

Benefits of Moving from AutoCAD LT to AutoCAD 2006

This paper outlines the key benefits of moving from AutoCAD LT® to AutoCAD® 2006 software. It examines six key areas where AutoCAD 2006 can help improve your design process.

1. Productivity Features
2. 3D design capabilities
3. Presentation graphics
4. Tools for the CAD manager
5. Tools for the IT manager
6. Customization

About AutoCAD 2006

The enhanced tools in AutoCAD 2006 allow you to work faster and smarter. Dynamic Blocks enable the combination of an entire family of blocks into a single block and introduces the ability to automatically scale, flip, rotate, and align blocks to drawing geometry. The Dynamic Input interface puts the power of the command line at the cursor, and allows you to create and edit geometry right in the graphics window. Annotation enhancements such as bullets and numbering, and formulas in tables, enhance the creation and editing of text in your drawings.

Productivity Features

Productivity always has been and always will be a cornerstone in the profitability and viability of any industry that creates, consumes, or manages design information. With AutoCAD 2006 productivity, you have the tools you need to always go further than the competition and enjoy maximum speed, power, and efficiency throughout your process.

Dynamic Blocks - A drawing created in AutoCAD is frequently composed of a series of standard components or blocks used in various places both in a single drawing and in a complete set of drawings. Blocks can be difficult to manage and manipulate. Often thousands of blocks are available to users to find, insert, and edit to satisfy their design needs. AutoCAD 2006 makes blocks dynamic. The new block authoring tools in AutoCAD 2006 allow you to add dynamic behavior to your existing block libraries. This simplifies

block complexity and reduces the amount of time spent manipulating blocks inside of a drawing. AutoCAD LT 2006 does not support Dynamic Block authoring.

Coordination of Sheet Sets - With the addition of the new Sheet Set Manager, AutoCAD 2006 extends beyond single drawing production. In a single interface, you can access sheets, group them into logical categories, create a sheet index, manage sheet views, archive sheet sets, and share them with your project team using plots, eTransmit, or DWF™ files. AutoCAD LT does not offer this functionality. To learn more about the Sheet Set Manager, please visit www.autodesk.com/autocad-features.

Notification of Drawing Change - AutoCAD software offers instant notification when an external reference (xref) drawing has changed. If one of the xref files is modified, an icon on the status bar changes appearance and a bubble notification is displayed indicating the name of the externally referenced file and the person who changed it.

Batch plotting - Have you ever wanted to print multiple AutoCAD drawings at one time? The Batch Plot utility builds a list of AutoCAD drawings to be plotted. You can use the list to plot immediately or save the list in a batch plot list (BP3) file. You can also test the batch plot before plotting.

Database Connectivity - AutoCAD software can be used to associate data contained in an external database table with AutoCAD graphical objects through the process of linking. Links are pointers to a database table that reference data from one or more records in that table. You can also use AutoCAD to attach labels that display data from selected table fields as text objects in your drawing.

3D Design Capabilities

AutoCAD 2006 enables you to create, modify, render, and navigate 3D objects. AutoCAD LT 2006 does not offer this capability.

3D modeling has several advantages. You can

- View the model from any vantage point
- Generate reliable standard and auxiliary 2D views automatically
- Create 2D profiles
- Remove hidden lines and do realistic shading
- Check interference
- Export the model to create an animation
- Do engineering analysis
- Extract manufacturing data

AutoCAD software supports three types of 3D modeling: wireframe, surface, and solid.

- A wireframe model is a skeletal description of a 3D object. There are no surfaces in a wireframe model; it consists only of points, lines, and curves that describe the edges of the object. With AutoCAD software you can create wireframe models by positioning 2D (planar) objects anywhere in 3D space. AutoCAD also provides some 3D wireframe objects, such as 3D polylines (that can only have a CONTINUOUS linetype) and splines.

- Surface modeling is more sophisticated than wireframe modeling in that it defines not only the edges of a 3D object, but also its surfaces. The AutoCAD surface modeler defines faceted surfaces using a polygonal mesh.
- Solid modeling is the easiest type of 3D modeling to use. With the AutoCAD solid modeler, you can make 3D objects by creating basic 3D shapes: boxes, cones, cylinders, spheres, wedges, and tori (donuts). You can then combine these shapes to create more complex solids by joining or subtracting them or finding their intersecting (overlapping) volume. You can also create solids by sweeping a 2D object along a path or revolving it about an axis.

Presentation Graphics

Now you can create presentation drawings with high-quality graphics right in the AutoCAD application without the need for additional software.

Gradient Fills - Apply gradient coloring to solid hatch patterns. Choose between one and two color options, various gradient patterns, and rotation angle to get the gradient you require.

The flexibility of the gradient patterns, combined with the new true color, PANTONE®, DIC Color Guide®, RAL CLASSIC, and RAL DESIGN color options, enable you to create presentation quality drawings directly from the AutoCAD application.

Shaded Viewport Plotting - In AutoCAD, you can plot shaded and rendered 3D isometric views for presentation output. Functionality includes the ability to plot shaded/rendered models from modelspace as well as paperspace layouts.

Tools for the CAD Manager

AutoCAD 2006 software can help provide measurable benefits to your firm's bottom line by enabling CAD managers to create, deploy, enforce, and audit standards in your design office. AutoCAD LT does not offer this capability.

With the CAD Standards functionality, you can select the type of standard you want checked—dimension and text styles, layers, or linetypes—so the software checks only for violations that are important to your office. The standards manager automatically runs in the background while you work, instantly notifies you of any violation, and suggests a fix.

Real-Time Notification and Repair of CAD Standards - AutoCAD provides several methods for you to monitor standards violations. A system setting in the CAD Standards Settings dialog box enables AutoCAD to display an alert and a status bar icon upon standards violation.

Batch Standards Checker - You can use the Batch Standards Checker to analyze multiple drawings and summarize standards violations in an HTML report. In a collaborative environment, you can distribute the report to drafters so that they can fix any problems with their sections.

Tools for the IT Manager

AutoCAD license management technology enables IT managers to maximize their companies return on investments.

Network licensing provides your users with access to the right software at the right time and enables you to control the use of your software easily and efficiently. Effective use of network licensing software requires investment in planning, implementation, and

maintenance. Used properly, it can generate significant benefits for you and your organization.

Some of the key benefits of network licensing include:

1. **Flexible and efficient use of licenses:** This is the most basic benefit of network licensing. Autodesk uses two types of software licensing. The most common type is the Stand-Alone License Manager, which binds the software to a specific workstation. This type of software licensing is almost transparent to the user and is most effective when there is no need to share the license or move it from one workstation to another. The second type is the Network License Manager, which requires communication between the client software and a software license server. When AutoCAD software runs, it acquires a license from the server, returning that license when it is shut down. Licenses can thus be “floated” over an entire corporate network, transferring instantaneously from one workstation to the next as required.
2. **Usage tracking:** Because a central license server manages all licenses, an administrator can easily see how licenses are being used. Network License Manager tracking tools allow report creation for information such as total licenses used per department, total hours of usage per week by named users, number of license requests denied, and so forth. This is crucial data for day-to-day administration of licenses as well as input for the budgeting and forecasting process for future software investments.
3. **Control:** Network licensing gives an administrator more control over the individual user’s or group’s ability to access software. Licenses can be moved from one group to another without having to install or uninstall software.
4. **Standardization:** The Network License Manager in AutoCAD is based on FLEXlm® technology from Macrovision Corporation. More than 2,500 software vendors use FLEXlm, so it is possible that someone in your organization has already implemented FLEXlm technology.
5. **License Borrowing:** License borrowing provides you with the ability to install a time-limited license on your computer while disabling the license on the server for that same period. The license enables you to run the AutoCAD program without having a connection to the license server. License borrowing is a great benefit if you need to take your computer on a business trip or occasionally work from home.
6. **License Timeout:** License Timeout allows you to set up a timeout period on your license server to automatically return a license to the server so that it is available for use again. License Timeout returns a license to the license server when a client connection is lost, and it also prevents a license from being checked out and unused on a user’s computer indefinitely.

Customization

The AutoCAD 2006 platform offers fully extensible drawing and application customization through APIs (application programming interfaces) such as Autodesk’s AutoLISP® and Visual LISP®, and Microsoft’s Visual Basic® for Applications (VBA) and ActiveX® programming languages. AutoCAD LT 2004 is not an extensible product.

Autodesk works together with thousands of software partners from around the world to create additional applications for the AutoCAD platform. These partners further enhance our broad range of fully integrated and interoperable solutions, for every design profession you can imagine.

AutoCAD software also provides a flexible development platform for specialized design and drafting applications. Its open architecture enables developers to customize AutoCAD for unique purposes. Examples include Autodesk's industry-specific design software, add-on applications from partner developers, and use of AutoCAD software as an interface to other applications.

AutoLISP/ Visual LISP - The Visual LISP tool is used for code creation within the AutoCAD software application. It is a full-featured, interpretive programming language that you can use to call AutoCAD commands, system variables, and dialog boxes.

Microsoft Visual Basic for Applications - The combination of the powerful ActiveX Automation Object model in AutoCAD and Microsoft® VBA presents a compelling framework for customizing the AutoCAD software program. Using ActiveX Controls and other applications that host VBA (such as Microsoft Office), you can work any number of objects with when developing custom AutoCAD solutions.

ObjectARX - ObjectARX® libraries comprise a versatile set of tools for application developers to take advantage of the open architecture of AutoCAD and provide direct access to AutoCAD database structures, the graphics system, and native command definition. ObjectARX technology helps you develop fast, efficient, compact applications. It enables power users to customize AutoCAD software and frees CAD designers from repetitive design tasks. Smaller files, faster drawing operations, and seamless interoperability make an application built with ObjectARX your best choice for a design software solution.

.NET - Customize and extend AutoCAD and AutoCAD-based products with direct access to AutoCAD database structures, native command definition, and more using any .NET supporting language. Get the power of ObjectARX with the ease of learning and use of Microsoft Visual Basic (VB).

Conclusion

AutoCAD 2006 software includes productivity and presentation tools for fast data creation and coordination, CAD standards tools for easier data sharing, and software licensing tools for more efficient data management.

Whether you use AutoCAD for 2D drafting, detailing, design documentation, or introductory 3D design, you can personalize or program the software to meet your specific design needs, or add an industry-specific application built to work with AutoCAD.

AutoCAD software is a worldwide standard in computer-aided design (CAD). More people use AutoCAD than any other CAD software.

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