

General

In Network installations you install the **Structural Engineering Library (SEL)** on each computer where it will be needed.

You **do not** enter your **Product Control Code (PCC)** into the SEL for network licenses. The SEL receives permission to run from the **Network License Manager (NLM)**.

You install and activate the **Network License Manager (NLM)** on one computer that is network-accessible by the computers that will run the **SEL**.

Install & Activate the Network License Manager

There are three steps to installing the Network License Manager. (1) Do the installation, (2) cut & paste a **Product Control Code (PCC)** into the **NLM** and (3) use the [**Internet Activate**] button to obtain activation permission from our Internet Activation Server (or request a license file or unlocking key).

Important : Anti-Virus software and Fire walls : Our **Internet Activation** system (and Web Update also) uses HTTP on port 80 for communications. Sometimes you must turn off your anti-virus software briefly during activation or deactivation.

Potential Activation Problems:

- 1) The Network License Manager tells you that you are using **VMWare** and doesn't like it. In that case there will be a [**Request License File**] button showing. Use that button and follow the instructions it provides.
- 2) The NLM will display an error like "Hard Drive Not Found" or similar message. This indicates there is something about your computer that our activation system finds incompatible. There will be a [**Request License File**] button showing. Use that button and follow the instructions it provides.

Problem Solving

If you have your **NLM** installed and activated but your **SEL** starts as an "Evaluation Version" here are some simple solutions:

- 1) Make sure you add the **NLM** program ENERCALC_Network_License_Manager.EXE to your firewalls' "allowed" list on the computer where it is installed.
- 2) On the client side add the **SEL** program EC6.EXE to your firewalls' "allowed" list on the computer where it is installed.
- 3) 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. See detailed information later on.
- 4) When first testing use the **NLM** running as an EXE (if running as a service then stop the service).
- 5) If the **SEL** starts up as an evaluation version (or evaluation expired) that means it couldn't find the **NLM** and is reverting to it's non-active state. You don't need to do anything on the **SEL** except to check item #1, #2 and #3 above.
- 6) When running the **NLM** as a service see the information on the following pages.

**The NLM is a SIMPLE program using SIMPLE technology.
Contact us with questions at support@enercalc.com**

Network Installation

A **Network License** allows you to run the software from any computer that can connect to our **Network License Manager (NLM)**. Use the prior section to install the **SEL** on any computer where you may want to use it.



The **NLM** must be installed and MUST STAY RUNNING on one of the network connected computers. It's purpose is to grant the **Structural Engineering Library** permission to run. The NLM can be run as a normal EXE program or as a "Service".

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)**.

If you have a network license your **PCC** will ONLY be accepted by the **NLM**. It is not needed in the installations of the SEL (and in fact won't be accepted by the SEL).

A "Network" License requires the computers that run the **SEL** be able to contact the **NLM** via a TCP/IP protocol network. See the next section titled "[Network License Manager Configuration](#)" for much more information on configuring and using the **NLM**.

The **NLM** supports both local and wide area networks.

-  For "Local" networks the **SEL** and **NLM** can use "broadcasting" to find each other.
-  For "Local" and "Wide" area networks can enter the IP address and Port of the **NLM** into the **SEL**. This is a more direct method of "telling" the **SEL** where the **NLM** is and can work over the Internet if needed.

Network License Manager Configuration

The **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.

After installation and activation of the **NLM** (www.enercalc.com/pdf/EC_V6_Install_Info.pdf) 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.

Here are some important bits of information about the **Network License Manager** and what might prevent it from granting run approval to your **SEL** program:

Local Area Networks

The **NLM** and **SEL** can operate 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: 10.1.1.12. When all computers on the network have the same first three numbers (i.e. **10.1.1.???**) 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 byte usage). 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. Windows Firewall can block this activity in which case you must specify the NLM and SEL programs as "exceptions" in your firewall

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

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

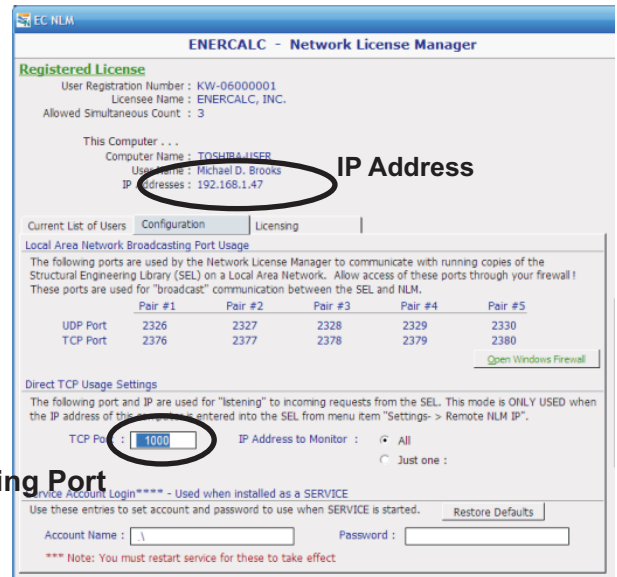
Local & Non-Local Subnets & Wide Area Networks

When broadcasting is not an option (and many times it is disabled by your IT manager) you can use a direct "TCP" connection. This is required when the **NLM** is not on the same "local" network as your **SEL** installation and indicates that you have multiple "subnets" in your organization.

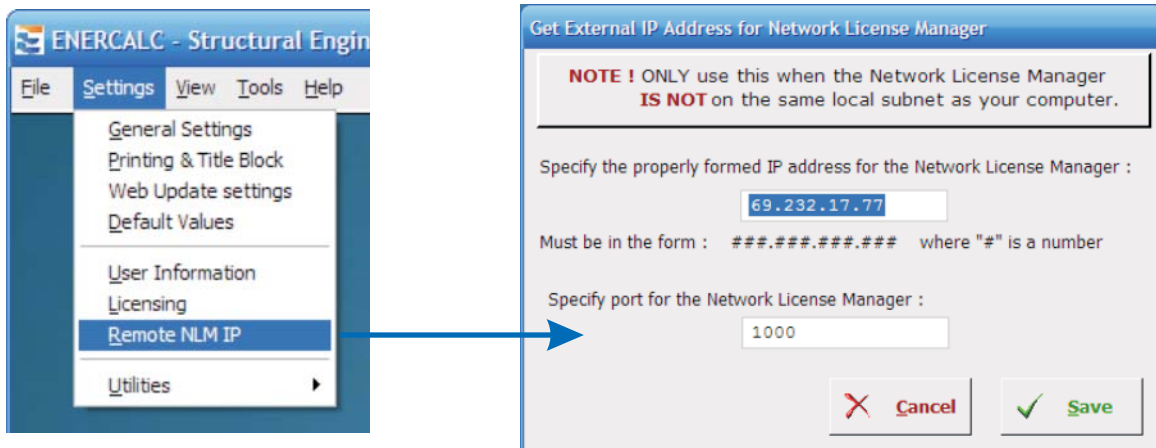
For instance, the NLM is installed on a server in the datacenter at IP 10.1.1.25 and your engineers computers are on the 5th floor at IP address range 10.2.2.???

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

First go to the "Configuration" tab in the **NLM** and specify the port to be used the "Direct TCP Usage Settings".
Write down this port and the "IP" address the NLM detects that it can monitor.



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"

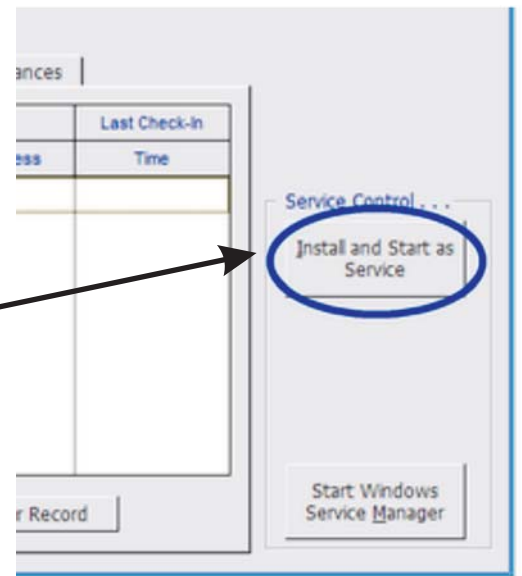


NOTE! Because network installations can be designed in many ways **YOU as the user need to determine if the two IP addresses (the SEL installation computer and NLM installation computer) can communicate with each other** using the IP addresses you have specified and the port numbers previously mentioned.

Installing the NLM as a service

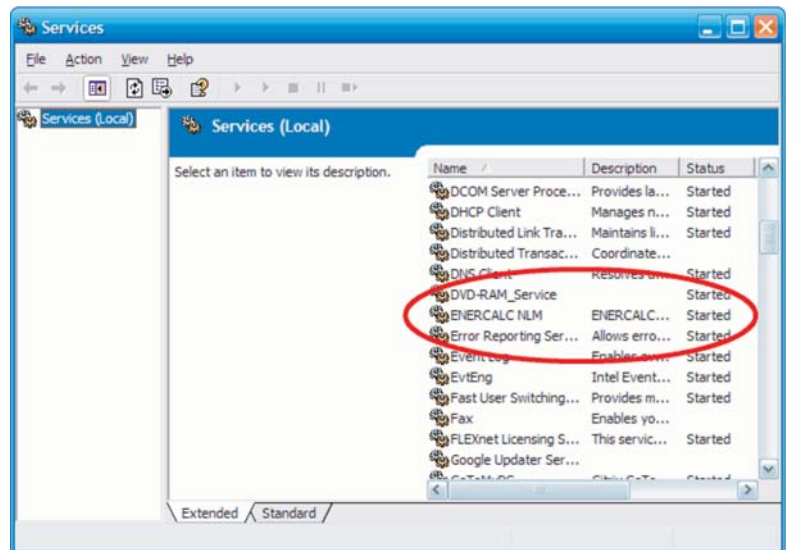
The **Network License Manager** can be installed as a service so that it can automatically startup when the computer starts and also run behind the scenes when the user is logged off.

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 :

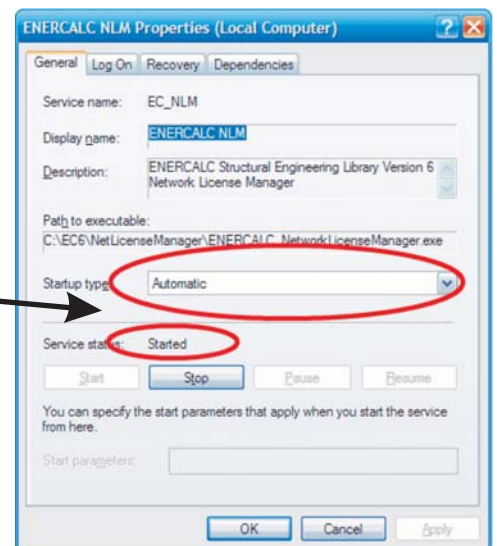


This will install the **NLM** as a service, set it to start automatically at computer startup and then start the service.

To confirm this has happened you can open the Windows "Service Manager" by going to the Control Panel, double-click on the "Administrative Tools" icon and then double-click "Services". You will see the following window (where we have circled the **NLM** service).



You can double-click on the ENERCALC NLM item you can see the properties and verify that the service has started :



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 many users that experience the **NLM** stopping operation when the user of a server "logs off".

When a user starts the SEL and it opens in evaluation mode that means it could not locate the NLM....and that 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 service uses for log-on may not allow the service 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 this service.

Note! You might already have an account created with Admin rights.

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) Select [Apply]. 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 access. Had you not done this the ENERCALC NLM would have lost much of it's capability when you logged off the computer. And that is typically ALWAYS the case when you have a service running on a server that is supporting a design office.

Note - We've found is 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.

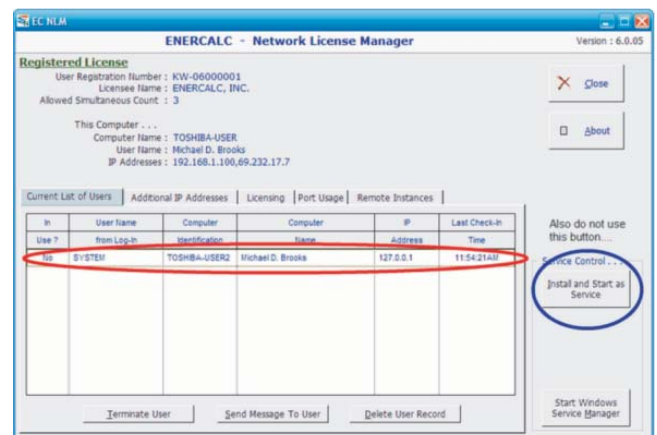
Displaying the NLM "User Interface" when it's running as a service



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.

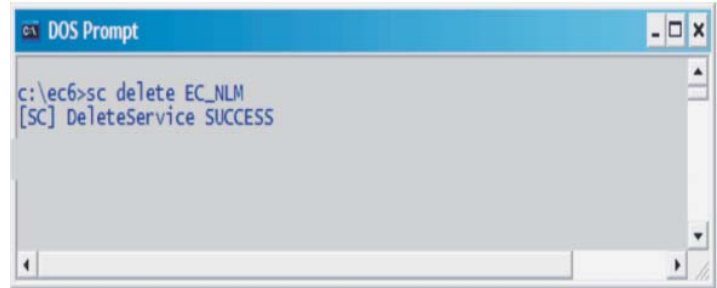


Stopping or deleting the NLM Service

There are times when you will need to stop the NLM service and remove it. The simplest way to do this is two steps.

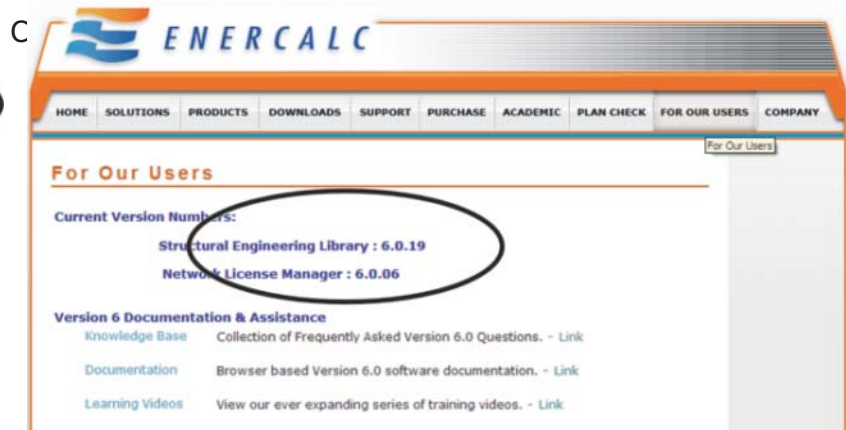
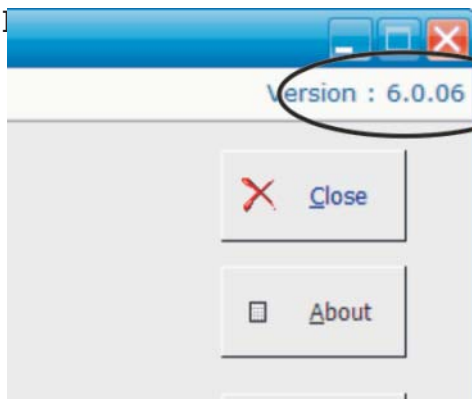
1) Use the "Services Manager" described in the above section to first "Stop" the service and then change the "Startup Type" to [Disabled].

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



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.



Frequent Questions - Network License Manager

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

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 advise is simply to read the recommendations in the prior section regarding fire walls 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.

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 is was installed using our setup program on the computer where you are trying to start the service.

We have a network license for SEL V 6. 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.

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.

If this occurs when running the **NLM** 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 publically 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 the NLM and SEL programs are allowed free access.
- (4) Update to the latest versions of each program in case there have been changes that will effect you. The update links are here : **www.enercalc.com/users.html**.