

# Installing the Autodesk Network License Manager for AutoCAD 2007 or Other AutoCAD 2007–Based Products

This white paper is the second in a three-part series. It outlines how to install, activate, and run the Autodesk® Network License Manager and summarizes the different types of configurations for the Network License Manager

For a detailed overview of planning and running AutoCAD® software in a network environment, please see the first white paper in the series, “Planning a Successful Network Installation of AutoCAD 2007 or Other AutoCAD 2007–Based Products.” The third white paper, “Creating Deployments for AutoCAD 2007 or Other AutoCAD 2007–Based Products,” provides a step-by-step process for creating deployments for use when installing AutoCAD 2007 on local workstations.

**Important Note:** All references to “AutoCAD” or “AutoCAD 2007” also apply to AutoCAD® 2007 platform–based products, for example, Autodesk® Architectural Desktop 2007, Building Systems 2007, AutoCAD® Mechanical 2007, AutoCAD Electrical 2007, Autodesk Civil 3D 2007, and Autodesk Map® 3D 2007, and other Autodesk products that use this technology.

**Additional Note:** A network client version of AutoCAD must be installed and the Network License Manager must be activate and running in order to run a network client version of AutoCAD software.

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## Installing the Autodesk Network License Manager for AutoCAD® 2007 or Other AutoCAD 2007-Based Products

### Overview

The Network License Manager is used to manage the distribution of AutoCAD 2007 licenses. Macrovision Corporation creates the networking technology called FLEXlm® that is used for the Autodesk Network License Manager in AutoCAD 2007. A feature of the Network License Manager is the ability to borrow a license from the Network License Manager. License Borrowing allows a network license to be checked out, allowing AutoCAD software to start and run while the computer is disconnected from the network. If you are running FLEXlm versions earlier than version 10.8.0.0, you will need to update to the latest version that is supplied with AutoCAD 2007 (v 10.8.0.0).

**Note:** *The license files used with earlier FLEXlm versions do not need to be updated.*

FLEXlm cannot distribute licenses to versions of AutoCAD 2000i and earlier. FLEXlm supports TCP/IP; it does not support IPX. Earlier releases, such as AutoCAD® Release 14, AutoCAD 2000, and AutoCAD 2000i, require the Élan license management technology.

There are four main components to FLEXlm license management technology:

- License manager programs (called daemons) (*lmgrd.exe*)
- Vendor daemon (*adskflex.exe*)
- License file (obtained from Autodesk)
- Application program (*acad.exe*)

The license manager and vendor daemon are installed from the AutoCAD 2007 Media Browser Network Deployment option. The license file is obtained from Autodesk during the activation process. The AutoCAD application is installed from a deployment created from the Deployment wizard.

For the Network License Manager to distribute licenses, it must be installed, configured, activated, and started on a Microsoft® Windows® 2000 Professional workstation or server, Windows XP Professional, or Windows® 2003 Server. The Network License Manager cannot be installed on a Novell® or UNIX® server.

One of the features of AutoCAD 2007 is the Network License Activation Utility. The Network License Activation Utility allows you to obtain the license file over the internet, which saves time and effort in setting up a network licensed version of Autodesk products.

The following bullets explain how the Network License Manager manages the distribution of AutoCAD 2007 licenses:

- When a network client version of AutoCAD is started, it broadcasts a message across the network to the server or servers specified in the *licpath.lic* file or the environment variable *ADSKFLEX\_LICENSE\_FILE*.
- The license manager daemon is a service configured under Windows that recognizes vendor daemons running on that server. The FLEXlm server responds to AutoCAD software with the location of the Network License Manager or vendor daemon.
- AutoCAD then establishes communication with the Network License Manager and requests a license.
- The Network License Manager checks if a license is available in its license pool, and grants or denies the request to start AutoCAD software. If a license is available, the Network License Manager grants the request and AutoCAD starts.
- While AutoCAD software is running, it periodically communicates with the Network License Manager. If communication is lost between AutoCAD and the Network License Manager, the Network License Manager frees the license after a specified amount of time; AutoCAD software displays an error message that states it will shut down in a specified number of minutes and allows the user to save work.

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- If a license is not available when AutoCAD requests one, the Network License Manager returns a message to try again later; AutoCAD software will not start until a license becomes available.
- If a license manager is not found when the AutoCAD program requests one, AutoCAD returns an error. AutoCAD software cannot run until a Network License Manager is set up and is running on the network.

You can configure the Network License Manager to reserve or exclude licenses, for either an individual user or workstation, or a group of users or workstations, through the use of an options file. AutoCAD 2004 introduced the ability to set a timeout value through the options file. AutoCAD 2007 continues to support the timeout feature. After the timeout value is exceeded an inactive license will be returned to the license pool. In the Deployment wizard, you specify where AutoCAD software requests a license when you create deployments. (A *deployment* is an installation image to install AutoCAD software on the workstation.) This information is stored in the *licpath.lic* file for single server and redundant server configurations. For a distributed server configuration, AutoCAD uses the environment variable `ADSK_LICENSE_FILE` to locate the servers running the Network License Manager.

FLEXlm supports multiple network adapters installed on the same server. FLEXlm also allows a server to connect to an Internet Service Provider (ISP) without affecting the distribution of licenses.

## Types of Configuration for the Network License Manager

FLEXlm supports the following three configurations for the Network License Manager:

- Single server
- Distributed Server Pool
- Redundant Server Pool

### Configuration Option 1: Single Server

In this configuration, FLEXlm is installed on a single server, and all license activity is restricted to this server. In a single server configuration, you have the advantages of a single point of administration and only a single point of failure. This configuration's disadvantage is that, if the server fails, AutoCAD clients will not run until the server is back on line. However, the client applications will continue to run until they time out, which gives you time to get the server back up and running.

### Configuration Option 2: Distributed Server Pool

In this configuration, FLEXlm is installed on multiple servers to create a "pool" of licenses. Each server is configured for a specified number of licenses. AutoCAD software automatically tries every server until a license is granted or the end of the pool is reached. The order in which the servers are searched is specified by the environment variable `ADSKFLEX_LICENSE_FILE`. The environment variable must be set to take advantage of the distributed server pool. In a distributed server pool configuration, you have the advantages of load sharing and fault tolerance: if a server fails, other servers are available to distribute licenses. This configuration's disadvantage is that when a server running the Network License Manager fails, fewer licenses are available for use. The Deployment wizard sets the environment variable `ADSKFLEX_LICENSE_FILE` when a distributed server pool is used.

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### Configuration Option 3: Redundant Server Pool

In this configuration, FLEXlm supports a three-server redundant server pool running on Windows 2000 Server or Windows 2003 Server. All three servers must be on the same local subnet. A quorum (two servers) must be running to administer licenses. In a redundant server pool configuration, the major advantage is complete fault tolerance: all licenses are still available if a single server should fail. This configuration's disadvantage is that the servers must be close together (on the same subnet).

### Prerequisites for Installing, Configuring, and Activating Network License Manager

The workstation and server must be able to communicate using the TCP/IP protocol. White papers in this series do not discuss the specifics required to set up the TCP/IP protocol on either a workstation or a server. However, the first white paper in the series, "Planning a Successful Network Installation of AutoCAD 2007 or other Autodesk products," does outline a process to ensure that communication is occurring. Please consult your operating system documentation and network adapter manuals for information about how to configure TCP/IP.

## Installing the Autodesk Network License Manager

There are two methods that can be used to install the Autodesk Network License Manager. The simplest is to use the Media Browser (the product window that is displayed when you insert your AutoCAD software CD into the computer) and select the Network Deployment option. Select "Network License Manager" under Step 2: Install the Network License Components. In earlier releases of AutoCAD, you installed the Network License Manager from the Network Setup wizard. The Network License Manager is a separate stand-alone installation in AutoCAD 2007. You can also manually launch the Network License Manager installer from CDRom:\Bin\ACADFEU\Support\NLM\setup.exe, to install the Network License Manager.

### Rules and Requirements

To run the Network License Manager successfully, you must follow these rules:

- The computer running the Network License Manager must be properly configured and communicating with all workstations on your network, and it must meet the requirements specified by Autodesk. According to Macrovision, FLEXlm will run on Windows 95, Windows 98, Windows Me, and, as well as UNIX operating systems. Autodesk does not support FLEXlm in these environments.
- The computer running the Network License Manager must be configured correctly using the TCP/IP protocol. The IP address may be assigned via a Dynamic Host Configuration Protocol (DHCP) server although it is recommended that a static IP address be assigned.

The following section describes the simplest of the three methods for running the Network License Manager: a "single server."

### Installing the Network License Manager for a Single Server

1. Insert the AutoCAD 2007 software CD into the CD-ROM drive. The Media Browser window is displayed.
2. Select the Network Deployment option in the Media Browser.
3. From the Network Deployment page, under Install the Network License Components, select Network License Manager. The Autodesk Network License Manager setup routine is started.
  - Select Next at the Welcome screen.
  - Accept the Autodesk Software License Agreement and click Next. If you do not accept the license agreement, click Cancel and the Network License Manager will not be installed.

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- You may accept the default destination folder or select the Browse button to specify a different location.

**Note:** *If you have an existing version of FLEXlm running on your server, you will need to update it to the latest version that comes with AutoCAD 2007.*

It is recommended that the installation paths be kept simple and distinct; for example, `c:\WLMflex`, which is much shorter than `C:\Program Files\Autodesk Network License Manager` and ensures that the license manager will be installed in a unique folder separate from earlier versions of AutoCAD software. If earlier versions of the Network License Manager have been installed, they may have been installed in `c:\WLM`, in `c:\Program Files\WLM`, in `c:\Program Files\Autodesk License Manager`, or in `c:\Program Files\Autodesk Network License Manager`.

You cannot install the Network License Manager files on a remote drive. The path specified must be a local drive. Network drives and Universal Name Convention (UNC) paths are not supported.

- Click Next at Ready to Install the Application window. Several progress windows are displayed.
- Click Finish at the successfully installed window.

The Network License Manager and its supporting files have been installed to the location you specified and are now ready to be activated. Also, the Macrovision program LMTTOOLS has been added to the Windows Start menu under Programs > Autodesk > Network License Manager.

**Note:** *This is the computer that will administer licenses to AutoCAD or any AutoCAD-based product. You will need to know this computer name when creating deployments to install AutoCAD. The Deployment wizard, discussed in the third paper in this series, needs to know where the Network License Manager has been installed in order to correctly tell the AutoCAD application where to request a license.*

**Important Note:** *The license manager is NOT ready to issue licenses at this point.*

If earlier versions of the Network License Manager are also installed on the server, you may have multiple entries under the Start menu. It is critical that you use the FLEXlm tools with AutoCAD 2002 and later releases, and that you use the Élan Network License Manager tools only with versions of AutoCAD software released earlier than AutoCAD 2002.

### Activating a Single Server

Before the Network License Manager can administer licenses, it must be activated. Activation is completed when you configure the license manager. To configure the Network License Manager, you need a license file. The license file identifies important licensing information, including license type and behavior, and the number of seats available for use. A feature of AutoCAD 2007 is the Network License Activation Utility. The Network License Activation Utility allows you to obtain the license file over the Internet without contacting Autodesk directly. You may still contact Autodesk directly to get a license file, in any of the following ways:

- Web: [www.autodesk.com/register](http://www.autodesk.com/register)

*United States, Canada, and Latin America*

- Phone: 415-507-4690 or 800-551-1490
- Email: [authcodes@autodesk.com](mailto:authcodes@autodesk.com)
- Fax: 800-225-6490 or 415-507-4937

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### Asia Pacific

- Email: ap.register@autodesk.com  
Japan.register@autodesk.com (Japan only)
- Fax: 65-6735 5188  
03-5992-9172 (Japan only)

### EMEA

- Email: authcodes.neu@autodesk.com
- Fax: 41-32-723-9399

Autodesk will request the following information:

- AutoCAD (or AutoCAD-based product) serial number
- Server name or host name (can be found by running the *lmttool.exe* program)
- Host ID (Ethernet address: can be found by running the *lmttool.exe* program)
- Personal and company information
- Email address

In return, Autodesk supplies you with the license file.

### To manually obtain the server name and host ID:

1. From the Start menu (Windows), click Programs > Autodesk > Network License Manager > LMTTOOLS.
2. Click the System Settings tab. The information shown in Computer/Hostname is the computer's host name. The information shown in Ethernet Address is the computer's host ID.

**Note:** You must run the *Lmtools* program from the computer that has the license manager installed and that will be issuing licenses.

3. The license file received from Autodesk contains information required by the Network License Manager to administer licenses. Following is an example of a license file sent by Autodesk for 10 licenses. The server name in this example is NLMSVR1 and its host ID is 000476e5cb3d.

```
===== Example license file =====  
  
SERVER NLMSVR1 000476e5cb3d  
USE_SERVER  
VENDOR adskflex port=2080  
INCREMENT 51200ACD_2007_0F adskflex 1.000 permanent 10 \  
  VENDOR_STRING=commercial:permanent BORROW=4320 SUPERSEDE \  
  DUP_GROUP=UH ISSUED=12-Feb-2006 SN=341-12345678 SIGN="03A5 \  
  6350 B274 A1F5 0797 F256 BBD0 1935 0DCF 189B 5B9F 7188 AE4A"  
INCREMENT PLIST adskflex 1.000 permanent 1 \  
  VENDOR_STRING=A07:51600ACDLAND_2007_0F:52200CIV3D_2007_0F;  
  B07:51900AMECH_PP_2007_0F:51300INVBUN_11_0F:52900INVPRORS_  
  11_0F:53000INVPROSIM_11_0F:51400INVPRO_11_0F:C07:51200ACD_  
  2007_0F:52500REVITS_9_0F:D07:52600REVIT_9_0F:52500REVITS_9_0F;  
  E07:51200ACD_2007_0P:51300INVBUN_11_0P:F07:51800BLDSYS_2007_  
  0F:53100REVSYP_1_0F \  
  SUPERSEDE ISSUED=12-Feb-2006 SIGN="08BD F4CC 1CCE C4A7 8755 \  
  A8F7 0F49 2F3E BF9C 8BA0 7876 91D3 E69A"  
===== End of example =====
```

4. If the Network License Activation Utility was not used, you must copy the license file you received from Autodesk to the location where the license manager was installed.

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**Notes:** The license file may be renamed as long as it ends in either a .lic or .dat extension. Also, if you use Notepad to edit a license file, Notepad automatically adds a .txt extension to the file saved if you do not change the Save As Type from Text Documents to All Files (\*.\*). If the file is saved with a .txt extension, that extension must be removed by renaming the file in Windows Explorer. Do not edit the license file with a Word Processor.

You now have the information needed for the license manager to distribute licenses. You are ready to configure a single server.

If the license file was included as part of the body of the email received from Autodesk, use Notepad and copy only license information into the Notepad and save the file. Be sure to use an ASCII text editor to create the license file and be sure the file ends in either .lic or .dat.

**Note:** If you have multiple products being serviced by the same Network License Manager, you need to combine license files into a single license file. See “Combined License Files” later in this paper.

### Configuring the Network License Manager as a Single Server

FLEXlm offers two ways for you to configure the license manager to run: using a license file or using services. Autodesk supports only the services method.

To configure and start the Network License Manager to use services:

1. From the Start menu (Windows), click Programs > Autodesk > Network License Manager > LMTOOLS.
2. On the Service/License File tab, verify that Configuration Using Services is selected.

**Note:** The tabs that are displayed in the LMTOOLS window change depending whether Configuration using License File or Configuring using Service is chosen. The default is Configuring using Service. Versions of FLEXlm equal to 8.3 or later include a Borrowing tab. If you do not see the Borrowing tab you are using an older version of FLEXlm. It is recommended that you update the Network License Manager that comes with AutoCAD 2007.

3. Click the Config Services tab and make the following changes:
  - The default service name is FLEXlm Service 1. This is the name that will appear under the Services Control Panel applet. You should consider changing this name to Autodesk NLM 2007 or something similar. You must change this name only if you have other programs using the FLEXlm version of the license manager.
  - Click the Browse button next to Path to the lmgrd.exe file. Locate the folder where the lmgrd.exe file is stored. By default, the path is the one specified during installation of the Network License Manager. In this example, this is c:\NLMflex.
  - Click the Browse button next to Path to the License file. Locate the License folder and select the license file (c:\NLMflex\License\<filename.lic>).
  - Select the Use Services check box. To automatically start the license manager daemon when the computer starts, select the Start Server at Power Up check box. This option becomes available when you have selected Use Services.
  - Click Save Service. You are prompted to save the settings for the service you named in Step 3. Click Yes.

**Note:** While we did not set up a debug log file in this example, we recommend that you do so.

4. Click the Start/Stop/Reread tab, and then click Start Server. You see the message “Server Start Successful” at the bottom of the Lmtools dialog box. When the server is running, you see “Using License File: C:\NLMflex\License\<filename.lic>” at the bottom of the dialog box.

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5. Click the Server Status tab, and then click Perform Status Enquiry. Lmttools should report the date and time, license server status, vendor daemon status, and feature usage information. For AutoCAD 2007, the vendor daemon is *adskflex* and the feature is 51200ACD\_2007\_0F. The total number of licenses available should also be reported.

The Network License Manager is now configured and running and is ready to administer AutoCAD licenses.

Once you have successfully configured using the single server, you are ready for the third white paper in this series, “Creating Deployments for AutoCAD 2007 or other AutoCAD 2007-based Products.” During the creation of deployments, you will be prompted for the server host name and host ID where the Network License Manager is running. You are prompted for this information in the Server Configuration dialog boxes. Enter the host name and host ID given to Autodesk in Step 2 under the heading “Activating a Single Server.” The information is used to create the *licpath.lic* file used by AutoCAD software to connect the license manager. If the wrong host name or host ID is entered, AutoCAD will not be able to find the license server and will fail to run even though your server is configured correctly.

### Installing the Network License Manager for a Distributed License Server Pool

The steps required to install the Network License Manager for a distributed license server pool are the same as to install for a single server; in this method, however, the Network License Manager will be installed on multiple servers. See “Installing the Network License Manager for a Single Server” and follow all of the steps there on each server in your distributed license server pool.

### Activating a Distributed License Server Pool

Before the Network License Manager can administer licenses, it must be activated. Activating a distributed server pool is similar to activating a single server. The Network License Activation Utility can be used to activate a distributed server pool or you can still contact Autodesk. Activating a distributed server pool is the same as if configuring for a single server, but instead of providing a single server host name and host ID to Autodesk, you provide multiple host names, host IDs, and the number of licenses each server will distribute. If the numbers from all the servers are added together, they equal the total number of network licenses you own. You will receive a license file for each server in the distributed server pool. The license file looks exactly like the license file in a single server configuration. Copy the appropriate license file for each server to the license folder on the appropriate server. In our example the license folder would be located at *c:\NLMflex\License* on each server.

You now have the information needed for each license manager to distribute licenses in the distributed license pool. You are ready to configure each server.

### Configuring a Server in a Distributed License Pool

Configuring a server in a distributed license pool is very similar to configuring FLEXlm for a single server. The difference in the case of the distributed license pool is that the correct license file must be used on the correct server.

Once you have successfully configured using the distributed license server pool, you are ready for the third white paper in this series, “Creating Deployments for AutoCAD 2007 or Other AutoCAD 2007-Based Products.” During the creation of deployments, you will be prompted for the servers host name and host IDs where the Network License Manager is running.

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**Note:** The Deployment wizard sets the environment variable `ADSKFLEX_LICENSE_FILE` for use in a distributed server pool. AutoCAD will search for the Network License Manager based on the order specified in environment variable. You can control the order when creating the deployment in Deployment wizard.

### Installing the Network License Manager for a Redundant Server Pool

The steps required to install the Network License Manager for a redundant server pool are the same as to install for a single server; in this method, however, the Network License Manager will be installed on three servers. These servers must all be running the same network operating system software, which must be Windows 2003 Server or Windows 2000 Server. See "Installing the Network License Manager for a Single Server" and follow all of the steps for each server in your redundant server pool.

### Activating a Redundant Server Pool

Before the Network License Manager can administer licenses, it must be activated. Activation for a redundant server pool is similar to activating a single server and distributed server pool. You still contact Autodesk as if configuring for a single server but instead of providing a single server host name and host ID, you provide the host names and host IDs from the three servers that make up the redundant server pool. You must also provide the total number of licenses to be distributed by the redundant server pool. In return, you receive a single license file for use on all three servers.

Following is an example of a redundant server license file that must be copied to each redundant server.

```
===== Example of Redundant Server License File =====
SERVER NLMSRV1 0002008B5DB2 27005
SERVER NLMSRV2 00020086fc64 27005
SERVER NLMSRV3 00020086fc50 27005
USE_SERVER
VENDOR adskflex port=2080
INCREMENT 51200ACD_2007_0F adskflex 1.000 permanent 10 \
  VENDOR_STRING=commercial:permanent BORROW=4320 SUPERSEDE \
  DUP_GROUP=UH ISSUED=12-Feb-2006 SN=341-12345678 SIGN="0E34 \
  FEEC B0E8 2585 5D58 1289 91E3 BE6E C5CB 3647 77B7 6327 CF87"
INCREMENT PLIST adskflex 1.000 permanent 1
  VENDOR_STRING=A07:51600ACDLAND_2007_0F:52200CIV3D_2007_0F;
  B07:51900AMECH_PP_2007_0F:51300INVBUN_11_0F:52900INVPRORS
  11_0F:53000INVPROSIM_11_0F:51400INVPRO_11_0F;C07:51200ACD_
  2007_0F:52500REVITS_9_0F;D07:52600REVIT_9_0F:52500REVITS_9_0F;
  E07:51200ACD_2007_0P:51300INVBUN_11_0P;F07:51800BLDSYS_2007_
  0F:53100REVSYP_1_0F \
  SUPERSEDE ISSUED=12-Feb-2006 SIGN="1501 A8B6 2AB6 033B CC13 \
  6507 9EE8 605E E2D6 3E0D C9A4 AAC4 8B02"
===== End of Example file =====
```

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### Configuring a Server in a Redundant Server Pool

Configuring a server in a redundant server pool is very similar to configuring the FLEXlm license manager for a single server pool. The difference in the case of the redundant server pool is that the same license file must be installed on each server.

All three servers should be started within a few minutes of each other to avoid a delay in server synchronization.

The Network License Manager is now configured and running on each server. Each server's license manager is ready to administer AutoCAD licenses.

Once you have successfully configured using the redundant license server pool, you are ready for the third white paper in this series, "Creating Deployments for AutoCAD 2007 or other Autodesk products." During the creation of deployments, you will be prompted for the server host name and host ID for each server in the redundant server pool where the Network License Manager is running. This information is used to create the licpath.lic file used by the AutoCAD program.

## Combined License Files

To combine license files for Autodesk products into one license file, you must edit the existing license file and add lines from the new license file to the existing license file.

Following is an example of adding Autodesk Architectural Desktop 2007 software (3 licenses) to an existing AutoCAD 2007 software (10 licenses) license file:

```
===== Existing AutoCAD 2007 License File =====  
  
SERVER NLMSVR1 000476e5cb3d  
USE_SERVER  
VENDOR adskflex port=2080  
INCREMENT 51200ACD_2007_0F adskflex 1.000 permanent 10 \  
  VENDOR_STRING=commercial:permanent BORROW=4320 SUPERSEDE \  
  DUP_GROUP=UH ISSUED=12-Feb-2006 SN=341-12345678 SIGN="03A5 \  
  6350 B274 A1F5 0797 F256 BBD0 1935 0DCF 189B 5B9F 7188 AE4A"  
INCREMENT PLIST adskflex 1.000 permanent 1 \  
  VENDOR_STRING=A07:51600ACDLAND_2007_0F:52200CIV3D_2007_0F;  
  B07:51900AMECH_PP_2007_0F:51300INVBUN_11_0F:52900INVPRORS_  
  11_0F:53000INVPROSIM_11_0F:51400INVPRO_11_0F;C07:51200ACD_  
  2007_0F:52500REVITS_9_0F;D07:52600REVIT_9_0F:52500REVITS_9_0F;  
  E07:51200ACD_2007_0P:51300INVBUN_11_0P;F07:51800BLDSYS_2007_  
  0F:53100REVSYP_1_0F \  
  SUPERSEDE ISSUED=12-Feb-2006 SIGN="08BD F4CC 1CCE C4A7 8755 \  
  A8F7 0F49 2F3E BF9C 8BA0 7876 91D3 E69A"
```

## Installing the Autodesk Network License Manager for AutoCAD® 2007 or Other AutoCAD 2007-Based Products

===== New License File for Autodesk Architectural Desktop 2007 =====

```
SERVER NLMSVR1 000476e5cb3d
USE_SERVER
VENDOR adskflex port=2080
INCREMENT 51500ARCHDESK_2007_0F adskflex 1.000 permanent 5 \
  VENDOR_STRING=commercial:permanent BORROW=4320 SUPERSEDE \
  DUP_GROUP=UH ISSUED=12-Feb-2006 SN=341-12345678 SIGN="1698 \
  1804 3953 C044 C856 BD8D EC5B 7F04 0337 1651 D8BD D81D EEDB"
```

=====

Using Notepad, open the both the existing license file and the new license file. Copy all of the lines from the new license file starting at the line beginning with "INCREMENT" through the end of the file. Paste these lines at the end of the existing license file. The new combined license file should look like the example below.

===== Combined License File =====

```
SERVER NLMSVR1 000476e5cb3d
USE_SERVER
VENDOR adskflex port=2080
INCREMENT 51200ACD_2007_0F adskflex 1.000 permanent 10 \
  VENDOR_STRING=commercial:permanent BORROW=4320 SUPERSEDE \
  DUP_GROUP=UH ISSUED=12-Feb-2006 SN=341-12345678 SIGN="03A5 \
  6350 B274 A1F5 0797 F256 BBD0 1935 0DCF 189B 5B9F 7188 AE4A"
INCREMENT PLIST adskflex 1.000 permanent 1 \
  VENDOR_STRING=A07:51600ACDLAND_2007_0F:52200CIV3D_2007_0F;
  B07:51900AMECH_PP_2007_0F:51300INVBUN_11_0F:52900INVPRORS_
  11_0F:53000INVPROSIM_11_0F:51400INVPRO_11_0F;C07:51200ACD_
  2007_0F:52500REVITS_9_0F;D07:52600REVIT_9_0F:52500REVITS_9_0F;
  E07:51200ACD_2007_0P:51300INVBUN_11_0P;F07:51800BLDSYS_2007_
  0F:53100REVSYP_1_0F \
  SUPERSEDE ISSUED=12-Feb-2006 SIGN="08BD F4CC 1CCE C4A7 8755 \
  A8F7 0F49 2F3E BF9C 8BA0 7876 91D3 E69A"
```

```
INCREMENT 51500ARCHDESK_2007_0F adskflex 1.000 permanent 5 \
  VENDOR_STRING=commercial:permanent BORROW=4320 SUPERSEDE \
  DUP_GROUP=UH ISSUED=12-Feb-2006 SN=341-12345678 SIGN="1698 \
  1804 3953 C044 C856 BD8D EC5B 7F04 0337 1651 D8BD D81D EEDB"
```

=====

Save the existing file. For the changes to take effect, you need to reread the license file from LMTOOLS. Start LMTOOLS, go to the Start/Stop/Reread tab and click ReRead License File button.

**Notes:** Do not configure a separate service for the new Autodesk product.

When adding additional licenses of the same Autodesk product to your license file, you must obtain a new license file for the total number of licenses for that feature code, not just the new ones. For example, do not combine two different AutoCAD 2007 license files into one file. Obtain one new license file that contains the required total number of AutoCAD 2007 seats.

If the server computer has more than one network adapter installed, all Autodesk products should be bound to the same adapter.

## **Borrowing a License**

Although you may typically run AutoCAD software by accessing a license from a network license server, there may be situations where you need to run AutoCAD without access to the network. For example, you may need to work from home or a project site. Or perhaps the network is scheduled for extended maintenance and will be inaccessible to an entire department. With AutoCAD 2007 software, you can borrow (check out) a network license for up to 180 days. You can return (check in) the license early or simply let it expire, automatically returning the license to the server.

**Note:** *In LMTOOLS there is a borrowing tab. Do not use LMTOOLS to borrow a license. Using LMTOOLS from Macrovision to borrow a license will affect all programs that use FLEXlm version 8 or later.*

## **Tips and Tricks**

You can use the Windows Task Manager to test whether the license server is up and the vendor daemon is running.

1. Start Task Manager, and click the Processes tab.
2. Under the column "Image Name," you should see both *lmgrd.exe* and *adskflex.exe* running.
3. If only *lmgrd.exe* is running, the vendor daemon is not running. Shut down the license server and restart it.
4. If the vendor daemon, *adskflex.exe*, fails to restart, check the debug log file. At worst, you may need to re-create the service used to start FLEXlm.

You can also use the Windows tool IPCONFIG to find the host ID.

1. At a command window, enter **IPCONFIG /all**. IPCONFIG returns information about the physical and logical network adapters in the system.
2. There are two main fields to look at, Description and Physical Address. The description lists the manufacturer and model of the network adapter; the physical address lists the host ID.

**Note:** *Omit the dashes (-) in the host ID when requesting a license file.*

Be aware of the following information for servers that have more than one network adapter:

- You must use the host ID that corresponds to a physical adapter. Devices such as VPN adapters, PPP adapters, and modems are not valid.
- If there is more than one physical network adapter, it does not matter which one you use. You just need to make sure it's properly installed and functioning.

**Note:** *When multiple adapters are found, LMTOOLS will report all adapters found in the Ethernet address. You must use the one that represents the physical address.*

## **Conclusion**

The Autodesk License Manager is installed, configured, activated, and running. The Network License Manager is ready to distribute licenses based on the option you chose. The Network License Manager is configured to restart when the server is restarted. If you have a complete server failure, you can remove the NIC and place it in another server and use the same license files.

## Installing the Autodesk Network License Manager for AutoCAD® 2007 or Other AutoCAD 2007-Based Products

**Note:** *The servername in the license file must be changed to reflect the current servername.*

You are now ready to create deployments used to install AutoCAD software on the local workstation. See the third white paper in this series, "Creating Deployments for AutoCAD 2007 or Other AutoCAD 2007-Based Products," for detailed information on creating deployments.

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