



NOTE:

- Although there are many versions of Windows 7, for the purpose of this document, the focus is on Windows 7 Starter, Windows 7 Home Premium, Windows 7 Professional, and Windows 7 Ultimate.
- In this document, we refer to **The Start Button** as **Start**.
- In this document, we refer to the Windows 7 **Search Programs and Files** as **Start Search**.
- In Windows Vista and Windows 7, **My Computer** is called **Computer**.

IT Essentials v4.1 LI 5.1.2 Explain operating system concepts

CompTIA A+ 220-701 Objective

3.1 Application compatibility, installed program locations (32 bit versus 64 bit), Windows compatibility mode

In Windows 7, you can adjust the level of monitoring that the UAC performs, as shown in Figure 3. When Windows 7 is installed, the primary account is set to **Default – Notify me only when programs try to make changes to my computer**. To adjust the level of UAC monitoring, use the following path:

Start > Control Panel > User Accounts and Family Safety > User Accounts > Change User Account Control settings

NOTE: The Control Panel in Windows 7 has three view options: Category, Large icons and Small icons. This course uses the Category view.

Like Windows Vista, some older programs might run incorrectly or not at all, even when using Windows compatibility mode. To fix the problem, you can change the compatibility settings for the program either manually or by using the Program Compatibility troubleshooter.

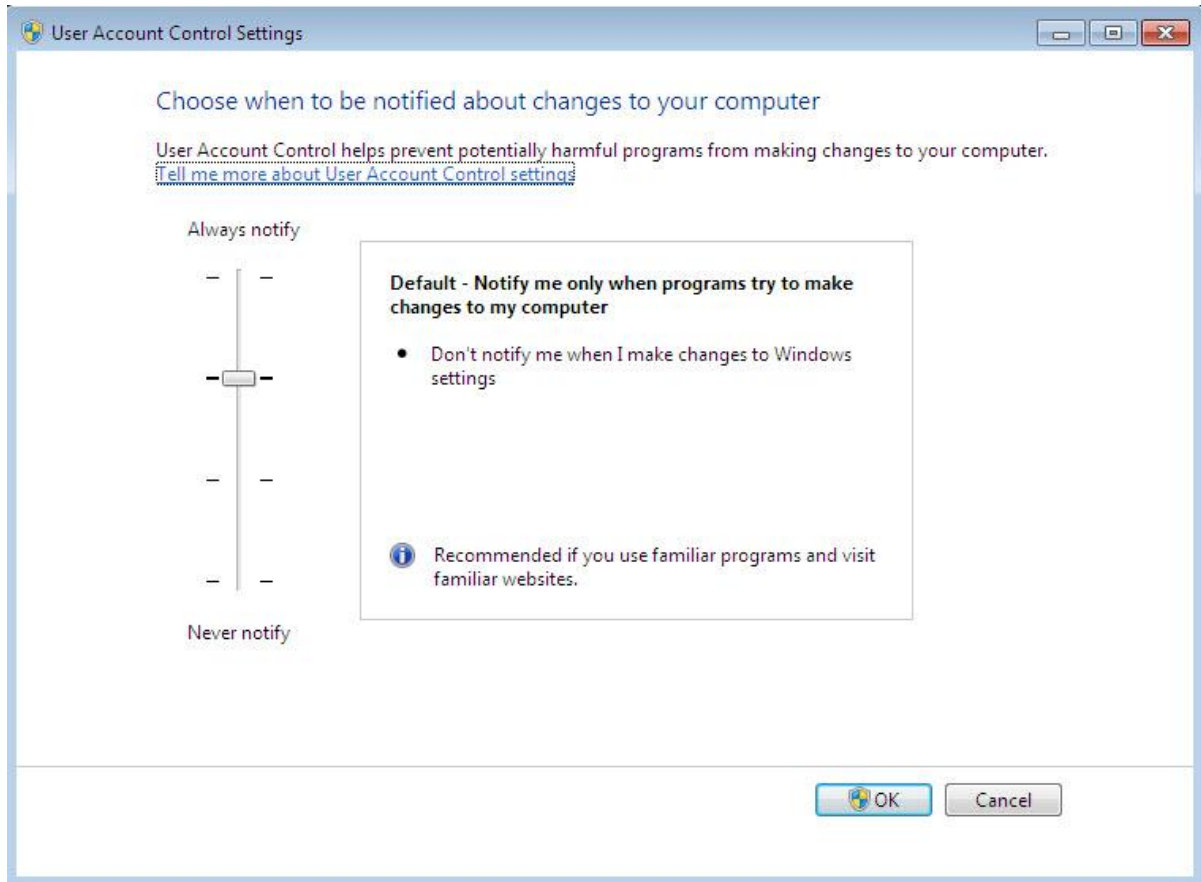
To troubleshoot program compatibility in Windows 7, follow these steps:

1. Click **Start > Control Panel**.
2. In the search box, type **troubleshooter** and click **Troubleshooting** in the list displayed.
3. Under Programs, click **Run programs made for previous versions of Windows**, and click **Next**.
Windows searches for compatibility issues, and a list of programs is displayed.
4. Select the program you are having problems with and click **Next**. If the program is not listed, select **Not listed > Next > Browse** to locate the program, and then click **Open > Next**.
5. You can choose **Try recommended settings** to run the program using the settings that Windows 7 has determined to be the most compatible, or you can also choose **Troubleshoot program**, which allows you to select troubleshooting steps based on the problems that you noticed.
6. Click **Start the Program** to see if the problem is solved.
7. Click **Next** for Windows to apply the settings permanently, or repeat the process to choose different settings until compatibility is reached.

You can also run the Program Compatibility troubleshooter by right-clicking the program's shortcut or icon and then choose **Troubleshoot compatibility**.

New Figure 3

User Account Control Settings



IT Essentials v4.1 LI 5.2.1 Describe desktop operating systems

CompTIA A+ 220-701 Objective

3.1 Compare and contrast the different Windows Operating Systems and their features

- Windows 7 Starter – Used on netbook computers to make networking easy
- Windows 7 Home Premium – Used on home computers to easily share media
- Windows 7 Professional – Used on work computers to secure critical information and to make routine tasks easier to complete
- Windows 7 Ultimate – Used on computers to combine the ease of use of Windows 7 Home Premium with the business capabilities of Windows 7 Professional and provide added data security

IT Essentials v4.1 LI 5.3.2 Determine minimum hardware requirements and compatibility with the OS platform

CompTIA A+ 220-701 Objective

3.1 Compare and contrast the different Windows Operating Systems and their features

Additions to Figure 1

	CPU	RAM	Hard Disk Drive	Video Adapter Card	Features	Ideal Use

Windows 7 Starter	1 GHz or faster 32-bit (x86) or 64-bit (x64) processor	1 GB RAM	Hard drive with at least 16 GB of available space (32-bit)	DirectX 9 graphics device with WDDM 1.0 or later driver	<ul style="list-style-type: none"> • Jump Lists • Pin • Snap • Windows Search 	Good choice for consumers with a netbook
Windows 7 Home Premium	1 GHz or faster 32-bit (x86) or 64-bit (x64) processor	1 GB RAM (32-bit) or 2 GB RAM (64-bit)	Hard drive with at least 16 GB of available space (32-bit) or 20 GB (64-bit)	DirectX 9 graphics device with WDDM 1.0 or later driver	<ul style="list-style-type: none"> • Shake • Customizable themes • Improved Desktop Navigation • Internet TV • HomeGroup 	Good choice for home users who want to share media
Windows 7 Professional	1 GHz or faster 32-bit (x86) or 64-bit (x64) processor	1 GB RAM (32-bit) or 2 GB RAM (64-bit)	Hard drive with at least 16 GB of available space (32-bit) or 20 GB (64-bit)	DirectX 9 graphics device with WDDM 1.0 or later driver	<ul style="list-style-type: none"> • Location aware printing • Windows XP Mode • Domain Join • Backups to home or business network 	Good choice for people who use business applications and want to secure data
Windows 7 Ultimate	1 GHz or faster 32-bit (x86) or 64-bit (x64) processor	1 GB RAM (32-bit) or 2 GB RAM (64-bit)	Hard drive with at least 16 GB of available space (32-bit) or 20 GB (64-bit)	DirectX 9 graphics device with WDDM 1.0 or later driver	<ul style="list-style-type: none"> • BitLocker • Switch between any of 35 languages 	Good choice for people who need security, share media, and run multiple business applications

Additions to Figure 2

	32-bit	64-bit	Operating System Path	Installed Programs Path
Windows 7 Starter	X		C:\Windows	C:\Program Files
Windows 7 Home Premium	X	X	C:\Windows	C:\Program Files for 64-bit applications C:\Program Files (x86) for 32-bit applications
Windows 7 Professional	X	X	C:\Windows	C:\Program Files for 64-bit applications C:\Program Files (x86) for 32-bit applications
Windows 7 Ultimate	X	X	C:\Windows	C:\Program Files for 64-bit applications C:\Program Files (x86) for 32-bit applications

IT Essentials v4.1 LI 5.4.2 Prepare hard drive

CompTIA A+ 220-701 Objective

3.3 Disk preparation order, Format drive, Partition

The Windows Vista and Windows 7 operating systems automatically create a partition using the entire hard drive. If you do not create custom partitions using the **New** option, as shown in Figure 2, the system formats the partition and begins installing Windows. If you create and format your own partitions, the process is the same as Windows XP, except that Windows Vista and Windows 7 do not provide a choice of file systems. The partition is formatted with NTFS.

IT Essentials v4.1 LI 5.4.3 Install the operating system using default settings

CompTIA A+ 220-701 Objective

3.3 Repair install

When a computer boots using the Windows Vista or Windows 7 installation disc, three options are available:

- **Upgrade** – Upgrades Windows but keeps your current files, settings, and programs. Use this option to repair an installation.
- **Custom (advanced)** – Installs a clean copy of Windows in your choice of location and allows you to change disks and partitions.
- **Quit** – Exits Setup.

If existing Windows installations are not found, the Upgrade option is disabled, as shown in Figure 2.

Unless you perform a clean installation of Windows 7, the previous Windows folder is kept, along with the Documents and Settings and Program Files folders. During the Windows 7 installation, these folders are moved to a folder named Windows.old. You can copy files from previous installations to your new installation if you need them.

IT Essentials v4.1 LI 5.4.5 Complete the installation

CompTIA A+ 220-701 Objective

2.5 OS

Windows 7 Changes: Add Windows 7 to the instructions for accessing Windows Update.

In Windows Vista or Windows 7, use the following path to access Windows Update:

Start > All Programs > Windows Update

Windows 7 Changes: Add Windows 7 to the instructions for accessing the Device Manager.

In Windows Vista or Windows 7, use the following path to access the Device Manager:

Start > Control Panel > System and Security > System > Device Manger

IT Essentials v4.1 LI 5.4.6 Describe custom installation options

CompTIA A+ 220-701 Objective

3.3 Network Installation

3.3 Recover CD

To install Windows 7 over a network:

1. Prepare the computer by creating a FAT or FAT32 partition of at least 5 GB. You must make the partition bootable and include a network client. You can also use a boot disk that contains a network client so that the computer can connect to a file server over the network.
2. Copy the Windows 7 installation media to the network server and make sure to share the directory so that clients can connect and use the files.
3. Boot the computer and connect to the shared directory.
4. From the shared directory, run the setup program, setup.exe, located in the sources directory. The setup program copies all the installation files to your hard drive. After the installation files have been copied, the installation continues similar to installing from a disc.

In Windows 7, you can use a system recovery disc to boot the computer and then use system recovery tools to recover Windows 7 from errors that prevent system startup. You can also use a system recovery disc to boot the computer and restore the entire computer from a system image.

To create a Windows 7 system recovery disc, follow these steps:

1. Click **Start > Control Panel > System and Security > Backup and Restore > Create a system repair disc**.
2. Insert a blank disc in the optical disc drive and click **Create Disc**.
3. Test the disc by using it to boot the computer.
4. After the System Recovery Options screen is displayed, highlight the operating system that needs to be restored and click **Next**. The following tools should be available:
 - Startup Repair
 - System Restore
 - System Image Recovery
 - Windows Memory Diagnostic
 - Command Prompt

IT Essentials v4.1 LI 5.4.9 Describe directory structures

CompTIA A+ 220-701 Objective

3.3 FAT32 vs. NTFS

Windows XP and Windows 2000 support the FAT32 and NTFS file systems, while Windows Vista and Windows 7 use only NTFS. Security is one of the most important differences between FAT32 and NTFS. NTFS can support more files and larger files than FAT32, and it provides more flexible security features for files and folders. Figures 2 and 3 show the file permission properties for FAT32 and NTFS.

In Windows 7, use this path:

Start > Control Panel > Appearance and Personalization > Folder Options > View > Show hidden files and folders

IT Essentials v4.1 LI 5.5.1 Manipulate items on the desktop

CompTIA A+ 220-701 Objective

- 3.1 Side bar, Aero, UAC, minimum system requirements, system limits
- 3.1 User interface, start bar layout
- 3.2 Libraries in Windows 7
- 3.2 My Computer
- 3.2 My Network Places / Home Group
- 3.2 Start Menu

Windows 7 Changes: Replace the entire page with the following text.

After the operating system has been installed, the desktop can be customized to suit individual needs. A desktop on a computer is a graphical representation of a workspace. The desktop has icons, toolbars, and menus to manipulate files. The desktop can be customized with images, sounds, and colors to provide a more personalized look and feel. All of these customizable items together make up a theme. Windows Vista and Windows 7 have a special theme called Aero, as shown in Figure 1. Aero is the default theme and has translucent window borders, numerous animations, and live icons that are thumbnail images of the contents of a file. Because of the advanced graphics needed, the Aero theme can only be used on computers that meet the following hardware requirements:

- 1 GHz 32-bit or 64-bit processor
- 1 GB of RAM
- 128 MB graphics card
- DirectX 9 class graphics processor that supports a Windows Display Driver Model Driver, Pixel Shader 2.0 in hardware, and 32 bits per pixel.

NOTE: Windows Vista Home Basic and Windows 7 Starter do not include the Aero theme.

Windows 7 includes the following new Aero features:

- **Shake** – Minimize all windows not being used by clicking a window and shaking the mouse. To maximize the windows again, click the same window and shake the mouse.
- **Peek** – View the icons and gadgets on the desktop by pointing the mouse at the right edge of the taskbar to make all windows transparent.
- **Snap** – Resize a window by dragging it to one of the edges of the screen.
 - Left – Fits the window to the left half of the screen
 - Right – Fits the window to the right half of the screen
 - Top – Maximizes the window to fill the entire screen

In Windows Vista, a feature called the Sidebar, as shown in Figure 2, can also be personalized. The Sidebar is a graphical pane on the desktop that keeps gadgets organized. Gadgets are small applications such as games, sticky notes, or a clock. New gadgets, such as interfaces to web information, weather maps, or contacts on a social networking site can also be added to the Sidebar.

In Windows 7, you can place gadgets anywhere on the desktop. You can choose to have gadgets snap or position themselves to the sides and corners of the desktop, as well as align to the other gadgets.

To add gadgets to the desktop:

1. Right-click anywhere on the desktop and choose **Gadgets**.
2. Do any of the following:
 - Drag and drop the gadget from the menu to the desktop.
 - Double-click the gadget to add it to the desktop.
 - Right-click the gadget and choose **Add**.
3. To snap a gadget, drag it to the desired desktop location. The gadget aligns itself with the screen edges and other gadgets.

Desktop Properties

To customize the Windows XP GUI of your desktop, right-click the desktop and choose **Properties**. The Display Properties window, as shown in Figure 3, has five tabs: Themes, Desktop, Screen Saver, Appearance, and Settings. Click any of these tabs to customize your display settings. In Windows Vista and Windows 7, right-click the desktop and choose **Personalize**. The Personalization window in Windows Vista, as shown in Figure 4, has seven links: Window Color and Appearance, Desktop Background, Screen Saver, Sounds, Mouse Pointers, Themes, and Display Settings. Click any of these links to customize your display settings. In Windows 7, the Personalization window has three links on the left to change desktop icons, mouse pointers, and your account picture. Themes are chosen from the right panel. You can modify a theme's background, color, sound, and screen saver using the four items under the window.

Desktop Items

There are several items on the desktop that can be customized, such as the Taskbar and Recycle Bin. To customize any item, right-click the item and then choose **Properties**.

Start Menu

On the desktop, the Start menu is accessed by clicking **Start**. The Start menu, shown in Figure 5, displays all of the applications installed in the computer, a list of recently opened documents, and a listing of other elements, such as a search feature, help center, and system settings. The Start menu can also be customized. There are two styles of Start menu: XP and Classic. The XP-style Start menu is used throughout this course for demonstrating command sequences.

In Windows 7, the start menu styles have been removed. You may customize many different aspects of the start menu by using the customize start menu settings, as shown in Figure 6. To access the customize start menu settings, use the following path:

Right-click an empty section of the taskbar and choose **Properties > Start Menu > Customize**.

Taskbar

In Windows 7, the following new features have been added to the taskbar to make navigating, organizing, and accessing windows and notifications easier:

- **Jump list** – To display a list of tasks that are unique to the application, right-click its icon in the taskbar.
- **Pinned applications** – To add an application to the taskbar for easy access, right-click the icon of an application and select **Pin to taskbar**.
- **Thumbnail previews** – To view a thumbnail image of the window, hover the mouse over a taskbar icon.

My Computer

To access the various drives installed in the computer, double-click the **My Computer** icon that appears on the desktop. To customize certain settings, right-click **My Computer** and choose **Properties**. Settings that can be customized include the following:

- Computer name
- Hardware settings
- Virtual memory
- Automatic updates
- Remote access

NOTE: In Windows Vista and Windows 7, My Computer is called Computer. To customize certain settings, click Start then right-click **Computer** and choose **Properties**. In Windows 7, you must also click **Advanced system settings**. Access installed drives in Windows Vista and Windows 7 with the following path:

Click **Start > Computer**

Windows Explorer

Windows 7 adds the following features to Windows Explorer:

- **Search box** – Access previous searches. You can also filter search results.
- **New folder button** – Create new folders with one click.
- **Arrange by** – Organize items easily according to different criteria.
- **Preview pane button** – Turn the preview pane on or off as needed.

Windows 7 Libraries

Libraries is a new Windows 7 feature that allows you to easily organize content from various storage devices on your local computer and network, including removable media, without actually moving the files. A library is a virtual folder that presents content from different locations within the same view. You can search a library, and you can filter the content using criteria such as author, date modified, or tag.

When Windows 7 is installed, each user has four default libraries: Documents, Music, Pictures, and Videos. To access a library, open any folder and click **Libraries** in the left column. To add a file or folder to a library, right-click it and select **Include in library**, and then choose which library to add the item. The file or folder will be available when you open that library.

To create a new library, open a folder and use the following path:

Libraries > New library

To customize a library, right-click the library and click **Properties**. The Properties window allows you to add folders to the library by clicking **Include a folder**. You can also change the icon for the library and customize how items can be arranged in that library.

Launching Applications

You can launch applications in several ways:

- Click an application on the Start menu.
- Double-click the application shortcut icon on the desktop.
- Double-click the application executable file in My Computer in Windows XP.
- Double-click the application executable file in Computer in Windows Vista and Windows 7.
- Launch the application from the Run window or command line.

My Network Places

To view and configure network connections, right-click the **My Network Places** icon on the desktop. In My Network Places, you can connect to or disconnect from a network drive. Click **Properties** to configure existing network connections, such as a wired or wireless LAN connection.

NOTE: In Windows Vista and Windows 7, My Network Places is called Network.

In Windows Vista, access network connections using the following path:

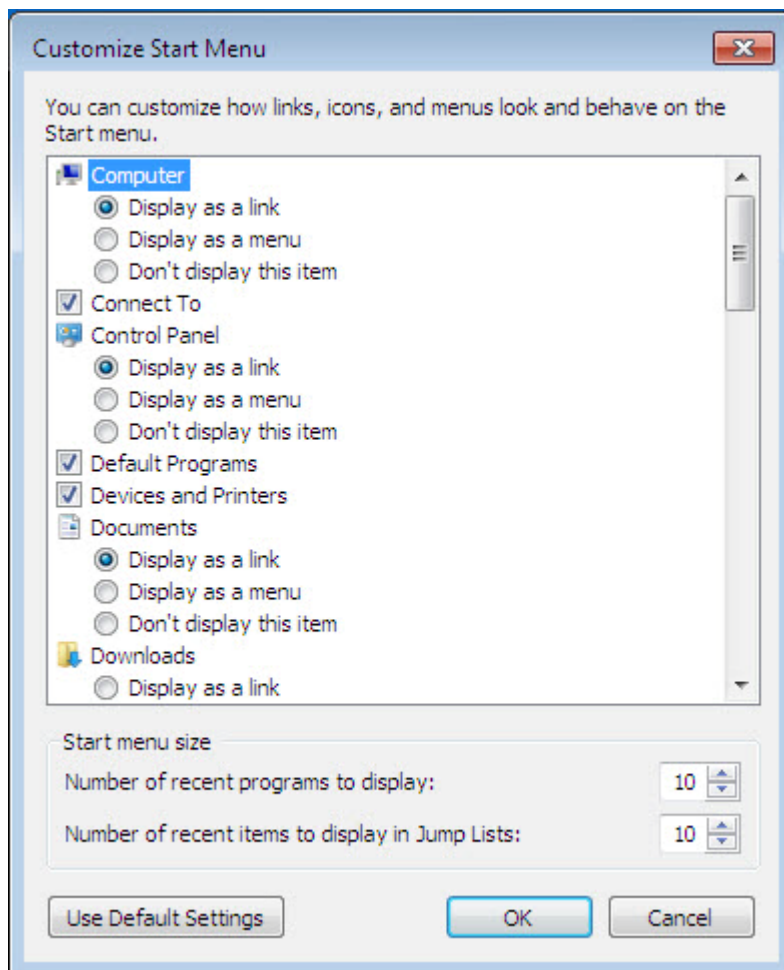
Start > right-click Network > Properties

In Windows 7, access network connections using the following path:

Click **Start > Computer > right-click Network > Properties**

New Figure 6

Customize Start Menu



IT Essentials v4.1 LI 5.5.2 Explore Control Panel applets

CompTIA A+ 220-701 Objective

3.2 Control Panel

Use the following path in Windows 7:

Start > Control Panel > Appearance and Personalization > Display > Change display settings > Advanced settings

IT Essentials v4.1 LI 5.5.3 Explore administrative tools

CompTIA A+ 220-701 Objective

3.2 Administrative tools, Performance monitor, Event Viewer, Services, Computer Management

3.2 MMC

3.2 Task Manager

3.3 Device Manager

Computer Management

The Computer Management console, shown in Figure 1, allows you to manage many aspects of both your computer and remote computers. The Computer Management console addresses three main areas of administration: System Tools, Storage, and Services and Applications. You must have administrative privileges to access the Computer Management console. To view the Computer Management console, use the following path:

Start > Control Panel > Administrative Tools > Computer Management

In Windows 7, use the following path:

Start > Control Panel > System and Security > Administrative Tools > Computer Management

To view the Computer Management console for a remote computer, right-click **Computer Management (Local)** in the console tree and click **Connect to another computer....** In the **Another computer:** box, type the name of the computer or click **Browse...** to find a computer you want to manage.

Device Manager

The Device Manager, shown in Figure 2, allows you to view all of the settings for devices in the computer. A common task for technicians is to view the values assigned for the IRQ, I/O address, and the DMA setting for all of the devices in the computer. To view the system resources in the Device Manager, use the following path:

Start > Control Panel > System > Hardware > Device Manager > View > Resources

In Windows Vista, use the following path:

Start > Control Panel > System > Device Manager > Continue > View > Resources

In Windows 7, use the following path:

Start > Control Panel > System and Security > System > Device Manager > View > Resources by Type (or Resources by connection)

From the Device Manager, you can quickly view the properties of any device in the system by double-clicking the device name. You can view the version of the installed driver, view driver file details, update a driver, or even roll back or uninstall a device driver. You can compare the driver version listed here with the version available from the website of your device manufacturer.

In addition to the Device Manager, Windows 7 has two new device-specific programs for viewing devices and their capabilities. One is a control panel called Devices and Printers, as shown in Figure 3. This control panel incorporates the Printers and Faxes control panel with a new feature that only displays the external devices connected to the computer. You can access device-specific features by right-clicking the device.

The second new program used to access devices in Windows 7 is the Device Stage, as shown in Figure 4. The Device Stage can be opened by clicking an icon in the taskbar that is displayed when a device is connected to the computer. The Device Stage allows easy access to common tasks for each connected device. For example, after connecting an MP3 device, the Device Stage might show syncing options, new software updates, or access to your music libraries.

Task Manager

The Task Manager, shown in Figure 5, allows you to view all applications that are currently running and to close any applications that have stopped responding. The Task Manager allows you to monitor the performance of the CPU and virtual memory, view all processes that are currently running, and view information about the network connections. To view information in the Task Manager, use the following path:

CTRL-ALT-DEL > Task Manager

In Windows Vista or Windows 7, use the following path:

CTRL-ALT-DEL > Start Task Manager

Services

Services are executable programs that require little or no user input. Services can be set to run automatically when Windows starts, or manually when required. The Services console, shown in Figure 6, allows you to manage all of the services on your computer and remote computers. You can start, stop, or disable services. You can also change how a service starts, or define actions for the computer to perform automatically when a service fails. You must have administrative privileges to access the Services console. To view the Services console, use the following path:

Start > Control Panel > Administrative Tools > Services

In Windows 7, use the following path:

Start > Control Panel > System and Security > Administrative Tools > Services

To view the Services console for a remote computer, right-click **Services (Local)** in the console tree and click **Connect to another computer....** In the **Another computer:** box, type the name of the computer or click **Browse...** to find a computer you want to manage.

Performance Monitor

The Performance Monitor console, shown in Figure 7, has two distinct parts: the System Monitor and Performance Logs and Alerts. The System Monitor displays real-time information about the processors, disks, memory, and network usage for your computer. You can easily summarize these activities through histograms, graphs, and reports.

Performance Logs and Alerts allow you to record the performance data and configure alerts. The alerts will notify you when a specified usage falls below or rises above a specified threshold. You can set alerts to create entries in the event log, send a network message, begin a performance log, run a specific program, or any combination of these. You must have administrative privileges to access the

Performance Monitor console. To view the Performance Monitor console in Windows XP, use the following path:

Start > Control Panel > Administrative Tools > Performance

In Windows Vista, use the following path:

Start > Control Panel > Administrative Tools > Reliability and Performance Monitor > Continue

In Windows 7, use the following path:

Start > Control Panel > System and Security > Administrative Tools > Performance Monitor

In Windows 7, you can also create a Data Collector Set, which is a combination of performance counters, event trace data, and configuration information, to analyze how a task affects computer performance. A Data Collector Set can be used individually, combined with other Data Collector Sets, viewed in the Performance Monitor, or set to form an alert when certain criteria are met, like Performance Logs and Alerts in previous versions of Windows. Data Collector Sets can also be used and analyzed by third-party applications.

Event Viewer

The Event Viewer, shown in Figure 8, logs a history of events regarding applications, security, and the system. These log files are a valuable troubleshooting tool. To access the Event Viewer, use the following path:

Start > Control Panel > Administrative Tools > Event Viewer

In Windows Vista, use the following path:

Start > Control Panel > Administrative Tools > Event Viewer > Continue

In Windows 7, use the following path:

Start > Control Panel > System and Security > Administrative Tools > Event Viewer

MMC

The Microsoft Management console (MMC), shown in Figure 9, allows you to organize management tools, called snap-ins, in one location for easy administration. Web page links, tasks, ActiveX controls, and folders can also be added to the MMC. After you have configured an MMC, save it to keep all the tools and links in that MMC. You can create as many customized MMCs as needed, each with a different name. This is useful when multiple administrators manage different aspects of the same computer. Each administrator can have an individualized MMC for monitoring and configuring computer settings. You must have administrative privileges to access the MMC. To view the MMC in Windows XP, use the following path:

Start > Run > Type mmc and Press Enter

In Windows Vista, use the following path:

Start > Start Search > Type mmc and Press Enter

In Windows 7, use the following path:

Start > Search programs and files > Type mmc and Press Enter

Remote Desktop

The Remote Desktop allows one computer to remotely take control of another computer. Remote technicians can use this troubleshooting feature to repair and upgrade computers. For Windows XP, Remote Desktop is available on Windows XP Professional only. To access the Remote Desktop in Windows XP Professional, use the following path:

Start > All Programs > Accessories > Communications > Remote Desktop Connection

In Windows Vista or Windows 7, use the following path:

Start > All Programs > Accessories > Remote Desktop Connection

Performance Settings

To enhance the performance of the operating system, you can change some of the settings that your computer uses, such as virtual memory configuration settings, which are shown in Figure 10. To change the virtual memory setting in Windows XP, use the following path:

Start > Control Panel > System > Advanced > Performance area > Settings button > Advanced tab > Change

In Windows Vista, use the following path:

Start > Control Panel > System > Advanced system settings > Continue > Advanced tab > Performance area > Settings button > Advanced > Change

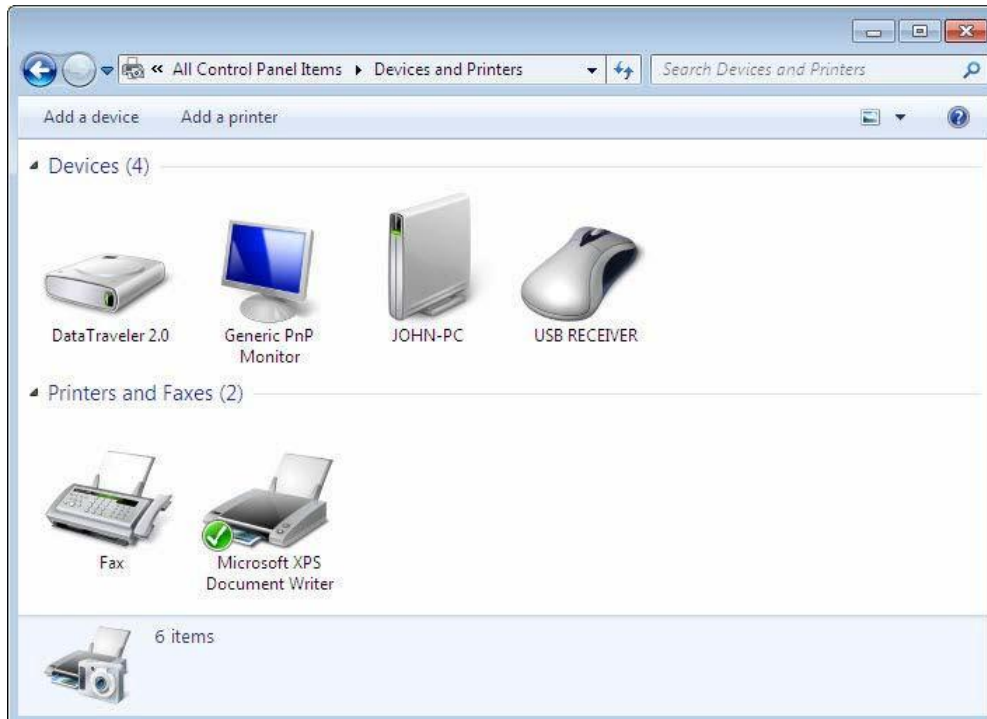
In Windows 7, use the following path:

Start > Control Panel > System and Security > System > Advanced system settings > Performance > Settings button > Advanced > Change

Renumber existing Figures 3-8 as Figures 5-10.

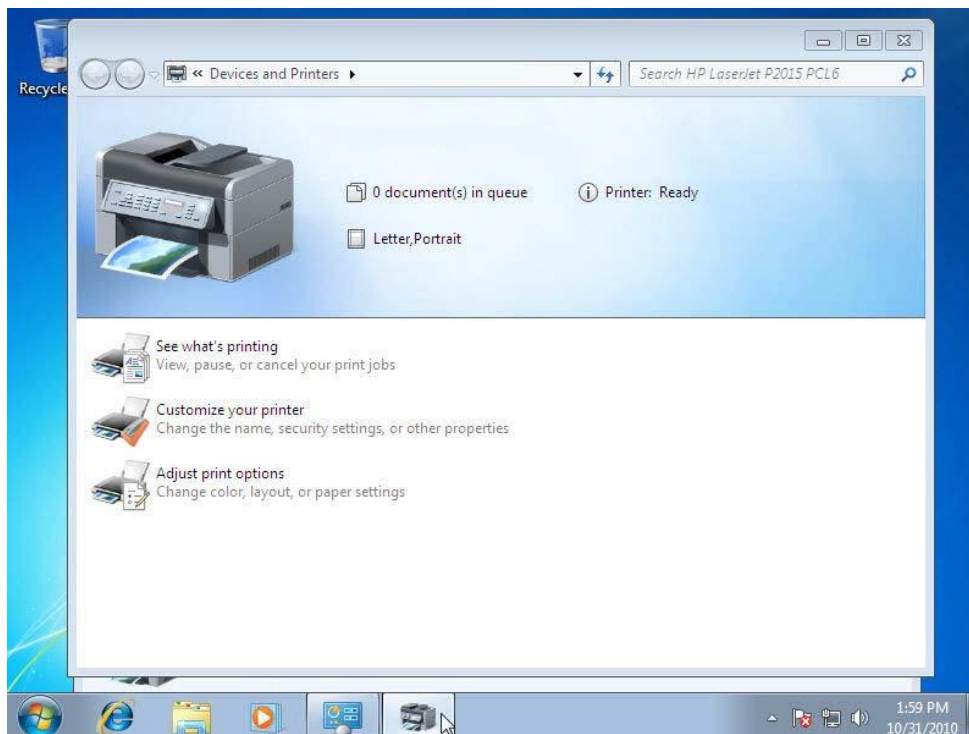
New Figure 3

Devices and Printers



New Figure 4

Device Stage



IT Essentials v4.1 LI 5.5.4 Install, navigate, and uninstall an application

CompTIA A+ 220-701 Objective

2.2 Application install

In Windows 7, use the following path:

Start > Control Panel > Programs > Programs and Features

IT Essentials v4.1 LI 5.5.5 Describe upgrading an operating system

CompTIA A+ 220-701 Objective

3.1 Windows 2000 and newer – upgrade paths and requirements

Upgrading the Operating System to Windows 7

1. Insert the Windows 7 media into the optical drive. The Set Up window appears.
2. You are presented with two options: **Check compatibility online** and **Install now**.
3. Select **Install now**.
4. You are prompted to download any important updates for installation.
5. Agree to the **End User License Agreement (EULA)**, and click **Next**.
6. You are presented with two choices, **Upgrade** or **Custom**.
7. Click **Upgrade**. The system begins copying installation files.
8. Follow the prompts to complete the upgrade. When the install is complete, the computer will restart.

Windows OS Upgrade Advisor

Use the Windows 7 Upgrade Advisor to determine whether your PC can properly run Windows 7. As shown in Figure 2, the tool scans the hardware and programs for compatibility problems and then guides you through steps to resolve problems before upgrading to Windows 7.

To use the Windows 7 Upgrade Advisor follow these steps:

1. Download and run the Windows 7 Upgrade Advisor from the Microsoft website.
2. Click **Start check**. The program scans your computer hardware, devices, and installed software. The computer displays a compatibility report that you can print or save.
3. Examine the report. Record any recommended fixes for the issues that are found.
4. Click **Save Report** if you want to keep it or print it later.
5. Click **Close**.

NOTE: After making the recommended changes to hardware, devices, or software, Microsoft recommends running the Windows 7 Upgrade Advisor again.

Microsoft Assessment and Planning Toolkit

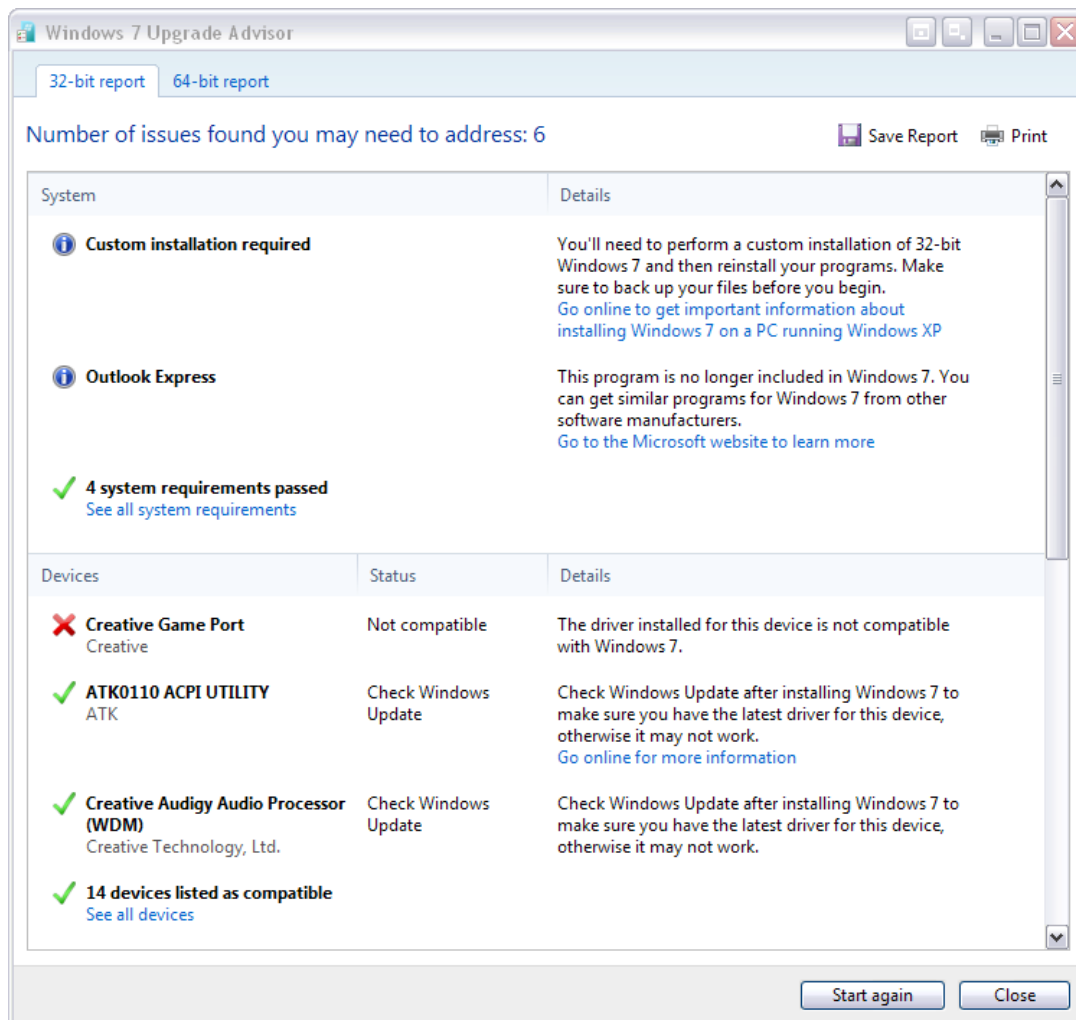
The Microsoft Assessment and Planning (MAP) toolkit software assesses computers to determine whether they can be migrated to Windows 7. The toolkit software is installed on only one computer. It collects information from computers on the network, such as an inventory of computers, applications, and devices. The MAP toolkit generates proposals and detailed reports about hardware, software, and device compatibility.

Modified Figure 1

OS can upgrade to:	Windows NT	Windows 2000	Windows XP	Windows Vista	Windows 7
Windows 98	X	√	√	√	X
Windows NT	N/A	√	√	√	X
Windows 2000	N/A	N/A	√	√	X
Windows XP	N/A	N/A	N/A	√	X
Windows Vista	N/A	N/A	N/A	N/A	√

New Figure 2

Windows 7 Upgrade Advisor Report



IT Essentials v4.1 LI 5.6.2 Schedule a task

CompTIA A+ 220-701 Objective

3.4 Boot to restore point

In Windows 7, if the operating system fails to start, run the Restore Point utility from your installation disc by following these steps:

1. Insert the Windows 7 installation media.
2. Start the computer, and press any key to boot from the CD or DVD when prompted.
3. At the Install Windows screen, click **Next**.
4. Click **Repair your computer**.
5. Choose **Use recovery tools that can help fix problems starting Windows**.
6. Select the operating system that you want to repair and click **Next**.
7. Click **System Restore**.
8. Follow the prompts to restore your computer to an earlier state.

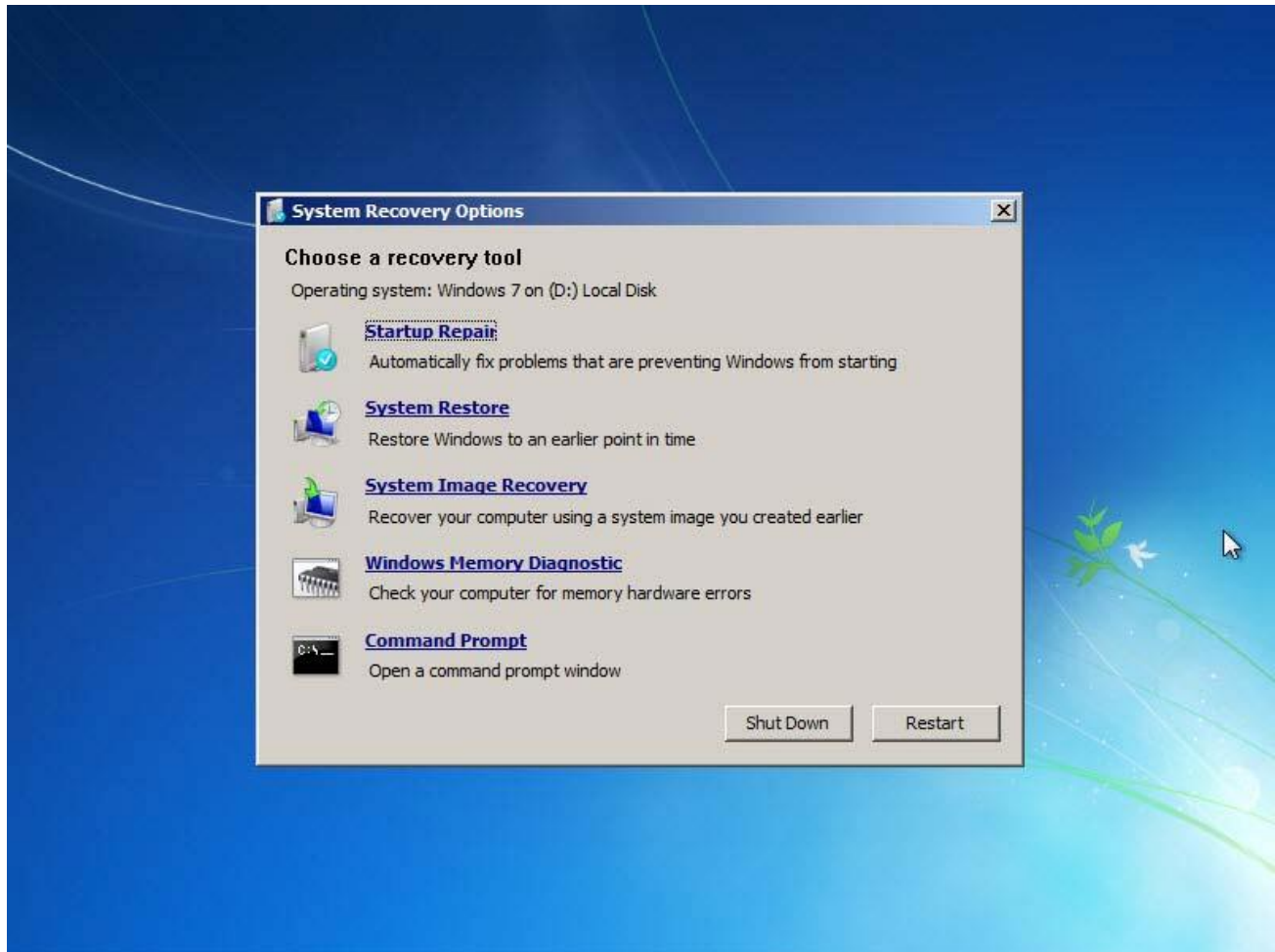
In Windows 7, if your computer fails to boot, you can use a System Repair Disc to start the computer and access system recovery options if you do not have the original Windows 7 installation media, as shown in Figure 4.

To create a System Repair Disc:

1. Click **Start > Control Panel > System and Security > Backup and Restore > Create a system repair disc**.
2. Insert a blank CD or DVD into the optical drive and click **Create disc**.

New Figure 4

System Recovery Options



IT Essentials v4.1 LI 5.6.3 Back up the hard drive

CompTIA A+ 220-701 Objective

2.5 Backup procedures

To access the daily backup utility in Windows 7, use the following path:

Start > Control Panel > System and Security > Backup and Restore