s
95th percentile per-packet one-way delay: 60.839 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 3.05 Mbit/s
95th percentile per-packet one-way delay: 62.088 ms
Loss rate: 0.38%
```

Run 1: Report of LEDBAT — Data Link

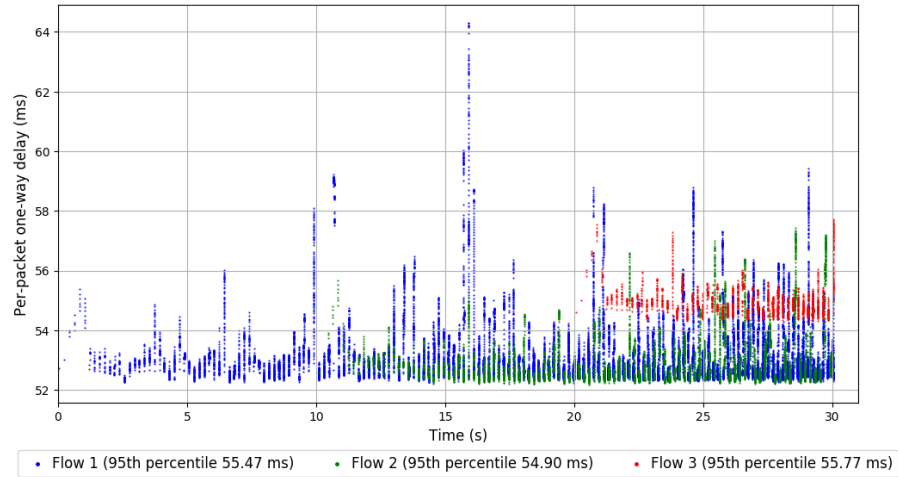
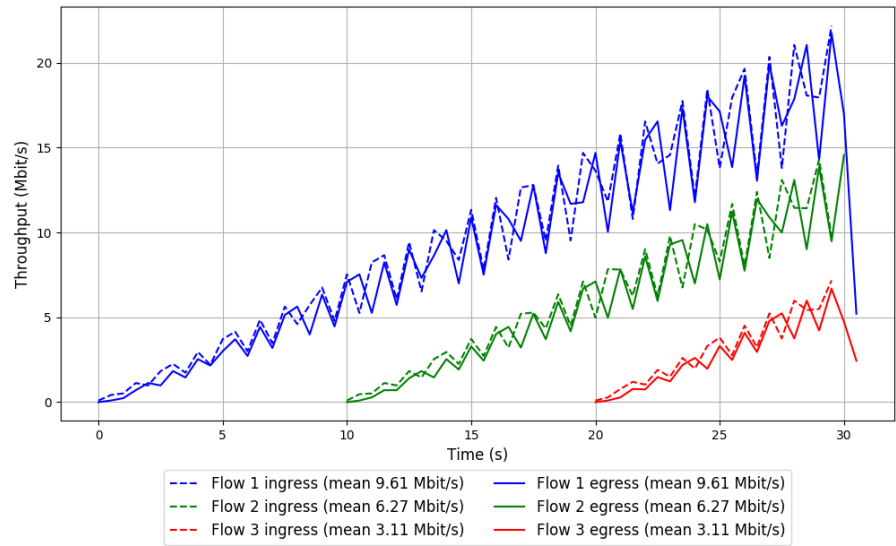


Run 2: Statistics of LEDBAT

Start at: 2018-10-09 21:56:56
End at: 2018-10-09 21:57:26
Local clock offset: 2.12 ms
Remote clock offset: -45.418 ms

Below is generated by plot.py at 2018-10-10 00:10:47
Datalink statistics
-- Total of 3 flows:
Average throughput: 14.80 Mbit/s
95th percentile per-packet one-way delay: 55.421 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 9.61 Mbit/s
95th percentile per-packet one-way delay: 55.469 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 6.27 Mbit/s
95th percentile per-packet one-way delay: 54.895 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 3.11 Mbit/s
95th percentile per-packet one-way delay: 55.769 ms
Loss rate: 0.00%

Run 2: Report of LEDBAT — Data Link

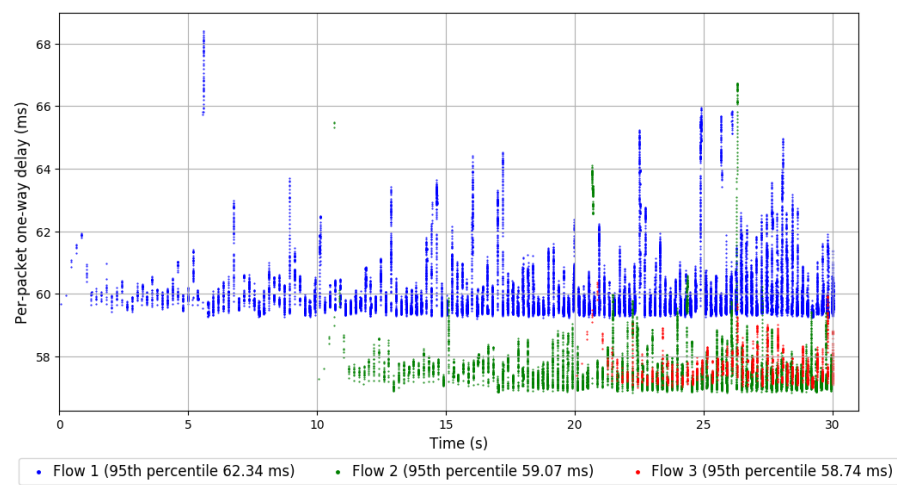
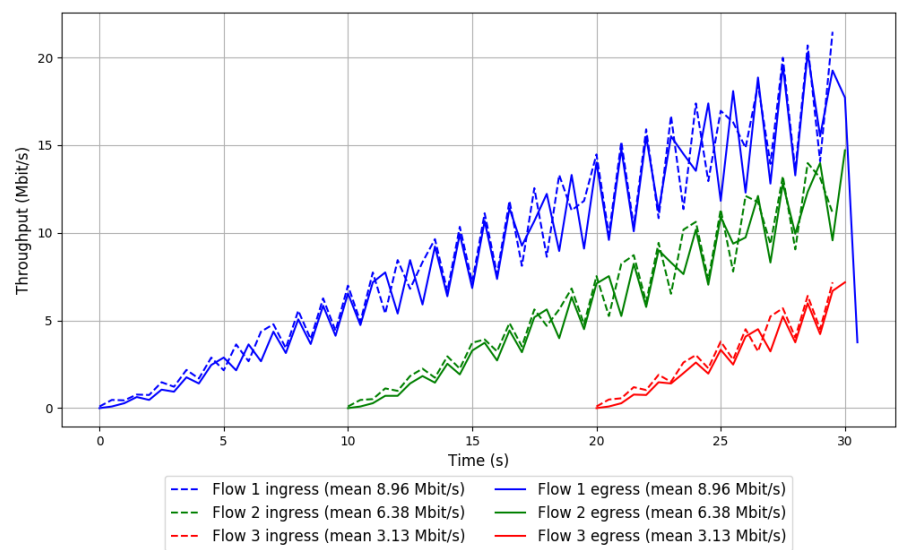


Run 3: Statistics of LEDBAT

Start at: 2018-10-09 22:45:44
End at: 2018-10-09 22:46:14
Local clock offset: 3.996 ms
Remote clock offset: -39.306 ms

Below is generated by plot.py at 2018-10-10 00:10:47
Datalink statistics
-- Total of 3 flows:
Average throughput: 14.24 Mbit/s
95th percentile per-packet one-way delay: 61.739 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 8.96 Mbit/s
95th percentile per-packet one-way delay: 62.342 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 6.38 Mbit/s
95th percentile per-packet one-way delay: 59.068 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 3.13 Mbit/s
95th percentile per-packet one-way delay: 58.738 ms
Loss rate: 0.00%

Run 3: Report of LEDBAT — Data Link

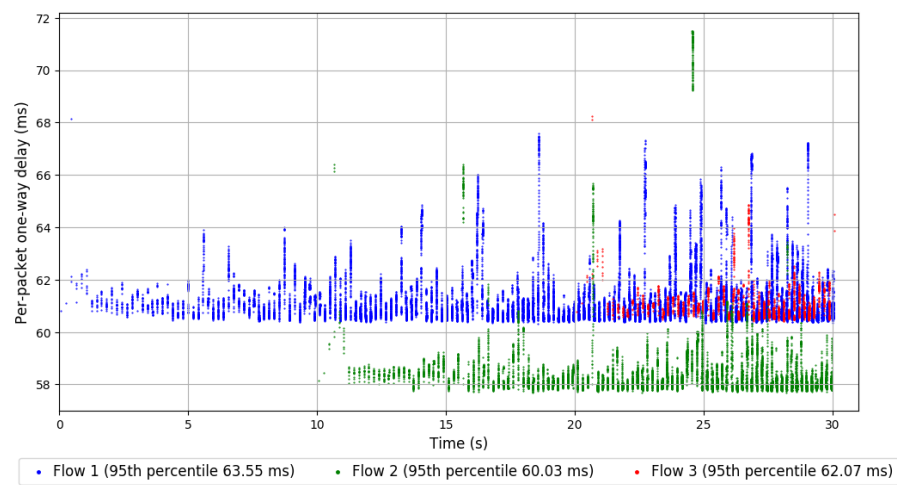
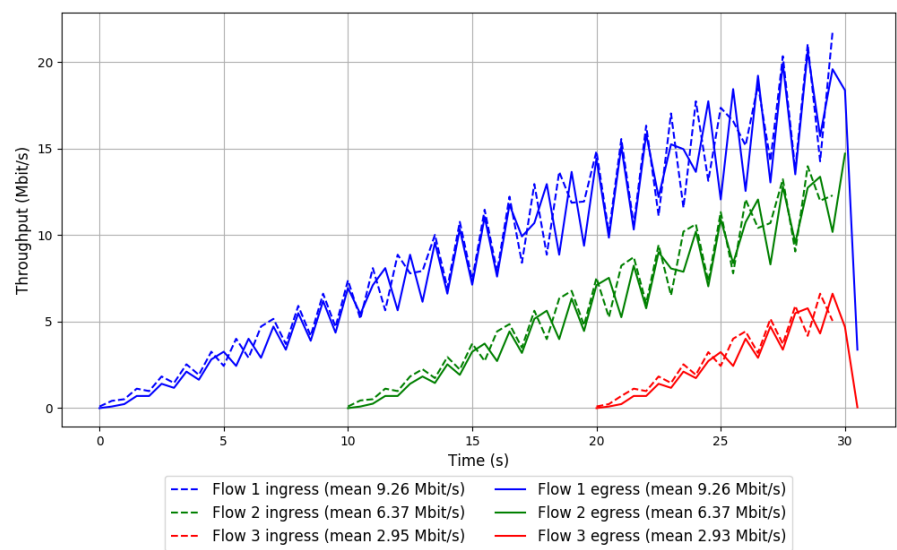


Run 4: Statistics of LEDBAT

Start at: 2018-10-09 23:23:08
End at: 2018-10-09 23:23:38
Local clock offset: -0.858 ms
Remote clock offset: -41.886 ms

Below is generated by plot.py at 2018-10-10 00:10:47
Datalink statistics
-- Total of 3 flows:
Average throughput: 14.46 Mbit/s
95th percentile per-packet one-way delay: 63.101 ms
Loss rate: 0.04%
-- Flow 1:
Average throughput: 9.26 Mbit/s
95th percentile per-packet one-way delay: 63.547 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 6.37 Mbit/s
95th percentile per-packet one-way delay: 60.034 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 2.93 Mbit/s
95th percentile per-packet one-way delay: 62.073 ms
Loss rate: 0.52%

Run 4: Report of LEDBAT — Data Link

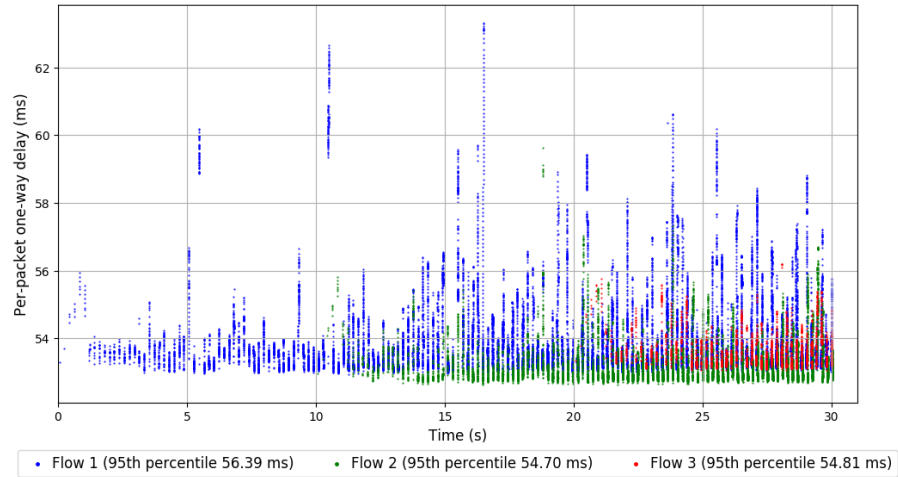
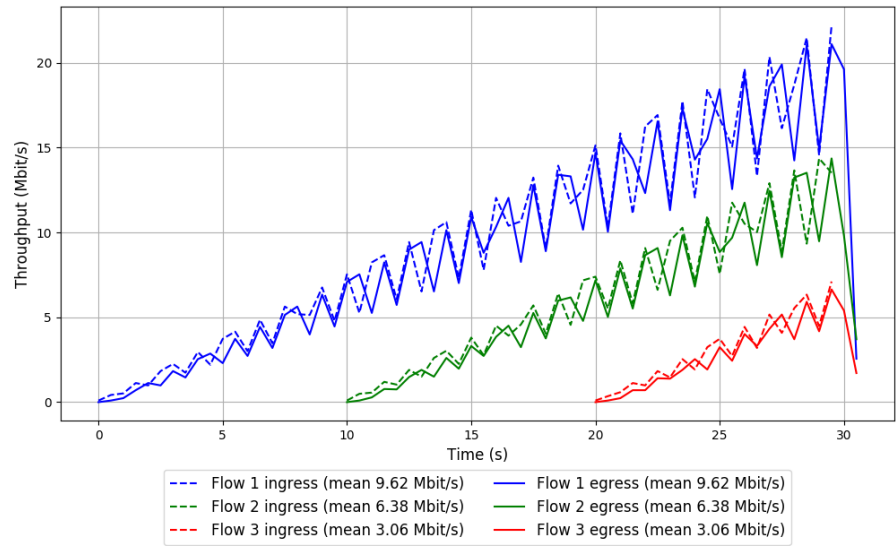


Run 5: Statistics of LEDBAT

Start at: 2018-10-09 23:55:31
End at: 2018-10-09 23:56:01
Local clock offset: 0.255 ms
Remote clock offset: -45.567 ms

Below is generated by plot.py at 2018-10-10 00:10:47
Datalink statistics
-- Total of 3 flows:
Average throughput: 14.88 Mbit/s
95th percentile per-packet one-way delay: 55.890 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 9.62 Mbit/s
95th percentile per-packet one-way delay: 56.387 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 6.38 Mbit/s
95th percentile per-packet one-way delay: 54.701 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 3.06 Mbit/s
95th percentile per-packet one-way delay: 54.808 ms
Loss rate: 0.00%

Run 5: Report of LEDBAT — Data Link

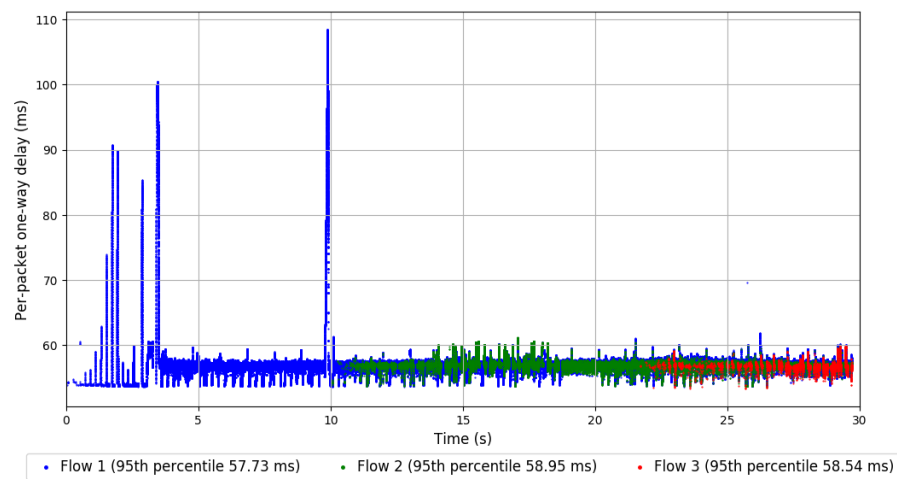
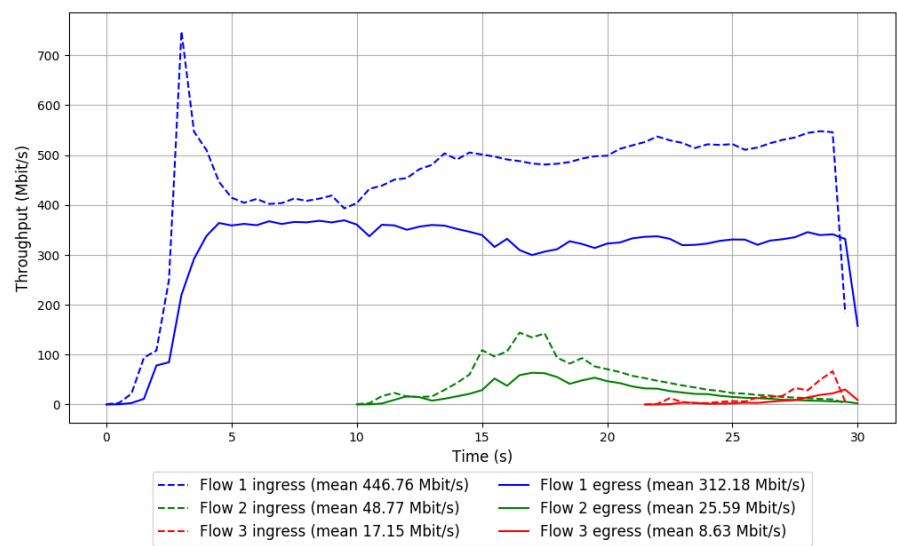


Run 1: Statistics of Indigo-Muses

Start at: 2018-10-09 21:16:37
End at: 2018-10-09 21:17:07
Local clock offset: -1.415 ms
Remote clock offset: -46.094 ms

Below is generated by plot.py at 2018-10-10 00:12:46
Datalink statistics
-- Total of 3 flows:
Average throughput: 331.46 Mbit/s
95th percentile per-packet one-way delay: 57.771 ms
Loss rate: 31.47%
-- Flow 1:
Average throughput: 312.18 Mbit/s
95th percentile per-packet one-way delay: 57.733 ms
Loss rate: 30.12%
-- Flow 2:
Average throughput: 25.59 Mbit/s
95th percentile per-packet one-way delay: 58.946 ms
Loss rate: 47.53%
-- Flow 3:
Average throughput: 8.63 Mbit/s
95th percentile per-packet one-way delay: 58.537 ms
Loss rate: 49.73%

Run 1: Report of Indigo-Muses — Data Link

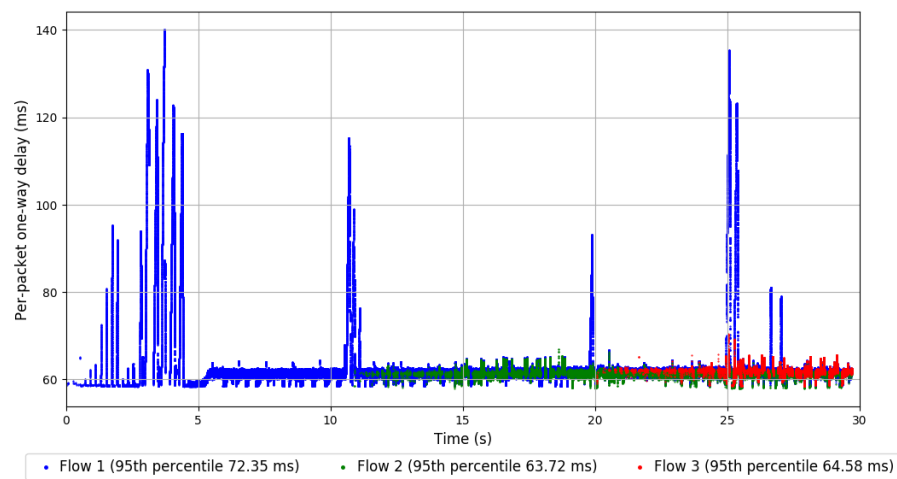
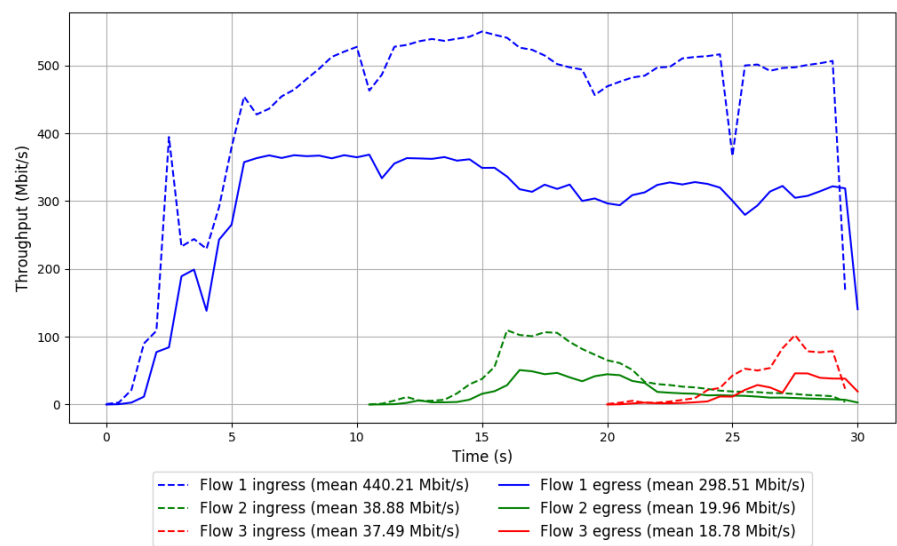


Run 2: Statistics of Indigo-Muses

Start at: 2018-10-09 21:48:47
End at: 2018-10-09 21:49:17
Local clock offset: 0.688 ms
Remote clock offset: -40.362 ms

Below is generated by plot.py at 2018-10-10 00:12:46
Datalink statistics
-- Total of 3 flows:
Average throughput: 317.28 Mbit/s
95th percentile per-packet one-way delay: 68.993 ms
Loss rate: 33.49%
-- Flow 1:
Average throughput: 298.51 Mbit/s
95th percentile per-packet one-way delay: 72.353 ms
Loss rate: 32.18%
-- Flow 2:
Average throughput: 19.96 Mbit/s
95th percentile per-packet one-way delay: 63.716 ms
Loss rate: 48.65%
-- Flow 3:
Average throughput: 18.78 Mbit/s
95th percentile per-packet one-way delay: 64.581 ms
Loss rate: 49.90%

Run 2: Report of Indigo-Muses — Data Link

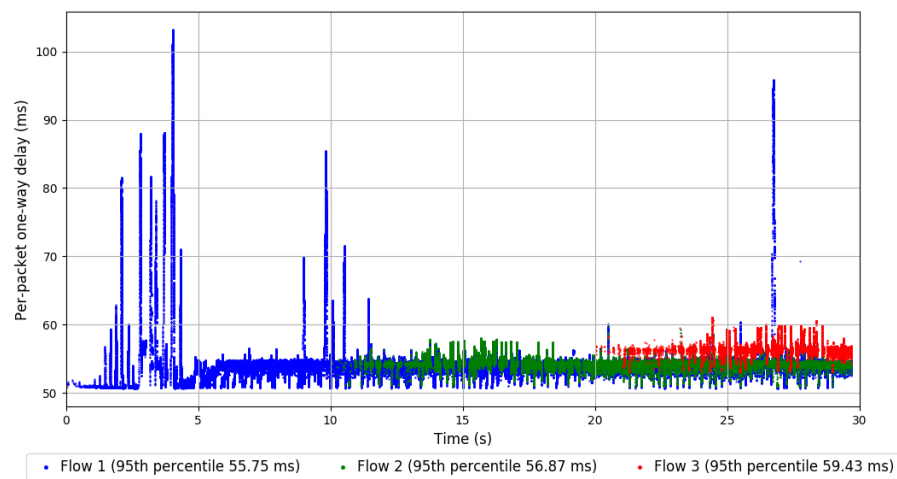
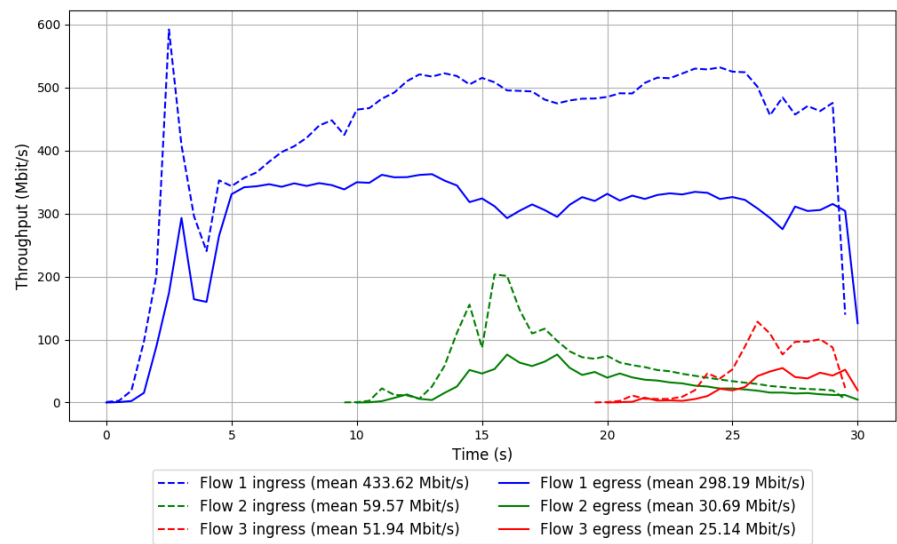


Run 3: Statistics of Indigo-Muses

Start at: 2018-10-09 22:37:31
End at: 2018-10-09 22:38:01
Local clock offset: 1.229 ms
Remote clock offset: -48.251 ms

Below is generated by plot.py at 2018-10-10 00:12:52
Datalink statistics
-- Total of 3 flows:
Average throughput: 326.75 Mbit/s
95th percentile per-packet one-way delay: 56.536 ms
Loss rate: 33.32%
-- Flow 1:
Average throughput: 298.19 Mbit/s
95th percentile per-packet one-way delay: 55.754 ms
Loss rate: 31.22%
-- Flow 2:
Average throughput: 30.69 Mbit/s
95th percentile per-packet one-way delay: 56.874 ms
Loss rate: 48.47%
-- Flow 3:
Average throughput: 25.14 Mbit/s
95th percentile per-packet one-way delay: 59.430 ms
Loss rate: 51.61%

Run 3: Report of Indigo-Muses — Data Link

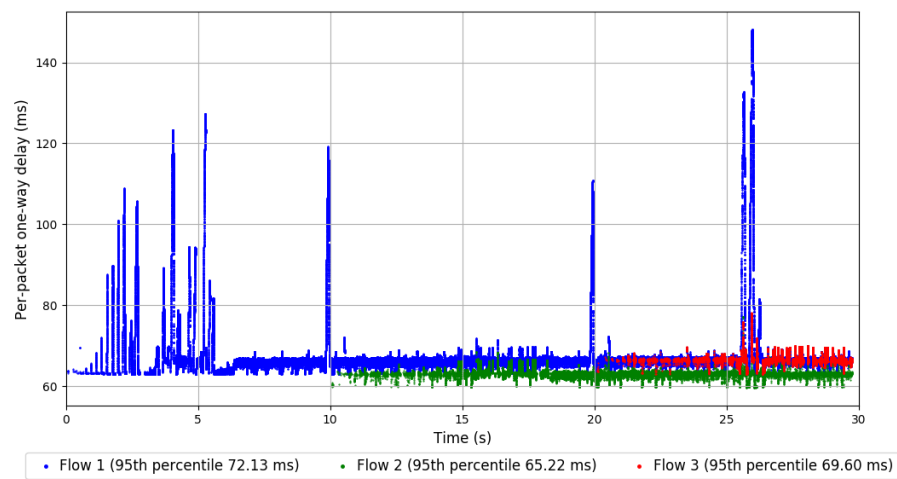
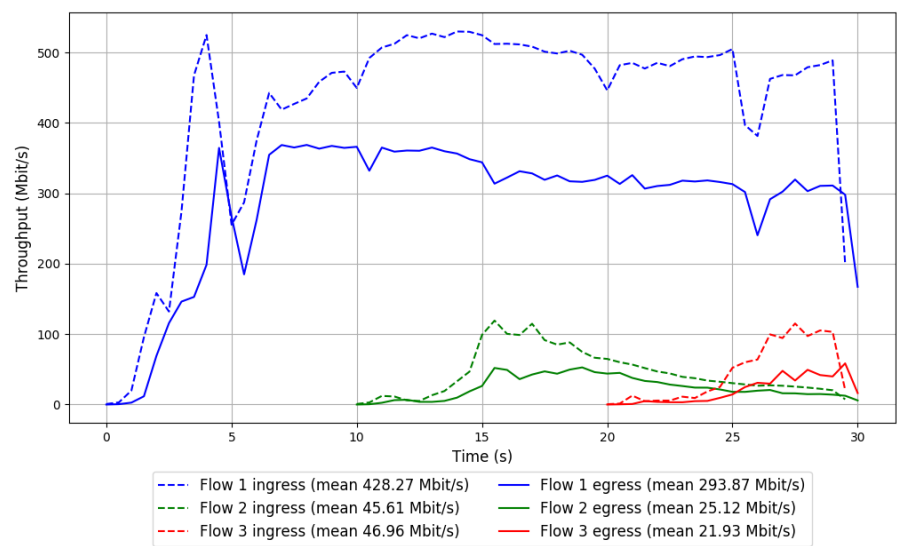


Run 4: Statistics of Indigo-Muses

Start at: 2018-10-09 23:14:54
End at: 2018-10-09 23:15:24
Local clock offset: 2.833 ms
Remote clock offset: -35.91 ms

Below is generated by plot.py at 2018-10-10 00:13:15
Datalink statistics
-- Total of 3 flows:
Average throughput: 317.64 Mbit/s
95th percentile per-packet one-way delay: 70.157 ms
Loss rate: 32.94%
-- Flow 1:
Average throughput: 293.87 Mbit/s
95th percentile per-packet one-way delay: 72.133 ms
Loss rate: 31.38%
-- Flow 2:
Average throughput: 25.12 Mbit/s
95th percentile per-packet one-way delay: 65.217 ms
Loss rate: 44.91%
-- Flow 3:
Average throughput: 21.93 Mbit/s
95th percentile per-packet one-way delay: 69.596 ms
Loss rate: 53.29%

Run 4: Report of Indigo-Muses — Data Link

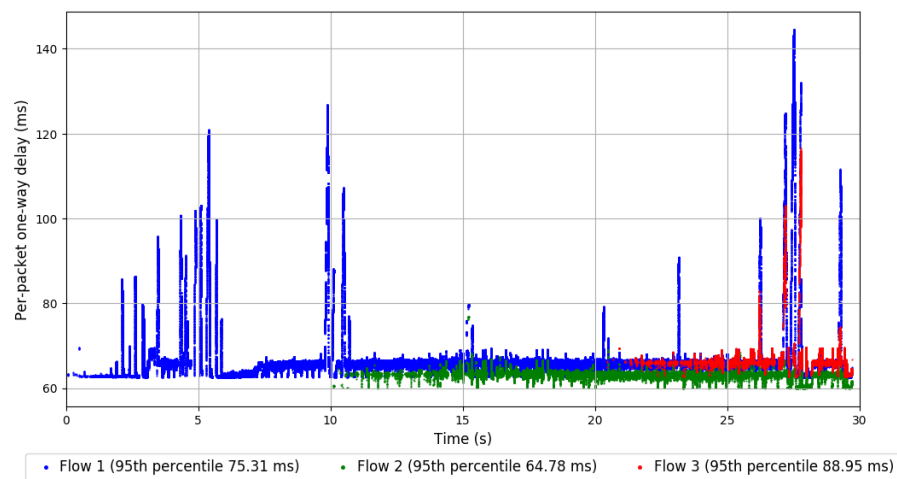
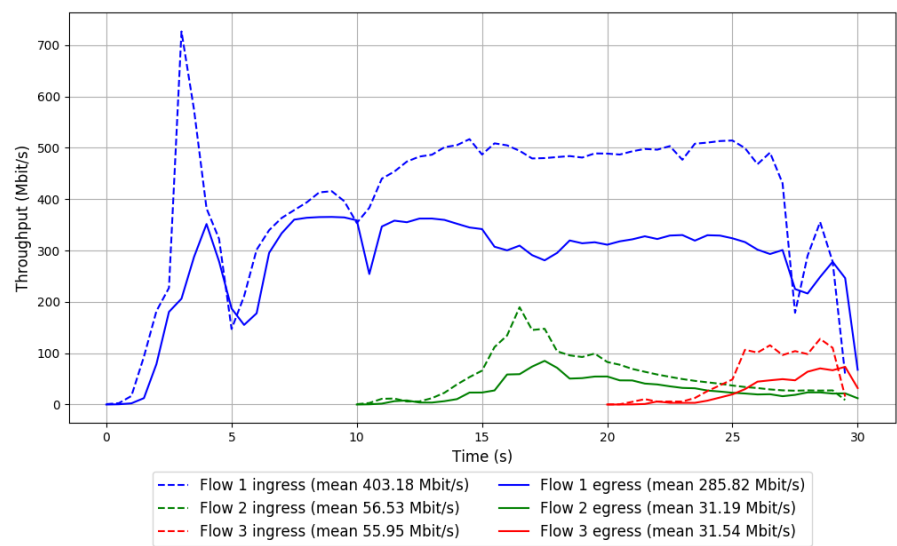


Run 5: Statistics of Indigo-Muses

Start at: 2018-10-09 23:47:16
End at: 2018-10-09 23:47:46
Local clock offset: -2.029 ms
Remote clock offset: -40.105 ms

Below is generated by plot.py at 2018-10-10 00:13:15
Datalink statistics
-- Total of 3 flows:
Average throughput: 316.26 Mbit/s
95th percentile per-packet one-way delay: 73.890 ms
Loss rate: 30.94%
-- Flow 1:
Average throughput: 285.82 Mbit/s
95th percentile per-packet one-way delay: 75.312 ms
Loss rate: 29.11%
-- Flow 2:
Average throughput: 31.19 Mbit/s
95th percentile per-packet one-way delay: 64.785 ms
Loss rate: 44.81%
-- Flow 3:
Average throughput: 31.54 Mbit/s
95th percentile per-packet one-way delay: 88.951 ms
Loss rate: 43.64%

Run 5: Report of Indigo-Muses — Data Link

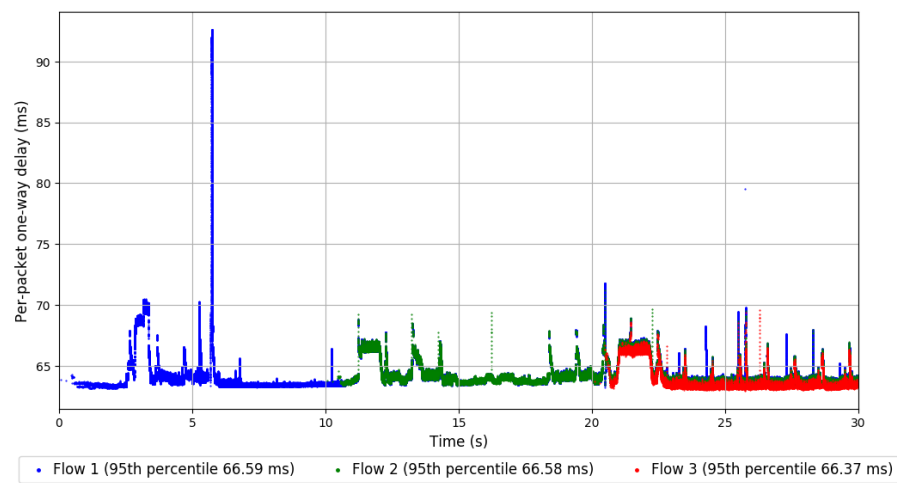
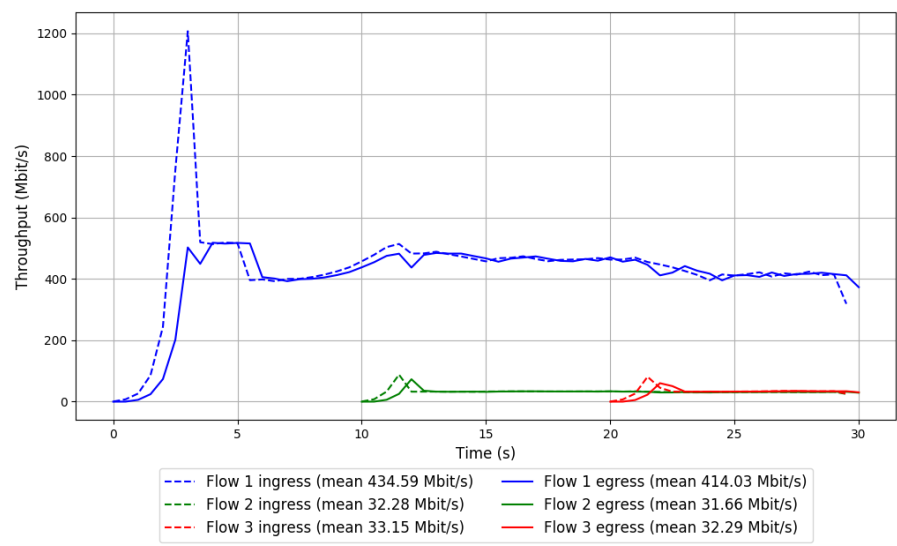



```
Run 1: Statistics of PCC-Allegro

Start at: 2018-10-09 21:12:00
End at: 2018-10-09 21:12:30
Local clock offset: 0.111 ms
Remote clock offset: -35.16 ms

# Below is generated by plot.py at 2018-10-10 00:16:08
# Datalink statistics
-- Total of 3 flows:
Average throughput: 445.73 Mbit/s
95th percentile per-packet one-way delay: 66.579 ms
Loss rate: 4.55%
-- Flow 1:
Average throughput: 414.03 Mbit/s
95th percentile per-packet one-way delay: 66.586 ms
Loss rate: 4.73%
-- Flow 2:
Average throughput: 31.66 Mbit/s
95th percentile per-packet one-way delay: 66.583 ms
Loss rate: 1.91%
-- Flow 3:
Average throughput: 32.29 Mbit/s
95th percentile per-packet one-way delay: 66.373 ms
Loss rate: 2.60%
```

Run 1: Report of PCC-Allegro — Data Link



Run 2: Statistics of PCC-Allegro

Start at: 2018-10-09 21:44:06

End at: 2018-10-09 21:44:36

Local clock offset: 2.815 ms

Remote clock offset: -40.026 ms

Below is generated by plot.py at 2018-10-10 00:16:25

Datalink statistics

-- Total of 3 flows:

Average throughput: 469.37 Mbit/s

95th percentile per-packet one-way delay: 59.865 ms

Loss rate: 4.04%

-- Flow 1:

Average throughput: 442.84 Mbit/s

95th percentile per-packet one-way delay: 59.859 ms

Loss rate: 4.19%

-- Flow 2:

Average throughput: 31.58 Mbit/s

95th percentile per-packet one-way delay: 59.871 ms

Loss rate: 1.51%

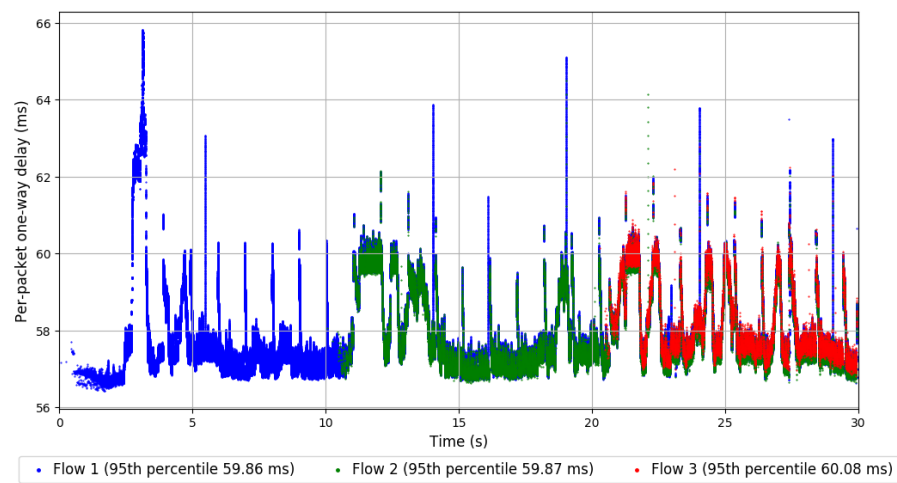
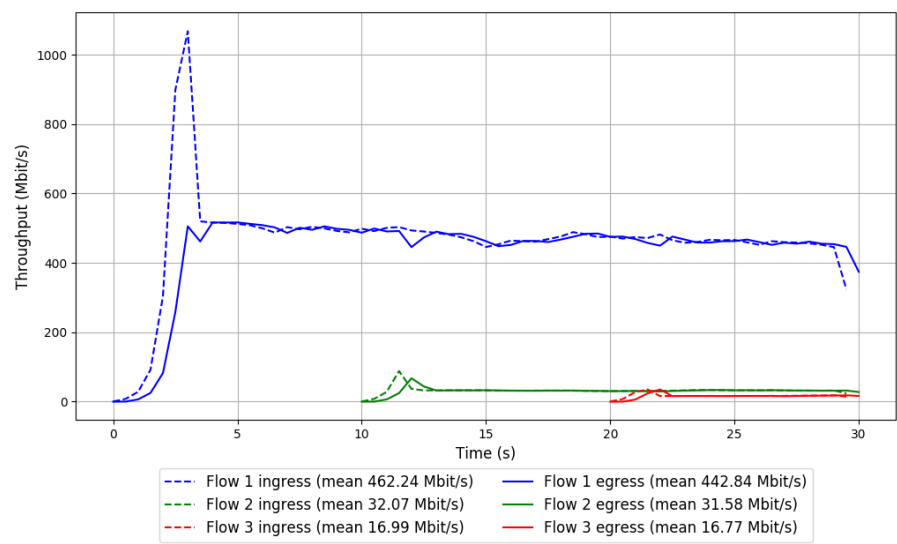
-- Flow 3:

Average throughput: 16.77 Mbit/s

95th percentile per-packet one-way delay: 60.079 ms

Loss rate: 1.30%

Run 2: Report of PCC-Allegro — Data Link

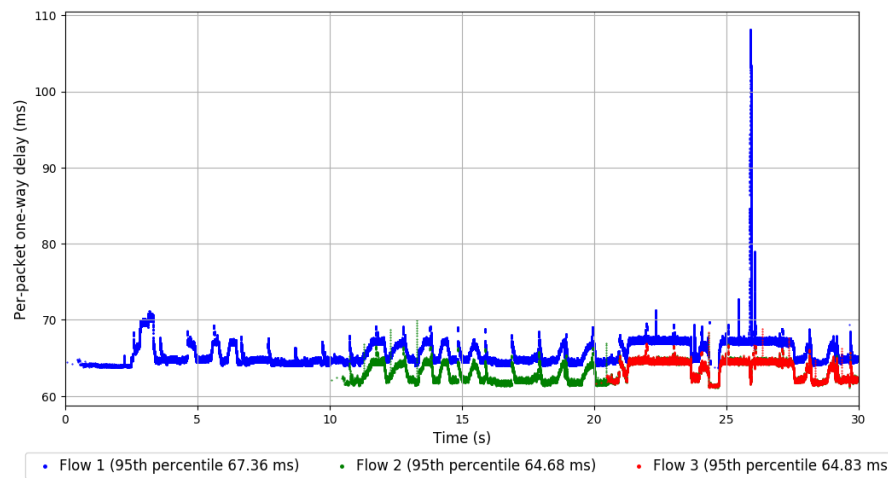
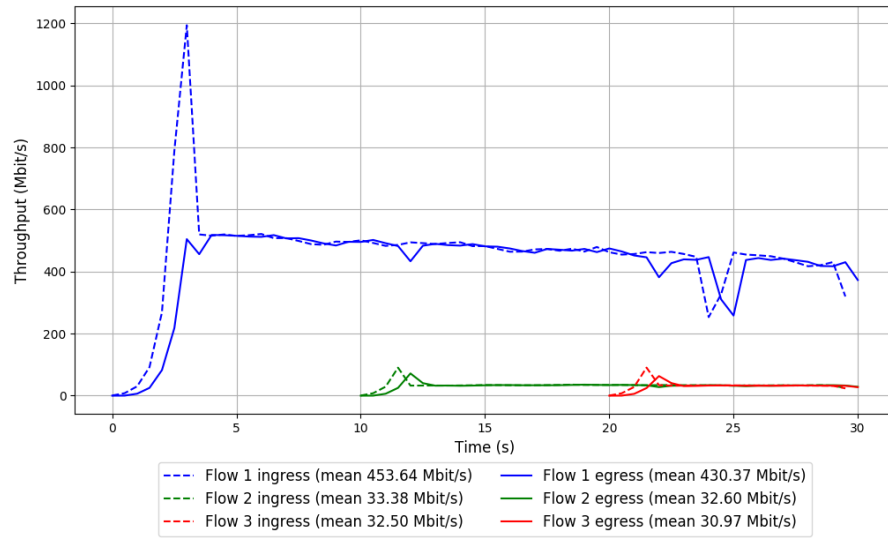


Run 3: Statistics of PCC-Allegro

Start at: 2018-10-09 22:32:47
End at: 2018-10-09 22:33:17
Local clock offset: 2.182 ms
Remote clock offset: -36.679 ms

Below is generated by plot.py at 2018-10-10 00:16:27
Datalink statistics
-- Total of 3 flows:
Average throughput: 462.27 Mbit/s
95th percentile per-packet one-way delay: 67.335 ms
Loss rate: 5.00%
-- Flow 1:
Average throughput: 430.37 Mbit/s
95th percentile per-packet one-way delay: 67.359 ms
Loss rate: 5.14%
-- Flow 2:
Average throughput: 32.60 Mbit/s
95th percentile per-packet one-way delay: 64.677 ms
Loss rate: 2.34%
-- Flow 3:
Average throughput: 30.97 Mbit/s
95th percentile per-packet one-way delay: 64.825 ms
Loss rate: 4.70%

Run 3: Report of PCC-Allegro — Data Link



Run 4: Statistics of PCC-Allegro

Start at: 2018-10-09 23:10:17

End at: 2018-10-09 23:10:47

Local clock offset: 1.979 ms

Remote clock offset: -35.476 ms

Below is generated by plot.py at 2018-10-10 00:18:32

Datalink statistics

-- Total of 3 flows:

Average throughput: 468.88 Mbit/s

95th percentile per-packet one-way delay: 65.105 ms

Loss rate: 4.07%

-- Flow 1:

Average throughput: 446.52 Mbit/s

95th percentile per-packet one-way delay: 65.082 ms

Loss rate: 4.20%

-- Flow 2:

Average throughput: 31.50 Mbit/s

95th percentile per-packet one-way delay: 65.261 ms

Loss rate: 1.55%

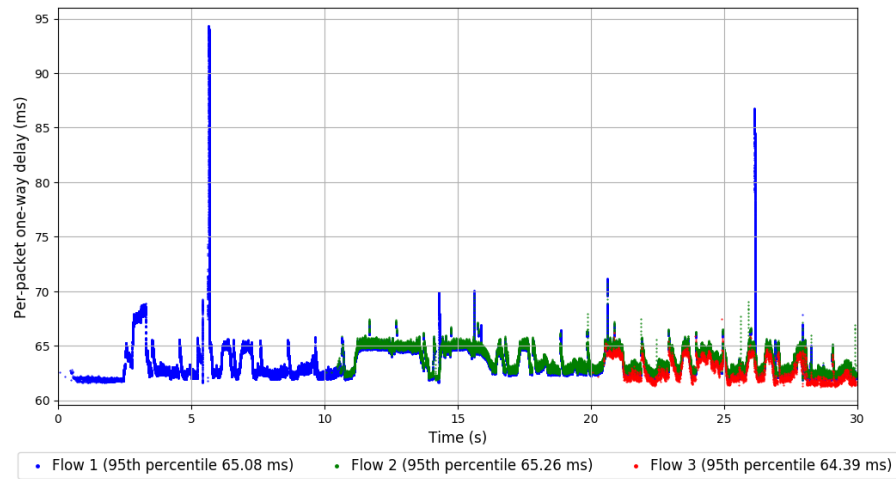
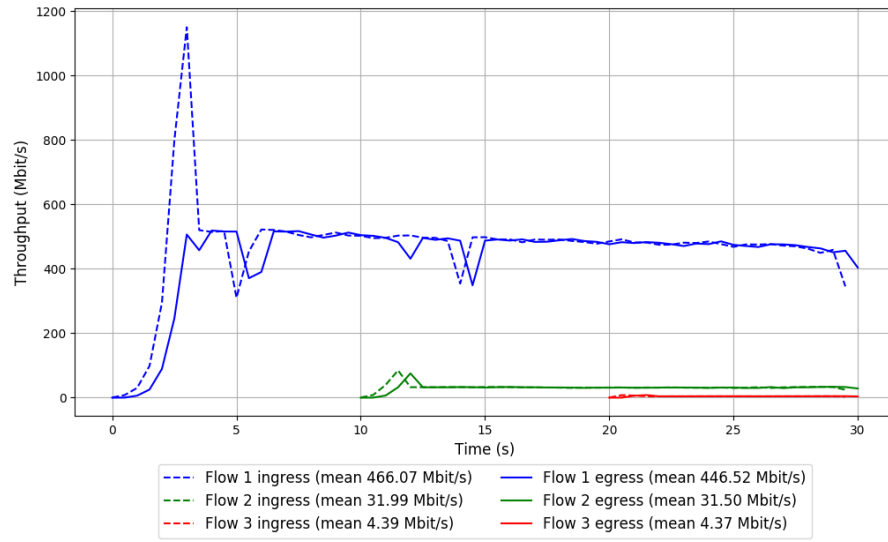
-- Flow 3:

Average throughput: 4.37 Mbit/s

95th percentile per-packet one-way delay: 64.386 ms

Loss rate: 0.42%

Run 4: Report of PCC-Allegro — Data Link



Run 5: Statistics of PCC-Allegro

Start at: 2018-10-09 23:42:36

End at: 2018-10-09 23:43:06

Local clock offset: -0.02 ms

Remote clock offset: -40.357 ms

Below is generated by plot.py at 2018-10-10 00:18:41

Datalink statistics

-- Total of 3 flows:

Average throughput: 469.75 Mbit/s

95th percentile per-packet one-way delay: 61.656 ms

Loss rate: 4.12%

-- Flow 1:

Average throughput: 452.91 Mbit/s

95th percentile per-packet one-way delay: 61.612 ms

Loss rate: 4.22%

-- Flow 2:

Average throughput: 17.42 Mbit/s

95th percentile per-packet one-way delay: 61.757 ms

Loss rate: 1.24%

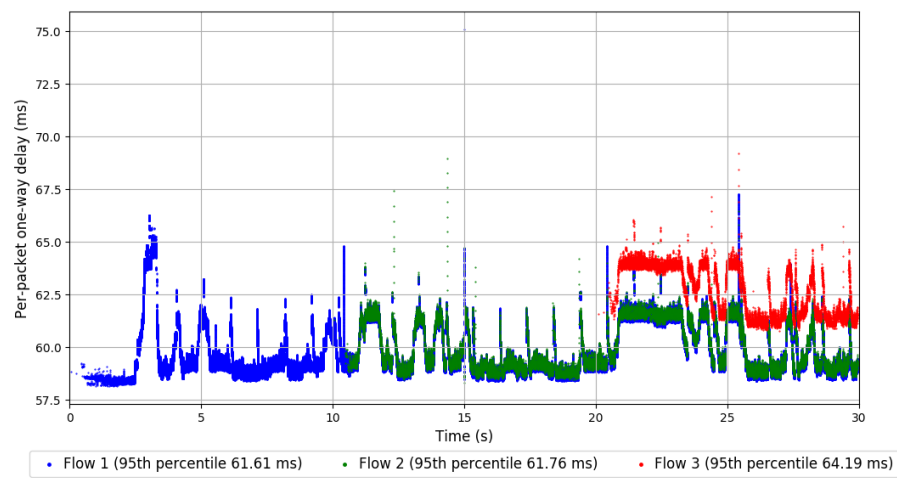
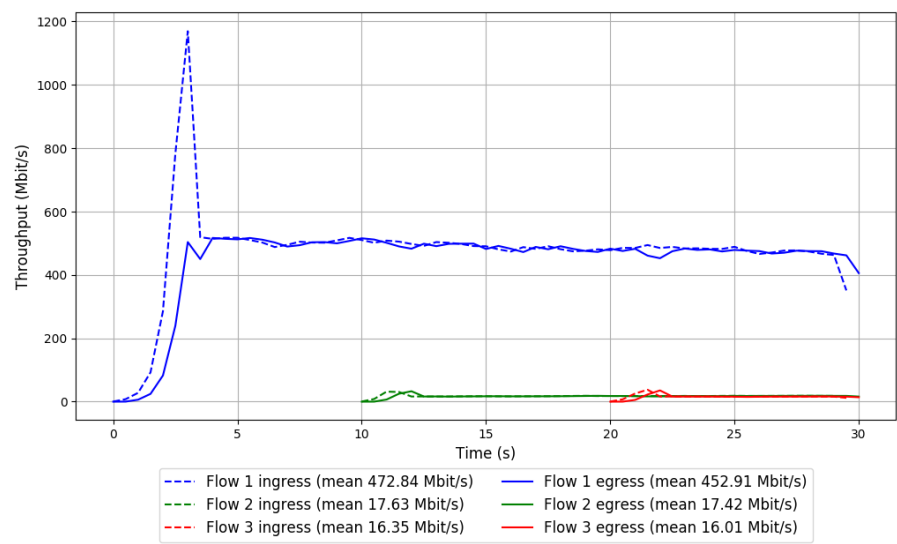
-- Flow 3:

Average throughput: 16.01 Mbit/s

95th percentile per-packet one-way delay: 64.189 ms

Loss rate: 2.10%

Run 5: Report of PCC-Allegro — Data Link

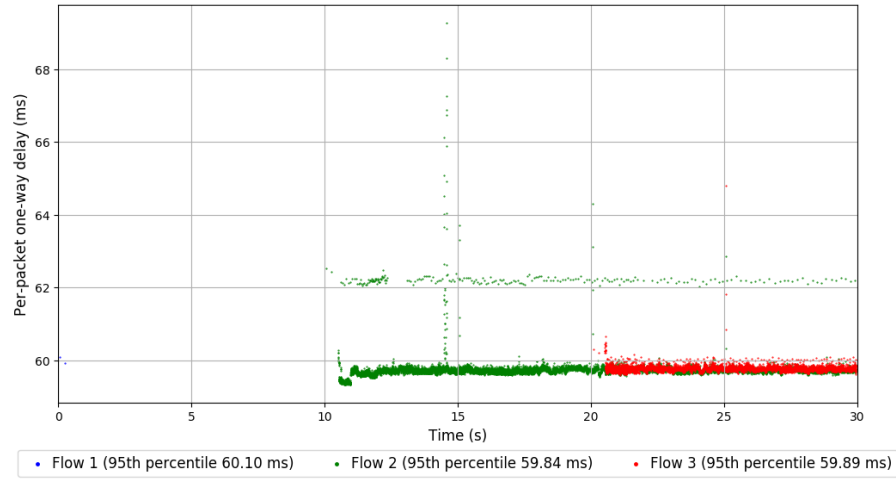
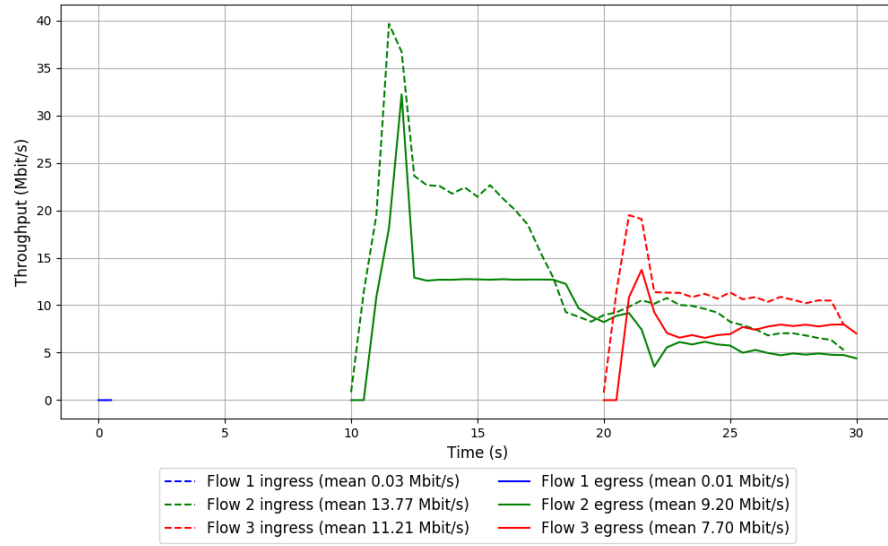


```
Run 1: Statistics of PCC-Expr

Start at: 2018-10-09 21:09:23
End at: 2018-10-09 21:09:53
Local clock offset: 0.817 ms
Remote clock offset: -38.219 ms

# Below is generated by plot.py at 2018-10-10 00:18:41
# Datalink statistics
-- Total of 3 flows:
Average throughput: 8.66 Mbit/s
95th percentile per-packet one-way delay: 59.861 ms
Loss rate: 32.66%
-- Flow 1:
Average throughput: 0.01 Mbit/s
95th percentile per-packet one-way delay: 60.105 ms
Loss rate: 85.71%
-- Flow 2:
Average throughput: 9.20 Mbit/s
95th percentile per-packet one-way delay: 59.840 ms
Loss rate: 33.20%
-- Flow 3:
Average throughput: 7.70 Mbit/s
95th percentile per-packet one-way delay: 59.890 ms
Loss rate: 31.30%
```

Run 1: Report of PCC-Expr — Data Link

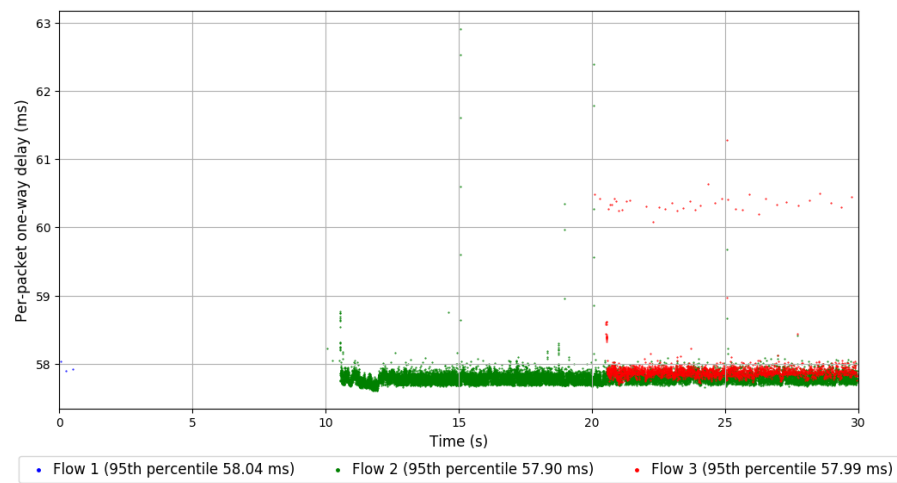
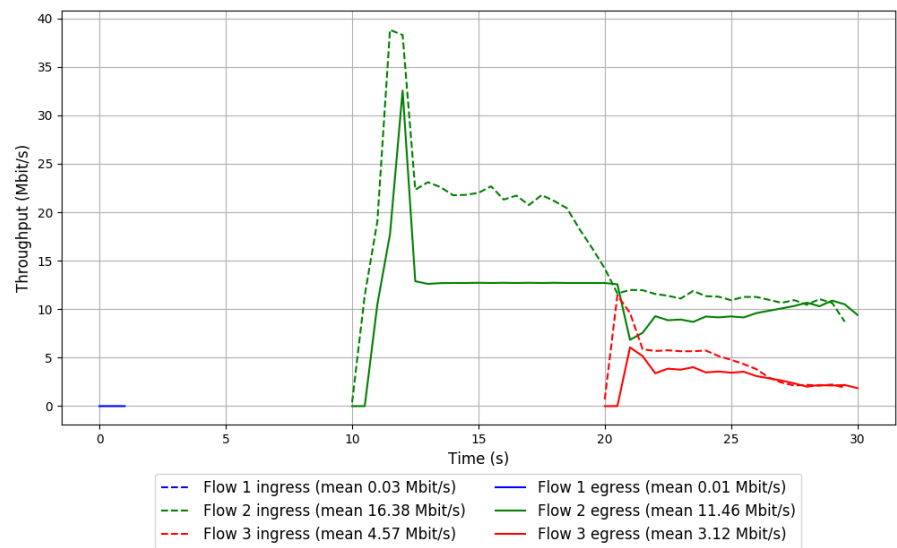


Run 2: Statistics of PCC-Expr

Start at: 2018-10-09 21:41:29
End at: 2018-10-09 21:41:59
Local clock offset: 1.475 ms
Remote clock offset: -40.388 ms

Below is generated by plot.py at 2018-10-10 00:18:41
Datalink statistics
-- Total of 3 flows:
Average throughput: 8.65 Mbit/s
95th percentile per-packet one-way delay: 57.924 ms
Loss rate: 30.25%
-- Flow 1:
Average throughput: 0.01 Mbit/s
95th percentile per-packet one-way delay: 58.039 ms
Loss rate: 80.00%
-- Flow 2:
Average throughput: 11.46 Mbit/s
95th percentile per-packet one-way delay: 57.898 ms
Loss rate: 30.06%
-- Flow 3:
Average throughput: 3.12 Mbit/s
95th percentile per-packet one-way delay: 57.991 ms
Loss rate: 31.65%

Run 2: Report of PCC-Expr — Data Link

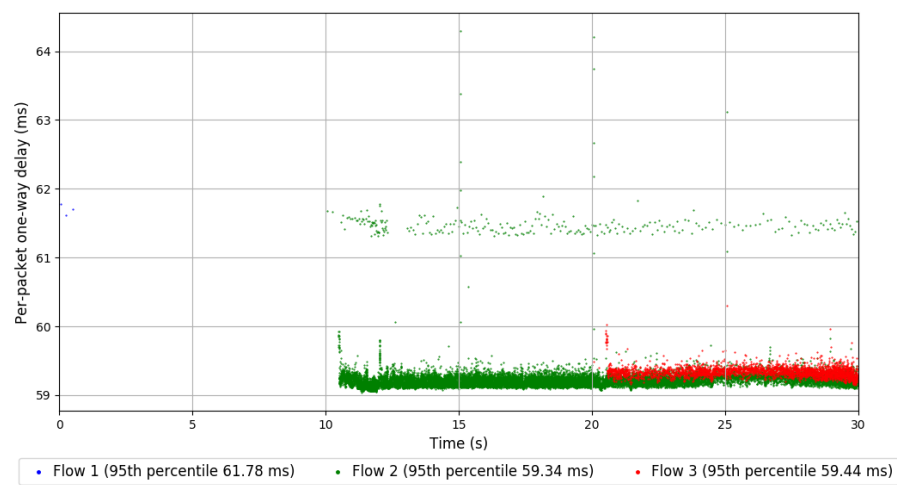
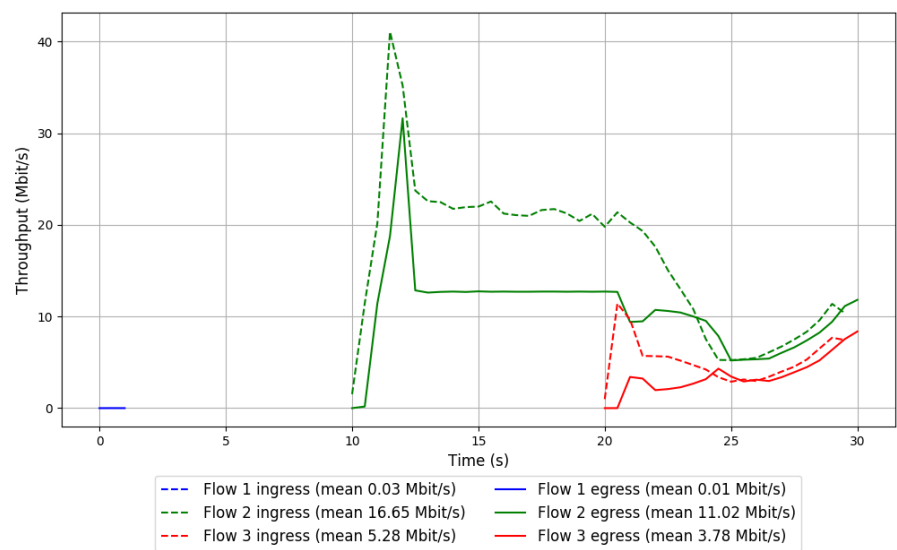


Run 3: Statistics of PCC-Expr

Start at: 2018-10-09 22:30:09
End at: 2018-10-09 22:30:39
Local clock offset: 1.743 ms
Remote clock offset: -39.438 ms

Below is generated by plot.py at 2018-10-10 00:18:41
Datalink statistics
-- Total of 3 flows:
Average throughput: 8.58 Mbit/s
95th percentile per-packet one-way delay: 59.389 ms
Loss rate: 33.08%
-- Flow 1:
Average throughput: 0.01 Mbit/s
95th percentile per-packet one-way delay: 61.776 ms
Loss rate: 80.00%
-- Flow 2:
Average throughput: 11.02 Mbit/s
95th percentile per-packet one-way delay: 59.343 ms
Loss rate: 33.82%
-- Flow 3:
Average throughput: 3.78 Mbit/s
95th percentile per-packet one-way delay: 59.442 ms
Loss rate: 28.37%

Run 3: Report of PCC-Expr — Data Link

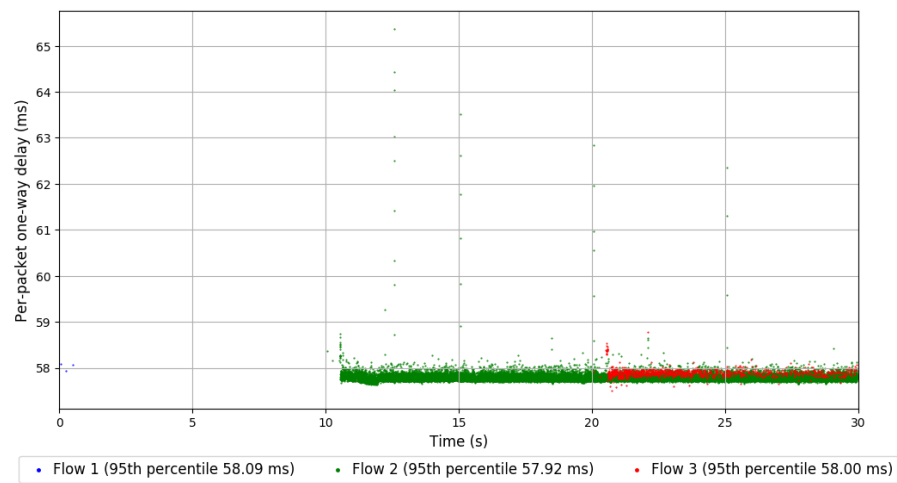
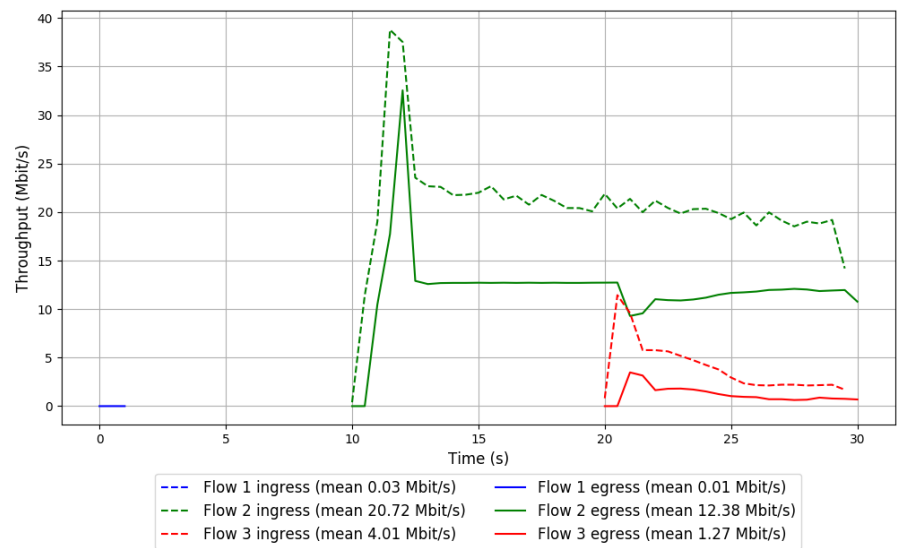


Run 4: Statistics of PCC-Expr

Start at: 2018-10-09 23:07:41
End at: 2018-10-09 23:08:11
Local clock offset: -0.194 ms
Remote clock offset: -41.95 ms

Below is generated by plot.py at 2018-10-10 00:18:41
Datalink statistics
-- Total of 3 flows:
Average throughput: 8.65 Mbit/s
95th percentile per-packet one-way delay: 57.935 ms
Loss rate: 42.74%
-- Flow 1:
Average throughput: 0.01 Mbit/s
95th percentile per-packet one-way delay: 58.085 ms
Loss rate: 80.00%
-- Flow 2:
Average throughput: 12.38 Mbit/s
95th percentile per-packet one-way delay: 57.924 ms
Loss rate: 40.28%
-- Flow 3:
Average throughput: 1.27 Mbit/s
95th percentile per-packet one-way delay: 58.000 ms
Loss rate: 68.30%

Run 4: Report of PCC-Expr — Data Link

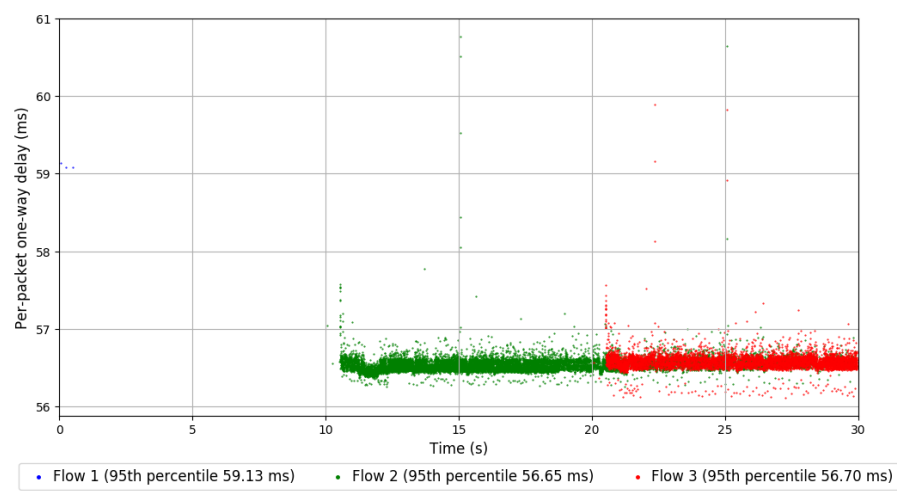
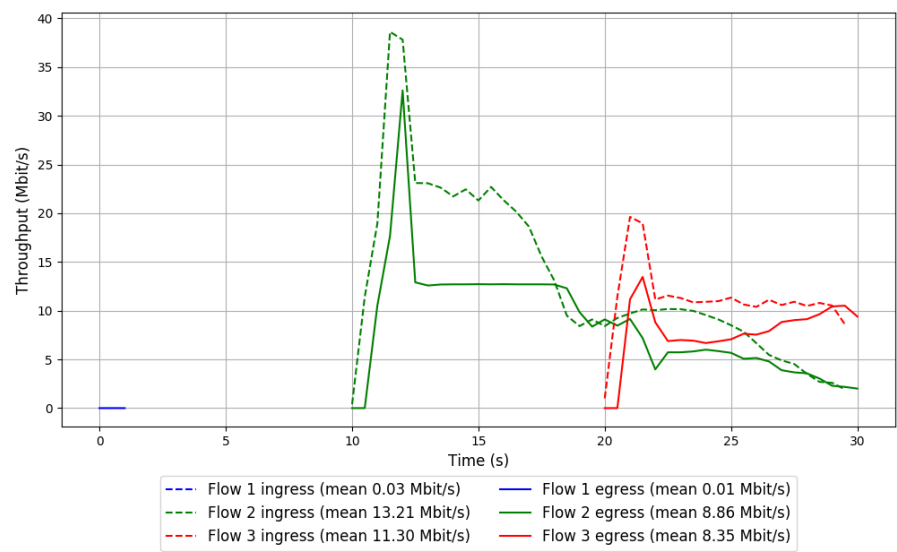


Run 5: Statistics of PCC-Expr

Start at: 2018-10-09 23:39:59
End at: 2018-10-09 23:40:29
Local clock offset: -1.32 ms
Remote clock offset: -43.885 ms

Below is generated by plot.py at 2018-10-10 00:18:41
Datalink statistics
-- Total of 3 flows:
Average throughput: 8.65 Mbit/s
95th percentile per-packet one-way delay: 56.671 ms
Loss rate: 30.90%
-- Flow 1:
Average throughput: 0.01 Mbit/s
95th percentile per-packet one-way delay: 59.134 ms
Loss rate: 80.00%
-- Flow 2:
Average throughput: 8.86 Mbit/s
95th percentile per-packet one-way delay: 56.654 ms
Loss rate: 32.93%
-- Flow 3:
Average throughput: 8.35 Mbit/s
95th percentile per-packet one-way delay: 56.698 ms
Loss rate: 26.11%

Run 5: Report of PCC-Expr — Data Link

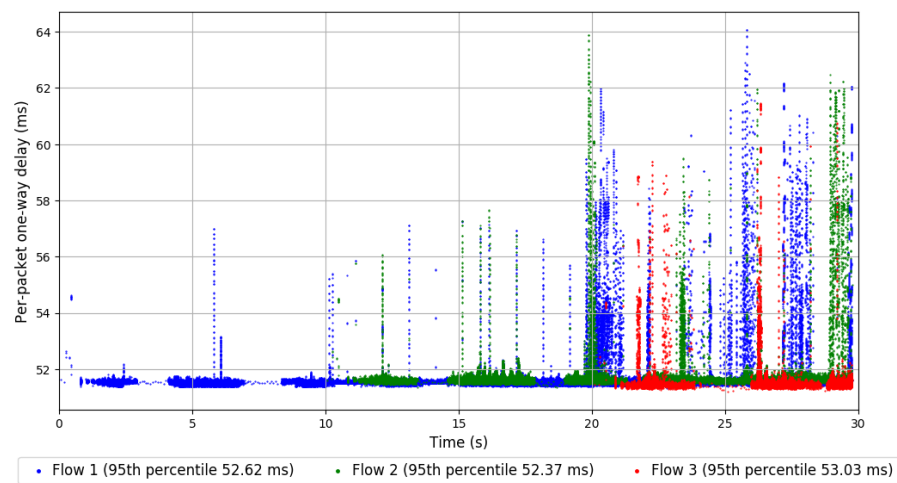
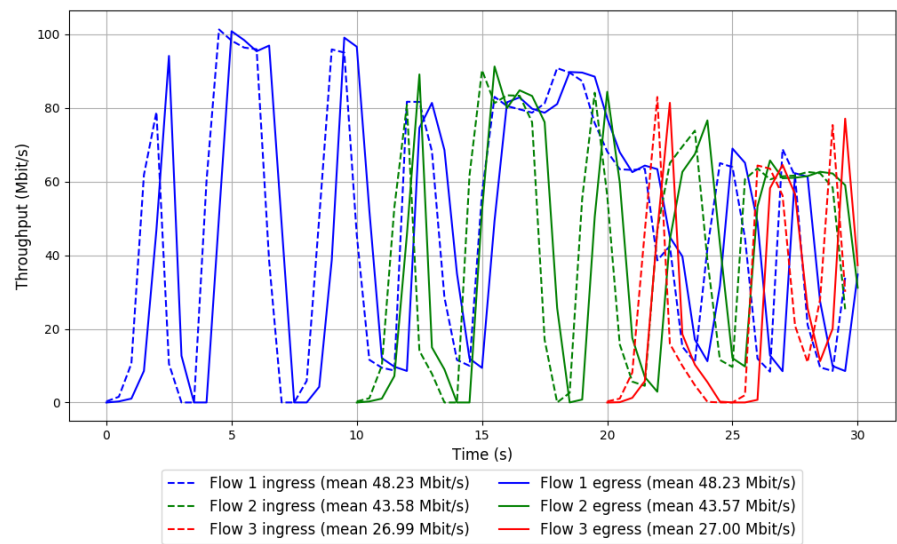


Run 1: Statistics of QUIC Cubic

Start at: 2018-10-09 20:55:52
End at: 2018-10-09 20:56:22
Local clock offset: 2.011 ms
Remote clock offset: -45.184 ms

Below is generated by plot.py at 2018-10-10 00:18:41
Datalink statistics
-- Total of 3 flows:
Average throughput: 85.88 Mbit/s
95th percentile per-packet one-way delay: 52.599 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 48.23 Mbit/s
95th percentile per-packet one-way delay: 52.623 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 43.57 Mbit/s
95th percentile per-packet one-way delay: 52.368 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 27.00 Mbit/s
95th percentile per-packet one-way delay: 53.027 ms
Loss rate: 0.00%

Run 1: Report of QUIC Cubic — Data Link

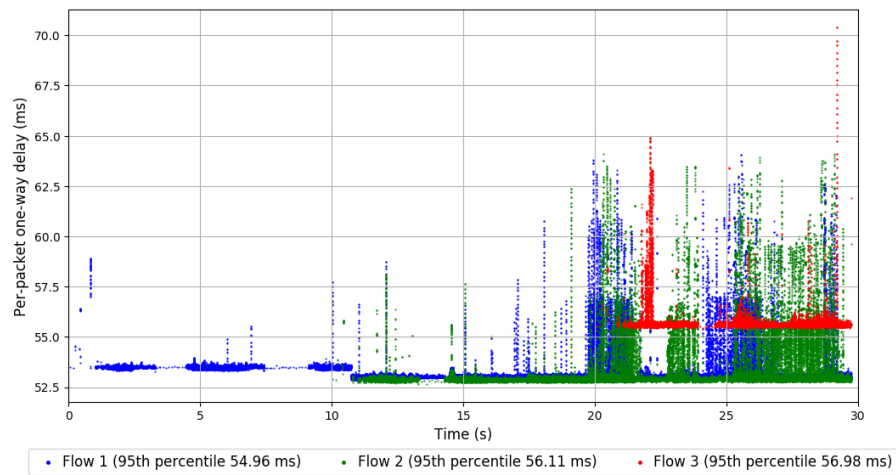
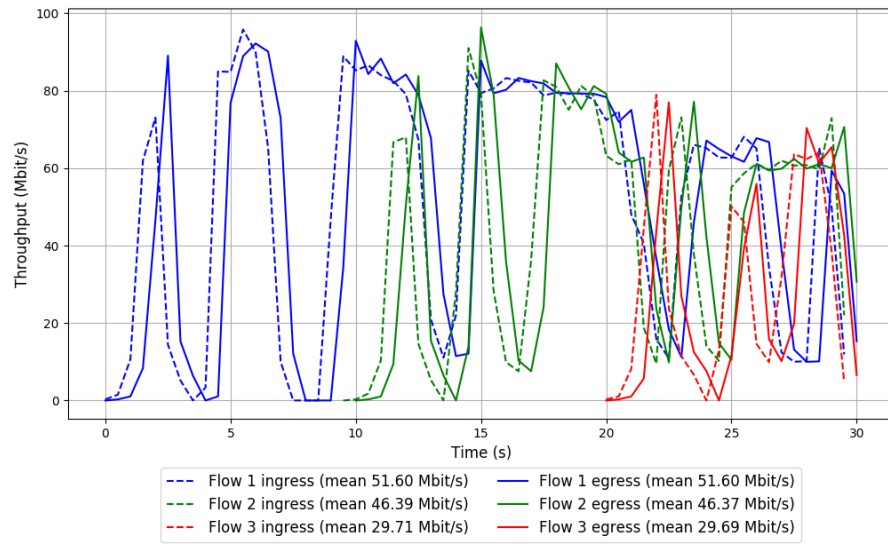


Run 2: Statistics of QUIC Cubic

Start at: 2018-10-09 21:27:54
End at: 2018-10-09 21:28:24
Local clock offset: 0.888 ms
Remote clock offset: -44.942 ms

Below is generated by plot.py at 2018-10-10 00:18:41
Datalink statistics
-- Total of 3 flows:
Average throughput: 92.05 Mbit/s
95th percentile per-packet one-way delay: 55.823 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 51.60 Mbit/s
95th percentile per-packet one-way delay: 54.958 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 46.37 Mbit/s
95th percentile per-packet one-way delay: 56.109 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 29.69 Mbit/s
95th percentile per-packet one-way delay: 56.981 ms
Loss rate: 0.01%

Run 2: Report of QUIC Cubic — Data Link

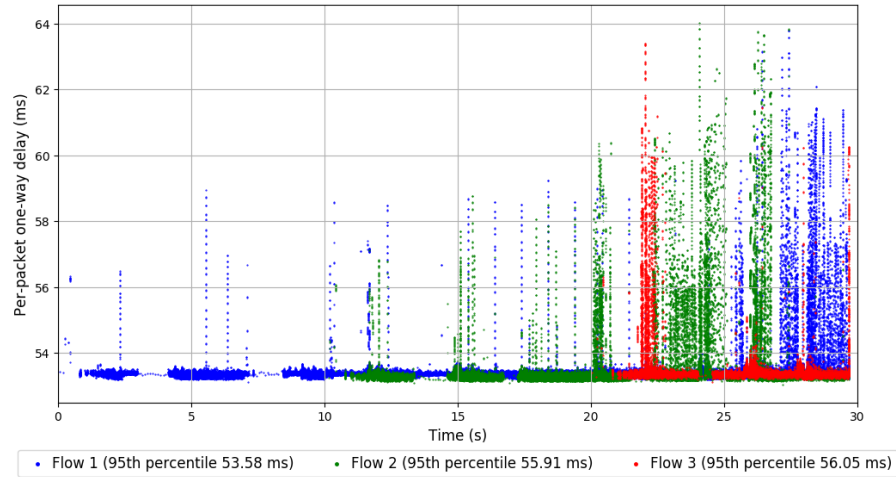
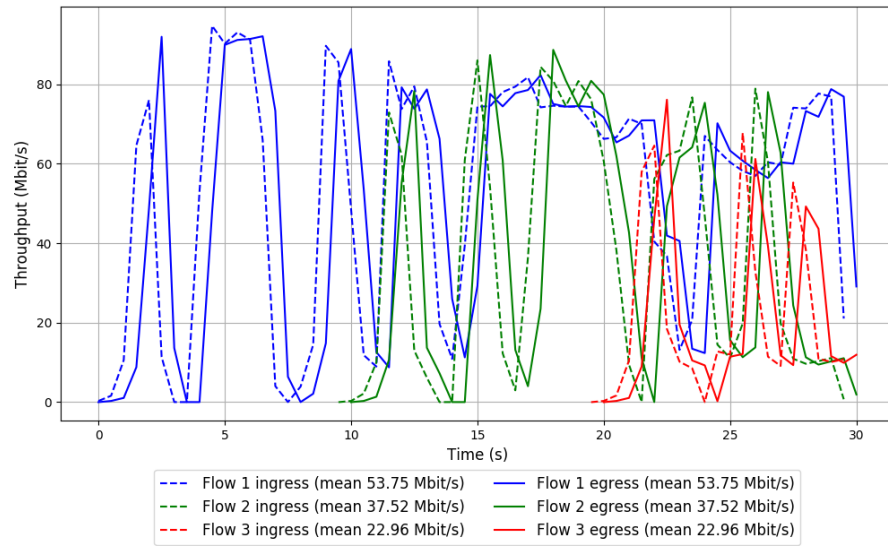


Run 3: Statistics of QUIC Cubic

Start at: 2018-10-09 22:05:32
End at: 2018-10-09 22:06:02
Local clock offset: 1.753 ms
Remote clock offset: -44.741 ms

Below is generated by plot.py at 2018-10-10 00:18:41
Datalink statistics
-- Total of 3 flows:
Average throughput: 86.14 Mbit/s
95th percentile per-packet one-way delay: 54.795 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 53.75 Mbit/s
95th percentile per-packet one-way delay: 53.579 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 37.52 Mbit/s
95th percentile per-packet one-way delay: 55.910 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 22.96 Mbit/s
95th percentile per-packet one-way delay: 56.050 ms
Loss rate: 0.01%

Run 3: Report of QUIC Cubic — Data Link

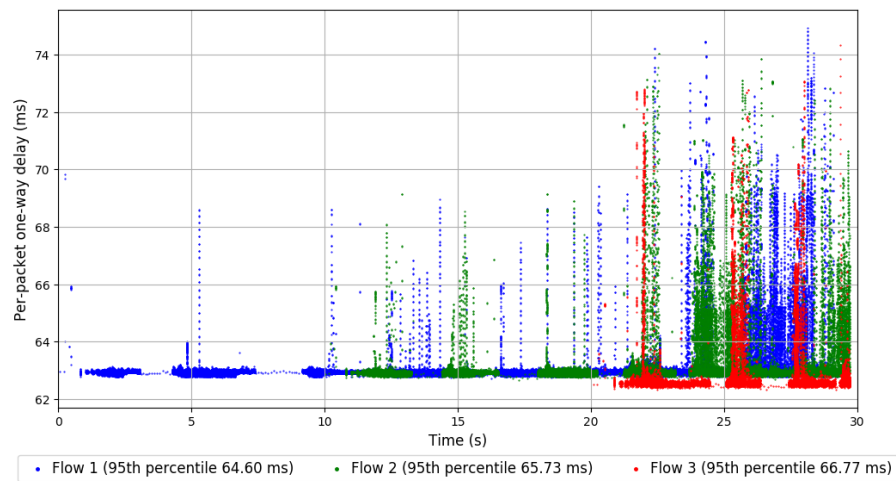
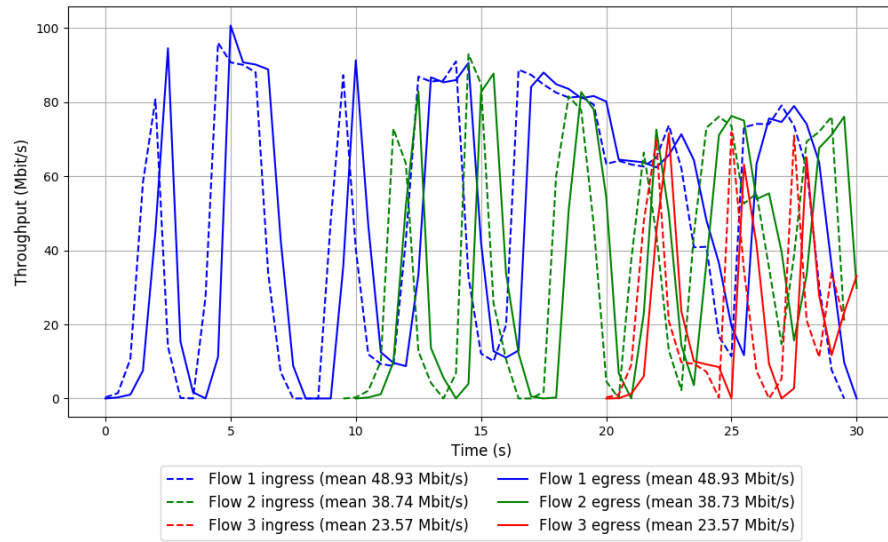


Run 4: Statistics of QUIC Cubic

Start at: 2018-10-09 22:48:46
End at: 2018-10-09 22:49:16
Local clock offset: 4.146 ms
Remote clock offset: -33.565 ms

Below is generated by plot.py at 2018-10-10 00:18:41
Datalink statistics
-- Total of 3 flows:
Average throughput: 82.23 Mbit/s
95th percentile per-packet one-way delay: 65.194 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 48.93 Mbit/s
95th percentile per-packet one-way delay: 64.599 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 38.73 Mbit/s
95th percentile per-packet one-way delay: 65.734 ms
Loss rate: 0.04%
-- Flow 3:
Average throughput: 23.57 Mbit/s
95th percentile per-packet one-way delay: 66.774 ms
Loss rate: 0.00%

Run 4: Report of QUIC Cubic — Data Link

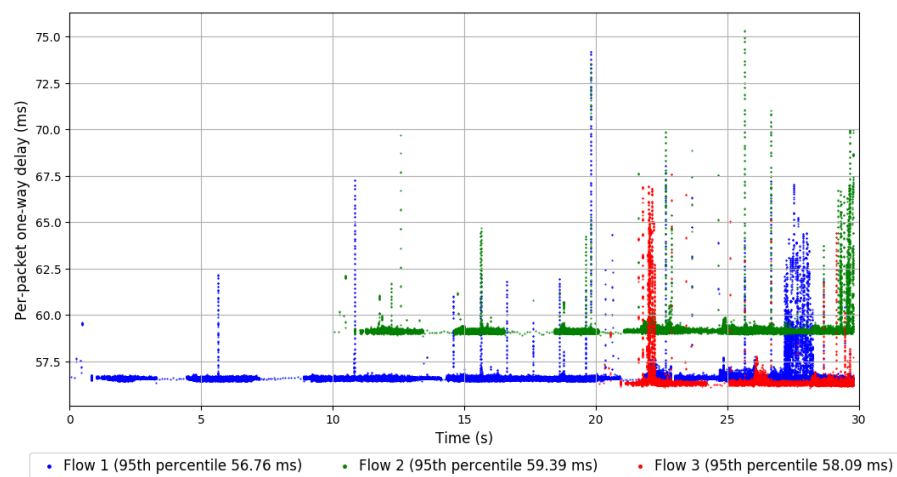
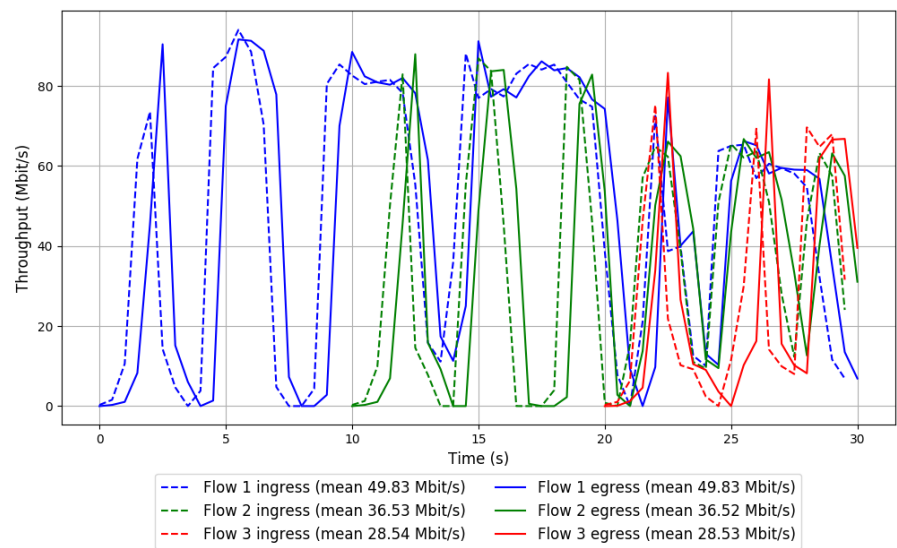


Run 5: Statistics of QUIC Cubic

Start at: 2018-10-09 23:26:19
End at: 2018-10-09 23:26:49
Local clock offset: 0.258 ms
Remote clock offset: -42.165 ms

Below is generated by plot.py at 2018-10-10 00:18:41
Datalink statistics
-- Total of 3 flows:
Average throughput: 83.29 Mbit/s
95th percentile per-packet one-way delay: 59.261 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 49.83 Mbit/s
95th percentile per-packet one-way delay: 56.763 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 36.52 Mbit/s
95th percentile per-packet one-way delay: 59.387 ms
Loss rate: 0.03%
-- Flow 3:
Average throughput: 28.53 Mbit/s
95th percentile per-packet one-way delay: 58.091 ms
Loss rate: 0.00%

Run 5: Report of QUIC Cubic — Data Link

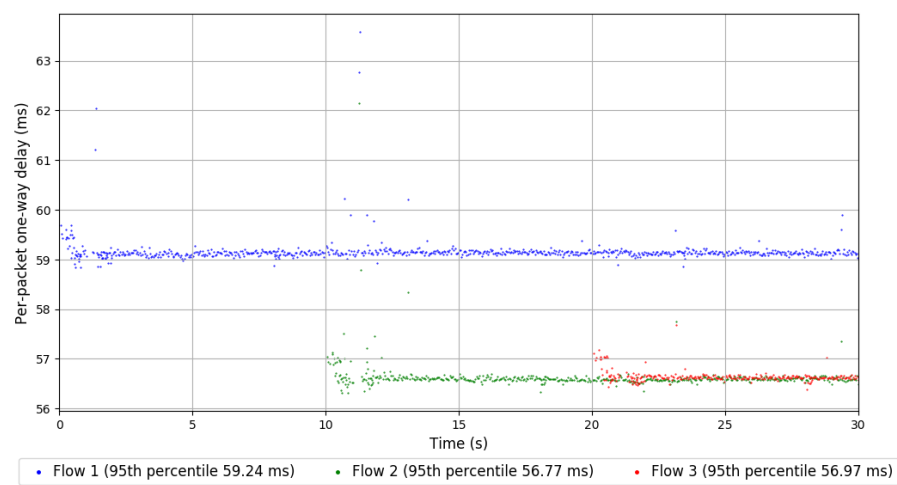
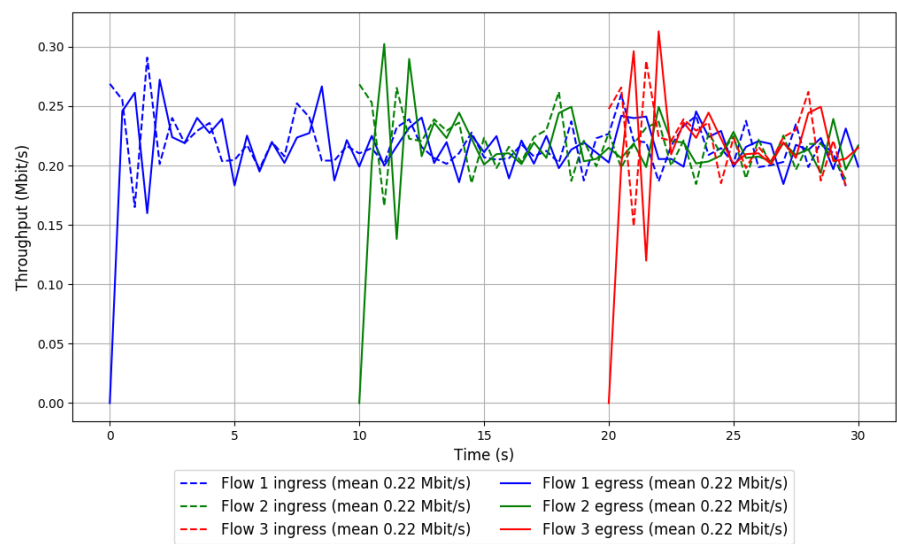


```
Run 1: Statistics of SReAM

Start at: 2018-10-09 21:03:39
End at: 2018-10-09 21:04:09
Local clock offset: 0.811 ms
Remote clock offset: -41.337 ms

# Below is generated by plot.py at 2018-10-10 00:18:41
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 59.198 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 59.243 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 56.771 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 56.972 ms
Loss rate: 0.00%
```

Run 1: Report of SReAM — Data Link

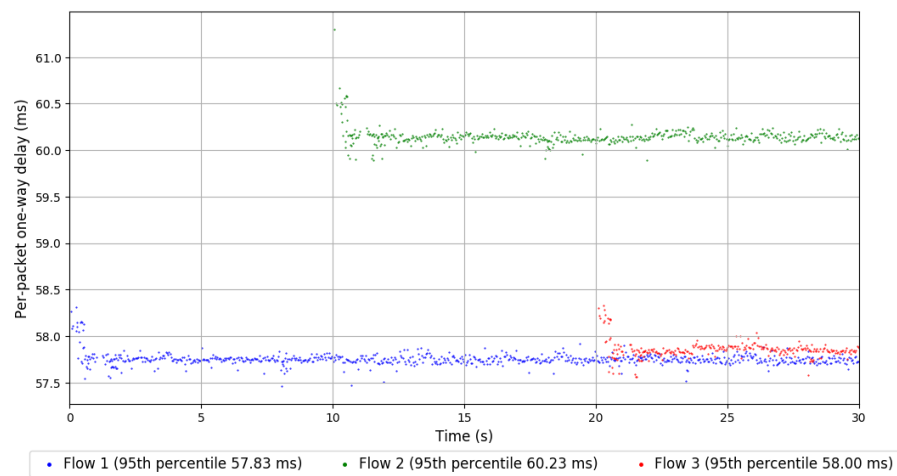
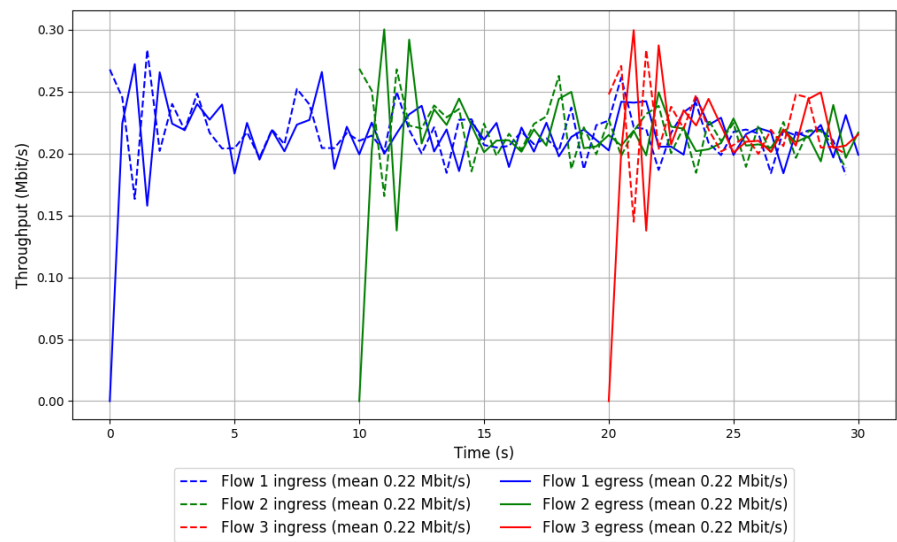


Run 2: Statistics of SReAM

Start at: 2018-10-09 21:35:41
End at: 2018-10-09 21:36:11
Local clock offset: 2.143 ms
Remote clock offset: -39.742 ms

Below is generated by plot.py at 2018-10-10 00:18:41
Datalink statistics
-- Total of 3 flows:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 60.183 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 57.834 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 60.229 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 58.003 ms
Loss rate: 0.00%

Run 2: Report of SReAM — Data Link

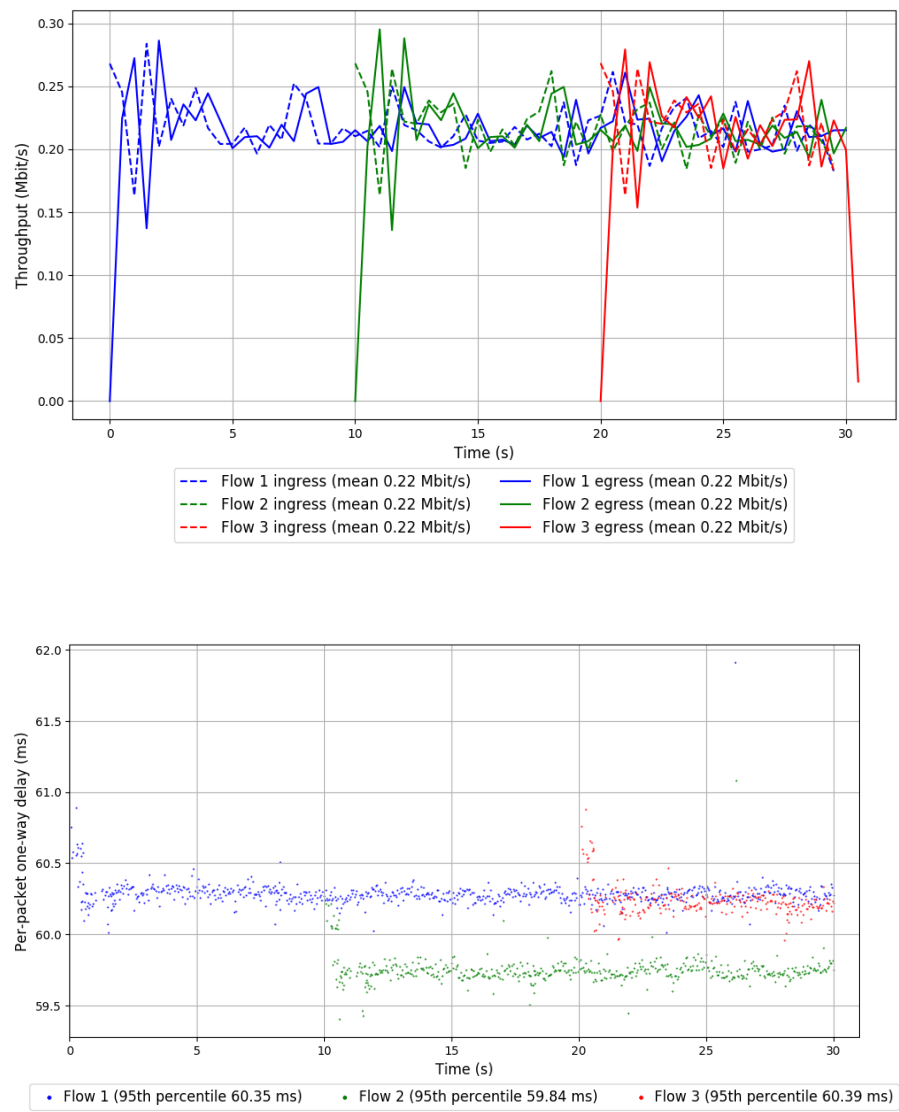


Run 3: Statistics of SReAM

Start at: 2018-10-09 22:18:53
End at: 2018-10-09 22:19:23
Local clock offset: 1.07 ms
Remote clock offset: -38.863 ms

Below is generated by plot.py at 2018-10-10 00:18:41
Datalink statistics
-- Total of 3 flows:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 60.344 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 60.353 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 59.842 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 60.390 ms
Loss rate: 0.00%

Run 3: Report of SReAM — Data Link

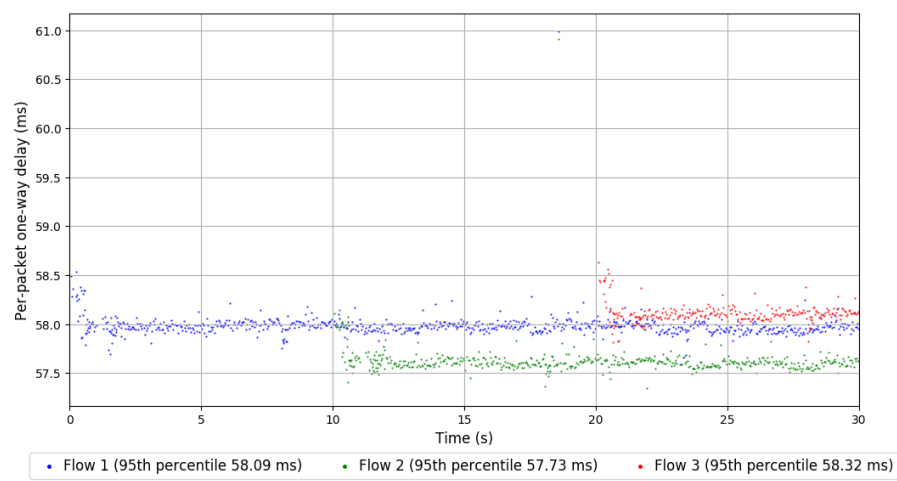
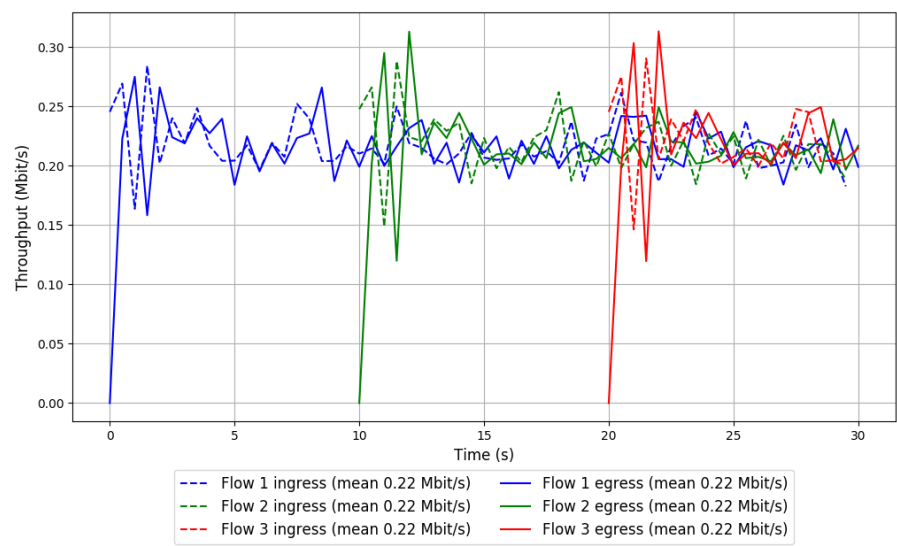


Run 4: Statistics of SReAM

Start at: 2018-10-09 23:01:57
End at: 2018-10-09 23:02:27
Local clock offset: 2.858 ms
Remote clock offset: -38.883 ms

Below is generated by plot.py at 2018-10-10 00:18:41
Datalink statistics
-- Total of 3 flows:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 58.149 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 58.091 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 57.734 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 58.317 ms
Loss rate: 0.00%

Run 4: Report of SReAM — Data Link

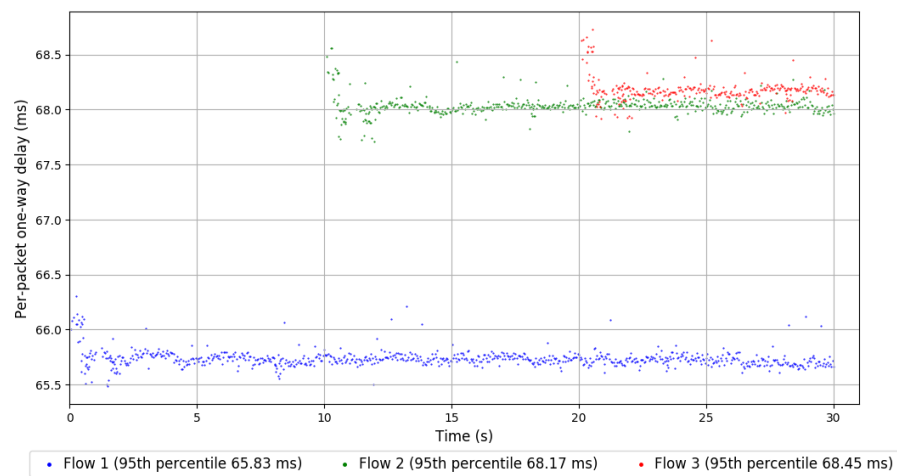
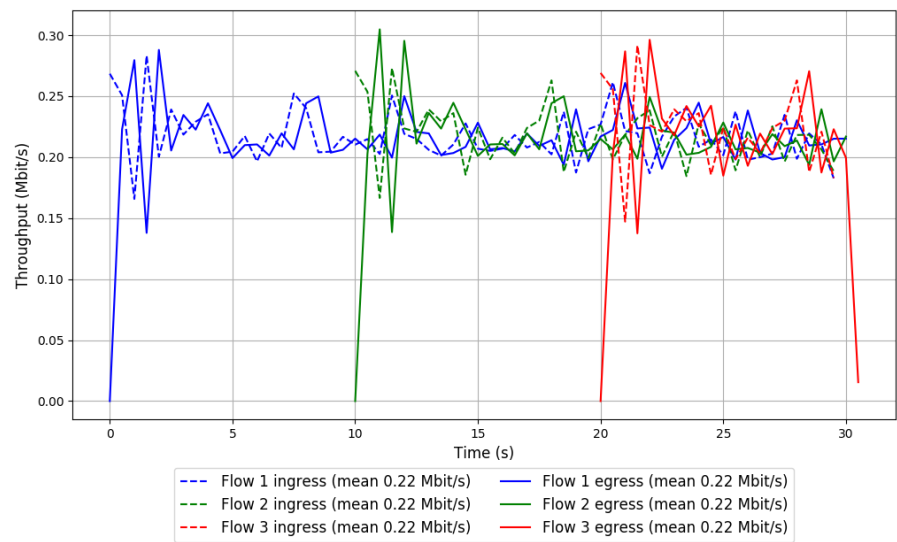


Run 5: Statistics of SReAM

Start at: 2018-10-09 23:34:09
End at: 2018-10-09 23:34:40
Local clock offset: 0.793 ms
Remote clock offset: -32.33 ms

Below is generated by plot.py at 2018-10-10 00:18:41
Datalink statistics
-- Total of 3 flows:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 68.203 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 65.834 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 68.170 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 68.448 ms
Loss rate: 0.00%

Run 5: Report of SReAM — Data Link

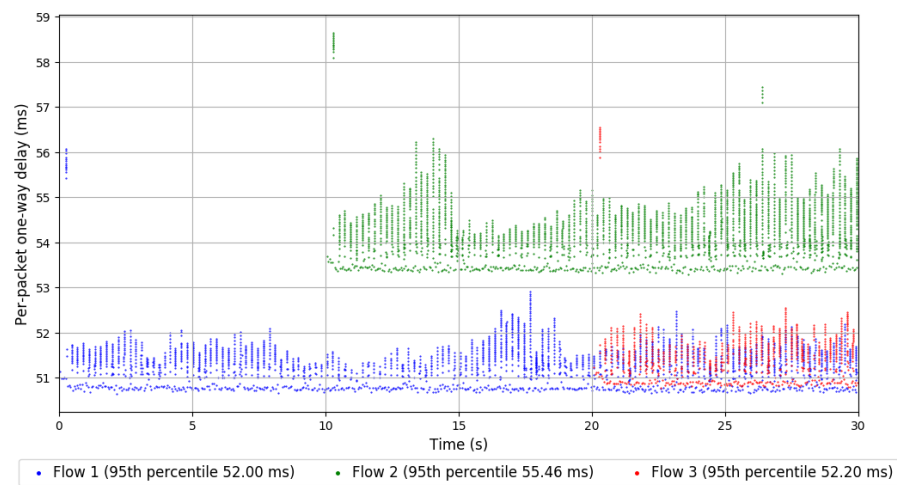
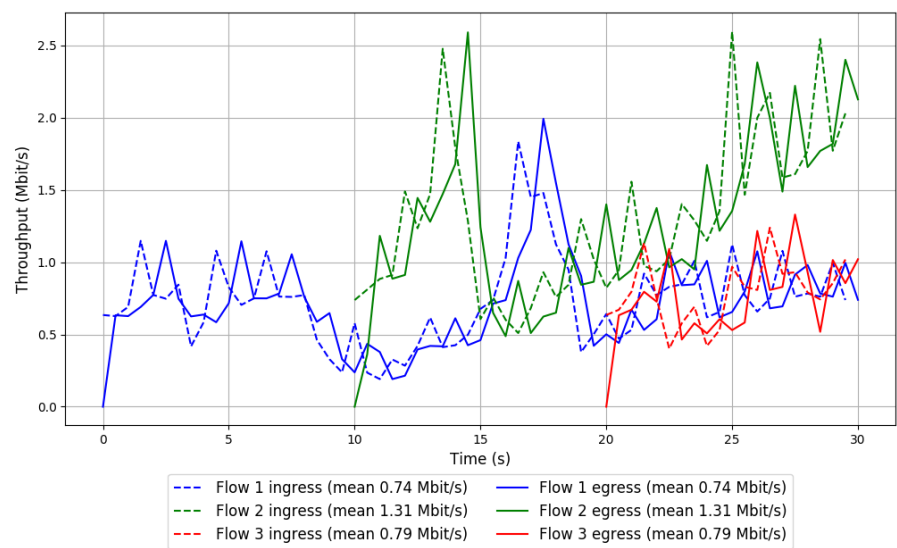


Run 1: Statistics of Sprout

Start at: 2018-10-09 21:20:23
End at: 2018-10-09 21:20:53
Local clock offset: 1.809 ms
Remote clock offset: -45.57 ms

Below is generated by plot.py at 2018-10-10 00:18:41
Datalink statistics
-- Total of 3 flows:
Average throughput: 1.87 Mbit/s
95th percentile per-packet one-way delay: 55.123 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.74 Mbit/s
95th percentile per-packet one-way delay: 52.004 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 1.31 Mbit/s
95th percentile per-packet one-way delay: 55.457 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.79 Mbit/s
95th percentile per-packet one-way delay: 52.199 ms
Loss rate: 0.00%

Run 1: Report of Sprout — Data Link

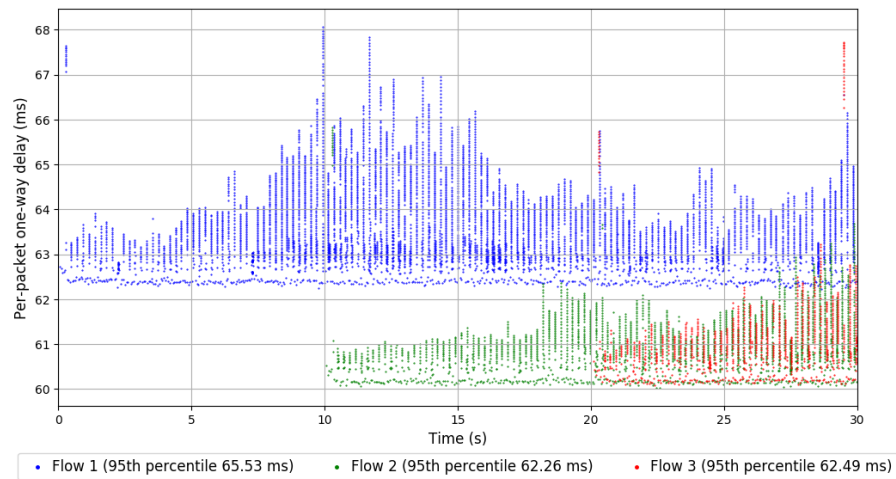
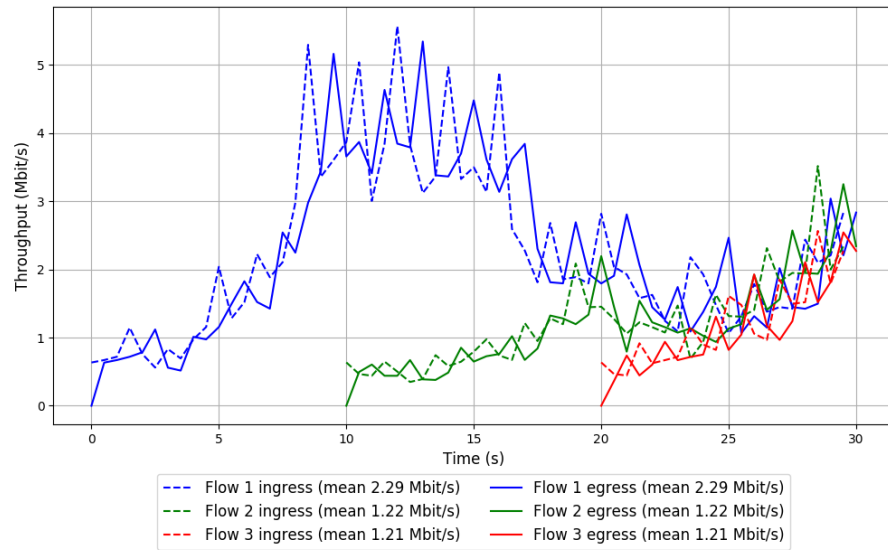


Run 2: Statistics of Sprout

Start at: 2018-10-09 21:52:31
End at: 2018-10-09 21:53:01
Local clock offset: 0.208 ms
Remote clock offset: -39.104 ms

Below is generated by plot.py at 2018-10-10 00:18:41
Datalink statistics
-- Total of 3 flows:
Average throughput: 3.50 Mbit/s
95th percentile per-packet one-way delay: 65.254 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 2.29 Mbit/s
95th percentile per-packet one-way delay: 65.533 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 1.22 Mbit/s
95th percentile per-packet one-way delay: 62.255 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 1.21 Mbit/s
95th percentile per-packet one-way delay: 62.486 ms
Loss rate: 0.00%

Run 2: Report of Sprout — Data Link

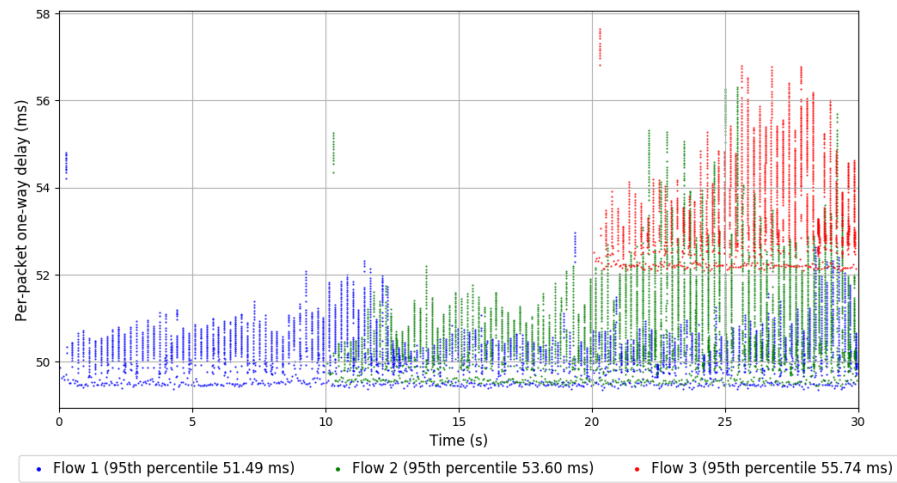
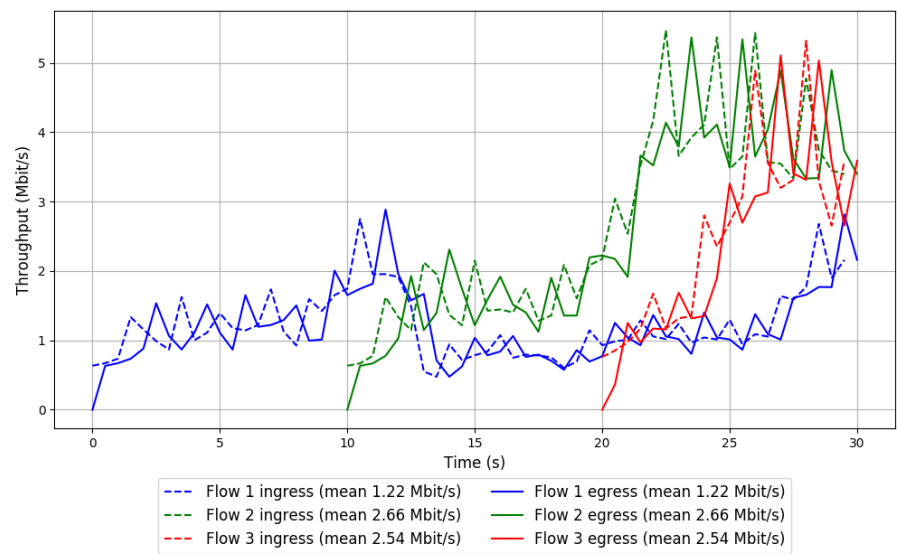


Run 3: Statistics of Sprout

Start at: 2018-10-09 22:41:16
End at: 2018-10-09 22:41:46
Local clock offset: 4.092 ms
Remote clock offset: -46.137 ms

```
# Below is generated by plot.py at 2018-10-10 00:18:41
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.83 Mbit/s
95th percentile per-packet one-way delay: 54.725 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 1.22 Mbit/s
95th percentile per-packet one-way delay: 51.493 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 2.66 Mbit/s
95th percentile per-packet one-way delay: 53.605 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 2.54 Mbit/s
95th percentile per-packet one-way delay: 55.743 ms
Loss rate: 0.00%
```

Run 3: Report of Sprout — Data Link

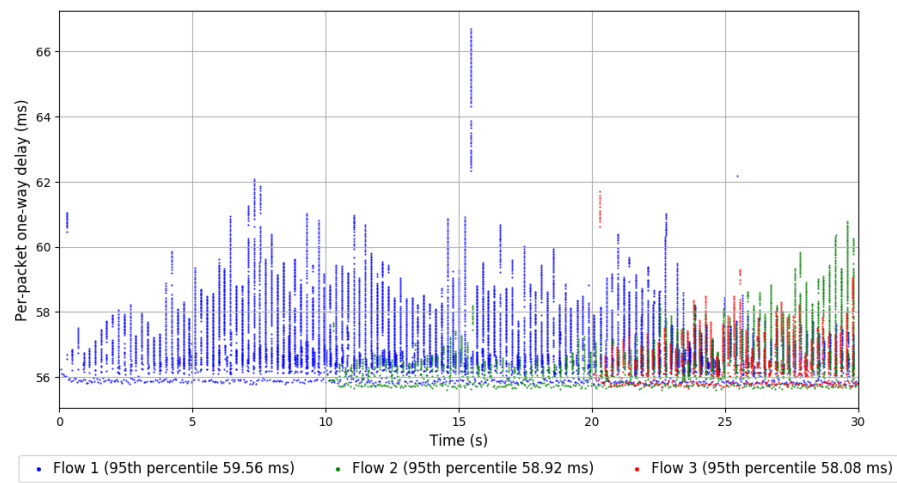
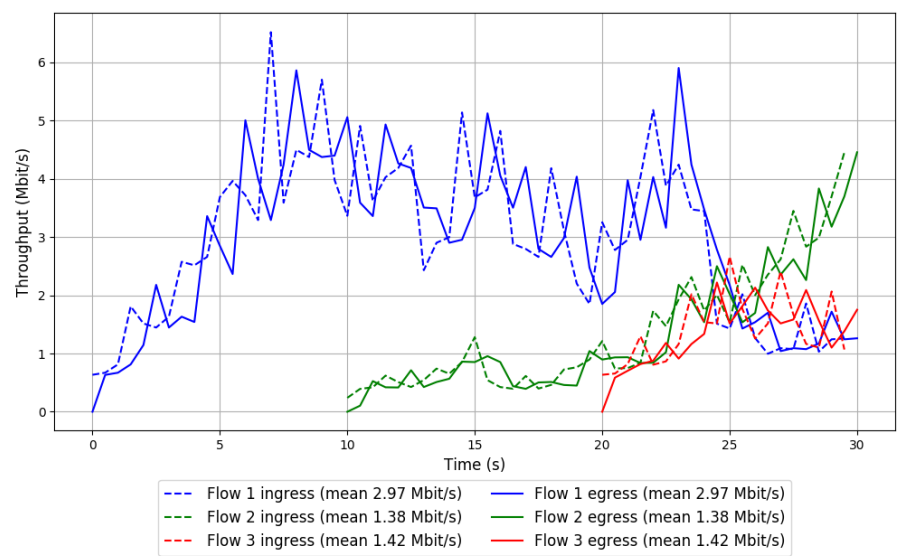


Run 4: Statistics of Sprout

Start at: 2018-10-09 23:18:37
End at: 2018-10-09 23:19:07
Local clock offset: 0.36 ms
Remote clock offset: -42.861 ms

```
# Below is generated by plot.py at 2018-10-10 00:18:41
# Datalink statistics
-- Total of 3 flows:
Average throughput: 4.36 Mbit/s
95th percentile per-packet one-way delay: 59.340 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 2.97 Mbit/s
95th percentile per-packet one-way delay: 59.565 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 1.38 Mbit/s
95th percentile per-packet one-way delay: 58.919 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 1.42 Mbit/s
95th percentile per-packet one-way delay: 58.080 ms
Loss rate: 0.00%
```

Run 4: Report of Sprout — Data Link

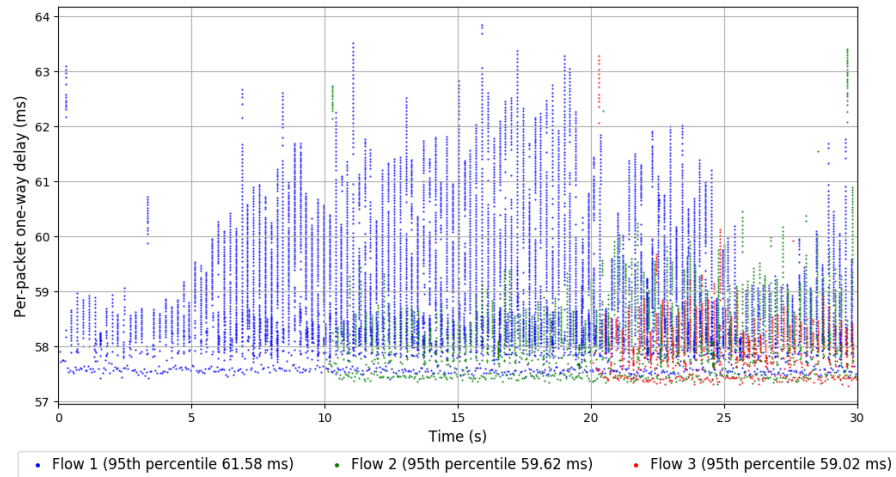
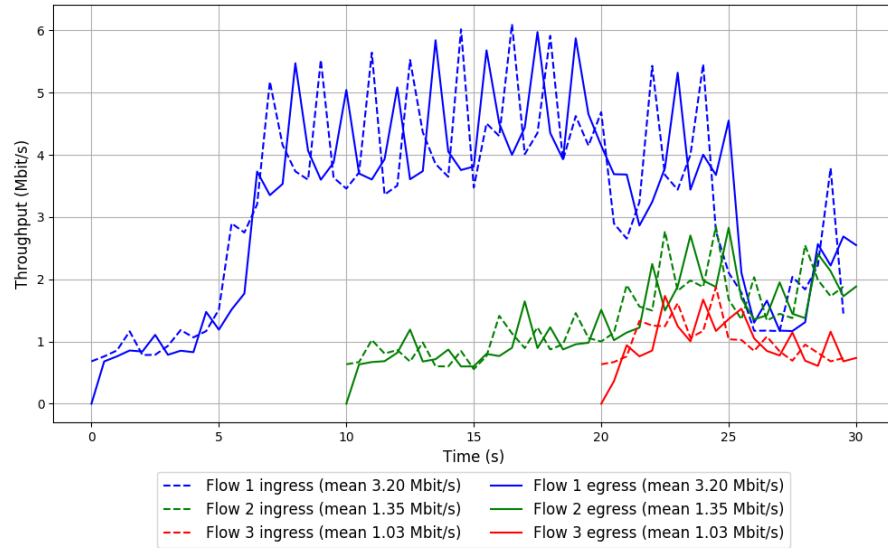


Run 5: Statistics of Sprout

Start at: 2018-10-09 23:50:58
End at: 2018-10-09 23:51:28
Local clock offset: -0.253 ms
Remote clock offset: -41.18 ms

Below is generated by plot.py at 2018-10-10 00:18:41
Datalink statistics
-- Total of 3 flows:
Average throughput: 4.44 Mbit/s
95th percentile per-packet one-way delay: 61.385 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 3.20 Mbit/s
95th percentile per-packet one-way delay: 61.584 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 1.35 Mbit/s
95th percentile per-packet one-way delay: 59.624 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 1.03 Mbit/s
95th percentile per-packet one-way delay: 59.017 ms
Loss rate: 0.00%

Run 5: Report of Sprout — Data Link

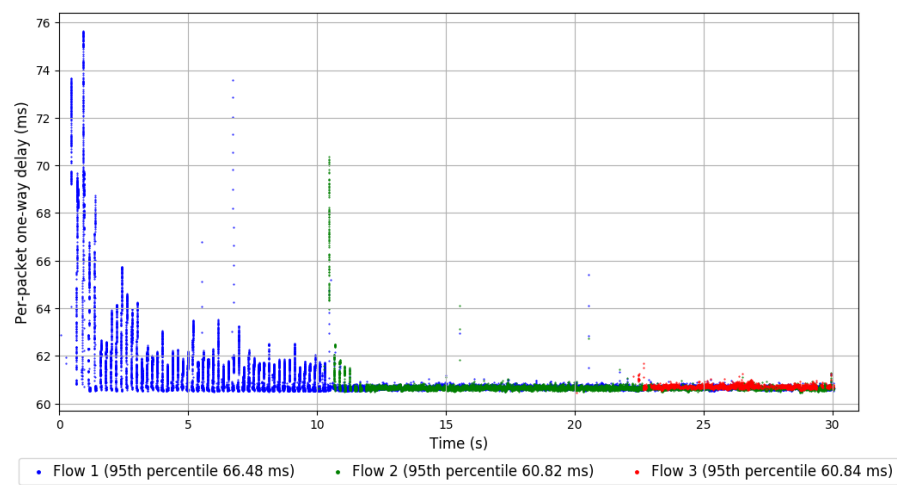
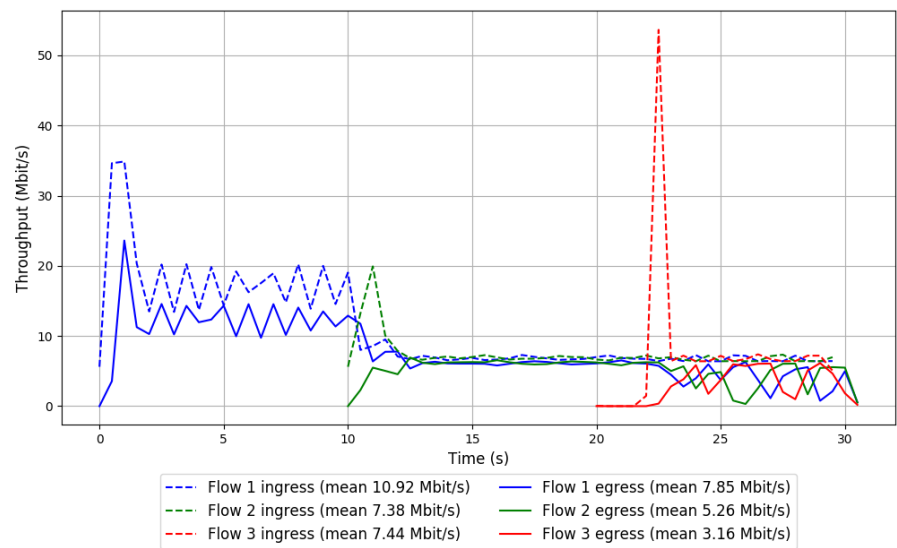


```
Run 1: Statistics of TaoVA-100x

Start at: 2018-10-09 21:23:31
End at: 2018-10-09 21:24:01
Local clock offset: -0.908 ms
Remote clock offset: -38.975 ms

# Below is generated by plot.py at 2018-10-10 00:18:41
# Datalink statistics
-- Total of 3 flows:
Average throughput: 12.40 Mbit/s
95th percentile per-packet one-way delay: 64.024 ms
Loss rate: 32.25%
-- Flow 1:
Average throughput: 7.85 Mbit/s
95th percentile per-packet one-way delay: 66.483 ms
Loss rate: 28.13%
-- Flow 2:
Average throughput: 5.26 Mbit/s
95th percentile per-packet one-way delay: 60.820 ms
Loss rate: 28.69%
-- Flow 3:
Average throughput: 3.16 Mbit/s
95th percentile per-packet one-way delay: 60.843 ms
Loss rate: 57.48%
```

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

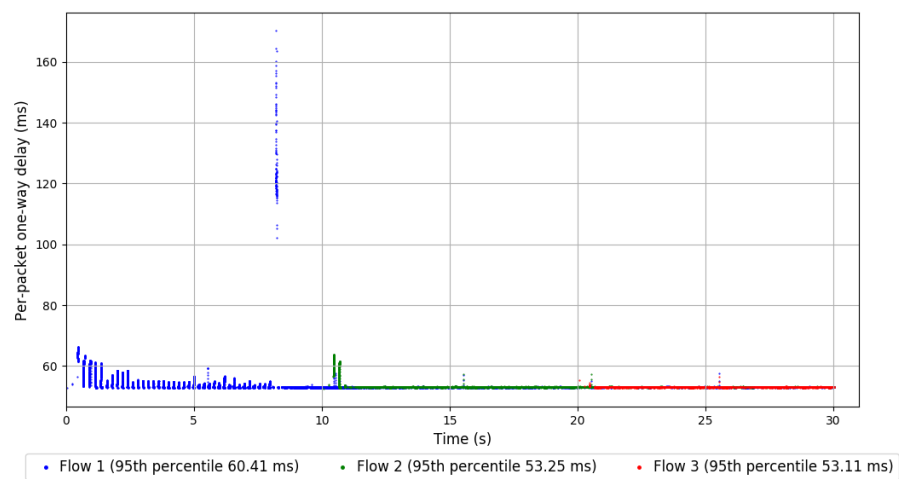
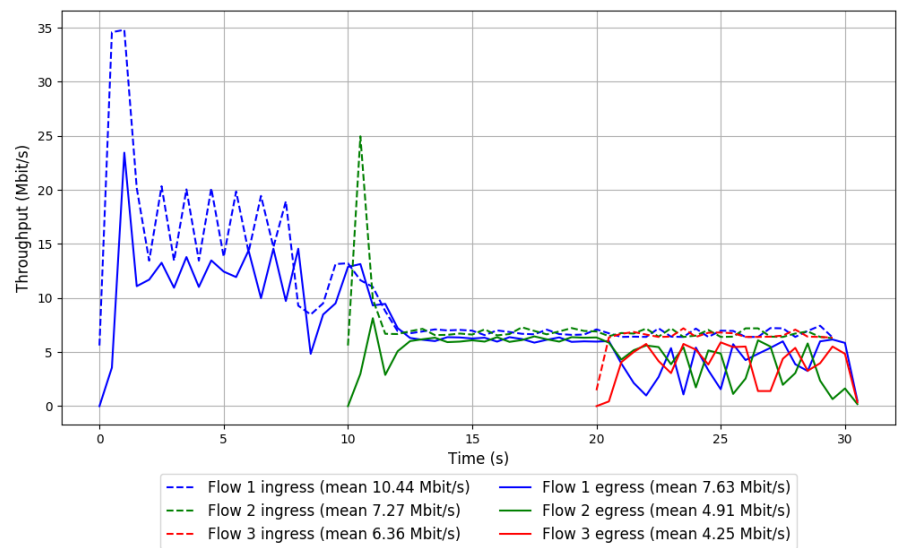


Run 2: Statistics of TaoVA-100x

Start at: 2018-10-09 21:55:35
End at: 2018-10-09 21:56:05
Local clock offset: 1.4 ms
Remote clock offset: -45.981 ms

Below is generated by plot.py at 2018-10-10 00:18:41
Datalink statistics
-- Total of 3 flows:
Average throughput: 12.31 Mbit/s
95th percentile per-packet one-way delay: 57.780 ms
Loss rate: 29.26%
-- Flow 1:
Average throughput: 7.63 Mbit/s
95th percentile per-packet one-way delay: 60.407 ms
Loss rate: 26.95%
-- Flow 2:
Average throughput: 4.91 Mbit/s
95th percentile per-packet one-way delay: 53.249 ms
Loss rate: 32.52%
-- Flow 3:
Average throughput: 4.25 Mbit/s
95th percentile per-packet one-way delay: 53.114 ms
Loss rate: 33.17%

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

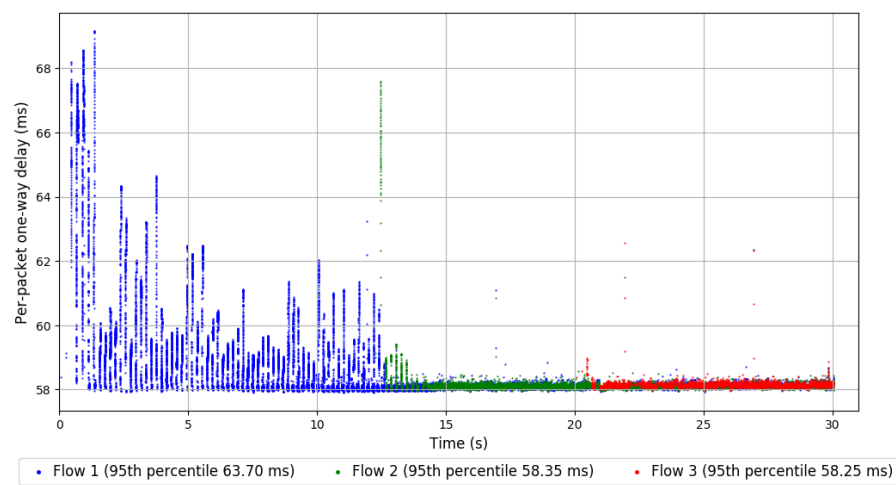
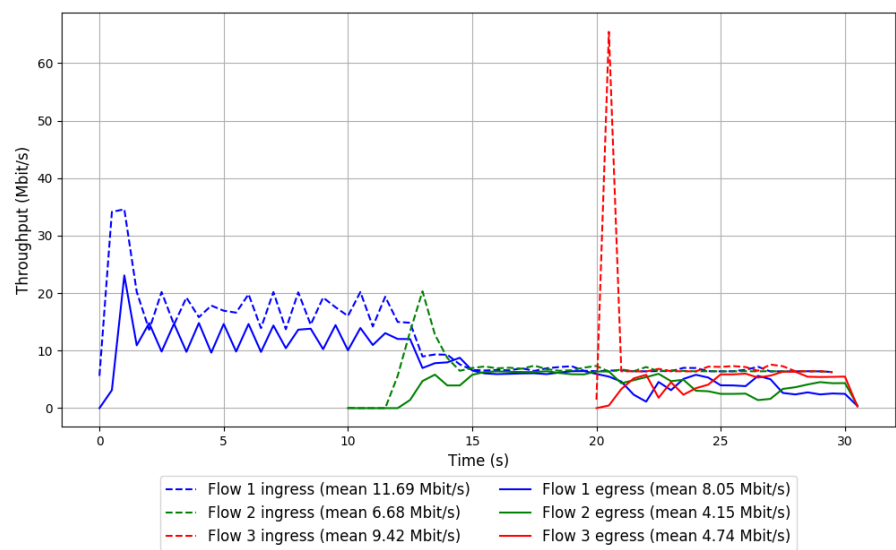


Run 3: Statistics of TaoVA-100x

Start at: 2018-10-09 22:44:24
End at: 2018-10-09 22:44:54
Local clock offset: 1.513 ms
Remote clock offset: -40.848 ms

Below is generated by plot.py at 2018-10-10 00:18:41
Datalink statistics
-- Total of 3 flows:
Average throughput: 12.39 Mbit/s
95th percentile per-packet one-way delay: 62.153 ms
Loss rate: 35.73%
-- Flow 1:
Average throughput: 8.05 Mbit/s
95th percentile per-packet one-way delay: 63.701 ms
Loss rate: 31.15%
-- Flow 2:
Average throughput: 4.15 Mbit/s
95th percentile per-packet one-way delay: 58.347 ms
Loss rate: 37.90%
-- Flow 3:
Average throughput: 4.74 Mbit/s
95th percentile per-packet one-way delay: 58.252 ms
Loss rate: 49.75%

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

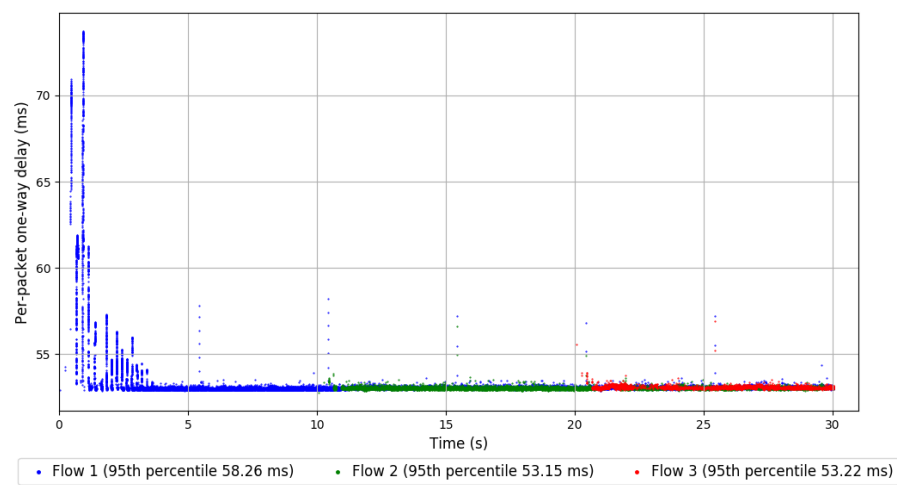
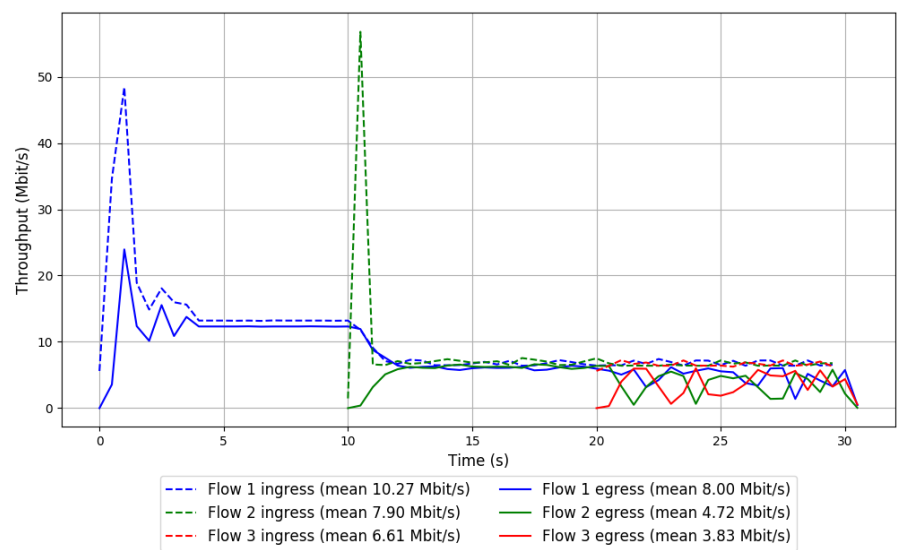


Run 4: Statistics of TaoVA-100x

Start at: 2018-10-09 23:21:48
End at: 2018-10-09 23:22:18
Local clock offset: -0.029 ms
Remote clock offset: -46.419 ms

Below is generated by plot.py at 2018-10-10 00:18:41
Datalink statistics
-- Total of 3 flows:
Average throughput: 12.41 Mbit/s
95th percentile per-packet one-way delay: 54.837 ms
Loss rate: 30.02%
-- Flow 1:
Average throughput: 8.00 Mbit/s
95th percentile per-packet one-way delay: 58.259 ms
Loss rate: 22.15%
-- Flow 2:
Average throughput: 4.72 Mbit/s
95th percentile per-packet one-way delay: 53.146 ms
Loss rate: 40.32%
-- Flow 3:
Average throughput: 3.83 Mbit/s
95th percentile per-packet one-way delay: 53.220 ms
Loss rate: 42.14%

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

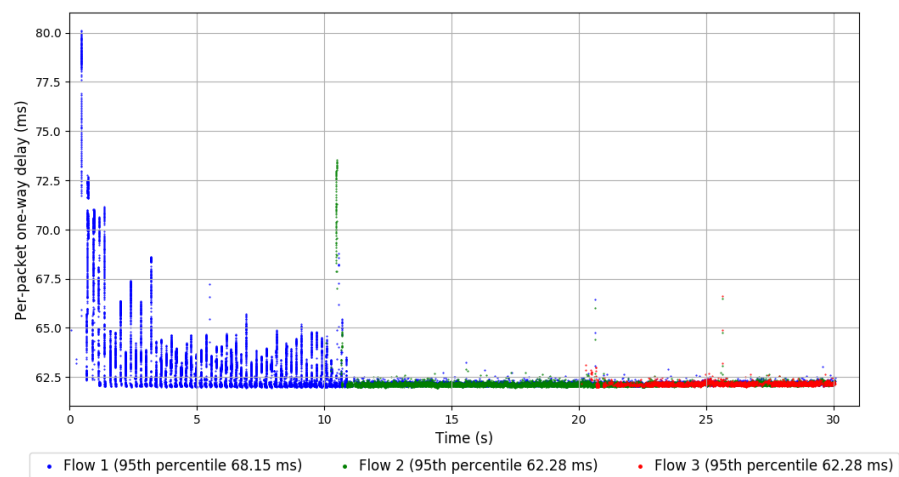
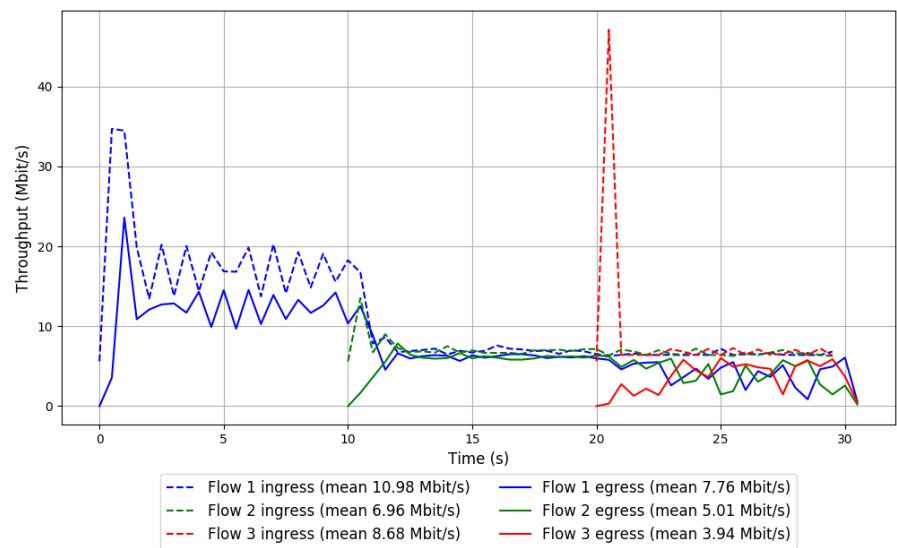


Run 5: Statistics of TaoVA-100x

Start at: 2018-10-09 23:54:10
End at: 2018-10-09 23:54:40
Local clock offset: -0.362 ms
Remote clock offset: -37.134 ms

Below is generated by plot.py at 2018-10-10 00:18:41
Datalink statistics
-- Total of 3 flows:
Average throughput: 12.40 Mbit/s
95th percentile per-packet one-way delay: 65.834 ms
Loss rate: 32.98%
-- Flow 1:
Average throughput: 7.76 Mbit/s
95th percentile per-packet one-way delay: 68.151 ms
Loss rate: 29.38%
-- Flow 2:
Average throughput: 5.01 Mbit/s
95th percentile per-packet one-way delay: 62.277 ms
Loss rate: 28.09%
-- Flow 3:
Average throughput: 3.94 Mbit/s
95th percentile per-packet one-way delay: 62.281 ms
Loss rate: 54.57%

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

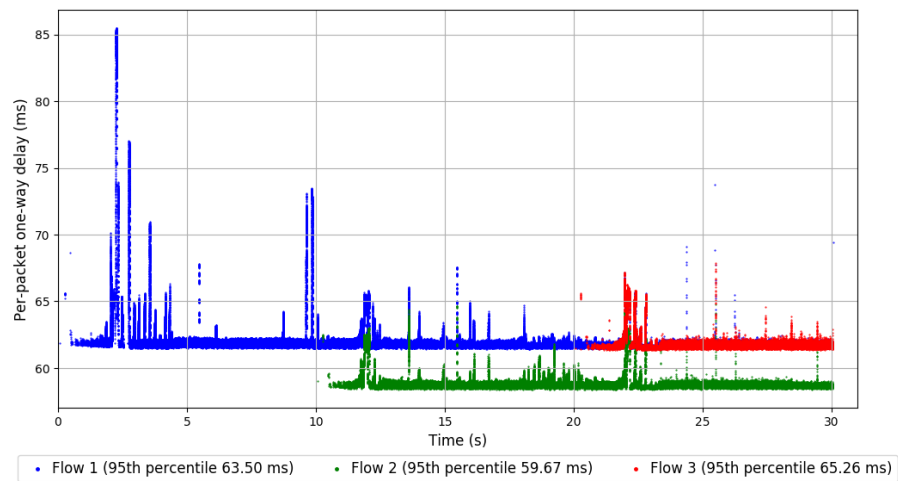
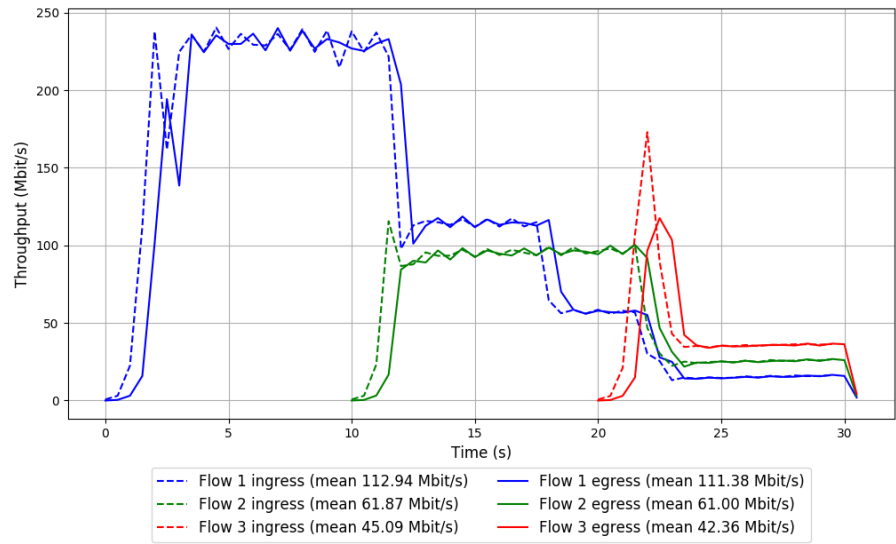


Run 1: Statistics of TCP Vegas

Start at: 2018-10-09 21:21:41
End at: 2018-10-09 21:22:11
Local clock offset: 0.348 ms
Remote clock offset: -38.944 ms

Below is generated by plot.py at 2018-10-10 00:18:41
Datalink statistics
-- Total of 3 flows:
Average throughput: 166.09 Mbit/s
95th percentile per-packet one-way delay: 62.936 ms
Loss rate: 1.79%
-- Flow 1:
Average throughput: 111.38 Mbit/s
95th percentile per-packet one-way delay: 63.499 ms
Loss rate: 1.37%
-- Flow 2:
Average throughput: 61.00 Mbit/s
95th percentile per-packet one-way delay: 59.668 ms
Loss rate: 1.41%
-- Flow 3:
Average throughput: 42.36 Mbit/s
95th percentile per-packet one-way delay: 65.261 ms
Loss rate: 6.06%

Run 1: Report of TCP Vegas — Data Link

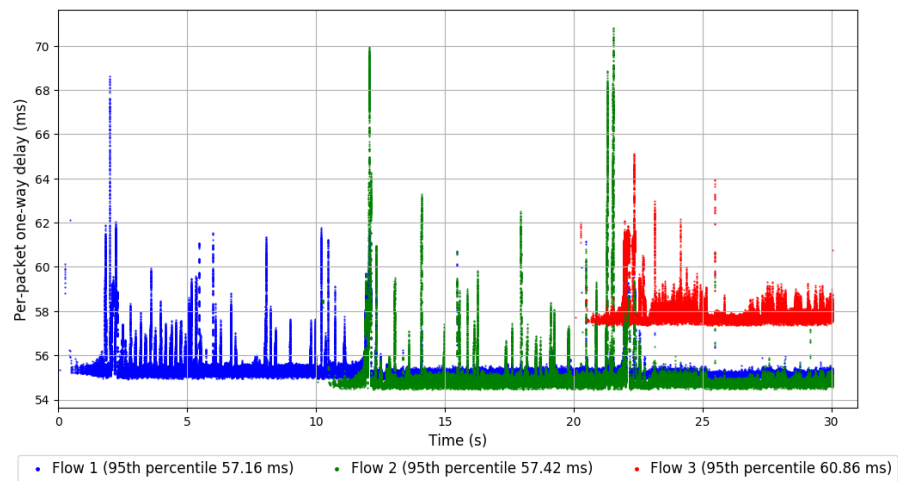
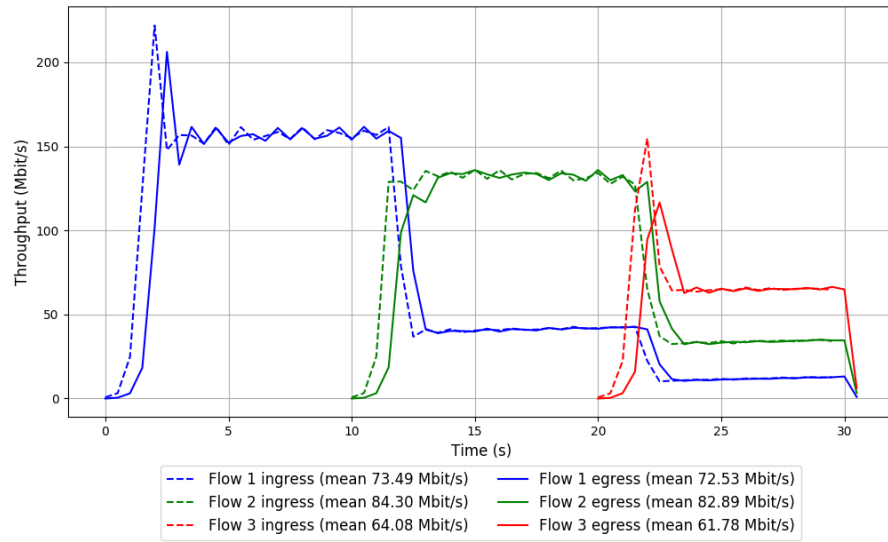


Run 2: Statistics of TCP Vegas

Start at: 2018-10-09 21:53:49
End at: 2018-10-09 21:54:19
Local clock offset: 2.655 ms
Remote clock offset: -41.947 ms

Below is generated by plot.py at 2018-10-10 00:18:41
Datalink statistics
-- Total of 3 flows:
Average throughput: 148.28 Mbit/s
95th percentile per-packet one-way delay: 58.235 ms
Loss rate: 1.77%
-- Flow 1:
Average throughput: 72.53 Mbit/s
95th percentile per-packet one-way delay: 57.162 ms
Loss rate: 1.31%
-- Flow 2:
Average throughput: 82.89 Mbit/s
95th percentile per-packet one-way delay: 57.419 ms
Loss rate: 1.67%
-- Flow 3:
Average throughput: 61.78 Mbit/s
95th percentile per-packet one-way delay: 60.860 ms
Loss rate: 3.58%

Run 2: Report of TCP Vegas — Data Link

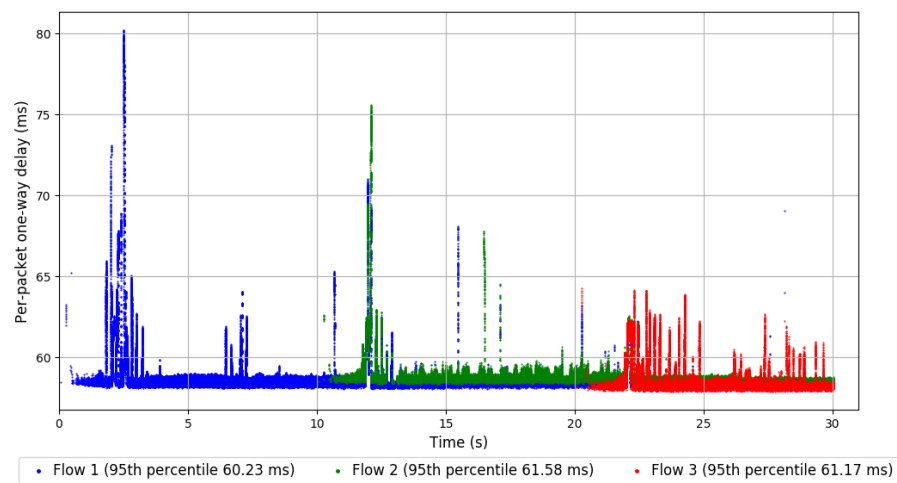
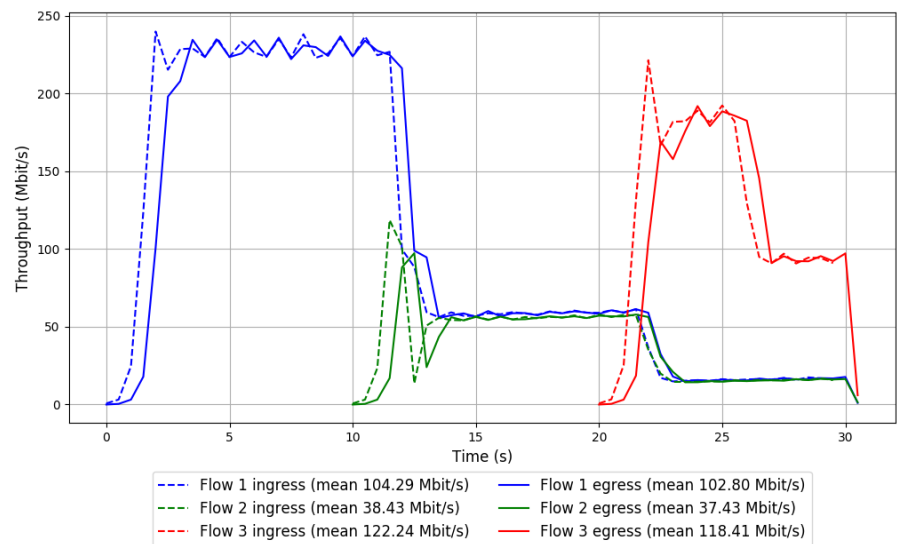


Run 3: Statistics of TCP Vegas

Start at: 2018-10-09 22:42:33
End at: 2018-10-09 22:43:03
Local clock offset: 1.397 ms
Remote clock offset: -40.905 ms

Below is generated by plot.py at 2018-10-10 00:18:41
Datalink statistics
-- Total of 3 flows:
Average throughput: 167.14 Mbit/s
95th percentile per-packet one-way delay: 60.643 ms
Loss rate: 2.01%
-- Flow 1:
Average throughput: 102.80 Mbit/s
95th percentile per-packet one-way delay: 60.234 ms
Loss rate: 1.43%
-- Flow 2:
Average throughput: 37.43 Mbit/s
95th percentile per-packet one-way delay: 61.578 ms
Loss rate: 2.61%
-- Flow 3:
Average throughput: 118.41 Mbit/s
95th percentile per-packet one-way delay: 61.168 ms
Loss rate: 3.13%

Run 3: Report of TCP Vegas — Data Link

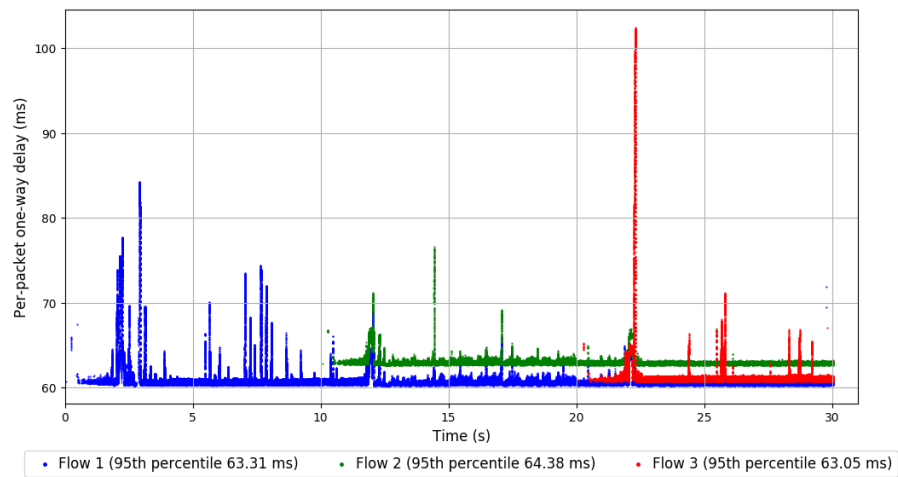
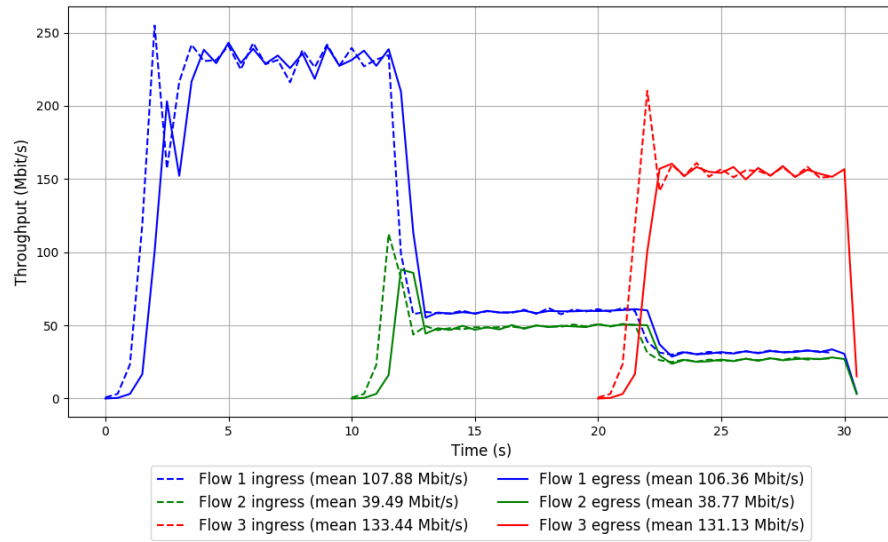


Run 4: Statistics of TCP Vegas

Start at: 2018-10-09 23:19:55
End at: 2018-10-09 23:20:25
Local clock offset: 0.216 ms
Remote clock offset: -38.383 ms

Below is generated by plot.py at 2018-10-10 00:18:41
Datalink statistics
-- Total of 3 flows:
Average throughput: 175.85 Mbit/s
95th percentile per-packet one-way delay: 63.502 ms
Loss rate: 1.55%
-- Flow 1:
Average throughput: 106.36 Mbit/s
95th percentile per-packet one-way delay: 63.312 ms
Loss rate: 1.41%
-- Flow 2:
Average throughput: 38.77 Mbit/s
95th percentile per-packet one-way delay: 64.382 ms
Loss rate: 1.85%
-- Flow 3:
Average throughput: 131.13 Mbit/s
95th percentile per-packet one-way delay: 63.049 ms
Loss rate: 1.71%

Run 4: Report of TCP Vegas — Data Link

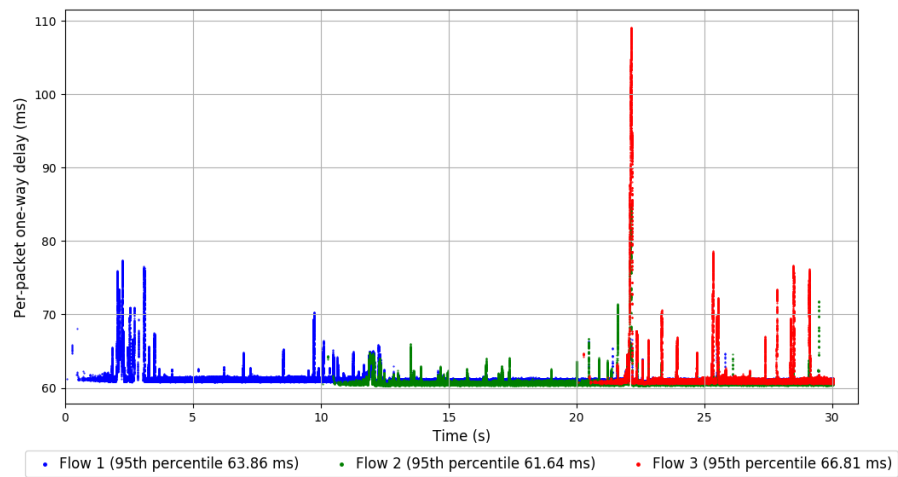
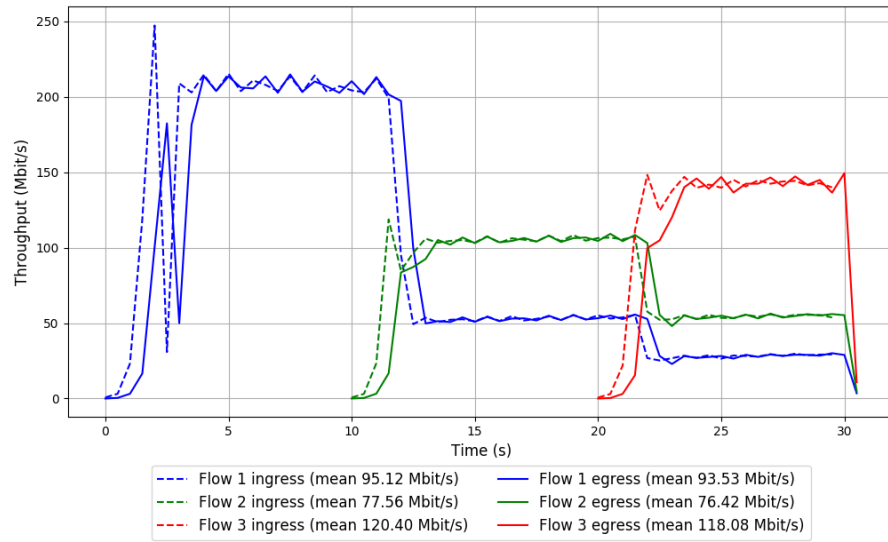


Run 5: Statistics of TCP Vegas

Start at: 2018-10-09 23:52:16
End at: 2018-10-09 23:52:46
Local clock offset: -2.608 ms
Remote clock offset: -40.346 ms

Below is generated by plot.py at 2018-10-10 00:18:50
Datalink statistics
-- Total of 3 flows:
Average throughput: 183.69 Mbit/s
95th percentile per-packet one-way delay: 63.623 ms
Loss rate: 1.67%
-- Flow 1:
Average throughput: 93.53 Mbit/s
95th percentile per-packet one-way delay: 63.864 ms
Loss rate: 1.67%
-- Flow 2:
Average throughput: 76.42 Mbit/s
95th percentile per-packet one-way delay: 61.643 ms
Loss rate: 1.47%
-- Flow 3:
Average throughput: 118.08 Mbit/s
95th percentile per-packet one-way delay: 66.815 ms
Loss rate: 1.92%

Run 5: Report of TCP Vegas — Data Link

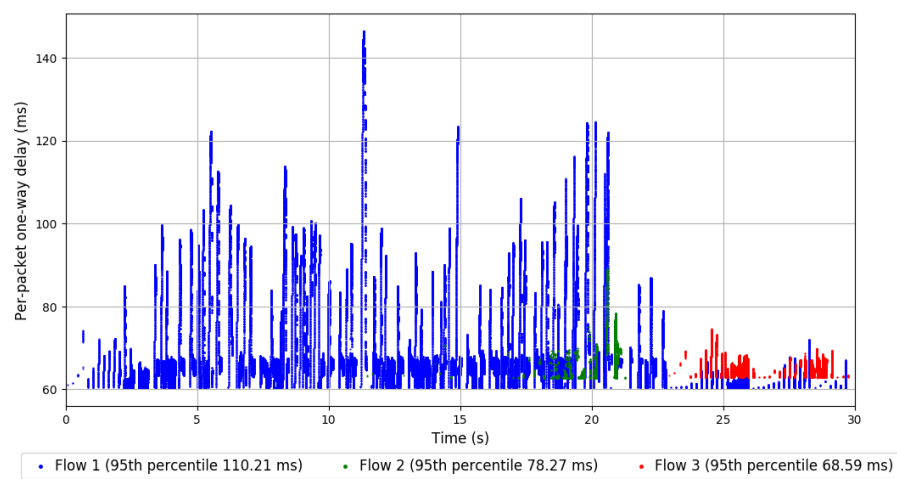
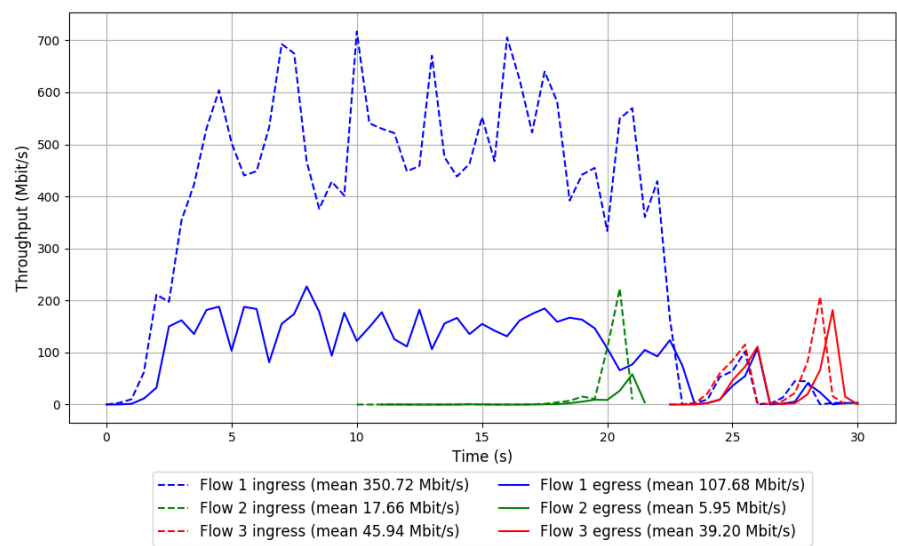


Run 1: Statistics of Verus

Start at: 2018-10-09 20:54:02
End at: 2018-10-09 20:54:32
Local clock offset: -0.205 ms
Remote clock offset: -38.51 ms

Below is generated by plot.py at 2018-10-10 00:19:01
Datalink statistics
-- Total of 3 flows:
Average throughput: 118.31 Mbit/s
95th percentile per-packet one-way delay: 107.472 ms
Loss rate: 67.73%
-- Flow 1:
Average throughput: 107.68 Mbit/s
95th percentile per-packet one-way delay: 110.214 ms
Loss rate: 69.29%
-- Flow 2:
Average throughput: 5.95 Mbit/s
95th percentile per-packet one-way delay: 78.271 ms
Loss rate: 69.44%
-- Flow 3:
Average throughput: 39.20 Mbit/s
95th percentile per-packet one-way delay: 68.593 ms
Loss rate: 14.68%

Run 1: Report of Verus — Data Link

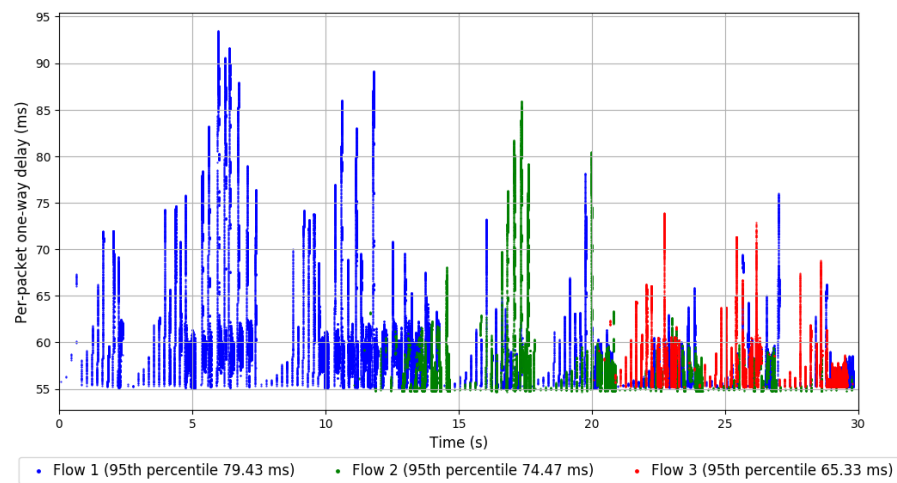
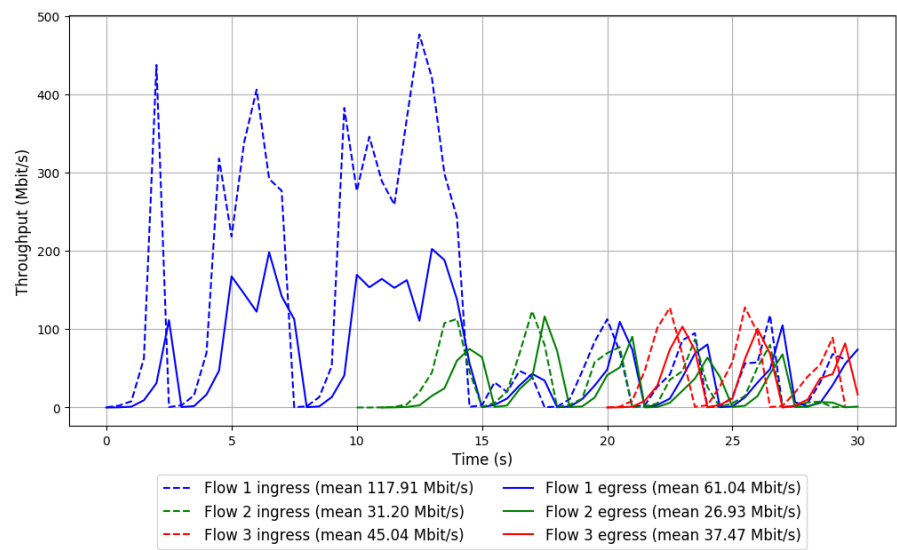


Run 2: Statistics of Verus

Start at: 2018-10-09 21:26:12
End at: 2018-10-09 21:26:42
Local clock offset: -0.027 ms
Remote clock offset: -43.35 ms

Below is generated by plot.py at 2018-10-10 00:19:01
Datalink statistics
-- Total of 3 flows:
Average throughput: 90.17 Mbit/s
95th percentile per-packet one-way delay: 75.693 ms
Loss rate: 41.15%
-- Flow 1:
Average throughput: 61.04 Mbit/s
95th percentile per-packet one-way delay: 79.430 ms
Loss rate: 48.23%
-- Flow 2:
Average throughput: 26.93 Mbit/s
95th percentile per-packet one-way delay: 74.473 ms
Loss rate: 18.05%
-- Flow 3:
Average throughput: 37.47 Mbit/s
95th percentile per-packet one-way delay: 65.330 ms
Loss rate: 16.82%

Run 2: Report of Verus — Data Link

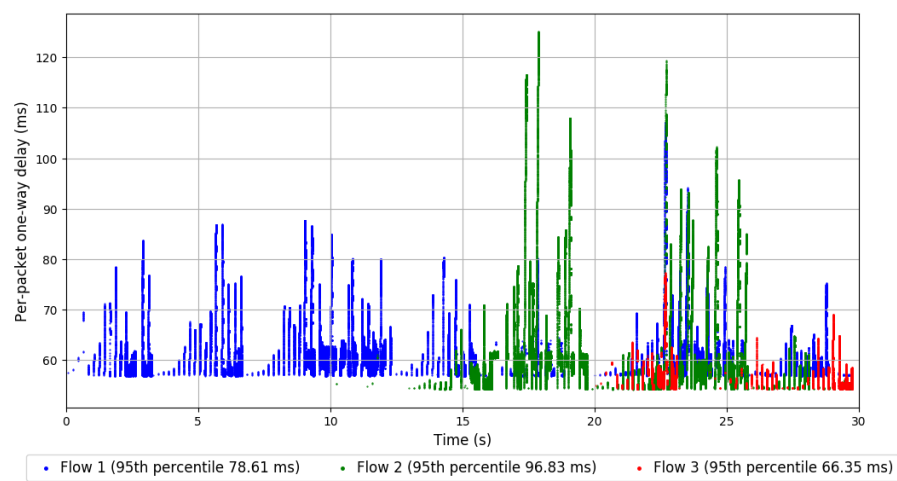
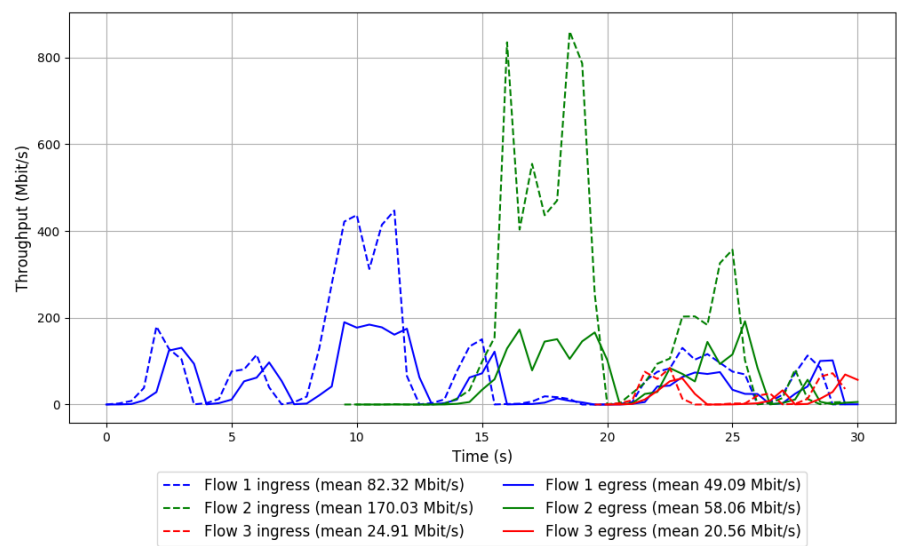


Run 3: Statistics of Verus

Start at: 2018-10-09 21:58:16
End at: 2018-10-09 21:58:46
Local clock offset: 0.558 ms
Remote clock offset: -44.892 ms

Below is generated by plot.py at 2018-10-10 00:19:11
Datalink statistics
-- Total of 3 flows:
Average throughput: 93.99 Mbit/s
95th percentile per-packet one-way delay: 84.557 ms
Loss rate: 53.60%
-- Flow 1:
Average throughput: 49.09 Mbit/s
95th percentile per-packet one-way delay: 78.606 ms
Loss rate: 40.37%
-- Flow 2:
Average throughput: 58.06 Mbit/s
95th percentile per-packet one-way delay: 96.825 ms
Loss rate: 65.86%
-- Flow 3:
Average throughput: 20.56 Mbit/s
95th percentile per-packet one-way delay: 66.346 ms
Loss rate: 17.44%

Run 3: Report of Verus — Data Link

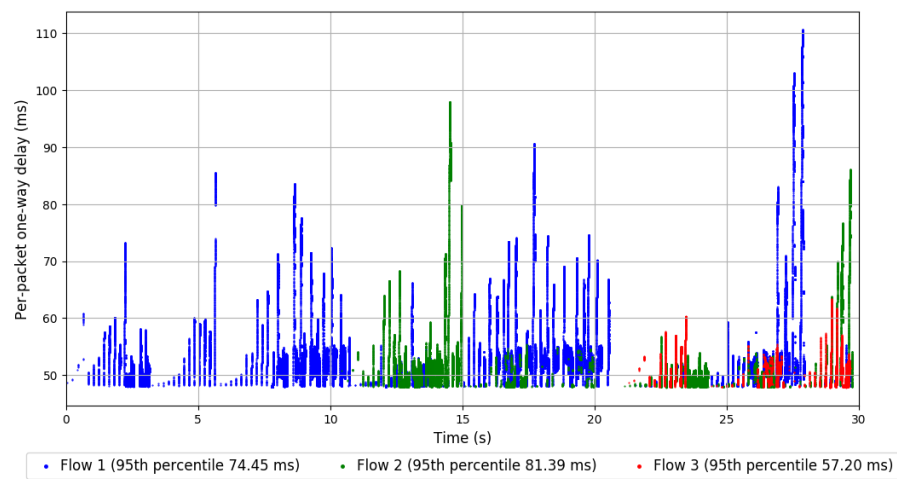
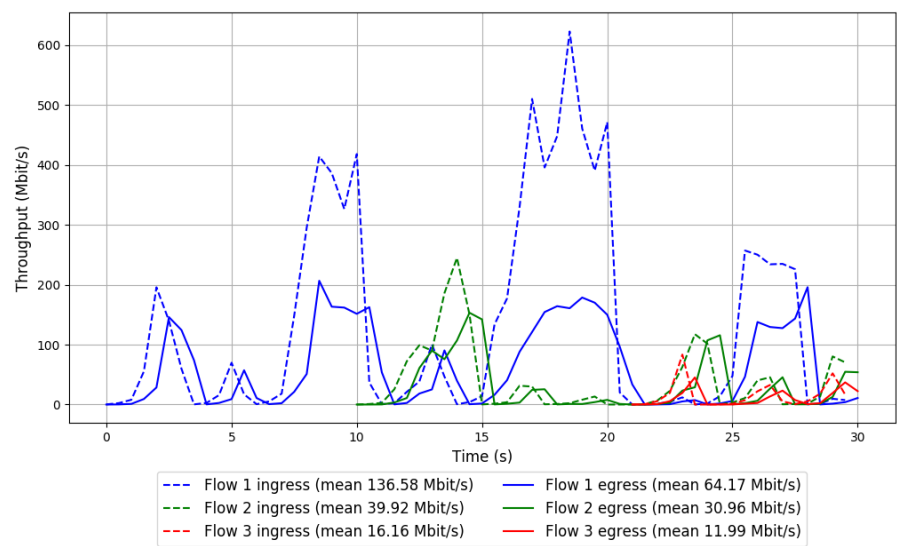


Run 4: Statistics of Verus

Start at: 2018-10-09 22:47:05
End at: 2018-10-09 22:47:35
Local clock offset: 3.923 ms
Remote clock offset: -48.519 ms

Below is generated by plot.py at 2018-10-10 00:19:11
Datalink statistics
-- Total of 3 flows:
Average throughput: 87.60 Mbit/s
95th percentile per-packet one-way delay: 75.481 ms
Loss rate: 47.52%
-- Flow 1:
Average throughput: 64.17 Mbit/s
95th percentile per-packet one-way delay: 74.452 ms
Loss rate: 53.02%
-- Flow 2:
Average throughput: 30.96 Mbit/s
95th percentile per-packet one-way delay: 81.391 ms
Loss rate: 22.44%
-- Flow 3:
Average throughput: 11.99 Mbit/s
95th percentile per-packet one-way delay: 57.203 ms
Loss rate: 25.81%

Run 4: Report of Verus — Data Link

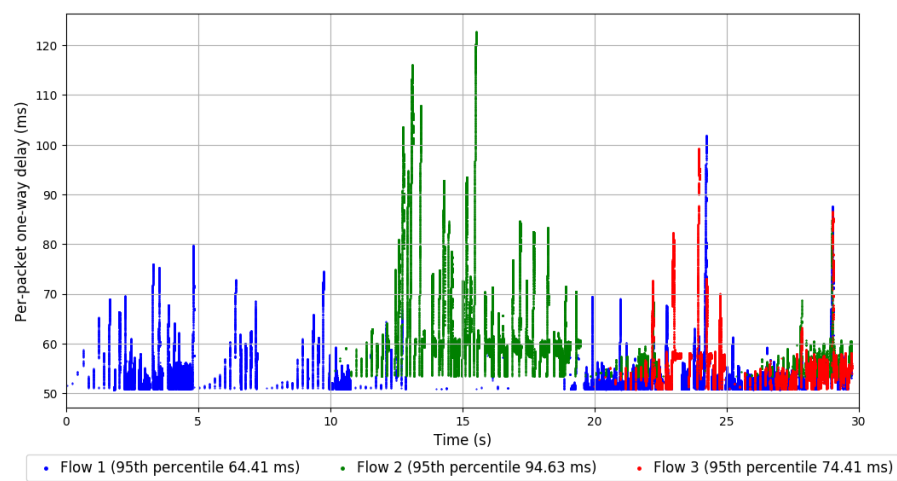
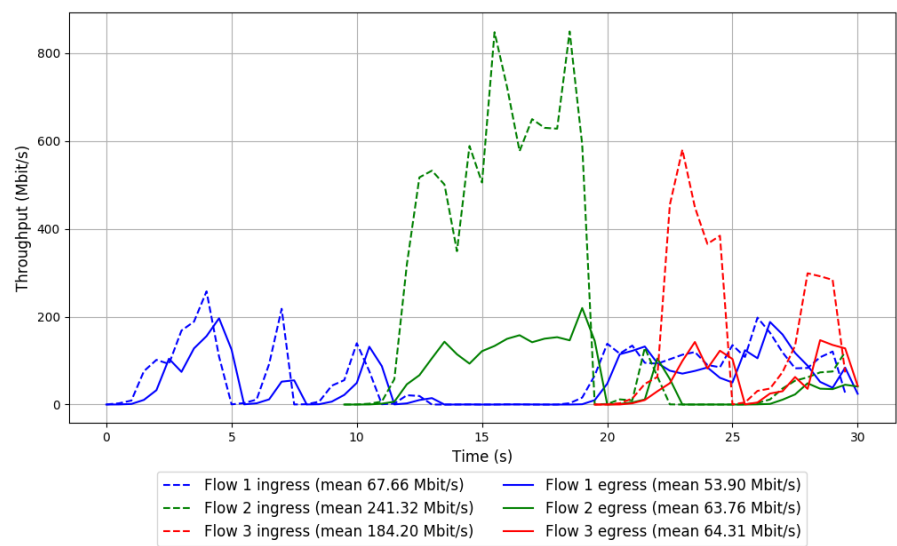


Run 5: Statistics of Verus

Start at: 2018-10-09 23:24:29
End at: 2018-10-09 23:24:59
Local clock offset: 0.268 ms
Remote clock offset: -47.829 ms

Below is generated by plot.py at 2018-10-10 00:19:56
Datalink statistics
-- Total of 3 flows:
Average throughput: 117.45 Mbit/s
95th percentile per-packet one-way delay: 80.426 ms
Loss rate: 59.32%
-- Flow 1:
Average throughput: 53.90 Mbit/s
95th percentile per-packet one-way delay: 64.405 ms
Loss rate: 20.33%
-- Flow 2:
Average throughput: 63.76 Mbit/s
95th percentile per-packet one-way delay: 94.628 ms
Loss rate: 73.57%
-- Flow 3:
Average throughput: 64.31 Mbit/s
95th percentile per-packet one-way delay: 74.412 ms
Loss rate: 65.08%

Run 5: Report of Verus — Data Link

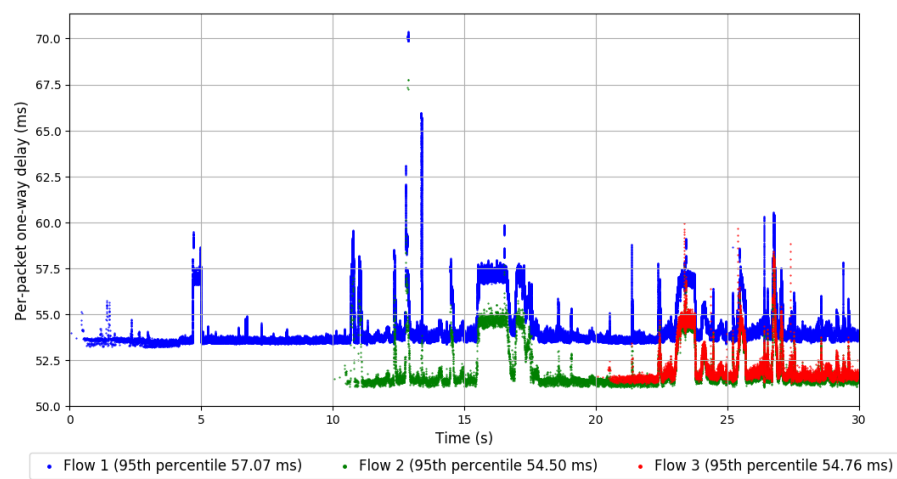
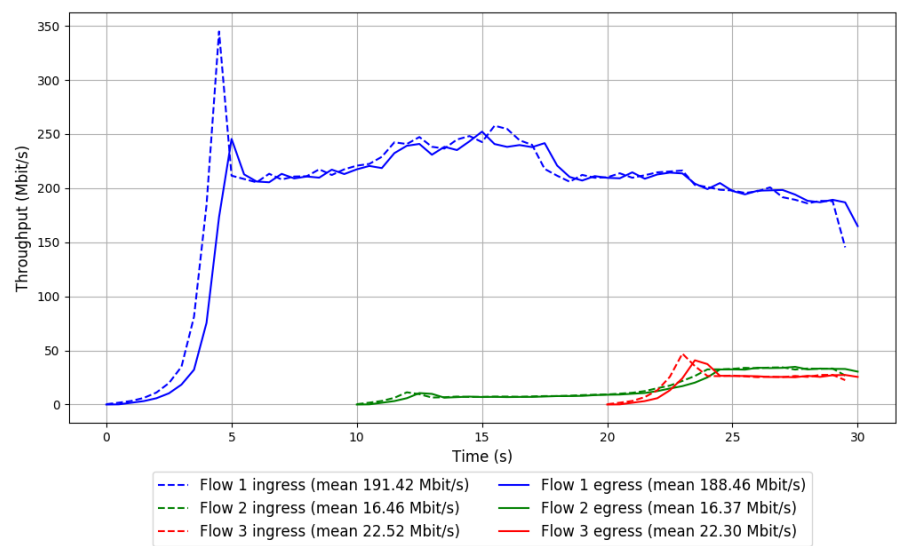


Run 1: Statistics of PCC-Vivace

Start at: 2018-10-09 21:01:25
End at: 2018-10-09 21:01:55
Local clock offset: 2.409 ms
Remote clock offset: -45.031 ms

Below is generated by plot.py at 2018-10-10 00:20:40
Datalink statistics
-- Total of 3 flows:
Average throughput: 206.71 Mbit/s
95th percentile per-packet one-way delay: 57.044 ms
Loss rate: 1.48%
-- Flow 1:
Average throughput: 188.46 Mbit/s
95th percentile per-packet one-way delay: 57.072 ms
Loss rate: 1.55%
-- Flow 2:
Average throughput: 16.37 Mbit/s
95th percentile per-packet one-way delay: 54.502 ms
Loss rate: 0.51%
-- Flow 3:
Average throughput: 22.30 Mbit/s
95th percentile per-packet one-way delay: 54.763 ms
Loss rate: 0.99%

Run 1: Report of PCC-Vivace — Data Link

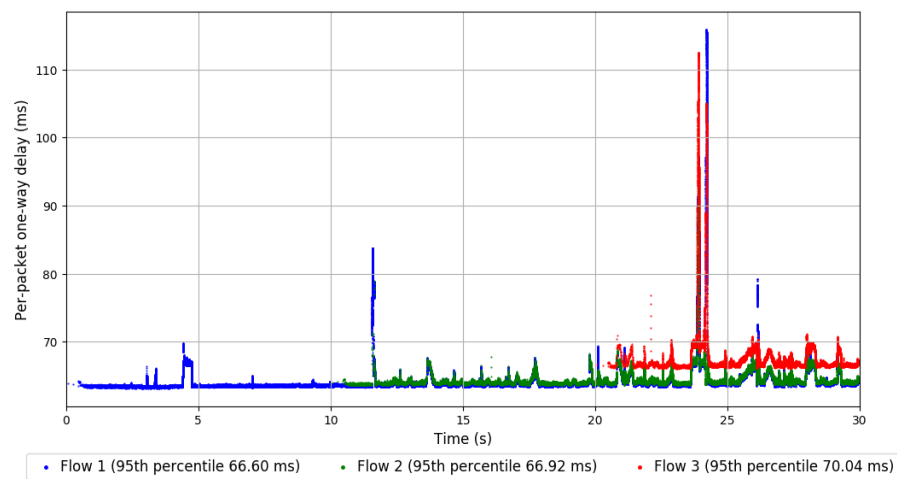
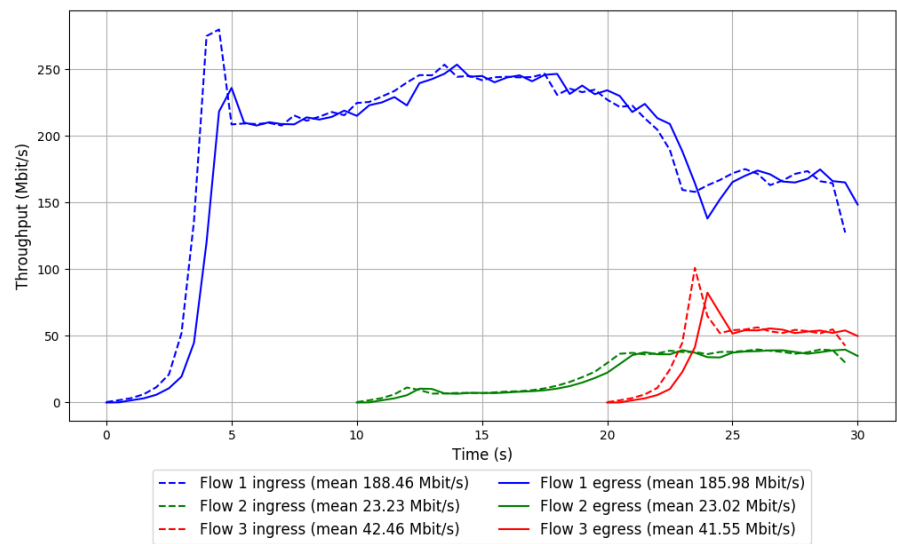


Run 2: Statistics of PCC-Vivace

Start at: 2018-10-09 21:33:25
End at: 2018-10-09 21:33:55
Local clock offset: 1.017 ms
Remote clock offset: -34.345 ms

Below is generated by plot.py at 2018-10-10 00:20:46
Datalink statistics
-- Total of 3 flows:
Average throughput: 215.00 Mbit/s
95th percentile per-packet one-way delay: 66.895 ms
Loss rate: 1.34%
-- Flow 1:
Average throughput: 185.98 Mbit/s
95th percentile per-packet one-way delay: 66.604 ms
Loss rate: 1.32%
-- Flow 2:
Average throughput: 23.02 Mbit/s
95th percentile per-packet one-way delay: 66.915 ms
Loss rate: 0.90%
-- Flow 3:
Average throughput: 41.55 Mbit/s
95th percentile per-packet one-way delay: 70.037 ms
Loss rate: 2.16%

Run 2: Report of PCC-Vivace — Data Link

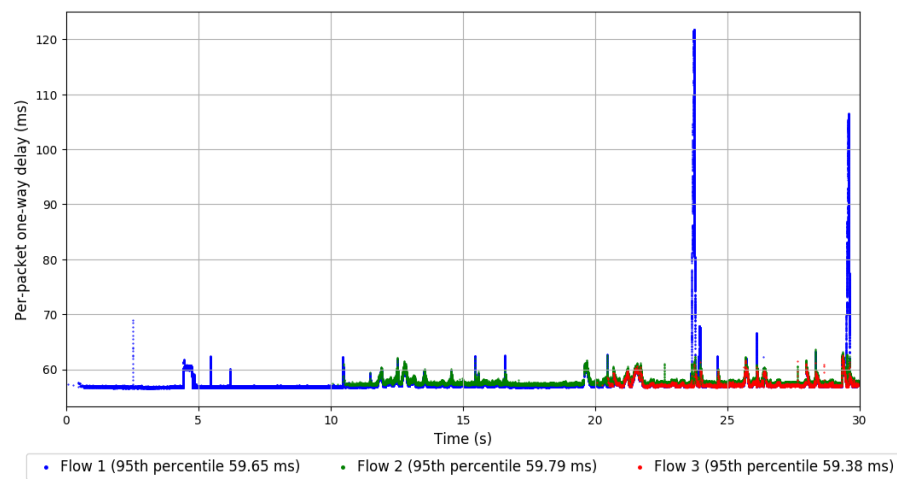
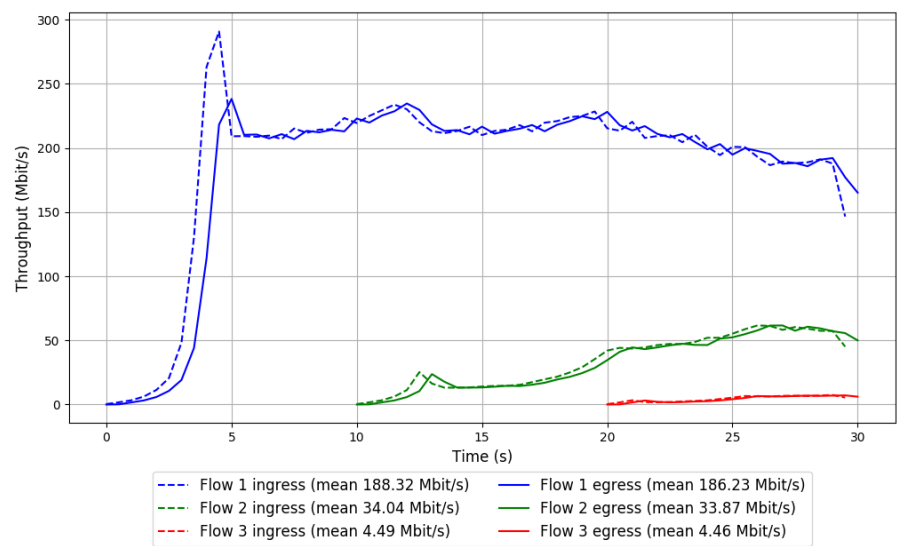


Run 3: Statistics of PCC-Vivace

Start at: 2018-10-09 22:16:38
End at: 2018-10-09 22:17:08
Local clock offset: 3.913 ms
Remote clock offset: -39.213 ms

Below is generated by plot.py at 2018-10-10 00:20:48
Datalink statistics
-- Total of 3 flows:
Average throughput: 210.23 Mbit/s
95th percentile per-packet one-way delay: 59.671 ms
Loss rate: 1.05%
-- Flow 1:
Average throughput: 186.23 Mbit/s
95th percentile per-packet one-way delay: 59.648 ms
Loss rate: 1.11%
-- Flow 2:
Average throughput: 33.87 Mbit/s
95th percentile per-packet one-way delay: 59.791 ms
Loss rate: 0.53%
-- Flow 3:
Average throughput: 4.46 Mbit/s
95th percentile per-packet one-way delay: 59.384 ms
Loss rate: 0.73%

Run 3: Report of PCC-Vivace — Data Link

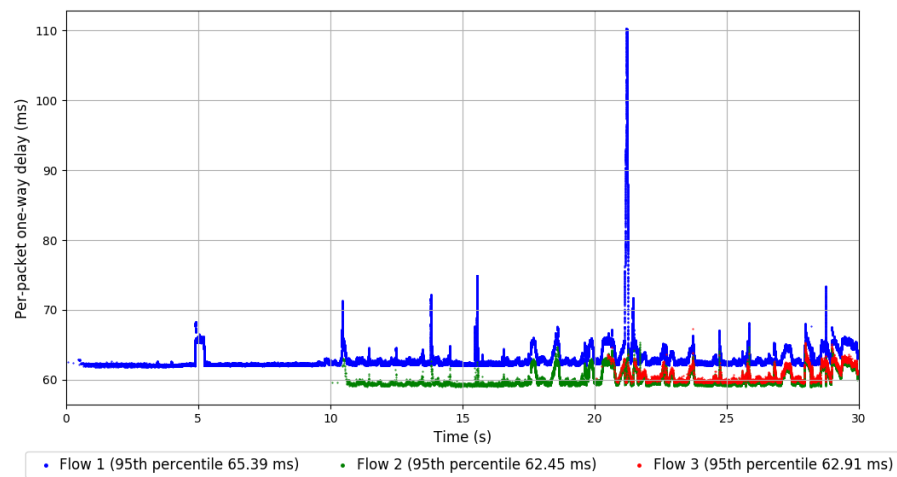
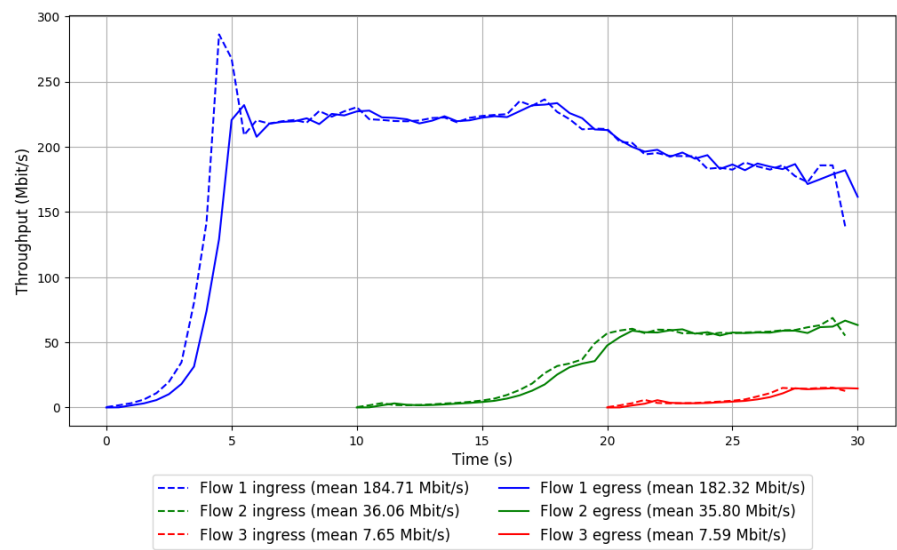


Run 4: Statistics of PCC-Vivace

Start at: 2018-10-09 22:54:09
End at: 2018-10-09 22:54:39
Local clock offset: 1.728 ms
Remote clock offset: -39.249 ms

Below is generated by plot.py at 2018-10-10 00:20:48
Datalink statistics
-- Total of 3 flows:
Average throughput: 208.64 Mbit/s
95th percentile per-packet one-way delay: 65.354 ms
Loss rate: 1.23%
-- Flow 1:
Average throughput: 182.32 Mbit/s
95th percentile per-packet one-way delay: 65.395 ms
Loss rate: 1.30%
-- Flow 2:
Average throughput: 35.80 Mbit/s
95th percentile per-packet one-way delay: 62.445 ms
Loss rate: 0.71%
-- Flow 3:
Average throughput: 7.59 Mbit/s
95th percentile per-packet one-way delay: 62.908 ms
Loss rate: 0.81%

Run 4: Report of PCC-Vivace — Data Link

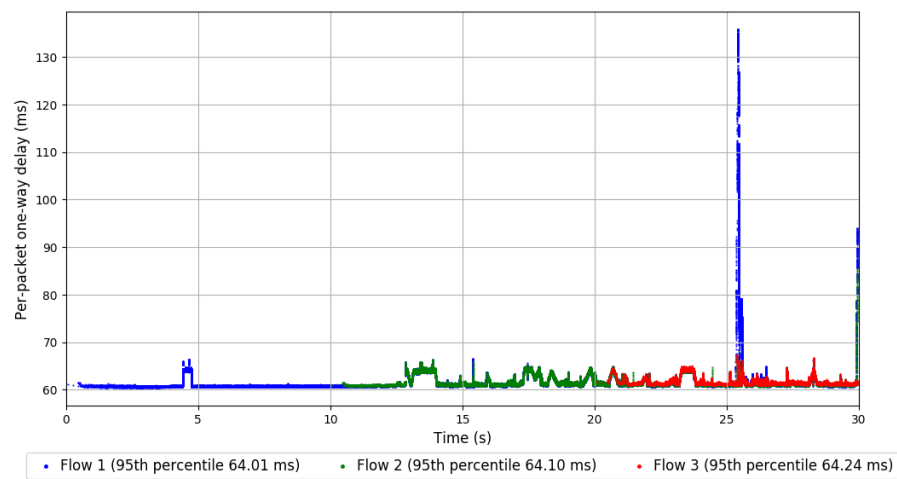
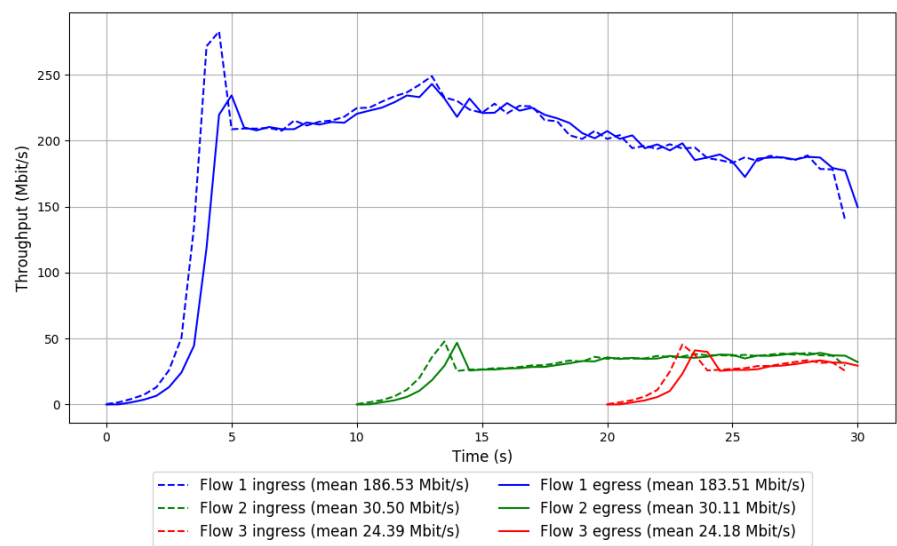


Run 5: Statistics of PCC-Vivace

Start at: 2018-10-09 23:31:54
End at: 2018-10-09 23:32:24
Local clock offset: -1.207 ms
Remote clock offset: -39.086 ms

Below is generated by plot.py at 2018-10-10 00:20:50
Datalink statistics
-- Total of 3 flows:
Average throughput: 211.52 Mbit/s
95th percentile per-packet one-way delay: 64.026 ms
Loss rate: 1.55%
-- Flow 1:
Average throughput: 183.51 Mbit/s
95th percentile per-packet one-way delay: 64.010 ms
Loss rate: 1.62%
-- Flow 2:
Average throughput: 30.11 Mbit/s
95th percentile per-packet one-way delay: 64.097 ms
Loss rate: 1.26%
-- Flow 3:
Average throughput: 24.18 Mbit/s
95th percentile per-packet one-way delay: 64.241 ms
Loss rate: 0.86%

Run 5: Report of PCC-Vivace — Data Link

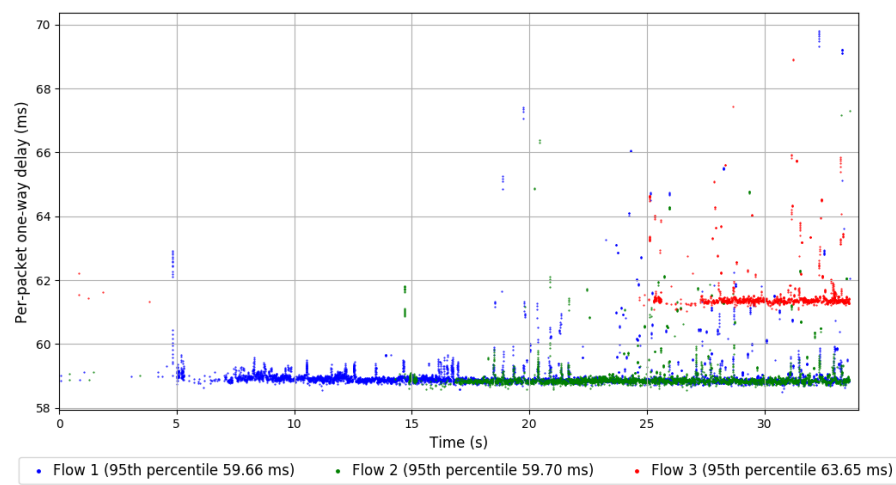
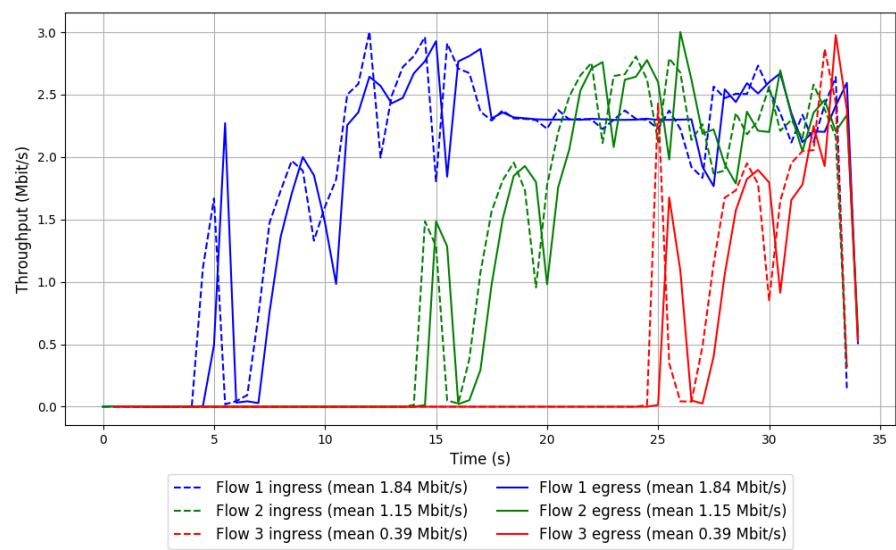


Run 1: Statistics of WebRTC media

Start at: 2018-10-09 21:10:42
End at: 2018-10-09 21:11:12
Local clock offset: 0.55 ms
Remote clock offset: -39.324 ms

Below is generated by plot.py at 2018-10-10 00:20:50
Datalink statistics
-- Total of 3 flows:
Average throughput: 3.36 Mbit/s
95th percentile per-packet one-way delay: 61.422 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 1.84 Mbit/s
95th percentile per-packet one-way delay: 59.661 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 1.15 Mbit/s
95th percentile per-packet one-way delay: 59.705 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.39 Mbit/s
95th percentile per-packet one-way delay: 63.647 ms
Loss rate: 0.00%

Run 1: Report of WebRTC media — Data Link

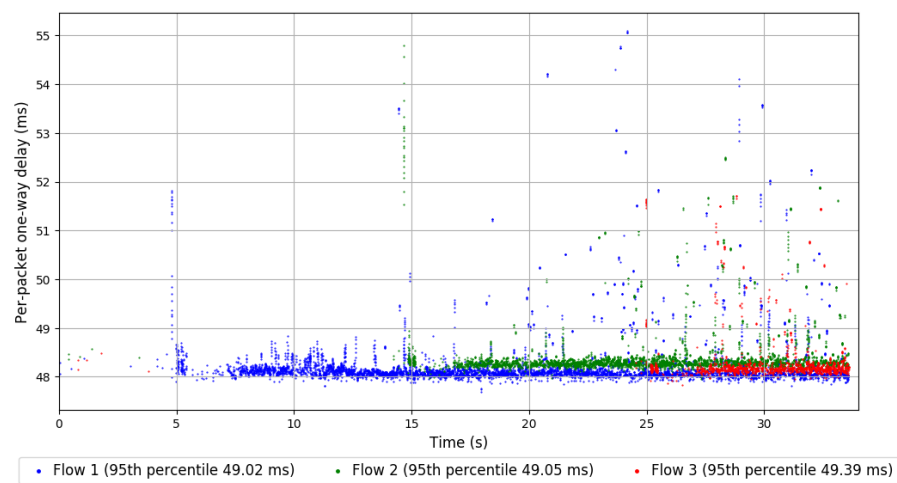
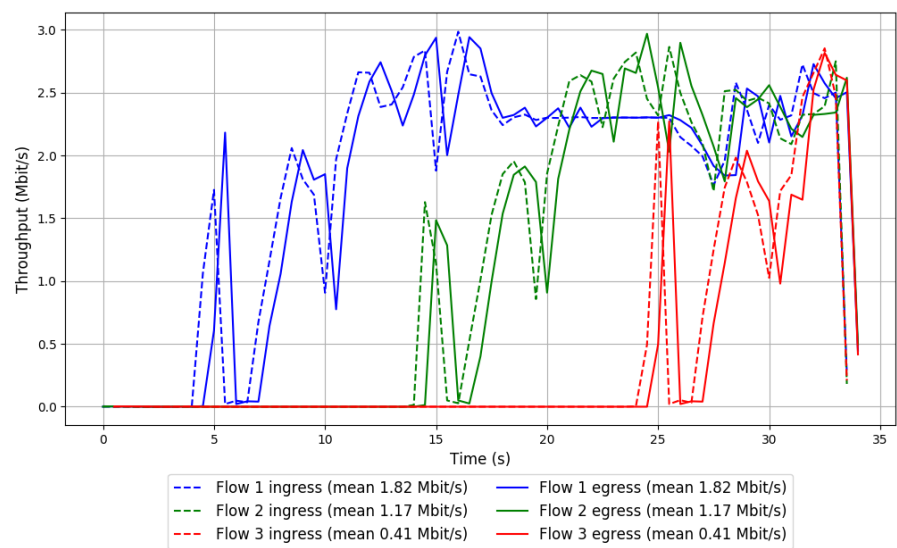


Run 2: Statistics of WebRTC media

Start at: 2018-10-09 21:42:48
End at: 2018-10-09 21:43:18
Local clock offset: 2.889 ms
Remote clock offset: -48.471 ms

Below is generated by plot.py at 2018-10-10 00:20:50
Datalink statistics
-- Total of 3 flows:
Average throughput: 3.38 Mbit/s
95th percentile per-packet one-way delay: 49.070 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 1.82 Mbit/s
95th percentile per-packet one-way delay: 49.024 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 1.17 Mbit/s
95th percentile per-packet one-way delay: 49.055 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.41 Mbit/s
95th percentile per-packet one-way delay: 49.390 ms
Loss rate: 0.00%

Run 2: Report of WebRTC media — Data Link

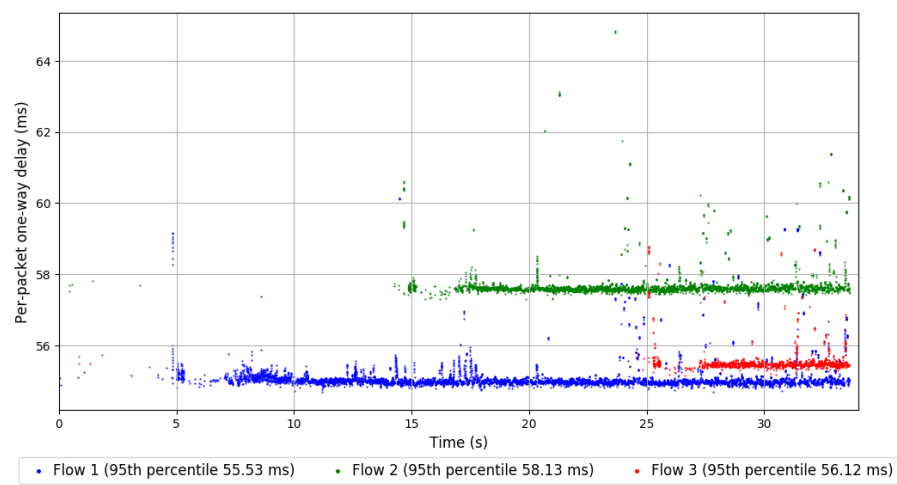
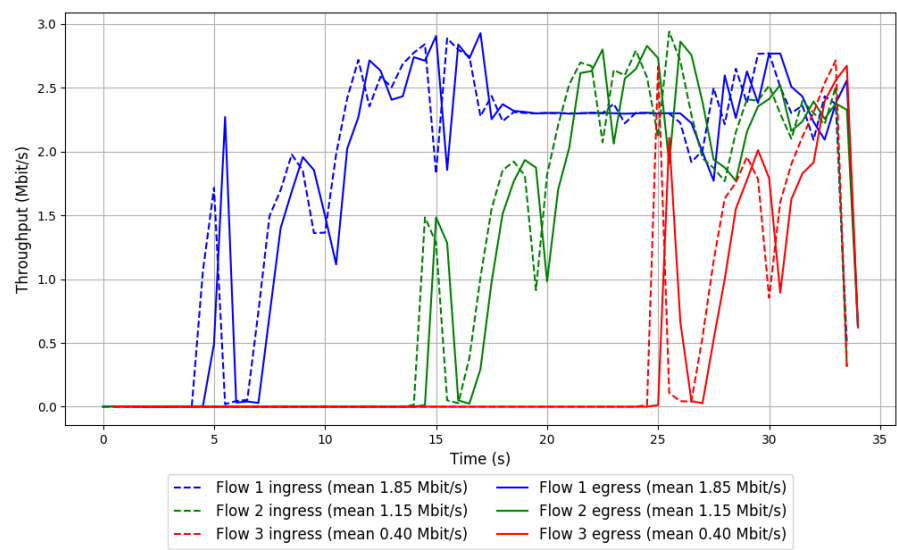


Run 3: Statistics of WebRTC media

Start at: 2018-10-09 22:31:28
End at: 2018-10-09 22:31:58
Local clock offset: 0.818 ms
Remote clock offset: -44.129 ms

Below is generated by plot.py at 2018-10-10 00:20:50
Datalink statistics
-- Total of 3 flows:
Average throughput: 3.37 Mbit/s
95th percentile per-packet one-way delay: 57.709 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 1.85 Mbit/s
95th percentile per-packet one-way delay: 55.531 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 1.15 Mbit/s
95th percentile per-packet one-way delay: 58.134 ms
Loss rate: 0.03%
-- Flow 3:
Average throughput: 0.40 Mbit/s
95th percentile per-packet one-way delay: 56.125 ms
Loss rate: 0.00%

Run 3: Report of WebRTC media — Data Link

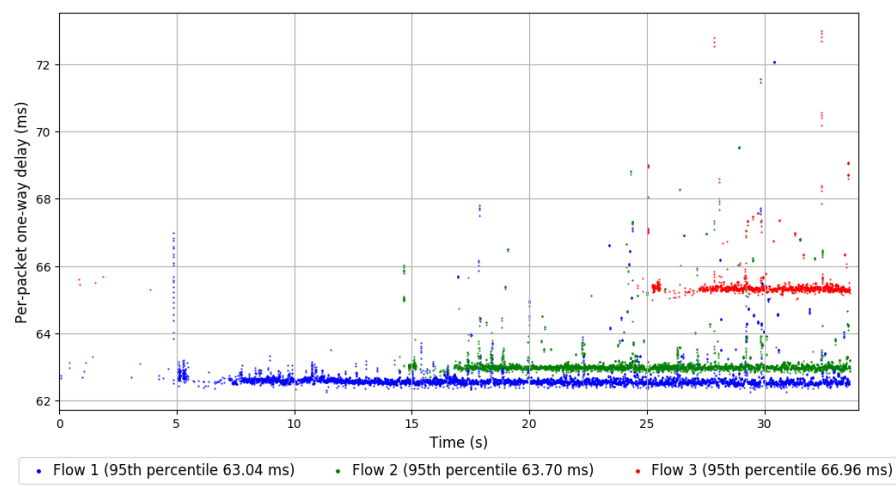
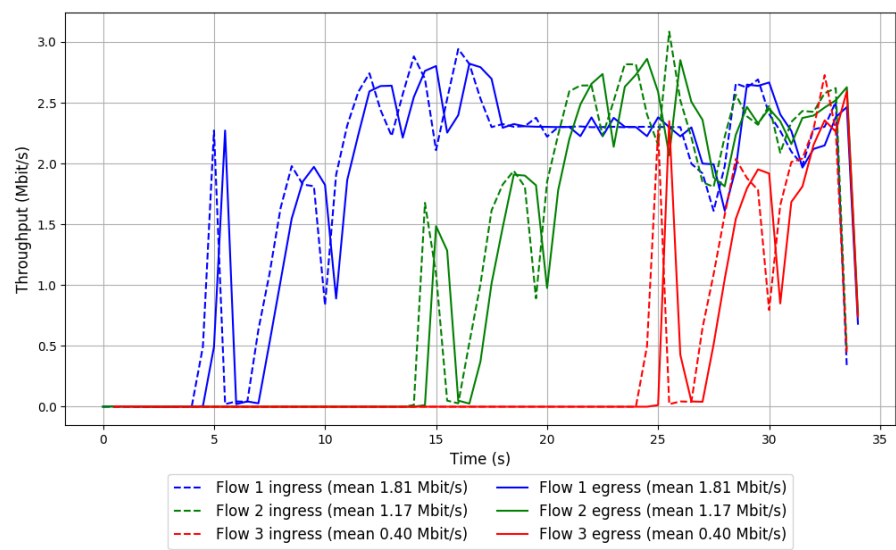


Run 4: Statistics of WebRTC media

Start at: 2018-10-09 23:08:59
End at: 2018-10-09 23:09:29
Local clock offset: 1.168 ms
Remote clock offset: -35.265 ms

Below is generated by plot.py at 2018-10-10 00:20:50
Datalink statistics
-- Total of 3 flows:
Average throughput: 3.35 Mbit/s
95th percentile per-packet one-way delay: 65.377 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 1.81 Mbit/s
95th percentile per-packet one-way delay: 63.038 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 1.17 Mbit/s
95th percentile per-packet one-way delay: 63.701 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.40 Mbit/s
95th percentile per-packet one-way delay: 66.963 ms
Loss rate: 0.01%

Run 4: Report of WebRTC media — Data Link



Run 5: Statistics of WebRTC media

Start at: 2018-10-09 23:41:18
End at: 2018-10-09 23:41:48
Local clock offset: 2.566 ms
Remote clock offset: -39.376 ms

Below is generated by plot.py at 2018-10-10 00:20:50
Datalink statistics
-- Total of 3 flows:
Average throughput: 3.35 Mbit/s
95th percentile per-packet one-way delay: 59.339 ms
Loss rate: 0.02%
-- Flow 1:
Average throughput: 1.81 Mbit/s
95th percentile per-packet one-way delay: 58.163 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 1.17 Mbit/s
95th percentile per-packet one-way delay: 59.571 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.40 Mbit/s
95th percentile per-packet one-way delay: 60.864 ms
Loss rate: 0.20%

Run 5: Report of WebRTC media — Data Link

