

AUTODESK NETWORK LICENSE MANAGER WHITE PAPER

Update your NLM!

Autodesk Network License Manager (AdLM) FLEXnet Installation and Configuration Guide – Single Server License Model

Outline of installation and configuration actions:

- Review System Requirements for the Autodesk Network License Manager.
- Acquire Autodesk product or suite media, or download the Autodesk Network License Manager installer from the Autodesk web site.
- Install the Autodesk Network License Manager.
- Apply the IPv6 update to IPv6 enabled operating systems.
- Add the license file to the folder where the Autodesk Network License Manager was installed to.
- Optionally create an Options file and place it in the folder with the license file.
- Configure the license service.
- Start and verify the license service.

System Requirements:

Supported Operating Systems

- Microsoft Windows Server 2008 and 2008 R2
- Microsoft Windows Server 2012
- Microsoft Windows 7
- Microsoft Windows 8

Unsupported Operating Systems that should work

- Windows Server 2003 and 2003 R2
- Windows Vista

Unsupported Operating Systems

- Windows Small Business Server 2011

Supported Hypervisors (license manager only)

- VMware ESX 4.0 or 5.0

Unsupported Hypervisors that should work (license manager only)

- Microsoft HyperV
- Others

Installer download locations for Windows

- www.autodesk.com/nlm-ipv4-windows
- www.autodesk.com/nlm-ipv6-windows



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Install the Autodesk Network License Manager

1. If you are upgrading a license manager skip on to the “Upgrade the License Manager” section of this document before following the remainder of these steps.
2. Download the NLM.msi file from www.autodesk.com/nlm-ipv4-windows. This file is in a self-extracting WinRAR Archive. The NLM.msi file is extracted to the “C:\install\Autodesk” folder. You may wish to download the file from your workstation then copy the downloaded file or the NLM.msi file to a network share accessible when logged into the server console.
3. Execute the NLM.msi by double-clicking on the downloaded file or NLM.msi.
4. On the Welcome page of the installer wizard, click the Next button.
5. On the Select Installation Folder page, choose or enter the folder you want to use for the Autodesk Network License Manager.
 - If you enter a folder that does not exist, it will be created using the name and location you provide.
 - You cannot install the Autodesk Network License Manager to a remote drive, network share, UNC path, or mapped drive. You must enter a local installation path.
 - The default location is recommended: “C:\Program Files\Autodesk Network License Manager”
6. On the Select Installation Folder page, choose Everyone or Just me for who you want access to the LMTOOLS shortcut on the Windows Desktop.
 - Everyone is recommended.
7. On the Select Installation Folder page, click the Next button.
8. On the Confirm Installation page, click the Next button to start the installation.
9. On the Installation Complete page, click the Close button.
10. Delete either the “C:\install” or C:\install\Autodesk” folder.

Updating the Autodesk Network License Manager for IPv6 operating systems.

1. Download the IPv6 file from www.autodesk.com/nlm-ipv6-windows. This file is in a self-extracting WinRAR Archive. By default the executables for the license manager are extracted to the “C:\install\Autodesk” folder.

As the Program Files folder may be protected and therefore prevent extraction directly into the Autodesk Network License Manager folder it is recommended to extract the files to the default location.
2. After Extraction copy the extracted files from “C:\Install\Autodesk\NLMIPv6Support_Win**” folder to the ““C:\Program Files**\Autodesk Network License Manager”” folder. Where ** is the bits of the version installed.



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3. Delete either the “C:\install” or C:\install\Autodesk” folder.
4. Obtain a license file and configure the license server.

Obtain a license file

1. From the Desktop or Start menu > All Programs > Autodesk > Autodesk License Manager, click LMTOOLS Utility.
 - Alternately double-click the LMTOOLS Utility shortcut on the desktop.
 - You can also browse to the Autodesk Network License Manager folder in Program Files and double click the lmttools.exe file.
 2. On the “Service/License File” tab of LMTOOLS, click the “Configuration using Services” radio button.
 3. On the “Service/License File” tab of LMTOOLS, fill the “LMTOOLS ignores license file path environment variables” checkmark.
 4. On the “System Settings” tab, locate the “Computer/Hostname” field and make a note of the server hostname.
 5. On the “System Settings” tab, locate the “Ethernet Address” field and make note of the Ethernet address. This value is the Host ID for the Autodesk Network License Manager.
 - Alternatively use IPCONFIG to select an Ethernet Address that corresponds to a physical network adapter.
 - Teamed network adapters are not supported.
 6. Exit the LMTOOLS Utility.
 7. Contact the Autodesk Registration and Authorization team at:
 - <http://Register.autodesk.com>. Best when the license file requires only one asset or serial number.
 - Or (800) 551-1490.
 - a. Autodesk can issue all license files simultaneously, often combining them.
 - b. It is important that all elements for all assets or serial numbers are issued on the same date to prevent feature names from canceling out those with older issue dates.
 - c. Combined license file order is also important. See details on Combined license files bellow.
- Provide the following information:
- Serial number or serial numbers for all assets.
 - Customer contact information, email address.
 - Server Hostname.
 - Host ID (Ethernet Address.)
8. The Autodesk Registration and Authorization team will send you an email that contains the license file. Save the file to the C:\Program Files\Autodesk License Manager folder.



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Creating a Combined license file

To add multiple suite or product licenses to the Autodesk Network License Manager, you must combine the separate licenses into one combined license file.

To preserve cascading the License file order should start with the least expensive Autodesk product or Suite first and the most expensive product or highest level suite last.

- Place products such as AutoCAD before AutoCAD Civil 3D.
- Place products before suites.
- Place Stand suites before Premium suites and Premium suites before Ultimate Suites.

Copy the PACKAGE and INCREMENT keyword lines from the additional files into the license file for the lowest product or suite.

This example shows the PACKAGE and INCREMENT for Civil 3D 2012 followed by the PACKAGE and INCREMENT for the Infrastructure design Suite 2012:

```
SERVER Sparkle 0123456789ab
USE_SERVER
VENDOR adskflex port=2080
PACKAGE 64900CIV3D_F adskflex 1.000 COMPONENTS="85830CIV3D_2012_OF \
85604CIV3D_2011_OF 73700CIV3D_2010_OF 59700CIV3D_2009_OF" \
OPTIONS=SUITE SUPERSEDE ISSUED=17-Sep-2012 SIGN="0057 C12F \
A3AD DF20 7121 BAA5 87B4 1C5B 36BD 12A8 8569 E0A7 71DD 9304 \
6DD4 1483 13C5 02E8 F692 BFF6 BD95 FEF2 4D59 75AB CAB2 67D0 \
9168 BOA0 D306 3932" SIGN2="1096 B170 61CD EC1D 73D8 FCD8 BA2C \
8B49 C3F5 9851 82A2 334B B7B0 ECB1 C49B 1932 44A1 9F4C 7775 \
5486 60A1 9349 8478 AA3A 1F4D E41C 7FA8 DF8E 9C5A 5005"
INCREMENT 64900CIV3D_F adskflex 1.000 permanent 7 \
VENDOR_STRING=commercial:permanent SUPERSEDE DUP_GROUP=UH \
SUITE_DUP_GROUP=UHV ISSUED=17-Sep-2012 BORROW=4320 \
SN=401-66666666 SIGN="109D 2110 F536 5339 B842 5BDF A504 489D \
B8B3 71CE BD91 C308 257C 5CBF 51F4 0406 7CA2 0913 ABFC 8904 \
D356 3461 3245 5689 AE20 DB95 D565 29CF 970C 4102" SIGN2="08FE \
E9AB 6488 E69C A682 C0F5 BA8A F006 BBC2 86CD 539B 8AC7 F928 \
07B6 850D 0A69 5CAD 75BC D966 4AFB 88FD A263 C8C5 D433 BAB2 \
ED00 8B2D 377D 9B13 4E97"
PACKAGE 85812IDSP_F adskflex 1.000 COMPONENTS="85799IDSP_2012_OF \
85536ACD_2011_OF 85601NAVSIM_2011_OF 85557MAP_2011_OF \
85503MAXDES_2011_OF 85604CIV3D_2011_OF 71200ACD_2010_OF \
71500NAVSIM_2010_OF 72500MAP_2010_OF 70000MAXDES_2010_OF \
73700CIV3D_2010_OF 57600ACD_2009_OF 69000NAVSIM_2009_1F \
60200MAP_2009_OF 612003DSMAX_2009_OF 59700CIV3D_2009_OF" \
OPTIONS=SUITE SUPERSEDE ISSUED=23-Mar-2012 SIGN="13B7 1001 \
42D7 E11A 916F AC37 9185 E1EC F8E3 4C33 F3E0 CF7F 7FF5 84E8 \
5710 1778 24E6 CC22 446B 1567 1CE4 B16D 940C F376 2FC4 C379 \
F527 3CF6 A6A0 80C6" SIGN2="0058 EC4B BDB3 9EAB B2BE E58C E7D2 \
2A70 EF42 B342 99CB D9A7 FF4E 25F7 3664 1A55 6712 9BB1 2DDF \
1F79 5DE6 D838 1B81 D236 EC99 0104 55E6 AC4F 9FEC 7C8A"
INCREMENT 85812IDSP_F adskflex 1.000 permanent 4 \
VENDOR_STRING=commercial:permanent SUPERSEDE DUP_GROUP=UH \
SUITE_DUP_GROUP=UHV ISSUED=23-Mar-2012 BORROW=4320 \
SN=401-66666666 SIGN="1B18 6B1A F6B4 825C 19A1 D346 47AA 10F0 \
5CE0 1E00 AFA1 FB2C B326 BEFE F444 09CE F066 D071 43FB 73CA \
82E3 2709 A5E4 16B5 3184 E604 5A51 FA3B 4AEE F59E" SIGN2="0E2B \
0412 3677 794F 6641 5307 B2D3 298B B4EA 6174 3A88 5015 CC3C \
C398 5419 0855 516D 354D 49A1 E1F5 3FD6 4E49 2C7F E43B F929 \
77B5 852F E7DC ECB8 67CD"
```

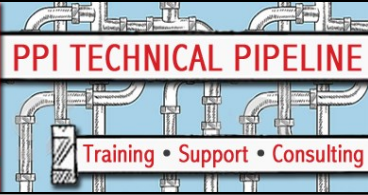


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Note: The SERVER, USE_SERVER, and VENDOR keyword lines need only appear once at the start of the file. The hostname on the SERVER keyword line must be the same case if this line repeats anywhere in the file.

Note: When saving the file with Notepad, make sure that you select All Files in the Save as Type box so that a .txt extension is not added automatically. The license file must have a .lic extension.

Configure the license server

1. From the Desktop or Start menu > All Programs > Autodesk > Autodesk License Manager, click LMTOOLS Utility.
 - Alternately double-click the LMTOOLS Utility shortcut on the desktop.
 - You can also browse to the Autodesk Network License Manager folder in Program Files and double click the lmtools.exe file.
2. On the “Service/License File” tab of LMTOOLS, click the “Configuration using Services” radio button.
3. On the “Service/License File” tab of LMTOOLS, fill the “LMTOOLS ignores license file path environment variables” checkmark.
4. On the “Config Services” tab of LMTOOLS, verify that the “Service Name” you want to use to manage the licenses is selected.
 - “FLEXlm Service 1” is the default.
 - If you change this make it something that others will understand if they are trying to use the system. Something like “Autodesk Licensing Service” is recommended.
 - If you are configuring the Autodesk Network License Manager along with other vendors who use FLEXlm you will need to type the Autodesk service name in the Service Name Field. Once the name is typed the remaining fields and settings on this tab will blank out so that you can make the specific Autodesk configuration.
5. Browse to the lmgrd.exe file in “C:\Program Files\Autodesk Network License Manager” or the folder location you choose during installation. Double-click the file or select it then click the Open button.
 - The folder used for the Autodesk Network License Manager may also be in “C:\Program Files\Autodesk\Autodesk Network License Manager” folder.
6. Browse to the location of the license file. Double-click the file or select it then click the Open button.
 - It is recommended that the license file be placed in the “Autodesk Network License
7. Browse to the location of the license file, type “Debug.log” in the File Name field, click the Open button.
 - If the Debug log already exists double-click the file or select it then click Open.

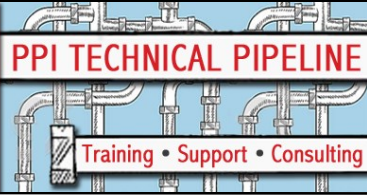


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8. Fill the “Use Services” checkmark.
9. Fill the “Start Server at Power Up” checkmark.
10. Click the “Save Service” button.
11. Confirm the save by clicking the Yes button.
12. On the “Start/Stop/Reread” tab of LMTOOLS, click the Start Server button.
 - The message "Server Starting..." is displayed in the LMTOOLS Utility status bar at the bottom of the dialog box for approximately 30 seconds. After which the path to the license path should be reported.
13. You can verify the license service is running on the “Start/Stop/Reread” tab of LMTOOLS by clicking on the Perform Status Enquiry.
 - Look for lines that begin with “Users of <<product code of alpha and numeric characters>>:”
 - If you wish to perform another Status Enquiry you can clear the current screen by clicking on the Edit menu, then clicking “Clear Window.”
14. Exit the LMTOOLS Utility.

Upgrade the License Manager

1. From the Desktop or Start menu > All Programs > Autodesk > Autodesk License Manager, click LMTOOLS Utility.
 - Alternately double-click the LMTOOLS Utility shortcut on the desktop.
 - You can also browse to the Autodesk Network License Manager folder in Program Files and double click the lmttools.exe file.
2. On the “Start/Stop/Reread” tab of LMTOOLS, click the Stop Server button.
3. On the “Config Services” tab of LMTOOLS, click the Remove Service button.
4. Exit the LMTOOLS Utility.
5. Backup the contents of either of these locations:
 - C:\Program Files\Autodesk Network License Manager
 - C:\Program Files\Autodesk\Autodesk Network License Manager
6. Uninstall the “Autodesk Network License Manager” from the Programs and Features list in the Windows Control Panel.
7. Delete the
 - C:\Program Files\Autodesk Network License Manager
 - C:\Program Files\Autodesk\Autodesk Network License Manager
8. Delete the:
 - C:\Program Files\Autodesk Network License Manager
 - C:\Program Files\Autodesk\Autodesk Network License Manager



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9. Reinstall and configure the license service using the instructions above.
10. .lic, .opt, and .log files:
 - A. Copy the .lic, .opt, and .log files from the backup, step 6, to either:
 - C:\Program Files\Autodesk Network License Manager
 - C:\Program Files\Autodesk\Autodesk Network License Manager
 - B. Alternately copy new versions of the .lic, .opt, and .log files to the Autodesk Network License Manager folder.
11. Delete either the “C:\install” or C:\install\Autodesk” folder.

Please Note: Previous versions of the Autodesk Network License Manager cannot serve licenses for 2015 products. In the past it was recommended to upgrade the license service each year to insure reliable operation of the licenses. From 2015 onwards upgrading the Autodesk Network License Manager service is now compulsory.

Configuration for Multi-vendor use of FLEXlm

The FLEXlm installation must be the same bits for all vendors running on the same server. If one of the other vendors only supports the 32-bit version of FLEXlm you will need to install the 32-bit version of the Autodesk Network License Manager even if the operating system is 64-bit.

It is also important to configure the services to use different ports. This can be done by specifying a port in the TCP/IP 27000 through 27009 range, not used by the other vendors, at the end of the Server keyword line, the first line, of the license file.

1. Open the license file with Notepad.
2. Add a space then the port number, for example 27002, to the end of the first line.

Server keyword line example:
SERVER hostname 123456789ABC 27002
3. Save the license file.
4. If the license service is already running follow these steps. If not continue configuring the license service.
 - Open the LMTOOLS Utility.
 - Choose the “Start/Stop/Reread” tab.
 - Click the “ReRead License File” button.
 - Verify that the lmgrd is using this port in Server Status or the Debug log.



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