

# Chapter 1

## Start Here First

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### *In This Chapter*

- ▶ Knowing when to upgrade
  - ▶ Knowing when you shouldn't upgrade
  - ▶ Finding out what's inside your computer
  - ▶ Using Windows Update
  - ▶ Using System Restore
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You picked up this book for any of several reasons. You might be eyeing the power-hungry Windows Vista, Microsoft's newest version of Windows, and want to upgrade your PC's video to meet Vista's stringent needs. Perhaps one of your PC's parts died, and you're looking to replace it with a better one. Or maybe your PC simply needs some fine-tuning. Whatever your reason, this is the right chapter to read first.

This chapter explains what Windows expects out of a PC and how to replace the outdated parts that no longer work. It explains how to know what parts currently live inside your computer's case, so you can see if your computer meets those fine-print System Requirements listed on the side of many software boxes.

And for the fix-it folks, this chapter points out where Windows Vista and Windows XP have the power to repair themselves — if those powers are turned on and running correctly, that is. You find complete instructions on making sure those self-healing abilities are up to snuff.



Any time you're not sure what plugs in where, check out this book's Appendix. It's a visual directory of all your computer's ports and the plugs and gadgets that fit into them.

## Determining When to Upgrade

Your computer usually tells you when it wants an upgrade. Some warning signals are subtle, others more obvious. At worst, they can be downright annoying.

In any case, keep track of the following when you're deciding whether it's time to open the wallet and grab the toolbox:



- ✓ **When your operating system demands it:** Everybody's using Vista, the latest version of Windows. (Or at least that's what the folks at Microsoft say.) If you've caught the "latest and the greatest" fever, it's easy to find out if your computer is up to snuff; Microsoft lists Vista's System Requirements at [www.windowsvista.com](http://www.windowsvista.com), and I dissect them in Chapter 6.
- ✓ **When you keep waiting for your PC to catch up:** You press a key and wait. And wait. When you're working faster than your PC, give your PC a boost with some extra memory and maybe a faster video card. (Of course, if you want a bigger and faster hard drive too, it might be time to throw in the towel and buy a new computer.)
- ✓ **When you can't afford a new computer:** When a new PC's out of your price range, upgrade your PC one part at a time. Add that memory now, for example, and then add a new hard drive with your holiday bonus. Time each purchase to match the lowest prices. When you finally buy a new computer, save costs by salvaging your old computer's monitor and recently added parts.
- ✓ **When you want a new part in a hurry:** Computer repair shops aren't nearly as slow as stereo repair shops. Still, do you *really* want to wait four days for some tech head to install that hot new video card — especially when you have a nagging suspicion that you could do it yourself in less than 15 minutes?
- ✓ **When there's no room for new software:** When your hard drive constantly spits up Disk Full messages, you have three options:
  - Uninstall programs you no longer use and copy unneeded files to CDs or DVDs.
  - Replace your PC's hard drive with a larger one or add a second internal hard drive.
  - Buy a removable drive to serve as a parking garage for files and programs. Most external drives plug into your PC's USB port, a chore as simple as plugging in a mouse.
- ✓ **When you're afraid to open the case:** Fear of opening your computer's case is no longer an excuse to put off upgrades. Many new computer parts now live on the *outside* of the computer. You find external CD-ROM drives and burners, hard drives, floppy drives, memory card readers, sound boxes, and much more. None of these devices require popping open the case to install them.

## Determining When You Shouldn't Upgrade

Sometimes, you shouldn't upgrade your own computer. Keep your hands off during any of the following circumstances:



- ✓ **When a computer part breaks while under warranty:** If your computer is under warranty, let the manufacturer fix it. In fact, trying to fix or replace a part sometimes voids the warranty on the rest of your computer. Some manufacturers void the warranty if you simply open your computer's case. Read the warranty's fine print before touching anything.

Keep track of your warranty expiration date; it's usually listed on your sales receipt. Lost it? Some manufacturers (Gateway, Dell, and a few others) provide access to your warranty information through their Web sites, as described in Chapter 22.

- ✓ **On a Friday:** Never try to install a new computer part on a Friday afternoon. When you discover that the widget needs a *left* bracket, too, many shops will be closed, leaving you with a desktop full of detached parts until Monday morning.
- ✓ **When you're working on a deadline:** Just like kitchen remodeling, computer upgrading and repairing occasionally takes twice as long as you originally planned. Some parts install in a few minutes, but always allow yourself a little leeway.
- ✓ **If your computer is old:** Not all computers can be upgraded. If you bought your PC before 2001, you're pouring money into a sinking ship.



Before upgrading a computer, check these numbers: Add the cost of needed parts (more memory, a bigger hard drive, a faster video card and/or monitor, a DVD burner, networking card, and updated software) and compare it with the cost of a new computer. Chances are, a new computer costs much less. Plus, it already comes with Windows Vista and parts guaranteed to be compatible.

## Finding Out What Parts Your Computer Has

Computers come in a wide variety of makes and models pieced together with parts made by variety of manufacturers. So how do you know who made what part?

Luckily, Windows takes pity on its users and tells you exactly what parts lurk inside your computer's case — if you know how to ask it politely. The first step is finding out your Windows version, your PC's Central Processor Unit (CPU), and its amount of Random Access Memory (RAM).

And why should you care, you might ask, shifting impatiently in your chair? Because when you buy computer software or parts, the box's fine print lists the System Requirements, followed by lots of details about what your computer must have to use the software or part. If your computer doesn't meet those detailed requirements, the software or part won't work very well — if at all — on your computer.

To add insult to injury, many stores don't let you return software — even if it won't run on your computer. Some stores even refuse to accept *unopened* software. Check your store's return policy before opening your wallet.

## *Locating your version of Windows, CPU, and RAM*

Windows comes in many different versions, each with its own set of requirements, problems, and personalities. Luckily, all versions reveal their version numbers when you follow this simple step.

### **1. Right-click the Computer or My Computer icon on your desktop and choose Properties.**

If you don't see the Computer or My Computer icon on the desktop, click the Start menu, and then right-click the Computer or My Computer icon.

In both Windows Vista (see Figure 1-1) and Windows XP (see Figure 1-2), that step reveals basic information about your PC's power.

- **Windows version:** Chances are yours says Windows XP Home, Windows XP Professional, Windows Vista Home Basic, Windows Vista Home Premium, or Windows Vista Ultimate.
- **CPU:** Short for Central Processing Unit, this big chip drives your entire PC. Windows lists the chip's model and speed.
- **RAM:** Short for Random Access Memory, these upgradeable chips enable Windows to open many programs at once without lagging.

That's it — a one-step guide to seeing your PC's most important parts, and how well they match the requirements listed on a box of software.

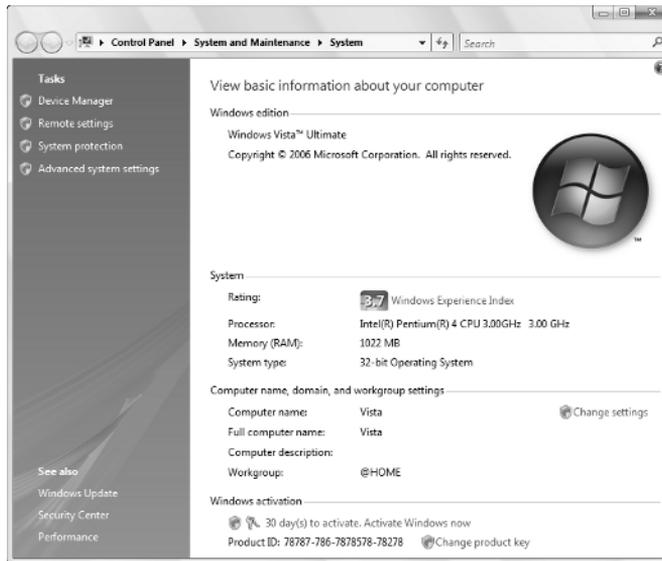


✓ If you'd rather not write down all that system information, you can print what's on your screen by following these steps:

Press the PrtScrn key, open Paint, paste the screen into a new image by pressing Ctrl+V, and then send it to your printer by choosing File, and then Print. That gives you a quick reference guide to take to the store when shopping for software or a new PC.

- Vista lists the PC's Windows User Experience in Figure 1-1, which rates how well your PC runs Windows Vista. Click the User Experience Index to see ratings on each of your PC's parts, a quick way to see what parts need upgrading. (The higher the rating number, the better the part's rating.)

**Figure 1-1:**  
This PC runs  
Windows  
Vista's  
Ultimate  
version on a  
3 GHz Intel  
Pentium 4  
with 1022MB  
of RAM.



**Figure 1-2:**  
This PC runs  
Windows  
XP's  
Professional  
version on a  
3.40 GHz  
Intel  
Pentium 4  
CPU with  
1GB of RAM.



## Identifying the parts inside your computer

The big three — Windows version, CPU, and RAM — usually have the most influence on which software and parts your computer can handle. But sometimes you need more detailed information — your video card's driver version, for instance, or your DVD drive's make and model.

Windows burps up this type of information when you push a little deeper, as described in the following steps:

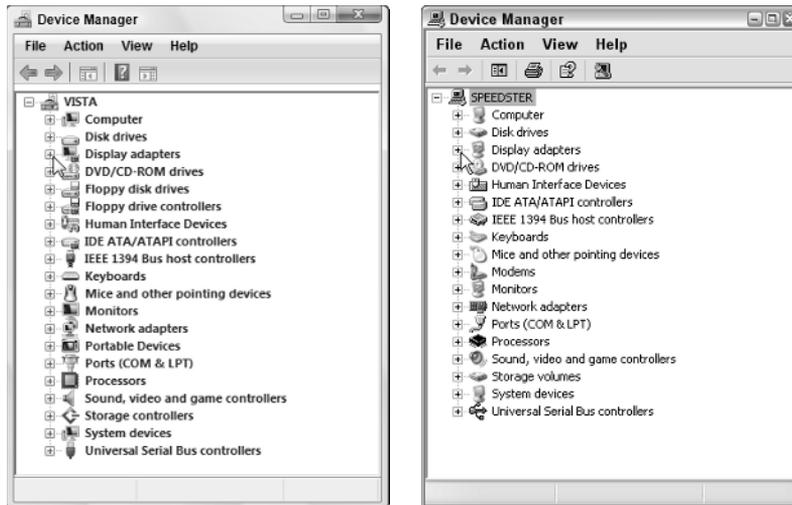
### 1. Right-click the Computer or My Computer icon and choose Properties.

Windows Vista's Computer icon and Windows XP's My Computer icon live on the Start menu. (You might also have the Computer/My Computer icon on your desktop.) Choosing Properties unleashes the System Properties dialog box, as shown earlier in Figure 1-1 (Vista) and Figure 1-2 (Windows XP).

### 2. In Vista, click Device Manager in the Tasks pane along the window's left. In Windows XP, click the Hardware tab, and then click the Device Manager button.

No matter which version of Windows you're using, the Device Manager dialog box jumps to the screen, as shown in Figure 1-3, displaying your computer's parts.

**Figure 1-3:**  
Click the plus sign next to Display Adapters to see your computer's video card model.



3. To see the make and model of a specific part, click the plus sign next to its name.

For instance, to see what type of video card sits inside your PC, click the plus sign next to Display Adapters — a Windows term for a PC's video circuitry. Windows shows your video card's model and manufacturer, invaluable information when the part stops working.

When a particular part stops working, look for its make and model in the Device Manager. Then head to the manufacturer's Web site and download that part's latest driver, a chore covered in Chapter 19.

## *Please! Before You Do Anything Else!*

Wouldn't it be nice to push a button and have Windows fix itself? Well, you can. That is, if you make sure you've set up the two things that I describe next. Sit up straight and plow onward.

### *Turning On Windows Update*

Bored youngsters work late nights probing Windows to locate programming problems. When they discover a new problem, they write a *virus* or *worm* (a small, malicious program meant to do damage, such as erasing important files) to take advantage of it. These hooligans release the virus, and it begins damaging people's computers as it spreads worldwide. (Remember that virus that infected your computer when you merely *opened* an e-mail?)

When hackers uncover a new *security exploit*, as they're called, Microsoft programmers scratch their heads and wonder what's wrong with today's youth. Then they release a special piece of software to fix the problem. But before your computer can find and install that special tool, usually called a *patch* or *update*, you need Windows Update.

The Microsoft Windows Update program automatically scans your computer to see if it's vulnerable to any newly found security problems. If so, the program automatically grabs the patch that cures them.

Microsoft released a patch to fix that ugly mail preview virus a long time ago. Because many people don't know about Windows Update, their computers remain vulnerable.



The Windows Update Web site ([www.windowsupdate.com](http://www.windowsupdate.com)) organizes patches into several categories. Always install the ones in the Critical category, as they contain patches for security problems. You needn't install updates from any other categories unless you think they'll correct problems you're currently experiencing with your PC.

Here's how to make sure Windows' Windows Update feature automatically grabs any new patches so that you may install them:

**1. Open Windows Security Center.**

**Windows Vista:** Click the Start button and choose Control Panel⇨Security⇨Security Center.

**Windows XP:** Choose Control Panel and open Security Center. Windows Security Center opens in both versions.

**2. In Vista, if Automatic Updating is turned off, click Change Settings.**

In Windows XP, simply click Turn on Automatic Updates, and you're done. If you're running Windows Vista, move to Step 3.

**3. Choose Install Updates Automatically (Recommended).**

In Vista, you might need to click the Continue button in a permission screen to turn on Automatic updating.

In both Windows versions, these steps tell Windows to automatically visit the Windows Update site whenever you're online. (It does this in the background.) When your computer finds a new security fix, it downloads the software and either installs it automatically, or it places a little pop-up window near your clock, reminding you to install your new patch.



- ✓ Even if you're using Windows' automated Windows Update program, feel free to visit the Windows Update Web site on your own. Sometimes Windows waits a few days before checking the site, leaving your computer open to the latest problems.
- ✓ In the Recommended Updates section, Windows Update sometimes offers to check for patches on other Microsoft programs on your PC. Take it up on its offer to keep them patched, as well.

## *Making sure System Restore is working*

System Restore, built into Windows Vista and Windows XP, often works miracles for problematic computers. If your computer suddenly stops working correctly, System Restore often enables you to bring your computer back to a time when everything worked fine.

When it's working correctly, System Restore automatically creates restore points that save important settings when Windows is up and running smoothly. The more restore points you have available, the further back in time you can travel to find a place when your computer was running strong and lean.

To make sure System Restore's running — or to fix it if it's not working correctly — follow these steps:

1. **Click the Start button, right-click the Computer or My Computer icon, and choose Properties.**

The Device Manger dialog box, shown earlier in Figure 1-1 (Vista) and Figure 1-2 (XP), appears.

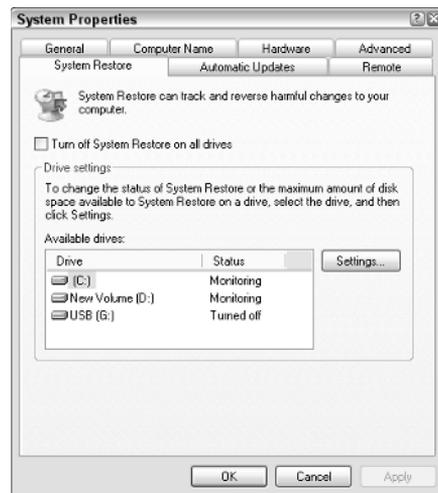
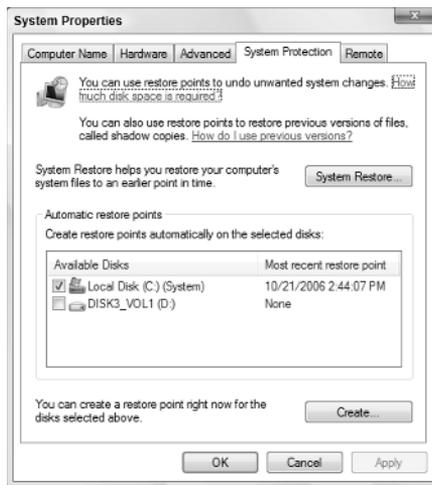
2. **Open the System Properties dialog box.**

**Windows Vista:** Click System Protection in the Tasks pane along the window's left side.

**Windows XP:** Click the System Restore tab.

The System Properties dialog box, shown in Figure 1-4, opens to show System Restore's settings. The figure shows the settings for Windows Vista (left) and Windows XP (right).

**Figure 1-4:**  
In Windows Vista (left), System Restore is working correctly on drives with check marks next to them. In Windows XP (right), System Restore is working correctly on drives displaying the word Monitoring next to them.



### 3. Make sure System Restore is turned on.

**Windows Vista:** Make sure a check mark appears next to the first drive on the list. For example, Figure 1-4 (left) shows a check mark next to the words Local Disk (C:) (System). Vista also lists the date of the last Restore Point. Vista automatically turns off System Restore if your hard drive falls below 300MB of storage space. (That's when it's time to upgrade to a larger hard drive.)

**Windows XP:** Look for the word *Monitoring* next to each drive, as shown in Figure 1-4 (right). If you don't see the word *Monitoring*, System Restore is turned off. To turn it back on, check these things:

- Make sure that there's no check mark in the box next to the Turn Off System Restore on All Drives option. If there is, click the box to remove the check mark.
- If System Restore says that your hard drive is too full to create any Restore Points, it's time for housecleaning: You need at least 200MB of free space for System Restore to work. Open My Computer from the Start menu, and then right-click your C drive and choose Properties. Click the Disk Cleanup button on the General tab and follow the instructions to make Windows delete any unnecessary files — including old Restore Points, if you check that box.

If you're itching to run System Restore right now, flip ahead to Chapter 23 for the rundown.