

Installation Instructions

Contents

Accessing Information You May Need Before Installation

Viewing the Start Here Pages, Troubleshooting Information,
and Release Notes 2

Installing Software

Choose the type of instructions you need:

Installing an Intermediate (Overlay) Release 5

Installing IRIX on a Workstation 10

Installing Applications on a Workstation 15

Installing IRIX or Applications on a Server 18

Loading Multiple CDs During an IRIX Installation 24

Tips for Resolving Installation Conflicts 27

Troubleshooting Remote Installations 28

Obtaining Licenses

Installing Software Licenses 28

Viewing the Start Here Pages, Troubleshooting Information, and Release Notes

This section contains directions on accessing information you may want or need before you begin installation:

- *(Required for IRIX Operating System and Overlay Releases Only)* Follow the instructions in “How to View the Start Here Pages” before you upgrade your IRIX operating system.
- *(Optional)* See “How to Access Inst Troubleshooting” if you want to print out troubleshooting documentation for Inst, the program used for installing an operating system.
- *(Optional)* See “How to View the Release Notes Before Installation” to find out how to view product Release Notes. Product Release Notes typically include known bugs and workarounds, a description of changes particular to the product release, and compatibility information.

How to View the Start Here Pages

Reviewing the Start Here pages is the first step in upgrading an IRIX operating system:

Note: Start Here is not applicable for single application installations/upgrades.

1. Insert the CD that includes “Installation Tools” in the title into the CDROM drive.
2. Open a Web browser and go to
`file:/CDROM/WhatsNew/yourSystem.html`
3. Click the Start Here link.

The Start Here pages include key information such as minimum requirements, major (pre/post-installation) caveats for this release, CD descriptions to help you determine which CDs you need to use, and an overview of the new software included in the release.

Note: After you complete the upgrade, you can access the Start Here pages by double-clicking the *Welcome_to_SGI* icon on your desktop.

How to Access Inst Troubleshooting

You may want to access (or print out) the Troubleshooting section of *IRIX Admin: Software Installation and Licensing*. To access it:

1. Log in.
2. Insert the IRIX 6.5 Base Documentation CD into the CD-ROM drive.
3. Open a shell: From the Toolchest, choose Desktop > Unix Shell.

4. Go to the *CDROM* directory.

The default CD-ROM directory location is */CDROM*, so at the shell prompt, enter `cd /CDROM`

5. Enter `./CDinsight` to launch the IRIS InSight book viewer.
6. Click the *SGI Admin* tab and double-click the *IRIX Admin: Software Installation and Licensing* book icon.

The Troubleshooting section is the last section of the book.

Note: You can also find this book at the Technical Publications Library Web site (<http://techpubs.sgi.com>).

How to View the Release Notes Before Installation

To view product-specific Release Notes, follow steps 1 through 4 above, then enter `./CDgrelnotes` to launch the Release Notes viewer.

Installing an Intermediate (Overlay) Release

Use the instructions in this section to do either of the following:

- Install an intermediate release (also known as overlay, feature, or maintenance release).
- Or, if you have not yet upgraded to the corresponding base operating system, install both the overlay (for example, 6.5.x) and the base operating system (for example, 6.5) at the same time.

The installation program used in these instructions is called `Inst`. `Inst` has online help. To see the list of `Inst` help topics, enter the command `help help` at the `Inst` prompt. For more details on using `Inst`, see the online book *IRIX Admin: Software Installation and Licensing*.

Special Instructions for Server Installations: To install an overlay on a server instead of a workstation, replace steps 3, 4, and 5 below with steps 3, 4, 5, 6, and 7 under “Installing IRIX on a Server” on page 19.

Preparation

1. Use the Start Here pages to print or make a note of:
 - Minimum requirements and any major caveats for these releases. **Very Important**—Some information may affect your installation process!

- If you also need to install the base operating system (OS), refer to the “CD Descriptions” section to determine which of the OS CDs you need to use during the installation.

See “How to View the Start Here Pages” on page 2.

Preinstallation

2. Insert the “Installation Tools and Overlays” CD (labeled 1 of 2) in the CD-ROM drive—*do not* use the Installation Tools CD that goes with the base IRIX operating system package (for example, do not use the IRIX 6.5 Installation Tools CD).

Note: If you are using a distribution directory instead of a CD, skip this step—you will load the Installation Tools directory in another step.

3. Bring up the system maintenance menu:
 - From the Toolchest, choose System > System Shutdown.
 - When you see the message *Okay to power off*, press the **Esc** key. As soon as you see the message *Starting up the system*, press the **Esc** key again (or click the *Stop for Maintenance* button).

A menu screen should appear now. (If it doesn't, you probably did not press the Esc key soon enough; begin step 3 again.)

4. Click the Install System Software icon on the menu screen.

5. Specify the location of the new software to install:
 - **If the location is a CD in a drive connected to your system**, click the Local CDROM icon, click the *Install* button, then click *Continue* in the dialog box that appears. (If you are installing onto a clean disk, see the note below.)
 - **If the location is a CD drive or a directory on a remote system**, click the *Remote Directory* icon. You are prompted for the remote hostname. Enter the name of the remote system that contains the distribution. Next, you are prompted to enter the pathname of the distribution source on the remote system—for example, if the source is a CD, enter `/CDROM/dist`. Click the *Install* button. If a network error message appears, refer to 8 “Troubleshooting Remote Installations” on page 28.

Note: If you are installing on a clean disk, a message appears that includes `make new filesystem`, and ends with `[yes/no/sh/help]`. Enter **yes** to make the new filesystem. You are asked to confirm this—enter **yes**. You are asked to enter a block size. If you don’t know what to enter, enter **4096**.
6. Load the CDs (or directories) so that Inst can read the product lists before the actual installation—refer to “Loading Multiple CDs During IRIX Installations” on page 24, then return to step 7.

7. Make your installation selections. To install all upgrades and related (prerequisite) products:

```
Inst> keep *  
Inst> install standard  
Inst> install prereqs  
Inst> keep incompleteoverlays
```

If you are installing onto a clean disk, these commands select and install all standard software, plus necessary prerequisite software and patches.

Note: You may see a message saying there were no matches for `prereqs` or for `standard`—this does not indicate an error.

If you are familiar with using the program `Inst`, you can also choose to install new products now. Otherwise, proceed to step 8.

Tip: For information on viewing or altering the products that are marked for installation, see step 10 under “Installing IRIX on a Server” on page 19.

Installation

8. Enter `go` at the prompt to begin the installation.

If there are no “Conflicts” messages, proceed to step 9.

If your installation selections have generated conflicts, `Inst` asks you if you want to address them now. Enter `1` for “Address these conflicts now.”

To resolve conflicts, enter **conflicts choice choice**. For example, enter **conflicts 1b 2a** to indicate that for conflict 1 you choose choice b and for conflict 2 you choose choice a. See also “Tips for Resolving Installation Conflicts” on page 27.

Enter **go** again when all conflicts are resolved. A preinstallation check begins.

9. If you see a message similar to

```
Please insert the "<CD title>" CD
Type Ctrl-C to interrupt
```

insert the specified CD in the CD drive.

In some cases, the message that indicates which CD to insert may include **Error/Interrupt Menu**—this does not signify a problem. Insert the requested CD, return to the **Inst** prompt, and enter **retry**.

It may take several minutes for each CD to install. Eventually a new message will prompt you to insert the next CD or indicate that the installation is complete.

Postinstallation

10. When Inst indicates that the installation is finished, enter `quit`.
Postinstallation processes begin. When they are complete, you see:

```
Ready to restart the system. Restart?
```

Enter `y` to restart the system, which completes the installation process.

Now that the IRIX operating system is upgraded, you can log in and use Software Manager to select and install some of the new products that were included with your IRIX software package. See “Installing Applications on a Workstation” on page 15 or “Installing Applications From a Remote CD Drive” on page 17.

Installing IRIX on a Workstation

The installation program used in these instructions is called Inst. Inst has an extensive online help feature. To see the list of topics on which help is available, enter the command `help help` at the Inst prompt. For more details on using Inst, see the online book *IRIX Admin: Software Installation and Licensing*.

Note: You can install an intermediate (overlay) release *and* the base IRIX operating system at the same time. To so, follow the instructions in “Installing an Intermediate (Overlay) Release” on page 5.

Follow these steps in order. They are divided into categories (Preparation, Preinstallation, Installation, Postinstallation) to clarify the different stages of upgrading.

Preparation

1. Use the Start Here pages to print or make a note of:
 - Minimum requirements and any major (pre/post-installation) caveats for this release. **Very Important**—Some caveats may affect your installation process!
 - The “CD Descriptions” section, to determine which CDs you need to use during the installation.

See “How to View the Start Here Pages” on page 2.

Preinstallation

2. Insert the Installation Tools CD in the CD-ROM drive. (It is important that you load this CD first.)

Note: If you are using a distribution directory instead of a CD, skip this step—you will load the Installation Tools directory in another step.

3. Bring up the system maintenance menu:
 - From the Toolchest, choose System > System Shutdown.

- When you see the message `Okay to power off`, press the **Esc** key. As soon as you see the message `Starting up the system`, press the **Esc** key again (or click the *Stop for Maintenance* button).

A menu screen should appear now. (If it doesn't, you probably did not press the Esc key soon enough; begin step 3 again.)

4. Click the Install System Software icon on the menu screen.
5. Specify the location of the new software to install:
 - **If the location is a CD in a drive connected to your system**, click the Local CDROM icon, click the *Install* button, then click *Continue* in the dialog box that appears. (If you are installing onto a clean disk, see the “installing on a clean disk” bullet below.)
 - **If the location is a CD drive or a directory on a remote system**, click the *Remote Directory* icon. You are prompted for the remote hostname. Enter the name of the remote system that contains the distribution. Next, you are prompted to enter the pathname of the distribution source on the remote system—for example, if the source is a CD, enter `/CDROM/dist`. Click the *Install* button. If a network error message appears, refer to “Troubleshooting Remote Installations” on page 28.
 - **If you are installing on a clean disk**, a message appears that includes `make new filesystem`, and ends with `[yes/no/sh/help]`. Enter **yes** to make the new filesystem. You are asked to confirm this—enter **yes**. You are asked to enter a block size. If you don't know what to enter, enter `4096`.

6. Load the CDs (or directories) so that Inst can read the product lists before the actual installation—refer to “Loading Multiple CDs During IRIX Installations” on page 24, then return to step 7.
7. Make your installation selections. To install all upgrades and related (prerequisite) products:

```
Inst> keep *
```

```
Inst> install standard
```

```
Inst> install prereqs
```

You may see a message saying `no matches for prereqs` or `for standard`—this does not indicate an error.

Note: If you are installing onto a clean disk, these commands select and install all standard software, plus necessary prerequisite software and patches.

If you are familiar with using the program Inst, you can also choose to install new products now. Otherwise, proceed to the next step.

Tip: For information on viewing or altering the products that are marked for installation, see step 10 under “Installing IRIX on a Server” on page 19.

Installation

8. Enter `go` at the prompt to begin the installation.
If there is no message about conflicts, proceed to step 9.

If your installation selections have generated conflicts, Inst asks you if you want to address them now. Enter **1** for “Address these conflicts now.”

To resolve conflicts, enter **conflicts choice choice**. For example, enter **conflicts 1b 2a** to indicate that for conflict 1 you choose choice b and for conflict 2 you choose choice a. See also “Tips for Resolving Installation Conflicts” on page 27.

Enter **go** again when all conflicts are resolved. A preinstallation check begins.

9. When you see a message similar to

Please insert the “<CD title>” CD

Type Ctrl-C to interrupt

insert the specified CD in the CD drive.

In some cases, the message that indicates which CD to insert may be titled **Error/Interrupt Menu**—this does not signify a problem. Insert the requested CD, return to the Inst prompt, and enter **retry**.

It may take several minutes for each CD to install. Eventually a new message will prompt you to insert the next CD or indicate that the installation is complete.

Postinstallation

10. When Inst indicates that the installation is complete, enter `quit`.
Postinstallation processes begin. When they are finished, you see:

```
Ready to restart the system. Restart?
```

Enter `y` to restart the system, which completes the installation process.

If you have not yet done so, check the “After You Install” section in the Start Here pages to make sure you are aware of any major postinstallation caveats (as instructed in step 1).

Now that the IRIX operating system is upgraded, you can log in and use Software Manager to select and install some of the new products that were included with your IRIX software package. See “Installing Applications on a Workstation” on page 15 or “Installing Applications From a Remote CD Drive” on page 17.

Installing Applications on a Workstation

To install applications from a CD-ROM drive that is connected to your system, follow the instructions in the following section, “Installing Applications From a Local CD Drive.”

To install applications from a CD-ROM drive that is connected to another system on your network, follow the instructions in “Installing Applications From a Remote CD Drive” on page 17.

For more details about software installation, including how to customize your installation and troubleshoot, refer to the Software Manager Help menu.

Note: Installing applications is different from upgrading to a new version of IRIX. If you are upgrading your IRIX operating system, be sure to follow the appropriate instructions (refer to the table of contents on page 1). After you upgrade IRIX, you can log in and use Software Manager to select and install some of the new software products that were included with your IRIX package. To do so, use the directions in this section.

Installing Applications From a Local CD Drive

1. Insert the CD in the CD drive.
2. Open Software Manager by double-clicking the CDROM icon on your desktop.

3. To install all upgrades and new products, proceed to step 4; otherwise, click *Customize Installation* to select specific products:
 - After the Software Inventory is displayed, click to select the products you want to install.
 - If a product has Release Notes, the product name turns blue when you click it. Click again to display Release Notes, or choose Selected > Release Notes.
4. Click the *Start* button.
5. When the installation is complete, choose File > Quit.
6. Eject the CD from the drive.
Select the CDROM icon, hold down the right mouse button, and choose Eject.

Installing Applications From a Remote CD Drive

1. Insert the CD in the remote CD drive.
2. From the Toolchest on your system, choose System > Software Manager.
3. In the Available Software field, enter the remote system's name and the distribution directory path. For example:

mars:/CDROM/dist

Note: If a network error message appears, refer to "Troubleshooting Remote Installations" on page 28.

4. Click the *Lookup* button.
5. To install all upgrades and new products, proceed to step 6; otherwise, click *Customize Installation* to select specific products:
 - After the Software Inventory is displayed, click to select the products you want to install.
 - If the product has release notes, the product name turns blue when you click on it. Click again to display release notes, or choose Selected > Release Notes.
6. Click the *Start* button.
7. When the installation is complete, choose File > Quit.
8. Eject the CD from the drive.

Select the CDROM icon on the remote system's desktop, hold down the right mouse button, and choose Eject.

Installing IRIX or Applications on a Server

The installation program used in these instructions is called Inst. Inst has an extensive online help feature. To see the list of topics on which help is available, enter the command `help help` at the Inst prompt. For more details

on using `Inst`, see the online book *IRIX Admin: Software Installation and Licensing*.

Installing Applications on a Server

If you are installing application software (not upgrading the IRIX operating system), it is not necessary to restart the system and perform the installation from the miniroot. Instead:

1. Open a shell and enter `su` to become superuser.
2. Enter `inst`.
3. Enter `from` followed by the distribution path—for example, if you are installing from a local CD-ROM drive, enter `from /CDROM/dist`
4. Proceed to step 9 of “Installing IRIX on a Server,” below.

Installing IRIX on a Server

Note: You can install an intermediate (overlay) release *and* the base IRIX operating system at the same time. To so, follow the instructions in “Installing an Intermediate (Overlay) Release” on page 5.

Follow these steps in order. They are divided into categories (Preparation, Preinstallation, Installation, Postinstallation) to clarify the different stages of the installation.

Preparation

1. Use the Start Here pages to print or make a note of:
 - Minimum requirements and any major (pre/post-installation) caveats for this release. **Very Important**—Some caveats may affect your installation process!
 - The “CD Descriptions” section, in order to determine which CDs you need to use during the installation.

See “How to View the Start Here Pages” on page 2.

Preinstallation

2. Insert the Installation Tools CD in the CD drive. (It is important that you load this CD first.)

Note: If you are using a distribution directory instead of a CD, skip this step—you will load the Installation Tools directory in another step.

3. Become superuser and shut down the system:

```
% su
```

```
# shutdown
```

When you see the message Do you want to continue with the shutdown (yes/no) [no], enter **yes**.

4. If prompted, choose Restart, then press **Esc** to Stop for Maintenance.

5. You are given a list of choices at the system maintenance menu. Enter **2** for Install System Software.
6. Specify the distribution source:
 - If the source is a CD drive connected to the workstation, enter the number for the local CD-ROM selection. (You may have to press **Enter** twice.)
 - If the source is on another system:
 - Enter the number for the remote directory selection.
 - When prompted, enter the name of the remote system that contains the distribution.
 - Enter the pathname of the distribution source on the remote system—for example, if the source is a CD, enter **/CDROM/dist**
7. Press **Enter** to start the miniroot and Inst.
Rows of dots and various messages appear. Wait for the Inst prompt.
Note: If a network error message appears, refer to “Troubleshooting Remote Installations” on page 28.
8. Load the CDs (or directories) so that Inst can read the product lists before the actual installation—refer to “Loading Multiple CDs During IRIX Installations” on page 24, then return to step 9.

9. Make your installation selections. To install all upgrades and related (prerequisite) products:

```
Inst> keep *
```

```
Inst> install standard
```

```
Inst> install prereqs
```

You may see a message saying there were “no matches for prereqs” or for “standard”—this does not indicate an error.

Note: If you are installing onto a clean disk, these commands select and install all standard software, plus necessary prerequisite software and patches.

10. (Optional) If you want to view or alter the products that are marked for installation, enter *list*:

```
Inst> list
```

Each product is marked:

- N indicates that the product is new.
- [d] indicates that the product is installed by default unless otherwise instructed.
- i indicates that the product will be installed.
- r indicates that the product will be removed.
- [r] indicates that the product is required.

You may change the installation status of any product in the distribution listed. Tips for making selections:

- To select software that is not already selected, use the *install* command.
For example: `install ViewKit_dev.sw.lib`
- If there is software you do not wish to install, use the *keep* command.
For example: `keep ViewKit_dev.sw.lib`

11. Enter `conflicts` to see if your installation selections have generated any conflicts. If there are no conflicts, proceed to step 12.

To resolve conflicts, enter `conflicts choice choice`. For example, enter `conflicts 1b 2a` to indicate that for conflict 1 you choose choice b and for conflict 2 you choose choice a.

See also “Tips for Resolving Installation Conflicts” on page 27.

Installation

12. Enter `go`.

13. When you see a message similar to

```
Please insert the "<CD title>" CD
Type Ctrl-C to interrupt
```

insert the specified CD in the CD drive.

In some cases, the message that indicates which CD to insert may be titled `Error/Interrupt Menu`—this does not signify a problem. Insert the requested CD and return to the `Inst` prompt to enter `retry`.

It may take several minutes for each CD to install. Eventually a new message will prompt you to insert the next CD or indicate that the installation is complete.

Postinstallation

14. When Inst indicates that the installation is complete, enter `quit`. Postinstallation processes begin. When they are finished, you see:

```
Ready to restart the system. Restart?
```

Enter `y` to restart the system, which completes the installation process.

(Operating System Installations Only) If you have not yet done so, check the “After You Install” section in the Start Here pages to make sure you are aware of any major postinstallation caveats (as instructed in step 1).

Loading Multiple CDs During IRIX Installations

This section is a subset of the IRIX (and intermediate release) installation instructions. Follow the instructions below to load the CDs (or distribution directories) so that Inst can read the product lists. You will be prompted to load the CDs again during the actual installation, but Inst needs to read all the product lists first in order to prevent many product conflicts during installation.

Note: To determine which CDs you need to install from, refer to the CD Descriptions section of the Start Here pages.

1. At the Inst prompt, use the *open* command to tell Inst to read the Installation Tools CD (or distribution directory):

If the CD is local, enter `open /CDROM/dist`

If the CD is in a remote drive, open the CD distribution directory on the remote system, for example: `open mars:/CDROM/dist`

If the distribution is a directory, open the pathname for the Installation Tools CD, for example:

`open mars:/6.5/cd1`

Note: A README may appear that contains information about the release and a description of an optional script that checks for old kernel files and large files you may no longer need and, with your approval, removes them. Follow the script prompts if you choose to run the script.

2. *If you see the following message*, enter 1 or 2. (If you are not sure which stream to choose, refer to the Start Here pages for clarification.)
 1. Place me on the maintenance stream.
 2. Place me on the feature stream.
 3. CancelPlease enter a choice [1]:

3. When you see a message similar to `Install software from: [/CDROM/dist]`, replace the current CD or distribution directory with the next one:

If the CD is local, eject the current CD by pressing the manual eject button on the CD drive.

If the CD is in a remote drive, eject the current CD by selecting the CDROM icon on the remote desktop, holding down the right mouse button, and choosing Eject. (Alternatively, enter `eject /CDROM` in a shell on the remote system.)

If the distribution is a directory, open the next directory, for example:

```
open mars:/6.5/cd2
```

Note: If you are installing from a CD, always make sure that the prompt indicates that the installation is from the `/CDROM/dist` directory. For example, if the prompt changes to reflect the `/CDROM/dist/dist6.5` directory, enter `/CDROM/dist` at the prompt.

4. Press **Enter** to instruct Inst to read the new CD or distribution directory.
Caution: Do not enter “done” until all the CDs or distribution directory have been read.
5. Continue loading each CD or distribution directory.
6. When all the relevant CDs or distribution directories have been read, enter **done**.

Tips for Resolving Installation Conflicts

- If the list of conflicts is long, enter **q** to stop viewing the list and resolve the conflicts currently visible on the screen. Once you've resolved the visible conflicts, enter **conflicts** again to view the remaining conflicts. The other option is to write down all of your choices before you enter them.
- If a conflict gives you the option of deselecting products with "eoe" or "Execution Environment" in the product name, *do not* choose to deselect these products. The operating system needs these products in order to function properly.
- If you deselected subsystems, conflicts may be generated by remaining patches that go with the deselected subsystems. However, you do not need these patches; choose not to install them.
- If you need to resolve conflicts by loading a CD, the installation selections you already made may be altered on the CD you load. Review what is selected on the CD and deselect or reselect as needed.

Troubleshooting Remote Installations

When a network error message appears during a remote installation, try the following:

- If you see an error similar to `Cannot load network (0)`
`bootp(<system name>:/CDROM/dist`, check that *tftp* access to the CDROM is enabled on the **remote** system. Detailed instructions are in the online *Personal System Administration Guide*. To find the section in the book, search for “tftp.” You can access the book from the Toolchest (choose Help > Online Books), or from <http://techpubs.sgi.com>.
- Check the network connection; make sure that cables are secure.

Installing Software Licenses

For products that require a license to run, you must activate a license for that product on your system. You should have received a license information sheet or label from Silicon Graphics. If you do not have this sheet/label, contact Silicon Graphics or your local support provider.

Silicon Graphics uses FLEXlm to license its products. The following pages describe how FLEXlm Nodelocked and floating/concurrent licenses are installed using License Manager. (Note that the terms “floating license” and “concurrent license” are interchangeable.) For information on installing Silicon Graphics software (including License Manager), refer to the section “Installing Applications on a Workstation” on page 15 or “Installing Applications on a Server” on page 19.

Additional licensing information can be found by visiting the Silicon Graphics World Wide Web licensing page:

<http://www.sgi.com/Products/license.html>

Installing a FLEXlm Nodelocked License

To install FLEXlm Nodelocked licenses you must invoke License Manager and install the license. If you are installing a license for XFS Volume Plexing or any other product that must be installed in a directory other than */var/flexlm*, then refer to the release notes for license installation instructions.

To install the license, follow this procedure:

1. Choose System > License Manager from the Toolchest to open License Manager.
2. Click the *Install...* button.
3. Select *FLEXlm Nodelock*.

4. Click the *OK* button.
5. Copy all requested fields from the license information sheet or label into the “License Manager: Install FLEXlm Nodelock License” window.
6. Click the *OK* button.
7. Repeat steps 2 through 6 until all licenses are installed.
8. Click the *Close* button on the main License Manager window.

You are finished installing the license(s). Save the license information sheet or label; you may need it again later to reinstall your license(s).

Installing a FLEXlm Floating (Concurrent) License

Note: The information in this section should be used only by the system administrator of the license server system. If you are an end user of client software with a floating license that is not functioning, contact your system administrator.

If you are installing a license for a product that must be installed in a directory other than `/var/flexlm`, refer to the product’s release notes for license installation instructions.

Floating licenses require a network license server. The subsystem `license_eoe.sw.flexlm_server` must be installed on that system. Verify that it is installed by opening a UNIX shell and entering

```
showprods license_eoe.sw | grep flexlm_server | wc -w
```

If the result is greater than 0 (for example, 7), the subsystem is installed; if the result is 0, you must install *license_eoe.sw.flexlm_server*.

With FLEXlm, a floating license must be installed on the license server and the license file copied to every client system. The license manager daemon, *lmgrd*, should then be started on the license server. You do not need to start license daemons on client systems

To install the license on the license server system using License Manager, follow this procedure:

1. Choose System > License Manager from the Toolchest to open License Manager.
2. Click the *Install...* button.
3. Click *FLEXlm Floating*.
4. Click the *OK* button.
5. If necessary, enter the Server Host Name in the corresponding field. (To find the name, enter the UNIX shell command *uname -n* on the server.)
6. Copy all requested fields from the license information sheet into the "License Manager-Install FLEXlm Floating License" window.
7. Click the *OK* button.
8. Repeat steps 2 through 7 until all licenses for the server are installed.
9. Click the *Close* button on the main License Manager window.

Start the license daemon (only on the license server system):

1. Become superuser.
In a UNIX shell, enter `su`.
2. Enter `chkconfig flexlm on`
3. Stop the `lmgrd` daemon.
Enter `/etc/init.d/flexlm stop`
4. Start the `lmgrd` daemon.
Enter `/etc/init.d/flexlm start`
5. Exit the root account: enter `exit`

On any system you wish to access this license from, you must copy (or mount) the license file (`/var/flexlm/license_<server_name>.dat`) from the server system into the `/var/flexlm/license_<server_name>.dat` file (on all client systems).

You are finished installing the license. Save the license information sheet or label; you may need it again later to reinstall this license.

Troubleshooting FLEXlm Software Licenses

Use the methods described in this section for basic troubleshooting. See our software licensing Web site (<http://www.sgi.com/Products/license.html>) for more information.

- Enter the UNIX command

```
/usr/sbin/lmdiag -c /var/flexlm/license.dat
```

```
(or /usr/sbin/lmdiag -c /var/flexlm/license_serverhost.dat)
```

to analyze the licenses in the license files. If you see an error message that says the HOSTID is incorrect, then follow these steps:

- For a Nodelocked license, run the UNIX command `/etc/sysinfo -s`. If the result does not match the HOSTID string for that product in the license file, this is the problem.
- For a floating license, on the server system, run the UNIX command `/etc/sysinfo -s`. Compare the results with the second argument on the SERVER line, which corresponds to the product in question. If the two numbers are not identical, this is the problem.

Conditions that might cause the `/etc/sysinfo -s` results and the HOSTID to be different include:

- the license may be for a system different from the one it is installed on,
- the HOSTID may have been entered incorrectly,

- or, the HOSTID on the system may have changed (replacing the system board or I/O board can change the HOSTID).
- For trouble with a floating FLEXlm license, configure the *lmgrd* daemon on the server to send its output to a log file by adding

```
-c /var/flexlm/license_server_name.dat -l  
/var/adm/flexlm.log
```

to the */etc/config/lmgrd.options* file, where */var/adm/flexlm.log* is the log file. (Note that -l is the lowercase letter *l*, not the number one.) In a UNIX shell, enter

```
/etc/init.d/flexlm stop; /etc/init.d/flexlm start
```

Look at the log file for error messages.
If the application program (or *lmstat*) cannot connect to the license server, one of several things may be wrong:
 - The license server may be down, or there may be a network problem. Verify that the client system can communicate with the server. In a UNIX shell on the server, enter this command:

```
setenv LM_LICENSE_FILE /var/flexlm/license_server_name.dat
```

Then, enter */usr/sbin/lmstat -a* to verify the vendor daemon is running.

In a UNIX shell on the client system, enter `lmstat -a` to check if the system can contact the vendor daemon on the server. Then, from the client system, enter the command `telnet hostname portnumber`, where *hostname* and *portnumber* match the SERVER line in the license file.

- The Silicon Graphics vendor daemon may not be running. On the server, verify that it is running by entering the UNIX command `ps -ef | grep sgifd | grep -v grep`. If nothing is returned, then the vendor daemon is not running.
- The application may not be looking at the expected license file. The default license file for Silicon Graphics products is `/var/flexlm/license.dat`. Verify the contents of `/var/flexlm/licensefile.db` to see what files are being looked at. To view contents lists of all expected license files, enter:

```
more /var/flexlm/licensefile.db
```

- If a warning message appears stating that the license expires in an incorrect number of days, remove or comment out temporary or evaluation license(s) in the `/var/flexlm/license.dat` file for this product.
- The License Password may have been entered incorrectly. Check that the letters *l* and *O* were not typed in place of a numeral 1 (one) and 0 (zero).
- Run the `date` command by entering `date`. Make sure the date is not earlier than the Start Date or later than the Expiration Date listed on the license information sheet.

For more information on troubleshooting, refer to Appendix B of the *FLEXlm End User Manual*. This guide is located in the *IRIS InSight Library* (on the EndUser Bookshelf), which you can find by choosing Help > Online Books from the Toolchest.