



Sun™ Integrated Lights Out Manager 2.0 Supplement for Sun Fire™ USBRDT 5240 Uniboard

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www.sun.com

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Adobe PostScript

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Preface

This supplement contains information about the Integrated Lights Out Manager (ILOM) service processor (SP) for the *Sun Integrated Lights Out Manager 2.0 Supplement for Sun Fire USBRDT 5240 Uniboard*. The SP enables you to remotely manage and administer your server. You should be an experienced system administrator with knowledge of UNIX® commands.

Using UNIX Commands

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

- Software documentation that you received with your system
- Solaris™ Operating System documentation, which is at:
<http://docs.sun.com>

Shell Prompts

Shell	Prompt
C shell	<i>machine-name%</i>
C shell superuser	<i>machine-name#</i>
Bourne shell and Korn shell	\$

Shell	Prompt
Bourne shell and Korn shell superuser	#
ILOM service processor	->
ALOM compatibility shell	sc>

Typographic Conventions

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

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/usbrdt.5240.brd#hic>

Application	Title	Part Number	Format	Location
Latest information	<i>Sun Fire USBRDT 5240 Uniboard Product Notes</i>	820-2451	PDF, HTML	Online
Safety information	<i>Important Safety Information for Sun Hardware Systems</i>	816-7190	Printed	Shipping kit
	<i>Sun Fire USBRDT 5240 Uniboard Safety and Compliance Manual</i>	820-2455	PDF, HTML	Online
Installation	<i>Sun Fire USBRDT 5240 Uniboard Installation Guide</i>	820-2452	PDF, HTML	Online
Integrated Lights Out Manager (ILOM)	<i>Sun Integrated Lights Out Manager 2.0 User's Guide</i>	820-1188	PDF, HTML	Online
	<i>Addendum to the Sun Integrated Lights Out Manager 2.0 User's Guide</i>	820-4198	PDF, HTML	Online
	<i>Sun Integrated Lights Out Manager 2.0 Supplement for Sun Fire USBRDT 5240 Uniboard</i>	820-3087	PDF, HTML	Online
Administration	<i>Sun Fire USBRDT 5240 Uniboard Administration Guide</i>	820-2453	PDF, HTML	Online
Service	<i>Sun Fire USBRDT 5240 Uniboard Service Manual</i>	820-2454	PDF, HTML	Online

The following table lists the documentation that is related to this product.

Application	Location
System Management Services software	http://docs.sun.com/app/docs/prod/servers.high
System Controller Application firmware	http://docs.sun.com/app/docs/prod/servers.mid
Sun Management Center software	http://docs.sun.com/app/docs/prod/sun.mgmt.ctr
Simple Network Management Protocol (SNMP) software	http://docs.sun.com/app/docs/prod/snmp
Logical Domains (LDoms) software	http://docs.sun.com/app/docs/prod/ldoms
Sun Fire midrange servers hardware documentation	http://docs.sun.com/app/docs/prod/servers.mid
Sun Fire high-end servers hardware documentation	http://docs.sun.com/app/docs/prod/servers.high

Documentation, Support, and Training

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

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Sun Integrated Lights Out Manager 2.0 Supplement for Sun Fire USBRDT 5240 Uniboard,
part number 820-3087-10.

ILOM for the Sun Fire USBRDT 5240 Uniboard

This chapter introduces ILOM for the Sun Fire USBRDT 5240 Uniboard.

This chapter contains the following sections:

- [“SPARC® Specific ILOM Features” on page 1](#)
- [“ILOM Features Not Supported on Sun Fire USBRDT 5240 Uniboards” on page 1](#)

SPARC® 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 SPARC Sun Fire USBRDT 5240 Uniboard, augmenting the set of features described in the *Sun Integrated Lights Out Manager 2.0 User's Guide*.

ILOM Features Not Supported on Sun Fire USBRDT 5240 Uniboards

ILOM does not support the following feature on Sun Fire USBRDT 5240 Uniboards:

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

The remainder of this document describes the ILOM features that are supported on Sun Fire USBRDT 5240 Uniboards.

Managing the Host

This chapter contains information on ILOM features on the Sun Fire USBRDT 5240 Uniboard that augment the array of properties common to ILOM on other platforms. In particular, this chapter describes the properties in the `/HOST` namespace. This chapter consists of:

- [“Managing Host Boot Mode” on page 3](#)
 - [“Viewing Host Information and Setting System Policy Concerning Error Conditions” on page 8](#)
 - [“Managing Host Diagnostics” on page 12](#)
 - [“Managing System User Interactions” on page 16](#)
-

Managing Host Boot Mode

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

Boot mode (`bootmode`) properties enable you to override the default method the server uses when it boots. This ability is useful to override particular OpenBoot™ or Logical Domains software (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 boot 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. To prevent an administrator from setting a `bootmode` state property and forgetting about it, a `bootmode` state property expires if the host is not booted within 10 minutes of the `bootmode` state property being set.

TABLE 2-1 shows the ILOM commands for resetting the ILOM service processor and for resetting the host server.

TABLE 2-1 ILOM reset Commands

ILOM Command	Result
<code>reset /SYS</code>	Generates a hardware reset (reboot) of the Solaris OS on the host server.
<code>reset /SP</code>	Generates a reset (reboot) of ILOM on the service processor. Does not boot the Solaris OS.

▼ To Manage the Host’s Boot Mode LDOMs Configuration Using the CLI

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

```
-> 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
```


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

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

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

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

▼ To Change the Host's Boot Mode Behavior 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 boot.

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

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

where *value* is one of the following:

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

Note – `state=reset_nvram` will return to normal after the next server boot or in 10 minutes (see `expires` property in [“To Display Host’s Boot Mode Expiration Date Using the CLI” on page 6](#)). `config` and `script` properties do not expire and will be cleared upon the next server boot or manually by setting *value* to `" "`.

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

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

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

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

▼ To Change Boot Mode Configuration Settings Using the Web Interface

Instructions on logging in to the ILOM web interface are in the *Sun Integrated Lights Out Manager 2.0 User’s Guide*.

ABOUT
REFRESH
LOG OUT

Role (User): Administrator (root) SP Hostname : SUNSP00144F3F8CAF

Sun™ Integrated Lights Out Manager

Sun™ Microsystems, Inc.

System Information
System Monitoring
Configuration
User Management
Remote Control
Maintenance

Remote Power Control
Diagnostics
Host Control
Boot Mode Settings
Keyswitch

Boot Mode

Configure boot mode settings. Select an option for state, either Normal or Reset_nvram. Enter the boot script and LDOM configuration.

State:

Expiration Date: Tue Jan 19 03:14:07 2038

Script:

LDOM Config:

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 LDom configuration file, if desired.
7. Click Save.

Viewing Host Information and Setting System Policy Concerning Error Conditions

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

- [“To Display the Host’s MAC Address Using the CLI” on page 8](#)
- [“To Display the Host’s OpenBoot Version Using the CLI” on page 8](#)
- [“To Display the Host’s POST Version Using the CLI” on page 9](#)
- [“To Specify Host Behavior When the Watchdog Timer Expires Using the CLI” on page 9](#)
- [“To Specify Host Behavior When an Error Is Discovered During Diagnostics Using the CLI” on page 9](#)
- [“To View or Configure Host Information Using the Web Interface” on page 10](#)

▼ To 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.

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

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

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

▼ To Display the Host’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 the following command:

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

▼ To 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 the following command:

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

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

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

- To set this property, type the following command:

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

where *value* can be

- `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.

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

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

- To set this property, type the following command:

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

where *value* 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.

▼ To Display Host Status Information Using the CLI

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

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

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

The command returns information similar to the following:

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


▼ To View or Configure Host Information Using the Web Interface

Instructions on logging in to the ILOM web interface are in the *Sun Integrated Lights Out Manager 2.0 User's Guide*.

ABOUT

REFRESH LOG OUT

Role (User): Administrator (root) SP Hostname : SUNSP00144F7E834F



System Information

System Monitoring

Configuration

User Management

Remote Control

Maintenance

Remote Power Control

Diagnostics

Host Control

Boot Mode Settings

Keyswitch

Host Control

View and configure the host control information. Auto Run on Error determines whether the host should continue to boot in the event of a non-fatal POST error. Auto Restart Policy determines what action the Service Processor should take when it discovers the host is hung.

MAC Address: 00:14:4f:7e:83:46
OBP Version: OBP 4.28.5_nightly_05.07.2008 2008/05/07 00:36
POST Version: POST 4.28.5_nightly_05.07.2008 2008/05/07 01:29
Post Status: Powered off
Auto Run On Error:
Auto Restart Policy:

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.

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:

- [“To Change the Diagnostics Mode Using the CLI” on page 12](#)
- [“To Specify Diagnostic Trigger Conditions Using the CLI” on page 13](#)
- [“To Specify the Level of Diagnostics Using the CLI” on page 13](#)
- [“To Choose the Amount of Verbosity in Diagnostic Output Using the CLI” on page 14](#)
- [“To Manage Diagnostics Settings Using the Web Interface” on page 14](#)

▼ To Change the Diagnostics Mode Using the CLI

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

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

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

where *value* is one of the following:

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

▼ To Specify Diagnostic Trigger Conditions Using the CLI

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

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

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

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

▼ To 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 the following command:

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

where *value* is one of the following:

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

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

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

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

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

where *value* is one of the following:

- `none` – Diagnostics do not print any output on the system console when running, unless a fault is detected.
- `min` – Diagnostics print a limited amount of output on the system console.
- `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.

▼ To Manage Diagnostics Settings Using the Web Interface

Instructions on logging in to the ILOM web interface are in the *Sun Integrated Lights Out Manager 2.0 User's Guide*.

ABOUT

REFRESH

LOG OUT

Role (User): Administrator (root) SP Hostname : SUNSP00144F3F8CAF

Sun™ Integrated Lights Out Manager

Sun™ Microsystems, Inc.

Java™

System Information

System Monitoring

Configuration

User Management

Remote Control

Maintenance

Remote Power Control

Diagnostics

Host Control

Boot Mode Settings

Keyswitch

Diagnostics

Select the level of embedded diagnostics to run on the host during start up. The Trigger contains all possible states to cause diagnostics to be run. The Verbosity level will define how much information will be given. The Update Mode contains all the possible OPS modes specified to POST.

Trigger:

All Resets

Verbosity:

Normal

Level:

Max

Current Mode:

off

Update Mode:

Off

Save

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.

Update mode is the diagnostics mode. It can be set to off, normal, or service. The default is normal.

Managing System User Interactions

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

▼ To Enable the System to Send a Break Signal or 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, specifying `send_break_action=break` brings the server into debug mode. Specify `send_break_action=dumpcore` to force a core dump.

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

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

where *value* is one of the following:

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

The equivalent on the ILOM web interface is through the Remote Control tab, to the Host Control tab, to `autorestart policy`.

Managing the Service Processor

This chapter contains information on ILOM properties on the Sun Fire USBRDT 5240 Uniboard that augments 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” on page 17](#)
- [“Changing Service Processor Settings to Factory Defaults” on page 19](#)
- [“Modifying Console Escape Characters” on page 21](#)
- [“Changing Configuration Policy Settings” on page 21](#)
- [“Displaying Power Management Metrics” on page 24](#)
- [“Monitoring Temperatures” on page 27](#)
- [“Managing Network Access” on page 27](#)
- [“Managing SSH Server Settings” on page 28](#)

Storing Customer Information

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

- [“To Change Customer FRU Data Using the CLI” on page 18](#)
- [“To Change System Identification Information Using the CLI” on page 18](#)
- [“To Change Customer Identification Information Using the Web Interface” on page 18](#)

▼ To Change Customer FRU Data Using the CLI

Use the `/SP customer_frudata` property to store information in the system board FRU PROM. Customer FRU data is any customer-defined free-formatted data string, enclosed in quote marks.

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

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

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

▼ To Change System Identification Information Using the CLI

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

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

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

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

▼ To Change Customer Identification Information Using the Web Interface

Instructions on logging in to the ILOM web interface are in the *Sun Integrated Lights Out Manager 2.0 User's Guide*.

ABOUT REFRESH LOG OUT

Role (User): Administrator (root) SP Hostname : SUNSP00144F3F8CAF

Sun™ Integrated Lights Out Manager

Sun™ Microsystems, Inc.

System Information System Monitoring Configuration User Management Remote Control Maintenance

Versions Session Time-Out Components Fault Management Identification Information

Identification Information

Configure identification information.

Customer FRU Data:

SP Hostname:

SP System Identifier:

Save

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. View the SP Hostname, if desired.
5. Edit the SP System Identifier field, if desired.
6. Click Save.

Changing Service Processor Settings to Factory Defaults

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

- [“To Reset the Service Processor Settings to Factory Defaults Using the CLI” on page 20](#)
- [“To Reset the Service Processor Settings to Factory Defaults Using the Web Interface” on page 20](#)

▼ To 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 the following command:

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

where `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.

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

Instructions on logging in to the ILOM web interface are in the *Sun Integrated Lights Out Manager 2.0 User's Guide*.

The screenshot displays the Sun Integrated Lights Out Manager (ILOM) web interface. At the top, there is a header bar with 'ABOUT' on the left and 'REFRESH' and 'LOG OUT' on the right. Below the header, the user role is 'Administrator (root)' and the SP hostname is 'SUNSP00144F3F8CAF'. The main title is 'Sun™ Integrated Lights Out Manager' with the Java logo and 'Sun Microsystems, Inc.' on the right. A navigation bar contains tabs for 'System Information', 'System Monitoring', 'Configuration', 'User Management', 'Remote Control', and 'Maintenance'. Under the 'Configuration' tab, there are sub-tabs for 'Firmware Upgrade', 'Reset SP', and 'Configuration Management'. The 'Configuration Management' sub-tab is active, showing the 'Configuration Management' section. It includes a description: 'Manage the system configuration on this page. Clicking *Reset Defaults* will restore the system configuration to factory settings.' Below this, there is a 'Reset Defaults:' label followed by a dropdown menu set to 'None'. At the bottom of this section is a 'Reset Defaults' button.

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.

Modifying Console Escape Characters

This section describes creating new character combinations for use as escape characters.

▼ To Change Console Escape Characters Using the CLI

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

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

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

where `xx` can be any printable characters.

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

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

There is no ILOM web interface equivalent for this CLI command.

Changing Configuration Policy Settings

This section describes managing configuration system policies using ILOM.

- [“To Specify Backup of the User Database Using the CLI” on page 22](#)
- [“To Specify Host Power-On Policy Using the CLI” on page 22](#)

- [“To Disable or Re-Enable Power-On Delay Using the CLI” on page 23](#)
- [“To Manage Configuration Policy Settings Using the Web Interface” on page 24](#)

▼ To 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 the following command:

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

where the *value* can be 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 the following command:

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

▼ To 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` property is enabled, ILOM can restore the host to its previous power state. This property is useful in the event of a power failure, or if you physically move the server to a different location.

For example, if the host server is running when power is lost and the `/SP/policy HOST_LAST_POWER_STATE` property is set to `disabled`, the host server remains off when power is restored. If the `/SP/policy HOST_LAST_POWER_STATE` property is set to `enabled`, the host server restarts when the power is restored.

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

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

where the value for this property can be one of the following:

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

If you enable `HOST_LAST_POWER_STATE`, you should configure `/SP/policy HOST_POWER_ON_DELAY` as well. For further information, see [“To Disable or Re-Enable Power-On Delay Using the CLI” on page 23](#).

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.

`HOST_POWER_ON_DELAY` only works when `HOST_LAST_POWER_STATE` is enabled.

▼ To 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 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.

This property takes effect only if `/SP/policy HOST_LAST_POWER_STATE` is set to enabled.

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

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

where *value* can be

- enabled
- disabled (the default)

▼ To Manage Configuration Policy Settings Using the Web Interface

Instructions on logging in to the ILOM web interface are in the *Sun Integrated Lights Out Manager 2.0 User's Guide*.

The screenshot shows the Sun Integrated Lights Out Manager (ILOM) web interface. At the top, there's a header with 'ABOUT', 'REFRESH', and 'LOG OUT' buttons. Below this, it displays 'Role (User): Administrator (root)' and 'SP Hostname : SUNSP00144F3F8CAF'. The main title is 'Sun™ Integrated Lights Out Manager'. A navigation bar includes tabs for 'System Information', 'System Monitoring', 'Configuration', 'User Management', 'Remote Control', and 'Maintenance'. Under 'Configuration', there are sub-tabs: 'System Management Access', 'Alert Management', 'Network', 'Serial Port', 'Clock Settings', 'Syslog', 'SMTP Client', and 'Policy'. The 'Policy' tab is selected, showing the 'Policy Configuration' section. It includes a description: 'Configure system policies from this page. To modify a policy, select the radio button next to that policy, then choose Enable or Disable from the Action drop down list.' Below this is a table titled 'Service Processor Policies' with a dropdown for 'Actions' and a table with columns 'Description' and 'Status'.

Description	Status
<input type="radio"/> Auto power-on host on boot (enabling this policy disables Set host power to last power state policy)	Disabled
<input type="radio"/> Set host power to last power state on boot (enabling this policy disables Auto power-on host policy)	Disabled
<input type="radio"/> Set to delay host power on	Disabled
<input type="radio"/> Set to enable backing up of user account info to SCC card	Enabled

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.

Displaying Power Management Metrics

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

▼ To View Power Management Properties Using the CLI

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

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

For example,

```
-> show /SP/powermgmt

/SP/powermgmt
Targets:

Properties:
    actual_power = 202
    permitted_power = 762
    available_power = 762

Commands:
    cd
    create
    delete
    set
    show
```

where

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

▼ To View the Total Power Consumed by the System

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

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

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

For example,

```
-> show /SYS/VPS

/SYS/VPS
  Targets:

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

  Commands:
    cd
    show
```

▼ To View Power Management Properties Using the Web Interface

Instructions on logging in to the ILOM web interface are in the *Sun Integrated Lights Out Manager 2.0 User's Guide*.

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.

Monitoring Temperatures

Temperature threshold levels are monitored and managed on the Sun Fire USBRDT 5240 Uniboard by ILOM. Thresholds determine under what conditions ILOM will take certain actions, such as issue a warning message or power down the Sun Fire USBRDT 5240 Uniboard if it overheats. See [Appendix A](#) for information on the Sun Fire USBRDT 5240 Uniboard sensors and thresholds.

ILOM also sets a binary normal or high temperature bit that is monitored by the Sun Fire system controller. The Sun Fire system controller firmware sets the fan speeds in the chassis to normal or high based on what ILOM reports. For example, if the board temperature reaches a high warning level, ILOM communicates this condition and requests the chassis fan speeds be set to high. When the board temperature drops below the high warning level, ILOM reports that the board no longer requires extra cooling.

Managing Network Access

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

- [“To Disable or Re-Enable Network Access to the SP Using the CLI” on page 27](#)
- [“To Display the DHCP Server’s IP Address” on page 28](#)

▼ To 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 the following command:

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

where *value* can be

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

▼ To 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.

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

In this example, the DHCP server IP address is 10.8.31.5.

```
-> show /SP/network

/SP/network
Targets:

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

Commands:
    cd
    set
    show
```

Managing SSH Server Settings

- [“To Change the Type of SSH Keys Using the CLI” on page 29](#)
- [“To Generate a New Set of SSH Keys Using the CLI” on page 29](#)
- [“To Restart the SSH Server Using the CLI” on page 29](#)
- [“To Enable or Disable the SSH Service Using the CLI” on page 29](#)
- [“To Manage SSH Server Settings Using the Web Interface” on page 30](#)

▼ To Change the Type of SSH Keys Using the CLI

Use the `set /SP/services/ssh generate_new_key_type` command to change the type of Secure Shell (SSH) host keys generated on your server. After changing the type, 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 the following command:

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

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

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

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

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

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

▼ To Restart the SSH Server Using the CLI

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

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

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

▼ To Enable or Disable the SSH Service Using the CLI

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

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

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

where *value* is

- enabled (the default)
- disabled

▼ To Manage SSH Server Settings Using the Web Interface

Instructions on logging in to the ILOM web interface are in the *Sun Integrated Lights Out Manager 2.0 User's Guide*.

ABOUT

REFRESH

LOG OUT

Role (User): Administrator (root) SP Hostname : SUNSP00144F3F8CAF

Sun™ Integrated Lights Out Manager

Sun™ Microsystems, Inc.

Java™

System Information

System Monitoring

Configuration

User Management

Remote Control

Maintenance

System Management Access

Alert Management

Network

Serial Port

Clock Settings

Syslog

SMTP Client

Policy

Web Server

SNMP

SSL Certificate

SSH Server

SSH Server Settings

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

SSH Server:

Enabled

RSA Key:

Generate RSA Key

RSA Fingerprint:

e1:92:e7:b2:dc:74:95:e1:7e:f9:18:3a:ab:54:7e:16

RSA Key Length:

1024 bits

RSA Public Key:

AAAAB3NzaC1yc2EAAAABIwAAAIEAERT9pFfm3sUg78KI7Qr
+1ws1mbwv15S01/hMTj++1jW1ebI8+u+jvHIn3z1hORURRJc
V9KymcJnRWe1jWRjmc+UkJWUez2xg7Hi jfHs jqHQbmswh61
6FrSDhpcRV0kHS7L8yDT58HgMIIHy6pprakG7Yd9cHek221u0
ErEqUVU=

DSA Key:

Generate DSA Key

DSA Fingerprint:

d7:03:28:55:cc:cc:4f:c5:06:99:da:7b:ec:4c:77:1a

DSA Key Length:

1024 bits

DSA Public Key:

AAAAB3NzaC1kc3MAAACBAIbgDF+t1ghTF1L1tvSHN4ELU5ZQ
mX0KuL7BdKWhf0iqTyWqo6fupvBsB1k29UFVJAP2FEnw6kA0
GgFN2UC3y2r1HtLw4Ufg00blNcZvLoI0Sg8ETZGypLL1H8OFo
xJzGtqJmKxSALcy+GwF4WMB1QOo4sbknA3AY+jszTIEhcnRD
AAAAFQDhvfDKEn+3/xqh34ThFCq7YhnxHwAAAIIB5+a1YIHh0
GgR8SG19HvDDD1cC70p0x91rFR/rIV011ZCPcoCVJ6663E6q
k+PwHloFS5J4Op1XhllauLo6uxH6AatLgHK6bR7zrjH1D6wZED
IdFX7T4YTyEa8+uoRQ1KoorDggKByOq+g71s+uW/A5oEcVKFy
QcKeRpiYQI+6gmKR/QAAAIIBzt6cnhe1RcxyA0dtIw8APlnHr
L3cu7Z110Zn1rkpc7IOo21UUP05Jf21MEYHE8Qc/4qpxjZvnp
PHOCIncpUj jQmrmHizUheZGpHsIe9q2/qhET8UoBSQ9T0VaQ
qQhJr1r5jotcBDxRwHRIHF11FEaptNsQiC+a865P8VY8PPUb
MQ=

1. Log in to the ILOM web interface as Administrator (root) to open the web interface.
2. Select Configuration --> System Management Access -->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.

Managing Devices

This chapter contains information on ILOM properties on the Sun Fire USBRDT 5240 Uniboard that augment the array of properties that are common to ILOM on other platforms. In particular, this chapter covers properties in the `/SYS` namespace.

It contains these sections:

- [“Managing Virtual Keyswitch Settings” on page 33](#)

Managing Virtual Keyswitch Settings

- [“To Control the Virtual Keyswitch Using the CLI” on page 33](#)
- [“To Control the Virtual Keyswitch Using the Web Interface” on page 34](#)

▼ To Control the Virtual Keyswitch Using the CLI

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

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

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

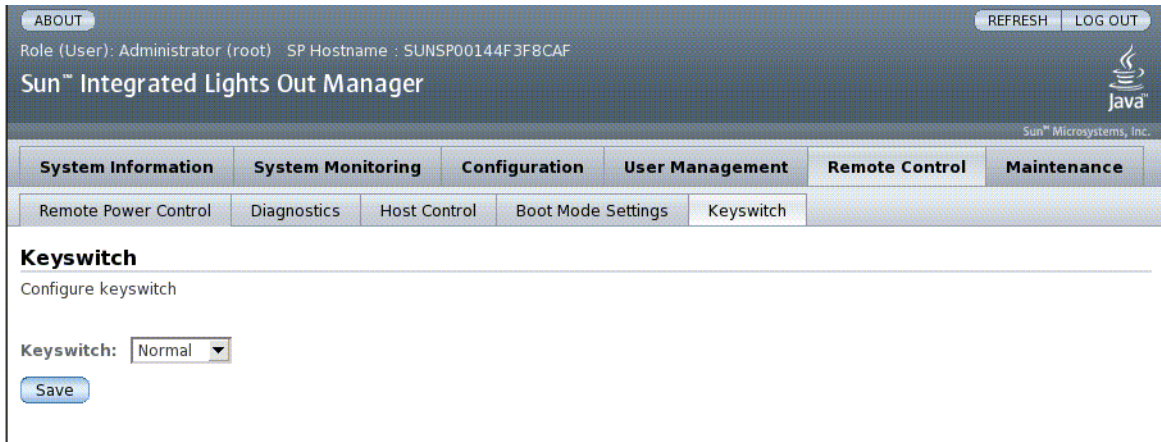
where *value* is one of the following:

- `normal` – The system can power itself on and start the boot process (the default).
- `stby` – The system cannot power itself on.

- **diag** – The system can power itself on using preset values of diagnostic properties (`/HOST/diag level=max`, `/HOST/diag mode=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`.

▼ To Control the Virtual Keyswitch Using the Web Interface

Instructions on logging in to the ILOM web interface are in the *Sun Integrated Lights Out Manager 2.0 User's Guide*.



The screenshot shows the Sun Integrated Lights Out Manager (ILOM) web interface. At the top, there is a header bar with "ABOUT" on the left and "REFRESH" and "LOG OUT" on the right. Below the header, it displays "Role (User): Administrator (root)" and "SP Hostname : SUNSP00144F3F8CAF". The main title is "Sun™ Integrated Lights Out Manager". On the right side of the header, there is a Java logo and "Sun Microsystems, Inc.". Below the header, there is a navigation bar with tabs: "System Information", "System Monitoring", "Configuration", "User Management", "Remote Control", and "Maintenance". Under the "Remote Control" tab, there are sub-tabs: "Remote Power Control", "Diagnostics", "Host Control", "Boot Mode Settings", and "Keyswitch". The "Keyswitch" sub-tab is selected. The main content area is titled "Keyswitch" and contains the text "Configure keyswitch". Below this, there is a label "Keyswitch:" followed by a dropdown menu showing "Normal". At the bottom left of the content area, there is a "Save" button.

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.

IPMI Sensor Reference

The Sun Fire USBRDT 5240 Uniboard includes a number of IPMI-compliant sensors and indicators. Sensors measure voltages and temperature ranges, and detect when components are installed and removed. Indicators, such as Light Emitting Diodes (LEDs) notify you of important conditions, such as when service is required.

This appendix contains these sections:

- [“Sensors on the Sun Fire USBRDT 5240 Uniboard” on page 35](#)
- [“Indicators and System Disks on the Sun Fire USBRDT 5240 Uniboard” on page 38](#)

Sensors on the Sun Fire USBRDT 5240 Uniboard

[TABLE A-1](#) and [TABLE A-2](#) list the temperature sensors and the voltage sensors and their example thresholds on the Sun Fire USBRDT 5240 Uniboard. The threshold numbers on your system may be different. [TABLE A-3](#) lists the current sensors on the Sun Fire USBRDT 5240 Uniboard.

Thresholds determine under what conditions ILOM will take certain actions, such as issue a warning message, begin a soft shutdown of the board, or issue a critical message and begin a hard shutdown of the board.

Sensor thresholds, as well as the current sensor status and current temperature or voltage readings, can be displayed with the `show -level all /SYS` command.

TABLE A-1 Temperature Sensors and Thresholds (Celsius) on the Sun Fire USBRDT 5240 Uniboard

Path and Name	Low Hard	Low Soft	Low Warn	High Warn	High Soft	High Hard	Description
/SYS/MB/T_AMBT	-10	-5	0	50	55	60	Motherboard ambient top Temperature sensor
/SYS/MB/T_AMBB	-10	-5	0	50	55	60	Motherboard ambient bottom Temperature sensor
/SYS/MB/CMP0/T_TCORE	-14	-9	-4	86	96	106	CMP0 core top Temperature sensor
/SYS/MB/CMP0/T_BCORE	-14	-9	-4	86	96	106	CMP0 core bottom Temperature sensor
/SYS/MB/CMP1/T_TCORE	-14	-9	-4	86	96	106	CMP1 core top Temperature sensor
/SYS/MB/CMP1/T_BCORE	-14	-9	-4	86	96	106	CMP1 core bottom Temperature sensor
/SYS/MB/CMP0/BRn/CHn/Dn/T_AMB	-10	-8	-5	95	100	105	CMP0 Branch (0-1) Channel (0-1) DIMM (0-3) ambient Temperature sensor
/SYS/MB/CMP1/BRn/CHn/Dn/T_AMB	-10	-8	-5	95	100	105	CMP1 Branch (0-1) Channel (0-1) DIMM (0-3) ambient Temperature sensor

TABLE A-2 Voltage Sensors and Thresholds (Volts) on the Sun Fire USBRDT 5240 Uniboard

Path and Name	Low Soft	Low Warn	High Warn	High Soft	Description
/SYS/MB/V_+3V3_STBY	3.13	3.17	3.53	3.60	Motherboard +3.3V Standby Voltage sensor
/SYS/MB/V_+3V3_MAIN	3.06	3.10	3.49	3.53	Motherboard +3.3V Main Voltage sensor
/SYS/MB/V_+12V0_IO	10.90	11.15	12.85	13.10	Motherboard +12V Voltage sensor
/SYS/MB/V_+5V0_VCC	4.55	4.65	5.36	5.46	Motherboard +5V Voltage sensor
/SYS/MB/V_+5V0_STBY	4.76	4.81	5.36	5.46	Motherboard +5V Standby Voltage sensor
/SYS/MB/V_VCORER	1.07	1.09	1.20	1.21	Motherboard CMP1 Vcore Voltage sensor
/SYS/MB/V_VCOREL	1.07	1.09	1.20	1.21	Motherboard CMP0 Vcore Voltage sensor
/SYS/MB/V_VMEMLB	1.48	1.51	1.60	1.63	Motherboard CMP0 Vmem Current bottom sensor

TABLE A-2 Voltage Sensors and Thresholds (Volts) on the Sun Fire USBRDT 5240 Uniboard (*Continued*)

Path and Name	Low Soft	Low Warn	High Warn	High Soft	Description
/SYS/MB/V_VMEMLT	1.48	1.51	1.60	1.63	Motherboard CMP0 Vmem Current top sensor
/SYS/MB/V_VMEMRB	1.48	1.51	1.60	1.63	Motherboard CMP1 Vmem Current bottom sensor
/SYS/MB/V_VMEMRT	1.48	1.51	1.60	1.63	Motherboard CMP1 Vmem Current top sensor
/SYS/MB/V_VTTLB	0.74	0.76	0.80	0.82	Motherboard CMP0 VTT Voltage bottom sensor
/SYS/MB/V_VTTLT	0.74	0.76	0.80	0.82	Motherboard CMP0 VTT Voltage top sensor
/SYS/MB/V_VTTRB	0.75	0.76	0.80	0.82	Motherboard CMP1 VTT Voltage bottom sensor
/SYS/MB/V_VTTRT	0.75	0.76	0.80	0.82	Motherboard CMP1 VTT Voltage top sensor
/SYS/MB/V_+12V0R	10.90	11.15	12.85	13.10	Motherboard +12V CMP1 Voltage sensor
/SYS/MB/V_+12V0L	10.90	11.15	12.85	13.10	Motherboard +12V CMP0 Voltage sensor
/SYS/MB/V_+1V0_VDD	0.91	0.94	1.07	1.09	Motherboard +1.0V Voltage sensor
/SYS/MB/V_+1V1_VDD	1.00	1.02	1.18	1.20	Motherboard CMP0/1 IO +1.1V Voltage sensor
/SYS/MB/V_+1V2_IO	1.12	1.13	1.27	1.28	Motherboard +1.2V Voltage sensor
/SYS/MB/V_+1V2_STBY	1.14	1.15	1.28	1.31	Motherboard +1.2V Standby Voltage sensor
/SYS/MB/V_+1V2_NEP0	1.09	1.12	1.28	1.31	Motherboard +1V Neptune sensor
/SYS/MB/V_+1V2_NEP1	1.09	1.12	1.28	1.31	Motherboard +1V Neptune sensor
/SYS/MB/V_NIOV_STBY	1.14	1.15	1.28	1.31	Motherboard +NIOV Standby Voltage sensor
/SYS/MB/V_+2V5_IO	2.33	2.35	2.65	2.68	Motherboard +2.5V Voltage sensor
/SYS/MB/V_+2V5_STBY	2.38	2.40	2.68	2.72	Motherboard +2.5V Standby Voltage sensor
/SYS/MB/V_+1V5_IO	1.39	1.44	1.57	1.61	Motherboard +1.5V Voltage sensor
/SYS/MB/V_+1V5_STBY	1.43	1.44	1.61	1.64	Motherboard +1.5V Standby Voltage sensor
/SYS/MB/V_+1V5_VDDR	1.37	1.39	1.61	1.63	Motherboard +1.5V Right, CMP1 Voltage sensor
/SYS/MB/V_+1V5_VDDL	1.37	1.39	1.61	1.63	Motherboard +1.5V Left, CMP0 Voltage sensor
/SYS/MB/V_+1V8_IO	1.68	1.69	1.91	1.93	Motherboard +1.8V Voltage sensor
/SYS/MB/V_VBAT	--	2.69	--	--	Battery Voltage Threshold sensor

TABLE A-3 Current Sensors on the Sun Fire USBRDT 5240 Uniboard

Path and Name	Description
/SYS/MB/I_USB0_FAULT0	USB Port sensor
/SYS/MB/I_USB0_FAULT1	USB Port sensor
/SYS/MB/I_USB1_FAULT0	USB Port sensor
/SYS/MB/I_USB1_FAULT1	USB Port sensor

Indicators and System Disks on the Sun Fire USBRDT 5240 Uniboard

[TABLE A-4](#) lists the indicators on the Sun Fire USBRDT 5240 Uniboard.

TABLE A-4 Indicators on the Sun Fire USBRDT 5240 Uniboard

Path and Name	Description
/SYS/LOCATE	Locator indicator
/SYS/SERVICE	Service Required indicator
/SYS/ACT	Power/Activity indicator
/SYS/OK2RM	OK to Remove indicator

[TABLE A-5](#) shows the hard disk drives on the Sun Fire USBRDT 5240 Uniboard.

TABLE A-5 System Disks on the Sun Fire USBRDT 5240 Uniboard

Path and Name	Description
/SYS/HDD0	Hard disk drive 0
/SYS/HDD1	Hard disk drive 1

Sun ILOM Remote Console

This appendix describes the Sun ILOM Remote Console and explains how to use it on the Sun Fire USBRDT 5240 Uniboard to support remote storage devices.

This appendix contains these sections:

- “Remote Console Overview” on page 39
- “Configuring ILOM for Remote Management” on page 40
- “Configuring the ILOM Remote Console for Remote Storage Devices” on page 41
- “CD and Diskette Redirection Operation Scenarios” on page 43

Remote Console Overview

The Sun ILOM Remote Console is a Java™ application that you can launch from the ILOM web interface. When you use the Sun ILOM Remote Console, you can remotely redirect and control storage devices. The Sun ILOM Remote Console enables the devices on your local client to behave as if they were directly attached to the remote host server.

The Sun ILOM Remote Console does not require you to install any additional hardware or software. It is built into the ILOM software. However, to run the Sun ILOM Remote Console, you must have the following software installed on your local client:

- **Web browser** – Supported browsers include: Internet Explorer 6.0 or later; Mozilla 1.7.5 or later; Mozilla Firefox 1.0 or later.
- **JRE 1.5 or higher (Java 5.0 or higher)** – To download the Java 1.5 runtime environment, see <http://java.com>.

Configuring ILOM for Remote Management

Before launching the Sun ILOM Remote Console, log in to the ILOM web interface and configure ILOM for remote management.

▼ To Log In to the ILOM Web Interface

1. **Open a web browser and type the IP address of the ILOM service processor.**
The ILOM Login page appears.
2. **On the ILOM Login page, type the user name and password of a valid Administrator.**
3. **Click Log In.**

▼ To Configure ILOM Remote Control Settings Using the Web Interface

1. **In the ILOM web interface, click the Remote Control tab.**

The Remote Control page appears, displaying four second-level tabs, Redirection, Remote Power Control, Mouse Mode Settings, and Diagnostics.

Note – Only Console Redirection is supported with this release of the Sun Fire USBRDT 5240 Uniboard.

2. **In the Remote Control page, click the Redirection tab.**
The Redirection page appears.
3. **Select one of the following console color redirection options:**
 - 8-bit. Select 8-bit redirection for slower network connections.
 - 16-bit. Select 16-bit redirection for faster network connections.

Configuring the ILOM Remote Console for Remote Storage Devices

Make sure you have configured ILOM for remote management. This section contains these procedures:

- [“To Launch the Sun ILOM Remote Console” on page 41](#)
- [“To Start, Stop, or Restart Device Redirection” on page 42](#)
- [“To Redirect Storage Devices” on page 42](#)
- [“To Exit the Sun ILOM Remote Console” on page 43](#)

▼ To Launch the Sun ILOM Remote Console

1. **Log in to the ILOM web interface.**
2. **Click the Remote Control tab.**
The Remote Console page appears.
3. **In the Remote Console page, click the Redirection tab.**
The Redirection page appears.
4. **In the Redirection page, click Launch Redirection.**
A certificate warning message might appear stating that the name of the site does not match the name on the certificate. If this message appears, click Run to continue.
The Sun ILOM Remote Console window appears.

Note – The screen portion on the ILOM Remote Console window might be blank, as ILOM video is not supported in the initial release of the Sun Fire USBRDT 5240 Uniboard.

▼ To Start, Stop, or Restart Device Redirection

1. In the Sun ILOM Remote Console window, click the Redirection menu.
2. In the Redirection menu, specify, if necessary, any of the following redirection options:

Start Redirection	Select Start Redirection to enable redirection of devices. Start Redirection is enabled by default.
Restart Redirection	Select Restart Redirection to stop and start redirection of devices. Typically, this option is used when a valid redirection is still established.
Stop Redirection	Select Stop Redirection to disable the redirection of devices

A confirmation message appears, asking you to confirm changes to the redirection setting.

3. In the Confirmation message, click Yes to proceed or No to cancel the operation.

▼ To Redirect Storage Devices

1. As root, log in to the Solaris OS and perform the following steps:
 - a. If Volume Manager is running, disable it.
 - b. Assign root privileges to the processor that is running the Sun ILOM Remote Console by entering this command:

```
ppriv -s +file_dac_read java_pid
```

where *java_pid* is the process ID number for the java console. For example:

```
ppriv -s +file_dac_read 29027
```

2. In the Sun ILOM Remote Console window, select the Devices menu.
3. In the Devices menu, perform the following steps:
 - a. Select CD-ROM as the appropriate storage device.

A dialog appears prompting you to specify a storage drive location or image file location.
 - b. To specify the storage drive location or image file location, do one of the following:
 - In the Drive Selection dialog, select or type a drive location, then click OK.

- In the File Open dialog, browse to the location of the image, then click OK.
4. To reuse these storage settings on the host at a later time, click **Devices --> Save as Host Default**.

▼ To Exit the Sun ILOM Remote Console

Follow these steps to exit the Sun ILOM Remote Console and close any remote server sessions that might have remained opened:

1. In the Sun ILOM Remote Console window, select the **Redirection** menu.
2. In the **Redirection** menu, select **Quit**.

CD and Diskette Redirection Operation Scenarios

Use the information in [TABLE B-1](#) to help identify different case scenarios in which the CD drive or diskette drive redirection functionality might behave during a Remote Console session.

TABLE B-1 Remote Console Operation With DVD Drive and Diskette Drive

Case	Status	DVD As Seen by Remote Host	Diskette as Seen by Remote Host
1	Remote Console application not started, or Remote Console started but DVD/diskette redirection not started	DVD device present. No medium indication is sent to the host from ILOM when the hosts asks.	Diskette device present. No medium indication is sent to the host from ILOM when the host asks.
2	Remote Console application started with no medium present in the drive	DVD device present. When the host asks, which may be automatic or when you access the device on the host, the remote client sends a status message. In this case, since there is no medium, the status is no medium.	Diskette device present. When the host asks (for example, you double-click on a drive), the remote client sends a status message. In this case since there is no medium, the status is no medium.

TABLE B-1 Remote Console Operation With DVD Drive and Diskette Drive *(Continued)*

Case	Status	DVD As Seen by Remote Host	Diskette as Seen by Remote Host
3	Remote Console application started with no medium, then medium is inserted	DVD device present. When the hosts asks (automatic or manual), the remote client sends a status message as medium present and also indicates the medium change.	Diskette device present. When the host asks (manual), the remote client sends a status message as medium present and also indicates the medium change.
4	Remote Console application started with medium inserted	Same as case 3.	Same as case 3.
5	Remote Console application started with medium present, then medium is removed	Next command from the host will get a status message indicating medium not present.	Next command from the host will get a status message indicating medium not present.
6	Remote Console application started with image redirection	Same as case 3.	Same as case 3.
7	Remote Console application started with image, but redirection is stopped (which is the only way to stop ISO redirection)	Driver knows DVD redirection stopped, so it sends a medium absent status on the next host query.	Driver knows DVD redirection stopped so it sends a medium absent status on the next diskette query.
8	Network failure	The software has a keep-alive mechanism. The software will detect keep-alive failure since there is no communication and will close the socket, assuming the client is unresponsive. Driver will send a no-medium status to the host.	The software has a keep-alive mechanism. The software will detect unresponsive client and close the socket, as well as indicate to the driver that the remote connection went away. Driver will send a no-medium status to the host.
9	Client crashes	Same as case 8.	Same as case 8.

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:

- [“Limits to Backward Compatibility” on page 45](#)
 - [“Creating an ALOM CMT Shell” on page 46](#)
 - [“ILOM and ALOM CMT Command Comparison” on page 48](#)
 - [“ALOM CMT Variable Comparison” on page 55](#)
-

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 here or in the product notes for your server.

Adding a Commit Step to Procedures That Configure 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 true` in the ALOM compatibility CLI or `set /SP/network commitpending` using the ILOM CLI. To change the serial port configuration property and then commit it, use `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 C-1](#) compares the ALOM CMT commit variables and the comparable ILOM properties.

TABLE C-1 ALOM CMT commit Variables and Comparable ILOM Properties

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

Creating an ALOM CMT Shell

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

▼ To Create an ALOM CMT Compatibility Shell

1. Log in to the service processor with the username: root.

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

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

Daemons ready

Sun(TM) 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.

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

Daemons ready

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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 48](#).

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 [TABLE C-2](#). 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 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 C-2 ALOM CMT Shell Commands by Function

ALOM CMT Command	Summary	Comparable ILOM Command
Configuration Commands		
<code>password</code>	Changes the login password of the current user.	<code>set /SP/users/username password</code>
<code>restartssh</code>	Restarts the SSH server so that new host keys generated by the <code>ssh-keygen</code> command are reloaded.	<code>set /SP/services/ssh restart_sshd_action=true</code>
<code>setdate [[mmd]HHMM mmdHHMM[cc]yy][.SS]</code>	Sets ALOM CMT date and time.	<code>set /SP/clock datetime=value</code>
<code>setdefaults</code>	Resets all ALOM CMT configuration parameters to their default values.	<code>set /SP reset_to_defaults=configuration</code>
<code>setdefaults -a</code>	The <code>-a</code> option resets the user information to the factory default (one admin account only)	<code>set /SP reset_to_defaults=all</code>
<code>setkeyswitch [normal stby diag locked]</code>	Sets the status of the virtual keyswitch. Setting the virtual keyswitch to standby (<code>stby</code>) powers off the server. Before powering off the host server, ALOM CMT asks for a confirmation.	<code>set /SYS keyswitch_state=value</code>
<code>setsc [param] [value]</code>	Sets the specified ALOM CMT parameter to the assigned value.	<code>set target property=value</code>
<code>setupsc</code>	Runs the interactive configuration script. This script configures the ALOM CMT configuration variables.	No equivalent in ILOM

TABLE C-2 ALOM CMT Shell Commands by Function (*Continued*)

ALOM CMT Command	Summary	Comparable ILOM Command
<code>showplatform [-v]</code>	Displays information about the host system's hardware configuration, and whether the hardware is providing service. The <code>-v</code> option displays verbose information about the displayed components.	<code>show /HOST</code>
<code>showfru</code>	Displays information about the field-replaceable units (FRUs) in a host server.	No equivalent in ILOM
<code>showusers</code>	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 <code>who</code> .	<code>show /SP/sessions</code>
<code>showusers -g lines</code>	The <code>-g</code> option pauses the display after the number of lines you specify for <i>lines</i> .	No equivalent in ILOM
<code>showhost</code>	Displays version information for host-side components.	<code>show /HOST</code>
<code>showhost version</code>	The <i>version</i> option displays the same information as the <code>showhost</code> command with no option.	
<code>showkeyswitch</code>	Displays status of virtual keyswitch.	<code>show /SYS keyswitch_state</code>
<code>showsc [param]</code>	Displays the current non-volatile random access memory (NVRAM)	<code>show target property</code>
<code>showsc -v</code>	configuration parameters.	<code>show /HOST</code>

TABLE C-2 ALOM CMT Shell Commands by Function (*Continued*)

ALOM CMT Command	Summary	Comparable ILOM Command
showdate	Displays the ALOM CMT date. ALOM CMT time is expressed in Coordinated Universal Time (UTC) rather than local time. The Solaris OS and ALOM CMT time are not synchronized.	show /SP/clock datetime
ssh-keygen -l	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
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 <i>permissions</i> are Administrator or Operator)
Log Commands		
showlogs	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 (<i>logtype r</i>) or the persistent event log (<i>logtype p</i>).	show /SP/logs/event/list
showlogs -p logtype [p]		No equivalent in ILOM

TABLE C-2 ALOM CMT Shell Commands by Function (*Continued*)

ALOM CMT Command	Summary	Comparable ILOM Command
consolehistory [-b lines -e lines -v] [-g lines] [boot run]	Displays the host server console output buffers.	No equivalent in ILOM
Status and Control Commands		
showenvironment	Displays the environmental status of the host server. This information includes system temperatures, power supply status, front panel LED status, hard disk drive status, fan status, voltage, and current sensor status.	show -o table -level all /SYS
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.	start /SP/console
console -f	The -f option forces the console write lock from one user to another.	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 <i>property=value</i> [where <i>property</i> is state, config, or script]

TABLE C-2 ALOM CMT Shell Commands by Function (*Continued*)

ALOM CMT Command	Summary	Comparable ILOM Command
<code>flashupdate -s <i>IPaddr</i> -f <i>pathname</i> [-v]</code>	Downloads and updates system firmware (both host firmware and ALOM CMT firmware). For ILOM, <i>ipaddr</i> must be a TFTP server. If DHCP is used, <i>ipaddr</i> can be replaced by the name of the TFTP host.	<code>load -source tftp://<i>ipaddr</i>/<i>pathname</i></code>
<code>reset [-c]</code>	Generates a hardware reset on the host server.	<code>reset /SYS</code>
<code>reset [-y] [-c]</code>	The <code>-y</code> option enables you to skip the confirmation question.	<code>reset -script /SYS</code>
<code>powercycle [-y] [-f]</code>	<code>poweroff</code> followed by <code>poweron</code> . The <code>-f</code> option forces an immediate <code>poweroff</code> , otherwise the command attempts a graceful shutdown.	<code>stop /SYS</code>
<code>powercycle -y</code>		<code>start /SYS</code>
<code>powercycle -f</code>		<code>stop -script /SYS</code>
		<code>start -script /SYS</code>
<code>poweroff</code>	Removes the main power from the host server. The <code>-y</code> option enables you to skip the confirmation question. ALOM CMT attempts to shut the server down gracefully. The <code>-f</code> option forces an immediate shutdown.	<code>stop /SYS</code>
<code>poweroff -y</code>		<code>stop -script /SYS</code>
<code>poweroff -f</code>		<code>stop -force /SYS</code>
<code>poweron</code>	Applies the main power to the host server or FRU.	<code>start /SYS</code>
<code>setlocator [on/off]</code>	Turns the Locator LED on the server on or off.	<code>set /SYS/LOCATE value=<i>value</i></code>
<code>showfaults [-v]</code>	Displays current valid system faults.	<code>show /SP/faultmgmt</code>
<code>clearfault <i>UUID</i></code>	Manually repairs system faults.	<code>set /SYS/component clear_fault_action=true</code>

TABLE C-2 ALOM CMT Shell Commands by Function (*Continued*)

ALOM CMT Command	Summary	Comparable ILOM Command
showlocator	Displays the current state of the Locator LED as either on or off.	show /SYS/LOCATE
FRU Commands		
setfru -c <i>data</i>	The -c option enables you to store information (such as inventory codes) on all FRUs in a system.	set /SYS customer_frudata= <i>data</i>
showfru [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
Automatic System Recovery (ASR) Commands		
enablecomponent <i>asr-key</i>	Removes a component from the asr-db blacklist.	set /SYS/component component_state=enabled
disablecomponent <i>asr-key</i>	Adds a component to the asr-db blacklist.	set /SYS/component component_state=disabled
showcomponent <i>asr-key</i>	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
Other Commands		
help [<i>command</i>]	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

TABLE C-2 ALOM CMT Shell Commands by Function (Continued)

ALOM CMT Command	Summary	Comparable ILOM Command
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 <i>shelltype</i> , where <i>shelltype</i> is default or alom.	set /SP/users/username cli_mode= <i>shelltype</i>
logout	Logs out from an ALOM CMT shell session.	exit

ALOM CMT Variable Comparison

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

TABLE C-3 ALOM CMT Variables and Comparable ILOM Properties

ALOM CMT Variable	Comparable ILOM Property
diag_level	/HOST/diag level
diag_mode	/HOST/diag mode
diag_trigger	/HOST/diag trigger
diag_verbosity	/HOST/diag verbosity
if_connection	/SP/services/ssh state
if_emailalerts	/SP/clients/smtp state
if_network	/SP/network state
if_snmp	/SP/services/snmp
mgt_mailalert	/SP/alertmgmt/rules
mgt_mailhost	/SP/clients/smtp address
mgt_snmptraps	/SP/sevices/snmp v1 v2c v3
mgt_traphost	/SP/alertmgmt/rules /SP/services/snmp port
netsc_dhcp	/SP/network pendingipdiscovery

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

ALOM CMT Variable	Comparable ILOM Property
netsc_commit	/SP/network commitpending
netsc_enetaddr	/SP/network macaddress
netsc_ipaddr	/SP/network pendingipaddress
netsc_ipgateway	/SP/network pendingipgateway
netsc_ipnetmask	/SP/network pendingipnetmask
sc_backupuserdata	/SP/policy BACKUP_USER_DATA
sc_clieventlevel	N/A
sc_cliprompt	N/A
sc_clitimeout	N/A
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_eventlevel	N/A
sys_enetaddr	/HOST macaddress

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