

Installing Software

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Viewing the Start Here Pages, Troubleshooting Info and Release Notes

This section supplements this booklet's instructions on installing the IRIX operating system.

How to View the Start Here Pages

Before you install an operating system, use the Start Here pages to print or take notes on:

- Minimum requirements and any major (pre/post-installation) caveats for this release.
- The "CD Descriptions" section, in order to determine which CDs you need to use during the installation.

The Start Here pages include this information as well an overview of the new software included in the release. You can view these pages before you install the new operating system:

1. Insert the Base Documentation CD into the CD-ROM drive.
2. Open a Web browser and go to:
file:/CDROM/Welcome/yourSystem.html
3. Click the "Start Here" link.

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 the *IRIX Admin: Software Installation and Licensing*. To access it:

1. Log in.
2. Insert the 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 very 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 `./CDgre1notes` to launch the Release Notes viewer.

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*.

The following steps should be followed in the order they are presented—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, 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. Put the Installation Tools CD in the CD-ROM drive. (It is important that you load this CD first.)
3. Restart the system and bring up the System Maintenance menu.

On Workstations Currently Running 5.3 or 6.2:

- 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).

On Other Workstations:

- Press the “reboot” button on your workstation to shutdown the system. Press it again to start up the system; when you see the *Stop for Maintenance* button, click it (or press **Esc**).

A menu screen should appear now. (If it doesn't, the Esc key probably wasn't pressed soon enough; you need to 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.

(Remote Installs Only) 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>. If *tftp* needs to be enabled, you will have to repeat steps 4 and 5 after it is enabled.

- **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. Follow the instructions below to load the CDs so that Inst can read the product lists before the actual installation. [To determine which CDs you need to use, refer to the “CD Descriptions” section of the Start Here pages

(as instructed in Step 1). At the very minimum, load the following four CDs in the following order: *Installation Tools*, *Foundation 1*, *Foundation 2*, *Applications*. Load any additional CDs after you load these four CDs.]

- At the Inst prompt, use the *open* command to tell Inst to read the Installation Tools CD:

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

If the CD is in a remote drive, enter the remote system's name, a colon (:), and "/CDROM/dist"—for example: **open mars:/CDROM/dist**

A README file may appear that contains information about the release and a description of an optional script that checks for COFF files (which are no longer supported) and other possibly unnecessary files. Follow the script prompts if you choose to run the script.

- When you see a message similar to *Install software from:[/CDROM/dist]:*
 - Replace the current CD with the next CD:

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.)

Note: If you are installing from a CD, always make sure that the prompt indicates that the installation is from the */CDROM/dist* directory.

- Press **Enter** to instruct Inst to read the new CD.
Do not enter done until all the CDs have been read.
- Continue loading each CD.

■ When all the CDs have been read, enter **done**.

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 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.

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 page 19, Step 10.

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 any 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.

Tips for Resolving Conflicts:

- If the list of conflicts is long, you can 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.
- Do not decline to install products with "eoe" or "Execution Environment" in the product name. The operating system needs these products in order to function properly.
- If you de-selected certain subsystems, conflicts may be generated by remaining patches that go with the de-selected subsystems; choose not to install such patches.

- If you need to resolve conflicts by loading a CD, the selections you made during Step 7 may be altered on the CD you load. Review what is selected on the CD and de-select or re-select as needed.

Enter **go** 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 and may have text in parentheses that includes "Cannot find file"—this is normal and does not indicate an error. 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

10. When the 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 11 or “Installing Applications From a Remote CD Drive” on page 13.

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 13.

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 very 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 Contents listed 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, a colon (:), and "/CDROM/dist." For example, enter:
mars : /CDROM/dist
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:

- open a shell and enter `su` to become superuser
- enter `inst`
- enter `from` followed by the distribution path—for example, if you are installing from a local CD-ROM drive, enter `from /CDROM/dist`
- proceed to Step 9 of *Installing IRIX on a Server* below

Installing IRIX on a Server

The following steps should be followed in the order they are presented—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.)
3. Become superuser and shutdown 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 will be 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.

Troubleshooting: 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>.

8. Follow the instructions below to load the CDs so that Inst can read the product lists before the actual installation. [To determine which CDs you need to use, refer to the “CD Descriptions” section of the Start Here pages (as instructed in Step 1). At the very minimum, load the following four CDs in the following order: *Installation Tools*, *Foundation 1*, *Foundation 2*, *Applications*. Load any additional CDs after you load these four CDs.]

- At the Inst prompt, use the *open* command to tell Inst to read the Installation Tools CD:

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

If the CD is in a remote drive, enter the remote system’s name, a colon (:), and “/CDROM/dist”—for example: **open mars:/CDROM/dist**

A README file may appear that contains information about the release and a description of an optional script that checks for COFF files (which are no longer supported) and other possibly unnecessary files. Follow the script prompts if you choose to run the script.

- When you see a message similar to *Install software from:[/CDROM/dist]*:
 - Replace the current CD with the next CD:

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.)*

Note: If you are installing from a CD, always make sure that the prompt indicates that the installation is from the */CDROM/dist* directory.

- Press **Enter** to instruct Inst to read the new CD.
Do not enter done until all the CDs have been read.
- Continue loading each CD.

■ When all the CDs have been read, enter **done**.

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.

Tips for Resolving Conflicts:

- If the list of conflicts is long, you can 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.
- Do not decline to install products with "eoe" or "Execution Environment" in the product name. The operating system needs these products in order to function properly.
- If you need to resolve conflicts by loading a CD, the selections you previously made may be altered on the CD you load. Review what is selected on the CD and de-select or re-select as needed.

Installation

12. 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` and may have text in parentheses that includes "Cannot find file"—this is normal and does not indicate an error. 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

13. When the 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 Installs 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).

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/Concurrent¹ licenses are installed using License Manager. For information on installing Silicon

Graphics software (including License Manager), refer to the section “Installing Applications on a Workstation” or “Installing Applications From a Remote CD Drive” in this booklet.

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 (1) invoke License Manager and (2) 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*.

¹ The terms “Floating license” and “Concurrent license” are interchangeable.

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/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/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.

- Run 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 get an error message that says the HOSTID is incorrect, then:

- 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 (1) the license may be for a system different from the one it is installed on, (2) the HOSTID may have been entered incorrectly, or (3) 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*) can't 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 **setenv LM_LICENSE_FILE /var/flexlm/license_server_name.dat** and **/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, type:
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 selecting Help > Online Books from the Toolchest.