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Sun™ Integrated Lights Out Manager (ILOM) 3.0 Supplement for Sun Blade™ X6440 Server Module

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Contents

Preface

The *Sun Integrated Lights Out Manager (ILOM) 3.0 Supplement for Sun Blade X6440 Server Module* provides information about using Sun™ Integrated Lights Out Manager (ILOM) with the Sun Blade™ X6440 Server Module.

ILOM documentation is divided into two categories:

- Generalized ILOM information, located in the Sun Integrated Lights Out Manager (ILOM) 3.0 Documentation Collection. For details, see "Related Documentation" on page vii.

- Information specific to the Sun Blade X6440 Server Module, located in this Supplement.

Related Documentation

The documents listed in the following table are available online at:

http://docs.sun.com

At that site, search for the Sun Blade X6440 Server Module.

Title	Content	Part Number	Format
Sun Blade X6440 Server Module Product Notes	Late-breaking information about the server module.	820-3965	PDF HTML
Sun Blade X6440 Server Module Getting Started Guide	Basic installation information for setting up the server module.	820-3960	PDF Print

Title	Content	Part Number	Format
Sun Blade X6440 Server Module Installation Guide	Detailed installation information for setting up the server module.	820-3961	PDF HTML Print option
Sun Blade X6440 Server Module Operating System Installation Guide	Installation instructions for the Solaris and Linux operating systems.	820-3962	PDF HTML
Sun Blade X6440 Server Module Windows Operating System Installation Guide	Installation instructions for the Windows Server operating system.	820-3963	PDF HTML
Sun Blade X6440 Server Module Service Manual	Information and procedures for maintaining and upgrading the server module.	820-3964	PDF HTML
Sun Integrated Lights Out Manager 2.0 User's Guide	ILOM features and tasks that are common to servers and server modules that support ILOM 2.0.	820-1188	PDF HTML
Sun Integrated Lights Out Manager (ILOM) 3.0 Documentation Collection	Information for the initial setup of ILOM 3.0, conceptual information, and procedures that can be performed using the ILOM web interface, command-line interface, and industry-standard management protocols.	820-5523 820-6410 820-6411 820-6412 820-6413	PDF HTML
Sun Integrated Lights Out Manager Supplement for Sun Blade X6440 Server Module	ILOM information that is specific to the server module.	820-3967	PDF HTML
Sun Blade X6440 Server Module Safety and Compliance Manual	Hardware safety and compliance information for the server module.	820-4412	PDF
Important Safety Information for Sun Hardware Systems	Multilingual hardware safety and compliance information for all Sun hardware systems.	816-7190	Print

Translated versions of some of these documents are available at the web site described above in French, Japanese, and Simplified Chinese. English documentation is revised more frequently and might be more up-to-date than the translated documentation.

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

Third-Party Web Sites

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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.

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Please include the title and part number of your document with your feedback:

Sun Integrated Lights Out Manager (ILOM) 3.0 Supplement for Sun Blade X6440 Server Module (821-0746-10).

Sun ILOM 3.0 Supplement for Sun Blade X6440 Server Module

This supplement contains information for using Integrated Lights Out Manager (ILOM) 3.0 with the Sun Blade X6440 Server Module.

This document provides information about the following topics:

Sun Blade Modular System Hardware

The Sun Blade X6440 Server Module is one of several types of server modules that you can install in the Sun Blade 6000 or Sun Blade 6048 Modular Systems. The Modular System consists of a chassis with fans, power supplies, networking hardware, and space for up to twelve server modules. The server modules are installed in the modular system chassis.

The Server Locator Indicators (also called the Locate LED buttons) are small lights that you turn on to help you identify a specific server among many in a data center. The Server Locator Indicator is positioned on the front of the server in the upper-left corner section.

Managing the Sun Blade Server Module With ILOM

Sun Integrated Lights Out Manager (ILOM) is system management firmware that you can use to monitor, manage, and configure a Sun Blade server module. The ILOM firmware is preinstalled on the service processor (SP) of each Sun Blade server module and initializes as soon as you apply power to the system. You can access ILOM through several interfaces, such as web browsers, a command-line interface (CLI), a Simple Network Management Protocol (SNMP) interface, and an Intelligent Platform Management Interface (IPMI). ILOM will continue to run regardless of the state of the host operating system, making it a "lights-out" management system.

For information about configuring and using ILOM, refer to the *Sun Integrated Lights Out Manager 3.0 Documentation Collection*. The ILOM 3.0 Documentation Collection is available at: `http://docs.sun.com/app/docs/prod/int.lights.mgr30#hic`

Service Processor

The *service processor* (SP) is the ILOM firmware. It has its own Internet Protocol (IP) address and media access control (MAC) address and is capable of operating regardless of the state of the other system hardware. In a Sun Blade server module, the SP can operate whether the server module is fully operational, powered down, or in standby mode.

Chassis Monitoring Module

The Sun Blade Modular System, or *chassis*, has its own service processor, called a *chassis monitoring module* (CMM). CMM ILOM is a modified version of ILOM firmware that is preinstalled for the SP.

ILOM on the Server Module SP and CMM

ILOM supports two ways to manage a system: using the CMM or using the server module's SP directly.

- **Using the CMM SP** – Managing the system from the CMM enables you to set up and manage components throughout the entire chassis system, as well as to manage an individual server module SP.

- **Using the Server Module SP** – Managing the SP on a Sun Blade server module enables you to manage operations on an individual server module. This approach might be useful when troubleshooting a specific service processor, controlling access to a specific server module, or installing operating system software to a specific server module.

Connecting to ILOM

You can establish communication with the ILOM Server Module SP through a local or remote console.

- **Local console.** Connect a serial console to the local serial management port on the server module or chassis monitoring module (CMM).
- **Remote console**. Attach a local area Ethernet network cable to the network management port on the CMM.

For instructions on connecting a local serial console or attaching an Ethernet cable, refer to the *Sun Blade X6440 Server Module Installation Guide* (820-3961).

The type of connection you establish to ILOM determines which type of system management tasks you can perform. For example, to remotely access the full range of system management functionality in ILOM, you will require an Ethernet connection to the CMM and an IP assignment for the CMM and the server module SP.

You can connect to the ILOM on your server module using one of the following methods:

- Option 1 – When the server module is installed in a chassis, it is automatically connected to the same subnet as the CMM ILOM. This enables you to use Ethernet to connect to both the web GUI and the command-line interface (CLI).

Note – The CMM ILOM in the chassis has an Ethernet switch that supports connections to the server modules and their ILOMs. To use this connection, you must be connected to the same subnet as the CMM ILOM, and you must know the Ethernet address of the server module ILOM.

- Option 2 – Use the serial connector on the chassis to connect to the chassis CMM ILOM. Then use the CMM ILOM to navigate to the server module. This connection supports CLI access only.
- Option 3 – Use a dongle cable to establish a serial connection directly to the server module. This connection supports CLI access only.

The following sections describe each of these methods.

▼ Connecting to ILOM Through the Chassis Ethernet Port (Option 1)

Typically, you connect to ILOM through the Ethernet. When the server module is installed in the chassis, its ILOM is automatically accessible on the same subnet as the CMM ILOM.

If you do not know ILOM's IP address, find it as described in "Finding ILOM's IP Address" on page 4.

You can connect to ILOM using a Secure Shell (SSH) to connect to the command-line interface (CLI), or using a browser to connect to the web interface.

- To connect to the CLI, see "Connecting to the ILOM CLI" on page 5.
- To connect to the web interface, see "Connecting to the ILOM Web Interface" on page 6.

▼ Finding ILOM's IP Address

To find ILOM's IP address:

1. **Log in to the CMM ILOM.**

   See the *Sun Integrated Lights Out Manager 3.0 Documentation Collection* for details.

2. **Type the command:**

   -> **show /CH/BL***n***/SP/network**

   Where *n* is 0 through 9 for server modules 0 through 9, respectively.

3. **The CLI displays information about the server module, including its IP address.**

   For example:

```
-> show /CH/BL0/SP/network

/CH/BLn/SP/network
    Targets:

    Properties:
        type = Network Configuration
        commitpending = (Cannot show property)
        ipaddress = IPaddress
        ipdiscovery = dhcp
        ipgateway = IPgateway
        ipnetmask = 255.255.252.0
        macaddress = Macaddress
        pendingipaddress = Ipaddress
        pendingipdiscovery = dhcp
        pendingipgateway = IPgateway
        pendingipnetmask = 255.255.252.0

    Commands:
        cd
        set
        show

->
```

▼ Connecting to the ILOM CLI

1. **Start your SSH client.**

2. **To log in to the ILOM, type:**

   $ **ssh root@**_ipaddress_

   Where _ipaddress_ is the address of the server SP.

3. **Type your password when prompted.**

   The default password is changeme.

   The CLI command prompt appears.

▼ Connecting to the ILOM Web Interface

1. Type the IP address of the server SP into your web browser.

The web interface Login screen appears.

2. Type your user name and password.

When you first try to access the web interface, it prompts you to type the default user name and password. The default user name and password are:

- Default user name: `root`
- Default password: `changeme`

The default user name and password are in lowercase characters.

3. Click Log In.

The ILOM web interface appears.

4. To log out of the web interface, click the Log Out button.

The Log Out screen appears.

Do not use the Log Out button in your web browser to log out from the web interface.

▼ Connecting to ILOM Through the Chassis Serial Connector (Option 2)

The chassis serial connector connects to the chassis CMM ILOM. The CMM ILOM provides a command to connect to the server module ILOM(s).

1. Connect a serial cable from the serial port on the chassis to a terminal device.

The terminal device can be an actual terminal, a laptop running a terminal emulator, or a terminal server. It must be set to the following:

- 8N1: eight data bits, no parity, one stop bit
- 9600 baud (default, can be set to any standard rate up to 57600)
- Disable software flow control (XON/XOFF)
- Disable hardware flow control (CTS/RTS)

The cable requires the following pin assignments.

TABLE 1-1   Serial Management Port Pinouts

Pin	Signal Description
1	Request To Send (RTS)
2	Data Terminal Ready (DTR)
3	Transmit Data (TXD)
4	Ground
5	Ground
6	Receive Data (RXD)
7	Data Carrier Detect (DCD)
8	Clear To Send (CTS)

2. **Press Enter on the terminal device.**

   This establishes the connection between the terminal device and the CMM ILOM.

   The CMM ILOM login prompt appears.

   SUNCMM*nnnnnnnnnn* login:

   The first string in the prompt is the default host name. It consists of the prefix SUNCMM and the CMM ILOM's MAC address.

3. **Log in to the CMM ILOM.**

   The default user is root and the default password is changeme.

   Once you have successfully logged in, the CMM ILOM displays the ILOM default command prompt:

   ->

4. **Navigate to** /CH/BL*n*/SP/cli**.**

   Where *n* is 0 through 9 for server modules 0 through 9 respectively.

5. **Enter the command start**

   A prompt appears.

6. **Enter** y **to continue or** n **to cancel.**

   If you entered y, the server module ILOM prompts for its password.

> **Note –** The CMM ILOM logs on to the server module ILOM using the user name in
> `/CH/BL`*n*`/SP/cli/user` (where *n* is the server module number). The default is
> `root`.

7. **Enter the ILOM password.**

   The ILOM CLI for the server module appears. You are now connected to the
   server module ILOM.

8. **When you are done, type exit.**

   The server module ILOM exits and the CMM ILOM CLI prompt appears.

The following display shows an example of this procedure.

```
 -> cd /CH/BL2/SP/cli
/CH/BL2/SP/cli

-> start
Are you sure you want to start /CH/BL2/SP/cli (y/n)? y
Password:            Type the password to the CMM ILOM.

Sun(TM) Integrated Lights Out Manager

Version 3.0

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Warning: password is set to factory default.

-> exit            Type this command to exit the server module ILOM and return to the
CMM ILOM .
Connection to 10.6.153.33 closed.
```

▼ Connecting to ILOM Through a Dongle Cable (Option 3)

A dongle cable enables you to connect a terminal directly to the ILOM. FIGURE 1-1
shows a dongle cable connected to a server module.

1. **Connect a dongle cable directly to the server module.**

2. **Connect a terminal or terminal emulator to the RJ-45 connector on the dongle cable.**

   The RJ-45 connector is labelled "1" in FIGURE 1-1.

   The CLI login prompt appears.

3. **Enter the user name and password when prompted.**

   The default username is `root` and the default password is `changeme`.

   The CLI prompt appears.

FIGURE 1-1 shows the dongle cable.

FIGURE 1-1 Dongle Cable
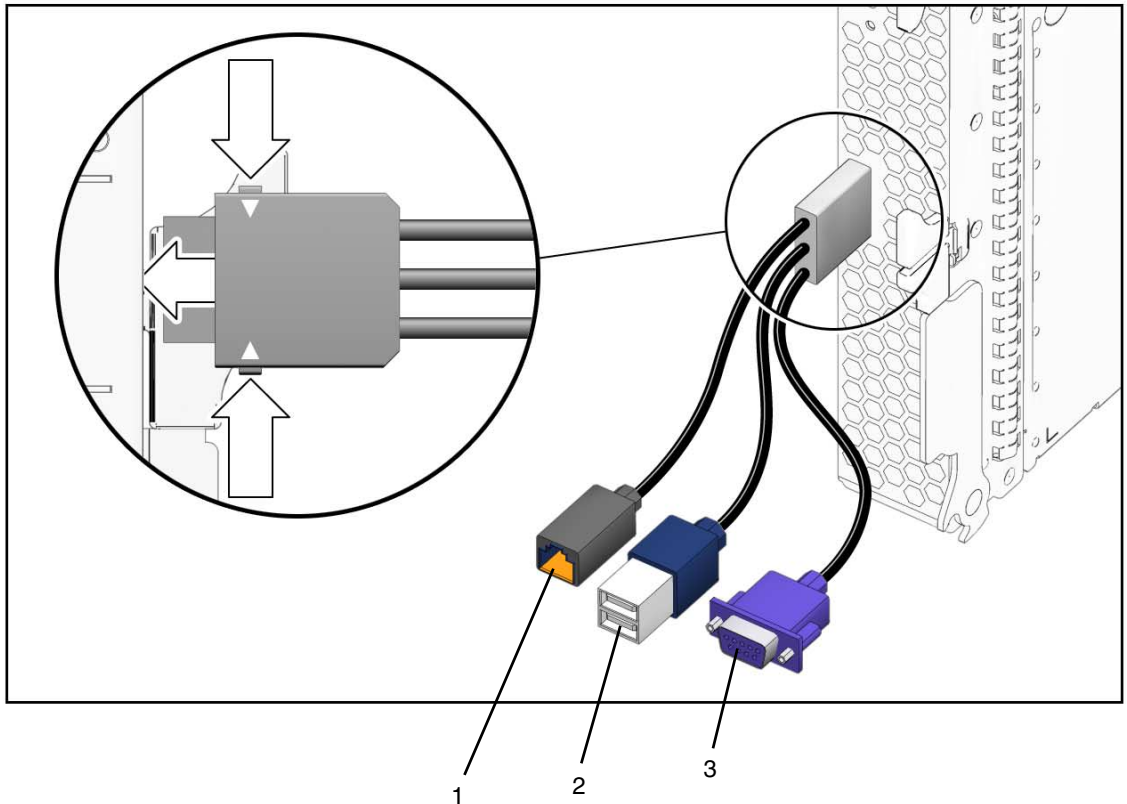
The connectors are:

1. 10/100 Mbit Ethernet. Use this connector to connect to the ILOM.

2. Dual USB connector (keyboard/mouse)

3. VGA Video Connector

Resetting the Service Processor and BIOS Passwords

A procedure in the *Sun Blade X6440 Server Module Service Manual* (820-3964) describes how to reset the service processor and BIOS passwords.

■ The administration (root) password becomes `changeme`.

■ The BIOS password is cleared, so that when you attempt to access the BIOS Setup Utility, it does not prompt for a password.

Temperature, Voltage, and Fan Sensors

The server module includes a number of sensors that generate entries in the system event log (SEL) when the sensor crosses a threshold. Many of these readings are used to adjust the fan speeds and perform other actions, such as illuminating LEDs and powering off the chassis.

Note – Fan and power supply sensors represent fans and power supplies in the chassis, not in the server module.

You can also configure sensors to generate IPMI PET traps as, described in the *Sun Integrated Lights Out Manager 3.0 Documentation Collection*.

This section describes the sensors and provides details about their operation.

Caution – Do not use any interface other than the ILOM CLI or web interface to alter the state or configuration of any sensor or LED. Doing so could void your warranty.

"Sensor List" on page 11 lists the sensors. provides details about each sensor.

Sensor List

Board Sensors

- SLOTID
- ACPI
- CMM/PRSNT
- CMM/ERR
- NEMn/PRSNT
- NEMn/ERR
- NEMn/STATE
- PEMn/PRSNT

Motherboard Temperature Sensors

- MB/T_AMBn

Motherboard Voltage Sensors

- MB/V_BAT
- MB/V_+3V3AUX
- MB/V_+3V3
- MB/V_+5V
- MB/V_+12V
- MB/V_+2V5
- MB/V_+1V5
- MB/V_+1V2

Power Supply Sensors

- PSn/PRSNT
- PSn/Sn/V_IN_ERR
- PSn/Sn/V_OUT_OK
- SYS/VPS

Fan Sensors

- FMn/Fy/TACH
- FMn/ERR

CPU *n* Sensors

- Pn/PRSNT

CPU *n* Fan Control Temperature Sensors

- Pn/T_CORE

Server Module Sensors

- BLn/PRSNT
- BLn/ERR
- BLn/STATE

Sensor Details

The following sections provide detailed information about the sensors.

SLOTID

This is a sensor indicating which slot the server module is installed in. Values are from 0 to 9 for the Sun Blade 6000 Modular System; values are from 0 to 11 for the Sun Blade 6048 Modular System.

ACPI

This sensor indicates the system ACPI (Advanced Configuration and Power Interface) state.

TABLE 1-2   ACPI

Reading	State	Event	Description
0x0001	S0/G0	Yes	This state indicates that the blade motherboard is powered on.
0x0002	S5/G2	Yes	This state indicates that the blade motherboard is powered off.

CMM/PRSNT

This is a sensor indicating whether CMM ILOM is present.

TABLE 1-3   CMM/PRSNT

Reading	State	Event	Description
0x0001	Device Absent	Yes	CMM ILOM is absent.
0x0002	Device Present	Yes	CMM ILOM is present.

CMM/ERR

This is a sensor indicating whether CMM ILOM has failed.

TABLE 1-4   CMM/ERR

Reading	State	Event	Description
0x0001	State Deasserted	Yes	CMM ILOM has failed.
0x0002	State Asserted	Yes	CMM ILOM has not failed.

NEM*n*/PRSNT

These two presence sensors indicate whether the corresponding network express module (NEM) is present.

TABLE 1-5   NEM*n*/PRSNT

Reading	State	Event	Description
0x0001	Device Absent	Yes	NEM is absent.
0x0002	Device Present	Yes	NEM is present.

NEM*n*/ERR

These two presence sensors indicate whether the corresponding network express module (NEM) has failed.

TABLE 1-6   NEM*n*/ERR

Reading	State	Event	Description
0x0001	State Deasserted	Yes	NEM has failed.
0x0002	State Asserted	Yes	NEM has not failed.

NEM*n*/STATE

These sensors report the state of any NEMs that are installed in the chassis.

TABLE 1-7   NEM*n*/STATE

Reading	State	Event	Description
0x0001	Running	Yes	NEM is running.
0x0004	Powered Off	Yes	NEM is powered off.
0x0040	Degraded	Yes	NEM needs to be serviced.

PEM*n*/PRSNT

These two presence sensors indicate whether the corresponding PCIe express module (PEM) is present.

TABLE 1-8   PEM*n*/PRSNT

Reading	State	Event	Description
0x0001	Device Absent	Yes	PEM is absent.
0x0002	Device Present	Yes	PEM is present.

Motherboard Temperature Sensors

These temperature sensors are monitored, but are not used as inputs to the fan control algorithm and are not used to turn off system power when they are non-recoverable. No event will be generated for these sensor readings.

MB/T_AMB*n*

There are five temperature sensors on the motherboard that monitor the ambient temperature from the internal temperature sensor in the LM75/ADM1024 chip on the motherboard.

Motherboard Voltage Sensors

All motherboard voltage sensors are configured to generate the same events, and faults are handled in the same way.

MB/V_BAT

This sensor monitors the 3V RTC battery on the motherboard.

MB/V_+3V3AUX

This sensor monitors the 3.3V aux power input that powers the service processor and other standby devices.

MB/V_+3V3

This sensor monitors the 3.3V main input that is active when the power is on. It is not monitored when the host is powered off.

MB/V_+5V

This sensor monitors the 5V main input that is active when the power is on. It is not monitored when the host is powered off.

MB/V_+12V

This sensor monitors the 12V main input that is active when the power is on. It is not monitored when the host is powered off.

MB/V_+2V5

This sensor monitors the 2.5V core input that is active when the power is on. It is not monitored when the host is powered off.

MB/V_+1V5

This sensor monitors the 1.5V core input that is active when the power is on. It is not monitored when the host is powered off.

MB/V_+1V2

This sensor monitors the 1.2V core input that is active when the power is on. It is not monitored when the host is powered off.

TABLE 1-9 MB/V_+1V2

Threshold	Direction	Event	Description	Action
Lower Non-Critical	Assert	Yes	Voltage has decreased below lower non-critical threshold.	System Alert LED is SLOW
Lower Non-Critical	Deassert	Yes	Voltage has returned to normal from lower non-critical.	System Alert LED is OFF
Lower Critical	Assert	Yes	Voltage has decreased below lower critical threshold.	System Alert LED is SLOW
Lower Critical	Deassert	Yes	Voltage has returned to lower non-critical from lower critical.	System Alert LED is SLOW
Lower Non-Recoverable	Assert	Yes	Voltage has decreased below lower non-recoverable threshold.	System Alert LED is SLOW
Lower Non-Recoverable	Deassert	Yes	Voltage has returned to lower critical from lower non-recoverable.	System Alert LED is SLOW
Upper Non-Critical	Assert	Yes	Voltage has increased above upper non-critical threshold.	System Alert LED is SLOW
Upper Non-Critical	Deassert	Yes	Voltage has returned to normal from upper non-critical.	System Alert LED is OFF
Upper Critical	Assert	Yes	Voltage has increased above upper critical threshold.	System Alert LED is SLOW

TABLE 1-9 MB/V_+1V2 *(Continued)*

Threshold	Direction	Event	Description	Action
Upper Critical	Deassert	Yes	Voltage has returned to upper non-critical from upper critical.	System Alert LED is SLOW
Upper Non-Recoverable	Assert	Yes	Voltage has increased above upper non-recoverable threshold.	System Alert LED is SLOW
Upper Non-Recoverable	Deassert	Yes	Voltage has returned to upper critical from upper non-recoverable.	System Alert LED is SLOW

Power Supply Sensors

There are two power supplies in the Sun Blade 6000 and Sun Blade 6048 Modular Systems.

PS*n*/PRSNT

These sensors indicate whether the corresponding power supply is present. The Sun Blade 6000 and Sun Blade 6048 Modular Systems ship with two power supplies. If either power supply is removed, there is no power supply redundancy.

TABLE 1-10 PS*n*/PRSNT

Reading	State	Event	Description
0x0001	Device Absent	Yes	Power supply is absent.
0x0002	Device Present	Yes	Power supply is present.

PS*n*/S*n*/V_IN_ERR

These sensors report a power supply side AC fault.

TABLE 1-11 PS*n*/SY/V_IN_ERR

Reading	State	Event	Description
0x0001	State Deasserted	No	Power supply side AC voltage input error has not occurred.
0x0002	State Asserted	Yes	Power supply side AC voltage input error has occurred.

PS*n*/S*n*/V_OUT_OK

These sensors report the state of a power supply side.

TABLE 1-12 PS*n*/SY/V_OUT_OK

Reading	State	Event	Description
0x0001	State Deasserted	Yes	Power supply side AC voltage output error has occurred.
0x0002	State Asserted	No	Power supply side AC voltage output error has not occurred.

SYS/VPS

This sensor indicates the virtual power consumption (in watts) of the server module.

Fan Sensors

The server module contains six fan modules labeled FM*n*. Each module contains two fans.

FM*n*/Fy/TACH

All top-accessible fan speed sensors are configured to generate the same events and all faults are handled in the same way. They are not monitored when the host is powered off. These sensors report individual fan speeds.

TABLE 1-13 FM*n*/Fy/TACH

Threshold	Direction	Event	Description
Lower Non-Recoverable	Assert	No	This indicates that the fan has failed or has been removed.
Lower Non-Recoverable	Deassert	No	This indicates that the fan has returned to normal or has been replaced.

FM*n*/ERR

This is a GPIO signal indicating fan module failure status.

TABLE 1-14 FM*n*/ERR

Reading	State	Event	Description
0x0001	Predictive Failure Deasserted	No	This state indicates that the fan module has not failed.
0x0002	Predictive Failure Asserted	Yes	This state indicates that the fan module has failed.

CPU *n* Sensors

There are four CPUs per server module.

P*n*/PRSNT

These sensors monitor the presence of the CPUs.

TABLE 1-15 P*n*/PRSNT

Reading	State	Event	Description
0x0001	Device Absent	Yes	This state indicates that CPU is absent.
0x0002	Device Present	Yes	This state indicates that the CPU is present.

CPU *n* Fan Control Temperature Sensors

Temperature sensors in this category are used as inputs to the fan control algorithm and are used to turn the system power off if they are non-recoverable. Their state also affects the state of the front panel LEDs.

P*n*/T_CORE

Each server module has four CPU sockets.

These sensors report CPU T_Control temperatures. They are not monitored when the host is powered off.

TABLE 1-16   P*n*/T_CORE

Threshold	Direction	Event	Description	Action
Upper Non-Critical	Assert	Yes	CPU T_Control temperature has increased above non-critical threshold.	CPU Fail LED is OFF. System Alert LED is OFF.
Upper Non-Critical	Deassert	Yes	CPU T_Control temperature has returned to normal from non-critical.	CPU Fail LED is OFF. System Alert LED is OFF.
Upper Critical	Assert	Yes	CPU T_Control temperature has increased above critical threshold.	CPU Fail LED is ON. System Alert LED is SLOW.
Upper Critical	Deassert	Yes	CPU T_Control temperature has returned to non-critical from critical.	CPU Fail LED is OFF. System Alert LED is OFF.
Upper Non-Recoverable	Assert	Yes	CPU T_Control temperature has increased above non-recoverable threshold.	CPU Fail LED is ON. System Alert LED is SLOW. System Power is turned OFF.
Upper Non-Recoverable	Deassert	Yes	CPU T_Control temperature has returned to critical from non-recoverable.	CPU Fail LED is ON. System Alert LED is SLOW.

Server Module Sensors

BL*n*/PRSNT

These sensors detect whether server modules are present in chassis slots. Values are from 0 to 9 for the Sun Blade 6000 Modular System; values are from 0 to 11 for the Sun Blade 6048 Modular System.

TABLE 1-17   BL*n*/PRSNT

Reading	State	Event	Description
0x0001	State Deasserted	Yes	This state indicates that the server module is not present.
0x0002	State Asserted	Yes	This state indicates that the server module is present.

BL*n*/ERR

These sensors detect whether server modules are in an error condition in chassis slots. Values are from 0 to 9 for the Sun Blade 6000 Modular System; values are from 0 to 11 for the Sun Blade 6048 Modular System.

TABLE 1-18   BL*n*/ERR

Reading	State	Event	Description
0x0001	State Deasserted	Yes	This state indicates that the server module has failed.
0x0002	State Asserted	Yes	This state indicates that the server module has not failed.

BL*n*/STATE

These sensors detect the state of server modules that are present in chassis slots. Values are from 0 to 9 for the Sun Blade 6000 Modular System; values are from 0 to 11 for the Sun Blade 6048 Modular System.

TABLE 1-19   BL*n*/STATE

Reading	State	Event	Description
0x0001	Running	Yes	This state indicates that the server module is running.
0x0004	Power Off	Yes	This state indicates that the server module is not powered off.
0x0020	Off Duty	Yes	This state indicates that the server module is ready to remove.