Advanced Lights Out Management (ALOM) CMT v1.1 Guide

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Preface

The *Advanced Lights Out Management (ALOM) CMT v1.1 Guide* contains information about the Sun Advanced Lights Out Manager (ALOM) system controller. This controller enables you to remotely manage and administer your Sun Fire™ servers. You should be an experienced system administrator with a knowledge of UNIX® commands.

How This Book Is Organized

Chapter 1 introduces Sun Advanced Lights Out Manager (ALOM).

Chapter 2 tells you how to customize the ALOM software for your server.

Chapter 3 introduces some common tasks that are easily performed with ALOM.

Chapter 4 introduces some fault management tasks that you can perform with ALOM.

Chapter 5 explains the ALOM command-line interface.

Chapter 6 details configuration variables you can use to change ALOM behavior.

Appendix A identifies the diagnostics and how they may be used to troubleshoot problems with ALOM.

Using UNIX Commands

This document might not contain information on basic UNIX commands and procedures such as shutting down the system, booting the system, and configuring devices.

See one or more of the following for this information:

- *Solaris Handbook for Sun Peripherals*
- AnswerBook2™ online documentation for the Solaris™ Operating System
- Other software documentation that you received with your system

Typographic Conventions

Typeface	Meaning	Examples
AaBbCc123	The names of commands, files, and directories; on-screen computer output	Edit your `.login` file. Use `ls -a` to list all files. `% You have mail.`
AaBbCc123	What you type, when contrasted with on-screen computer output	`% `**`su`** `Password:`
AaBbCc123	Book titles, new words or terms, words to be emphasized. Replace command-line variables with real names or values.	Read Chapter 6 in the *User's Guide*. These are called *class* options. You *must* be superuser to do this. To delete a file, type `rm` *filename*.

Shell Prompts

Shell	Prompt
C shell	*machine-name*%
C shell superuser	*machine-name*#
Bourne shell and Korn shell	$
Bourne shell and Korn shell superuser	#
ALOM system controller	sc>
OpenBoot PROM firmware	ok

Related Documentation

For more information about how to work with your host server, the following
documentation provides information about how to perform certain tasks related to
ALOM.

Task	Title
Performing diagnostic tests	*SunVTS User's Guide*
	SunVTS Quick Reference Guide
	SunVTS Test Reference Manual
	Sun Management Center Software User's Guide
System and network administration	*Solaris System Administrator Guide*
	SPARC: Installing Solaris Software
Using operating system	*Solaris User's Guide*

Documentation, Support, and Training

Sun Function	URL
Documentation	http://www.sun.com/documentation/
Support	http://www.sun.com/support/
Training	http://www.sun.com/training/

Third-Party Web Sites

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Introduction to Sun Advanced Lights Out Manager

This chapter provides an overview of Sun Advanced Lights Out Manager (ALOM). The following topics are discussed:

- "ALOM Features" on page 1
- "What ALOM Monitors" on page 2
- "Fault and Failure Terminology" on page 4
- "Platform-Specific Information" on page 5

Subsequent chapters contain detailed instructions for configuring and using ALOM.

ALOM Features

Sun Advanced Lights Out Manager (ALOM) is a system controller that enables you to remotely manage and administer your server.

The ALOM software comes preinstalled on your server. Therefore ALOM works as soon as you install and power on the server. You can then customize ALOM to work with your particular installation. See "Configuring ALOM" on page 7.

ALOM enables you to monitor and control your server either over a network or by using a dedicated serial port for connection to a terminal or terminal server. ALOM provides a command-line interface that you can use to remotely administer geographically distributed or physically inaccessible machines, see "ALOM Shell Commands" on page 32.

In addition, ALOM enables you to run diagnostics, such as power-on self-test (POST), remotely, that would otherwise require physical proximity to the server's serial port, see "Using ALOM to Troubleshoot Server Problems" on page 133. You can also configure ALOM to send email alerts of hardware failures, hardware warnings, and other events related to the server or to ALOM.

The ALOM circuitry runs independently of the server, using the server's standby power. Therefore, ALOM firmware and software continue to function when the server operating system goes offline or when the server is powered off.

What ALOM Monitors

This section shows some of the components that ALOM can monitor on the server.

Component Monitored	What ALOM Reveals
Fans	Whether a fan is present, fan speed, and whether the fans report OK status
CPUs	The temperature measured at the CPU, and any thermal warning or failure conditions
Power supply	Power supply status and whether a fault has been reported
System enclosure temperature	System ambient temperature, as well as any enclosure thermal warning or failure conditions
Load	System load (in amps)
Current	Status of current sensors
Voltages	Whether correct voltages are reported
Server front panel	Status of LEDs

Using ALOM

The ALOM software comes preinstalled on your host server. Therefore, ALOM works as soon as you install and power on the server. You can connect an external ASCII terminal to the serial management port (SERIAL MGT) and start using ALOM right away without configuring the ALOM software. For more information about connecting an external terminal, refer to the installation guide that came with your host server.

You can use the ALOM software to monitor the host server in which the ALOM hardware is installed. This means that you can monitor only the host server, but not other servers on the network. Multiple users can monitor the host server, but only one user at a time has write access to the console. The other connections are read-only. Other users may issue commands that enable them to view the system console and ALOM output, but they may not change any settings.

There are several ways to connect to ALOM:

1. Connect an ASCII terminal directly to the SERIAL MGT port. See "Serial Management Port" on page 8.

2. Use the `telnet` command to connect to ALOM through the Ethernet connection attached to the network management (Ethernet) (NET MGT,) port. See "Network Management (Ethernet) Port" on page 9.

3. Connect a port on a terminal server to the SERIAL MGT port, and then use the `telnet` command to connect to the terminal server.

When you first apply power to the server, ALOM automatically begins monitoring the system and displaying output to the system console using the preconfigured default account. The default account is called `admin`, and has full (`cuar`) permissions. Refer to "userperm" on page 97 for more information on permissions.

To log in to ALOM and to specify a password for `admin`, perform the following step:

- At the ALOM command prompt (`sc>`), type the `password` command and then specify a password for the `admin` account. Refer to "password" on page 54.

  If you do not log in before ALOM times out, ALOM reverts to the system console and displays the following message:

```
Enter #. to return to ALOM.
```

If desired, after you log in to ALOM, you can customize ALOM to work with your particular installation. Refer to "Configuring ALOM" on page 7.

You can now perform some common administrative tasks, such as adding ALOM user accounts. Refer to "Common ALOM Tasks" on page 15.

Fault and Failure Terminology

All Sun Fire servers show two operational states that you can view and monitor using ALOM: `ok`, and `failed`. Some servers have an additional operational state: `faulty`. This section explains the differences between the `faulty` state and the `failed` state.

Fault State

A `faulty` state indicates that a device is operating in a degraded state, but the device is still fully operational. Due to this degradation, the device might not be as reliable as a device that does not show a fault. A device in the `faulty` state is still able to perform its primary function.

For example, a power supply shows a `faulty` state when an internal fan has failed. However, the power supply can still provide regulated power as long as its temperature does not exceed the critical threshold. In this `faulty` state, the power supply might not be able to function indefinitely, depending on the temperature, load, and efficiency. Therefore, it is not as reliable as a nonfaulted power supply.

Failed State

A `failed` state indicates that a device is no longer operational as required by the system. A device fails due to some critical fault condition or combination of fault conditions. When a device enters a `failed` state, it ceases to function and is no longer available as a system resource.

Using the example of the power supply, the power supply is considered failed when it ceases to provide regulated power.

Platform-Specific Information

Before you update the ALOM firmware using the `flashupdate` command, make sure that:

■ The virtual keyswitch is not in the LOCKED position.

■ ALOM is network configured. See "shownetwork" on page 88 for information about how to display the current network configuration of your server.

■ You have the proper permissions (permission level: `a`).

■ You have a valid ALOM firmware image located on a network-accessible directory.

For more information, refer to the installation guide that came with your system.

Configuring ALOM

This chapter provides help on some basic configuration tasks including:

- "ALOM Configuration Steps" on page 7
- "Planning Your ALOM Configuration" on page 8
- "Choosing ALOM Communication Ports" on page 8
- "Configuration Worksheet" on page 10
- "Configuring Email Alerts" on page 13
- "Setting Up ALOM" on page 13

ALOM Configuration Steps

Your ALOM software comes preinstalled on your host server, so it works as soon as you apply power to the server. You can connect a terminal to the serial management port (SERIAL MGT) and immediately start working with ALOM.

However, if you want to customize ALOM for your installation, you must perform some basic tasks.

Here are the tasks you must complete to customize ALOM:

1. Plan how to customize your configuration. Refer to "Planning Your ALOM Configuration" on page 8 for more information.

2. Use the configuration worksheet to record your settings. Refer to "Configuration Variable Worksheet" on page 11.

3. Run the `setupsc` command. Refer to "Setting Up ALOM" on page 13.

4. Use the configuration variables to customize the ALOM software. See "To Use Configuration Variables in the ALOM Command Shell" on page 102.

Explanations of the listed tasks follow.

Planning Your ALOM Configuration

ALOM software comes preinstalled on your host server. Follow the directions in this section to reinstall or update ALOM.

Note – Refer to your system administration guide to find the location of the serial and Ethernet connections for ALOM.

Before you run the `setupsc` command to set up ALOM, you must decide how you want ALOM to manage your host server. You need to make the following decisions about your configuration:

- Which ALOM communication ports to use. See "Choosing ALOM Communication Ports" on page 8.
- Whether you want to enable alert messages, and where you want to send them. See "Configuration Worksheet" on page 10.

Once you make those decisions, print the configuration worksheet shown in "Configuration Variable Worksheet" on page 11, and use it to record your responses to the `setupsc` command.

Choosing ALOM Communication Ports

The ALOM hardware contains two types of communication ports:

- Serial management port (SERIAL MGT)
- Network management (Ethernet) port (NET MGT)

Both ports give you access to the ALOM command shell. By default, ALOM communicates through the SERIAL MGT port at startup.

Note – Refer to your system administration guide to find the location of the server's serial management and network management (Ethernet) connections.

Serial Management Port

You can connect to the ALOM serial management port with an ASCII terminal or terminal emulator (such as a serial connection from a workstation).

This port is not an all-purpose serial port; it is a dedicated port used to access ALOM and the server console through ALOM.

On your server, this port is referred to as the SERIAL MGT port. This port takes a standard RJ-45 connector.

Ensure that your console serial port is set to the following parameters:

- 9600 baud
- 8 bits
- No parity
- 1 stop bit
- No handshaking

The host server automatically sets these parameters for ALOM when it starts up. The settings are read-only, and cannot be changed from the ALOM sc> prompt. To view the settings for the parameters from the sc> prompt after you establish an ALOM session, check the serial port variables. Refer to "Serial Management Port Variables" on page 102 for more information.

▼ To Connect to the Serial Port

1. **Connect to ALOM.**

   See "Connecting to ALOM" on page 15 and "Logging In to Your ALOM Account" on page 27 for detailed instructions on establishing an ALOM system controller session.

   The ALOM shell prompt (sc>) is displayed.

2. **To connect to the system console, in the ALOM system controller window type:**

   ```
   sc> console
   ```

3. **To return to the ALOM shell prompt (sc>) type the escape sequence (Pound-Period):**

   ```
   sc> #.
   ```

Network Management (Ethernet) Port

The 10/100-Mbit Ethernet port enables you to access ALOM from within your company network. You can connect to ALOM remotely using any standard Telnet client with TCP/IP (Transmission Control Protocol/Internet Protocol). On your server, the ALOM Ethernet port is referred to as the NET MGT port.

Note – When you connect a terminal device to the NET MGT port, the server must be connected to a 10-Mbit or 100-Mbit network. ALOM does not support 1-Gbit networks.

Configuration Worksheet

You only need to use this worksheet if you want to customize ALOM for your installation.

To customize ALOM, you use the configuration variables. Refer to "Using ALOM Configuration Variables" on page 101 for details of variables.

There are two ways to set up the configuration variables for ALOM:

- Specify values for the variables during execution of the setupsc command. Refer to "setupsc" on page 69.
- Configure each variable individually using the setsc command as described in "setsc" on page 68.

Print this section and use the table to record your inputs. This table can also serve as your record of the host server configuration in case you need to reinstall the server software or modify the ALOM settings.

Make sure that your terminal device is connected to ALOM before you customize the ALOM software. "Choosing ALOM Communication Ports" on page 8 details the process.

Configuration Variable Worksheet

TABLE 2-1 identifies the configuration variables responsible for Ethernet control and their default values. Enter your values in the extreme right column.

TABLE 2-1   Ethernet Variables by Function

Function	Value/Response	Configuration Variable	Default Variable	Your Values
How do you want to control network configuration?	Manually, see "Configuring Your Network Manually" on page 12. Using DHCP, see "Configuring Your Network Using DHCP" on page 12.			
Internet Protocol (IP) address for ALOM		netsc_ipaddr, see "netsc_ipaddr" on page 116.	0.0.0.0	
IP address for the subnet mask		netsc_ipnetmask see "netsc_ipnetmask" on page 119.	255.255.255.0	
IP address for the default gateway to use when the destination is not on the same subnet as ALOM		netsc_ipgateway, see "netsc_ipgateway" on page 117.	0.0.0.0	
Do you want ALOM to send alerts by email? Email addresses to use for sending alerts (maximum of two mail servers supported)		mgt_mailalert, see "mgt_mailalert" on page 112.	[] The default has no email addresses configured	
IP address for your Simple Mail Transfer Protocol (SMTP) mail server (maximum of two mail servers supported)		mgt_mailhost see "mgt_mailhost" on page 114.	0.0.0.0	

Related Information

- About ALOM configuration variables, see "Using ALOM Configuration Variables" on page 101
- "userpassword" on page 96

Configuring Your Network Using DHCP

There are two ways to configure Dynamic Host Configuration Protocol (DHCP) for ALOM:

- Using the setupsc script ("setupsc" on page 69) to set the netsc_dhcp variable, as described in "netsc_dhcp" on page 115.
- Using the setsc command ("setsc" on page 68) to set the value of the netsc_dhcp variable to true (enable DHCP), described in "netsc_dhcp" on page 115.

Note – It is a best practice to set the ALOM device name associated with the Internet Protocol (IP) address in name server maps (network information service [NIS] or domain name system [DNS]) to be the name of the host server with -sc appended to it. For example, if your host server's name is bert, the ALOM device name is bert-sc.

If you use DHCP to control your network configuration, configure the DHCP server to assign a fixed IP address to ALOM.

Configuring Your Network Manually

There are two ways to manually configure the network for ALOM:

- Using the setupsc script to set the network configuration variables all at once
- Using the setsc command to set the values of each network configuration variable individually.

If you set each variable individually, you need to set the following variables:

- "if_network" on page 110
- "netsc_ipaddr" on page 116
- "netsc_ipnetmask" on page 119
- "netsc_ipgateway" on page 117

Configuring Email Alerts

To send email alerts, the ALOM Ethernet port must be enabled, (see "Network Management (Ethernet) Port" on page 9).

When a problem occurs, ALOM sends an alert message to all users who are logged in to ALOM accounts on that server. In addition, you can configure ALOM to send alerts by email to users who are not logged in. When a user receives an alert, that user can connect to the ALOM account for that host server and address the alert condition.

The ALOM software permits you to set up to eight unique email addresses to receive alerts. You can configure each email address to receive its own severity level of alerts (critical, major, or minor). Refer to "Sending and Receiving Alert Messages" on page 26.

Setting Up ALOM

After you have finished planning your configuration, run the setupsc command described on "setupsc" on page 69. Follow the prompts on the screen to customize the ALOM software for your installation.

Note – You do not have to customize the ALOM software before you can use it. The ALOM software works as soon as you connect power to the server.

The setupsc command runs a script that steps you through each ALOM function that you can customize. Each function is associated with one or more configuration variables. For more on configuration variables, refer to Chapter 6. To configure a function, type **y** when the setupsc script prompts you to do so. To skip a function, type **n**.

If you later need to change a setting, run the setsc command as described on "setlocator Command Options" on page 68.

Customizing the ALOM Software

The `setupsc` script enables you to set up a number of configuration variables at once. See Chapter 6 for more information. If you want to change one or more configuration variables without running the `setupsc` script, use the `setsc` command as shown on "To Use the `setsc` Command" on page 68.

Related Information

- "ALOM Shell Commands" on page 32.
- "Configuration Worksheet" on page 10.
- "ALOM Configuration Steps" on page 7.

Common ALOM Tasks

Once you have logged in to ALOM as admin and specified the `admin` password, you might want to perform some common administrative tasks:

Connecting to ALOM

Here are several ways to connect to ALOM:

- Connect an ASCII terminal directly to the SERIAL MGT port. See "Serial Management Port" on page 8.

- Use the `telnet` command to connect to ALOM through the Ethernet connection attached to the NET MGT port. See "Reconfiguring ALOM to Use the Ethernet Port" on page 19.

- Connect a port on a terminal server to the SERIAL MGT port, and then use the `telnet` command to connect to the terminal server.

Resetting ALOM

Resetting ALOM reboots the ALOM software. You might have to reset ALOM after you have changed settings on ALOM, for example, specifying a new value for certain variables such as for `netsc_ipaddr`.

▼ To reset ALOM

- **At the `sc>` prompt, type the `resetsc` command.**

  Refer to "resetsc" on page 61.

Switching Between the System Console and ALOM

- To switch from the console output to the ALOM `sc>` prompt, type **#.** (Pound-Period).
- To switch from the `sc>` prompt to the console, type **console**.

Note – The `#.` (Pound-Period) character sequence is the default escape character sequence for ALOM. If desired, you can change the first character in the escape sequence by using the `sc_escapechars` variable. For example, `sc>` **setsc sc_escapechars a.** See "sc_escapechars" on page 125 for more information.

Redirecting the System Console From ALOM to Other Devices

When you first start to apply power to the host server, ALOM is initially configured to display the system console output. The SER MGT port is shown on the host server as `virtual-console`.

Displaying Your ALOM Version

The `showsc` command displays information about the ALOM software configuration.

For example, to display the ALOM version, type the following at the `sc>` prompt:

```
sc> showsc version
Advanced Lights Out Manager CMT v1.0
```

For more details, see "To Use the `showsc` Command" on page 90.

Controlling the Locator LED

Use ALOM commands to turn the Locator LED on and off, and to check the state of the LED.

- To turn the LED on and off use the `setlocator` command. For more information refer to "`setlocator`" on page 67.
- To check the state of the LED, use the `showlocator` command. For more information refer to "`showlocator`" on page 85.

Powering On and Off the Host Server

There are several ways to power the host server on and off from the `sc>` prompt.

- To power on the server, type the `poweron` command. Refer to "poweron" on page 58.
- To connect to the system console after powering on the server, type the `poweron -c` command.
- To perform a graceful reset of the server, type the `powercycle` command.

  A graceful reset enables the Solaris Operating System (Solaris OS) to shut down. If (instead) you type the `poweroff` command without typing the `poweron` command, ALOM powers the host server down to standby mode. Refer to "powercycle" on page 56 or "poweroff" on page 56.

- To force the server to shut down regardless of the state of the host server, type the `poweroff -f` command.

  This resets the host server immediately, even if the Solaris OS fails or hangs for any reason. Note that this is not a graceful shutdown, and work might be lost.

Resetting the Host Server

There are four ways to reset the host server from the `sc>` prompt:

- To perform a graceful reset of the server, type the `powercycle` command.

  A graceful reset enables the Solaris OS to shut down. If (instead) you type the `poweroff` command without typing the `poweron` command, ALOM powers the host server down to standby mode. Refer to "powercycle" on page 56.

- To force the server to shut down regardless of the state of the host server, type the `powercycle -f` command. This resets the host server immediately, even if the Solaris OS fails or hangs for any reason. Note that this is not a graceful shutdown, and work might be lost.

- To reset the server immediately without a graceful shutdown, type the `reset` command. Refer to "reset" on page 60.

- To immediately bring the server to the OpenBoot PROM prompt (`ok`), type the `break` command. Refer to "break" on page 38.

Viewing Environmental Information About the Server

This section discusses displaying and monitoring the server's environmental status.

The `showenvironment` command displays a snapshot of the server's environmental status. The information this command can display includes system temperatures, hard disk drive status, power supply and fan status, front panel LED status, voltage and current sensors, and so on.

▼ To Use the `showenvironment` Command

Note – You do not need user permissions to use this command.

- **To use the** `showenvironment` **command, at the** `sc>` **prompt, type:**

```
sc> showenvironment
```

The display output differs according to your host server's model and configuration. Some environmental information might not be available when the server is in standby mode. See "showenvironment" on page 73.

Reconfiguring ALOM to Use the Ethernet Port

By default, ALOM uses the serial management port (SERIAL MGT) to communicate with an external terminal or other ASCII device. If desired, you can reconfigure ALOM to use the Ethernet network management (NET MGT) port, and then you can connect to ALOM through `telnet`.

The NET MGT port accommodates a standard RJ-45 connector.

Note – When you connect a terminal device to the NET MGT port, the server must be connected to a 10-Mbit or 100-Mbit network. ALOM does not support 1-Gbit networks.

To configure the ALOM software to communicate using the NET MGT port, you need to specify values for the network interface variables. See "Network Interface Variables" on page 103.

There are two ways to specify values for these variables:

- Run the setupsc script from the sc> prompt. Refer to "setupsc" on page 69.
- Set values for each individual variable from the sc> prompt using the setsc command. Refer to "setsc" on page 68

▼ To Run the setupsc Script

1. **To run the** setupsc **script, at the** sc> **prompt type** **setupsc:**

```
sc> setupsc
```

The setup script starts.

2. **To exit the script, take one of the following actions:**
   - To exit the script and save the changes you have made, type Control-Z.
   - To exit the script without saving any changes, type Control-C.

For example, the script includes the following messages and questions:

```
sc> setupsc
Entering interactive script mode. To exit and discard changes to
that point, use Ctrl-C or to exit and save changes to that point,
use Ctrl- Z.

Do you wish to configure the enabled interfaces [y]?
Should the SC network interface be enabled [y]?
Should the SC email alerts be enabled [y]?
Do you wish to configure the network interface [y]?
Do you wish to configure the network management interfaces [y]?
Do you wish to configure the SC parameters [y]?

Your ALOM configuration profile has been successfully completed.
To activate your network configuration, please reset the SC.
```

If desired, you can customize all of the ALOM configuration variables at once by following the interactive questions in the script. Refer to "Overview of the ALOM Configuration Variables" on page 101. To configure only the network interface variables, press Return at each prompt until the following prompt is displayed:

```
Do you wish to configure the enabled interfaces?
```

See "Network Interface Variables" on page 103 for further details.

▼ To Configure the Network Interface Variables

1. **At the `sc>` prompt, type `y` to confirm that you want to configure the network interface variables.**

   The `setupsc` script returns the following prompt:

   ```
   Should the SC network interface be enabled [y]?
   ```

2. **Type `y` or press Return to enable the network interface, or type `n` to disable it.**

   This sets a value for the `if_network` variable. See "if_network" on page 110.

3. **Follow the interactive questions in the script. The script prompts you to set values for the following variables:**
   - `netsc_dhcp` – see "netsc_dhcp" on page 115
   - `netsc_ipaddr` – see "netsc_ipaddr" on page 116
   - `netsc_ipnetmask` – see "netsc_ipaddr" on page 116
   - `netsc_ipgateway` – see "netsc_ipgateway" on page 117

4. **When you have finished setting up the network interface variables, type Control-Z to save your changes and exit the `setupsc` script.**

   If desired, you can finish configuring all of the ALOM configuration variables.

   Before you can use your network configuration, you must reset ALOM.

▼ To reset ALOM

- **At the `sc>` prompt, type the `resetsc` command.**

  See "resetsc" on page 61.

Using the `setsc` Command to Set the Network Interface Variables

You can set values for the network interface variables from the `sc>` prompt using the `setsc` command. You issue the command once for each variable you would like to configure. For example:

```
sc> setsc if_network true
sc> setsc netsc_ipaddr 123.123.123.123
```

Specify values (or use the default values) for each of the following variables:

- `if_network` – see "if_network" on page 110
- `if_modem` – see "if_modem" on page 111
- `netsc_dhcp` – see "netsc_dhcp" on page 115
- `netsc_ipaddr` – see "netsc_ipaddr" on page 116
- `netsc_ipnetmask` – see "netsc_ipnetmask" on page 119
- `netsc_ipgateway` – see "netsc_ipgateway" on page 117

Adding ALOM User Accounts

This section describes the procedure for adding ALOM user accounts.

Note – You can add a maximum of 15 unique user accounts to ALOM.

▼ To Add an ALOM User Account

1. **At the `sc>` prompt, type the `useradd` command, followed by the user name you want to assign to that user.**

   For example:

```
sc> useradd joeuser
```

   See "useradd" on page 94.

2. **To assign a password to an account, type the** `userpassword` **command followed by the user name you assigned to the account.**

For more on the `userpassword` command, refer to "userpassword" on page 96. ALOM prompts you to specify the password, and to verify the password. Note that ALOM does not echo the password to the screen. For example:

```
sc> userpassword joeuser
New password:
Re-enter new password:
```

Note – User passwords have certain restrictions. Make sure that the password you assign observes these restrictions. See "Password Restrictions" on page 55.

3. **To assign permissions to an account, type the** `userperm` **command followed by the user name you assigned to the account and the permission levels you want that user to have.**

For example:

```
sc> userperm joeuser cr
```

For further information, see "userperm" on page 97 or "Permission Levels" on page 97.

You can also view the permission and password status for a single ALOM user, or view information for all ALOM user accounts.

- To view the permission and password status for a single ALOM user, at the `sc>` prompt, type the `usershow` command followed by the assigned user name.

  For example:

```
sc> usershow joeuser
Username                 Permissions              Password
joeuser                  --cr                     Assigned
```

See "usershow" on page 100.

- To see the list of ALOM user accounts, permissions, and password status information, at the `sc>` prompt type **usershow**.

  For example:

```
sc> usershow
Username                  Permissions              Password
admin                     cuar                     Assigned
wwilson                   --cr                     none
joeuser                   --cr                     Assigned
```

Removing ALOM User Accounts

To remove ALOM user accounts, use the `userdel` command.

Note – You cannot delete the default `admin` account from ALOM.

▼ To Remove an ALOM User Account From the `sc>` Prompt

To remove an ALOM user account from the `sc>` prompt, perform the following step:

● **At the `sc>` prompt, type the** `userdel` **command followed by the user name of the account you want to delete.**

For example:

```
sc> userdel joeuser
Are you sure you want to delete user <joeuser> [y/n]? y
sc>
```

Changing the Password on Your Account or Another User's Account

You can change your own password or that of another user by following these steps:

▼ To Change Your ALOM Password

You can change your own ALOM account password from the `sc>` prompt. You do not need to have any permissions to change your own password.

● **At the `sc>` prompt, type the following command:**

```
sc> password
```

When you use this command, ALOM prompts you for your current password. If you enter the password correctly, it prompts you twice to enter the new password. For example:

```
sc> password
password: Changing password for username
Enter current password: ******
Enter new password: ******
Re-enter new password: ******
sc>
```

▼ To Change the ALOM Password for Another User

Note – You must have `u` level user permission to change another user's password. See "userperm" on page 97.

To change the password for another user's ALOM account:

● **At the `sc>` prompt, use the `userpassword` command.**

See "userpassword" on page 96.

Sending and Receiving Alert Messages

You can customize ALOM to send email alerts to all users logged in to ALOM at the time an event occurs. You can specify at which event level (critical, major, minor) email alerts are sent to each user, and you can send customized event messages as emails to each user.

The ALOM software enables you to send and receive alerts directly or using a script. There are three levels of alerts:

- Critical
- Major
- Minor

Note – You can configure email alerts for up to eight users. You can configure each email address to receive its own severity level of alert.

▼ To Set Up Email Alerts

1. **Ensure that ALOM is set up to use the Ethernet network management port (NET MGT), and that the network interface variables are configured.**

   See "Reconfiguring ALOM to Use the Ethernet Port" on page 19.

2. **Set the** `if_emailalerts` **variable to** `true`**.**

   See "if_emailalerts" on page 109

3. **Set values for the** `mgt_mailhost` **variable to identify one or two mail hosts on the network.**

   See "mgt_mailhost" on page 114.

4. **Set values for the** `mgt_mailalert` **variable to specify email addresses and alert levels for each user.**

   See "mgt_mailalert" on page 112.

Receiving Alerts From ALOM

If you are using the ALOM command shell and are not connected to the host server's console, you will receive alert messages from ALOM when it detects a critical-level or major-level event. This can happen while you are typing ALOM commands. If this happens, press Return and retype the command.

For example:

```
sc> cons
SC Alert: SYS_FAN at FT0.F0 has Failed
sc> console
```

Logging In to Your ALOM Account

Ensure that you have established your hardware connections to the ALOM ports you plan to use. On your server, the Ethernet port is labeled NET MGT. The serial port is labeled SERIAL MGT. Refer to your server's installation guide for more information about these ports and how to connect devices to them.

When you connect to ALOM for the first time, you are automatically connected as the admin account. This account has full (cuar) permissions. Before you can issue any of ALOM's privileged commands, you need to specify a password for this account. After you specify the password, you can issue privileged commands. The next time you log in to the admin account, you must specify the password. When you are logged in as admin, you can add new users and specify passwords and permissions for them.

Refer to "useradd" on page 94, "userpassword" on page 96, and "userperm" on page 97 for more information about this process.

▼ To Log In to ALOM

All users (admin and other users) employ the following procedure to log in to ALOM.

1. **Connect to ALOM.**

   See "Connecting to ALOM" on page 15.

2. **When the connection is established, type # . (Pound-Period) to escape from the system console.**

3. Type in your ALOM login name and password.

Your password is not echoed to the screen; instead, the host server displays an asterisk (*) for each character that you type. After you successfully log in, ALOM displays its command prompt:

```
sc>
```

You can now use ALOM commands or switch to the system console. See "Overview of the ALOM Command Shell" on page 31 and "Serial Management Port" on page 8.

The ALOM event log records login information. If more than five login failures occur within five minutes, ALOM generates a critical event. See "showlogs" on page 86.

Related Information

- "Choosing ALOM Communication Ports" on page 8
- "Serial Management Port" on page 8

ALOM Fault Management Tasks

ALOM CMT contains fault management features. To use these features, use the `showfaults` and `clearfault` commands. This chapter contains information on the following headings:

- Sources of Fault Information
- Getting Knowledge Articles for Managing Faults

Sources of Fault Information

Faults are events indicating that some corrective action is required.

Faults can come from three sources:

- Environmental conditions
- Hardware problems reported by POST
- Run-time problems reported by the Solaris OS

The corrective actions indicated by faults can take three forms:

- Rectify environmental conditions. For example, if a fault message reports that the temperature is too high, you might need to lower the temperature in the room where the server is located. If a fault message indicates that a power supply is receiving intermittent power, you might need to check to make sure that the power supply's power cord is plugged-in fully.
- Replace a physical component. If a fault message indicates that a hardware component (such as a fan, power supply, or DIMM) has failed, replace it.
- Follow the detailed instructions in the Knowledge Article supplied online at `www.sun.com/msg`.

Getting Knowledge Articles for Managing Faults

To manage system faults effectively, access the knowledge article database at www.sun.com.

▼ To Get the Appropriate Knowledge Article

1. **At the** `sc>` **prompt, issue the** `showfaults` **command**

```
sc> showfaults
ID FRU              Fault
 0 FIOBD             Host detected fault, MSGID: SUNW-TEST07
 1 MB                Host detected fault, MSGID: SUNW-TEST07
```

2. **Identify the SUNW-MSG-ID** *string* **in the** `showfault` **output**

   In this example, it is `SUNW-TEST07`.

3. **Point your browser to** `http://www.sun.com/msg/SUNW-TEST07`

   (Alternatively, point your browser to `http://www.sun.com/msg/` and type the SUNW-MSG-ID `SUNW-TEST07` into the lookup window on the `http://www.sun.com/msg/` web page)

4. **Read and follow the instructions in the article supplied by the** `www.sun.com/msg` **web site.**

   For example, the knowledge article might advise you to:
   - Install a specified patch and Issue the `clearfaults` command
   - Run further diagnostics
   - Replace a faulty hardware component

Using the ALOM Command Shell

This chapter contains the following sections:

Overview of the ALOM Command Shell

The ALOM command shell is a simple command-line interface (CLI). Through the ALOM command shell, you can administer, diagnose, or control the host server, and you can configure and manage ALOM.

You are in the ALOM command shell when you see the sc> prompt. ALOM supports a total of eight concurrent Telnet sessions and one serial session per server. This means that you can run nine command shell operations at once.

After you log in to your ALOM account, the ALOM shell prompt (sc>) appears, and you can enter ALOM shell commands. See "Logging In to Your ALOM Account" on page 27 and "ALOM Shell Commands" on page 32 for assistance.

▼ Entering Command Options

If the command you want to use has multiple options, you can either enter the options individually or grouped together, as shown in this example. These two commands are identical.

```
sc> poweroff -f -y
sc> poweroff -fy
```

Related Information

- "ALOM Shell Error Messages" on page 134
- "Logging In to Your ALOM Account" on page 27

ALOM Shell Commands

The following table lists the ALOM shell commands and briefly describes what these commands do.

TABLE 5-1   List of ALOM Shell Commands by Function

CLI Command	Summary	Full Description
Configuration Commands		
password	Changes the login password of the current user.	"password" on page 54.
setdate [[*mmdd*]*HHMM* |*mmddHHMM*[*cc*]*yy*][.*SS*]	Sets ALOM date and time.	"setdate" on page 62
setdefaults [–y] [–a]	Resets all ALOM configuration parameters to their default values. The –y option enables you to skip the confirmation question. The –a option resets the user information to the factory default (one admin account only).	"setdefaults" on page 64
setkeyswitch [normal|stby|diag| locked] [–y]	Set the status of the virtual keyswitch. Setting the virtual keyswitch to standby (stby) powers off the server. Before powering off the host server, ALOM asks for a confirmation. The –y flag answers yes to the confirmation.	"setkeyswitch" on page 66
setsc [*param*] [*value*]	Sets the specified ALOM parameter to the assigned value.	"setsc" on page 68
setupsc	Runs the interactive configuration script. This script configures the ALOM configuration variables.	"setupsc" on page 69
showplatform [–v]	Displays information about the host system's hardware configuration, and whether the hardware is providing service. The –v option displays verbose information about the displayed components.	"showplatform" on page 90
showfru [–g *lines*] [–s|–d] [*FRU*]	Displays information about the field-replaceable units (FRUs) in a host server.	"showfru" on page 81

TABLE 5-1 List of ALOM Shell Commands by Function *(Continued)*

CLI Command	Summary	Full Description
showusers [–g *lines*]	Displays a list of users currently logged in to ALOM. The display for this command has a similar format to that of the UNIX command `who`. The –g option pauses the display after the number of lines you specify for *lines*.	"showusers" on page 93
showhost [*version*]	Displays version information for host-side components	"showhost" on page 84
showkeyswitch	Display status of virtual keyswitch.	"showkeyswitch" on page 85
showsc [–v] [*param*]	Displays the current non-volatile read-only memory (NVRAM) configuration parameters. The –v option is needed for full version information.	"showsc" on page 90
showdate	Displays the ALOM date. The Solaris OS and ALOM time are synchronized, but ALOM time is expressed in Coordinated Universal Time (UTC) rather than local time.	"showdate" on page 72
usershow [*username*]	Displays a list of all user accounts, permission levels, and whether passwords are assigned.	"usershow" on page 100
useradd [*username*]	Adds a user account to ALOM.	"useradd" on page 94
userdel [–y] [*username*]	Deletes a user account from ALOM. The –y option enables you to skip the confirmation question.	"userdel" on page 95
userpassword [*username*]	Sets or changes a user password.	"userpassword" on page 96
userperm [*username*] [c] [u] [a] [r]	Sets the permission level for a user account.	"userperm" on page 97
Log Commands		
showlogs [–b *lines*|–e *lines*|–v] [–g *lines*] [–p *logtype* [r|p]]	Displays the history of all events logged in the ALOM RAM event log or major and critical events in the persistent log. The –p option selects whether to display entries only from the RAM event log (*logtype* r) or the persistent event log (*logtype* p).	"showlogs" on page 86
consolehistory [–b *lines*|–e *lines*|–v] [–g *lines*] [boot|run]	Displays the host server console output buffers. The –v option displays the entire contents of the specified log.	"consolehistory" on page 44

TABLE 5-1   List of ALOM Shell Commands by Function *(Continued)*

CLI Command	Summary	Full Description
Status and Control Commands		
showenvironment	Displays the environmental status of the host server. This information includes system temperatures, power supply status, front panel LED status, hard disk drive status, fan status, voltage, and current sensor status.	"showenvironment" on page 73
shownetwork [–v]	Displays the current network configuration information. The –v option shows additional information about your network, including information about your DHCP server.	"shownetwork" on page 88
console [–f]	Connects to the host system console. The –f option forces the console write lock from one user to another.	"console" on page 42
break [–y] [–c]	Drops the host server from running the Solaris OS software into OpenBoot PROM or kmdb.	"break" on page 38
bootmode [normal] [reset_nvram] [bootscript=*string*]	Controls the host server OpenBoot PROM firmware method of booting.	"bootmode" on page 36
flashupdate –s *IPaddr* –f *pathname* [–v]	Downloads and updates system firmware (both host firmware and ALOM firmware).	"flashupdate" on page 50
reset [–y] [–c]	Generates a hardware reset on the host server. The –y option enables you to skip the confirmation question.	"reset" on page 60
powercycle [–f]	poweroff followed by poweron. The –f option forces an immediate poweroff, otherwise the command attempts a graceful shutdown.	"powercycle" on page 56
poweroff [–y] [–f]	Removes the main power from the host server. The –y option enables you to skip the confirmation question. ALOM attempts to shut the server down gracefully. The –f option forces an immediate shutdown.	"poweroff" on page 56
poweron [–c] [*FRU*]	Applies the main power to the host server or FRU.	"poweron" on page 58
setlocator [on/off]	Turns the Locator LED on the server on or off.	"setlocator" on page 67
showfaults [–v]	Displays current valid system faults.	"showfaults" on page 79
clearfault [*UUID*]	Manually repair system faults.	"clearfault" on page 40

TABLE 5-1   List of ALOM Shell Commands by Function *(Continued)*

CLI Command	Summary	Full Description
showlocator	Displays the current state of the Locator LED as either on or off.	"showlocator" on page 85
FRU Commands		
setfru –c *data*	The –c option enables you to store information (such as inventory codes) on all FRUs in a system.	"setfru" on page 65
showfru [–g lines] [–s|–d] [*FRU*]	Displays information about the FRUs in a host server.	"showfru" on page 81
removefru [–y] [*FRU*]	Prepares a FRU (for example, a power supply) for removal. The –y option enables you to skip the confirmation question.	"removefru" on page 59
showfaults [–v]	Displays current valid system faults.	"showfaults" on page 79
clearfault [*UUID*]	Manually repair system faults.	"clearfault" on page 40
Automatic System Recovery (ASR) Commands		
enablecomponent *asr-key*	Removes a component from the asr-db blacklist.	"enablecomponent" on page 48
disablecomponent *asr-key*	Adds a component to the asr-db blacklist.	"disablecomponent" on page 46
showcomponent *asr-key*	Displays system components and their test status (ASR state).	"showcomponent" on page 71
clearasrdb	Removes all entries from the asr-db blacklist.	"clearasrdb" on page 40
Other Commands		
help [*command*]	Displays a list of all ALOM commands with their syntax and a brief description of how each command works. Specifying a command name as an option enables you to view the help for that command.	"help" on page 51
resetsc [–y]	Reboots ALOM. The –y option enables you to skip the confirmation question.	"resetsc" on page 61
showlogs [–b *lines*|–e *lines*|–v] [–g *lines*] [–p *logtype* [r|p]]	Displays the history of all events logged in the ALOM RAM event log or major and critical events in the persistent log. The –p option selects whether to display entries only from the RAM event log (*logtype* r) or the persistent event log (*logtype* p).	"showlogs" on page 86

TABLE 5-1   List of ALOM Shell Commands by Function *(Continued)*

CLI Command	Summary	Full Description
usershow [*username*]	Displays a list of all user accounts, permission levels, and whether passwords are assigned.	"usershow" on page 100
useradd *username*	Adds a user account to ALOM.	"useradd" on page 94
userdel [−y] *username*	Deletes a user account from ALOM. The −y option enables you to skip the confirmation question.	"userdel" on page 95
userpassword *username*	Sets or changes a user password.	"userpassword" on page 96
userperm *username* [c] [u] [a] [r]	Sets the permission level for a user account.	"userperm" on page 97
logout	Logs out from an ALOM shell session.	"logout" on page 54

Related Information

- "Using ALOM Configuration Variables" on page 101

ALOM Shell Command Descriptions

The following pages provide full descriptions of the ALOM shell commands in alphabetical order.

bootmode

Use the bootmode command to control the behavior of the host server's firmware while the host server is initializing or after you reset the server.

The bootmode normal command option prepares the system controller firmware for reset, retaining the current settings of OpenBoot non-volatile read-only memory (NVRAM) variables

The bootmode reset_nvram command option sets the OpenBoot NVRAM variables to default settings.

▼ To Use the `bootmode` Command

Note – You must have a level user permission to use this command. Refer to "userperm" on page 97 for more information.

The `bootmode` command requires that you reset the host server within 10 minutes after issuing the command. If you do not issue the `poweroff` and `poweron` commands or the `reset` command within 10 minutes, the host server ignores the `bootmode` command. Refer to "powercycle" on page 56, "poweron" on page 58, and "reset" on page 60 for more information.

● **At the `sc>` prompt, type the following command:**

```
sc> bootmode reset_nvram
sc> reset
```

▼ To View `bootmode` Settings

● **At the `sc>` prompt, type the following command:**

```
sc> bootmode
sc> reset
Bootmode: reset_nvram
Expires WED MAR 05 21:18:33 2003
bootscript="setenv diagswitch? true"
```

`bootmode` Command Options

The `bootmode` command uses the following options.

TABLE 5-2   bootmode Command Options

Option	Description
normal	At next reset, retains current NVRAM variable settings
reset_nvram	At next reset, returns NVRAM variables to default settings
bootscript = *string*	Controls the host server OpenBoot PROM firmware method of booting. It does not affect the current `bootmode` setting. *string* can be up to 64 bytes in length. You can specify a `bootmode` setting and set the `bootscript` within the same command. For example: sc> **bootmode reset_nvram bootscript** = "setenv diag-switch? true" SC Alert: SC set bootmode to reset_nvram, will expire 20030305211833 SC Alert: SC set bootscript to "setenv diag-switch? true" After the server resets and OpenBoot PROM reads the values stored in the bootscript, it sets the OpenBoot PROM variable `diag-switch?` to the user requested value of `true`. **Note:** If you set `bootmode bootscript = ""`, ALOM sets the bootscript to empty.

If you use the `bootmode` command with the `reset_nvram` option, it resets all of the parameters in the host system's OpenBoot PROM NVRAM settings to the factory default values. You must reset the server within 10 minutes. Refer to "reset" on page 60.

If you use the `bootmode` command without specifying any option, ALOM displays the currently selected mode and the time when it will expire.

Related Information

- "ALOM Shell Commands" on page 32
- "reset" on page 60
- "Switching Between the System Console and ALOM" on page 16

`break`

Use the `break` command to bring the server to the OpenBoot PROM prompt (`ok`). If you have configured the `kmdb` debugger, then the `break` command brings the server into debug mode.

Make sure that the system console is directed to ALOM. See"Platform-Specific Information" on page 5 for further information.

▼ To Use the `break` Command

Note – You must have c level user permission to use this command. Refer to "userperm" on page 97 for information on setting user permissions.

● **At the `sc>` prompt, type the following command:**

```
sc> break option
```

Where *option* is –y, –c, or no option.

After you type the `break` command, the server returns the ok prompt.

`break` Command Options

The `break` command can have the following options:

TABLE 5-3   `break` Command Options

Option	Description
–y	Instructs ALOM to proceed without first asking the confirmation question: `Are you sure you want to send a break to the system [y/n]?`
–c	Instructs ALOM to connect to the system console after performing the operation.

Related Information

- "ALOM Shell Commands" on page 32
- "userperm" on page 97

clearasrdb

Use the `clearasrdb` command to remove all entries from the Automatic System Recovery database (asr-db) blacklist, thereby re-enabling all devices regardless of whether they have been disabled manually or disabled through POST.

▼ To Use the `clearasrdb` Command

● **At the `sc>` prompt, type the following command:**

```
sc> clearasrdb
```

clearfault

The `clearfault` command enables the system administrator to repair a host-reported fault manually so that it is not displayed by the `showfaults` command.

In this example, the `showfaults` command identifies a host-detected fault:

```
sc> showfaults
    ID FRU              Fault
     0 MB/CMP0/CH0/R0/D0 Host detected fault, MSGID: SUN4U-8000-2S
```

Including the –v (verbose) option to the `showfaults` command,

```
sc> showfaults -v
    ID Time              FRU              Fault
     0 SEP 09 11:09:26   MB/CMP0/CH0/R0/D0 Host detected fault,
MSGID:
SUN4U-8000-2S  UUID: 7ee0e46b-ea64-6565-e684-e996963f7b86
```

Issuing the `clearfault` command without an argument causes ALOM to display command usage information:

```
sc> clearfault
Error: Invalid command option
Usage: clearfault <UUID>
```

The clearfault command takes one argument, the universal unique identifier (UUID), a numerical string (displayed in the previous example). In this example, the UUID is supplied as an argument to the clearfault command:

```
sc> clearfault 7ee0e46b-ea64-6565-e684-e996963f7b86
Clearing fault from all indicted FRUs...
Fault cleared.
```

As a result of the successful use of the clearfault command, the showfault command no longer displays the host-detected fault:

```
sc> showfaults
No failures found in System
```

Note – Faults can be reported indirectly, by way of a FRU that acts as a *proxy.*

In this example, the showfru command indicates that a faulty component, HDD0 (shown initially in showfaults output), is proxied on SASBP.SEEPROM

```
sc> showfaults
   ID FRU              Fault
    9 HDD0             Host detected fault, MSGID: SUNW-TEST07
```

Use the `showfru` command to display the event status information.

```
sc> showfru SASBP.SEEPROM
...
/Status_EventsR (1 iterations)
/Status_EventsR[0]
/Status_EventsR[0]/UNIX_Timestamp32:     FRI MAY 20 12:16:02 2005
/Status_EventsR[0]/Old_Status:            0x00 (OK)
/Status_EventsR[0]/New_Status:            0x10 (PROXIED FAULT)
/Status_EventsR[0]/Initiator:             0xE0 (FM)
/Status_EventsR[0]/Component:             0x20
/Status_EventsR[0]/Message (FM)
/Status_EventsR[0]/FM/fault_diag_time:    0x0000000000000000
/Status_EventsR[0]/FM/diagcode:           SUNW-TEST07
/Status_EventsR[0]/FM/uuid:
66616b65-7575-6964-0000-000000000000
/Status_EventsR[0]/FM/DE_Name:            ALOM-DE
/Status_EventsR[0]/FM/DE_Version:         v1.0
...
SEGMENT: ST
/Status_Proxy1R/
/Status_Proxy1R/UNIX_Timestamp32: FRI MAY 20 12:16:02 2005
/Status_Proxy1R/version:          0x01
/Status_Proxy1R/StatusMap31:
0x0700000000000000000000000000000000000000000000000000000000000000
/Status_CurrentR/
/Status_CurrentR/UNIX_Timestamp32: FRI MAY 20 12:16:02 2005
/Status_CurrentR/status:           0x10 (PROXIED FAULT)
```

Once the faulty component (HDD0 in this example) has been replaced, you can run
the `clearfaults` *UUID* command to remove the fault from the ASR database.

console

Use the `console` command to enter console mode and to connect to the system
console from the ALOM command shell. To exit the system console and return to the
ALOM command shell, type **#.** (Pound-Period).

Although multiple users can connect to the system console from ALOM, only one
user at a time has write access to the console. Any characters that other users type
are ignored. This is referred to as a write lock, and the other user sessions view the
console session in read-only mode. If no other users have access to the system
console, then the user entering the console session first obtains the write lock

automatically by executing the console command. If another user has the write lock, you can use the −f option to force the console to give you the write lock. This forces the other user's connection into read-only mode.

▼ To Use the `console` Command

> **Note –** You must have c level user permission to use this command. Refer to for information on setting user permissions.

1. **At the** `sc>` **prompt, type the following command:**

```
sc> console option
```

Where *option* is the option you want to use, if any.

> **Note –** The Solaris system prompt that appears depends on the default Solaris shell on the host server. Refer to

2. **To return to the** `sc>` **prompt from the Solaris system prompt, type the escape character sequence.**
   The default sequence is #. (Pound-Period).

   If no session has the console in use, ALOM displays the following information:

```
sc> showusers
Username    Connection   Login Time    Client IP Addr  Console
-------------------------------------------------------------
admin       serial       Nov 13 6:19                   system
jeff        net-1        Nov 13 6:20   xxx.xxx.xxx.xxx
sc> console
Enter #. to return to ALOM.
%
```

If another session already has the write lock, ALOM returns a different message at the `console` command as shown in this example:

```
sc> console
Console session already in use. [view mode]
Enter #. to return to ALOM.
%
```

If another session already has the write lock and you use –f option with the console command, ALOM returns a message at the console command that is similar to the following:

```
sc> console -f
Warning: User <admin> currently has write permission to this
console and forcibly removing them will terminate any current write
actions and all work will be lost. Would you like to continue?
[y/n]
```

console Command Option

The console command uses one option, –f. This option forces ALOM to release the write lock from another user and assign it to your console session. This places the other user's console session in read-only mode. Using this option returns the following message:.

```
Warning: User username currently has write permission to this
console and forcibly removing them will terminate any current write
actions and all work will be lost. Would you like to continue
[y/n]?
```

At the same time, the user who has the write lock receives the following message:

```
Warning: Console connection forced into read-only mode.
```

Related Information

- "ALOM Shell Commands" on page 32
- "Permission Levels" on page 97
- "Serial Management Port Variables" on page 102

consolehistory

Use the consolehistory command to display system console messages logged in ALOM buffers. You can read the following system console logs:

- boot log – Contains POST, OpenBoot PROM, and Solaris boot messages received from the host server from the most recent reset.

- `run` log – Contains the most recent console output from POST, OpenBoot PROM, and Solaris boot messages. In addition, this log records output from the host server's operating system.

Each buffer can contain up to 64 Kbytes of information.

If ALOM senses a host server reset, it writes boot information and initialization data into the boot log buffer. until ALOM is notified by the server that the Solaris OS is up and running.

▼ To Use the `consolehistory` Command

Note – You must have `c` level user permission to use this command. See "userperm" on page 97 for information on setting user permissions.

● **At the `sc>` prompt, type the following command:**

```
sc> consolehistory logname options
```

Where *logname* is the name of the log you want to display (`boot` or `run`). If you type the `consolehistory` command without an option, ALOM returns the last 20 lines of the `run` log.

Note – Timestamps recorded in console logs reflect server time. These timestamps reflect local time, and ALOM event logs use UTC (Coordinated Universal Time). The Solaris OS synchronizes system time with ALOM time.

`consolehistory` Command Options

The `consolehistory` command uses the following options for both logs. You can use the `-g` option in combination with the `-b`, `-e`, or `-v` options. If you do not specify the `-g` option, the screen output will not pause.:

TABLE 5-4   `consolehistory` Command Options

Option	Description
−b *lines*	Specifies the number of lines to display from the beginning of the log buffer. For example: `consolehistory boot -b 10`
−e *lines*	Specifies the number of lines to display from the end of the log buffer. If new data appears in the log while you are executing this command, the new data is appended to the screen output. For example: `consolehistory run -e 15`
−g *lines*	Specifies the number of lines to display before pausing the output to the screen. After each pause, ALOM shows the following message: `Paused: Press 'q' to quit, any other key to continue.` For example: `consolehistory run -v -g 5`
−v	Displays the entire contents of the specified log.
boot	Specifies the `boot` log.
run	Specifies the `run` log.

Related Information

- "ALOM Shell Commands" on page 32

`disablecomponent`

Use the `disablecomponent` command to add a component to the asr-db blacklist, thereby removing it from the system configuration. Using the `disablecomponent` command without any parameters causes ALOM to display all asr-keys currently enabled. The –h (help) option lists all valid asr-keys as well as usage information.

Note – The server continues to use the blacklisted component until the next server power cycle or reset.

▼ To Use the `disablecomponent` Command

● **At the** `sc>` **prompt, type the following command:**

```
sc> disablecomponent asr-device
```

For example,

```
sc> disablecomponent MB/CMP0/CH3/R0/D1
sc> showcomponent
Keys:
MB/CMP0/CORE0
...
     MB/CMP0/P0
...
     MB/CMP0/CH0/R0/D0
     MB/CMP0/CH0/R0/D1
     MB/CMP0/CH0/R1/D0
     MB/CMP0/CH0/R1/D1
     MB/CMP0/CH1/R0/D0
     MB/CMP0/CH1/R0/D1
     MB/CMP0/CH1/R1/D0
     MB/CMP0/CH1/R1/D1
     MB/CMP0/CH2/R0/D0
     MB/CMP0/CH2/R0/D1
     MB/CMP0/CH2/R1/D0
     MB/CMP0/CH2/R1/D1
     MB/CMP0/CH3/R0/D0
     MB/CMP0/CH3/R0/D1
     MB/CMP0/CH3/R1/D0
     MB/CMP0/CH3/R1/D1
     IOBD/PCIEa
     IOBD/PCIEb
     PCIX1
     PCIX0
     PCIE2
     PCIE1
     PCIE0
     TTYA


ASR state:  Disabled Devices
     MB/CMP0/CH3/R0/D1 : <no reason>
```

enablecomponent

Use the `enablecomponent` command to remove a component from the asr-db blacklist, thereby adding the component back into the system configuration. Using the `enablecomponent` command without any parameters causes ALOM to display all asr-keys currently blacklisted.

Note – The component does not return to use until the next server power cycle or reset.

▼ To Use the `enablecomponent` Command

● **At the** `sc>` **prompt, type the following command:**

```
sc> enablecomponent asr-device
```

For example,

```
sc> enablecomponent MB/CMP0/CH3/R0/D1
sc> showcomponent
Keys:
     MB/CMP0/CORE0
...
     MB/CMP0/P0
...
     MB/CMP0/CH0/R0/D0
     MB/CMP0/CH0/R0/D1
     MB/CMP0/CH0/R1/D0
     MB/CMP0/CH0/R1/D1
     MB/CMP0/CH1/R0/D0
     MB/CMP0/CH1/R0/D1
     MB/CMP0/CH1/R1/D0
     MB/CMP0/CH1/R1/D1
     MB/CMP0/CH2/R0/D0
     MB/CMP0/CH2/R0/D1
     MB/CMP0/CH2/R1/D0
     MB/CMP0/CH2/R1/D1
     MB/CMP0/CH3/R0/D0
     MB/CMP0/CH3/R0/D1
     MB/CMP0/CH3/R1/D0
     MB/CMP0/CH3/R1/D1
     IOBD/PCIEa
     IOBD/PCIEb
     PCIX1
     PCIX0
     PCIE2
     PCIE1
     PCIE0
     TTYA


ASR state: clean
```

flashupdate

Use the `flashupdate` command to update all system firmware from a location that you specify. The values you enter for command options specify the IP address of the site from which you download and the path at which the firmware image is located.

You can find the links to the download sites at:
`http://www.sun.com/downloads/`

▼ To Use the `flashupdate` Command

Note – You must have a level user permission to use this command. Refer to "userperm" on page 97 for information on setting user permissions.

To use this command, you need to know the following:

- IP address of the FTP server from which you want to download the firmware image
- Path at which the image is stored
- Username and password to enter at the prompts

If you do not have this information, ask your network administrator. Before you start, make sure that your virtual keyswitch setting is not in the LOCKED position. For more information about the virtual keyswitch, see "setkeyswitch" on page 66.

1. **At the `sc>` prompt, type the `flashupdate` command.**

   Substitute the IP address of the server where the firmware image is stored for *ipaddr*, and the path name for *pathname.*

   ```
   sc> flashupdate –s ipaddr –f pathname
   ```

2. **When prompted, type your username and password.**

   The username and password are based on your UNIX or LDAP user name and password, and not your ALOM username and password.

   After you type your user name and password, the download process continues. As the download process progresses, a series of periods appear across your screen.

   When the download process is finished, ALOM displays the message:

   ```
   Update complete. Reset device to use new image.
   ```

3. **Type the `resetsc` command to reset ALOM.**

   See "resetsc" on page 61 for details.

For example, (replace `123.45.67.89` with a valid IP address):

```
sc> flashupdate -s 123.45.67.89 -f
/net/server/sysfw/System_Firmware-6_0_0-Sun_Fire_T1000.bin

SC Alert: System poweron is disabled.
Username: username
Password: *******


.............................................................
.............................................................
..................................

Update complete. Reset device to use new software.

SC Alert: SC firmware was reloaded
```

`flashupdate` Command Options

The `flashupdate` command uses the following options.

TABLE 5-5   `flashupdate` Command Options

Option	Description
−s *ipaddr*	Directs ALOM to download the firmware image from a server located at *ipaddr*. *ipaddr* describes an IP address in standard dot notation, such as 123.456.789.012.
−f *pathname*	Directs ALOM to the location of the image file. *pathname* is a full directory path, including the name of the image file, such as `/files/sysfw/System_Firmware-6_0_0-Sun_Fire_T1000.bin`.
−v	Displays verbose output. This option provides detailed information about the progress of the download process as it occurs.

Related Information

- "ALOM Shell Commands" on page 32

`help`

Use the `help` command to display a list of all ALOM commands and the syntax for each.

▼ To Use the `help` Command

Note – You do not need user permissions to use this command.

● **Take one of the following actions:**

■ To display help for all available commands, at the sc> prompt type the following command:

```
sc > help
```

■ To display help for a specific command, at the sc> prompt type help and the name of the command:

```
sc> help command-name
```

Where *command-name* is the name of the specific command. For example:

```
sc> help poweroff
This command shuts down the managed system to the powered off
state.
sc>
```

■ To display help for a system controller parameter, at the sc> prompt type `help setsc` and the name of the parameter:

```
sc> help setsc parameter
```

Where *parameter* is the system controller parameter. For example:

```
sc> help setsc if_network
if_network

Enables or disables the SC network interface.  The default is true.

sc>
```

The following example shows the output you see when you type `help` without specifying a command

CODE EXAMPLE 5-1   Example of the `help` Command Output

```
sc> help
Available commands
------------------
poweron [-c] {FRU}
poweroff [-y] [-f]
powercycle [-y] [-f]
removefru [-y] {FRU}
reset [-y] [-c]
break [-y] [-c]
console [-f]
consolehistory [-b lines|-e lines] [-g lines] [-v] [boot|run]
bootmode [normal|reset_nvram|bootscript="string"]
showlogs [-b lines|-e lines|-v] [-g lines] [-p logtype [r|p]]
setkeyswitch [-y] <normal|stby|diag|locked>
showkeyswitch
setlocator [on|off]
showlocator
showenvironment
showfaults [-v]
clearfault <UUID>
showfru [-g lines] [-s|-d] [FRU]
setfru -c [data]
showplatform [-v]
showsc [-v] [param]
shownetwork [-v]
setsc [param] [value]
showhost [version]
setupsc
showdate
setdate [[mmdd]HHMM | mmddHHMM[cc]yy][.SS]
resetsc [-y]
flashupdate <-s IPaddr -f pathname> [-v]
setdefaults [-y] [-a]
useradd <username>
userdel [-y] <username>
usershow [username]
userpassword <username>
userperm <username> [c][u][a][r]
password
showusers [-g lines]
enablecomponent [asr-key]
disablecomponent [asr-key]
showcomponent [asr-key]
```

```
clearasrdb
logout
help [command]
```

Related Information

■ "ALOM Shell Commands" on page 32

logout

Use the `logout` command to end your ALOM session, and close your ALOM serial or Telnet connection.

▼ To Use the `logout` Command

Note – You do not need user permissions to use this command.

At the `sc>` prompt, type the following command:

```
sc> logout
```

Related Information

■ "ALOM Shell Commands" on page 32

password

Use the `password` command to change the ALOM password for the account to which you are currently logged in. This command works like the UNIX `passwd`(1) command.

▼ To Use the `password` Command

Note – This command enables you to change the password for your own ALOM account. You do not need user permissions to use this command. If you are an administrator and want to change a user account's password, use the `userpassword` command. See "userpassword" on page 96 for more information.

- **At the `sc>` prompt, type `password`.**

When you use this command, ALOM prompts you for your current password. If you enter the password correctly, it prompts you twice to enter the new password.

For example:

```
sc> password
password: Changing password for username
Enter current password: ******
Enter new password: ******
Re-enter new password: ******
sc>
```

Password Restrictions

Passwords have the following restrictions:

- They must be between six and eight characters.
- They must contain at least two alphabetic characters (uppercase or lowercase letters) and at least one numeric or special character.
- They must differ from your login name and any reverse or circular shift of your login name. For comparison purposes, uppercase and lowercase letters are equivalent.
- They must differ from the old password by at least three characters. For comparison purposes, uppercase and lowercase letters are equivalent.

Related Information

- "ALOM Shell Commands" on page 32

powercycle

Performs a powercycle on the host system, where powercycle is defined as a poweroff followed by a poweron. ALOM executes the poweroff command on the host system and waits for a specified number of seconds, then executes the poweron command.

▼ To Use the powercycle Command

Note – You must have r level user permission to use this command. See "userperm" on page 97 for information on setting user permissions.

● **At the sc> prompt, type the following command:**

```
sc> powercycle [-f] [-y]
```

TABLE 5-6 powercycle Command Options

Option	Description
-y	Instructs ALOM to proceed without prompting.
-f	Forces an immediate shutdown regardless of the state of the host. If the Solaris OS shutdown fails for any reason, use this option to force the system to be powered off immediately. This command works like the Solaris OS command halt; that is, it does not perform a graceful shutdown of the system or synchronize the file systems.

poweroff

Use the poweroff command to power off the host server to standby mode. If the server is already powered off, this command has no effect. However, ALOM is still available when the server is powered off, since ALOM uses the server's standby power. Some environmental information is not available when the server is in standby mode.

▼ To Use the poweroff Command

Note – You must have r level user permission to use this command. See "userperm" on page 97 for information on setting user permissions.

● **At the** `sc>` **prompt, type the following command:**

```
sc> poweroff options
```

Where *option* is the desired option, if any.

If you type the `poweroff` command without any options, the command initiates a graceful shutdown of the Solaris OS, similar to one of the Solaris commands `shutdown`, `init`, or `uadmin`.

It can take up to 65 seconds for the `poweroff` command to completely shut down the system. This is because ALOM attempts to wait for a graceful shutdown to complete before the system is powered off.

Note – After the poweroff command shuts down the system, ALOM issues the following message:

```
SC Alert: Host system has shut down.
```

Wait until you see this message before powering the system back on.

`poweroff` Command Options

The `poweroff` command uses the following options. You can use these two options together. Refer to "Entering Command Options" on page 31.

TABLE 5-7   `poweroff` Command Options

Option	Description
`-y`	Instructs ALOM to proceed without prompting.
`-f`	Forces an immediate shutdown regardless of the state of the host. If the Solaris OS shutdown fails for any reason, use this option to force the system to be powered off immediately. This command works like the Solaris OS command `halt`; that is, it does not perform a graceful shutdown of the system or synchronize the file systems.

Related Information

- "ALOM Shell Commands" on page 32
- "bootmode" on page 36
- "poweron" on page 58

poweron

Use the `poweron` command to power on the server. If the host server is already powered on, this command has no effect.

▼ To Use the `poweron` Command

Note – You must have `r` level user permission to use this command. Refer to "userperm" on page 97 for information on setting user permissions.

● **At the** `sc>` **prompt, type the following command:**

```
sc> poweron [fru] [-c]
```

Note – If you have just used the `poweroff` command to power off the host server, ALOM issues the following message:

```
SC Alert: Host system has shut down.
```

Wait until you see the message before powering the system back on.

poweron Command Options

The `poweron` command uses the following options.

TABLE 5-8 `poweron` Command Options

Option	Description
fru	No FRUs can be powered on independently. This option is reserved for future use
–c	Instructs ALOM to connect to the system console after performing the operation.

Related Information

removefru

Use the removefru command to prepare a FRU (field-replaceable unit) for removal.

▼ To Use the removefru Command

● **At the** sc> **prompt, type the following command:**

```
sc> removefru fru
```

Where *fru* is the name of the FRU you want to prepare for removal.

For example, to prepare Power Supply 0 for removal, type:

```
sc> removefru PS0
```

Note – On Sun Fire T1000 servers, attempting to use the removefru command on PS0 generates the following error message:

```
sc> removefru PS0
Could not remove <PS0>.
System only has one power supply.
```

removefru Command Options

The removefru command uses the following options.

TABLE 5-9   removefru Command Options

Option	Description
fru	The name of the FRU you want to prepare for removal
-y	Instructs ALOM to proceed without prompting with a confirmation question.

Specifying the *fru* option prepares the specified FRU for removal. ALOM responds with a message indicating whether the FRU is ready for removal.

TABLE 5-10 `removefru` FRU Values

Value	Description
PS0	Prepares Power Supply 0 in the host server for removal.
PS1	Prepares Power Supply 1 in the host server for removal.

reset

Use the `reset` command to force the host server to reset immediately. The server reboots using the options you specified (if any) in the `bootmode` command. Refer to "bootmode" on page 36. Note that `reset` does not perform a graceful shutdown of the system, and you might lose data. When possible, reset the server through the Solaris OS instead.

If the OpenBoot PROM variable `auto-boot?` is set to `false`, you might need to boot the server into the Solaris OS to resume operation.

▼ To Use the `reset` Command

Note – You must have `r` level user permission to use this command. Refer to "userperm" on page 97 for information on setting user permissions.

● **At the** `sc>` **prompt, type the following command:**

```
sc> reset options
```

`reset` Command Options

The `reset` command uses the following two options. You can use these two options together. Refer to "Overview of the ALOM Command Shell" on page 31.

TABLE 5-11   `reset` Command Options

Option	Description
-c	Instructs ALOM to connect to the system console after performing the operation.
-y	Instructs ALOM to proceed without prompting.

For example,

```
sc> reset -c
Are you sure you want to reset the system [y/n]?  n
```

```
sc> reset -yc
Enter #. to return to ALOM.

SC Alert: SC Request to Reset Host.
```

```
sc> reset -c
Are you sure you want to reset the system [y/n]?  y
Enter #. to return to ALOM.

SC Alert: SC Request to Reset Host.
```

Related Information

- "ALOM Shell Commands" on page 32
- "Permission Levels" on page 97

`resetsc`

Use the `resetsc` command to perform a hard reset of ALOM. This terminates all current ALOM sessions.

▼ To Use the `resetsc` Command

Note – You must have a level user permission to use this command. Refer to "userperm" on page 97 for information on setting user permissions.

---

1. **To perform a reset, type the following command:**

```
sc> resetsc option
```

Where *option* is –y, if desired.

ALOM responds with the following message:

```
Are you sure you want to reset the SC [y/n]?
```

2. **Type y to proceed, or n to exit without resetting ALOM.**

`resetsc` Command Options

The `resetsc` command uses one option: –y

If you use the –y option, the reset proceeds without first asking you to confirm the reset.

Related Information

- "ALOM Shell Commands" on page 32
- "Permission Levels" on page 97

`setdate`

Use the `setdate` command to set the current ALOM date and time.

If you use the `setdate` command while the server is starting or running, ALOM returns the following error message:

```
sc> setdate 1200
Error: Unable to set clock while managed system is running.
```

Note – The setdate command works only when the server is powered off.

▼ To Use the setdate Command

Note – You must have a level user permission to use this command. Refer to "userperm" on page 97 for information on setting user permissions.

At the sc> prompt, type the following command:

```
sc> setdate mmddHHMMccyy.SS
```

This command accepts settings for the month, day, hour, minute, century, year, and second. If you omit the month, day, and year, ALOM applies the current values as defaults. You can also omit the century value and the value for seconds in the time.

Note – Your server uses local time, but ALOM uses Coordinated Universal Time (UTC). ALOM does not accept time zone conversions or daylight time changes..

This example sets the time to September 12, at 9:45 PM of the current year (Coordinated Universal Time).

```
sc> setdate 09122145
MON SEP 12 21:45:00 2005 UTC
```

This example sets the time to 9:45 PM of the current month, day, and year (Coordinated Universal Time).

```
sc> setdate 2145
MON SEP 12 21:45:00 2005 UTC
```

setdate Command Options

The setdate command uses the following options.

TABLE 5-12 setdate Command Options

Option	Description
mm	Month
dd	Day
HH	Hour (24-hour system)
MM	Minutes
.SS	Seconds
cc	Century (first two digits of the year)
yy	Year (last two digits of the year)

Related Information

- "ALOM Shell Commands" on page 32

setdefaults

Use the setdefaults command to set all ALOM configuration variables back to their factory default values. The –a option sets the ALOM configuration and all user information back to the factory default values.

To Use the setdefaults Command

Note – You must have a level user permission to use this command. Refer to "userperm" on page 97 for information on setting user permissions. You need to set the password to execute permission-level commands.

1. **At the** sc> **prompt, type the following command:**

```
sc> setdefaults options
```

Where *option*s are the desired options, if any.

For example:

```
sc> setdefaults
Are you sure you want to reset the SC configuration [y/n]? y
```

```
sc> setdefaults -a
Are you sure you want to reset the SC configuration and users
[y/n]? y
```

2. **Type the** resetsc **command to reset ALOM.**

When ALOM resets, it uses the factory default values.

setdefaults Command Options

The setdefaults command uses the following options.

TABLE 5-13   setdefaults Command Options

Option	Description
-a	Sets all ALOM configuration variables to their factory defaults and clears the user account and configuration information as well. The only account that remains on the system is the admin user account with no password.
-y	Instructs ALOM to proceed without first asking the confirmation question: Are you sure you want to reset the SC configuration?

Related Information

- "ALOM Shell Commands" on page 32

setfru

Use the setfru command to store information in all FRU PROMs.

▼ To Use the `setfru` Command

● **At the `sc>` prompt, type the following command:**

```
sc> setfru –c data
```

Using the `–c` option alone clears old data from all FRU PROMs. This information can be displayed using the `showfru` command. See "showfru" on page 81.

setkeyswitch

Use the `setkeyswitch` command to control the virtual keyswitch position of the system.

▼ To Use the `setkeyswitch` Command

Note – You must have a level user permission to use this command. Refer to "userperm" on page 97 for information on setting user permissions. You need to set the password to execute permission-level commands.

● **At the `sc>` prompt, type the following command:**

```
sc> setkeyswitch option
```

setkeyswitch Command Options

The `setkeyswitch` command uses the following options:

TABLE 5-14   `setkeyswitch` Command Options

Option	Description
`normal`	The system can power itself on and start the boot process.
`stby`	The system cannot power itself on.

TABLE 5-14 `setkeyswitch` Command Options

Option	Description
`diag`	The system can power itself on using the preset values of diagnostic variables to provide thorough fault coverage (see "Descriptions of Configuration Variables" on page 106). This option overrides the values of diagnostic variables that you might have set. For information about user-configurable diagnostic control variables, see "Diagnostic Control Variable" on page 105.
`locked`	The system can power itself on, however you are prohibited from updating any of the flash devices (see "`flashupdate`" on page 50) or using the `break` command.
`-y`	Setting the virtual keyswitch to standby (`stby`) powers off the server. Before powering off the host server, ALOM asks for a confirmation. The `-y` flag answers yes to the confirmation.*

* You need r permission to poweroff the server, whereas the `setkeyswitch` command requires a permission.

setlocator

Use the `setlocator` command to turn the host server's Locator LED on or off. For more information about the Locator LEDs, refer to your system administration guide.

Note – You do not need user permissions to use this command.

● **At the** `sc>` **prompt, type the following command:**

```
sc> setlocator option
```

Where *option* is either `on` or `off`.

For example:

```
sc> setlocator on
sc> setlocator off
```

To show the state of the Locator LED, use the `showlocator` command. Refer to "showlocator" on page 85 for more information.

setlocator Command Options

This setlocator command has two options: on and off.

Related Information

- "ALOM Shell Commands" on page 32
- "showlocator" on page 85

setsc

The ALOM software comes preinstalled on your host server, and is ready to run as soon as you apply power to the server. If you want to customize the ALOM configuration, you set up the initial configuration with the setupsc command. If you need to update a setting after your initial ALOM configuration, use the setsc command. For information about your configuration, see "ALOM Configuration Steps" on page 7. For more about the setupsc command, see "setupsc" on page 69.

▼ To Use the setsc Command

Note – You must have a level user permission to use this command. Refer to "userperm" on page 97 for information on setting user permissions.

Make sure that you have your configuration table with you as you run the command, and that it includes your planned values for each of the configuration variables you plan to change. See "Configuration Worksheet" on page 10 and "Using ALOM Configuration Variables" on page 101 for more information.

● **At the** sc> **prompt, type the following command:**

```
sc> setsc variable value
```

Substitute the configuration variable and the variable's value for *variable* and *value.*

For example:

```
sc> setsc netsc_ipaddr xxx.xxx.xxx.xxx
```

Where *xxx.xxx.xxx.xxx* is a valid IP address.

If the variable you are configuring requires more than one value, type the values, using spaces to separate them. Because the setsc command can be used in scripts as well as at the command prompt, it does not return any information after you enter a value for a variable.

If you type setsc without including a configuration variable, ALOM returns a list of the variables you can configure.

Related Information

- "ALOM Shell Commands" on page 32

setupsc

Use the setupsc command to customize ALOM.

Ensure that you have your configuration worksheet with you as you run the command, and that the worksheet includes your planned values for each of the configuration variables you plan to change. See "Configuration Worksheet" on page 10 and "Using ALOM Configuration Variables" on page 101 for more information.

▼ To Use the setupsc Command

Note – You must have a level user permission to use this command. Refer to "userperm" on page 97 for information on setting user permissions.

---

1. **At the sc> prompt, type the following command:**

```
sc> setupsc
```

The setup script starts.

2. **To exit the script, take one of the following actions:**
   - To exit the script and save the changes you have made, type Control-Z.
   - To exit the script without saving any changes, type Control-C.

For example, the script starts as follows:

```
sc> setupsc
Entering interactive script mode. To exit and discard changes to
that point, use Ctrl-C or to exit and save changes to that point,
use Ctrl-Z.
```

3. **Answer the interactive questions to customize ALOM.**

   The script asks you whether you want to enable each set of configuration variables. See "Using ALOM Configuration Variables" on page 101 for help.

   - To enable a set of variables so that you can configure their settings, type **y**.
   - To accept a default value shown in parentheses, press Return.
   - To disable a set of variables and proceed to the next, type **n**.

   For example:

```
Should the SC network interface be enabled [y]?
```

   If you type **y** or press Return to accept the default, the setupsc script then prompts you to enter values for the variables. The script helps you set up the following types of variables:

   - "Network Interface Variables" on page 103
   - "Network Management and Notification Variables" on page 104
   - "System User Variables" on page 104

Note – You do not need to set or adjust the serial interface variables. These variables are automatically set for you by the host server.

Related Information

- "Using ALOM Configuration Variables" on page 101
- "ALOM Shell Commands" on page 32
- "Configuration Worksheet" on page 10
- "Configuring ALOM" on page 7

showcomponent

Use the showcomponent command to display system components and their test status. If you specify an asr-key, ALOM displays only information for that key, otherwise ALOM displays the entire asr database. The –h (Help) option lists all valid asr-keys as well as usage information.

▼ To Use the showcomponent Command

Note – You must have a level user permission to use this command. Refer to "userperm" on page 97 for information on setting user permissions.

● **At the** `sc>` **prompt, type the following command:**

```
sc> showcomponent
```

For example,

```
sc> showcomponent
Keys:
     MB/CMP0/CORE0
...
     MB/CMP0/P0
...
     MB/CMP0/CH0/R0/D0
     MB/CMP0/CH0/R0/D1
     MB/CMP0/CH0/R1/D0
     MB/CMP0/CH0/R1/D1
     MB/CMP0/CH1/R0/D0
     MB/CMP0/CH1/R0/D1
     MB/CMP0/CH1/R1/D0
     MB/CMP0/CH1/R1/D1
     MB/CMP0/CH2/R0/D0
     MB/CMP0/CH2/R0/D1
     MB/CMP0/CH2/R1/D0
     MB/CMP0/CH2/R1/D1
     MB/CMP0/CH3/R0/D0
     MB/CMP0/CH3/R0/D1
     MB/CMP0/CH3/R1/D0
     MB/CMP0/CH3/R1/D1
     IOBD/PCIEa
     IOBD/PCIEb
     PCIX1
     PCIX0
     PCIE2
     PCIE1
     PCIE0
     TTYA


ASR state: clean
```

showdate

Use the `showdate` command to show the current ALOM date and time.

Note that ALOM shows Coordinated Universal Time (UTC), and that your host server shows your local date and time.

▼ To Use the `showdate` Command

Note – You do not need user permissions to use this command.

● **At the `sc>` prompt type the following command:**

```
sc> showdate
```

For example:

```
sc> showdate
MON SEP 16 21:45:00 2002 UTC
```

To change the ALOM date and time, use the `setdate` command. See "setdate" on page 62.

Note – When the server boots, it synchronizes with the current ALOM date and time.

Related Information

■ "ALOM Shell Commands" on page 32

showenvironment

Use the `showenvironment` command to display a snapshot of the server's environmental status.The information this command can display includes system temperatures, hard drive status, power supply and fan status, front panel LED status, voltage and current sensors, and so on. The output uses a format similar to the UNIX command `prtdiag` (1m).

▼ To Use the `showenvironment` Command

Note – You do not need user permissions to use this command.

- **At the** `sc>` **prompt, type the following command:**

```
sc> showenvironment
```

Some environmental information might not be available when the server is in standby mode.

The following example shows sample output when the host server is powered on. Note that some information shown in the following example may be different for your system, such as the number of power supplies and hard drives

CODE EXAMPLE 5-2 Example of `showenvironment` Command Output for Sun Fire T2000 Server (Power On)

```
sc> showenvironment


=============== Environmental Status ===============



--------------------------------------------------------------------------------
System Temperatures (Temperatures in Celsius):
--------------------------------------------------------------------------------
Sensor          Status  Temp LowHard LowSoft LowWarn HighWarn HighSoft HighHard
--------------------------------------------------------------------------------
PDB/T_AMB        OK        24    -10      -5       0       45       50       55
MB/T_AMB         OK        28    -10      -5       0       45       50       55
MB/CMP0/T_TCORE  OK        44    -10      -5       0       95      100      105
MB/CMP0/T_BCORE  OK        44    -10      -5       0       95      100      105
IOBD/IOB/TCORE   OK        43    -10      -5       0       95      100      105
IOBD/T_AMB       OK        29    -10      -5       0       45       50       55


--------------------------------------------------------
System Indicator Status:
--------------------------------------------------------
SYS/LOCATE             SYS/SERVICE            SYS/ACT
OFF                    OFF                    ON
--------------------------------------------------------
SYS/REAR_FAULT         SYS/TEMP_FAULT         SYS/TOP_FAN_FAULT
OFF                    OFF                    OFF
--------------------------------------------------------


--------------------------------------------
System Disks:
--------------------------------------------
Disk   Status           Service  OK2RM
--------------------------------------------
HDD0   OK               OFF      OFF
```

Example of showenvironment **Command Output for Sun Fire T2000 Server (Power On)** *(Continued)*

```
HDD1    NOT PRESENT         OFF       OFF
HDD2    NOT PRESENT         OFF       OFF
HDD3    NOT PRESENT         OFF       OFF


--------------------------------------------------
Fans Status:
--------------------------------------------------
Fans (Speeds Revolution Per Minute):
Sensor           Status             Speed   Warn    Low
----------------------------------------------------------
FT0/FM0          OK                 3586    --    1920
FT0/FM1          OK                 3525    --    1920
FT0/FM2          OK                 3650    --    1920
FT2              OK                 2455    --    1920
----------------------------------------------------------



-----------------------------------------------------------------------------------
Voltage sensors (in Volts):
-----------------------------------------------------------------------------------
Sensor           Status     Voltage LowSoft LowWarn HighWarn HighSoft
-----------------------------------------------------------------------------------
MB/V_+1V5        OK           1.48    1.27    1.35    1.65     1.72
MB/V_VMEML       OK           1.79    1.53    1.62    1.98     2.07
MB/V_VMEMR       OK           1.78    1.53    1.62    1.98     2.07
MB/V_VTTL        OK           0.89    0.76    0.81    0.99     1.03
MB/V_VTTR        OK           0.89    0.76    0.81    0.99     1.03
MB/V_+3V3STBY    OK           3.39    2.80    2.97    3.63     3.79
MB/V_VCORE       OK           1.31    1.18    1.20    1.39     1.41
IOBD/V_+1V5      OK           1.48    1.27    1.35    1.65     1.72
IOBD/V_+1V8      OK           1.79    1.53    1.62    1.98     2.07
IOBD/V_+3V3MAIN  OK           3.36    2.80    2.97    3.63     3.79
IOBD/V_+3V3STBY  OK           3.41    2.80    2.97    3.63     3.79
IOBD/V_+1V       OK           1.11    0.93    0.99    1.21     1.26
IOBD/V_+1V2      OK           1.17    1.02    1.08    1.32     1.38
IOBD/V_+5V       OK           5.15    4.25    4.50    5.50     5.75
IOBD/V_-12V      OK         -12.04  -13.80  -13.20  -10.80   -10.20
IOBD/V_+12V      OK          12.18   10.20   10.80   13.20    13.80
SC/BAT/V_BAT     OK           3.06     --     2.69     --       --


--------------------------------------------------------------
System Load (in amps):
--------------------------------------------------------------
Sensor           Status             Load    Warn Shutdown
--------------------------------------------------------------
MB/I_VCORE       OK                34.640  80.000  88.000
```

CODE EXAMPLE 5-2 Example of `showenvironment` Command Output for Sun Fire T2000 Server (Power On) *(Continued)*

```
MB/I_VMEML         OK                      7.560   60.000   66.000
MB/I_VMEMR         OK                      6.420   60.000   66.000
---------------------------------------------------------------


---------------------
Current sensors:
---------------------
Sensor            Status
---------------------
IOBD/I_USB0       OK
IOBD/I_USB1       OK
FIOBD/I_USB       OK



------------------------------------------------------------------------------
Power Supplies:
------------------------------------------------------------------------------
Supply  Status            Underspeed  Overtemp  Overvolt  Undervolt Overcurrent
------------------------------------------------------------------------------
PS0     OK                OFF         OFF       OFF       OFF        OFF
PS1     OK                OFF         OFF       OFF       OFF        OFF
```

The following example shows sample output when the host server, a Sun Fire T1000, is powered on:

CODE EXAMPLE 5-3 Example of `showenvironment` Command Output for Sun Fire T1000 Server (Power On)

```
sc> showenvironment


=============== Environmental Status ===============



------------------------------------------------------------------------------
System Temperatures (Temperatures in Celsius):
------------------------------------------------------------------------------
Sensor          Status    Temp LowHard LowSoft LowWarn HighWarn HighSoft HighHard
------------------------------------------------------------------------------
MB/T_AMB          OK        26    -10      -5       0       45       50       55
MB/CMP0/T_TCORE   OK        42    -10      -5       0       85       90       95
MB/CMP0/T_BCORE   OK        42    -10      -5       0       85       90       95
MB/IOB/T_CORE     OK        36    -10      -5       0       95      100      105



--------------------------------------------------------
```

```
System Indicator Status:
---------------------------------------------------------
SYS/LOCATE           SYS/SERVICE           SYS/ACT
OFF                  OFF                   ON
---------------------------------------------------------


----------------------------------------------------------
Fans (Speeds Revolution Per Minute):
----------------------------------------------------------
Sensor          Status          Speed   Warn    Low
----------------------------------------------------------
FT0/F0          OK               6653   2240    1920
FT0/F1          OK               6653   2240    1920
FT0/F2          OK               6653   2240    1920
FT0/F3          OK               6547   2240    1920


--------------------------------------------------------------------------------
Voltage sensors (in Volts):
--------------------------------------------------------------------------------
Sensor          Status      Voltage LowSoft LowWarn HighWarn HighSoft
--------------------------------------------------------------------------------
MB/V_VCORE      OK             1.31    1.20    1.24    1.36     1.39
MB/V_VMEM       OK             1.78    1.69    1.72    1.87     1.90
MB/V_VTT        OK             0.89    0.84    0.86    0.93     0.95
MB/V_+1V2       OK             1.19    1.09    1.11    1.28     1.30
MB/V_+1V5       OK             1.49    1.36    1.39    1.60     1.63
MB/V_+2V5       OK             2.50    2.27    2.32    2.67     2.72
MB/V_+3V3       OK             3.29    3.06    3.10    3.49     3.53
MB/V_+5V        OK             5.02    4.55    4.65    5.35     5.45
MB/V_+12V       OK            12.18   10.92   11.16   12.84    13.08
MB/V_+3V3STBY   OK             3.31    3.13    3.16    3.53     3.59


------------------------------------------------------------
System Load (in amps):
------------------------------------------------------------
Sensor          Status          Load    Warn Shutdown
------------------------------------------------------------
MB/I_VCORE      OK             21.520  80.000  88.000
MB/I_VMEM       OK              1.740  60.000  66.000
------------------------------------------------------------


----------------------
Current sensors:
----------------------
Sensor          Status
```

```
---------------------
MB/BAT/V_BAT      OK



--------------------------------------------------------------------------------
Power Supplies:
--------------------------------------------------------------------------------
Supply  Status            Underspeed  Overtemp  Overvolt  Undervolt  Overcurrent
--------------------------------------------------------------------------------
PS0     OK                OFF         OFF       OFF       OFF        OFF
```

The following example shows sample output when the host server is powered off

CODE EXAMPLE 5-4 Example of `showenvironment` Command Output (Power Off)

```
sc> showenvironment



=============== Environmental Status ===============



--------------------------------------------------------------------------------
System Temperatures (Temperatures in Celsius):
--------------------------------------------------------------------------------
Sensor          Status  Temp LowHard LowSoft LowWarn HighWarn HighSoft HighHard
--------------------------------------------------------------------------------
CPU temperature information cannot be displayed when System power is off.
PDB/T_AMB       OK        24    -10      -5       0       45       50       55


-------------------------------------------------------
System Indicator Status:
-------------------------------------------------------
SYS/LOCATE              SYS/SERVICE            SYS/ACT
OFF                     OFF                    STANDBY BLINK
-------------------------------------------------------
SYS/REAR_FAULT         SYS/TEMP_FAULT         SYS/TOP_FAN_FAULT
OFF                     OFF                    OFF
-------------------------------------------------------



Disk Status information cannot be displayed when System power is off.

Fan Status information cannot be displayed when System power is off.

Voltage Rail Status information cannot be displayed when System power is off.
```

```
System Load information cannot be displayed when System power is off.

Current sensor information cannot be displayed when System power is off.

--------------------------------------------------------------------------------
Power Supplies:
--------------------------------------------------------------------------------
Supply  Status          Underspeed  Overtemp  Overvolt  Undervolt  Overcurrent
--------------------------------------------------------------------------------
PS0     OK              OFF         OFF       OFF       OFF        OFF
PS1     OK              OFF         OFF       OFF       OFF        OFF
```

Related Information

-

showfaults

Use the `showfaults` command to display current valid system faults. The standard output displays the fault ID, the faulted FRU device, and the fault message. This command also displays POST results.

The `showfaults` command uses the `-v` argument to supply more *verbose* output.

▼ To Use the `showfaults` Command

Note – You do not need user permissions to use this command.

● **At the** `sc>` **prompt, type the following command:**

```
sc> showfaults
ID FRU                Fault
    0 MB/CMP0/CH0/R0/D0 Host detected fault, MSGID: SUN4U-8000-2S
```

Adding the −v argument,

```
sc> showfaults −v
ID Time                FRU                Fault
    0 SEP 09 11:02:09   MB/CMP0/CH0/R0/D0 Host detected fault, MSGID:
SUN4U-8000-2S  UUID: 7ee0e46b-ea64-6565-e684-e996963f7b86
```

Using the FRU ID reported in the `showfaults` output, you can get more information using the `showfru` command,

```
sc> showfru MB/CMP0/CH0/R0/D0
/SPD/Timestamp: MON JUN 27 12:00:00 2005
/SPD/Description: DDR2 SDRAM, 512 MB
/SPD/Manufacture Location:
/SPD/Vendor: Micron Technology
/SPD/Vendor Part No:   18HTF6472Y-53EB2
/SPD/Vendor Serial No: 751d9239
SEGMENT: ST
/Platform_Name:                    Sun-Fire-T1000
/Status_CurrentR/
/Status_CurrentR/UNIX_Timestamp32: FRI SEP 09 10:28:08 2005
/Status_CurrentR/status:           0x64 (MAINTENANCE REQUIRED, SUSPECT,
DEEMED FAULTY)
/Event_DataR/
/Event_DataR/Initiator:        FM
/Event_DataR/Diagcode:        SUN4U-8000-2S
/Event_DataR/UUID:            7ee0e46b-ea64-6565-e684-e996963f7b86
```

Using the diagnostic code reported by the `showfaults` and `showfru` commands, (for example: SUN4U-8000-2S) you can go to

`http://www.sun.com/msg/SUN4U-8000-2S`

for more information about the fault. You can also navigate to

`http://www.sun.com/msg`

then enter SUN4U-8000-2S in the SUNW-MSG-ID: window.

For further information about the `showfru` command see For further information about fault management tasks, see Chapter 4.

showfru

Use the `showfru` command to display the current status and fault history of all field-replaceable units programmable read-only memory (FRU PROMs) in the host server. The output uses a format similar to that of the Solaris OS `prtfru` command.

showfru Command Options

The `showfru` command uses the following options:

TABLE 5-15 `showfru` Command Options

Option	Description
–g *lines*	Specifies the number of lines to display before pausing the output to the screen. After each pause, ALOM shows the following message: `Paused: Press 'q' to quit, any other key to continue.`
–s	Displays static information about system FRUs (defaults to all FRUs, unless one is specified).
–d	Displays dynamic information about system FRUs (defaults to all FRUs, unless one is specified).
FRU	Individual FRUs.

▼ To Use the showfru Command

Note – You do not need user permission to use this command.

● **At the sc> prompt, type the following command:**

```
sc> showfru argument
```

The following example shows sample output for the `showfru` command on a Sun Fire T2000 server, supplying an invalid argument

CODE EXAMPLE 5-5 Example of `showfru` Command Output On Sun Fire T2000, Displaying Valid Arguments

```
sc> showfru x
No such FRU_PROM.  Valid arguments are:
SC/SEEPROM
IOBD/SEEPROM
MB/SEEPROM
```

CODE EXAMPLE 5-5   Example of `showfru` Command Output On Sun Fire T2000,
Displaying Valid Arguments *(Continued)*

```
PDB/SEEPROM
FIOBD/SEEPROM
SASBP/SEEPROM
PS0/SEEPROM
PS1/SEEPROM
MB/CMP0/CH0/R0/D0/SEEPROM
MB/CMP0/CH0/R0/D1/SEEPROM
MB/CMP0/CH0/R1/D0/SEEPROM
MB/CMP0/CH0/R1/D1/SEEPROM
MB/CMP0/CH1/R0/D0/SEEPROM
MB/CMP0/CH1/R0/D1/SEEPROM
MB/CMP0/CH1/R1/D0/SEEPROM
MB/CMP0/CH1/R1/D1/SEEPROM
MB/CMP0/CH2/R0/D0/SEEPROM
MB/CMP0/CH2/R0/D1/SEEPROM
MB/CMP0/CH2/R1/D0/SEEPROM
MB/CMP0/CH2/R1/D1/SEEPROM
MB/CMP0/CH3/R0/D0/SEEPROM
MB/CMP0/CH3/R0/D1/SEEPROM
MB/CMP0/CH3/R1/D0/SEEPROM
MB/CMP0/CH3/R1/D1/SEEPROM
```

The following example shows sample output for the `showfru` command on a Sun
Fire T1000 server, supplying an invalid argument:

CODE EXAMPLE 5-6   Example of `showfru` Command Output On Sun Fire T1000,
Displaying Valid Arguments

```
sc> showfru x
No such FRU_PROM.  Valid arguments are:
MB/SEEPROM
PS0/SEEPROM
MB/CMP0/CH0/R0/D0/SEEPROM
MB/CMP0/CH0/R0/D1/SEEPROM
MB/CMP0/CH0/R1/D0/SEEPROM
MB/CMP0/CH0/R1/D1/SEEPROM
MB/CMP0/CH3/R0/D0/SEEPROM
MB/CMP0/CH3/R0/D1/SEEPROM
MB/CMP0/CH3/R1/D0/SEEPROM
MB/CMP0/CH3/R1/D1/SEEPROM
```

The following example shows sample output for the showfru command, supplying a valid FRU name and −s as arguments

CODE EXAMPLE 5-7   Example of showfru Command Output, Using a Valid Argument

```
sc> showfru -s MB
SEGMENT: SD
/ManR
/ManR/UNIX_Timestamp32:      THU OCT 06 14:47:58 2005
/ManR/Description:           ASSY,Sun-Fire-T1000,Motherboard
/ManR/Manufacture Location:  Sriracha,Chonburi,Thailand
/ManR/Sun Part No:           5017302
/ManR/Sun Serial No:         000854
/ManR/Vendor:                Celestica
/ManR/Initial HW Dash Level: 01
/ManR/Initial HW Rev Level:  01
/ManR/Shortname:             T1000_MB
/SpecPartNo:                 885-0504-03
```

By default, the output of the showfru command can be very voluminous. For example:

```
sc> showfru FIOBD/SEEPROM

/Status_EventsR (1 iterations)
/Status_EventsR[0]
/Status_EventsR[0]/UNIX_Timestamp32:     FRI MAY 20 11:26:48 2005
/Status_EventsR[0]/Old_Status:           0x00 (OK)
/Status_EventsR[0]/New_Status:           0x64 (MAINTENANCE
REQUIRED,
SUSPECT, DEEMED FAULTY)
/Status_EventsR[0]/Initiator:            0xE0 (FM)
/Status_EventsR[0]/Component:            0x00
/Status_EventsR[0]/Message (FM)
/Status_EventsR[0]/FM/fault_diag_time:   0x0000000000000000
/Status_EventsR[0]/FM/diagcode:          SUNW-TEST07
/Status_EventsR[0]/FM/uuid:
66616b65-7575-6964-0000-000000000000
/Status_EventsR[0]/FM/DE_Name:           ALOM-DE
/Status_EventsR[0]/FM/DE_Version:        v1.0


...

/Status_Proxy1R/
/Status_Proxy1R/UNIX_Timestamp32: THU JAN 01 00:00:00 1970
/Status_Proxy1R/version:          0x00
/Status_Proxy1R/StatusMap31:
0x00000000000000000000000000000000000000000000000000000000000000000
/Status_CurrentR/
/Status_CurrentR/UNIX_Timestamp32: FRI MAY 20 11:26:48 2005
/Status_CurrentR/status:          0x64 (MAINTENANCE REQUIRED,
SUSPECT, DEEMED FAULTY)
```

Related Information

- "ALOM Shell Commands" on page 32

showhost

Use the showhost command to display version information about firmware supporting the host configuration.

▼ To Use the `showhost` Command

Note – You do not need user permissions to use this command.

- **At the `sc>` prompt, type the following command**

```
sc> showhost
Host flash versions:
    Reset V1.0.0
    Hypervisor 1.0.0 2005/09/28 18:56
    OBP 4.19.0 2005/09/28 12:34
    MPT SAS FCode Version 1.00.37 (2005.06.13)>R
     Integrated POST 4.19.0 2005/09/28 12:52
```

showkeyswitch

Use the `showkeyswitch` command to display the current virtual keyswitch position of the system.

▼ To Use the `showkeyswitch` Command

Note – You do not need user permissions to use this command.

- **At the `sc>` prompt, type the following command:**

```
sc> showkeyswitch
Keyswitch is in the NORMAL position.
sc>
```

showlocator

Use the `showlocator` command to view the state of the host server's Locator LED (on or off). For more information about the Locator LED, refer to your system administration guide.

Note – This command works only with servers that have the front panel Locator LED.

▼ To Use the `showlocator` Command

Note – You do not need user permissions to use this command.

● **At the `sc>` prompt, type the following command:**

```
sc> showlocator
```

■ If the Locator LED is on, ALOM returns the following result:

```
sc> showlocator
Locator LED is ON
```

■ If the Locator LED is off, ALOM returns the following result:

```
sc> showlocator
Locator LED is OFF
```

To change the state of the Locator LED, use the `setlocator` command. Refer to "setlocator" on page 67.

Related Information

■ "ALOM Shell Commands" on page 32
■ "setlocator" on page 67

showlogs

Use the `showlogs` command to display the history of events logged in the ALOM event buffer. These events include server reset events and all ALOM commands that change the state of the system (such as `reset`, `poweroff`, and `poweron`). See "reset" on page 60, "poweroff" on page 56, and "poweron" on page 58.

Each event recorded in the log has the following format:

date hostname: *message*

Where:

■ *date* – the time at which the event occurred, as recorded by ALOM
■ *hostname* – the name of the host server

- *message* – a short description of the event

If you use the showlogs command without any option, ALOM displays the last 20 lines of the RAM event log.

▼ To Use the showlogs Command

Note – You do not need user permissions to use this command.

- **At the sc> prompt, type the following command:**

```
sc> showlogs options
```

Where *options* are the desired options, if any.

The command returns information similar to the following:

```
sc> showlogs

Log entries since AUG 27 03:35:12
---------------------------------
AUG 27 03:35:12: 00060003: "SC System booted."
AUG 27 03:37:01: 00060000: "SC Login: User admin Logged on."
```

Note – Timestamps shown in the ALOM event log reflect UTC.

This example shows the output of the showlogs command with the −v option. The −v option displays the persistent event log. The persistent event log is comprised of the contents of NVRAM.

CODE EXAMPLE 5-8   Example of showlogs −v Command Output

```
sc> showlogs −v
Persistent event log
--------------------
MAY 19 11:22:03 : 0004000e: "SC Request to Power Off Host Immediately."
MAY 19 11:22:12 : 00040029: "Host system has shut down."
MAY 19 11:22:43 : 00040002: "Host System has Reset"
Log entries since MAY 19 14:57:08
---------------------------------
MAY 19 14:57:08 : 00060003: "SC System booted."
MAY 19 14:57:35 : 00060000: "SC Login: User rich Logged on."
```

`showlogs` Command Options

The `showlogs` command uses five options. You can use the –g and –p options in combination with the –b, –e, or –v options. If you do not specify the –g option, the screen output will not pause unless you have specified the –v option together with the –p option (persistent log, in which case the display pauses after every 25 lines).

TABLE 5-16 `showlogs` Command Options

Option	Description
–v	Displays the entire contents of the buffer file and the contents of NVRAM (the persistent event log).
–b *lines*	Displays the events from the beginning of the buffer, where *lines* is the number of lines that you specify. For example, the following command displays the first 100 lines in the buffer: `showlogs -b 100`
–e *lines*	Displays the events from the end of the buffer file, where *lines* is the number of lines that you specify. If new data appears in the log while you are executing this command, the new data is appended to the screen output. For example: `showlogs -e 10`
–g *lines*	Controls the number of lines displayed on the screen at a given time, where lines is the number of lines that you specify. After each pause, ALOM shows the following message: `--pause-- Press 'q' to quit, any other key to continue.` If –g is set to `0` (zero), display does not pause.
–p *logtype* [r│p]	Controls whether to display entries only from the RAM event log (*logtype* `r`) or from the persistent event log (*logtype* `p`). The default option (if –p has not been specified) is to display entries only from the RAM log.

Related Information

■ "ALOM Shell Commands" on page 32
■ "consolehistory" on page 44

`shownetwork`

Use the `shownetwork` command to display the current ALOM network configuration.

Note – If you changed the ALOM network configuration since the last time you booted ALOM, the output from this command might not show the updated configuration information. Reboot ALOM to see the changed configuration. See "Redirecting the System Console From ALOM to Other Devices" on page 17 for information on rebooting ALOM.

▼ To Use the `shownetwork` Command

Note – You do not need user permissions to use this command.

● **At the** `sc>` **prompt, type the following command:**

```
sc> shownetwork option
```

Where *option* is –v, if desired.

The command output appears similar to the following example, with the actual IP addresses, netmask, and Ethernet addresses in your network configuration in place of *xxx.xxx.xxx.xxx*.

```
sc> shownetwork
SC network configuration is:
IP Address: XXX.XXX.XXX.XXX
Gateway address: XXX.XXX.XXX.XXX
Netmask: XXX.XXX.XXX.XXX
Ethernet Address: XX:XX:XX:XX:XX:XX
```

Note – If networking is misconfigured, the `shownetwork` command shows 0.0.0.0 for the addresses.

`shownetwork` Command Option

The `shownetwork` command uses one option: –v.

If you type `shownetwork –v`, ALOM returns additional information about your network, including information about your DHCP (Dynamic Host Configuration Protocol) server, if you have one configured. See "Configuring Your Network Using DHCP" on page 12.

Related Information

■ "ALOM Shell Commands" on page 32

showplatform

Use the `showplatform` command to display information about the host server's platform ID and status.

▼ To Use the `showplatform` Command

Note – You do not need user permissions to use this command.

● **At the** `sc>` **prompt, type** `showplatform`**.**

The command returns information similar to the following:

```
sc> showplatform
SUNW,Sun-Fire-T1000
Chassis Serial Number: 0529AP000882

Domain Status
------ ------
S0     OS Standby

sc>
```

Related Information

"ALOM Shell Commands" on page 32

showsc

Use the `showsc` command to display information about the ALOM software configuration and firmware version.

▼ To Use the `showsc` Command

Note – You do not need user permissions to use this command.

● **Take one of the following actions:**

  ■ To display all configuration information for ALOM, type the following command at the `sc>` prompt:

```
sc> showsc
```

For example,

CODE EXAMPLE 5-9   Example of `showsc` Display of Configuration Information

```
sc> showsc
Advanced Lights Out Manager CMT v1.0

parameter               value
---------               -----
if_network              true
if_modem                false
if_emailalerts          false
netsc_ipaddr            0.0.0.0
netsc_ipnetmask         255.255.255.0
netsc_ipgateway         0.0.0.0
mgt_mailhost
mgt_mailalert
sc_customerinfo
sc_escapechars          #.
sc_powerondelay         false
sc_powerstatememory     false
sc_clipasswdecho        true
sc_cliprompt            sc
sc_clitimeout           0
sc_clieventlevel        3
sc_backupuserdata       true
diag_trigger            error-reset
diag_verbosity          normal
diag_level              max
diag_mode               normal
sys_autorunonerror      false
ser_baudrate            9600
ser_parity              none
ser_stopbits            1
ser_data                8
netsc_enetaddr          00:03:ba:d8:b2:ac
sys_enetaddr            00:03:ba:d8:b2:a3
```

To display the values for a particular firmware version, type the following command
at the `sc>` prompt:

```
sc> showsc version -v
Advanced Lights Out Manager CMT v1.1
SC Firmware version: CMT 1.1.0
SC Bootmon version: CMT 1.1.0

VBSC 1.1.0.build_04
VBSC firmware built Nov 18 2005, 10:40:48

SC Bootmon Build Release: 04
SC bootmon checksum: 21F5458E
SC Bootmon built Nov 18 2005, 10:46:52

SC Build Release: 04
SC firmware checksum: C727DC4C

SC firmware built Nov 18 2005, 10:47:07
SC firmware flashupdate TUE NOV 08 15:45:42 2005

SC System Memory Size: 32 MB
SC NVRAM Version = f
SC hardware type: 4

FPGA Version: 4.1.9.7
```

■ To display the values for a particular configuration variable, type the following
command at the `sc>` prompt:

```
sc> showsc param
```

Where *param* is the *param* option. For example,

```
sc> showsc if_network
true
sc>
```

See "Using ALOM Configuration Variables" on page 101 for further information.

`showsc` Command Options

The `showsc` command uses the following options. If you type `showsc` without using any options, ALOM displays all of its configuration variables.

TABLE 5-17   `showsc` Command Options

Option	Description
`-v`	When used with the *param* option, the `-v` option might display more detailed information about the specified configuration variables (depending on the variable). When used with the version option, the `-v` option might display more detailed information about the specified firmware version.
`version`	Directs the `showsc` command to display the version of the configuration variable or parameter you specified.
param	Directs the `showsc` command to display the value of the configuration variable or parameter you specified.

Related Information

- "ALOM Shell Commands" on page 32

`showusers`

Use the `showusers` command to display the list of users currently logged in to ALOM. The list includes details such as the type of connection, the duration of each user's session, the IP address of the client (if the user is using a network connection), and whether the user has the host system console's write lock (this determines whether the user can type input in a console session, or just monitor the console stream in read-only mode).

▼ To Use the `showusers` Command

Note – You do not need user permissions to use this command.

- **At the** `sc>` **prompt, type the following command:**

```
sc> showusers option
```

Where *option* is `-g` *lines*, if desired.

For example:

```
sc> showusers
username connection  login time      client IP addr        console
----------------------------------------------------------------
joeuser    serial    Sep 16 10:30
bigadmin   net-3     Sep 14 17:24    123.123.123.123        system
sueuser    net-2     Sep 15 12:55    123.223.123.223
```

If a user has more than one session running, each session is listed.

showusers Command Option

The showusers command uses one option: –g *lines*.

This option pauses the display after the number of lines you specify for *lines*. After each pause, ALOM returns the message:

```
--pause-- Press 'q' to quit, any other key to continue
```

If ALOM encounters an alert condition or an event, it displays the information after this message. Press any key to continue, or press **q** to exit the display and return to the sc> prompt.

useradd

Use the useradd command to add a user account to ALOM.

▼ To Use the useradd Command

Note – You must have u level user permission to use this command. Refer to "userperm" on page 97 for information on setting user permissions.

● **At the** sc> **prompt, type the following command:**

```
sc> useradd username
```

Where *username* is the name of the user whose account you want to add to ALOM.

username has the following restrictions:

- Valid characters include alphabetic (letter) and numeric characters, period (.), underscore (_), and hyphen (-).
- The name can have a maximum length of 16 characters, at least one of which must be a lowercase alphabetic character.
- The first character must be alphabetic.

You can add a maximum of 15 unique user accounts to ALOM.

To assign a password to a user name, use the `userpassword` command. See "userpassword" on page 96.

To set permission levels for a user name, use the `userperm` command. See "userperm" on page 97.

Related Information

- "ALOM Shell Commands" on page 32

userdel

Use the `userdel` command to delete an ALOM user account. Once the account is deleted, the deleted user's configuration information can never be recovered.

If the user name you specify is not on the list of ALOM users, ALOM returns an error message. Likewise, if there is only one user on the list, ALOM will not delete that user account.

Note – ALOM will not delete the default `admin` user account.

▼ To Use the `userdel` Command

Note – You must have `u` level user permission to use this command. Refer to "userperm" on page 97 for information on setting user permissions.

- **At the `sc>` prompt, type the following command:**

```
sc> userdel useracct
```

Where *useracct* is the name of the user account you want to delete.

`userdel` Command Option

The `userdel` command uses one option: `-y`.

If you specify the `-y` option, `userdel` deletes the account without prompting the following confirmation question:

```
Are you sure you want to delete user username [y/n]?
```

Related Information

■

`userpassword`

Use the `userpassword` command to change the password for the specified user account. This command is for administrators who need to change user passwords on ALOM, but who might not know what the user account passwords are. If you are trying to change the password on your own ALOM account, use the `password` command. See .

▼ To Use the `userpassword` Command

Note – You must have u level user permission to use this command. See for information on setting user permissions.

● **At the** `sc>` **prompt, type the following command:**

```
sc> userpassword username
```

Where *username* is the name of the user account for which you want to change the password.

When you use this command, ALOM does not prompt you for the existing password.

For example:

```
sc> userpassword username
New password:
Re-enter new password:
sc>
```

Password Restrictions

Passwords have the following restrictions:

- They must contain between six and eight characters.
- They must contain at least two alphabetic characters (uppercase or lowercase letters) and at least one numeric or special character.
- They must differ from your login name and any reverse or circular shift of your login name. For comparison purposes, uppercase and lowercase letters are equivalent.
- They must differ from the old password by at least three characters. For comparison purposes, uppercase and lowercase letters are equivalent.

Note – Passwords that do not pass the restrictions are accepted with a warning that such passwords do not meet the recommended guidelines for security.

Related Information

"ALOM Shell Commands" on page 32

userperm

Use the userperm command to set or change permission levels for a specified user account. By default, the initial setup procedure creates the ALOM admin account. This account cannot be deleted, nor can you change the user permissions for the account.

Permission Levels

All users can read ALOM information, but you need authorization to perform ALOM functions or change settings.

If you do not assign a permission level to the specified user (that is, you assign zero permission levels), then that user has read-only permission. This is the default level for a new ALOM user account.

There are four permission levels that *increase* a user's authorization. You can specify zero through four permission levels.

TABLE 5-18 `userperm` Permission Levels

Permission Level	Description
a	Administrative. This user is authorized to change the state of ALOM configuration variables and reboot ALOM. Refer to "Using ALOM Configuration Variables" on page 101 and "resetsc" on page 61.
u	User administration. This user is authorized to add users and delete users, change user permissions, and change the authorization level of other users. Refer to "useradd" on page 94 and "userdel" on page 95.
c	Console permission. This user is authorized to connect to the host server system console. Refer to "console" on page 42.
r	Reset and power permission. This user is authorized to reset the host server, and power the server on and off. Refer to "reset" on page 60, "poweron" on page 58, and "poweroff" on page 56.

Note – The default user permission for the account that you use when you start ALOM for the first time is read-only. After you set a password for the default `admin` account, the permissions change to `cuar` (full authorization).

To see a user's permission levels, use the `usershow` command. See "usershow" on page 100.

▼ To Use the userperm Command

Note – You must have `u` level user permission to use this command

● **At the sc> prompt, type the following command:**

```
sc> userperm username permissions
```

Where *username* is the name of the user to whom you want to assign permissions, and *permissions* are the permissions you want to assign to that user.

For example, to assign `c` and `r` user permissions to user `msmith`, type the following at the ALOM command prompt:

```
sc> userperm msmith cr
```

To see a user's permission levels, use the `usershow` command.

A user with no permissions (read-only) can use only the following commands:

- `help`
- `logout`
- `password`
- `setlocator`
- `showdate`
- `showenvironment`
- `showfaults`
- `showfru`
- `showhost`
- `showkeyswitch`
- `showlocator`
- `showlogs`
- `shownetwork`
- `showplatform`
- `showsc`
- `showusers`

A user who has read-only permissions would appear similar to the user `jeremy` in the following example:

```
sc> usershow
Username          Permissions       Password
---------------   ----------------  ------------
admin             cuar              Assigned
jeremy            ----              Assigned
```

Related Information

- "ALOM Shell Commands" on page 32

usershow

Use the `usershow` command to display a specified user's ALOM account, along with each user's permissions and whether a password has been assigned. Refer to "userperm" on page 97 and "userpassword" on page 96.

If you do not enter a username, `usershow` displays all of the ALOM accounts.

▼ To Use the `usershow` Command

Note – You must have `u` level user permission to use this command. See "userperm" on page 97 for information on setting user permissions.

At the `sc>` prompt, type the following command:

```
sc> usershow username
```

Where *username* is the name of the specified user.

For example:

```
sc> usershow
Username Permissions Password?
admin      cuar        Assigned
wwilson    cuar        Assigned
jadams     --cr        None
```

```
sc> usershow wwilson
Username Permissions Password?
wwilson   cuar        Assigned
```

Related Information

- "ALOM Shell Commands" on page 32

Using ALOM Configuration Variables

This chapter contains information on ALOM configuration variables and consists of:

Overview of the ALOM Configuration Variables

ALOM has nonvolatile configuration variables that you can use to change ALOM behavior. The default values for these variables are preinstalled. You customize the variables for the first time using the `setupsc` interactive script command. You can change settings for individual variables using the ALOM shell. See *"setupsc" on page 69* for more information.

▼ To Use Configuration Variables in the ALOM Command Shell

Note – You must have a level user permission to set configuration variables from the ALOM shell. Refer to "userperm" on page 97 for more information about setting user permissions.

From the ALOM command shell:

- **To specify a value (or values) for a settable variable, use the** setupsc **command.**
  See "setupsc" on page 69.

- **To show the configuration variables and their settings, use the** showsc **command.**
  See "showsc" on page 90.

- **To set a value for a configuration variable, use the** setsc **command.**
  See "setsc" on page 68.

- **To reset all variables to their factory defaults, use the** setdefaults **command.**
  See "setdefaults" on page 64.

Serial Management Port Variables

The host system sets the serial management port variables when it starts up, so these variables are read-only. ALOM uses the serial management port variables to report the serial management (SER MGT) settings on the host server. To view the settings for these variables, use the showsc command. See "showsc" on page 90.

You can view settings for the following serial port variables, but you cannot set or adjust them:

- "ser_baudrate" on page 128
- "ser_data" on page 128
- "ser_parity" on page 128
- "ser_stopbits" on page 129

Related Information

- "Overview of the ALOM Configuration Variables" on page 101
- "setupsc" on page 69

Network Interface Variables

Use the network interface variables to specify the network settings that ALOM uses across its Ethernet connection at the NET MGT port on the host server.

ALOM uses the following network interface variables:

- "netsc_dhcp" on page 115
- "netsc_ipaddr" on page 116
- "netsc_ipnetmask" on page 119
- "netsc_ipgateway" on page 117
- "netsc_enetaddr" on page 116

From the ALOM command shell:

- **To specify values for this variable, use the** setupsc **command.**

  See "setupsc" on page 69.

- **To show the configuration variables and their settings, use the** showsc **command.**

  See "showsc" on page 90.

- **To set a value for a configuration variable, use the** setsc **command.**

  See "setsc" on page 68.

- **To reset all variables to their factory defaults, use the** setdefaults **command.**

  See "setdefaults" on page 64.

Related Information

- "Overview of the ALOM Configuration Variables" on page 101.

Network Management and Notification Variables

Use the network management and notification variables to specify how ALOM manages the host system and sends alerts.

ALOM supports the following network management and notification variables:

- "if_emailalerts" on page 109
- "mgt_mailhost" on page 114.
- "mgt_mailalert" on page 112.

From the sc> prompt at the ALOM command shell:

- **To set up these variables, use the** setupsc **command.**

  See "setupsc" on page 69.

- **To view the current settings, use the** showsc **command.**

  See "showsc" on page 90.

- **To change a value for a variable, use the** setsc **command.**

  See "setsc" on page 68.

Related Information

- "Overview of the ALOM Configuration Variables" on page 101.

System User Variables

The system user variables enable you to customize the way ALOM identifies and interacts with the host server. When you use the setupsc script to customize ALOM, you can reach these variables by responding y when setupsc prompts you. See "setupsc" on page 69 for more information.

- "showsc" on page 90
- "sc_clieventlevel" on page 121
- "sc_clipasswdecho" on page 124
- "sc_cliprompt" on page 121
- "sc_clitimeout" on page 123
- "sc_customerinfo" on page 124

- *"sc_escapechars"* on page 125
- *"sc_powerondelay"* on page 126
- *"sc_powerstatememory"* on page 127

From the ALOM command shell:

- **To specify a value (or values) for a settable variable, use the** setupsc **command.**

  See *"setupsc"* on page 69.

- **To show the configuration variables and their settings, use the** showsc **command.**

  See *"showsc"* on page 90.

- **To set a value for a settable variable, use the** setsc **command.**

  See *"setsc"* on page 68.

- **To reset all variables to their factory defaults, use the** setdefaults **command.**

  See *"setdefaults"* on page 64.

Related Information

- *"Overview of the ALOM Configuration Variables"* on page 101.

Diagnostic Control Variable

Use the diagnostic control variable to specify how ALOM behaves when it encounters an error on the host server.

ALOM uses the following diagnostic system interface variable:

- *"sys_autorunonerror"* on page 129
- *"diag_level"* on page 106
- *"diag_mode"* on page 107
- *"diag_trigger"* on page 107
- *"diag_verbosity"* on page 108

Related Information

"Overview of the ALOM Configuration Variables" on page 101.

Descriptions of Configuration Variables

This section lists the descriptions of ALOM configuration variables in alphabetical order.

diag_level

Use this variable to specify the level of diagnostic testing to be executed when diagnostics are enabled.

TABLE 6-1   `diag_level` Tasks

Task	ALOM Shell Command
View the current value	"showsc" on page 90
Set or change the values	"setsc" on page 68

▼ To Use the `setsc` Command to Change the `diag_level` Variable

● **At the `sc>` prompt, type the following command:**

```
sc> setsc diag_level value
```

Where *value* is one of the following values:

- `min` – Run the minimum level of diagnostics to verify the system.
- `max` – Run the maximum set of diagnostics to fully verify system health [the default value].
- `none` – Run no diagnostics.

diag_mode

Use this variable to control whether diagnostics are enabled and to specify which diagnostic mode is enabled.

TABLE 6-2   diag_mode Tasks

Task	ALOM Shell Command
View the current value	"showsc" on page 90
Set or change the values	"setsc" on page 68

▼ To Use the setsc Command to Change the diag_mode Variable

● **At the** sc> **prompt, type the following command:**

```
sc> setsc diag_mode value
```

Where *value* is one of the following:

- off – Run no diagnostics.
- normal – Run diagnostics [the default value].
- service – Run service-technician diagnostics, equivilant to using the preset values of diag_level, diag_trigger, and diag_verbosity. Setting diag_mode to service has the same effect as issuing the setkeyswitch diag command.

diag_trigger

Use this variable to control the conditions under which POST runs if diagnostics are enabled.

TABLE 6-3   diag_trigger Tasks

Task	ALOM Shell Command
View the current value	"showsc" on page 90
Set or change the values	"setsc" on page 68

▼ To Use the `setsc` Command to Change the `diag_trigger` Variable

● **At the** `sc>` **prompt, type the following command:**

```
sc> setsc diag_trigger value
```

Where *value* is one (or a combination) of the following:

■ `user-reset` – Run diagnostics when the system is reset [see also: "reset" on page 60].

■ `error-reset` – Run diagnostics when the system takes a fatal error which requires the system to reset itself to recover.

■ `power-on-reset` – Run diagnostics when the system is powered on [see also: "poweron" on page 58].

■ `all-resets` – Run all of the diagnostics specified by `user-reset`, `error-reset`, and `power-on-reset`.

■ `none` – Skip diagnostics.

The default value is the combination of `power-on-reset error-reset.`

For example,

```
sc> setsc diag_trigger user-reset power-on-reset
sc> showsc diag-trigger
user-reset power-on-reset
```

diag_verbosity

Use this variable to specify the verbosity level of the output from POST diagnostics, if diagnostics are enabled.

TABLE 6-4   `diag_verbosity` Tasks

Task	ALOM Shell Command
View the current value	"showsc" on page 90.
Set or change the values	"setsc" on page 68.

▼ To Use the `setsc` Command to Change the `diag_verbosity` Variable

● **At the `sc>` prompt, type the following command:**

```
sc> setsc diag_verbosity value
```

Where *value* is one of the following:

- `none` – Diagnostics do not print any output on the system console when running, unless a fault is detected.
- `min` – Diagnostics print a limited amount of output on the system console.
- `max` – Diagnostics print full output on the system console, including the name and results of each test being run.
- `normal` – Diagnostics print a moderate amount of output on the system console [the default value].
- `debug` – Diagnostics print extensive debugging output on the system console, including devices being tested and debug output of each test.

`if_emailalerts`

Use this variable to enable email alerts. When this variable is set to `true` (enabled), you can set values for the ALOM network management and notification variables. See "Network Management and Notification Variables" on page 104. The network management and notification variables, `mgt_mailhost` and `mgt_mailalert`, specify how to manage and enable email alerts. See "mgt_mailhost" on page 114, and "mgt_mailalert" on page 112.

Note – The `if_network` variable must be enabled before you can enable `if_emailalerts`. Refer to "if_network" on page 110.

From the ALOM command shell:

● **To specify a value for this variable, use the `setupsc` command.**
See "setupsc" on page 69.

● **To set or change the value, use the `setsc` command.**
See "setsc" on page 68.

● **To view the current value for this variable, use the `showsc` command.**
See "showsc" on page 90.

▼ To Use the `setupsc` Command to Set the `if_emailalerts` Variable

1. At the `sc>` prompt, type the following command:

```
sc> setupsc
```

The `setupsc` script prompts you as follows:

```
Should the SC email alerts be enabled [y]?
```

2. Type `y` to configure the interfaces; that is, to set the value to true.

The default value for this variable is `true` (enabled).

▼ To Use the `setsc` Command to Change the `if_emailalerts` Variable

● **At the `sc>` prompt, type the following command:**

```
sc> setsc if_emailalerts response
```

Where *response* is `true` to enable email alerts, or `false` to disable them.

if_network

Use this variable to enable the ALOM network interface. When this variable is set to `true` (enabled), you are able to use the ALOM network interface variables. Refer to "Network Interface Variables" on page 103.

TABLE 6-5   `if_network` Tasks

Task	ALOM Shell Command
Specify a value for a settable variable	"setupsc" on page 69.
View the configuration variable settings	"showsc" on page 90.
Set or change a configuration variable	"setsc" on page 68.
Reset all variables to their factory defaults	"setdefaults" on page 64.

▼ To Use the `setupsc` Command to Set the `if_network` Variable

1. At the `sc>` prompt, type the following command:

```
sc> setupsc
```

The `setupsc` script prompts you as follows:

```
Should the SC network interface be enabled [y]?
```

2. Type `y` to configure the interfaces.

The default value for this variable is true (enabled).

▼ To Use the `setsc` Command to Change the `if_network` Variable

● **At the `sc>` prompt, type the following command:**

```
sc> setsc if_network response
```

Where *response* is `true` to enable the network interface or `false` to disable it.

if_modem

The `if_modem` variable is a legacy feature. ALOM CMT does not support serial modem communication through an external modem.

mgt_mailalert

Use this variable to configure email alerts. The procedure for setting up email alerts varies slightly, depending on which method you use. You can specify up to eight email addresses.

TABLE 6-6   mgt_mailalert Tasks

Task	ALOM Shell Command
Specify a value	"setupsc" on page 69
View the current value	"showsc" on page 90
Set or change the values	"setsc" on page 68

▼ To Use the setupsc Command to Set the mgt_mailalert Variable

1. **At the sc> prompt, type the following command:**

   ```
   sc> setupsc
   ```

   The setupsc script prompts you as follows:

   When you use the setupsc command to configure mgt_mailalert, you are prompted to answer the following questions. Default values appear in brackets after each question.

   ```
   Enter the number of email recipients to configure [0]? 2
   ```

2. **Type the number of email recipients.**

   The default value, 0, appears in brackets after the prompt.

   For each recipient you specify, the script asks the following question, substituting *n* for the number of the recipient it is currently configuring (for example, if you enter 2 as in the above example, you are prompted to configure email alerts for address 1, and then for address 2).

   ```
   Enter the email address for recipient n (maximum of 128 characters)
   []? johnsmith@sysadmin.com
   ```

3. **Type the email address of the recipient, as shown in the above example.**

ALOM accepts email addresses of up to 128 characters. The script then asks:

```
Enter the level of events to send to recipient <n> where valid
settings are 1 (critical), 2 (critical and major) and 3 (critical,
major and minor) [2]?
```

4. **Type the response that corresponds to the levels of alerts you want sent to the recipient.**

▼ To Use the `setsc` Command to Change the `mgt_mailalert` Variable

● **To send an email alert, type the following command at the `sc>` prompt:**

```
sc> setsc mgt_mailalert email level
```

Where *email* is the email address to which you want the alert sent, and *level* is the level of alerts (critical, major, or minor) you want sent.

For example:

```
sc> setsc mgt_mailalert kevin@abc.com 1
```

● **To remove a `mgt_mailalert` entry, specify the values for this variable again, omitting the alert level.**

For example, to remove the entry for the previous example, type the following:

```
sc> setsc mgt_mailalert kevin@xyz.com
```

Related Information

mgt_mailhost

Use this variable to specify the Internet Protocol (IP) addresses of one or two mail servers to which ALOM delivers email alerts.

TABLE 6-7   mgt_mailhost Tasks

Task	ALOM Shell Command
Specify a value for a variable	"setupsc" on page 69
View the current value for this variable	"showsc" on page 90
Change the value of the variable	"setsc" on page 68

If you are running the setupsc script, setupsc asks the following question:

```
Enter the number of mail servers to configure [0]? 1
Enter the IP address for mail server 1 [100.100.100.100]?
100.100.100.100
```

▼ To Use the setsc Command to Change the mgt_mailhost Variable

● **At the** sc> **prompt, type the following command:**

```
sc> setsc mgt_mailhost ipaddr1 ipaddr2
```

Where *ipaddr1* and *ipaddr2* are the IP addresses of the mail hosts you want to specify.

For example, to specify one mail server using setsc, type the following command at the sc> prompt, substituting the IP address of your mail server for *xxx.xxx.xxx.xxx*:

```
sc> setsc mgt_mailhost xxx.xxx.xxx.xxx
```

The default IP address is 0.0.0.0.

Note – The default IP address of 0.0.0.0 is not a valid IP address. You must enter a valid IP address for this command.

To specify two mail servers, type the following command. Use a single space to separate the IP address of the first mail server from the IP address of the second server.

```
sc> setsc mgt_mailhost xxx.xxx.xxx.xxx yyy.yyy.yyy.yyy
```

Related Information

- "Network Management and Notification Variables" on page 104.
- "Overview of the ALOM Configuration Variables" on page 101.
- "showsc" on page 90.

netsc_dhcp

Use this variable to specify whether you want to use Dynamic Host Configuration Protocol (DHCP) to obtain your network configuration. The available values are `true` and `false`. The default value is `false`.

TABLE 6-8   `netsc_dhcp` Tasks

Task	ALOM Shell Command
Specify a value for a variable	"setupsc" on page 69
View the current value	"showsc" on page 90
Change the value of the variable	"setsc" on page 68

If you are running the `setupsc` script, `setupsc` asks the following question:

```
Should the SC use DHCP to obtain its network configuration [n]?
```

Related Information

- "Network Interface Variables" on page 103.
- "Overview of the ALOM Configuration Variables" on page 101.
- "showsc" on page 90.

netsc_enetaddr

Use this variable to display the MAC address for ALOM in the standard six-byte format (for example, `0a:2c:3f:1a:4c:4d`). This variable is set at the factory. You cannot set or change this variable.

From the ALOM command shell:

- To view this current value for this variable, use the `showsc` command. See "showsc" on page 90.

Related Information

- "Network Interface Variables" on page 103.
- "Overview of the ALOM Configuration Variables" on page 101.
- "showsc" on page 90.

netsc_ipaddr

Use this variable to specify the ALOM IP address.

TABLE 6-9　`netsc_ipaddr` Tasks

Task	ALOM Shell Command
Specify a value for a variable	"setupsc" on page 69
View the current value	"showsc" on page 90
Change the value of the variable	"setsc" on page 68

The default IP address supplied by this variable is 0.0.0.0.

Note – If you are using DHCP to obtain your ALOM network configuration, you do not need to set this variable. If `netsc_dhcp` is set to `true`, then the `setupsc` script does not ask you to set `netsc_ipaddr`. See "netsc_dhcp" on page 115 and "setupsc" on page 69 for further information.

A typical IP address contains four sets of numbers between 0 and 255, separated by decimal points. This is referred to as standard dot notation.

If you are running the `setupsc` script, `setupsc` asks the following questions:

```
Enter the SC IP address [100.100.100.100]? 100.100.100.100
Enter the SC IP netmask [255.255.255.0]? 255.255.255.0
```

If the IP address you specify does not work with the subnet mask and gateway addresses you specify, ALOM returns warning messages. For example:

```
WARNING: Subnet mask must have all ones for natural network ID.
WARNING: The ip_netmask is not compatible with the specified IP
address. Choose another ip_netmask to fix this problem.
```

Check that all the values you entered are correct. See "netsc_ipgateway" on page 117, and "netsc_ipnetmask" on page 119 for more information. If you need help obtaining the correct IP address, ask your network administrator.

Related Information

- "Network Interface Variables" on page 103.
- "Overview of the ALOM Configuration Variables" on page 101.
- "showsc" on page 90.

netsc_ipgateway

Use this variable to specify the IP address for the default IP gateway (also called a router). This gateway enables ALOM to access different subnetworks, other than the one to which it is connected.

TABLE 6-10   `netsc_ipgateway` Tasks

Task	ALOM Shell Command
Specify a value for a variable	"setupsc" on page 69
View the current value	"showsc" on page 90
Change the value of the variable	"setsc" on page 68

The default IP address supplied by this variable is 0.0.0.0

Note – If you are using DHCP to obtain your ALOM network configuration, you do not need to set this variable. If netsc_dhcp is set to true, then the setupsc script does not ask you to set netsc_ipgateway. See "netsc_dhcp" on page 115 and "setupsc" on page 69 for further information.

A typical IP address contains four sets of numbers between 0 and 255, separated by decimal points. This is referred to as standard dot notation.

If you are running the setupsc script, setupsc asks the following question:

```
Enter the SC IP gateway address [100.100.100.100]? 100.100.100.100
```

If the IP address you specify does not work with the subnet mask and ALOM IP addresses you specify, ALOM returns the following error message, substituting the values for *netsc-ipnetmask* and *netsc-ipaddr*:

```
Error: Invalid IP gateway address for IP address netsc-ipaddr and IP
netmask netsc-ipnetmask.
```

Check that all the values you entered are correct. See "netsc_ipgateway" on page 117 and "netsc_ipaddr" on page 116 for further information on these commands. If you need help obtaining the correct IP address, ask your network administrator.

Related Information

- "Network Interface Variables" on page 103.
- "Overview of the ALOM Configuration Variables" on page 101.
- "showsc" on page 90

netsc_ipnetmask

Use this variable to specify the ALOM IP netmask.

TABLE 6-11 `netsc_ipnetmask` Tasks

Task	ALOM Shell Command
Specify a value for a variable	"setupsc" on page 69
View the current value	"showsc" on page 90
Change the value of the variable	"setsc" on page 68

The default IP address supplied by this variable is 255.255.255.0 (Class C network).

Note – If you are using DHCP to obtain your ALOM network configuration, you do not need to set this variable. If `netsc_dhcp` is set to `true`, then the `setupsc` script does not ask you to set `netsc_ipnetmask`. See "netsc_dhcp" on page 115 and "setupsc" on page 69 for further information.

A typical IP address contains four sets of numbers between 0 and 255, separated by decimal points. This is referred to as standard dot notation.

If you are running the `setupsc` script, `setupsc` asks the following question:

```
Enter the SC IP netmask [255.255.255.0]? 255.255.255.0
```

If the IP address you specify does not work with the subnet mask and ALOM IP addresses you specify, ALOM returns the following error message, substituting the values for `netsc_ipnetmask` and `netsc_ipadddr`:

```
Error: Invalid IP netmask for IP address netsc-ipaddr and IP gateway
netsc-ipgateway .
```

Check that all the values you entered are correct. See "netsc_ipgateway" on page 117 and "netsc_ipaddr" on page 116 for further information on these command. If you need help obtaining the correct IP address, ask your network administrator.

Related Information

sc_backupuserdata

This variable specifies whether the local user database on ALOM (that is, user, password, and permission information) should be backed up. When this variable is set to `true`, this data is backed up on the removable system configuration card (SCC PROM) on the system.

The values for this variable are as follows.

- `true` – Backs up the user database to the SCC (This is the default value).
- `false` – No backup.

TABLE 6-12   `sc_backuserdata` Tasks

Task	ALOM Shell Command
View the current value	"showsc" on page 90
Change the value of the variable	"setsc" on page 68

▼ To Use the `setsc` Command to Change the `sc_backupuserdata` Variable

● **At the** `sc>` **prompt, type the following command:**

```
sc> setsc sc_backupuserdata value
```

Where *value* is `true` or `false`.

For example, if you want the local user database on ALOM to be backed up, type the following command:

```
sc> setsc sc_backupuserdata true
sc>
```

sc_clieventlevel

Use this variable to specify the level of ALOM events that you want ALOM to display in the ALOM shell during an ALOM session. There are four levels of events:

- 0 (None) – Display no events.
- 1 (Critical) – Display critical events only.
- 2 (Critical, Major) – Display critical and major events.
- 3 (Critical, Major, Minor) – Display critical, major, and minor events.

The default value for this variable is 2 (Major).

TABLE 6-13 sc_clieventlevel Tasks

Task	ALOM Shell Command
Specify a value for a variable	"setupsc" on page 69
View the current value	"showsc" on page 90
Change the value of the variable	"setsc" on page 68

If you are running the setupsc script, setupsc asks the following question:

```
Enter level of events to be displayed over the CLI where valid
settings are 0 (none), 1 (critical), 2 (critical and major) and 3
(critical, major and minor) [2]? 2
```

Related Information

- "Overview of the ALOM Configuration Variables" on page 101
- "showsc" on page 90

sc_cliprompt

Use this variable to change the ALOM shell prompt. The default prompt is sc>.

You can specify any string of characters for the prompt, up to a maximum of 16 characters. The characters permitted in the string are alphanumeric, hyphen, and underscore.

TABLE 6-14 `sc_cliprompt` Tasks

Task	ALOM Shell Command
Specify a value for a variable	"setupsc" on page 69
View the current value	"showsc" on page 90
Change the value of the variable	"setsc" on page 68

▼ To Use the `setsc` Command to Change the `sc_cliprompt` Variable

● **At the** `sc>` **prompt, type the following command:**

```
sc> setsc sc_cliprompt prompt
```

Where *prompt* is the desired ALOM command prompt.

For example, if your host name is `ernie` and your host's ALOM name is `ernie-sc`, type the following command to specify `ernie-sc` as your ALOM shell prompt:

```
sc> setsc sc_cliprompt ernie-sc
ernie-sc>
```

In addition, you can set this variable through the `setupsc` command. See "setupsc" on page 69. The `setupsc` command prompts you for the following:

```
Enter the SC cli prompt (maximum of 16 characters) [sc] ?
```

To use the default prompt of `sc>`, press Return.

Related Information

- "Overview of the ALOM Configuration Variables" on page 101.
- "System User Variables" on page 104.
- "showsc" on page 90.

sc_clitimeout

Use this variable to specify the number of seconds that an ALOM shell session can be idle before an automatic logout occurs. You can specify values from 0 to 10,000 seconds. If you specify a value between 1 and 59 seconds, the variable will automatically be set to the minimum value of 60 seconds. The default value is 0 seconds (timeout disabled). If you specify a value that has more than five digits in it, the timeout will be set to 0.

Note – If the ALOM session is in `console` mode, automatic logout will not occur, even when this variable is set. Refer to "console" on page 42.

For example, to set the automatic logout interval to 60 seconds, type the following command at the ALOM shell prompt:

```
sc> setsc sc_clitimeout 60
```

You can specify a value for the timeout using the `setupsc` command. Refer to "setupsc" on page 69. The `setupsc` script prompts you to enter a value as follows:

```
Enter the SC CLI timeout in seconds (maximum of 10000s) [0]?
```

TABLE 6-15 `sc_clitimeout` Tasks

Task	ALOM Shell Command
Specify a value for a variable	"setupsc" on page 69
View the current value	"showsc" on page 90
Change the value of the variable	"setsc" on page 68

Related Information

- "Overview of the ALOM Configuration Variables" on page 101.
- "System User Variables" on page 104.
- "showsc" on page 90.

sc_clipasswdecho

Use this variable to turn password echo on and off. When password echo is on, each character that a user types when logging in to ALOM is echoed to the screen with an asterisk (*). Note that the actual password is never echoed to the screen.

The default value for this variable is y (echo asterisks to screen).

For example, to change the value of this variable to n (no echo) type the following command at the ALOM shell prompt:

```
sc> setsc sc_clipasswdecho n
```

You can specify a value for this variable using the setupsc command. The setupsc script prompts you to enter a value as follows:

```
Should password entry echo '*'s [y] ?
```

TABLE 6-16 sc_clipasswdecho Tasks

Task	ALOM Shell Command
Specify a value for a variable	"setupsc" on page 69
View the current value	"showsc" on page 90
Change the value of the variable	"setsc" on page 68

Related Information

- "Overview of the ALOM Configuration Variables" on page 101.
- "System User Variables" on page 104.
- "showsc" on page 90.

sc_customerinfo

Use this variable to store information about the host server, or any other information you want to enter that identifies the host server to ALOM. This information is included in any email alerts.

If you answer y when the setupsc utility asks Do you wish to configure the SC parameters [y]?, then the setupsc utility returns the following prompt:

```
Enter any customer data for this platform (maximum of 40
characters) []?
```

For example:

```
Enter any customer data for this platform (maximum of 40
characters) []? This is the test lab server.
```

See "setupsc" on page 69 for more information about this command.

TABLE 6-17 sc_customerinfo Tasks

Task	ALOM Shell Command
Specify a value for a variable	"setupsc" on page 69
View the current value	"showsc" on page 90
Change the value of the variable	"setsc" on page 68

Related Information

- "Overview of the ALOM Configuration Variables" on page 101.
- "System User Variables" on page 104.
- "showsc" on page 90.

sc_escapechars

Use the escape character sequence to switch from a system console session back to ALOM. The sequence is limited to two characters. The second character is always . (Period). The default value is #. (Pound-Period). The sequence can be customized.

You can specify a value for this variable using the setupsc command. The setupsc script prompts you to enter a value as follows:

```
Enter the console session escape sequence (2 characters). The first
character can be any printable characters or control-A through
control- Y except for control-C, control-D, control-H, control-J,
or control-M. The second character must be a ".". [#.]
```

See "setupsc" on page 69 for more information about that command.

TABLE 6-18 `sc_escapechars` Tasks

Task	ALOM Shell Command
Specify a value for a variable	"setupsc" on page 69
View the current value	"showsc" on page 90
Change the value of the variable	"setsc" on page 68

Related Information

- "Overview of the ALOM Configuration Variables" on page 101.
- "System User Variables" on page 104.
- "showsc" on page 90.

sc_powerondelay

Use this variable to cause the server to wait for a short time before powering on automatically. The delay is a random interval of one to five seconds. Delaying the server power-on helps minimize current surges on the main power source. This is important when multiple servers in racks power on after a power outage.

This variable takes effect only if `sc_powerstatememory` is set to `true`.

You can set the power-on delay using the `setupsc` command. When the `setupsc` script asks the following question, type **y** to enable the delay or **n** to disable it:

```
Should poweron sequencing be enabled [y]?
```

See "setupsc" on page 69 for more information about that command.

From the ALOM command shell the values for this variable are `true` and `false`.

TABLE 6-19 `sc_powerondelay` Tasks

Task	ALOM Shell Command
Specify a value for a variable	"setupsc" on page 69
View the current value	"showsc" on page 90
Change the value of the variable	"setsc" on page 68

Related Information

- "Overview of the ALOM Configuration Variables" on page 101.
- "System User Variables" on page 104.
- "showsc" on page 90.

sc_powerstatememory

ALOM runs as soon as power is applied to the host server, even if the server is powered off. When you first apply power to the host server, ALOM starts to run, but the server does not start up until you power it on.

The `sc_powerstatememory` variable enables you to specify the state of the host server as `false` (keep the host server off) or `true` (return the server to the state it was in when the power was removed). This is useful in the event of a power failure, or if you physically move the server to a different location.

For example, if the host server is running when power is lost and the `sc_powerstatememory` variable is set to `false`, the host server remains off when power is restored. If the `sc_powerstatememory` variable is set to `true`, the host server restarts when the power is restored.

The values for this variable are as follows.

- `true` – When power is restored, returns the server to the state it was in before the power was removed.
- `false` – Keeps the server off when power is applied.

TABLE 6-20   `sc_powerstatememory` Tasks

Task	ALOM Shell Command
Specify a value for a variable	"setupsc" on page 69
View the current value	"showsc" on page 90
Change the value of the variable	"setsc" on page 68

Related Information

- "Overview of the ALOM Configuration Variables" on page 101.
- "System User Variables" on page 104.
- "showsc" on page 90.

ser_baudrate

This variable sets the serial management port (SERIAL MGT) baud rate. Its value is preset and cannot be changed.

The default setting is 9600.

● **To view the current setting for this variable, use the** showsc **command.**

See "showsc" on page 90 for more information about this command.

Related Information

- "Overview of the ALOM Configuration Variables" on page 101.
- "System User Variables" on page 104.
- "showsc" on page 90.

ser_data

This variable sets the number of serial management port (SERIAL MGT) data bits. Its value is preset and cannot be changed.

The default setting is 8.

● **To view the current value for this variable, use the** showsc **command.**

See "showsc" on page 90 for more information about this command.

Related Information

- "Overview of the ALOM Configuration Variables" on page 101.
- "System User Variables" on page 104.
- "showsc" on page 90.

ser_parity

This variable sets the serial management port (SERIAL MGT) parity. Its value is preset and cannot be changed.

The default setting is none.

● **To view the current setting for this variable, use the** showsc **command.**

See "showsc" on page 90 for more information about this command.

Related Information

ser_stopbits

This variable sets the number of serial management port (SERIAL MGT) stop bits. Its value is preset and cannot be changed.

The default setting is 1.

From the sc> prompt:

- **To view the current setting for this variable, use the showsc command.**

See "showsc" on page 90 for more information about this command.

Related Information

sys_autorunonerror

Use this variable to specify whether the host should continue to boot after system diagnostics have discovered an error. The default value is false.

- **To view the current setting for this variable, use the showsc command.**

See "showsc" on page 90 for more information about this command.

sys_enetaddr

This variable is automatically configured by the system software, so you cannot set it or change it. The value is read and determined from the server's MAC address and then stored as a variable in ALOM.

sys_enetaddr is the MAC address for the net0 port. The MAC addresses for each additional port increments from the sys_enetaddr. For example, net1 is sys_enetaddr+1.

● **To view the current setting for this variable, use the** showsc **command.**

See "showsc" on page 90 for more information about this command.

Related Information

- "Overview of the ALOM Configuration Variables" on page 101.
- "showsc" on page 90.

Troubleshooting

This chapter consists of tables of the most common issues you may experience with ALOM, shell error messages you see in ALOM, and troubleshooting suggestions. It contains the following sections:

Troubleshooting ALOM Problems

TABLE A-1 provides a list of common ALOM difficulties and their solutions.

TABLE A-1   ALOM Diagnostics

Problem	Description
Can't log in to ALOM	Perform the following actions to troubleshoot ALOM log-in problems: • Check the ALOM device name you are connecting to: (for example, `bert-sc`). Make sure that you have the correct ALOM name for the corresponding server. • Check that you are using your correct ALOM username; it might not be the same as your system user name. • Check that you are using your correct ALOM password.

Can't connect to ALOM using the `telnet` command	ALOM supports a total of four concurrent Telnet sessions per server. When the maximum number of Telnet sessions are active, further attempts to connect using the `telnet` command will receive a `connection closed` error. The following example shows system messages for the UNIX operating environment:
	
	`% `**`telnet bert-sc`**
	`Trying 129.148.49.120...`
	`Connected to bert-sc. Escape character is '^]'.`
	`Connection closed by foreign host.`

Can't connect to ALOM through the Ethernet connection	First, check whether ALOM is working or there is an Ethernet configuration problem. You can also perform the following actions to troubleshoot Ethernet problems: • Log in to ALOM through the serial management port (SERIAL MGT) and use the `shownetwork` command to see the current settings. Refer to "shownetwork" on page 88. • Log in to another machine on the network and use the `ping` command to see whether ALOM is operating. Be sure to use the ALOM device's name (for instance, `servername-sc`), not the host server's name, as the argument to the `ping` command. • Run SunVTS™ diagnostics to check the Ethernet connection. The external Ethernet test requires that the device be connected to a functional 10-Mbit hub. • Run SunVTS diagnostics to check the ALOM card.

Problem	Description
No alerts received from ALOM	Check the setting of the `sc_clieventlevel` variable for the ALOM command shell, and the `mgt_mailalert` variable for email alerts to make sure that you are receiving the proper levels of events in the specified places. Make sure that `if_emailalerts` is set to `true`, and that `mgt_mailhost` is set correctly for email alerts. Refer to "`sc_clieventlevel`" on page 121 and "`mgt_mailalert`" on page 112.
ALOM passwords are unknown	If users have forgotten ALOM passwords or passwords are not working, re-create the passwords. Use the `userpassword` command (see "`userpassword`" on page 96). If no user passwords are known, see "Recovering ALOM Passwords" on page 139.
You can perform some ALOM functions, but not others	Specific user permissions are required to perform functions. Check your permission level. Refer to "`userperm`" on page 97. In addition, the following problems might exist: • Cannot see console logs or access the server console using ALOM. • Cannot put the server in to debug mode or use the ALOM `break` command: The server virtual keyswitch status is `locked`. • The poweroff command has no effect: The server is already powered off. • The poweron command has no effect: The server is already powered on, or the virtual keyswitch is in the Standby status.

Using ALOM to Troubleshoot Server Problems

ALOM is useful for troubleshooting a server that is not responding. If the server is responsive, connect to it and use standard troubleshooting tools such as Sun Management Center, SunVTS, and OpenBoot firmware.

If the server is not responding, log in to your ALOM account and do the following:

■ Check the ALOM event log and server environmental status for problems. Refer to "`showfaults`" on page 79, "`showlogs`" on page 86, and "`showenvironment`" on page 73 for more information.

■ Check console logs for recent error messages. Refer to "`consolehistory`" on page 44.

■ Try connecting to the system console to reboot the system. Refer to "`console`" on page 42.

About the System Console Write Lock

Although multiple users can connect to the system console from ALOM, only one user at a time has write access to the console (that is, only one user can type commands into the system console). Any characters that other users type are ignored. This is referred to as a *write lock*, and the other user sessions are in *read-only mode*. If no other users are currently logged in to the system console, then you obtain the write lock automatically when you execute the `console` command. To see which user has the write lock, use the `showusers` command. Refer to "showusers" on page 93 for more information.

ALOM Shell Error Messages

This section contains information about certain types of error messages you might see when using the ALOM command shell:

- "Usage Errors" on page 135
- "General Errors" on page 136
- "CLI Messages Regarding FRU State" on page 138

These messages appear in response to a command you typed at the `sc>` prompt.

Usage Errors

This table describes usage error messages that are displayed when you type the command using improper command syntax. Refer to the description of the command for the correct syntax.

TABLE A-2 Usage Error Messages

Error Message	Command/Description	Refer to:
`Error: Invalid command option. Type help to list commands.`	Help.	"help" on page 51
`Error: Invalid command options Usage: usage string`	You typed the shell command correctly, but used an incorrect option for that command. *usage string* describes the proper syntax for command options. Check the command options and retype the command.	
`Error: Invalid configuration parameter.`	You specified a nonexistent configuration variable when using the `setsc` or `showsc` command. Check the configuration variables and their values in your configuration table and retype the command.	"setsc" on page 68, "showsc" on page 90, "Configuration Worksheet" on page 10.
`Error: Invalid image. Please check file integrity and specified path.`	An error occurred when you tried to execute the `flashupdate` command. Make sure that the path you specified is correct for the firmware image you want to download. If the path is correct, contact the administrator for the server where the image is located.	"flashupdate" on page 50.
`Error: Invalid setting for parameter param.`	You specified an incorrect value for the configuration variable specified in *param*. Check the configuration variable you want to use and retype the command.	"Configuration Worksheet" on page 10.
`Error: Unable to program flash SC because keyswitch is in LOCKED position.`	Your host server's virtual keyswitch has the LOCKED status. Set the keyswitch to the NORMAL status, then execute the flashupdate command again.	"flashupdate" on page 50.
`Error: Unable to set clock while managed system is running.`	You tried to set the ALOM date and time while the host server was running. If you need to set the ALOM date and time, make sure that the system is powered off first. The Solaris OS synchronizes system time with ALOM time while the server is booting, and periodically while running.	

General Errors

ALOM reports the following general errors.

TABLE A-3 General Error Messages

Error Message	Command/Description	Refer to:
`Error adding user` *username*	An error occurred during execution of the `useradd` command. This message is followed by a more detailed message that explains the nature of the error.	"useradd" on page 94
`Error: Cannot delete admin user`	You tried to delete the `admin` user account from ALOM. ALOM does not permit you to delete this account.	
`Error changing password for` *username*	An error occurred during execution of the `userpassword` command. This message is followed by a more detailed message that explains the nature of the error.	"userpassword" on page 96
`Error: Inconsistent passwords entered.`	During execution of the `userpassword` command, you typed the password differently the second time than you did the first time you were prompted. Execute the command again.	"userpassword" on page 96
`Error: invalid password entered. Password must be 6-8 characters, differ from the previous by at least 3 characters and contain at least two alphabetic characters and at least one numeric or special character.`	You entered an invalid password. Refer to the password restrictions and then enter the password again.	"userpassword" on page 96
`Error: invalid username string. Please re-enter username or type 'usershow' to see a list of existing users.`	You tried to specify an ALOM user account that is not on the list of user accounts. To see a list of valid user accounts, use the `usershow` command.	"usershow" on page 100
`Error displaying user` *username*	An error occurred during execution of the `usershow` command. This message is followed by a more detailed message that explains the nature of the error.	"usershow" on page 100
`Error: Invalid IP address for gateway address` *netsc-ipgateway* `and IP netmask` *netsc-ipnetmask*`.`	You entered a value for the *netsc-ipaddr* variable that does not work with the values you specified for the *netsc-ipgateway* and *netsc_ipnetmask* variables. Check that the addresses are correct, and then run `setupsc` or `setsc` again.	"netsc_ipaddr" on page 116, "netsc_ipgateway" on page 117, "setupsc" on page 69, or "setsc" on page 68

TABLE A-3 General Error Messages *(Continued)*

Error Message	Command/Description	Refer to:
`Error: Invalid IP netmask for IP address` *netsc-ipaddr* `and IP gateway` *netsc-ipgateway.*	You entered a value for the *netsc-ipnetmask* variable that does not work with the values you specified for the *netsc-ipgateway* and *netsc-ipaddr* variables. Check that the addresses are correct, and then run `setupsc` or `setsc` again.	"netsc_ipgateway" on page 117, "netsc_ipnetmask" on page 119, "setupsc" on page 69, or "setsc" on page 68
`Error: Invalid IP gateway for IP address` *netsc-ipaddr* `and IP netmask` *netsc-ipnetmask.*	You entered a value for the *netsc-ipgateway* variable that does not work with the values you specified for the *netsc-ipnetmask* and *netsc-ipaddr* variables. Check that the addresses are correct, and then run `setupsc` or `setsc` again.	"netsc_ipgateway" on page 117, "netsc_ipnetmask" on page 119, "netsc_ipaddr" on page 116, "setupsc" on page 69, or "setsc" on page 68
`Error setting permission for` *username*	An error occurred during execution of the `userperm` command. This message is followed by a more detailed message that explains the nature of the error.	Refer to "userperm" on page 97
`Error: Invalid username string. Please re-enter a username of no more than 16 bytes consisting of characters from the set of alphabetic characters, numeric characters, period (.), underscore (_), and hyphen (-). The first character should be alphabetic and the field should contain at least one lower case alphabetic character.`	You entered an invalid username. Review the proper syntax for user names and try again.	"useradd" on page 94
`Error: Unable to execute break because keyswitch is in LOCKED position.`	Change the status of the keyswitch and retype the break command.	"break" on page 38
`Failed to get password for` *username*	During execution of the `userpassword` command, a SEEPROM error occurred. Try executing the command again.	"userpassword" on page 96
`Failed to set` *variable* `to` *value*	During execution of the `setsc` command, ALOM encountered a SEEPROM error.	"setsc" on page 68
`Invalid login`	Login attempt failed. This message appears at the login prompt.	

Error Message	Command/Description	Refer to:
Invalid password	You entered an invalid password with the userpassword command.	"userpassword" on page 96
Invalid permission: *permission*	You entered an invalid user permission.	"userperm" on page 97
Error: Maximum number of users already configured.	This error occurs if you try to add a user account when ALOM already has the maximum of 16 accounts configured. You must delete an account before you can add another.	"userdel" on page 95
Passwords don't match	The two entries for a new password did not match. Enter the password again.	
Permission denied	You attempted to execute a shell command for which you do not have the proper user permission level.	"userperm" on page 97
Sorry, wrong password	You entered an incorrect password. Enter the password again.	
Error: User *username* already exists.	The user you are trying to add already has an ALOM account on this server.	

CLI Messages Regarding FRU State

The following error messages appear when ALOM detects problems with field-replaceable units (FRUs).

TABLE A-4   FRU Error Messages

Error Message	Command/Description	Refer to:
Error: *xxx* is currently powered off.	*xxx* is the name of the FRU to which you tried to send a command. The FRU is currently powered off. You need to turn it back on before it will accept commands.	
Error: *xxx* is currently powered on.	*xxx* is the name of the FRU to which you tried to send a poweron command. The FRU is already powered on.	"poweron" on page 58
Error: *xxx* is currently prepared for removal.	*xxx* is the name of the FRU to which you tried to send a removefru command. The FRU is already powered off and ready for removal.	"removefru" on page 59
Error: Invalid FRU name.	You entered a FRU command without specifying an option, or you specified an invalid FRU name with the command. Check that you have a valid FRU name and retype the command.	"showfru" on page 81

Related Information

Recovering ALOM Passwords

For security reasons, this procedure is available only while accessing the system directly through the serial port. The procedure resets all ALOM NVRAM settings.

▼ To Recover Your ALOM Passwords:

1. **Connect to the ALOM serial port.**

2. **Power down the server.**

   Remove the power cords from both power supplies. Wait several seconds for power to discharge before reinserting the cords.

3. **Press the Escape key during ALOM boot when the following text is displayed on the console:**

   ```
   Boot Sector FLASH CRC Test
   Boot Sector FLASH CRC Test, PASSED.



   Return to Boot Monitor for Handshake
   ```

   After pressing the Escape key, the ALOM boot escape menu is printed:

   ```
   ALOM <ESC> Menu

   e - Erase ALOM NVRAM.
   m - Run POST Menu.
   R - Reset ALOM.
   r - Return to bootmon.
   Your selection:
   ```

4. **Enter** `e` **to erase the ALOM NVRAM.**

```
Your selection: e
ALOM NVRAM erased.

ALOM <ESC> Menu

e - Erase ALOM NVRAM.
m - Run POST Menu.
R - Reset ALOM.
r - Return to bootmon.
Your selection:
```

5. **Enter** `r` **to return to the ALOM boot process.**

```
Your selection: r

ALOM POST 1.0
    Status = 00007fff
```

ALOM then boots and resets all NVRAM settings. You are automatically logged on as user `admin` with no password and no permissions. All ALOM NVRAM settings are reset to the factory defaults.

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