LightTools Installation Guide

for LightTools Legacy and Synopsys Common Licensing

Version 2025.03 March 2025



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FOSS Notices

Free and Open Source Software (FOSS) notices are located in the LightTools installation folder under \Doc\FOSS (e.g., C:\Program Files\Optical Research Associates\LightTools 2025.03.\Doc\FOSS).

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Chapter 1 Getting Started

This chapter lists LightTools system and licensing requirements and tells you how to contact LightTools Support.

System Requirements

To install LightTools, you must have:

 A personal computer with an x64 Intel or AMD processor running the Windows 10 or Windows 11 operating system.

To get maximum performance from multi-threaded simulations, we recommend 4 to 16 CPU cores. LightTools simulation performance scales well with the number of cores, so a computer with 12 or 16 cores can secure an almost linear increase in performance.

• Random Access Memory (RAM): 8 GB minimum, 16 GB recommended (or more for large models or large simulations)

Free disk space as listed to install Light loois components:		
Component	Disk Space	
Base LightTools product	3331 MB, plus virtual memory equal to 3 times the RAM	
Online documentation	149 MB	
Tutorial Files	131 MB	
Data Exchange Modules, excluding CATIA V5	488 MB	
CATIA V5 Modules	1858 MB	
SOLIDWORKS Link Module	73 MB	

• Free disk space as listed to install LightTools components:

- Free disk space on the *system drive* (i.e., the drive on which the operating system is installed) for prerequisite software and for processes and temporary files required when running the product: 10 GB. If LightTools is installed on a drive other than the system drive, that drive should also have at least 10 GB free disk space. Large models and complex analyses may require significantly more disk space.
- Display:
 - A monitor supporting 1280 x 1024 or better resolution, with 16-bit (65536) colors or more. LightTools supports monitors with high resolution or high DPI (dots per inch).
 - An OpenGL compliant graphics card with stable ICD driver support recommended. We
 recommend that you always use the latest version of the driver for your graphics card.
- To access and navigate between documents in the LightTools Document Library, which are provided as Portable Document Format (PDF) files, it is recommended that you have Acrobat Reader version 8.x or higher installed on your computer and set as your default PDF viewer. For

many systems, the default PDF viewer is a browser (e.g., Edge, Chrome), which does not support PDF features such as links that you can click to jump to another document.

A DVD drive, if installing from a DVD

Licensing Requirements

LightTools provides the following methods for licensing. Before you install LightTools, you need to know which method is appropriate for you to use.

- LightTools Legacy Licensing Used in releases up to and including LightTools 2025.03. Customers who are updating from a previous version of LightTools can continue to use Legacy Licensing but will be required to migrate to new licensing during their upcoming renewals. Please contact your Synopsys Optical Solutions representative for trial of the new licensing method.
- Synopsys Common Licensing Available for customers beginning with LightTools 2023.03.

Your LightTools or IT administrator should be able to provide you with information about the licensing method you need to choose. If you need additional information to help you choose, see:

https://www.synopsys.com/optical-solutions/support/choosing-license-option.html

For requirements specific to each licensing method, see *About LightTools Legacy Licensing* on page 7 and *About Synopsys Common Licensing* on page 7.

To install LightTools with either of these licensing methods, you must have license keys provided by Synopsys Optical Solutions via SolvNetPlus SmartKeys or your local LightTools software distributor.



Note: Host IDs are unique to each method of licensing and are not interchangeable.

The following modules and add-ons require a separate license:

- LightTools Core Module
- LightTools Illumination Module
- LightTools Distributed Simulation Module

For this module, you must have a license for each worker session, and you must have a floating license. You must also install the Intel Message Passing Interface (MPI) on each host running worker sessions that participate in simulations. MPI requires 68 MB of disk space, and the MPI executable is provided on the SolvNetPlus website Downloads page with the product software.

For details about installing this module, see the *Distributed Simulation Module User's Guide* in the LightTools Document Library, which is included in the LightTools installation (select **Help > Document Library** or Windows Start > LightTools(64) 2025.03 > Document Library).

- LightTools Optimization Module
- LightTools SmartStart Library Module

For details about installing this module, see the Appendix C,"Using the LightTools SmartStart Library" in the *LightTools Core Module User's Guide*, which is included in the LightTools installation (select **Help > Document Library** or Windows Start > LightTools(64) 2025.03 > Document Library).

- LightTools Advanced Physics Module
- LightTools Advanced Design Module

- LightTools Imaging Path Module
- LightTools SOLIDWORKS Link Module
- LightTools MetaOptic Design Add-on (available only with Synopsys Common Licensing)
- Image Analysis Module (available only with Synopsys Common Licensing)

For the LightTools SOLIDWORKS Link Module, you need a licensed version of SOLIDWORKS 2021 or later (with the latest service pack, if possible) installed on the same computer as LightTools.

LightTools Parasolid Exchange Module

- LightTools STEP Exchange Module
- LightTools IGES Exchange Module
- LightTools SAT Exchange Module
- LightTools CATIA V4 Exchange Module
- LightTools CATIA V5 Import Module
- LightTools CATIA V5 Export Module

About LightTools Legacy Licensing

With Legacy Licensing, you can run LightTools using either a *fixed* license or a *floating* license. A fixed license allows you to run LightTools only on the computer on which it is installed (see *Installing LightTools with a Fixed License (Legacy Licensing)* on page 11). A floating license, which is installed on a network server, allows you to run LightTools on any computer on the same network (see *Installing and Managing the OSG Floating License (Legacy Licensing)* on page 17). The number of users that can use LightTools concurrently is limited by the licensing software.

To install LightTools with Legacy Licensing, you must have:

- A dongle provided by Synopsys and a USB2.0 (or higher) port (for Type A)
- If you will be running LightTools with a floating license, you must also have:
 - TCP/IP network protocol
 - Floating license manager software provided by Synopsys OSG. This guide provides instructions for installing the OSG Floating License Manager (a Sentinel RMS license manager that has been customized for Synopsys OSG software), which is provided on SolvNetPlus. See Using SolvNetPlus to Obtain LightTools Software and Licenses on page 49 for details.

About Synopsys Common Licensing

With Synopsys Common Licensing, you can run LightTools using either a *nodelocked* or *network* license. A nodelocked license allows you to run LightTools only on the computer on which it is installed (see *Installing LightTools with an SCL Nodelocked License* on page 35). A network license, which is installed on a network server, allows you to run LightTools on any computer on the same network (see *Installing and Managing an SCL Network License* on page 41).

To install LightTools with Synopsys Common Licensing, you must have:

- Synopsys Common Licensing (SCL) software, which is included in the LightTools installer. This guide provides instructions for installing SCL.
- If you will be running LightTools with a network license, you must also have:
 - TCP/IP network protocol

System requirements for a Synopsys Common Licensing *server* are available here: https:// www.synopsys.com/support/licensing-installation-computeplatforms/licensing/sel-supportedos.html.

A dongle is not required with SCL, but if one is required at your site, you must have:

• A dongle provided by Synopsys and a USB2.0 (or higher) port (for Type A)

Contacting LightTools Support

Need expert help using our software?

- Open a support ticket in SolvNetPlus. Learn more about how to access and use SolvNetPlus.
- Send an email to lighttools_support@synopsys.com.
- Explore the SolvNetPlus Knowledge Base, which features searchable technical articles, example files, macros, release notes, FAQs, and more, available at any time. To access these resources, log in to SolvNetPlus, and then click this link: LightTools Support. Or, from the SolvNetPlus home page, you can click the Documentation tile, select LightTools in the list of products, and then select the LightTools Support tab.
- Visit our main Support page for an overview of how to access product learning, self-help, and other resources.
- Visit our Licensing and Installation Help page.
- View our list of global support contacts.

Know Installation Issues with the Advanced Analysis Utility

In LightTools 2025.03, the Advanced Analysis utility requires the Microsoft.NET Core 6.x framework to be installed on your computer. There are two known installation issues you might encounter because of this.

Unable to Locate libmmd.dll on Windows 10

On some Windows 10 systems, when you try to launch the Advanced Analysis utility, the Advanced Analysis window fails to open, and the following error message is displayed in the LightTools Console window. This is caused by Windows 10 not finding a .dll file that it needs.

InstanceMainWindow: Set property
'System.Windows.ResourceDictionary.DeferrableContent' threw an exception.

Workaround: In the LightTools installation folder (e.g., C:\Program Files\Optical Research Associates\LightTools 2025.03), copy **libmmd.dll** from this folder:

```
\Utitlities.NET
```

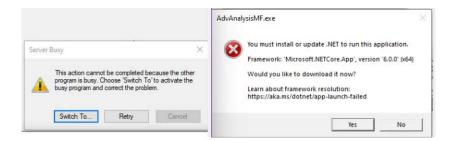
to this folder:

\Utitlities.NET\AdvAnalysisMF

and then launch the Advanced Analysis utility again.

Newer Version Prevents Installation of Required Version

When you try to launch the Advanced Analysis utility, the Advanced Analysis window fails to open, and the following pop-up windows are displayed.



This problem occurs if you already have .NET Core 8.x installed on your machine, but not .NET Core 6.x. The LightTools installer skips the installation of .NET 6.x Core, and then Advanced Analysis will not be able to run.

Workaround: Manually install the .NET Core 6.x framework. To do this, navigate to the folder where the LightTools installation files were extracted (e.g., C:\Temp\LightTools64) and open the folder \ISSetupPrerequisites\{DC309383-111D-478F-B7A6-3692A3F05C18}. Double-click the file windowsdesktop-runtime-6.0.33-win-x64.exe to begin the installation.

C:\Temp\LightTools64\ISSetupPrerequisites\{DC309	383-111D-478F-	B7A6-3692A3F0	5C18} ~ ව
Name	Size	Туре	Date modified
😸 windowsdesktop-runtime-6.0.33-win-x64.exe	56,451 KB	Application	9/16/2024 6:32 AM

CHAPTER 1 Getting Started

Chapter 2 Installing LightTools with a Fixed License (Legacy Licensing)

With LightTools Legacy Licensing, you can run either a *fixed* license or a *floating* license. This chapter describes how to install the product to run using a fixed license, which allows you to run LightTools only on the computer on which it is installed. With this license, you can open up to eight concurrent LightTools sessions.

These instructions assume that you have already downloaded LightTools from the Synopsys SolvNetPlus website via electronic software transfer (EST) or that you ordered and received a LightTools DVD. It is also assumes that you have obtained license keys. If you have not done so, see Using SolvNetPlus to Obtain LightTools Software and Licenses on page 49.

Installing LightTools

- 1. Log on to your computer as Administrator.
- 2. Navigate to the folder where the LightTools installation file *LightTools64_202503FCS.zip* is located.
- 3. Right-click the file and select one of the extract options on the pop-up menu, shown in the following figure. For example:
 - If you have WinZip, select WinZip > Extract to. In the WinZip Extract dialog box, navigate to the desired location on your local drive and click Unzip.
 - If you have 7-Zip, select 7-Zip > Extract files. In the Extract dialog box, navigate to the desired folder and click OK.
 - If you have the Windows extract tool, select Extract All. In the Extract Compressed (Zipped)
 Folders dialog box, navigate to the desired folder and click Extract.
- 4. When the extraction is complete, navigate to the folder to which the files were extracted.
- 5. Double-click the file setup.exe.

If a User Account Control dialog box is displayed with the message *Do you want to allow this app to make changes to your PC*?, click Yes to continue.

6. If you are prompted to install a Microsoft Visual C++ redistributable package or the .NET Framework, click the Install button.



Note: Under some circumstances, the installation program is interrupted after the redistributable software is installed, and you must run the LightTools setup.exe file again to complete the process.

The InstallShield Wizard is displayed.

7. Click Next to continue.

The End-User License Agreement screen is displayed.

8. Click the I accept option and click Next to continue.

The Destination Folder screen is displayed.

9. To accept the default location for the program and Shared Data files, click Next.

The License Installation Options screen is displayed. By default, the first option (I have a license file for a Fixed/Nodelocked license) is selected.

- 10. Select one of the following options.
 - If you *have* a license key file, keep the first option selected, click Next, specify the license key file on the screen displayed, and click Next.
 - If you *do not* have a license key file, select the fourth option (Install LightTools without setting up licensing) and click Next.

The LightTools Setup Type screen is displayed, shown in the following figure.

Setup Type Choose the set	up type that best suits your needs.	Lightools
Please select a	setup type.	
Complete	(Includes CATIA V5 data exchange)	
	All program features will be installed. Includes so data exchange. Requires the most disk space.	upport for CATIA V5
Typical	Most commonly used features will be installed. D support for CATIA V5 data exchange.	Does NOT include
Custom	Choose the program features you want to insta only for advanced users.	II. Recommended
InstallShield		



Note: The default option is Complete. During a Complete installation, all LightTools features are automatically installed, including the large CATIA V5 data exchange module. If you do not intend to license and use the CATIA V5 module, you can choose the Typical setup option to install all features *except* the CATIA V5 module, or select the Custom setup option, which allows you to manually control which features are installed.

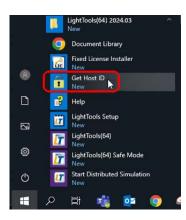
- 11. Select the type of installation you would like to run and click Next.
- 12. On the Ready to Install the Program screen, click the Install button to begin installing LightTools.
- 13. When the installation is complete, click Finish to close the wizard.

If you did not set up licensing in this procedure, see *Obtaining the Host ID for a Fixed License* on page 12 and *Installing a License Key for a Fixed License* on page 13 to continue.

Obtaining the Host ID for a Fixed License

A license key is designed to work for only one USB dongle, so the license key is associated with a unique value encoded on the dongle called a *Host ID*. Because of this, you need to know the Host ID for the license dongle before you can retrieve a license key. The Host ID is printed on a label on the USB dongle; if you're unable to read the ID on the label, you can also obtain the Host ID by running a program that reads it from the dongle. In the LightTools installation, the GetHostID utility is provided for this purpose. Follow these steps to run the GetHostID utility.

- 1. Insert the USB dongle in an active USB port.
- 2. Click the Windows Start button and select **LightTools > GetHostID**.



The GetHostID utility is displayed, as shown in the following figure. The Host ID is displayed below the Read Dongle Host ID button (in this example, **400*-*16TL6BDC7J3FHJN**).

GetHostID Version 13.1.40395460	
Dongle Host ID Read the Host ID from a USB dongle. Be sure that the dongle and the dongle device driver are properly installed before using this option. Click the Read Dongle Host ID button if the Host ID is not displayed below.	
Read Dongle Host ID	
Host ID File Create a file with a complete set of Host IDs for this computer. Use this option only if requested by Customer Support.	
Write Host ID File Hardware Host ID C-*1MZLQMZLQMZ	
Done	

- 3. Copy the Host ID to use when you retrieve your license key on the Synopsys SolvNetPlus website. See *Retrieving License Keys* on page 56 for instructions.
- 4. Click Done to close the GetHostID utility.

After you retrieve your license key, go to Installing a License Key for a Fixed License on page 13.

Installing a License Key for a Fixed License

To install the license key for LightTools, you must have:

- LightTools installed (see Installing LightTools on page 11)
- A license dongle

• A valid license key file (in previous releases, license keys were called license *codes*.) This procedure assumes that you have already obtained license keys from the SolvNetPlus SmartKeys web page. If you have not done so, see *Retrieving License Keys* on page 56 for instructions.



Note: If you try to start LightTools before you install your license key, the License Manger Error dialog box is displayed. Click the Install License button on that dialog box to display the Fixed License Installer and follow steps 3 through 6.

Follow these steps to install your license key.

- 1. Insert the license dongle in an active USB port.
- To install your license key, click the Windows Start button and select LightTools > Fixed License Installer

	LightTools(64) 2024.03 New
	O Document Library
	Fixed License Installer
8	Get Host ID New
Ľ	🔐 Help
8	LightTools Setup New
~	LightTools(64) New
ŝ	LightTools(64) Safe Mode
Φ	Start Distributed Simulation

The Fixed License Installer is displayed, shown in the following figure.

Fixed License Installer Version 1.8	—	×
Application: LightTools(64) 2025.03		
Install Fixed License File		
Start Application After Installing Licens	e File	
Install		

- 3. Click the Browse button _____
- 4. In the Open dialog box, navigate to the license file, select it, and click Open.

The Open dialog box is closed, and the path to the license key file is shown in the Fixed License Installer.

Fixed License Installer Version 1.8 -		×
Application: LightTools(64) 2025.03		
Install Fixed License File		
C:\Users\username\Desktop\license.dat		1
Start Application After Installing License File		
Install		

5. Click the Install button.

The license key is installed, and the Success dialog box is displayed.

Success	—
License file successfully copied to C:\Users\Public\Documents\LightTools2025.03\license.dat	
	ОК

6. Click OK.

LightTools starts automatically.

Modifying License Options for LightTools Legacy Licensing

If you need to change the type of license (e.g., fixed or floating) for your LightTools installation, follow these steps.

- 1. Open the InstallShield Wizard:
 - If you have a LightTools DVD, insert it into the DVD drive and choose Modify > Change Licensing Options.
 - If you do not have a DVD, follow these steps:
 - a. Click the Windows Start icon, enter con, and press Enter to open the Control Panel.
 - b. Open the list of programs on your computer:

On Windows 10, under Programs, click Uninstall a program.

On Windows 11, click Programs and Features.

- c. In the Programs and Features dialog box, right-click the LightTools version you would like to modify and select Change on the popup menu.
- 2. When the InstallShield Wizard is displayed, click Next.
- 3. On the Program Maintenance screen, make sure the Modify option is selected and click Next.
- 4. On the Installation Options screen, click the option for Change Licensing Options and click Next.
- 5. On the License Installation Options screen, select the desired option and click Next.
 - I have a license file for a Fixed/Nodelocked license: Allows you to provide the location and name of the license file and lets the software verify the licensing method (i.e., LightTools Legacy).

- I want to connect to a license server to use a Floating/Network Client license: Allows you to
 provide the license server name and lets the software verify the licensing method (i.e.,
 LightTools Legacy).
- Let me specify the licensing method manually: Allows you to indicate the licensing method you have and then provide license file or server information.
- 6. Provide the location of the license file or the name of the server, depending on the option you chose.
- 7. Click Next.
- 8. On the Ready to Modify the Program page, click Install.

When the licensing option has been updated, the wizard displays the InstallShield Wizard Completed screen.

LightTools	InstallShield Wizard Completed
1th	The InstallShield Wizard has successfully installed LightTools. Click Finish to exit the wizard.
	< Back Finish Cancel

9. Click Finish to close the wizard.

Chapter 3 Installing and Managing the OSG Floating License (Legacy Licensing)

With LightTools Legacy Licensing, you can run either a *fixed* license or a *floating* license. This chapter describes how to install the product to run using a floating license on a network server, which allows you to run LightTools on any computer on the same network, and describes how to install LightTools on one or more client machines.

The number of users that can use LightTools concurrently is limited to a predetermined number by the licensing software. A single user can open up to eight concurrent LightTools sessions per floating license per computer. If a user opens more than eight concurrent LightTools sessions on the same computer, an additional floating license will be used (if available).

The floating license capability for LightTools Legacy Licensing is supported by the OSG Floating License Manager, which is a Sentinel RMS license manager that has been customized for Synopsys OSG software. If you install other Synopsys OSG software products, they will use the same license management software, and their license keys will be written to the same license key file. The applications cannot share license keys; they share only the license server software.



Note: Installing a floating license requires system-administration-level training and should be performed by someone who is familiar with your network structure. To perform this installation, you must be logged on as administrator.

The steps for installing LightTools to run with a floating license are:

- 1. Selecting a License Server on page 17
- 2. Downloading and Installing the OSG Floating License Manager on page 18
- 3. Obtaining the Host ID for a Floating License on page 20
- 4. Installing a License Key for a Floating License on page 21
- 5. Installing LightTools on Client Machines on page 22
- 6. Optional: Managing Floating Licenses on page 25
- 7. Optional: Logging Floating License Usage on page 30

Selecting a License Server

Before installing any software, you must identify the computer that will act as the license server. This must be a computer connected to a network that can grant access to one or more client machines.



Note: The OSG Floating License Manager communicates via port 5093 using the user datagram protocol (UDP). If you will be running LightTools across different subnets, you will have to configure your routers or firewalls to allow two-way communication across this port.

You can run the OSG Floating License Manager on the following operating systems: Windows 10, Windows 11, Windows Server 2016, and Windows Server 2019.

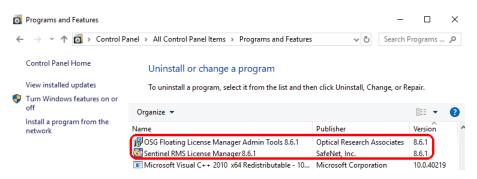
Downloading and Installing the OSG Floating License Manager

To run this version of LightTools, you must have the latest version of the OSG Floating License Manager, which is provided on the SolvNetPlus website on the same Downloads page as the product software. (See *Using SolvNetPlus to Obtain LightTools Software and Licenses* on page 49 for details.) Follow these steps to install the OSG Floating License Manager on the license server.



Note: If you have a different version of the Sentinel RMS software, you must first uninstall the older version, as described in step 2.

- 1. Log on to the license server with administrator privileges.
- If any version of the OSG Floating License Manager or the Sentinel RMS License Manager software is installed on the license server computer, you must uninstall it using the following substeps. If no prior version is installed, skip to step 3.
 - a. Open the Control Panel and select Programs and Features.
 - b. If the list includes both the OSG Floating License Manager Admin Tools and the Sentinel RMS License Manager, shown in the following figure, you must uninstall *both* of these.



- c. Select the program to uninstall and then click Uninstall/Change.
- d. Follow the instructions on screen.
- Navigate to the folder where you downloaded the OSG Floating License Manager, FloatingLM9.3_lservnt2.exe.
- 4. Double-click the file FloatingLM9.3_lservnt2.exe.

The Welcome screen for the OSG Floating Manager Admin Tools wizard is displayed.

5. Click Next.

The License Agreement screen for the OSG Floating License Manager Admin Tools is displayed.

6. Click the I Accept option and click Next to continue.

The Ready to Install screen is displayed.

7. Click Install.

The progress screen is displayed while the software is installed, and then the Welcome screen for the *Sentinel RMS License Manager* is displayed.

8. Click Next.

The License Agreement screen for the Sentinel RMS License Manager wizard is displayed.

9. Click the I Accept option and then click Next to continue.

The Customer Information dialog box is displayed.

- Enter the information as needed for your site or accept the defaults and click Next to continue. The Destination Folder screen is displayed.
- 11. Specify a different location if needed or click Next to accept the default and continue.

The Setup Type screen is displayed.

12. Click Next to accept Complete (recommended) and continue.

The System Firewall Settings screen is displayed.



13. Leave the option turned on (checked) and click Next.

This setting allows the Floating License Manager to add inbound rules. If you change this setting, LightTools will not be able to obtain the license needed to run.

The Ready to Install screen is displayed.

14. Click Install.

The progress screen is displayed while the software is installed.

When the installation is finished, the Completed screen for the Sentinel License Manager is displayed.

15. Click Finish.

The Completed screen for the OSG Floating License Manager Admin Tools is displayed.

16. Click Finish.

The installation is complete.

17. Reboot your computer if prompted to do so.

If you already have a license key for this product, skip to *Installing a License Key for a Floating License* on page 21. If you do not yet have a license key, continue with *Obtaining the Host ID for a Floating License* on page 20.

CHAPTER 3 Installing and Managing the OSG Floating License (Legacy Licensing)

Obtaining the Host ID for a Floating License

A license key is designed to work for only one USB dongle, so the license key is associated with a unique value encoded on the dongle called a *Host ID*. Because of this, you need to know the Host ID for the license dongle before you can retrieve a license key. The Host ID is printed on a label on the USB dongle; if you're unable to read the ID on the label, you can also obtain the Host ID by running a program that reads it from the dongle. In the OSG Floating License Manager installation, the GetHostID utility is provided for this purpose. Follow these steps to run the GetHostID utility.

- 1. Insert the USB dongle in an active USB port on the license server.
- 2. Click the Windows Start button and select OSG Floating License Manager > GetHostID.

D	OSG Floating License Manager ^
23	Administrator Utility New
õ	Floating License Installer
102	Get Host ID New
٢	System Administrator's Guide
	$ {\cal P} $ Type here to search

The GetHostID utility is displayed, as shown in the following figure. The Host ID is displayed below the Read Dongle Host ID button (in this example, 400*-*16TL6BDC7J3FHJN).

GetHostID Version 13.1.41834631	×
Dongle Host ID	
Read the Host ID from a USB dongle. Be sure that the dongle and the dongle device driver are properly installed before using this option. Click the Read Dongle Host ID button if the Host ID is not displayed below.	
Read Dongle Host ID	
400-*16TL6BDC7J3FHJN	
Host ID File	
Create a file with a complete set of Host IDs for this computer. Use this option only if requested by Customer Support.	
C:\Users\Public\Desktop\HostIDs.txt	
Write Host ID File	
Hardware Host ID	
C-*13A65RXLM88C6J8	
Done	

- 3. Copy the Host ID to retrieve your license key on the Synopsys SolvNetPlus website. See *Retrieving License Keys* on page 56 for instructions.
- 4. Click Done to close the GetHostID utility.

After you retrieve your license key, go to Installing a License Key for a Floating License on page 21.

Installing a License Key for a Floating License

After you install the license server software and retrieve a license key, you need to install the license key on the license server before client machines can successfully run LightTools. The Floating License Installer is provided for this purpose.

This procedure assumes that you have already obtained a valid license key from the SolvNetPlus SmartKeys web page. If you have not done so, see *Retrieving License Keys* on page 56 for instructions.

Follow these steps to install your license key file.

- 1. Make sure that the license dongle is inserted in an active USB port on the license server.
- 2. Click the Windows Start button and select OSG Floating License Manager > Floating License Installer.

D	OSG Floating License Manager ^ New
23	Administrator Utility New
ŝ	Floating License Installer New
505 1	Get Host ID New
Φ	System Administrator's Guide
-	$ {\cal P} $ Type here to search

The Floating License Installer is displayed, as shown in the following figure.

🔗 Floating License Installer, Version 1.5.31123097	
Install Floating License File	
]
Install	

- 3. Click the Browse button .
- 4. In the Open dialog box, navigate to the license key file, select it, and click Open.

The Open dialog box is closed, and the path to the license key file is shown in the Floating License Installer.

CHAPTER 3 Installing and Managing the OSG Floating License (Legacy Licensing)

🤗 Floating License Installer, Version 1.5.41834631	×
Install Floating License File	
C:\Users\username\Desktop\license.dat	
Install	

5. Click the Install button.

The license key file is installed, and the Success dialog box is displayed.

Eloating License Installer, Version 1.5.41834631	×
Install Floating License File	
C:\Users\username\Desktop\license.dat	
Install	
License Installation successful.	

6. To close the Floating License Installer, click the X in the top right corner.

Continue with Installing LightTools on Client Machines on page 22.

Installing LightTools on Client Machines

LightTools must be installed on each client machine where it will be used. During the installation, you select Floating License as the license type and then specify the name of the server, which is the computer on which the license manager is installed.

These instructions assume that you have already downloaded LightTools from the Synopsys SolvNetPlus website via electronic software transfer (EST) or that you ordered and received a LightTools DVD. If you have not done so, see *Using SolvNetPlus to Obtain LightTools Software and Licenses* on page 49.

- 1. Log on to your computer as Administrator.
- 2. Navigate to the folder where the LightTools installation file LightTools64 860FCS.zip is located.
- 3. Right-click the file and select one of the extract options on the pop-up menu, shown in the following figure. For example:
 - If you have WinZip, select WinZip > Extract to. In the WinZip Extract dialog box, navigate to the desired location on your local drive and click Unzip.

- If you have 7-Zip, select 7-Zip > Extract files. In the Extract dialog box, navigate to the desired folder and click OK.
- If you have the Windows extract tool, select Extract All. In the Extract Compressed (Zipped)
 Folders dialog box, navigate to the desired folder and click Extract.
- 4. When the extraction is complete, navigate to the folder to which the files were extracted.
- 5. Double-click the file setup.exe.

If a User Account Control dialog box is displayed with the message *Do you want to allow this app to make changes to your PC*?, click Yes to continue.

6. If you are prompted to install a Microsoft Visual C++ redistributable package or the .NET Framework, click the Install button.



Note: Under some circumstances, the installation program is interrupted after the redistributable software is installed, and you must run the LightTools setup.exe file again to complete the process.

The InstallShield Wizard is displayed.

7. Click Next to continue.

The End-User License Agreement screen is displayed.

8. Click the I accept option and click Next to continue.

The Destination Folder screen is displayed.

9. To accept the default location for the program and Shared Data files, click Next.

The License Installation Options screen is displayed. By default, the first option (I have a license file for a Fixed/Nodelocked license) is selected.

- Select I want to connect to a license server to use a Floating/Network Client license and click Next.
- 11. Enter the name of the computer on which the license manager was installed and click Next to continue.

If you want to enter more than one server name, you can do so, as long as you separate the names with a colon, as shown in the following example. The names *ServerHostname1* and *ServerHostname2* are examples; be sure to enter the names of your license servers in this field. LightTools checks for a license on servers in the order in which they are listed.

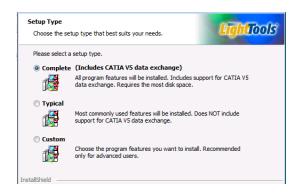
This LightTools version includes support for two licensing methods. Enter the n of your license server, as provided by your system administrator:	iame
ServerHostname1:ServerHostname2	

LightTools displays a message to report the licensing method indicated by the format of the server name you entered. If it is recognized as LightTools Legacy licensing, click Yes to continue; otherwise, click No and review the instructions below the input field about the correct format.

12. Click Next.

The LightTools Setup Type screen is displayed, shown in the following figure.

CHAPTER 3 Installing and Managing the OSG Floating License (Legacy Licensing)





Note: The default option is Complete. During a Complete installation, all LightTools features are automatically installed, including the large CATIA V5 data exchange module. If you do not intend to license and use the CATIA V5 module, you can choose the Typical setup option to install all features *except* the CATIA V5 module, or select the Custom setup option, which allows you to manually control which features are installed.

- 13. Select the type of installation you would like to run and click Next.
- 14. On the Ready to Install the Program screen, click the Install button to begin installing LightTools.
- 15. When the installation is complete, click Finish to close the wizard.

Modifying License Options for LightTools Legacy Licensing

If you need to change the type of license (e.g., fixed or floating) for your LightTools installation, follow these steps.

- 1. Open the InstallShield Wizard:
 - If you have a LightTools DVD, insert it into the DVD drive and choose Modify > Change Licensing Options.
 - If you do not have a DVD, follow these steps:
 - a. Click the Windows Start icon, enter con, and press Enter to open the Control Panel.
 - b. Open the list of programs on your computer:

On Windows 10, under Programs, click Uninstall a program.

On Windows 11, click Programs and Features.

- c. In the Programs and Features dialog box, right-click the LightTools version you would like to modify and select Change on the popup menu.
- 2. When the InstallShield Wizard is displayed, click Next.
- 3. On the Program Maintenance screen, make sure the Modify option is selected and click Next.
- 4. On the Installation Options screen, click the option for Change Licensing Options and click Next.
- 5. On the License Installation Options screen, select the desired option and click Next.
 - I have a license file for a Fixed/Nodelocked license: Allows you to provide the location and name of the license file and lets the software verify the licensing method (i.e., LightTools Legacy).

- I want to connect to a license server to use a Floating/Network Client license: Allows you to
 provide the license server name and lets the software verify the licensing method (i.e.,
 LightTools Legacy).
- Let me specify the licensing method manually: Allows you to indicate the licensing method you have and then provide license file or server information.
- 6. Provide the location of the license file or the name of the server, depending on the option you chose.
- 7. Click Next.
- 8. On the Ready to Modify the Program page, click Install.

When the licensing option has been updated, the wizard displays the InstallShield Wizard Completed screen.

LightTools	InstallShield Wizard Completed
	The InstallShield Wizard has successfully installed LightTools. Click Finish to exit the wizard.
	< Back Finish Cancel

9. Click Finish to close the wizard.

Managing Floating Licenses

In general, there is nothing that you need to do to manage the floating licenses. As long as the floating license server machine is operational, connected to the network, and is running the Sentinel service, licenses are available to clients.

Monitoring License Use

It is possible for all available licenses to be in use, which would prevent additional clients from running LightTools. In such cases, a system administrator can use the WlmAdmin utility to determine to whom the module licenses have been allocated.



Note: To use the WlmAdmin utility, you must be the person who started the license server, or you must have administrator privileges.

- 1. To start the utility, click the Windows Start menu and select OSG Floating License Manager > Administrator Utility.
- 2. Expand the list of modules below the license server hostname.

The details presented in the dialog box indicate which client machine and username have checked out the licenses. The example below shows that from the license server machine *calico*, a LightTools Illumination Module (LTLUM) license is checked out to a user named *JDoe*, who is using the client machine *sardine*.

🕙 WimAdmin		
File Edit View Tools Help		
Gefined Servers Subnet Servers Generation Servers	Server information Name: calico.synopsys.com Version: 8.6.1.0021 IP address: 10.00.00.000 Feature information	-
E 🛅 LTCATIA ORA E 🛅 LTCore ORA	Name: LTLUM Version:	ORA
LTCV5Exp ORA LTCV5Imp ORA LTIGES ORA LTIGES ORA LTIGES ORA LTLOComp ORA LTLUM ORA	In use: Total: Total users: 1 2 Reserved: 0 0 Commuter: 0 0 Capacity: 0 0	Queued: 0 ajority: No
⊕- LTSAT ORA ⊕- LTSLM ORA ⊕- LTSTEP ORA ⊕- Standalone	User name: JDoe Start time: Mon Nov 16 C	09:34:13 2015 ultGrp

You can also use the WlmAdmin utility to obtain other licensing activity information, such as license servers detected, details on active licenses, etc. For more information about how to use the WlmAdmin utility, see the *Sentinel System Administrator's Guide*. After the Sentinel software is installed, this manual is available by selecting the Windows **Start** menu and selecting **Programs** > **OSG Floating License Manager** > **System Administrator's Guide**.



Note: Not all functions described in the *Sentinel System Administrator's Guide* are supported by LightTools.

Improving Access to LightTools Licenses with the Sentinel License Manager

By default, LightTools licenses are available to anyone on your server on a first-come, first-served basis. Therefore, you can use LightTools immediately without using the Sentinel License Manager. However, if you want to control access to these licenses based on work priorities, you can use the Sentinel License Manager to reserve copies for or deny access to specific users.

Before using the Sentinel License Manager, consider how you want to organize your groups, keeping in mind the following points:

- Anyone on your server can use a license that has not been explicitly reserved.
- After you create a group, you can specify the status of individual members as *Included* (access allowed) or *Excluded* (access denied).

• You can exclude all members of a group from using licenses (called license *tokens*) by specifying 0 licenses for that group.

For example:

• Organize by department:

If you have departments in your organization, enter each department as a separate group, assign the appropriate number of license tokens to each group, and designate each group member as Included or Excluded. You can change this designation for members as needed, according to work priorities.

• Organize by priority:

Create a group for preferred users and another group for everyone else. In the preferred user group, designate all members as Included and assign to them as many licenses as you can allow. For the second group, you enter everyone else in the company, assign the remaining license tokens, and designate which people are Included and which are Excluded. You can change the Included and Excluded designations as the work load changes.

When you are ready to implement this arrangement, you can use the Sentinel License Manager to create a *reservation* file, as described in the following steps.

1. On the license manager server, start the license manager administration utility by clicking the Windows Start button and selecting **OSG Floating License Manager** > **Administrator Utility**.

The WlmAdmin window is displayed.

2. From the menu at the top of the WlmAdmin window, select Edit > Reservation File.

The Wlsgrmgr window is displayed.

- 3. To set up a new members group, select **File > New**.
- 4. Follow these steps to select a feature.
 - a. Select Feature > Add.

The Add License Reservation Wizard is displayed.

b. Click Next to continue.

The Feature Version Capacity window is displayed.

c. Enter the appropriate Feature Name.

Feature Version Capacity		×
Identify an Existing Li Enter Feature Name,	cense. Feature Version (optional) and Capacity (optional).	
Feature Name	LTCore	
Feature Version		
Capacity	🗌 No limit	

You must enter feature names as they appear in the WlmAdmin dialog box, shown in the following example.

😴 WImAdmin		
File Edit View Tools Help		
Defined Servers Subnet Servers Calico.synopsys.com D- LTADM ORA	Server information Name: calico.synopsys.com IP address: 10.00.00.000	8.6.1.0021
LTAPH ORA LTCATIA ORA LTCATIA ORA LTCore ORA LTCVSExp ORA	Feature information Name: LTCore Statistics	Version:

d. For the Feature Version, enter ORA (upper case).

Feature Version Ca	pacity	×
Identify an Exis Enter Feature	sting License. Name, Feature Version (optional) and Capacity (optiona	I).
Feature Name	LTCore	
Feature Version		
Capacity	🗌 🗆 No lim	nit
	< Back Next > Cancel	Help

e. Click Next.

The Group window is displayed.

- 5. To establish a user group, follow these steps.
 - a. Enter a name that identifies the user group for which you want to allow or deny access.

Add a group fo Enter the gro				eature. e reserved for	the group	
Group N Tokens	ame	Ligh	tToolsGroup			
			_			
	< Bac		ext >	Cancel	Help	

- b. In the Tokens field, enter the number of licenses to reserve for that group.
- c. Click Next.

The Members window is displayed.

6. To add members to the group, follow these steps.



Note: Add members who will be allowed access, as well as members who will be denied access.

a. Click the Add button.

Member Name	Туре	Status	
	1.300	1 0.0.00	

b. In the Name of the Member field, enter the member's user name. Members can be defined only by user name and not by machine (i.e, client computer name or IP address).

Member	•
Name of the Member.	JDoe
Members of a group can This member is a : User C Machine	n either be Users or Machines.
	ed to run the application by Including them o run the application by excluding them.
 Included Excluded 	
	OK Cancel

- c. Select User.
- d. Click Included for members who are allowed access or Excluded for members who are denied access.
- e. Click OK on the Member window and repeat the process to add each user in the group.
- f. Click Finish on the Members window to apply the changes and close the window.
- 7. Repeat the process of selecting a feature, establishing a group, and adding members for each group (steps 4, 5, and 6, above).
- 8. Select File > Save As and find the directory where the license manager is installed.

By default, the license manager is installed in C:\Program Files (x86)\Common Files\SafeNet Sentinel\Sentinel RMS License Manager\WinNT. A file called lsreserv is created and saved at this location. The License Manager references this file to determine which users have access to each feature.

- 9. Restart the Sentinel RMS License Manager, as described in the following steps.
 - a. From the Windows Start button, select Start.
 - b. Right-click Control Panel and select Open on the pop-up menu.
 - c. Click System and Security.
 - d. Select Administrative Tools and then Services.
 - e. Locate and right-click the Sentinel RMS License Manager service in the Services dialog box, and select the Restart option on the pop-up menu.

Logging Floating License Usage

Floating license usage is automatically recorded in the file *usage.log*. The following example shows how information is formated in this file.

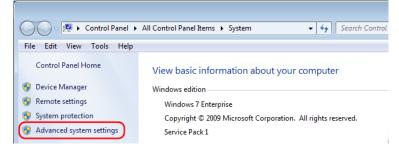
📃 usage.log - Notepad	
File Edit Format View Hel	p
# Shutdown Sentinel RMS Lic # Startup Sentinel RMS Lic # Shutdown Sentinel RMS # Startup Sentinel RMS Lic 2 0 NDA5MA==Wed May 16	se Manager v8.6.1.0021 Tue May 08 12:24:27 2018 1525807467 PCName1 0 4844 tense Manager v8.6.1.0021 Tue May 08 12:26:01 2018 1525807561 PCName1 4844 MA Manager v8.6.1.0021 Tue May 08 12:26:00 2019 1535907560 PCName1 4 20168 se Manager v8.6.1.0021 Sa 2 12 345 6 618: 7 CNa 8 0168 Ma Manager v8.6.1.0021 Sa 2 12 345 6 618: 7 CNa 8 0168 Ma Vanager v8.6.1.0021 Sa 2 12 345 6 618: 7 CNa 8 0168 Ma 12:11:04 2018 1526497864 (TCOre vORA 010 UserName1 PCName1 8.6.1.0021 1 512:15:55 2018 1526498155 CODE V vORA 0 1 0 UserName1 PCName1 8.6.1.0021 1 -
2 0 NDA5MA== Wed May 16	12:17:00 2018 1526498220 CODE_V vORA 2 0 65 UserName1 PCName1 8.6.1.0021 1 5 12:17:08 2018 1526498228 LTCore vORA 2 0 364 UserName1 PCName1 8.6.1.0021 1

As shown in the highlighted portions, the entries include:

- 1 day, date, and time stamp
- 2 the product or module
- 3 a code that indicates whether the license was issued (0), denied (1), or released (2)
- 4 the number of floating licenses in use after the current release or request.
- 5 elapsed time the license was in use (in seconds). This value is 0 until the license is released.
- 6 the user ID
- 7 the host name
- 8 the version number for the floating license manager

By default, the usage.log file is located in the folder C:\Windows\SYSWOW64. You can change the location and name of the file, if desired, as described in the following steps.

- 1. Select the Windows Start menu and select Control Panel > System.
- 2. In the top left corner, select Advanced system settings.



3. In the System Properties dialog box, elect the Advanced tab and click Environment Variables.

System Properties
Computer Name Hardware Advanced System Protection Remote
You must be logged on as an Administrator to make most of these changes.
Performance
Visual effects, processor scheduling, memory usage, and virtual memory
Settings
User Profiles
Desktop settings related to your logon
Settings
Startup and Recovery
System startup, system failure, and debugging information
Settings
Environment Variables
OK Cancel Apply

4. In the Environmental Variables dialog box, select LSERVOPTS and click Edit.

CHAPTER 3 Installing and Managing the OSG Floating License (Legacy Licensing)

Variable	Value	
Path	;c:\Program Files\Saxonica\SaxonHE9.4	
TEMP	%USERPROFILE%\AppData\Local\Temp	
TMP	%USERPROFILE%\AppData\Local\Temp	
	New Edit Delete	
ystem variables Variable	New Edit Delete	
, Variable	Value	
Variable FP_NO_HOST_C.	Value	
FP_NO_HOST_C. JAVA_HOME	Value	
Variable FP_NO_HOST_C. JAVA_HOME	Value NO C: \ProgramData\Adobe\CS5\jre -l usage.log -z 20m -f error.log	

By default, the value for LSERVOPTS is

-l usage.log -z 20m -f error.log

5. In the Edit System Variable dialog box, change the path and/or file name by replacing the string **usage.log** with the desired path and file name. In the following example, the new path for the file is C:\temp\usage.log.

Edit System Variabl	e 💌
Variable name:	LSERVOPTS
Variable value:	-I C:\temp\usage.log-z 20m -f error.log
	OK Cancel

6. Restart the license manager in the services list, as described in the following steps.

The change takes effect after the license manager is restarted.

- a. Select the Windows Start menu and select Control Panel > Administrative Tools.
- b. Double-click Services.
- c. In the Services dialog box, locate and select the Sentinel RMS License Manager.

Services					x
File Action View	Help				
Services (Local)	Services (Local)				
	Sentinel RMS License Manager	Name	Description	Status	•
		Sentinel RMS License Manager	Sentinel RMS License Manager	Started)
	Stop the service Pause the service	🔍 Server	Supports file, print, and named	Started	
Restart the service		🎑 Shell Hardware Detection	Provides notifications for Auto	Started	
		🔍 Smart Card	Manages access to smart cards	Started	

d. Click Restart the Service option.

Services					x
File Action View Help					
Services (Local) Services (Local)					
	Sentinel RMS License Manager	Name	Description	Status	*
		😘 Sentinel RMS License Manager	Sentinel RMS License Manager	Started	
	Stop the service Pause the service	🔍 Server	Supports file, print, and named	Started	
Restart the service	🌼 Shell Hardware Detection	Provides notifications for Auto	Started		
		🎑 Smart Card	Manages access to smart cards	Started	

For additional information about the usage log, See the *Sentinel System Administrator's Guide*. After the license manager software is installed, this manual is available by selecting the Windows **Start** menu and selecting **Programs > OSG Floating License Manager > System Administrator's Guide**. CHAPTER 3 Installing and Managing the OSG Floating License (Legacy Licensing)

Chapter 4 Installing LightTools with an SCL Nodelocked License

With Synopsys Common Licensing, you can run LightTools using either a *nodelocked* license or a *network* license. This chapter describes how to install the product to run using a nodelocked license, which allows you to run LightTools only on the computer on which it is installed. With this license, you can open up to eight concurrent LightTools sessions.

Installing LightTools with a Nodelocked License

These instructions assume that you have already downloaded LightTools from the Synopsys SolvNetPlus website via electronic software transfer (EST) or that you ordered and received a LightTools DVD. It is also assumes that you have obtained license keys. If you have not done so, see *Using SolvNetPlus to Obtain LightTools Software and Licenses* on page 49.

- 1. Log on to your computer as Administrator.
- 2. Navigate to the folder where the LightTools installation file *LightTools64_202503FCS.zip* is located.
- 3. Right-click the file and select one of the extract options on the pop-up menu, shown in the following figure. For example:
 - If you have WinZip, select WinZip > Extract to. In the WinZip Extract dialog box, navigate to the desired location on your local drive and click Unzip.
 - If you have 7-Zip, select 7-Zip > Extract files. In the Extract dialog box, navigate to the desired folder and click OK.
 - If you have the Windows extract tool, select Extract All. In the Extract Compressed (Zipped)
 Folders dialog box, navigate to the desired folder and click Extract.
- 4. When the extraction is complete, navigate to the folder to which the files were extracted.
- 5. Double-click the file setup.exe.

If a User Account Control dialog box is displayed with the message *Do you want to allow this app to make changes to your PC*?, click Yes to continue.

6. If you are prompted to install a Microsoft Visual C++ redistributable package or the .NET Framework, click the Install button.



Note: Under some circumstances, the installation program is interrupted after the redistributable software is installed, and you must run the LightTools setup.exe file again to complete the process.

The InstallShield Wizard is displayed.

7. Click Next to continue.

The End-User License Agreement screen is displayed.

8. Click the I accept option and click Next to continue.

The Destination Folder screen is displayed.

9. To accept the default location for the program and Shared Data files, click Next.

The License Installation Options screen is displayed. By default, the first option (I have a license file for a Fixed/Nodelocked license) is selected.

 Keep the first option selected, click Next, specify the license key file on the screen displayed, and click Next.

The Setup - Optical/Photonic Solutions Licensing wizard is displayed and begins to install the licensing software. When the progress screen closes in the wizard, the Synopsys Common Licensing software installation is complete.

The LightTools Setup Type screen is displayed, shown in the following figure.

Setup Type Choose the set	up type that best suits your needs.	Lightools			
Please select a	Please select a setup type.				
Complete	(Includes CATIA V5 data exchange)				
	All program features will be installed. Includes su data exchange. Requires the most disk space.	pport for CATIA V5			
Typical	Most commonly used features will be installed. Do support for CATIA V5 data exchange.	pes NOT include			
Custom	Choose the program features you want to install only for advanced users.	. Recommended			
InstallShield					



Note: The default option is Complete. During a Complete installation, all LightTools features are automatically installed, including the large CATIA V5 data exchange module. If you do not intend to license and use the CATIA V5 module, you can choose the Typical setup option to install all features *except* the CATIA V5 module, or select the Custom setup option, which allows you to manually control which features are installed.

11. Select the type of installation you would like to run and click Next.

12. On the Ready to Install the Program screen, click the Install button to begin installing LightTools.

13. When the installation is complete, click Finish to close the wizard.

If you did not set up licensing in this procedure, see *Obtaining the Host ID for an SCL License* on page 36 and *Installing a License Key File for an SCL Nodelocked License* on page 38 to continue.

Obtaining the Host ID for an SCL License

A license key is associated with a unique value on your device called a *Host ID*, and it works for only one computer or USB dongle. Because of this, you need to know the Host ID for your computer or dongle before you can retrieve a license key file.

If you already have Synopsys SCL installed on your computer (from a previous version or another Synopsys product), you already have the tools for obtaining your Host ID. Go on to or *Obtaining the Host ID for a Computer* on page 37 or *Obtaining the Host ID for a Dongle* on page 37. If you do not have Synopsys SCL installed on your computer, follow these steps to install it.

- 1. Navigate to the folder to which the LightTools installation files were extracted.
- 2. Double-click the file ps_scl_install.exe.
- 3. The Optical/Photonic Solutions Licensing setup wizard is displayed.

- 4. On the License Type Setup screen, select the appropriate option (Nodelocked or Network (Server)) and click Next to continue.
- 5. On the next screen, leave the Location of the License Key File input field blank and click Next.

A dialog box is displayed to inform you that you can continue without a license file, but you need to install it before using the software.

6. Click OK.

The SCL Installer Setup screen is displayed. .

7. Leave the Location of the SCL Installer blank and click Next.

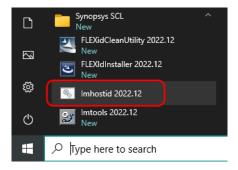
Synopsys SCL licensing is installed.

8. Continue with *Obtaining the Host ID for a Computer* on page 37 or *Obtaining the Host ID for a Dongle* on page 37.

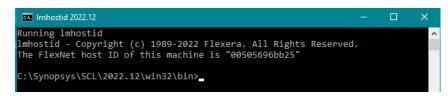
Obtaining the Host ID for a Computer

If you are not using a dongle, you can use the lmhostid utility installed with Synopsys Common Licensing to obtain the Host ID for your computer. Follow these steps to run the lmhostid utility.

1. Click the Windows Start button and select Synopsys SCL > Imhostid 2022.12.



The Host ID is displayed in a command window, as shown in the following example.



2. Copy the Host ID to retrieve your license key on the Synopsys SolvNetPlus website. See *Retrieving License Keys* on page 56 for instructions.

After you retrieve your license key file, go to *Installing a License Key File for an SCL Nodelocked License* on page 38.

Obtaining the Host ID for a Dongle

If you are using a dongle for Synopsys Common Licensing, follow these steps to obtain the Host ID for the dongle.

- 1. Insert the USB dongle in an active USB port. A light glows at the end of the dongle when it's inserted correctly in an active USB port.
- 2. From a command prompt, navigate to C:\Synopsys\SCL\SCL Version\win32\bin.
- 3. Enter the command lmhostid -flexid

The following example shows a single Host ID, but the command may return multiple values (depending on your machine). You can use any single value.

```
C:\Synopsys\SCL\2022.12\win32\bin>lmhostid -flexid
lmhostid - Copyright (c) 1989-2022 Flexera. All Rights Reserved.
The FlexNet host ID of this machine is "FLEXID=10-0abc1d34"
```

4. Copy the Host ID to retrieve your license key on the Synopsys SolvNetPlus website. See *Retrieving License Keys* on page 56 for instructions.

After you retrieve your license key, go to *Installing a License Key File for an SCL Nodelocked License* on page 38.

Installing a License Key File for an SCL Nodelocked License

If you didn't have or specify the location for your license key file when you installed LightTools, you can follow these steps to install it.

This procedure assumes that you have already obtained a valid license key file from the SolvNetPlus SmartKeys web page. If you have not done so, see *Retrieving License Keys* on page 56 for instructions.

Follow these steps to install your license key file.

- If you are using a dongle for Synopsys Common Licensing, insert the USB dongle in an active USB port. A light glows at the end of the dongle when it's inserted correctly in an active USB port.
- 2. Start the wizard to configure licensing in either of the following ways:
 - Click the Windows Start button and select LightTools(64) [version] > Configure Licensing (LT/version]). For example: LightTools(62) 2025.03 > Configure Licensing (LT2025.03)
 - Start LightTools. When the License Error dialog box is displayed, click the Configure Licensing button.

The License Type Setup screen is displayed, showing the type of license specified for your computer.

3. Click Next.

The License Key File Setup screen is displayed.

- 4. Enter the full path and file name or click the Browse button, navigate to the file, and select it the Windows Open dialog box.
- 5. Click Next on the License Key File Setup screen.

The SCL Installer Setup screen is displayed.

6. Leave the input field blank and click Next to accept the current version.

When the progress screen closes in the Setup - Optical/Photonic Solutions Licensing wizard, the license key file is installed and ready to use.

Modifying License Options for Synopsys Common Licensing

Nodelocked and network server license types require unique license key files, so they are not interchangeable. If you have both a nodelocked license and a network license, you can change the type of license used to run LightTools after installation.

For a network client, you can also use this tool to change the information needed to connect with the network server. Follow these steps to change the license information.

 Click the Windows Start button and select LightTools(64) [version] > Configure Licensing (LT/version]). For example: LightTools(62) 2025.03 > Configure Licensing (LT2025.03)

The License Type Setup screen is displayed.

- 2. Select the option you want and click Next.
- 3. Based on your selection, do one of the following:
 - For Nodelocked or Network (Server Installation), enter or browse to the license key file and click Next. On the SCL Installer Setup screen, leave the input field blank an click Next to accept the current version.
 - For Network (Client Installation), enter the name of the server on the Network Client Setup screen and click Next.

The licensing option is updated, and the setup wizard is closed.

CHAPTER 4 Installing LightTools with an SCL Nodelocked License

Chapter 5 Installing and Managing an SCL Network License

With LightTools Synopsys Common Licensing, you can run LightTools using either a *nodelocked* license or a *network* license. This chapter describes how to install the product to run using a network license on a network server, which allows you to run LightTools on any computer on the same network, and describes how to install LightTools on one or more client machines.

Each license server makes available a number of LightTools product module licenses, and each license permits you to run eight concurrent sessions of LightTools. The total number of licenses are determined by your company's license agreement. The total number of sessions may be shared across client computers.

For example, if a license server has two licenses available, and each license allows up to eight concurrent LightTools sessions, then one client computer could use eight sessions from the first license and eight sessions from the second license. If the client computer used only three sessions from the second license, then the remaining five sessions would still be available and could be used by another client computer.

Synopsys Common Licensing controls the network license capability. If you install other Synopsys Optical Solutions software products, they will use the same license management software, and their license keys will be written to the same license key file. If you are already using Synopsys Common Licensing at your site, contact LightTools Support before continuing.



Note: Installing a network license requires system-administration-level training and should be performed by someone who is familiar with your network structure. To perform this installation, you must be logged on as administrator.

The steps for installing LightTools to run with a Synopsys Common Licensing license are:

- 1. Selecting a License Server on page 41
- 2. Installing LightTools with SCL Network Licensing on page 42
- 3. Obtaining the Host ID for a Dongle on page 45
- 4. Installing a License Key for an SCL Network License on page 45
- 5. Installing LightTools on Client Machines on page 46
- 6. Optional: Modifying License Options for Synopsys Common Licensing on page 47
- 7. Optional: Managing Network Licenses on page 48

Selecting a License Server

Before installing any software, you must identify the computer that will act as the license server. This must be a computer connected to a network that client machines can communicate with.



Note: By default, Synopsys Common Licensing communicates via port 27020, the *server port*, as well as 27021, the *vendor daemon port*. If you will be running LightTools across different subnets, you will have to configure your routers or firewalls to allow two-way communication across your designated port. When specifying the server name for a network client, specify the server port and the server name or IP address (e.g., 27020@MyServer or 27020@123.456.78.90).

You can run the Synopsys Common Licensing server on the following operating systems: Windows 10, Windows 11, Windows Server 2016, and Windows Server 2019.

System requirements for a Synopsys Common Licensing server are available here: https://www.synopsys.com/support/licensing-installation-computeplatforms/licensing/scl-supported-os.html.

Installing LightTools with SCL Network Licensing

The Synopsys Common Licensing software is included in the LightTools installer. Follow these steps to install Synopsys Common Licensing on the computer you have designated as the license server.

- 1. Log on to your computer as Administrator.
- 2. Navigate to the folder where the LightTools installation file LightTools64_860FCS.zip is located.
- 3. Right-click the file and select one of the extract options on the pop-up menu, shown in the following figure. For example:
 - If you have WinZip, select WinZip > Extract to. In the WinZip Extract dialog box, navigate to the desired location on your local drive and click Unzip.
 - If you have 7-Zip, select 7-Zip > Extract files. In the Extract dialog box, navigate to the desired folder and click OK.
 - If you have the Windows extract tool, select Extract All. In the Extract Compressed (Zipped)
 Folders dialog box, navigate to the desired folder and click Extract.
- 4. When the extraction is complete, navigate to the folder to which the files were extracted.
- 5. Double-click the file setup.exe.

If a User Account Control dialog box is displayed with the message *Do you want to allow this app to make changes to your PC*?, click Yes to continue.

6. If you are prompted to install a Microsoft Visual C++ redistributable package or the .NET Framework, click the Install button.



Note: Under some circumstances, the installation program is interrupted after the redistributable software is installed, and you must run the LightTools setup.exe file again to complete the process.

The InstallShield Wizard is displayed.

7. Click Next to continue.

The End-User License Agreement screen is displayed.

8. Click the I accept option and click Next to continue.

The Destination Folder screen is displayed.

9. To accept the default location for the program and Shared Data files, click Next.

The License Installation Options screen is displayed. By default, the first option (I have a license file for a Fixed/Nodelocked license) is selected.

- 10. Click the box next to My license is for Synopsys Common Licensing and click Next.
- 11. Select Network (Server Installation)) and click Next.

The License Key File Setup screen is displayed.

If you do not yet have a license key, you can install it later. Go to step 13. When you're ready to get your license key, see *Obtaining the Host ID for an SCL License* on page 44 and *Installing a License Key for an SCL Network License* on page 45.

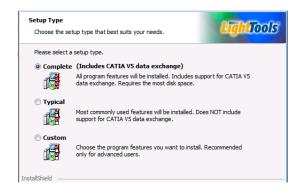
If you already have a license key for this product, go to step 12.

- 12. Enter the full path and file name or click the Browse button, navigate to the file and select it the Windows Open dialog box.
- 13. Click Next.

The SCL Installer Setup screen is displayed.

14. Leave the input field blank and click Next to accept the current version.

When the progress screen closes in the Setup - Optical/Photonic Solutions Licensing wizard, the installation of the Synopsys Common Licensing software is complete. The LightTools Setup Type screen is displayed, shown in the following figure.





Note: The default option is Complete. During a Complete installation, all LightTools features are automatically installed, including the large CATIA V5 data exchange module. If you do not intend to license and use the CATIA V5 module, you can choose the Typical setup option to install all features *except* the CATIA V5 module, or select the Custom setup option, which allows you to manually control which features are installed.

- 15. Select the type of installation you would like to run and click Next.
- 16. On the Ready to Install the Program screen, click the Install button to begin installing LightTools.
- 17. When the installation is complete, click Finish to close the wizard.

Working with Synopsys Common Licensing

Although Synopsys Common Licensing is a stand-alone application with many features and utilities, the LightTools installer includes the version of Synopsys Common Licensing recommended by Synopsys Optical Solutions for working with LightTools. The LightTools installer automates the installation and configuration of Synopsys Common Licensing for you.

The complete documentation for Synopsys Common Licensing is installed with the Synopsys Common Licensing components installed with LightTools in C:\Synopsys\SCL\[SCLversion]\doc, and it is also available on SolvNetPlus.

Obtaining the Host ID for an SCL License

A license key is associated with a unique value on your device called a *Host ID*, and it works for only one computer or USB dongle. Because of this, you need to know the Host ID for your computer or dongle before you can retrieve a license key file.

If you already have Synopsys SCL installed on your computer (from a previous version or another Synopsys product), you already have the tools for obtaining your Host ID. Go on to or *Obtaining the Host ID for a Computer* on page 37 or *Obtaining the Host ID for a Dongle* on page 37. If you do not have Synopsys SCL installed on your computer, follow these steps to install it.

- 1. Navigate to the folder to which the LightTools installation files were extracted.
- 2. Double-click the file ps_scl_install.exe.
- 3. The Optical/Photonic Solutions Licensing setup wizard is displayed.
- 4. On the License Type Setup screen, select the appropriate option (Nodelocked or Network (Server)) and click Next to continue.
- 5. On the next screen, leave the Location of the License Key File input field blank and click Next.

A dialog box is displayed to inform you that you can continue without a license file, but you need to install it before using the software.

6. Click OK.

The SCL Installer Setup screen is displayed. .

7. Leave the Location of the SCL Installer blank and click Next.

Synopsys SCL licensing is installed.

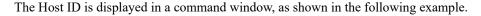
8. Continue with *Obtaining the Host ID for a Computer* on page 37 or *Obtaining the Host ID for a Dongle* on page 37.

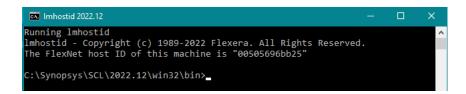
Obtaining the Host ID for a Computer

If you are not using a dongle, you can use the lmhostid utility installed with Synopsys Common Licensing to obtain the Host ID for your computer. Follow these steps to run the lmhostid utility.

1. Click the Windows Start button and select Synopsys SCL > Imhostid 2022.12.

Ľ	Synopsys SCL New	^
	FLEXidCleanUtility 2022.12 New	
	FLEXIdInstaller 2022.12 New	
ŝ	🚿 Imhostid 2022.12	
Ф	Imtools 2022.12 New	
	$\mathcal P$ Type here to search	





2. Copy the Host ID to retrieve your license key on the Synopsys SolvNetPlus website. See *Retrieving License Keys* on page 56 for instructions.

After you retrieve your license key, go to *Installing a License Key for an SCL Network License* on page 45.

Obtaining the Host ID for a Dongle

If you are using a dongle for Synopsys Common Licensing, follow these steps to obtain the Host ID for the dongle.

- 1. Insert the USB dongle in an active USB port. A light glows at the end of the dongle when it's inserted correctly in an active USB port.
- 2. From a command prompt, navigate to C:\Synopsys\SCL\SCL Version\win32\bin.
- 3. Enter the command lmhostid -flexid

The following example shows a single Host ID, but the command may return multiple values (depending on your machine). You can use any single value.

C:\Synopsys\SCL\2022.12\win32\bin>1mhostid -flexid 1mhostid - Copyright (c) 1989-2022 Flexera. All Rights Reserved. The FlexNet host ID of this machine is "FLEXID=10-0abc1d34"

4. Copy the Host ID to retrieve your license key on the Synopsys SolvNetPlus website. See *Retrieving License Keys* on page 56 for instructions.

After you retrieve your license key, go to *Installing a License Key for an SCL Network License* on page 45.

Installing a License Key for an SCL Network License

If you didn't have or specify the location for your license key file when you installed Synopsys Common Licensing, you can follow these steps to install it.

This procedure assumes that you have already obtained a valid license key file from the SolvNetPlus SmartKeys web page. If you have not done so, see *Retrieving License Keys* on page 56 for instructions.

Follow these steps to install your license key file.

- If you are using a dongle for Synopsys Common Licensing, insert the USB dongle in an active USB port. A light glows at the end of the dongle when it's inserted correctly in an active USB port.
- Click the Windows Start button and select LightTools(64) [version] > Configure Licensing (LT/version]). For example: LightTools(62) 2025.03 > Configure Licensing (LT2025.03)

The License Type Setup screen is displayed, showing the type of license specified for your computer.

3. Click Next.

The License Key File Setup screen is displayed.

- 4. Enter the full path and file name or click the Browse button, navigate to the file, and select it the Windows Open dialog box.
- 5. Click Next on the License Key File Setup screen.

The SCL Installer Setup screen is displayed.

6. Leave the input field blank and click Next to accept the current version.

When the progress screen closes in the Setup - Optical/Photonic Solutions Licensing wizard, the license key file is installed and ready to use.

Installing LightTools on Client Machines

LightTools must be installed on each client machine where it will be used. During the installation, you select Network (Client) as the license type and then specify the name of the server, which is the computer on which the license manager is installed.

These instructions assume that you have already downloaded LightTools from the Synopsys SolvNetPlus website via electronic software transfer (EST) or that you ordered and received a LightTools DVD. If you have not done so, see *Using SolvNetPlus to Obtain LightTools Software and Licenses* on page 49.

- 1. Log on to your computer as Administrator.
- 2. Navigate to the folder where the LightTools installation file LightTools64_860FCS.zip is located.
- 3. Right-click the file and select one of the extract options on the pop-up menu, shown in the following figure. For example:
 - If you have WinZip, select WinZip > Extract to. In the WinZip Extract dialog box, navigate to the desired location on your local drive and click Unzip.
 - If you have 7-Zip, select 7-Zip > Extract files. In the Extract dialog box, navigate to the desired folder and click OK.
 - If you have the Windows extract tool, select Extract All. In the Extract Compressed (Zipped)
 Folders dialog box, navigate to the desired folder and click Extract.
- 4. When the extraction is complete, navigate to the folder to which the files were extracted.
- 5. Double-click the file setup.exe.

If a User Account Control dialog box is displayed with the message *Do you want to allow this app to make changes to your PC*?, click Yes to continue.

6. If you are prompted to install a Microsoft Visual C++ redistributable package or the .NET Framework, click the Install button.



Note: Under some circumstances, the installation program is interrupted after the redistributable software is installed, and you must run the LightTools setup.exe file again to complete the process.

The InstallShield Wizard is displayed.

7. Click Next to continue.

The End-User License Agreement screen is displayed.

8. Click the I accept option and click Next to continue.

The Destination Folder screen is displayed.

9. To accept the default location for the program and Shared Data files, click Next.

The License Installation Options screen is displayed. By default, the first option (I have a license file for a Fixed/Nodelocked license) is selected.

- 10. Click the box next to My license is for Synopsys Common Licensing and click Next.
- 11. Select the Network (Client Installation) option.
- 12. On the Network Client Setup screen, enter the name of the port and the computer on which the Synopsys Common Licensing Network (Server Installation) software is installed as shown in the following example.

S Setup - Optical/Photonic Solutions Licensing	-	×
Network Client Setup Which machine is acting as the Network License Server?		S
Synopsys License Server (SNPSLMD_LICENSE_FILE) [port@]server[;port@server;] 27020@MyServer		

If you want to enter more than one server name, separate the names with a semicolon, as shown in the following example. The names *MyServer1* and *MyServer2* are examples; be sure to enter the names of your license servers in this field. LightTools checks for a license on servers in the order in which they are listed.

Synopsys License Server (SNPSLMD_LICENSE_FILE [port@]server[;port@server;]	E)
27020@MyServer1;27020@MyServer2	

When the progress screen closes in the Setup - Optical/Photonic Solutions Licensing wizard, the Synopsys Common Licensing software installation is complete.

Modifying License Options for Synopsys Common Licensing

Nodelocked and network server license types require unique license key files, so they are not interchangeable. If you have both a nodelocked license and a network license, you can change the type of license used to run LightTools after installation.

For a network client, you can also use this tool to change the information needed to connect with the network server. Follow these steps to change the license information.

 Click the Windows Start button and select LightTools(64) [version] > Configure Licensing (LT/version]). For example: LightTools(62) 2025.03 > Configure Licensing (LT2025.03)

The License Type Setup screen is displayed.

- 2. Select the option you want and click Next.
- 3. Based on your selection, do one of the following:

- For Nodelocked or Network (Server Installation), enter or browse to the license key file and click Next. On the SCL Installer Setup screen, leave the input field blank an click Next to accept the current version.
- For Network (Client Installation), enter the name of the server on the Network Client Setup screen and click Next.

The licensing option is updated, and the setup wizard is closed.

Managing Network Licenses

In general, there is nothing that you need to do to manage the network licenses. As long as the network license server machine is operational, connected to the network, and is running the Synopsys Common Licensing (SCL) service, licenses are available to clients.

Synopsys Common Licensing provides tools that enable you to fine tune how your licenses and sessions are distributed using Options files. For information about using Options Files, see "Managing the Options File" in the *FlexNet Publisher License Administration Guide*, which is installed in C:\Synopsys\SCL*[SCLversion]*\doc and available on SolvNetPlus.

Appendix A Using SolvNetPlus to Obtain LightTools Software and Licenses

Software and license keys for LightTools are available for download from the Synopsys SolvNetPlus website. This appendix describes how to use the website to download this software product and the license keys required to use it.



Note: For customers working with distributors, please contact your local LightTools software distributor to obtain your software and license. See the Synopsys Optical Solutions Group Global Contacts page for contact information.

Special terms used in these instructions are explained in the Glossary on page 65.

The process is described in the following procedures.

- 1. Signing Up for a SolvNetPlus Account on page 50
- 2. Downloading LightTools Software from SolvNetPlus on page 51 or

Ordering Media (CDs/DVDs) on page 54

- 3. Installing LightTools on page 56
- 4. Retrieving License Keys on page 56

APPENDIX A Using SolvNetPlus to Obtain LightTools Software and Licenses

Signing Up for a SolvNetPlus Account

Before you can download LightTools software and license keys, you must sign up for a Synopsys SolvNetPlus account. If you already have a SolvNetPlus account, you can skip to *Downloading LightTools Software from SolvNetPlus* on page 51.

1. Go to https://solvnetplus.synopsys.com and click REGISTER - CREATE ACCOUNT.

synopsys [.]	SYN	IOPSYS.COM REGISTRATION	HELP 帮助 幫助 ヘルプ
	SolvNet	Plus	
	Sign Ir	1	
	L Username	0	
	Password	2	
	Sign Ir		
	Need help signing in?		
REGI	STER - CREATE ACCOUNT	FORGOT PASSWOP	RD
© 2020 Synopsys, Inc. 新思 All Rights	Reserved. 京ICP备09052939	SIGN IN SUPPORT	RMS OF USE PRIVACY POLICY

2. Follow the instructions for SolvNetPlus Self Registration.

SolvNetPlus will send a verification code to the email address you specified. You must retrieve the code and enter it on the SolvNetPlus site to complete your registration.

During the registration process, you also need to enter your company's Site ID. If you do not know your company's Site ID, please contact solvnetplusfeedback@synopsys.com to request it. Be sure to include your company name and address in the email request.

Downloading LightTools Software from SolvNetPlus

Follow these steps to download the LightTools product. If you are unable to download software, you can order a CD or DVD instead. See *Ordering Media (CDs/DVDs)* on page 54 for instructions.

- 1. Go to https://solvnetplus.synopsys.com and enter your User Name and Password to sign in.
- 2. Click Downloads.



All Synopsys products currently licensed at your company will be listed.

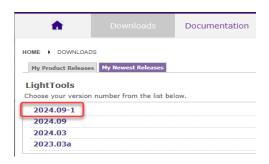
SolvNet®					
				SOLVNETPLUS	SYNOPSYS.COM
A		Documentation	Methodology	SmartKeys	
HOME DOWNLOA	DS				
My Product Release	My Newest Releases				
My Product R	eleases			IP Products	Download C Help
NEW! indicates r	new release within past	45 days.		Search for IP]
LightTools				Analog IP Selector	Prime Sim Co
LucidDrive				Memory & Logic IP Selector	For existing cus at PrimeSim Co
LucidShape					Solution and Pr
LucidShape C/	AA V5 Based				Environment Pr Announcement

3. Select the product you want to download.

SolvNet®					
				SOLVNETPLUS S	YNOPSYS.COM HELP SIG
		Methodology	SmartKeys		
HOME DOWNLOAD	s				
My Product Releases	My Newest Releases				
My Product Releases			IP Products	Download Center Help Help	
NEW! indicates ne	ew release within past 4	5 days.		Search for IP	
LightTools			Analog IP Selector	Proteus Metrokit Informa Read Now	
LucidDrive				Memory & Logic IP Selector	Read Now
LucidShape					
LucidShape CA	A V5 Based				CODE V, LightTools, RS LucidShape and OptoDesigner Users

4. Select the version you would like to download.

APPENDIX A Using SolvNetPlus to Obtain LightTools Software and Licenses



The Download Details page is displayed, shown in the following figure.

•		ls	Documentation	Meth
HOME DOWNLOAD)S			
My Product Release	s My Newest Rele	ases		
Download Det	ails: LightTo	ols: 2	024.09-1	
Download Here	FTPS Downi SFTP Downi	ouu	EFTStream Download	1 - Fastest!
RELEASE ALERTS	~			
RELEASE NOTES > View release notes	3			
INSTALLATION G 2024.09 installat > View installation g OVERVIEW	ion guide appli	es for t	his release.	
Release Type				
Service Pack				
SUPPORTED PLAT	TFORMS	1		
Platform	Relea	se to ES	г	
x86 Microsoft Window	ws (64) 12/16/	/2024		

5. Under **Release Alerts**, click the **Sign Up** link to display **Release Alerts** options that allow you to subscribe to Release Notification emails from SolvNet. These emails let you know when a new version of LightTools is available for download.

Release Alerts	\boxtimes
To be notified of new releases for your authorized product(s), select from the product list below. Check the "include patch" box to receive patch updates. Notifications will be sent to your registered SolvNet email address.	
Available Products 3DIC Compiler ARM v7v8 Fast Models Base Lib ASIP CAPE2 Config Package ASIP CoolFlux NSP Config Package ASIP Consus Config Package ASIP Designer ASIP DSP60 Config Package ASIP Google_LLE Config Package ASIP Google_LLE Config Package ASIP GPmicro Config Package	
Update Reset	

- a. Click the product name for which you would like to receive notifications or click ALL to receive notifications for all products in the list.
- b. Click the Add button.
- c. Click the **Include patch notifications** check box. This allows you to receive notifications of service releases for the selected products.
- d. Click the Update button.

You are returned to the Download Details page.

- 6. On the Download Details page, click Download Here.
- 7. On the Notice page, click Agree and Sign In to continue.
- 8. From the list of available files, click the name of the file and then use your browser to open or save the file.

The following figure shows a list of files for LightTools version 2024.09-1.

Name 🔺	Size 🔺	Date 🔺	Upload Manager
checksum_info.txt	231 B	12/13/20	• Completed (0)
FloatingLM9.3_Iservnt2.1.exe	41.62 MB	12/13/20	 In Progress (0) No uploads in progress
LightTools64_202409SR1.zip	2.44 GB	12/13/20	✓ Pending (0)
LightTools64_202409SR1.zip	2.44 GB 7.44 MB	12/13/20	 Pending (0 No pending uploads

- checksum info.txt is a file used for internal purposes.
- FloatingLM9.3_lservnt2.exe is for customers using LightTools Legacy licensing with a floating license. Only the system administrator who will set up a floating license server needs to download this file. See *Installing and Managing the OSG Floating License (Legacy Licensing)* on page 17 for installation instructions.
- LightTools64_202409SR1.zip is the installation package for LightTools.
- MSMpiSetup.exe is the Intel Message Passing Interface (MPI) executable required for the LightTools Distributed Simulation Module.

Next steps:

- If you need to obtain a license key, see Retrieving License Keys on page 56.
- If you already have a license key, see one of the following procedures, based on the licensing you're using:
 - Installing LightTools with a Fixed License (Legacy Licensing) on page 11
 - Installing and Managing the OSG Floating License (Legacy Licensing) on page 17.
 - Installing LightTools with an SCL Nodelocked License on page 35
 - Installing and Managing an SCL Network License on page 41

Ordering Media (CDs/DVDs)

If you are unable to download software and would like to order media (CD or DVD) instead, you can do this directly on the Synopsys SolvNet website. Follow these steps to order media.

- 1. Go to https://solvnetplus.synopsys.com and enter your User Name and Password to sign in.
- 2. Click **Downloads** at the top of the page.
- 3. Click the MEDIA CENTER link.

Ay Product Releases	IP Products	Download Center Help Help	
NEW! indicates new release within past 45 days.	Search for IP		
LightTools	Analog IP Selector	Proteus Metrokit Informatio Read Now	
LucidDrive	Memory & Logic IP Selector		
LucidShape		1	
LucidShape CAA V5 Based		Licensing Quick Start	
NEW! indicates new release within past 45 days.		Quick Start Guide	
		CODE V, LightTools, RSoft, LucidShape and OptoDesigner Users Customer Support	
		DOCUMENTATION	
		DOWNLOADS FAQ	
		RELEASE NOTIFICATIONS	
		MEDIACENTER	

4. On the **MEDIA CENTER** page, select the product (e.g., CODE V, LightTools, LucidShape, etc.) and click the **Add** button.

	HOME > DOWNLOADS
i	Instructions:
	Tangible media with the latest production version will be shipped.
1	Only products on current support are available to order. Orders will be shipped within four business days to the address below.
1	Select product(s) from the left list and add to right list to request tangible media.
5	User: rcoblent Site: EMPLOYEE Available Products Itiberty NCX Liberty NCX Liberty Compiler LightTools LucidDRive LucidShape CAA V5 Based LucidShape Lite

- 5. Complete the Shipping Address information and click Continue.
- 6. Review the shipping request, shown in the following figure, and click Place Order.

APPENDIX A Using SolvNetPlus to Obtain LightTools Software and Licenses

Please check the following click "Back" button to m	ng information. If everything is correct	, click "Place Order" button to place the order. Other
CICK BACK BULLOIT LOTI	ake correction.	
Name	Cary Rose	
User Name	crose	
Site ID	000	
Products	42092-EST LightTools 9.1	
Additional Information	on	
Email	CARYROSE@SYNOPSYS.COM	
Attention to Name	Cary Rose	
Job Title		
Company Name 1	Synopsys Inc.	
Company Name 2		
Department 1		
Department 2		
Department 3		
Department 4		
Address 1	199 South Los Robles Ave	
Address 2		
Address 3		
Address 4		
Address 5		
City	Pasadena	
Zip/Postal Code	91101	
State/Province	CA - California	
District		
Country	US - United States	
Phone Number	626-696-9101	
Is Primary Contact	No	
Request permanent change to site address		

Installing LightTools

Instructions for installing LightTools software and license keys are provided in the following chapters:

- Getting Started on page 5 Lists LightTools system and licensing requirements and tells you how to contact LightTools Support.
- *Installing LightTools with a Fixed License (Legacy Licensing)* on page 11 With a fixed license, you install the LightTools product, dongle, and license key file on the computer where you want to run LightTools.
- Installing and Managing the OSG Floating License (Legacy Licensing) on page 17 With a floating license, you install the dongle and license key file on a network server and the product on one or more client machines where you want run LightTools; you also install the OSG Floating License Manager on the network server to manage the licenses.
- *Installing LightTools with an SCL Nodelocked License* on page 35 With a nodelocked license, you install the dongle (if you're using one), Synopsys Common Licensing software, LightTools product, and license key file on the computer where you want to run LightTools.
- *Installing and Managing an SCL Network License* on page 41 With a network license, you install the dongle (if you're using one), Synopsys Common Licensing software, and license key file on a network server and then install the product on one or more client machines where you want run LightTools.

After you install the LightTools product, continue with Obtaining the Host ID on page 56.

Obtaining the Host ID

A license key is associated with a unique value on your device called a *Host ID*, and it works for only one computer or USB dongle. Because of this, you need to know the Host ID for your computer or dongle before you can retrieve a license key file. Based on the licensing you're using, see one the following procedures.

for LightTools Legacy Licensing:

- Fixed license Obtaining the Host ID for a Fixed License on page 12
- Floating license Obtaining the Host ID for a Floating License on page 20

for Synopsys Common Licensing:

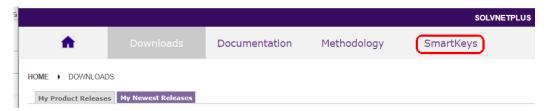
- Nodelocked license Obtaining the Host ID for an SCL License on page 36
- Network (Server) license Obtaining the Host ID for an SCL License on page 44

After you obtain the Host ID, continue with Retrieving License Keys on page 56.

Retrieving License Keys

A license key is a file containing licensing information for your specific USB dongle. You can obtain license keys using the SmartKeys web page on the Synopsys SolvNetPlus website. Follow these steps to obtain your license keys.

1. On the SolvNetPlus home page, click Downloads and then click the SmartKeys tab.



2. On the SmartKeys Home page, click the Key Retrieval link.

SmartKeys Home Key Retrieval Monthly TSL Key Redemption			
Welcome Karen Tori			
Key Retrieval This function enables license key retrieval of unexpired keys for all Host IDs tied to a specific Site ID.			
Monthly TSL Key Redemption			
This function enables redemption of pre-purchased license "tokens". You must provide your Site ID, Host ID, token start date and the number of tokens you wish to redeem.			

The SmartKeys Key Retrieval page is displayed.

You can retrieve a license key for a single USB dongle, or you can retrieve license keys for all Host IDs at your company.

3. To obtain a license key for a single USB dongle, enter the Host ID of your LightTools USB dongle in the Host ID (Optional) field.

If you do not know the Host ID value for your USB dongle, see Obtaining the Host ID on page 56.

To obtain license keys for all products and all Host IDs at your company, leave the Host ID (Optional) field blank.

4. Click Retrieve Key, shown in the following figure.

Downloads Methodology SmartKeys A bownloads Methodology SmartKeys A bownloads Methodology Methodology SmartKeys A bownloads Methodology Monthly TSL Key Redemption Retrieval P - Retrieve keys for site IDs for which you are registered. Multiple site IDs may be selected using gister for additional site IDs by updating your SolvNet profile. D (Optional) - Retrieve a key for a specific host ID. For redundant server configurations, enter of & LightTools Users: Click here for information on obtaining the host ID. etrieval Distribution of the server of the server of the server defined on the server	SYNOPSYS.COM HELP S
Ars Home Key Retrieval Monthly TSL Key Redemption Retrieval P - Retrieve keys for site IDs for which you are registered. Multiple site IDs may be selected using gister for additional site IDs by updating your SolvNet profile. D (Optional) - Retrieve a key for a specific host ID. For redundant server configurations, enter of & LightTools Users: Click here for information on obtaining the host ID. cb 000 - MyCompany * tD * * thement Option * *	
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 Retrieve keys for site IDs for which you are registered. Multiple site IDs may be selected using gister for additional site IDs by updating your SolvNet profile. D (Optional) – Retrieve a key for a specific host ID. For redundant server configurations, enter of & LightTools Users: Click here for information on obtaining the host ID. etrieval 000 - MyCompany * TD (Optional) P(optional) P(-*16TL6BDC7J3FHJN	
gister for additional site IDs by updating your SolvNet profile. D (Optional) – Retrieve a key for a specific host ID. For redundant server configurations, enter of & LightTools Users: Click here for information on obtaining the host ID. etrieval tD 0000 - MyCompany * TD (Override) ID (Optional) *-*16TL6BDC7J3FHJN thment Option	
D (Optional) - Retrieve a key for a specific host ID. For redundant server configurations, enter of & LightTools Users: Click here for information on obtaining the host ID. etrieval D (Override) ID (Override) P*-*16TL6BDC7J3FHJN thment Option	g the Ctrl or Shift key. You
* & LightTools Users: Click here for information on obtaining the host ID. etrieval ID 0000 - MyCompany ID (Override) ID (Optional) >*-*16TL6BDC7J3FHJN	anly one of the best'd-
ID 1000 - MyCompany * ID (Override) ID (Optional) *-*16TL6BDC7J3FHJN thment Option	only one of the hostids.
ID 1000 - MyCompany * ID (Override) ID (Optional) *-*16TL6BDC7J3FHJN thment Option	
ID 1000 - MyCompany * ID (Override) ID (Optional) *-*16TL6BDC7J3FHJN thment Option	
ID 1000 - MyCompany * ID (Override) ID (Optional) *-*16TL6BDC7J3FHJN thment Option	
ID (Optional) *-*16TL6BDC7J3FHJN thment Option	
ID (Override) ID (Optional))*-*16TL6BDC7J3FHJN chment Option	
ID (Optional))*-*16TL6BDC7J3FHJN chment Option	
ID (Optional))*-*16TL6BDC7J3FHJN chment Option	
*-*16TL6BDC7J3FHJN	
*-*16TL6BDC7J3FHJN	
hment Option	
t Format 🗸 *	
set 💽 Retrieve Key 🖉 Help	

Your LightTools license key will be delivered as a text file attached to an email from the SmartKeys system. If you did not enter a Host ID in step 3, you will receive a separate email with a single license key attached for each Host ID at your company. The email will include the Host ID for which the license key is valid.

- 5. Save the license key to a convenient location on your computer. You need to access this file to activate LightTools.
- 6. See one of the following procedures for instructions on installing the license key to activate your LightTools product.

for LightTools Legacy Licensing:

- Installing a License Key for a Fixed License on page 13
- Installing a License Key for a Floating License on page 21

for Synopsys Common Licensing:

- Installing a License Key File for an SCL Nodelocked License on page 38
- Installing a License Key for an SCL Network License on page 45

Appendix B Troubleshooting the LightTools Legacy Floating License Installation

If a security problem occurs when you use a LightTools floating license, a License Manager Error dialog box displays an error message. Below are a few common security errors with their causes and resolutions. If you are unable to correct the problem, contact LightTools Support at lighttools support@synopsys.com.

Problem Adding License Keys to the License Server

Problem: Sentinel: Error [19]: Failed to add license code ...

- **Cause:** This general error message indicates that the license keys were not applied successfully in the license manager. This can occur if the file where the codes were being read is corrupted. However, this error an also occur if license keys that have already been successfully entered are entered a second time.
- **Solution:** Verify that the license file contains license keys for the current version of LightTools being installed, and not for an earlier version (the version number is listed in the comments of the license file received from Synopsys). Also verify that the license file has not become corrupted. This might occur if the license file has been edited (i.e., lines containing license keys are changed or become line wrapped incorrectly). When you install a license key, follow the procedure *Installing a License Key for a Floating License* on page 21.

Problems Starting LightTools

Problem:	Error #18b - No valid license code for version x.x.x found.		
Cause:	There has not been a valid license key entered for this version of LightTools.		
Solution:	: See <i>Installing a License Key for a Fixed License</i> on page 13 for instructions on installin license keys.		
Problem:	Error #0xC800100D - License code for version x.x.x has expired.		
Cause:	The license key for LightTools has expired, or the PC date is before the start date of the license.		
Solution:	Verify that the date on the computer is correct. Install the license key for this version of LightTools on the license manager machine according to the instructions in <i>Installing a License Key for a Floating License</i> on page 21. If a new license key is needed, contact LightTools Support.		

- Problem: Error #8001008 License manager is not responding. Verify license manager host is available and license manager process is running.
- Cause: The Sentinel Floating License Manager program has been disabled.
- Solution: Restart the license manager program. To do this, open the Control Panel (select Start > Settings > Control Panel), select Administrative Tools and then Services. Locate and right-click Sentinel RMS License Manager in the dialog box, and select the Start option on the pop-up menu.
- Cause: The license manager machine is unavailable.
- Solution: Verify that the license manager machine is available on the network.
- Cause: The ORA_LSHOST environment variable is not set or is incorrectly set.

Solution:Change the Hostname with the Program > Change option, as follows: Windows Start
button > Control Panel > Programs > Uninstall a Program. Select LightTools and
click Change on the menu bar. Select Next > Modify > Change Licensing Options >
Next > Floating License. Enter a name for the Server Hostname. Click Next > Install >
Finish.

Problem: An unexpected licensing error has occurred.

Cause: An error has occurred with the license manager. The License Manager Error dialog box will contain more specific information about the problem, which is provided by the Sentinel Floating License Manager program. If you are still having difficulties identifying the problem, contact LightTools Support for guidance.

Appendix C Troubleshooting Synopsys Common Licensing

This appendix lists licensing errors that you might encounter with Synopsys Common Licensing and describes probable causes and resolutions. If you are unable to correct the problem, contact LightTools Support at lighttools_support@synopsys.com.

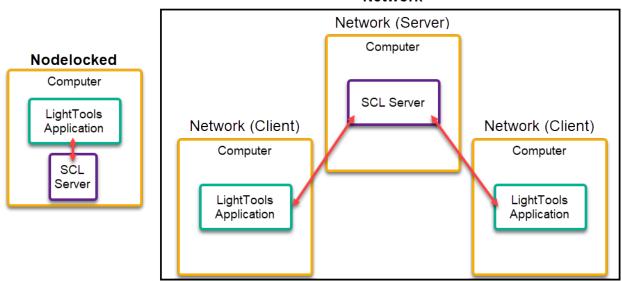
The LightTools installer includes the following components for Synopsys Common Licensing:

- Optical/Photonic Solutions Licensing components version 2024.09-SP1
- Synopsys Common Licensing version 2022.12

For Nodelocked and Network (Server Installation) installations, the LightTools installer configures the Synopsys Common Licensing server as the FlexIm Service 1 service.

Error messages may refer to the *flex log*, which is the log file for Synopsys Common Licensing. This is the file flexlog.txt in the folder C:\Synopsys\PhotonicSolutions\2024.09-SP1\RSoft\licenses

Synopsys Common Licensing always includes a Synopsys Common Licensing server. Even when you have a nodelocked installation, there is an instance of the Synopsys Common Licensing server running on your system. Therefore, even when you are not using a networked license, you may have issues communicating with the Synopsys Common Licensing server.



Network

There are no remaining licenses for the requested feature

Licensed number of users already reached.

A limited number of users can use this feature at the same time, and the limit has been reached.

If you are running multiple sessions concurrently, you may have reached the maximum concurrent session limit.

For network licenses, wait for other users to end their feature usage, then try again.

To further check license usage at your site, contact your SCL license administrator.

The license does not include the requested feature

No Such Feature Exists

The license file found does not contain a valid feature for this version of the software.

Check with your LightTools administrator for the valid features.

Cannot connect to the license server system

The license is not available. LightTools cannot run due to a licensing issue.

The license server manager (lmgrd) has not been started yet, the wrong port@host or license file is being used, or the port or hostname in the license file has been changed.

This error can occur for the following reasons:

• (lmgrd) daemon is not running

The LightTools installer configures this as the *FlexIm Service 1* service. Confirm that the FlexIm Service 1 is running on your Nodelocked or the Network (Server) system. If you cannot find the FlexIm Service 1 service, try the following:

- Reboot the system.
- Configure your licensing again.

See *Modifying License Options for Synopsys Common Licensing* on page 47 to reconfigure the selected license type.

- Contact LightTools Support.
- Wrong port/host or license is being used

See *Modifying License Options for Synopsys Common Licensing* on page 47 to update the host name and port number for the license server.

• License file has expired.

If your license agreement is current, you can request an updated license from SolvNetPlus or from LightTools Support.

If you need to renew your license agreement, contact optics@synopsys.com or your local distributor.

- License file contains an invalid Host ID
 - Contact LightTools Support.
- License file is not installed

See *Modifying License Options for Synopsys Common Licensing* on page 47 to install the license file.

For nodelocked licenses, the licensing processes can be stopped in some situations and do not automatically restart; when you try to start the software, you will see an error stating that LightTools Cannot connect to the license server system. If this happens, you need to restart your computer to restart the licensing processes.

A connection to the Synopsys Common Licensing license manager was lost

The complete error message is:

A connection to the Synopsys Common Licensing license manager was lost, and the application has exhausted all of its retry attempts.

Cannot connect to license server system.

For network licenses, check your network connection to your network license server.

For nodelocked licenses, reboot your computer, then try again.

If the error persists, contact lighttools_support@synopsys.com or your local distributor.

Include the following:

- A screenshot of the License Manager Error window
- The following files from the licenses folder. (The default location is C:\Synopsys \PhotonicSolutions\2024.09-SP1\RSoft\licenses.)
 - rsoft.lic
 - flexlog.txt

The license request was denied by the network license server

This error message can be received from multiple scenarios.

- The User/Host on EXCLUDE list for feature (FlexNet Licensing error: -38, -101)
- User/host not on INCLUDE list for feature (FlexNet Licensing error: -39)
- Checkout exceeds MAX specified in options file (FlexNet Licensing error: -87)

Contact your SCL license administrator.

This error can occur for one of the following reasons:

- Max limit of users has been reached.
- You have been excluded from using this feature.
- The feature is reserved for others.

Time Tamper Error

A problem with the system clock has been detected.

The system clock is currently set incorrectly, or has been set incorrectly in the past. Contact lighttools_support@synopsys.com or your local distributor and provide a copy of the error message, including the Host ID mentioned in the error message.

LightTools cannot find the Synopsys licensing service/daemon (snpslmd)

The Synopsys licensing service/daemon (snpslmd) is either down or inaccessible. The Synopsys licensing service/daemon can terminate because of the following reasons:

- All the features have expired for this version of the software.
- The license file is corrupted.
- The license file contains an invalid server Host ID.

If you are using a network license, your connection with the computer hosting the license service/ daemon may have been interrupted. Check your network connection.

Firewalls must be configured to allow the Synopsys Common Licensing server (lmgrd.exe and snpslmd.exe) to communicate on ports 27020 and 27021. If you get an error such as a -96 FlexNet Licensing error, make sure that both ports are open in any firewalls.

If you are using a nodelocked license, ensure that the FlexIm License 1 service is running.

Uninstall Synopsys Common Licensing

If instructed by LightTools Support, you can remove Synopsys Common Licensing components from a system. Note that the Remove option in the LightTools installation wizard does not remove the Synopsys Common Licensing components.

Caution: Do not remove the Synopsys Common Licensing server unless you have confirmed that no other Synopsys products are using the Synopsys Common Licensing server instance.

Follow these steps to remove the Synopsys Common Licensing components.

- 1. Log in to your system as an administrator.
- 2. Open Add and Remove Programs.
- 3. Uninstall Optical/Photonic Solutions Licensing.
- 4. Uninstall SCL [version].
- 5. Restart the system.
- 6. (Optional) Delete the folder C:\Synopsys only if you have no other Synopsys applications using that folder.

Glossary

Fixed License	Used with LightTools Legacy Licensing. A license associated with a specific USB dongle.
Floating License	Used with LightTools Legacy Licensing. A license managed by the OSG Floating License Manager.
Host ID	A string used to identify a computer or a USB dongle. The Synopsys SmartKeys site and delivery email reference the Host ID value when license key files are requested and delivered.
LightTools Legacy Licensing	The method of licensing used in releases up to and including LightTools 2025.03. It is based on the Sentinel License Manager. Customers who are updating from previous version of LightTools can continue to use Legacy Licensing but will be required to migrate to new licensing during their upcoming renewals. Please contact your Synopsys Optical Solutions representative for trial of the new licensing method.
License Key File	A file containing the encoded license information needed to run LightTools for a specific computer or USB dongle. Note that license key files are unique for each method of licensing and are not interchangeable.
Network License	Used with Synopsys Common Licensing. A license managed by the Synopsys Common Licensing server.
Nodelocked License	Used with Synopsys Common Licensing. A license associated with a specific computer or USB dongle.
Site ID	A number used to identify a specific company. Every company that uses LightTools and other Synopsys software has a unique site ID.
SmartKeys	A page on the Synopsys SolvNetPlus website where you submit license key requests.
SolvNetPlus	The Synopsys customer portal (https://solvnet.synopsys.com). Customers who register for an account on this site can download LightTools software and licensing software, and request license keys. SolvNetPlus also provides access to technical articles, example files, macros, release notes, and FAQs, as well as product documentation, product learning, self-help, and other resources.

Synopsys Common Licensing The license management tool used by Synopsys. This method of licensing has been available since LightTools version 2023.03. It is based on FlexNet Licensing.

