



PETER NORTON'S®

Introduction to Computers



- Web integrated activities
- Self-assessments to reinforce main concepts
- Online Resource:
www.mhhe.com/peternorton

 **Technology
Education**

Chapter 6B

Measuring and Improving Drive Performance

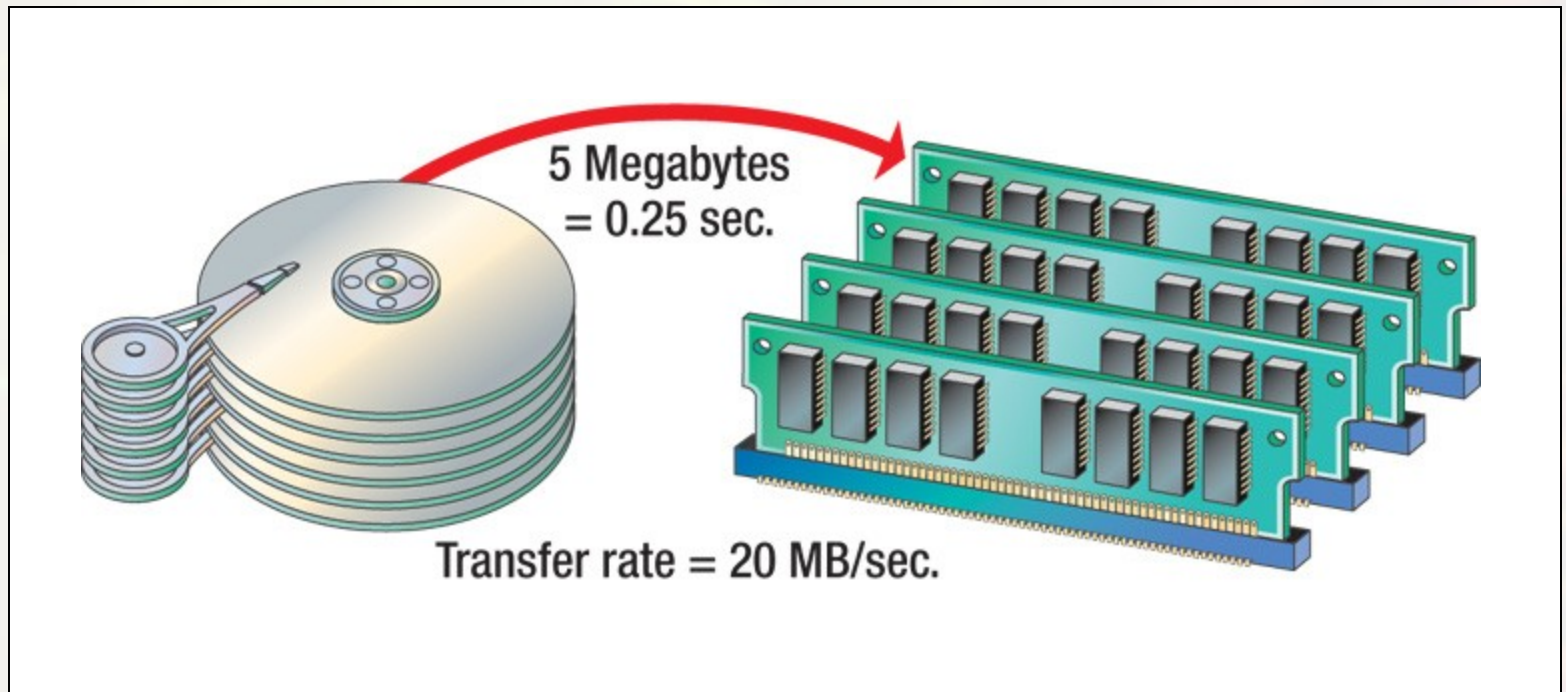
Drive Performance

- Average access time
 - Also known as seek time
 - Time to find desired data
 - Measured in milliseconds
 - Depends on two factors
 - RPM
 - Time to access a track
 - Hard drive between 6 and 12 ms
 - CD between 80 and 800 ms

Drive Performance

- Data transfer rate
 - How fast data can be read
 - Measured in Bps or bps
 - Hard drive ranges from 15 to 160 MBps
 - CD ROMS depend on X factor
 - 24x CD transfers 24 x 150 KBps
 - Floppy disks transfer at 45 KBps

Data Transfer Rate



Optimizing Performance

- Disk optimization
 - Handled by operating system tool
 - Routine disk maintenance
 - Optimization should be run monthly

Optimizing Performance

- Clean up unnecessary files
 - Delete temp files
 - Uninstall unused programs
 - Delete obsolete data files
 - Files should be cleaned weekly

Optimizing Performance

- Scan a disk for errors
 - Bad spots on the media
 - Find and fix the error
 - Move data to a good spot
 - Mark the spot as bad
 - Disks should be scanned monthly

Optimizing Performance

- Defragment a disk
 - Files fragment when resaved
 - Fragmented files load slower
 - Defragment puts the fragments together
 - Disks should be defragged monthly

Defragment

Volume	Session Status	File System	Capacity	Free Space	% Free Space
(C:)	Analyzed	FAT32	6,623 MB	3,342 MB	50 %
(G:)		FAT	2,039 MB	2,038 MB	99 %

Analysis display:

Defragmentation display:

Analyze Defragment Pause Stop View Report

Fragmented files Contiguous files System files Free space

(C:) Analyzed

Optimizing Performance

- File compression
 - Shrinks the size of a file
 - Takes up less space on disk
 - Reduce a disks performance
 - Will increase disk capacity
 - PKZip, WinZip and WinRAR

File Compression

Accounting

File Edit View Favorites Tools Help

Back Search Folders

Address Accounting

Folders

- My Broadcasts
- My eBooks
- My Pictures
- My Webs
- My Computer
- 3½ Floppy (A:)
- Local Disk (C:)
 - Accounting
 - COMPAQ
 - Corepoint Field Sales 5.5 User Help
 - Corepoint Field Sales 6.2 Help
 - DIAGDISK
 - DMINT40

Name	Size	Type	Modified
LOGS	78 KB	Microsoft Excel Wor...	09/22/1997 3:48 PM
RESUME98	61 KB	Microsoft Word Doc...	01/20/1998 12:33 PM
RESUME99	34 KB	Microsoft Word Doc...	11/19/1998 12:42 PM
Addresses	36 KB	Microsoft Word Doc...	02/16/1999 9:27 AM
RESUME99	18 KB	Adobe Acrobat Doc...	07/28/2000 2:46 PM
2001 Income Esti...	49 KB	Microsoft Word Doc...	03/05/2001 2:03 PM
Invoice Template	33 KB	Microsoft Word Doc...	03/06/2001 8:14 PM
MILEAGE	74 KB	Microsoft Excel Wor...	06/19/2001 7:36 AM
Norton Logs	136 KB	Microsoft Excel Wor...	07/30/2001 3:05 PM
INVOICES	92 KB	Microsoft Excel Wor...	07/31/2001 10:35 AM
HOURS	29 KB	Microsoft Excel Wor...	08/01/2001 1:28 PM
EXPENSES	126 KB	Microsoft Excel Wor...	08/01/2001 1:58 PM
Old Accounting Files	157 KB	WinZip File	02/07/2002 1:25 PM

763 KB on disk

WinZip - Old Accounting Files.zip

File Actions Options Help

New Open Favorites Add Extract View CheckOut

Name	Modified	Size	Ratio	Packed
RESUME99.pdf	07/28/2000 2:46 ...	17,787	37%	11,160
RESUME99.doc	11/19/1998 12:42...	34,816	79%	7,393
RESUME98.doc	01/20/1998 12:33...	61,952	83%	10,675
Norton Logs.XLS	07/30/2001 3:05 ...	138,752	85%	21,087
Mileage.xls	06/19/2001 7:36 ...	75,264	79%	15,785

Selected 1 file, 36KB Total 12 files, 763KB

12 object(s) selected

762 KB My Computer

Compressed 157 KB

Drive Interface Standards

- Interface
 - How the device is connected
 - Drive controllers allow transfer of data
 - Dictates transfer rate and access time

Drive Interface Standards

- Enhanced Integrated Drive Electronics
 - EIDE
 - Generic term for drive controllers
 - Several names
 - Fast IDE
 - Advanced Technology Attachment (ATA)
 - Up to 2 devices per controller
 - Most computers have 2 EIDE controllers

Drive Interface Standards

- Small Computer System Interface
 - SCSI
 - Higher transfer rates than EIDE
 - More than 40 devices per SCSI controller
 - Computers may have several SCSI controllers
 - Many versions exist
 - Versions are typically incompatible
 - Found in servers and workstations

Drive Interface Standards

- USB and FireWire
 - External drives
 - Transfer rate is limited
 - Many devices can be connected



Chapter 6B

End of Chapter