Oracle® Integrated Lights Out Manager (ILOM) 3.0

Supplement for the Sun Netra T5220 Server

Part No. 820-6892-12
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Contents

Preface

This supplement contains information about the Oracle Integrated Lights Out Manager (ILOM) for the Sun Netra T5220 server from Oracle. The ILOM service processor enables you to remotely manage and administer your servers. You should be an experienced system administrator with a knowledge of UNIX commands.

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 the following for this information:

- Software documentation that you received with your system
- Oracle Solaris OS 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	#
ILOM service processor	->
OpenBoot PROM firmware	ok

Typographic Conventions

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

Note – Characters display differently depending on browser settings. If characters do not display correctly, change the character encoding in your browser to Unicode UTF-8.

Related Documentation

The following table lists the documentation for this product. The online documentation is available at:

http://docs.sun.com/app/docs/prod/server.nebs

Application	Title	Part Number	Format	Location
Planning	*Sun Netra T5220 Server Site Planning Guide*	820-3008	PDF	Online
Installation	*Sun Netra T5220 Server Installation Guide*	820-3009	PDF, HTML	Online
Administration	*Sun Netra T5220 Server Administration Guide*	820-3010	PDF, HTML	Online
ILOM reference	*Oracle Integrated Lights Out Manager (ILOM) 2.0 Supplement for the Sun Netra T5220 Server*	820-3011	PDF, HTML	Online
ILOM reference	*Oracle Integrated Lights Out Manager (ILOM) 3.0 Supplement for the Sun Netra T5220 Server*	820-6892	PDF, HTML	Online
Issues & updates	*Sun Netra T5220 Server Service Manual*	820-3012	PDF, HTML	Online
Service	*Sun Netra T5220 Server Safety and Compliance Guide*	820-3013	PDF, HTML	Online
Updates	*Sun Netra T5220 Server Product Notes*	820-3014	PDF, HTML	Online

Documentation, Support, and Training

Sun Function	URL
Documentation	http://docs.sun.com/
Support	http://www.sun.com/support/
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Include the title and part number of your document with your feedback:

Oracle Integrated Lights Out Manager (ILOM) 3.0 Supplement for the Sun Netra T5220 Server, part number 820-6892-12

CHAPTER 1

ILOM for the Sun Netra T5220 Server

This chapter introduces ILOM for the Sun Netra T5220 server.

This chapter contains the following sections:

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 *Oracle Integrated Lights Out Manager (ILOM) 3.0 Concepts Guide*.

Note – For information about upgrading, installing, and configuring ILOM on your service processor see the firmware installation instructions in the *Sun Netra T5220 Server Installation Guide* and the product notes for your server.

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 and not to all. This document describes features that belong to the Sun Netra T5220 server, augmenting the set of features described in the Integrated Lights Out Manager 3.0 core documentation.

Note – To perform some procedures documented in the Integrated Lights Out Manager 3.0 core documentation, you must create a serial connection to the server and activate the Physical Presence switch on the server. The Physical Presence switch on the Sun Netra T5220 server is the Locator button. For information about creating a serial connection to your server, see the *Sun Netra T5220 Server Administration Guide*.

ILOM Features Not Supported in Sun Netra Servers

Among the ILOM features supported on other platforms, ILOM does not support the following features on the server:

- The KVMS features of ILOM Remote Console. However, ILOM Remote Console does provide remote serial console on the Sun Netra T5220 server.
- Chassis Monitoring Module (CMM) features, such as single sign-on.

The remainder of this document describes the ILOM features that are supported on the server.

CHAPTER 2

Managing the Host

This chapter contains information on ILOM features in the Sun Netra T5220 server 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 chapter consists of:

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 in both the ILOM and ALOM compatibility CLIs, see Table B-6, ALOM CMT Shell Miscellaneous Commands

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 that might be incorrect, to set up OpenBoot variables using a script, or 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.

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.

▼ Manage the Host Boot Mode LDoms Configuration (CLI)

- **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 bootmode config=ldm-set1
```

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

For example:

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

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

▼ Change the Host Boot Mode Behavior at Reset (CLI)

The /HOST/bootmode state property controls how OpenBoot 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.

- **Type:**

```
-> set /HOST/bootmode script=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 – `state=reset_nvram` returns to normal after the next server reset or 10 minutes (see `expires` property in "Display Host's Boot Mode Expiration Date (CLI)" on page 6). `config` and `script` properties do not expire and will be cleared upon the next server reset or manually by setting *value* to "".

▼ Manage the Host Boot Mode Script (CLI)

- **Type:**

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

where `script` controls the host server OpenBoot PROM firmware method of booting. script does not affect the current `/HOST/bootmode` setting. *value* 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, the OpenBoot PROM 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.

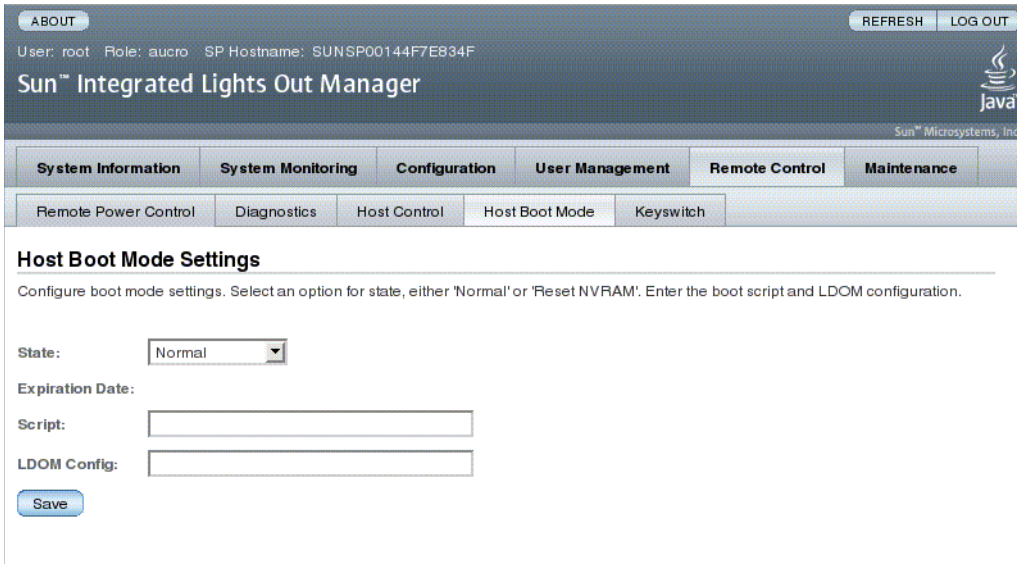
▼ Display Host's Boot Mode Expiration Date (CLI)

- **Type:**

```
-> show /HOST/bootmode expires
     Properties:
        expires = Thu Oct 16 18:24:16 2008
```

where expires is the date and time when the current boot mode will expire.

▼ View or Configure Boot Mode Settings (Web Interface)



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

- 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.**

Viewing and Configuring Host Control Information

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

▼ Display the Host's MAC Address (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.

`/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).

- **Type:**

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

▼ Display the Host's OpenBoot Version (CLI)

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

- **Type:**

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

▼ Display the Host's POST Version (CLI)

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

- **Type:**

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

▼ Specify Host Behavior After the Host Resets (CLI)

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

- **Type:**

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

where *value* can be:

- `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.

▼ Specify Host Behavior When the Host Stops Running (CLI)

Use the `/HOST autorestart` property to specify what ILOM should do when the host leaves the `RUNNING` state (when the watchdog timer expires).

- **Type:**

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

where *value* 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.

Managing Automatic Restart

Your server supports automatic restart.

▼ Set the Boot Timeout Interval

- **Set the time delay between a request to boot the host and booting the host:**

```
-> set /HOST boottimeout=seconds
```

The default value of `boottimeout` is `0` (zero seconds).

▼ Specify System Behavior at Boot Timeout

- **Specify system behavior at the completion of `boottimeout`:**

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

where *value* can be:

- `none` (the default)
- `reset`

▼ Specify System Behavior if Restart Fails

- **Type:**

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

where *value* can be:

- `powercycle`
- `poweroff` (the default)

This action takes effect if the host fails to reach the the `Solaris running` state.

▼ Specify Maximum Restart Attempts

- **Type:**

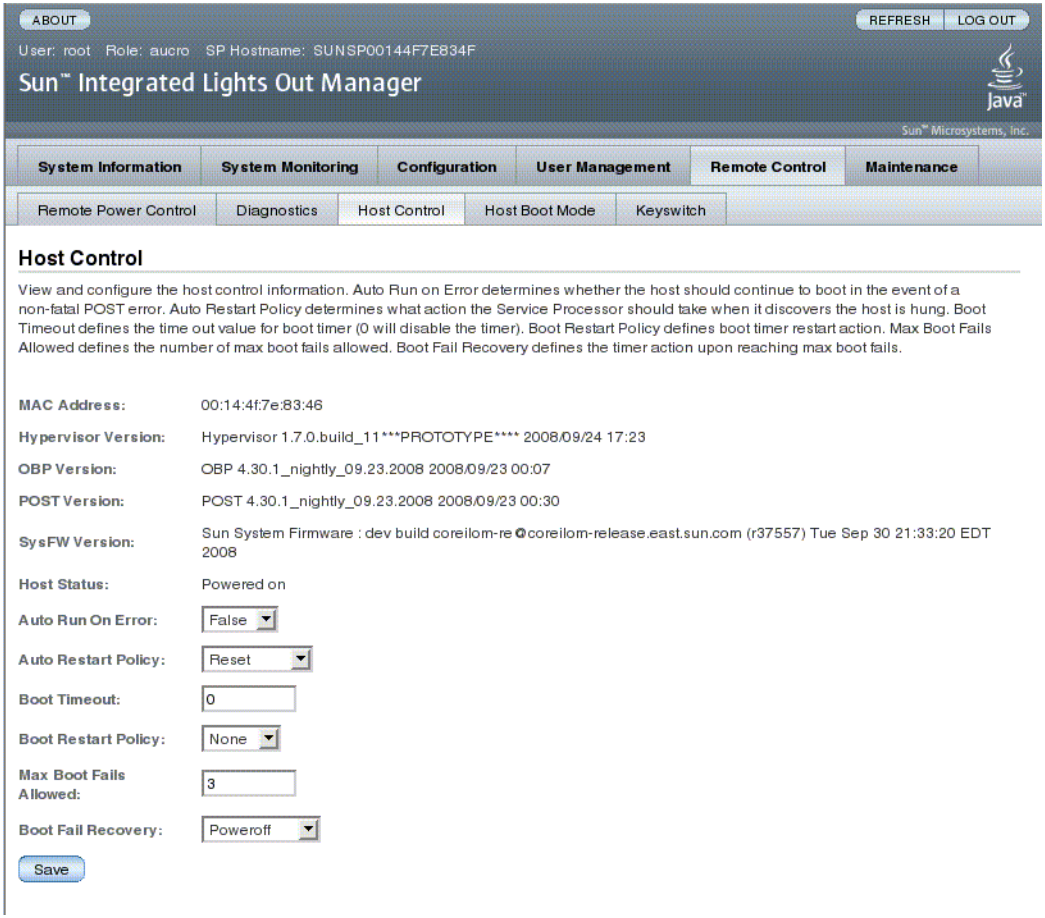
```
-> set /HOST maxbootfail=attempts
```

The default value of `maxbootfail` is `3` (three attempts).

If the host does not boot successfully within the number of tries indicated by `maxbootfail`, the host is powered off or powercycled (depending upon the setting of `bootfailrecovery`). In either case, `boottimeout` is set to `0` (zero seconds), disabling further attempts to restart the host.

▼ View and Configure Host Control Information (Web Interface)

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



ILOM enables you to view or configure several host control features. There are six aspects to host control:

- Auto Run On Error
- Auto Restart Policy
- Boot timeout
- Boot restart policy
- Maximum boot failures allowed
- Boot failure recovery

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 Hypervisor version.**
5. **View the OpenBoot version.**
6. **View the POST version.**
7. **View the System Firmware version.**
8. **View the Host status.**
9. **Select a value for Auto Run On Error, if desired.**
10. **Select a value for Auto Restart Policy, if desired.**
11. **Select a value for Boot Timeout, if desired.**
12. **Select a value for Boot Restart Policy, if desired.**
13. **Select a value for Maximum Boot Failures Allowed, if desired.**
14. **Select a value for Boot Failure Recovery, if desired.**
15. **Click on Save.**

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 (CLI)" on page 13
- "Display Host Status Information (CLI)" on page 14

▼ Enable the System to Send a Break Signal or Force a Core Dump (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` command brings the server into debug mode.

Specify `send_break_action=dumpcore` to force a core dump.

- **Type:**

```
-> set send_break_action=value
```

where *value* can be:

- `break` – Sends a break to the host.
- `dumpcore` – Forces a panic core dump of the managed system OS (not supported by all OS versions).

▼ Display Host Status Information (CLI)

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

- **Type:**

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

For example:

```
-> show /HOST status
  /HOST
   Properties:
       status = Solaris running

   Commands:
       cd
       set
       show
->
```

CHAPTER 3

Managing the Service Processor

This chapter contains information on ILOM properties in the Sun Netra T5220 server that augment the array of properties that are common to ILOM on other platforms. In particular, this chapter covers properties in the `/SP` namespace. This chapter consists of:

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 (CLI)

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

- **Type:**

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

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

▼ Change System Identification Information (CLI)

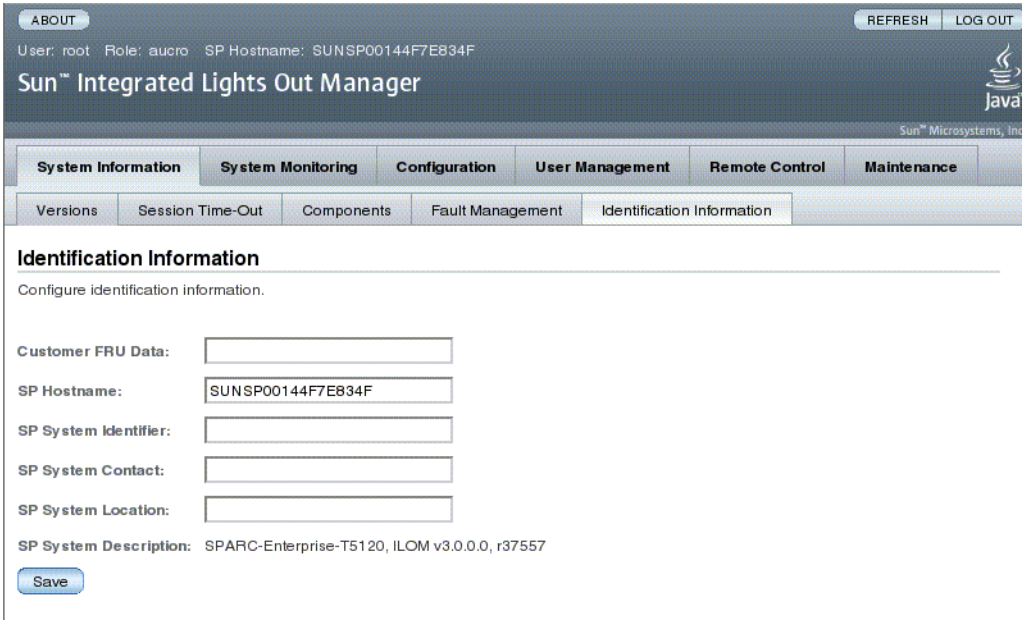
Use the `/SP system_identifier` property to store customer identification information.

- **Type:**

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

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

▼ Change Customer Identification Information (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. **Edit the SP System Contact field, if desired.**
7. **Edit the SP System Location field, if desired.**
8. **View the SP System Description.**
9. **Click Save.**

Displaying Console History (CLI)

This section describes displaying the host server console output buffer.

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 permission to use this command.

- "Display Console History (CLI)" on page 17
- "Change Console Escape Characters (CLI)" on page 18

▼ Display Console History (CLI)

- **Type:**

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

where *property* can be:

- `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 (CLI)

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

- **Type:**

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

where *property* can be any printable characters.

The sequence is limited to two characters. The default value is #. (Hash-Period). You can customize the sequence.

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

Changing Configuration Policy Settings

This section describes managing configuration system policies using ILOM.

- "Disable or Re-Enable Power-On Delay (CLI)" on page 20
- "Manage Configuration Policy Settings (Web Interface)" on page 21

▼ Specify Backup of the User Database (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.

- **Type:**

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

where *value* can be:

- `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
```

▼ Restore Host Power State at Restart (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 nonvolatile 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.

- **Type:**

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

where *value* can be:

- `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. For further information, see "Disable or Re-Enable Power-On Delay (CLI)" on page 20.

▼ Specify Host Power State at Restart (CLI)

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.

- **Type:**

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

where *value* can be:

- `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).

▼ Disable or Re-Enable Power-On Delay (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 power on helps minimize current surges on the main power source. This power-on delay is important when multiple servers in racks power on after a power outage.

- **Type:**

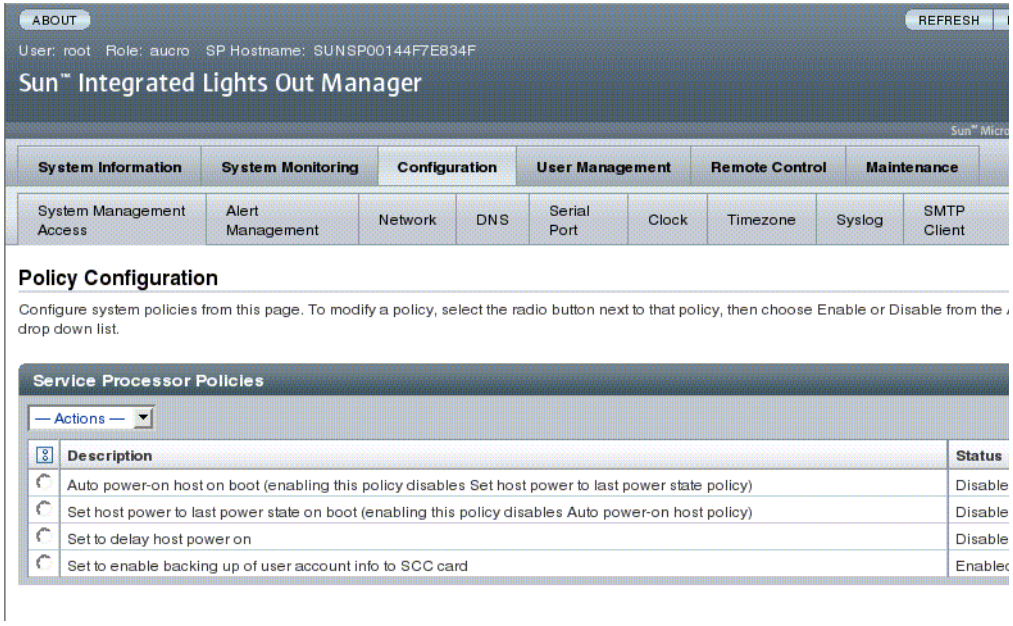
```
-> set /SP/policy HOST_POWER_ON_DELAY=value
```

where *value* can be:

- `enabled`

- `disabled` (the default)

▼ Manage Configuration Policy Settings (Web Interface)



1. **Log in to the ILOM web interface as Administrator (root) to open the web interface.**
2. **Select Configuration -> Policy.**
3. **Select an Action value to apply the Action (enable or disable) you have chosen.**

Managing Network Access

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

- "Disable or Re-Enable Network Access to the SP (CLI)" on page 22
- "Display the DHCP Server's IP Address (CLI)" on page 22

▼ 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.

- **Type:**

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

where *value* can be:

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

▼ 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

  /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
```

CHAPTER 4

Managing Devices

This chapter contains information on ILOM properties for the Sun Netra T5220 server from Oracle that augment the array of properties that are common to ILOM on other platforms. In particular, this chapter covers properties in the `/SYS` namespace.

Managing Virtual Keyswitch Settings

▼ Specify Host Behavior

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

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

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

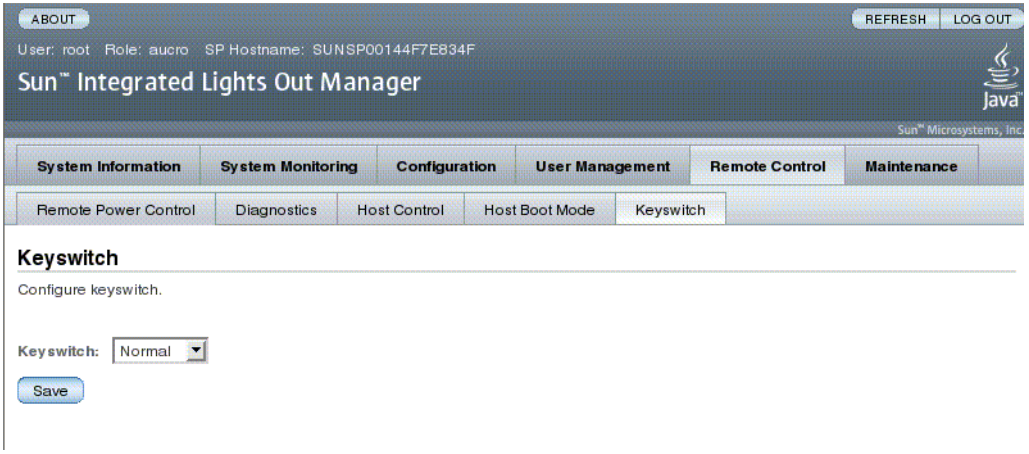
where *value* can be:

- `normal` – The system can power itself on and start the boot process (the default).
- standby – 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=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=break`.

▼ Control the Virtual Keyswitch (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.**

APPENDIX **A**

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 the Sun Netra T5440 Server Server

TABLE A-1 Sensors on the Sun Netra T5220 Server

Name	Path	Description
/FBn/FMn/Fn/TACH	/SYS/FBn/FMn/Fn/TACH	Fan Board (0–1) Fan Module (0–3) Fan (0–1) Speed sensor
/FBn/FMn/PRSNT	/SYS/FBn/FMn/PRSNT	Fan Board (0–1) Fan Module (0–3) Presence sensor
/FBn/PRSNT	/SYS/FBn/PRSNT	Fan Board (0–1) Presence sensor
/HDDn/PRSNT	/SYS/HDDn/PRSNT	Hard Disk (0–15) Presence sensor
/MB/CMPn/T_BCORE	/SYS/MB/CMPn/T_BCORE	Bottom of Core Temperature sensor for CMP (0–1)
/MB/CMPn/T_TCORE	/SYS/MB/CMPn/T_TCORE	Top of Core Temperature sensor for CMP (0–1)
/MB/I_USBn	/SYS/MB/I_USBn	USB Port (0–1) Current sensor
/MB/I_VCOREL	/SYS/MB/I_VCOREL	CPU 0 Core Current Threshold sensor
/MB/I_VCORER	/SYS/MB/I_VCORER	CPU 1Core Current Threshold sensor
/MB/MRn/V_+1V5	(Inaccessible, used internally)	Memory Riser (0-1) Memory Voltage Threshold sensor
/MB/MRn/V_+1V5	(Inaccessible, used internally)	Memory Riser (0-1) 1.5 Voltage Threshold sensor
/MB/MRn/V_VMEM	(Inaccessible, used internally)	Memory Riser (0-1) Memory Voltage Threshold sensor
/MB/P0/MR0/P	/SYS/MB/P0/MR0/PRSNT	CMP 0 Riser 0 Presence sensor

TABLE A-1 Sensors on the Sun Netra T5220 Server *(Continued)*

Name	Path	Description
/MB/P1/MR1/P	/SYS/MB/P1/MR1/PRSNT	CMP 1 Riser 1 Presence sensor
/MB/Pn/CBUS_BTn	(Inaccessible, used internally)	CPU (0-1) CPU Attachment (0-11) Fault sensor
/MB/RSR0/XAUI0/P	(Inaccessible, used internally)	Riser Board 0 XAUI 0 Presence sensor
/MB/RSR1/XAUI1/P	(Inaccessible, used internally)	Riser Board 1 XAUI 1 Presence sensor
/MB/T_AMB	/SYS/MB/T_AMB	Ambient Temperature Threshold sensor
/MB/T_BUS_BAR*n*	/SYS/MB/T_BUS_BAR*n*	Motherboard Bus Bar (0–1)Temperature
/MB/V_+12V0_MAIN	/SYS/MB/V_+12V0_MAIN	12V Main 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_1V0_VDD	/SYS/MB/V_1V0_VDD	1V Main Voltage Threshold sensor
/MB/V_1V2_VDD	/SYS/MB/V_1V2_VDD	1.2V Main Voltage Threshold sensor
/MB/V_1V5_IO	/SYS/MB/V_1V5_IO	1.5V IO Voltage Threshold sensor
/MB/V_1V5_VDD	/SYS/MB/V_1V5_VDD	1.5V Main Voltage Threshold sensor
/MB/V_5V0_VCC	/SYS/MB/V_5V0_VC	5V Main Voltage Threshold senso
/MB/V_VBAT	/SYS/MB/V_VBAT	Battery Voltage Threshold sensor
/MB/V_VCOREL	/SYS/MB/V_VCOREL	CPU 0 Core Voltage Threshold sensor
/MB/V_VCOREL_POK	/SYS/MB/V_VCOREL_POK	Core Power for CPU 0 Within Specification sensor
/MB/V_VCORER	/SYS/MB/V_VCORER	CPU 1 Core Voltage Threshold sensor

TABLE A-1 Sensors on the Sun Netra T5220 Server *(Continued)*

Name	Path	Description
/MB/V_VCORER_POK	/SYS/MB/V_VCORER_POK	Core Power for CPU 1 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	/SYS/MB/MRn/V_VTTL	Left Memory Riser (0–1) VTT Voltage
/MB/V_VTTR	/SYS/MB/MRn/V_VTTR	Right Memory Riser (0–1) VTT Voltage
/MB/VMEML_POK	/SYS/MB/VMEML_POK	Left Memory Branch Power Within Specification sensor
/MB/VMEMR_POK	/SYS/MB/VMEMR_POK	Right Memory Branch Power Within Specification sensor
/P0/BRn/CHn/Dn/PRSNT	/SYS/P0/BRn/CHn/Dn/PRSNT	CMP 0 Riser 0 Branch (0–1) Channel (0–1) DIMM (2–3) Presence sensor
/P0/BRn/CHn/Dn/T	/SYS/P0/BRn/CHn/Dn/T	CMP 0 Riser 0 Branch (0–1) Channel (0–1) DIMM (2–3) Temperature sensor
/P1/BRn/CHn/Dn/PRSNT	/SYS/P1/BRn/CHn/Dn/PRSNT	CMP 1 Riser 1 Branch (0–1) Channel (0–1) DIMM (2–3) Presence sensor
/P1/BRn/CHn/Dn/T	/SYS/P1/BRn/CHn/Dn/T	CMP 1 Riser 1 Branch (0–1) Channel (0–1) DIMM (2–3) Temperature sensor
/PDB/+5V0_POK	(Inaccessible, used internally)	PDB 5.0V Power Within Specification sensor
/Pn/BRn/CHn/Dn/P	/SYS/Pn/BRn/CHn/Dn/PRSNT	CMP (0–1) Branch (0–1) Channel (0–1) DIMM (0–1) Presence sensor
/Pn/BRn/CHn/Dn/T	/SYS/Pn/BRn/CHn/Dn/T	CMP (0–1) Branch (0–1) Channel (0–1) DIMM (0–1) Temperature sensor
/PSn/AC_POK	/SYS/PSn/AC_POK	Power Supply (0–1) AC Power sensor

TABLE A-1 Sensors on the Sun Netra T5220 Server *(Continued)*

Name	Path	Description
/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/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
/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
/USBBD/PRSNT	(Inaccessible, used internally)	USB Board Presence 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

TABLE A-1 Sensors on the Sun Netra T5220 Server *(Continued)*

Name	Path	Description
/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

Indicators on the Sun Netra T5440 Server

TABLE A-2 Indicators on the Sun Netra T5220 Server

Name	Path	Description
ACT	/SYS/ACT	System Power Activity 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
LOCATE	/SYS/LOCATE	Locate indicator
/P0/BRn/CHn/Dn/S	/SYS/MB/CMP0/MR0/BRn/CHn/Dn/SERVICE	CMP 0 Riser 0 Branch (0–1) Channel (0–1) DIMM (2–3) Service indicator
/P1/BRn/CHn/Dn/S	/SYS/MB/CMP1/MR1/BRn/CHn/Dn/SERVICE	CMP 1 Riser 1 Branch (0–1) Channel (0–1) DIMM (2–3) Service indicator
/Pn/BRn/CHn/Dn/S	/SYS/MB/CMPn/BRn/CHn/Dn/SERVICE	CMP (0–1) Branch (0–1) Channel (0–1) DIMM (0–1) Service indicator
/PS_FAULT	/SYS/PS_FAULT	Power Supply Fault indicator
SERVICE	/SYS/SERVICE	Service indicator

TABLE A-2 Indicators on the Sun Netra T5220 Server *(Continued)*

Name	Path	Description
/SYS/HDD*n*/OK2RM	/SYS/HDD*n*/OK2RM	Hard Disk (0-15) Okay to Remove indicator
/SYS/HDD*n*/SERVICE	/SYS/HDDn/SERVICE	Hard Disk (0–15) Service indicator
/TEMP_FAULT	/SYS/TEMP_FAULT	Temperature Fault indicator

APPENDIX **B**

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 chapter describes those differences. This chapter 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 or in the product notes for your server.

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 (and the ALOM CMT compatibility shell) you must commit the changed values rather than resetting the service processor.

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.

▼ Commit a Change to a Network Configuration Property

1. **Change the value of the target network configuration property.**
2. **Commit the change.**

   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'
```

▼ 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 "Comparing ILOM and ALOM CMT Command" on page 39 for a list of variables and corresponding properties.

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

Creating 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.

Note – If you have performed an upgrade of the firmware from an earlier version and selected the option to preserve the settings of your earlier version of ILOM, you can continue to use your prior settings (including the username `admin` and password) without recreating the `admin` username, described in this section. If you use the original password for the username `root` supplied with ILOM firmware, ILOM warns you that the password is still set to the factory default.

▼ Create an ALOM CMT Compatibility Shell

1. **Log onto the service processor with a username that has been assigned the user management (`u`) role.**

   When powered on, the SP boots to the ILOM login prompt.

```
XXXXXXXXXXXXXXXXX login: username
Password:
Waiting for daemons to initialize...
Daemons ready

Integrated Lights Out Manager
```

```
Version 3.0.x.x

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Warning: password is set to factory default.

->
```

2. **Create a user named** `admin`, **and set the** `admin` **account roles to** `aucro` **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=aucro
Set 'role' to 'aucro'

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

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

You can combine the `create` and `set` commands on a single line:

```
-> create /SP/users/admin role=aucro 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.**

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

Daemons ready

Integrated Lights Out Manager

Version 3.0.x.x

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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. The ALOM CMT compatibility shell is an ILOM interface. The comparisons between the ILOM CLI and the ALOM CMT compatibility CLI are described in "Comparing ILOM and ALOM CMT Command" on page 39.

Comparing ILOM and ALOM CMT Command

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. ALOM CMT command-line arguments that have no corresponding ILOM properties 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. These commands al ways provide verbose output.

ALOM CMT Shell Configuration Commands

TABLE B-1 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` [`-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=[none]`
`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

TABLE B-1 ALOM CMT Shell Configuration Commands *(Continued)*

ALOM CMT Command	Summary	Comparable ILOM Command
`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 -g` *lines*	Displays a list of users currently logged in to ALOM CMT. The display for this command has a similar format to that of the UNIX command `who`. The `-g` option pauses the display after the number of lines you specify for *lines*.	`show -level all -o table /SP/sessions` No equivalent in ILOM for `-g` option
`showhost` version	Displays version information for host-side components. The *version* option displays the same information as the `showhost` command with no option.	`show /HOST`
`showkeyswitch`	Displays status of virtual keyswitch.	`show /SYS keyswitch_state`
`showsc` [*param*]	Displays the current nonvolatile 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`

TABLE B-1 ALOM CMT Shell Configuration Commands *(Continued)*

ALOM CMT Command	Summary	Comparable ILOM Command
`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 and permission levels, and whether passwords are assigned.	`show /SP/users`
`useradd` *username*	Adds a user account to ALOM CMT.	`create /SP/users/`*username*
`userdel -y` *username*	Deletes a user account from ALOM CMT. 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`] [`o`] [`s`]	Sets the permission level for a user account.	`set /SP/users/`*username* `role=`*permissions* [`a|u|c|r|o|s`]

ALOM CMT Shell Log Commands

TABLE B-2 ALOM CMT Shell Log Commands

ALOM CMT Command	Summary	Comparable ILOM Command
`showlogs -p [r|p] [-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 of the events from the event log (`p`). `-g` *lines* specifies the number of lines to display before pausing. `-e` *lines* displays *n* lines from the end of the buffer. `-b` *lines* displays *n* lines from the beginning of the buffer. `-v` displays the entire buffer.	`show /SP/logs/event/list` No equivalent in ILOM
`consolehistory [-b` *lines*`|-e` *lines*`|-v] [-g` *lines*`] [boot|run]`	Displays the host server console output buffers. `-g` *lines* specifies the number of lines to display before pausing. `-e` *lines* displays *n* lines from the end of the buffer. `-b` *lines* displays *n* 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`.

ALOM CMT Shell Status and Control Commands

TABLE B-3 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 [-f]`	Connects to the host system console. 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* is `state`, `config`, or `script`)

TABLE B-3 ALOM CMT Shell Status and Control Commands *(Continued)*

ALOM CMT Command	Summary	Comparable ILOM Command
`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 you use DHCP, you can replace `ipaddr` with the name of the TFTP host. The `-y` option enables you to skip the confirmation question. The `-c` option enables you to update system firmware on your server without preserving configuration information. After configuration information has been deleted (by having used the `-c` option or the set `/SP reset_to_defaults=factory` command), you must use the `-c` option when replacing system firmware that includes ILOM 3.0 with firmware that includes ILOM 2.0. If you omit the `-c` option, the `flashupdate` command attempts to restore preserved configuration information, halting the firmware downgrade because that configuration information is absent.	`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/domain/control auto-boot=disable`] `reset [-script] [-force] /HOST/domain/control` [start /SP/console]

TABLE B-3 ALOM CMT Shell Status and Control Commands *(Continued)*

ALOM CMT Command	Summary	Comparable ILOM Command
`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
`poweroff` [`-y`][`-f`]	Removes the main power from the host server. The `-y` option enables you to skip the confirmation question. ALOM CMT attempts to shut the server down gracefully. The `-f` option forces an immediate shutdown.	`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. Use the ILOM `show faulty` command to identify faulted components.	`set /SYS/`*component* `clear_fault_action=true`
`showlocator`	Displays the current state of the Locator LED as either `on` or `off`.	`show /SYS/LOCATE`

ALOM CMT Shell FRU Commands

TABLE B-4 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.	`show` [*FRU*]
`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`

ALOM CMT Shell Automatic System Recovery Commands

TABLE B-5 ALOM CMT Shell Automatic System Recovery (ASR) Commands

ALOM CMT Command	Summary	Comparable ILOM Command
`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 system components and their test status.	`show /SYS/`*component* `component_state`
`clearasrdb`	Removes all entries from the the list of disabled components.	No equivalent in ILOM

ALOM CMT Shell Miscellaneous Commands

TABLE B-6 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` [–y]	Reboots ALOM CMT. The `-y` option enables you to skip the confirmation question.	`reset [-script] /SP`
`userclimode` *username shelltype*	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*

APPENDIX **C**

ALOM CMT Variables

This appendix contains the following topic:

ALOM CMT Variable Comparison

TABLE C-1 ALOM CMT Variables and Comparable ILOM Properties

ALOM CMT Variable	Comparable ILOM Properties
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
mgt_mailalert	/SP/alertmgmt/rules
mgt_mailhost	/SP/clients/smtp address
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

TABLE C-1 ALOM CMT Variables and Comparable ILOM Properties *(Continued)*

ALOM CMT Variable	Comparable ILOM Properties
netsc_ipnetmask	/SP/network pendingipnetmask
sc_backupuserdata	/SP/policy BACKUP_USER_DATA
sc_clieventlevel	N/A
sc_cliprompt	N/A
sc_clitimeout	N/A
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	/SP autorestart
sys_autorunonerror	/SP autorunonerror
sys_boottimeout	/HOST/boottimeout
sys_bootrestart	/HOST bootrestart
sys_maxbootfail	/HOST maxbootfail
sys_bootfailrecovery	/HOST bootfailrecovery
sys_eventlevel	N/A
sys_enetaddr	/HOST macaddress

APPENDIX **D**

Event Messages Available Through the ALOM Compatibility Shell

This appendix contains information about event messages. Topics include:

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 Oracle Solaris OS support this capability.

Event Severity Levels

Each event has a severity level and corresponding number:

- 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

The following table displays usage event messages from the service processor (system controller).

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

Severity	Message	Description
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
Critical
Critical
	`Host has been reset`
	`Host has been powered ff`
	`Host has been powered on`
		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 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 boot mode to reset_nvram with the bootmode command.
Minor	`"root : Set : object = /HOST/bootmode/script: value = "`*`text`*`": success`	ALOM compatibility shell sends this message after a user changes the boot mode boot script. The boot script = "*text*" is the text of the boot script provided by the user.
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.

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

Severity	Message	Description
Minor	"*user*" : open session : object = /session/type: value = www/shell: success	ALOM compatibility shell sends this message when users log in. *user* 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. *user* 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

The following table displays environmental monitoring event messages from the service processor (system contoller).

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

Severity	Message	Description
Major	`SP detected fault at time` *time* *"fault_type* `'fault' at` *location* `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. *fault_type* is the type of failure that has occured, such as temperature, voltage, current, or power supply. 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. 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 D-2 Environmental Monitoring Event Messages *(Continued)*

Severity	Message	Description
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 hreshold.`	
Critical	*Device_type* `at` *location* `has xceeded low nonrecoverable shutdown threshold`	
Major	*Device_type* `at` *location* `has exceeded high warning hreshold`	
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 D-2 Environmental Monitoring Event Messages *(Continued)*

Severity	Message	Description
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

The following table displays host monitoring event messages from the service processor (system controller).

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

Severity	Message	Description
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 that 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.

APPENDIX **E**

SCC Backup and Restore

SPARC servers store in the SCC (system configuration card) a subset of the information backed up and restored by Oracle's Integrated Lights Out Manager (ILOM) 3.0. In case of a server failure in which there is no ILOM backup of SP data, transferring the SCC to the replacement server can provide partial restoration of the failed server's configuration data.

This appendix contains the folowing topic:

Information Stored on the SCC

Note – The version of the data on the SCC must match the version of the SCC daemon running on the SP. If the versions differ, the version on the SCC is ignored. After SP reset, the SCC data is overwritten.

TABLE E-1 ILOM Properties Stored on the SCC

Properties	Targets
/SP/users/*username*/	name password role cli_mode
/SP/network/	ipaddress ipdiscovery ipgateway ipnetmask state
/HOST/diag/	trigger level verbosity mode
/HOST/	autorunonerror autorestart
/SP/policy/	HOST_LAST_POWER_STATE HOST_POWER_ON_DELAY BACKUP_USER_DATA
/SP/services/ssh/state	N/A
/SP/clients/smtp/	address port state
/SP/alertmgmt/rules/[1-15]/ (if the alert is an email alert)	destination level type
/SP/system_identifier	N/A
/SYS/keyswitch	N/A

TABLE E-2 ALOM CMT Conditional Variables

Variable
sc_clipasswecho
sc_cliprompt
sc_clitimeout
sc_clieventlevel
sc_eschapechars

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