

Pantheon Report

Generated at 2018-10-10 01:55:28 (UTC).

Data path: GCE Tokyo on **ens4** (*local*) → GCE London on **ens4** (*remote*).

Repeated the test of 18 congestion control schemes 5 times.

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

NTP offsets were measured against `time.google.com` and have been applied to correct the timestamps in logs.

System info:

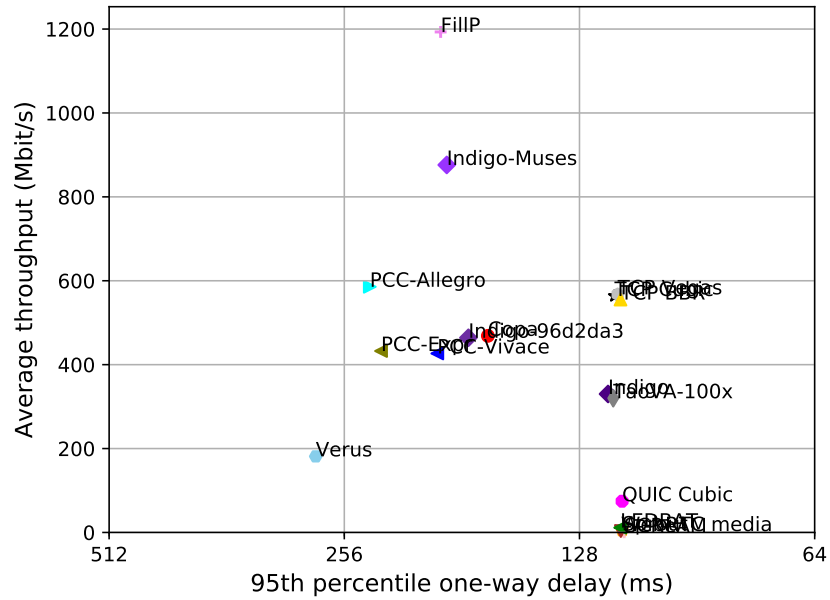
```
Linux 4.15.0-1021-gcp
net.core.default_qdisc = fq
net.core.rmem_default = 16777216
net.core.rmem_max = 536870912
net.core.wmem_default = 16777216
net.core.wmem_max = 536870912
net.ipv4.tcp_rmem = 4096 16777216 536870912
net.ipv4.tcp_wmem = 4096 16777216 536870912
```

Git summary:

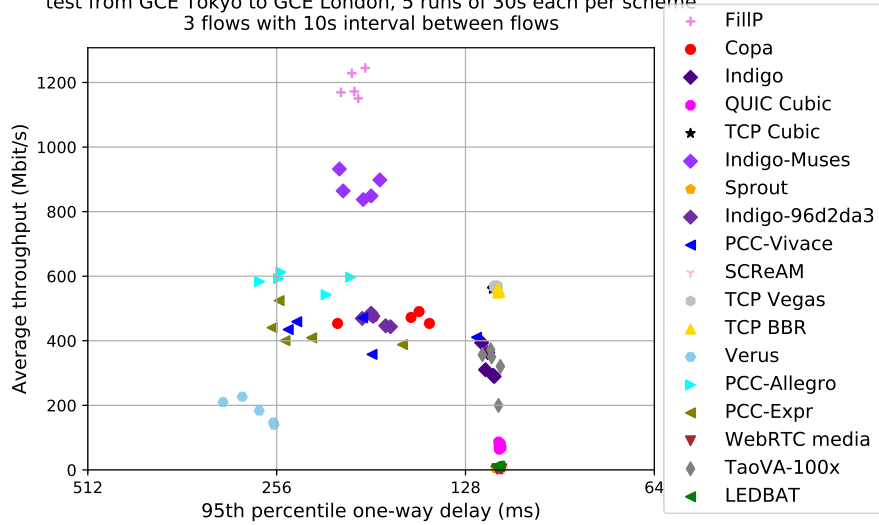
```
branch: muses @ 2e19c0464530faa92c63f8217c9971438a26a3be
third_party/fillp @ 5332fc9127c63565e13f4933b336c02d1aabdac6
third_party/genericCC @ d0153f8e594aa89e93b032143cedbdf58e562f4
third_party/indigo @ 2601c92e4aa9d58d38dc4dfe0ecd90c077e64d
third_party/indigo-96d2da3 @ 8413272d46f8aa0bcb967ed7048b6a8f994abb95
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 GCE Tokyo to GCE London, 5 runs of 30s each per scheme
 3 flows with 10s interval between flows (mean of all runs by scheme)



test from GCE Tokyo to GCE London, 5 runs of 30s each per scheme
 3 flows with 10s interval between flows



scheme	# runs	mean avg tput (Mbit/s)			mean 95th-%ile delay (ms)			mean loss rate (%)		
		flow 1	flow 2	flow 3	flow 1	flow 2	flow 3	flow 1	flow 2	flow 3
TCP BBR	5	288.16	277.21	248.15	112.52	113.46	112.52	0.00	0.00	0.00
Copa	5	245.73	235.04	199.98	150.74	169.52	184.31	0.02	0.00	0.18
TCP Cubic	5	294.51	281.21	247.23	114.63	115.94	117.94	0.00	0.03	0.00
FillP	5	641.52	606.54	448.69	196.79	189.02	166.06	3.98	2.25	0.72
Indigo	5	175.84	159.05	152.20	116.15	118.15	120.67	0.00	0.00	0.06
Indigo-96d2da3	5	247.48	229.34	201.73	173.60	178.01	187.91	0.47	0.52	0.68
LEDBAT	5	7.41	4.93	2.42	113.41	113.47	112.94	0.00	0.00	0.00
Indigo-Muses	5	493.95	440.47	279.03	187.42	190.74	203.14	0.25	0.34	1.23
PCC-Allegro	5	327.04	276.89	226.04	232.04	178.88	264.26	3.35	1.52	5.84
PCC-Expr	5	239.92	204.82	170.19	232.80	187.58	233.22	5.28	4.79	3.51
QUIC Cubic	5	43.34	35.25	23.85	112.37	112.65	112.40	0.00	0.00	0.00
SCReAM	5	0.22	0.20	0.18	111.80	111.56	112.18	0.00	0.00	0.00
Sprout	5	2.38	2.42	1.82	112.88	112.04	111.63	0.00	0.00	0.00
TaoVA-100x	5	157.81	178.84	129.08	114.33	117.90	116.19	0.00	0.00	0.03
TCP Vegas	5	295.20	283.94	250.47	113.70	114.90	116.13	0.00	0.00	0.00
Verus	5	116.62	78.65	39.68	286.04	240.84	179.84	7.23	0.80	1.64
PCC-Vivace	5	249.92	199.03	134.55	208.38	142.04	137.78	0.70	0.44	0.00
WebRTC media	5	1.86	1.10	0.37	112.78	113.08	112.97	0.00	0.00	0.00

Run 1: Statistics of TCP BBR

Start at: 2018-10-09 21:50:21

End at: 2018-10-09 21:50:51

Local clock offset: 0.268 ms

Remote clock offset: -0.15 ms

Below is generated by plot.py at 2018-10-10 00:21:22

Datalink statistics

-- Total of 3 flows:

Average throughput: 560.03 Mbit/s

95th percentile per-packet one-way delay: 113.313 ms

Loss rate: 0.01%

-- Flow 1:

Average throughput: 289.72 Mbit/s

95th percentile per-packet one-way delay: 112.688 ms

Loss rate: 0.01%

-- Flow 2:

Average throughput: 282.60 Mbit/s

95th percentile per-packet one-way delay: 113.401 ms

Loss rate: 0.00%

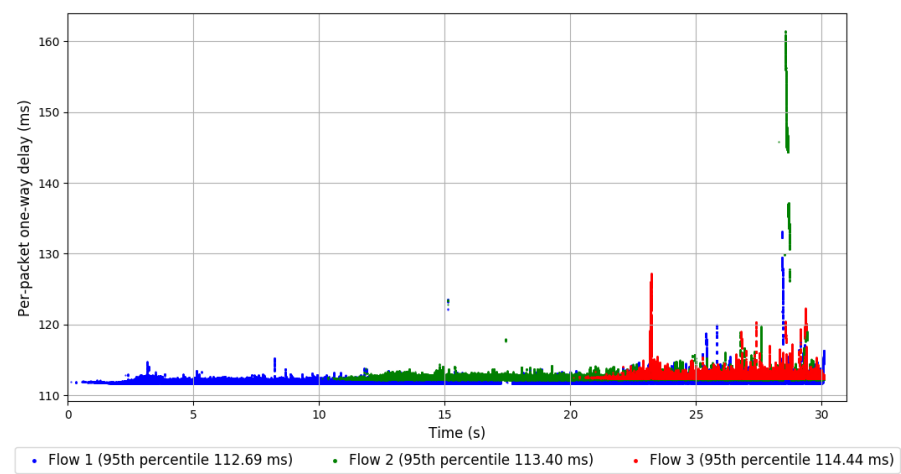
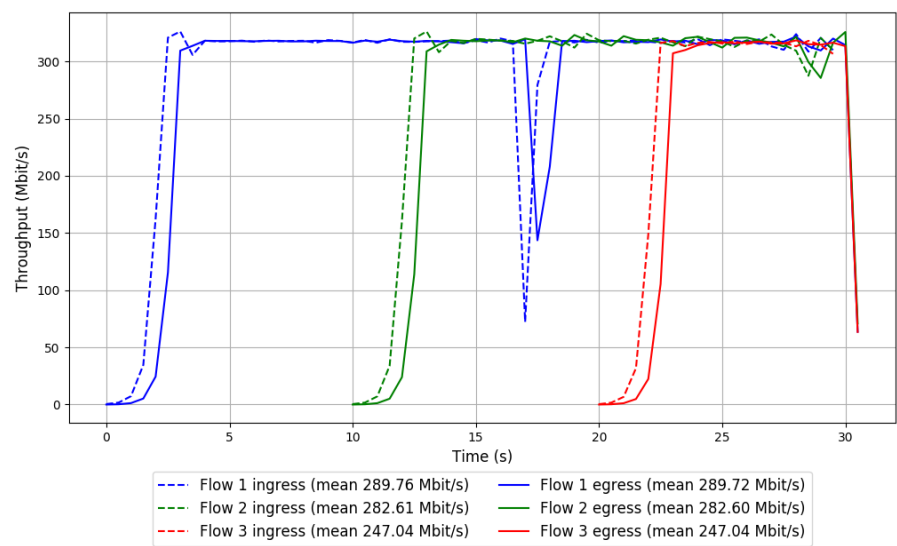
-- Flow 3:

Average throughput: 247.04 Mbit/s

95th percentile per-packet one-way delay: 114.443 ms

Loss rate: 0.00%

Run 1: Report of TCP BBR — Data Link

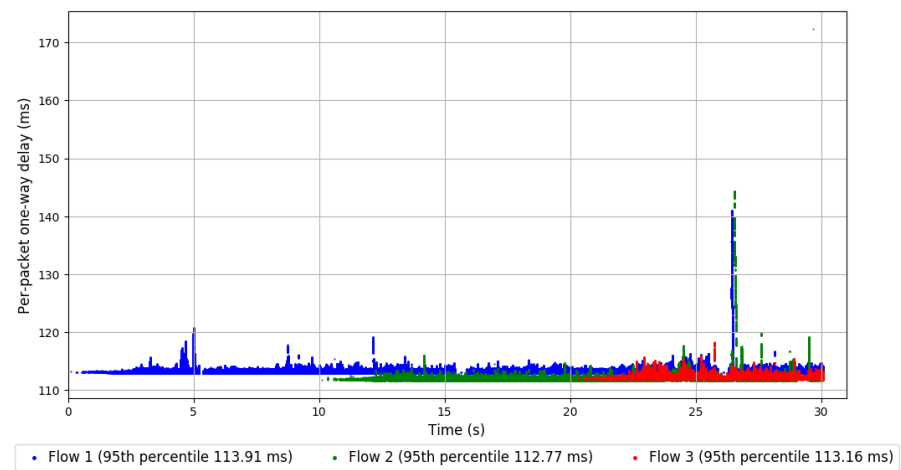
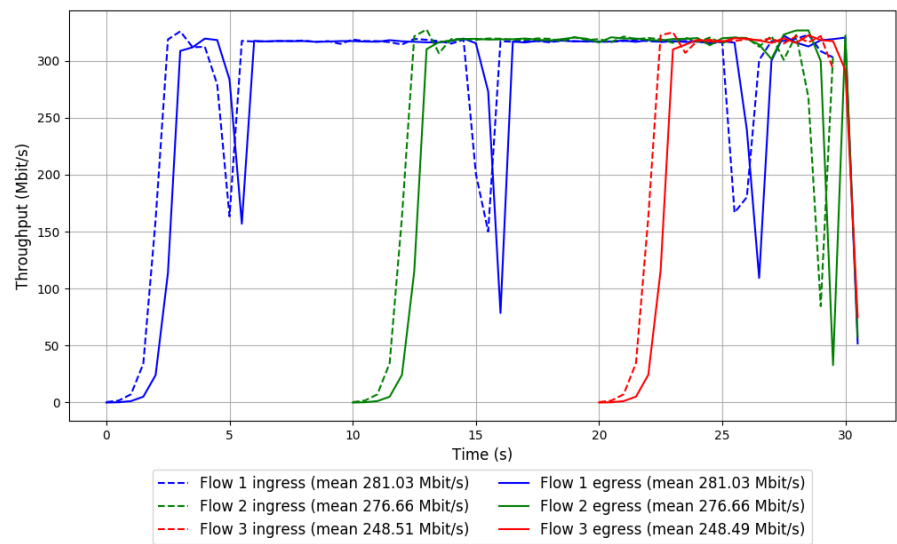


Run 2: Statistics of TCP BBR

Start at: 2018-10-09 22:21:37
End at: 2018-10-09 22:22:07
Local clock offset: -0.352 ms
Remote clock offset: -0.583 ms

Below is generated by plot.py at 2018-10-10 00:21:22
Datalink statistics
-- Total of 3 flows:
Average throughput: 547.96 Mbit/s
95th percentile per-packet one-way delay: 113.765 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 281.03 Mbit/s
95th percentile per-packet one-way delay: 113.914 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 276.66 Mbit/s
95th percentile per-packet one-way delay: 112.765 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 248.49 Mbit/s
95th percentile per-packet one-way delay: 113.155 ms
Loss rate: 0.00%

Run 2: Report of TCP BBR — Data Link

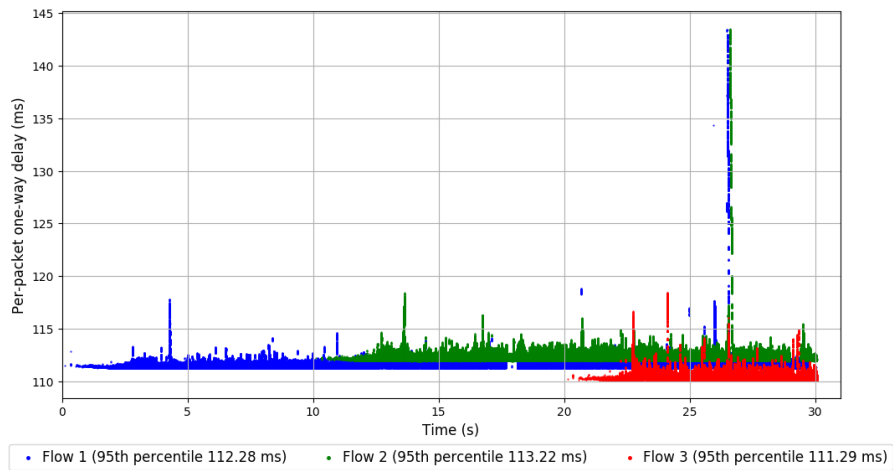
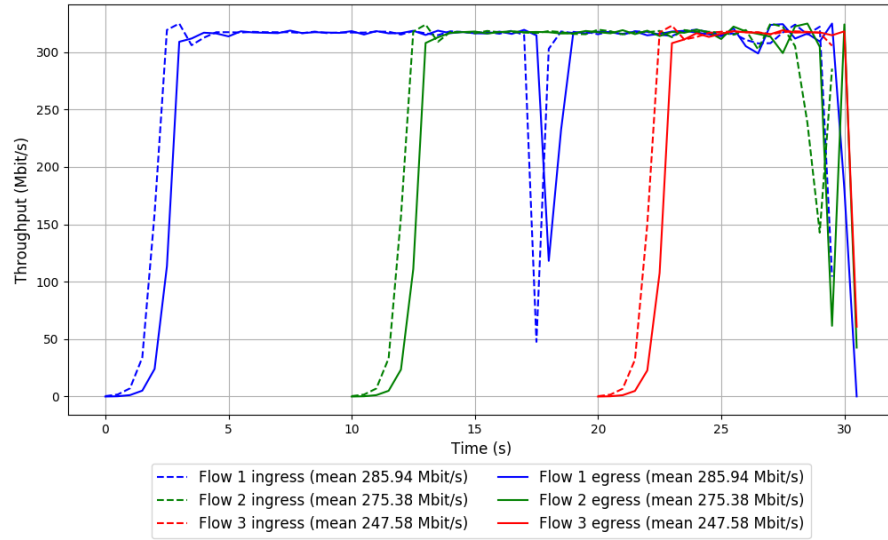


Run 3: Statistics of TCP BBR

Start at: 2018-10-09 22:52:54
End at: 2018-10-09 22:53:24
Local clock offset: 0.127 ms
Remote clock offset: -0.515 ms

Below is generated by plot.py at 2018-10-10 00:21:22
Datalink statistics
-- Total of 3 flows:
Average throughput: 551.14 Mbit/s
95th percentile per-packet one-way delay: 112.878 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 285.94 Mbit/s
95th percentile per-packet one-way delay: 112.284 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 275.38 Mbit/s
95th percentile per-packet one-way delay: 113.223 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 247.58 Mbit/s
95th percentile per-packet one-way delay: 111.292 ms
Loss rate: 0.00%

Run 3: Report of TCP BBR — Data Link



Run 4: Statistics of TCP BBR

Start at: 2018-10-09 23:24:03

End at: 2018-10-09 23:24:33

Local clock offset: 0.071 ms

Remote clock offset: 0.116 ms

Below is generated by plot.py at 2018-10-10 00:21:22

Datalink statistics

-- Total of 3 flows:

Average throughput: 555.08 Mbit/s

95th percentile per-packet one-way delay: 113.390 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 290.48 Mbit/s

95th percentile per-packet one-way delay: 112.939 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 271.50 Mbit/s

95th percentile per-packet one-way delay: 113.814 ms

Loss rate: 0.00%

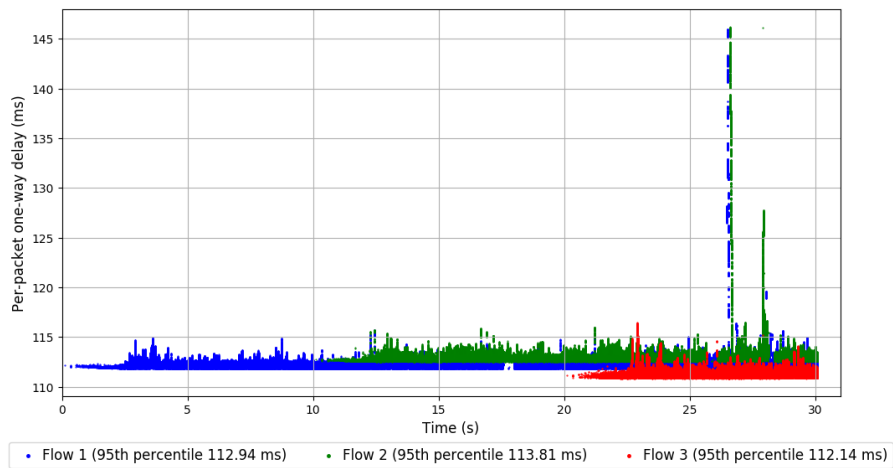
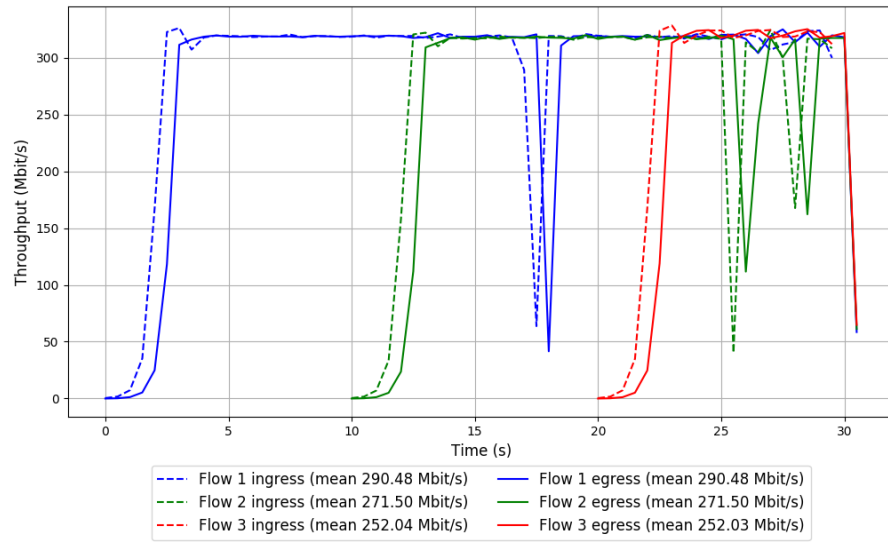
-- Flow 3:

Average throughput: 252.03 Mbit/s

95th percentile per-packet one-way delay: 112.138 ms

Loss rate: 0.00%

Run 4: Report of TCP BBR — Data Link

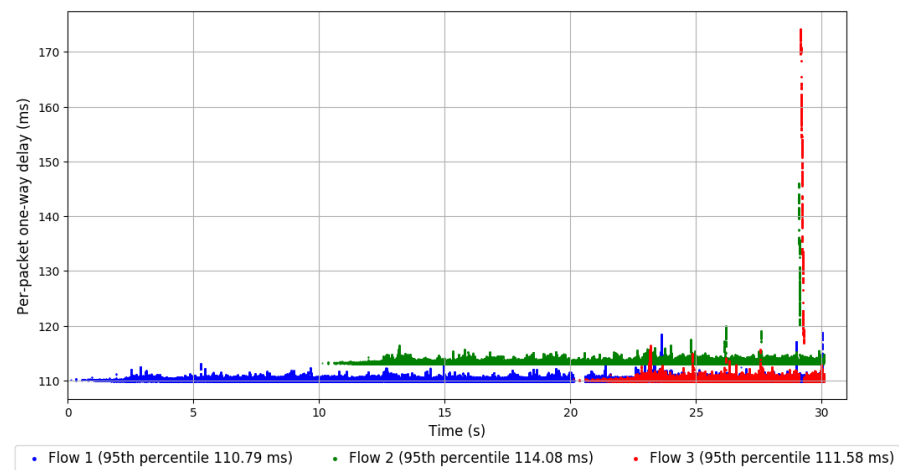
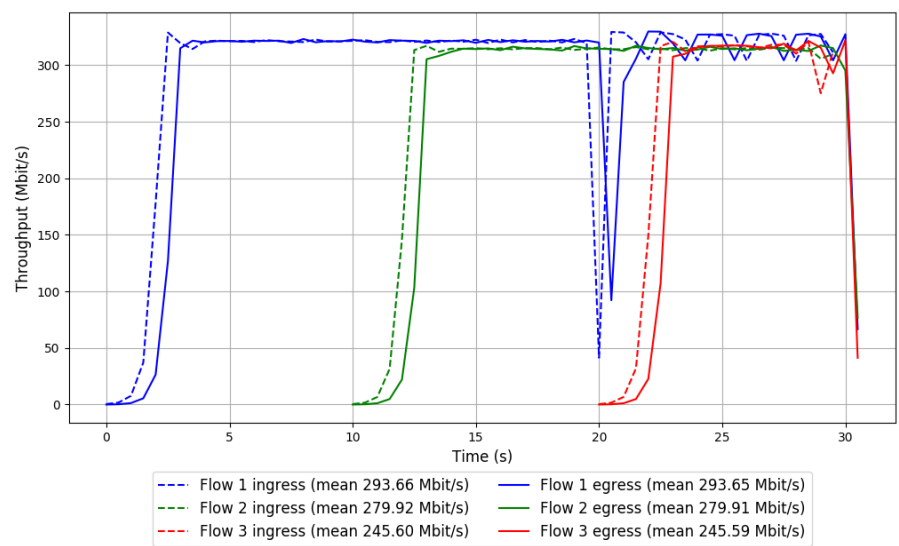


Run 5: Statistics of TCP BBR

Start at: 2018-10-09 23:55:03
End at: 2018-10-09 23:55:33
Local clock offset: 0.278 ms
Remote clock offset: -0.687 ms

Below is generated by plot.py at 2018-10-10 00:21:22
Datalink statistics
-- Total of 3 flows:
Average throughput: 561.67 Mbit/s
95th percentile per-packet one-way delay: 113.770 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 293.65 Mbit/s
95th percentile per-packet one-way delay: 110.794 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 279.91 Mbit/s
95th percentile per-packet one-way delay: 114.085 ms
Loss rate: 0.01%
-- Flow 3:
Average throughput: 245.59 Mbit/s
95th percentile per-packet one-way delay: 111.576 ms
Loss rate: 0.00%

Run 5: Report of TCP BBR — Data Link

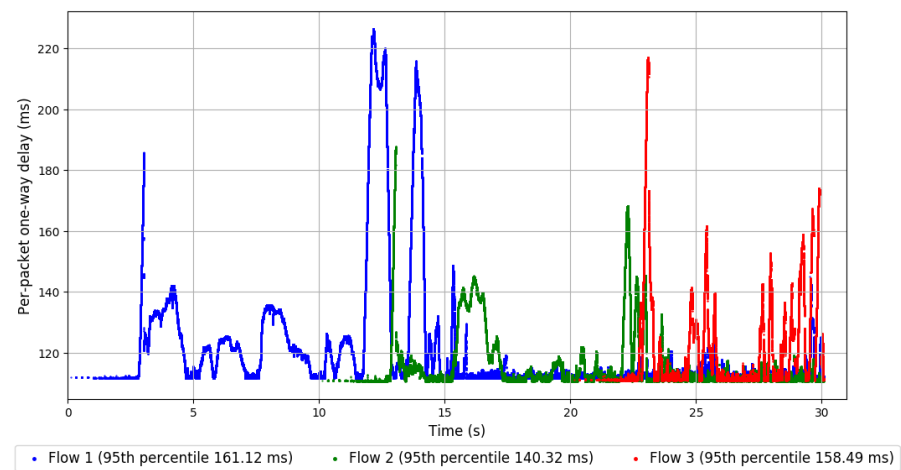
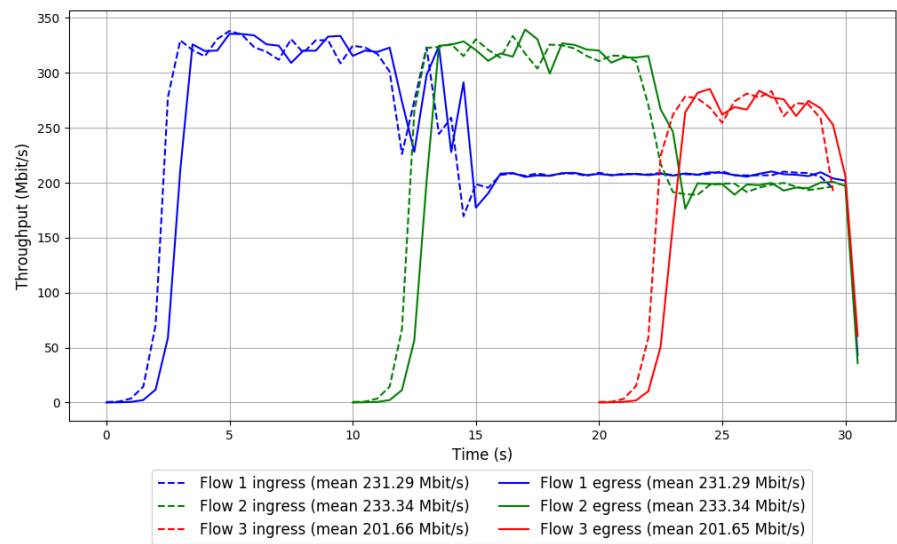


Run 1: Statistics of Copa

Start at: 2018-10-09 21:46:09
End at: 2018-10-09 21:46:39
Local clock offset: 0.941 ms
Remote clock offset: -0.112 ms

Below is generated by plot.py at 2018-10-10 00:26:35
Datalink statistics
-- Total of 3 flows:
Average throughput: 453.67 Mbit/s
95th percentile per-packet one-way delay: 146.119 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 231.29 Mbit/s
95th percentile per-packet one-way delay: 161.115 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 233.34 Mbit/s
95th percentile per-packet one-way delay: 140.323 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 201.65 Mbit/s
95th percentile per-packet one-way delay: 158.493 ms
Loss rate: 0.00%

Run 1: Report of Copa — Data Link

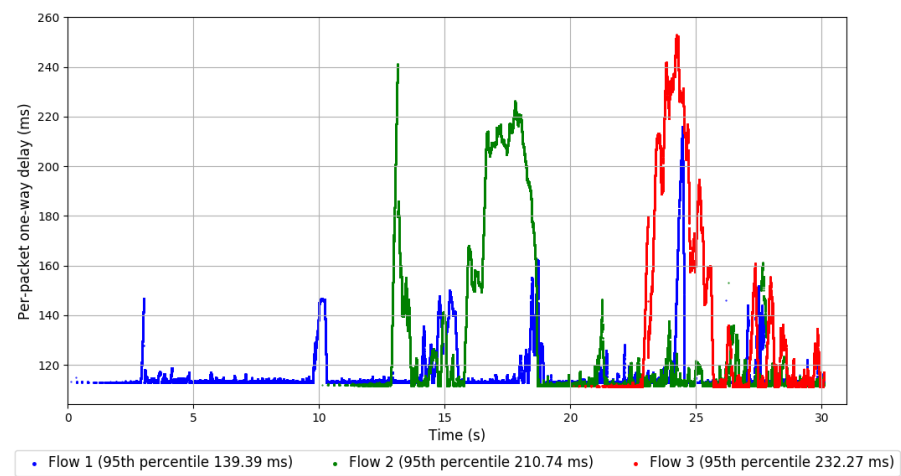
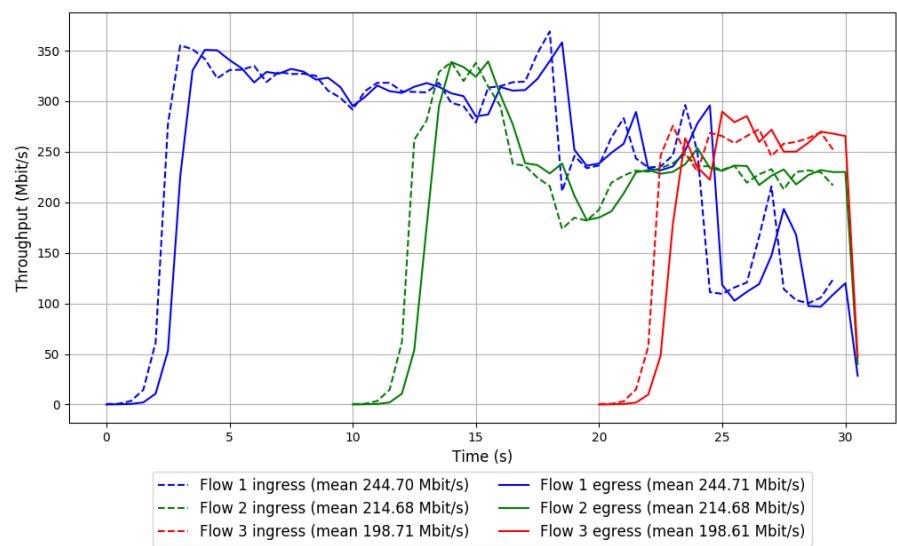


Run 2: Statistics of Copa

Start at: 2018-10-09 22:17:31
End at: 2018-10-09 22:18:01
Local clock offset: 0.067 ms
Remote clock offset: -0.257 ms

Below is generated by plot.py at 2018-10-10 00:26:38
Datalink statistics
-- Total of 3 flows:
Average throughput: 453.63 Mbit/s
95th percentile per-packet one-way delay: 204.704 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 244.71 Mbit/s
95th percentile per-packet one-way delay: 139.394 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 214.68 Mbit/s
95th percentile per-packet one-way delay: 210.741 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 198.61 Mbit/s
95th percentile per-packet one-way delay: 232.266 ms
Loss rate: 0.03%

Run 2: Report of Copa — Data Link

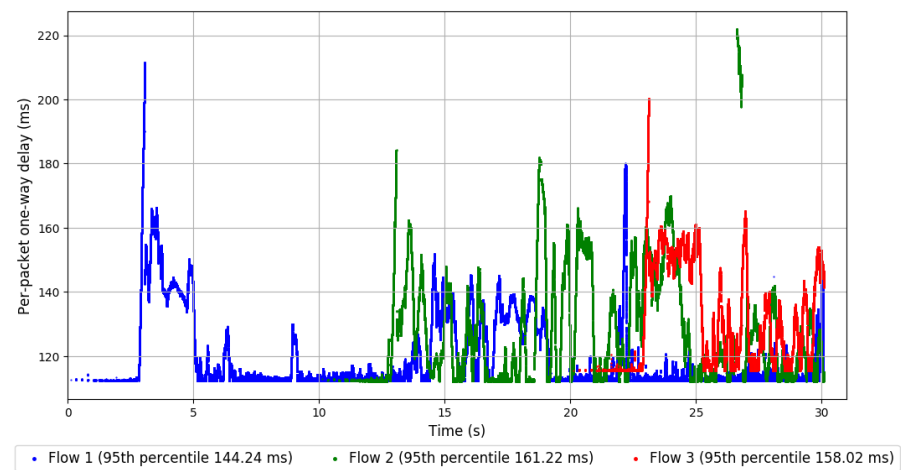
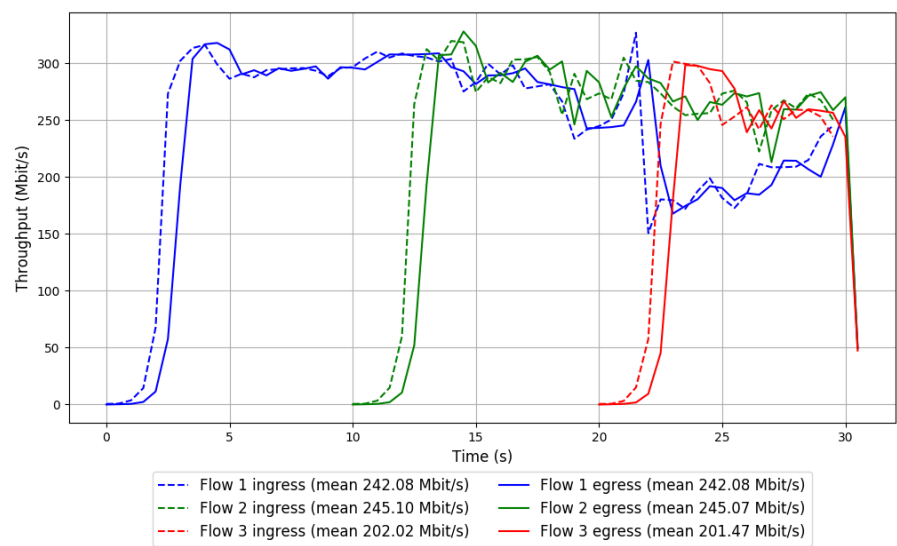


Run 3: Statistics of Copa

Start at: 2018-10-09 22:48:42
End at: 2018-10-09 22:49:12
Local clock offset: -0.496 ms
Remote clock offset: -0.177 ms

Below is generated by plot.py at 2018-10-10 00:27:03
Datalink statistics
-- Total of 3 flows:
Average throughput: 472.23 Mbit/s
95th percentile per-packet one-way delay: 156.325 ms
Loss rate: 0.04%
-- Flow 1:
Average throughput: 242.08 Mbit/s
95th percentile per-packet one-way delay: 144.238 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 245.07 Mbit/s
95th percentile per-packet one-way delay: 161.223 ms
Loss rate: 0.01%
-- Flow 3:
Average throughput: 201.47 Mbit/s
95th percentile per-packet one-way delay: 158.022 ms
Loss rate: 0.29%

Run 3: Report of Copa — Data Link

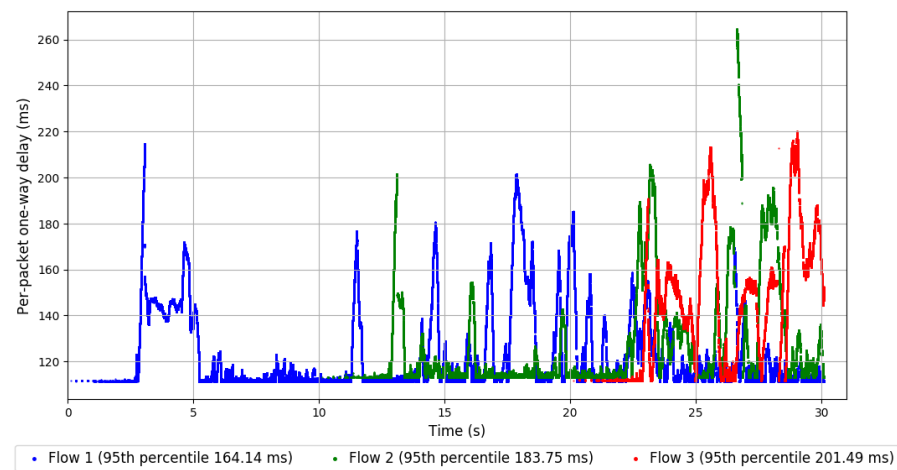
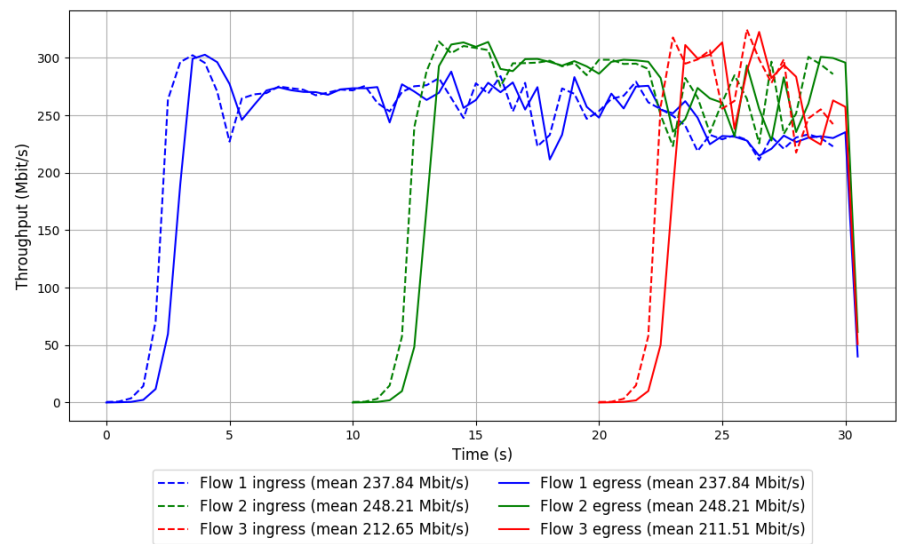


Run 4: Statistics of Copa

Start at: 2018-10-09 23:19:53
End at: 2018-10-09 23:20:23
Local clock offset: 0.379 ms
Remote clock offset: -0.541 ms

Below is generated by plot.py at 2018-10-10 00:36:36
Datalink statistics
-- Total of 3 flows:
Average throughput: 473.42 Mbit/s
95th percentile per-packet one-way delay: 179.452 ms
Loss rate: 0.08%
-- Flow 1:
Average throughput: 237.84 Mbit/s
95th percentile per-packet one-way delay: 164.143 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 248.21 Mbit/s
95th percentile per-packet one-way delay: 183.748 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 211.51 Mbit/s
95th percentile per-packet one-way delay: 201.492 ms
Loss rate: 0.53%

Run 4: Report of Copa — Data Link



Run 5: Statistics of Copa

Start at: 2018-10-09 23:50:52

End at: 2018-10-09 23:51:22

Local clock offset: -0.189 ms

Remote clock offset: 0.029 ms

Below is generated by plot.py at 2018-10-10 00:37:12

Datalink statistics

-- Total of 3 flows:

Average throughput: 490.42 Mbit/s

95th percentile per-packet one-way delay: 151.793 ms

Loss rate: 0.05%

-- Flow 1:

Average throughput: 272.71 Mbit/s

95th percentile per-packet one-way delay: 144.803 ms

Loss rate: 0.08%

-- Flow 2:

Average throughput: 233.88 Mbit/s

95th percentile per-packet one-way delay: 151.546 ms

Loss rate: 0.00%

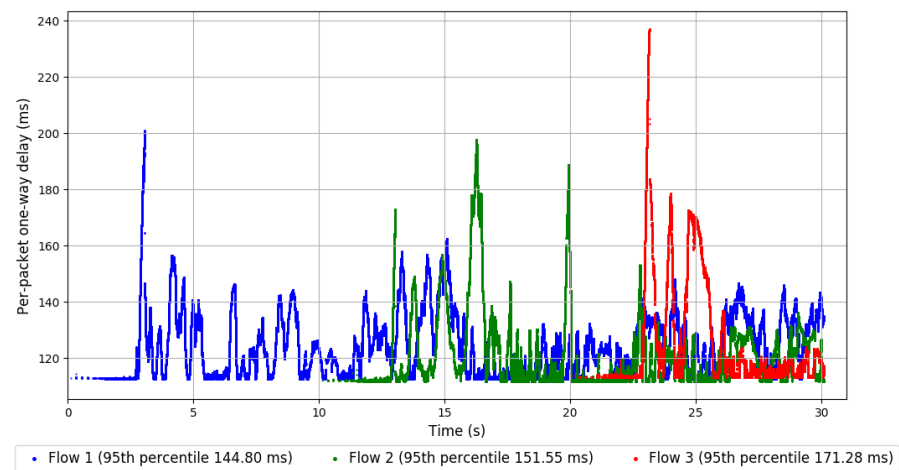
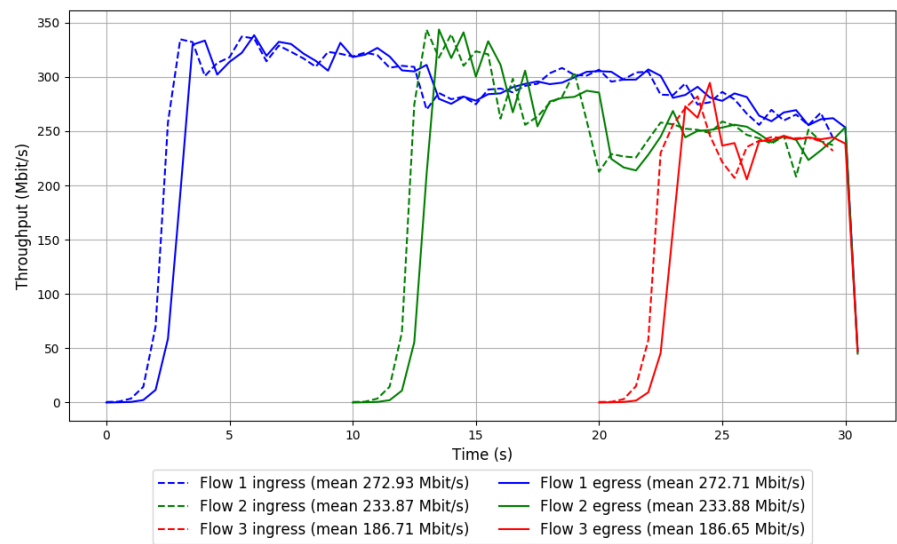
-- Flow 3:

Average throughput: 186.65 Mbit/s

95th percentile per-packet one-way delay: 171.275 ms

Loss rate: 0.03%

Run 5: Report of Copa — Data Link

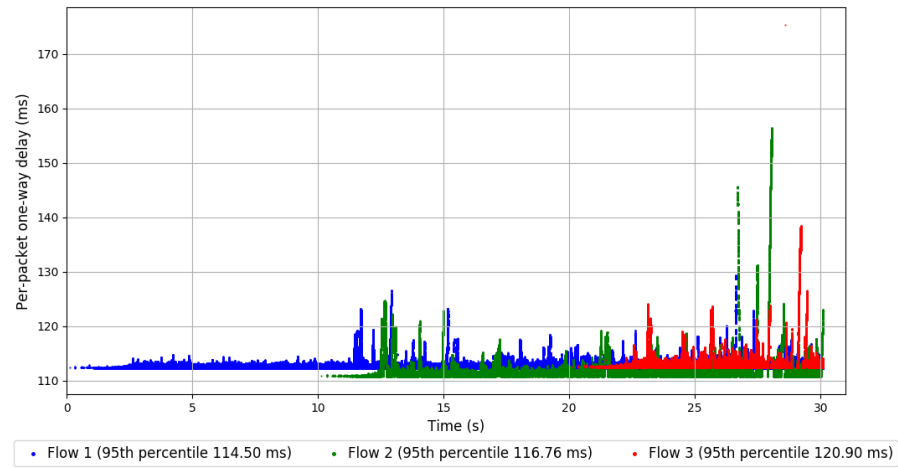
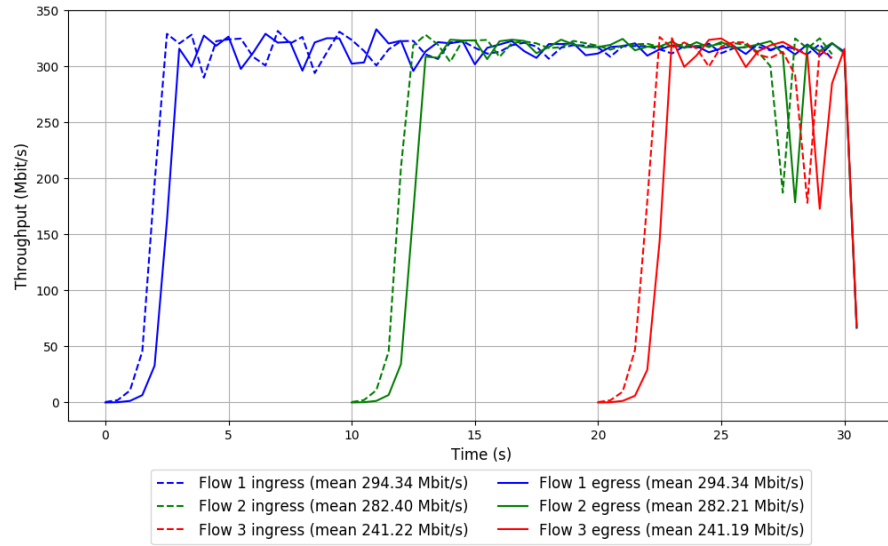


Run 1: Statistics of TCP Cubic

Start at: 2018-10-09 21:52:09
End at: 2018-10-09 21:52:39
Local clock offset: 0.271 ms
Remote clock offset: -0.075 ms

Below is generated by plot.py at 2018-10-10 00:37:12
Datalink statistics
-- Total of 3 flows:
Average throughput: 562.44 Mbit/s
95th percentile per-packet one-way delay: 115.859 ms
Loss rate: 0.02%
-- Flow 1:
Average throughput: 294.34 Mbit/s
95th percentile per-packet one-way delay: 114.495 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 282.21 Mbit/s
95th percentile per-packet one-way delay: 116.764 ms
Loss rate: 0.06%
-- Flow 3:
Average throughput: 241.19 Mbit/s
95th percentile per-packet one-way delay: 120.902 ms
Loss rate: 0.01%

Run 1: Report of TCP Cubic — Data Link

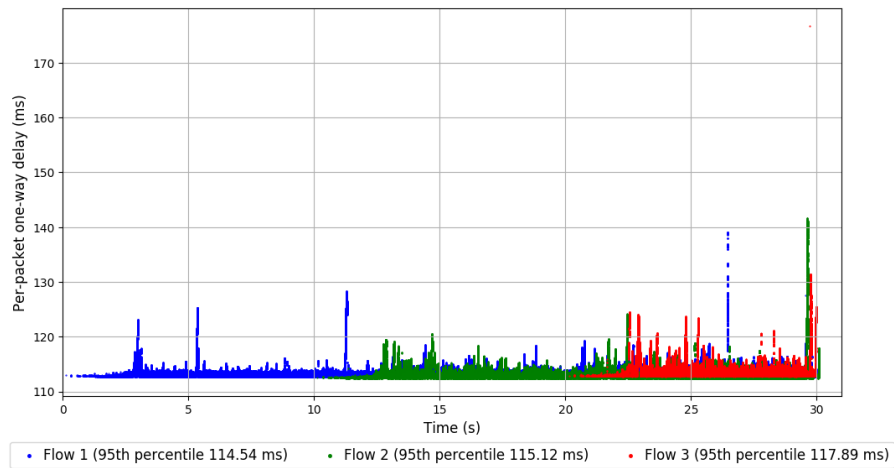
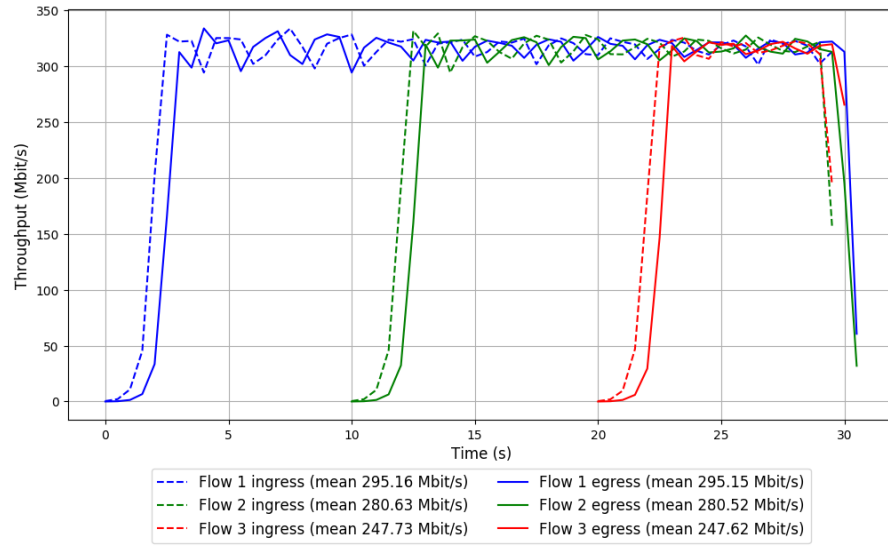


Run 2: Statistics of TCP Cubic

Start at: 2018-10-09 22:23:25
End at: 2018-10-09 22:23:55
Local clock offset: -0.976 ms
Remote clock offset: -0.235 ms

Below is generated by plot.py at 2018-10-10 00:37:12
Datalink statistics
-- Total of 3 flows:
Average throughput: 563.30 Mbit/s
95th percentile per-packet one-way delay: 115.174 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 295.15 Mbit/s
95th percentile per-packet one-way delay: 114.540 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 280.52 Mbit/s
95th percentile per-packet one-way delay: 115.118 ms
Loss rate: 0.03%
-- Flow 3:
Average throughput: 247.62 Mbit/s
95th percentile per-packet one-way delay: 117.889 ms
Loss rate: 0.00%

Run 2: Report of TCP Cubic — Data Link

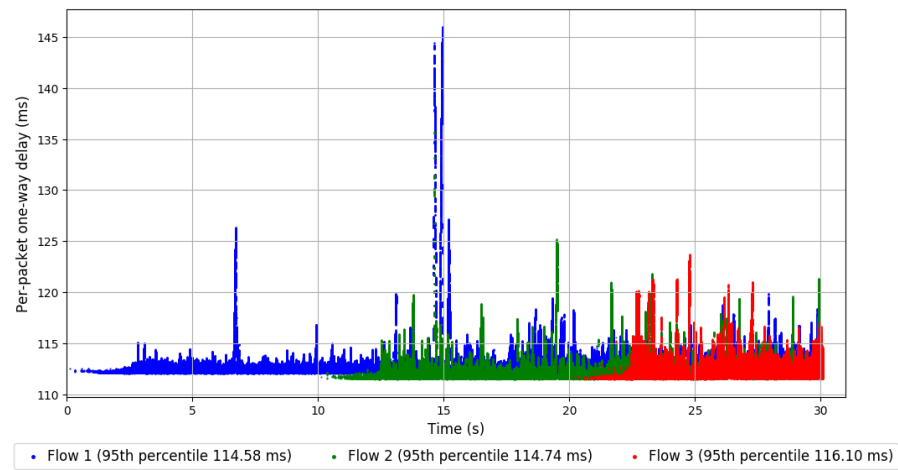
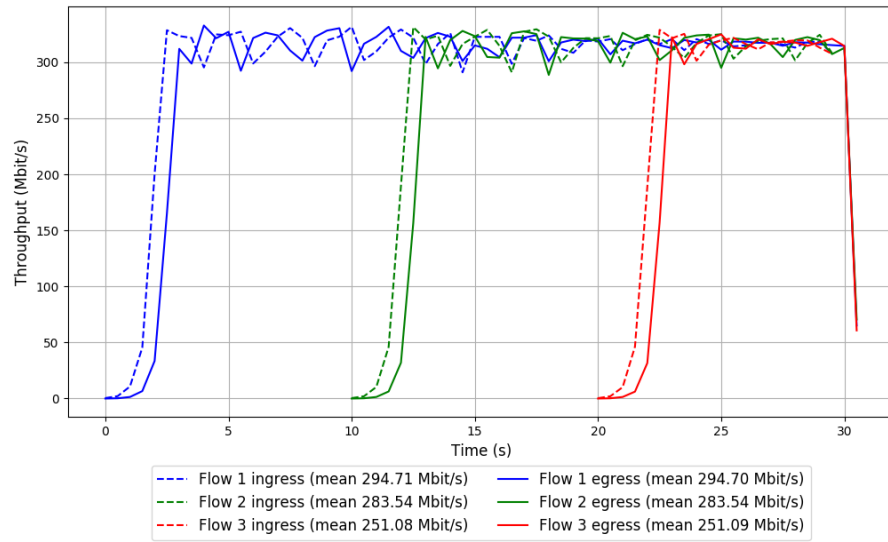


Run 3: Statistics of TCP Cubic

Start at: 2018-10-09 22:54:42
End at: 2018-10-09 22:55:12
Local clock offset: -0.148 ms
Remote clock offset: -0.552 ms

Below is generated by plot.py at 2018-10-10 00:37:12
Datalink statistics
-- Total of 3 flows:
Average throughput: 567.02 Mbit/s
95th percentile per-packet one-way delay: 114.860 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 294.70 Mbit/s
95th percentile per-packet one-way delay: 114.575 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 283.54 Mbit/s
95th percentile per-packet one-way delay: 114.740 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 251.09 Mbit/s
95th percentile per-packet one-way delay: 116.096 ms
Loss rate: 0.00%

Run 3: Report of TCP Cubic — Data Link



Run 4: Statistics of TCP Cubic

Start at: 2018-10-09 23:25:52

End at: 2018-10-09 23:26:22

Local clock offset: 0.217 ms

Remote clock offset: 0.146 ms

Below is generated by plot.py at 2018-10-10 00:37:12

Datalink statistics

-- Total of 3 flows:

Average throughput: 566.18 Mbit/s

95th percentile per-packet one-way delay: 115.393 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 296.15 Mbit/s

95th percentile per-packet one-way delay: 114.714 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 280.04 Mbit/s

95th percentile per-packet one-way delay: 116.439 ms

Loss rate: 0.00%

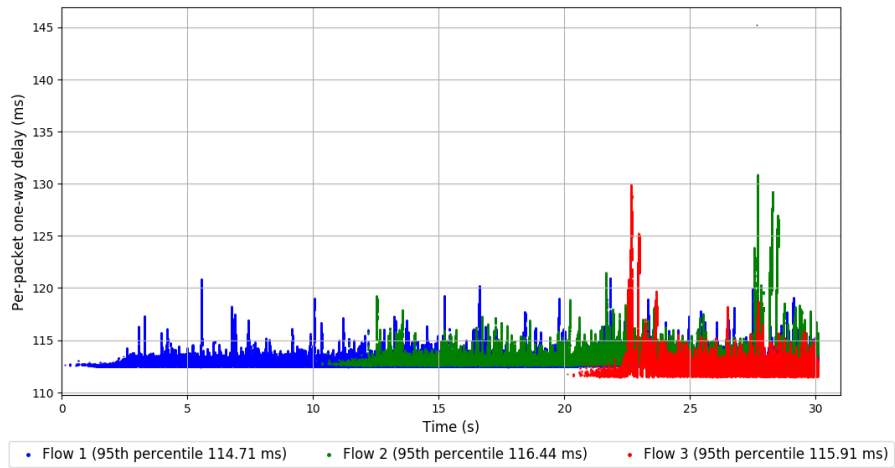
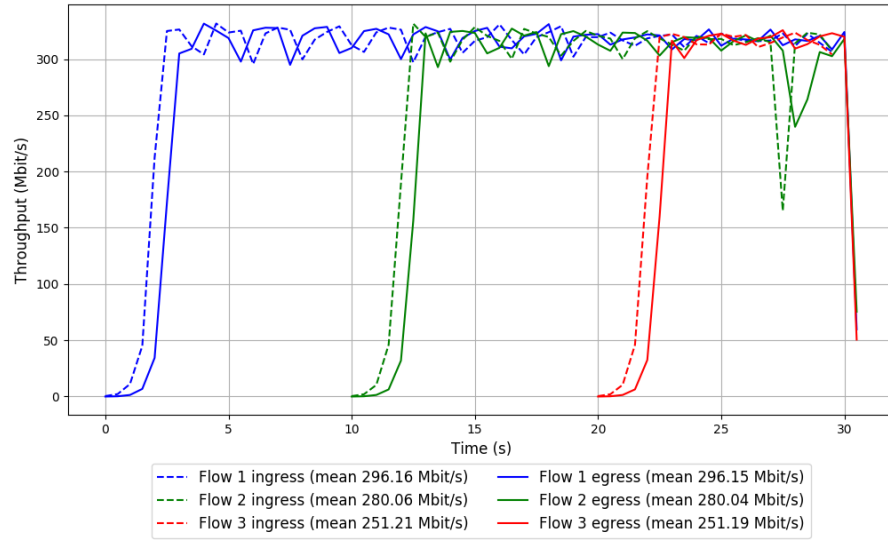
-- Flow 3:

Average throughput: 251.19 Mbit/s

95th percentile per-packet one-way delay: 115.906 ms

Loss rate: 0.00%

Run 4: Report of TCP Cubic — Data Link

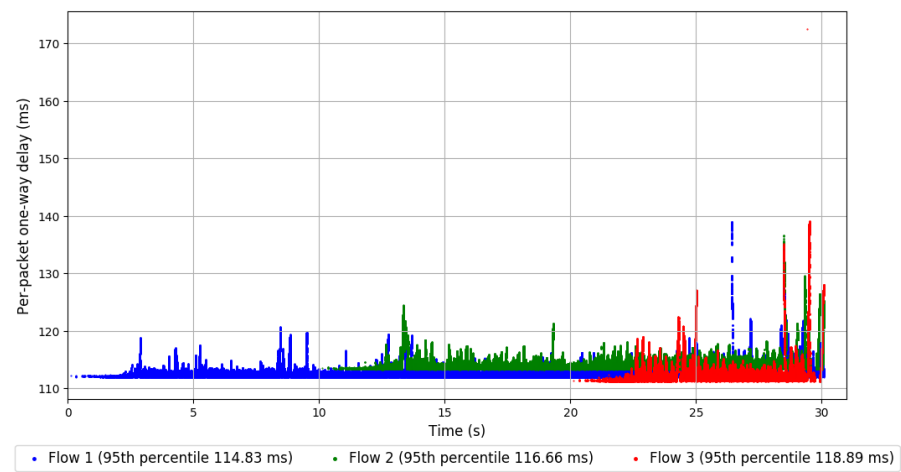
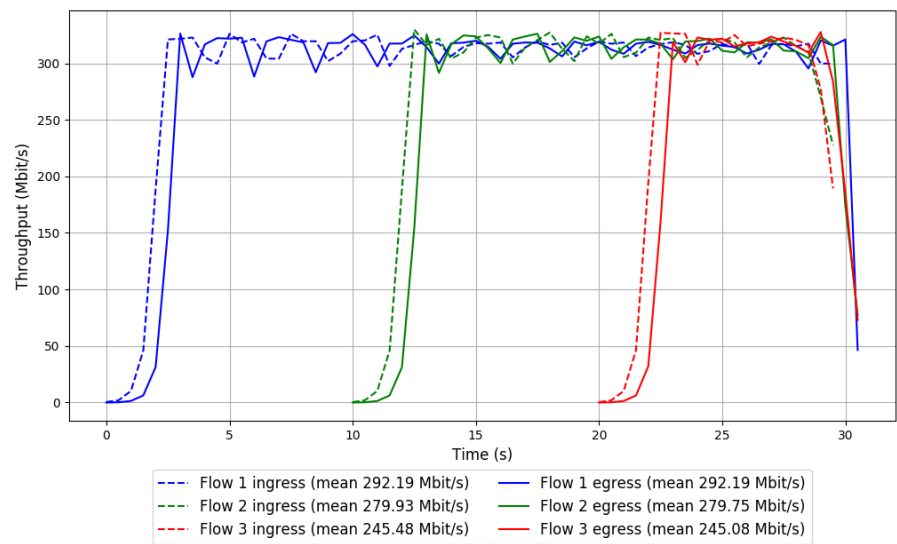


Run 5: Statistics of TCP Cubic

Start at: 2018-10-09 23:56:52
End at: 2018-10-09 23:57:22
Local clock offset: -0.699 ms
Remote clock offset: -0.311 ms

Below is generated by plot.py at 2018-10-10 00:37:12
Datalink statistics
-- Total of 3 flows:
Average throughput: 559.80 Mbit/s
95th percentile per-packet one-way delay: 116.026 ms
Loss rate: 0.02%
-- Flow 1:
Average throughput: 292.19 Mbit/s
95th percentile per-packet one-way delay: 114.835 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 279.75 Mbit/s
95th percentile per-packet one-way delay: 116.662 ms
Loss rate: 0.07%
-- Flow 3:
Average throughput: 245.08 Mbit/s
95th percentile per-packet one-way delay: 118.895 ms
Loss rate: 0.00%

Run 5: Report of TCP Cubic — Data Link

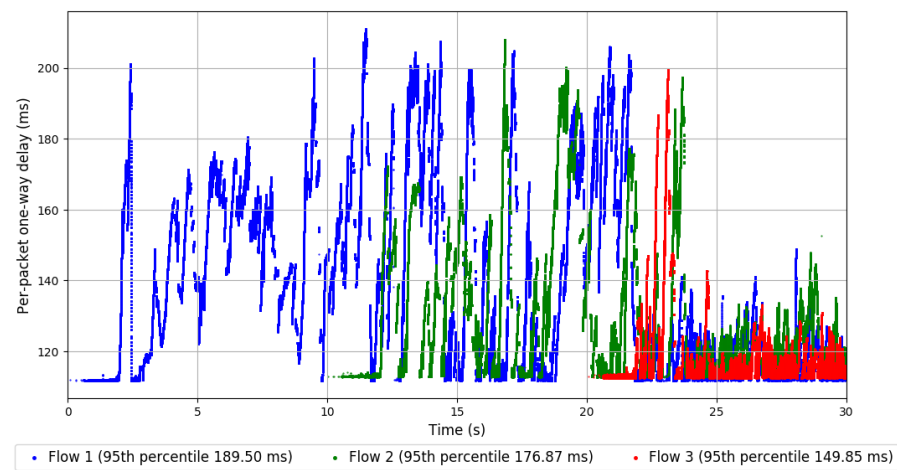
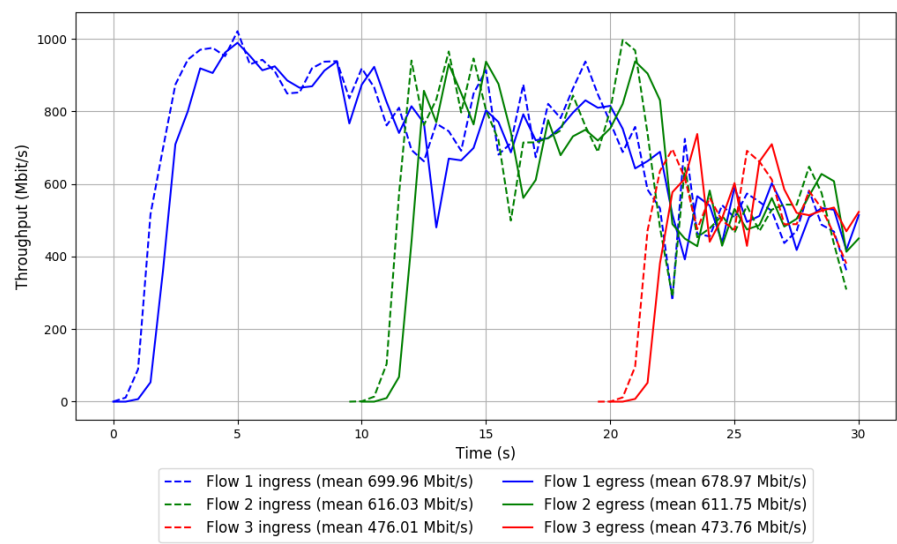


Run 1: Statistics of FillP

Start at: 2018-10-09 21:53:57
End at: 2018-10-09 21:54:27
Local clock offset: 0.203 ms
Remote clock offset: -0.137 ms

Below is generated by plot.py at 2018-10-10 00:52:54
Datalink statistics
-- Total of 3 flows:
Average throughput: 1244.81 Mbit/s
95th percentile per-packet one-way delay: 184.925 ms
Loss rate: 1.92%
-- Flow 1:
Average throughput: 678.97 Mbit/s
95th percentile per-packet one-way delay: 189.504 ms
Loss rate: 2.98%
-- Flow 2:
Average throughput: 611.75 Mbit/s
95th percentile per-packet one-way delay: 176.867 ms
Loss rate: 0.69%
-- Flow 3:
Average throughput: 473.76 Mbit/s
95th percentile per-packet one-way delay: 149.850 ms
Loss rate: 0.47%

Run 1: Report of FillP — Data Link

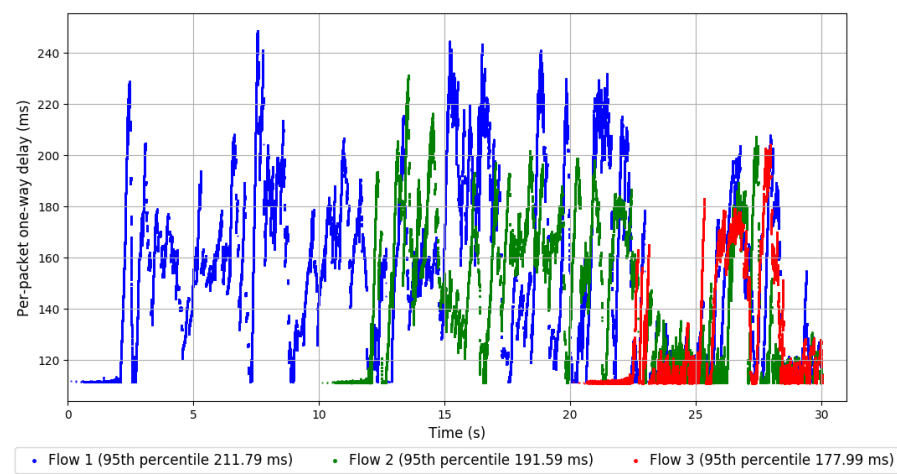
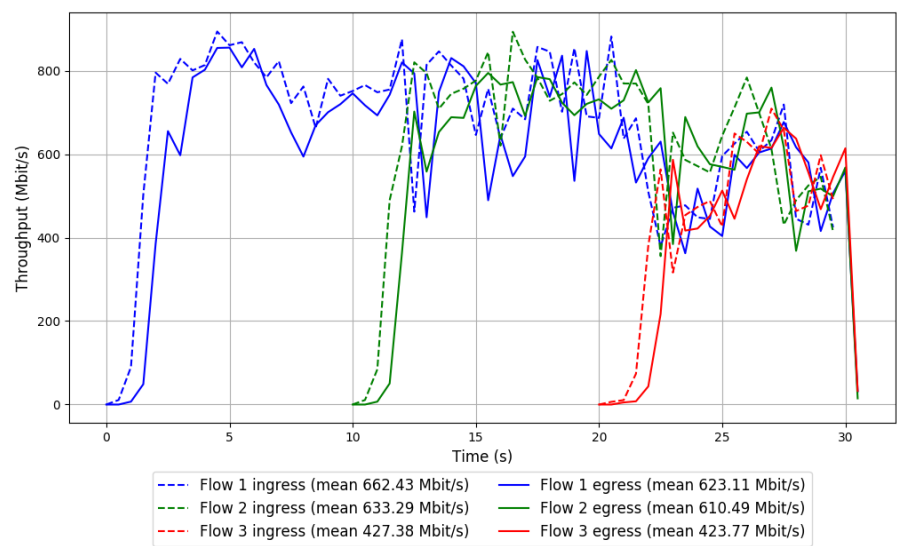


Run 2: Statistics of FillP

Start at: 2018-10-09 22:25:13
End at: 2018-10-09 22:25:43
Local clock offset: 0.439 ms
Remote clock offset: -0.249 ms

Below is generated by plot.py at 2018-10-10 00:56:02
Datalink statistics
-- Total of 3 flows:
Average throughput: 1169.39 Mbit/s
95th percentile per-packet one-way delay: 202.191 ms
Loss rate: 4.54%
-- Flow 1:
Average throughput: 623.11 Mbit/s
95th percentile per-packet one-way delay: 211.786 ms
Loss rate: 5.93%
-- Flow 2:
Average throughput: 610.49 Mbit/s
95th percentile per-packet one-way delay: 191.590 ms
Loss rate: 3.58%
-- Flow 3:
Average throughput: 423.77 Mbit/s
95th percentile per-packet one-way delay: 177.987 ms
Loss rate: 0.84%

Run 2: Report of FillP — Data Link

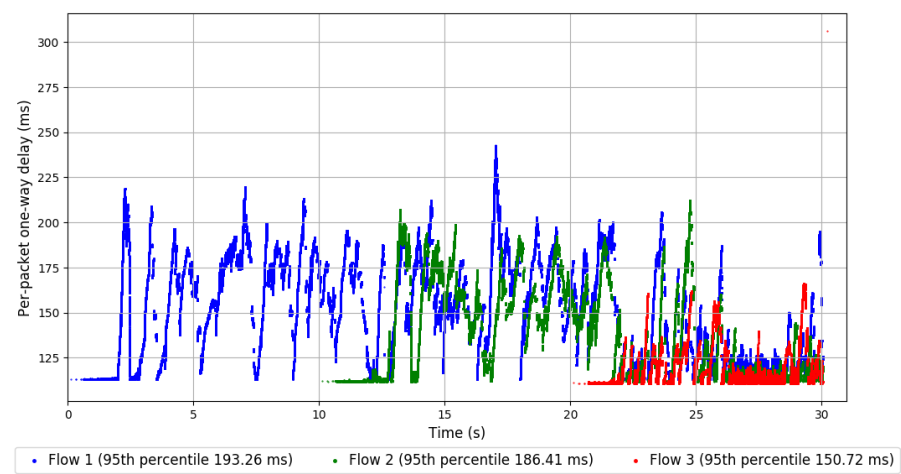
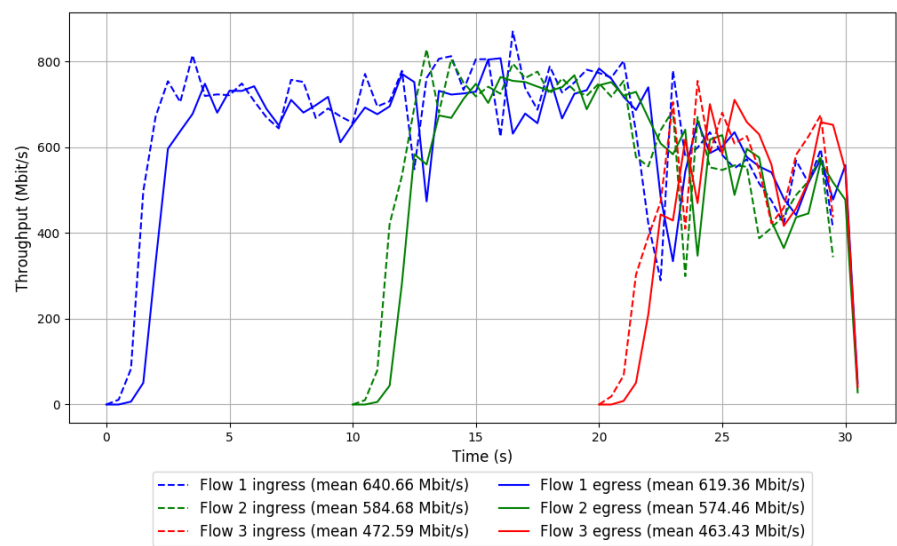


Run 3: Statistics of FillP

Start at: 2018-10-09 22:56:31
End at: 2018-10-09 22:57:01
Local clock offset: -0.452 ms
Remote clock offset: -0.537 ms

Below is generated by plot.py at 2018-10-10 00:56:02
Datalink statistics
-- Total of 3 flows:
Average throughput: 1150.65 Mbit/s
95th percentile per-packet one-way delay: 189.794 ms
Loss rate: 2.35%
-- Flow 1:
Average throughput: 619.36 Mbit/s
95th percentile per-packet one-way delay: 193.265 ms
Loss rate: 3.28%
-- Flow 2:
Average throughput: 574.46 Mbit/s
95th percentile per-packet one-way delay: 186.411 ms
Loss rate: 1.72%
-- Flow 3:
Average throughput: 463.43 Mbit/s
95th percentile per-packet one-way delay: 150.723 ms
Loss rate: 0.07%

Run 3: Report of FillP — Data Link

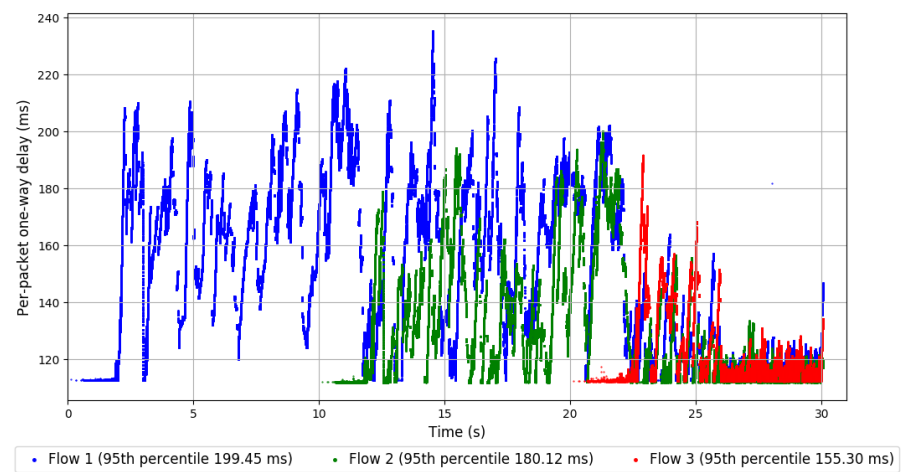
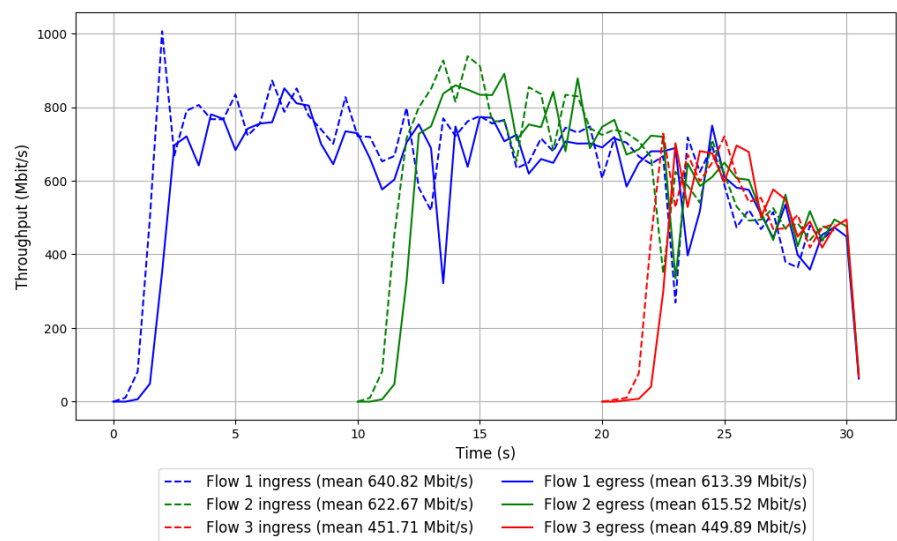


Run 4: Statistics of FillP

Start at: 2018-10-09 23:27:40
End at: 2018-10-09 23:28:10
Local clock offset: -0.004 ms
Remote clock offset: -0.223 ms

Below is generated by plot.py at 2018-10-10 00:56:24
Datalink statistics
-- Total of 3 flows:
Average throughput: 1172.12 Mbit/s
95th percentile per-packet one-way delay: 192.456 ms
Loss rate: 2.72%
-- Flow 1:
Average throughput: 613.39 Mbit/s
95th percentile per-packet one-way delay: 199.453 ms
Loss rate: 4.28%
-- Flow 2:
Average throughput: 615.52 Mbit/s
95th percentile per-packet one-way delay: 180.123 ms
Loss rate: 1.14%
-- Flow 3:
Average throughput: 449.89 Mbit/s
95th percentile per-packet one-way delay: 155.304 ms
Loss rate: 0.39%

Run 4: Report of FillP — Data Link

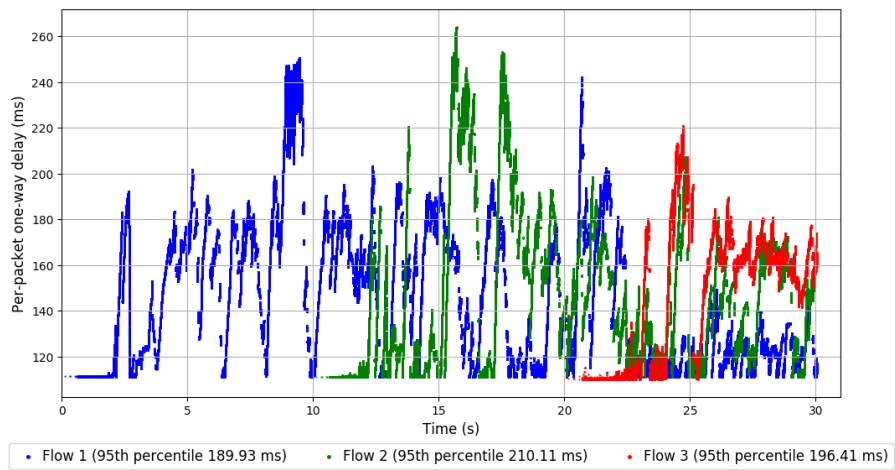
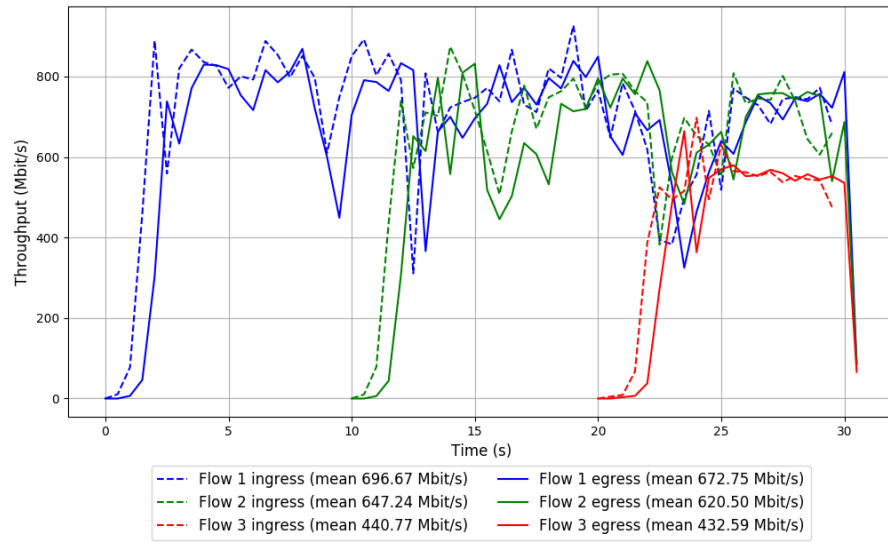


Run 5: Statistics of FillP

Start at: 2018-10-09 23:58:41
End at: 2018-10-09 23:59:11
Local clock offset: 1.34 ms
Remote clock offset: -0.333 ms

Below is generated by plot.py at 2018-10-10 01:02:40
Datalink statistics
-- Total of 3 flows:
Average throughput: 1228.58 Mbit/s
95th percentile per-packet one-way delay: 194.255 ms
Loss rate: 3.48%
-- Flow 1:
Average throughput: 672.75 Mbit/s
95th percentile per-packet one-way delay: 189.925 ms
Loss rate: 3.43%
-- Flow 2:
Average throughput: 620.50 Mbit/s
95th percentile per-packet one-way delay: 210.107 ms
Loss rate: 4.13%
-- Flow 3:
Average throughput: 432.59 Mbit/s
95th percentile per-packet one-way delay: 196.415 ms
Loss rate: 1.82%

Run 5: Report of FillP — Data Link

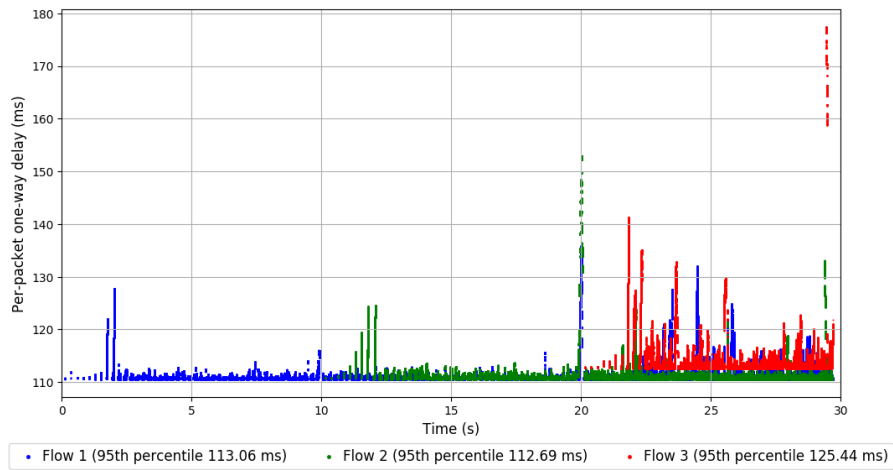
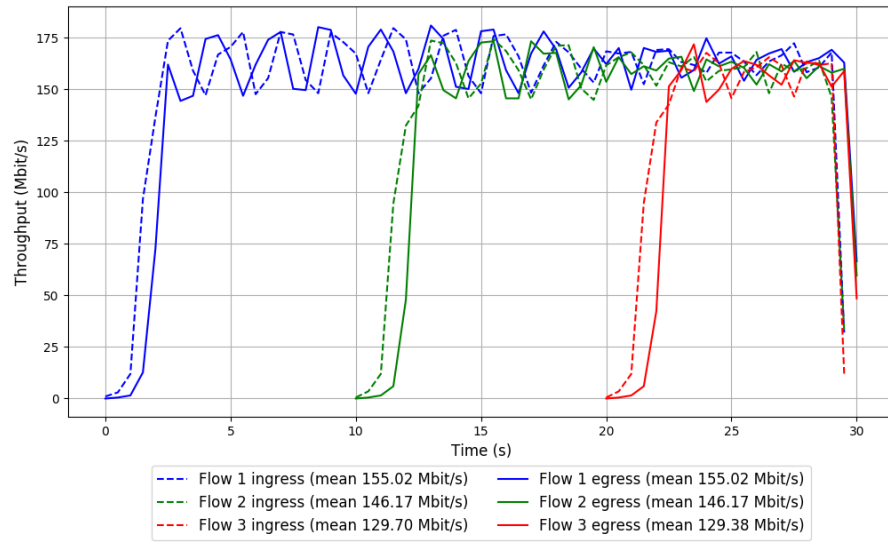


Run 1: Statistics of Indigo

Start at: 2018-10-09 21:35:24
End at: 2018-10-09 21:35:54
Local clock offset: -0.019 ms
Remote clock offset: -0.484 ms

Below is generated by plot.py at 2018-10-10 01:02:40
Datalink statistics
-- Total of 3 flows:
Average throughput: 293.27 Mbit/s
95th percentile per-packet one-way delay: 115.583 ms
Loss rate: 0.04%
-- Flow 1:
Average throughput: 155.02 Mbit/s
95th percentile per-packet one-way delay: 113.059 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 146.17 Mbit/s
95th percentile per-packet one-way delay: 112.688 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 129.38 Mbit/s
95th percentile per-packet one-way delay: 125.439 ms
Loss rate: 0.25%

Run 1: Report of Indigo — Data Link

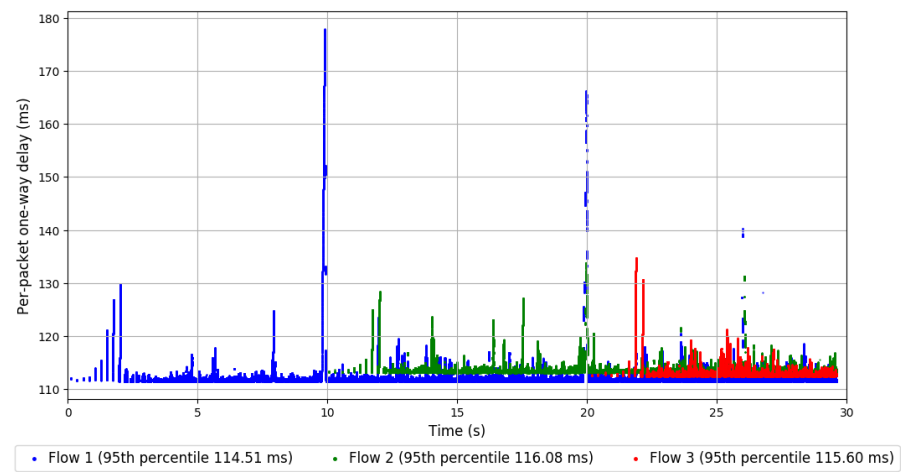
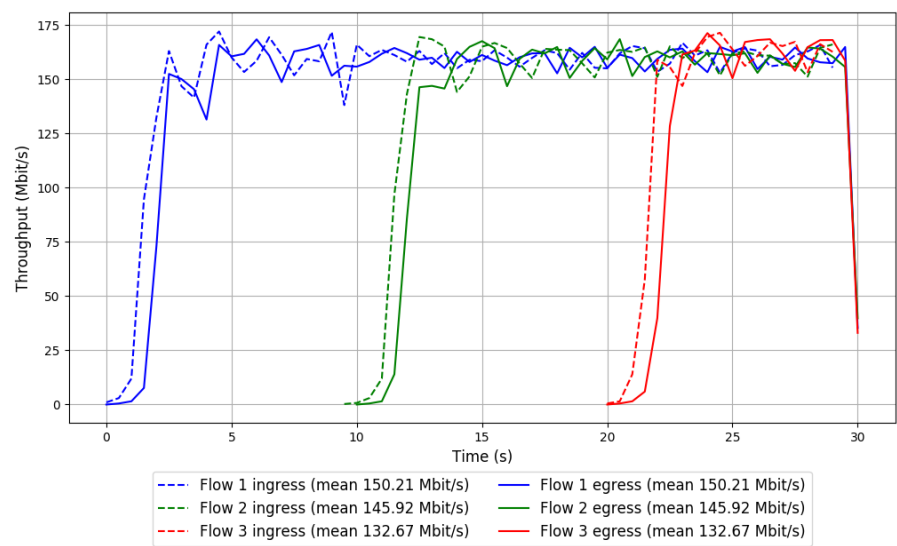


Run 2: Statistics of Indigo

Start at: 2018-10-09 22:06:25
End at: 2018-10-09 22:06:55
Local clock offset: -0.803 ms
Remote clock offset: -0.255 ms

Below is generated by plot.py at 2018-10-10 01:02:40
Datalink statistics
-- Total of 3 flows:
Average throughput: 289.30 Mbit/s
95th percentile per-packet one-way delay: 115.208 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 150.21 Mbit/s
95th percentile per-packet one-way delay: 114.512 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 145.92 Mbit/s
95th percentile per-packet one-way delay: 116.082 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 132.67 Mbit/s
95th percentile per-packet one-way delay: 115.596 ms
Loss rate: 0.00%

Run 2: Report of Indigo — Data Link

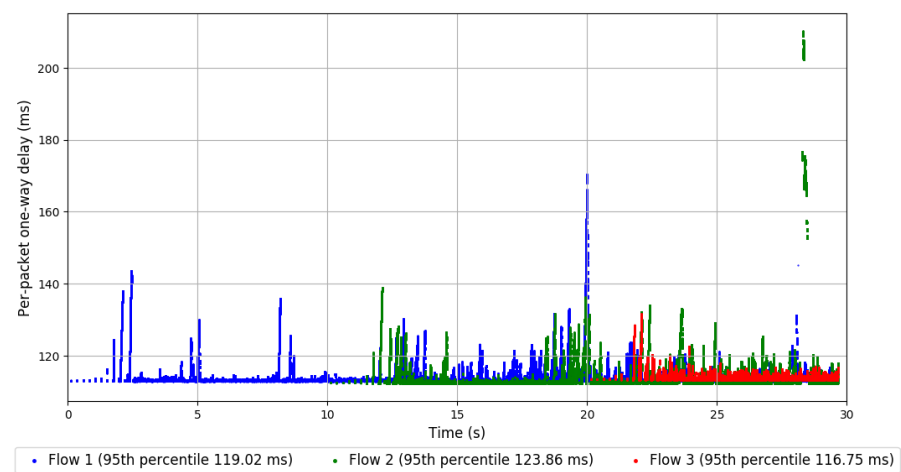
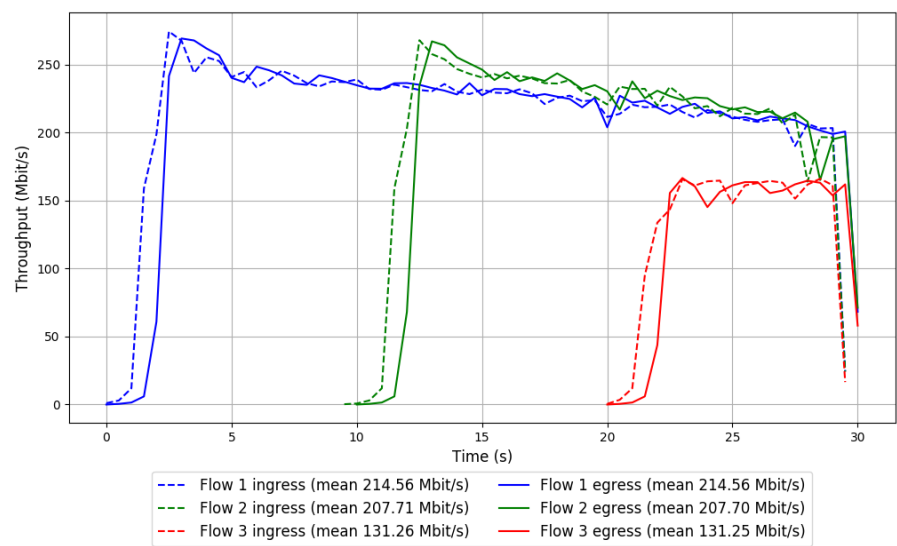


Run 3: Statistics of Indigo

Start at: 2018-10-09 22:37:25
End at: 2018-10-09 22:37:55
Local clock offset: -0.519 ms
Remote clock offset: -0.165 ms

Below is generated by plot.py at 2018-10-10 01:02:40
Datalink statistics
-- Total of 3 flows:
Average throughput: 394.32 Mbit/s
95th percentile per-packet one-way delay: 120.655 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 214.56 Mbit/s
95th percentile per-packet one-way delay: 119.018 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 207.70 Mbit/s
95th percentile per-packet one-way delay: 123.856 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 131.25 Mbit/s
95th percentile per-packet one-way delay: 116.754 ms
Loss rate: 0.00%

Run 3: Report of Indigo — Data Link

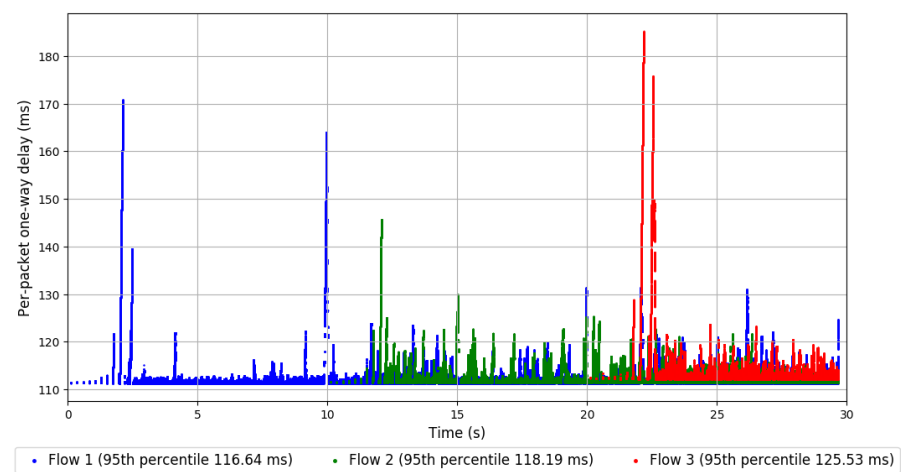
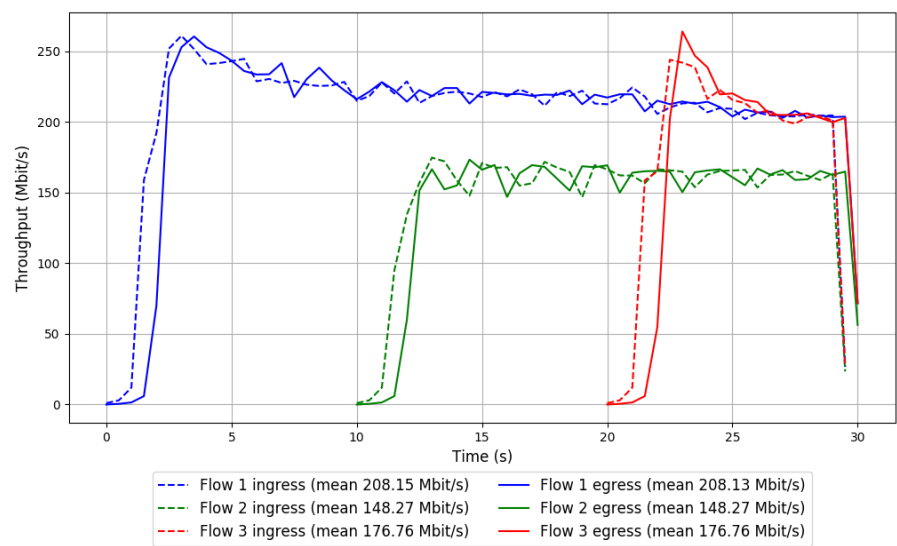


Run 4: Statistics of Indigo

Start at: 2018-10-09 23:08:36
End at: 2018-10-09 23:09:06
Local clock offset: 0.384 ms
Remote clock offset: -0.181 ms

Below is generated by plot.py at 2018-10-10 01:02:40
Datalink statistics
-- Total of 3 flows:
Average throughput: 363.37 Mbit/s
95th percentile per-packet one-way delay: 117.959 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 208.13 Mbit/s
95th percentile per-packet one-way delay: 116.638 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 148.27 Mbit/s
95th percentile per-packet one-way delay: 118.192 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 176.76 Mbit/s
95th percentile per-packet one-way delay: 125.525 ms
Loss rate: 0.00%

Run 4: Report of Indigo — Data Link



Run 5: Statistics of Indigo

Start at: 2018-10-09 23:39:45

End at: 2018-10-09 23:40:15

Local clock offset: 0.196 ms

Remote clock offset: -0.26 ms

Below is generated by plot.py at 2018-10-10 01:02:40

Datalink statistics

-- Total of 3 flows:

Average throughput: 310.28 Mbit/s

95th percentile per-packet one-way delay: 118.949 ms

Loss rate: 0.01%

-- Flow 1:

Average throughput: 151.28 Mbit/s

95th percentile per-packet one-way delay: 117.544 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 147.19 Mbit/s

95th percentile per-packet one-way delay: 119.944 ms

Loss rate: 0.00%

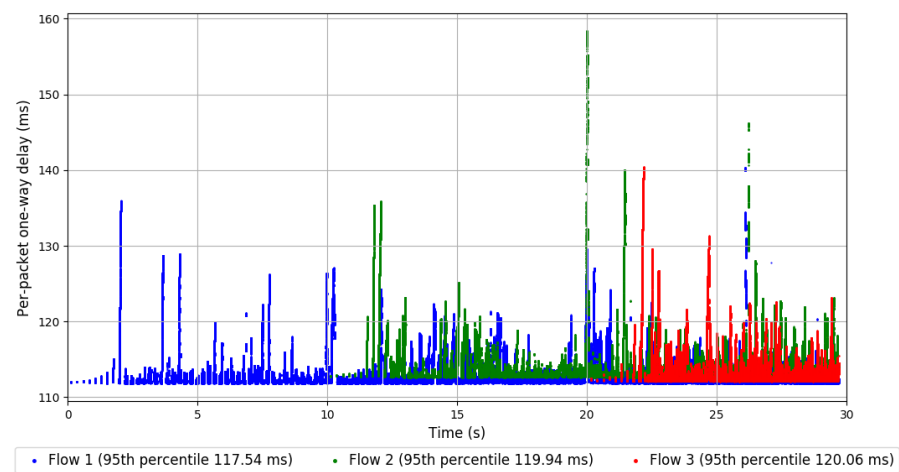
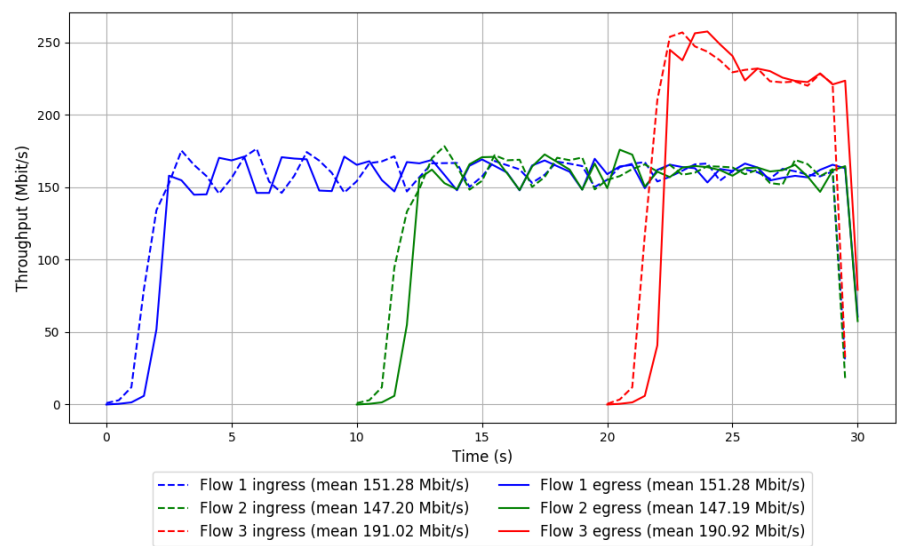
-- Flow 3:

Average throughput: 190.92 Mbit/s

95th percentile per-packet one-way delay: 120.060 ms

Loss rate: 0.03%

Run 5: Report of Indigo — Data Link

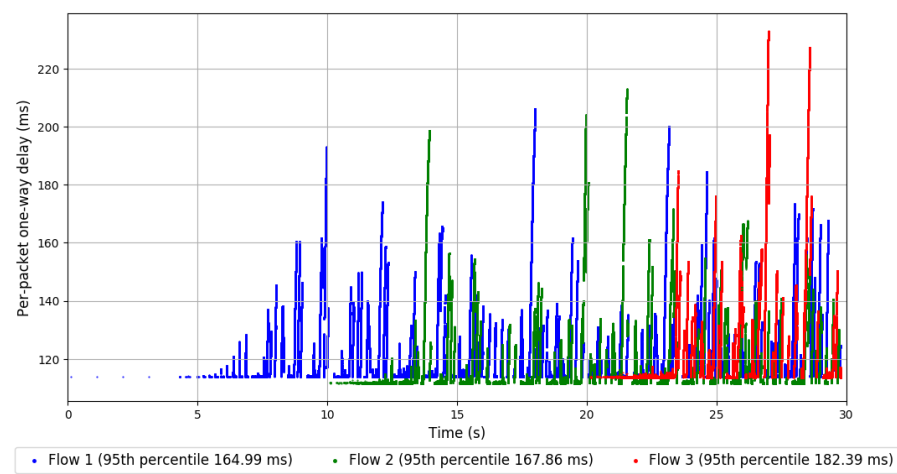
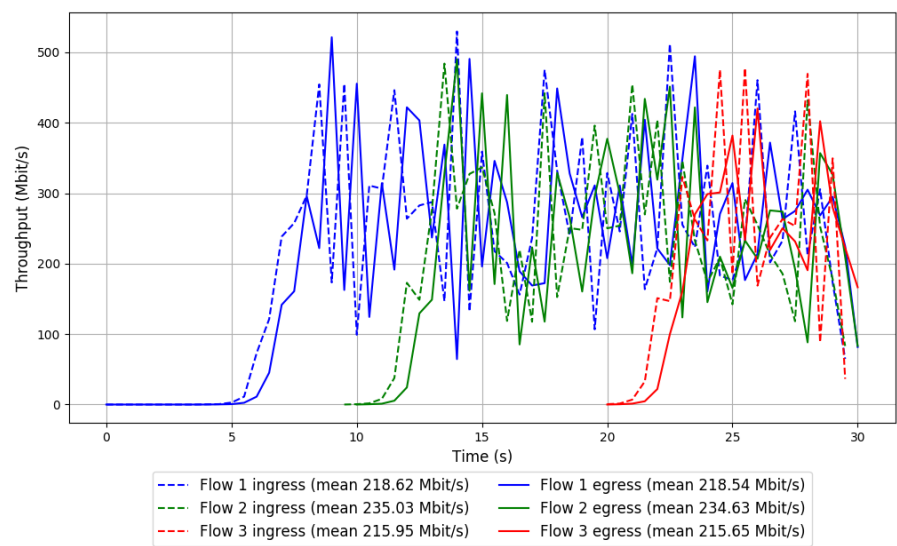


Run 1: Statistics of Indigo-96d2da3

Start at: 2018-10-09 21:28:24
End at: 2018-10-09 21:28:54
Local clock offset: -1.009 ms
Remote clock offset: -0.482 ms

Below is generated by plot.py at 2018-10-10 01:02:40
Datalink statistics
-- Total of 3 flows:
Average throughput: 443.55 Mbit/s
95th percentile per-packet one-way delay: 168.578 ms
Loss rate: 0.06%
-- Flow 1:
Average throughput: 218.54 Mbit/s
95th percentile per-packet one-way delay: 164.994 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 234.63 Mbit/s
95th percentile per-packet one-way delay: 167.860 ms
Loss rate: 0.11%
-- Flow 3:
Average throughput: 215.65 Mbit/s
95th percentile per-packet one-way delay: 182.389 ms
Loss rate: 0.13%

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



Run 2: Statistics of Indigo-96d2da3

Start at: 2018-10-09 21:59:12

End at: 2018-10-09 21:59:42

Local clock offset: 0.855 ms

Remote clock offset: 0.206 ms

Below is generated by plot.py at 2018-10-10 01:02:40

Datalink statistics

-- Total of 3 flows:

Average throughput: 485.35 Mbit/s

95th percentile per-packet one-way delay: 180.990 ms

Loss rate: 0.83%

-- Flow 1:

Average throughput: 271.48 Mbit/s

95th percentile per-packet one-way delay: 177.839 ms

Loss rate: 0.59%

-- Flow 2:

Average throughput: 222.96 Mbit/s

95th percentile per-packet one-way delay: 170.392 ms

Loss rate: 0.99%

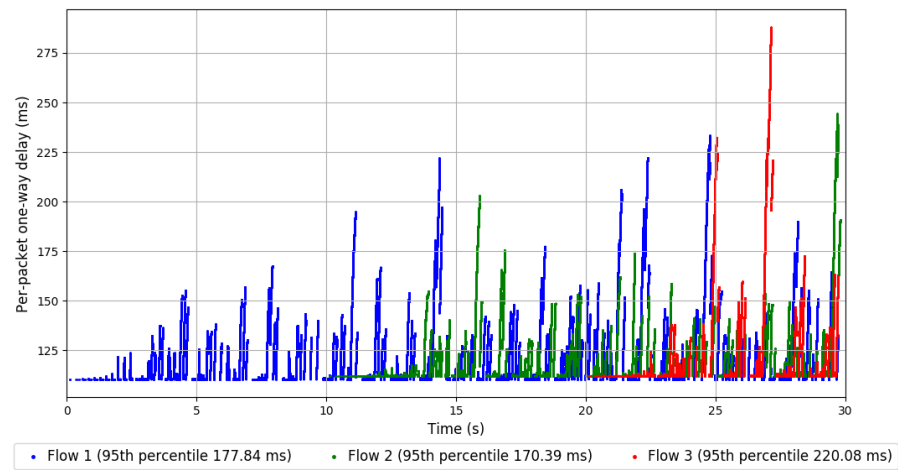
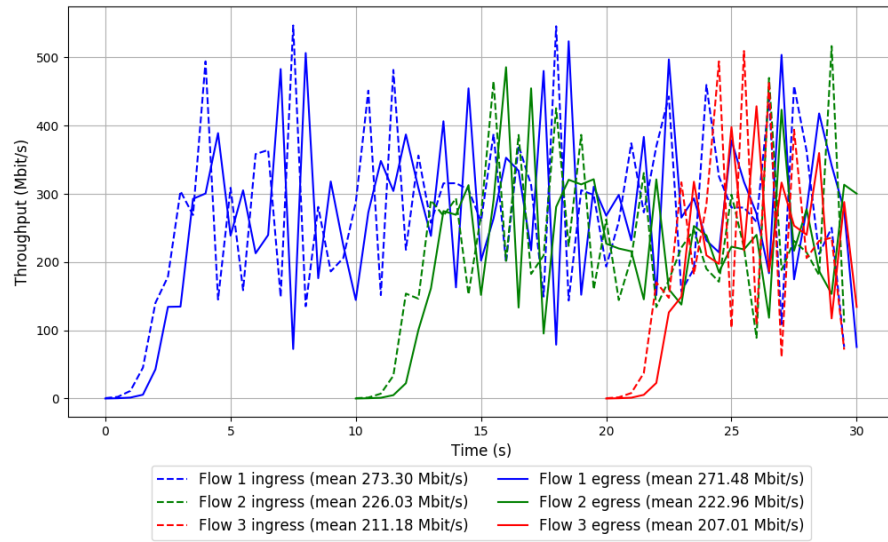
-- Flow 3:

Average throughput: 207.01 Mbit/s

95th percentile per-packet one-way delay: 220.084 ms

Loss rate: 1.46%

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

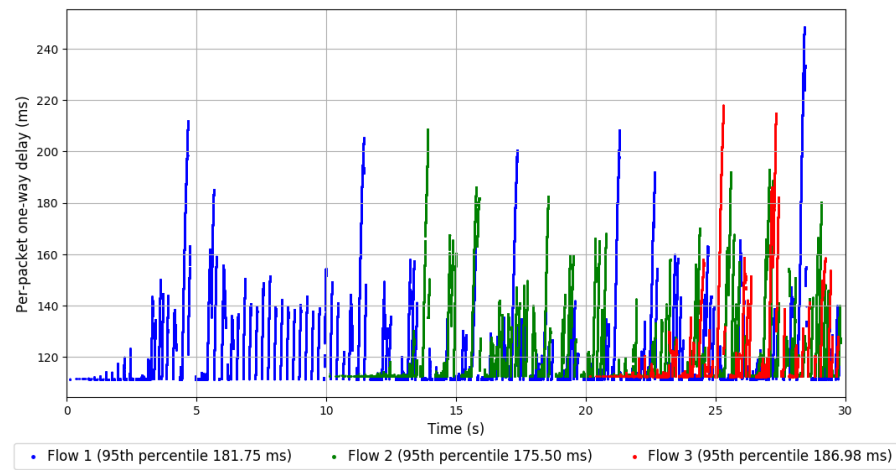
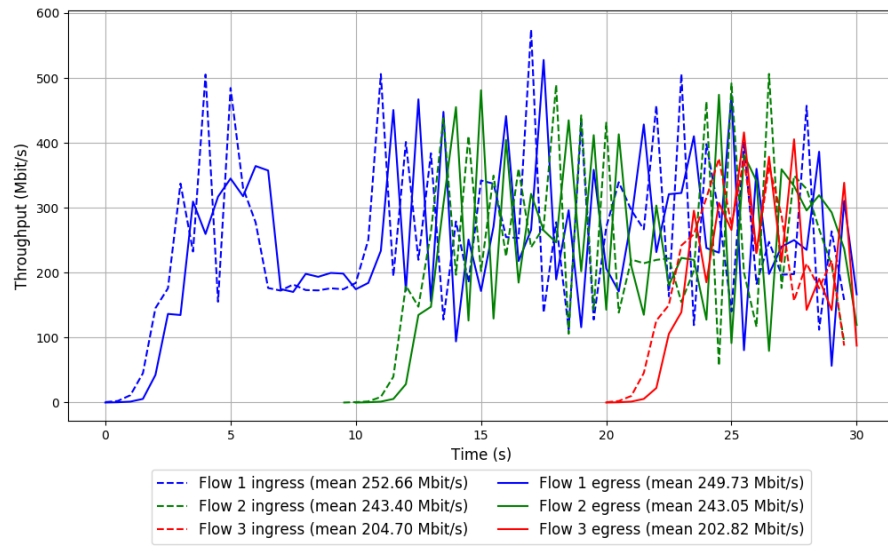


Run 3: Statistics of Indigo-96d2da3

Start at: 2018-10-09 22:30:25
End at: 2018-10-09 22:30:55
Local clock offset: -0.513 ms
Remote clock offset: -0.198 ms

Below is generated by plot.py at 2018-10-10 01:03:48
Datalink statistics
-- Total of 3 flows:
Average throughput: 476.04 Mbit/s
95th percentile per-packet one-way delay: 179.767 ms
Loss rate: 0.72%
-- Flow 1:
Average throughput: 249.73 Mbit/s
95th percentile per-packet one-way delay: 181.755 ms
Loss rate: 1.09%
-- Flow 2:
Average throughput: 243.05 Mbit/s
95th percentile per-packet one-way delay: 175.500 ms
Loss rate: 0.14%
-- Flow 3:
Average throughput: 202.82 Mbit/s
95th percentile per-packet one-way delay: 186.981 ms
Loss rate: 0.76%

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

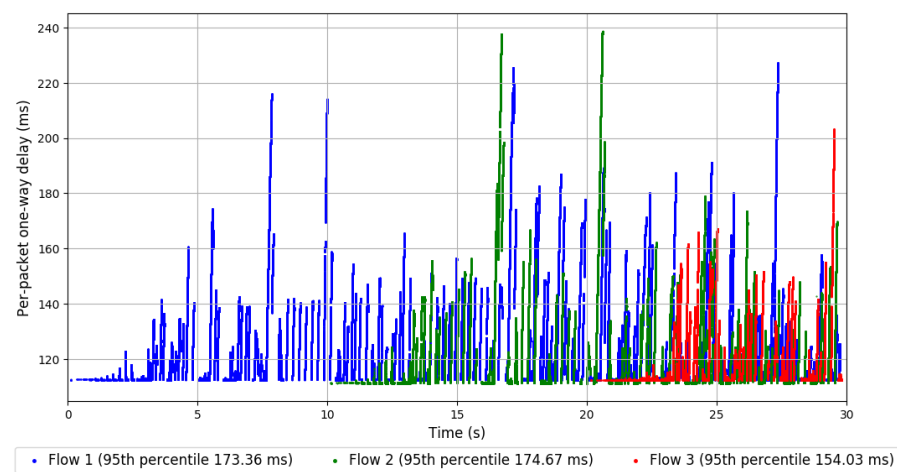
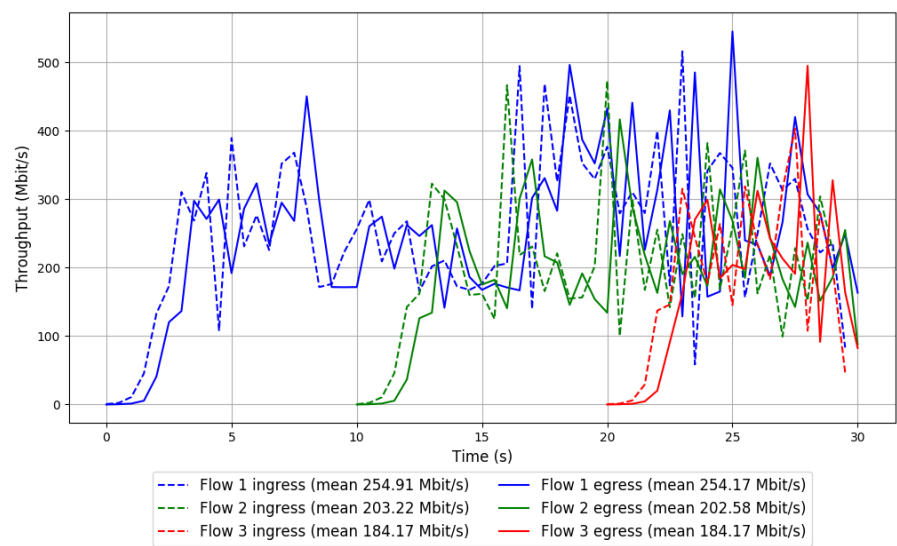


Run 4: Statistics of Indigo-96d2da3

Start at: 2018-10-09 23:01:38
End at: 2018-10-09 23:02:08
Local clock offset: 0.06 ms
Remote clock offset: -0.176 ms

Below is generated by plot.py at 2018-10-10 01:03:48
Datalink statistics
-- Total of 3 flows:
Average throughput: 446.53 Mbit/s
95th percentile per-packet one-way delay: 171.587 ms
Loss rate: 0.17%
-- Flow 1:
Average throughput: 254.17 Mbit/s
95th percentile per-packet one-way delay: 173.356 ms
Loss rate: 0.28%
-- Flow 2:
Average throughput: 202.58 Mbit/s
95th percentile per-packet one-way delay: 174.669 ms
Loss rate: 0.02%
-- Flow 3:
Average throughput: 184.17 Mbit/s
95th percentile per-packet one-way delay: 154.034 ms
Loss rate: 0.00%

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

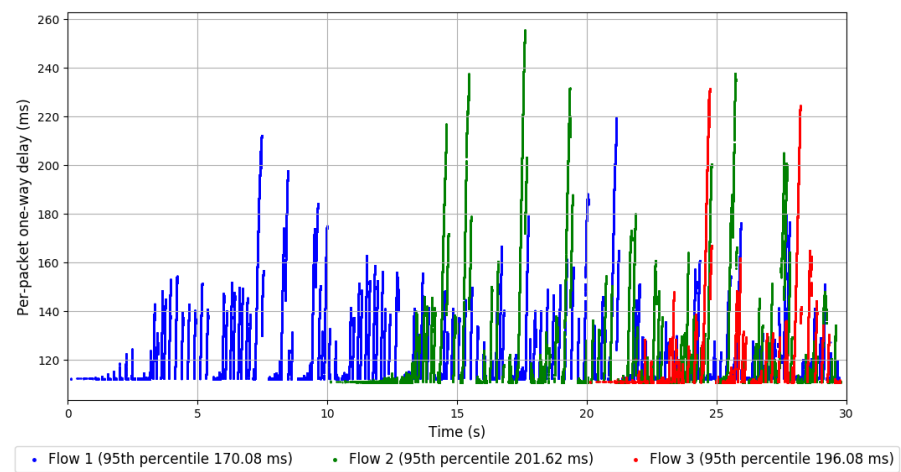
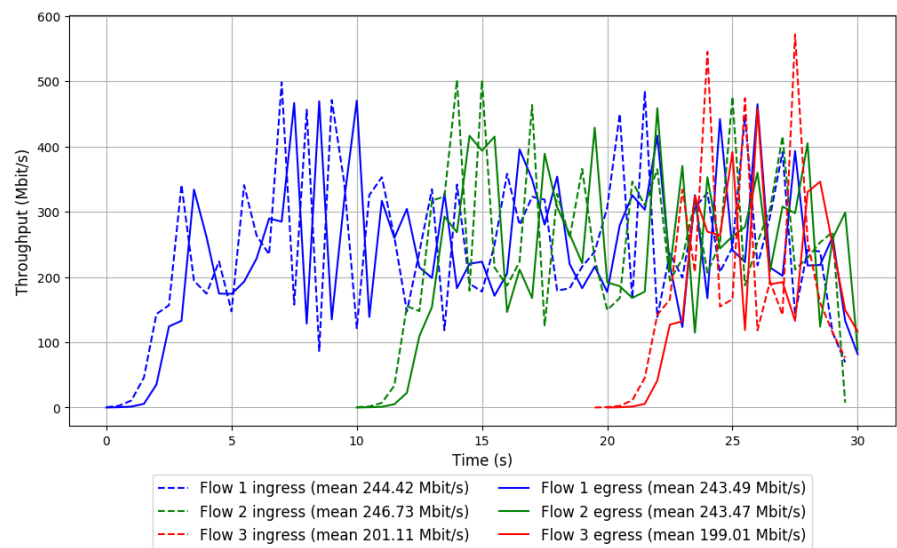


Run 5: Statistics of Indigo-96d2da3

Start at: 2018-10-09 23:32:49
End at: 2018-10-09 23:33:19
Local clock offset: 0.347 ms
Remote clock offset: -0.222 ms

Below is generated by plot.py at 2018-10-10 01:04:10
Datalink statistics
-- Total of 3 flows:
Average throughput: 469.07 Mbit/s
95th percentile per-packet one-way delay: 186.976 ms
Loss rate: 0.80%
-- Flow 1:
Average throughput: 243.49 Mbit/s
95th percentile per-packet one-way delay: 170.076 ms
Loss rate: 0.38%
-- Flow 2:
Average throughput: 243.47 Mbit/s
95th percentile per-packet one-way delay: 201.620 ms
Loss rate: 1.32%
-- Flow 3:
Average throughput: 199.01 Mbit/s
95th percentile per-packet one-way delay: 196.083 ms
Loss rate: 1.04%

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

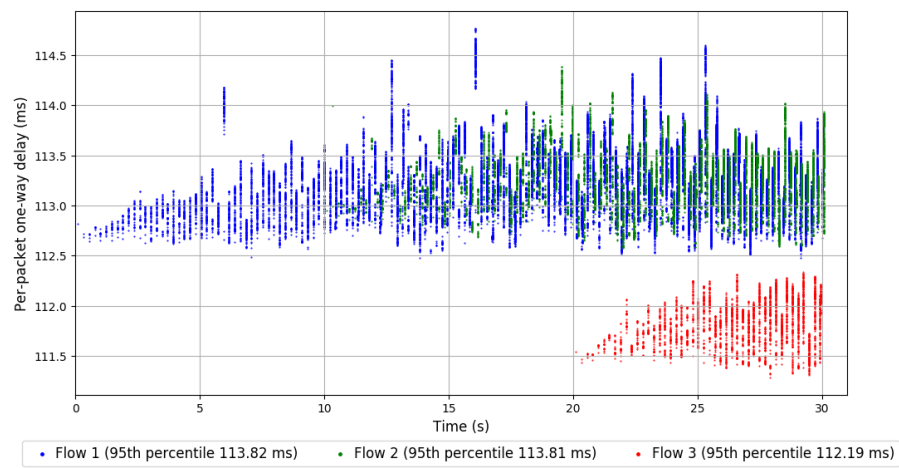
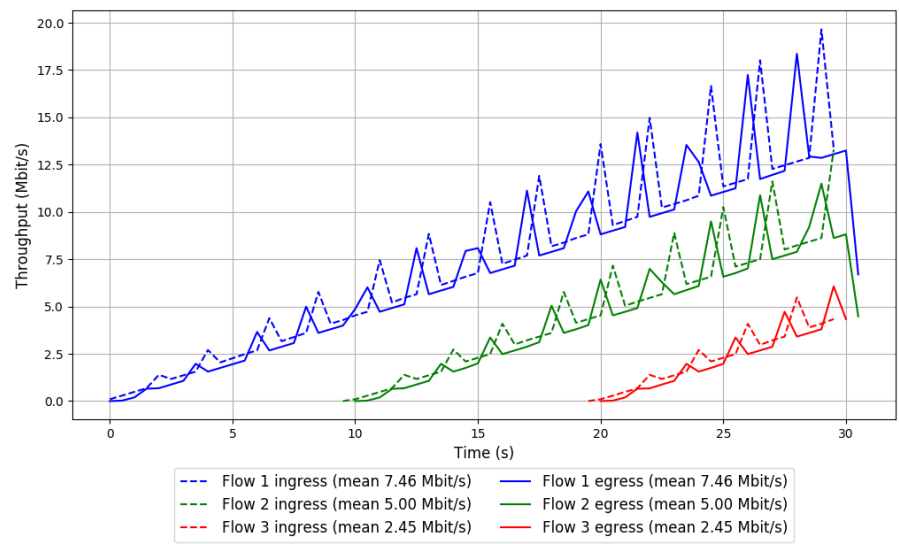


```
Run 1: Statistics of LEDBAT

Start at: 2018-10-09 21:32:08
End at: 2018-10-09 21:32:38
Local clock offset: 0.037 ms
Remote clock offset: -0.477 ms

# Below is generated by plot.py at 2018-10-10 01:04:10
# Datalink statistics
-- Total of 3 flows:
Average throughput: 11.58 Mbit/s
95th percentile per-packet one-way delay: 113.803 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 7.46 Mbit/s
95th percentile per-packet one-way delay: 113.823 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 5.00 Mbit/s
95th percentile per-packet one-way delay: 113.815 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 2.45 Mbit/s
95th percentile per-packet one-way delay: 112.190 ms
Loss rate: 0.00%
```

Run 1: Report of LEDBAT — Data Link



Run 2: Statistics of LEDBAT

Start at: 2018-10-09 22:03:08

End at: 2018-10-09 22:03:38

Local clock offset: 0.109 ms

Remote clock offset: -0.57 ms

Below is generated by plot.py at 2018-10-10 01:04:10

Datalink statistics

-- Total of 3 flows:

Average throughput: 11.46 Mbit/s

95th percentile per-packet one-way delay: 113.294 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 7.37 Mbit/s

95th percentile per-packet one-way delay: 113.399 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 5.00 Mbit/s

95th percentile per-packet one-way delay: 113.079 ms

Loss rate: 0.00%

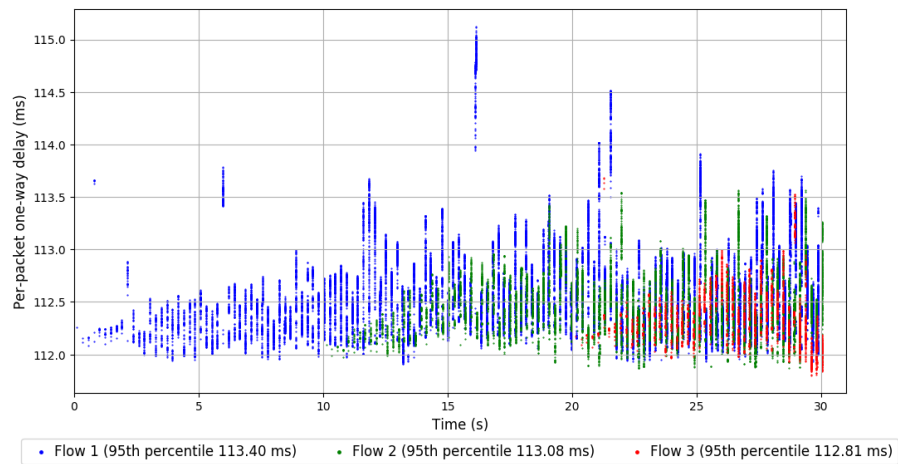
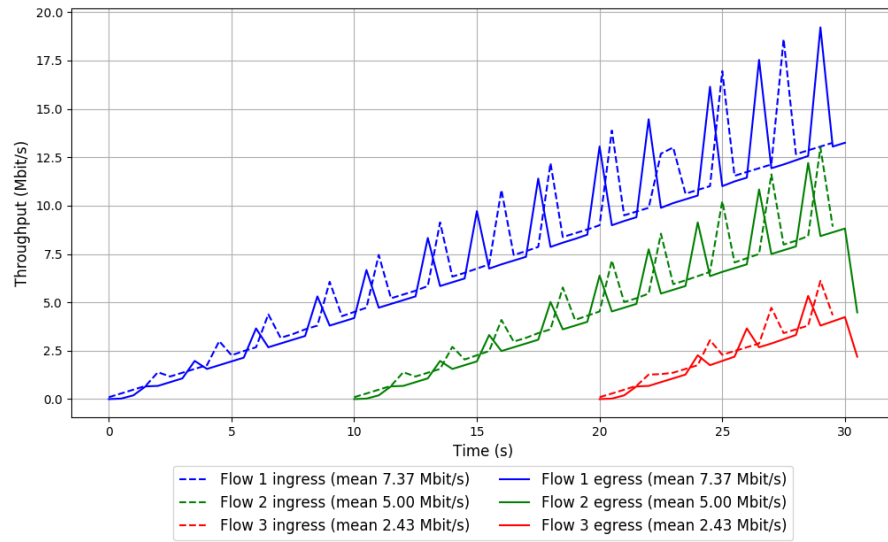
-- Flow 3:

Average throughput: 2.43 Mbit/s

95th percentile per-packet one-way delay: 112.812 ms

Loss rate: 0.00%

Run 2: Report of LEDBAT — Data Link

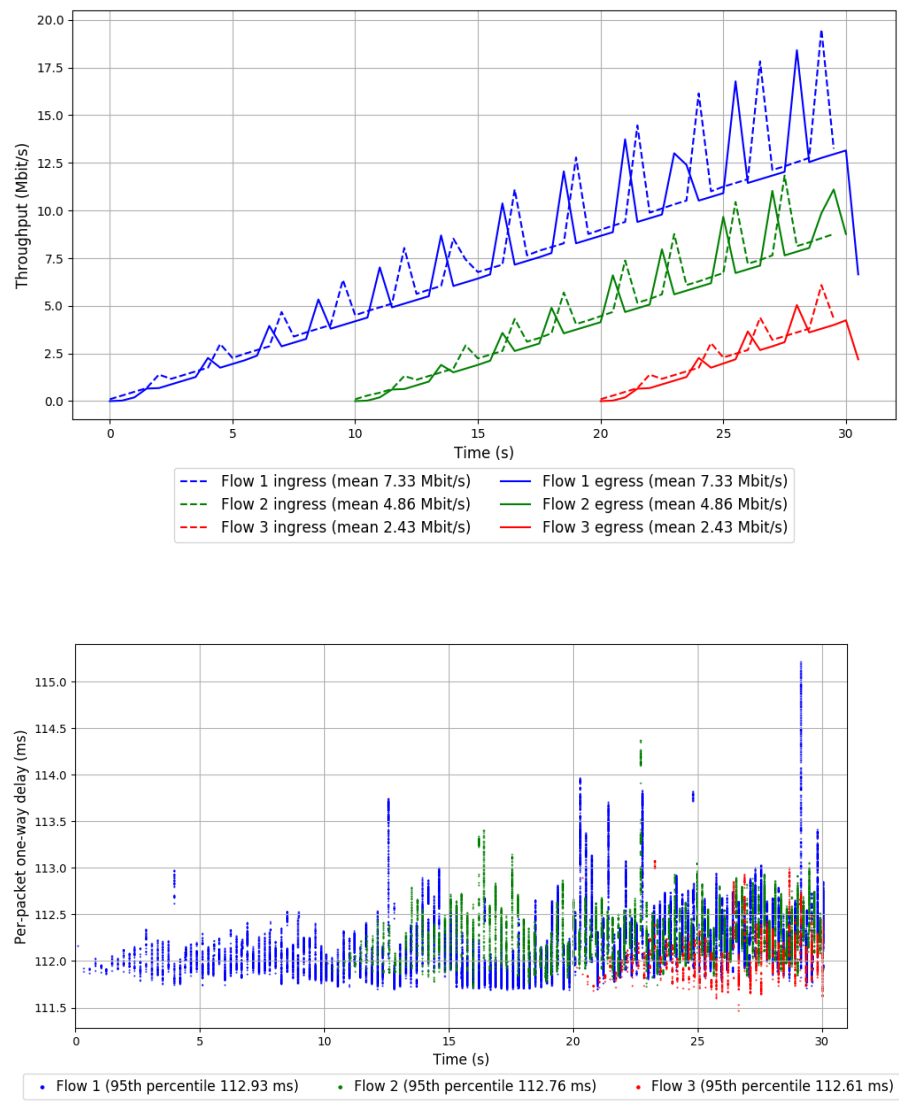


Run 3: Statistics of LEDBAT

Start at: 2018-10-09 22:34:06
End at: 2018-10-09 22:34:36
Local clock offset: -0.414 ms
Remote clock offset: -0.588 ms

Below is generated by plot.py at 2018-10-10 01:04:10
Datalink statistics
-- Total of 3 flows:
Average throughput: 11.35 Mbit/s
95th percentile per-packet one-way delay: 112.837 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 7.33 Mbit/s
95th percentile per-packet one-way delay: 112.929 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 4.86 Mbit/s
95th percentile per-packet one-way delay: 112.762 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 2.43 Mbit/s
95th percentile per-packet one-way delay: 112.610 ms
Loss rate: 0.00%

Run 3: Report of LEDBAT — Data Link

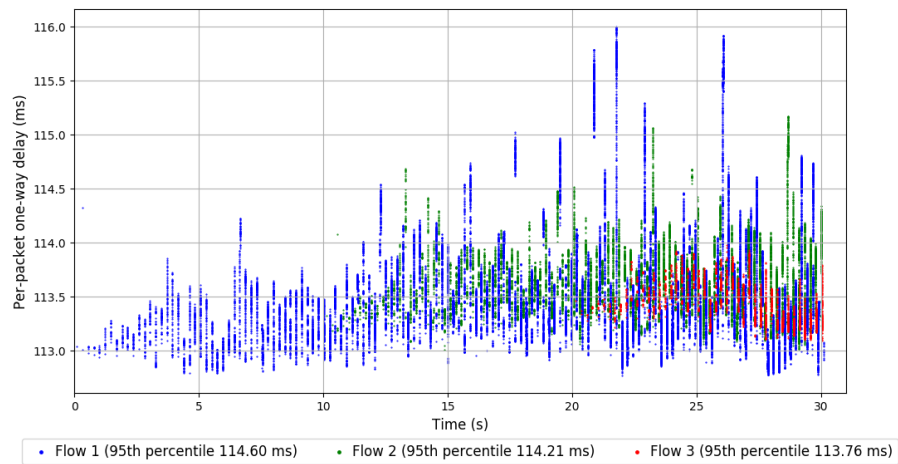
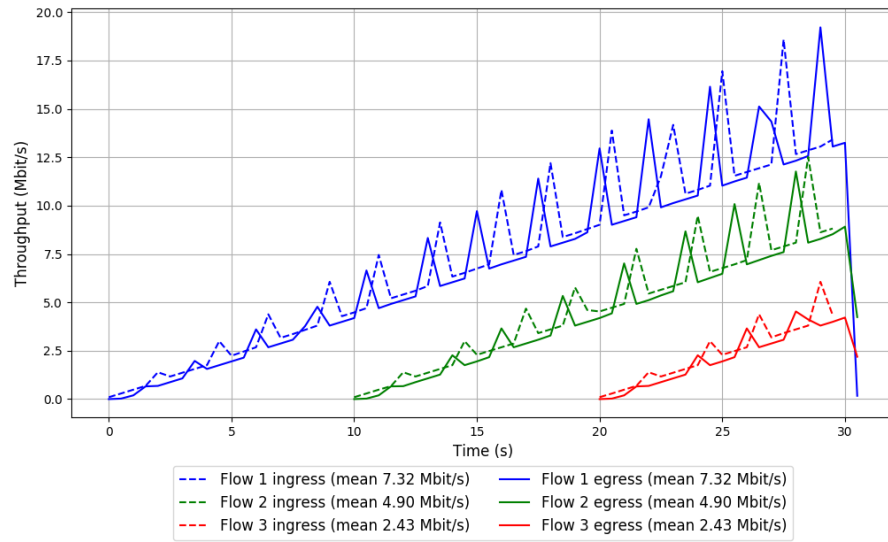


Run 4: Statistics of LEDBAT

Start at: 2018-10-09 23:05:18
End at: 2018-10-09 23:05:48
Local clock offset: -0.965 ms
Remote clock offset: -0.538 ms

Below is generated by plot.py at 2018-10-10 01:04:10
Datalink statistics
-- Total of 3 flows:
Average throughput: 11.37 Mbit/s
95th percentile per-packet one-way delay: 114.465 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 7.32 Mbit/s
95th percentile per-packet one-way delay: 114.604 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 4.90 Mbit/s
95th percentile per-packet one-way delay: 114.214 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 2.43 Mbit/s
95th percentile per-packet one-way delay: 113.758 ms
Loss rate: 0.00%

Run 4: Report of LEDBAT — Data Link



Run 5: Statistics of LEDBAT

Start at: 2018-10-09 23:36:31

End at: 2018-10-09 23:37:01

Local clock offset: -0.116 ms

Remote clock offset: -0.3 ms

Below is generated by plot.py at 2018-10-10 01:04:10

Datalink statistics

-- Total of 3 flows:

Average throughput: 11.58 Mbit/s

95th percentile per-packet one-way delay: 113.259 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 7.59 Mbit/s

95th percentile per-packet one-way delay: 112.297 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 4.87 Mbit/s

95th percentile per-packet one-way delay: 113.495 ms

Loss rate: 0.00%

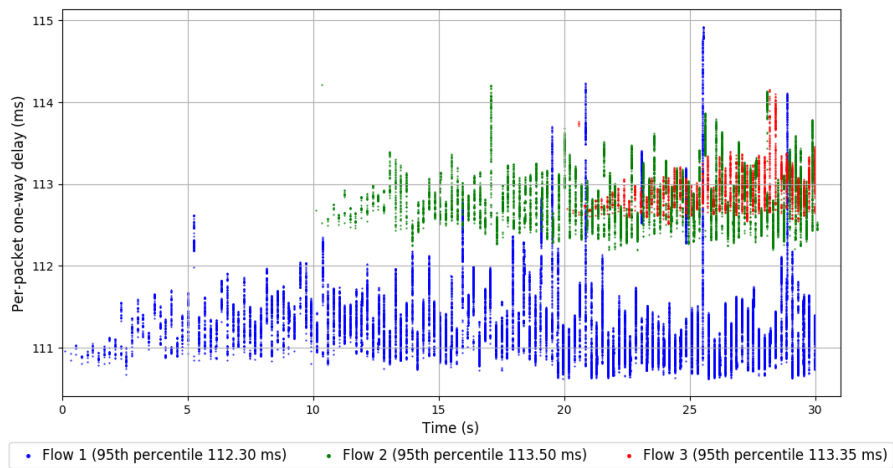
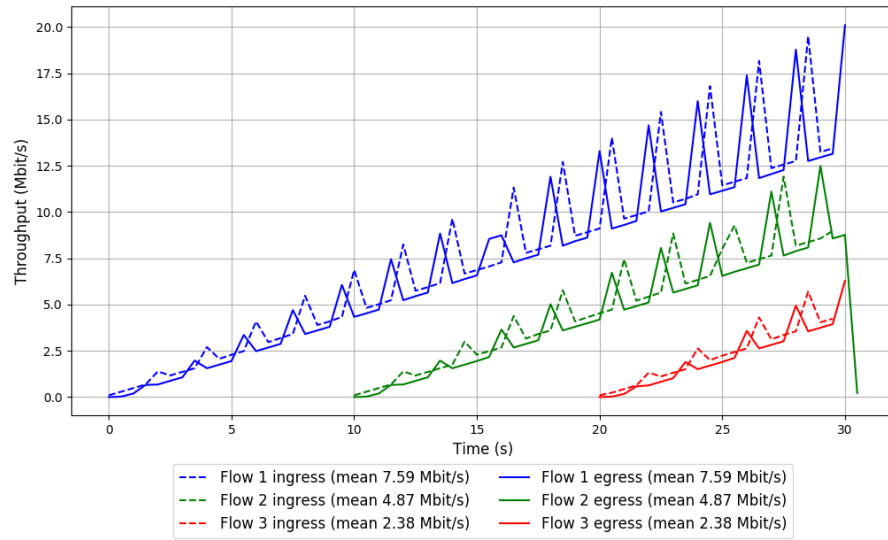
-- Flow 3:

Average throughput: 2.38 Mbit/s

95th percentile per-packet one-way delay: 113.346 ms

Loss rate: 0.00%

Run 5: Report of LEDBAT — Data Link

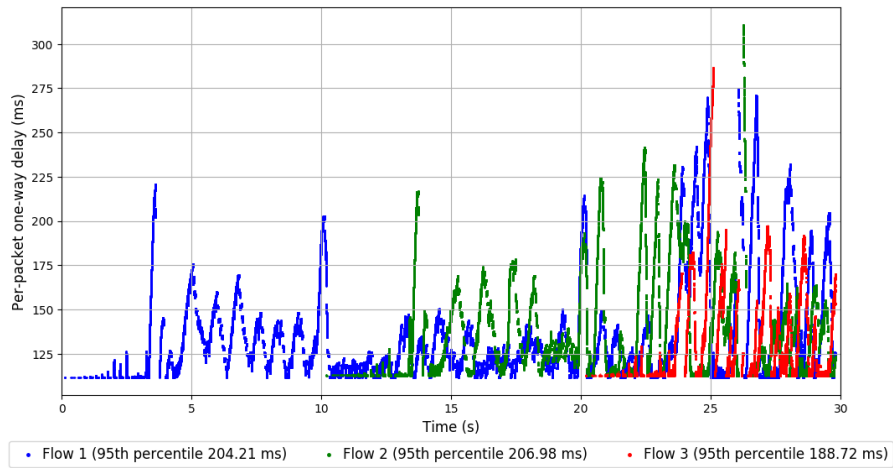
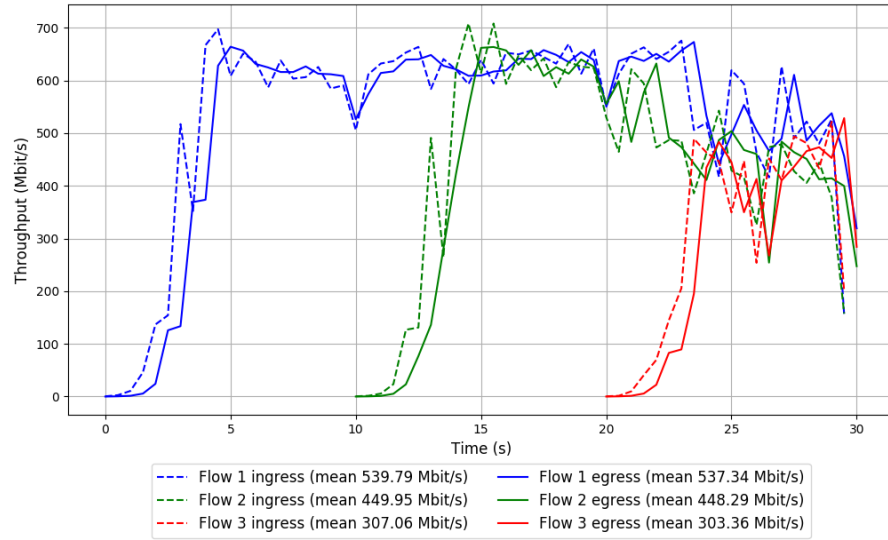


Run 1: Statistics of Indigo-Muses

Start at: 2018-10-09 21:48:13
End at: 2018-10-09 21:48:43
Local clock offset: 0.226 ms
Remote clock offset: -0.125 ms

Below is generated by plot.py at 2018-10-10 01:13:23
Datalink statistics
-- Total of 3 flows:
Average throughput: 931.91 Mbit/s
95th percentile per-packet one-way delay: 203.308 ms
Loss rate: 0.50%
-- Flow 1:
Average throughput: 537.34 Mbit/s
95th percentile per-packet one-way delay: 204.212 ms
Loss rate: 0.44%
-- Flow 2:
Average throughput: 448.29 Mbit/s
95th percentile per-packet one-way delay: 206.980 ms
Loss rate: 0.37%
-- Flow 3:
Average throughput: 303.36 Mbit/s
95th percentile per-packet one-way delay: 188.723 ms
Loss rate: 1.21%

Run 1: Report of Indigo-Muses — Data Link



Run 2: Statistics of Indigo-Muses

Start at: 2018-10-09 22:19:34

End at: 2018-10-09 22:20:04

Local clock offset: -0.123 ms

Remote clock offset: -0.27 ms

Below is generated by plot.py at 2018-10-10 01:13:24

Datalink statistics

-- Total of 3 flows:

Average throughput: 837.44 Mbit/s

95th percentile per-packet one-way delay: 186.317 ms

Loss rate: 0.42%

-- Flow 1:

Average throughput: 470.13 Mbit/s

95th percentile per-packet one-way delay: 180.246 ms

Loss rate: 0.08%

-- Flow 2:

Average throughput: 428.26 Mbit/s

95th percentile per-packet one-way delay: 196.875 ms

Loss rate: 0.29%

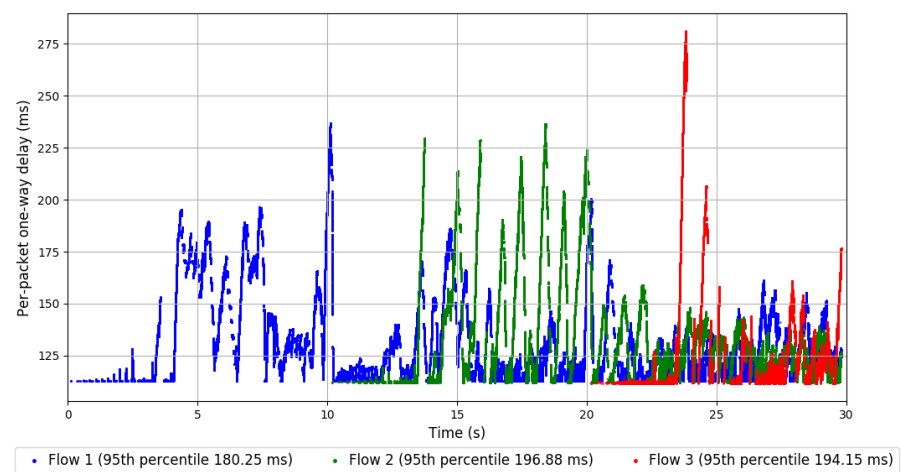
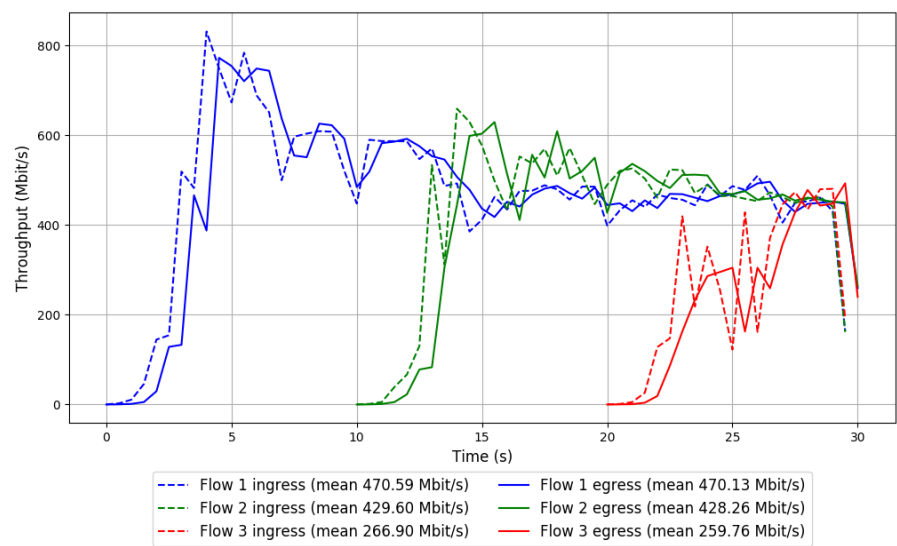
-- Flow 3:

Average throughput: 259.76 Mbit/s

95th percentile per-packet one-way delay: 194.153 ms

Loss rate: 2.66%

Run 2: Report of Indigo-Muses — Data Link

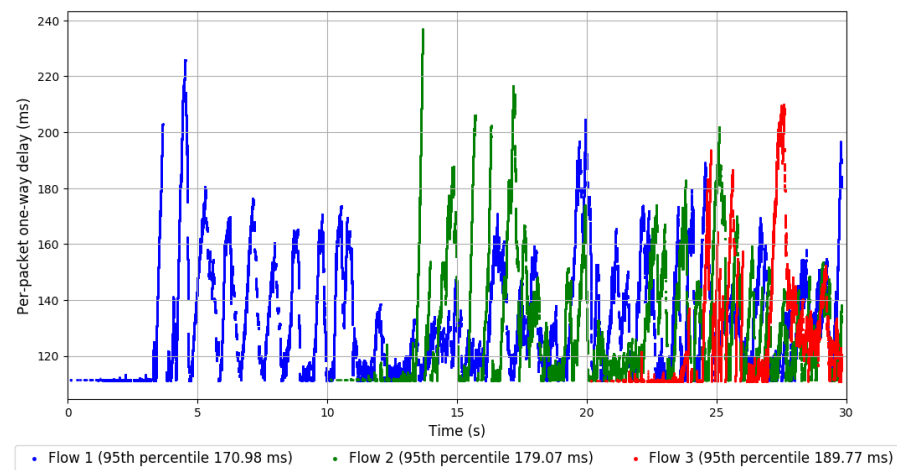
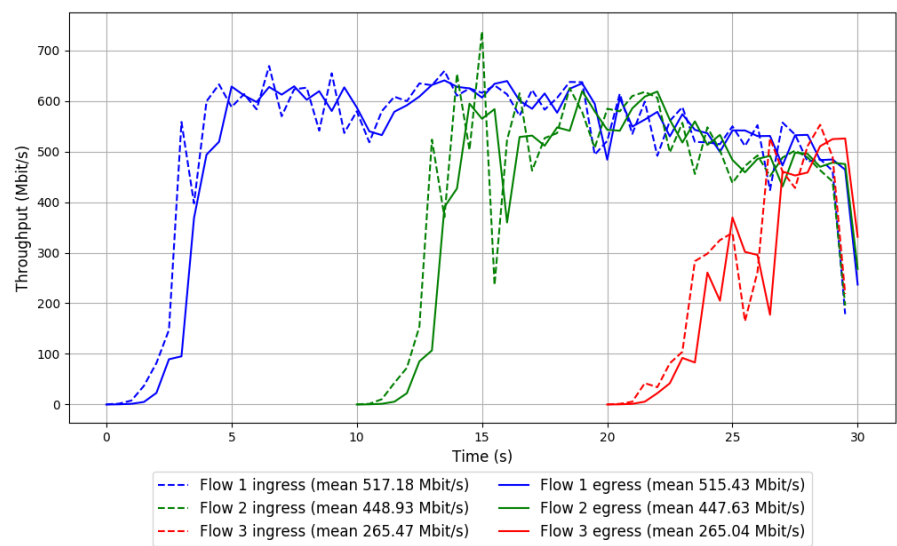


Run 3: Statistics of Indigo-Muses

Start at: 2018-10-09 22:50:48
End at: 2018-10-09 22:51:18
Local clock offset: 0.041 ms
Remote clock offset: -0.557 ms

Below is generated by plot.py at 2018-10-10 01:13:24
Datalink statistics
-- Total of 3 flows:
Average throughput: 898.23 Mbit/s
95th percentile per-packet one-way delay: 175.278 ms
Loss rate: 0.30%
-- Flow 1:
Average throughput: 515.43 Mbit/s
95th percentile per-packet one-way delay: 170.981 ms
Loss rate: 0.33%
-- Flow 2:
Average throughput: 447.63 Mbit/s
95th percentile per-packet one-way delay: 179.068 ms
Loss rate: 0.28%
-- Flow 3:
Average throughput: 265.04 Mbit/s
95th percentile per-packet one-way delay: 189.766 ms
Loss rate: 0.13%

Run 3: Report of Indigo-Muses — Data Link

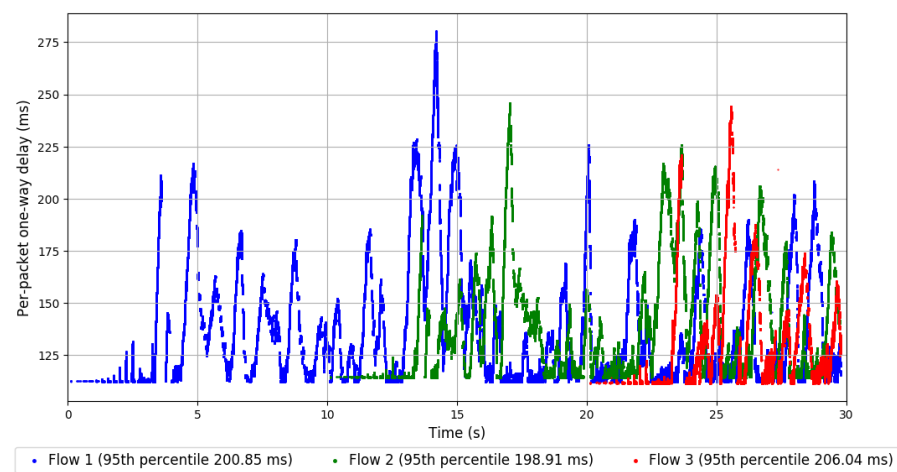
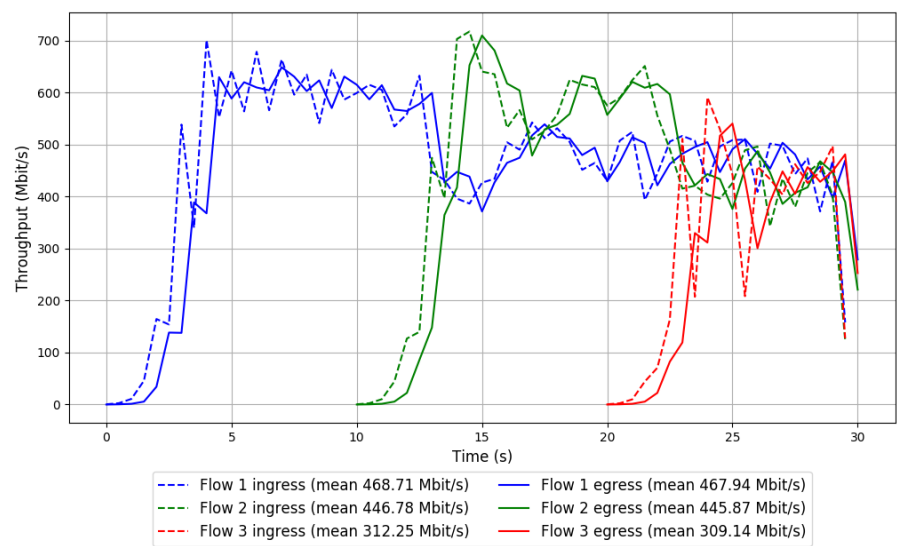


Run 4: Statistics of Indigo-Muses

Start at: 2018-10-09 23:21:58
End at: 2018-10-09 23:22:28
Local clock offset: -0.37 ms
Remote clock offset: -0.573 ms

```
# Below is generated by plot.py at 2018-10-10 01:15:54
# Datalink statistics
-- Total of 3 flows:
Average throughput: 864.17 Mbit/s
95th percentile per-packet one-way delay: 200.552 ms
Loss rate: 0.27%
-- Flow 1:
Average throughput: 467.94 Mbit/s
95th percentile per-packet one-way delay: 200.855 ms
Loss rate: 0.15%
-- Flow 2:
Average throughput: 445.87 Mbit/s
95th percentile per-packet one-way delay: 198.910 ms
Loss rate: 0.21%
-- Flow 3:
Average throughput: 309.14 Mbit/s
95th percentile per-packet one-way delay: 206.044 ms
Loss rate: 1.03%
```

Run 4: Report of Indigo-Muses — Data Link

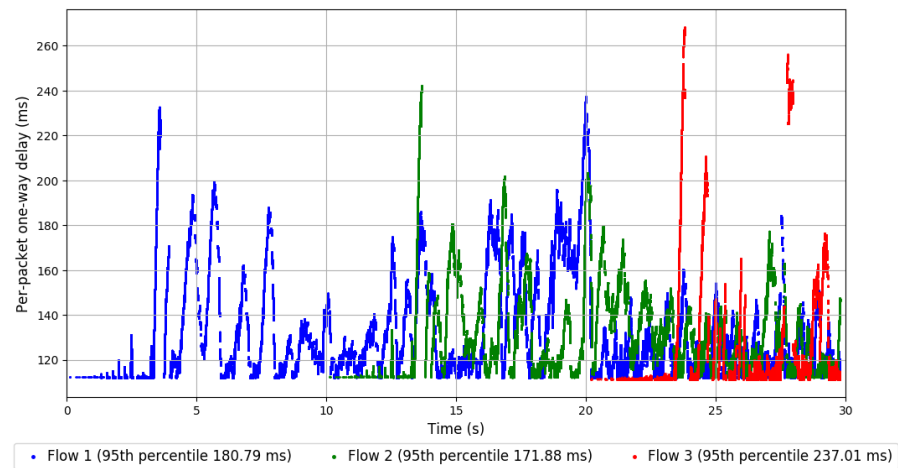
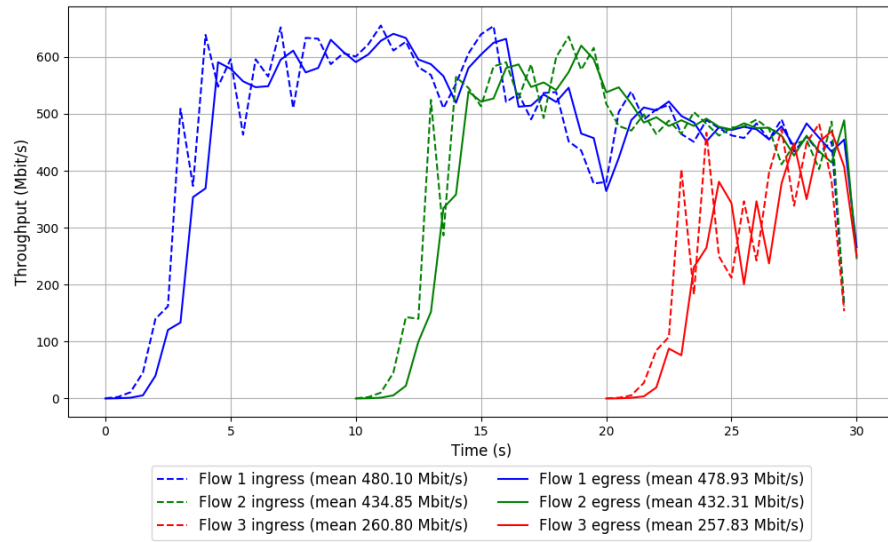


Run 5: Statistics of Indigo-Muses

Start at: 2018-10-09 23:52:59
End at: 2018-10-09 23:53:29
Local clock offset: -0.088 ms
Remote clock offset: -0.318 ms

Below is generated by plot.py at 2018-10-10 01:16:42
Datalink statistics
-- Total of 3 flows:
Average throughput: 848.72 Mbit/s
95th percentile per-packet one-way delay: 180.982 ms
Loss rate: 0.45%
-- Flow 1:
Average throughput: 478.93 Mbit/s
95th percentile per-packet one-way delay: 180.788 ms
Loss rate: 0.26%
-- Flow 2:
Average throughput: 432.31 Mbit/s
95th percentile per-packet one-way delay: 171.885 ms
Loss rate: 0.57%
-- Flow 3:
Average throughput: 257.83 Mbit/s
95th percentile per-packet one-way delay: 237.010 ms
Loss rate: 1.14%

Run 5: Report of Indigo-Muses — Data Link

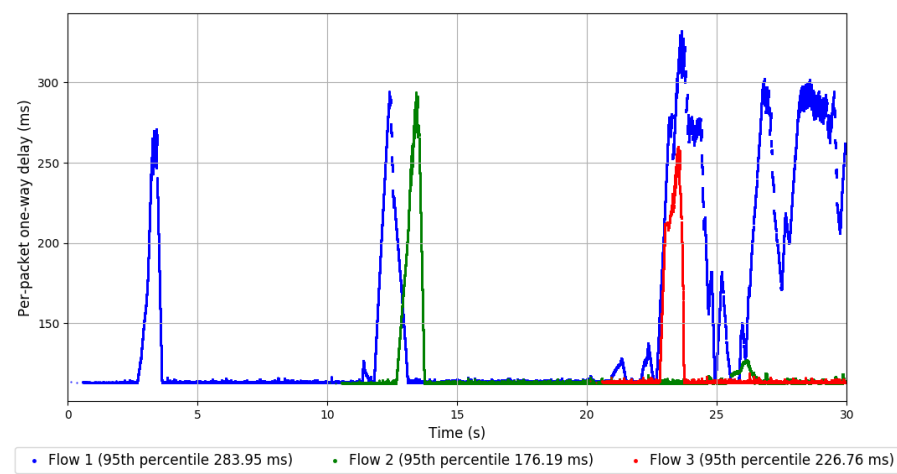
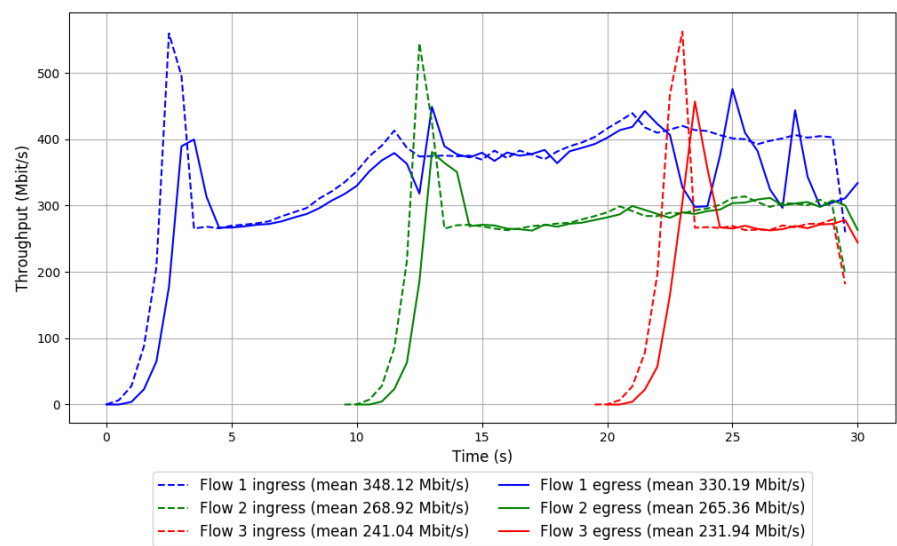



```
Run 1: Statistics of PCC-Allegro

Start at: 2018-10-09 21:33:25
End at: 2018-10-09 21:33:55
Local clock offset: 0.156 ms
Remote clock offset: 0.236 ms

# Below is generated by plot.py at 2018-10-10 01:22:08
# Datalink statistics
-- Total of 3 flows:
Average throughput: 583.25 Mbit/s
95th percentile per-packet one-way delay: 272.534 ms
Loss rate: 3.84%
-- Flow 1:
Average throughput: 330.19 Mbit/s
95th percentile per-packet one-way delay: 283.948 ms
Loss rate: 5.15%
-- Flow 2:
Average throughput: 265.36 Mbit/s
95th percentile per-packet one-way delay: 176.188 ms
Loss rate: 1.33%
-- Flow 3:
Average throughput: 231.94 Mbit/s
95th percentile per-packet one-way delay: 226.756 ms
Loss rate: 3.79%
```

Run 1: Report of PCC-Allegro — Data Link



Run 2: Statistics of PCC-Allegro

Start at: 2018-10-09 22:04:25

End at: 2018-10-09 22:04:55

Local clock offset: 0.458 ms

Remote clock offset: -0.56 ms

Below is generated by plot.py at 2018-10-10 01:22:33

Datalink statistics

-- Total of 3 flows:

Average throughput: 592.65 Mbit/s

95th percentile per-packet one-way delay: 254.172 ms

Loss rate: 2.50%

-- Flow 1:

Average throughput: 333.26 Mbit/s

95th percentile per-packet one-way delay: 255.418 ms

Loss rate: 2.49%

-- Flow 2:

Average throughput: 279.32 Mbit/s

95th percentile per-packet one-way delay: 152.981 ms

Loss rate: 1.01%

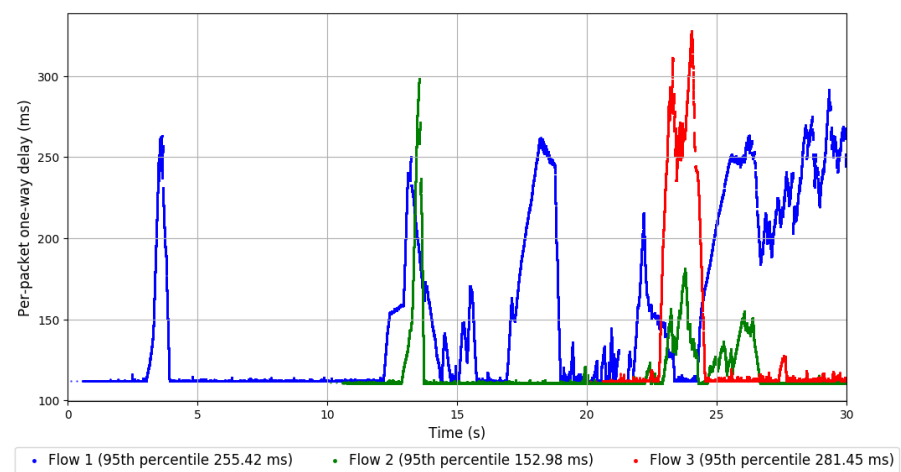
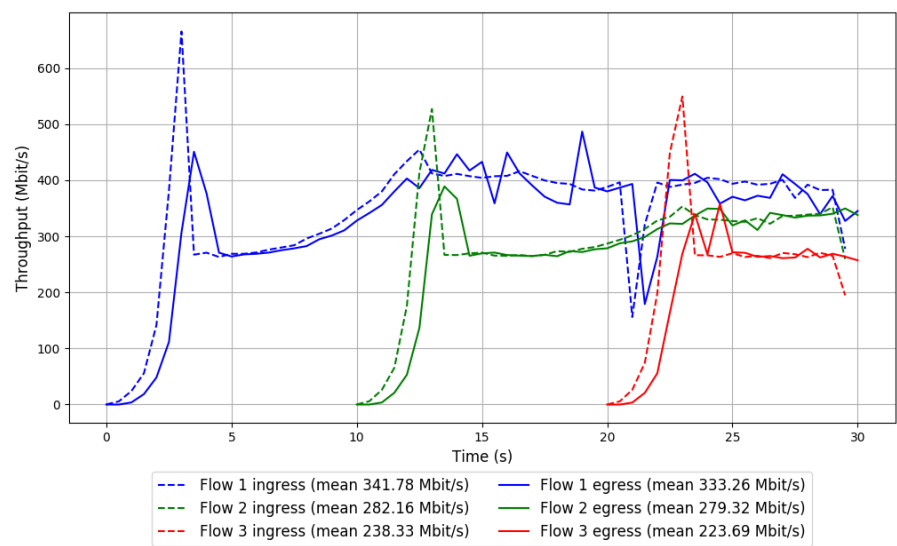
-- Flow 3:

Average throughput: 223.69 Mbit/s

95th percentile per-packet one-way delay: 281.454 ms

Loss rate: 6.14%

Run 2: Report of PCC-Allegro — Data Link



Run 3: Statistics of PCC-Allegro

Start at: 2018-10-09 22:35:23

End at: 2018-10-09 22:35:53

Local clock offset: 0.064 ms

Remote clock offset: 0.153 ms

Below is generated by plot.py at 2018-10-10 01:23:56

Datalink statistics

-- Total of 3 flows:

Average throughput: 612.68 Mbit/s

95th percentile per-packet one-way delay: 252.041 ms

Loss rate: 5.32%

-- Flow 1:

Average throughput: 359.29 Mbit/s

95th percentile per-packet one-way delay: 253.436 ms

Loss rate: 6.44%

-- Flow 2:

Average throughput: 269.02 Mbit/s

95th percentile per-packet one-way delay: 172.852 ms

Loss rate: 2.52%

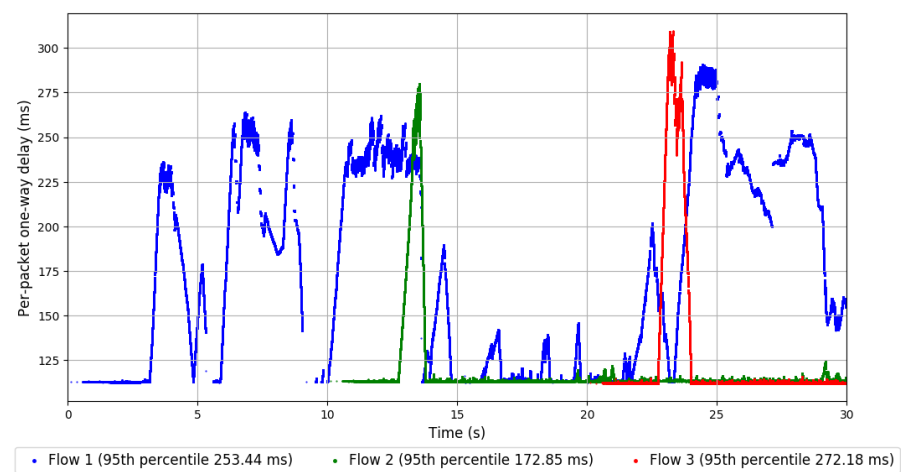
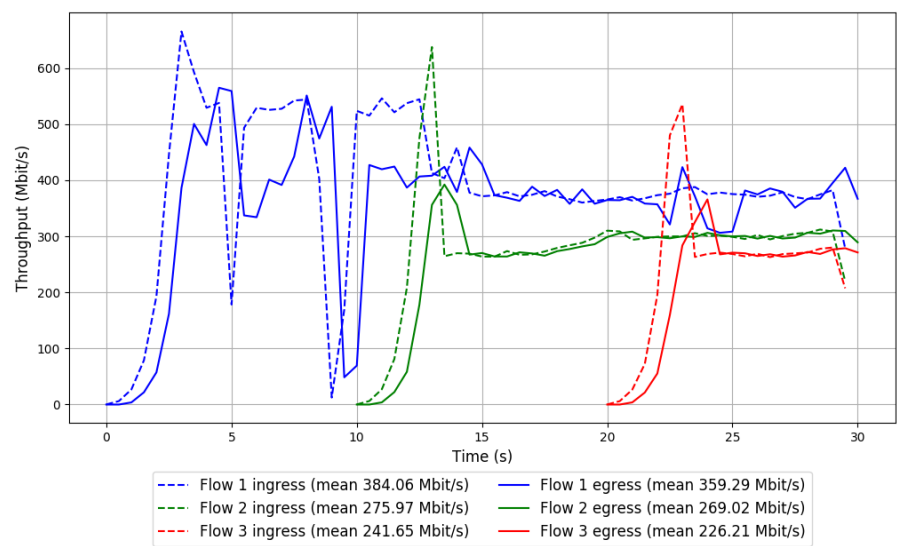
-- Flow 3:

Average throughput: 226.21 Mbit/s

95th percentile per-packet one-way delay: 272.180 ms

Loss rate: 6.39%

Run 3: Report of PCC-Allegro — Data Link

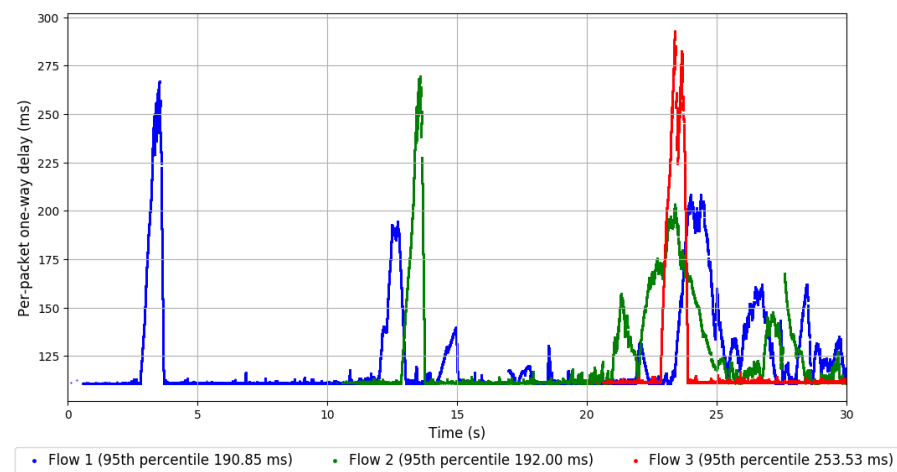
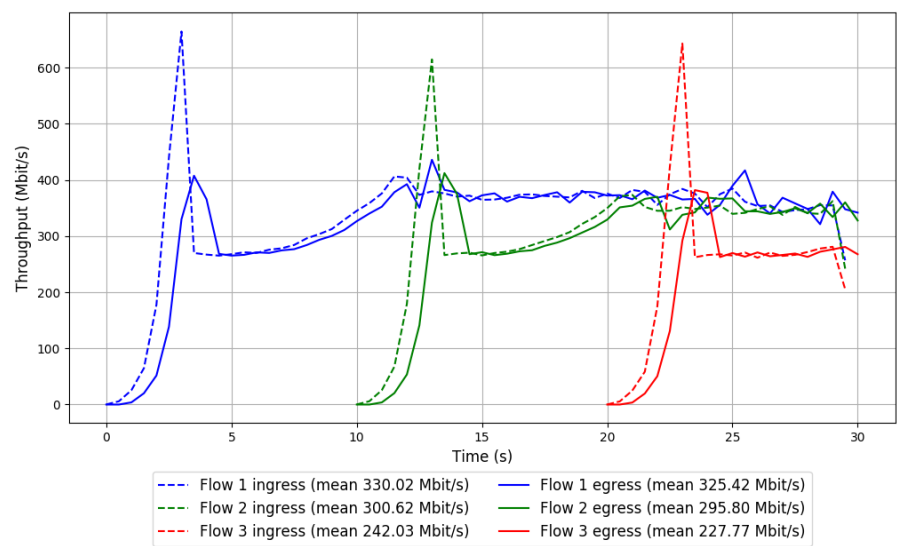


Run 4: Statistics of PCC-Allegro

Start at: 2018-10-09 23:06:35
End at: 2018-10-09 23:07:05
Local clock offset: 0.086 ms
Remote clock offset: -0.552 ms

Below is generated by plot.py at 2018-10-10 01:32:37
Datalink statistics
-- Total of 3 flows:
Average throughput: 597.05 Mbit/s
95th percentile per-packet one-way delay: 195.098 ms
Loss rate: 2.05%
-- Flow 1:
Average throughput: 325.42 Mbit/s
95th percentile per-packet one-way delay: 190.846 ms
Loss rate: 1.39%
-- Flow 2:
Average throughput: 295.80 Mbit/s
95th percentile per-packet one-way delay: 191.998 ms
Loss rate: 1.60%
-- Flow 3:
Average throughput: 227.77 Mbit/s
95th percentile per-packet one-way delay: 253.533 ms
Loss rate: 5.89%

Run 4: Report of PCC-Allegro — Data Link



Run 5: Statistics of PCC-Allegro

Start at: 2018-10-09 23:37:48

End at: 2018-10-09 23:38:18

Local clock offset: -0.637 ms

Remote clock offset: -0.24 ms

Below is generated by plot.py at 2018-10-10 01:32:37

Datalink statistics

-- Total of 3 flows:

Average throughput: 542.49 Mbit/s

95th percentile per-packet one-way delay: 213.440 ms

Loss rate: 2.04%

-- Flow 1:

Average throughput: 287.04 Mbit/s

95th percentile per-packet one-way delay: 176.528 ms

Loss rate: 1.27%

-- Flow 2:

Average throughput: 274.97 Mbit/s

95th percentile per-packet one-way delay: 200.403 ms

Loss rate: 1.15%

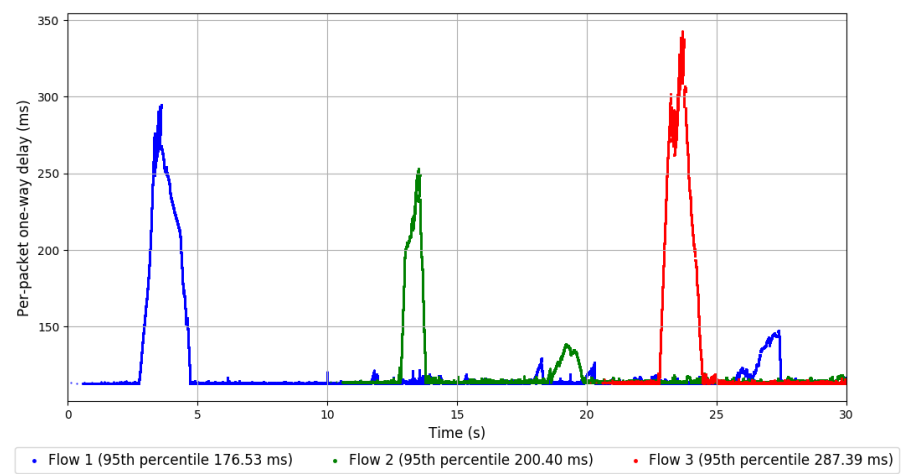
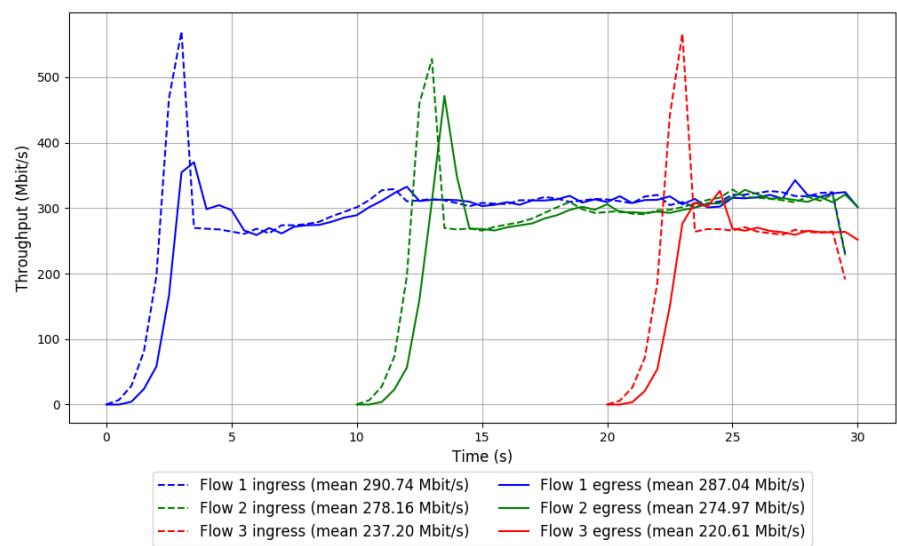
-- Flow 3:

Average throughput: 220.61 Mbit/s

95th percentile per-packet one-way delay: 287.394 ms

Loss rate: 7.00%

Run 5: Report of PCC-Allegro — Data Link

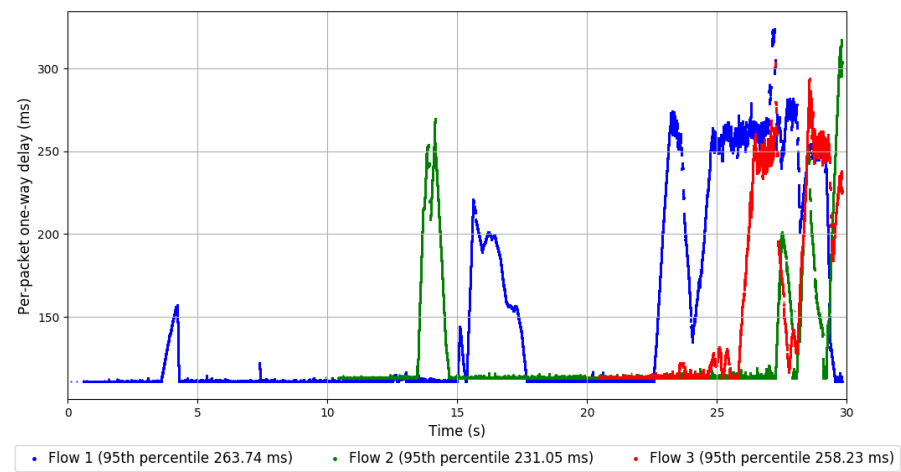
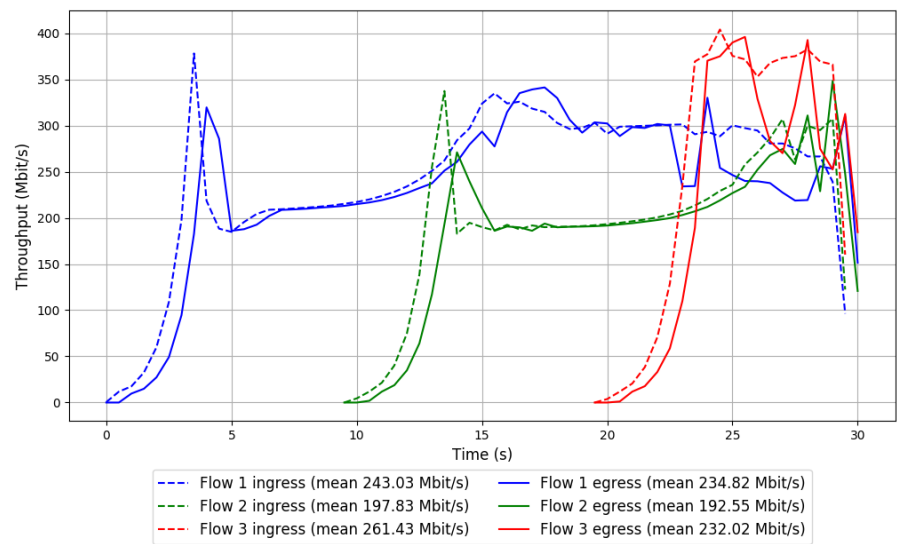


```
Run 1: Statistics of PCC-Expr

Start at: 2018-10-09 21:30:06
End at: 2018-10-09 21:30:36
Local clock offset: 0.185 ms
Remote clock offset: 0.227 ms

# Below is generated by plot.py at 2018-10-10 01:32:37
# Datalink statistics
-- Total of 3 flows:
Average throughput: 440.60 Mbit/s
95th percentile per-packet one-way delay: 260.335 ms
Loss rate: 4.66%
-- Flow 1:
Average throughput: 234.82 Mbit/s
95th percentile per-packet one-way delay: 263.737 ms
Loss rate: 3.38%
-- Flow 2:
Average throughput: 192.55 Mbit/s
95th percentile per-packet one-way delay: 231.051 ms
Loss rate: 2.69%
-- Flow 3:
Average throughput: 232.02 Mbit/s
95th percentile per-packet one-way delay: 258.232 ms
Loss rate: 11.25%
```

Run 1: Report of PCC-Expr — Data Link

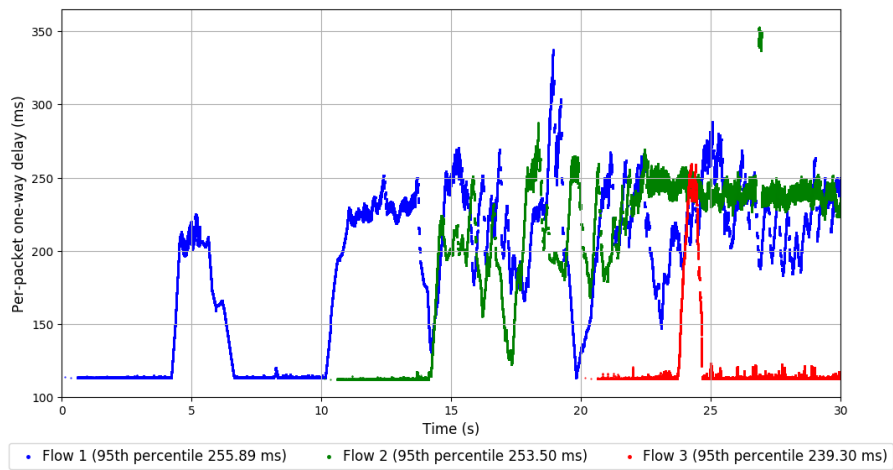
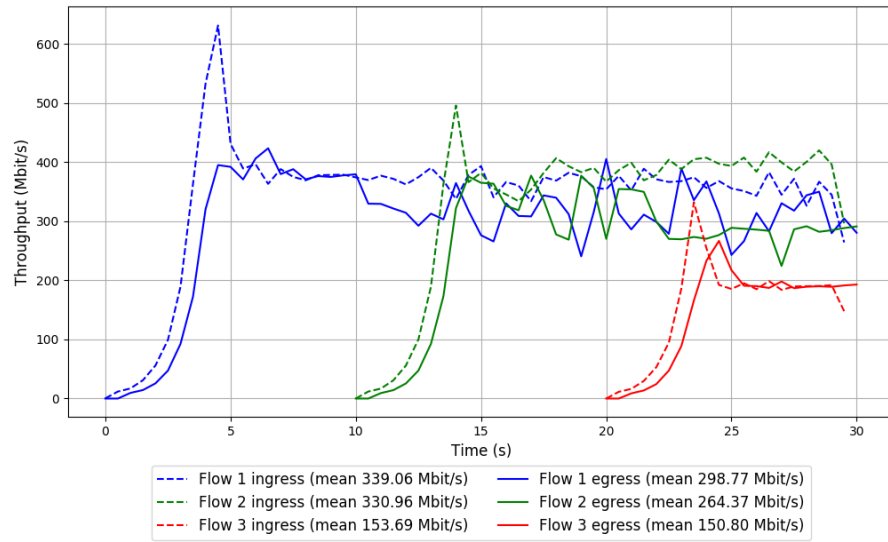


Run 2: Statistics of PCC-Expr

Start at: 2018-10-09 22:00:56
End at: 2018-10-09 22:01:26
Local clock offset: 0.094 ms
Remote clock offset: -0.151 ms

Below is generated by plot.py at 2018-10-10 01:35:09
Datalink statistics
-- Total of 3 flows:
Average throughput: 524.30 Mbit/s
95th percentile per-packet one-way delay: 253.716 ms
Loss rate: 14.03%
-- Flow 1:
Average throughput: 298.77 Mbit/s
95th percentile per-packet one-way delay: 255.886 ms
Loss rate: 11.89%
-- Flow 2:
Average throughput: 264.37 Mbit/s
95th percentile per-packet one-way delay: 253.503 ms
Loss rate: 20.12%
-- Flow 3:
Average throughput: 150.80 Mbit/s
95th percentile per-packet one-way delay: 239.304 ms
Loss rate: 1.88%

Run 2: Report of PCC-Expr — Data Link

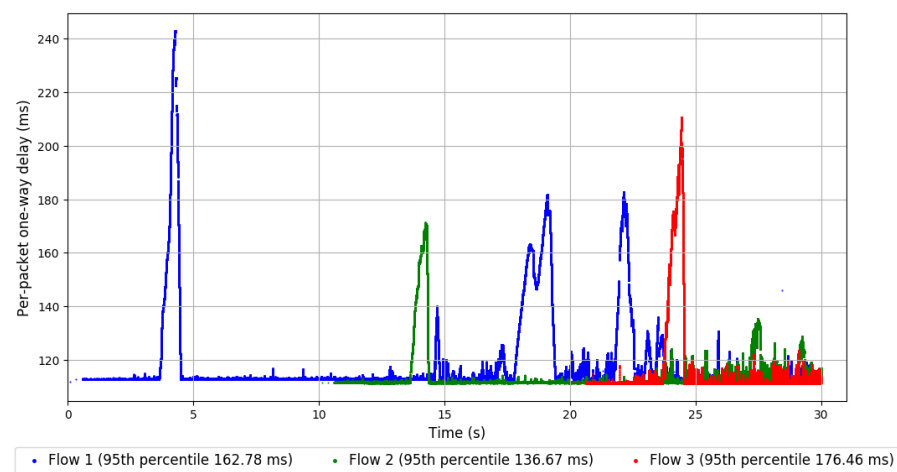
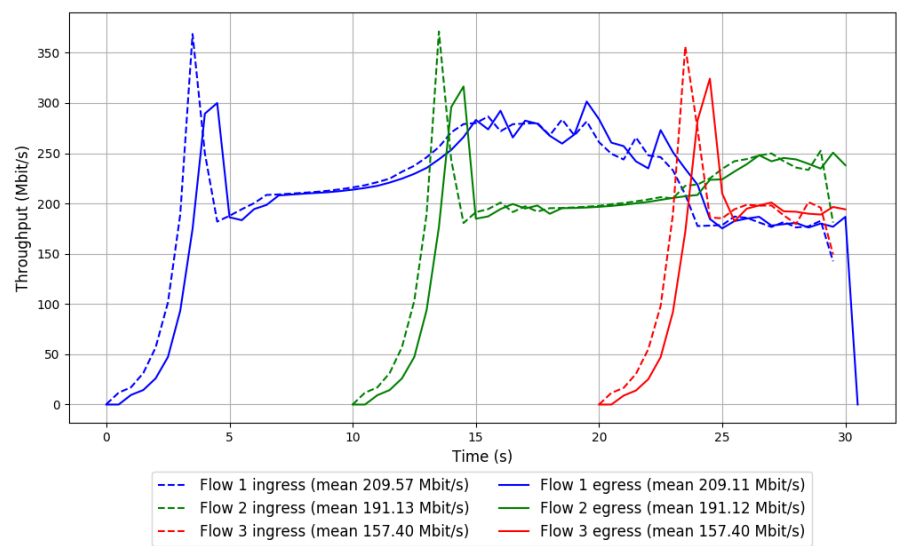


Run 3: Statistics of PCC-Expr

Start at: 2018-10-09 22:32:08
End at: 2018-10-09 22:32:38
Local clock offset: -0.331 ms
Remote clock offset: -0.584 ms

Below is generated by plot.py at 2018-10-10 01:35:09
Datalink statistics
-- Total of 3 flows:
Average throughput: 388.13 Mbit/s
95th percentile per-packet one-way delay: 161.282 ms
Loss rate: 0.12%
-- Flow 1:
Average throughput: 209.11 Mbit/s
95th percentile per-packet one-way delay: 162.783 ms
Loss rate: 0.22%
-- Flow 2:
Average throughput: 191.12 Mbit/s
95th percentile per-packet one-way delay: 136.671 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 157.40 Mbit/s
95th percentile per-packet one-way delay: 176.463 ms
Loss rate: 0.00%

Run 3: Report of PCC-Expr — Data Link

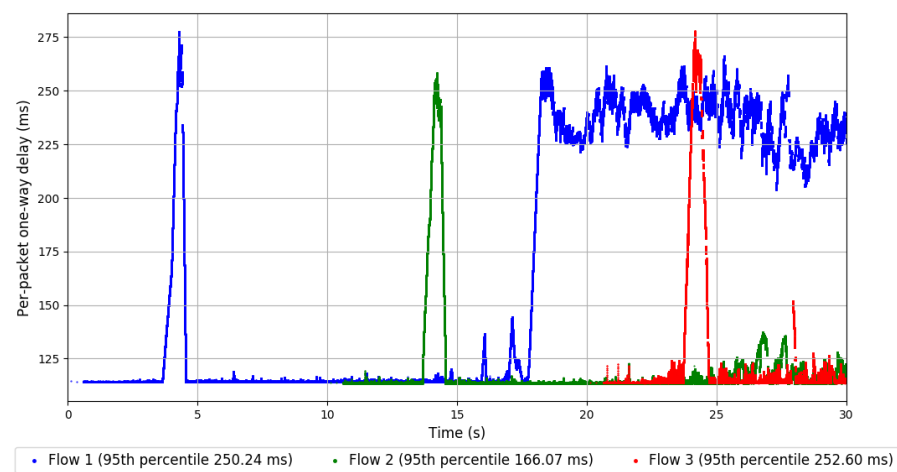
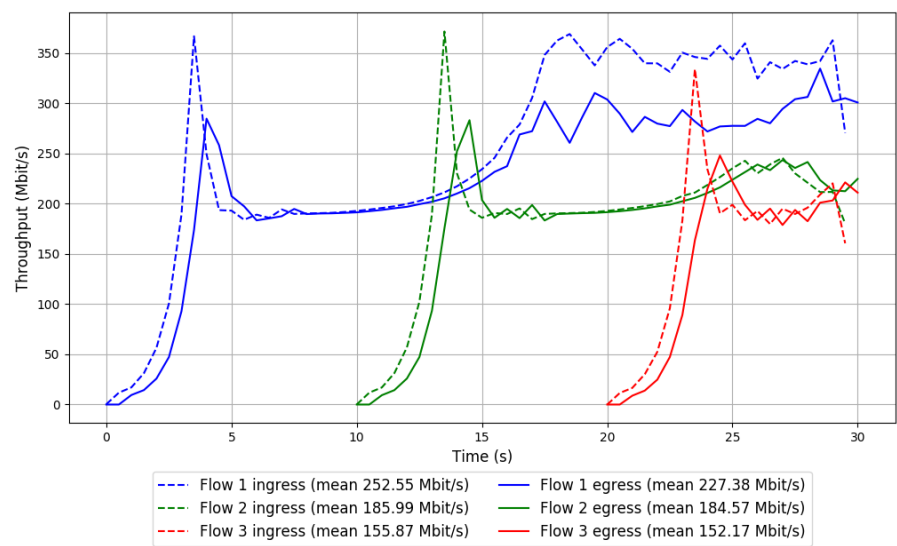


Run 4: Statistics of PCC-Expr

Start at: 2018-10-09 23:03:20
End at: 2018-10-09 23:03:50
Local clock offset: -1.294 ms
Remote clock offset: -0.191 ms

Below is generated by plot.py at 2018-10-10 01:36:30
Datalink statistics
-- Total of 3 flows:
Average throughput: 400.34 Mbit/s
95th percentile per-packet one-way delay: 248.256 ms
Loss rate: 6.39%
-- Flow 1:
Average throughput: 227.38 Mbit/s
95th percentile per-packet one-way delay: 250.236 ms
Loss rate: 9.96%
-- Flow 2:
Average throughput: 184.57 Mbit/s
95th percentile per-packet one-way delay: 166.072 ms
Loss rate: 0.77%
-- Flow 3:
Average throughput: 152.17 Mbit/s
95th percentile per-packet one-way delay: 252.596 ms
Loss rate: 2.36%

Run 4: Report of PCC-Expr — Data Link

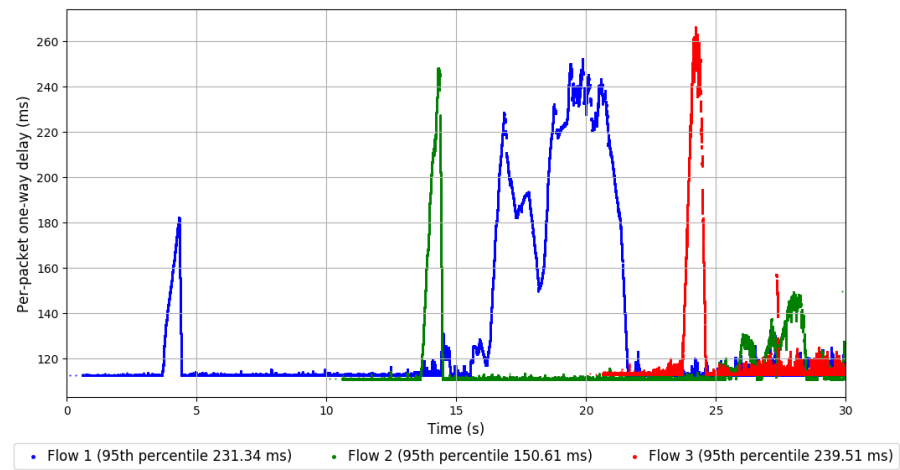
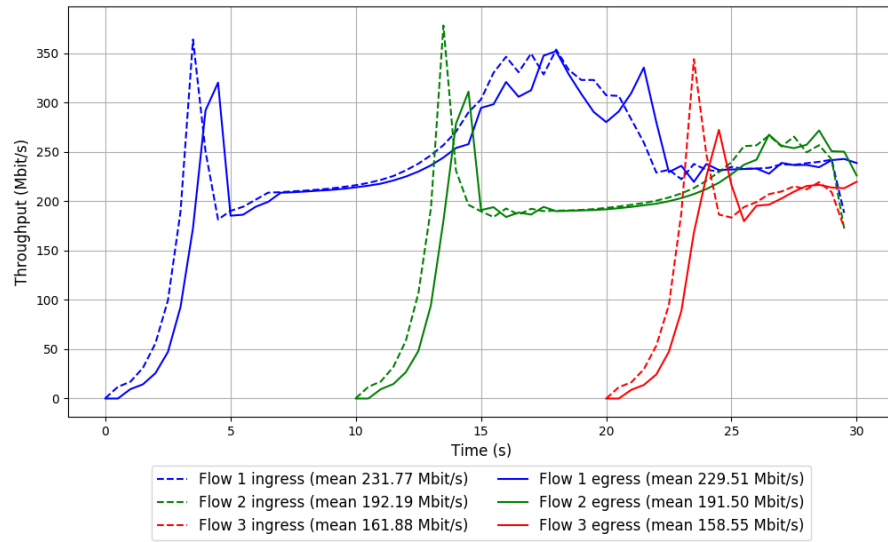


Run 5: Statistics of PCC-Expr

Start at: 2018-10-09 23:34:32
End at: 2018-10-09 23:35:02
Local clock offset: -0.487 ms
Remote clock offset: -0.581 ms

Below is generated by plot.py at 2018-10-10 01:37:02
Datalink statistics
-- Total of 3 flows:
Average throughput: 409.20 Mbit/s
95th percentile per-packet one-way delay: 225.162 ms
Loss rate: 0.92%
-- Flow 1:
Average throughput: 229.51 Mbit/s
95th percentile per-packet one-way delay: 231.342 ms
Loss rate: 0.97%
-- Flow 2:
Average throughput: 191.50 Mbit/s
95th percentile per-packet one-way delay: 150.608 ms
Loss rate: 0.35%
-- Flow 3:
Average throughput: 158.55 Mbit/s
95th percentile per-packet one-way delay: 239.511 ms
Loss rate: 2.06%

Run 5: Report of PCC-Expr — Data Link

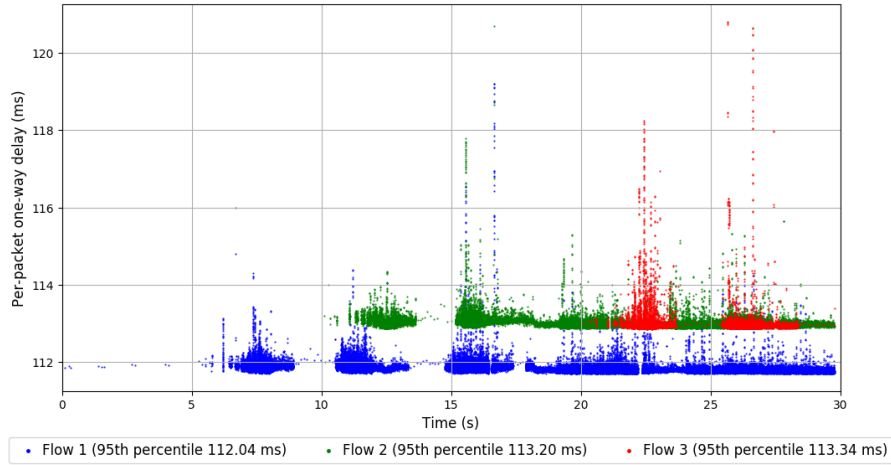
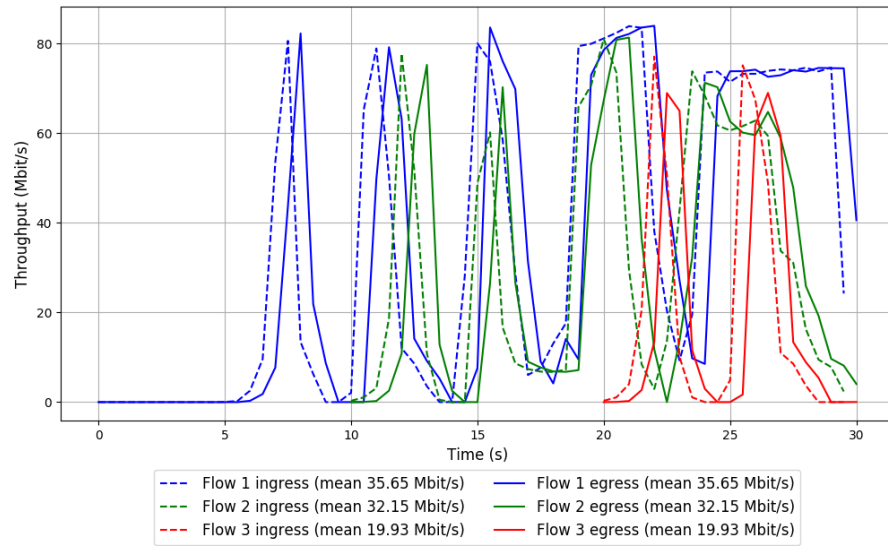


Run 1: Statistics of QUIC Cubic

Start at: 2018-10-09 21:27:04
End at: 2018-10-09 21:27:34
Local clock offset: 0.013 ms
Remote clock offset: -0.064 ms

Below is generated by plot.py at 2018-10-10 01:37:02
Datalink statistics
-- Total of 3 flows:
Average throughput: 63.43 Mbit/s
95th percentile per-packet one-way delay: 113.101 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 35.65 Mbit/s
95th percentile per-packet one-way delay: 112.039 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 32.15 Mbit/s
95th percentile per-packet one-way delay: 113.198 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 19.93 Mbit/s
95th percentile per-packet one-way delay: 113.343 ms
Loss rate: 0.00%

Run 1: Report of QUIC Cubic — Data Link

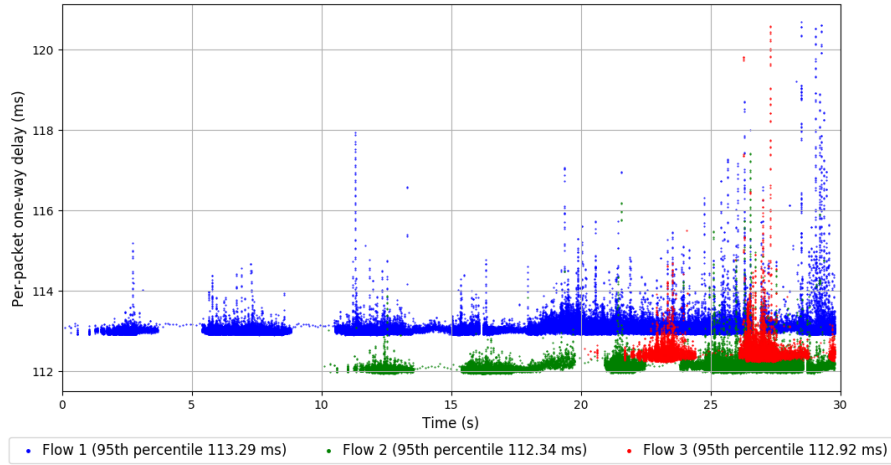
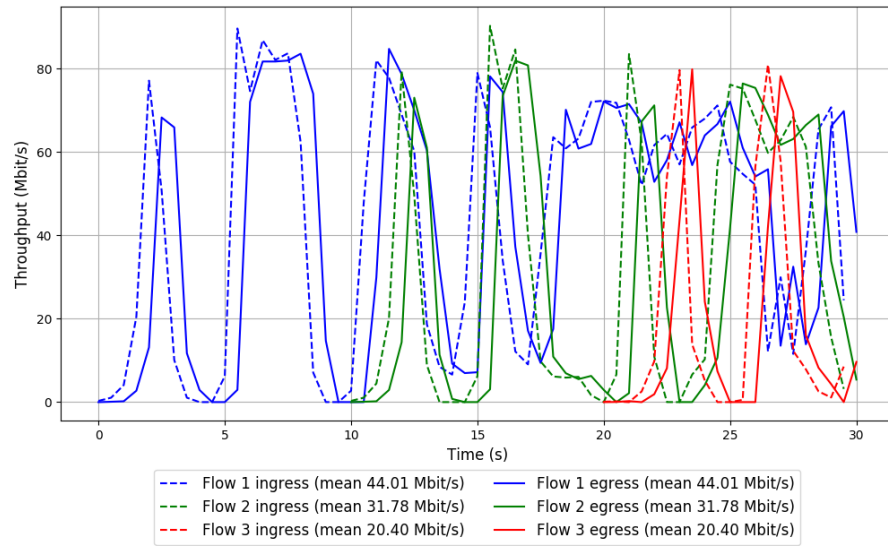


Run 2: Statistics of QUIC Cubic

Start at: 2018-10-09 21:57:52
End at: 2018-10-09 21:58:22
Local clock offset: -0.438 ms
Remote clock offset: -0.153 ms

Below is generated by plot.py at 2018-10-10 01:37:02
Datalink statistics
-- Total of 3 flows:
Average throughput: 71.71 Mbit/s
95th percentile per-packet one-way delay: 113.227 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 44.01 Mbit/s
95th percentile per-packet one-way delay: 113.294 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 31.78 Mbit/s
95th percentile per-packet one-way delay: 112.338 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 20.40 Mbit/s
95th percentile per-packet one-way delay: 112.922 ms
Loss rate: 0.00%

Run 2: Report of QUIC Cubic — Data Link

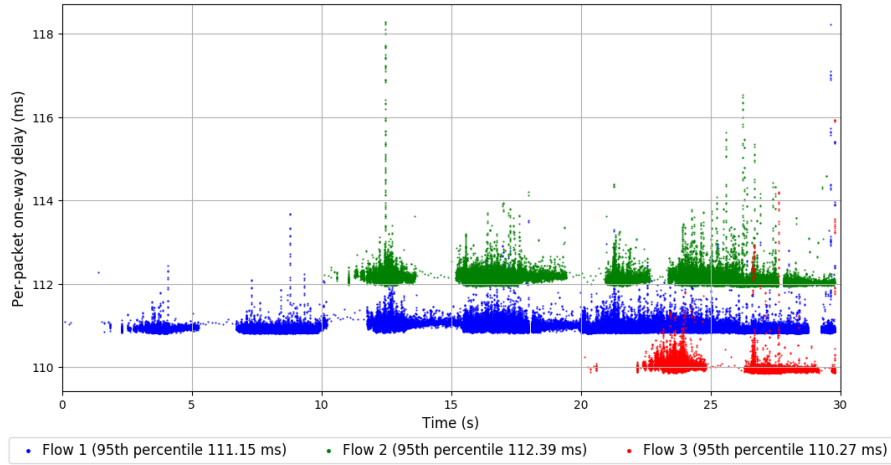
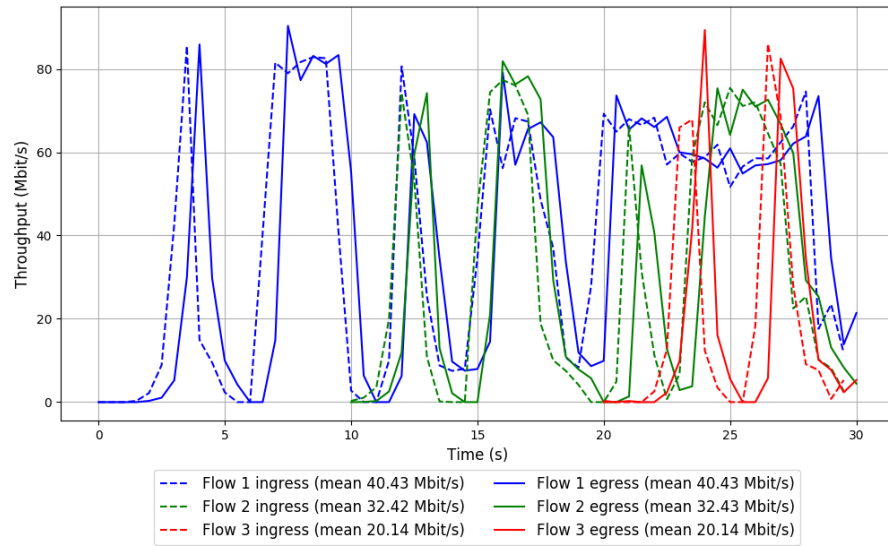


Run 3: Statistics of QUIC Cubic

Start at: 2018-10-09 22:29:05
End at: 2018-10-09 22:29:35
Local clock offset: 0.899 ms
Remote clock offset: -0.205 ms

Below is generated by plot.py at 2018-10-10 01:37:02
Datalink statistics
-- Total of 3 flows:
Average throughput: 68.46 Mbit/s
95th percentile per-packet one-way delay: 112.231 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 40.43 Mbit/s
95th percentile per-packet one-way delay: 111.149 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 32.43 Mbit/s
95th percentile per-packet one-way delay: 112.385 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 20.14 Mbit/s
95th percentile per-packet one-way delay: 110.268 ms
Loss rate: 0.00%

Run 3: Report of QUIC Cubic — Data Link

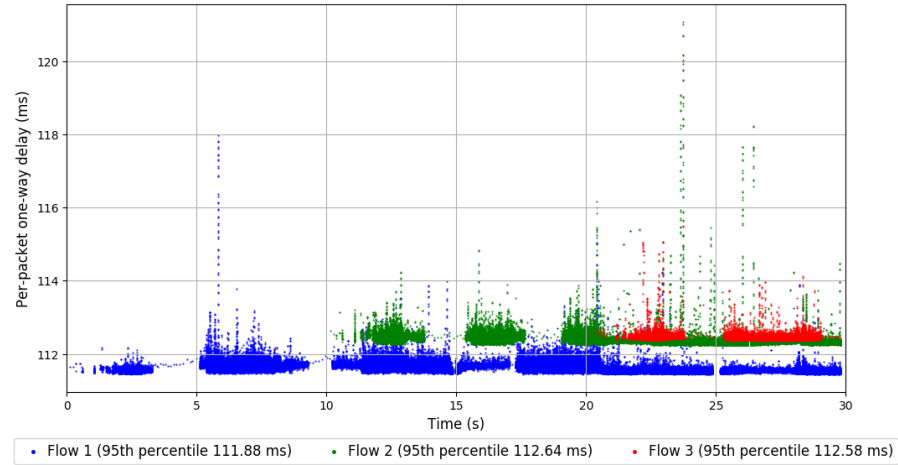
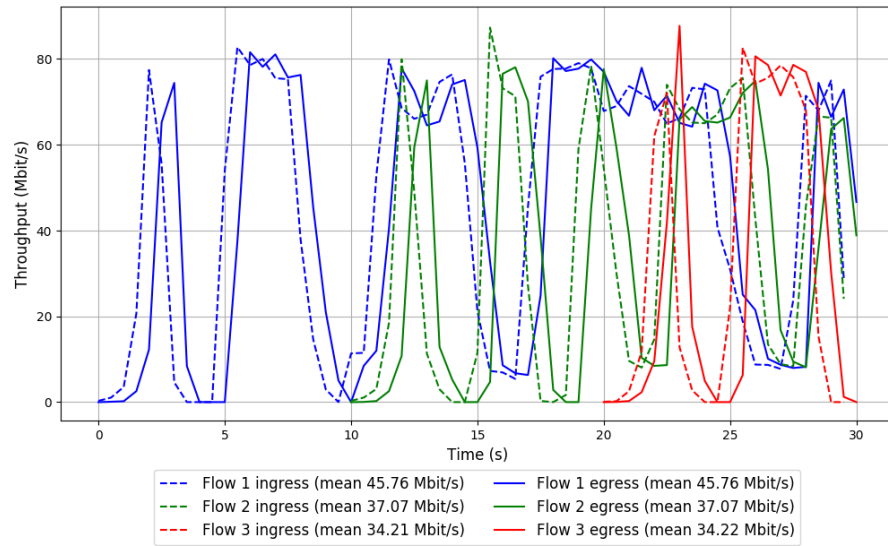


Run 4: Statistics of QUIC Cubic

Start at: 2018-10-09 23:00:14
End at: 2018-10-09 23:00:44
Local clock offset: 0.193 ms
Remote clock offset: -0.206 ms

Below is generated by plot.py at 2018-10-10 01:37:02
Datalink statistics
-- Total of 3 flows:
Average throughput: 81.37 Mbit/s
95th percentile per-packet one-way delay: 112.530 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 45.76 Mbit/s
95th percentile per-packet one-way delay: 111.878 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 37.07 Mbit/s
95th percentile per-packet one-way delay: 112.635 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 34.22 Mbit/s
95th percentile per-packet one-way delay: 112.581 ms
Loss rate: 0.00%

Run 4: Report of QUIC Cubic — Data Link

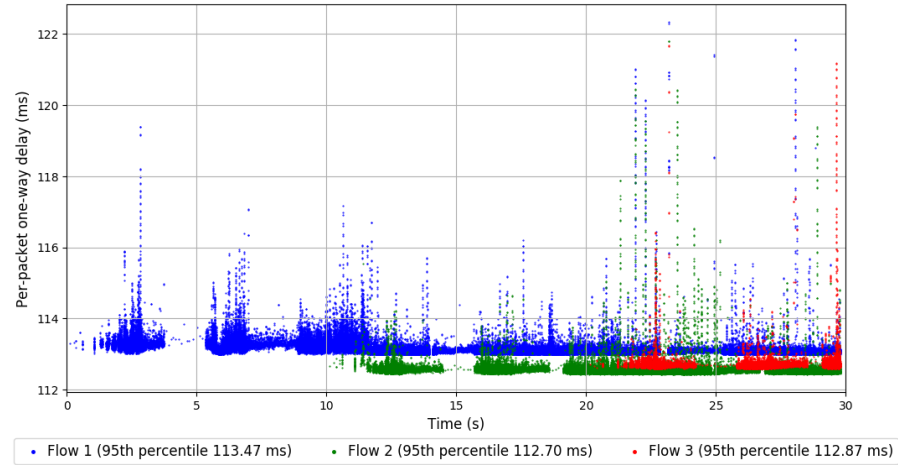
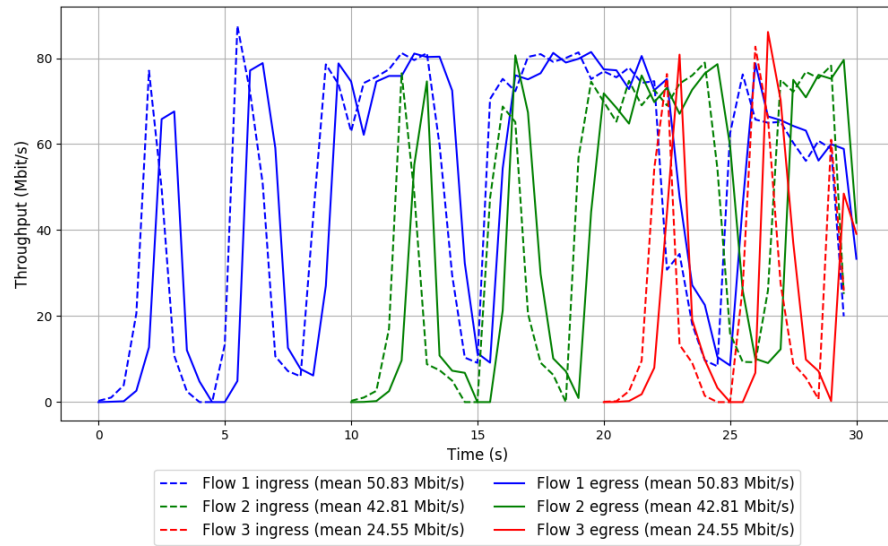


Run 5: Statistics of QUIC Cubic

Start at: 2018-10-09 23:31:27
End at: 2018-10-09 23:31:57
Local clock offset: -0.649 ms
Remote clock offset: -0.524 ms

Below is generated by plot.py at 2018-10-10 01:37:02
Datalink statistics
-- Total of 3 flows:
Average throughput: 87.16 Mbit/s
95th percentile per-packet one-way delay: 113.382 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 50.83 Mbit/s
95th percentile per-packet one-way delay: 113.469 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 42.81 Mbit/s
95th percentile per-packet one-way delay: 112.705 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 24.55 Mbit/s
95th percentile per-packet one-way delay: 112.871 ms
Loss rate: 0.00%

Run 5: Report of QUIC Cubic — Data Link

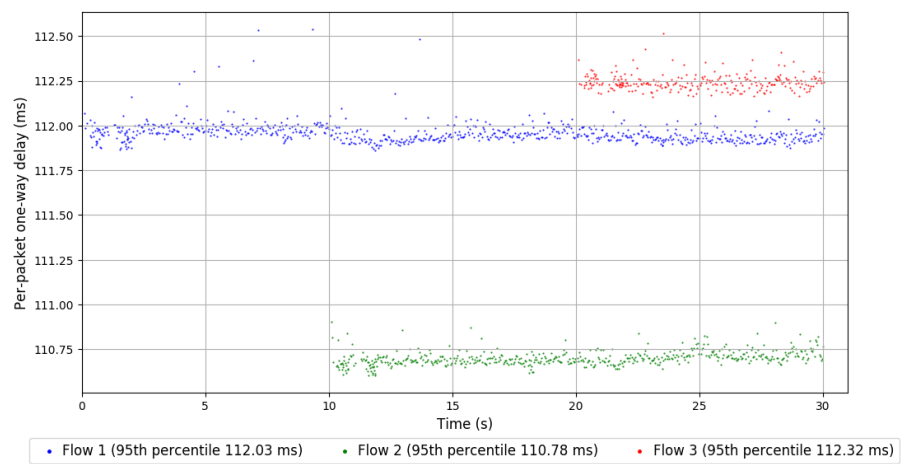
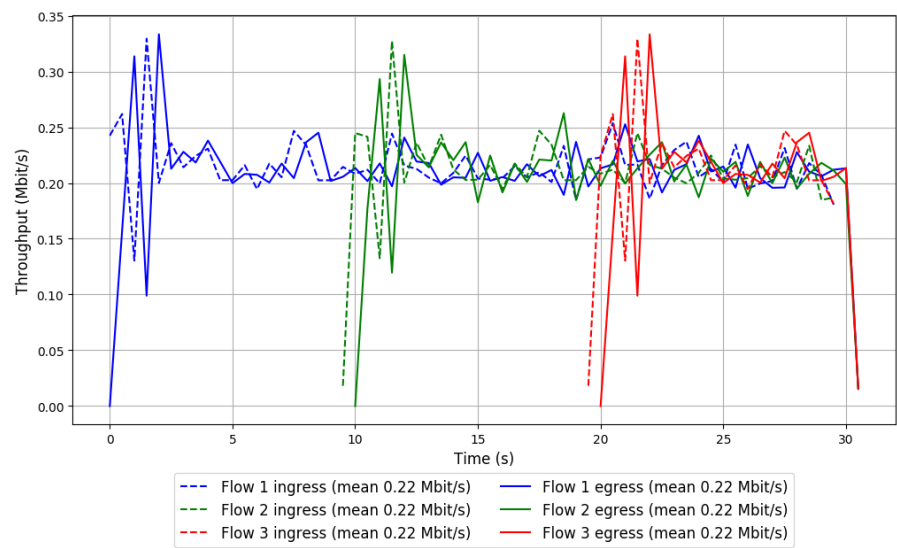


```
Run 1: Statistics of SReAM

Start at: 2018-10-09 21:40:16
End at: 2018-10-09 21:40:46
Local clock offset: 0.386 ms
Remote clock offset: -0.131 ms

# Below is generated by plot.py at 2018-10-10 01:37:02
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.43 Mbit/s
95th percentile per-packet one-way delay: 112.260 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 112.030 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 110.777 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 112.321 ms
Loss rate: 0.00%
```

Run 1: Report of SReAM — Data Link

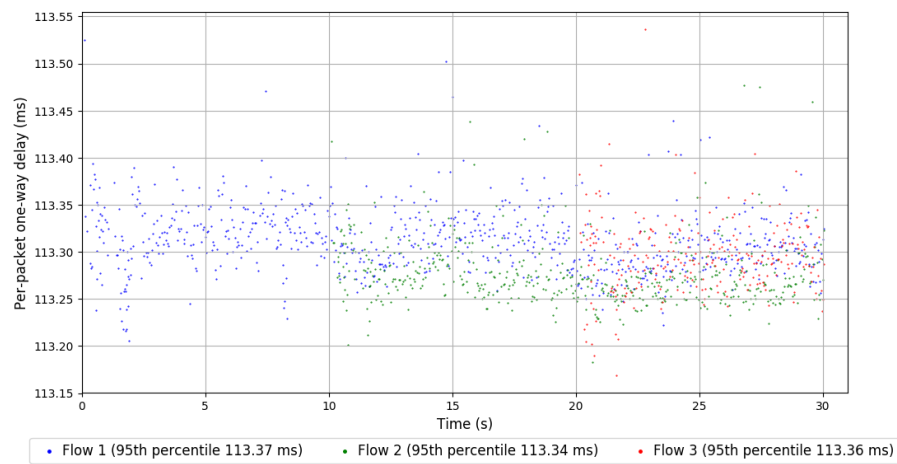
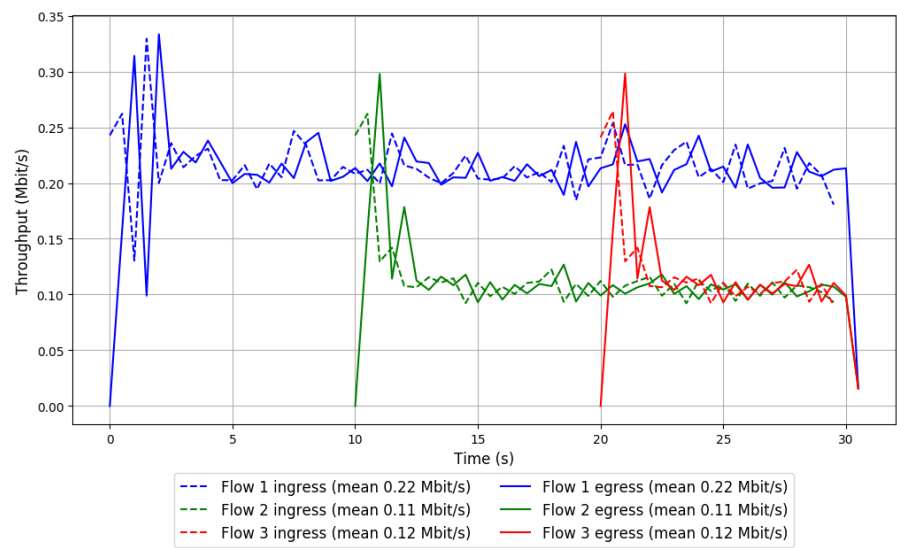


Run 2: Statistics of SCReAM

Start at: 2018-10-09 22:11:17
End at: 2018-10-09 22:11:47
Local clock offset: -0.787 ms
Remote clock offset: -0.243 ms

Below is generated by plot.py at 2018-10-10 01:37:02
Datalink statistics
-- Total of 3 flows:
Average throughput: 0.33 Mbit/s
95th percentile per-packet one-way delay: 113.362 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 113.370 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.11 Mbit/s
95th percentile per-packet one-way delay: 113.336 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.12 Mbit/s
95th percentile per-packet one-way delay: 113.358 ms
Loss rate: 0.00%

Run 2: Report of SReAM — Data Link

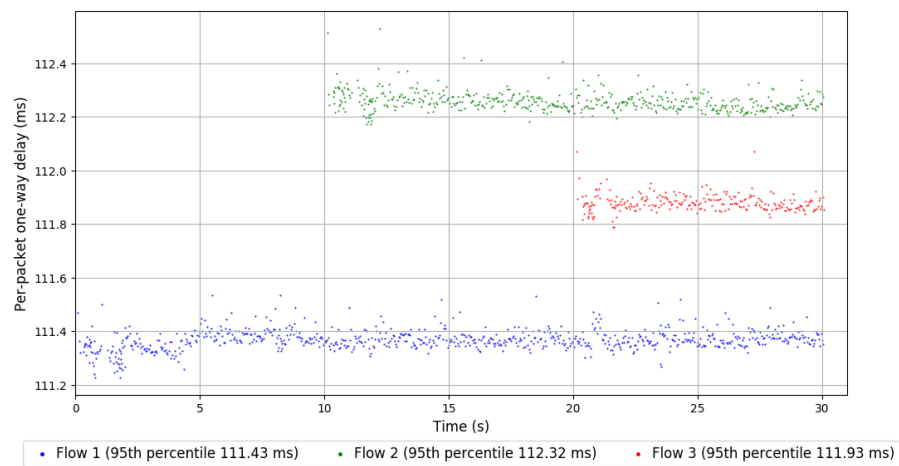
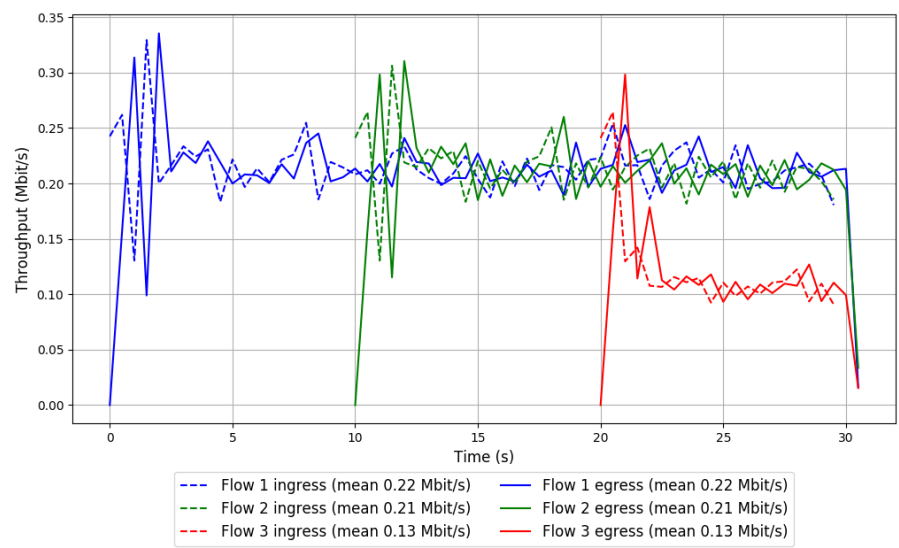


Run 3: Statistics of SCReAM

Start at: 2018-10-09 22:42:27
End at: 2018-10-09 22:42:57
Local clock offset: 0.156 ms
Remote clock offset: -0.556 ms

Below is generated by plot.py at 2018-10-10 01:37:02
Datalink statistics
-- Total of 3 flows:
Average throughput: 0.40 Mbit/s
95th percentile per-packet one-way delay: 112.290 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 111.429 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 112.319 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.13 Mbit/s
95th percentile per-packet one-way delay: 111.928 ms
Loss rate: 0.00%

Run 3: Report of SReAM — Data Link

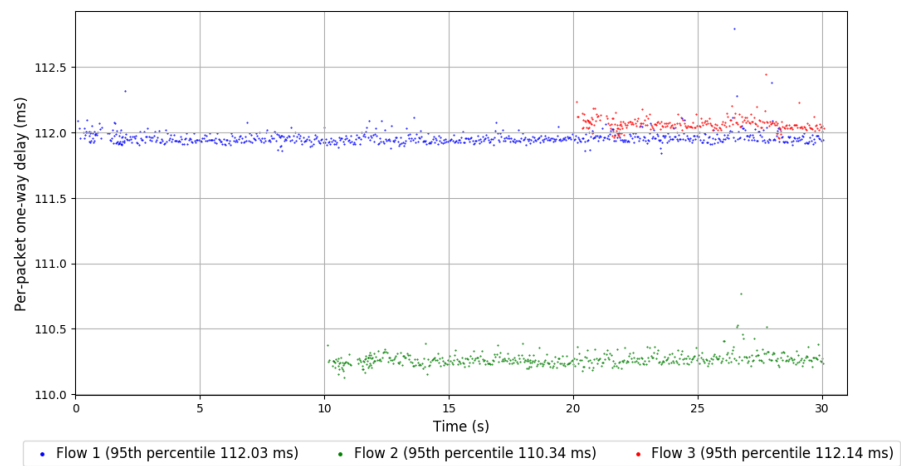
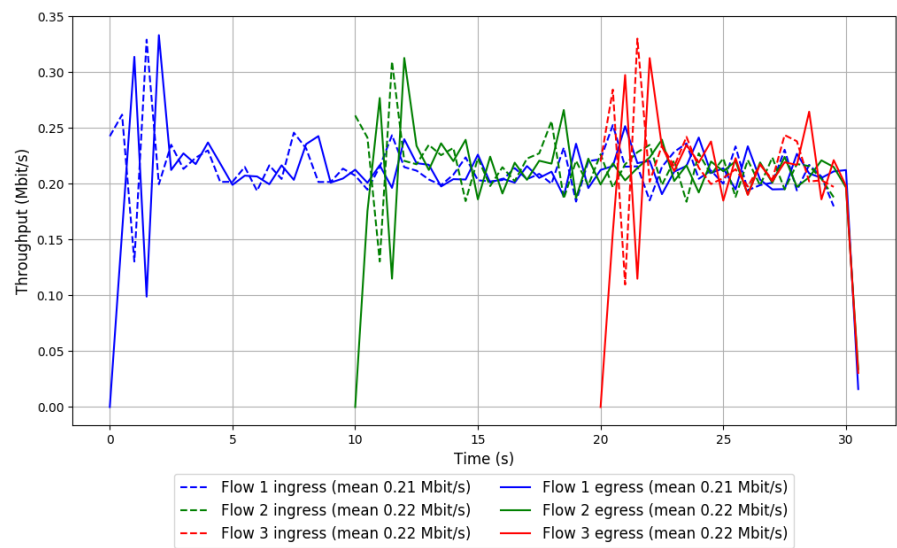


Run 4: Statistics of SReAM

Start at: 2018-10-09 23:13:35
End at: 2018-10-09 23:14:05
Local clock offset: 0.209 ms
Remote clock offset: -0.552 ms

Below is generated by plot.py at 2018-10-10 01:37:02
Datalink statistics
-- Total of 3 flows:
Average throughput: 0.43 Mbit/s
95th percentile per-packet one-way delay: 112.082 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 112.027 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 110.342 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 112.139 ms
Loss rate: 0.00%

Run 4: Report of SReAM — Data Link

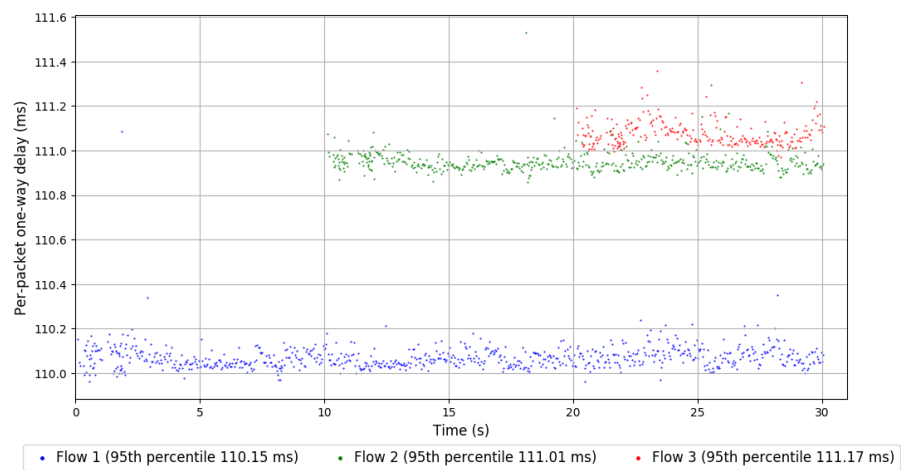
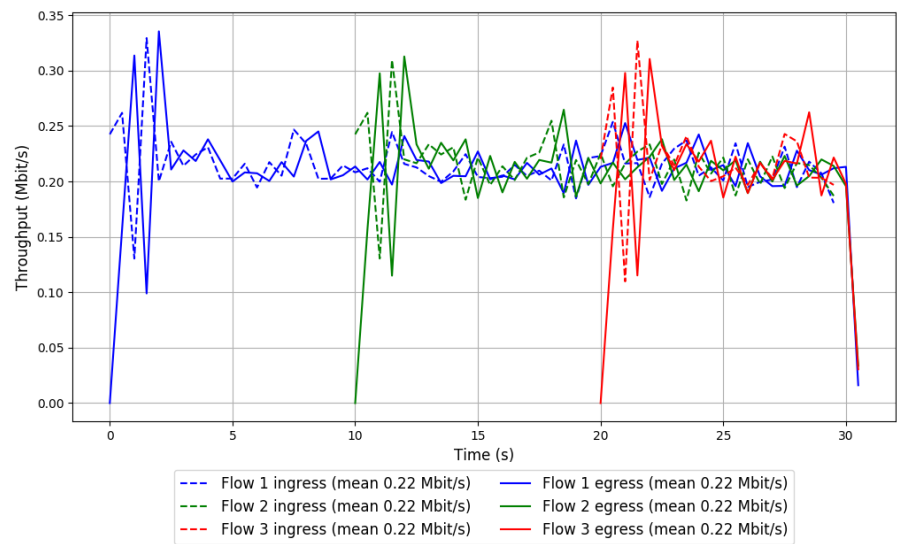


Run 5: Statistics of SReAM

Start at: 2018-10-09 23:44:38
End at: 2018-10-09 23:45:08
Local clock offset: 1.343 ms
Remote clock offset: -0.607 ms

Below is generated by plot.py at 2018-10-10 01:37:02
Datalink statistics
-- Total of 3 flows:
Average throughput: 0.43 Mbit/s
95th percentile per-packet one-way delay: 111.097 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 110.147 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 111.014 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 111.174 ms
Loss rate: 0.00%

Run 5: Report of SReAM — Data Link

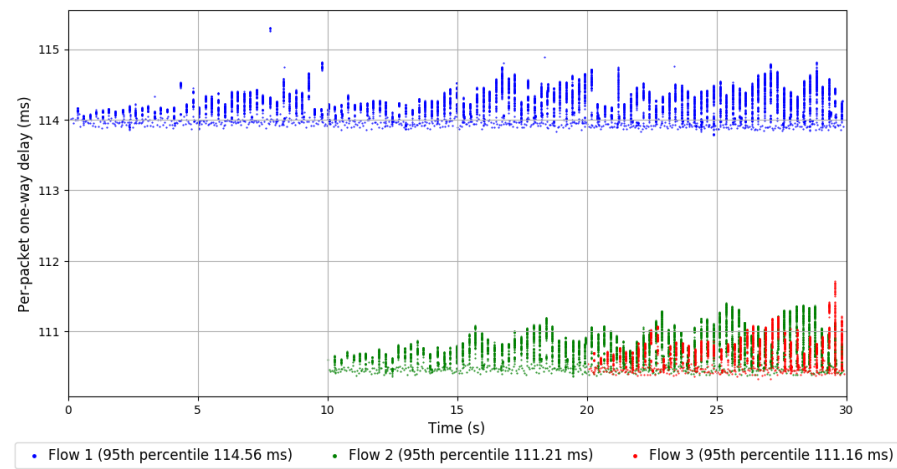
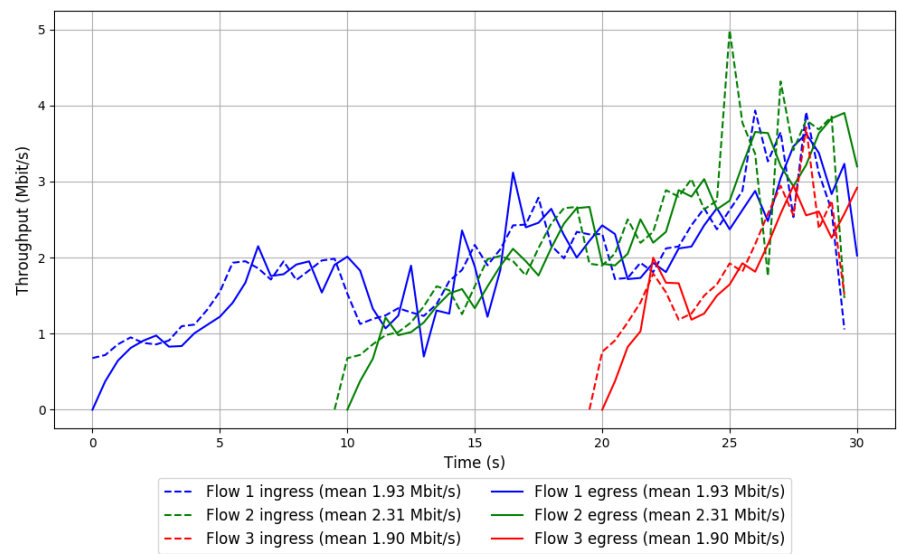


Run 1: Statistics of Sprout

Start at: 2018-10-09 21:43:08
End at: 2018-10-09 21:43:38
Local clock offset: 0.993 ms
Remote clock offset: -0.439 ms

Below is generated by plot.py at 2018-10-10 01:37:02
Datalink statistics
-- Total of 3 flows:
Average throughput: 4.10 Mbit/s
95th percentile per-packet one-way delay: 114.482 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 1.93 Mbit/s
95th percentile per-packet one-way delay: 114.565 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 2.31 Mbit/s
95th percentile per-packet one-way delay: 111.213 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 1.90 Mbit/s
95th percentile per-packet one-way delay: 111.157 ms
Loss rate: 0.00%

Run 1: Report of Sprout — Data Link

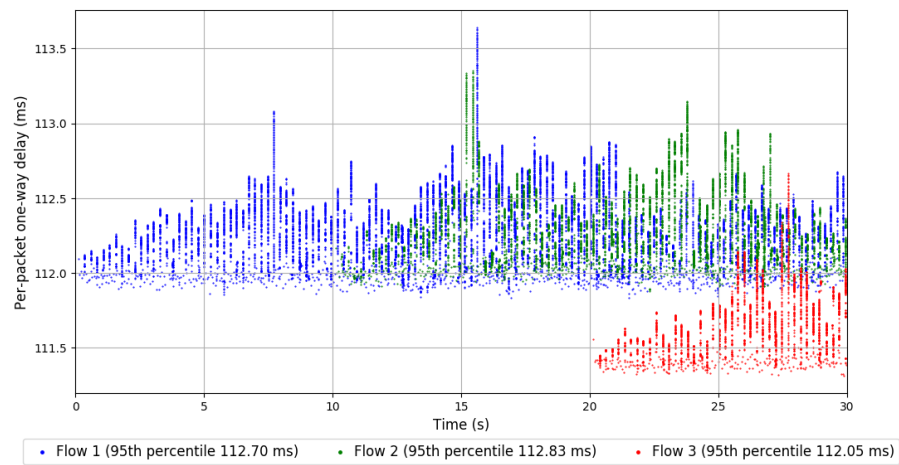
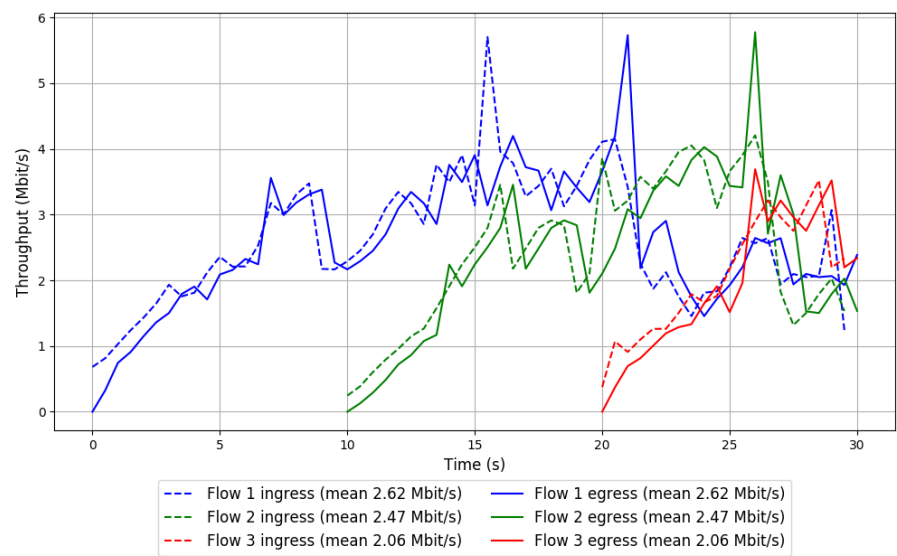


Run 2: Statistics of Sprout

Start at: 2018-10-09 22:14:26
End at: 2018-10-09 22:14:56
Local clock offset: -0.328 ms
Remote clock offset: -0.215 ms

Below is generated by plot.py at 2018-10-10 01:37:02
Datalink statistics
-- Total of 3 flows:
Average throughput: 4.94 Mbit/s
95th percentile per-packet one-way delay: 112.723 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 2.62 Mbit/s
95th percentile per-packet one-way delay: 112.699 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 2.47 Mbit/s
95th percentile per-packet one-way delay: 112.833 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 2.06 Mbit/s
95th percentile per-packet one-way delay: 112.049 ms
Loss rate: 0.00%

Run 2: Report of Sprout — Data Link

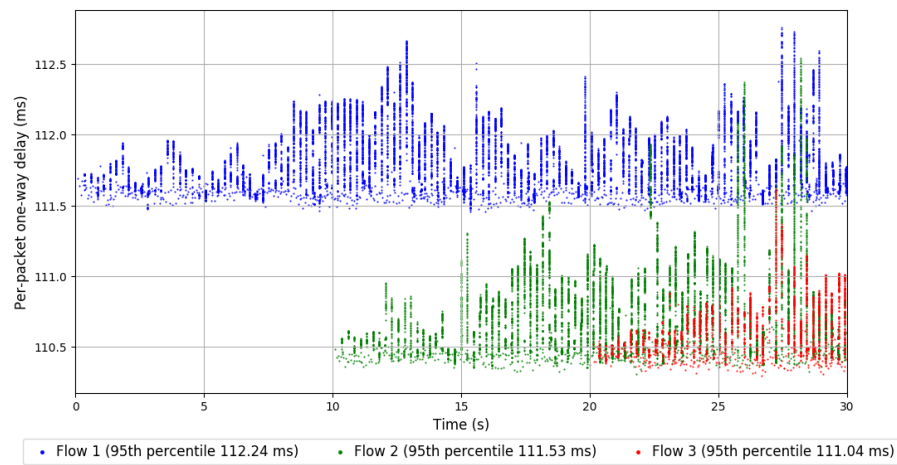
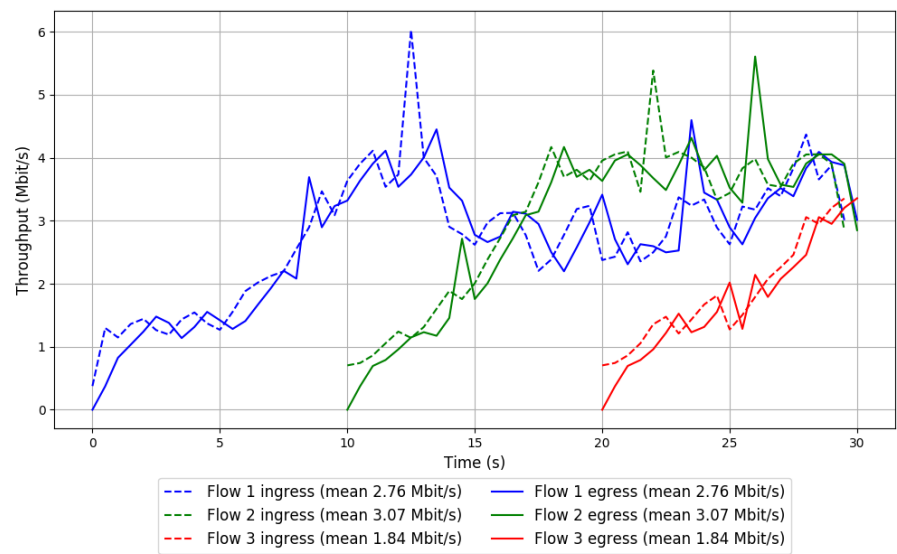


Run 3: Statistics of Sprout

Start at: 2018-10-09 22:45:35
End at: 2018-10-09 22:46:05
Local clock offset: 0.296 ms
Remote clock offset: -0.188 ms

```
# Below is generated by plot.py at 2018-10-10 01:37:02
# Datalink statistics
-- Total of 3 flows:
Average throughput: 5.41 Mbit/s
95th percentile per-packet one-way delay: 112.156 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 2.76 Mbit/s
95th percentile per-packet one-way delay: 112.238 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 3.07 Mbit/s
95th percentile per-packet one-way delay: 111.535 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 1.84 Mbit/s
95th percentile per-packet one-way delay: 111.044 ms
Loss rate: 0.00%
```

Run 3: Report of Sprout — Data Link

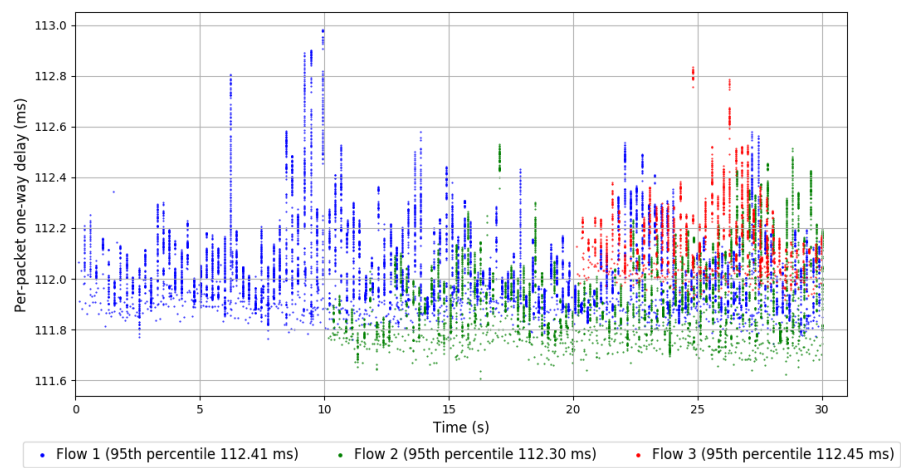
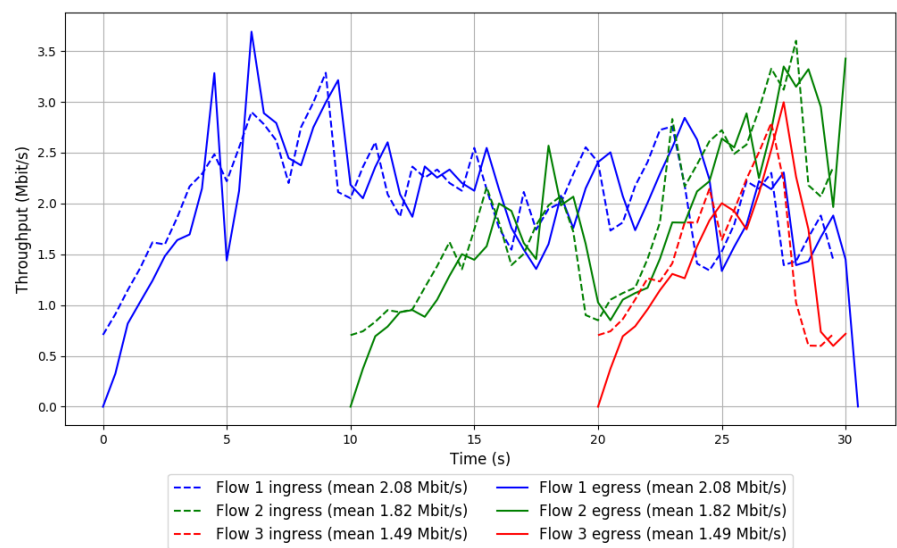


Run 4: Statistics of Sprout

Start at: 2018-10-09 23:16:45
End at: 2018-10-09 23:17:15
Local clock offset: 0.851 ms
Remote clock offset: -0.187 ms

```
# Below is generated by plot.py at 2018-10-10 01:37:02
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.78 Mbit/s
95th percentile per-packet one-way delay: 112.379 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 2.08 Mbit/s
95th percentile per-packet one-way delay: 112.406 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 1.82 Mbit/s
95th percentile per-packet one-way delay: 112.300 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 1.49 Mbit/s
95th percentile per-packet one-way delay: 112.448 ms
Loss rate: 0.00%
```

Run 4: Report of Sprout — Data Link

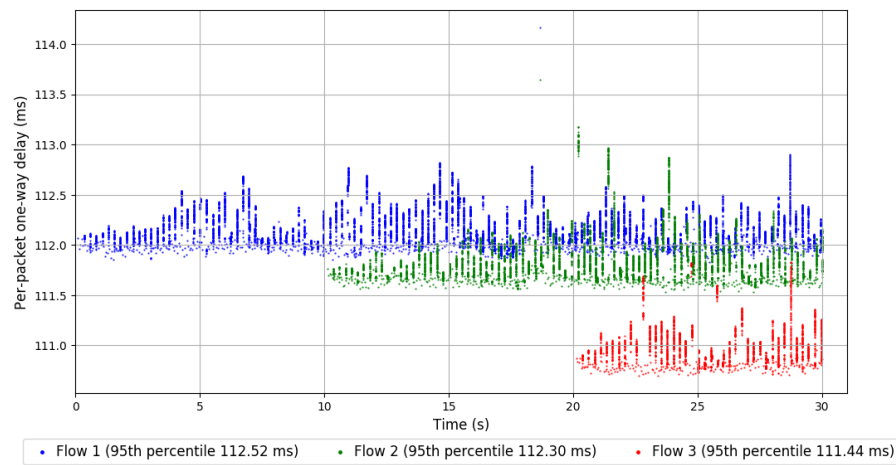
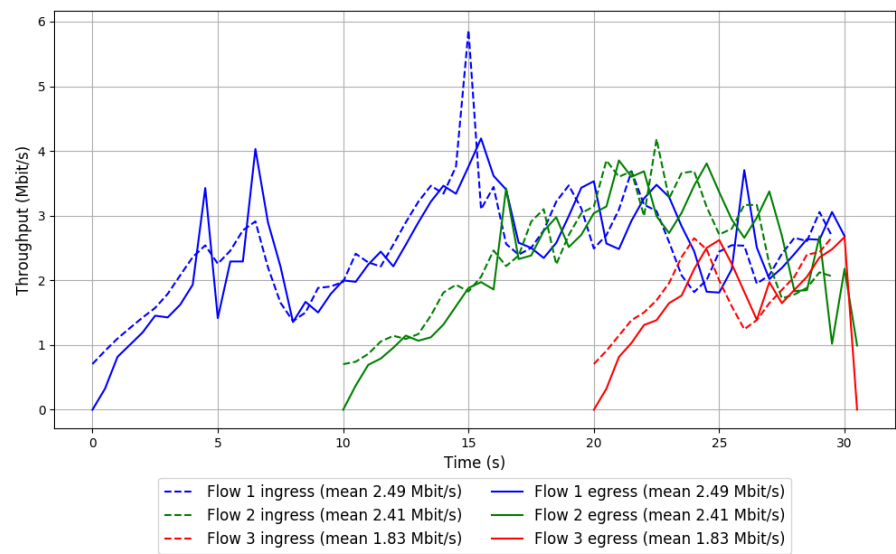


Run 5: Statistics of Sprout

Start at: 2018-10-09 23:47:43
End at: 2018-10-09 23:48:13
Local clock offset: 0.629 ms
Remote clock offset: -0.306 ms

```
# Below is generated by plot.py at 2018-10-10 01:37:02
# Datalink statistics
-- Total of 3 flows:
Average throughput: 4.70 Mbit/s
95th percentile per-packet one-way delay: 112.466 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 2.49 Mbit/s
95th percentile per-packet one-way delay: 112.516 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 2.41 Mbit/s
95th percentile per-packet one-way delay: 112.296 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 1.83 Mbit/s
95th percentile per-packet one-way delay: 111.437 ms
Loss rate: 0.00%
```

Run 5: Report of Sprout — Data Link

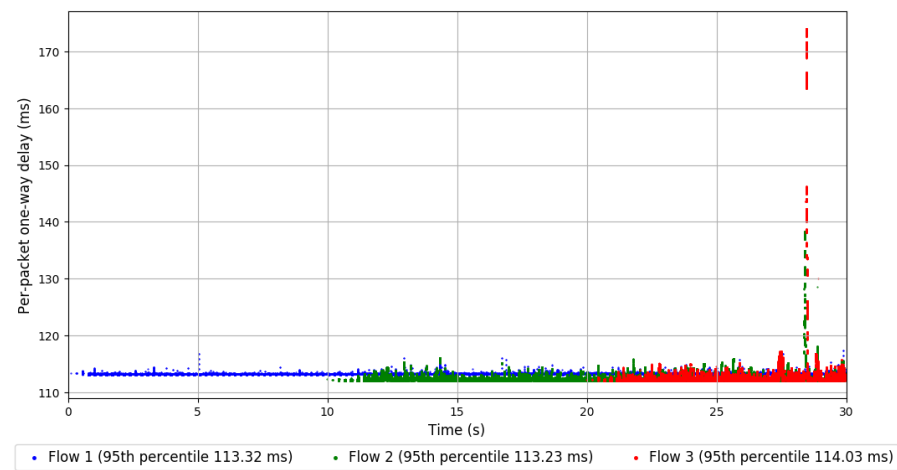
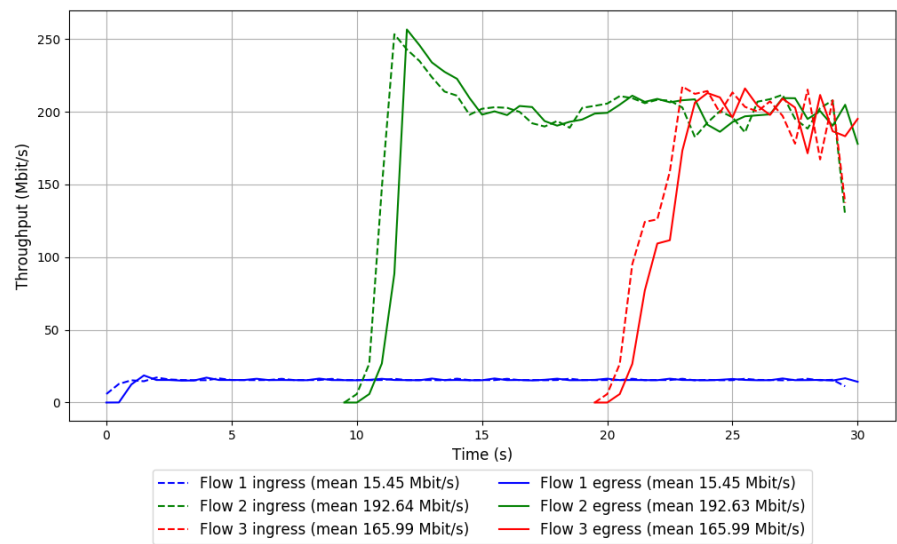


```
Run 1: Statistics of TaoVA-100x

Start at: 2018-10-09 21:41:31
End at: 2018-10-09 21:42:01
Local clock offset: -0.455 ms
Remote clock offset: -0.109 ms

# Below is generated by plot.py at 2018-10-10 01:37:08
# Datalink statistics
-- Total of 3 flows:
Average throughput: 199.75 Mbit/s
95th percentile per-packet one-way delay: 113.408 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 15.45 Mbit/s
95th percentile per-packet one-way delay: 113.324 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 192.63 Mbit/s
95th percentile per-packet one-way delay: 113.232 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 165.99 Mbit/s
95th percentile per-packet one-way delay: 114.027 ms
Loss rate: 0.00%
```

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

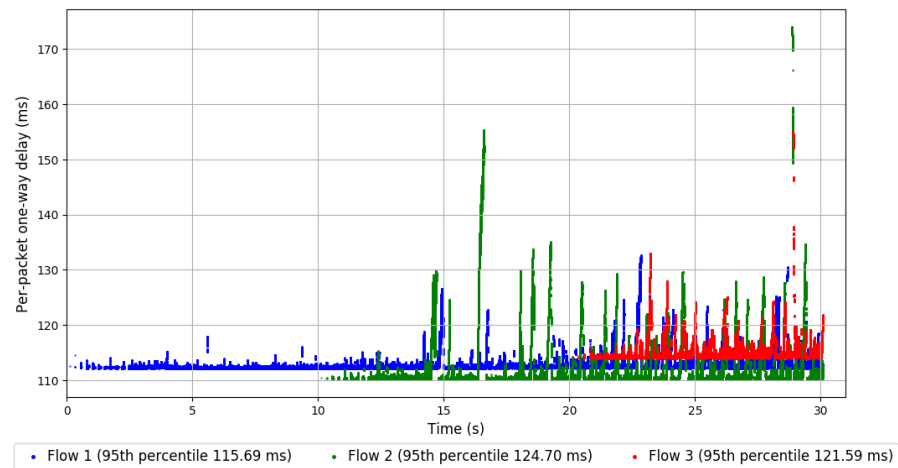
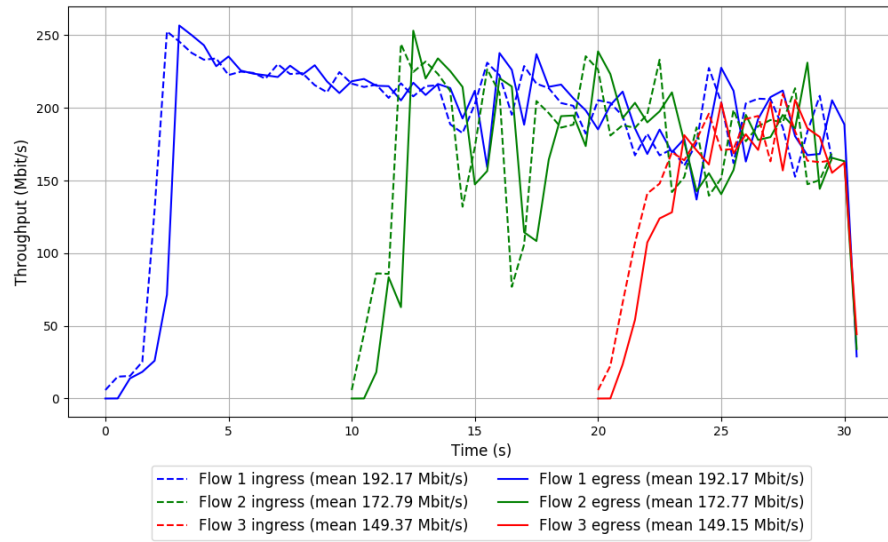


Run 2: Statistics of TaoVA-100x

Start at: 2018-10-09 22:12:32
End at: 2018-10-09 22:13:02
Local clock offset: 0.184 ms
Remote clock offset: -0.618 ms

Below is generated by plot.py at 2018-10-10 01:42:30
Datalink statistics
-- Total of 3 flows:
Average throughput: 356.79 Mbit/s
95th percentile per-packet one-way delay: 120.325 ms
Loss rate: 0.02%
-- Flow 1:
Average throughput: 192.17 Mbit/s
95th percentile per-packet one-way delay: 115.687 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 172.77 Mbit/s
95th percentile per-packet one-way delay: 124.703 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 149.15 Mbit/s
95th percentile per-packet one-way delay: 121.593 ms
Loss rate: 0.16%

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

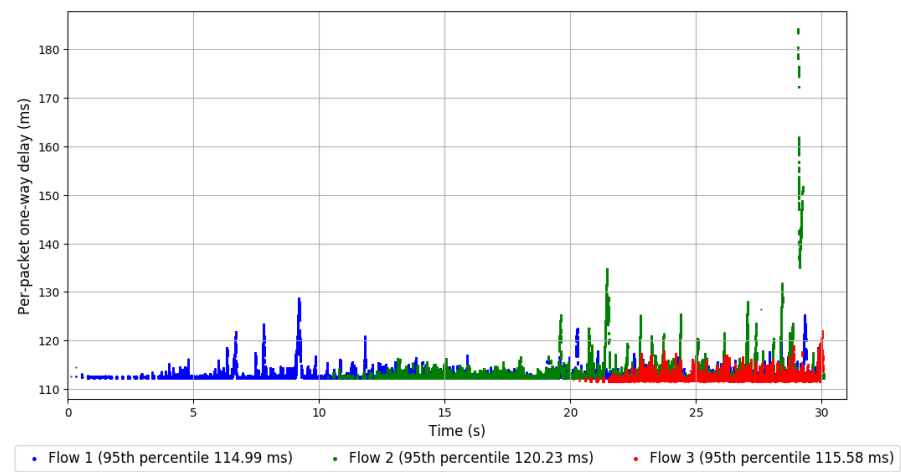
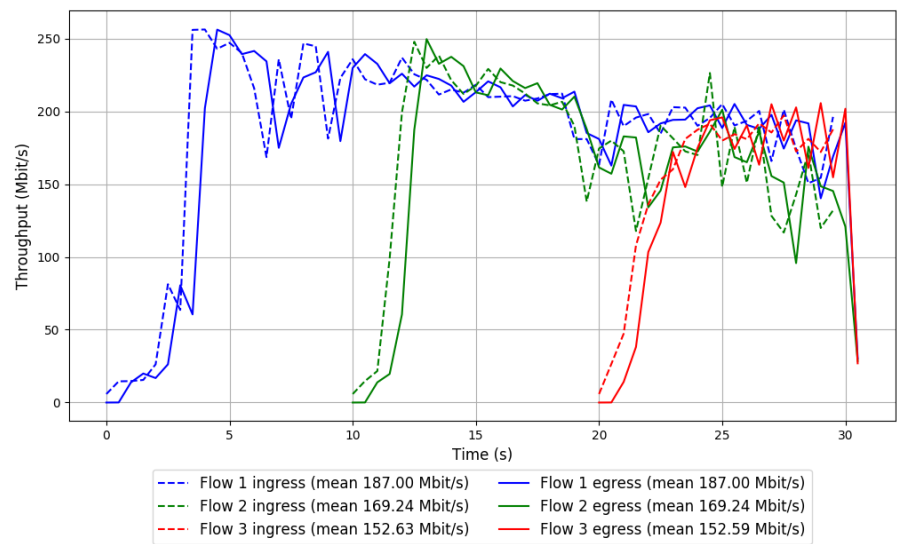


Run 3: Statistics of TaoVA-100x

Start at: 2018-10-09 22:43:42
End at: 2018-10-09 22:44:12
Local clock offset: 0.034 ms
Remote clock offset: -0.211 ms

Below is generated by plot.py at 2018-10-10 01:42:30
Datalink statistics
-- Total of 3 flows:
Average throughput: 350.17 Mbit/s
95th percentile per-packet one-way delay: 116.312 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 187.00 Mbit/s
95th percentile per-packet one-way delay: 114.986 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 169.24 Mbit/s
95th percentile per-packet one-way delay: 120.233 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 152.59 Mbit/s
95th percentile per-packet one-way delay: 115.575 ms
Loss rate: 0.00%

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

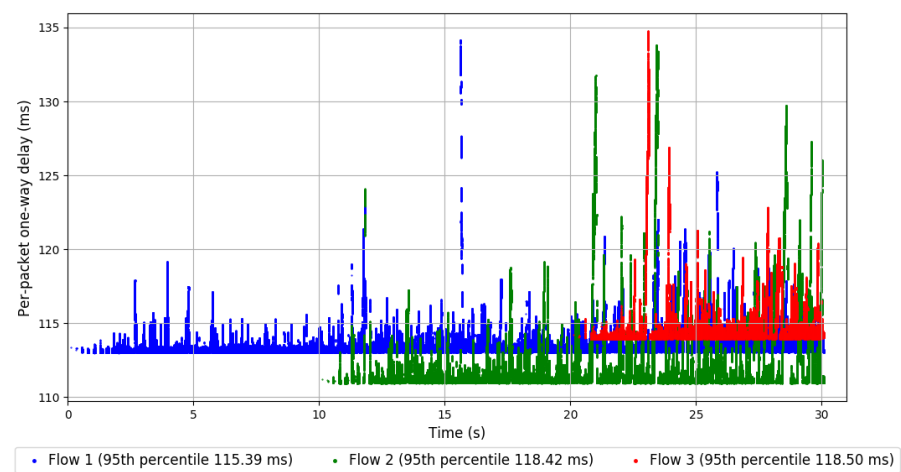
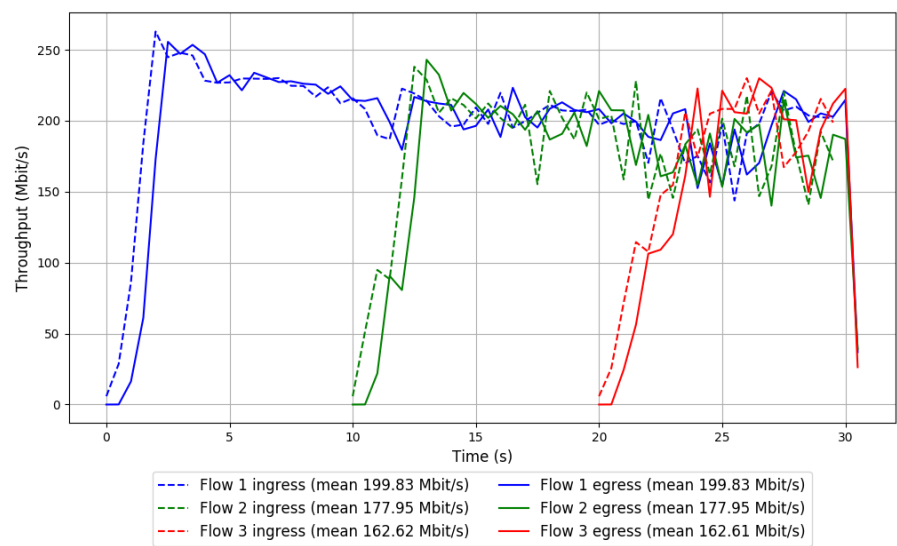


Run 4: Statistics of TaoVA-100x

Start at: 2018-10-09 23:14:50
End at: 2018-10-09 23:15:20
Local clock offset: -0.324 ms
Remote clock offset: -0.191 ms

Below is generated by plot.py at 2018-10-10 01:44:17
Datalink statistics
-- Total of 3 flows:
Average throughput: 372.31 Mbit/s
95th percentile per-packet one-way delay: 116.715 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 199.83 Mbit/s
95th percentile per-packet one-way delay: 115.389 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 177.95 Mbit/s
95th percentile per-packet one-way delay: 118.424 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 162.61 Mbit/s
95th percentile per-packet one-way delay: 118.500 ms
Loss rate: 0.00%

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

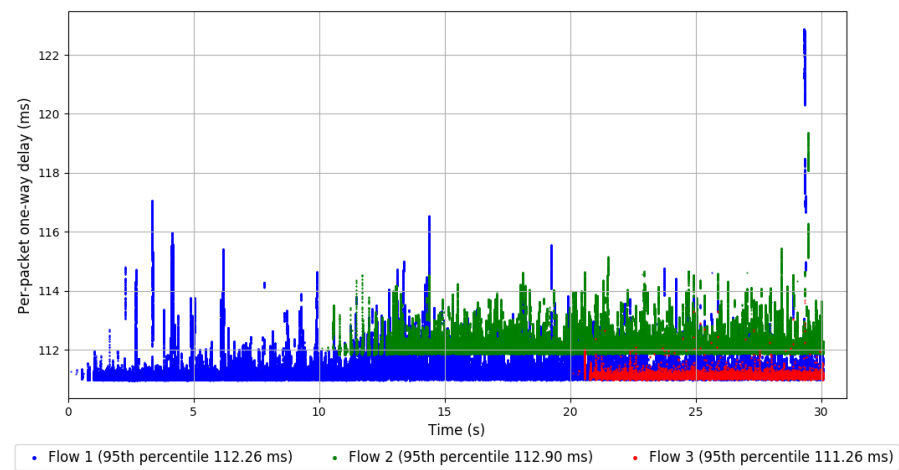
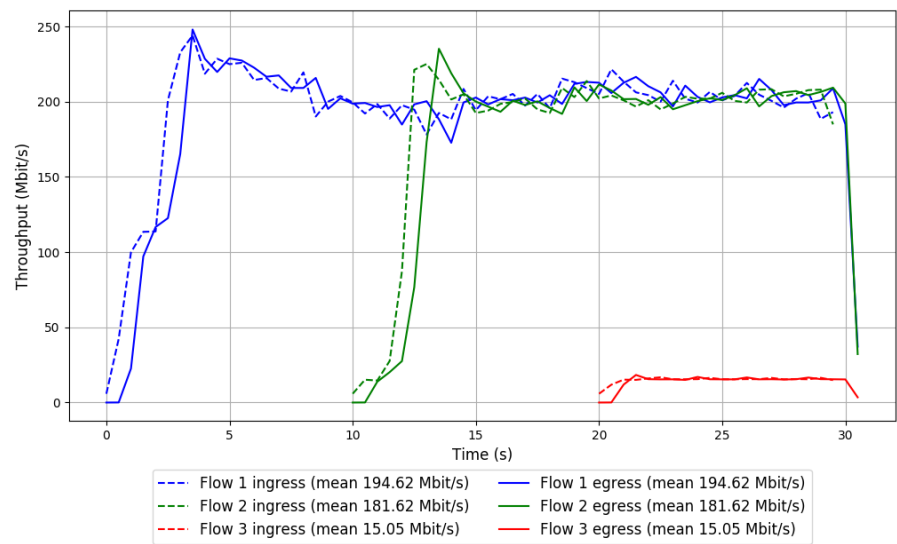


Run 5: Statistics of TaoVA-100x

Start at: 2018-10-09 23:45:53
End at: 2018-10-09 23:46:23
Local clock offset: -0.106 ms
Remote clock offset: -0.643 ms

Below is generated by plot.py at 2018-10-10 01:44:17
Datalink statistics
-- Total of 3 flows:
Average throughput: 320.61 Mbit/s
95th percentile per-packet one-way delay: 112.622 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 194.62 Mbit/s
95th percentile per-packet one-way delay: 112.264 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 181.62 Mbit/s
95th percentile per-packet one-way delay: 112.898 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 15.05 Mbit/s
95th percentile per-packet one-way delay: 111.257 ms
Loss rate: 0.00%

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



Run 1: Statistics of TCP Vegas

Start at: 2018-10-09 21:38:28

End at: 2018-10-09 21:38:58

Local clock offset: -0.697 ms

Remote clock offset: -0.47 ms

Below is generated by plot.py at 2018-10-10 01:45:34

Datalink statistics

-- Total of 3 flows:

Average throughput: 564.68 Mbit/s

95th percentile per-packet one-way delay: 115.235 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 291.93 Mbit/s

95th percentile per-packet one-way delay: 115.099 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 284.34 Mbit/s

95th percentile per-packet one-way delay: 114.407 ms

Loss rate: 0.00%

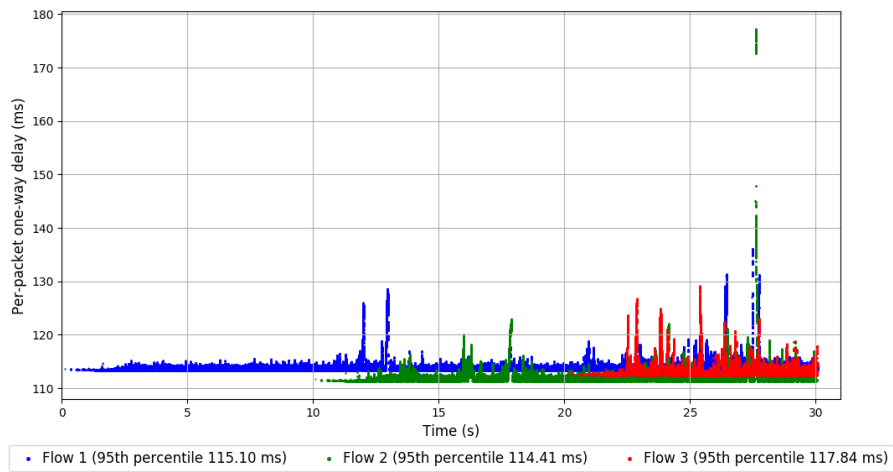
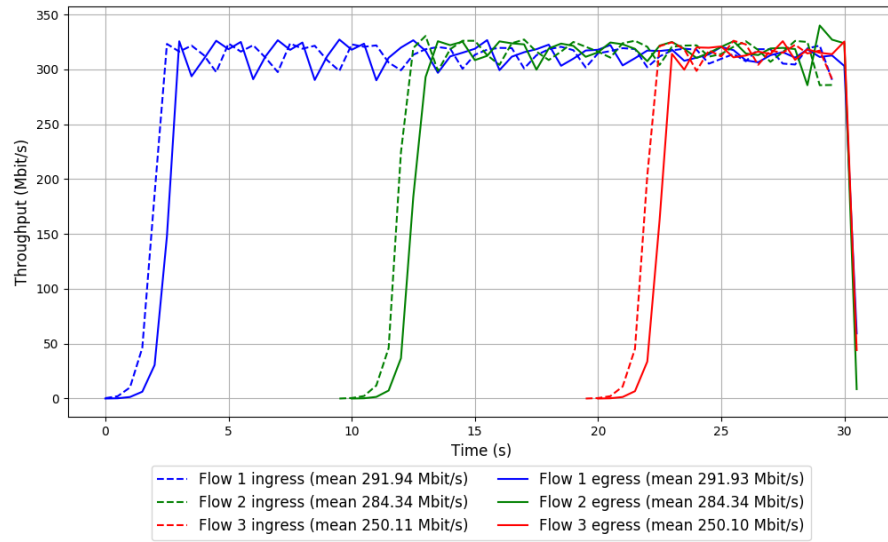
-- Flow 3:

Average throughput: 250.10 Mbit/s

95th percentile per-packet one-way delay: 117.844 ms

Loss rate: 0.00%

Run 1: Report of TCP Vegas — Data Link

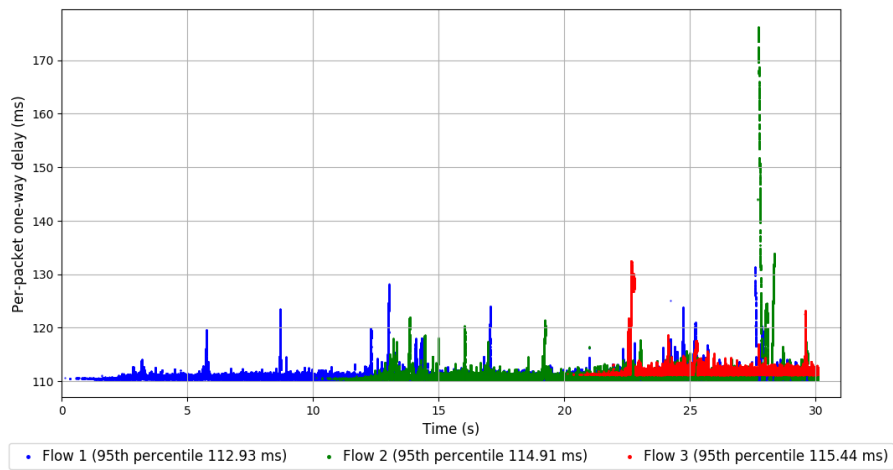
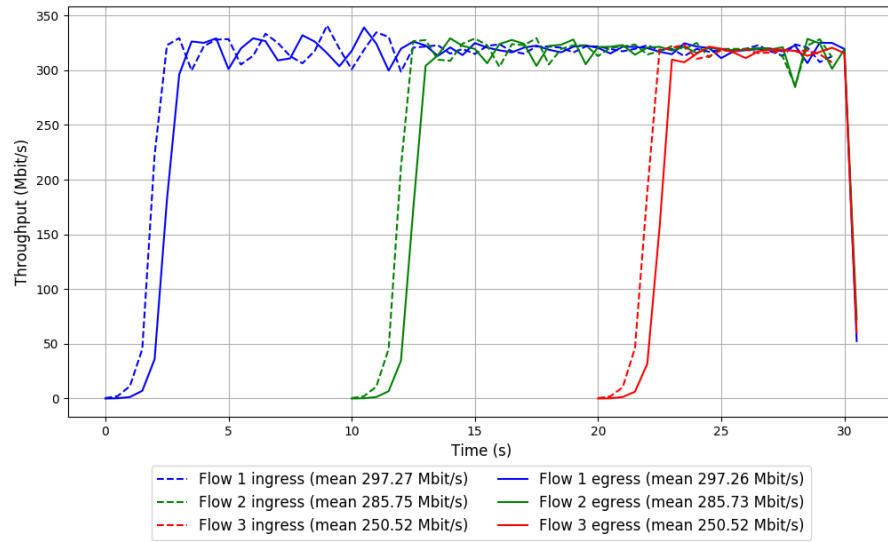


Run 2: Statistics of TCP Vegas

Start at: 2018-10-09 22:09:28
End at: 2018-10-09 22:09:58
Local clock offset: 0.414 ms
Remote clock offset: -0.208 ms

Below is generated by plot.py at 2018-10-10 01:47:09
Datalink statistics
-- Total of 3 flows:
Average throughput: 570.88 Mbit/s
95th percentile per-packet one-way delay: 113.896 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 297.26 Mbit/s
95th percentile per-packet one-way delay: 112.933 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 285.73 Mbit/s
95th percentile per-packet one-way delay: 114.910 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 250.52 Mbit/s
95th percentile per-packet one-way delay: 115.437 ms
Loss rate: 0.00%

Run 2: Report of TCP Vegas — Data Link



Run 3: Statistics of TCP Vegas

Start at: 2018-10-09 22:40:39

End at: 2018-10-09 22:41:09

Local clock offset: 1.373 ms

Remote clock offset: 0.163 ms

Below is generated by plot.py at 2018-10-10 01:47:38

Datalink statistics

-- Total of 3 flows:

Average throughput: 566.43 Mbit/s

95th percentile per-packet one-way delay: 113.730 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 294.41 Mbit/s

95th percentile per-packet one-way delay: 112.993 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 284.30 Mbit/s

95th percentile per-packet one-way delay: 114.018 ms

Loss rate: 0.00%

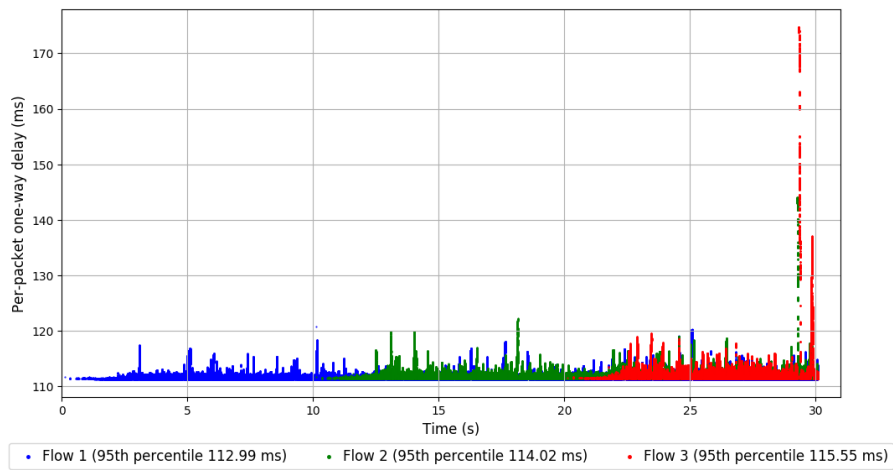
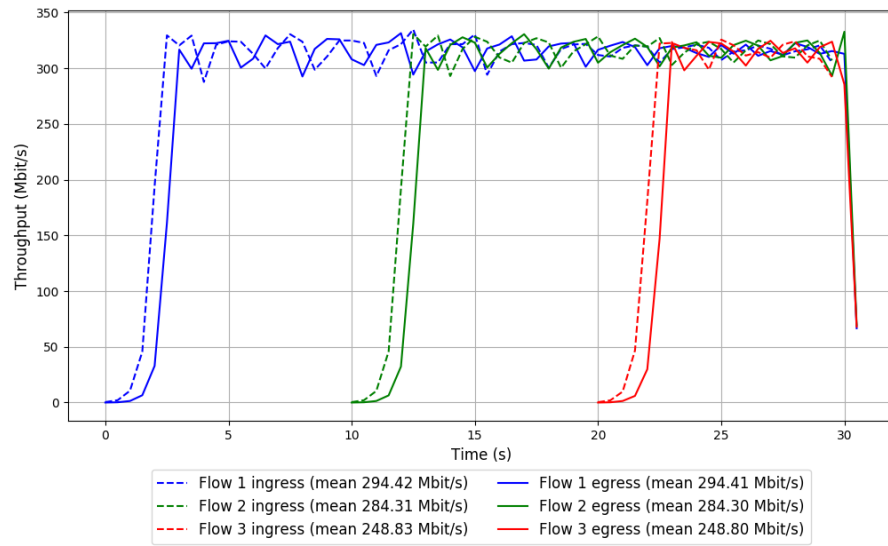
-- Flow 3:

Average throughput: 248.80 Mbit/s

95th percentile per-packet one-way delay: 115.552 ms

Loss rate: 0.00%

Run 3: Report of TCP Vegas — Data Link

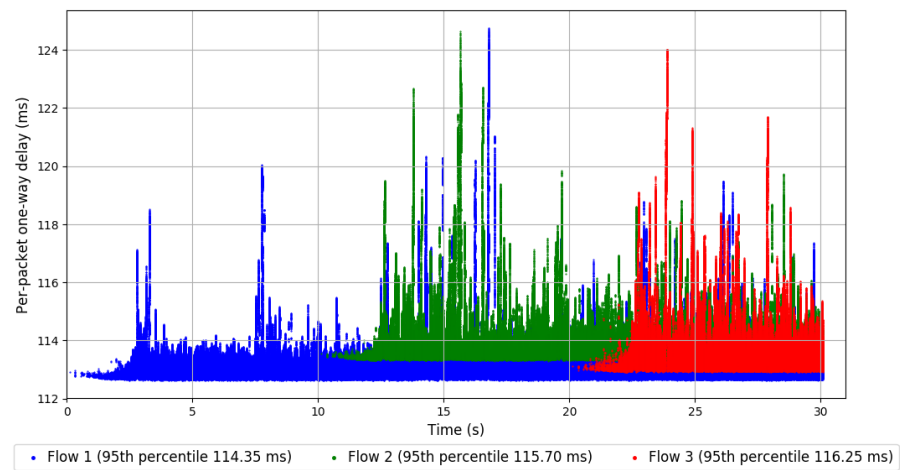
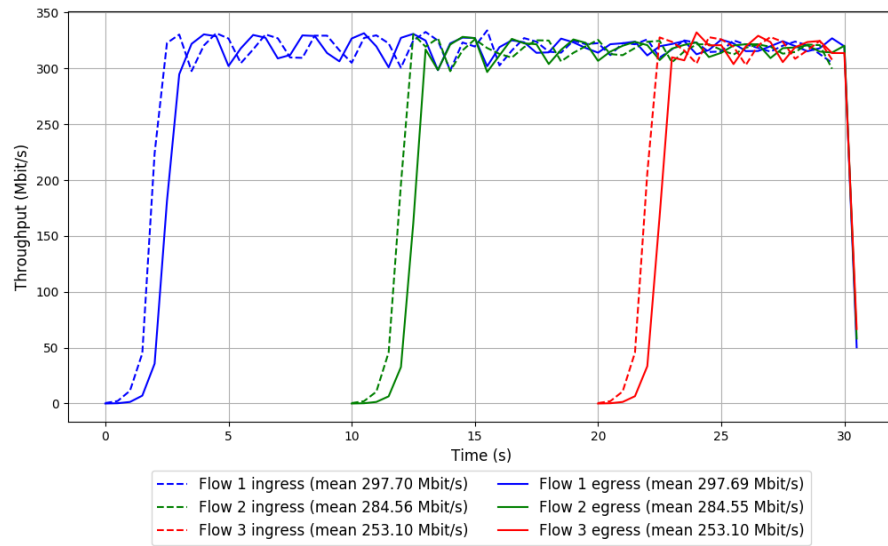


Run 4: Statistics of TCP Vegas

Start at: 2018-10-09 23:11:46
End at: 2018-10-09 23:12:16
Local clock offset: -1.337 ms
Remote clock offset: -0.209 ms

Below is generated by plot.py at 2018-10-10 01:47:51
Datalink statistics
-- Total of 3 flows:
Average throughput: 571.34 Mbit/s
95th percentile per-packet one-way delay: 115.192 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 297.69 Mbit/s
95th percentile per-packet one-way delay: 114.351 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 284.55 Mbit/s
95th percentile per-packet one-way delay: 115.698 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 253.10 Mbit/s
95th percentile per-packet one-way delay: 116.248 ms
Loss rate: 0.00%

Run 4: Report of TCP Vegas — Data Link

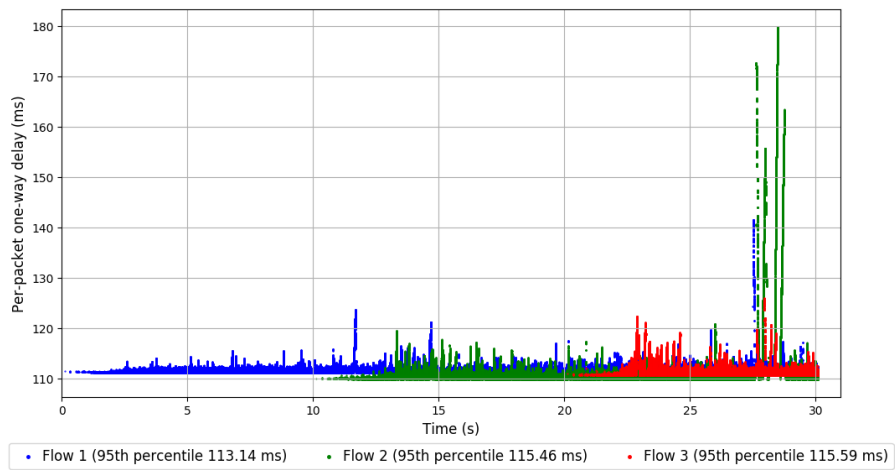
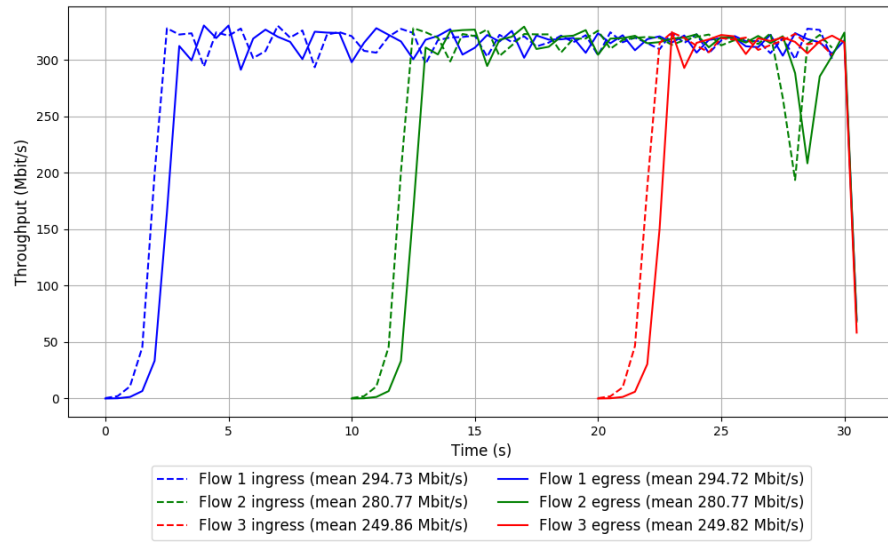


Run 5: Statistics of TCP Vegas

Start at: 2018-10-09 23:42:50
End at: 2018-10-09 23:43:20
Local clock offset: 1.348 ms
Remote clock offset: -0.296 ms

Below is generated by plot.py at 2018-10-10 01:52:50
Datalink statistics
-- Total of 3 flows:
Average throughput: 564.77 Mbit/s
95th percentile per-packet one-way delay: 113.865 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 294.72 Mbit/s
95th percentile per-packet one-way delay: 113.137 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 280.77 Mbit/s
95th percentile per-packet one-way delay: 115.461 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 249.82 Mbit/s
95th percentile per-packet one-way delay: 115.594 ms
Loss rate: 0.00%

Run 5: Report of TCP Vegas — Data Link

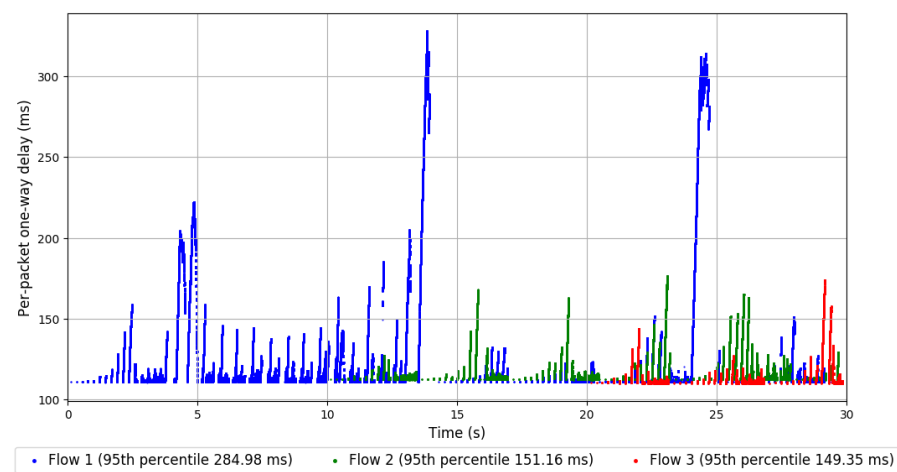
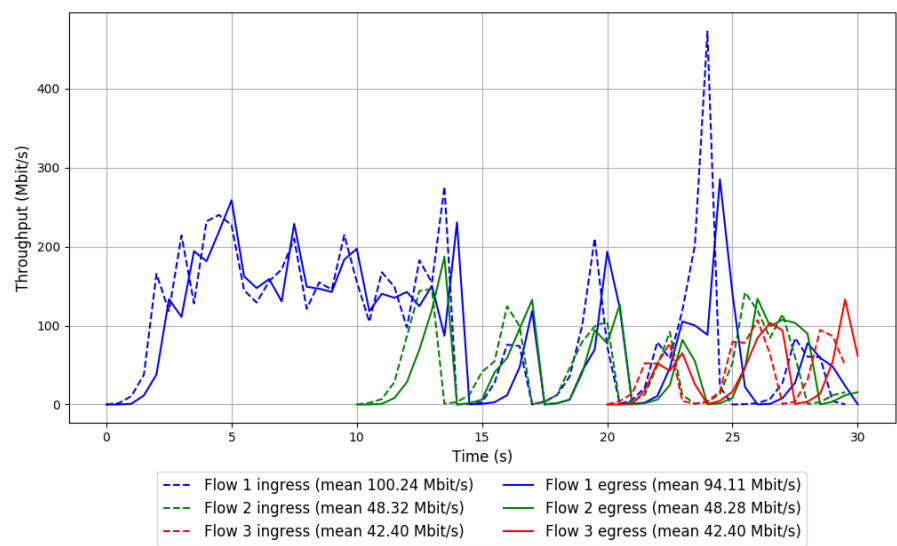


Run 1: Statistics of Verus

Start at: 2018-10-09 21:25:32
End at: 2018-10-09 21:26:02
Local clock offset: 0.496 ms
Remote clock offset: -0.479 ms

Below is generated by plot.py at 2018-10-10 01:52:50
Datalink statistics
-- Total of 3 flows:
Average throughput: 139.61 Mbit/s
95th percentile per-packet one-way delay: 258.414 ms
Loss rate: 4.20%
-- Flow 1:
Average throughput: 94.11 Mbit/s
95th percentile per-packet one-way delay: 284.982 ms
Loss rate: 6.12%
-- Flow 2:
Average throughput: 48.28 Mbit/s
95th percentile per-packet one-way delay: 151.161 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 42.40 Mbit/s
95th percentile per-packet one-way delay: 149.346 ms
Loss rate: 0.00%

Run 1: Report of Verus — Data Link

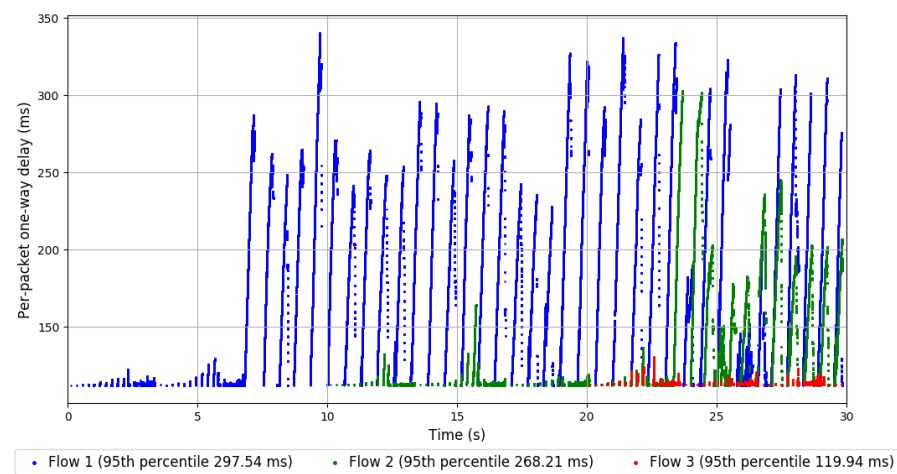
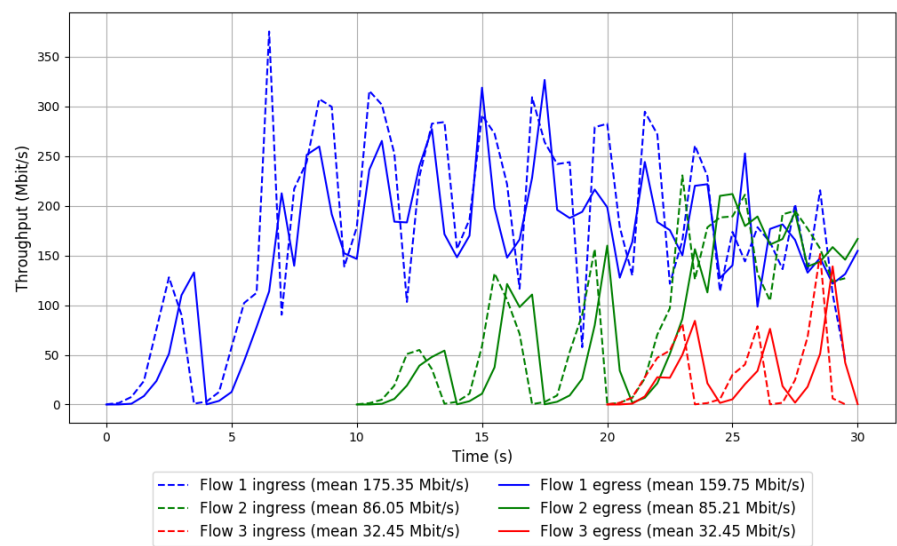


Run 2: Statistics of Verus

Start at: 2018-10-09 21:56:10
End at: 2018-10-09 21:56:40
Local clock offset: -0.441 ms
Remote clock offset: 0.166 ms

Below is generated by plot.py at 2018-10-10 01:52:50
Datalink statistics
-- Total of 3 flows:
Average throughput: 226.83 Mbit/s
95th percentile per-packet one-way delay: 290.480 ms
Loss rate: 6.64%
-- Flow 1:
Average throughput: 159.75 Mbit/s
95th percentile per-packet one-way delay: 297.541 ms
Loss rate: 8.89%
-- Flow 2:
Average throughput: 85.21 Mbit/s
95th percentile per-packet one-way delay: 268.213 ms
Loss rate: 0.92%
-- Flow 3:
Average throughput: 32.45 Mbit/s
95th percentile per-packet one-way delay: 119.943 ms
Loss rate: 0.00%

Run 2: Report of Verus — Data Link



Run 3: Statistics of Verus

Start at: 2018-10-09 22:27:24

End at: 2018-10-09 22:27:54

Local clock offset: 1.562 ms

Remote clock offset: 0.145 ms

Below is generated by plot.py at 2018-10-10 01:52:50

Datalink statistics

-- Total of 3 flows:

Average throughput: 209.98 Mbit/s

95th percentile per-packet one-way delay: 311.630 ms

Loss rate: 13.53%

-- Flow 1:

Average throughput: 150.59 Mbit/s

95th percentile per-packet one-way delay: 311.940 ms

Loss rate: 16.74%

-- Flow 2:

Average throughput: 63.81 Mbit/s

95th percentile per-packet one-way delay: 279.370 ms

Loss rate: 2.43%

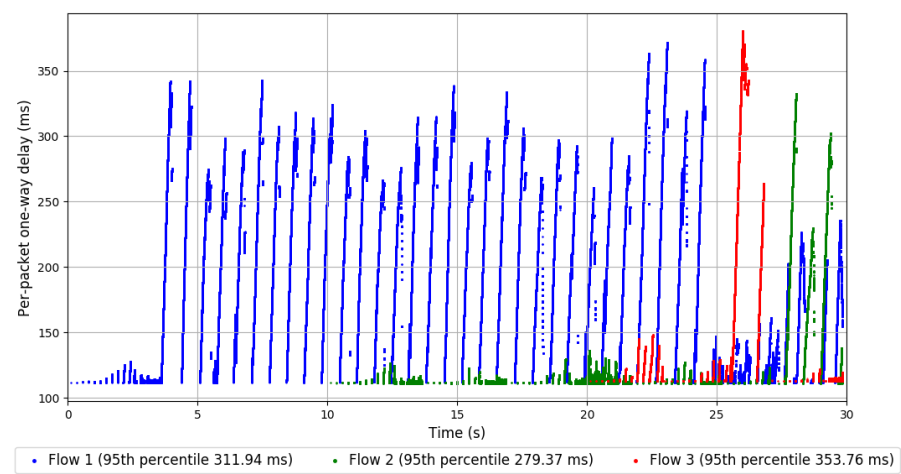
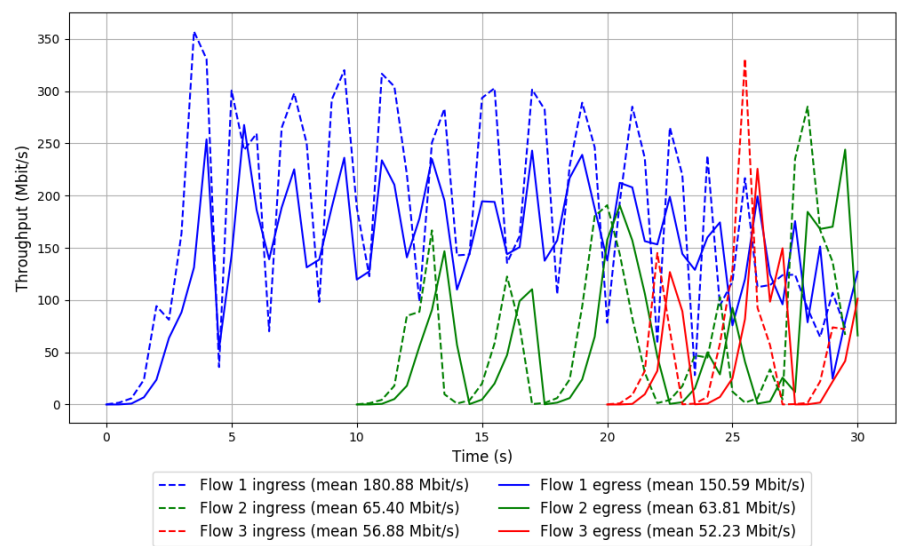
-- Flow 3:

Average throughput: 52.23 Mbit/s

95th percentile per-packet one-way delay: 353.760 ms

Loss rate: 8.18%

Run 3: Report of Verus — Data Link

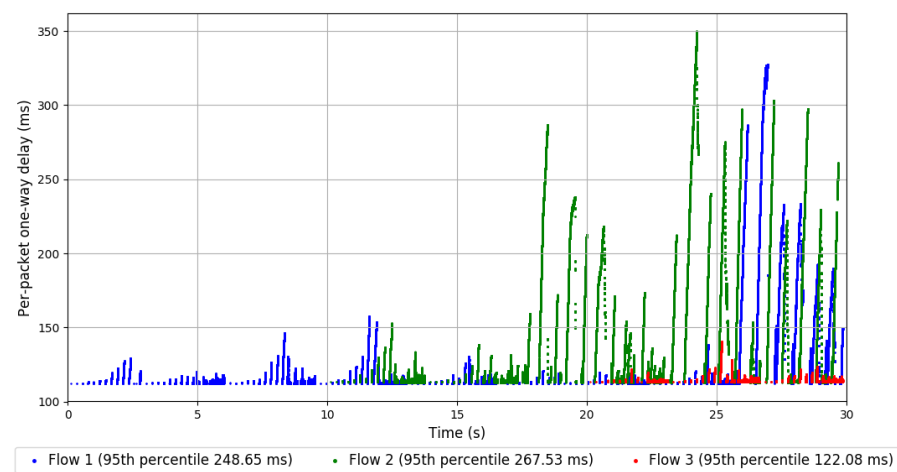
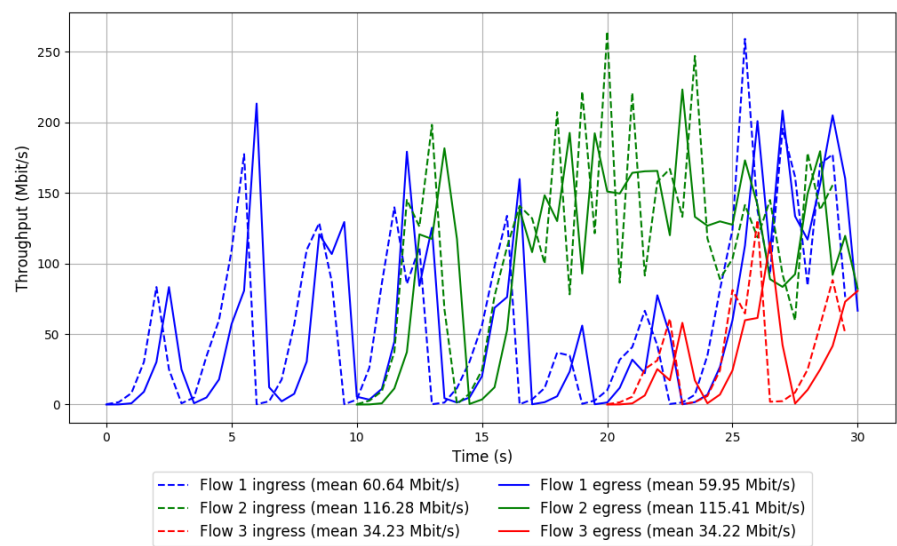


Run 4: Statistics of Verus

Start at: 2018-10-09 22:58:41
End at: 2018-10-09 22:59:11
Local clock offset: -0.979 ms
Remote clock offset: -0.54 ms

Below is generated by plot.py at 2018-10-10 01:52:50
Datalink statistics
-- Total of 3 flows:
Average throughput: 147.06 Mbit/s
95th percentile per-packet one-way delay: 258.958 ms
Loss rate: 0.46%
-- Flow 1:
Average throughput: 59.95 Mbit/s
95th percentile per-packet one-way delay: 248.649 ms
Loss rate: 1.12%
-- Flow 2:
Average throughput: 115.41 Mbit/s
95th percentile per-packet one-way delay: 267.532 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 34.22 Mbit/s
95th percentile per-packet one-way delay: 122.083 ms
Loss rate: 0.00%

Run 4: Report of Verus — Data Link

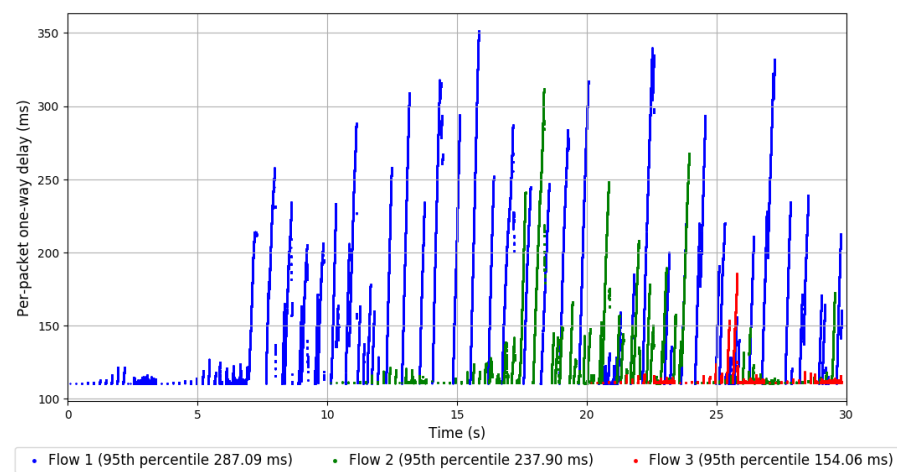
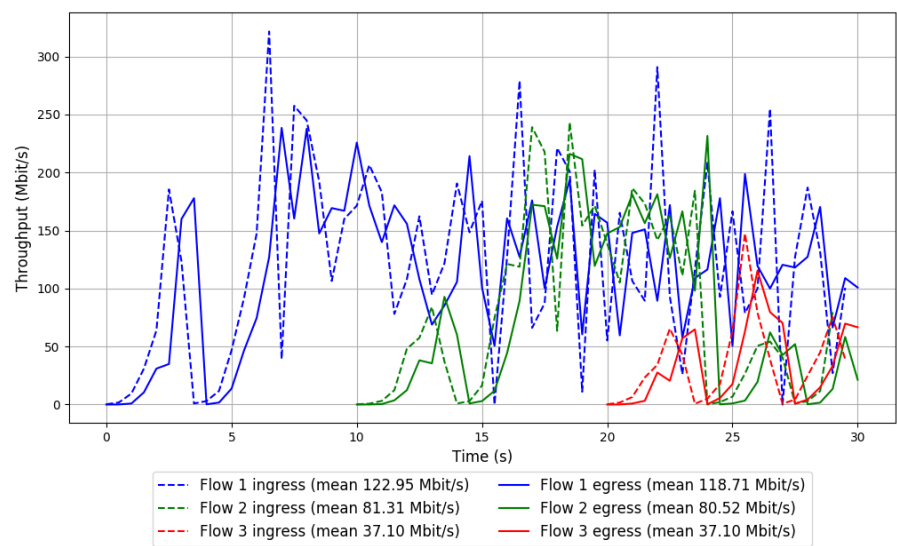


Run 5: Statistics of Verus

Start at: 2018-10-09 23:29:51
End at: 2018-10-09 23:30:21
Local clock offset: 0.968 ms
Remote clock offset: -0.564 ms

Below is generated by plot.py at 2018-10-10 01:53:23
Datalink statistics
-- Total of 3 flows:
Average throughput: 183.38 Mbit/s
95th percentile per-packet one-way delay: 272.916 ms
Loss rate: 2.34%
-- Flow 1:
Average throughput: 118.71 Mbit/s
95th percentile per-packet one-way delay: 287.091 ms
Loss rate: 3.29%
-- Flow 2:
Average throughput: 80.52 Mbit/s
95th percentile per-packet one-way delay: 237.904 ms
Loss rate: 0.67%
-- Flow 3:
Average throughput: 37.10 Mbit/s
95th percentile per-packet one-way delay: 154.055 ms
Loss rate: 0.00%

Run 5: Report of Verus — Data Link

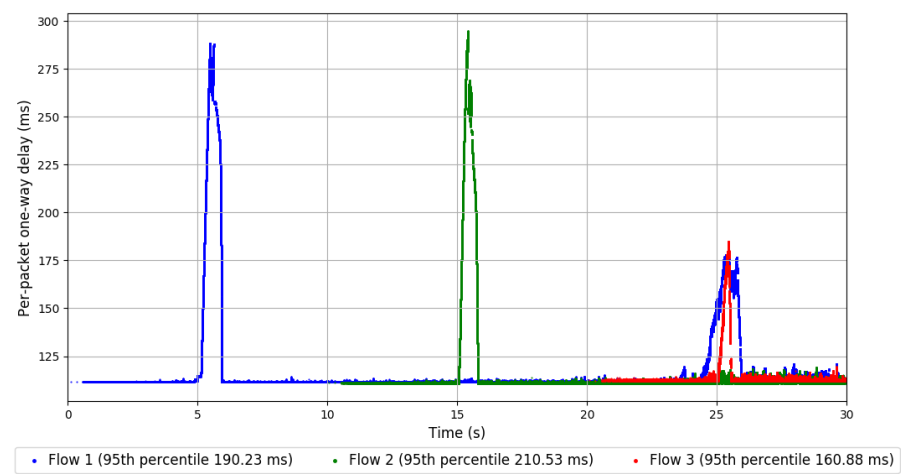
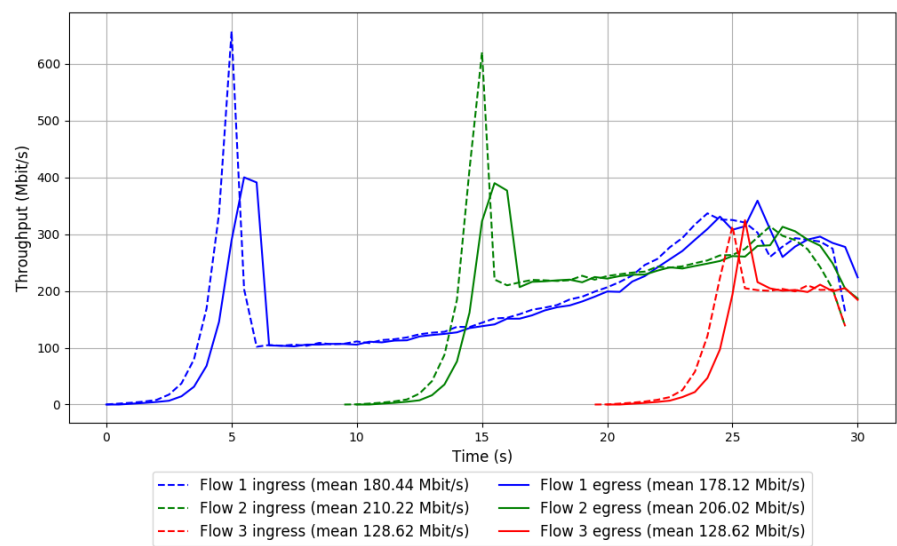


Run 1: Statistics of PCC-Vivace

Start at: 2018-10-09 21:44:24
End at: 2018-10-09 21:44:54
Local clock offset: 1.045 ms
Remote clock offset: -0.102 ms

Below is generated by plot.py at 2018-10-10 01:53:54
Datalink statistics
-- Total of 3 flows:
Average throughput: 357.83 Mbit/s
95th percentile per-packet one-way delay: 180.395 ms
Loss rate: 1.41%
-- Flow 1:
Average throughput: 178.12 Mbit/s
95th percentile per-packet one-way delay: 190.231 ms
Loss rate: 1.29%
-- Flow 2:
Average throughput: 206.02 Mbit/s
95th percentile per-packet one-way delay: 210.526 ms
Loss rate: 2.00%
-- Flow 3:
Average throughput: 128.62 Mbit/s
95th percentile per-packet one-way delay: 160.878 ms
Loss rate: 0.00%

Run 1: Report of PCC-Vivace — Data Link

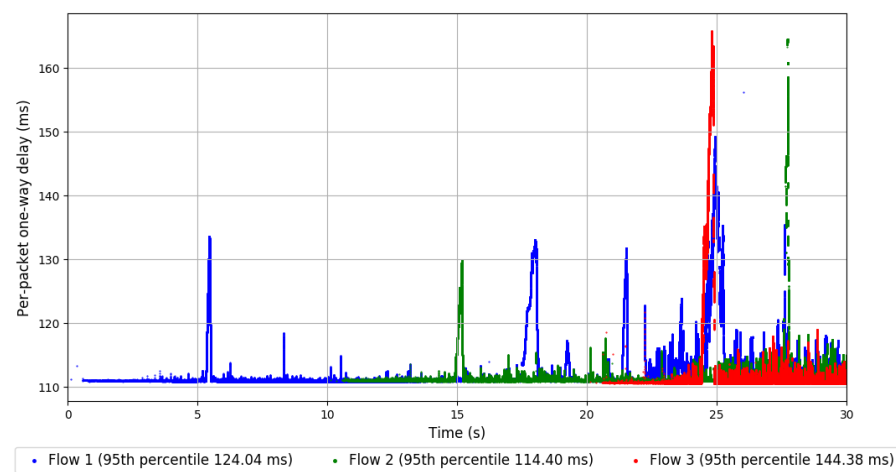
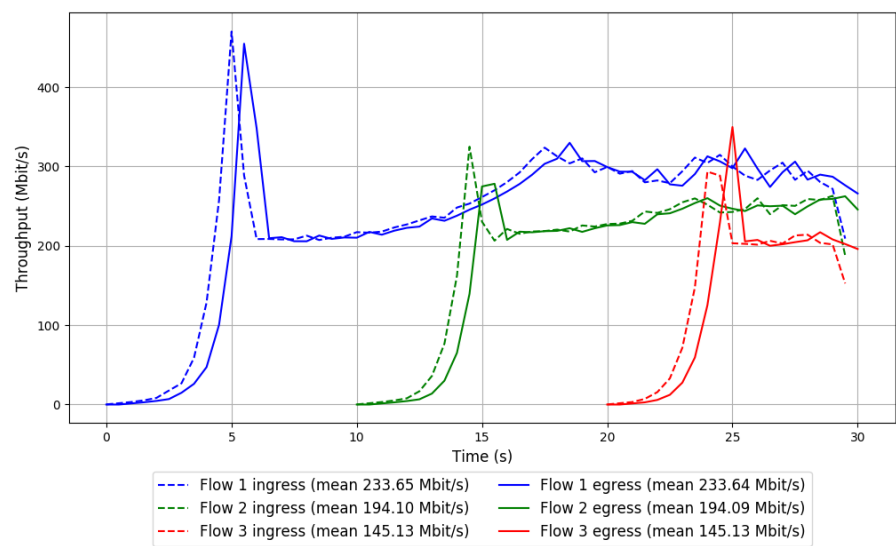


Run 2: Statistics of PCC-Vivace

Start at: 2018-10-09 22:15:43
End at: 2018-10-09 22:16:13
Local clock offset: 0.883 ms
Remote clock offset: -0.222 ms

Below is generated by plot.py at 2018-10-10 01:54:23
Datalink statistics
-- Total of 3 flows:
Average throughput: 410.63 Mbit/s
95th percentile per-packet one-way delay: 122.936 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 233.64 Mbit/s
95th percentile per-packet one-way delay: 124.040 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 194.09 Mbit/s
95th percentile per-packet one-way delay: 114.404 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 145.13 Mbit/s
95th percentile per-packet one-way delay: 144.380 ms
Loss rate: 0.00%

Run 2: Report of PCC-Vivace — Data Link

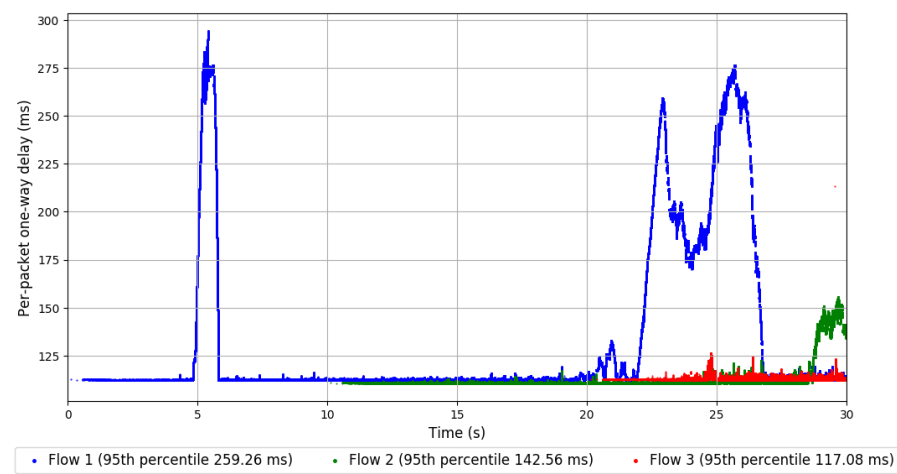
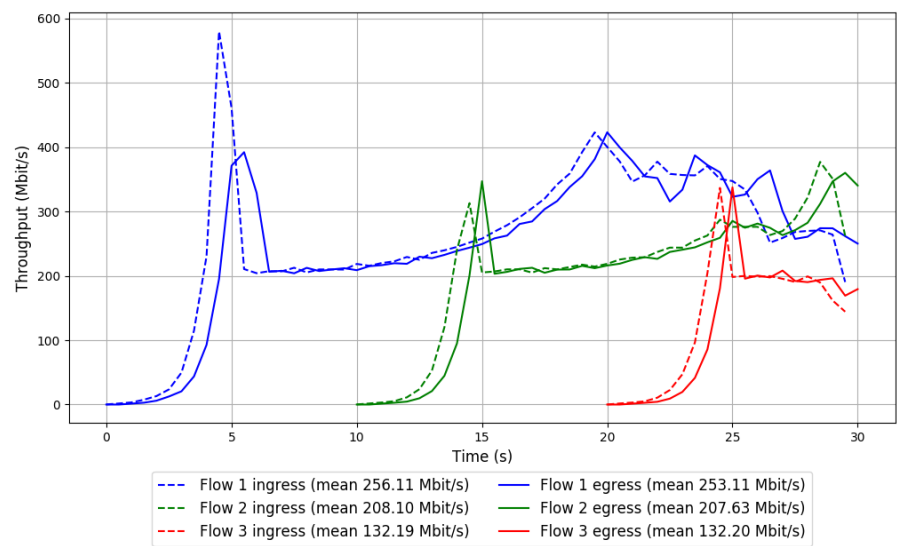


Run 3: Statistics of PCC-Vivace

Start at: 2018-10-09 22:46:51
End at: 2018-10-09 22:47:21
Local clock offset: 0.122 ms
Remote clock offset: -0.178 ms

Below is generated by plot.py at 2018-10-10 01:54:31
Datalink statistics
-- Total of 3 flows:
Average throughput: 434.76 Mbit/s
95th percentile per-packet one-way delay: 245.395 ms
Loss rate: 0.75%
-- Flow 1:
Average throughput: 253.11 Mbit/s
95th percentile per-packet one-way delay: 259.262 ms
Loss rate: 1.17%
-- Flow 2:
Average throughput: 207.63 Mbit/s
95th percentile per-packet one-way delay: 142.560 ms
Loss rate: 0.21%
-- Flow 3:
Average throughput: 132.20 Mbit/s
95th percentile per-packet one-way delay: 117.083 ms
Loss rate: 0.00%

Run 3: Report of PCC-Vivace — Data Link

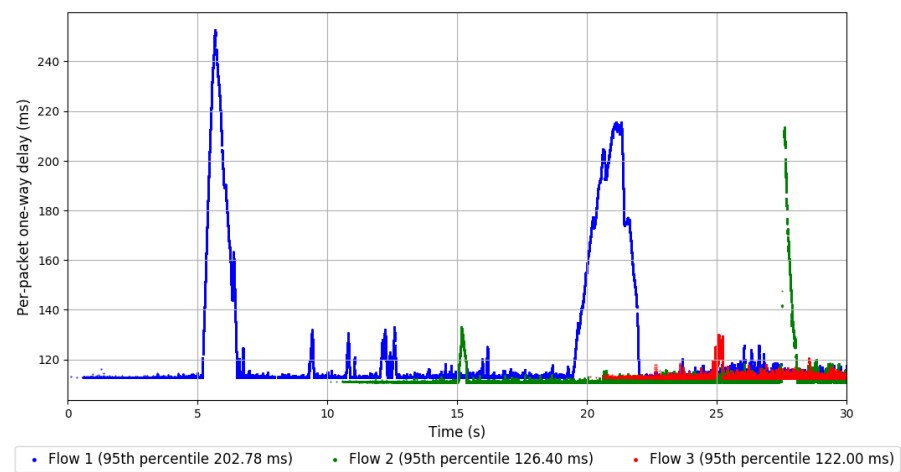
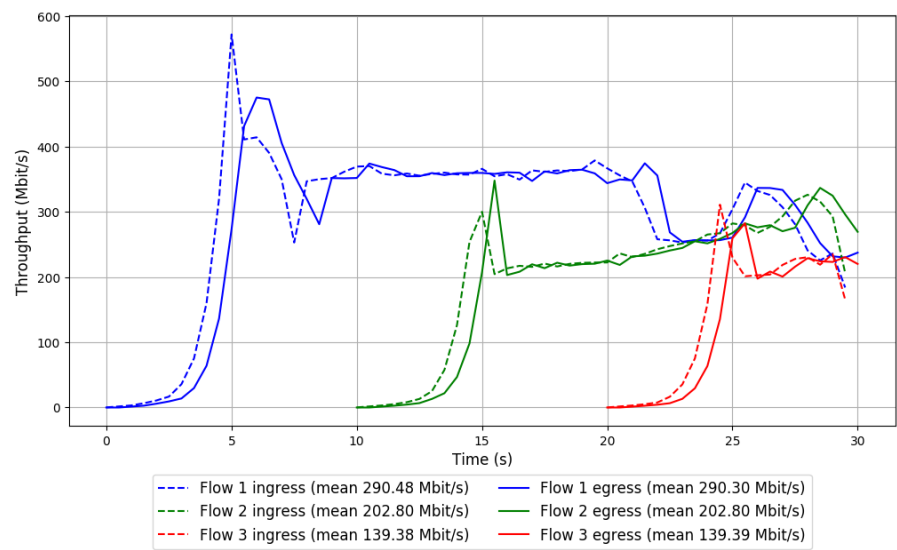


Run 4: Statistics of PCC-Vivace

Start at: 2018-10-09 23:18:01
End at: 2018-10-09 23:18:31
Local clock offset: -0.263 ms
Remote clock offset: -0.224 ms

Below is generated by plot.py at 2018-10-10 01:55:17
Datalink statistics
-- Total of 3 flows:
Average throughput: 471.15 Mbit/s
95th percentile per-packet one-way delay: 186.667 ms
Loss rate: 0.04%
-- Flow 1:
Average throughput: 290.30 Mbit/s
95th percentile per-packet one-way delay: 202.779 ms
Loss rate: 0.06%
-- Flow 2:
Average throughput: 202.80 Mbit/s
95th percentile per-packet one-way delay: 126.398 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 139.39 Mbit/s
95th percentile per-packet one-way delay: 121.996 ms
Loss rate: 0.00%

Run 4: Report of PCC-Vivace — Data Link

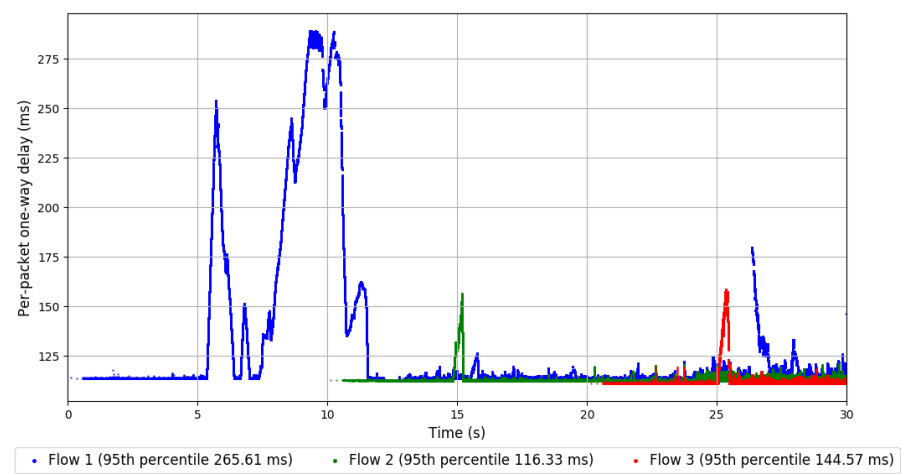
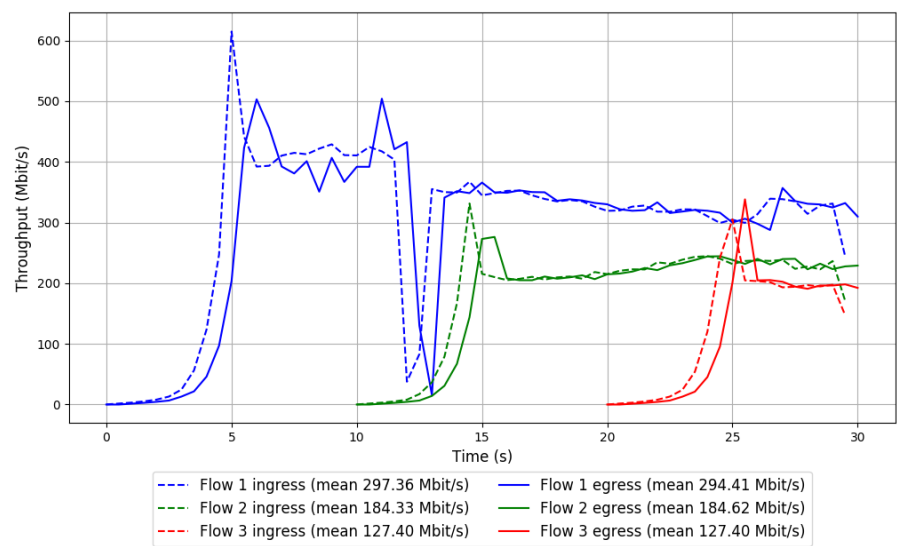


Run 5: Statistics of PCC-Vivace

Start at: 2018-10-09 23:48:59
End at: 2018-10-09 23:49:29
Local clock offset: 0.035 ms
Remote clock offset: -0.289 ms

Below is generated by plot.py at 2018-10-10 01:55:24
Datalink statistics
-- Total of 3 flows:
Average throughput: 459.02 Mbit/s
95th percentile per-packet one-way delay: 237.817 ms
Loss rate: 0.64%
-- Flow 1:
Average throughput: 294.41 Mbit/s
95th percentile per-packet one-way delay: 265.612 ms
Loss rate: 0.99%
-- Flow 2:
Average throughput: 184.62 Mbit/s
95th percentile per-packet one-way delay: 116.327 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 127.40 Mbit/s
95th percentile per-packet one-way delay: 144.571 ms
Loss rate: 0.00%

Run 5: Report of PCC-Vivace — Data Link

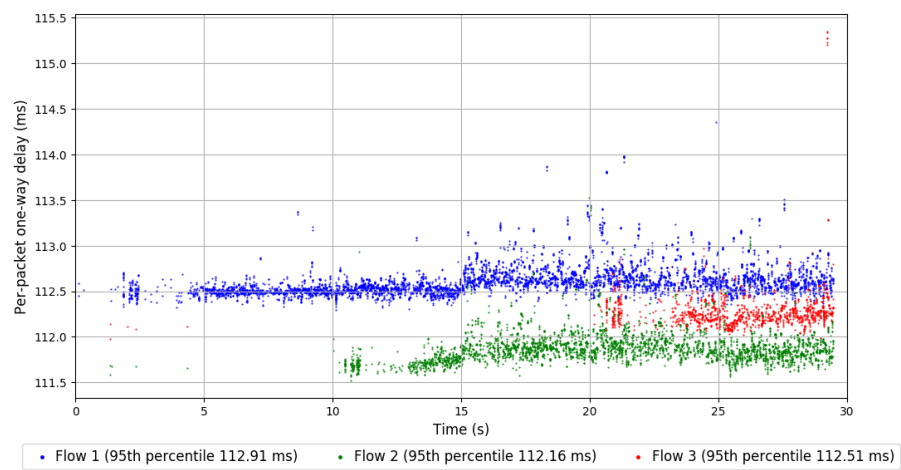
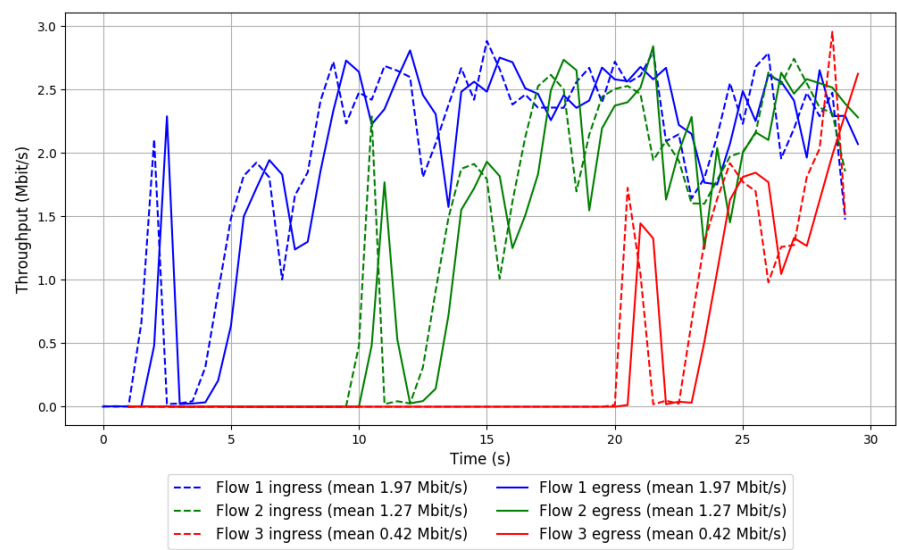


Run 1: Statistics of WebRTC media

Start at: 2018-10-09 21:37:12
End at: 2018-10-09 21:37:42
Local clock offset: 0.251 ms
Remote clock offset: -0.487 ms

Below is generated by plot.py at 2018-10-10 01:55:24
Datalink statistics
-- Total of 3 flows:
Average throughput: 3.60 Mbit/s
95th percentile per-packet one-way delay: 112.799 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 1.97 Mbit/s
95th percentile per-packet one-way delay: 112.910 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 1.27 Mbit/s
95th percentile per-packet one-way delay: 112.163 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.42 Mbit/s
95th percentile per-packet one-way delay: 112.511 ms
Loss rate: 0.00%

Run 1: Report of WebRTC media — Data Link



Run 2: Statistics of WebRTC media

Start at: 2018-10-09 22:08:13

End at: 2018-10-09 22:08:43

Local clock offset: 0.158 ms

Remote clock offset: 0.139 ms

Below is generated by plot.py at 2018-10-10 01:55:24

Datalink statistics

-- Total of 3 flows:

Average throughput: 3.18 Mbit/s

95th percentile per-packet one-way delay: 113.937 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 1.81 Mbit/s

95th percentile per-packet one-way delay: 113.541 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 1.04 Mbit/s

95th percentile per-packet one-way delay: 113.747 ms

Loss rate: 0.00%

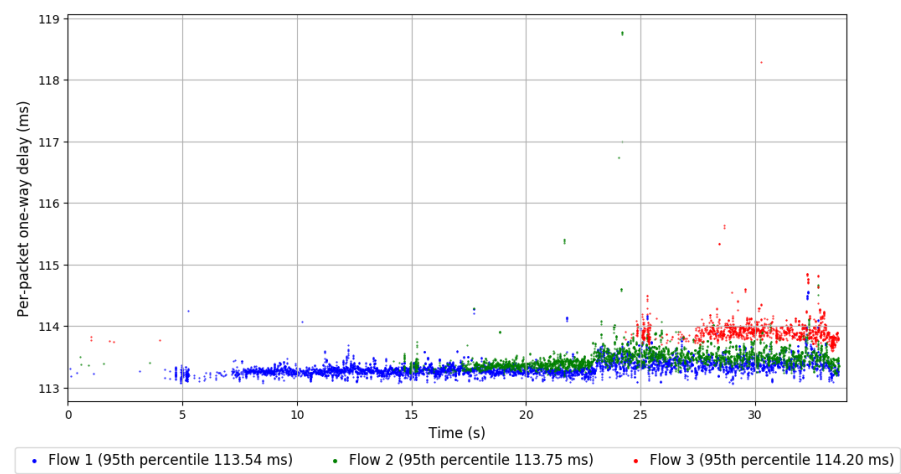
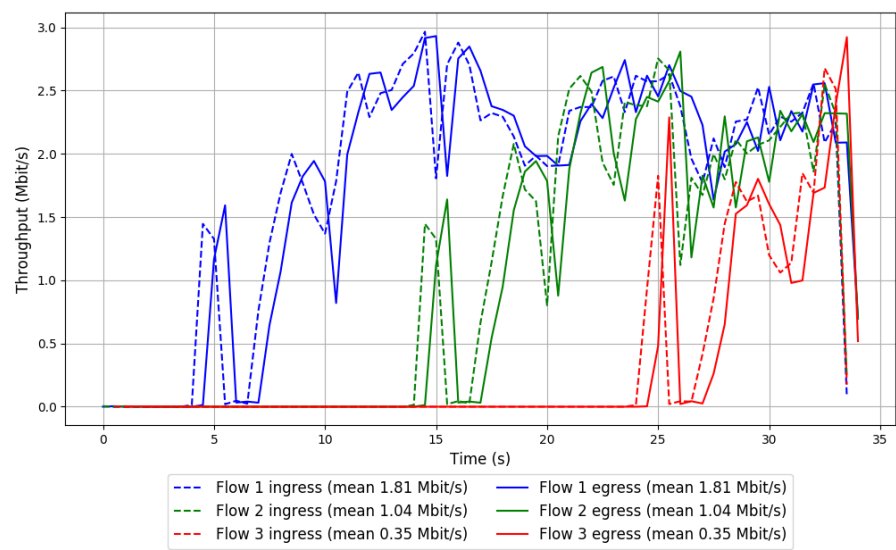
-- Flow 3:

Average throughput: 0.35 Mbit/s

95th percentile per-packet one-way delay: 114.197 ms

Loss rate: 0.00%

Run 2: Report of WebRTC media — Data Link

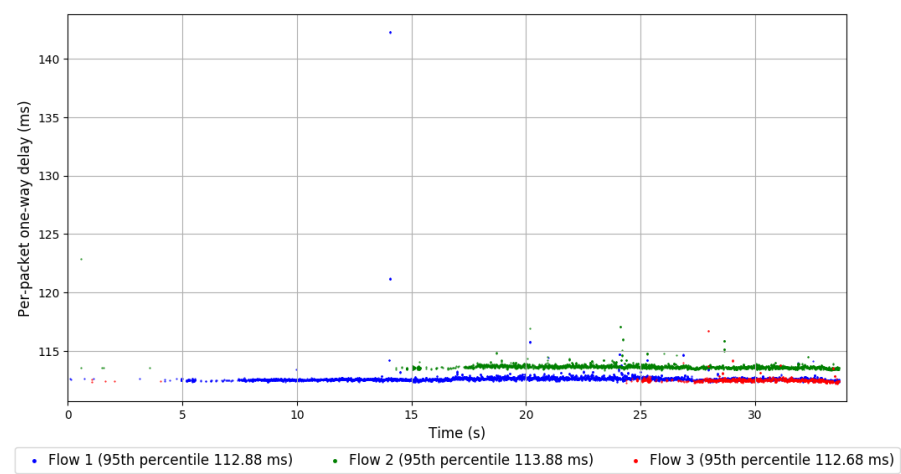
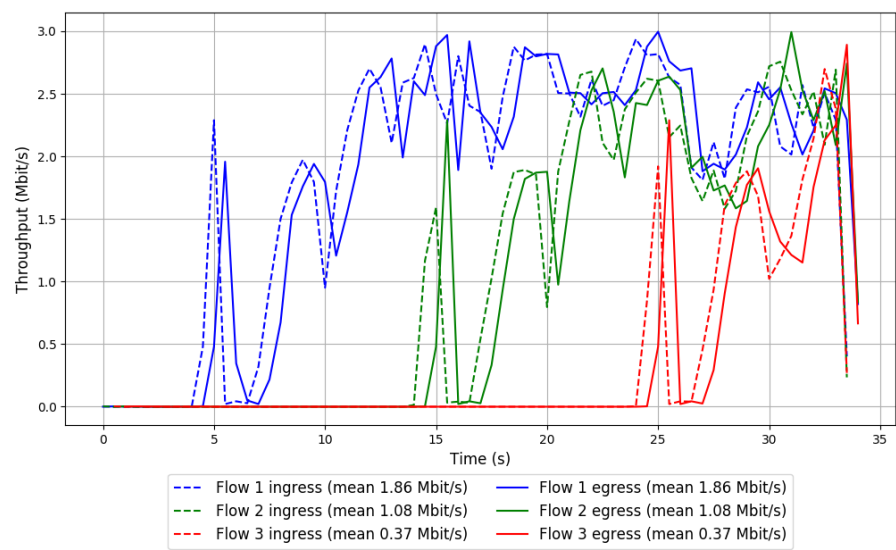


Run 3: Statistics of WebRTC media

Start at: 2018-10-09 22:39:23
End at: 2018-10-09 22:39:53
Local clock offset: -1.287 ms
Remote clock offset: -0.512 ms

Below is generated by plot.py at 2018-10-10 01:55:24
Datalink statistics
-- Total of 3 flows:
Average throughput: 3.29 Mbit/s
95th percentile per-packet one-way delay: 113.784 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 1.86 Mbit/s
95th percentile per-packet one-way delay: 112.879 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 1.08 Mbit/s
95th percentile per-packet one-way delay: 113.884 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.37 Mbit/s
95th percentile per-packet one-way delay: 112.680 ms
Loss rate: 0.00%

Run 3: Report of WebRTC media — Data Link

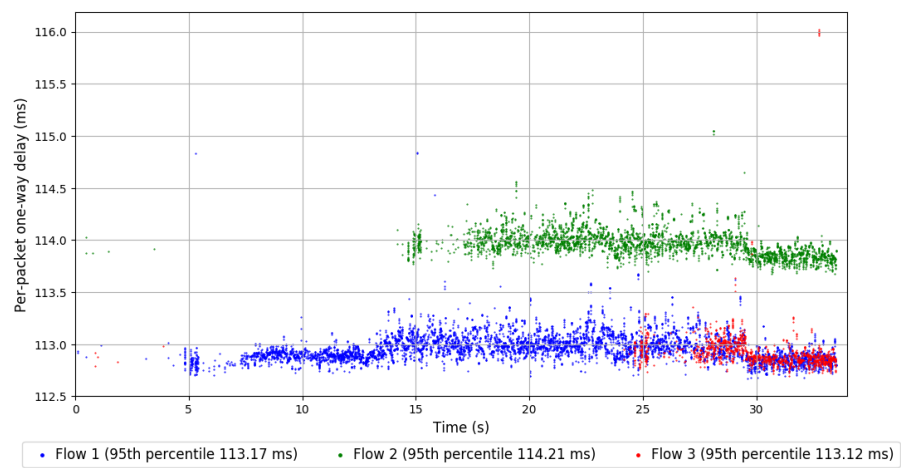
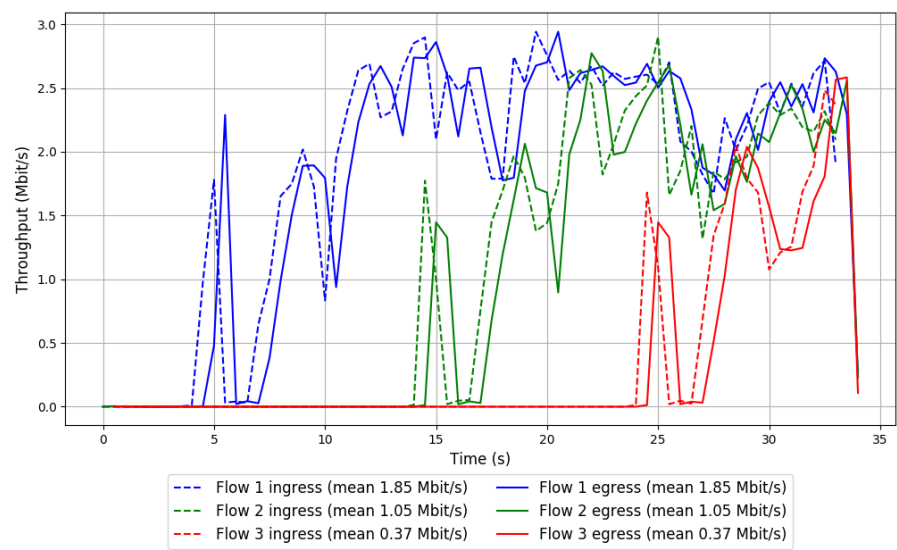


Run 4: Statistics of WebRTC media

Start at: 2018-10-09 23:10:30
End at: 2018-10-09 23:11:00
Local clock offset: -1.339 ms
Remote clock offset: -0.182 ms

Below is generated by plot.py at 2018-10-10 01:55:24
Datalink statistics
-- Total of 3 flows:
Average throughput: 3.25 Mbit/s
95th percentile per-packet one-way delay: 114.072 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 1.85 Mbit/s
95th percentile per-packet one-way delay: 113.171 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 1.05 Mbit/s
95th percentile per-packet one-way delay: 114.206 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.37 Mbit/s
95th percentile per-packet one-way delay: 113.121 ms
Loss rate: 0.00%

Run 4: Report of WebRTC media — Data Link



Run 5: Statistics of WebRTC media

Start at: 2018-10-09 23:41:34
End at: 2018-10-09 23:42:04
Local clock offset: -0.135 ms
Remote clock offset: -0.281 ms

Below is generated by plot.py at 2018-10-10 01:55:24
Datalink statistics
-- Total of 3 flows:
Average throughput: 3.20 Mbit/s
95th percentile per-packet one-way delay: 111.980 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 1.81 Mbit/s
95th percentile per-packet one-way delay: 111.386 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 1.05 Mbit/s
95th percentile per-packet one-way delay: 111.393 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.36 Mbit/s
95th percentile per-packet one-way delay: 112.334 ms
Loss rate: 0.00%

Run 5: Report of WebRTC media — Data Link

