

Pantheon Report

Generated at 2018-10-26 11:42:38 (UTC).

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

Repeated the test of 18 congestion control schemes 5 times.

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

NTP offsets were measured against `nets.org.sg` and have been applied to correct the timestamps in logs.

System info:

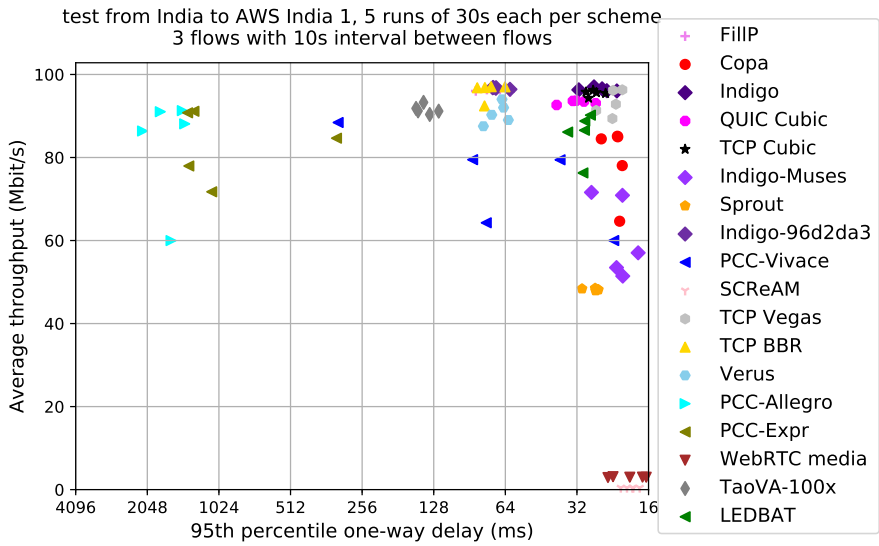
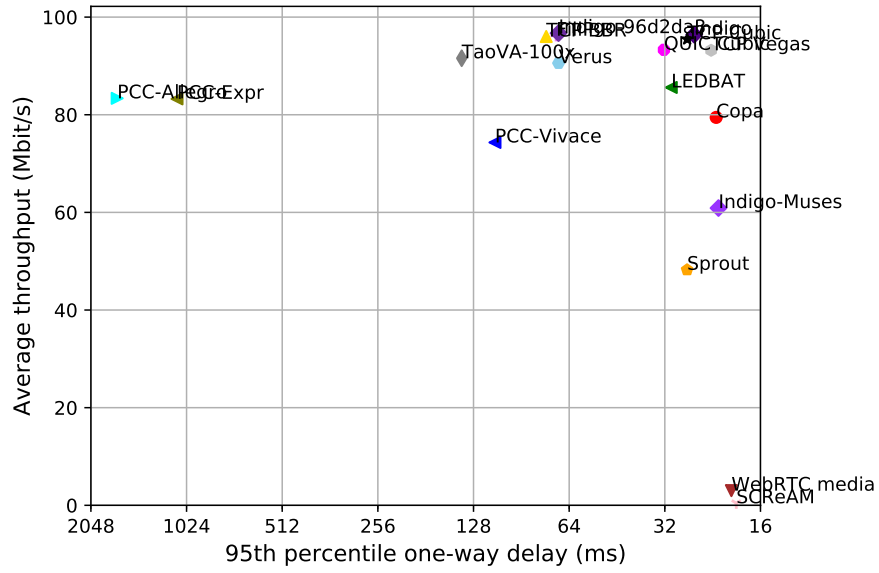
```
Linux 4.15.0-1023-aws
net.core.default_qdisc = fq
net.core.rmem_default = 16777216
net.core.rmem_max = 536870912
net.core.wmem_default = 16777216
net.core.wmem_max = 536870912
net.ipv4.tcp_rmem = 4096 16777216 536870912
net.ipv4.tcp_wmem = 4096 16777216 536870912
```

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



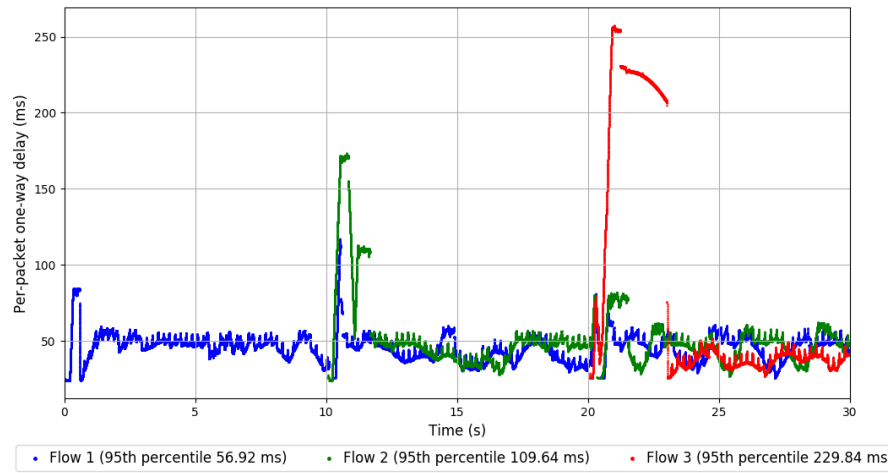
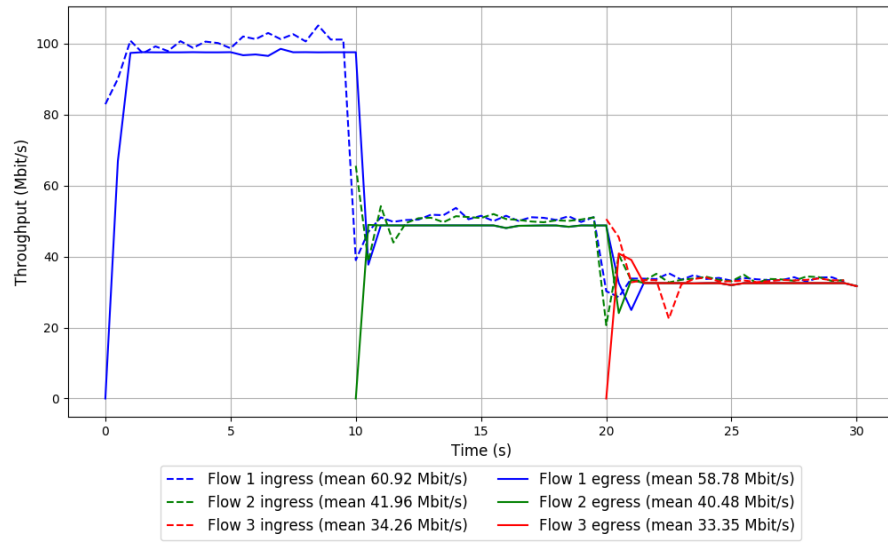
scheme	# runs	mean avg tput (Mbit/s)			mean 95th-%ile delay (ms)			mean loss rate (%)		
		flow 1	flow 2	flow 3	flow 1	flow 2	flow 3	flow 1	flow 2	flow 3
TCP BBR	5	56.50	40.59	37.68	55.25	101.52	114.60	2.96	3.49	3.31
Copa	5	49.01	31.76	27.98	21.77	22.50	21.98	0.06	0.11	0.22
TCP Cubic	5	59.10	41.69	25.98	27.02	27.26	28.21	0.07	0.15	0.34
FillP	5	58.96	40.02	32.05	57.18	79.57	211.49	1.40	1.36	0.98
Indigo	5	57.76	41.43	33.80	25.21	25.54	26.45	0.05	0.14	0.32
Indigo-96d2da3	5	58.57	42.07	30.73	68.46	68.38	103.47	3.99	6.20	5.74
LEDBAT	5	51.79	36.70	30.03	29.67	31.34	32.75	0.11	0.25	0.29
Indigo-Muses	5	34.71	22.61	33.68	20.44	23.18	25.31	0.04	0.05	0.51
PCC-Allegro	5	49.46	38.38	24.95	1384.17	684.71	30.60	8.20	4.99	0.33
PCC-Expr	5	52.00	36.87	20.43	917.69	643.82	78.13	11.86	8.06	1.23
QUIC Cubic	5	55.64	42.57	27.96	32.92	33.21	51.83	0.10	0.26	0.68
SCReAM	5	0.21	0.21	0.22	19.07	19.06	19.08	0.13	0.19	0.35
Sprout	5	24.34	24.14	23.82	26.48	27.56	27.63	0.08	0.14	0.33
TaoVA-100x	5	57.47	37.42	27.64	86.02	175.50	179.06	0.27	0.95	2.56
TCP Vegas	5	56.22	37.89	35.43	22.62	23.69	23.04	0.07	0.16	0.27
Verus	5	55.93	36.45	31.33	67.16	82.19	158.23	0.54	0.44	0.67
PCC-Vivace	5	43.66	35.46	21.48	58.61	47.81	97.52	0.11	0.18	2.12
WebRTC media	5	1.59	0.99	0.43	19.27	19.81	19.93	0.03	0.18	0.04

Run 1: Statistics of TCP BBR

Start at: 2018-10-26 09:49:32
End at: 2018-10-26 09:50:02
Local clock offset: 2.976 ms
Remote clock offset: -5.337 ms

Below is generated by plot.py at 2018-10-26 11:31:19
Datalink statistics
-- Total of 3 flows:
Average throughput: 96.80 Mbit/s
95th percentile per-packet one-way delay: 83.974 ms
Loss rate: 3.54%
-- Flow 1:
Average throughput: 58.78 Mbit/s
95th percentile per-packet one-way delay: 56.925 ms
Loss rate: 3.61%
-- Flow 2:
Average throughput: 40.48 Mbit/s
95th percentile per-packet one-way delay: 109.635 ms
Loss rate: 3.67%
-- Flow 3:
Average throughput: 33.35 Mbit/s
95th percentile per-packet one-way delay: 229.839 ms
Loss rate: 2.91%

Run 1: Report of TCP BBR — Data Link



Run 2: Statistics of TCP BBR

Start at: 2018-10-26 10:11:57

End at: 2018-10-26 10:12:27

Local clock offset: 1.743 ms

Remote clock offset: -2.69 ms

Below is generated by plot.py at 2018-10-26 11:31:19

Datalink statistics

-- Total of 3 flows:

Average throughput: 96.85 Mbit/s

95th percentile per-packet one-way delay: 78.011 ms

Loss rate: 2.70%

-- Flow 1:

Average throughput: 56.28 Mbit/s

95th percentile per-packet one-way delay: 50.314 ms

Loss rate: 2.22%

-- Flow 2:

Average throughput: 36.75 Mbit/s

95th percentile per-packet one-way delay: 111.291 ms

Loss rate: 3.72%

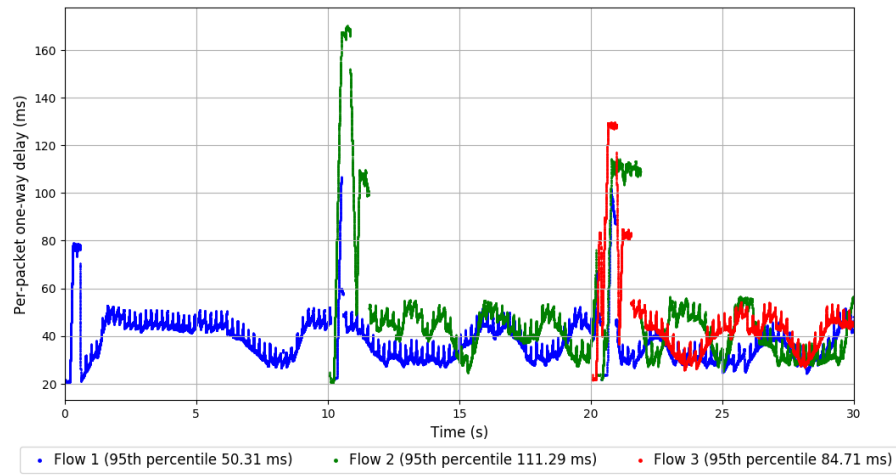
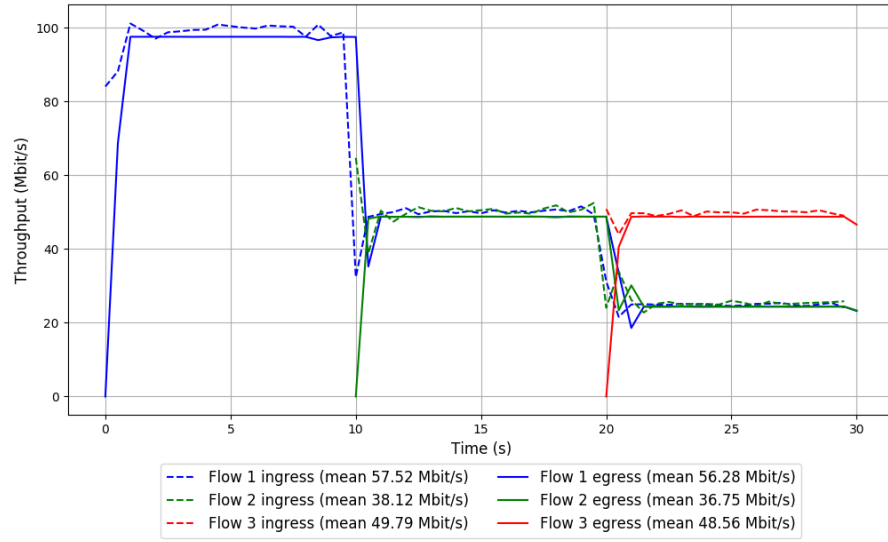
-- Flow 3:

Average throughput: 48.56 Mbit/s

95th percentile per-packet one-way delay: 84.709 ms

Loss rate: 2.76%

Run 2: Report of TCP BBR — Data Link



Run 3: Statistics of TCP BBR

Start at: 2018-10-26 10:34:29

End at: 2018-10-26 10:34:59

Local clock offset: -0.01 ms

Remote clock offset: 0.215 ms

Below is generated by plot.py at 2018-10-26 11:31:20

Datalink statistics

-- Total of 3 flows:

Average throughput: 97.05 Mbit/s

95th percentile per-packet one-way delay: 73.413 ms

Loss rate: 2.75%

-- Flow 1:

Average throughput: 56.39 Mbit/s

95th percentile per-packet one-way delay: 46.736 ms

Loss rate: 2.40%

-- Flow 2:

Average throughput: 36.93 Mbit/s

95th percentile per-packet one-way delay: 98.261 ms

Loss rate: 2.71%

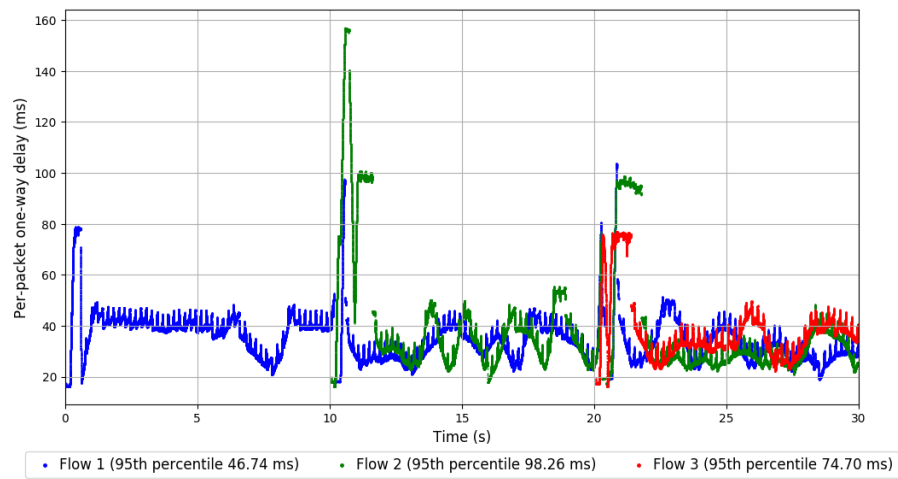
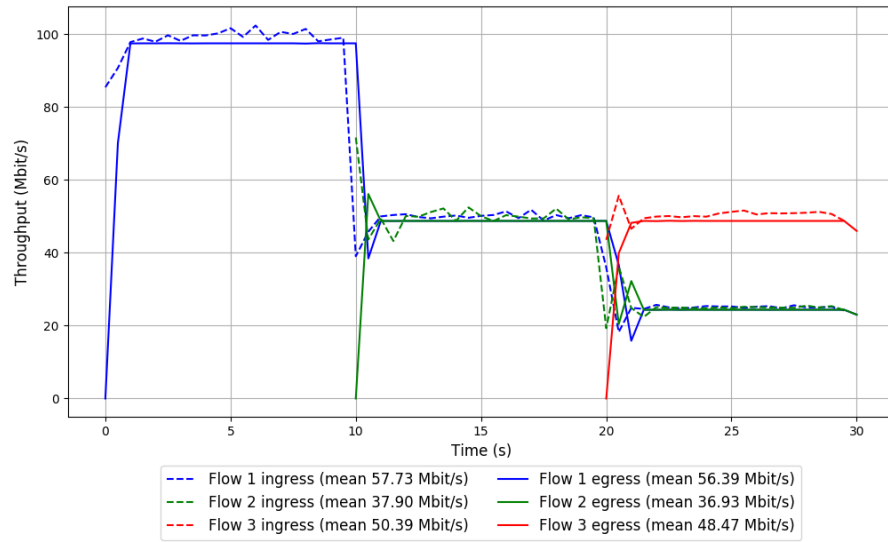
-- Flow 3:

Average throughput: 48.47 Mbit/s

95th percentile per-packet one-way delay: 74.700 ms

Loss rate: 4.05%

Run 3: Report of TCP BBR — Data Link

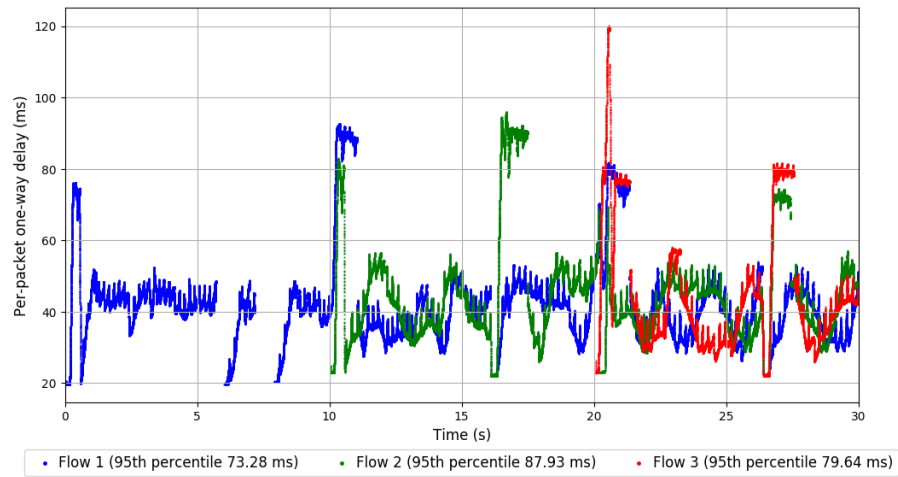
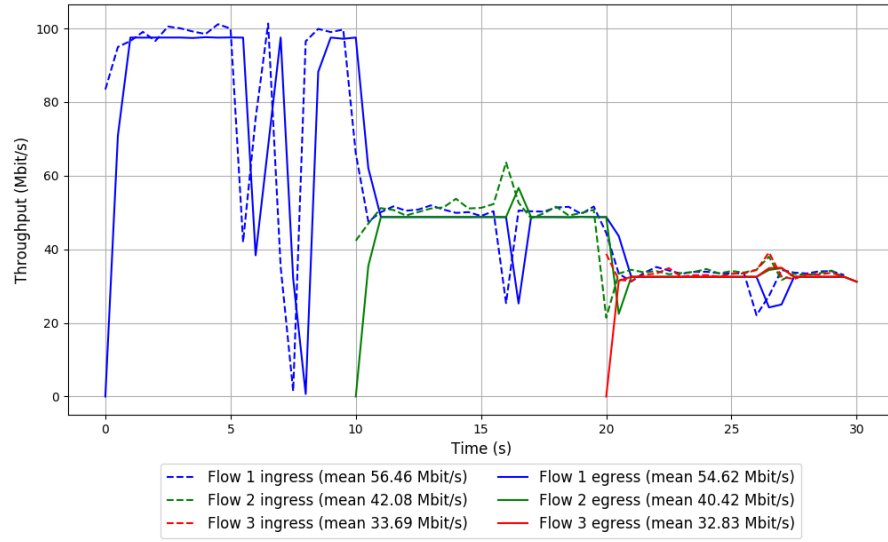


Run 4: Statistics of TCP BBR

Start at: 2018-10-26 10:56:54
End at: 2018-10-26 10:57:24
Local clock offset: 4.615 ms
Remote clock offset: -2.093 ms

Below is generated by plot.py at 2018-10-26 11:31:20
Datalink statistics
-- Total of 3 flows:
Average throughput: 92.43 Mbit/s
95th percentile per-packet one-way delay: 78.277 ms
Loss rate: 3.49%
-- Flow 1:
Average throughput: 54.62 Mbit/s
95th percentile per-packet one-way delay: 73.275 ms
Loss rate: 3.34%
-- Flow 2:
Average throughput: 40.42 Mbit/s
95th percentile per-packet one-way delay: 87.933 ms
Loss rate: 4.06%
-- Flow 3:
Average throughput: 32.83 Mbit/s
95th percentile per-packet one-way delay: 79.636 ms
Loss rate: 2.81%

Run 4: Report of TCP BBR — Data Link

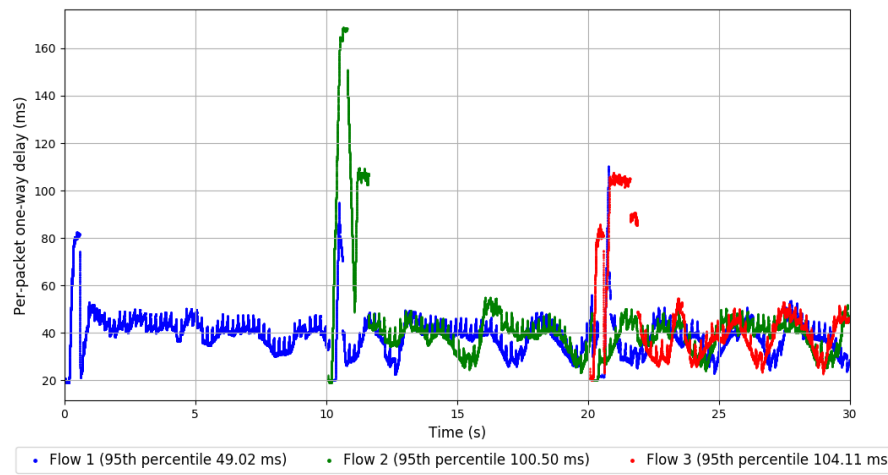
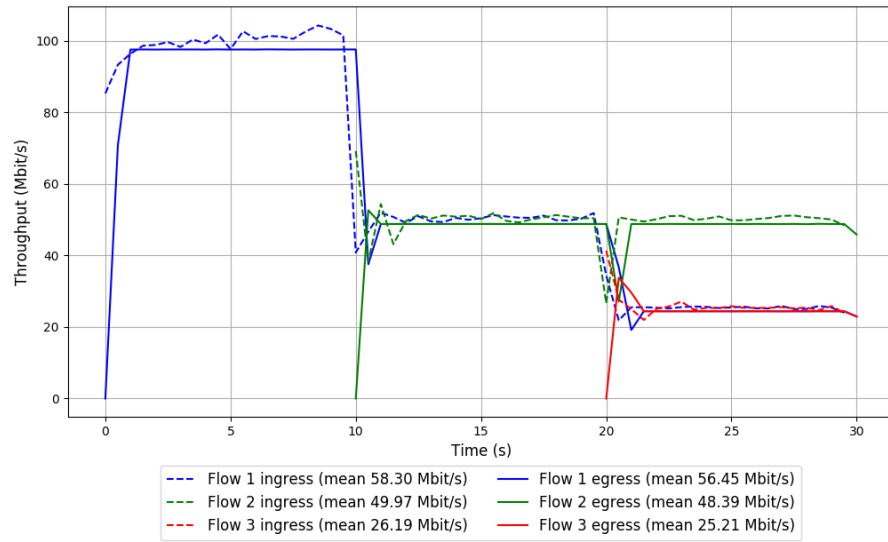


Run 5: Statistics of TCP BBR

Start at: 2018-10-26 11:18:51
End at: 2018-10-26 11:19:21
Local clock offset: 1.137 ms
Remote clock offset: -2.673 ms

Below is generated by plot.py at 2018-10-26 11:31:20
Datalink statistics
-- Total of 3 flows:
Average throughput: 97.02 Mbit/s
95th percentile per-packet one-way delay: 64.203 ms
Loss rate: 3.32%
-- Flow 1:
Average throughput: 56.45 Mbit/s
95th percentile per-packet one-way delay: 49.016 ms
Loss rate: 3.25%
-- Flow 2:
Average throughput: 48.39 Mbit/s
95th percentile per-packet one-way delay: 100.500 ms
Loss rate: 3.27%
-- Flow 3:
Average throughput: 25.21 Mbit/s
95th percentile per-packet one-way delay: 104.110 ms
Loss rate: 4.00%

Run 5: Report of TCP BBR — Data Link

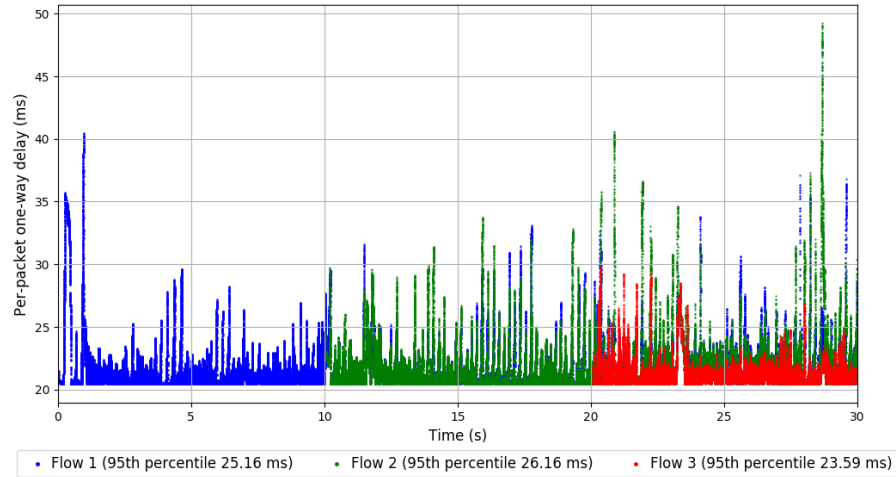
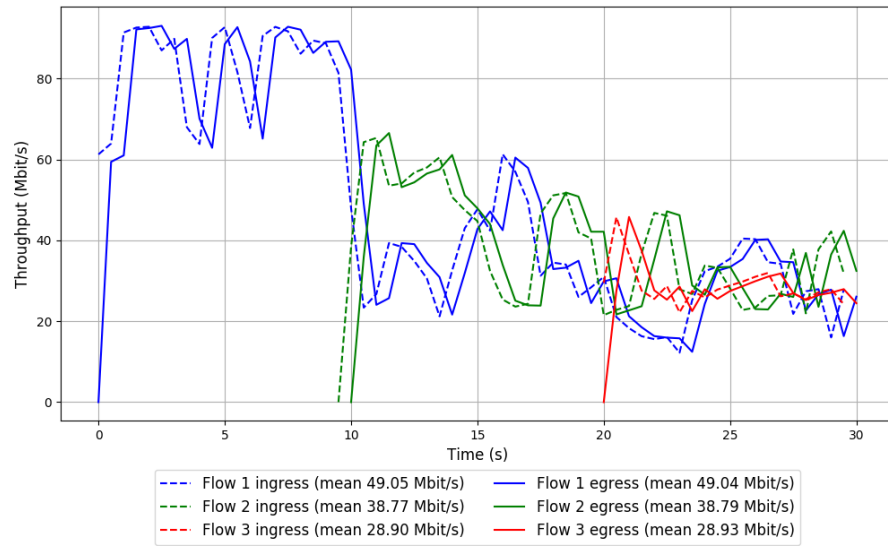


Run 1: Statistics of Copa

Start at: 2018-10-26 09:58:15
End at: 2018-10-26 09:58:45
Local clock offset: 0.516 ms
Remote clock offset: -4.328 ms

Below is generated by plot.py at 2018-10-26 11:32:04
Datalink statistics
-- Total of 3 flows:
Average throughput: 84.49 Mbit/s
95th percentile per-packet one-way delay: 25.283 ms
Loss rate: 0.10%
-- Flow 1:
Average throughput: 49.04 Mbit/s
95th percentile per-packet one-way delay: 25.163 ms
Loss rate: 0.09%
-- Flow 2:
Average throughput: 38.79 Mbit/s
95th percentile per-packet one-way delay: 26.160 ms
Loss rate: 0.07%
-- Flow 3:
Average throughput: 28.93 Mbit/s
95th percentile per-packet one-way delay: 23.591 ms
Loss rate: 0.17%

Run 1: Report of Copa — Data Link



Run 2: Statistics of Copa

Start at: 2018-10-26 10:20:40

End at: 2018-10-26 10:21:10

Local clock offset: 0.963 ms

Remote clock offset: 0.117 ms

Below is generated by plot.py at 2018-10-26 11:32:09

Datalink statistics

-- Total of 3 flows:

Average throughput: 85.12 Mbit/s

95th percentile per-packet one-way delay: 21.636 ms

Loss rate: 0.09%

-- Flow 1:

Average throughput: 60.25 Mbit/s

95th percentile per-packet one-way delay: 21.757 ms

Loss rate: 0.07%

-- Flow 2:

Average throughput: 26.96 Mbit/s

95th percentile per-packet one-way delay: 21.495 ms

Loss rate: 0.08%

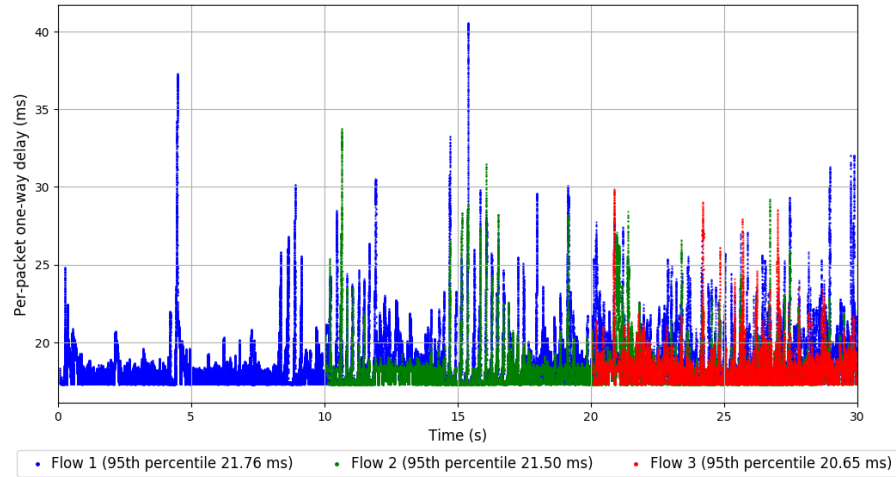
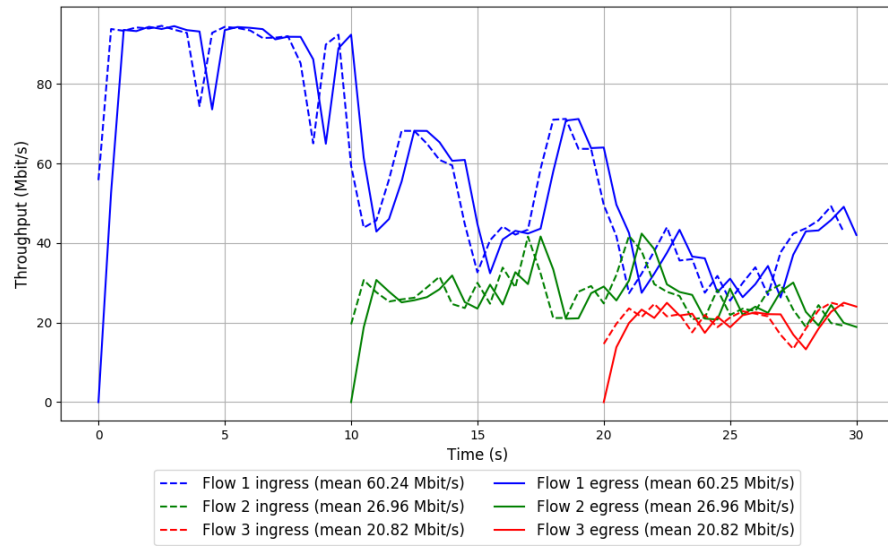
-- Flow 3:

Average throughput: 20.82 Mbit/s

95th percentile per-packet one-way delay: 20.647 ms

Loss rate: 0.26%

Run 2: Report of Copa — Data Link

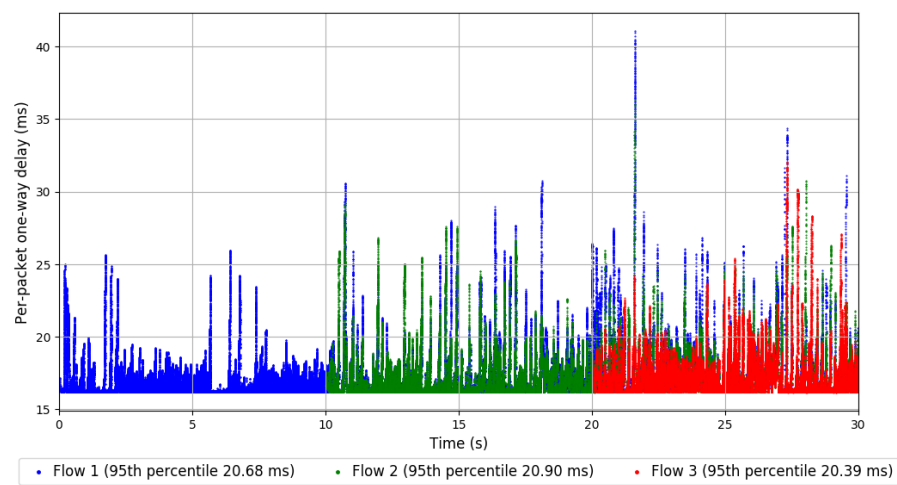
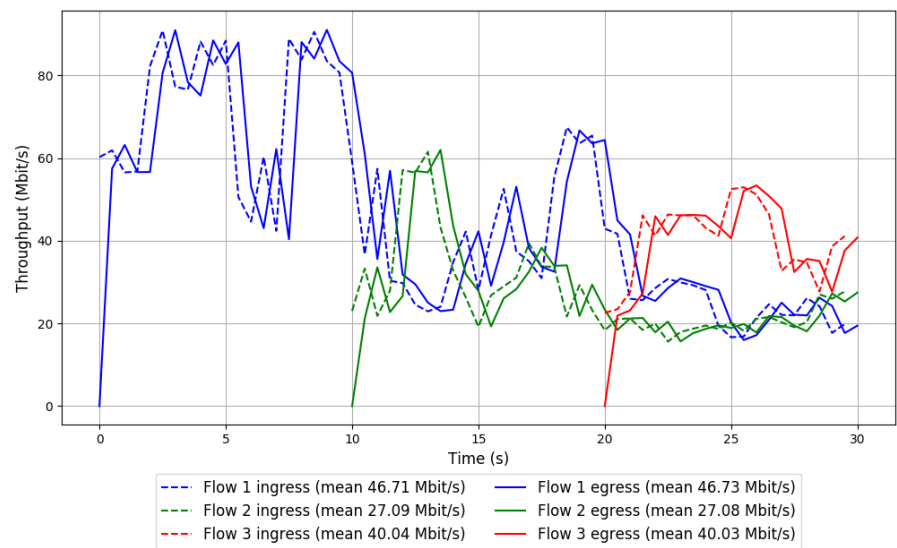


Run 3: Statistics of Copa

Start at: 2018-10-26 10:43:19
End at: 2018-10-26 10:43:49
Local clock offset: 1.012 ms
Remote clock offset: -1.875 ms

Below is generated by plot.py at 2018-10-26 11:32:09
Datalink statistics
-- Total of 3 flows:
Average throughput: 78.05 Mbit/s
95th percentile per-packet one-way delay: 20.638 ms
Loss rate: 0.10%
-- Flow 1:
Average throughput: 46.73 Mbit/s
95th percentile per-packet one-way delay: 20.675 ms
Loss rate: 0.04%
-- Flow 2:
Average throughput: 27.08 Mbit/s
95th percentile per-packet one-way delay: 20.900 ms
Loss rate: 0.14%
-- Flow 3:
Average throughput: 40.03 Mbit/s
95th percentile per-packet one-way delay: 20.385 ms
Loss rate: 0.25%

Run 3: Report of Copa — Data Link

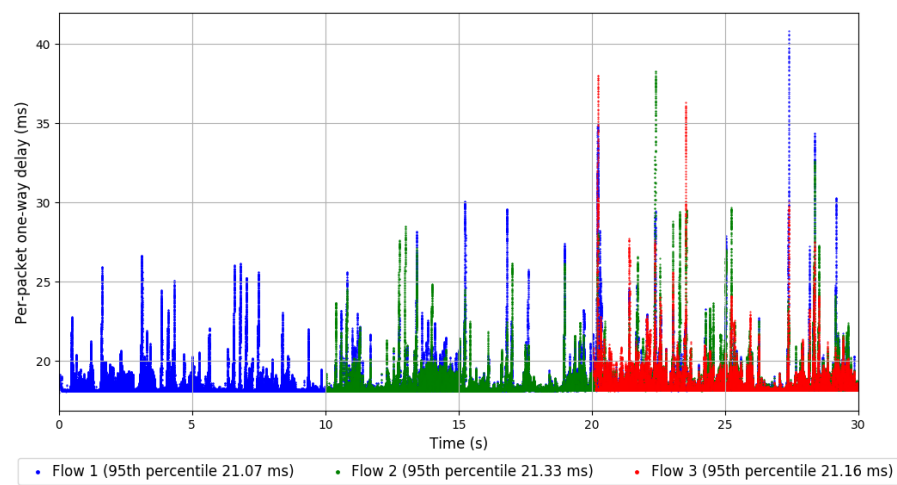
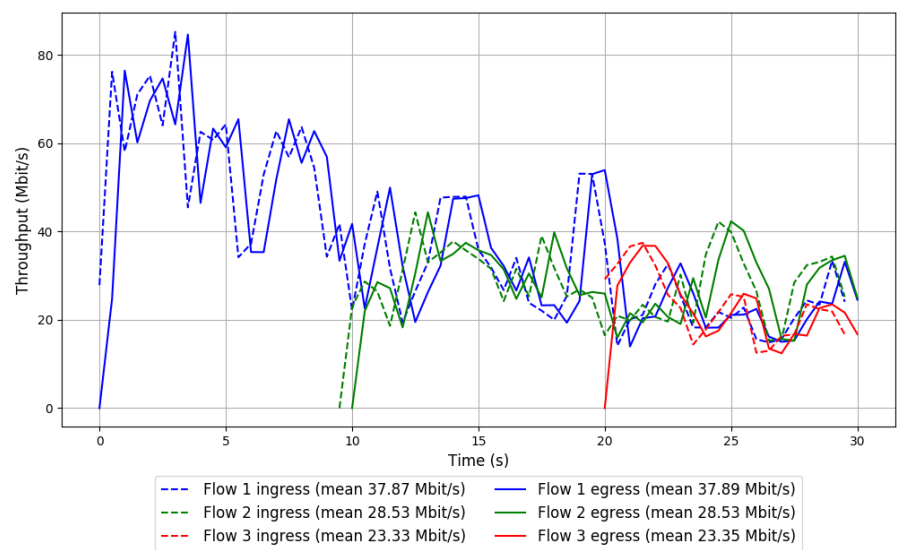


Run 4: Statistics of Copa

Start at: 2018-10-26 11:05:36
End at: 2018-10-26 11:06:06
Local clock offset: 2.25 ms
Remote clock offset: -1.736 ms

Below is generated by plot.py at 2018-10-26 11:32:45
Datalink statistics
-- Total of 3 flows:
Average throughput: 64.65 Mbit/s
95th percentile per-packet one-way delay: 21.166 ms
Loss rate: 0.07%
-- Flow 1:
Average throughput: 37.89 Mbit/s
95th percentile per-packet one-way delay: 21.069 ms
Loss rate: 0.03%
-- Flow 2:
Average throughput: 28.53 Mbit/s
95th percentile per-packet one-way delay: 21.329 ms
Loss rate: 0.13%
-- Flow 3:
Average throughput: 23.35 Mbit/s
95th percentile per-packet one-way delay: 21.161 ms
Loss rate: 0.15%

Run 4: Report of Copa — Data Link

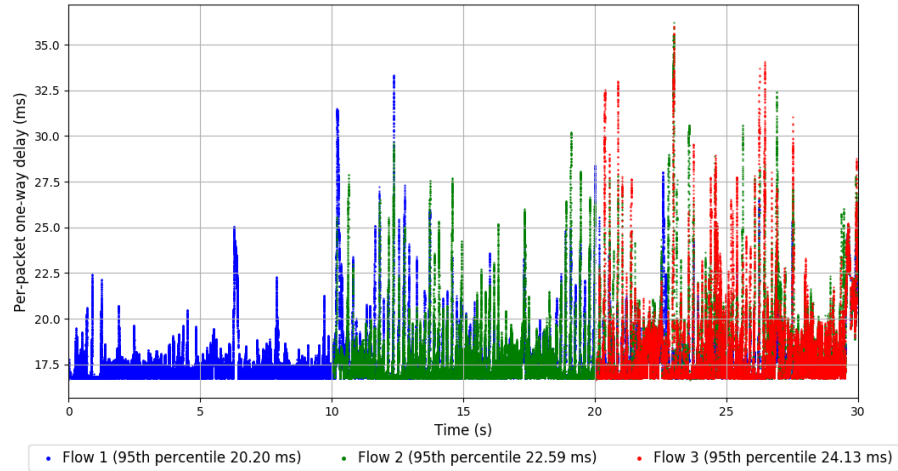
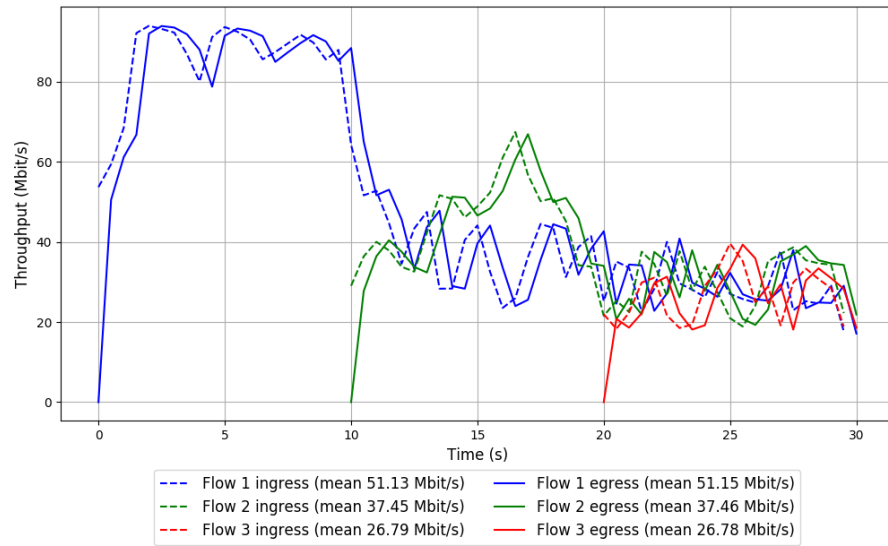


Run 5: Statistics of Copa

Start at: 2018-10-26 11:27:33
End at: 2018-10-26 11:28:03
Local clock offset: -0.616 ms
Remote clock offset: -2.177 ms

Below is generated by plot.py at 2018-10-26 11:33:13
Datalink statistics
-- Total of 3 flows:
Average throughput: 84.98 Mbit/s
95th percentile per-packet one-way delay: 21.550 ms
Loss rate: 0.09%
-- Flow 1:
Average throughput: 51.15 Mbit/s
95th percentile per-packet one-way delay: 20.199 ms
Loss rate: 0.05%
-- Flow 2:
Average throughput: 37.46 Mbit/s
95th percentile per-packet one-way delay: 22.595 ms
Loss rate: 0.11%
-- Flow 3:
Average throughput: 26.78 Mbit/s
95th percentile per-packet one-way delay: 24.130 ms
Loss rate: 0.26%

Run 5: Report of Copa — Data Link



Run 1: Statistics of TCP Cubic

Start at: 2018-10-26 09:54:24

End at: 2018-10-26 09:54:54

Local clock offset: 0.37 ms

Remote clock offset: -4.61 ms

Below is generated by plot.py at 2018-10-26 11:33:13

Datalink statistics

-- Total of 3 flows:

Average throughput: 95.77 Mbit/s

95th percentile per-packet one-way delay: 29.314 ms

Loss rate: 0.13%

-- Flow 1:

Average throughput: 63.43 Mbit/s

95th percentile per-packet one-way delay: 29.228 ms

Loss rate: 0.10%

-- Flow 2:

Average throughput: 36.63 Mbit/s

95th percentile per-packet one-way delay: 29.405 ms

Loss rate: 0.12%

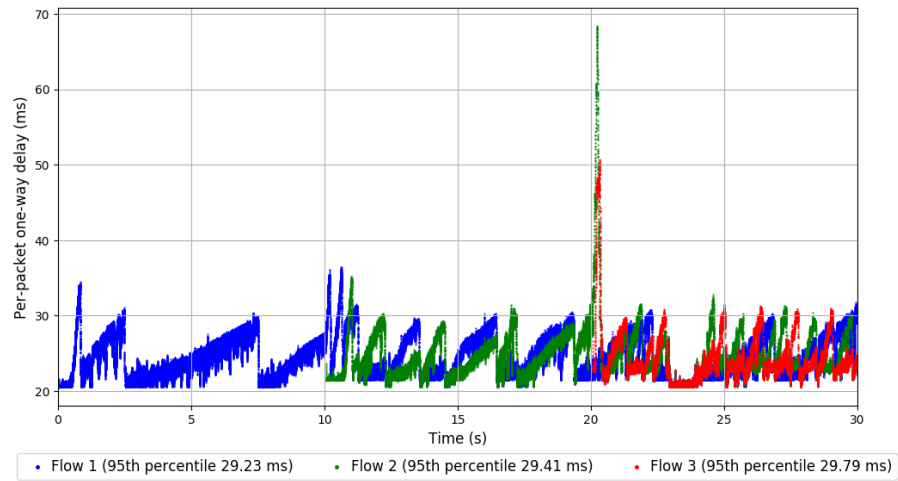
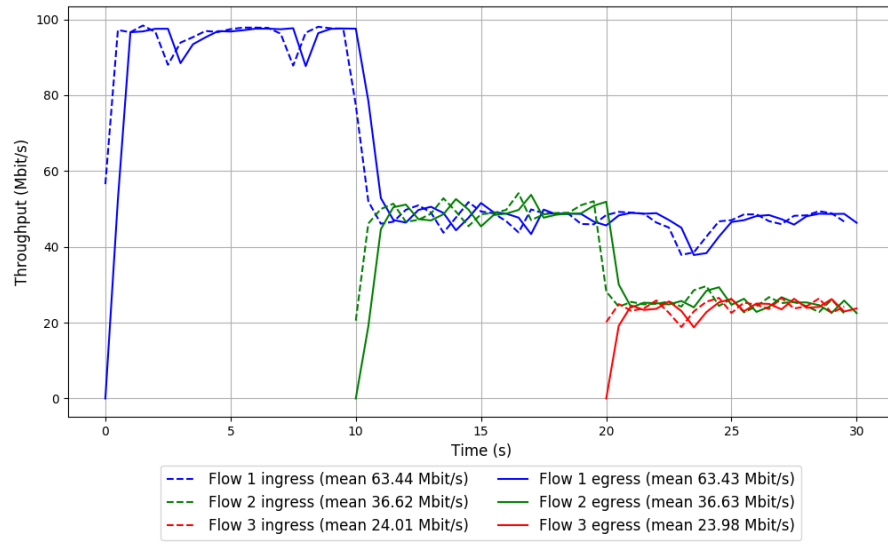
-- Flow 3:

Average throughput: 23.98 Mbit/s

95th percentile per-packet one-way delay: 29.788 ms

Loss rate: 0.40%

Run 1: Report of TCP Cubic — Data Link

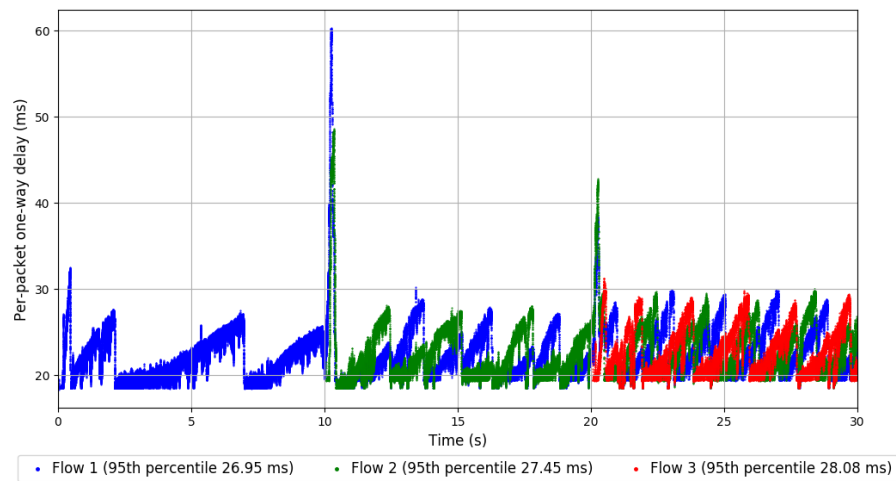
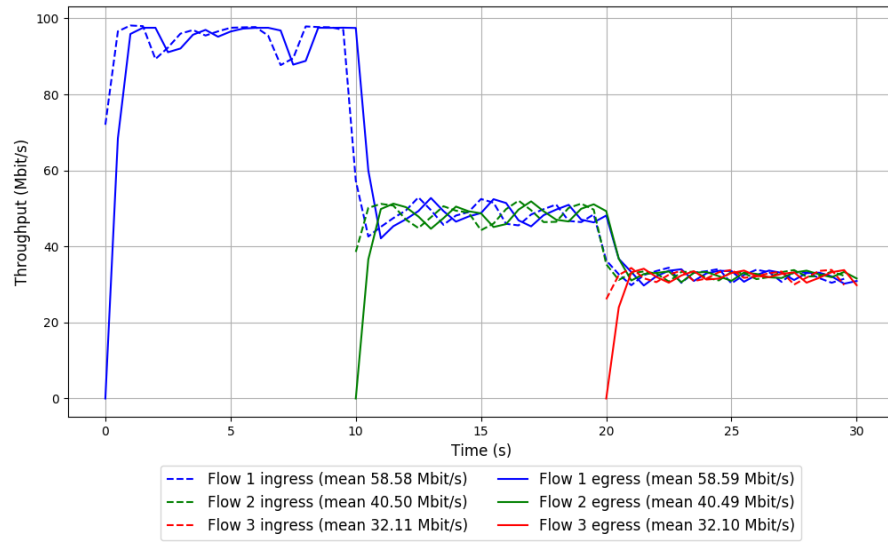


Run 2: Statistics of TCP Cubic

Start at: 2018-10-26 10:16:50
End at: 2018-10-26 10:17:20
Local clock offset: -0.116 ms
Remote clock offset: -2.226 ms

Below is generated by plot.py at 2018-10-26 11:33:13
Datalink statistics
-- Total of 3 flows:
Average throughput: 96.20 Mbit/s
95th percentile per-packet one-way delay: 27.356 ms
Loss rate: 0.12%
-- Flow 1:
Average throughput: 58.59 Mbit/s
95th percentile per-packet one-way delay: 26.949 ms
Loss rate: 0.07%
-- Flow 2:
Average throughput: 40.49 Mbit/s
95th percentile per-packet one-way delay: 27.450 ms
Loss rate: 0.15%
-- Flow 3:
Average throughput: 32.10 Mbit/s
95th percentile per-packet one-way delay: 28.082 ms
Loss rate: 0.30%

Run 2: Report of TCP Cubic — Data Link

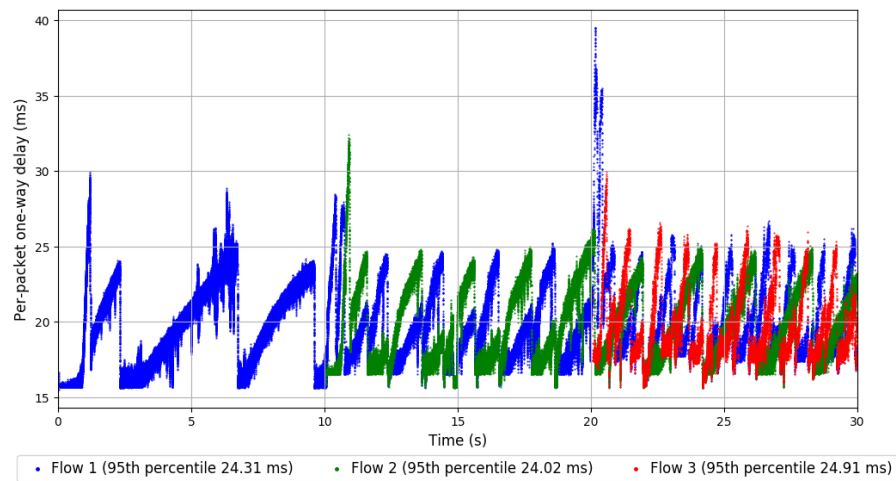
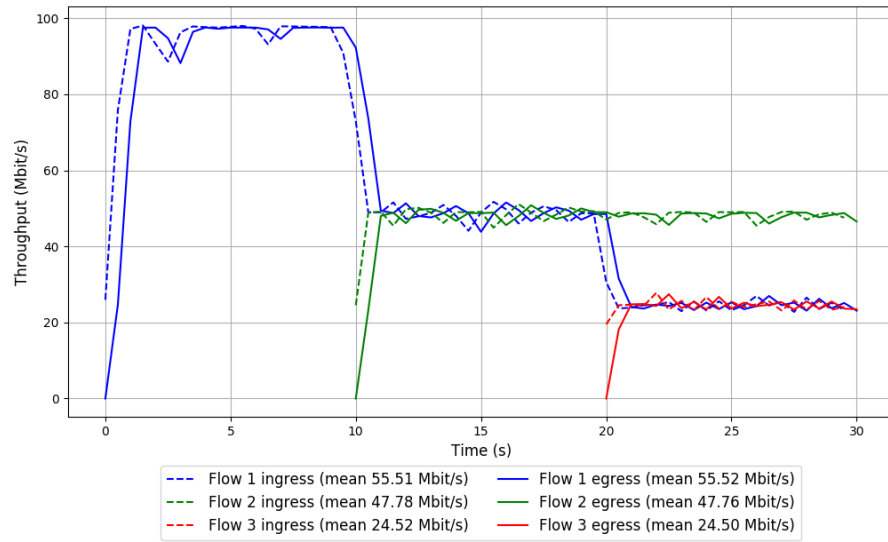


Run 3: Statistics of TCP Cubic

Start at: 2018-10-26 10:39:23
End at: 2018-10-26 10:39:53
Local clock offset: 0.998 ms
Remote clock offset: -1.197 ms

Below is generated by plot.py at 2018-10-26 11:33:13
Datalink statistics
-- Total of 3 flows:
Average throughput: 95.46 Mbit/s
95th percentile per-packet one-way delay: 24.255 ms
Loss rate: 0.11%
-- Flow 1:
Average throughput: 55.52 Mbit/s
95th percentile per-packet one-way delay: 24.308 ms
Loss rate: 0.05%
-- Flow 2:
Average throughput: 47.76 Mbit/s
95th percentile per-packet one-way delay: 24.022 ms
Loss rate: 0.16%
-- Flow 3:
Average throughput: 24.50 Mbit/s
95th percentile per-packet one-way delay: 24.909 ms
Loss rate: 0.33%

Run 3: Report of TCP Cubic — Data Link

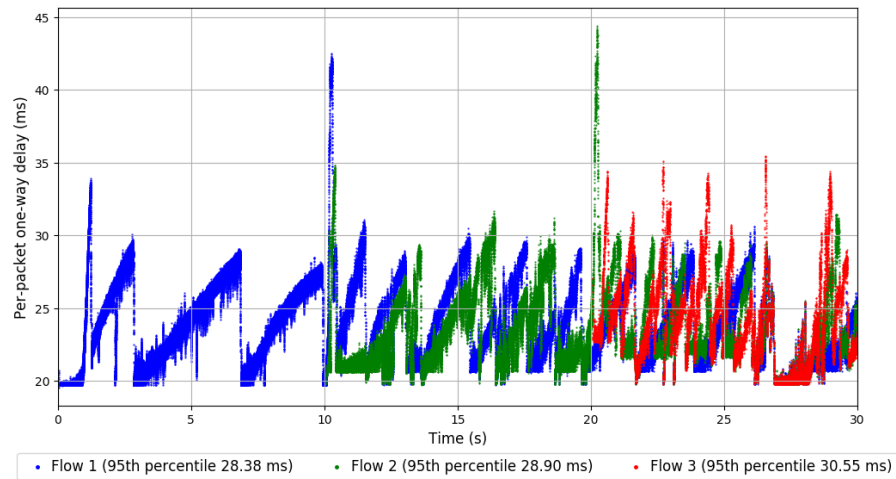
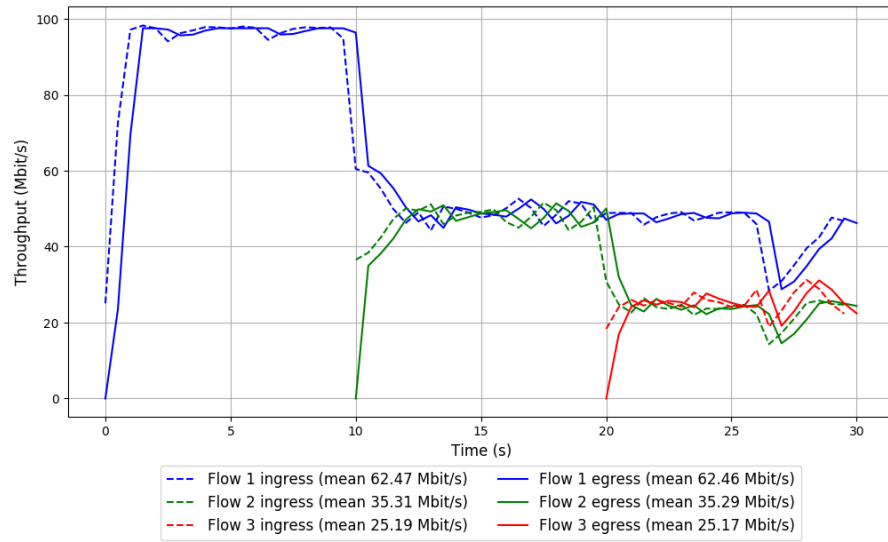


Run 4: Statistics of TCP Cubic

Start at: 2018-10-26 11:01:43
End at: 2018-10-26 11:02:13
Local clock offset: 3.321 ms
Remote clock offset: -2.969 ms

Below is generated by plot.py at 2018-10-26 11:33:13
Datalink statistics
-- Total of 3 flows:
Average throughput: 94.30 Mbit/s
95th percentile per-packet one-way delay: 28.597 ms
Loss rate: 0.13%
-- Flow 1:
Average throughput: 62.46 Mbit/s
95th percentile per-packet one-way delay: 28.384 ms
Loss rate: 0.10%
-- Flow 2:
Average throughput: 35.29 Mbit/s
95th percentile per-packet one-way delay: 28.896 ms
Loss rate: 0.15%
-- Flow 3:
Average throughput: 25.17 Mbit/s
95th percentile per-packet one-way delay: 30.545 ms
Loss rate: 0.35%

Run 4: Report of TCP Cubic — Data Link

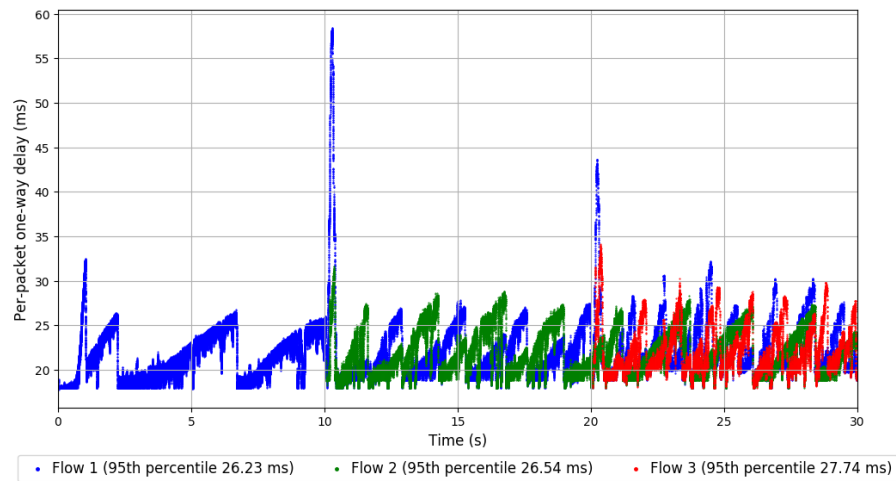
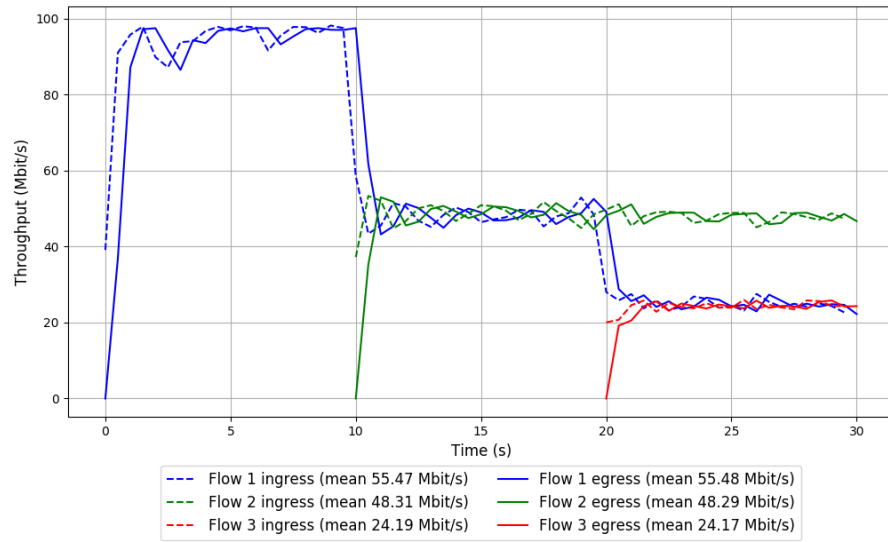


Run 5: Statistics of TCP Cubic

Start at: 2018-10-26 11:23:40
End at: 2018-10-26 11:24:10
Local clock offset: -0.148 ms
Remote clock offset: -2.944 ms

Below is generated by plot.py at 2018-10-26 11:33:14
Datalink statistics
-- Total of 3 flows:
Average throughput: 95.65 Mbit/s
95th percentile per-packet one-way delay: 26.510 ms
Loss rate: 0.11%
-- Flow 1:
Average throughput: 55.48 Mbit/s
95th percentile per-packet one-way delay: 26.226 ms
Loss rate: 0.05%
-- Flow 2:
Average throughput: 48.29 Mbit/s
95th percentile per-packet one-way delay: 26.540 ms
Loss rate: 0.16%
-- Flow 3:
Average throughput: 24.17 Mbit/s
95th percentile per-packet one-way delay: 27.739 ms
Loss rate: 0.31%

Run 5: Report of TCP Cubic — Data Link



Run 1: Statistics of FillP

Start at: 2018-10-26 09:48:19

End at: 2018-10-26 09:48:49

Local clock offset: 3.281 ms

Remote clock offset: -4.25 ms

Below is generated by plot.py at 2018-10-26 11:33:33

Datalink statistics

-- Total of 3 flows:

Average throughput: 96.04 Mbit/s

95th percentile per-packet one-way delay: 85.182 ms

Loss rate: 1.23%

-- Flow 1:

Average throughput: 56.41 Mbit/s

95th percentile per-packet one-way delay: 70.864 ms

Loss rate: 1.22%

-- Flow 2:

Average throughput: 35.70 Mbit/s

95th percentile per-packet one-way delay: 106.047 ms

Loss rate: 1.44%

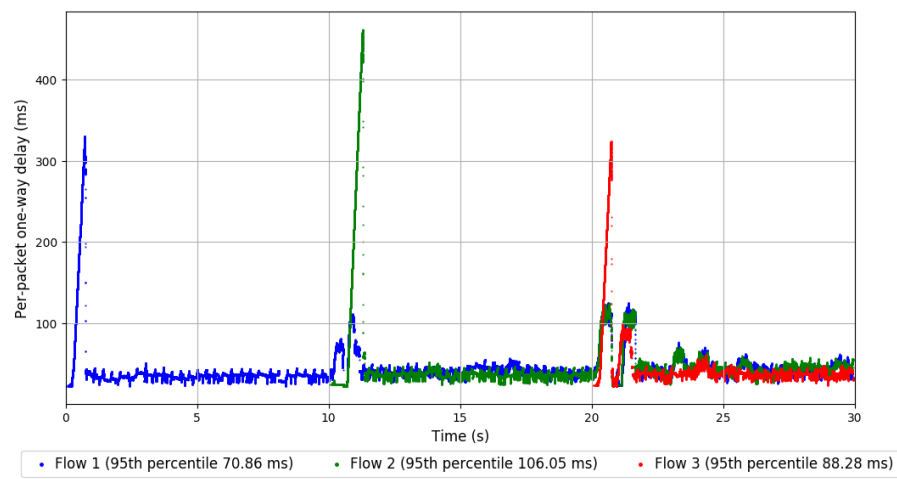
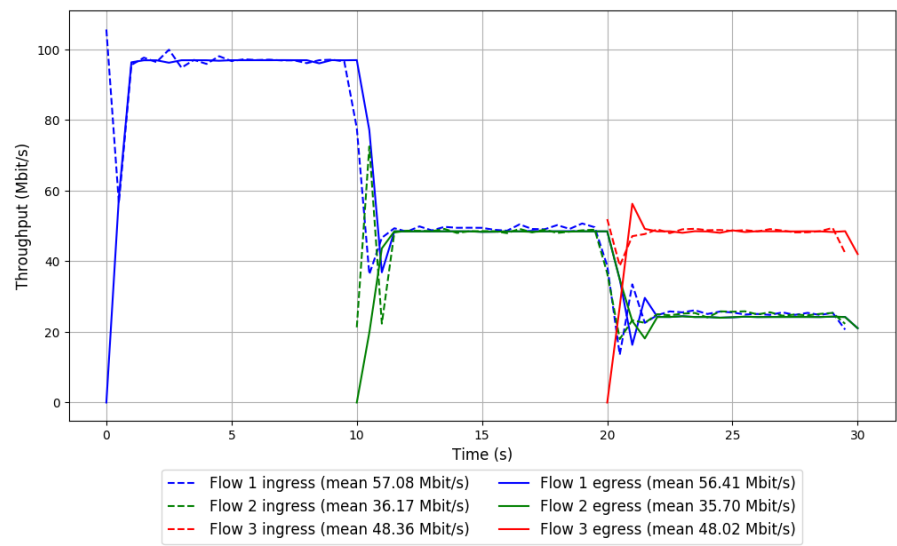
-- Flow 3:

Average throughput: 48.02 Mbit/s

95th percentile per-packet one-way delay: 88.280 ms

Loss rate: 0.96%

Run 1: Report of FillP — Data Link

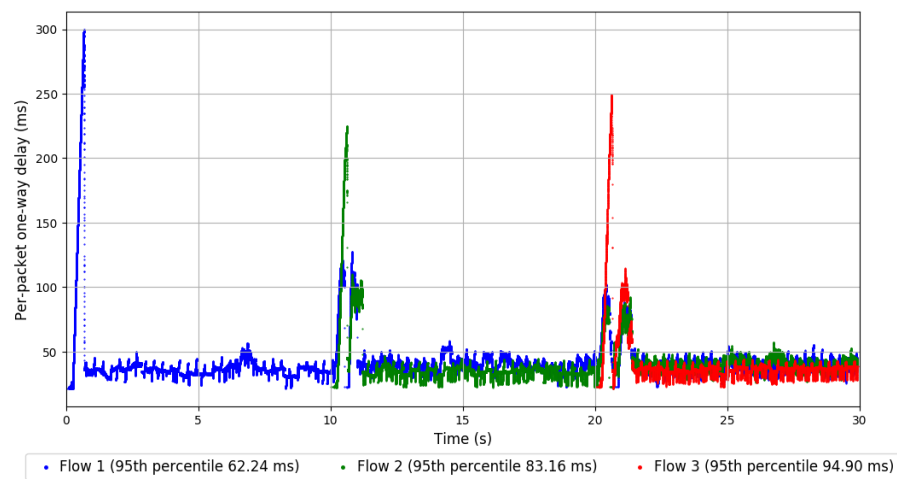
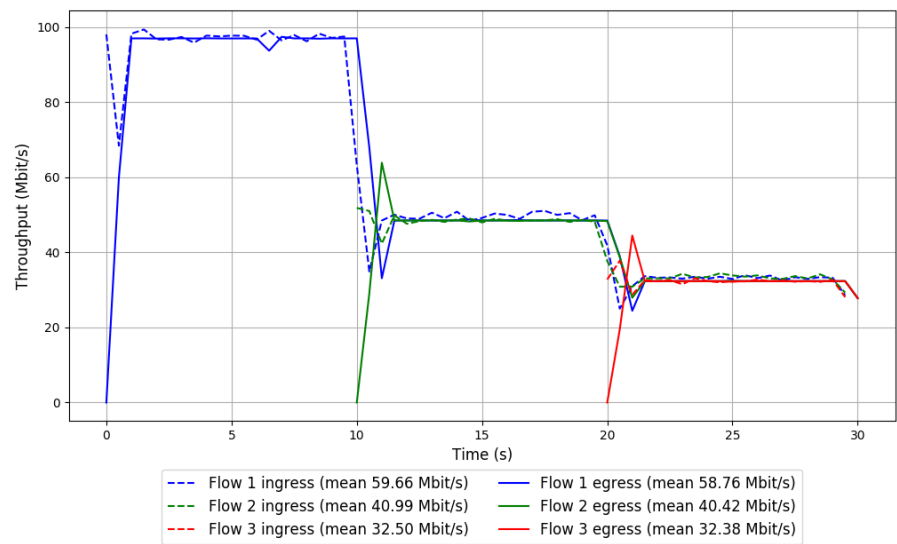


Run 2: Statistics of FillP

Start at: 2018-10-26 10:10:44
End at: 2018-10-26 10:11:14
Local clock offset: 2.133 ms
Remote clock offset: -3.203 ms

Below is generated by plot.py at 2018-10-26 11:33:51
Datalink statistics
-- Total of 3 flows:
Average throughput: 96.37 Mbit/s
95th percentile per-packet one-way delay: 76.521 ms
Loss rate: 1.47%
-- Flow 1:
Average throughput: 58.76 Mbit/s
95th percentile per-packet one-way delay: 62.242 ms
Loss rate: 1.59%
-- Flow 2:
Average throughput: 40.42 Mbit/s
95th percentile per-packet one-way delay: 83.159 ms
Loss rate: 1.52%
-- Flow 3:
Average throughput: 32.38 Mbit/s
95th percentile per-packet one-way delay: 94.897 ms
Loss rate: 0.63%

Run 2: Report of FillP — Data Link

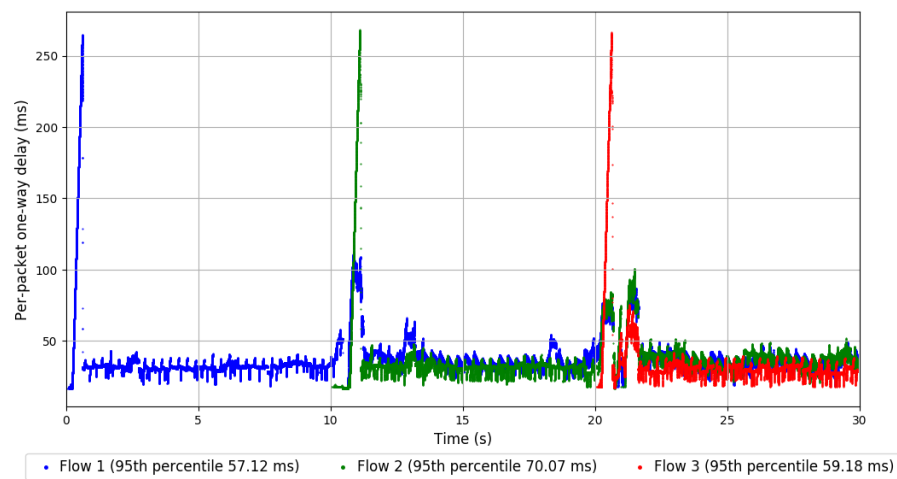
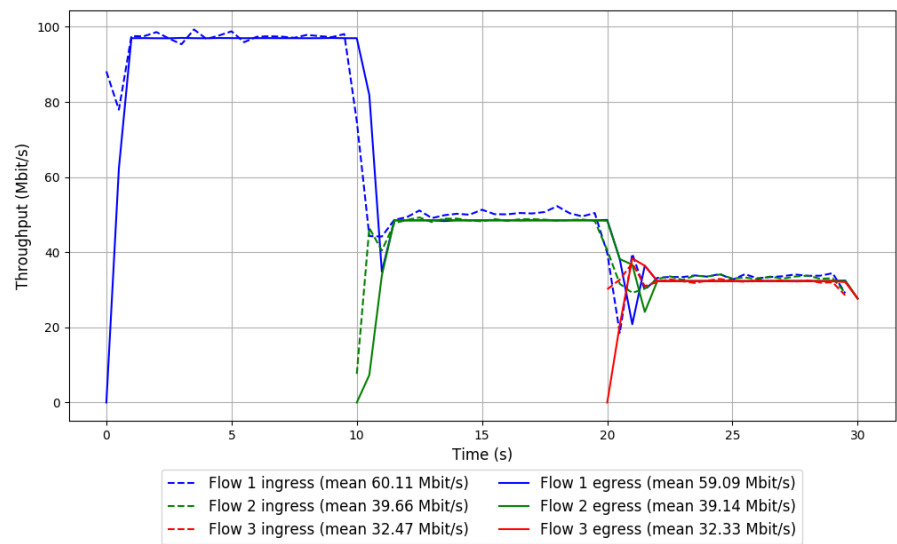


Run 3: Statistics of FillP

Start at: 2018-10-26 10:33:15
End at: 2018-10-26 10:33:45
Local clock offset: -0.667 ms
Remote clock offset: -1.112 ms

Below is generated by plot.py at 2018-10-26 11:33:51
Datalink statistics
-- Total of 3 flows:
Average throughput: 95.82 Mbit/s
95th percentile per-packet one-way delay: 61.134 ms
Loss rate: 1.56%
-- Flow 1:
Average throughput: 59.09 Mbit/s
95th percentile per-packet one-way delay: 57.116 ms
Loss rate: 1.78%
-- Flow 2:
Average throughput: 39.14 Mbit/s
95th percentile per-packet one-way delay: 70.068 ms
Loss rate: 1.43%
-- Flow 3:
Average throughput: 32.33 Mbit/s
95th percentile per-packet one-way delay: 59.178 ms
Loss rate: 0.68%

Run 3: Report of FillP — Data Link

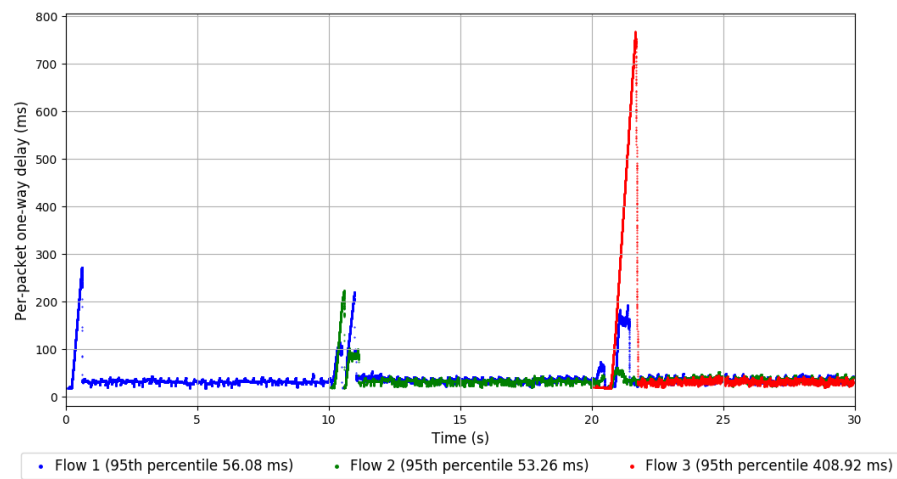
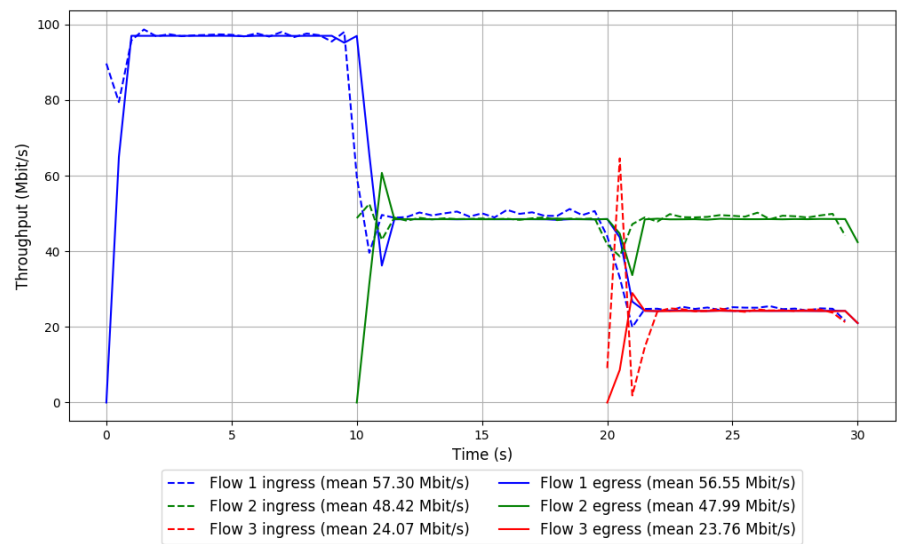


Run 4: Statistics of FillP

Start at: 2018-10-26 10:55:40
End at: 2018-10-26 10:56:10
Local clock offset: 0.498 ms
Remote clock offset: -4.805 ms

Below is generated by plot.py at 2018-10-26 11:33:52
Datalink statistics
-- Total of 3 flows:
Average throughput: 96.32 Mbit/s
95th percentile per-packet one-way delay: 61.342 ms
Loss rate: 1.25%
-- Flow 1:
Average throughput: 56.55 Mbit/s
95th percentile per-packet one-way delay: 56.080 ms
Loss rate: 1.38%
-- Flow 2:
Average throughput: 47.99 Mbit/s
95th percentile per-packet one-way delay: 53.256 ms
Loss rate: 0.99%
-- Flow 3:
Average throughput: 23.76 Mbit/s
95th percentile per-packet one-way delay: 408.917 ms
Loss rate: 1.41%

Run 4: Report of FillP — Data Link



Run 5: Statistics of FillP

Start at: 2018-10-26 11:17:39

End at: 2018-10-26 11:18:09

Local clock offset: 0.096 ms

Remote clock offset: 1.91 ms

Below is generated by plot.py at 2018-10-26 11:34:12

Datalink statistics

-- Total of 3 flows:

Average throughput: 96.38 Mbit/s

95th percentile per-packet one-way delay: 67.471 ms

Loss rate: 1.17%

-- Flow 1:

Average throughput: 63.99 Mbit/s

95th percentile per-packet one-way delay: 39.610 ms

Loss rate: 1.05%

-- Flow 2:

Average throughput: 36.84 Mbit/s

95th percentile per-packet one-way delay: 85.315 ms

Loss rate: 1.44%

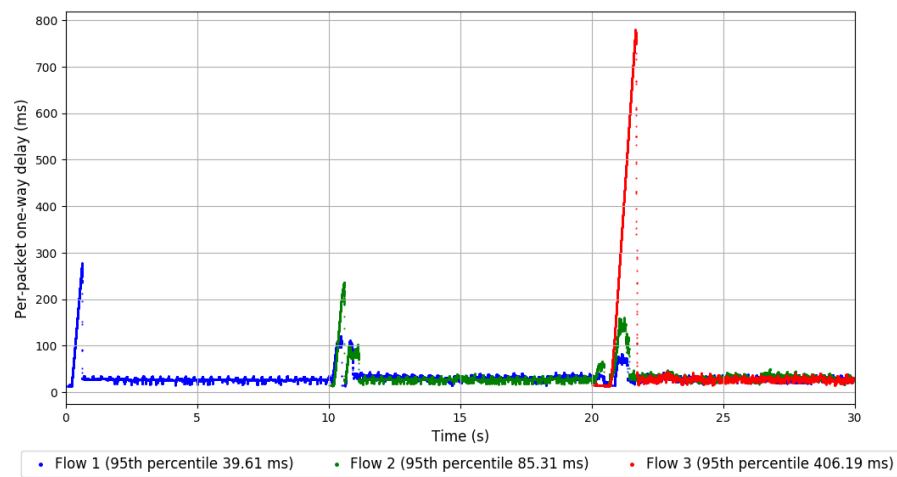
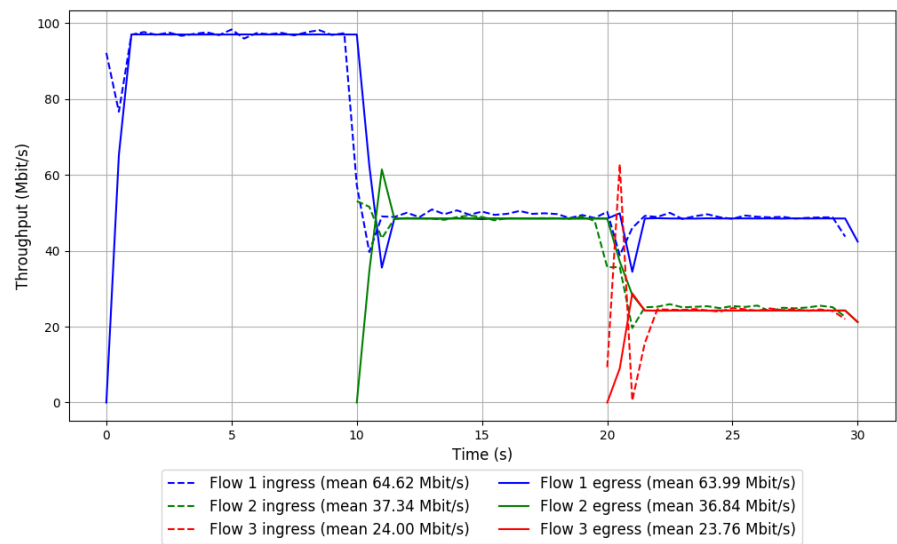
-- Flow 3:

Average throughput: 23.76 Mbit/s

95th percentile per-packet one-way delay: 406.192 ms

Loss rate: 1.22%

Run 5: Report of FillP — Data Link

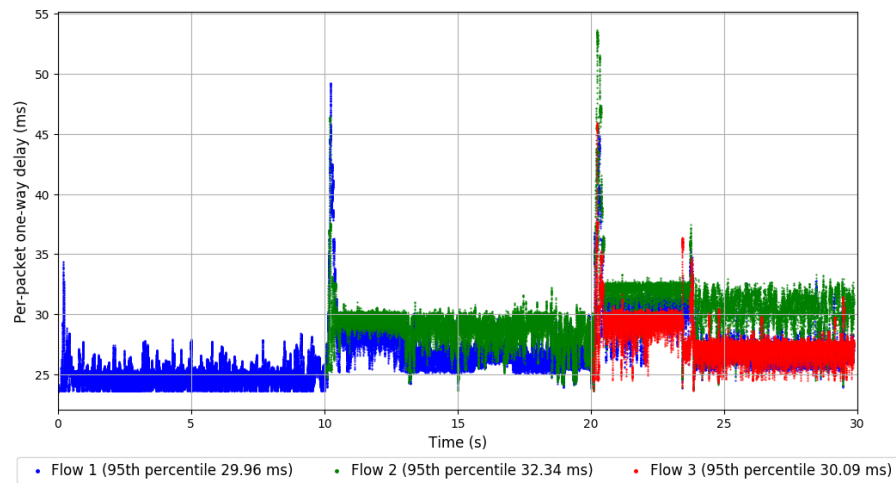
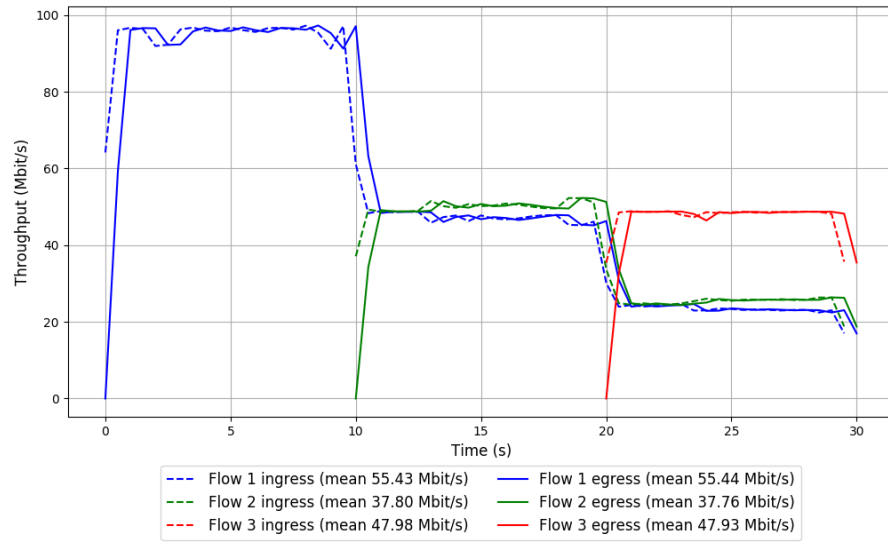


Run 1: Statistics of Indigo

Start at: 2018-10-26 09:56:58
End at: 2018-10-26 09:57:28
Local clock offset: 2.538 ms
Remote clock offset: -5.457 ms

Below is generated by plot.py at 2018-10-26 11:34:17
Datalink statistics
-- Total of 3 flows:
Average throughput: 96.30 Mbit/s
95th percentile per-packet one-way delay: 31.425 ms
Loss rate: 0.16%
-- Flow 1:
Average throughput: 55.44 Mbit/s
95th percentile per-packet one-way delay: 29.963 ms
Loss rate: 0.05%
-- Flow 2:
Average throughput: 37.76 Mbit/s
95th percentile per-packet one-way delay: 32.342 ms
Loss rate: 0.23%
-- Flow 3:
Average throughput: 47.93 Mbit/s
95th percentile per-packet one-way delay: 30.085 ms
Loss rate: 0.39%

Run 1: Report of Indigo — Data Link

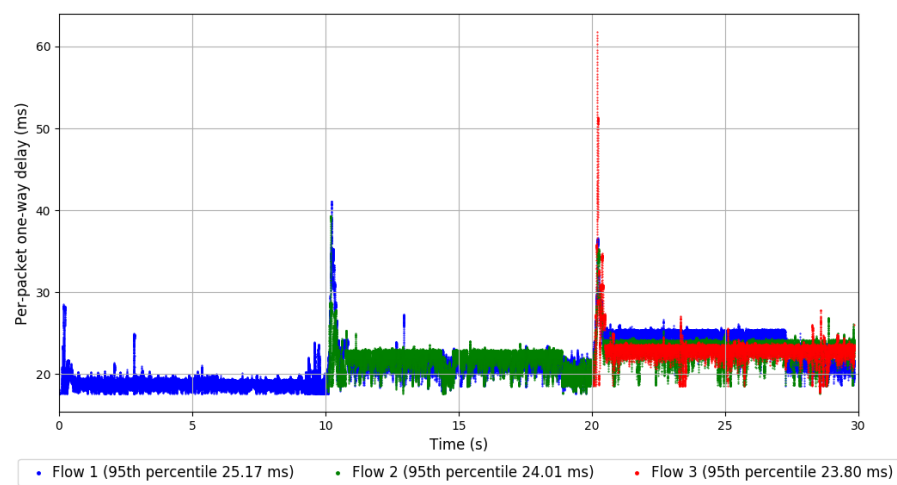
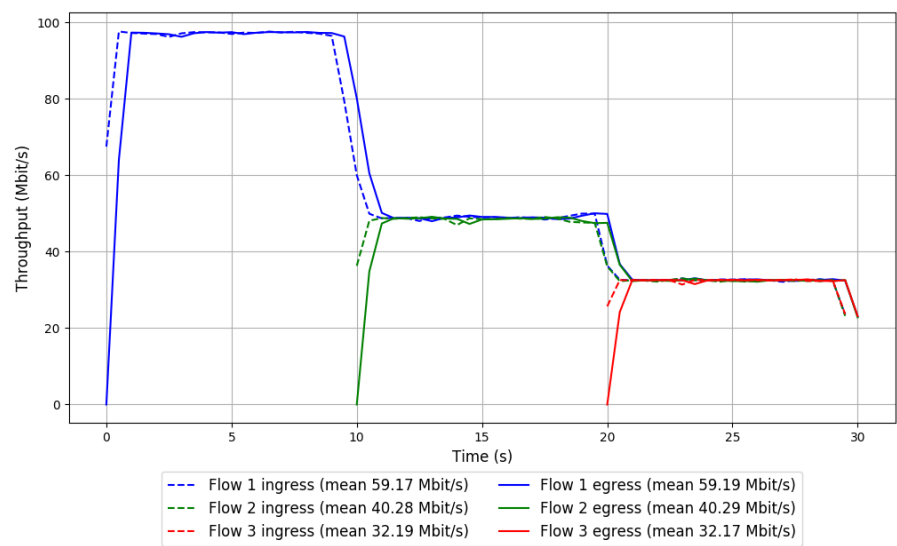


Run 2: Statistics of Indigo

Start at: 2018-10-26 10:19:25
End at: 2018-10-26 10:19:55
Local clock offset: -0.498 ms
Remote clock offset: -1.685 ms

Below is generated by plot.py at 2018-10-26 11:34:24
Datalink statistics
-- Total of 3 flows:
Average throughput: 96.55 Mbit/s
95th percentile per-packet one-way delay: 25.084 ms
Loss rate: 0.10%
-- Flow 1:
Average throughput: 59.19 Mbit/s
95th percentile per-packet one-way delay: 25.167 ms
Loss rate: 0.06%
-- Flow 2:
Average throughput: 40.29 Mbit/s
95th percentile per-packet one-way delay: 24.012 ms
Loss rate: 0.12%
-- Flow 3:
Average throughput: 32.17 Mbit/s
95th percentile per-packet one-way delay: 23.804 ms
Loss rate: 0.32%

Run 2: Report of Indigo — Data Link

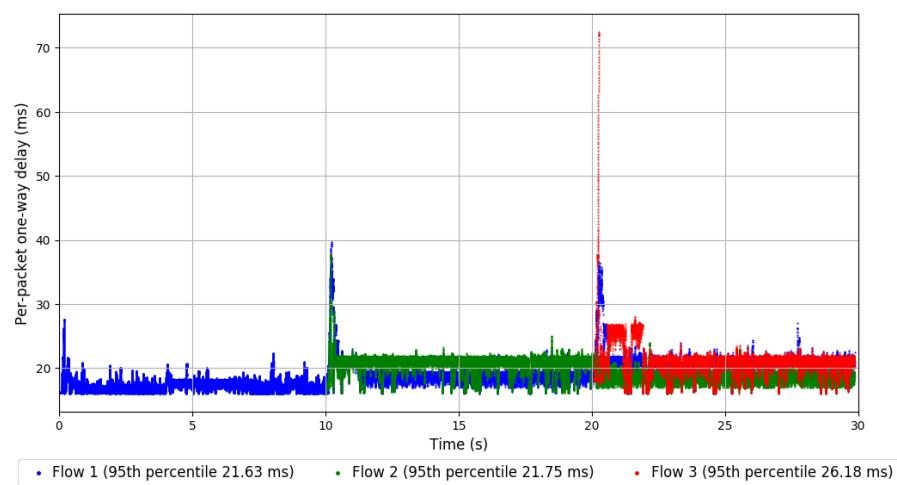
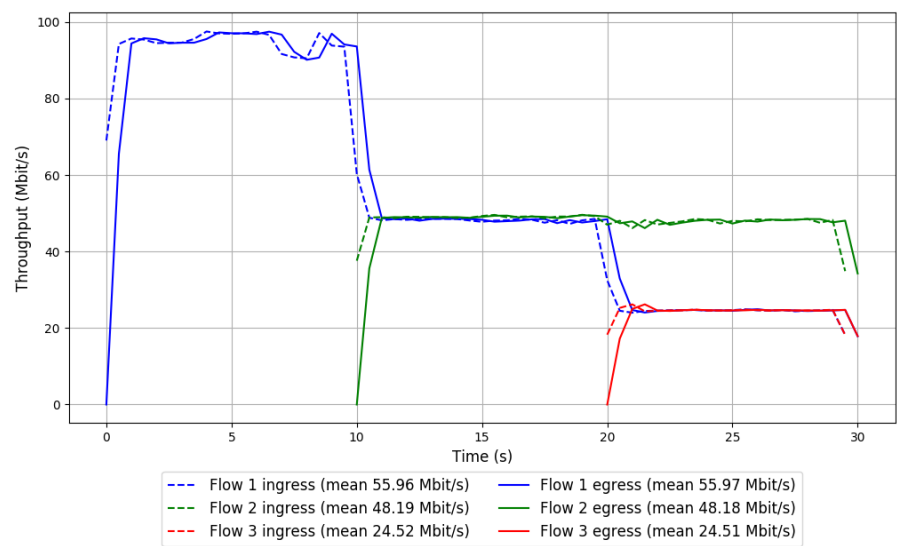


Run 3: Statistics of Indigo

Start at: 2018-10-26 10:42:02
End at: 2018-10-26 10:42:32
Local clock offset: 0.957 ms
Remote clock offset: -1.763 ms

Below is generated by plot.py at 2018-10-26 11:34:25
Datalink statistics
-- Total of 3 flows:
Average throughput: 96.04 Mbit/s
95th percentile per-packet one-way delay: 21.749 ms
Loss rate: 0.09%
-- Flow 1:
Average throughput: 55.97 Mbit/s
95th percentile per-packet one-way delay: 21.630 ms
Loss rate: 0.04%
-- Flow 2:
Average throughput: 48.18 Mbit/s
95th percentile per-packet one-way delay: 21.745 ms
Loss rate: 0.13%
-- Flow 3:
Average throughput: 24.51 Mbit/s
95th percentile per-packet one-way delay: 26.183 ms
Loss rate: 0.29%

Run 3: Report of Indigo — Data Link



Run 4: Statistics of Indigo

Start at: 2018-10-26 11:04:21

End at: 2018-10-26 11:04:51

Local clock offset: 2.637 ms

Remote clock offset: -2.29 ms

Below is generated by plot.py at 2018-10-26 11:34:45

Datalink statistics

-- Total of 3 flows:

Average throughput: 97.02 Mbit/s

95th percentile per-packet one-way delay: 27.124 ms

Loss rate: 0.11%

-- Flow 1:

Average throughput: 59.45 Mbit/s

95th percentile per-packet one-way delay: 25.352 ms

Loss rate: 0.06%

-- Flow 2:

Average throughput: 40.60 Mbit/s

95th percentile per-packet one-way delay: 25.592 ms

Loss rate: 0.13%

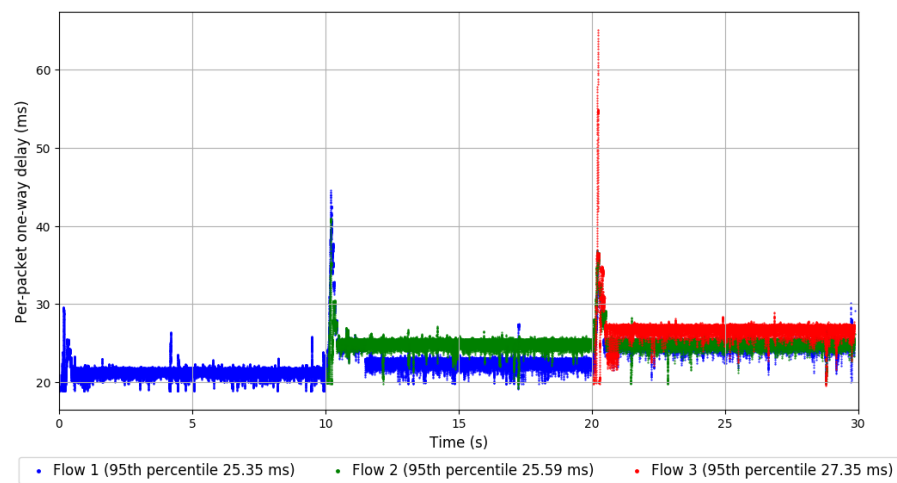
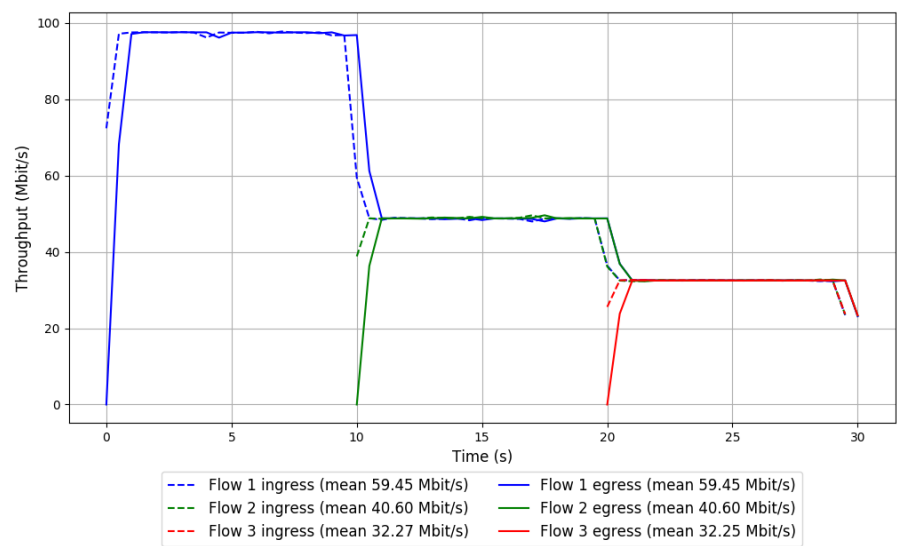
-- Flow 3:

Average throughput: 32.25 Mbit/s

95th percentile per-packet one-way delay: 27.349 ms

Loss rate: 0.33%

Run 4: Report of Indigo — Data Link

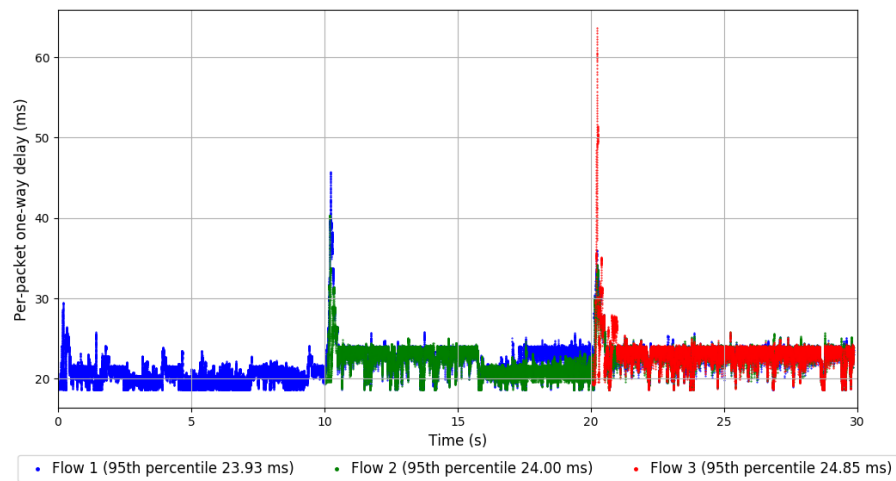
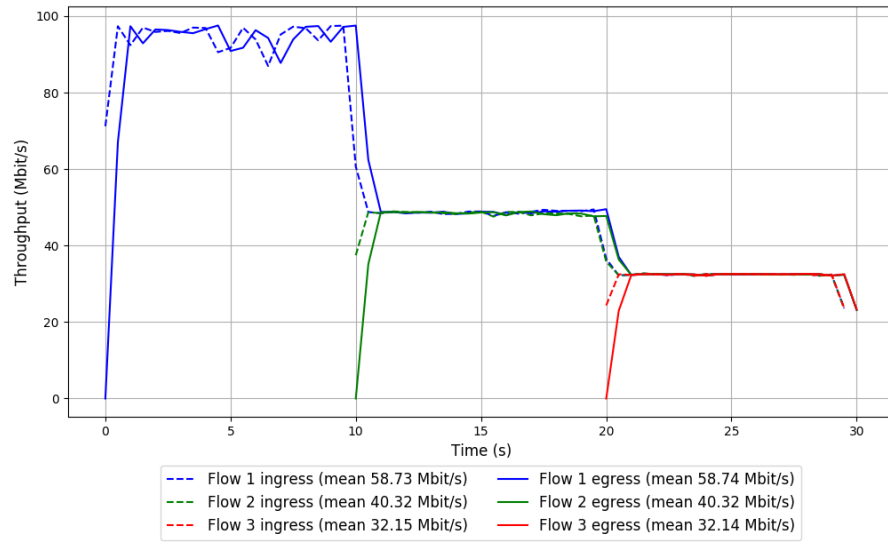


Run 5: Statistics of Indigo

Start at: 2018-10-26 11:26:19
End at: 2018-10-26 11:26:49
Local clock offset: 0.805 ms
Remote clock offset: -2.637 ms

Below is generated by plot.py at 2018-10-26 11:34:58
Datalink statistics
-- Total of 3 flows:
Average throughput: 96.09 Mbit/s
95th percentile per-packet one-way delay: 23.965 ms
Loss rate: 0.10%
-- Flow 1:
Average throughput: 58.74 Mbit/s
95th percentile per-packet one-way delay: 23.925 ms
Loss rate: 0.05%
-- Flow 2:
Average throughput: 40.32 Mbit/s
95th percentile per-packet one-way delay: 23.995 ms
Loss rate: 0.11%
-- Flow 3:
Average throughput: 32.14 Mbit/s
95th percentile per-packet one-way delay: 24.847 ms
Loss rate: 0.28%

Run 5: Report of Indigo — Data Link



Run 1: Statistics of Indigo-96d2da3

Start at: 2018-10-26 09:38:07

End at: 2018-10-26 09:38:37

Local clock offset: 2.974 ms

Remote clock offset: 5.858 ms

Below is generated by plot.py at 2018-10-26 11:35:00

Datalink statistics

-- Total of 3 flows:

Average throughput: 96.43 Mbit/s

95th percentile per-packet one-way delay: 61.199 ms

Loss rate: 4.83%

-- Flow 1:

Average throughput: 63.94 Mbit/s

95th percentile per-packet one-way delay: 61.044 ms

Loss rate: 3.96%

-- Flow 2:

Average throughput: 36.70 Mbit/s

95th percentile per-packet one-way delay: 62.115 ms

Loss rate: 6.09%

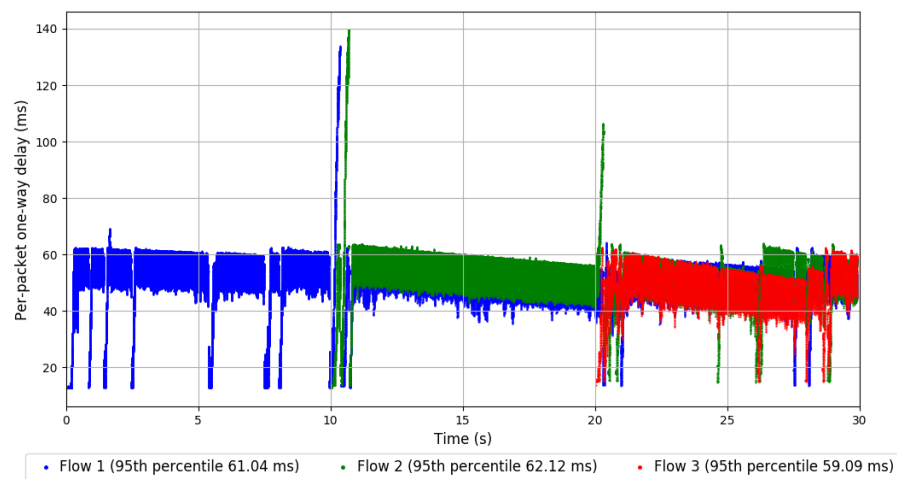
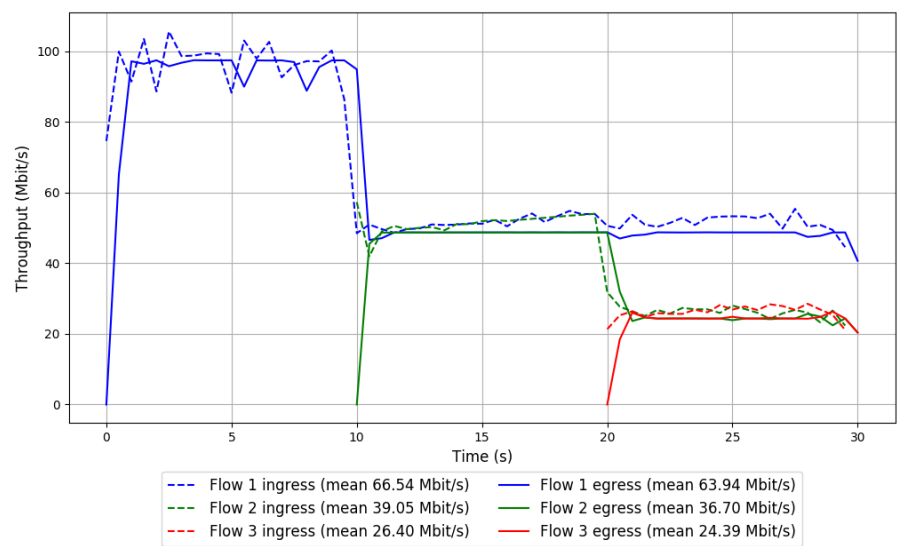
-- Flow 3:

Average throughput: 24.39 Mbit/s

95th percentile per-packet one-way delay: 59.088 ms

Loss rate: 7.72%

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

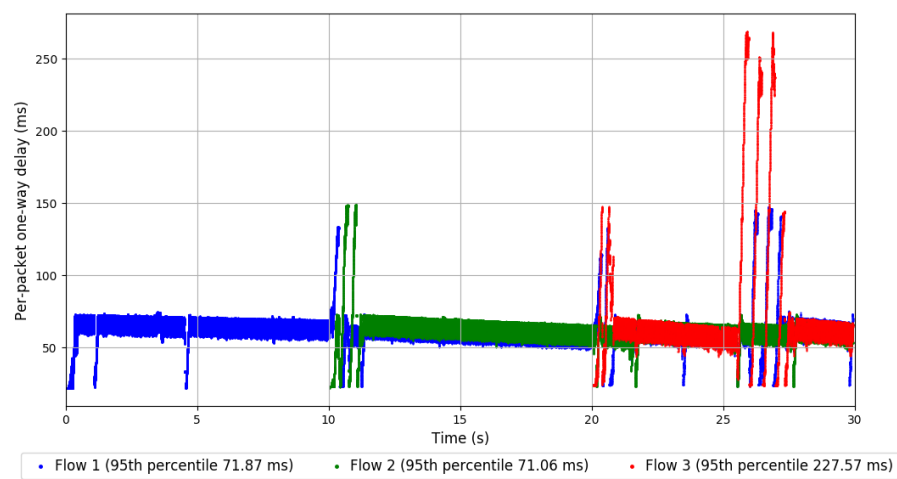
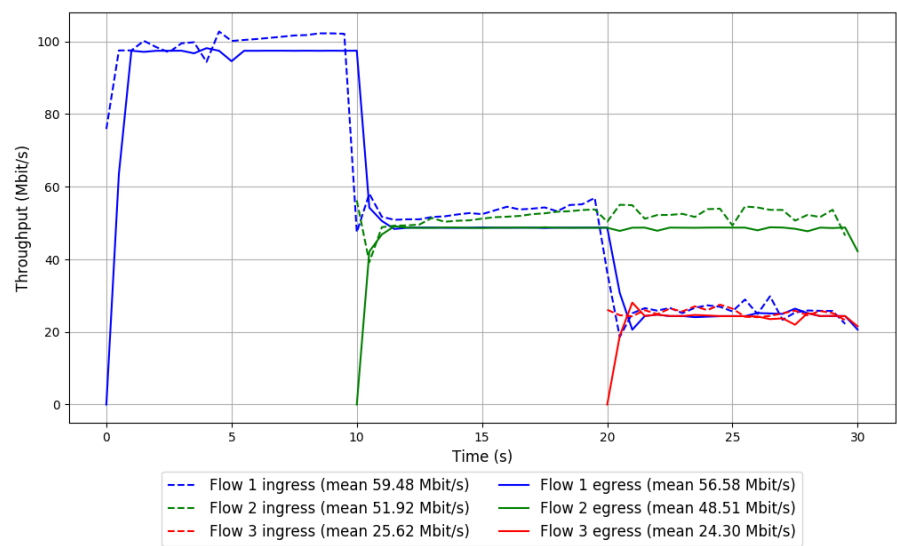


Run 2: Statistics of Indigo-96d2da3

Start at: 2018-10-26 10:00:48
End at: 2018-10-26 10:01:18
Local clock offset: 0.473 ms
Remote clock offset: -5.615 ms

Below is generated by plot.py at 2018-10-26 11:35:03
Datalink statistics
-- Total of 3 flows:
Average throughput: 96.88 Mbit/s
95th percentile per-packet one-way delay: 71.933 ms
Loss rate: 5.57%
-- Flow 1:
Average throughput: 56.58 Mbit/s
95th percentile per-packet one-way delay: 71.866 ms
Loss rate: 4.96%
-- Flow 2:
Average throughput: 48.51 Mbit/s
95th percentile per-packet one-way delay: 71.065 ms
Loss rate: 6.70%
-- Flow 3:
Average throughput: 24.30 Mbit/s
95th percentile per-packet one-way delay: 227.569 ms
Loss rate: 5.29%

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

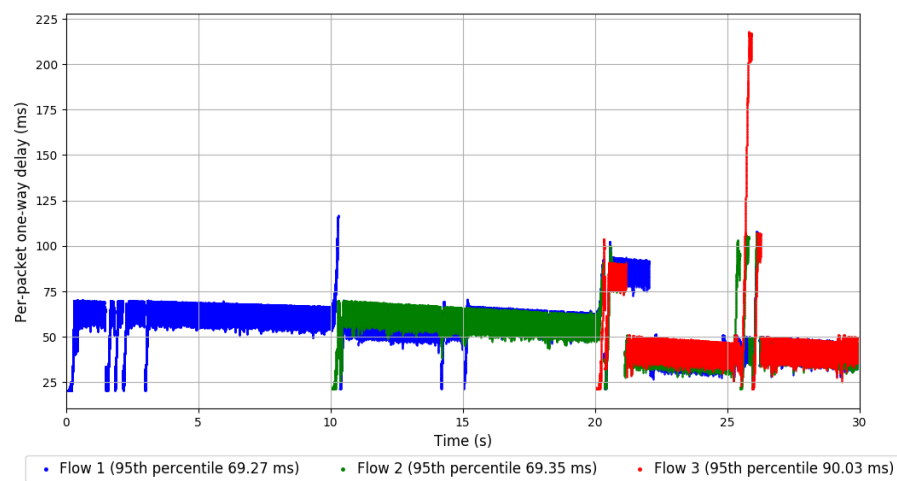
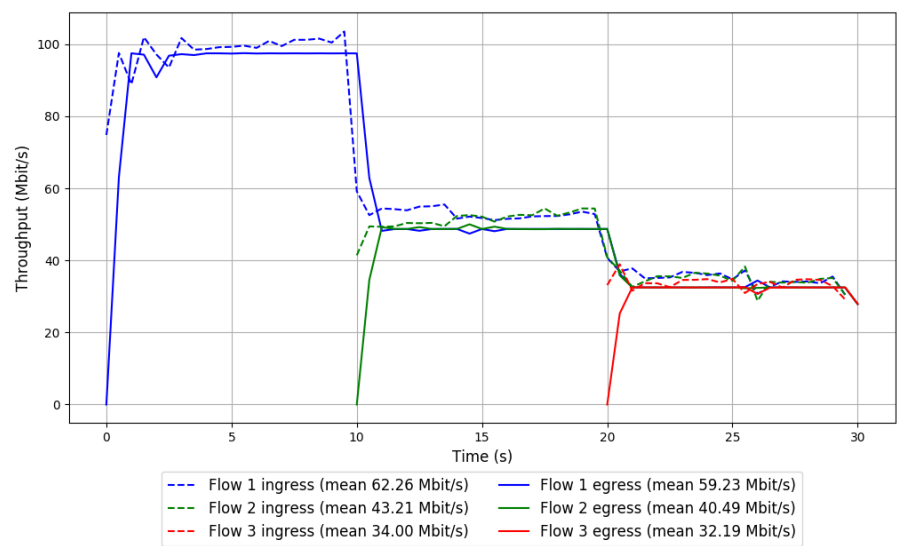


Run 3: Statistics of Indigo-96d2da3

Start at: 2018-10-26 10:23:07
End at: 2018-10-26 10:23:37
Local clock offset: 2.678 ms
Remote clock offset: -1.049 ms

Below is generated by plot.py at 2018-10-26 11:35:24
Datalink statistics
-- Total of 3 flows:
Average throughput: 96.80 Mbit/s
95th percentile per-packet one-way delay: 72.329 ms
Loss rate: 5.43%
-- Flow 1:
Average throughput: 59.23 Mbit/s
95th percentile per-packet one-way delay: 69.269 ms
Loss rate: 4.96%
-- Flow 2:
Average throughput: 40.49 Mbit/s
95th percentile per-packet one-way delay: 69.347 ms
Loss rate: 6.41%
-- Flow 3:
Average throughput: 32.19 Mbit/s
95th percentile per-packet one-way delay: 90.026 ms
Loss rate: 5.48%

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

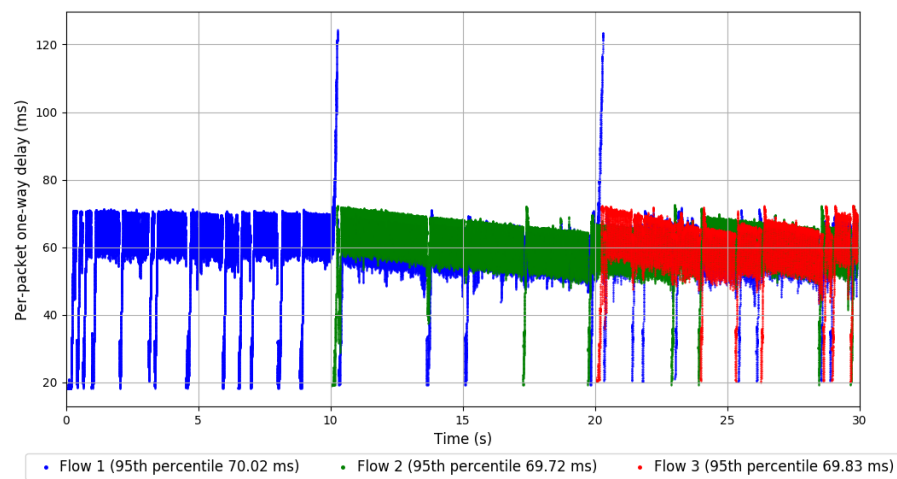
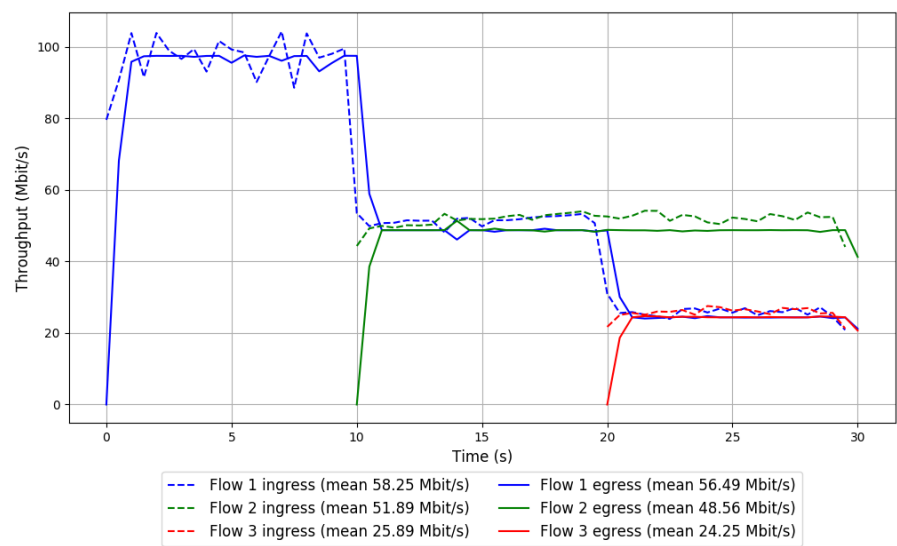


Run 4: Statistics of Indigo-96d2da3

Start at: 2018-10-26 10:45:50
End at: 2018-10-26 10:46:20
Local clock offset: 2.885 ms
Remote clock offset: -2.081 ms

Below is generated by plot.py at 2018-10-26 11:35:29
Datalink statistics
-- Total of 3 flows:
Average throughput: 96.80 Mbit/s
95th percentile per-packet one-way delay: 69.974 ms
Loss rate: 4.46%
-- Flow 1:
Average throughput: 56.49 Mbit/s
95th percentile per-packet one-way delay: 70.019 ms
Loss rate: 2.95%
-- Flow 2:
Average throughput: 48.56 Mbit/s
95th percentile per-packet one-way delay: 69.721 ms
Loss rate: 6.49%
-- Flow 3:
Average throughput: 24.25 Mbit/s
95th percentile per-packet one-way delay: 69.830 ms
Loss rate: 6.45%

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

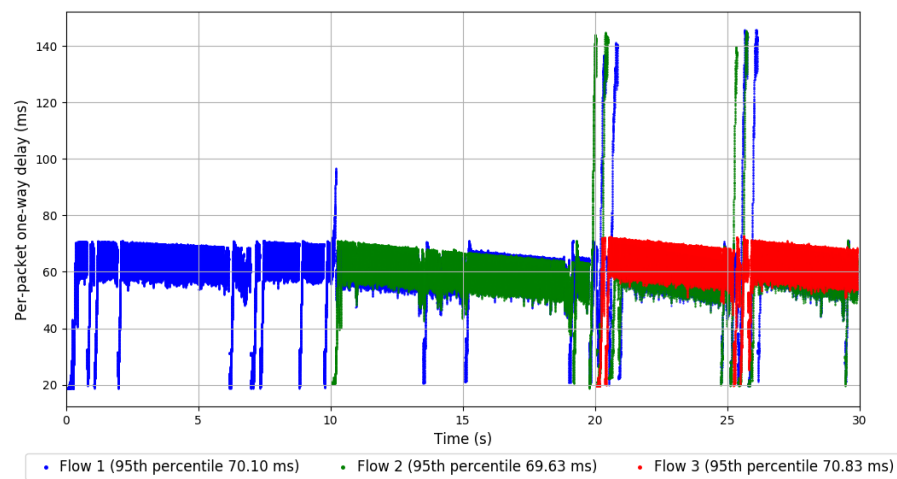
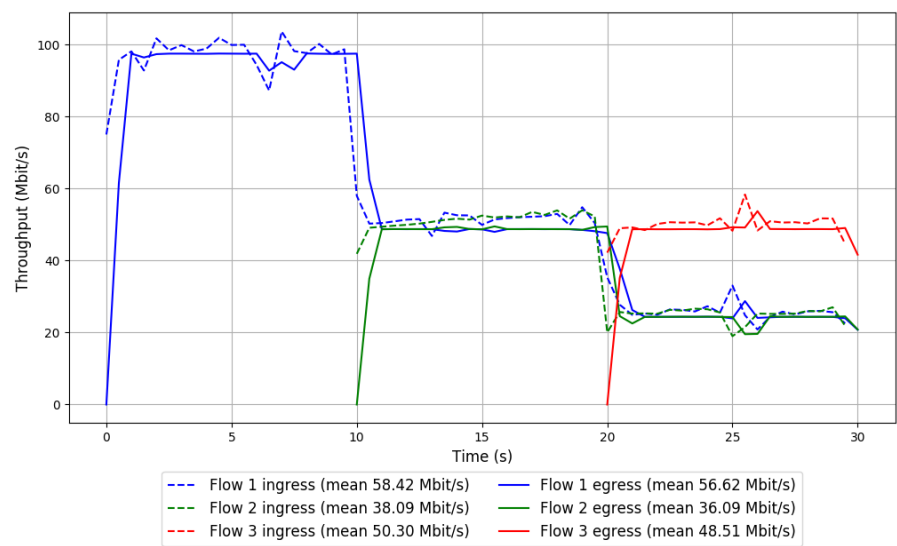


Run 5: Statistics of Indigo-96d2da3

Start at: 2018-10-26 11:08:03
End at: 2018-10-26 11:08:33
Local clock offset: 0.655 ms
Remote clock offset: -3.699 ms

Below is generated by plot.py at 2018-10-26 11:35:35
Datalink statistics
-- Total of 3 flows:
Average throughput: 96.68 Mbit/s
95th percentile per-packet one-way delay: 70.202 ms
Loss rate: 3.78%
-- Flow 1:
Average throughput: 56.62 Mbit/s
95th percentile per-packet one-way delay: 70.096 ms
Loss rate: 3.12%
-- Flow 2:
Average throughput: 36.09 Mbit/s
95th percentile per-packet one-way delay: 69.628 ms
Loss rate: 5.30%
-- Flow 3:
Average throughput: 48.51 Mbit/s
95th percentile per-packet one-way delay: 70.831 ms
Loss rate: 3.78%

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

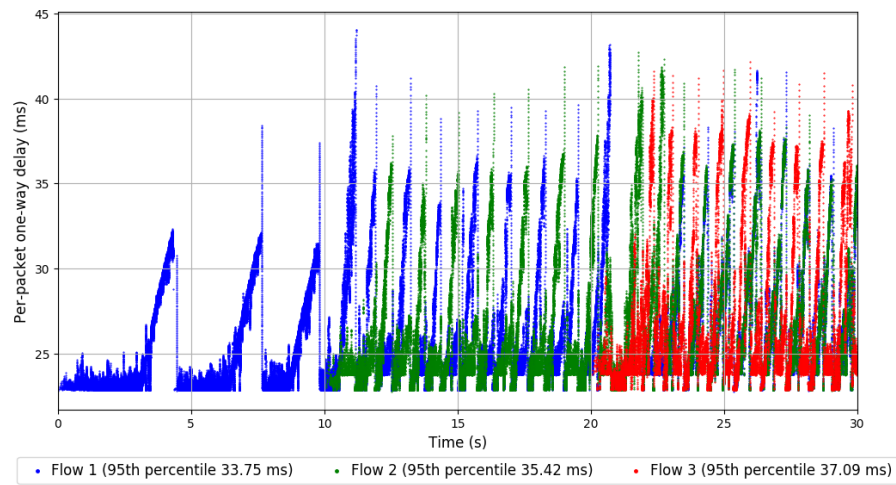
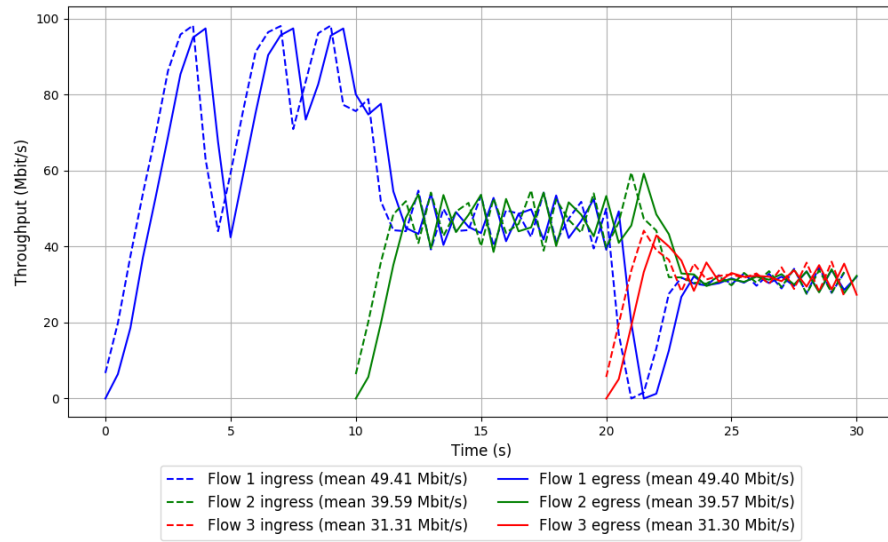


```
Run 1: Statistics of LEDBAT

Start at: 2018-10-26 09:52:01
End at: 2018-10-26 09:52:31
Local clock offset: 2.793 ms
Remote clock offset: -4.536 ms

# Below is generated by plot.py at 2018-10-26 11:35:35
# Datalink statistics
-- Total of 3 flows:
Average throughput: 86.13 Mbit/s
95th percentile per-packet one-way delay: 35.015 ms
Loss rate: 0.16%
-- Flow 1:
Average throughput: 49.40 Mbit/s
95th percentile per-packet one-way delay: 33.753 ms
Loss rate: 0.11%
-- Flow 2:
Average throughput: 39.57 Mbit/s
95th percentile per-packet one-way delay: 35.416 ms
Loss rate: 0.19%
-- Flow 3:
Average throughput: 31.30 Mbit/s
95th percentile per-packet one-way delay: 37.090 ms
Loss rate: 0.30%
```

Run 1: Report of LEDBAT — Data Link

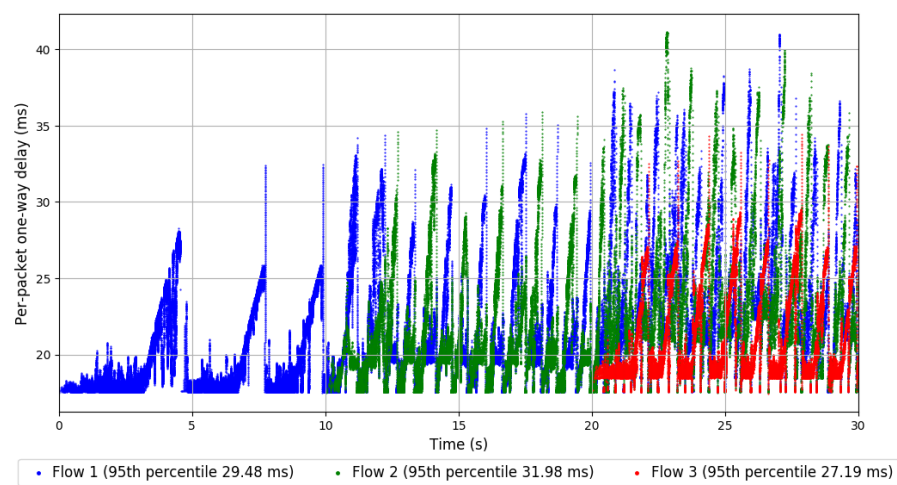
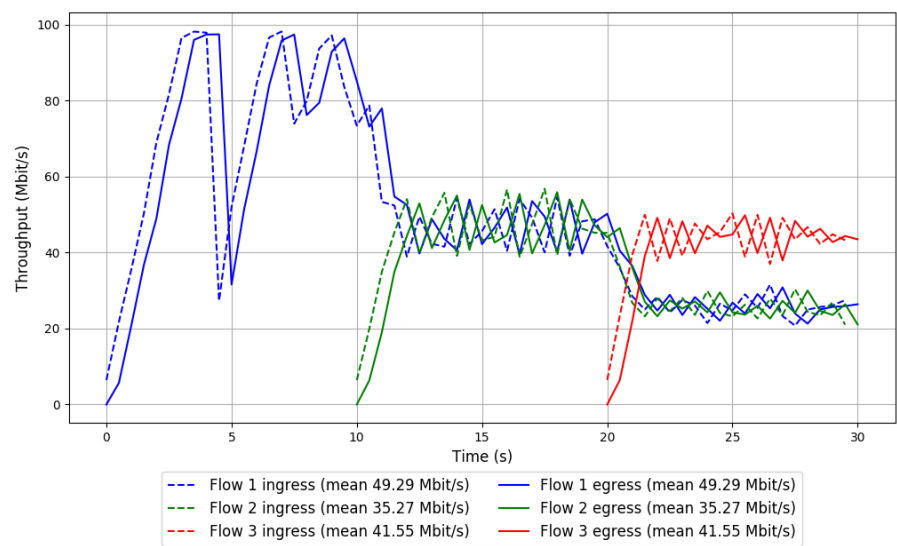


Run 2: Statistics of LEDBAT

Start at: 2018-10-26 10:14:24
End at: 2018-10-26 10:14:54
Local clock offset: -0.007 ms
Remote clock offset: -1.231 ms

Below is generated by plot.py at 2018-10-26 11:35:47
Datalink statistics
-- Total of 3 flows:
Average throughput: 86.56 Mbit/s
95th percentile per-packet one-way delay: 29.769 ms
Loss rate: 0.13%
-- Flow 1:
Average throughput: 49.29 Mbit/s
95th percentile per-packet one-way delay: 29.485 ms
Loss rate: 0.09%
-- Flow 2:
Average throughput: 35.27 Mbit/s
95th percentile per-packet one-way delay: 31.980 ms
Loss rate: 0.14%
-- Flow 3:
Average throughput: 41.55 Mbit/s
95th percentile per-packet one-way delay: 27.194 ms
Loss rate: 0.25%

Run 2: Report of LEDBAT — Data Link



Run 3: Statistics of LEDBAT

Start at: 2018-10-26 10:37:04

End at: 2018-10-26 10:37:34

Local clock offset: 1.297 ms

Remote clock offset: 0.086 ms

Below is generated by plot.py at 2018-10-26 11:35:58

Datalink statistics

-- Total of 3 flows:

Average throughput: 76.28 Mbit/s

95th percentile per-packet one-way delay: 30.210 ms

Loss rate: 0.30%

-- Flow 1:

Average throughput: 48.27 Mbit/s

95th percentile per-packet one-way delay: 29.377 ms

Loss rate: 0.22%

-- Flow 2:

Average throughput: 34.83 Mbit/s

95th percentile per-packet one-way delay: 29.915 ms

Loss rate: 0.53%

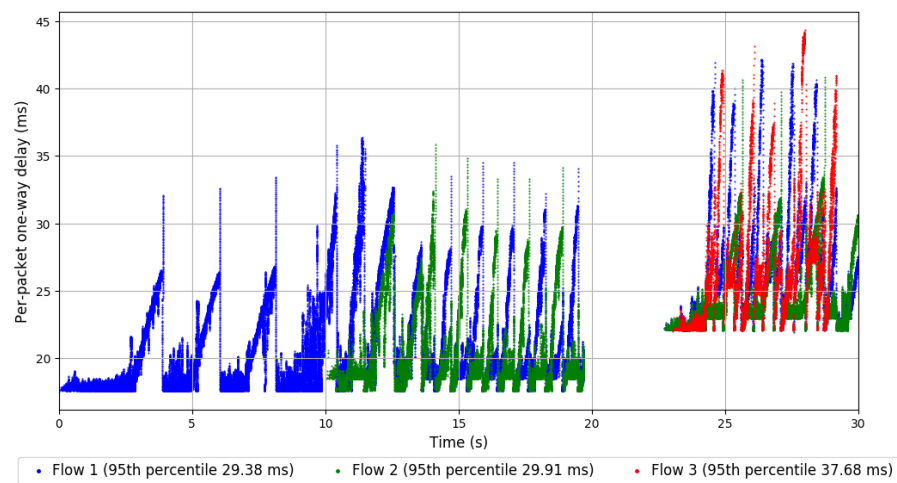
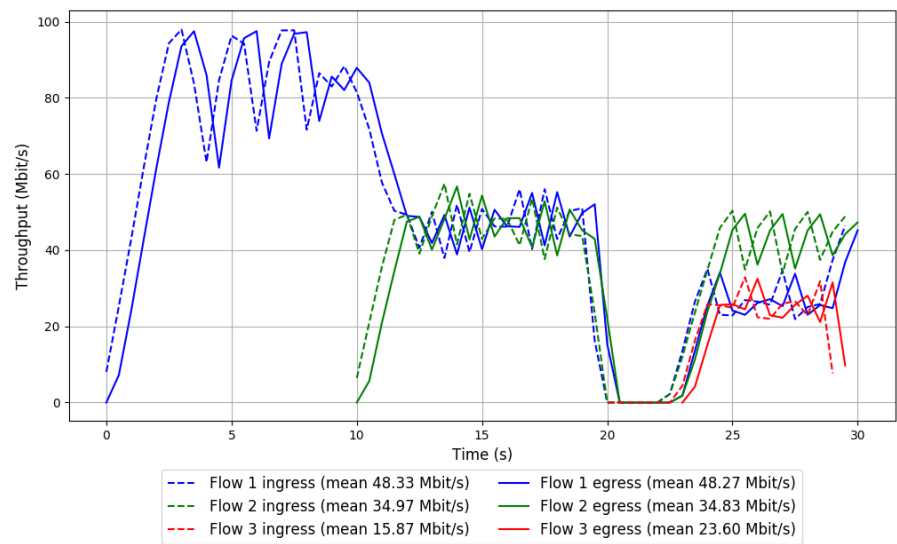
-- Flow 3:

Average throughput: 23.60 Mbit/s

95th percentile per-packet one-way delay: 37.678 ms

Loss rate: 0.04%

Run 3: Report of LEDBAT — Data Link

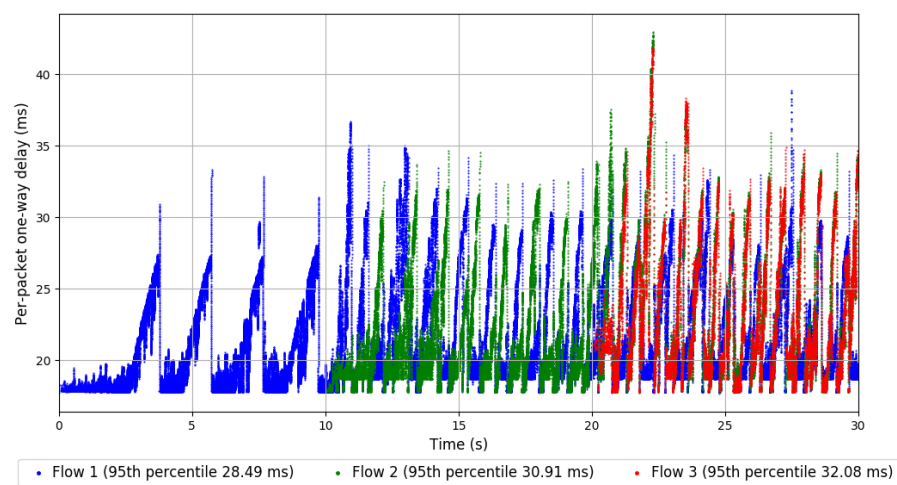
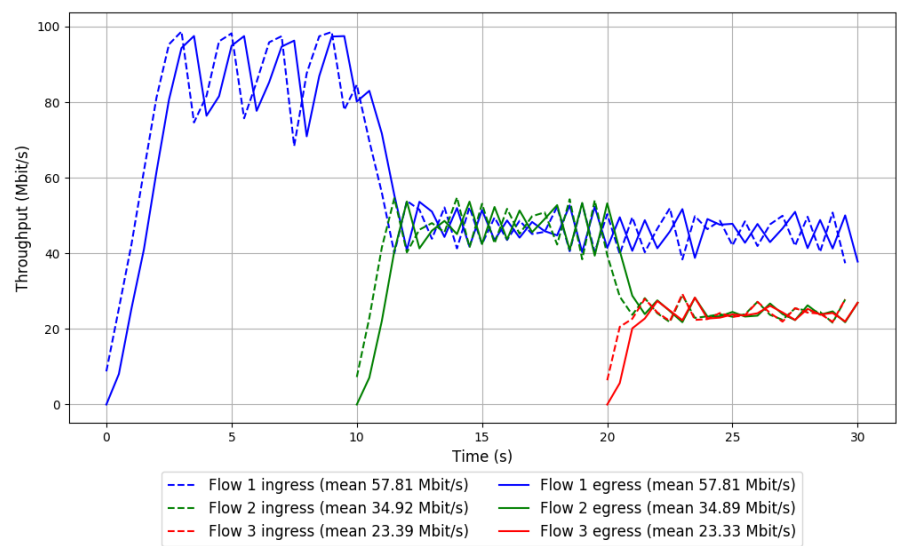


Run 4: Statistics of LEDBAT

Start at: 2018-10-26 10:59:21
End at: 2018-10-26 10:59:51
Local clock offset: 0.883 ms
Remote clock offset: -3.625 ms

Below is generated by plot.py at 2018-10-26 11:36:12
Datalink statistics
-- Total of 3 flows:
Average throughput: 88.78 Mbit/s
95th percentile per-packet one-way delay: 29.674 ms
Loss rate: 0.15%
-- Flow 1:
Average throughput: 57.81 Mbit/s
95th percentile per-packet one-way delay: 28.489 ms
Loss rate: 0.08%
-- Flow 2:
Average throughput: 34.89 Mbit/s
95th percentile per-packet one-way delay: 30.913 ms
Loss rate: 0.19%
-- Flow 3:
Average throughput: 23.33 Mbit/s
95th percentile per-packet one-way delay: 32.076 ms
Loss rate: 0.52%

Run 4: Report of LEDBAT — Data Link

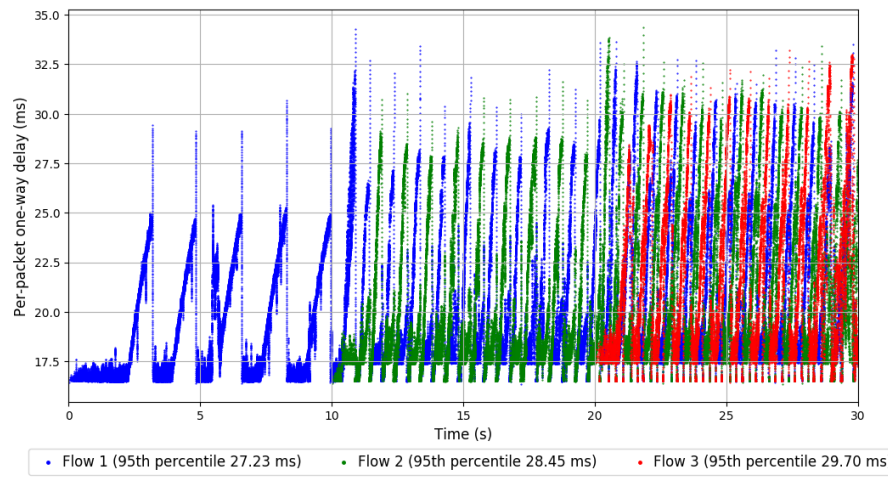
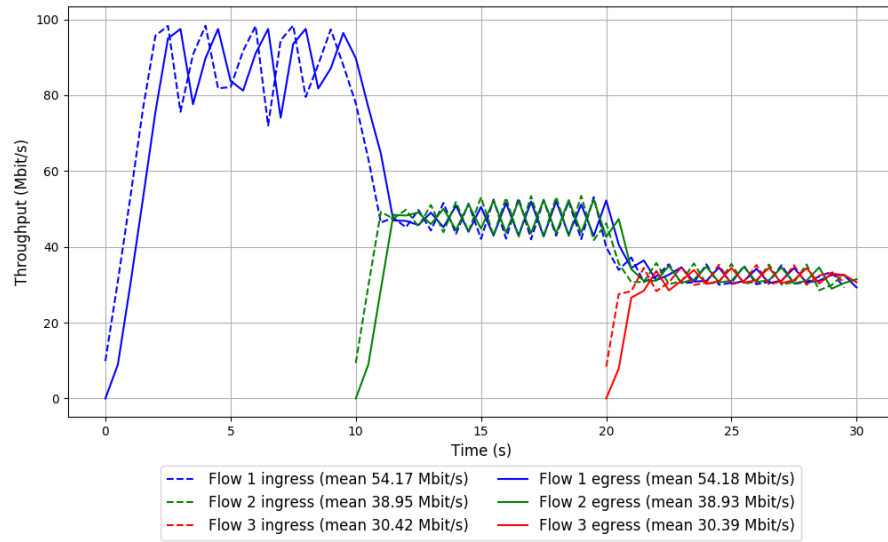


Run 5: Statistics of LEDBAT

Start at: 2018-10-26 11:21:19
End at: 2018-10-26 11:21:49
Local clock offset: -1.4 ms
Remote clock offset: -2.817 ms

Below is generated by plot.py at 2018-10-26 11:36:14
Datalink statistics
-- Total of 3 flows:
Average throughput: 90.20 Mbit/s
95th percentile per-packet one-way delay: 28.099 ms
Loss rate: 0.14%
-- Flow 1:
Average throughput: 54.18 Mbit/s
95th percentile per-packet one-way delay: 27.228 ms
Loss rate: 0.07%
-- Flow 2:
Average throughput: 38.93 Mbit/s
95th percentile per-packet one-way delay: 28.455 ms
Loss rate: 0.18%
-- Flow 3:
Average throughput: 30.39 Mbit/s
95th percentile per-packet one-way delay: 29.701 ms
Loss rate: 0.36%

Run 5: Report of LEDBAT — Data Link



Run 1: Statistics of Indigo-Muses

Start at: 2018-10-26 09:39:30

End at: 2018-10-26 09:40:00

Local clock offset: 2.267 ms

Remote clock offset: 2.893 ms

Below is generated by plot.py at 2018-10-26 11:36:14

Datalink statistics

-- Total of 3 flows:

Average throughput: 57.04 Mbit/s

95th percentile per-packet one-way delay: 17.694 ms

Loss rate: 0.09%

-- Flow 1:

Average throughput: 32.23 Mbit/s

95th percentile per-packet one-way delay: 16.823 ms

Loss rate: 0.06%

-- Flow 2:

Average throughput: 24.77 Mbit/s

95th percentile per-packet one-way delay: 17.268 ms

Loss rate: 0.08%

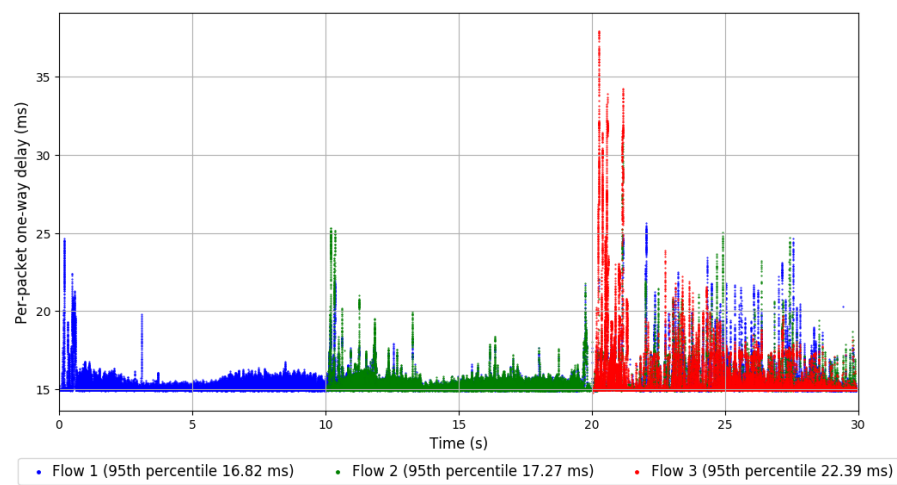
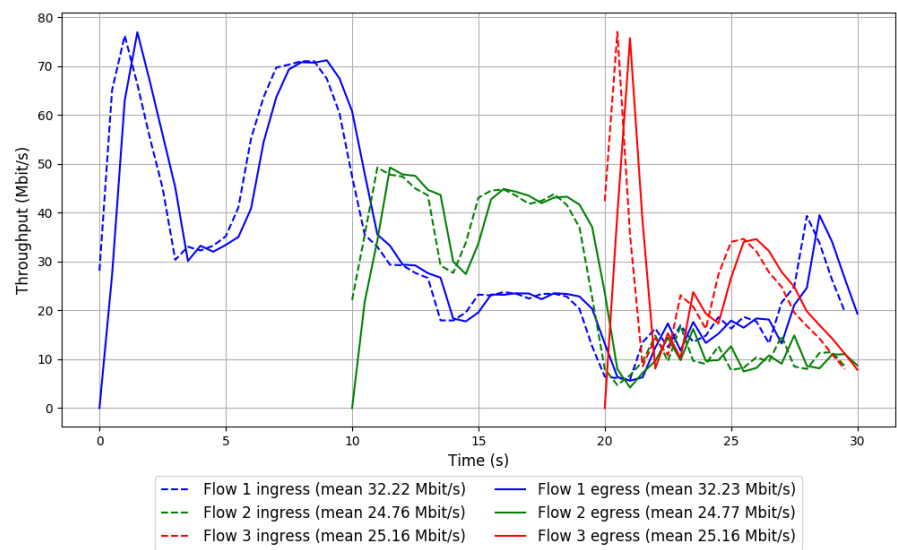
-- Flow 3:

Average throughput: 25.16 Mbit/s

95th percentile per-packet one-way delay: 22.388 ms

Loss rate: 0.25%

Run 1: Report of Indigo-Muses — Data Link

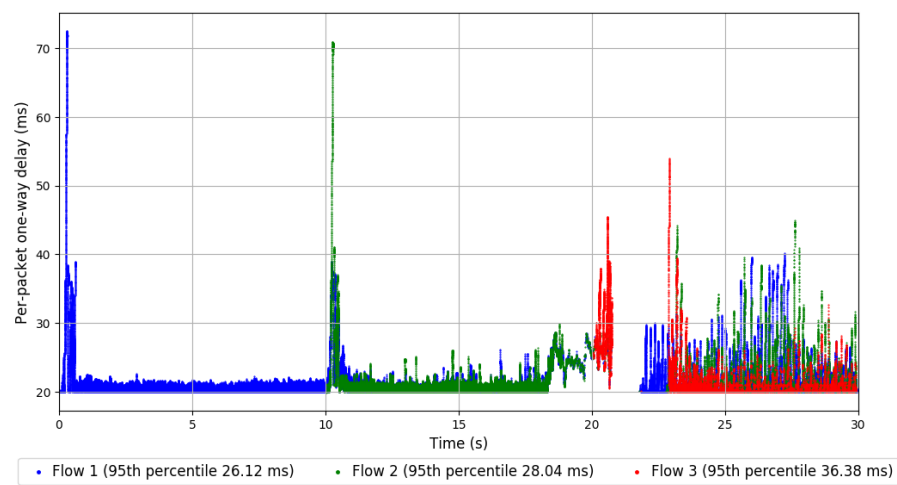
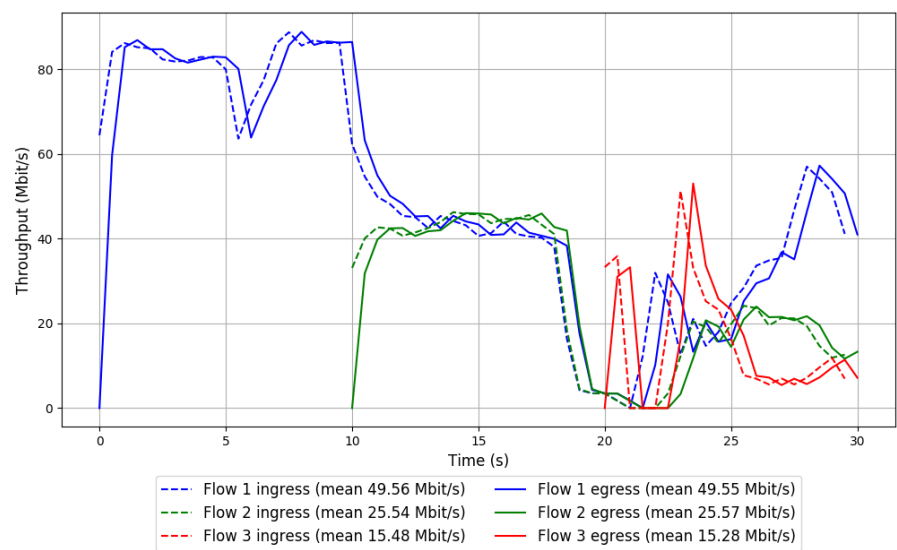


Run 2: Statistics of Indigo-Muses

Start at: 2018-10-26 10:02:04
End at: 2018-10-26 10:02:34
Local clock offset: 0.238 ms
Remote clock offset: -3.951 ms

Below is generated by plot.py at 2018-10-26 11:36:24
Datalink statistics
-- Total of 3 flows:
Average throughput: 71.60 Mbit/s
95th percentile per-packet one-way delay: 27.808 ms
Loss rate: 0.20%
-- Flow 1:
Average throughput: 49.55 Mbit/s
95th percentile per-packet one-way delay: 26.118 ms
Loss rate: 0.09%
-- Flow 2:
Average throughput: 25.57 Mbit/s
95th percentile per-packet one-way delay: 28.042 ms
Loss rate: 0.05%
-- Flow 3:
Average throughput: 15.28 Mbit/s
95th percentile per-packet one-way delay: 36.384 ms
Loss rate: 1.70%

Run 2: Report of Indigo-Muses — Data Link

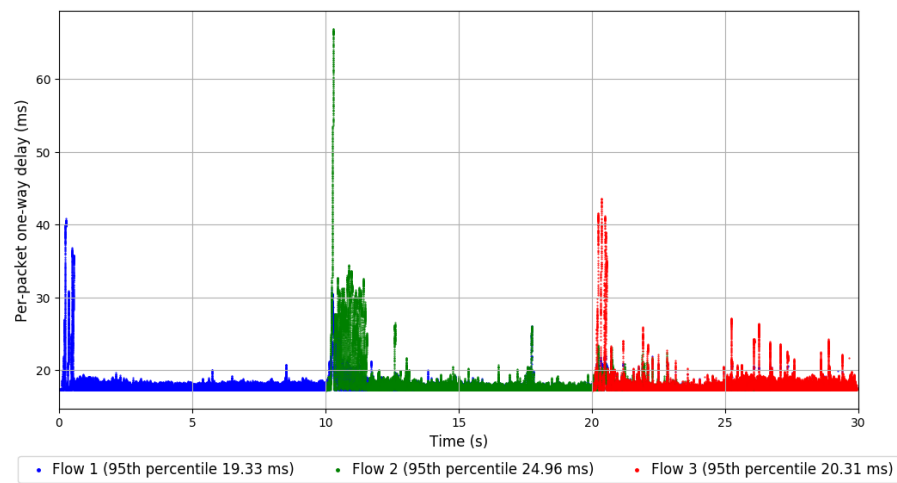
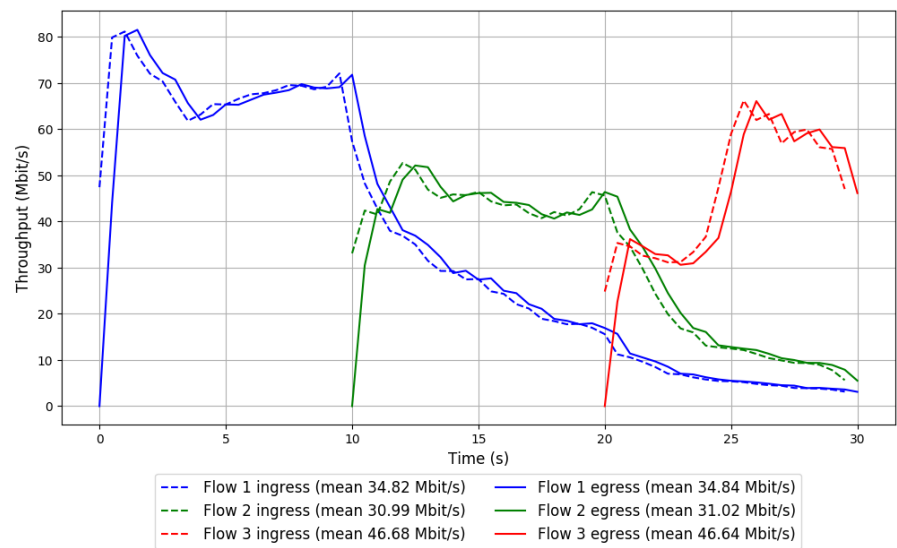


Run 3: Statistics of Indigo-Muses

Start at: 2018-10-26 10:24:25
End at: 2018-10-26 10:24:55
Local clock offset: -0.718 ms
Remote clock offset: -1.502 ms

Below is generated by plot.py at 2018-10-26 11:36:25
Datalink statistics
-- Total of 3 flows:
Average throughput: 70.89 Mbit/s
95th percentile per-packet one-way delay: 20.600 ms
Loss rate: 0.08%
-- Flow 1:
Average throughput: 34.84 Mbit/s
95th percentile per-packet one-way delay: 19.334 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 31.02 Mbit/s
95th percentile per-packet one-way delay: 24.956 ms
Loss rate: 0.03%
-- Flow 3:
Average throughput: 46.64 Mbit/s
95th percentile per-packet one-way delay: 20.307 ms
Loss rate: 0.31%

Run 3: Report of Indigo-Muses — Data Link

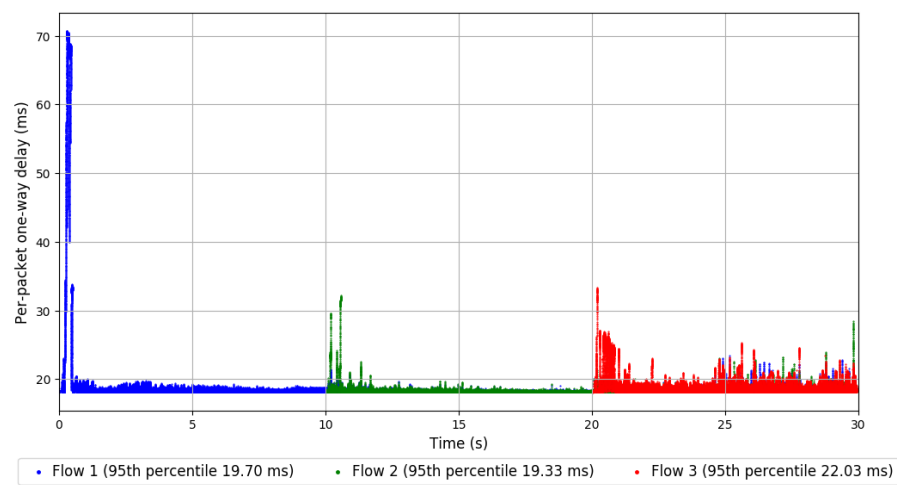
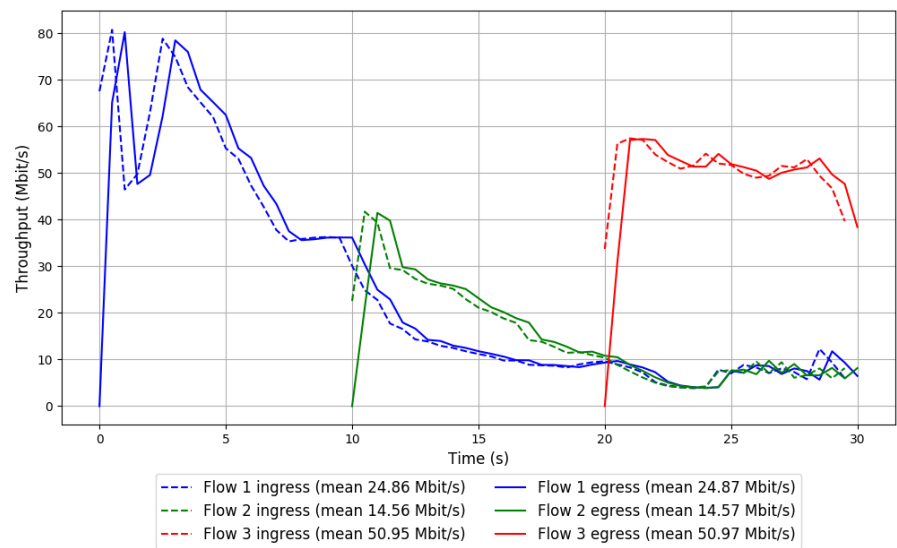


Run 4: Statistics of Indigo-Muses

Start at: 2018-10-26 10:47:11
End at: 2018-10-26 10:47:41
Local clock offset: 3.928 ms
Remote clock offset: -1.061 ms

Below is generated by plot.py at 2018-10-26 11:36:25
Datalink statistics
-- Total of 3 flows:
Average throughput: 51.43 Mbit/s
95th percentile per-packet one-way delay: 20.540 ms
Loss rate: 0.08%
-- Flow 1:
Average throughput: 24.87 Mbit/s
95th percentile per-packet one-way delay: 19.700 ms
Loss rate: 0.02%
-- Flow 2:
Average throughput: 14.57 Mbit/s
95th percentile per-packet one-way delay: 19.327 ms
Loss rate: 0.02%
-- Flow 3:
Average throughput: 50.97 Mbit/s
95th percentile per-packet one-way delay: 22.026 ms
Loss rate: 0.20%

Run 4: Report of Indigo-Muses — Data Link

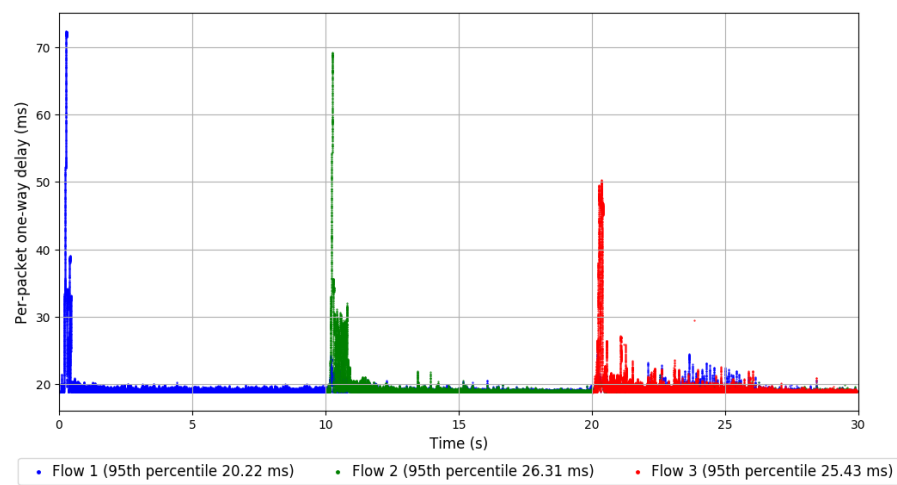
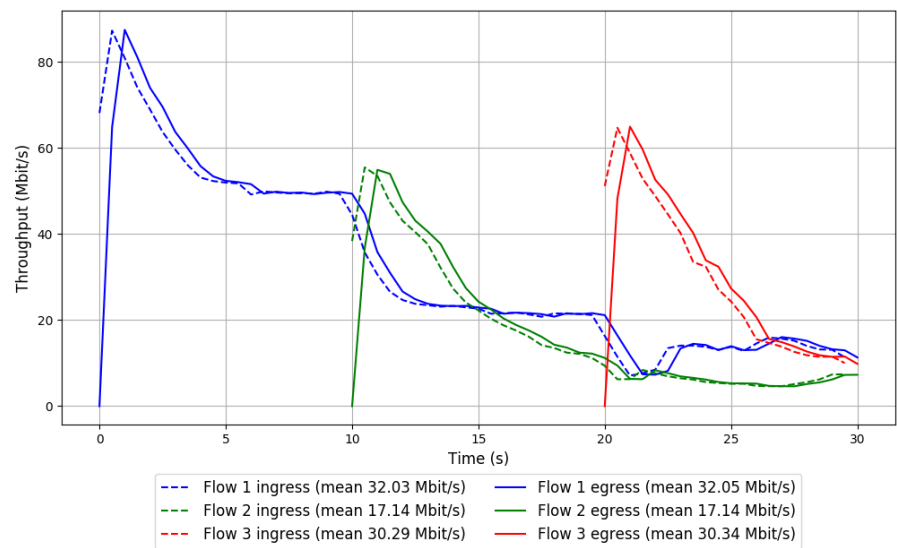


Run 5: Statistics of Indigo-Muses

Start at: 2018-10-26 11:09:19
End at: 2018-10-26 11:09:49
Local clock offset: 1.82 ms
Remote clock offset: -2.578 ms

Below is generated by plot.py at 2018-10-26 11:36:31
Datalink statistics
-- Total of 3 flows:
Average throughput: 53.48 Mbit/s
95th percentile per-packet one-way delay: 21.818 ms
Loss rate: 0.05%
-- Flow 1:
Average throughput: 32.05 Mbit/s
95th percentile per-packet one-way delay: 20.217 ms
Loss rate: 0.03%
-- Flow 2:
Average throughput: 17.14 Mbit/s
95th percentile per-packet one-way delay: 26.308 ms
Loss rate: 0.06%
-- Flow 3:
Average throughput: 30.34 Mbit/s
95th percentile per-packet one-way delay: 25.434 ms
Loss rate: 0.10%

Run 5: Report of Indigo-Muses — Data Link

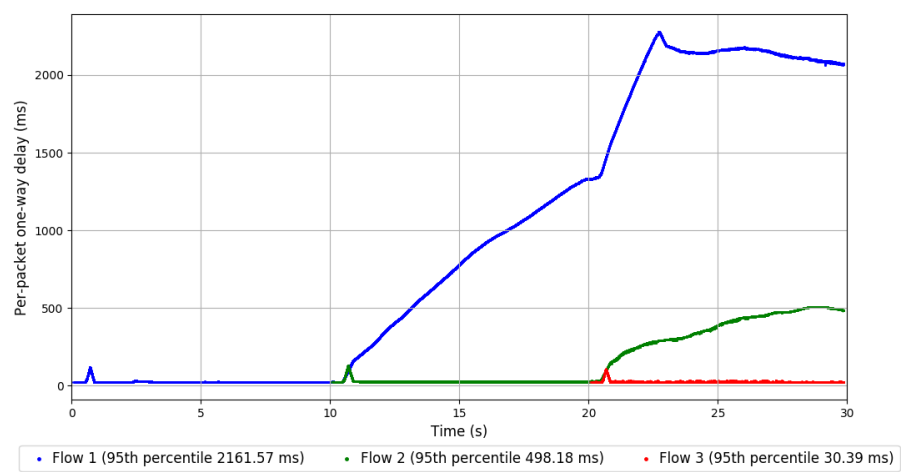
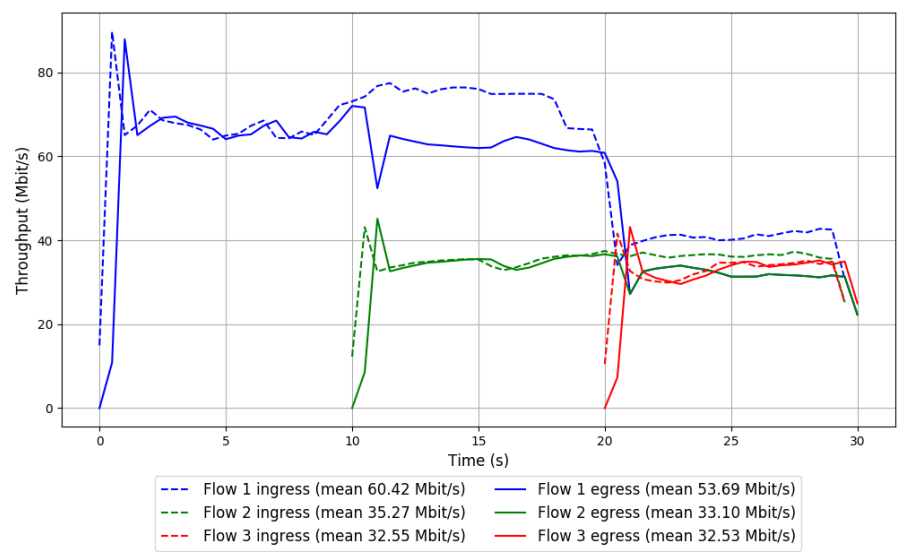


Run 1: Statistics of PCC-Allegro

Start at: 2018-10-26 09:50:48
End at: 2018-10-26 09:51:18
Local clock offset: 2.536 ms
Remote clock offset: -4.603 ms

Below is generated by plot.py at 2018-10-26 11:37:04
Datalink statistics
-- Total of 3 flows:
Average throughput: 86.38 Mbit/s
95th percentile per-packet one-way delay: 2144.487 ms
Loss rate: 8.76%
-- Flow 1:
Average throughput: 53.69 Mbit/s
95th percentile per-packet one-way delay: 2161.574 ms
Loss rate: 11.22%
-- Flow 2:
Average throughput: 33.10 Mbit/s
95th percentile per-packet one-way delay: 498.176 ms
Loss rate: 6.26%
-- Flow 3:
Average throughput: 32.53 Mbit/s
95th percentile per-packet one-way delay: 30.392 ms
Loss rate: 0.35%

Run 1: Report of PCC-Allegro — Data Link

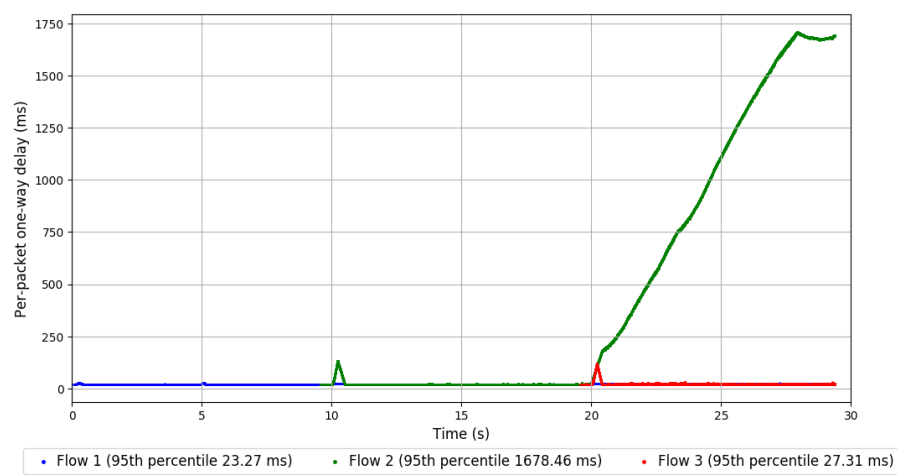
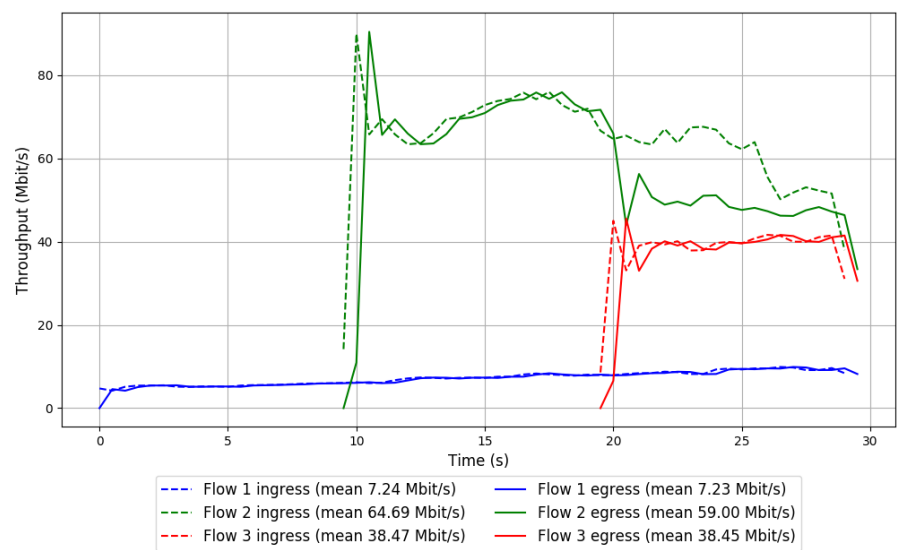


Run 2: Statistics of PCC-Allegro

Start at: 2018-10-26 10:13:11
End at: 2018-10-26 10:13:41
Local clock offset: -0.411 ms
Remote clock offset: -4.196 ms

Below is generated by plot.py at 2018-10-26 11:37:04
Datalink statistics
-- Total of 3 flows:
Average throughput: 59.99 Mbit/s
95th percentile per-packet one-way delay: 1627.363 ms
Loss rate: 6.19%
-- Flow 1:
Average throughput: 7.23 Mbit/s
95th percentile per-packet one-way delay: 23.275 ms
Loss rate: 0.16%
-- Flow 2:
Average throughput: 59.00 Mbit/s
95th percentile per-packet one-way delay: 1678.462 ms
Loss rate: 8.91%
-- Flow 3:
Average throughput: 38.45 Mbit/s
95th percentile per-packet one-way delay: 27.313 ms
Loss rate: 0.31%

Run 2: Report of PCC-Allegro — Data Link

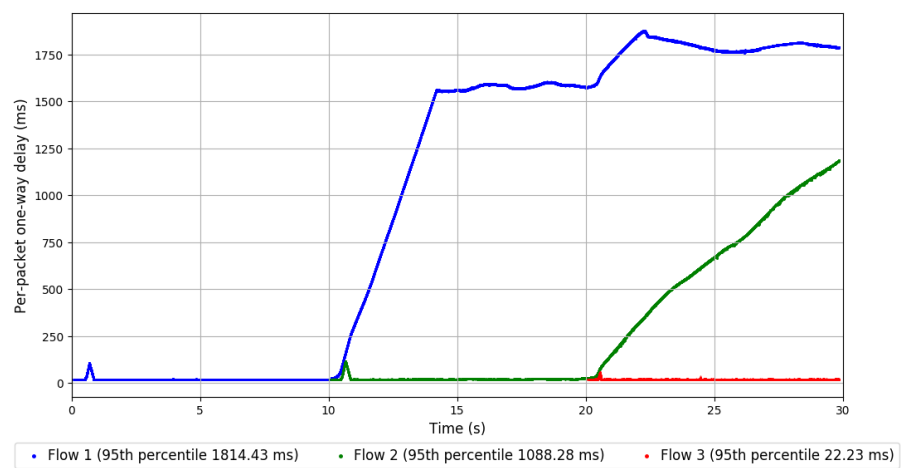
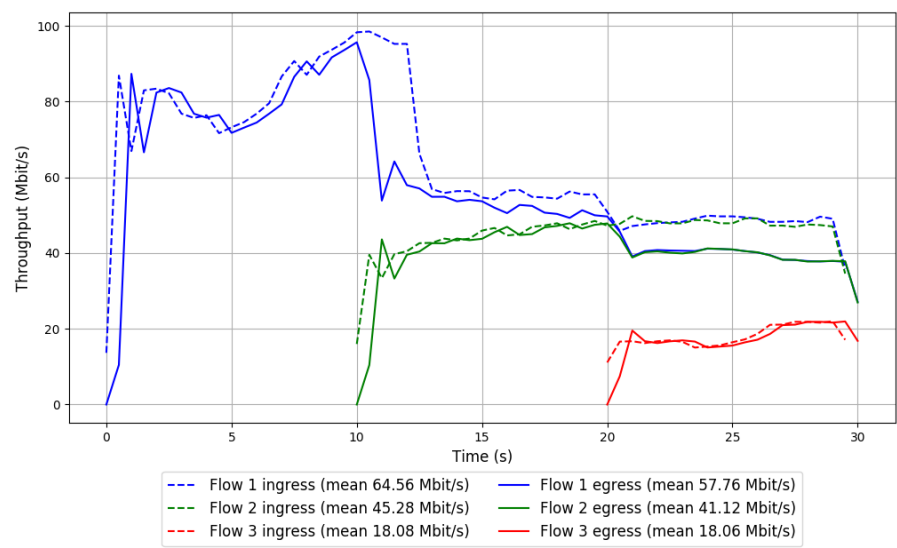


Run 3: Statistics of PCC-Allegro

Start at: 2018-10-26 10:35:51
End at: 2018-10-26 10:36:21
Local clock offset: 3.926 ms
Remote clock offset: -0.026 ms

Below is generated by plot.py at 2018-10-26 11:37:15
Datalink statistics
-- Total of 3 flows:
Average throughput: 91.03 Mbit/s
95th percentile per-packet one-way delay: 1805.921 ms
Loss rate: 9.60%
-- Flow 1:
Average throughput: 57.76 Mbit/s
95th percentile per-packet one-way delay: 1814.434 ms
Loss rate: 10.59%
-- Flow 2:
Average throughput: 41.12 Mbit/s
95th percentile per-packet one-way delay: 1088.278 ms
Loss rate: 9.30%
-- Flow 3:
Average throughput: 18.06 Mbit/s
95th percentile per-packet one-way delay: 22.229 ms
Loss rate: 0.35%

Run 3: Report of PCC-Allegro — Data Link

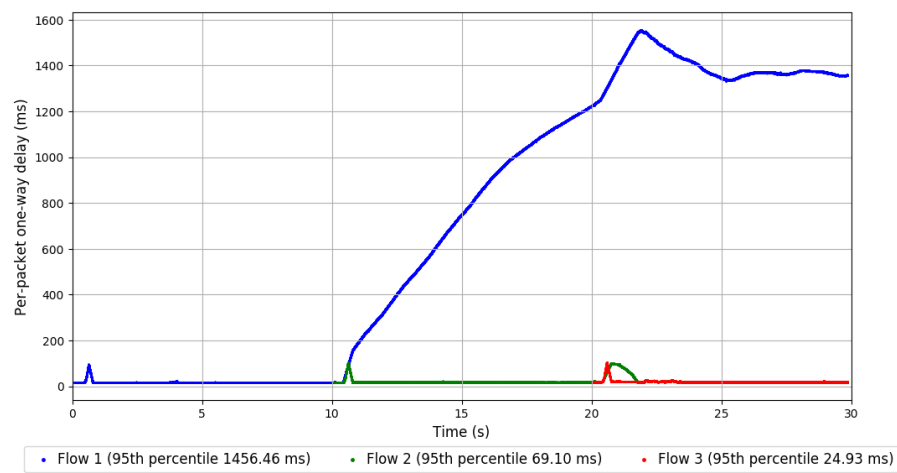
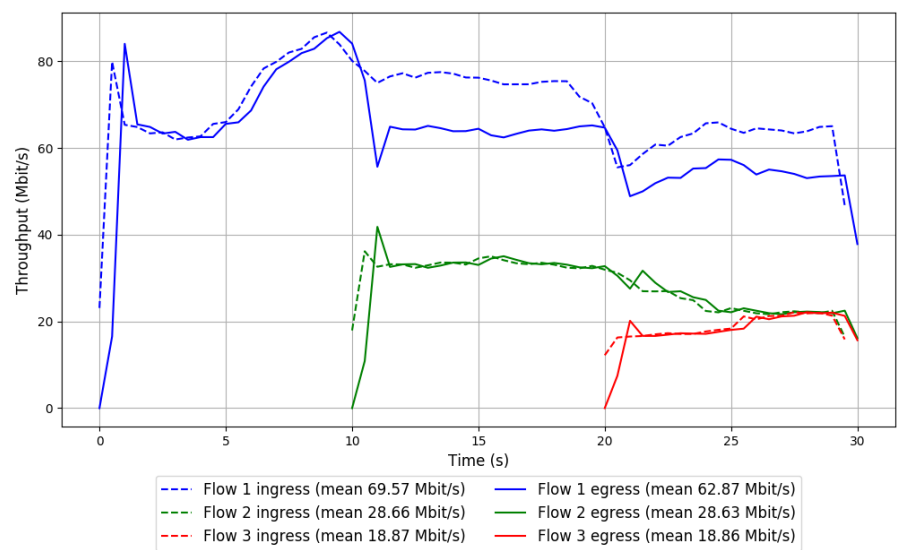


Run 4: Statistics of PCC-Allegro

Start at: 2018-10-26 10:58:10
End at: 2018-10-26 10:58:40
Local clock offset: 0.812 ms
Remote clock offset: -3.308 ms

Below is generated by plot.py at 2018-10-26 11:37:15
Datalink statistics
-- Total of 3 flows:
Average throughput: 88.10 Mbit/s
95th percentile per-packet one-way delay: 1425.690 ms
Loss rate: 7.17%
-- Flow 1:
Average throughput: 62.87 Mbit/s
95th percentile per-packet one-way delay: 1456.463 ms
Loss rate: 9.69%
-- Flow 2:
Average throughput: 28.63 Mbit/s
95th percentile per-packet one-way delay: 69.098 ms
Loss rate: 0.22%
-- Flow 3:
Average throughput: 18.86 Mbit/s
95th percentile per-packet one-way delay: 24.934 ms
Loss rate: 0.30%

Run 4: Report of PCC-Allegro — Data Link

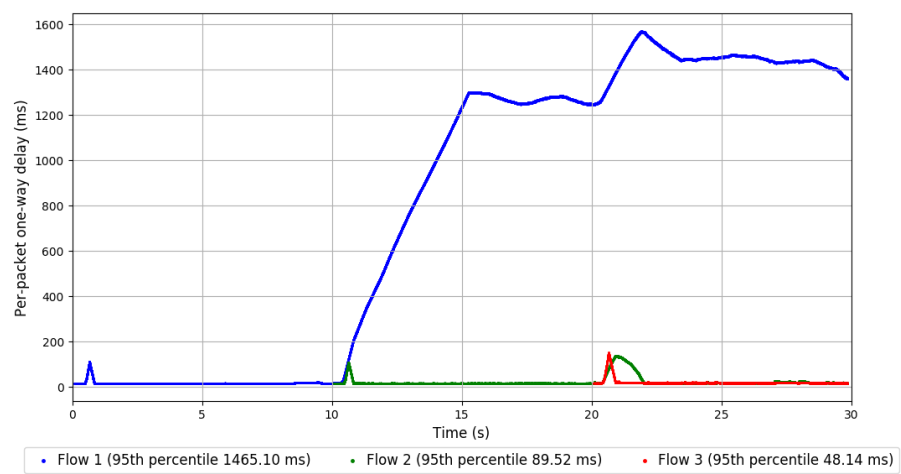
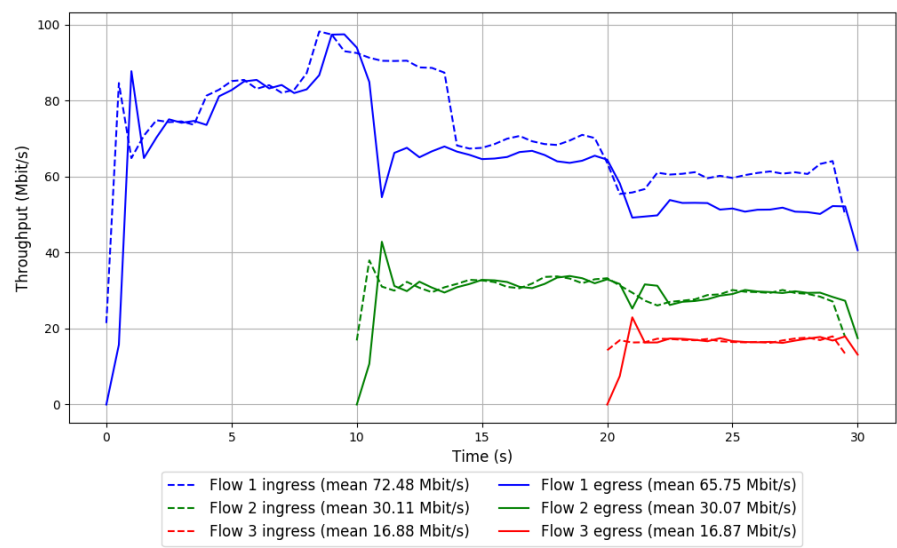


Run 5: Statistics of PCC-Allegro

Start at: 2018-10-26 11:20:07
End at: 2018-10-26 11:20:37
Local clock offset: 0.203 ms
Remote clock offset: -1.715 ms

Below is generated by plot.py at 2018-10-26 11:37:17
Datalink statistics
-- Total of 3 flows:
Average throughput: 91.29 Mbit/s
95th percentile per-packet one-way delay: 1459.359 ms
Loss rate: 6.98%
-- Flow 1:
Average throughput: 65.75 Mbit/s
95th percentile per-packet one-way delay: 1465.099 ms
Loss rate: 9.35%
-- Flow 2:
Average throughput: 30.07 Mbit/s
95th percentile per-packet one-way delay: 89.519 ms
Loss rate: 0.24%
-- Flow 3:
Average throughput: 16.87 Mbit/s
95th percentile per-packet one-way delay: 48.137 ms
Loss rate: 0.32%

Run 5: Report of PCC-Allegro — Data Link

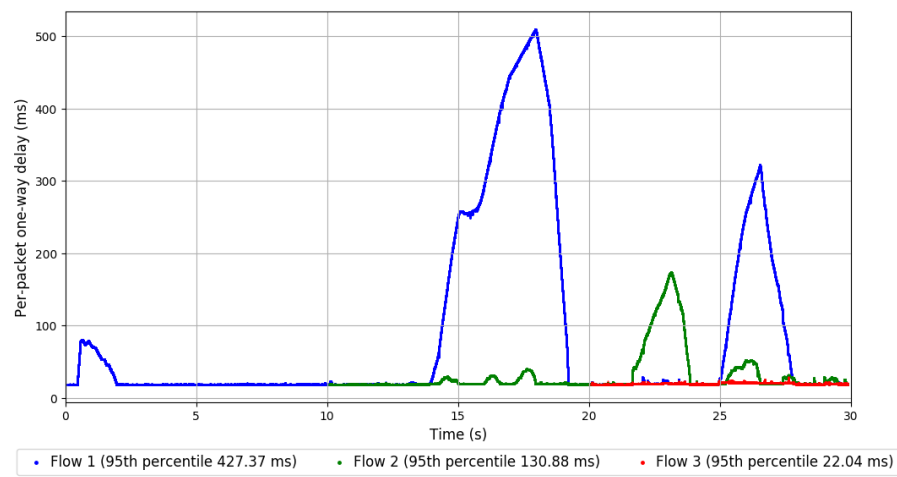
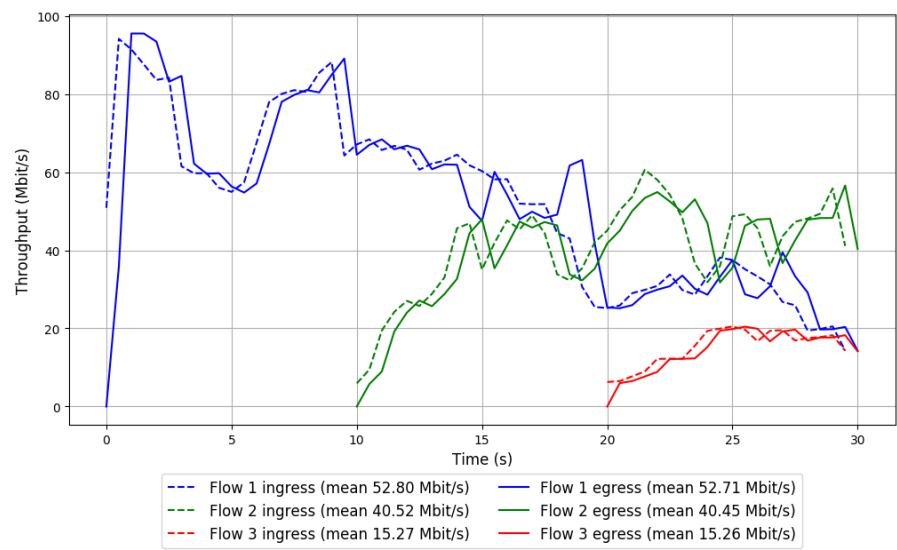


```
Run 1: Statistics of PCC-Expr

Start at: 2018-10-26 09:44:28
End at: 2018-10-26 09:44:58
Local clock offset: 2.203 ms
Remote clock offset: -1.261 ms

# Below is generated by plot.py at 2018-10-26 11:38:08
# Datalink statistics
-- Total of 3 flows:
Average throughput: 84.65 Mbit/s
95th percentile per-packet one-way delay: 328.202 ms
Loss rate: 0.28%
-- Flow 1:
Average throughput: 52.71 Mbit/s
95th percentile per-packet one-way delay: 427.367 ms
Loss rate: 0.24%
-- Flow 2:
Average throughput: 40.45 Mbit/s
95th percentile per-packet one-way delay: 130.877 ms
Loss rate: 0.35%
-- Flow 3:
Average throughput: 15.26 Mbit/s
95th percentile per-packet one-way delay: 22.041 ms
Loss rate: 0.30%
```

Run 1: Report of PCC-Expr — Data Link

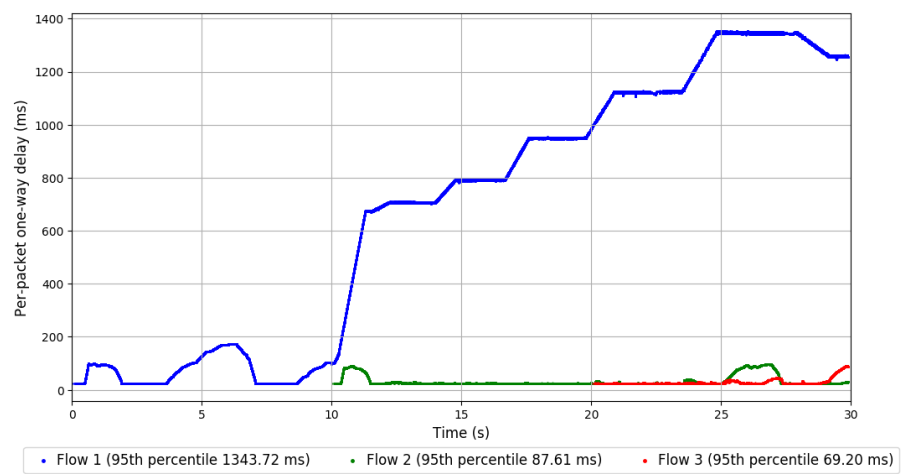
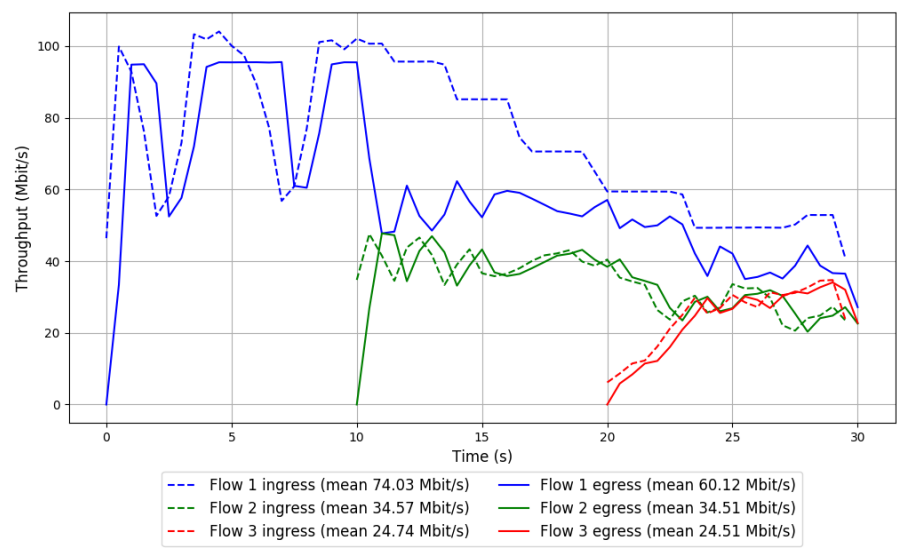


Run 2: Statistics of PCC-Expr

Start at: 2018-10-26 10:06:58
End at: 2018-10-26 10:07:28
Local clock offset: 3.224 ms
Remote clock offset: -4.654 ms

Below is generated by plot.py at 2018-10-26 11:38:26
Datalink statistics
-- Total of 3 flows:
Average throughput: 91.13 Mbit/s
95th percentile per-packet one-way delay: 1304.448 ms
Loss rate: 13.48%
-- Flow 1:
Average throughput: 60.12 Mbit/s
95th percentile per-packet one-way delay: 1343.717 ms
Loss rate: 18.91%
-- Flow 2:
Average throughput: 34.51 Mbit/s
95th percentile per-packet one-way delay: 87.611 ms
Loss rate: 0.35%
-- Flow 3:
Average throughput: 24.51 Mbit/s
95th percentile per-packet one-way delay: 69.205 ms
Loss rate: 1.25%

Run 2: Report of PCC-Expr — Data Link

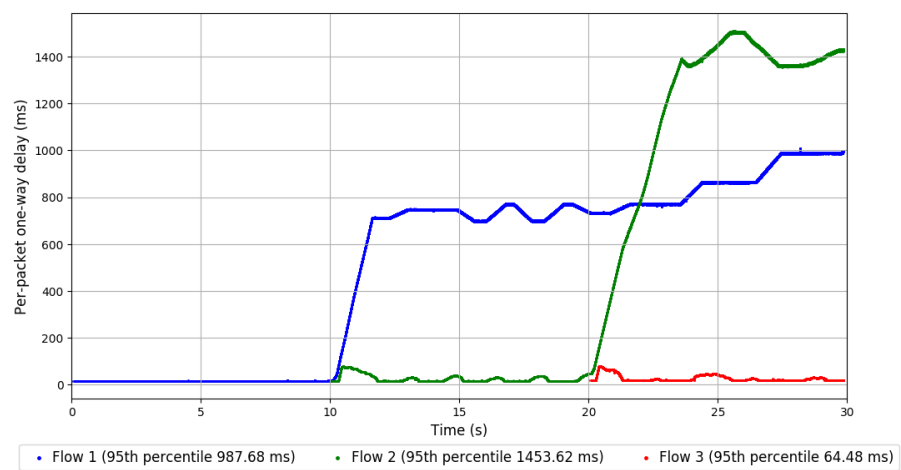
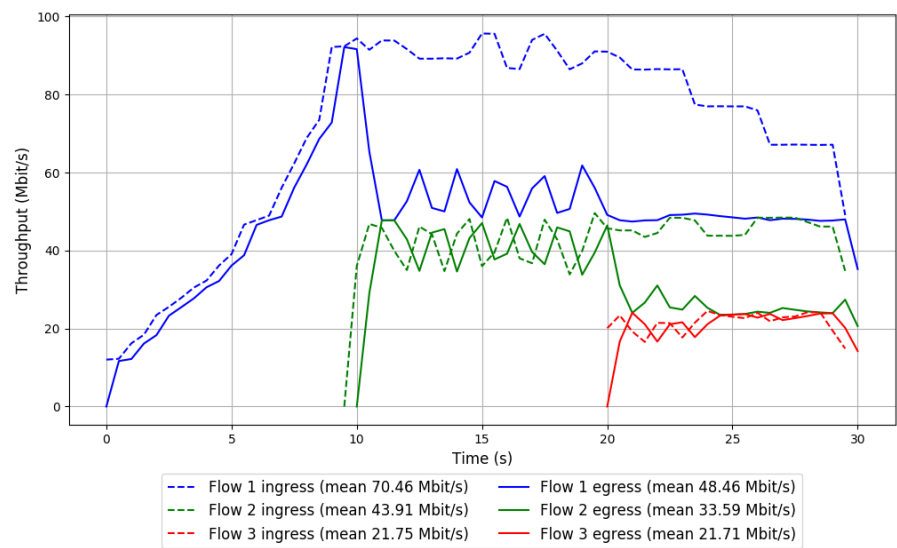


Run 3: Statistics of PCC-Expr

Start at: 2018-10-26 10:29:18
End at: 2018-10-26 10:29:48
Local clock offset: -2.062 ms
Remote clock offset: -0.675 ms

Below is generated by plot.py at 2018-10-26 11:38:26
Datalink statistics
-- Total of 3 flows:
Average throughput: 77.96 Mbit/s
95th percentile per-packet one-way delay: 1370.619 ms
Loss rate: 27.13%
-- Flow 1:
Average throughput: 48.46 Mbit/s
95th percentile per-packet one-way delay: 987.677 ms
Loss rate: 31.31%
-- Flow 2:
Average throughput: 33.59 Mbit/s
95th percentile per-packet one-way delay: 1453.621 ms
Loss rate: 23.59%
-- Flow 3:
Average throughput: 21.71 Mbit/s
95th percentile per-packet one-way delay: 64.481 ms
Loss rate: 0.48%

Run 3: Report of PCC-Expr — Data Link

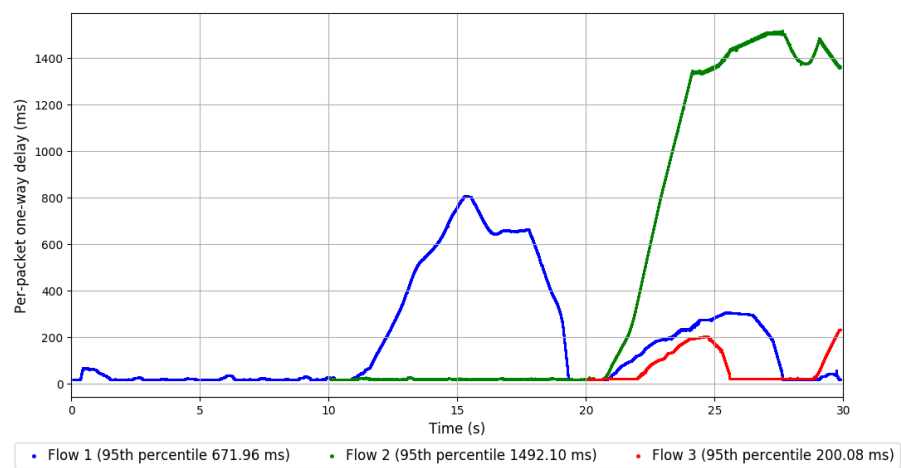
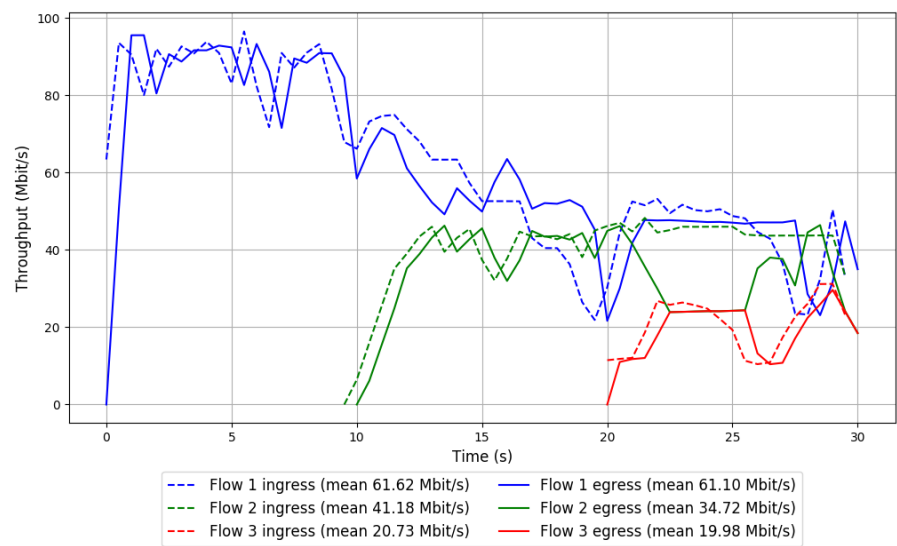


Run 4: Statistics of PCC-Expr

Start at: 2018-10-26 10:51:59
End at: 2018-10-26 10:52:29
Local clock offset: 1.334 ms
Remote clock offset: -3.257 ms

Below is generated by plot.py at 2018-10-26 11:38:59
Datalink statistics
-- Total of 3 flows:
Average throughput: 90.77 Mbit/s
95th percentile per-packet one-way delay: 1386.753 ms
Loss rate: 5.38%
-- Flow 1:
Average throughput: 61.10 Mbit/s
95th percentile per-packet one-way delay: 671.960 ms
Loss rate: 0.91%
-- Flow 2:
Average throughput: 34.72 Mbit/s
95th percentile per-packet one-way delay: 1492.095 ms
Loss rate: 15.82%
-- Flow 3:
Average throughput: 19.98 Mbit/s
95th percentile per-packet one-way delay: 200.079 ms
Loss rate: 3.78%

Run 4: Report of PCC-Expr — Data Link

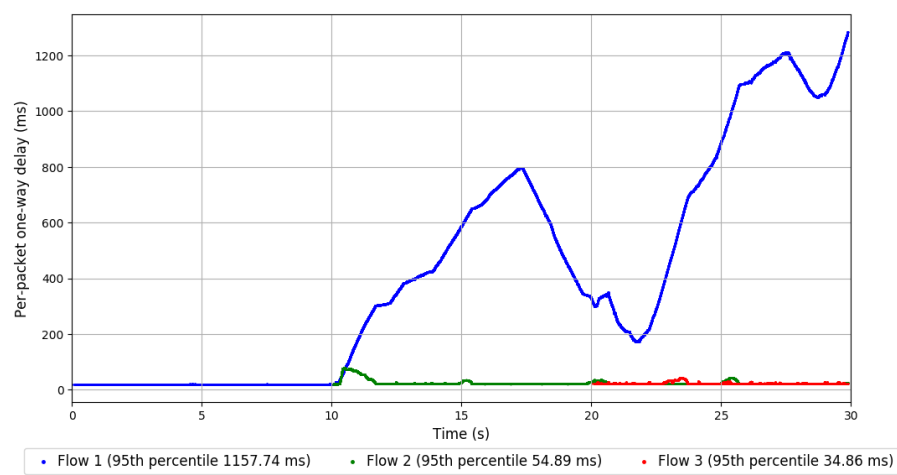
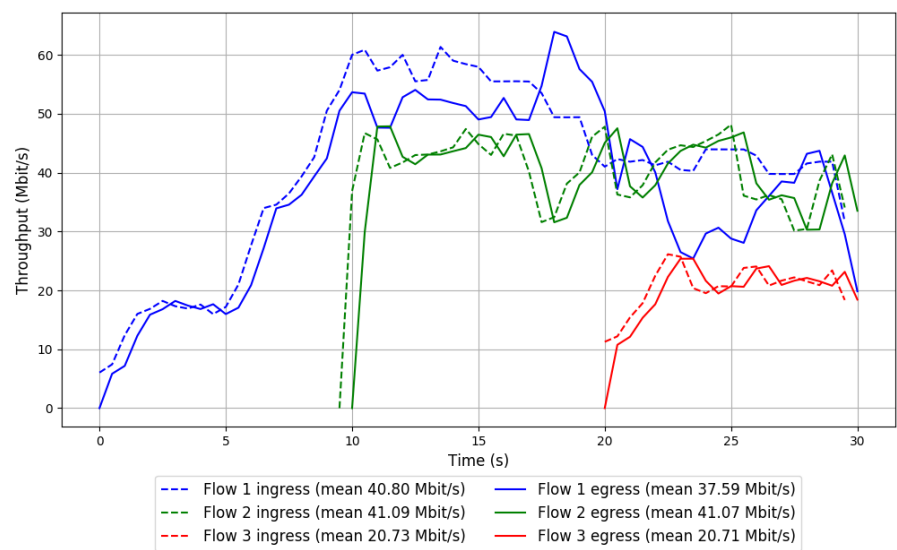


Run 5: Statistics of PCC-Expr

Start at: 2018-10-26 11:14:03
End at: 2018-10-26 11:14:33
Local clock offset: 1.62 ms
Remote clock offset: -3.125 ms

Below is generated by plot.py at 2018-10-26 11:38:59
Datalink statistics
-- Total of 3 flows:
Average throughput: 71.74 Mbit/s
95th percentile per-packet one-way delay: 1098.119 ms
Loss rate: 4.41%
-- Flow 1:
Average throughput: 37.59 Mbit/s
95th percentile per-packet one-way delay: 1157.740 ms
Loss rate: 7.95%
-- Flow 2:
Average throughput: 41.07 Mbit/s
95th percentile per-packet one-way delay: 54.886 ms
Loss rate: 0.17%
-- Flow 3:
Average throughput: 20.71 Mbit/s
95th percentile per-packet one-way delay: 34.858 ms
Loss rate: 0.32%

Run 5: Report of PCC-Expr — Data Link

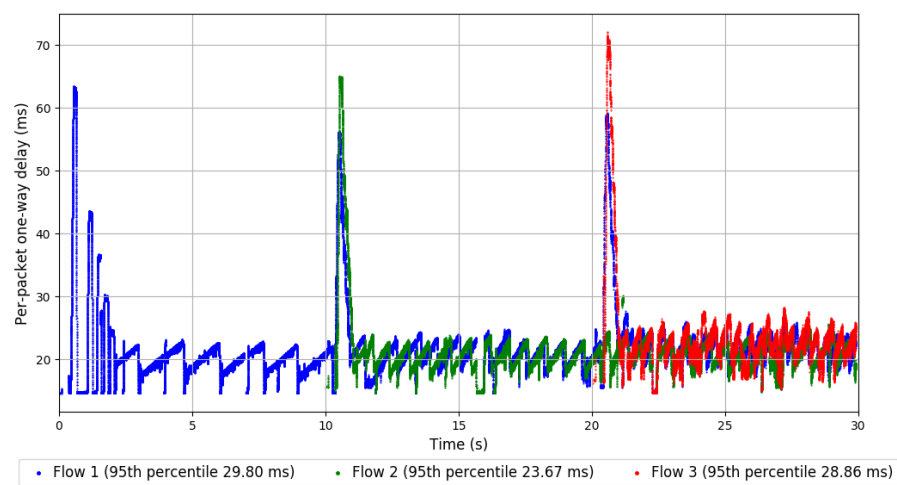
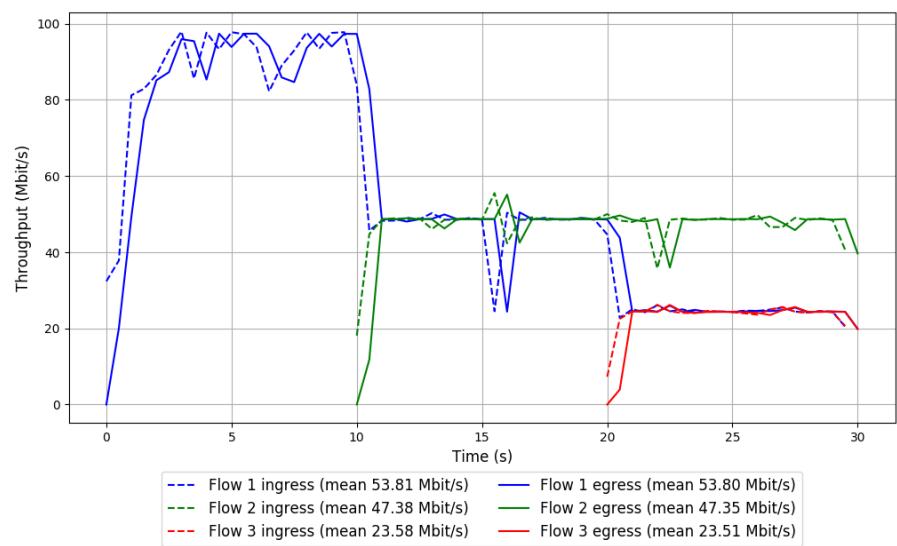


Run 1: Statistics of QUIC Cubic

Start at: 2018-10-26 09:41:48
End at: 2018-10-26 09:42:18
Local clock offset: -13.804 ms
Remote clock offset: -12.905 ms

Below is generated by plot.py at 2018-10-26 11:38:59
Datalink statistics
-- Total of 3 flows:
Average throughput: 93.07 Mbit/s
95th percentile per-packet one-way delay: 26.687 ms
Loss rate: 0.17%
-- Flow 1:
Average throughput: 53.80 Mbit/s
95th percentile per-packet one-way delay: 29.797 ms
Loss rate: 0.10%
-- Flow 2:
Average throughput: 47.35 Mbit/s
95th percentile per-packet one-way delay: 23.667 ms
Loss rate: 0.20%
-- Flow 3:
Average throughput: 23.51 Mbit/s
95th percentile per-packet one-way delay: 28.855 ms
Loss rate: 0.54%

Run 1: Report of QUIC Cubic — Data Link

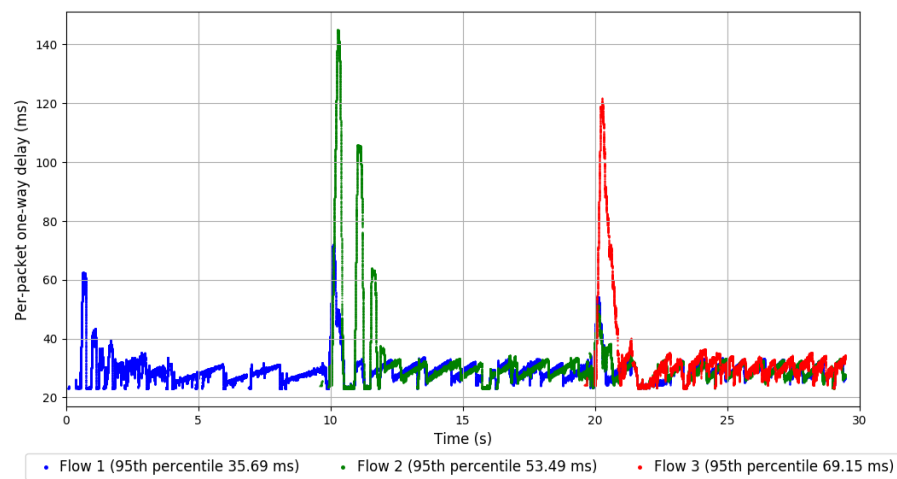
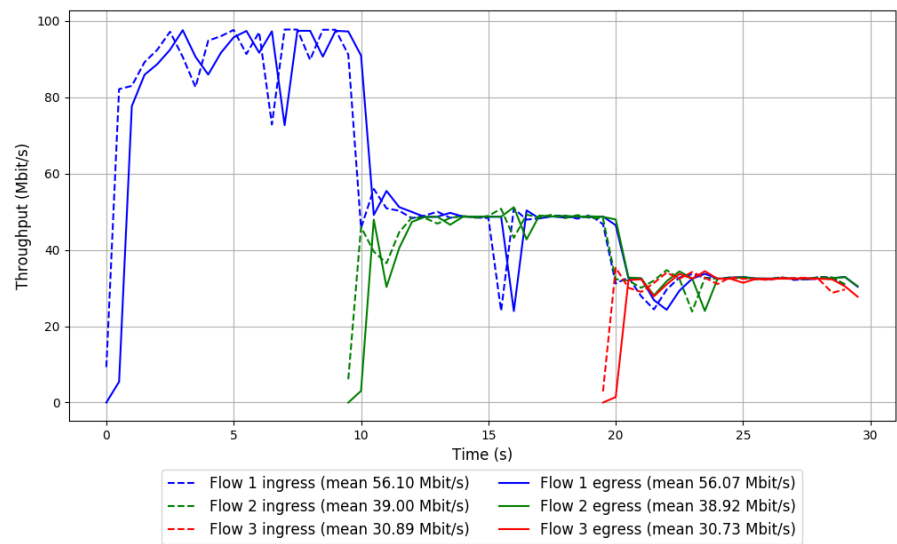


Run 2: Statistics of QUIC Cubic

Start at: 2018-10-26 10:04:24
End at: 2018-10-26 10:04:54
Local clock offset: 3.191 ms
Remote clock offset: -4.003 ms

Below is generated by plot.py at 2018-10-26 11:38:59
Datalink statistics
-- Total of 3 flows:
Average throughput: 92.65 Mbit/s
95th percentile per-packet one-way delay: 38.957 ms
Loss rate: 0.28%
-- Flow 1:
Average throughput: 56.07 Mbit/s
95th percentile per-packet one-way delay: 35.694 ms
Loss rate: 0.15%
-- Flow 2:
Average throughput: 38.92 Mbit/s
95th percentile per-packet one-way delay: 53.487 ms
Loss rate: 0.37%
-- Flow 3:
Average throughput: 30.73 Mbit/s
95th percentile per-packet one-way delay: 69.154 ms
Loss rate: 0.77%

Run 2: Report of QUIC Cubic — Data Link

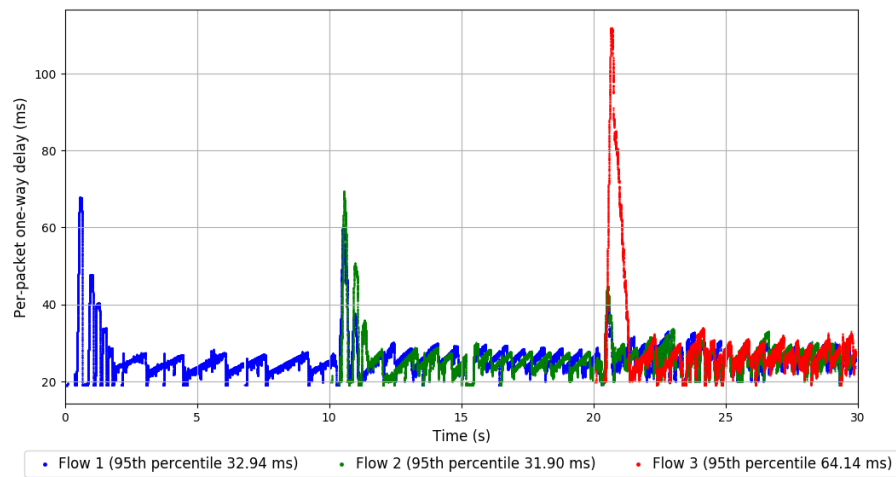
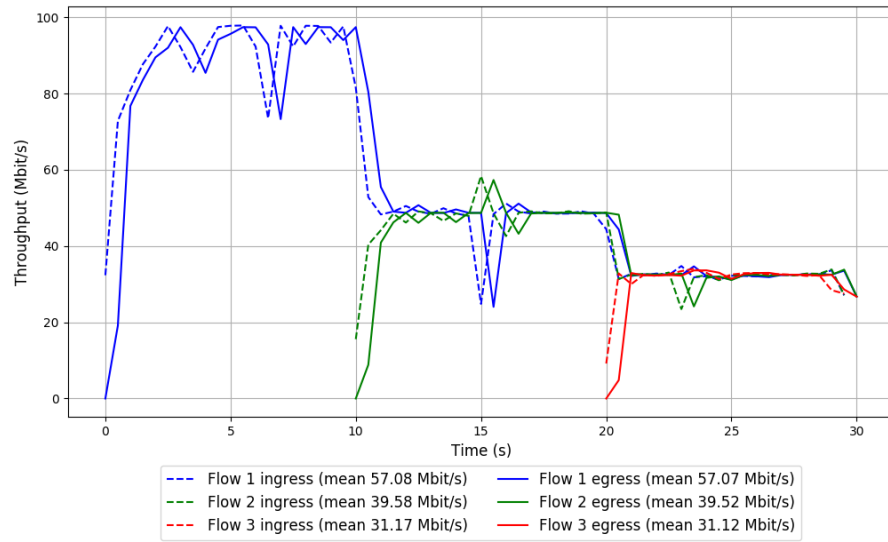


Run 3: Statistics of QUIC Cubic

Start at: 2018-10-26 10:26:49
End at: 2018-10-26 10:27:19
Local clock offset: 2.126 ms
Remote clock offset: -0.355 ms

Below is generated by plot.py at 2018-10-26 11:38:59
Datalink statistics
-- Total of 3 flows:
Average throughput: 93.63 Mbit/s
95th percentile per-packet one-way delay: 33.288 ms
Loss rate: 0.19%
-- Flow 1:
Average throughput: 57.07 Mbit/s
95th percentile per-packet one-way delay: 32.939 ms
Loss rate: 0.09%
-- Flow 2:
Average throughput: 39.52 Mbit/s
95th percentile per-packet one-way delay: 31.898 ms
Loss rate: 0.29%
-- Flow 3:
Average throughput: 31.12 Mbit/s
95th percentile per-packet one-way delay: 64.136 ms
Loss rate: 0.49%

Run 3: Report of QUIC Cubic — Data Link

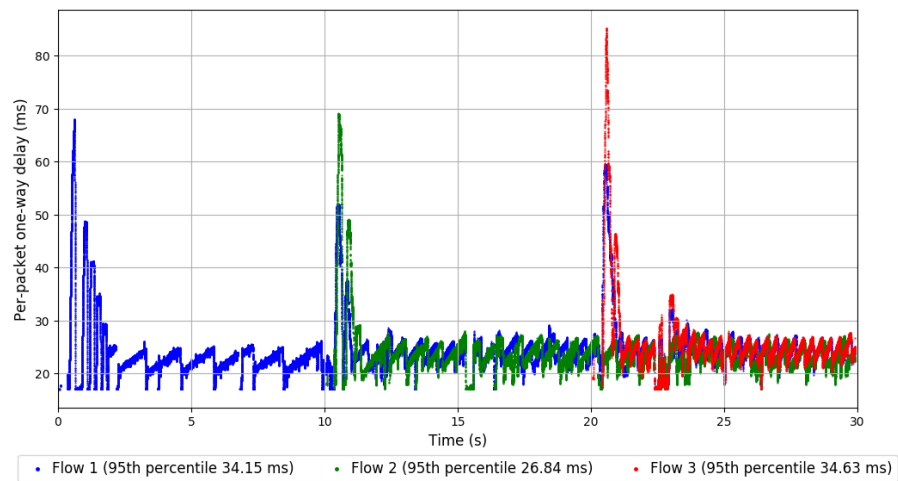
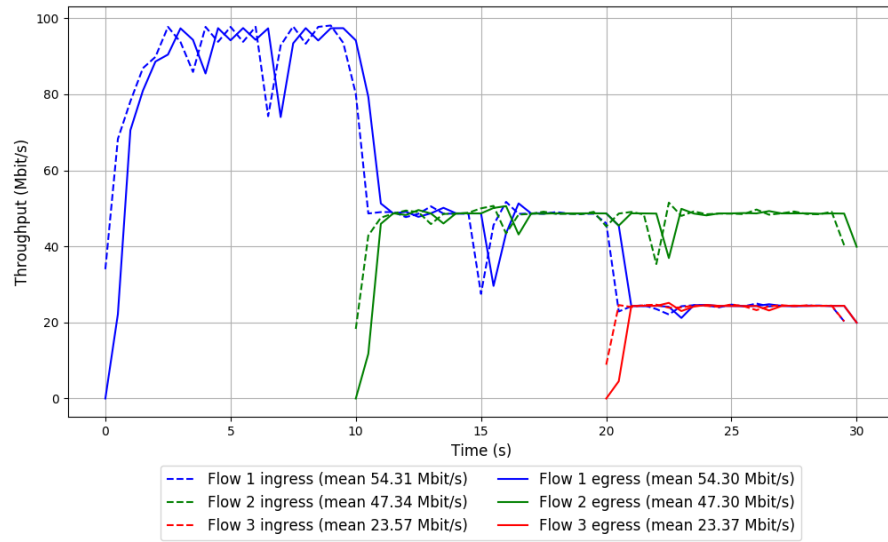


Run 4: Statistics of QUIC Cubic

Start at: 2018-10-26 10:49:28
End at: 2018-10-26 10:49:58
Local clock offset: 1.679 ms
Remote clock offset: -2.292 ms

Below is generated by plot.py at 2018-10-26 11:39:30
Datalink statistics
-- Total of 3 flows:
Average throughput: 93.47 Mbit/s
95th percentile per-packet one-way delay: 29.907 ms
Loss rate: 0.22%
-- Flow 1:
Average throughput: 54.30 Mbit/s
95th percentile per-packet one-way delay: 34.147 ms
Loss rate: 0.09%
-- Flow 2:
Average throughput: 47.30 Mbit/s
95th percentile per-packet one-way delay: 26.837 ms
Loss rate: 0.21%
-- Flow 3:
Average throughput: 23.37 Mbit/s
95th percentile per-packet one-way delay: 34.635 ms
Loss rate: 1.11%

Run 4: Report of QUIC Cubic — Data Link

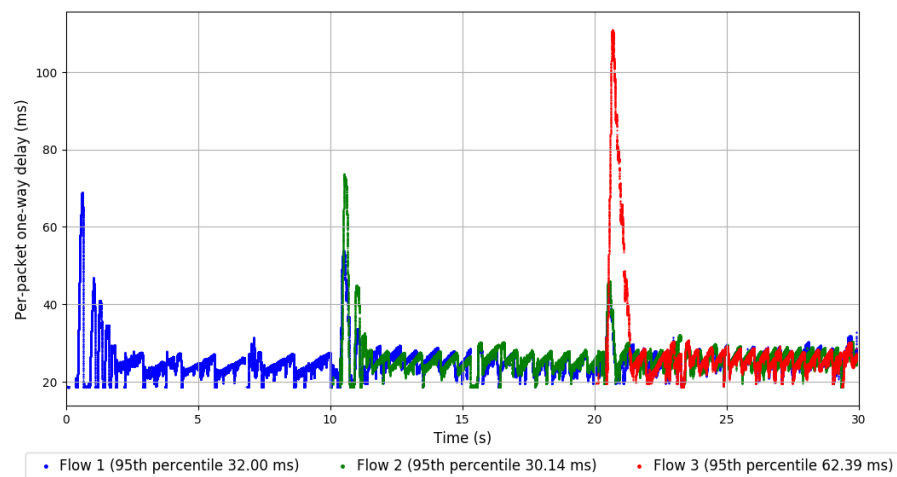
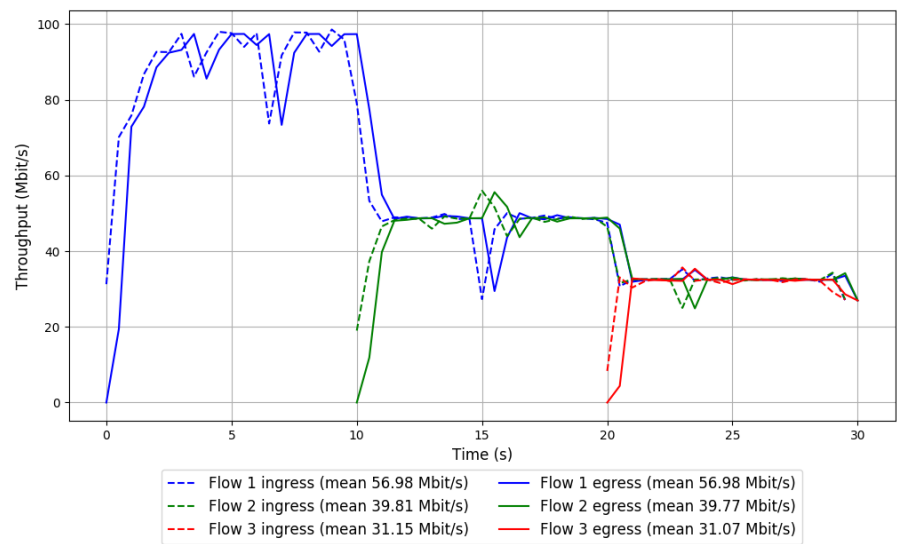


Run 5: Statistics of QUIC Cubic

Start at: 2018-10-26 11:11:36
End at: 2018-10-26 11:12:06
Local clock offset: 1.349 ms
Remote clock offset: -2.472 ms

Below is generated by plot.py at 2018-10-26 11:39:36
Datalink statistics
-- Total of 3 flows:
Average throughput: 93.68 Mbit/s
95th percentile per-packet one-way delay: 32.218 ms
Loss rate: 0.17%
-- Flow 1:
Average throughput: 56.98 Mbit/s
95th percentile per-packet one-way delay: 31.999 ms
Loss rate: 0.09%
-- Flow 2:
Average throughput: 39.77 Mbit/s
95th percentile per-packet one-way delay: 30.145 ms
Loss rate: 0.21%
-- Flow 3:
Average throughput: 31.07 Mbit/s
95th percentile per-packet one-way delay: 62.389 ms
Loss rate: 0.47%

Run 5: Report of QUIC Cubic — Data Link

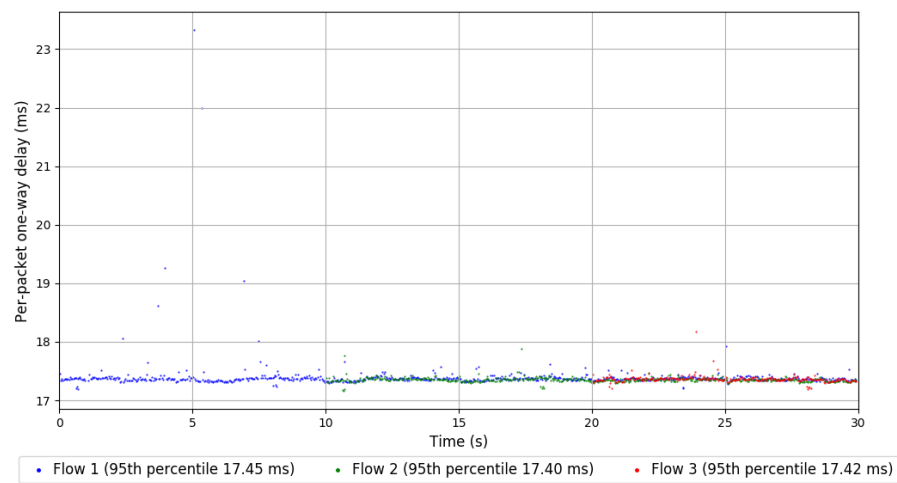
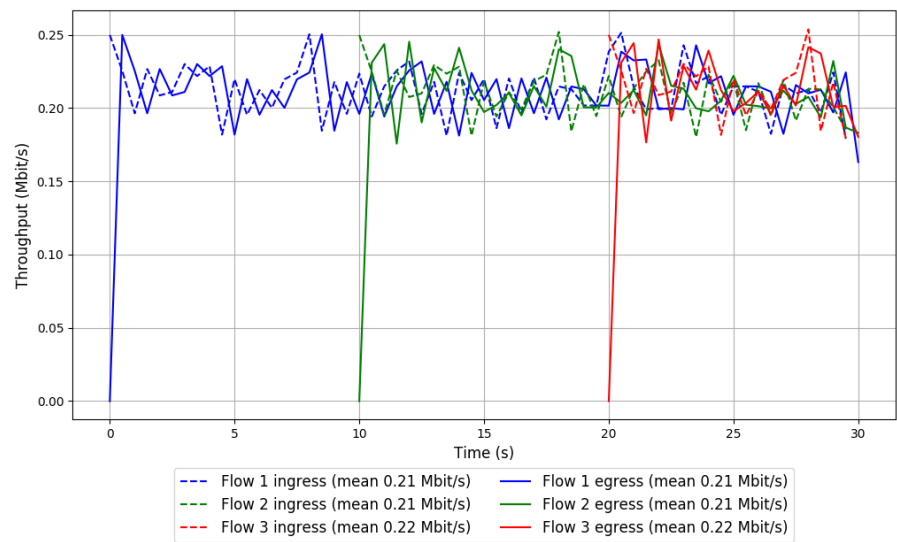


```
Run 1: Statistics of SReAM

Start at: 2018-10-26 09:40:42
End at: 2018-10-26 09:41:12
Local clock offset: -6.633 ms
Remote clock offset: -8.411 ms

# Below is generated by plot.py at 2018-10-26 11:39:36
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.42 Mbit/s
95th percentile per-packet one-way delay: 17.428 ms
Loss rate: 0.19%
-- Flow 1:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 17.451 ms
Loss rate: 0.13%
-- Flow 2:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 17.404 ms
Loss rate: 0.19%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 17.416 ms
Loss rate: 0.35%
```

Run 1: Report of SReAM — Data Link

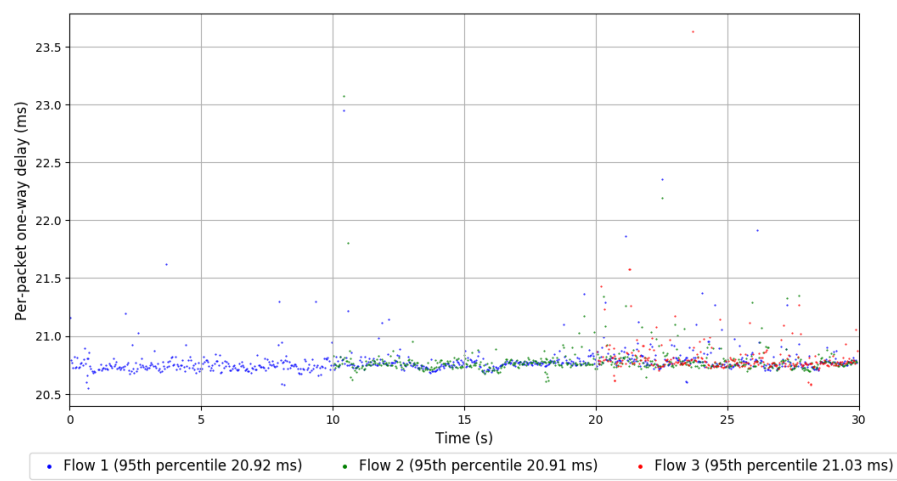
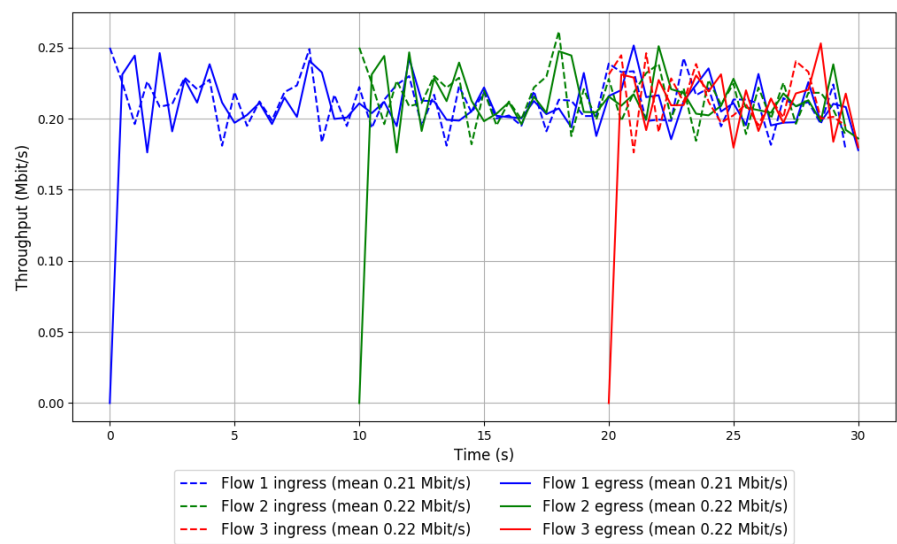


Run 2: Statistics of SReAM

Start at: 2018-10-26 10:03:17
End at: 2018-10-26 10:03:47
Local clock offset: -0.235 ms
Remote clock offset: -5.053 ms

Below is generated by plot.py at 2018-10-26 11:39:36
Datalink statistics
-- Total of 3 flows:
Average throughput: 0.43 Mbit/s
95th percentile per-packet one-way delay: 20.929 ms
Loss rate: 0.19%
-- Flow 1:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 20.916 ms
Loss rate: 0.13%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 20.910 ms
Loss rate: 0.19%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 21.029 ms
Loss rate: 0.35%

Run 2: Report of SReAM — Data Link

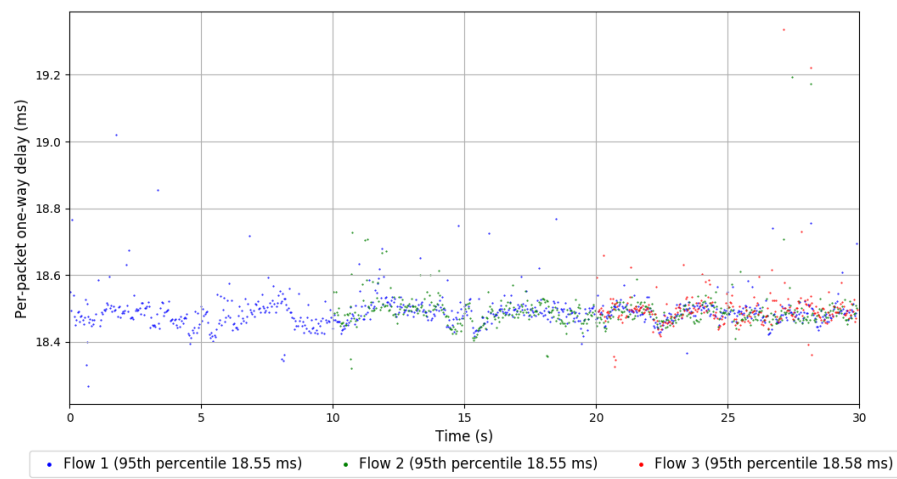
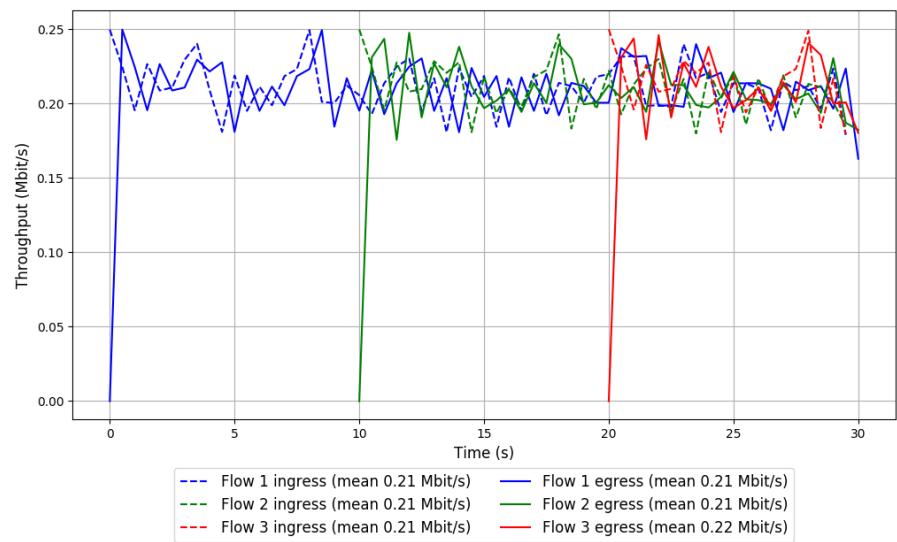


Run 3: Statistics of SReAM

Start at: 2018-10-26 10:25:43
End at: 2018-10-26 10:26:13
Local clock offset: 0.475 ms
Remote clock offset: -1.469 ms

Below is generated by plot.py at 2018-10-26 11:39:36
Datalink statistics
-- Total of 3 flows:
Average throughput: 0.42 Mbit/s
95th percentile per-packet one-way delay: 18.551 ms
Loss rate: 0.19%
-- Flow 1:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 18.551 ms
Loss rate: 0.13%
-- Flow 2:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 18.549 ms
Loss rate: 0.19%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 18.577 ms
Loss rate: 0.35%

Run 3: Report of SReAM — Data Link

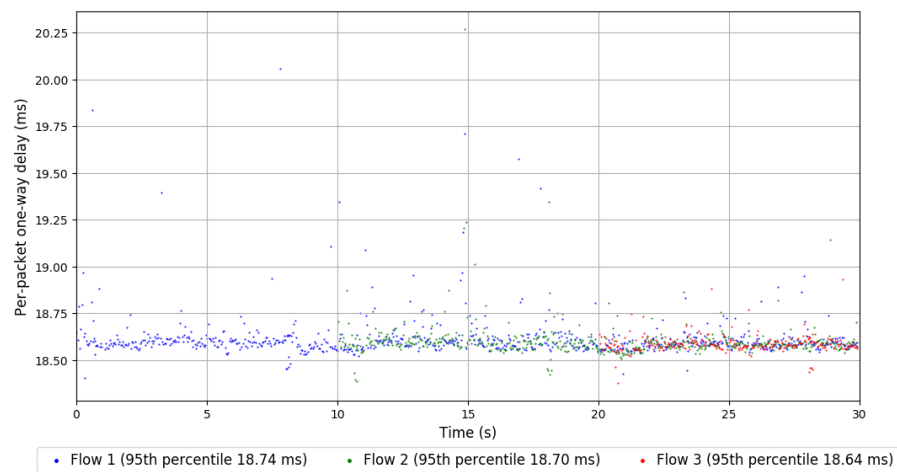
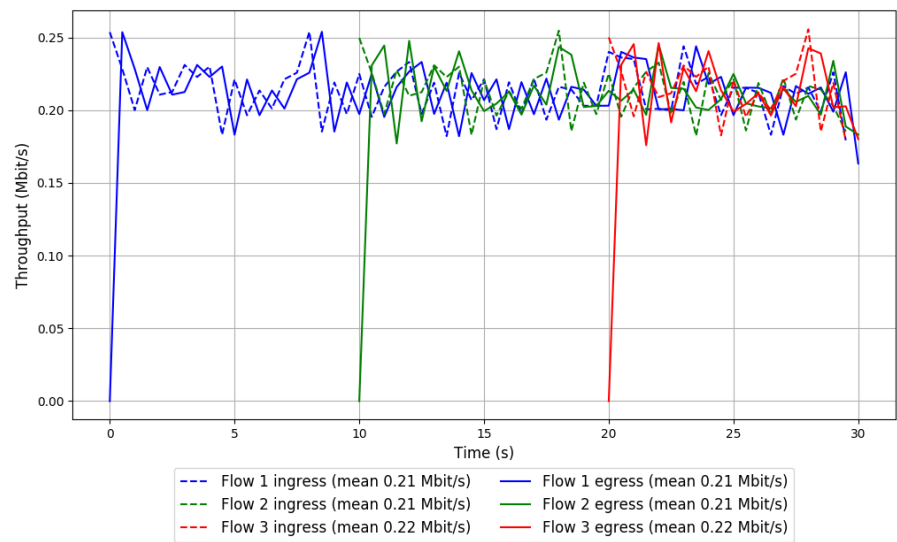


Run 4: Statistics of SReAM

Start at: 2018-10-26 10:48:21
End at: 2018-10-26 10:48:51
Local clock offset: 3.598 ms
Remote clock offset: -1.774 ms

Below is generated by plot.py at 2018-10-26 11:39:36
Datalink statistics
-- Total of 3 flows:
Average throughput: 0.43 Mbit/s
95th percentile per-packet one-way delay: 18.713 ms
Loss rate: 0.18%
-- Flow 1:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 18.741 ms
Loss rate: 0.12%
-- Flow 2:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 18.702 ms
Loss rate: 0.19%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 18.642 ms
Loss rate: 0.35%

Run 4: Report of SReAM — Data Link

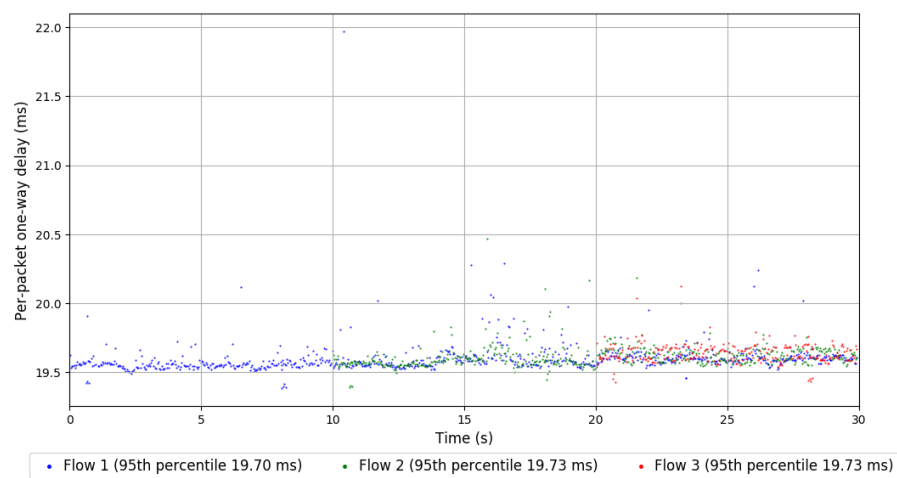
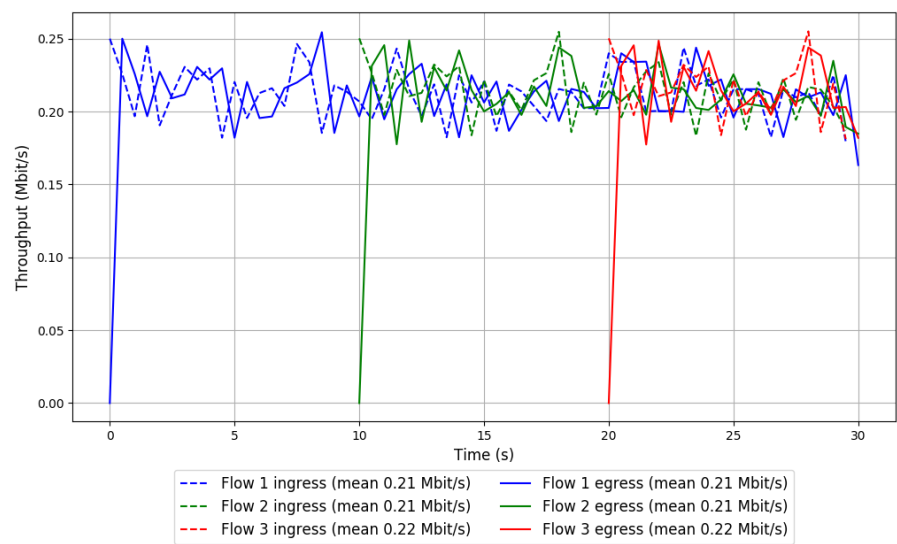


Run 5: Statistics of SReAM

Start at: 2018-10-26 11:10:29
End at: 2018-10-26 11:10:59
Local clock offset: 1.679 ms
Remote clock offset: -3.242 ms

Below is generated by plot.py at 2018-10-26 11:39:36
Datalink statistics
-- Total of 3 flows:
Average throughput: 0.43 Mbit/s
95th percentile per-packet one-way delay: 19.716 ms
Loss rate: 0.19%
-- Flow 1:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 19.705 ms
Loss rate: 0.13%
-- Flow 2:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 19.725 ms
Loss rate: 0.19%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 19.728 ms
Loss rate: 0.35%

Run 5: Report of SReAM — Data Link

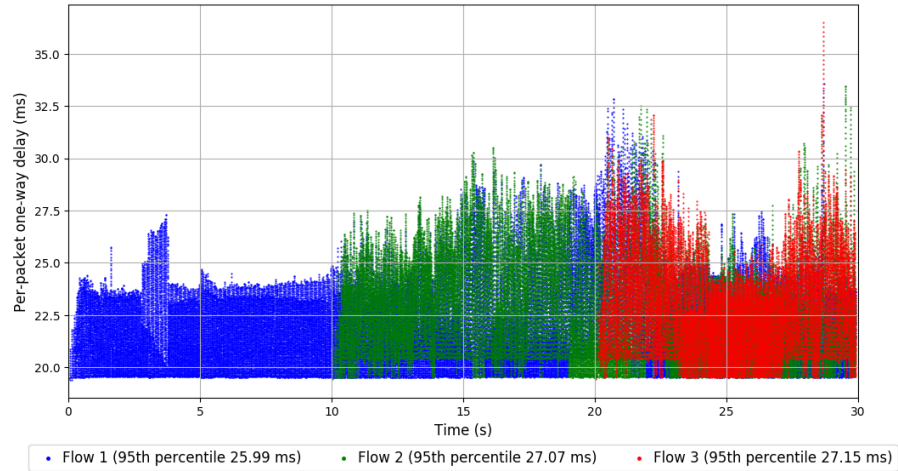
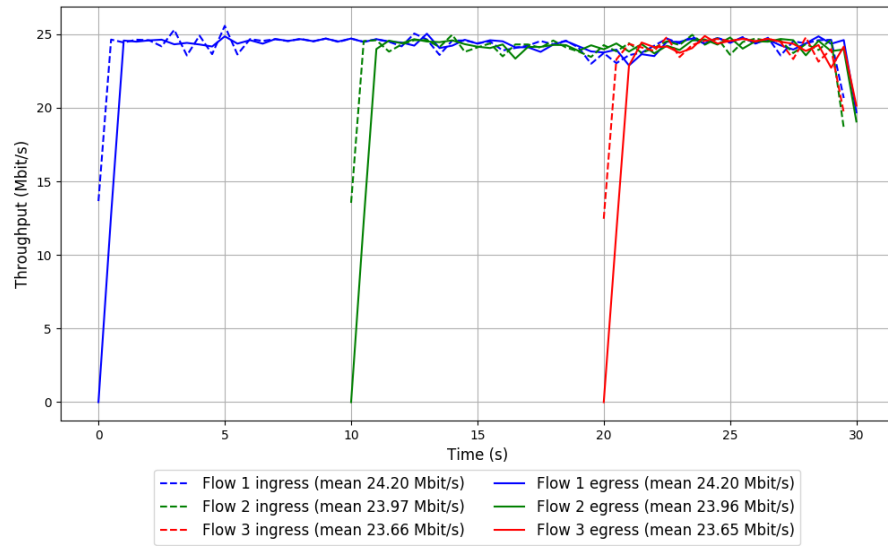


Run 1: Statistics of Sprout

Start at: 2018-10-26 09:47:09
End at: 2018-10-26 09:47:39
Local clock offset: 0.239 ms
Remote clock offset: -3.746 ms

Below is generated by plot.py at 2018-10-26 11:39:36
Datalink statistics
-- Total of 3 flows:
Average throughput: 47.93 Mbit/s
95th percentile per-packet one-way delay: 26.701 ms
Loss rate: 0.14%
-- Flow 1:
Average throughput: 24.20 Mbit/s
95th percentile per-packet one-way delay: 25.992 ms
Loss rate: 0.14%
-- Flow 2:
Average throughput: 23.96 Mbit/s
95th percentile per-packet one-way delay: 27.075 ms
Loss rate: 0.13%
-- Flow 3:
Average throughput: 23.65 Mbit/s
95th percentile per-packet one-way delay: 27.147 ms
Loss rate: 0.21%

Run 1: Report of Sprout — Data Link

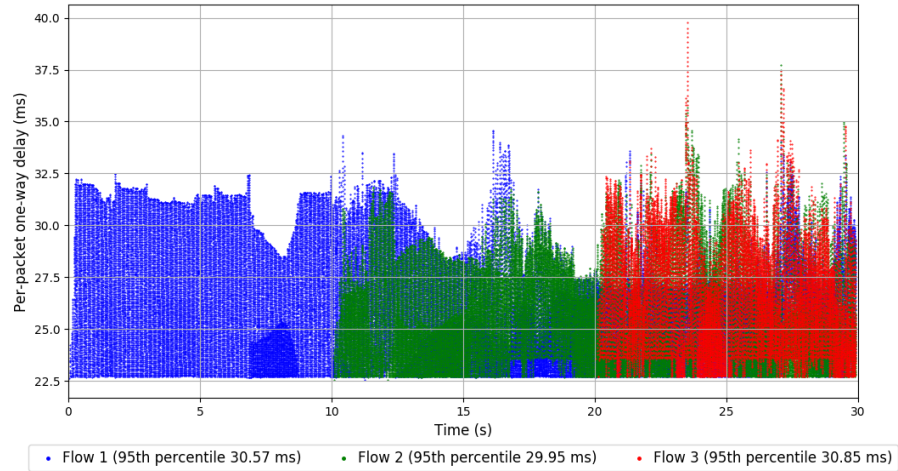
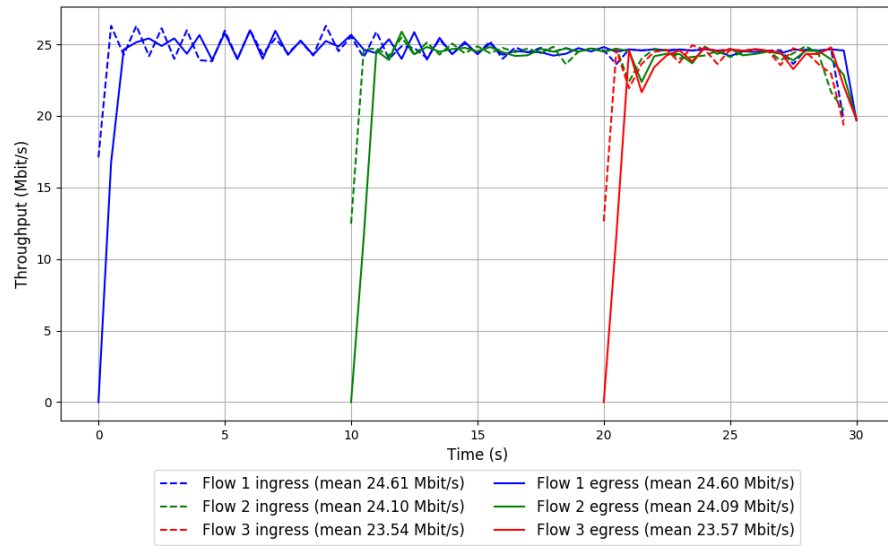


Run 2: Statistics of Sprout

Start at: 2018-10-26 10:09:34
End at: 2018-10-26 10:10:04
Local clock offset: 2.401 ms
Remote clock offset: -4.049 ms

Below is generated by plot.py at 2018-10-26 11:39:36
Datalink statistics
-- Total of 3 flows:
Average throughput: 48.38 Mbit/s
95th percentile per-packet one-way delay: 30.463 ms
Loss rate: 0.12%
-- Flow 1:
Average throughput: 24.60 Mbit/s
95th percentile per-packet one-way delay: 30.575 ms
Loss rate: 0.07%
-- Flow 2:
Average throughput: 24.09 Mbit/s
95th percentile per-packet one-way delay: 29.949 ms
Loss rate: 0.13%
-- Flow 3:
Average throughput: 23.57 Mbit/s
95th percentile per-packet one-way delay: 30.853 ms
Loss rate: 0.27%

Run 2: Report of Sprout — Data Link

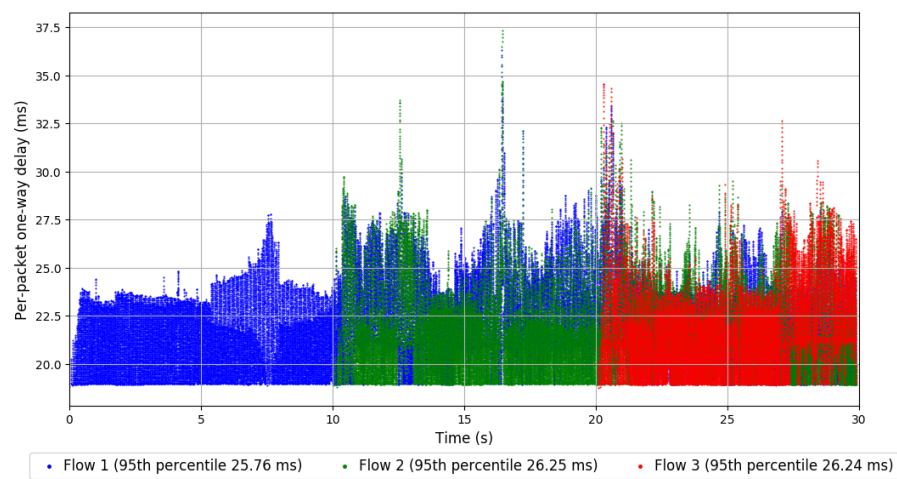
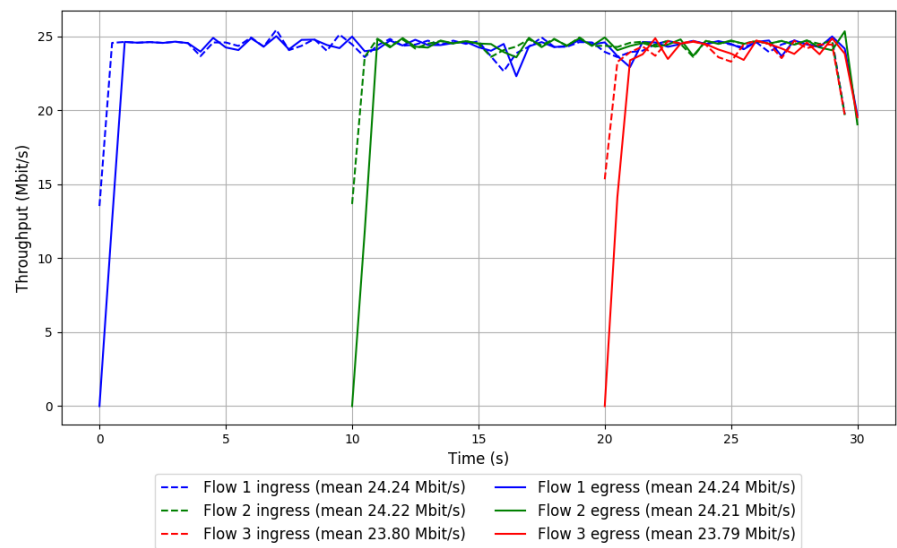


Run 3: Statistics of Sprout

Start at: 2018-10-26 10:32:04
End at: 2018-10-26 10:32:34
Local clock offset: 0.738 ms
Remote clock offset: -1.681 ms

```
# Below is generated by plot.py at 2018-10-26 11:39:36
# Datalink statistics
-- Total of 3 flows:
Average throughput: 48.17 Mbit/s
95th percentile per-packet one-way delay: 26.006 ms
Loss rate: 0.17%
-- Flow 1:
Average throughput: 24.24 Mbit/s
95th percentile per-packet one-way delay: 25.764 ms
Loss rate: 0.09%
-- Flow 2:
Average throughput: 24.21 Mbit/s
95th percentile per-packet one-way delay: 26.246 ms
Loss rate: 0.18%
-- Flow 3:
Average throughput: 23.79 Mbit/s
95th percentile per-packet one-way delay: 26.242 ms
Loss rate: 0.42%
```

Run 3: Report of Sprout — Data Link

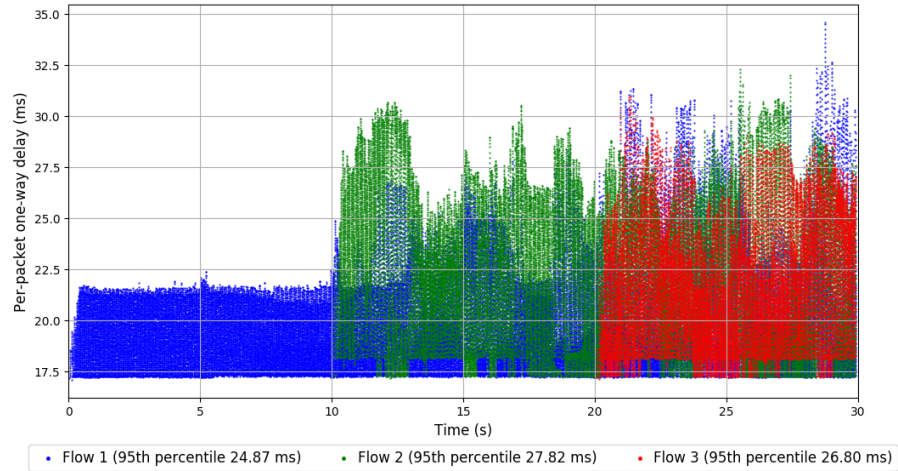
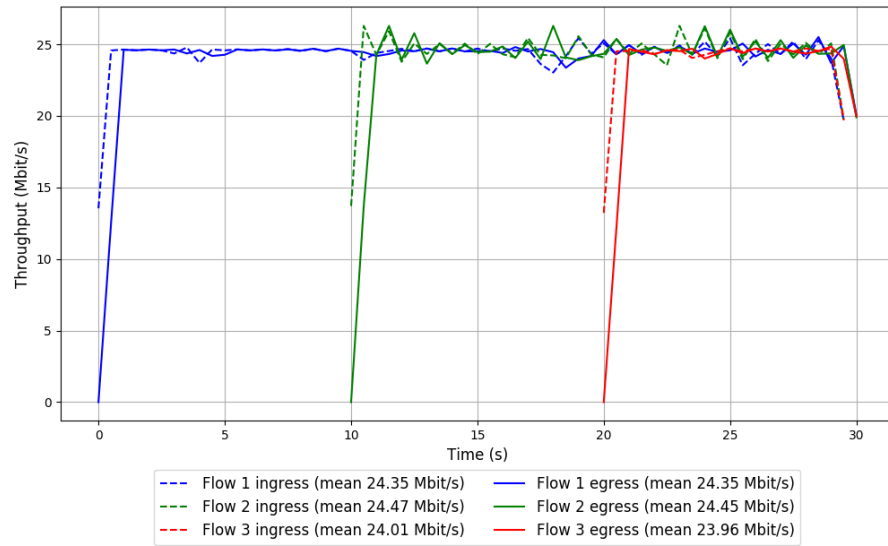


Run 4: Statistics of Sprout

Start at: 2018-10-26 10:54:30
End at: 2018-10-26 10:55:00
Local clock offset: 1.608 ms
Remote clock offset: -2.56 ms

```
# Below is generated by plot.py at 2018-10-26 11:39:36
# Datalink statistics
-- Total of 3 flows:
Average throughput: 48.51 Mbit/s
95th percentile per-packet one-way delay: 26.825 ms
Loss rate: 0.11%
-- Flow 1:
Average throughput: 24.35 Mbit/s
95th percentile per-packet one-way delay: 24.866 ms
Loss rate: 0.02%
-- Flow 2:
Average throughput: 24.45 Mbit/s
95th percentile per-packet one-way delay: 27.815 ms
Loss rate: 0.14%
-- Flow 3:
Average throughput: 23.96 Mbit/s
95th percentile per-packet one-way delay: 26.805 ms
Loss rate: 0.32%
```

Run 4: Report of Sprout — Data Link

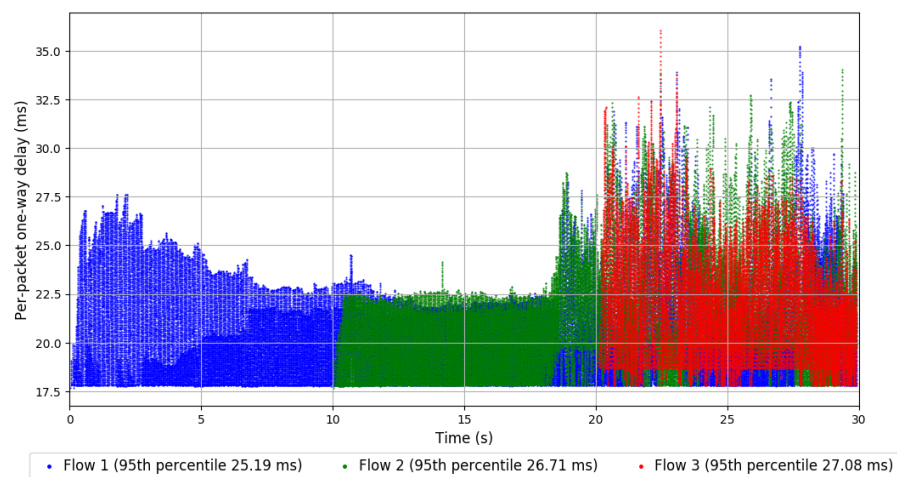
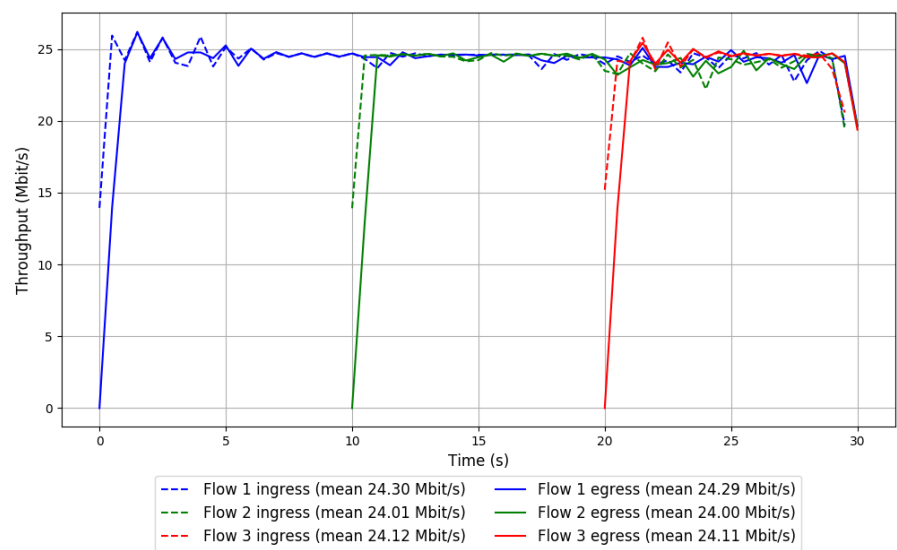


Run 5: Statistics of Sprout

Start at: 2018-10-26 11:16:30
End at: 2018-10-26 11:17:00
Local clock offset: -0.044 ms
Remote clock offset: -2.855 ms

```
# Below is generated by plot.py at 2018-10-26 11:39:36
# Datalink statistics
-- Total of 3 flows:
Average throughput: 48.21 Mbit/s
95th percentile per-packet one-way delay: 26.181 ms
Loss rate: 0.14%
-- Flow 1:
Average throughput: 24.29 Mbit/s
95th percentile per-packet one-way delay: 25.186 ms
Loss rate: 0.07%
-- Flow 2:
Average throughput: 24.00 Mbit/s
95th percentile per-packet one-way delay: 26.711 ms
Loss rate: 0.11%
-- Flow 3:
Average throughput: 24.11 Mbit/s
95th percentile per-packet one-way delay: 27.079 ms
Loss rate: 0.41%
```

Run 5: Report of Sprout — Data Link

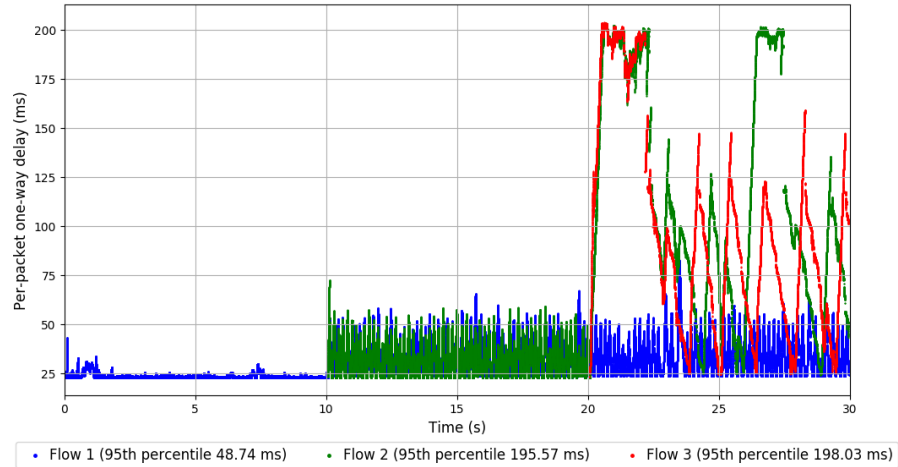
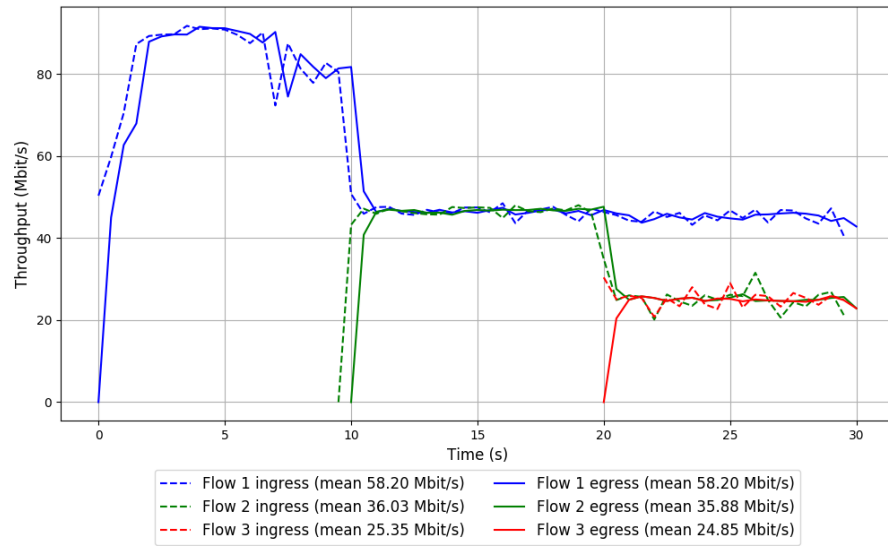


Run 1: Statistics of TaoVA-100x

Start at: 2018-10-26 09:55:38
End at: 2018-10-26 09:56:08
Local clock offset: 2.874 ms
Remote clock offset: -4.678 ms

Below is generated by plot.py at 2018-10-26 11:41:00
Datalink statistics
-- Total of 3 flows:
Average throughput: 90.36 Mbit/s
95th percentile per-packet one-way delay: 133.063 ms
Loss rate: 0.41%
-- Flow 1:
Average throughput: 58.20 Mbit/s
95th percentile per-packet one-way delay: 48.736 ms
Loss rate: 0.08%
-- Flow 2:
Average throughput: 35.88 Mbit/s
95th percentile per-packet one-way delay: 195.569 ms
Loss rate: 0.55%
-- Flow 3:
Average throughput: 24.85 Mbit/s
95th percentile per-packet one-way delay: 198.031 ms
Loss rate: 2.26%

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

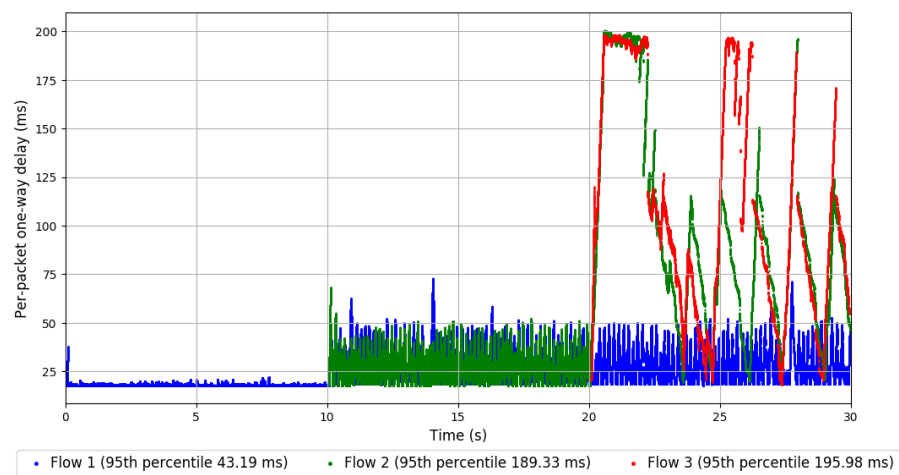
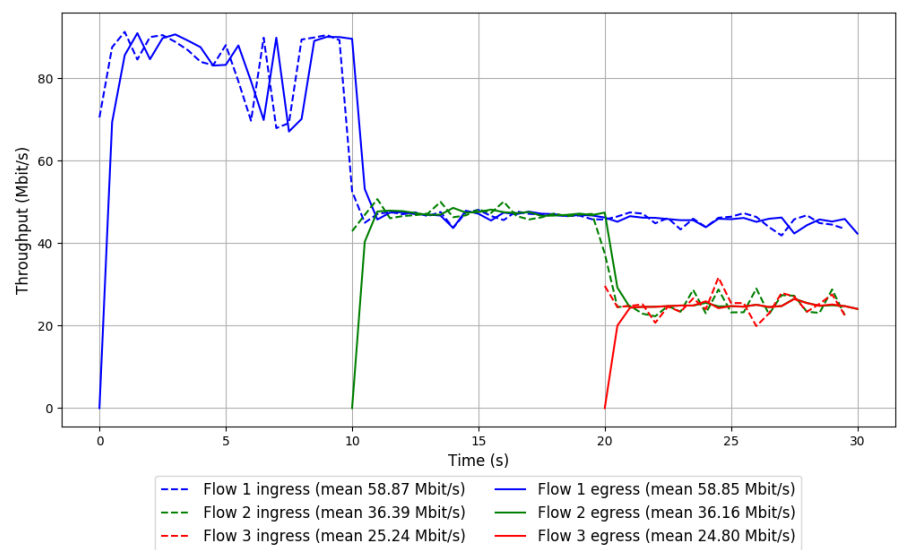


Run 2: Statistics of TaoVA-100x

Start at: 2018-10-26 10:18:04
End at: 2018-10-26 10:18:34
Local clock offset: -0.426 ms
Remote clock offset: -1.805 ms

Below is generated by plot.py at 2018-10-26 11:41:06
Datalink statistics
-- Total of 3 flows:
Average throughput: 91.16 Mbit/s
95th percentile per-packet one-way delay: 122.022 ms
Loss rate: 0.46%
-- Flow 1:
Average throughput: 58.85 Mbit/s
95th percentile per-packet one-way delay: 43.185 ms
Loss rate: 0.11%
-- Flow 2:
Average throughput: 36.16 Mbit/s
95th percentile per-packet one-way delay: 189.331 ms
Loss rate: 0.77%
-- Flow 3:
Average throughput: 24.80 Mbit/s
95th percentile per-packet one-way delay: 195.984 ms
Loss rate: 2.00%

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

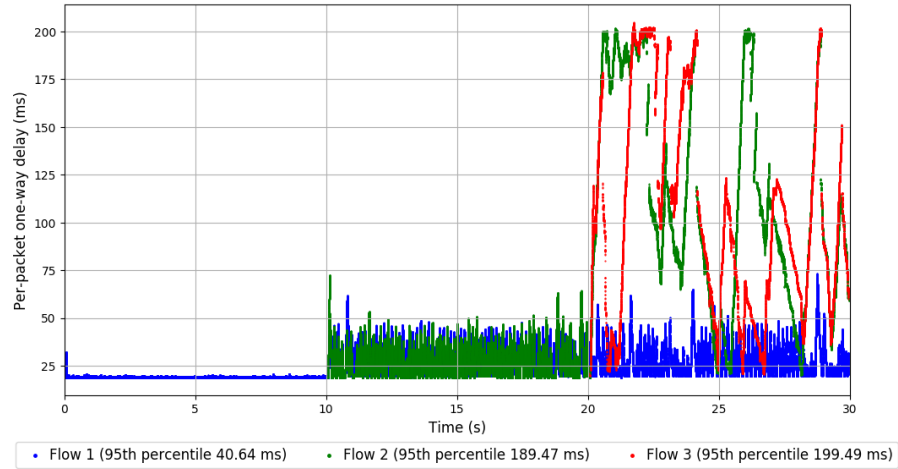
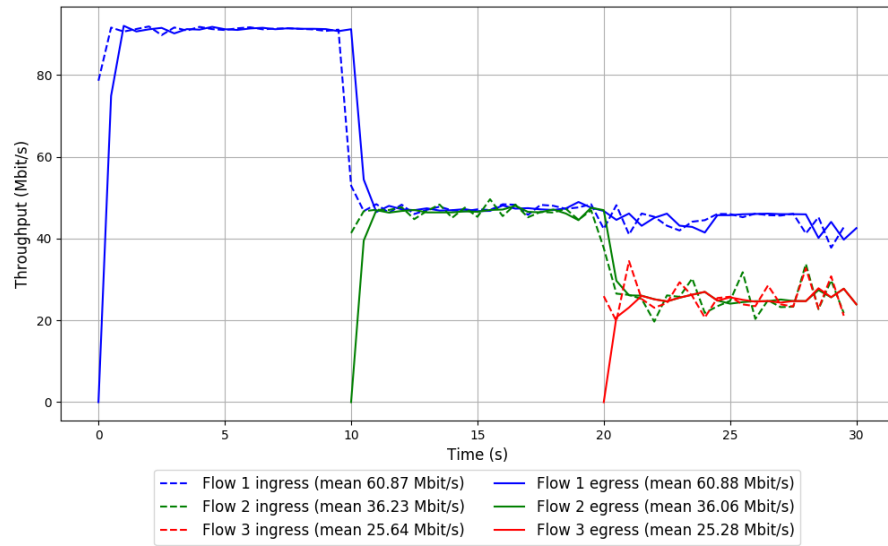


Run 3: Statistics of TaoVA-100x

Start at: 2018-10-26 10:40:39
End at: 2018-10-26 10:41:09
Local clock offset: 3.201 ms
Remote clock offset: -2.167 ms

Below is generated by plot.py at 2018-10-26 11:41:09
Datalink statistics
-- Total of 3 flows:
Average throughput: 93.28 Mbit/s
95th percentile per-packet one-way delay: 141.275 ms
Loss rate: 0.34%
-- Flow 1:
Average throughput: 60.88 Mbit/s
95th percentile per-packet one-way delay: 40.644 ms
Loss rate: 0.06%
-- Flow 2:
Average throughput: 36.06 Mbit/s
95th percentile per-packet one-way delay: 189.466 ms
Loss rate: 0.58%
-- Flow 3:
Average throughput: 25.28 Mbit/s
95th percentile per-packet one-way delay: 199.492 ms
Loss rate: 1.68%

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

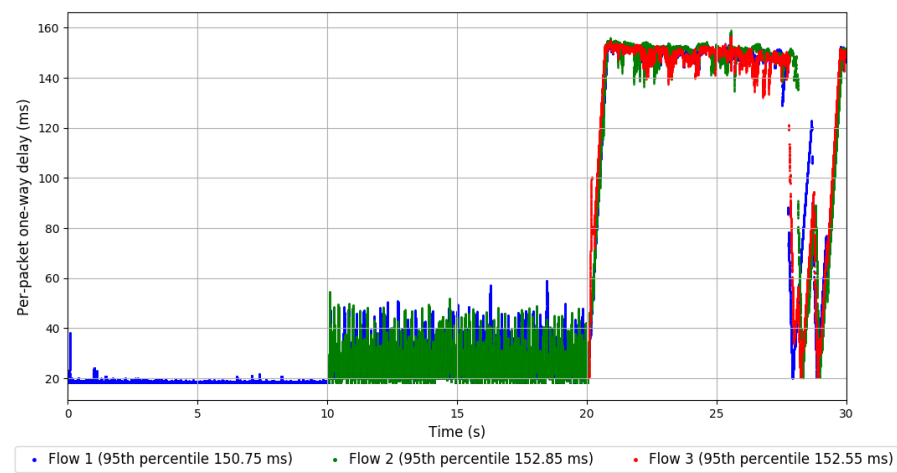
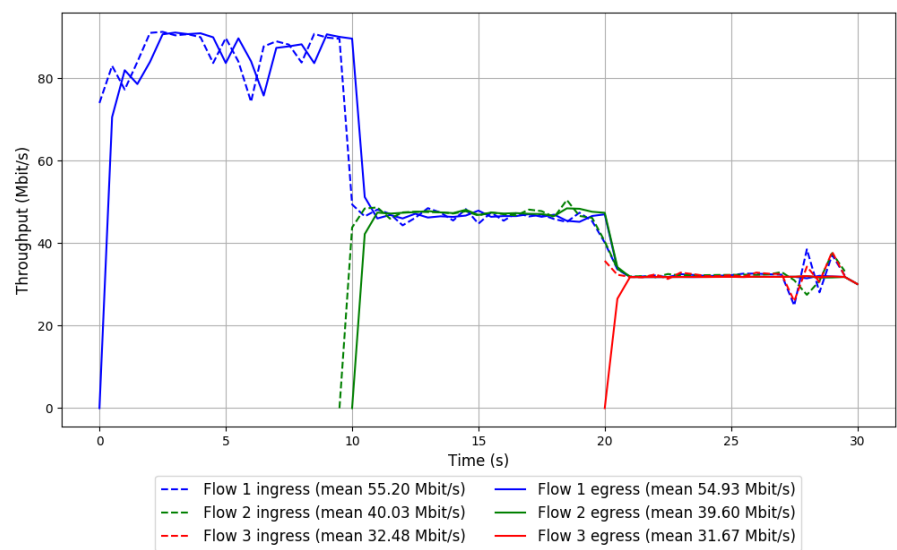


Run 4: Statistics of TaoVA-100x

Start at: 2018-10-26 11:02:58
End at: 2018-10-26 11:03:28
Local clock offset: 1.743 ms
Remote clock offset: -3.016 ms

Below is generated by plot.py at 2018-10-26 11:41:09
Datalink statistics
-- Total of 3 flows:
Average throughput: 91.83 Mbit/s
95th percentile per-packet one-way delay: 151.911 ms
Loss rate: 0.99%
-- Flow 1:
Average throughput: 54.93 Mbit/s
95th percentile per-packet one-way delay: 150.749 ms
Loss rate: 0.56%
-- Flow 2:
Average throughput: 39.60 Mbit/s
95th percentile per-packet one-way delay: 152.855 ms
Loss rate: 1.17%
-- Flow 3:
Average throughput: 31.67 Mbit/s
95th percentile per-packet one-way delay: 152.553 ms
Loss rate: 2.78%

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

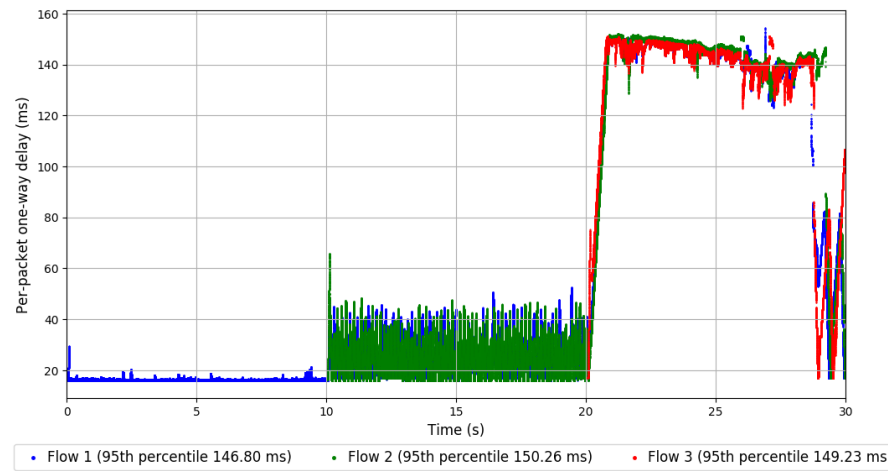
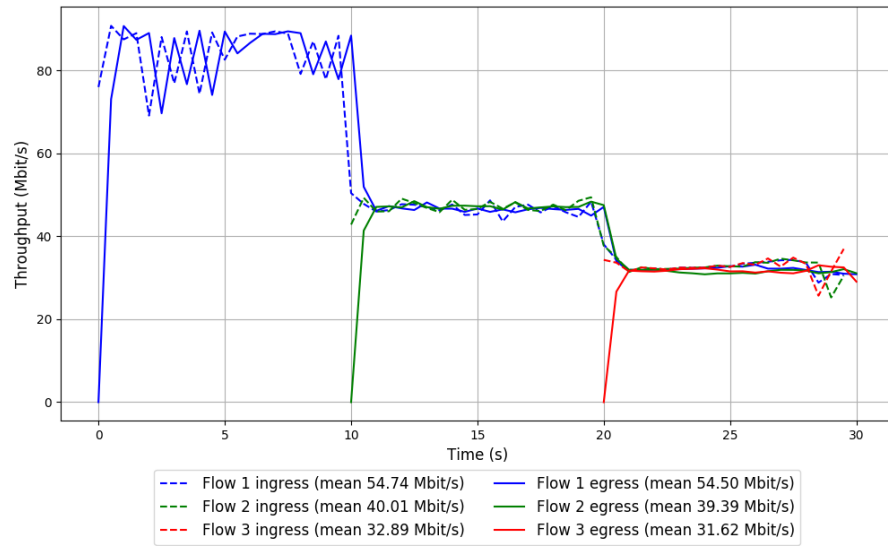


Run 5: Statistics of TaoVA-100x

Start at: 2018-10-26 11:24:55
End at: 2018-10-26 11:25:25
Local clock offset: -1.368 ms
Remote clock offset: -2.225 ms

Below is generated by plot.py at 2018-10-26 11:41:09
Datalink statistics
-- Total of 3 flows:
Average throughput: 91.23 Mbit/s
95th percentile per-packet one-way delay: 148.955 ms
Loss rate: 1.28%
-- Flow 1:
Average throughput: 54.50 Mbit/s
95th percentile per-packet one-way delay: 146.799 ms
Loss rate: 0.53%
-- Flow 2:
Average throughput: 39.39 Mbit/s
95th percentile per-packet one-way delay: 150.259 ms
Loss rate: 1.68%
-- Flow 3:
Average throughput: 31.62 Mbit/s
95th percentile per-packet one-way delay: 149.233 ms
Loss rate: 4.08%

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

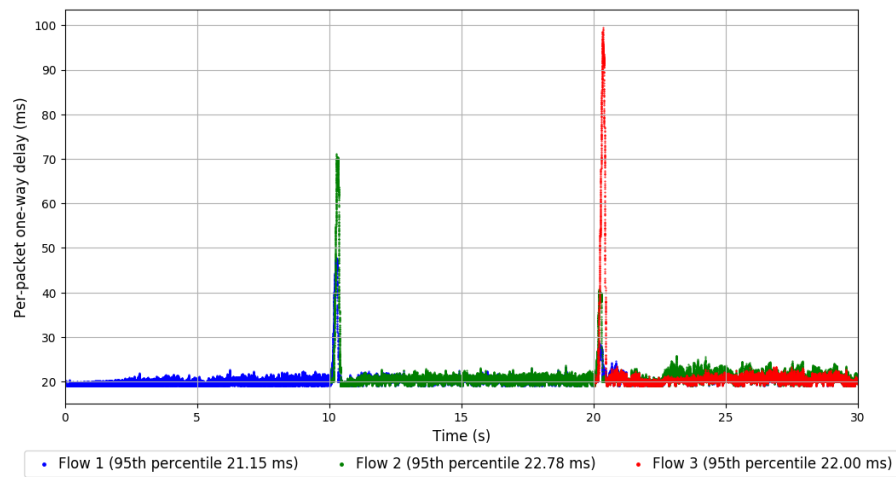
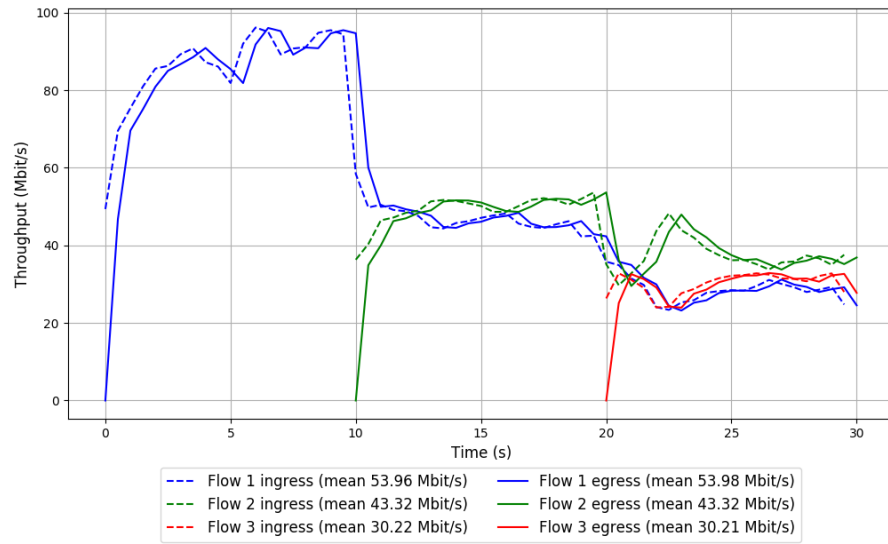


Run 1: Statistics of TCP Vegas

Start at: 2018-10-26 09:36:57
End at: 2018-10-26 09:37:27
Local clock offset: -1.027 ms
Remote clock offset: -4.512 ms

Below is generated by plot.py at 2018-10-26 11:41:09
Datalink statistics
-- Total of 3 flows:
Average throughput: 92.84 Mbit/s
95th percentile per-packet one-way delay: 21.953 ms
Loss rate: 0.10%
-- Flow 1:
Average throughput: 53.98 Mbit/s
95th percentile per-packet one-way delay: 21.146 ms
Loss rate: 0.05%
-- Flow 2:
Average throughput: 43.32 Mbit/s
95th percentile per-packet one-way delay: 22.782 ms
Loss rate: 0.13%
-- Flow 3:
Average throughput: 30.21 Mbit/s
95th percentile per-packet one-way delay: 21.998 ms
Loss rate: 0.27%

Run 1: Report of TCP Vegas — Data Link

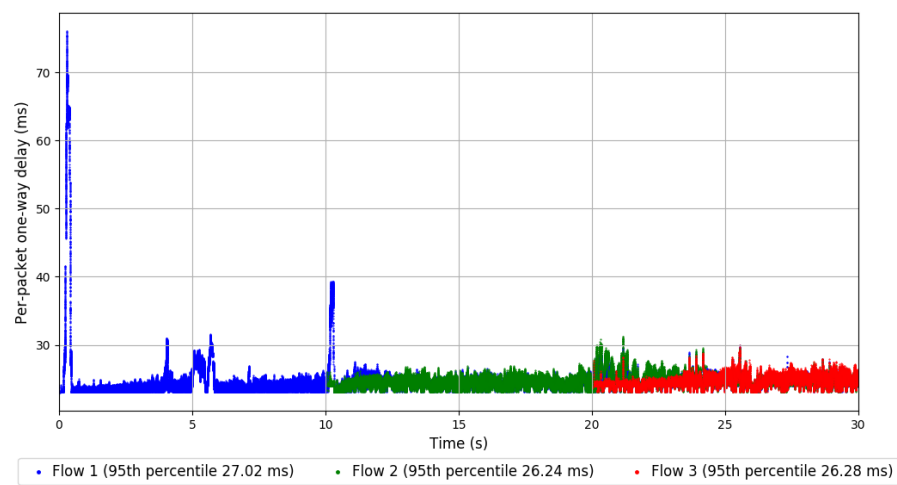
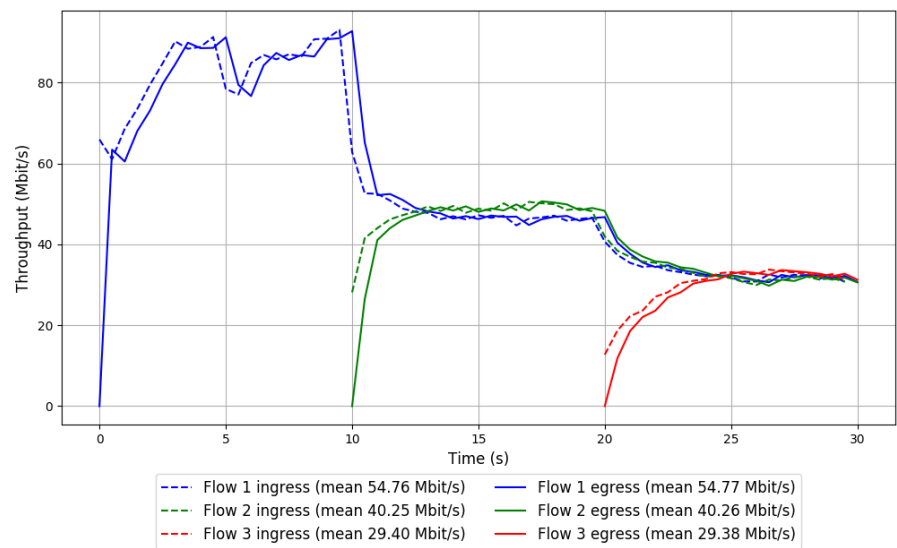


Run 2: Statistics of TCP Vegas

Start at: 2018-10-26 09:59:32
End at: 2018-10-26 10:00:02
Local clock offset: 2.821 ms
Remote clock offset: -4.672 ms

Below is generated by plot.py at 2018-10-26 11:41:09
Datalink statistics
-- Total of 3 flows:
Average throughput: 91.33 Mbit/s
95th percentile per-packet one-way delay: 26.567 ms
Loss rate: 0.09%
-- Flow 1:
Average throughput: 54.77 Mbit/s
95th percentile per-packet one-way delay: 27.015 ms
Loss rate: 0.05%
-- Flow 2:
Average throughput: 40.26 Mbit/s
95th percentile per-packet one-way delay: 26.244 ms
Loss rate: 0.10%
-- Flow 3:
Average throughput: 29.38 Mbit/s
95th percentile per-packet one-way delay: 26.279 ms
Loss rate: 0.29%

Run 2: Report of TCP Vegas — Data Link

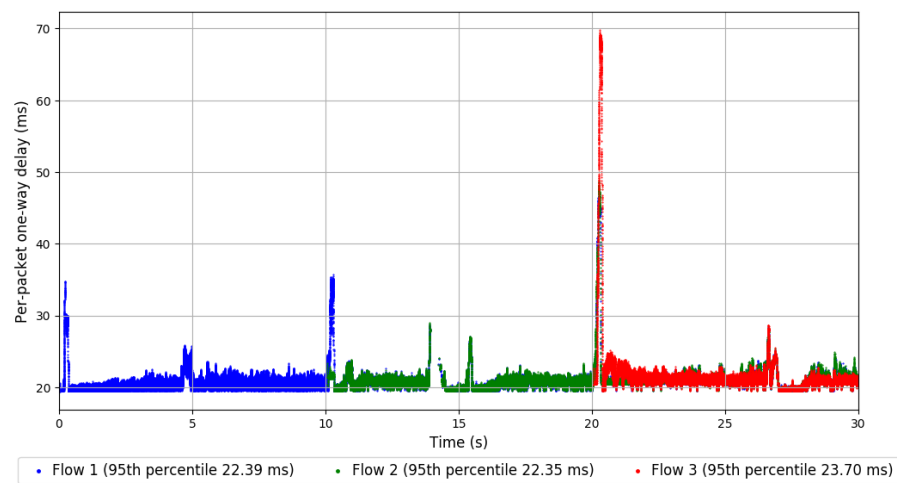
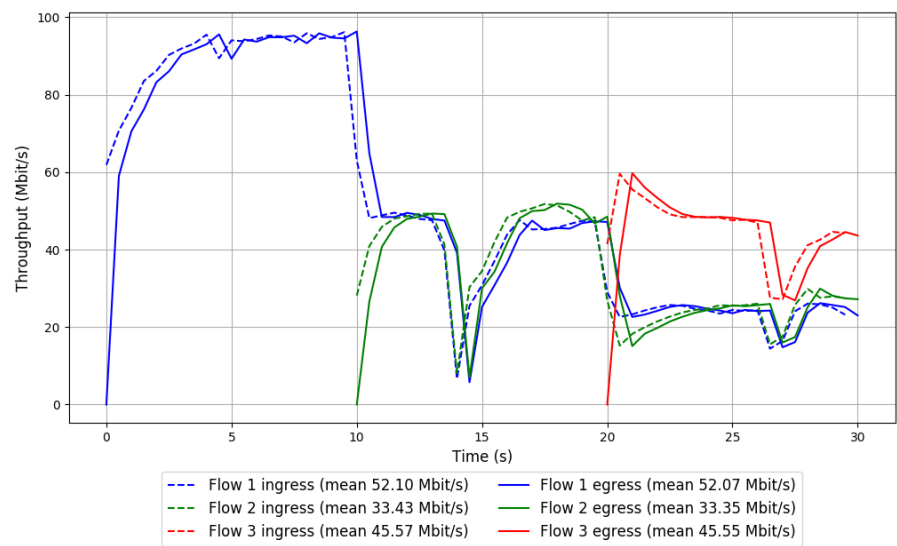


Run 3: Statistics of TCP Vegas

Start at: 2018-10-26 10:21:55
End at: 2018-10-26 10:22:25
Local clock offset: 1.822 ms
Remote clock offset: -1.237 ms

Below is generated by plot.py at 2018-10-26 11:41:09
Datalink statistics
-- Total of 3 flows:
Average throughput: 89.38 Mbit/s
95th percentile per-packet one-way delay: 22.707 ms
Loss rate: 0.22%
-- Flow 1:
Average throughput: 52.07 Mbit/s
95th percentile per-packet one-way delay: 22.392 ms
Loss rate: 0.14%
-- Flow 2:
Average throughput: 33.35 Mbit/s
95th percentile per-packet one-way delay: 22.346 ms
Loss rate: 0.34%
-- Flow 3:
Average throughput: 45.55 Mbit/s
95th percentile per-packet one-way delay: 23.702 ms
Loss rate: 0.31%

Run 3: Report of TCP Vegas — Data Link

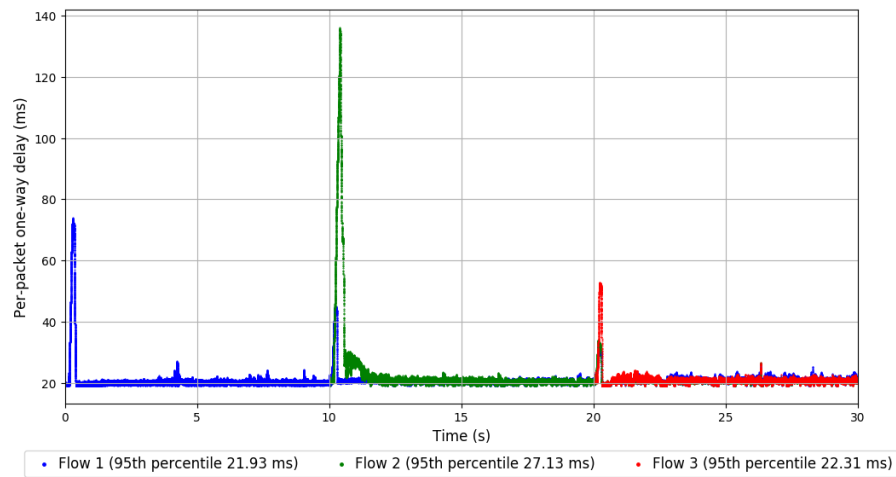
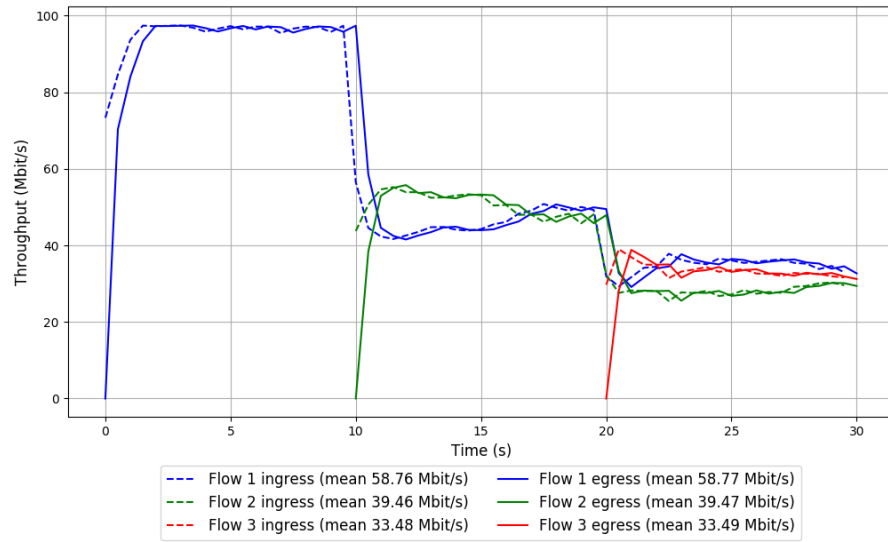


Run 4: Statistics of TCP Vegas

Start at: 2018-10-26 10:44:35
End at: 2018-10-26 10:45:05
Local clock offset: 3.45 ms
Remote clock offset: -2.488 ms

Below is generated by plot.py at 2018-10-26 11:41:34
Datalink statistics
-- Total of 3 flows:
Average throughput: 96.16 Mbit/s
95th percentile per-packet one-way delay: 22.554 ms
Loss rate: 0.09%
-- Flow 1:
Average throughput: 58.77 Mbit/s
95th percentile per-packet one-way delay: 21.934 ms
Loss rate: 0.05%
-- Flow 2:
Average throughput: 39.47 Mbit/s
95th percentile per-packet one-way delay: 27.134 ms
Loss rate: 0.10%
-- Flow 3:
Average throughput: 33.49 Mbit/s
95th percentile per-packet one-way delay: 22.312 ms
Loss rate: 0.25%

Run 4: Report of TCP Vegas — Data Link

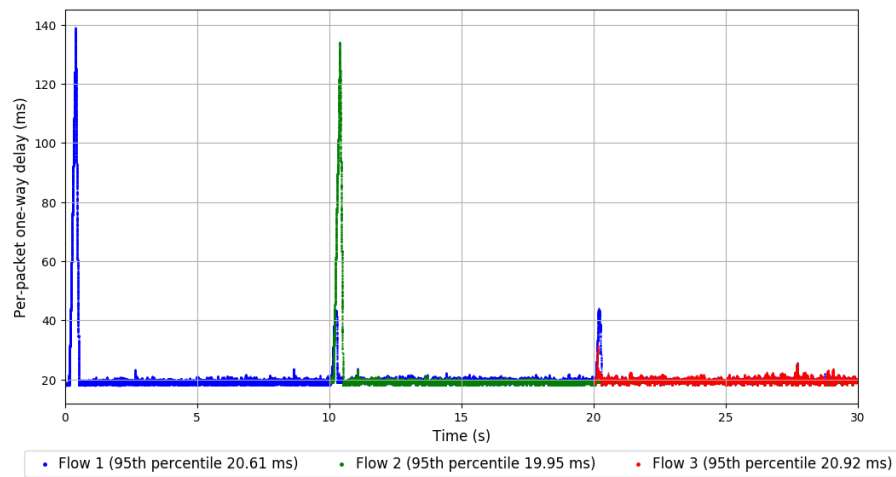
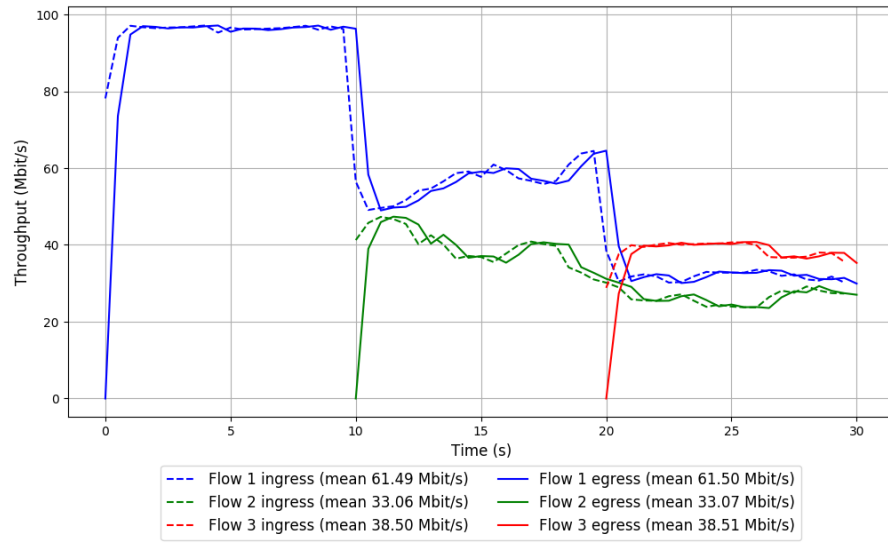


Run 5: Statistics of TCP Vegas

Start at: 2018-10-26 11:06:51
End at: 2018-10-26 11:07:21
Local clock offset: 1.453 ms
Remote clock offset: -2.324 ms

Below is generated by plot.py at 2018-10-26 11:41:40
Datalink statistics
-- Total of 3 flows:
Average throughput: 96.30 Mbit/s
95th percentile per-packet one-way delay: 20.626 ms
Loss rate: 0.08%
-- Flow 1:
Average throughput: 61.50 Mbit/s
95th percentile per-packet one-way delay: 20.615 ms
Loss rate: 0.05%
-- Flow 2:
Average throughput: 33.07 Mbit/s
95th percentile per-packet one-way delay: 19.947 ms
Loss rate: 0.11%
-- Flow 3:
Average throughput: 38.51 Mbit/s
95th percentile per-packet one-way delay: 20.922 ms
Loss rate: 0.23%

Run 5: Report of TCP Vegas — Data Link



Run 1: Statistics of Verus

Start at: 2018-10-26 09:43:10

End at: 2018-10-26 09:43:40

Local clock offset: 2.593 ms

Remote clock offset: 4.043 ms

Below is generated by plot.py at 2018-10-26 11:41:43

Datalink statistics

-- Total of 3 flows:

Average throughput: 89.02 Mbit/s

95th percentile per-packet one-way delay: 62.174 ms

Loss rate: 0.25%

-- Flow 1:

Average throughput: 54.75 Mbit/s

95th percentile per-packet one-way delay: 57.835 ms

Loss rate: 0.19%

-- Flow 2:

Average throughput: 37.71 Mbit/s

95th percentile per-packet one-way delay: 52.142 ms

Loss rate: 0.27%

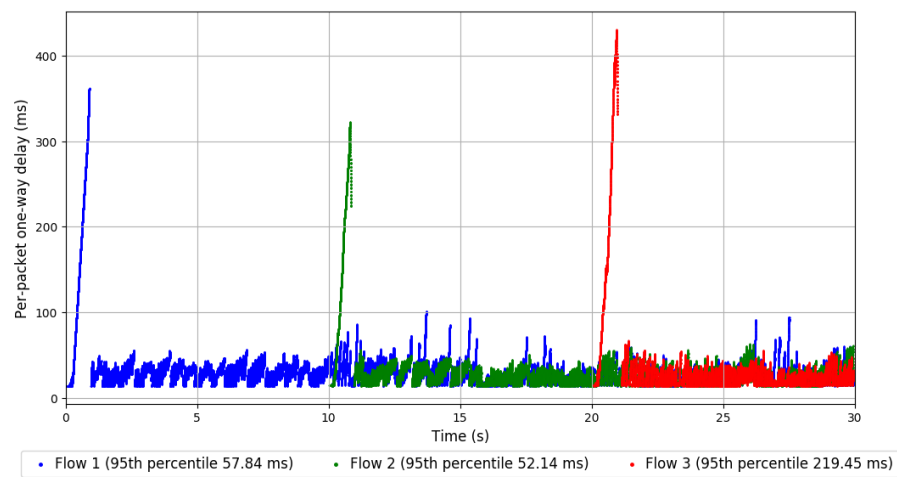
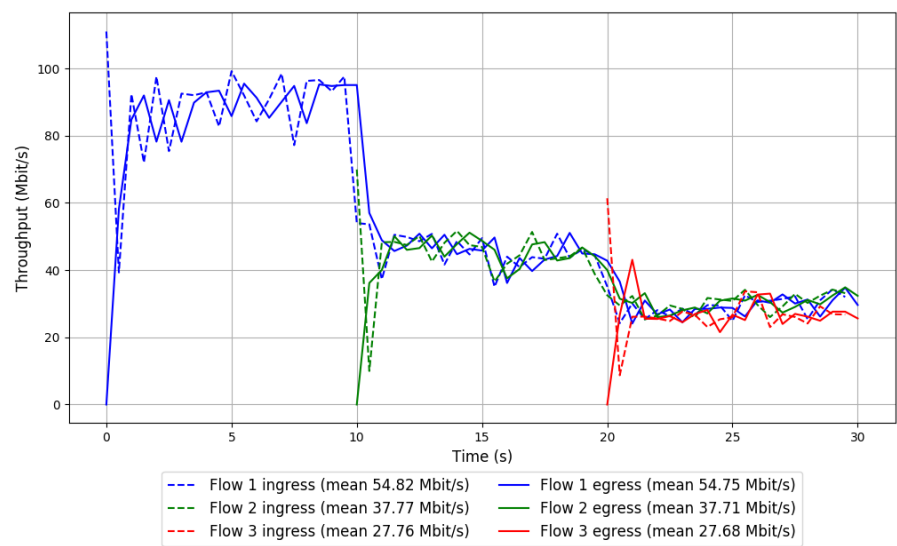
-- Flow 3:

Average throughput: 27.68 Mbit/s

95th percentile per-packet one-way delay: 219.453 ms

Loss rate: 0.54%

Run 1: Report of Verus — Data Link

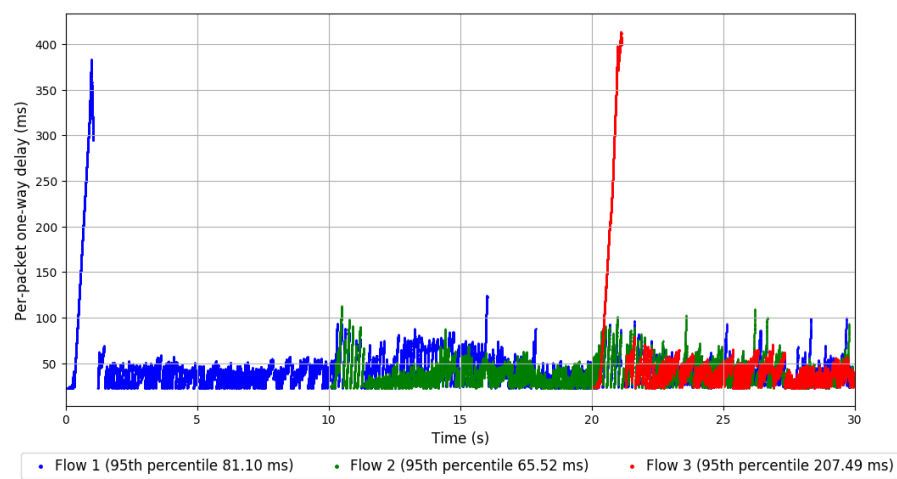
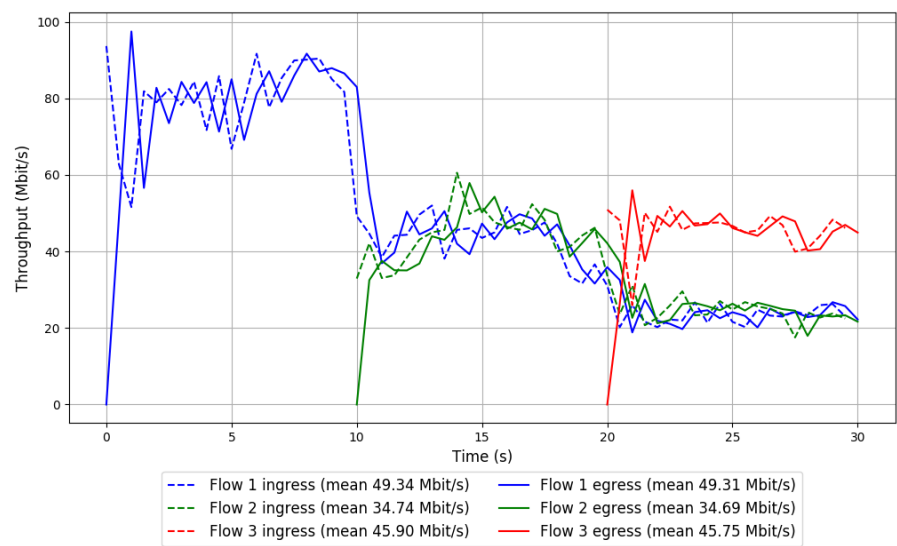


Run 2: Statistics of Verus

Start at: 2018-10-26 10:05:42
End at: 2018-10-26 10:06:12
Local clock offset: 3.174 ms
Remote clock offset: -3.752 ms

Below is generated by plot.py at 2018-10-26 11:42:03
Datalink statistics
-- Total of 3 flows:
Average throughput: 87.53 Mbit/s
95th percentile per-packet one-way delay: 79.157 ms
Loss rate: 0.28%
-- Flow 1:
Average throughput: 49.31 Mbit/s
95th percentile per-packet one-way delay: 81.099 ms
Loss rate: 0.17%
-- Flow 2:
Average throughput: 34.69 Mbit/s
95th percentile per-packet one-way delay: 65.516 ms
Loss rate: 0.28%
-- Flow 3:
Average throughput: 45.75 Mbit/s
95th percentile per-packet one-way delay: 207.492 ms
Loss rate: 0.63%

Run 2: Report of Verus — Data Link



Run 3: Statistics of Verus

Start at: 2018-10-26 10:28:02

End at: 2018-10-26 10:28:32

Local clock offset: 0.843 ms

Remote clock offset: -0.81 ms

Below is generated by plot.py at 2018-10-26 11:42:10

Datalink statistics

-- Total of 3 flows:

Average throughput: 90.28 Mbit/s

95th percentile per-packet one-way delay: 73.002 ms

Loss rate: 1.48%

-- Flow 1:

Average throughput: 53.62 Mbit/s

95th percentile per-packet one-way delay: 73.417 ms

Loss rate: 1.89%

-- Flow 2:

Average throughput: 37.96 Mbit/s

95th percentile per-packet one-way delay: 66.553 ms

Loss rate: 0.97%

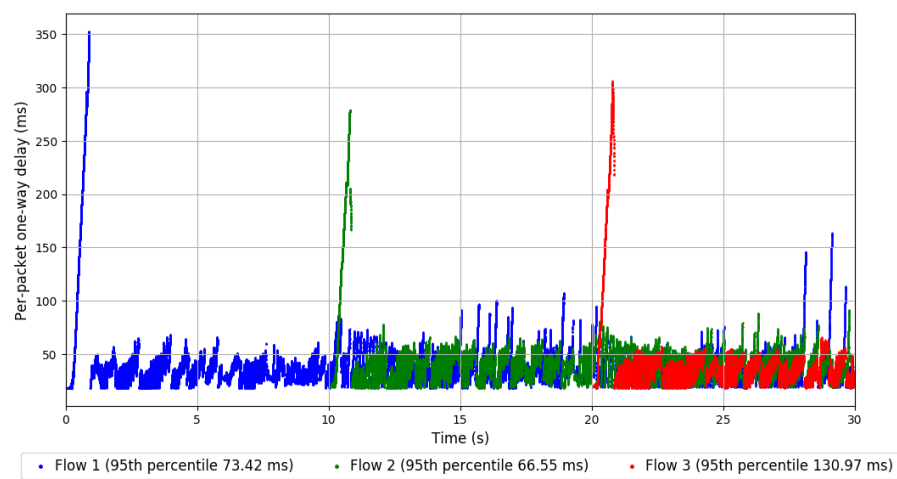
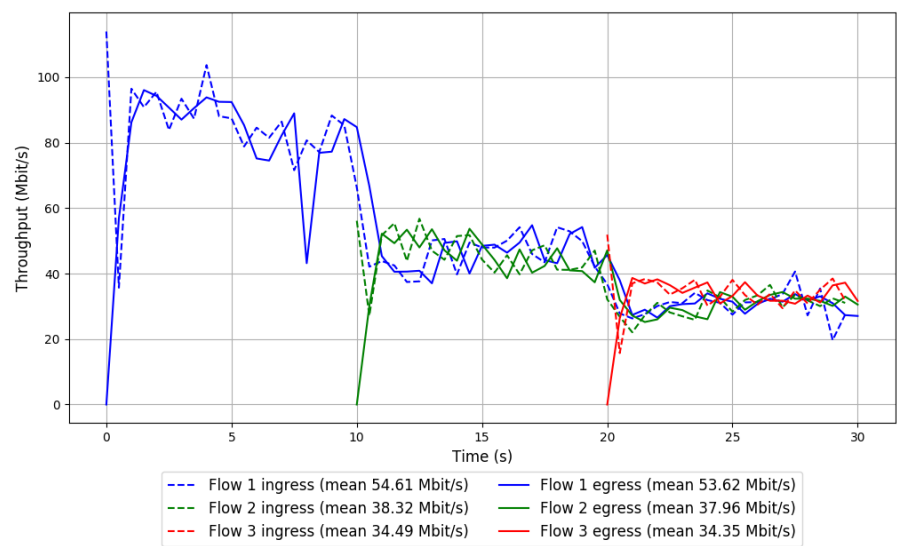
-- Flow 3:

Average throughput: 34.35 Mbit/s

95th percentile per-packet one-way delay: 130.967 ms

Loss rate: 0.64%

Run 3: Report of Verus — Data Link

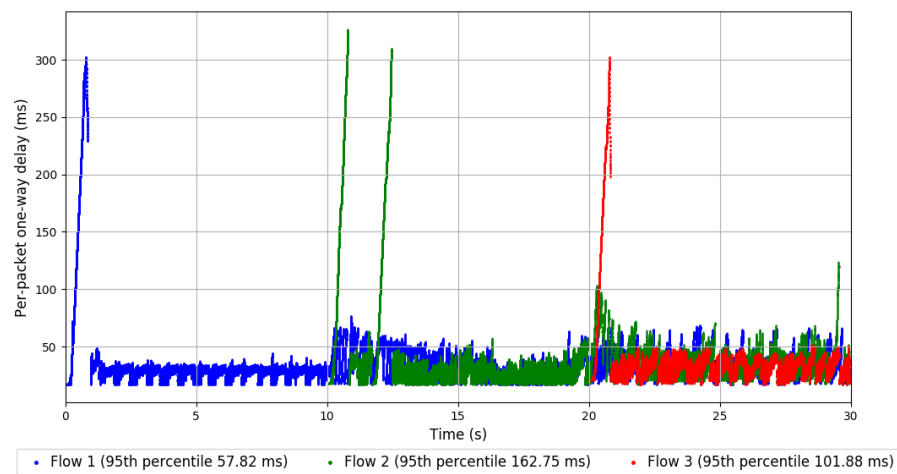
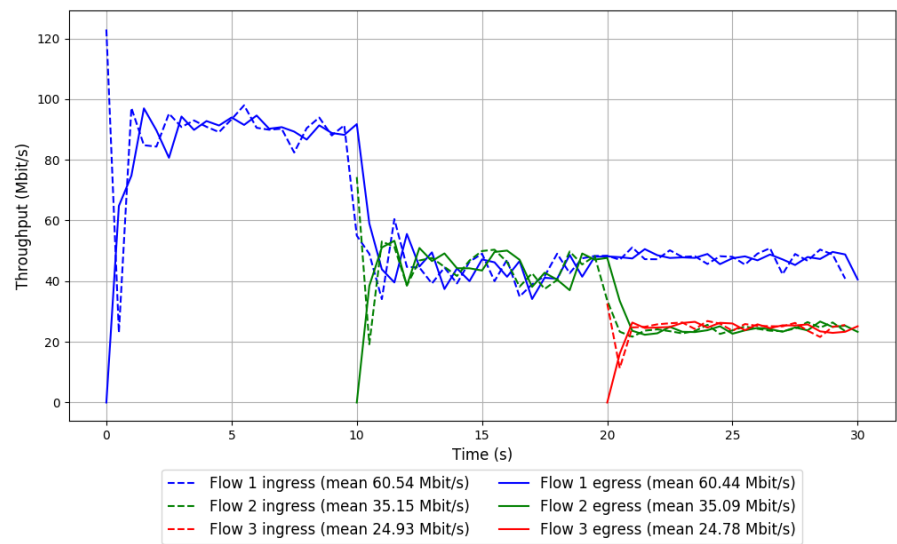


Run 4: Statistics of Verus

Start at: 2018-10-26 10:50:42
End at: 2018-10-26 10:51:12
Local clock offset: 2.639 ms
Remote clock offset: -1.427 ms

Below is generated by plot.py at 2018-10-26 11:42:11
Datalink statistics
-- Total of 3 flows:
Average throughput: 92.01 Mbit/s
95th percentile per-packet one-way delay: 65.098 ms
Loss rate: 0.29%
-- Flow 1:
Average throughput: 60.44 Mbit/s
95th percentile per-packet one-way delay: 57.820 ms
Loss rate: 0.22%
-- Flow 2:
Average throughput: 35.09 Mbit/s
95th percentile per-packet one-way delay: 162.753 ms
Loss rate: 0.29%
-- Flow 3:
Average throughput: 24.78 Mbit/s
95th percentile per-packet one-way delay: 101.880 ms
Loss rate: 0.81%

Run 4: Report of Verus — Data Link

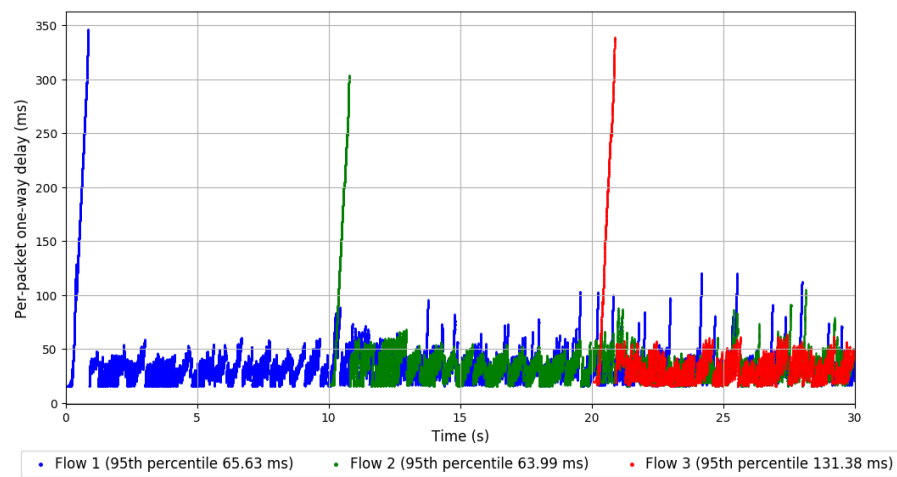
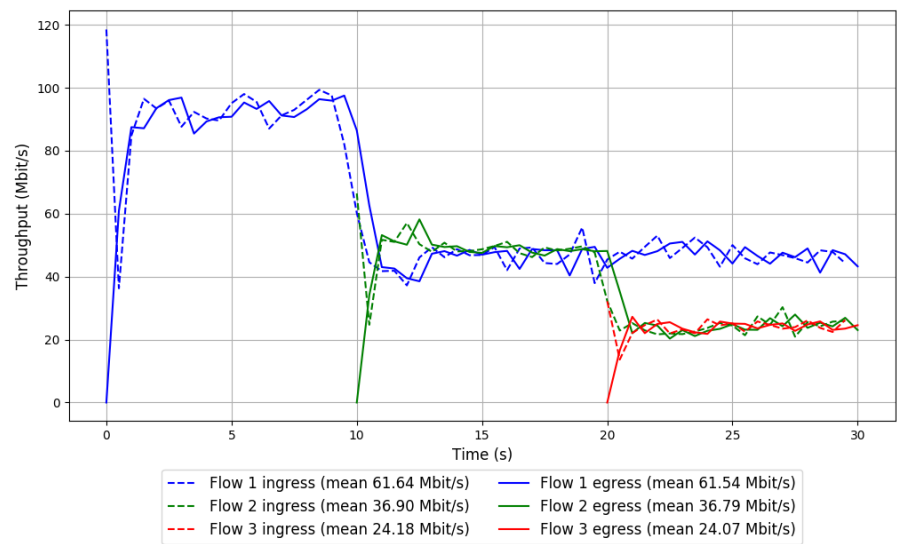


Run 5: Statistics of Verus

Start at: 2018-10-26 11:12:49
End at: 2018-10-26 11:13:19
Local clock offset: -0.67 ms
Remote clock offset: -1.703 ms

```
# Below is generated by plot.py at 2018-10-26 11:42:16
# Datalink statistics
-- Total of 3 flows:
Average throughput: 94.01 Mbit/s
95th percentile per-packet one-way delay: 66.103 ms
Loss rate: 0.31%
-- Flow 1:
Average throughput: 61.54 Mbit/s
95th percentile per-packet one-way delay: 65.630 ms
Loss rate: 0.22%
-- Flow 2:
Average throughput: 36.79 Mbit/s
95th percentile per-packet one-way delay: 63.991 ms
Loss rate: 0.40%
-- Flow 3:
Average throughput: 24.07 Mbit/s
95th percentile per-packet one-way delay: 131.379 ms
Loss rate: 0.72%
```

Run 5: Report of Verus — Data Link

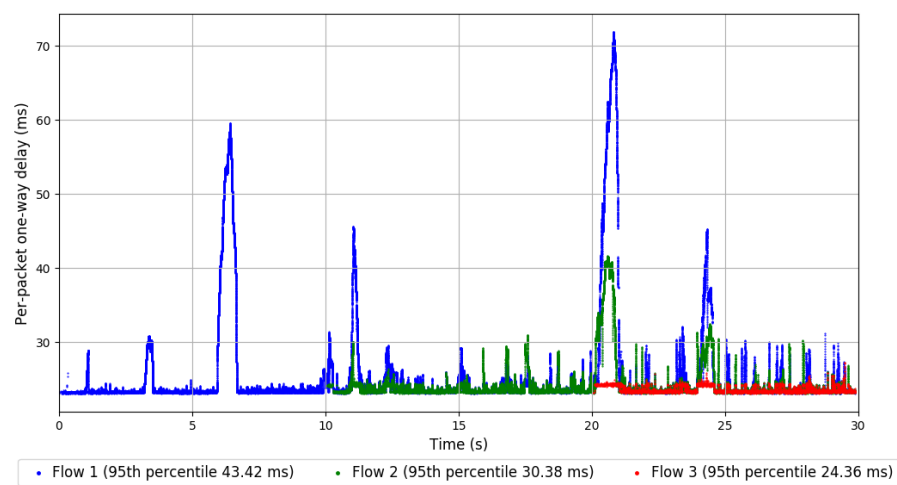
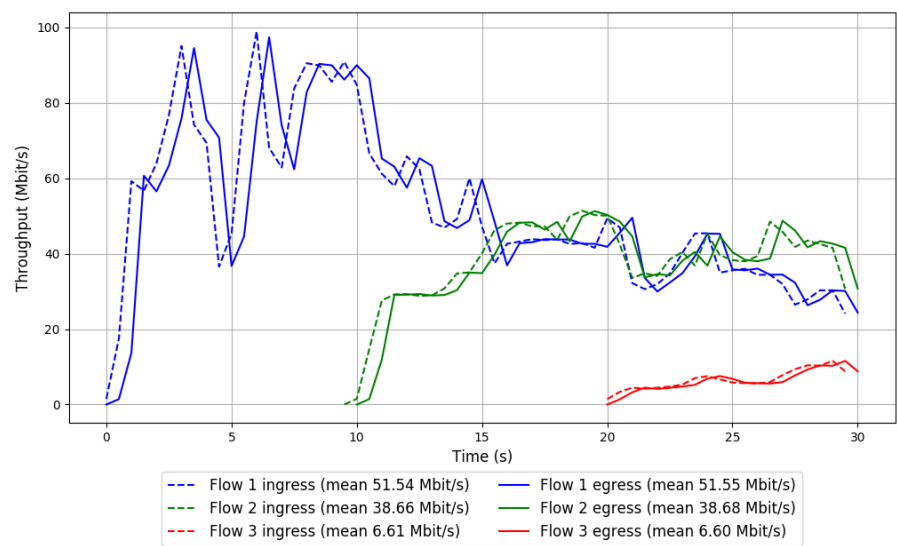


Run 1: Statistics of PCC-Vivace

Start at: 2018-10-26 09:45:52
End at: 2018-10-26 09:46:22
Local clock offset: 2.612 ms
Remote clock offset: -5.131 ms

Below is generated by plot.py at 2018-10-26 11:42:16
Datalink statistics
-- Total of 3 flows:
Average throughput: 79.45 Mbit/s
95th percentile per-packet one-way delay: 37.694 ms
Loss rate: 0.10%
-- Flow 1:
Average throughput: 51.55 Mbit/s
95th percentile per-packet one-way delay: 43.416 ms
Loss rate: 0.07%
-- Flow 2:
Average throughput: 38.68 Mbit/s
95th percentile per-packet one-way delay: 30.379 ms
Loss rate: 0.13%
-- Flow 3:
Average throughput: 6.60 Mbit/s
95th percentile per-packet one-way delay: 24.360 ms
Loss rate: 0.40%

Run 1: Report of PCC-Vivace — Data Link

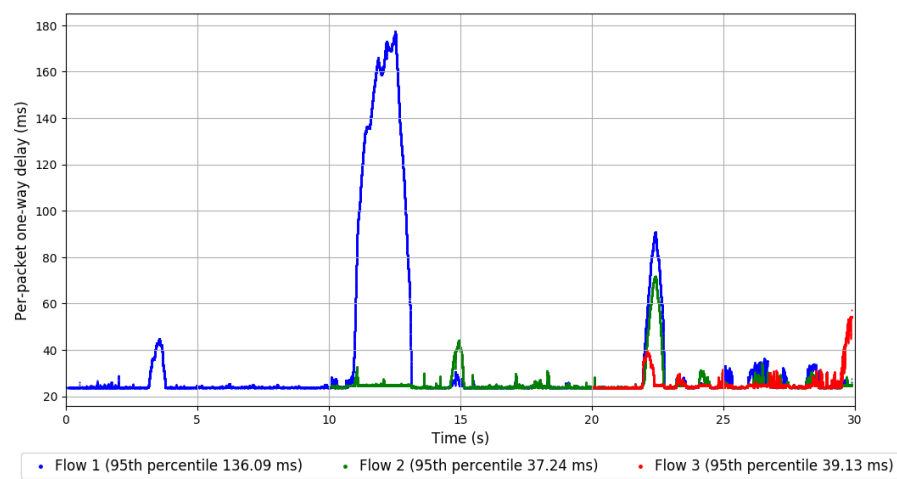
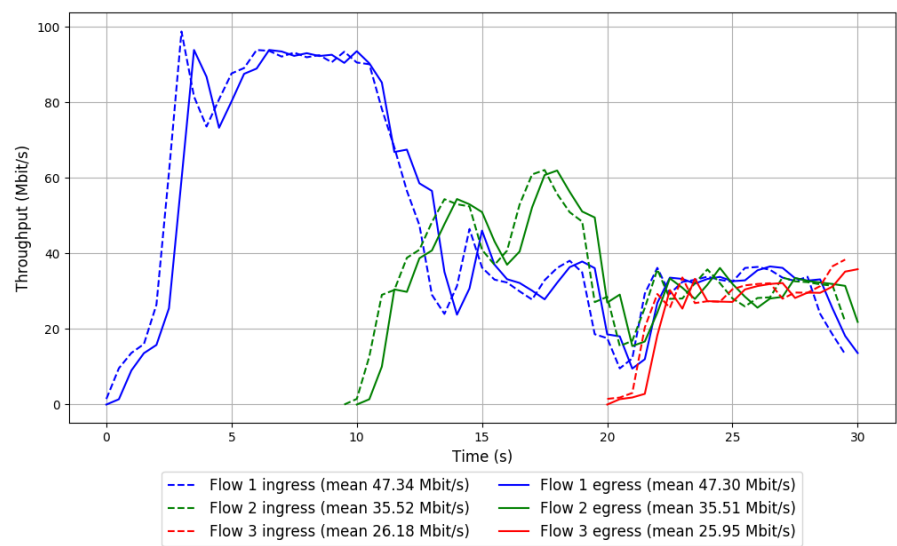


Run 2: Statistics of PCC-Vivace

Start at: 2018-10-26 10:08:18
End at: 2018-10-26 10:08:48
Local clock offset: 3.157 ms
Remote clock offset: -4.427 ms

Below is generated by plot.py at 2018-10-26 11:42:32
Datalink statistics
-- Total of 3 flows:
Average throughput: 79.48 Mbit/s
95th percentile per-packet one-way delay: 87.879 ms
Loss rate: 0.26%
-- Flow 1:
Average throughput: 47.30 Mbit/s
95th percentile per-packet one-way delay: 136.095 ms
Loss rate: 0.16%
-- Flow 2:
Average throughput: 35.51 Mbit/s
95th percentile per-packet one-way delay: 37.241 ms
Loss rate: 0.15%
-- Flow 3:
Average throughput: 25.95 Mbit/s
95th percentile per-packet one-way delay: 39.133 ms
Loss rate: 1.09%

Run 2: Report of PCC-Vivace — Data Link

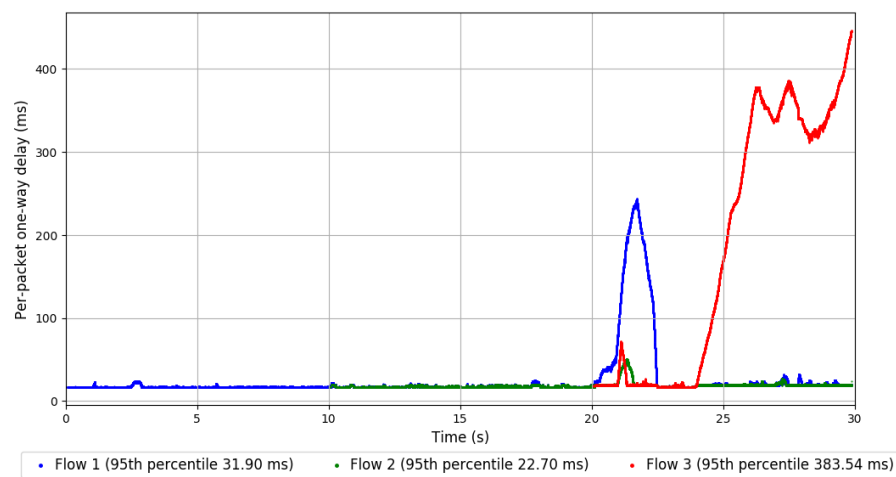
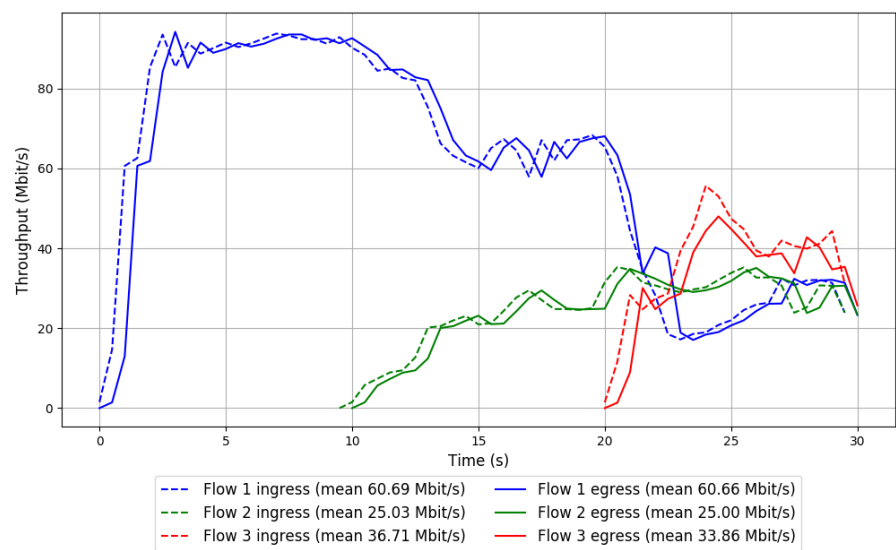


Run 3: Statistics of PCC-Vivace

Start at: 2018-10-26 10:30:46
End at: 2018-10-26 10:31:16
Local clock offset: -2.105 ms
Remote clock offset: -2.515 ms

Below is generated by plot.py at 2018-10-26 11:42:36
Datalink statistics
-- Total of 3 flows:
Average throughput: 88.43 Mbit/s
95th percentile per-packet one-way delay: 323.023 ms
Loss rate: 1.21%
-- Flow 1:
Average throughput: 60.66 Mbit/s
95th percentile per-packet one-way delay: 31.898 ms
Loss rate: 0.13%
-- Flow 2:
Average throughput: 25.00 Mbit/s
95th percentile per-packet one-way delay: 22.701 ms
Loss rate: 0.22%
-- Flow 3:
Average throughput: 33.86 Mbit/s
95th percentile per-packet one-way delay: 383.539 ms
Loss rate: 8.00%

Run 3: Report of PCC-Vivace — Data Link

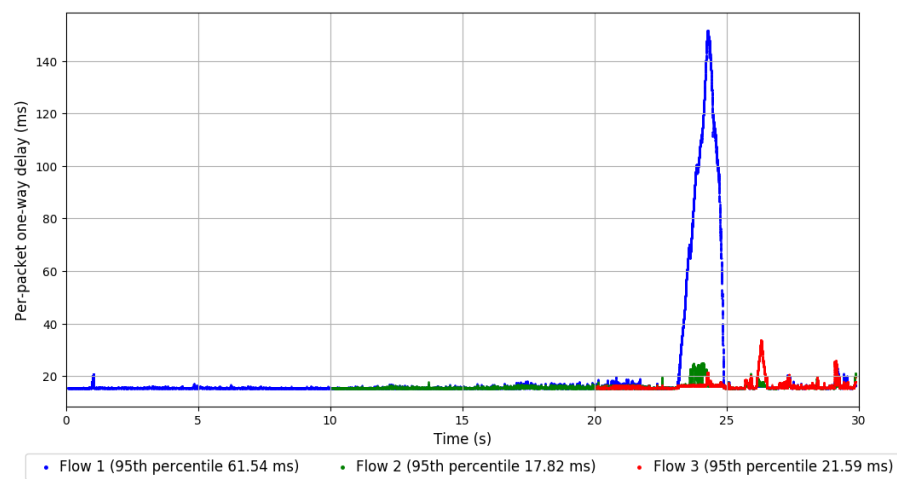
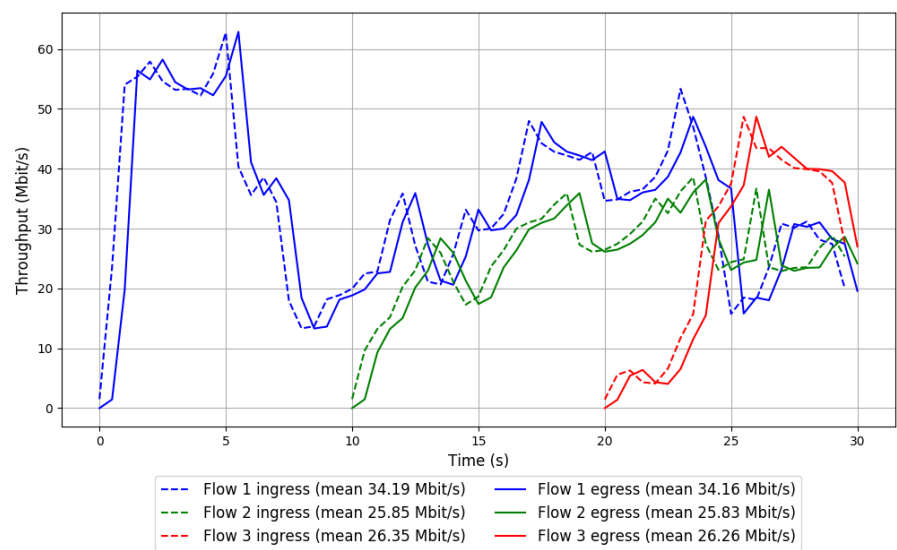


Run 4: Statistics of PCC-Vivace

Start at: 2018-10-26 10:53:19
End at: 2018-10-26 10:53:49
Local clock offset: 1.008 ms
Remote clock offset: -1.395 ms

Below is generated by plot.py at 2018-10-26 11:42:36
Datalink statistics
-- Total of 3 flows:
Average throughput: 60.00 Mbit/s
95th percentile per-packet one-way delay: 22.414 ms
Loss rate: 0.22%
-- Flow 1:
Average throughput: 34.16 Mbit/s
95th percentile per-packet one-way delay: 61.542 ms
Loss rate: 0.14%
-- Flow 2:
Average throughput: 25.83 Mbit/s
95th percentile per-packet one-way delay: 17.817 ms
Loss rate: 0.21%
-- Flow 3:
Average throughput: 26.26 Mbit/s
95th percentile per-packet one-way delay: 21.592 ms
Loss rate: 0.55%

Run 4: Report of PCC-Vivace — Data Link

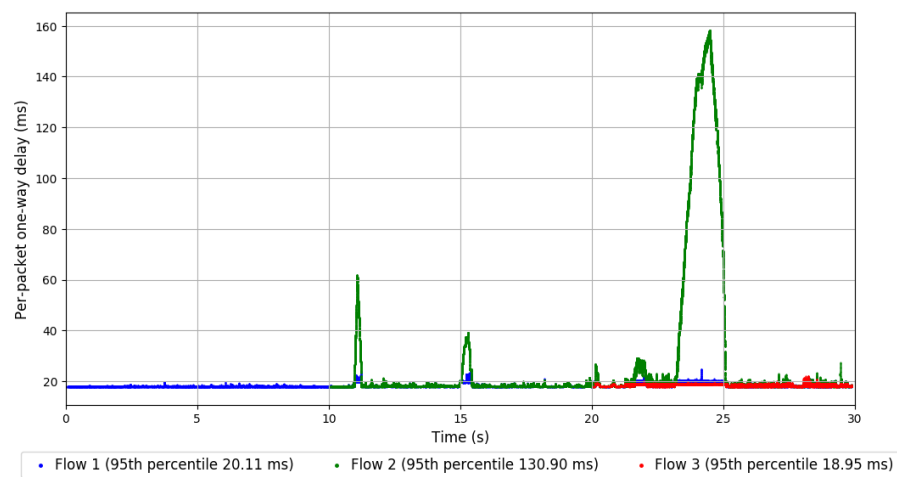
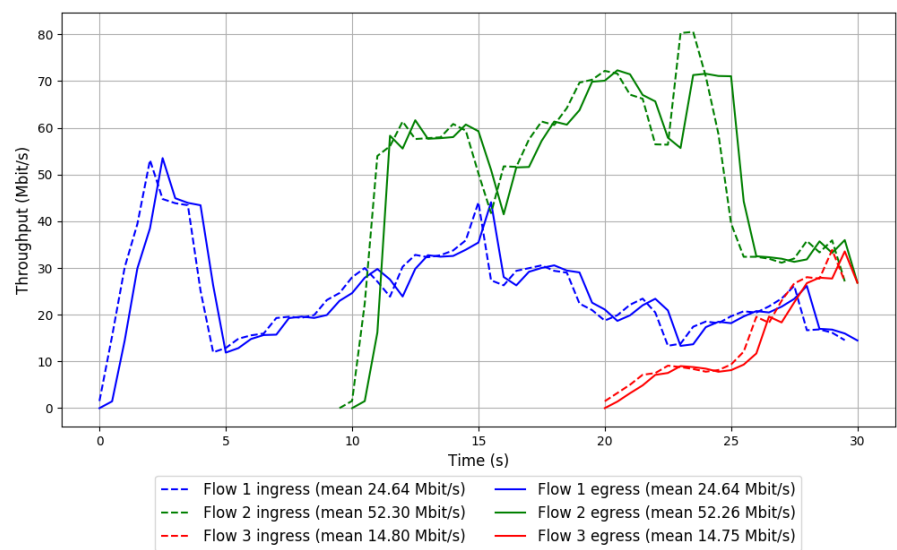


Run 5: Statistics of PCC-Vivace

Start at: 2018-10-26 11:15:17
End at: 2018-10-26 11:15:47
Local clock offset: -0.525 ms
Remote clock offset: -3.548 ms

Below is generated by plot.py at 2018-10-26 11:42:36
Datalink statistics
-- Total of 3 flows:
Average throughput: 64.27 Mbit/s
95th percentile per-packet one-way delay: 77.011 ms
Loss rate: 0.16%
-- Flow 1:
Average throughput: 24.64 Mbit/s
95th percentile per-packet one-way delay: 20.110 ms
Loss rate: 0.06%
-- Flow 2:
Average throughput: 52.26 Mbit/s
95th percentile per-packet one-way delay: 130.901 ms
Loss rate: 0.19%
-- Flow 3:
Average throughput: 14.75 Mbit/s
95th percentile per-packet one-way delay: 18.954 ms
Loss rate: 0.56%

Run 5: Report of PCC-Vivace — Data Link

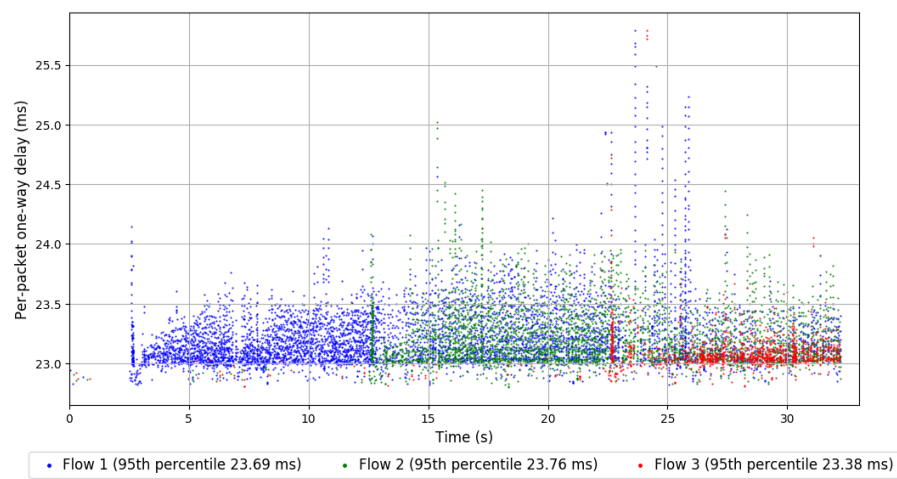
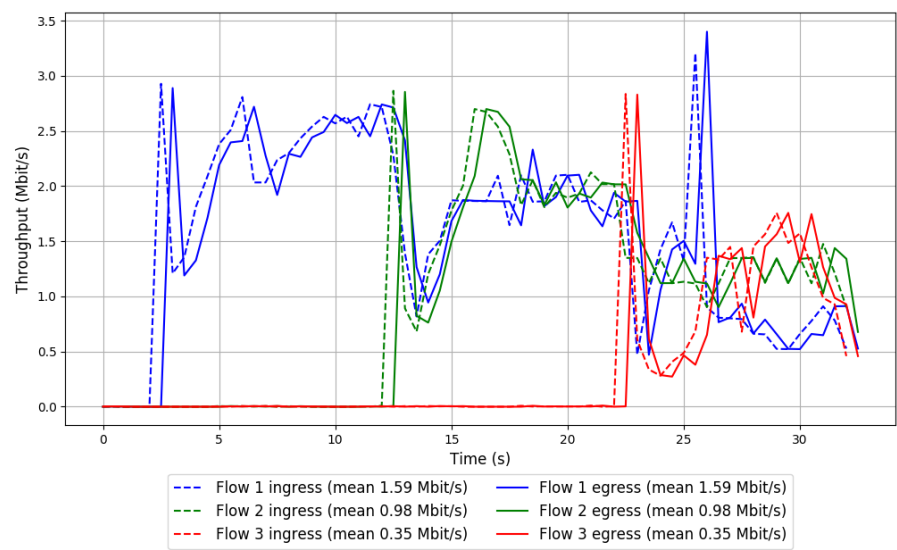


Run 1: Statistics of WebRTC media

Start at: 2018-10-26 09:53:17
End at: 2018-10-26 09:53:47
Local clock offset: 2.448 ms
Remote clock offset: -4.978 ms

Below is generated by plot.py at 2018-10-26 11:42:36
Datalink statistics
-- Total of 3 flows:
Average throughput: 2.91 Mbit/s
95th percentile per-packet one-way delay: 23.698 ms
Loss rate: 0.12%
-- Flow 1:
Average throughput: 1.59 Mbit/s
95th percentile per-packet one-way delay: 23.693 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.98 Mbit/s
95th percentile per-packet one-way delay: 23.762 ms
Loss rate: 0.35%
-- Flow 3:
Average throughput: 0.35 Mbit/s
95th percentile per-packet one-way delay: 23.376 ms
Loss rate: 0.00%

Run 1: Report of WebRTC media — Data Link

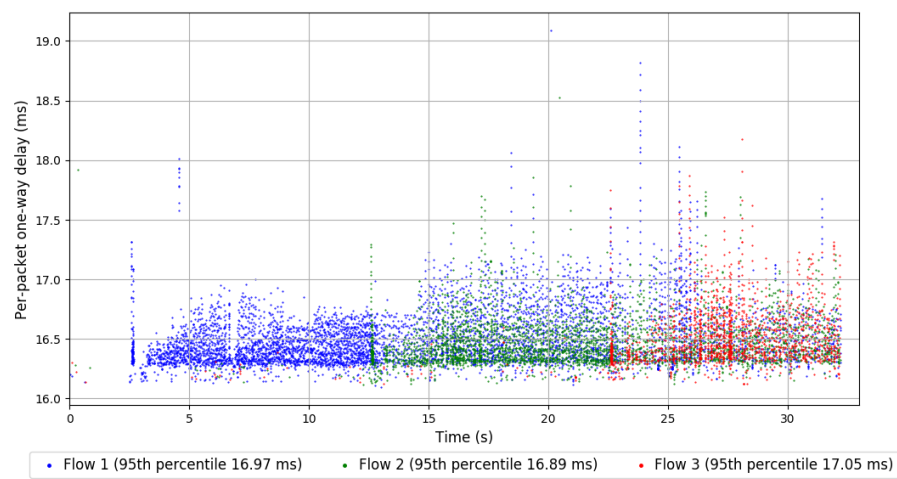
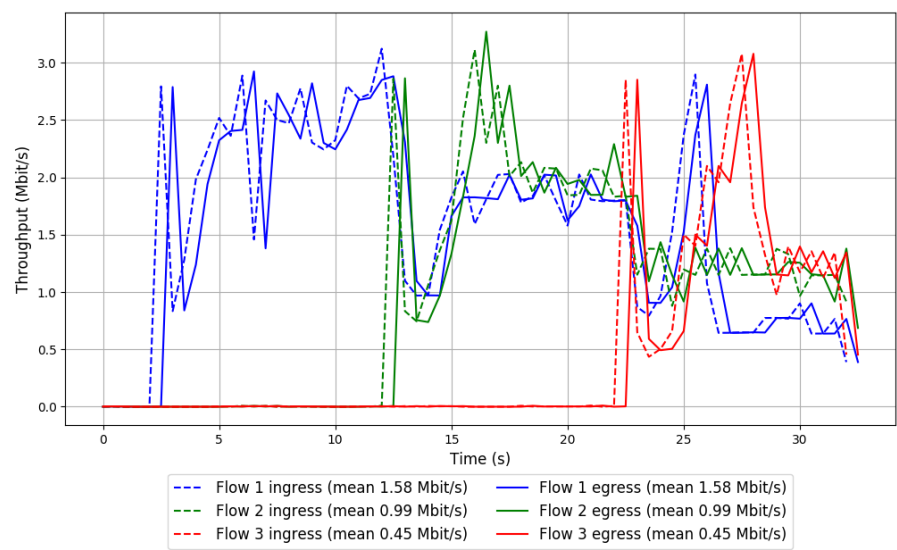


Run 2: Statistics of WebRTC media

Start at: 2018-10-26 10:15:43
End at: 2018-10-26 10:16:13
Local clock offset: -0.677 ms
Remote clock offset: -0.586 ms

Below is generated by plot.py at 2018-10-26 11:42:36
Datalink statistics
-- Total of 3 flows:
Average throughput: 3.01 Mbit/s
95th percentile per-packet one-way delay: 16.963 ms
Loss rate: 0.12%
-- Flow 1:
Average throughput: 1.58 Mbit/s
95th percentile per-packet one-way delay: 16.971 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.99 Mbit/s
95th percentile per-packet one-way delay: 16.890 ms
Loss rate: 0.36%
-- Flow 3:
Average throughput: 0.45 Mbit/s
95th percentile per-packet one-way delay: 17.049 ms
Loss rate: 0.00%

Run 2: Report of WebRTC media — Data Link

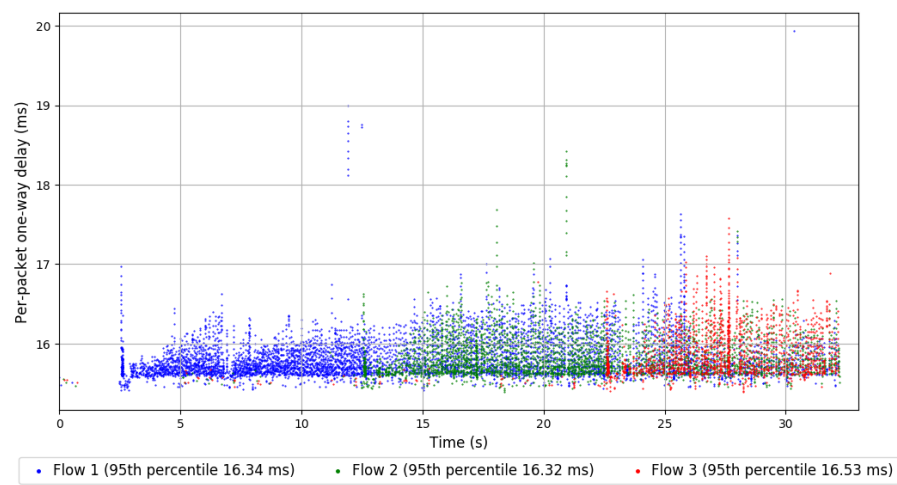
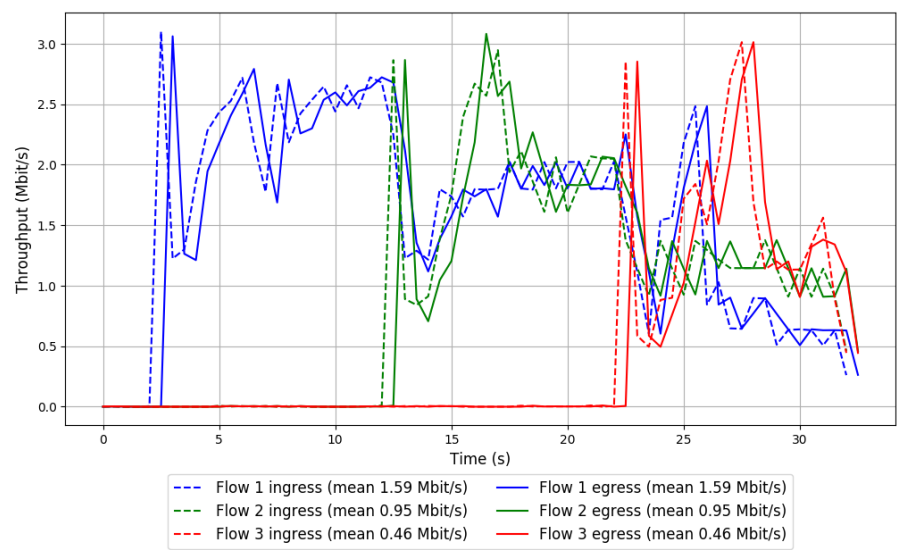


Run 3: Statistics of WebRTC media

Start at: 2018-10-26 10:38:17
End at: 2018-10-26 10:38:47
Local clock offset: 0.882 ms
Remote clock offset: -1.237 ms

Below is generated by plot.py at 2018-10-26 11:42:36
Datalink statistics
-- Total of 3 flows:
Average throughput: 2.98 Mbit/s
95th percentile per-packet one-way delay: 16.366 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 1.59 Mbit/s
95th percentile per-packet one-way delay: 16.340 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.95 Mbit/s
95th percentile per-packet one-way delay: 16.323 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.46 Mbit/s
95th percentile per-packet one-way delay: 16.528 ms
Loss rate: 0.00%

Run 3: Report of WebRTC media — Data Link

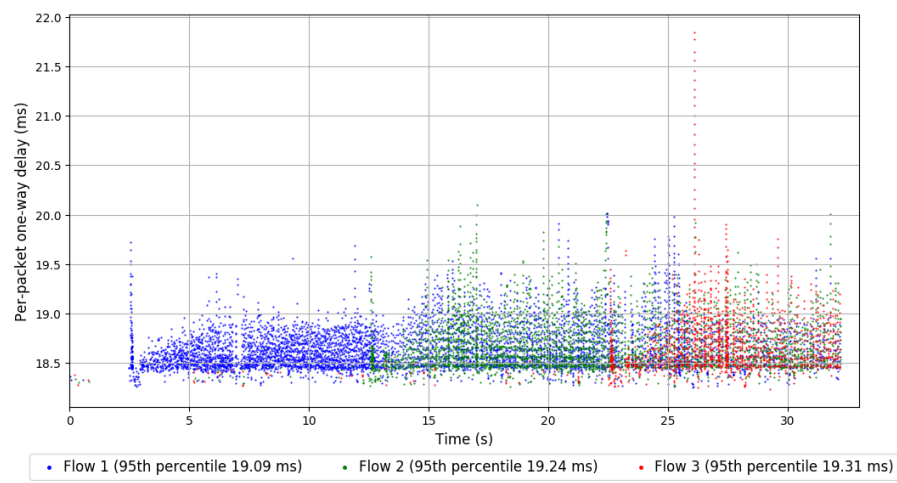
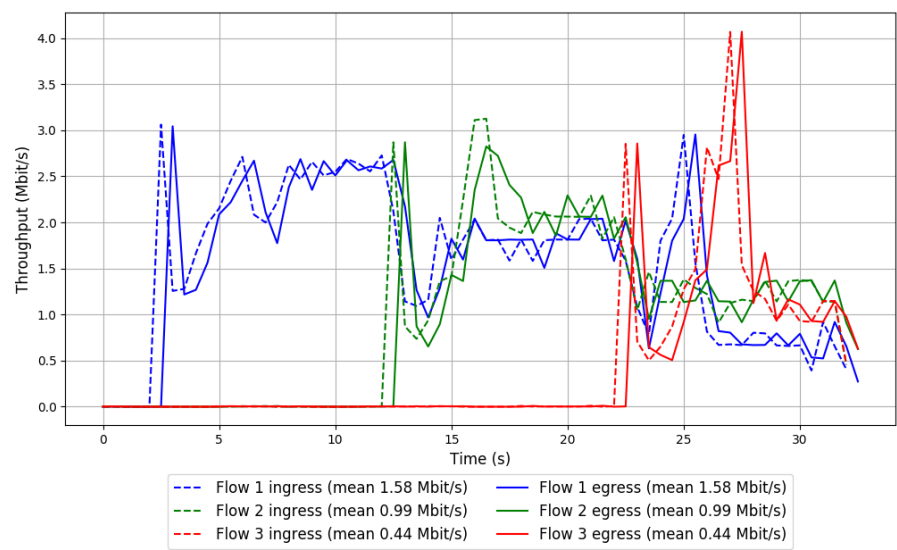


Run 4: Statistics of WebRTC media

Start at: 2018-10-26 11:00:36
End at: 2018-10-26 11:01:06
Local clock offset: 2.63 ms
Remote clock offset: -2.535 ms

Below is generated by plot.py at 2018-10-26 11:42:36
Datalink statistics
-- Total of 3 flows:
Average throughput: 2.99 Mbit/s
95th percentile per-packet one-way delay: 19.185 ms
Loss rate: 0.10%
-- Flow 1:
Average throughput: 1.58 Mbit/s
95th percentile per-packet one-way delay: 19.088 ms
Loss rate: 0.13%
-- Flow 2:
Average throughput: 0.99 Mbit/s
95th percentile per-packet one-way delay: 19.236 ms
Loss rate: 0.09%
-- Flow 3:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 19.309 ms
Loss rate: 0.01%

Run 4: Report of WebRTC media — Data Link



Run 5: Statistics of WebRTC media

Start at: 2018-10-26 11:22:33
End at: 2018-10-26 11:23:03
Local clock offset: 1.076 ms
Remote clock offset: -2.637 ms

Below is generated by plot.py at 2018-10-26 11:42:36
Datalink statistics
-- Total of 3 flows:
Average throughput: 3.11 Mbit/s
95th percentile per-packet one-way delay: 22.566 ms
Loss rate: 0.07%
-- Flow 1:
Average throughput: 1.63 Mbit/s
95th percentile per-packet one-way delay: 20.240 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 1.04 Mbit/s
95th percentile per-packet one-way delay: 22.839 ms
Loss rate: 0.11%
-- Flow 3:
Average throughput: 0.45 Mbit/s
95th percentile per-packet one-way delay: 23.386 ms
Loss rate: 0.21%

Run 5: Report of WebRTC media — Data Link

