

# **Backup Solutions for Personal Computers**

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**A backup is making duplicate copies of data in order to be able to restore original file(s) should a data loss event occur. Consider it digital insurance.**



**"It's the latest innovation in office safety. When your computer crashes, an air bag is activated so you won't bang your head in frustration."**

# To Backup or Not To Backup

- Reasons to backup
  - Virus
  - Hard Drive Failure
  - Fire, thief, flood, disaster, etc.
  - Accidental deletion of data
  - Lost or stolen computer
  - Power failure or power interruption
- Reason not to backup
  - None

# Types

- Full Image
  - Every selected file will be backed up
  - Takes longer to backup
  - Restoring is easier and the fastest
- Incremental
  - Fast and most efficient
  - Copies only the changes since the last backup
  - Restoring is a complex process and can take awhile

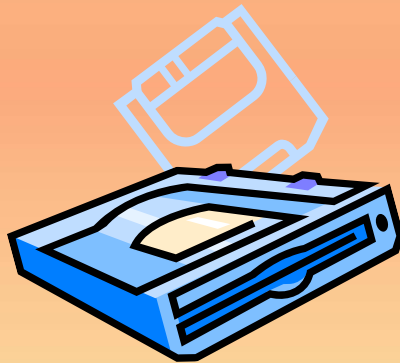
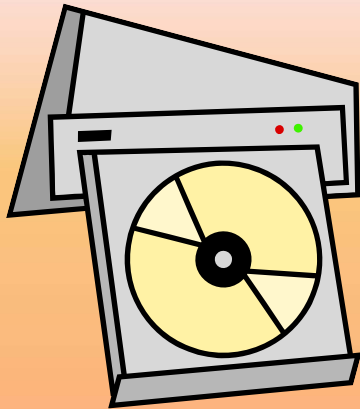
# Types (continued)

- Differential
  - Creates a new copy of a file that has been changed
  - Takes longer than an incremental backup
  - Easier to restore because complete copies of the files are available
    - Versioning maintains an archive copy of the file when a new copy is backed up. You can revert to an earlier revision of a file.

# Types (continued)

- Synchronization
  - Maintains identical copies of files on two or more devices
- A backup is determined by the following:
  - The archive bit is a file attribute which is a one bit storage area on all files
  - A backup will usually turn off the file's archive bit when it is backed up
  - The archive bit is turned on when the file has been changed since the last backup

# Devices



- Flash drive (thumb drive)
  - Portable
  - Limited storage for PC files
  - A manual process that requires user to act
  - Needs to be secured

# Devices (continued)

- Optical Discs – CD, DVD or Blu-Ray disk
  - For text data or small files
  - Usually doing a full image backup isn't possible
  - A manual process
  - Needs to be secured
- External drive
  - Affordable
  - Easily connected via a USB port
  - Good for system image backups
  - Needs to be secured

# Devices (continued)

- Network attached storage
  - Contains multiple drives and connects to a network
  - For secure storage it must be connected to an online backup service for offsite storage

# Online Backup Services



- Web-based backup services and data is stored offsite
- Good to store data files
- Can access data from anywhere
- The first full backup will be time-consuming
- The slowest of all the backups however the most secure

# Online Backup Services (continued)

- File filtering that allows you to select certain files to be included or excluded in a backup
- Some providers offer file sharing
- For some there is a worry about potential security breaches
- Uses encryption which is a key (complex codes) to scramble data *before* it is backed up making your files nearly impossible to hack
- The following is a comparison of several online backup services

# Online Backup Providers Comparison

	<b>Carbonite</b>	<b>Dropbox</b>	<b>Idrive</b>	<b>Mozy</b>	<b>SOS</b>	<b>SugarSync</b>
<u>Services Offered</u>						
Monthly Fee	\$4.58	\$9.99	\$4.95	\$5.99	\$9.95	\$4.99
Storage	Unlimited	50 GB	150 GB	50 GB	50 GB	30 GB
Free Account	N/A	2 GB	5 GB	2 GB	N/A	5 GB
Annual Discount	N/A	N/A	Two months free	One month free	N/A	Two months free
Automatic Backup	Yes	Yes	Yes	Yes	Yes	Yes
File Sharing	No	Yes	Yes	No	Yes	Yes
File Versioning	Yes	Yes	Yes	Yes	Yes	Yes
File Restoration	30 days	30 days//longer for a fee	Indefinitely	30 days	Indefinitely	Indefinitely
Phone Support	7days w/various times	N/A e-mail only	M-F 6a-6p, PST	N/A	N/A live chat	M-F 5a-rp, PST

# Additional Considerations

- Your personal computer programs (software)
  - They can be financially significant and may be worth protecting
  - Storing in a fireproof safe is a consideration
- Is the backup process automated or does it rely on the user remembering to save the data?
- How simple is the interface? Can you easily find and restore your backup files?
- Cost of an online backup service. What is best for your needs and how does this price compare to competitors?

# Summary



- There are various options for backing up your PC data
- For files that can't be replaced the type of backup you select *must* be secure and meet your needs