

Network License Installation Procedure

Structural Engineering Library

For Build 6.xxx and Build 10.xxx

Structural Engineering Library Installation	Page 2	Network License Manager Installation	Page 5
Network License Manager Activation	Page 8	Network License Configuration	Page 10
Network License Troubleshooting	Page 11	Moving the NLM to a new computer	Page 16

General

The Structural Engineering Library Version (SEL) must be installed on each computer where it will be used.

The Network License Manager (NLM) is installed on only one computer. The SEL installations will contact the NLM for permission to run as "registered" programs. If the SEL cannot contact it will default to its "natural" way of operating as an individual license. Be alert for that....it indicates it can't locate the NLM.

You can install the SEL on ANY computer where you might want to use it HOWEVER it must receive permission to run "activated" to be used as a non-Evaluation version.

This document does not cover "single license" installation and usage. Please use this document for "individual" licenses : www.enercalc.com/pdf/EC_V6_Install_Info_SingleLicense.pdf

Download Installation File

Download the installation file using this link : www.enercalc.com/ECSEL6_SETUP

This installation program can install the "Structural Engineering Library" and/or "Network License Manager".

Use the "Structural Engineering Library" (SEL) choice to install the software on the computers where it will be used. This is described in the next section.

Use the "Network License Manager" (NLM) choice to install this ENERCALC license management program on a computer accessible to all computers that will run the SEL.

This link will ALWAYS download the MOST RECENT build of the software that you are allowed to use. You need your Product Control Code to run the installer so it knows which version of the software you are allowed to use (based on your Maintenance & Support Plan expiration date).

Activation of the software

Structural Engineering Library Version 6 has a security system that requires you to "Activate" the software. After the installation process is complete you will use an [Internet Activate] button in the NLM to obtain activation permission from our Internet Activation Server. In the future if you wish to move the NLM to a different computer you can simple Deactivate/Activate again. See this document for help : www.enercalc.com/pdf/ENERCALC_Move_License.pdf

Our Internet Activation system (and Web Update also) uses HTTP on Port 80 for communications. Most of the time it works great without any changes to firewall or anti-virus software. Sometimes you must pause your anti-virus software briefly during activation or deactivation. If you can not use an Internet connection you can use a manual activation process to activate your license.

Installing your ENERCALC Network License Software

For the ENERCALC Network License you will be installing BOTH the Structural Engineering Library and the Network License Manager. Follow the procedures in the next two sections to install the software.

In Network Installations you MUST install SEL on each computer where it will be used. The SEL gets permission to run from the Network License Manager.

Structural Engineering Library Installation

This section instructs you on how to install the software on all the computers you may wish to use it on. We are assuming that you have downloaded the installation program file.

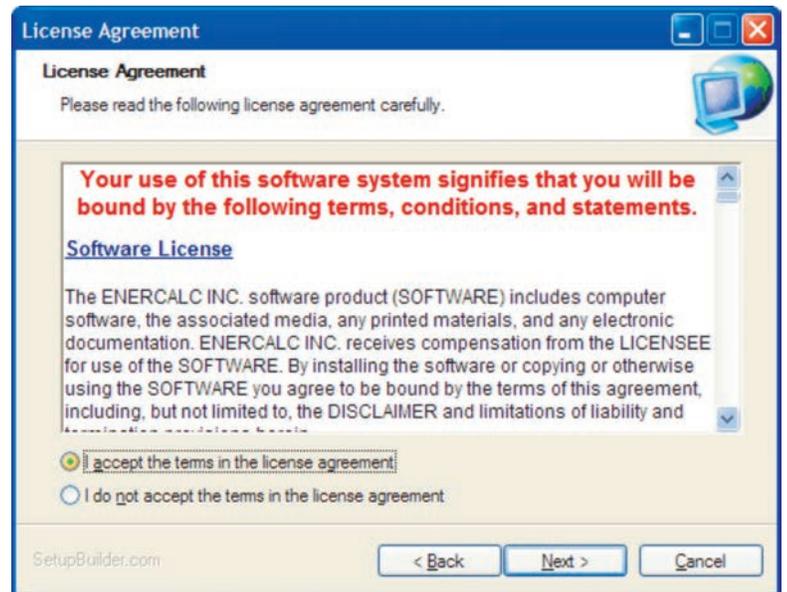
Immediately after starting the installation program you will view a "Welcome" screen identifying the product to be installed.

Click [Next >]



Next you will be asked to review the ENERCALC License Agreement. You have 60 days after purchase to review the agreement and return the software so it is not necessary to read the entire document at this time. After installation you can read the License Agreement using the [Help->License Agreement](#) menu selection.

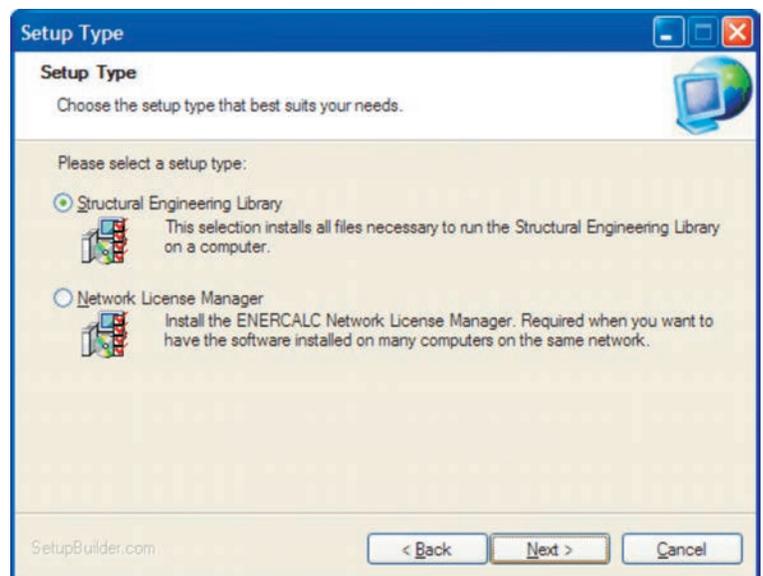
Choose "I Accept...." and click [Next >]



Next you are given two installation options.

For this Step-By-Step session select "Structural Engineering Library". The "Network License Manager" selection will be covered next.

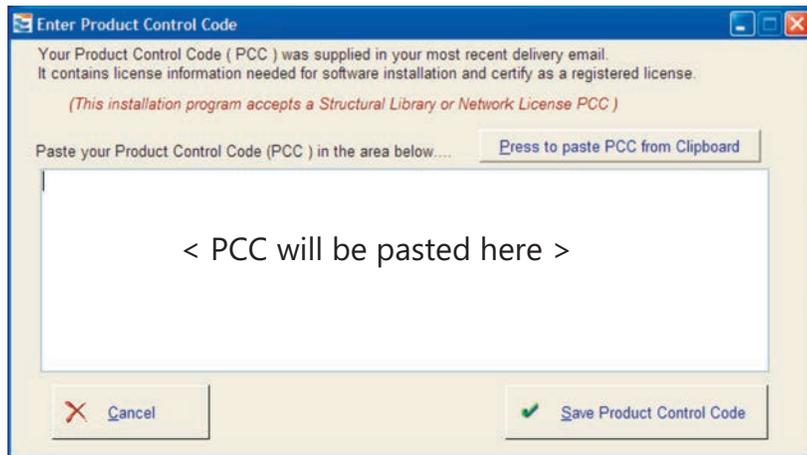
Click [Next >]



Next you will be asked to paste in your Product Control Code (PCC). Locate this code in your most recent software delivery email, highlight it and press [Ctrl-C] to copy it to the clipboard.

Don't try to type it in...it has too many characters and can easily be scrambled.

Use the [Press to paste....] Button to insert the copied PCC into the area provided.



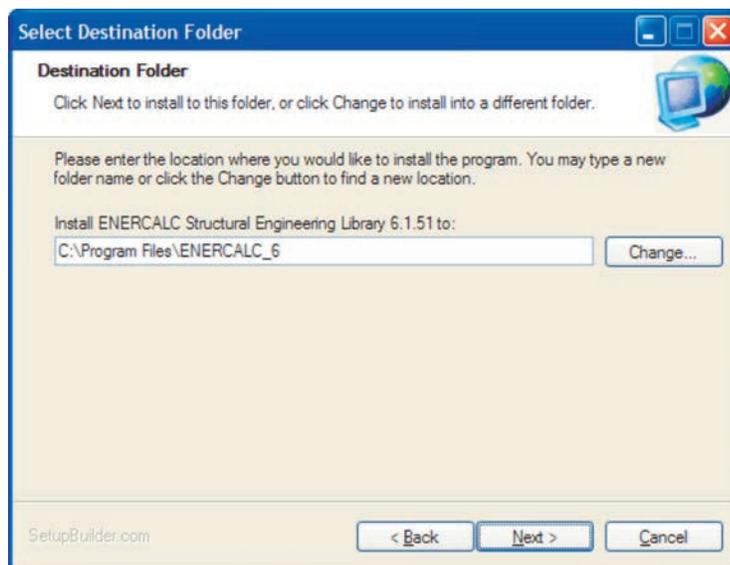
Click [Save Product Control Code]

Note! If the code is invalid you will be shown a message window. We suggest going back to your email with the PCC and carefully copying it again.

Next you will be asked to select the drive and folder location where the software program files are to be placed. A standard location for Microsoft Windows installations is given and our best advice is to accept it.

ALWAYS INSTALL THE SOFTWARE ON THE COMPUTER WHERE IT WILL BE USED....NOT A REMOTE DRIVE.

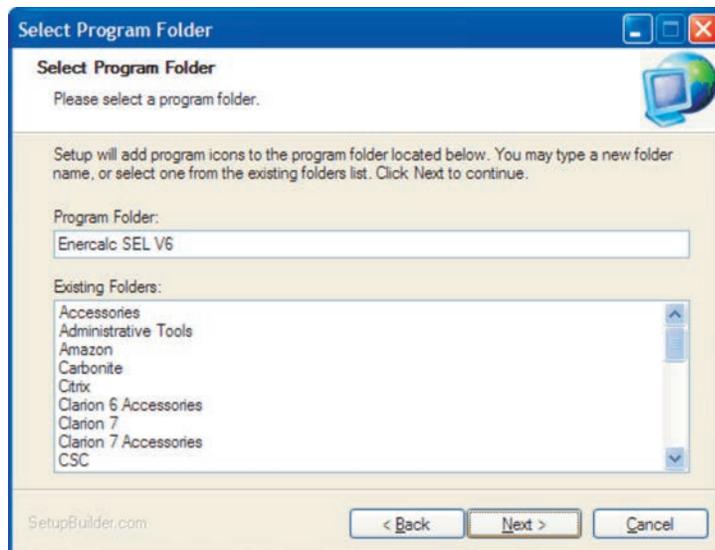
Click [Next >]



Next you will be asked to name the Start menu program group that will contain the links for starting up various parts of the software. (We recommend using what our installation program suggests.)

This program group will be placed within the Start | Programs selection within Windows.

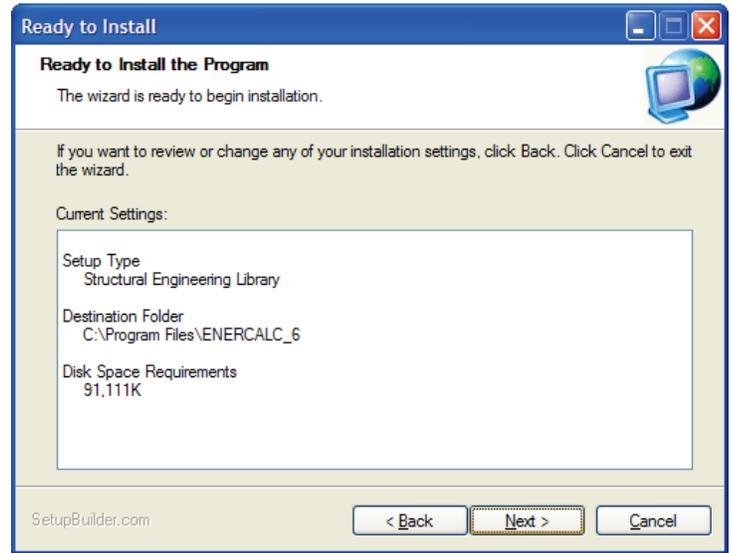
Click [Next >]



Next and immediately prior to the file placement process you will be given a summary of your installation settings.

If all is OK then Click [Next >]

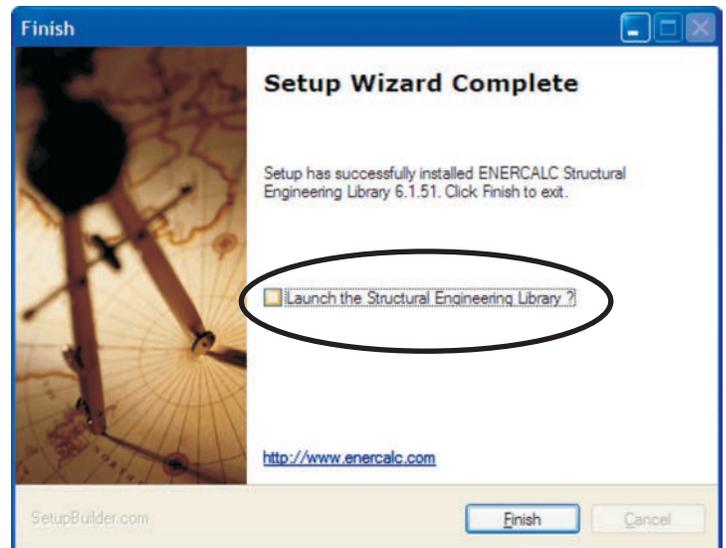
The files will then be copied to your computer.



The final screen announces that the installation process is complete.

Uncheck the item "Launch Structural Engineering Library after Finishing".

Click [Finish]



Structural Engineering Library INSTALLATION IS NOW COMPLETE.

Now continue on for instructions to install the Network License Manager.

After the Network License Manager (NLM) is installed you will still need to enter the NLM network address into the SEL.

Network License Overview

The ENERCALC Network License allows you to run the software from any computer that can connect to our Network License Manager (NLM).

The NLM must be installed and MUST STAY RUNNING on a network connected computer so that the SEL can connect to it to receive permission to run. The NLM can be run as a normal EXE program or as a "Service". Running as a service is vastly preferred. Running as an EXE is primarily for testing.

In a network installation the number of simultaneous users is limited to the number of licenses you have purchased. This information is encrypted in your Product Control Code (PCC).

For a network license your PCC is ONLY entered into the NLM (*except during installation process*).

In a "Network" license the SEL must be able to communicate with the NLM via a TCP/IP protocol network. See the section titled "[Network License Manager Configuration](#)" for much more information on configuring and using the NLM.

Network License Manager Installation

This section instructs you on how to install the Network License Manager on a computer accessible to all of the computers running the SEL.

After installation you will be guided on how to "Internet Activate" the Network License Manager.

Immediately after starting the installation program you will view a "Welcome" screen identifying the product to be installed.

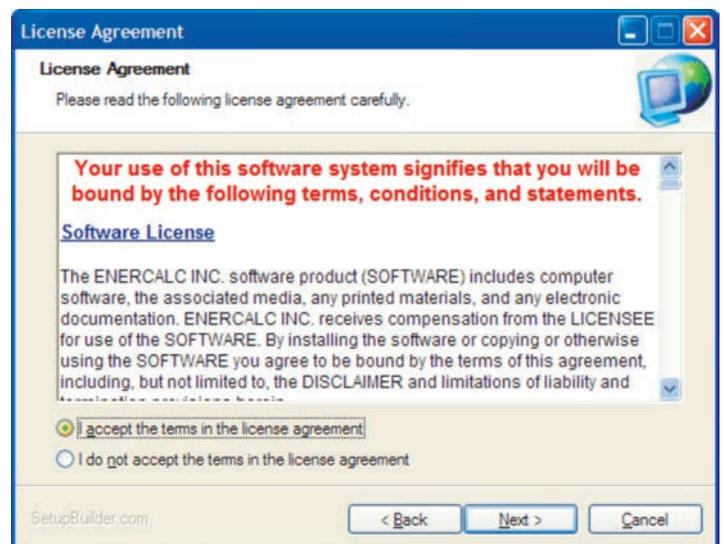
Click [Next >]



Next you will be asked to review the ENERCALC License Agreement. You have 60 days after purchase to review the agreement and return the software so it is not necessary to read the entire document at this time.

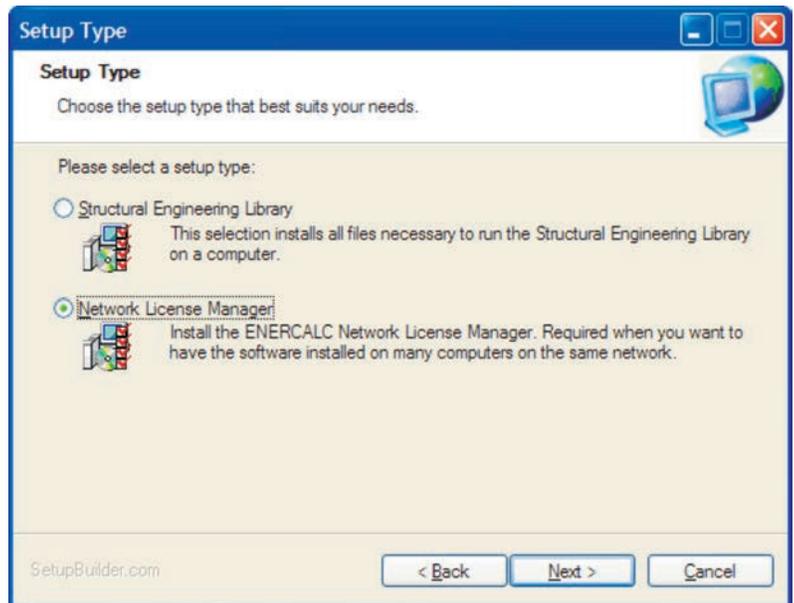
After installation you can read the License Agreement using the [Help->License Agreement](#) menu selection.

Click [Next >]



Next you are given two installation options. For this installation select "Network License Manager".

Click [Next >]

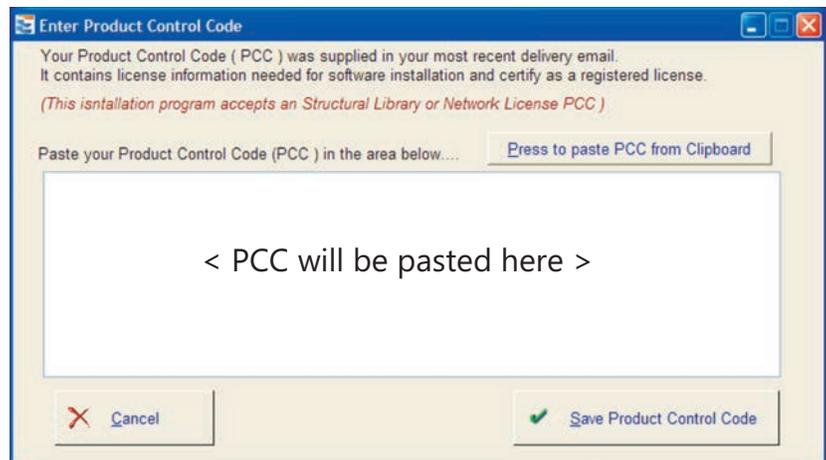


Next you will be asked to paste in your Product Control Code (PCC). Locate this code in your most recent software delivery email, highlight it and press [Ctrl-C] to copy it to the clipboard.

Don't try to type it in...it has too many characters and can easily be scrambled.

Use the [Press to paste....] Button to insert the copied PCC into the area provided.

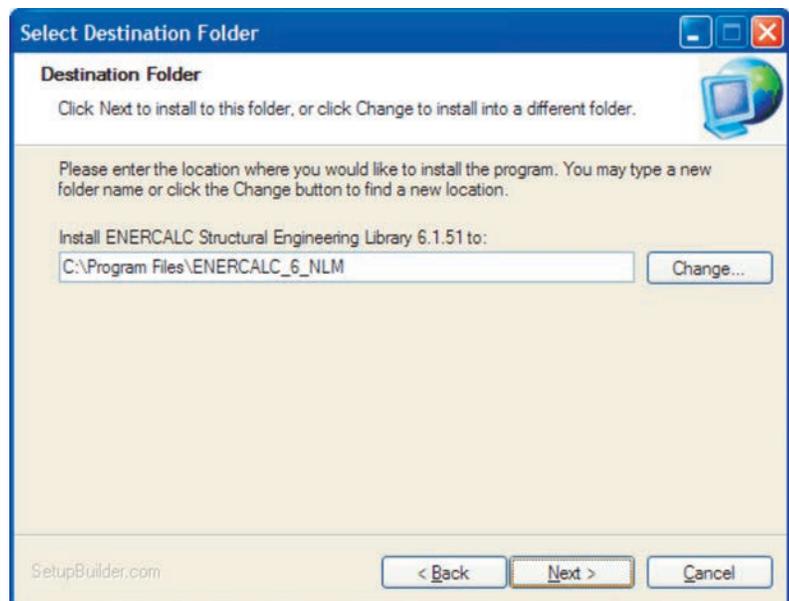
Click [Save Product Control Code]



Note! If the code is invalid you will be shown a message window. We suggest going back to your email with the PCC and carefully copying it again.

Next you will be asked to select the drive and folder location where the software program files are to be placed. A standard location for Microsoft Windows installations is given and our advice is to accept it.

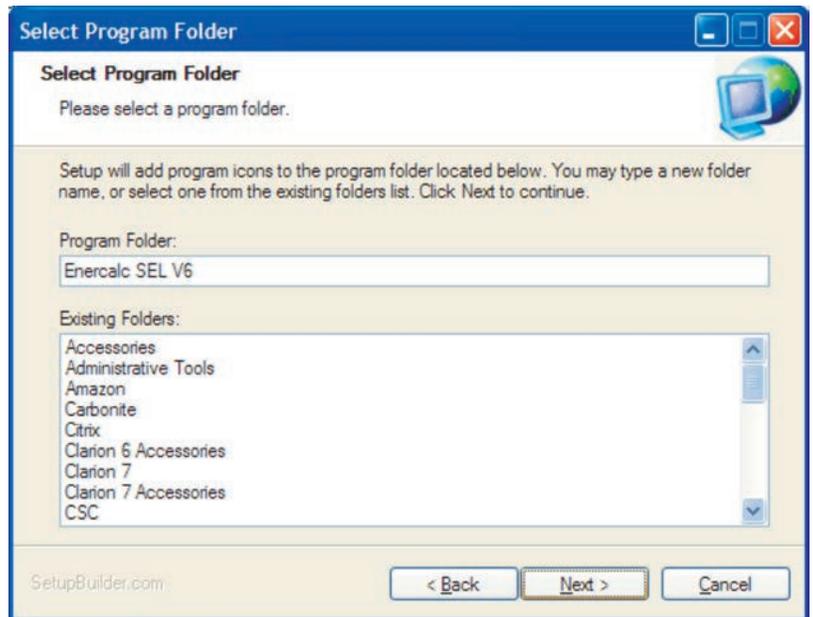
Click [Next >]



Next you will be asked to name the Start menu program group that will contain the links for starting up various parts of the software. (We recommend using what our installation program suggests.)

This program group will be placed within the Start | Programs selection within Windows.

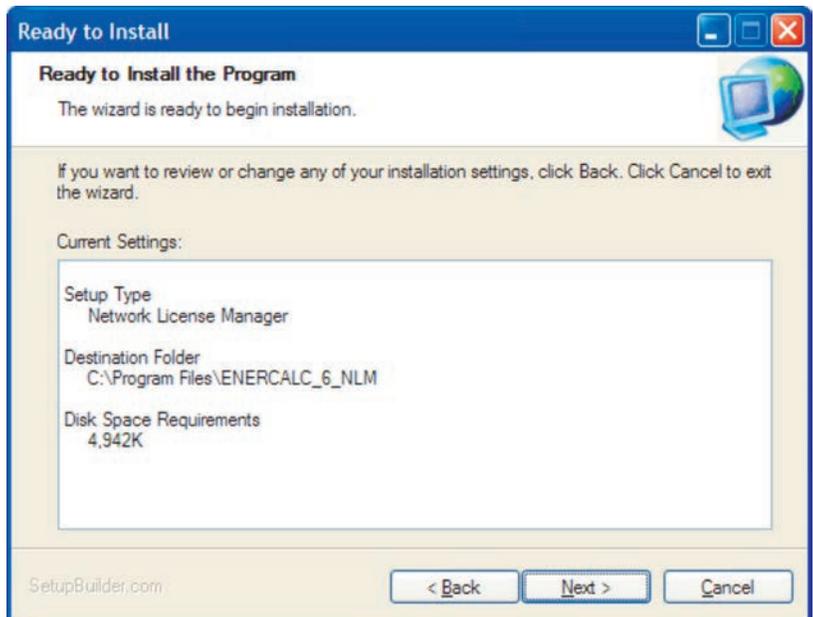
Click [Next >]



Next and immediately prior to the file placement process you will be given a summary of your installation settings.

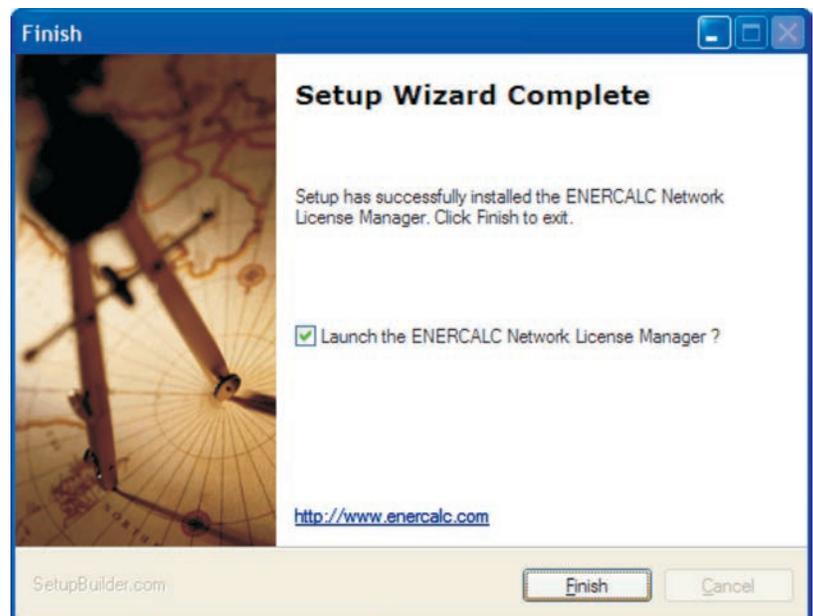
If all is OK then click [Next >].

The files will then be copied to your computer.



The final screen advises you that the installation process is complete.

If you would like to have the NLM launched after the installation program ends then leave the box checked.



Network License Manager
INSTALLATION IS NOW COMPLETE.

Network License Manager Activation

The next step is to start the Network License Manager and perform an "Internet Activation".



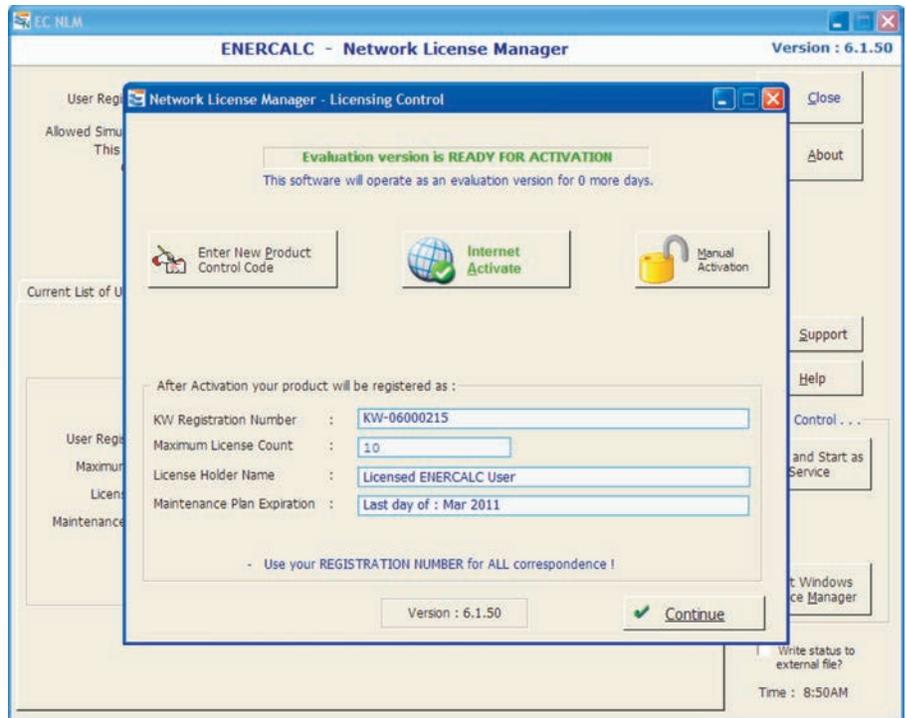
-> Programs -> Enercalc SEL V6 -> NLM -> Network License Manager

Because you entered your Product Control Code during the installation process the NLM will start showing the main window overlaid with the licensing window.

When the NLM is not currently activated the window to the right will be displayed. This is the typical ENERCALC license activation window.

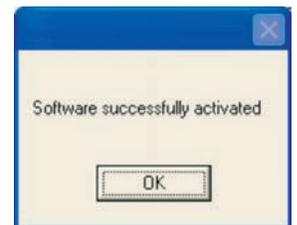
At this point you should select [Internet Activate] (providing you have an Internet connection) to finish the process.

The [Manual Activation] button is used in cases where Internet Activation does not work due to lack of Internet connectivity or security issues. You will be working directly with our staff at these times.



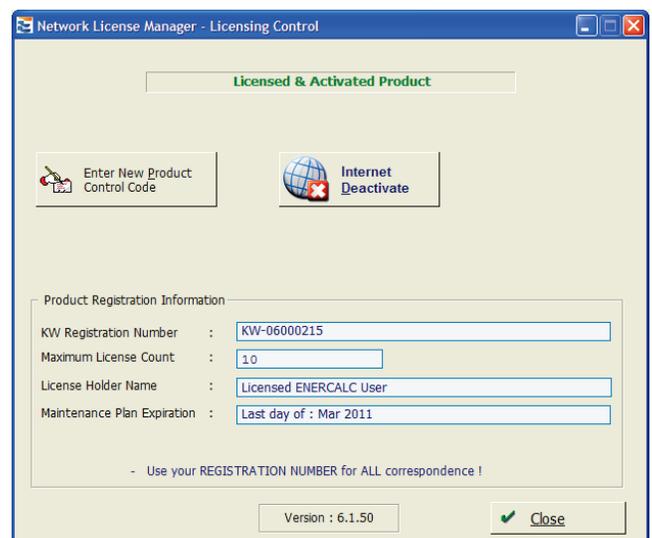
NOTE! During the activation process ENERCALC must be able to communicate over the Internet. Anti-Virus software can sometimes interfere with this communication. If this happens "pause" your Anti-Virus software for the brief moment that Internet Activation is performed.

The activation process will take just a second and you will be notified that the process was successful with the message to the right. Select [OK] and you will be happy to see that your software is now fully activated !



After a successful activation the window will look like this :

Click [Close] and you will view the screen shown on the following page.



NLM Quick Glance

The three screen captures on this page show the three tabs used by the NLM.

At the top we have circled the IP address that the NLM has detected it can monitor on this computer. This will be entered into the SEL when you are using the "Direct TCP" method of communication.

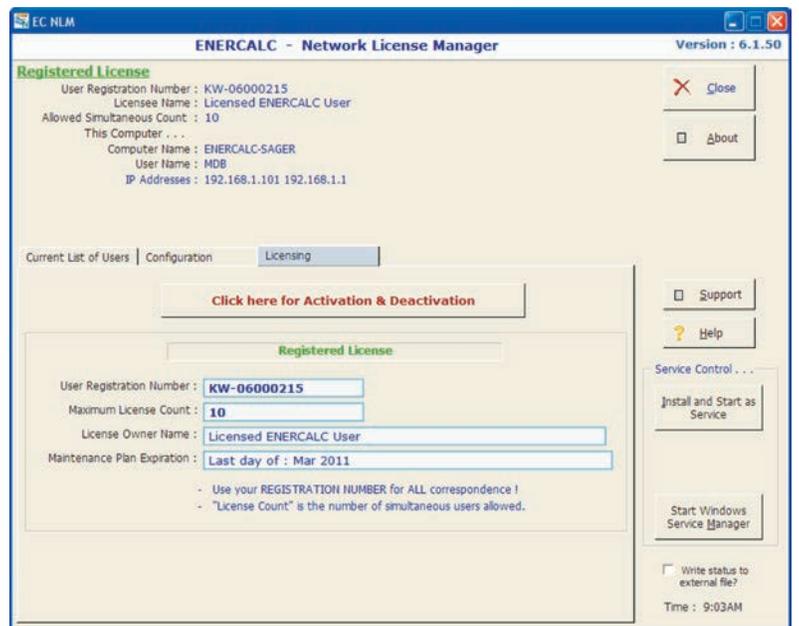
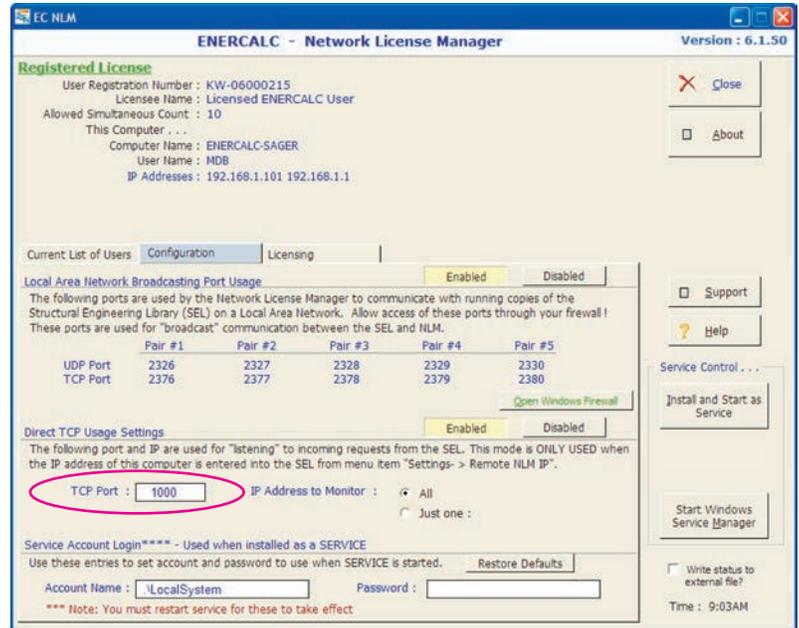
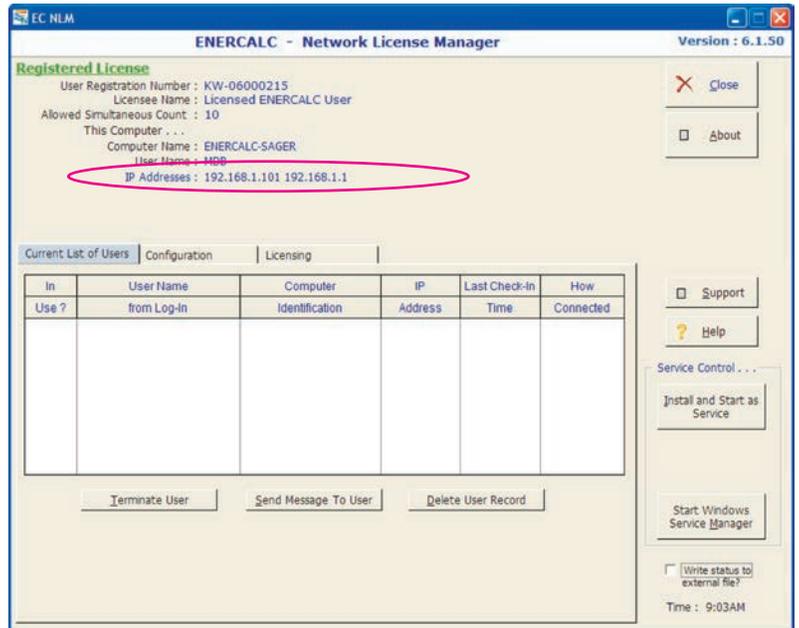
Shown in the top image is the main tab where you will see a list of users currently using a license.

Shown in the middle image are the settings for how the NLM will listen for requests from the SEL running on another computer.

Circled is the port (that you select) that will be used with the IP address to enter into the SEL when you are using the "Direct TCP" method of communication.

Shown in the bottom image is your licensing information.

To change your Product Control Code (for instance when you have renewed your Maintenance & Support Plan) or to "Internet Deactivate" this installation of the NLM you will need to press the [[Click here for Activation & Deactivation](#)] button.



Network License Manager Configuration

The ENERCALC Network License Manager (NLM) is used to provide permission for the Structural Engineering Library (SEL) to run in your office when you have a Network license.

Using the NLM you can install the SEL on any computer that you want to use it on. The network connection between the two computers will allow the SEL to request permission from the NLM to run. If the current number of other SEL's running is less than your license limit the NLM will approve the ability to start.

The NLM must stay running. If running as an EXE the user must not log off. Running the NLM as a "Service" is preferred as it will restart automatically if the computer reboots.

The NLM can communicate with the SEL in two ways. Here is information each method:

Local Area Networks

The NLM and SEL can talk to each other using "broadcasting" on a LOCAL area network. We define this as a TCP/IP network where each computer is assigned an IP address consisting of four numbers separated by periods, for example: 192.168.1.12. When all computers on the network have the same first three numbers (i.e. 192.168.1.???) this is called a "Local" network.

The SEL and NLM can automatically find each other because they "broadcast" their presence on the network (with very minimal data traffic). When the SEL finds the NLM it requests permission to run. "Broadcasting" uses several pairs of ports that you will need to make sure are "open" in any firewall you use, but typically these are allowed by default. Windows Firewall can block this activity in which case you must specify the NLM program **ENERCALC_NetworkLicenseManager.EXE** and the SEL program **EC6.EXE** as exceptions on the machines they will run on.

Using "Broadcast" mode the NLM uses these ports to communicate :

UDP Datagram Port 2326 to 2330, TCP Streamed Port 2376 to 2380

Local & Non-Local Subnets & Wide Area Networks

When broadcasting is not an option (or disabled for security) you can use the "Direct TCP" connection option. You need to use this when the NLM is not on the same "local" network as your SEL installation. For instance, the NLM is installed on a server in the datacenter at IP 10.1.1.25 and your engineers' computers are on the 5th floor at IP address range 10.2.2.???

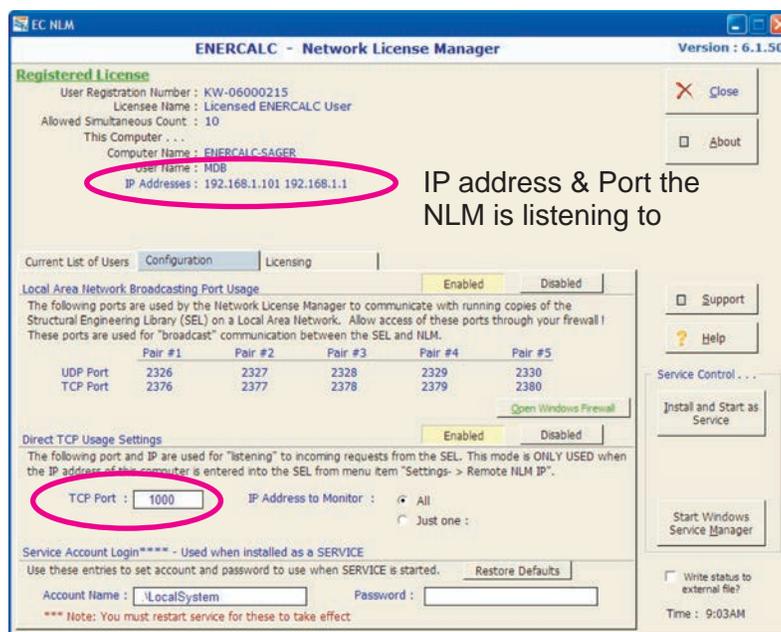
This "Direct TCP" method is the most direct and reliable way to use the NLM. PLUS it works over the Internet to allow complete flexibility in your usage of the SEL.

To configure Direct TCP connections

You need to use this when the NLM is not on the same "local" network as your SEL installation.

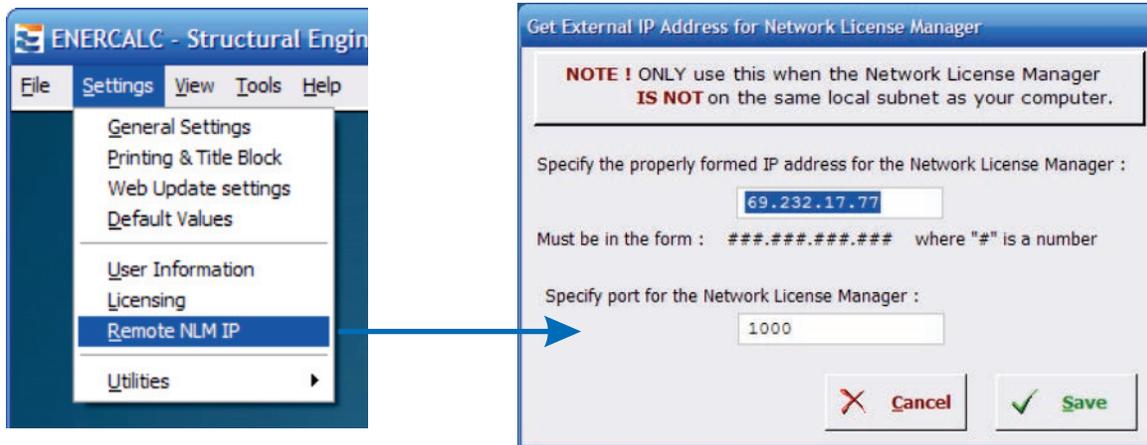
First go to the "Configuration" tab in the NLM and specify the port to be used in the "Direct TCP Usage Settings".

Write down this port and the "IP" address the NLM detects that it can monitor. See circled items on screen to the right.



IP address & Port the NLM is listening to

The next step is performed in the SEL. You will specify the IP address and Port for the NLM. Using the SEL menu item "Settings -> Remote NLM IP"



NOTE! Because network installations can be designed in many ways YOU as the user need to determine if the SEL installation computer and NLM installation computer can communicate with each other using the IP addresses you have specified and the port numbers previously mentioned.

Network License Troubleshooting

If you are reading this our guess is that you followed all of the previous instructions and your Structural Engineering Library opened as an "Evaluation Version" with no other messages. That means the SEL was unable to reach the installed Network License Manager to receive permission to run as activated. The problem is usually simple. Take a look at the recommendations given below.

For the NLM check that : It is installed, it has been "activated", has been started and you have made any firewall or anti-virus software changes to allow it to listen to the other computers where the SEL will be running.

For the SEL check that: It is installed, you have made any firewall or anti-virus software changes to allow it to contact the computer where the NLM will be running. And most importantly if you are using "Direct TCP" for the SEL to contact the NLM then be sure you've entered the IP address and Port where the NLM is listening.

If the SEL starts up in "Evaluation" mode then the problem solving process begins. Here is what to check :

- 1) Make sure you add the NLM program **ENERCALC_Network_License_Manager.EXE** to your firewall "allowed" list on the computer where it is installed.
- 2) Decide whether you are going to use "Broadcast" or "Direct TCP" for the NLM and SEL to communicate. If using "Broadcast" make sure your IT manager did not disallow it on your network. If using "Direct TCP" make sure to enter the IP address and port where the NLM is listening into the SEL. See detailed information above.
- 3) When testing, use the NLM running as an EXE. This will eliminate any possible problems caused by it running as a service. Do not log off that computer when using the NLM as an EXE.
- 4) If the NLM is installed as a service see "[Creating an "Administrator" user account for the service to use during Log-On](#)" on the following pages. Sometimes your operating system will not allow the NLM network access when running as a service. This change will give it higher execution privileges.
- 5) On the client side, add the SEL program EC6.EXE to that computer's firewall "allowed" list.
- 6) When the SEL starts up in "Evaluation" mode it simply means it couldn't find the NLM and is reverting to its non-active state. You don't need to do anything on the SEL except to check item #1 through #5 above.

Optional : Configure the NLM to run as a “Service”

The Network License Manager can be run as a typical “EXE” program but that leads to limitations. If the user “logs off” the computer the NLM will stop working.

A “Service” is a program that launches when the computer starts and will run in the background. Most system critical programs are run as services.

If you configure the NLM as a service you can be sure it will always be running when the computer restarts. Running as a service is the preferred long term usage.

It's easy to install it as a service.....just start then NLM from the ENERCALC program group and use the [Install and Start as Service] button on the main screen :

This will install the NLM as a service, set it to start automatically at computer startup and then start the service.

To confirm that the service has started, take the following steps :

1A) In Control Panel, double-click on the “Administrative Tools” icon and then double-click “Services”, or...

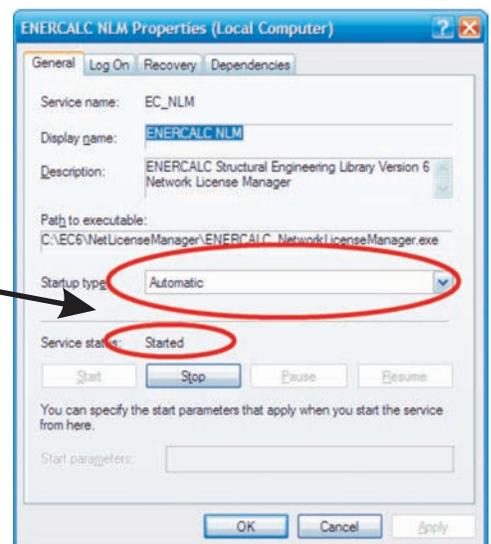
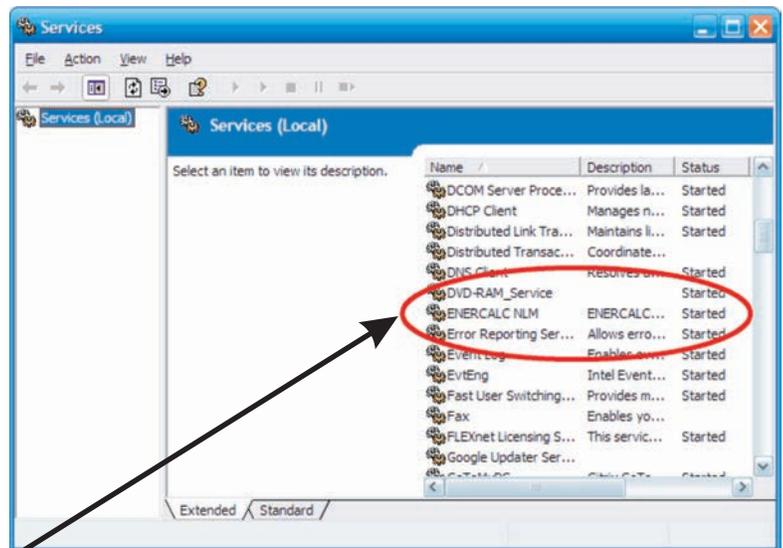
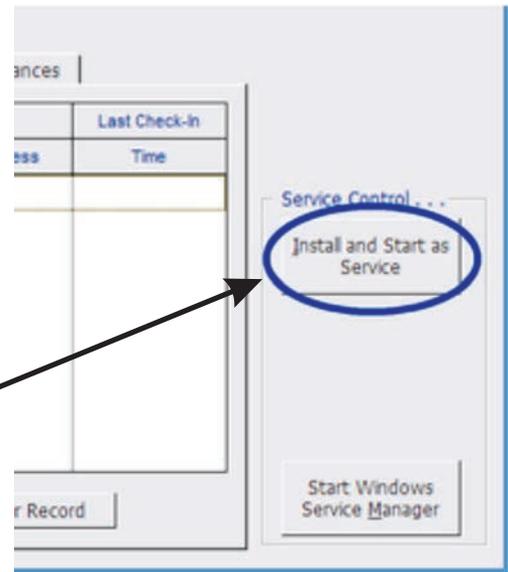
1B) Right-click on the My Computer icon, select “Manage” from the popup list, select “Services & Applications” and then select “Services, or...

1C) Click the Windows [Start] button, select “Run”, type “services.msc and press [Enter]”,

The Service dialog will open as shown in the adjacent screen capture. Glance through the list and identify the service named ENERCALC NLM. (It is shown circled in the screen reference).

Double-click on the ENERCALC NLM item to see the properties and verify that the service has started. See the adjacent screen capture.

Note! With the NLM running as a service you can also start it as a EXE program from your Start -> Programs section. The NLM will show the currently logged users. You will not be able to change any configuration or licensing settings however.



Creating an “Administrator” user account for the service to use during Log-On

The Network License Manager must be able to use all network capabilities when running as a service. On some systems this will require that Windows allow the service to be able to “log on” with “Administrator Privileges”. We have found that users who experience the NLM stopping operation for no apparent reason when it is running as a service is due to the issue of insufficient “Privileges”.

When a user starts the SEL and it opens in Evaluation mode it means the SEL could not locate the NLM. This can happen when the NLM running as a service is denied the ability to “listen” on the network.

Our analysis has revealed that the standard account that a program running as a service uses for log-on may not allow the program to have all of the network access it needs. And we've found that using the standard “Administrator” account still does not provide those rights. So you may need to create a new user account with “Administrator” rights that can be used for log-on of the service.

We will not go into great detail because this will usually be performed by a user familiar with user accounts and changing service properties. But here are the basics...

To create a new user account with Admin rights :

- 1) Open the “Control Panel” and select “User Accounts”.
- 2) Create a new account called “SERVICE ADMIN LOGON” and assign it a password.
- 3) Close the “User Accounts” window

To assign the “SERVICE ADMIN LOGON” account as the log-on for the NLM Service :

- 1) On the Control Panel open “Administrative Tools” and then open “Services”
- 2) Locate the “ENERCALC NLM” service. Right-click on it and select “Properties”
- 3) On the “ENERCALC_NLM Properties” window select the “Log On” tab
- 4) Select the radio button next to “This Account” and enter “SERVICE ADMIN LOGON” as the account name and enter the password you used when you created the account.
- 5) Click [Apply]. You should see a message that the logon has been added as a privilege to that account. If you don't get that message you've done something wrong.
- 6) The service will need to be stopped and started to be run under that account.

What you have done is allow the ENERCALC NLM service to be started with full administrator rights so that it can have access to all the network privileges. Had you not done this the ENERCALC NLM would have lost much of its capability when you logged off the computer. And that is almost ALWAYS the case when you have a service running on a server that is supporting a design office.

Note - We've found that simply specifying “Administrator” as the log on for the service does not work. The Windows Service Log-On system needs to have a unique user account with admin rights to make this work.

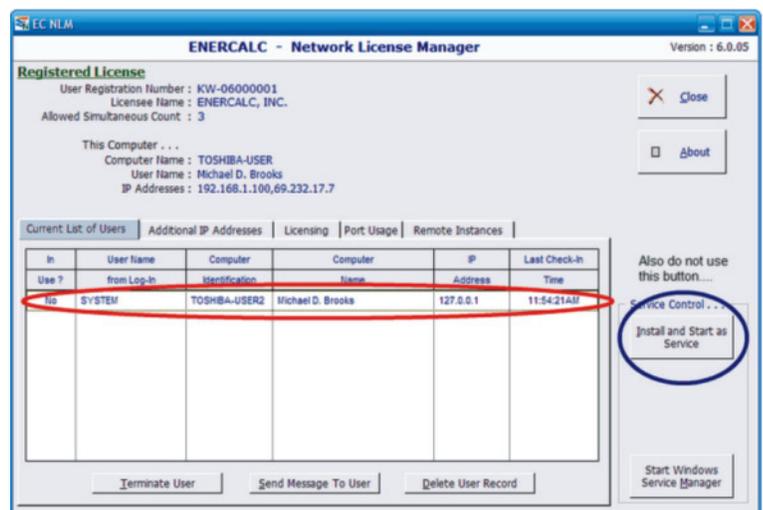
Displaying the NLM “User Interface” when it's running as a service

When the NLM is running as a service there will be an icon in the “tray” that looks like this :



Simply right-click on the icon and select “Show License Manager Window”.

Note! If the icon is not shown you can also start the EXE version to see the user status for NLM Version 6.0.07 and later.

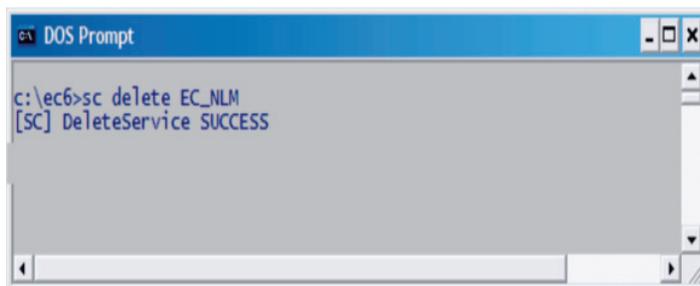


Stopping or deleting the NLM Service

There may be a time when you will need to stop the NLM service and remove it. The simplest way to do this requires two steps...first "Stopping" the service and then "Deleting" it..

1) Use the "Services Manager" described in the above section to "Stop" the service and then change the "Startup Type" to [Disabled].

2) Removing the service can be done from a command line prompt. To open a window with a command prompt click the Windows [Start] button, then click "Run", type "cmd" in the "Open" field and click [OK]. You will get a "DOS" window in which you will type "**sc delete EC_NLM**". See the screen capture :



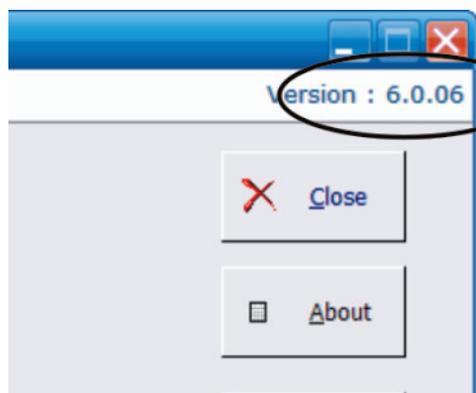
```
ca DOS Prompt
c:\ec6>sc delete EC_NLM
[SC] DeleteService SUCCESS
```

Updating the Network License Manager

We will release newer versions of the NLM. Because most users will run the NLM as a service the NLM does not have the ability to check for updates. Check www.enercalc.com/users.html for the latest versions.

Installed Version of the NLM :

Latest available version of the NLM :



Frequent Questions - Network License Manager

I start the Structural Engineering Library (SEL) and it starts in "Evaluation" mode....but I've installed the NLM. What am I doing wrong ?

When the SEL starts in evaluation mode and you have installed and activated the NLM it means that the SEL cannot find the NLM. Our advice is simply to read the recommendations in the prior section regarding firewalls and port/IP address usage.

I started the NLM and used the [Install & Start Service] button. However when the service tries to start I get a message that the file cannot be found. How can I fix this ?

This typically indicates that the actual files that are used by the service are not on the same computer. Services are started before any network connections are made. Just be sure the NLM was installed using our setup program on the computer where you are trying to start the service.

We have a network license for SEL. The NLM was installed on our local network server via one of the PC's on the network. Now, the only way to run the NLM is from that PC. Anyone else who runs the NLM runs it as an evaluation version. How can we correct this ?

When you used the [Internet Activate] button on the non-server PC the activation information was stored on that PC. Simply use that PC to [Internet Deactivate] the NLM and then perform the [Internet Activate] command from the server.

I received a "Nettalk ObjectError" that says it is unable to listen to a TCP port. The error number is 10048 saying that the port is already in use. What does this mean and how can we fix it?

If this occurs when running the Network License Manager it means that the port on the "Configuration" tab for "TCP" is already in use.

If you have the NLM running as a service and also start the NLM from the EXE file then this error will be displayed because you are trying to start the NLM and it's already running and monitoring the port.

If another copy of the NLM is NOT already running then there is either another program running on that computer that uses the port -or- your firewall is blocking the port usage.

If this occurs when running the Structural Engineering Library it typically means that your firewall is preventing the usage of the port you specified on the Settings -> Remote NLM IP menu selection screen.

Troubleshooting Tip - NLM running as a service

If you are running the NLM as a service and your SEL programs cannot acquire permission to run here are a few more suggestions.

- (1) Stop the NLM service and then run the NLM as a normal EXE program. This will eliminate any effect that the confines of running as a service might be imposing on the NLM.
- (2) Try entering the IP address and Port of our generic Network License Manager into your SEL to see if it can acquire a license. Please email support@enercalc.com as this address may change. We keep this NLM running on a publicly accessible server to allow you to test your SEL. If the SEL does not start either your firewall is blocking the connection or there are other issues preventing the SEL from connecting to our NLM.
- (3) Check Windows Firewall on both the NLM and SEL computers to make sure that the ports used by the NLM and SEL programs are allowed free access.
- (4) Update to the latest versions of each program in case there have been any changes that will affect you. The update links are here : www.enercalc.com/users.html.

Moving the Network License Manager to a new computer

(1) If your Network License Manager (NLM) is running as a service then stop the service. The most direct way to do this is:

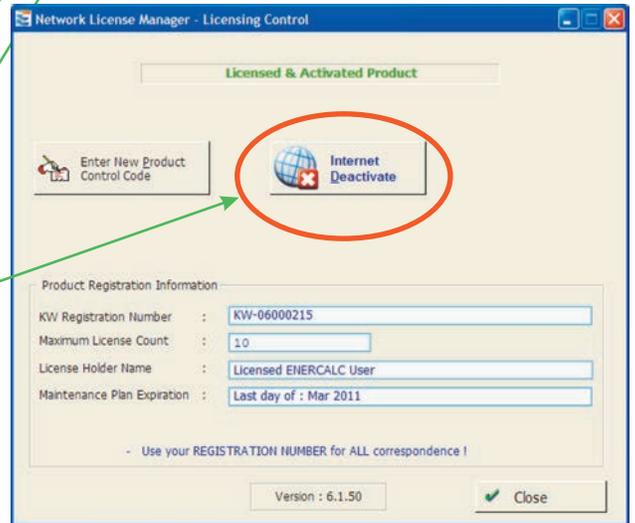
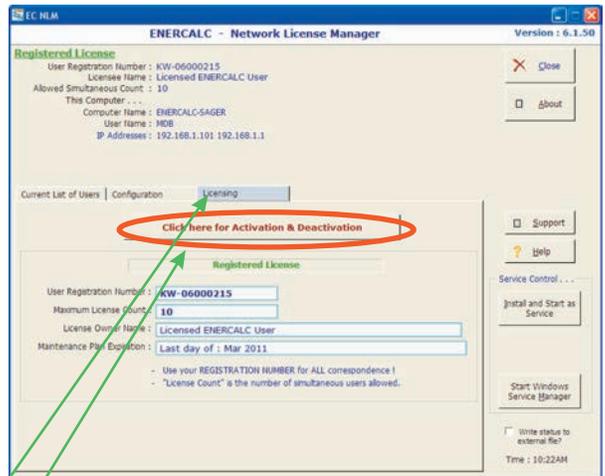
- (A) Right-click the "My Computer" icon and select "Manage"
- (b) Expand the tree for "Services & Applications"
- (c) Click on "Services" that is indented in the tree
- (d) On the right side of the window look for the listed item ENERCALC NLM, right click on it, and select "Stop" from the popup menu.
- (e) You can now close the "Services" window.

(2) Start the Network License Manager using the link installed under the ENERCALC V 6 link in the Program group.

(3) Select the "Licensing" tab

(4) Click the [Click Here for Activation & Deactivation] button.

(5) On the next screen you will see an [Internet Deactivate] button. Pressing that button will deactivate the software on this computer and tell our activation server to free up your license so you can "Internet Activate" again.



Your activation has now been returned to our server and you can go to another computer, install the Network License Manager, paste in the PCC and "activate" it using the [Internet Activate] selection on the licensing screen.

