

AutoCAD Design Suite 2013 Installation Guide

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Installation Overview and FAQ

1

Installation Overview

The following diagram shows the major parts of the installation process:



Further details are provided in the following sections.

Prepare for Installation

Before starting to install, check the following details:

- Confirm that your computer meets the minimum system requirements. If in doubt, click System Requirements at the bottom of the installer screen.
- Review product documentation to clarify details such as the type of installation to do (stand-alone or network) and which products to install. Documentation is accessible from links on the lower left corner of the installer:

[Installation Help](#) | [System Requirements](#) | [Readme](#)

- Ensure that your user name has Administrator permissions to install applications on the computer or network.
- Obtain serial numbers and product keys for all products you want to install. These are on the product package or provided at the time you download the software.
- Close all running applications.

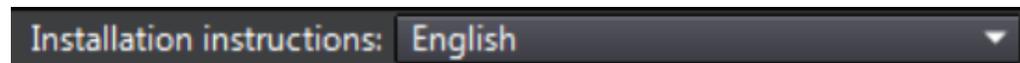
Select Install Type

Here is some basic information to help you choose the right path.

- **Install** is recommended for individual users or small groups. The key point is that you will repeat the installation process on each computer. This is the only valid installation type for a stand-alone license, but it can also be used with a multi-seat stand-alone or network license.
- **Create Deployment** is recommended for network administrators, using either a multi-seat stand-alone or network license. In the deployment process, the installation is configured once, stored on the network, and then distributed efficiently to users' computers.
For more information on deployments, see [Create Deployment](#) (page 6) or the *Network Administrator's Guide*.
- **Install Tools & Utilities** is used to install tools and utilities related to your suite or product. If you have a network license for your Autodesk product, you will need to use this option to install the Network License Manager before any users can run the product. Consult the documentation for your suite or product to identify the available tools and utilities of interest.

Select Installer Language

On the first screen of the installer, you can select the language for the installer screens, using this control on the upper right:

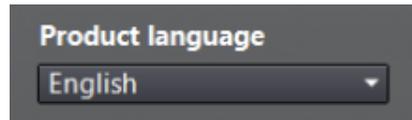


For some Autodesk products, later in the install process you can select the language for installed products. For more information, see [Change Product Language](#) (page 3).

Change Product Language

IMPORTANT This topic does not apply to Autodesk products that provide each language version on separate media. For these products, you must specify the product language when purchasing, and cannot change it.

For some Autodesk products, you can select the product language at the time of installation, using this drop-down menu on the installer:



Language Selection Menu

If the language you want is not on this menu, your available options vary by Autodesk product. Many products, such as 3ds Max, Inventor, and all AutoCAD-based products, use language packs to support additional languages.

These conditions apply to language selection:

- Each suite installation uses a single language. If you need to install one or more products in a different language, that requires a separate installation.
- All deployments must be in a single language. One administrative image can support deployments for different languages, but each deployment is for one language.
- If you are installing multiple products and select a language that is not supported by some products, these products use a default language.
- After you leave the Product Information page of the installer, the menu for selecting a language or adding a language pack is disabled. If you later decide to change the language or add a language pack, you cannot go back to the Product Information page and use the menu. Instead, you must cancel the installation, start the installer again, and then make the correct language selection on the Product Information page.

About Language Packs

A language pack is a software module that can be added to an Autodesk product to change the language used throughout the user interface and the documentation. A single instance of the product software can support multiple languages by adding language packs. Each language pack is matched to a specific Autodesk product, and includes an installer. You must install the

Autodesk product before installing a language pack. Each installed language pack creates a separate icon on the Windows Start menu, such as "Inventor - French (Francais)" that you can use to start the product in that language. Depending on your product, language packs may be available on the installation media or from a website.

A language pack installer provides an option to create a language pack deployment for a particular product. The language pack deployment can be installed on multiple computers, after the related product is installed, to add another language version.

Specify License

The following notes provide a general overview. For more detailed information, see the *Licensing Guide* for your product.

License Types

You can install most Autodesk products for a trial period of 30 days to evaluate the product. If you purchase a license, it is configured as either stand-alone or network, and for a specific number of users. These license types are briefly described as follows:

- A **stand-alone license** is intended for use by one person. The licensed products can be installed on two computers, as long as both instances are not running concurrently.
- A **multi-seat stand-alone license** is intended to support a specified maximum number of users, but it can be installed on a larger number of computers for convenient access.
- A **network license** supports a specified number of users who are connected to a network. The Network License Manager is installed on one or more servers on the network to manage the distribution of licenses to users.

Network License Server Models

If you are using a network license, choose the server configuration for the Network License Manager that was specified at the time of license purchase:

- **Single License Server**
One server manages all licenses on the network.
- **Distributed License Server**

Licenses are distributed across a pool of multiple servers in the network. You enter the name of each server in the pool.

■ **Redundant License Server**

Three servers are available to authenticate each license. You enter the names of the three servers.

Configure and Install

Installation Path

This path specifies where the product folder will be installed. If you change the location, use only valid ASCII characters in the install path.

Configuration

Most products have a number of configuration settings. On the Install > Configure Installation page, for any product you have selected to install, you see a triangular control for access to a configuration panel:



Click anywhere in the product box to open the configuration panel. For many products, you can select an installation type, either **Typical** to accept the default configuration settings, or **Custom** to review the settings and decide whether to modify them. More information on the configuration settings for your product may exist in an appendix to this guide. After you have configured the settings as required, click the triangle to close the configuration panel.

Activate Products

When you run an Autodesk product for the first time, you will be asked to activate the product. If it is connected to the Internet, your computer can communicate directly with Autodesk to complete the activation process.

If your computer is disconnected from the Internet, you can activate later when you are connected. Some products also permit you to activate offline

by sending the serial number, request code, and registration data to Autodesk over the Web or by email. For more information on activation, go to [Autodesk Licensing](#) and select the FAQ link.

Create Deployment

Administrative Image

This is a customized set of installation files created by the deployment process. It is used to install a consistent configuration of programs on each computer. Other settings:

- **Administrative image path.** Specify a shared network location where you have Full Control permissions. Users will go to this path to install the programs.
- **Target platform.** Select either 32-bit or 64-bit to match the operating system of the computers that will use the deployment.
- **Include only products required by this deployment configuration.** If selected, the deployment cannot be modified in the future to include additional products. If unselected, the administrative image will include all possible products, and the deployment can be modified in the future in any way.

Installation Settings

- **Silent mode** runs the installation in background, without user input.
IMPORTANT In silent mode, the user's computer can restart automatically and without warning when the installation is complete.
- A **log file** records installation data for each computer.
- A **network log file** keeps a central record of installation data for all computers that run the deployment. It has the same name as your deployment, and must reside in a shared folder where users have Change permissions, so that their computers can write to the log file.

Frequently Asked Questions

For advice and assistance with topics not covered here, go to [Autodesk Support](#), click your product name, and search in the Knowledgebase for your product.

What if I have lost my serial number or product key?

Check your product packaging or purchase records, if available, or contact [Autodesk Customer Service](#) for assistance.

Why do I need to activate a product after installation?

Activation verifies for Autodesk and for you as a license holder that your Autodesk product is installed on an eligible computer. The activation process improves license security and management. For example, it ensures that a multi-seat license is not in use by more than the authorized number of users.

Can I install Autodesk products from a website?

Several Autodesk websites are being set up to support product downloads, including Subscription, Education, eStore, My Account, and the Trial site. On each site where downloads have been implemented, you have a choice of several download methods to suit different requirements. If you want to install products directly on your computer, you can use a Web Installer. If you want to download the files to install products later, or to create a deployment, you can use Download Manager, or Browser Download. More details are provided on the download websites.

How does a trial license work in a product suite or bundle?

A single trial period, usually 30 days, applies to all Autodesk products in the suite or bundle. When the first product is started, the trial period begins for all products. If the user does not activate one of the products before the trial period ends, access to all of the products is denied. After the trial period ends, the user can restore access to the products by entering an activation code.

How do I switch my license from stand-alone to network or network to stand-alone?

If you simply entered the wrong license type by mistake, and are still running the installer, use the Back button to return to the Product Information dialog, and change the license type.

If you want to change the license type for an installed product, contact your Autodesk reseller or license supplier to obtain the new license and serial number. Then uninstall your product and run a new install to change the license type and enter the new serial number.

Where can I find product license information after installation?

Select Help menu ► About, or About *[Product Name]*. If your product uses InfoCenter, that is where you can find the Help menu.

After installation, how can I change product configuration, repair, or uninstall the product?

- 1 Go to the Windows control panel:
 - Windows XP: On the Start menu, click Settings ► Control Panel ► Add or Remove Programs.
 - Windows 7: On the Start menu, click Settings ► Control Panel ► Programs/Uninstall a Program.
- 2 In Windows control panel, click the product name, and then click Change/Remove (Windows XP) or Uninstall/Change (Windows 7). The Installer opens in maintenance mode, and directs you through the process.

Product Configuration

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AutoCAD FAQ

FAQ: What features can I customize?

Most features are pre-selected for installation. However, you can de-select any feature you choose not to install or select one of the few features that have not been pre-selected. To do so, you must first reveal the feature tree, which is hidden when you choose a *Typical* install in the configuration area. To reveal the feature tree, choose the *Custom* install option.

Here are the features available:

- **Model Documentation:** Interface for Autodesk Inventor Server, a programming component that allows you to open and query the geometry and feature information of an Autodesk Inventor part file or other imported models and to create the corresponding data within AutoCAD or AutoCAD Mechanical.
- **CAD Standards:** Tools for managing design files for compliance with your standards.
- **Database:** Database access tools.
- **Dictionaries:** Multi-language dictionaries.
- **Drawing Encryption:** Security tool for protecting drawing files with a password.
- **Express Tools:** Productivity tools to extend AutoCAD functions for dimensioning, drawing, object selection, and object modification. These tools are not supported by Autodesk.
- **Fonts:** AutoCAD fonts and TrueType® fonts.

- **Autodesk Content Explorer:** Interface for quick browsing of DWG files on local and network drives and on Autodesk Seek. Note: In order to search network folders, the Autodesk Content Service utility must also be installed from the Tools & Utilities component of the Installer.
- **Autodesk Seek:** Web service for finding, previewing, and downloading branded and generic building information modeling (BIM) files, models, drawings, and product specifications. Users can also upload their drawings to Seek.
- **License Transfer Utility:** Tool to allow users to transfer an Autodesk product license between computers.
- **Migrate Custom Settings:** Utility to migrate custom user settings and files from a previous version of AutoCAD. When this utility is installed, it will present a dialog box for migration on the first launch of AutoCAD. You will also be able to run the utility later from Windows Start > All Programs > Autodesk > AutoCAD > Migrate Custom Settings.
- **Reset Settings:** Utility to reset AutoCAD to its original settings. This function may be useful for users who have used the "Migrate Custom Settings" utility and been dissatisfied with the results. If installed, the Reset Settings program will be available from Windows Start > All Programs > Autodesk > AutoCAD > Reset Settings.
- **Reset Settings:** Utility to reset AutoCAD to its original settings.
- **Reference Manager:** Utility that allows users to view and edit the paths of externally referenced files associated with a drawing.
- **Samples:** Product samples, DesignCenter samples, and Visual Lisp® samples.
- **Tutorials:** Visual Lisp® Tutorials

FAQ: How can I migrate my custom settings and files from previous releases?

The first time you launch your software after installation, the *Migrate Custom Settings* dialog box will be displayed to give you the opportunity to migrate custom settings and files from previous releases to your new release. (*Migrate Custom Settings* is installed by default unless you de-select it from the feature tree in the configuration area of the Installer.)

FAQ: What are support content folders?

Under *Support Content*, you can specify where your support content will be installed.

You choose between four destination options for support content.

- **Local user profile folders:** Default.
- **Program install folder:** Content installed to your application installation folder on individual user station.
- **Single shared folder:** Allows for one unique local folder to be specified for **all** content types.
- **Custom folders:** Allows a unique path to be specified for **each** different content type.

Here are the six categories of support content for AutoCAD:.

- **Support:** Customization/menu files and palette, hatch, and line type content.
- **Plotters:** Plot styles and plot configuration files.
- **Data Links:** Data link files.
- **Template:** Drawing, sheet set, and publish to web templates.
- **Rendering:** Hardware certification and web light files.
- **Help:** User's Guide, Command Reference, Customization Guide, Installation FAQ, and Licensing Guide.

FAQ: What is the purpose of changing the default search paths and location of program files for a deployment?

There are several reasons you might want to modify default search paths or the location of program files. For example, if you prefer to use a third-party plug-in instead of a similar plug-in installed with your product, you can reference that file and avoid having to add it at each workstation.

Another example might involve default file locations that have changed in the new version of your software. You can modify the location of the files to be the same as with an earlier version.

FAQ: What are the services of the Communication Center?

During a custom deployment, you can choose whether or not to activate user preferences for Communication Center services.

- **Enable live updates:** Allows users to check for updates when an internet connection is established. If a product patch is available, notification of its availability is received on the program's status bar; the patch can be either downloaded directly from an Autodesk server or modified before being copied to workstations. The default setting is to enable live updates.
- **Enable CAD Manager Channel:** Controls the display of CAD Manager Channels, allowing users to toggle CAD Manager Channels, define the CAD Manager feed location, and set the CAD Manager Channel display name. The default setting is to disable the CAD Manager Channel.

FAQ: What are the tools and utilities available for installation?

You can install the following products from the Tools & Utilities section of the Installer.

- **Autodesk Network License Manager**— Manages network licenses for your software by "checking out" and "checking in" licenses.
- **Autodesk CAD Manager Tools** — Utility to allow CAD administrators to modify resource settings after a deployment is completed.
- **Autodesk Content Service**— Utility (for installation on network server) to build index and enable searching on shared network folders and in *Autodesk Seek*. Works in conjunction with *Autodesk Content Explorer* (preselected feature for installation), which must also be installed.

3ds Max Design FAQ

Installation Information Specific to Autodesk 3ds Max

Certain items are unique to the Autodesk® 3ds Max® / Autodesk® 3ds Max® Design install process (in contrast with other Autodesk products). In this chapter, learn about the process for switching to the local version of the help and the sub-components and tools and utilities that ship with 3ds Max (also includes 3ds Max Design unless otherwise noted). Also, learn how to install the 32-bit version of 3ds Max on a 64-bit machine.

Limited Language Support in Windows XP

The XP operating system runs 3ds Max / 3ds Max Design in English only. To use 3ds Max / 3ds Max Design in another language, you must also use Windows 7.

Switch from Online (Default) to Local Help

By default, the Help in 3ds Max is internet-based. If you do not have a dedicated internet connection, you can download a local version of your help. To override the default behavior you then need to change the corresponding preference.

- 1 Download and run the Help installer from www.autodesk.com/3dsmax-helpdownload-enu.
- 2 Once installed, in 3ds Max / 3ds Max Design go to Customize ► Preferences ► Help tab and select Local Computer / Network.

NOTE If you are using the default path this is all you need to do. Change the path if you have not used the default location. To revert to the default location (which matches the Help installer's default), click Reset. You can switch back to the online version of the Help at any time, which is the most up-to-date version of the Help available.

Sub-Components Installed with 3ds Max

The sub-components installed with Autodesk 3ds Max 2013 include 3ds Max Composite 2013, the various Autodesk Material Libraries, and Autodesk Backburner 2013. The only optional sub-component is 3ds Max Composite.

3ds Max Composite 2013

When installing 3ds Max, 3ds Max Composite installs by default. 3ds Max Composite 2013 includes:

- Raster and Vector Paint
- Image Processing
- Color Correction
- Keying and Rotoscoping
- Stereoscopic Production Support
- Motion Blur
- Advanced 2D Tracking
- Camera Mapping
- Depth of Field
- Node and Layer-based Compositing Options
- Spline-Based Warping
- Enhanced Render Passes
- Data Managing and Collaborating

Autodesk Material Libraries

The Autodesk Material Libraries are shared libraries installed with Autodesk products such as Inventor, AutoCAD, Revit and 3ds Max. These three items are selected for install by default when you install 3ds Max. If one of the other applications is already installed, the material libraries might be installed already.

WARNING If you uninstall or remove a library, the library is no longer available for any products. Uninstalling also means you will be unable to view or display scenes that have Autodesk Materials currently in them.

The Autodesk Material Library consists of three sub-libraries:

- Autodesk Material Library 2013: Contains the material appearances used for Realistic Appearance in color styles. This component is installed by default, and it is required for 3ds Max to have full visual style and color style functionality. It is recommended you do not uninstall this component unless you are also uninstalling all Autodesk products that require this library.
- Autodesk Material Library 2013 Base Image Library: Contains low-resolution (approximately 512 x 512) images for use with Autodesk Materials. This is also installed by default.
- Autodesk Material Library 2013 Medium Image Library: Contains medium-resolution (approximately 1024 x 1024) images for rendering materials in medium detail. This library is used for close-ups and for rendering objects at a larger scale. This library is an installation option available on the Select Products to Install page in the installation wizard.

NOTE To reinstall the material libraries, run the corresponding MSI:

- Autodesk Material Library 2013:
`\Content\ADSKMaterials\2013\CM\MaterialLibrary2013.msi`
- Autodesk Material Library 2013 Base Image Library:
`\Content\ADSKMaterials\2013\ILB\BaseImageLibrary.msi`
- Autodesk Material Library 2013 Medium Image Library:
`\Content\ADSKMaterials\2013\ILM\MediumImageLibrary.msi`

Autodesk Backburner 2013

Autodesk® Backburner™ is the 3ds Max network-rendering management software, also used by products such as Autodesk® Flame® and Autodesk® Smoke®. Backburner is a required install and is installed by default when you install Autodesk 3ds Max 2013 / Autodesk 3ds Max Design 2013. You must uninstall older versions of Backburner before installing Backburner 2013. Backburner 2013 is backward compatible, but settings do not migrate from earlier versions. For information about using Backburner from inside 3ds Max, refer to the "Network Rendering" section in the "Rendering" chapter of the *3ds*

Max Help. For further information about installing and using Backburner see the Help menu in the Backburner Manager.

Backburner for Managing and Monitoring Only

You can install Autodesk Backburner on a machine without 3ds Max or 3ds Max Design. However, such an installation of Autodesk Backburner cannot be used for rendering. You can use this machine only to manage or monitor jobs. Although the Autodesk Backburner server can be installed on a single machine, it will not do anything; it will work only if it detects a supported program such as Autodesk 3ds Max, Autodesk 3ds Max Design, Autodesk Flame, or Autodesk Smoke. This means that you must have Autodesk Backburner installed with at least one additional Autodesk product for a machine in your configuration to be capable of rendering.

Tools and Utilities

The following table summarizes the optional installs available from the 3ds Max / 3ds Max Design Tools and Utilities section in the installer.

Tool or Utility:	Description:	Website:
Autodesk 3ds Max 2013 SDK	Use the SDK to create new Autodesk 3ds Max features and tools by writing your own plug-ins. <hr/> NOTE The SDK is not shipped with Autodesk 3ds Max Design. <hr/>	www.autodesk.com/develop3dsmax
Network License Manager	You must install the Network License Manager if you are using network licensing.	www.autodesk.com/me-licensing-2013-enu
Allegorithmic Substance Bonus Pack (Designer and Player)	Install the Allegorithmic Substance Bonus Pack (Extra Content) for additional sub-	www.allegorithmic.com/

Tool or Utility:	Description:	Website:
	stances that work with the Substance Designer trial, that is also included.	
ArchVision™ Dashboard	Manage the content acquired using RPC™ Plug-ins with the ArchVision Dashboard.	www.archvision.com/
ArchVision™ RPC™ Plug-In	Add photorealistic objects (such as cars, people, and so on) with the RPC Plug-Ins.	
Autodesk Civil View	<p>Convert 3D civil-engineering data into 3D visualizations. Autodesk Civil View is integrated into Autodesk 3ds Max Design and is accessed from the Civil View menu.</p> <hr/> <p>NOTE Autodesk Civil View is included only with Autodesk 3ds Max Design.</p>	<p>See the Civil View menu in 3ds Max Design for Help and Tutorial information.</p> <hr/> <p>NOTE The first time you access Civil View you will need to initialize it and set some basic settings. After that you have access to the complete Civil View menu where you can find the Help and Tutorials.</p>
EASYNat® 2.5 for 3ds Max 2013 (Demo)	Drop virtual seeds from the included samples and “grow” them in your model to add life-like plants. This includes 2D, 3D, and hybrid models with branch and leaf detail.	www.bionatics.com/EASYNat/
Craft Director Studio™ Plug-in Bundle	Use the Craft Director Studio Plug-in Bundle to perform advanced, in-the-box, rigging and physics simula-	www.craftanimations.com

Tool or Utility:	Description:	Website:
	tions. These features help you animate cameras and vehicles more quickly and realistically.	
Okino Plug-ins (Demo) Okino PolyTrans™ and NuGraf™ Demos	A demo version of PolyTrans and NuGraf, from Okino Computer Graphics, lets you evaluate dozens of CAD, DCC, and VisSim data converters directly within 3ds Max or 3ds Max Design.	www.okino.com/

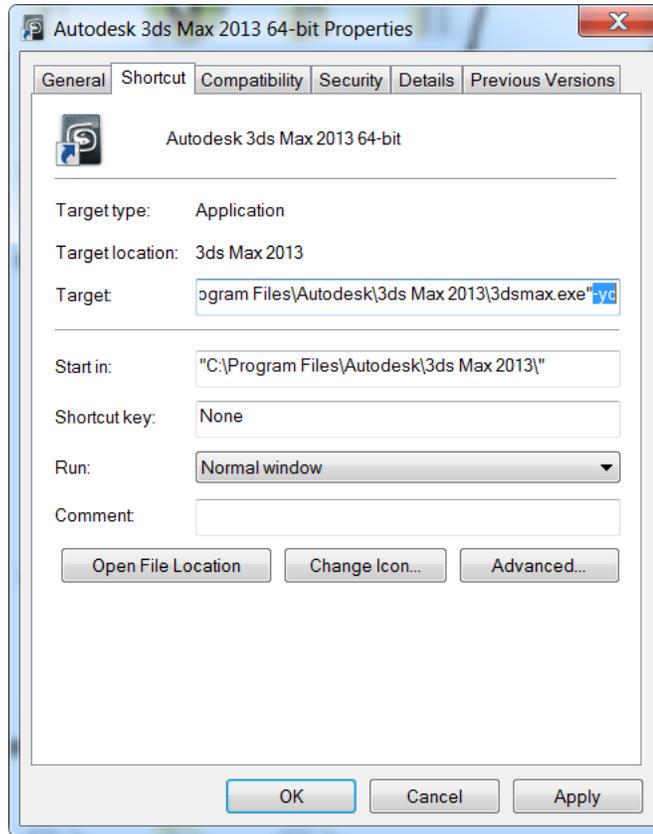
Installing a 32-bit Product on a 64-bit Operating System

Manually override the installer's default behavior, which automatically installs the 64-bit product on a 64-bit computer. For a standalone installation, navigate to the root directory of the install media and launch the 32-bit installer, which has a file name of *Setup_32.exe*, or something similar. For a deployment, you can select the 64-bit target platform, and specify the 32-bit version of a product.

Switching from Standalone to Network License Mode

After you install, switch the licensing mode from Standalone to Network.

- 1 Ensure that the Network License Manager is set up and configured with a valid network license file for 3ds Max or 3ds Max Design.
- 2 Close 3ds Max or 3ds Max Design on the client machine.
- 3 On the Windows desktop, right-click the 3ds Max or 3ds Max Design shortcut icon and choose Properties from the pop-up menu.



- 4 On the Shortcut tab of the Properties dialog, add `-yc` to the end of the path in the Target field so the path now reads: "**C:\Program Files\Autodesk\3ds Max 2013\3dsmax.exe**"-yc.
- 5 Click OK to save the changes and restart 3ds Max or 3ds Max Design by double-clicking on the application shortcut.
- 6 On restart, the FLEXnet License Finder dialog appears. In the dialog, either specify the location of the Network License Server System or the location of the Network License File.
- 7 After specifying the License Server System or the Network License file, the 3ds Max will start and continue to run in Network license mode.

NOTE If you wish to switch from a Network to a Standalone license, you need to perform a full uninstall/reinstall with the Standalone License mode selected during reinstallation.

Autodesk Alias Installation

Autodesk Alias can be installed with other products in the suite. Autodesk Alias Design requires the Autodesk Alias sub-component and Autodesk DirectConnect.

Autodesk Alias Design has no other configuration options available during installation. For general information on installing products in your suite, refer to the Installer Overview/FAQ guide.

For the most updated information, refer to <http://autodesk.com/wikihelp-alias-install-2013-enu>.

Autodesk Mudbox 2013 Installation Information

Certain items are unique to the Autodesk® Mudbox® install process (in contrast with other Autodesk products). In this chapter, learn about the process for downloading a copy of the Mudbox Help, and how to install the 32-bit version of Mudbox on a 64-bit machine.

Install a 32-bit Product on a 64-bit Operating System

You can manually override the installer's default behavior, which automatically installs the 64-bit product on a 64-bit computer. For a stand-alone installation, navigate to the root directory of the install media, and launch the 32-bit installer, which has a file name of Setup_32.exe or similar. For a deployment, you can select the 64-bit target platform, and specify the 32-bit version of a product.

Switch from Online (Default) to Local Help

By default, Mudbox calls an Autodesk web server to display the Mudbox Help. You must have Internet access to view the Help. This ensures you have the most up-to-date version of the Help and allows Autodesk to make updates to the Help between software releases.

If you do not have reliable Internet access, you can download the Mudbox Help from the Autodesk Web site and install it locally as follows.

Prepare to install the Mudbox Help

Before you install the Mudbox Help, ensure that you do the following:

- Install Mudbox
- Download the Autodesk Mudbox English Documentation executable file for your version and platform from www.autodesk.com/mudbox-helpdownload-enu. This file installs Mudbox Help for 32-bit and 64-bit systems.

Install the Mudbox Help

(Windows)

- 1 Download and run the Help installer from www.autodesk.com/mudbox-helpdownload-enu, following the instructions in the installer.
By default, the Mudbox Help is installed in the following directory:
Program Files\Autodesk\Help\mudbox<version>\.
- 2 Start Mudbox.
- 3 Select **Windows > Preferences** to open the **Preferences** window.
- 4 Expand the **Help** section and set **Help Location** to **Installed Local Help**.
- 5 Click **Ok** to exit the **Preferences** window.
Once installed, the local Mudbox Help is available when you select **Help > Mudbox Help**, press F1, or click the **Help** button in various Mudbox windows.

Additional Mudbox Resources

You can find the following additional Mudbox resources online:

- The Autodesk Mudbox 2013 Help at www.autodesk.com/mudbox-help-2013-enu.
- A listing of the most current qualified hardware and operating systems at www.autodesk.com/mudbox-systemreq-2013-enu.
- The full Mudbox Installation Help at www.autodesk.com/mudbox-install-2013-enu.
- Mudbox licensing information at www.autodesk.com/me-licensing-2013-enu.

Autodesk Mudbox Licensing

Autodesk Mudbox shares licensing and activation procedures with other products in the suite. For additional information on licensing Mudbox, for example if you plan to install and license Mudbox for Mac OS X or Linux platforms, see www.autodesk.com/me-licensing-2013-enu.

Showcase Configuration

Installation Information Specific to Autodesk Showcase

This topic describes important information on installing and setting up Autodesk Showcase, including how to:

- [Install Showcase Professional](#) (page 22)
- [Switch from Online \(Default\) to Local Help](#) (page 24)
- [Run Showcase in Kiosk Mode](#) (page 25)

For last-minute news and information on Showcase installation and other important issues, see the Showcase Readme at <http://autodesk.com/showcase-readme-2013-enu>.

Install Showcase Professional

NOTE Showcase Professional is not included in any Autodesk suite offering.

The process to install and use a Showcase Professional license varies depending on your circumstance, as described here. You may need to first install Showcase using a standard (that is, not Professional) license. In some cases, you may need to download and run the Showcase Professional Licensing Utility. The Showcase Professional Licensing Utility can be downloaded from <http://www.autodesk.com/showcaseprolicensing>. These procedures apply to both suite and standalone versions of standard Showcase.

If you have a Showcase license that came with the Showcase DVD, and you have a license server that hosts Professional licenses:

- 1 Run the Showcase installation DVD and enter the standard Showcase product key when prompted.
- 2 Run the Showcase Professional Licensing Utility and enter the Showcase Professional network product key when prompted.

If you do *not* have a license from a Showcase DVD, and your license server hosts *both* Professional and standard Showcase licenses:

- 1 Run the Showcase installer and enter the network Showcase standard product key when prompted.
- 2 Run the Showcase Professional Licensing Utility and enter the network Showcase Professional product key when prompted.

If you do *not* have a license from a Showcase DVD, and if your license server hosts Showcase Professional licenses *but not standard* Showcase licenses:

- Run the Showcase installer and enter the network Showcase Professional product key when prompted.

NOTE Check with your license server administrator to make sure the server does not host standard Showcase licenses.

If you have both standard and Professional Showcase DVD licenses (no license servers):

- 1 Run the Showcase installation DVD and enter the standard Showcase product key when prompted.
- 2 Run the Showcase Professional Licensing Utility and enter the Showcase Professional standalone product key when prompted.

If you have a Showcase *Professional* license from a DVD, and you have a license server that hosts *standard* Showcase licenses:

- 1 Run the Showcase installation DVD and enter the *network* Showcase standard product key when prompted.
- 2 Run the Showcase Professional Licensing Utility and enter the Showcase Professional standalone product key when prompted.

Switch from Online (Default) to Local Help

By default Autodesk Showcase Help is internet-based. If you do not have a dedicated internet connection, you can install the help to your local hard disk. Do this in one of two ways.

Install Showcase help at the end of application installation:

- 1 On the last screen of the Showcase installation wizard, a list of installed components appears, and beside the Showcase component, a blue information icon is displayed.



Hover the mouse pointer over the blue icon to see a link.

- 2 Click the link and follow the instructions to install the help.

Install Showcase help at any time:

- 1 Go to <http://www.autodesk.com/showcase-helpdownload-enu>.

- 2 Follow the instructions to install the help.

Once help is installed locally, Showcase will detect it and use it from that point onward. If you want Showcase to resume pointing to the internet-based help, you must uninstall the local copy of the help.

To uninstall the local copy of Showcase help:

- In Windows Control Panel, open Uninstall / Add or Remove Programs.
- Select "Autodesk Showcase 2013 *Language* Documentation" and click **Uninstall / Remove**.

The next time you start Showcase, the internet-based help will be used.

NOTE Showcase Customization Help is only available in English at this time.

Start Showcase in Kiosk Mode

Follow these steps to start Showcase in "Kiosk" mode (formerly known as "Presenter" mode). First, you need to create a shortcut that will start Showcase in this mode, using the "-kiosk" parameter.

To create a shortcut that starts Showcase in Kiosk mode:

- 1 In Windows Explorer, right-click inside the folder where you want to place the shortcut.
- 2 Select **New > Shortcut**.
- 3 In the location box, enter the following:

Showcase_application_path_in_quotes -kiosk

So for example, your shortcut could look like this:

```
"C:\Program Files\Autodesk\Showcase 2013\bin\Showcase.exe"  
-kiosk
```

You could also add in the "-borderless" parameter, so that there are no main window borders and no heads-up display messages, as well as the "-fullscreen" parameter:

```
"C:\Program Files\Autodesk\Showcase 2013\bin\Showcase.exe"  
-kiosk -borderless -fullscreen
```

Finally, if you want to specify an initial scene to open in Kiosk mode, use the `file` parameter:

```
-file file_path_and_name_in_quotes
```

So, your shortcut could look like this:

```
"C:\Program Files\Autodesk\Showcase 2013\bin\Showcase.exe"  
-kiosk -borderless -fullscreen -file  
"C:\Users\myaccount\Documents\mycomputer\MyScenes\My_Demo.a3s"
```

Once your shortcut is created, double-click it to run Showcase in Kiosk mode.

Remember that in Kiosk mode, Showcase only responds to Web server inputs. You will not be able to interact with Showcase without Web server inputs, and the only way to load a different scene during your Kiosk session is through the Web server.

TIP To close the Kiosk mode of Showcase without using a Web server, right-click it in the Windows task bar and select the Close command for your version of Windows.

For a complete list of available parameters and their descriptions, run Showcase from a Windows command prompt using the `-help` parameter; for example:

```
"C:\Program Files\Autodesk\Showcase 2013\bin\Showcase.exe"  
-help
```

SketchBook Designer FAQ

System requirements for Windows

Autodesk certifies certain system configurations as meeting the requirements to work with SketchBook Designer software. Check that your system meets the following minimum requirements.

You can examine your system capabilities using system diagnostic tools. Select **Start > Programs > Accessories > System Tools > System Information**.

Hardware requirements

- An 800MHz CPU
- 4 GB RAM or more

- A DVD-ROM drive on this machine or a shared DVD drive accessed via a networked mapped drive
- An input device for drawing and sketching. Intuos 3 or higher tablet or Wacom Cintiq® active tablet highly recommended, using a tablet driver of 6.1.6-7 or higher.

Graphics requirements

DirectX 9.0 capable graphics card with 256 MB or greater dedicated video memory with a minimum screen resolution of 1280 x 1024 with True Color or 32-bit Color.

See [Set up your graphics card \(Windows\)](#) (page 28).

Operating system requirements

- Microsoft® Windows 7 Enterprise 32-bit and 64-bit
- Microsoft® Windows 7 Ultimate 32-bit and 64-bit
- Microsoft® Windows 7 Professional 32-bit and 64-bit
- Microsoft® Windows® XP Professional Service Pack 2 (SP2) or later, 32-bit and 64-bit Edition*
 - *Certain elements of the application will have a different appearance when compared with Windows Vista or Windows 7.
- Intel® Pentium® 4 or AMD Athlon processor, 3.0 GHz or greater or Intel Core2Duo or AMD Dual Core processor, 2.0 GHz or greater
- Microsoft Windows® XP, Windows® Vista, Windows® 7
- 4 GB or greater system memory
- DirectX 9.0 capable graphics card with 512MB or greater dedicated video memory
- Minimum screen resolution of 1280 x 1024 with True Color or 32-bit Color
- Microsoft .NET Framework Version 2.0 (included with install)
- 5 GB of free disk space
- **For Bamboo users**, a tablet driver of 5.2.4-5 is recommended

NOTE The installer will automatically detect whether your system is 32 or 64-bit, and will install the appropriate version of the software. The 32-bit software version cannot be installed on a 64-bit OS. If you cannot install the 64-bit version of SketchBook Designer on a machine running 64-bit Vista, Windows 7, or XP, try the following:

Update your video card driver to the latest 64-bit version, via Intel or another website, to meet the requirements, then install the 64-bit version of SketchBook Designer.

Disk space requirements

- 5 GB of hard drive space for installation

Other software

- Adobe® Acrobat® Reader version 6 or higher, is required to view the PDF documentation. You can download a free copy of Acrobat Reader from <http://www.adobe.com>.
- Microsoft Internet Explorer® 6 or later Web browser is required to view the online help.
- Flash plug-in to view animated tutorial sequences in your browser. Free plug-ins are available from <http://www.flash.com>.
- If a Wacom table is being used, update to the latest Wacom driver software (<http://www.wacom.com>).

Graphics card setup

The graphics display performance in SketchBook Designer depends on the quality of your graphics card and on the option settings in the Display Properties window of your graphics card.

If your graphics card is not certified (see *Graphics Requirements* above), perform the following steps. These steps offer general guidelines only because each manufacturer has a unique set of display options.

To set up your graphics card.

- 1 Right-click your desktop, select **Properties**, then select the **Settings** tab in the **Display Properties** window.
- 2 From the **Color quality** menu, select 32-bits of color for best color quality in displayed images.

- 3 Drag the **Screen resolution** slider to the best display resolution supported by your hardware. The higher you set the display resolution, the more graphics card main memory you need. This is called VRAM on some computers.

System requirements for Mac OS X

Autodesk certifies certain system configurations as meeting the requirements to work with SketchBook Designer software. Check that your system meets the following minimum requirements.

To examine the system capabilities of your Apple Macintosh computer

Do one of the following:

- From the Apple menu, select **About This Mac** and click the **More Info** button.
- Double-click the Apple System Profiler application (**Applications > Utilities**).

Apple System Profiler provides information about your computer, operating system, disks, and applications.

System requirements

- Apple Mac OS X 10.6 or greater
- 64-bit Intel Core2 Duo 2.33 GHz or greater CPU
- 2 GB RAM or greater, with 4GB or more highly recommended
- NVIDIA GeForce or ATI Radeon graphics card with 512 MB or more dedicated memory
- Minimum screen resolution of 1280 x 1024 with True Color or 32-bit Color
- Intuos 3 or higher tablet or Wacom Cintiq (R) active tablet is HIGHLY recommended, using a tablet driver of 6.1.6-7 or higher (<http://www.wacom.com>)

Hardware requirements

- 2GB RAM (4 GB recommended)
- DVD-ROM drive
- a valid serial number and product key (typically on the product box)

- To license and activate SketchBook Designer, you need the following:
 - for node-locked licenses: an internet connection
 - for floating licenses: a local network connection to an active license server

Other software

- Apple QuickTime® and Preview (to view the PDF documentation). QuickTime and Preview are provided with the Mac operating system. You can also download Adobe® Acrobat® Reader version 6 or higher, from <http://www.adobe.com> to view the PDF documentation.
- Apple®Safari™ Web browser is required to view the online help.
- Flash plug-in to view animated tutorial sequences in your browser. Free plug-ins are available from <http://www.flash.com>.

Administrative Permission Requirements

To install SketchBook Designer, you must have administrator permissions. You do not need to have domain administrative permissions. See your system administrator for information about administrative permissions.

You do not need administrator permissions to run SketchBook Designer. You can run the program as a limited user.

Locating Your Serial Number and Product Key

When you install SketchBook Designer, you are prompted for your serial number and product key in the Product and User Information page, or the option of installing the product in trial mode. You may enter your product information at any time during your trial mode period if you opt to install the product in that mode.

The serial number and product key are located on the outside of the product packaging, or in the Autodesk Upgrade and Licensing Information email. Make sure to have these available before you install the program so that you don't have to stop in the middle of the installation.

The serial number must contain a three-digit prefix followed by an eight-digit number. The product key consists of five characters.

License Type

Stand-Alone
Use a license on the workstation

Network
Use a license from my network

Product Information

I want to try this product for 30 days

I have my product information

Serial number: ✓

Product key: ✗

NOTE When you enter the serial number and product key, if you make a mistake, an X will appear next to the entry. If it's correct, a check appears.

The information you enter is permanently retained with the product. Because you can't change this information later without uninstalling, take care when entering the information. To review this product information later while the product is running, on the InfoCenter toolbar, click the drop-down arrow next to the Help button (the question mark). Then click *About SketchBook Designer*.

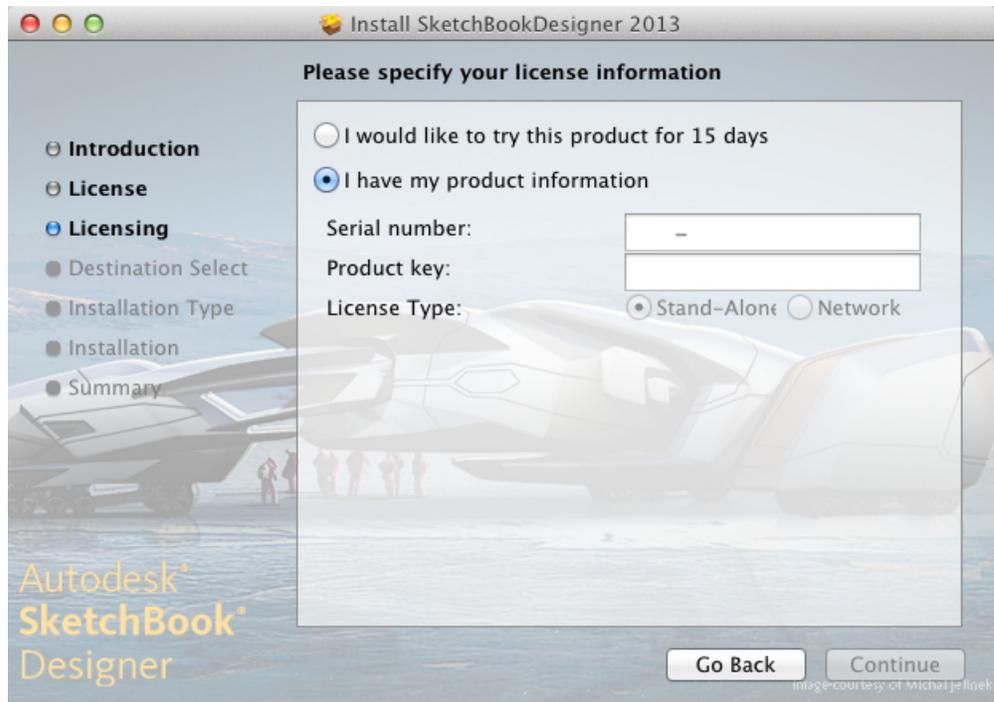
NOTE If you have lost your serial number or product key, contact the Autodesk Business Center (ABC) at 800-538-6401 for assistance.

Locating Your Serial Number and Product Key

When you install SketchBook Designer, you are prompted for your serial number and product key in the Licensing page, or the option of installing the product in trial mode. You may enter your product information at any time during your trial mode period if you opt to install the product in that mode.

The serial number and product key are located on the outside of the product packaging, or in the Autodesk Upgrade and Licensing Information email. Make sure to have these available before you install the program so that you don't have to stop in the middle of the installation.

The serial number must contain a three-digit prefix followed by an eight-digit number. The product key consists of five characters.



The information you enter is permanently retained with the product. Because you can't change this information later without uninstalling, take care when entering the information. To review this product information later, on the InfoCenter toolbar, click the drop-down arrow next to the **Help** button (the question mark). Then, click **About**.

NOTE

If you have lost your serial number or product key, contact the Autodesk Business Center (ABC) at 800-538-6401 for assistance.

Installing and Running the Product

To use the product, you must install the product, register and activate it, and then launch it. You must have administrative permissions to install SketchBook Designer.

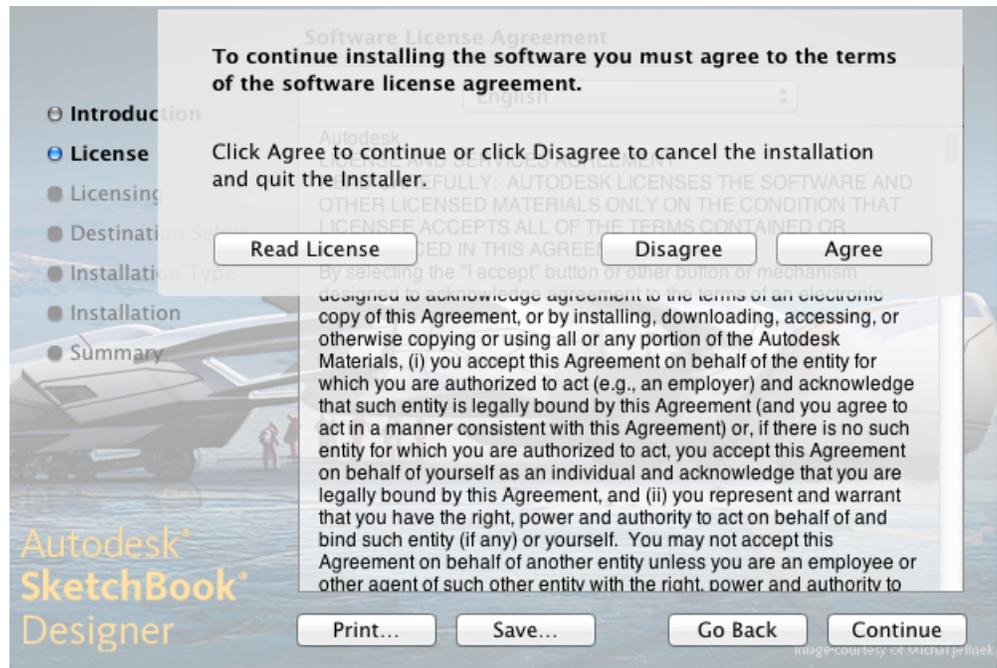
Installing SketchBook Designer for Mac OS X

The installation program on the SketchBook Designer DVD guides you through installation. Install SketchBook Designer on each computer where you want to run it.

To install SketchBook Designer for Mac OS X

- 1** Insert the SketchBook Designer DVD into the drive of your computer.
The contents of the DVD appear in a new Finder window. If the SketchBook Designer 2013 Finder window does not open automatically, double-click the **SketchBook Designer 2013** disk icon on your Desktop.
- 2** Double-click the **SketchBook Designer 2013** package icon within the SketchBook Designer 2013 folder to begin the installation process.
The SketchBook Designer Installation window appears. You can cancel the installation at any time by closing the installer window.

NOTE At various points during the installation, the installer may ask you to type in the name and password of an administrator account on the local machine.
- 3** The Autodesk SketchBook Designer 2013 installer will launch. When each screen is complete, click **Continue** to advance to the next screen.
- 4** The Autodesk Software License Agreement appears.
You can print or save this License Agreement for future reference. This agreement requires your acceptance for the SketchBook Designer software installation to continue. If you do not agree to the terms and conditions of the agreement, the installation process does not continue.



5 Click **Agree** and then **Continue** to continue with the SketchBook Designer software installation.

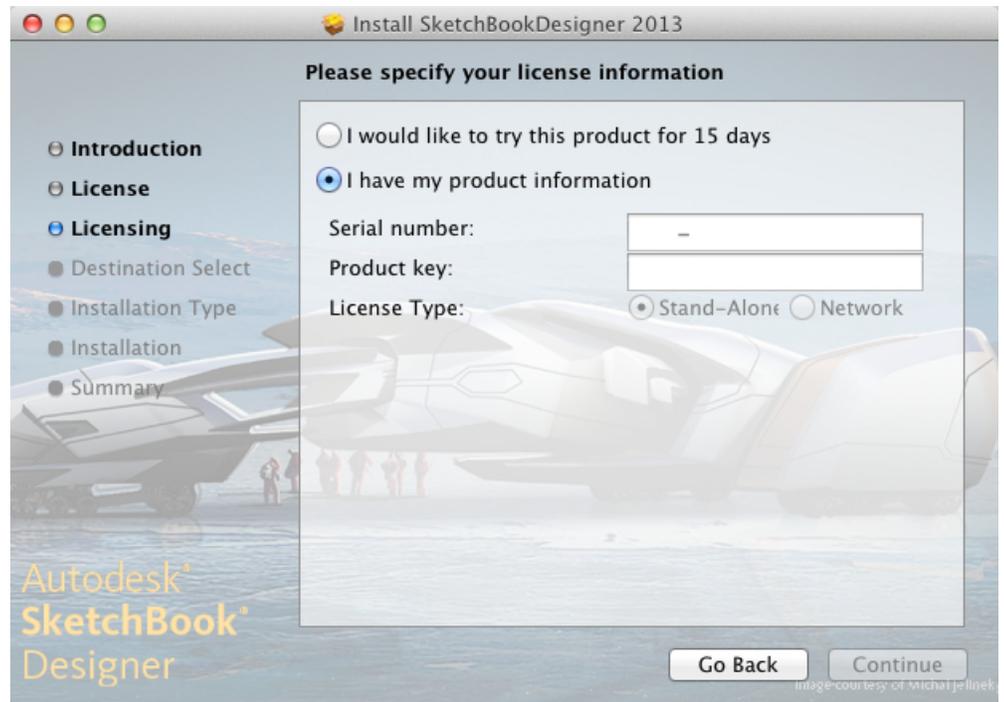
6 Select the Installation Destination volume.

NOTE Only volumes with enough available disk space will be available, and removable or network drives will not be shown.

Click **Continue** to proceed to the next screen.

7 You are prompted to enter your serial number and product key.

NOTE To locate this information, see [Locating Your Serial Number and Product Key](#) (page 31)



Enter your license information for the SketchBook Designer software and click **Continue**.

- 8 You will be prompted for your login name and password (for OS X) to start the installation.

NOTE If you are not an administrator on the computer, you may not be able to successfully install the product.

The SketchBook Designer software and accompanying utilities are installed on your computer. The progress of the installation is indicated by the progress bar at the bottom of the installer's window.

- 9 When all elements have been installed, a green check mark will appear on the summary screen.

When finished, click **Done**.

It is not usually necessary to restart your computer after installing SketchBook Designer. If it is, the installation window will tell you so.

Congratulations! You have now installed SketchBook Designer. Before you can run it, you must activate your license. See Register and Activate SketchBook Designer in this book.

Register and Activate SketchBook Designer

The first time you start SketchBook Designer, the Product License Activation wizard is displayed. You can either activate SketchBook Designer at that time, or Try SketchBook Designer and activate it later. Until you register and enter a valid activation code for SketchBook Designer, you are operating the program in *trial mode* and the Product License Activation wizard is displayed for 30 days from the first time that you run the program.

If after 30 days of running SketchBook Designer in trial mode you have not registered and provided a valid activation code, your only option is to register and activate SketchBook Designer. You will not be able to run in trial mode after the 30 days expires. Once you register and activate SketchBook Designer, the Product License Activation wizard is no longer displayed.

NOTE

The licensing and activation of both and the add-in SketchBook Designer for AutoCAD are shared. Activating one will automatically activate the other. Also, their trial periods are linked, so that a trial for one will start the trial for the other, even if not yet installed.

The fastest and most reliable way to register and activate your product is by using the Internet. Simply enter your registration information and send it to Autodesk over the Internet. Once you submit your information, registration and activation occur quickly.

To register and activate SketchBook Designer

- 1 Do one of the following:
 - (Windows XP) Click Start menu ► Programs ► Autodesk ► *SketchBook Designer* ► *SketchBook Designer* .
 - (Windows Vista and Windows 7) Click Start menu ► All Programs ► Autodesk ► *SketchBook Designer* ► *SketchBook Designer* .
 - If the SketchBook Designer for AutoCAD add-in is installed, you must launch AutoCAD to access the add-in.

NOTE

Registering and activating either SketchBook Designer or SketchBook Designer for AutoCAD will register and activate both products on your system, even if they are installed at different times.

- 2** In the SketchBook Designer Product License Activation wizard, select **Activate**, and then click **Next**.

This starts the activation process.

- 3** Click **Register and Activate** (Get an Activation Code).

- 4** Click **Next** and follow the on-screen instructions.

If you do not have Internet access, or if you want to use another method of registration, you can register and activate SketchBook Designer in one of the following ways:

Email Create an email message with your registration information and send it to Autodesk.

Fax or Post/Mail Enter your registration information, and fax or mail the information to Autodesk.

Network Administration and Deployment

About Deployments

A deployment provides an efficient way to install one or more Autodesk products with a standard configuration on multiple computers. The files required for the installation process are stored on the network, in an administrative image, in a folder to which all users have shared access. To install the products, users navigate to the deployment folder and double-click an installer shortcut (.LNK file).

NOTE The installer referenced in this guide applies only to Windows operating systems. However, some of the concepts and procedures may be useful to administrators of Autodesk products on Linux or Mac OS X networks.

Some essential facts about deployments:

- Deployments can be created for network licenses or multi-seat stand-alone licenses.
- Multiple deployments with different configurations can exist in the same folder, sharing the same administrative image, which is a set of installation files.
- Each deployment installs products in a single language. If you need to install products in different languages, each language requires a separate deployment.

- An existing deployment can form the basis for creating another deployment with a different configuration.
- Deployments can be configured to generate a log file for each installation. Network administrators can use these log files for troubleshooting.
- Each deployment creates a subfolder, *<deployment name>\SMS_SCCM scripts*, which contains two documents to help you with the distribution of deployments using Microsoft Systems Management Server (SMS) and System Center Configuration Manager (SCCM): *SMS_SCCM_ReadMe.txt* and *<deployment name>_SCCM.txt*.

Deploying Language Packs

AutoCAD-based products, Inventor, and 3ds Max can use separate language packs to add one or more additional language versions to an installed product. Each language pack provides user interface strings, message text, and documentation in a specific language, without duplicating the product software. To distribute a specific language version to multiple instances of an Autodesk product, you can use the installer included with each language pack to create a language pack deployment. If you need to deploy language packs for multiple languages or multiple products, you can create a batch file to install a series of language packs on each computer.

Planning a Deployment

Check Deployment Readiness

This checklist identifies preliminary tasks to complete, information to gather, and decisions to make before creating a network deployment.

TIP To review deployment settings, including details of product configuration, you can create a test deployment. After the learning process, you can delete the test deployment.

Deployment Checklist



Review the system requirements by clicking the System Requirements link in the installer. Confirm that your network, servers, and client computers meet these system requirements.

Deployment Checklist

Understand the general process for installing the type of license you have purchased. For a network license deployment, know the license server name(s), and the type of license server model that was specified at the time of license purchase. For more information, see [Determine the License Server Model](#) (page 43)

Install and activate any network administrator tools and utilities. For example, if you are using a network license, install the Network License Manager from the installer.

Locate your product serial number and product key. These are located on the outside of the product packaging, or in an email message if you downloaded your product or upgrade from Autodesk.

Identify a network location for deployments, and create a shared folder to contain deployments.

If your product has language options, decide which language to use for each deployment.

NOTE Languages can be included when you initially create a deployment, or when you create a new deployment configuration, but not when you modify a deployment.

Determine whether to create log files on individual computers, in the deployment folder, or both.

Determine whether to run installations in silent mode.

NOTE When products are installed in silent mode, the user's system can automatically reboot without warning when the installation is complete.

Identify other applicable configuration settings such as defined search paths, locations of support files, and whether to automatically install service packs.

Determine the Installation Type

When you set up your deployment, you specify the installation type by target platform and license type.

Target Platform

Specify either a 32-bit or 64-bit platform, depending on the operating system of the computers that will use the deployment. For some Autodesk products, you can install a 32-bit version on a 64-bit operating system. For more information, consult product-specific documentation.

License Type

Specify one of the following license types in the installer, based on the type of license you purchased:

Network License With this license type, you install the product to computers on a network, along with the files and registry entries that allow the product to communicate with the Network License Manager (NLM) on one or more servers. You also define the NLM configuration. When an Autodesk product starts up on a client computer, it requests a license from NLM, then returns it when the product is stopped. Computers running the product based on a network installation do not require individual activation. For more information, see [Determine the License Server Model](#) (page 43).

A major advantage of a network license is that you can install the product on more systems than the number of licenses you have purchased (for example, purchase 25 licenses, but install on 40 computers). At any one time, the product runs on the maximum number of computers for which you have licenses, so you get true floating licenses.

Stand-Alone License This license type is for multi-seat stand-alone installations where a single serial number and product key are used to install products on multiple computers. With this license type you do not use NLM to manage product licensing. Instead, installation, registration, and activation occur on each computer. After the first activation using the multi-seat stand-alone serial number and product key, activation occurs automatically for all computers using this deployment, as long as they are connected to the Internet.

Determine the License Server Model

If you choose the Network License option, you need to know which license server model will be used to distribute the product licenses. This was specified as one of the following when the license was purchased:

- **Single license server model.** The Network License Manager (NLM) is installed on a single server, so license management and activity is restricted to this server. A single license file records the total number of licenses available on the server.
- **Distributed license server model.** Licenses are distributed across more than one server. A unique license file is required for each server. To create a distributed license server, you must run NLM on each server that is part of the distributed server pool.
- **Redundant license server model.** Three servers are available to authenticate each license. With this configuration, licenses continue to be monitored and issued as long as at least two servers are functional. The license file on all three servers is the same, and you must run NLM on each server.

Each of these license server models is described in detail in the *Licensing Guide*. It is recommended that you also read that guide before you deploy the product. You can find the *Licensing Guide* by clicking the *Installation Help* link in the installer.

Configure Individual Products

When you create a deployment, you can accept the default settings for any product you choose to install, or you can configure these settings to create a custom deployment. Configuration details for each product are usually covered in a product-specific appendix to this guide. It is recommended that you review these appendices, and determine the right settings for each product in your deployment.

To configure product settings, on the Create Deployment page of the installer, ensure that the product is selected for installation, and then click the product in the scrolling list. The configuration panel opens.

IMPORTANT The configuration settings you choose apply to every instance of the product installed from the deployment. After the deployment is created, these settings can be changed only by modifying the deployment. For more information, see [Modify a Deployment](#) (page 48).

Most products allow you to choose an installation type, either Typical to select the most common options, or Custom to review options in more detail.

Some other common product settings are as follows:

- User preferences for product behavior
- Installation of support files, such as material libraries
- Access to online resources

Click Installation Help for further information specific to your product or suite.

Include Service Packs

Most products provide the option to include service packs in a deployment. You can download a service pack from *autodesk.com*, or use a service pack stored on a local hard drive or network location. In either case, the service pack will be applied only after the installation of the main product is completed.

If you select the Install Service Pack from *autodesk.com* button, the service pack will be automatically downloaded and you will not need to extract the MSP file.

You can add multiple service packs to a deployment only if the service packs are locally stored, not if you are downloading them from *autodesk.com*.

NOTE If the deployment process for the main product is canceled or fails, the service pack installation will automatically be canceled.

Two options are available for including service packs in deployments:

- **Append the Service Pack onto the Deployment.** When you append a service pack, the service pack is applied to the current deployment only. Multiple service packs may be appended to a deployment. The service pack file is included in the deployment and the service pack is applied after the product is deployed.
- **Merge the Service Pack into the Administrative Image MSI File.** With this option, the service pack is merged into the administrative image.

Once merged, a service pack cannot be removed from the administrative image.

To extract a Microsoft Installer Patch (MSP) file from a service pack

- 1 Download the service pack from the Support site for your product.
- 2 Review the service pack *Readme* file for information about patch usage.
- 3 Open a Windows command prompt and enter the patch file name followed by the /e switch and a target file name. Here is the general command format:

```
<local_drive:>\<patch_name>.exe /e  
<local_drive:>\<patch_name>.msp
```

Here is an example:

```
ProductSP1.exe /e ./ProductSP1.msp
```

where *ProductSP1.exe* is the name of the downloaded patch and *ProductSP1.msp* is the name of the extracted file. Using './' in front of the extraction file name places the extracted file in the same folder as the original executable. The "e" command line switch extracts the MSP file from the executable.

To include a service pack with the deployment

To include a service pack with a deployment, an MSP file must be extracted from the downloaded service pack executable.

- 1 On the Include Service Packs page, click the Browse button.
- 2 In the Open dialog box, locate the service pack you want to include with the deployment.
- 3 Select the MSP file and click Open.
- 4 Specify whether you want to append the service pack to the deployment or merge the service pack into the administrative image.
- 5 Click Next.

Create a Network Share

After you have fully prepared for creating a deployment, you are ready to set up and distribute Autodesk products from a shared network location. A network share is an installation folder to which all users' computers have access. You create deployments in the network share, and point users to this location to

install the program. Any subfolders inside a network shared folder are automatically shared.

If you select the option to create a network log file, then during installation, the user's computer writes an entry to the log file in the network share. Therefore, this option requires that users have read-write access to the network share.

You can create a deployment folder on a network share as part of the process of creating the deployment. If you plan to create several deployments of the same product or suite, configured for different user groups, then these deployments can share the same administrative image, and the shortcuts can reside in the same folder. However, if you plan to create deployments of different products or suites, it is recommended that you create separate product folders on the network share before starting to create deployments.

For more information on how to create a network share, see the documentation for your operating system.

Creating a Deployment

Create an Original Deployment

Use this procedure to create a new deployment from the installer. In the process, you can create a **default deployment** by accepting the default configuration of each installed product, or you can create a **custom deployment** by customizing the configuration settings of one or more products in the deployment.

To create an original deployment

- 1 Close all running applications on your computer.
- 2 Start the installer.
- 3 On the first page, if language choices are available, select a language for the deployment instructions, and then click Create Deployment.
- 4 On the Configure <name> page, **Administrative Image** section, specify the following data:
 - a Enter a descriptive name for the deployment that identifies the user group, platform, or other attribute to differentiate this deployment from others.

- b Enter the path or browse to the shared network folder where you want to create and store your administrative image. Users install the program from this location.

NOTE For information on how to create a network share, see [Create a Network Share](#) (page 45).

- c Select either 32-bit or 64-bit for the target operating system.
- d Choose whether to include only the products required by this configuration.
 - If selected, the deployment cannot be modified in future to include additional products.
 - If unselected, the administrative image will include all possible products, so the current deployment can be modified in any way.

- 5 In the **Installation Settings** section, select one or more of these options:

- **Silent mode** runs the installation in background, without prompting the user for any input.

NOTE Silent mode can automatically restart the user's computer without warning after installation.

- **Log file on each workstation** can enable users to review and troubleshoot their own installations.
- **Network log file** in a central location supports the network administrator in reviewing data for all installations.

NOTE The network log file must be in a shared folder where users of the deployment have read-write access. Otherwise, log data for user installations cannot be written to the log file.

- 6 Review and accept the Autodesk software license agreement.
- 7 On the Product Information page, select your license type, and enter your serial number and product key. If this data is valid, green check marks appear.
- 8 If you are sure that the product information is correct, click Next.
- 9 On the Create Deployment Configuration page, select the products to include in the deployment.

- 10 If you need to configure settings for a product, click the product name to open the configuration panel where you can review and change settings.

IMPORTANT The configuration settings you choose apply to every instance of the product installed from the deployment. After the deployment is created, these settings can be changed only by modifying the deployment.

Configuration settings vary widely by product. For more information, click Installation Help to see the product documentation.

- 11 Click Create to create the deployment.
After the deployment is created, the Deployment Configuration Complete page opens, presenting useful paths to the new deployment and a link for registering products online.
- 12 After you have finished using this screen, click Finish.

Modify a Deployment

Inside each deployment folder is a Tools folder that contains a shortcut (.LNK file) named Create & Modify a Deployment. You can use this shortcut to

- Create a new deployment configuration
- Create a new deployment configuration that uses an existing deployment as a template
- Modify the configuration of an existing deployment

The installer pages guide you through the process, similar to when creating an original deployment. If your original administrative image was set to include only products required by the deployment configuration, then your options for creating or modifying the deployment are limited. In particular, you cannot add products to the deployment that are not in the original administrative image. Conversely, if your original administrative image was not set to include only the required products, then it includes all product files. As a result, you can add products when you modify this deployment or when you create new deployment configurations.

To modify a deployment

- 1 Open the shared network folder that contains the deployment.
- 2 In the Tools folder, double-click the Create & Modify a Deployment shortcut.

The installer opens at the Modify Deployment page.

- 3 Click through the deployment configuration pages, and select the required options.
- 4 Click Create Deployment.

Direct Users to the Administrative Image

After you have created the deployment, users can install the program using the shortcut (.LNK file) located in the deployment folder with the administrative image. The shortcut name matches the deployment name that you specified when creating the deployment. Notify users of the shortcut name and location. Instruct them to double-click the shortcut to start the installation. If the deployment uses silent mode, advise users to keep other applications closed during the installation, because their computers might restart automatically after products are installed.

Alternative Distribution Methods

Overview of Distribution Methods

In addition to standard deployments, you can use the following alternative methods of distributing Autodesk programs on Windows platforms:

- **Scripting.** See [Use Batch Files to Deploy the Program](#) (page 49).
- **Group Policy Objects (GPOs).** See [Use Group Policies to Run a Deployment](#) (page 53).
- **Microsoft System Center Configuration Manager (SCCM).** See [Use Microsoft SCCM to Deploy Products](#) (page 57).
- **Imaging Software.** See [Distribute Products Using Imaging Software](#) (page 61).

Use Batch Files to Deploy the Program

A batch file executes a set of commands. Installation batch files are useful for installation of stand-alone or network licensed programs on computers that

are connected to a network. These files are also useful for installing service packs, extensions, and object enablers on a network.

The batch file consists of one or more commands, as well as command switches that specify options, and flags that modify the options. An installation script also contains path names.

An installation script points to the location of the product's *setup.exe* file. You must point to the *setup.exe* file on your installation media or network location.

In order for your Autodesk product to run properly, you must have Administrator permissions on the computer where the program is being installed.

Sample Installation Batch Files

The sample batch files in this section install AutoCAD in typical configurations for stand-alone or network licensed versions. To make it easy to copy this sample batch file and substitute your own information, the same names are used throughout for variables.

Notes

<mediaDriveLetter> is the drive letter where the media is mounted or the *setup.exe* file is stored

Install options used here include /t (setup is executed by script) and /qb (display a basic user interface). Others such as /w (log nonfatal warnings) are defined for Microsoft Msiexec command line, and documented on the MS TechNet website.

<SerialPrefix> is the first 3 digits of the serial number

<SerialPostFix> is the last 8 digits of the serial number

<ProdKey> is the Product Key

<lang> is the IETF language tag, for example en-US for English-United States

<eula_lang> is the ISO 3166-1 alpha-2 standard for the country for example US = United States

Stand-Alone License

```
<mediaDriveLetter>\setup.exe /t /qb /language <lang> /c  
ACAD: INSTALLDIR="%programFiles%\Autodesk\AutoCAD 2013"  
ACADSERIALPREFIX=<SerialPrefix>ACADSERIALNUMBER=<SerialPostFix>
```

```
ADLM_PRODKEY=<ProdKey> ADLM_EULA_COUNTRY=<eula_lang>
InstallLevel=5
```

Example:

```
C:\setup.exe /t /qb /language en-us /c
ACAD: INSTALLDIR="%programFiles%\Autodesk\AutoCAD 2013"
ACADSERIALPREFIX=123 ACADSERIALNUMBER=12345678
ADLM_PRODKEY=001E1 ADLM_EULA_COUNTRY=US InstallLevel=5
```

Single Network License

```
<mediaDriveLetter>\setup.exe /t /qb /language <lang> /c
ACAD: INSTALLDIR="%programFiles%\Autodesk\AutoCAD 2013"
ACADSERIALPREFIX=<SerialPrefix>ACADSERIALNUMBER=<SerialPostFix>

ADLM_PRODKEY=<ProdKey> ADLM_EULA_COUNTRY=<eula_lang>
InstallLevel=5
ACADSTANDALONENETWORKTYPE="3" ACADLICENSESERVERTYPE="Single
Server License"
ACADLICENSETYPE="Network License"
ACADSERVERPATH="<FlexLicenseServer> 000000000000"
```

Notes

For network licenses, ACADSTANDALONENETWORKTYPE identifies the type of license being installed. It has three possible values: 0 for both network and stand-alone, 1 for stand-alone, and 3 for network.

<FlexLicenseServer> is the network license server.

Distributed Network License

```
<mediaDriveLetter>\setup.exe /t /qb /language <lang> /c
ACAD: INSTALLDIR="%programFiles%\Autodesk\AutoCAD 2013"
ACADSERIALPREFIX=<SerialPrefix>ACADSERIALNUMBER=<SerialPostFix>

ADLM_PRODKEY=<ProdKey> ADLM_EULA_COUNTRY=<eula_lang>
InstallLevel=5
ACADSTANDALONENETWORKTYPE="3"
ACAD_LICENSESERVER_DISTRIBUTED="1"
ACADLICENSESERVERTYPE="Distributed Server License"
ACADLICENSETYPE="Network License"
ACADSERVERPATH="@<server1>;@<server2>;@<server3>;"
```

Notes

<server1> thru <serverN> are valid network license servers.

Redundant Network License

```
<mediaDriveLetter>\setup.exe /t /qb /language <lang> /c
ACAD: INSTALLDIR="%programFiles%\Autodesk\AutoCAD 2013"
ACADSERIALPREFIX=<SerialPrefix>ACADSERIALNUMBER=<SerialPostFix>

ADLM_PRODKEY=<ProdKey> ADLM_EULA_COUNTRY=<eula_lang>
InstallLevel=5
ACADSTANDALONENETWORKTYPE="3"
ACADLICENSESERVERTYPE="Redundant Server License"
ACADLICENSETYPE="Network License"
ACADSERVERPATH="<server1> 000000000000 27005;<server2>
000000000000 27005;<server3> 000000000000 27005;"
```

Notes

<server1> thru <server3> are valid network license servers with redundant licenses.

Run Batch Files

After creating a batch file, you move it to a server or use a mapped drive letter or a UNC (universal naming convention) path. If you place it on a server for users to run, create a shared folder on the server, and then add users to the share with the rights they need. Users who just run the batch file can have read-only access to the shared folder.

Next, in another server location, create a directory for each product you want to install. Copy the installation files to this directory from the product media. You may also want to create directories for service packs, extensions, and your own customization tools.

Use one of the following methods to run an installation batch file:

- Run the batch file manually at each individual computer. To run the installation, paste the batch file into the Run dialog box or run it from the Windows command prompt.
- Send an email to each user who should run the batch file, with the UNC path and any required instructions.
- Email the batch file to each user with instructions for use.
- Set up the batch file so that it runs on login.

Use Group Policies to Run a Deployment

With group policies, you can advertise and install a program by assigning a deployment to computers. A deployment that is assigned to a computer can be used by any user of that computer. Generally, you would assign the deployment to a computer that is shared by several users.

NOTE Autodesk products are designed to be installed on a computer so that any user who logs on to the computer can run the software. If you assign a deployment to a specific user rather than a computer, you may encounter problems when a second specified user tries to install or uninstall a copy of the program.

The following section outlines the advantages and disadvantages of using group policies.

Advantages

- Works well with deployment functionality.
- Allows you to add custom files to a deployment.
- Allows deployment to computers rather than to users.

Disadvantages

- Prohibits the passing of command-line parameters to an MSI executable. You must use scripts instead.
- Prohibits customization of application settings, other than what is set while creating a deployment.

Autodesk products typically have software prerequisites that must be installed on a computer to support the Autodesk product. In particular, Microsoft .NET Framework 4.0, Fusion, and the Fusion plug-in must be installed prior to using group policies. Before deploying products, consult the *System Requirements* for each product, and ensure that these are installed on the computer where the program will be installed.

Distributing a program through group policies involves three main steps:

- 1 Create an application distribution share point.** The application distribution share point is created when you create a deployment. See [Create an Original Deployment](#) (page 46) to create a deployment.
- 2 Assign the deployment to a computer.** See [Use Group Policies to Assign a Deployment to Computers](#) (page 54).

- 3 **Verify the installation.** Confirm that the program has been correctly installed. See [Verify a Group Policy Deployment](#) (page 57).

Use Group Policies to Assign a Deployment to Computers

Perform the following procedures from a Windows XP computer or a Windows 2000 or 2003 server that has Group Policy Management Console installed, and has access to the Active Directory server.

NOTE For more information, go to [Microsoft TechNet](#) and search for "Group Policy Management Console".

To assign a deployment to a computer

- 1 Start the Group Policy Management Console (*gpmc.msc*).
- 2 Right-click the organizational unit where you want to create the group policy object (GPO). Then select Create and Link a GPO Here and name the Group Policy.
- 3 Edit the policy.
- 4 In the Group Policy Object Editor dialog box, under Software Settings, right-click Software Installation, and click New ► Package.
- 5 In the Open dialog box, navigate to the administrative image created by the deployment process. Navigate to *AdminImage\<processor type>\<product name folder>*. The processor type is either x86 or x64, depending on the processor type for which you created your deployment.

Examples

For x86 deployments:

```
\\server123\Deployment\AdminImage\x86\acad
```

For x64 deployments:

```
\\server123\Deployment\AdminImage\x64\acad
```

- 6 Select the Windows Installer Packages file called *acad-<deployment name>.msi*. Click Open.

If the deployment was called "Design 2013 32 bit," then the deployment's MSI file would be *acad-Design 2013 32 bit.msi*.

- 7 In the Deploy Software dialog box, select Advanced and click OK.
- 8 In the Properties dialog box, Modifications tab, click Add.
- 9 In the Open dialog box, select the Transform Package file called *acad-
<deployment name>.mst*). Click Open.
- 10 In the Properties dialog box, Modifications tab, click Add.
- 11 In the Open dialog box, navigate to *<deployment location>\Tools* and select the Transform Package file called *gpo.mst*.
- 12 Click OK to complete the package.

Adding a Language Pack

If your product uses language packs, you may need to add a language pack to your package.

To add a language pack

- 1 In the Group Policy Object Editor dialog box, under Software Settings, right-click Software Installation for the same object, and then click New ► Package.
- 2 In the Open dialog box, navigate to the location of the administrative image that you specified when creating the deployment. Navigate to *AdminImage\<processor type>\<locale>\acad\acadlp.msi*. Click Open. The *<locale>* used in the examples is *en-us* for US English.

Examples

For x86 deployments: `\\server123\Deployment\AdminImage\x86\en-us\acad`

For x64 deployments: `\\server123\Deployment\AdminImage\x64\en-us\acad`

- 3 In the Deploy Software dialog box select Advanced and click OK.
- 4 In the *<product name>* Properties dialog box, Modifications tab, click Add.
- 5 In the Open dialog box, select the Transform Package file called *acad-
<deployment name>.mst* located at *AdminImage\<processor type>\acad*. Click Open.
- 6 In the *<product name>* Properties dialog box, Modifications tab, click Add.

- 7 In the Open dialog box, navigate to *<deployment location>\Tools* and select the Transform Package file called *gpo.mst*.
- 8 Click OK to complete the package.

To add the product-specific package

- 1 In the Group Policy Object Editor dialog box, under Software Settings, right-click Software Installation for the same object, and then click New ► Package.
- 2 In the Open dialog box, navigate to the location of the administrative image that you specified when creating the deployment. Navigate to *AdminImage\<processor type>\<locale>\acadps.msi*. Click Open.
The *<locale>* used in the examples is en-us for US English.

Examples

For x86 deployments: `\\server123\Deployment\AdminImage\x86\en-us\acad`

For x64 deployments: `\\server123\Deployment\AdminImage\x64\en-us\acad`

- 3 In the Deploy Software dialog box select Advanced and click OK.
- 4 In the *<product name>* Properties dialog box, Modifications tab, click Add.
- 5 In the Open dialog box, select the Transform Package file called *acad-<deployment name>.mst* located at *AdminImage\<processor type>\acad*. Click Open.
- 6 In the *<product name>* Properties dialog box, Modifications tab, click Add.
- 7 In the Open dialog box, navigate to *<deployment location>\Tools* and select the Transform Package file called *gpo.mst*.
- 8 Click OK to complete the package.

The GPO is now assigned to all computers that are members of the organizational unit for which the GPO was created. The next time a computer in the organizational unit is restarted, the program will be installed and will be available for all users of the computer. See [Verify a Group Policy Deployment](#) (page 57) to confirm that the group policy has been created correctly.

Verify a Group Policy Deployment

To verify that this deployment has been correctly assigned to a computer, restart a computer that is in the organizational unit for which the group policy was created. The program installation begins before the login prompt is displayed. The operating system displays group policy messages, including a message indicating the installation of any managed software.

After logging in, double-click the program icon on the desktop to complete the installation and start the program.

NOTE If problems arise, an entry is logged in the system's Event Viewer, under Applications.

Use Microsoft SCCM to Deploy Products

Microsoft System Center Configuration Manager (SCCM) allows you to manage software distribution to selected target systems through a remote process. For more information about this topic, go to [Microsoft TechNet](#) and search for "System Center Configuration Manager".

Each deployment includes a folder *<deployment name>\SMS_SCCM scripts*, which contains two documents to help you with SCCM deployments: *SMS_SCCM_ReadMe.docx* and *<deployment name>_SCCM.txt*.

NOTE Microsoft .NET Framework 4.0 must be installed on each target computer before using SCCM to distribute Autodesk products.

To deploy Autodesk products with SCCM

- 1 Identify or create a collection of target computers to receive the software package.
- 2 Create a source directory using the Create Deployment procedure in the installer. See [Set Up a Source Directory for SCCM](#) (page 58).
- 3 Create an SCCM package to deploy to your target systems, and notify users that the software package is available. See [Create the SCCM Software Installation Package](#) (page 58).

NOTE Distribution of DirectX 9.0C to Windows XP by SCCM is not supported. For an Autodesk product to run properly, you must manually install DirectX 9.0C from the product media (<media>\3rdParty\DirectX\DXSETUP.exe). This version of DirectX 9.0C is customized for use with Autodesk products.

Set Up a Source Directory for SCCM

When you use SCCM to deploy Autodesk products, you set up the source directory using the Create Deployment process in the installer.

The Create Deployment process creates an administrative image that is used by SCCM to distribute the Autodesk products to the target systems. The location of the administrative image is the package source directory.

To learn more about deployments and setting up the source directory for Autodesk software, see [About Deployments](#) (page 39).

NOTE Before trying to configure SCCM to deploy the product, it is recommended that you test your deployment to ensure that it can install the product successfully.

To test your deployment

- 1 Log on to a Windows computer as a user who has administrative privileges.
- 2 Navigate to the source directory where your administrative image was created.
- 3 Double-click the deployment shortcut created by the deployment process. The program is either installed, or error information is written to the log file at %temp%.

Create the SCCM Software Installation Package

After creating the source directory using the deployment process, create the SCCM software installation package. An SCCM package contains the files and instructions that SCCM uses to distribute the software and advertise the package to users. The deployment process creates the files and instructions, but SCCM must be configured to use these files.

To create a software installation package using SCCM

- 1 Click Start menu ► All Programs ► Microsoft System Center ► Configuration Manager 2007 ► ConfigMgr Console.
- 2 In the Configuration Manager Console window, expand Software Distribution.
- 3 Right-click Packages ► Distribute ► Software.
- 4 In the Distribute Software wizard, click Next.
- 5 In the Package dialog box, select Create a New Package and Program without a Definition File. Click Next.
- 6 In the Package Identification dialog box, enter the information for Name, Version, Publisher, Language and any comments. Click Next.
- 7 In the Source Files dialog box, make selections for where SCCM retrieves the files and how it manages them. Select "Always Obtain Files from a Source Directory". Click Next.
- 8 In the Source Directory dialog box, specify the location of the source directory. Click Next.
- 9 In the Distribution Points dialog box, select the distribution point(s). This is the location from which the software package will be deployed to the target computers. Click Next.
- 10 In the Program Identification dialog box, enter the name of your program. This is the name that displays in Add or Remove Programs in the Control Panel. In the Command Line field, enter **.\AdminImage\setup.exe /W /Q /I .\AdminImage\<deployment name>.ini /language en-us**. For example, if your deployment is named "Adsk-2012", you would enter **.\AdminImage\setup.exe /W /Q /I .\AdminImage\Adsk-2012.ini /language en-us**. Click Next.

NOTE This example assumes the language pack you wish to install is US English. About the flags, /W indicates SMS and SCCM, /Q indicates a silent install, and /I indicates a deployment installation.
- 11 In the Program Properties dialog box, Program Can Run drop-down list, select how you want your program to install. Your choices are
 - Only When a User is Logged On
 - Whether or Not a User is Logged On
 - Only When No User is Logged On

- 12 In the After Running drop-down list, select an action to take after the program has been installed. Your choices are
 - No Action Required
 - Program Restarts Computer
 - ConfigMgr Restarts Computer
 - ConfigMgr Logs User Off

NOTE Some products require a system restart after installation.

Click Next.

- 13 In the Advertise Program dialog box, select Yes to advertise the program to users. Click Next.
 - 14 In the Select a Program to Advertise dialog box, select the package you want to advertise. Click Next.
 - 15 In the Select Program ► Advertisement Target dialog box, select the collection of people to whom you want to advertise, or create a new collection.
 - 16 In the Select Program ► Advertisement Name dialog box, enter or change the name of your advertisement. Add any comments to further describe the advertisement. Click Next.
 - 17 In the Select Program ► Advertisement Subcollection dialog box, select one of the following options:
 - Advertise this Program to an Existing Collection
 - Create a New Collection and Advertise this Program to It
 - 18 Click Next.
 - 19 In the Select Program ► Advertisement Schedule dialog box, if desired, set options to advertise your program at a specific date and time, or set an expiration date. Click Next.
 - 20 In the Select Program ► Assign Program dialog box, select one of the following options:
 - If the installation process is mandatory, select Yes, Assign the Program.
 - If the installation process is optional, select No, Do Not Assign the Program.
- Click Next.
- 21 In the Summary dialog box, verify your advertisement information. Use the back buttons to make any changes. To finish, click Next.

Distribute Products Using Imaging Software

You can use imaging software, such as Norton Ghost, to create a master image to distribute Autodesk products. Once created, the master image can be replicated to other computers throughout your facility.

IMPORTANT Autodesk does not recommend or support the distribution of products using imaging software. However, if you plan to use this method of distribution, please review the following instructions carefully.

The use of imaging software can result in conflicts with product licensing, incomplete installations, and problems with activation.

NOTE If you experience licensing instability in a SATA RAID environment, using imaging software to distribute Autodesk products can cause product activation problems, such as an "Activation code limit exceeded" situation.

Distribute Multi-Seat Stand-Alone Products

You can use a master image to distribute a multi-seat stand-alone product to multiple computers.

NOTE When using Norton Ghost, you must use the *-ib* switch to include the boot sector in your master image. Consult your imaging software for more details on including the boot sector as part of the master image.

Master images should not be created if you have previously run Autodesk products on the master computer. Cleaning the system may be necessary. For more information, see [Clean a Master System and Restore the Operating System](#) (page 63).

To distribute a multi-seat stand-alone product to multiple computers using a master image

- 1 Create a network deployment for a multi-seat stand-alone product. For more information, see [Create an Original Deployment](#) (page 46).
- 2 Install the Autodesk product from the deployment onto the master computer.
- 3 On the master computer, create a master image, including the boot sector. Test the product on a machine other than the master computer before distributing the product. Launch the product on the other

machine, and then register and activate it. Users have a trial period to register and activate the product on their machines.

- 4 Apply the master image to the target computers.

Distribute Network Licensed Products

You can use a master image to distribute network licensed products.

To distribute a network licensed product to multiple computers using a master image

- 1 Create a network deployment for a network licensed product. For more information, see [Create an Original Deployment](#) (page 46).
- 2 Install the product from the deployment onto the master computer.
NOTE A license server must be running, and each computer must be connected to the network in order for the product to obtain a license.
- 3 After the product has been installed, use imaging software to create a master image of the system's hard drive.
- 4 Apply the master image to the target computers.

Restore the Master Image

The following procedure assumes that you have saved a copy of each computer's *AdLM* folder (and *Product Licenses* folder, if present) to either another computer or a disc before you reformat the computer.

To restore a product using a master image

- 1 Exit the application. Do not run the application again until after you have completed this procedure.
- 2 In Windows Explorer, copy the *AdLM* folder from the appropriate path shown below to a location other than the disc that will be restored.
C:\Documents and Settings\All Users\Application Data\FLEXnet
- 3 Reformat the computer and restore the master image.

NOTE Do not perform a low-level format of the hard drive.

- 4 Copy the *AdLM* folder that you created in step 2 to its original location on the reformatted computer.

NOTE When you restore the disc image, any files that were altered are put back in their original state and ready to use again. The license files are preserved, and no reactivation of products is necessary.

Clean a Master System and Restore the Operating System

If you have already run your Autodesk product on the master computer, the master computer should be properly cleaned before creating a master image.

To clean a master computer and restore the operating system

- 1 Clean the hard drive, including the boot sector.
For example, if you use Norton's GDISK utility, use the following command:
gdisk 1 /diskwipe
Where *1* is the hard disk that is being wiped.

NOTE If you use a utility other than Norton Ghost, make sure that it cleans the boot sector; otherwise, you will not be able to activate Autodesk products.
- 2 Create a new partition and use the restore disc or product media to install the operating system.

Installation Questions

This section provides answers to some frequently asked questions about installation and deployment. For additional advice and assistance, go to [Autodesk Support](#), click your product name, and search in the Knowledgebase for your product.

Licensing Questions

What is the difference between a stand-alone license and a network license?

A stand-alone license supports one or more Autodesk products for an individual user. Similarly, a multi-seat stand-alone license supports a specific number of users. While the software can be installed on additional computers in your facility, the licensed number of users cannot be exceeded.

A network license supports a specific maximum number of users who are connected to a network. A software utility known as the Network License Manager (NLM) issues licenses to users, up to the number of licenses purchased. At this point, no more computers can run the Autodesk product until a license is returned to the NLM.

What is the benefit of using a network licensed version of the software?

Network licensing provides ease of license management for large drafting/design facilities, classrooms, and other environments that need to support many users. The Network License Manager provides centralized control of licenses, including their registration, activation, and distribution to users. One main advantage of a network license is that you can install products on more computers than the number of licenses you have purchased. For example, you can purchase 25 licenses but install them on 40 computers for ease of access. At any one time, products can run on the maximum number of computers for which you have licenses. This means you get a true floating license. A network licensing system can also be configured to allow users to borrow a license for a limited time to use on a computer disconnected from the network.

What is SAMreport-Lite?

SAMreport-Lite is a report generator that helps you monitor the usage of network licenses for products that use FLEXnet™. SAMreport-Lite is not distributed with Autodesk products, but it is available from Autodesk.

SAMreport-Lite can help you better manage your software licenses. For more information, click [SAMreport-Lite](#).

Deployment and Networking Questions

Where should deployments be located?

It is recommended that you create a network share folder named *Deployments* on the desktop of the system where you want to store deployments. You can then add subfolders named to reflect the products deployed. If you plan to create several deployments of the same product or suite, configured for different user groups, then these deployments can share the same administrative images, and the shortcuts can reside in the same folder. Any subfolders inside a shared folder are automatically shared.

For more information on network shares, see [Create a Network Share](#) (page 45).

When should I select all products for the administrative image, and can I add products later?

If you include all products in your deployment, the administrative image will be larger, but you will be able to modify the deployment or create new ones without restrictions. If you select the checkbox "Include only products required by this deployment configuration", the resulting deployment includes a subset of the available products. Any modifications to this deployment, or additional deployments based on the first one, will be limited to the same set of products or fewer.

It is recommended that you include all available products if you plan to create multiple deployments from this administrative image with different product mixes, and prefer not to use the installation media again. If there are products you will never use, or if you do not expect to create additional deployments, you should select a subset of products.

You can create another deployment later, and include additional products, but to do this you need to create a new administrative image from the installation media.

What are the profiles associated with user computer settings?

Profiles are created on the Profiles tab of the Options dialog box. Profiles can contain configuration settings for just about anything that is not a drawing based system variable. For example, a profile can contain things like support paths, grip settings, and plot settings.

When you specify a profile on the Specify User Preferences page during the deployment process, it ensures a standard configuration for all computers that use that deployment to install the product.

What happens if I choose to append or merge service packs?

When you append a service pack, it is applied to the current deployment only. The service pack file is included in the deployment, and the service pack is applied after the product is deployed.

When you merge a service pack, the service pack is merged into the administrative image. Once merged, a service pack cannot be removed from the administrative image.

You can choose to append or merge service packs from the product configuration panel when creating a deployment.

Where can I check if service packs are available for my software?

To find out if a patch or Service Pack is available, visit the Support page for your product at <http://autodesk.com/servicesandsupport>.

How do I extract an MSP file?

This topic applies only to Windows platforms. A Microsoft Patch (MSP) file is usually contained in a Service Pack executable that you download from the Support website for your product. To extract the MSP file from the executable,

run the patch program from the Windows command prompt using the */e* switch. The syntax is as follows:

```
<local_drive:>\<patch_name>.exe /e <local_drive:>\<patch_name>.msp
```

Pay particular attention to the location where the files are extracted. For details about using the patch file, review the *Readme* file for the patch.

How should I configure a network license server for a firewall?

If you have a firewall between the license server(s) and the client computers, you need to open some TCP/IP ports on the server for license-related communication. Open port 2080 for *adskflex*, and open ports 27000 through 27009 for *lmgrd*.

Uninstall and Maintenance Questions

How can I see what is included in a default installation?

To see what is installed during a default installation, go through the installation process to the Product Configuration page. The products selected here are installed in a default installation. If you click a selected product box to open the configuration panel, you can see the default settings for subcomponents and features.

Is it possible to change the installation folder when adding or removing features?

After your product is installed, you cannot change the installation path. Changing the path while adding features results in program corruption, so it is not an option.

How do I install tools and utilities after installing my product?

Run the installer again from the original media, and click Install Tools & Utilities on the first screen. The installer guides you through the process of selection, configuration and installation of tools and utilities.

When should I reinstall the product instead of repairing it?

Reinstall your product if you accidentally delete or alter files that are required by the program. Missing or altered files adversely affect the performance of your product and cause error messages when you try to execute a command or find a file.

If an attempt to repair an installation fails, reinstalling is the next best option.

Do I need the original media to reinstall my product?

Yes. When reinstalling a product, you are prompted to load the original media. If the product was installed from a network deployment, you need access to the original deployment, unaltered by later changes such as the addition of a service pack.

When I uninstall my software, what files are left on my system?

If you uninstall the product, some files remain on your computer such as files you created or edited (for example, drawings or custom menus).

Your license file also stays on your computer when you uninstall your product. If you reinstall on the same computer, the license information remains valid; you do not have to reactivate the product.

Glossary

activate Part of the Autodesk software registration process, it allows you to run a product in compliance with the product's end-user license agreement.

administrative image A collection of shared file resources created by the deployment process and used to install the program to network computers.

deployment The process of installing Autodesk products to one or more computers on a network.

hot fix Autodesk terminology for a minor application patch that contains a few code fixes.

installation image A deployment that consists of one or more MSI files and their associated data files, any associated transforms, additional user-specified custom files, profile, and registry settings.

language family A set of languages (core product, plus language packs) that are distributed together, typically based on a geographic grouping. Languages are not distributed in this way for all Autodesk products.

language pack A set of installed files, used by some Autodesk products, that enable the user to work in the application in the language specified by the language pack.

License Transfer Utility A tool used to transfer a stand-alone license for an Autodesk product from one computer to another, using Autodesk servers. Both the source and target computers require Internet access.

multi-seat stand-alone installation A type of installation in which multiple stand-alone seats of the product are installed using a single serial number.

network license installation A type of installation in which the product is installed on multiple computers, but the distribution of licenses is handled by the Network License Manager.

patch A software update to an application.

service pack Autodesk terminology for a major application patch that typically includes many code fixes.

silent mode An installation that proceeds without any explicit user input. No dialog boxes are presented that require interaction from the user.

Licensing Guide

4

Introduction

License Types

Autodesk provides two main types of licenses:

- A **stand-alone license** supports one or more Autodesk products for an individual user. This license type also has a multi-seat version that supports a specific number of users. The software can be installed on additional computers in your facility, but the number of concurrent users is limited.
- A **network license** supports a specific maximum number of users who are connected to a network. A software utility known as the Network License Manager (NLM) issues a license to each user who starts an Autodesk product, up to the number of licenses purchased. When a user closes all Autodesk products, typically the license is returned to the NLM, and is available to other users. However, NLM can be configured to allow a user to borrow a license and disconnect from the network until a specified return date. A borrowed license is only returned to NLM on the return date, or sooner if the user chooses to return it early.

Autodesk supports dynamic product usage and license behaviors. You can purchase a specific type of behavior with a specific license and change that license at a later date without having to uninstall and reinstall the Autodesk product.

License usage types

NOTE All license types are available as stand-alone and network except for the Student Portfolio license, which is available as stand-alone only.

Commercial A license for a product that was purchased commercially.

Not for Resale A license for a product that is not sold commercially.

Educational (EDU)/Institution A license designed specifically for educational institutions.

Student Portfolio A license for students who are using an Autodesk product as part of their curriculum.

License behaviors

Trial A license that allows individuals to run a product or suite in trial mode for a specified time period, usually 30 days. The trial period starts the first time you launch the product, or one of the products in the suite. You can activate and register the license at any time, before or after the trial period expires.

Permanent Allows permanent use of an Autodesk product.

Term Extendable Allows access to an Autodesk product for a limited time. The term can be extended at any time.

Term Non-Extendable Allows access to an Autodesk product for a limited time. The term cannot be extended.

License models

Standard Applies to an activated stand-alone license.

Capacity Applies to a usage-based license. In this model, the user pays a fee that varies according to the amount of time that the product is actually used.

Activation

Activation is the process of verifying the serial number and product key of an Autodesk product, and licensing it to run on a specific computer. If a license administrator registers products with Autodesk before they are used, then activation occurs automatically as users start the products.

Activation cannot occur if the serial number and product key combination is invalid, or if the user is disconnected from the Internet. In such cases, the user must contact Autodesk to resolve the situation. Some products provide instructions for offline registration. This can involve generating a request code, sending it to Autodesk, and then receiving an activation code to enter on a product screen to complete the activation process.

If you upgrade your product from an earlier version, you may need to provide your old serial number. For more information on activation, go to [Autodesk Licensing](#) and select the FAQ link.

NOTE If you are installing and using an Autodesk product on both operating systems of a dual-boot operating system, you must obtain a separate activation code for each operating system.

Registration

Depending on your product, registration is optional or required. If required, you are prompted to create an Autodesk User ID associated with an individual or company account. If registration is optional, you can choose to postpone it, and you will be reminded periodically to register. The Autodesk website where you register products is <https://registeronce.autodesk.com>.

Stand-Alone Licensing

Introduction to Stand-Alone Licenses

A stand-alone license authorizes a single user to use the specified Autodesk product. The product can be installed on more than one computer, but multiple instances of the same product cannot be running concurrently on different computers.

Stand-alone licensing allows you to use your Autodesk product in trial mode for a specified period, usually 30 days, from the first time you start the product. For a product suite, the trial period countdown begins when the first product is started, and it applies to all Autodesk products in the suite. You can activate your license at any time before or after the trial period expires.

The licensing process creates a license file and a minor change to the computer's file system. These changes remain on your computer when you

uninstall your product. If you reinstall your Autodesk product on the same computer, the license remains valid. You do not have to reactivate the product.

Multi-Seat Stand-Alone License

A multi-seat stand-alone license allows you to use a single serial number and product key to run one or more Autodesk products on a specified number of computers. As with a single stand-alone license, products activate automatically when started for the first time if an Internet connection is available, and if the serial number and product key combination is registered correctly with Autodesk.

A multi-seat stand-alone license can be deployed efficiently to multiple computers on a network from an image created by the Create Deployment option in the installer.

For more information about multi-seat stand-alone installation and deployments, see the *Network Administrator's Guide* for your product, or go to www.autodesk.com/licensing.

Manage Your Stand-Alone License

View Product License Information

You can view detailed information about your Autodesk product license, such as the serial number, license usage type and behavior.

To view product license information

- 1 Start your Autodesk product.
- 2 Click Help ► About, or About *[Product Name]*.
- 3 In the About window, click Product Information or Product License Information.

Save License Information as a Text File

You can view detailed information about your Autodesk product and your product license (such as the serial number, license usage type and behavior), and then save this information as a text file for future reference.

To save license information as a text file

- 1 Start your Autodesk product.
- 2 Click Help ► About or About *[Product Name]*.
- 3 In the About window, click Product Information or Product License Information.
- 4 In the Product License Information dialog box, click Save As.
- 5 In the Save As dialog box, name the file, choose a location where you want to save the file, and then click Save.
- 6 In the Product License Information dialog box, click Close.

Update Your Serial Number

You typically update your serial number for a stand-alone license when you purchase a new license in order to change the license type or behavior. For example, you would do this if you want to convert an educational license to a commercial license, or if you want to extend the term of a term extendable license. When you update a license, you do not need to uninstall and reinstall the product. The new license includes a new serial number that you enter in the Product License Information dialog box.

Your serial number is located on the outside of the product packaging or in the *Autodesk Upgrade and Licensing Information* email you received when you downloaded your product.

When you register and activate your product, your serial number is submitted to Autodesk over the Internet, if a connection is available.

If you have a suite of products that use a single serial number, only the first product you register and activate displays the updated serial number. For other products to display the serial number, you must update them from the Help menu.

To update your serial number

- 1 Start your Autodesk product.
- 2 Click Help ► About, or About *[Product Name]*.
- 3 In the About window, click Product Information or Product License Information.
- 4 In the Product License Information dialog box, click Update.
- 5 In the Update the Serial Number dialog box, enter your product serial number.

NOTE If you have lost your serial number, go to www.autodesk.com/contactus for assistance.

- 6 Click Activate. The updated serial number is displayed.

NOTE In some cases, you must restart the product to display the updated serial number.

- 7 In the Product License Information dialog box, click Close.

Transfer Your Stand-Alone License

About the License Transfer Utility

The License Transfer Utility is used only with stand-alone licenses. It transfers a product license online from one computer to another, and ensures that the product works only on the computer that contains the license. A single license applies to all products in a product suite. When you transfer the license, any installed products of the suite are disabled on the exporting computer, and enabled on the importing computer.

For some Windows-based products, you can install the License Transfer Utility from the Tools & Utilities tab of the installer. For others, you select the License Transfer Utility on the product configuration panel of the installer.

IMPORTANT To transfer a license, the Autodesk product must be installed on both computers. In addition, you need an Internet connection, and an Autodesk user ID and password, available from the Autodesk Register Once website(<https://registeronce.autodesk.com>).

IMPORTANT If you are using Autodesk products on Mac OS X or Linux platforms, see your product appendix for more information on how to install and start the License Transfer Utility. After the utility is started, the procedures for exporting and importing licenses are the same on all platforms.

The License Transfer Utility is a custom stand-alone installation option. During installation, a shortcut is created. A shortcut is installed once per product, per computer.

You can transfer a license to another computer temporarily or permanently. For example, a temporary transfer enables you to use the Autodesk product on a mobile computer while your main computer is being repaired or replaced.

License transfers rely on the product serial number. Before an Autodesk license can be exported, it must be activated with the serial number and product key. During license import, a previously activated and exported license is imported to a product or suite installed with the same serial number. The activation is transferred to the importing computer, completing the license transfer.

The maximum number of concurrent license exports is equal to the number of seats you own. For example, if your license covers five seats you can have up to five license exports in progress at any time.

When you upgrade your Autodesk product, you can no longer perform online license transfers of the previous license.

Although the License Transfer Utility allows you to transfer your product license between computers, your license agreement may not allow the installation of an Autodesk product on more than one computer. Read your license agreement to find out whether your product license permits the use of the License Transfer Utility.

Export a License

A license is exported when the License Transfer Utility moves a product license from a computer to the online Autodesk server.

The license can be exported as public or private:

- **Public** means that anyone using the same serial number and their own user ID and password can import that license.
- **Private** means that you are reserving that license for yourself and the license can only be imported with the same serial number, user ID, and password that were used when it was exported.

If it has not been imported, a private license becomes public after 14 days.

To export a license

- 1 On the computer where you want to export the license, start the License Transfer Utility.
 - On a Windows computer, click Start menu and navigate to Autodesk ► *[Product Name]* ► License Transfer Utility.
 - For a Mac OS X or Linux computer, see the appendix for your product for information on how to start the License Transfer Utility.

The Export the License dialog box displays the Autodesk product name and serial number.

- 2 Click Sign In.
- 3 On the Log In page, enter your Autodesk user ID and password and click Log In.
- 4 On the License Export page, confirm the export information.
- 5 If you want to make the license available as a public import, click Make the license available as a public import.
- 6 Click Export.
- 7 On the License Export Confirmation page, click Finish.

Import a License

A license is imported when the License Transfer Utility moves a previously exported product license from the online Autodesk server to a computer. The import action completes the license transfer process, and transfers the product activation to the importing computer. The presence of an active license allows your Autodesk product to run on that computer.

To import a license

- 1 On the computer where you want to import the license, start the License Transfer Utility.
 - On a Windows computer, click Start menu and navigate to Autodesk ► *[Product Name]* ► License Transfer Utility.
 - For a Mac OS X or Linux computer, see the appendix for your product for information on how to start the License Transfer Utility.

The Import the License dialog box displays the Autodesk product name and serial number.

NOTE If you are importing a license to replace a trial license, you will see the Update the Serial Number and Product Key dialog box. In this case, enter the required data, and then click Update.

- 2 In the Import the License dialog box, click Sign In.
- 3 On the Log In page, enter your Autodesk user ID and password and click Log In.
- 4 On the License Import Confirmation page, click Finish.

The license is now imported to the computer and you can run your Autodesk product on this computer. If you want to transfer the license to another computer, repeat the export and import procedures.

Troubleshoot a Stand-Alone License Error

Preserving a License When Hardware Changes

If you replace or reconfigure hardware on the computer where your Autodesk product license resides, the stand-alone license might fail, with the result that you will not be able to use your product.

To prevent damage to your product license, use the License Transfer Utility to export your license file before changing the hardware. After the hardware change, you can import the license file back. For information about using the License Transfer Utility, see [About the License Transfer Utility](#) (page 76).

NOTE If you get a license error when you change your hardware, you may have to reactivate your license. See [Activation](#) (page 72).

Reinstalling an Operating System

If you reinstall your operating system on the computer where your Autodesk license resides, the license might fail. You will not be able to use your product. To resolve a license error in this case, you must reactivate your product. See [Activation](#) (page 72).

NOTE The following procedure is for the Windows operating system. If you are running Autodesk products on Mac OS X or Linux platforms, see your product appendix for more information.

To prevent a license error when you reinstall an operating system

NOTE If using Norton Ghost™ or another image utility, do not include the Master Boot Record.

- 1 Locate one of the following folders and make a backup copy:
 - (Windows XP) C:\Documents And Settings\All Users\Application Data\FLEXnet
 - (Windows 7 or Vista) C:\ProgramData\FLEXnet
- 2 Reinstall the operating system and reinstall the Autodesk product.
- 3 Paste the license folder to the same location from which you originally copied the folder in step 1.
You can now run your Autodesk product.

Changing the System Date and Time

Your product license allows for time changes to the system clock within two days of the current time. If you set your system clock back more than two days, the next time you start your product, you will receive a message that gives you the option of correcting the system clock. If you do not correct the system clock, you receive a license error.

To prevent a license error due to a change in system date and time, ensure that your computer's system date and time are accurate when you install and activate your Autodesk product.

Distributing a Software Image to Multiple Computers

You can use the installer's Create Deployment option to create a product installation image on your server, and make it available on your computer network. During creation of this image, you are prompted for registration information, which is stored with the image and deployed to all product installations. For more information, see the *Network Administration Guide*.

Additionally, you can manually distribute the software using the installation media that comes with your Autodesk product. However, if your computers do not have an Internet connection, make sure that the registration data for each computer matches exactly. Inconsistent registration data can cause activation failures.

NOTE The distribution of applications using “ghosting” is not recommended. It can result in incomplete installations and activation problems.

Preserving a License on a Re-imaged Computer

On a network license server, licenses are maintained on the server. No additional steps are needed to preserve network licenses.

For a stand-alone license, you need to export the license before re-imaging the computer. You can use the License Transfer Utility to export the license to the Autodesk server. After the re-imaging, import the license to the correct computer.

Network Licensing

Planning Your Network Licensing

Understanding License Server Models

This section explains the three possible server models that support the Network License Manager. A server network can include Windows, Mac OS X, and Linux servers in any combination. Advantages and disadvantages of each model are presented to help you decide which one best suits your needs. When you purchase a network license, you specify which server model you will use.

Single License Server Model

In the single license server model, the Network License Manager is installed on a single server, so license management and activity is restricted to this

server. A single license file represents the total number of licenses available on the server.

Advantages of the Single License Server Model

- Because all license management takes place on a single server, you have just one point of administration and one point of failure.
- Of the three license server models, this configuration requires the least amount of maintenance.

Disadvantage of the Single License Server Model

- If the single license server fails, the Autodesk product cannot run until the server is back online.

Distributed License Server Model

In the distributed license server model, licenses are distributed across more than one server. A unique license file is required for each server. To create a distributed license server, you must run the Network License Manager on each server that is part of the distributed server pool.

Advantages of the Distributed License Server Model

- Servers can be distributed across a wide area network (WAN); they do not need to exist on the same subnet.
- If one server in the distributed server pool fails, the licenses on the remaining servers are still available.
- If you need to replace a server in the distributed server pool, you do not need to rebuild the entire pool.
- Server replacement is easier than in a redundant server pool, where you must reactivate the entire pool.

Disadvantages of the Distributed License Server Model

- If a server in the distributed server pool fails, the licenses on that server are unavailable.
- This model can require more time for setup and maintenance than other models.

Redundant License Server Model

In the redundant license server model, three servers are configured to authenticate license files. Licenses can be monitored and issued as long as at least two license servers are still functional. The Network License Manager is installed on each server, and the license file on each server is the same.

In the redundant license server model, all servers must reside on the same subnet and have consistent network communications. (Slow, erratic, or dial-up connections are not supported.)

Advantage of the Redundant License Server Model

- If one of the three servers fails, all licenses that are managed in the server pool are still available.

Disadvantages of the Redundant License Server Model

- If more than one server fails, no licenses are available.
- All three servers must reside on the same subnet and have reliable network communications. The redundant server pool does not provide network fault tolerance.
- If one of the three servers is replaced, the complete redundant server pool must be rebuilt.
- If your Autodesk product supports license borrowing, and licenses are borrowed from a redundant license server pool, you must restart the license server after you stop the Network License Manager.

Windows System Requirements for the Network License Manager

NOTE The Network License Manager supports Ethernet network configurations only.

Hardware and software requirements for the network license server

Hardware/Software	Requirement
Operating System	Windows® 7® 32- or 64-bit <ul style="list-style-type: none">■ Windows 7 Home Premium

Hardware and software requirements for the network license server	
Hardware/Software	Requirement
	<ul style="list-style-type: none"> ■ Windows 7 Professional ■ Windows 7 Ultimate ■ Windows 7 Enterprise
	<p>Windows Vista 32-bit SP2 or later Windows Vista 64-bit SP2 or later</p> <ul style="list-style-type: none"> ■ Windows Vista Home Premium and Basic (32-bit) ■ Windows Vista Home Premium (64-bit) ■ Windows Vista Ultimate ■ Windows Vista Business ■ Windows Vista Enterprise
	<p>Windows XP 32- or 64-bit SP2 or later</p> <ul style="list-style-type: none"> ■ Windows XP Home ■ Windows XP Professional
	<p>Windows Server 32- or 64-bit SP1 or later</p> <ul style="list-style-type: none"> ■ Windows 2008 Server R2 ■ Windows 2008 Server ■ Windows 2003 Server R2 ■ Windows 2003 Server
Computer/processor	Intel® Pentium® III or higher 450 MHz (minimum)
Network interface card	<p>Compatible with existing Ethernet network infrastructure</p> <hr/> <p>NOTE The Network License Manager supports multiple network interface cards, but at least one must be an Ethernet card.</p> <hr/>

Hardware and software requirements for the network license server

Hardware/Software	Requirement
Communication protocol	TCP/IP NOTE The Network License Manager uses TCP packet types.
FLEXnet	11.10.0.0

Virtual Machine Support

Hardware	Virtualizer	Virtual OS
Intel PC 64	Windows 2008 or Windows 2003 R2 servers running on VMware® ESX3.5 (Update 3) or 4.0 (License Manager Only)	Windows Vista 32- or 64-bit, Windows XP 32-bit, Windows 7 32-bit (Home Premium, Professional, Ultimate, and Enterprise), Windows 7 64-bit, Windows Server 32- or 64-bit.

Linux System Requirements for the Network License Manager

NOTE The Network License Manager supports Ethernet network configurations only.

Linux hardware and software requirements for the network license server

Hardware/Software	Requirement
Operating system	Linux® 32- or 64-bit Red Hat® Enterprise Linux 5.0 WS (U4)
Computer/processor	Intel Pentium 3 or higher 450 MHz (minimum)
Network interface card	Compatible with existing Ethernet network infrastructure

Linux hardware and software requirements for the network license server	
Hardware/Software	Requirement
	NOTE The Network License Manager supports multiple network interface cards, but at least one must be an Ethernet card.
Communication protocol	TCP/IP NOTE The Network License Manager uses TCP packet types
FLEXnet	11.10.0.0

Mac OS X System Requirements for the Network License Manager

NOTE The Network License Manager supports Ethernet network configurations only.

Mac OS X hardware and software requirements for the network license server	
Hardware/Software	Requirement
Operating system	Mac OS® X version 10.6 and higher
Computer/processor	Intel Mac
Network interface card	Compatible with existing Ethernet network infrastructure NOTE The Network License Manager supports multiple network interface cards, but at least one must be an Ethernet card.
Communication protocol	TCP/IP NOTE The Network License Manager uses TCP packet types
FLEXnet	11.10.0.0

Understanding Your Network License

How Your License Works

When you start an Autodesk product, it requests a license from the license server through the TCP/IP network . If the number of available licenses has not been exceeded, the Network License Manager assigns a license to the computer, and the number of available licenses on the license server is reduced by one.

Likewise, when you exit a product, the license returns to the Network License Manager. If you run multiple sessions of an Autodesk product on an individual computer, only one license is used. When the last session is closed, the license is released.

The following three processes manage the distribution and availability of licenses:

- **License manager daemon** (*lmgrd* or *lmgrd.exe*) handles the original contact with the application, and then passes the connection to the vendor daemon. By using this approach, a single *lmgrd* daemon can be used by multiple software vendors to provide license authentication. The *lmgrd* daemon starts and restarts the vendor daemons as needed.
- **Autodesk vendor daemon** (*adskflex* or *adskflex.exe*) tracks the Autodesk licenses that are checked out and the computers that are using them. Each software vendor has a unique vendor daemon to manage vendor-specific licensing.

NOTE If the *adskflex* vendor daemon terminates for any reason, all users lose their licenses until *lmgrd* restarts the vendor daemon or until the problem causing the termination is resolved.

- **License file** is a text file that has vendor-specific license information.

Interpreting Your License File

The network license file you receive from Autodesk contains licensing information required for a network installation. You obtain license file data when you register your Autodesk product.

The license file contains information about network server nodes and vendor daemons. It also contains an encrypted digital signature that is created when Autodesk generates the file.

The license file configures network license servers to manage licenses. When creating a deployment, the network license server name(s) are specified so that each product instance knows which server(s) to contact to obtain a license. The network license server(s) must be accessible to every user who runs one or more products that require a network license.

The following table defines each license file parameter. For more information, see the *License Administration Guide*, installed with the Network License Manager.

Definitions of license file parameters			
Line	Parameter	Definition	Example
SERVER	Host Name	Host name of the server where the Network License Manager resides	LABSERVER
	Host ID	Ethernet address of the server where the Network License Manager resides	03D054C0149B
USE_SERVER	[None]		
VENDOR	Vendor Daemon	Name of the server-side Autodesk vendor daemon	<i>adskflex.exe</i>
	Port Number	Network port number reserved and assigned for use only by Autodesk products running the Autodesk vendor daemon	port=2080
PACKAGE	Name	Name of feature code group	<i>SERIES_1</i>
	Version	Internal version number reference	1.000
	COMPONENTS	List of feature codes supported in the package	COMPONENTS= "526000REVIT_9_OF\ 51200ACD_2007_OF\ 513001INVBUN_11_OF"

Definitions of license file parameters

Line	Parameter	Definition	Example
	OPTIONS		OPTIONS=SUITE
	SUPERSEDE	Replacement for any existing Increment line of the same feature code from any license files on the same license server that have a date earlier than the defined Issue Date	SUPERSEDE
	SIGN	Encrypted signature used to authenticate the attributes of the license file	SIGN=0 SIGN2=0
INCREMENT	Feature Code	Product supported by the license file	51200ACD_2007_0F
	Expiration Date	Amount of time the licenses are available	permanent
	Number of Licenses	Number of licenses supported by the license file	25
	VENDOR_STRING	License usage type and license behavior of the product that is supported by the license file	COMMERCIAL
	BORROW	Definition of the license borrowing period for the licenses defined under the same increment line. In this example, the maximum period that licenses can be borrowed is 4320 hours (180 days), unless otherwise noted. License borrowing is disabled when this parameter is absent in the license file.	BORROW=4320

Definitions of license file parameters			
Line	Parameter	Definition	Example
	DUP_GROUP	Definition of multiple license requests when the same user and same host share the same license	DUP_GROUP=UH
	ISSUED	Date that the license file was generated by Autodesk	15-jul-2010
	Serial Number	Serial number of the Autodesk product	123-12345678
	SIGN	Encrypted signature used to authenticate the attributes of the license file	SIGN=6E88EFA8D44C

License File Examples

The Autodesk network license file contents reflect the license server configuration and the licensed products, as shown in the examples provided.

Example of a License File Not Specific to a Product

Here is an example of the contents of a license file and the parameters associated with each line:

```
SERVER
ServerName HostID USE_SERVER VENDOR
adskflex port=portnumber INCREMENT
feature_code Adskflex Version ExpDate NumberofLicenses \
VENDOR_STRING=UsageType:Behavior
BORROW=4320 SUPERSEDE \
DUP_GROUP=DupGrp ISSUED=IssueDate SN=SerialNumber SIGN=
\
```

Example of a License File for a Single or Distributed Server

Here is an example of a completed license file for a single or distributed license server model:

```
SERVER
XXHP0528 0019bbd68993USE_SERVER VENDOR
adskflex port=2080 INCREMENT
57600ACD_2009_0F adskflex 1.000 permanent 5 \
VENDOR_STRING=commercial:permanent BORROW=4320 SUPERSEDE
\
DUP_GROUP=UH ISSUED=09-Jan-2008 SN=123-12345678 SIGN="1393
\
E368 816E D417 C1CD 7DBD 7B90 1354 D6F0 48FE EBB8 9C84 C3AF
\
7D79 BEE1 0181 0655 76FF 996C B707 14B5 D4DE A3FE 0B2D 2D36
\
057C A579 7866 26BF 44E2" SIGN2="1280 943B 53A7 9B93 E00B
D967 \
D821 BD37 BE6D B78A F074 B223 88AA 242C DD0A 1292 D56F 4108
\
62CD FA35 E365 0736 A011 7833 8B35 7BFF DAD8 34A8 452F
2EB4"
```

Example of a License File for a Redundant Server

Here is an example of a completed license file for a redundant license server model:

```
SERVER CCN12378042 001cc4874b03 27005
SERVER XXHP0528 0019bbd68993 27005
SERVER CCN12378043 001cc4874b10 27005
USE_SERVERVENDOR adskflex port=2080INCREMENT
57600ACD_2009_0F adskflex 1.000 permanent 5 \
VENDOR_STRING=commercial:permanent BORROW=4320 SUPERSEDE
\
DUP_GROUP=UH ISSUED=10-Jan-2008 SN=123-12345678 SIGN="11C4
\
CA79 07FC 7AD0 409A 6E04 6E98 D76C 197C 0416 076C B211 1CDD
\
```

```
D0AB 698B 16BF 7A0E D4F8 1CFE 2985 644F 64CD CECE 0DDB 5951
\
3262 7C31 13A8 F08F 55B2" SIGN2="19A6 FDA3 2ED5 5301 8675
7B81 \
1B0E 451B 19F1 1A99 C8E9 CBA6 8CB3 6AC3 8B38 1519 13F2 2373
\
82AE 55E5 1A25 4952 4458 F3A2 6F28 D25D 1DC0 E066 209B
0953"
```

NOTE The redundant server model requires the addition of a port number (the default is 27005) for each server.

Example of a License File for Combined Autodesk Product Versions

You can combine a license file for different releases of the same Autodesk product or for different Autodesk products, and run all products from one license server.

Here is an example of the contents of a combined license file for AutoCAD 2008 and AutoCAD 2009:

```
SERVER
XXHP0528 0019bbd68993USE_SERVER VENDOR
adskflex port=2080 INCREMENT
57600ACD_2009_OF adskflex 1.000 permanent 5 \
VENDOR_STRING=commercial:permanent
BORROW=4320 SUPERSEDE \
DUP_GROUP=UH ISSUED=09-Jan-2008 SN=123-12345678 SIGN="1393
\
E368 816E D417 C1CD 7DBD 7B90 1354 D6F0 48FE EBB8 9C84 C3AF
\
7D79 BEE1 0181 0655 76FF 996C B707 14B5 D4DE A3FE 0B2D 2D36
\
057C A579 7866 26BF 44E2" SIGN2="1280 943B 53A7 9B93 E00B
D967 \
D821 BD37 BE6D B78A F074 B223 88AA 242C DD0A 1292 D56F 4108
\
62CD FA35 E365 0736 A011 7833 8B35 7BFF DAD8 34A8 452F
2EB4"
INCREMENT 54600ACD_2008_OF adskflex 1.000 permanent 3 \
VENDOR_STRING=commercial:permanent
```

```
BORROW=4320 SUPERSEDE \  
DUP_GROUP=UH ISSUED=09-Jan-2008 SN=123-12345678 SIGN="1E6E  
\  
4B61 5712 4766 92A0 6782 9EF4 3F47 56A1 1F38 6DE8 C0C7 90AC  
\  
7289 152E 0EA2 CC0D 3F10 577A 0489 CEB6 10D5 FBCC B552 0C9D  
\  
5966 91A6 59F0 2788 FACE" SIGN2="1DDF 3B9D 3392 71D5 AB08  
7E05 \  
8497 111E 092F 0E54 8DC2 2BED 17C2 2CC1 981B 0EC2 BC15 8F00  
\  
C79A ABFD 2136 BABA 2EDF E941 EA53 32C6 597F F805 5A8A  
599A"
```

Package License File Types and Examples

Autodesk offers a package license file option, which allows the use of a suite of products that are packaged and sold together. The package license file contains a set number of licenses for four different versions of your software. Running an instance of any one of the versions uses one license in the package. Packaged license files support prior versioning for subscription users. Package license files operate under the following guidelines:

- Package license files come with the current version of the software and three previous versions of the same product.
- License files can be combined with license files for different products. For more information about combining license files, see [Example of a Package License File for Combined Autodesk Product Versions](#) (page 96).
- Package license files cannot be combined with non-package license files for product versions contained in the package. For example, you cannot combine an *Autodesk 2009* package license file with a regular license file for an *Autodesk Product 2008*, *2007*, or *2006*.
- Both the PACKAGE and INCREMENT sections of the license are required for licensing to work properly. When you combine license files, be sure to include both of these sections.
- License borrowing, option files, and licensing cascading work the same for package licenses as they do for regular license files.
- A new license file supersedes an older one.

Example of a Package License File for a Single or Distributed Server

Here is an example of a completed package license file for a single or distributed license server model:

```
SERVER
Server1 1a34567c90d2USE_SERVER VENDOR
adskflex port=2080 PACKAGE
SERIES_1 adskflex 1.000 COMPONENTS="54700REVIT_2009_OF \
54600ACD_2009_OF 51300INVBUN_11_OF" OPTIONS=SUITE SUPERSEDE
\
ISSUED=09-Jan-2008 SIGN="1707 9EAC CBCB 2405 692E 4A89 \
AA26 30CC 2AC2 D6B3 A61B AB5E 492E 3EBD 0B48 4E75 193A
DA82" \
FC45 C009 E360 944A 14BA E99C 9B24 5A1B 4A44 083A BE5F 3827
\
SIGN2="004A FC90 AB47 3F6B 59BC 0E6D 6681 6971 A76A BA52
98E2 \
5671 26B3 0E78 791B 109F 0591 7DC3 F09F 4D8D 4FB7 E341 4A03
\
CD68 1D77 27F8 8555 9CF7 DEDD 9380"
INCREMENT SERIES_1 adskflex 1.000 permanent 100 \
VENDOR_STRING=commercial:permanent BORROW=4320 DUP_GROUP=UH
\
SUITE_DUP_GROUP=UHV SN=123-12345678 SIGN="1707 9EAC CBCB
\
692E 4A89 FC45 C009 E360 944A 14BA E99C 9B24 5A1B 4A44 BE5F
\
3827 AA26 30CC 2AC2 D6B3 A61B AB5E 492E 3EBD 0B48 DA82" \
SIGN2="004A FC90 AB47 3F6B 59BC 0E6D 6681 6971 A76A BA52
\
5671 26B3 0E78 791B 109F 0591 7DC3 F09F 4D8D 4FB7 E341 4A03
\
CD68 1D77 27F8 8555 9CF7 DEDD 9380"
```

Example of a Package License File for a Redundant Server

Here is an example of a completed package license file for a redundant license server model:

```
SERVER
1a34567c90d2 27005SERVER
2a34567c90d2 27005SERVER
3a34567c90d2 27005USE_SERVERVENDOR
adskflex port=2080PACKAGE
64300ACD_F adskflex 1.000 COMPONENTS="57600ACD_2009_0F \
54600ACD_2008_0F 51200ACD_2007_0F 48800ACD_2006_0F" \
OPTIONS=SUITE SUPERSEDE ISSUED=27-May-2008 SIGN="1092 05D8
\
A206 276B 2C84 EFAD ACA5 C54B 68A4 653E C61F 31DE C8CE B532
\
CFBB 0006 5388 347B FDD6 A3F4 B361 7FD4 CDE4 4AAC 0D11 B0EF
\
4B44 BFD6 3426 97DD" SIGN2="0670 B01A D060 0069 FF25 F1CD
D06B \
314E E7C9 3552 5FFA 4AC7 28A7 C897 F56A 19BB FB1C 754E 6704
\
DEEA AC4E F859 2E9B 64B6 0DD0 9CCE 9556 269F EAC0 2326"
INCREMENT 64300ACD_F adskflex 1.000 permanent 50 \
VENDOR_STRING=commercial:permanent BORROW=4320 SUPERSEDE
\
DUP_GROUP=UH SUITE_DUP_GROUP=UHV ISSUED=27-May-2008 \
SN=399-99999999 SIGN="1B5B 8D70 4CAD 32E5 9CA2 82E0 5C47
291C \
35AB 9B9C 5B3E 5067 F61B 4139 1B32 0716 1FD3 5105 A991 B78E
\
9D1E 63AB BC23 0D1E B70C 2A05 E1C1 F605 ABB1 2EA8"
SIGN2="01D6 \
31F5 2951 4500 E5C8 058F 7490 9789 9EF4 CBED DA27 5F06 6780
\
9033 2018 0C3B E1E0 3580 E60E C2BB B4AB 8D6A 4245 3059 8CA6
\
2EFE DFAE 027F 2ABE 3F2B"
```

Example of a Package License File for Combined Autodesk Product Versions

Here is an example of a completed package license file for combined Autodesk product versions:

```
SERVER
servername 123456789111USE_SERVER VENDOR
adskflex port=2080 PACKAGE
64300ACD_F adskflex 1.000 COMPONENTS="57600ACD_2009_0F \
54600ACD_2008_0F 51200ACD_2007_0F 48800ACD_2006_0F" \
OPTIONS=SUITE SUPERSEDE ISSUED=25-Jun-2008 SIGN="03EF DE18
\
8046 0124 4EA4 6953 F82D 3169 7C24 D0DE E58E 8168 FFA3 D891
\
B43B 08D8 7E7F C6ED CBCC FE2A BB0A 4566 C2AE F1C1 D373 8348
\
E6E3 884A E398 1C78" SIGN2="07AC D696 8844 D19F AB00 8B75
53A3 \
2F76 91DF AED0 3231 1506 0E6B ADC6 C3B8 1797 93B5 9756 8C0F
\
8811 56E6 B2BA 0523 FE2E 82B7 1628 076F 173B F37C 7240"
INCREMENT 64300ACD_F adskflex 1.000 permanent 2 \
VENDOR_STRING=commercial:permanent BORROW=4320 SUPERSEDE
\
DUP_GROUP=UH SUITE_DUP_GROUP=UHV ISSUED=25-Jun-2008 \
SN=399-99999999 SIGN="1CCB E88D B819 8604 06FA 9AEE 42F1
CBEA \
37B9 3CFA A0A8 697F 9CB1 8354 6256 05ED 69D4 D2FF D512 6A2E
\
D5DD B722 EF5B 3172 BA95 4625 F8D3 DD24 BB39 6A58"
SIGN2="0DFF \
FA6F C378 20E0 2622 BE52 B434 F99F 2681 2B93 64F2 CE0C 7F4A
\
7024 B3D1 051A 6920 72BD DE35 8920 E6A1 C8D6 AF23 7BE7 CC91
\
6916 70B1 9E80 AB07 1644"
PACKAGE 64800INVPRO_F adskflex 1.000 \
COMPONENTS="59600INVPRO_2009_0F \
55300INVPRO_2008_0F 51400INVPRO_11_0F 49000INVPRO_10_0F"
\
OPTIONS=SUITE SUPERSEDE ISSUED=25-Jun-2008 SIGN="1306 5990
```

```

\
F8A1 56FB 1D8A 9DA7 D6AE 8E9E F6EC 2862 367A 36E2 C5FB E6E1
\
4AAA 0128 8C2D 95FD 09B2 ABA1 6F98 A0A3 70DE 3220 6835 7E51
\
3849 9D81 8BDC 9DC1" SIGN2="0021 AA08 F2E7 8AEB 5345 341A
7E42 \
3001 B8C5 DFC2 6EB8 87C5 C04A AE43 A10F 1DA1 EF8A F0FA 10F5
\
AC81 1E22 789F A18D 650F 6BBB 563A BDA5 DD1C 82EC 27F6"
INCREMENT 64800INVPRO_F adskflex 1.000 permanent 2 \
VENDOR_STRING=commercial:permanent BORROW=4320 SUPERSEDE
\
DUP_GROUP=UH SUITE_DUP_GROUP=UHV ISSUED=25-Jun-2008 \
SN=399-99999966 SIGN="0BE4 51F4 570C DC48 5E66 F952 629E
EDF0 \
019C 6FF7 0509 1FF0 D4FB 3B16 1981 073F 31EC A241 8CB3 8782
\
E655 00C6 E097 D5EF B0D8 67D3 199D 699D 2E09 B16F"
SIGN2="1254 \
3E37 0CE4 F42D B7CD 858C 92FC A963 5274 770F 9354 FE29 E117
\
205D C632 0C4E AEC0 7501 9D9E FFEB D84D F154 16A1 E120 339A
\
FDBF 3F07 4477 B8B3 5DA4"

```

Losing Your Connection to the License Server

When an Autodesk product is running, it communicates with the license server at regular intervals using a method known as the “heartbeat” signal. If the heartbeat signal is lost, the server tries to reconnect. If the server cannot reconnect, the user receives a license error.

If the product stops working because it has lost a connection to the server, you must shut down the product, and then restart it. Most Autodesk products give you the opportunity to save open documents before shutting down. If the problem causing the original loss of the heartbeat signal is resolved and licenses are available on the server, you can restart your Autodesk product.

Running the Network License Manager

The Network License Manager is used to configure and manage the license servers. When you create a deployment, the installer prompts you for information about the license manager, such as license server model and server name.

Install the Network License Manager

For Windows, install the Network License Manager from the Install Tools & Utilities panel of the Autodesk installer. If your product is available on Mac OS X and Linux, see your product appendix to this guide.

IMPORTANT Do not install the Network License Manager on a remote drive. When you install the Network License Manager files, you must provide a path to a local drive. You must specify the drive letter; the universal naming convention (UNC) is not permitted.

You can install the Network License Manager before or after you install the products that will use it. Network License Manager must configure the license servers before any products can obtain licenses and start running.

If an earlier version of the Network License Manager is already installed on the computer, you should upgrade by installing the new Autodesk Network License Manager into the folder where the old version was located.

Obtain the Server Host Name and Host ID

Autodesk uses the server host name, host ID, and product serial number to generate a license file.

To obtain the information, use one of the following procedures.

Windows Command Prompt Procedure for Host Name and ID

To obtain the host name and ID at the Windows command prompt

- 1 At the Windows command prompt, enter **ipconfig /all**
- 2 Record the Host Name and Physical Address line. Eliminate dashes from the physical address. This is your twelve-character host ID.

NOTE If your server has more than one network adapter, select the one that corresponds to a physical network adapter. View the Description field above each physical address. If there is more than one physical network adapter, it does not matter which one you use. Devices such as VPN adapters, PPP adapters, and modems are not valid.

- 3 Close the Windows command prompt.

LMTOOLS Procedure for Host Name and ID

To obtain the host name and ID using the LMTOOLS utility

IMPORTANT Do not run LMTOOLS on a remote computer.

You should be logged in with Administrator rights when working with the LMTOOLS utility.

- 1 Click Start ► All Programs ► Autodesk ► Network License Manager ► LMTOOLS Utility.
- 2 In the LMTOOLS utility, click the Systems Settings tab.
- 3 Locate the Computer/Hostname box. Copy the host name and paste the information into a text editor.
- 4 Locate the Ethernet Address box. The 12-character Ethernet address is the host ID.

NOTE If your server has more than one Ethernet adapter, select one that corresponds to a physical network adapter. If you are using a Mac OS X computer with more than one network card, you must use the address of the primary network card.

- 5 Close LMTOOLS.

Mac or Linux Terminal Window Procedure for Host Name and ID

To obtain the host name and ID using the Mac OS X or Linux terminal window

- 1 Launch a Terminal window.
- 2 Go to the directory where `lmutil` is installed.
- 3 Retrieve the host name by entering the following in Terminal:

```
<prompt>./lmutil lmhostid -hostname
```

The host name is displayed.

- 4 Retrieve the host ID by entering the following in Terminal:

```
<prompt>./lmutil lmhostid
```

The twelve-character host ID is displayed.

- 5 Close the Terminal Window.

Configure a License Server

You configure a license server to manage your Autodesk product licenses.

IMPORTANT If you have a firewall between the license server(s) and the client computers, you need to open some TCP/IP ports on the server for license-related communication. Open port 2080 for *adskflex*, and open ports 27000 through 27009 for *lmgrd*.

Configure the license server using one of the following procedures.

Windows License Server Configuration Procedure

To configure a license server with **LMTOOLS**

You should be logged in with Administrator rights when working with the **LMTOOLS** utility.

NOTE Before performing any system maintenance on your license server, see [Stop and Restart the License Server](#) (page 111).

- 1 Click Start ► All Programs ► Autodesk ► Network License Manager ► LMTOOLS Utility.
- 2 In the LMTOOLS utility, on the Service/License File tab, make sure the Configure Using Services option is active.
- 3 Click the Config Services tab.
- 4 In the Service Name list, select the service name you want to use to manage licenses.

By default, the service name is *Flexlm Service 1*. If FLEXnet[®] is managing other software on your computer in addition to Autodesk, you can change the service name to avoid confusion. For example, you can rename *Flexlm Service 1* to *Autodesk Server1*.

NOTE If you have more than one software vendor using FLEXnet for license management, the Service Name list contains more than one option. Make sure that only one Autodesk service is listed.

- 5 In the Path to Lmgrd.exe File field, enter the path to the Network License Manager daemon (*lmgrd.exe*), or click Browse to locate the file.
By default, this daemon is installed in the *C:\Program Files\Autodesk\Autodesk Network License Manager* folder.
- 6 In the Path to the License File box, locate or enter the path.
This is the path to the license file obtained through autodesk.com or the location where you placed the license file if you obtained it offline.
- 7 In the Path to the Debug Log File box, enter a path to create a debug log, or click Browse to locate an existing log file.
It is recommended that you save to the *C:\Program Files\Autodesk\Autodesk Network License Manager* folder. The log file must have a *.log* file extension. For new log files, you must enter the *.log* extension manually.
- 8 To run *lmgrd.exe* as a service, select Use Services.
- 9 To start *lmgrd.exe* automatically when the system starts, select Start Server at Power Up.
- 10 Click Save Service to save the new configuration under the service name you selected in step 4. Click Yes when prompted if you would like to save the settings to the service.

- 11 Click the Start/Stop/Reread tab and do one of the following:
 - If a service has not yet been defined for Autodesk, click Start Server to start the license server.
 - If a service for Autodesk is already defined and running, click ReRead License File to refresh the Network License Manager with any changes made to the license file or options file.

The license server starts running and is ready to respond to client requests.

- 12 Close LMTOOLS.

Mac OS X License Server Configuration Procedure

To configure automatic start-up of your Mac OS X license server

Some Autodesk products provide a script to automate some of this procedure. See your product appendix to this guide for more information.

Before configuring your license server for Mac OS[®] X, ensure that the following steps have been completed:

- You have installed the Autodesk Network License Manager which contains the following files: *lmgrd*, *adskflex*, and *lmutil*.
- You have received the network license file from Autodesk that contains the product licenses; for example, *productlicense.lic*.

NOTE Before performing any system maintenance on your license server, see [Stop and Restart the License Server](#) (page 111).

- 1 Create a directory titled *flexnetserver* under the home directory; for example, */usr/local/flexnetserver*.
- 2 Move the following files: *lmgrd*, *adskflex*, *lmutil*, and your product license file (*.lic*) into the *flexnetserver* directory created in Step 1.
- 3 If it does not already exist, create the directory *StartupItems* under */Library* using the *sudo* command. For example, *sudo mkdir StartupItems*.
- 4 Create a startup item directory; for example, */Users/<user id>/adsknlm*.
- 5 Create an executable script file; for example, *adsknlm*, by entering the following in Terminal:

NOTE The executable file name must be the same as the directory name.

```

#!/bin/sh
./etc/rc.common
StartService() {
ConsoleMessage "Starting Autodesk Network License
Manager"
/Users/<user id>/NLM/lmgrd -c\
/Users/<user id>/NLM/productlicense.lic -l\
/Users/<user id>/NLM/debug.log
}

StopService() {
ConsoleMessage "Stopping Autodesk Network License
Manager"
/Users/<user id>/NLM/lmutil lmdown -q -all -force
}

RestartService() {
ConsoleMessage "Restarting Autodesk Network License
Manager"
/Users/<user id>/NLM/lmutil lmreread -c /Users/<user
id>/NLM/productlicense.lic
}

RunService "$1"

```

- 6** Grant the executable permission to the script by entering the following in Terminal:

```
chmod +x adsknlm
```

- 7** Create a property list file named *StartupParameters.plist* and add it to the directory by entering the following in Terminal:

```

{
Description    ="Autodesk Network License Manager";
Provides      =("adsknlm")OrderPreference    ="None";
Messages={start=
"Starting Autodesk Network Manager Service";
stop=
"Stopping Autodesk Network Manager Service";
};}{

```

- 8** Move the startup item directory to */Library/StartupItems/* and modify your directory permission by entering the following in Terminal:

NOTE For security reasons your startup item directory should be owned by root, the group should be set to wheel, and the permission for the directory should be 755.

```
sudo mv /Users/<user id>/adsknlm/  
/Library/StartupItems/  
sudo chown root /Library/StartupItems/adsknlm/  
sudo chgrp wheel /Library/StartupItems/adsknlm/  
sudo chmod 755 /Library/StartupItems/adsknlm/  
sudo chown root /Library/StartupItems/adsknlm/*  
sudo chgrp wheel /Library/StartupItems/adsknlm/*
```

9 Your resulting directory should look like this:

```
drwxr-xr-x  
4 root wheel 136 Jul 31 01 01:50drwxr-xr-x  
3 root wheel 102 Jul 30 01 21:59-rw-r--r--  
1 root wheel 204 Jul 30 20:16  
StartupParameters.plist-rwxr-xr-x  
1 root wheel 417 Jul 31 00:45 adsknlm
```

10 Reboot your Mac and verify in the *debug.log* file (*/Users/<user id>/NLG/*) that the *lmgrd* and *adskflex* start up successfully.

Linux License Server Configuration Procedure

To configure automatic start-up of a Linux license server

NOTE Before performing any system maintenance on your license server, see [Stop and Restart the License Server](#) (page 111).

Before configuring your license server for Linux, ensure that the following steps have been completed:

- You have installed the Autodesk Network License Manager which contains the following files: *lmgrd*, *adskflex*, and *lmutil*.
 - You have received the network license file from Autodesk that contains the product licenses; for example, *productlicense.lic*.
- 1 Extract the FLEXnet IPv4 server files into the following directory:
/opt/flexnetserver.
 - 2 Copy the *.lic* file into the *flexnetserver* directory created in Step 1.
 - 3 Open a terminal window in root mode.

- 4 Go to the directory */etc/*.
- 5 Locate the *rc.local* file.
- 6 Edit the *rc.local* file and start *lmgrd* by entering the following commands in the terminal window:

NOTE Replace *acad.lic* with your license file name.

- 7


```

/bin/su <user id> -c 'echo starting lmgrd>\
/home/<user id>/flexnetserver/boot.log'

/usr/bin/nohup/bin/su <user id> -c 'umask 022;\
/home/<user id>/flexnetserver/lmgrd -c\
/home/<user id>/flexnetserver/acad.lic >> \
/home/<user id>/flexnetserver/boot.log \'
/bin/su <user id> -c 'echo sleep 5 >> \'
/home/<user id>/flexnetserver/boot.log \'

/bin/sleep 5

/bin/su <user id> -c 'echo lmdiag >>\
/home/<user id>/flexnetserver/boot.log \'
/bin/su <user id> -c '/home/<user id>/flexlm11.7/lmutil
lmdiag -n -c\
/home/<user id>/flexnetserver/acad.lic >> \'
/home/<user id>/flexnetserver/boot.log \'
/bin/su <user id> -c 'echo exiting >>\
/home/<user id>/flexnetserver/boot.log \'

```
- 8 Save the edited *rc.local* file.
- 9 Reboot your machine and verify that the *lmgrd* and *adskflex* have started by doing one of the following:
 - During the reboot, look for the message that the license server has started.
 - Check the *boot.log* file created in */opt/flexnetserver/* to see if *lmgrd* and *adskflex* have started.

Uninstall a Windows Network License Manager

For Mac and Linux platforms, see your product appendix to this guide.

IMPORTANT Before uninstalling the Network License Manager, you must stop the LMTOOLS utility.

To uninstall the Network License Manager on Windows

- 1 Click Start, and then in the list of programs, click Autodesk ► Network License Manager ► LMTOOLS Utility.
- 2 In the LMTOOLS utility, click the Start/Stop/Reread tab, and then click Stop Server.
- 3 Close LMTOOLS.
- 4 In the Windows Control Panel, locate Autodesk Network License Manager in the list of programs, and uninstall it by clicking Remove or Uninstall.
- 5 If prompted, restart your computer.

NOTE You must manually delete files that you created for use with the Network License Manager, such as log files, license files, and the options file. These files are not automatically deleted when you uninstall the Network License Manager.

Using Other Features of Network Licensing

License Borrowing

If you are using a network-licensed version of your Autodesk product and your network administrator supports the license borrowing feature, you can borrow a product license from your network license server to use the Autodesk product for a specified time when your computer is not connected to the network. Your license is automatically returned to the license server at the end of the day on the return date you set when you borrow the license. You can also return a license early. The maximum borrowing period is six months.

NOTE License borrowing does not apply to stand-alone licenses.

NOTE A limited number of licenses are available for borrowing. If you try to borrow a license and are notified that no licenses are available, see your network administrator for help.

Borrow a License

With a borrowed license, you can run your Autodesk product with your computer disconnected from the network until your borrowing period ends.

If you don't remember when a license expires, you can check the date by placing your cursor over the Borrowing icon in your Autodesk product's status tray or by clicking Help ► About and consulting the Product License Information dialog box.

When the borrowing period expires, the borrowed license is automatically returned to the license server. When your computer is reconnected to the network, you can run your Autodesk product from the network or borrow a license again.

Interaction with Other License-Borrowing Tools

Using the license-borrowing feature in your Autodesk product is the recommended way to borrow a license. Some third-party borrowing tools may also be available to you, but these tools are not supported or compatible with the license-borrowing feature in your Autodesk product. Other third-party or legacy license-borrowing tools that may be available to you are the Autodesk License-Borrowing utility (shipped with Autodesk products) and the borrowing feature in LMTOOLS utility, a component of the Autodesk Network License Manager on Windows servers.

If another license-borrowing tool is active when you attempt to use the license borrowing feature, you should proceed as follows to borrow a license for your Autodesk product:

- If you run the Autodesk License-Borrowing utility that shipped with your Autodesk product and then turn on the borrowing flag for the Adskflex option or the All option, a license can be borrowed when you start your Autodesk product. However, you cannot return a license until you exit and then restart your Autodesk product.
- On a Windows server, if borrowing is set in the LMTOOLS utility for all products, you can either use the other tool to borrow licenses for your Autodesk product, or stop the borrowing process in LMTOOLS utility, and then use the license-borrowing feature in your Autodesk product.
- If borrowing is set in LMTOOLS utility for non-Autodesk products only, you must stop the borrowing process in LMTOOLS utility. You can then use the license-borrowing feature to borrow licenses for your Autodesk product. If you do not stop the borrowing process in LMTOOLS utility, the license borrowing feature will not function.

To borrow a license using the Tools menu

This option is not available in all Autodesk products.

- 1 Click Tools menu ► License Borrowing ► Borrow License.
- 2 In the Borrow a License window, on the calendar, click the date when you want to return the license.
This date must be within the valid date range set by your network administrator. The valid date range is displayed in this window.
- 3 Click Borrow License.
- 4 In the License Borrowed message, click Close. The license is borrowed, and you can now use your Autodesk product with your computer disconnected from the network.

NOTE In some products, you can verify that your license is borrowed by placing your cursor over the Borrowing icon in the status tray, which is in the lower-right corner of your Autodesk product.

To borrow a license using the Help menu

- 1 Click Help ► About ► Product Information or Product License Information.
- 2 In the Product License Information window, click Borrow License.
- 3 In the Borrow a License window, on the calendar, click the date when you want to return the license.
This date must be within the valid date range set by your network administrator. The valid date range is displayed in this window.
- 4 Click Borrow License.
- 5 In the License Borrowed message, click Close. The license is borrowed, and you can now use the Autodesk product with your computer disconnected from the network.

BORROWLICENSE Command

Use this command to borrow a product license from the network license server so that you can run the Autodesk product disconnected from the network. Access to the command varies by product, and includes one or more of the following options.

Tools menu: License Borrowing ► Borrow License

Help menu: About ► Product Information or Product License Information ► Borrow License

Command line: **borrowlicense**

The Borrow a License window is displayed, presenting the following options:

Calendar Sets the date when you plan to return a borrowed license. The return date must be within the range specified by your network administrator.

Borrow a License Borrows the license from the network license server based on the specified return date .

Cancel Cancels the borrowing action; no license is borrowed.

Return a License

Your borrowed network license is automatically returned to the network license server on the day that the license expires. You can return a license earlier than the expiry date, but to do this, your computer must be connected to the network license server.

Once a borrowed license is returned, you can borrow a license again as long as your computer is connected to the network license server and a license is available on the server.

To return a borrowed license early

Access to the command varies by product, and includes one or more of the following options:

- Click Tools menu ► License Borrowing ► Return License Early.
- Click Help menu ► About ► Product Information or Product License Information. In the Product License Information dialog box, click Return License, and then click Yes.
- In the status tray, right-click the License Borrowing icon. Click Return License Early.

NOTE If your product supports access to license borrowing commands in the status tray, you can use this method to return a borrowed license early, but the display settings for the status tray must be turned on. To turn on the display settings, right-click an empty area on the status bar. Click Tray Settings.

Your license is returned to the network license server.

To check the license expiration date

Access to this command varies by product, and includes one or both of the following options:

- In the status tray, right-click the License Borrowing icon.
- Click Help menu ► About ► Product Information or Product License Information. In the Product License Information dialog box, see the License Expiration Date.

RETURNLICENSE Command

Use this command to return a borrowed Autodesk product license earlier than the return date specified when you borrowed the license. Access to the command varies by product, and includes one or more of the following options.

Tools menu: License Borrowing ► Return License

Help menu: About ► Product Information or Product License Information
► Return License

Status tray: Right-click the License Borrowing icon. Click Return License Early.

Command line: **returnlicense**

FLEXnet Configuration Tools

The Network License Manager uses FLEXnet® license management technology from Flexera Software™. FLEXnet provides administrative tools that help to simplify management of network licenses. You can use FLEXnet tools to monitor network license status, reset licenses lost during a system failure, troubleshoot license servers, and update existing license files.

Windows Utilities for License Server Management

FLEXnet provides two utilities for managing the license server. The default location for these tools is in this folder: *C:\Program Files\Autodesk\Autodesk Network License Manager*.

LMTOOLS Utility (lmtools.exe) Provides a Microsoft® Windows graphical user interface for managing the license server.

lmutil.exe Provides a set of command-line options for managing the license server.

You can use LMTOOLS or *lmutil.exe* to perform the following server management tasks:

- Start, stop, and restart the server.
- Configure, update, and reread the license file.
- Diagnose system or license problems.
- View server status, including active license status.

Stop and Restart the License Server

Before you can perform any system maintenance on your license server (including uninstalling the Autodesk License Manager) you must stop the license server. When you have completed maintenance, you can restart the license server.

Windows License Server Restart Procedures

To stop a Windows license server

You should be logged in with Administrator rights when working with the LMTOOLS utility.

- 1 Click Start ► All Programs ► Autodesk ► Network License Manager ► LMTOOLS Utility.
- 2 In the LMTOOLS utility, click the Service/License File tab.
- 3 Select the Configure Using Services option.
- 4 Select the service name for the license server you want to stop manually.
- 5 Click the Start/Stop/Reread tab.
- 6 Click Stop Server.
- 7 Close LMTOOLS.

To restart a Windows license server

You should be logged in with Administrator rights when working with the LMTOOLS utility.

- 1 Click Start ► All Programs ► Autodesk ► Network License Manager ► LMTOOLS Utility.
- 2 In the LMTOOLS utility, click the Service/License File tab.
- 3 Select the Configure Using Services option.
- 4 Select the service name for the license server you want to start manually.
- 5 Click the Start/Stop/Reread tab.
- 6 Click Start Server to restart the license server.

Mac OS X License Server Restart Procedures

Different procedures are required for regular and automatic license servers. Both versions are provided here.

To stop a Mac OS X license server

Enter the following in Terminal:

```
./lmutil lmdown -q -force
```

To restart a Mac OS X license server

Enter the following in Terminal:

```
./lmgrd -c acad.lic -l debug.log
```

To stop an automatic Mac OS X license server

Enter the following in Terminal:

```
sudo  
/sbin/SystemStarter stop adsknlm
```

To restart an automatic Mac OS X license server

Enter the following in Terminal:

```
sudo
/sbin/SystemStarter restart adsknlm
```

Linux License Server Restart Procedures

To stop a Linux license server

Enter the following in Terminal:

```
./lmutil lmdown -q -force
```

To restart a Linux license server

Enter the following in Terminal:

```
./lmgrd -c acad.lic -l debug.log
```

NOTE Replace *acad.lic* with your license file name and *debug.log* with your log file name.

Update FLEXnet from a Previous Version

Beginning with this release, Autodesk products require FLEXnet version 11.10.0.0 or later. If you are currently using an earlier version of FLEXnet, you need to update.

NOTE If the server where you plan to install the Autodesk Network License Manager has FLEXnet installed for another product, make sure that the version of *lmgrd.exe* (Windows) or *lmgrd* (Mac or Linux) is the most current version.

Windows Procedures to Update FLEXnet

To determine the installed version of FLEXnet, you need to verify the version of the following files:

- *lmgrd.exe*
- *lmtools.exe*
- *lmutil.exe*
- *adskflex.exe*

To verify the file version of Windows tools

You should be logged in with Administrator rights when working with the LMTOOLS utility.

- 1 Click Start ► All Programs ► Autodesk ► Network License Manager ► LMTOOLS Utility.
- 2 In LMTOOLS utility, click the Utilities tab.
- 3 Enter the location of the file, or click the Browse button to locate the file and click Open. The default file location is as follows:
C:\Program Files\Autodesk\Autodesk Network License Manager\lmutil.exe
- 4 Click Find Version.
The version number of the file you selected is displayed. If necessary, use the following procedure to update your version of FLEXnet.

To update FLEXnet in Windows

You should be logged in with Administrator rights when working with the LMTOOLS utility.

- 1 Back up your license files.
- 2 Click Start ► All Programs ► Autodesk ► Network License Manager ► LMTOOLS Utility.
- 3 In the LMTOOLS utility, click the Start/Stop/Reread tab.
- 4 Click Stop Server.
- 5 Close LMTOOLS.
- 6 Note the location where the Network License Manager is installed and then uninstall the Network License Manager. For details about uninstalling the Network License Manager, see [Uninstall a Windows Network License Manager](#) (page 105).
- 7 Install the Network License Manager. For details about installing the Network License Manager to the same location as the previous version, see [Install the Network License Manager](#) (page 98).
- 8 Do one of the following:
 - (Windows XP) Click Start ► Programs ► Autodesk ► Network License Manager ► LMTOOLS.
 - (Windows 7 or Vista) Double-click the LMTOOLS icon on the desktop.
- 9 In the LMTOOLS utility, click the Start/Stop/Reread tab.

10 Click Start Server.

11 Close LMTOOLS.

Mac OS X and Linux Procedures to Update FLEXnet

To determine the installed version of FLEXnet, you need to verify the version of the following files:

- *lmgrd*
- *lmutil*
- *adskflex*

NOTE Version 11.9.0.0 of the FLEXnet license manager that ships with Autodesk products is backwards compatible, and will administer licenses for products from versions 2002 through 2012. Please note that Autodesk products older than version 2005 are no longer supported.

To verify the version of Mac OS X or Linux tools

You should be logged in with the same user ID you used when installing the FLEXnet files, for example, */Users/<userid>/adsknlm* (Mac OS X) or */home/<userid>/adsknlm* (Linux).

Enter the following commands in the terminal window/prompt:

```
<prompt>./lmutil -v  
<prompt>./lmgrd -v  
<prompt>./adskflex -v
```

The output of each command will look similar to this example:

```
Copyright  
© 1989-2010 Macrovision Europe Ltd. And/or Macrovision  
Corporation.  
All Rights reserved.  
lmutil v11.5.0.0 build 56285 i86_mac10
```

To update FLEXnet in Mac OS X

You should be logged in with the same user ID you used when installing the FLEXnet files, for example, `/Users/<userid>/adsknlm`. The logged in user ID should be in the *sudoers* list to execute some of the following commands.

- 1 Back up your license files.
- 2 Stop the Autodesk Network License Manager service by entering the following in Terminal:

```
sudo ./lmutil lmdown -q -force
```

- 3 Note the location where the Network License Manager is installed and then uninstall the Network License Manager by entering the standard Mac OS X commands, for example, *rm*.
- 4 Install the Network License Manager. Copy the new version of the FLEXnet network license manager files (*lmgrd*, *adskflex*, and *lmutil*) to the location recommended when you configured your license server, for example, `/Users/<user id>/adsknlm`.
- 5 Start the Autodesk Network License Manager service by entering the following string in Terminal.

NOTE In the string, replace *acad.lic* and *debug.log* with your license file name and log file name.

```
sudo ./lmgrd -c acad.lic -l debug.log
```

To update FLEXnet in Linux

You should be logged in with the same user ID you used when installing the FLEXnet files, for example, `/home/<userid>/adsknlm`. The logged in user ID should be in the *sudoers* list to execute some of the following commands.

- 1 Back up your license files.
- 2 Stop the Autodesk Network License Manager service by entering the following in Terminal:

```
./lmutil lmdown -q -force
```

- 3 Note the location where the Network License Manager is installed and then uninstall the Network License Manager by entering the standard Linux commands, for example, *rm*.
- 4 Install the Network License Manager. Copy the new version of the FLEXnet network license manager files (*lmgrd*, *adskflex*, and *lmutil*) to

the location recommended when you configured your license server, for example, `/home/<user id>/adsknlm`.

- 5 Start the Autodesk Network License Manager service by entering the following string in Terminal.

NOTE In the string, replace `acad.lic` and `debug.log` with your license file name and log file name.

```
./lmgrd -c acad.lic -l debug.log
```

Set Up and Use an Options File

With an options file, you set configuration options that determine how a license server manages licenses. An options file sets parameters that the license file reads and the `lmgrd` program executes.

The options file on each server specifies the license-handling behavior for that server. By managing the contents of the options files, you can specify the same behavior on all license servers, or implement particular differences among the servers.

NOTE For options file changes to take effect on a license server, you must save the options file, and then reread the license file.

Use the options file to set parameters for the following server-related features:

- Report log file
- License borrowing
- License timeout

You can also set up advanced license parameters, such as reserving a license, restricting license usage, or defining groups of users. To learn more about setting advanced options file parameters, see the FLEXnet documentation. This documentation is installed on the license server, in the Network License Manager directory.

Create an Options File

NOTE For options file changes to take effect on a license server, you must save the options file, and then reread the license file.

To create an options file on a Windows platform

You should be logged in with Administrator permissions when working with the LMTOOLS utility.

- 1 Open a text editor, enter the parameters you want, and then save the document as a file named *adskflex.opt* to the same location where you saved the license file.

NOTE Make sure you save the file with the extension *.opt*. The default extension *.txt* is not recognized by the Network License Manager.

- 2 Click Start ► All Programs ► Autodesk ► Network License Manager ► LMTOOLS Utility.
- 3 In the LMTOOLS utility, on the Start/Stop/Reread tab, click Reread License File.
- 4 Close LMTOOLS.

To create an options file on a Mac OS X or Linux platform

- 1 Open a text editor, enter the parameters you want, and then save the document as a file named *adskflex.opt* to the same location where you saved the license file.

NOTE Make sure you save the file with the extension *.opt*. The default extension *.txt* is not recognized by the Network License Manager.

- 2 launch a Terminal window, navigate to the Autodesk Network License Manager folder, and enter the following string:

```
./lmutil lmreread -c @hostname-all
```

- 3 Close the Terminal window.

Create a Report Log

In the options file, you can create a report log file, which is a compressed, encrypted file that provides usage reports on license activity.

Windows Procedure

To create a report log

- 1 In a text editor, open the options file, *adskflex.opt*.
- 2 In the options file, enter the following syntax on its own line (REPORTLOG must be uppercase):

REPORTLOG [+]*report_log_path*

For example, the syntax `REPORTLOG +"c:\My Documents\report.rl"` means that a report log named *report.rl* is located in the folder *c:\My Documents*.

NOTE Path names that contain spaces must be enclosed in quotation marks.

In the REPORTLOG syntax, “[+]” means that entries to the log file you create are appended rather than replaced each time the Network License Manager is restarted. It is recommended that you use this option to retain a history of log entries.

Mac OS X or Linux Procedure

To create a report log

- 1 In a text editor, open the options file, *adskflex.opt*.
- 2 In the options file, enter the following syntax on its own line (REPORTLOG must be uppercase):

REPORTLOG [+]*report_log_path*

For example, the syntax `REPORTLOG +"/Users/<user id>/NLM/report.rl"` means that a report log named *report.rl* is located in the folder */Users/<user id>/NLM*.

NOTE Path names that contain spaces must be enclosed in quotation marks.

In the REPORTLOG syntax, “[+]” means that entries to the log file you create are appended rather than replaced each time the Network License Manager is restarted. It is recommended that you use this option to retain a history of log entries.

Configure License Borrowing with the Options File

If your Autodesk product supports the license borrowing feature, you can use the options file to configure license borrowing options. For example, define the maximum number of licenses that can be borrowed from your network at any one time. In addition, define which users can borrow an Autodesk product license. Licenses are assigned to users, not computers.

For more information on license borrowing, see [License Borrowing](#) (page 106).

NOTE If your Autodesk product licenses are borrowed from a redundant license server pool, you must restart the license server after you stop the Network License Manager.

At the end of a borrow period, the borrowed license is automatically disabled on the user's computer and becomes available again on the license server. Users can also return a license before a borrow period has ended.

To set license borrowing parameters

- 1 In the options file, enter the following syntax on its own line (BORROW_LOWWATER must be uppercase):

BORROW_LOWWATER feature_code n

In the BORROW syntax, “feature_code” is the name of the product in the license file, and “n” is the minimum number of licenses that must remain on the server. When this number is reached, no more licenses can be borrowed.

For example, the syntax BORROW_LOWWATER Autodesk_f1 3 means that for the product Autodesk_f1, when only three licenses remain on the license server, no licenses can be borrowed.

- 2 Enter the following syntax on the next line (MAX_BORROW_HOURS must be uppercase):

MAX_BORROW_HOURS feature_code n

In this syntax, “n” is the number of hours that a license can be borrowed.

For example, the syntax MAX_BORROW_HOURS Autodesk_f1 360 means that for product Autodesk_f1, licenses can be borrowed for 360 hours, or 15 days.

NOTE Licenses are borrowed in increments of 24 hours only. Any number that is more than a 24-hour increment is not used. For example, the number 365 would be rounded down to 360 hours, or 15 days.

For more information about setting up the license borrowing feature, see the FLEXnet documentation. On a Windows server, the default install location for the documentation is *C:\Program Files\Autodesk\Autodesk Network License Manager* folder. On a Mac OS X or Linux server, the documentation is installed in the Network License Manager directory.

NOTE To borrow a license in an Autodesk product, click Help ► About ► Product Information ► Borrow License. Alternatively, enter **borrowlicense** on the product command line. Help for this feature is available in the Borrow a License for *[Product Name]* window and in *C:\Program Files\[Product Name]\Help\adsk_brw.chm*.

Set Up License Timeout

License timeout is set in the options file to determine 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, a user's license is reclaimed by the license server if the product is idle on a computer for more than the timeout period you define.

IMPORTANT License timeout is not supported by all Autodesk products.

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

You can use the TIMEOUT parameter to set individual license timeouts for each Autodesk product on your computer, or use the TIMEOUTALL parameter to set one license timeout for all Autodesk products on your computer.

To set license timeout parameters

- For individual Autodesk products: In the options file, enter the following syntax on its own line (TIMEOUT must be uppercase):

TIMEOUT feature_code n

In the TIMEOUT syntax, "feature_code" is the name of the product (referred to in the INCREMENT line in the license file), and "n" is the number of seconds before an inactive license is reclaimed by the license server.

For example, the syntax `TIMEOUT Autodesk_f1 7200` means that for the product Autodesk_f1, the license timeout period is 7200 seconds, or two hours.

- For all Autodesk products: In the options file, enter the following syntax on its own line (TIMEOUTALL must be uppercase):

TIMEOUTALL n

In the TIMEOUTALL syntax, “n” is the number of seconds before an inactive license is reclaimed by the license server.

For example, the syntax `TIMEOUTALL 7200` means that for all Autodesk products, the license timeout period is 7200 seconds, or two hours.

For more information about using the license timeout feature, see the FLEXnet documentation. On a Windows server, the default install location for the documentation is `C:\Program Files\Autodesk\Autodesk Network License Manager` folder. On a Mac OS X or Linux server, the documentation is installed in the Network License Manager directory.

Frequently Asked Questions about Network Licensing

This section outlines some common questions and their solutions with regards to software licenses and licensing your product(s). For additional advice and assistance, go to [Autodesk Support](#), click your product name, and search in the Knowledgebase for your product.

What is the difference between a stand-alone license and a network license?

A stand-alone license supports one or more Autodesk products for an individual user. Similarly, a multi-seat stand-alone license supports a specific number of users. While the software can be installed on additional computers in your facility, the licensed number of users cannot be exceeded.

A network license supports a specific maximum number of users who are connected to a network. A software utility known as the Network License Manager (NLM) issues licenses to users, up to the number of licenses purchased.

At this point, no more computers can run the Autodesk product until a license is returned to the NLM.

What is the benefit of using a network licensed version of the software?

Network licensing provides ease of license management for large drafting/design facilities, classrooms, and other environments that need to support many users. The Network License Manager provides centralized control of licenses, including their registration, activation, and distribution to users. One main advantage of a network license is that you can install products on more computers than the number of licenses you have purchased. For example, you can purchase 25 licenses but install them on 40 computers for ease of access. At any one time, products can run on the maximum number of computers for which you have licenses. This means you get a true floating license. A network licensing system can also be configured to allow users to borrow a license for a limited time to use on a computer disconnected from the network.

How does the licensing process use the Internet?

An Internet browser is used to facilitate license activation. After installing your product, you can operate in trial mode for a specified period, typically 30 days. When you choose to activate the software and enter your registration data, your computer communicates with Autodesk over the Internet. An activation code is returned and you are not prompted again during startup. The Internet is also used to communicate with Autodesk for other purposes such as authorizing access to the Subscription Center, downloading service packs, and sending product support messages.

Glossary

ADSKFLEX_LICENSE_FILE In a distributed license server configuration, the environment variable used to point a computer to the distributed license servers.

adskflex or *adskflex.exe* The Autodesk vendor daemon used with the FLEXnet license technology. This daemon keeps track of the Autodesk licenses that are checked out and the computers that are using the licenses.

borrowed license A type of network license that allows you to use an Autodesk product for a limited period of time disconnected from the network, without having to buy a separate license.

daemon A program that runs continuously in the background of a computer. The daemon handles requests from the computer and then forwards the requests to other programs or processes. The Network License Manager uses two daemons: the vendor daemon (*adskflex* or *adskflex.exe*) and the license manager daemon (*lmgrd* or *lmgrd.exe*).

debug log file A file used with FLEXnet to log connection events between the Network License Manager and the user's computer.

deployment A set of files and folders created on a server and used by computers to install Autodesk programs with a consistent configuration.

distributed server A license server configuration option in which several servers are used to manage license distribution. Each distributed license server has a unique license file and a fixed number of licenses. If one distributed license server fails, the other servers are still able to distribute their licenses.

Ethernet address See *host ID*.

feature code A license file parameter that represents the product that is supported by that license file.

FLEXnet The Flexera Software license management technology implemented in the Autodesk family of products.

heartbeat signal The communication signal between the Network License Manager and the computer to verify that the computer is accessible and has an active Autodesk product session running.

host ID The unique hardware address of a network adapter. Also known as *Ethernet address* or *physical address*.

host name The TCP/IP name associated with a computer. FLEXnet technology uses the host name as a parameter; the host name must be distinguished from the NetBIOS (server) name.

idle A state of inactivity in your product that prompts a network license server to reclaim a license. Inactivity is due to no mouse or keyboard activity and no commands, LISP expressions, menu macros, or scripts in progress for the period of time that is defined in the options file. See also *license timeout*.

JRE (Java Runtime Environment) A program that is required to run Java programs.

license file A file used with FLEXnet that controls the number of available seats. This file must be in ASCII plain text format.

license server A server that contains the Network License Manager and manages the distribution of licenses to users.

license timeout For network licenses, this is a time period that starts counting when a computer that is using a license is idle. If the timeout period elapses and the computer remains idle, the license is returned to the license server and is available for use again.

licpath.lic In both single and redundant server configurations, the file used to point the computer to the FLEXnet license server. *Licpath.lic* is located in the root installation folder.

lmgrd or *lmgrd.exe* The license manager daemon. This daemon handles the original contact with the program, and then passes the connection to the vendor daemon, *adskflex* or *adskflex.exe*.

lmtools or *lmtools.exe* A graphical user interface utility for administering the FLEXnet license technology. *See also* *lmutil* or *lmutil.exe*.

lmutil or *lmutil.exe* A command-line utility used to administer the FLEXnet license technology. *See also* *lmtools* or *lmtools.exe*

master daemon *See* *lmgrd* or *lmgrd.exe*.

network license installation A type of Autodesk product installation that requires the Network License Manager installed on one or more network servers to manage the distribution of product licenses to users.

Network License Manager The technology used by Autodesk for network license management.

options file The file used by FLEXnet to set network license management parameters, such as the location of report logs and the time period for license borrowing.

physical address *See* *host ID*.

redundant server A license server configuration option in which three servers are used to administer licenses. The redundant servers share a license file and a pool of licenses. The redundant server pool remains functional as long as two of the three servers are running and communicating with each other.

report log file A file used with FLEXnet to provide information about network license usage. The options file sets parameters for the report log.

vendor daemon See *adskflex* or *adskflex.exe*.

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