527326-12-6E AID: 258164| 27/06/2020

1000 read requests ,to a randomly chosen sector disk head on outside track ;FIFO

seek time:

disk average seek time = 12.0 ms

Rotation time:

Once the disk head settle on right track,it must wait for the desired sector to rotate under it. Rotation time is 2 ms ,one half of time that it is 5400 RPM disk to rotate once.

Transfer time:

Simple estimate is that 1000 sectors can be transferred depending on whether they are on the inner or outer track.

Bandwidth 850Mbits/s .

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| --- |
| 1000sectors \* 512 bytes/sector \* 850Mbits/second = 6.02ms |

Total time :

= 12.0 + 2 +6.02

= 20.02 ms per request

|  |
| --- |
| 20.02ms |

Total time for 1000 blocks