

# Enterprise Partner Case Study



## Windows Vista Release Improves Productivity and Collaboration for Computer-Aided Design

### Overview

**Country or Region:** United States  
**Industry:** Professional services

#### Partner Profile

With seven million users, Autodesk, Inc. is the world's leading software and services company for the manufacturing, infrastructure, building, media and entertainment, and wireless data services fields. Founded in 1982, Autodesk is headquartered in San Rafael, California.

#### Business Situation

Customers are looking for better ways of working together using large 2-D and 3-D design files to bring products to market more quickly, but inconsistent file formats make collaboration difficult.

#### Solution

Autodesk expects to develop future versions of AutoCAD® software to run on Windows Vista. The application's published file format, DWF™, is integrated with Windows Vista so that users can more securely share small, accurate files that everyone can view.

#### Benefits

Enhanced collaboration  
Fuller understanding  
Faster pinpointing of information  
and increased productivity

#### Product Solution Items

Windows Vista™

“By integrating DWF technology with XPS in Windows Vista, we're providing our customers with ways to share richer information for better understanding among an entire project team.”

Amar Hanspal, Vice President for Autodesk Collaboration Solutions, Autodesk, Inc.

Companies need to improve their life cycle management capabilities to more efficiently bring products to market and expand their business. In the wake of globalization, information workers such as those who use computer-aided design (CAD) solutions need improved tools for more lucid collaboration. Windows Vista™ will help Autodesk®, Inc. customers clarify and streamline processes between AutoCAD® users and their project teams. AutoCAD users can publish DWF™ files and more securely share these compact files with their project teams. The DWF technology will be integrated with the Windows Vista XML Paper Specification Viewer so that users will no longer need to be CAD-equipped in order to view rich design files. Windows Vista will also provide Integrated Search, Live Icons, and Preview Pane capabilities for AutoCAD users, allowing those involved with complex projects to find the information they need, when they need it.

## Situation

Across all industries, project timelines are becoming shorter and less flexible. Whether bringing products to market more quickly, deploying new services, or opening new stores, organizations need to be more efficient to stay competitive. As a result, many organizations accelerate the pace of product design, construction, and manufacturing processes. Successfully compressing design cycles and starting certain processes earlier in the overall project schedule require teams to be better informed so that direction changes can take place in real time.

Due to globalization and increased outsourcing, project teams are larger and more geographically dispersed, resulting in communication challenges and complicated workflows—for every creator of CAD data, there could be at least 10 users of that information, including people inside and outside the organization. More and more, design data needs to flow beyond the firewall as organizations increasingly hire contractors to manage aspects of a project.

Simply locating the right design data to send to a colleague often presents a problem because complex designs—such as those for large-scale assemblies—involve hundreds of iterations and thousands of parts that accumulate over the course of many years. Finding the data and information can be overwhelming, causing a designer to simply start over and impacting productivity and efficiency.

To deliver the right information to all relevant parties and speed project timelines, designers are moving to more complex, 3-D modeling. Although powerful, 3-D modeling software, enormous file sizes, and inconsistent file formats make it challenging for people to share information with those who need it. For example, if an engineer creates a design and needs to send it to the customer for approval, that customer may not have the software to read a CAD file. Paper copies sent via mail use up valuable time, and they don't give a complete view of the design, making it hard for the engineer to explain the full depth of the design to the customer.

## Solution

Autodesk solutions help customers overcome a variety of workflow challenges from the design process through maintenance and operations. The company offers affordable applications that speed time to market, lower costs, and increase profitability. Autodesk's application, AutoCAD, is used by designers, engineers, contractors, facility managers, and others for creating conceptual designs, technical drawings, and other documentation. The AutoCAD foundation technology fits into any design solution that requires a general, customizable drafting and design tool, and it supports other Autodesk industry-targeted applications as well as hundreds of third-party applications.

Windows Vista provides new opportunities for AutoCAD users who publish files to DWF, which is used to share 2-D and 3-D CAD files with project team members. DWF allows architects and engineers to maintain the data-rich design information that is built into CAD files and 3-D models and more securely share it at a fraction of the original file size. Using DWF technology helps organizations to efficiently manage and share design information with project teams so that they can streamline review cycles, data management, and collaboration. In addition, organizations can better maintain their intellectual property because DWF allows people to distribute published design files rather than originals.

Working with Microsoft® Corporation, Autodesk has integrated DWF technology into the Windows Vista file registry and the 2007 Microsoft Office system. Windows Vista support will allow AutoCAD users to publish and share DWF files with their project teams without requiring specialized CAD-viewing software. Stakeholders can review the designs in digital format using the out-of-the-box integration with the Windows Vista XML Paper Specification (XPS) Viewer.

Autodesk anticipates taking advantage of the search and organization capabilities in Windows Vista to help users make the most of their time and existing documentation.

## Benefits

Windows Vista will help AutoCAD users to collaborate more easily, will help increase productivity through advanced search capabilities, and will provide richer, clearer content for customers. Amar Hanspal, vice president for Autodesk Collaboration Solutions, says, "Working with Microsoft to support DWF technology on the Windows Vista platform helps democratize CAD, allowing engineers and designers using AutoCAD and other CAD software to more easily share critical design data at every stage of the project and product life cycle processes."

### Enhanced Collaboration

DWF files are data-rich and can include drawing scales, views, and hyperlinks; they support 3-D design for a fully interactive presentation of the design model. However, they also are highly compressed—as small as 5 percent of a regular CAD file—making it far easier to transmit huge design models through e-mail or the Web.

Best of all, non-CAD users can review DWF files. Because the Windows Vista registry will support DWF files, customers need not download and install additional software to support collaboration among AutoCAD users and their project teams. For example, a designer can quickly and easily share AutoCAD sheet sets with a customer or contractor by sending them as a DWF file by e-mail. The customer or contractor can review the designs digitally, eliminating delays that often occur when shipping paper-based designs. In addition, the XPS support in DWF files provides an open format upon which Autodesk partners can add functionality, including specialized viewers and tracking systems.

### Fuller Understanding

Using DWF (rather than other formats such as TIFF or JPEG) enables designers, architects, engineers, and others to share the full effect of their designs. DWF-based drawings retain intelligent design data when distributed to customers, vendors, suppliers, contractors, sales and marketing departments, and other extended team members. Stakeholders will not have to deal with a watered-down version of the information; with DWF files, the original intent of the design is retained. "We're helping to eliminate some of the incompatibilities that exist in the world of

design," says Hanspal. "Those incompatibilities have historically resulted in delays due to misperceptions or lack of insight about a design. By integrating DWF technology with XPS in Windows Vista, we're providing our customers with ways to share richer information for better understanding among an entire project team."

### Faster Pinpointing of Information and Increased Productivity

Desktop search, dynamic Live Icon thumbnail image previews, and the file Preview Pane help the project team members to locate the specific files without having to search for or open all possibilities. Rather than searching a traditional file directory and opening files one at a time, users can pinpoint the needed file with metadata searches and visually identify the diagrams they need. Sizable CAD files can take up to several minutes to open; by reducing the time spent searching, users can quickly gather relevant information.

For instance, an architect designing a branch building for a repeat customer can search for past specifications, designs, and other useful information by using any piece of related data—such as a previous address or construction company name—regardless of where the information is stored. The search may return files containing a range of design files, and the architect can view thumbnails to see the general content of the files. The architect can then use metadata tags to locate the correct files, preview them through the pane, and verify the selection.

Hanspal says, "In the design and manufacturing industry, it's important to deliver projects quickly. Using the Integrated Search capability in Windows Vista, users will be able to find the information that they need to complete a project without waiting around or redesigning elements because of a lack of access to intellectual capital."

## For More Information

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For more information about Autodesk Corporation products and services, call (415) 507-5000, or visit the Web site at: [www.autodesk.com](http://www.autodesk.com)

## Microsoft Windows Vista

Windows Vista can help your organization use information technology to gain a competitive advantage in today's new world of work. Your people will be able to find and use information more effectively. You will be able to support your mobile work force with better access to shared data and collaboration tools. And your IT staff will have better tools and technologies to enhance corporate IT security, data protection, and more efficient deployment and management.

For more information about Windows Vista, go to: [www.microsoft.com/windowsvista/](http://www.microsoft.com/windowsvista/)