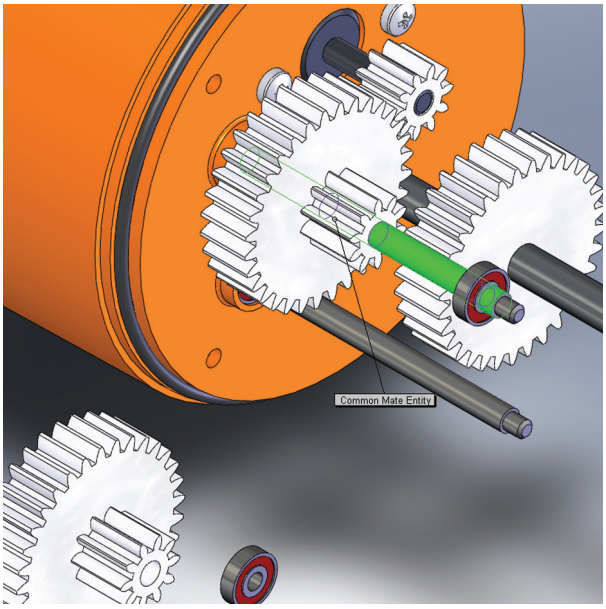
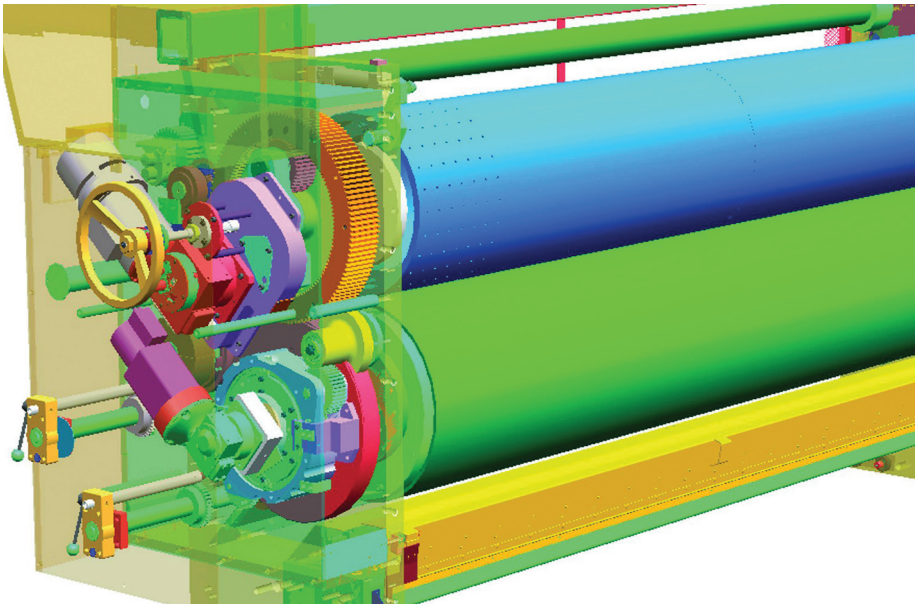
HP and SolidWorks

Give Yourself an Engineering Edge





"Because of our strong partnership, our customers will be well served by selecting HP as their computing platform. Not only are HP workstations thoroughly tested and certified to provide the utmost in performance and reliability for SolidWorks 3D CAD Software, but the HP Performance Tuning Framework quickly provides key system information necessary when contacting SolidWorks support."

Efrat Ravid,
Director, Marketing & Alliances,
SolidWorks

The HP commitment to innovation and solutions excellence, and HP's relationship with SolidWorks® Corporation provide you with an engineering edge. HP workstations are built with the latest technology, including processors from Intel® or AMD; professional graphics cards from NVIDIA or AMD ATI; Microsoft® Windows® operating systems; high-speed storage; fast, reliable memory that is designed, tested and built for both high performance and extreme stability when running professional applications; and HP Performance Tuning Framework. In addition, all workstations can run HP Remote Graphics Software. You get world-class design and unique, HP features, providing you with an engineering edge that helps maximize your design productivity.

HP Innovation

HP innovation is most evident in our first-to-market features. Innovation keeps you ahead of your competition by helping to improve productivity and shorten design cycles. HP workstations were first to include 64-bit[1] architecture, quad-core[2] processing, 80 PLUS efficient power supplies, tool-less chassis, state-of-the-art acoustics and liquid cooling.

HP Engineering Helps You

HP engineers focus their technical expertise on the complete solution—SolidWorks applications running on HP hardware. SolidWorks applications are thoroughly tested and certified on our workstations, so you can be assured that your solution works flawlessly. We leverage this application knowledge in HP Performance Tuning Framework, which enables you to adjust settings to assure your applications reach peak performance. If the need arises, our application experts are available for support calls and resolving customer issues. Together with SolidWorks, we help customers achieve their goals.

SolidWorks Corporation

SolidWorks Corporation focuses on mechanical design and SolidWorks 3D CAD software. The company helps organizations reduce time to market, design better quality products faster and maintain a competitive advantage by delivering powerful yet affordable 3D design solutions.

SolidWorks 3D CAD Software

The company's flagship product is SolidWorks, the world's leading 3D CAD software. With a history of innovation, SolidWorks offers excellent performance and time-saving capabilities that allow engineers and designers to complete more work with greater accuracy. Its features include:

- Specialized, built-in design tools
- Unique productivity enhancements for designers of machinery, consumer products and molds
- 3D models from existing 2D data with the best available 3D adoption tools

Design communication

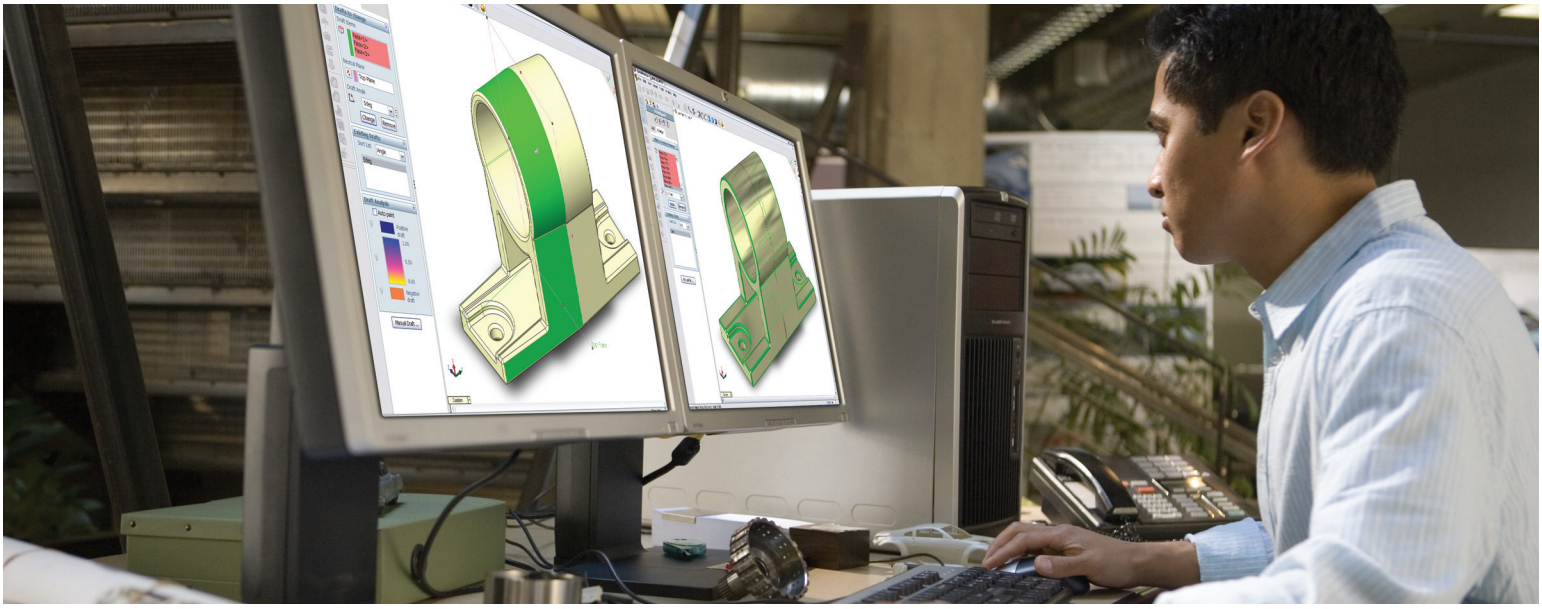
SolidWorks Corporation provides unmatched design communication capabilities, including eDrawings®, a SolidWorks email-enabled tool that makes it easy to share product design information and PDMWorks® to organize, share and manage product data.

RealView™

RealView is the most realistic, real-time rendering capability available within a 3D mechanical design system.

Surfacing

Generate complex surfaces using lofts and sweeps with guide curves, fill-in holes and drag-handles for easy tangency control.



HP provides more to SolidWorks customers

- HP thoroughly tests and certifies each HP Personal Workstation for more CAD applications than anyone else.
- HP submits workstations to SolidWorks for its complete testing.
- SolidWorks uses HP workstations internally to develop and test its applications.
- HP workstation graphics are thoroughly tested to support SolidWorks products.
- HP Performance Tuning Framework has special features to optimize the performance of SolidWorks.
- HP's experts are available to support customers and recommend configurations.

HP and SolidWorks Together

HP has a unique relationship with SolidWorks, working as one of its top hardware partners. This allows HP and SolidWorks to offer a comprehensive portfolio of solutions that address the needs of our customers—like Factory Five Racing and Orange County Choppers—with innovative hardware and software that is tuned and integrated. Our close relationship and engineering expertise assure solutions that perform not only today, but for the long run.

HP Remote Graphics Software

HP Remote Graphics Software (RGS) is an advanced utility that allows you to remotely access and share your workstation, its 3D graphics power and all of its applications. Using patented HP compression technology, RGS minimizes network usage[3] and enables remote access without compromising performance or image quality. The technology enables real-time sharing of high-resolution imagery, allowing creative teams from multiple remote sites to function like they are all in the same room. Engineers and designers find immense value in the technology because communication is instantaneous and more people can participate. It speeds the design process.

HP Performance Tuning Framework

This exclusive HP tool—pre-installed on all HP Personal Workstations—makes it a snap to configure and update HP workstations, improving their stability and performance. HP Performance Tuning Framework (PTF) has many features to help you work faster and more productively, while reducing hassles. HP PTF can:

- Provide a detailed configuration report so you can easily see what's on your system.
- Organize graphics driver certification information to help you make informed decisions when loading the latest drivers.
- Track memory use and graphically display how applications and processes use physical and virtual memory.
- Measure subsystem performance using Vista Performance monitoring.

HP PTF offers numerous other features, some of which are application specific. The SolidWorks support staff is trained on HP PTF, so just send your PTF configuration file when there is a problem—it's as simple as that. Best of all, HP PTF is free.

HP Two-handed CAD

Two-handed CAD provides substantial personal productivity boosts for most users. HP's 3D motion controller complements a traditional mouse to deliver the advantages of two-handed CAD to SolidWorks. Users can easily change the center of rotation and quickly pan, zoom and animate assemblies. HP's 3D motion controller allows you to work faster with less movement, and significantly fewer mouse clicks.

www.hp.com/go/solidworks

HP maintains a dedicated website for all users of SolidWorks applications at www.hp.com/go/solidworks. The website helps with your workstation selection, providing the latest in recommended configurations for SolidWorks, as well as certification and other useful information.

HP workstation or PC?

For SolidWorks professionals, the answer is easy!

Engineering and design professionals require high-performance systems to support their complex 2D and 3D applications. HP workstations offer advanced features that deliver more power, stability, and dependability than standard PCs, including:

- Workstations designed to process the data sets and execute the instructions of complex applications for the CAD and CAE market.
- Full testing and certification for most CAD and CAE applications.
- Enhanced processing power using AMD and Intel processors.
- More memory capacity and expandability than PCs.
- Professional-level graphics cards and advanced chipsets for high performance (not typically found on PCs).
- Disk drives that ensure high performance and reliability.

Contact Information

HP Corporate Headquarters:
+1 (650) 857 1501
3000 Hanover Street
Palo Alto, California 94304-1185
USA
www.hp.com

Regional Headquarters Offices
Hewlett-Packard Canada Ltd.:
(905) 206 4725
5150 Spectrum Way
Mississauga, Ontario
L4W 5G1
Canada

Hewlett-Packard Latin America:
+1 (305) 267 4220
Waterford Building, 9th Floor
5200 Blue Lagoon Drive
Miami, Florida 33126
USA

Hewlett-Packard USA:
+1 (281) 370 0670
20555 SH 249
Houston, Texas 77070
USA

HP Small and Medium Business Store:
+1 (800) 888 9909
www.hp.com/go/store

Hewlett-Packard Asia Pacific Pte Ltd.:
(+65) 6275 3888
138, Depot Road
Singapore 109683

Hewlett-Packard Japan:
(+81) 3 5349 7480
1-2-1 Kamiogi, Suginami-ku
Tokyo 167-8533 Japan

Hewlett-Packard Europe, Middle East, Africa:
(+41) 22 780 8111
Hewlett-Packard
150 Route du Nant-d`Avril
1217 Meyrin 2
Geneva, Switzerland

EMEA workstation country homepages
www.hp.com/eur/workstations

For more information about HP and SolidWorks solutions,

please visit www.hp.com/go/solidworks.

Screen images courtesy of SolidWorks and image courtesy of Factory Five Racing.

1. 64-bit computing on Intel architecture requires a computer system with a processor, chipset, BIOS, operating system, device drivers and applications enabled for Intel 64 architecture. Processors will not operate (including 32-bit operation) without an Intel 64 architecture-enabled BIOS. Performance will vary depending on your hardware and software.
2. Dual-Core and Quad-Core are new technologies designed to improve performance of multithreaded software products and hardware-aware multitasking operating systems and may require appropriate operating system software for full benefit. Not all customers or software applications will necessarily benefit from use of this technology.
3. Performance subject to network speed.

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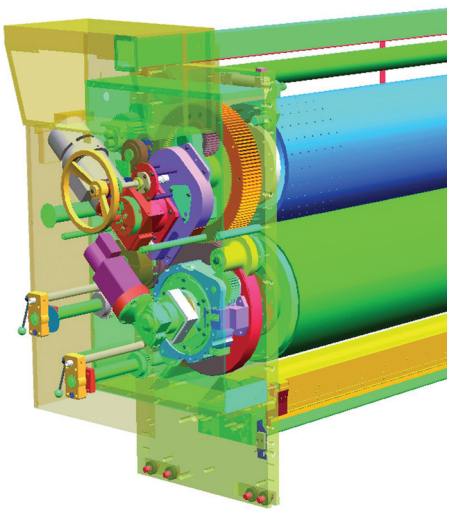
4AA1-6960ENW, July 2008

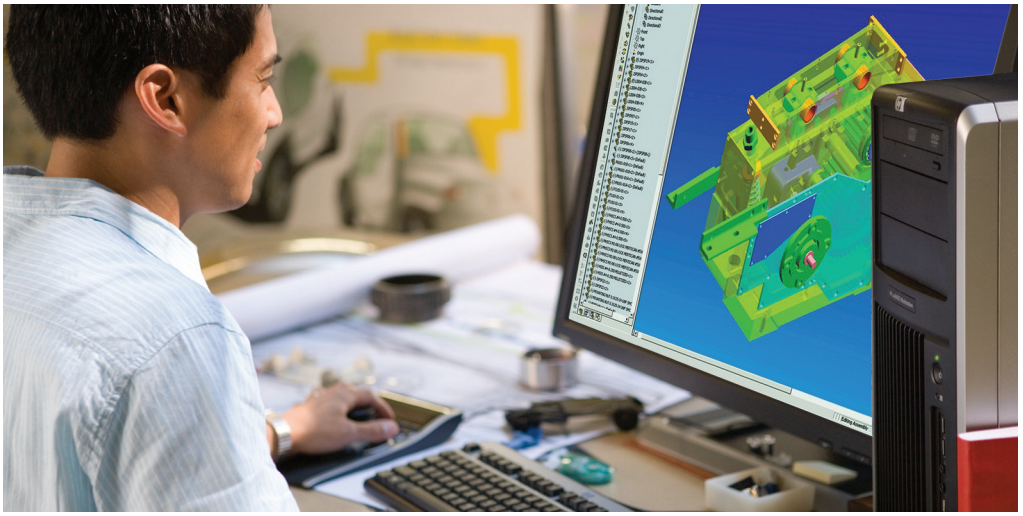
SolidWorks

hp invent

Designing your engineering edge

The HP Workstation Configuration Guide for SolidWorks Applications





HP recommends Windows Vista® Business

Engineers, design professionals and visualization experts all gain from the HP commitment to innovation and solutions excellence, as well as the unique relationship between HP and SolidWorks® Corporation. All HP workstations are built with leading-edge technology, and you can select a configuration that is ideal for your specific needs. Consider the choices: processors from Intel® or AMD; professional graphics cards from NVIDIA or AMD ATI; Microsoft® Windows® operating systems; high-speed storage; fast, reliable memory that is designed, tested and built for both high performance and extreme stability when running professional applications; HP Performance Tuning Framework and HP Remote Graphics Software. HP innovations and world-class design distinguish HP workstations from the competition.

If you want HP first-to-market technologies like 64-bit[1] architecture, Quad-Core[2] processors, 80 PLUS efficient power supplies, state-of-the-art acoustics and liquid cooling, we've got them. Our ability to be first helps you stay a step ahead of your competition.

HP is one of SolidWorks' top hardware partners. We share technology road maps to assure our products work well together. SolidWorks applications are developed and tested on HP hardware, so you can be confident when you choose HP workstations. Together, SolidWorks and HP offer a comprehensive portfolio of innovative hardware and software solutions—tuned and integrated to meet the needs of manufacturing and engineering markets. Our close relationship means that HP technology—along with our engineering expertise—provides you the solutions that perform not just today, but for the long run.

HP engineers bring technical expertise to the complete solution—SolidWorks applications and HP hardware. SolidWorks applications are more thoroughly tested on our workstations than on any other hardware system. We leverage our systems knowledge in HP Performance Tuning Framework, which enables you to make system adjustments so your applications work at peak performance.

HP xw4550 Workstation

The HP xw4550 Workstation makes the power of a highly reliable, professional-class system affordable for most small and mid-sized businesses. Tested and optimized for SolidWorks, the HP xw4550 provides performance, expandability, entry- to mid-range 3D graphics and certified applications. Its AMD Opteron™ Dual-Core[2] processor is second-generation technology. Designed with a tool-less chassis for easy service, the HP xw4550 Workstation can be configured with a variety of processor speeds and memory configurations to suit your specific requirements. With an 80 PLUS efficient power supply standard and ENERGY STAR® qualified configurations, the HP xw4550 is designed to optimize energy use. This workstation's combination of price and performance make it an outstanding value.

HP xw4600 Workstation

The HP xw4600 Workstation combines next-generation performance technology with expandability, reliability and affordability. It is based on the new Intel® X38 Express performance chipset and the latest workstation-class Dual- and Quad-Core[2] Intel processors. The HP xw4600 supports up to 8GB of memory and comes with your choice of 2D or 3D professional graphics cards. It's powerful enough to meet the demanding requirements of data-intensive applications like Computer-Aided Design and Photorealistic Rendering. Optional Remote Graphics Software allows you to access and share the desktop of a remote computer over a standard network, making your busy life a bit easier. HP Performance Tuning Framework lets you optimize your system for high performance. With an 80 PLUS efficiency power supply standard and ENERGY STAR® qualified configurations, the HP xw4600 is designed to optimize energy use.

HP recommends Windows Vista® Business

HP xw6600 Workstation

The HP xw6600 Workstation is a high-performance machine engineered for environments where space is at a premium and noise must be minimized. Its Dual- or Quad- Core[2] Intel® Xeon® Processor with the new 45nm technology provides ample power for your team members to create, design and analyze more in less time. Its dual Gen2 PCI-e interfaces leverage an architecture that can deliver up to twice the graphic performance of previous systems. The HP xw6600 is designed for expandability in anticipation of your future needs. It achieves quiet operation by paying close attention to airflows, and by using quiet fan technology. Its system design is energy wise, using 80-watt processors and an 80 PLUS efficiency power supply.

HP xw8600 Workstation

The HP xw8600 Workstation is designed for extreme performance and limitless possibilities. It provides power, versatility and reliability for massive compute and visual capacity—to give your business a decided edge over the competition. The HP xw8600 meets the most demanding engineering, Computer-Aided Design and Photorealistic Rendering challenges with the latest Intel Dual- and Quad-Core[2] processors with the new 45nm technology. It integrates the Intel 5400 chipset to deliver four times the graphics processing throughput of previous generation systems. The HP xw8600 features the greatest expandability and range of options available in the HP Workstation family. Its 80 PLUS efficiency power supply makes the most of every watt of power, and its tool-less chassis means it's easy to service.

HP xw9400 Workstation

The HP xw9400 delivers uncompromised graphics performance and maximum expandability. It supports up to four 3D graphics displays, dual PCIe x16 graphics, and Dual-Core[2] AMD Opteron™ processors to meet the combined needs for computational power, visualization power, and I/O performance, while helping to lower your total cost of ownership. It's an excellent choice for high-performance graphics solutions such as parallel rendering or compositing.

HP xw460c Blade Workstation

The HP xw460c Blade Workstation provides the perfect solution for those who are looking to leverage HP remote technologies to support remote sites, to protect Intellectual Property, to eliminate loading large files over the network, to centralize databases or to minimize total cost of ownership. The Blade workstation is a high performance machine and uses either Dual- or Quad-Core[2] Intel® Xeon® Processors, supporting one or two processors, powerful 3D NVIDIA graphics, and up to 32 GB of ECC DDR-2 667 MHz Memory. It is an excellent choice for those looking for serious innovation in their design process.

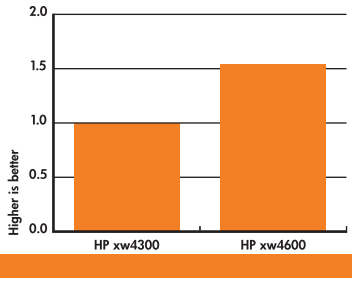
HP Compaq 8710w Mobile Workstation

The HP Compaq 8710w Mobile Workstation redefines power on the move by combining the best in visualization and computational power into a sleek design with a 17-inch diagonal display to form HP's highest performing mobile workstation. You can run demanding applications like SolidWorks on this machine thanks to true 64-bit[1] computing, NVIDIA graphics and support for up to 4 GB of memory. It features Intel Core 2 Duo[3] Processor technology with built-in remote manageability and proactive security.

HP xw4600 Workstation performs better

HP xw4600 Workstation
Intel Core 2[4] Duo 2.9 GHz[5]
Genuine Microsoft® Windows® XP Professional
NVIDIA Quadro FX 4500

HP xw4300 Workstation
Intel Pentium 4[4] Processor 3.8 GHz[5]
Genuine Microsoft® Windows® XP Professional
NVIDIA Quadro FX 4500



Source: HP Workstation Technical Consulting Lab

HP Recommended Configurations for SolidWorks

(ALL APPLICATIONS CERTIFIED)

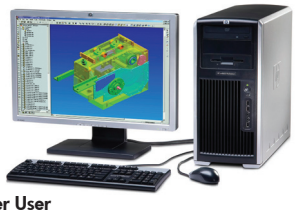
HP recommends Windows Vista® Business

Standard User

HP xw4600 Workstation
Genuine Windows Vista® Business 64-bit with downgrade to Windows® XP Professional x64 custom installed[5]
Intel Core™ 2 Duo[2] Processor E6850[3]/3.0 GHz[4]
1333 MHz Front Side Bus[6]
Intel X38 Express chipset
4 GB DDR2-800 ECC memory[13]
NVIDIA Quadro FX1700
146 GB[7] 15k rpm SAS 3 Gb/s Disk drive
DVD-ROM SATA[8]
HP LP2475w 24-inch Widescreen LCD Monitor
HP Remote Graphics Software
HP Performance Tuning Framework
HP Scroll Mouse
HP SpacePilot
Application certified
3–year limited warranty

Advanced User

HP xw6600 Workstation
Genuine Windows Vista® Business 64-bit with downgrade to Windows® XP Professional x64 custom installed[5]
Dual-Core[2] Intel Xeon[1] Processor 5260[3]/3.33 GHz[4]
1333 MHz Front Side Bus[6]
6 GB DDR2-667 ECC memory[13]
NVIDIA Quadro FX4600
(2) 146 GB[7] 15K rpm SAS 3 Gb/s RAID[9]
CD-RW/DVD-ROM Combo[8]
HP LP3065 30-inch Widescreen LCD Monitor
HP Remote Graphics Software
HP Performance Tuning Framework
HP Scroll Mouse
HP SpacePilot
Application certified
3–year limited warranty



Power User

HP xw8600 Workstation
Genuine Windows Vista® Business 64-bit with downgrade to Windows® XP Professional x64 custom installed[5]
2 Dual-Core Intel Xeon Processor 5272[3]/3.4 GHz[4]
1600 MHz Front Side Bus
8 GB DDR2-800 ECC memory[13]
NVIDIA Quadro FX4600
(2) 146 GB[7] 15K rpm SAS 3 Gb/s RAID[9]
SATA CD-RW/DVD-ROM Combo[8]
(2) HP LP3065 30-inch Widescreen LCD Monitor
HP Remote Graphics Software
HP Performance Tuning Framework
HP Scroll Mouse
HP SpacePilot
Application certified
3–year limited warranty

Power User (AMD)

HP xw9400 Workstation
Genuine Windows Vista® Business 64-bit with downgrade to Windows® XP Professional x64 custom installed[5]
(2) Dual-Core[2] AMD Opteron Processor 2224SE[10] 3.2 GHz[4]
AMD64 Technology[11]
1 GHz AMD HyperTransport™ technology
8 GB DDR2-667 ECC memory[13]
(2) 300 GB[7] 15k rpm SAS drive
CD-RW/DVD-ROM Combo[8]
NVIDIA Quadro FX5500
(2) HP LP3065 30-inch Widescreen LCD Monitor
Or, if color is critical to your job, choose (2) HP DreamColor LP2480zx Professional Display, (24-inch diagonal widescreen)
HP Remote Graphics Software
HP Performance Tuning Framework
Application certified
HP SpacePilot
3–year limited warranty

Mobility

HP Compaq 8710w Mobile Workstation
Genuine Windows Vista® Business 64-bit with downgrade to Windows® XP Professional x64 custom installed[5]
Intel Core 2 Duo[2] processor T7800[3]
2.60 GHz[4]
4 MB L2 cache
800 MHz Front Side Bus[6]
17-inch diagonal WUXGA display
NVIDIA Quadro FX 3600m with 512 MB of memory
200 GB[7] 7200 rpm SATA hard drive
4 GB DDR2-667 SDRAM memory[13]
DVD/CD RW Combo[8]
7.5 pounds[12]
HP Remote Graphics Software
HP Performance Tuning Framework
Application certified
3–year limited warranty

HP recommends Windows Vista® Business

For more information about HP and SolidWorks solutions,
please visit www.hp.com/go/solidworks.

Screen images courtesy of SolidWorks and image courtesy of Factory Five Racing.

1. 64-bit computing on Intel architecture requires a computer system with a processor, chipset, BIOS, operating system, device drivers, and applications enabled for Intel 64 architecture. Processors will not operate (including 32-bit operation) without an Intel 64 architecture-enabled BIOS. Performance will vary depending on your hardware and software configurations. See www.intel.com/info/em64t for more information.
2. Dual-Core and Quad-Core are new technologies designed to improve performance of multithreaded software products and hardware-aware multitasking operating systems and may require appropriate operating system software for full benefit. Not all customers or software applications will necessarily benefit from use of this technology.
3. Intel's numbering is not a measurement of higher performance.
4. GHz refers to internal clock speed of the processor. Other factors beside clock speed may impact system and application performance.
5. Certain Windows Vista product features require advanced or additional hardware. See www.microsoft.com/windowsvista/getready/hardwarereqs.mspx and www.microsoft.com/windowsvista/getready/capable.mspx for details. Windows Vista Upgrade Advisor can help you determine which features of Windows Vista will run on your computer. To download the tool, visit www.windowsvista.com/upgradeadvisor. Windows Vista Business disk also included for future upgrade if desired. To qualify for this downgrade an end user must be a business (including governmental or educational institutions) and is expected to order at least 25 customer systems with the same custom image
6. Actual bus speed is less. Listed bus speed represents the equivalent effective data transfer rate.
7. 1 GB equals 1 billion bytes. Actual formatted capacity is less. Up to 8 GB of hard drive (or system disk) is reserved for the system recovery software.
8. Actual speeds may vary. Does not permit copying of commercially available DVD movies or other copy-right protected materials. Intended for creation and storage of your original material and other lawful uses. Double Layer discs can store more data than single layer discs. Double-layer discs burned with this drive may not be compatible with many existing single-layer DVD drives and players.
9. Hardware RAID is not supported on Linux systems. The Linux kernel, with built-in software RAID, provides excellent functionality and performance. It is a good alternative to hardware-based RAID. Please visit http://h20000.www2.hp.com/bc/docs/support/SupportManual/c00060684/c00060684.pdf for RAID capabilities with Linux.
10. AMD's numbering is not a measurement of clock speed.
11. This system requires a separately purchased 64-bit operating system and 64-bit software products to take advantage of the 64-bit processing capabilities of the AMD Opteron 64 processor. Given the wide range of software applications available, performance of a system including a 64-bit operating system will vary.
12. Weight will vary by configuration.
13. Dual Channel is only supported when the system is configured with DDR2 symmetric memory (i.e. 2 x 256).

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