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## CHAPTER THREE

# Upgrading to Windows Vista

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## Objectives

This chapter helps you to prepare for the exam by covering the following Microsoft-specified objectives for the Installing and Upgrading Windows Vista section of the TS: Microsoft Windows Vista, Configuring exam:

### **Upgrade to Windows Vista from a previous version of Windows.**

- ▶ Microsoft provides several upgrade paths for computers running versions of Windows XP. This objective is included to ensure that you know how and when to upgrade Windows XP to Windows Vista.

### **Upgrade from one edition of Windows Vista to another.**

- ▶ Several paths are available for upgrading from one edition of Windows Vista to another edition. This objective is included to ensure that you know how and when to upgrade from one edition of Vista to a higher edition.

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## Study Strategies

This chapter focuses on processes related to upgrading to Windows Vista. When studying the contents of this chapter, be sure to follow these strategies:

- ▶ Pay attention to the various methods of upgrading older Windows computers to Windows Vista and of upgrading one edition of Vista to a higher one.
- ▶ Practice the various procedures several times, including updates from various older Windows operating systems and upgrades between editions of Vista.
- ▶ Be sure you know when you can upgrade directly to Windows Vista and between which editions of Vista you can upgrade.

## Introduction

As Microsoft introduces new versions of its Windows operating system, many users around the world want to take advantage of the features included in the new version without purchasing new computers. Consequently, Microsoft has made available upgrade paths that enable users to upgrade older versions of Windows. By upgrading earlier versions of Windows to Windows Vista, you can retain registry settings and account information contained in the older operating system.

Many users are attracted by the features available in higher editions of Vista, such as Vista Ultimate, but may have purchased a computer on which a lower edition of Vista such as Home Basic has been pre-installed. Consequently, Microsoft has made upgrade paths available that enable these users to upgrade to a higher version of Vista. As with the upgrade of an earlier version of Windows, these upgrade paths enable users to retain registry settings and account information from the lower version of Vista.

## Upgrading to Windows Vista from a Previous Version of Windows

Objective:

**Upgrade to Windows Vista from a previous version of Windows.**

Upgrade paths from previous Windows versions depend on the operating system version currently installed. Table 3.1 lists the available upgrade paths for older operating systems.

**TABLE 3.1 Upgrading Older Operating Systems to Windows Vista**

| Operating System                                                         | Upgrade Path                                                                                                 |
|--------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|
| Windows XP Home Edition                                                  | Can be upgraded directly to Windows Vista Home Basic, Vista Home Premium, Vista Business, or Vista Ultimate. |
| Windows XP Professional                                                  | Can be upgraded directly to Windows Vista Business or Vista Ultimate.                                        |
| Windows XP Media Center                                                  | Can be upgraded directly to Windows Vista Ultimate.                                                          |
| Windows 9x/ME<br>Windows NT 4.0 Workstation<br>Windows 2000 Professional | Cannot be upgraded. You need to perform a clean installation of Windows Vista.                               |
| Non-Windows operating systems (Unix, Linux, OS/2)                        | Cannot be upgraded. You need to perform a clean installation of Windows Vista.                               |

**NOTE**

**Upgrading Windows 2000 and older computers** Theoretically, you can upgrade Windows 98/Me/NT 4.0/2000 computers to Windows XP and then upgrade to Vista. However, the licensing costs for such an upgrade would be higher than that of purchasing a clean copy of Vista; besides, such older computers probably would not meet Vista's hardware requirements.

## Preparing a Computer to Meet Upgrade Requirements

In addition to running one of the supported versions of Windows mentioned here, a computer to be upgraded to Windows Vista must meet the hardware requirements outlined in Chapter 2, "Installing Windows Vista." In addition, all hardware components should be found in the Windows Logo Program for Hardware. Older software applications also may not be compatible with Windows Vista. Such applications might need to be upgraded or replaced to work properly after you have upgraded your operating system. Review the information provided in Chapter 2 when preparing your computers for upgrading to Windows Vista.

### Vista Upgrade Advisor

Microsoft includes a compatibility tool on the Windows Vista DVD-ROM that generates reports describing hardware and software components that might not be compatible with Windows Vista. This report identifies any hardware or software problems associated with the computer to be upgraded.

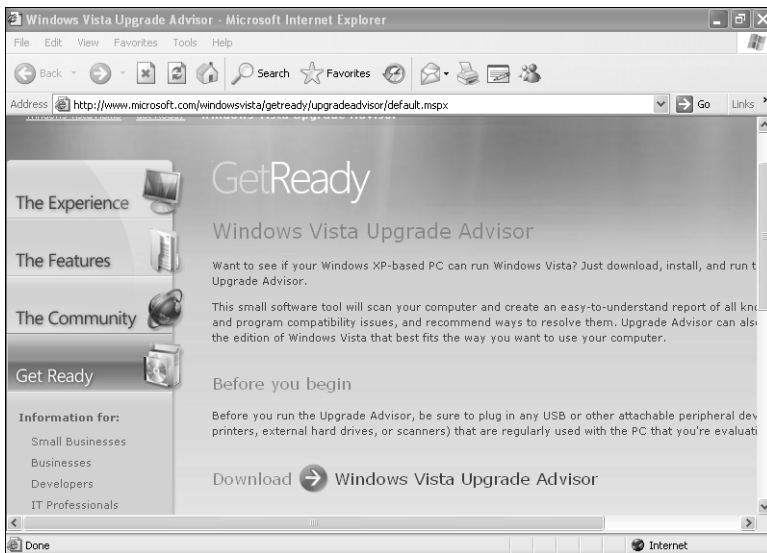
Step by Step 3.1 shows you how to obtain a system compatibility report from the computer to be upgraded.

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## STEP BY STEP

### 3.1 Installing and Running the Vista Upgrade Advisor

1. Insert the Windows Vista DVD-ROM.
2. When the Windows Vista welcome screen appears, select Check Compatibility Online.
3. Internet Explorer connects to the Microsoft Windows Vista Upgrade Advisor website, which contains upgrade information plus a link to download the Upgrade Advisor, as shown in Figure 3.1. Select this link.
4. On the Security Warning that appears, click Run to begin the download.
5. After a minute or so, an Internet Explorer Security Warning message box appears. Click Run to install the Upgrade Advisor.



**FIGURE 3.1** If you are connected to the Internet, you should choose to download the updated files before preparing your compatibility report.

6. If prompted to install a recent version of MSXML, select the Download and Install option and follow the instructions that appear. These instructions install the MSXML 6.0 Parser, which is needed to run the Upgrade Advisor. When this installation completes, click Back on your browser window to return to the Upgrade Advisor installation.
7. If prompted to install the .NET Framework, select the Download and Install option and follow the instructions that appear. These instructions install the Microsoft .NET Framework 2.0.
8. The Windows Vista Upgrade Advisor Setup Wizard starts with a Welcome screen. Click Next.
9. On the License Agreement page, click I Agree, and then click Next.
10. On the Select Installation Folder page, accept the location provided or type an alternative path. Then click Next.
11. On the Confirm Installation page, click Next to proceed. The installation takes a few minutes.
12. When the Installation Complete page appears, ensure that the Launch Windows Vista Upgrade Advisor check box is selected, and then click Close.
13. The Windows Vista Upgrade Advisor checks for updates and then displays a Welcome page (see Figure 3.2). Click Start Scan.
14. While the scan is taking place, the Upgrade Advisor displays a comparison chart of features for several Vista editions. Select the command buttons at the bottom to learn more about the various editions.
15. When the scan completes, the Upgrade Advisor displays a Scan complete page. Click See Details to view the results of the scan.



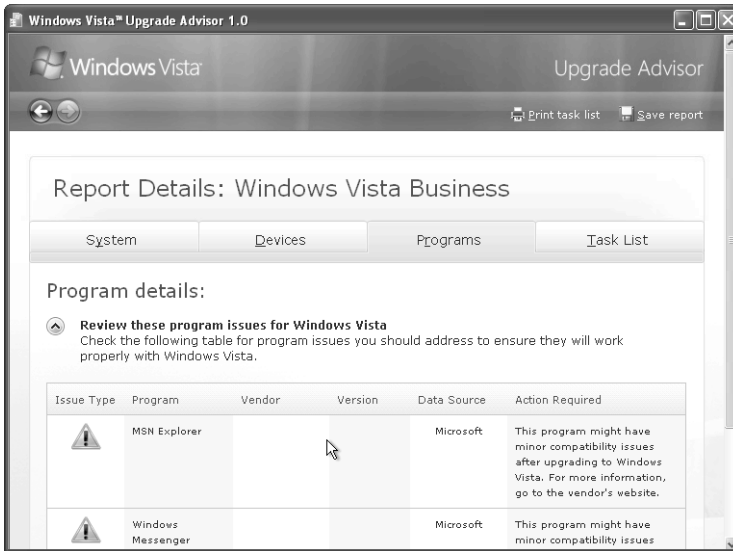
**FIGURE 3.2** Click Start Scan to test the upgradeability of your computer.

16. As shown in Figure 3.3, the Upgrade Advisor informs you of the edition of Vista most suited to your computer and of any issues that could cause problems during upgrade. For additional information, scroll down this window to click the See Details buttons under System Requirements, Devices, and Programs.



**FIGURE 3.3** The Upgrade Advisor informs you of the Vista edition most suited to your computer.

17. As shown in Figure 3.4, the Report Details page reviews any issues regarding system, devices, or programs that might not work properly with Vista.



**FIGURE 3.4** The Report Details page provides information on issues related to system, devices, and programs.

18. On the Report Details page, click the Task List tab to obtain a list of tasks you should perform before upgrading your computer to Vista.
19. Click Save Report to save a copy of the Vista Upgrade Advisor report to a location on your hard disk.

## Additional Preparatory Tasks

Before you upgrade a Windows XP computer to Windows Vista, you should perform several additional tasks, as follows:

- ▶ Check the BIOS manufacturer's website for any available BIOS upgrades, and upgrade the computer's BIOS to the latest available functional version if necessary. You should perform this step before a clean install or an upgrade to Windows Vista.
- ▶ Scan and eliminate any viruses from the computer, using an antivirus program that has been updated with the latest antivirus signatures. You should then remove or disable the antivirus program because it may interfere with the upgrade process. In addition, you should use a third-party program to scan for and remove malicious software (malware).



- ▶ Install any upgrade packs that may be required to render older software applications compatible with Windows Vista. Consult software manufacturers for details.
- ▶ Install the latest service pack for Windows XP (SP2 at the time of writing), plus any other updates that Microsoft has published.

### EXAM ALERT

**Vista requires the NTFS file system** Whether you are performing a clean installation or upgrading a Windows XP installation to Vista, remember that the partition on which you install Vista must be formatted with the NTFS file system. An exam question could specify that you are upgrading a computer containing an installation of Windows XP on a FAT or FAT32 partition. In such a case, you must execute the `convert c: /fs:ntfs` command from XP before beginning the upgrade.

## Upgrading the Computer to Windows Vista

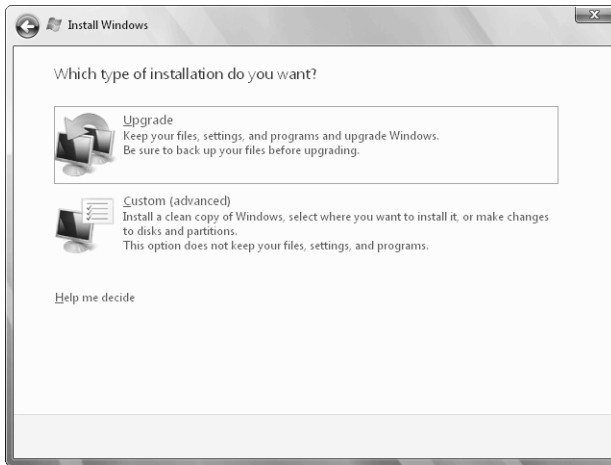
After you have checked system compatibility and performed all tasks required to prepare your computer for upgrading, you are ready to proceed. The upgrade takes place in a similar fashion to a new installation, except that answers to some questions asked by the setup wizard are taken from the current installation. Step by Step 3.2 shows you how to upgrade a Windows XP Professional computer to Windows Vista Ultimate.

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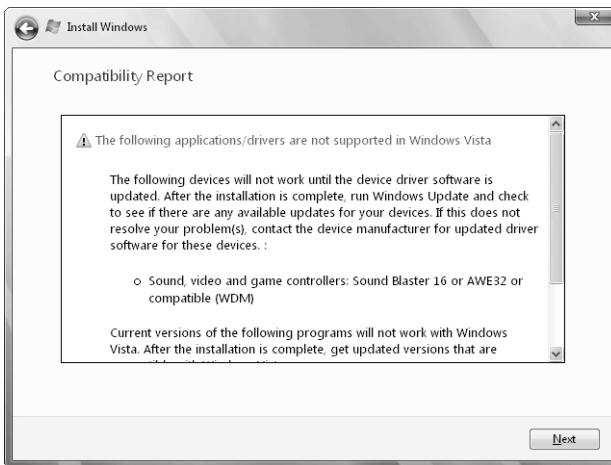
### STEP BY STEP

#### 3.2 Upgrading to Windows Vista

1. If it is not in the drive from the compatibility check process, insert the Windows Vista DVD-ROM.
2. When the Windows Vista screen appears, select Install Windows.
3. The Get Important Updates for Installation page appears. If you are connected to the Internet, select the Go Online to Get the Latest Updates for Installations option. Otherwise select the Do Not Get the Latest Updates for Installation option.
4. On the Type Your Product Key for Activation page, type the product key and then click Next.
5. Accept the license agreement and then click Next.
6. On the Which Type of Installation Do You Want? page shown in Figure 3.5, select Upgrade.
7. The Compatibility Report page displays information about any applications or drivers that are not supported in Windows Vista (see Figure 3.6). Note the information provided, and then click Next.



**FIGURE 3.5** The Which Type of Installation Do You Want? page offers you a choice between upgrading and performing a clean installation.



**FIGURE 3.6** The Compatibility Report screen describes items that might be incompatible with the upgrade to Windows Vista.

8. The Vista upgrade proceeds in a fashion similar to that of a clean installation. It only asks for any information it cannot retrieve from the previous Windows installation.
9. After installation has completed and the computer has rebooted, the Set Up Windows dialog box appears (see Figure 3.7). Make any required settings, and then click Next.



**FIGURE 3.7** The Set Up Windows dialog box enables you to select your country or region, time and currency, and keyboard layout.

10. On the Help Protect Windows Automatically page, select Use recommended settings.
11. Ensure that the time and date are set properly and then click Finish. Windows configures your personalized settings and then displays the Vista desktop.

### EXAM ALERT

**Uninstalling Windows Vista** If you should decide that you must revert your computer to Windows XP after upgrading to Vista, you must back up all data, reformat your system disk, and reinstall XP from scratch. Unlike Windows XP, which offered an uninstall option in Control Panel Add or Remove Programs after upgrading from Windows 98/Me, no such uninstall option is available in Vista. You might encounter an exam question asking you how to remove Vista after an upgrade.

### Challenge

You are a consultant who is responsible for upgrading all workstation computers in your client's office to Windows Vista Business. You have available the installation media for Windows Vista as well as the older operating systems currently in use on these computers. In addition, all servers have already been upgraded to Windows Server 2003.

*(continues)*

(continued)

The following table describes the computers in your client's office:

| Operating System           | Number of Computers |
|----------------------------|---------------------|
| Windows 98                 | 50                  |
| Windows NT 4.0 Workstation | 25                  |
| Windows 2000 Professional  | 75                  |
| Windows XP Professional    | 100                 |
| Windows Vista Home Basic   | 30                  |

Your task is to upgrade all these computers to Windows Vista Business by performing as few steps as possible. If possible, you must not remove any user settings, data, or applications from any of these computers. Draw up a plan for upgrading these computers while adhering to these specifications.

Try to complete this exercise on your own, listing your conclusions on a sheet of paper. After you have completed the exercise, compare your results to those given here:

1. You can upgrade all computers running Windows XP Professional directly to Windows Vista Business. This involves a total of 100 computers.
2. You must install Windows Vista Business as a clean installation on the computers running Vista Home Basic. Microsoft does not support an upgrade of either home version to Vista Business, only to Vista Ultimate. This involves a total of 30 computers.
3. You must install Windows Vista Business as a clean installation on the computers running Windows 98, Windows NT 4.0, or Windows 2000. Microsoft does not support an upgrade of computers running versions of Windows prior to Windows XP to any edition of Vista. This involves a total of 150 computers.

Alternatively, you can upgrade computers running Windows 98, Windows NT 4.0, or Windows 2000 Professional to Windows XP Professional and then to Windows Vista Business. This upgrade path enables you to maintain user settings, data, and applications on these computers but takes more time to accomplish and requires licensed Windows XP media.

## Dual-Booting Windows Vista

As in previous versions of Windows, you can install Windows Vista alongside a different version of Windows in a *dual-boot* configuration. By selecting Custom (Advanced) instead of Upgrade in step 6 of Step by Step 3.2, you can select a different partition on which to install Windows Vista. This retains all applications and settings you have configured in the previous version of Windows and creates a clean installation of Vista on the partition you have specified. You can even create multi-boot systems with more than two different operating systems,

including different editions of Vista, on the same computer. Dual-booting or multi-booting has the following advantages:

- ▶ You can test various editions of Vista without destroying your current operating system.
- ▶ If you are running applications that are not compatible with Vista, you can boot into an older operating system to run these applications.
- ▶ Developers can test their work on different Windows versions without needing more than one computer.

Windows Vista introduces several new boot management programs, which replace the older programs used with Windows NT/2000/XP/Server 2003. These include the following:

- ▶ `Bootmgr.exe`—Controls boot activities and displays a boot manager menu on a dual-boot or multi-boot computer.
- ▶ `Bcdedit.exe`—An editing application that enables you to edit boot configuration data on Vista. This is the only program that offers boot management editing capabilities for Vista.
- ▶ `Winload.exe`—The operating system loader, included with each instance of Windows Vista or Windows Server 2008 installed on any one computer. `Winload.exe` loads the operating system, its kernel, hardware abstraction layer (HAL), and drivers on startup.
- ▶ `Winresume.exe`—Included with each instance of Windows Vista or Windows Server 2008 installed on any one computer, this program resumes the operating system from hibernation.

For additional details on multi-booting Windows Vista with other operating systems, refer to “Boot Configuration Data in Windows Vista” in the Suggested Readings and Resources section at the end of this chapter.

#### EXAM ALERT

**When multi-booting, install the oldest operating system first** If you are setting up a dual-boot or other multi-boot system, install the oldest operating system first. For example, you would install Windows 2000, then Windows XP, and then Windows Vista in that order if you wanted a triple-boot configuration with these three operating systems. If you fail to do so, the newer operating system will be unable to start after you have installed an older operating system. An exam question could give you several choices of the sequence in which you might install multiple operating systems.

**CAUTION**

**Remember disk file system issues** If you need to dual-boot Windows Vista with operating systems earlier than Windows 2000, remember that these older operating systems only support certain file systems. Windows 98/Me support FAT and FAT32 file systems, and Windows NT 4.0 supports FAT and NTFS file systems. If you need Vista plus one of these operating systems to read the same data, ensure that your data is located on a partition formatted with one of these file systems. Also ensure that Windows NT 4.0 has at least Service Pack 5 (SP5) installed. However, remember that the partition on which you install Vista must be formatted with the NTFS file system.

## Upgrading from One Edition of Windows Vista to Another

Objective

**Upgrade from one edition of Windows Vista to another edition.**

Chapter 1, “Introducing Windows Vista,” introduced you to the editions Microsoft has produced for Windows Vista. Just as you can upgrade Windows XP to Vista, you can also upgrade a lower edition of Vista to a higher one. Table 3.2 summarizes the available upgrade paths.

**TABLE 3.2 Upgrading One Edition of Vista to a Higher One**

| Windows Edition You Are Upgrading | You Can Upgrade to This Edition      |
|-----------------------------------|--------------------------------------|
| Vista Home Basic                  | Vista Home Premium<br>Vista Ultimate |
| Vista Home Premium                | Vista Ultimate                       |
| Vista Business                    | Vista Ultimate                       |
| Vista Enterprise                  | Vista Ultimate                       |
| Vista Ultimate                    | Cannot be upgraded further           |

**NOTE**

**Vista Enterprise is available only to volume users** Microsoft makes the Enterprise version of Windows Vista available only to Enterprise Agreement (EA) or Software Assurance (SA) customers, who must purchase a minimum of 250 Vista licenses. You can only install Vista Enterprise as a clean installation. Smaller businesses should deploy Vista Ultimate if they need the enhanced features available to Vista Enterprise.

# Windows Anytime Upgrade

The Windows Vista DVD-ROM contains the code for all editions of Vista. When you enter the license key, this tells Setup which edition of Vista you are installing. As mentioned in Chapter 2, you can also install Vista without entering a license key and then select the desired edition. Doing so enables you to preview the capabilities of a given edition before making a purchase decision. Microsoft recommends that you perform several procedures before installing Vista, regardless of the method used for installation.

## Upgrading Windows Vista

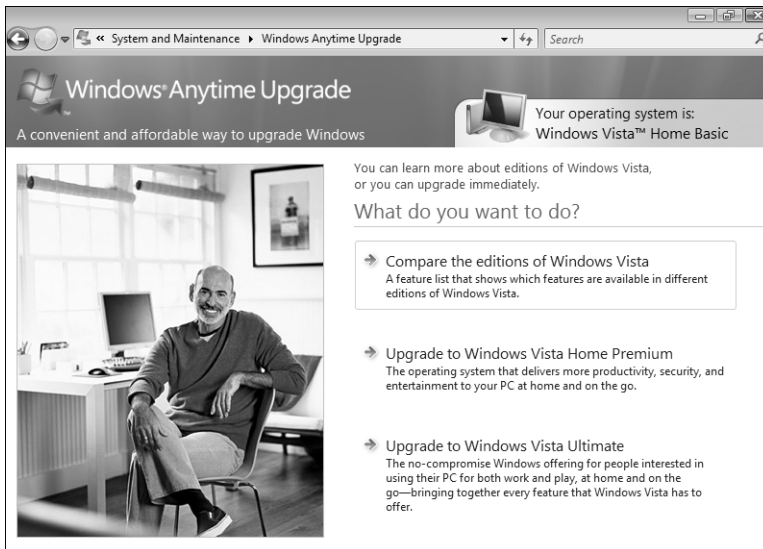
Follow Step by Step 3.3 to upgrade Windows Vista Home Basic to Vista Ultimate. Other possible upgrades (as outlined previously in Table 3.2) are performed in much the same fashion.

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### STEP BY STEP

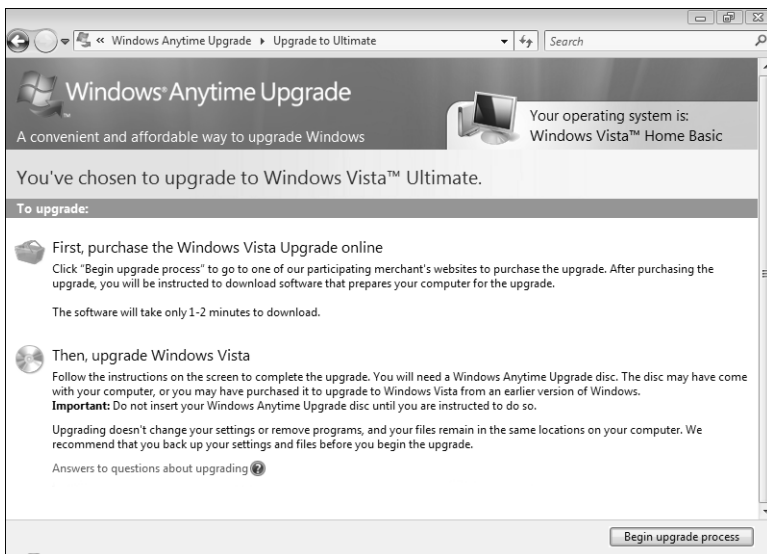
#### 3.3 Upgrading to Vista Ultimate

1. Click Start, Control Panel, System and Maintenance, Windows Anytime Upgrade.
2. As shown in Figure 3.8, Windows Anytime Upgrade enables you to compare the available editions of Vista or upgrade to available editions.



**FIGURE 3.8** Windows Anytime Upgrade enables you to upgrade your edition of Vista.

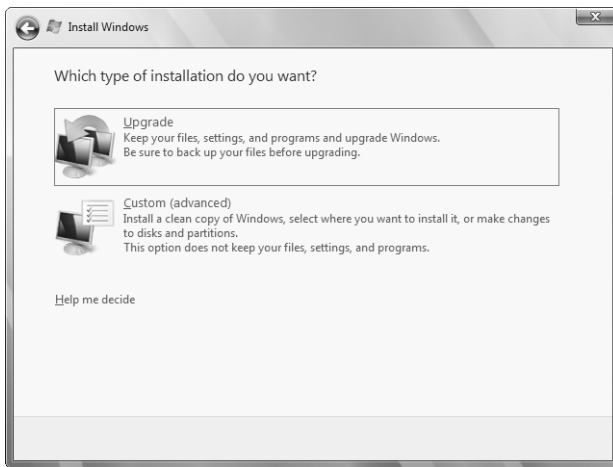
3. If you want to review a summary of available features in different editions, click the Compare the Editions of Windows Vista link. When you are finished, click the Back button.
4. To upgrade to Windows Vista Ultimate, click its link. This takes you to the window shown in Figure 3.9.



**FIGURE 3.9** This window provides instructions on how to upgrade your Vista installation.

5. If you have not yet activated Vista, this page displays an entry labeled Activate Windows before upgrading. Select the Activate Windows Now link and follow the instructions that appear.
6. Select the link labeled First, Purchase the Windows Vista Upgrade Online. This takes you to a secure Microsoft website from which you can purchase the required license.
7. Follow the instructions provided on this website to purchase and download the license.
8. Insert your Windows Vista DVD-ROM and click the Begin Upgrade Process Command button.
9. Click Continue on the User Account Control message box that appears.
10. When the Microsoft Windows Vista window appears, click Install Windows Now.
11. The Get Important Updates for Installation page appears. If you have an active Internet connection, select the Go Online to Get the Latest Updates for Installation link. Otherwise, select the Do Not Get the Latest Updates for Installation link.
12. The computer locates and downloads any available updates. When this is complete, type your product key in the space provided. Ensure that the Automatically Activate Windows When I'm Online check box is selected, and then click Next.
13. On the licensing page, ensure that the I Accept the License Terms check box is selected, and then click Next.
14. On the Which Type of Installation Do You Want? page shown in Figure 3.10, select the Upgrade option.





**FIGURE 3.10** When the computer meets the requirements for upgrading Vista, the Upgrade option is available.

15. The Vista upgrade takes place automatically, taking the required settings from the current installation. This can take up to an hour depending on the speed of your hardware.
16. After the final reboot, the Vista logon screen appears with the user name(s) you specified while running the previous edition of Vista. Select an appropriate username.
17. You are logged on and receive the Welcome Center, similar to that shown during the initial installation.

### EXAM ALERT

**The Windows.OLD folder** When you upgrade a previous version of Windows to Vista, Setup.exe stores copies of the previous operating system subfolders and files in the Windows.OLD folder, so that they are available in case you need them. This also happens if you perform an in-place upgrade or reinstallation of a Windows Vista system. You might encounter an exam question that asks you what happens to these files.

## Performing Post-Installation Updates and Product Activation

Chapter 2 introduced the concept of product activation, and it explained how Microsoft uses activation to combat software piracy. Even though you activated your computer running Windows XP, you are required to activate your product again after upgrading to Vista. You should note that product activation (which is required) is *not* the same as registration (which is optional). Windows operates at reduced functionality after the grace period unless you activate the product. Registering your copy of Windows Vista allows you to receive updates and

other offers from Microsoft and provides ready information to Microsoft tech support personnel should you ever need their services.

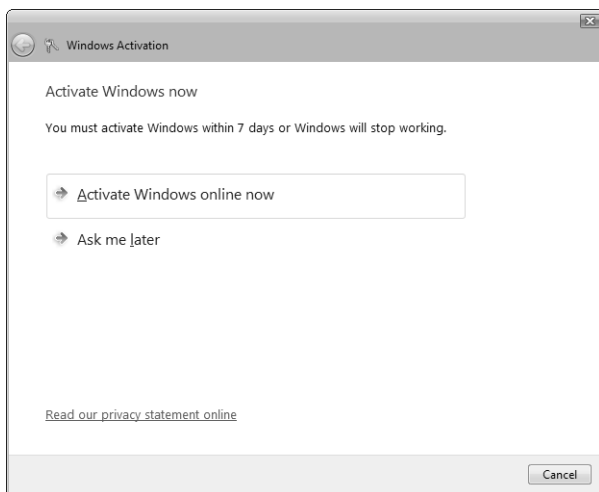
If you entered your product key during installation or upgrading, Vista is automatically activated three days later. You can activate Vista sooner if you desire. Follow Step by Step 3.4 to complete product activation.

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## STEP BY STEP

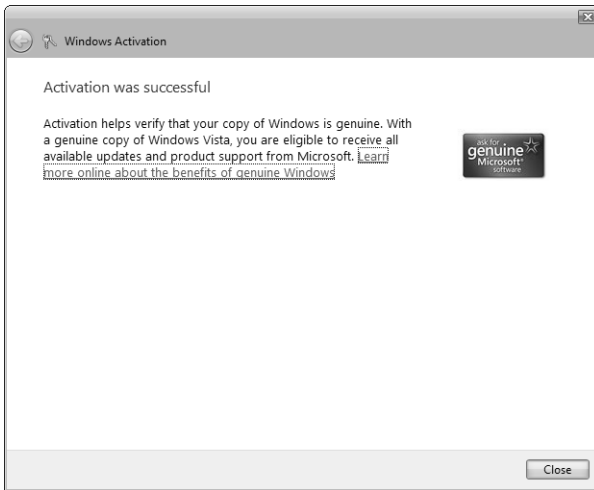
### 3.4 Performing Product Activation

1. Click Start, right-click Computer, and choose Properties. The Windows activation section of the dialog box that appears informs you of the number of days left before you must activate Windows. Click Activate Windows now.
2. If you receive a User Account Control message box, click Continue.
3. On the Windows Activation dialog box shown in Figure 3.11, select Activate Windows Online Now.



**FIGURE 3.11** You can activate Windows now or be reminded later from the Windows Activation dialog box.

4. If you have not previously typed your product key for activation, type the product key when requested and then click Next.
5. You are informed of the process of activating Windows. When finished, you receive an Activation Was Successful message, as shown in Figure 3.12. Click Close.



**FIGURE 3.12** Windows informs you when you have successfully activated it.

If you are not connected to the Internet, you can telephone a customer support representative at Microsoft. Select the option to generate an installation ID that you can give to the support representative, who will provide you with a confirmation ID that you type into the activation wizard to complete the procedure.

## Installing Updates and Hotfixes

Updates, hotfixes, and patches are designed to repair specific problems that are uncovered from time to time after the release of a new operating system or major update such as a service pack. Their purpose is to correct security-related or performance-related problems and maintain the operating system in an up-to-date condition at all times. Microsoft operates the Windows Update website that analyzes your computer and determines which updates are required to keep your computer up-to-date and downloads and installs these updates automatically. These updates take place in the background while you are working on other projects and inform you if a restart is needed. If this is so, you can schedule the restart so that it does not interfere with completion of your work.

When you install or upgrade to Windows Vista and select the option to download updates at the time of installation, your operating system is up-to-date with all patches and hotfixes at that time. Microsoft releases additional updates on a periodic basis (generally monthly on the second Tuesday of each month). Automatic Updates is turned on by default at installation time so that you will receive these updates as they are made available. However, this feature provides several settings that enable you to manage how you receive and install these updates.

## Managing Automatic Updates

The Automatic Updates feature in Windows Vista enables computers to automatically connect to the Microsoft Windows Update website and download the latest updates, hotfixes, and patches. You can specify how and when your computers are updated, and updates can be downloaded and installed in the background while you are working.

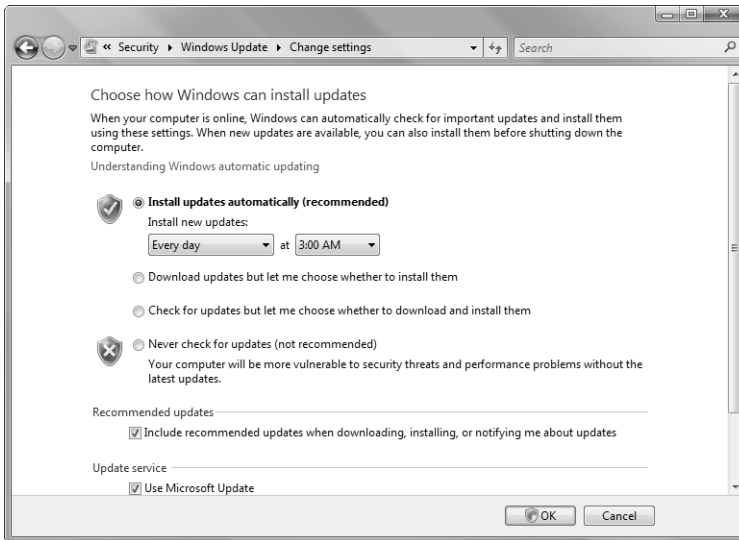
To configure options for automatically receiving updates, follow the procedure outlined in Step by Step 3.5.

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### STEP BY STEP

#### 3.5 Configuring Automatic Updates

1. Click Start, Control Panel, Security, Windows Update.
2. On the left pane of the Windows Update applet, select Change Settings.
3. As shown in Figure 3.13, the Choose How Windows Can Install Updates page provides the following four options for configuring automatic updates:
  - ▶ *Install Updates Automatically (Recommended)*—Automatically downloads and installs updates at the day and time specified in the drop-down list boxes provided. You should ensure that your computer is on and connected to the Internet at the time you specify. This is the default setting.
  - ▶ *Download Updates but Let Me Choose Whether to Install Them*—Downloads updates when they are available and informs you by means of an icon in the notification area. You can select which updates should be installed by clicking this icon and choosing Install.
  - ▶ *Check for Updates but Let Me Choose Whether to Download and Install Them*—Provides an icon in the notification area to inform you that updates are available from the Windows Update website. You can download these updates by clicking this icon and choosing Start Download. After the updates are installed, you can select Install to install them.
  - ▶ *Never Check for Updates (Not Recommended)*—You are not informed of any available updates and need to access the Windows Update website regularly to check for updates. You can do this by means of the link provided.
4. Make your selection. If you keep the default setting, select a convenient option for the day and time. Then click OK.



**FIGURE 3.13** The Choose How Windows Can Install Updates dialog box provides four options for configuring automatic updates.

Administrators can configure Automatic Updates for all computers in an Active Directory domain or organizational unit (OU) by means of Group Policy, which offers the same options as outlined here. In this way, you can ensure that all computers automatically receive the required updates. In addition, you can specify that the client computers download their updates from a server running Windows Server Update Services (WSUS) on your network. By doing so, you can reduce the Internet bandwidth required for downloading updates, and you can test updates in a lab environment to ensure that they do not cause problems with services or applications on the client computers.

### TIP

**Visit the Windows Update website regularly, even if you have configured Automatic Updates** The Windows Update website downloads only high-priority and recommended updates in an automatic manner. This site also contains optional software and hardware updates, which can help improve your computer's performance.

Always test the updates on one or more computers that are representative of your production computers in a lab environment before rolling out the updates.

## Summary

In this chapter, you learned how to upgrade previous versions of Windows to Windows Vista and how to upgrade from one edition of Vista to a higher one. You learned about the requirements for upgrading previous versions and the tasks that you should perform before you upgrade a computer.

You can upgrade computers running Windows XP to editions of Windows Vista, and you can upgrade certain editions of Vista to higher ones. You cannot upgrade computers running Windows 2000 or older to Vista and must perform a clean installation if you wish to perform such an upgrade.

You also reviewed the method of performing product activation and looked briefly at how to keep your computer up-to-date with Windows Update.

## Key Terms

- ▶ dual-boot
- ▶ product activation
- ▶ Windows Anytime Upgrade
- ▶ Windows Upgrade Advisor

## Apply Your Knowledge

You have seen the conditions under which older Windows operating systems can be upgraded to Windows Vista. Here you upgrade a computer running Windows Vista Business to Vista Ultimate without first having entered a product key for Vista Business. To perform this exercise you should have a computer on which you have installed Vista Business using methods outlined in Chapter 2 but without entering a Vista Business product key.

# Exercises

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## 3.1 Upgrading Vista Business to Vista Ultimate

As mentioned in Chapter 2, you can install Vista without a product key if you want to evaluate the features of a given edition of Vista. You can then upgrade to another supported edition by entering the product key of the upgraded edition. This procedure is also useful in learning situations and when preparing for Microsoft exams.

**Estimated Time:** 45–90 minutes, depending on the speed of your hardware.

1. Insert the Vista DVD-ROM.
2. If the Install Windows screen does not appear, open Computer, navigate to the DVD-ROM drive, and double-click `Setup.exe`.
3. On the Install Windows screen, select Install Now.
4. If you are connected to the Internet, select Go Online to Get the Latest Updates for Installation. Otherwise, select Do Not Get the Latest Updates for Installation.
5. Type the product key for Vista Ultimate and then click Next.
6. Accept the license terms and then click Next.
7. On the Which Type of Installation Do You Want? page, select Upgrade.
8. Setup checks compatibility and displays a report outlining any applications or drivers that are not supported. Make a note of the items displayed and then click Next.
9. The Windows upgrade proceeds without interaction from the user, and the computer reboots. After the final reboot, the Set Up Windows screen appears. Modify the selections if required and then click Next.
10. On the Help Protect Windows Automatically page, select Use Recommended Settings.
11. On the Review Your Time and Date Settings page, ensure that the settings are correct, modify them if necessary, and then click Finish.

## Exam Questions

1. You are responsible for upgrading the operating system on a large number of computers running various versions of Windows in your office, and you decide to upgrade all the computers to Windows Vista Business. Which of the following operating systems can you upgrade to Windows Vista Business? (Choose all that apply.)
- A. Windows 98
  - B. Windows NT 4.0
  - C. Windows 2000 Professional
  - D. Windows XP Professional
  - E. Windows XP Home Edition
  - F. Windows Vista Home Basic

2. Ellen uses a computer running Windows XP Professional and wants to upgrade this computer to Windows Vista Business without reinstalling any of her applications. She inserts the Vista DVD-ROM and runs `Setup.exe`. However, she receives a message that informs her `Setup` has been disabled.

What should Ellen do first to troubleshoot this problem?

- A. Perform a clean installation of Windows Vista Business.
  - B. Check her hardware for compatibility with Vista.
  - C. Upgrade her computer to Vista Ultimate instead.
  - D. Disable her Windows XP antivirus program, and then rerun `Setup.exe`.
3. Peter wants to upgrade his computer from Windows XP Professional to Windows Vista Business. He is concerned that his computer's hardware might be somewhat outdated and will not support the upgrade. Which of the following can he do to determine whether the computer will support Windows Vista Business?
- A. Run the `setup /checkupgradeonly` command from the Vista DVD-ROM.
  - B. Run the `winnt32 /checkupgradeonly` command from the Vista DVD-ROM.
  - C. Download and run the Windows Vista Upgrade Advisor.
  - D. Simply install Windows Vista and hope that everything is compatible.



4. Kristin is a developer who needs to work with more than one operating system to assess how her applications behave in different conditions. Her computer has a 100GB hard disk containing three partitions formatted with the FAT32 file system. Windows XP Professional is installed on the first partition. She wants to install Windows Vista Ultimate in a dual-boot configuration.

What should she do?

- A. While running Windows XP, insert the Vista DVD-ROM and follow the prompts provided. When she receives the option to select the type of installation, select Custom (advanced). Then select the second partition to install Vista and format this partition with the NTFS file system.
  - B. While running Windows XP, insert the Vista DVD-ROM and follow the prompts provided. When she receives the option to select the type of installation, select Upgrade. Then select the second partition to install Vista and format this partition with the NTFS file system.
  - C. Do not reformat any partition. While running Windows XP, insert the Vista DVD-ROM and follow the prompts provided. When she receives the option to select the type of installation, select Custom (advanced). Then select the second partition to install Vista.
  - D. Do not reformat any partition. While running Windows XP, insert the Vista DVD-ROM and follow the prompts provided. When she receives the option to select the type of installation, select Upgrade. Then select the second partition to install Vista.
5. You are using a computer running Windows XP Home Edition that has an old network interface card (NIC) and sound card that might not be compatible with Vista. You want to upgrade your computer to Windows Vista Home Premium. What should you do first?
- A. Purchase and install a new NIC and sound card.
  - B. Run the Easy Transfer Wizard.
  - C. Access the websites of the NIC and sound card manufacturers and download new drivers for these components.
  - D. Run the Windows Vista Upgrade Advisor.
6. Tom is upgrading a computer from Windows XP Professional to Windows Vista Ultimate. The computer is a 2.8GHz Pentium IV and has 768MB of RAM and an 80GB hard disk. After the first restart, Tom is informed that the computer is infected with a master boot record virus. What should he do before continuing with the installation?
- A. Reboot the computer to Windows XP Professional and scan for and remove all viruses.
  - B. Remove or disable any antivirus software installed in Windows XP.
  - C. Run the Check Compatibility Online option and follow any recommendations provided.
  - D. Run `fixmbr.exe` from the Windows Vista DVD-ROM.
  - E. Upgrade the computer to 1GB of RAM.

7. You are installing Windows Vista Business on a computer running Windows XP Professional. The hard disk has three partitions: C, D, and E. Windows XP Professional is installed on partition C. When Setup gives you a choice of partition on which to install Windows Vista Business, you choose partition D. What happens?
- A. You create a dual-boot system.
  - B. You upgrade Windows XP Professional to Windows Vista Business.
  - C. The Windows Vista Business installation fails.
  - D. You wipe out Windows XP Professional.

## Answers to Exam Questions

1. **D and E.** You can upgrade Windows XP Home Edition or Windows XP Professional to Windows Vista Business. Microsoft does not support upgrades of older operating systems or of Windows Vista Home Basic or Home Premium to Vista Business, so answers A, B, C, and F are all incorrect. For more information, see the sections, “Upgrading to Windows Vista from a Previous Version of Windows,” and, “Upgrading from One Edition of Windows Vista to Another.”
2. **B.** Ellen should check her hardware for compatibility. The Windows Vista Upgrade Advisor utility will do this for her and will produce a report of any hardware or software issues that may interfere with her ability to upgrade to Vista. If she performs a clean installation of Windows Vista Business, she will not retain her applications or settings, so answer A is incorrect. She should not upgrade her computer to Windows Vista Ultimate because this upgrade will also fail; moreover, upgrading to Vista Business is a supported upgrade option. Therefore answer C is incorrect. While she should disable her antivirus software before upgrading to Vista, she will not receive this error if she hasn’t done so; therefore, answer D is incorrect. For more information, see the section, “Vista Upgrade Advisor.”
3. **C.** Peter should run the Windows Vista Upgrade Advisor. He can download this application by selecting the Check Compatibility Online option from the Install Windows screen that appears when he inserts the Vista DVD-ROM. The `winn32 /checkupgradeonly` command was used with Windows XP to produce a compatibility report for upgrading older versions of Windows to this operating system. However, it is not used with Vista, so answer A is incorrect. The `setup` command used for installing Vista does not include the `/checkupgradeonly` switch, so answer B is incorrect. Because Peter can download and run the Vista Upgrade Advisor to produce a comprehensive report of potential issues, he should not simply install Windows Vista and hope that everything is compatible. Therefore answer D is incorrect. For more information, see the section, “Preparing a Computer to Meet Upgrade Requirements.”
4. **A.** Kristin should select the Custom (advanced) installation option to install Vista on the second partition and format this partition with the NTFS file system. If she selects the Upgrade option, she upgrades her installation of Windows XP to Windows Vista, so answers B and D are incorrect. If she does not format the partition with the NTFS file system, the installation will fail, so answer C is incorrect. For more information, see the section “Dual-Booting Windows Vista.”

5. **D.** The Windows Vista Upgrade Advisor analyzes the hardware and software components of the computer for compatibility issues. You should run this utility before attempting to upgrade your computer to Vista. You should not purchase new hardware or download new drivers before you have run the Upgrade Advisor because it is always possible that these components are compatible with Vista. Therefore answers A and C are incorrect. The Easy Transfer Wizard is used to transfer files and settings from an older computer to a new Windows Vista computer. It does not check hardware compatibility, so answer B is incorrect. For more information, see the section, “Vista Upgrade Advisor.”
6. **B.** Antivirus (AV) software is known to cause problems during installation of or upgrading of Windows operating systems. On the first reboot, these programs may falsely report that the installation files contain a virus and halt the installation. You should uninstall the AV software and disable any AV checking in the computer’s BIOS before installing or upgrading to Vista. You can always re-enable or reinstall antivirus software after you have completed the upgrade. The computer is not actually infected with a virus, so Tom does not need to reboot to Windows XP or scan for viruses, so answer A is incorrect. The Check Compatibility Online option is used to check a computer for software or hardware incompatibility before upgrading to Windows Vista. These problems do not cause the false reporting of a virus, so answer C is incorrect. `Fixmbr.exe` is used to recover corrupted master boot records on existing Windows installations. You cannot use it in this scenario when the Windows installation is incomplete, so answer D is incorrect. Tom does not need to upgrade the RAM to 1GB, so answer E is incorrect. For more information, see the section, “Additional Preparatory Tasks.”
7. **A.** On a computer that is running Windows XP Professional, you can either upgrade the current Windows installation by installing Windows Vista on the same partition holding the current Windows operating files or create a dual-boot system by installing Windows Vista on a different partition. You do not upgrade Windows XP in this scenario because you installed to a different partition, so answer B is incorrect. This type of installation does not wipe another instance of Windows out, nor does it fail for this particular reason, so answers C and D are incorrect. For more information, see the section, “Upgrading to Windows Vista from a Previous Version of Windows.”

## Suggested Readings and Resources

The following are some recommended readings on the subject of upgrading to Windows Vista:

### 1. Books

- ▶ McLean, Ian and Orin Thomas. *MCTS Self-Paced Training Kit (Exam 70-620): Configuring Windows Vista Client*. Redmond, WA: Microsoft Press. 2007.

## 2. Course

- ▶ Microsoft Official Curriculum course 5115, Installing and Configuring the Windows Vista Operating System. Module 2, *Upgrading and Migrating to Windows Vista Ultimate Edition*. Information available at <http://www.microsoft.com/learning/syllabi/en-us/5115aprelim.mspix>.

## 3. Websites

- ▶ Microsoft. *Boot Configuration Data in Windows Vista*. <http://www.microsoft.com/whdc/system/platform/firmware/bcd.mspix>
- ▶ Microsoft. *Log Files that are Created When You Upgrade to Windows Vista from an Earlier Version of Windows*. <http://support.microsoft.com/kb/928901>
- ▶ Microsoft. *Windows Vista Upgrade Advisor*. <http://www.microsoft.com/windowsvista/getready/upgradeadvisor/default.mspix>
- ▶ Microsoft. *Upgrade Paths from Previous Versions*. <http://www.microsoft.com/windowsvista/getready/upgradeinfo.mspix>
- ▶ Microsoft. *System Requirements for Windows Vista*. <http://support.microsoft.com/kb/919183>
- ▶ Microsoft TechNet. *Boot Configuration Data Editor Frequently Asked Questions*. <http://technet2.microsoft.com/WindowsVista/en/library/85cd5efe-c349-427c-b035-c2719d4af7781033.mspix?mfr=true>
- ▶ TechRepublic. *Running the Windows Vista Upgrade Advisor on a New Computer* by Greg Shultz. [http://articles.techrepublic.com.com/5100-10877\\_11-6152876.html?tag=nl.e132](http://articles.techrepublic.com.com/5100-10877_11-6152876.html?tag=nl.e132).