FUJITSU

# Integrated Lights Out Manager 2.0 Supplement

## For SPARC Enterprise T5120 and T5220 Servers

C120-E465-03EN

FUJITSU

# Integrated Lights Out Manager 2.0 Supplement for SPARC Enterprise™ T5120 and T5220 Servers

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# Contents

# Preface

This manual provides information about the Integrated Lights Out Manager (ILOM) service processor (SP). The SP enables you to remotely manage and administer your servers. You should be an experienced system administrator with a knowledge of UNIX® commands.

# For Safe Operation

This manual contains important information regarding the use and handling of this product. Read this manual thoroughly. Use the product according to the instructions and information available in this manual. Keep this manual handy for further reference.

Fujitsu makes every effort to prevent users and bystanders from being injured or from suffering damage to their property. Use the product according to this manual.

# Structure and Contents of This Manual

This manual is organized as described below:

- ILOM for the SPARC Enterprise T5120 and T5220 Servers

  Introduces ILOM 2.0 for the SPARC Enterprise T5120 and T5220 servers.

- Manage the Host

  Describes managing SPARC specific features of the host.

- Manage the Service Processor

  Describes managing SPARC specific features of the SP.

- Managing Virtual Keyswitch Settings

  Describes managing SPARC specific features of system devices.

- IPMI Sensor Reference

  Identifies IPMI sensor data (the /SYS namespace).

- ALOM CMT Compatibility Shell

  lists and describes ALOM CMT compatibility shell equivalents for ILOM commands and properties.

# Related Documentation

The latest versions of all the SPARC Enterprise™ Series manuals are available at the following Web sites:

Global Site

(http://www.fujitsu.com/sparcenterprise/manual/)

Japanese Site

(http://primeserver.fujitsu.com/sparcenterprise/manual/)

| Title | Description | Manual Code |
|---|---|---|
| *SPARC Enterprise T5120 Server Getting Started Guide* | Minimum steps to power on and boot the server for the first time | C120-E518 |
| *SPARC Enterprise T5120 Server Getting Started Guide For Models That Run on DC Input Power* | Minimum steps to power on and boot the server that run on DC input power for the first time | C120-E552 |
| *SPARC Enterprise T5220 Server Getting Started Guide* | Minimum steps to power on and boot the server for the first time | C120-E519 |
| *SPARC Enterprise T5220 Server Getting Started Guide For Models That Run on DC Input Power* | Minimum steps to power on and boot the server that run on DC input power for the first time | C120-E553 |
| *SPARC Enterprise T5120 and T5220 Servers Product Notes* | Information about the latest product updates and issues | C120-E458 |
| *Important Safety Information for Hardware Systems* | Safety information that is common to all SPARC Enterprise series servers | C120-E391 |
| *SPARC Enterprise T5120 and T5220 Servers Safety and Compliance Guide* | Safety and compliance information that is specific to the servers | C120-E461 |
| *SPARC Enterprise/ PRIMEQUEST Common Installation Planning Manual* | Requirements and concepts of installation and facility planning for the setup of SPARC Enterprise and PRIMEQUEST | C120-H007 |
| *SPARC Enterprise T5120 and T5220 Servers Site Planning Guide* | Server specifications for site planning | C120-H027 |
| *SPARC Enterprise T5120 and T5220 Servers Overview Guide* | Product features | C120-E460 |
| *SPARC Enterprise T5120 and T5220 Servers Installation Guide* | Detailed rackmounting, cabling, power on, and configuring information | C120-E462 |
| *SPARC Enterprise T5120 and T5220 Servers Service Manual* | How to run diagnostics to troubleshoot the server, and how to remove and replace parts in the server | C120-E463 |
| *SPARC Enterprise T5120 and T5220 Servers Administration Guide* | How to perform administrative tasks that are specific to the servers | C120-E464 |
| *External I/O Expansion Unit Installation and Service Manual* | Procedures for installing the External I/O Expansion Unit on the SPARC Enterprise T5120/T5140/T5220/T5240/T5440 servers | C120-E543 |
| *External I/O Expansion Unit Product Notes* | Important and late-breaking information about the External I/O Expansion Unit | C120-E544 |

For more information about how to work with ILOM features that are common to all platforms managed by ILOM, the following documentation provides information.

| Title | Description | Manual Code |
|---|---|---|
| *Integrated Lights Out Manager 2.0 User's Guide* | How to use the ILOM 2.0 software. | C120-E474 |

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

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

# 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. Refer to the following for this information:

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

  (http://docs.sun.com)

# Text Conventions

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

* The settings on your browser might differ from these settings.

# Prompt Notations

The following prompt notations are used in this manual.

| Shell | Prompt Notations |
|---|---|
| C shell | *machine-name*`%` |
| C shell superuser | *machine-name*`#` |
| Bourne shell and Korn shell | `$` |
| Bourne shell and Korn shell superuser | `#` |
| ILOM service processor | `->` |
| ALOM compatibility shell | `sc>` |
| OpenBoot PROM firmware | `ok` |

# Fujitsu Welcomes Your Comments

If you have any comments or requests regarding this document, or if you find any unclear statements in the document, please state your points specifically on the form at the following URL.

For Users in U.S.A., Canada, and Mexico:

(https://download.computers.us.fujitsu.com/)

For Users in Other Countries:

(http://www.fujitsu.com/global/contact/computing/sparce_index.html)

# ILOM for the SPARC Enterprise T5120 and T5220 Servers

This section introduces ILOM for the SPARC Enterprise T5120 and T5220 Servers and provides references to more generic ILOM documentation.



## ILOM Overview

Integrated Lights Out Manager (ILOM) is system management firmware that is preinstalled on some SPARC servers. ILOM enables you to actively manage and monitor components installed in your server. ILOM provides a browser-based interface and a command-line interface, as well as an SNMP and IPMI interfaces. For general information about ILOM, see the Integrated Lights Out Manager 2.0 User's Guide.

### Related Information


- "Platform Specific ILOM Features" on page 2
- "ILOM Features Not Supported in SPARC Enterprise Servers" on page 2

# Platform Specific ILOM Features

ILOM operates on many platforms, supporting features that are common to all platforms. Some ILOM features belong to a subset of platforms but not to all. This document describes features that belong to SPARC Enterprise T5120 and T5220 Servers, augmenting the set of features described in the *Integrated Lights Out Manager 2.0 User's Guide*.

### Related Information

- "ILOM Overview" on page 1
- "ILOM Features Not Supported in SPARC Enterprise Servers" on page 2

# ILOM Features Not Supported in SPARC Enterprise Servers

Among the ILOM features supported on other platforms, ILOM does not support the following features on SPARC Enterprise T5120 and T5220 Servers:

- ILOM Remote Console
- Chassis Monitoring Module (CMM) features, such as single sign on

### Related Information

- "ILOM Overview" on page 1
- "Platform Specific ILOM Features" on page 2

# Manage the Host

This section contains information about ILOM features on the SPARC Enterprise T5120 and T5220 Servers that augment the array of properties that are common to ILOM on other platforms. In particular, this chapter describes the properties in the `/HOST` namespace. This section consists of:

| Description | Tasks |
|---|---|
| Understand new Host reset behavior. | "Reset the Host" on page 4 |
| Manage the Host boot mode. | "Manage the Host's Boot Mode LDoms Configuration Using the CLI" on page 5<br>"Manage the Host's Boot Mode Script Using the CLI" on page 6<br>"Change the Host's Boot Mode Behavior at Reset Using the CLI" on page 6<br>"Display the Host's Boot Mode Expiration Date Using the CLI" on page 7<br>"Manage Boot Mode Configuration Settings Using the Web Interface" on page 7 |
| View Host information and set system policy concerning error conditions. | "Display the Host's MAC Address Using the CLI" on page 9<br>"Display the Host's OpenBoot Version Using the CLI" on page 9<br>"Display the Host's POST Version Using the CLI" on page 10<br>"Specify Host Behavior When the Watchdog Timer Expires Using the CLI" on page 10<br>"Specify Host Behavior When an Error Is Discovered During Diagnostics Using the CLI" on page 11<br>"Manage Host Information Using the Web Interface" on page 11 |
| Manage Host diagnostics. | "Change the Diagnostics Mode Using the CLI" on page 13<br>"Specify Diagnostic Trigger Conditions Using the CLI" on page 13<br>"Specify the Level of Diagnostics Using the CLI" on page 14<br>"Choose the Amount of Verbosity in Diagnostic Output Using the CLI" on page 14<br>"Manage Diagnostics Settings Using the Web Interface" on page 15 |
| Manage system user interactions. | "Enable the System to Send a Break Signal or Force a Core Dump Using the CLI" on page 17<br>"Display Host Status Information Using the CLI" on page 17 |

# Reset the Host

Host reset behavior has changed to support the additional functionality of domains. The `reset` command still generates a graceful or forced hardware reset of the host, but now offers additional options to manage a control domain. See the available options for both the ILOM and ALOM compatibility CLIs, in "ILOM and ALOM CMT Command Comparison" on page 52.

### Related Information

- "ILOM and ALOM CMT Command Comparison" on page 52

# Managing Host Boot Mode

Use the boot mode properties to specify how ILOM handles boot.



## Boot Mode

Boot mode (`bootmode`) properties enable you to override the default method the server uses when it boots. This ability is useful to override particular OpenBoot™ or LDoms settings, to set up OpenBoot variables using a script, or similar tasks.

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

Service personnel might instruct you to use the `bootmode script` property for problem resolution. The full extent of script capabilities are not documented and exist 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.

### Related Information

- "Reset the Host" on page 4
- "Managing Host Boot Mode" on page 4

## ▼ Manage the Host's Boot Mode LDoms Configuration Using the CLI

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

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

where the `config` property takes a *configname* value such as a named logical domain configuration downloaded to the SP using the Logical Domains 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
```

### Related Information

- "Reset the Host" on page 4
- "Manage Boot Mode Configuration Settings Using the Web Interface" on page 7

## ▼ Manage the Host's Boot Mode Script Using the CLI

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

```
-> 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. *string* can be up to 64 bytes in length. 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`.

---

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

---

### Related Information

- "Reset the Host" on page 4
- "Manage Boot Mode Configuration Settings Using the Web Interface" on page 7

## ▼ Change the Host's 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:**

```
-> 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` command will return to normal after the next server reset or 10 minutes (see `expires` property in "Display the Host's Boot Mode Expiration Date Using the CLI" on page 7). `config` and `script` properties do not expire and will be cleared upon the next server reset or manually by setting *value* to `""`.

---

### Related Information

- "Reset the Host" on page 4
- "Manage Boot Mode Configuration Settings Using the Web Interface" on page 7

## ▼ Display the Host's Boot Mode Expiration Date Using the CLI

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

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

where `expires` is the date and time when the current bootmode will expire.

### Related Information

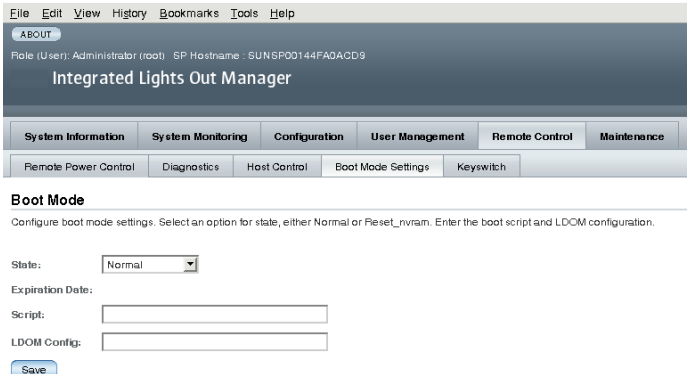
- "Reset the Host" on page 4
- "Manage Boot Mode Configuration Settings Using the Web Interface" on page 7

## ▼ Manage Boot Mode Configuration Settings Using the Web Interface

ILOM provides several ways to configure the server's firmware environment. There are four aspects to configuring the boot mode:

- State
- Expiration Date
- Script
- LDom 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.**

### Related Information

- "Reset the Host" on page 4
- "Managing Host Boot Mode" on page 4

# Viewing Host Information and Setting System Policy Concerning Error Conditions

Use the host information properties to view system configuration and firmware version information.

- "Display the Host's MAC Address Using the CLI" on page 9
- "Display the Host's OpenBoot Version Using the CLI" on page 9

- "Display the Host's POST Version Using the CLI" on page 10
- "Specify Host Behavior When the Watchdog Timer Expires Using the CLI" on page 10
- "Specify Host Behavior When an Error Is Discovered During Diagnostics Using the CLI" on page 11
- "Manage Host Information Using the Web Interface" on page 11


## ▼ Display the Host's 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 `/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:**

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

### Related Information


- "Viewing Host Information and Setting System Policy Concerning Error Conditions" on page 8
- "Manage Host Information Using the Web Interface" on page 11


## ▼ Display the Host's 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:**

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

### Related Information


- "Viewing Host Information and Setting System Policy Concerning Error Conditions" on page 8

- "Manage Host Information Using the Web Interface" on page 11

## ▼ Display the Host's 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:**

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

### Related Information

- "Viewing Host Information and Setting System Policy Concerning Error Conditions" on page 8
- "Manage Host Information Using the Web Interface" on page 11

## ▼ 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:**

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

where values can be

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

### Related Information

- "Viewing Host Information and Setting System Policy Concerning Error Conditions" on page 8
- "Manage Host Information Using the Web Interface" on page 11

# ▼ 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:**

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

where *value* is one of the following:

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

### Related Information

- "Viewing Host Information and Setting System Policy Concerning Error Conditions" on page 8
- "Manage Host Information Using the Web Interface" on page 11

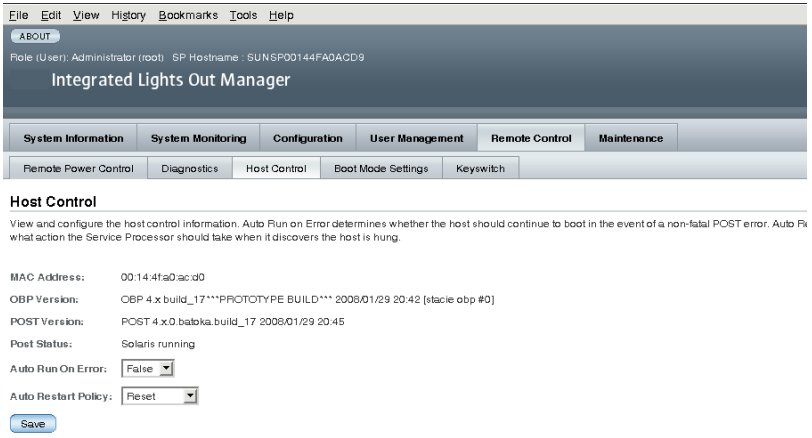
# ▼ Manage Host Information Using the Web Interface

This procedure describes how to view and configure several kinds of host information.

ILOM provides several ways to view or configure host control features. There are six aspects to host control:

- MAC address
- OpenBoot version
- POST version
- HOST status
- Auto Run On Error
- Auto Restart Policy

1. **Log in to 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.**

### Related Information

- "Viewing Host Information and Setting System Policy Concerning Error Conditions" on page 8

# Managing Host Diagnostics

Use the diagnostic control properties to specify how ILOM controls the diagnostics of the host server.

ILOM uses the following diagnostic system interface property:

- "Change the Diagnostics Mode Using the CLI" on page 13
- "Specify Diagnostic Trigger Conditions Using the CLI" on page 13
- "Specify the Level of Diagnostics Using the CLI" on page 14
- "Choose the Amount of Verbosity in Diagnostic Output Using the CLI" on page 14
- "Manage Diagnostics Settings Using the Web Interface" on page 15

## ▼ 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:**

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

where *value* is one of the following:

- `off` – Do not run any diagnostics.
- `normal` – Run diagnostics (the default value).
- `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.

### Related Information


- "Managing Host Diagnostics" on page 12
- "Manage Diagnostics Settings Using the Web Interface" on page 15


## ▼ 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:**

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

where *value* is one (or a combination, supplied within quote marks) 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.

For example:

```
-> set /HOST/diag trigger="user-reset power-on-reset"
-> show /HOST/diag trigger
user-reset power-on-reset
```

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

### Related Information

- "Managing Host Diagnostics" on page 12
- "Manage Diagnostics Settings Using the Web Interface" on page 15

## ▼ Specify the Level of Diagnostics Using the CLI

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

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

```
-> 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).

### Related Information

- "Managing Host Diagnostics" on page 12
- "Manage Diagnostics Settings Using the Web Interface" on page 15

## ▼ 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:**

```
-> 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.
- `normal` – Diagnostics print a moderate amount of output on the system console (the default value).
- `max` – Diagnostics print full output on the system console, including the name and results of each test being run.
- `debug` – Diagnostics print extensive debugging output on the system console, including devices being tested and debug output of each test.

### Related Information

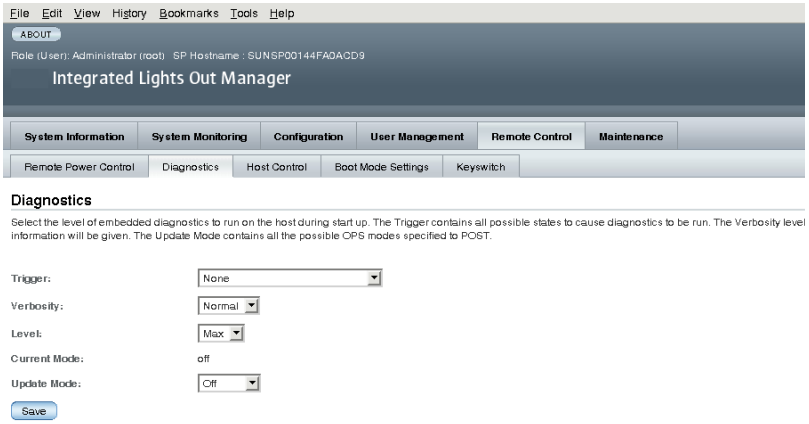
- "Managing Host Diagnostics" on page 12
- "Manage Diagnostics Settings Using the Web Interface" on page 15

## ▼ Manage Diagnostics Settings Using the Web Interface

ILOM provides several ways to view or configure diagnostics. There are four aspects to 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.**

### Related Information

- "Managing Host Diagnostics" on page 12

# Managing System User Interactions

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

- "Enable the System to Send a Break Signal or Force a Core Dump Using the CLI" on page 17
- "Display Host Status Information Using the CLI" on page 17

## ▼ Enable the System to Send a Break Signal or 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 in to debug mode. Specify `send_break_action=dumpcore` to force a core dump.

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

```
-> 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 (not supported by all OS versions).

### Related Information

- "Display Host Status Information Using the CLI" on page 17

## ▼ Display Host Status Information Using the CLI

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

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

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

The command returns information similar to the following:

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

    Commands:
        show ->
```

### Related Information

- "Enable the System to Send a Break Signal or Force a Core Dump Using the CLI" on page 17

# Manage the Service Processor

This section contains information on ILOM properties on the SPARC Enterprise T5120 and T5220 Servers that augment the array of properties that are common to ILOM on other platforms. In particular, this section covers properties in the `/SP` namespace.

| Description | Task |
|---|---|
| Store customer information. | "Change Customer FRU Data Using the CLI" on page 20<br>"Change System Identification Information Using the CLI" on page 21<br>"Change Customer Identification Information Using the Web Interface" on page 21 |
| Change service processor setting to the defaults. | "Reset the Service Processor Settings to Factory Defaults Using the CLI" on page 22<br>"Reset the Service Processor Settings to Factory Defaults Using the Web Interface" on page 23 |
| Modify console escape characters. | "Change Console Escape Characters Using the CLI" on page 24 |
| Change configuration policy settings. | "Specify Backup of the User Database Using the CLI" on page 25<br>"Specify Host Power-On Policy Using the CLI" on page 26<br>"Disable or Re-Enable Power-On Delay Using the CLI" on page 27<br>"Manage Configuration Policy Settings Using the Web Interface" on page 27 |
| Display power management metrics. | "View Power Management Properties Using the CLI" on page 30<br>"View the Total Power Consumed By the System" on page 31<br>"View Power Management Properties Using the Web Interface" on page 32 |
| Manage network access. | "Disable or Re-Enable Network Access to the SP Using the CLI" on page 33<br>"Display the DHCP Server's IP Address" on page 33 |

| Description | Task |
|---|---|
| Manage SSH server settings. | "Change the Type of SSH Keys Using the CLI" on page 34<br>"Generate a New Set of SSH Keys Using the CLI" on page 35<br>"Restart the SSH Server Using the CLI" on page 35<br>"Enable or Disable the SSH Service Using the CLI" on page 35<br>"Manage SSH Server Settings Using the Web Interface" on page 36 |

# Storing Customer Information

This section describes ILOM features that enable you to store information (for purposes such as inventory control or site resource management) on the SP and FRU PROMs.

- "Change Customer FRU Data Using the CLI" on page 20
- "Change System Identification Information Using the CLI" on page 21
- "Change System Identification Information Using the CLI" on page 21

## ▼ Change Customer FRU Data Using the CLI

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

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

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

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

### Related Information

- "Change System Identification Information Using the CLI" on page 21
- "Change Customer Identification Information Using the Web Interface" on page 21

# ▼ Change System Identification Information Using the CLI

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

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

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

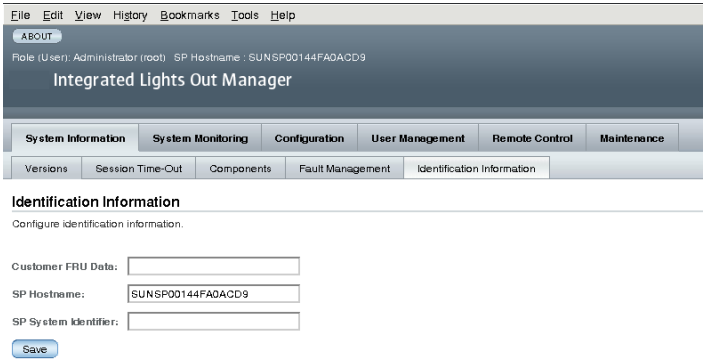
### Related Information

- "Change Customer FRU Data Using the CLI" on page 20
- "Change Customer Identification Information Using the Web Interface" on page 21

# ▼ Change Customer Identification Information Using the Web Interface

ILOM provides features that enable you to store information on FRUs and the SP.

1. **Log in to 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.**

### Related Information

- "Change Customer FRU Data Using the CLI" on page 20
- "Change System Identification Information Using the CLI" on page 21

# Changing Service Processor Settings to Factory Defaults

This section describes how to set service processor settings back to the factory defaults.

- "Reset the Service Processor Settings to Factory Defaults Using the CLI" on page 22
- "Reset the Service Processor Settings to Factory Defaults Using the Web Interface" on page 23

## ▼ Reset the Service Processor Settings to Factory Defaults Using the CLI

Use the `set /SP 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:**

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

   where for `reset_to_defaults` can be set to one of the following:

   - `none` – Make no changes.
   - `all` – At the next SP reset, clear the user database and change all configuration properties to their defaults.

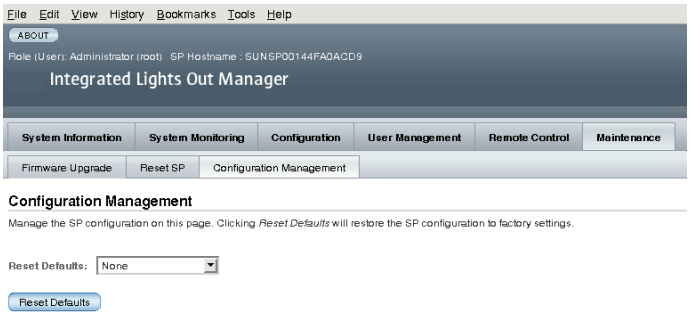
2. **Reset the service processor so that the new property value can take effect.**

### Related Information

- "Reset the Service Processor Settings to Factory Defaults Using the Web Interface" on page 23

## ▼ Reset the Service Processor Settings to Factory Defaults 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.**
4. **Click `Reset Defaults`.**

### Related Information

- "Reset the Service Processor Settings to Factory Defaults Using the CLI" on page 22

## ▼ Display Console History Using the CLI

The console buffer can contain up to 1 Mbyte of information.

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 permissions to use this command.

---

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

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

where property can be one of the following:

- `line_count` – This option accepts a value within the range of 1 to 2048 lines. Specify “” for an unlimited number of lines. The default is all lines.
- `pause_count` – This option accepts a value of 1 to any valid integer or "" for infinite number of lines. The default is not to pause.
- `start_from` – The options are:
  - `end` – The last line (most recent) in the buffer (the default).
  - `beginning` – The first line in the buffer.

If you type the `show /SP/console/history` command without having set any arguments with the set command, ILOM displays all lines of the console log, starting from the end.

---

**Note –** Timestamps recorded in the console log reflect server time. These timestamps reflect local time, and the ILOM console log uses UTC (Coordinated Universal Time). The Solaris OS system time is independent of the ILOM time.

---

# ▼ 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:**

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

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

where *xx* are any printable characters.

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

### Related Information

- "Reset the Host" on page 4

# Changing Configuration Policy Settings

This section describes managing configuration system policies using ILOM.



## ▼ Specify 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 `enable`, this data is backed up on the removable system configuration card (SCC PROM) on the system.

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

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

where the *value* is one of the following:

- `enabled` – Backs up the user database to the SCC (This is the default value).
- `disabled` – No backup.

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

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

### Related Information

- "Manage Configuration Policy Settings Using the Web Interface" on page 27

## ▼ Specify Host Power-On Policy Using the CLI

Use the /SP/policy HOST_LAST_POWER_STATE property to control the behavior of the server 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.

1. **At the -> prompt, type:**

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

   where the value for this property is 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).

   If you enable HOST_LAST_POWER_STATE, you should also configure /SP/policy HOST_POWER_ON_DELAY as well. For further information, see "Disable or Re-Enable Power-On Delay Using the CLI" on page 27

   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.

2. **At the -> prompt, type:**

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

   where the value for this property is one of the following:

   - enabled – When power is applied, automatically powers on the host when the SP has been booted.
   - disabled – Keeps the host power off when power is applied (the default).

### Related Information

- "Manage Configuration Policy Settings Using the Web Interface" on page 27

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

Use the /SP/policy HOST_POWER_ON_DELAY property to cause the server to wait for a short time before powering on automatically. The delay is a random interval of one to five seconds. Delaying the server poweron helps minimize current surges on the main power source. This poweron delay 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`.

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

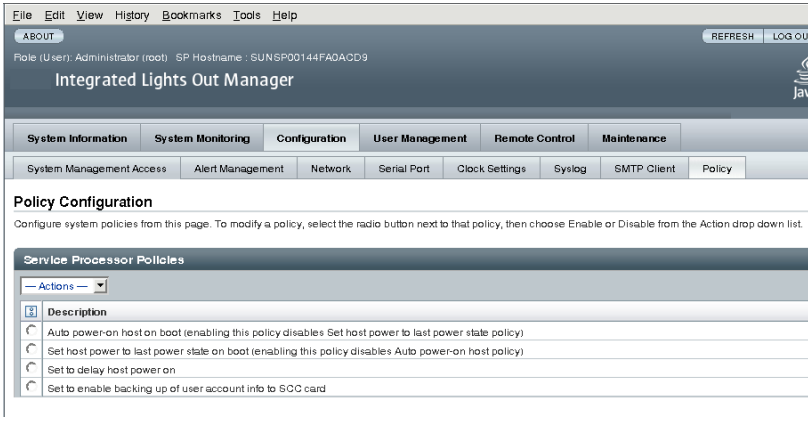
```
-> set /SP/policy HOST_POWER_ON_DELAY=value
```

where *value* can be

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

## ▼ Manage Configuration Policy Settings Using the Web Interface

1. **Log in to 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.**

### Related Information

- "Manage Configuration Policy Settings Using the Web Interface" on page 27

# Displaying Power Management Metrics

This section describes using ILOM to view the server's power metrics.

# Power Management Terminology

**TABLE:** Power Management Terminology

| Term | |
|---|---|
| Actual power | The input power measured in watts. This is the actual power consumed by all the power supplies in the system. |
| Permitted power | The maximum power that the server will permit to be used at any time. |
| Available power | The input power capacity in watts.<br>Available power is defined as the sum of all the power that the power supplies can provide. |
| 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:<br>• Performance: The system is allowed to use all the power that is available.<br>• 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.<br>• Regulated: N/A.<br>• Siesta: N/A |

## Related Information


- "Power Management Terminology" on page 29
- "View the Total Power Consumed By the System" on page 31
- "View Power Management Properties Using the CLI" on page 30
- "View Power Management Properties Using the Web Interface" on page 32

## ▼ View Power Management Properties Using the CLI

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

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

For example,

```
-> show /SP/powermgmt

 /SP/powermgmt
    Targets:

    Properties:
        actual_power = 534
        permitted_power = 2626
        available_power = 2626
        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.
- `available_power` displays the input power capacity (in watts) that is available to system components.
- `permitted_power` displays the maximum power consumption (in watts) expected.
- `control` option not currently supported on this platform.
- `policy` option not currently supported on this platform.
- `regulated_budget` option not currently supported on this platform.
- `elastic_budget` option not currently supported on this platform.

### Related Information

- "Power Management Terminology" on page 29

- "View the Total Power Consumed By the System" on page 31
- "View Power Management Properties Using the Web Interface" on page 32

# ▼ View the Total Power Consumed By the System

The value of `/SYS/VPS` is equivalent to the value of `/SP/powermgmt actual_power`.

- **At the `->` prompt, type**

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

For example,

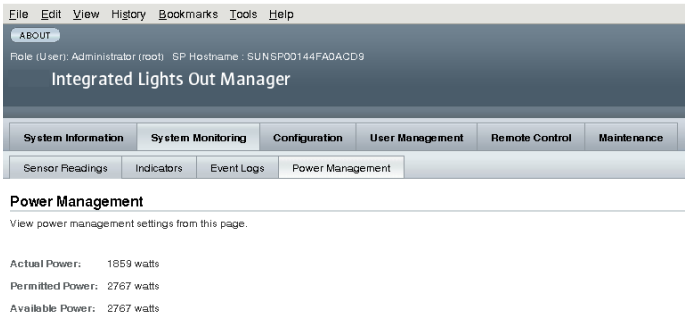
```
-> show /SYS/VPS

 /SYS/VPS
    Targets:

    Properties:
        type = Power Unit
        class = Threshold Sensor
        value = 528.031 Watts
        upper_nonrecov_threshold = N/A
        upper_critical_threshold = N/A
        upper_noncritical_threshold = N/A
        lower_noncritical_threshold = N/A
        lower_critical_threshold = N/A
        lower_nonrecov_threshold = N/A

    Commands:
        cd
        show
```

### Related Information

- "Power Management Terminology" on page 29
- "View Power Management Properties Using the CLI" on page 30
- "View Power Management Properties Using the Web Interface" on page 32

## ▼ View Power Management Properties Using the Web 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.**

### Related Information

- "Power Management Terminology" on page 29
- "View the Total Power Consumed By the System" on page 31
- "View Power Management Properties Using the CLI" on page 30

# Managing Network Access

This section describes managing network access to the SP using ILOM.

- "Disable or Re-Enable Network Access to the SP Using the CLI" on page 33
- "Display the DHCP Server's IP Address" on page 33

## ▼ Disable or Re-Enable Network Access to the SP Using the CLI

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

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

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

where *value* can be

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

### Related Information

- "Display the DHCP Server's IP Address" on page 33

## ▼ Display the DHCP Server's IP Address

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, type `show /SP/network`**

For example,

```
-> show /SP/network

 /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
```

### Related Information

- "Disable or Re-Enable Network Access to the SP Using the CLI" on page 33

# Managing SSH Server Settings



## ▼ 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 `set /SP/services/ssh generate_new_key_action` command to generate a new set of keys of the new type.

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

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

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

### Related Information

- "Generate a New Set of SSH Keys Using the CLI" on page 35
- "Manage SSH Server Settings Using the Web Interface" on page 36

## ▼ 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:**

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

### Related Information

- "Change the Type of SSH Keys Using the CLI" on page 34
- "Manage SSH Server Settings Using the Web Interface" on page 36

## ▼ 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 action reloads the keys in to the server's dedicated data structure in memory.

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

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

### Related Information

- "Enable or Disable the SSH Service Using the CLI" on page 35
- "Manage SSH Server Settings Using the Web Interface" on page 36

## ▼ 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 (SER MGT) port or the ILOM web interface.

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

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

where *value* is one of the following:

- `enabled` (the default)

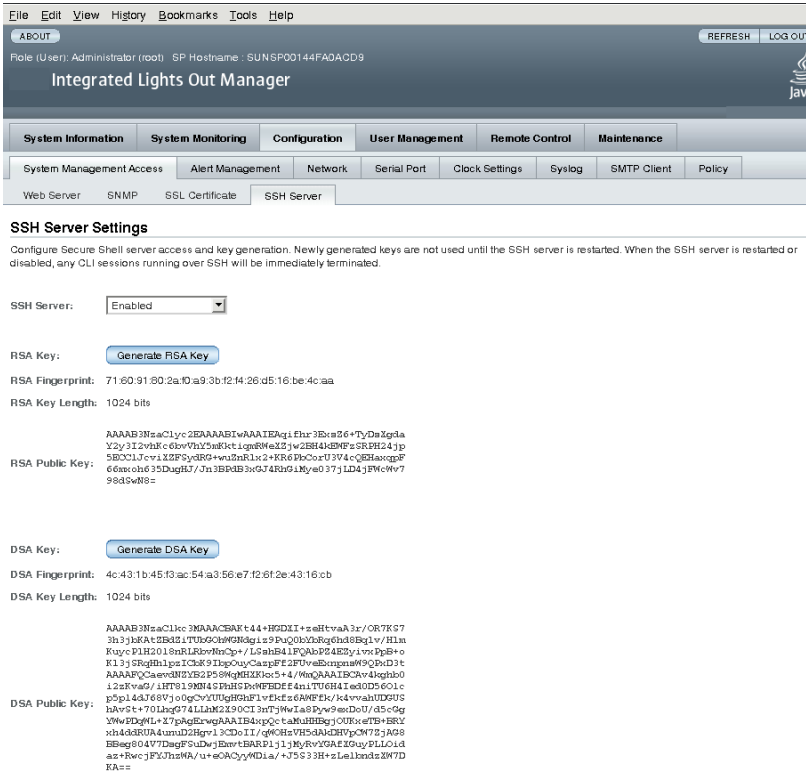
- disabled

### Related Information

- "Restart the SSH Server Using the CLI" on page 35
- "Manage SSH Server Settings Using the Web Interface" on page 36

## ▼ 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.

---

### Related Information


- "Generate a New Set of SSH Keys Using the CLI" on page 35
- "Change the Type of SSH Keys Using the CLI" on page 34
- "Restart the SSH Server Using the CLI" on page 35
- "Enable or Disable the SSH Service Using the CLI" on page 35

# Managing Virtual Keyswitch Settings

This chapter contains information on using the SPARC Enterprise T5120 and T5220 Servers virtual keyswitch, useful for managing devices.



## ▼ 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:**

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

where *value* is one of the following:

- `normal` – The system can power itself on and start the boot process (the default).
- `standby` – Powers off the `HOST`, cannot power itself on.
- `diag` – The system can power itself on using preset values of diagnostic properties (`/HOST/diag level=max`, `/HOST/diag mode=max`, `/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`.

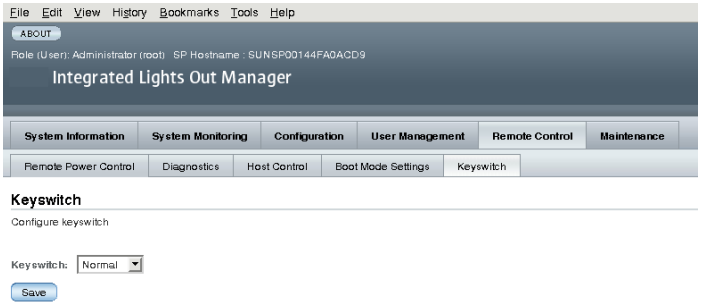
### Related Information

- "Control the Virtual Keyswitch Using the Web Interface" on page 40

# ▼ 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 ILOM web interface as Administrator (`root`) to open the web interface.**
2. **Select Remote Control --> Keyswitch.**




3. **Select the Keyswitch state value.**
4. **Click Save.**

### Related Information

- "Control the Virtual Keyswitch Using the CLI" on page 39

# ▼ Display Component Status Using the CLI

- **Type the show components Command.**

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

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

The alias produces the same output as the above command. Thus, it enables users to restrict the table output to a single property below each target. For example, it produces output similar to the following:

```
-> show components
Target               | Property               | Value
---------------------+------------------------+------------------
--------------
/SYS/MB/RISER0/      | component_state        | Enabled
XAUI0                |                        |
/SYS/MB/RISER0/      | component_state        | Enabled
PCIE0                |                        |
/SYS/MB/RISER0/      | component_state        | Enabled
PCIE3                |                        |
/SYS/MB/RISER1/      | component_state        | Enabled
PCIE1                |                        |
/SYS/MB/RISER1/      | component_state        | Enabled
PCIE4                |                        |
/SYS/MB/RISER2/      | component_state        | Enabled
PCIE2                |                        |
/SYS/MB/RISER2/      | component_state        | Enabled
PCIE5                |                        |
/SYS/MB/GBE0         | component_state        | Enabled
/SYS/MB/GBE1         | component_state        | Enabled
/SYS/MB/PCIE         | component_state        | Enabled
/SYS/MB/PCIE-IO/     | component_state        | Enabled
USB                  |                        |
/SYS/MB/SASHBA       | component_state        | Enabled
...
```

# IPMI Sensor Reference

Your server includes a number of IPMI-compliant sensors and indicators. Sensors measure voltages, temperature ranges, and detection of 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.

This appendix contains the following topics:

# Sensors on SPARC Enterprise T5120 and T5220 Servers

**TABLE:** Sensors on SPARC Enterprise T5120 and T5220 Servers

| Name | Path | Description |
|---|---|---|
| /Bn/CHn/Dn/PRSNT | /SYS/MB/CMP0/BRn/CHn/Dn/PRSNT | Branch (0–3) Channel (0–1) DIMM (0–1) Presence sensor |
| /Bn/CHn/Dn/TEMP | /SYS/MB/CMP0/BRn/CHn/Dn/T_AMB | Branch (0–3) Channel (0–1) DIMM (0–1) Temperature sensor |
| /FBn/FMn/Fn/TACH | /SYS/FANBDn/FMn/Fn/TACH | Fan Board (0–1) Fan Module (0–2) Fan (0–1) Speed sensor |
| /FBn/FMn/PRSNT | /SYS/FANBDn/FMn/PRSNT | Fan Board (0–1) Fan Module (0–2) Presence sensor |
| /FBn/PRSNT | /SYS/FANBDn/PRSNT | Fan Board (0–1) Presence sensor |
| /HDDn/PRSNT | /SYS/HDDn/PRSNT | Hard Disk (0–15) Presence sensor |
| /MB/CMP0/T_BCORE | /SYS/MB/CMP0/T_BCORE | Bottom of Core Temperature sensor |
| /MB/CMP0/T_TCORE | /SYS/MB/CMP0/T_TCORE | Top of Core Temperature sensor |
| /MB/I_USBn | /SYS/MB/I_USBn | USB Port (0–1) Current sensor |
| /MB/I_VCORE | (Inaccessible, used internally) | CPU Core Current Threshold sensor |
| /MB/I_VMEML | (Inaccessible, used internally) | Left memory bank current sensor |
| /MB/I_VMEMR | (Inaccessible, used internally) | Right memory bank current sensor |
| /MB/P0/CPUS_BITn | (Inaccessible, used internally) | CPU attachment (0-11) sensor |
| /MB/T_AMB | /SYS/MB/T_AMB | Ambient Temperature Threshold sensor |

**TABLE:** Sensors on SPARC Enterprise T5120 and T5220 Servers *(Continued)*

| Name | Path | Description |
|---|---|---|
| /MB/T_BUS_BARn | (Inaccessible, used internally) | Motherboard Bus Bar (0–1) Temperature sensor |
| /MB/V_+12V0_MAIN | /SYS/MB/V_+12V0_MAIN | 12V Main Voltage Threshold sensor |
| /MB/V_1V0_VDD | (Inaccessible, used internally) | 1.0V Main Voltage Threshold sensor |
| /MB/V_1V1_VDD | (Inaccessible, used internally) | 1.1V Main Voltage Threshold sensor |
| /MB/V_1V2_VDD | (Inaccessible, used internally) | 1.2V Main Voltage Threshold sensor |
| /MB/V_1V5_VDD | (Inaccessible, used internally) | 1.5V Main Voltage Threshold sensor |
| /MB/V_1V8_GBEn | (Inaccessible, used internally) | NET (0-1) Voltage Threshold sensor |
| /MB/V_+3V3_MAIN | /SYS/MB/V_+3V3_MAIN | 3.3V Main Voltage Threshold sensor |
| /MB/V_+3V3_STBY | /SYS/MB/V_+3V3_STBY | 3.3V Standby Voltage Threshold sensor |
| /MB/V_5V0_VCC | (Inaccessible, used internally) | 5V Main Voltage Threshold sensor |
| /MB/V_VBAT | /SYS/MB/V_VBAT | Battery Voltage Threshold sensor |
| /MB/V_VCORE | /SYS/MB/V_VCORE | CPU Core Voltage Threshold sensor |
| /MB/V_VCORE_POK | /SYS/MB/V_VCORE_POK | Core Power for CPU Within Specification sensor |
| /MB/V_VDDIO | /SYS/MB/V_VDDIO | Voltage Threshold sensor |
| /MB/V_VMEML | /SYS/MB/V_VMEML | Left Memory Branch Voltage Threshold sensor |
| /MB/V_VMEMR | /SYS/MB/V_VMEMR | Right Memory Branch Voltage Threshold sensor |
| /MB/V_VTTL | (Inaccessible, used internally) | Left Memory Riser (0–1) VTT Voltage |
| /MB/V_VTTR | (Inaccessible, used internally) | Right Memory Riser (0–1) VTT Voltage |
| /MB/VMEML_POK | /SYS/MB/VMEML_POK | Left Memory Branch Power Within Specification sensor |

**TABLE:** Sensors on SPARC Enterprise T5120 and T5220 Servers *(Continued)*

| Name | Path | Description |
|---|---|---|
| /MB/VMEMR_POK | /SYS/MB/VMEMR_POK | Right Memory Branch Power Within Specification sensor |
| /MB/XAUIn/PRSNT | (Inaccessible, used internally) | XAUI (0-1) Presence sensor |
| /PDB/+5V0_POK | (Inaccessible, used internally) | PDB 5.0V Power Within Specification sensor |
| /PSn/AC_POK | /SYS/PSn/AC_POK | Power Supply (0–1) Power Within Specification sensor |
| /PSn/CUR_FAULT | /SYS/PSn/CUR_FAULT | Power Supply (0–1) Current Fault sensor |
| /PSn/DC_POK | /SYS/PSn/DC_POK | Power Supply (0–1) DC power sensor |
| /PSn/FAIL | (Inaccessible, used internally) | Power Supply (0–1) Alert sensor |
| /PSn/FAN_FAULT | /SYS/PSn/FAN_FAULT | Power Supply (0–1) Fan Fault sensor |
| /PSn/I_IN_LIMIT | /SYS/PSn/I_IN_LIMIT | Power Supply (0–1) AC current limit sensor |
| /PSn/I_IN_MAIN | /SYS/PSn/I_IN_MAIN | Power Supply (0–1) AC current sensor |
| /PSn/I_OUT_LIMIT | /SYS/PSn/I_OUT_LIMIT | Power Supply (0–1) DC current limit sensor |
| /PSn/I_OUT_MAIN | /SYS/PSn/I_OUT_MAIN | Power Supply (0–1) DC current limit sensor |
| /PSn/IN_POWER | /SYS/PSn/IN_POWER | Power Supply (0–1) AC power sensor |
| /PSn/OUT_POWER | /SYS/PSn/OUT_POWER | Power Supply (0–1) DC power sensor |
| /PSn/PRSNT | /SYS/PSn/PRSNT | Power Supply (0–1) Presence sensor |
| /PSn/TEMP_FAULT | /SYS/PSn/TEMP_FAULT | Power Supply (0–1) Temperature Fault sensor |
| /PSn/V_IN_MAIN | /SYS/PSn/V_IN_MAIN | Power Supply (0–1) AC voltage sensor |
| /PSn/V_OUT_MAIN | /SYS/PSn/V_OUT_MAIN | Power Supply (0–1) DC voltage sensor |

**TABLE:** Sensors on SPARC Enterprise T5120 and T5220 Servers *(Continued)*

| Name | Path | Description |
|---|---|---|
| /PSn/VOLT_FAULT | /SYS/PSn/VOLT_FAULT | Power Supply (0–1) Voltage Fault sensor |
| /SASBP/PRSNT | (Inaccessible, used internally) | Disk Backplane Presence sensor |
| /SYS/VPS | /SYS/SYS/VPS | Total system power (in watts) sensor |
| /XAUIn/0V9_FAULT | (Inaccessible, used internally) | XAUI (0-1) 0.9 Volt Fault sensor |
| /XAUIn/1V2_FAULT | (Inaccessible, used internally) | XAUI (0-1) 1.2V Fault sensor |
| /XAUIn/1V8_FAULT | (Inaccessible, used internally) | XAUI (0-1) 1.8V Fault sensor |
| /XAUIn/3V3_FAULT | (Inaccessible, used internally) | XAUI (0-1) 3.3V Fault sensor |
| /XAUIn/5V0_FAULT | (Inaccessible, used internally) | XAUI (0-1) 5.0V Fault sensor |

## Related Information

- "Indicators on the SPARC Enterprise T5120 and T5220 Servers" on page 48

# Indicators on the SPARC Enterprise T5120 and T5220 Servers

**TABLE:** Indicators on the SPARC Enterprise T5120 and T5220 Servers

| Name | Path | Description |
|---|---|---|
| /ACT | /SYS/ACT | System Power Activity indicator |
| /Bn/CHn/Dn/FAIL | /SYS/MB/CMP0/BRn/CHn/Dn/SERVICE | Branch Service indicator |
| /FAN_FAULT | /SYS/FAN_FAULT | Fan Fault indicator |
| /FBn/FMn/SERVICE | /SYS/FANBDn/FMn/SERVICE | Fan Board (0–1) Fan Module (0–3) Service indicator |
| /HDD*n*/OK2RM | /SYS/HDD*n*/OK2RM | Hard Disk (0-15) Okay to Remove indicator |
| /HDD*n*/SERVICE | /SYS/HDDn/SERVICE | Hard Disk (0–15) Service indicator |
| /LOCATE | /SYS/LOCATE | Locate indicator |
| /PS_FAULT | /SYS/PS_FAULT | Power Supply Fault indicator |
| /SERVICE | /SYS/SERVICE | Service indicator |
| /TEMP_FAULT | /SYS/TEMP_FAULT | Temperature Fault indicator |

### Related Information

- "Sensors on SPARC Enterprise T5120 and T5220 Servers" on page 44

# ALOM CMT Compatibility Shell

ILOM supports some of the features of the ALOM CMT command-line interface 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:



## Commit ILOM Network Configuration Properties

When changing the values of some ALOM CMT variables (such as network and serial port configuration variables), it was necessary to reset the system controller before the changes took effect. By comparison, in ILOM it is not necessary to reset the service processor after changing the values of comparable properties. In ILOM, if you change the value of the property and then reset the SP, you will lose the new property setting.

Instead, change the network configuration property then *commit* it using setsc netsc_commit in the ALOM compatibility CLI or `set /SP/network commitpending` using the ILOM CLI. To change the serial port configuration property, first set the desired property and then commit it using setsc ser_commit in the ALOM compatibility CLI or `set /SP/serial/external commitpending` using the ILOM CLI.

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

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

To 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'
->
```

In summary, you must *commit* the changes before they can take effect.

**TABLE:** 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` |

# ▼ Create an ALOM CMT Compatibility 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.

1. **Log onto the service processor with the username:** `root`**.**

   When powered on, the SP boots to the ILOM login prompt. The factory default password is `changeme`.

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

Integrated Lights Out Manager

Version 2.0.0.0

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```

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

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

```
-> create /SP/users/admin
Creating user...
Enter new password: ********
Enter new password again: ********
Created /SP/users/admin

-> set /SP/users/admin role=Administrator
Set 'role' to 'Administrator'

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

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

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
```

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

```
-> exit
```

4. **Log in to the ALOM CLI shell (indicated by the `sc>` prompt) from the ILOM login prompt,**

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

Daemons ready

Integrated Lights Out Manager

Version 2.0.0.0

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sc>
```

In the ALOM CMT compatibility shell (with a 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 and ALOM CMT Command Comparison" on page 52.

### Related Information

- "ILOM and ALOM CMT Command Comparison" on page 52

# ILOM and ALOM CMT Command Comparison

The following table provides a command-by-command comparison between the command sets of ALOM CMT and the default ILOM CLI command set. Only the supported ALOM CMT command options are listed in the tables below. Where there are ALOM CMT command-line arguments that have no corresponding ILOM properties, those ALOM CMT arguments have been omitted. The command set of the ALOM compatibility shell provides a close approximation of the equivalent commands and arguments (where supported) in ALOM CMT.

**Note –** By default, when displaying information ALOM CMT commands limit their output to a terse format, offering more verbose output if a `-v` flag is supplied with the command. ILOM's `show` commands do not have a terse output format. They always provide verbose output.

**TABLE:** ALOM CMT Shell Configuration Commands

| ALOM CMT Command | Summary | Comparable ILOM Command |
|---|---|---|
| `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` | 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* |
| `setdefaults` | | `set /SP reset_to_defaults=all` |
| `setkeyswitch [normal\|stby\|diag\|locked]` | Sets 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* |
| `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. | No equivalent in ILOM |

**TABLE:** ALOM CMT Shell Configuration Commands *(Continued)*

| ALOM CMT Command | Summary | Comparable ILOM 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`. The `-g` option pauses the display after the number of lines you specify for *lines*. | `show /SP/sessions` |
| `showusers -g` *lines* | | No equivalent in ILOM |
| `showhost` | Displays version information for host-side components. The *version* option displays the same information as the `showhost` command with no option. | `show /HOST` |
| `showhost` *version* | | |
| `showkeyswitch` | Displays status of virtual keyswitch. | `show /SYS keyswitch_state` |
| `showsc` [*param*] | Displays the current non-volatile random access memory (NVRAM) configuration parameters. | `show` *target property* |
| `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` | Generates Secure Shell (SSH) host keys and displays the host key fingerprint on the SC. | `show /SP/services/ssh/keys rsa\|dsa` |
| `ssh-keygen -r` | | `set /SP/services/ssh generate_new_key_action= true` |
| `ssh-keygen -t {rsa\|dsa}` | | `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 to ALOM CMT. | `create /SP/users/`*username* |

**TABLE:** ALOM CMT Shell Configuration Commands *(Continued)*

| ALOM CMT Command | Summary | Comparable ILOM Command |
|---|---|---|
| `userdel` *username* | Deletes a user account from ALOM CMT. The `-y` option enables you to skip the confirmation question. | `delete /SP/users/`*username* |
| `userdel -y` *username* | | `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. | `set /SP/users/`*username* `role=` *permissions* (where *permissions* are `Administrator` or `Operator`) |

**TABLE:** ALOM CMT Shell Log Commands

| ALOM CMT Command | Summary | Comparable ILOM Command |
|---|---|---|
| `showlogs` [`-b` *lines*\|`-e` *lines*\|`-v`] [`-g` *lines*] [`-p` *logtype*`[r\|p]]` | Displays the history of all events logged in the ALOM CMT RAM event log, or major and critical events in the persistent log. The –p option selects whether to display entries only from the RAM event log (*logtype* `r`) or the persistent event log (*logtype* `p`). | `show /SP/logs/event/list`<br><br>No equivalent in ILOM |
| `consolehistory` [`-b` *lines*\|`-e` *lines*\|`-v`] [`-g` *lines*] [`boot\|run`] | Displays the host server console output buffers. | `show /SP/console/history` |

**TABLE:** ALOM CMT Shell Status and Control Commands

| ALOM CMT Command | Summary | Comparable ILOM Command |
|---|---|---|
| `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` | Connects to the host system console. The `-f` option forces the console write lock from one user to another. | `start /SP/console` |
| `console -f` | | No equivalent in ILOM |
| `break -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` |
| `break -D` | | `set /HOST send_break_action=dumpcore` |
| `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* is `state`, `config`, or `script`] |
| `flashupdate -s` *IPaddr* `-f` *pathname* [`-v`] | Downloads and updates system firmware (both host firmware and ALOM CMT 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* |

**TABLE:** ALOM CMT Shell Status and Control Commands *(Continued)*

| ALOM CMT Command | Summary | Comparable ILOM Command |
|---|---|---|
| `reset [-c]` | Attempts to gracefully reset the system. If that fails, this option forcefully reset the system. | `reset /SYS` |
| `reset [-y][-c]` | | `reset -script /SYS` |
| `reset -f` | Forcefully resets the system. | `reset -f /SYS` |
| `reset -d` | Attempts to gracefully reset the control domain. If that fails, this option forcefully reset the control domain. | `reset /HOST/domain/control` |
| `reset [-d][-f]` | Forcefully resets the control domain. | `reset - f /HOST/domain/control` |
| `reset [-d][-n]` | When resetting the control domain, this option may automatically boot (this is the default behavior when the `auto-boot` option is *not* specified). | `set /HOST/domain/control auto-boot=disable reset /HOST/domain/control` |
| `reset [-d][-f][-n]` | When resetting the control domain, this option does not automatically boot and stays at the OpenBoot `ok` prompt. This option overrides all reboot variables and stops the control domain at the OpenBoot `ok` prompt after host reset. The `auto-boot?` option remains unchanged, thus subsequent reset commands automatically reboot host if the `auto-boot?` option is set to `true`. | `set /HOST/domain/control auto-boot=disable reset -f /HOST/domain/control` |
| `powercycle [-y] [-f]` | `poweroff` followed by `poweron`. The `-f` option forces an immediate `poweroff`, otherwise the command attempts a graceful shutdown. | `stop /SYS` `start /SYS` |
| `powercycle -y` | | `stop -script /SYS` `start -script /SYS` |
| `powercycle -f` | | `stop -force /SYS` `start -force /SYS` |

**TABLE:** ALOM CMT Shell Status and Control Commands *(Continued)*

| ALOM CMT Command | Summary | Comparable ILOM Command |
|---|---|---|
| `poweroff` | Removes the main power from the host server. The `-y` option enables you to skip the confirmation question. ALOM CMT attempts to shut the server down gracefully. The `-f` option forces an immediate shutdown. | `stop /SYS` |
| `poweroff -y` | | `stop -script /SYS` |
| `poweroff -f` | | `stop -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 /SP/faultmgmt` |
| `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` |

**TABLE:** ALOM CMT Shell FRU Commands

| ALOM CMT Command | Summary | Comparable ILOM Command |
|---|---|---|
| `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. | No equivalent in ILOM |
| `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` |

**TABLE:** ALOM CMT Shell Automatic System Recovery (ASR) Commands

| ALOM CMT Command | Summary | Comparable ILOM Command |
|---|---|---|
| `enablecomponent` *asr-key* | Removes a component from the `asr-db` blacklist. | `set /SYS/`*component* `component_state=enabled` |
| `disablecomponent` *asr-key* | Adds a component to the `asr-db` blacklist. | `set /SYS/`*component* `component_state=disabled` |
| `showcomponent` *asr-key* | Displays system components and their test status (ASR state). | `show /SYS/`*component* `component_state` |
| `clearasrdb` | Removes all entries from the asr-db blacklist. | No equivalent in ILOM |

**TABLE:** ALOM CMT Shell Miscellaneous Commands

| ALOM CMT Command | Summary | Comparable ILOM Command |
|---|---|---|
| `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` | Reboots ALOM CMT. The `-y` option enables you to skip the confirmation question. | `reset /SP` |
| `resetsc -y` | | `reset -script /SP` |
| `userclimode` | Sets the type of shell to *shelltype*, where *shelltype* is `default` or `alom`. | `set /SP/users/username cli_mode=`*shelltype* |
| `logout` | Logs out from an ALOM CMT shell session. | `exit` |
| `setsc sys_ioreconfigure` *value* | Sets the `ioreconfiguration` parameter to *value*, where *value* is `true`,`false`, or `next-boot` | `set /HOST ioreconfigure=`*value* |

### Related Information

- "Create an ALOM CMT Compatibility Shell" on page 50

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