# Practical 3
# Determine optimal window size for the Ethernet based host

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## I. Introduction

Aim of this experiment is to determine optimal window size after which throughput saturates for ethernet based host situated nearby.

## II. Implementation

Experiment is carried out using **iperf3** module

### Client Reading

```
iperf3 -c <server-ip-address> -w <window-size>
```

- server-ip-address here is *10.1.3.34*
- window-size is specified in kilobytes or megabytes

Related output result are shown as below:

```
Window Size,Throughput
1 KB,23.7
5 KB,77.4
10 KB,91.2
100 KB,92.4
1 MB,91.6
2 MB,91.4
5 MB,92.8
15 MB,91.9
25 MB,91
50 MB,92.1
```

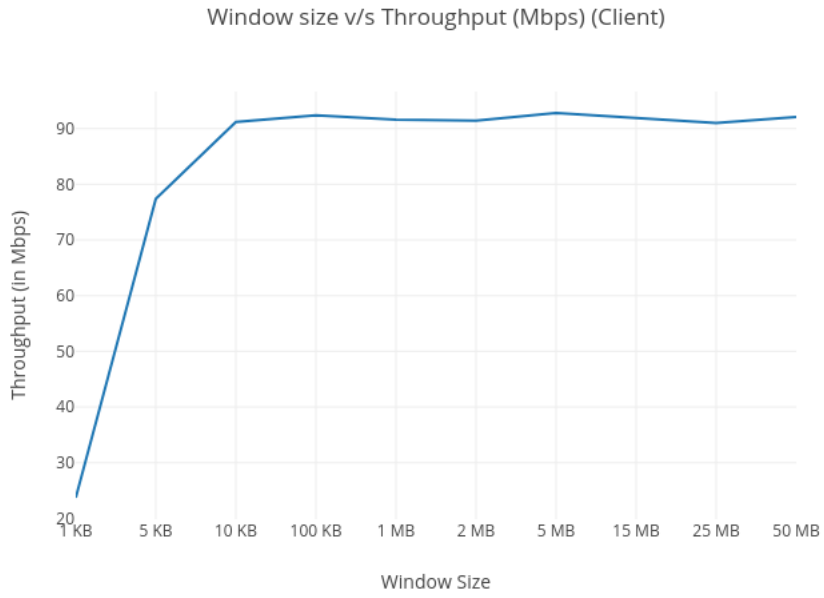


Figure 1: Graph for client measuring througput with different window sizes

## Server Reading

**Server IP Address**: *10.1.3.34*
below command will start iperf server on default port 5201

```
iperf3 -s
```

Related output result are shown as below:

```
Window Size,Throughput
1 KB,23.7
5 KB,77.1
10 KB,90.9
100 KB,92.1
1 MB,91.1
2 MB,91
5 MB,92.4
15 MB,91.5
25 MB,90.6
50 MB,91.8
```

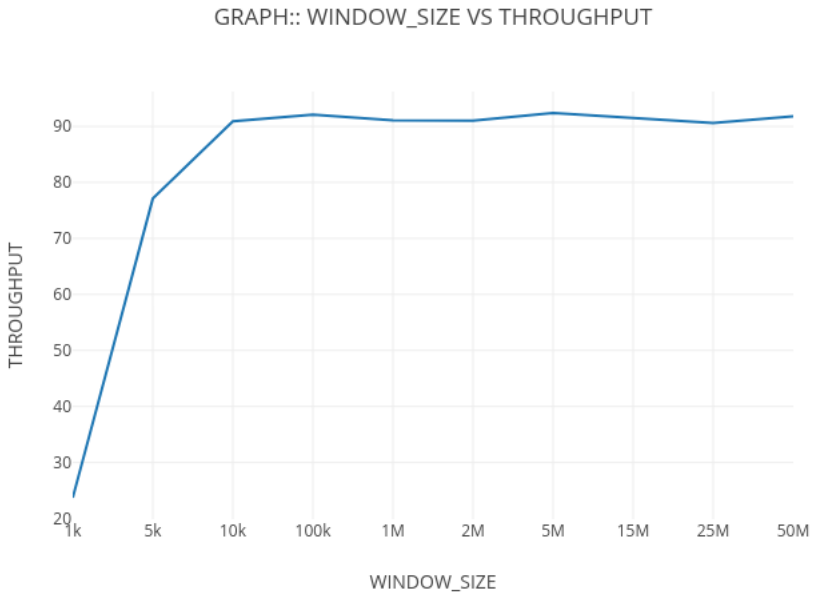


Figure 2: Graph for server througput on client request with different windows sizes

## III. Summary

As observed in above result graph increasing window size gradually increases througput till windows size reaches to *10 KB* after which throughput saturates at $\approx 91 Mbits/sec$.

Hence the conclusion of this experiment to determine optimal window size is achieved and it is *10 KB*.