



## IT Essentials v4.1 LI 16.4.3 Explain data backup procedures, access to backups, and securing physical backup media

### CompTIA A+ 220-702 Objective

#### 2.3 NTBACKUP

A data backup stores a copy of the information on a computer to removable backup media that can be kept in a safe place. If the computer hardware fails, the data can be restored from the backup to functional hardware.

Data backups should be performed on a regular basis. The most current data backup is usually stored offsite to protect the backup media if anything happens to the main facility. Backup media is often reused to save on media costs. Always follow your organization's media rotation guidelines.

Backup operations for Windows XP can be performed at the command line or from a batch file using the NTBACKUP command. The default parameters for NTBACKUP will be the ones set in the Windows XP backup utility. Any options you want to override must be included in the command line. You cannot restore files from the command line using the NTBACKUP command.

The Windows XP Backup or Restore Utility wizard files have the extension .bkf. A .bkf file can be saved to a hard drive, a DVD, or to any other recordable media. The source location and target drive can be either NTFS or FAT.

The Windows Vista and Windows 7 backup files have the extension .zip. Backup data is automatically compressed, and each file has a maximum compressed size of 200 MB. A Windows Vista or Windows 7 backup file can be saved to a hard drive, any recordable media, or to another computer or server connected to your network. The backup can only be created from an NTFS partition. The target hard drive must be either NTFS or FAT formatted.

**NOTE:** You can manually exclude directories in the Windows XP or Windows 7 Backup or Restore Utility wizard. This is not supported in the Windows Vista Backup Files wizard.

You can make a Windows backup manually or schedule how often the backup will take place automatically. To successfully backup and restore data in Windows, the appropriate user rights and permissions are required:

- All users can back up their own files and folders. They can also back up files for which they have the Read permission.
- All users can restore files and folders for which they have the Write

permission.

- Members of the Administrators, Backup Operators, and Server Operators (if joined to a domain) can back up and restore all files (regardless of the assigned permissions). By default, members of these groups have the Backup Files and Directories and Restore Files and Directories user rights.

The Windows XP Backup or Restore Utility wizard provides five backup types:

- **Full or Normal** – This backup type copies all selected files and marks each file as having been backed up.
- **Incremental** – This backup type backs up only files that have been created or changed since the last full or incremental backup. Restoring files requires that you have the last full backup set and all incremental backup sets.
- **Differential** – This backup type copies only files that have been created or changed since the last full backup. Restoring files requires that you have the last full and one differential backup.
- **Daily** – This backup type copies all selected files that have been modified the day that the daily backup has been performed.
- **Copy** – This backup type copies all selected files but does not mark them as having been backed up.

To start the Windows XP Backup or Restore Utility wizard, select:  
**Start > All Programs > Accessories > System Tools > Backup.** The Backup or Restore wizard starts. To change the backup setting, select **Advanced Mode > Tools > Options.**

To restore a backed up file in Windows XP, in the Backup or Restore wizard, select:  
**Next > Restore files and settings > Next > select the backed up file > Next > Finish.**

To start the Windows Vista Backup Files wizard, select:  
**Start > All Programs > Maintenance > Backup and Restore Center > Back up files.**

To change the backup settings, select **Change settings > Change backup settings > Continue.** To restore a backed up file in Windows

Vista, select:  
**Start > All Programs > Maintenance > Backup and Restore Center > Restore files.**

To start the Windows 7 Backup Files wizard for the first time, select:  
**Start > All Programs > Maintenance > Backup and Restore > Set up backup.**

To change the backup settings in Windows 7 after the Backup Files wizard has been completed, select  
**Change settings > Change backup settings > Continue.**

To restore a backed up file in Windows 7, select:  
**Start > All Programs > Maintenance > Backup and Restore > Restore my files.**

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A combination of backup types, as shown in Figure 1, allow the data to be backed up efficiently. A full backup is a copy of all files on the drive. An incremental backup copies only those files created or changed since the last normal or incremental backup. It marks files as having been backed up. A differential backup copies files created or changed since the last normal or incremental backup, but it does not mark files as having been backed up. Backing up data can take time, so it is preferable to do backups when the network traffic is low. Other types of backups include daily backup and copy backup, which do not mark the files as having been backed up.

The data backup media is just as important as the data on the computer. You should store the backup media in a climate-controlled offsite storage facility with good physical security. The backups should be readily available for access in case of an emergency.