

# HP and Autodesk in Product Development

HP Workstations deliver the performance, reliability and application certifications you need to accelerate product development.



## Autodesk®

### Accelerate product development with HP Workstations.

In product development, you need to make the most of every design cycle. HP innovation helps you get there with high-performance desktop and mobile workstations built for the challenges of product design—from basic computer-aided design to complex simulation and analysis. You'll work with confidence knowing your HP Workstation is designed to deliver extreme reliability and is certified for many applications, including popular products for concept design, mechanical computer-aided design, computer-aided engineering, and computer-aided manufacturing. To help you stay productive, HP tests large numbers of applications and proactively resolves many software and hardware issues. And to keep your workspace uncluttered, HP offers the new HP Z1 Workstation in a space-saving all-in-one format.

### When only the best will do.

HP Workstations are built for the unyielding demands of today's professional and technical workplaces. They are engineered to help your team work faster, work smarter, and gain a competitive edge. With bold designs, world-class engineering, robust management tools, and leading-edge visual collaboration solutions, HP Workstations take innovation, performance, and reliability to a new level.

### HP and Autodesk

HP resources and our relationships with Autodesk, 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. HP and Autodesk have a relationship that provides more comprehensive solutions to engineers and designers.

### Rigorous ISV Certifications



HP invests in resources, equipment, relationships, testing and ISV (Independent Software Vendor) certification to ensure HP Workstations work as expected with Autodesk applications. This level of HP effort means your investment in software and HP hardware is protected, with a commitment to the quality and support of the full solution. [Check your HP Workstation certification status for Autodesk applications. >>](#)

Find more information  
on HP and Autodesk

[Learn more](#)

HP recommends Windows.

## HP Advantages for Autodesk Customers

### Use What Autodesk Uses

- Autodesk has standardized on HP Workstations and Mobile Workstations to develop, test, and demonstrate their software.

### Protect Your Investment with HP Certification

- HP tests and submits HP Workstations to Autodesk for certification and our equipment stays onsite for support. This protects your solution investment.

### Use HP Expert Knowledge

- HP application experts support customer issues, develop recommended configurations, run performance testing, and application performance analysis.
- HP Performance Advisor provides specific performance settings for individual applications.
- Learn more with [HP Tech Tips](#) and see how you can benefit from specific HP and partner technologies.

### Use HP Collaboration Tools

- HP Remote Graphics Software is specifically designed to remotely access your Autodesk applications.

## Autodesk Manufacturing Solutions

From conceptual design to visualization and simulation, the Autodesk solution for Digital Prototyping provides the interoperable tools that allow manufacturing companies to connect their entire product development process through a single digital model. Digital Prototyping reduces the reliance on costly physical prototypes, and helps manufacturers design better products faster. Autodesk® Product Design Suite provides a complete solution for Digital Prototyping, delivering design, visualization, and simulation tools in one economical and convenient package. The suite includes Autodesk® Inventor®, AutoCAD® Mechanical, AutoCAD® Electrical, Autodesk® Alias® Design, 3ds Max® Design, Autodesk® Vault, Autodesk Navisworks® Simulate, Autodesk® SketchBook® Designer, Autodesk® Showcase®, and Autodesk® Mudbox™ software products. Learn more at: [hp.com/go/autodesk](http://hp.com/go/autodesk).



### Tech Tips video

[Watch the video](#)

## Autodesk Design Visualization Solutions

Digital Prototyping enables you to leverage validated engineering data to visualize, communicate, and sell product design ideas before they are built. With Autodesk® 3ds® Max Design software, you can create cinematic-quality renderings and 3D animations to market and sell your products, reducing the need for costly physical prototypes and expensive photo shoots. With an extensive material and texture library, “push-button” rendering, and cinematic quality animation and effects, you have the ability to present your designs using Academy Award-winning technology. Autodesk® Showcase® software helps to quickly transform your AutoCAD and Inventor data into compelling imagery, movies, and interactive presentations, helping improve the design review process, secure internal buy-in, and win competitive bids.

“Customers need tools that provide the power and flexibility to get their job done quickly, efficiently and to stay competitive. Autodesk and HP have partnered to provide the right solutions and together we offer our customers the hardware and software products they need to stay competitive.”

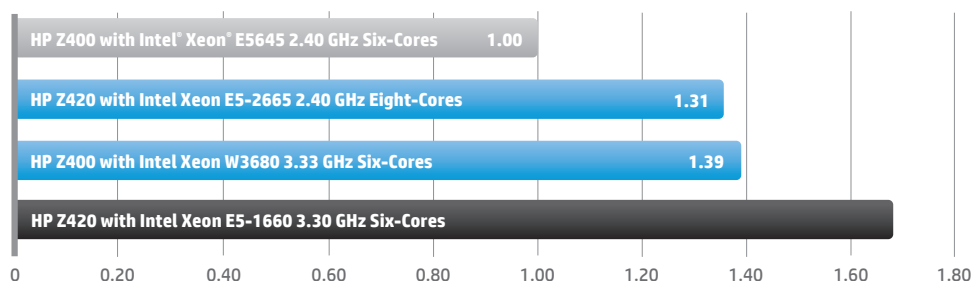
— Chris Bradshaw,  
Senior Vice President & CMO, Autodesk

## HP Z420 provides up to 31 percent more AutoCAD Performance

### AutoCAD 2010 — Cadalyst 5.3

### HP Z400 vs. HP Z420

Relative Performance (Higher is Better)



This chart compares two different HP Z420 Workstations with comparable HP Z400 Workstations which shows approximately 2 year old Intel technology so users can get an idea of the performance increase they might see by upgrading. Testing is based upon Cadalyst 5.4 Benchmark. All systems were tested with NVIDIA Quadro 2000 graphics, running Windows 7 Ultimate 64-bit operating system, 10k disk drives and Autodesk AutoCAD 2010. Tests were run January 2012 by HP Technical Marketing.



## Built to perform like no other.

The HP Z Workstation family meets the full range of your workstation needs—from performance-driven computing and design work in space-constrained environments to extreme visualization and analysis with complex datasets.

### HP Z1 Workstation.

**Get all the power without the tower. >>**

When you work in product development, space on your desk is at a premium. The all-in-one HP Z1 Workstation helps you simplify your desktop, save space, and eliminate wires. It puts the performance and reliability of a complete HP Z Workstation expertly designed into the back of a 27-inch diagonal greater than HD display. Add a wireless keyboard and mouse, the only cord you need is for power. Better still, a tool-less chassis design makes it a snap to upgrade and maintain.

### HP Z220 Workstation

**Our most affordable workstations. >>**

Available in an expandable minitower or a compact small form factor, the HP Z220 Workstation delivers workstation performance and reliability at starting prices that rival desktop PCs. Ideal for AutoCAD and Inventor.

### HP Z420 Workstation

**Performance you want. Value you need. >>**

The HP Z420 Workstation provides high levels of performance and expandability in an accessible tool-free mini-tower form factor—all at a great price. Ideal for mainstream Inventor users with good memory expandability.

### HP Z620 Workstation

**Our most versatile workstation ever. >>**

With up to 16 discrete processor cores, the HP Z620 Workstation packs tons of computing and visualization power into a quiet, compact footprint. Ideal for rendering and simulation on a low budget.

### HP Z820 Workstation

**Our ultimate workstation. >>**

The dual-socket HP Z820 Workstation delivers exceptional performance, award-winning industrial design, and tool-free serviceability in the industry's most expandable chassis. Ideal for Autodesk Showcase, 3ds Max, Inventor power users, and Autodesk Product Design Suites.

### HP Mobile Workstations

**Mobility for Business. >>**

Make no compromises on performance or durability with the HP EliteBook Mobile Workstations. Offering high performance with exceptional battery life. Inspired by aerospace craftsmanship and materials, they feature a wear and smudge-resistant DuraFinish and an optional backlit keyboard for use in low-light environments. With HP rigorous design testing, 26 drops and still running smooth.

## HP Workstation Innovation Highlights

HP award-winning Workstations are rich with customer-driven innovations. Servicing is easy with a tool-less access chassis and modular, direct-connect drives and power supplies on select models.

### HP Performance Series Displays

**Stunning at every angle. >>**



HP Performance Displays are engineered to outperform, so you can create with striking visual results. These displays deliver maximum image performance and accuracy, thanks to vivid IPS panels, 178-degree viewing angles, and up to 10x the contrast ratio of mainstream displays, with top end resolutions. They also offer 30-bit panels (over 1 billion colors)<sup>1,2</sup> for outstanding visualization.

### HP Performance Advisor

**The built-in workstation guru. >>**



HP Performance Advisor delivers a simple, effective way to keep your HP Workstation operating at its peak potential. Like having an IT pro always on hand, this helpful software wizard can take you from initial configuration and customization through the optimization of your system for each new application and driver you install.

### Remote Graphics Software

**Remote access with a “just like local” feel. >>**



HP Remote Graphics Software gives you high-performance remote desktop access to your 2D, 3D, video, and media-rich applications—when and where you need them, on-site or from a remote location through a standard Internet connection. This HP innovation allows you to collaborate with colleagues across geographies, in real-time, using content-rich interactive applications.



**Desktop Engineering**  
**Editor's Pick of the Week:**  
**HP Z1 Workstation >>**

HP Innovation helps customers do more, and get more.



HP recommends Windows.



## HP Workstations for Autodesk Products

Model	HP Z220 CMT & HP Z220 SFF for affordable high performance	HP Z1 for simplicity, all-in-one, and great performance	HP Z420 for mainstream users needing memory expansion	HP Z620 for affordable multi-core machines	HP Z820 for the best performance and expandability	HP Elitebook 8470w/8570w/8770w Mobile Workstations for power on the go
Operating System	Windows 7 Ultimate 64-bit <sup>†</sup>	Windows 7 Ultimate 64-bit <sup>†</sup>	Windows 7 Ultimate 64-bit <sup>†</sup>	Windows 7 Ultimate 64-bit <sup>†</sup>	Windows 7 Ultimate 64-bit <sup>†</sup>	Windows 7 Professional 64-bit <sup>†</sup>
Autodesk Solution	AutoCAD LT (SFF), AutoCAD, AutoCAD vertical applications, Autodesk Design Suite Standard	AutoCAD, AutoCAD vertical applications, Product Design Suite Standard	Autodesk Inventor, Autodesk Product Design Suite, Factory Design Suite	Autodesk Simulation, Autodesk Inventor, Product Design Suite, Factory Design Suite	Autodesk Simulation including Moldflow products, Maya and Autodesk Premium and Ultimate Suites	All Autodesk applications
Recommended Min Processors <sup>3,4,5,6,7</sup>	Intel® Xeon® Processor E3-1230v2, 3.30 GHz/3.7T/HT, 8 MB cache, 69 W, Quad Core, 1600 MHz memory	Intel® Xeon® Processor E3-1245, 3.3 GHz, 95 W, 8 MB cache, 1333 MHz memory, Quad-Core, HT	Intel® Xeon® Processor E5-1620, 3.6 GHz, 10 MB cache, 1600 MHz, Quad-Core	(2) Intel® Xeon® Processor E5-2667, 2.9 GHz, 130 W, 15 MB cache, 1600 MHz memory, Six-Core, HT	(2) Intel® Xeon® Processor E5-2667, 2.9 GHz, 130 W, <sup>8</sup> 15 MB cache, 1600 MHz memory, Six-Core, HT	Intel® Core™ i7-3720QM (2.6 GHz (up to 3.6 GHz)/ 1600 MHz/6 MB L3 cache, 45 W
Recommended Min Graphic Card	NVIDIA Quadro 600, AMD FirePro V4900, AMD FirePro V3900 (SFF)	NVIDIA Quadro 1000M	NVIDIA Quadro 2000 or AMD FirePro V5900	NVIDIA Quadro 2000 or AMD FirePro V5900	NVIDIA Quadro 4000 or AMD FirePro V7900	AMD FirePro M2000 (14"), AMD FirePro M4000 (15" or 17"), NVIDIA Quadro K1000M (15"), NVIDIA Quadro K3000M (17")
Memory Guidance <sup>9</sup>	8 GB	8 GB	16 GB	16 GB	32 GB	16 GB, 8 GB (14")
Disk Drive Guidance <sup>10,11</sup>	256 GB SATA SSD 500 GB 7200 RPM SATA HDD	(2) 160 GB SATA SSD or (1) 500 GB 7200 RPM SATA HDD	256 GB SATA SSD 500 GB 7200 RPM SATA HDD	(2) 256 GB SATA SSD (RAID 0) (2) 500 GB 7200 RPM SATA HDD	(2) 256 GB SATA SSD (RAID 0) (2) 500 GB 7200 RPM SATA HDD	256 GB SATA III or 500 GB 7200 RPM SATA (17" use both)

## Learn more

[hp.com/go/autodesk](http://hp.com/go/autodesk) and [hp.com/zworkstations](http://hp.com/zworkstations)

Screen images courtesy of Autodesk.

<sup>†</sup> Windows 7 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 [microsoft.com/windows/windows-7](http://microsoft.com/windows/windows-7) for details.

- All specifications represent the typical specifications provided by HP's component manufacturers; actual performance may vary either higher or lower.
- 1.07B colors through A-FRC technology
- 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 [intel.com/info/em64t](http://intel.com/info/em64t) for more information.
- Intel® Turbo Boost technology requires a PC with a processor with Intel Turbo Boost capability. Intel Turbo Boost performance varies depending on hardware, software and overall system configuration. See [intel.com/technology/turboboost](http://intel.com/technology/turboboost) for more information.
- Intel HT Technology (HT) is designed to improve performance of multi-threaded 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 [intel.com/info/hyperthreading](http://intel.com/info/hyperthreading) for more information.
- Multi-core is designed to improve performance of multithreaded software products and hardware-aware multitasking operating systems and may require appropriate operating system software for full benefits; check with software provider to determine suitability. Not all customers or software applications will necessarily benefit from use of these technologies.
- Intel's numbering is not a measurement of higher performance.
- In the HP Z820 Workstation, the Intel® Xeon® Processors E5-2667 require the 1125W chassis.
- Each processor supports up to 2 channels (HP Z220/HP Z220 SFF) or 4 channels (HP Z420/HP Z620/HP Z820) of DDR3 memory. To realize full performance, at least 1 DIMM must be inserted into each channel. To get full 8 channel support on the HP Z620 & HP Z820, two processors MUST be installed.
- For hard drives, 1 GB = 1 billion bytes. 1 TB = 1 trillion bytes. Actual formatted capacity is less. Up to 20 GB of hard drive (or system disk) is reserved for the system recovery software for Windows 7.
- SATA 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.

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