

Contents

Chapter 1	Licensing Guide	1
	Stand-Alone Licensing	1
	Introduction	1
	Multi-Seat Stand-Alone License	2
	Activate Your Product	2
	Register Your Product	2
	Manage Your Stand-Alone License	2
	Check Product Information	3
	View Product Information	3
	Save License Information as a Text File	4
	Update Your Serial Number	4
	Transfer Your Stand-Alone License	5
	About the License Transfer Utility	5
	Install the Autodesk Product	6
	Export a License	7
	Import a License	7
	Troubleshoot a Stand-Alone License Error	9
	Hardware Changes	9
	Reinstalling an Operating System	9
	Changing the System Date and Time	10
	Distributing Software Image to Multiple Computers	10
	Preserving Licenses on Re-Imaged Computers	11
	Network Licensing	11
	Plan Your Network Licensing	11

System Requirements for the Network License Manager (Windows)	12
Plan Your License Server Configuration	14
Learn About Your License	16
Network License Manager	28
Install the Network License Manager	28
Obtain a License Through autodesk.com	29
Obtain the Server Host Name and Host ID Manually	29
Configure a License Server (Windows)	30
Install SAMreport-Lite (Optional)	32
Uninstall the Network License Manager	32
Network Licensing Tools	33
FLEXnet Configuration Tools	33
License Borrowing	41
Network Licensing FAQs	45
What is the difference between a stand-alone license and a network license?	45
What is the benefit of using a network licensed version of the software?	46
What is Internet Explorer used for?	46
Autodesk Inventor 2011 Network License Addendum	46
Deploy with Scripts	47
Network Licenses in a Mixed Network Environment	47
Optimize License Usage with Timeout Setting	50
Apply Service PacksD	50
Glossary	52
Index	55

Licensing Guide

1

Stand-Alone Licensing

A stand-alone license allows you to run an Autodesk® product on a single workstation.

Introduction

Stand-alone licensing allows you to use your Autodesk product in trial mode for a given number of days from the first time you launch the product. The number of days that a trial mode is active differs between Autodesk products. You can activate your license at any time before the trial period expires.

When you activate your product, you receive an activation code. If you activate online, your activation code is automatically retrieved from Autodesk and the product starts. Activations are also available through email, fax, phone, or the Autodesk website.

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.

The license file stays on your workstation when you uninstall your product. If you reinstall your Autodesk product on the same workstation, the license information is still valid. You do not have to reactivate the product.

Multi-Seat Stand-Alone License

A multi-seat stand-alone license allows you to install, register, and activate an Autodesk product on several workstations using a single serial number. Multi-seat licenses can be purchased through your Authorized Autodesk Reseller.

The Create Deployment feature in the provided installer simplifies deployment by creating a server image that you can access to install the software on your workstation. The software activates automatically when it is started for the first time and if an Internet connection is available.

NOTE To avoid activation failures, it is recommended that you use the provided installer to create the deployment server image.

For more information about multi-seat stand-alone install, see your product's installation documentation.

Activate Your Product

You can activate your Autodesk product either on startup or while you are running the product. If you cannot activate online, offline activation is available.

Register Your Product

Depending on your product, registration is optional or required. If required, you are asked to create a user Autodesk ID and associate this ID with an individual or company account. If registration is optional, you can choose to postpone it, and you will be reminded periodically to register.

Manage Your Stand-Alone License

This section provides information about advanced stand-alone licensing tasks such as license types and behaviors, viewing product information, saving your license file as a text file, updating your serial number, and transferring a license.

Check Product Information

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

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 try the product in trial mode for a specified number of days. The trial period starts the first time you launch your product. When the trial period expires, the product must be registered and activated to continue use.

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.

View Product Information

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

To view product information

- 1 Launch your Autodesk product.
- 2 On the Help menu, click About.

- 3 In the About *[Autodesk Product]* window, click Product Information.
- 4 In the Product Information dialog box, view details about your product and the product license.
- 5 In the Product Information dialog box, click Close.

Save License Information as a Text File

You can save your product license information as a text file.

To save license information as a text file

- 1 Launch your Autodesk product.
- 2 On the Help menu, click About.
- 3 In the About *[Autodesk Product]* window, click Product Information.
- 4 In the Product 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 Information dialog box, click Close.

Update Your Serial Number

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

When you register and activate your product, you are asked for the product serial number, which is automatically entered upon completion of the activation process.

If you have a multi-product bundle of software that uses 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 it from the Help menu.

NOTE For the updated serial number to display, you must be logged into the system with Administrator rights.

To update your serial number

- 1 Launch your Autodesk product.
- 2 On the Help menu, click About.
- 3 In the About *[Autodesk Product]* window, click Product Information.
- 4 In the Product Information dialog box, click Update.
- 5 In the Update the Serial Number dialog box, enter your product serial number.

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

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

- 6 Click OK. You can now see the updated serial number.

Transfer Your Stand-Alone License

You can use an Autodesk product on more than one computer without purchasing a separate license for each computer. License transfers are only supported on products that require the creation of an Autodesk ID as part of the registration and activation process.

About the License Transfer Utility

The License Transfer Utility transfers a product license online from one computer to another, and ensures that the product works only on the computer that contains the license. 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 workstation.

You may want to transfer a license to a computer temporarily (if you want to use an Autodesk product on your laptop, for example) or permanently (if the computer where you originally activated your Autodesk product is being replaced). You can leave the license on the secondary computer indefinitely, or you can move the license between computers as needed.

License transfers rely on the product's serial number. Before an Autodesk product 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 product suite installed with the same serial number. The activation is transferred to the import computer, completing the license transfer.

NOTE The number of concurrent exports you can have, is equal to the number of seats you own. For example, if you own one seat you can have one export in progress at a time. You cannot complete another export until the one in progress has been imported. Similarly, if you have five seats, you can have up to five concurrent exports in progress at one time.

NOTE When you upgrade your Autodesk product (non-subscription), you can no longer perform online license transfers of the previous license.

NOTE 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.

To transfer a license you must have an Internet connection, have an Autodesk product installed on both computers, and perform an online export and import of the license.

Install the Autodesk Product

Before you can use the License Transfer Utility to transfer licenses, you must have an Autodesk product installed on all computers involved in the transfer.

To install the Autodesk product

- 1 Install and activate the Autodesk product on a computer.
See your product's installation instructions for complete details.
- 2 Install the Autodesk product on any other computer that will be using the License Transfer Utility. You do not have to register or activate the product on this computer.
See your product's installation instructions for complete details.

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. Exporting a license as public means that you are not reserving the license and anyone using the same serial number and their own user ID and password can import that license. Exporting a license as private means that you are reserving that license for yourself and the license can only be imported with the same serial number, your user ID, and your password.

NOTE An Internet connection is required to export a license.

To export a license

- 1 On the computer where you want to export the license, do the following:
 - (Windows XP/Windows 7/Windows Vista) Click Start ► All Programs ► Autodesk ► *[Autodesk Product]* ► License Transfer Utility.

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

- 2 In the Export 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 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.

When you have exported a product license from a computer, you complete the license transfer process by importing that license onto a computer. A

license is imported when the License Transfer Utility creates an active license on a computer, allowing your Autodesk product to run on this computer.

When you use the License Transfer Utility to import a license to a computer, you are not activating the product on the computer; you are simply transferring your activation to this machine.

NOTE An Internet connection is required to import a license.

To import a license

- 1 On the computer where you want to import the license, do the following:
 - (Windows XP/Windows 7/Windows Vista) Click Start ➤ All Programs ➤ Autodesk ➤ *[Autodesk Product]* ➤ License Transfer Utility.

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

- 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.

To import a license to replace a trial license

- 1 On the computer where you want to import the license, do the following:
 - (Windows XP/Windows 7/Windows Vista) Click Start ➤ All Programs ➤ Autodesk ➤ *[Autodesk Product]* ➤ License Transfer Utility.

The Update the Serial Number and Product Key dialog box displays the Autodesk product name and serial number.

- 2 In the Update the Serial Number and Product Key dialog box, enter the serial number and product key to update your Autodesk product. Click Update.

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

- 3 In the Import the License dialog box, click Sign In.

- 4 On the Log In page, enter your Autodesk user ID and password and click Log In.
- 5 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

When you activate your Autodesk product, only the computer that you used to activate the product is licensed to run the product. If you make certain changes to your computer, your stand-alone license might fail. You will receive a license error and you will not be able to use your product. This section discusses ways in which you can troubleshoot a license error.

Some license errors require you to reactivate your product. If you need to reactivate your product, the Product Activation wizard is displayed when you try to run the product. To reactivate your product, follow the instructions in the Product Activation wizard.

The following topics offer more details regarding specific errors.

Hardware Changes

If you replace or reconfigure hardware on the computer where your Autodesk product license resides, the stand-alone license might fail. 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. After you make the hardware change, you can import the license file back. For instructions about using the License Transfer Utility, see [Transfer Your Stand-Alone License](#) on page 5.

NOTE If you get a license error when you change your hardware, you may have to reactivate your license. See [Activate Your Product](#) on page 2.

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 [Activate Your Product](#) on page 2.

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/Windows 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

- Make sure that your computer's system date and time are accurate when you install and activate your Autodesk product.

Distributing Software Image to Multiple Computers

You can use the Deployment Wizard's Stand-alone option to create a software installation image on your server. You can distribute this image by making 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 installations.

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

To prevent a license error when distributing software image to multiple computers

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

Preserving Licenses on Re-Imaged Computers

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

For stand-alone licenses, you need to export the licenses to a safe place before re-imaging the computers. You can use the License Transfer Utility to export the licenses. After the re-imaging, import the licenses to the correct computer. Each license only works on the computer for which it was created.

Network Licensing

A network license allows you to run an Autodesk product on a network. Network licenses can be purchased through your Authorized Autodesk Reseller.

Setting up network licenses for an Autodesk product requires careful planning and execution. This section gives you instructions about how to set up a network licensed environment, and assumes that you are familiar with the terminology and processes required to set up an Autodesk product to run on a network.

Plan Your Network Licensing

This section contains information that you need to know before you set up a network license server. The section includes information about supported license server models, license operation and availability, network license file definitions and parameters, license file examples, license types and behaviors, and the license server heartbeat signal.

System Requirements for the Network License Manager (Windows)

Make sure that your network license server meets the minimum recommended requirements. See the following tables for hardware and software requirements.

NOTE The Network License Manager supports Ethernet network configurations only.

Hardware and software requirements for the network license server (Windows)

Hardware/Software	Requirement
Operating System	Windows® 7® 32-bit Windows 7 64-bit <ul style="list-style-type: none">■ Windows 7 Starter (32-bit)■ Windows 7 Home Basic (32-bit)■ Windows 7 Home Premium■ Windows 7 Professional■ Windows 7 Ultimate■ Windows 7 Enterprise
	Windows Vista 32-bit SP2 or later Windows Vista 64-bit SP2 or later <ul style="list-style-type: none">■ Windows Vista Enterprise■ Windows Vista Business■ Windows Vista Ultimate■ Windows Vista Home Premium and Basic (32-bit)■ Windows Vista Home Premium (64-bit)
	Windows XP 32-bit SP2 or later Windows XP 64-bit SP2 or later <ul style="list-style-type: none">■ Windows XP Home■ Windows XP Professional
	Windows Server 32-bit SP1 or later Windows Server 64-bit SP1 or later

Hardware and software requirements for the network license server (Windows)

Hardware/Software	Requirement
	<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	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.
Browsers	Internet Explorer® 6 Internet Explorer 7 Internet Explorer 8
FLEXnet	11.7.0.0

Virtual Machine Support (Windows)

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

Plan Your License Server Configuration

You must decide which license server model to use for managing your Autodesk product licenses on a server. Autodesk supports the following network license server models:

- Single license server model
- Distributed license server model
- Redundant license server model

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.

Disadvantage of the Distributed License Server Model

- If a server in the distributed server pool fails, the licenses on that server are unavailable.

Redundant License Server Model

In the redundant license server model, you use three servers to authenticate a single license file. One server acts as the master, while the other two provide backup if the master server fails. With this configuration, licenses continue to be monitored and issued as long as at least two servers are still functional. The license file on all three servers is the same. You must install the Network License Manager on each server.

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.

Learn About Your License

In this section, you learn about license operation and availability, the license file, license types and behaviors, and the heartbeat signal.

License Operation and Availability

When you start an Autodesk product, the product determines the server from which it should try to obtain a license. The product then requests a license through the TCP/IP network protocol to the license server.

If the number of available licenses has not been exceeded on the license server, the Network License Manager assigns a license to the workstation. A product session then starts on the workstation, and the number of available licenses on the license server is reduced by one.

Likewise, when you exit a product, the Network License Manager frees a license for another user. If you run multiple sessions of an Autodesk product on an individual workstation, only one license is used. When the last session is closed, the license is freed.

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

- **License manager daemon** (*lmgrd.exe*). Handles the original contact with the application, and then passes the connection to the vendor daemon. The *lmgrd.exe* daemon is used to communicate with the vendor daemon only; *lmgrd.exe* does not authenticate or dispense licenses, but rather passes user requests to the vendor daemon. By using this approach, a single *lmgrd.exe* daemon can be used by multiple software vendors to provide license authentication. The *lmgrd.exe* daemon starts and restarts the vendor daemons as needed.
- **Autodesk vendor daemon** (*adskflex.exe*). Tracks the licenses that are checked out and the workstations that are using them. Each software vendor has a unique vendor daemon to manage vendor-specific licensing. As its name implies, the *adskflex.exe* vendor daemon is specific to Autodesk products.

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

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

License Files

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 is located in a network location that you specify in the Deployment wizard. That network location must be accessible to every user who runs the product from a network installation.

The following table defines each license file parameter.

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>

Definitions of license file parameters

Line	Parameter	Definition	Example
	Version	Internal version number reference	1.000
	COMPONENTS	List of feature codes supported in the package	COMPONENTS= "526000REVIT_9_OF\ 51200ACD_2007_OF\ 513001IN- VBUN_11_OF"
	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_OF
	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 (for example, BORROW=2880 means that licenses can	BORROW=4320

Definitions of license file parameters

Line	Parameter	Definition	Example
		be borrowed for a maximum of 2880 hours, or 120 days). License borrowing is disabled when this parameter is absent in the license file.	
	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-2006
	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

License file examples are provided in this document to help you understand how the license files work for your particular network setup. Autodesk provides a standard license file for individual products and a license file with additional parameters for products that are sold both individually and as part of a product set.

- **Standard License File.** If you purchase one or more individual products that are not offered as part of a suite of products, you receive a standard license file.
- **Standard License File with Additional Parameters.** If you purchase Autodesk products that are included in a product set and are also sold as an individual product, you receive a standard license file with additional parameters included in the license file. The additional parameters define the sequence for license usage so that the individual product license is used before the license for the product set.

Autodesk license file examples include a license file not specific to a product, completed license files for single, distributed, and redundant server models, a combined product version license file, and an example of additional parameters added to a standard license file.

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 0019bbd68993
USE_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_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=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. For example, you can combine a license file for AutoCAD 2009 with license files for Autodesk Maya® 2009 and AutoCAD Map.

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

```

SERVER XXHP0528 0019bbd68993
USE_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"
INCREMENT 54600ACD_2008_0F 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"

```

Example of Additional Parameters in a License File

For Autodesk products that are included in a product set and are also sold as an individual product, licenses are allocated based on a sequence of priorities defined in the license file. For those products, information similar to the following example appears in a license file:

```

SERVER Server1 1a34567c90d2
USE_SERVER
VENDOR adskflex port=2080
INCREMENT 54600ACD_2008_0F adskflex 1.000 permanent 5 \
    VENDOR_STRING=commercial:permanent BORROW=4320 SUPERSEDE \
    DUP_GROUP=UH ISSUED=09-Jan-2007 SN=123-12345678 SIGN="0247 \
    45D6 87C4 27A5 7F9E F24A ED3D 61E4 6B3B CC5C AD77 B865 9EA8 \
    3D62 0792 0F67 19E7 57E7 FAFA A48B D582 335A EC16 1FE5 B70D \
    76AB 6488 61CC DE5E F5B7" SIGN2="09FD 0850 7CF1 F447 9F05 9FA3
\
    2A0A 38D6 83FC 1746 F3F5 5A72 6250 E002 DE0B 0E6E F88C AC95 \
    136F 87F2 A945 E4C4 A97F 44B5 74EE 83F3 3F3E 1579 B981 8994"

```


Package License File Examples

Autodesk offers a package license file option, which allows you use of a set 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 may 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](#) on page 25.
- Package license files cannot be combined with non-package license files for product versions contained in the package. For example, you cannot combine a *Autodesk Product 2009* package license file with a regular license file for *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 will supersede an older license file.

The following sections provide package license file examples for single, distributed, and redundant license servers, and combined Autodesk product versions.

Example of a Package 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 Server1 1a34567c90d2
USE_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 license file for a redundant license server model:

```

SERVER 1a34567c90d2 27005
SERVER 2a34567c90d2 27005
SERVER 3a34567c90d2 27005
USE_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=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 license file for combined Autodesk product versions:

```

SERVER servername 123456789111
USE_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=SUI TE 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="0DFE
\
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=SUI TE 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"

License Types and Behaviors

Autodesk supports dynamic product usage and license behaviors. This means that 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.

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

License types include the following:

- **Commercial.** A license for a product that was purchased commercially.
- **Not for Resale.** A license for a product that is not sold commercially. Not for Resale products are for evaluation or demonstration purposes only and may not be used for commercial or production use.
- **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 are as follows:

- **Permanent.** Enables permanent use of an Autodesk product.
- **Term Extendable.** Enables access to an Autodesk product for a limited time. The term can be extended at any time.
- **Term Non-Extendable.** Enables an Autodesk product for a limited time. The term cannot be extended.

Heartbeat Signal

When an Autodesk product is running, it communicates with the license server at regular intervals using a communication 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. If the problem causing the original loss of the heartbeat signal is resolved and there are available licenses on the server, the program can be restarted.

Network License Manager

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

For more information about deploying an Autodesk product from a network location, see your product's installation documentation.

Install the Network License Manager

You can install the Network License Manager before or after you use the Installation wizard. The order in which you install the network applications does not matter, as long as you install everything you need and you provide consistent license server information across the network applications.

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

To install your Network License Manager

- 1 In the Autodesk Installation wizard, click Install Tools and Utilities.
- 2 On the Select the Products to Install page, select Autodesk Network License Manager and click Next.
- 3 Review the Autodesk software license agreement for your country or region. You must accept this agreement to proceed with the installation. Choose your country or region, click I Accept, and then click Next.

NOTE If you do not agree to the terms of the license and want to terminate the installation, click Cancel.

- 4 On the Begin Installation page, review your product selection and the current settings. If you do not want to change anything, click Install. If you want to change the install type or installation path, click Configure.

- 5 On the Select the Installation Location page, accept the default installation path (*C:\Program Files\Autodesk Network License Manager*) or Browse to specify a different path. If you enter a path that does not exist, a new folder is created using the name and location you provide. Click Next.

WARNING 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.

- 6 On the Configuration Complete page, click Configuration Complete to return to the confirmation page.
- 7 On the Begin Installation page, click Install.
- 8 When the Installation Complete page displays, click Finish.

Obtain a License Through [autodesk.com](https://registeronce.autodesk.com)

You can register and activate your network license by going to <https://registeronce.autodesk.com> and following the on-screen instructions.

Obtain the Server Host Name and Host ID Manually

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

To obtain the information manually, you can use the command prompt or you can run the *lmtools.exe* utility. If you use *lmtools.exe*, do not run it on a remote workstation.

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

- 1 Do the following:
 - (Windows XP/Windows Vista) Click Start ➤ All Programs ➤ Autodesk ➤ *[Autodesk Product]* ➤ License Transfer Utility.
- 2 At the Windows command prompt, enter the following command, and then press ENTER:
ipconfig /all
- 3 Locate the Host Name line, and write down the host name.

- 4 Locate the Physical Address line. Write down the physical address *without* the dashes. 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. To determine which adapters are physical: in the Windows command prompt, enter **ipconfig /all**, and then 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.

- 5 Close the Windows command prompt.

To obtain the host name and ID using *lmtools.exe*

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 program, click the Systems Settings tab.
- 3 On the Systems Settings tab, locate the Computer/Hostname box. Copy the host name and paste the information into a text editor.
- 4 Locate the Ethernet Address box. The Ethernet address is the host ID. It consists of twelve characters. Write down the information. If your Ethernet address is more than twelve characters, write down the first twelve characters only.

NOTE If your server has more than one Ethernet adapter, select one that corresponds to a physical network adapter.

- 5 Close *lmtools.exe*.

Configure a License Server (Windows)

You configure a license server so that you can manage your Autodesk product licenses. Configure the license server with the *lmtools.exe* utility.

To configure your 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 program, 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 Network License Manager* folder.

- 6 In the Path to the License File box, enter the path to your license file, or click Browse to locate the file.

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 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.exe*.

NOTE Before performing any system maintenance on your license server, see [Stop and Restart the License Server](#) on page 34.

Install SAMreport-Lite (Optional)

SAMreport-Lite is a reporting tool that helps you track network license usage. With SAMreport-Lite technology from Acresto™ Software, you can monitor client usage for Autodesk network licensed products.

To learn more about installing and using SAMreport-Lite, see the *SAMreport-Lite User's Guide*.

Uninstall the Network License Manager

You can uninstall the Network License Manager from the license server. When you uninstall the Network License Manager, licenses are no longer available to your users.

To uninstall the Network License Manager

- 1 Click Start ➤ All Programs ➤ Autodesk ➤ Network License Manager ➤ LMTOOLS Utility.
- 2 In the LMTOOLS program, click the Start/Stop/Reread tab.
- 3 On the Start/Stop/Reread tab, click Stop Server.

- 4 Close *lmtools.exe*.
- 5 In the Windows Control Panel, do one of the following:
 - (Windows XP) Double-click Add/Remove Programs.
 - (Windows 7/Windows Vista) Double-click Programs and Features.Do one of the following:
 - (Windows XP) In the Add/Remove Programs window, click Autodesk Network License Manager. Click Remove.
 - (Windows 7/Windows Vista) In the Programs and Features window, click Autodesk Network License Manager. Click Remove.
- 6 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). They are not automatically deleted when you uninstall the Network License Manager.

Network Licensing Tools

Autodesk Network licensing tools include FLEXnet configuration tools, license borrowing, and SAMreport-Lite. Each tool is described in the sections that follow.

This section also includes information for updating FLEXnet and installing and configuring the Autodesk Network License Manager on a network.

FLEXnet Configuration Tools

The Network License Manager uses FLEXnet® license management technology from Acreoso 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 to a system failure, troubleshoot license servers, and update existing license files on the fly.

Utilities for License Server Management

FLEXnet provides two utilities for managing the license server. These tools are located in the *C:\Program Files\Autodesk Network License Manager* folder.

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.exe* 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, you must stop the license server. When you have completed maintenance, you can restart the license server.

To stop the license server (Windows)

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 program, on the Service/License File tab, select the Configure Using Services option.
- 3 Select the service name for the license server you want to stop manually.
- 4 Click the Start/Stop/Reread tab.
- 5 On the Start/Stop/Reread tab, click Stop Server.
- 6 Close *lmtools.exe*.

To restart the license server (Windows)

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 program, on the Service/License File tab, select the Configure Using Services option.
- 3 Select the service name for the license server you want to start manually.
- 4 Click the Start/Stop/Reread tab.
- 5 On the Start/Stop/Reread tab, click Start Server to restart the license server.

Update FLEXnet from a Previous Version

This release of Autodesk products and later require FLEXnet version 11.7.0.0 or later. If you are currently using a version of FLEXnet that is earlier than 11.7.0.0, you need to upgrade to version 11.7.0.0 or later.

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* is the most current version.

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

Windows

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

To verify the version of *lmutil.exe*, *lmtools.exe*, or *adskflex.exe* (Windows)

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.exe*, click the Utilities tab.

- 3 On the Utilities tab, enter the location of the file, or click the Browse button to locate the file and click Open. The file location should look something like this:
C:\Program Files\Autodesk Network License Manager\lmutil.exe
- 4 On the Utilities tab, 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 (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 program, click the Start/Stop/Reread tab.
- 4 On the Start/Stop/Reread tab, click Stop Server.
- 5 Close *lmtools.exe*.
- 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 the Network License Manager](#) on page 32.
- 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](#) on page 28.
- 8 Do one of the following:
 - (Windows XP) Click Start ► Programs ► Autodesk ► Network License Manager ► LMTOOLS.
 - (Windows Vista) Double-click the LMTOOLS icon on the desktop.
- 9 In the LMTOOLS program, click the Start/Stop/Reread tab.
- 10 On the Start/Stop/Reread tab, click Start Server.
- 11 Close *lmtools.exe*.

Set Up and Use an Options File

With an Options file, you set configuration options for managing licenses on each license server that you set up. An Options file sets parameters that the license file reads and the *lmgrd* program executes.

If you want to have the same license behavior on some or all of your license servers, you must save the same Options file to each of those license servers. If you want to specify different license behavior on different license servers, you must create an Options file for each license behavior. You must save each Options file to the server where you want specific license behavior.

NOTE For Options file changes to take effect on a license server, you must save the Options file, and then use *lmtools.exe* to reread the license file.

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

Report log file A compressed, encrypted file is created that generates accurate usage reports on license activity for use by SAMreport-Lite. See [Create a Report Log](#) on page 38.

License borrowing If your Autodesk product supports the license borrowing feature, you can allow users to borrow an Autodesk product license from a network license server so that they can use the product without being connected to the license server. A license can be borrowed for a limited time. See [Configure License Borrowing with the Options File](#) on page 39.

License timeout With license timeout, you can set a timeout period on your license server for one Autodesk product at a time. When set, license timeout returns a license to the license server when a connection with the workstation is lost, or if a license is checked out but the Autodesk product is idle on a workstation for longer than the timeout period you define. See [Set Up License Timeout](#) on page 40.

License timeoutall With license timeoutall, you can set a timeout period on your license server that applies to all Autodesk products installed on your computer. When set, license timeout returns a license to the license server when a connection with the workstation is lost, or if a license is checked out but the Autodesk product is idle on a workstation for longer than the timeout period you define. See [Set Up License Timeout](#) on page 40.

Here is an example of the contents of an Options file:

```
REPORTLOG=c:\test\report.rl  
  
BORROW_LOWWATER Autodesk_f1 3
```

TIMEOUT Autodesk_fl 7200

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 in the *C:\Program Files\Autodesk Network License Manager\LicenseAdministration.pdf* file.

Create an Options file

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

To create an options file

- 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 Do one of the following:
 - (Windows) Click Start ► All Programs ► Autodesk ► Network License Manager ► LMTOOLS Utility.
- 3 In the LMTOOLS program, on the Start/Stop/Reread tab.
- 4 On the Start/Stop/Reread tab, click ReRead License File.
- 5 Close *lmtools.exe*.

Create a Report Log

In the Options file, you can create a report log file that is used with SAMreport-Lite.

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 (with REPORTLOG entered in uppercase, as shown):

REPORTLOG [+]*report_log_path*

For example (Windows), 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 so that you 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, you can define the maximum number of licenses that cannot be borrowed from your network at any one time. In addition, you can define which users can borrow an Autodesk product license. Licenses are borrowed per user, not per machine.

NOTE 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.

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 (with `BORROW_LOWWATER` entered in uppercase, as shown):

`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 number of licenses that cannot be borrowed.

For example, the syntax `BORROW_LOWWATER Autodesk_f1 3` means that for the product `Autodesk_f1`, three licenses cannot be borrowed from the license server.

- 2 Enter the following syntax on the next line (with `MAX_BORROW_HOURS` entered in uppercase, as shown):

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 in the *C:\Program Files\Autodesk Network License Manager* folder.

NOTE To borrow a license in an Autodesk product, click Help menu ► About ► Product Information. Alternatively, enter **borrowlicense** on the product command line. Help for this feature is available in the Borrow a License for *[Autodesk Product]* window and in *C:\Program Files\Autodesk Product\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 workstation for more than the timeout period you define.

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 set individual license timeouts for each Autodesk product on your computer by using the TIMEOUT parameter or you can set one license timeout for all Autodesk products on your computer by using the TIMEOUTALL parameter.

To set license timeout parameters

- For individual Autodesk products: In the Options file, enter the following syntax on its own line (with TIMEOUT entered in uppercase, as shown):
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 set for 7200 seconds, or two hours.

- For all Autodesk products: In the Options file, enter the following syntax on its own line (with TIMEOUTALL entered in uppercase, as shown):
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 set for 7200 seconds, or two hours.

For more information about using the license timeout feature, see the FLEXnet documentation in the *C:\Program Files\Autodesk Network License Manager* folder.

License Borrowing

If you are running a network-licensed version of the program, you can borrow a license from a license server to use the program for a specified time when your computer is not connected to the network.

NOTE If you have a stand-alone version of the program, you cannot borrow a license. To check your license type, click Help menu ► About ► Product Information. In the Product Information dialog box, view your product license type.

Overview

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 program 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 borrowed the license. You can also return a license early.

NOTE There is a limit to the number of licenses available for borrowing. If you try to borrow a license and are notified that no licenses are available, all network licenses may already be borrowed by other users. If you are unable to borrow a license, see your network administrator for help.

Borrow a License

You can run the program when your computer is not connected to the network until your license-borrowing period ends. If you don't remember the date that a license expires, you can check the date by placing your cursor over the Borrowing icon in the program's status tray or by clicking Help ► About and using the Product Information dialog box.

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

Interaction with Other License-Borrowing Tools

Using the license borrowing feature in the program is the recommended way to borrow a license; however, some third-party borrowing tools may also be available to you. These tools are not supported or compatible with the license borrowing feature in the program. 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.exe*, a component of the Autodesk Network License Manager.

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 the program:

- 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 the program. However, you cannot return a license until you exit and then restart the program.
- If borrowing is set in *lmtools.exe* for *all* products, you can either (a) use the other tool to borrow licenses for the program or (b) stop the borrowing process in *lmtools.exe* and then use the license borrowing feature in the program.

- If borrowing is set in *lmtools.exe* for non-Autodesk products only, you must stop the borrowing process in *lmtools.exe*. 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.exe*, the license borrowing feature will not function.

To borrow a license using the Help menu

- 1 Click Help menu ► About.
- 2 In the About product window, click Product Information.
- 3 In the Product Information window, click Borrow License.
- 4 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.
- 5 Click Borrow License.
- 6 In the License Borrowed message, click OK. The license is borrowed, and you can now use the program while your computer is disconnected from the network.

BORROWLICENSE Command

Borrows a product license so that you can run the product outside the network environment.

Help menu: About ► Product Information ► Borrow License

Command line: **borrowlicense**

The [Borrow a License Window](#) on page 43 is displayed.

Borrow a License Window

Help menu: About ► Product Information ► Borrow License

Command line: **borrowlicense**

Using the license borrowing feature, you can borrow a license from your network license server, and then use the license when your computer is

disconnected from the license server; for example, when you are traveling for work.

The Borrow a License window has 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 return date that you specified.

Cancel Cancels the borrowing action; no license is borrowed.

Return a License

Your network license is automatically returned to the network license server on the day that the license expires. You can also return a license earlier than the date you originally selected, as long as your computer is connected to the network license server when you attempt to return the borrowed license.

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, do one of the following:

- Click Help menu ► About ► Product Information. In the Product 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 To use the status tray to return a borrowed license early, 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. After you return the borrowed license, you can borrow a license again immediately as long as a license for that product is available on the network.

To check the license return date, do one of the following:

- In the status tray, right-click the License Borrowing icon. View the expiration date for the borrowed license.

- Click Help menu ► About ► Product Information. In the Product Information dialog box, under License Expiration Date, view the license return date.

RETURNLICENSE Command

Returns a borrowed Autodesk product license earlier than the original return date that you specified when you borrowed the license.

Help menu: About ► Product Information ► Return License

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

Command line: **returnlicense**

Network Licensing FAQs

This section outlines some common questions and their solutions with regards to software licenses and licensing your product(s).

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

Stand-alone licensed products are registered and activated to an individual workstation. While the software can be installed on multiple systems in your facility, the license only allows one system to be operational. If you need to run more systems, you need to purchase more stand-alone licensed products, or consider converting to network licenses.

Network licensed products rely on the Network License Manager to keep track of software licenses. The software can be installed and run on multiple systems, up to the maximum number of licenses you've purchased. The Network License Manager "checks out" licenses until they are all in use. No further systems can run the program until a license is "checked in." If you need to run more systems, you can purchase additional licenses for the Network License Manager to maintain.

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

Network licensed products are recommended for large drafting/design facilities, classrooms, and lab environments. The main advantage is that you can install products on more systems than the number of licenses you have purchased (for example, purchasing 25 licenses but installing on 40 workstations). At any one time, products will run on the maximum number of systems for which you have licenses. This means you get a true floating license. If software needs to be run on more systems, additional licenses can be purchased.

Registration and activation occurs only once and the licenses are maintained on your Network License Server.

What is Internet Explorer used for?

After installing your product, you can operate in trial mode for a given number of days. Whenever you launch the program, you are prompted to activate the software. When you choose to activate the software, Internet Explorer makes this process much faster. Once you entered your registration data and submit it to Autodesk, an activation code is returned and you are not prompted again during startup.

Autodesk Inventor 2011 Network License Addendum

Important: For comprehensive information on license administration, please refer to The License Administration Guide (LicenseAdministration.pdf). This document is installed with the Network License Manager to: C:\Program Files\Autodesk Network License Manager\LicenseAdministration.pdf

To install the Network License manager:

- 1 In the Autodesk Inventor Installation wizard, click Install Tools and Utilities.
- 2 On the Select the Products to Install page, select Autodesk Network License Manager.
- 3 On the Review -Configure - Install page, click Install

This addendum provides Autodesk Inventor and AutoCAD Mechanical specific licensing information that is not covered in The License Administration Guide (LicenseAdministration.pdf).

Deploy with Scripts

If you use script to deploy Inventor for a silent installation, it is required you run MSDE (InventorMSDESetup.exe), MSI3.0, and WSE2.0 before the Autodesk Inventor installation. Please read the Use Scripts to Deploy the Program section in the Network Administrator's Guide. Access The Network Administrator's Guide and all installation documentation from the Installer Documentation page.

For post-release information, refer to:

- The Autodesk Inventor Readme available from the Installer Documentation page
- <http://www.autodesk.com/inventor-graphic-cards>

NOTE The Autodesk Network License Server can be blocked by firewalls and port filtering applications. Port 2080 (the default value) and the range of ports 27000-27009 must not be blocked. For more information about configuring your firewall or port filtering application, please contact the manufacturer.

Network Licenses in a Mixed Network Environment

Cascading and dynamic licensing

Cascading and dynamic licensing resolve license allocation problems that occur when you use a mix of separately purchased products, such as Autodesk Inventor and AutoCAD Mechanical products and/or multiple licenses of AutoCAD Inventor suite products.

Cascading licensing is a feature of the Autodesk Network License manger. Its purpose is to:

- Allow access to a higher-value license when the lower-value licenses are in use.
- Allow multiple products in an Autodesk Inventor suite to share a single license.

- Mix separately purchased seats of AutoCAD Mechanical with the version that is included with an Autodesk Inventor suite.

Dynamic licensing is a feature of Autodesk Inventor suites. Its purpose is to consume a higher value license only when a command for the higher value license is invoked. Dynamic Licensing gives all users access to any level of functionality on an as needed basis.

NOTE Dynamic licensing is only available for network licensing users who have the higher-level functionality installed .

The license managers understand there is a product hierarchy. When a user accesses one of the products, the lowest available appropriate license is consumed. Each time a user exits one of the following purchased products, the license is released.

Licenses for Products that Run on Client Workstations

AutoCAD Mechanical license (Lowest amount of functionality)	Inventor AIS license base functionality	Routed Systems license Adds Routed system functionality to the base functionality	Inventor Professional license Includes all available Inventor functionality in one package(Highest amount of functionality)
		Simulation license Adds Simulation functionality to the base functionality	
		Tooling license Adds Tooling functionality to the base functionality	

Consider the following example: You have 2 AutoCAD Inventor Suite 2011 licenses, 1 AutoCAD Inventor Professional Suite 2011 license, and 1 AutoCAD

Mechanical 2011 license on your network. When the first user starts AutoCAD Mechanical 2011, the license manager will use the AutoCAD Mechanical 2011 license. If another user starts AutoCAD Mechanical 2011, one of the AutoCAD Inventor Suite 2011 license will be used.

Dynamic licensing is a feature of the Autodesk Inventor suites. Continuing with the example above, if another user now starts AutoCAD Inventor Professional Suite 2011 the AutoCAD Inventor Suite 2011 license will be consumed. Not until the user *actually invokes an AutoCAD Inventor Professional Suite 2011 command* is the AutoCAD Inventor Professional Suite 2011 license consumed. The AutoCAD Inventor Suite 2011 license initially used by this user will be released after invoking the AutoCAD Inventor Professional Suite 2011 command.

We recommend that you install Autodesk Inventor Professional 2011 on all seats. Dynamic Licensing gives all users access to any level of functionality on an as needed basis for network license users who have the higher-level functionality installed.

Dynamic licensing best practices

If you know in advance that a specific user needs access to one specific application (for example, Autodesk Inventor) then you install only that application on the user computer. The installation participates in the complete license pool.

If different people need access to different Inventor products at different times, install the highest value product on all workstations. Although this installation is recommended, it is not required.

Licenses are returned to the license pool when the user closes the application. Instruct users to close Inventor when finished using it so that someone else can take advantage of the license or configure the server to reclaim the idle client licenses.

For more information about cascading licenses, search the Autodesk® Knowledge Base with the keywords “cascading licenses.”

AutoCAD Mechanical is based on the following rule (refer to table AutoCAD Mechanical viewpoint above)

- 1 Initial startup: The lowest available (left) on the list is used.
- 2 After the initial startup, anytime Inventor is seen, AutoCAD Mechanical moves up to the Inventor license (if it is a higher license).

Autodesk Inventor usage is based on the following user activity:

One Inventor shortcut is installed on the desktop. This single Inventor shortcut allows access to all purchased Inventor products. Inventor dynamically moves up to a higher license when a user clicks a command or enters an environment that requires a higher level license than is currently active.

This occurs silently. To acquire a higher-level license from the network license server, no user activity is required other than clicking on a command. It is not necessary to shut down and restart Inventor.

Optimize License Usage with Timeout Setting

You can configure both AutoCAD Mechanical and Inventor licenses to time out with as little as 15 minutes of inaction. This configuration releases the license automatically for others to use based on the timeout setting.

NOTE A license is consumed until the product is shut down, moved to a higher license, or times out.

Apply Service PacksD

Inventor-based service packs are historical, and must be applied in sequence. This also applies when building deployment images.

Important:

Configure your license server:

If you have an existing server, you **MUST** upgrade to the licensing software with this release or newer, as follows:

- 1 Stop the server
- 2 Install the new software to the same location as the old software
- 3 Start the server

This takes only a few minutes. During this time, users will not be able to start new Autodesk product sessions.

No running Inventor sessions are impacted.

Verify the server is working:

If your Autodesk products are running on a client and cannot see the license server:

- 1 Review all of the instructions.
- 2 Using Lmttools > Server Status, run "Perform Status Enquiry," and verify that all expected licenses and seats are available.
- 3 Make sure that lmgrd.exe and the port (2080 is the default) specified in your license file are open in the firewall on the server.
- 4 Make sure that the client can ping the license server. If it is not seen, then work with your IT department to resolve the problem.
- 5 Test again
- 6 If this does not resolve the problem, disable the firewall on the license server.
- 7 Test again.
- 8 If things still fail, concentrate on the client.
- 9 Verify that the license file is present and correct if this method is used.
- 10 Verify that the LM_LICENSE_FILE environment variable exists and is properly populated. (Port #@server_name or @server_name)

For example, where the port is 2080:

SERVER John-PC 0019bbea3cd4

USE_SERVER

VENDOR adskflex port=2080

For more information, refer to The License Administration Guide (LicenseAdministration.pdf).

NOTE The License Administration Guide indicates the format "@server" sometimes does not work since port 2080 is no longer in the default list. To resolve this problem, modify the registry to include the port number in your license file. For more details, see page 53 in the LicenseAdministration.pdf.

Can the following be removed? This is in legacy content, but I don't see it adding anything? Remove the table below after confirming

AutoCAD Mechanical (Lowest amount of functionality)	Inventor Base functionality	Routed Systems Adds Routed system functionality to the base functionality	Simulation Adds Simulation functionality to the base functionality	Inventor Professional Includes all available Inventor functionality in
---	-----------------------------	--	---	---

one pack-
age(Highest
amount of func-
tionality

-
- AutoCAD® Inventor Professional 2011 (AIP)
 - AutoCAD® Inventor® Tooling Suite 2011 (AIT)
 - AutoCAD® Inventor® Simulation Suite 2011 (AISS)
 - AutoCAD® Inventor® Routed Systems Suite 2011 (AIRSS)
 - AutoCAD® Inventor Suite 2011 (AIS)
 - AutoCAD® Mechanical 2011

Glossary

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

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 workstations that are using the licenses.

borrowed license A license that allows you to use an Autodesk product for a limited period of time without having to buy a separate license or have network access to the license server.

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.exe*) and the license manager daemon (*lmgrd.exe*).

debug log file A file used with FLEXnet to log connection activity (such as license failure or starting and stopping) between the Network License Manager and the workstation.

deployment The files and folders created on a server and used by workstations to install Autodesk programs.

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 Acresto Software license management technology implemented in the Autodesk family of products.

heartbeat signal The communication signal between the Network License Manager and the workstation to verify that the workstation 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. This program must be installed with SAMreport-Lite.

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.

license timeout A feature that allows you to set up a timeout period on your license server to automatically return an idle license to the server so that it is available for use again.

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

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.exe*.

lmtools.exe A graphical user interface utility used to administer the FLEXnet license technology. (*Lmutil.exe* is the command line version of this utility.)

lmutil.exe A command line utility used to administer the FLEXnet license technology. (*lmtools.exe* is the graphical user interface version of this utility.)

master daemon See *lmgrd.exe*.

network license installation A type of installation that requires you to install and run the Network License Manager from a network server. You must install and configure the Network License Manager before clients can run the Autodesk product.

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

Options file The file used by FLEXnet to control license manager parameters, such as reserving licenses and creating report logs used with SAMreport-Lite.

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 and SAMreport-Lite. This log file provides information about network license usage. The Options file creates the report log.

SAMreport-Lite A version of Acresto Software's SAMreport tool. SAMreport-Lite is included on the Autodesk product discs.

vendor daemon See *adskflex.exe*.

workstation A desktop computer used by an individual user on a network.

Index

A

- activating programs 2, 8
- activation code 1
- AdLM (Network License Manager) 28
- Adskflex option 42
- adskflex.exe (Autodesk vendor daemon) 16, 35
- Autodesk License Borrowing utility 42
- Autodesk License Manager 28
- Autodesk Network License Manager 42
- Autodesk products
 - activating 2
 - borrowing network licenses for 41
 - License Transfer utility 5
 - reinstalling 9
 - using off network 41
- Autodesk vendor daemon 35

B

- borrowing licenses
 - about 41
 - configuring 39
 - reconnecting and borrowing again 42, 44
 - returning licenses 44
- borrowing periods 42
- BORROWLICENSE command
 - about 43

C

- Commercial licenses 3, 27
- computers
 - licenses for 5
 - re-imaged 11
- configuring
 - license borrowing 39
 - license servers 30, 37

- copying
 - licenses 5, 9

D

- daemons
 - license manager daemons 16
 - vendor daemons 16
 - versions of 35
- dates
 - expiration 42
 - system dates 10
- Deployment wizard 10
- displaying
 - product license information 3
- distributed license server model
 - about 14
 - license file example 20
- distributing
 - software installation images 10

E

- early returns of licenses 44
- Educational (EDU)/Institution licenses 3, 27
- Ethernet address 29
- expiration dates for licenses
 - about 42
- exporting licenses
 - about 5
 - transfer files 7

F

- FLEXnet tools
 - about 33
 - Options file 37–39
 - updating 35

G

glossary 54

H

hardware

license errors and 9

hardware requirements

Network License Manager 12

heartbeat signals 27

host IDs 29

host names 29

I

importing licenses

about 5

transfer files 7

Imtools.exe 42

installation

License Transfer utility 6

Network License Manager 28

SAMreport-Lite 32

Installation wizard 28

L

license borrowing

about 41

borrowing licenses 41–42

configuring 39

expiration dates 42

returning licenses 44

third-party licensing tools 42

license files

about 17

additional parameters in 22

combined products 21

examples 19

package examples 23

license manager daemon 16, 35

license servers

borrowing licenses 41–42

configuring 30, 37

heartbeat signals 27

host IDs and host names 29

limited number of licenses 42

management utilities 33

models 14

Network License Manager 28

returning licenses 44

stopping and restarting 34

third-party licensing tools 42

types of 14

license timeout 40

License Transfer utility

about 5

installing 6

transferring licenses 5

licenses

about 16

active 5

assigning 16

availability 16

behaviors (term limits) 27, 37

copying 9

exporting 7

FLEXnet tools 33

glossary 54

importing 7

issues 45

license errors 9

license files 17

license servers 30

license timeout 40

moving between computers 9

Network License Manager 28

single-user 1

transferring 5, 8

troubleshooting 9

types of 27

limits on number of licenses 42

lmgrd.exe (license manager

daemon) 16, 35

lmtools.exe utility 29–30, 33, 35

lmutil.exe utility 33, 35

log files

report log files 38

M

- Microsoft Windows
 - configuring license servers 30
 - Network License Manager 12

N

- network license installations
 - license behaviors 37
 - license borrowing 39
 - license timeout 40
 - planning 11
 - tools and utilities 33
 - types of 27
- Network License Manager
 - about 28
 - assigning licenses 16
 - glossary 54
 - installing 28
 - license server models 14
 - uninstalling 32
 - upgrading 28
- network license servers
 - borrowing licenses 41–42
 - limited number of licenses 42
 - returning licenses 44
 - third-party licensing tools 42
- Not for Resale licenses 3, 27

O

- operating systems
 - reinstalling 9
- Options file (FLEXnet tools) 37–39

P

- package license files 23–25
- parameters in license files 22
- periods for licenses
 - about 42
- Permanent licenses 3, 27
- permanent transfers of licenses 5
- physical address 29

- private licenses 7
- Product Activation wizard 1, 9
- public licenses 7

R

- re-imaged computers 11
- reactivating programs 9
- redundant license server model
 - about 15
 - license file example 20
 - package license files 24
- registering programs 2
- reinstalling
 - operating systems 9
- report log files 38
- return dates for licenses
 - about 42
- returning borrowed licenses 42, 44
- RETURNLICENSE command 45

S

- SAMreport-Lite
 - installing 32
- serial numbers
 - updating 4
- servers
 - host IDs and host names 29
 - license servers 28, 30
 - stopping and restarting 34
- single license server model
 - about 14
 - license file example 20
 - package license files 23
- single-user licenses 1
- software requirements
 - Network License Manager 12
- stand-alone licenses 1
- Student Portfolio licenses 3, 27
- system dates 10
- system requirements
 - Network License Manager 12
- system times 10

T

- TCP/IP names 29
- temporary transfers of licenses 5
- Term Extendable licenses 3, 27
- Term Non-Extendable licenses 3, 27
- third-party licensing tools 42
- time
 - system time 10
- time periods for licenses
 - about 42
- timeouts 40
- transfer files
 - exporting 7
 - importing 7
- transferring licenses 5
- Trial licenses 3
- troubleshooting license errors 9

U

- uninstalling
 - Network License Manager 32
- updating
 - FLEXnet tools 35
- upgrading
 - Network License Manager 28

V

- vendor daemons 16, 35

W

- Windows
 - configuring license servers 30
 - Network License Manager 12