AUTODESK® DESIGN WEB FORMAT (DWF)

DWF Frequently Asked Questions
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This paper addresses several frequently asked questions concerning Autodesk's Design Web Format. It was compiled from various sources including internal Autodesk servers, emails, and previously published content. Autodesk discussion group participants will recognize most of the questions as well as their answers.

This document is quite long. The typical reader will not read this document from start to end. The normal use case is to browse the table of contents and select the question or questions of interest. For comments, questions, or suggestions regarding this FAQ please email scott.sheppard@autodesk.com.

Format Related Questions

DWF Usage

What is Design Web Format (DWF)?

Design Web Format™ (DWF™) is an open, secure, file format developed by Autodesk specifically for sharing engineering design data. Highly compressed DWF files transmit quickly, enabling the communication of rich design data without the overhead associated with typical CAD drawings. DWF files also retain the fidelity and rich data of the original file. With DWF, users can view and print the drawing, map, or model exactly as the designer intended.

DWF files are not a replacement for native CAD formats such as DWG. The sole purpose of DWF is to allow designers, engineers, developers, and their colleagues to communicate design information and design intent to anyone who needs to view, review, or print design information.

More information on DWF, including a DWF White Paper, is available online at www.autodesk.com/dwf.

Is DWF an "open" file format?

The DWF format is an open file format. It is freely available to everyone – even Autodesk competitors. Autodesk publishes the DWF specifications and includes C++ source code, libraries, and sample code in the DWF Toolkit for anyone who wants to build applications around the DWF format. Furthermore DWF is based on other industry standards such as ZIP/ZLIB, XML, JPG/PNG/bitonal-G4-Tiff, and HSF.

More information is available online at the Autodesk DWF Developer Center.

How much does DWF cost?

Publishing, viewing, and printing DWF files are free. DWF publishing capabilities are integrated into Autodesk® applications. Furthermore, with the free Autodesk® DWF™ Writer, anyone can create DWF files from any Windows®-based application by simply choosing Autodesk DWF Writer from the standard Printer Name drop-down list. The Autodesk DWF Writer enables users of other CAD applications that do not offer built-in DWF publishing, such as Bentley® MicroStation® and Solidworks®, to create DWF files. Viewing and printing DWF files is free with the lightweight Autodesk DWF Viewer. You can also view, print, measure, mark up, track changes, and integrate reviews with Autodesk DWF Composer.

Why is Autodesk investing in DWF? What is Autodesk's strategy? Why free?

Customers benefit greatly from the ability to use the DWF format. DWF enables greater collaboration in the design cycle and provides downstream benefits to users in the supply chain. Autodesk is expanding customers' access to data and helping them get

more value out of it. Autodesk is also helping them increase their return on their existing investment in CAD applications.

Who is using DWF? What are they doing with it?

Autodesk is currently working with many of its partners on software solutions based on DWF including: UGS, Microsoft, HP, Océ, Intel, KIP, CADZation, Informative Graphics, Adenium Systems, PLP, Bluebeam, and Tailormade Software. Autodesk is actively working with these partners in terms of converting, printing, and extending design information based on DWF. See Autodesk Technology Partners Adopt DWF to Share Rich Design Information Quickly, Easily, and Securely on the Autodesk web site for more information.

Autodesk has a wide variety of customers using DWF. This includes industries such as Building Information, Manufacturing, and Infrastructure. Some examples include MKM & Associates, City of Charlotte and Mecklenburg County, British Airport Authority, Barraco and Associates, and Centrex Homes. For more information, see the Customer Stories section of the Autodesk web site.

How does DWF compare to PDF? When should each format be used?

In a nutshell, the Portable Document Format (PDF) from Adobe is well suited to text-based documents such as specifications; however, when it comes to design data, DWF has some decided advantages.

Looking at DWF versus PDF file formats reveals some commonalities between the two. Both formats produce self-contained files, support multiple pages, and provide copy, print, and password-protection functions, as well as raster and vector graphic support. With the purchase of Adobe® Acrobat® 6 Professional, users can publish files from AutoCAD software, preserve CAD layers, and create redlines and comments as they can with the DWF format.

However, PDF falls short compared to the DWF format in several key capabilities. Although the DWF format was designed specifically for sharing rich design data, PDF, or Portable Document Format, was designed for text-based document exchange. Today Autodesk provides a better format for distributing and sharing engineering design data with DWF files. The DWF format provides

- o **Accuracy, fidelity, and data richness**. DWF is built to support real-world coordinate measurement and 3D viewing. DWF files can be produced at a much higher precision than PDF, which is required for accurate presentation and measurement of engineering designs.
- o **Performance and scalability**. DWF files are normally much smaller than PDF files–often 1/3 to 1/10 the size. DWF files transmit faster, load faster, and can be emailed more easily without hitting system limits. The DWF viewing technology renders large models faster and enables real-time manipulation of large data sets through the use of spatial indexing technology not available with PDF.

- o **Productivity and workflow**. The DWF format supports advanced markup, measurement, and workflow features not available with PDF. DWF includes markup remarks, timestamps, history, and status information and supports standard engineering markup symbology to improve communication. DWF measurements reflect real-world units rather than paper distances on a viewport-aware basis without requiring user calibration. The Autodesk DWF Composer and AutoCAD applications make full use of DWF intelligence with markup browsing and round-trip markup.
- o **3D graphics**. DWF 3D capabilities best capture the design intent of engineering models, including assembly metadata. View and print 3D DWF files published from Autodesk Inventor 9 or the beta versions of 3D publishing for Autodesk Architectural Desktop 2005 and Autodesk Building Systems 2005.

DWF Security

In this age of digital design information, many participants in the design process have asked questions regarding DWF and security.

Is DWF a secure format?

Yes, DWF files are secure, helping to protect the integrity of the original design. DWF files are similar to paper plots—by default they include only what the designer intends to share. Layer information can be turned on or off; object definitions metadata, block attributes, and properties are not included unless published by the CAD user. Password protection and encryption of the DWF file further ensure the security of DWF files.

How does DWF compare to the security of paper?

One of the advantages of a DWF as compared to a source DWG is the security offered by DWF. DWF has security similar to physical paper.

When you take a measurement in AutoCAD from a DWG file, you are using a 64-bit double-precision floating point value that gives you extreme levels of precision and accuracy. You also have a tremendous amount of model intelligence. For example, an Architectural Desktop door knows it is a door, and the wall knows that it needs to have a hole to contain the door, and that the framing inside the wall needs to adjust based on the position of the door. The door and walls are not just pictures made of lines. Instead they are intelligent objects with cross-linked relationships.

When you take a measurement using physical paper and a physical ruler, we all know there are limitations to the precision and accuracy of what we can measure. For example, we all know that with this method you only have an array of inked pixels depicting a picture of a wall with a door. The model intelligence has been lost.

The DWF files you generate with default settings are essentially electronic plots generated from AutoCAD's (or another application's) plot engine. As such, many of the same limitations apply to DWF as to paper. This is where security comes in: Since the DWF file does not have the same precision and accuracy, and since the DWF geometry is tessellated (blocks and objects get exploded into their individual graphic primitives), it

is not easy to turn a DWF file back into a DWG file (just like it isn't easy to turn paper into a DWG).

Historically it has always been possible to use paper to painstaking turn a printout back into a DWG by tracing over the printout. As with paper, even if you did the work to convert the DWF file back into a DWG, you would be missing all of the model intelligence. For example, there's no way to recapture the relationship between the wall and its door. Many customers feel that physical-paper is sufficiently secure, and they want that same level of security with DWF.

As with paper:
  - o **By default DWF files do not include layer information**. This prevents users from turning off layers, printing the results, and then building something incorrectly. If desired, the DWF author can change his default so that layer information is published to the DWF.
  - o **By default DWF files do not include object definitions**. The smart objects from the DWG are turned into tessellated geometry like lines and circles. DWF files are similar to the effect of an EXPLODE operation on every object where one AutoCAD entity is tessellated into many dissociated DWF vectors.
  - o **By default DWF files are generated at 400 DPI (dots per inch) so that they have the same low precision as physical paper**. This is in great contrast to DWG which uses very high precision double-float values. Customers can specify the DPI value when publishing a DWF if they require higher precision measurements.
  - o **By default DWF files do not include metadata, block attributes, or object properties.** This data is only added to the file at the discretion of the publisher.

Though some solutions exist, Autodesk does not provide end-user tools for editing DWF graphical content.

What about cryptography, encryption, and password protection?

For additional security, DWF has digital encryption features such as password protection. You can encrypt a DWF and apply a password to the file when you create the DWF from a CAD application such as AutoCAD. Although this provides even an extra level of protection, this is not foolproof since zip password recovery applications are available via the web. Security is always a balance between the costs of keeping the data from falling into the wrong hands versus the ease of which it can be delivered into the right hands.

What about other forms of access control, digital rights management, and access logging?

Since DWF is just a digital file, it is compatible with standard enterprise security systems such as project hosting services, document management systems, and file server access control systems. You can combine these control systems with the built-in DWF encryption or use them independently.

For DRM (digital rights management), PKI (public/private key infrastructure), or other asymmetric encryption features, there are several products on the market which can encapsulate a DWF file in an encryption "envelope" that can then be controlled so that only specific people have specific revocable rights to the DWF content.

Autodesk is considering adding DRM and PKI features to a future version of DWF and the DWF Viewers.

What about digital signatures?

DWF does not yet have direct support for digital signatures, though it is planned for a future release. Some customers have used 3rd party technologies such as PGP which can place any file format (such as DWF) inside an "envelope" file which can then digitally signed by the 3rd party product.

As for visible seals, these can be applied in the CAD design application (such as AutoCAD) by inserting a graphic picture of a seal that is then printed/published into the DWF. There is no security when you do this; it is only a picture like any of the other copy-able graphics that get stored in the DWF; however, this is similar to what many city governments do when they scan in wet-signed and sealed paper into TIFF and then store the TIFF. The scan of the seal in TIFF is nothing but a picture which can easily be copied and forged. If the scanned TIFF is acceptable for them, DWF is no different in its level of security than the paper.

Note that physical ink signatures are only secure in the physical world. An electronic scan of a signature can be forged, but chemical ink on paper cannot be easily forged.

Note that digital signatures are only secure in the digital world. If you print a "seal" representing a digital signature to a piece of paper, you can simply Xerox that image or capture the image vectors as they go to the printer to forge it. You cannot forge the digital signature in its digital non-graphical form. There are many products on the market (like PDF) which allow a digital signature to have a graphical representation when printed to physical paper. It is important to understand that such printed renditions of digital signatures are less secure than an ink signature on paper. Remember: digital signatures are only secure when in their digital form.

Can someone copy geometry from a DWF and paste it into AutoCAD?

Yes. This is essentially the same operation as performing raster-to-vector from physical paper. A user can also do the same thing with PDF using Adobe Illustrator. There are also third party tools that provide this functionality as well for both DWF and PDF. The results of these processes are not as-good-as-the-original DWG files. DWF files are generated at low resolution and with only a fraction of the data of the original DWG. The author of the DWF controls what information goes into the DWF and at what resolution. In any system where someone can see the picture, there is always a way to copy and/or edit the data. This is true for paper and non-paper formats. If you can see something, you can take a picture of it, raster-to-vector it, and copy / edit it. See the following section on precision for more information.

DWF Precision

Accuracy reflects the quality of nearness to the truth or a true value. Precision reflects the number of significant digits to which a value can be reliably measured. With the widespread adoption of Autodesk DWF Composer for digital measurement, designers must be wary of options regarding precision when generating DWF files.

Why aren't my measurements 100% accurate with DWF?

By default, Autodesk DWF Writer 2 and AutoCAD 2004 generate DWF files at 400 dots-per-inch on whatever virtual paper size you plot to. If you plot to an 8.5x11 inch paper, that means in the horizontal dimension there are only about 4,000 dots or coordinates that the DWF lines can terminate at. This effectively limits the precision of any measurement. This is an intentional limitation that contributes to the security of DWF by mimicking the precision available with physical paper.

If your drawing represents a 300 foot long building, and if that floor plan (after you account for margins) fills about 66% of the width of the page, that means there are only 4,000 * .66 = 2,640 dots at which the lines terminate. This means that your precision is 300 feet / 2,640 dots = 0.1136 feet (or 1.36 inches). Wow! So if you use the default 400 DPI on small 8.5x11 inch paper you can only take measurements that are accurate to within about 1 inch! This is much less precise than AutoCAD (which can measure features smaller than an atom!). Also note that the DWF in this example is actually HIGHER precision than what you would be able to do with a ruler and physical piece of paper.

These default settings can be changed so that you can measure with whatever precision is desired.

How do I improve the precision of my DWF measurements?

The analogy is the same for DWF as it is for paper. With paper, if the author wants consumers to be able to make better measurements, you print to larger paper. If you design your 300 foot long building and print to big E-sized paper rather than Letter-sized, the result is better precision both with physical paper and for DWF (since the DWF will be using the same 400 DPI times a lot more inches of virtual paper which means there are a lot more dots).

How do I specify higher precision without changing the paper size?

Changing the paper size may not be an option if you want the DWF to print to scale on a particular printer. Your printer may only print to a specific paper size, for example.

With physical paper you do not have many options here. You could get a higher resolution printer (1000 DPI rather than 300 DPI for example), but it is still hard to get additional precision when using a ruler and the human eye. For the most part, you have to go to a bigger paper size to get higher precision measurements with physical paper.

With DWF you can leave the paper size alone (for example, 8.5x11) and change the DPI setting (in the AutoCAD plot options custom-properties dialog or the Autodesk DWF Writer's advanced settings dialog). You can set this DPI up to a much higher number (the DPI times the paper width must be less than 2^31 which is 2,147,483,648). If you used the maximum precision of DWF (which is still a lot less than for a DWG which uses 2^48) you can get great precision in your measurements. For example: for an 8.5x11 inch piece of paper, we could set the DPI in AutoCAD to be 195,225,786 DPI (try that with your laser printer!). In our example if you crank the math out you'll find that you can measure your 300 foot building down to 0.000028 inches!! When was the last time you needed a measurement accurate to one-10,000th of an inch?

Let's also consider a GIS mapping example. DWF has a maximum precision of 2,147,483,648 total dots when you increase either your DWF DPI or your DWF paper size (or a combination of both). If we say the continental USA is about 3,000 miles wide at what precision can a DWF resolve a map of the USA? Well that's just (3000 mi * 5280 ft/mi * 12 in/ft) / 2,147,483,648 = 0.089 inches. In other words when making a DWF that represents the entire continental USA we can resolve objects down to a precision that is about 2.3 millimeters in size! Not many people need precision that high on something so large! However, if you use the default AutoCAD DWF precision of 400 DPI on an E-sized sheet of paper you'd only be using 14,400 out of the available 2,147,483,648 DWF dots and thus you'd only be able measure the USA down to +/- 1,100 feet. As such, understanding the precision requires is key before generating DWF files.

I increased my DPI value very high, but my measurements still aren't perfect. Why?

The paper size and the DPI setting are only part of the story. That determines the absolute maximum possible precision that is available. However, other factors influence the precision of your measurements. For example, when you measure between two line endpoints, where exactly are you measuring between? Remember that lines have width and they have end-caps. As such they have volume. Since some types of geometry become tessellated in the DWF file (by the authoring application, not by DWF itself) and many types have volume, the auto-snap technology sometimes cannot tell exactly what piece of tessellated geometry or which part of the volume you are wanting to measure from. For the line case, are you measuring from the line endpoint or from the edge of the line-cap semi-circle that extends past the endpoint? Also, the auto-snap technology in certain cases may depend on the resolution of your screen (for very dense drawings the mouse can only point at a particular screen pixel; and there are very few pixels on a screen). Furthermore, the DWF coordinates have to pass through multiple coordinate transforms. Each transform introduces round-off errors and precision errors which may accumulate. For most drawings (plotted at sufficient DPI to a sufficiently large paper size) these issues are so extremely small that you can ignore their effect.

If my drawing measures fine, why does it still look imprecise after increasing the DPI?

What's happening is what would happen with physical paper. Normally printed lines have a line weight (based on the concept of a "pen width" from the pen plotter days). If you take a very dense and complicated drawing and plot it onto a very small piece of paper (something the size of a postage stamp) using a thick pen (like a magic marker) you'd end up with "mud." To fix this you need to do one of two things: either use a pen setting with a more narrow weight (or even a pen with an infinitely thin zero-weight), or you need to plot to much bigger (virtual) paper.

In summary, how can I get better precision?

To get better measurement precision:
   o The DWF author must intentionally publish the DWF at high enough resolution for accurate measurement. By default the precision is nearly that of physical paper as part of the security concept.
   o The DWF author can increase the size of the virtual DWF paper.
   o The DWF author can increase the DPI setting of the DWF driver to use more pixels and precision. Increasing DPI will increase the DWF file size, so you do not want to use an unreasonably large DPI. Doubling the DPI will only have a slight effect on file size, but will double the precision. DPI values above 5,000 are rarely required, but you may use any value up to a maximum of 2,147,483,648 divided by the longest dimension of your paper in inches.
   o Plotting without line weights may make DWF files more visually precise.

With these tips in mind, users can avoid any problems related to precision. For example, DWF can measure the continental USA with a precision of +/- 2.4 millimeters when using the maximum DPI and paper size settings.

Can I convert my DWF to DWG?

There is a free DWF to DWG converter located at http://www.intelcad.com/pages/dwfin/ which has a 14 day trial. Caution: A DWG uses floating point doubles. A DWF uses 32 bit integers. You will lose precision and to that extent - accuracy. Converting a DWF to a DWG is the equivalent of scanning in a plot and tracing over it.

Application User Questions

DWF Generation

What Autodesk software publishes DWF files?

You can publish DWF 6 files from several Autodesk applications, including the following:

- o AutoCAD® 2006, 2005, 2004, and 2002
- o AutoCAD LT® 2005, 2004, and 2002
- o AutoCAD® Mechanical 2005, 2004, and 6
- o Autodesk® Architectural Desktop 2005, 2004, and 2002
- o Autodesk® Building Systems 2005, 2004, and 3
- o Autodesk Inventor® 8 and 7
- o Autodesk Inventor® Series
- o Autodesk® Land Desktop 2005, 2004, and 3
- o Autodesk Map® 2005, 2004, 6, and 5
- o Autodesk® Revit® 6, and 5 with the Autodesk DWF Writer
- o Autodesk® DWG Viewer bundled with Autodesk DWF Composer
- o Volo® View 3 (batch-publish DWF files)

Note: Publishing DWF files from AutoCAD 2002 or any AutoCAD 2002–based product is available to subscription members with the installation of the Design Publishing Extension. Earlier versions of the software can publish DWF 5.

You can also create DWF files using the free Autodesk DWF Writer. Use the Autodesk DWF Writer to securely and efficiently distribute designs or other documents in Design Web Format™ from any application. Autodesk DWF Writer software is a certified Microsoft® Windows® system printer driver that gives you the capability to publish DWF files by simply choosing Autodesk DWF Writer from your standard Printer Name drop-down menu.

How do I convert a DWG or other file type to DWF format?

The ability to publish DWF files is built into Autodesk design applications, including AutoCAD® 2000 and later. Tips on how to publish DWF files from Autodesk applications are available in the DWF Center under "Publishing."

If you are using an earlier version of Autodesk design applications or another vendor's software, like Bentley MicroStation®, Pro/E®, or SolidWorks®, you can use the free, downloadable Autodesk DWF Writer available at www.autodesk.com/dwfwriter. The Autodesk DWF Writer is a Windows printer driver that enables creation of DWF files from any application.

What is the Autodesk DWF Writer?

The Autodesk® DWF™ Writer is a certified Microsoft® Windows® system printer driver, so you can publish DWF files by simply selecting Autodesk DWF Writer from your standard Printer Name drop-down list in any Windows application.

The Autodesk DWF Writer is extensively tested with Autodesk® Revit® to ensure full fidelity of Revit data. The Autodesk DWF Writer also works with other CAD applications that do not offer built-in DWF publishing, such as Bentley® MicroStation® and SolidWorks®.

Autodesk DWF Writer requires one of the following operating systems: Microsoft Windows Server™ 2003, Windows XP Professional or Home Edition, or Windows 2000.

How do I create 3D DWF files?

You can publish 3D DWF files from Autodesk Inventor 9 software and from Autodesk Architectural Desktop 2005 and Autodesk Building Systems, available to subscription members. Instructions on how to publish 3D DWF files from these applications are available at www.autodesk.com/dwf-publishing.

What is the difference between native file formats like DWG and IPT and DWF?

Publishing native design files such as DWG and IPT formats created with design authoring software can be impractical for a variety of reasons. Protecting intellectual property is a primary concern because anyone with the AutoCAD, Autodesk Inventor, or another design authoring application can edit the file or steal the design. Moreover, the cost of the authoring software may exceed the need of the user. Paying for everyone on the team to install and then learn to use a sophisticated CAD or mapping application can be costly. Using the DWF format avoids these issues.

DWF is a secure file format that is smaller, more compact, and easier to distribute than DWG or IPT files yet still maintains the rich design data of the original design. CAD users can publish drawings, maps, or models to the DWF format so reviewers see exactly what the publisher intended them to see. In addition, the DWF file format supports multisheet drawing sets and makes it easier for team members who don't use CAD to view and print.

How can I create DWF files that are compatible with the old *WHIP!* viewer?

As the name suggests, an old DWF files is referred as to a "classic DWF." The old "DWF Classic.pc3" works fine with new versions of AutoCAD. The pc3 for classic DWF files is not installed by default. The proper way to install it is to go through the "Add-A-Plotter" wizard and select the appropriate DWF type (DWF Classic) and create a new pc3.

DWF Viewing

What is the Autodesk® DWF™ Viewer?

Autodesk® DWF™ Viewer is a lightweight, free application for sharing designs electronically with all members of the project team. Built around the DWF™ file format, the viewer enables users to view and print complex 2D and 3D drawings, maps, and models published by any Autodesk® design application or by any Microsoft® Windows®-based design application using the free Autodesk® DWF™ Writer.

All kinds of people need to see design information during the project lifecycle, and not everyone has the software that created it. But that doesn't matter when you use DWF– the file format developed specifically for sharing data-rich design information. Small, fast, and secure, DWF preserves the fidelity and integrity of designs and allows anyone to access the complex design data without the originating design application. DWF files are easy to create and post to the web, and they support up to 60 million dpi – the precision required for complex design data.

Autodesk DWF Viewer is available as a stand-alone application or as a Microsoft® ActiveX® control embedded in Microsoft Internet Explorer. Because the interface is easy to use, even novice users can master viewing and printing of design data. The ActiveX control also enables users to embed DWF files in other Microsoft Office applications like Word, Excel, or PowerPoint®.

What are the benefits of using Autodesk DWF Viewer?

The DWF file format and Autodesk DWF Viewer are great ways to:
 o Share designs with members of your project/product team who don't have access to the original design software.
 o Securely share designs in a published format with contractors, clients, or other third parties for viewing and printing.
 o Save shipping time and costs by sending CAD files electronically.
 o Present drawings, maps, and models online or in a PowerPoint presentation or an electronic catalog.
 o Archive designs to save valuable storage space. DWF files are compact—often 1/20th the size of DWG files and 1/10th the size of PDF files—yet maintain the visual and printing fidelity of the original file.

Does the release of AutoCAD 2006 mean everyone needs a new Autodesk DWF Viewer?

No. The DWF files generated by AutoCAD 2006 can be read by the Autodesk DWF Viewer that is available today.

Is Autodesk DWF Viewer only for CAD users?

No. Autodesk DWF Viewer is for anyone who needs to view, review, and print DWF files, specifically non-CAD professionals. Autodesk DWF Viewer and the DWF format provide a fast, easy, cost-effective solution for communicating design information at any point in the project lifecycle.

What's new with the upcoming release (Autodesk DWF Viewer 6)?

Release 6 of the Autodesk DWF Viewer features:
- o Print preview for each sheet or sheet set
- o Streamlined navigator palettes, menus, and toolbars
- o Markup status color coding on markup callouts and custom symbols

What are the system requirements for Autodesk DWF Viewer?

- o Intel® Pentium®–based PC, 200 MHz or higher
- o Microsoft® Windows® XP Professional or Home Edition, Windows 2000 (SP2 or higher), Windows 98 SE, Windows Me, or Windows NT® 4.0 (SP6 or higher)
- o 32 MB RAM minimum (96 MB recommended)
- o 800x600 VGA display or better
- o Microsoft Internet Explorer 5.01 or higher (IE 5.5 required for Windows NT and Windows 2000, and recommended for all users)

Will the Autodesk DWF Viewer run on Windows 98?

The Autodesk DWF Viewer will run on Windows 98 SE. An always up-to-date list of system requirements can be found on the Autodesk web site. The Windows 98 question comes up frequently, because Autodesk DWF Composer does not support Windows 98 regardless of edition.

Can I view DWF files on my PocketPC?

The Autodesk DWF Viewer does not run on the PocketPC; however, there are third party companies (e.g. Pocket Zing!, PocketCAD DWFView, PowerCAD CE, Dr. DWG MOBIlite, VISIARC) who market DWF viewers for the PocketPC.

How do I use Autodesk DWF Viewer?

The Autodesk DWF Viewer displays any DWF file either in the web browser or the stand-alone application. The main toolbar contains the primary view, orbit, pan, and zoom functions. (*Tip: The mouse wheel can be used to zoom and pan.*) Navigate through multisheet drawings using the list and thumbnail views or with embedded hyperlinks, or browse a 3D assembly structure. The print function, available from the main toolbar or the File menu, has several flexible options. Consult the application's Help menu if you have questions about using the Autodesk DWF Viewer.

How do I view DWG files in Autodesk DWF Viewer?

Autodesk DWF Viewer supports viewing DWG files published to DWF format, a more compact, secure file format for sharing drawings, maps, and models. DWF files, which can be 1/20th the size of DWG files and provide a secure format to protect your intellectual property, retain the intelligent design data of the original. Publishing DWF files is free, since the capability is built into Autodesk design applications or available with the free Autodesk DWF Writer. Learn more about publishing DWF files in the DWF Center at www.autodesk.com/dwf under "Publishing."

To view native DWG files, purchase [Autodesk® DWF™ Composer](#), which has a DWG Viewer component plus advanced markup, measure, and annotation tools, including markup integration with AutoCAD® 2005 and 2006.

Can I give Autodesk DWF Viewer to others?

Yes. You can redistribute Autodesk DWF Viewer to anyone without prior approval from Autodesk, subject to the terms of the license agreement.

The easiest way to share Autodesk DWF Viewer is to include a short message and the URL when you send a DWF file. Here is an example:

> To read this file, you need the free Autodesk DWF Viewer available at www.autodesk.com/dwfviewer-download.

You may also install and distribute Autodesk DWF Viewer to a larger group of users. Autodesk encourages electronic distribution of Autodesk DWF Viewer in its intact form. The viewer is available free to end users, including developers creating end-user applications. Any customization of Autodesk DWF Viewer must be done using the APIs provided by Autodesk.

Can the Autodesk DWF Viewer be installed silently?

You can do this by way of command line scripting. For the full details on all of the command line install options, see:

http://www.tarma.com/support/index.htm#/support/cmdline.htm

This documentation link is based on the Tarma install technology we use for our viewer installers.

In short there are a couple of silent install options to suit most user needs:

```
DwfViewerSetup.exe /q
```

This performs a silent (quiet, unattended) installation. During silent installations, the normal Setup wizard is suppressed and the entire installation, registration, or uninstallation process is performed without user intervention. This feature is intended for unattended installations and removals.

Or

```
DwfViewerSetup.exe /q2
```

This performs an invisible install. In this mode, the entire installation, registration, or uninstallation process is performed without user intervention and with a completely hidden user interface. (The Setup process will still appear in the Windows Task Manager's list of running processes, though.)

Note - In silent installation mode you cannot specify user registration information for use on the Setup - Registration Information page. Only default user registration, if you specified any on the Advanced project page, takes place in silent installation mode.

How do I check to see which version of the Autodesk DWF Viewer I have?

You should always use the most current version of Autodesk DWF Viewer. Autodesk DWF Viewer 5 is the current release. It supports viewing of 3D models published from Autodesk Inventor 9 and from the beta releases of the 3D publishing feature for Autodesk Architectural Desktop 2005 and Autodesk Building Systems. Autodesk DWF Viewer is backward compatible and reads older DWF files, so you don't need to convert DWF files when you upgrade to a later version.

Note: If you are a Windows 98 or Windows Me user, Autodesk recommends using Autodesk DWF Viewer 4.1. You will be redirected to version 4.1 at the time of download.

To check for newer versions of Autodesk DWF Viewer as they become available on the Autodesk website:

> Choose Help>Check for Viewer Updates (Note: You need an Internet connection to use this feature.)

You are informed if you have the latest version of Autodesk DWF Viewer, or you are asked to install the latest version if an update is available. The actual version number of the viewer is displayed in the Help>About dialog.

How is Autodesk DWF Viewer different from the other Autodesk viewer products?

Autodesk DWF Viewer is a free application for viewing and printing 2D and 3D drawings, maps, and models published in DWF files. Additional functionality like DWG viewing, measuring, marking up, and annotating, along with round-trip markup, is available with Autodesk DWF Composer.

Viewing multiple file formats such as native Autodesk Inventor and DXF files is available with Volo View. The Volo View product is reaching the end of its life. Users are upgrading to Autodesk DWF Composer.

When viewing a DWF file on a web site, how do I save a local copy?

Use Autodesk DWF Viewer 5 to save a local copy of a DWF file published to a website. While you are viewing the DWF file embedded on a web page (in Microsoft Internet Explorer):

1. Right-click the DWF file and choose Save As. Alternatively, choose the Save As button from the toolbar. (Note: The Save As options appear only when you are

using Autodesk DWF Viewer in embedded mode—for example, within a web page.)

2. To save a local copy of the DWF file you are viewing, specify a file name.

How do I navigate URLs using a single click in the Autodesk DWF Viewer?

With the Autodesk DWF Viewer, you can set the hyperlink activation to be a single-click instead of Ctrl-click:

1. Choose Tools>Options.
2. In the Hyperlinks section, select the Single Click to Follow check box.

To provide this capability for users who view your DWF files, you can use the following param tag to do this programmatically on your website:
```
<param name="SingleClickHyperlink" value="True">
```

Similarly, to control this option via a URL to open a DWF file, specify the following:
```
http://filename.dwf?SingleClickHyperlink=True
```

DWF Markup

Can I use Autodesk DWF Viewer to redline DWF files?

Autodesk DWF Viewer does not provide the functionality for measuring or redlining DWF files. If you or others in your design review team have a measuring or redlining requirement, Autodesk DWF Composer is the product for you.
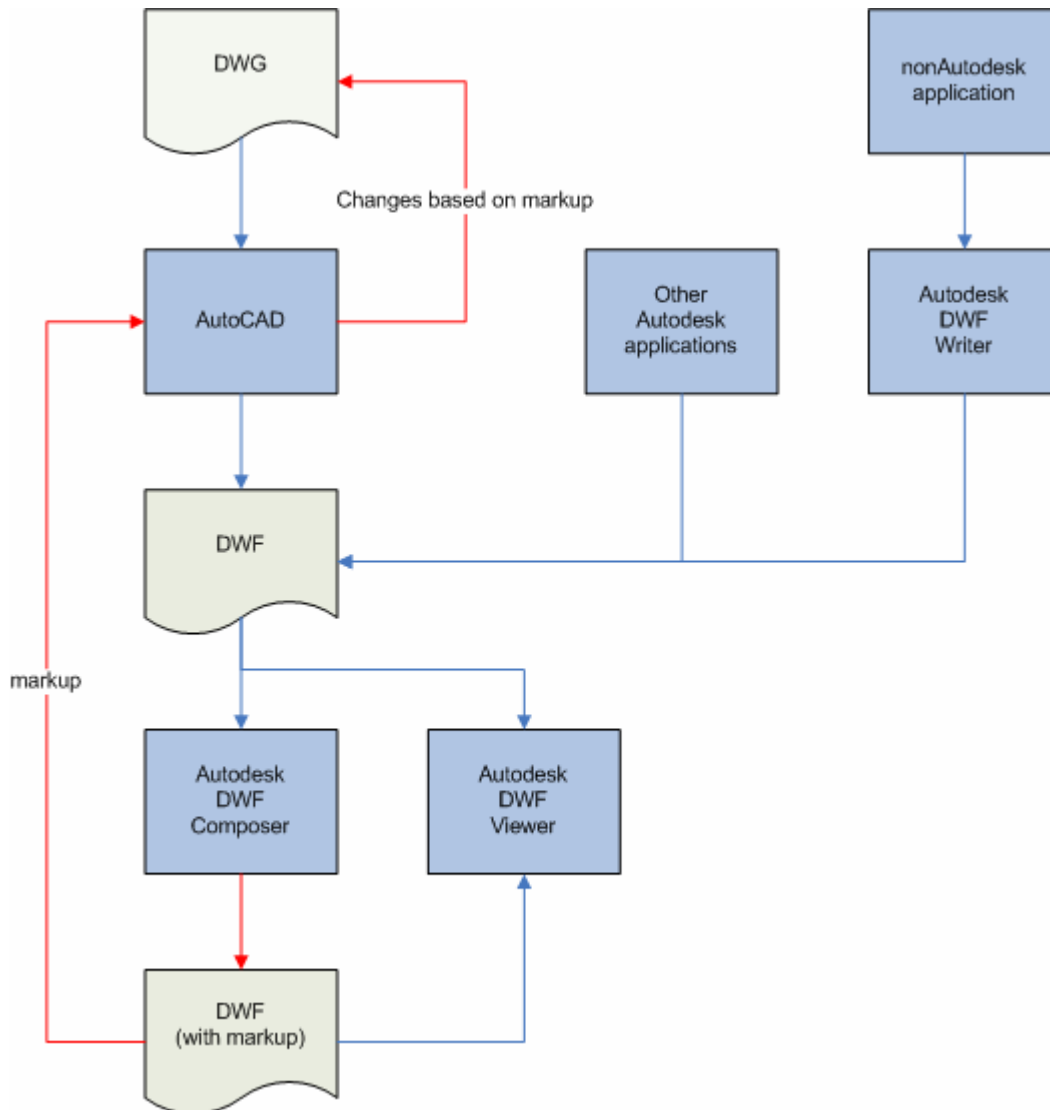
After installing Autodesk DWF Viewer 5, view, navigate, and print 3D DWF files in the Autodesk DWF Composer environment. Markup and measure of 3D DWF files are not yet supported.

What is Autodesk DWF Composer?

Autodesk DWF Composer software is the only all-digital way to review, mark up, and revise designs without the original design creation software. Members of the design-review team can easily view and print AutoCAD DWG and DWF files with accuracy and

fidelity. Use measurement, redlining and annotation tools, complete sheet set organization, and powerful status tracking capabilities to communicate changes electronically. Then "round-trip" the DWF file, overlaying digital markups onto the original CAD file to streamline the review and editing process. Learn more about Autodesk DWF Composer.

Where can I see an overview of Autodesk DWF Composer?

http://www.avat.com/training/elearning/media/edemos/dwf/media.asx

What are the system requirements for Autodesk DWF Composer?

When you purchase Autodesk DWF Composer you receive three software components:
- o Autodesk DWF Composer, to review, mark up, and revise DWF files
- o Autodesk DWG Viewer, to view, plot, and publish DWG files
- o Autodesk DWF Writer, to publish DWF files from any application

You install each of these components to access the full functionality of Autodesk DWF Composer. There are different system requirements for each of these components.

Autodesk DWF Composer
- o Intel® Pentium® processor or later, 200 MHz or higher, or compatible
- o Microsoft® Windows® XP Professional or Home Edition, Windows 2000, or Windows NT®
- o 64 MB RAM minimum (128 MB recommended)
- o 32 MB free disk space for installation
- o 800x600 screen resolution minimum (1024x768 recommended)
- o Mouse, trackball, or compatible pointing device
- o Microsoft Internet Explorer 5.5 or later
- o CD-ROM drive

Autodesk DWG Viewer
- o Intel Pentium III processor or later, 800 MHz
- o Microsoft Windows XP Professional or Home Edition, or Windows 2000 Professional
- o 256 MB RAM (recommended)
- o 300 MB free disk space for installation
- o 1024x768 VGA with true color (minimum)
- o Mouse, trackball, or compatible pointing device
- o Microsoft Internet Explorer 6.0
- o CD-ROM drive

Autodesk DWF Writer
- o Microsoft Windows 2003 Server, Windows XP Professional or Home Edition, or Windows 2000

Can I try Autodesk DWF Composer before buying it?

Yes. There is a 30 day trial version of Autodesk DWF Composer. You can register on the Autodesk web site and download a copy. The purchased version of Autodesk DWF Composer includes a DWG Viewer. The Autodesk DWG Viewer is too large to be downloaded from the Autodesk web site, so it is not included in the trial. But other than that, the trial copy is a fully functioning, time limited copy that works with DWF files.

What are some tips for using Autodesk DWF Composer?

1. You can drag and drop or use File>Open to view and markup many different types of image files like JPEGs, GIFs, etc.
2. You can drag and drop a DWF or an image into an existing DWF to combine items together in a single DWF. Just open the Content Browser on the left column of the program, then drop the DWF or image into it. Dropping individual or multiple pages from another Composer session works too.
3. You can drag and drop a page or pages into an email or onto your desktop to create a new DWF file.
4. If you're marking up or measuring on a DWF, do yourself a favor and do so with "Tools>Snap to Geometry" toggled on. Now the tools will snap to endpoints, midpoints, lines, etc.
5. Try holding down the Shift key sometime when creating markups or using the measure tools. Hitting shift will often constrain movements to commonly-used angles, flip vertical dimension labels to the other side, etc.
6. The mouse wheel button is very handy. Scrolling it will zoom in and out. Holding it down and moving the mouse around will pan. This works even when other tools are running.
7. When you make a markup, the current view of the page is stored with that markup. Then when you select it in the Markup Browser, you are returned to that view. If you want to change the view stored with the markup, pan and zoom to the desired view then move the markup slightly or modify it in some way. The new view will be stored with it automatically.
8. You can rename sheets from the Content Browser. Just select the sheet, then click on the name once, and edit the name.
9. Clicking on the current tab in the Navigator will minimize the navigator, giving you more screen space. Just click on a tab to make the Navigator visible again.
10. Try the Options sometime on the Content Browser. You can show thumbnails of the original DWF data.

Autodesk DWF Composer comes with a DWG Viewer. What is it for?

The Autodesk DWG Viewer allows you to view and print DWG files. It is typically used to generate a DWF from a DWG. The capabilities of Autodesk DWF Composer (i.e. markup and measure) and then available for the corresponding DWF.

With only Autodesk DWF Composer, how can I convert my entire set of legacy DWGs to DWF?

To convert all of your DWGs to DWFs, use the Publish command from the Autodesk DWG Viewer.

Can I markup and measure using the Autodesk DWG Viewer included with Autodesk DWF Composer?

No. You cannot markup or measure using the native DWG. You need to generate a DWF from the DWG. This strategy was attempted for the Volo View product. By allowing the markup and measurement of native files, Volo View grew larger and more complicated than the authoring applications. Although this is sometimes viewed as "an extra step," the process is very similar to what is done for other formats, such as generating a PDF file to capture text from a Microsoft Word document.

Will the DWG Viewer included with Autodesk DWF Composer read AutoCAD 2006 DWG files?

Yes. The DWG format did not change between AutoCAD 2005 and AutoCAD 2006, so DWG files saved by AutoCAD 2006 can still be read by the DWG Viewer that ships with Autodesk DWF Composer today.

Does the Autodesk DWG Viewer support "object enablers"?

Yes. An Object Enabler is a freeware application that allows custom object data created in special versions of AutoCAD (e.g. Architectural Desktop, Mechanical Desktop) to be accessed outside the AutoCAD environment. The Autodesk DWG Viewer comes with object enablers for Autodesk Architectural Desktop. Other object enablers can be downloaded from the object enablers download page of the Autodesk web site.

Can I view Architectural Desktop DWGs with the Autodesk DWG Viewer? Can I view other DWGs with custom objects?

Yes. You can view Architectural Desktop DWG files and other DWG files with custom objects. The Architectural Desktop object enablers install with Autodesk DWG Viewer, and you can get others from the object enablers download page of the Autodesk web site. This page allows you to select a product used to create a DWG, specify that you are using the Autodesk DWG Viewer, and it will direct you to the proper object enabler.

Is the Autodesk DWG Viewer an ActiveX Control? Can I embed a DWG in an HTML page and view it using the Autodesk DWG Viewer?

The Autodesk DWG Viewer that is shipped as part of the Autodesk DWF Composer is not supported for automation. This viewer does not expose any API and cannot be embedded as an ActiveX control. It can be used only as an application with user interaction to publish DWG files to DWF files. There are no plans to change this. The Autodesk DWF Viewer and Autodesk DWF Composer are ActiveX Controls. DWF files can be embedded in HTML pages or other documents.

Does Autodesk DWF Composer allow for perpendicular snap?

Although Autodesk recognizes the usefulness of such a feature, the current version of Autodesk DWF Composer does not offer this functionality. This item is on the wish list.

Where can I find the API documentation for Autodesk DWF Composer?

The API documentation for the Autodesk DWF Composer can be found at
http://www.autodesk.com/developdwfcomposer . At this time, the API is identical to the
API for the Autodesk DWF Viewer. Hence it is not possible to add markups and take
measurements using automation. Additions to the API for Autodesk DWF Composer will
be included in a future release.

Can Autodesk DWF Composer be run on a Citrix or Terminal Server?

No. This is a violation of the license agreement, regardless of the number of copies
purchased. The price of Autodesk DWF Composer has been set with the intention that
each user will install one copy on one machine.

DWF Printing

Can I send DWF files to a commercial reprographer for printing?

Yes and No. If you use a reprographer who has:
1. **Océ Repro Desk**, then you have two choices. One avenue is to download the
   Océ Client Tools and batch process your DWF files into LDF files. The LDF files
   can then be sent to the reprographer. Alternatively, your reprographer may be
   using Repro Desk Server 1.6.3 which can be configured to accept DWF files and
   automatically convert them to LDF. For these reprographers, you can send them
   DWF files directly. Additional details regarding available options with Océ
   hardware can be found in the Océ white paper Integrating DWF Printing into your
   Océ Repro Desk workflow.
2. **PLP Plotworks**, then you should check with your reprographer to see that he
   has obtained the PlotWorks DWF to Tiff module. This module is available at no
   cost to reprographers who have a maintenance contract with PLP. For these
   reprographers, you can send them your DWF files for printing.

In cases where neither of these possibilities exists, you will need to use the Autodesk
DWF Viewer to print your DWF files to another format, e.g. HPGL, and send the
resulting files to the reprographer.

What is the status of printing DWF files by commercial reprographers?

Reprographers using Océ Repro Desk Server 1.6.3 can configure Repro Desk Server to
automatically convert DWF files to LDF for printing on Océ devices. Océ is working to
provide direct DWF support in Océ Repro Desk 2.0 as well as its PRISMA corporate
server solution line. PLP PlotWorks 5.5.1 supports DWF files directly today. Autodesk
continues to work with other vendors such as Adenium and KIP on integrating DWF
support into their commercial printing offerings.

DWF Troubleshooting

When I try to publish a drawing, I receive this error: "ERROR: Layer not initialized," and the drawing will not publish. Why?

A DWF is like an electronic plot. It takes the settings from your layouts, as intended for a piece of paper, and captures all of that in the DWF file. An unitialized layer means that you need to make sure your layouts have been mapped to a specific plotter. I know you may never have any intention of plotting from AutoCAD, using DWF exclusively instead, but the DWF file will be constructed so that it looks like what the layout would have looked like if it had been plotted to the device. So please ensure that all layouts have complete and desirable plotter settings before creating your DWF files.

I published one of my drawings and the text was illegible or the font was wrong. What might be happening?

This normally comes down to one of 4 issues:
1) The user is using an out of date viewer. There was an issue with certain fonts in an old release. Make sure the user has Autodesk Express Viewer 4.x or Autodesk DWF Viewer 5.1 (the viewer has been renamed, but it is the same program) or higher. You can get the current download from www.autodesk.com/dwf
2) The DWF was plotted to a virtual sheet of paper that was too small compared to the pen weight used. This is more of an issue for stroked fonts rather than TrueType fonts. This is the same issue that would happen if you printed a really complex drawing onto a small piece of paper like 8.5x11 inches: you'd get mud. You have to print big drawings onto big paper, or in the case of DWF, onto big virtual paper. Change the page size of your layout and try again.
3) The author of the DWF chose not to embed a font into the DWF which the printing machine doesn't have. If you edit the "ePlot DWF 6.PC3" settings and look under "Custom Properties" you'll see three settings for DWF font embedding:
   a. **Embed none**. This can make your files smaller, but people might not be able to get an accurate printout because they might be missing a needed font. In this case the viewer substitutes a font in place of the missing one, but the substituted font may not be desirable or accurate. This is not the default setting.
   b. **Embed Some**: This is the default setting. In this case AutoCAD embeds the fonts being used into the DWF, with the exception of certain specific fonts. The specific fonts that are excluded from embedding are ones that are very common and widespread because they are shipped with most versions of Microsoft Windows. This is the default because it has a good balance between file size (since we do not embed common fonts like "Arial"), but we do embed all other fonts that the printing machine might not have. We have found cases where some machines are missing some of the "standard" Windows fonts which AutoCAD doesn't embed. This might be your problem.

c. **Embed All**: This setting will make larger files, but will embed every font being used (including "standard" fonts) into the DWF so that the printing machine is guaranteed to have all the data that is needed.

4) The printer driver (from your printer manufacturer) has a bug. Some printer drivers have a setting for "use vectors" vs. "use rasters": changing this setting may avoid the driver bug by using a different approach. Alternatively you should check with your printer manufacturer for an updated driver.

I have a DWF file with lots of text. Why does it open so slowly in older viewers?

This is a known issue with DWF drawings that have lots of True Type Text when using an older version of the Autodesk DWF Viewer. Microsoft changed the default setting for anti-aliased fonts in Windows XP. It used to be off and is now on by default as long as the color depth of the display adapter is high enough. Anti-aliasing of fonts makes them look nicer when displayed but it dramatically slows the loading and rendering of text.

The work-around for Autodesk Express Viewer 4.1 (ADV) or earlier is to turn off anti-aliased fonts in Windows. Autodesk DWF Composer and Autodesk DWF Viewer 5.0 or higher have a permanent fix so that users won't need to change their anti-alias settings. The products will turn off anti-aliased fonts at load time and turn it back on for subsequent rendering.
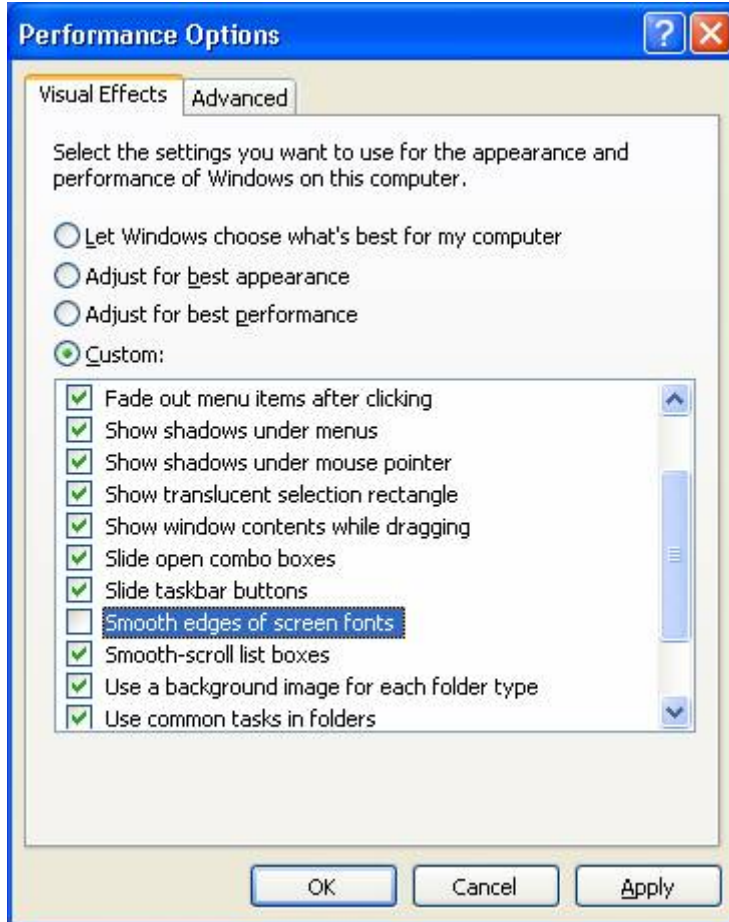
Here's how you implement the work-around if you choose not to upgrade to Autodesk DWF Viewer 5.0 or higher:

1) Right click on "My Computer" and select Properties

2) Select the "Advanced" tab and then "Performance > Settings":
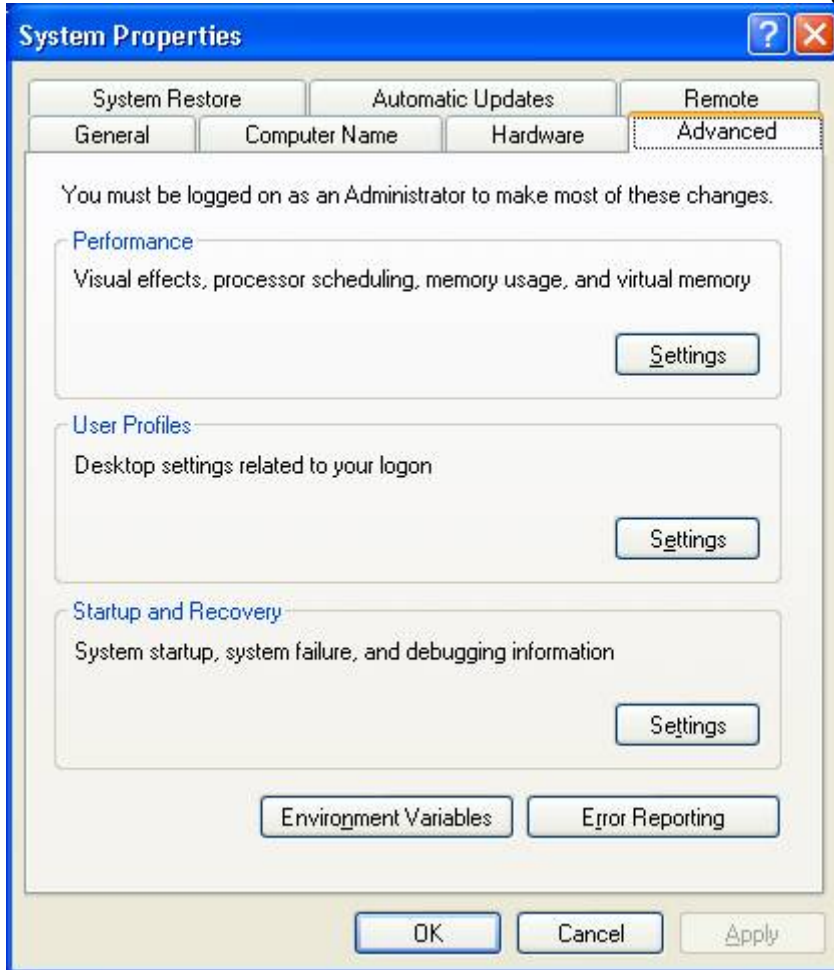
3) In the dialog choose "Custom" and then de-select (turn-off) "Smooth edges of screen fonts"

4) Click OK and then OK

Now try your drawing again and you should see a dramatic performance increase.

Windows® XP SP2 security alert displays when viewing DWF files embedded in web pages. How do I fix this?

In Windows® XP SP2, the following security alert is displayed each time you view an embedded DWF™ file using Autodesk® DWF™ Viewer or Autodesk® DWF™ Composer:

> To help protect your security, Internet Explorer has restricted this file from showing active content that could access your computer. Click here for options.

For English, Japanese, and German versions of Autodesk DWF Viewer 5, please download and install the latest build (521).

For earlier versions of the Autodesk DWF Viewer, please upgrade your viewer to Autodesk DWF Viewer 5 build 521.

Note: With this new version of Autodesk DWF Viewer 5, the Windows XP SP2 security alert will continue to appear when viewing DWFs embedded in local HTML pages. You can suppress this message by adding the following HTML tag as the first line of any local HTML page that hosts DWF files:

```
<!-- saved from url=(0014)about:internet -->
```

How do I eliminate graphic artifacts when using hardware acceleration from my graphics card to view 3D DWF files?

Certain graphics cards can cause viewing conflicts or display artifacts when hardware acceleration is enabled. If you see unexpected graphics artifacts in a 3D DWF file, turn off hardware acceleration as follows:

Choose Tools>Options.
Uncheck the Enable Hardware Acceleration setting.

If Autodesk DWF Viewer crashes or hangs when attempting to open and view 3D DWF files, turn off hardware acceleration using the following registry setting. (Note: If the registry entry does not exist, you can create it.)

[HKEY_CURRENT_USER\Software\Autodesk\DWF Common\Preferences\User Interface]
"Use Hardware Acceleration"=dword:00000000"

Note: There are known conflicts with certain types of Matrox graphics cards.

I am getting a warning when I view a 3D DWF file created with the Autodesk Inventor 9 Beta version. How do I eliminate this warning?

If you open a 3D DWF file and see the following error message:
"Your current viewer does not support this file version. You need to upgrade the viewer to view this file. (700)"

You are either:

1. Viewing a DWF file created with a beta version of Autodesk Inventor that needs to be republished in Autodesk Inventor 9.
2. Viewing an invalid Autodesk Inventor 3D DWF sample from the Autodesk Inventor CD. Newer versions of these samples are now available for download at www.autodesk.com/dwf-samples

The Autodesk Inventor Beta produced DWF version 7 files, which subsequently reverted to version 6. The shipping version of Autodesk Inventor 9 publishes DWF 6.01 files, which can be opened and viewed with Autodesk DWF Viewer 5.

Why is my DWF file bigger than my DWG?

There are a few possibilities. A small parent DWG may XREF other DWG files. On the other hand, a DWF contains everything in one file. So when a DWF is compared solely to its parent DWG, perhaps the DWF is larger. In addition, a DWG may reference an external image file. In this case, a copy of the image file would be in the DWF. As mentioned, the DWF file is one stop shopping in that the DWF has everything a person who wants to view it would need. There are even cases where font files can be embedded in a DWF. Also of note is that some specialized objects such as AutoCAD gradients are finely tessellated into simpler (though more numerous) geometry when the DWF is created.

A DWF file is compressed. Under normal circumstances it is smaller than its corresponding DWG. It is almost certainly smaller than the collection of files associated with a DWG if not the DWG itself.

Application Program Interface (API) User Questions

DWF Embedding

How do I embed a DWF file in an HTML page?

You can embed DWF files directly in your web pages by using the <object> element tag. Using the free copy of Autodesk DWF Viewer, you can also ensure that users viewing your web pages have quick access to view the DWF file even if they don't already have a viewing application available. Note that Microsoft Internet Explorer 5.01 or later is required.

The following HTML snippet demonstrates how to embed a DWF file in your HTML documents. You can copy/paste the following sample HTML.

HTML sample

```
<OBJECT CLASSID="clsid:A662DA7E-CCB7-4743-B71A-D817F6D575DF"
  CODEBASE=http://www.autodesk.com/global/dwfviewer/installer/DwfViewer
Setup.cab#version=5,1,0,527
  WIDTH="640" HEIGHT="480">
<PARAM NAME="Src"
  VALUE="http://www.autodesk.com/global/dwf/samples/bracket.dwf">
</OBJECT>
```

How it works

The **CLASSID** attribute value specifies Autodesk DWF Viewer as an ActiveX® control in place of the <object> tag when viewed within Internet Explorer:
>   <OBJECT **CLASSID**="clsid:A662DA7E-CCB7-4743-B71A-D817F6D575DF"

The **CODEBASE** attribute value is the path to the Cab install file.
>   **CODEBASE**="http://www.autodesk.com/global/dwfviewer/installer/DwfViewerSet
>   up.cab#version=5,1,0,527">

You can specify relative or full paths. This value can also be used to ensure the proper version of Autodesk DWF Viewer is available on the user's machine. If a user viewing your web pages does not have Autodesk DWF Viewer or the version specified, the user is automatically prompted to download and install.

To specify the DWF file to display, you need to use the <PARAM> tag with the following attributes. The **Src** parameter is used to specify the path to the DWF file you would like to display:
>   <PARAM NAME="**Src**"
>   **VALUE**="http://www.autodesk.com/global/dwf/samples/bracket.dwf">

The **VALUE** can be a full or relative path.

How do I embed a DWF file in a Microsoft Office document?

Note: Microsoft Word is used for the examples below. Embedding DWF files within other Microsoft Office applications may vary slightly. This feature is supported for Microsoft Office 2000 and later.

1. From the application main menu select "Insert > Object." From the "Object" dialog, under "Object Type" select "Autodesk DWF Viewer Control" from the list of options. Click "OK."
2. Autodesk DWF Viewer appears on the page at the insertion point as an ActiveX control. You can resize the control to fit your needs.
3. Click on the Autodesk DWF Viewer control to select it and right mouse click on the control to view the context menu.
4. To select a DWF file to embed, from the context menu, select "Autodesk DWF Viewer Control Object > Properties." The control properties dialog appears.
5. Click the "Browse" button to select a file locally or type in a URL to the DWF file in the "Path to the file you wish to view" field.
6. Once you've selected the DWF file to embed, you can also choose to embed a copy of the DWF within the Word document itself or you can leave the file as an external resource. To embed the DWF within the Word document itself, check the checkbox option "Do you want to embed a copy of this file in the parent document?"
7. To run the Autodesk DWF Viewer control and view the DWF file within your document, you'll need to select the "Design Mode" button from the "Control Toolbox" toolbar. This button switches between design and run modes. When in Design Mode, you can change the control's settings for Autodesk DWF Viewer and edit the path to the DWF file. When in "Run" mode you can view the DWF file and run Autodesk DWF Viewer as an application within your Office applications

How do I avoid problems with missing fonts and font embedding issues?

Font embedding is supported by DWF 5 and higher and was refined in DWF 6. Assuming you use DWF 6 or higher, you shouldn't have to worry about font embedding since the default settings work well. For fonts to be embedded, two things have to happen: the publisher has to request that fonts be embedded (often the default setting) and the application used to create the DWF must support embedding the fonts. Autodesk products which support DWF 6 embed all "non-standard" fonts by default. There are only about 12 fonts that are considered "standard" because they are present almost universally on any international version of Windows above Win95. These "standard" fonts are not embedded by default in order to keep the DWF file size down.

If you want to be absolutely sure that anyone viewing your DWF documents will have the correct fonts, you can change the default setting in your publishing application (AutoCAD, Autodesk DWF Writer, etc.) to "Embed All Fonts" so that even the "standard" fonts will be embedded.

Alternatively, if you care more about file size than font accuracy, or if you are sure that the receivers of your DWF will have the required fonts, then you can change the default

publishing options to "Embed No Fonts". If a receiver of your DWF is missing a required font on their system, they will get a warning dialog and the Autodesk DWF Viewer will substitute the missing font with a default font.

If you receive a DWF file and the Autodesk DWF Viewer gives you an error saying that certain fonts are missing, one of the following is likely true:
   o You are viewing an old DWF file that pre-dates the font embedding capability (it was added several years ago to DWF 5).
   o You are viewing a DWF file created by an old Autodesk application that didn't support font embedding at that point in history. Just about every current Autodesk application supports font embedding. For all other applications, you can use the Autodesk DWF Writer which does support font embedding.
   o You are viewing a DWF file created by a non-Autodesk application which didn't support font embedding at that point in history. Again, use the Autodesk DWF Writer and you'll get font embedding that way.
   o You are viewing a DWF file where the author of the DWF told the application not to embed the fonts. This means the author may have over-ridden the default settings to prevent fonts from being embedded. Authors sometimes (though rarely) do this in order to minimize file size or because a particular font's licensing/copyright terms do not legally allow for embedding to happen with that font. In this case you'll need to contact the DWF author.

Can I view a DWF file without the Autodesk DWF Viewer Toolbar?

This is easy. You can use the following param tag to hide the Autodesk DWF Viewer toolbar on your web page:
       <param name= "ToolbarVisible" value="False">

To control this using a URL to open the DWF file, specify the following:
       http://filename.dwf?ToolbarVisible=False

When the viewer is embedded in a VB6 application, use the ToolBarVisible property to turn off the Autodesk DWF Viewer toolbar in your application as follows:
       Viewer.ToolbarVisible = False

The complete Autodesk DWF Viewer application programming interface (API) documentation is available at www.autodesk.com/dwfviewer-api. For details see the chapter titled "Using the API in a VB application."

Can I view a DWF file without the Autodesk DWF Viewer Right-Click Menu?

Yes. You can use the following param tag to turn off the Autodesk DWF Viewer right-click menu on your web page:
       <param name="UserInterfaceEnabled" value="False">

To control this using a URL to open the DWF file, specify the following:
       http://filename.dwf?UserInterfaceEnabled=False

When the viewer is embedded in a VB6 application, use the UserInterfaceEnabled property as follows:

Viewer.UserInterfaceEnabled = False

The complete Autodesk DWF Viewer API documentation is available at www.autodesk.com/dwfviewer-api. For details see the chapter titled "Using the API in a VB Application."

Can I view a DWF file without the Autodesk DWF Viewer Hyperlink Tooltips?

In the Autodesk DWF Viewer, you can turn off hyperlink tooltips as follows:
1. Choose Tools>Options.
2. In the Hyperlinks section, uncheck the Show Tooltips check box.

To provide this capability for users who may view your DWF files without forcing them to adjust their tools options themselves, you van use the following param tag to do this programmatically on your website:

<param name="HyperlinkTooltipVisible" value="False">

Similarly, if you want to control this option via a URL to open a DWF file, specify the following:

http://filename.dwf?HyperlinkTooltipVisible=False

DWF Programming

As a developer/programmer, can I create or view DWF files from my application?

The DWF format is an open format. Autodesk publishes a toolkit for reading and writing the DWF format. The DWF 6 Toolkit enables you to develop applications that read or write multisheet DWF drawings. The toolkit supports the DWF format as defined with the release of AutoCAD 2004. For more information, visit the Developer Center. For developers who simply want to display DWF files in a web page or application, the Autodesk DWF Viewer API (application programming interface) enables embedding of DWF drawings in HTML pages in Microsoft® Internet Explorer. To learn more about these capabilities visit the Tips section.

Can I use scripts with the viewer to find areas in my DWF easier?

You can define "named views" in your publishing application (AutoCAD, Revit, etc.) and these views will be written into the DWF file. You can see and select these views in the free Autodesk DWF Viewer (ADV) if you right click and select "Views...".

Now that you have the views in the DWF, you can programmatically select one of those views. ADV doesn't have the LISP scripting language (that would make the viewer too big to download), but ADV has other scripting API's that you can use. ADV is really just an ActiveX control, so the API's can be called from JavaScript in a web page, VBscript

in a web page, or using any COM compatible language such as Visual Basic, C++, .Net C#, etc.

I've attached an example ZIP file that has a DWF containing many named views and an HTML file that has VBscript inside it for controlling the viewer programmatically and animating to a particular AutoCAD named view. Look at the HTML code to see how this works.

Finally, beyond using script or COM API's you can also specify a named view with just an URL to the DWF. For example if you have a hyperlink in a web page such as:

<A href="http://www.foo.com/Test.dwf>Click Here to View the DWF</A>

You could change it to something like:

<A href="http://www.foo.com/Test.dwf?View=Kitchen>Click Here!</A>

Clicking on the text "Click Here!" will load the DWF "Test.dwf" and then take you to the named view called "Kitchen" after the drawing loads. Note that many of the things you can do through the COM API can also be done via parameters on an URL as in this example. Since DWF "Bookmarks" include an URL, Bookmarks can also end up calling DWF APIs.

Can I customize Autodesk DWF Viewer?

Autodesk offers the Autodesk DWF Viewer API to customize, automate, and extend Autodesk DWF Viewer to meet your needs. The latest release includes enhanced APIs for controlling the visibility of layers in the DWF file. It also provides camera APIs for controlling the 3D view. Learn more at Autodesk Developer Center.

Is there a 3D API for the Autodesk DWF Viewer?

Not yet. In a future release, the API for 2D and 3D will be made more consistent. Until that time, we will not publicly document the existing 3D API. This will avoid the situation where our customers program to today's 3D API – only to have to redo all of their work for the release where 3D and 2D are made consistent.

What can the DWF toolkit be used for?

The DWF™ 6.0 Toolkit allows you to develop applications that read or write multi-sheet drawings in DWF™ (Design Web Format™) format. The toolkit contains a C++ library that aids in the generation, reading, and parsing of DWF files. Experienced C++ programmers can use it to work with DWF files without having to understand their complete underlying data format. This toolkit contains support for the DWF file as defined with the release of AutoCAD 2004. The DWF Toolkit is not intended for Visual Basic programmers who wish to work with the API of the Autodesk DWF Viewer. These users should consult the Autodesk DWF Viewer API documentation.

Why am I getting a compilation error when compiling the toolkit for the first time?

Pardon our oversight. The blockref.cpp file contained a few unwanted commas. You can download an updated copy of this C++ source file.

Additional Help

I would like to know more. Where should I start?

1) I would first look at the on-line HELP documentation in the free Autodesk DWF Viewer product itself. It talks embedding the viewer in PowerPoint, in your own application, in a Web Page, etc. It also shows some example script code and such.
2) The next level is to look at the ADV API documentation available in the developer section of www.autodesk.com/dwf.
3) The next level is to read the DWF and ADV newsgroups on http://discussion.autodesk.com.
4) The next level is to look at the DWF Toolkit (for advanced developers and C++ programmers) at http://www.autodesk.com/dwftoolkit.
5) The next level is to join the Autodesk Developer Network (ADN) where you can get direct technical support and even professional services to help build applications.
6) At the Autodesk University (Orlando, December 2005) conference we teach DWF courses and have many of the DWF team on site all week. Arrange a meeting to discuss your DWF needs and register for a class.

I am having a problem that isn't listed in this FAQ. How can I get more help?

1) The DWF web site: http://www.autodesk.com/dwf
2) The DWF discussion group: http://discussion.autodesk.com
3) The Autodesk DWF Viewer discussion group: http://discussion.autodesk.com
4) When using the discussion groups, it is possible to send a problem report to the DWF team: Please include the following information:
    o A detailed description of your issue
    o A description of which DWF viewer you are using, including the version and build numbers, if appropriate.
    o A copy of your DWF file, if appropriate
    o A copy of your native file (DWG, etc.) if available
    o Instructions on how to recreate the issue
    o Describe your operating system
    o Describe your printer model and printer driver version, if appropriate.