

IRISconsole™ to SGIconsole™ Migration Guide

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New Features Documented

This rewrite of *IRISconsole to SGIconsole Migration Guide* supports the 2.0 release of SGIconsole.

Major Documentation Changes

This release adds information about the following additions to SGIconsole:

- Information about systems supported by this release in "SGIconsole", page 2.
- Information about using the `ssh(1)` command with SGIconsole in "Security Comparison", page 18.

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.
003	August 2003 Supports the SGIconsole 2.0 release.

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About This Guide

This guide documents the SGIconsole 2.0 release. It documents the SGIconsole web interface for a workstation that allows it to control multiple SGI servers; SGI partitioned systems; large, single-system image servers; and clusters of systems. It compares the SGIconsole software to the IRISconsole software.

This manual contains the following sections:

- "Overviews of IRISconsole and SGIconsole", page 1
- "GUI Comparison", page 6
- "Functional Comparison", page 16
- "Security Comparison", page 18
- "Configuration Files", page 21
- "Helpful Information on SGIconsole", page 23

Related Publications

The following documents contain additional information that may be helpful:

- *SGIconsole 2.0 Start Here*
Contains information about installing, configuring, and starting to use SGIconsole software.
- *SGIconsole Software CD Information Card*
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.
- *SGI L1 and L2 Controller Software User's Guide*

This guide describes how to use the L1 and L2 controller commands at your system console to monitor and manage the following systems: SGI Origin 3000 series of servers, SGI Origin 300 series of servers, SGI Altix 3000 family of servers and superclusters, SGI Origin 300 systems with NUMALink, SGI Onyx 3000 series of graphics systems, and the SGI Onyx 300 series of graphics systems.

- *SGIconsole Hardware Connectivity Guide*

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

- *EL Serial Port Server Installation Guide*

This guide describes how to set up and power up the EL serial port server (also known 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 series 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.

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

This guide provides an overview of the components that make up the SGI Onyx 300 graphics system and describes how to operate the system.

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

This guide provides information on using and administering your SGI Onyx 3000 rackmount graphics system. Although there several different models in the SGI Onyx 3000 system family, this guide refers to the products generically as SGI Onyx 3000 series graphics systems.

- *SGI Altix 3000 User's Guide*

This guide provides an overview of the architecture and descriptions of the major components that compose the SGI Altix 3000 family of servers and superclusters. It also provides the standard procedures for powering on and powering off the system, basic troubleshooting information, and important safety and regulatory specifications.

- *Performance Co-Pilot ReadMe First*

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

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

This guide describes the Performance Co-Pilot (PCP) software package of advanced performance tools for the SGI family of graphical workstations and servers. It documents the PCP features that are embedded in the IRIX operating system. It is a prequel to the *Performance Co-Pilot for IRIX Advanced User's and Administrator's Guide*.

- *Performance Co-Pilot for IRIX Advanced 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.

- *Performance Co-Pilot for IA-64 Linux User's and Administrator's Guide*

This guide documents the the Performance Co-Pilot (PCP) software package running on IA-64 Linux systems. PCP provides a systems-level suite of tools that cooperate to deliver integrated performance monitoring and performance management services spanning the hardware platforms, operating systems, service layers, Database Management Systems (DBMSs), and user applications.

Obtaining Publications

You can obtain SGI documentation in the following ways:

- See the SGI Technical Publications Library at <http://docs.sgi.com>. Various formats are available. This library contains the most recent and most comprehensive set of online books, release notes, man pages, and other information.
- If it is installed on your SGI system, you can use InfoSearch, an online tool that provides a more limited set of online books, release notes, and man pages. With an IRIX system, select **Help** from the Toolchest, and then select **InfoSearch**. Or you can type `infosearch` on a command line.

- You can also view release notes by typing either `grelnotes` or `relnotes` on a command line.
- You can also view man pages by typing `man title` on a command line.

Conventions

The following conventions are used throughout this document:

Convention	Meaning
<code>command</code>	This fixed-space font denotes literal items such as commands, files, routines, path names, signals, messages, and programming language structures.
<i>variable</i>	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

If you have comments about the technical accuracy, content, or organization of this publication, contact SGI. Be sure to include the title and document number of the publication with your comments. (Online, the document number is located in the front matter of the publication. In printed publications, the document number is located at the bottom of each page.)

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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
- "GUI Comparison", page 6
- "Functional Comparison", page 16
- "Security Comparison", page 18
- "Configuration Files", page 21
- "Helpful Information on SGIconsole", page 23

Overviews of IRISconsole and SGIconsole

This section provides a brief overview of IRISconsole and SGIconsole.

IRISconsole

The IRISconsole software for a 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, the SGI Altix 3000 family of servers and superclusters 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 a software suite that provide access to common remote management tools.

Note: SGIconsole 2.0 is a software-only product. It requires a hardware platform and may require a serial multiplexer or Ethernet hub. For a list of recommended hardware to use with SGIconsole, see the *SGIconsole Hardware Connectivity Guide*.

SGIconsole supports SGI systems running both the IRIX and Linux operating systems. For the list of systems supported by the SGIconsole, see the *SGIconsole Hardware Connectivity Guide*.

SGIconsole 2.0 software includes the following software packages: Console Manager, Performance Co-Pilot, and L1 and L2 system controller commands. SGIconsole provides a web interface that allows access to this suite of tools, as shown in Figure 1-1, page 3.

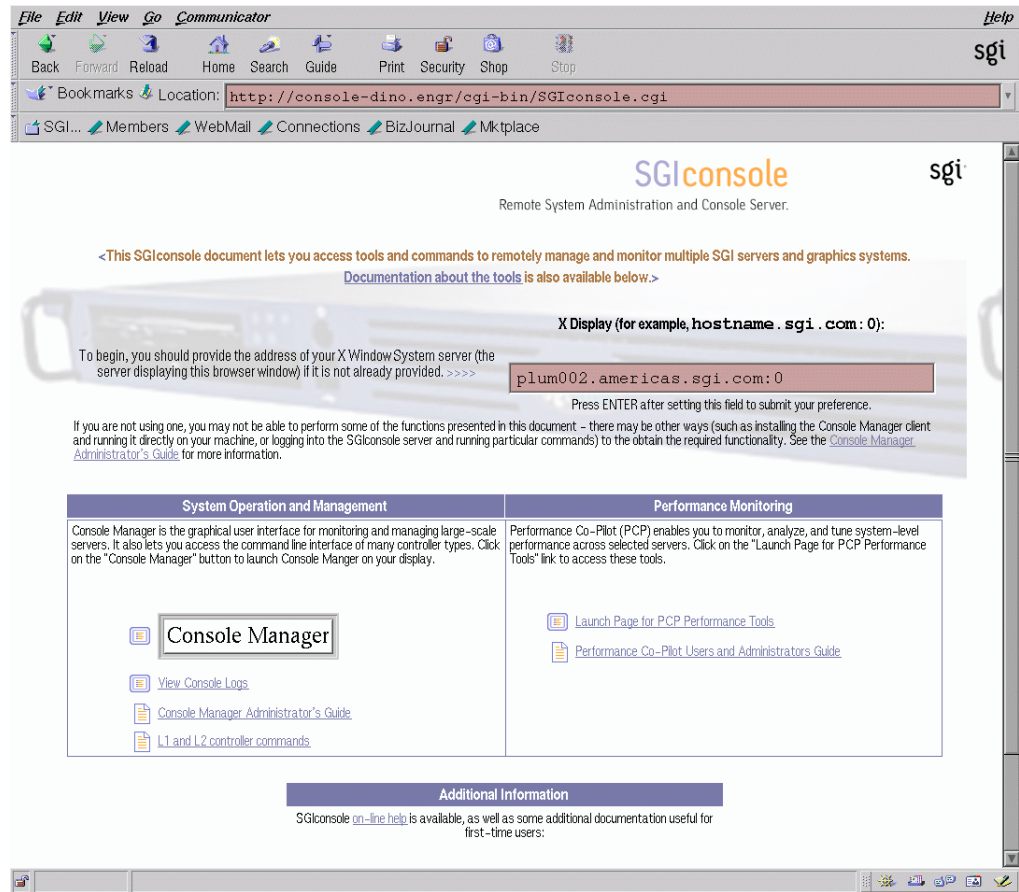


Figure 1-1 SGIconsole Web Interface

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	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, SGI Origin 3000, and SGI Altix 3000 systems, the L1 controllers monitor the activities of their bricks.

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 L1 and L2 Controller Software User's Guide*, *SGI Origin 300 User's Guide*, *SGI Origin 3000 Series Owner's Guide*, and the *SGI Altix 3000 User's Guide*, respectively.

Performance Co-Pilot 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.

Performance Co-Pilot 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 Performance Co-Pilot 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 Performance Co-Pilot 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 Performance Co-Pilot, see the *Performance Co-Pilot for IRIX User's and Administrator's Guide*.

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

Console Manager is a graphical user interface (GUI) 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.

An IRISconsole *system* is equivalent to an SGIconsole *node*.

`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*.

Hardware Platforms Supported

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

IRISconsole

Indy, O2, Octane, SGI Origin200 and SGI Origin2000 series of servers, Silicon Graphics Onyx2, and Silicon Graphics Onyx systems

SGIconsole

SGI Origin 200, SGI Origin 2000, SGI Origin 300, SGI Origin 3000 series of servers, SGI Altix 3000 family of servers and superclusters, Silicon Graphics Onyx2, SGI Onyx 300 and SGI Onyx 3000 series of graphics systems

GUI Comparison

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

IRISconsole GUI

Figure 1-2, page 7, 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.

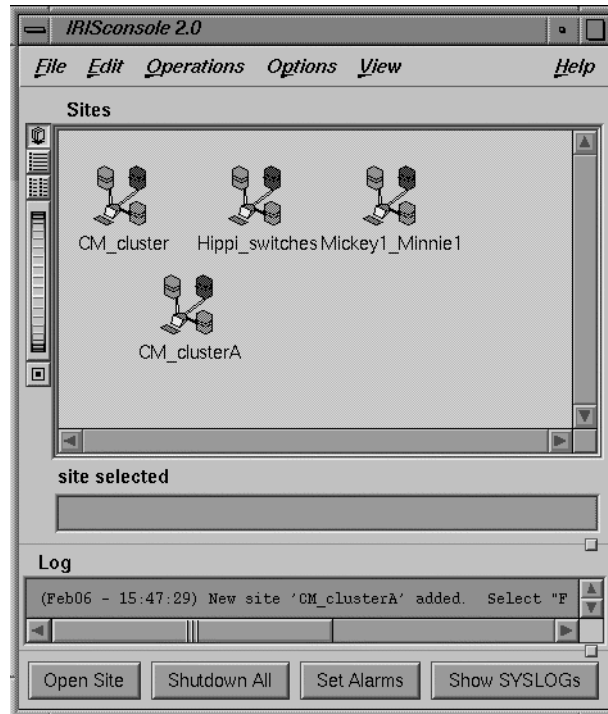


Figure 1-2 IRISconsole GUI Main Window

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 7, 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 8 shows an **IRISconsole Site** window with four systems.

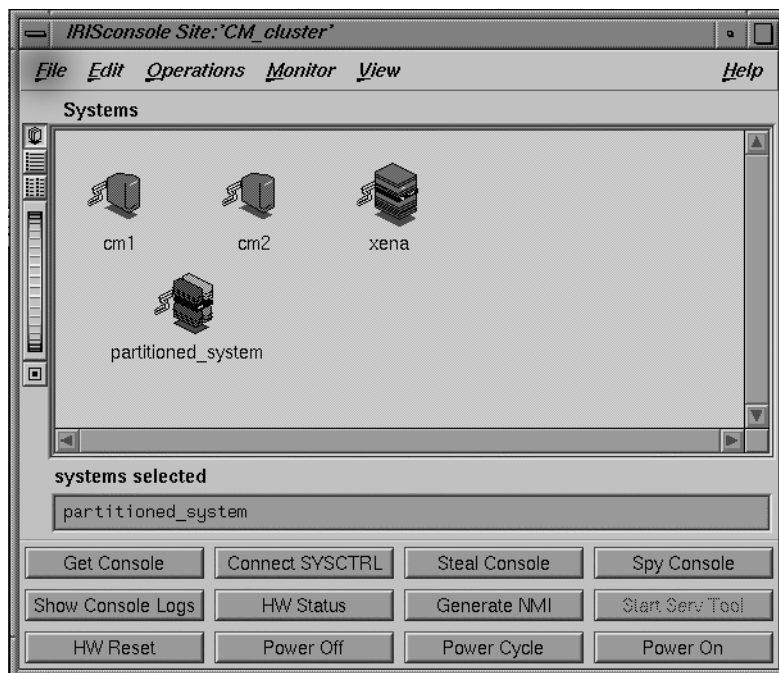


Figure 1-3 IRISconsole Site with Four Systems

You can use the buttons in the **IRISconsole 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 nonmaskable 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.

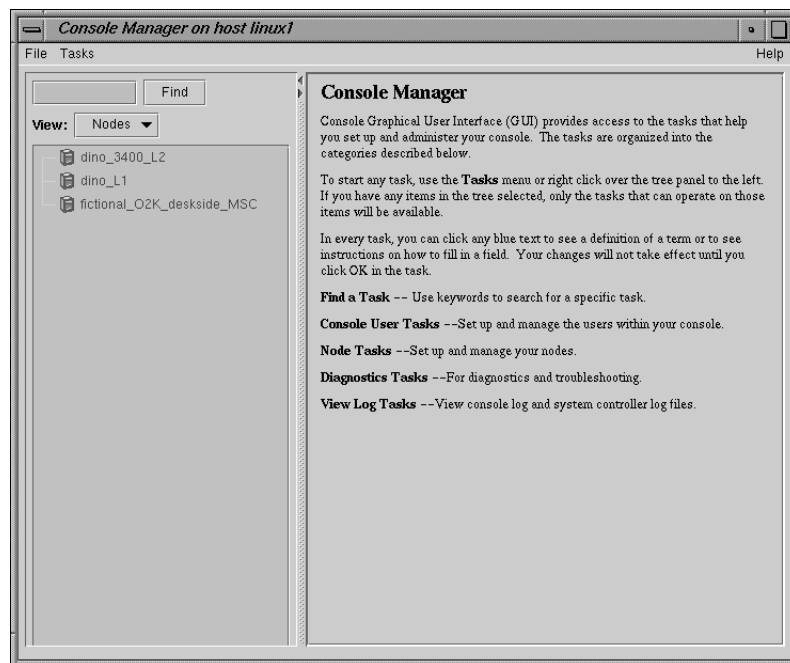


Figure 1-4 Console Manager GUI Main Window

The Console Manager **View** panel 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** panel.
- Shows the nodes configured at a site and the Console Manager users.
- Gives access to help information.

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

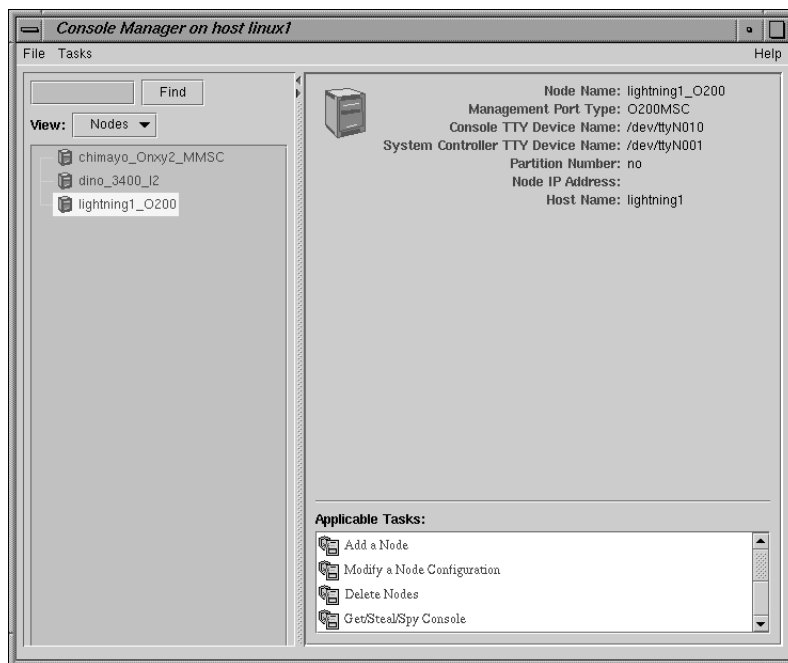


Figure 1-5 Console Manager **View** Panel

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 (see Figure 1-6, page 13) allows you to perform the following actions:
 - **New Console Manager**
 - **Clone this Console Manager**
 - **Show SALog**
 - **Close**
 - **Exit**
- The **Task** pulldown menu (see Figure 1-7, page 14) allows you to perform the following actions:
 - **Guided Configuration**, which allows 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, page 13 shows the **File** Pulldown

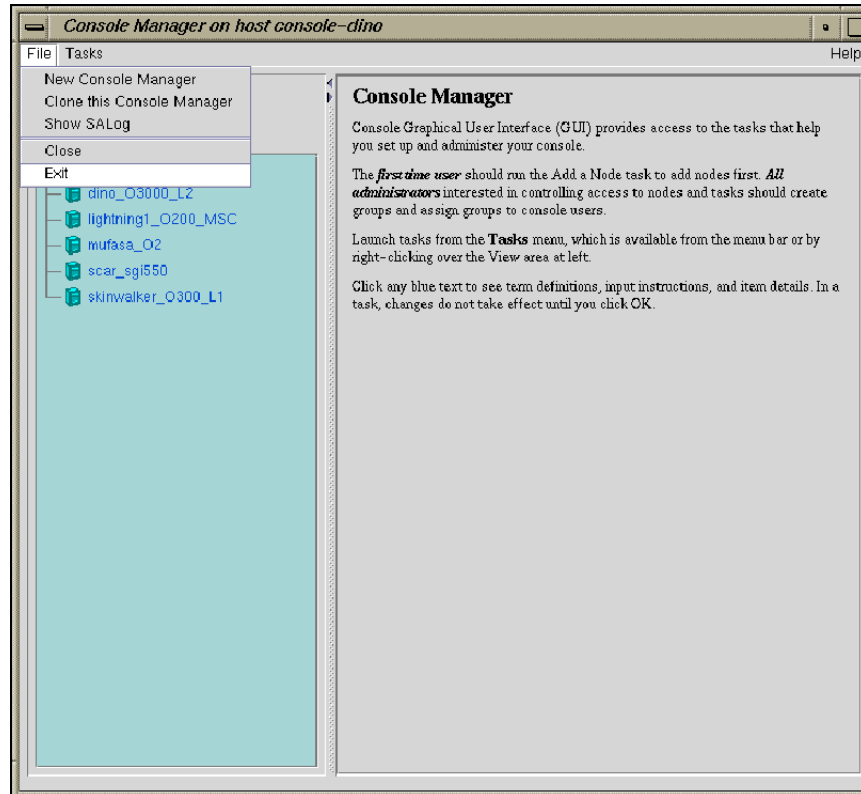


Figure 1-6 File Pulldown Menu

Figure 1-7, page 14 shows the **Tasks** pull-down menu.

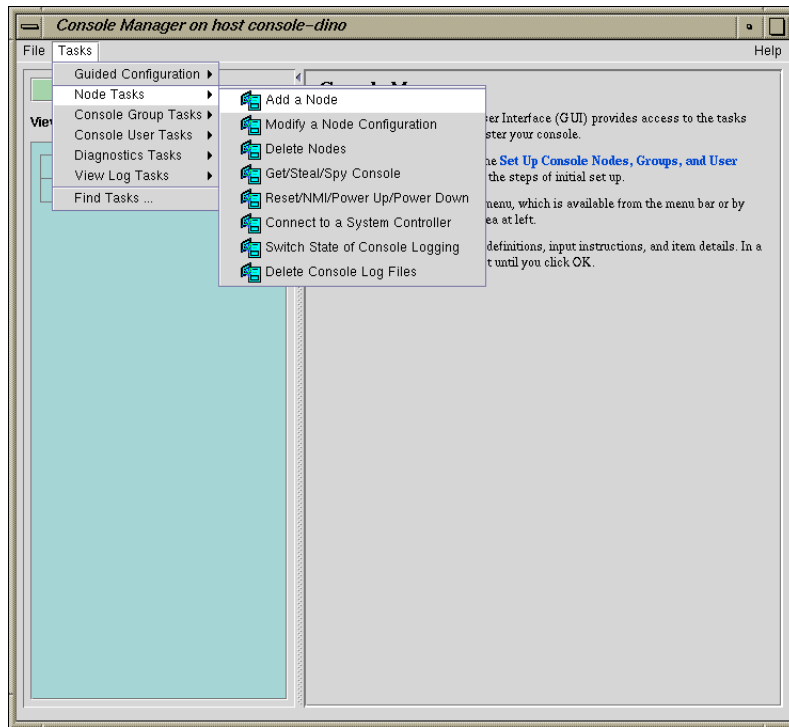


Figure 1-7 Console Manager **Tasks** Pull-down Menu

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 1-8, page 15.

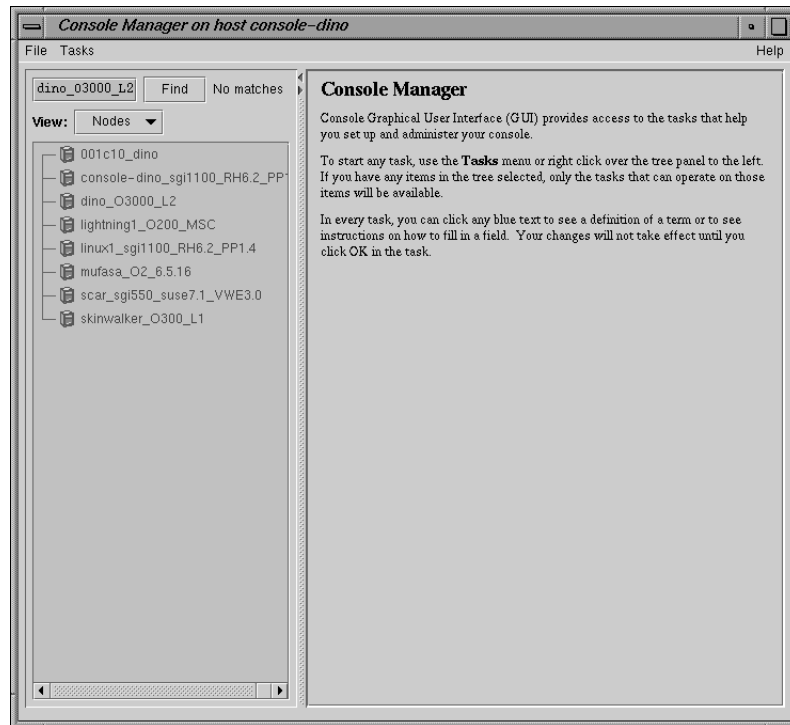


Figure 1-8 Find User and Node Object Button

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 IRISconsole versus SGIconsole.

Table 1-2, page 17, 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 nonmaskable 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 temperatures, 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 Support Partner (ESP). See the <code>esp(5)</code> man page.
Generate <code>availmon</code> report	Yes	No, but ESP provides equivalent functionality
Continuous system connection without console window active	No	Yes

1: Comparison of IRISconsole and SGIconsole

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, Performance Co-Pilot
Time-series (strip charts) for CPU utilization, disk activity, filesystem fullness, network traffic, NFS activity, paging, system calls and an overview	No	Yes, in Performance Co-Pilot
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 Performance Co-Pilot
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 1-9, page 19, 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 (using the **Edit** pulldown menu).



Figure 1-9 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 1-10, page 20).

In the Red Hat Linux 8.0 or 9.0 releases, `sshd(1)` is installed as part of the server installation and begins running when the system is booted. You can use the `ssh(1)` command on a workstation to initiate a connection to it. The `ssh(1)` command needs to be started at one endpoint of the secure communications session; the other endpoint is at the `sshd(8)` daemon running on the SGIconsole server itself.

To use `ssh(1)` security services, see “SGIconsole and Security Under OpenSSH” in the *Console Manager for SGIconsole Administrator’s Guide*.



Figure 1-10 Console Manager Security Window

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

SGIconsole 2.0 assumes your SGIconsole machine and remote display for viewing and running SGI application are behind a secure firewall. The SGIconsole 2.0 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 SGIconsole prevent users from issuing unauthorized operations to the SGIconsole server.

All SGIconsole operations that can be operated 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 can access and the list of tasks that a user can apply to any node in a 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 GUIs can be used to update these files.

IRISconsole Configuration

Figure 1-11, page 21, shows the dialog box used to change an IRISconsole site configuration.

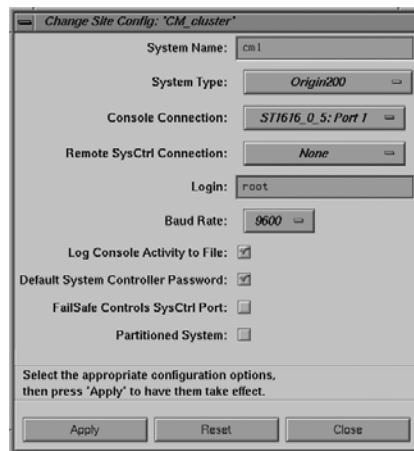


Figure 1-11 IRISconsole Change Site Config Dialog Box

When you use this dialog box to change the configuration of a site, the IRISconsole data base located in the `/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 1-11, page 21, 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 appropriate dialog box, as shown 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 1-12, page 23, 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 1-12 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" section in the beginning of this document.

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

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