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White Paper

Comparing AutoCAD 2002 with AutoCAD Release 14

AutoCAD® software continues to evolve, expanding into a platform that serves all aspects of the design community. In today's competitive market, you need a product that integrates your design work with the broader business infrastructure. The evolution of AutoCAD meets these growing needs.

AutoCAD Release 14 has been widely accepted in the market as a powerful design and drafting product. But AutoCAD 2002 is not only more powerful for design and drafting, it's been designed to specifically support collaborative teamwork across the Internet and intranets, too.

AutoCAD 2002 is the third release since AutoCAD Release 14, so you can expect significant improvements in the product. It's easier to use, provides exceptional new productivity tools, has improved performance, and, of course, it provides compatibility with your existing CAD data.

To help effectively compare AutoCAD 2002 with Release 14, we'll step through the feature sets of the AutoCAD releases since Release 14 so you can fully understand all the power that has been built into this exciting new release.

AutoCAD Release 14: Faster, Smarter, Better

The introduction of Release 14 saw several key themes in its feature set:

- **Drawing Productivity**—You could draw faster and more accurately with AutoCAD Release 14 through enhanced performance, quick precision drawing tools, and familiar Windows® interaction with AutoCAD and your drawing.

- **Presentation-Quality Drawings**—You could polish your drawings for presentation by adding solid fills, graphic art, and high-quality renderings, or with improved support for embedded objects from other applications.

- **Communicate and Share Designs**—AutoCAD Release 14 made it easier to share and reuse design information within your project team by supporting clipped external reference files, embedding raster images, and by providing useful Internet tools.

- **Customization Support**—You could integrate AutoCAD Release 14 with other applications using ActiveX® Automation, save time with persistent AutoLISP® and application demand loading, and improve object interoperability with ObjectARX®.

- **Management Tools**—Installing, configuring, and managing your AutoCAD network was made easier with the Network Installation wizard, user profiles, network printing and file sharing, and the Autodesk® License Manager.

AutoCAD 2000: Where Design Connects™

The release of AutoCAD 2000 delivered the design software tools and features needed to elevate you to the next level of design productivity.

AutoCAD 2000 was designed to help you connect better to your designs, to your team, and to the world around you. As the first

product developed to be a platform, AutoCAD 2000 served as the foundation for industry-specific design applications such as AutoCAD Architectural Desktop™, Mechanical Desktop®, AutoCAD Map®, and AutoCAD® Land Development Desktop.

With AutoCAD 2000, we worked to meet specific overarching customer needs:

- Improving productivity, connecting you to your design through our Heads-up Design™ Environment

- Clearing obstacles in your path toward design, through the improved access and usability of the software

- Connecting design to documentation, by providing streamlined output

- Helping you connect to your team and to your data, through a set of features designed for expanded reach

- Connecting the software to your exact needs, by enabling greater customization and extensibility

AutoCAD 2000i: Transforming Design Through the Power of the Internet

In today's economy, for designers to be competitive, they must leverage the power of the Internet, or risk operating at a disadvantage to other industry players.

By transforming AutoCAD 2000 into the Internet design platform, AutoCAD 2000i became the design platform of choice for companies seeking a competitive advantage.

Months of extensive customer interviews, usability tests, and worldwide surveys pointed out that users require Internet tools that are "just what you need—just when you need them." With this feedback in mind, we developed AutoCAD 2000i to deliver the following benefits:

- **Internet-Driven Design—**The Internet empowers your business by enabling real-time designer-to-designer, designer-to-customer, and electronic commerce from within AutoCAD. Ultimately, this gives you expanded choice, increased business velocity, and greater profitability by connecting design—the single element around which most business decisions are made—continuously throughout the organization's information chain.

- **Performance and Simplicity—**The usability of AutoCAD 2000i was significantly enhanced through improved 3D functionality, fine-tuned features, and a revamped help system, all focused at improving your experience with the product. And while the Internet was the key theme in this release, daily users benefited tremendously from the most powerful, easiest to learn, and easiest to use AutoCAD ever.

AutoCAD 2002: It's What You Do with Your Design Data

With the release of AutoCAD 2002, we continue to deliver improved ease of use, as well as exceptional new productivity tools, increased performance, and compatibility with your existing CAD data. AutoCAD 2002 helps you manage your standards and collaborate with your peers to get the very most out of your design data.

In AutoCAD 2002, we improve upon your everyday design activities by including true associative dimensioning—the capability to manipulate drawing geometry and see a corresponding and immediate change in the dimension or annotation. Drafters will also make immediate use of the new layer, text, and attribute tools.

Web Publishing

For those who publish design data, an updated DWF format supports high-fidelity printing from within our popular viewing technology, Volo™ View and Volo™ View Express.

The Publish to Web feature is expanded in this release to allow for full customization of output as well as the addition of new templates and themes.

Standards Awareness

For the CAD manager who needs to validate design data against a company or industry standard, we offer the new CAD Standards toolset.

This feature provides CAD managers with a robust set of tools to check and encourage standards compliance, resulting in better coordinated teams, a more efficient and effective design process, and a higher return on investment in design tools.

Content Delivery

As a part of the expansion of AutoCAD into data sharing and consumption, we built i-drop™ technology directly into the product. With i-drop, you can bring intelligent design content directly from a manufacturer's website into your drawing file.

The i-drop technology allows content providers to attach important and useful information, like spec sheets or material costs, to an object. You can then drag the whole package—the object's geometry *and* data—into your designs. The data can then be extracted using the tools in AutoCAD 2002 to create, for example, a bill of materials.

AutoCAD 2002 Extensions

AutoCAD is now released regularly in conjunction with technology extensions that are offered for the current release. Autodesk extensions are small modular enhancements to Autodesk software products that deliver incremental features and functions as they are developed. They offer three direct benefits:

- Immediate access to the latest design tools

- Ease of learning—they're single tools, not widespread changes to the whole product

- Full compatibility with your current AutoCAD software

These extensions—combined with more than 3000 existing third-party applications; full customizability with Visual LISP™, ObjectARX, and Microsoft's VBA

programming languages; a mobile and wireless solution; and project hosting and procurement services—make AutoCAD 2002 the design tool of choice.

AutoCAD DWG Compatibility

The AutoCAD DWG file format has remained unchanged since AutoCAD 2000 and AutoCAD 2000i. AutoCAD 2002 can read and write the Release 14 file format, guaranteeing 100 percent round-trip compatibility.

AutoCAD 2002 Performance

Industry-standard CAD benchmarks show AutoCAD 2002 to be faster than AutoCAD 2000 and Release 14 for common drafting operations. Where is AutoCAD 2002 faster?

- File I/O performance is up by 29 percent

- Display performance is up by 39 percent

- Object snap performance is up by 24 percent

- Property alterations operations performance is up by 23 percent

AutoCAD 2002 also supports multiple-processor computing. On a dual-processor machine, AutoCAD 2002 is 30 percent faster than AutoCAD 2000 or Release 14 on the same machine.

AutoCAD 2002 Hardware Requirements

As always, AutoCAD is designed to run on modest equipment:

- 450MHz Pentium®–based PC

- Microsoft® Windows® XP, 2000, Windows 98, or Windows NT® 4.0 (Service Pack 3 or later)

- 128MB RAM

- 1024x768x64K graphics display and color monitor

Compatibility

These are a few of the more significant compatibility issues you'll encounter in the move from Release 14 to AutoCAD 2002. Overall, with AutoCAD 2002, you'll find that

- Most of your third-party applications will require an update

- You may need to update some AutoLISP routines so that they are multiple-document aware

- You can safely send data between Release 14 and 2002 using the SaveAs function

- AutoCAD 2002 can read all previous versions of AutoCAD files

- AutoCAD 2002 is fully compatible with the current generation of Autodesk products

Third-Party Applications

Third-party applications for AutoCAD 2002 are widely available. Because the DWG file format has not changed from the previous AutoCAD 2000 and 2000i releases, many plug-ins and add-ons were easily updated for this release.

Migration Assistance

Migrating your office to AutoCAD 2002 can be a seamless and painless with the utilities and documentation available online at Autodesk Point A.

Quality of Support and Learning Tools

The help systems and learning tools in AutoCAD 2002 are a significant improvement over those in Release 14. With this release, you get

- AutoCAD Learning Assistance™, a tutorial-based, multimedia learning tool that includes lessons and concepts material for many new AutoCAD 2002 features

- AutoCAD Support Assistance, an easily accessible, regularly updated knowledge base providing solutions as well as answers to common AutoCAD questions

- Ability to print help and learning documents without installing AutoCAD software

- Fast answers to questions—just type in questions without needing to know the exact command name—through the Natural Language Query engine from AnswerWorks

- A Search the Web feature for online answers

Product Feature Introduction by Release

Introduced in AutoCAD Release 14	**Introduced in AutoCAD 2000**	**Introduced in AutoCAD 2000i**	**Introduced in AutoCAD 2002**
Drawing Productivity	**Heads-Up Design Environment**	**Internet-Integrated Design**	**A Powerful CAD Platform**
Overall product performance	Multiple Design Environment (MDE)	AutoCAD Today	Associative dimensioning
Reduced memory footprint	AutoCAD DesignCenter™	Publish to Web	Attribute tools
Paper space performance	AutoSnap™ and AutoTrack™	Meet Now	Block Attribute Manager
Quick precision drawing	IntelliMouse support	AutoCAD Hyperlinks dialog box	Edit Attribute dialog box
Hybrid raster/vector drawings	Real-time zooming and panning	eTransmit	Enhanced Attribute Editor
Layer and linetype management	QDIM (quick dimensioning)	i-drop	Block attribute extraction
Object property access	Partial Open and Partial Load		Layer tools
Windows UI integration	3D Orbit—persistent shading	**Performance and Simplicity**	Layer Translator
Command line editing	UCS per Viewport	File navigation	Layer Previous
Interactive display improvements	In-place reference and block editing	AutoCAD 2000i Performance Update	Spell checking and text scaling
Plot preview usability		UCS icon	
Text usability	**Improved Access and Usability**		**Connected and Collaborative**
Modern learning tools	Object Properties Manager	**General Application Performance**	AutoCAD Today
Startup & new drawing wizards	Find—find and replace text	Regenless tab switching	Meet Now
	Quick select	Multiprocessor support	Publish to Web
Presentation-Quality Drawings	Object Property toolbar	Improved I/O memory management	i-drop
Bitmap import	Right-click shortcut menus	TrueType font caching	eTransmit
Solid fill	Solids editing enhancements		File navigation
Display order control	Drawing properties	**3D Performance**	Updated DWF format
Compound document support	Text enhancements	Up axis constant	Volo View and Volo View Express
Text quality	Layer Properties Manager	OPM	DesignXML
Photorealistic rendering	Extended symbol names (ESN)		Autodesk Point A
	Dimensioning enhancements	**Hard-Copy Enhancements**	Buzzsaw.com
Communicate and Share Designs	Bhatch dialog box enhancements	Plot merge control	RedSpark
External Reference Enhancements	Appload dialog box	True color plot styles	
Raster Image Support	Startup dialog box	Printer & paper size filters	**Managing Drawing Standards**
Internet Tools	SaveAs		Standards Manager
File Interoperability		**Enhancements to Existing Features**	Interactive auditing
Template Drawings	**Expanded Reach**	Qselect—quick select	Batch auditing
	Direct browser access	Multiple polyline editing	Summary report information
Customization Support	Object Hyperlinks	Extend and trim combined	
ActiveX Automation support	ePlot—electronic plotting of DWF files	Layer States	**Licensing**
Persistent AutoLISP	dbConnect—database connectivity		GLOBEtrotter FLEXlm® Network Licensing
Object interoperability	DXF™ enhancements	**Integration of AutoCAD LT® Features**	Flexible license models
Application demand loading		Drag-and-Drop Hatch	Deployment and integration
ARX API extensions	**Streamlined Output**	Purge user interface	
	Layouts—multiple paper spaces	Array Dialog	
Management Tools	Nonrectangular viewports		
Preferences control	Plotting enhancements	**User Assistance**	
Network printing	Lineweights	HTML help	
Autodesk License Manager	OLE text scaling	Tips	
Simplified installation	True color support	Active Assistance	
File sharing		Workaround solutions	
Startup wwitch enhancement	**Customization and Extensibility**	Support for database lookup	
	Integrated Visual LISP	Natural Language Query Engine	
	ActiveX extensions and events		
	VBA projects	**Deployment and Integration**	
	Options (preferences) dialog box	File format	
		Binary compatibility	
	Powerful Technology Framework	Elimination of hardware lock	
	ObjectDBX™/ObjectARX		
	Heidi®—3D graphics pipeline		
	Network support enhancements		
	AutoCAD Learning Assistance (ALA)		
	AutoCAD Support Assistance (ASA)		

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