



## Preview Guide

AutoCAD® 2004 software offers new and enhanced functionality that enables you to create with speed, share with ease, and manage with efficiency.

In any industry that requires technical drawings, speed and efficient use of data are key to the success of design projects. And this is where AutoCAD® 2004 can help. It provides new productivity tools, an improved user interface, and presentation graphics for faster, more productive data creation. It offers password protection, CAD standards tools, and support for multisheet DWF™ (Design Web Format™) files for easier data sharing. And AutoCAD 2004 provides new network licensing and software inventory tools for more efficient data management.

AutoCAD 2004—the 2D drafting, detailing, and 3D design tool for faster data creation and easier file sharing.

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# Create with Speed

## Performance

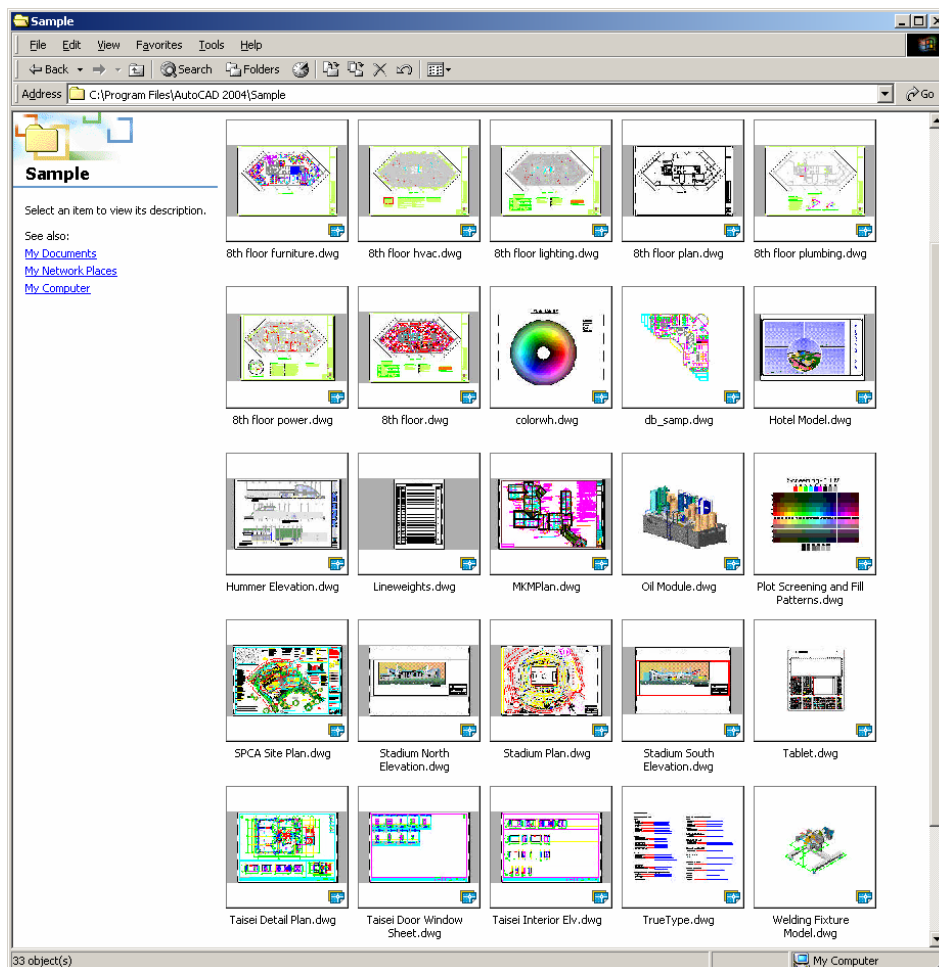
### File Open/Save

Because drawings saved in the 2004 format are now optimized, opening and saving drawings in AutoCAD 2004 software is significantly faster than in previous releases, particularly when DWG data is located on a network drive. You will save time accessing drawings whether they are stored locally or on a network drive.

3D solid models saved in the new AutoCAD 2004 DWG file format take advantage of Autodesk Shape Manager technology – opening/saving 3D models is substantially faster than in previous releases.

### Drawing Thumbnails

Within Microsoft® Windows Explorer – you can now view drawing thumbnails (preview images) in your directory folders. This enables you to quickly view and access drawings by previewing them first.

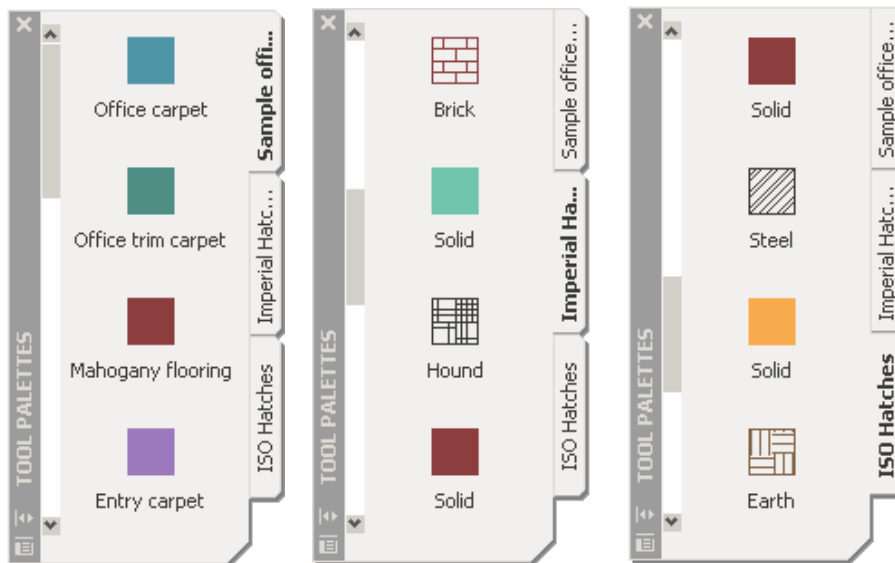


**Figure 1. Drawing thumbnails in Windows Explorer**

## Tool Palettes

New customizable tool palettes provide easy access to frequently used drawing content including blocks and hatches. You can save time finding and inserting existing drawing content into your designs. Tool palettes include all of the functionality offered by modeless dialog boxes, which differ from other dialog boxes. Modeless dialog boxes continue to display even when you use other tools and commands. New functionality has been added to some of the AutoCAD modeless dialog boxes to include auto-hide, transparency, docking, content scrolling, and tabs.

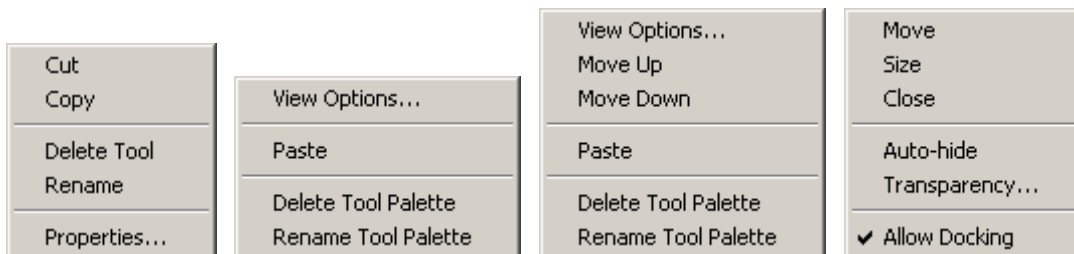
AutoCAD 2004 includes sample tool palettes to introduce you to this valuable new functionality. You can modify the existing tool palettes or add new ones.



**Figure 2. Default tool palettes**

## Context Menus

Context-sensitive menus provide access to controls for tools and the tool palettes themselves. Depending on the location of your cursor, right-clicking over a tool palette displays different options.

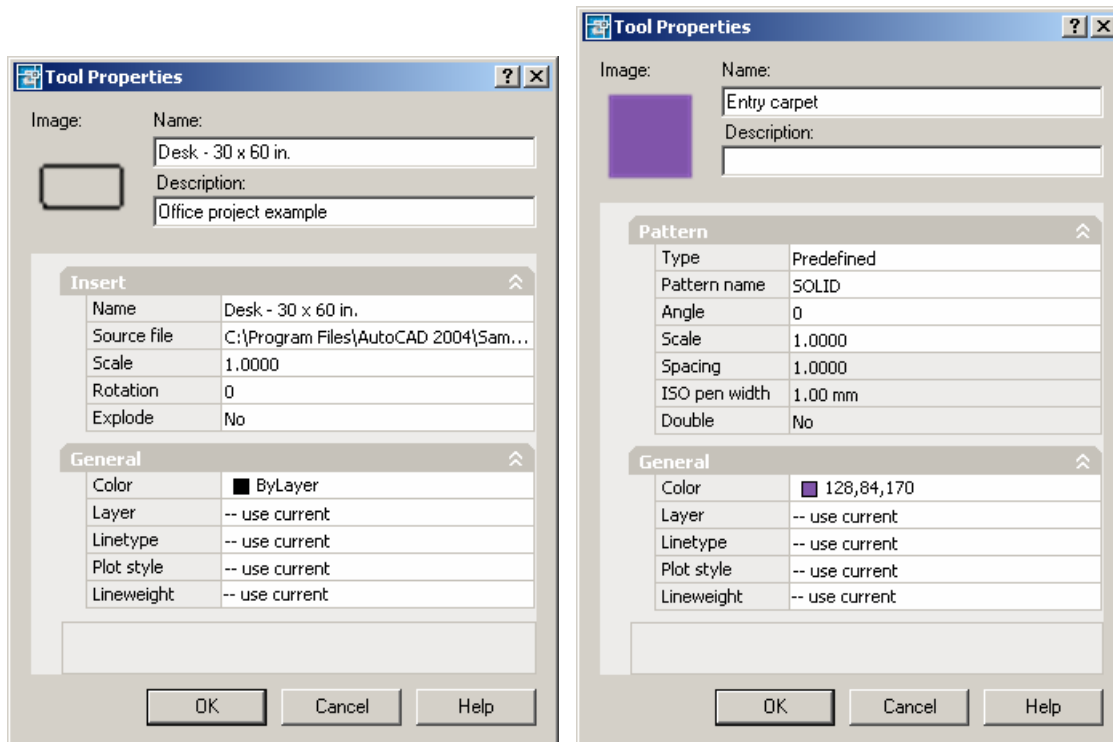


**Figure 3. Tool palette context menus**

## Tools Properties

You can assign properties to individual tools by simply right-clicking over a tool on the tool palette and choosing Properties. In the Tool Properties dialog box, you can apply general properties such as color layer and linetype to your tools. In addition, you can assign properties that are specific to the type of tool. For example, with block tools you can assign scale and rotation values, and with hatch tools you can assign pattern and angle values.

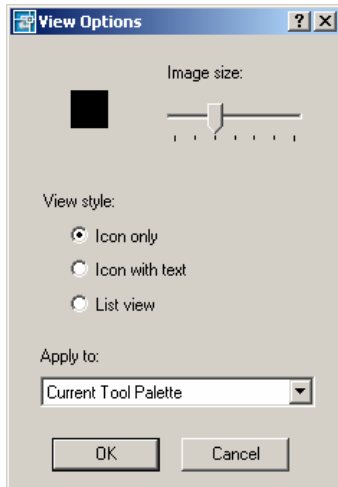
Once you have assigned specific properties to these tools, each time you use one of these tools the new block or hatch reference will automatically use the assigned values. This powerful functionality enables you to maintain consistency while significantly increasing productivity.



**Figure 4. Tool Properties dialog box for blocks and hatches**

## Tool Palette View Options

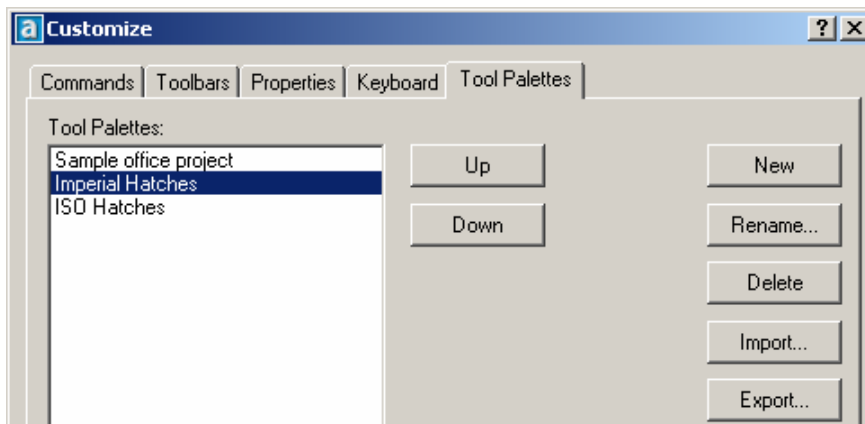
View Options enable you to modify the appearance of the tools to suit your own environment. Detailed tool descriptions make new tools easier to learn. You can switch to simplified iconic tool displays to save screen real estate when you are familiar with the tool. You can apply the specified view options to individual tool palettes or to all of them at once.



**Figure 5. View Options dialog box**

### Creating Tool Palettes

You can easily create your own tool palettes and populate them with your most frequently used blocks and hatch patterns. Right-click over any toolbar and choose customize. On the Tool Palettes tab, you can add as many tool palettes as you want. You can control the order of the tool palettes, rename or delete existing tool palettes, and even Import and Export tool palette configurations for use on other systems.

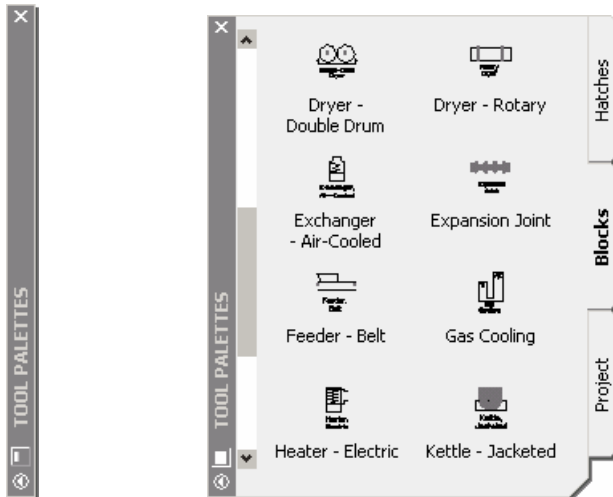


**Figure 6. Tool Palettes tab**

You can quickly add your favorite blocks and hatch patterns to the tool palettes using the DesignCenter™ feature.

### Auto-hide

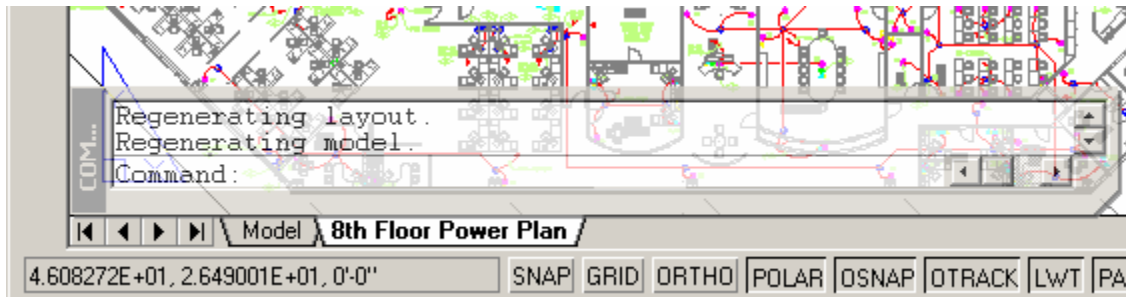
Auto-hide functionality enables you to increase screen real estate for designing and drafting, while maintaining easy access to occasionally used tools. You simply pass your cursor over the minimized title bar and the full dialog box displays. As soon as you move your cursor away from the dialog box, it automatically minimizes. A pushpin preserves the expanded status of the modeless dialog box, enabling you to keep your most used tool palettes expanded all the time for immediate access.



**Figure 7. Tool palette with Auto-hide on and off**

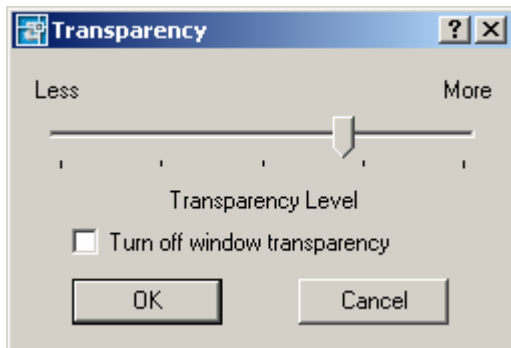
## Transparency

Transparency saves you additional screen real estate by enabling you to see the drawing geometry beneath the tool palette. You can even apply transparency to the AutoCAD Command Line.



**Figure 8. AutoCAD 2004 Command Line with transparency turned on**

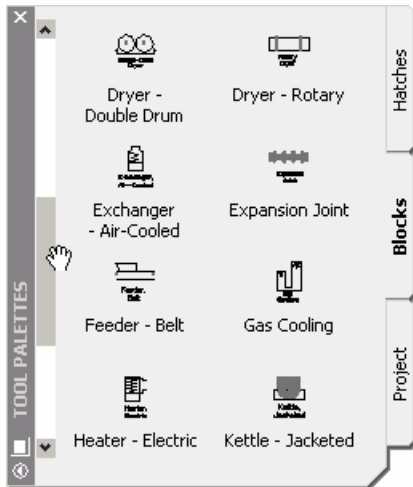
The transparency level of individual modeless dialog boxes can be adjusted from completely opaque to barely visible. And with one simple click, you can turn off transparency, offering improved display performance on some systems.



**Figure 9. Transparency control dialog**

## Content Scrolling

When the size of a modeless dialog box is less than is required to display all the content it contains, a scrollbar is automatically displayed near the edge of the dialog box. You can use the scroll bar to navigate up and down or simply pan with the “hand” symbol that is displayed on the cursor. Content scrolling enables you to resize your modeless dialog boxes, increasing screen real estate, while maintaining easy access to tools.



**Figure 10. Tool palette with scroll bar displayed**

## Docking

Modeless dialog boxes can float over the drawing area or automatically dock as you move them to the edge of the display, enabling you to access the tools you use most from the location of your choice.

## Tabs

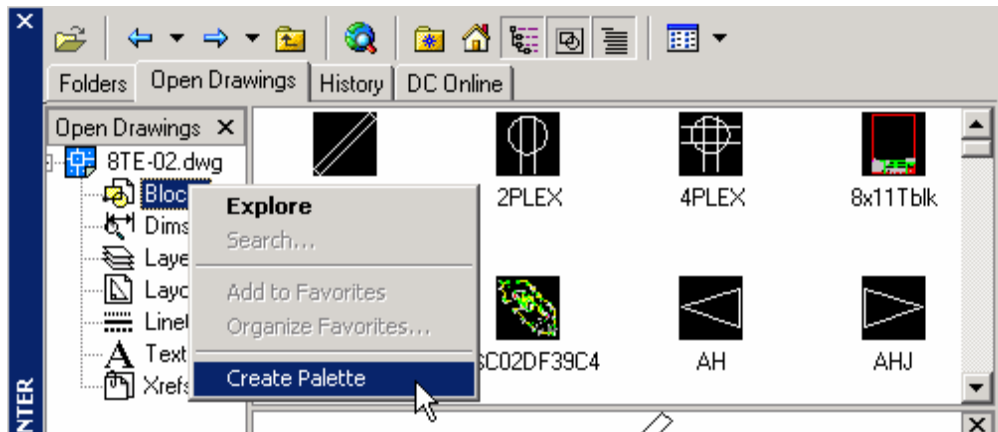
Tab design enables tools to be grouped into logical sets. You can easily access many tools using a minimum amount of screen space.

## DesignCenter

The DesignCenter™ in AutoCAD 2004 has been redesigned to take advantage of some of the new functionality available in modeless dialog boxes, including auto-hide and docking. Four tabs provide quick access to folders, open drawings, history, and the new DC Online.

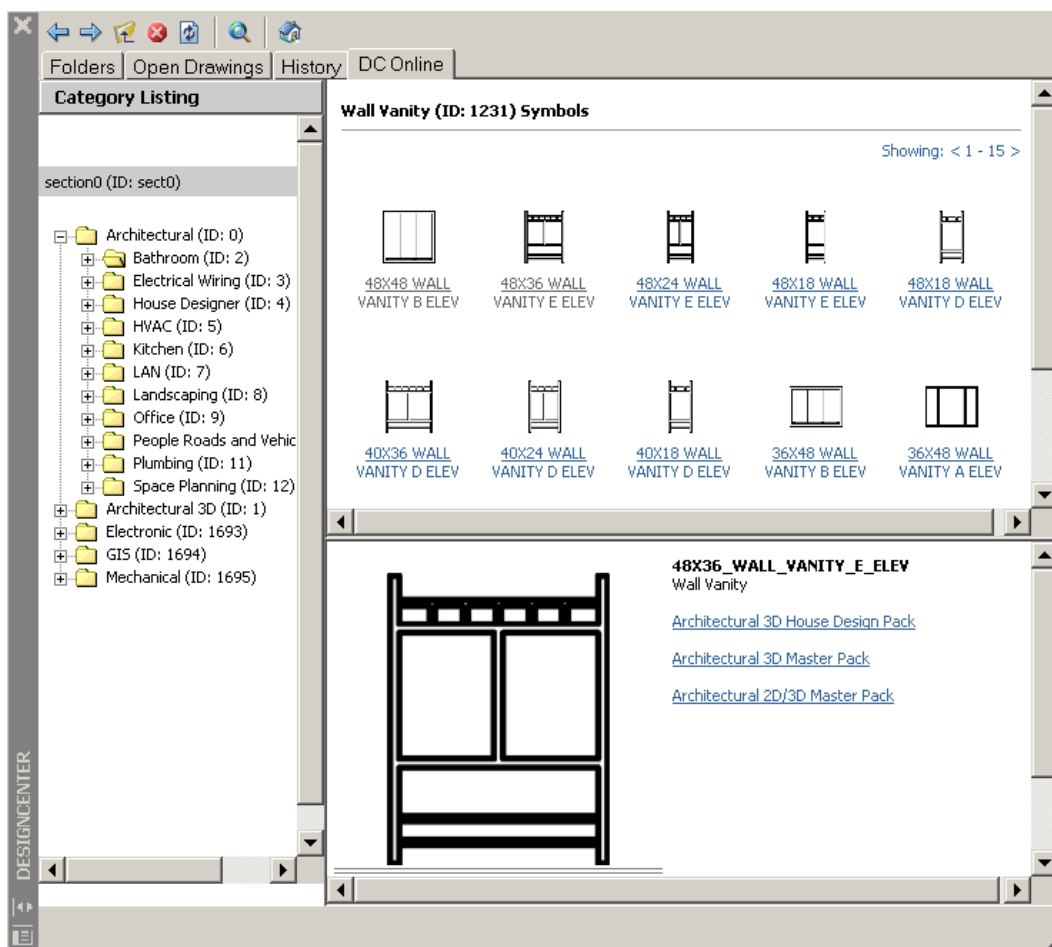
You can use the DesignCenter feature to access content and quickly create tool palettes based upon block libraries. Create block tool palettes with one click based upon files or directories of files.





**Figure 11. Creating tool palettes with DesignCenter**

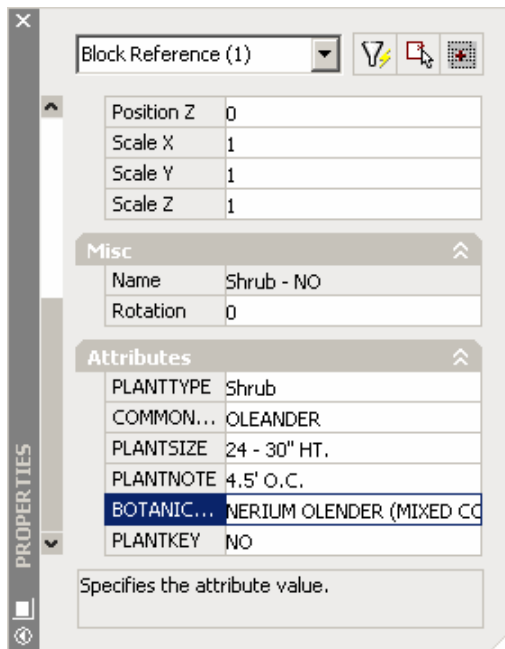
DesignCenter Online provides access to thousands articles of pre-drawn content like symbols, manufacturers' information, and content aggregator sites, all in Autodesk i-drop® format.



**Figure 12. DesignCenter Online**

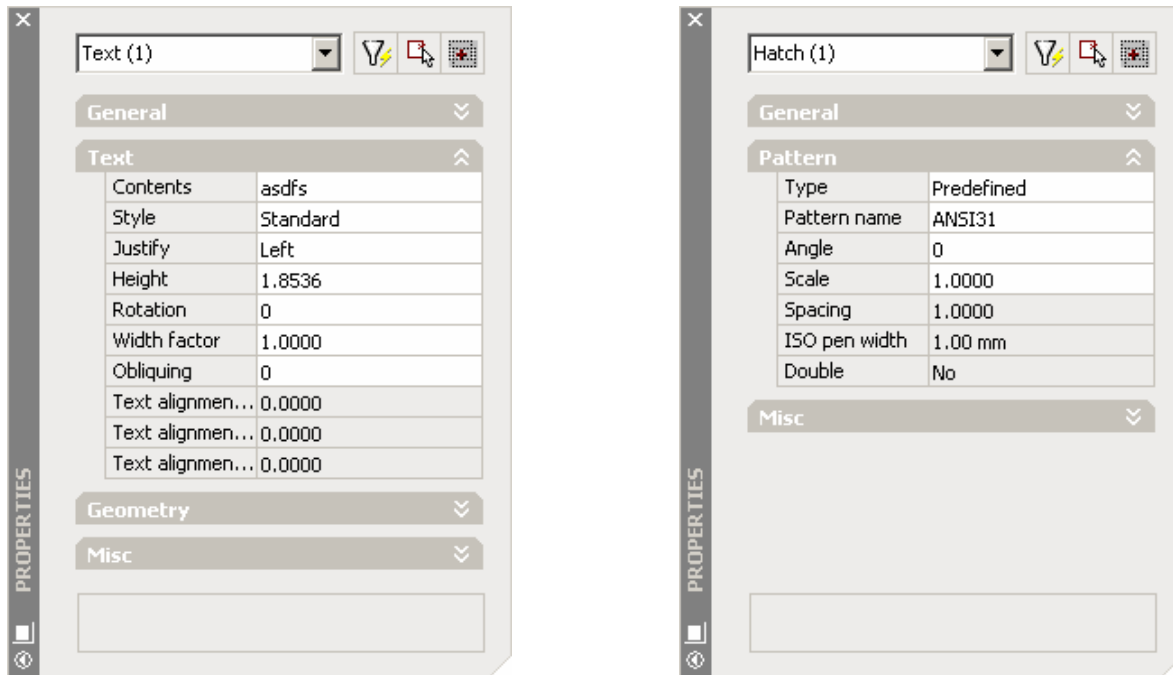
## Properties Palette

The Properties window has been updated to take advantage of some of the new functionality available in modeless dialog boxes, including auto-hide, docking, and content scrolling. In addition to the new look and feel of AutoCAD 2004 software, the Properties palette has been enhanced by including access to block attributes. With the addition of the Attributes properties, you can quickly select, view, and modify attribute content of blocks directly from the Properties palette.



**Figure 13. Properties palette with an attributed block selected**

Another time-saving enhancement to the Properties window is the persistent property views. In AutoCAD 2004, the types of properties you display in the Properties window stay persistent with the object type until you change them. Suppose, for example, when selecting text objects, you typically want to view the Text properties, and when selecting Hatch objects, you typically want to view the Pattern properties. You simply select the properties you want to display for a specific object type once, and subsequent selections of that object type will automatically display that same type of information.



**Figure 14. Properties window with display information saved per object type**

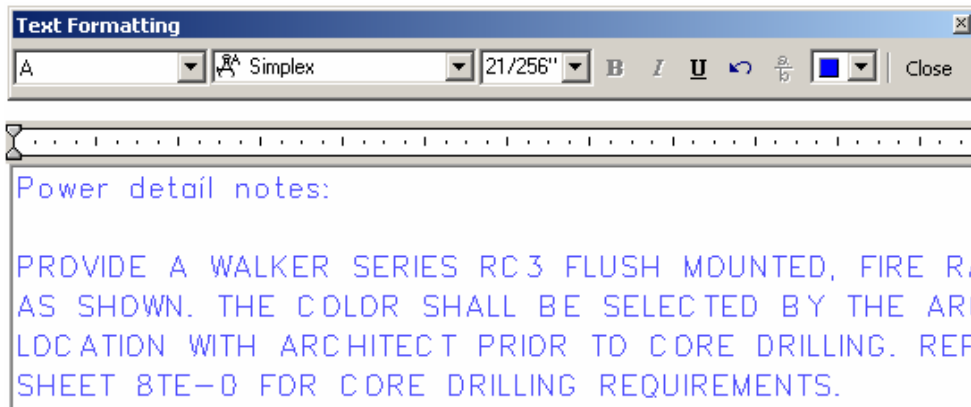
## Multiline Text (MTEXT)

Valuable enhancements made to the Multiline Text Editor offer easy, time-saving functionality for creating and modifying text in drawings.

Key functionality includes:

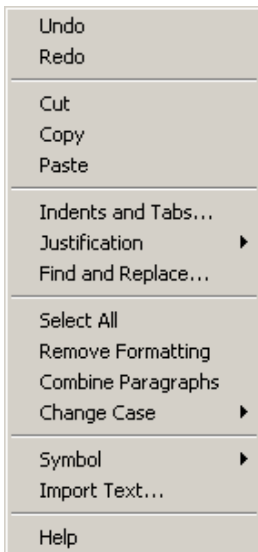
- A new frameless editor
- A new context menu
- Support for tabs and indents
- Full display text drag

Creating new multiline text or double-clicking on an existing mtext object displays the new frameless editor with ruler as well as the Text Formatting toolbar. If you are zoomed out from the text so that it is too small to read, the Multiline Text Editor will display it in an enlarged view. If you are zoomed too close to the text, the editor will display it in a reduced view. If the current display of the text is visually appropriate, the Multiline Text Editor will maintain the visual size of the text in the editor.



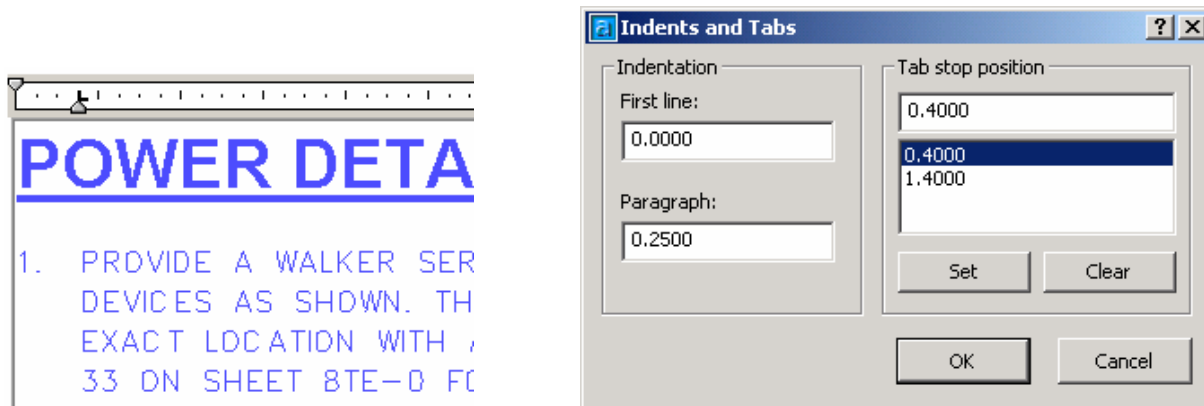
**Figure 15. Multiline Text Editor and Text Formatting toolbar**

A context menu as well as the Text Formatting toolbar provide quick access to commonly used text editing tools such as height and changing case.



**Figure 16. MTEXT context menu**

Using the ruler at the top of the frameless editor or the new Tabs and Indents dialog box, you can quickly create and modify paragraph tabs and indents.



**Figure 17. MTEXT Indents and Tabs**

## Drafting Enhancements

### AutoCAD® Express Tools

The AutoCAD Express Tools are a library of productivity tools designed to help you extend the power of AutoCAD 2004. These easy-to-use tools are included on the AutoCAD 2004 installation CD and are easily integrated into your menus and toolbars. The AutoCAD Express Tools cover a wide range of AutoCAD functions, including layer management, dimensioning, drawing, object selection, and object modification.

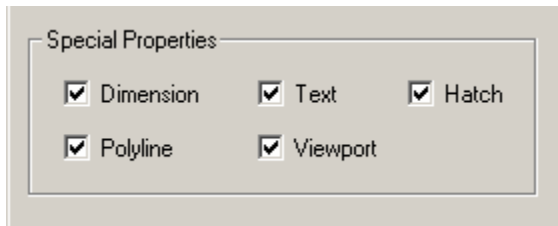
Some of the most popular tools include:

- **Arc-Aligned Text** - Places text along an arc.
- **Layer Freeze** - Freezes the layer of the selected object(s).
- **Text to Mtext** - Converts one or more lines of text to multiline text.

To install the AutoCAD Express Tools Volumes 1-9, refer to step 5 of the AutoCAD 2004 CD browser.

### Match Properties

Polyline and viewport objects have been added to the list of special properties that can be “painted” from one object to another using the MATCHPROP command.

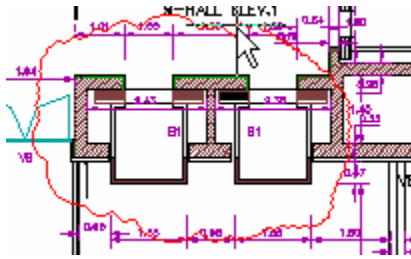


**Figure 18. Enhancements to the Property Settings dialog box**

You can quickly match unique properties of polylines and viewports between objects. For example, you can apply the scale and display locking values from one viewport to another viewport.

### Revision Cloud

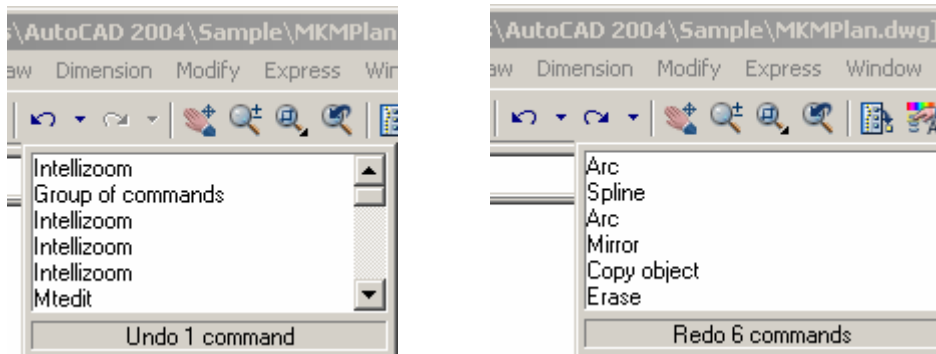
If you review or redline drawings, you can increase your productivity by using the Revision Cloud feature to highlight your markups. REVCLLOUD creates a polyline of sequential arcs to form a cloud-shaped object. You can specify variable arc lengths, giving a random, hand-drawn look. You can convert existing objects—such as circles or closed polylines—to revision clouds, or you can draw open or closed revision clouds by simply picking a point in the drawing.



**Figure 19. Revision Cloud**

### Enhanced Redo

The Redo command has been enhanced, giving you the ability to redo multiple Undo commands. A history of “undone” commands is available from the Redo drop down menu, enabling you to view and reverse every recent Undo operation. The Undo command has also been updated to provide a drop-down menu of previous operations from which you can choose to undo. With this powerful new functionality, you can experiment with your drawing by trying different designs, knowing that you can always undo and redo previous operations.



**Figure 20. Multiple undo and redo history**

### Associative QDIM

The QDIM command has been enhanced to create dimensions that are automatically associated with the underlying geometry. This enhanced functionality will enable you to quickly dimension drawings while ensuring that dimensions automatically update as design changes occur.

### Polyline Editing

Polyline editing has been made easier by minimizing the steps necessary to convert non-pline objects to plines. When using pedit on a line, for example, you will no longer be prompted to convert to a pline. The software will automatically proceed as though that is what you intended to do.

### OLE Page Size

The OLE page size limitation has been removed on systems using Windows® Office XP with the latest service pack. You can attach notes, schedules, and other external documents of any size as OLE objects without them being truncated.

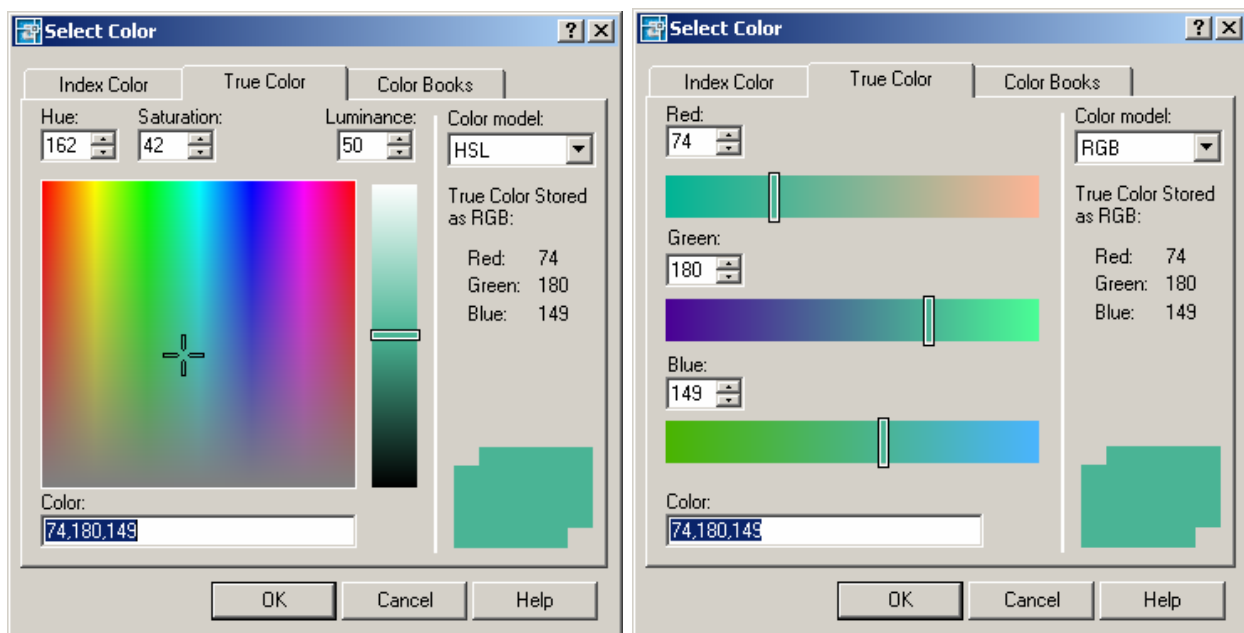
## Layout Tabs

You can use the Ctrl Page Up and Ctrl Page Down keys for easy keyboard access to layout tabs.

## Presentation Graphics

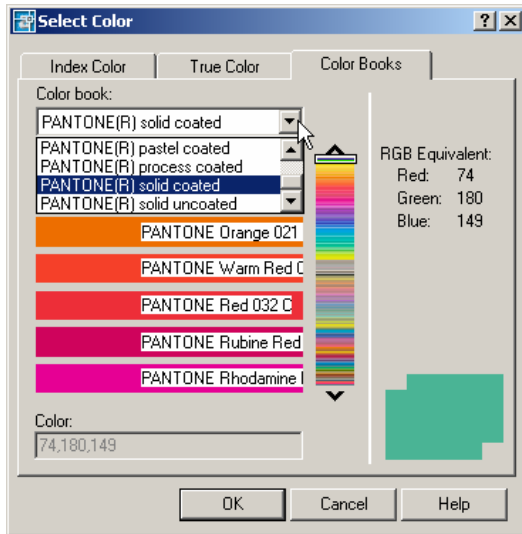
### True Color / Color Books Support

AutoCAD 2004 supports popular color palettes, enhancing your ability to create presentation quality output. The Select Color dialog box in AutoCAD has been updated to include multiple tabs. The Index Color tab provides you with the traditional AutoCAD Index Color palette, while two new tabs enable you to use real-world color palettes in your designs. On the True Color palette you can enter values using either HSL (Hue Saturation Luminance) or RGB (Red Green Blue) color models.



**Figure 21. True Color tab with HSL and RGB color models selected**

The Color Books tab enables you to select colors from a variety of PANTONE® and RAL color books.

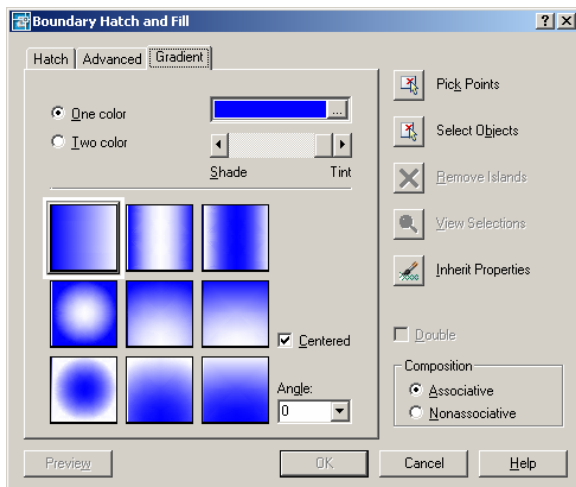


**Figure 22. Color Books tab**

## Gradient Fills

A new Gradient tab available in the Boundary Hatch and Fill dialog box enables you to 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®, and RAL color options, enables you to create presentation quality drawings directly from the AutoCAD application.

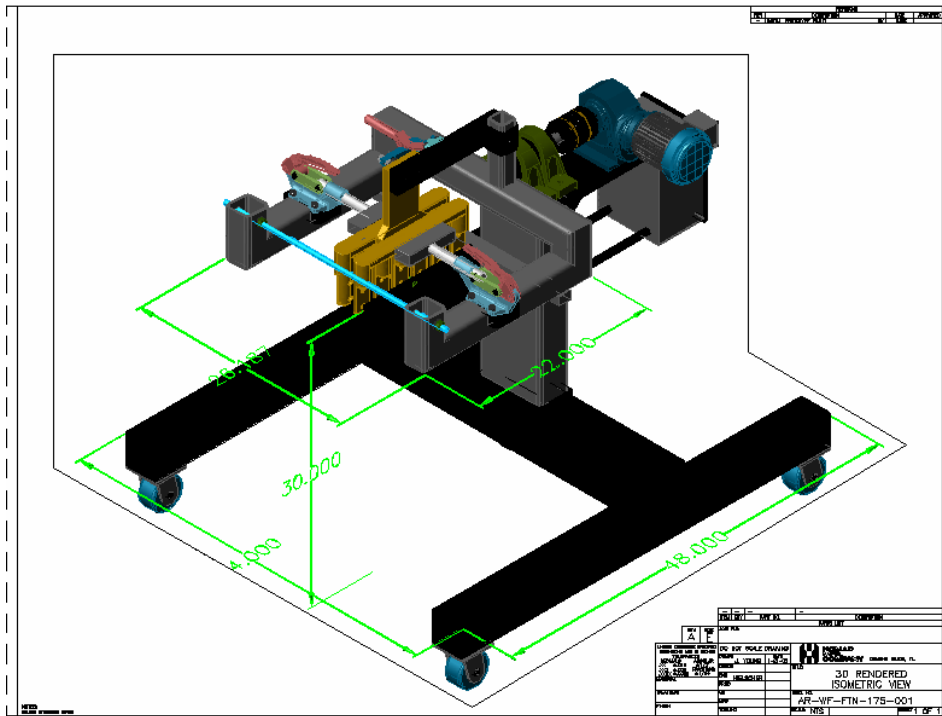


**Figure 23. Gradient tab**

## Shaded Viewport Plotting

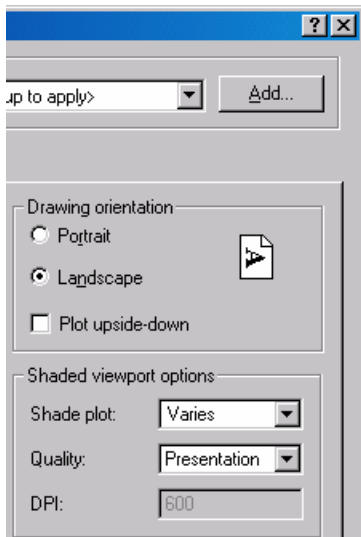
In AutoCAD 2004, you can plot shaded and rendered 3D isometric views for presentation output. Functionality includes the ability to plot shaded/rendered models from modelspace as well as paperspace layouts.





**Figure 24. Drawing layout with a shaded viewport**

The Page Setup and Plot dialog boxes have been modified to include a new section for shaded viewport options.



**Figure 25. Shaded viewport options in the Plot Settings and Layout Settings tabs**

## Draworder

Changes to DRAWORDER are permanently stored in xrefs and blocks. You can arrange the order of overlapping objects with the assurance that they will be maintained and restored the next time you open the drawing.

# Share with Ease

## Performance

### File Format Optimization

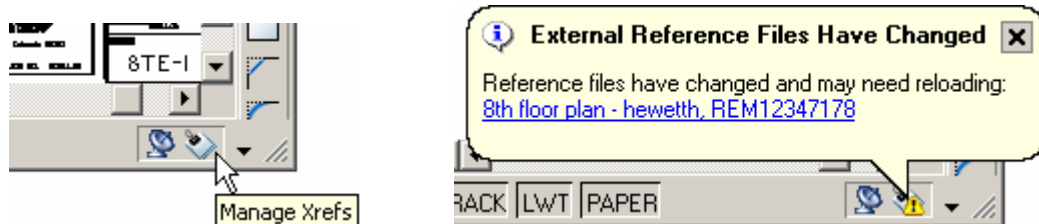
Drawing files are considerably smaller when saved from the AutoCAD 2004 program. Preliminary sampling of drawings indicates that average file sizes may decrease by as much as 55 percent.<sup>1</sup> You will save drawing storage space and increase the speed of file transfer operations such as emailing drawings or opening and saving drawings across a network.

- Optimization is integrated into DWG saving and is fully automatic—no UI necessary
- Comparable to WinZIP compression without performance loss
- Eliminates user need to compress files outside of AutoCAD

## Working with Reference Files

### External Reference Notification

AutoCAD 2004 software offers instant notification when an externally referenced drawing has changed. An icon on the status bar is displayed for any drawing with external references (xrefs) attached. If one of the xref files is modified, the icon changes appearance and a bubble notification is displayed indicating the name of the reference file and the person who changed it.



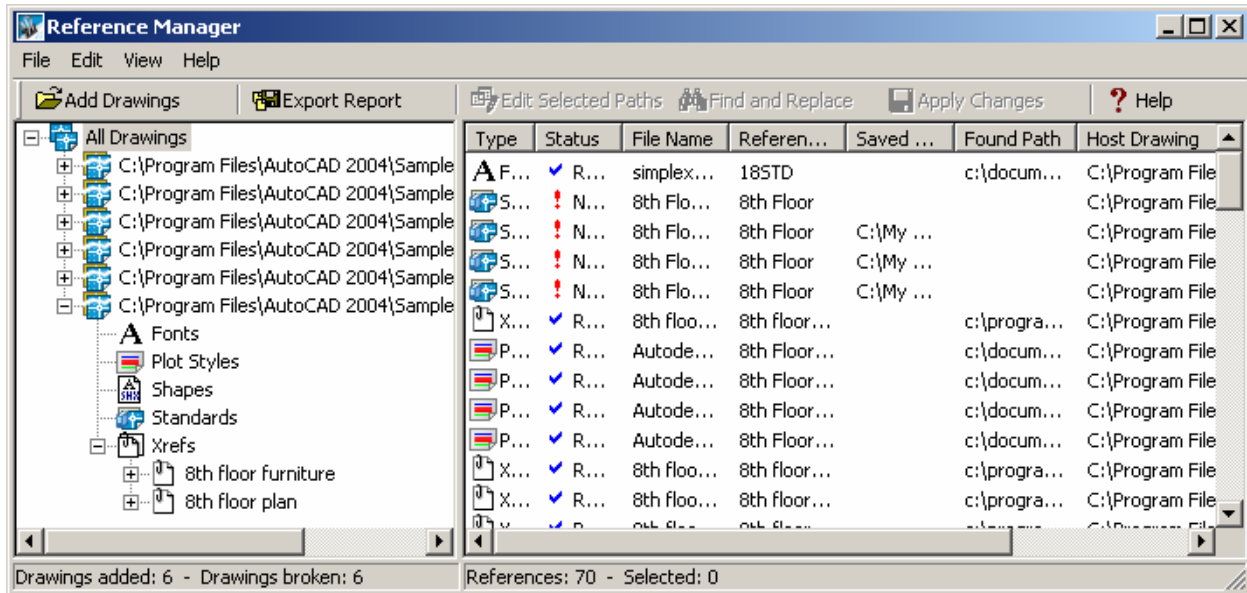
**Figure 26. External Reference notification icons**

Clicking on the xref icon on the status bar opens the Xref Manager, enabling you to quickly reload the updated drawings.

### Reference File Management

File relationships can be complex. But with the Reference Manager, available in the AutoCAD 2004 application, managing them is simple. You can automatically manage all file relationships and dependencies generated by AutoCAD 2004 and industry-specific products built on the AutoCAD 2004 platform. Use it to produce a network-wide report on all the paths for reference files: drawings, images, standards, fonts, and plot styles. And if you need to update reference paths, simply specify your change, and it occurs globally.

<sup>1</sup> Measurement is a preliminary indicator based on automation testing over a controlled network. Results are approximate and still subject to change. Product information and specifications are subject to change without notice. Autodesk, Inc., provides this information "as is," without warranty of any kind, either express or implied.



**Figure 27. Reference Manager**

## Reference Manager Functionality

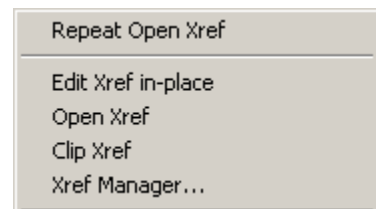
AutoCAD 2004 greatly improves the way you work with externally referenced drawings. Xrefs in the host drawing honor the specified draworder as well as offer significant functionality related to management and editing.

### Opening Xrefs

AutoCAD 2004 introduces a new command, XOPEN, which enables you to quickly open an entire external reference in a new drawing window. You can enjoy the performance of working directly on an xref file while having the convenience of selecting the file from within the context of the host drawing.

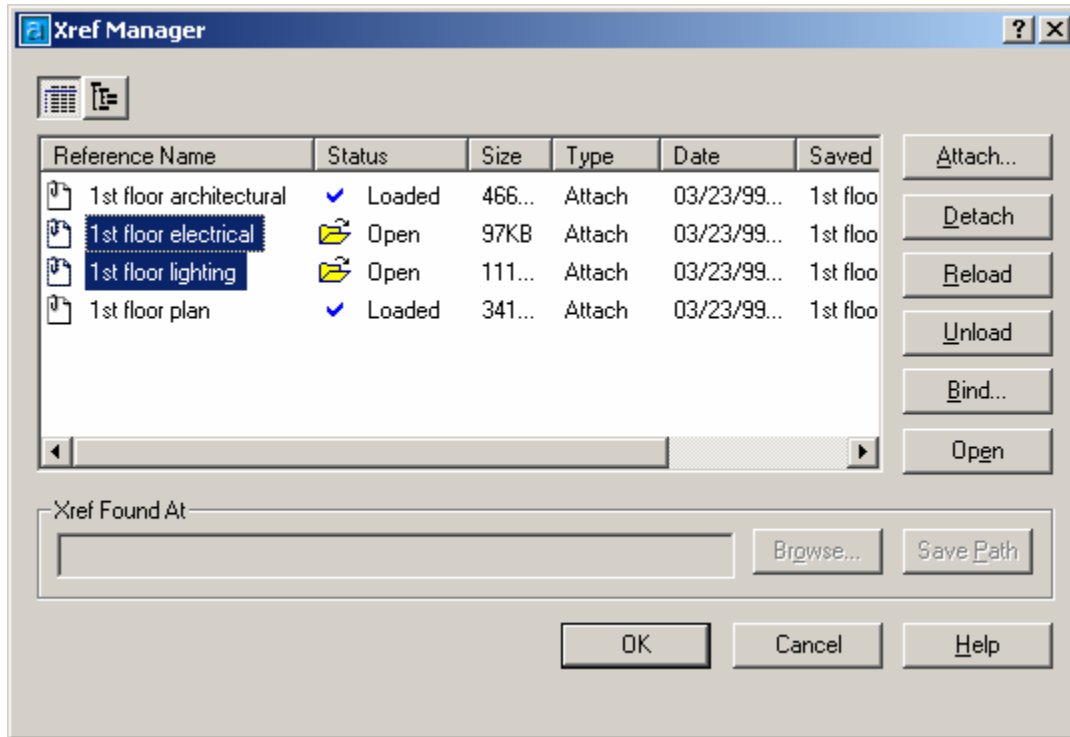
With the host drawing open, you can simply select the xref you wish to modify and choose Open Xref from the right-click menu. You can even select multiple xrefs at the same time and each file will open in its own drawing window.

The new XOPEN functionality is also available at the command line and in the Xref Manager dialog box.



### Xref Manager

The Xref Manager has been updated to include the new Open button, enabling you to tag multiple xref files for opening. New icons provide visual cues for the status of each xref file. Upon exiting the Xref Manager, all of the tagged files will automatically open in their own AutoCAD windows.

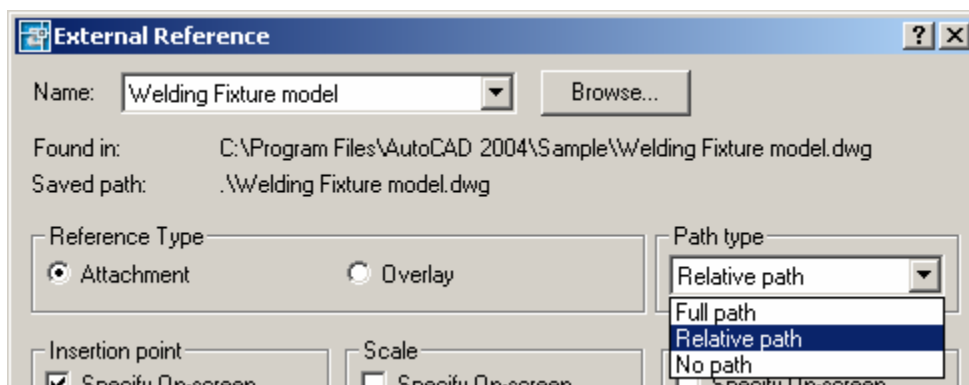


**Figure 28. Xref Manager with files selected to open**

The Xref Manager and other xref-related tools have been enhanced to offer new, resizable dialog boxes.

### Xref Search Paths

Assigning and searching of xref paths is easy and consistent. Attaching xref files in AutoCAD 2004 enables you to specify a full or relative path. Relative paths of nested xrefs are searched relative to their immediate host file, not the current drawing.



**Figure 29. External Reference dialog box with path types displayed**

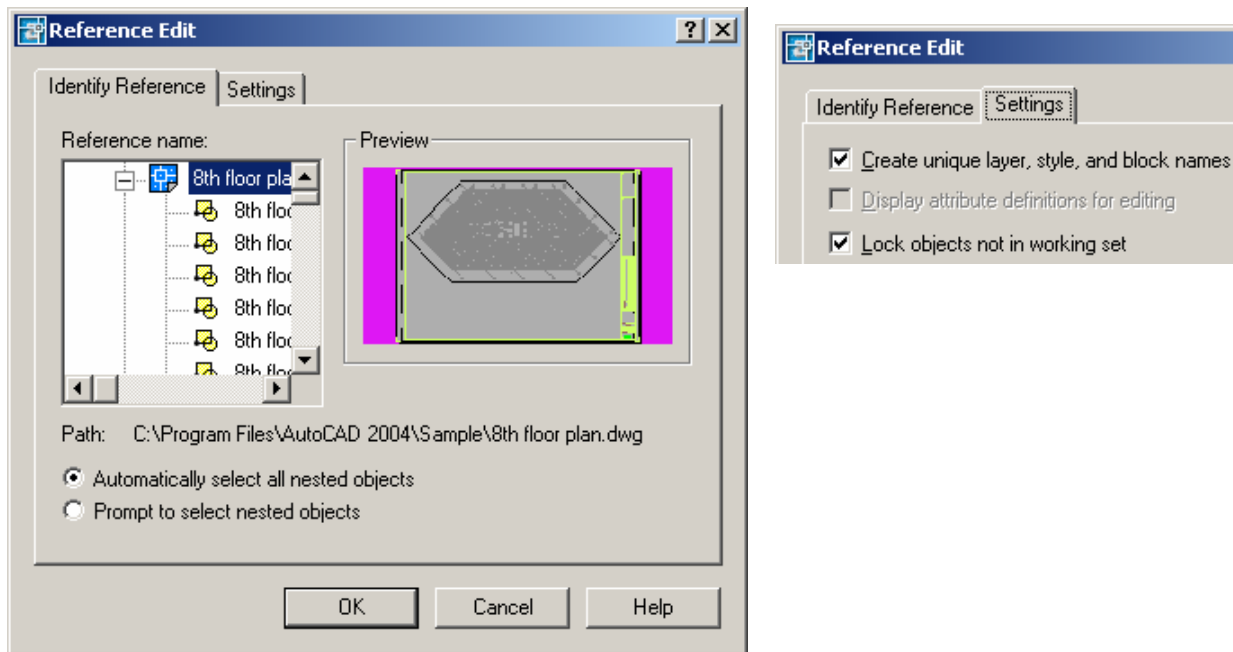
AutoCAD 2004 software provides the following consistent search order for xrefs:

- Explicit path associated with xref
- Current folder of host drawing
- Project paths
- Support paths
- Start-in folder

## Editing Xrefs

In-place reference editing has been enhanced in AutoCAD 2004, offering greater efficiency and ease of use.

The resizable Reference Edit dialog box displays a full hierarchical tree of referenced geometry. You can choose to have AutoCAD automatically select all nested objects or prompt to select nested objects, and you can choose to lock objects not in your working set.



**Figure 30. Reference Edit dialog box**

## Autodesk Buzzsaw Integration

AutoCAD 2004 software is integrated with the Autodesk® Buzzsaw™ online project collaboration service, enabling you to share drawings, documents, and project team communications in one central and secure online location. You can easily access and distribute your AutoCAD drawings with the user-friendly direct link to your Buzzsaw site.

## CAD Standards

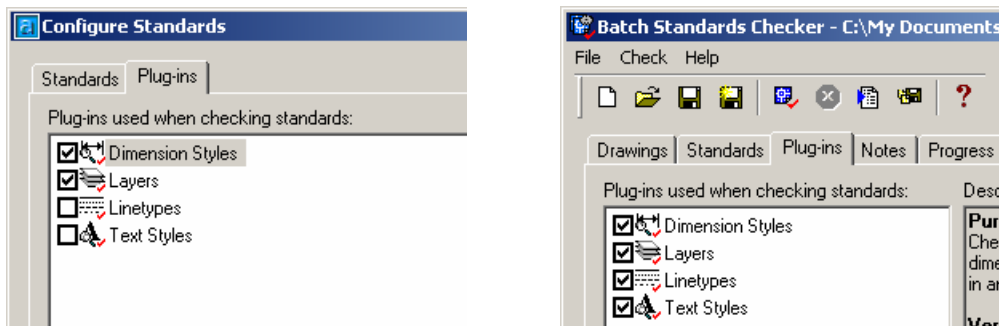
With the CAD Standards functionality available in AutoCAD 2004, you can select the type of standard you want checked—dimension and text styles, layers, or linetypes—so the software checks only for violations that are important to your office. The standards manager automatically runs in the background while you work, instantly notifies you of any violation, and suggests a fix. In addition, you can now easily send CAD standards audit reports as email attachments and print them in a reader-friendly format.

### Improved User Interface

The user interface has been improved to provide easier and more intuitive access to standards functionality. Modifications include minor adjustments to button locations and labels, the addition of pull-down menus in the Batch Standards Checker, and more visible and understandable alert boxes in the Check Standards dialog box.

### Plug-In Filtering

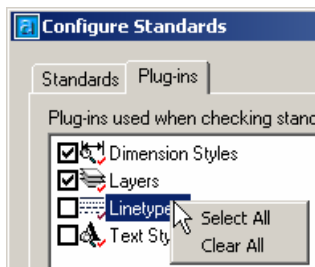
With the addition of checkboxes on the plug-ins tab you can select only the types of standards you wish to check against. During both interactive and batch audits, you can quickly identify just the types of standards violations that interest you.



**Figure 31. Plug-ins tabs in Configure Standards and Batch Standards Checker**

Filtering plug-ins allows you to check only for those standards that interest you. If, for instance, linetypes are not important to you, uncheck the linetype plug-in. Then, neither the interactive audit nor batch audit will report any information on linetype standards violations.

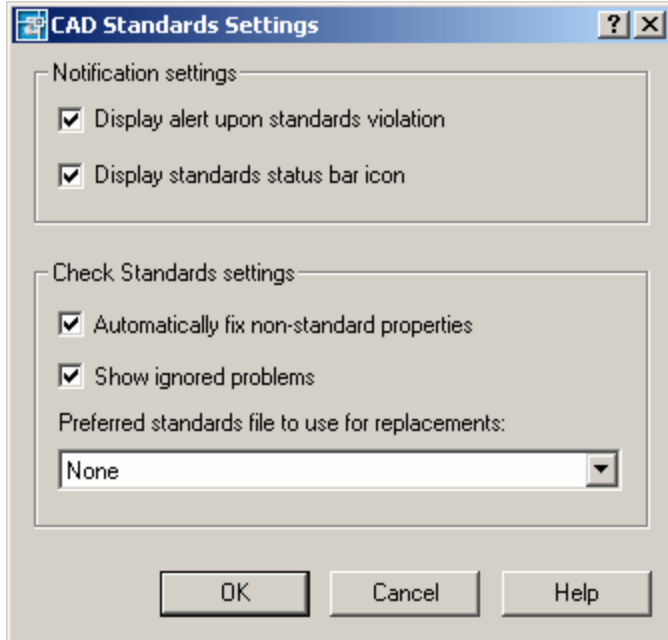
Right-clicking a plug-in reveals a shortcut menu with the options to quickly Select All or Clear All.



**Figure 32. Context menu**

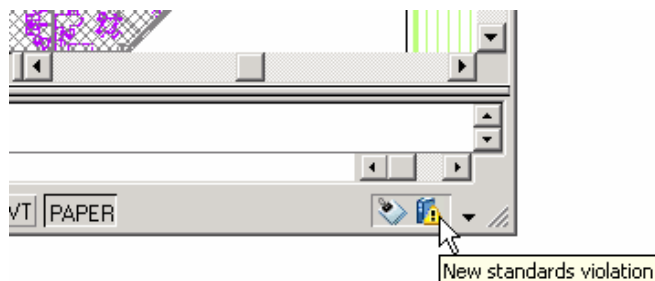
## Real-Time Notification and Repair

AutoCAD 2004 technology provides several methods for you to monitor standards violations. A system setting in the new CAD Standards Settings dialog box enables AutoCAD to display an alert and a status bar icon upon standards violation.



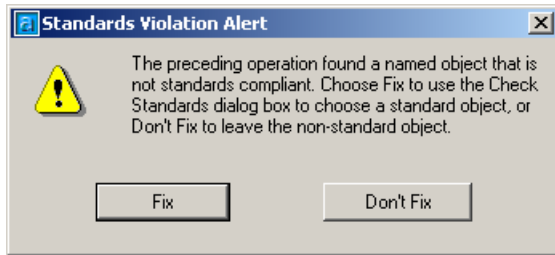
**Figure 33. CAD Standards Settings dialog box**

The status bar icon provides real-time, unobtrusive, visual feedback when a standards violation has occurred. You can quickly identify the standards compliancy status of a drawing without having to run an audit. Clicking on the icon automatically opens the Check Standards dialog box enabling you to review and fix any violations.



**Figure 34. Standards Violation icon**

Displaying an alert upon standards violation immediately notifies you when the preceding operation caused a standards violation. For example, if you create a non-standard layer, or modify the properties of a standard layer, the software will warn you that the preceding operation created non-standard objects and offer you the opportunity to fix the violation.

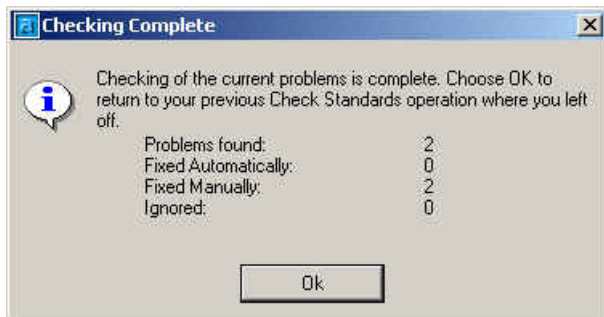


**Figure 35. Standards Violation Alert dialog box**

Sometimes you may want to deviate from the standard despite the warning. With the Standards Violations Alert you still have all the flexibility previously available in AutoCAD. Simply choose Don't Fix to dismiss the alert and create the non-standard objects.

Selecting the fix option automatically launches the Check Standards dialog box with a suggested fix. The Check Standards dialog box is automatically filtered to display only the standards violations that are a direct result of the preceding operation. This automatic filter saves you time and enables you to focus on the current violation without being distracted by other, unrelated problems.

If the option to automatically fix non-standard properties is enabled, any properties-related standards violations are automatically fixed without displaying the Check Standards dialog resulting in added efficiency.



**Figure 36. Checking Complete notification**

## Stand-Alone Reports

The batch audit report is now self-contained and can be easily sent to others as an email attachment. The formatting of the report can be optimized for printing. The HTML report is displayed when the Batch checker completes a checking operation or when you choose View Report. The HTML data is created as a table to facilitate cut-and-paste operations from your browser to a spreadsheet application for easy manipulation of the data.

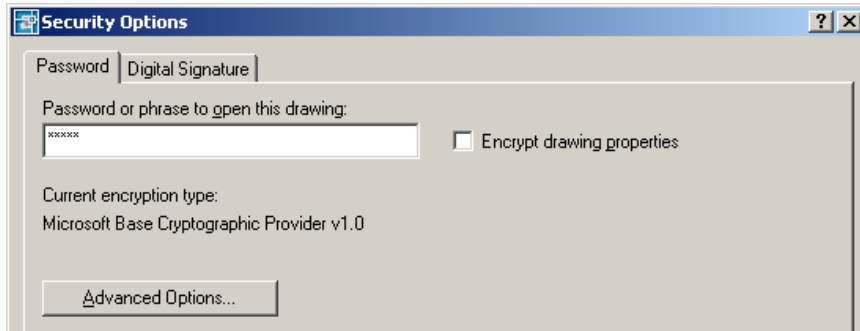
The printer-optimized version of the HTML report introduces a check box at the top of the report labeled "Printer-friendly version." Choosing this check box causes the display of information in the browser to be optimized for output to an 8.5 x 11 inch page in portrait mode.

## Drawing Security

AutoCAD 2004 software offers powerful new functionality that enables you to transmit drawings in a secure environment. The new Security Options dialog box enables you to apply password protection as well as digital signatures to your AutoCAD drawings. You can access the Security options dialog in several ways—by using the command line



(SECURITYOPTIONS command), the Options dialog box (Open and Save tab), or the Saveas dialog box (Tools>Security Options).

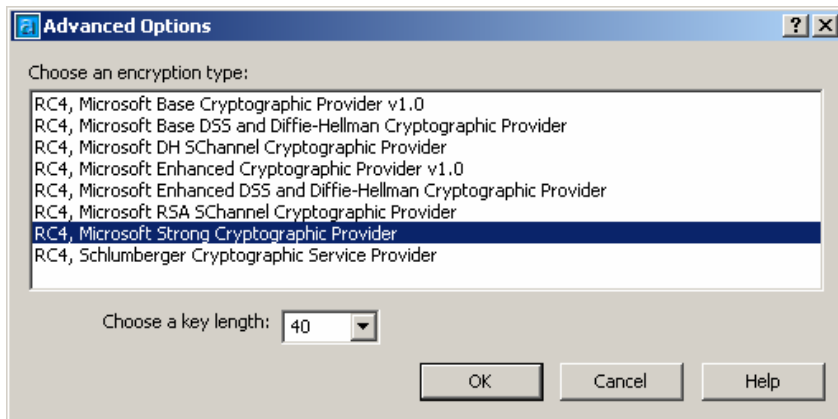


**Figure 37. Security Options dialog box**

### Password Protection

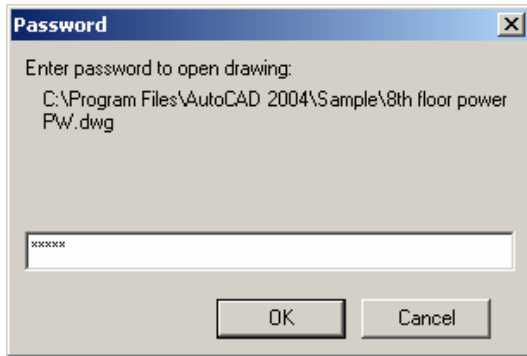
Applying password protection to your drawings enables you to distribute them with the security of knowing that they cannot be opened by an unintended source.

On the Password tab of the Security Options dialog box, you can provide a password that will be required by the recipient of the drawing in order to open it. The Advanced Options dialog box enables you to choose from various encryption types.



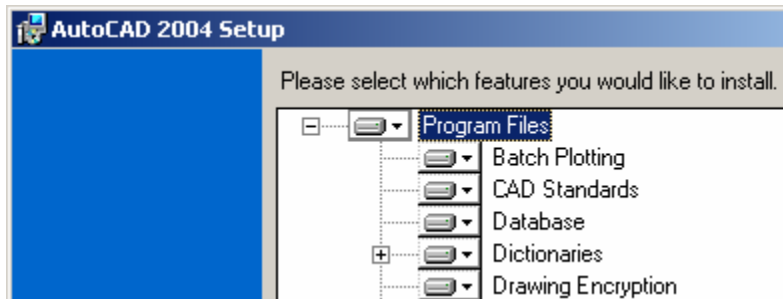
**Figure 38. Advanced Options dialog box**

Anyone trying to open a password-protected drawing is presented with the Password dialog box.



**Figure 39. Password dialog box presented upon opening**

IMPORTANT! If a password is lost or forgotten the drawing cannot be recovered. Password protection functionality can be disabled by selecting a custom install and turning off the Drawing Encryption feature. If the password feature is disabled, the Password tab will not appear in the Security Options dialog box.

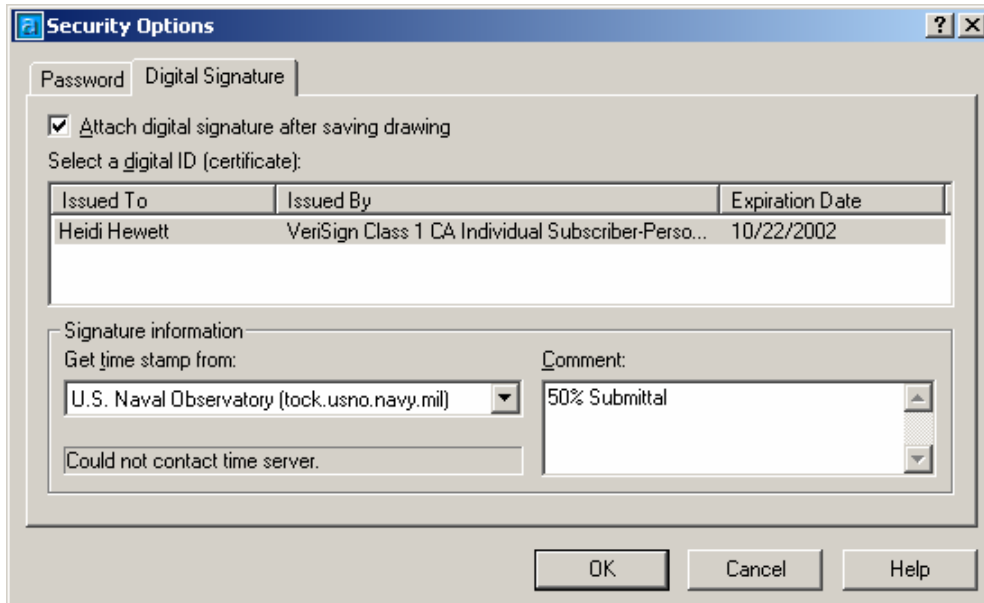


**Figure 40. Drawing Encryption option**

## Digital Signatures

The digital signatures functionality provides another method to ensure the security of your digital design data. Digitally signed drawings can be verified for origin (confirming identity of the person(s) who sign drawings), state (the drawings have not been changed), and non-repudiation (signers cannot claim they never signed drawings).

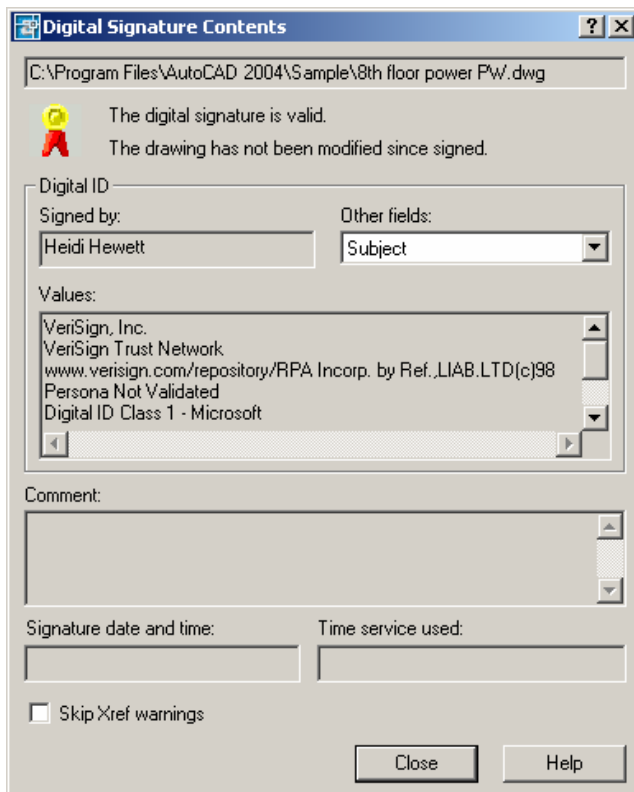
On the Digital Signature tab of the Security Options dialog box, you select any installed signature and attach it to the current drawing. If you do not have a digital signature currently installed, you can use any number of digital certificate providers. Many providers, such as VeriSign, even offer a free trial.



**Figure 41. Digital Signature tab**

In addition to selecting a digital signature, you can select from a list of time stamps and include a comment with your signature.

Opening a drawing with a digital signature attached displays the Digital Signature Contents dialog box, enabling you to review information associated with the digital signature.



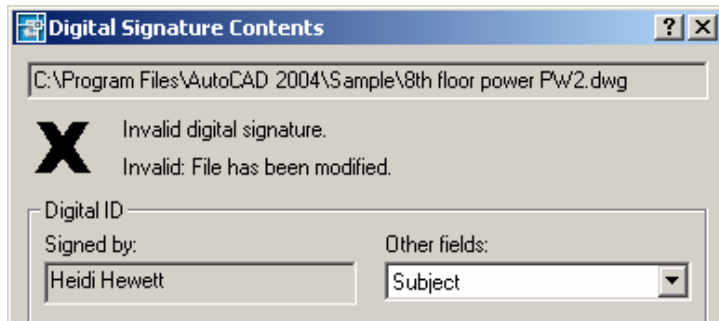
**Figure 42. Digital Signature Contents**

A digital signature icon appears on the status bar indicating if an open drawing has a digital signature attached. Additionally, the drawing icon in the Windows Explorer indicates the presence of a digital signature.



**Figure 43. Digital Signature icons**

Opening and then saving a digitally signed drawing invalidates the signature for security purposes. The signature data, however, is maintained with the drawing.



**Figure 44. Invalid digital signature**

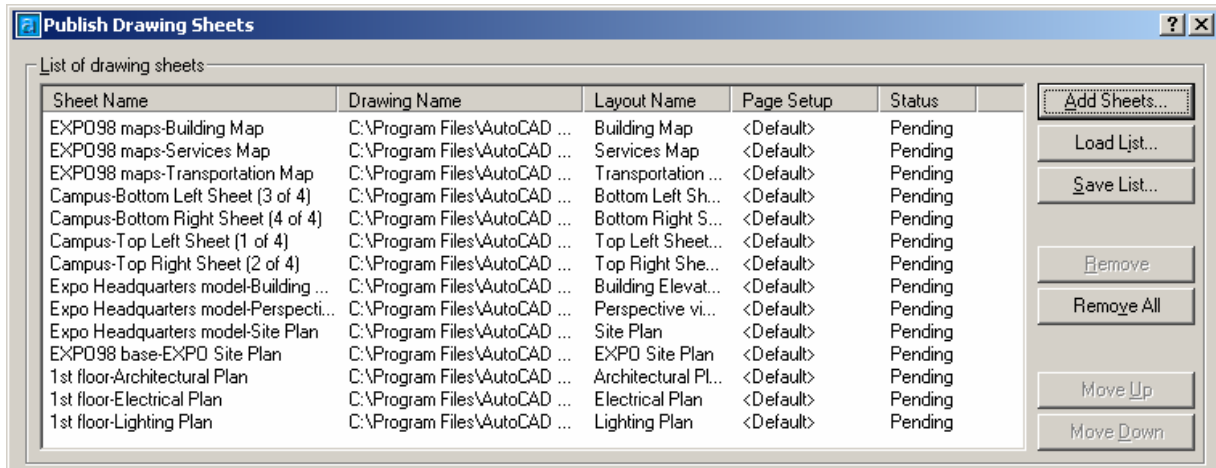
## Publishing Drawing Sets

The new Publish functionality in AutoCAD 2004 provides an easy way to publish electronic and paper drawing sets. It gives you the flexibility to publish directly to paper, or to an electronic Design Web Format™ (DWF™) which can be distributed in lieu of paper drawings. The DWF file format has evolved from a representation of a single plot to a container that can hold a multiplicity of sheets. This file format is the electronic representation of a drawing (or plan) set.

These AutoCAD publishing tools enable you to create complete electronic drawing sets in a single DWF file. You can now minimize the number of files being transmitted and avoid confusion regarding file order for viewing and printing. Distributing DWF versus DWG files helps ensure data security because, unlike DWG files, DWF files cannot be modified. You can further enhance drawing security by using password protection; ensuring that the DWF-based drawings cannot be viewed or printed by unauthorized personnel.

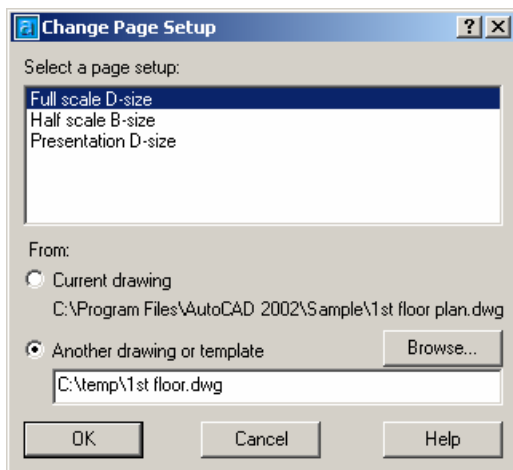
### Publishing Your Drawing Sets

The new PUBLISH command displays the Publish Drawing Sheets dialog box and automatically lists all layouts in the current drawing. You can quickly add layouts to the drawing set using the Add Sheets button or by dragging and dropping DWG files directly from Windows Explorer. All layouts from the drawings are automatically added. You can remove unwanted sheets from the drawing set and arrange the order in which they will be published or plotted.



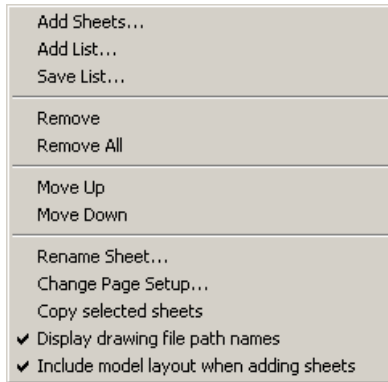
**Figure 45. Top portion of Publish Drawing Sheets dialog box**

You can create, save, and edit the list of DWG files to be published, and you can apply consistent formatting rules (such as orientation and scale) to the set using the Page Setup feature. Each sheet in the drawing set can be plotted with the current settings, or you can apply a page setup from any other drawing or template file.



**Figure 46. Change Page Setup dialog box**

A shortcut menu offers additional controls enabling you to quickly copy selected sheets, display drawing file path names, and automatically include the model layout when adding sheets.



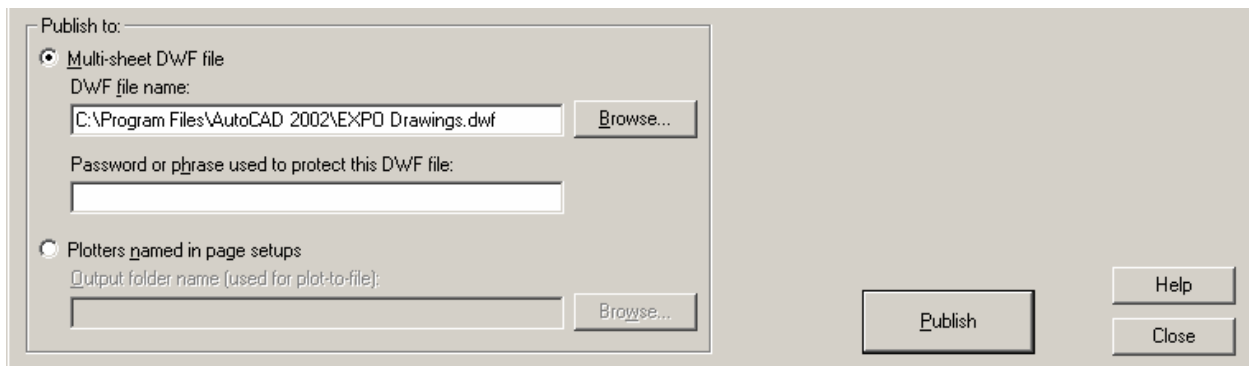
**Figure 47. Shortcut menu**

### **-PUBLISH/+PUBLISH Commands**

The -PUBLISH and +PUBLISH commands help automate the publishing process. The -PUBLISH command and a presaved Drawing Set Description (DSD) file can run in a script, enabling publishing and plotting of large drawing sets without user interaction. The +PUBLISH command opens the Select List of Sheets dialog box enabling you to select a presaved DSD file. Selecting a DSD file automatically opens the Publish Drawing Set dialog box and prepopulates it with the list of drawing files.

### **Published Output**

Drawing sets can be published either electronically to a DWF file, or to any plotter or plot file named in the page setup of a DWG file.



**Figure 48. Lower portion of Publish Drawing Sheets dialog box**

Publishing to the plotters named in page setups enables you to combine the flexible plotting options offered by the core AutoCAD program with the ease of using drawing sets. You can plot multiple drawings in the order specified by the drawing set and to the devices indicated in the page setup. This simplified, flexible batch-plotting requires minimal user interaction.

Publishing to a multi-sheet DWF file enables you to create an electronic drawing set with multiple sheets conveniently merged into a single file. You can effortlessly distribute these sets to others in your organization or project team, via email, ftp, or project websites, or even on CD.

Immediately after publishing your electronic drawing set, you can view your DWF file. Anyone can view these electronic drawing sets using just a web browser and a free, small and easily downloadable plug-in (no AutoCAD installation required).

You can even print--to scale--the entire set or individual sheets, and the resultant paper output will be of the same high quality as if it had been plotted directly from the AutoCAD application.

### Log Files

Whether you publish to a plotter or to a DWF file, an optional log file can be created listing the sheet name, layout name, full drawing file path and status for each sheet in the drawing set. The creation of log files enables you to quickly analyze the status of the drawings to determine which, if any, must be republished.



**Figure 49. Saving a log file**

## Viewing Electronic Drawing Sets

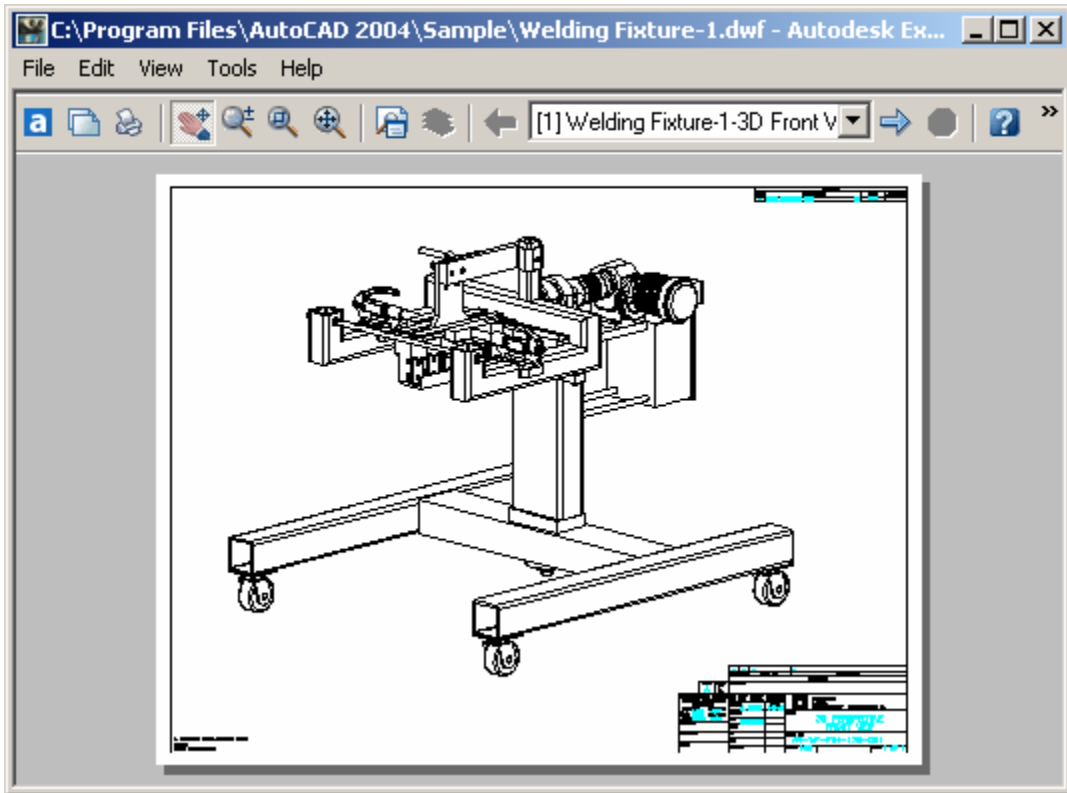
Creators and consumers of design information can readily access design drawings in DWF format throughout the life of the project. Multi-sheet DWF files can be easily viewed and printed in order with Autodesk's free DWF viewer, Autodesk® Express Viewer.<sup>2</sup>

### Autodesk Express Viewer

Autodesk Express Viewer is a small, fast viewer with simple, easy-to-use tools for anyone who needs to quickly view and print to-scale DWF files. You can open a DWF file either by double clicking on it in the Windows Explorer or by choosing Open from the File menu. Autodesk Express Viewer supports viewing for all DWF file formats, including the new DWF 6.

---

<sup>2</sup> This product is subject to the terms and conditions of the end-user license agreement that accompanies the download of this software.



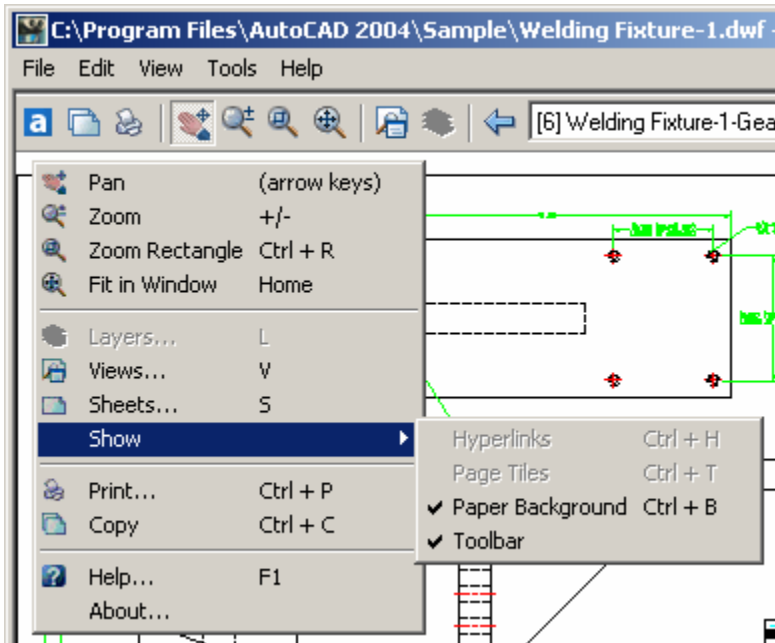
**Figure 50. Autodesk Express Viewer**

Autodesk Express Viewer can be distributed both as an ActiveX control for Microsoft Internet Explorer and as a stand-alone application. The install file for Autodesk Express Viewer is less than 2MB and can be easily emailed to design partners or posted on a project website.

### **User Interface**

A simple and intuitive interface provides access to viewing and printing functionality using familiar methods including pull-down menus, a toolbar, and a right-click menu.



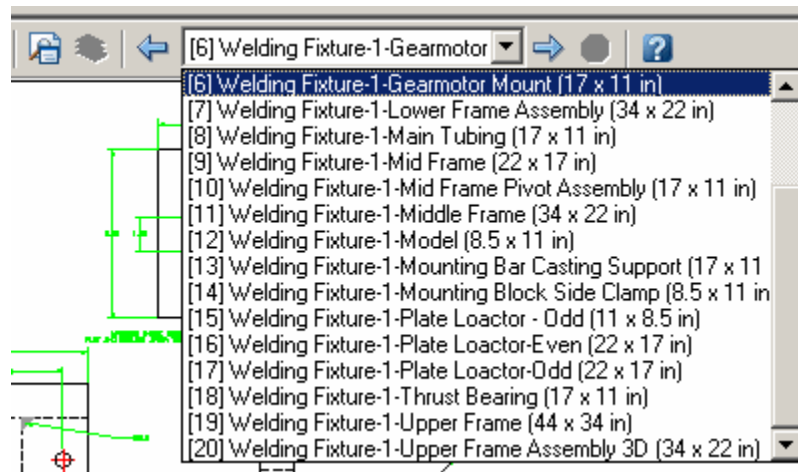


**Figure 51. User interface**

You can use familiar viewing tools such as pan, zoom, zoom rectangle, and fit in window to easily manipulate the display area. Using the Views and Layers tools, you can restore named views that were saved in the drawing and turn specific layers on and off.

### Multiple Sheets

With Autodesk Express Viewer, you can view any drawings included in a multi-sheet DWF file. You can select specific sheets from the sheet list or use the Next and Previous buttons to cycle through the drawings in order. DWF file recipients have control over their printed output without the need for AutoCAD software, while the DWF file creator is assured that the actual design data remains secure and unchanged.

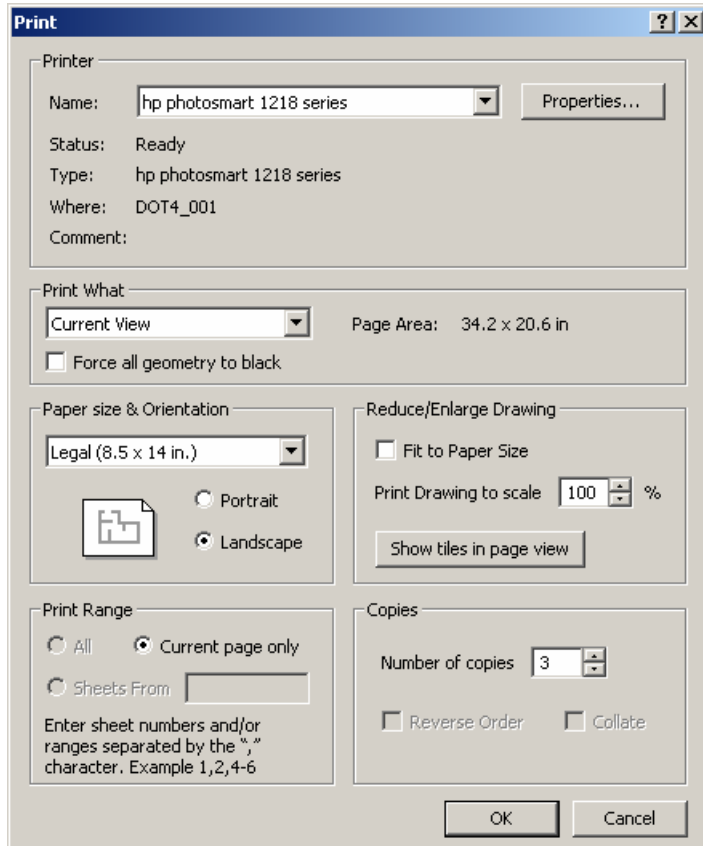


**Figure 52. Sheet list**

## Printing and Plotting

With Autodesk Express Viewer you and your design partners can print and plot drawings with the same fidelity as if they were printed directly from the AutoCAD source. You can print to scale, tile drawings across multiple pages, and more.

With Autodesk Express Viewer you can view and plot just the information you want without having to open the drawing in AutoCAD.



**Figure 53. Print dialog box**

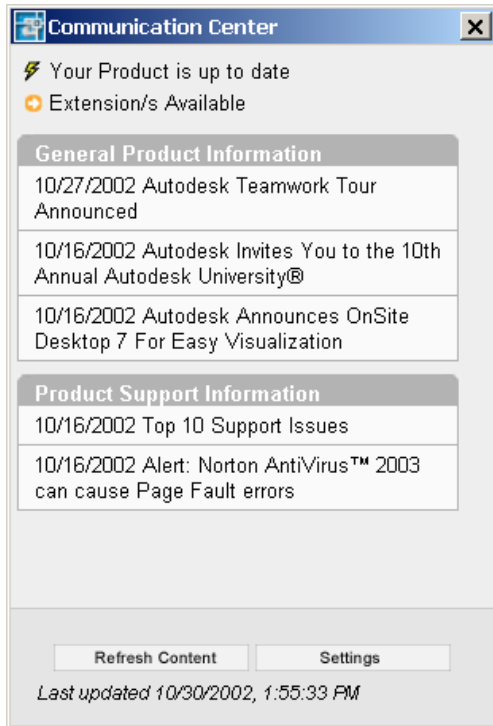
## Application Extensibility

Autodesk Express Viewer can be run as an embedded ActiveX control within the following environments: embedded Microsoft Internet Explorer (5.0+), Microsoft Word, PowerPoint®, Visual Basic®, VS.Net, and other such applications. Embedding the viewer within Microsoft applications enables you to show dynamic viewing of design data.

## Communication Center

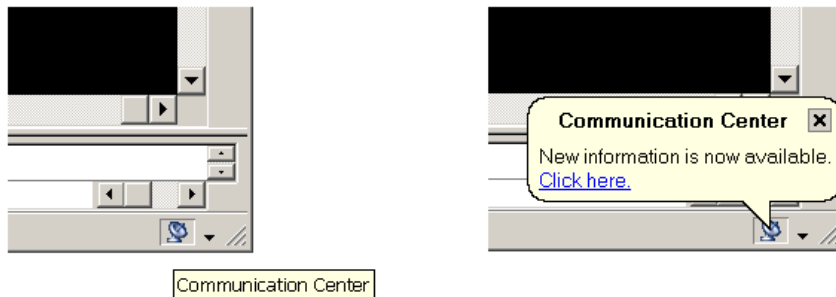
The Communication Center provides direct notification for important product-related information to keep customers up-to-date about software updates, Autodesk Subscription Program news and extensions announcements, product support information, tips, articles, and more.

Some of the Web functionality of AutoCAD Today, such as live updates, has been integrated into the Communication Center.



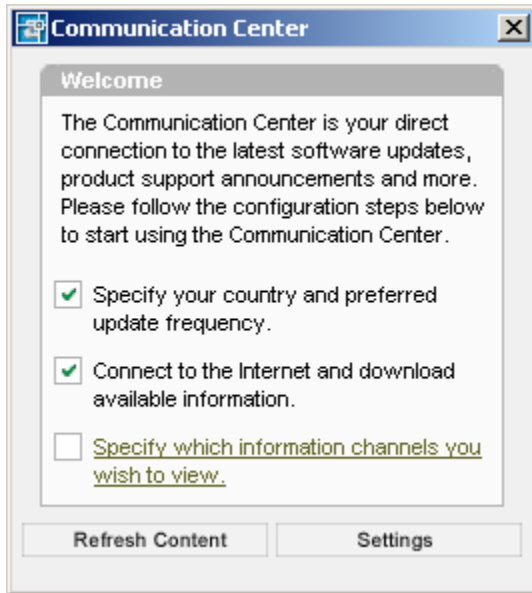
**Figure 54. Communication Center dialog box**

Access the Communication Center using the new Communication Center icon in the status bar. The tray bubble announcements can be used to notify users when new information is available in the Communication Center.



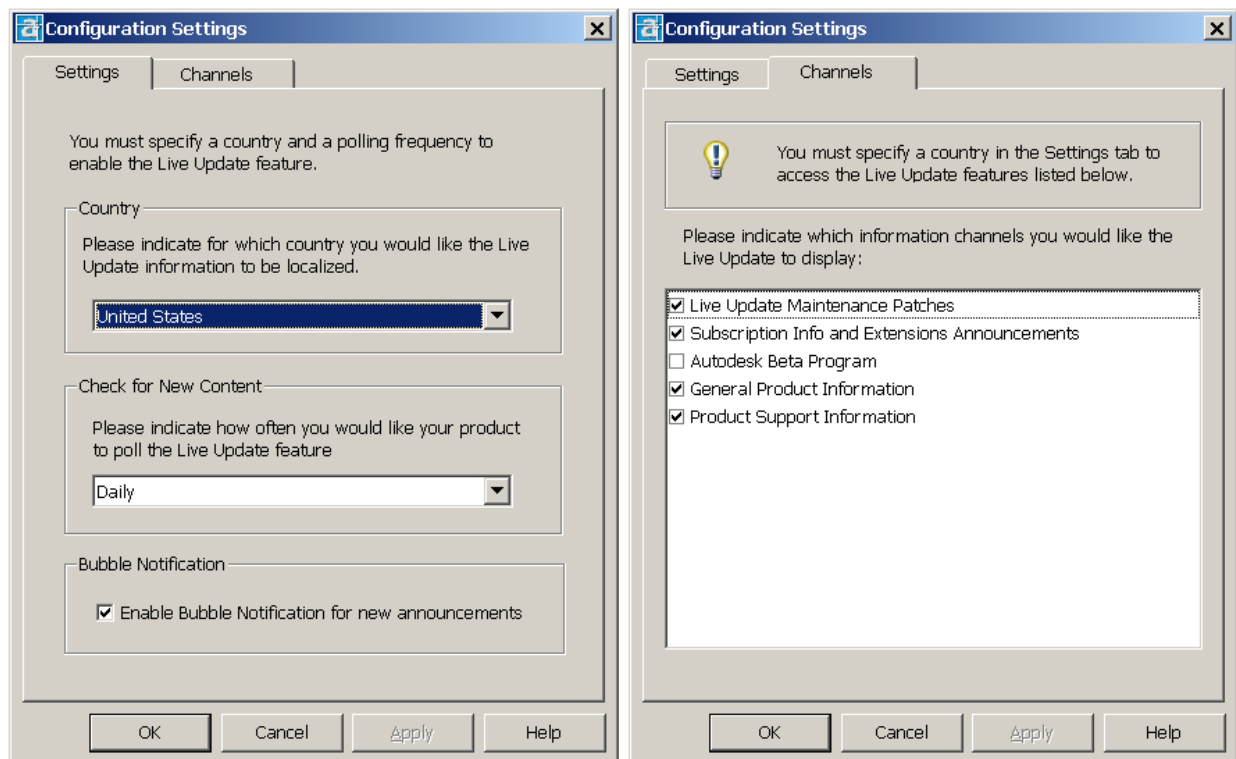
**Figure 55. Communication Center icon and notification**

A Welcome wizard steps you through the process of choosing your configuration options.



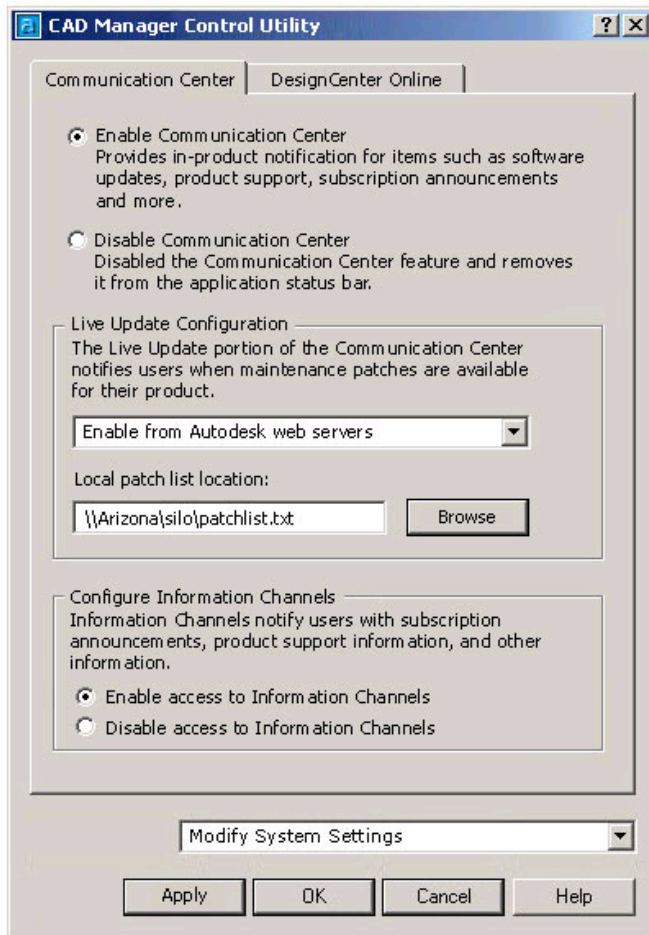
**Figure 56. Communication Center Welcome Wizard**

By right-clicking on the Communication Center icon or by choosing Settings in the main Communication Center dialog, you can configure how often you want the Communication Center to access the Internet, your notification preferences, and which information channels you wish to receive.



**Figure 57. Communication Center configuration**

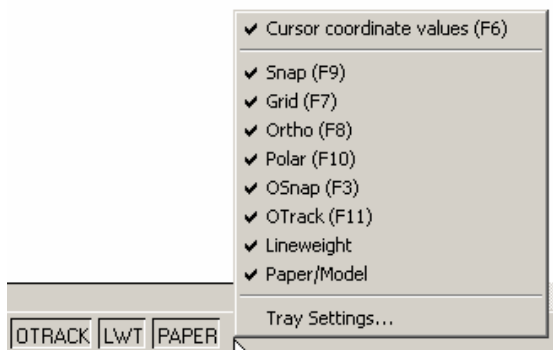
CAD Managers can control which of their customers have access to the Communication Center feature both within the Network Setup Wizard and in the stand-alone CAD Manager Control Utility located on the AutoCAD 2004 product CD-ROM.



**Figure 58. CAD Manager Control Utility**

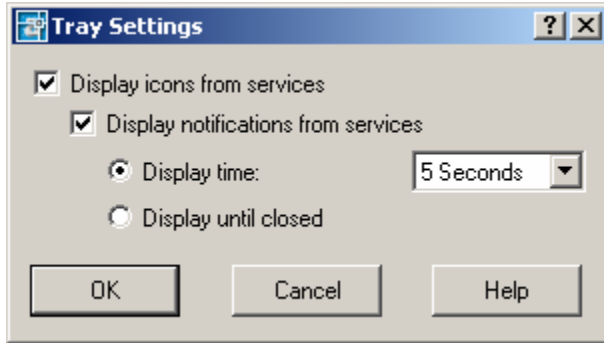
## Status Bar

The status bar has been updated in AutoCAD 2004 to offer you more control over the tools that are displayed. Right-click over the status bar to display a list of options.



**Figure 59. Status bar context menu**

The Tray Settings dialog box enables you to control the display of icons in the status tray.



**Figure 60. Tray Settings dialog box**

The icons indicate various states of the drawing session, including the presence of xrefs, standards, digital signatures, and more.



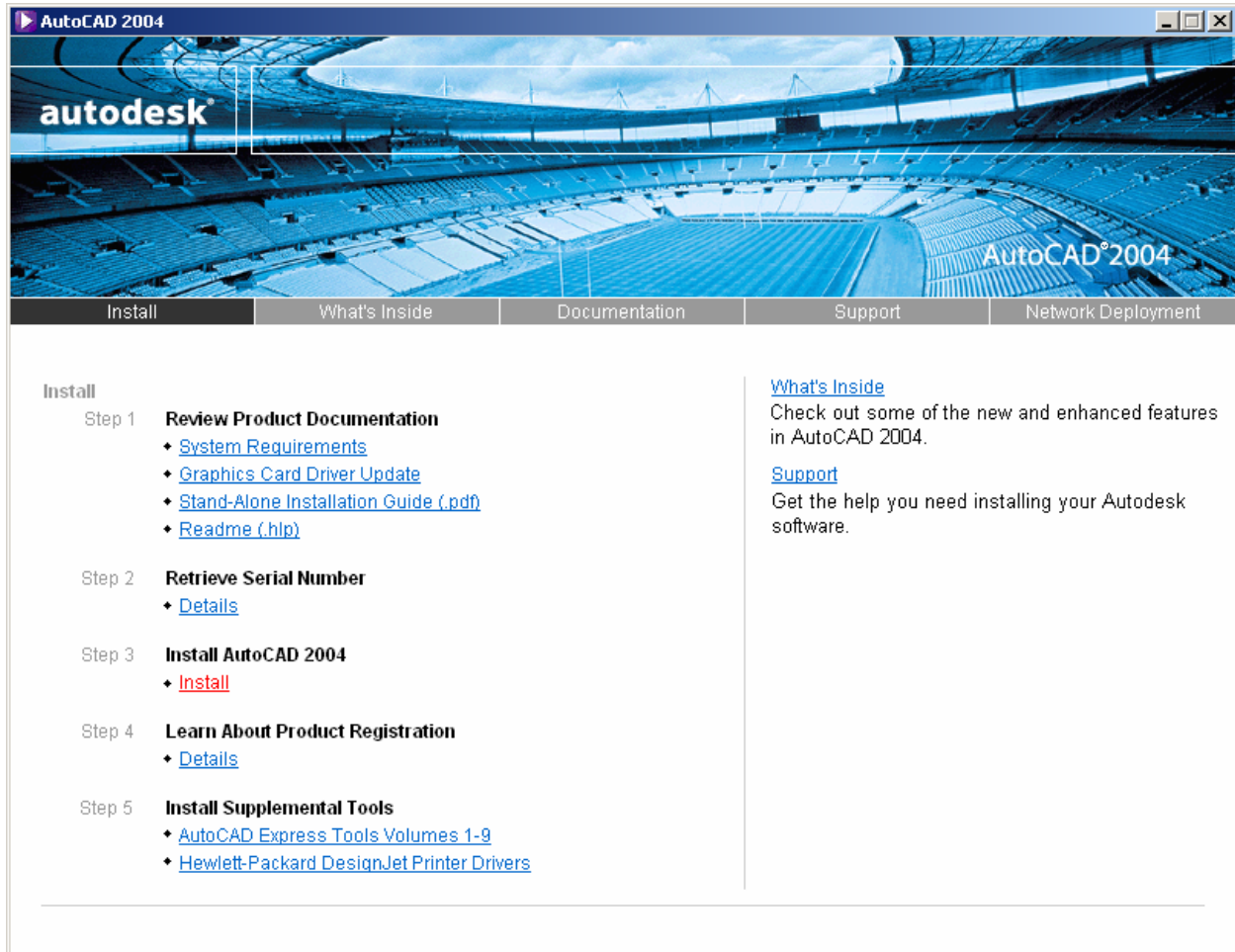
**Figure 61. Status icons**

# Manage with Efficiency

## General Installation

### CD Browser

AutoCAD 2004 installs by way of a new CD browser which provides useful information and assistance and makes finding and installing the product and supplemental tools easier than ever.



**Figure 62. AutoCAD 2004 CD browser**

### Side-by-Side Installation

AutoCAD 2004 can be installed and run alongside all other Autodesk product releases, enabling you to operate your existing production software during the transition. This side-by-side compatibility provides a smoother transition of user knowledge and project data.

## Microsoft Windows Logo Certification

AutoCAD 2004 received certification for the “Designed for Windows XP—Optimized for Enterprise” logo program. This ensures that AutoCAD 2004 runs smoothly in the XP corporate environment, including the ability to run AutoCAD 2004 as a limited-rights user.

## Power User

Power User privileges are no longer required for typical users to run the AutoCAD program on Windows 2000 and Windows XP systems.

## About Box

The About Box has been updated to include product information such as serial number, version number, and more. You can quickly find important product information about your particular installation.

## CAD Manager Tools

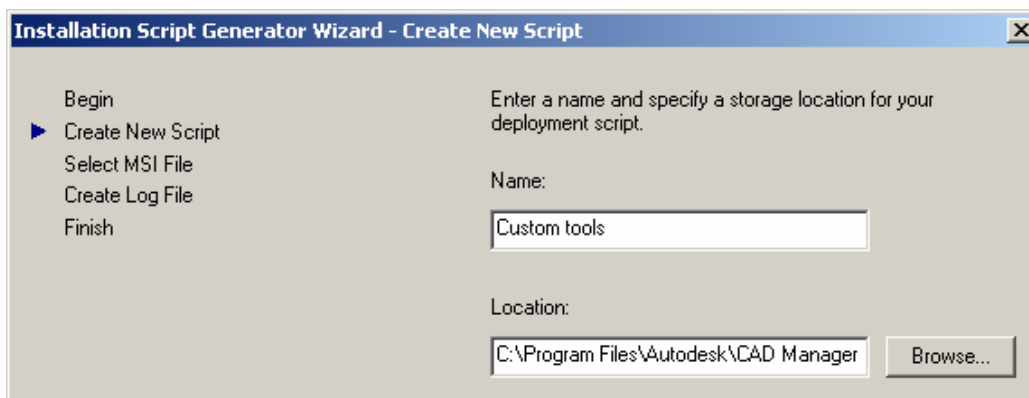
The AutoCAD 2004 installation CD includes tools to assist CAD and IT Managers in managing and deploying software.

## Autodesk Product Manager

The Autodesk Product Manager enables you to inventory installed Autodesk software on a PC, LAN, or WAN from a single location. The CAD or IT manager can easily keep track of software assets to ensure maximum return on technology investment and avoid excess software purchases.

## Installation Script Generator

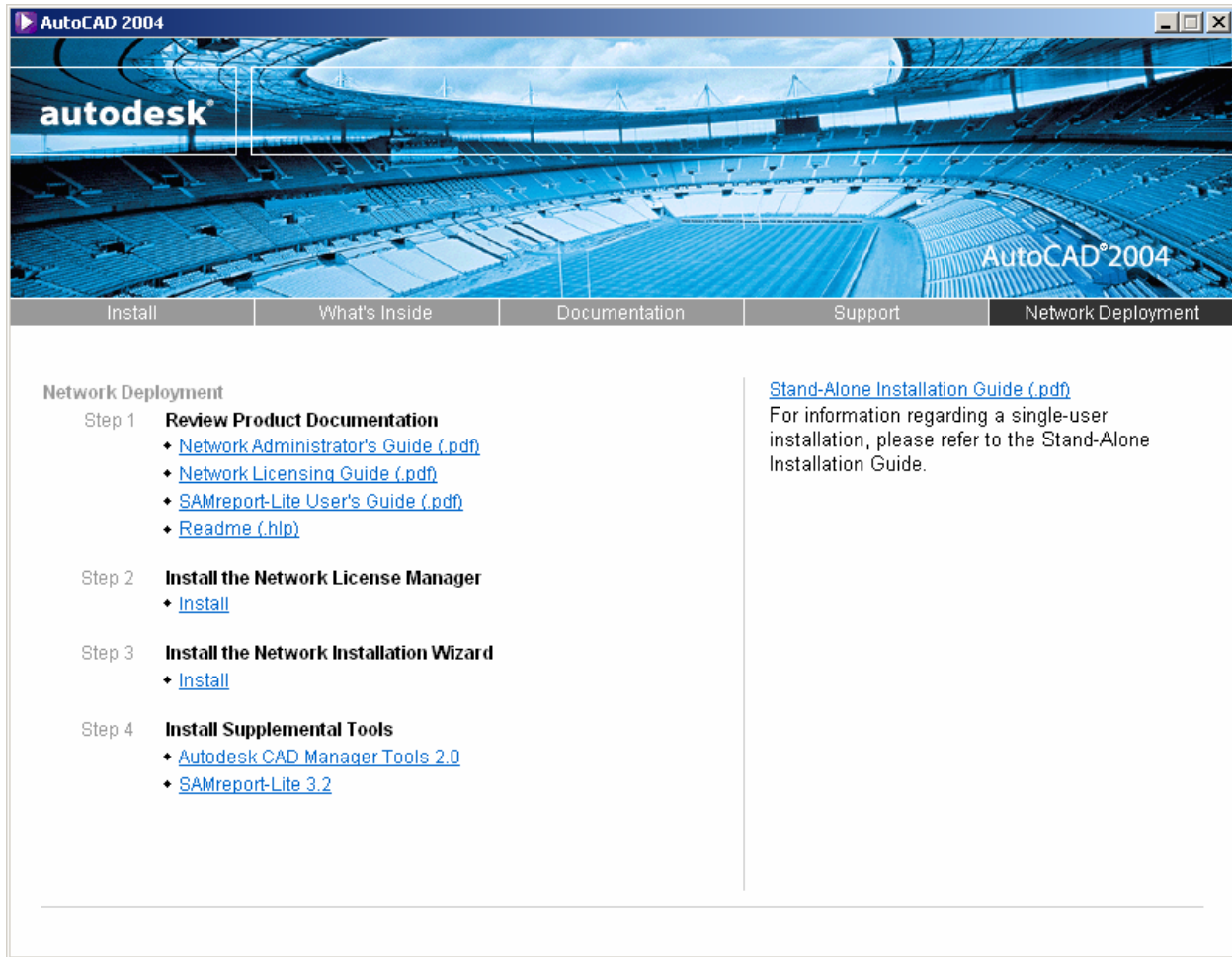
The Microsoft® Windows® Installer (MSI) technology used in AutoCAD 2004 enables you to use scripts to install products without any need for user participation other than starting the script. The Installation Script Generator enables you to quickly create scripts to deploy service packs, extensions, and even your own customization tools.



**Figure 63. Installation Script Generator Wizard**

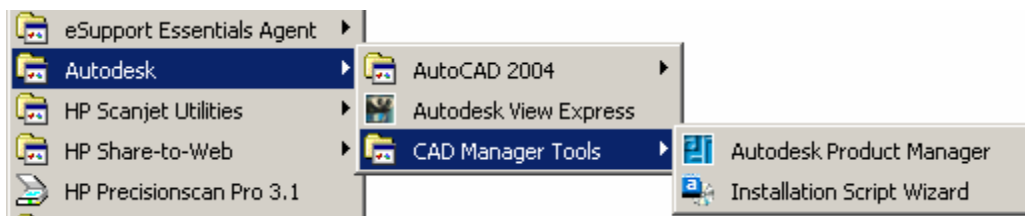
The Autodesk Product Manager and the Installation Script Generator can be installed from the Autodesk CAD Manager Tools 2.0 link on the Network Deployment page of the AutoCAD 2004 CD browser.





**Figure 64. Installing CAD Manager Tools 2.0**

Once installed, the CAD Manager Tools can be accessed from the start menu under Autodesk.

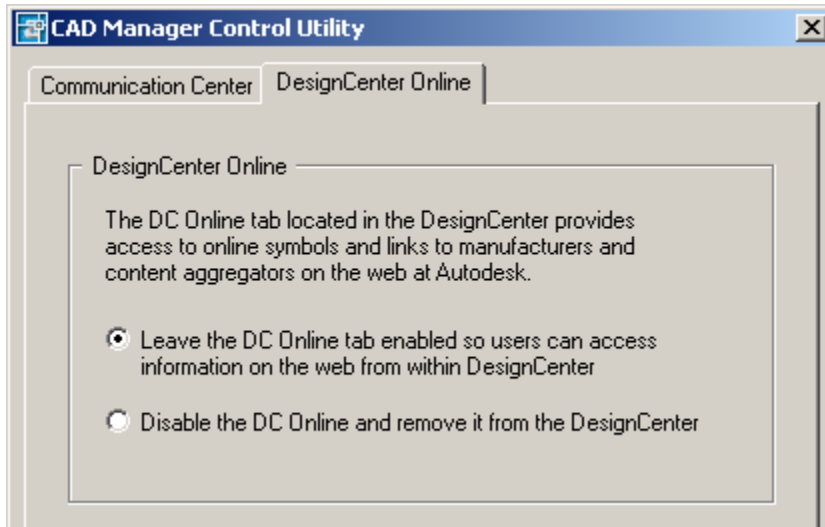


**Figure 65. Accessing the CAD Manager Tools**

### CAD Manager Control Utility

Some IT or CAD managers may want to restrict user access to Internet-based features such as DesignCenter Online or the Communication Center. The AutoCAD 2004 product CD includes a CAD Manager Control Utility which can be used to disable these features. The CAD Manager Control Utility can be found in the following location on the product CD:

Bin\ACADFeui\support\CADManangerControl\CMControl.exe

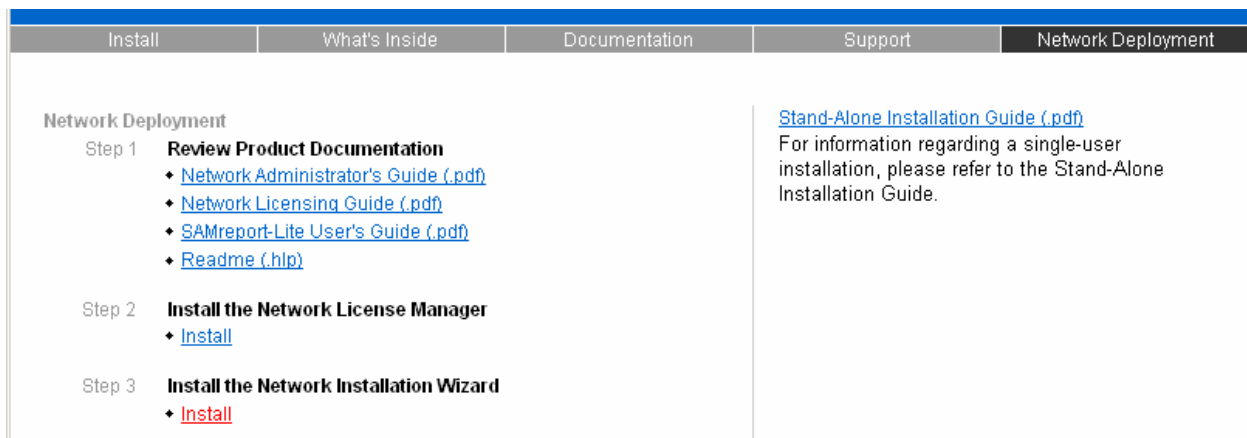


**Figure 66. CAD Manager Control Utility**

## Software Deployment

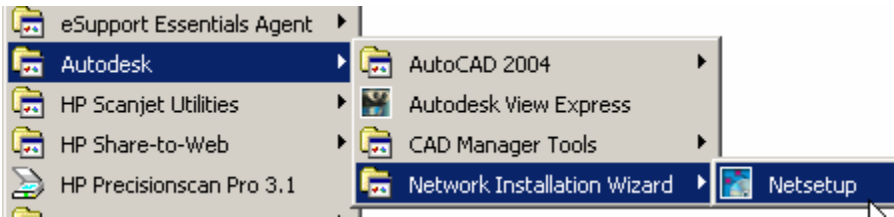
The Network Installation Wizard (NIW), available with AutoCAD 2004, provides more flexibility for creating and modifying administrative deployment images. The NIW creates Microsoft Installer (MSI) administrative images, which allow you to customize installations and apply patches. For example, you can create one deployment for a default install and another that includes your customized files and support paths. Using the NIW saves time by enabling CAD managers to configure their AutoCAD installations just the way they want, without many manual workarounds required by earlier versions of AutoCAD software.

The Network Installation Wizard can be installed from the Network Deployment page of the AutoCAD 2004 installation menu.



**Figure 67. Installing the Network Installation Wizard**

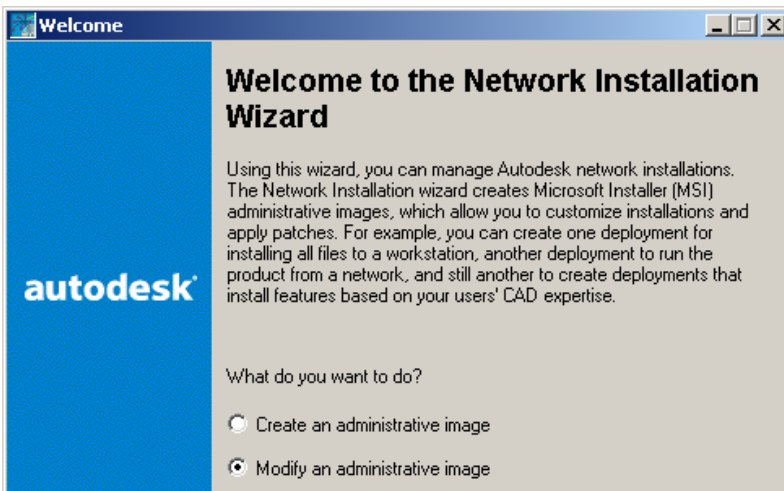
Once installed, the Network Installation Wizard can be accessed from the Start menu under Autodesk.



**Figure 68. Accessing the Network Installation Wizard**

### Modify Deployment Images

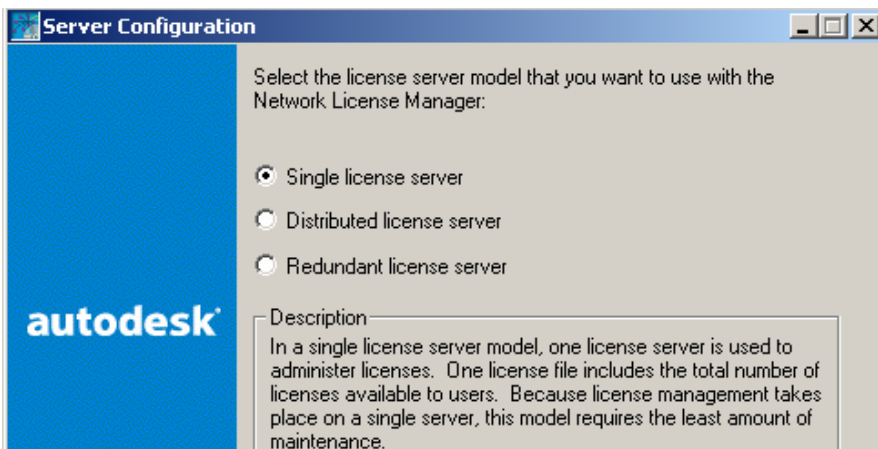
The NIW enables you to create deployment images as well as modify existing images, saving CAD managers from having to recreate an entire image because of one small change.



**Figure 69. Network Installation Wizard**

### Server Configurations

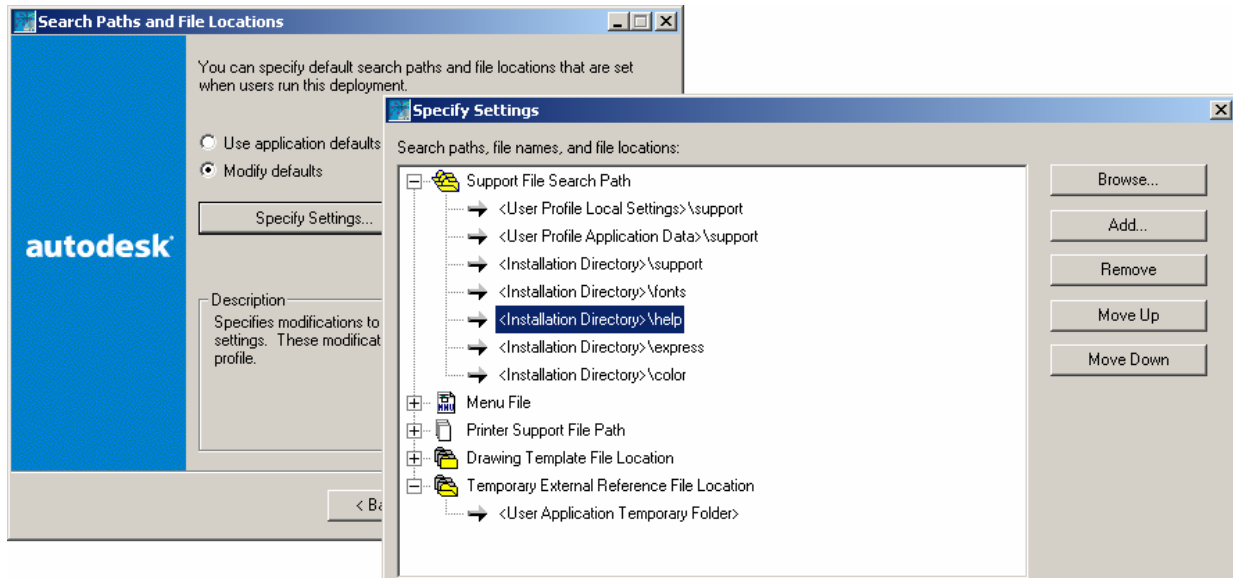
When creating a deployment for network installation, the NIW enables you to easily choose from various licenser server options including: Single, Distributed, and Redundant.



**Figure 70. Server Configuration dialog box**

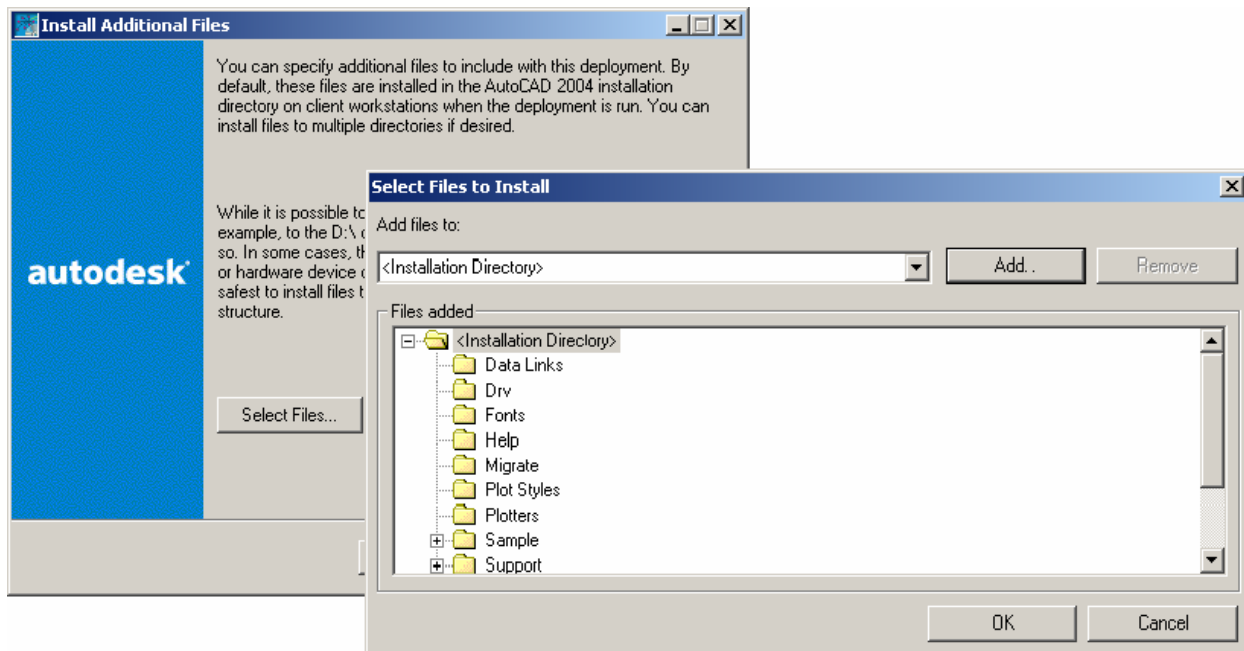
## Custom Deployment Tools

New tools in the NIW enable CAD and IT managers to specify search paths and to easily access custom templates, drivers, menus etc.



**Figure 71. Search Paths and File Locations**

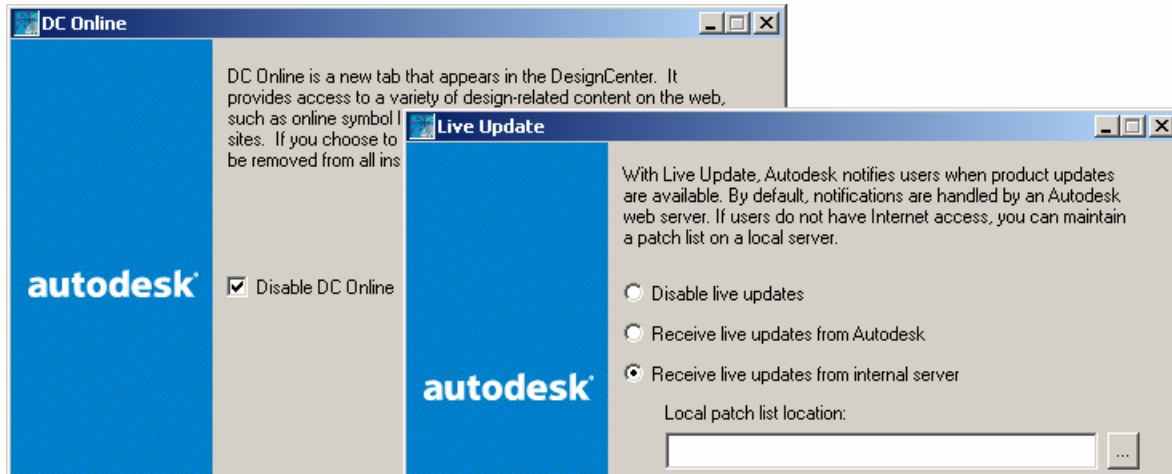
You will save time and resources with the ability to quickly and easily set up the AutoCAD desktop to meet your corporate standards.



**Figure 72. Install Additional Files**

## Administrative Controls

The NIW enables the system administrator to create deployments that control the access users will have to internet functionality such as live updates and DesignCenter Online.



**Figure 73. Administrative controls in the Network Installation Wizard**

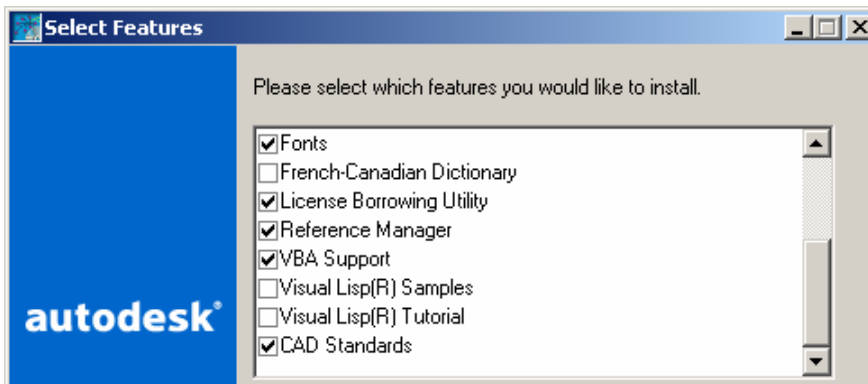
## Software Licensing

AutoCAD 2004 takes advantage of powerful new functionality offered by FLEXlm<sup>®</sup> 8.3, enabling you to maximize your use of AutoCAD licenses.

### 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 can then be used on your computer, enabling 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.

The license borrowing functionality is an option in the deployment and must be enabled for any users who might need to borrow a network license.

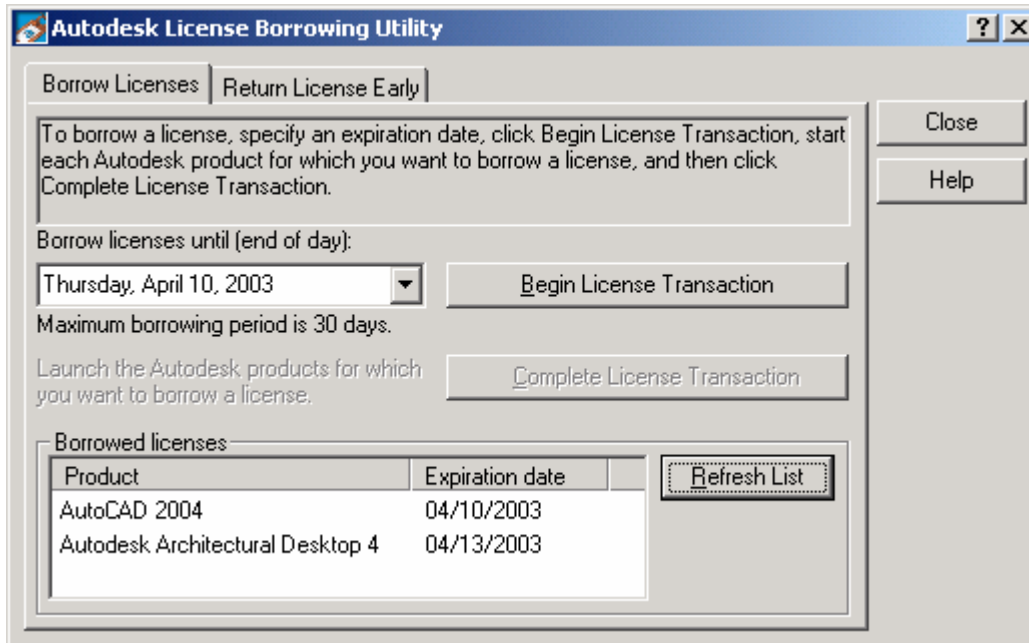


**Figure 74. License borrowing option in Deployment wizard**

You can control the maximum borrowing period via an environment variable in the options file, setting it as high as 30 days. The license can be returned to the server at any time prior to the expiration.

The Options File offers new controls including the ability to set a maximum number of licenses that can be borrowed at any one time. Additionally, the system administrator can explicitly allow or deny use of the borrow feature to any user(s) or group(s) of users.

Using the License Borrowing Utility, the license users can borrow a license for up to the maximum borrowing period.



**Figure 75. Autodesk License Borrowing Utility**

When the time expires, the license is automatically revoked on the user's computer and is restored on the server without requiring a connection to the license server. If the specified borrow time is not needed, the Autodesk License Borrowing Utility can be used to return the license early. If the user needs more time after the current borrowing period has ended, he can dial into the server and borrow another license.

### 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.

License Timeout is enabled when you define a setting in the Options file that specified how long a product session can be idle before the license is reclaimed by the license server. When you set this flag in the Options file, the user's license will be reclaimed by the license server if the client connection is lost or if the product is idle on a workstation for greater than the defined timeout period.

If a user's license is lost because of the idle timeout, the product attempts to claim a new license once the user attempts to run the product again. If no license is available, the user can save work before the product shuts down.

## autodesk®

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