IRISconsole™ to SGIconsole™ Migration Guide

New Features Documented

This rewrite of *IRISconsole to SGIconsole Migration Guide* supports the 1.1 release of SGIconsole.

Major Documentation Changes

This release adds information about the following additions to SGIconsole:

- A command line interface (`tscm`(1)) in "Overviews of IRISconsole and SGIconsole", page 1

- An access control mechanism in "Security Comparison", page 16

- New information about Console Manager security in "Security Comparison", page 16

Record of Revision

Version	Description
001	November 2001 Original publication. Supports the SGIconsole 1.0 release.
002	August 2002 Supports the SGIconsole 1.1 release.

Contents

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About This Guide

This guide documents SGIconsole release 1.1 running on an SGI 1100 Linux system.

It documents the SGIconsole web interface for an SGI workstation that allows it to control multiple SGI servers, SGI partitioned systems, large single-system image servers, and clusters of systems. It compares the new SGIconsole software to the existing IRISconsole software.

This manual contains the following sections:

- "Overviews of IRISconsole and SGIconsole", page 1

- "Graphical User Interface Comparison", page 5

- "Functional Comparison", page 14

- "Security Comparison", page 16

- "Configuration Files", page 19

- "Helpful Information on SGIconsole", page 21

Related Publications

The following documents contain additional information that may be helpful:

- *SGIconsole 1.1 Start Here*

  Contains information about installing, configuring, and starting to use SGIconsole software.

- *SGIconsole Software CD Information Card*

  Your SGIconsole comes with a base Linux distribution and the SGIconsole software installed. This guide describes how to install the software from the CD if at some time you need to reinstall it.

- *Console Manager for SGIconsole Administrator's Guide*

  This guide documents the Console Manager graphical user interface for SGIconsole that allows it to control multiple SGI servers, SGI partitioned systems, large single-system image servers, and clusters of systems.

- *SGIconsole Hardware Connectivity Guide*

  This guide describes how to install the SGIconsole onto the SGI Origin 200, SGI Origin 2000, and SGI Origin 300, and SGI Origin 3000 products.

- *EL Serial Port Server Installation Guide*

  This guide describes how to set up and power up the EL serial port server (also know as EtherLite, EL-16, or Silicon Graphics Ethernet serial port server.

- *SGI Origin 3000 Series Owner's Guide*

  This guide provides an overview, and describes how to set up and operate the SGI Origin 3000 servies of servers.

- *SGI Origin 300 User's Guide*

  This guide provides an overview, and describes how to set up and operate the SGI Origin 300 server.

- *Performance Co-Pilot ReadMe First*

  Information on the system requirements, installation and preparation of the Performance Co-Pilot Software.

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

  This guide describes how to configure the base software components and how to run commands of the Performance Co-Pilot Software found in the IRIX system software release. The instructions and concepts that are presented for IRIX users also apply to Linux users using the open-source distribution of PCP for Linux.

- *Performance Co-Pilot Programmer's Guide*

  This guide describes how to write PCP extensions (Performance Metric Domain Agents, or PMDAs) using the PMAPI, for customizing and adapting PCP for the collection application performance data on operating system and application software components not addressed by the PCP base software.

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

  This guide describes the planning, deployment, and use of PCP tools and services, demonstrating the advanced capabilities of PCP, and how to employ, customize and extend them for identifying and solving various computing performance problems.

Obtaining Publications

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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.
[ ]	Brackets enclose optional portions of a command or directive line.
...	Ellipses indicate that a preceding element can be repeated.
GUI	This font denotes the names of graphical user interface (GUI) elements such as windows, screens, dialog boxes, menus, toolbars, icons, buttons, boxes, fields, and lists.

Reader Comments

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Comparison of IRISconsole and SGIconsole

This publication provides information about the similarities and differences between IRISconsole and the SGIconsole Console Manager graphical user interface. It is written for system administrators who are responsible for the configuration and operation of multiple SGI servers, SGI partitioned systems, and large single-system servers.

This chapter contains the following sections:

- "Overviews of IRISconsole and SGIconsole", page 1
- "Graphical User Interface Comparison", page 5
- "Functional Comparison", page 14
- "Security Comparison", page 16
- "Configuration Files", page 19
- "Helpful Information on SGIconsole", page 21

Overviews of IRISconsole and SGIconsole

This section provides a brief overview of IRISconsole and SGIconsole.

IRISconsole

The IRISconsole software for an Silicon Graphics Octane, Silicon Graphics O2, or Indy workstation allows it to control Origin 200, Origin 2000, Challenge, Silicon Graphics Onyx2, and Silicon Graphics Onyx systems. IRISconsole does not support the SGI Origin 300 or SGI Origin 3000 series of servers, or the Silicon Graphics Onyx 3000 graphic systems. The IRISconsole software is included in the base IRISconsole option, which includes any one of the following IRISconsole multiplexers: ST-1600, ST-1616, ST-1620, ST-1032, EL-8, EL-16, or EL-32. Serial cables, which are specific to the type of system controlled, are provided by additional IRISconsole options and complete the IRISconsole package.

The IRISconsole graphical user interface (GUI) enables you to set up and administer *sites*. A site is a group of workstations, servers, clusters, or other systems that are

administered through IRISconsole. A site consists of a number of *systems* monitored and controlled by IRISconsole.

The Octane, O2, or Indy workstation communicates with the servers through the multiplexer, to which each Origin, Challenge, or Onyx system is connected via a pair of serial cables. Each multiplexer has ports for eight or more Origin, Challenge, and Onyx systems; additional sets of serial cables are available from SGI. Optionally, an additional multiplexer can be connected to the workstation to monitor additional servers.

The IRISconsole software affects only systems that are physically attached to the multiplexer connected to the Octane, O2, or Indy workstation on which the IRISconsole software is running. The IRISconsole software cannot communicate with another system running IRISconsole to share access to attached systems. IRISconsole is a single, self-contained software module. IRISconsole is proprietary software.

The ictelnet command is a TELNET based facility to connect to a known port of a remote IRISconsole(1C) host. You can use the ictelnet command to access the IRISconsole test-based menu from another system.

For detailed information on IRISconsole, see the *IRISconsole Administrator's Guide*.

SGIconsole

SGIconsole 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 that provide access to common remote management tools.

The SGIconsole software allows you to control and monitor the SGI Origin 200, SGI Origin 2000, SGI Origin 300, and SGI Origin 3000 series of servers and the Silicon Graphics Onyx2, Silicon Graphics Onyx 300, and Silicon Graphics Onyx 3000 graphic systems. SGIconsole does not support Indy, O2, Octane, Challenge, or Silicon Graphics Onyx systems.

SGIconsole 1.1 software includes the following software packages: Console Manager, and Performance Co-Pilot (PCP), and L1 and L2 system controller commands. SGIconsole provides a web interface which allows access to this suite of tools as shown in Figure 1-1, page 3.
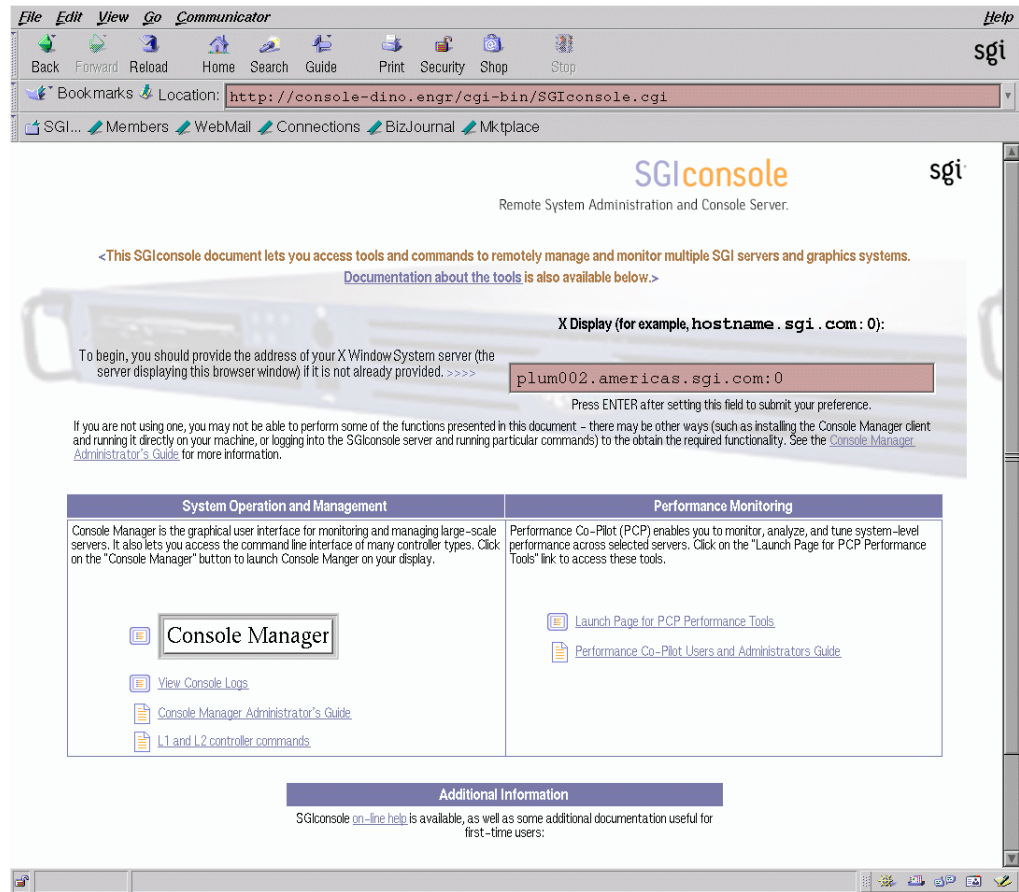
Figure 1-1 SGIconsole Web Interface

IRISconsole and SGIconsole provide similar features. While IRISconsole is a single tool, SGIconsole is a collection of tools to provide a remote management solution, including hardware monitoring and system-level performance management as shown in Table 1-1, page 4.

Table 1-1 SGIconsole Tools

Tool	Description
Console Manager	A graphical user interface for SGIconsole
Performance Co-Pilot (PCP)	Monitors and manages system-level performance
L1 and L2 controller commands	Enables a site to use SGI Origin 3000 server L1 and L2 controller commands to manage and monitor a server

On SGI Origin 300 and SGI Origin 3000 systems, the L1 controllers monitor the activities of their brick.

The L2 controllers displays the status and error messages generated by the L1 controllers and generates and displays the status and error messages for the power bay and rack chassis. You can enter L1 and L2 commands to control activity in your server system from a console invoked through Console Manager. For information on the L1 and L2 commands, see the *SGI Origin 300 User's Guide* and the *SGI Origin 3000 Series Owner's Guide*, respectively.

Performance Co-Pilot (PCP) provides a range of services that may be used to monitor and manage system performance. These services are distributed and scalable to accommodate the most complex system configurations and performance problems.

PCP is targeted at the performance analyst, benchmarker, capacity planner, developer, database administrator, or system administrator with an interest in overall system performance and a need to quickly isolate and understand performance behavior, resource utilization, activity levels, and bottlenecks in complex systems. Platforms that can benefit from this level of performance analysis include large servers, server clusters, or multiserver sites delivering database management systems (DBMS), compute, Web, file, or video services.

The services offered by PCP are especially attractive for administrators tackling harder system-level performance problems. For example, this may involve a transient performance degradation, or correlating end-user quality of service with platform activity, or diagnosing some complex interaction between resource demands on a single system, or management of performance on large systems.

The distributed PCP architecture makes it especially useful for centralized monitoring of distributed processing (that is, in a cluster or webserver farm environment), especially where a large number nodes (hosts) are involved.

For more information on PCP, see the *Performance Co-Pilot User's and Administrator's Guide*.

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

Console Manager is a graphical user interface for the SGIconsole scalable management and monitoring tools used to control a single node or multiple nodes. A *node* can be a server, a partitioned system, or a large single–system image server. The Console Manager GUI consolidates information about multiple nodes in a very compact space. Console Manager can run on SGI Linux platforms.

IRISconsole "system" is equivalent to an SGIconsole node.

The following table lists the hardware platforms supported by IRISconsole and SGIconsole.

IRISconsole	SGIconsole
Indy, O2, Octane, SGI Origin200 and SGI Origin2000 series of servers, Silicon Graphics Onyx2, and Silicon Graphics Onyx systems	SGI Origin200, SGI Origin 2000, SGI Origin 300, SGI Origin 3000 series of servers, Silicon Graphics Onyx2, Silicon Graphics Onyx 300, and Silicon Graphics Onyx 3000 graphics systems

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

For more information see the *SGIconsole Hardware Connectivity Guide* and the *Console Manager for SGIconsole Administrator's Guide*.

Graphical User Interface Comparison

This section compares the IRISconsole GUI to the new SGIconsole Console Manager GUI.

IRISconsole GUI

Figure 1-2, page 6 shows the IRISconsole graphical user interface (GUI). The
IRISconsole GUI enables you to set up and administer sites. A site is a group of
workstations, servers, clusters, or other systems that are administered through
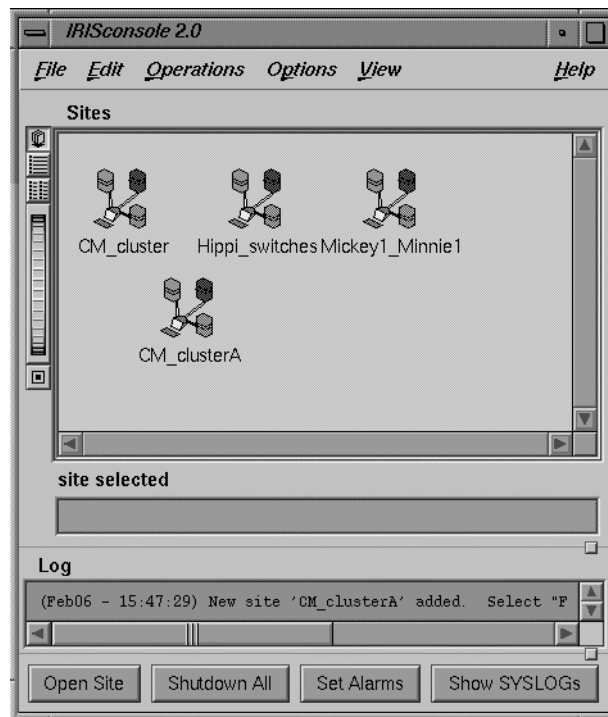IRISconsole.

Figure 1-2 IRISconsole Graphical User Interface Main Window

IRISconsole Main Window Operations

The IRISconsole GUI main window enables you to set up a site, configure a site, edit
a site configuration, add a system to a site, or delete a site configuration.

The bottom of the IRISconsole main window, as shown in Figure 1-2, page 6, has four
buttons that allow you to perform the following operations:

• Open a site

- Shut down all systems in a site

- Set system alarms

- Show the system logs for all systems in a site

To see the characteristics for a site, double-click its name in the scrolling list of sites in the IRISconsole main window. Alternatively, you can select a site and then choose **Open Site** from the IRISconsole main window **Operations** menu.

IRISconsole Site Window Operations

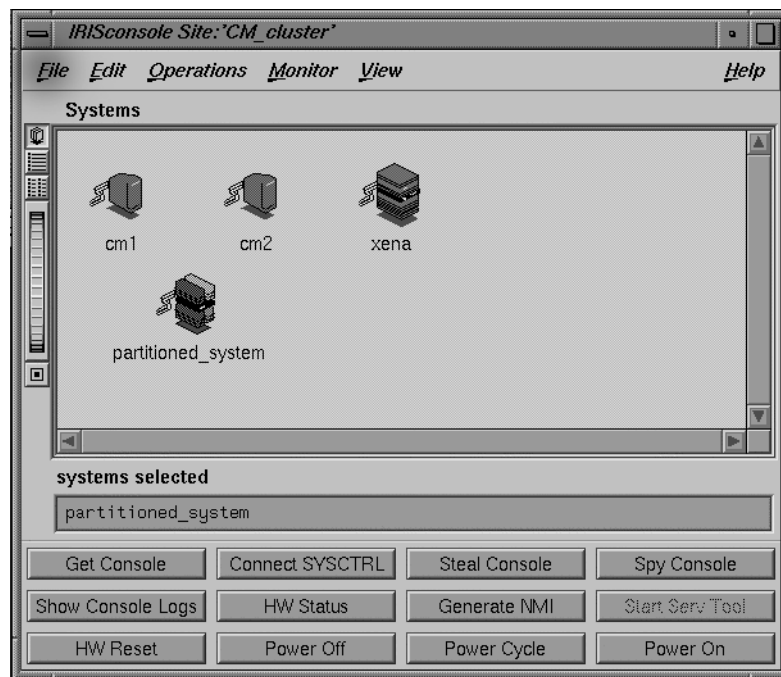Figure 1-3, page 7 shows an IRISconsole site with four systems.

Figure 1-3 IRISconsole Site with Four Systems

You can use the buttons in the site window for the following system administration tasks:

Get Console	Get the system console
Connect SYSCTRL	Connect to system control
Steal Console	Steal the system console
Spy Console	Spy the system console
Show Console Logs	Show the console logs
HW Status	Get hardware status
Generate NMI	Generate a non-maskable interrupt
Start Serv Tool	Start the service tool
HW Reset	Reset hardware
Power Off	Power off the selected system
Power Cycle	Power cycle the selected system
Power On	Power on the selected system

SGIconsole Console Manager GUI

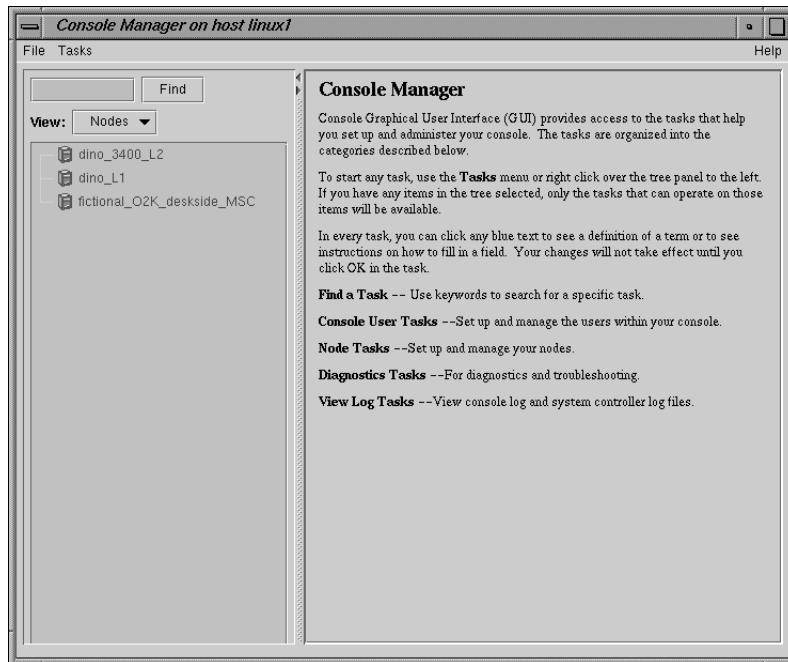Figure 1-4, page 9 shows the Console Manager GUI.

Figure 1-4 Console Manager Graphical User Interface

The Console Manager View provides the following capabilities:

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

- Shows the nodes configured at a site and the Console Manager users.

- Gives access to help information.

From the Console Manager View, you can click on a node to display key information. Figure 1-5, page 10 shows an example of the Console Manager View window.
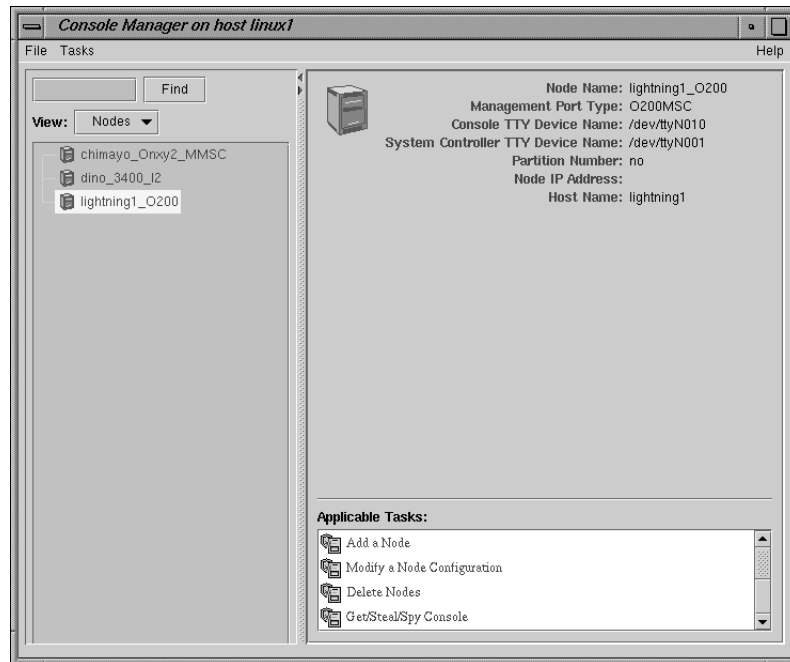
Figure 1-5 Console Manager View

Console Manager Tasks and Categories

The Console Manager provides access to the *tasks* that help you set up and administer a single node or all the nodes at a site.

The Console Manager has the following categories:

- **Overview**, which introduces the tool, how to use it, and some suggestions for first time users.

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

    – **New Console Manager**

    – **Clone this Console Manager**

    – **Show SALog**

    – **Close**

- – **Exit**
- • The **Task** pulldown menu allows you to perform the following actions:
  - – **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**
    - • **Delete Console Log Files**
  - – **Management Group Tasks**, which allow you to:
    - • **Add a new Management Group**
    - • **Modify a Management Group**
    - • **Delete a Management Group**
  - – **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**
  - – **Diagnostic Tasks**, which allow you to:
    - • Reset Console Backend Software
  - – **View LogTasks**, which allow you to:

- **View System Log**

- **View System Controller Logs**

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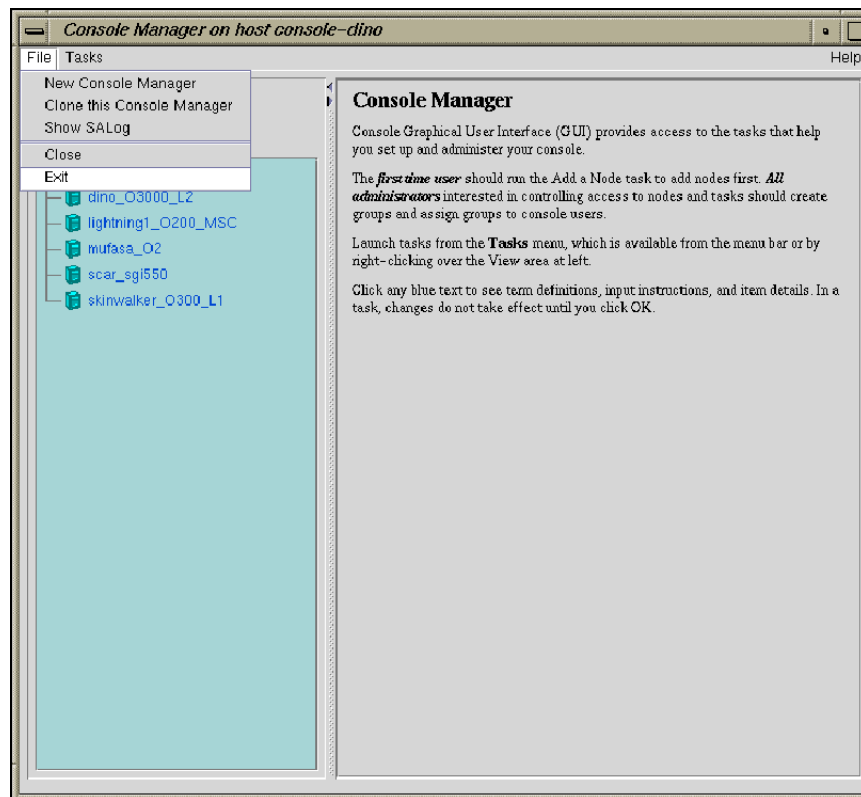

Figure 1-6 File Pulldown Menu

Advantages of Using the Console Manager GUI

You can use the Console Manager interface to consolidate information about multiple nodes and multiple users in a very compact space. Unlike the IRISconsole GUI, the Console Manager interface contains one window organized into two main panels. The panel on the left contains information about the nodes being managed and monitored and the users logged into Console manager. It also provides a view of all

the nodes being controlled and monitored by Console Manager. The panel on the right contains configuration information about each node configured and the applicable tasks (see Figure 1-4, page 9). The right mouse menus allow you to launch tasks faster in the Console Manager GUI. The **Find** button text field helps you to find node and user objects more quickly as shown in Figure 1-7, page 13.
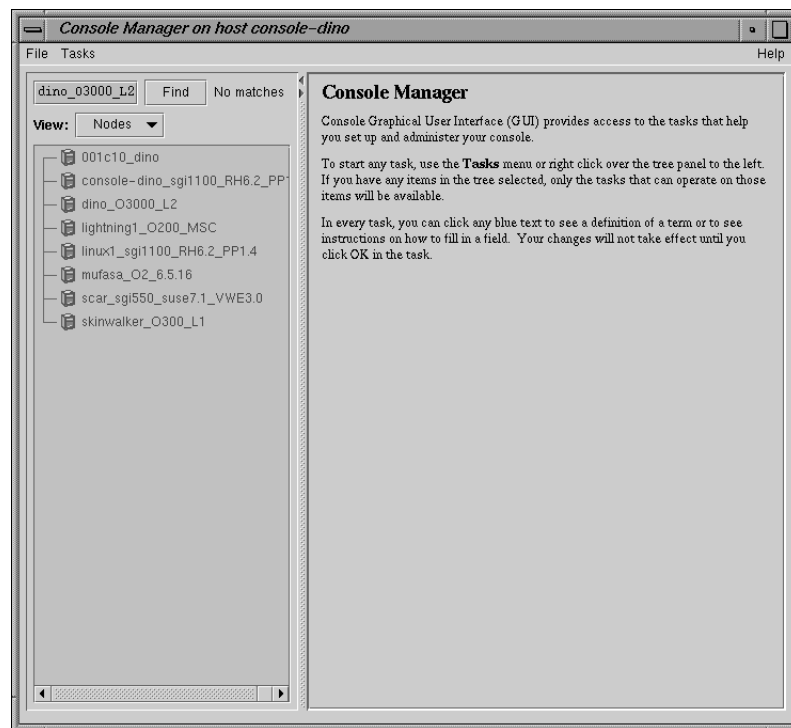

Figure 1-7 Find User and Node Object Button

Console Manager can be used in a heterogeneous system environment. It can monitor and control systems running either the IRIX or Linux operating systems.

Unlike IRISconsole, Console Manager provides continuous system connection without the console window active. Console Manager also provides numerous connections to any one system.

The client/server architecture of Console Manager/SGIconsole is very robust. The modular nature of the architecture allows new technology to be easily integrated into the software suite, for example, new SGIconsole plugins can be added to support new node types without having to rewrite all of the Console Manager/SGIconsole code.

Functional Comparison

The following section compares the functional capabilities of the IRISconsole versus SGIconsole.

Table 1-2, page 15 shows a comparison between IRISconsole and SGIconsole for single-system functions.

Table 1-2 Console Functions

Console Functions	IRISconsole	SGIconsole
Console window with logging	Yes	Yes
User access control	Yes	Yes
Power cycle (from GUI)	Yes	No
Power down (from GUI)	Yes	Yes
Power up (from GUI)	Yes	Yes
System reset (from GUI)	Yes	Yes
System non-maskable interrupt (NMI)	Yes	Yes
Hardware inventory	Yes	No
Users logged in display	Yes	No
SYSLOG collection monitoring	Yes	No, but ESP provides equivalent functionality
Hardware graphs showing tempeatures, fan speeds and voltages	Yes (Challenge systems only)	No
Get console	Yes	Yes
Spy console	Yes	Yes
Steal console	Yes	Yes
Show console logs	Yes	Yes
Get system logs	Yes	Yes
Get system controller logs	Yes	Yes
Start service tool (for field personnel)	Yes	No in Console Manager, but provided by Embedded Service Partner (ESP). See the esp(5) man page.
Generate availmon report	Yes	No, but ESP provides equivalent functionality
Continuous system connection without console window active	No	Yes

Console Functions	IRISconsole	SGIconsole
Numerous connections to any one system	No	Yes
Desktop icon for high-level resource usage monitoring on one or more nodes	No	Yes, in PCP
Time-series (strip charts) for CPU utilization, disk activity, filesystem fullness, network traffic, NFS activity, paging, system calls and an overview	No	Yes, in PCP
3-D performance visualizations for CPU utilization, disk activity, Origin 2000 and Origin 3000 CPU and router activity, overview across a group of nodes	No	Yes, in PCP
Text-based interface	Yes	Yes

Security Comparison

IRISconsole includes security features that use local password protection to assist administrators in securing IRISconsole and its managed systems from unauthorized access. Administrative functions like adding a new user to IRISconsole require an IRISconsole login ID and password. Figure 1-8, page 17 shows the IRIS console security window.

When IRISconsole security is turned on (the default), access to certain operations is controlled. Some of these operations are represented by buttons in the site window or selections on pulldown menus of the IRISconsole GUI, such as adding or deleting sites and systems in the sites (**Edit** pulldown menu).

Figure 1-8 IRISconsole Security Window

The Console Manager GUI also includes security features that use local password protection to assist administrators in securing Console Manager and its managed systems from unauthorized access (see Figure 1-9, page 18).

Note: The SGIconsole 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 SGIconsole GUI to administer computers over the Internet.

Figure 1-9 Console Manager Security Window

The administrator for Console Manager is root. Only a root user can add or delete other users and view logs. Normal users can perform all other GUI operations.

SGIconsole 1.1 assumes your SGIconsole machine and remote display for viewing and running SGI application are behind a secure firewall. The SGIconsole 1.1 startup script helps you improve security on your SGIconsole system. It removes the piranha RPMs, disables services via checkconfig(8), and comments out entries in the /etc/inetd.conf file. These actions address common concerns but are not intended to eliminate all security risks.

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

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

SGIconsole 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 SGIconsole and can apply any task to any node.

Configuration Files

This section describes the configuration files used by IRISconsole and SGIconsole and how the respective GUI can be used to update these files.

IRISconsole Configuration

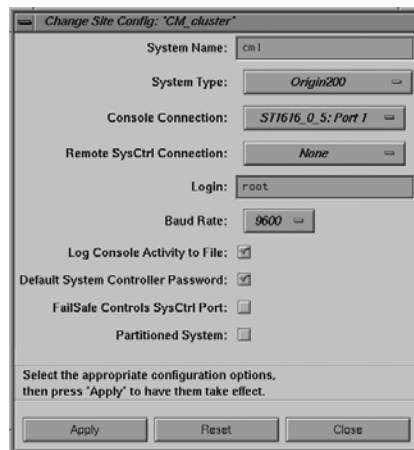Figure 1-10, page 19 shows the dialog box used to change an IRISconsole site configuration.

Figure 1-10 IRISconsole Change Site Config Dialog Box

When you use this dialog box to change the configuration of a site, the IRISconsole data base located in `/var/IRISconsole/2.0/.IC/IRIScon1` directory is updated. Each system in a site has an ASCII file in this site directory that contains the

configuration information for the system. The ASCII file for the site being updated in Figure 1-10, page 19 would appear similar to following:

```
cm1 ORIGIN_200 ST1616_0_5_1 None root 9600 yes yes no no
```

The ASCII file entries are mapped to the dialog box in the following list:

File Entry	Dialog Box Field or Button Description
cm1	System Name
ORIGIN_200	System Type
ST1616_0_5_1	Console Connection
None	Remote SysCtrl Connection
root	Login
9600	Baud Rate
yes	Log Console Activity to File
yes	Default System Controller Password
no	FailSafe Controls SysCtrl Port
no	Partitioned System

Figure 1-11, page 20 shows the dialog box used to add a new site to IRISconsole. Each site added to an IRISconsole configuration has an entry in the /var/IRISconsole/2.0/.IC/*site* directory
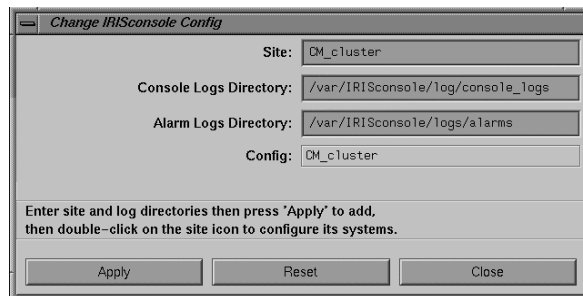

Figure 1-11 Change IRISconsole Config Dialog Box

SGIconsole Configuration

When you add or modify a node, user, or group using Console Manager, a configuration file under the `/var/lib/SGIconsole/` directory is either created or modified. For information on SGIconsole configuration using Console Manager, see *Console Manager for SGIconsole Administrator's Guide*.

Helpful Information on SGIconsole

For a list of documents that contain information about SGIconsole, see the "Related Publications" in the preface of this document.

For information on configuring Console Manager, see the *Console Manager for SGIconsole Administrator's Guide*.

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