Advanced Lights Out Management (ALOM) CMT v1.4 Guide

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Preface

The *Advanced Lights Out Management (ALOM) CMT v1.4 Guide* contains information about the Sun Advanced Lights Out Manager (ALOM) system controller. This controller enables you to remotely manage and administer your 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 about security guidelines for your server.

Chapter 3 tells you how to customize the ALOM software for your server.

Chapter 4 introduces some common tasks that are easily performed with ALOM.

Chapter 5 introduces some fault management tasks that you can perform with ALOM.

Chapter 6 tells you about SNMP on your server.

Chapter 7 explains the ALOM command-line interface.

Chapter 8 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.

Appendix B lists and describes ALOM CMT event messages.

Using UNIX Commands

Use this section to alert readers that not all UNIX commands are provided. For example:

This document might not contain information about basic UNIX® commands and procedures such as shutting down the system, booting the system, and configuring devices. Refer to the following for this information:

- Software documentation that you received with your system
- Solaris™ Operating System documentation, which is at:

  http://docs.sun.com

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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Advanced Lights Out Management (ALOM) CMT v1.4 Guide, part number 819-7991-10

Advanced Lights Out Manager (ALOM) CMT Introduction

This chapter provides an overview of the Advanced Lights Out Manager (ALOM) for your server. This version of ALOM is designed to support systems with chip multithreading (CMT). The following topics are discussed:

- "ALOM CMT Features" on page 1
- "What ALOM CMT 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 CMT.

ALOM CMT Features

The Advanced Lights Out Manager (ALOM) CMT enables you to remotely manage and administer your server.

The ALOM CMT software comes preinstalled on your server. Therefore ALOM CMT works as soon as you install and power on the server. You can then customize ALOM CMT to work with your particular installation. See "Configuring ALOM CMT" on page 13.

ALOM CMT 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 CMT provides a command-line interface that you can use to remotely administer geographically distributed or physically inaccessible machines, see "ALOM CMT Shell Commands" on page 48.

In addition, ALOM CMT 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 CMT to Troubleshoot Server Problems" on page 161. You can also configure ALOM CMT to send email alerts of hardware failures, hardware cautions, and other events related to the server or to ALOM CMT.

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

What ALOM CMT Monitors

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

Component Monitored	What ALOM CMT 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 caution 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 CMT

The ALOM CMT software comes preinstalled on your host server. Therefore, ALOM CMT works as soon as you install and power on the server. You can connect an external ASCII terminal to the serial management port (SER MGT) and start using ALOM CMT right away without configuring the ALOM CMT 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 CMT software to monitor the host server in which the system controller 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 CMT output, but they may not change any settings.

There are several ways to connect to the system controller:

1. Connect an ASCII terminal directly to the SER MGT port. See "Serial Management Port" on page 15.

2. Use the `telnet` or `ssh` command to connect to the system controller through the Ethernet connection attached to the network management (Ethernet) (NET MGT) port. See "Network Management (Ethernet) Port" on page 16.

3. Connect a port on a terminal server to the SER MGT port, and then use the `ssh` or `telnet` commands to connect to the terminal server.

When you first apply power to the server, ALOM CMT 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 116 for more information on permissions.

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

- At the ALOM CMT command prompt (sc>), type the password command and then specify a password for the admin account. Refer to "password" on page 72.

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

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

If desired, after you log in to ALOM CMT, you can customize ALOM CMT to work with your particular installation. Refer to "Configuring ALOM CMT" on page 13.

You can now perform some common administrative tasks, such as adding ALOM CMT user accounts. Refer to "Common Tasks" on page 25.

Fault and Failure Terminology

All SPARC® Enterprise 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.

Faulty 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 CMT firmware using the `flashupdate` command, ensure that:

■ The virtual keyswitch is not in the LOCKED position.

■ ALOM CMT is network configured. See "shownetwork" on page 105 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 CMT firmware image located on a network-accessible directory.

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

Security Guidelines

This chapter provides important security guidelines. The practice of configuring a system to limit unauthorized access is called hardening. This chapter contains the following information:

- "Securing the System Controller" on page 7
- "Selecting a Remote Connection Type" on page 9
- "Enabling Secure Shell" on page 9
- "Solaris Operating System Security" on page 11

Securing the System Controller

The SC runs independently of the host domain. The SC does not share any compute resources, such as RAM memory or persistent storage, with the host domain. The SC communicates to the host domain through dedicated hardware. The SC will never log in to the host domain. However, the SC does provide access to the host serial console port for user login, and it does log all console traffic.

The following are security practices to consider:

- Ensure that all passwords comply with security guidelines. For example, the host domain and the SC should have unique passwords.
- Change your passwords for the platform and the host domain on a regular basis.
- Scrutinize log files on a regular basis for any irregularities.

The following are configuration steps that contribute to hardening your system:

- Implement security modifications immediately after updating the SC application firmware, and before configuring or installing the host domain.
- Restrict access to the SC command shell.
- Assign SC users specific permissions based on responsibilities.

■ Expect to reboot after certain configuration changes.

For information about using the Solaris Security Toolkit to create secure configurations for systems running the Solaris Operating System, refer to the following web site:

http://www.sun.com/software/security/jass

The platform security configuration checklist in TABLE 2-1 identifies the setsc and setupsc command parameters and other tasks for securing the SC and host. For detailed information on the setsc and setupsc command parameters involving system controller security, see the command descriptions in "setsc" on page 85 and "setupsc" on page 86.

TABLE 2-1 Platform Security Configuration Checklist

Setting or Task	Recommendation
Remote connection type	Select ssh as the connection type in the setupsc command or setsc if_connection ssh. **Note:** If you use a network-based terminal server, use SSH to access the terminal server, ensuring that all communications with the server are encrypted.
Set the SC password	Use a password length of 8 characters. Passwords should contain a mixture of uppercase, lowercase, numeric, and punctuation characters. See the password restrictions in "password" on page 72.
Set SC user permissions	Ensure that SC user account permissions are aligned with the role of the user. A user account can be granted 4 permission levels. See permission levels in "userperm" on page 116.
Limit access to serial ports	Limit physical access to serial ports.
Set idle session time-out	Set a time-out for an interaction session established over a serial connection or network connection (Telnet or SSH). See "sc_clitimeout" on page 148.
Reboot, if necessary	Changing certain configuration variables requires that a reset be done before they are effective. Ensure that a reboot is done, if necessary.

Selecting a Remote Connection Type

The SC defaults to DHCP enabled with the SSH protocol for remote connections. To establish an SSH session requires the `admin` password or a default, system-specific password based on chassis serial number. See "Default DHCP Connection" on page 16. You can define the session idle time-out period that applies to all network connections to the SC. The default is no session idle time-out period.

Enabling Secure Shell

If the SC is on a general-purpose network, you can ensure secure remote access to the SC by using Secure Shell rather than Telnet. SSH encrypts data flowing between host and client. SSH provides authentication mechanisms that identify both hosts and users, enabling secure connections between known systems. Telnet is fundamentally insecure, because the Telnet protocol transmits information, including passwords, unencrypted.

Note – SSH does not help with FTP or Telnet protocols. FTP is used to download new ALOM CMT images. These protocols are insecure and should be used cautiously on general-purpose networks.

The SC provides limited SSH functionality, supporting only SSH version 2 (SSHv2) client requests. TABLE 2-2 identifies the various SSH server attributes and describes how the attributes are handled in this subset. These attribute settings are not configurable.

TABLE 2-2   SSH Server Attributes

Attribute	Value	Comment
Protocol	2	SSH v2 support only
Port	22	Listening port
ListenAddress	0.0.0.0	Support multiple IP addresses
AllowTcpForwarding	no	Port forwarding not supported
RSAAuthentication	no	Public key authentication disabled
PubkeyAuthentication	no	Public key authentication disabled

TABLE 2-2   SSH Server Attributes

Attribute	Value	Comment
PermitEmptyPasswords	`yes`	Password authentication controlled by the SC
MACs	`hmac-sha1,hmac-md5`	Same SSH server implementation as the Solaris 9 Operating System

Ciphers	`aes128-cbc,`
	`blowfish-cbc,`
	`3des-cbc`
		Same SSH server implementation as the Solaris 9 Operating System

If you use SSH as your remote access type, you can make as many as eight simultaneous SSH connections to the SC.

Instructions to Enable SSH

See .

Features Not Supported by SSH

The SSH server on ALOM CMT does not support the following features:

- Remote command-line execution
- `scp` command (secure copy program)
- `sftp` command (secure file transfer program)
- Port forwarding
- Key-based user authentication
- SSHv1 clients

If you try to use any of the above features, an error message is generated. For example, running the command:

```
# ssh SCHOST showplatform
```

generates the following messages:

- On the SSH client:

```
Connection to SCHOST closed by remote host.
```

- On the SC console:

```
[0x89d1e0] sshdSessionServerCreate: no server registered
          for showboards
[0x89d1e0] sshd: Failed to create sshdSession
```

Changing SSH Host Keys

It is good security practice for well-managed machines to get new host keys periodically. If you suspect that the host key might be compromised, you can use the ssh-keygen command to regenerate system host keys.

Host keys, once generated, can only be replaced and not deleted without resorting to the setdefaults command. For newly generated host keys to be activated, the SSH server must be restarted either by running the restartssh command or through a reboot. For further information on the ssh-keygen and restartssh commands (with examples), see "ssh-keygen" on page 112 and "restartssh" on page 79.

Note – You can also use the ssh-keygen command to display the host key fingerprint on the SC.

Solaris Operating System Security

For information on securing the Solaris Operating System, refer to the following books and articles:

- Solaris Security Best Practices, available online at:

  http://www.sun.com/security/blueprints

- Solaris Security Toolkit, available online at:

  http://www.sun.com/software/security/jass

- Solaris System Administration Guide: Security Services in the Solaris System Administrator Collection for the Solaris OS you are using.

Configuring ALOM CMT

This chapter provides help on some basic configuration tasks including:

ALOM CMT Configuration Steps

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

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

1. Plan how to customize your configuration. Refer to "Planning Your ALOM CMT Configuration" on page 14 for more information.

2. Use the configuration worksheet to record your settings. Refer to "Configuration Variable Worksheet" on page 20.

3. Run the setupsc command. Refer to "Setting Up ALOM CMT" on page 23.

4. Use the configuration variables to customize the ALOM CMT software. See "To Use Configuration Variables in the ALOM CMT Command Shell" on page 122.

Planning Your ALOM CMT Configuration

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

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

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

- Which system controller communication ports to use. See "Choosing System Controller Communication Ports" on page 14.
- Whether you want to enable alert messages, and where you want to send them. See "Configuration Worksheet" on page 19.

Once you make those decisions, print the configuration worksheet shown in "Configuration Variable Worksheet" on page 20, and use it to record your responses to the `setupsc` command.

Choosing System Conroller Communication Ports

The system controller contains two types of communication ports:

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

Both ports give you access to the ALOM CMT command shell. By default, ALOM CMT communicates through the SER 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 system controller 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. This port is a dedicated port used to access ALOM CMT and the server console through ALOM CMT.

On your server, this port is referred to as the SER 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 CMT when it starts up. The settings are read-only, and cannot be changed from the sc> prompt. To view the settings for the parameters from the sc> prompt after you establish an ALOM CMT session, check the serial port variables. Refer to "Serial Management Port Variables" on page 122 for more information.

▼ To Connect to the Serial Port

1. **Connect to ALOM.**

   See "Connecting to ALOM CMT" on page 25 and "Logging In To ALOM CMT Accounts" on page 26 for detailed instructions on establishing an ALOM CMT session.

   The ALOM CMT shell prompt (sc>) is displayed.

2. **To connect to the system console, at the ALOM CMT shell prompt (sc>) type:**

```
sc> console
```

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

```
sc> #.
```

Network Management (Ethernet) Port

The 10/100-Mbit Ethernet port enables you to access ALOM CMT from within your company network. You can connect to ALOM CMT remotely using any standard Telnet client with TCP/IP (Transmission Control Protocol/Internet Protocol) or Secure Shell (ssh). On your server, the system controller's 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. The NET MGT port supports both full-duplex and half-duplex modes on both 10-Mbit and 100-Mbit networks. ALOM CMT does not support 1-Gbit networks.

Default DHCP Connection

When Dynamic Host Configuration Protocol is enabled, the SC acquires its network configuration, such as IP address, automatically from a DHCP server. DHCP is enabled by default.

DHCP enabled-by-default allows a network connection to be established to the SC without first requiring a serial connection to manually configure the network. To make best use of this feature, the administrator must be aware of the associated default configuration variables and default parameters for the DHCP server and for log in to the SC.

The following ALOM CMT variables and the default contents support DHCP on-by-default:

TABLE 3-1   DHCP Default Contents for ALOM CMT Configuration Variables

Configuration Variable	Default Contents
if_network	true
if_connection	ssh
netsc_dhcp	true

A DHCP client, in this case the SC, provides a unique client identifier (clientid) to identify itself to the DHCP server. The clientid is based on a system property easily obtainable by an authorized administrator with physical access to the system. See "Client Identifier (clientid)" on page 17. Once a clientid is determined, the DHCP server can be preconfigured to map the clientid to a known IP address. After the SC is assigned an IP address, The SC starts the SSH server. An administrator can then initiate an ssh session with the SC. If the system is brand-

new out-of-box, or upon reboot after the `setdefaults -a` command is run, the default `admin` user account requires a default password to log in. The default password is also composed of a system property that is easily obtainable by an administrator with physical access to the system. See "Default Password" on page 17.

Client Identifier (`clientid`)

Note – DHCP configuration methods used prior to ALOM CMT v1.2 do not work with this release. The addressing logic has changed from the MAC address-based approach used in prior releases. ALOM CMT firmware now uses another approach, generating unique client identifiers, described in this section. To ensure that systems configured with earlier configuration methods have working IP addresses after upgrading to this release, reconfigure your DHCP server with the new client identifier.

The `clientid` is based on the base Ethernet address for the system. The base Ethernet address is available on the Customer Information Sheet that is delivered with each system and is also available on a label on the rear panel of the system chassis. The `clientid` is composed of the following concatenation:

`SUNW,SC=`*base-ethernet-address*

For example, if the *base-ethernet-address* is `08:00:20:7C:B4:08`, then the `clientid` that the SC generates is the string prefix `SUNW,SC=` concatenated with the 12-digit *base-ethernet-address* minus the colons:

`SUNW,SC=0800207CB408`

This `clientid` is in ASCII format. It should be possible to program the DHCP server with an ASCII `clientid`. The actual entry into the DHCP mapping table is the hexadecimal equivalent.

Default Password

When a system is shipped new from the factory, or upon reboot after a `setdefaults -a` command, a default password is required to log in from an `ssh` session. The default password is unique for each system. The password system is derived from the chassis serial number. The chassis serial number can be found on the Customer Information Sheet shipped with each system and can be found on a label attached to the rear panel of the chassis. The default password is composed of the last 8 digits of the chassis serial number. For example, if the chassis serial number is `0547AE81D0` then the default password is:

```
47AE81D0
```

> **Note –** After an `admin` password is set, then the `admin` password is required for login. The default password is no longer applicable, unless a `setdefaults -a` command is run. For example, if a `setdefaults` command is run without the `-a` option, then the `admin` password remains the same as it was before the `setdefaults` command was run.

Steps to Use DHCP on a New Out-of-Box System

1. Determine the `clientid` from the host system base Ethernet address. The base Ethernet address can be obtained from the Customer Information Sheet or label on the rear panel of the chassis.

2. Determine the default `admin` user login password from the chassis serial number. The chassis serial number can be obtained from the Customer Information Sheet or label on the rear panel of the chassis.

3. Program the DHCP server to serve the new `clientid`.

4. Attach the system to the network and ensure that the system has AC power.

5. Start the SSH session using the IP address assigned by the DHCP server.

6. Log in as the `admin` user using the predetermined default password.

> **Note –** It is not necessary to preprogram the DHCP server to map the SC `clientid` to an explicit IP address. However, preprogramming is a best practice and can make long-term administration easier.

If the DHCP server is configured to pull from a block of IP addresses, then the administrator can use a DHCP administrative utility to determine the IP address that was assigned, although it may first be necessary to convert the `clientid` to a hexadecimal equivalent. For example, if the DHCP server is running the Solaris OS, then the `pntadm(1M)` command can be used to display the IP address assignments. In the following example, the SC with Ethernet address `123456789012` is connected to the `.203` subnet.

```
# pntadm -P 129.156.203.0
Client ID                                    Flags   Client IP    ...

53554E572C5353433D3132333435363738394040142  00      129.156.203.240 ...
...
```

In this case it is necessary to convert ASCII to a hexadecimal equivalent `clientid` to determine the IP address assignment. For example:

```
53|55|4E|57|2C|53|43|3D|31|32|33|34|35|36|37|38|39|30|31|32
 S  U  N  W  ,  S  C =  1  2  3  4  5  6  7 8  9  0 1  2
```

Configuration Worksheet

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

To customize ALOM CMT, you use the configuration variables. Refer to "Using ALOM CMT Configuration Variables" on page 121 for details of variables.

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

- Specify values for the variables during execution of the `setupsc` command. Refer to "setupsc" on page 86.
- Configure each variable individually using the `setsc` command as described in "setsc" on page 85.

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 CMT settings.

Ensure that your terminal device is connected to ALOM CMT through the system controller ports before you customize the ALOM CMT software. "Choosing System Conroller Communication Ports" on page 14 details the process.

Configuration Variable Worksheet

TABLE 3-2 identifies the configuration variables responsible for Ethernet control and their default values. Enter your values in the right hand column.

TABLE 3-2   Ethernet Variables by Function

Function	Value/Response	Configuration Variable	Default Value	Your Values
How do you want to control network configuration?	Manually, see "Configuring Your Network Manually" on page 22. Using DHCP, see "Configuring Your Network Using DHCP" on page 21.	if_network, see "if_network" on page 133	true	
Remote connection to your server	none. ssh, or telnet	if_connection, see "if_connection" on page 131	ssh	
Internet Protocol (IP) address for ALOM CMT		netsc_ipaddr, see "netsc_ipaddr" on page 142.	0.0.0.0	
IP address for the subnet mask		netsc_ipnetmask see "netsc_ipnetmask" on page 144.	255.255.255.0	

TABLE 3-2 Ethernet Variables by Function *(Continued)*

Function	Value/Response	Configuration Variable	Default Value	Your Values
IP address for the default gateway to use when the destination is not on the same subnet as ALOM CMT		`netsc_ipgateway`, see "`netsc_ipgateway`" on page 143.	0.0.0.0	
Do you want ALOM CMT 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 135.	[] 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 137.	0.0.0.0	

Related Information

- About ALOM CMT configuration variables, see "Using ALOM CMT Configuration Variables" on page 121
- "userpassword" on page 114

Configuring Your Network

You can configure your network dynamically (using DHCP) or manually.

Configuring Your Network Using DHCP

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

- Using the `setupsc` script (["setupsc" on page 86](#)) to set the `netsc_dhcp` variable, as described in ["netsc_dhcp" on page 141](#).
- Using the `setsc` command (["setsc" on page 85](#)) to set the value of the `netsc_dhcp` variable to `true` (enable DHCP), described in ["netsc_dhcp" on page 141](#).

Note – It is a best practice to set the ALOM CMT 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 CMT 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 CMT.

Configuring Your Network Manually

There are two ways to manually configure the network for ALOM CMT:
- 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 133](#)
- ["netsc_ipaddr" on page 142](#)
- ["netsc_ipnetmask" on page 144](#)
- ["netsc_ipgateway" on page 143](#)

Configuring Email Alerts

To send email alerts, the system controller's Ethernet port must be enabled, (see ["Network Management (Ethernet) Port" on page 16](#)).

When a problem occurs, ALOM CMT sends an alert message to all users who are logged in to ALOM CMT accounts on that server. In addition, you can configure ALOM CMT 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 CMT account for that host server and address the alert condition.

The ALOM CMT 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 38.

Setting Up ALOM CMT

After you have finished planning your configuration, run the `setupsc` command described on "`setupsc`" on page 86. Follow the prompts on the screen to customize the ALOM CMT software for your installation.

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

The `setupsc` command runs a script that steps you through each ALOM CMT function that you can customize. Each function is associated with one or more configuration variables. For more on configuration variables, refer to Chapter 8. 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 "`setsc`" on page 85.

Customizing the ALOM CMT Software

The `setupsc` script enables you to set up a number of ALOM CMT configuration variables at once. See Chapter 8 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 86.

Related Information

- "ALOM CMT Shell Commands" on page 48.
- "Configuration Worksheet" on page 19.
- "ALOM CMT Configuration Steps" on page 13.

Common Tasks

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

Connecting to ALOM CMT

There are several ways to connect to ALOM CMT on the system controller:

- Connect an ASCII terminal directly to the serial management (SER MGT) port. See "Serial Management Port" on page 15.

- Use the `telnet` or `ssh` command to connect to ALOM CMT through an Ethernet connection attached to the NET MGT port. See "Reconfiguring ALOM CMT to Use the Ethernet Port" on page 33.

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

Logging In To ALOM CMT Accounts

Ensure that you have established your hardware connections to the system controller ports you plan to use. On your server, the Ethernet port is labeled NET MGT. The serial port is labeled SER 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 CMT through the serial management port for the first time, you are automatically connected as the `admin` account. This account has full (`cuar`) permissions. Before you can continue using ALOM CMT, you must specify a password for this account. After you specify the password, you can continue using ALOM CMT. The next time you log in, you must specify the password. When you are logged in as `admin`, you can add new users and specify passwords and permissions for them.

On systems that support DHCP enabled-by-default you can connect to the network management port prior to connecting to the serial management port. In this case, there is an extra layer of security to ensure that the SC is secure-by-default. You only are allowed to connect with a Secure Shell (`ssh`) session, and you must provide a system-specific predetermined password. This process is described in "Default DHCP Connection" on page 16. Once the default password is provided and you are allowed to continue, you then must specify a new password for the `admin` account.

See "Permission Levels" on page 116, "useradd" on page 112, "userpassword" on page 114, and "userperm" on page 116 for more information about this process.

▼ To Log In To ALOM CMT

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

1. **Connect to ALOM CMT.**

   See "Connecting to ALOM CMT" on page 25.

   If you connect to ALOM CMT through the SER MGT port, when the connection is established, type #. (Hash-Period) to escape from the system console.

   If you connect to ALOM CMT through the NET MGT port, skip to Step 2.

2. **Type in your ALOM CMT 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 CMT displays its command prompt:

   ```
   sc>
   ```

   You can now use ALOM CMT commands or switch to the system console. See "ALOM CMT Command Shell Overview" on page 47 and "Serial Management Port" on page 15.

   The ALOM CMT event log records login information. If more than five login failures occur within five minutes, ALOM CMT generates a critical event. See "showlogs" on page 103.

Related Information

- "Choosing System Conroller Communication Ports" on page 14
- "Serial Management Port" on page 15

Rebooting ALOM CMT

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

▼ To Reboot ALOM CMT

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

Refer to "resetsc" on page 79.

Switching Between the System Console and ALOM CMT

▼ To Switch Between the System Console and ALOM CMT

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

- **To switch from the** sc> **prompt to the console, type** `console.`

Note – The #. (Hash-Period) character sequence is the default escape character sequence for ALOM CMT. 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 for more information.

System Console Output at Power On

When you first start to apply power to the host server, ALOM CMT 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 CMT Version

▼ To Display Your ALOM CMT Version

- **type** `showsc version`

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

  ```
  sc> showsc version
  Advanced Lights Out Manager CMT v1.4
  ```

  For more details, see "To Use the `showsc` Command" on page 108.

Controlling the Locator LED

▼ To Control the Locator LED

Use ALOM CMT 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 85.

- **To check the state of the LED, use the** `showlocator` **command.**

  For more information refer to ALOM.

Powering On and Off the Host Server

▼ To Power the Host Server On and Off

- **To power on the server, type the** `poweron` **command.**

  Refer to "poweron" on page 75.

- **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 CMT powers the host server down to standby mode. Refer to "powercycle" on page 73 or "poweroff" on page 73.

- **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

▼ To Reset the Host Server

- **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 CMT powers the host server down to standby mode. Refer to "powercycle" on page 73.

- **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 77.

- **To immediately bring the server to the OpenBoot PROM prompt (`ok`), type the** `break` **command.**

  Refer to "`break`" on page 55.

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 View Environmental Information

> **Note –** You do not need user permissions to use this 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 90.

Reconfiguring ALOM CMT Diagnostic Parameters

Diagnostic control variables specify how ALOM CMT behaves when it encounters an error on the host server.

▼ To Run the `setupsc` Script

1. **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 platform diagnostic parameters [y]? y
Enter the type of reset which will initiate system diagnostic
[power-on-reset error-reset]? power-on-reset error-reset
Enter the verbosity level of diagnostic output [normal]? normal
Enter the test coverage level of the system diagnostic [max]? max
Enter the automatic system diagnostic mode [normal]? normal
Should the host continue to boot after error is encountered [n]? 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 CMT configuration variables at once by following the interactive questions in the script. Refer to "ALOM CMT Configuration Variables Overview" on page 121. To configure only the diagnostic variables, press Return at each prompt until the following prompt is displayed:

```
Do you wish to configure the platform diagnostic parameters?
```

See "Diagnostic Control Variables" on page 126 for further details.

Reconfiguring ALOM CMT to Use the Ethernet Port

The system controller's serial management (SER MGT) port can always be used to communicate with an external terminal or other ASCII device. By default, ALOM CMT is also configured to use the Ethernet network management (NET MGT) port using DHCP to obtain network information and accept SSH connections. If desired, the system controller's NET MGT port can be reconfigured or disabled.

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 CMT does not support 1-Gbit networks.

To reconfigure or disable the NET MGT port, you must specify values for the network interface variables. See "Network Interface Variables" on page 123.

There are two ways to specify values for these variables:

- Run the setupsc script from the sc> prompt. Refer to "setupsc" on page 86.
- Set values for each individual variable from the sc> prompt using the setsc command. Refer to "setsc" on page 85

▼ To Configure the Network Interface Variables

1. **At the** sc> **prompt, type** setupsc**:**

2. **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]?
```

3. **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 133.

4. **Follow the interactive questions in the script.**

The script prompts you to set values for the following variables:

- if_connection – see "if_connection" on page 131
- netsc_dhcp – see "netsc_dhcp" on page 141
- netsc_ipaddr – see "netsc_ipaddr" on page 142
- netsc_ipnetmask – see "netsc_ipaddr" on page 142
- netsc_ipgateway – see "netsc_ipgateway" on page 143

5. **When you finish 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 CMT configuration variables.

Before you can use your network configuration, you must reboot ALOM CMT by resetting the system controller. See "To Reboot ALOM CMT" on page 34.

▼ To Reboot ALOM CMT

● **At the** sc> **prompt, type the** resetsc **command.**

See "resetsc" on page 79.

Set the Network Interface Variables Using the setsc Command

You can set values for the network interface variables from the sc> prompt using the setsc command.

● **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
sc> setsc if_connection ssh
```

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

- ▪ if_connection – see "if_connection" on page 131
- ▪ if_network – see "if_network" on page 133
- ▪ netsc_dhcp – see "netsc_dhcp" on page 141
- ▪ netsc_ipaddr – see "netsc_ipaddr" on page 142
- ▪ netsc_ipnetmask – see "netsc_ipnetmask" on page 144
- ▪ netsc_ipgateway – see "netsc_ipgateway" on page 143

Adding ALOM CMT User Accounts

This section describes the procedure for adding ALOM CMT user accounts.

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

▼ To Add an ALOM CMT 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 112.

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 114. ALOM CMT prompts you to specify the password, and to verify the password. Note that ALOM CMT 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 72.

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 116 or "Permission Levels" on page 116.

▼ To View Permissions and Password Status of Users

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

● **To view the permission and password status for a single ALOM CMT 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 118.

- **To see the list of ALOM CMT 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 CMT User Accounts

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

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

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

- **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 an Account

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

▼ To Change Your ALOM CMT Password

You can change your own ALOM CMT 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 CMT 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 CMT Password for Another User

Note – You must have u level user permission to change another user's password. See "userperm" on page 116.

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

See "userpassword" on page 114.

Sending and Receiving Alert Messages

You can customize ALOM CMT to send email alerts to multiple email addresses at the time an event occurs. You can specify at which event level email alerts are sent to each user.

There are three levels of alerts:

■ Critical

■ Major

■ Minor

Note – You can configure email alerts for up to eight users.

▼ To Set Up Email Alerts

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

   See "Reconfiguring ALOM CMT to Use the Ethernet Port" on page 33.

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

   See "if_emailalerts" on page 132

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

   See "mgt_mailhost" on page 137.

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

   See "mgt_mailalert" on page 135.

Receiving Alerts From ALOM CMT

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

For example:

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

ALOM CMT 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:

- "Fault Information Sources" on page 41
- "Getting Knowledge Articles for Managing Faults" on page 42

Fault Information Sources

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 fully plugged-in.
- 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`

See for more information.

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: SUN4V-8000-8Q
 1 MB               Host detected fault, MSGID: SUN4V-8000-8Q
```

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

   In this example, the message ID string is SUN4V-8000-8Q.

3. **In your browser, go to** http://www.sun.com/msg/SUN4V-8000-8Q

   (Alternatively, go to http://www.sun.com/msg/ and type the SUNW-MSG-ID SUN4V-8000-8Q 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 Simple Network Management Protocol (SNMP)

This chapter describes how to use SNMP. This chapter includes the following sections

- "SNMP Overview" on page 43
- "SNMP Management Information Base Files" on page 44
- "MIBs Integration" on page 45
- "SNMP Messages" on page 45
- "ALOM CMT and SNMP" on page 45

SNMP Overview

The server supports the Simple Network Management Protocol (SNMP) interface, versions 1 and 2c. SNMP is an open technology that enables the management of networks and devices, or nodes, connected to the network. SNMP messages are sent over IP using the User Datagram Protocol (UDP). Any management application that supports SNMP can manage your server.

How SNMP Works

Utilizing SNMP requires two components, a network management station and a managed node (in this case, the system controller in your server). Network management stations host management applications, which monitor and control managed nodes.

Managed nodes are any number of devices, including servers, routers, and hubs, which host SNMP management agents responsible for carrying out the requests from management stations. The management station monitors nodes by polling management agents for the appropriate information using queries. Managed nodes can also provide unsolicited status information to a management station in the form of a trap. SNMP is the protocol used to communicate management information between the management stations and agents.

The SNMP agent is preinstalled and runs on the system controller, so all SNMP management of the server should occur through ALOM CMT. To utilize this feature, your operating system must have an SNMP client application. See your operating system vendor for more information.

The SNMP agent on your system controller provides the following capabilities: inventory management, and sensor and system state monitoring.

SNMP Management Information Base Files

The base component of an SNMP solution is the Management Information Base (MIB). A MIB is a text file that describes a managed node's available information and where it is stored. When a management station requests information from a managed node, the agent receives the request and retrieves the appropriate information from the MIBs. ALOM CMT supports the following SNMP classes of Management Information Base (MIB) files. Download and install the product-specific MIB files for your platform.

- The system group and SNMP group from RFC1213 MIB
- SNMP-FRAMEWORK-MIB
- SNMP-USER-BASED-MIB
- SNMP-MPD-MIB
- ENTITY-MIB
- SUN-PLATFORM-MIB

MIBs Integration

Use the MIBs to integrate the management and monitoring of the server into SNMP management consoles. The MIB branch is a private enterprise MIB, located at MIB object iso(1).org (3). dod (6). internet (1). private (4). enterprises (1). sun (42). products (2).

The standard SNMP port (161) is used by the SNMP agent on the system controller.

SNMP Messages

SNMP is a protocol, not an operating system, so you need some type of application to use SNMP messages. Your SNMP management software might provide this functionality, or you can use an open source tool like net-SNMP, which is available at:

http://net-snmp.sourceforge.net/

Both management stations and agents use SNMP messages to communicate Management stations can send and receive information. Agents can respond to requests and send unsolicited messages in the form of a trap. There are five functions that management stations and agent use:

- Get
- GetNext
- GetResponse
- Set
- Trap

By default, port 161 is used for SNMP messages and port 162 is used to listen for SNMP traps.

ALOM CMT and SNMP

The system controller has a preinstalled SNMP agent that supports trap delivery to an SNMP management application.

To use this feature, you must:

1. Integrate the platform-specific MIBs into your SNMP environment.

2. Enable SNMP in ALOM-CMT. By default, SNMP is disabled in ALOM CMT.

3. Tell your management station about your server.

4. Configure the specific traps.

Integrating the MIBs

Load the ENTITY-MIB and the SUN-PLATFORM-MIB into your SNMP management application.

Adding Your Server to Your SNMP Environment

Add your your server as a managed node using your SNMP management application. The read-only community string for ALOM CMT is set to `public` and cannot be modified. ALOM CMT does not allow write access using SNMP sets.

See your SNMP management application documentation for further details.

Configuring Receipt of SNMP Traps

To configure traps in ALOM CMT, see "`mgt_snmptraps`" on page 139 and "`mgt_traphost`" on page 140.

Traps will be sent with the community string of `public`.

Using the ALOM CMT Command Shell

This chapter contains the following sections:

- "ALOM CMT Command Shell Overview" on page 47
- "ALOM CMT Shell Commands" on page 48
- "ALOM CMT Shell Command Descriptions" on page 52

ALOM CMT Command Shell Overview

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

You are in the ALOM CMT command shell when you see the sc> prompt. ALOM CMT 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 CMT account, the system controller shell prompt (sc>) appears, and you can enter ALOM CMT shell commands. See "Logging In To ALOM CMT Accounts" on page 26 and "ALOM CMT Shell Commands" on page 48 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 CMT Shell Error Messages" on page 162
- "Logging In To ALOM CMT Accounts" on page 26

ALOM CMT Shell Commands

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

FIGURE 7-1   List of ALOM CMT Shell Commands by Function

CLI Command	Summary	Full Description
Configuration Commands		
password	Changes the login password of the current user.	"password" on page 72.
restartssh [-y]	Restarts the SSH server so that new host keys generated by the ssh-keygen command are reloaded.	"restartssh" on page 79
setdate [[mmdd]HHMM |mmddHHMM[cc]yy][.SS]	Sets ALOM CMT date and time.	"setdate" on page 80
setdefaults [-y] [-a]	Resets all ALOM CMT 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 82
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 CMT asks for a confirmation. The -y flag answers yes to the confirmation.	"setkeyswitch" on page 84

FIGURE 7-1 List of ALOM CMT Shell Commands by Function *(Continued)*

CLI Command	Summary	Full Description
setsc [*param*] [*value*]	Sets the specified ALOM CMT parameter to the assigned value.	"setsc" on page 85
setupsc	Runs the interactive configuration script. This script configures the ALOM CMT configuration variables.	"setupsc" on page 86
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 107
showfru [–g *lines*] [–s｜–d] [*FRU*]	Displays information about the field-replaceable units (FRUs) in a host server.	"showfru" on page 97
showusers [–g *lines*]	Displays a list of users currently logged in to ALOM CMT. 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 111
showhost [*version*]	Displays version information for host-side components	"showhost" on page 101
showkeyswitch	Display status of virtual keyswitch.	"showkeyswitch" on page 102
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 107
showdate	Displays the ALOM CMT date. ALOM CMT time is expressed in Coordinated Universal Time (UTC) rather than local time. The Solaris OS and ALOM CMT time are not synchronized.	"showdate" on page 89
ssh-keygen [-l ｜ -r] -t {rsa｜dsa}	Generates Secure Shell (SSH) host keys and displays the host key fingerprint on the SC.	"ssh-keygen" on page 112
usershow [*username*]	Displays a list of all user accounts, permission levels, and whether passwords are assigned.	"usershow" on page 118
useradd [*username*]	Adds a user account to ALOM CMT.	"useradd" on page 112
userdel [–y] [*username*]	Deletes a user account from ALOM CMT. The –y option enables you to skip the confirmation question.	"userdel" on page 113
userpassword [*username*]	Sets or changes a user password.	"userpassword" on page 114
userperm [*username*] [c] [u] [a] [r]	Sets the permission level for a user account.	"userperm" on page 116
Log Commands		

FIGURE 7-1 List of ALOM CMT Shell Commands by Function *(Continued)*

CLI Command	Summary	Full Description
showlogs [−b *lines* | −e *lines* | −v] [−g *lines*] [−p *logtype* [r | p]]	Displays the history of all events logged in the ALOM CMT 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 103
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 61
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 90
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 105
console [−f]	Connects to the host system console. The −f option forces the console write lock from one user to another.	"console" on page 58
break [−D] [−y] [−c]	Drops the host server from running the Solaris OS software into OpenBoot PROM or kmdb, depending upon the mode in which the Solaris software was booted.	"break" on page 55
bootmode [normal] [reset_nvram] [config=*configname*] [bootscript=*string*]	Controls the host server OpenBoot PROM firmware method of booting.	"bootmode" on page 52
flashupdate −s *IPaddr* − f *pathname* [−v]	Downloads and updates system firmware (both host firmware and ALOM CMT firmware).	"flashupdate" on page 67
reset [−y] [−c]	Generates a hardware reset on the host server. The −y option enables you to skip the confirmation question.	"reset" on page 77
powercycle [−y] [−f]	poweroff followed by poweron. The −f option forces an immediate poweroff, otherwise the command attempts a graceful shutdown.	"powercycle" on page 73

FIGURE 7-1   List of ALOM CMT Shell Commands by Function *(Continued)*

CLI Command	Summary	Full Description
poweroff [–y] [–f]	Removes the main power from the host server. The –y option enables you to skip the confirmation question. ALOM CMT attempts to shut the server down gracefully. The –f option forces an immediate shutdown.	"poweroff" on page 73
poweron [–c] [*FRU*]	Applies the main power to the host server or FRU.	"poweron" on page 75
setlocator [on/off]	Turns the Locator LED on the server on or off.	"setlocator" on page 85
showfaults [–v]	Displays current valid system faults.	"showfaults" on page 96
clearfault *UUID*	Manually repairs system faults.	"clearfault" on page 56
showlocator	Displays the current state of the Locator LED as either on or off.	"showlocator" on page 102
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 83
showfru [–g lines] [–s|–d] [*FRU*]	Displays information about the FRUs in a host server.	"showfru" on page 97
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 76
Automatic System Recovery (ASR) Commands		
enablecomponent *asr-key*	Removes a component from the asr-db blacklist.	"enablecomponent" on page 65
disablecomponent *asr-key*	Adds a component to the asr-db blacklist.	"disablecomponent" on page 63
showcomponent *asr-key*	Displays system components and their test status (ASR state).	"showcomponent" on page 88
clearasrdb	Removes all entries from the asr-db blacklist.	"clearasrdb" on page 56
Other Commands		
help [*command*]	Displays a list of all ALOM CMT 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 68
resetsc [–y]	Reboots ALOM CMT. The –y option enables you to skip the confirmation question.	"resetsc" on page 79

FIGURE 7-1 List of ALOM CMT Shell Commands by Function *(Continued)*

CLI Command	Summary	Full Description
showlogs [–b *lines*	–e *lines*	–v] [–g *lines*] [–p *logtype* [r	p]]	Displays the history of all events logged in the ALOM CMT 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 103
usershow [*username*]	Displays a list of all user accounts, permission levels, and whether passwords are assigned.	"usershow" on page 118
useradd *username*	Adds a user account to ALOM CMT.	"useradd" on page 112
userdel [–y] *username*	Deletes a user account from ALOM CMT. The –y option enables you to skip the confirmation question.	"userdel" on page 113
userpassword *username*	Sets or changes a user password.	"userpassword" on page 114
userperm *username* [c] [u] [a] [r]	Sets the permission level for a user account.	"userperm" on page 116
logout	Logs out from an ALOM CMT shell session.	"logout" on page 71

Related Information

- "Using ALOM CMT Configuration Variables" on page 121

ALOM CMT Shell Command Descriptions

The following pages provide full descriptions of the ALOM CMT 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 nonvolatile 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 116 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 73, "poweron" on page 75, and "reset" on page 77 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 7-1   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
`config = `*configname*	The `config` option takes a *configname* value that must either be `default` or match a named logical domain configuration downloaded to the SC using the Logical Domains software. For example, if you have created a logical domain configuration called `ldm-set1`: sc> **bootmode config = ldm-set1** To return the boot mode to the factory default configuration, specify `factory-default`. For example: sc> **bootmode config = factory-default**
`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 CMT 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 77.

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

Related Information

- "ALOM CMT Shell Commands" on page 48
- "reset" on page 77

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.

This command can also be used to force a panic core dump of the Solaris OS, if the server is running a version of Solaris that supports this feature.

Ensure that the system console is directed to ALOM CMT. 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 116 for information on setting user permissions.

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

```
sc> break option
```

where *option* is −D, −y, −c, or no option. These options can be combined in any way, none are mutually exclusive.

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

break Command Options

The `break` command can have the following options:

TABLE 7-2 break Command Options

Option	Description
-D	Forces a panic coredump of the managed system OS (not supported by all OS versions).
-y	Instructs ALOM CMT 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 CMT to connect to the system console after performing the operation.

Related Information

- "ALOM CMT Shell Commands" on page 48
- "userperm" on page 116

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 CMT 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:
0x070000000000000000000000000000000000000000000000000000000000000
/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 proxied SEEPROM.

console

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

Although multiple users can connect to the system console from ALOM CMT, only one user at a time has write access to the console. Any characters that other users type are ignored. This situation 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 action forces the other user's connection into read-only mode.

ALOM CMT controls the flow rate of the system console to match the flow rate of the user session holding the write lock. This functionality ensures that the user session with the write lock does not lose data. However, this arrangement can cause data loss for user sessions with read-only console access. For example, if the user session with the write lock is connected over the fast NET MGT port and a session with reader is connected over the slow serial management (SER MGT) port, the console can produce output at a rate that could overrun the capacity of the reader session. To reduce the likelihood of such console data loss, each console reader session is allocated 65535 characters of buffer space.

▼ To Use the `console` Command

Note – You must have c level user permission to use this command. Refer to "userperm" on page 116 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 "Shell Prompts" on page xxv

---

2. **To return to the** `sc>` **prompt from the Solaris system prompt, type the escape character sequence.**

The default sequence is `#.` (Hash-Period).

If no session has the console in use, ALOM CMT 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 CMT 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 the `-f` option with the `console` command, ALOM CMT 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 CMT 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 CMT Shell Commands" on page 48
- "Permission Levels" on page 116
- "Serial Management Port Variables" on page 122

consolehistory

Use the `consolehistory` command to display system console messages logged in ALOM CMT 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 CMT senses a host server reset, it writes boot information and initialization data into the boot log buffer until ALOM CMT 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 116 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 CMT 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 CMT event logs use UTC (Coordinated Universal Time). The Solaris OS system time is completely independent of the ALOM CMT 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 7-3   `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 CMT 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 CMT Shell Commands" on page 48

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 CMT to display all asr-keys.

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 CMT 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.

▼ To Use the `flashupdate` Command

Note – You must have a level user permission to use this command. Refer to "userperm" on page 116 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 84.

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 CMT 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 CMT displays the message:

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

3. **Type the** `resetsc` **command to reboot ALOM CMT.**

   See "resetsc" on page 79 for details.

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

```
sc> flashupdate -s 123.45.67.89 -f filename

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 7-4   flashupdate Command Options

Option	Description
−s *ipaddr*	Directs ALOM CMT 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 CMT to the location of the image file. *pathname* is a full directory path, including the name of the image file.
−v	Displays verbose output. This option provides detailed information about the progress of the download process as it occurs.

Related Information

- "ALOM CMT Shell Commands" on page 48

help

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

▼ 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 7-1   Example of the `help` Command Output

```
sc> help
Available commands
------------------
Power and Reset control commands:
   powercycle [-y] [-f]
   poweroff [-y] [-f]
   poweron [-c] [FRU]
   reset [-y] [-c]
Console commands:
   break [-D] [-y] [-c]
   console [-f]
   consolehistory [-b lines|-e lines|-v] [-g lines] [boot|run]
Boot control commands:
   bootmode [normal|reset_nvram|config="configname"|
bootscript="string"]
   setkeyswitch [-y] <normal|stby|diag|locked>
   showkeyswitch
Locator LED commands:
   setlocator [on|off]
   showlocator
Status and Fault commands:
   clearasrdb
   clearfault <UUID>
   disablecomponent [asr-key]
   enablecomponent [asr-key]
   removefru [-y] <FRU>
   setfru -c [data]
   showcomponent [asr-key]
   showenvironment
   showfaults [-v]
   showfru [-g lines] [-s|-d] [FRU]
   showlogs [-b lines|-e lines|-v] [-g lines] [-p logtype[r|p]]
   shownetwork [-v]
   showplatform [-v]
ALOM Configuration commands:
   setdate <[mmdd]HHMM | mmddHHMM[cc]yy][.SS]>
   setsc [param] [value]
   setupsc
   showdate
   showhost [version]
```

```
   showsc [-v] [param]
ALOM Administrative commands:
   flashupdate <-s IPaddr -f pathname> [-v]
   help [command]
   logout
   password
   resetsc [-y]
   restartssh [-y]
   setdefaults [-y] [-a]
   ssh-keygen [-l|-r] <-t {rsa|dsa}>
   showusers [-g lines]
   useradd <username>
   userdel [-y] <username>
   userpassword <username>
   userperm <username> [c][u][a][r]
   usershow [username]
```

Related Information

- "ALOM CMT Shell Commands" on page 48

logout

Use the `logout` command to end your ALOM CMT session, and to close your serial or network 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 CMT Shell Commands" on page 48

password

Use the `password` command to change the ALOM CMT 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 CMT 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 for more information.

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

  When you use this command, ALOM CMT 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 CMT Shell Commands" on page 48

powercycle

Performs a powercycle on the host system, where powercycle is defined as a poweroff followed by a poweron. ALOM CMT 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 116 for information on setting user permissions.

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

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

TABLE 7-5 powercycle Command Options

Option	Description
-y	Instructs ALOM CMT 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 does not perform a graceful shutdown of the system or synchronize the file systems, work might be lost. This option 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 CMT is still available when the server is powered off, since ALOM CMT 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 116 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 CMT 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 CMT 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 48.

TABLE 7-6   `poweroff` Command Options

Option	Description
`-y`	Instructs ALOM CMT 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 does not perform a graceful shutdown of the system or synchronize the file systems, work might be lost. This option does not perform a graceful shutdown of the system or synchronize the file systems.

Related Information

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 116 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 CMT 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 7-7   `poweron` Command Options

Option	Description
fru	No FRUs can be powered on independently. This option is reserved for possible future use.
-c	Instructs ALOM CMT 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 SPARC Enterprise 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 7-8   `removefru` Command Options

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

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

TABLE 7-9   `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 52. 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 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 .

TABLE 7-10   `reset` Command Options

Option	Description
-c	Instructs ALOM CMT to connect to the system console after performing the operation.
-y	Instructs ALOM CMT 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

-
-

resetsc

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

▼ To Use the resetsc Command

> **Note –** You must have a level user permission to use this command. Refer to "userperm" on page 116 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 CMT 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 the system controller.

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 CMT Shell Commands" on page 48
- "Permission Levels" on page 116

restartssh

Use the restartssh command to restart the SSH server after you have generated new hosts keys using the ssh-keygen command. This action reloads the keys into the server's dedicated data structure in memory.

▼ To Use the `restartssh` Command

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

```
sc> restartssh option
```

where *option* is the option shown in TABLE 7-11.

Command Options

The `restartssh` command uses the following options.

TABLE 7-11 `restartssh` Command Options

Option	Description
-y	Do not prompt for confirmation.

Related Information

■ "ssh-keygen" on page 112

setdate

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

If you use the `setdate` command while the server is starting or running, ALOM CMT 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 116 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 CMT 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 CMT uses Coordinated Universal Time (UTC). ALOM CMT does not accept time zone conversions or daylight time changes. Note that the Solaris OS and ALOM CMT time are not synchronized.

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 7-12 `setdate` Command Options

Option	Description
mm	Month
dd	Day
HH	Hour (24-hour system)

TABLE 7-12 `setdate` Command Options *(Continued)*

Option	Description
MM	Minutes
.SS	Seconds
cc	Century (first two digits of the year)
yy	Year (last two digits of the year)

Related Information

- "ALOM CMT Shell Commands" on page 48

setdefaults

Use the `setdefaults` command to set all ALOM CMT configuration variables back to their factory default values. The –a option sets the ALOM CMT 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 116 for information on setting user permissions. You must 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 reboot ALOM.**

   When ALOM CMT reboots, it uses the factory default values.

`setdefaults` Command Options

The `setdefaults` command uses the following options.

TABLE 7-13   `setdefaults` Command Options

Option	Description
`-a`	Sets all ALOM CMT 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 CMT to proceed without first asking the confirmation question: `Are you sure you want to reset the SC configuration?`

Related Information

- "ALOM CMT Shell Commands" on page 48

`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 97

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 116 for information on setting user permissions. You must 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 7-14   setkeyswitch Command Options

Option	Description
normal	The system can power itself on and start the boot process.
stby	The system cannot power itself on.
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 126). This option overrides the values of diagnostic variables that you might have set. For information about user-configurable diagnostic control variables, see "Diagnostic Control Variables" on page 126.
locked	The system can power itself on, however you are prohibited from updating any of the flash devices or using the break command.
-y	Setting the virtual keyswitch to standby (stby) powers off the server. Before powering off the host server, ALOM CMT 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.

▼ To Use the `setlocator` 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 102 for more information.

setlocator Command Options

This `setlocator` command has two options: `on` and `off`.

Related Information

- "ALOM CMT Shell Commands" on page 48
- "showlocator" on page 102

setsc

The ALOM CMT 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 CMT configuration, you set up the initial configuration with the `setupsc` command. If you need to update a setting after your initial ALOM CMT configuration, use the

setsc command. For information about your configuration, see "ALOM CMT Configuration Steps" on page 13. For more about the setupsc command, see "setupsc" on page 86.

▼ To Use the setsc Command

Note – You must have a level user permission to use this command. Refer to "userperm" on page 116 for information on setting user permissions.

Ensure 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 19 and "Using ALOM CMT Configuration Variables" on page 121 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 CMT returns a list of the variables you can configure.

Related Information

■ "ALOM CMT Shell Commands" on page 48

setupsc

Use the setupsc command to customize ALOM CMT.

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 19 and "Using ALOM CMT Configuration Variables" on page 121 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 116 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 CMT.**

   The script asks you whether you want to enable each set of configuration variables. See "Using ALOM CMT Configuration Variables" on page 121 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 123
- "Network Management and Notification Variables" on page 124
- "System User Variables" on page 125

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 CMT Configuration Variables" on page 121
- "ALOM CMT Shell Commands" on page 48
- "Configuration Worksheet" on page 19
- "Configuring ALOM CMT" on page 13

showcomponent

Use the showcomponent command to display system components and their test status. If you specify an asr-key, ALOM CMT displays only information for that key, otherwise ALOM CMT 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 116 for information on setting user permissions.

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

```
sc> showcomponent
```

For example:

```
sc> showcomponent
Keys:

     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 CMT date and time.

ALOM CMT time is expressed in Coordinated Universal Time (UTC) rather than local time. Note that the Solaris OS and ALOM CMT time are not synchronized.

▼ 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 CMT date and time, use the `setdate` command. See "`setdate`" on page 80.

Related Information

■ "ALOM CMT Shell Commands" on page 48

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 might be different for
your system, such as the number of power supplies and hard drives.

CODE EXAMPLE 7-2   Example of showenvironment Command Output for SPARC Enterprise 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
HDD1   NOT PRESENT       OFF      OFF
HDD2   NOT PRESENT       OFF      OFF
HDD3   NOT PRESENT       OFF      OFF


----------------------------------------------------
Fans Status:
----------------------------------------------------
Fans (Speeds Revolution Per Minute):
```

CODE EXAMPLE 7-2 Example of `showenvironment` Command Output for SPARC Enterprise T2000 Server (Power On) *(Continued)*

```
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             3.04      --    2.25      --       --


--------------------------------------------------------
System Load (in amps):
--------------------------------------------------------
Sensor          Status          Load    Warn Shutdown
--------------------------------------------------------
MB/I_VCORE      OK            34.640  80.000  88.000
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 SPARC
Enterprise T1000, is powered on:

CODE EXAMPLE 7-3   Example of showenvironment Command Output for SPARC Enterprise 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):
------------------------------------------------------------
```

Example of `showenvironment` Command Output for SPARC Enterprise T1000 Server
(Power On) *(Continued)*

```
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 7-4   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:
```

CODE EXAMPLE 7-4 Example of `showenvironment` Command Output (Power Off) *(Continued)*

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

Related Information

■ "ALOM CMT Shell Commands" on page 48

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 "showfru" on page 97. For further information about fault management tasks, see Chapter 5.

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 7-15   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 CMT 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
SPARC Enterprise T2000 server, supplying an invalid argument:

CODE EXAMPLE 7-5   Example of showfru Command Output On SPARC Enterprise
T2000, Displaying Valid Arguments

```
sc> showfru x
No such FRU_PROM.  Valid arguments are:
SC/SEEPROM
IOBD/SEEPROM
MB/SEEPROM
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
PCIE0       (proxied on IOBD/SEEPROM)
PCIE1       (proxied on IOBD/SEEPROM)
PCIE2       (proxied on IOBD/SEEPROM)
PCIX0       (proxied on IOBD/SEEPROM)
PCIX1       (proxied on IOBD/SEEPROM)
SC/BAT      (proxied on SC/SEEPROM)
PS0         (proxied on PDB/SEEPROM)
PS1         (proxied on PDB/SEEPROM)
HDD0        (proxied on SASBP/SEEPROM)
HDD1        (proxied on SASBP/SEEPROM)
HDD2        (proxied on SASBP/SEEPROM)
HDD3        (proxied on SASBP/SEEPROM)
FT0/FM0     (proxied on FIOBD/SEEPROM)
FT0/FM1     (proxied on FIOBD/SEEPROM)
FT0/FM2     (proxied on FIOBD/SEEPROM)
FT2         (proxied on SASBP/SEEPROM)
```

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

CODE EXAMPLE 7-6   Example of `showfru` Command Output On SPARC Enterprise
                    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 7-7   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
```

The following example shows sample output for the showfru command, supplying
the name of a proxied component:

CODE EXAMPLE 7-8   Example of showfru Command Output, Using the Name of a
Proxied Component as an Argument

```
sc> showfru SC/BAT
SC/BAT dynamic data proxied on SC/SEEPROM:
SEGMENT: FD
/Status_EventsR (0 iterations)
/Status_Proxy1R/
/Status_Proxy1R/UNIX_Timestamp32: THU JAN 01 00:00:00 1970
/Status_Proxy1R/version:          0x00
/Status_Proxy1R/Status(decoded):  0x00 (OK)
```

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

```
sc> showfru MB
...
/Status_EventsR[2]
/Status_EventsR[2]/UNIX_Timestamp32:      FRI MAR 03 18:31:06 2006
/Status_EventsR[2]/Old_Status:            0x00 (OK)
/Status_EventsR[2]/New_Status:            0x64 (MAINTENANCE
REQUIRED, SUSPECT, DEEMED FAULTY)
/Status_EventsR[2]/Initiator:             0xD3 (FM)
/Status_EventsR[2]/Component:             0x00
/Status_EventsR[2]/Message (FM)
/Status_EventsR[2]/FM/fault_diag_time:    0x0000000044088B69
/Status_EventsR[2]/FM/diagcode:           SUN4V-8000-8Q
/Status_EventsR[2]/FM/UUID:               61b9738d-2761-c3f6-a2ae-
fcf11e99681c
/Status_EventsR[2]/FM/DE_Name:            cpumem-diagnosis
/Status_EventsR[2]/FM/DE_Version:         1.5


...

/Status_CurrentR/
/Status_CurrentR/UNIX_Timestamp32: FRI MAR 03 18:31:06 2006
/Status_CurrentR/status:                  0x64 (MAINTENANCE REQUIRED,
SUSPECT, DEEMED FAULTY)
```

Related Information

■ "ALOM CMT Shell Commands" on page 48

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 CMT returns the following result:

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

■ If the Locator LED is off, ALOM CMT 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 85.

Related Information

- "ALOM CMT Shell Commands" on page 48
- "`setlocator`" on page 85

showlogs

Use the `showlogs` command to display the history of events logged in the ALOM CMT event buffer. These events include server reset events and all ALOM CMT commands that change the state of the system (such as `reset`, `poweroff`, and `poweron`). See "reset" on page 77, "poweroff" on page 73, and "poweron" on page 75.

Each event recorded in the log has the following format:
date ID : message

Where:

- *date* – the time at which the event occurred, as recorded by ALOM CMT.
- *ID* – a numerical identifier for the message type.

■ *message* – a short description of the event.

If you use the showlogs command without any option, ALOM CMT 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 CMT event log reflect UTC.

This example shows the output of the showlogs command with the –p p option. The –p p option displays the persistent event log. The persistent event log is comprised of only Major and Critical severity events.

CODE EXAMPLE 7-9   Example of showlogs –p p Command Output

```
sc> showlogs -p p
Persistent event log
--------------------
JUN 07 04:16:44: 00060003: "SC System booted."
JUN 07 04:17:12: 00040002: "Host System has Reset"
JUN 07 04:48:03: 00040081: "Input power unavailable for PSU at PS1.
```

`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 p option (persistent log, in which case the display pauses after every 25 lines).

TABLE 7-16 `showlogs` Command Options

Option	Description
–v	Displays the entire contents of the specified log. If the persistent log is requested, the display will automatically pause every 25 events.
–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 CMT 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 CMT Shell Commands" on page 48
- "consolehistory" on page 61

`shownetwork`

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

Note – If you changed the ALOM CMT network configuration since the last time you booted ALOM CMT, the output from this command might not show the updated configuration information. Reboot ALOM CMT to see the changed configuration. See "System Console Output at Power On" on page 28 for information on rebooting ALOM CMT.

▼ 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 CMT 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 21.

Related Information

- "ALOM CMT Shell Commands" on page 48

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 CMT Shell Commands" on page 48

showsc

Use the showsc command to display information about the ALOM CMT 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 CMT, type the following command at the `sc>` prompt:

```
sc> showsc
```

For example:

CODE EXAMPLE 7-10   Example of `showsc` Display of Configuration Information

```
sc> showsc –v
Advanced Lights Out Manager CMT v1.4

parameter                 value
---------                 -----
if_network                true
if_connection             ssh
if_emailalerts            false
if_snmp                   false
netsc_dhcp                false
netsc_ipaddr              129.148.57.109
netsc_ipnetmask           255.255.255.0
netsc_ipgateway           129.148.57.254
mgt_mailhost
mgt_mailalert
mgt_snmptraps             none
mgt_traphost
sc_customerinfo
sc_escapechars            #.
sc_powerondelay           false
sc_powerstatememory       false
sc_clipasswdecho          true
sc_cliprompt              wgs57-108-sc
sc_clitimeout             0
sc_clieventlevel          2
sc_backupuserdata         true
diag_trigger              power-on-reset error-reset
diag_verbosity            none
diag_level                min
```

CODE EXAMPLE 7-10   Example of `showsc` Display of Configuration Information

```
diag_mode               off
sys_autorunonerror      false
sys_autorestart         reset
sys_eventlevel          2
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:a4
```

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

```
sc> showsc version -v
```

For example

CODE EXAMPLE 7-11   Example of `showsc` −v Display of Configuration Information

```
sc> showsc version -v
Advanced Lights Out Manager CMT v1.4
SC Firmware version: CMT 1.4.0
SC Bootmon version: CMT 1.4.0

VBSC 1.4.0
VBSC firmware built Feb 21 2007, 14:44:13

SC Bootmon Build Release: 01
SC bootmon checksum: 2265035F
SC Bootmon built Feb 21 2007, 14:35:07

SC Build Release: 01
SC firmware checksum: 7F694B4F

SC firmware built Feb 21 2007, 14:46:34
SC firmware flashupdate THU FEB 22 14:36:16 2007

SC System Memory Size: 32 MB
SC NVRAM Version = 14
SC hardware type: 4

FPGA Version: 4.2.2.7
```

● **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 CMT Configuration Variables" on page 121 for further information.

showsc Command Options

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

TABLE 7-17   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.
if_connection	Displays the remote connection type: none, telnet, or ssh.

Related Information

■ "ALOM CMT Shell Commands" on page 48

showusers

Use the showusers command to display the list of users currently logged in to
ALOM CMT. 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. Whether
this is a write lock 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
----------------------------------------------------------------
admin      serial      Sep 16 10:30
joeuser    ssh-1       Sep 14 17:24     123.123.123.123
sueuser    ssh-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 CMT returns the message:

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

If ALOM CMT 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.

ssh-keygen

Use the `ssh-keygen` command to generate a new set of Secure Shell (SSH) host keys and display the host key fingerprint on the system controller. The default format (`rsa`) of the fingerprint is as follows:

md5 1024 a3:28:0d:45:01:e4:ba:21:c8:13:90:df:4e:69:7a.5e

▼ To Use the `ssh-keygen` Command

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

```
sc> ssh-keygen options
```

where *options* are any of the options listed in TABLE 7-18.

ssh-keygen Command Options

The `ssh-keygen` command uses the following options.

TABLE 7-18   ssh-keygen Command Options

Option	Description
-l	Shows the fingerprint of the host key.
-t *type*	Displays or generates the type of key: `dsa` or `rsa`. This argument is required. RSA is the public-key crypotosystem. DSA is the Digital Signature Algorithm, the standard for the U.S. government.
-r	Regenerates the host key. This option is required if the host key already exists.

Related Information

■ "restartssh" on page 79

useradd

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

▼ To Use the `useradd` Command

Note – You must have `u` level user permission to use this command. Refer to "userperm" on page 116 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 CMT.

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 CMT.

To assign a password to a user name, use the `userpassword` command. See "userpassword" on page 114.

To set permission levels for a user name, use the `userperm` command. See "userperm" on page 116.

Related Information

- "ALOM CMT Shell Commands" on page 48

userdel

Use the `userdel` command to delete an ALOM CMT 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 CMT users, ALOM CMT returns an error message. Likewise, if there is only one user on the list, ALOM CMT will not delete that user account.

Note – ALOM CMT 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 116 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

■ "ALOM CMT Shell Commands" on page 48

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 CMT, but who might not know what the user account passwords are. If you are trying to change the password on your own ALOM CMT account, use the `password` command. See "password" on page 72.

▼ To Use the `userpassword` Command

> **Note –** You must have `u` level user permission to use this command. See "userperm" on page 116 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 CMT 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 CMT Shell Commands" on page 48

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 CMT `admin` account. This account cannot be deleted, nor can you change the user permissions for the account.

Permission Levels

All users can read ALOM CMT information, but you need authorization to perform ALOM CMT 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 CMT user account.

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

TABLE 7-19 `userperm` Permission Levels

Permission Level	Description
a	Administrative. This user is authorized to change the state of ALOM CMT configuration variables and reboot ALOM CMT. Refer to "Using ALOM CMT Configuration Variables" on page 121 and "resetsc" on page 79.
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 112 and "userdel" on page 113.
c	Console permission. This user is authorized to connect to the host server system console. Refer to "console" on page 58.
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 77, "poweron" on page 75, and "poweroff" on page 73.

Note – The default user permission for the account that you use when you start ALOM CMT 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 118.

▼ 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 CMT 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 CMT Shell Commands" on page 48

usershow

Use the `usershow` command to display a specified user's ALOM CMT account, along with each user's permissions and whether a password has been assigned. Refer to "userperm" on page 116 and "userpassword" on page 114.

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

▼ To Use the `usershow` Command

Note – You must have u level user permission to use this command. See "userperm" on page 116 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 CMT Shell Commands" on page 48

Using ALOM CMT Configuration Variables

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

ALOM CMT Configuration Variables Overview

ALOM CMT has nonvolatile configuration variables that you can use to change ALOM CMT 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 CMT shell. See "setupsc" on page 86 for more information.

▼ To Use Configuration Variables in the ALOM CMT Command Shell

---

Note – You must have a level user permission to set configuration variables from the ALOM CMT shell. Refer to "userperm" on page 116 for more information about setting user permissions.

From the ALOM CMT command shell:

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

See "setupsc" on page 86.

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

See "showsc" on page 107.

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

See "setsc" on page 85.

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

See "setdefaults" on page 82.

Serial Management Port Variables

The host system sets the serial management port variables when it starts up, so these variables are read-only. ALOM CMT 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 107.

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

- "ser_baudrate" on page 153
- "ser_data" on page 154
- "ser_parity" on page 154
- "ser_stopbits" on page 155

Related Information

Network Interface Variables

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

ALOM CMT uses the following network interface variables:

From the ALOM CMT command shell:

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

  See .

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

  See .

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

  See .

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

  See .

Related Information

■ "ALOM CMT Configuration Variables Overview" on page 121.

Network Management and Notification Variables

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

ALOM CMT supports the following network management and notification variables:

■ "if_emailalerts" on page 132

■ "if_snmp" on page 134

■ "mgt_mailhost" on page 137.

■ "mgt_mailalert" on page 135.

■ "mgt_snmptraps" on page 139

■ "mgt_traphost" on page 140

From the sc> prompt at the ALOM CMT command shell:

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

See "setupsc" on page 86.

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

See "showsc" on page 107.

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

See "setsc" on page 85.

Related Information

■ "ALOM CMT Configuration Variables Overview" on page 121.

System User Variables

The system user variables enable you to customize the way ALOM CMT identifies and interacts with the host server. When you use the `setupsc` script to customize ALOM CMT, you can reach these variables by responding `y` when `setupsc` prompts you. See "setupsc" on page 86 for more information.

- "sc_clieventlevel" on page 146
- "sc_clipasswdecho" on page 149
- "sc_cliprompt" on page 147
- "sc_clitimeout" on page 148
- "sc_customerinfo" on page 150
- "sc_escapechars" on page 151
- "sc_powerondelay" on page 152
- "sc_powerstatememory" on page 152
- "sys_eventlevel" on page 156

From the ALOM CMT command shell:

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

  See "setupsc" on page 86.

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

  See "showsc" on page 107.

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

  See "setsc" on page 85.

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

  See "setdefaults" on page 82.

Related Information

- "ALOM CMT Configuration Variables Overview" on page 121.

Diagnostic Control Variables

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

ALOM CMT uses the following diagnostic system interface variables:

- "sys_autorestart" on page 155
- "diag_level" on page 126
- "diag_mode" on page 127
- "diag_trigger" on page 128
- "diag_verbosity" on page 130
- "sys_autorunonerror" on page 156

Related Information

"ALOM CMT Configuration Variables Overview" on page 121.

Descriptions of Configuration Variables

This section lists the descriptions of ALOM CMT 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 8-1   diag_level Tasks

Task	ALOM CMT Shell Command
View the current value	"showsc" on page 107
Set or change the values	"setsc" on page 85

▼ 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 (the default value).
- `max` – Run the maximum set of diagnostics to fully verify system health.
- `none` – Run no diagnostics.

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

● **While running the** `setupsc` **command, answer the following questions:**

When the `setupsc` script asks the following questions, type **y** in reply to the first question to enable you to set the value specified by the second question:

```
Do you wish to configure the platform diagnostic parameters [y]? y
[...]
Enter the test coverage level of the system diagnostic [min]? max
```

diag_mode

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

TABLE 8-2   `diag_mode` Tasks

Task	ALOM CMT Shell Command
View the current value	"showsc" on page 107
Set or change the values	"setsc" on page 85

▼ 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, equivalent to using the preset values of `diag_trigger`, `diag_verbosity`, and `diag_level` set to `max`. Setting `diag_mode` to `service` has the same effect as issuing the `setkeyswitch diag` command.

▼ To Use the `setupsc` Command to Change the `diag_mode` Variable

● **While running the** `setupsc` **command, answer the following questions:**

When the `setupsc` script asks the following questions, type **y** in reply to the first question to enable you to set the value specified by the second question:

```
Do you wish to configure the platform diagnostic parameters [y]? y
[...]
Enter the automatic system diagnostic mode [normal]? normal
```

diag_trigger

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

TABLE 8-3   `diag_trigger` Tasks

Task	ALOM CMT Shell Command
View the current value	"showsc" on page 107
Set or change the values	"setsc" on page 85

▼ 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 77).

■ `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 75).

■ `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
```

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

● **While running the `setupsc` command, answer the following questions:**

When the `setupsc` script asks the following questions, type **y** in reply to the first question to enable you to set the value specified by the second question:

```
Do you wish to configure the platform diagnostic parameters [y]? y
[...]
Enter the type of reset which will initiate system diagnostic
[power-on-reset error-reset]? power-on-reset error-reset
```

diag_verbosity

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

TABLE 8-4   diag_verbosity Tasks

Task	ALOM CMT Shell Command
View the current value	"showsc" on page 107.
Set or change the values	"setsc" on page 85.

▼ 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.

▼ To Use the setupsc Command to Change the diag_verbosity Variable

● **While running the setupsc command, answer the following questions:**

When the setupsc script asks the following questions, type **y** in reply to the first question to enable you to set the value specified by the second question:

```
Do you wish to configure the platform diagnostic parameters [y]? y
[...]
Enter the verbosity level of diagnostic output [normal]? normal
```

if_connection

Use this variable with the `setsc` command to specify the remote connection type to the SC. "if_connection Options" on page 131

TABLE 8-5   `if_connection` Options

Option	Description
`none`	Specifies no connection.
`ssh`	Specifies a Secure Shell connection. Default for secure out-of-the-box configuration.
`telnet`	Specifies a Telnet connection.

You can specify `if_connection` as an option to the `showsc` command, which shows you the remote connection type that is currently specified.

▼ To Use the `setsc` Command to Set the `if-connection` Variable

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

```
sc> setsc if_connection value
```

where *value* is `none`, `ssh`, or `telnet`. The default is `ssh`. See "Default DHCP Connection" on page 16.

You can choose only one of the three options. SSH and Telnet servers will not be enabled at the same time.

Note – After you change a connection type, you must reboot the SC for it to take effect.

Related Information

- "setsc" on page 85
- "showsc" on page 107

if_emailalerts

Use this variable to enable email alerts. When this variable is set to `true` (enabled), you can set values for the ALOM CMT network management and notification variables. See "Network Management and Notification Variables" on page 124. The network management and notification variables, `mgt_mailhost` and `mgt_mailalert`, specify how to manage and enable email alerts. See "mgt_mailhost" on page 137, and "mgt_mailalert" on page 135.

Note – The `if_network` variable must be enabled before you can enable `if_emailalerts`. Refer to "if_network" on page 133.

From the ALOM CMT command shell:

- **To specify a value for this variable, use the** `setupsc` **command.**

  See "setupsc" on page 86.

- **To set or change the value, use the** `setsc` **command.**

  See "setsc" on page 85.

- **To view the current value for this variable, use the** `showsc` **command.**

  See "showsc" on page 107.

▼ 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 value
```

where *value* is `true` to enable email alerts, or `false` to disable them.

if_network

Use this variable to enable the ALOM CMT network interface. When this variable is set to `true` (enabled), you are able to use the ALOM CMT network interface variables. Refer to "Network Interface Variables" on page 123.

TABLE 8-6 `if_network` Tasks

Task	ALOM CMT Shell Command
Specify a value for a settable variable	"setupsc" on page 86.
View the configuration variable settings	"showsc" on page 107.
Set or change a configuration variable	"setsc" on page 85.
Reset all variables to their factory defaults	"setdefaults" on page 82.

▼ 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 value
```

where *value* is `true` to enable the network interface or `false` to disable it.

`if_snmp`

Use this variable to enable the ALOM CMT SNMP interface. When this variable is set to `true` (enabled), you are able to use the ALOM CMT SNMP interface variables. The network management and notification variables, `mgt_snmptraps` and `mgt_traphost`, specify how to manage and enable traps. See "mgt_snmptraps" on page 139, and "mgt_traphost" on page 140.

Note – The `if_network` variable must be enabled before you can enable `if_snmp`. Refer to "if_network" on page 133.

TABLE 8-7 `if_snmp` Tasks

Task	ALOM CMT Shell Command
Specify a value for a settable variable	"setupsc" on page 86.
View the configuration variable settings	"showsc" on page 107.
Set or change a configuration variable	"setsc" on page 85.
Reset all variables to their factory defaults	"setdefaults" on page 82.

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

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

```
sc> setupsc
```

The `setupsc` script prompts you as follows:

```
Do you wish to configure the enabled interfaces [y]? y
Should the SC SNMP interface be enabled {n}
```

2. **Type** y **to configure the interfaces.**

   The default value for this variable is `false` (disabled).

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

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

```
sc> setsc if_snmp value
```

   where *value* is `true` to enable the SNMP interface or `false` to disable it.

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 8-8 `mgt_mailalert` Tasks

Task	ALOM CMT Shell Command
Specify a value	"setupsc" on page 86
View the current value	"showsc" on page 107
Set or change the values	"setsc" on page 85

▼ 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 30 characters)
   []? johnsmith@sysadmin.com
   ```

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

   ALOM CMT accepts email addresses of up to 30 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

- "ALOM CMT Configuration Variables Overview" on page 121.
- "Network Management and Notification Variables" on page 124.
- "showsc" on page 107.

mgt_mailhost

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

TABLE 8-9   mgt_mailhost Tasks

Task	ALOM CMT Shell Command
Specify a value for a variable	"setupsc" on page 86
View the current value for this variable	"showsc" on page 107
Change the value of the variable	"setsc" on page 85

▼ To Use the setupsc Command to Set the mgt_mailhost Variable

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
```

- **Enter the correct number of mail servers and the IP address for each server.**

▼ 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 no address.

Note – 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 124.
- "ALOM CMT Configuration Variables Overview" on page 121.
- "showsc" on page 107.

mgt_snmptraps

Use this variable to control the SNMP protocol version used for traps. Values are `v1`, `v2c`, or `none`. The default is `none`, which is to not send traps..

TABLE 8-10 `mgt_mailhost` Tasks

Task	ALOM CMT Shell Command
Specify a value for a variable	"setupsc" on page 86
View the current value for this variable	"showsc" on page 107
Change the value of the variable	"setsc" on page 85

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

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

```
Do you wish to configure the network management interfaces [y]?
What SNMP protocol version should be used to send trap
notifications:  none, v1, or v2c. ('none' will disable SNMP traps)
[none]?
```

● **If you choose to configure the network management interfaces, Enter** `y`, **then specify the SNMP protocol version that should be used.**

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

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

```
sc> setsc mgt_snmptraps value
```

where *value is* the protocol version (`v1`, `v2c`, or `none`) you want to specify.

Related Information

- "Network Management and Notification Variables" on page 124.
- "ALOM CMT Configuration Variables Overview" on page 121.
- "showsc" on page 107.

mgt_traphost

Use this variable to specify as many as two IP addresses and port numbers of hosts to send SNMP traps to. The default is empty. The format of this variable is dotted decimal notation followed by a colon and portnumber, for example:

```
123.145.167.189:161
```

TABLE 8-11 `mgt_mailhost` Tasks

Task	ALOM CMT Shell Command
Specify a value for a variable	"setupsc" on page 86
View the current value for this variable	"showsc" on page 107
Change the value of the variable	"setsc" on page 85

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

If you are running the `setupsc` script, if the SC SNMP interface has been enabled and an SNMP protocol version of `v1` or `v2c` has been selected, `setupsc` asks the following question:

```
Enter the number of SNMP trap receiving hosts to configure [0]?
```

● **Answer** 1 **or** 2 **to be promped for the trap host IP address and port number.**

For example:

```
Enter the IP address for trap receiver 1 [100.100.100.100]?
123.145.167.189
Enter the port number for trap receiver 1 [162]? 162
```

● **If you chose to configure trap receivers, specify the IP address and port number that should be used for each trap receiver.**

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

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

```
sc> setsc mgt_traphost value [value]
```

Where *value is* the traphost IP address and port number you want to specify. If entering multiple traphosts using `setsc`, the format should be the following:

```
sc> setsc mgt_traphost IPaddress:port IPaddress:port
```

The two values are separated by a space, and the format of each is the same. A maximum of two traphosts are allowed.

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 `true`.

TABLE 8-12 `netsc_dhcp` Tasks

Task	ALOM CMT Shell Command
Specify a value for a variable	"setupsc" on page 86
View the current value	"showsc" on page 107
Change the value of the variable	"setsc" on page 85

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

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

Related Information

- "Network Interface Variables" on page 123.
- "ALOM CMT Configuration Variables Overview" on page 121.
- "showsc" on page 107.

netsc_enetaddr

Use this variable to display the MAC address for the system controller 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.

To view this current value for this variable rom the ALOM CMT command shell, use the showsc command. See "showsc" on page 107.

Related Information

- "Network Interface Variables" on page 123.
- "ALOM CMT Configuration Variables Overview" on page 121.
- "showsc" on page 107.

netsc_ipaddr

Use this variable to specify the system controller's IP address.

TABLE 8-13 netsc_ipaddr Tasks

Task	ALOM CMT Shell Command
Specify a value for a variable	"setupsc" on page 86
View the current value	"showsc" on page 107
Change the value of the variable	"setsc" on page 85

The default IP address supplied by this variable is 0.0.0.0.

Note – If you are using DHCP to obtain your system controller's 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 141 and "setupsc" on page 86 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 CMT 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 143, and "netsc_ipnetmask" on page 144 for more information. If you need help obtaining the correct IP address, ask your network administrator.

Related Information

- "Network Interface Variables" on page 123.
- "ALOM CMT Configuration Variables Overview" on page 121.
- "showsc" on page 107.

netsc_ipgateway

Use this variable to specify the IP address for the default IP gateway (also called a router). This gateway enables ALOM CMT to access different subnetworks, other than the one to which it is connected.

TABLE 8-14 netsc_ipgateway Tasks

Task	ALOM CMT Shell Command
Specify a value for a variable	"setupsc" on page 86
View the current value	"showsc" on page 107
Change the value of the variable	"setsc" on page 85

The default IP address supplied by this variable is 0.0.0.0.

Note – If you are using DHCP to obtain your system controller's 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 141 and "setupsc" on page 86 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 IP addresses you specify, ALOM CMT 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 143 and "netsc_ipaddr" on page 142 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 123.
- "ALOM CMT Configuration Variables Overview" on page 121.
- "showsc" on page 107

netsc_ipnetmask

Use this variable to specify the system controller's IP netmask.

TABLE 8-15   netsc_ipnetmask Tasks

Task	ALOM CMT Shell Command
Specify a value for a variable	"setupsc" on page 86
View the current value	"showsc" on page 107
Change the value of the variable	"setsc" on page 85

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 system controller's 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 141 and "setupsc" on page 86 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 IP addresses you specify, ALOM CMT 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 143 and "netsc_ipaddr" on page 142 for further information on these command. If you need help obtaining the correct IP address, ask your network administrator.

Related Information

- "Network Interface Variables" on page 123.
- "ALOM CMT Configuration Variables Overview" on page 121.
- "showsc" on page 107.

sc_backupuserdata

This variable specifies whether the local user database on ALOM CMT (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 8-16   `sc_backupuserdata` Tasks

Task	ALOM CMT Shell Command
View the current value	"showsc" on page 107
Change the value of the variable	"setsc" on page 85

▼ 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 CMT to be backed up, type the following command:

```
sc> setsc sc_backupuserdata true
sc>
```

sc_clieventlevel

Use this variable to specify the level of events that you want ALOM CMT to display in the ALOM CMT shell during an ALOM CMT 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 8-17 `sc_clieventlevel` Tasks

Task	ALOM CMT Shell Command
Specify a value for a variable	"setupsc" on page 86
View the current value	"showsc" on page 107
Change the value of the variable	"setsc" on page 85

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

- "ALOM CMT Configuration Variables Overview" on page 121
- "showsc" on page 107

sc_cliprompt

Use this variable to change the ALOM CMT 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 8-18 sc_cliprompt Tasks

Task	ALOM CMT Shell Command
Specify a value for a variable	"setupsc" on page 86
View the current value	"showsc" on page 107
Change the value of the variable	"setsc" on page 85

▼ 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 CMT command prompt.

For example, if your host name is `ernie` and your host's ALOM CMT name is `ernie-sc`, type the following command to specify `ernie-sc` as your ALOM CMT 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 86. 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

■ "ALOM CMT Configuration Variables Overview" on page 121.
■ "System User Variables" on page 125.
■ "showsc" on page 107.

sc_clitimeout

Use this variable to specify the number of seconds that an ALOM CMT 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 CMT session is in `console` mode, automatic logout will not occur, even when this variable is set. Refer to "console" on page 58.

For example, to set the automatic logout interval to 60 seconds, type the following command at the ALOM CMT shell prompt:

```
sc> setsc sc_clitimeout 60
```

You can specify a value for the timeout using the setupsc command. Refer to "setupsc" on page 86. The setupsc script prompts you to enter a value as follows:

```
Enter the SC CLI timeout in seconds (maximum of 10000s) [0]?
```

TABLE 8-19 sc_clitimeout Tasks

Task	ALOM CMT Shell Command
Specify a value for a variable	"setupsc" on page 86
View the current value	"showsc" on page 107
Change the value of the variable	"setsc" on page 85

Related Information

- "ALOM CMT Configuration Variables Overview" on page 121.
- "System User Variables" on page 125.
- "showsc" on page 107.

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 CMT 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 CMT 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 8-20 `sc_clipasswdecho` Tasks

Task	ALOM CMT Shell Command
Specify a value for a variable	"setupsc" on page 86
View the current value	"showsc" on page 107
Change the value of the variable	"setsc" on page 85

Related Information

- "ALOM CMT Configuration Variables Overview" on page 121.
- "System User Variables" on page 125.
- "showsc" on page 107.

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 CMT. 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 86 for more information about this command.

TABLE 8-21 `sc_customerinfo` Tasks

Task	ALOM CMT Shell Command
Specify a value for a variable	"setupsc" on page 86
View the current value	"showsc" on page 107
Change the value of the variable	"setsc" on page 85

Related Information

- "ALOM CMT Configuration Variables Overview" on page 121.
- "System User Variables" on page 125.
- "showsc" on page 107.

sc_escapechars

Use the escape character sequence to switch from a system console session back to ALOM CMT. The sequence is limited to two characters. The second character is always . (Period). The default value is #. (Hash-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 86 for more information about that command.

TABLE 8-22   sc_escapechars Tasks

Task	ALOM CMT Shell Command
Specify a value for a variable	"setupsc" on page 86
View the current value	"showsc" on page 107
Change the value of the variable	"setsc" on page 85

Related Information

- "ALOM CMT Configuration Variables Overview" on page 121.
- "System User Variables" on page 125.
- "showsc" on page 107.

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 if you have already answered yes to the setupsc command's sc_powerstatememory question (see "sc_powerstatememory" on page 152). 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 86 for more information about that command.

From the ALOM CMT command shell the values for this variable are true and false.

TABLE 8-23 sc_powerondelay Tasks

Task	ALOM CMT Shell Command
Specify a value for a variable	"setupsc" on page 86
View the current value	"showsc" on page 107
Change the value of the variable	"setsc" on page 85

Related Information

- "ALOM CMT Configuration Variables Overview" on page 121.
- "System User Variables" on page 125.
- "showsc" on page 107.

sc_powerstatememory

ALOM CMT 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 CMT 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.

When the `setupsc` script asks the following question, type **y** to enable the state or **n** to disable it:

```
 Should powerstate memory be enabled [y]?
```

If you answer `yes` to this question, the `setupsc` script prompts you to configure `sc_powerondelay` as well (see "sc_powerondelay" on page 152).

TABLE 8-24 `sc_powerstatememory` Tasks

Task	ALOM CMT Shell Command
View the current value	"showsc" on page 107
Change the value of the variable	"setsc" on page 85

Related Information

- "ALOM CMT Configuration Variables Overview" on page 121.
- "System User Variables" on page 125.
- "showsc" on page 107.

ser_baudrate

This variable sets the serial management port (SER 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 107 for more information about this command.

Related Information

- "ALOM CMT Configuration Variables Overview" on page 121.
- "System User Variables" on page 125.
- "showsc" on page 107.

ser_data

This variable sets the number of serial management port (SER 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 107 for more information about this command.

Related Information

- "ALOM CMT Configuration Variables Overview" on page 121.
- "System User Variables" on page 125.
- "showsc" on page 107.

ser_parity

This variable sets the serial management port (SER 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 107 for more information about this command.

Related Information

- "Serial Management Port Variables" on page 122.
- "ALOM CMT Configuration Variables Overview" on page 121.

- "showsc" on page 107.

ser_stopbits

This variable sets the number of serial management port (SER 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 107 for more information about this command.

Related Information

- "Serial Management Port Variables" on page 122.
- "ALOM CMT Configuration Variables Overview" on page 121.
- "showsc" on page 107.

sys_autorestart

Use this variable to specify how ALOM should handle expiration of the Solaris watchdog timer. The valid values are none, reset, and dumpcore (default value: reset).

When the setupsc script asks the following questions, type **y** in reply to the first question to then set the value specified by the second question.

```
Do you wish to configure the platform diagnostic parameters [y]? y

What action should the SC invoke if the OS is hung. The available
options are 'none', 'dumpcore' or 'reset' where a dumpcore will
attempt to force an OS Core Dump Panic [reset]? reset
```

Note – The default option (reset) supports the Solaris watchdog timer.

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`.

When the `setupsc` script asks the following questions, type **y** in reply to the first question to then set the value specified by the second question, to which you can reply `y` to enable the continued boot or **n** to disable it:

```
Do you wish to configure the platform diagnostic parameters [y]? y
[...]
Should the host continue to boot after error is encountered [n]?
```

● **To view the current setting for this variable, use the** `showsc` **command.**

See "showsc" on page 107 for more information about this command.

sys_eventlevel

Use this variable to specify the level of ALOM events that you want ALOM to send to the host server. There are four levels of events:

■ 0 (None) – Send no events

■ 1 (Critical) – Critical events only

■ 2 (Major) – Critical and major events

■ 3 (Minor) – Critical, major, and minor events

The default value for this variable is 2 (Major).

● **To view the current setting for this variable, use the** `showsc` **command.**

See "showsc" on page 107 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 CMT.

`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 for more information about this command.

Related Information

- .
- .

Troubleshooting

This chapter consists of tables of the most common issues you might experience with ALOM CMT, shell error messages you see in ALOM CMT, and troubleshooting suggestions. This chapter contains the following sections:

Troubleshooting ALOM CMT Problems

TABLE A-1 provides a list of common ALOM CMT difficulties and their solutions.

TABLE A-1   ALOM CMT Diagnostics

Problem	Description
Can't log in to ALOM CMT	Perform the following actions to troubleshoot ALOM CMT login problems: • Check the ALOM CMT device name you are connecting to: (for example, `bert-sc`). Ensure that you have the correct ALOM CMT name for the corresponding server. • Check that you are using your correct ALOM CMT username. The name might not be the same as your system user name. • Check that you are using your correct ALOM CMT password.

Can't connect to ALOM CMT using the `telnet` or `ssh` command	ALOM CMT supports a total of eight Telnet or SSH sessions per server. When the maximum number of Telnet or SSH sessions are active, further attempts to connect using the `telnet` or `ssh` commands will receive a `connection closed` error. The following example shows system messages for the UNIX operating environment:
	`% ssh 129.148.49.120`
	`Trying 129.148.49.120...`
	`ssh_exchange_identification:`
	`Connection closed by remote host`

Can't connect to ALOM CMT through the Ethernet connection	First, check whether ALOM CMT is working or there is an Ethernet configuration problem. You can also perform the following actions to troubleshoot Ethernet problems: • Log in to ALOM CMT through the serial management port (SER MGT) and use the `shownetwork` command to see the current settings. Refer to "shownetwork" on page 105. • Log in to another machine on the network and use the `ping` command to see whether ALOM CMT is operating. Be sure to use the ALOM CMT device's name (for example, `servername-sc`), not the host server's name, as the argument to the `ping` command. • Run ALOM CMT VxDiags by using the `resetsc` command. Observe the output on the SER MGT connection. ALOM CMT automatically tests the Ethernet hardware after each reset and prints the results on the serial management (SER MGT) port.

Problem	Description
No alerts received from ALOM CMT	Check the setting of the `sc_clieventlevel` variable for the ALOM CMT 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. Ensure that `if_emailalerts` is set to `true`, and that `mgt_mailhost` is set correctly for email alerts. Refer to "sc_clieventlevel" on page 146 and "mgt_mailalert" on page 135.
ALOM CMT passwords are unknown	If users have forgotten ALOM CMT passwords or passwords are not working, re-create the passwords. Use the `userpassword` command (see "userpassword" on page 114). If no user passwords are known, see "Recovering ALOM CMT Passwords" on page 167.
You can perform some ALOM CMT functions, but not others	Specific user permissions are required to perform functions. Check your permission level. Refer to "userperm" on page 116. In addition, the following problems might exist: • Cannot see console logs or access the server console using ALOM CMT. • Cannot put the server into debug mode or use the ALOM CMT `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 CMT to Troubleshoot Server Problems

ALOM CMT 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 software, and OpenBoot firmware.

If the server is not responding, log in to your ALOM CMT account and do the following:

■ Check the ALOM CMT event log and server environmental status for problems. Refer to "showfaults" on page 96, "showlogs" on page 103, and "showenvironment" on page 90 for more information.

■ Check console logs for recent error messages. Refer to "consolehistory" on page 61.

- Try connecting to the system console to reboot the system. Refer to "console" on page 58.

System Console Write Lock

Although multiple users can connect to the system console from ALOM CMT, 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 111 for more information.

ALOM CMT controls the flow rate of the system console to match the flowrate of the user session holding the write lock. This ensures that the user session with the write lock does not lose data. However, this arrangement can cause data loss for user sessions with read-only console access. For example, if the user session with the write lock is connected over the fast NET MGT port and a session with reader is connected over the slow SER MGT port, the console can produce output at a rate that could overrun the capacity of the reader session. To reduce the likelihood of such console data loss, each console reader session is allocated 65535 characters of buffer space.

ALOM CMT Shell Error Messages

This section contains information about certain types of error messages you might see when using the ALOM CMT command shell:

- "Usage Errors" on page 163
- "General Errors" on page 164
- "CLI Messages Regarding FRU State" on page 166

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	Section
`Error: Invalid command option. Type help to list commands.`	`Help.`	"help" on page 68
`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 85, "showsc" on page 107, "Configuration Worksheet" on page 19.
`Error: Invalid image. Please check file integrity and specified path.`	An error occurred when you tried to execute the `flashupdate` command. Ensure 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.	
`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 19.
`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.	
`Error: Unable to set clock while managed system is running.`	You tried to set the ALOM CMT date and time while the host server was running. If you need to set the ALOM CMT date and time, ensure that the system is powered off first.	

General Errors

ALOM CMT reports the following general errors.

TABLE A-3 General Error Messages

Error Message	Command/Description	Section
`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 112
`Error: Cannot delete admin user`	You tried to delete the `admin` user account from ALOM CMT. ALOM CMT 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 114
`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 114
`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 114
`Error: invalid username string. Please re-enter username or type 'usershow' to see a list of existing users.`	You tried to specify an ALOM CMT 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 118
`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 118
`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 142, "netsc_ipgateway" on page 143, "setupsc" on page 86, or "setsc" on page 85

Error Message	Command/Description	Section
`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 143, "netsc_ipnetmask" on page 144, "setupsc" on page 86, or "setsc" on page 85
`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 143, "netsc_ipnetmask" on page 144, "netsc_ipaddr" on page 142, "setupsc" on page 86, or "setsc" on page 85
`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 116
`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 112
`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 55
`Failed to get password for` *username*	During execution of the `userpassword` command, a SEEPROM error occurred. Try executing the command again.	"userpassword" on page 114
`Failed to set` *variable* `to` *value*	During execution of the `setsc` command, ALOM CMT encountered a SEEPROM error.	"setsc" on page 85
`Invalid login`	Login attempt failed. This message appears at the login prompt.	
`Invalid password`	You entered an invalid password with the `userpassword` command.	"userpassword" on page 114

TABLE A-3 General Error Messages *(Continued)*

Error Message	Command/Description	Section
Invalid permission: *permission*	You entered an invalid user permission.	"userperm" on page 116
Error: Maximum number of users already configured.	This error occurs if you try to add a user account when ALOM CMT already has the maximum of 16 accounts configured. You must delete an account before you can add another.	"userdel" on page 113
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 116
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 CMT account on this server.	

CLI Messages Regarding FRU State

The following error messages appear when ALOM CMT 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 using the poweron command before it will accept commands.	"poweron" on page 75
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 75
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 76
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 97

Related Information

Recovering ALOM CMT Passwords

For security reasons, this procedure is available only while accessing the system directly through the serial port. The procedure resets all ALOM CMT NVRAM settings.

▼ To Recover Your ALOM CMT Passwords:

1. **Connect to the system controller's 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 CMT 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 CMT 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 CMT 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 CMT boot process.

```
Your selection: r

ALOM POST 1.0
    Status = 00007fff
```

ALOM CMT then boots and resets all NVRAM settings. You are automatically logged on as user admin with no password and no permissions. All ALOM CMT NVRAM settings are reset to the factory defaults.

ALOM CMT Event Messages

This appendix contains information about event messages. Topics include:

- "Event Message Overview" on page 169
- "Event Severity Levels" on page 170
- "Event Messages" on page 171

Event Message Overview

ALOM CMT sends event messages to several destinations:

- Messages are sent to all logged-in users, based on the configuration of the `sc_clieventlevel` variable. See "sc_clieventlevel" on page 146.

- Messages are recorded in the ALOM CMT log. View logged messages using the ALOM CMT `showlogs` command. See "showlogs" on page 103.

- Messages are recorded in the ALOM CMT persistent log if the severity of the event is major or critical. View messages in the persistent log using the ALOM CMT `showlogs -p p` command. See "showlogs" on page 103.

- Messages are sent in email messages based on the configuration of the `mgt_mailalert` variable. Individual email addresses can be configured to receive messages of different severities. See "mgt_mailalert" on page 135.

- If the event represents a fault, the event message appears in the output of the ALOM CMT `showfaults` command. For example, `FAN at FT0/FM0 has failed`. See "showfaults" on page 96.

- Messages are sent to the managed system operating system for logging into the Solaris syslog facility based on the configuration of the `sys_eventlevel` variable. Not all versions of the Solaris operating system support this capability. See "sys_eventlevel" on page 156.

Event Severity Levels

Each event has a severity level and corresponding number. These levels and numbers are:

- Critical (1)
- Major (2)
- Minor (3)

ALOM CMT configuration parameters use the severity levels to determine which event messages are displayed. For information on how `sc_clieventlevel` and `mgt_mailalert` use the numerical values of the severity levels, see "sc_clieventlevel" on page 146 and "mgt_mailalert" on page 135.

Event Messages

Startup Event Messages

Appendix TABLE B-1 displays startup event messages from the system controller.

TABLE B-1   System Controller Startup Event Messages

Severity	Message	Description
Critical	`SC System booted.`	ALOM CMT sends this message every time the SC boots. This event is a normal event.
Critical	`Preceding SC reset due to watchdog.`	ALOM CMT sends this message at SC boot if the SC detects that it has been reset because of the internal SC watchdog. This message can indicate a problem with the SC hardware if the problem persists.
Critical	`Host flash image invalid, flashupdate required.`	ALOM CMT sends this message if the SC reboots during a `flashupdate` command. This event indicates that the host flash is in an invalid state and the `flashupdate` command must be used to reprogram the host flash. The system is not allowed to power on while this fault is present. This fault event message appears in the output of the ALOM CMT `showfaults` command.
Minor	`DHCP network configuration initiated.`	ALOM CMT sends this message if the ALOM CMT parameter `if_dhcp` is set to `true`. This message indicates that ALOM CMT has begun DHCP negotiation.

TABLE B-1 System Controller Startup Event Messages *(Continued)*

Severity	Message	Description
Major	`DHCP configuration complete (from server IP_address).`	ALOM CMT sends this message once DHCP negotiation is complete. *IP_address* is the IP address of the DHCP server that provided the lease information.
Major	`No SC IP gateway has been assigned by the DHCP server`	ALOM CMT sends this message if DHCP is used, but the DHCP server has not provided an IP gateway structure in the DHCP lease. Normally this is provided in Tag 3, DHCP_ROUTER_TAG, as detailed in RFC 1533.
Major	`DHCP lease lost.`	ALOM CMT sends this message if DHCP is used and the DHCP lease is lost. This event indicates that the SC is no longer on the network. ALOM CMT periodically retries to obtain a DHCP lease.
Major	`Invalid SC IP gateway address for the specified SC IP address and mask.`	ALOM CMT sends this message if using a manual IP address and gateway, and the user has provided an invalid gateway address. The IP gateway must be reachable on the local subnet, based on the IP address and IP netmask provided.

SCC PROM Event Messages

Appendix TABLE B-2 displays SCC PROM event messages from the system controller.

TABLE B-2 System Controller SCC PROM Event Messages

Severity	Message	Description
Critical	SCC data cannot be accessed.	ALOM CMT sends this message at boot. This message indicates that the SCC PROM cannot be accessed. There is a problem with the SCC PROM or the SC hardware. This fault event message appears in the output of the ALOM CMT showfaults command.
Major	SCC is not valid.	ALOM CMT sends this message at boot or when an SCC is inserted while ALOM CMT is running. This message indicates that the SCC PROM is invalid and must be replaced. This fault event message appears in the output of the ALOM CMT showfaults command.
Major	Replace SCC to avert managed system shutdown in 60 seconds.	ALOM CMT sends this message if the host power is on while the SCC PROM is removed. Normally this is not possible, as the SCC PROM can only be removed with the cover opened, which automatically causes a managed system power off. This message indicates a problem with the SCC PROM or SC hardware.
Critical	Correct SCC not replaced – shutting managed system down.	ALOM CMT sends this message if the SCC PROM is not replaced within the 60-second interval allocated. After this event, the system is powered off.
Major	SCC has been inserted.	ALOM CMT sends this message when the SCC PROM is inserted.

Severity	Message	Description

Major	`Correct SCC replaced –`
	`managed system shutdown`
	`cancelled.`
		ALOM CMT sends this message if an SCC PROM has been replaced during the 60-second shutdown interval.

Major	`Correct SCC not replaced –`
	`managed system shutdown`
	`continuing.`
		ALOM CMT sends this message if a different SCC PROM is inserted while the managed system is shutting down.

Major	`Different SCC detected.`
	`SC will reset itself`
	`momentarily.`
		ALOM CMT sends this message if a different SCC PROM is inserted. The SC must reset itself to reinitialize configuration and network parameters based on the contents of the replacement SCC PROM.

Critical	`SCC platform data is not`
	`valid, will be replaced by`
	`SC nvram data.`
		ALOM CMT sends this message if an SCC PROM is inserted with invalid contents. The SCC PROM contents are protected by a checksum to detect data corruption. If the data is corrupted, the SCC PROM data is erased and replaced by the SC NVRAM data.

Critical	`SCC NVRAM data updated to`
	`new version while preserving`
	`data.`
		ALOM CMT sends this message if the new SC firmware has a newer version of NVRAM data than is currently stored on the NVRAM hardware. This message indicates that the data format has been updated. Existing data should be preserved. After this message appears, the user should check the output of the `showsc` command to ensure that the configuration parameters are still valid and are set correctly. The new firmware image might have added new configuration parameters or removed pre-existing parameters. Refer to the release notes of the firmware image for more information.

System Controller Usage Event Messages

Appendix TABLE B-3 displays usage event messages from the system controller.

TABLE B-3 System Controller Usage Event Messages

Severity	Message	Description
Major	SC Request to Power Off Host.	ALOM CMT sends this message whenever the SC requests a host power off, including when a user types the `poweroff` command.
Major	SC Request to Power Off Host Immediately.	ALOM CMT sends this message when the SC requires an immediate host power off, including when a user types the `poweroff -f` command.
Critical	Host system has shut down.	ALOM CMT sends this message when the host power has turned off. It is also normal for this event to be sent when the host has reset itself.
Minor	SC Request to Power On Host.	ALOM CMT sends this message when the SC requests a host power on, either because of `sc_powerstatememory` or when a user types the `poweron` command.
Major	SC Request to Reset Host.	ALOM CMT sends this message when the SC requests a host reset, including when a user types the `reset` command.
Critical	Host System has Reset.	ALOM CMT sends this message when the SC detects that the host has reset. This message is followed immediately by the `Host system has shut down` event message because reset is implemented as a `powercycle` on these systems.
Major	SC Request to send Break to host.	ALOM CMT sends this message when the SC sends a break request to the host, such as when a user types the `break` command.

TABLE B-3   System Controller Usage Event Messages *(Continued)*

Severity	Message	Description
Minor	`SC date/time has been set to` *date_and_time*`.`	ALOM CMT sends this message when a user types the `setdate` command to modify the SC date or time.
Major	`SC firmware was reloaded.`	ALOM CMT sends this message after the SC firmware has been reloaded after operation of the `flashupdate` command.
Minor	`SC set bootmode to normal.`	ALOM CMT sends this message after a user changes the bootmode to normal using the `bootmode` command.
Minor	`SC set bootmode to reset_nvram, will expire` *date_and_time*`.`	ALOM CMT sends this message after a user changes the bootmode to `reset_nvram` with the `bootmode` command. *date_and_time* are the date and time that the bootmode setting expires, ten minutes from the time the command was run.
Minor	`SC set bootscript to` *bootscript*`.`	ALOM CMT sends this message after a user changes the bootmode bootscript. The *bootscript* is the text of the bootscript provided by the user.
Minor	`Host System has read and cleared bootmode.`	ALOM CMT sends this message after the host has booted, and read the bootmode and bootscript. After this event the bootmode and bootscript are reset to normal.
Minor	`Keyswitch position has been changed to` *keyswitch_position*`.`	ALOM CMT sends this message after a user changes the keyswitch position with the `setkeyswitch` command. The *keyswitch_position* is the new keyswitch position.

TABLE B-3 System Controller Usage Event Messages *(Continued)*

Severity	Message	Description
Minor	Indicator *indicator_name* is now *indicator_state*.	ALOM CMT sends this message any time an indicator, such as an LED, changes state. The *indicator_name* is the name of the indicator and *indicator_state* is the new state of the indicator. Normally this message is in response to platform events such as power on or power off events, fault events, disk ready-to-remove events from the host, and so on. Refer to your platform's administration guide for more information about the platform's indicators and their states.
Major	Failed to send email alert for recent event.	ALOM CMT sends this message if the if_emailalerts parameter is set to true, but an email alert could not be sent. Check the mgt_mailhost and mgt_mailalert settings and the status of your network mail server to resolve the issue.
Major	Failed to send email alert to the primary mailserver.	ALOM CMT sends this message if the if_emailalerts parameter is set to true, but an email alert could not be sent. Check the mgt_mailhost and mgt_mailalert settings and the status of your network mail server to resolve the issue.
Major	Email alerts will not be sent while network is disabled.	ALOM CMT sends this message if if_emailalerts is set to true, but if_network is set to false. To correct the problem, either disable email alerts or enable the SC network.
Minor	SC Login: User *username* Logged on.	ALOM CMT sends this message when users log in. The *username* is the name of the user who just logged in.
Minor	SC Login: User *username* Logged out.	ALOM CMT sends this message when users log out. The *username* is the name of the user who just logged out.

TABLE B-3   System Controller Usage Event Messages *(Continued)*

Severity	Message	Description
Major	SC Login Failure for user *username*.	ALOM CMT sends this message if a username has failed login five times in a five minute period. The *username* is the name of the user whose login attempt failed.
Major	SC Request to Dump core host.	ALOM CMT sends this message when an ALOM CMT user sends a request to the host to dump core by typing the break -D command.
Major	SC Host Watchdog Reset Disabled.	ALOM CMT sends this message when a user has set the sys_autorestart variable to none.
Critical	Host Watchdog timeout.	ALOM CMT sends this message when the host watchdog has timed out and the sys_autorestart variable has been set to none. The SC will not perform any corrective measures.
Critical	SC Request to Dump core Host due to Watchdog.	ALOM CMT sends this message when the host watchdog has timed out and the sys_autorestart variable has been set to dumpcore. The SC attempts to perform a core dump of the host to capture error state information. The dump core feature is not supported by all OS versions.
Critical	SC Request to Reset Host due to Watchdog.	ALOM CMT sends this message when the host watchdog has timed out and the sys_autorestart variable has been set to reset. Then the SC attempts to reset the host.

Environmental Monitoring Event Messages

displays environmental monitoring event messages from the system controller.

TABLE B-4   Environmental Monitoring Event Messages

Severity	Message	Description
Critical	`SC can't determine platform type.`	ALOM CMT sends this message if the SC is unable to determine the platform hardware properties. The SC goes into a degraded mode and prevents many operations. This message indicates a problem with the platform hardware or the SC hardware.
Minor	`SC Environment Poller: Cannot open i2c device.`	ALOM CMT sends this message if the I^{2}C interface cannot be opened. Environmental monitoring will not be enabled. This message indicates a problem with the SC hardware. This event will accompany other events, such as `SC can't determine platform type.`
Major	`Required` *device_type* `at` *location* `is not present.`	ALOM CMT sends this message if a required piece of hardware monitoring is not present. This indicates a problem with the platform hardware. *device_type* is the type of device (sensor, indicator, and so on) and *location* indicates the location and the name of the device. The device location indicates which FRU the device is installed on. Normally this message indicates a problem with that FRU. If multiple FRUs are listed, *location* can point to a problem with the SC hardware rather than the individual FRUs.

TABLE B-4 Environmental Monitoring Event Messages *(Continued)*

Severity	Message	Description
Critical	`Chassis cover removed.`	ALOM CMT sends this message if the chassis cover has been removed. The platform hardware turns managed system power off immediately as a precautionary measure. The event message `System poweron is disabled` should accompany this message to prevent the use of the `poweron` command while the chassis cover is removed.
Critical	`System poweron is disabled.`	ALOM CMT sends this message when the SC refuses to power on the system, either through the user `poweron` command or by the front panel power button. The SC disables power on because of an accompanying event, such as the event indicated by the message `Chassis cover removed.` Other possibililities include a device failure or insufficient fan cooling.
Minor	`System poweron is enabled.`	ALOM CMT sends this message after the condition that caused power on to be disabled (indicated by the preceding `System poweron is disabled` message) has been rectified. For example, by replacing the chassis cover or installing sufficient fans to cool the system.

TABLE B-4 Environmental Monitoring Event Messages *(Continued)*

Severity	Message	Description
Major	*Device* at *location* has FAILED. *Device* at *location* has FAULTED.	ALOM CMT sends this message when a failure or a fault is detected. A fault is a lower priority condition that indicates the system is operating in a degraded mode. A failure is a higher priority condition indicating that a FRU has failed and should be replaced. *Device* is the type of device that has failed, such as SYS_FAN, PSU, CURRENT_SENSOR, DOC, or FPGA. The *location* is the location and name of the device that has the error condition. The location and name of the device match the output of the ALOM CMT `showenvironment` command. This fault event message appears in the output of the ALOM CMT `showfaults` command.
Minor	Device at *location* is OK.	ALOM CMT sends this message to indicate that a prior fault or failure has recovered or been repaired. The fields (*Device* and *location*) are the same as the prior fault or failure event.

TABLE B-4 Environmental Monitoring Event Messages *(Continued)*

Severity	Message	Description
Critical	*Device_type* at *location* has exceeded low warning threshold. *Device_type* at *location* has exceeded low soft shutdown threshold. *Device_type* at *location* has exceeded low hard shutdown threshold. *Device_type* at *location* has exceeded high warning threshold. *Device_type* at *location* has exceeded high soft shutdown threshold. *Device_type* at *location* has exceeded high hard shutdown threshold.	ALOM CMT sends these messages when analog measurement sensors have exceeded the specified threshold. The threshold that was exceeded is included in the message. *Device_type* is the type of device which has failed, such as VOLTAGE_SENSOR or TEMP_SENSOR. The *location* is the location and name of the device that has the error condition. The location and name of the device match the output of the ALOM CMT `showenvironment` command. For TEMP_SENSOR events, this message could indicate a problem outside of the server, such as the temperature in the room or blocked airflow in or out of the server. For VOLTAGE_SENSOR events, this message indicates a problem with the platform hardware or possibly with add-on cards installed. These fault event messages appear in the output of the ALOM CMT `showfaults` command.
Minor	*Device_type* at *location* is within normal range.	ALOM CMT sends this message when an analog measurement sensor no longer exceeds any warning or failure thresholds. This message is sent only if the sensor reading recovers sufficiently within the boundaries of the failure parameters. The message might not match the current output of the ALOM CMT `showenvironment` command.
Critical	SC initiating soft host system shutdown due to fault at *location*. SC initiating hard host system shutdown due to fault at *location*.	ALOM CMT sends this message when the SC has started a system shutdown due to a fault. The *location* is the location and name of the faulty device that has caused the shutdown.

TABLE B-4   Environmental Monitoring Event Messages *(Continued)*

Severity	Message	Description
Critical	`SC initiating soft host system shutdown due to insufficient fan cooling.`	ALOM CMT sends this message to indicate that the SC has started a shutdown because there are not enough working fans necessary to keep the system cooled. The number of fans necessary to maintain system cooling depends on the platform. See your platform documentation for more information.
Critical	`Host Power Failure: MB_DC_POK Fault.`	ALOM CMT sends this message to indicate a problem with the power convertors or Power-OK sensors. The system is unable to remain powered on as a result. This message indicates a problem with the platform hardware. The SC will attempt to powercycle the system to recover from the fault. This fault event message appears in the output of the ALOM CMT `showfaults` command.
Major	`Power cycling Host System. Please wait.`	ALOM CMT sends this message to indicate that the SC is performing a platform power cycle after a Power-OK fault.
Critical	`Host Power: MB_DC_POK is OK.`	ALOM CMT sends this message to indicate that the system has recovered from a prior Power-OK sensor fault. If the failure happens again this might indicate a problem with either the platform hardware or the SC hardware.
Major	`Host system poweron failed due to fault at` *sensor*`.`	ALOM CMT sends this message to indicate that the SC is unable to power on the system. The *sensor* is a device such as the `MB/FF_POK`. This fault indicates a problem with either the platform hardware or the SC hardware. This fault event message appears in the output of the ALOM CMT `showfaults` command.

TABLE B-4 Environmental Monitoring Event Messages *(Continued)*

Severity	Message	Description
Critical	`Host system failed to power off.`	ALOM CMT sends this message if the SC is unable to power off the system. This message indicates a problem with either the platform hardware or the SC hardware. The system should be manually unplugged to prevent damage to the platform hardware. This fault event message appears in the output of the ALOM CMT `showfaults` command.
Major	*FRU_type* `at` *location* `has been removed.` *FRU_type* `at` *location* `has been inserted.`	ALOM CMT sends these messages to indicate that a FRU has been removed or inserted. The field *FRU_type* indicates the type of FRU, such as SYS_FAN, PSU, or HDD. The field *location* indicates the location and name of the FRU, as shown in the output of the `showenvironment` command.
Major	`Input power unavailable for PSU at` *location*`.`	ALOM CMT sends this message to indicate that a power supply is not receiving input power. This message normally indicates that the power supply is not plugged in to AC power. If the power cords are plugged in to an outlet that is provided power, this message indicates a problem with the power supply itself. This fault event message appears in the output of the ALOM CMT `showfaults` command.

Host Monitoring Event Messages

Appendix TABLE B-5 displays host monitoring event messages from the system controller

TABLE B-5   Host Monitoring Event Messages

Severity	Message	Description
Critical	*Component* deemed faulty and disabled.	ALOM CMT sends this message when a component has been disabled, either automatically by POST discovering a fault or by a user typing the disablecomponent command. *Component* is the component disabled, which will be an entry from the platform showcomponent command. This fault event message appears in the output of the ALOM CMT showfaults command.
Critical	*Component* reenabled.	ALOM CMT sends this message when a component is enabled. A component can be enabled by a user typing the enablecomponent command or FRU replacement if the component itself is a FRU (such as a DIMM). *Component* is the name of the component shown in the output of the platform showcomponent command.
Major	Host detected fault, MSGID: *SUNW-MSG-ID*.	ALOM CMT sends this message when the Solaris PSH software diagnoses a fault. The *SUNW-MSG-ID* of the fault is an ASCII identifier that can be entered at http://www.sun.com/msg for more information about the nature of the fault and the steps to repair. This fault event message appears in the output of the ALOM CMT showfaults command.

TABLE B-5 Host Monitoring Event Messages *(Continued)*

Severity	Message	Description
Major	`Dropping ereports, message queue is full.`	ALOM CMT sends this message to indicate that the hardware has encountered a flood of hardware errors which could not be disabled at the source. This message indicates that some errors have been lost because of insufficient memory space to store the excessive events.
Major	*Location* `has been replaced; faults cleared.`	ALOM CMT sends this message after the replacement of a FRU that contained a host-detected fault. *Location* is the location and name of the FRU which was replaced. This event can be received at SC boot, or after FRUs have been swapped and the chassis cover is closed.
Major	`Existing faults detected in FRU_PROM at` *location*.	ALOM CMT sends this message to indicate that the SC has detected a new FRU with pre-existing faults logged into its FRU PROM. This event can occur when either a FRU or the SC card is moved from one system to another. The *location* is the name of the SEEPROM on the replaced FRU, such as `MB/SEEPROM`. The most recent existing fault will be imported from the FRU PROM onto the `showfaults` list. The entry on the `showfaults` list is the fault imported, not this message.

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