



Hard-Drive most important component of computer system

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Most folks would think it is the CPU that's most important — after all, it is the most expensive



**Drive can be customized
to suite your needs with
the correct tools**

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**But the most important component is the hard
drive and with the correct utility, it can be
customized**



What Resides on Drive?

- **Operating System including the current settings**
- **Application programs you've installed**
- **All your data files**

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**Everything resides on the hard drive —
everything**



How Many Hard-Drives Come in a New Computer?

- Why only a single drive?
- Everything install on drive c:
- What happens if Windows can't boot?
 - Because of Virus, Malware or etc
 - Drive failure?
 - Computer is stolen?
- Re-install Windows
 - What happens to applications, data, mail?

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To control costs and configuration errors, only one hard drive is included in a new PC

But what happens if that single drive cannot boot the computer because of some problem — or loss... You are toast! All your data is gone.



Everything is Lost Forever!

- But it doesn't have to be...
 - We recommend keeping your OS on one drive, applications and data on other drives
 - How do you add additional drives to your computer without physically installing more devices...

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But you can avoid that problem.

WACUG recommends having multiple “logical” drives so you can re-install your OS without writing over your important data.



Hard-Disk Architecture

- Sealed unit
- Disk platter(s)
ferrous-coated metal
plate or disc
- Read / write head(s)
- Control electronics
outside sealed unit
- Heads "fly" just off
the platter surface



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We never see the insides of a hard disk so here's a quick overview of what's inside a drive, generally



Enter Utility Software

- Typically drive c: is a single disk drive
- Normally drive must be reformatted to create new partitions — erasing all data
- A special application will allow additional “partitions” to be added to a single drive without reformatting
- Additional hard-disk customization is also enabled with these disk applications

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Now from the old MS-DOS days, the only way to change the disk partitions was to use a utility in DOS known as Fdisk.

Using Fdisk was not hard, but it was confusing — however, the primary issue was that to use Fdisk, the entire hard drive had to be reformatted which wiped the drive clean — all your applications and data were erased. That's a big price to pay.

Disk management utilities addressed that problem



Why Would You Need Additional Partitions or Disks?

- With data on another disk, re-install operating system without losing your data
- Add an additional operating system for testing — is Linux or me?
- Will Vista run on my current computer?
- What about Mac OS in Intel platform?

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This is how we magically “add” logical disk drives to a computer without actually installing any physical devices

And here are a few examples of why you would be interested in doing this



Utility Software Configuring Hard-Drives

- Partition Magic (PowerQuest sold product line to Symantec)
- Acronis Disk Director Suite —
recommended (with User Group Discount)
- Check Google for "Partitioning Software"

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Some of the previous "standards" in partitioning software have now disappeared, but new products are replacing our old friends

While I recommend Acronis, feel free to check Google to find other product offerings



And Now, A Demonstration...

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A demonstration



Backing Up Your Computer or Surviving a Computer Disaster Using Acronis True Image

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Now that you have multiple logical drives in your computer(s) let's discuss how to avoid a computer disaster by making and using backups of your data



What Data Can You Afford to Lose?

- Your computer disk has 160 GB of storage
 - You have 3000 jpg pictures
 - Tax files for last 6 years
 - Email for last 6 years
 - Financial data for last 5 years
 - Retirement account information
- What is Not Important you can lose?

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I don't know exactly what's on your computer, but I expect this is a fairly accurate guesstimate

Out of all that stuff, what would you miss the most? What are you willing to lose?



Backup Application Specifications

- **Will Work with almost any media**
 - **CD-ROMs, DVDs**
 - **External drives, networked drives**
 - **A hard drive, Zip Disks**
- **Can create "bootable media" in case your hard drive fails and you can't boot the computer**
 - **Floppy disks, bootable CD-ROM or DVD**

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Here are the primary specifications to consider when selecting a backup utility

Some applications address more of these topics than others — just make your choice

Two more slides of specifications follow...



Specifications Continued 2

- B/U application supports compression
 - Best if selectable compression
- Application can perform: "complete" or "full" backups as well as "incremental" or "differential" backups
- Application supports both "manual" backups as well as using wizards
- Viewable / selectable file restore within archives

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All of these bulleted items are important

Most applications will address them if they are covered or supported by the application



Specifications Continued 3

- Supports scheduled backups
- Manage, configure and delete BU locations
- Additional Tasks
 - Adding new disks, cloning disks
 - Validating B/U archives, mounting images, exploring archives, managing secure zone, recovery manager, managing system restore browsing

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Here's the last page of specifications.

Remember to have a strategy for backing up your computer

Then have a plan for recovering from a drive failure

Be sure to test your plan to verify it actually works

Finally, be sure to work your plan **FAITHFULLY!**



Any Questions Before Demonstration?

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Don't lose your data. Use the ideas included to keep your data separate from your operating system and have a working plan for recovering from a drive failure or stolen computer.

I recommend Acronis products because they work, they are not too expensive and we get a discount. Visit www.ugr.com for details