

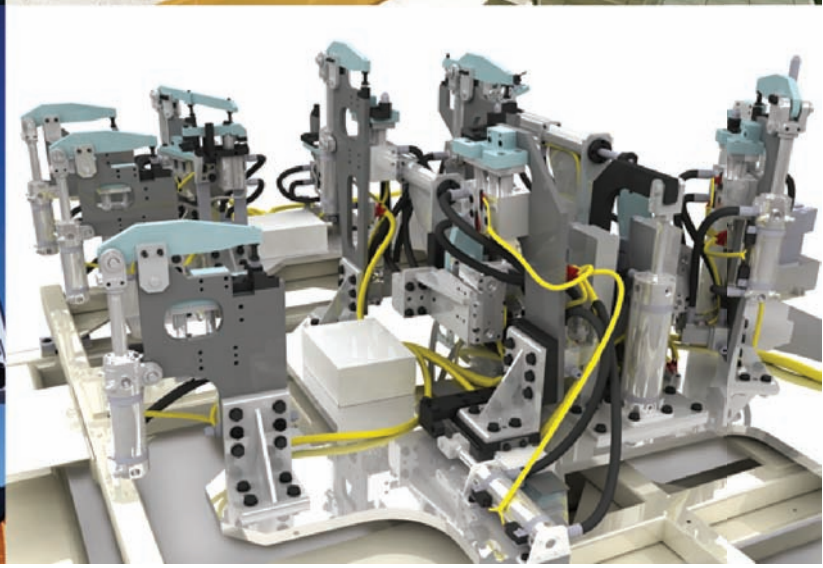

Autodesk and Windows Vista

Autodesk®

Introduction

With the introduction of Microsoft® Windows Vista™, Autodesk® customers have another choice of operating systems. Whether a company opts to adopt Windows Vista, Windows® XP, or another supported operating system (OS), Autodesk applications deliver exceptional performance across the board.

To ensure the superlative performance of Autodesk applications on Microsoft operating systems, Autodesk has worked closely with Microsoft over the past 12 years, collaborating on product development, bringing innovative technologies to market, and exceeding customer expectations. As a Microsoft Platinum Partner, a Global ISV, and a member of Microsoft's Manufacturing ISV program, Autodesk's close relationship with Microsoft enhances Autodesk's ability to provide products that raise the bar for innovation and transcend operating systems. Whether companies use Microsoft Vista or Microsoft XP operating systems, Autodesk is committed to delivering solutions that provide the functionality its customers have come to expect.

The close collaborations between Autodesk and Microsoft result in simultaneous support for new technologies, as evidenced by the compatibility of Autodesk applications with Windows Vista and Microsoft's adoption of the Autodesk DWF file format as a native part of Windows Vista. In addition, Autodesk has chosen the Direct3D graphics application programming interface (API) developed by Microsoft over the alternative OpenGL API. By aligning with Microsoft on Direct3D, Autodesk is delivering a highly positive experience to customers using its products with Windows Vista. For more information on how Direct3D enhances the user experience for graphics-intensive applications, see page 15 of this paper.

While Autodesk believes that Windows Vista will become the industry-standard OS over time, the Autodesk 2008 product line increases design efficiency and cost savings for customers using any supported OS. Companies that plan to deploy Windows Vista this year may have questions about whether their specific Autodesk applications are compatible with Windows Vista and what kinds of performance changes they may expect. This paper addresses Vista compatibility and performance on a product-by-product basis, as well as highlights the new functionality of the Autodesk 2008 products. Simply skip to the appropriate product section for information on the following:

- AutoCAD®
- AutoCAD® Architecture
- AutoCAD® Civil 3D®
- AutoCAD® Electrical
- AutoCAD LT®
- AutoCAD® Map 3D
- AutoCAD® Mechanical
- Autodesk® 3ds Max®
- Autodesk® Buzzsaw®
- Autodesk® Constructware®
- Autodesk® Inventor™
- Autodesk MapGuide® Enterprise
- Autodesk® Maya®
- Autodesk® Topobase™
- Revit® Architecture

AutoCAD

AutoCAD® software is a world-leading customizable and extendable computer-aided design (CAD) application. As an industry standard, AutoCAD delivers features that can increase speed and accuracy while saving time. Autodesk continually improves the AutoCAD software that companies know and trust. By upgrading to AutoCAD 2008, customers can dramatically improve their drafting productivity without disrupting their existing workflows or customizations.

AutoCAD 2008 Highlights

AutoCAD 2008 has been designed to improve drafting productivity. Several key changes to annotation, text, and table features drive these productivity enhancements. First, AutoCAD 2008 makes creating, updating, and editing annotations easier. Previously, drafters had to make calculations by hand to adjust lettering and patch patterns for different scales. This process was time consuming and error prone. With AutoCAD 2008, drafters no longer must create multiple sets of text and dimensions on multiple layers to get the desired results. New annotative scaling allows drafters to create one set of annotative objects—such as text, dimensions, balloons, blocks, attributes, and hatches —that automatically display at the correct size regardless of the viewport scale factor.

Second, AutoCAD 2008 provides text enhancements that can help to ensure the aesthetic precision of drawings without drafters needing to conduct labor-intensive workarounds. Drafters now have more control over paragraph alignment, indentations, and spacing—and text automatically wraps across multiple columns in wide areas of a drawing. Previously, drafters had to make notes created in other applications fit into their drawings manually. Now, when they create parts lists or construction notes in Microsoft® Word® or Microsoft® Excel®, they can use AutoCAD 2008 to set the formatting of text. When text is edited, the set formatting is applied automatically.

Finally, with changes to table functionality, users can now link table data in AutoCAD to data in Microsoft Excel files. Data links can be updated in both directions, eliminating the need for drafters to update tables or external spreadsheets independently. When data has been changed in a linked Excel spreadsheet, the changes can be quickly downloaded to the established data link. If changes have been made to a linked table in a drawing, then these changes can be uploaded to an external spreadsheet. This keeps all linked information current and in synch.

Vista Compatibility

Because both 32-bit and 64-bit versions of AutoCAD 2008 are compatible with Windows Vista, AutoCAD 2008 users will have the same experience whether they choose to stay with their Windows XP OS or adopt Windows Vista. All product features, workflows, and implementation processes are identical.

However, AutoCAD 2008 does take advantage of some new Vista capabilities. Specifically, Windows Vista offers thumbnail previews for DWG and DWF files in Windows Explorer, displays AutoCAD properties in the detail tab of Windows Explorer, and provides search tools that look for text strings in the drawing properties, text, and MTEXT of DWG files. In addition, companies that run AutoCAD 2008 64-bit on Windows Vista can speed up their work.

AutoCAD 2008 also delivers exceptional graphic performance because it uses Direct3D, Microsoft's graphic API. In contrast, CAD software from other providers, particularly those that rely on the OpenGL graphics API may experience graphics degradation when run on Windows Vista. See page 15 of this white paper for more information on Direct3D.

AutoCAD Architecture

AutoCAD® Architecture software provides the best AutoCAD-based design and documentation productivity for architects. The software gives architects more tools that automate tedious drafting tasks, enabling them to create their architectural documentation faster.

AutoCAD Architecture 2008 Highlights

AutoCAD Architecture 2008 offers improved productivity, greater flexibility, and smoother collaboration through enhancements to area documentation, detail documentation, sheet annotation, and revision communication.

For area documentation, AutoCAD Architecture's Space Planning tools automate the calculation of room square footage for scheduling purposes. Since AutoCAD Architecture automatically detects boundaries based on schematic linework or actual walls, architects no longer have to manually define room areas. Those seeking an extra productivity boost to get their jobs done as quickly and efficiently as possible can use AutoCAD Architecture to populate an entire floor plan with spaces—complete with room tags—in a single click.

AutoCAD Architecture 2008 enhances detail documentation with a comprehensive tool kit of 2D blocks that automate the creation and annotation of construction details. Architects can now access content, detail components, and keynote databases that are configured for The Construction Specifications Institute's MasterFormat 2004.

Sheet annotation has also been improved in AutoCAD Architecture 2008. Annotation now updates automatically when the drawing scale changes. As a result, architects can now reduce rework when annotating construction documents at multiple scales. They simply do the work once, changing the scale as needed. The annotation—including text, dimensions, and keynotes—then automatically updates.

Finally, AutoCAD Architecture 2008 features improved revision communication capabilities. With the Drawing Compare function, AutoCAD Architecture offers an additional collaboration tool that allows architects to improve communication and shorten review cycles when working with an extended design team. Automated tools track what's been added, changed, and even deleted in a project drawing, allowing architects to jettison error-prone methods traditionally used in the past.

Vista Compatibility

AutoCAD Architecture 2008 is compatible with Windows Vista and will run on the 32-bit Vista OS or as a 32-bit application on a 64-bit Windows Vista OS. Currently, there is no native 64-bit AutoCAD Architecture application. Previous versions of AutoCAD Architecture are not Windows Vista compatible.

Whether they decide to run their software on Windows XP or migrate to Windows Vista, AutoCAD Architecture 2008 users should experience the same high performance. Benchmark testing shows no degradation or enhancement to performance on Windows Vista. All workflows, features, and functionality of AutoCAD Architecture 2008 are the same whether the customer runs the software on Windows XP or Windows Vista.

However, AutoCAD Architecture 2008 does take advantage of some new Vista capabilities. Specifically, Windows Vista offers thumbnail previews for DWG and DWF files in Windows Explorer, displays AutoCAD Architecture properties in the detail tab of Windows Explorer, and provides search tools that look for text strings in the drawing properties, text, and MTEXT of DWG files.

AutoCAD Civil 3D

AutoCAD® Civil 3D® software provides civil engineers, designers, surveyors, and drafters with one comprehensive product for the design, drafting, and management of a wide range of civil engineering project types, including site development, subdivision design, local road rehabilitation, and highway design. The software's industry-proven dynamic engineering model intelligently links design and production drafting, greatly reducing the time it takes to implement design changes and evaluate multiple what-if scenarios.

AutoCAD Civil 3D 2008 Highlights

The newest version of the software, AutoCAD Civil 3D 2008, features several enhancements that reduce manual steps, automating and speeding up processes. These include new plan production capabilities, new workspaces, and changes to subassemblies. With new plan production capabilities, users no longer have to break up models and profiles into small sections to create plans. They can lay out and generate plan sheets that automatically display segments of alignments in the plan view and their associated profile views. Powerful style-based drafting and annotation tools help users quickly and accurately generate all the plan sets required to complete their projects—and the plan production tools ensure that construction documents are always in synch with the latest design changes.

The workspaces now included in AutoCAD Civil 3D 2008 enable users to find the features they need quickly, so they work more efficiently. For example, the new Design workspace allows users to access the features needed to create road and transportation drawings as well as perform site design tasks; the Survey and Topographical workspace enables users to easily perform survey-related tasks; and the new Visualization and Rendering workspace features functionality for creating visualizations and rendering drawings.

Changes to AutoCAD Civil 3D 2008 subassemblies are also improving productivity for AutoCAD Civil 3D users. Subassemblies are now provided using the .NET framework, making them up to five times faster than before. When users insert a subassembly into a drawing, the .NET class and assembly names are automatically displayed. For backwards compatibility, VBA subassemblies are also supported in existing drawings and a utility is available on the corridors menu.

Vista Compatibility

Autodesk is committed to supporting AutoCAD Civil 3D 2008 customers, whether they decide to run their software on Windows XP or migrate to Windows Vista. Autodesk Civil 3D 2008 was developed to run on 32-bit systems, including Windows Vista, but will not be able to take advantage of the Windows Vista 64-bit OS at this time. While Autodesk Civil 3D 2008 is fully compatible with Windows Vista, previous versions are not.

Autodesk has found that the performance of AutoCAD Civil 3D 2008 undergoes some changes when run on Windows Vista. Benchmark testing shows that while some processes perform the same when run on Windows Vista and Windows XP, some are slower on Windows Vista. Autodesk has found that the more RAM a system has, the less perceptible the slowdown. Conversely, processes leveraging the .NET framework, such as corridor processing, are up to 10 times faster on Windows Vista.

All workflows, features, and functionality of AutoCAD Civil 3D 2008 are the same, whether the customer runs the software on Windows XP or Windows Vista. However, some visual aspects may change slightly. For example, the dialog boxes fade in and out on Windows Vista. In addition, AutoCAD Civil 3D 2008 does take advantage of some new Vista capabilities. Specifically, Windows Vista offers thumbnail previews for DWG and DWF files in Windows Explorer, displays AutoCAD Civil 3D properties in the detail tab of Windows Explorer, and provides search tools that look for text strings in the drawing properties, text, and MTEXT of DWG files.

AutoCAD Electrical

Part of the AutoCAD family of products, AutoCAD® Electrical is built specifically to create and modify electrical control designs. When using AutoCAD Electrical, companies no longer have to depend on the manual tasks typically associated with creating accurate electrical designs. As a result, more time is freed up for designing and engineering. AutoCAD Electrical helps to increase productivity by reducing complex tasks into simple processes and reduce errors with automatic error-checking capabilities. The software automates key control system design tasks, making it easier to produce accurate, industry-standard electrical control systems. With AutoCAD Electrical, companies can accurately and efficiently share designs with customers and suppliers in native DWG format.

AutoCAD Electrical 2008 Highlights

The new version of AutoCAD Electrical makes designing electrical controls even easier. Aimed at further reducing manual tasks normally encountered when designing control systems, AutoCAD Electrical 2008 offers several new capabilities. First, AutoCAD Electrical 2008 allows engineers to insert spare terminals. Previously, because there was no way to insert spare terminals into the actual design, engineers had to guess how much space would be required. Now, electrical engineers can more accurately design electrical control systems by inserting spare terminals into the design without actually attaching them to a wire in the schematic. Any changes made are automatically updated in the bill of materials (BOMs) and various terminal reports.

Second, AutoCAD Electrical 2008 supports multi-level terminal blocks. With direct-to-terminal wire sequencing, engineers can incorporate multi-tiered terminals into their designs, allowing more terminals in the same space. AutoCAD Electrical automatically keeps track of all terminals and accurately reflects wire connection sequences and terminals in various reports. With the ability to put more terminals in the same space and automatically track them, engineers may not only create more efficient designs, they may also reduce errors associated with manual tracking efforts.

Finally, engineers can accurately represent terminal jumpers as part of the design when they use AutoCAD Electrical 2008. In the past, they had to run individual wires and then short one in order to allow terminals next to each other to share a single wire current. Now, engineers can create a “jumper” between multiple terminals to allow them to share the same potential. As a result, engineers no longer have to do a manual workaround, which once caused errors and delays in the design process.

Vista Compatibility

AutoCAD Electrical 2008 is Windows Vista compatible. Whether AutoCAD Electrical 2008 users choose to stay with their Windows XP OS or adopt Windows Vista, they will have the same experience. Autodesk’s benchmark testing shows neither a degradation nor enhancement of performance when AutoCAD Electrical 2008 is run on Windows Vista versus Windows XP—and all workflows, features, and functionality of AutoCAD Electrical 2008 are the same.

However, AutoCAD Electrical 2008 does take advantage of some new Vista capabilities. Specifically, Windows Vista offers thumbnail previews for DWG and DWF files in Windows Explorer, displays AutoCAD Electrical properties in the detail tab of Windows Explorer, and provides search tools that look for text strings in the drawing properties, text, and MTEXT of DWG files.

With a service pack available on www.autodesk.com, AutoCAD Electrical 2007 will also run on Vista. Versions of AutoCAD Electrical earlier than 2007 are not Vista compatible.

AutoCAD LT

AutoCAD LT® software is an industry-leading 2D drafting and detailing product, designed with the drafter in mind. Ideal for design professionals who require full DWG native file format compatibility without 3D capabilities, advanced customization, or network licensing, AutoCAD LT streamlines the tasks that drafters perform every day. From DWG format compatibility and dynamic blocks to annotation scaling and table enhancements, AutoCAD LT simplifies daily tasks and makes all parts of the 2D design process more productive. AutoCAD LT 2008 builds on previous releases and provides improved drafting functionality. By adopting AutoCAD LT 2008, drafters can further enhance productivity by reducing time-consuming errors and workarounds.

AutoCAD LT 2008 Highlights

Key AutoCAD LT 2008 enhancements include changes to annotation, table, and text functionality. First, AutoCAD LT 2008 automates annotation scale. Previously, drafters had to make calculations by hand to adjust lettering and patch patterns for different scales—a time-consuming and error-prone process. Now, drafters simply set the current scale of a viewport or model space view and then apply that scale to each object and specify its size, placement, and appearance based on the scale set for the viewport. Annotative objects—such as text, dimensions, balloons, blocks, attributes, and hatches—automatically display at the correct size regardless of the viewport scale factor.

Second, with AutoCAD LT 2008, drafters have access to new table features that ensure the aesthetic precision of drawings without requiring labor-intensive workarounds. For example, drafters can combine AutoCAD LT and Windows Excel tabular information into a single AutoCAD LT table, which can then be dynamically linked. When data is updated, notifications appear in both AutoCAD LT and Excel. Drafters then select these notifications and instantly update information in either source document.

Finally, enhancements to the MTEXT editor make text editing easier and less manual for drafters. For example, drafters can specify column numbers and the space set between each column of text and the edge of the paper. And, as users make edits, the new text flows between columns, eliminating the need for drafters to make these changes manually. When drafters need to import text into a drawing from another source, such as Microsoft Word, they can simply set formatting in their drawings and when text is imported, it is automatically formatted.

Vista Compatibility

Customers with the 32-bit version of AutoCAD LT 2008 can upgrade to Windows Vista assured that they will have the same experience on Windows Vista that they did on Windows XP. All product features, workflows, and implementation process are the same—whether the user runs AutoCAD LT 2008 32-bit on Windows Vista or Windows XP.

AutoCAD LT 2008 32-bit does take advantage of some new Vista capabilities. Specifically, Windows Vista offers thumbnail previews for DWG and DWF files in Windows Explorer, displays AutoCAD LT properties in the detail tab of Windows Explorer, and provides search tools that look for text strings in the drawing properties, text, and MTEXT of DWG files.

In addition, AutoCAD LT 2008 delivers exceptional graphic performance because it uses Direct3D, Microsoft's graphic API. In contrast, CAD software from other providers, particularly those that rely on the OpenGL graphics API, may experience graphics degradation when run on Windows Vista. See page 15 of this white paper for more information on Direct3D.

AutoCAD Map 3D

A leading engineering GIS platform for creating and managing spatial data, AutoCAD® Map 3D software bridges the gap between computer-aided design (CAD) and geographic information systems (GIS). Using open source Feature Data Object (FDO) Data Access Technology, AutoCAD Map 3D natively accesses spatial data stored in relational databases, files, and web-based services. AutoCAD Map3D even allows users to extend data access with open source or third-party data providers, such as ESRI Personal Geodatabase. AutoCAD Map 3D is familiar to engineering and CAD users, yet provides geospatial functionality important to both GIS and engineering staff, such as data cleanup functions, coordinate systems, GIS analysis, and database functions.

AutoCAD Map 3D 2008 Highlights

AutoCAD Map 3D 2008 is more powerful than ever for creating and managing precise spatial data. It provides fast, direct, and simultaneous read and write access to almost every relational database or file format commonly used by GIS professionals. As a result, no data translation is required, data maintains its accuracy, and users access data quickly. Additionally, the AutoCAD Map 3D import-export engine allows users to read, write, and transform industry-standard formats. After working with data, users can store it to an external file or to an Oracle database.

In addition, AutoCAD Map 3D 2008 allows for more powerful analysis and visualization of CAD and GIS data with new tools for map creation and stylization as well as GIS analysis. Users can easily build a stylized version of their data to highlight specific features or information. With powerful, built-in tools, users can create thematic maps, save styles, and reuse them in any project. In addition to analysis tools that perform buffer and tracing analysis, users can do ad-hoc joins of external data tables to extend information on features.

Finally, when used with Autodesk MapGuide, AutoCAD Map 3D 2008 provides users with an even more efficient way to publish data to the web or an intranet. It can also automatically generate metadata about spatial information. Users can publish metadata in standard government formats, making it easier to share data organization wide as well to publish data externally for outside parties.

Vista Compatibility

Because Autodesk is committed to supporting AutoCAD Map 3D customers, companies adopting AutoCAD Map 3D 2008 will enjoy the same experience, whether they deploy it on Windows Vista or Windows XP. However, Autodesk Map 3D 2008 was developed to run on 32-bit systems, including Windows Vista, but will not be able to take advantage of the Windows Vista 64-bit OS at this time. Previous versions of Autodesk Map 3D are not Windows Vista compatible.

Autodesk's benchmark testing shows neither degradation nor enhancement of performance when AutoCAD Map 3D 2008 is run on Windows Vista. All workflows, features, and functionality of AutoCAD Map 3D 2008 are the same whether the customer runs the software on Windows XP or Windows Vista.

However, AutoCAD Map 3D 2008 does take advantage of some new Vista capabilities. Specifically, Windows Vista offers thumbnail previews for DWG and DWF files in Windows Explorer, displays AutoCAD Map 3D properties in the detail tab of Windows Explorer, and provides search tools that look for text strings in the drawing properties, text, and MTEXT of DWG files.

AutoCAD Mechanical

Part of the AutoCAD family of products, AutoCAD® Mechanical software is a 2D design and drafting application that accelerates the mechanical design process. With standards-based libraries of parts and intuitive tools for accelerating design tasks, AutoCAD Mechanical increases design productivity for AutoCAD users. For example, users can perform updates and design changes with powerful dimensioning tools that allow them to add, delete, and edit dimensions quickly and easily, reducing design errors and design time. In addition, companies can introduce the consistent use of design standards with standard components and the 700,000-parts library included with AutoCAD Mechanical.

AutoCAD Mechanical 2008 Highlights

AutoCAD Mechanical 2008 makes mechanical design even easier and less error prone than before with several new features. First, AutoCAD Mechanical 2008 provides new BOM functionality and user interfaces for BOMs, balloons, and parts lists, making them more intuitive, easy to use, and flexible. For example, the new BOM configuration manager simplifies setup and customization, and users now have greater control over elements like margins and spacing. Designers can even create standards-based balloons and parts lists that automatically update as the design changes.

Second, AutoCAD Mechanical 2008 includes workspaces that are familiar to AutoCAD users. Like they do with AutoCAD, designers can flip through workspaces in AutoCAD Mechanical 2008 for different design tasks. They can also quickly customize toolbars and settings for a workspace using a pull-down menu in the workspace where designers can easily store and access different user-interface setups. To make it easier to learn AutoCAD Mechanical 2008 , the software now ships to customers with several pre-built workspaces.

Third, AutoCAD Mechanical 2008 features DWG recognition so that when a user moves the cursor over the DWG icon, a small window appears with information on which product created the DWG file. Armed with this information, the designer can open the file with the optimal program for maintaining file intelligence.

Finally, it's easier for designers to produce consistent design requirements in their drawings with the updated drafting standards part of AutoCAD Mechanical 2008. The software supports local and international drafting standards, including mechanical symbols and notes—such as texture symbols, geometric dimensioning and tolerances, datum identifiers and targets, notes, taper and slope symbols, and weld symbols.

Vista Compatibility

Whether AutoCAD Mechanical 2008 users choose to stay with their Windows XP OS or adopt Windows Vista, they will have the same experience. With a service pack available on www.autodesk.com, AutoCAD Mechanical 2007 will also run on Vista. Versions of AutoCAD Mechanical earlier than 2007 are not Vista compatible.

For customers that do migrate to Windows Vista or purchase new hardware with the OS preinstalled, AutoCAD Mechanical 2008 will work the same way that it does on Windows XP, with the exception of certain security features incorporated into Windows Vista by Microsoft. For example, the user account control (UAC) in Vista will prevent non-administrator users from accessing certain portions of the Vista OS, such as the program files directory. Since the standard parts library used in AutoCAD Mechanical is saved into the program folder's folder structure, one of the following options will need to

be followed to customize the content:

1. login to the system as a system administrator to make changes to the library,
2. have an administrator grant the standard user permissions to the folder location required (c:\program files\autodesk\acadm),
3. copy the mechanical libraries from c:\program files\autodesk\acadm\gef\gbd to a folder on the system that is accessible by the user, such as My Documents, then configure AutoCAD Mechanical to use this location by changing the default path in the database configuration file of the AM: Standard Parts tab of options to reflect the path of the copied data, or,
4. disable the UAC from the user accounts section of the control panel.

For more information on the UAC in Vista, refer to: http://technet2.microsoft.com/WindowsVista/en/library/00d04415-2b2f-422c-b70e-b18ff918c2811033.mspx?mfr=true.

According to Autodesk's benchmark testing, customers should expect neither performance degradation nor enhancement when they run AutoCAD Mechanical 2008 on Windows Vista. Other than those issues associated with the UAC, all workflows, features, and functionality of AutoCAD Mechanical 2008 are the same, whether the customer runs the software on Windows XP or Windows Vista.

However, AutoCAD Mechanical 2008 does take advantage of some new Vista capabilities. Specifically, Windows Vista offers thumbnail previews for DWG and DWF files in Windows Explorer, displays AutoCAD Mechanical properties in the detail tab of Windows Explorer, and provides search tools that look for text strings in the drawing properties, text, and MTEXT of DWG files.

Autodesk 3ds Max 2008

Autodesk® 3ds Max® 2008 animation, rendering, and modeling software lets game developers, design visualization professionals, and visual effects artists maximize their productivity and tackle challenging 3D animation projects.

Autodesk 3ds Max 2008 Highlights

Autodesk 3ds Max 2008 includes the latest technology advancements to help artists address challenges presented by large amounts of data and more complex scenes. These product enhancements are offered exclusively to members of the Autodesk Subscription program. With the most recent software release, users can create 3D visualizations using DWG files created in applications such as AutoCAD 2008, AutoCAD Architecture 2008, and Revit Architecture 2008. And, with enhanced and optimized memory management, Autodesk 3ds Max 2008 is faster and more responsive than ever.

Autodesk 3ds Max 2008 also includes more than 30 productivity enhancements across the software's full feature range. One example is the mental ray 3.5 rendering software that adds powerful rendering functionality. Users can create photorealistic skies based on the position of the sun and take advantage of new architectural and design shaders to create effects such as blurred reflections, frosted glass, and glossy car paint. Mental ray 3.5 also features a simplified user interface for working with Final Gather and a unified indirect lighting model that provides consistent results when switching between different 3ds Max radiosity modes.

Other new product features include the numerous enhancements to Biped that allow users to craft and refine character animation more easily. New capabilities save steps when modifying a Biped animation and are useful when trying to reverse an animation, since users can now negatively scale an animation range.

Additionally, a new tool for modeling with Boolean operations allows users to quickly and easily model inorganic shapes. This is useful for prototyping geometry, creating game-level layout designs, and building complex architectural elements. Finally, hair and cloth improvements in 3ds Max 2008 allow artists to create, manipulate, and style hair directly in the viewports using standard navigation and selection tools.

Vista Compatibility

Autodesk 3ds Max 2008 software is compatible with Microsoft Windows Vista 32-bit and 64-bit operating systems and the Microsoft DirectX® 10 platform. Whether users choose to deploy 3ds Max 2008 on Windows XP or Windows Vista, they will experience the same great performance and workflows.

With 64-bit, users can handle larger and more complex scenes and experience improved large model and data set performance. With 3ds Max 2008 , users can start in either Direct3D or OpenGL modes. If they run the application in Direct3D model, they will experience additional performance improvements. For example, Direct3D optimizations improve interactivity with high-density geometry and complex scenes. For more information on Direct3D, see page 15 of this paper.

Autodesk Buzzsaw

Delivered on demand, Autodesk® Buzzsaw® software helps organizations simplify and centralize all project-related documents and information, enabling the successful execution of their projects based on timely decisions and accurate information. With a software-as-a-service model, Autodesk Buzzsaw customers get up-to-date functionality and value as soon as it is available. Autodesk manages project data and up time, so organizations can focus on getting their projects done more efficiently and effectively.

Buzzsaw Highlights

The current version, Buzzsaw 2007.4, includes several features and enhancements. First, new bid-management functionality allows builders to easily manage vendor lists, electronically distribute bid invitations, manage communications with bidders, track responses, and receive bids online.

Second, Buzzsaw features new company management and improved member management capabilities, including configurable attributes, project-level groups, new capabilities for project administrators, updated user interface, and enhanced email configuration.

Finally, Buzzsaw has improved the login and installation experience for new users, provides Microsoft Office 2007 support, and offers performance enhancements. For example, the default welcome email has been streamlined to include only the essential information needed by new site members. The email now includes the temporary password, which can be used if the direct link is broken. In addition, there is only one direct link in the invitation and it no longer expires.

Vista Compatibility

Basic collaboration capabilities for companies running Windows Vista are available through the web-based Autodesk Buzzsaw client. However, the software client version of the Autodesk Buzzsaw 2007.3 is not Vista compatible. Companies will receive notification of all Vista-related updates as they become available.

Autodesk Constructware

Internet-based Autodesk® Constructware® project management software helps organizations standardize and optimize business processes and control costs, allowing them to complete projects on time and on budget. Project teams can access Autodesk Constructware from anywhere at any time via a web browser, tapping into a central database that stores all project and company information. Complex construction processes—including RFIs (requests for information), transmittals, submittals, meeting minutes, change orders, and reports—are created, tracked, and stored in Autodesk Constructware.

Constructware 2007.3 Highlights

Based on customer experience and feedback, Autodesk Constructware continually undergoes enhancements to make it a leading on-demand collaborative project management solution. The most recent release, Constructware 2007.3, features several enhancements. First, users can now define custom fields for certain business processes within the areas of project management, bid management, document management, cost management, file management, and more. Once created, these fields are available globally across the entire Constructware site. They are available to view on system and document templates as well as on custom reports.

Second, the latest release of Constructware enhances a user's ability to define workflows across their projects and organizations. Finally, Constructware now includes a fourth-generation bid management toolset that enables customers to manage their vendor database, solicit bids, review and compare bids, and award contracts and purchase orders quickly and easily.

Vista Compatibility

While most Constructware functionality is Windows Vista compatible, the software is not yet completely Vista compliant. There have been compatibility problems with third-party file-viewing components. Companies will receive notification of all Vista-related updates as they become available.

Autodesk Inventor

Autodesk® Inventor™ software provides a comprehensive, integrated set of design tools for manufacturing companies to complete 3D designs and documentation, create routed systems, and validate designs. Inventor 2008 delivers enhanced 3D productivity while preserving 2D engineering designs through true DWG compatibility. Inventor also provides the foundation for Digital Prototyping. Digital Prototyping gives manufacturers the ability to virtually explore a complete product before it is built — so they can create, validate, optimize, and manage designs from the conceptual design phase through the manufacturing process. By using a digital prototype, manufacturers can visualize and simulate real-world performance of a design with less reliance on costly physical prototypes.

Autodesk Inventor 2008 Highlights

Autodesk Inventor 2008 continues the Autodesk tradition of bringing 2D and 3D together and includes many enhancements aimed at improving design productivity. The 2008 product line provides immediate benefit to customers in a variety of industries, including industrial machinery, building plant and equipment, consumer products and transportation. Although Inventor 2008 boasts a long list of new features and functionality, there are several highlights.

First, Autodesk Inventor 2008 takes DWG interoperability to a higher level with DWG TrueConnect, a new technology that provides direct read and write capabilities for DWG files. With true DWG interoperability, Autodesk Inventor products deliver the enhanced productivity of 3D while preserving access to existing AutoCAD expertise and designs.

Second, the sheet metal environment in Autodesk Inventor 2008 has been upgraded to improve productivity in the designing of sheet metal parts. The updated sheet metal environment now incorporates manufacturing information, such as tool parameters and flat pattern optimization in the digital prototype. Key manufacturing parameters—such as bend angles, bend radii, punch direction, punch angle, punch ID, and punch tool depth —that are captured in the 3D model can now be inserted directly into Inventor drawings. This allows engineers to easily create accurate manufacturing documentation.

Third, new ribbon cable design tools enable users of Autodesk Inventor 2008 to insert and route ribbon cables while maintaining full control over the shape of the cable—including the ability to define multiple twists and folds. By maintaining consistency between the electronic schematic and 3D wire harness design, the ribbon cable design tools in Autodesk Inventor 2008 simplify the design of electrical wiring and reduce manufacturing errors.

Finally, new developments in Autodesk Inventor 2008's 2D sketch environment reduce the learning curve for new users and improve productivity for existing users by providing clearer feedback on constraint status. The new sketch edit tools reduce the time required to modify sketches while preserving unaffected constraints.

Vista Compatibility

Autodesk Inventor 2008 software is fully Windows Vista compliant. Whether users choose to run Autodesk Inventor on Windows XP or Windows Vista, they will experience the same great performance and workflows. When deploying Autodesk Inventor 2008 with Windows Vista, users need to download Inventor 2008 Service Pack 1. Visit www.autodesk.com for the latest information on this service pack. Previous versions of Autodesk Inventor are not compatible with Windows Vista.

Direct3D Compatibility

In addition to being Vista compatible, Autodesk Inventor 2008 provides full support for Microsoft Direct3D. Autodesk has adopted Direct3D technology to meet the needs of 3D applications, including Autodesk Inventor and Autodesk 3ds Max 9. Autodesk is committed to Direct3D because it provides the best technology platform for delivering needs of 3D computer-aided design for the creation of digital prototypes. While the alternative open, multi-platform OpenGL graphics standard has served the industry for many years, it is no longer the dominant player. It has been eclipsed by a combination of the advances in cost performance at the low end of the graphics market and the adoption (by Microsoft) of Direct3D as the standard graphics API on the Windows platform.

Direct3D offers customers many advantages. First, hardware manufacturers must conform strictly to the Direct3D specification when they implement standard graphics features. Compliance with this specification is enforced through the Windows Hardware Quality Labs (WHQL) driver certification process. The rigorous test specification requires that graphics hardware and drivers demonstrate 100% implementation of the Direct3D specification. As a result, Direct3D-compliant graphics cards ensure a high-quality graphics experience, without the need for applications to include special profiles or case code. Customers thus receive increased stability and reliability.

Second, Direct3D graphics hardware has a wide price range, starting as low as $25. In contrast, OpenGL requires expensive workstation hardware with prices beginning at $500. For Autodesk Inventor customers, Direct3D lowers the cost of entry—so more users can adopt the Inventor application for their design, engineering, and manufacturing workflows—and allows existing users to leverage their previous investment in graphics cards.

Third, with support for Direct3D introduced in Inventor 11, Autodesk had a full year of product experience with Direct3D before the release of Windows Vista. Autodesk has found that by leveraging Direct3D, Inventor implementation on Windows Vista shows performance gains of approximately 5% when compared with Windows XP.

Finally, Autodesk has worked closely with the Microsoft Direct3D team to make sure that Direct3D is well designed for CAD applications. Direct3D 10, the latest release of Direct3D, is included with Windows Vista and offers a wide variety of powerful new features, many of which were driven by the needs of high-end CAD and visualization applications. Leveraging the Direct3D 10 next-generation platform, Autodesk will continue to build user interface enhancements that deliver accurate and compelling visual results.

Autodesk MapGuide Enterprise

Autodesk MapGuide® Enterprise software represents a technological leap forward in web mapping, offering a flexible, easy-to-use, and cost-effective web-mapping platform for delivering spatial information over the Internet. The software platform helps organizations get the full value from existing data and reduces the cost of disseminating spatial information to customers, internal teams, the public, and other enterprise applications.

Autodesk MapGuide Enterprise 2008 Highlights

Autodesk MapGuide Enterprise 2008 offers several benefits over previous versions of Autodesk MapGuide software. All of these improvements are focused on heightened performance and stability. First, Autodesk MapGuide Enterprise 2008 features hancements that make it much faster than previous versions. Map-rendering functionality has improved, making it speedier. In addition, improved base-tile-rendering capability allows Autodesk MapGuide Enterprise applications to deliver pre-rendered tiles faster, improving overall application performance.

Second, Autodesk MapGuide Enterprise 2008 has improved scalability. It now has built-in load balancing, and the MapAgent can point to multiple mirror MapGuide sites and retain affinity between sessions.

Additionally, Autodesk MapGuide Enterprise 2008 features better data connectivity options. It includes support for unmanaged data resources in Autodesk MapGuide Studio, which can be used to connect to existing raster or vector files in any folder. It also allows for coordinate system overrides on feature sources, and users can preview source content using Autodesk MapGuide Studio.

Finally, Autodesk MapGuide Enterprise 2008 features improved usability, native Google™ Earth support, API enhancements, and component updates that further boost performance and ease of use for Autodesk MapGuide Enterprise deployments and users.

Vista Compatibility

Autodesk is committed to continually improving Autodesk MapGuide Enterprise so that it remains the most flexible web-mapping platform available. To that end, Autodesk MapGuide Enterprise 2008 can run on either Linux platform or Windows Server platforms. The client components of Autodesk MapGuide Enterprise 2008 use web browsers that run on 32-bit systems, including Windows Vista, but will not be able to take advantage of the Windows Vista 64-bit OS at this time for the DWF-based ActiveX viewer. The AJAX viewer, however, will work on web browsers running on 64-bit operating systems.

Companies adopting Autodesk MapGuide Enterprise 2008 will enjoy the same experience, whether their users are deployed on Windows XP or Windows Vista. Autodesk's benchmark testing shows neither a degradation nor enhancement of performance when Autodesk MapGuide Enterprise 2008 clients (AJAX and DWF) are run on Windows Vista.

Autodesk Maya

Autodesk® Maya® modeling, animation, and rendering software gives artists enhanced creative control, enabling faster completion of complex animation and simulation tasks.

Autodesk Maya Highlights

Autodesk Maya 2008 delivers faster, more efficient tools and workflows for creating stunning high-resolution characters, environments, and character performances. First, Maya 2008 features increased polygon modeling efficiency. Artists can now quickly create, manipulate, and place polygons that form highly detailed characters and environments through a streamlined Mesh Smooth workflow, a new Slide edge features, and improvements to Booleans, Bridge, Bevel, and other tools.

Second, Maya 2008 includes overall performance improvements that improve efficiency for users. The software's toolsets have been optimized to provide greater performance through both multi-threading and algorithmic speed-ups. For example, the Poly Reduce function is now up to 30 times faster for a 22k face poly mesh, and Poly Smooth is now up to 4 times faster. In addition, Maya nCloth cache performance is up to 3 times faster on a cache of 10k vertices, and mental ray translation for a 20k mesh instanced 2,000 times is over 20 times faster.

Third, users can create more visually stunning games with Maya 2008 . The software is better equipped to create and display content destined for the Nintendo Wii, Microsoft Xbox 360, and Sony PlayStation 3 game consoles. It offers support for DirectX HLSL shaders in the Maya viewport, a new hardware shader API, enhancements to the high-quality render view, accelerated mental ray texture baking performance, and more.

Finally, Maya 2008 offers increased flexibility for character setup and animation. Building upon the Maya software's advanced, customizable animation system, Maya 2008 delivers improved skinning and rigging toolsets, including new, non-destructive skin-editing capabilities. These enhancements allow animators and technical directors to efficiently explore ideas, manage iterations, and get superior results, faster.

Vista Compatibility

Maya 2008 is compatible with Windows Vista Business, both 64-bit and 32-bit versions. For a complete list of operating systems supported by Maya 2008, visit www.Autodesk.com\maya.

Autodesk Topobase

Autodesk® Topobase™ software is an infrastructure design and management solution that extends the power of the AutoCAD Map 3D and Autodesk MapGuide platforms. Topobase integrates design and asset information in a spatial information database so that departments across an organization can see the big picture and collaborate more efficiently.

Autodesk Topobase 2008 Highlights

Committed to continuously improving the infrastructure design and management solution, Autodesk Topobase 2008 offers several improvements. First, the solution now includes a gas utility module that includes a data model, workflows, and business rules. Second, Autodesk Topobase 2008 now supports workflows and long transactions over the web. In the administrator, a user can specify whether a workflow will run on the desktop, the web, or both. In either case, the workflows and long transactions automatically enforce rules and data standards. With support for web workflows, Autodesk Topobase 2008 streamlines user interactions on the web.

Finally, Autodesk Topobase 2008 features tighter integration with AutoCAD. Users can use AutoCAD commands on Topobase entities. When editing the model, FDO features are activated as AutoCAD entities and users can edit features with familiar commands such as edit, move, and rotate. Tight integration with AutoCAD also means that users can export data in a current view to an AutoCAD DWG file. When this occurs, layers display according to display template layers, points are exported as blocks, and labels are exported as text. Users can also export data from other FDO providers such as ArcSDE. With this functionality, organizations can share Topobase data more easily with external contractors.

Vista Compatibility

Autodesk is committed to supporting Autodesk Topobase customers, whether they decide to run their software on Windows XP or migrate to Windows Vista. Autodesk Topobase 2008 was developed to run on 32-bit systems, including Windows Vista, but will not be able to take advantage of the Windows Vista 64-bit OS at this time. Previous versions of Autodesk Topobase are not Windows Vista compatible.

Companies adopting Autodesk Topobase 2008 will enjoy the same experience, whether they deploy it on Windows Vista or Windows XP. Autodesk's benchmark testing shows neither a degradation nor enhancement of performance when Autodesk Topobase 2008 is run on Windows Vista. All workflows, features, and functionality of Autodesk Topobase 2008 are the same whether the customer runs the software on Windows XP or Windows Vista.

Revit Architecture

Purpose-built for building information modeling (BIM), Revit® Architecture software works the way architects think, so that they can create naturally, design freely, and deliver efficiently.

Revit Architecture 2008 Highlights

Improvements to Revit Architecture 2008 are designed to increase performance and design quality. Autodesk has improved coordination and process efforts within the software, enhanced the functionality of existing tools, and increased interoperability to boost model fidelity across applications. Using the enhanced tools provided by Revit Architecture 2008, architects can offer more services to clients and better coordinate large, high-quality projects.

For example, Revit links are now organized within the project browser and provide better usability and more direct management of linked model information. Architects can easily leverage new drag-and-drop tools and enjoy quick, easy access to the Link Manager. Because nested links are displayed within host files, project teams experience enhanced visibility into their projects.

Revit Architecture also features enhancements to Revit Color Fills, which are a premier example of the efficiencies offered by BIM. Using room or area properties, Revit automatically assigns and updates color-coded plans. With the new color fill enhancements, architects have better control over the creation, management, and display of color fill plans.

Finally, Revit Architecture improves printed plan and sheet views. On projects with extensive footprints or floor plates, customers often prefer to work with the building as a whole. Architects must divide desired views into segments that will fit on printable sheets. For maximum ease, Revit Architecture's bi-directionality keeps annotations—as well as model geometry—coordinated between the views and sheets. With the Dependent Views feature, architects can also create views that are dependent on another view or place instances of any view on multiple sheets.

Vista Compatibility

Revit Architecture 2008, as well as all of the products in the Revit family, including Revit Structure and Revit MEP, are compatible with Windows Vista. Revit Architecture 2008 will run on 32-bit systems or as a 32-bit application on a 64-bit Windows Vista system. Currently there is no native 64-bit Revit Architecture application. Previous versions of Revit Architecture are not Windows Vista compatible.

Whether they decide to run their software on Windows XP or migrate to Windows Vista, Revit Architecture 2008 users should experience the same high performance. Benchmark testing shows no degradation or enhancement to performance on Windows Vista. All workflows, features, and functionality of Revit Architecture 2008 are the same whether the customer runs the software on Windows XP or Windows Vista.

However, Revit Architecture 2008 does take advantage of some new Vista capabilities. Specifically, Windows Vista offers thumbnail previews for DWG and DWF files in Windows Explorer, displays Revit Architecture properties in the detail tab of Windows Explorer, and provides search tools that look for text strings in the drawing properties, text, and MTEXT of DWG files.

Other applications in the Revit series of products are also compatible with Windows Vista, including AutoCAD® Revit® Architecture Suite, Revit® Structure 2008, AutoCAD® Revit® Structure Suite 2008, AutoCAD® Revit® MEP Suite 2008, and Revit® MEP 2008.

Conclusion

Thanks to the close collaboration between Autodesk and Microsoft, many applications in Autodesk's 2008 product line are compatible with Windows Vista. Whether companies choose Windows Vista, Windows XP, or another operating system, they can be assured of high performance levels from their Autodesk applications.

All products in Autodesk's 2008 product line, deployed on any compatible operating system, include enhanced functionality that helps companies increase efficiency and decrease costs. This white paper does not address all Autodesk products. For more detailed information on any Autodesk product or Vista compatibility, visit www.autodesk.com or contact an Autodesk sales representative today.

Autodesk®