SIEMENS

NX Installation Guide for Windows
April 2019

Introduction

This document explains the installation and running of NX on supported 64-bit Windows workstations. NX is not supported on any Windows 32-bit platform. See the Release Notes for operating system requirements.

Conventions

All references to "Windows" in this manual refer to 64-bit versions of Windows.

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 Apps→Windows System→File 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 File 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 **This PC** icon, or through **Start→All apps→Windows System→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.

Document Revisions

January 2019	Initial Release for NX.
March 2019	Added content for update installations with MSP file.
April 2019	Updated content for MSP file installations.

Media Contents

NX software is provided on DVD media and via download. 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 or download and extract the media contents 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.

Any reference to DVD or media in this document refers to either a physical DVD or a hard drive location where you have copied or extracted the downloaded installation image files.

The NX media 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.
nx	This is the main NX "BASE & OPTIONS" kit, which contains the installation program, optional products and Translators.
SPLMLicenseServer_v9.1.0_win_setup.exe	This is the Licensing installation kit used for NX. 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 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 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 current 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 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 as a new installation.

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 NX 12, 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.

Release Frequency

Beginning with NX January 2019 release, the frequency of releases will be increased. Most releases after January 2019 for NX will be distributed as full installations which can be used to install a full, new installation, or upgrade a previous NX installation (from releases beginning with January 2019).

This installation guide describes the procedure for new installations and upgrade installations. The upgrade installation will not be available until the next release of NX after January 2019.

Preparing for the Installation

Installing as an Upgrade to a Previous Version

NX (after January 2019) can be installed as an upgrade of NX (January 2019 and later) if NX has been previously installed on the workstation. If you currently have any version of NX (from January 2019 onward) installed on your workstation, skip to the *Installing NX as an Upgrade* section of this document for instructions on upgrading NX as your pre-installation checks were performed when NX was previously installed.

Note: Beginning with the March 2019 release of NX, both the full MSI installation and a patch MSP installation (download only) are being provided for upgrade installations. Both methods are documented in the *Installing NX as an Upgrade* section of this document.

If you do not have NX installed on your workstation, you can install NX as a new installation and follow the normal installation procedure for NX documented in this guide.

If NX is already installed on your workstation but you do not want to upgrade at this time and would prefer to configure a test installation of NX on your machine, read the *Installing NX for Parallel Product Testing* section of this document for instructions on installation an administrative installation of NX for testing.

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 can not 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's Physical address (a.k.a. MAC address, Ethernet address) or a hardware key (dongle) ID. It is not the same type of file used by License Servers. A server license file can not 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 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

The Java Runtime Environment (64-bit) 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 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 File 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→All apps→Windows System→Control Panel→Network and Internet→Network and Sharing Center→Change Adapter Settings→Right-click Ethernet→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\UGFLEXLM\sentinel_installer.exe

Installing NX

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 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 **File Explorer** click on the icon for your DVD drive.

   In the top level folder, right-click on the program **Launch.exe** and select "Run as Administrator".

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 **File Explorer**, navigate directly to the **nx** folder on the DVD drive, and right-click on **setup.exe** and select "Run as Administrator" to start the setup program.

4. Select the language in which to run the setup.exe program. This will be the user interface language for the installation program and does not determine the runtime language of NX.

   The **setup.exe** program, in addition to starting the NX installation, will install two prerequisite software products if the local machine does not already have them or a newer version installed:

   - Microsoft Visual C++ 2017 runtime redistributable

   - Microsoft .NET 4.6.1

   If the machine already has both of these software products, the NX installation will start immediately when running setup.exe.

   If the local machine does not have one or both of the prerequisite software products, the setup.exe will run their installation program(s) from Microsoft to attempt to silently install the products to the machine. However, depending on your UAC settings, the installers for these products may pop-up a request to install on the system. You should accept the request so that the prerequisite software is installed. If you prefer to install the prerequisite software separately before installing NX, you will find the .NET 4.6.1 installer (NDP461-*.exe) and Visual C++ redistributable installer (vcredist_x64.exe) in the nx folder with the setup.exe program.

5. At the **Welcome** dialog, click **Next** to continue. Clicking on the **Cancel** button at any time during the installation will discontinue (and roll back) the installation.

6. **Custom Setup** – By default all install features are selected for installation to local hard drive, which is the same as the Typical setup from previous releases. The NX Platform feature is required and can not be changed to not install. Any of the other Add-on products can be set to install or not

install to local disk based on the feature selection drop down to the left of the feature name in the scrolling box.   Click on the drop down ⬜▾ and you will be given three options:

1. ⬜ **Will be installed on local hard drive** – select this to install the feature to the destination path
2. ⬜ **Entire feature will be installed on local hard drive** – same as "Will be installed on local hard drive" except for the Add-on products selection. For Add-on products, this will allow you to select all subfeatures to install to local disk without having the set each feature separately.
3. ✖ **Entire feature will be unavailable** – sets the feature to not install to disk. During maintenance mode, changing from "Will be installed on local hard drive" to "Entire feature will be unavailable" will remove files for the feature from your hard drive. Selecting "Entire feature will be unavailable" on the Add-on products feature will set all subfeatures to be unavailable on hard drive.

Click the **Browse** button to change the destination location or accept the default directory path provided. The installation will create the directory if it does not exist.

7. **Licensing -** 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 machine's physical address or hardware key ID. 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. **Language Selection -** Select the runtime language for NX. 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. **Ready to Install -** 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. Click **Install** to begin the installation.

Upon the completion of the file copy process, the installation procedure will configure NX to run on this machine. At the conclusion of the installation, NX will be ready to run and selectable from the **Start Menu** (shown as **Siemens NX->NX** in the Start Menu).

The installation automatically generates a log file in the %TEMP% folder. The file is named MSI*.LOG where * is a series of numbers and characters which make the filename unique in the %TEMP% folder. After installation, you can view this log file by selecting the "Show the Windows Log" check box before closing the installation program or opening the file in the %TEMP% folder.

Installation Feature Contents

Installation features are a combination of different NX folders required for running the product. Some features have common NX folders. These folders are only installed once and will exist on the system as long as one of the install features are installed. The Install Feature is the name of the feature you would use during automated installation. The Displayed Name is the name (will be translated for some languages) of the install feature that is displayed in the installation program

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. NXBIN is not listed below as it is a combination of many install folders.

The folders included in each installation feature are:

Install Feature	Displayed Name	NX Folders
Required feature(s):		
FEAT_NXPLATFORM	NX Platform	INSTALL, DIAGRAMCORE, LOCALIZATION, NXASSEMBLY, NXHUMAN, NXPARTS, NXPLOT, PVTRANS, REL_INFO, TOPOLOGY_OPTIMIZATION, UGFLEXLM, UGII, UGMANAGER, UGTIPS, UGWEB
Optional install features (Add-on products):		
FEAT_AUTOMATION_DESIGNER	Automation Designer	AUTOMATION_DESIGNER
FEAT_AUTOMOTIVE	Automotive	UGAUTOMOTIVE, UGWELD, MOLDWIZARD, STAMPING_TOOLS, NXREPORTS, DESIGN_TOOLS
FEAT_DIAGRAMMING	Diagramming	DIAGRAMMING
FEAT_DRAFTING	Drafting	DRAFTING, TDP
FEAT_MANUFACTURING	Manufacturing	CMM_INSPECTION, MACH, POSTBUILD, PSTUDIO, UNFOLD
FEAT_MANUFACTURING_PLANNING	Manufacturing Planning	MANUFACTURING_PLANNING
FEAT_MECHATRONICS	Mechatronics Concept Designer	MECHATRONICS
FEAT_NXNASTRAN	Simcenter Nastran	NXNASTRAN
FEAT_PROGRAMMING_TOOLS	Programming Tools	UGOPEN, UGOPENPP, UGALLIANCE
FEAT_ROUTING	Routing	ROUTING
FEAT_SHIP_BUILDING	Ship Building	NXSHIP
FEAT_SIMULATION	Simulation	SIMULATION, MECH, NXCAE_EXTRAS, UGSTRUCTURES, UGPCBXCHANGE, UGFPCD
FEAT_STUDIO_RENDER	Studio Render	UGSTUDIO, UGPHOTO
FEAT_TOOLING_DESIGN	Tooling Design	UGAUTOMOTIVE, UGWELD, MOLDWIZARD, STAMPING_TOOLS, TOOLING_BASE, NXREPORTS, DESIGN_TOOLS
FEAT_TRANSLATORS	Translators	CATIAV5, DXFDWG, IGES, NXPROE, STEP203UG, STEP214UG, UGCATIA, UGTO2D, UGIMW, TRANSLATORS
FEAT_VALIDATION	Validation	NXREPORTS, DESIGN_TOOLS, MPA

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 'Change', 'Repair' or 'Remove' the installation of the product.

The **Change** option will allow the installer to add or remove installed features of the NX release. For example if you wish to add a product that was not previously installed, use the Change option to add the product. The **Change** option will also allow the installer to change the license server or runtime language settings

Note: This option will also <u>uninstall</u> 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 <u>will be</u> uninstalled.

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

Running NX

Check System Virtual Memory

To set the system virtual memory (paging file size), select **Start→ All apps→Windows System→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 from the Start Menu

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

> To run NX, choose:
> **Start→All apps→Siemens NX→NX**

The NX splash screen will appear, followed by the NX 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 by Double-Clicking

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

The NX installation option will establish a filename association between part files and the latest version of NX installed. 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 version of NX

Running Multiple Versions of NX

Running multiple versions of NX with the following method is supported for versions prior to January 2019 and one version of NX after January 2019. To run multiple versions of NX released after January 2019, see the *Installing NX for Parallel Product Testing* section.

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 current NX versions of the license file and service. The license file and service installed with NX support 5.0 through current, 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

The installation of NX 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.

The **setup.exe** program installs the two prerequisite software products for NX prior to installing NX. It is recommended that the setup.exe program be used to run the automatic installation to install the prerequisite software or install the prerequisite software using their installation programs prior to performing the automatic installation of NX.

The setup.exe program is used to launch the unattended installation in addition to running unattended installations of the prerequisite software. Command line switches for setup.exe are used to pass values to the msiexec.exe program.

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.

There are a few command line switches for the setup.exe program which can be used:

/h – setup.exe help, lists available switches.

/s – run setup.exe silently without any dialogs.

/a – perform an administrative installation.

/v – pass parameters to the msiexec.exe program.

/w – setup.exe waits for the msiexec.exe command to complete before closing.

Parameters for msiexec.exe must be immediately following /v and may be optionally wrapped in quotes.

You can pass multiple parameters with one /v option. If any parameters passed require spaces, e.g. C:\Program Files, you must pass the parameter with escaped quotation marks, e.g. \"C:\Program Files\".

The parameters passed with the /v option are set to the msiexec.exe program as command line switches. A few of the commonly used msiexec.exe 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 SiemensNX.msi}.*

/x- specifies the msi file use for <u>un</u>installation *{e.g., msiexec.exe /x SiemensNX.msi}.*

The configurable properties for the NX install are:

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".
ADDLOCAL	This property selects the features to be installed. Using ADDLOCAL=ALL will install all the features.
TARGETDIR	This property sets the directory where an NX administrative installation will be placed. This property is for administrative installations only. See *Installing NX for Parallel Product Testing* for more information.

If you are doing a full installation then you must specify ADDLOCAL=ALL. If ADDLOCAL is not specified on the command, it is the same as ADDLOCAL=FEAT_NXPLATFORM only.

The remaining selectable install features for a custom install are:

FEAT_AUTOMATION_DESIGNER	FEAT_PROGRAMMING_TOOLS
FEAT_AUTOMOTIVE	FEAT_ROUTING
FEAT_DIAGRAMMING	FEAT_SHIP_BUILDING
FEAT_DRAFTING	FEAT_SIMULATION
FEAT_MANUFACTURING_PLANNING	FEAT_STUDIO_RENDER
FEAT_MANUFACTURING	FEAT_TOOLING_DESIGN
FEAT_MECHATRONICS	FEAT_TRANSLATORS
FEAT_NXNASTRAN	FEAT_VALIDATION

The following are examples of silent installations of NX.

Caution: The setup.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 silently, using a full installation, selecting the runtime language to be French, setting the license server to 28000@myserver, and using the installation location of F:\Program Files\Siemens\NX. No dialogs are displayed.

setup.exe /s /v"/qn ADDLOCAL=ALL LANGUAGE=french INSTALLDIR=\"F:\Program Files\Siemens\NX\" LICENSESERVER=28000@myserver"

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

setup.exe /s /v"/qn ADDLOCAL=\"FEAT_NXPLATFORM,FEAT_TRANSLATORS,FEAT_DRAFTING\" INSTALLDIR=\"E:\Program Files\Siemens\NX\" LICENSESERVER=28000@xyz"

This example installs NX silently. The installation is done to E:\Program Files\Siemens\NX, 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.

setup.exe /s /v"/qn+ /L*v C:\temp\install.log ADDLOCAL=ALL INSTALLDIR=\"E:\Program Files\Siemens\NX\" LICENSESERVER=28000@xyz"

This example installs NX silently. The installation is done to E:\ Siemens\NX, the runtime language is set to Japanese, and the license server is specifically set to 28000@abc. The setup.exe wait switch (/w) is used to keep the setup.exe from closing until the msiexec.exe program completes the installation. Use the /w option when putting commands in a script where you need to wait until the installation is complete before performing the next command. At a command prompt, the setup.exe will return to the command prompt. In a batch script, running setup.exe /w will wait until setup.exe exits before the next batch command is executed.

setup.exe /s /w /v"/qn ADDLOCAL=ALL LANGUAGE=japanese INSTALLDIR=E:\Siemens\NX LICENSESERVER=28000@abc"

This last example performs a silent administrative installation of NX to the D:\Admin folder. The administrative installation requires the TARGETDIR property and not the INSTALLDIR property. No other properties are used by the administrative installation. See *Installing NX for Parallel Product Testing* for more information about using an administrative installation.

setup.exe /s /a /v"/qn TARGETDIR=\"D:\Admin\""

Installing NX as an Upgrade

Upgrade Installation Using MSI

To install NX as an upgrade to a previous NX version using the full MSI installation, follow these steps:

1. Log onto your workstation, using an account with Administrator privileges.

2. Place the NX 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 **File Explorer** click on the icon for your DVD drive.

   In the top level folder, right-click on the program **Launch.exe** and select "Run as Administrator".

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 **File Explorer**, navigate directly to the **nx** folder on the DVD drive, and right-click on **setup.exe** and select "Run as Administrator" to start the setup program.

4. A dialog stating: "This setup will perform an upgrade of 'Siemens NX' Do you want to continue?" will be shown.   Click **Yes**.

5. At the Welcome dialog, click **Next** to continue.

6. Click **Install** to begin to upgrade NX. Clicking on the **Cancel** button at any time during the installation will discontinue (and roll back) the installation.

Automatic Installation of NX as an Upgrade Using MSI

The MSI installation of NX as an upgrade 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.

Performing an unattended upgrade installation can be done with the command line:

> **setup.exe /s /v"/qn /L*v C:\temp\upgrade.log REINSTALL=ALL REINSTALLMODE=vomus"**

This will update installed files in the NX environment to the new NX version of the files.

Upgrade Installation Using MSP

To install NX as an upgrade to a previous NX version using the patch MSP installation, follow these steps:

1. Log onto your workstation, using an account with Administrator privileges.

2. In **File Explorer** locate the location to which you saved the downloaded upgrade MSP zip file from GTAC.

3. Extract the MSP zip file.

4. Double-click on the program **setup.exe** program in the extracted location to begin the installation.

5. On the Welcome screen, click **Next**.

6. Click **Update** to begin to upgrade NX. Clicking on the **Cancel** button at any time during the installation will discontinue (and roll back) the installation.

Automatic Installation of NX as an Upgrade Using MSP

The MSP installation of NX as an upgrade 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.

Performing an unattended upgrade installation can be done with the command line:

> **setup.exe /s /v"/qn /L*v C:\temp\upgrade.log"**

setup.exe in this command is the setup.exe included with the msp files in the downloaded zip file.

This will update installed files in the NX environment to the new NX version of the files.

Installing NX for Parallel Product Testing

Because the NX installation will upgrade any previously installed version of NX (January 2019 and newer) you must perform an administrative installation to put a newer version of NX on the system without upgrading your existing installation.

Note: This type of installation will not configure NX for execution. It will not modify or add registry entries or change the SPLM_LICENSE_SERVER and UGII_LANG environment variables. Installing the administrative installation will allow you to run NX using the same environment variables as your existing installation but does not affect the settings of the existing installation.

Note: This type of installation can not be done into the %SystemDrive%:\Program Files folder.

Administrative (Parallel) Installation

To install NX for parallel product testing follow these steps:

1. Log onto your workstation, using an account with Administrator privileges.

2. Place the NX 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 setup.exe program.

    Exit the Launch.exe program if it starts.

3. Using a **Command Prompt** window, change folder directly to the **nx** folder on the DVD drive, and run **setup.exe** with the command:

    setup.exe /a

4. At the Welcome dialog, click **Next** to continue. Clicking on the **Cancel** button at any time during the installation will discontinue (and roll back) the installation.

5. **Network Location** – Set the location to put the administrative installation of NX for use in parallel product testing. Enter a network location in the field or click Change… to select a location.

Click **Install** to begin the installation.

NX will be put in the following folder structure under the location defined as the network location:

Siemens\NX\[kits] – this is the installed location of the parallel NX on the system

System64 – contains files which would be installed to the system folders if this were a standard installation, these can be ignored in this environment as these files were previously installed with the prior complete installation of NX.

The system environment variables UGII_LANG and SPLM_LICENSE_SERVER will remain the same values as they were when NX was previously installed for the version which is managed by MSI and available on Start menu. This version can use those same variables when running.   The UGII_BASE_DIR environment variable is set to point to the existing version of NX and not this administrative install version. You MUST set the UGII_BASE_DIR to point to this administrative version of NX when running.

Upgrading the Parallel Installation with an MSP file

The MSP files provided as an upgrade only installation can be used to update the parallel installation location with updated files.

Note: The parallel installation must be in the same format that it was originally dumped to disk with the SiemensNX.msi file at the top level and the Siemens\NX folder still existing.   E.g. E:\Parallel was the original installation location and E:\Parallel\SiemensNX.msi and E:\Parallel\Siemens\NX exist.

To update a parallel installation (administrative install) location with an MSP file, do the following:

1. Log onto your workstation, using an account with Administrator privileges.

2. Open a **Command Prompt** window and change the folder to the location to where you extracted the downloaded MSP zip file from GTAC.

3. Update the parallel installation location with the following command. In this example, the parallel installation is in E:\Parallel and the extracted MSP files are in D:\Downloads. The below command line is all one line, not separate lines.

Note: The names of the MSP files will be the names created during the extraction of the zip file.

msiexec.exe /a E:\Parallel\SiemensNX.msi /p D:\Downloads\SiemensNX.msp;D:\Downloads\SiemensNX2.msp;D:\Downloads\SiemensNX3.msp

Include all of the MSP file names in the folder, separated by semi-colons, on the command line.

This will update any changed existing files, add new files, and convert removed files to empty files in the parallel installation location. This will allow NX to run like it would in a regular installation.

Running the Parallel Installation (Administrative Install)

To run the parallel installation, you must use a command prompt and run NX at the command line.

1. Open a Command Prompt window.

2. Set the UGII_BASE_DIR variable to point to NX. If the network location of the parallel install was E:\Parallel, then set UGII_BASE_DIR to E:\Parallel\Siemens\NX.

   set UGII_BASE_DIR=E:\Parallel\Siemens\NX

3. Verify the UGII_LANG and SPLM_LICENSE_SERVER variables are as expected.

4. Use **set UGII_LANG** and **set SPLM_LICENSE_SERVER** to check the values. Set to new values if needed.

5. Run NX:

   "%UGII_BASE_DIR%\nxbin\ugraf.exe" –nx

Removing the Administrative (Parallel) Installation

Since the administrative installation does not create any registry entries or modify environment variables, to remove the administrative installation you only need to delete the files and folders from the workstation. Use Windows Explorer and remove all the files and folders under the location used to install the administrative installation.

Mapped Drive Installation

The mapped drive installation has been moved to a separate installation program. The mapped drive installation is used if you have NX installed on a remote disk on your network and you want to configure your local machine to run the network mapped NX via the Start menu. Mapped drive installation installs the NX required fonts; configures the registry settings needed for file associations and registered DLLs; creates the NX environment variables and creates Start menu shortcuts to run NX. You can not create a mapped drive installation on the same machine that has NX locally installed except for local administrative installations.

Mapped Drive 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 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 **File Explorer** click on the icon for your DVD drive.

   In the top level folder, right-click on the program **Launch.exe** and select "Run as Administrator".

3. Select **Mapped Drive Installation** from the media Launch screen (if available). *{A media launch screen may not be available, or may be disabled on your system}*

    OR

    Using **File Explorer**, navigate directly to the **mapped** folder on the DVD drive, and right-click on **setup.exe** and select "Run as Administrator" to start the setup program.

4. Select the language in which to run the setup.exe program. This will be the user interface language for the installation program and does not determine the runtime language of NX.

    The **setup.exe** program, in addition to starting the NX installation, will install two prerequisite software products if the local machine does not already have them or a newer version installed:

    - Microsoft Visual C++ 2017 runtime redistributable

    - Microsoft .NET 4.6.1

    If the machine already has both of these software products, the NX installation will start immediately when running setup.exe.

    If the local machine does not have one or both of the prerequisite software products, the setup.exe will run their installation program(s) from Microsoft to attempt to silently install the products to the machine. However, depending on your UAC settings, the installers for these products may pop-up a request to install on the system. You should accept the request so that the prerequisite software is installed. If you prefer to install the prerequisite software separately before installing NX, you will find the .NET 4.6.1 installer (NDP461-*.exe) and Visual C++ redistributable installer (vcredist_x64.exe) in the mapped folder with the setup.exe program.

5. At the **Welcome** dialog, click **Next** to continue. Clicking on the **Cancel** button at any time during the installation will discontinue (and roll back) the installation.

6. **Reference Folder** – Enter the directory path of the network mapped NX installation (%UGII_BASE_DIR% folder location). The installation must exist to use it as a reference folder. Click the Change button to change the reference location.

7. **Licensing -** 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. **Language Selection -** Select the runtime language for NX. 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. **Ready to Install -** 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. Click **Install** to begin the installation.

Upon the completion of the file copy process, the installation procedure will configure NX to run on this machine. At the conclusion of the installation, the mapped drive NX will be ready to run and selectable from the **Start Menu** (shown as **Siemens NX (Mapped Drive)->NX** in the Start Menu).

The installation automatically generates a log file in the %TEMP% folder. The file is named MSI*.LOG where * is a series of numbers and characters which make the filename unique in the %TEMP% folder. After installation, you can view this log file by selecting the "Show the Windows Log" check box before closing the installation program or opening the file in the %TEMP% folder.

The mapped drive installation is named Siemens NX (Mapped Drive) on the local workstation. To uninstall, remove the Siemens NX (Mapped Drive) product.

Additional Topics

Uninstalling NX

To remove the NX 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** 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** 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 setup program which will offer the option to Remove the installation (i.e. uninstall).
- You may also use msiexec install option "/x" to uninstall NX.
   a. Uninstall using msi file: *msiexec /x "SiemensNX.msi"*
   b. Uninstall using Product GUID: *msiexec /x {1C9E84F3-2EE4-44c1-B2E8-769B797BA18C}*

- There is no separate "uninstall" program or uninstall shortcut for NX.

- It is not necessary to reboot after uninstalling NX.

- 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.

Changes

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

Kit Consolidation

Beginning in NX 11, 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.

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.

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 apps→Windows Administrative 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→ All apps→Windows System→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→ All apps→Windows System→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 Won't Start

If NX 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\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 apps→Siemens NX→Licensing Tool**

Caution: Customers using Bundle/Portfolio licenses must either set the bundle selection(s) via the 'UGS_LICENSE_BUNDLE' variable <u>or</u> the 'NX_BUNDLES' registry entry with the package name(s) of the bundle(s) <u>before</u> attempting to run NX. Licensing Tool honors the bundle selections set by the variable <u>but</u> 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 Bundle(s)/Portfolio(s).

Checking the Siemens PLM 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 apps→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 apps→Siemens NX→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\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 e-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\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 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 can be caused by a slow network connection between the client(s) and license server. If NX 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

Tools->Spreadsheet does not start Excel

To start Excel, the spreadsheet tool uses DLLs which are registered on the local workstation during the installation process (regular or mapped drive installations). If Excel does not start when you use the spreadsheet tool, verify that the DLLs are registered on the local workstation.

In regedit, the DLLs are registered in the registry hives:

> HKEY_CLASSES_ROOT\CLSID\{D99CD578-9510-4014-9161-F01778698159}

> HKEY_CLASSES_ROOT\Wow6432Node\CLSID\{D99CD578-9510-4014-9161-F01778698159}

If these hives don't exist you can register the DLLs using a script in the INSTALL kit of the installation. Run the **INSTALL\register_splm_files.bat** script to register the DLLs.

Note: These DLLs use the .NET 4.6.1 Framework so that version or a newer one is required to be installed on the local workstation to register the DLLs. The .NET 4.6.1 Framework is installed by the setup.exe program if it, or a newer version, doesn't exist on the local workstation during product installation.

Part Preview Issues

Part file preview in Windows Explorer and the ability to launch NX by double-clicking on a part file are managed by ugshext.dll. Registry entries are created during regular and mapped drive installations to allow the part icon to appear in Windows Explorer and for double-click open in NX to function after installation. Part file preview is not configured during installation.

To allow part file preview to function in Windows Explorer, additional registry entries need to be created. If you would like to use the part file preview functionality, you will need to register the ugshext.dll on the local workstation.

Note: The file location stored in the registry will be for the last version of ugshext.dll registered. If an older version of ugshext.dll is registered after a newer version, the older version ugshext.dll will be used for part file preview. Due to differences in the DLL functionality between versions, this could mean the part preview on newer parts may not work properly when an older version of ugshext.dll is registered.

To register the ugshext.dll, do the following:

1.   Log onto your workstation, using an account with Administrator privileges.

2.   Open a command prompt window and move to the %UGII_BASE_DIR%\NXBIN folder:

    cd /d %UGII_BASE_DIR%\NXBIN

3.   Use regsvr32 to register the DLL:

    regsvr32 ugshext.dll

If you experience errors during Windows Explorer part file preview, part file preview doesn't appear, or double-clicking a part file does not start NX, you may need to fix the registration of the ugshext.dll by unregistering and re-registering ugshext.dll.

Because of the ability to install multiple older versions of NX on a system, it is possible when a version is uninstalled that it will remove settings for the ugshext.dll in the registry. If you remove the last or only version of NX installed on the machine and you have manually registered the ugshext.dll or if you remove one version

of NX and the remaining version was not the one registered you will want to unregister and then, if still needed, re-register the appropriate ugshext.dll version for continued Windows Explorer extensions support.

To unregister ugshext.dll, do the following:

1. Log onto your workstation, using an account with Administrator privileges.

2. Open a command prompt window and move to the %UGII_BASE_DIR%\NXBIN folder:

   cd /d %UGII_BASE_DIR%\NXBIN

3. Use regsvr32 to register the DLL:

   regsvr32 /u ugshext.dll

Note: The DLL location stored in the registry will be for the last version of ugshext.dll registered. If an older version of ugshext.dll is registered after a newer version, the older version ugshext.dll will be used for part preview. Due to differences in the DLL functionality between versions, this could mean the part preview on newer parts may not work properly when an older version of ugshext.dll is registered.

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