Integrated Lights Out Manager (ILOM)
Supplement for Sun Fire™ X4100/X4100 M2
and X4200/X4200 M2 Servers

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Contents

Introduction

This supplement contains information specific to the products listed on the title page. For general ILOM descriptions, refer to *Integrated Lights Out Manager (ILOM) Administration Guide.*

This document provides information about the following topics:

- "How to Reset the Service Processor and BIOS Passwords" on page 1
- "Service Processor Lost Password Recovery Procedure (6881237)" on page 2
- "Hardware Information" on page 3
- "Sensors" on page 5

Note – The information in this book applies to all products listed on the title page, except where otherwise noted.

How to Reset the Service Processor and BIOS Passwords

You can reset the administration password, and clear the BIOS password, using jumper procedure described in the *Sun Fire X4100 and Sun Fire X4200 Server Service Manual*, 819-1157.

- 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.

Service Processor Lost Password Recovery Procedure (6881237)

In ILOM 3.0, the `root` account—which was used for administrative tasks in ILOM 2.0—has been removed and the `default` user account is used for initial login, creation of user accounts, and server configuration. After those tasks are performed, the `default` user account's access is limited to the CLI on the SP console. Therefore, all subsequent user account changes (creations and modifications) and configuration changes should be done using specific user accounts. This requirement enables accountability to be traced to individual users who have access to specific accounts.

As mentioned, once you login to the `default` user account, subsequent access to this account is restricted to the CLI on the SP console, which connects through the serial management port. Additionally, by default, the SP requires that a "physical presence" switch be pressed on the server before the SP console can be used for this purpose. This requirement is there for security reasons as it prevents access to the `default` user account from a remote location, that is, you must have physical access to the server to use this account.

One of the uses of the `default` user account is lost password recovery. It is meant to be used when you cannot access the account for which the password was lost by using a different user account. User accounts assigned the user (u) role can be used to change and reset passwords on other user accounts. If there are no user accounts that have the ability to reset passwords, you can use the CLI on the SP console to log in to the `default` user account.

▼ To Recover a Lost Password Using the `default` User Account

1. **Connect a serial cable from the RJ-45 SER MGT port on the server's back panel to a terminal device.**

   For instructions, refer to the *Sun Fire X4100/X4100 M2 and X4200/X4200 M2 Servers Installation Guide* (820-1155).

2. **Ensure that the server is powered on.**

   The `localhost login` prompt appears.

3. **Log in to the** `default` **user account. Type:**

   `localhost login:` **default**

4. **Press the Locator button once.**

   This Locator button is on the front of the server.

5. **Press the Enter key on the terminal device.**

   The SP displays the `Password` prompt.

6. **Enter the password for the** `default` **user account.**

   The `default` user account password is the product serial number and it cannot be changed. The product serial number is printed on the server hardware or on the product purchase documentation.

   Once you have successfully logged in, the SP displays its default CLI command prompt: `->`

7. **You can now use the** `default` **user account to reset the passwords for user accounts for which passwords have been lost.**

   For instructions on how to use the CLI to reset user passwords, see the *Sun Integrated Lights Out Manager 3.0 User's Guide* (820-4597).

Hardware Information

This section provides information about the system hardware.

Server Locator Indicator

This is a pair of small lights that you turn on to help you identify a specific server among many in a data center. One light is positioned on the front of the server in the upper-left corner, and the other light is on the back of the server in the upper-center section.

Hardware Port Locations

The ILOM communicates through the server's serial management port and through a dedicated Ethernet port.

FIGURE 1 shows the location of the serial port and the service processor Ethernet port on Sun Fire X4100/Sun Fire X4100 M2 servers.

FIGURE 1 Sun Fire X4100/X4100 M2 Rear Panel with Service Processor Port Locations

Service processor Ethernet port
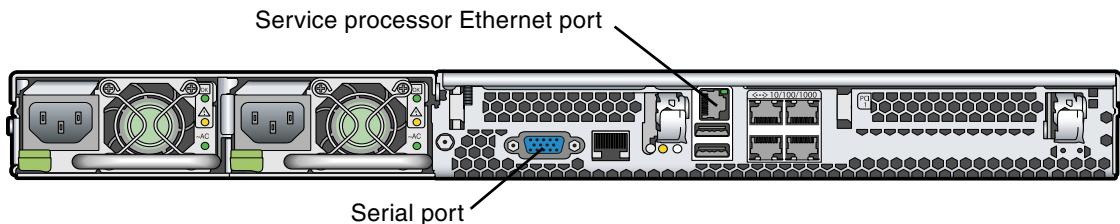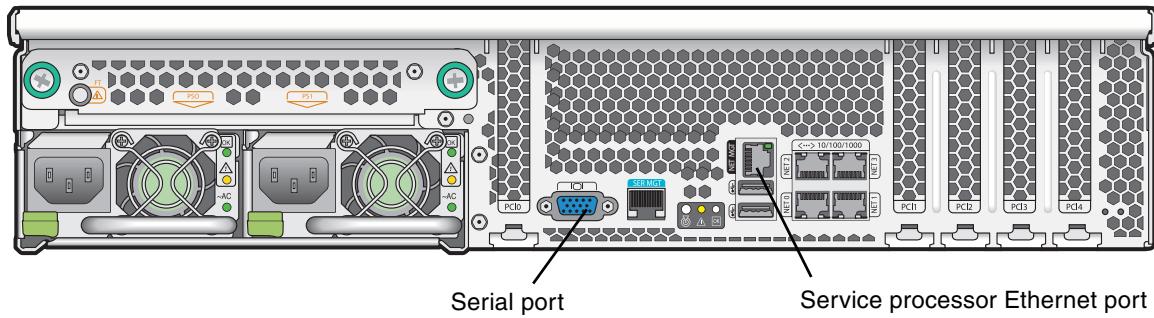
Serial port

FIGURE 2 shows the location of the serial port and the service processor Ethernet port on Sun Fire X4200/X4200 M2 servers.

FIGURE 2 Sun Fire X4200/X4200 M2 Rear Panel with Service Processor Port Locations

Serial port   Service processor Ethernet port

Serial Port (Left) and shows enlarged diagrams of the serial port and the service processor Ethernet port.

FIGURE 3 Service Processor Ethernet Port (Right)

SERIAL MGT

Sensors

These servers include 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.

These sensors can also be configured to generate IPMI PET traps, as described in the *Administration Guide.*

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

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

Temperature, Voltage, and Fan Sensor Readings

The system monitors six temperature sensors. They all generate IPMI events that are logged in to the system event log (SEL) when an upper threshold is exceeded. Three of these sensor readings are used to adjust the fan speeds and perform other actions, such as illuminating LEDs and powering off the chassis; these are described in Tables 1 and 2 follows:

TABLE 1   Front Panel Ambient Temperature (fp.t_amb)

	Temperature (degrees C)	
	Sun Fire X4100/X4200	Sun Fire X4100/X4200 M2
Upper noncritical	30	30
Upper critical	35	35
Upper nonrecoverable	40	45

TABLE 2   CPU Die Temperatures (p0.t_core and p1.t_core)

	Temperature (degrees C)	
	Sun Fire X4100/X4200	Sun Fire X4100/X4200 M2
Upper noncritical	55	62
Upper critical	65	67
Upper nonrecoverable	75	75

There are three other temperature sensors:

- I/O board ambient temperature (io.t_amb)
- Motherboard ambient temperature (mb.t_amb)
- Power distribution board ambient temperature (pdb.t_amb)

List of Sensors

TABLE 3 lists the sensors. TABLE 4 provides more detailed information about individual sensors.

TABLE 3   List of Sensors

Sensor Name	Data	Status
sys.id	0x10	OK
sys.intsw	0x00	OK
sys.psfail	0x01	OK
sys.tempfail	0x01	OK
sys.fanfail	0x01	OK
mb.t_amb	25 degrees C	OK
mb.v_bat	2.72 Volts	OK
mb.v_+3v3stby	3.10 Volts	OK
mb.v_+3v3	3.34 Volts	OK
mb.v_+5v	4.99 Volts	OK
mb.v_+12v	11.84 Volts	OK
mb.v_-12v	-12.28 Volts	OK
mb.v_+1v2core	1.22 Volts	OK
bp.power	0x02	OK
bp.locate	0x02	OK
bp.locate.btn	0x01	OK
bp.alert	0x01	OK
fp.prsnt	0x02	OK
fp.t_amb	23 degrees C	OK
fp.usbfail	0x01	OK
fp.power	0x02	OK
fp.locate	0x01	OK
fp.locate.btn	0x01	OK
fp.alert	0x01	OK
fp.ledbd.prsnt	0x02	OK
pdb.t_amb	24 degrees C	OK

TABLE 3 List of Sensors *(Continued)*

Sensor Name	Data	Status
ps0.prsnt	0x02	OK
ps0.pwrok	0x02	OK
ps0.vinok	0x02	OK
ps1.prsnt	0x01	OK
ps1.pwrok	Not Readable	ns
ps1.vinok	Not Readable	ns
io.t_amb	22 degrees C	OK
io.id0.prsnt	0x01	OK
io.id1.prsnt	0x02	OK
io.f0.prsnt	0x02	OK
io.f0.speed	4000 RPM	OK
io.f0.fail	0x01	OK
io.hdd0.fail	0x01	OK
io.hdd1.fail	0x01	OK
io.hdd2.fail	0x01	OK
io.hdd3.fail	0x01	OK
p0.t_core	40 degrees C	OK
p0.v_vdd	1.44 Volts	OK
p0.v_vddio	2.63 Volts	OK
p0.v_vtt	1.31 Volts	OK
p0.fail	0x02	OK
p0.d0.fail	0x01	OK
p0.d1.fail	0x01	OK
p0.d2.fail	0x01	OK
p0.d3.fail	0x01	OK
p1.t_core	44 degrees C	OK
p1.v_vdd	1.45 Volts	OK
p1.v_vddio	2.63 Volts	OK
p1.v_vtt	1.31 Volts	OK
p1.fail	0x02	OK

TABLE 3   List of Sensors *(Continued)*

Sensor Name	Data	Status
p1.d0.fail	0x01	OK
p1.d1.fail	0x01	OK
p1.d2.fail	0x01	OK
p1.d3.fail	0x01	OK
ft0.fm0.fail	0x01	OK
ft0.fm1.fail	0x01	OK
ft0.fm2.fail	0x01	OK
ft1.fm0.fail	0x01	OK
ft1.fm1.fail	0x01	OK
ft1.fm2.fail	0x01	OK
ft0.fm0.prsnt	0x02	OK
ft0.fm1.prsnt	0x02	OK
ft0.fm2.prsnt	0x02	OK
ft1.fm0.prsnt	0x02	OK
ft1.fm1.prsnt	0x02	OK
ft1.fm2.prsnt	0x02	OK
ft0.fm0.f0.speed	11000 RPM	OK
ft0.fm1.f0.speed	11000 RPM	OK
ft0.fm2.f0.speed	12000 RPM	OK
ft1.fm0.f0.speed	12000 RPM	OK
ft1.fm1.f0.speed	11000 RPM	OK
ft1.fm2.f0.speed	12000 RPM	OK

TABLE 4 provides detailed information about individual sensors.

TABLE 4   Sensor Details

Sensor	Data
Sensor ID	**sys.id (0x0)**
Entity ID	23.0 (System Chassis)
Sensor Type (Discrete)	Chassis
States Asserted	Digital State
	[State Deasserted]
Sensor ID	**sys.intsw (0x1)**
Entity ID	23.0 (System Chassis)
Sensor Type (Discrete)	Physical Security
Assertions Enabled	Physical Security
	[General Chassis intrusion]
Sensor ID	**sys.psfail (0x2)**
Entity ID	23.0 (System Chassis)
Sensor Type (Discrete)	Power Supply
States Asserted	Digital State
	[Predictive Failure Deasserted]
Sensor ID	**sys.tempfail (0x3)**
Entity ID	23.0 (System Chassis)
Sensor Type (Discrete)	Temperature
States Asserted	Digital State
	[Predictive Failure Deasserted]
Sensor ID	**sys.fanfail (0x4)**
Entity ID	23.0 (System Chassis)
Sensor Type (Discrete)	Fan
States Asserted	Digital State
	[Predictive Failure Deasserted]

TABLE 4 Sensor Details *(Continued)*

Sensor	Data
Sensor ID	**mb.t_amb (0x5)**
Type	Temperature
Class	Threshold Sensor
Value	19.000 degree C
Upper_nonrecov_threshold	80.000 degree C
Upper_critical_threshold	75.000 degree C
Upper_noncritical_threshold	70.000 degree C
Lower_noncritical_threshold	N/A
Lower_critical_threshold	N/A
Lower_nonrecov_threshold	N/A
Sensor ID	**mb.v_bat (0x6)**
Type	Voltage
Class	Threshold Sensor
Value	2.855 Volts
Upper_nonrecov_threshold	3.697 Volts
Upper_critical_threshold	3.510 Volts
Upper_noncritical_threshold	3.307 Volts
Lower_noncritical_threshold	2.621 Volts
Lower_critical_threshold	2.527 Volts
Lower_nonrecov_threshold	2.340 Volts
Sensor ID	**mb.v_+3v3stby (0x7)**
Entity ID	7.0 (System Board)
Sensor Type (Analog)	Voltage
Sensor Reading	3.114 (+/- 0) Volts
Status	OK
Upper nonrecoverable	3.996
Upper critical	3.789
Upper noncritical	3.598
Lower nonrecoverable	2.595
Lower critical	2.785

TABLE 4   Sensor Details *(Continued)*

Sensor	Data
Lower noncritical	2.993
Positive Hysteresis	0.087
Negative Hysteresis	0.087
Minimum sensor range	Unspecified
Maximum sensor range	Unspecified
Event Message Control	Per-threshold
Readable Thresholds	lnr lcr lnc unc ucr unr
Settable Thresholds	lnr lcr lnc unc ucr unr
Threshold Read Mask	lnr lcr lnc unc ucr unr
Assertions Enabled	lnc- lcr- lnr- unc+ ucr+ unr+
Deassertions Enabled	lnc- lcr- lnr- unc+ ucr+ unr+
Sensor ID	**mb.v_+3v3 (0x8)**
Entity ID	7.0 (System Board)
Sensor Type (Analog)	Voltage
Sensor Reading	3.339 (+/- 0) Volts
Status	OK
Upper nonrecoverable	3.996
Upper critical	3.789
Upper noncritical	3.598
Lower nonrecoverable	2.595
Lower critical	2.785
Lower noncritical	2.993
Positive Hysteresis	0.087
Negative Hysteresis	0.087
Minimum sensor range	Unspecified
Maximum sensor range	Unspecified
Event Message Control	Per-threshold
Readable Thresholds	lnr lcr lnc unc ucr unr
Settable Thresholds	lnr lcr lnc unc ucr unr
Threshold Read Mask	lnr lcr lnc unc ucr unr

TABLE 4   Sensor Details   *(Continued)*

Sensor	Data
Assertions Enabled	lnc- lcr- lnr- unc+ ucr+ unr+
Deassertions Enabled	lnc- lcr- lnr- unc+ ucr+ unr+
Sensor ID	**mb.v_+5v (0x9)**
Entity ID	7.0 (System Board)
Sensor Type (Analog)	Voltage
Sensor Reading	4.992 (+/- 0) Volts
Status	OK
Upper nonrecoverable	6.500
Upper critical	5.980
Upper noncritical	5.486
Lower nonrecoverable	3.484
Lower critical	3.978
Lower noncritical	4.498
Positive Hysteresis	0.078
Negative Hysteresis	0.078
Minimum sensor range	Unspecified
Maximum sensor range	Unspecified
Event Message Control	Per-threshold
Readable Thresholds	lnr lcr lnc unc ucr unr
Settable Thresholds	lnr lcr lnc unc ucr unr
Threshold Read Mask	lnr lcr lnc unc ucr unr
Assertions Enabled	lnc- lcr- lnr- unc+ ucr+ unr+
Deassertions Enabled	lnc- lcr- lnr- unc+ ucr+ unr+

TABLE 4 Sensor Details *(Continued)*

Sensor	Data
Sensor ID	**mb.v_+12v (0xa)**
Entity ID	7.0 (System Board)
Sensor Type (Analog)	Voltage
Sensor Reading	11.844 (+/- 0) Volts
Status	OK
Upper nonrecoverable	14.994
Upper critical	13.986
Upper noncritical	12.978
Lower nonrecoverable	8.946
Lower critical	9.954
Lower noncritical	10.962
Positive Hysteresis	0.063
Negative Hysteresis	0.063
Minimum sensor range	Unspecified
Maximum sensor range	Unspecified
Event Message Control	Per-threshold
Readable Thresholds	lnr lcr lnc unc ucr unr
Settable Thresholds	lnr lcr lnc unc ucr unr
Threshold Read Mask	lnr lcr lnc unc ucr unr
Assertions Enabled	lnc- lcr- lnr- unc+ ucr+ unr+
Deassertions Enabled	lnc- lcr- lnr- unc+ ucr+ unr+

TABLE 4   Sensor Details *(Continued)*

Sensor	Data
Sensor ID	**mb.v_-12v (0xb)**
Entity ID	7.0 (System Board)
Sensor Type (Analog)	Voltage
Sensor Reading	-12.277 (+/- -16.000) Volts
Status	OK
Upper nonrecoverable	-9.065
Upper critical	-10.014
Upper noncritical	-11.036
Lower nonrecoverable	-15.051
Lower critical	-14.029
Lower noncritical	-13.007
Positive Hysteresis	0.133
Negative Hysteresis	0.133
Minimum sensor range	Unspecified
Maximum sensor range	Unspecified
Event Message Control	Per-threshold
Readable Thresholds	lnr lcr lnc unc ucr unr
Settable Thresholds	lnr lcr lnc unc ucr unr
Threshold Read Mask	lnr lcr lnc unc ucr unr
Assertions Enabled	lnc- lcr- lnr- unc+ ucr+ unr+
Deassertions Enabled	lnc- lcr- lnr- unc+ ucr+ unr+

TABLE 4 Sensor Details *(Continued)*

Sensor	Data
Sensor ID	**mb.v_+1v2core (0xe)**
Entity ID	7.0 (System Board)
Sensor Type (Analog)	Voltage
Sensor Reading	1.220 (+/- 0) Volts
Status	OK
Upper nonrecoverable	1.900
Upper critical	1.700
Upper noncritical	1.500
Lower nonrecoverable	0.600
Lower critical	0.800
Lower noncritical	1.000
Positive Hysteresis	0.100
Negative Hysteresis	0.100
Minimum sensor range	Unspecified
Maximum sensor range	Unspecified
Event Message Control	Per-threshold
Readable Thresholds	lnr lcr lnc unc ucr unr
Settable Thresholds	lnr lcr lnc unc ucr unr
Threshold Read Mask	lnr lcr lnc unc ucr unr
Assertions Enabled	lnc- lcr- lnr- unc+ ucr+ unr+
Deassertions Enabled	lnc- lcr- lnr- unc+ ucr+ unr+

TABLE 4   Sensor Details *(Continued)*

Sensor	Data
Sensor ID	**bp.power (0xf)**
Entity ID	13.1 (Back Panel Board)
Sensor Type (Discrete)	Power Supply
States Asserted	Digital State
	[State Asserted]
Sensor ID	**bp.locate (0x10)**
Entity ID	13.2 (Back Panel Board)
Sensor Type (Discrete)	Button
States Asserted	Digital State
	[State Asserted]
Sensor ID	**bp.locate.btn (0x11)**
Entity ID	13.2 (Back Panel Board)
Sensor Type (Discrete)	Button
States Asserted	Digital State
	[State Deasserted]
Assertions Enabled	Digital State
	[State Asserted]
Sensor ID	**bp.alert (0x12)**
Entity ID	13.3 (Back Panel Board)
Sensor Type (Discrete)	Platform Alert
States Asserted	Digital State
	[State Deasserted]

TABLE 4 Sensor Details *(Continued)*

Sensor	Data
Sensor ID	**fp.prsnt (0x13)**
Entity ID	12.0 (Front Panel Board)
Sensor Type (Discrete)	Entity Presence
States Asserted	Availability State
	[Device Present]
Assertions Enabled	Availability State
	[Device Absent]
	[Device Present]
Sensor ID	**fp.t_amb (0x14)**
Entity ID	12.0 (Front Panel Board)
Sensor Type (Analog)	Temperature
Sensor Reading	23 (+/- 0) degrees C
Status	OK
Upper nonrecoverable	43.000
Upper critical	35.000
Upper noncritical	30.000
Positive Hysteresis	Unspecified
Negative Hysteresis	Unspecified
Minimum sensor range	-127.000
Maximum sensor range	127.000
Event Message Control	Per-threshold
Readable Thresholds	unc ucr unr
Settable Thresholds	unc ucr unr
Threshold Read Mask	unc ucr unr
Assertions Enabled	ucr+ unr+
Deassertions Enabled	ucr+ unr+

TABLE 4   Sensor Details *(Continued)*

Sensor	Data
Sensor ID	**fp.usbfail (0x15)**
Entity ID	12.0 (Front Panel Board)
Sensor Type (Discrete)	Slot / Connector
States Asserted	Digital State
	[Predictive Failure Deasserted]
Assertions Enabled	Digital State
	[Predictive Failure Asserted]
Sensor ID	**fp.power (0x16)**
Entity ID	12.1 (Front Panel Board)
Sensor Type (Discrete)	Power Supply
States Asserted	Digital State
	[State Asserted]
Sensor ID	**fp.locate (0x17)**
Entity ID	12.2 (Front Panel Board)
Sensor Type (Discrete)	Button
States Asserted	Digital State
	[State Deasserted]
Sensor ID	**fp.locate.btn (0x18)**
Entity ID	12.2 (Front Panel Board)
Sensor Type (Discrete)	Button
States Asserted	Digital State
	[State Deasserted]
Assertions Enabled	Digital State
	[State Asserted]
Sensor ID	**fp.alert (0x19)**
Entity ID	12.3 (Front Panel Board)
Sensor Type (Discrete)	Platform Alert
States Asserted	Digital State
	[State Deasserted]

TABLE 4   Sensor Details *(Continued)*

Sensor	Data
Sensor ID	**fp.ledbd.prsnt (0x1a)**
Entity ID	12.0 (Front Panel Board)
Sensor Type (Discrete)	Entity Presence
States Asserted	Availability State
	[Device Present]
Assertions Enabled	Availability State
	[Device Absent]
	[Device Present]
Sensor ID	**pdb.t_amb (0x1b)**
Type	Temperature
Class	Threshold Sensor
Value	15.000 degree C
Upper_nonrecov_threshold	80.000 degree C
Upper_critical_threshold	75.000 degree C
Upper_noncritical_threshold	70.000 degree C
Lower_noncritical_threshold	N/A
Lower_critical_threshold	N/A
Lower_nonrecov_threshold	N/A
Sensor ID	**ps0.prsnt (0x1c)**
Entity ID	10.0 (Power Supply)
Sensor Type (Discrete)	Entity Presence
States Asserted	Availability State
	[Device Present]
Assertions Enabled	Availability State
	[Device Absent]
	[Device Present]
Sensor ID	**ps0.pwrok (0x1d)**

TABLE 4 Sensor Details *(Continued)*

Sensor	Data
Entity ID	10.0 (Power Supply)
Sensor Type (Discrete)	Power Supply
States Asserted	Digital State
	[State Asserted]
Assertions Enabled	Digital State
	[State Deasserted]
	[State Asserted]
Sensor ID	**ps0.vinok (0x1e)**
Entity ID	10.0 (Power Supply)
Sensor Type (Discrete)	Power Supply
States Asserted	Digital State
	[State Asserted]
Assertions Enabled	Digital State
	[State Deasserted]
	[State Asserted]
Sensor ID	**ps1.prsnt (0x1f)**
Entity ID	10.1 (Power Supply)
Sensor Type (Discrete)	Entity Presence
States Asserted	Availability State
	[Device Absent]
Assertions Enabled	Availability State
	[Device Absent]
	[Device Present]
Sensor ID	**ps1.pwrok (0x20)**
Entity ID	10.1 (Power Supply)
Sensor Type (Discrete)	Power Supply
Assertions Enabled	Digital State
	[State Deasserted]
	[State Asserted]

TABLE 4   Sensor Details *(Continued)*

Sensor	Data
Sensor ID	**ps1.vinok (0x21)**
Entity ID	10.1 (Power Supply)
Sensor Type (Discrete)	Power Supply
Assertions Enabled	Digital State
	[State Deasserted]
	[State Asserted]
Sensor ID	**io.t_amb (0x22)**
Upper nonrecoverable	80.000
Upper critical	75.000
Upper noncritical	70.000
Sensor ID	**io.id0.prsnt (0x23)**
Entity ID	15.0 (Drive Backplane)
Sensor Type (Discrete)	Entity Presence
States Asserted	Availability State
	[Device Absent]
Assertions Enabled	Availability State
	[Device Absent]
	[Device Present]
Sensor ID	**io.id1.prsnt (0x24)**
Entity ID	15.0 (Drive Backplane)
Sensor Type (Discrete)	Entity Presence
States Asserted	Availability State
	[Device Present]
Assertions Enabled	Availability State
	[Device Absent]
	[Device Present]

TABLE 4 Sensor Details *(Continued)*

Sensor	Data
Sensor ID	**io.f0.prsnt (0x25)**
Entity ID	15.0 (Drive Backplane)
Sensor Type (Discrete)	Entity Presence
States Asserted	Availability State
	[Device Present]
Assertions Enabled	Availability State
	[Device Absent]
	[Device Present]
Sensor ID	**io.f0.speed (0x26)**
Upper nonrecoverable	8000.000
Lower nonrecoverable	3000.000
Sensor ID	**io.hdd0.fail (0x28)**
Entity ID	4.0 (Disk or Disk Bay)
Sensor Type (Discrete)	Drive Slot / Bay
States Asserted	Digital State
	[Predictive Failure Deasserted]
Assertions Enabled	Digital State
	[Predictive Failure Deasserted]
	[Predictive Failure Asserted]
Sensor ID	**io.hdd1.fail (0x29)**
Entity ID	4.1 (Disk or Disk Bay)
Sensor Type (Discrete)	Drive Slot / Bay
States Asserted	Digital State
	[Predictive Failure Deasserted]
Assertions Enabled	Digital State
	[Predictive Failure Deasserted]
	[Predictive Failure Asserted]

TABLE 4 Sensor Details *(Continued)*

Sensor	Data
Sensor ID	**io.hdd2.fail (0x2a)**
Entity ID	4.2 (Disk or Disk Bay)
Sensor Type (Discrete)	Drive Slot / Bay
States Asserted	Digital State
	[Predictive Failure Deasserted]
Assertions Enabled	Digital State
	[Predictive Failure Deasserted]
	[Predictive Failure Asserted]
Sensor ID	**io.hdd3.fail (0x2b)**
Entity ID	4.3 (Disk or Disk Bay)
Sensor Type (Discrete)	Drive Slot / Bay
States Asserted	Digital State
	[Predictive Failure Deasserted]
Assertions Enabled	Digital State
	[Predictive Failure Deasserted]
	[Predictive Failure Asserted]
Sensor ID	**p0.t_core (0x2c)**
Type	Temperature
Class	Threshold Sensor
Value	Not Readable
Upper_nonrecov_threshold	75.000 degree C
Upper_critical_threshold	67.000 degree C
Upper_noncritical_threshold	62.000 degree C
Lower_noncritical_threshold	N/A
Lower_critical_threshold	N/A
Lower_nonrecov_threshold	N/A
Sensor ID	**p0.v_vdd (0x2d)**
Type	Voltage
Class	Threshold Sensor
Value	Not Readable

TABLE 4   Sensor Details *(Continued)*

Sensor	Data
Nonrecov_threshold	0.792 Volts
Upper_nonrecov_threshold	1.800 Volts
Upper_critical_threshold	1.692 Volts
Upper_noncritical_threshold	1.596 Volts
Lower_noncritical_threshold	0.996 Volts
Lower_critical_threshold	0.900 Volts
Lower_nonrecov_threshold	0.792 Volts
Sensor ID	**p0.v_vddio (0x2e) and p1.v_vddio (0x37)** /SYS/MB/P0/V_VDDIO
Type	Voltage
Class	Threshold Sensor
Value	Not Readable
Upper_nonrecov_threshold	2.196 Volts
Upper_critical_threshold	2.100 Volts
Upper_noncritical_threshold	1.992 Volts
Lower_noncritical_threshold	1.596 Volts
Lower_critical_threshold	1.500 Volts
Lower_nonrecov_threshold	1.392 Volts
Sensor ID	**p0.v_vtt (0x2f)**
Sensor Type (Analog)	Voltage
Class	Threshold Sensor
Value	Not Readable
Upper nonrecoverable threshold	1.200 Volts
Upper critical threshold	1.092 Volts
Upper noncritical threshold	0.996 Volts
Lower noncritical threshold	0.792 Volts
Lower critical threshold	0.696 Volts
Lower nonrecoverable threshold	0.600 Volts
Sensor ID	**p0.fail (0x30)**
Entity ID	3.0 (Processor)
Sensor Type (Discrete)	Processor

TABLE 4 Sensor Details *(Continued)*

Sensor	Data
States Asserted	Digital State
	[Predictive Failure Asserted]
Assertions Enabled	Digital State
	[Predictive Failure Asserted]
Sensor ID	**p0.d0.fail (0x31)**
Entity ID	32.0 (Memory Device)
Sensor Type (Discrete)	Memory
States Asserted	Digital State
	[Predictive Failure Deasserted]
Assertions Enabled	Digital State
	[Predictive Failure Asserted]
Sensor ID	**p0.d1.fail (0x32)**
Entity ID	32.1 (Memory Device)
Sensor Type (Discrete)	Memory
States Asserted	Digital State
	[Predictive Failure Deasserted]
Assertions Enabled	Digital State
	[Predictive Failure Asserted]
Sensor ID	**p0.d2.fail (0x33)**
Entity ID	32.2 (Memory Device)
Sensor Type (Discrete)	Memory
States Asserted	Digital State
	[Predictive Failure Deasserted]
Assertions Enabled	Digital State
	[Predictive Failure Asserted]
Sensor ID	**p0.d3.fail (0x34)**
Entity ID	32.3 (Memory Device)
Sensor Type (Discrete)	Memory
States Asserted	Digital State
	[Predictive Failure Deasserted]

TABLE 4 Sensor Details *(Continued)*

Sensor	Data
Assertions Enabled	Digital State
	[Predictive Failure Asserted]
Sensor ID	**p1.t_core (0x35)**
Entity ID	3.1 (Processor)
Sensor Type (Analog)	Temperature
Sensor Reading	44 (+/- 0) degrees C
Status	OK
Upper nonrecoverable	75.000
Upper critical	65.000
Upper noncritical	60.000
Positive Hysteresis	2.000
Negative Hysteresis	2.000
Minimum sensor range	Unspecified
Maximum sensor range	Unspecified
Event Message Control	Per-threshold
Readable Thresholds	unc ucr unr
Settable Thresholds	unc ucr unr
Threshold Read Mask	unc ucr unr
Assertions Enabled	ucr+ unr+
Deassertions Enabled	ucr+ unr+

TABLE 4   Sensor Details   *(Continued)*

Sensor	Data
Sensor ID	**p1.v_vdd (0x36)**
Entity ID	3.1 (Processor)
Sensor Type (Analog)	Voltage
Sensor Reading	1.452 (+/- 0) Volts
Status	OK
Upper nonrecoverable	1.8
Upper critical	1.7
Upper noncritical	1.6
Lower nonrecoverable	0.8
Lower critical	0.9
Lower noncritical	1.0
Positive Hysteresis	0.096
Negative Hysteresis	0.096
Minimum sensor range	Unspecified
Maximum sensor range	Unspecified
Event Message Control	Per-threshold
Readable Thresholds	lnr lcr lnc unc ucr unr
Settable Thresholds	lnr lcr lnc unc ucr unr
Threshold Read Mask	lnr lcr lnc unc ucr unr
Assertions Enabled	lnc- lcr- lnr- unc+ ucr+ unr+
Deassertions Enabled	lnc- lcr- lnr- unc+ ucr+ unr+

TABLE 4   Sensor Details *(Continued)*

Sensor	Data
Sensor ID	**p1.v_vtt (0x38)**
Type	Voltage
Class	Threshold sensor
Value	Not readable
Upper non-reoverable threshold	1.200 volts
Upper critical threshold	1.092 volts
Upper noncritical threshold	0.996 volts
Lower noncritical threshold	0.792 volts
Lower critical threshold	0.696 volts
Lower nonrecoverable threshold	0.600 volts
Minimum sensor range	Unspecified
Maximum sensor range	Unspecified
Event Message Control	Per-threshold
Readable Thresholds	lnr lcr lnc unc ucr unr
Settable Thresholds	lnr lcr lnc unc ucr unr
Threshold Read Mask	lnr lcr lnc unc ucr unr
Assertions Enabled	lnc- lcr- lnr- unc+ ucr+ unr+
Deassertions Enabled	lnc- lcr- lnr- unc+ ucr+ unr+
Sensor ID	**p1.fail (0x39)**
Entity ID	3.1 (Processor)
Sensor Type (Discrete)	Processor
States Asserted	Digital State
	[Predictive Failure Asserted]
Assertions Enabled	Digital State
	[Predictive Failure Asserted]

TABLE 4 Sensor Details *(Continued)*

Sensor	Data
Sensor ID	**p1.d0.fail (0x3a)**
Entity ID	32.4 (Memory Device)
Sensor Type (Discrete)	Memory
States Asserted	Digital State
	[Predictive Failure Deasserted]
Assertions Enabled	Digital State
	[Predictive Failure Asserted]
Sensor ID	**p1.d1.fail (0x3b)**
Entity ID	32.5 (Memory Device)
Sensor Type (Discrete)	Memory
States Asserted	Digital State
	[Predictive Failure Deasserted]
Assertions Enabled	Digital State
	[Predictive Failure Asserted]
Sensor ID	**p1.d2.fail (0x3c)**
Entity ID	32.6 (Memory Device)
Sensor Type (Discrete)	Memory
States Asserted	Digital State
	[Predictive Failure Deasserted]
Assertions Enabled	Digital State
	[Predictive Failure Asserted]
Sensor ID	**p1.d3.fail (0x3d)**
Entity ID	32.7 (Memory Device)
Sensor Type (Discrete)	Memory
States Asserted	Digital State
	[Predictive Failure Deasserted]
Assertions Enabled	Digital State
	[Predictive Failure Asserted]

TABLE 4   Sensor Details *(Continued)*

Sensor	Data
Sensor ID	**ft0.fm0.fail (0x3e)**
Entity ID	29.0 (Fan Device)
Sensor Type (Discrete)	Fan
States Asserted	Digital State
	[Predictive Failure Deasserted]
Assertions Enabled	Digital State
	[Predictive Failure Asserted]
Sensor ID	**ft0.fm1.fail (0x3f)**
Entity ID	29.1 (Fan Device)
Sensor Type (Discrete)	Fan
States Asserted	Digital State
	[Predictive Failure Deasserted]
Assertions Enabled	Digital State
	[Predictive Failure Asserted]
Sensor ID	**ft0.fm2.fail (0x40)**
Entity ID	29.2 (Fan Device)
Sensor Type (Discrete)	Fan
States Asserted	Digital State
	[Predictive Failure Deasserted]
Assertions Enabled	Digital State
	[Predictive Failure Asserted]
Sensor ID	**ft1.fm0.fail (0x41)**
Entity ID	29.3 (Fan Device)
Sensor Type (Discrete)	Fan
States Asserted	Digital State
	[Predictive Failure Deasserted]
Assertions Enabled	Digital State
	[Predictive Failure Asserted]

TABLE 4   Sensor Details *(Continued)*

Sensor	Data
Sensor ID	**ft1.fm1.fail (0x42)**
Entity ID	29.4 (Fan Device)
Sensor Type (Discrete)	Fan
States Asserted	Digital State
	[Predictive Failure Deasserted]
Assertions Enabled	Digital State
	[Predictive Failure Asserted]
Sensor ID	**ft1.fm2.fail (0x43)**
Entity ID	29.5 (Fan Device)
Sensor Type (Discrete)	Fan
States Asserted	Digital State
	[Predictive Failure Deasserted]
Assertions Enabled	Digital State
	[Predictive Failure Asserted]
Sensor ID	**ft0.fm0.prsnt (0x44)**
Entity ID	29.0 (Fan Device)
Sensor Type (Discrete)	Entity Presence
States Asserted	Availability State
	[Device Present]
Assertions Enabled	Availability State
	[Device Absent]
	[Device Present]
Sensor ID	**ft0.fm1.prsnt (0x45)**
Entity ID	29.1 (Fan Device)
Sensor Type (Discrete)	Entity Presence
States Asserted	Availability State
	[Device Present]
Assertions Enabled	Availability State
	[Device Absent]
	[Device Present]

TABLE 4   Sensor Details *(Continued)*

Sensor	Data
Sensor ID	**ft0.fm2.prsnt (0x46)**
Entity ID	29.2 (Fan Device)
Sensor Type (Discrete)	Entity Presence
States Asserted	Availability State
	[Device Present]
Assertions Enabled	Availability State
	[Device Absent]
	[Device Present]
Sensor ID	**ft1.fm0.prsnt (0x47)**
Entity ID	29.3 (Fan Device)
Sensor Type (Discrete)	Entity Presence
States Asserted	Availability State
	[Device Present]
Assertions Enabled	Availability State
	[Device Absent]
	[Device Present]
Sensor ID	**ft1.fm1.prsnt (0x48)**
Entity ID	29.4 (Fan Device)
Sensor Type (Discrete)	Entity Presence
States Asserted	Availability State
	[Device Present]
Assertions Enabled	Availability State
	[Device Absent]
	[Device Present]

TABLE 4   Sensor Details *(Continued)*

Sensor	Data
Sensor ID	**ft1.fm2.prsnt (0x49)**
Entity ID	29.5 (Fan Device)
Sensor Type (Discrete)	Entity Presence
States Asserted	Availability State
	[Device Present]
Assertions Enabled	Availability State
	[Device Absent]
	[Device Present]
Sensor ID	**ft0.fm0.f0.speed (0x4a),**
	ft0.fm1.f0.speed (0x4b),
	ft0.fm2.f0.speed (0x4c),
	ft1.fm0.f0.speed (0x4d),
	ft1.fm1.f0.speed (0x4e),
	ft1.fm2.f0.speed (0x4f)
Type	Fan
Class	Threshold Sensor
Value	Not Readable
Upper_nonrecov_threshold	22000.000 RPM
Upper_critical_threshold	N/A
Upper_noncritical_threshold	N/A
Lower_noncritical_threshold	N/A
Lower_critical_threshold	N/A
Lower_nonrecov_threshold	3000.000 RPM