

HDD Scheduling CS 411

(1)

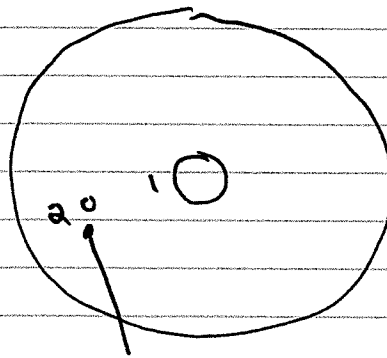
HDDs are mechanical devices

with non-trivial seek and rotational delays.

Often, each HDD will have a queue of read/write requests

These requests can ~~be~~ be re-ordered to minimize total delay.

Example:



We have requests 0, 1, and 2.

R/W head is closest to request 0.

Request arrived in order 0, 1, 2

(2)

Assume :	request	cylinder
r/w head is	0	90
at cylinder 92	1	0
	2	100

FIFO scheduling

Service Order: 0, 1, 2

Seek: 2, 90, 100 $\Sigma = 192$

Shortest Seek Time First (SSTF)

Service Order: 0, 2, 1

Seek: 2, 10, 100 = 122

Problem: Starvation

Another Problem: The OS might

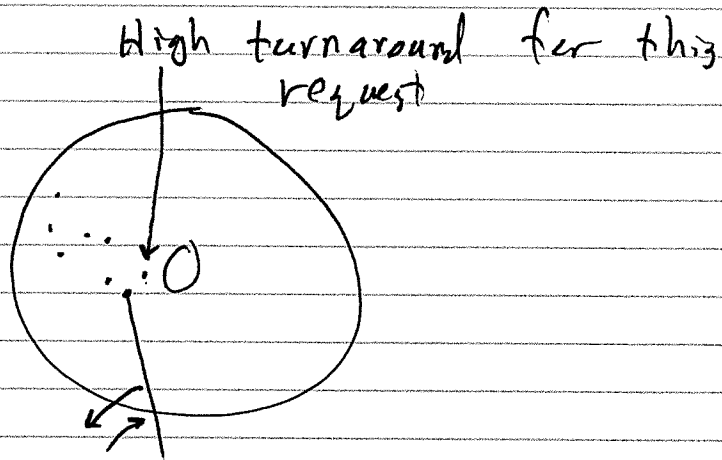
not have information on the

disk's layout - CHS vs. LBA

3

SCAN

R/W heads "sweep" out and in,
servicing requests as they're encountered
in Both directions



C-SCAN

- Similar to SCAN, except
requests are serviced only
when sweeping out.