

Microsoft Windows XP Professional x64 Edition

Fact Sheet
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Overview

Advances in processor technology, such as extending the capabilities of the x86 architecture, have brought the power of 64-bit computing to PC users who continue to push the limits of existing information technology (IT) platforms, including business, academic, engineering and scientific organizations, as well as consumers who are involved in working with digital photographs, utilizing digital media and playing 3-D games. Microsoft Corp. has developed a new 64-bit version of Windows® XP Professional, called Windows XP Professional x64 Edition, to take full advantage of this new architecture.

Microsoft® Windows XP Professional x64 Edition is designed to provide faster performance and increased reliability and flexibility to today's most demanding users, enabling them to run memory- and calculation-intensive applications and processes more efficiently. This new processor architecture also arms technical workstation users and cutting-edge home PC enthusiasts with a security-enhanced platform that can run new 64-bit applications as well as most existing 32-bit applications for maximum flexibility on a single PC.

Capabilities of Windows XP Professional x64 Edition

Windows XP Professional x64 Edition provides extended memory support, enhanced platform stability and single system compatibility to deliver more speed and dependability, as well as a lower total cost of ownership on the desktop. Customers will find Windows XP Professional x64 Edition to contain the same features as 32-bit Windows XP Professional, with numerous added benefits provided by the following key features:

Performance

- **Large physical memory support.** Windows XP Professional x64 Edition supports up to 128 GB of physical RAM and 16 TB of virtual memory. By comparison, 32-bit Windows is capable of supporting up to 4 GB of system memory, with up to 2 GB of dedicated memory per process. As a result, Windows XP Professional x64 Edition enables applications to preload substantially more data into virtual memory, allowing rapid access by the x64 processor. This reduces the time needed for loading data into memory as well as for seeking, reading and writing to data storage devices.
- **Greater addressable memory for 64-bit applications.** In breaking the 2GB-per-process memory barrier of current 32-bit systems, Windows XP Professional x64 Edition allows customers to work with larger amounts of data more quickly and increase the processing speed of other large data sets.
- **Excellent 32-bit application performance.** Most 32-bit applications perform equally well on the x64 platform compared to running on a native 32-bit operating system.

- **Extended 32-bit application capabilities.** Applications written to be “largeaddressaware” (i.e., including a line of code that can be added to a 32-bit application) can take advantage of a full 4 GB of memory per process on the x64 platform, thereby increasing their performance.
- **Multiprocessing and multicore support.** The platform is designed to support up to two single-core or multicore x64 processors for maximum performance and scalability with no additional licensing cost to customers.
- **Reduced disk I/O.** The ability to handle much larger data sets on the x64 platform eliminates common bottlenecks created by swapping data between memory and the hard drive.

Reliability and Security

- **Server code reliability on the desktop.** Built on the Microsoft Windows Server™ 2003 Service Pack 1 (SP1) code base, Windows XP Professional x64 Edition provides increased reliability for all the user’s applications.
- **Advanced security features.** The 64-bit platform incorporates the latest security features delivered in Windows XP Service Pack 2, to further increase system reliability, as well as automated security updates. Protective features include Windows Firewall, which creates a durable, easily managed boundary between the computer and the Internet.
- **System restore.** The platform automatically monitors and records key system changes so if problems occur with a new system setting, it can easily be reversed.
- **Defective Driver Blocking.** This feature prevents installation of drivers that are known to cause problems.
- **Microsoft Internet Explorer enhancements.** Pop-up Blocker, Add-on Manager controls and other features provide better protection while the user browses the Web.
- **Windows Security Center.** This advanced Control Panel applet aggregates essential security settings in a single location that is easy to monitor.

Platform Flexibility

- **Leading applications on 64-bit Windows.** With the assistance of Microsoft’s technical beta program as well as pilot systems from its hardware and original equipment manufacturer (OEM) partners, many independent software vendors are developing a broad portfolio of applications for Microsoft Windows XP Professional x64 Edition. The platform also offers comprehensive driver and device support for the newest devices.
- **Familiar environment.** Setup, configuration and administration of Windows XP Professional x64 Edition can be managed using essentially the same tools and knowledge that are needed for 32-bit Windows systems.
- **Lower total cost of ownership for high-end systems.** The ability to run both 32-bit applications and mission-critical 64-bit applications on the same system reduces the cost of buying, deploying and supporting multiple systems per user.
- **32-bit application compatibility.** The Windows on Windows 64 (WoW 64) x86 emulation layer allows 32-bit and 64-bit applications to run together seamlessly. The WoW 64

subsystem isolates the respective applications from one another to prevent problems such as file and registry collisions, while providing interoperability across the boundary between 32-bit and 64-bit applications for scenarios such as cut-and-paste and Component Object Model (COM)-supported application distribution.

- **Seamless migration path to 64-bit computing.** Windows XP Professional x64 Edition provides the flexibility to run today's 32-bit applications and take advantage of 64-bit applications as soon as they become available, so customers can make the move without sacrificing their investments in 32-bit software and Windows expertise.
- **The best of Windows XP Professional on a 64-bit platform.** Remote Desktop Protocol, Windows NetMeeting, Microsoft Windows Messenger, Windows Media® Player, wireless access, Bluetooth® integration and other highly sought-after capabilities are all supported on Windows XP Professional x64 Edition.
- **Superior ecosystem.** Microsoft Windows offers the most leading desktop productivity applications on the same platform as mission-critical, memory-intensive applications. In addition, Microsoft Windows offers one of the industry's largest and most knowledgeable technical support staffs.

Usage Scenarios

The initial release of Windows XP Professional x64 Edition is primarily designed for customers who are pushing the memory limitations of 32-bit systems today and seeking to take advantage of the new 64-bit technology to improve their PC or workstation performance. Specific users who will benefit from Windows XP Professional x64 Edition include the following:

Professionals

- **Engineering — CAD/CAM.** In areas such as automotive or aerospace design, engineers' success hinges on their ability to conceptualize designs while meeting stringent design safety requirements more quickly than their competitors. Designers and engineers who use computer-aided design and engineering applications can benefit from Windows XP Professional x64 Edition's large memory support, fast memory throughput and improved floating-point speeds, all of which enable these applications to work with larger models in a shorter period.
- **Digital content creation.** Two-dimensional (2-D) and three-dimensional (3-D) animation and rendering, video editing, and game development are among the major areas of the digital content creation segment that will benefit from the additional memory, increased memory I/O speeds and improved floating-point performance of Windows XP Professional x64 Edition. Its additional computing power allows game developers and animators to save time in rendering models or scenes. It also allows them to work with fully rendered 3-D models, rather than a smaller wire-frame representation of the model. The ability to view completely rendered models during the development process gives animators and developers the freedom to work at their peak level of creativity.
- **IT system management.** Windows XP Professional x64 Edition lets IT managers experience the increased stability, reliability and security of a server product on their desktop so they can more confidently run their most mission-critical applications and gain better performance.

Built on the Windows Server 2003 SP1 code, Windows XP Professional x64 Edition is the most reliable Microsoft desktop operating system available.

- **Application development.** Developers continually push themselves to produce the fastest, most-cutting-edge applications to solve tomorrow's tough problems. By using the ubiquitous x86 instruction set within a standard Windows platform to develop applications on the next-generation 64-bit architecture, developers can spend less time writing memory management code and more time differentiating their applications.
- **Other high-end workstation uses.** The Windows x64 platform can greatly enhance the speed of memory-intensive applications and processes, allowing users to work with datasets up to 32 times larger than those available on 32-bit Windows. Users can spend far less time swapping data between the RAM and the hard drive when they work with large files, resulting in fewer bottlenecks and better system performance.

Consumers

- **3-D gaming.** Home gaming enthusiasts are routinely testing the boundaries of 32-bit PC architectures, and video game developers are striving to satisfy players' demand for more exciting 64-bit native games that further extend the limits of realism and performance. Because data in memory is accessed about 10,000 times faster than it is on a disk drive, 64-bit native games hold the potential to deliver significantly accelerated graphics rendering that enables photorealistic immersion and rapid-fire play without annoying delays. These improvements, along with other benefits of the 64-bit architecture, should enable artificial intelligence and play of massive-level 3-D games that were not possible in the past.
- **Photo and video editing.** Professional and amateur photographers, Web designers, and home PC enthusiasts are increasingly using PCs to do sophisticated video editing and photo manipulation. As leading video-editing applications become available in 64-bit versions, home productions will attain new levels of professionalism, allowing users to create longer productions with richer visuals and higher-impact special effects. With Windows XP Professional x64 Edition and a variety of professional-caliber video-editing applications, amateurs will be able to modify, enhance and render captured video faster than ever without the delays caused by swapping data between the hard drive and memory. Windows XP Professional x64 Edition provides extensive memory headroom to load and manipulate very large video files without having to break a production into multiple smaller pieces. The x64 platform also allows an editor to open, manipulate or batch-process hundreds of large-image files simultaneously.
- **Audio production.** The massive addressable memory capacity of Windows XP Professional x64 Edition allows a user to create, manipulate and produce new music and audio experiences with unprecedented speed compared with 32-bit systems. Its greatly expanded virtual memory capability not only handles much larger files, it also greatly reduces the time spent waiting for audio files to finalize.

Installation and System Requirements

Windows XP Professional x64 Edition requires a clean installation, meaning all data on the hard drive (including previous operating systems and system files) will be erased during the new operating system installation. Customers should back up their data prior to the installation to prevent losing any important files or system settings.

- An AMD Athlon 64, AMD Opteron, Intel Xeon (including Intel EM64T) or Intel Pentium 4 (including Intel EM64T) processor
- 256 MB of RAM
- 1.5 GB of available hard disk space
- Super VGA (800x600) or higher graphics card
- CD-ROM or DVD drive
- Keyboard and Microsoft Mouse or compatible pointing device

Pricing and Availability

Windows XP Professional x64 Edition is available preinstalled on new x64 computers from several OEMs and system builders for the same price as Windows XP Professional (32-bit).

Localized versions of Windows XP Professional x64 Edition will be available in English and Japanese. There will be Multilingual User Interface support for Chinese (Simplified and Traditional), French, German, Italian, Korean, Spanish and Swedish.

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