Console Manager for SGIconsole™
Administrator's Guide

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New Features Documented

This rewrite of *Console Manager for SGIconsole Administrator's Guide* supports the 1.1 release of SGIconsole.

New Features Documented

This release adds information about the following new features:

- Information about remote displays supported in "Systems Supported", page 5

- A command line interface (`tscm`(1)) in "Command Line Interface to Console Manager", page 19

- An access control mechanism in "Setting up Access Controls", page 30

- An SGIconsole task which allows you to add multiple users at the same time in "Adding Multiple Users", page 37

- A Serial Console Only (SCO) management port connection type in "Adding a Node", page 48

- The **Add a Management Group** task in "Adding a Management Group", page 59

- The **Modify a Management Group** task in "Modify A Management Group", page 61

- The **Delete a Management Group** task in "Deleting a Management Group", page 63

- The ability to view, enable or disable, and delete Console logs in "Viewing and Deleting Console Logs", page 77

- The ability to add nodes, users, and groups as a task in "Guided Configuration for Setting up Console Nodes, Groups, and Users", page 45

Major Documentation Changes

For information about Console Manager requirements, restrictions, and workarounds, see "Console Manager Requirements, Restrictions, and Workarounds", page 4.

For information on how to install and configure an SGI console client for systems running the Linux, IRIX or Windows operating system, see "Installing and Configuring a Console Manager Client", page 27.

For more information on how to get to a console from a Windows installation that does not have an X Window system server installed, see "Gaining Console Access without Using an X Server", page 32.

The **Add a Node** task description has been updated to reflect new functionality in "Adding a Node", page 48.

This release adds troubleshooting information in a new chapter in Chapter 5, "Troubleshooting SGIconsole", page 85.

Record of Revision

Version	Description
001	November 2001 Original publication.
002	August 2002 Supports the SGIconsole 1.1 release.

Contents

Figures

Procedures

About This Guide

This guide documents the Console Manager for SGIconsole release 1.1 running on SGI systems.

The Console Manager software graphical interface allows you to control multiple SGI servers, SGI partitioned systems, and large single-system image servers.

This manual contains the following chapters:

- Chapter 1, "Console Manager Features and Capabilities", page 1

- Chapter 2, "Configuring Console Manager", page 23

- Chapter 3, "Configuring Sites", page 45

- Chapter 4, "Administering Your Site", page 65

- Chapter 5, "Troubleshooting SGIconsole", page 85

- Appendix A, "SGIconsole Log Files and Console Manager Execution Flow", page 87

Related Publications

The following documents contain additional information that may be helpful:

- *SGIconsole Software CD Information Card*

- *SGIconsole 1.1 Start Here*

- *IRISconsole to SGIconsole Migration Guide*

- *SGI Origin 3000 Series Owner's Guide*

- *SGI L1 and L2 Controller Software User's Guide*

- *SGI Onyx 300 Graphics System User's Guide*

- *SGI Onyx 3000 Series Graphics System Hardware Owner's Guide*

- *SGIconsole Hardware Connectivity Guide*

- *EL Serial Port Server Installation Guide*

- *EL Serial Port Server Installation Guide Errata*

  This document describes how to configure the Silicon Graphics Ethernet serial port server for Linux environments.

- *Performance Co-Pilot ReadMe First*

- *Performance Co-Pilot IRIX Base Software Administrator's Guide*

- *Performance Co-Pilot Programmer's Guide*

- *Performance Co-Pilot User's and Administrator's Guide*

Obtaining Publications

To obtain SGI documentation, go to the SGI Technical Publications Library at:

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Conventions

The following conventions are used throughout this document:

Convention	Meaning
command	This fixed-space font denotes literal items such as commands, files, routines, path names, signals, messages, and programming language structures.
variable	Italic typeface denotes variable entries and words or concepts being defined.
user input	This bold, fixed-space font denotes literal items that the user enters in interactive sessions. Output is shown in nonbold, fixed-space font.
[ ]	Brackets enclose optional portions of a command or directive line.

...   Ellipses indicate that a preceding element can be repeated.

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Console Manager Features and Capabilities

Console Manager is a graphical user interface for the SGIconsole management and monitoring tool used to control multiple nodes. A *node* can be a server or a partitioned system. Each node is a managed host with a unique name and Internet Protocol (IP) address. An SGI Origin 3000 system can be partitioned to contain multiple nodes. Each partition is a node with a unique hostname and IP address.

You can manage and monitor up to 64 nodes with the Console Manger.

You can use the Console Manager interface to consolidate information about multiple sever nodes in a compact space.

The Console Manager is part of the SGIconsole system, which is used to control and monitor multiple SGI servers. For an overview of SGIconsole, see "SGIconsole Overview", page 1, and the *SGIconsole 1.1 Start Here*.

This chapter introduces the operational features and capabilities of Console Manager software. This chapter contains the following sections:

- "SGIconsole Overview", page 1

- "Getting Started with Console Manager", page 3

- "Starting the Console Manager", page 5

- "Console Manager Server Security", page 5

- "Console Manager Graphical User Interface", page 7

- "SGIconsole Hardware Configuration", page 18

- "Command Line Interface to Console Manager", page 19

SGIconsole Overview

SGIconsole, as shown in Figure 1-1, page 2, lets you manage multiple SGI servers, SGI partitioned systems, and large, single-system image servers.

It consists of an SGI 1100 platform, a serial multiplexer or Ethernet hub, and a software suite, including the Console Manager/VACM package and Performance Co-Pilot (PCP). SGIconsole provides access to common remote management tools.

You can configure SGIconsole to use a Network Information Services (NIS) password. See the SGIconsole software package README file for instructions on how to configure NIS on your SGIconsole machine.
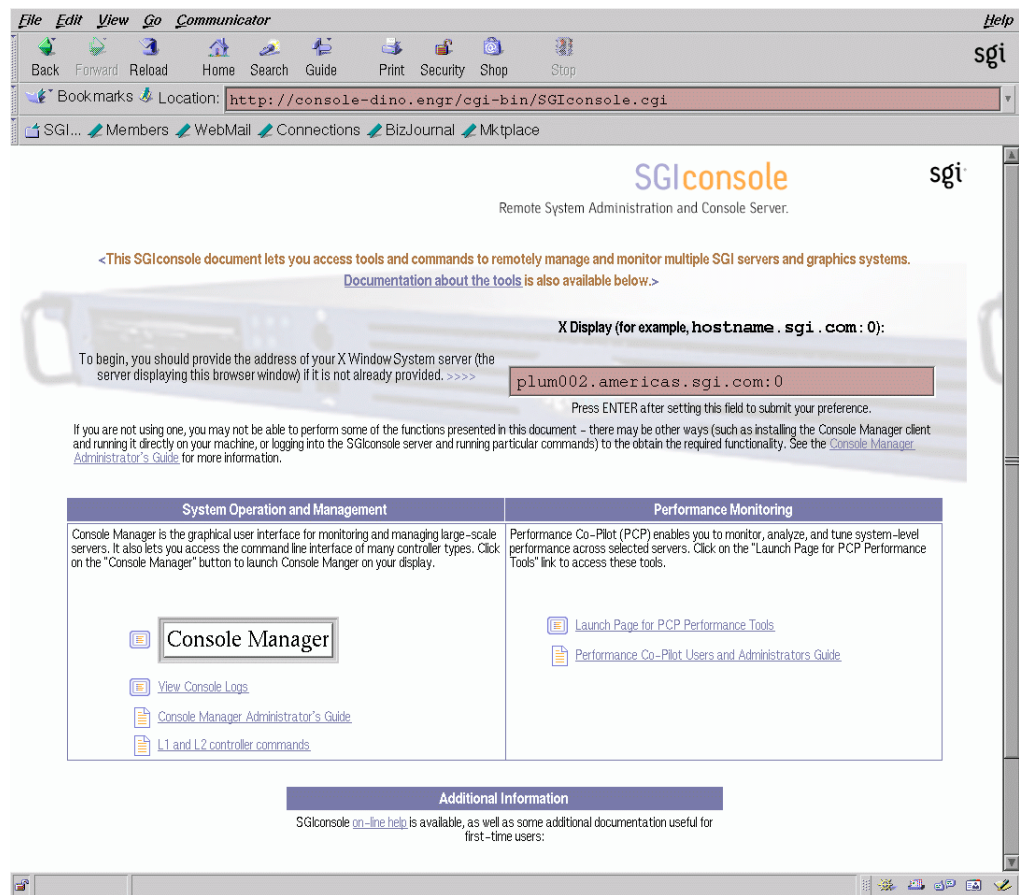
Figure 1-1 SGIconsole Web Interface

For location information and procedures for using the SGIconsole user interface to access SGIconsole software, see the *SGIconsole 1.1 Start Here*.

For information on how to connect the SGIconsole to the SGI servers and graphics systems, see the *SGIconsole Hardware Connectivity Guide*.

Your SGI machine probably comes with Red Hat 6.2 and the SGIconsole 1.0 software preinstalled. The *SGIconsole Software CD Information Card* document describes how to install the software from the CD if at some time you need to reinstall it.

Note: The SGIconsole reinstallation procedure is the same as the installation procedure described in the *SGIconsole 1.1 Start Here* manual, after you have removed the SGIconsole rpms.

For information on the L1 and L2 controller commands, see Appendix B of the *SGI Origin 3000 Series Owner's Guide*.

For information on how to install the SGI Ethernet serial port server (also know as the EL serial port server and as EtherLite, see the *EL Serial Port Server Installation Guide* and the *EL Serial Port Server Installation Guide Errata*.

For information on Performance Co-Pilot (PCP) see the following manuals:

- *Performance Co-Pilot ReadMe First*

- *Performance Co-Pilot IRIX Base Software Administrator's Guide*

- *Performance Co-Pilot Programmer's Guide*

- *Performance Co-Pilot User's and Administrator's Guide*

Getting Started with Console Manager

This section contains information about getting Console Manager running on your system and covers the following topics:

- "Console Manager Requirements, Restrictions, and Workarounds", page 4

- "Installing Console Manager", page 4

- "Configuring Console Manager", page 4

- "Systems Supported", page 5

Console Manager Requirements, Restrictions, and Workarounds

This section contains links to information about Console Manager requirements, restrictions, and workarounds described throughout this manual as follows:

- For information on remote displays supported, see "Systems Supported", page 5.

- When you add new hardware to Console Manager, you must upgrade your sn1sc firmware from the SGI Supportfolio website. For more information, see "SGIconsole Hardware Configuration", page 18.

- For information on requirements for running Console Manager on a client machine instead of on the SGI server machine, see "Requirements", page 28.

- The minimum value of a UID assigned to a new user is 500 in Console Manager. For a workaround for NIS users and more information, see "Adding a Console User", page 34.

- For the L1 and MMSC controller types, system and controller console logging should not be activated simultaneously. For more information, see "Enabling and Disabling Console Logging", page 79.

Installing Console Manager

For information on installing the Console Manager for SGIconsole, see *SGIconsole 1.1 Start Here*.

For information on starting Console Manager, see "Starting the Console Manager", page 5, and "Starting the Console Manager Graphical User Interface on the SGIconsole Server", page 23.

For more information on SGIconsole, see "SGIconsole Overview", page 1.

Configuring Console Manager

You can use Console Manager to configure your system to add nodes to your site. You can also use it to add users and groups of users. Console Manager automatically updates the nodes, users, and groups files located in the /var/lib/SGIconsole directory.

> **Note:** You should **not** edit the directories under `/var/lib/SGIconsole/`. These configuration files are generated by Console Manager software. Any changes to these files might be lost during upgrades to future releases of SGIconsole.

Systems Supported

For a list of the systems supported, see the *SGIconsole Hardware Connectivity Guide*. For more information on server (node) types, see "Adding a Node", page 48.

> **Note:** SGIconsole supports remote-displaying to an Indy or O2 workstation running IRIX 6.5.11 (or later) and a Silicon Graphics 230 visual workstation running VWE 3.0. Other displays may work, but are not supported by SGI.

Starting the Console Manager

You can invoke Console Manager from the SGIconsole web page or from the command line on the server itself. The command that invokes the Console Manager GUI follows:

```
%/usr/bin/scmgr
```

For more information about starting Console Manager, see "Starting the Console Manager Graphical User Interface on the SGIconsole Server", page 23.

Console Manager Server Security

The Console Manager Server includes security features that ensure that only authorized administrators can manage or monitor systems. The administrator for the Console Manager server is root. The Console Manager Server password for the root user should be the same as the UNIX password for the root user. Only the root user can create or delete other console users. Non-root users can peform all other Console Manager tasks.

Note: The Console Manager GUI does not encrypt its communication with the server. The transfer of passwords is visible to other users of your network. Do not use the Console Manager GUI to administer computers over the Internet.

When you invoke the Console Manager, the window appears, as shown in Figure 1-2, page 6.
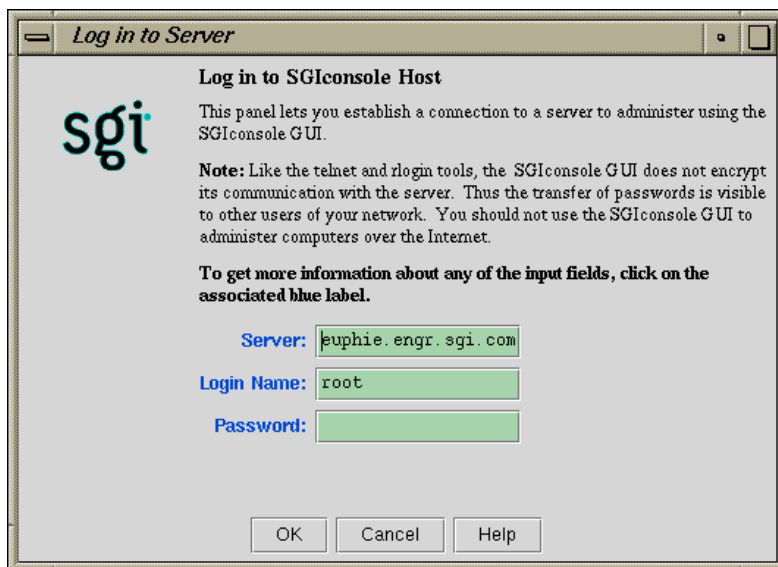
Figure 1-2 Login in to Server Dialog Box

The Console Manager security window allows you to establish a connection to a server to administer using the Console Manager GUI. To log in perform the following steps:

1. In the **Server** field, type the name of the server running Console Manger.

2. In the **Login Name** field, type your login ID.

3. In the **Password** field, type your password.

4. Click the **Ok** button.

If you cannot connect to a node running Console Manager, an error message appears.

For information about using the Console Manager GUI to add a Console Manager user, see "Adding a Console User", page 34.

For information about the Console Manager access control mechanism, see "Access Controls in Console Manager", page 30.

Console Manager Graphical User Interface

The Console Manager graphical user interface (GUI) enables you to set up, administer, and monitor all the *nodes* in a site from a single point. A node can be an SGI server running the IRIX operating system.

The Console Manager GUI provides these advantages:

- You can click any blue text to get more information about that concept or input field. Online help is also provided with the **Help** button.

- The existance of nodes, users, and groups are shown visually.

- All inputs are checked for correct syntax before attempting to change the node configuration information. In every task, changes will not take effect until you click **OK**.

- Tasks take you step-by-step through configuration and management operations.

  Note: You should **not** edit the directories under `/var/lib/SGIconsole/nodes`. These configuration files are generated by Console Manager software. Any changes to these files might be lost during upgrades to future releases of SGIconsole.

- The graphical tools can be run on any computer that supports a Java-enabled X window system.

Note: You can also access Console Manager using a command line interface called `tscm(1)`. For more information, see "Command Line Interface to Console Manager", page 19.

Console Manager Overview

Figure 1-3, page 8, shows the Console Manager. The menu bar shows the following pulldown menus:

- **File**

- **Tasks**

- **Help**
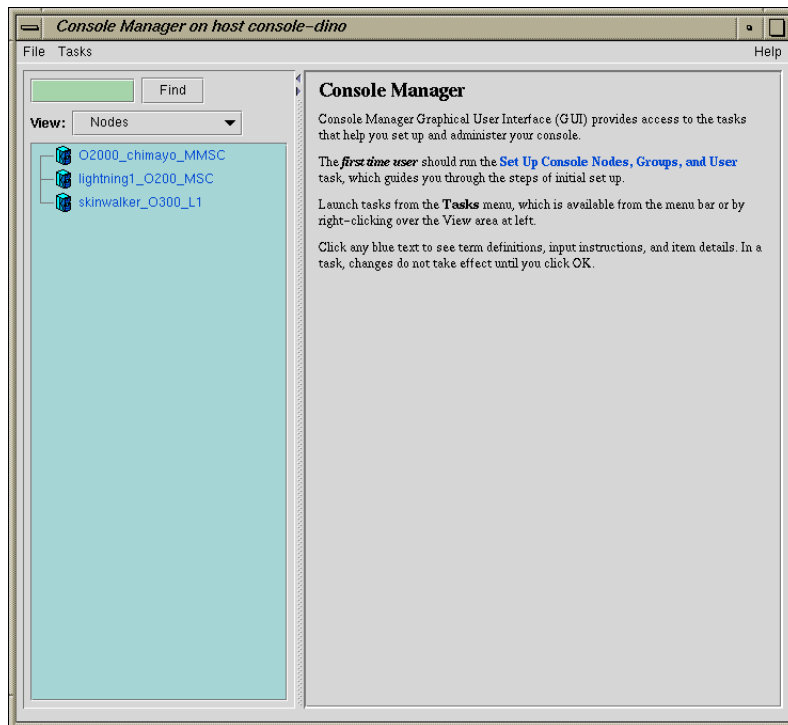
Figure 1-3 Console Manager Graphical User Interface

Figure 1-4, page 9, shows the **File** pulldown menu.
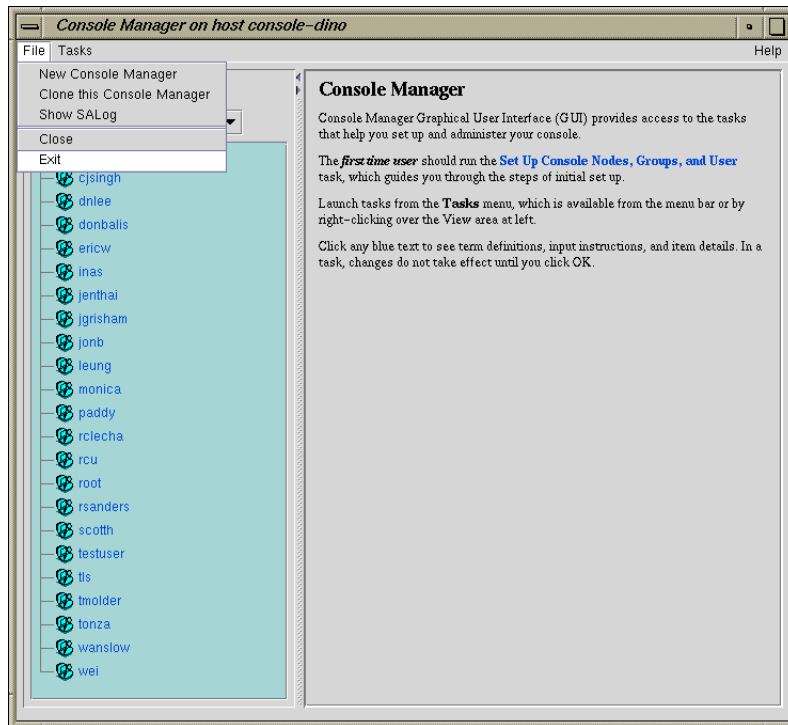
Figure 1-4 File Pulldown Menu

The **File** pulldown menu allows you to perform the following actions:

- **New Console Manager**

- **Clone this Console Manager**

- **Show SALog**

- **Close**

- **Exit**

Note: The **SAlog** log shows what command are executed by the GUI and is used for debugging Console Manager software.

Figure 1-5, page 10, shows the **Tasks** pulldown menu.
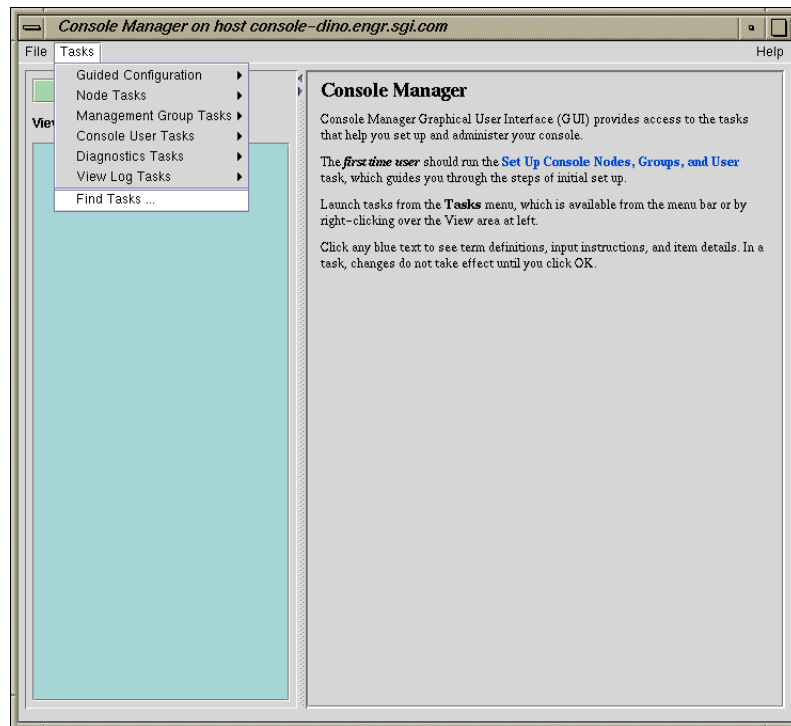
Figure 1-5 Tasks Pulldown Menu

The **Tasks** pulldown menu allows you to perform the following actions:

- **Guided Configuration**

- **Node Tasks**

- **Management Group Tasks**

- **Console User Tasks**

- **Diagnostics Tasks**

- **View Log Tasks**

• **Find Tasks**

For more information on the tasks accessed from the **Tasks** pulldown menu, see "Console Manager Tasks and Functions", page 11.

Figure 1-6, page 11, shows the **Help** pulldown menu.
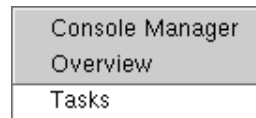
Figure 1-6 Help Pulldown Menu

The **Help** pulldown menu allows you to get:

• Console Manager description

• Overview of Console Manager tasks

• Help for each Console Manager task

Console Manager Tasks and Functions

The Console Manager provides access to the *tasks* that help you set up and administer nodes at a site. The **Tasks** menu contains various pulldown menu tasks. For example, the **Console User Tasks** menu expands to **Add console user**, **Modify console user**, and **Delete console user**.

The Console Manager has the following functions:

• **Guided Configuration**, which allow you to:

– **Set up Console Nodes, Groups, and Users**

• **Node Tasks**, which allow you to:

– **Add a Node**

– **Modify a Node Configuration**

– **Delete Nodes**

- **Get/Steal/Spy Console**

- **Reset/NMI/Power Up/Power Down**

- **Connect to a System Controller**

  Note: If your connection type is L1 or MMSC, you can get either system console or the system controller console for a node at a time. For more information, see "Adding a Node", page 48.

- **Switch State of Console Logging**

- **Delete Console Log Files**

  For a view of the **Node Tasks** pulldown menu and more information on these tasks, see "Adding a Node", page 48.

- **Management Group Tasks**, which allow you to:

  - **Add a Management Group**

  - **Modify a Management Group**

  - **Delete a Management Group**

  For a view of the **Console Group Tasks** pulldown menu and more information on these tasks, see "Adding a Management Group", page 59.

- **Console User Tasks**, which allow you to:

  - **Add a new Console User**

  - **Modify a Console User**

  - **Delete a Console User**

  - **Change a Console User Password**

  - **Add Console Users**

  For a view of the **Console Users Tasks** pulldown menu and more information on these tasks, see "Adding a Console User", page 34.

- **Diagnostics Tasks**, which allow you to:

  - **Reset Console Backend Software**

For a view of the **Diagnostics Tasks** pulldown menu and more information on these tasks, see "Restarting the Console Manager Daemon", page 72.

* **View LogTasks**, which allow you to:

    – **View System Log**

    – **View System Controller Logs**

    For a view of the **View Log Tasks** pulldown menu and more information on these tasks, see "Viewing System Logs", page 74.

* **Find Tasks**, which lets you use keywords to search for a specific task.

Console Manager View

The Console Manager View provides the following capabilities:

* Shows the results when a task has been completed. For example, when the **Add node** task is done, you will see the new node show up in the Console Manager View.

* Select to view nodes configured at a site, the Console Manager users, or the Console management groups.

* Find and select items in the view panel.

From the Console Manager View, you can click on a node, user, or management group to display key information. When an item is selected, the panel on the right shows the detailed information of the item with a list of applicable tasks. Clicking on a task brings up the task window with the item selected.

Figure 1-7, page 14, shows an example of the Console Manager View window.
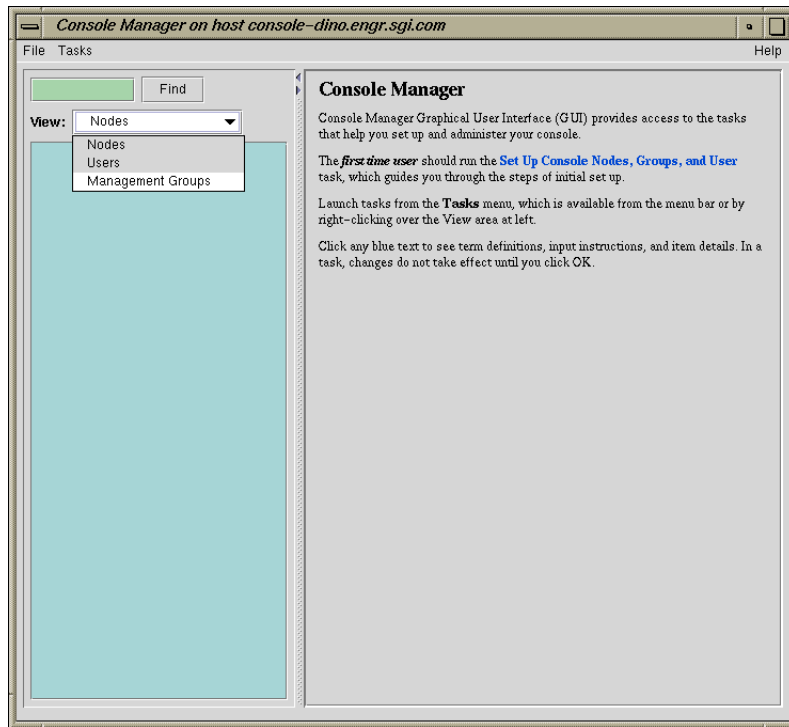
Figure 1-7 Console Manager View

Figure 1-8, page 15, shows an example when a node in the **View** window is selected.
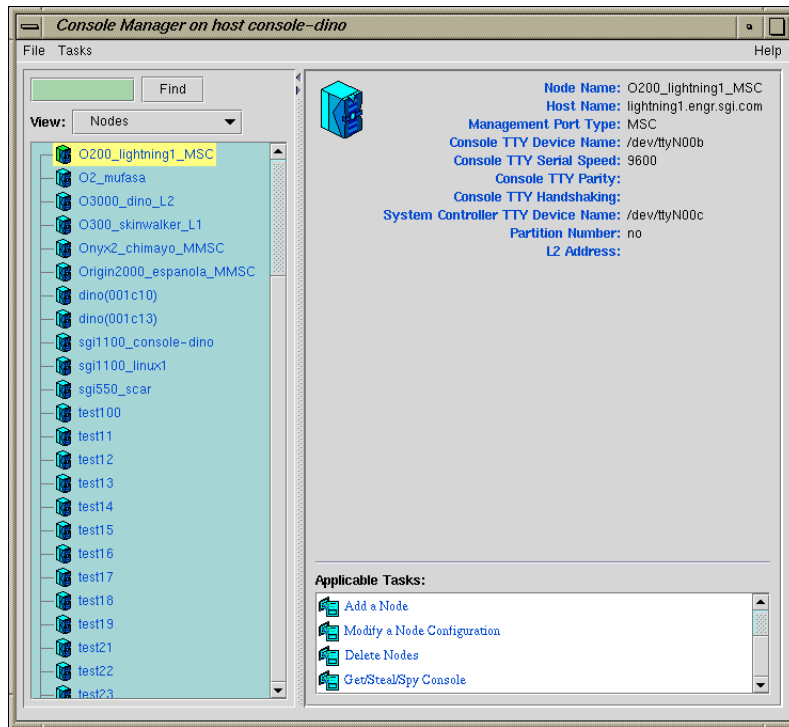
Figure 1-8 Detailed Console View for a Node

Figure 1-9, page 16, shows an example when a user in the **View** window is selected.
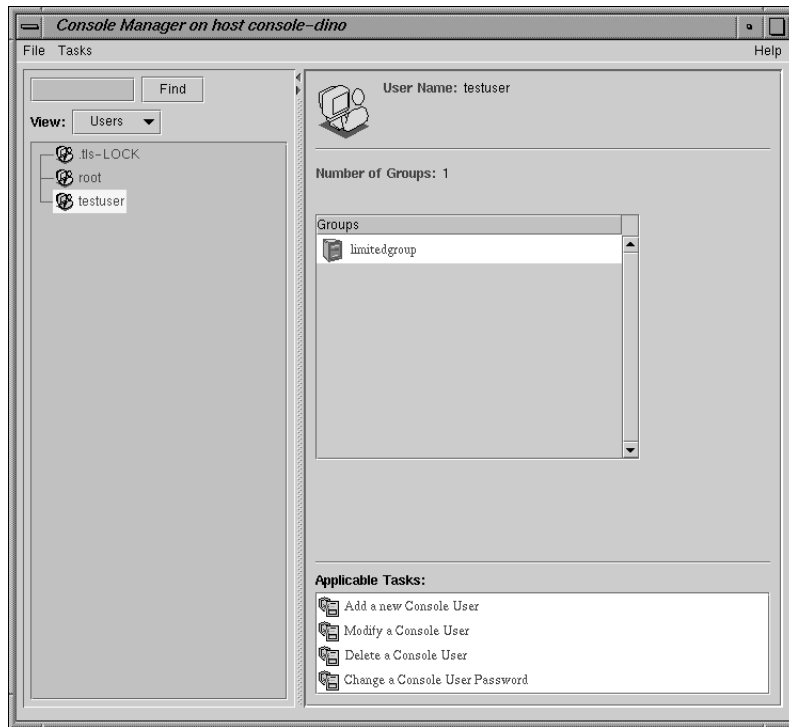
Figure 1-9 Detailed Console View for a User

Figure 1-10, page 17, shows an example when a group in the **View** window is selected.
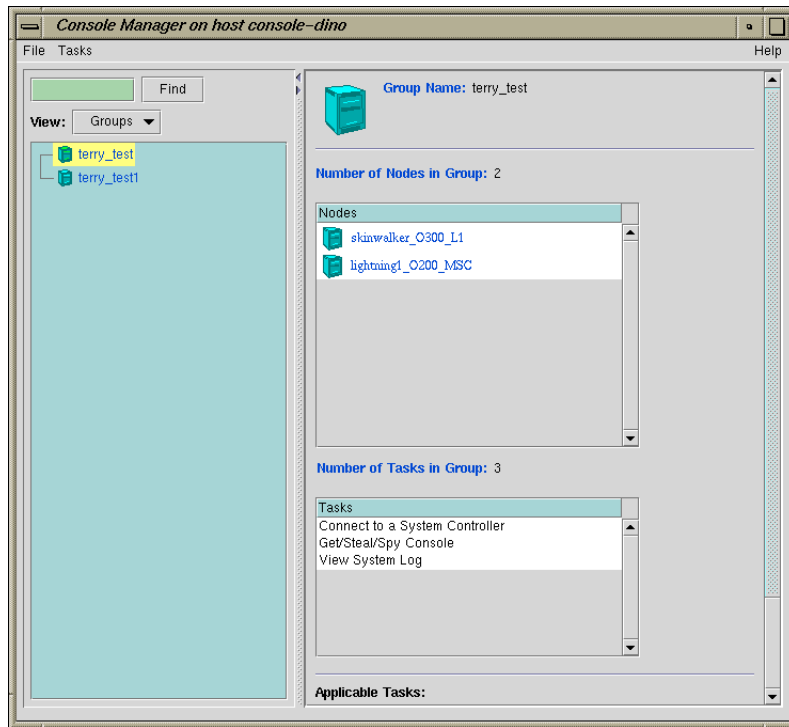
Figure 1-10 Detailed Console View for a Group

The **Find** button helps you to find node and user objects quickly. Figure 1-11, page 18, shows an example of the **Find** button selected for **Nodes** and the **O2_mufasa** node name is entered in the **Find** button field to the left.
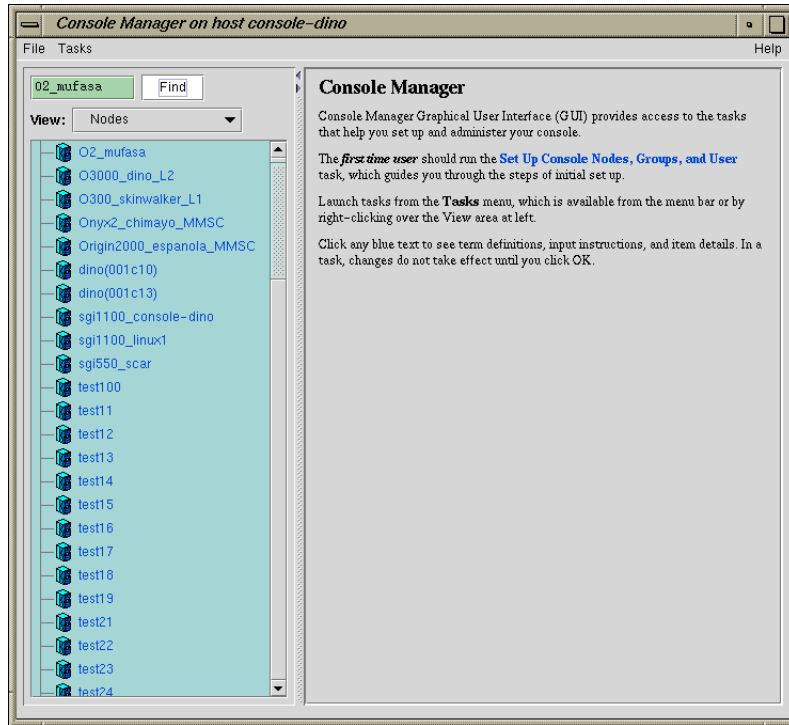
Figure 1-11 Find Button for Nodes and Users

SGIconsole Hardware Configuration

The SGIconsole system is the SGI 1100 server rack-mountable hardware running several pieces of SGI software to manage and monitor the SGI servers and graphic systems. For detailed information about the SGIconsole hardware configuration, see the *SGIconsole Hardware Connectivity Guide*.

Note: SGIconsole ships with the latest `sn1sc_firmware` version available at release. If you later want to connect any new hardware to SGI console, you have to upgrade your `sn1sc` firmware from the SGI Supportfolio website.

Command Line Interface to Console Manager

tscm(1) is a command line interface to Console Manager. It provides an interactive menu-driven environment for performing console, logging, and power control operations on nodes configured in Console Manager.

SGIconsole automatically invokes the tscm(1) command when you successfully log into the SGIconsole server as follows:

  % **telnet -e '' ** *sgiconsole_server*
or, if the login service is reenabled, as follows:

% **rlogin** *sgiconsole_server*

Note: The rlogin(1) service is disabled by the SGIconsole_startup script by changing the /etc/inetd.conf file.

If you are logging into an SGIconsole server as root, telnet or rlogin leads you directly to a shell prompt. To run the text-based interface as root, simply type:

```
[root@sgiconsole_server /root]# tscm
```

The following menu appears:

```
SGIconsole 1.1 Main Menu

1. scons [func] [node]        Connect to System Console
2. ccons [func] [node]        Connect to Controller Console
3. reset [node]               Hardware Reset
4. nmi [node]                 Generate NMI
5. pwr [func] [node]          Power On or Off
6. shell                      Escape to Shell
7. help [command]             Help
8. quit                       Quit
```

When exiting from the Console Manager user interface, the telnet(1) or rlogin(1) session used to log into the SGIconsole server is closed automatically, logging you out of the system.

Commands can be entered as follows:

• An ordinal number representing a choice in the menu displayed, for example, 7 for help.

- The name of the command itself, in full, for example, scons

- The first letter of the command, for example, r for reset.

The tscm(1) command also supports limited recognition of command-line shortcuts as follows:

- You can specify a subcommand (func) along with the command on the command line without having tscm(1) interface provide another menu , for example, scons open.

- You can specify the node argument of the command along with the command on the command line without having tscm(1)interface provide another menu, for example, pwr up eunice

- You can specify the first letter of every command word instead of specifying entire words on the command line, for example, p u eunice

- If you use the first letter of command words, you can concatenate the letters together on the command line, for example, pu eunice

If you do not use these shortcuts, the tscm(1) command provides additional menus for the scons and ccons commands as follows:

```
SGIconsole> scons

SGIconsole 1.1 Console Menu

1. open [node]              Open a Console Connection
2. view [node]              Open a Read-Only Console Connection
3. steal [node]             Steal an Open Console Connection
4. log [node]               Activate Console Logging
5. nolog [node]             De-activate Console Logging
6. return                   Return to Main Menu
```

The tscm(1) command also provides an additional menu for the pwr command as follows:

```
SGIconsole> pwr

 SGIconsole 1.1 Power Menu

 1. up [node]               Power Up (On)
 2. down [node]             Power Down (Off)
```

```
3. return                        Return to Main Menu

Power>
```

The command entry specification for the sub-menus are the same as the main menu. The **Console Menu** is the same for the scons and ccons commands.

The shell command is the only command which does not follow these conventions. It has a special shortcut, sh.

There are additional special shortcuts to the scons open and ccons open commands. The following table shows these special shortcuts.

Special Shortcut	Full command	Standard Shortcut
s	scons open	so
c	ccons open	co
sh	shell	

When specifying nodes, you can either specify nodes along with commands in the command line, or let the tscm(1) command produce a **Node Menu** as follows:

```
Please select from the list of available nodes, or the return option:

1. liz
2. surly
3. snort
4. grunt
5. return                        Return to Main Menu

Node>
```

The list of nodes produced in this menu is context sensitive to:

- The user running tscm(1)

- The command that is about to be applied

The tscm(1) command enforces the access controls that are configured by the root user using the Console Manager GUI. If you are not permitted to apply a particular

command to a node, the node is not displayed in the **Node Menu**. Only the nodes for which you can execute a particular command are displayed.

If there is a long list of nodes displayed in the Node Menu, the menu is piped through the more(1) to allow you to see the list of nodes without having to use a scrollable terminal. Press the space bar to see more nodes in the menu, or press **q** to stop listing the nodes and get to a **Node>** prompt to specify a node.

The tscm(1) command checks its commands and menu selections to ensure that a node specified is one that you can select. If you attempt to select a node that cannot be a target for a given command, one of the following messages appear:

```
Node> flip
```

```
               Node "flip" is not selectable; the node is not defined.
               Node>
```
or

```
Node> liz
```

```
               Node "liz" is not selectable;
               you do not have enough privileges
               to use the command on this node.
               Node>
```

The tscm(1) command relies on the SGIconsole server to report errors and other status messages. These messages are displayed by tscm(1) when an error condition or other status condition worthy of attention has been detected, but the messages are determined by the SGIconsole server itself, not by the tscm(1) command. Usually, these are the same messages that the Console Manager GUI would produce. Errors may appear because of connection failures to nodes or other connection issues that SGIconsole needs to alert you to.

Configuring Console Manager

This chapter describes various tasks you must perform to install and configure Console Manager software. It contains the following sections:

- "Installing Console Manager", page 23
- "Starting the Console Manager Graphical User Interface on the SGIconsole Server", page 23
- "Quitting the Console Manager Graphical User Interface", page 25
- "Installing and Configuring a Console Manager Client", page 27
- "Access Controls in Console Manager", page 30
- "Adding a Console User", page 34
- "Adding Multiple Users", page 37
- "Modifying a Console User", page 39
- "Deleting a Console User", page 40
- "Changing A Console User Password", page 41

Installing Console Manager

For information on how to install the Console Manager and the rest of SGIconsole software, see *SGIconsole 1.1 Start Here*.

Starting the Console Manager Graphical User Interface on the SGIconsole Server

Procedure 2-1 Starting the Console Manager Graphical User Interface on the SGIconsole Server

To start the Console Manager GUI, follow these steps:

1. Make sure the SGIconsole machine, in which Console Manager resides, the servers and graphics systems supported by SGIconsole, and the Silicon Graphics

Ethernet serial port server are cabled as described in the *SGIconsole Hardware Connectivity Guide*.

2. Make sure all systems are powered on.

3. If you are running as root, to set your DISPLAY variable enter the following command:

   export DISPLAY=*hostname.engr.sgi.com:0.0*

   If you are **not** running as root, to set your DISPLAY variable enter the following command:

   setenv DISPLAY *hostname*.**engr.sgi.com:0.0**

4. To start the Console Manager graphical user interface (GUI), you can use the SGIconsole web page interface or enter the following command in any window:

   %/usr/bin/scmgr

The Console Manager GUI appears, as shown in Figure 2-1, page 25.
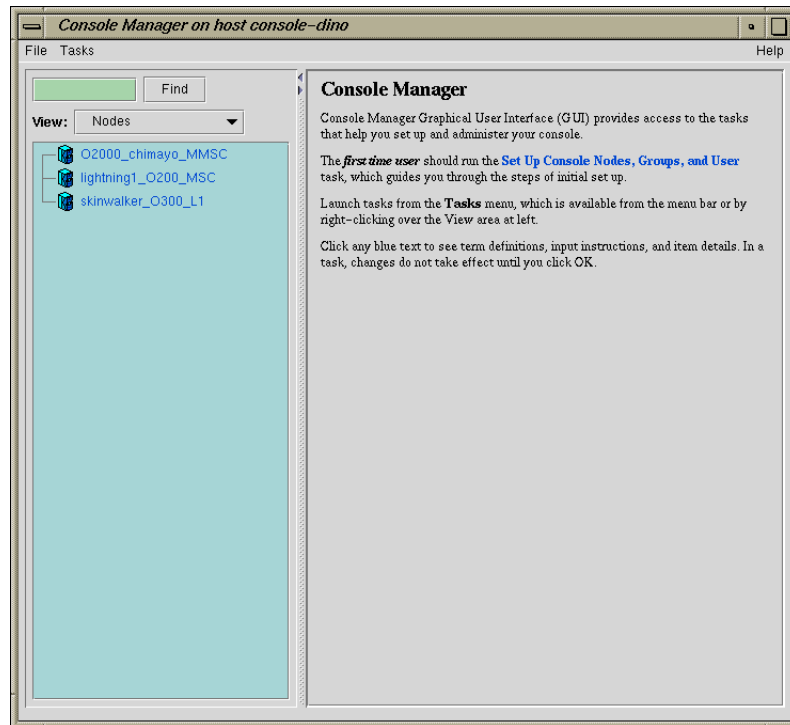
Figure 2-1 Console Manager Graphical User Interface Main Window

Quitting the Console Manager Graphical User Interface

Procedure 2-2 Quitting the Console Manager Graphical User Interface

To quit the Console Manager GUI, perform these steps:

1. From the **File** pulldown menu, choose **Exit**, as shown in Figure 2-2, page 26.
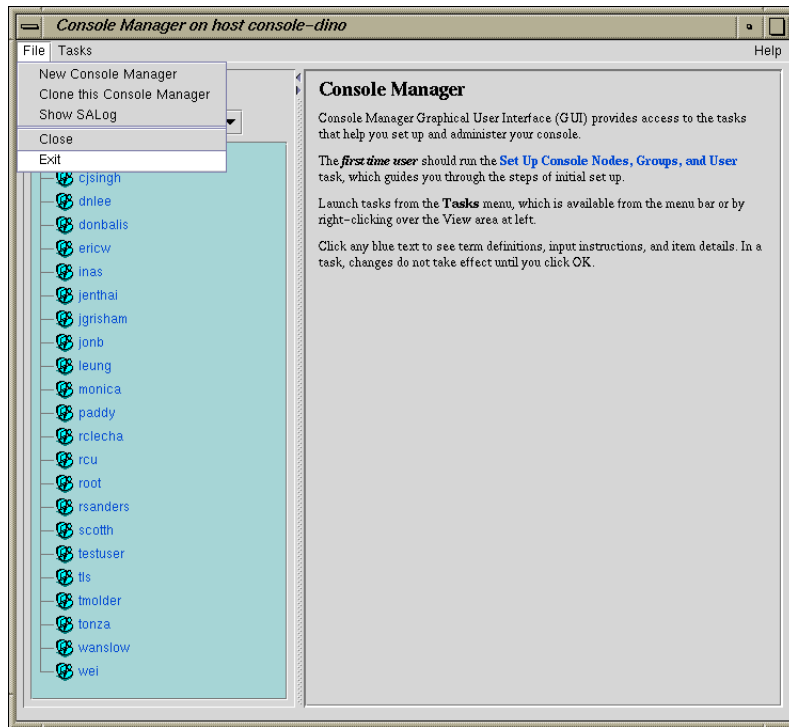
Figure 2-2 Quitting Console Manager

A confirmation message dialog box appears, as shown in Figure 2-3, page 26.
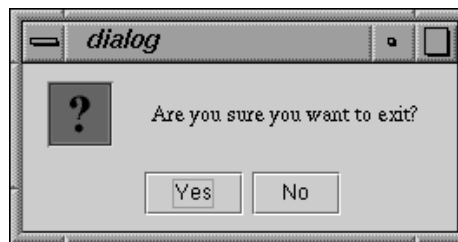
Figure 2-3 Software Control Confirmation Message Dialog Box

2. Click the **Yes** button.

Installing and Configuring a Console Manager Client

This section provides information on how to install and configure a Console Manager client for systems running the IRIX, Linux, or Windows operating system.

As with all Java applications, the performance of the Console Manager is affected by the performance of the machine you are running it on, as well as the implementation of the Java virtual machine used to run it.

If you run multiple invocations of Console Manager on the SGIconsole server, it can reduce the performance of all Console Managers running on the server and jeopardize all other SGIconsole services because every invocation of Console Manager for each user logged in, requires many instances of java(1) or jre(1) running on a single-processor machine. Running many instances of Java consumes system resources and can result in severely limiting the capacity of the server.

In addition, running Console Manager so that the display appears on a remote X server limits the graphics performance of the Console Manager because the network can become a bottleneck for sending display data to the remote X Server.

Running Console Manager client on machines other than the SGIconsole server itself, provides increased accessibility to the Console Manager GUI.

It is recommended that you run the Console Manager client on machines that are comparable in performance to the SGIconsole server itself, that are not heavily loaded with other processes, and that have ample memory resources.

This section covers the following topics:

- "Installing and Running Console Manager", page 27

- "Running Console Manager Client on Windows", page 29

- "Changing the MS-DOS Environment Size", page 29

Installing and Running Console Manager

This section describes how to start the Console Manager GUI for SGIconsole on a client machine and covers the following topics:

- "`cmgr` Script and `CMGR.BAT` Batch File", page 28

- "Requirements", page 28

- "Running Console Manager Client on IRIX or Linux", page 28

`cmgr` Script and `CMGR.BAT` Batch File

To start the Console Manager GUI for SGIconsole on a client machine instead of on the SGIconsole server machine, use the `cmgr` script for systems running IRIX or Linux and use the `CMGR.BAT` batch file for systems running Windows.

Requirements

To install the Console Manager client software, all that is necessary is that the `ConsoleManager-Client` directory on this CD be copied to anywhere on the filesystem of the client machine, as long as the directory structure inside the `ConsoleManager-Client` directory remains intact.

To use the Console Manager on a client machine, the client machine must be as follows:

- An SGI workstation running IRIX 6.5 or later, and Java 1.1.8 for IRIX.

- a Pentium-based PC running Red Hat Linux 6.2, and IBM's Java 1.1.8 for Red Hat Linux 6.x.

- a Pentium-based PC running Windows 95, 98, NT 4.0 or 2000, and Sun Microsystems' Java 1.1.8 for Windows.

Java 1.1.8 must also be installed on the client machine, either via the Java Runtime Environment (JRE) or the Java Development Kit (JDK). All JREs supported for use with SGIconsole are provided on the SGIconsole CD (the IBM Java 1.1.8 RPM can be found in the directory `/SGI/RPMS` on this CD).

Running Console Manager Client on IRIX or Linux

To run the Console Manager on the client machine, enter the following:

```
% cd ConsoleManager-Client
% cmgr &
```

`ConsoleManager-Client` is the directory that has been copied from the SGIconsole CD to start the Java application.

Note: You must change directory to where the `cmgr` or `CMGR.BAT` scripts exist on your filesystem, otherwise `cmgr` will not be able to find the required Java jar archives.

Running Console Manager Client on Windows

To run the Console Manager using the Windows Explorer, perform the following:

- Locate the `CMGR.BAT` script on your filesystem

- Perform this one-time setup, since the working directory needs to be set in the MS-DOS environment in order for `CMGR.BAT` to find the required Java jar files:

    – Right-click the **CMGR.BAT** icon and select **Properties** in the pop-up menu

    – Select the **Program** tab

    – Enter the same path in the **Working** field as it exists in the command line field, excluding `CMGR.BAT` at the end of the field.

    – Click on the **OK** button in the dialog box.

- Double-click on the icon to run the script in a virtual MS-DOS session.

Note: For Windows 95, 98, Me systems, it may be necessary to change the amount of environment memory assigned to MS-DOS sessions for `CMGR.BAT` to function properly (see "Changing the MS-DOS Environment Size", page 29)

Changing the MS-DOS Environment Size

To change the MS-DOS environment size, perform the following steps:

- Right-click the **CMGR.BAT** icon in Windows Explorer and select **Properties** in the pop-up menu

- Select the **Memory** tab

- Select the **Initial Environment** field's pop-up menu, and select a value of 1024 bytes or more

If the `CMGR.BAT` file is in deeply nested directories, a larger amount of environment memory may need to be assigned.

If you do not see a **Memory** tab in the properties window, then Windows manages this memory automatically.

Other properties can be set for `CMGR.BAT` as desired.

Access Controls in Console Manager

Access controls in SGIcosole prevent users from issuing unauthorized operations to the Console Manager server.

All Console Manager operations that can be operate on nodes can be protected using Console Manager's access control mechanism.

This section describes the following topics:

- "Setting up Access Controls", page 30

- "Seeing the Effects of Access Controls to Nodes and Tasks", page 32

Setting up Access Controls

Console Manager supports the concept of *groups*. A group is a list of nodes that a user has can access and the list of tasks that a user can apply to any node in the list of nodes. A user can be a member of more than one group, thus providing access to a union of particular named sets of access controls.

If a user is not assigned to any group, the user has access to all nodes configured in Console Manager and can apply any task to any node.

There are some tasks that only root console user can perform. These tasks are specifically for the administration of Console Manager. These tasks are as follows:

- **Add a Node**

- **Add a New Console User**

- **Modify a Console User**

- **Delete a Console User**

- **Add Console Users**

- **Add a Management Group**

- **Modify a Management Group**

- **Delete a Management Group**

The following task can be performed by either a root user or the owner of the user account:

- **Change a Console User Password**

Availability of all other tasks are governed by access controls.

Note: A Console Manager root user has access to all tasks. If you are the root user, you can never assign any access controls yourself.

To apply access controls to users, as Console Manager root user, you need to peform the following:

- Use the **Add a Node** task to create nodes, if they do not already exist.

- Use the **Add a Management Group** task to create a new management group

- Use the **Add a New Console User** task to create new users, unless you want to apply access controls to existing users

- Use the **Modify a Console User** task to associate the newly created groups toexisting users.

- Use the **Set up Console Nodes, Groups, and Users** task to be guided through the steps.

The **Add a Management Group** task dialog is where new management groups are created (see "Adding a Management Group", page 59).

Console Manager also provides controls to change existing group definitions, delete groups and to disassociate groups from existing users. Console Manager automatically keeps track of user and group associations. If a group is removed, the association of users with that group is also removed. The processes of changing groups and group assignments are easy to understand and execute. Everything required to administer groups is available using the following **Management Group** set of tasks:

- "Adding a Management Group", page 59

- "Modify A Management Group", page 61

- "Deleting a Management Group", page 63

Seeing the Effects of Access Controls to Nodes and Tasks

When you log in and access controls are in force, you may notice the following:

- The list of available nodes may be reduced in the **Nodes** view of the Console Manager window.

- The list of available tasks may be reduced in the **Applicable Tasks** list of the **Nodes** view of the Console Manager window.

- Some tasks may return dialog boxes that state the user does not have permissions to apply particular tasks to nodes.

Gaining Console Access without Using an X Server

This section describes how to get to a console from a Windows installation that does not have an X Window system server installed.

Microsoft Windows does not provide X Window system services without additional third party software. Normally, the X Window system is required for SGIconsole to be able to make a connection to your display using the xterm(1) client application whenever SGIconsole is instructed to open a console connection to a node.

If you do not have an X Window system server running on your system, you cannot use xterm(1) to connect to your display. However, you can still connect to a console managed by SGIconsole by using the Windows telnet application (TELNET.EXE) to log into the SGIconsole server directly to use the text-based interface to SGIconsole.

Procedure 2-3 Making a Telnet connection to the SGIconsole Server

In order to gain access to a console from within Windows, run the telnet application, and open a connection to the SGIconsole server using the **Remote System...** item in the **Connect** menu. The the login prompt appears as follow:

```
Red Hat Linux release 6.2 (Zoot)
Kernel 2.2.16-4SGI_39 on an i686
login: _
```

After you login the following menu appears:

```
===============================================================

   Welcome to SGIconsole 1.1

   To learn about the SGIconsole 1.1 release, its new features,
   changes, known problems, and workarounds, read this file:
     /usr/doc/SGIconsole-1.1/README

   If configuring the system for the first time, refer to
   SGIconsole Start Here for guidance.
```

If `tscm(1)` is configured to start automatically on your system, the following text appears:

```
Automatically starting SGIconsole (to get to a shell,
enter 6 at the command line prompt).
```

The text-based console interface follows:

```
SGIconsole 1.1 Main Menu

1. scons [func] [node]         Connect to System Console
2. ccons [func] [node]         Connect to Controller Console
3. reset [node]                Hardware Reset
4. nmi [node]                  Generate NMI
5. pwr [func] [node]           Power On or Off
6. shell                       Escape to Shell
7. help [command]              Help
8. quit                        Quit

SGIconsole>
```

You can use the `scons` and `ccons` commands to obtain consoles to available nodes, which will appear within the telnet session.

For more information on using the `tscm` text-based interface to SGIconsole, see "Command Line Interface to Console Manager", page 19 and the `tscm(1)` man page.

Adding a Console User

Procedure 2-4 Adding a Console User

This task allows you to create a console user. This task is only executable by the root console user. You must specify a user name.

If you are adding a new user that does not exist as a system user or NIS user, a password is required.

If you are adding a user that exists as a system user or NIS user, a password is optional.

Both the name and the password must not be longer than 8 characters.

SGIconsole access control is accomplished through groups. A user can belong to 0 to n groups. If no group is assigned, the user has access to all nodes and tasks.

To verify a user's privilege, click on the user on the tree view panel. Group tasks and user tasks (except change user password) are only executable by the root user. If a user attempts to execute a task for which they do not have privilege, a dialog box appears to inform the user they are not authorized to perform the task. A user can only view nodes on which the user has privilege to work.

⚠ **Caution:** When adding, modifying, or deleting users from Console Manager, the UID_MIN value is set to a value of 500 or greater in the /etc/login.defs configuration file on the SGIconsole machine.

When loading user accounts via Network Information Service (NIS), a site may have users with UIDs below the UID_MIN of 500. Console Manager returns an error for these users.

To avoid this problem without changing the affected users NIS accounts, perform the following:

- Add the users with UIDs causing errors manually after all NIS users have been added. These users, however, will have different UIDs in SGIconsole than on the rest of the network.
- Manually change the UID_MIN and GID_MIN values in /etc/login.defs to be less than the lowest UID to be added for SGIconsole access. This can interfere with existing priviledged accounts on the SGIconsole system

To create a group, use the **Add a Management Group** task (see "Adding a Management Group", page 59).

To add a Console user, follow these steps:

1. From the **Tasks** menu, choose the following, as shown in Figure 2-4, page 35.

   Console Users Tasks
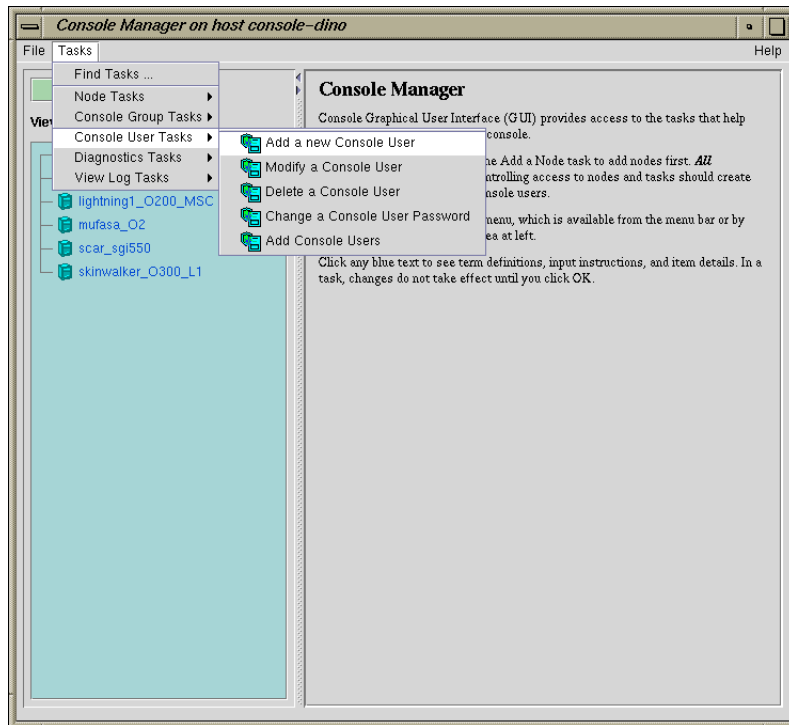   **> Add a new Console User**

Figure 2-4 `Add a new Console User` Task

2. The **Add a new Console User** dialog box appears, as shown in Figure 2-5, page 36.

   Note: In every Console Manager task, you can click any blue text to see instructions on how to fill in a field.
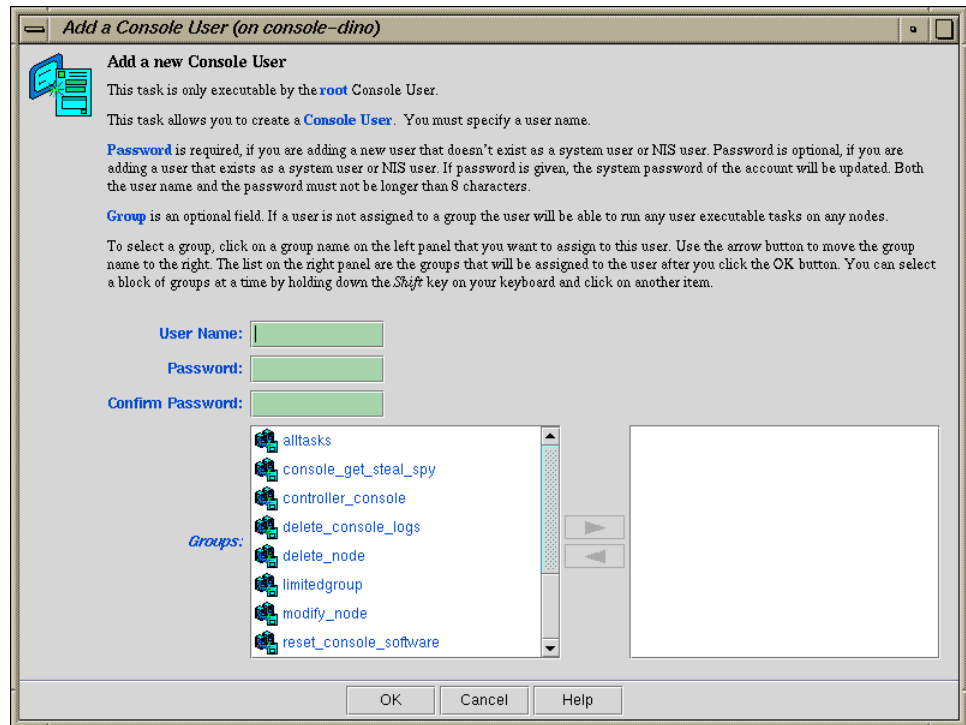
Figure 2-5 Add a new Console User

3. Enter the new user's login and password.

4. Click on the group names in the left field which you want to assign to this user. Use the arrow button to move the group name to the right field.

   Note: You can select a block of groups at a time by holding down the Shift key on your keyboard and clicking on another item.

5. Click the **OK** button.

   You will get an error message if the task fails.

   The user icon entry appears on the **View** panel.

Adding Multiple Users

Procedure 2-5 Adding Multiple Users

This task allows you to add multiple users at the same time. This task is only executable by the root console user. The new users are modeled after the **Template User**. The list of new console users are listed in the Console users file residing on either the SGIconsole server on some other machine accessible by the SGIconsole server.

1. From the **Tasks** menu, choose the following, as shown in Figure 2-4, page 35.

   Console Users Tasks
   > Add Console Users

2. The **Add Console Users** dialog box appears, as shown in Figure 2-6, page 37.
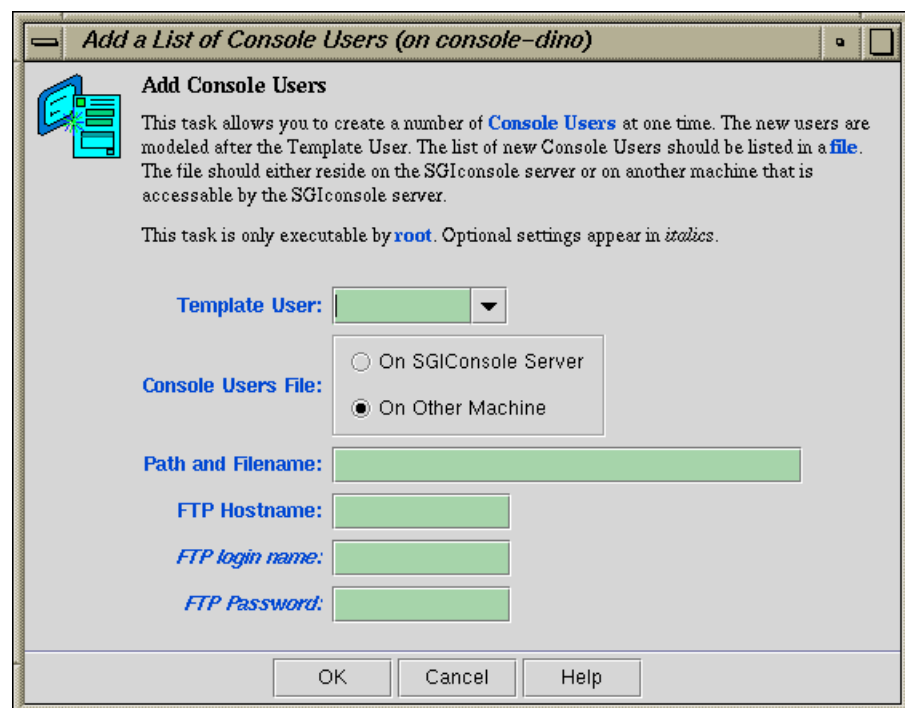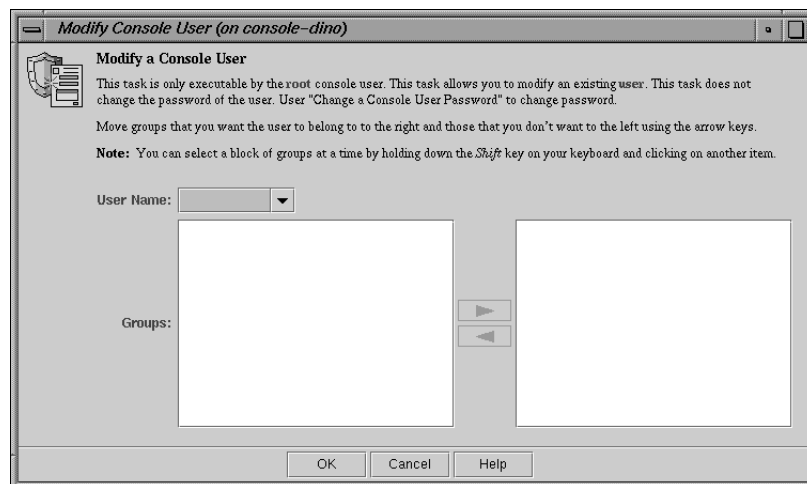

Figure 2-6 Add Console Users Dialog Box

3. In the **Template User** field, select the template account you wish to use.

   The template user field specifies an existing account from which to copy group and password information within SGIconsole's user database. The group list and password are copied to all new accounts specified and accepted in the user list file. It is assumed that this "template" user account has already been created before importing user lists. The root account cannot be used as the template account.

4. In the **Console Users File** field, select `On SGIconsole` server or `On Other Machine`.

   The file format for importing a list of users is a simple list of user names, each name on its own line. Comments are supported, as long as the # character appears as the first character of the line. Empty lines (or lines with only white-space) are ignored. User names longer than 8 characters are not accepted (although it does not terminate processing of the file). An example is as follows:

   ```
   #  Sample import list file
   jack
   may
   faith
   zoe
   ```

   The option to read user lists from a file on the SGIconsole server requires that the file exists on the filesystem of the SGIconsole server; specifying the FTP server, username and password is not required

5. In the **Path and Filename** field, enter the path and name of the file containing the user list.

6. In the **FTP Hostname** field, enter the FTP hostname.

7. In the **FTP login name** field, enter your login name.

8. In the **FTP Password** field, enter your password.

9. Click the **OK** button.

Modifying a Console User

Procedure 2-6 Modifying a Console User

This task allows you to modify a console user. This task is only executable by the root console user. You must specify the user name. You can use this task to change the groups to which a user belongs.

To modify a Console user, follow these steps:

1. From the **Tasks** menu, choose the following, as shown in Figure 2-7, page 39.

   Console Users Tasks
       > Modify a Console User

2. The **Modify a Console User** dialog box appears, as shown in Figure 2-7, page 39.

Figure 2-7 Modifying a Console User Dialog Box

3. Enter the user's login name

4. Click on the group names in the left field which you want to assign to this user. Use the arrow button to move the group name to the right field. Click on the group names in the right field from which you want to remove this user. Use the arrow button to move the group name to the left field.

Note: You can select a block of groups at a time by holding down the Shift key on your keyboard and clicking on another item.

If the user is **not** assigned to any group, the user has access to all Console Manager tasks (except for administration tasks that only the root user can perform) for every node defined in the system. This provides the same access rules as those originally provided in the SGIconsole 1.0 release.

Note: Removing all group memberships for a user effectively removes all access permissions on selected nodes and tasks for that user.

5. Click the **OK** button.

   You will get an error message if the task fails.

Deleting a Console User

Procedure 2-7 Deleting a Console User

This task allows you to delete a user. The task is executable only by the root console user and you must specify the root password. This task only removes this user from the Console user list. If you select the **Also Delete User Account**, you also delete the user account.

To delete a Console Manager user, follow these steps:

1. From the **Tasks** menu, choose the following:

   Console Users Tasks
   > **Delete a Console User**

2. The **Delete a Console User** dialog box appears, as shown in Figure 2-8, page 41.
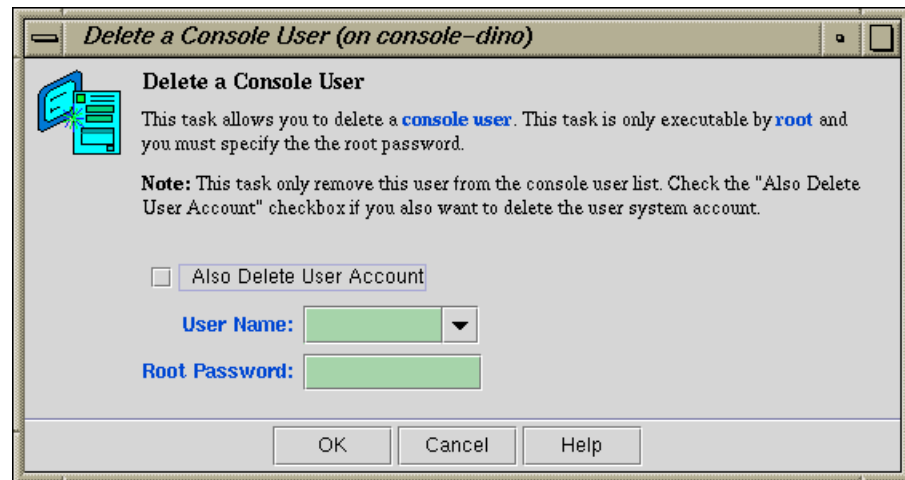
Figure 2-8 Delete a Console User Dialog Box

3. Enter the user name.

4. Click the **Also Delete User Account** button is you also want to remove the user account

5. Enter the root password.

6. Click the **OK** button.

   You will get an error message if the task fails.

   The user icon entry is removed from the **View** panel.

Changing A Console User Password

Procedure 2-8 Changing a Console User Password

This task allows you to change a console user password. It can be executed by any console user.

To change a console user password, follow these steps:

1. From the **Tasks** menu, choose the following:

Console Users Tasks
> **Change a Console User Password**

2. The **Change a Console User Password** dialog box appears, as shown in Figure 2-9, page 42.
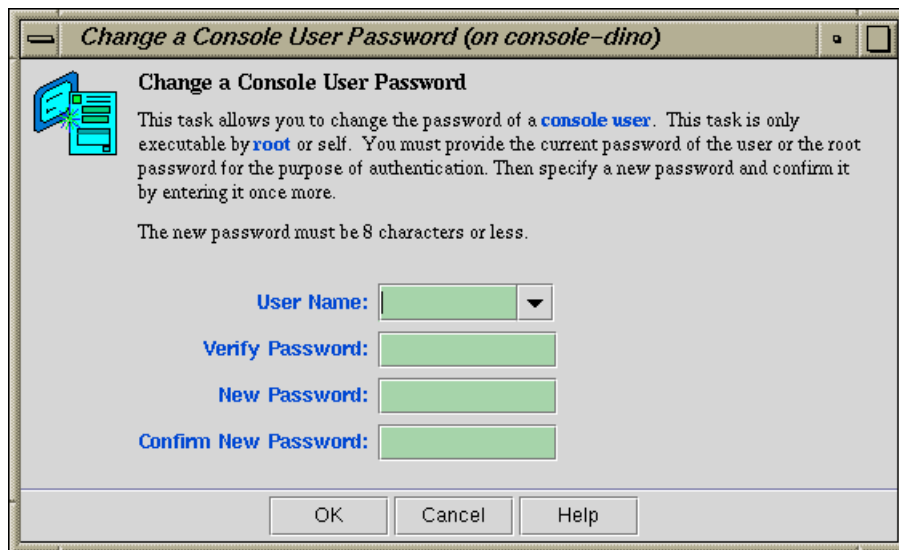
Figure 2-9 Change a Console User Password Dialog Box

3. Enter the your user name, your current password, and your new password.

4. Click the **OK** button.

   An error message appears if the task fails.

Configuring Sites

This chapter describes various tasks you must perform to complete the initial configuration your site. It contains the following sections:

- "Guided Configuration for Setting up Console Nodes, Groups, and Users", page 45

- "Adding a Node", page 48

- "Deleting Nodes", page 55

- "Modifying a Node Configuration", page 57

- "Adding a Management Group", page 59

- "Modify A Management Group", page 61

- "Deleting a Management Group", page 63

Guided Configuration for Setting up Console Nodes, Groups, and Users

This task leads you through the steps to create Console Manager nodes, groups, and users. All Console tasks, including the tasks grouped together in this task, can be launched from Console Manager.

Note: In every Console Manager task, you can click any blue text to see instructions on how to fill in a field.

As you create components on your system, you can use the **Nodes**, **Users**, and **Groups** view in the Console Manager window for visual feedback of your progress (see "Console Manager View", page 13).

To add a nodes, groups, and users to Console Manager, follow these steps:

1. From the **Tasks** pulldown menu, choose the following, as shown in Figure 3-1, page 46.

Guided Configuration
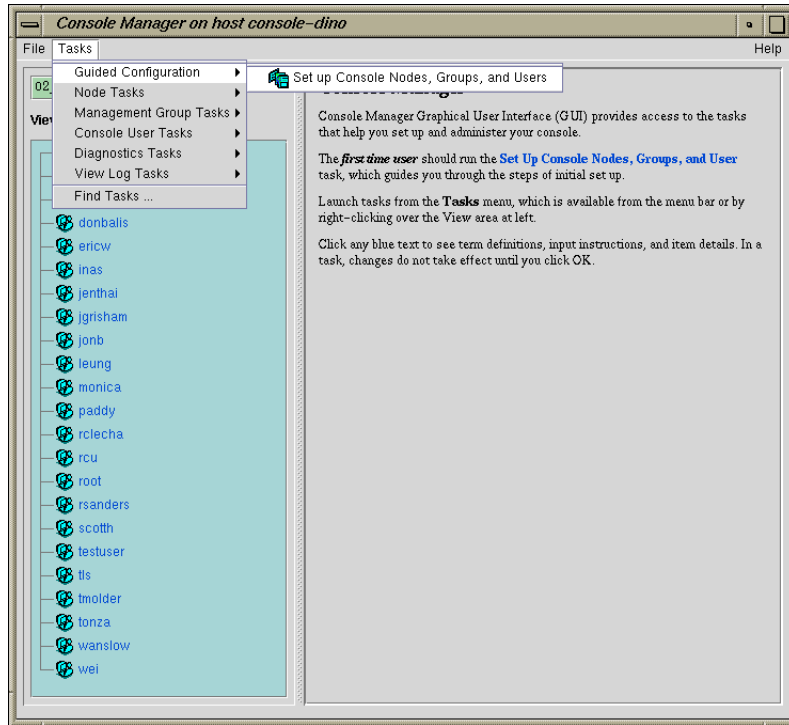   **> Set up Console Nodes, Groups, and Users**

Figure 3-1 Guided Configruation for Setting up Nodes, Groups, and Users

The **Set up Console Nodes, Groups, and Users** dialog box appears, as shown in Figure 3-2, page 47.
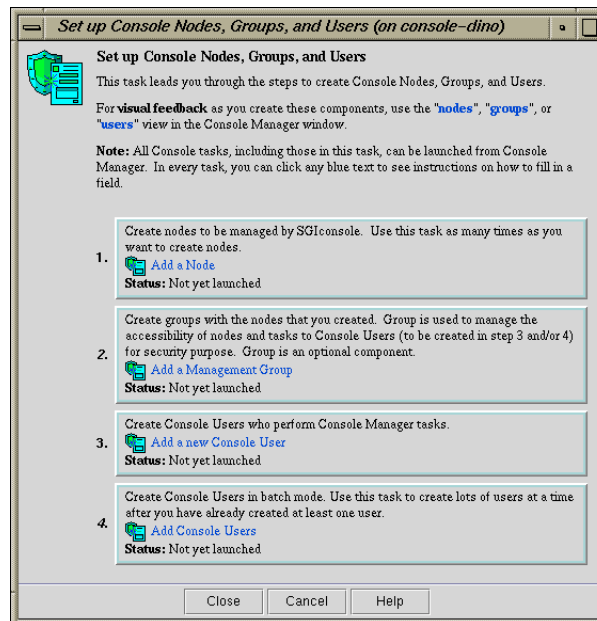
Figure 3-2 Set up Console Nodes, Groups, and Users Dialog Box

2. Perform the following steps:

   a. Click on the **Add a Node** button. For information on this task, see "Adding a Node", page 48.

   b. Click on the **Add a Management Group** button. For information on this task, see "Adding a Management Group", page 59.

   c. Click on the **Add a new Console User** button. For information on this task, see "Adding a Console User", page 34.

   d. Click on the **Add Console Users** button. For information on this task, see "Adding Multiple Users", page 37.

   An error message appears if a task fails.

   An icon entry appears on the **View** panel when adding users, groups, and nodes.

3. Click the **Close** button.

Adding a Node

Procedure 3-1 Adding a Node

This task lets you define a new node. The task is executable only by the root console user. After defining the node, you can use Console Manager to perform functions such as reset, power up, power down, get console, and spy console by running tasks from the **Node Tasks** pulldown menu.

The following tables shows which fields are required for various node types (see step 2 for more information on node types):

Node Type	Fields Required
All Nodes	Node name, user name, hostname for this node
L2	Partition number, L2 address
L1	System Controller TTY device name
MSC	System controller TTY device name, console TTY device name, system controller password (optional), Serial speed.
MMSC	System controller TTY device name, system controller password (optional).
No Management Port (Console Only)	**No Management Port (Console Only)** supports console connections to servers that are not from SGI. This management port type appears in the **Nodes** view as SCO (Serial Console Only).

To add a node to Console Manager, follow these steps:

1. From the **Tasks** pulldown menu, choose the following, as shown in Figure 3-4, page 50.
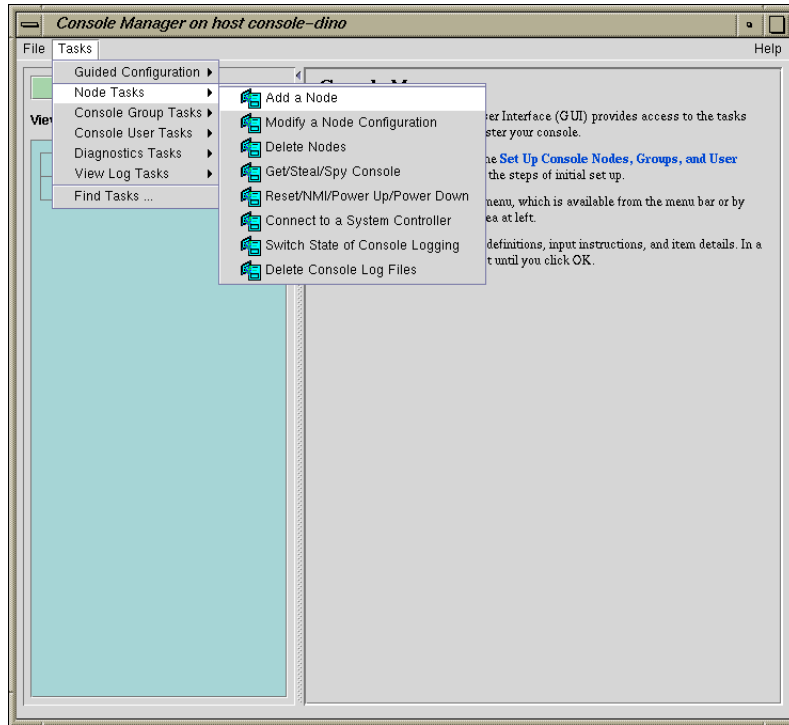
Node Tasks
   > Add a Node

Figure 3-3 Node Tasks Pulldown Menu

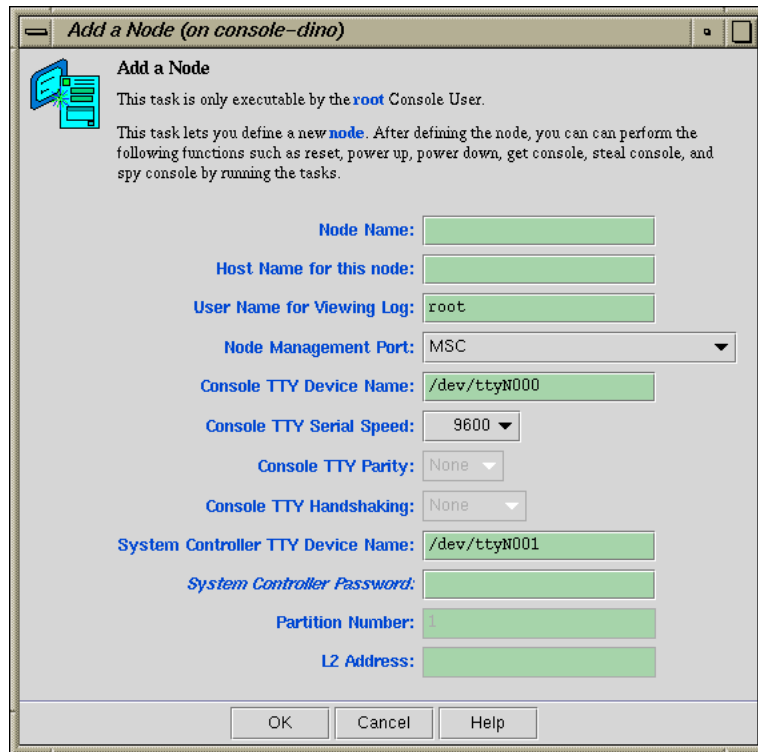The **Add a Node Dialog** dialog box appears, as shown in Figure 3-4, page 50.

Figure 3-4 Add a Node Dialog Box

2. In the **Add a Node** Dialog Box fields, add the following information:

   - **Node Name:** The name you want to assign to this node, such as lightning1.

   - **Host Name for this node:** Hostname of the node you are defining, such as mynode.company.com.

     The host name is for rsh access to the node managed by the Console Manager. This host name is not the same as the SGIconsole host name but may be the same as the node name assigned in the **Node Name** field. You need a .rhosts entry for the SGI 1100 system on the target system.

   - **User Name for Viewing Log:** Example: root user. This user name is used to log into the node to obtain the logs to display, such as the system logs (syslog) of the server and the system controller logs of the server.

- **Node Management Port:** From the **Node Management Port** pulldown menu (see Figure 3-5, page 53) choose one of the following node types:

Note: When you select a type, the non–applicable fields are deactivated.

Note: Console Manager supports the following nodes: SGI Origin 200, SGI Origin 2000, Silicon Graphics Onyx2, SGI Origin 300, SGI Origin 3000, SGI Origin 300 with a NumaLink module and a Silicon Graphics Onyx 3000. Any node that does not support MMSC, MSC, L1 or L2 protocols will not work, with the exception of SCO (Serial Console Only) connections.

Console connections to servers that are not from SGI are supported by the **No Management Port (Console Only)** management port type.

- **02000 Single Module (MSC)** SGI Origin 2000 system with a single module System Controller (MSC)

- **02000 Rackmount Module (MMSC)** SGI Origin 2000 rackmount system with a multimodule System Controller (MMSC)

- **0200 (MSC)** SGI Origin 200 system with MSC

- **03000 (L2)** SGI Origin 3000 system with rack-level L2 system controllers

- **0300 (L1)** SGI Origin 300 system with an L1 system controller or an SGI Origin 3200C system with an L1 system controller

- **No Management Port (Console only)** supports console connections to servers that are not from SGI. This management port type appears in the **Nodes** view as SCO (Serial Console only).

  Once a node using this port type is defined, accessing consoles is the same as accessing consoles for nodes of other management port types, except for the following:

  - SCO does not support controller consoles and controller console logging, since it is assumed that there is no controller to contact.

  - SCO provides support for serial communications using 8 data bits, 1 stop bit, under a wide selection of serial port speeds from 50 bps to 115200 bps (all selectable speeds common to Linux and IRIX). Parity

and handshaking parameters for the serial port connection can also be specified.

- Power and reset functions are disabled under SCO, since this support requires a controller (in which case, another management port type will need to be used).

- SCO supports the terminal BREAK signal. The reception of the command used to issue this signal is recognised for both telnet(1) and non-telnet client connections (SGIconsole uses telnet(1) client connections to connect to consoles).

To use the SCO management port type, connect the device for which you want console access to an available port on your multiplexer and configure SGIconsole to use a serial port device (/dev/ttyNxxx) that corresponds to the port used on the multiplexer. You also need to provide the required serial port settings and other parameters, such as, node name and other corresponding network and identification information for the device.
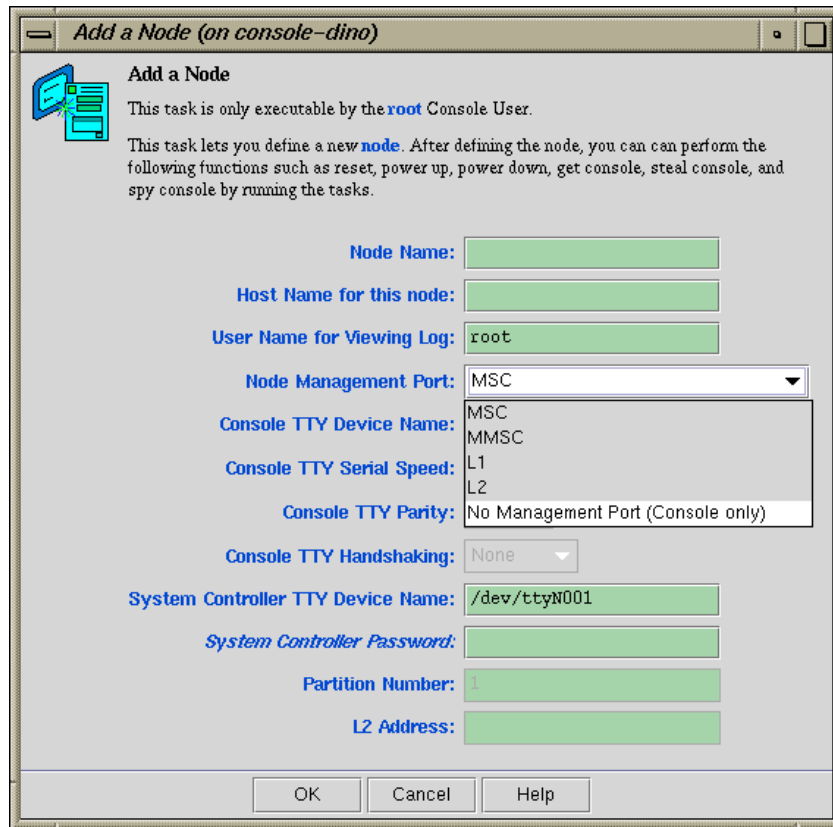
Figure 3-5 Node Management Port Pulldown Menu

- **Console TTY Device Name:** The device name of the port that is connected to the console port on the node, such as `/dev/ttyN011`, which would be port 12 on the EL-16 unit. This field is not applicable for L2 management port type.

- **Console TTY Serial Speed:** If you selected the **02000 Single Module (MSC)** or **0200 (MSC)** Management Port type from the pulldown menu, select one of the following baud rates: 300, 1200, 2400, 4800, 9600, 19200, 38400, or 57600, as shown in Figure 3-6, page 54.
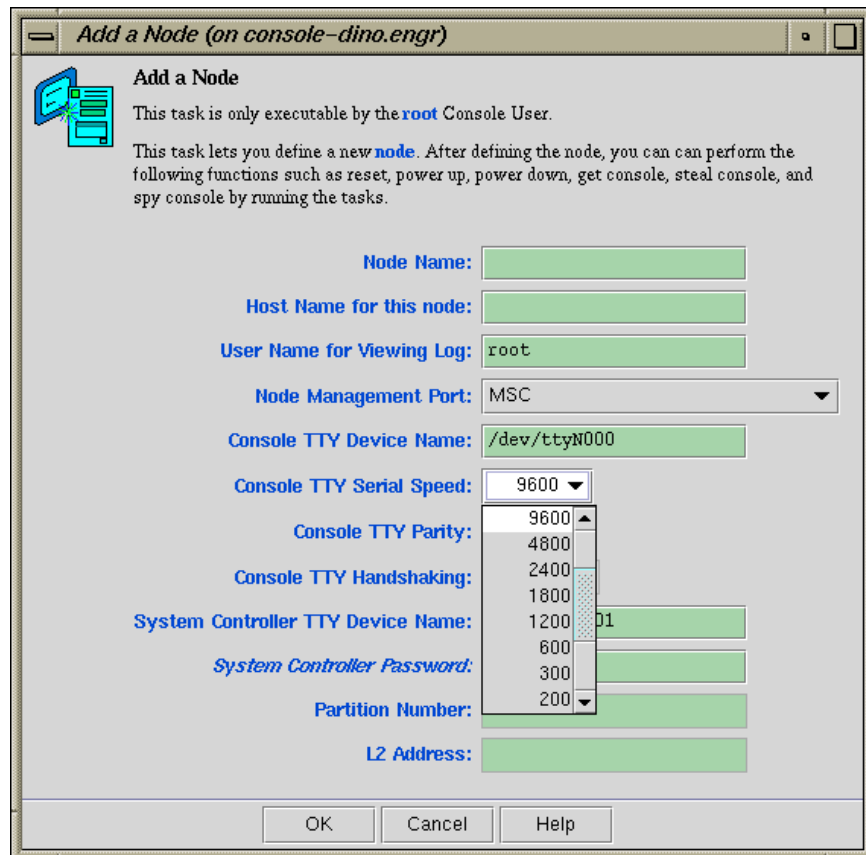
Figure 3-6 Console TTY Serial Speed: Pulldown Menu

For MMSC and L2 Management Port types, this field is disabled.

- **Console TTY Parity:** For serial ports, the parity of the signal and the mode of handshaking (and speed) has to be set match the device. For L1, L2, MSC, MMSC connection types, this field is grey because the value is known by default. If you wanted to add an L2 management port type as a serial only node, you would set the parity and handshaking as follows:

  - Speed: 38400

  - Parity: None

- Handshakeing: RTSCTS

- **Console TTY Handshaking:** For serial ports, the parity of the signal and the mode of handshaking (and speed) has to be set match the device. For L1, L2, MSC, MMSC connection types, this field is grey because the value is known by default. For more information, see the **Console TTY Serial Parity:** field description.

- **System Controller TTY Device Name:** Name of the terminal port (TTY) on the EL-16 unit to which the system controller is connected, such as /dev/ttyN012. The other end of the cable connects to this node's system controller port, so the node can be controlled remotely by the other node.

- **System Controller Password:** The password for the system controller port, **not** the node's root password or PROM password. On some machines, the system administrator may not have set this password. If you wish to set or change the system controller port password, consult the hardware manual for your node.

- **Partition Number:** Uniquely defines a partition in a partitioned SGI Origin 3000 system. Valid partition numbers range from 1 to 256. This is a required parameter for SGI Origin 3000 systems with an L2 controller. If your system is not partitioned, enter zero in this field.

- **L2 Address:** L2 system controller Internet Protocol (IP) address of the private network or hostname. You can either enter a resolvable hostname, a fully qualified hostname, such as *name.sgi.com.* or an IP address, such as *192.1.2.3*. This is a required parameter for SGI Origin 3000 systems with an L2 controller.

3. Click the **OK** button.

   An error message appears if the task fails.

   An icon entry appears on the **View** panel.

Deleting Nodes

Procedure 3-2 Deleting a Node

This tasks allows you delete a node or group of nodes.

To remove a node from Console Manager, follow these steps:

1. From the **Tasks** pulldown menu, choose the following, as shown in Figure 3-4, page 50.

   Node Tasks
   > **Delete Nodes**

   The **Delete Nodes** dialog box appears, as shown in Figure 3-7, page 56.
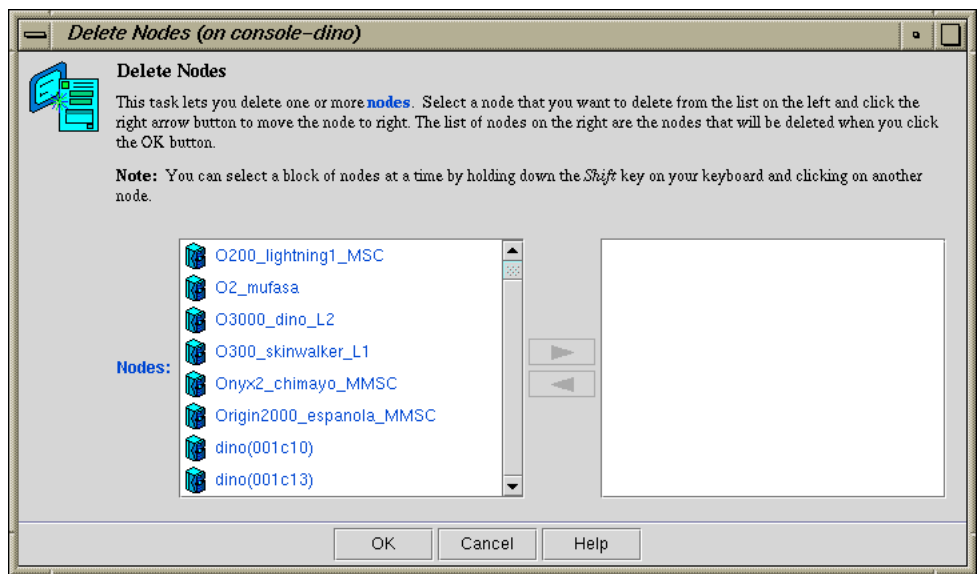

Figure 3-7 Delete Nodes Dialog Box

2. Click the **OK** button

   An error message appears if the task fails.

   The icon entry is removed from the **View** panel.

Modifying a Node Configuration

Procedure 3-3 Modifying a Node Configuration

This task lets you modify a node. You select the node to modify by clicking on the down arrow button on the Node Name tab.

To modify a Node configuration, follow these steps:

1. From the **Tasks** pulldown menu, choose the following:

   Node Tasks
   > **Modify Node configuration**

   The **Modify a Node Configuration** dialog box appears, as shown in Figure 3-8, page 58.
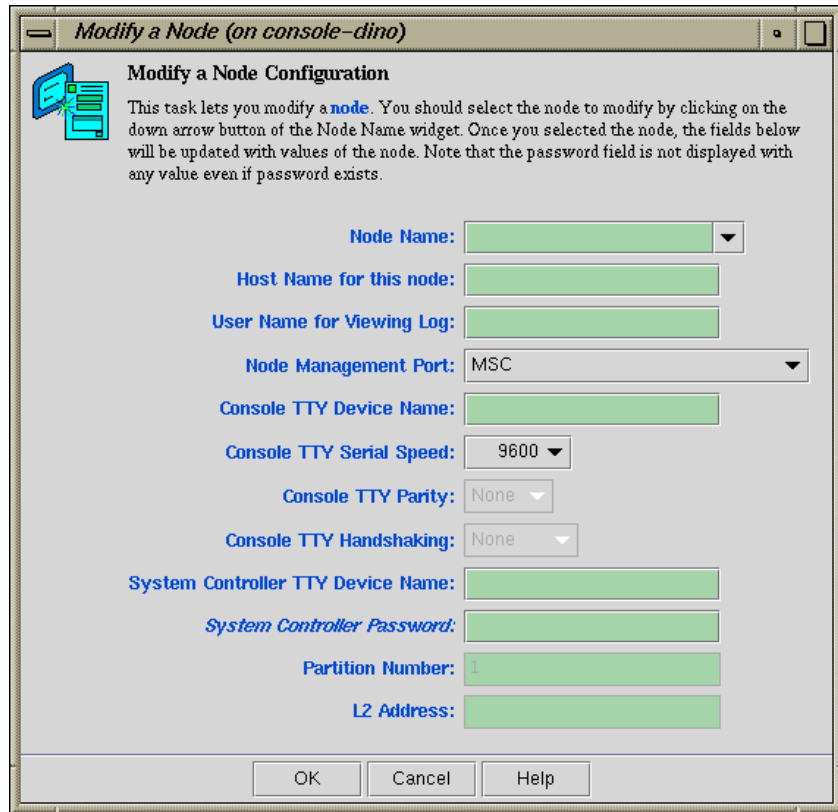
Figure 3-8 Modify a Node Configuration Dialog Box

2. In the **Modify a Node Configuration** dialog box fields, modify the fields as required. For an explanation of each field, see "Adding a Node", page 48.

3. Click the **OK** button

   If you attempt to modify a node in a way not allowed by the Console Manager, an error message appears.

Adding a Management Group

Procedure 3-4 Adding a Management Group

This task allows you to define a *management group*. A management group contains either a number of nodes and a number of tasks that can be performed on the nodes. This task is only executable by the root console user. You must specify a unique group name. To add a management group to Console Manager, follow these steps:

1. From the **Tasks** pulldown menu, choose the following, as shown in Figure 3-9, page 59.

   Console Group Tasks
   > Add a Management Group
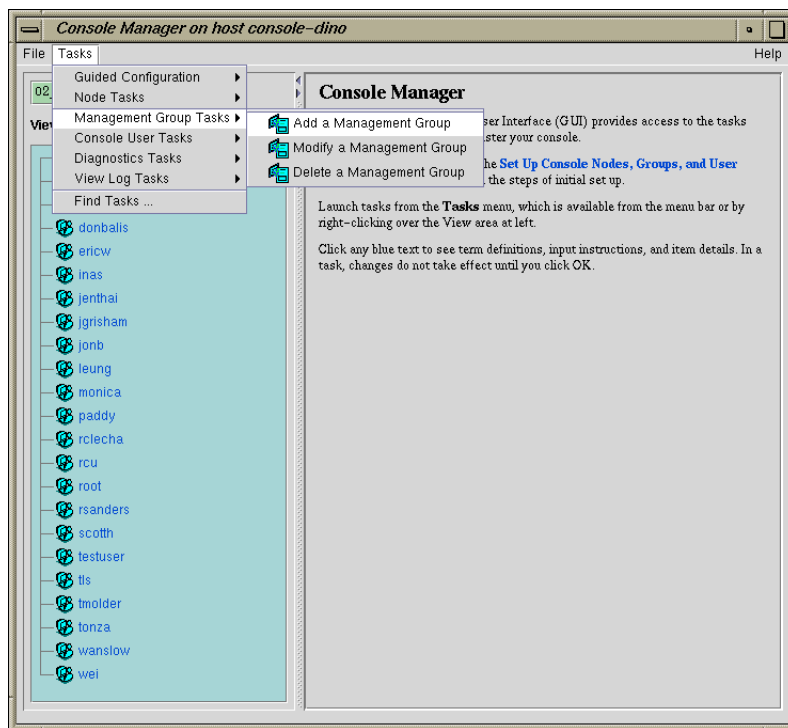
Figure 3-9 Add a Management Group Pulldown Menu

The **Add a Management Group** dialog box appears, as shown in Figure 3-10, page 60.
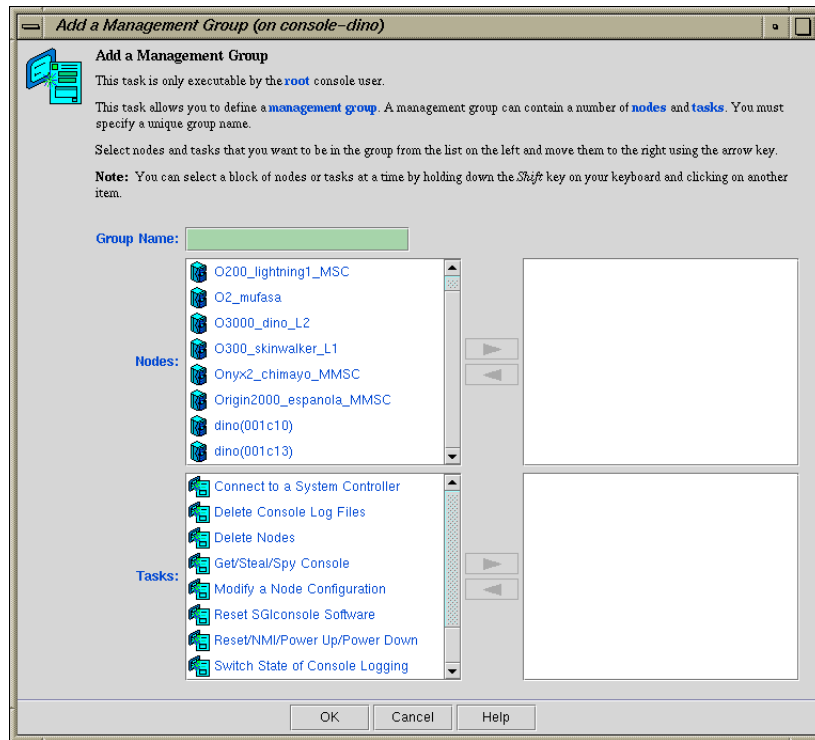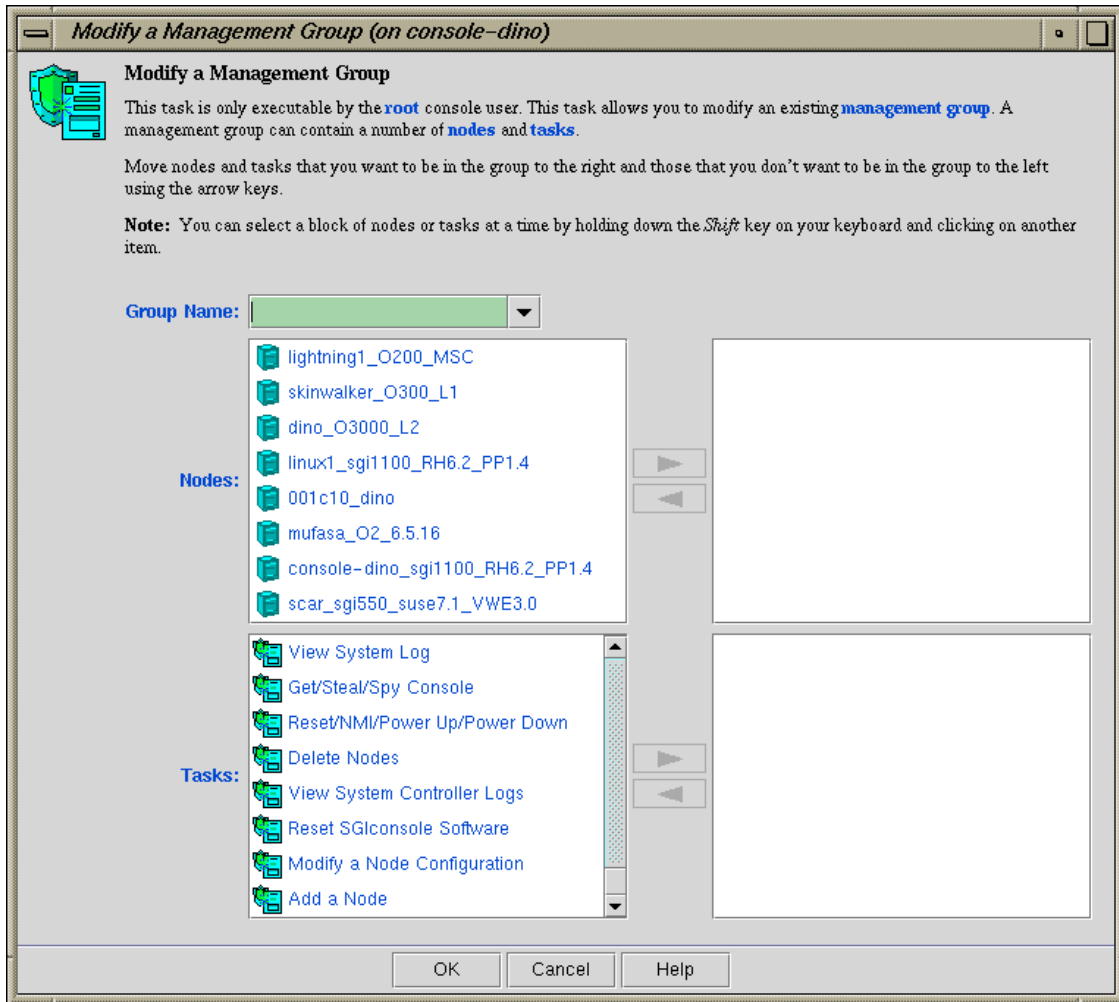

Figure 3-10 Adding a Management Group Dialog Box

2. In the **Group Name** field, enter a unique name for this group.

3. In the **Nodes** field, use the arrow to move the name of the nodes that you want to include in this management group from the left to the right.

> **Note:** You can select a block of nodes or tasks at a time by holding down the Shift key on your keyboard and clicking on another item.

4. In the **Tasks** field, use the arrow to move the name of the tasks that you want to be able to perform on the nodes in the management group you are creating.

5. Click the **OK** button.

An icon entry appears on the **View** panel.

Modify A Management Group

Procedure 3-5 Modifying a Management Group

This task allows you to modify an existing management group. This task is only executable by the root console user. You must specify the unique group name. To add a management group to Console Manager, follow these steps:

1. From the **Tasks** pulldown menu, choose the following:

   Console Group Tasks
   > Modify a Management Group

   The **Add a Management Group** dialog box appears, as shown in Figure 3-11, page 62.

Figure 3-11 Modify a Management Group Dialog Box

2. In the **Group Name** field, enter a unique name for this group.

3. In the **Nodes** field, use the arrow to move the name of the nodes that you want to include in this management group from the left to the right.

4. In the **Tasks** field, use the arrow to move the name of the tasks that you want to be able to perform on the nodes in the management group you are creating.

5. Click the **OK** button.

An icon entry appears on the **View** panel.

Deleting a Management Group

This task allows you to delete an existing management group. This task is only executable by the root console user. You must specify the unique group name.

To delete a management group to Console Manager, follow these steps:

1. From the **Tasks** pulldown menu, choose the following:

   Console Group Tasks
   > **Delete a Management Group**

   The **Delete a Management Group** dialog box appears, as shown in Figure 3-12, page 63.
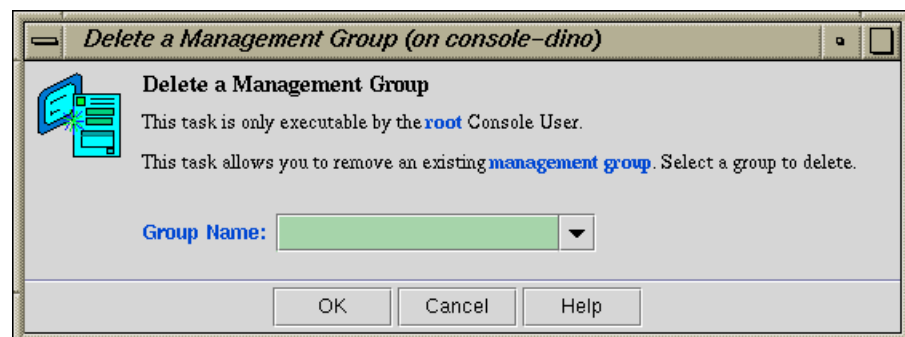
Figure 3-12 Delete a Management Group Dialog Box

2. In the **Group Name** field, enter the unique name for this group.

If you try to remove a group that includes a user that only belongs to the group you attempting to remove, the operation fails and the following message appears:

```
Task failed.

Removal of this group would have made some users
no longer belong to any groups.
The operation has been aborted.
```

This prevents access restrictions on a user being mistakenly removed. To resolve this error, peform one of the following:

- Add another group to the group memberships of the affected user, using the **Modify a User** task, before deleting the group you want to remove.

- Remove the memberships to the group for any affected users, using the **Modify a User** task before attempting to delete the group.

Note: If the user is **not** assigned to any group, the user has access to all SGIconsole tasks (except for administration tasks that only the root user can perform) for every node defined in the system. This provides the same access rules as those originally provided in the SGIconsole 1.0 release.

3. Click the **OK** button.

An icon entry disappears from the **View** panel.

Administering Your Site

This chapter explains how to use Console Manager to administer the nodes that it controls.

The main Console Manager GUI, described in Chapter 3 of this manual, allows you to power down, power up, reset a node, generate a non-maskable interrupt (NMI), and change the properties of a node, view system logs for a specific node in a site, or connect to, spy, or steal the system console for a specific node. This chapter describes how you can use the Console Manager GUI to perform these administrative actions.

This chapter contains the following sections:

- "Getting, Stealing, or Spying a System Console", page 65

- "Powering Down, Powering Up, Resetting, or Interrupting a Node", page 67

- "Connecting to the System Controller for a Node", page 69

- "Restarting the Console Manager Daemon", page 72

- "Viewing System Logs", page 74

- "Viewing and Deleting Console Logs", page 77

Getting, Stealing, or Spying a System Console

Procedure 4-1 Connecting to a System Console

This task creates a console window for the node as follows:

- The **Get** option creates a read-write console window if there is no other read-write console in use for that node.

- The **Steal** option creates a read-write console window and converts any other read-write console in use to a read-only window.

> **Note:** If there is a requirement to change the console type to satisfy the steal request on controllers that use only one serial line (the MMSC and L1 controllers, specifically), any read/write connections to the controller will be dropped instead of being converted to a read-only connection. The user having the read/write connection, previously, will not be warned or informed of the drop in console connectivity.

Active read-only and console logging sessions continue to operate, but will monitor the connection as directed by the console type switch.

The operations that cause SGIconsole to operate in this manner are as follows:

–   Stealing a system console and the console type needs to be switched

–   Stealing a controller console and the console type needs to be switched

–   Starting a logging session on a system console and the console type needs to be switched

–   Starting a logging session on a controller console and the console type needs to be switched

The tasks that are affected are as follows:

–   **Get/Steal/Spy Console**

–   **Connect to a Controller Console**

–   **Switch State of Console Logging**

•   The **spy** option creates a read-only console window.

1. From the **Tasks** pulldown menu, choose the following, as shown in Figure 3-3, page 49.

    Node Tasks
        > Get/Steal/Spy Console

    The **Get/Steal/Spy Console** dialog box appears, as shown in Figure 4-1, page 67.
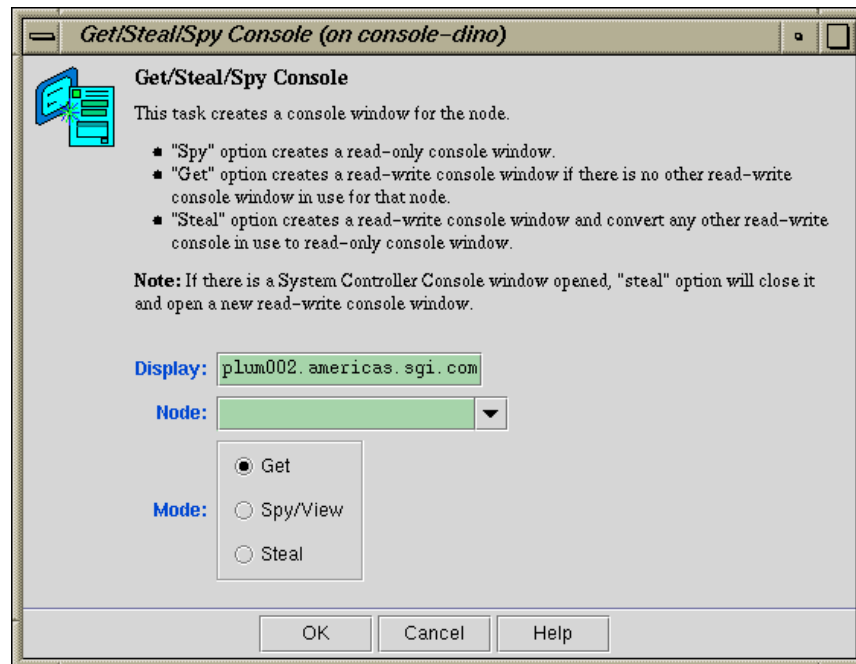
Figure 4-1 Get/Steal/Spy Console Dialog Box

2. In the **Display** field, type the name of you system where the console window should be displayed.

3. In the **Node** field, using the pull-down tab select the name of the server for which you want to get, steal, or spy the system console.

4. In the **Mode** field, select the `Get`, `Spy`, or `Steal` button.

5. Click the `OK` button.

Powering Down, Powering Up, Resetting, or Interrupting a Node

Procedure 4-2 Powering Down, Powering Up, Resetting, or Interrupting a Node

This task allows you to power down, power up, reset a node, or send a nonmaskable interrupt to a node.

To power down, power up, reset, or send a nonmaskable interrupt (NMI) to a node, follow these steps:

1. From the **Tasks** pulldown menu, choose the following:

   Node Tasks
   > **Reset/ NMI/ Power Up/ Power Down**

   The **Reset/NMI/Power Up/Power Down** dialog box appears, as shown in Figure 4-2, page 68.
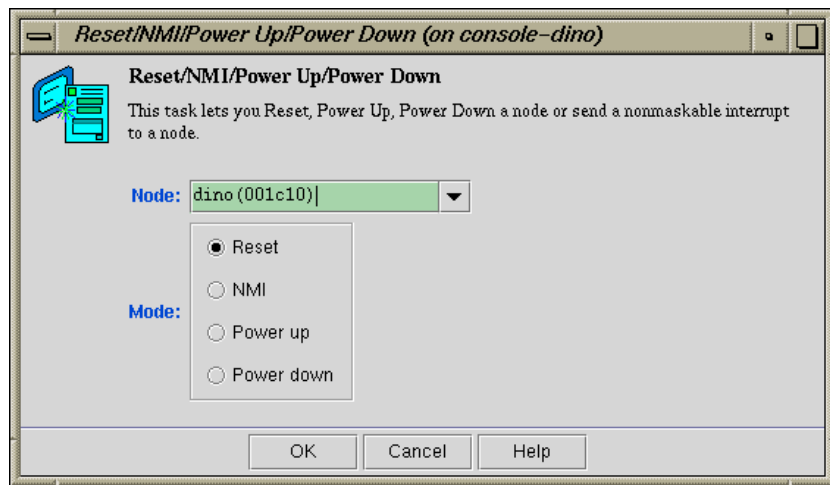
Figure 4-2 Reset/NMI/Power Up/Power Down Dialog Box

2. From the **Node** field pulldown tab, select the node to which you want to perform the operation.

3. Click the button to the right of the **Mode** field you wish to perform.

4. Click the **OK** button.

Connecting to the System Controller for a Node

Procedure 4-3 Connecting to the System Controller for a Node

This task lets you open a connection to the system controller of a node as follows:

- The **Get** option will succeed only if there are no other System Controllers or node Console windows open.

- The **Steal** option creates a read-write console window and converts any other read-write console in use to a read-only window.

Note: If there is a requirement to change the console type to satisfy the steal request on controllers that use only one serial line (the MMSC and L1 controllers, specifically), any read/write connections to the controller will be dropped instead of being converted to a read-only connection. The user having the read/write connection previously will not be warned or informed of the drop in console connectivity.

This is the same as stealing standard console connections.

---

1. From the **Tasks** pulldown menu, choose the following, as shown in Figure 4-3, page 70.

Node Tasks
   > Connect to a System Controller
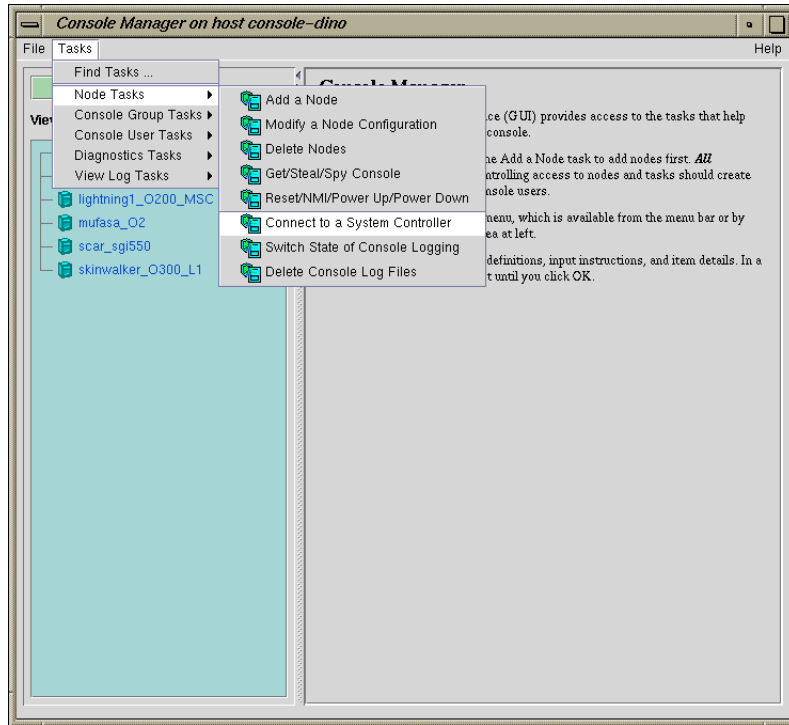
Figure 4-3 Connect to a System Controller

The **Connect to a System Controller** dialog box appears, as shown in Figure 4-4, page 71.
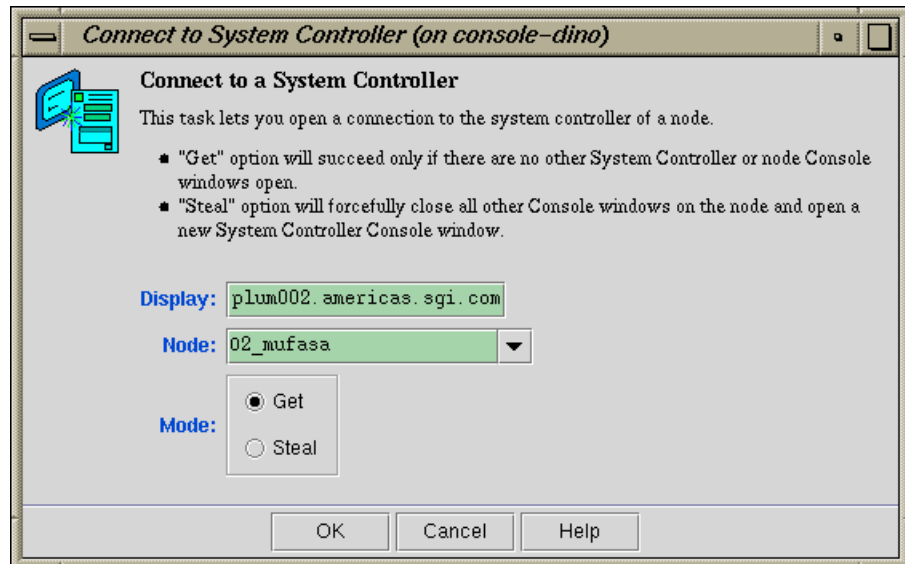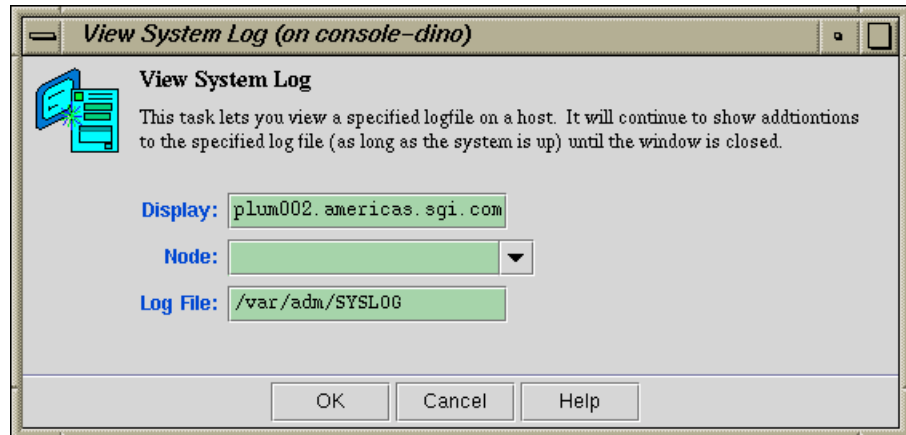
Figure 4-4 Connect to a System Controller Dialog Box

2. In the **Display** field, type in your display hostname as follows:

   hostname.mycompany.com:0

3. From the **Node** field pulldown tab, choose the name of the node for which you want the system controller.

4. In the **Mode** field click the `Get` or `Steal` button.

5. Click the `OK` button.

   A System Controller Console appears, as shown in Figure 4-5, page 72.
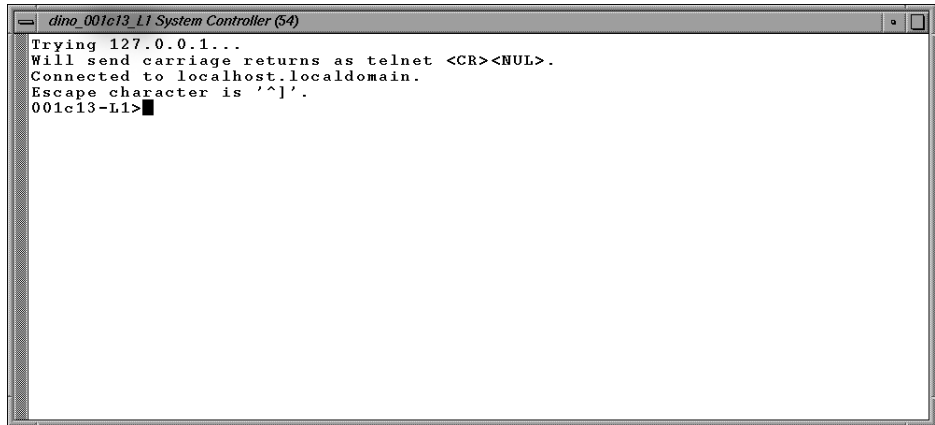
Figure 4-5 System Controller Console

Restarting the Console Manager Daemon

Procedure 4-4 Restarting the Console Manager Daemon

This tasks allows you to restart the Console Manager (nexxus) daemon. Running this task will cause all opened console windows to disappear for all users.

1. From the **Tasks** pulldown menu, choose the following, as shown in Figure 4-6, page 73.

Diagnostics Tasks
> **Reset Console Backend Software**
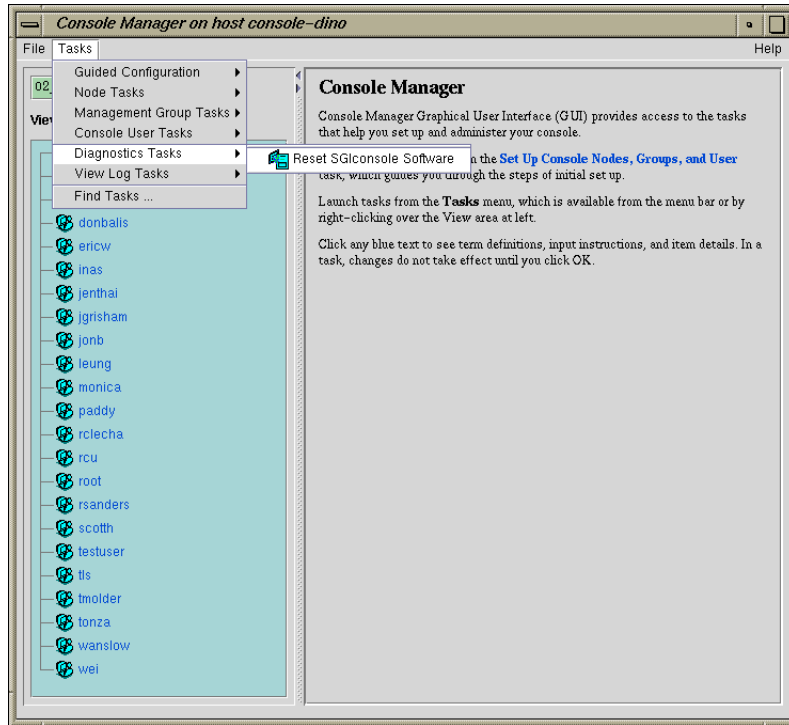
Figure 4-6 Resetting the Console Manager Daemon

The **Reset SGIconsole Software** dialog box appears, as shown in Figure 4-7, page 74.
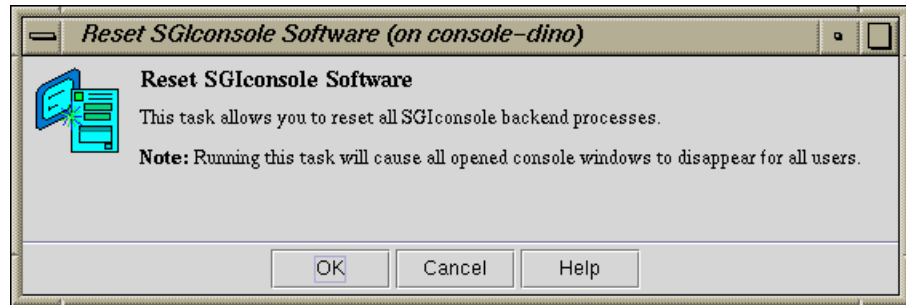
Figure 4-7 Reset SGIconsole Software Dialog Box

2. Click the **OK** button.

Viewing System Logs

Procedure 4-5 Viewing System Logs

This task allows you to view system logs (syslog) of the servers and system controller logs of the servers.

Note: Console users can get only the system console or the system controller console for any node at one time.

Note: For SGI Origin 2000 rackmount servers (servers that use the multimodule System Controller (MMSC)), the system controller logs from the module System Controllers (MSCs) in rack 1 (both upper and lower bays) are displayed.

To get the system log or system controller logs for a server, follow these steps:

1. From the **Tasks** pulldown menu, choose **View Log Tasks**, as shown in Figure 4-8, page 75.
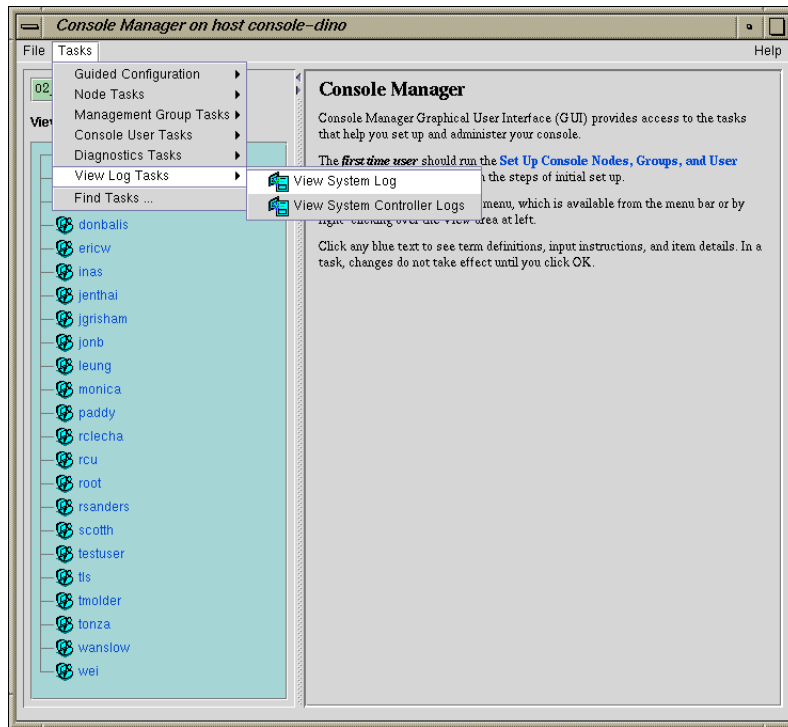
Figure 4-8 Getting the System Log

2. Choose **View System Log** or **View System Controller Logs**.

   The **View System Log** Dialog Box (or **View System Controller Logs** Dialog Box) appears, as shown in Figure 4-9, page 76.

Figure 4-9 **View System Log** Dialog Box

3. In the **Display** field, type in your display hostname as follows:

   hostname.mycompany.com:0

4. From the **Server** field pulldown tab, choose the name of the node for which you want the system log. The system log window appears, as shown in Figure 4-10, page 76.
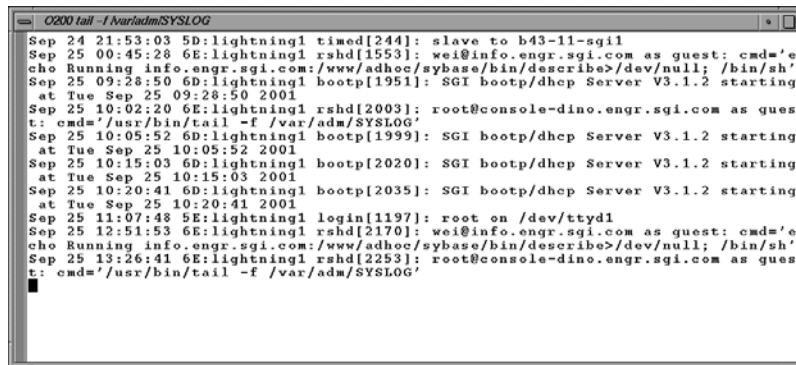
Figure 4-10 System Log

> **Note:** If the log screen does **not** appear, make sure that you enter your complete display name as shown in Procedure 4-5, page 74.

Viewing and Deleting Console Logs

This section describes how to use console logging.

Console logging is available to users of either the SGIconsole Console Manager graphical user interface, or the SGIconsole text-based user interface (tscm(1)). Regardless of which user interface is used, console logging works the same way for all users.

This section describes the following topics:

- "Access Control to Console Logging Facilities", page 77

- "Viewing Console Logs", page 78

- "Console Log Rotation", page 78

- "Enabling and Disabling Console Logging", page 79

- "Deleting Console Log Files", page 82

- " Initiating or Terminating Logging Using the tscm Command Line Interface", page 83

Access Control to Console Logging Facilities

The access controls to allow or deny console logging initiation and termination are provided by the Console Manager GUI, under the tasks **Add Management Group**, **Modify Management Group** and **Delete Management Group**. Use these tasks to deny or allow users to activate or deactivate console logging using the **Switch State of Console Logging** task. For more information, see "Access Controls in Console Manager", page 30.

Viewing Console Logs

Console logs are located on the web server for SGIconsole. To access console logs for nodes that have logging enabled, launch a web browser and use the URL as follows to list the nodes for which logs are available.:

http://*sgiconsoleserver*/SGIconsole-logs/

You can also view Console logs from the SGIconsole web page using the **View Console Log Files** button.

Note: Access control of the viewing log files mechanism is not supported, because the viewing is done through your web browser.

The logs are stored in an organizational structure and contain the raw data from a read-only console session to a node as follows:

<node>/<node>-<year>-<mt>-<dt>-<hrmn>-(system|controller).txt

Use your Web browser to read or download the log files. The timestamp on the file name of the log is the time that console logging started for that particular logging session. The system or controller keyword in the file name of the log indicates the Console type initiated for that logging session.

Note: The logs may contain terminal maintenance data (control characters, escape sequences, and so on), recorded alongside human-readable text data as it has appeared in the output stream of the terminal. SGIconsole does not perform any filtering of console output data.

Console logging is off by default. To turn Console logging on, follow the steps in the **Switch State of Console Logging**.

Console Log Rotation

Console log rotation is automatically handled by SGIconsole. It is performed to maintain a level of free disk space on the SGIconsole server.

Logs are checked for rotation every 20 minutes, and are rotated when they exceed the size specified by the **Open new file after size reaching** setting in the Console Manager.

The oldest logs of all nodes are discarded when available disk space is inadequate. In order for this free-space-recovery process to operate successfully, logs need to be rotated so that log data does not appear in one file (per node) in the log repository. To ensure this happens, a **Open new file after size reaching** setting should always be specified when enabling console logging. A log rotation setting of 1MB is specified by default automatically.

Note: Logs may actually grow larger than that specified by the **Open new file after size reaching** setting, due to the sampling time used in checking for the size of the logs.

Enabling and Disabling Console Logging

Procedure 4-6 Switch State of Console Logging

This task allows you to perform the following:

- Enable or disable logging for a particular node

- Change logging type; start logging or stop logging for the system console or the controller console. You can select either **System Console Logging** or **Controller Console Logging**, or both.

- Rotate logs after the minimum log size rotation trigger has been reached

All users can view the console log files unless access controls have been applied, see "Access Control to Console Logging Facilities", page 77.

Note: For the L1 and MMSC controller types, system and controller console logging should not be activated simultaneously.

The L1 and MMSC console connection functions will read from the same serial line, and therefore, will read/record the same console output coming from the controller.

If a read-only or read/write connection causes a console type switch, the console logging follows the switch, regardless of what SGIconsole has opened for console logging when logging started.

Making changes to your logging sessions will not affect other logging sessions that are active or inactive on a node. For example, if you have system console logging active for a node, and then you enable console logging, the system console logging

will not be disabled (there is no need to specify system console logging again using the **System Console Logging** check-box).

To enable or disable console logging on a node, select the **Node** view in the Console Manager main window, and perform the following:

1. From the **Tasks** pulldown menu, choose the following, as shown in Figure 4-11, page 80.

   Node Tasks
   >
      Switch State of Console Logging
   Menu
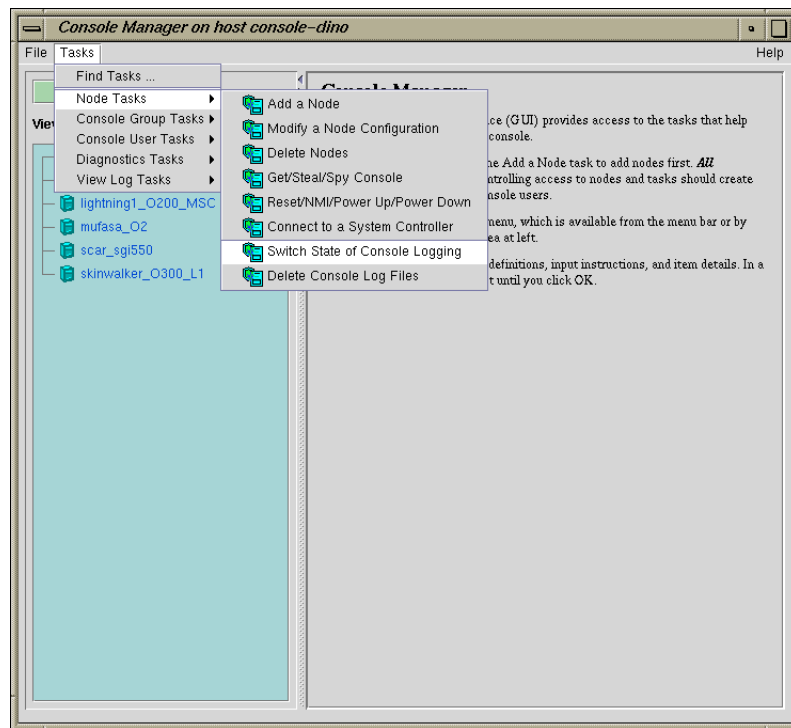
Figure 4-11 Switch State of Console Logging Menu

The **Switch State of Console Logging** dialog box appears, as shown in Figure 4-12, page 81.
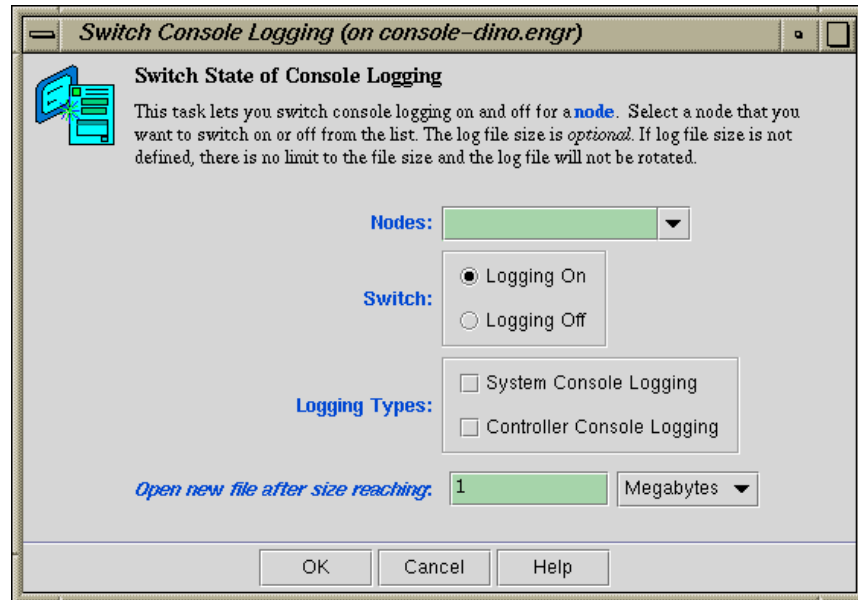
Figure 4-12 **Switch State of Console Logging** Dialog Box

2. In the Node field, select the node for which you want to enable or disable logging.

3. In the **Switch** field, click either the **Logging On** or **Logging Off** button.

4. In the **Logging Types** field, click either **System Console Logging** or **Controller Console Logging**, or both and a check mark appears.

5. In the **Open new file after size reaching** field, enter a size for the log files in either **Megabytes** or **Kilobytes**. The log file size is optional. If log size file is not defined, there is no limit to the file size.

6. Click the **OK** button.

Deleting Console Log Files

Procedure 4-7 Delete Console Log Files

This tasks allows you to delete one or more log files.

To delete Console logs, perform the following:

1. From the **Tasks** pulldown menu, choose the following:

   Node Tasks
   >
         Delete Console Log Files

   The **Delete Console Log Files** dialog box appears, as shown in Figure 4-13, page 82.
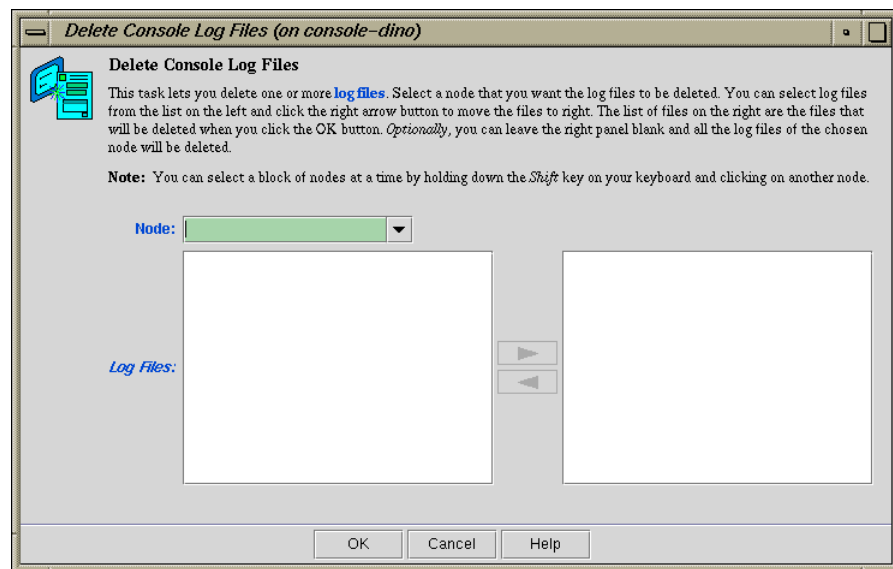
Figure 4-13 Delete Console Log Files Dialog Box

2. In the **Node** field, select the node for which you want the log files deleted. You can select a block of nodes at a time by holding down the **Shift** key on your keyboard and clicking on another node.

3. Select the log files to be deleted from the left and move the files to the right. The list of files on the right are the files that will be deleted when you click the **OK** button. Optionally, you can leave the right panel black and all the log files of the chosen node will be deleted.

4. Click the **OK** button.

Initiating or Terminating Logging Using the `tscm` Command Line Interface

You enable or disable system or controller console logging using the log and nolog functions of the scons and ccons commands as follows:

- The scons command provides options for system consoles.

- The ccons command provides options for controller consoles

- The log function enables console logging for the pertaining console type

- The nolog function disables console logging for the pertaining console type

For example, to enable a system console on node brickette, enter the command as follows:

```
SGIconsole> scons log brickette
```

SGIconsole responds with an appropriate message depending on the successful application of the command. When enabling logging sessions for a node, SGIconsole prompts you for a minimum log size to apply to the files created for logging:

```
Set minimum log size to [1048576 bytes]: _
```

You can press **RETURN** or **ENTER** to accept the default, or enter a different log size, such as 163840 bytes, as follows:

```
Set minimum log size to [1048576 bytes]: 163840_
```

In KB (245760 bytes), as follows:

```
 Set minimum log size to [1048576 bytes]: 240K_
```

In MB (2097152 bytes), as follows:

```
Set minimum log size to [1048576 bytes]: 2M_
```

Note: The log size values specified must be an integer. Real values are rejected without notification and cause the logging mechanism to accept the default instead.

For more information on `tscm`(1), see "Command Line Interface to Console Manager", page 19.

Troubleshooting SGIconsole

This chapter provides information about troubleshooting SGIconsole.

When a node responds with the message "Command not deliverable; *<reason>*", the cause of the failures can be found in the VACM log located in the `/var/log/vacm.log` file.

Typical node failures are as follows:

- The node's controller is powered down (L1 or L2 management port types only)

- There is a serial communications problem with the controller for that node as follows:

  - The serial cable connecting SGIconsole to a node's controller has been removed or is not firmly seated in the serial port socket of the controller.

  - The SGIconsole configuration for the node does not specify the correct serial port device (`/dev/ttyNxxx`) to use. You must configure SGIconsole to use the serial port (`/dev/ttyNxxx`) that corresponds to the port used on the multiplexer supporting the device. For more information, see "Adding a Node", page 48.

  - For SGI 2000 series systems with a multimodule System Controller (MMSC), the serial port settings are not at the defaults of 9600/8/1/N. In this case, the serial port settings need to be reset manually (using MMSC commands) or by resetting the MMSC (again using MMSC commands). Operating the MMSC with serial port settings other than the in-firmware defaults, is not supported by SGIconsole for reasons of operational stability.

SGIconsole Log Files and Console Manager Execution Flow

This chapter describes the following topics:

- "SGIconsole Log Files", page 87
- "Console Manager Execution Flow", page 88

SGIconsole Log Files

The following log files provide useful information on SGIconsole operations:

SGIconsole Log	Description
/var/log/vacm.log	Resides on the SGIconsole system and contains a log of VACM activity.
/var/adm/SYSLOG	Resides on every IRIX server and contains a log of messages written to the system console.
/var/lib/sysadm/salog	The ConsoleManager GUI log which contains all backend command and parameters executed by the console manager GUI.
/home/httpd/html/SGIconsole/logs	SGIconsole logs directory
/tmp/els00.log	The log for the first EL-16 device installed and contains the following when the EL-16 device is configured successfully:

```
[root@linux1 /tmp]# cat els00.log
        09/19/01 09:03:16: EtherLite daemon running
        09/19/01 09:03:16: Vendor ID: DigiIntl, Firmware Version: V7.6
        Model Name: EL-16, IP Address: 192.12.1.20
        09/19/01 09:03:16: Unit Online
```

Console Manager Execution Flow

Each Console Manager task has the following flow of execution when a GUI task is executed, such as connecting to a node or getting a console port:

GUI task —> privcmd CLI —> VACM (nexxus) —> VACM plugins —> EL-16 driver (if present)

Key:

- privcmd = privileged command
- CLI = command line interface
- VACM = cluster manager software
- nexxus = Console Manager backend software (Console Manager daemon)
- VACM plugins = SGI software plugins to support various SGI servers.

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