Engineers and designers gain a significant edge in performance and productivity thanks to the combination of HP Workstations and software from Dassault Systèmes SolidWorks Corp. (DS SolidWorks). You benefit from the HP commitment to performance, innovation, and reliability excellence combined with the strength of the HP and Dassault Systèmes SolidWorks relationship.

**The HP Difference**

HP Z Workstations are engineered to optimize the way hardware and software components work together, delivering massive, whole-system computational power that helps maximize your productivity and make 3D design and visualization faster and more efficient than ever before. This gives you an edge in five key areas:

- **Innovation**: Enjoy next-generation technology, including the award-winning HP Z Workstation design, to help you create and visualize even the most complex designs. This revolutionary design brings a tool-less chassis, advanced cooling, and choice of power with up to 90 percent efficient power supplies.

- **Performance**: Advanced compute and visualization power help speed your work, beat deadlines, and meet expectations. At the heart of HP Z Workstations are the new Intel® processors with advanced processor performance technologies, such as Intel® QuickPath, Intel® Hyper-Threading, and Intel® Turbo Boost. Intel® Turbo Boost is designed to enhance the base operating frequency of processor cores, providing more processing speed for single and multi-threaded applications. The HP Z Workstation cooling design enhances this performance.

- **Reliability**: HP product testing includes application performance, graphics and comprehensive ISV certification for maximum productivity. You can be confident in your HP and SolidWorks® 3D CAD solution.

- **Relationships**: HP resources and our relationships with DS SolidWorks, graphics vendors, chip suppliers and Microsoft provide a consistent application, operating system, hardware and graphics technical direction. This results in broader, more dependable 3D application oriented technology choices.

- **Personal productivity**: Only HP provides unique tools to improve workstation user productivity, including: HP Performance Advisor, a workstation software wizard with helpful advice on recommended settings and performance; and HP Remote Graphics Software, a high-performance real-time 3D screen sharing and remote access application.

**The HP and SolidWorks advantage**

HP has a unique relationship with DS SolidWorks, working as one of its top hardware partners. This allows HP and DS SolidWorks to offer a comprehensive portfolio of solutions that address the needs of our customers—like Factory Five Racing, Orange County Choppers, and Local Motors—with innovative hardware and software that is tuned and integrated. Our close relationship and engineering expertise help ensure solutions that perform not only today, but for the long run.
Dassault Systèmes SolidWorks Corp.
DS SolidWorks focuses on all aspects of mechanical design by creating easy to use CAD, simulation, PDM, and documentation software. The company helps organizations reduce time to market, design better quality products faster, and maintain a competitive advantage by delivering powerful yet affordable 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
- Functionality to design and detail large assemblies
- An easy-to-use interface; intuitive display and control functions
- Tools to create 3D geometry in real-time

Design communication
DS SolidWorks provides SolidWorks Enterprise PDM, which allows distributed design teams 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 and SolidWorks—Working Better Together
- HP thoroughly tests and certifies each HP Personal Workstation for a multitude of CAD applications.
- HP submits workstations and professional graphics cards to DS SolidWorks for application testing. You can be confident in the quality of your HP Workstation and SolidWorks solution.
- DS SolidWorks uses HP Workstations internally to develop and test its software.
- HP Remote Graphics Software enables users to share 3D screen images with remote users, as well as access their own workstations, remotely.
- HP Performance Advisor has special features to optimize the performance of SolidWorks software.
- HP has experts who work with SolidWorks technical resources and are available to support customers and recommend configurations.
Your digital workbench
In addition to leading-edge hardware solutions, HP and SolidWorks together offer a combination of applications, workstations and personal productivity tools that combine to provide a complete digital workbench that saves you time. In addition to the HP Z Workstation, HP’s key contributions to the digital workbench are:

• HP Remote Graphics Software
• HP Performance Advisor
• HP SpacePilot
• HP Support Assistant

HP Remote Graphics Software
HP Remote Graphics Software (RGS) is an advanced 3D screen-sharing utility that allows remote access and workstation sharing. Using HP compression technology, HP RGS compresses the screen image and sends it to receiver software for decompression and display. The receiver captures keystrokes and mouse clicks for return to the workstation. HP RGS minimizes network usage and enables remote access without compromising performance or image quality. For engineers and designers looking to speed the design process, HP RGS enables real-time sharing of high-resolution imagery so creative teams from multiple remote sites can collaborate instantly, regardless of remote distances. For more information see the HP Remote Graphics Software Users Guide at www.hp.com/go/rgs.

HP Performance Advisor
Put the underlying power of HP Workstations at your fingertips, with powerful features that help maximize your hardware, applications, and productivity. HP Performance Advisor makes it easy to keep your professional applications running smoothly by:

• Simple selections to get the preferred and highest performance settings for SolidWorks.
• Organizing graphics driver certification information to help you make informed decisions when loading the latest drivers.
• Tracking memory use and graphically displaying how applications and processes use physical and virtual memory.
• Monitoring system resource usage over time to identify bottlenecks.
• Measure relative performance of key hardware components using Windows Experience Index.

If problems arise, DS SolidWorks support staff can review your HP Performance Advisor configuration report included with each HP Workstation. This report can be generated easily by clicking on the configuration report tab and saving the file. For more information see www.hp.com/go/hpperformanceadvisor.

“Working with HP SpacePilot has been a very positive experience. The HP Workstations I’ve used are powerful and stable, which is critically important when you’re trying to develop a vehicle cost-effectively and from scratch in 18 months.”

Mike Pisani,
Vehicle Engineer,
Local Motors

workstations.tv

Watch the video
Local Motors
• **Maintain:** Automated software updates and reminders, maintenance routines, and other preventative measures help you keep your HP Workstation in peak condition.

• **Troubleshoot:** Diagnostic utilities help you investigate problems on your own and find solutions for common issues.

• **Learn:** An extensive library, including specification and warranty information and online resources, helps you make the most of your HP Workstation.

• **Get assistance:** Friendly and efficient experts are available to assist you with problems you can’t solve on your own. Remote access capabilities allow the HP agent to investigate the problem directly, adjust your system settings and even install software patches and upgrades.

HP Support Assistant, part of HP Total Care Service and Support, saves you valuable time and allows you to get the most out of your HP Workstation.

**HP SpacePilot**
SpacePilot Intelligent Controller, enables two-handed CAD, with one hand on the mouse and one on the HP SpacePilot. This device combines:

- Refined sensing technology that allows you to intuitively push, tilt, or twist the control cap for an immediate response.
- Extendable function keys that can be programmed to simplify repeat operations; multi-layered menu pull downs enable increased efficiency.
- Comfortable design that minimizes repetitive stress.

Studies show significant improvements in user productivity when inputting with an HP SpacePilot.

**HP Z Workstations—a leap in performance**

Old (HP xw4600) vs. new HP Z Workstation comparison

<table>
<thead>
<tr>
<th>System</th>
<th>Productivity Increase</th>
</tr>
</thead>
<tbody>
<tr>
<td>HP Z400 with six-core Intel® W3680 3.33 GHz processor, Genuine Windows® 7 Professional 64-bit, and NVIDIA Quadro 2000</td>
<td>121%</td>
</tr>
<tr>
<td>HP Z210 CMT with quad-core Intel Xeon E3-1240 3.30 GHz processor, Genuine Windows® 7 Professional 64-bit, and NVIDIA Quadro 2000</td>
<td>128%</td>
</tr>
<tr>
<td>HP xw4600 with quad-core Intel Q9650 3.0 GHz processor, Genuine Windows® 7 Professional 64-bit, and NVIDIA Quadro FX 1800</td>
<td>100%</td>
</tr>
</tbody>
</table>

This chart compares a HP Z400 Workstation running an Intel® W3680 (3.33 GHz) six-core processor and a HP Z210 Workstation running an Intel® Xeon® E3-1240 (3.3 GHz) quad-core processor to a HP xw4600 Workstation, which is approximately three-year old technology, running an Intel® Q9650 (3.0 GHz) quad-core processor so users can get an idea of the performance increase they might see when they upgrade. The HP Z400 and HP Z210 have an NVIDIA Quadro 2000, and the HP xw4600 has a NVIDIA Quadro FX1800 graphics card. The testing is based on SpecAPC for SolidWorks using SolidWorks 2007. All systems are running Genuine Windows® 7 Professional 64-bit operating system, and run by HP Technical Marketing in their labs.

HP recommends Windows® 7.
HP recommends Windows® 7.

Meet the HP Workstation family
Combining bold design, world-class engineering, robust tools, and visual collaboration solutions, the HP Workstation family takes innovation, performance, and reliability to the next level—to give you and your business a competitive edge. All HP Workstations are tested and certified for SolidWorks applications. HP tests a comprehensive range of SolidWorks applications on our workstations, helping ensure reliable, dependable performance. HP Z Workstations deliver enhanced workstation performance with the latest Intel processors which includes Intel Turbo Boost® and Hyper-Threading® technologies, in a very affordable package to transform the way engineering and design professionals work. The next-generation system architecture enables fast and efficient performance while HP personal productivity tools and built-in HP reliability help you work more productively and get the job done faster.

HP Z210 Small Form Factor Workstation
The HP Z210 Small Form Factor Workstation delivers workstation power in a 65 percent smaller package, provides the same processor and memory functionality as the HP Z210 CMT, has entry level 3D professional graphics and is ideal for SolidWorks users, especially those who work in constrained spaces.

HP Z210 CMT Workstation
The HP Z210 CMT Workstation delivers excellent performance providing the workstation power for 2D and 3D users to design and edit. It provides ECC memory for users with larger files and is expandable up to mid-range graphics for even more 3D performance capability. Many applications are suitable for this product, including SolidWorks.

HP Z400 Workstation
The HP Z400 Workstation is ideal for engineers and designers who need the maximum in single-socket processor power. Users of SolidWorks will find this becoming their mainstream workstation. It combines ECC memory to handle large files, as well as the full range of 3D professional graphics, and Intel’s latest processors.

HP Z600 Workstation
The HP Z600 Workstation packs compute and visualization power to help you work faster and beat deadlines—delivering maximum performance in our smallest, quietest dual-socket design with Intel® Xeon® processors. This workstation is ideal for 3D users who want to take advantage of the multiple cores needed for applications that use rendering, animation, and simulation. This system’s dual-processor capability, combined with Intel Turbo Boost and Hyper-Threading technologies, is well-suited for single-threaded application users who also need support for multi-threaded applications, such as SolidWorks PhotoView 360.

HP Z800 Workstation
The HP Z800 Workstation delivers the latest performance in a revolutionary next-generation design that combines extreme speed, dual-processor, 12-core design, massive expandability, and maximum productivity to accelerate even the biggest, most complex engineering, design, visualization, and simulation tasks. This high-end workstation provides the expandability, performance, and data storage required by extreme power users of SolidWorks and other MCAD and CAE applications.

HP Performance Monitors
Designed for compatibility with the full line of HP Workstations, HP Performance Monitors offer world-class display technology, a range of connectivity (USB/DVI/DisplayPort) with the latest peripherals and graphics devices, and environmental responsibility with ENERGY STAR® and EPEAT® certifications. The HP ZR24w and HP ZR30w widescreen monitors feature massive wide-aspect screens, enhanced color accuracy at ultra-wide viewing angles, and full HD® resolutions.
HP recommends Windows® 7.

HP Mobile Workstations

**HP EliteBook 8760w Mobile Workstation**

The HP EliteBook 8760w Mobile Workstation redefines power on the move, combining the latest in visualization and computational power with a 17.3-inch diagonal display for HP’s highest performing mobile workstation. The HP EliteBook w-series features a timeless construction, with precision-engineered durability features that are designed for maximum reliability and with the environment in mind. The mobile workstations has passed most Mil-Std-810G testing, making it a great tool for professionals on the go. The choice of an HP DreamColor display enables true color visualization in addition to top performance for SolidWorks applications.

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**Meet the HP Workstation family**

<table>
<thead>
<tr>
<th>Model</th>
<th>HP Z210 CMT and HP Z210 SFF Workstation</th>
<th>HP Z400 Workstation</th>
<th>HP Z600 Workstation</th>
<th>HP Z800 Workstation</th>
<th>HP EliteBook 8560w Mobile Workstation</th>
</tr>
</thead>
<tbody>
<tr>
<td>User</td>
<td>Ideal for entry level users where workstation performance is needed</td>
<td>Ideal for those who want to maximize performance with single-threaded applications</td>
<td>Ideal for those who need multi-core performance</td>
<td>Ideal for those who have the largest files and store large data sets</td>
<td>Ideal for those who need intense workstation graphics and a display that won’t weigh them down</td>
</tr>
<tr>
<td>SolidWorks solution</td>
<td>SolidWorks entry level users</td>
<td>SolidWorks performance users with some visualization</td>
<td>SolidWorks users with significant visualization and analysis</td>
<td>SolidWorks extreme users</td>
<td>All SolidWorks applications</td>
</tr>
<tr>
<td>Processors</td>
<td>Dual-core Intel® Core™ i3 or Quad-core Intel® Core™ i5 and i7 or Quad-core Intel® Xeon® processor Intel QuickPath Technology</td>
<td>Dual, quad, and six-core Intel® Xeon® processor Intel QuickPath Technology</td>
<td>Quad- and six-core Intel® Xeon® processor Intel QuickPath Technology</td>
<td>Quad- and six-core Intel® Xeon® processor Intel QuickPath Technology</td>
<td>Intel® Core™ i5 or i7 mobile processor family with Intel Turbo Boost Technology</td>
</tr>
<tr>
<td>Graphics cards</td>
<td>NVIDIA Quadro 400 NVIDIA Quadro 600 NVIDIA Quadro 2000</td>
<td>NVIDIA Quadro 400 NVIDIA Quadro 600 NVIDIA Quadro 2000</td>
<td>NVIDIA Quadro 400 NVIDIA Quadro 600 NVIDIA Quadro 2000</td>
<td>NVIDIA Quadro 400 NVIDIA Quadro 600 NVIDIA Quadro 2000</td>
<td>NVIDIA Quadro 400 NVIDIA Quadro 600 NVIDIA Quadro 2000 NVIDIA Quadro 1000M NVIDIA Quadro 2000M NVIDIA Quadro 3000M NVIDIA Quadro 4000M NVIDIA Quadro 5010M</td>
</tr>
</tbody>
</table>

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**HP EliteBook 8460w® and 8560w Mobile Workstations**

HP EliteBook 8460w and 8560w Mobile Workstations offer workstation power to run SolidWorks applications but in a smaller and lighter size with either a 14- or 15.6-inch diagonal screen. Ideal for those on the go who want to minimize the weight. The HP DreamColor display is also available as a configurable option on the HP EliteBook 8560w.
Suggested configurations
(ALL 3-YEAR LIMITED WARRANTY)

HP recommends Windows® 7.

HP Recommended configurations for

SolidWorks entry level user

HP Z210 CMT Workstation
Genuine Windows® 7 Professional 64-bit
Intel® Xeon® processor E3-1245, 3.30 GHz, 8 MB cache, 1333 MHz, Quad-Core®
8 GB (4x2 GB) DDR3-1333 ECC memory
NVIDIA Quadro 600 or ATI FirePro V4800 Professional Graphics
300 GB SATA 10K SFF HDD
HP ZR24w 24-inch S-IPS LCD Monitor
HP Remote Graphics Software
HP Performance Advisor
HP SpacePilot
HP Scroll Mouse
Application certified

HP Z400 Workstation
Genuine Windows® 7 Professional 64-bit
Intel® Xeon® processor W3690, 3.46 GHz, 12 MB cache, 1333 MHz, Six-Core®
12 GB (6x2 GB) DDR3-1333 ECC memory
NVIDIA Quadro 2000 or ATI FirePro V5800 Professional Graphics
450 GB SAS 15K HDD
HP ZR24w 24-inch S-IPS LCD Monitor
HP Remote Graphics Software
HP Performance Advisor
HP SpacePilot
HP Scroll Mouse
Application certified

HP Z800 Workstation
Genuine Windows® 7 Professional 64-bit
Two Intel® Xeon® processors X5687, 3.60 GHz, 12 MB cache, 1333 MHz, Quad-Core®
24 GB (12x2 GB) DDR3-1333 ECC memory
NVIDIA Quadro 2000 or ATI FirePro V5800 Professional Graphics
450 GB SAS 15K HDD
HP ZR24w 24-inch S-IPS LCD Monitor
HP Remote Graphics Software
HP Performance Advisor
HP SpacePilot
HP Scroll Mouse
Application certified

SolidWorks performance user

HP EliteBook 8760w Mobile Workstation
Genuine Windows® 7 Professional 64-bit
Intel® Core™ i7-2820QM processor, 2.30 GHz, 8 MB L3 cache, with Intel Turbo Boost up to 3.40 GHz
16 GB 1333 MHz DDR3 SDRAM (4D)
NVIDIA Quadro 3000M and AMD FirePro M5950 Graphics
500 GB SATA 7200 HDD and 128 GB SSD
HP recommends 17.3-inch diagonal LED-backlit WVA anti-glare, FHD (1920 x 1080) display
Starting at 7.55 lb without optical drive
HP Remote Graphics Software
HP Performance Advisor
Application certified

HP EliteBook 8560w Mobile Workstation
Genuine Windows® 7 Professional 64-bit
Intel® Core™ i7-2820QM processor, 2.30 GHz, 8 MB L3 cache, with Intel Turbo Boost up to 3.40 GHz
8 GB 1333 MHz DDR3 SDRAM (2D)
NVIDIA Quadro 2000M or AMD FirePro M5950 Graphics
500 GB SATA 7200 HDD
HP recommends 15.6-inch diagonal LED-backlit WVA anti-glare, FHD (1920 x 1080) display
Starting at 6.69 lb
HP Remote Graphics Software
HP Performance Advisor
Application certified

SolidWorks Simulation user

All DS SolidWorks applications

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All DS SolidWorks applications

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


† Systems may require upgraded and/or separately purchased hardware and/or a DVD drive to install the Windows 7 software and take full advantage of Windows 7 functionality. See http://www.microsoft.com/windows/windows7/ for details.

1 Intel HT Technology (HT) is designed to improve performance of multithreaded software products and requires a computer system with a processor supporting HT and an HT-enabled chipset, BIOS, and operating system. Please contact your software provider to determine compatibility. Not all customers or software applications will benefit from the use of HT. See http://www.intel.com/info/hyperthreading for more information.

2 Enabling Intel Turbo Boost Technology (Intel TBT) requires a PC with a processor with Intel TBT capability. Intel TBT performance varies depending on hardware, software, and overall system configuration. For more information, see www.intel.com/technology/turboboost.

3 Multi-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.

4 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/64bit for more information.

5 Intel’s numbering is not a measurement of higher performance.

6 HD content required to view HD images.

7 Testing was not intended to demonstrate fitness for DOD contracts requirements or for military use. Test results are not a guarantee of future performance under these test conditions.

8 Not available in all regions.

9 Maximum memory capacities assume Windows 64-bit operating systems or Linux. With Windows 32-bit operating systems, memory above 3 GB may not all be available due to system resource requirements.

10 Each processor supports up to 2 (HP Z210 CMT/HP Z210 SFF) or 3 (HP Z400/HP Z600/HP Z800) channels of DDR3 memory. To realize full performance at least 1 DIMM must be inserted into each channel. To get full 6 channel support, 2 processors MUST be installed.

11 For hard drives, 1 GB = 1 billion bytes. TB = 1 trillion bytes. Actual formatted capacity is less. Up to 8 GB of hard drive (or system disk) is reserved for the system recovery software for Windows XP and XP Pro, up to 12 GB for Windows Vista, and up to 20 GB for Windows 7.

12 Weight varies by configuration.

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