

Installation and Maintenance Guide

Version 10.0

Windows



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Intended audience

This document is written for the System Manager responsible for loading and maintaining the Oasys Ltd LS-DYNA 10.0 Environment software. No special (engineering) knowledge of the software is required.

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1 **IMPORTANT CHANGES FOR VERSION 10.0**

1.1 **Licensing**

The version 10.0 software has been compiled using version 11.8 of FLEXlm. Previous releases used FLEXlm 10.8 so you **MUST** update your FLEXlm license servers to version 11.8.

The version 10.0 license file and license daemons are backwards compatible with the 9.1, 9.2, 9.3 and 9.4 software releases. This means that any existing 9.1, 9.2, 9.3, 9.4 software will continue to work with the new license files and servers.

1.2 **Changes to Installation Organisation**

The installation directory structure was changed in version 9.4 to make it easier to manage and maintain the software on large networks. Version 10.0 uses the same directory structure as 9.4.

2 INSTALLATION ORGANISATION

2.1 Version 10.0 Installation Organisation

In version 10.0 an option is provided to separate a top-level “administration” directory from the “installation” one where the executables are located.

For large installations on many machines this allows central configuration and administration files to exist in one place only, but executables to be installed locally on users’ machines to give better performance.

Version 10.0 also allows for the following items to be configured

- The location for user manuals and other documentation.
- The definition of a user’s home directory.
- The definition of the temporary directory for scratch files.

In addition parsing of the “oa_pref” (preferences) file will now handle environment variables, so that a generic preference can be configured to give a user-specific result, and preferences may be “locked” so that those set at the administration level cannot be changed by users.

These changes are entirely optional, and users performing a simple installation on a single machine do not need to make any changes to their existing installation practice.

Here are some diagrams which illustrate how installation might be carried out in various different scenarios.

a) Single user installation on one machine

There is no need to worry about separating administration and installation directories, and the default installation of all files in and below the single installation directory will suffice.

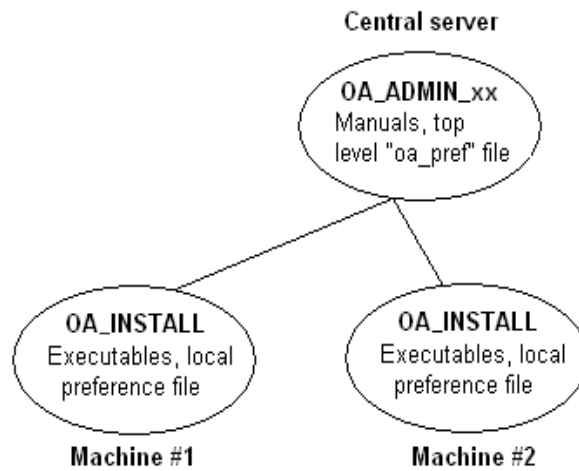


b) A few machines on a small network, each user has his own machine

The top level administration directory can be installed on a network server, possibly also locating the manuals centrally.

Each user's machine has its own "installation" directory to give good performance, but there is no need to manage home or temporary directories centrally since each user "owns" his machine.

If network performance is good an alternative would be to install executables on the central server, meaning that local OA_INSTALL directories are not required.



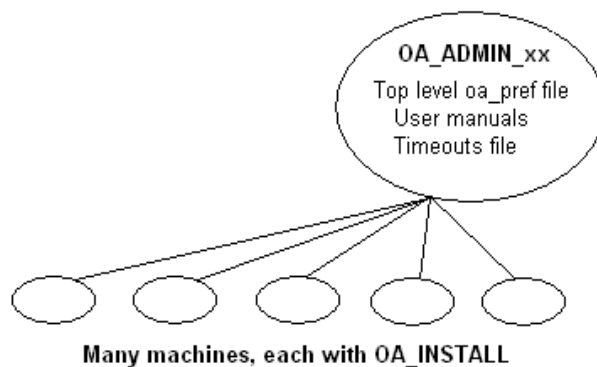
c) Large corporate network

The top level oa_pref file will set the "home" directory for users so that their home directory is the same regardless of the machine they use.

Timing out of idle licenses is managed centrally via the "timeouts" file.

Corporate policies can also be enforced if required by "locking" preferences in the top level oa_pref file.

Depending on network size & performance executables and manuals could be located on each machine, or on local server hubs, or centrally.



These configurations are not mandatory and are simply examples, you should choose the one that suits your needs.

Note the “_xx” in **OA_ADMIN_xx** and **OA_INSTALL_xx** refers to a version number, ie **OA_ADMIN_10** for this release 10.0. This suffix is not required, but it is recommended as it will provide an easy way of organising parallel installations of future releases on a single machine.

Note also that while the various directories (**OA_ADMIN_xx**, **OA_INSTALL_xx**, **OA_MANUALS**, etc) can be defined by environment variables this is not recommended because it is inflexible, and also it would not permit two different installations to have different directories on the same machine.

It is recommended that the options in the top level **oa_pref** file to define these directories are used instead, since this encapsulates the definitions in a single place, permits multiple installations to co-exist on the same machine, and makes administration easier. See “**oa_pref** file options” in the table below.

2.1.1 Details of directory names

Directory	Status	Directory Content and purpose	oa_pref file option
OA_ADMIN_xx <i>or</i> OA_ADMIN	<i>Optional</i>	Top level configuration files. (xx = 10 for release 10.0, thus OA_ADMIN_10) Admin level oa_pref file Other configuration files Timeout configuration file The generic version of this name, OA_ADMIN will be searched for if no release-specific version is set.	
OA_INSTALL_xx <i>or</i> OA_INSTALL	Required	All executables Installation level oa_pref file	oasys*OA_INSTALL
OA_MANUALS	<i>Optional</i>	Specific directory for user manuals. If not defined then will search in: OA_ADMIN_xx/manuals (xx = major version number) OA_INSTALL/manuals	oasys*manuals_dir
OA_HOME	<i>Optional</i>	Specific "home" directory for user. If not defined will use: \$HOME (Unix/Linux) %USERPROFILE% (Windows)	oasys*home_dir

OA_TEMP	<i>Optional</i>	Specific "temporary" directory for user. If not defined will use: P_tmpdir (Unix/Linux) %TEMP% (Windows)	oasys*temp_dir
----------------	-----------------	--	-----------------------

OA_INSTALL_xx

Previously the software used the **OA_INSTALL** (renamed from **OASYS**) environment variable to locate the directory the software was installed in.

On Windows this is no longer required as the software can work out its own installation directory. If this environment variable is already set, we recommend that it should be removed, as in some cases (where more than one version has been installed in different directories) it can cause problems.

OA_ADMIN_xx

Users wishing to separate configuration and installation directories will be able to do so by making use of the new top level **OA_ADMIN_xx** directory (**OA_ADMIN_10** for release 10.0).

If the **OA_ADMIN_xx** directory is used it will be necessary to set up an environment variable of this name to refer to it, however this should normally be the only environment variable required in the whole installation.

2.1.2 Dynamic configuration using the top level oa_pref file

While all the **OA_ . . .** directories may be specified by environment variables of the same name it is recommended that you do not do this, but instead use the facility to set non-standard directory names dynamically using preferences in the top level oa_pref file.

For example:

Release 10.0	Release 10.1
Top level directory OA_ADMIN_10	Top level directory OA_ADMIN_101
oa_pref file in OA_ADMIN_10 contains: oasys*OA_INSTALL: <pathname for 10.0 installation> oasys*manuals_dir: <pathname for 10.0 manuals> oasys*home_dir: <pathname for home directory> oasys*temp_dir: <pathname for temporary files>	oa_pref file in OA_ADMIN_101 contains: oasys*OA_INSTALL: <pathname for 10.1 installation> oasys*manuals_dir: <pathname for 10.1 manuals> } would almost certainly be unchanged between major } versions, although they could be different if desired

For example if the Oasys 10.0 software has been installed in **C:\oasys10**, then:

oasys*OA_INSTALL: C:\oasys10

will enable all users' installations to find their locally stored executables.

Pathnames using environment variables will be deconstructed during oa_pref file reading, and this can be exploited to set user-specific paths using a generic definition. For example:

oasys*home_dir: H:\%USERNAME%

Would set a Windows home directory for <username> to **H:\<username>**, superseding the default **%USERPROFILE%** directory normally used on Windows.

2.1.3 The hierarchy of oa_pref file reading

The oa_pref preference file contains code-specific preferences that can be used to modify the software behaviour.

This file can be located in multiple locations which are searched in following order:

OA_ADMIN_xx / OA_ADMIN	Top level configuration
OA_INSTALL_xx / OA_INSTALL	Installation level
OA_HOME	User's personal "home" file
Current working directory	File specific to the current directory (rarely used)

The rules for reading these files are:

If a given directory does not exist, or no file is found in that directory, then no action is taken. This is not an error.

A more recently read definition supersedes one read earlier, therefore "local" definitions can supersede "global" ones (unless they are locked).

If two or more of the directories in the table above are the same, then that file is only read once from the first instance.

More information about preferences, including the ability to "lock" them, is given in section 4.

2.1.4 Protection and ownership of installation directories.

Oasys software does not require Administrator / Root privileges for installation, however on Windows platforms authority to make registry entries will be required for installation.

It is recommended, but not required, that **OA_ADMIN_xx** and **OA_INSTALL_xx** directories be protected "read and execute only" for unprivileged users. If top level preferences are to be locked or idle time-outs configured, then write protection will be required to prevent users from subverting these settings.

2.2 Pre Installation

The Windows installer files can be downloaded from the following website.

http://www.oasys-software.com/dyna/en/downloads/oasys_software.shtml

Two separate installer files are provided.

oasys10_setup.zip (Windows XP/Vista/ Windows 7)

oasys10_x64_setup.zip (Windows XP-64/Vista 64/ Windows 7 (64))

After you have downloaded the file you will need to extract the installer file from the zipped download. This can be done using either the built in options in Windows or a 3rd party tool like WinZip.

After extracting the installer you should be left with one of the following 2 files.

oasys10_setup.exe (Windows XP/Vista/ Windows 7)

oasys10_x64_setup.exe (Windows XP-64/Vista 64/ Windows 7 (64))

The 64 bit installer contains 2 versions of D3PLOT, T/HIS and PRIMER, a 64 bit executable and the standard 32bit executable.

As part of the installation process you will need to enter the following information:

Name

Company

Installation Directory

On Windows 2000/XP/VISTA the default installation directory is

C:\Program Files\Ove Arup\v10

On Windows XP/VISTA 64 the default installation directory is

C:\Program Files (x86)\Ove Arup\v10

2.3 Single User / Single Machine Installation

If you are installing the software on a single machine it is recommended that the software is installed on a local disk.

2.3.1 Installation

- a) To start the installation process, double click on the installer file that you have downloaded and unzipped.
- b) When prompted enter the user name and company and select an installation directory.
- c) The installer should then complete the installation without prompting for any more information.

2.3.2 Post Installation

- a) Setup Environment Variables

Required - Configure the Environment Variables for licensing (see section 4.1)

See section 4.2 for information on other optional Environment Variables.

- b) Configure the preference file "oa_pref", (see section 5)

- c) *Optional* - Configure the SHELL for submitting LS-DYNA analysis (see section 7).

2.3.3 File Associations

The PC installation will automatically set up associations for the following file extensions; **.ptf**, **.thf**, **.xtf**, **.key**, **.orr** and **.ort**.

2.4 Multiple Machine Network Installation

Installing the software onto a network drive for access from multiple machines.

2.4.1 Installation

- a) To start the installation process, double click on the installer file that you have downloaded and unzipped. (If you are installing the 64 bit version the installation process must be run on machine running a 64 bit version of Windows.)
- b) When prompted enter the user name and company and select an installation directory.
- c) The installer should then complete the installation without prompting for any more information.

2.4.2 Post Installation

- a) Setup Environment Variables
 - Required* - Configure the Environment Variables for licensing (see section 4.1)
 - Optional* - Configure **OA_ADMIN_xx** if you want to configure a central network directory containing preferences and license timeout information

See section 4.2 for information on other optional Environment Variables.
- b) Configure the preference file “oa_pref”, (see section 5)
- c) Configure license timeout information (see section 6)
- d) *Optional* - Configure the SHELL for submitting LS-DYNA analysis (see section 7).

2.4.3 File Associations

netsetup10.exe is a command line utility that can be used to add program shortcuts and file associations on all the machines that are going to access the software. For more details see section 2.6.

2.5 Multiple Machine Local Installation

If you are going to install the software on multiple machines then you can either follow the procedure outlined in section 2.4 for each machine or you can install the software and then copy the installation to each machine.

2.5.1 Installation

2.5.1.1 Multiple Installations

If you are installing the software on multiple machines using the installer file then you can record a file containing all of the responses and then use that to install the software on other machines.

- a) Run **oasys10_setup.exe** from the command line with the **/r** switch to generate a response file, which stores information about the data entered and options. As well as specifying **/r** it is recommended that you also use **/f1** to specify the name and location of the response file.

```
oasys10_setup.exe /r /f1"C:\Temp\setup.iss"
```

- b) When prompted enter the user name and company and select an installation directory.
- c) The installer should then complete the installation without prompting for any more information.

To install the software on the other machines

- d) On each machine run **oasys10_setup.exe** from the command line with the **/s** switch. This runs the installer in silent mode and stops the GUI from being displayed.

```
oasys10_setup.exe /s /f1"C:\Temp\setup.iss"
```

2.5.1.2 Cloning a single installation

If installing the software once and copying to other machines:

- a) To start the installation process, double click on the installer file that you have downloaded and unzipped.
- b) When prompted enter the user name and company and select an installation directory.
- c) The installer should then complete the installation without prompting for any more information.
- d) Configure the preference file "oa_pref" (see section 5).

After you have configured the preference file the complete installation directory can be copied to the other machines.

The installer packages have been designed so to add the minimal amount of settings to the Windows registry and only set up shortcuts and file associations. To add these registry settings to all the machines to which the installation directory has been copied, you can use the **netsetup10.exe** utility (see section 3.5).

2.5.2 Post Installation

- a) Setup Environment Variables.

Required - Configure the Environment Variables for licensing (see section 4.1)

Optional - Configure **OA_ADMIN_xx** if you want to configure a central network directory containing preferences and license timeout information.

See section 3.2 for information on other optional Environment Variables.

- b) Configure the preference file "oa_pref" (see section 5) – *If you have cloned an installation you can skip this.*

- c) Configure license timeout information (see section 6)
- d) **Optional** - Configure the SHELL for submitting LS-DYNA analysis (see section 7).

2.5.3 File Associations

If the software has been installed on each machine using the installer files the program shortcuts and file associations will have been created automatically on each machine. If the installation has been copied to each machine the command line utility **netsetup10.exe** can be used to add program shortcuts and file associations to each machine (see section 2.6).

2.6 Network Installation using “netsetup10.exe”

netsetup10.exe is a command line program that is installed with the rest of the software. It can be used to create shortcuts and file associations on workstations without having to carry out a complete installation on each machine. In addition to creating shortcuts and file associations an entry will also be created in the Start Menu.

netsetup10.exe should be run on each machine from the command line within the directory containing the software.

```
netsetup10.exe [/all] [/desktop] [/none] [/ext] [/ptf] [/thf] [/xtf] [/key] [/orr] [/ort]
```

/all	Create shortcuts for all users
/desktop	Create shortcuts on desktop
/none	Do not create shortcuts
/ext	Set file associations for .ptf, .thf, .xtf, .key, .orr and .ort
/ptf	Set file association for .ptf to d3plot10.exe
/thf	Set file association for .thf to this10.exe
/xtf	Set file association for .xtf to this10.exe
/key	Set file association for .key to primer10.exe
/orr	Set file association for .orr to reporter10.exe
/ort	Set file association for .ort to reporter10.exe

If the **/desktop** option is selected shortcuts will only be created for: SHELL, D3PLOT, T/HIS, PRIMER, REPORTER

If **/desktop** is not selected then additional shortcuts for manuals will also be created.

3 ENVIRONMENT VARIABLES

3.1 Environment Variables for licensing

3.1.1 Floating Network License

Either OASYS_LICENSE_FILE or LM_LICENSE_FILE can be used to locate a valid license for the Oasys software. It is recommended that OASYS_LICENSE_FILE is used as this can speed up the checkout of licenses on systems where LM_LICENSE_FILE is used to find other license servers as well.

3.1.1.1 Floating Network License

If the software will be run using a license server this variable should be set to point to the license server machine using the machine's hostname:

OASYS_LICENSE_FILE = hostname

or if a non-default port has been specified for the license server:

OASYS_LICENSE_FILE = port@hostname

If you are using a triad license server then you should specify all 3 license servers:

OASYS_LICENSE_FILE = port@host1;port@host2;port@host3

3.1.1.2 Fixed Stand-alone (nodelocked) License

If the software will be using a node locked license file this variable should be set to point to the location of the license file:

OASYS_LICENSE_FILE = <OA_INSTALL>\oasys_flexlm.dat

3.1.1.3 Multiple FLEXlm license files

If other software programs on the system are using FLEXlm this variable may already be set to point to a license file or a license server. If this variable is already set the Oasys license server or file can be added by specifying a colon separated list of values:

OASYS_LICENSE_FILE = port@hostname1;@hostname2

3.1.2 LSTC_FILE / LSTC_LICENSE_SERVER <option>

On Windows machines LS-DYNA can use either a node-locked license or a floating network license system:

3.1.2.1 Node-locked License

If a node-locked license is to be used for LS-DYNA environment variable LSTC_FILE should be set to the full pathname of the license file. By default this

file should be called 'LSTC_FILE' and it should be located in the 'executables' directory.

LSTC_FILE = <OA_INSTALL>\LSTC_FILE

3.1.2.2 Floating Network License

If a floating license system is to be used the variables **LSTC_LICENSE_SERVER**, and **LSTC_LICENSE** should be set as follows.

LSTC_LICENSE_SERVER = hostname (*of license server*)

LSTC_LICENSE = network

If you are using a triad license server then you should specify all 3 license servers:

LSTC_LICENSE_SERVER = '(host1 host2 host3)'

3.2 Optional Environment Variables

After installing the software the following optional environment variables can be set up:

OA_ADMIN_xx	(only required if OA_ADMIN_xx is used)
MENU_AUTO_CONFIRM	(optional)
FILE_EXIST_ACTION	(optional)
ECHO_PREFERENCE	(optional)
DISPLAY_WIDTH	(optional)
DISPLAY_HEIGHT	(optional)

We recommend that these variables are set up by a user with Administrator privileges to ensure they apply to all users on the system.

3.2.1 OA_ADMIN_xx

If a top level administration directory is to be used **OA_ADMIN_10** (for release 10.0) must be defined on all machines on which the software is to be run. This variable should be set to the full pathname of the administration directory.
MENU_AUTO_CONFIRM

This variable is often used when replaying command files which, when recorded, pause and ask the user to confirm things (e.g. warning messages). Possible options for this variable are **true**, and **false**.

If the variable is set (**true**) these will not pause and will behave as if the user had pressed "OK" - meaning command files can play back without user intervention.

3.2.2 MENU_AUTO_CONFIRM

This variable is often used when replaying command files which, when recorded, paused and asked the user to confirm things. (For example HELP and Warning messages.) Possible options for this variable are, **true** and **false**.

If the variable is set (**true**) then these will not pause and will behave as if the user had pressed "OK" - meaning that command files can play back without user intervention. This variable should only be set if the installation is intended solely for batch usage.

3.2.3 FILE_EXIST_ACTION

This variable controls the action to be taken when opening a file for output when the file already exists. Possible options for this variable are **none**, **overwrite** and **append**.

Normally the user will be prompted for the action to be taken when a file selected for output already exists. However, if this variable is set to overwrite or append the relevant action will be taken automatically.

This is generally used when playing automatic post-processing batch scripts, and should only be set if this installation is intended solely for batch usage.

3.2.4 ECHO_PREFERENCE

If this variable is set to "1" any command line arguments used to start PRIMER, D3PLOT or T/HIS will be echoed to the screen along with any settings read from preference files.

3.2.5 DISPLAY_HEIGHT / DISPLAY_WIDTH

The software uses system functions to obtain screen dimensions which are used to calculate font sizes. Oasys Ltd have noticed that on some systems, the screen dimensions are not reported correctly (on identical systems Windows XP returned the correct dimensions while Windows Vista returned sizes approximately 20% larger).

If fonts used by the Oasys software appear to be the wrong size these 2 variables can be used to override the system calls to define the correct screen dimensions:

```
set DISPLAY_HEIGHT = (screen physical height in mm)  
set DISPLAY_WIDTH  = (screen physical width in mm)
```

3.3 Setting Environment Variables

To set these system variables, activate the control panel, using

Windows 2000:

Start -> Settings -> Control Panel

Windows XP/Vista/7

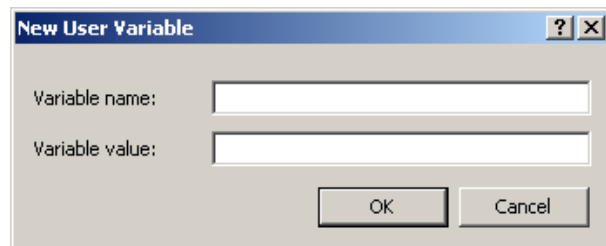
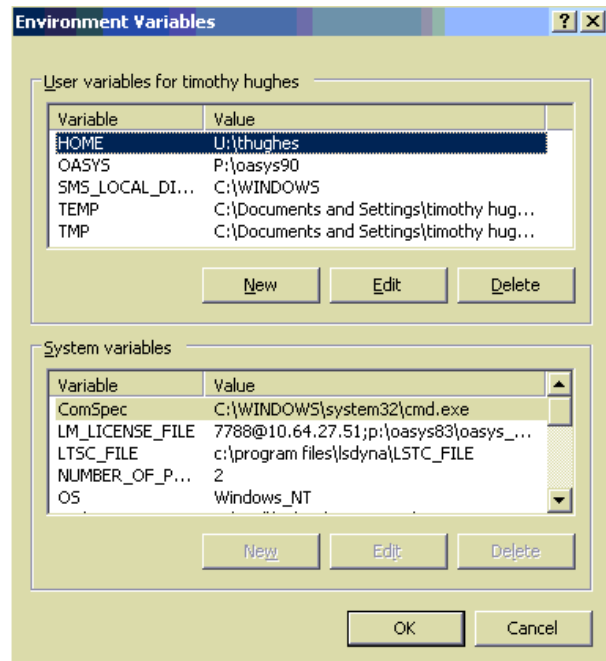
Start -> Control Panel

then select the System Icon:



followed by the 'Advanced' tab then the 'Environment' button.

This will bring up the window displayed on the right. To set up a new Environment Variable press 'New' and a new menu will appear. In the New User Variable dialogue box enter the variable's name in the 'variable' field followed by the value in the 'value' field then select OK to create the new variable.



Finally, after setting up all the new variables, select **Apply** followed by **OK** to dismiss the System Properties menu.

4 SETTING UP USER PREFERENCES

4.1 The 'oa_pref' file

This file contains code-specific preferences that can be used to modify the behaviour of the software suite. It is optional and, where entries (or the whole file) are omitted, programs will revert to their default settings.

4.1.1 'oa_pref' naming convention and locations

The preferences are stored in a file called "oa_pref". This file can exist in multiple locations which are searched in the following order:

- The optional administration directory defined by the environmental variable (**\$OA_ADMIN** or **\$OA_ADMIN_xx** - where xx is the release number).
- The site-wide installation directory defined by the environment variable (**\$OA_INSTALL_xx**)
- The user's home directory **\$OA_HOME** which defaults to **%USERPROFILE%** on Windows.
- The current working directory

(see Section 2 for an explanation of the directory structure).

All four files are read (if they exist) with the last preference read being the one used; this means the file can be customised for a particular job or user if necessary.

Files do not have to exist in any of these locations; if none exists the programme defaults will be used.

%USERPROFILE% on Windows is usually:

C:\Documents and Settings on Windows XP, and
C:\users on Windows Vista/7

Issuing the "**set**" command from an MS-DOS prompt will show the value of this and other variables.

Typically the following should be set:

- Organisation-wide options in the version in **\$OA_ADMIN_xx** and/or **\$OA_INSTALL**,
- User-specific options in **\$HOME / %USERPROFILE%**
- Project-specific options in the current working directory.

4.1.2 File Format

The file contains preferences for:

- all the software (lines commencing oasys*)
- SHELL (lines commencing shell*)
- THIS (lines commencing this*)
- D3PLOT (lines commencing d3plot*)
- PRIMER (lines commencing primer*)
- REPORTER (lines commencing reporter*)

All lines take the format

```
<program name> * <preference name> : <preference value>.
```

The general copy of the preference file should be present in the **\$OA_ADMIN_XX** and/or **\$OA_INSTALL_XX** directory. This should contain the preferences most suitable for all software users on the system.

An individual's specific preferences file can be stored in the individual's home area or **\$OA_HOME**. This can be used to personally customise the software to the individual's needs.

Whenever a program with preferences in the oa_pref file is fired up, the program will take preferences in the following order:

1. from the general preference file in the **\$OA_ADMIN_XX** directory (if it exists)
2. then the **\$OA_INSTALL_XX** directory
3. then from the file in the user's home area (**\$OA_HOME**)
4. then from the current working directory

Preferences defined in the general oa_pref file can be superseded by an entry of the same name in the user's personal file but they can't be removed by it.

From version 9.4 onwards preferences can be locked. If a preference is locked it cannot be changed in an oa_pref file in a more junior directory. To lock a preference use the syntax '**program#**' rather than '**program***'.

An example of the file is shown below to illustrate the content of the file

```
# Preferences file for software.  
#  
# Preferences for SHELL  
shell*queue_cpu: 0  
#  
# Preferences for THIS  
this*laser_paper_size: A4  
#  
# Preferences for D3PLOT  
d3plot*overlay_colour: grey  
#  
# Preferences for PRIMER  
primer*overlay_mode off
```

An example of a locked preference is:

```
primer#maximise : true
```

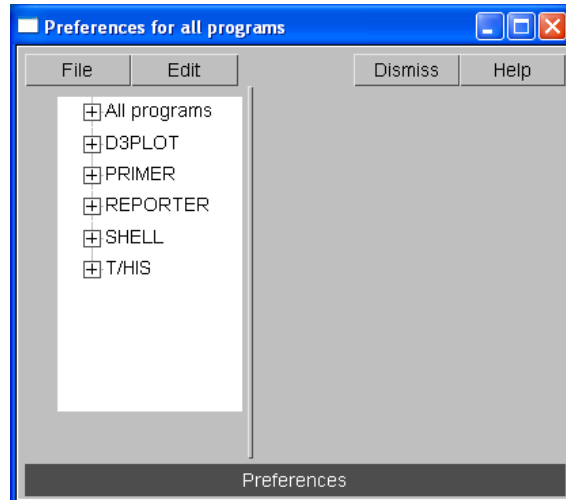
Note usage of “#” instead of “*”.

4.2 The preferences editor

The editor can be accessed from within the SHELL or from within D3PLOT, T/HIS, PRIMER or REPORTER. The preference settings for each program are listed in the appropriate manual.

4.2.1 The preferences editor layout

The preferences editor window is divided into two frames with a menu bar across the top.

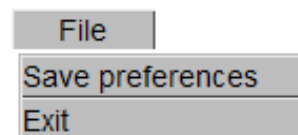


4.2.2 Menu Bar



File options:

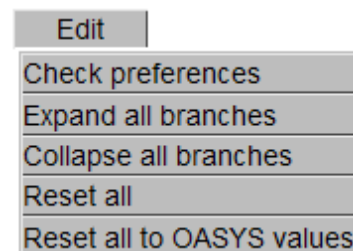
Save preferences: Save current preference settings. This will save the personal oa_pref file in the user's home directory. Only those preferences which differ from the preferences saved in the general oa_pref file will be saved.



Exit: Exit the preferences editor without saving.

Edit options:

Check Preferences: Checks the current preferences for any errors. These errors will be listed in a separate window detailing the preferences with the errors and the nature of those errors



Expand all branches: Expands the categories in the Left hand frame.

Collapse all branches: Collapses the categories in the Left hand frame

Reset all: Resets all values.

Reset all to OA_INSTALL values: Resets all values to the defaults stored in the main \$OA_INSTALL preference file

4.2.3 The preferences editor Left hand frame

The left hand frame will contain the names of all preferences available to set. Preferences will be listed under the headings: PRIMER, D3PLOT, T/HIS, REPORTER and SHELL according to which program they are applicable to.

These categories can be expanded to reveal their respective preferences/contracted to hide their preferences by clicking on the box to the left of the respective category, alternatively, use the edit drop down menu and select Expand all branches or collapse all branches.

Green	Means that the option has been read from your \$HOME/\$USERPROFILE file.
Red	Means that the option has been read from the \$OA_INSTALL file.
Magenta	Means that the option had been read from the \$OA_ADMIN file.

Preferences which aren't highlighted indicate preferences that haven't been set.

Preferences in **bold** type indicate preferences which haven't been assigned the default value.

A list of all the preferences available and their default value can be found in any oa_pref file written by the preferences editor.

4.2.4 The preferences editor Right hand frame

The right hand frame will contain information about the currently selected preference and provides the opportunity to edit this preference:

Name: d3plot*maximise
 Type: <logical>
 Default: FALSE
 Description: Maximise window when D3PLOT starts
 Active:
 Value:

Name: States the name of the currently selected preference.

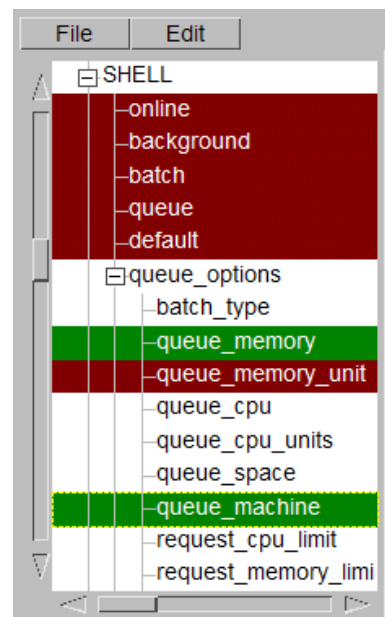
Type: Specifies the type of variable applicable to this preference.

Default: States the default value of the preference.

Description: Provides a brief description of the function performed by this preference.

Active tab: Highlighted in Green when the preference has been assigned a value. Press this tab to activate/ deactivate the currently selected preference. If the currently selected preference was defined in the general oa_pref file, deselecting this will bring up an error message as it is not possible to deselect preferences stored in the general oa_pref file.

Value: States the currently selected value for the preference. Clicking on the arrow to the left of this box brings up a drop-down menu which lists the possible values this preference can take and allows the user to select one of these values.



4.3 Locking Preferences

From version 9.4 onwards preferences can be locked. Beside each option in the preference editor is a padlock symbol. If the symbol is green then the option is unlocked, if it is red then it is locked. If a preference option has been locked in a file that the user can not modify then an error message will be generated if the user tries to edit that option.

If a user manually edits the "oa_pref" file to try and set an option that has been locked in another preference file then the option will be ignored in the users preference file.

An unlocked preference is defined in the oa_pref file by:

```
<programme> * <preference> : <value>
```

A locked preference replaces the "*" with a "#", thus:

```
<programme> # <preference> : <value>
```

5 AUTOMATIC LICENSE TIMEOUTS

From version 9.4 onwards each application can be setup to exit automatically if it remains idle for a specified time. When the application exits it will automatically release any licenses that are being used and return them to the pool of free licenses.

The automatic license timeouts are controlled by a file called **'timeouts'** located in directory **OA_ADMIN_XX** or **OA_INSTALL_XX**.

The format of this file is

<application name> <idle time> <grace period>

e.g.

```
#
primer      60  5
d3plot      60  5
this        60  5
#
```

The times are defined in minutes. The idle time should be > 0 and the grace period should be >=0.

Any line in the file starting with '#', '%' or '\$' is counted as a comment line.

Blank lines are ignored

Input is not case-sensitive

Input is free format, but each programme's settings must be on a single line.

When the idle time is exceeded a warning message will be displayed within the application's master window. This message will be displayed for the grace period specified; the application will be terminated if no response is detected. Giving a response resets both <idle> and <grace> counters so that a further <idle time> must elapse before a further warning is issued.

If programs terminate due to a license timeout the following occurs:

- **PRIMER:** a copy of any models currently loaded will be saved in the users home area or \$OA_HOME if defined.
- **D3PLOT:** will just exit
- **T/HIS:** will just exit

In all cases, the controlling terminal window receives a message explaining what has happened and why, and this terminal window will remain mapped on Windows systems.

The warning notice is displayed within the master window of the application, not on the desktop. This is intentional to prevent users starting the application to grab a license then iconising/minimising it until they need it as the warning message will not be seen if the application is minimised.

Note that the timeouts file must be write-protected against users either by protecting the file or the **OA_ADMIN_xx** directory otherwise users will be able to change the file content.

6 CUSTOMISING THE SHELL FOR SUBMITTING LS-DYNA JOBS

In addition to accessing the Oasys software, the SHELL can be used to submit LS-DYNA jobs. To use the SHELL to submit LS-DYNA the following should be configured:

- 1) General Submission Options
- 2) The versions of LS-DYNA available
- 3) Queuing Options
- 4) MPI commands for MPP submission

For more details on how to perform all of these please see the Oasys SHELL manual.

7 TUNING THE GRAPHICS DRIVER

Oasys software makes intensive use of 3D graphics, and experience has shown that the default settings in the drivers of commonly used graphics cards can cause problems: typically visual artefacts and/or “stuttery” animation performance.

The following section gives suggested tuning setting for commonly used cards, but if you experience problems and your card is not listed below please contact Oasys for help and advice.

7.1 Finding out what graphics card and driver you have installed.

Windows XP:

- Right click anywhere on the desktop background and select **Properties**
- Select the **Settings** tab, and then select **Advanced**
- Select the **Adapter** tab, and **Adapter type** gives card name and manufacturer
- Select **Properties** within this section
- This will list the graphics driver date and version.

Windows 7 and Vista:

- Right click anywhere on the desktop background and select **Screen Resolution**
- Select **Advanced Settings**
- This maps the **Adapter** window, listing card name and manufacturer
- Select **Properties** within this section
- This will list the graphics driver date and version.

It is recommended that if your graphics driver is significantly out of date that you consider upgrading it to a more recent version. This is not mandatory, and if the machine is working well there is a strong case for “if it isn’t broken, don’t fix it”; but certainly the first step to be taken if graphics problems arise is to upgrade an out of date driver.

7.2 Tuning an NVidia graphics driver

Right click anywhere on the desktop background and select **NVidia Control Panel**.

From the “**Select a task**” tree on the left hand side of this panel select:

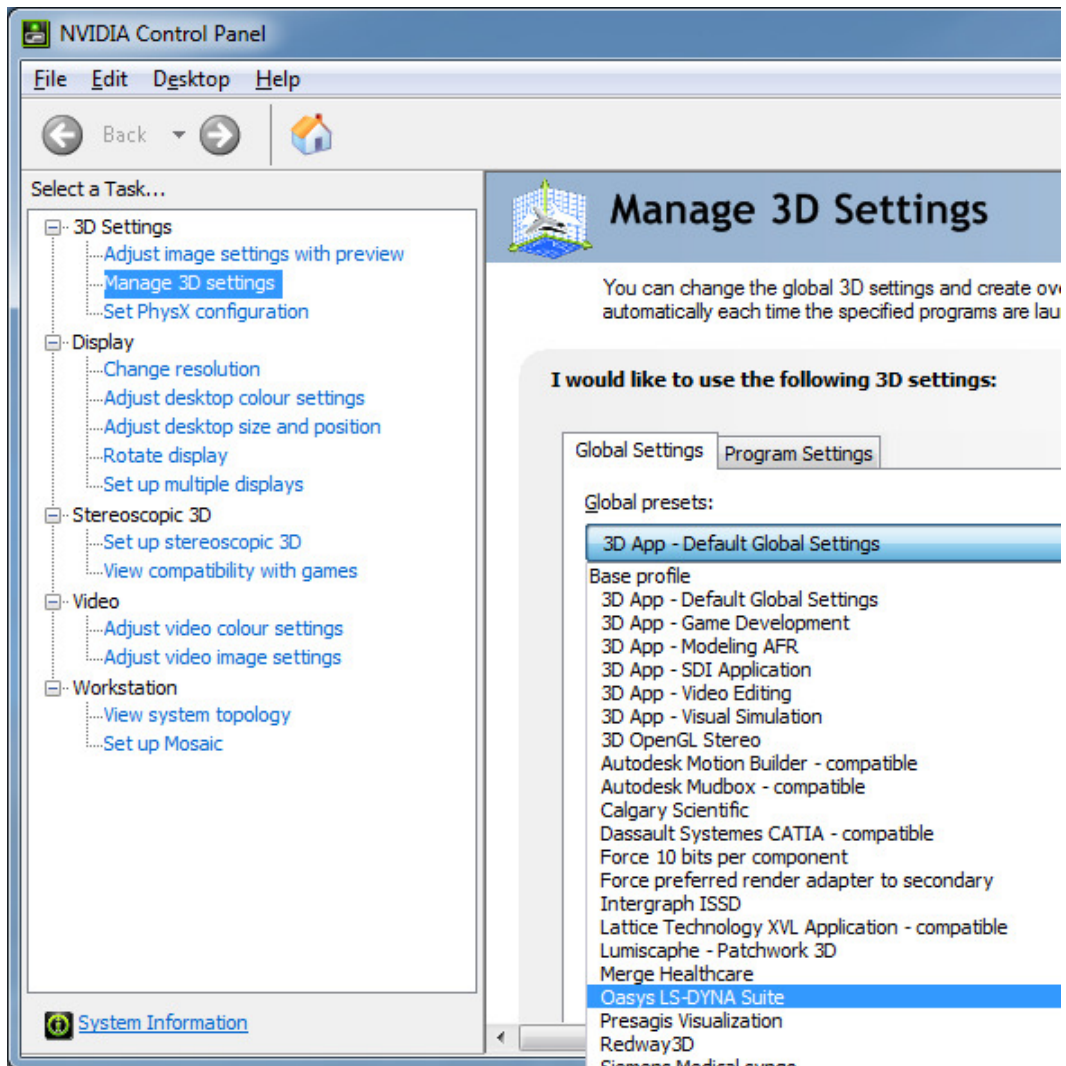
3D Settings, Manage 3D settings

You should then see a figure similar to that shown below.

The default setting for NVidia drivers is “**3D App – Default Global Settings**” as shown here, which works well for benchmark tests but is normally not satisfactory for real world engineering applications.

By using the pop down button to the right of this you will see a list of possible settings, which are predefined configurations for a range of software.

In the example below the option “Oasys LS-DYNA suite” is available as shown here, but this may not be available in older driver software, in which case we would recommend the use of “Dassault Systems Catia – compatible” instead.



You need to choose whether to configure the driver for all applications on this machine (**Global settings**) or for just selected applications (**Program settings**).

It is our experience that on a machine used for CAE work the best and simplest approach is to use **Global settings**, since the Oasys (or Catia) settings will work satisfactorily for most CAE programmes. Any applications which already have specific settings defined for them, see the list under **Program settings**, will use those anyway, so by defining global settings you are simply setting the default for any applications that do not have a specific entry.

However if you wish to make the setting application-specific you will need to use **Program settings**, add the specific Oasys software to the list, and select the correct settings.

7.3 Tuning an AMD / ATI driver

While ATI do have an interactive configuration panel it does not provide application-specific tuning. Instead they use an XML file:

C:\Windows\atiogl.xml

In which configuration settings for individual applications are stored. This file needs to be edited to include settings for the Oasys software suite. Here is the top of a typical file:

```
<PROFILES>
<!-- ===== -->
<!-- Workstation Applications -->
<!-- ===== -->
<!-- 3ds max -->
  <_3dsmax>
    <OpenGLCaps>0x00008040</OpenGLCaps>
    <OpenGLCapsEx>0x00000000</OpenGLCapsEx>
    <CrossFireCaps>0x00000010</CrossFireCaps>
  </_3dsmax>
```

The following lines need to be added. They can go anywhere in the file, but you might wish to insert them in the correct alphabetical location:

```
<!-- D3PLOT -->
  <d3plot10>
    <OpenGLCaps>0x00008000</OpenGLCaps>
  </d3plot10>
  <d3plot10_x64>
    <OpenGLCaps>0x00008000</OpenGLCaps>
  </d3plot10_x64>
<!-- PRIMER -->
  <primer10>
    <OpenGLCaps>0x00008000</OpenGLCaps>
  </primer10>
  <primer10_x64>
    <OpenGLCaps>0x00008000</OpenGLCaps>
  </primer10_x64>
<!-- THIS -->
  <this10>
    <OpenGLCaps>0x00008000</OpenGLCaps>
  </this10>
  <this10_x64>
    <OpenGLCaps>0x00008000</OpenGLCaps>
  </this10_x64>
```

Once edited simply save the file in its current location.

8 THE FLEXlm LICENSING SYSTEM

The LS-DYNA Environment software (PRIMER, D3PLOT, T/HIS and REPORTER) use the FLEXlm licensing system.

8.1 Installing FLEXlm

All of the files needed to install FLEXlm on the system will have been copied into the installation directory when the software was installed. The Oasys software is designed to be used with either 'floating' or 'node locked' licenses.

8.2 Obtaining Oasys FLEXlm Licenses

For floating (server) licenses: the hostname and FLEXlm host ID of the server machine only are required (although this does not have to be a machine that the Oasys software is installed on it is recommended to be).

For node locked licenses: the hostname and FLEXlm host ID of each machine upon which the software will run are required.

To generate this information go to:

START->PROGRAMS->Oasys Ltd LS-DYNA Environment 10.0 and run lmtools.

Please send the output generated by the **Hostid** button to Oasys Ltd by email: dyna.license@arup.com or by fax: +44 (0) 121 213 3302.

8.3 Entering Oasys FLEXlm licenses

The Oasys FLEXlm license codes are contained in a file called '**oasys_flexlm.dat**' which should be placed in the **OA_INSTALL_xx** directory. Typically Oasys Ltd will send license codes by e-mail.

8.3.1 Node locked license

On Windows set the environmental variable as described in section. 4.

8.3.2 Floating (server) license

If a floating (server) license is to be used the Oasys FLEXlm license daemon should be started.

8.4 Starting the Oasys FLEXlm license daemon

The FLEXlm license daemon can be started manually through the command line or through a graphical user interface called LMTOOLS.

8.4.1 Manually from the Command Line

Start lmgrd as an application from a Windows command shell using the following syntax:

```
C:\flexlm> lmgrd -c license_file_list -L [+]debug_log_path
```

where: `license_file_list` is one or more of the following:

the full path to a single license file

a directory, where all files named *.lic in that directory are used

`debug_log_path` is the full path to the debug log file

Prepending `debug_log_path` with the + character appends logging entries.

Spaces in pathnames require double quotes around the path.

8.4.2 LMTOOLS for Windows

Some of the functions LMTOOLS performs include:

- starting, stopping, and configuring FLEXlm licenses
- getting system information, including hostids
- getting server status

8.4.2.1 Configuring the license server with LMTOOLS

LMTOOLS has two modes in which to configure a license server:

Configuring using a license file

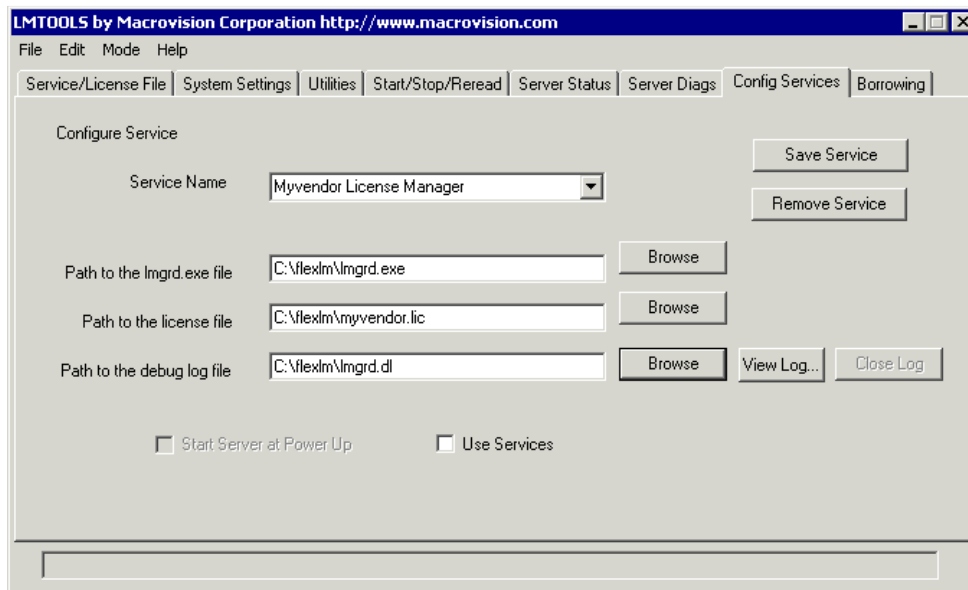
Operations are performed on a particular license file. The file can be either local or remote. In this mode the `lmgrd` process cannot be started but everything else can be carried out. To configure this mode, perform the following:

- 1) Run LMTOOLS.
- 2) Click the Configuration using License File radio button.
- 3) Enter one or more license file names or `port@host`.

Configuring the License Manager as a Windows Service

To configure a license server as a service, you must have Administrator privileges:

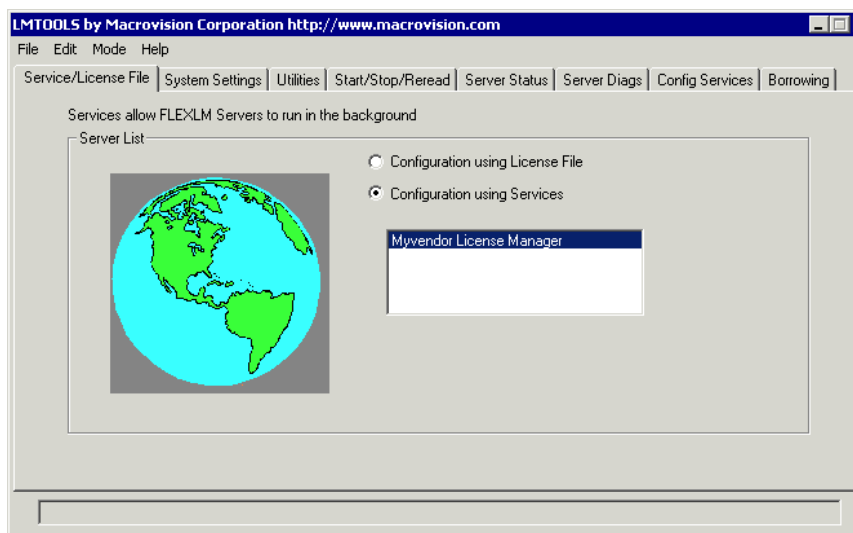
- 1) Run LMTOOLS
- 2) Click the Configuration using Services radio button then click the Config Services tab
- 3) In the Service Name field type the name of the service to be defined (e.g. 'Myvendor License Manager')
- 4) In the Path to the `lmgrd.exe` file field enter or browse to `lmgrd.exe` for this license server.
- 5) In the Path to the license file field enter or browse to the license file for this license server
- 6) In the Path to the debug log file field enter or browse to the debug log file that this license server writes. Prepending the debug log file name with the + character appends logging entries.
- 7) To save the new 'Myvendor License Manager' service, click the Save Service button.



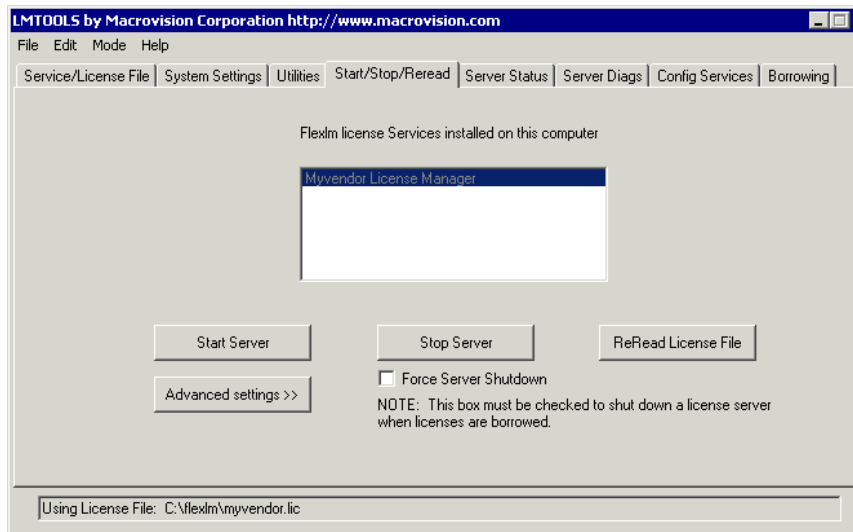
8.4.2.2 Starting the license daemon

Once the license manager service is configured, lmgrd is started by starting the service from the LMTTOOLS interface:

- 1) Start LMTTOOLS. LMTTOOLS appears with the Service/License File tab open:



- 2) Click the Configuration using Services radio button.
- 3) Select the service name from the list presented in the selection box. In this example, the service name is 'Myvendor License Manager'.
- 4) Click the Start/Stop/Reread tab:



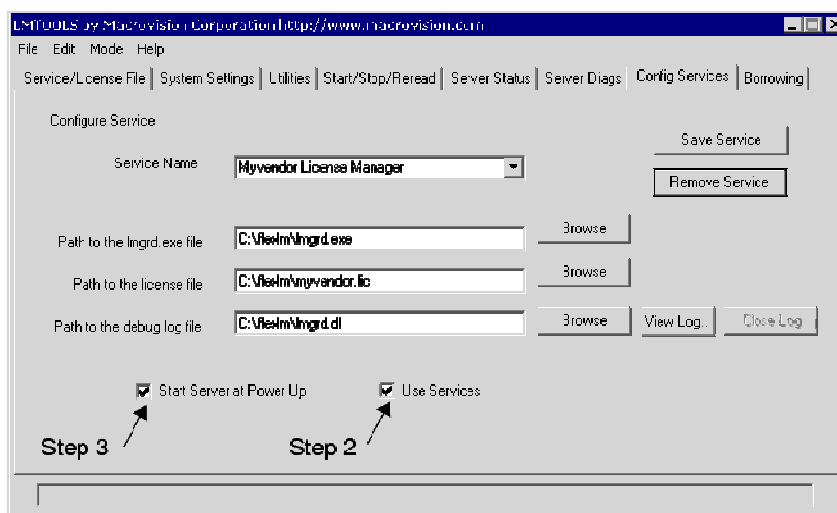
5) Start 'Myvendor License Manager' by clicking the Start Server button

'Myvendor License Manager' license server starts and writes its debug log output to `c:\flexlm\lmgrd.dl`.

8.4.2.3 Automatically at System Start Up

In order for `lmgrd`, and hence the license server, to start up automatically at system start up time it must be configured as a license manager service (see section 4.5.2.1).

- 1) With LMTOOLS started and the desired service name selected, click the Config Services tab.
- 2) Make this license manager a Windows service: check the Use Services check box (otherwise it becomes a FLEXlm service)
- 3) Configure it to start at system startup time by checking the Start Server at Power Up check box.



From now on, when the machine is rebooted, this license manager starts automatically as a Windows service.

8.5 Redundant License Servers

If planning to use redundant servers it is advisable to select stable systems as server machines; do not pick systems that are frequently rebooted or shut down. Redundant license server machines are any supported server machines.

FLEXlm supports two methods of redundancy:

via a license-file list in the `LM_LICENSE_FILE` environment variable

via a set of three redundant license servers

With `LM_LICENSE_FILE` list redundancy, each one of a group of license servers serves a subset of the total licenses. The end user sets `LM_LICENSE_FILE` to a list of license files, where each license file refers to one of the license servers. The application then tries each server in the list in order until it succeeds or gets to the end of the list.

With three-server redundancy, if any two of the three license servers are up and running (two out of three license servers is referred to as a quorum), the system is functional and serves its total complement of licenses.

8.5.1 Three-Server Redundancy

The machines that comprise a three-server redundant configuration should

- Run the same operating system
- Have excellent communications
- Reside on the same subnet

The three servers must be located physically close to each other. This form of redundancy requires that the servers exchange heartbeats periodically and poor communications can cause poor performance. Avoid configuring redundant servers with slow communications or dial-up links.

Three-server redundancy is designed to provide hardware failure protection only and does not provide load-balancing (if load-balancing is desired use the `LM_LICENSE_FILE` list option).

With three-server redundancy only one of the three servers is “master,” capable of issuing licenses. If the “master” machine fails one of the remaining machines takes over the “master” role and continues to serve licenses. Since all clients must contact the “master” all clients must have reliable networking to a single machine.

Appendix A - FLEXlm License Administration Tools

A1 WINDOWS

As part of the Oasys software installation a command line program **LMUTIL.EXE** is installed. This is accessed by **LMUTIL.EXE Function**, where Function is **lmstat**, **lmdiag**, etc. A second Windows Graphics Interface program called **LMTOOLS.EXE** is also installed. **LMTOOLS** has the same functionality as **LMUTIL** but is graphically-oriented. Simply run the program and choose a button for the functionality required.

Note: The **lmdown**, **lmremove**, and **lmreread** commands are 'privileged'. If you have started **lmgrd** with the '-p -2' switch, you must be a 'license administrator' to run any of these three utilities. A 'license administrator' is a member of the Unix 'lmadmin' group, or (if the lmadmin group does not exist) a member of group 0. In addition, **lmgrd -x** can disable **lmdown** and/or **lmremove**.

A2 LMBORROW

lmborrow supports borrowing of licenses that contain the BORROW attribute. It must be run on the machine where licenses are borrowed. It is used to perform the following:

- Initiating borrowing by setting the borrow period
- Clearing the borrow period
- Determining borrow status
- Returning a borrowed license early

A2.1 Initiating Borrowing

To initiate borrowing, the user sets the borrow period:

lmdiag {vendor | all} enddate [time]

vendor The vendor daemon name that serves the licenses to be borrowed, or all specifies all vendor daemons in that license server system.

enddate [time] Date the license is to be returned in dd-mmm-yyyy format. time is optional and is specified in 24-hour format (hh:mm) in the FLEXenabled application's local time. If time is unspecified, the checkout lasts until the end of the given end date.

For example: **lmborrow primer 20-aug-2001 13:00**

This has the effect of setting **LM_BORROW** with the borrow period in the registry.

To borrow licenses for the desired vendor, on the same day and the same machine that the user runs lmborrow, run the application(s) to check out the license(s). If you run the application(s) more than once that day, no duplicate licenses are

borrowed. No licenses are borrowed if the application is run on a day different than the date borrowing is initiated.

A2.2 Clearing the Borrowed License Setting

To clear the **LM_BORROW** setting in the registry or `$HOME/.flexlmborrow`, issue the command:

lmborrow -clear

Clearing the **LM_BORROW** setting stops licenses from being borrowed until borrowing is initiated again. A user might run `lmborrow -clear` after he has borrowed licenses for features that are used offline if-before disconnecting from the network-he wants to run an application that checks out additional features, served by vendor, that are not meant to be borrowed. Clearing **LM_BORROW** does not change the status for already-borrowed licenses.

A2.3 Determining Borrowed License Status

To print information about borrowed features issue the following command on the machine from which they are borrowed:

lmborrow -status

The borrowing system does not have to be connected to the network to determine the status.

A2.4 Returning a Borrowed License Early

To return a borrowed license early, first reconnect the borrowing system back to the network then (from the same machine that initiated the borrowing) issue the command:

lmborrow -return [-fqdn][-c license_file_list] [-c display] feature

- fqdn** Directs `lmborrow` to access the borrowing system using its fully qualified host name. Use this option if the license was borrowed based on the fully qualified host name, rather than the relative distinguished name. Use `lmstat` to determine the format of the host name used when the license was borrowed.
- c license_file_list** Use the specified license file(s). In some configurations, the license file needs to be specified in order to return the license file early.
- d display** Used to specify the display from which the borrow was initiated. Required if your current display is different than what was used to initiate the borrow.

On Windows, it is the system name or, in the case of a terminal server environment, the terminal server client name. On UNIX, it is in the form `/dev/ttyxx` or the X-Display name.

feature The name of the borrowed feature to be returned early. Use:

lmborrow -status

to get a list of borrowed feature names.

Returning the license early has the effect of clearing the **LM_BORROW** setting for the vendor daemon that serves the returned license.

If the borrowing system is not placed back on the network before attempting the early return, the license is not returned and **LM_BORROW** is kept intact.

Additionally, an error message is issued to the end user with notification that the system needs to be connected to the network.

A3 LMDIAG

lmdiag allows you to diagnose problems when you cannot check out a license.

lmdiag [-c license_list] [-n] [feature[:keyword=value]]

-c license_list path to the file(s) to diagnose. If more than one file, use colon separator of Unix, or semi-colon on PC.

-n run in non-interactive mode; **lmdiag** will not prompt for any input in this mode. In this mode, extended connection diagnostics are not available.

feature diagnose this feature only.

keyword=value If a license file contains multiple lines for a particular feature, you can select a particular line for **lmdiag** to report on.

For example

lmdiag f1:HOSTID=12345678

will attempt a checkout on the line with the **hostid** limited to 12345678. Specification can be one of the following: **VERSION, HOSTID, EXPDATE, KEY, VENDOR_STRING, ISSUER**

If no **feature** is specified, **lmdiag** will operate on all features in the license file(s) in the path. **lmdiag** will first print information about the license then attempt to check out each license. If the checkout succeeds, **lmdiag** will indicate this. If the checkout fails, **lmdiag** explains the reason for the failure. If the checkout fails because **lmdiag** cannot connect to the license server the 'extended connection diagnostics'.

Extended connection diagnostics attempt to connect to each port on the license server node and can detect if the port number in the license file is incorrect. **lmdiag** will indicate each port number that is listening and indicate whether it is an **lmgrd** process. If **lmdiag** finds the vendor daemon for the feature being tested it will indicate the correct port number for the license file to correct the problem.

A4 LMDOWN

lmdown allows a graceful shutdown of all license daemons (both **lmgrd** and all vendor daemons) on all nodes.

The syntax is:

lmdown [-c license-list] [-vendor name] [-q] [-all] [-force]

- c license-list** path to the file(s) to shutdown
- vendor name** If -vendor name is used, only this vendor daemon will be shutdown, and **lmgrd** will not be shutdown.
- q** does not prompt `Are you sure?'
- all** If multiple servers are specified, automatically shuts down all of them. -q is implied with -all.
- force** If licenses are borrowed, **lmdown** runs only from the machine where the license server system is running, and then only if the user adds -force.

If **lmdown** encounters more than one server (for example if -c specifies a directory with many *.lic files) and -all is not specified, a choice of license server systems to shut down is presented.

When shutting down a three-server redundant license server system, there is a one-minute delay before the servers shut down. **lmdown** shuts down all three license server systems of a set of redundant license server systems. If you need to shut down one of a set of redundant license server systems (not recommended because you are left with two points of failure), you must kill both the **lmgrd** and vendor daemon processes on that license server machine.

You can protect the unauthorized execution of **lmdown** when you start up the license server manager, **lmgrd**. Shutting down the servers causes users to lose their licenses.

Note: On UNIX, do not use kill -9 to shut down license server systems. On Windows, if you must use the Task Manager to kill the FLEXnet Licensing service, be sure to end the **lmgrd** process first, then all the vendor daemon processes. On UNIX, do not use kill -9 to shut down license server systems. On Windows, if you must use the Task Manager to kill the FLEXnet Licensing service, be sure to end the **lmgrd** process first, then all the vendor daemon processes.

A5 LMHOSTID

lmhostid is used to print the correct hostid value on any machine supported by FLEXlm.

The syntax is:

lmhostid [-n] [type] [-utf8]

- n** Only the hostid, itself, is returned as a string, which is appropriate to use with HOSTID= in the license file. Header text is suppressed.
- type** the type of hostid to print. Type must be one of:
- On Windows, it is the system name or, in the case of a terminal server environment, the terminal server client name. On UNIX, it is in the form /dev/ttyxx or the X-Display name.

Platform Dependent Hostids

- ether** Ethernet address.
- string** String id.
- vsn** Volume serial number. (Windows platforms only)
- flexid** Parallel or USB FLEXid dongle identification. This is applicable only for those platforms that support FLEXid dongles. See "FLEXnet Licensing Hostids" for a complete list.
- long** 32-bit hostid.

Platform Independent Hostids

- user** Current user name.
 - display** Current display name. On Windows, it is the system name or, in the case of a terminal server environment, the terminal server client name. On UNIX, it is in the form /dev/ttyxx or the X-Display name.
 - hostname** Current host name.
 - internet** IP address of current platform in the form ###.###.###.###.
- utf8** The hostid is output as a UTF-8 encoded string rather than an ASCII string. If the hostid contains characters other than ASCII A through Z, a through z or 0 through 9, use this option with `lmhostid`. To view a correct representation of the resulting hostid use a utility (such as Notepad) that can display UTF-8 encoded strings.

Example output is:

```
lmhostid - Copyright (c) 1989, 2002 Macrovision Corporation
The FLEXlm hostid of this machine is "69021c89".
```

A6 LMINSTALL

lminstall is designed primarily for typing in decimal format licenses to generate a readable format license file

```
lminstall [-i {infile | -}] [-o outfile] [-overfmt {2, 3, 4, 5, 5.1, or 6}] [-odecimal]
```

Normally users will simply type **lminstall**. The user is first prompted for the name of the output license file. The default name is today's date in yyyyddmm.lic format. The file should be moved to the application's default license file directory if specified. Otherwise, the user can use **LM_LICENSE_FILE** to specify the directory where the *.lic files are located.

Decimal format input is verified by checksum of each line. To finish entering, type Q on a line by itself, or enter 2 blank lines.

If ``infile'` is a dash ('-'), it takes input from stdin. When '-i' is used, default output is stdout; otherwise if -o is not specified **lminstall** prompts the user for an output file name.

A6.1 lminstall as a conversion tool

lminstall can alternatively be used to convert licenses between decimal and readable format, and between different versions of FLEXlm license formats.

To convert from readable to decimal:

```
lminstall -i infile -o outfile -odecimal
```

To convert to FLEXlm Version 2 format:

```
lminstall -i infile -o outfile -verfmt 2
```

Conversion errors are reported as necessary. **lminstall** has a limit of 1000 lines of input.

A7 LMNEWLOG

The **lmnewlog** utility switches the report log file by moving the existing report log information to a new file then starting a new report log with the original report log file name.

If report logs are rotated using **lmnewlog** instead of **lmswitchr** the filename does not have to be changed in the REPORTLOG line of the vendor's options file (requires a v7.1+ vendor daemon).

The syntax is:

```
lmnewlog [-c license_file_list] feature renamed_report_log
```

or

```
lmnewlog [-c license_file_list] feature renamed_report_log
```

-c license_file_list	Use the specified license file(s)
feature	Any feature in this license file
vendor	Vendor daemon in this license file
renamed_report_log	New file path where existing report log information is to be moved.

A8 LMPATH

The **lmpath** utility allows direct control over FLEXnet license path settings; it is used to add to, override, or get the current license path settings.

The syntax is:

lmpath {-add | -override} {vendor | all} license_file_list

-add Prepends license_file_list to the current license-file list or creates the license file list, if it doesn't exist, initializing it to license_file_list. Duplicates are discarded.

-override Overrides the existing license-file list with license_file_list. If license_file_list is the null string, "", the specified list is deleted.

lmpath -override all ""

Deletes the value of LM_LICENSE_FILE.

lmpath -override vendor ""

Deletes the value of VENDOR_LICENSE_FILE.

vendor A vendor daemon name; effects the value of VENDOR_LICENSE_FILE.

all Refers to all vendor daemons; effects the value of LM_LICENSE_FILE.

license_file_list A colon-separated list on UNIX and a semi-colon-separated list on Windows. If license_file_list is the null string "" the specified entry is deleted.

Note: lmpath works by setting the FLEXnet Licensing registry entry on Windows or \$HOME/.flexlmrc on UNIX. lmpath works by setting the FLEXnet Licensing registry entry on Windows or \$HOME/.flexlmrc on UNIX.

To display the current license path settings, use:

lmpath -status

The following is displayed:

lmpath - Copyright (C) 1989-2002 Macrovision Corporation

Known Vendors:

demo: ./counted.lic:./uncounted.lic

Other Vendors:

/usr/local/flexlm/licenses/license.lic

Note: that where the path is set to a directory, all the *.lic files are listed separately.

A9 LMREMOVE

lmremove allows the system administrator to remove a single user's license for a specified feature. If the application is active, it re-checks out the license shortly after it is freed by **lmremove**.

The syntax is:

lmremove [-c license_file_list] feature user host display

or

lmremove [-c license_file_list] -h feature server_host port handle

-c license_file_list Specify license file(s)

feature	Name of the feature checked out by the user
user	Name of the user whose license is being removed as reported by lmstat -a
host	Name of the host the user is logged into, as reported by lmstat -a
display	Name of the display where user is working, as reported by lmstat-a
server_host	Name of the host on which the license server system is running
port T	CP/IP port number where the license server system is running, as reported by lmstat -a
handle	License handle, as reported by lmstat -a

The user, user_host, display, server_host, port, and handle information must be obtained from the output of **lmstat -a**.

lmremove removes all instances of user on user_host and display from usage of feature. If the optional -c license_file_list is specified, the indicated file(s) is used as the license file.

The -h variation uses the server_host, port, and license handle, as reported by **lmstat -a**. Consider this example **lmstat -a** output:

joe nirvana /dev/tty5 (v1.000) (cloud9/7654 102), start Fri 10/29 18:40

In this example, the user is "joe" the user host is "nirvana" the display is "/dev/tty5" the server host is "cloud9" the TCP/IP port is "7654" and the license handle is "102"

To remove this license, issue one of the following commands:

lmremove f1 joe nirvana /dev/tty5

or

lmremove -h f1 cloud9 7654 102

When removing by handle, if licenses are grouped as duplicates, all duplicate licenses are also removed. If license lingering is set and **lmremove** is used to reclaim the license, **lmremove** starts, but does not override, the license's linger time.

You can protect the unauthorized execution of **lmremove** when you start up the license server manager, **lmgrd**, because removing a user's license is disruptive

A10 LMREREAD

The **lmreread** utility causes the license server manager to re-read the license file and start any new vendor daemons that have been added. In addition, all currently running vendor daemons are signalled to re-read the license file and end-user options files for changes in feature licensing information or option settings. If report logging is enabled, any report log data still in the vendor daemon's internal data buffer is flushed. **lmreread** recognizes changes to server machine host names but cannot be used to change server TCP/IP port numbers.

If the optional vendor daemon name is specified only the named daemon re-reads the license file and its end-user options file (in this case **lmgrd** does not re-read the license file).

The syntax is:

lmreread [-c license_file_list] [-vendor vendor] [-all]

- c license_file_list** path to the file(s) to find the **lmgrd** server. If more than one file, use colon separator of UNIX, or semi-colon on PC.
- vendor vendor** If **-vendor** name is used, only this vendor daemon will reread the license file. If the vendor daemon is not running, **lmgrd** will start it.
- all** If more than one **lmgrd** is specified, instructs all **lmgrds** to reread.

To disable **lmreread**, the license administrator can use **lmgrd -x lmreread**.

Note: If the **-c** option is used, the license file specified will be read by **lmreread**, not by **lmgrd**; **lmgrd** re-reads the file it read originally. Also, **lmreread** cannot be used to change server node names or port numbers. Vendor daemons will not re-read their option files as a result of **lmreread**.

A11 LMSTAT

The **lmstat** utility helps you monitor the status of all network licensing activities, including:

- Daemons that are running
- License files
- Users of individual features
- Users of features served by a specific vendor daemon
- BORROW licenses borrowed

lmstat prints information received from the license server system; it does not therefore report on unserved licenses such as uncounted licenses. To report on an uncounted license the license must be added to a served license file and the application must be directed to use the license server system for that license file (via @host, port@host or USE_SERVER). Queued users and licenses shared due to duplicate grouping are also not returned by **lmstat**.

The syntax is:

```
lmstat [-a] [-c license_file_list] [-f [feature]] [-i [feature]] [-s[server]
        [-S [vendor]] [-t timeout_value]
```

- a** Displays everything
- c license_file_list** Uses license_file(s); if more than one file, use colon separator of UNIX, or semi-colon on PC.
- f [feature]** Displays users of feature. If feature is not specified, usage information for all features is displayed.
- i [feature]** Displays information from the FEATURE/INCREMENT line for the specified feature, or all features if feature is not specified.
- s [server_name]** Displays status of all license files listed in \$VENDOR_LICENSE_FILE or \$LM_LICENSE_FILE on server, or on all servers if server is not specified.
- S [vendor]** Lists all users of vendor's features.
- t timeout_value** Sets connection timeout to timeout_value. This limits the amount of time lmstat spends attempting to connect to server.

Note: **lmstat -a** is a potentially expensive command. With many active users, this can generate a lot of network activity, and therefore should not be used too often. **lmremove** requires the output of '**lmstat -a**.'

A12 LMSWITCH

The **lmswitch** utility switches the debug log file written by a particular vendor daemon. It does this by closing the existing debug log for that vendor daemon and starting a new debug log for that vendor daemon with a new file name. It also starts a new debug log file written by that vendor daemon if one does not already exist.

The syntax is:

```
lmswitch [-c license_file_list] vendor new_debug_log
```

- c license_file_list** Use the specified license file(s)
- vendor** Vendor daemon in this license file
- new_debug_log** Path to new debug log file

By default, debug log output from **lmgrd** and all vendor daemons started by that **lmgrd** get written into the same debug file. **lmswitch** allows companies to keep separate log files for different vendors and control the size of their debug log file.

If debug log output is not already directed to a separate file for this vendor daemon **lmswitch** tells the vendor daemon to start writing its debug log output to a file “**new_debug_log**”. If this vendor daemon is already writing to its own debug log **lmswitch** tells the vendor daemon to close its current debug log file and start writing its debug log output to “**new_debug_log**”.

A13 LMSWITCHER

The **lmswitchr** utility switches the report log file by closing the existing report log and starting a new report log with a new file name. It also starts a new report log file if one does not already exist.

The syntax is:

lmswitchr [-c license_file_list] feature new_report_log

-c license_file_list Use the specified license file(s).

feature Any feature in this license file.

new_report_log Path to new report log file

If report logging is not enabled for the vendor daemon **lmswitchr** tells it to start writing its report log output to “**new_report_log**”. If report logging is already enabled for the vendor daemon **lmswitchr** tells the vendor daemon to close its report log file and start writing its new report log output to “**new_report_log**”.

A14 LMVER

lmver reports the FLEXlm version of a library or binary.

The syntax is:

lmver filename

where filename is one of the following:

- the name of an executable file built with FLEXnet Licensing
- **lmgrd**
- a license administration tool
- a vendor daemon