Sun Integrated Lights Out Manager (ILOM) 3.0 Supplement for the Sun Fire™ X4150, X4250 and X4450 Servers

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Preface

The Sun Sun Integrated Lights Out Manager 3.0 Supplement for the Sun Fire X4150, X4250 and X4450 Servers contains information about Integrated Lights Out Manager (ILOM) 3.0 that is specific to the Sun Fire? X4150, X4250, and X4450 servers.

For a complete discussion of ILOM 3.0 and its capabilities along with user procedures, see the ILOM 3.0 documentation available at:

http://docs.sun.com/app/docs/coll/ilom3.0

Related Documentation

The document sets for the Sun Fire X4150, X4250 and X4450 servers are described in the Where To Find Sun Documentation sheet that is packed with your system. You can also find the documentation at http://docs.sun.com.

Translated versions of some of these documents are available at http://docs.sun.com. Select a language from the drop-down list and navigate to the document collection using the Product category link. Available translations include Simplified Chinese, French, and Japanese.

English documentation is revised more frequently and might be more up-to-date than the translated documentation. For all Sun documentation, go to http://docs.sun.com.

Typographic Conventions

Typeface*	Meaning	Examples
`AaBbCc123`	The names of commands, files, and directories; onscreen computer output.	Edit your `.login` file. Use `ls -a` to list all files. `% You have mail.`
`AaBbCc123`	What you type, when contrasted with onscreen 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*.

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

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Upgrading Your Firmware

If you have a Sun Fire X4150 or X4450 server and have not upgraded your system to from ELOM to ILOM, refer to *ELOM-to-ILOM Migration User's Guide*.

For information on upgrading your firmware from ILOM 2.x to ILOM 3.x, refer to the *Sun Integrated Lights Out Manager (ILOM) 3.0 Getting Started Guide.*

Updates in ILOM 3.0

The major firmware updates included in ILOM 3.0 are documented in the ILOM core documentation available at:

`http://docs.sun.com/app/docs/coll/ilom3.0`

New features added for Sun Fire X4x50 servers include:

- DNS support.
- Storage redirection CLI: Lightweight version of JavaRConsole, which provides storage redirection only.
- Time Zone support.
- User SSH key authentication: Provides the ability to create and delete per-user keys.

- Extended roles: Provides a more granular set of roles to allow finer control of user privileges.
- LDAP enhancements.
- Host boot configuration: Configure the next boot device.
- Secure backup and restore of SP configuration: Provides the ability to backup and restore SP configuration to a remote host or removable storage device in a secure manner.
- Delay of BIOS update supported: BIOS upgrade can be postponed until the system is powered off.
- Support for system location, contact, and description fields.
- Default user account.

ILOM 3.0.6.15 New Features

The following new features are added to the ILOM 3.0.6.15 release:

- Power Consumption
- Power Distribution
- Power History

For more information about these features, refer to the ILOM 3.0 documentation at:

http://docs.sun.com/app/docs/coll/ilom3.0

Sensors Reference Information

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

Unless otherwise stated, the sensor information in each section applies to Sun Fire X4150, X4250 and X4450 servers.

This section describes the following sensors:

- "DIMM Sensors" on page 3
- "Power Supply Sensors" on page 4
- "Temperature Sensors" on page 5
- "Voltage Sensors" on page 6
- "Fan Sensors" on page 9
- "Hard Disk Drive (HDD) Sensors" on page 10
- "Fault LEDs" on page 10

DIMM Sensors

DIMM Sensors report the presence of DIMM on the memory channel (MCH).

TABLE 1 shows the DIMM sensors.

TABLE 1 DIMM Sensors

Sensor Name	Description
`MB/MCH/DLn/PRSNT`	DIMM presence *L* = A through D (channel number) *n* = 0 through 7 (number of DIMMs for each channel)

Power Supply Sensors

TABLE 2 lists the power supply sensors.

The system normally has two power supply modules, PS0 and PS1. All sensors are located under /SYS/PS*n*.

For example, /SYS/PS0/PRSNT is the power supply 0 presence indicator.

TABLE 2 Power Supply Sensors

Sensor Name	Description
PS*n*/PRSNT	Power supply 0 or 1, present or not present
PS*n*/VINOK	Asserted when input voltage is OK
PS*n*/PWROK	Asserted when power level is OK
PS*n*/V_IN	Input voltage level • upper_nonrecov_threshold - 280.00 Volts • upper_critical_threshold - 270.00 Volts • upper_noncritical_threshold - 260.00 Volts • lower_noncritical_threshold - 90.00 Volts • lower_critical_threshold - 80.00 Volts • lower_nonrecov_threshold - 70.00 Volts
PS*n*/I_IN	Input current (amps)
PS*n*/V_OUT	Output voltage level • upper_nonrecov_threshold - 16.00 Volts • upper_critical_threshold - 14.96 Volts • upper_noncritical_threshold - 14.00 Volts • lower_noncritical_threshold - 10.00 Volts • lower_critical_threshold - 8.96 Volts • lower_nonrecov_threshold - 8.00 Volts
PS*n*/I_OUT	Output current (amps)
PS*n*/IN_POWER	Input power (watts)
PS*n*/OUT_POWER	Output power (watts)

Temperature Sensors

TABLE 3 lists the temperature sensors for Sun Fire X4150 and X4250 servers and TABLE 4 lists the temperature sensors for Sun Fire X4450.

Temperature sensors report on temperature conditions in the motherboard and the chassis.

TABLE 3 Temperature Sensors for Sun Fire X4150 and X4250

Sensor Name	Description
ACPI	Power state (ON or OFF) When asserted, firmware upgrades are not possible
MB/T_AMB0	Motherboard temperature sensor 0 • upper_critical_threshold - 81.000 degrees C • upper_noncritical_threshold - 79.000 degrees C
MB/T_AMB1	Motherboard temperature sensor 1 • upper_critical_threshold - 81.000 degrees C • upper_noncritical_threshold - 79.00 degrees C
MB/T_AMB2	Motherboard temperature sensor 2 • upper_critical_threshold - 95.000 degrees C • upper_noncritical_threshold - 90.000 degrees C
MB/T_AMB3	Motherboard temperature sensor 3 • upper_critical_threshold - 95.000 degrees C • upper_noncritical_threshold - 90.000 degrees C
T_AMB	Chassis temperature sensor • upper_nonrecov_threshold - 50.000 degrees C • upper_critical_threshold - 45.000 degrees C

TABLE 4 Temperature Sensors for Sun Fire X4450

Sensor Name	Description
ACPI	Power state (ON or OFF) When asserted, firmware upgrades are not possible
MB/T_AMB*n*	Motherboard temperature sensor *n* (*n* = 0 through 3) • upper_critical_threshold - 65.00 degrees C • upper_noncritical_threshold - 60.00 degrees C
T_AMB	Chassis temperature sensor • upper_nonrecov_threshold - 50.00 degrees C • upper_critical_threshold - 45.00 degrees C
MB/T_DIMM*n*	DIMMs temperature sensor *n* (*n* = 0 through 3) • upper_critical_threshold - 95.00 degrees C • upper_noncritical_threshold - 90.00 degrees C

Voltage Sensors

TABLE 5 lists the voltage sensors for the Sun Fire X4150 and X4250 servers. TABLE 6 lists the voltage sensors for the Sun Fire X4450 server.

Voltage sensors report various voltage levels within the system. Most include upper and lower critical and non-recoverable thresholds.

TABLE 5 Voltage Sensors for Sun Fire X4150 and Sun Fire X4250

Sensor Name	Description
MB/V_+12V	12V power supply level • lower_critical_threshold - 10.317 Volts • lower_nonrecov_threshold - 9.687 Volts • upper_critical_threshold - 13.908 Volts • upper_nonrecov_threshold - 14.538 Volts
MB/V_VTT	VTT voltage level • lower_critical_threshold - 1.027 Volts • lower_nonrecov_threshold - 0.964 Volts • upper_critical_threshold - 1.386 Volts • upper_nonrecov_threshold - 1.449 Volts
MB/V_+1V5	1.5V power supply level • lower_critical_threshold - 1.271 Volts • lower_nonrecov_threshold - 1.193 Volts • upper_critical_threshold - 1.716 Volts • upper_nonrecov_threshold - 1.794 Volts
MB/V_+3V3	3V power supply level • lower_critical_threshold - 2.820 Volts • lower_nonrecov_threshold - 2.647 Volts • upper_critical_threshold - 3.806 Volts • upper_nonrecov_threshold - 3.979 Volts
MB/V_+5V	5V power supply level • lower_critical_threshold - 4.401 Volts • lower_nonrecov_threshold - 4.131 Volts • upper_critical_threshold - 5.940 Volts • upper_nonrecov_threshold - 6.210 Volts
MB/V_NIC	Intel gigabit network interface controller's 1.2V digital power • lower_critical_threshold - 1.017 Volts • lower_nonrecov_threshold - 0.959 Volts • upper_critical_threshold - 1.378 Volts • upper_nonrecov_threshold - 1.435 Volts

TABLE 5 Voltage Sensors for Sun Fire X4150 and Sun Fire X4250 *(Continued)*

Sensor Name	Description
MB/V_+3V3STBY	3.3V standby power level • lower_critical_threshold - 2.804 Volts • lower_nonrecov_threshold - 2.632 Volts • upper_critical_threshold - 3.784 Volts • upper_nonrecov_threshold - 3.956 Volts
MB/V_+2V5STBY	2.5V standby power level • lower_critical_threshold - 2.054 Volts • lower_nonrecov_threshold - 1.928 Volts • upper_critical_threshold - 2.772 Volts • upper_nonrecov_threshold - 2.898 Volts
MB/V_+1V8	1.8V voltage level • lower_critical_threshold - 1.679 Volts • lower_nonrecov_threshold - 1.576 Volts • upper_critical_threshold - 2.266 Volts • upper_nonrecov_threshold - 2.369 Volts

TABLE 6 Voltage Sensors for Sun Fire X4450

Sensor Name	Description
MB/V_VTT	VTT voltage level • upper_critical_threshold - 1.386 Volts • lower_critical_threshold - 1.027 Volts
MB/V_+1V5	1.5V power supply level • upper_critical_threshold - 1.716 Volts • lower_critical_threshold - 1.271 Volts
MB/V_+1V5STBY	1.5V standby power level • upper_critical_threshold - 1.716 Volts • lower_critical_threshold - 1.271 Volts
MB/V_+1V8	1.8V voltage level • upper_critical_threshold - 2.067 Volts • lower_critical_threshold - 1.521 Volts
MB/V_+5V	5V power supply level • upper_critical_threshold - 5.720 Volts • lower_critical_threshold - 4.238 Volts

TABLE 6 Voltage Sensors for Sun Fire X4450 *(Continued)*

Sensor Name	Description
MB/V_+3V3	3V power supply level • upper_critical_threshold - 3.784 Volts • lower_critical_threshold - 2.804 Volts
MB/V_+3V3STBY	3V standby power level • upper_critical_threshold - 3.779 Volts • lower_critical_threshold - 2.804 Volts
MB/V_+12V	12V power supply level • upper_critical_threshold - 13.860 Volts • lower_critical_threshold - 10.269 Volts

Fan Sensors

TABLE 7 lists the fan sensors.

Fan sensors report the conditions of the system fans. For all fan sensors:

- FB*n* is fan board 0 or 1.
- FM*n* is fan module 0, 1, 2, or 3 on the fan board.
- F*n* is fan 0 or 1 on the fan module.

For example:

FB0/FM1/F0/TACH is the speed for fan board 0, fan module 1, fan 0.

TABLE 7 Fan Sensors

Sensor Name	Description
FB*n*/PRSNT	Fan board 0 or 1 present
FB*n*/FM*n*/PRSNT	Fan module 0, 1, 2 or 3 present
FB*n*/FM*n*/F*n*/TACH	Fan speed for fan 0 or 1 • lower_critical_threshold - 2400.00 RPM • lower_nonrecov_threshold - 2000.00 RPM

Hard Disk Drive (HDD) Sensors

TABLE 8 lists the HDD sensors.

Disk drive sensors report the presence and state of hard disk drives (HDDs) on the disk backplane (DBP).

TABLE 8 Hard Disk Drive (HDD) Sensors

Sensor Name	Description
DBP/PRSNT	Disk backplane is present
DBP/HDD*n*/PRSNT	Hard disk drive (HDD) is present
DBP/HDD*n*/STATE	Hard disk drive (HDD) state

Fault LEDs

TABLE 9 lists the fault LEDs.

Fault LEDs indicate problems with the power supply. They can cause the front panel LEDs to light.

TABLE 9 Fault LEDs.

Sensor Name	Description
PS*n*/CUR_FAULT	Deasserted when input current level is OK
PS*n*/VOLT_FAULT	Deasserted when voltage levels are OK
PS*n*/FAN_FAULT	Deasserted when power supply fan is faulty OK
PS*n*/TEMP_FAULT	Deasserted when power supply temperature is OK

Intrusion Sensor

Sun Fire X4150 and X4250 servers have an INTSW sensor to report chassis intrusion.

TABLE 10 Intrusion Sensors

Sensor Name	Description
INTSW	Detects chassis intrusion