CADSTAR

Network Licensing (FLEX*lm*)
User's Guide

Part No: 202746/20

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An Overview Of Network Licensing

What It Consists Of

The Software: Network License Server is available as a download from Zuken Global Support

Software Key: The Network Licensing software is protected by a Software Key (dongle), which is obtained from your distributor.

License File: This is also obtained from your distributor. It provides the information required to license the use of the products in your system. The name of this file is **features.txt**

System Requirements For Network Licensing

Operating System:

All variants of Windows 10 and Windows 11 are supported on both Client and Server machines.

No other operating systems are supported.

Network Systems:

Microsoft network running TCP/IP is supported.

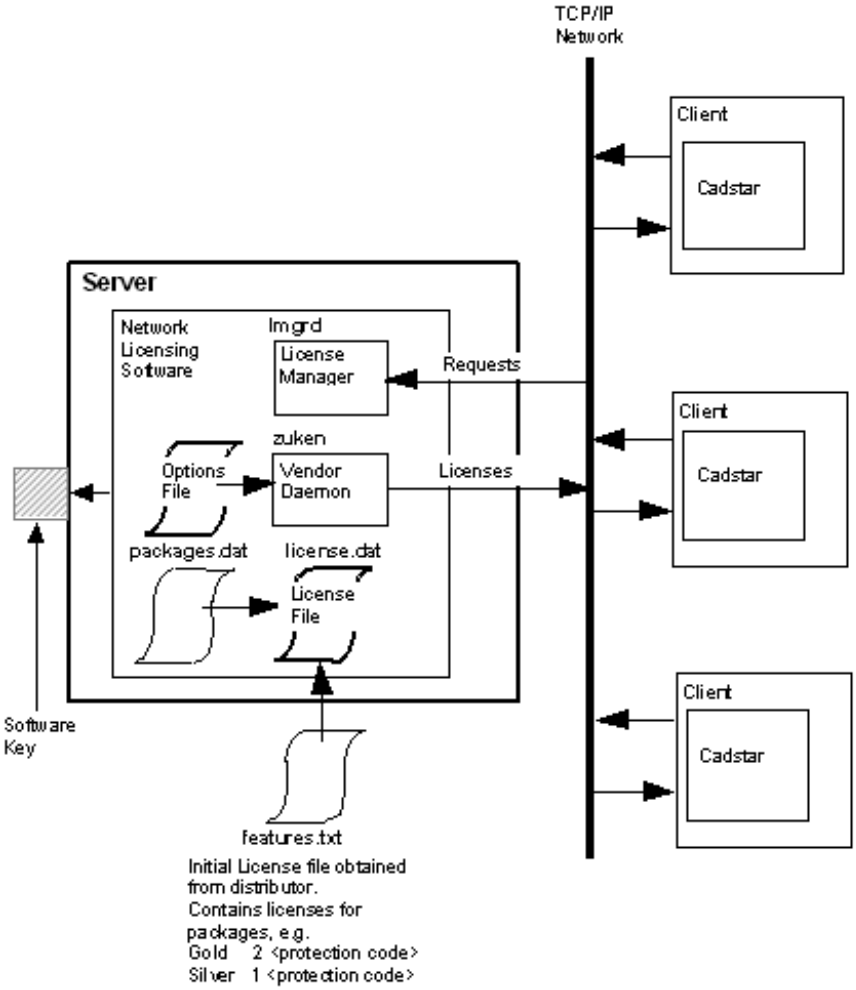
No other networks are supported.

Overview Of The Network Licensing System

A Network Licensing system enables you to authorise the use of specified software features by the clients in a network, without using Software Keys. The advantage of this system over the Software Key system is that the Licenses are `floating' and a particular application is not locked to a particular client.

The network Licensing system obtains its authorisations from a License file which is provided by the distributor. The License file holds information about which products are licensed to be used in the network.

The basic principles of the system is illustrated by the block diagram below:



Note: Daemons are processes that run continuously in the background, once started.

The **License Manager Daemon** handles the initial contact with the Client - this will be when the Client starts up a feature that requires a license (e.g. CADSTAR PCB Design).

The system now passes this request to the **Vendor Daemon** which checks whether there is an appropriate license for the application required by the Client. The **License File** tells the Vendor daemon which products are authorised and the number Licenses available. If there is a license available, the Vendor daemon authorises the product, communicating through the network.

Basically the system is 'first come first served'. In the example shown on the diagram, the first Client to start up CADSTAR PCB Design will receive a license to run a CADSTAR Gold. The License file shows that there are 2 Gold Licenses available, so the next Client to start CADSTAR will also receive a license to run CADSTAR Gold.

By setting up an **Options File**, you can change this `first come first served' operation to suit your requirements (e.g. ensuring a particular client always runs CADSTAR Gold).

Daemons

A daemon is a process which continues to run, even after the user has logged out.

FLEXlm licensing uses two types of daemon to administer the issuing of Licenses:

- The License Manager daemon (**lmgrd**).
- The Vendor daemon, (the Daemon for Zuken products is **zuken**).

The Zuken daemon is started automatically when you start the license daemon, and both run

on one or more server nodes. The DAEMON entry in the License file (features.txt) determines the location of the Zuken daemon's executable code.

When a client starts to use a feature, the client's system communicates with the license daemon and asks for one or more Licenses to run the feature. If there are Licenses available, the feature can run. When all Licenses are currently in use the designer is informed, and given the choice to wait for a license to become free. If the need for a license is urgent, another designer currently using the feature should be asked to finish.

It is important to monitor the number of times designers are not able to obtain a license and, if necessary, take steps to acquire additional Licenses. The DENIED message is added to the daemon log file whenever a license is denied. If designers are having to wait, productivity will be reduced.

The License File (license.dat)

Zuken supplies the initial version of the License file (**features.txt**) and provides subsequent updates as you need new Licenses. During installation you merge this file with a file called **packages.dat** to produce the License file (**license.dat**) required by the License Manager daemon. This done by a tool provided by the **Network License Manager** icon (part of the Network Licensing software - see **2. Installation**).

The License file tells the License Manager:

- the name of the Host machine and the number of the Host port (both of these parameters are entered by the Clients when they install Network Licensing);
- the location of the Vendor daemon's executable code (i.e. **zuken.exe**), and the location of the user Options file if appropriate;
- the applications contained within each package being Licensed (this information is inserted when the features.txt and packages.txt files are merged);
- the number of Licenses allocated to each package, the expiry date of each package, and the authorisation code for each package.

There should be little need for you to edit the license.dat file, in fact there is some information you must not edit.

The License File from the Distributor can be in several different forms - email; fax; disk; or modem.

If the information is supplied by email, the file should be saved to a file named **features.txt**. Any License files supplied on disk should also have this naming convention.

If you have received the information by fax, type it into a file called features.txt - carefully!

The License file features.txt should be stored in the directory in which the FLEXlm files have been installed (e.g. C:\Program Files\Zuken\CADSTAR Network Licensing Server).

The Operations For Setting Up The Network Licensing System

To install and set-up the FLEXlm Network Licensing system you need to:

- Install the Network Licensing Software on the server;
- Install the Software Key for the Network Licensing software in a **parallel** or **USB** port;
- Obtain your License file (i.e. **features.txt**) from your Distributor and copy it onto a floppy diskette. This is the file which authorises the use of CADSTAR by the clients on your network;
- Run the **Network License Manager** program to merge the features.txt and packages.dat files to create **license.dat** - the License file that controls the Network Licensing system. This program is run from an icon that is installed by the Network Licensing Software (this process is described by **Setting Up The License File** later in this chapter);
- Start the Network Licensing daemon **lmgrd** by selecting the **Start Network Licensing** icon;
- Install CADSTAR on the client's nodes (see **What The Clients Need To Do** later).

The process should be carried out in this order - server first then clients.

Installing The Network Licensing Software On The Server

Nominating A Server

You should select a node on the network that is suitable for running in Server mode. This means any other Windows machine that can share information with other nodes on the network.

The Installation Procedure

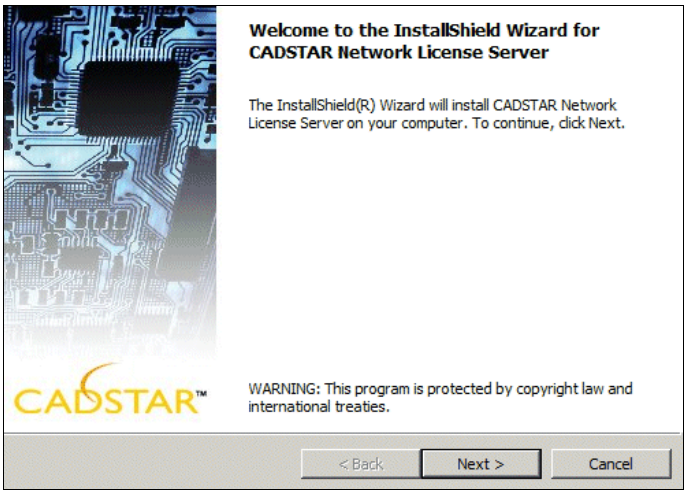
To install the Network Licensing software you need the installation file listed as ***Network License Server*** downloaded from Zuken Global Support. This is the file ***CADSTARNetworkLicenseServer.exe***

Note: When installing under Windows you must be logged in with **System Administrator** rights.

---

1. Double Click ***CADSTARNetworkLicenseServer.exe*** to begin the installation

2. The following dialog appears



This welcomes you to the installation process. It recommends that you exit all other

Windows applications before installing FLEXlm.

If you satisfy these conditions:

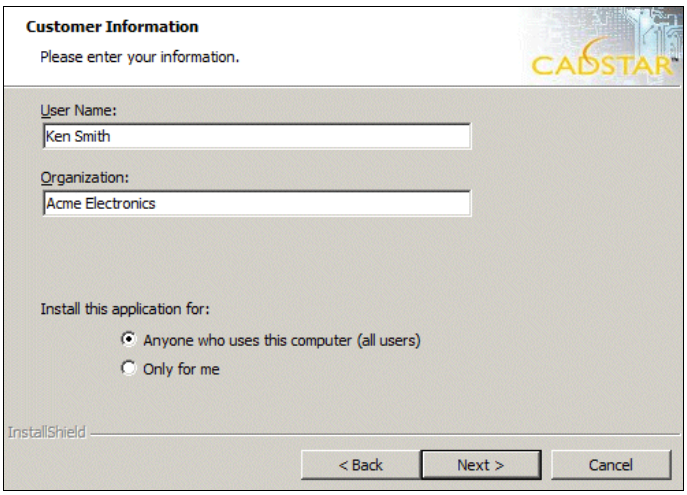
*3. Click on **Next***

The next screen displays the Software License Agreement. You should read it carefully before proceeding.

If you are satisfied with the terms displayed:

*4. Click on **I accept the terms in the license agreement*** and click on ***Next***

On the next dialog you enter your personal name and company name:

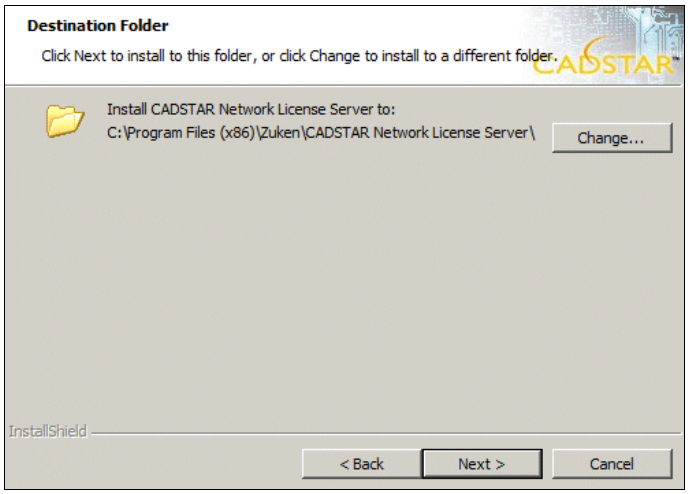


*5. In the **Name** box enter your own name (or the name of the machine if you prefer), and in the **Company** box enter the name of the organisation you work for.*

6. If given the option, choose whether to install for all users or just for the current user.

Specifying The Destination Of The Installation

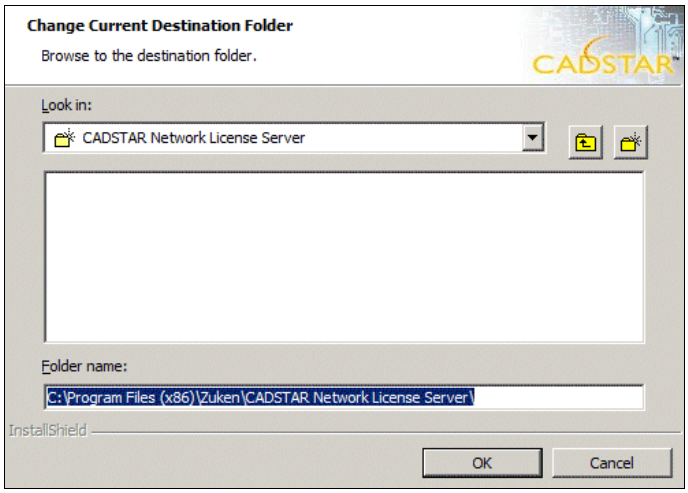
The next dialog enables you to specify which folder CADSTAR Network License Server will be installed in. A default is displayed:



If you wish to change the destination of the installation from the default:

*7. Click on the **Change** button*

A new dialog is displayed ready for you to select the directory you require …



In the example above, it is set up to install the software in the **Zuken\CADSTAR Network License Server** directory.

*8. Browse the folder tree or type in a directory path into the **Folder Name** edit control and click on OK*

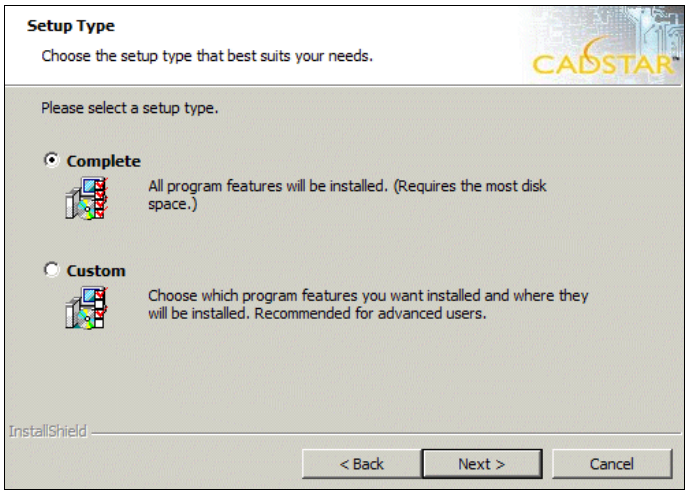
The Choose Destination Folder dialog is displayed again. If you are happy with the directory in which the Network License Server is to be installed:

Click on **Next**

Setting Up The Type Of Installation

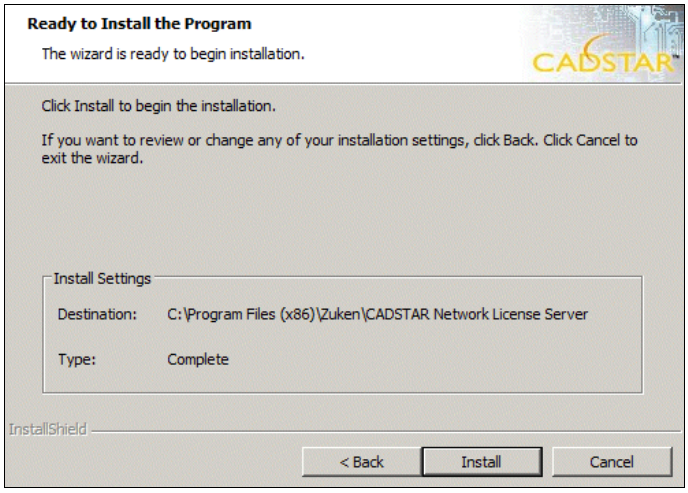
The next dialog asks you what type of installation you require:

*9. Select **Complete** and click **Next**.*



Installation Of The Files

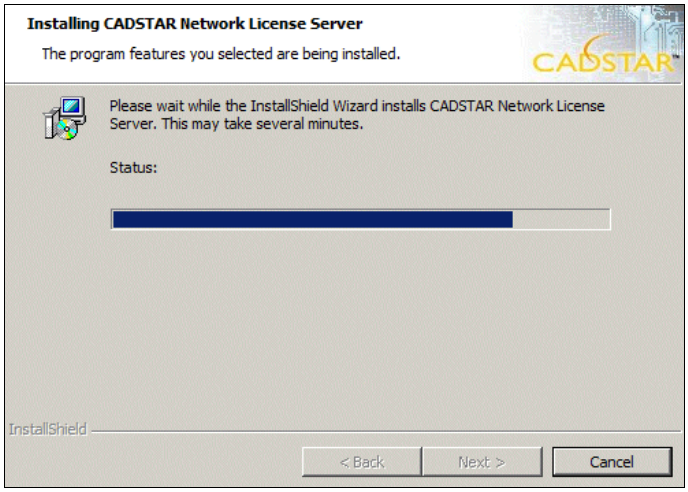
The next dialog gives a summary of the parameters you have set up so far.



10. Check the summary. If you are happy for the installation to proceed:

Press the **Install** button.

The installation now commences. A dialog displays progress information.



You can tell what is being currently installed because the progress dialog informs you with messages such as:

Checking Files'

Installing Software Key Driver

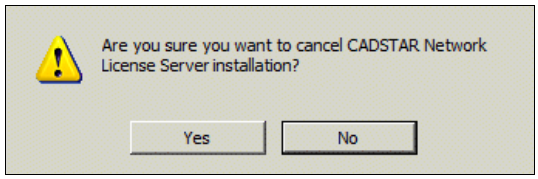
Copying Files from <Disk Name>'

Exiting the Installation

If you wish to exit from the installation before it is complete:

*11. Click on **Cancel** on the progress dialog*

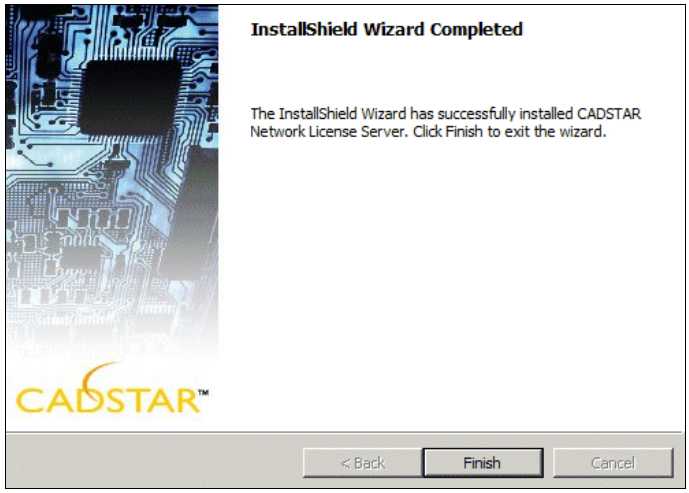
You are then prompted:



*12. Click on **Yes***

Finishing the Installation

When the installation is complete the following is displayed ...

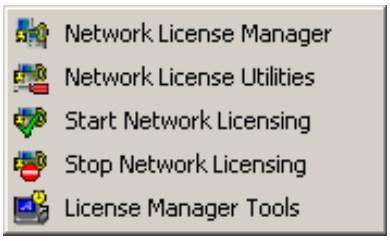


*13. Click on **Finish***

That completes the installation of the Network Licensing software.

Result of Installation

The following icons will now be available under **CADSTAR Network Licensing Server**:



A brief description of the purpose of each program is given below:

Network License Manager	This program is used to create a License file and to change the configuration of the Host name and Host Port number.
Network License Utilities	This program is used to run the utilities provided with the FLEXlm lmgrd tool.
Start Network Licensing	This program is used to start the Network License daemon running on the server. When it is running clients on the network can start using **CADSTAR**.
Stop Network Licensing	This program is used to stop the Network License daemon running on the server.
License Manager Tools	This tool is for running a program which installs data into the Services registry so that the Vendor daemon can be run as a service. It also can be used to remove the Vendor daemon as a service

The Network Licensing software is protected software. You now need to install the **Software Key**.

Installing The Software Key

Zuken prohibits the duplication of the Network Licensing software for use on other PCs simultaneously.

The software is protected by a device called the **Software Key** (this should be provided by your distributor with the software).

The Software Key must be plugged into the server before the Network Licensing software can be started.

If the Software Key is not plugged in, the system outputs the following message when you start the Network Licensing program:

ERROR: Failed to initialise the Dongle

Installing the Software Key Driver

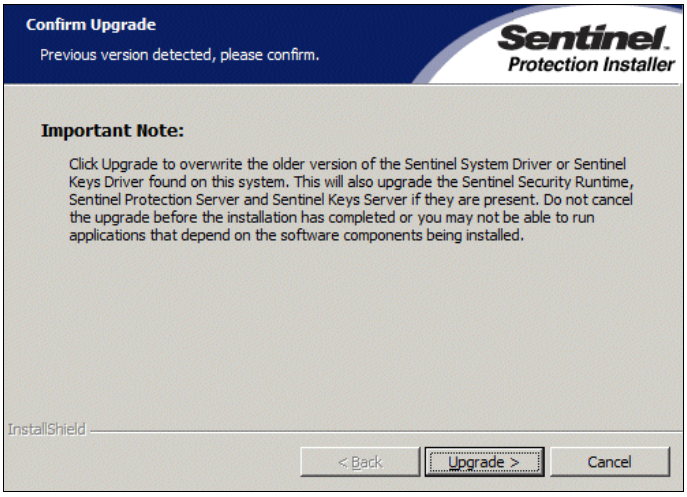
This procedure is for installing the driver which enables the protected applications (i.e. Design Editor, Library Editor, and P.R.Editor) to communicate with their respective Software keys.

It is essential that you install the Software Key Driver.

1. *Download the installer listed as **Sentinal Driver** from Zuken Global Support. This fetches the file **SentinelProtectionInstaller.exe***

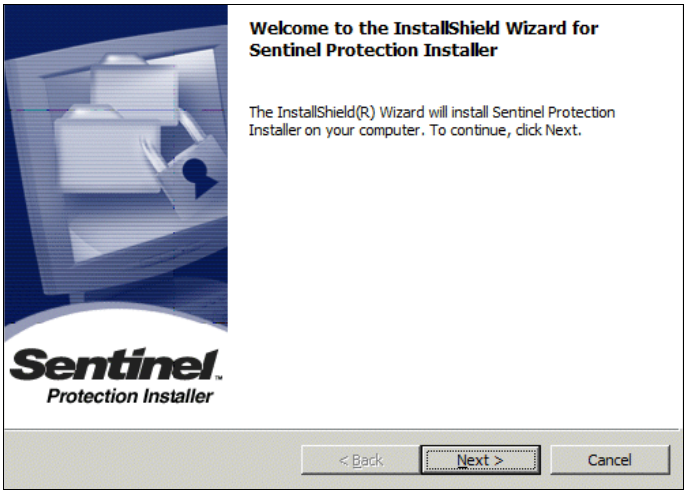
2. *Open **SentinelProtectionInstaller.exe** by double clicking on it*

If you are an existing user with an old version of the driver, the following dialog is displayed:



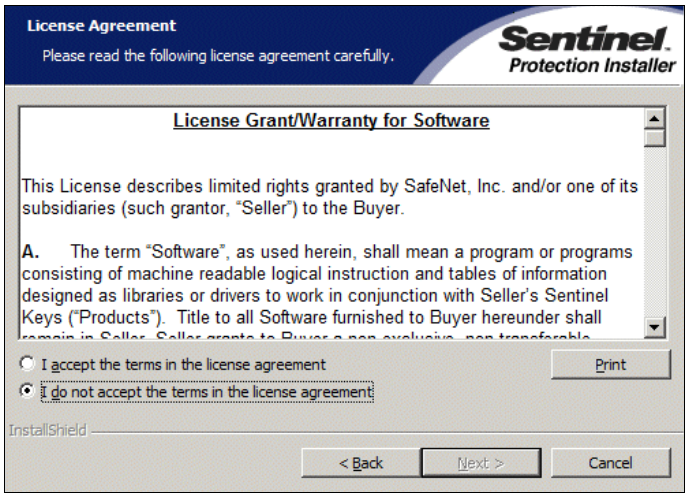
3. *Click on **Upgrade** to continue with the installation*

An introduction to the Installation 'Wizard' is now displayed ...



4. *Click on **Next***

The next dialog displays the **License Agreement**, which you should read carefully.

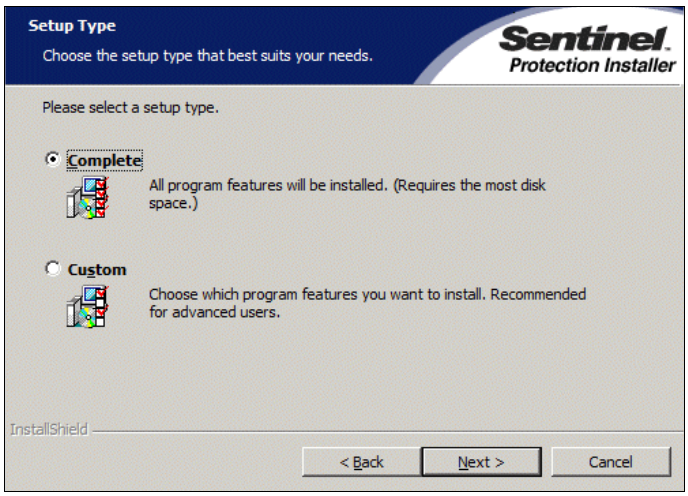


If you accept the terms of the License Agreement:

*5. Click on **I accept the terms in the license agreement** and the **Next** button*

Setting Up The Type Of Installation ...

The next dialog asks you what type of installation you require …



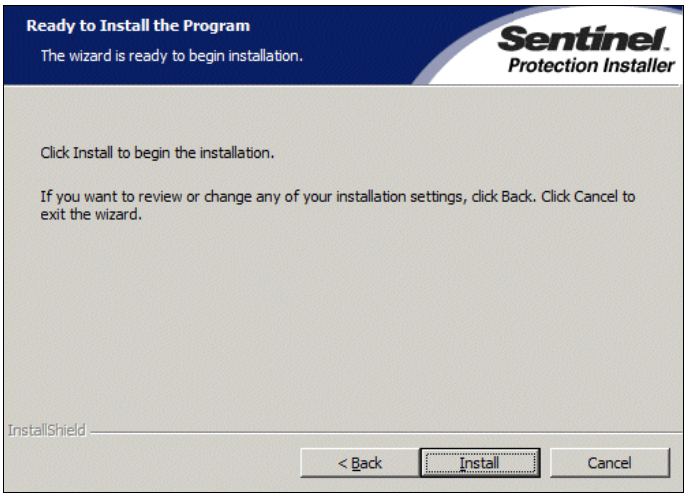
Complete - for installing the divers for both **Parallel** Port keys and **USB** port keys;

Custom Install - is for selecting whether you install the driver for a **Parallel** port key or a **USB** port key.

It is recommended that you choose a Complete installation:

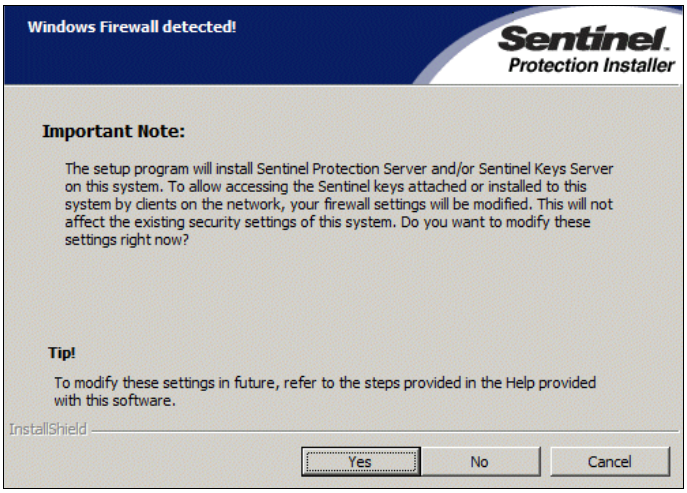
*6. Select **Complete** and then Click on **Next***

The next dialog informs you that the installation of the Driver is about to start …



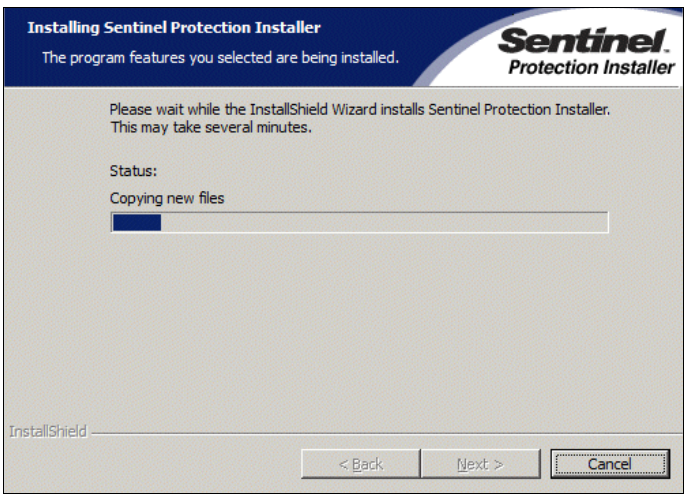
*7. Click on the **Install** button*

Depending on the Operating System used, you may get the following dialog:

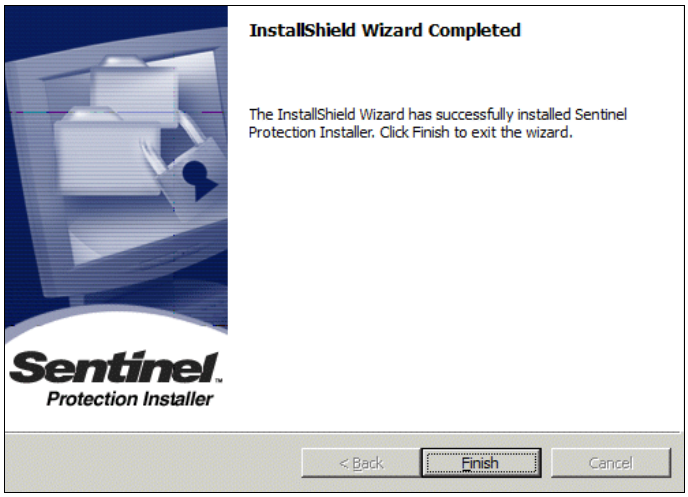


*8. Click **No**.*

Installation progress is displayed on the following dialog:



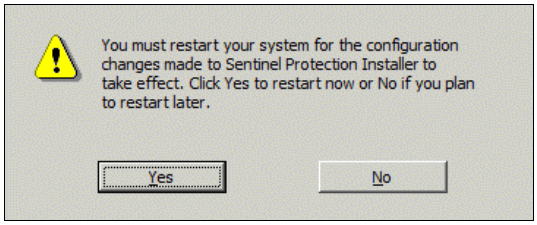
When installation is complete, you are informed of this by the following dialog ...



To exit from the Installation Wizard:

*9. Click on the **Finish** button*

You may obtain the next dialog (it depends on your Operating System):



If you wish to continue using the newly installed Driver:

*10. Click on **Yes***

You are now ready to continue on to the next stage of the installation if appropriate.

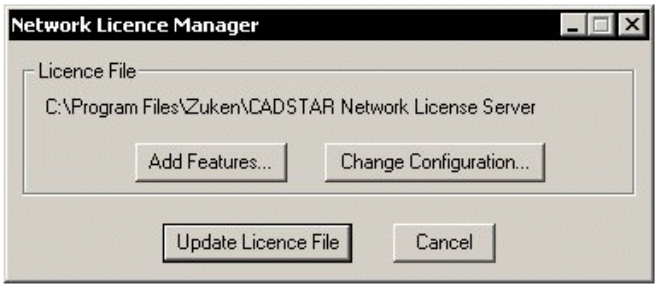
Setting Up The License File

Next you need to use the Network License Manager program to set up the License file used by the Network Licensing system, and to set up the Configuration to match the Host Port and Host Name parameters entered by the clients.

Setting Up The License File:

*1. Using the **Start** button select **Network License Manager** from the **CADSTAR Network Licensing Server** program group*

The following dialog is displayed:

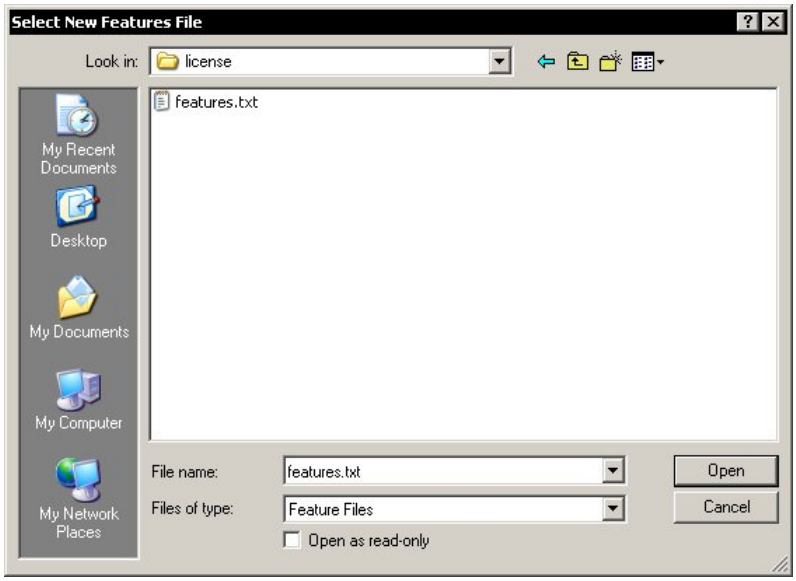


To set up the License file:

*2. Click on the **Add Features** button*

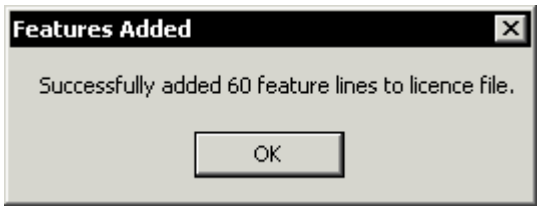
The following dialog is displayed. It is for loading in the contents of the License file from your distributor (**features.txt**) and merging it with the **packages.dat** file (which

provides the default package information for the License file). The result is a **license.dat** file.



3. *Set up the parameters to read in your **features.txt** file*

If the loading is successful a message similar to the following is displayed ...



4. *OK the dialog*

The top level dialog is displayed again.

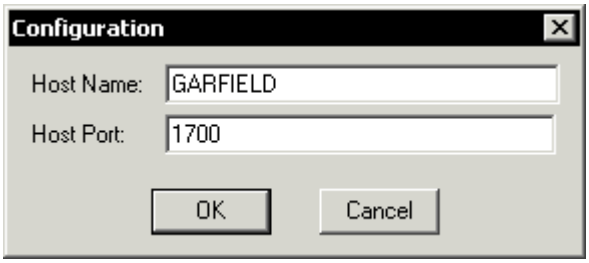
Setting Up The Host Name And Host Port:

For the Network Licensing system to work each client node must point to the License file on the server. The Client sets this up during installation of CADSTAR.

To set up the location of the License file on the server:

5. *Click on the **Change Configuration** button*

The following dialog is displayed:



The client is presented with an identical dialog. The Host Name and Host Port entered here should be the same as that entered on each client station.

The Host Name is the name of the Server machine in the network, the Host Port is **1700** as shown above.

6. *Enter the network **machine name** of the server in **Host Name** and **1700** in **Host Port** and OK the dialog*

That completes the setting up of the License file.

To make the changes to the License file permanent, you have to save the file to disk:

7. *Click on the **Update License File** button*

The following message is displayed to confirm the update:

The combined files create a file called **license.dat** which is read by the Vendor daemon.

8. *Click on OK*

To prevent problems later on you should now check the contents of the **license.dat** file you have just installed. This is documented in **Appendix A - Troubleshooting.**

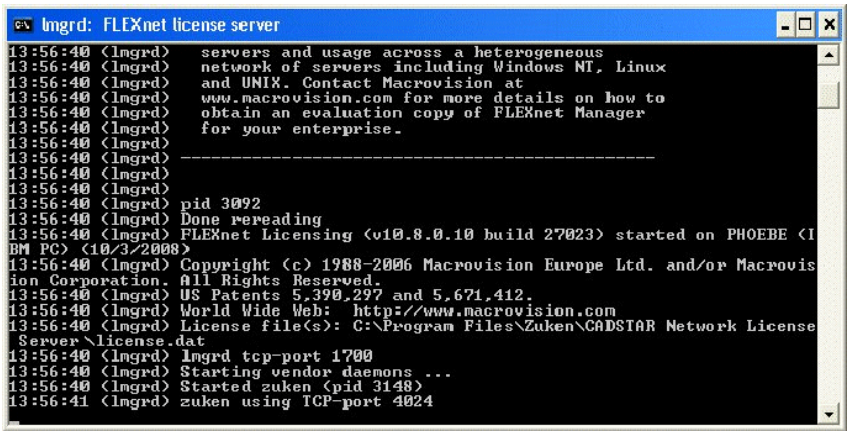
Starting/Stopping The Network Licensing System

Now that you have installed the Network Licensing software, you need to start it so that clients can run their CADSTAR and Route Editor applications.

Starting ...

1. *Using the **Start** button select the **Start Network Licensing** program*

The Network Licensing window is displayed …



This window keeps a record of the licensing operations that have been carried out on the network.

If an error occurs, this window shuts down before you get a chance to see which error caused the shut down. Refer to **Appendix A** to see how to 'troubleshoot' this.

Stopping

The CADSTAR Program Group should be displayed:

2. *Using the **Start** button select the **Stop Network Licensing** program*

The FLEXlm License Manager

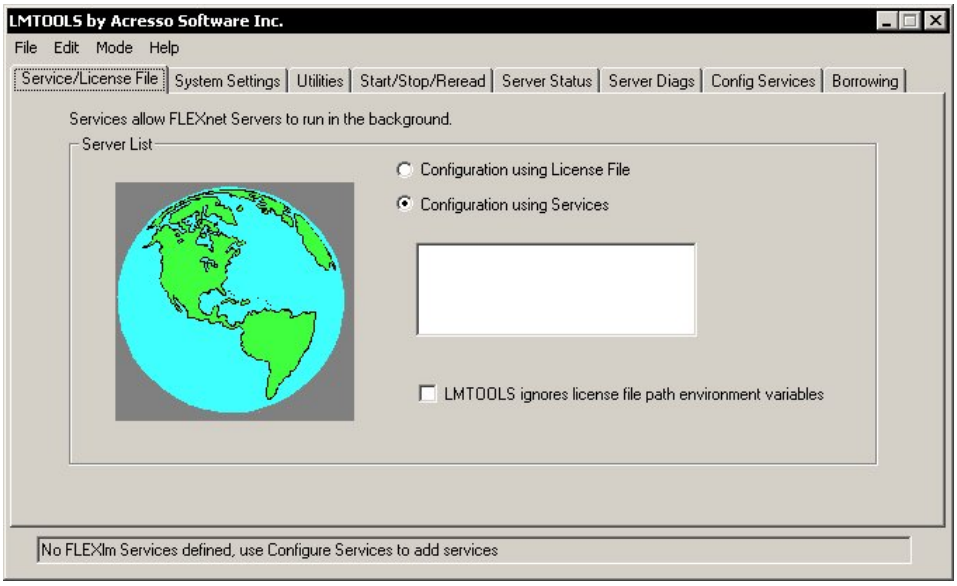
This tool is obtained from the **License Manager Tools** option in the CADSTAR Network License Server start menu.

It displays several tabbed dialogs which enable you to set up various parameters appropriate to the License file.

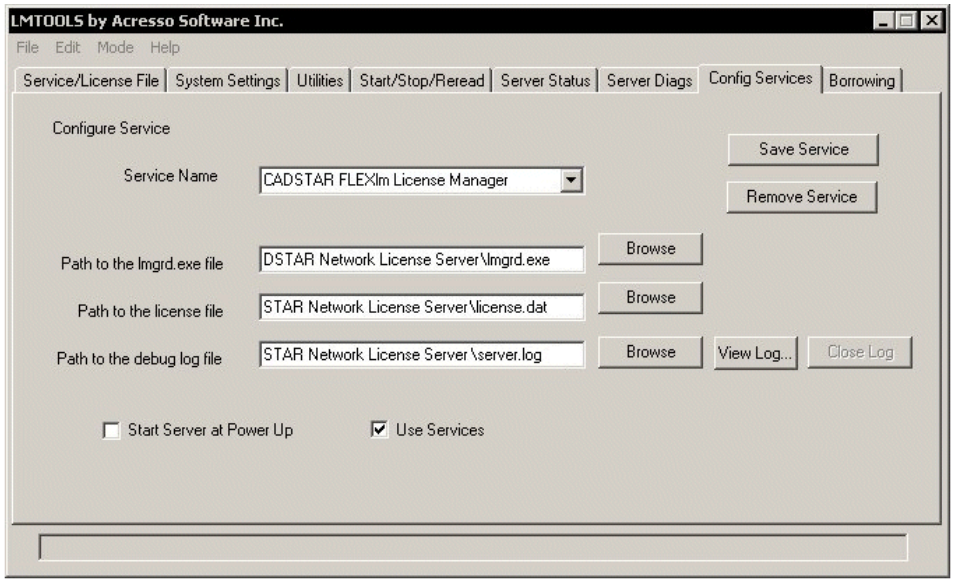
If you prefer to run Network Licensing as a service, or are using applications from different vendors which use FLEXlm as the licensing method, you should use this control panel instead of the **Start/Stop Network Licensing** icons on the Start menu.

Setup ...

In the **Service/License File** tab ensure that 'Configuration using Services' is selected.



The **Config Services** tab enables you to specify the location of the license manager daemon, the license file and the license server log file. It also enables you to run Network Licensing system as a service.



When you first complete an installation, these fields will be left blank.

For CADSTAR, we recommend that the Service Name is changed to 'CADSTAR FLEXlm License Manager'. If you have more than one product which uses FLEXlm licensing, each product's license server must be set up with a unique name.

Select the **Browse** button for each field and choose the file from the install directory (usually C:\Program Files\Zuken\CADSTAR Network Licensing Server). The log file doesn't exist and needs to be created.

When you have finished configuring the service you should save the settings by clicking the **Save Service** button.

Running Network Licensing as a Service

It is more convenient for your colleagues on the network if you run the Network Licensing system as a 'service'. This means that the licenses will always be available, even when you have logged off.

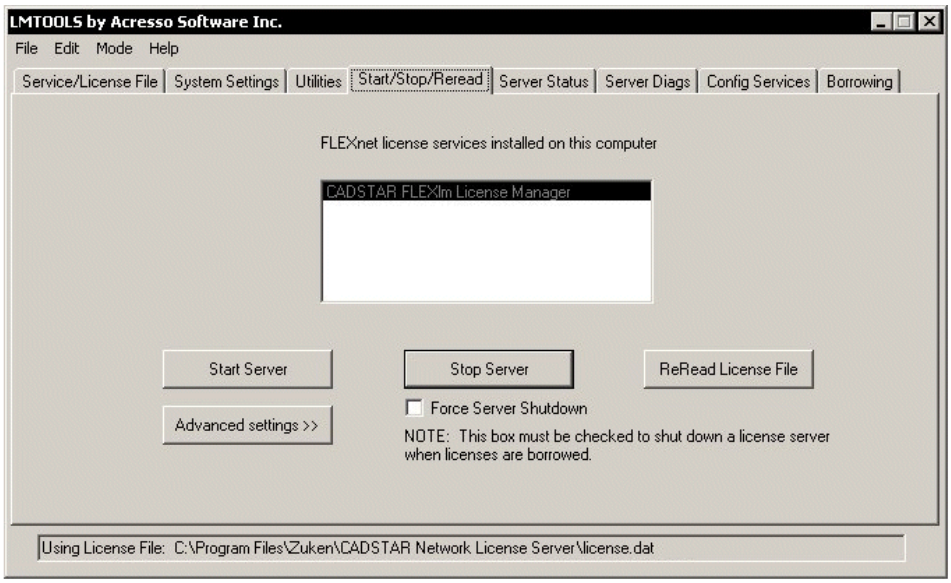
Select the "**Use Services**" check box on the dialog above to enable the license server to continue after you log out. If you want the license server to start automatically if the machine is rebooted, select the "**Start Server at Power-Up**" check box also.

Again, when you have finished configuring the service you should save the settings by clicking the **Save Service** button.

It is recommended that you manually start the license server and check its operation before rebooting with the "Start Server at Power-Up" option.

Starting / Stopping the License Server

The **Start/Stop/Reread** tab enables you to start / stop the license server.



Ensure that the correct service is highlighted for CADSTAR (this can be changed by selecting a different service from the Config Services tab). The license file being used by the service can be seen in the status bar.

Select the **Start Server** button to start the license server. The status bar will indicate if the server was started successfully.

If you need to stop the server (when you are about to shut down the PC, for example), select the **Stop Server** button.

If you are unsure whether the server is running or not, select the **Perform Status Enquiry** button on the **Server Status** tab.

The current status of the server will then be shown in the log window.

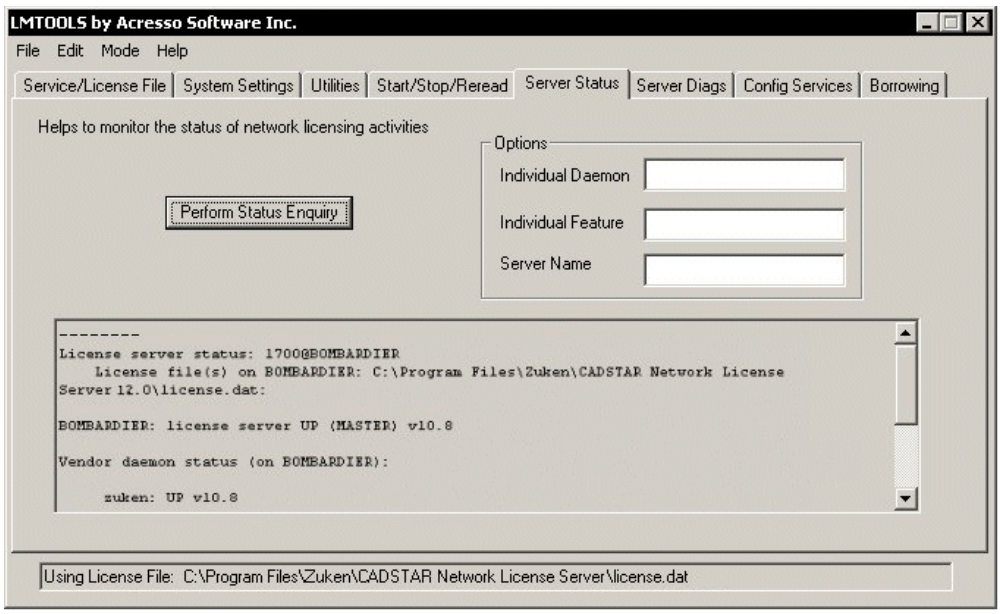
What The Clients Need To Do

When the Clients of a Network Licensed system install CADSTAR, or the P.R.Editor, they must select **Network License** as the type of system they are installing, and enter the **Host Name** and **Host Port** - information which must match what has been set up on the Network Licensing software (see Chapter **2** of **Installation & Getting Started** in the CADSTAR User's Guide)

Upgrading A Previously Node Locked System

You can configure an existing CADSTAR installation to use the Network License by

changing the settings in the **Tools->Options** dialog on the System tab.



License File Format

The file shown below is **license.dat**. This results from merging the License file obtained from the distributor (**features.txt**) with the Packages file (**packages.dat**) included in the software. By carrying out this merge you obtain the License file that supplies information to the License Manager daemon.

Apart from comments (which are preceded by a #), the License file contains the following types of entry:

SERVER - provides information that enables the clients to communicate with the server.

DAEMON - provides the name of the Vendor daemon thus enabling the License Manager daemon to communicate with the Vendor daemon. Optionally, this statement also contains the name and location of the Options file.

PACKAGE - additional information which shows which features make up a CADSTAR package. Inserted by merging the packages.dat file.

INCREMENT - lists the package Licenses that have been purchased; and which, therefore, can be issued to clients in the network.

Each entry is now described:

SERVER_<host name>_<software key node id>_<port_number>

(e.g. SERVER WEBSTERS REDAC_DONGLE=24EEBBF 1700)

where:

<host_name>	is the name which identifies the Server machine in the network. This name is entered by a Client during installation when Network Licensing is selected, e.g.: **WEBSTERS**
<software key node id>	is the code which must be matched by the software key so that the Network Licensing software can run, e.g.: **REDAC_DONGLE=24EEBBF**
<port number>	is set at 1700 for CADSTAR, and is a number which enables the clients and server in a CADSTAR Network Licensing system to communicate. This number is entered by a Client during installation when Network Licensing is selected, e.g.: **1700**

DAEMON_ <daemon name>_<daemon path>_[<options file path>]

(e.g. DAEMON zuken "C:\Program Files\Zuken\CADSTAR Network Licensing Server\zuken.exe" "C:\Program Files\Zuken\CADSTAR Network Licensing Server \options.txt")

where:

<daemon name>	is the name of the Vendor daemon. For Redac packages this is called **zuken**.
<daemon path>	is the directory path which locates the Vendor daemon executable **zuken.exe**, e.g.: **C:\Program Files\Zuken\CADSTAR Network Licensing Server**

[<options file path>]	is the directory path which locates the **Options** file. This entry is only present when you use an Options file. **C:\Program Files\Zuken\CADSTAR Network Licensing Server \options.txt**

PACKAGE_<package type>_<daemon name>_<version>_<protection code>
COMPONENTS_"<feature>
etc .."

(e.g. PACKAGE Gold zuken 12.100 401010714B115A428F6B \
COMPONENTS="t005_CADSTAR_gold:5 \
t005_CADSTAR_silver:5 \

where:

<package type>	this identifies whether a package is Gold, Silver, Bronze, Elite etc. Each type contains a different set of features, e.g.: **Gold**
<daemon name>	is the name of the Vendor daemon, e.g.: **zuken**
<version number>	is the version number of the package, e.g.: **12.100**
<protection code>	is the code which protects the list of features displayed by the COMPONENTS lines. This code prevents you from changing the package contents. **401010714B115A428F6B**
<feature>	shows which features are included in each package, e.g.: t005_CADSTAR_gold:5 Each feature must be preceded by COMPONENTS.

INCREMENT_<package>_<daemon>_<version>_<date>_<no of Licenses>_<protection code>

(e.g. INCREMENT Gold zuken 12.100 1-jan-10 1 1C81F6518CA1CF40E988 "")

where:

<package type>	this identifies the package which contains the features to be licensed, e.g.: **Gold**
<daemon name>	is the name of the Vendor daemon. The vendor daemon issues the Licenses to the clients, e.g.: **zuken**
<version>	is the version number of the package, e.g.: **12.100**
<date>	is the expiry date of the package. For CADSTAR this is infinite, hence the year of '2010', e.g.: **1-jan-10**
<no of Licenses>	is the number of Licenses for use of the package that can be issued to clients, e.g.: **2**
<protection code>	is the code which protects the information in the INCREMENT line. This prevents the data in the line from being changed (e.g. increasing the number of Licenses), e.g.: **1C81F6518CA1CF40E988**

Introduction

The Options file enables you to control the allocation of Licenses. With this file you can:

- Enable the use of selected features by specific clients, thus denying the use of these features by other clients;
- Deny the use of selected features by specific clients;
- Reserve selected features for the sole use of specific clients.

Setting Up An Options File

An Options file is a simple ASCII file in which you type in the commands required. For example:

EXCLUDE t002_CADSTAR_gold USER miker

EXCLUDE t002_CADSTAR_gold USER davem

EXCLUDE t002_CADSTAR_gold USER chrisw

RESERVE 1 t002_CADSTAR_gold USER peted

RESERVE 2 p006_advanced_router HOST ANSELLS

You can use an text editor such as **Notepad** to create it.

Once the file is created you must inform the Network Licensing system of its location by specifying its directory path in the **license.dat** file. For example:

DAEMON zuken "C:\Program Files\Zuken\CADSTAR Network Licensing Server\zuken.exe" "C**:\Program Files\Zuken\CADSTAR Network Licensing Server \options.txt**"

Options File Commands

The Options file can include the following commands:

Command	What Can Be Specified By It:
EXCLUDE	To deny a client (USER), group of clients (GROUP), machine (HOST), or group of machines (HOST_GROUP) access to a specified feature. See **Rules Of Precedence** below. **Format:** **EXCLUDE_<feature name>_<type>_<name>** where: **<feature name>** is the name of the feature being excluded. This name taken from the COMPONENTS line which appears in the **license.dat** file; **<type>** is one of USER, HOST, GROUP or HOST_GROUP; **<name>** is the name of the client (USER) , host machine (HOST), group of clients (GROUP), or group of hosts (HOST_GROUP) to exclude. **Example:** **EXCLUDE t002_CADSTAR_gold USER miker** **EXCLUDE t002_CADSTAR_gold USER davem** **EXCLUDE t002_CADSTAR_gold USER chrisw** This example would exclude '**miker**', '**davem**', and '**chrisw**' from using the feature called '**t002_CADSTAR_gold**'. **Tip:** Instead of using a separate line for each client to exclude (as shown above), you can use the GROUP statement to group the clients together - you can then use the GROUP name in one EXCLUDE statement.
EXCLUDEALL	To deny a client (USER), group of clients (GROUP), machine (HOST), or group of machines (HOST_GROUP) access to all features served by the Vendor daemon. **Format:** **EXCLUDEALL_<type>_<name>** where: **<type>** is one of USER, HOST, GROUP, HOST_GROUP; **<name>** is the name of the client (USER) , host machine (HOST), group of clients (GROUP), or group of hosts (HOST_GROUP) to be excluded access to the feature. **Example:** **EXCLUDEALL HOST ANSELLS** This statement would deny any user on the machine called **ANSELLS** access to all the features in the License file.

GROUP

To form a number of selected clients into a group. This group can then be used in the INCLUDE, INCLUDEALL, EXCLUDE, EXCLUDEALL, and RESERVE lines (see <type> in the formats above).

Format:

GROUP_<groupname>_<username list>

where:

<groupname> is the name you wish to give to the group being defined;

<username list> are the names to be included in the group.

Example:

To form a group called `Team1' out of miker, chrisw, and davem:

GROUP Team1 miker chrisw davem

HOST_GROUP

To form a number of selected host names into a group. This group can then be used in the INCLUDE, INCLUDEALL, EXCLUDE, EXCLUDEALL, and RESERVE lines (see <type> in the formats above).

Format:

HOST_ GROUP _<groupname>_<hostname list>

where:

<groupname> is the name you wish to give to the group being defined;

<hostname list> are the names of host machines to be included in the group.

Example:

To form a group called Section1 out of the machines called ANSELLS, FALCON, GOOSE, enter:

HOST_GROUP Section1 ANSELLS FALCON GOOSE

INCLUDE To allow a client (USER), group of clients (GROUP), or machine (HOST) access to a particular feature. Anyone not in an INCLUDE statement will not be allowed to use the feature.

See **Rules Of Precedence** below.

Format:

INCLUDE_<feature name>_<type>_<name>

where:

<feature name> is the name of the feature being included. This name taken from the COMPONENTS line which appears in the **license.dat** file;

<type> is one of USER, HOST, or GROUP;

<name> is the name of the client (USER) , host machine (HOST), or group of clients (GROUP), to be included in the use of the feature.

Example:

INCLUDE p006_advanced_router USER miker

INCLUDE p006_advanced_router USER davem

INCLUDE p006_advanced_router HOST ANSELLS

This statement would:

- Allow **miker** to use the feature '**p006_advanced_router**' on any machine in the network;
- Allow **davem** to use the feature '**p006_advanced_router**' on any machine in the network;
- Allow any user on the machine called ANSELLS to use the feature '**p006_advanced_router**'.
- Deny access to the feature '**p006_advanced_router**' to anyone on the network except **miker**, **davem**, and any client using **ANSELLS**.

INCLUDEALL To allow a client (USER), group of clients (GROUP), machine (HOST), or group of machines (HOST_GROUP) to access to all features served by the Vendor daemon. Anyone not in an INCLUDEALL statement will not be allowed to use the feature.

Format:

INCLUDEALL_<type>_<name>

<type> is one of USER, HOST, GROUP, or HOST_GROUP;

<name> is the name of the client (USER) , host machine (HOST), group of clients (GROUP), or group of machines (HOST_GROUP) to be included in the use of the feature.

Example:

INCLUDEALL USER miker

INCLUDEALL HOST ANSELLS

This statement would:

- Allow **miker** use of all the features in the License file
- Allow any user on the machine **ANSELLS** to use all the features in the License file.
- Deny access to all the features in the License file to anyone on the network except **miker**, and any client using **ANSELLS**.

RESERVE To reserve a specified feature for the use of a client (USER), group of clients (GROUP), machine (HOST), group of machines (HOST_GROUP).

Format:

RESERVE_<num. Licenses>_<feature name>_<type<>_<name>

where:

<num. license> is the number of Licenses of the specified feature to be reserved;

<feature name> is the name of the feature to be reserved. This name taken from the COMPONENTS line which appears in the **license.dat** file;

<type> is one of USER, HOST, GROUP, or HOST_GROUP;

<name> is the name of the client (USER), host machine (HOST), group of clients (GROUP), group of machines (HOST_GROUP) reserving the feature.

Example:

RESERVE 1 t002_CADSTAR_gold USER miker

RESERVE 2 p006_advanced_router HOST ANSELLS

These statements would:

- Reserve a CADSTAR Gold for miker - a license for this feature would always be available to miker.
- Reserve an Advanced Router for any two clients on the machine called ANSELLS.

LINGER To allow the Vendor daemon to `hold onto' the license of a particular feature for a specified time interval after a client has exited from it and returned it to the daemon. This can be useful for short duration features that are used many times in sequence.

Format:

LINGER_<feature name>_<interval>

where:

<feature name> is the name of the feature being 'held onto'. This name taken from the COMPONENTS line which appears in the **license.dat** file;

<interval> is the length of time in **seconds** during which the Vendor daemon holds onto the feature.

Example:

LINGER p006_route_fattener 1800

This statement would hold onto the route fattening feature for 1800 seconds after the client has stopped using the feature - the client can then re-use that feature within the 1800 seconds (e.g. after a half an hour break).

NOLOG To turn off the feature which logs the events carried out by the FLEXlm daemons.

The License administrators might use this option to reduce the size of the **lmgrd** log file.

Format:

NOLOG <what>

where:

<what> is the log operation to be turned off. Can be IN, OUT, DENIED, or QUEUED.

Examples:

To turn off the logging of checkins:

NOLOG IN

To turn off the logging of checkouts and queued requests:

NOLOG DENIED

NOLOG QUEUED

REPORTLOG Is for specifying the name of a file to contain the `report-writer' log for the Vendor daemon.

Format:

REPORTLOG_[+]<file name>

where:

<file name> is the name of the file to store the log. If you precede the file name with a `+' character, the file will be opened for the purpose of appending log entries. If there is no `+', the file will be overwritten each time the daemon is started.

Rules Of Precedence

Before you can customise the Options file effectively, you must understand the rules of precedence that apply when you use both INCLUDE and EXCLUDE statements:

The following will help you:

- If there is only an EXCLUDE list, the clients who are not on the list will be able to use the feature;
- If there is only an INCLUDE list, only those clients on the list will be able to use the feature;
- If there is neither an EXCLUDE or INCLUDE list, all clients can use the feature;

The EXCLUDE list is checked before the INCLUDE list; so a client who is on both lists will not be allowed to use the feature.

Once you create a INCLUDE or EXCLUDE list, all other clients are `implicitly' outside the group specified by the EXCLUDE or INCLUDE statements. This enables you, the administrator, to control Licenses without having to `explicitly' name each client that you wish to allow or deny access to. In other words you can either:

- Give most clients access and list only the exceptions;

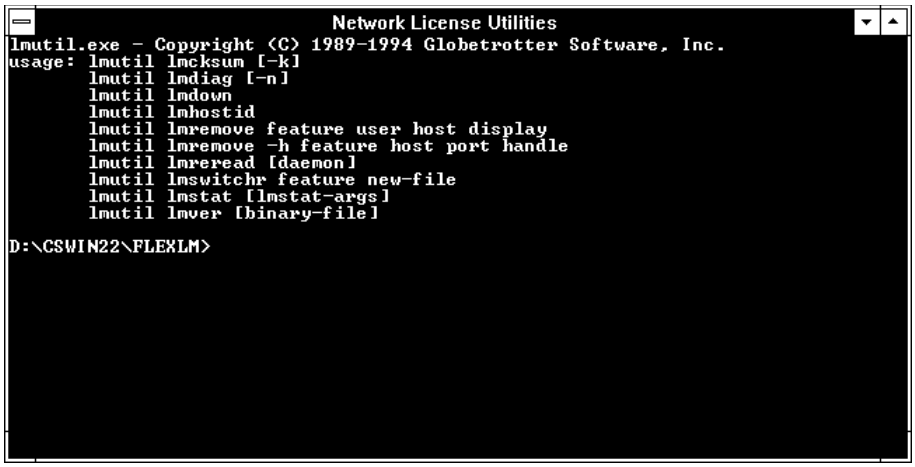
or

- Severely limit access and list only those clients that can have license to specified features.

Introduction

These tools are obtained by selecting the **Network License Utilities** in the CADSTAR programs group:

The following window is displayed



The prompt is where you enter the commands. The available commands are listed at the top of the window.

The following commands are not relevant to a CADSTAR installation because their operation is carried out by an icon in the CADSTAR Group window:

lmgrd

lmdown

When you enter a command it is in the format:

lmutil_<command>_ [optional parameters and switches]

The use and format of the commands which are relevant to a CADSTAR system are now described.

lmdiag

Use **lmdiag** for diagnosing problems when you cannot book out a license to a client.

Format:

lmutil_lmdiag_[-c <license file>]_[-n]_[feature name]

where:

[-c <license file>]	is an optional switch for specifying the name of the License file. If this switch is not entered, lmdiag looks for the environment variable: **LM_LICENSE_FILE** If that environment variable is not set, lmdiag looks for the following file: **c:\flexlm\license.dat**

[-n]	is an optional switch which cause the command to run in the non-interactive mode; lmdiag will not prompt for any input in this mode.
[feature name]	is an optional switch which allows you to diagnose problems in the specified feature only. If there is no **[feature name]**, lmdiag will check all features in the License file.

If lmdiag cannot connect to the License Manager server, you will be given the option of running 'extended connection diagnostics'. This attempts to connect to each port on the license server node, and can detect whether the port number in the License file is correct. If the Vendor daemon for the feature being checked is connected, lmdiag will indicate the correct port number for the License file to correct the problem.

lmremove

Use **lmremove** to remove a client's license for a particular feature. For example, when a client is running a Licensed feature that crashes, the client's license sometimes remains checked out, and unavailable to any other client; **lmremove** can be used to return the license to the pool of available Licenses.

Format:

lmutil_lmremove _[-c <license file>] _<feature name>_<client name>_<host name>

where:

[-c <license file>]	is an optional switch for specifying the name of the License file. If this switch is not entered, lmremove looks for the environment variable: **LM_LICENSE_FILE** If that environment variable is not set, lmremove looks for the following file: **c:\Program Files\Zuken\CADSTAR Network Licensing Server\license.dat**
<feature name>	is a mandatory parameter which specifies the name of the feature for which the license is to be removed.
<client name>	is a mandatory parameter which specifies the name of the client who is to have a license removed.
<host name>	is a mandatory parameter which identifies the name of the server machine which is doing the license removing.

For example:

lmutil lmremove p006_advanced_router miker OAK

would cause the server called **OAK** to remove the license for the Advanced Router from the client called **miker**.

lmreread

Use lmreread to reread the License file in order to start any new Vendor daemons or issue new feature Licenses that have been added to the file.. This saves you having to close down and restart the Network Licensing system.

Format:

lmutil_lmreread_[-c _<license file>]

where:

[-c <license file>]	is an optional switch for specifying the name of the License file. If this switch is not entered, lmreread looks for the environment variable: **LM_LICENSE_FILE** If that environment variable is not set, lmreread looks for the following file: **c:\Program Files\Zuken\CADSTAR Network Licensing Server\license.dat**

lmstat

Use lmstat to monitor the status of all network Licensing activities, including:

- Which daemons are running (entering lmstat without any switches will display this information);
- Which clients are using individual features;
- Which clients are using features served by a specific daemon.

Format:

lmutil_lmstat_[-a]_[-S_<daemon>]_[-f_<feature>]_[-i_<feature>]_[-s_<server>]_[-c_<license file>]_[-A]

where:

[-a]	is for displaying all information.
[-S_<daemon>]	is for listing all clients using features Licensed by the named daemon.
[-f_<feature>]	is for listing all clients using the names features
[-i_<feature>]	is for displaying information about the named feature(s).
[-s_<server>]	is for displaying the status of server node(s).
[-c_<license file>]	is an optional switch for specifying the name of the License file. If this switch is not entered, lmreread looks for the environment variable: **LM_LICENSE_FILE** If that environment variable is not set, lmreread looks for the following file: **c:\Program Files\Zuken\CADSTAR Network Licensing Server\license.dat**
[-A]	is for listing all active Licenses.

Checking license.dat

The file called **license.dat** should contain three sections:

- The **Server** lines - for example:

```
SERVER WEBSTERS REDAC_DONGLE=24EEBBF 1700
DAEMON zuken "C:\Program Files\Zuken\CADSTAR Network Licensing Server\zuken.exe"
```

where:

WEBSTERS is the DNS Host name or computer name (if DNS is not set up).

24EEBBF is the Key Number listed in the **features.txt** file

- The **Package** lines - for example:

```
#PACKAGE_VERSION 11
PACKAGE Gold zuken 12.100 401010714B115A428F6B \
         COMPONENTS="t005_CADSTAR_gold:5                                    \
                    t005_CADSTAR_silver:5                          \
                     t005_CADSTAR_bronze:5                         \
                      p011_memory_router_tool:11                   \
                       p011_batch_single_pass_router:11            \
                        p011_CADSTAR_redit_interactive:11          \
                         t005_CADSTAR_library_editor:5             \
                          t005_CADSTAR_schematics:5"
```

... etc

- The **Increment** lines

```
INCREMENT Gold zuken 12.100 1-jan-09 1 1C81F6518CA1CF40E988 ""
```

Starting Network Licensing In A DOS Window

If an error occurs, after you have started the Network Licensing software using the **Start Network Licensing** option, the window shuts down before you get an opportunity to see the error message

Using the command below, you can see what is happening if an error occurs:

1. *Open a **DOS** window*
2. *Change Directory to the directory in which the network Licensing software is installed (usually C:\Program Files\Zuken\CADSTAR Network Licensing Server)*
3. *Enter **lmgrd -app -c license.dat***

This starts the license in the DOS window.

If it works OK, it should look something like:

```
13:22:16 (lmgrd) -----------------------------------------------
13:22:16 (lmgrd)   Please Note:
13:22:16 (lmgrd)
13:22:16 (lmgrd)   This log is intended for debug purposes only.
13:22:16 (lmgrd)   There are many details in licensing policies
13:22:16 (lmgrd)   that are not reported in the information logged
13:22:16 (lmgrd)   here, so if you use this log file for any kind
13:22:16 (lmgrd)   of usage reporting you will generally produce
13:22:16 (lmgrd)   incorrect results.
13:22:16 (lmgrd)
13:22:16 (lmgrd) -----------------------------------------------
13:22:16 (lmgrd)
13:22:16 (lmgrd)
13:22:16 (lmgrd) FLEXlm (v6.1c) started on WEBSTERS (IBM PC) (2/16/2008)
```

```
13:22:16 (lmgrd) FLEXlm Copyright 1988-1998, Globetrotter Software, Inc.
13:22:16 (lmgrd) US Patents 5,390,297 and 5,671,412.
13:22:16 (lmgrd) World Wide Web:  http://www.globetrotter.com
13:22:16 (lmgrd) License file(s): license.dat
13:22:16 (lmgrd) lmgrd tcp-port 1700
13:22:16 (lmgrd) Starting vendor daemons ...
13:22:16 (lmgrd) Started zuken (internet tcp_port 0 pid 164)
13:22:16 (zuken) FLEXlm version 6.0f
13:22:16 (zuken) lmgrd version -1, zuken version

13:22:16 (zuken) Server started on WEBSTERS for:    p011_memory_router_tool
13:22:16 (zuken) p011_batch_single_pass_router t005_CADSTAR_library_editor
t005_CADSTAR_schematics
13:22:16 (zuken) t005_CADSTAR_gold t005_CADSTAR_silver t005_CADSTAR_bronze
13:22:16 (zuken) p011_CADSTAR_redit_interactive
```

If you get any other display, it gives a clue as to what the problem may be.

If you need a printout of the message:

4. *Type* ***lmgrd -app -c license.dat > error.txt***

If the prompt does not return after issuing this command, you must stop the server by selecting the **Stop Network Licensing** option.

Don't just close the DOS window.

Typical Error Messages

Example 1.

```
13:24:30 (lmgrd) FLEXlm (v6.1c) started on WEBSTERS (IBM PC) (2/16/2008)
13:24:30 (lmgrd) FLEXlm Copyright 1988-1998, Globetrotter Software, Inc.
13:24:30 (lmgrd) US Patents 5,390,297 and 5,671,412.
13:24:30 (lmgrd) World Wide Web:  http://www.globetrotter.com
13:24:30 (lmgrd) License file(s): license.dat
13:24:30 (lmgrd) lmgrd tcp-port 1700
13:24:30 (lmgrd) Starting vendor daemons ...
13:24:30 (lmgrd) Started zuken (internet tcp_port 0 pid 164)
13:24:30 (zuken) FLEXlm version 6.0f
13:24:30 (zuken) lmgrd version -1, zuken version

13:24:30 (zuken) Invalid license key (inconsistent encryption code for
"p011_memory_router_tool")
13:24:30 (zuken) Invalid license key (inconsistent encryption code for
"p011_batch_single_pass_router")
13:24:30 (zuken) Invalid license key (inconsistent encryption code for
"t005_CADSTAR_library_editor")
13:24:30 (zuken) Invalid license key (inconsistent encryption code for
"t005_CADSTAR_schematics")
13:24:30 (zuken) Invalid license key (inconsistent encryption code for
"t005_CADSTAR_gold")
13:24:30 (zuken) Invalid license key (inconsistent encryption code for
"t005_CADSTAR_silver")
13:24:30 (zuken) Invalid license key (inconsistent encryption code for
"t005_CADSTAR_bronze")
13:24:30 (zuken) Invalid license key (inconsistent encryption code for
"p011_CADSTAR_redit_interactive")
13:24:30 (zuken) Server started on WEBSTERS
13:24:30 (zuken) Wrong hostid on SERVER line for license file:
13:24:30 (zuken)  license.dat
13:24:30 (zuken) SERVER line says REDAC_DONGLE= 17e16f2, hostid is
REDAC_DONGLE=24EEBBF
13:24:30 (zuken) Invalid hostid on SERVER line
```

This indicates that the PC's dongle is different to the one referred to in **license.dat**. The **features.txt** file should contain both the Network License and Software Key ID as the first line, e.g.

 # Key no: 24eebbf (3b55)

^ ^

| |

Network License number ----- ------- Security Key ID

Ensure that you are using the appropriate **features.txt** file for your current dongle.

Example 2.

```
13:26:40 (lmgrd) "websters": Not a valid server hostname, exiting.
13:26:40 (lmgrd) Valid server hosts are: "OXFORD"
13:26:40 (lmgrd) Using license file "license.dat"
```

This indicates that the PC's DNS hostname is 'websters', but license.dat contains a server name of 'OXFORD'. In this case, 'OXFORD' would have been introduced when using the Network License Manager utility.

Note: On some Operating Systems the name can be case sensitive. The Network License Manager utility only allows ‘upper case’ text to be entered, so it may be necessary to edit license.dat after it has been created.

Example 3.

```
13:30:51 (lmgrd) FLEXlm (v6.1c) started on WEBSTERS (IBM PC) (2/16/2008)
13:30:51 (lmgrd) FLEXlm Copyright 1988-1998, Globetrotter Software, Inc.
13:30:51 (lmgrd) US Patents 5,390,297 and 5,671,412.
13:30:51 (lmgrd) World Wide Web:  http://www.globetrotter.com
13:30:51 (lmgrd) License file(s): license.dat
13:30:51 (lmgrd) lmgrd tcp-port 1700
13:30:51 (lmgrd) Starting vendor daemons ...
13:30:51 (lmgrd) Started zuken (internet tcp_port 0 pid 160)
13:30:51 (zuken) FLEXlm version 6.0f
13:30:51 (zuken) lmgrd version -1, zuken version

13:30:51 (zuken) Invalid license key (inconsistent encryption code for
"p011_memory_router_tool")
13:30:51 (zuken) Invalid license key (inconsistent encryption code for
"p011_batch_single_pass_router")
13:30:51 (zuken) Invalid license key (inconsistent encryption code for
"t005_CADSTAR_library_editor")
13:30:51 (zuken) Invalid license key (inconsistent encryption code for
"t005_CADSTAR_schematics")
13:30:51 (zuken) Invalid license key (inconsistent encryption code for
"t005_CADSTAR_gold")
13:30:51 (zuken) Invalid license key (inconsistent encryption code for
"t005_CADSTAR_silver")
13:30:51 (zuken) Invalid license key (inconsistent encryption code for
"t005_CADSTAR_bronze")
13:30:51 (zuken) Invalid license key (inconsistent encryption code for
"p011_CADSTAR_redit_interactive")
13:30:51 (zuken) Server started on WEBSTERS
```

This indicates that, either the 16 digit code in the increment line, or the 20 digit code in the package line (of packages.dat), is inconsistent. This will occur if:

- You have received **features.txt** by fax or phone, and have mis-typed the 16 digit code in the increment line.
- You have modified **license.dat** to include the wrong increment lines for the right server lines.
- You have used **packages.dat** from one release and **features.txt** from another release.

Checking The \flexlm Directory

It is useful to look in the **flexlm** directory (which is automatically created if it doesn't exist). There should be at least two files, although in practice there may be many more:

zuken

This is an empty file which signals to FLEXlm that the **zuken** daemon is running, and prevents other daemons of the same name from running.

lmgrd.<number>

The **<number>** is the process ID number and, when everything is working correctly, the file looks similar to below:

```
PID=123
STARTED=Wed Feb 16 13:32:22 2008
STAMPED=Wed Feb 16 13:32:22 2008
LMGRD=C:\Program Files\Zuken\CADSTAR Network Licensing Server
LICENSE_FILE=C:\Program Files\Zuken\CADSTAR Network Licensing Server\license.dat
TCP_PORT=1700
```