

What Kind of Hardware Do You Need to Run Windows Vista?

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If a Windows Vista migration is in your future, will you need to upgrade your company's computer hardware?

Microsoft is touting the release of its new Windows Vista operating system (OS) to enable users to become more productive and better-connected, with improved security.

What are the details, and what do you need to know about hardware requirements for implementing Windows Vista?

First Things First

First of all, keep in mind that there will be different versions of Windows Vista (see the accompanying article, "*Are You Ready for Windows Vista?*"). Each version has different requirements for minimum recommended configurations. This article focuses primarily on requirements for Windows Vista Business, which provides the most capability for business users.

Before discussing specific hardware requirements, however, let's first take a look at some of the design functionality and features available in Windows Vista — and how they might drive hardware requirements for enterprise-wide implementation.

One of Windows Vista's most notable improvements is better management of wireless connectivity. Windows Vista enables context-sensitive switching to sense how a mobile PC is being used, so it can adjust to that environment. Context-sensitive switching considers various factors, including wired versus wireless settings, power management, and security considerations when not on the native network.

Along the same lines, Windows Vista offers better wireless security. By integrating more robust security into the OS, Microsoft has made it easier to support managing different wireless networking devices on various pieces of hardware. The ability

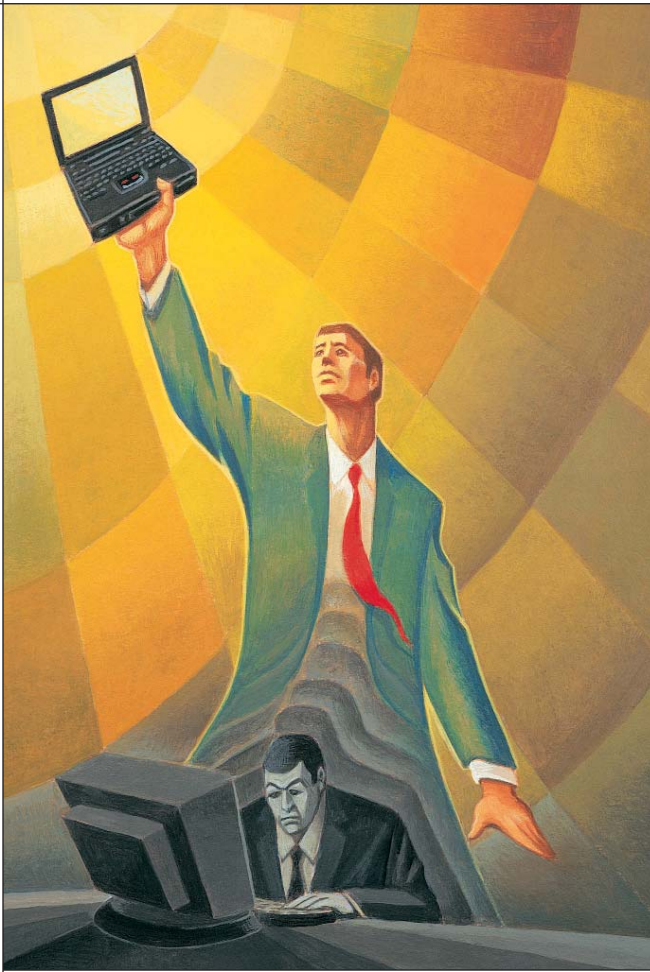
to collaborate, for example, allows users who "are meeting in a conference room to share files with each other in a teamed approach. This collaboration feature uses existing wireless hardware in an ad-hoc configuration.

To further address security concerns and minimize the risk of theft of company and personal data, Windows Vista Enterprise provides Windows Vista BitLocker Drive Encryption. BitLocker is a tool for enterprises to encrypt whole volumes or hard drives for a more secure environment.

With a TPM 1.2-compliant security chip, BitLocker is supported natively. TPM chips are already available on select systems from some manufacturers, so you may want to verify whether your current system has an embedded TPM chip. BitLocker also can be implemented on existing hardware with an external USB encryption "key."

If you are considering upgrading by using a USB encryption key, weigh the all pros and cons. And, while a USB encryption key can improve security, IT managers must also plan for contingencies — such as when a user forgets, loses or breaks the encryption key.

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Windows Aero

A major change in Windows Vista is Windows Aero, which is touted as the “user experience” or Graphical User Interface (GUI).

Windows Aero will provide support for thumbnail pop-ups of applications that are currently running, as well as Windows that can be transparent. The user can then not only view multiple Windows, but also share data between those Windows.

The thumbnail views are called Windows Flip, in which a user can view live thumbnails of the applications currently running, as opposed to simply seeing icons of the applications running. Windows Flip can be accessed via Alt+Tab. Flip 3D also gives the user a view of all applications in a three-dimensional view to make it easier to navigate between applications.

All of these applications are very video- and graphics-intensive, which means they need a very robust video card. Look for video capabilities with 128MB of video RAM. All supported video will indicate that it is compliant with the Windows Display Driver Model (WDDM) to support Windows Aero.

Intel and AMD Processors That Support Windows Vista

Also keep in mind that some of your existing hardware may be satisfactory because your users may not necessarily need to use all of the new features of the Windows Vista OS.

To run Windows Vista Premium, machines will need 1GB of memory. If your existing hardware does not have these capabilities, the Windows Vista core capable user experience will be able to load. In this manner, users of different levels of hardware may have different user interfaces and user experiences.

If you need to upgrade your processing power, the most recent releases of Intel and AMD processors support Windows Vista.

Having said that, consider the costs of migrating existing hardware to Vista. Many systems that have been robust enough to support previous versions of Windows may only meet the minimum requirements and not be able to support Windows Aero. The cost of supporting and upgrading some of this existing hardware may exceed the cost to migrate to Vista, along with new hardware when it is available.

One solution is to create a migration plan to cascade hardware down to departments that may not need the additional capabilities of Windows Vista Premium edition. Otherwise, if your existing products are nearing the end of their useful life, ensure that you are buying the right system to run the Windows Vista edition that is needed. Look for machines that are labeled as Windows Vista Capable, or Windows Vista Premium Ready.

System Requirements

Microsoft recently released the system requirements detailing the hardware necessary to run Windows Vista. Included in the system requirements are details around running a Windows Vista Capable PC and a Windows Vista Premium Ready PC.

A Windows Vista Capable machine has the ability to run the operating system, but will not be able to run with Aero Effects turned on. A Windows Vista Premium machine has the ability to the operating system with Aero Effects turned on.

Windows Vista Capable can run on the following hardware: Minimum 800 MHz processor, 512MB memory, graphics processor that's DirectX 9.0 capable.

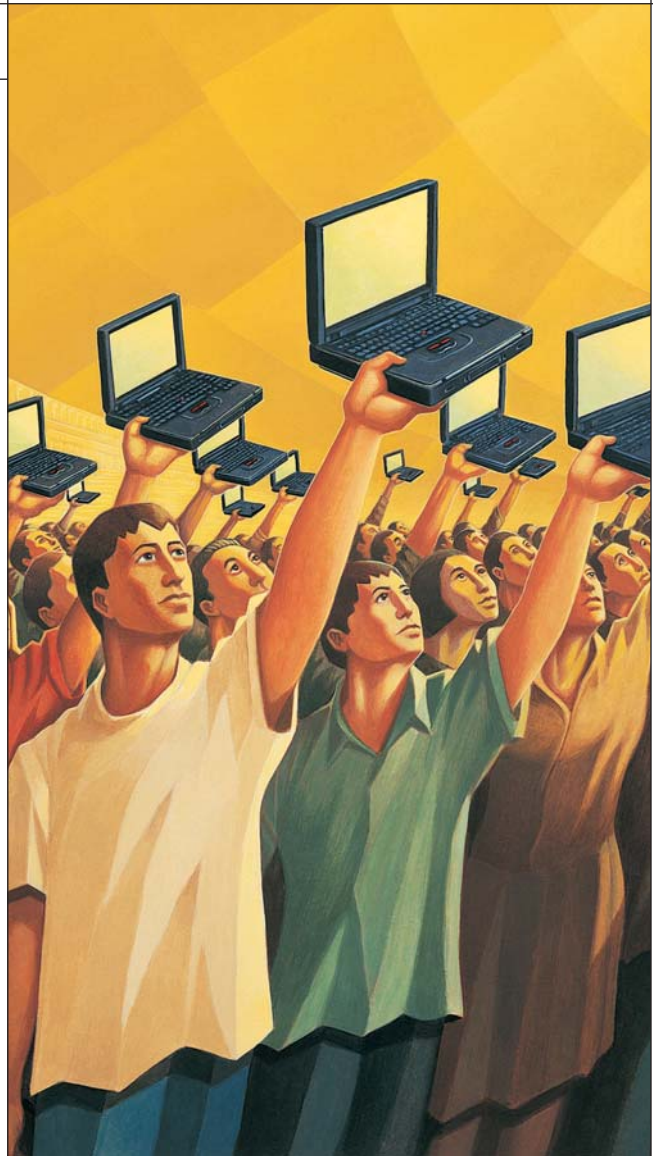
A Windows Vista Capable PC includes at least:

- A modern processor (at least 800MHz).
- 512 MB of system memory.
- A graphics processor that is DirectX 9 capable.

Windows Vista Capable Footnotes:

1. Processor speed is specified as the nominal operational processor frequency for the device. Some processors have power management which allows the processor to run at lower rate to save power.
2. Windows Aero requires:
 - a. DirectX 9 class graphics processor that:
 - i. Supports a WDDM Driver.
 - ii. Supports Pixel Shader 2.0 in hardware.
 - iii. Supports 32 bits per pixel.
 - b. Adequate graphics memory.
 - i. 64 MB of graphics memory to support a single monitor less than 1,310,720 pixels
 - ii. 128 MB of graphics memory to support a single monitor at resolutions from 1,310,720 to 2,304,000 pixels
 - iii. 256 MB of graphics memory to support a single monitor at resolutions higher than 2,304,000 pixels
 - iv. Meets graphics memory bandwidth requirements, as assessed by Windows Vista Upgrade Advisor running on Windows XP
3. A DVD-ROM may be external (not integral, not built into the system).

Windows Vista Premium runs on the following hardware: 1GHz or greater x86 or 64 bit processor, 1GB of memory, a graphics processor that runs Windows Aero (128MB memory, WDDM Support), 40GB minimum hard drive with 15GB free, a DVD-ROM drive (may need an external device if not available on existing hardware, or a installation server).



A Windows Vista Premium Ready PC includes at least:

- 1 GHz 32-bit (x86) or 64-bit (x64) processor.
- 1 GB of system memory.
- A graphics processor that runs Windows Aero.
- 128 MB of graphics memory.
- 40 GB of hard drive capacity with 15 GB free space.
- DVD-ROM Drive.
- Audio output capability.
- Internet access capability.

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