SIEMENS

NX Installation Guide for Windows

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Introduction

This document explains the installation and running of NX 12.0 on supported 64-bit Windows 7, 8 and Windows 10 workstations. NX 12.0 is not supported on any Windows 32-bit platform.

Conventions

All references to "Windows" in this manual refer to 64-bit versions of Windows 7, 8 and 10.

Our company name is “Siemens PLM Software”, however, some program names, folder names and some product kit names may still retain the old UGS company name.

All references to “SPLM Licensing” in this manual refer to Siemens PLM Software SPLM Licensing.

Windows menu items and commands will be written in **bold letters**.

When presenting a series of choices from a Windows pull-down menu, an arrow →will be used to represent the series of submenus, (e.g., **Start→All Programs→Accessories→Windows Explorer**). If you do not have the Symbol font installed, or you browse this document on a non-Windows computer, you may see the registered trademark symbol (®) in place of the arrows.

Basic Windows Techniques

This document may require you to use some basic Windows techniques to perform certain actions. For example, you may need to use Windows Explorer to browse disks and folders, or you may need to use the tools in the Control Panel to check or change some system settings. You can reach the Control Panel folder either via your Computer icon, or through **Start→Control Panel**. Finally, you may need to use the Windows Task Manager to check that certain programs are running properly. You can display the Task Manager by right clicking in an unoccupied area of the Taskbar and then choosing Task Manager. If you are not familiar with these techniques, please consult your Windows documentation or Help.

DVD Contents

NX 12.0 software is provided on DVD media. Typically, you will run the installation from the DVD, which may be in a local DVD drive or mapped somewhere on your network. Alternatively, you may copy the contents of the DVD to a hard disk, and run the installation from there. The hard disk may be attached to your own computer, or it could be a network mapped drive.

The DVD contains the following main items:

README File	Gives a brief description of the contents of the media, an official title and version, and any special instructions.
nx120	This is the main NX 12.0 "BASE & OPTIONS" kit, which contains the installation program, optional products and Translators.
SPLMLicenseServer_v8.2.4_win64_setup.exe	This is the Licensing installation kit used for NX 12.0. This is a separate kit which includes a separate installation and its own version numbering. It is only required if installing a license server on your local machine.
Docs Folder	Contains installation guides, Release Notes and Fixed PR information.

Note: NX Documentation is provided on separate media.

Supported Workstations

The NX 12.0 supported workstations are not listed in this installation manual; the information is frequently outdated by new vendor offerings and support certifications. For information on NX 12.0 supported workstations, consult the *Certification* link on the Customer Support (GTAC) Web site: http://www.siemens.com/gtac

Licensing NX

NX can be licensed in one of two ways:

1. NX can communicate with a license server which has had the SPLM Licensing software installed on it. The license server is installed separately by the **SPLMLicenseServer** kit; it is not part of the main NX installation. It is only required on license server nodes.

   Note: The current SPLM Licensing daemons support NX versions 5.0 thru 12.0 but they are not backward compatible with NX 4.0. For NX 4.0 and prior releases you will require the old license daemons supplied in NX 4.0. You may run both the old and new servers at the same time.
2. NX can acquire licensing information directly from a special node locked license file called a **"Standalone Node-Locked License"**. In this scenario, no license server is needed, but this does require access to a file that is encoded either to your machine's Ethernet address or a hardware key (a.k.a dongle device). In this case it is not necessary to install the SPLM Licensing product.

Overview of the Installation Process

The basic steps for installing NX 12.0 are as follows:

1. Log onto your workstation with an Administrator account.
2. Perform pre-installation checks of your Windows system.
3. Install SPLM Licensing if necessary. *{Only required on license server(s)}*
4. Install NX 12.0.

The details of this process are described in subsequent sections. If difficulties arise refer to the **Troubleshooting Section** at the end of this guide.

Installation Software Integrity

Digital signatures provide for the authenticity of digital content, such as binary files and executables.

Beginning with version 12.0, the binary files and executables included with the installation software for the Siemens PLM software provided for this release have been digitally signed to ensure that the installation for this product has not been tampered with before delivery.

Verify the digital signatures on files by opening the Properties of a file and noting the Digital Signatures tab which lists the digital signatures on the file. The details of a signature can be verified by highlighting a signature in the list and then clicking the Details button. This will allow a verification that the binary files delivered have digital signatures from Siemens PLM and have not been subject to tampering.

The installation files, executables (*.exe), MSI files (*.msi), cabinet files (*.cab) and MSI transform files (*.mst), are all digitally signed by Siemens PLM. Some other binary files and executables on the installation media may be digitally signed by other providers, such as Microsoft.

Preparing for the Installation

Licensing Configuration Decisions

Use the following criteria to help decide if you need to install the SPLM Licensing product on your local machine.

The SPLM Licensing installation is needed for the following configurations:

- The local machine will be a license server on your network. It will provide (serve) licenses to itself or other machines on your network.
- The local machine is a standalone machine (such as a laptop) that cannot receive licenses from another machine on your network and must serve its own licenses.

The SPLM Licensing installation is not needed for the following configurations:

- The local machine receives licenses from another machine on your network (i.e. another machine is the server and the local machine is a license client).
- The local machine will use "Standalone Licensing" in which NX will acquire licenses directly from a special "Standalone Node-Locked License" file.

  Caution: The "Standalone Node-Locked License" file is a special type of license file that is node locked to your machine or a dongle. It is not the same type of file used by License Servers. A server license file cannot be used for Standalone Licensing.

The license server can be installed with the separate SPLM Licensing installation that is provided on this media. One license server can serve licenses to many workstations running NX. The Standalone Node-Locked License file will only provide licenses to your local machine running NX.

NX 12.0 uses the SPLM_LICENSE_SERVER environment variable. NX versions 5.0 thru 8.5, all use the UGS_LICENSE_SERVER environment variable. NX 4.0 and earlier versions use UGII_LICENSE_FILE variable. All three variables may exist on systems running concurrent versions. The default TCP socket for SPLM_LICENSE_SERVER and UGS_LICENSE_SERVER is 28000, instead of 27000 as previously used in NX 4.0 and earlier releases.

For further information on the licensing installation see the guide *Installing Siemens PLM License Server* provided on this media.

For further information about specific SPLM Licensing configuration options, please consult the *Siemens PLM Licensing User Guide*.

Java Runtime Environment

This Java Runtime Environment for NX is a system prerequisite that must be downloaded and installed from the Java website: http://www.java.com prior to running NX. *{See also Release Notes}.*

Check File System

Window NTFS file system is required for NX and all related products. NX will not work correctly on an old FAT file system. Please consult your Windows documentation or Help for questions on file systems and disk partitions.

Check Disk Space

A complete installation of every module of NX 12.0 requires approximately 16.5 GB of free space on your disk. When you run the installation program, it will provide an accurate estimate of the space required and check that you have the required amount of free space on the target disk.

If you wish to check that there is enough free space on the target disk before starting the installation, run Windows Explorer and right-click on the disk letter that you wish to use and select **Properties**.

Set Up TCP/IP Network Services

TCP/IP services must be set up and configured for your system. To check this, click on **Start→ Control Panel→Network and Sharing Center→Change Adapter Settings→Right-click Local Area Connection→Properties**. TCP/IP should be displayed as one of the installed protocols.

NX uses the TCP/IP network protocol to communicate with the license server. Even if the Siemens PLM License Server is running on the same computer, TCP/IP is still used.

If your computer does not have an Ethernet Card configured, you must install the Microsoft Loopback Adapter, which is a "virtual" network adapter that will allow your computer to "talk to itself" via TCP/IP.

You may use the ping utility to check that your TCP/IP connection is operational. On the computer where you will be running NX, open a Command Prompt window, and type

ping <hostname>

where **<hostname>** is the name of the computer you will be using as your License Server. If the network connection is working correctly, several lines of diagnostic output will be displayed, indicating the time required to transmit packets of data.

If the network connection is not working, you will receive an error message. You must be able to ping your License Server (and vice versa) in order to run NX. For help with the ping utility, please consult your Windows documentation or Help.

Hardware Security Device

Individual features of a license file may be node locked to an Ethernet card's physical address or to a hardware security device, also known as a hardware key or dongle. If individual licenses are node locked to a hardware key, you must attach the hardware key to the parallel port or USB port of the workstation using those license features. The Sentinel device driver that communicates with the hardware key must also be installed on the workstation.

On a node-locked SPLM Licensing client or a Standalone Licensing workstation, the Sentinel driver must be manually installed. To check the status of the Sentinel driver, see the section titled **Security Device Not Installed**.

Note: The Sentinel driver installation file can be found on the NX Client in the following (default) installation path:

C:\Program Files\Siemens\NX 12.0\UGFLEXLM\sentinel_installer.exe

Installing NX 12.0

Please complete all of the pre-installation procedures from the previous sections before starting the installation.

Installation Steps

Please use the following instructions to perform the installation:

1. Log onto your workstation, using an account with Administrator privileges.
2. Place the NX 12.0 DVD into the DVD drive on your system. When the DVD mounts, it will automatically run the launch program and present the launch screen.

   If this "autorun" feature is turned off for your DVD drive, follow the next two steps to start the launch program.

   In **Windows Explorer** click on the icon for your DVD drive.

   Double click on the program **launch.exe** in the top level folder.
3. Select **Install NX** from the media Launch screen (if available). *{A media launch screen may not be available, or may be disabled on your system}*

   OR

   Using Windows Explorer, navigate directly to the **nx120** folder on the DVD drive, and double click on **setup.exe** to start the setup program.
4. At the Welcome dialog, click **Next** to continue. Clicking on the **Cancel** button at anytime during the installation will discontinue (and roll back) the installation.
5. **Installation Type -** Select the desired installation type: Typical, Custom or Configure a Mapped Drive. These options are defined as follows:

Typical:	All NX 12.0 products will be installed. Registry entries, shortcuts, and system files will be configured for NX 12.0.
Custom	By default, only the main NX Platform kit is selected for this type of installation. You will be able to select additional products that you wish to install. Registry entries, shortcuts and system files will be configured for the selected products.
Mapped Drive	Use this option to configure NX 12.0 to run from a mapped drive location where it was previously installed on a file server. This allows you to run a "shared" copy of NX 12.0 located on another machine.

   Note: This option is not designed to fix a previous installation of the product. Use the "Repair" or "Modify" options to fix or change a local installation. These options will become available if the installation is run after NX 12.0 has already been installed. See the section **Using the Maintenance Options** for more information.
6. **Destination directory** - Enter the destination directory path or accept the default directory path

provided. The installation will create the directory if it does not exist. Click the Change button to change the destination location.

7. **License server(s) -** Enter the name of a license server, a list of license servers or a path to a single "Standalone Node-Locked License" file. The installation will only support (1) of these options.
    - Server name(s) are machine(s) that supply licensing information for running NX. This may or may not include the hostname of your local node (the computer running this installation). The hostname(s) of the license server(s) should be entered in the form "<port>@<hostname>" (where <port> is the TCP port on which the Siemens PLM License Server service runs on the license server; usually this will be 28000).
    - License file is a path to a single "Standalone Node-Locked License" file that NX will read to acquire license information. A "Standalone Node-Locked License" file is a special license file that is node locked to your hardware or hardware key. It is not the same type of file used by License Servers. The installation dialog provides a "Browse" button to allow users to navigate to their license file.

    The answer to this dialog will be used to set the SPLM_LICENSE_SERVER environment variable on your system. This environment variable may be changed at any time by the Administrator. Consult the *Siemens PLM Licensing User Guide* for information on more advanced settings such as redundant servers.
8. **Runtime language -** Select the runtime language. In the language selection screen you may choose the language to be used by NX at runtime, to present menus and text. This selection will set the UGII_LANG environment variable which may be easily changed at a later time or set differently for different users.
9. **Confirmation -** The final dialog is the Setup Confirmation screen. Verify your installation selections before proceeding to the file copy sequence. To change any settings, use the **Back** button to navigate back to the appropriate installation dialog.

Upon the completion of the file copy process, the installation procedure will configure NX 12.0 to run on this machine. At the conclusion of the installation, NX 12.0 will be ready to run and selectable from the **Start Menu**.

Using the Maintenance Options

After completing an installation, any subsequent executions of setup.exe will present the 'Maintenance' screen. This prompt will offer the option to 'Repair', 'Modify' or 'Remove' the installation of the product.

The **Repair** option will attempt to reinstall or correct any files that do not match the original installation.

Note: This option compares checksums for thousands of NX files so it takes a very long time to complete.

The **Modify** option will allow the installer to add or remove installed features (a.k.a kits) of the NX 12.0 release. For example if you wish to add a product that was not previously installed, use the modify option to add the product.

Note: This option will also uninstall products that are not selected. Any previously installed products you do not wish to remove must all be re-selected for installation. If they are already installed, they will not be reinstalled. However, if they are not selected, they will be uninstalled.

The **Remove** option will uninstall the product completely.

Running NX 12.0

Check System Virtual Memory

To set the system virtual memory (paging file size), select **Start→Control Panel→System→ Advanced system settings→Advanced** tab, click on **Performance Settings** button**→Advanced** tab. Under the area labeled Virtual Memory, virtual memory size is displayed. Click the **Change...** button to make modifications to disk and memory size selections. In the Virtual Memory dialog, highlight the disk drive and verify that the drive you selected has enough disk space.

Set the initial sizes to the recommended values: We recommend setting initial size and maximum size to the same value.

Initial Size (MB): **6144** is the minimum required, but users with large Assemblies may need much more.

Click the **Set** button. Click **OK** from the Performance Options window. This will bring up the System Properties window.

Click **OK**. Restart your system to allow all changes to take effect.

Note: Virtual memory (paging file size) can be spread across several disks. Input/Output performance may be improved using this method.

Java Runtime Environment

A Java Runtime Environment is not supplied with NX. It is a system prerequisite that must be downloaded and installed from the Java website: http://www.java.com prior to running NX. *{See also Release Notes}.*

Running NX 12.0 from the Start Menu

The NX 12.0 installation program creates a new item in the **Programs** section of your **Start Menu**:

To run NX 12.0, choose:

Start→All Programs→Siemens NX 12.0→NX 12.0

The NX splash screen will appear, followed by the NX 12.0 window. Startup should take somewhere between a few seconds and a couple of minutes, depending on the speed of your computer and your network. If it takes longer than this, you should consult **Troubleshooting** to try to diagnose the problem.

Running NX 12.0 by Double-Clicking

You can also run NX 12.0 by double-clicking on an NX 12.0 part (.prt) file.

The NX 12.0 installation option will establish a filename association between part files and NX 12.0. Double-clicking a .prt file should work correctly unless the association has been changed by other applications or removed by an uninstallation of (another version of) NX. The cleanest and fastest way to reestablish this filename association is to:

1. Uninstall desired version of NX
2. Reinstall desired Base NX
3. Reinstall the (latest) Maintenance Release for NX

Running Multiple Versions of NX

To provide the ability to run several versions of NX on a single system, do the following:

1. Install all of the desired NX versions on the system, using instructions in the Installation Guide for the appropriate version. The install procedures will create a different entry on your Start Menu for each version. You should install multiple versions in the order of oldest to latest. For instance; install the oldest Base & Options, then any Maintenance Release (a.k.a. MR) for that base release. Then install the next higher version in that order, finally ending with the latest release or last MR.
2. If you are running multiple versions of NX, which include versions prior to NX 5.0, you will require both the NX 4.0 and the NX 12.0 versions of the license file and service. The license file and service installed with NX 12.0 support 5.0 thru 12.0, but they are not backward compatible with NX 4.0 and earlier versions.

Note: To run NX 4.0 or earlier, you must continue to run the NX 4.0 (uglmd) service.

Automatic Installation of NX 12.0

The installation of NX 12.0 can also be accomplished by an automatic, unattended install. This feature may aid those System Administrators with a large number of site installations.

Caution: Use of this type of installation is intended for experienced installers only.

Note: Beginning with NX 12.0, the MSI file names no longer contain spaces. The file name for NX 12.0 is SiemensNX12.0.msi.

The unattended installation is controlled by the Windows system component, msiexec.exe. In order to install silently you must pass switches and NX specific configurable properties to msiexec.exe on the command line. The msiexec.exe program has several command line switches. For full documentation on these switches, see the Microsoft help documentation “Help and Support” for msiexec.

A few of the commonly used command line switches are:

/h – msiexec help, will list available switches.

/q – specifies the UI level. **/qn+** specifies no dialogs except for the ending “install done” dialog *{recommended}*. **/qn** specifies a silent installation with no dialogs. If this option is used there is no indication when the install completes, you must use the Task manager to monitor the “msiexec.exe”.

/L – specifies a logfile to be created, and the level of the messages to be written to the logfile *{e.g. msiexec /L*v “logfile”}.* This example gives the most verbose log file; see msiexec switches for various log switch options.

/i - specifies the msi file use for installation *{e.g., msiexec.exe /i SiemensNX12.0.msi}*.

/x- specifies the msi file use for uninstallation *{e.g., msiexec.exe /x SiemensNX12.0.msi}*.

The configurable properties for the NX install are:

SETUPTYPE	This property must be set to typical, custom or mapped. The value set for SETUPTYPE should be consistent with the ADDLOCAL property, so if you specify ADDLOCAL=“all”, you should specify SETUPTYPE=typical. If you specify ADDLOCAL=“MAPPED_DRIVE” you should specify SETUPTYPE=mapped. The default

	value for this property is typical.
LICENSESERVER	This property sets the value of the NX license server. It will default to the value of the SPLM_LICENSE_SERVER environment variable (if it is set from a previous installation) or 28000@<localhost> where <localhost> is your workstation name.
LANGUAGE	This property sets the value of the user interface language for NX. Valid choices are german, french, spanish, english, italian, japanese, korean, russian, simpl_chinese, trad_chinese, braz_portuguese, czech, hungarian and polish. The default value of this property is english.
INSTALLDIR	This property sets the directory where NX will be installed. If not specified this will default to "C:\Program Files\Siemens\NX 12.0".
ADDLOCAL	This property selects the features to be installed. Using ADDLOCAL=ALL will install all the features, and so is the same as a typical installation. Using ADDLOCAL=MAPPED_DRIVE is the same as selecting a mapped drive install.

If you are doing a mapped drive install, then select ADDLOCAL=MAPPED_DRIVE. If you are doing a custom or typical installation then you must specify ADDLOCAL=all or include NX_PLATFORM as one of the installed features. If ADDLOCAL is not specified on the command, it is the same as ADDLOCAL=NX_PLATFORM

The remaining selectable features for a custom install are:

AUTOMATION_DESIGNER	AUTOMOTIVE	DIAGRAMMING
DRAFTING	MANUFACTURING_PLANNING	
MANUFACTURING	MECHATRONICS	NXNASTRAN
PROGRAMMING_TOOLS	SHIP_BUILDING	SIMULATION
STUDIO_RENDER	TOOLING_DESIGN	TRANSLATORS
ROUTING	VALIDATION	INSTALL

The following are examples of silent installations of NX 12.0.

Caution: The msiexec.exe examples below may appear on multiple lines because of document formatting but they must be entered on your computer as one line. Arguments with embedded spaces must be quoted.

This first example installs NX 12.0 silently, using a mapped drive installation, selecting the runtime language to be French, and using the previously installed version in F:\Program Files\Siemens\NX 12.0. No dialogs are displayed.

msiexec.exe /qn /i SiemensNX12.0.msi ADDLOCAL=MAPPED_DRIVE SETUPTYPE=mapped LANGUAGE=french INSTALLDIR="F:\Program Files\Siemens\NX 12.0"

This next example installs NX 12.0 silently, using a custom installation and selecting three features to be installed. The installation is done to E:\Program Files\Siemens\NX 12.0, the runtime language is defaulted to English, and the license server is specifically set to 28000@xyz. No dialogs are displayed.

msiexec.exe /qn /i SiemensNX12.0.msi ADDLOCAL="NX_PLATFORM,TRANSLATORS,DRAFTING" SETUPTYPE=custom INSTALLDIR="E:\Program Files\Siemens\NX 12.0" LICENSESERVER=28000@xyz

This last example installs NX 12.0 silently, using a typical installation. The installation is done to E:\Program Files\Siemens\NX 12.0, the runtime language is defaulted to English, and the license server is specifically set to 28000@xyz. In addition a verbose (*v) log file is generated to c:\temp\install.log. The "/qn+" switch will cause an ending message dialog to appear.

msiexec.exe /qn+ /L*v c:\temp\install.log /i SiemensNX12.0.msi ADDLOCAL=ALL INSTALLDIR="E:\Program Files\Siemens\NX 12.0" LICENSESERVER=28000@xyz

Additional Topics

Uninstalling NX 12.0

To remove the NX 12.0 product:

Windows 7 & 8:

1. Log onto your workstation with an Administrator account.
2. Select **Start→Control Panel→Programs and Features**
3. Select **Siemens NX 12.0** and then click the **Uninstall** option**.**

Windows 10:

1. Open the **Start menu**.
2. Click **Settings**.
3. Click **System** on the Settings menu.
4. Select **Apps & features** from the left pane.
5. Select **Siemens NX 12.0** and then click the **Uninstall** option.
6. Click the **Uninstall** pop-up button to confirm.

Other Uninstall Considerations

- You may also re-run the NX 12.0 setup program which will offer the option to Remove the installation (i.e. uninstall).

You may also use the **msiexec** install option "/x" to uninstall NX 12.0 *{e.g., **msiexec.exe /x "Siemens NX12.0.msi"**}*

- There is no separate "uninstall" program or uninstall shortcut for NX 12.0.
- It is not necessary to reboot after uninstalling NX 12.0.
- The Siemens PLM License Server service supplied by the installation of the SPLM Licensing kit or from a remote server will not be removed by uninstalling NX 12.0.

Changes

This topic provides an overview of significant changes in the installation kits for this release.

Kit Consolidation

To simplify kit selection at installation time, many kits have been combined into larger selectable groups in the “Custom” installation selection menu. At the conclusion of the installation the folder structure will be similar to previous NX versions. For example, a single “Translators” kit selection now includes all the translators that were previously selectable in prior NX installation.

Obsoleted Kits

- **FIXTURE_PLANNER & LINE_DESIGNER (*moved to MANUFATURING_PLANNING*)**

New Kits

- **MANUFACTURING_PLANNING (*includes FIXTURE_PLANNER & LINE_DESIGNER*)**

Renamed Kits

- **none**

UGII_ROOT_DIR obsoleted

In NX 11, the %UGII_ROOT_DIR% environment variable was retired.

To find executables and libraries, a central runtime directory called NXBIN is now used.

NXBIN directory

The NXBIN directory, is created on all platforms at the **%UGII_BASE_DIR%\nxbin** location during the NX installation. Executables and libraries from the user selected installed kits are consolidated into the NXBIN directory during the installation.

Configuration and script files that used to be found under %UGII_ROOT_DIR% will now be in %UGII_BASE_DIR%\ugii. Executables, libraries and jar files that used to be found under %UGII_ROOT_DIR% will now be in %UGII_BASE_DIR%\nxbin

While the NX installation no longer sets the UGII_ROOT_DIR variable, the definition on the system will remain to support earlier releases. If your code or scripts rely on %UGII_ROOT_DIR%, modify them to ensure they work in NX 12.

Troubleshooting

Windows Diagnostic Tools

Windows provides a variety of tools that you can use to understand how your computer is working and diagnose problems. Some examples are:

Windows System Info	Can be found via **Start→All Programs→Accessories→System Tools→System Information**. It provides information about your system, and allows you to print this information, or save it in a file. You can also run Windows Diagnostics by typing **msinfo32** in a Command Prompt window.
Event Viewer	Provides you with a log showing various low-level events that have occurred while your system has been running. Again, you can typically access this utility via **Start→Control Panel→Administrative Tools**.
System Properties	The System Properties item in Control Panel lets you check and modify the values of environment variables that affect the behavior of your system. Variables are located under **Start→**Control **Panel→ System→Advanced system settings→Advanced** tab**→Environment Variables**.
Net Commands	Windows provides a wide variety of commands for diagnosing networking problems, which can affect the system's ability to communicate with the SPLM Licensing daemons. For more information, you might start by looking up the **ping** and **netstat** utilities in Windows Help, or type **net help** in a Command Prompt window.

If you need help with any of these tools, please consult your Windows documentation or Help.

Creating Install Log Files

If the installation does not complete successfully, error logs of the installation may provide helpful information. In a command prompt window enter:

setup.exe /v"/L*v c:\LogFile2.txt"
{where LogFile2 is the full path to your log file. Note: there is no space after the "/v" switch. This example shows using "setup.exe" to start the log. Setup actually passes these switches to msiexec.exe}

Note: The msiexec.exe program supports many levels of log file information from terse start/stop messages to the very verbose log example shown above. See "Help and Support" on msiexec for information on the levels of logging available.

NX 12.0 Won't Start

If NX 12.0 fails to start, a window will display the reason for the failure.

Can't Connect to License Server

Check that the SPLM Licensing license server is available. Open a Command Prompt window, change to the %UGII_BASE_DIR%\UGFLEXLM directory and enter the command:

lmutil lmstat –c 28000@<hostname>
{where 28000 is the port number and <hostname> is the hostname of the SPLM license server}

For example:

cd /d c:\Program Files\Siemens\NX 12.0\UGFLEXLM *{default location}*

lmutil lmstat -c 28000@<hostname>
{where 28000 is the port number and <hostname> is the hostname of the SPLM license server}

Diagnostic messages will appear telling you some possible sources of your problem.

No Licenses Available

Using the Licensing Tool to Select Bundles

Note: Prior to NX 9.0, License Options was used to set persistent or default bundle selections via the UGS_LICENSE_BUNDLE variable that it created. As of NX 9.0, Licensing Tool does not create a variable but instead, stores the bundle selections in the Registry.

All licenses for module "gateway" are already in use or no bundles have been selected. Your license file may contain Suite Packages, otherwise known as Bundles and Portfolio Bundles. To use a bundle, it must be preset prior to running NX. If bundles are preselected, the application will attempt to check out a bundled feature before trying to check out the floating feature.

Licensing Tool is an interactive user interface that aids in setting persistent or default bundle selections in the user accessible registry entry:

HKEY_CURRENT_USER\Software\Siemens_PLM_Software\Common_Licensing\NX_BUNDLES

To set the bundle(s) in the registry:

Click on **Start→All Programs→Siemens NX 12.0→Licensing Tools→Licensing Tool**

Caution: Customers using Bundle/Portfolio licenses must either set the bundle selection(s) via the 'UGS_LICENSE_BUNDLE' variable or the 'NX_BUNDLES' registry entry with the package name(s) of the bundle(s) before attempting to run NX. Licensing Tool honors the bundle selections set by the variable but once Licensing Tool is used to apply a bundle, the UGS_LICENSE_BUNDLE variable is no longer honored nor effective. If the 'NX_BUNDLES' registry entry exists (even if the value is 'blank'), it would have to be deleted in order to make the bundle selections effective for the UGS_LICENSE_BUNDLE variable if set.

Consult the *Siemens PLM Licensing User Guide* for further information regarding Bundles, crossover licensing, automatic bundle consolidation and automating the selection of NX 12.0 Bundle(s)/Portfolio(s).

Checking the NX 12.0 License Server Service {on the server}

Check that the Siemens PLM License Server service is running, either using Task Manager or **Control Panel→Administrative Tools→Services**. In Task Manager, you should see entries for lmgrd.exe and ugslmd.exe. Using **Control Panel→Administrative Tools→Services**, you should see Siemens PLM License Server with a status of "Started".

If the service is present, but not running, you should start it manually. **Control Panel→Administrative Tools→Services**. Right-click the service name "Siemens PLM License Server", and click Start.

If the Siemens PLM License Server service is unable to start, there may be other problems**.** Choose **Start→All Programs→Siemens PLM License Server→lmtools**. In the Service/License File section, select "Configuration using Services". Click on the "Config Services" tab. The "Siemens PLM License Server" service should appear in the Service Name field. Verify that all "path to" entries are valid.

These entries displayed on the lmtools screen should not be blank. If these entries are blank, enter the correct service name as shown above. Use the browse button to search the drive for the location of the installed license program (lmgrd.exe). Browse for the correct license file. The default location for the Debug Log File should be set to c:\Program Files\Siemens\PLMLicenseServer\splm_ugslmd.log, provided that the directory path is where you installed SPLM Licensing. Use the browse button to update this field. Make sure the two checkboxes, “Start Server at Power Up” and “Use Services”, are both checked (after checking “Use Services”, “Start Server at Power Up” will become available). Click the “Save Service” button.

To start the license service from lmtools, open the **Start/Stop/Reread** tab. Click the Start button.

Note: The graphically-oriented license administration utility lmtools is also available on the SPLM Licensing client if installed. For example:

Click on **Start→All Programs→Siemens NX 12.0→Licensing Tools→Lmtools**

The utility lmutil is a command line license administration tool similar to the graphically-oriented LMTOOLS utility. Open a Command Prompt window to use this utility and change directory to the appropriate FLEXlm directory. Run the command

lmutil lmstat -c 28000@<hostname> –a
{where 28000 is the port number and <hostname> is the hostname of the SPLM license server}

from the server machine to verify that the vendor daemon is alive. Run the same command from a client machine to verify the connection across the network from client to vendor daemon. Other information may be extracted using different switches or options; these are documented in the *Flexera Software FlexNet Publisher License Administration Guide*.

For example:

cd /d c:\Program Files\Siemens\NX 12.0\UGFLEXLM *{on a client}*

cd /d c:\Program Files\Siemens\PLMLicenseServer *{on a server}*

lmutil lmstat -c 28000@<hostname> –a
{where 28000 is the default port number and <hostname> is the hostname of the SPLM license server}

Diagnostic messages will appear telling you some possible sources of your problem.

Some typical responses are:

License File Could Not Be Read If you are receiving your license data file via e-mail, you need to save it in text format. Some users using MSWord as their reader may receive garbage in the license file (e.g. License_Ugslmd.txt) when it is received in mail.

See splm_ugslmd.log When the *SPLM License Server* service is started, the log file *splm_ugslmd.log* is created. The log file can give you the best information on the state of the license server. This file can be opened with the Notepad editor, and it will give some indication as to what went wrong. Errors may be a result of a corrupted license file,

the lmhostid not matching the license file, or networking problems involving TCP/IP or DNS configuration. Use the instructions given earlier to check that there is a working TCP/IP network connection to your SPLM License Server. This file is located by default at:
c:\Program Files\Siemens\PLMLicenseServer\splm_ugslmd.log
This can only be performed from the license server.

Security Device Not Installed

If the Hardware Key is not installed properly or if the Sentinel System Driver is not installed and started, when a node-locked feature is attempted to be checked out, an error message similar to the following will be displayed:

FLEXnet Licensing error: -9

Invalid host

The hostid of this system does not match the hostid

specified in the license file.

Feature: gateway

Hostid: UG_HWKEY_ID=13625

License path: 28000@server1

FLEXnet Licensing error: -9,333

In addition, the debug log (splm_ugslmd.log) will contain errors like the following:

DENIED: “gateway” fred@barney (INVALID error code (-9999,333)

DENIED: “gateway” fred@barney (Invalid host. (-9,333)

In these cases, check the following:

- Make sure the Hardware Key is plugged in securely.
- Make sure that the Siemens PLM Software license file has the same number in the UG_HWKEY_ID field that is printed on the Hardware Key itself.
- Check the status of the Sentinel driver:
  - For a Parallel Port hardware key, make sure that the “Sentinel” Windows device driver appears in Device Manager and is in its Started state

    Control Panel→System→Hardware→Device Manager→View→Show Hidden Devices→Non-plug and Play Drivers→Sentinel (double-click)

  - For a USB hardware key, make sure that Device Manager shows an entry for Rainbow USB SuperPro key.

    Control Panel→Device Manager→Universal Serial Bus Controllers→Rainbow USB SuperPro

- If the Sentinel driver is missing, manually install it:
  - On the license server, the Sentinel driver installation file can be found in the following (default) installation path:

    C:\Program Files\Siemens\PLMLicenseServer\Hardware_Key\ Sentinel System Driver Installer 7.5.7.exe

  - On the NX client, the Sentinel driver installation file can be found in the following (default) installation path:

    C:\Program Files\Siemens\NX 12.0\UGFLEXLM\ sentinel_installer.exe

Error Handling Failed – NX Initialization error

This error may occur due to several reasons:

Check that the real hostname of the license server is on the SERVER line of the license file. The license file is electronically provided by Siemens PLM Software with 'YourHostname' or 'this_host' on the SERVER line as a placeholder for the real hostname of the license server. The SPLM Licensing installation will edit the license file to automatically change "YourHostname" or "this_host" keyword to the actual hostname of the license server. However, this field must be edited manually for any subsequent updates of the license file and for redundant server configurations (i.e. license files containing 3 SERVER lines).

Check that the SPLM_LICENSE_SERVER environment variable is set to a valid Standalone Node-Locked License file or '<port>@<hostname>', where the port and hostname come from the SERVER line in the license file. The SPLM_LICENSE_SERVER variable is normally set during the installation of NX but can be manually set using the **Control Panel→System→Advanced system settings→Advanced** tab**→Environment Variables...** button user interface.

This error may also be caused by selecting too few colors in **Control Panel→Display→Settings** tab. NX 12.0 will not run if the color palette is only set to 256 colors or if the resolution is below 1024x768.

Check the NX syslog file in your TEMP directory for other possible errors.

NX Startup Very Slow

Slow startup of NX 12.0 can be caused by a slow network connection between the client(s) and license server. If NX 12.0 and the SPLM License Server are running on the same computer, then slow startup may also be a result of a missing entry in your hosts file.

To correct this, find the “hosts” file in your Windows folder and edit it to add a new entry that consists of an IP address (of the form xxx.xxx.xxx.xxx) and the computer’s hostname**.** For example: 198.168.0.1 mycomputer.

The hosts file is located at:

C:\WINDOWS\system32\drivers\etc\hosts

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