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CSE 534: FCN - Assignment 3, Part C

Tasks:

IPerf Test

Command to run Iperf test with host_2 as the server is:
host_2 iperf3 -c -D
On specifying -D, the server will run as a daemon in the background

NOTE: The mean RTT is obtained from the respective log file generated for each of the three buffers. The JSON files can be found in the host_1 folder.

Running iperf test with host_1 as client and host_2 as the server for the following buffer sizes:
1. Buffer size: 10kb

```
mininet> host_1 iperf3 -c 157.0.1.1 -b 100m -w 10k -t 10
Connecting to host 157.0.1.1, port 5201
[  4] local 152.0.1.1 port 50430 connected to 157.0.1.1 port 5201
[ ID] Interval           Transfer     Bandwidth       Retr  Cwnd
[  4]   0.00-1.00   sec  32.5 KBytes   266 Kbits/sec    0   19.8 KBytes
[  4]   1.00-2.00   sec  32.5 KBytes   266 Kbits/sec    0   19.8 KBytes
[  4]   2.00-3.00   sec  29.7 KBytes   243 Kbits/sec    0   19.8 KBytes
[  4]   3.00-4.00   sec  38.2 KBytes   313 Kbits/sec    0   19.8 KBytes
[  4]   4.00-5.00   sec  36.8 KBytes   301 Kbits/sec    0   19.8 KBytes
[  4]   5.00-6.00   sec  33.9 KBytes   278 Kbits/sec    0   19.8 KBytes
[  4]   6.00-7.00   sec  33.9 KBytes   278 Kbits/sec    0   19.8 KBytes
[  4]   7.00-8.00   sec  28.3 KBytes   232 Kbits/sec    0   19.8 KBytes
[  4]   8.00-9.00   sec  36.8 KBytes   301 Kbits/sec    0   19.8 KBytes
[  4]   9.00-10.00  sec  33.9 KBytes   278 Kbits/sec    0   19.8 KBytes
- - - - - - - - - - - - - - - - - - - - - - - - -
[ ID] Interval           Transfer     Bandwidth       Retr
[  4]   0.00-10.00  sec   337 KBytes   276 Kbits/sec    0             sender
[  4]   0.00-10.00  sec   328 KBytes   269 Kbits/sec                  receiver

iperf Done.
```

Mean RTT: 267223 ms
Bandwidth: 276 Kbits/sec = 0.276 Mbits/sec
Therefore, BDP = 276 * 267223 = 9.22 Mbyte

2. Buffer size: 5mb

```
mininet> host_1 iperf3 -c 157.0.1.1 -b 100m -w 5m -t 10
Connecting to host 157.0.1.1, port 5201
[  4] local 152.0.1.1 port 50438 connected to 157.0.1.1 port 5201
[ ID] Interval           Transfer     Bandwidth       Retr  Cwnd
[  4]   0.00-1.00   sec  7.00 MBytes  58.7 Mbits/sec    0   67.9 KBytes
[  4]   1.00-2.00   sec  1.25 MBytes  10.5 Mbits/sec    0   1.14 MBytes
[  4]   2.00-3.00   sec  8.25 MBytes  69.2 Mbits/sec    0   5.75 MBytes
[  4]   3.00-4.00   sec  11.2 MBytes  94.4 Mbits/sec    0   5.75 MBytes
[  4]   4.00-5.00   sec  11.4 MBytes  95.4 Mbits/sec    0   5.75 MBytes
[  4]   5.00-6.00   sec  11.4 MBytes  95.4 Mbits/sec    0   5.75 MBytes
[  4]   6.00-7.00   sec  11.4 MBytes  95.4 Mbits/sec    0   5.75 MBytes
[  4]   7.00-8.00   sec  11.2 MBytes  94.4 Mbits/sec    0   5.75 MBytes
[  4]   8.00-9.00   sec  11.4 MBytes  95.4 Mbits/sec    0   5.75 MBytes
[  4]   9.00-10.00  sec  11.4 MBytes  95.4 Mbits/sec    0   5.75 MBytes
- - - - - - - - - - - - - - - - - - - - - - - - -
[ ID] Interval           Transfer     Bandwidth       Retr
[  4]   0.00-10.00  sec  95.9 MBytes  80.4 Mbits/sec    0             sender
[  4]   0.00-10.00  sec  94.1 MBytes  78.9 Mbits/sec                  receiver

iperf Done.
```

Mean RTT: 303859 ms
Bandwidth: 80.4 Mbits/sec
Therefore BDP = 80.4 * 303859 = 3053.78 Mbyte

3. Buffer size: 25mb

```
mininet> host_1 iperf3 -c 157.0.1.1 -b 100m -w 25m -t 10
Connecting to host 157.0.1.1, port 5201
[  4] local 152.0.1.1 port 50446 connected to 157.0.1.1 port 5201
[ ID] Interval           Transfer     Bandwidth       Retr  Cwnd
[  4]   0.00-1.00   sec  10.9 MBytes  91.2 Mbits/sec    0   67.9 KBytes
[  4]   1.00-2.00   sec  11.0 MBytes  92.3 Mbits/sec    0   1.15 MBytes
[  4]   2.00-3.00   sec  6.00 MBytes  50.3 Mbits/sec    0   1.63 MBytes
[  4]   3.00-4.00   sec  7.00 MBytes  58.7 Mbits/sec    0   1.90 MBytes
[  4]   4.00-5.00   sec  8.25 MBytes  69.2 Mbits/sec    0   2.20 MBytes
[  4]   5.00-6.00   sec  9.75 MBytes  81.8 Mbits/sec    0   2.54 MBytes
[  4]   6.00-7.00   sec  10.9 MBytes  91.2 Mbits/sec    0   2.82 MBytes
[  4]   7.00-8.00   sec  11.4 MBytes  95.4 Mbits/sec    0   3.02 MBytes
[  4]   8.00-9.00   sec  11.0 MBytes  92.3 Mbits/sec    0   3.20 MBytes
[  4]   9.00-10.00  sec  11.4 MBytes  95.4 Mbits/sec    0   3.42 MBytes
- - - - - - - - - - - - - - - - - - - - - - - - -
[ ID] Interval           Transfer     Bandwidth       Retr
[  4]   0.00-10.00  sec  97.5 MBytes  81.8 Mbits/sec    0             sender
[  4]   0.00-10.00  sec  80.1 MBytes  67.2 Mbits/sec                  receiver

iperf Done.
```

Mean RTT: 251672 ms
Bandwidth: 81.8 Mbits/sec
Therefore BDP = 10.225 * 251672 = 2573.35 Mbyte

The above results for the specified buffer sizes can be obtained in a JSON log file by adding the additional flag “-J –logfile filename.json” to the above command.