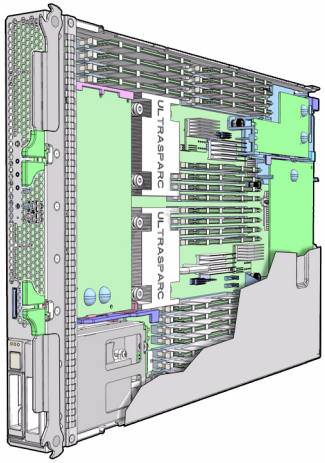
Sun™ Integrated Lights Out Manager 2.0 Supplement for Sun Blade™ T6340 Server Modules



Sun Microsystems, Inc.
www.sun.com

Part No. 820-3904-10
October 2008, Revision A

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Contents

Preface

The primary documentation for Sun™ Integrated Lights Out Manager (ILOM) firmware is the *Sun Integrated Lights Out Manager User's Guide*. This document provides additional information about platform-specific features for Sun Blade T6340 server modules, augmenting the set of features that are common to all platforms. ILOM firmware is used to manage and administer a Sun Blade T6340 server module. You should be an experienced system administrator with a knowledge of UNIX® commands.

To fully use the information in this document, you must have thorough knowledge of the topics discussed in these documents:

- *Sun Blade T6340 Server Module Product Notes*
- *Sun Integrated Lights Out Manager User's Guide*
- ILOM CMM documentation for your Sun Blade modular system (chassis)

Using UNIX Commands

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

See one or more of the following for this information:

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

  http://docs.sun.com

Shell Prompts

Shell	Prompt
C shell	*machine-name*%
C shell superuser	*machine-name*#
Bourne shell and Korn shell	$
Bourne shell and Korn shell superuser	#
OpenBoot™ PROM firmware	ok
ILOM command-line interface (CLI)	->
ALOM CMT compatibility shell	sc>

Related Documentation

Documentation for the Sun Blade™ T6340 server module is available at:

http://docs.sun.com/app/docs/prod/blade.t6340

Additional Sun documentation is available at:

http://www.sun.com/documentation/

Application	Title	Part Number	Format(s)	Location
Late-breaking news	*Sun Blade T6340 Server Module Product Notes*	820-3901	PDF HTML	Online
Getting Started	*Sun Blade T6340 Server Module Getting Started Guide*	820-3899	PDF	Shipping kit Online
Safety information	*Sun Blade T6340 Server Module Safety and Compliance Guide*	820-3903	PDF	Online
	Important Safety Information About Sun Hardware	816-7190		Shipping kit

Application	Title	Part Number	Format(s)	Location
Installing and administering the server module	*Sun Blade T6340 Server Module Installation and Administration Guide*	820-3900	PDF HTML	Online
Monitoring and managing the server module	*Sun Integrated Lights Out Manager 2.0 User's Guide*	820-1188	PDF HTML	Online
	Refer also to ILOM documentation for your Sun Blade modular system.			Online
Service-related information	*Sun Blade T6340 Server Module Service Manual*	820-3902	PDF HTML	Online
Logical Domains (LDoms)	Documentation online at: http://docs.sun.com/app/docs/prod/ldoms.mgr			
Performing diagnostic tests	SunVTS™ documentation online at: http://docs.sun.com/app/docs/prod/vts7.0			
Sun Blade 6000 modular system	Documentation online at: http://docs.sun.com/app/docs/prod/blade.6000mod			
Sun Blade 6048 modular system	Documentation online at: http://docs.sun.com/app/docs/prod/blade.6048mod			
System and network administration	*Solaris System Administrator Guide* *SPARC: Installing Solaris Software*			
Using the operating system	*Solaris User's Guide*			

Documentation, Support, and Training

Sun Function	URL
Documentation	http://www.sun.com/documentation/
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Please include the title and part number of your document with your feedback:

Sun Integrated Lights Out Manager 2.0 Supplement for Sun Blade T6340 Server Modules, part number 820-3904-10.

CHAPTER 1

ILOM for Sun Blade T6340 Server Modules

Sun Integrated Lights Out Manager (ILOM) firmware provides advanced service processor hardware and software that you can use to manage and monitor supported Sun servers. ILOM's dedicated hardware and software is preinstalled on a variety of server platforms, including the Chassis Monitoring Module (CMM) of Sun Blade modular system chassis and Sun Blade T6340 server modules. This document describes features that belong to Sun Blade T6340 server modules, augmenting the set of features described in the *Sun Integrated Lights Out Manager User's Guide*.

Chassis Monitoring Module Features

The ILOM chassis monitoring module (CMM) manages the Sun Blade modular system chassis. It provides management of chassis components, and a method of accessing the service processors in individual server modules. It also provides automatic control of the chassis fan speed. For information about using the CMM ILOM with your chassis, refer to the ILOM administration guide for your chassis.

Updating the System Firmware

If an updated version of the system firmware becomes available, you can obtain it from the SunSolve[SM] web site in the form of a patch.

Note – You cannot use Sun Update Connection Manager to obtain system firmware.

Refer to the *Sun Blade T6340 Server Module Product Notes* for information about obtaining patches using SunSolve.

Refer to the chapter "Update ILOM Firmware" in the *Sun Integrated Lights Out Manager User's Guide* for information about the firmware update process.

Resetting the Password to the Factory Default

The procedure for resetting the ILOM root password to the factory default (`changeme`) requires installation of a jumper on the service processor. The procedure is documented in the *Sun Blade T6340 Server Module Service Manual*.

For information about setting other service processor settings back to the factory defaults, refer to "Changing Service Processor Settings to Factory Defaults" on page 19.

CHAPTER 2

Managing the Host

This chapter describes ILOM features available on Sun Blade T6340 server modules that augment the properties common to ILOM on other platforms. In particular, this chapter describes the properties in the `/HOST` namespace.

Resetting the Host

The `reset` command generates a graceful or forced hardware reset of the host server. By default, the `reset` command gracefully resets the host. If a graceful reset is not possible, a forced reset is performed. For a list of available options for the reset command using both ILOM and the ALOM compatibility shell CLIs, see TABLE B-2.

Managing Boot Mode

You can use the remote control properties to specify how ILOM handles boot. Boot mode (`bootmode`) properties enable you to override the default method the server uses when it boots. This ability is useful to override specific OpenBoot or Logical Domains (LDoms) settings that might be incorrect, to set up OpenBoot variables using a script, and similar tasks.

For example, if the OpenBoot settings have become corrupt, you can set the `bootmode state` property to `reset_nvram`, then reset the server to its factory-default OpenBoot settings.

Sun Service personnel might instruct you to use the `bootmode script` property for problem resolution. The full extent of script capabilities is not documented and exists primarily for debugging.

Because `bootmode` is intended to be used to correct a problem with the OpenBoot or LDoms settings, the `bootmode` takes effect for a single boot only. Additionally, to prevent an administrator from setting a `bootmode state` property and forgetting about it, a `bootmode state` property expires if the host is not reset within 10 minutes of the `bootmode` state property being set.

The properties can be configured using the ILOM command-line interface (CLI) or web interface.

▼ To Manage the Host Boot Mode LDoms Configuration Using the CLI

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

```
-> set /HOST/bootmode config=value
```

where the `config` property takes a value *value*, such as a named logical domain configuration downloaded to the SP using the Logical Domains (LDoms) software.

For example, if you have created a logical domain configuration called `ldm-set1`:

```
-> set /HOST/bootmode config=ldm-set1
```

To return the boot mode `config` to the factory default configuration, specify `factory-default`.

For example:

```
-> set /HOST/bootmode config=factory-default
```

Note – If you set `/HOST/bootmode config=""`, ILOM sets the `config` to empty.

▼ To Manage the Host Boot Mode Script Using the CLI

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

```
-> set /HOST/bootmode script=value
```

where `script` controls the host server OpenBoot PROM firmware method of booting. It does not affect the current `/HOST/bootmode` setting. The value of *value* can be up to 64 bytes in length.

Note – If you set `/HOST/bootmode script=""`, ILOM sets the `script` to empty.

▼ To Change the Host Boot Mode Behavior at Reset Using the CLI

The `/HOST/bootmode state` property controls how OpenBoot nonvolatile, random-access memory (NVRAM) variables are used. Normally, the current settings of these variables are retained. Setting `/HOST/bootmode state=reset_nvram` changes the OpenBoot NVRAM variables to their default settings at the next reset.

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

```
-> set /HOST/bootmode state=value
```

where *value* is one of the following:

- `normal` – At next reset, retains current NVRAM variable settings.
- `reset_nvram` – At next reset, returns OpenBoot variables to default settings.

Note – The `state=reset_nvram` value will return to normal after the next server reset or 10 minutes (see "To Display the Host Boot Mode Expiration Date Using the CLI" on page 6). The `config` and `script` properties do not expire and will be cleared upon the next server reset or manually by setting *value* to `""`.

You can specify a `/HOST/bootmode` setting and set the script within the same command. For example:

```
-> set /HOST/bootmode state=reset_nvram script="setenv diag-switch? true"
```

After the server resets and OpenBoot PROM reads the values stored in the script, it sets the OpenBoot PROM variable `diag-switch?` to the user-requested value of `true`.

▼ To Display the Host Boot Mode Expiration Date Using the CLI

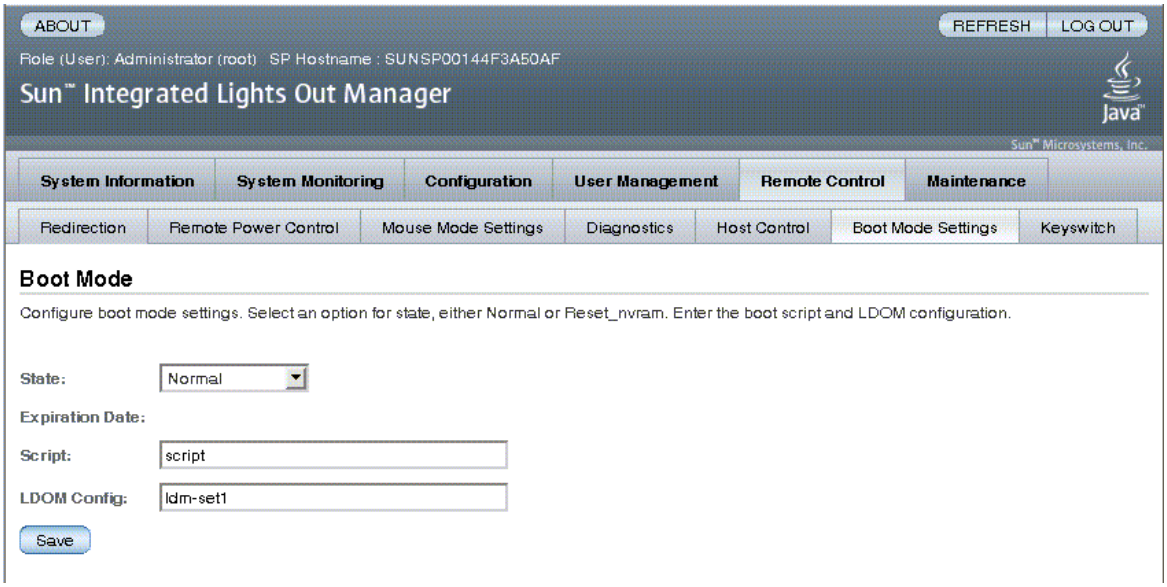
- **At the -> prompt, type the following command:**

```
-> show /HOST/bootmode expires
     Properties:
         expires = Thu Oct 18 18:24:16 2007
```

▼ To Change Boot Mode Configuration Settings Using the Web Interface

You can use the ILOM web interface to view or configure the four aspects of boot mode control:

- State
- Expiration Date (not configurable)
- Script
- LDoms Configuration



1. **Log in to the ILOM web interface as Administrator (`root`) to open the web interface.**

2. **Select Remote Control -> Boot Mode Settings.**
3. **Select the Boot Mode State, if desired.**
4. **View the Expiration Date.**
5. **Specify a boot script, if desired.**
6. **Specify an LDoms configuration file, if desired.**
7. **Click Save.**

Viewing Host Information and Setting System Policy Concerning Error Conditions

Use the host information properties to view system configuration and firmware version information. You can configure these settings using the CLI or the web interface.

▼ To Display the Host MAC Address Using the CLI

The `/HOST macaddress` property is automatically configured by the system software, so you cannot set or change the property. The value is read and determined from the server's removable system configuration card (SCC PROM) and then stored as a property in ILOM.

The value of `/HOST macaddress` is the MAC address for the `net0` port. The MAC addresses for each additional port increments from the `/HOST macaddress`. For example, `net1` is equal to the value of `/HOST macaddress` plus one (1).

- **To view the current setting for this property, type the following command:**

```
-> show /HOST macaddress
```

▼ To Display the Host OpenBoot Version Using the CLI

The `/HOST obp_version` property displays information about the version of OpenBoot on the host.

- **To view the current setting for this property, type the following command:**

```
-> show /HOST obp_version
```

▼ To Display the Host POST Version Using the CLI

The `/HOST post_version` property displays information about the version of POST on the host.

- **To view the current setting for this property, type the following command:**

```
-> show /HOST post_version
```

▼ To Specify Host Behavior When the Watchdog Timer Expires Using the CLI

Use the `/HOST autorestart` property to specify how ILOM should handle expiration of the Solaris watchdog timer.

- **To set this property, type the following command:**

```
-> set /HOST autorestart=value
```

where *value* can be one of the following:

- `none` – ILOM takes no action other than to issue a warning.
- `reset` – ILOM attempts to reset the system when the Solaris watchdog timer expires.
- `dumpcore` – ILOM attempts to force a core dump of the OS when the watchdog timer expires.

The default value is `reset`.

▼ To Specify Host Behavior When an Error Is Discovered During Diagnostics Using the CLI

Use the `/HOST autorunonerror` property to specify whether the host should continue to boot after system diagnostics have discovered an error.

- **To set this property, type the following command:**

```
-> set /HOST autorunonerror=value
```

where *value* can be one of the following:

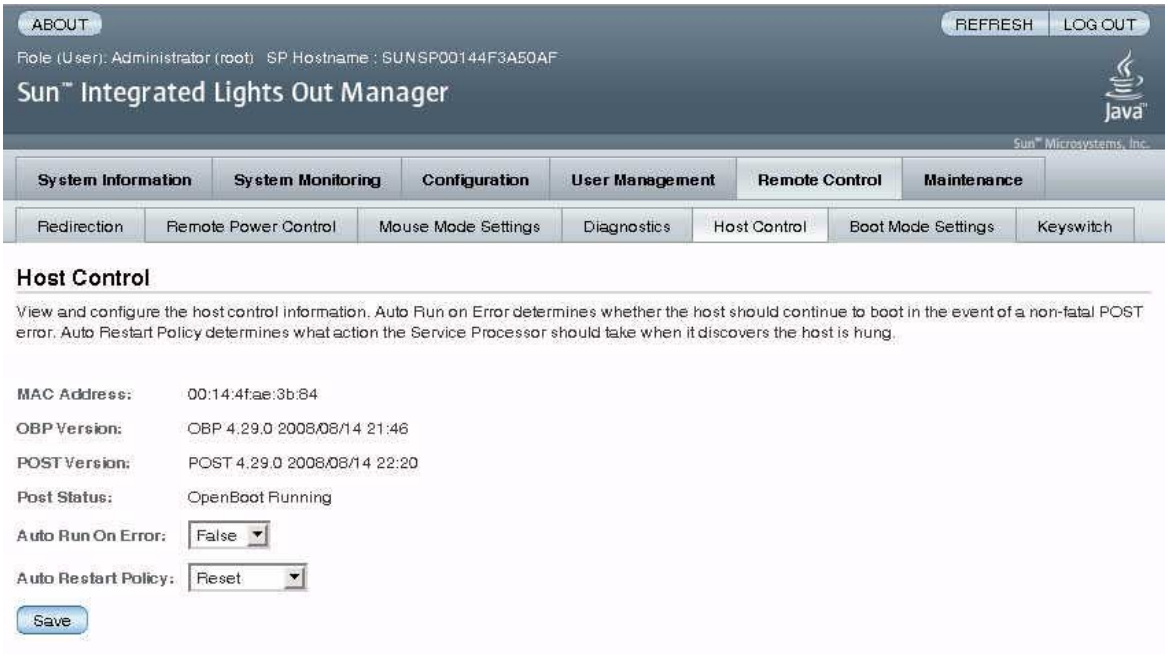
- `false` – The system stops booting after an error has been discovered.
- `true` – The system attempts to continue booting after an error has been discovered.

The default value is `false`.

▼ To View and Configure Host Control Features Using the Web Interface

You can use the ILOM web interface to view or configure the six aspects of host control:

- MAC address
- OpenBoot version
- POST version
- HOST status
- Auto Run On Error
- Auto Restart Policy (watchdog timer)



1. **Log into the ILOM web interface as Administrator (`root`) to open the web interface.**
2. **Select Remote Control -> Host Control.**
3. **View the MAC address.**
4. **View the OpenBoot version.**
5. **View the POST version.**
6. **Select a value for Auto Run On Error, if desired.**
7. **Select a value for Auto Restart Policy, if desired.**
8. **Click on Save.**

Managing Host Diagnostics and POST

Use the diagnostic control properties to specify how ILOM behaves when it encounters an error on the host server. You can configure these settings using the CLI or the web interface.

▼ To Specify the Level of Diagnostics Using the CLI

Use the `/HOST/diag level` property to control the level of diagnostic testing to be executed when diagnostics are enabled.

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

```
-> set /HOST/diag level=value
```

where *value* is one of the following:

- `min` – Run the minimum level of diagnostics to verify the system.
- `max` – Run the maximum set of diagnostics to fully verify system health.

The default value is `max`.

▼ To Change the Diagnostics Mode Using the CLI

Use the `/HOST/diag mode` property to control whether diagnostics are enabled and to specify which diagnostic mode is enabled.

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

```
-> set /HOST/diag mode=value
```

Where *value* is one of the following:

- `off` – Do not run any diagnostics.
- `normal` – Run diagnostics.

- `service` – Run service-technician diagnostics, equivalent to using the preset values of `/HOST/diag trigger=all-resets`, `/HOST/diag verbosity`, and `/HOST/diag level=max`. Setting `/HOST/diag mode=service` has the same effect as issuing the `set /SYS keyswitch_state=diag` command.

The default value is `normal`.

▼ To Specify Diagnostic Trigger Conditions Using the CLI

Use the `/HOST/diag trigger` property to control the conditions under which POST runs if diagnostics are enabled.

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

```
-> set /HOST/diag trigger=value
```

where *value* is one (or a combination, supplied within quote marks and separated by a space) of the following:

- `user-reset` – Run diagnostics when the system is reset.
- `error-reset` – Run diagnostics when the system takes a fatal error that requires the system to reset itself to recover.
- `power-on-reset` – Run diagnostics when the system is powered on.
- `all-resets` – Run diagnostics at any server reset.
- `none` – Skip diagnostics.

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

For example:

```
-> set /HOST/diag trigger="user-reset power-on-reset"
Set 'trigger' to 'user-reset power-on-reset'
-> show /HOST/diag trigger
Properties:
       trigger = user-reset power-on-reset

   Commands:
       set
       show
```

▼ To Choose the Amount of Verbosity in Diagnostic Output Using the CLI

Use the `/HOST/diag verbosity` property to specify the verbosity level of the output from POST diagnostics, if diagnostics are enabled.

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

```
-> set /HOST/diag verbosity=value
```

where *value* is one of the following:

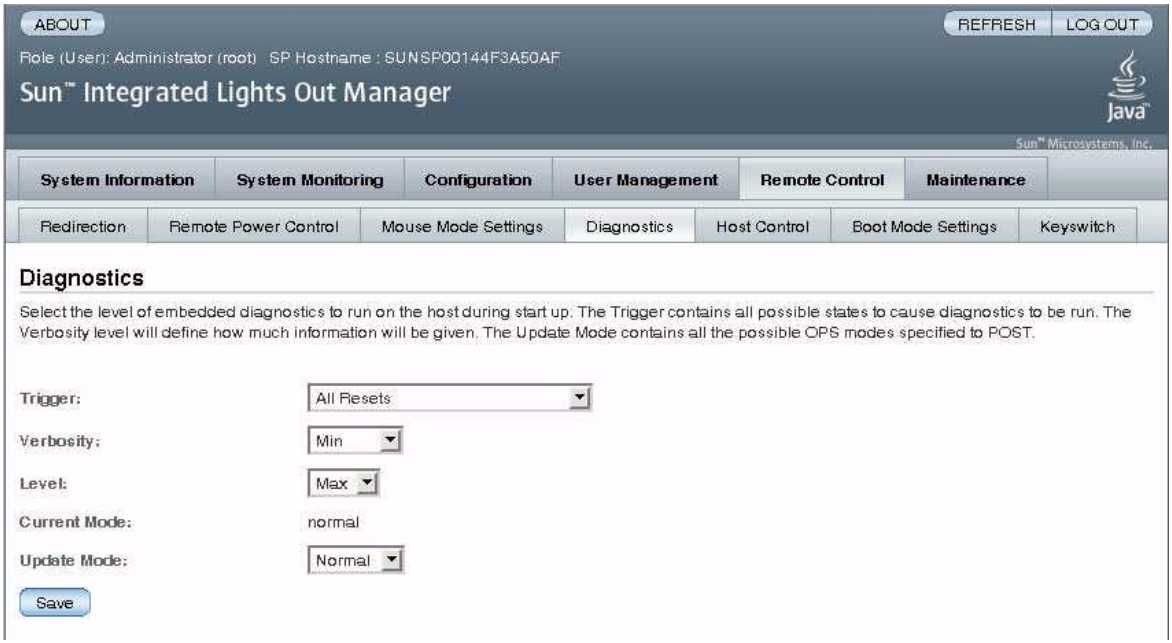
- `none` – Diagnostics do not print any output on the system console when running, unless a fault is detected.
- `min` – Diagnostics print a limited amount of output on the system console.
- `max` – Diagnostics print full output on the system console, including the name and results of each test being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

The default value is `normal`.

▼ To Manage Diagnostic Settings Using the Web Interface

You can use the ILOM web interface to view or configure the four aspects of host control:

- Trigger
- Verbosity
- Level
- Mode



1. **Log in to the ILOM web interface as Administrator (root) to open the web interface.**
2. **Select Remote Control -> Diagnostics.**
3. **Select a value for Trigger, if desired.**
4. **Select a value for Verbosity, if desired.**
5. **Select a value for Level, if desired.**
6. **View the Current Mode.**
7. **Select a value for Update Mode, if desired.**
8. **Click Save.**

Managing System User Interactions

The system user properties enable you to customize the way ILOM identifies and interacts with the host server.

▼ To Enable the System To Send a Break Signal or To Force a Core Dump Using the CLI

Use the `set /HOST send_break_action` command to bring the server to a menu from which you can choose to go to the OpenBoot PROM prompt (`ok`). If you have configured the `kmdb` debugger, then specifying the `send_break_action=break` brings the server into debug mode. Specify `send_break_action=dumpcore` to force a core dump.

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

```
-> set /HOST send_break_action=value
```

where *value* is one of the following:

- `break` – Sends a break to the host.
- `dumpcore` – Forces a panic core dump of the managed system OS.

▼ To Display Host Status Information Using the CLI

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

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

```
-> show /HOST status
```

The command returns information similar to the following:

```
-> show /HOST status
    Properties:
        status = Running

    Commands:
        show
->
```

CHAPTER 3

Managing the Service Processor

This chapter describes ILOM properties available on Sun Blade T6340 server modules that augment the properties common to ILOM on other platforms. In particular, this chapter covers properties in the `/SP` namespace.

Storing Customer Information

ILOM enables you to store information (for purposes such as inventory control or site resource management) on the SP and FRU PROMs. You can change customer FRU data and system identification information using the CLI or the web interface.

▼ To Change Customer FRU Data Using the CLI

Use the `/SP customer_frudata` property to store information in FRU PROMs.

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

```
-> set /SP customer_frudata="data"
```

Note – The data string ("*data*") must be enclosed in quote marks.

▼ To Change System Identification Information Using the CLI

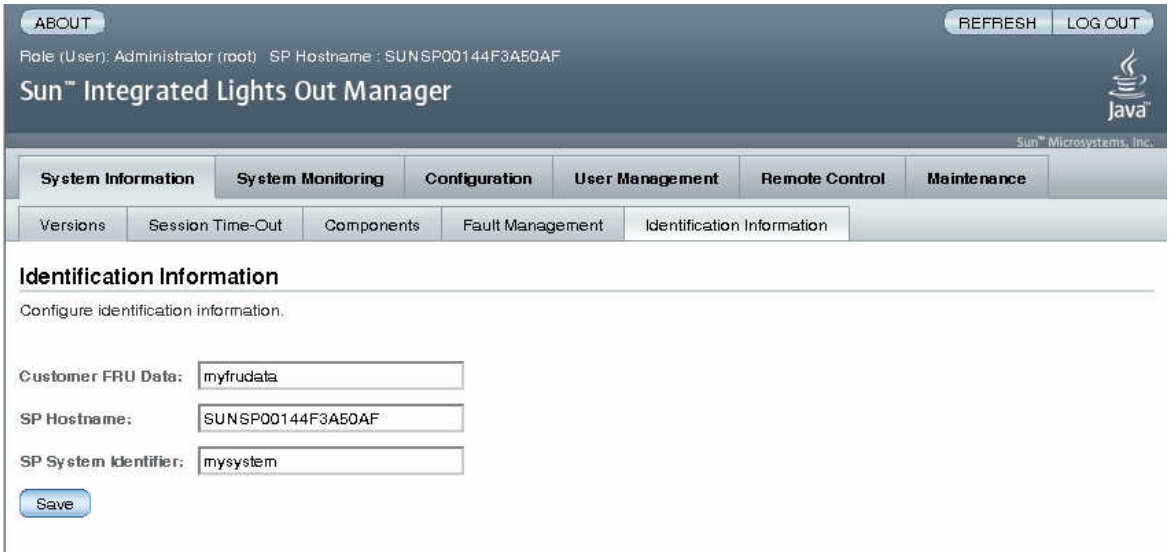
Use the `/SP system_identifier` property to store customer identification information.

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

```
-> set /SP system_identifier="data"
```

Note – The data string ("*data*") must be enclosed in quote marks.

▼ To Change Customer Identification Information Using the Web Interface



ILOM enables you to store information on FRUs and the SP.

1. **Log into the ILOM web interface as Administrator (root) to open the web interface.**

2. **Select System Information --> Identification Information.**
3. **Edit the Customer FRU data field, if desired.**
4. **Edit the SP Hostname, if desired.**
5. **Edit the SP System Identifier field, if desired.**
6. **Click Save.**

Changing Service Processor Settings to Factory Defaults

You can reset the service processor setting to factory defaults using the CLI or the web interface. For information about setting the root password back to the factory default, refer to "Resetting the Password to the Factory Default" on page 2.

▼ To Reset the Service Processor Settings to Factory Default Values Using the CLI

Use the `set reset_to_defaults` command to set all ILOM configuration properties back to their factory default values. The `all` option sets the ILOM configuration and all user information back to the factory default values.

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

```
-> set /SP reset_to_defaults=value
```

   where *value* can be one of the following:

   - `none` – Make no changes.
   - `all` – Reset (clear) all configuration and users.

2. **Reset the service processor so that the new property value can take effect.**

▼ To Reset the Service Processor Settings to Factory Default Values Using the Web Interface

1. **Log in to the ILOM web interface as Administrator (root) to open the web interface.**
2. **Select Maintenance --> Configuration Management.**
3. **Select a Reset Defaults value:**
   - None – Make no changes.
   - All (including users) – Reset (clear) all configurations and users.
4. **Click Reset Defaults.**

Displaying Console History

This section describes displaying the host server console output buffer.

▼ To Display Console History

The host console buffer can contain up to 1 Mbyte of buffered host console output. The host will send console output when powering on and running the host Power-On Self-Test (POST) diagnostics. The host can also send console output during the

OpenBoot and Solaris boot phase; however, this output can also be directed to the Remote Console (remote KVMS). See Chapter 5 for more information about configuring OpenBoot to send boot output to the Remote Console.

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

Note – You must have Administrator level user permission to use this command.

- **At the -> prompt, type the following commands:**

```
-> set /SP/console/history property=option [...]
-> show /SP/console/history
```

where *property* can be one of the following:

- `line_count` – The value for *option* must fall within the range from `1` to `2048` lines. Specify `""` for an unlimited number of lines, the default.
- `pause_count` – The value for *option* indicates the number of lines to display before pausing. The value can be either a positive integer or `""` for an infinite number of lines, the default.
- `start_from` – Applies only if the `line_count` property has also been set. The value for *option* can be one of these:
  - `end` – The most recent (last) *line_count* lines in the buffer (default).
  - `beginning` – The first *line_count* lines in the buffer.

Note – Timestamps recorded in the log represent the time on the Host Server, as printed by POST or Solaris running on the Host. These times might differ from the time and date on the ILOM SP. Solaris times are printed in the local timezone, while ILOM time is always in UTC (Coordinated Universal Time).

Modifying Console Escape Characters

▼ To Change Console Escape Characters Using the CLI

Use the `/SP/console escapechars` property to change the escape character sequence to switch from a system console session back to ILOM.

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

```
-> set /SP/console escapechars=xx
```

where *xx* are any printable characters.

The sequence is limited to two characters. The default value is `#.` (Hash-Period). The sequence can be customized.

Note – Changing the escape character does not take effect in a currently active console session.

Changing Configuration Policy Settings

▼ To Disable or Re-Enable Backup of the User Database Using the CLI

The `/SP/policy BACKUP_USER_DATA` property specifies whether the local user database on ILOM (that is, user, password, and permission information) should be backed up. When this property is set to `enabled`, this data is backed up on the removable system configuration card (SCC PROM) on the system.

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

```
-> set /SP/policy BACKUP_USER_DATA=value
```

where *value* can be one of the following:

- `enabled` – Backs up the user database to the SCC.
- `disabled` – No backup.

The default value is `enabled`.

For example, if you want the local user database on ILOM to be backed up, type the following command:

```
-> set /SP/policy BACKUP_USER_DATA=enabled
```

▼ To Disable or Re-Enable Powering On the Host Server Using the CLI

Use the `/SP/policy HOST_LAST_POWER_STATE` property to control the behavior of the server module after an unexpected power outage. When external power is restored, the ILOM service processor starts to run automatically. Normally, the host power is not turned on until you use ILOM to turn it on.

ILOM records the current power state of the server in non-volatile storage. If the `HOST_LAST_POWER_STATE` policy is enabled, ILOM can restore the host to the previous power state. This policy 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 `/SP/policy HOST_LAST_POWER_STATE` property is set to `disabled`, the host server remains off when power is restored. If the `/SP/policy HOST_LAST_POWER_STATE` property is set to `enabled`, the host server restarts when the power is restored.

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

```
-> set /SP/policy HOST_LAST_POWER_STATE=value
```

Where *value* can be one of the following:

- `enabled` – When power is restored, returns the server to the state it was in before the power was removed.
- `disabled` – Keeps the server off when power is applied.

The default value is `disabled`.

If you enable this property, you should also configure `/SP/policy HOST_POWER_ON_DELAY`. For further information, see "To Disable or Re-Enable Power-On Delay Using the CLI" on page 24.

You can use `/SP/policy HOST_AUTO_POWER_ON` to power on the host automatically when the service processor has been booted. If this policy is set to `enabled`, the service processor sets `HOST_LAST_POWER_STATE` to `disabled`. Refer to "To Disable or Re-Enable Automatic Host Power-On Using the CLI" on page 24 for more information.

▼ To Disable or Re-Enable Power-On Delay Using the CLI

Use the `/SP/policy HOST_POWER_ON_DELAY` property to cause the server module to wait for a short time before powering on automatically. The delay is a random interval of one to five seconds. Delaying the powering on of the server helps minimize current surges on the main power source. This delay of powering on the server is important when multiple servers in racks power on after a power outage.

This property takes effect only if `/SP/policy HOST_LAST_POWER_STATE` is set to `enabled`. Refer to "To Disable or Re-Enable Powering On the Host Server Using the CLI" on page 23 for more information.

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

```
-> set /SP/policy HOST_POWER_ON_DELAY=value
```

where *value* can be:

- `enabled`
- `disabled`

The default value is `disabled`.

▼ To Disable or Re-Enable Automatic Host Power-On Using the CLI

Use the `/SP/policy HOST_AUTO_POWER_ON` property to set whether the server module powers on automatically when power is applied.

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

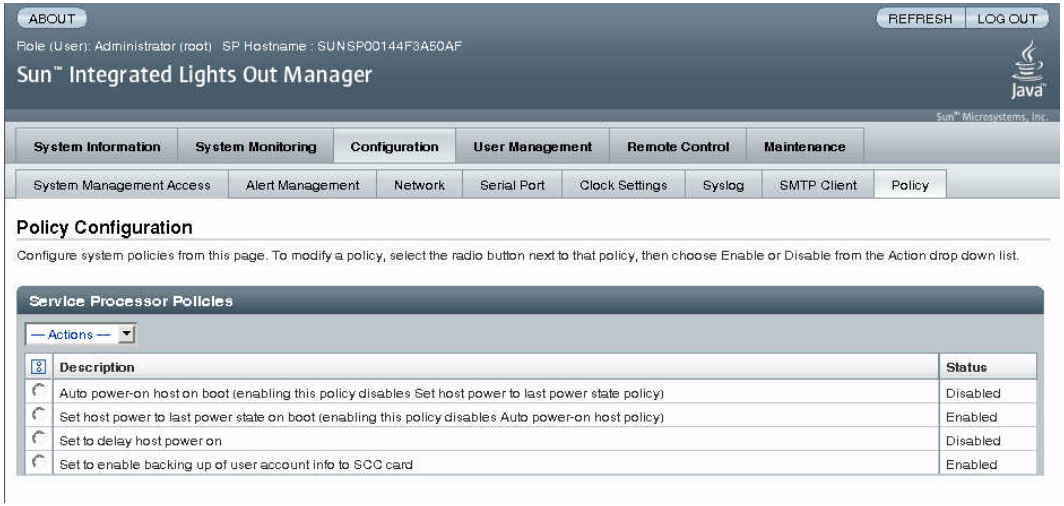
```
-> set /SP/policy HOST_AUTO_POWER_ON=value
```

where *value* can be:

- `enabled` – The server module powers on automatically when power is applied. If this property is set to enabled, the service processor sets `HOST_LAST_POWER_STATE` to disabled. Refer to "To Disable or Re-Enable Powering On the Host Server Using the CLI" on page 23 for more information.
- `disabled` – You must issue an ILOM or ALOM CMT command to power on the server module.

The default value is `disabled`.

▼ To Manage Configuration Policy Settings Using the Web Interface



1. **Log into the ILOM web interface as Administrator (root) to open the web interface.**
2. **Select Configuration --> Policy.**
3. **Click the Policy radio button of the policy you want to change.**
4. **Select an Action value to apply the Action (enable or disable) you have chosen.**

Managing Power Usage and Monitoring Power Consumption

This section describes how to use power management interfaces to manage power usage and to monitor power consumption.

Power Management Interfaces

Power management interfaces enable you to configure and display the power management policy of the system. You use power management policies to manage power usage based on user requirements. Power policies enable you to optimize power usage to match system requirements.

Note – An SNMP MIB (PM-ILOM-MIB) is available to support power management software.

Power Management Terminology

TABLE 3-1 defines the terminology used in power management.

TABLE 3-1 Power Management Terms

Term	Definition
Actual power	The input power measured in watts. This is the actual power consumed by all the power supplies in the system.

TABLE 3-1 Power Management Terms *(Continued)*

Term	Definition
Permitted power	The maximum power that the server will permit to be used at any time.
Available power	The input power capacity in watts. For server modules, available power is the amount of power available to the server module from the chassis.
Power policy	The setting that governs system power usage at any point in time. Four power policies are supported: Performance, Elastic, Regulated, and Siesta. The characteristics of each policy setting are as follows: • **Performance:** The system is allowed to use all the power that is available. • **Elastic:** The system power usage is adapted to the current utilization level. For example, power up or down just enough system components to keep relative utilization at 70% at all times, even if workload fluctuates. • **Regulated:** N/A • **Siesta:** N/A

▼ To View Power Management Properties (CLI)

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

```
-> show /SP/powermgmt
```

For example:

```
-> show /SP/powermgmt

 /SP/powermgmt
    Targets:

    Properties:
        actual_power = 131
        permitted_power = 1000
        available_power = 1000
        control = local
        policy = performance
        regulated_budget = (none)
        elastic_budget = (none)

    Commands:
        cd
        set
        show
```

where

- `actual_power` displays the input power (in watts) consumed by all power supplies in the system.
- `permitted_power` displays the maximum power consumption (in watts) expected.
- `available_power` displays the input power capacity (in watts) that is available to system components.

▼ To View the Total Power Consumed by the System (CLI)

The value of `/SYS/VPS` is equivalent to the value of the following command: `show /SP/powermgmt actual_power`

The `/SP/powermgt actual_power` property is the same as `/SYS/VPS` in that `/SYS/VPS` is a sensor that has a threshold and `actual_power` is just the value returned by the sensor.

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

```
-> show /SYS/VPS
```

For example:

```
-> show /SYS/VPS

 /SYS/VPS
    Targets:

    Properties:
        type = Power Unit
        class = Threshold Sensor
        value = 202 Watts
        upper_nonrecov_threshold = 780.00 Watts
        upper_critical_threshold = 705.00 Watts
        upper_noncritical_threshold = 625.00 Watts
        lower_noncritical_threshold = N/A
        lower_critical_threshold = N/A
        lower_nonrecov_threshold = N/A

    Commands:
        cd
        show
```

▼ To View Total Available Power (CLI)

This interface enables you to view available power.

The system contains one property, `available_power`. The property supports the `show` command and returns the value `<input available power in watts>`.

- **Type the `show` command to display the available power.**

  For example:

```
-> show /SP/powermgmt available_power
```

To Monitor Permitted Power Consumption (CLI)

This interface enables you to view permitted power consumption. The permitted power consumption is the maximum input power the server guarantees it will consume at any instant. This value cannot be changed directly, but can change based on the power policy and budget, and chassis available power.

The system contains one property, `permitted_power`. This property supports the `show` command and returns the value `<maximum permitted power consumption in watts>`.

- **Type the `show` command to display the permitted power consumption.**

  For example:

```
-> show /SP/powermgmt permitted_power
```

Using the Power Consumption Control Interfaces

The following section describes how to monitor and control available power and set power consumption configuration parameters.

This interface enables you to set and monitor the power policy of the system. The Power Policy setting is saved across reboots.

The system contains one property, `policy`. This property supports the `show` and `set` commands. Two power policies are supported, performance and elastic. (Regulated and Siesta policies are not supported currently.) For a description of each of these values, see the definition of Power Policy in TABLE 3-1.

▼ To Set the Power Policy (CLI)

- **Type the `set` command to set the power policy:**

  For example, set the power policy to performance:

```
-> set /SP/powermgmt policy=performance
```

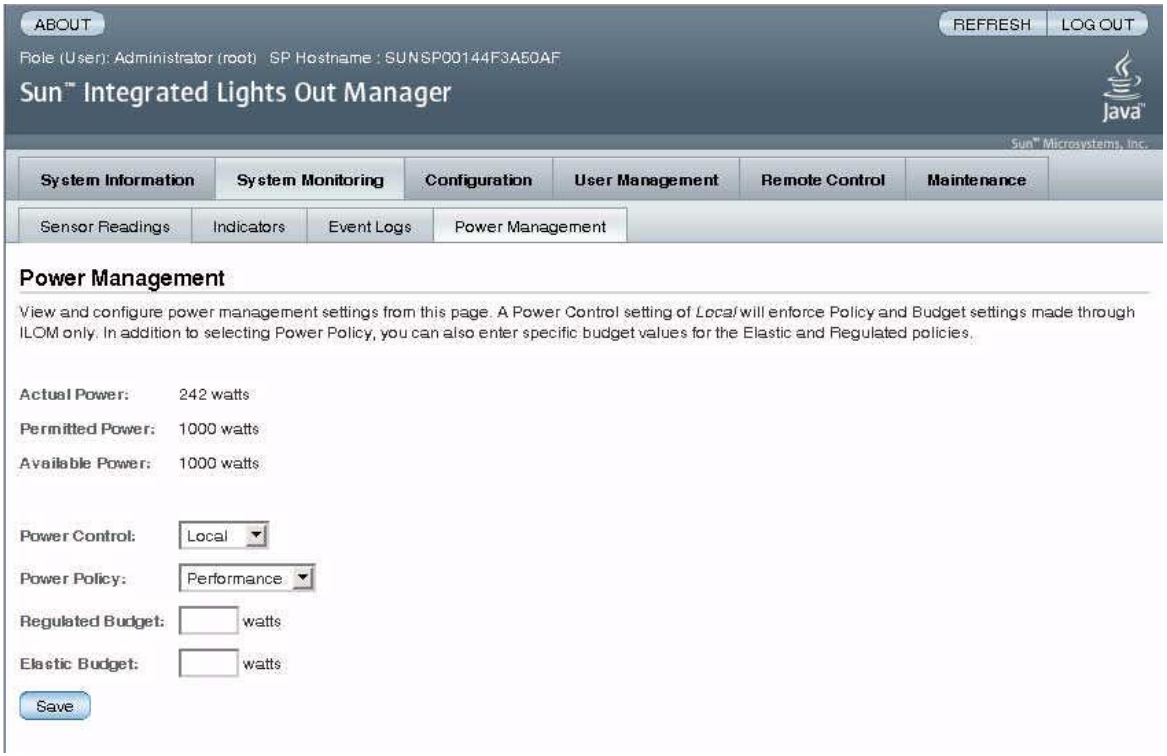
▼ To View the Power Policy (CLI)

- **Type the `show` command to display the power policy:**

  For example:

```
-> show /SP/powermgmt policy
```

▼ To View Power Management Properties (Browser Interface)



1. **Log in to the ILOM web interface as Administrator (`root`) to open the web interface.**
2. **Select System Monitoring -> Power Management.**
3. **View the Actual Power consumption.**
4. **View the Permitted Power consumption.**
5. **View the Available Power.**
6. **Select the Power Control.**
7. **Select the Power Policy.**

Note – Elastic and Regulated policy values are not supported currently.

Managing Network Access

▼ To Disable or Re-Enable Network Access to the SP (CLI)

Use the `/SP/network state` property to enable or disable the service processor's network interface.

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

```
-> set /SP/network state=value
```

where *value* can be:

- `enabled` (the default)
- `disabled`

▼ To Display the DHCP Server's IP Address (CLI)

To display the IP address of the DHCP server that provided the dynamic IP address requested by the service processor, view the `dhcp_server_ip` property. To see the `dhcp_server_ip` property, use the following procedure.

- **Type** `show /SP/network`

  For example:

```
-> show /SP/network

  /SP/network
     Targets:

     Properties:
         commitpending = (Cannot show property)
         dhcp_server_ip = 10.8.31.5
         ipaddress = 10.8.31.188
         ipdiscovery = dhcp
         ipgateway = 10.8.31.248
         ipnetmask = 255.255.252.0
         macaddress = 00:14:4F:7E:83:4F
         pendingipaddress = 10.8.31.188
         pendingipdiscovery = dhcp
         pendingipgateway = 10.8.31.248
         pendingipnetmask = 255.255.252.0
         state = enabled

     Commands:
         cd
         set
         show
```

Managing SSH Server Settings

▼ To Change the Type of SSH Keys Using the CLI

Use the `set /SP/services/ssh generate_new_key_type` command to change the type of Secure Shell (SSH) host keys generated on your server. After changing the type, you must use the command `set /SP/services/ssh generate_new_key_action` to generate a new set of keys of the new type.

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

```
-> set /SP/services/ssh generate_new_key_type=value
```

where *value* can be `rsa` or `dsa`.

▼ To Generate a New Set of SSH Keys Using the CLI

Use the `set /SP/services/ssh generate_new_key_action` command to generate a new set of Secure Shell (SSH) host keys.

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

```
-> set /SP/services/ssh generate_new_key_action=true
```

▼ To Restart the SSH Server Using the CLI

Use the `set /SP/services/ssh restart_sshd_action` command to restart the SSH server after you have generated new host keys using the `set /SP/services/ssh generate_new_key_action` command. This reloads the keys into the server's dedicated data structure in memory.

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

```
-> set /SP/services/ssh restart_sshd_action=true
```

▼ To Enable or Disable the SSH Service Using the CLI

Use the `/SP/services/ssh state` property with the `set` command to enable or disable the SSH service. If the SSH service has been disabled, you can re-enable it through the serial management port (SER MGT) using the ILOM web interface.

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

```
-> set /SP/services/ssh state=value
```

where *value* can be:

- `enabled`
- `disabled`

The default value is `enabled`.

▼ To Manage SSH Server Settings Using the Web Interface

1. **Log in to the ILOM web interface as Administrator (`root`) to open the web interface.**
2. **Select Configuration --> SSH Server Settings.**
3. **Select an action from the SSH Server pulldown menu:**
   - Enable the SSH server
   - Disable the SSH server
   - Restart the SSH server
4. **Click Generate RSA Key or click Generate DSA Key to generate a new key type and a new key.**

   If you have generated a new key, you must restart the SSH server for the new key to take effect.

Note – When the SSH server is restarted or disabled, any CLI sessions running over SSH will be terminated immediately.

ABOUT | REFRESH | LOG OUT

Role (User): Administrator (root) SP Hostname : SUNSP00144F3A50AF

Sun™ Integrated Lights Out Manager

System Information | System Monitoring | Configuration | User Management | Remote Control | Maintenance

System Management Access | Alert Management | Network | Serial Port | Clock Settings | Syslog | SMTP Client | Policy

Web Server | SNMP | SSL Certificate | SSH Server

SSH Server Settings

Configure Secure Shell server access and key generation. Newly generated keys are not used until the SSH server is restarted. When the SSH server is restarted or disabled, any CLI sessions running over SSH will be immediately terminated.

SSH Server: Enabled

RSA Key: Generate RSA Key

RSA Fingerprint: 27:ee:11:de:75:e6:a6:68:86:7a:1e:51:04:dd:ad:91

RSA Key Length: 1024 bits

RSA Public Key:


```
AAAAB3NzaC1yc2EAAAABIwAAAIEAvE15ybGpgxuXegtGYcD3
Z5JvaNhIE5+28UzYtZ2g8p1861MKXKKOGTE2kox3N6OOCeIj
2mlb78VT8HbtFxunT1HPeefByp+7ICao45vZd0ibA3Q8BYwW
BKYl3x3n3xfvYQdRhefPI19aHsIMPMz5Bft/qjeU39VlI29F
IwohaFk=
```


DSA Key: Generate DSA Key

DSA Fingerprint: 64:85:8b:da:4a:60:7d:21:7a:cd:42:ea:38:6f:84:23

DSA Key Length: 1024 bits

DSA Public Key:


```
AAAAB3NzaC1kc3MAAACBAJGCdadyTVRivk4CaBkjDjNSJKSh
SXqNDvScdNqVEUsgn7+CDgi6eLNP2xVqbTUivpSN7Z0iJHO7
lO6jY/+Bej5or5Cv3+vIAhjIKQzJKLNGFOd4RGReelMbD5Bl
u5HGhlqYQah/8XppCOS021ts/560kK5n7tfldf0qd2kwEknb
AAAAFQDyEaDDlXbv8U7RH76uWZpZH9hIawAAAIA74ZwEArkr
M3UfPkU7ZGDNuOTgyXqG5FhTUY+TNrqrpEXyPz/qQBeDlcDl
YU2OsJ6C9h7kSt+VxXAAcDiPY6CTXXA187Y6zlnToOXh7RD8
40kHWQRUTk7qKZEFf7RR/Q5Q0Xa2g5yA6noG+SjiCNzKQxWX
GGhs3IMGgXynkApE2gAAAIEAheg6Al6Ji6WiZlV6GztHZK+l
pxhhSDNvreqC3l6O3ssyLrlgiieF7po3JFSCmBDC+mRBa0Bo
swNoRzlkRtuuOFTpLz+s6ZqEDfYjkWw9/iylYi+f9deDzkBg
0BjYUG3BvOdgFqgSQgwJiTkkTA/Z76a0Ngp40R+YiBQ5Kkqc
EBc=
```

Monitoring Active System Faults

▼ To Display Active System Faults

- **At the ILOM CLI prompt (->), type the `show faulty` command.**

  The `show faulty` command is a shortcut for the following ILOM command string:

```
-> show -o table -level all /SP/faultmgmt
```

  The shortcut produces the same output as the longer command string, displaying all active faults in the system in a concise, tabular format. Sample output:

```
-> show faulty
Target            | Property    | Value
------------------+-------------+--------------------
/SP/faultmgmt/0   | fru         | /SYS/MB
/SP/faultmgmt/0   | timestamp   | Jan 16 12:53:00
/SP/faultmgmt/0/  | sunw-msg-id | NXGE-8000-0U
faults/0          |             |
/SP/faultmgmt/0/  | uuid        | e19f07a5-580e-4ea0-ed6a-f663aa61
faults/0          |             |
/SP/faultmgmt/0/  | timestamp   | Jan 16 12:53:00
faults/0
```

CHAPTER 4

Managing Virtual Keyswitch Settings

This chapter describes ILOM properties available on Sun Blade T6340 server modules that augment the array of properties that are common to ILOM on other platforms. In particular, this chapter covers properties in the `/SYS` namespace using the CLI and the web interface.

▼ To Control the Virtual Keyswitch Using the CLI

Use the `/SYS setkeyswitch_state` property to control the position of the virtual keyswitch.

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

```
-> set /SYS keyswitch_state=value
```

TABLE 4-1 lists the possible values for the `setkeyswitch_state` property. The default value is `normal`.

TABLE 4-1 `keyswitch_state` Values

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 preset values of diagnostic properties (`/HOST/diag level=max`, `/HOST/diag mode=normal`, `/HOST/diag verbosity=max`) to provide thorough fault coverage. This option overrides the values of diagnostic properties that you might have set.
`locked`	The system can power itself on. However, you are prohibited from updating any of the flash devices or setting `/HOST send_break_action=break`.

▼ To Control the Virtual Keyswitch Using the Web Interface

You can use the web interface to control the virtual keyswitch position of the system.

1. **Log in to the web interface as administrator (root) to open the web interface.**
2. **Select Remote Control --> Keyswitch.**
3. **Select the Keyswitch state value.**
4. **Click Save.**

Monitoring Component Status

▼ To Display Component Status

- **Type the** `show components` **command.**

  The show components command is a shortcut for the following ILOM command string:

```
-> show -o table -level all /SYS component_state
```

  The shortcut produces the same output as the longer command string, restricting the table output to a single property below each target. Sample output:

```
-> show components
Target     | Property         | Value
----------+-----------------+--------------
/SYS/FRU1 | component_state | Enabled
/SYS/FRU2 | component_state | Enabled
/SYS/FRU3 | component_state | Enabled
```

CHAPTER 5

Using the Remote Console

Sun ILOM Remote Console is a Java application that allows you to remotely redirect and control the following devices on the host server:

- Keyboard
- Video console display
- Mouse devices
- Storage devices or images (CD/DVD)

(The group of devices is commonly abbreviated as KVMS.) Remote Console is supported on Sun Blade T6340 server modules. Connection by Remote Console corresponds with item 2 in FIGURE 5-1. For more information about connection options for your Sun Blade T6340 server module depicted in FIGURE 5-1, refer to the *Sun Blade T6340 Server Module Getting Started Guide* and *Sun Blade T6340 Server Module Installation and Administration Guide*.

Sun ILOM Remote Console is documented for Sun x64-based servers in the *Sun Integrated Lights Out Manager 2.0 User's Guide* (Chapter 12, "Remote Management of x64 Servers Using the Sun ILOM Remote Console"). Much of the information in the user's guide is applicable for Sun Blade T6340 server modules. This chapter describes differences in using Remote Console with Sun Blade T6340 server modules.

FIGURE 5-1 Connection Options for Sun Blade T6340 Server Modules

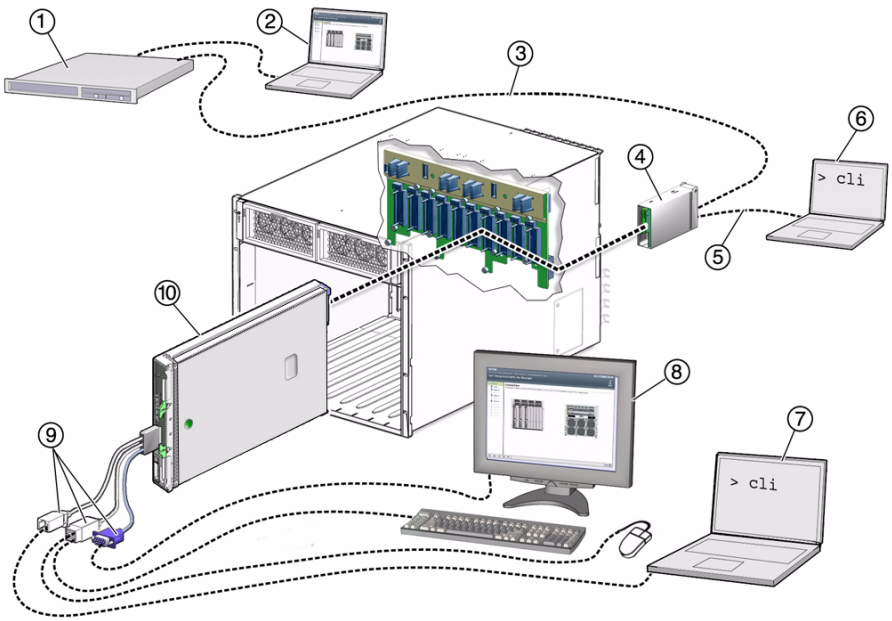


Figure Legend

1	Server (local or remote)	**6**	Computer connected to CMM RJ-45 serial connector
2	Computer connected to RJ-45 Ethernet (remote ILOM Remote Console connection)	**7**	Computer connected to dongle cable RJ-45 serial connector
3	Ethernet cable connected to RJ-45 Ethernet connector on the chassis management module (CMM) (NET MGMT 0)	**8**	Keyboard, video monitor, mouse (local KVM)
4	CMM with two connectors	**9**	Dongle cable with one RJ-45 serial, two USB 2 connectors and one HD15-pin connector (VGA)
5	RJ-45 cable connected to CMM serial port (SER MGT)	**10**	Sun Blade T6340 server module with service processor (SP)

Before you can use Remote Console with a Sun Blade T6340 server module, you must configure the host:

- If you want to work remotely with OpenBoot output and the `ok` prompt, refer to "Configuring the Host for Using Remote Console With OpenBoot" on page 45.
- If you want to work remotely with Solaris, refer to "Configuring the Host for Using Remote Console With Solaris" on page 49.

Configuring the Host for Using Remote Console With OpenBoot

To use OpenBoot with Remote Console, you must set the OpenBoot variables input-device and output-device to appropriate values. The default value for these variables is virtual-console. This virtual-console value is the textual stream console that is sent to the ILOM SP. You can change the OpenBoot input-device and output-device settings so that the ILOM SP textual console displays only the Power-On Self-Test (POST) output, but not OpenBoot output, the ok prompt, or the Solaris boot output.

Caution – You must be careful when setting OpenBoot input and output variables. If you set them to devices that are not consistently available, for example, you will not be able to see output or type at the `ok` prompt when the devices are not available. In this case, you will need to reset the value of both variables to the default. Refer to "Resetting the Variables to the Defaults Using ILOM" on page 47 for more information.

At the OpenBoot `ok` prompt or in Solaris, use one of the following procedures to change the input and output device settings.

▼ To Configure the Host at the OpenBoot Prompt

1. **Establish a local connection to the default console on the server module.**

   Refer to the *Sun Blade T6340 Server Module Installation and Administration Guide* for information about establishing a local connection.

   To use the default console, the values of OpenBoot `input-device` and `output-device` variables must be set to the default value, `virtual-console`.

2. **Go to the OpenBoot `ok` prompt.**

- **If you see the ILOM prompt (`->`), you are on the service processor, not the system console. Start the system console:**

```
-> start /SP/console
Are you sure you want to start /SP/console (y/n)? y

Serial console started. To stop, type #.
```

- **If you see the `ok` prompt in the console, go to Step 3.**

- **If the Solaris OS is running, either configure the host in Solaris OS or bring the OS down.**

  If Solaris OS is running, you will see a Solaris prompt. You can use the procedure "To Configure the Host in Solaris" on page 47.

  If you prefer configure the host at the `ok` prompt, you will have to bring down Solaris to access the `ok` prompt. The preferred method of reaching the `ok` prompt is to shut down the operating system by typing an appropriate command (for example, the `init` or `uadmin` command) as described in Solaris system administration documentation.

  For example, if you type `init 0` at the Solaris prompt, the system gradually takes you to the `ok` prompt:

```
# init 0
```

3. **At the OpenBoot `ok` prompt, type:**

```
ok setenv output-device rscreen
ok setenv input-device rkeyboard
```

Note – The `rkeyboard` and `rscreen` aliases are defined with appropriate parameters for Sun Blade T6340 servers. These aliases are not generally available or appropriate for all platforms.

---

4. **Activate the change by using the `reset-all` command.**

   The console will no longer provide output.

5. **Exit the console to return to the ILOM SP, using the ILOM escape sequence:**

```
ok #.
```

   The default ILOM escape sequence is `#.` (hash period).

6. **You can now launch the ILOM Remote Console from the web interface.**

   Refer to "Configuring ILOM for Remote Management" on page 49 for more information.

7. **If you want to stop using Remote Console at a later time, change the values of the variables accordingly.**

   The default value for both variables is `virtual-console`. For more information about setting these variables for available connection methods, refer to the *Sun Blade T6340 Server Module Installation and Administration Guide*.

▼ To Configure the Host in Solaris

1. **Become root, then type:**

```
# eeprom output-device=rscreen
# eeprom input-device=rkeyboard
```

2. **Activate the change by using the `reboot` command.**

   The console will no longer provide output.

3. **Exit the console to return to the ILOM SP, using the ILOM escape sequence:**

```
# #.
```

   The default ILOM escape sequence is `#.` (hash period).

4. **You can now launch the ILOM Remote Console from the web interface.**

   Refer to "Configuring ILOM for Remote Management" on page 49 for more information.

5. **If you want to stop using Remote Console at a later time, change the values of the variables accordingly.**

   The default value for both variables is `virtual-console`. For more information about setting these variables for available connection methods, refer to the *Sun Blade T6340 Server Module Installation and Administration Guide*.

Resetting the Variables to the Defaults Using ILOM

If you are unable to access a Solaris OS or OpenBoot ok prompt, you can reset the variables to their default value, `virtual-console`. After the variables have been reset, you can access the prompts again from the default console. Using ILOM, you can reset only the `output-device` and `input-device` variables, or you can reset all the OpenBoot NVRAM variables.

▼ To Reset the `output-device` and `input-device` Variables to Factory Default Using ILOM

To reset only the `output-device` and `input-device` variables to the default value, you must use a bootmode script. Refer to the section "Managing Boot Mode" on page 3 for general instructions.

1. **Reset the variables.**
   - **Using the CLI:** Follow the procedure "To Manage the Host Boot Mode Script Using the CLI" on page 4, using the following script:

```
-> set /HOST/bootmode script="set-default input-device set-default
output-device"
```

   - **Using the web interface:** Follow the procedure "To Change Boot Mode Configuration Settings Using the Web Interface" on page 6.

     In the Script field, paste in the following bootmode script:

```
"set-default input-device set-default output-device"
```

2. **Power cycle the host:**

```
-> stop /SYS
```

```
-> start /SYS
```

3. **Ensure that the host is up at OpenBoot:**

```
-> show /HOST
```

4. **Power cycle the host again.**

   (See Step 2.) The variables are now set to the default value `virtual-console`, and you can use the default console.

▼ To Reset All OpenBoot NVRAM Variables to Factory Defaults Using ILOM

Refer to the section "Managing Boot Mode" on page 3 for general instructions.

- **To reset the variables using the CLI, follow the procedure** "To Change the Host Boot Mode Behavior at Reset Using the CLI" on page 5.
- **To reset the variables using the web interface, follow the procedure** "To Change Boot Mode Configuration Settings Using the Web Interface" on page 6.

  In the State field, choose Reset NVRAM.

Configuring the Host for Using Remote Console With Solaris

▼ To Configure the Host in Solaris

- **Set the remote video resolution.**

  The remote video resolution supports only 1024x768x75.

  a. In Solaris, become root, then type:

```
# fbconfig -res 1024x768x75
```

  b. Activate the change by logging out, then logging back in.

Configuring ILOM for Remote Management

As documented in the *Sun Integrated Lights Out Manager 2.0 User's Guide*, you must follow these steps to configure ILOM for remote management:

1. Use the ILOM web interface to connect to the target SP or CMM.
2. Configure the settings in the Remote Control tab.

(Refer to the section "Launch and Configure ILOM for Remote Management" in Chapter 12 of the user's guide.)

For Sun Blade T6340 server modules, the Remote Control settings for the following tabs are configured as described in the user's guide:

- Redirection
- Remote Power Control
- Mouse Mode Settings (SP only)

These settings, not described in the user's guide, are described elsewhere in this document:

- Host Control – "To View and Configure Host Control Features Using the Web Interface" on page 9
- Boot Mode Settings – "To Change Boot Mode Configuration Settings Using the Web Interface" on page 6
- Keyswitch – Chapter 4, especially "To Control the Virtual Keyswitch Using the Web Interface" on page 40

The Diagnostics settings are not supported on Sun Blade T6340 server modules.

APPENDIX **A**

IPMI Sensor Reference

Your server module includes a number of IPMI-compliant sensors and indicators. Sensors measure environmental values, such as voltages and temperature ranges, and detect when components are installed and removed. Indicators, such as Light-Emitting Diodes (LEDs), notify you of important server conditions, such as when service is required.

The IPMI interface limits sensor names to 16 characters. Sensor names must sometimes be shortened to fit this character limit. For example, `/SYS` is sometimes removed from the beginning of the path, or `CMP0` might be abbreviated to `P0`.

This appendix contains two tables:

- TABLE A-1 shows the sensors on your server module.
- TABLE A-2 shows the indicators on your server module.

TABLE A-1 Sensors on Sun Blade T6340 Server Modules

IPMI Name	Full Path	Description
/SYS/SLOTID	/SYS/SLOTID	Identifier of the slot where the blade is installed
/MB/V_+3V3_STBY	/SYS/MB/V_+3V3_STBY	3.3V standby voltage threshold sensor
/MB/V+1V0	/SYS/MB/V+1V0	MB voltage sensor
/MB/V+1V2	/SYS/MB/V+1V2	MB voltage sensor
/MB/V+1V5IO	/SYS/MB/V+1V5IO	MB voltage sensor
/MB/V+1V8	/SYS/MB/V+1V8	MB voltage sensor
/MB/V+3V3	/SYS/MB/V+3V3	MB voltage sensor
/MB/V+5V	/SYS/MB/V+5V	MB voltage sensor
/MB/V+12V	/SYS/MB/V+12V	MB voltage sensor

TABLE A-1 Sensors on Sun Blade T6340 Server Modules *(Continued)*

IPMI Name	Full Path	Description
/MB/I+12V	/SYS/MB/I+12V	MB 12V current sensor, in Amps.
/SP/V_VBAT	/SYS/SP/V_VBAT	Battery voltage threshold sensor
/SYS/VPS	/SYS/VPS	Real-time blade power consumption, in Watts
/MB/V_VDDIO	/SYS/MB/V_VDDIO	I/O voltage threshold sensor
/MB/CMP*n*/V_+1V1	/SYS/MB/CMP*n*/V_+1V1	CMP (0–1) CPU core voltage sensor.
/MB/CMP*n*/V_+1V5	/SYS/MB/CMP*n*/V_+1V5	CMP (0–1) CPU core voltage sensor.
/MB/CMP*n*/V_+1V8	/SYS/MB/CMP*n*/V_+1V8	CMP (0–1) CPU core voltage sensor.
/MB/CMP*n*/I_+1V1	/SYS/MB/CMP*n*/I_+1V1	CMP (0–1) CPU current draw sensor, in Amps.
/MB/CMP*n*/I_+1V5	/SYS/MB/CMP*n*/I_+1V5	CMP (0–1) CPU current draw sensor, in Amps.
/MB/CMP*n*/I_+1V8	/SYS/MB/CMP*n*/I_+1V	CMP (0–1) CPU current draw sensor, in Amps.
/MB/CMP*n*/T_+1V1	/SYS/MB/CMP*n*/T_+1V1	CMP (0–1) temperature sensor for voltage regulators, in degrees Celsius.
/MB/CMP*n*/T_+1V5	/SYS/MB/CMP*n*/T_+1V5	CMP (0–1) temperature sensor for voltage regulators, in degrees Celsius.
/MB/CMP*n*/T_+1V8	/SYS/MB/CMP*n*/T_+1V8	CMP (0–1) temperature sensor for voltage regulators, in degrees Celsius.
/P*n*/BR*n*/CH*n*/D*n*/P	/SYS/MB/CMP*n*/BR*n*/CH*n*/D*n*/P	CMP (0–1) DIMM presence sensors defined by branch BR*n* (where *n* = 0 or 1), channel CH*n* (where *n* = 0 or 1), and DIMM D*n* (where *n* is an integer 0–3)
/MB/P*n*/CBUS_BT*n*	/SYS/MB/CMP*n*/CBUS_BIT*n*	CMP (0–1) CPU corner bus test point, for point CBUS_BT*n*, where *n* is an integer 0–11.

TABLE A-1 Sensors on Sun Blade T6340 Server Modules *(Continued)*

IPMI Name	Full Path	Description
/MB/CMP*n*/T_IN	/SYS/MB/CMP*n*/T_IN	CMP (0–1) temperature leading into the CPU, in degrees Celsius.
/MB/CMP*n*/T_TCORE	/SYS/MB/CMP*n*/T_TCORE	CMP (0–1) CPU temperature sensor at the top of the chip, in degrees Celsius.
/MB/CMP*n*/T_BCORE	/SYS/MB/CMP*n*/T_BCORE	CMP (0–1) CPU temperature sensor at the bottom of the chip, in degrees Celsius.
/P*n*/BR*n*/CH*n*/D*n*/T	/SYS/MB/CMP*n*/BR*n*/CH*n*/D*n*/T	CMP (0–1) temperature sensor (in degrees Celsius) for DIMM defined by branch BR*n* (where *n* = 0 or 1), channel CH*n* (where *n* = 0 or 1), and DIMM D*n* (where *n* is an integer 0–3).
/HDD*n*/PRSNT	/SYS/HDD*n*/PRSNT	Hard disk (0–1) presence sensors
/NEM*n*/PRSNT	/SYS/NEM*n*/PRSNT	Network Express Module (NEM) disk (0–1) presence sensors
/PS*n*/PRSNT	/SYS/PS*n*/PRSNT	PS (0–1) chassis component sensor
/FM*n*/PRSNT	/SYS/FM*n*/PRSNT	FM (0–5) chassis component sensor
/FM*n*/F*n*/TACH	/SYS/FM*n*/F*n*/TACH	FM (0–5) tachometer (in RPM) for F*n*, where *n* = 0 or 1.
/FM*n*/SERVICE	/SYS/FM*n*/SERVICE	FM (0–5) service sensor.
/PS*n*/VINOK*n*	/SYS/PS*n*/VINOK*n*	PS (0–1) sensor for VINOK*n*, where *n* = 0 or 1.
/PS*n*/PWROK*n*	/SYS/PS*n*/PWROK*n*	PS (0–1) sensor for PWROK*n*, where *n* = 0 or 1.
/PS*n*/FANOK	/SYS/PS*n*/FANOK	PS (0–1) fan OK sensor.
/PS*n*/TEMPOK	/SYS/PS*n*/TEMPOK	PS (0–1) temperature OK sensor.
/PS*n*/V12VOK*n*	/SYS/PS*n*/V12VOK*n*	PS (0–1) OK sensor for V12VOK*n*, where *n* = 0 or 1.

TABLE A-1 Sensors on Sun Blade T6340 Server Modules *(Continued)*

IPMI Name	Full Path	Description
/PS*n*/I12VOK*n*	/SYS/PS*n*/I12VOK*n*	PS (0–1) OK sensor for I12VOK*n*, where *n* = 0 or 1.
/MB/FEM/PRSNT	/SYS/MB/FEM/PRSNT	FEM presence sensor.
/MB/REM/PRSNT	/SYS/MB/REM/PRSNT	REM presence sensor.

TABLE A-2 Indicators on Sun Blade T6340 Server Modules

IPMI Name	Full Path	Description
/SYS/LOCATE	/SYS/LOCATE	Locate indicator
/SYS/ACT	/SYS/ACT	System power activity indicator
/SYS/SERVICE	/SYS/SERVICE	Service indicator
/HDD*n*/SERVICE	/SYS/HDD*n*/SERVICE	Hard disk (0–3) service indicator
/HDD*n*/OK2RM	/SYS/HDD*n*/OK2RM	Hard disk (0–3) OK-to-Remove indicator
/SYS/OK2RM	/SYS/OK2RM	Blade OK-to-Remove indicator
/P*n*/BR*n*/CH*n*/D*n*/S	/SYS/MB/CMP*n*/BR*n*/CH*n*/D*n*/SERVICE	Service Indicator for CMP (0–1) DIMM defined by branch BR*n* (where *n* = 0 or 1), channel CH*n* (where *n* = 0 or 1), and DIMM D*n* (where *n* is an integer 0–3)

APPENDIX **B**

ALOM CMT Compatibility Shell

ILOM supports some of the features of the ALOM CMT command-line interface (CLI) by means of a compatibility shell. There are significant differences between ILOM and ALOM CMT. This appendix describes those differences. This appendix includes the following topics:

Limits to Backward Compatibility

The backward compatibility shell supports some, but not all features of ALOM CMT. Some of the more significant differences between ILOM and ALOM CMT are described in this section.

Adding a Commit Step to Procedures That Configure ILOM Network Configuration Properties

In the original ALOM CMT environment, when changing the values of some ALOM CMT variables (such as network and serial port configuration variables), it was necessary to reset the service processor (called the system controller in ALOM CMT) before the changes took effect. By comparison, in ILOM it is not necessary to reset

the service processor to change the network configuration. However, if you want your changes to be retained after the next reset of the service processor, you must *commit* the changed values.

Caution – In ILOM, if you change the value of the property and reset the SP without committing the change, the new property setting will *not* be retained.

▼ To Commit a Change to a Network Configuration Property

1. **Change the value of the target network configuration property.**
2. **Use either the ALOM CMT command** `setsc netsc_commit true` **or the ILOM command** `set /SP/network commitpending=true` **to commit the change.**

   For example, set a static IP address using the ALOM CMT compatibility shell:

```
sc> setsc netsc_ipaddr xxx.xxx.xxx.xxx
sc> setsc netsc_commit true
```

   Set the same property using the ILOM CLI:

```
-> set /SP/network pendingipaddress=xxx.xxx.xxx.xxx
Set 'pendingipaddress' to 'xxx.xxx.xxx.xxx'
-> set /SP/network commitpending=true
Set 'commitpending' to 'true'
```

▼ To Commit a Change to a Serial Port Configuration Property

1. **Change the value of the target serial port configuration property.**
2. **Use either the ALOM CMT command** `setsc ser_commit true` **or the ILOM command** `set /SP/serial/external commitpending=true` **to commit the change.**

Refer to TABLE B-1 for a list of variables and corresponding properties.

TABLE B-1 ALOM CMT `commit` Variables and Comparable ILOM Properties

ALOM CMT Variable	Comparable ILOM Property
`netsc_commit`	`/SP/network commitpending`
`ser_commit`	`/SP/serial/external commitpending`

Creating an ALOM CMT Shell

Your server is configured to operate under an ILOM shell, by default. You can create an ALOM compatibility shell if you prefer to use commands that resemble ALOM CMT commands to administer your server.

▼ To Create an ALOM CMT Compatibility Shell

1. **Log on to the service processor as** `root`**.**

   When powered on for the first time, the SP boots to the ILOM login prompt. If you are logging on for the first time, refer to the *Sun Blade T6340 Server Module Installation and Administration Guide* for instructions.

```
XXXXXXXXXXXXXXXXXX login: root
Password:
Waiting for daemons to initialize...

Daemons ready

Integrated Lights Out Manager

Version 2.0.4.n

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Warning: password is set to factory default.
```

2. **Create a user named** `admin`**, then set the** `admin` **account role to** `Administrator` **and the CLI mode to** `alom`**.**

   If a user `admin` with the Administrator role has not yet been created, you can combine the create and set commands on a single line:

```
-> create /SP/users/admin role=Administrator cli_mode=alom
Creating user...
Enter new password: ********
Enter new password again: ********
Created /SP/users/admin
```

Note – The asterisks in the example will not appear when you enter your password.

If the user `admin` with the Administrator role already exists, you need only to change the CLI mode to `alom`:

```
-> set /SP/users/admin cli_mode=alom
Set 'cli_mode' to 'alom'
```

3. **Log out of the root account after you have finished creating the `admin` account:**

```
-> exit
```

You are returned to the ILOM login prompt.

4. **Log in to the ALOM CLI shell from the ILOM login prompt:**

```
SUNSPxxxxxxxxxxxx login: admin
Password:
Waiting for daemons to initialize...

Daemons ready

Sun(TM) Integrated Lights Out Manager

Version 2.0.4.X

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sc>
```

The `sc>` prompt indicates you are in the ALOM CMT compatibility shell.

▼ To Switch Between the ALOM CMT Shell and the Host Console

- To switch from the ALOM CMT shell to the host console, type:

```
SC> console
host>
```

- To switch from the console to the ALOM CMT shell, type hash-period:

```
host> #.
sc>
```

▼ To Return to the ILOM

1. **Log out of the ALOM CMT compatibility shell:**

```
sc> logout
```

   The ILOM login prompt is displayed.

2. **Then, log in to the ILOM CLI as usual, using an account other than the `admin` account (such as `root`).**

   The `admin` account cannot be used for the ILOM CLI as long as its CLI mode is set to the value `alom`.

In the ALOM CMT compatibility shell (with few exceptions), you can use commands that resemble the commands of ALOM CMT. Remember that the ALOM CMT compatibility shell is an ILOM interface. The comparisons between the ILOM CLI and the ALOM CMT compatibility CLI are described in "ILOM – ALOM CMT Command Comparison" on page 59. Refer also to the *Sun Blade T6340 Server Module Service Manual* for information about service-related ALOM CMT compatibility shell commands.

ILOM – ALOM CMT Command Comparison

TABLE B-2 compares the command sets of ALOM CMT and the default ILOM CLI. Only the supported ALOM CMT command options are listed. In some case, where ALOM CMT command-line arguments have no corresponding ILOM properties, those ALOM CMT arguments have been omitted. The command set of the ALOM CMT compatibility shell provides a close approximation of the equivalent

commands and arguments (where supported) in ALOM CMT. Refer also to the *Sun Blade T6340 Server Module Service Manual* for information about service-related ALOM CMT compatibility shell commands.

Note – By default, ALOM CMT commands display information in a terse format, offering more verbose output if a `-v` flag is supplied with the command. ILOM `show` commands do not have a terse output format. They always provide verbose output.

TABLE B-2 ALOM CMT Shell Commands by Function With Comparable ILOM Commands

ALOM CMT Command	Summary	Comparable ILOM Command
Configuration Commands		
`password`	Changes the login password of the current user.	`set /SP/users/username` *password*
`restartssh`	Restarts the SSH server so that new host keys generated by the `ssh-keygen` command are reloaded.	`set /SP/services/ssh restart_sshd_action=true`
`setdate` [[*mmdd*]*HHMM* | *mmddHHMM*[*cc*]*yy*][.*SS*]	Sets ALOM CMT date and time.	`set /SP/clock datetime=`*value*
`setdefaults [-a]`	Resets all ALOM CMT configuration parameters to their default values. The `-a` option resets the user information to the factory default (one `admin` account only).	`set /SP reset_to_defaults=[`*configuration*`|all]`
`setkeyswitch [normal|stby|diag|locked]`	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.	`set /SYS keyswitch_state=`*value*
`setsc` [*param*] [*value*]	Sets the specified ALOM CMT parameter to the assigned value.	`set` *target property=value*

TABLE B-2 ALOM CMT Shell Commands by Function With Comparable ILOM Commands *(Continued)*

ALOM CMT Command	Summary	Comparable ILOM Command
`setupsc`	Runs the interactive configuration script. This script configures the ALOM CMT configuration variables.	No equivalent in ILOM
`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.	`show /HOST`
`showfru`	Displays information about the field-replaceable units (FRUs) in a host server.	Use the ILOM `show [FRU]` command to display static FRU information. (For dynamic FRU information, use the ALOM CMT `showfru` command.)
`showusers`	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`.	`show -level all -o table /SP/sessions`
`showusers -g` *lines*	The `-g` option pauses the display after the number of lines you specify for *lines*.	No equivalent in ILOM for `-g` option.
`showhost`	Displays version information for host-side components.	`show /HOST`
`showhost` *version*	The *version* option displays the same information as the `showhost` command with no option.	
`showkeyswitch`	Displays status of virtual keyswitch.	`show /SYS keyswitch_state`
`showsc` [*parameter*]	Displays the current non-volatile read-only memory (NVRAM) configuration parameters.	`show` *target property*

TABLE B-2 ALOM CMT Shell Commands by Function With Comparable ILOM Commands *(Continued)*

ALOM CMT Command	Summary	Comparable ILOM Command
`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.	`show /SP/clock datetime`
`ssh-keygen -l`	Displays the fingerprint for the keys of the specified type.	`show /SP/services/ssh/keys rsa|dsa`
`ssh-keygen -r`	Generates secure shell (SSH) host keys.	`set /SP/services/ssh generate_new_key_action= true`
`ssh-keygen -t {rsa|dsa}`	Specifies the host key type on the SC or SP.	`set /SP/services/ssh generate_new_key_type= [rsa|dsa]`
`usershow` [*username*]	Displays a list of all user accounts, permission levels, and whether passwords are assigned.	`show /SP/users`
`useradd` *username*	Adds a user account.	`create /SP/users/`*username*
`userdel [-y]` *username*	Deletes a user account. The `-y` option enables you to skip the confirmation question.	`delete [-script] /SP/users/`*username*
`userpassword`[*username*]	Sets or changes a user password.	`set /SP/users/`*username* *password*
`userperm` [*username*] [`c`] [`u`] [`a`] [`r`]	Sets the permission level for a user account. **Note -** Setting any one of the permissions (`c`, `u`, `a`, or `r`) under the ALOM CMT compatibility shell sets all four of the permissions. This action corresponds with assigning the `Administrator` role in ILOM.	`set /SP/users/`*username* `role=`*permissions* (where *permissions* can be `Administrator` or `Operator`)

TABLE B-2 ALOM CMT Shell Commands by Function With Comparable ILOM Commands *(Continued)*

ALOM CMT Command	Summary	Comparable ILOM Command
Log Commands		
`showlogs -p [p|r] [-b` *lines*`|-e` *lines*`|-v] [-g` *lines*`]`	Displays the history of all events logged in the event log, or major and critical events in the event log. The `-p` option selects whether to display only major and critical events from the event log (r) or to display all the events from the event log (`p`). • `-g` *lines* specifies the number of lines to display before pausing. • `-e` *lines* displays *lines* lines from the end of the buffer. • `-b` *lines* displays *lines* lines from the beginning of the buffer. • `-v` displays the entire buffer.	`show /SP/logs/event/list`
`consolehistory` [`-b` *lines*`|-e` *lines*`|-v`] [`-g` *lines*]	Displays the host server console output buffers. The following options enable you to specify how the output is displayed: • `-g` *lines* specifies the number of lines to display before pausing. • `-e` *lines* displays *lines* lines from the end of the buffer. • `-b` *lines* displays *lines* lines from the beginning of the buffer. • `-v` displays the entire buffer.	`set /SP/console/history` *property=value* [`set /SP/console/history` *property=value*] [`set /SP/console/history` *property=value*] show `/SP/console/history` where *property* can be: • `line_count=`*lines* Default value is `""` (none), meaning there is no limit to the total number of lines retrieved from the buffer. • `pause_count=`*count* – Default value is `""` (none), meaning there is no limit to the count of lines displayed per pause. • `start_from=end|beginning` – Default value is `end`.

TABLE B-2 ALOM CMT Shell Commands by Function With Comparable ILOM Commands *(Continued)*

ALOM CMT Command	Summary	Comparable ILOM Command
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.	`show -o table -level all /SYS`
`showpower [-v]`	Displays power metrics for the host server.	`show /SP/powermgmt`
`shownetwork [-v]`	Displays the current network configuration information. The `-v` option shows additional information about your network, including information about your DHCP server.	`show /SP/network`
`console [-f]`	Connects to the host system console. In ALOM CMT, the `-f` option forces the console write lock from one user to another. In ILOM, the `-force` option terminates the console, permitting you to start a new console.	`start [-force] /SP/console`
`break [-D|-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.	`set /HOST send_break_action=[break|dumpcore]` `[start /SP/console]`

`bootmode [normal]`
`[reset_nvram]`
`[config=`*configname*`]`
`[bootscript=`*string*`]`
	Controls the host server OpenBoot PROM firmware method of booting.	`set /HOST/bootmode` *property=value*
		where *property* can be `state`, `config`, or `script`

TABLE B-2 ALOM CMT Shell Commands by Function With Comparable ILOM Commands *(Continued)*

ALOM CMT Command	Summary	Comparable ILOM Command
`flashupdate -s` *ipaddr* `-f` *pathname* [`-v`]	Downloads and updates system firmware (both host firmware and ILOM firmware). For ILOM, *ipaddr* must be a TFTP server. If DHCP is used, *ipaddr* can be replaced by the name of the TFTP host.	`load -source tftp://`*ipaddr*`/`*pathname*
`reset [-y] [-f] [-c]`	Generates a hardware reset on the host server. • The `-y` option enables you to skip the confirmation question. • The `-f` option forces a hardware reset. • The `-c` option starts the console.	`reset [-script] [-force] /SYS` `[start /SP/console]`

`reset -d [-n] [-y] [-f] [-c]`	• The `-d` option gracefully resets the control domain.
	• The `-n` option sets the `auto-boot` variable to `disable` (lasts for one reset).
	• The `-y` option enables you to skip the confirmation question.
	• The `-f` option forces a hardware reset.
	• The `-c` option starts the console.
		`[set /HOST/control/domain auto-boot=disable]`
		`reset [-script] [-force] /HOST/domain/control`
		`[start /SP/console]`

`powercycle [-y] [-f]`	`poweroff` followed by `poweron`. The `-f` option forces an immediate `poweroff`, otherwise the command attempts a graceful shutdown.	`stop [-script] [-force] /SYS` `start [-script] [-force] /SYS`

TABLE B-2 ALOM CMT Shell Commands by Function With Comparable ILOM Commands *(Continued)*

ALOM CMT Command	Summary	Comparable ILOM Command
`poweroff [-y] [-f]`	Removes the main power from the host server. ILOM attempts to shut the server down gracefully. The `-y` option enables you to skip the confirmation question. The `-f` option forces an immediate shutdown.	`stop [-script] [-force] /SYS`
`poweron`	Applies the main power to the host server or FRU.	`start /SYS`
`setlocator [on|off]`	Turns the Locator LED on the server on or off.	`set /SYS/LOCATE value=`*value*
`showfaults [-v]`	Displays current valid system faults.	`show faulty`
`clearfault` *UUID*	Manually repairs system faults.	`set /SYS/`*component* `clear_fault_action=true`
`showlocator`	Displays the current state of the Locator LED as either on or off.	`show /SYS/LOCATE`
`removeblade [-y]`	Pauses the service processor tasks and illuminates the blue OK to Remove LED, indicating that it is safe to remove the blade. The –y option enables you to skip the confirmation question.	`set /SYS prepare_to_remove_action=true`
`unremoveblade`	Turns off the OK to Remove LED and restores the service processor state.	`set /SYS return_to_service_action=true`
FRU Commands		
`setfru -c` *data*	The `-c` option enables you to store information (such as inventory codes) on all FRUs in a system.	`set /SYS customer_frudata=`*data*
`showfru [-g` *lines*`] [-s|-d] [`*FRU*`]`	Displays information about the FRUs in a host server.	`show [`*FRU*`]`

TABLE B-2 ALOM CMT Shell Commands by Function With Comparable ILOM Commands *(Continued)*

ALOM CMT Command	Summary	Comparable ILOM Command
`removefru [-y] [FRU]`	Prepares a FRU (for example, a power supply) for removal. The `-y` option enables you to skip the confirmation question.	`set /SYS/PS0 prepare_to_remove_action=true`
Automatic System Recovery (ASR) Commands		
`enablecomponent` *component*	Re-enables a component that has been disabled using the `disablecomponent` command.	`set /SYS/`*component* `component_state=enabled`
`disablecomponent` *component*	Disables a component.	`set /SYS/`*component* `component_state=disabled`
`showcomponent` *component*	Displays the target system component or all system components and their test status.	`show /SYS/`*component* `component_state` `show components`
`clearasrdb`	Removes all entries from the list of disabled components.	No equivalent in ILOM
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`
`resetsc [-y]`	Resets the service processor. The `-y` option enables you to skip the confirmation question.	`reset [-script] /SP`
`userclimode` *username shelltype*	Sets the type of shell for *username* to *shelltype*, where *shelltype* is `default` or `alom`.	`set /SP/users/`*username* `cli_mode=`*shelltype*
`logout`	Logs out from an ALOM CMT shell session and returns you to the ILOM CLI login prompt.	`exit`

ALOM CMT Variable – ILOM Property Comparison

TABLE B-3 displays ALOM CMT variables and the ILOM properties to which they can be compared. The comparison does not imply a one-to-one mapping. To understand the ILOM properties, it is necessary to view them in their own context, ILOM.

TABLE B-3 ALOM CMT Variables and Comparable ILOM Properties

ALOM CMT Variable	Comparable ILOM Property
diag_level	/HOST/diag level
diag_mode	/HOST/diag mode
diag_trigger	/HOST/diag trigger
diag_verbosity	/HOST/diag verbosity
if_connection	/SP/services/ssh state
if_emailalerts	/SP/clients/smtp state
if_network	/SP/network state
if_snmp	/SP/services/snmp
mgt_mailalert	/SP/alertmgmt/rules
mgt_mailhost	/SP/clients/smtp address
mgt_snmptraps	/SP/services/snmp v1|v2c|v3
mgt_traphost	/SP/alertmgmt/rules /SP/services/snmp port
netsc_dhcp	/SP/network pendingipdiscovery
netsc_commit	/SP/network commitpending
netsc_enetaddr	/SP/network macaddress
netsc_ipaddr	/SP/network pendingipaddress
netsc_ipgateway	/SP/network pendingipgateway
netsc_ipnetmask	/SP/network pendingipnetmask
sc_backupuserdata	/SP/*policy* BACKUP_USER_DATA
sc_clieventlevel	N/A
sc_cliprompt	N/A
sc_clitimeout	N/A

TABLE B-3 ALOM CMT Variables and Comparable ILOM Properties *(Continued)*

ALOM CMT Variable	Comparable ILOM Property
sc_clipasswdecho	N/A
sc_customerinfo	/SP system_identifier
sc_escapechars	/SP/console escapechars
sc_powerondelay	/SP/policy HOST_POWER_ON_DELAY
sc_powerstatememory	/SP/policy HOST_LAST_POWER_STATE
ser_baudrate	/SP/serial/external pendingspeed
ser_data	N/A
sys_autorestart	/HOST autorestart
sys_autorunonerror	/HOST autorunonerror
sys_eventlevel	N/A
sys_enetaddr	/HOST macaddress

APPENDIX C

Event Messages Available Through the ALOM Compatibility Shell

Event Message Overview

The firmware on the service processor (known in ALOM CMT as the SC or system controller) sends event messages to several destinations:

- Messages are sent to all logged-in users, based on the configuration of the `sc_clieventlevel` variable.
- Messages are recorded in the event log. View logged messages using the ALOM compatibility shell `showlogs` command.
- Messages recorded in the event log can be identified according to the severity of the event. If the severity of the event is major or critical, you can view the messages for those events using the ALOM compatibility shell `showlogs -p r` command. View *all* messages in the event log using the ALOM compatibility shell `showlogs -p p` command.
- 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.
- If the event represents a fault, the event message appears in the output of the ALOM compatibility shell `showfaults` command.
- 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.

Event Severity Levels

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

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

ALOM compatibility shell configuration parameters use these severity levels to determine which event messages are displayed.

Service Processor Usage Event Messages

TABLE C-1 displays usage event messages from the service processor (system controller).

TABLE C-1 System Controller Usage Event Messages

Severity	Message	Description
Critical	`Host has been powered off`	ALOM compatibility shell sends this message whenever the SC requests a host power off, including when a user types the `poweroff` command.
Critical	`Host has been powered off`	ALOM compatibility shell sends this message when the SC requires an immediate host power off, including when a user types the `poweroff -f` command.
Critical	`Host has been powered off`	ALOM compatibility shell 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.

TABLE C-1 System Controller Usage Event Messages *(Continued)*

Major	`Host has been powered on`	ALOM compatibility shell sends this message when the SC requests a host power on, either because of `sc_powerstatememory` or when a user types the `poweron` command.
Critical	`Host has been reset`	ALOM compatibility shell sends one of these messages when the SC requests a host reset, including when a user types the `reset` command.
Critical	`Host has been powered off`	
Major	`Host has been powered on`	
Critical	`Host System has Reset.`	ALOM compatibility shell sends this message when the SC detects that the host has reset. This message is followed immediately by the `Host has been powered off` event message because reset is implemented as a powercycle on these systems.
Minor	`"root : Set : object = /clock/datetime : value = "`*datetime*`": success`	ALOM compatibility shell sends this message when a user types the `setdate` command to modify the SC date or time.
Major	`Upgrade succeeded`	ALOM compatibility shell sends this message after the SC firmware has been reloaded after operation of the `flashupdate` command.
Minor	`"root : Set : object = /HOST/bootmode/state: value = "`*bootmode-value*`": success`	ALOM compatibility shell sends this message after a user changes the bootmode to normal using the `bootmode normal` command.
Minor	`"root : Set : object = /HOST/bootmode/state: value = "reset_nvram": success`	ALOM compatibility shell 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	`"root : Set : object = /HOST/bootmode/state: value = "`*text*`": success`	ALOM compatibility shell sends this message after a user changes the bootmode bootscript. The bootscript = "*text*" is the text of the bootscript provided by the user.

TABLE C-1 System Controller Usage Event Messages *(Continued)*

Minor	`Keyswitch position has been changed to keyswitch_position.`	ALOM compatibility shell sends this message after a user changes the keyswitch position with the `setkeyswitch` command. The *keyswitch_position* is the new keyswitch position.
Minor	`"user" : open session : object = /session/type: value = www/shell: success`	ALOM compatibility shell sends this message when users log in. The *username* is the name of the user who just logged in.
Minor	`"user" : close session : object = /session/type: value = www/shell: success`	ALOM compatibility shell sends this message when users log out. The *username* is the name of the user who just logged out.
Minor	`"root : Set: object = /HOST/send_break_action: value = dumpcore : success`	ALOM compatibility shell sends this message when an ALOM compatibility shell user sends a request to the host to dump core by typing the `break -D` command.
Critical	`Host Watchdog timeout.`	ALOM compatibility shell 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	`SP Request to Dump core Host due to Watchdog.`	ALOM compatibility shell 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	`SP Request to Reset Host due to Watchdog.`	ALOM compatibility shell 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

TABLE C-2 displays environmental monitoring event messages from the service processor (system controller).

TABLE C-2 Environmental Monitoring Event Messages

Severity	Message	Description
Critical	`SP detected fault at time` *time*`. Chassis cover removed.`	ALOM compatibility shell 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.
Major	`System poweron is disabled.`	ALOM compatibility shell 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 possibilities include a device failure or insufficient fan cooling.
Major	`System poweron is enabled.`	ALOM compatibility shell 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 C-2 Environmental Monitoring Event Messages *(Continued)*

Major	`SP detected fault at time` *time* `"`*device* `'fault' at PS0 asserted"`	ALOM compatibility shell 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`. This fault event message appears in the output of the ALOM compatibility shell `showfaults` command.
Minor	`SP detected fault cleared at time` *time* `current fault at` *device* `asserted.`	ALOM compatibility shell sends this message to indicate that a prior fault or failure has recovered or been repaired. The fields (*time* and *device*) are the same as the prior fault or failure event.

TABLE C-2 Environmental Monitoring Event Messages *(Continued)*

Major	*Device_type* `at` *location* `has exceeded low warning threshold.`	ALOM compatibility shell 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 that 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 compatibility shell `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 compatibility shell `showfaults` command.
Critical	*Device_type* `at` *location* `has exceeded low critical shutdown threshold.`	
Critical	*Device_type* `at` *location* `has exceeded low nonrecoverable shutdown threshold.`	
Major	*Device_type* `at` *location* `has exceeded high warning threshold.`	
Critical	*Device_type* `at` *location* `has exceeded high soft shutdown threshold.`	
Critical	*Device_type* `at` *location* `has exceeded high hard shutdown threshold.`	
Minor	*Device_type* `at` *location* `is within normal range.`	ALOM compatibility shell 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 compatibility shell `showenvironment` command.

TABLE C-2 Environmental Monitoring Event Messages *(Continued)*

Critical	`Critical temperature value: host should be shut down`	ALOM compatibility shell 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 system failed to power off.`	ALOM compatibility shell 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 compatibility shell `showfaults` command.
Major Minor	*FRU_type* `at` *location* `has been removed.` *FRU_type* `at` *location* `has been inserted.`	ALOM compatibility shell 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 compatibility shell 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 compatibility shell `showfaults` command.

Host Monitoring Event Messages

TABLE C-3 displays host monitoring event messages from the service processor (system controller).

TABLE C-3 Host Monitoring Event Messages

Severity	Message	Description
Critical	`SP detected fault at time` *time component* `disabled`	ALOM compatibility shell 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 disabled component, which will be an entry from the platform `showcomponent` command. This fault event message appears in the output of the ALOM compatibility shell `showfaults` command.
Minor	`SP detected fault cleared at` *component* `reenabled`	ALOM compatibility shell sends this message when a component is enabled. A component can be enabled by a user typing the `enablecomponent` command or by 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.

TABLE C-3 Host Monitoring Event Messages *(Continued)*

Major	Host detected fault, MSGID: *SUNW-MSG-ID*.	ALOM compatibility shell 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 compatibility shell `showfaults` command.
Major	*Location* has been replaced; faults cleared.	ALOM compatibility shell 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 compatibility shell 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.

Index

Symbols

A

K

L

M

N

O

P

R

S

T

U

V

W