



HP and Bentley

HP Workstations deliver the high performance, expandable memory capacities, and extreme reliability needed for success in architecture, engineering, and construction.



Accelerate architectural design, engineering, and construction with HP Workstations.

In architecture, engineering, and construction (AEC), models are getting more detailed and software is getting more sophisticated. HP helps you stay ahead of the curve with a portfolio of desktop and mobile workstations designed for today's challenges. HP Workstations deliver the innovation, high performance, expandable memory capacities, and extreme reliability you need to deliver your creative best efforts in less time. HP also brings you high-resolution displays that help you see your work in vivid detail; hardware certification for a wide range of professional applications; tool-less removable back covers for easy maintenance and upgrades; and HP Performance Advisor, an HP exclusive tool for performance optimization.

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 Bentley

The unique relationship between HP and Bentley brings you a comprehensive portfolio of solutions running on innovative hardware and software that is tuned and integrated for top performance. Our close relationship and engineering expertise help ensure solutions that perform not only today, but for the long run.

Rigorous ISV Certifications



HP invests in resources, equipment, relationships, testing and ISV (Independent Software Vendor) certification to help ensure HP Workstations work as expected with Bentley 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 Bentley applications. >>](#)

Find more information on HP and Bentley

[Learn more](#)

HP recommends Windows.

HP Advantages for Bentley customers

Use What Bentley Uses

- Bentley uses HP Workstations and Mobile Workstations to demonstrate their software and train users.

Protect Your Investment with HP Certification

- HP tests and submits HP Workstations to Bentley 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 Bentley applications.

Innovate with MicroStation®

MicroStation® is the world's leading information modeling environment explicitly for the architecture, engineering, construction, and operation of all infrastructure types including utility systems, roads and rail, bridges, buildings, communications networks, water and wastewater networks, process plants, mining, and more.

Key innovations in MicroStation deliver immersive interaction with 3D models and 2D designs and enable performance simulation of designs, including lifelike rendering and compelling animations for every user. MicroStation is relied upon for speed, power, and precision by 47 of the ENR Top 50 Design Firms.

“Our relationship with HP provides many benefits to our users. We work closely with the HP development teams to test HP Workstations to ensure optimal performance and compatibility with our software. HP workstations also offer users superior rendering and 3D graphics capabilities.”

— Chris Barron, Vice President, Bentley Systems, Inc.

MicroStation Visualization Power with HP Workstations

Bentley's MicroStation incorporates Luxology, a super-fast rendering engine, to produce high-quality images from huge datasets that generate lifelike detail. World-class photorealistic rendering and animation has finally become a readily accessible tool for virtually every AECO practitioner and project, empowering design teams to:

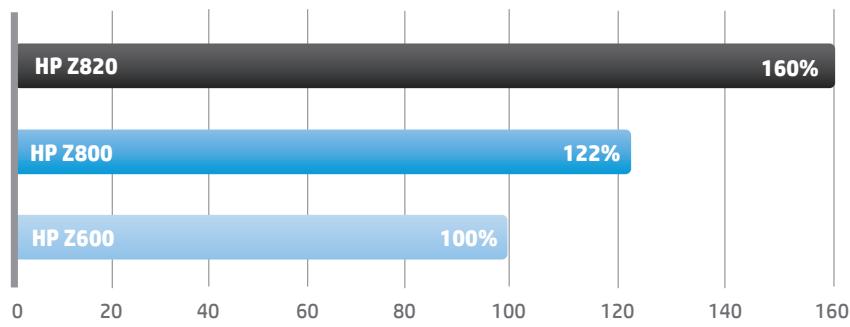
- Immediately visualize and further refine potential designs to provide better-performing infrastructure
- More easily secure stakeholder buy-in on conceptual and final design work with high-impact presentations as a routine by-product of their work.

MicroStation and HP workstations provide architects, engineers, mapping professionals, constructors, and owner-operators with the unmatched power, speed, and reliability required to successfully design, deliver, and operate the world's infrastructure.



Bentley MicroStation Luxology Rendering

Relative Performance (Higher is Better)



This chart compares a HP Z820 Workstation running a dual eight-core Intel® Xeon® E5-2680 Processor running at 2.7 GHz using 32 threads to a HP Z800 running a dual six-core Intel Xeon X5680^{6,7} using 24 thread, so users can get an idea of the performance increase they might see by upgrading. Also shown is the HP Z600 running a dual six-core Xeon X5650^{6,7} using 24 threads. All systems are running Windows 7 Ultimate 64-bit³ operating system and Bentley MicroStation. Testing was done by Jerry Flynn at Bentley's visualization center, rendering the same visualization image on all three systems to get a comparison of rendering speed.

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 architecture, engineering, or construction, 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 workstation. >>](#)

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 Bentley MicroStation.

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 MicroStation users who need 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 visualization 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 Bentley users who do analysis and simulation.

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.



Desktop Engineering
Editor's Pick of the Week:
[HP Z1 Workstation >>](#)

HP Innovation helps customers do more, and get more.

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)^{1,2} 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.



HP recommends Windows.



HP Workstations for Bentley 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 [†]	Windows 7 Ultimate 64-bit [†]	Windows 7 Ultimate 64-bit [†]	Windows 7 Ultimate 64-bit [†]	Windows 7 Ultimate 64-bit [†]	Windows 7 Professional 64-bit [†]
Bentley Solution	MicroStation Standard user	Mainstream MicroStation user in space constrained environments	MicroStation users with some visualization requirements	MicroStation User with significant visualization requirements	MicroStation extreme users	All Bentley Applications – Choose higher resolution display
Recommended Min Processors ^{3,4,5,6,7}	Intel® Xeon® Processor E3-1230v2, 3.30 GHz, 3.7 T, 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, 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 ⁹	8 GB	8 GB	16 GB	16 GB	32 GB	16 GB, 8 GB (14")
Disk Drive Guidance ^{10,11}	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/bentley and hp.com/zworkstations

Screen images courtesy of Bentley.

[†] 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 for details.

1. All specifications represent the typical specifications provided by HP's component manufacturers; actual performance may vary either higher or lower.
2. 1.07B colors through A-FRC technology
3. 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 for more information.
4. 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 for more information.
5. 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 for more information.
6. 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.
7. Intel's numbering is not a measurement of higher performance.
8. In the HP Z820 Workstation, the Intel® Xeon® Processors E5-2667 require the 1125W chassis.
9. 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.
10. 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.
11. 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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