New Lab Windows 7 XP Upgrade to Windows 7
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After completing the laboratory activity, you will be able to:

- Perform a Custom Upgrade option for Windows XP to Windows 7.
- Download, install, and run Windows Upgrade Advisor to identify potential hardware and software issues.
- Download, install, and utilize Windows Easy Transfer Utility to move user files and settings from the original XP operating system to the new Windows 7 Operating System.
- Identify hardware requirements for Windows XP upgrade.
- Explain how to convert a FAT32 partition to a NTFS partition for a Windows XP to Windows 7 Custom installation.

This laboratory will present some items that are typically beyond a novice's ability such as partitioning, formatting and hardware driver re-installation. These items will be covered in more detail in future lab activities. These more advanced items will still be presented in part, and briefly, to provide you with a complete understanding of the process of upgrading Windows XP to Windows 7. The process can be complicated depending on the upgrading scenario.

In this laboratory activity, you will perform several tasks as related to replacing a Windows XP operating system with a Windows 7 operating system. The replacement of the Windows XP operating system with the Windows 7 operating system is referred to by Microsoft literature as a "**Custom Installation"**. You may also hear the replacement referred to as a system upgrade, but that is not the case. A system upgrade does not require you to back up the user files and settings to an external drive, and then transfer them to the new operating system after the installation is complete. When performing a system upgrade, you simply replace the existing operating system with the newer operating system and leave the user files in place. When performing a "Custom Installation" for Windows XP to Windows 7 you are actually performing a clean install, which will overwrite any existing files in the existing partition.

The first thing you must do is consider which version of Windows operating system you are going to install, 32-bit or 64-bit. The 64-bit version can handle more RAM than the 32-bit version. The 32-bit version has a 4 GB limit of access to RAM. Even if the computer has more than 4 GB of RAM; the 32-bit operating system is still limited to on 4 GB total. You must subtract the RAM located on the video card from the total RAM that

is accessible. For example, if the video card has 500 MB of RAM, the total RAM available to the operating system is reduced by 500 MB leaving only 3.5 GB of RAM. The 64-bit version will handle 128 GB of RAM. See the chart below:
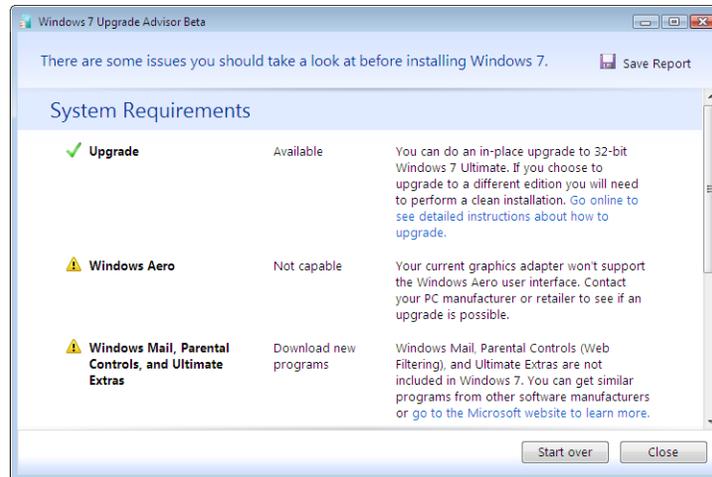
Windows 7 RAM Limitations

Version	X86	X64
Ultimate, Enterprise, Professional	4 GB	192 GB
Home Premium	4 GB	16 GB
Home Basic	4 GB	8 GB

The CPU must support 64-bit operation or you will not be able to install the 64-bit version. To see if the Windows XP machine is running 34-bit or 64-bit you check the Windows XP operating system properties dialog box. You simply click **Start,** right-click on **My Computer,** and then select the **Properties** option. The 64-bit version will display 64-bit. If 64-bit is missing and no reference is made to 32-bit, then the system is 32-bit. Most Windows XP operating systems were installed as 32-bit.

After deciding which operating system version you are going to install, there are five major steps to a complete Windows XP to Windows 7 conversion.
- ✓ Run the Windows 7 Upgrade Advisor to determine any problems you might have concerning hardware or software issues.
- ✓ Save your files and settings to a storage medium such as an exterior USB drive.
- ✓ Perform a custom Windows 7 install.
- ✓ Restore your files and settings from the storage medium.
- ✓ Reinstall your programs and update drivers.

The Windows 7 Upgrade Advisor is available for download from the Microsoft Windows 7 website and is no cost. There are complete instructions on how to download, install and use the Windows 7 Upgrade Advisor. After running the Windows 7 Upgrade Advisor you will see the results displayed similar to the screen capture below.

The screen capture indicates that an in-place upgrade can be successfully performed, but there are two major problems. First, the computer hardware will not support the new Windows Aero feature, which is an enhanced graphics screen presentation with shadows and transparency. Second, Windows Mail, Parental Controls, and Ultimate Extras will not be included in the Windows 7 upgrade. The fact that the mail client will not be included can be a major consideration for the user. You should have a plan to remedy these problems. For example, you can download and install Windows Live mail to use with the Windows 7 installation. As you can see in the screen capture, you can go to the Microsoft website using the blue link provided in the Systems Requirements dialog box to learn more about how to correct these problems. The user emails and contact list can be stored in a backup location, and then reinstalled after a compatible email client has been installed on the Windows 7 machine.

You will need an exterior hard disk drive to store the user settings, and files before performing the custom installation of Windows 7. Windows 7 cannot perform a direct upgrade from Windows XP. During the Custom upgrade all user settings and files will be erased, and will no longer available to the user. This is why you must move the files using Microsoft **Windows Easy Transfer** program. **Do Not** use the file transfer program that comes with Windows XP. The Windows XP program is called the **File and Settings Transfer Wizard** located at **Start | All Programs | Accessories | System Tools | File and Setting Transfer Wizard**. This tool is not designed to for Windows 7, and you will not be able to restore the user files after installing the Windows 7 operating system.

The Windows Easy Transfer tool has some of its own limitations. For example, you cannot transfer files from a Windows XP 64-bit version to a Windows 7 32-bit version. If

you plan to transfer files from the 64-bit version of Windows XP to a 32-bit version of Windows 7, you must transfer the files manually. There is no Microsoft tool at this time.

Also be aware that even though Windows Easy Transfer will move the user music and video files, it will not migrate the license for the digital rights management (DRM). The license rights have to be obtained after the transfer is complete, and must be obtained from the original source. Be aware that not all providers allow for a transfer of license but many do for a limited number of times.

Windows Easy Transfer program does not move individual executable program files, only individual user files such as documents and pictures. Any individual user files such as games or software applications must be reinstalled after completion of the Windows 7 custom install.

You will have the option to transfer the user files manually to storage media such as CDs, DVDs, external hard disk drive or a USB flash drive. After the Windows installation is complete, you can then copy the files back to the Windows 7 system from the storage media. Or you can conduct a key term search using the terms "Windows Easy Transfer."

For more information about upgrading Windows XP to Windows 7 check the following Microsoft Website link http://windows.microsoft.com/en-US/windows7/help/upgrading-from-windows-xp-to-windows-7, or conduct an Internet search using the key terms "Microsoft Windows 7 upgrade XP." Look for Microsoft in the listed in the search result URL location as indicated in the screen capture below.

Materials Required
- 1 Computer running Windows XP operating system (service pack 2 or later) and Internet access. (Note: you can perform much of the lab activity without Internet access but it is preferred that you use a computer that has Internet access for this laboratory activity.)
- 1 External USB drive or USB flash drive. (External disk drive is recommended for this laboratory activity.)
- 1 Windows 7 Operating System
- Maximum partition size _____ (check with your instructor) Recommended 40 GB. Formatting the entire disk drive could take a period of time longer than your allocated laboratory period.
- Password for Easy Transfer Tool _____ . (optional.)

- Activate the Windows 7 product (Yes or No) _____. Check with your instructor. **Do not automatically activate the product without your instructor's permission!**

Part 1 Windows 7 Upgrade Advisor

1. ___ Gather required materials, and then report to your assigned work area.
2. ___ Boot the computer, and verify it is in working order.
3. ___ Download, install and then run the Windows 7 Upgrade advisor. You can use the following link http://www.microsoft.com/download/en/details.aspx?id=20 , or you conduct a key term search to locate the download from the Microsoft website. The download and installation is very intuitive, and you should experience no problems. You may be asked to install ".NET framework 2.0" on your computer. Do so because the Windows 7 Upgrade Advisor requires the ".NET framework." There are detailed instructions available at the website link about installation of the program.

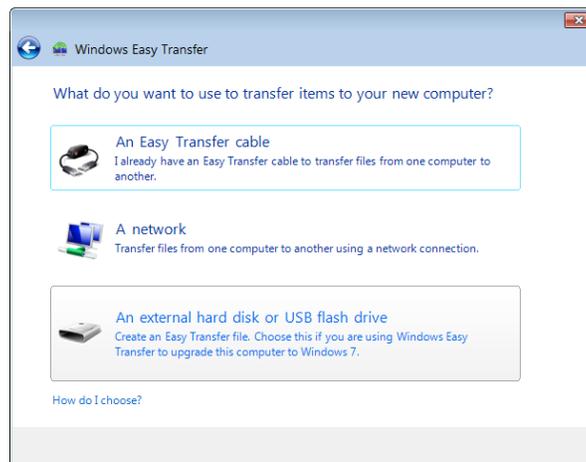**Part 2 Microsoft Easy Transfer Wizard**

4. ___ After running the Upgrade Advisor and verifying that the computer can be upgraded to Windows 7, you will next need make a copy of all files you wish to retain after the Custom install. Remember that all existing files will be underlined destroyed during the Windows 7 install process, and you must make a backup copy of all files you desire to save and use in the new installation. You can download and install the Windows Easy Transfer program available from the Microsoft Website at this time. The link is located at http://www.microsoft.com/download/en/details.aspx?id=4503 , or you can conduct an Internet search using the key terms "Microsoft Windows Easy Transfer." Again, there will be detailed instructions on how to download, install and use the program at the website link.
5. ___ Connect the External USB drive or the USB flash drive to the Windows XP workstation.
6. ___ Note: In an actual **Custom** install scenario, you would most definitely want to update, run and then finally turn off the antivirus program before starting the installation. You would not want to transfer any malicious software to the new operating system. Start the Windows Easy Transfer file program and you will see a default dialog box similar to the one in the screen capture below.

Easy Transfer 1

Take a close look at the many types of files that will be transferred by the easy transfer tool. Select the "Next" button to continue.
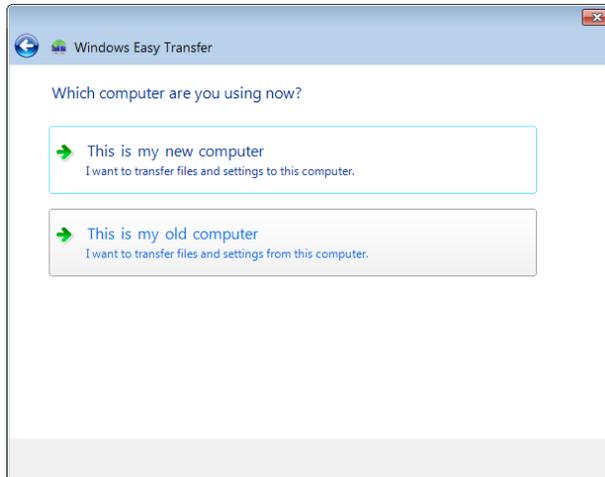
7. ___ The next dialog box prompts you to make a selection choosing from one of three possible types of transfer media. An easy transfer cable is not an option for this laboratory activity. You would only use an easy transfer cable when transferring files to a new physical separate computer, not an upgrade on the same physical computer. Making a transfer using a network cable is beyond the scope of this laboratory exercise and the novice-level user ability. You will learn more about network type transfers later in the course.
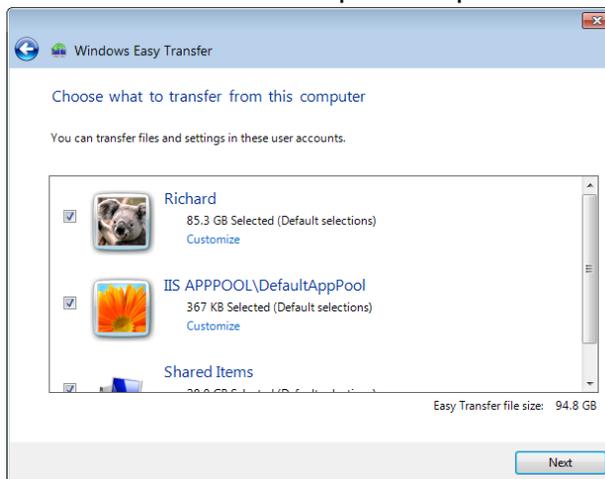

Easy Transfer 2

For this laboratory activity, you will use the "An external hard disk or USB drive" option.

8. ___ The next dialog box requires you to identify the computer as either "This is my new computer" or "This is my old computer."
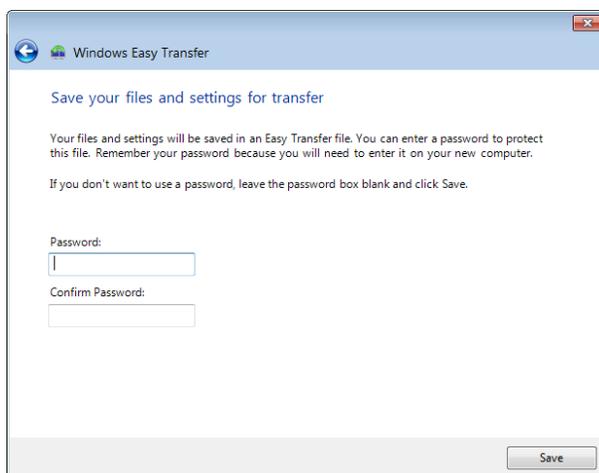
Easy Transfer 3

In this particular laboratory activity, you will select the "This is my old computer" option.

9. ___ This next step will take some time depending on the amount of files that will be transferring. The wizard determines the total space required to transfer the files.

Easy Transfer 4

In the screen capture you see that a total of 94.8 GB of space is required to transfer the files. This screen capture is taken from a real computer with a lot of documents and pictures. Your laboratory computer will most likely not require as much storage space. After a total amount of storage space is determined for each category of files, select the "Next" button.
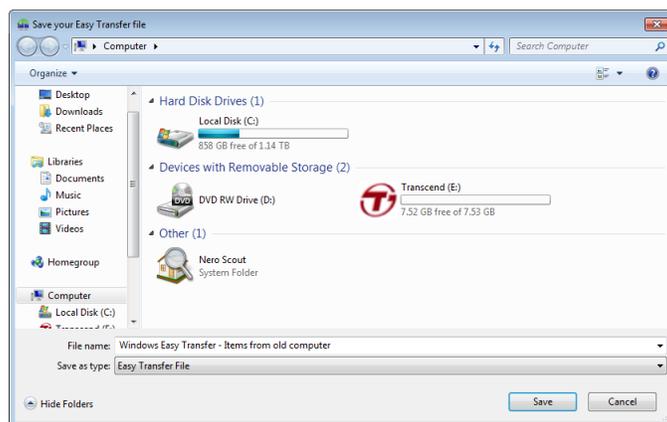
10. ___ Now, you will be prompted to provide a password.

Easy Transfer 5

The password is optional, but recommended for security reasons. After all, a complete copy of all your personal files will be on a storage media. A password will secure the access to the files. For this lab activity a password is not required.
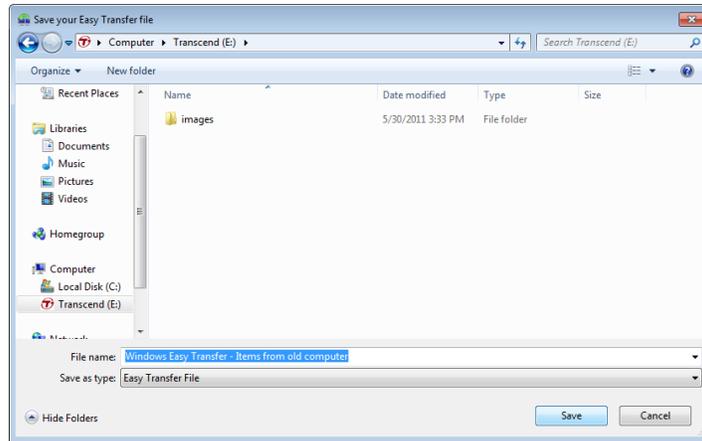
11.___ The next dialog box will display storage areas on the host computer. You may need to navigate to the external hard disk drive or storage media.

Easy Transfer 6

Take note of the default name assigned to the Easy Transfer file "Windows Easy Transfer Items from old computer". You change it but it is not necessary for this lab activity or even in a real scenario. If you are not sure how to navigate to the external storage unit, call your instructor for assistance. Do not simply guess.

12. ___ After selecting the correct storage device, the file will be transferred with the default name as indicated.

Easy Transfer 7

The default name is "Windows Easy Transfer -Items from old computer." You could actually change the default file name, but that will not be necessary for this lab activity.

Part 3 - Installing Windows 7

The installation of Windows 7 is similar to the last laboratory activity you completed call **Clean Install Windows 7** so detailed steps with screen captures will not be presented here, but rather a simple summary. The most important step in the installation process will be to select the "**Custom (advanced)**" installation option, and not the Upgrade option. You cannot upgrade Windows XP to Windows 7. The Custom install is really a clean install in which you first backup your desired files using Windows Easy Transfer.
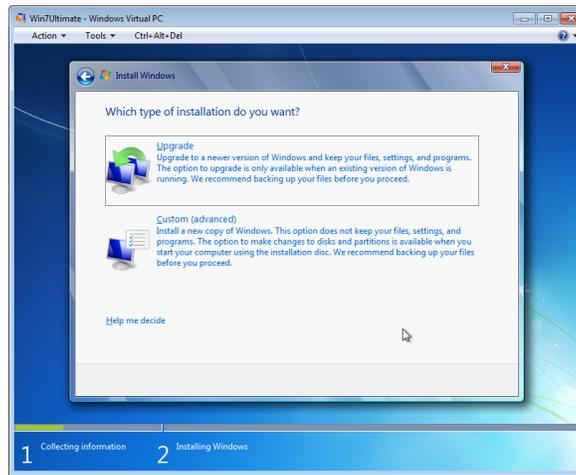
Formatting the hard disk drive is not necessary for the Custom install but you can if you desire. Microsoft recommends only using the format option during the Custom install process, and does not recommend using a third party formatting tool prior to installation. In an actual scenario, you would want to connect the PC to the Internet prior to the custom installation, but the Windows 7 Custom installation can still be completed without an Internet connection. The Internet connection will provide the opportunity to download and install the very latest operating system patches.

13. ___ To start the Custom installation process, place the Windows 7 Installation DVD into the DVD drive. If the installation disc does not automatically start, you have the option to locate the file names "setup.exe" on the disc. Double-click on the file name and the installation process will begin.

14. ___ When the "Install Windows" dialog box appears, select the "**Install now**" option.

15. ___ A dialog box will appear prompting you to "Get important updates for installation." Microsoft recommends that you download the very latest updates when performing the installation. You will need an Internet connection for this step. This option may not appear if no Internet connection is detected.

9

16. ___ Next, you will accept the licensing terms presented in the dialog box.

17. ___ Next, is a key step. You will be prompted to select "**Which type of installation do you want**?" and your response will be "**Custom (advanced)**."

Win7 Custom Install

Because laboratory activity time is limited in most schools, select a partition of no more than 40 GB to save time during the formatting process. Formatting an entire disk drive could take more time than has been allocated for your laboratory activity. Check with your instructor for the maximum partition size for this laboratory before proceeding.

18. ___ After selecting the Custom installation, you will be prompted to choose the location for the Windows 7 OS. You will see a dialog box similar to the one below that automatically identifies the Windows XP OS location. You will be selecting the "Drive options (advanced)" for this laboratory activity unless otherwise specified by your instructor.
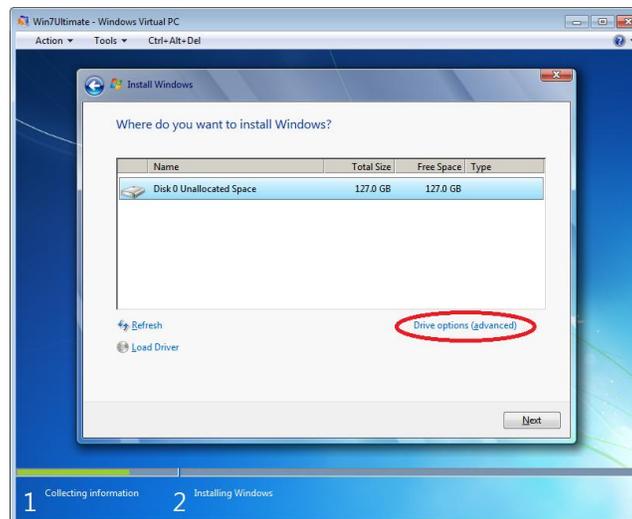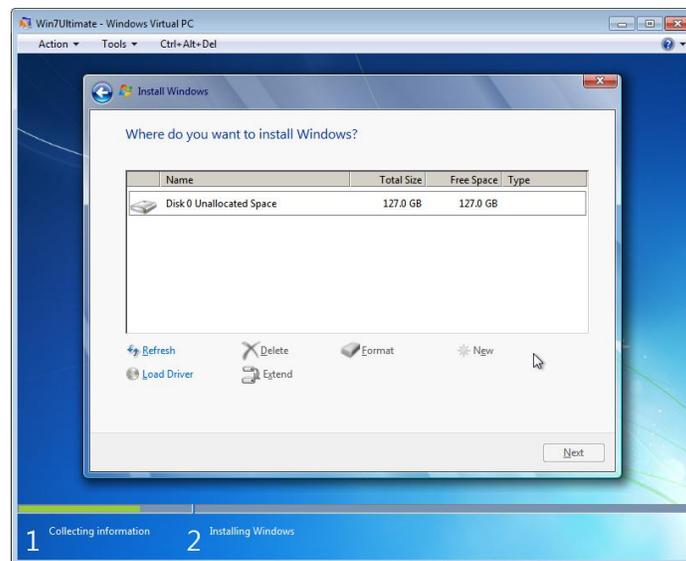

Image 8 Labeled

You will also see the exterior hard disk drive that you connected for the Easy Transfer program. Be sure to select the location of the Windows XP OS which is most likely

located at Disk 0 Space, the default location. If you are not sure of the location, call your instructor for assistance. Once you are positive about the location, select the "Drive options (advance)" option.

Note: You cannot install Windows 7 on a FAT32 partition. Thus, you may need to convert the Windows XP FAT32 partition to NTFS. To convert the FAT32 partition, you simply open the command prompt from Windows XP operating system by following **Start | All Programs | Accessories | right-click Command Prompt and then select "Run as...**" to run as the system Administrator.

The system administrator is the default user name and password for the computer. Then you would type and enter the following command **convert C:/fs:ntfs** assuming that the drive containing the necessary system boot files for Windows XP is the C: drive. You will next be prompted to force a dismount of the volume. Y our response will be "Y" for yes, and then enter. You are then prompted to convert the drive the next time Windows starts. You will again respond with "Y" and enter. Next, you will close the command prompt and restart the computer. After the computer restarts, the FAT32 partition will be converted to NTFS. You can then start back at the Windows 7 Custom install process. These basic instructions are typically beyond novice user ability. Before running the FAT32 conversion, check with your instructor.

19. ___ The next dialog box to appear prompts you again to make one of several choices.

If you are going to reduce the size of the partition to 40 GB, then select the "Delete" option followed by "New" to create a new 40 GB partition. After creating the new 40 GB partition, you will format it with NTFS, the default partition format choice. The original Windows XP partition may have had a FAT32. NTFS is the default choice for Windows

7. After the new 40 GB partition is created, call your instructor so that your laboratory activity can be checked before moving on.

20. ___ The remainder of the Windows 7 Custom installation will be similar to the Clean install process in the previous laboratory activity. A file called "Windows.old" will be created if you install Windows 7 over the Windows XP system when the partition is already formatted as NTFS. The Windows.old contains configuration files necessary to convert back to the old system after a failed upgrade. When you convert the Windows XP partition from FAT32 to NTFS, then the Windows.old file will not exist. You will see prompts for a computer name, initial user account, time zone etc. Do not activate the installation. You will have 30 days to activate the product if directed to do so by your instructor.

 After completing the Windows 7 installation you will see the familiar Windows 7 Screen. You will next reinstall the original user settings and files.

Part 4 - Reinstall files and settings using Easy Transfer

21. ___ Now you will run the easy transfer tool once more, but this time you will install the files and settings from the backup copy to the new Windows 7 installation.

22. ___ Open the East Transfer tool (it is now installed as part of Windows 7) by following the path **Start | All Programs | Accessories | System Tools | Windows Easy Transfer.**

23. ___ You now reverse the operating using Windows Easy Transfer tool and move the files from the external hard disk storage. When you locate the external hard disk drive, simply double-click on the drive and a file identified as "Items from old computer" and then you again double-click on the identified files. If you gave the file a different name at the time you were making the backup copy, then the different name will appear. You may need to provide a password if you gave the original backup a password.

24. ___ Choose the items you wish to install on the Windows 7 computer. You simply uncheck any boxes associated with items you do not wish to install. For this laboratory activity, you can accept the default values selected by check marks.

25. ___ Follow the prompts until the transfer is complete and then click the "Close" button.

26. ___ When presented with a "Restart now," choose to restart the computer now.
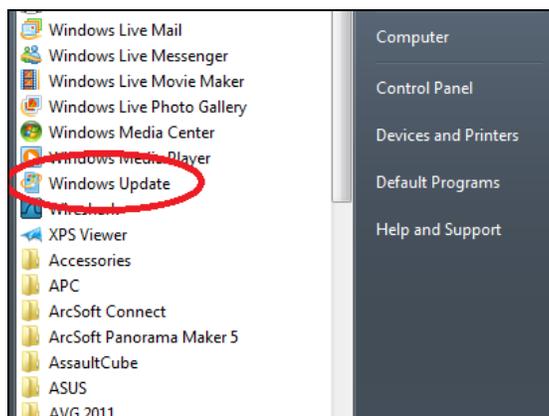
27. ___ After the reboot, the old system user files have been installed on the Windows 7 system.

28. ___ Call your instructor to inspect your laboratory activity at this time.

Part 5 - Completing the Windows 7 Installation

After the Windows 7 installation is complete you would now reinstall hardware driver software at this time.
You can run the Windows Update program located off the start menu list as indicated in the partial screen capture below.

Windows Update

After selecting Windows Update option, a dialog box will appear and list any important and optional updates available for downloading at this time.

In an actual scenario, you would also need to reinstall software programs that were on the Windows XP machine before the Windows 7 installation. You would also need to install a malware package to protect the computer system. You will learn detailed information about reinstalling drivers and software applications and malware packages in later laboratory activities.

Digital Rights Management (DRM)

Some items software is protected against pirating and has protection programmed in to the item to prevent the unauthorized transfer of software files. The limited copying of files is referred to as digital rights management (DRM). For example, some music and videos have content protection and limit the number of computer devices that a song can exist on under the same owner. You may need to go to the website of the original provider of the content to be able to re-obtain rights to the item. Simply transferring the protected content does not insure that it will be accessible.

29. ___ Return all items to their proper storage at this time.
30. ___ Answer the review questions.

Review Questions

1. What is the maximum amount of RAM supported by Windows Professional X86?
2. What is the maximum amount of RAM supported by Windows 7 Home Premium X64?
3. What are the five recommended major steps for a complete Windows XP to Windows 7 conversion?
4. What is the name of the Windows XP program designed to transfer Windows XP user settings to another computer?
5. Where are the Windows XP File and Setting Transfer Wizard located? (The path name from the Start menu.)
6. Why should you not use Windows XP File and Settings Transfer Wizard when performing a Custom install from Windows XP to Windows 7?
7. What program should you use to transfer user settings from Windows XP to Windows 7?
8. Where can you get a copy of the Microsoft Windows Easy Transfer tool?
9. What are three major limitations of the Microsoft Windows Easy Transfer tool?
10. What are the typical types of files transferred by the Windows Easy Transfer Wizard?
11. Is a password required for the Easy Transfer Wizard?
12. What is the name of the executable file that starts the Windows 7 install process from the Windows 7 installation disc?
13. How do you access the command prompt in Windows XP?
14. What command is used to change a FAT32 partition to a NTFS partition?
15. What does the acronym DRM represent?
16. Will Windows Easy Transfer maintain and update all the digital rights to all copyright content that is transferred to Windows 7 from Windows XP?

Review Question Answers

1. What is the maximum amount of RAM supported by Windows Professional X86? <mark>4 GB</mark>

2. What is the maximum amount of RAM supported by Windows 7 Home Premium X64? <mark>16 GB</mark>

3. What are the five recommended major steps for a complete Windows XP to Windows 7 conversion?

   <mark>1. Run the Windows 7 Upgrade Advisor to determine any problems you might have concerning hardware or software issues.</mark>
   <mark>2. Save your files and settings to a storage medium such as an exterior USB drive.</mark>
   <mark>3. Perform a custom Windows 7 install.</mark>
   <mark>4. Restore your files and settings from the storage medium.</mark>
   <mark>5. Reinstall your programs and update drivers.</mark>

4. What is the name of the Windows XP program designed to transfer Windows XP user settings to another computer? <mark>Windows XP File and Settings Transfer Wizard</mark>

5. Where are the Windows XP File and Setting Transfer Wizard located? (The path name from the Start menu.) <mark>Start | All Programs | Accessories | System Tools | File and Setting Transfer Wizard.</mark>

6. Why should you not use Windows XP File and Settings Transfer Wizard when performing a Custom install from Windows XP to Windows 7? <mark>This tool is not designed to for Windows 7 and you will not be able to restore the user files after installing the Windows 7 operating system.</mark>

7. What program should you use to transfer user settings from Windows XP to Windows 7? <mark>Microsoft Windows Easy Transfer tool.</mark>

8. Where can you get a copy of the Microsoft Windows Easy Transfer tool? <mark>From The Microsoft website.</mark>

9. What are three major limitations of the Microsoft Windows Easy Transfer tool? <mark>You cannot transfer files from a Windows XP 64-bit version to a Windows 7 32-bit version. You cannot transfer executable type of programs. You cannot transfer all types of digital rights management software.</mark>

10. What are the typical types of files transferred by the Windows Easy Transfer Wizard? <mark>User Accounts, E-mail, Documents, Internet favorites, Music, Videos, Pictures and more.</mark>

11. Is a password required for the Easy Transfer Wizard? <mark>No, the password is optional but recommended.</mark>

12. What is the name of the executable file that starts the Windows 7 install process from the Windows 7 installation disc? <mark>Setup.exe</mark>

13. How do you access the command prompt in Windows XP? Start | All Programs | Accessories | right-click Command Prompt and then select "Run as...

14. What command is used to change a FAT32 partition to a NTFS partition? Assume that the partition is identified as the C drive. Convert c:/fs:ntfs.

15. What does the acronym DRM represent? Digital rights management.

16. Will Windows Easy Transfer maintain and update all the digital rights to all copyright content that is transferred to Windows 7 from Windows XP? No.