Dell OpenManage™ Server Administrator

Messages Reference Guide

Notes and Notices

NOTE: A NOTE indicates important information that helps you make better use of your computer.

NOTICE: A NOTICE indicates either potential damage to hardware or loss of data and tells you how to avoid the problem.

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Contents

1

Introduction

Dell OpenManage™ Server Administrator produces event messages stored primarily in the operating system or Server Administrator event logs and sometimes in SNMP traps. This document describes the event messages created by Server Administrator version 5.0 or later and displayed in the Server Administrator Alert log.

Server Administrator creates events in response to sensor status changes and other monitored parameters. The Server Administrator event monitor uses these status change events to add descriptive messages to the operating system event log or the Server Administrator Alert log.

Each event message that Server Administrator adds to the Alert log consists of a unique identifier called the event ID for a specific event source category and a descriptive message. The event message includes the severity, cause of the event, and other relevant information, such as the event location and the monitored item's previous state.

Tables provided in this guide list all Server Administrator event IDs in numeric order. Each entry includes the event ID's corresponding description, severity level, and cause. Message text in angle brackets (for example, *<State>*) describes the event-specific information provided by the Server Administrator.

What's New in this Release

- Additional Miscellaneous messages
- Battery Sensor messages
- Additional Storage Management messages

Messages Not Described in This Guide

This guide describes only event messages created by Server Administrator and displayed in the Server Administrator Alert log. For information on other messages produced by your system, consult one of the following sources:

- Your system's *Installation and Troubleshooting Guide*
- Other system documentation
- Operating system documentation
- Application program documentation

For more information on Array Manager event messages, see the Array Manager documentation.

Understanding Event Messages

This section describes the various types of event messages generated by the Server Administrator. When an event occurs on your system, the Server Administrator sends information about one of the following event types to the systems management console:

Table 1-1. Understanding Event Messages

Icon	Alert Severity	Component Status
	OK/Normal	An event that describes the successful operation of a unit. The alert is provided for informational purposes and does not indicate an error condition. For example, the alert may indicate the normal start or stop of an operation, such as power supply or a sensor reading returning to normal.
	Warning/Non-critical	An event that is not necessarily significant, but may indicate a possible future problem. For example, a Warning/Non-critical alert may indicate that a component (such as a temperature probe in an enclosure) has crossed a warning threshold.
	Critical/Failure/Error	A significant event that indicates actual or imminent loss of data or loss of function. For example, crossing a failure threshold or a hardware failure such as an array disk.

Server Administrator generates events based on status changes in the following sensors:

- **Temperature Sensor** — Helps protect critical components by alerting the systems management console when temperatures become too high inside a chassis; also monitors a variety of locations in the chassis and in any attached systems.
- **Fan Sensor** — Monitors fans in various locations in the chassis and in any attached systems.
- **Voltage Sensor** — Monitors voltages across critical components in various chassis locations and in any attached systems.
- **Current Sensor** — Monitors the current (or amperage) output from the power supply (or supplies) in the chassis and in any attached systems.
- **Chassis Intrusion Sensor** — Monitors intrusion into the chassis and any attached systems.
- **Redundancy Unit Sensor** — Monitors redundant units (critical units such as fans, AC power cords, or power supplies) within the chassis; also monitors the chassis and any attached systems. For example, redundancy allows a second or *n*th fan to keep the chassis components at a safe temperature when another fan has failed. Redundancy is normal when the intended number of critical components are operating. Redundancy is degraded when a component fails, but others are still operating. Redundancy is lost when there is one less critical redundancy device than required.
- **Power Supply Sensor** — Monitors power supplies in the chassis and in any attached systems.
- **Memory Prefailure Sensor** — Monitors memory modules by counting the number of Error Correction Code (ECC) memory corrections.

- **Fan Enclosure Sensor** — Monitors protective fan enclosures by detecting their removal from and insertion into the system, and by measuring how long a fan enclosure is absent from the chassis. This sensor monitors the chassis and any attached systems.
- **AC Power Cord Sensor** — Monitors the presence of AC power for an AC power cord.
- **Hardware Log Sensor** — Monitors the size of a hardware log.
- **Processor Sensor** — Monitors the processor status in the system.
- **Pluggable Device Sensor** — Monitors the addition, removal, or configuration errors for some pluggable devices, such as memory cards.
- **Battery Sensor** — Monitors the status of one or more batteries in the system.

Sample Event Message Text

The following example shows the format of the event messages logged by Server Administrator.

```
EventID: 1000
Source: Server Administrator
Category: Instrumentation Service
Type: Information
Date and Time: Mon Oct 21 10:38:00 2002
Computer: <computer name>
Description:
Server Administrator starting
Data: Bytes in Hex
```

Viewing Alerts and Event Messages

An event log is used to record information about important events.

Server Administrator generates alerts that are added to the operating system event log and to the Server Administrator Alert log. To view these alerts in Server Administrator:

1. Select the **System** object in the tree view.
2. Select the **Logs** tab.
3. Select the **Alert** subtab.

You can also view the event log using your operating system's event viewer. Each operating system's event viewer accesses the applicable operating system event log.

The location of the event log file depends on the operating system you are using.

- In the Microsoft® Windows® 2000 Advanced Server and Windows Server™ 2003 operating systems, messages are logged to the system event log and optionally to a unicode text file, **dcsys32.log** (viewable using Notepad), that is located in the *install_path***omsa****log** directory. The default *install_path* is **C:\Program Files\Dell\SysMgt**.
- In the Red Hat® Enterprise Linux and SUSE® Linux Enterprise Server operating system, messages are logged to the system log file. The default name of the system log file is **/var/log/messages**. You can view the messages file using a text editor such as vi or emacs.

NOTE: Logging messages to a unicode text file is optional. By default, the feature is disabled. To enable this feature, modify the **Event Manager** section of the **dcemdy32.ini** file as follows:

- In Windows, locate the file at *<install_path>***dataeng****ini** and set `UnitextLog.enabled=True`. The default *install_path* is **C:\Program Files\Dell\SysMgt**. Restart the **DSM SA Event Manager** service.
- In Red Hat Enterprise Linux and SUSE Linux Enterprise Server, locate the file at *<install_path>*/**dataeng**/**ini** and set `UnitextLog.enabled=True`. The default *install_path* is **/opt/dell/srvadmin**. Issue the "**/etc/init.d/dataeng restart**" command to restart the Server Administrator event manager service. This will also restart the Server Administrator data manager and SNMP services.

The following subsections explain how to open the Windows 2000 Advanced Server, Windows Server 2003, and the Red Hat Enterprise Linux and SUSE Linux Enterprise Server event viewers.

Viewing Events in Windows 2000 and Windows Server 2003

1. Click the **Start** button, point to **Settings**, and click **Control Panel**.
2. Double-click **Administrative Tools**, and then double-click **Event Viewer**.
3. In the **Event Viewer** window, click the **Tree** tab and then click **System Log**.

   The **System Log** window displays a list of recently logged events.
4. To view the details of an event, double-click one of the event items.

   NOTE: You can also look up the **dcsys32.log** file, in the *install_path***omsa****log** directory, to view the separate event log file. The default *install_path* is **C:\Program Files\Dell\SysMgt**.

Viewing Events in Red Hat Enterprise Linux and SUSE Linux Enterprise Server

1. Log in as **root**.
2. Use a text editor such as vi or emacs to view the file named **/var/log/messages**.

The following example shows the Red Hat Enterprise Linux (and SUSE Linux Enterprise Server) message log, **/var/log/messages**. The text in boldface type indicates the message text.

NOTE: These messages are typically displayed as one long line. In the following example, the message is displayed using line breaks to help you see the message text more clearly.

```
...
Feb 6 14:20:51 server01 Server Administrator: Instrumentation Service
EventID: 1000
Server Administrator starting

Feb 6 14:20:51 server01 Server Administrator: Instrumentation Service
EventID: 1001
Server Administrator startup complete

Feb 6 14:21:21 server01 Server Administrator: Instrumentation Service
EventID: 1254 Chassis intrusion detected Sensor location: Main chassis
intrusion Chassis location: Main System Chassis Previous state was: OK
(Normal) Chassis intrusion state: Open

Feb 6 14:21:51 server01 Server Administrator: Instrumentation Service
EventID: 1252 Chassis intrusion returned to normal Sensor location: Main
chassis intrusion Chassis location: Main System Chassis Previous state
was: Critical (Failed) Chassis intrusion state: Closed
```

Viewing the Event Information

The event log for each operating system contains some or all of the following information:

- **Date** — The date the event occurred.
- **Time** — The local time the event occurred.
- **Type** — A classification of the event severity: Information, Warning, or Error.
- **User** — The name of the user on whose behalf the event occurred.
- **Computer** — The name of the system where the event occurred.
- **Source** — The software that logged the event.
- **Category** — The classification of the event by the event source.
- **Event ID** — The number identifying the particular event type.
- **Description** — A description of the event. The format and contents of the event description vary, depending on the event type.

Understanding the Event Description

Table 1-2 lists in alphabetical order each line item that may appear in the event description.

Table 1-2. Event Description Reference

Description Line Item	Explanation
`Action performed was: <Action>`	Specifies the action that was performed, for example: `Action performed was: Power cycle`
`Action requested was: <Action>`	Specifies the action that was requested, for example: `Action requested was: Reboot, shutdown OS first`
`Additional Details: <Additional details for the event>`	Specifies additional details available for the hot plug event, for example: `Memory device: DIMM1_A Serial number: FFFF30B1`
`<Additional power supply status information>`	Specifies information pertaining to the event, for example: `Power supply input AC is off, Power supply POK (power OK) signal is not normal, Power supply is turned off`
`Chassis intrusion state: <Intrusion state>`	Specifies the chassis intrusion state (open or closed), for example: `Chassis intrusion state: Open`
`Chassis location: <Name of chassis>`	Specifies name of the chassis that generated the message, for example: `Chassis location: Main System Chassis`
`Configuration error type: <type of configuration error>`	Specifies the type of configuration error that occurred, for example: `Configuration error type: Revision mismatch`
`Current sensor value (in Amps): <Reading>`	Specifies the current sensor value in amps, for example: `Current sensor value (in Amps): 7.853`
`Date and time of action: <Date and time>`	Specifies the date and time the action was performed, for example: `Date and time of action: Sat Jun 12 16:20:33 2004`
`Device location: <Location in chassis>`	Specifies the location of the device in the specified chassis, for example: `Device location: Memory Card A`
`Discrete current state: <State>`	Specifies the state of the current sensor, for example: `Discrete current state: Good`
`Discrete temperature state: <State>`	Specifies the state of the temperature sensor, for example: `Discrete temperature state: Good`

Table 1-2. Event Description Reference *(continued)*

Description Line Item	Explanation
`Discrete voltage state: <State>`	Specifies the state of the voltage sensor, for example: `Discrete voltage state: Good`

`Fan sensor value: <Reading>`	Specifies the fan speed in revolutions per minute (RPM) or On/Off, for example:
	`Fan sensor value (in RPM): 2600`
	`Fan sensor value: Off`

`Log type: <Log type>`	Specifies the type of hardware log, for example: `Log type: ESM`
`Memory device bank location: <Bank name in chassis>`	Specifies the name of the memory bank in the system that generated the message, for example: `Memory device bank location: Bank_1`
`Memory device location: <Device name in chassis>`	Specifies the location of the memory module in the chassis, for example: `Memory device location: DIMM_A`
`Number of devices required for full redundancy: <Number>`	Specifies the number of power supply or cooling devices required to achieve full redundancy, for example: `Number of devices required for full redundancy: 4`

`Possible memory module event cause: <list of causes>`	Specifies a list of possible causes for the memory module event, for example:
	`Possible memory module event cause: Single bit warning error rate exceeded`
	`Single bit error logging disabled`

`Power Supply type: <type of power supply>`	Specifies the type of power supply, for example: `Power Supply type: VRM`
`Previous redundancy state was: <State>`	Specifies the status of the previous redundancy message, for example: `Previous redundancy state was: Lost`
`Previous state was: <State>`	Specifies the previous state of the sensor, for example: `Previous state was: OK (Normal)`
`Processor sensor status: <status>`	Specifies the status of the processor sensor, for example: `Processor sensor status: Configuration error`

Table 1-2. Event Description Reference *(continued)*

Description Line Item	Explanation
`Redundancy unit: <Redundancy location in chassis>`	Specifies the location of the redundant power supply or cooling unit in the chassis, for example: `Redundancy unit: Fan Enclosure`
`Sensor location: <Location in chassis>`	Specifies the location of the sensor in the specified chassis, for example: `Sensor location: CPU1`
`Temperature sensor value: <Reading>`	Specifies the temperature in degrees Celsius, for example: `Temperature sensor value (in degrees Celsius): 30`
`Voltage sensor value (in Volts): <Reading>`	Specifies the voltage sensor value in volts, for example: `Voltage sensor value (in Volts): 1.693`

2

Event Message Reference

The following tables lists in numerical order each event ID and its corresponding description, along with its severity and cause.

NOTE: For corrective actions, see the appropriate documentation.

Miscellaneous Messages

Miscellaneous messages in Table 2-1 indicate that certain alert systems are up and working.

Table 2-1. Miscellaneous Messages

Event ID	Description	Severity	Cause
0000	Log was cleared	Information	User cleared the log from Server Administrator.
0001	Log backup created	Information	The log was full, copied to backup, and cleared.
1000	Server Administrator starting	Information	Server Administrator is beginning to initialize.
1001	Server Administrator startup complete	Information	Server Administrator completed its initialization.
1002	A system BIOS update has been scheduled for the next reboot	Information	The user has chosen to update the flash basic input/output system (BIOS).
1003	A previously scheduled system BIOS update has been canceled	Information	The user decides to cancel the flash BIOS update, or an error occurs during the flash.
1004	Thermal shutdown protection has been initiated	Error	This message is generated when a system is configured for thermal shutdown due to an error event. If a temperature sensor reading exceeds the error threshold for which the system is configured, the operating system shuts down and the system powers off. This event may also be initiated on certain systems when a fan enclosure is removed from the system for an extended period of time.

Table 2-1. Miscellaneous Messages *(continued)*

Event ID	Description	Severity	Cause
1005	SMBIOS data is absent	Warning	The system does not contain the required systems management BIOS version 2.2 or higher, or the BIOS is corrupted.
1006	Automatic System Recovery (ASR) action was performed Action performed was: *<Action>* Date and time of action: *<Date and time>*	Error	This message is generated when an automatic system recovery action is performed due to a hung operating system. The action performed and the time of action are provided.
1007	User initiated host system control action Action requested was: *<Action>*	Information	User requested a host system control action to reboot, power off, or power cycle the system. Alternatively the user had indicated protective measures to be initiated in the event of a thermal shutdown.
1008	Systems Management Data Manager Started	Information	Systems Management Data Manager services were started.
1009	Systems Management Data Manager Stopped	Information	Systems Management Data Manager services were stopped.
1011	RCI table is corrupt	Warning	This message is generated when the BIOS Remote Configuration Interface (RCI) table is corrupted or cannot be read by the systems management software.
1012	IPMI Status Interface: *<the IPMI interface being used>, <additional information if available and applicable>*	Information	This message is generated to indicate the Intelligent Platform Management Interface (IPMI)) status of the system. Additional information, when available, includes Baseboard Management Controller (BMC) not present, BMC not responding, System Event Log (SEL) not present, and SEL Data Record (SDR) not present.

Temperature Sensor Messages

Temperature sensors listed in Table 2-2 help protect critical components by alerting the systems management console when temperatures become too high inside a chassis. The temperature sensor messages use additional variables: sensor location, chassis location, previous state, and temperature sensor value or state.

Table 2-2. Temperature Sensor Messages

Event ID	Description	Severity	Cause
1050	Temperature sensor has failed Sensor location: <Location in chassis> Chassis location: <Name of chassis> Previous state was: <State> **If sensor type is not discrete:** Temperature sensor value (in degrees Celsius): *<Reading>* **If sensor type is discrete:** Discrete temperature state: *<State>*	Information	A temperature sensor on the backplane board, system board, or the carrier in the specified system failed. The sensor location, chassis location, previous state, and temperature sensor value are provided.
1051	Temperature sensor value unknown Sensor location: <Location in chassis> Chassis location: <Name of chassis> **If sensor type is not discrete:** Temperature sensor value (in degrees Celsius): *<Reading>* **If sensor type is discrete:** Discrete temperature state: *<State>*	Information	A temperature sensor on the backplane board, system board, or drive carrier in the specified system could not obtain a reading. The sensor location, chassis location, previous state, and a nominal temperature sensor value are provided.

Table 2-2. Temperature Sensor Messages *(continued)*

Event ID	Description	Severity	Cause
1052	Temperature sensor returned to a normal value Sensor location: *<Location in chassis>* Chassis location: *<Name of chassis>* Previous state was: *<State>* **If sensor type is not discrete:** Temperature sensor value (in degrees Celsius): *<Reading>* **If sensor type is discrete:** Discrete temperature state: *<State>*	Information	A temperature sensor on the backplane board, system board, or drive carrier in the specified system returned to a valid range after crossing a failure threshold. The sensor location, chassis location, previous state, and temperature sensor value are provided.
1053	Temperature sensor detected a warning value Sensor location: *<Location in chassis>* Chassis location: *<Name of chassis>* Previous state was: *<State>* **If sensor type is not discrete:** Temperature sensor value (in degrees Celsius): *<Reading>* **If sensor type is discrete:** Discrete temperature state: *<State>*	Warning	A temperature sensor on the backplane board, system board, or drive carrier in the specified system exceeded its warning threshold. The sensor location, chassis location, previous state, and temperature sensor value are provided.

Table 2-2. Temperature Sensor Messages *(continued)*

Event ID	Description	Severity	Cause
1054	Temperature sensor detected a failure value Sensor location: *<Location in chassis>* Chassis location: *<Name of chassis>* Previous state was: *<State>* **If sensor type is not discrete:** Temperature sensor value (in degrees Celsius): *<Reading>* **If sensor type is discrete:** Discrete temperature state: *<State>*	Error	A temperature sensor on the backplane board, system board, or drive carrier in the specified system exceeded its failure threshold. The sensor location, chassis location, previous state, and temperature sensor value are provided.
1055	Temperature sensor detected a non-recoverable value Sensor location: *<Location in chassis>* Chassis location: *<Name of chassis>* Previous state was: *<State>* **If sensor type is not discrete:** Temperature sensor value (in degrees Celsius): *<Reading>* **If sensor type is discrete:** Discrete temperature state: *<State>*	Error	A temperature sensor on the backplane board, system board, or drive carrier in the specified system detected an error from which it cannot recover. The sensor location, chassis location, previous state, and temperature sensor value are provided.

Cooling Device Messages

Cooling device sensors listed in Table 2-3 monitor how well a fan is functioning. Cooling device messages provide status and warning information for fans in a particular chassis.

Table 2-3. Cooling Device Messages

Event ID	Description	Severity	Cause

1100	`Fan sensor has failed`
	`Sensor location: <Location in chassis>`
	`Chassis location: <Name of chassis>`
	`Previous state was: <State>`
	`Fan sensor value: <Reading>`
		Information	A fan sensor in the specified system is not functioning. The sensor location, chassis location, previous state, and fan sensor value are provided.

1101	`Fan sensor value unknown`
	`Sensor location: <Location in chassis>`
	`Chassis location: <Name of chassis>`
	`Previous state was: <State>`
	`Fan sensor value: <Reading>`
		Information	A fan sensor in the specified system could not obtain a reading. The sensor location, chassis location, previous state, and a nominal fan sensor value are provided.

1102	`Fan sensor returned to a normal value`
	`Sensor location: <Location in chassis>`
	`Chassis location: <Name of chassis>`
	`Previous state was: <State>`
	`Fan sensor value: <Reading>`
		Information	A fan sensor reading on the specified system returned to a valid range after crossing a warning threshold. The sensor location, chassis location, previous state, and fan sensor value are provided.

1103	`Fan sensor detected a warning value`
	`Sensor location: <Location in chassis>`
	`Chassis location: <Name of chassis>`
	`Previous state was: <State>`
	`Fan sensor value: <Reading>`
		Warning	A fan sensor reading in the specified system exceeded a warning threshold. The sensor location, chassis location, previous state, and fan sensor value are provided.

Table 2-3. Cooling Device Messages *(continued)*

Event ID	Description	Severity	Cause
1104	Fan sensor detected a failure value Sensor location: *<Location in chassis>* Chassis location: *<Name of chassis>* Previous state was: *<State>* Fan sensor value: *<Reading>*	Error	A fan sensor in the specified system detected the failure of one or more fans. The sensor location, chassis location, previous state, and fan sensor value are provided.
1105	Fan sensor detected a non-recoverable value Sensor location: *<Location in chassis>* Chassis location: *<Name of chassis>* Previous state was: *<State>* Fan sensor value: *<Reading>*	Error	A fan sensor detected an error from which it cannot recover. The sensor location, chassis location, previous state, and fan sensor value are provided.

Voltage Sensor Messages

Voltage sensors listed in Table 2-4 monitor the number of volts across critical components. Voltage sensor messages provide status and warning information for voltage sensors in a particular chassis.

Table 2-4. Voltage Sensor Messages

Event ID	Description	Severity	Cause
1150	Voltage sensor has failed Sensor location: <Location in chassis> Chassis location: <Name of chassis> Previous state was: <State> **If sensor type is not discrete:** Voltage sensor value (in Volts): *<Reading>* **If sensor type is discrete:** Discrete voltage state: *<State>*	Information	A voltage sensor in the specified system failed. The sensor location, chassis location, previous state, and voltage sensor value are provided.

Table 2-4. Voltage Sensor Messages *(continued)*

Event ID	Description	Severity	Cause
1151	Voltage sensor value unknown Sensor location: <Location in chassis> Chassis location: <Name of chassis> Previous state was: <State> **If sensor type is not discrete:** Voltage sensor value (in Volts): *<Reading>* **If sensor type is discrete:** Discrete voltage state: *<State>*	Information	A voltage sensor in the specified system could not obtain a reading. The sensor location, chassis location, previous state, and a nominal voltage sensor value are provided.
1152	Voltage sensor returned to a normal value Sensor location: <Location in chassis> Chassis location: <Name of chassis> Previous state was: <State> **If sensor type is not discrete:** Voltage sensor value (in Volts): *<Reading>* **If sensor type is discrete:** Discrete voltage state: *<State>*	Information	A voltage sensor in the specified system returned to a valid range after crossing a failure threshold. The sensor location, chassis location, previous state, and voltage sensor value are provided.
1153	Voltage sensor detected a warning value Sensor location: <Location in chassis> Chassis location: <Name of chassis> Previous state was: <State> **If sensor type is not discrete:** Voltage sensor value (in Volts): *<Reading>* **If sensor type is discrete:** Discrete voltage state: *<State>*	Warning	A voltage sensor in the specified system exceeded its warning threshold. The sensor location, chassis location, previous state, and voltage sensor value are provided.

Table 2-4. Voltage Sensor Messages *(continued)*

Event ID	Description	Severity	Cause
1154	Voltage sensor detected a failure value Sensor location: <Location in chassis> Chassis location: <Name of chassis> Previous state was: <State> **If sensor type is not discrete:** Voltage sensor value (in Volts): *<Reading>* **If sensor type is discrete:** Discrete voltage state: *<State>*	Error	A voltage sensor in the specified system exceeded its failure threshold. The sensor location, chassis location, previous state, and voltage sensor value are provided.
1155	Voltage sensor detected a non-recoverable value Sensor location: <Location in chassis> Chassis location: <Name of chassis> Previous state was: <State> **If sensor type is not discrete:** Voltage sensor value (in Volts): *<Reading>* **If sensor type is discrete:** Discrete voltage state: *<State>*	Error	A voltage sensor in the specified system detected an error from which it cannot recover. The sensor location, chassis location, previous state, and voltage sensor value are provided.

Current Sensor Messages

Current sensors listed in Table 2-5 measure the amount of current (in amperes) that is traversing critical components. Current sensor messages provide status and warning information for current sensors in a particular chassis.

Table 2-5. Current Sensor Messages

Event ID	Description	Severity	Cause
1200	Current sensor has failed Sensor location: <Location in chassis> Chassis location: <Name of chassis> Previous state was: <State> **If sensor type is not discrete:** Current sensor value (in Amps): *<Reading>* **If sensor type is discrete:** Discrete current state: *<State>*	Information	A current sensor on the power supply for the specified system failed. The sensor location, chassis location, previous state, and current sensor value are provided.
1201	Current sensor value unknown Sensor location: <Location in chassis> Chassis location: <Name of chassis> Previous state was: <State> **If sensor type is not discrete:** Current sensor value (in Amps): *<Reading>* **If sensor type is discrete:** Discrete current state: *<State>*	Information	A current sensor on the power supply for the specified system could not obtain a reading. The sensor location, chassis location, previous state, and a nominal current sensor value are provided.

Table 2-5. Current Sensor Messages *(continued)*

Event ID	Description	Severity	Cause
1202	Current sensor returned to a normal value Sensor location: <Location in chassis> Chassis location: <Name of chassis> Previous state was: <State> **If sensor type is not discrete:** Current sensor value (in Amps): *<Reading>* **If sensor type is discrete:** Discrete current state: *<State>*	Information	A current sensor on the power supply for the specified system returned to a valid range after crossing a failure threshold. The sensor location, chassis location, previous state, and current sensor value are provided.
1203	Current sensor detected a warning value Sensor location: <Location in chassis> Chassis location: <Name of chassis> Previous state was: <State> **If sensor type is not discrete:** Current sensor value (in Amps): *<Reading>* **If sensor type is discrete:** Discrete current state: *<State>*	Warning	A current sensor on the power supply for the specified system exceeded its warning threshold. The sensor location, chassis location, previous state, and current sensor value are provided.

Table 2-5. Current Sensor Messages *(continued)*

Event ID	Description	Severity	Cause
1204	Current sensor detected a failure value Sensor location: <Location in chassis> Chassis location: <Name of chassis> Previous state was: <State> **If sensor type is not discrete:** Current sensor value (in Amps): *<Reading>* **If sensor type is discrete:** Discrete current state: *<State>*	Error	A current sensor on the power supply for the specified system exceeded its failure threshold. The sensor location, chassis location, previous state, and current sensor value are provided.
1205	Current sensor detected a non-recoverable value Sensor location: <Location in chassis> Chassis location: <Name of chassis> Previous state was: <State> **If sensor type is not discrete:** Current sensor value (in Amps): *<Reading>* **If sensor type is discrete:** Discrete current state: *<State>*	Error	A current sensor in the specified system detected an error from which it cannot recover. The sensor location, chassis location, previous state, and current sensor value are provided.

Chassis Intrusion Messages

Chassis intrusion messages listed in Table 2-6 are a security measure. Chassis intrusion means that someone is opening the cover to a system's chassis. Alerts are sent to prevent unauthorized removal of parts from a chassis.

Table 2-6. Chassis Intrusion Messages

Event ID	Description	Severity	Cause

1250	`Chassis intrusion sensor has failed`
	`Sensor location: <Location in chassis>`
	`Chassis location: <Name of chassis>`
	`Previous state was: <State>`
	`Chassis intrusion state: <Intrusion state>`
		Information	A chassis intrusion sensor in the specified system failed. The sensor location, chassis location, previous state, and chassis intrusion state are provided.

1251	`Chassis intrusion sensor value unknown`
	`Sensor location: <Location in chassis>`
	`Chassis location: <Name of chassis>`
	`Previous state was: <State>`
	`Chassis intrusion state: <Intrusion state>`
		Information	A chassis intrusion sensor in the specified system could not obtain a reading. The sensor location, chassis location, previous state, and chassis intrusion state are provided.

1252	`Chassis intrusion returned to normal`
	`Sensor location: <Location in chassis>`
	`Chassis location: <Name of chassis>`
	`Previous state was: <State>`
	`Chassis intrusion state: <Intrusion state>`
		Information	A chassis intrusion sensor in the specified system detected that a cover was opened while the system was operating but has since been replaced. The sensor location, chassis location, previous state, and chassis intrusion state are provided.

Table 2-6. Chassis Intrusion Messages *(continued)*

Event ID	Description	Severity	Cause

1253	`Chassis intrusion in progress`
	`Sensor location: <Location in chassis>`
	`Chassis location: <Name of chassis>`
	`Previous state was: <State>`
	`Chassis intrusion state: <Intrusion state>`
		Warning	A chassis intrusion sensor in the specified system detected that a system cover is currently being opened and the system is operating. The sensor location, chassis location, previous state, and chassis intrusion state are provided.

1254	`Chassis intrusion detected`
	`Sensor location: <Location in chassis>`
	`Chassis location: <Name of chassis>`
	`Previous state was: <State>`
	`Chassis intrusion state: <Intrusion state>`
		Error	A chassis intrusion sensor in the specified system detected that the system cover was opened while the system was operating. The sensor location, chassis location, previous state, and chassis intrusion state are provided.

1255	`Chassis intrusion sensor detected a non-recoverable value`
	`Sensor location: <Location in chassis>`
	`Chassis location: <Name of chassis>`
	`Previous state was: <State>`
	`Chassis intrusion state: <Intrusion state>`
		Error	A chassis intrusion sensor in the specified system detected an error from which it cannot recover. The sensor location, chassis location, previous state, and chassis intrusion state are provided.

Redundancy Unit Messages

Redundancy means that a system chassis has more than one of certain critical components. Fans and power supplies, for example, are so important for preventing damage or disruption of a computer system that a chassis may have "extra" fans or power supplies installed. Redundancy allows a second or *n*th fan to keep the chassis components at a safe temperature when the primary fan has failed. Redundancy is normal when the intended number of critical components are operating. Redundancy is degraded when a component fails but others are still operating. Redundancy is lost when the number of components functioning falls below the redundancy threshold. Table 2-7 lists the redundancy unit messages.

The number of devices required for full redundancy is provided as part of the message, when applicable, for the redundancy unit and the platform. For details on redundancy computation, see the respective platform documentation.

Table 2-7. Redundancy Unit Messages

Event ID	Description	Severity	Cause
1300	Redundancy sensor has failed Redundancy unit: *<Redundancy location in chassis>* Chassis location: <Name of chassis> Previous redundancy state was: *<State>*	Information	A redundancy sensor in the specified system failed. The redundancy unit location, chassis location, previous redundancy state, and the number of devices required for full redundancy are provided.
1301	Redundancy sensor value unknown Redundancy unit: *<Redundancy location in chassis>* Chassis location: <Name of chassis> Previous redundancy state was: *<State>*	Information	A redundancy sensor in the specified system could not obtain a reading. The redundancy unit location, chassis location, previous redundancy state, and the number of devices required for full redundancy are provided.
1302	Redundancy not applicable Redundancy unit: *<Redundancy location in chassis>* Chassis location: <Name of chassis> Previous redundancy state was: *<State>*	Information	A redundancy sensor in the specified system detected that a unit was not redundant. The redundancy location, chassis location, previous redundancy state, and the number of devices required for full redundancy are provided.
1303	Redundancy is offline Redundancy unit: *<Redundancy location in chassis>* Chassis location: <Name of chassis> Previous redundancy state was: *<State>*	Information	A redundancy sensor in the specified system detected that a redundant unit is offline. The redundancy unit location, chassis location, previous redundancy state, and the number of devices required for full redundancy are provided.

Table 2-7. Redundancy Unit Messages *(continued)*

Event ID	Description	Severity	Cause
1304	Redundancy regained Redundancy unit: *<Redundancy location in chassis>* Chassis location: <Name of chassis> Previous redundancy state was: *<State>*	Information	A redundancy sensor in the specified system detected that a "lost" redundancy device has been reconnected or replaced; full redundancy is in effect. The redundancy unit location, chassis location, previous redundancy state, and the number of devices required for full redundancy are provided.
1305	Redundancy degraded Redundancy unit: *<Redundancy location in chassis>* Chassis location: <Name of chassis> Previous redundancy state was: *<State>*	Warning	A redundancy sensor in the specified system detected that one of the components of the redundancy unit has failed but the unit is still redundant. The redundancy unit location, chassis location, previous redundancy state, and the number of devices required for full redundancy are provided.
1306	Redundancy lost Redundancy unit: *<Redundancy location in chassis>* Chassis location: <Name of chassis> Previous redundancy state was: *<State>*	Warning or Error (depending on the number of units that are functional)	A redundancy sensor in the specified system detected that one of the components in the redundant unit has been disconnected, has failed, or is not present. The redundancy unit location, chassis location, previous redundancy state, and the number of devices required for full redundancy are provided.

Power Supply Messages

Power supply sensors monitor how well a power supply is functioning. Power supply messages listed in Table 2-8 provide status and warning information for power supplies present in a particular chassis.

Table 2-8. Power Supply Messages

Event ID	Description	Severity	Cause
1350	Power supply sensor has failed Sensor location: <Location in chassis> Chassis location: <Name of chassis> Previous state was: <State> Power Supply type: *<type of power supply>* *<Additional power supply status information>* **If in configuration error state:** Configuration error type: *<type of configuration error>*	Information	A power supply sensor in the specified system failed. The sensor location, chassis location, previous state, and additional power supply status information are provided.
1351	Power supply sensor value unknown Sensor location: <Location in chassis> Chassis location: <Name of chassis> Previous state was: <State> Power Supply type: *<type of power supply>* *<Additional power supply status information>* **If in configuration error state:** Configuration error type: *<type of configuration error>*	Information	A power supply sensor in the specified system could not obtain a reading. The sensor location, chassis location, previous state, and additional power supply status information are provided.

Table 2-8. Power Supply Messages *(continued)*

Event ID	Description	Severity	Cause
1352	Power supply returned to normal Sensor location: <Location in chassis> Chassis location: <Name of chassis> Previous state was: <State> Power Supply type: *<type of power supply>* *<Additional power supply status information>* **If in configuration error state:** Configuration error type: *<type of configuration error>*	Information	A power supply has been reconnected or replaced. The sensor location, chassis location, previous state, and additional power supply status information are provided.
1353	Power supply detected a warning Sensor location: <Location in chassis> Chassis location: <Name of chassis> Previous state was: <State> Power Supply type: *<type of power supply>* *<Additional power supply status information>* **If in configuration error state:** Configuration error type: *<type of configuration error>*	Warning	A power supply sensor reading in the specified system exceeded a user-definable warning threshold. The sensor location, chassis location, previous state, and additional power supply status information are provided.

Table 2-8. Power Supply Messages *(continued)*

Event ID	Description	Severity	Cause
1354	Power supply detected a failure Sensor location: <Location in chassis> Chassis location: <Name of chassis> Previous state was: <State> Power Supply type: *<type of power supply>* *<Additional power supply status information>* **If in configuration error state:** Configuration error type: *<type of configuration error>*	Error	A power supply has been disconnected or has failed. The sensor location, chassis location, previous state, and additional power supply status information are provided.
1355	Power supply sensor detected a non-recoverable value Sensor location: <Location in chassis> Chassis location: <Name of chassis> Previous state was: <State> Power Supply type: *<type of power supply>* *<Additional power supply status information>* **If in configuration error state:** Configuration error type: *<type of configuration error>*	Error	A power supply sensor in the specified system detected an error from which it cannot recover. The sensor location, chassis location, previous state, and additional power supply status information are provided.

Memory Device Messages

Memory device messages listed in Table 2-9 provide status and warning information for memory modules present in a particular system. Memory devices determine health status by monitoring the ECC memory correction rate and the type of memory events that have occurred.

NOTE: A critical status does not always indicate a system failure or loss of data. In some instances, the system has exceeded the ECC correction rate. Although the system continues to function, you should perform system maintenance as described in Table 2-9.

NOTE: In Table 2-9, <*status*> can be either `critical` or `non-critical`.

Table 2-9. Memory Device Messages

Event ID	Description	Severity	Cause
1403	`Memory device status is <status> Memory device location: <location in chassis>` `Possible memory module event cause: <list of causes>`	Warning	A memory device correction rate exceeded an acceptable value. The memory device status and location are provided.
1404	`Memory device status is <status> Memory device location: <location in chassis>` `Possible memory module event cause: <list of causes>`	Error	A memory device correction rate exceeded an acceptable value, a memory spare bank was activated, or a multibit ECC error occurred. The system continues to function normally (except for a multibit error). Replace the memory module identified in the message during the system's next scheduled maintenance. Clear the memory error on multibit ECC error. The memory device status and location are provided.

Fan Enclosure Messages

Some systems are equipped with a protective enclosure for fans. Fan enclosure messages listed in Table 2-10 monitor whether foreign objects are present in an enclosure and how long a fan enclosure is missing from a chassis.

Table 2-10. Fan Enclosure Messages

Event ID	Description	Severity	Cause

1450	`Fan enclosure sensor has failed`
	`Sensor location: <Location in chassis>`
	`Chassis location: <Name of chassis>`
		Information	The fan enclosure sensor in the specified system failed. The sensor location and chassis location are provided.

1451	`Fan enclosure sensor value unknown`
	`Sensor location: <Location in chassis>`
	`Chassis location: <Name of chassis>`
		Information	The fan enclosure sensor in the specified system could not obtain a reading. The sensor location and chassis location are provided.

1452	`Fan enclosure inserted into system`
	`Sensor location: <Location in chassis>`
	`Chassis location: <Name of chassis>`
		Information	A fan enclosure has been inserted into the specified system. The sensor location and chassis location are provided.

1453	`Fan enclosure removed from system`
	`Sensor location: <Location in chassis>`
	`Chassis location: <Name of chassis>`
		Warning	A fan enclosure has been removed from the specified system. The sensor location and chassis location are provided.

Table 2-10. Fan Enclosure Messages *(continued)*

Event ID	Description	Severity	Cause

1454	`Fan enclosure removed from system for an extended amount of time`
	`Sensor location: <Location in chassis>`
	`Chassis location: <Name of chassis>`
		Error	A fan enclosure has been removed from the specified system for a user-definable length of time. The sensor location and chassis location are provided.

1455	`Fan enclosure sensor detected a non-recoverable value`
	`Sensor location: <Location in chassis>`
	`Chassis location: <Name of chassis>`
		Error	A fan enclosure sensor in the specified system detected an error from which it cannot recover. The sensor location and chassis location are provided.

AC Power Cord Messages

AC power cord messages listed in Table 2-11 provide status and warning information for power cords that are part of an AC power switch, if your system supports AC switching.

Table 2-11. AC Power Cord Messages

Event ID	Description	Severity	Cause
1500	`AC power cord sensor has failed Sensor location: <Location in chassis>` `Chassis location: <Name of chassis>`	Information	An AC power cord sensor in the specified system failed. The AC power cord status cannot be monitored. The sensor location and chassis location information are provided.

1501	`AC power cord is not being monitored`
	`Sensor location: <Location in chassis>`
	`Chassis location: <Name of chassis>`
		Information	The AC power cord status is not being monitored. This occurs when a system's expected AC power configuration is set to **nonredundant**. The sensor location and chassis location information are provided.

Table 2-11. AC Power Cord Messages *(continued)*

Event ID	Description	Severity	Cause

1502	`AC power has been restored`
	`Sensor location: <Location in chassis>`
	`Chassis location: <Name of chassis>`
		Information	An AC power cord that did not have AC power has had the power restored. The sensor location and chassis location information are provided.

1503	`AC power has been lost`
	`Sensor location: <Location in chassis>`
	`Chassis location: <Name of chassis>`
		Warning	An AC power cord has lost its power, but there is sufficient redundancy to classify this as a warning. The sensor location and chassis location information are provided.

1504	`AC power has been lost`
	`Sensor location: <Location in chassis>`
	`Chassis location: <Name of chassis>`
		Error	An AC power cord has lost its power, and lack of redundancy requires this to be classified as an error. The sensor location and chassis location information are provided.

1505	`AC power has been lost`
	`Sensor location: <Location in chassis>`
	`Chassis location: <Name of chassis>`
		Error	An AC power cord sensor in the specified system failed. The AC power cord status cannot be monitored. The sensor location and chassis location information are provided.

Hardware Log Sensor Messages

Hardware logs provide hardware status messages to systems management software. On certain systems, the hardware log is implemented as a circular queue. When the log becomes full, the oldest status messages are overwritten when new status messages are logged. On some systems, the log is not circular. On these systems, when the log becomes full, subsequent hardware status messages are lost. Hardware log sensor messages listed in Table 2-12 provide status and warning information about the noncircular logs that may fill up, resulting in lost status messages.

Table 2-12. Hardware Log Sensor Messages

Event ID	Description	Severity	Cause
1550	`Log monitoring has been disabled` `Log type: <Log type>`	Information	A hardware log sensor in the specified system is disabled. The log type information is provided.
1551	`Log status is unknown` `Log type: <Log type>`	Information	A hardware log sensor in the specified system could not obtain a reading. The log type information is provided.
1552	`Log size is no longer near or at capacity` `Log type: <Log type>`	Information	The hardware log on the specified system is no longer near or at its capacity, usually as the result of clearing the log. The log type information is provided.
1553	`Log size is near or at capacity` `Log type: <Log type>`	Warning	The size of a hardware log on the specified system is near or at the capacity of the hardware log. The log type information is provided.
1554	`Log size is full` `Log type: <Log type>`	Error	The size of a hardware log on the specified system is full. The log type information is provided.
1555	`Log sensor has failed` `Log type: <Log type>`	Error	A hardware log sensor in the specified system failed. The hardware log status cannot be monitored. The log type information is provided.

Processor Sensor Messages

Processor sensors monitor how well a processor is functioning. Processor messages listed in Table 2-13 provide status and warning information for processors in a particular chassis.

Table 2-13. Processor Sensor Messages

Event ID	Description	Severity	Cause
1600	Processor sensor has failed Sensor Location: *<Location in chassis>* Chassis Location: *<Name of chassis>* Previous state was: *<State>* Processor sensor status: *<status>*	Information	A processor sensor in the specified system is not functioning. The sensor location, chassis location, previous state and processor sensor status are provided.
1601	Processor sensor value unknown Sensor Location: *<Location in chassis>* Chassis Location: *<Name of chassis>* Previous state was: *<State>* Processor sensor status: *<status>*	Information	A processor sensor in the specified system could not obtain a reading. The sensor location, chassis location, previous state and processor sensor status are provided.
1602	Processor sensor returned to a normal value Sensor Location: *<Location in chassis>* Chassis Location: *<Name of chassis>* Previous state was: *<State>* Processor sensor status: *<status>*	Information	A processor sensor in the specified system transitioned back to a normal state. The sensor location, chassis location, previous state and processor sensor status are provided.

Table 2-13. Processor Sensor Messages *(continued)*

Event ID	Description	Severity	Cause

1603	`Processor sensor detected a warning value`
	`Sensor Location: <Location in chassis>`
	`Chassis Location: <Name of chassis>`
	`Previous state was: <State>`
	`Processor sensor status: <status>`
		Warning	A processor sensor in the specified system is in a throttled state. The sensor location, chassis location, previous state and processor sensor status are provided.

1604	`Processor sensor detected a failure value`
	`Sensor Location: <Location in chassis>`
	`Chassis Location: <Name of chassis>`
	`Previous state was: <State>`
	`Processor sensor status: <status>`
		Error	A processor sensor in the specified system is disabled, has a configuration error, or experienced a thermal trip. The sensor location, chassis location, previous state and processor sensor status are provided.

1605	`Processor sensor detected a non-recoverable value`
	`Sensor Location: <Location in chassis>`
	`Chassis Location: <Name of chassis>`
	`Previous state was: <State>`
	`Processor sensor status: <status>`
		Error	A processor sensor in the specified system has failed. The sensor location, chassis location, previous state and processor sensor status are provided.

Pluggable Device Messages

The pluggable device messages listed in Table 2-14 provide status and error information when some devices, such as memory cards, are added or removed.

Table 2-14. Pluggable Device Messages

Event ID	Description	Severity	Cause
1650	*<Device plug event type unknown>* Device location: *<Location in chassis, if available>* Chassis location: *<Name of chassis, if available>* Additional details: *<Additional details for the events, if available>*	Information	A pluggable device event message of unknown type was received. The device location, chassis location, and additional event details, if available, are provided.
1651	Device added to system Device location: *<Location in chassis>* Chassis location: *<Name of chassis>* Additional details: *<Additional details for the events>*	Information	A device was added in the specified system. The device location, chassis location, and additional event details, if available, are provided.
1652	Device removed from system Device location: *<Location in chassis>* Chassis location: *<Name of chassis>* Additional details: *<Additional details for the events>*	Information	A device was removed from the specified system. The device location, chassis location, and additional event details, if available, are provided.
1653	Device configuration error detected Device location: *<Location in chassis>* Chassis location: *<Name of chassis>* Additional details: *<Additional details for the events>*	Error	A configuration error was detected for a pluggable device in the specified system. The device may have been added to the system incorrectly.

Battery Sensor Messages

Battery sensors monitor how well a battery is functioning. Battery messages listed in Table 2-15 provide status and warning information for batteries in a particular chassis.

Table 2-15. Battery Sensor Messages

Event ID	Description	Severity	Cause
1700	Battery sensor has failed *Sensor location: <Location in chassis>* *Chassis location: <Name of chassis>* Previous state was: *<State>* Battery sensor status: *<status>*	Information	A battery sensor in the specified system is not functioning. The sensor location, chassis location, previous state, and battery sensor status are provided.
1701	Battery sensor value unknown Sensor Location: *<Location in chassis>* Chassis Location: *<Name of chassis>* Previous state was: *<State>* Battery sensor status: *<status>*	Information	A battery sensor in the specified system could not retrieve a reading. The sensor location, chassis location, previous state, and battery sensor status are provided.
1702	Battery sensor returned to a normal value Sensor Location: *<Location in chassis>* Chassis Location: *<Name of chassis>* Previous state was: *<State>* Battery sensor status: *<status>*	Information	A battery sensor in the specified system detected that a battery transitioned back to a normal state. The sensor location, chassis location, previous state, and battery sensor status are provided.
1703	Battery sensor detected a warning value Sensor Location: *<Location in chassis>* Chassis Location: *<Name of chassis>* Previous state was: *<State>* Battery sensor status: *<status>*	Warning	A battery sensor in the specified system detected that a battery is in a predictive failure state. The sensor location, chassis location, previous state, and battery sensor status are provided.

Table 2-15. Battery Sensor Messages *(continued)*

Event ID	Description	Severity	Cause
1704	Battery sensor detected a failure value Sensor Location: *<Location in chassis>* Chassis Location: *<Name of chassis>* Previous state was: *<State>* Battery sensor status: *<status>*	Error	A battery sensor in the specified system detected that a battery has failed. The sensor location, chassis location, previous state, and battery sensor status are provided.
1705	Battery sensor detected a non-recoverable value Sensor Location: *<Location in chassis>* Chassis Location: *<Name of chassis>* Previous state was: *<State>* Battery sensor status: *<status>*	Error	A battery sensor in the specified system detected that a battery has failed. The sensor location, chassis location, previous state, and battery sensor status are provided.

3

System Event Log Messages for IPMI Systems

The following tables list the system event log (SEL) messages, their severity, and cause.

NOTE: For corrective actions, see the appropriate documentation.

Temperature Sensor Events

The temperature sensor event messages help protect critical components by alerting the systems management console when the temperature rises inside the chassis. These event messages use additional variables, such as sensor location, chassis location, previous state, and temperature sensor value or state.

Table 3-1. Temperature Sensor Events

Event Message	Severity	Cause
<*Sensor Name/Location*> temperature sensor detected a failure <*Reading*> where <*Sensor Name/Location*> is the entity that this sensor is monitoring. For example, "PROC Temp" or "Planar Temp." Reading is specified in degree Celsius. For example 100 C.	Critical	Temperature of the backplane board, system board, or the carrier in the specified system <*Sensor Name/Location*> exceeded the critical threshold.
<*Sensor Name/Location*> temperature sensor detected a warning <*Reading*>.	Warning	Temperature of the backplane board, system board, or the carrier in the specified system <*Sensor Name/Location*> exceeded the non-critical threshold.
<*Sensor Name/Location*> temperature sensor returned to warning state <*Reading*>.	Warning	Temperature of the backplane board, system board, or the carrier in the specified system <*Sensor Name/Location*> returned from critical state to non-critical state.
<*Sensor Name/Location*> temperature sensor returned to normal state <*Reading*>.	Information	Temperature of the backplane board, system board, or the carrier in the specified system <*Sensor Name/Location*> returned to normal operating range.

Voltage Sensor Events

The voltage sensor event messages monitor the number of volts across critical components. These messages provide status and warning information for voltage sensors for a particular chassis.

Table 3-2. Voltage Sensor Events

Event Message	Severity	Cause
<*Sensor Name/Location*> voltage sensor detected a failure <*Reading*> where <*Sensor Name/Location*> is the entity that this sensor is monitoring. Reading is specified in volts. For example, 3.860 V.	Critical	The voltage of the monitored device has exceeded the critical threshold.
<*Sensor Name/Location*> voltage sensor state asserted.	Critical	The voltage specified by <*Sensor Name/Location*> is in critical state.
<*Sensor Name/Location*> voltage sensor state de-asserted.	Information	The voltage of a previously reported <*Sensor Name/Location*> is returned to normal state.
<*Sensor Name/Location*> voltage sensor detected a warning <*Reading*>.	Warning	Voltage of the monitored entity <*Sensor Name/Location*> exceeded the warning threshold.
<*Sensor Name/Location*> voltage sensor returned to normal <*Reading*>.	Information	The voltage of a previously reported <*Sensor Name/Location*> is returned to normal state.

Fan Sensor Events

The cooling device sensors monitor how well a fan is functioning. These messages provide status warning and failure messages for fans for a particular chassis.

Table 3-3. Fan Sensor Events

Event Message	Severity	Cause
<*Sensor Name/Location*> Fan sensor detected a failure <*Reading*> where <*Sensor Name/Location*> is the entity that this sensor is monitoring. For example "BMC Back Fan" or "BMC Front Fan." Reading is specified in RPM. For example, 100 RPM.	Critical	The speed of the specified <*Sensor Name/Location*> fan is not sufficient to provide enough cooling to the system.
<*Sensor Name/Location*> Fan sensor returned to normal state <*Reading*>.	Information	The fan specified by <*Sensor Name/Location*> has returned to its normal operating speed.
<*Sensor Name/Location*> Fan sensor detected a warning <*Reading*>.	Warning	The speed of the specified <*Sensor Name/Location*> fan may not be sufficient to provide enough cooling to the system.
<*Sensor Name/Location*> Fan Redundancy sensor redundancy degraded.	Information	The fan specified by <*Sensor Name/Location*> may have failed and hence, the redundancy has been degraded.
<*Sensor Name/Location*> Fan Redundancy sensor redundancy lost.	Critical	The fan specified by <*Sensor Name/Location*> may have failed and hence, the redundancy that was degraded previously has been lost.
<*Sensor Name/Location*> *Fan Redundancy sensor redundancy regained*	Information	The fan specified by <*Sensor Name/Location*> may have started functioning again and hence, the redundancy has been regained.

Processor Status Events

The processor status messages monitor the functionality of the processors in a system. These messages provide processor health and warning information of a system.

Table 3-4. Processor Status Events

Event Message	Severity	Cause
<*Processor Entity*> status processor sensor IERR, where <*Processor Entity*> is the processor that generated the event. For example, PROC for a single processor system and PROC # for multiprocessor system.	Critical	IERR internal error generated by the <*Processor Entity*>.
<*Processor Entity*> status processor sensor Thermal Trip.	Critical	The processor generates this event before it shuts down because of excessive heat caused by lack of cooling or heat synchronization.
<*Processor Entity*> status processor sensor recovered from IERR.	Information	This event is generated when a processor recovers from the internal error.
<*Processor Entity*> status processor sensor disabled.	Warning	This event is generated for all processors that are disabled.
<*Processor Entity*> status processor sensor terminator not present.	Information	This event is generated if the terminator is missing on an empty processor slot.
< *Processor Entity*> presence was deasserted.	Critical	This event is generated when the system could not detect the processor.
<*Processor Entity*> presence was asserted.	Information	This event is generated when the earlier processor detection error was corrected.
<*Processor Entity*> thermal tripped was deasserted.	Information	This event is generated when the processor has recovered from an earlier thermal condition.
<*Processor Entity*> configuration error was asserted.	Critical	This event is generated when the processor configuration is incorrect.
<*Processor Entity*> configuration error was deasserted.	Information	This event is generated when the earlier processor configuration error was corrected.
<*Processor Entity*> throttled was asserted.	Warning	This event is generated when the processor slows down to prevent over heating.
<*Processor Entity*> throttled was deasserted.	Information	This event is generated when the earlier processor throttled event was corrected.

Power Supply Events

The power supply sensors monitor the functionality of the power supplies. These messages provide status and warning information for power supplies for a particular system.

Table 3-5. Power Supply Events

Event Message	Severity	Cause
<*Power Supply Sensor Name*> power supply sensor removed.	Critical	This event is generated when the power supply sensor is removed.
<*Power Supply Sensor Name*> power supply sensor AC recovered.	Information	This event is generated when the power supply has been replaced.
<*Power Supply Sensor Name*> power supply sensor returned to normal state.	Information	This event is generated when the power supply that failed or removed was replaced and the state has returned to normal.
<*Entity Name*> PS Redundancy sensor redundancy degraded.	Information	Power supply redundancy is degraded if one of the power supply sources is removed or failed.
<*Entity Name*> PS Redundancy sensor redundancy lost.	Critical	Power supply redundancy is lost if only one power supply is functional.
<*Entity Name*> PS Redundancy sensor redundancy regained.	Information	This event is generated if the power supply has been reconnected or replaced.
<*Power Supply Sensor Name*> predictive failure was asserted	Warning	This event is generated when the power supply is about to fail.
<*Power Supply Sensor Name*> input lost was asserted	Critical	This event is generated when the power supply is unplugged.
<*Power Supply Sensor Name*> predictive failure was deasserted	Information	This event is generated when the power supply has recovered from an earlier predictive failure event.
<*Power Supply Sensor Name*> input lost was deasserted	Information	This event is generated when the power supply is plugged in.

Memory ECC Events

The memory ECC event messages monitor the memory modules in a system. These messages monitor the ECC memory correction rate and the type of memory events that occurred.

Table 3-6. Memory ECC Events

Event Message	Severity	Cause
`ECC error correction detected on Bank # DIMM [A/B].`	Information	This event is generated when there is a memory error correction on a particular Dual Inline Memory Module (DIMM).
`ECC uncorrectable error detected on Bank # [DIMM].`	Critical	This event is generated when the chipset is unable to correct the memory errors. Usually, a bank number is provided and DIMM may or may not be identifiable, depending on the error.
`Correctable memory error logging disabled.`	Critical	This event is generated when the chipset in the ECC error correction rate exceeds a predefined limit.

BMC Watchdog Events

The BMC watchdog operations are performed when the system hangs or crashes. These messages monitor the status and occurrence of these events in a system.

Table 3-7. BMC Watchdog Events

Event Message	Severity	Cause
`BMC OS Watchdog timer expired.`	Information	This event is generated when the BMC watchdog timer expires and no action is set.
`BMC OS Watchdog performed system reboot.`	Critical	This event is generated when the BMC watchdog detects that the system has crashed (timer expired because no response was received from Host) and the action is set to reboot.
`BMC OS Watchdog performed system power off.`	Critical	This event is generated when the BMC watchdog detects that the system has crashed (timer expired because no response was received from Host) and the action is set to power off.
`BMC OS Watchdog performed system power cycle.`	Critical	This event is generated when the BMC watchdog detects that the system has crashed (timer expired because no response was received from Host) and the action is set to power cycle.

Memory Events

The memory modules can be configured in different ways in particular systems. These messages monitor the status, warning, and configuration information about the memory modules in the system.

Table 3-8. Memory Events

Event Message	Severity	Cause
`Memory RAID redundancy degraded.`	Information	This event is generated when there is a memory failure in a RAID-configured memory configuration.
`Memory RAID redundancy lost.`	Critical	This event is generated when redundancy is lost in a RAID-configured memory configuration.
`Memory RAID redundancy regained`	Information	This event is generated when the redundancy lost or degraded earlier is regained in a RAID-configured memory configuration.
`Memory Mirrored redundancy degraded.`	Information	This event is generated when there is a memory failure in a mirrored memory configuration.
`Memory Mirrored redundancy lost.`	Critical	This event is generated when redundancy is lost in a mirrored memory configuration.
`Memory Mirrored redundancy regained.`	Information	This event is generated when the redundancy lost or degraded earlier is regained in a mirrored memory configuration.
`Memory Spared redundancy degraded.`	Information	This event is generated when there is a memory failure in a spared memory configuration.
`Memory Spared redundancy lost.`	Critical	This event is generated when redundancy is lost in a spared memory configuration.
`Memory Spared redundancy regained.`	Information	This event is generated when the redundancy lost or degraded earlier is regained in a spared memory configuration.

Hardware Log Sensor Events

The hardware logs provide hardware status messages to the system management software. On particular systems, the subsequent hardware messages are not displayed when the log is full. These messages provide status and warning messages when the logs are full.

Table 3-9. Hardware Log Sensor Events

Event Message	Severity	Cause
`Log full detected.`	Critical	This event is generated when the SEL device detects that only one entry can be added to the SEL before it is full.
`Log cleared.`	Information	This event is generated when the SEL is cleared.

Drive Events

The drive event messages monitor the health of the drives in a system. These events are generated when there is a fault in the drives indicated.

Table 3-10. Drive Events

Event Message	Severity	Cause
Drive <*Drive #*> asserted fault state.	Critical	This event is generated when the specified drive in the array is faulty.
Drive <*Drive #*> de-asserted fault state.	Information	This event is generated when the specified drive recovers from a faulty condition.
Drive <*Drive #*> drive presence was asserted	Informational	This event is generated when the drive is installed.
Drive <*Drive #*> predictive failure was asserted	Warning	This event is generated when the drive is about to fail.
Drive <*Drive #*> predictive failure was deasserted	Informational	This event is generated when the drive from earlier predictive failure is corrected.
Drive <*Drive #*> hot spare was asserted	Warning	This event is generated when the drive is placed in a hot spare.
Drive <*Drive #*> hot spare was deasserted	Informational	This event is generated when the drive is taken out of hot spare.
Drive <*Drive #*> consistency check in progress was asserted	Warning	This event is generated when the drive is placed in consistency check.
Drive <*Drive #*> consistency check in progress was deasserted	Informational	This event is generated when the consistency check of the drive is completed.
Drive <*Drive #*> in critical array was asserted	Critical	This event is generated when the drive is placed in critical array.
Drive <*Drive #*> in critical array was deasserted	Informational	This event is generated when the drive is removed from critical array.
Drive <*Drive #*> in failed array was asserted	Critical	This event is generated when the drive is placed in the fail array.

Table 3-10. Drive Events *(continued)*

Event Message	Severity	Cause
Drive *<Drive #>* in failed array was deasserted	Informational	This event is generated when the drive is removed from the fail array.
Drive *<Drive #>* rebuild in progress was asserted	Informational	This event is generated when the drive is rebuilding.
Drive *<Drive #>* rebuild aborted was asserted	Warning	This event is generated when the drive rebuilding process is aborted.

Intrusion Events

The chassis intrusion messages are a security measure. Chassis intrusion alerts are generated when the system's chassis is opened. Alerts are sent to prevent unauthorized removal of parts from the chassis.

Table 3-11. Intrusion Events

Event Message	Severity	Cause
<Intrusion sensor Name> sensor detected an intrusion.	Critical	This event is generated when the intrusion sensor detects an intrusion.
<Intrusion sensor Name> sensor returned to normal state.	Information	This event is generated when the earlier intrusion has been corrected.
<Intrusion sensor Name> sensor intrusion was asserted while system was ON	Critical	This event is generated when the intrusion sensor detects an intrusion while the system is on.
<Intrusion sensor Name> sensor intrusion was asserted while system was OFF	Critical	This event is generated when the intrusion sensor detects an intrusion while the system is off.

BIOS Generated System Events

The BIOS generated messages monitor the health and functionality of the chipsets, I/O channels, and other BIOS-related functions. These system events are generated by the BIOS.

Table 3-12. BIOS Generated System Events

Event Message	Severity	Cause
System Event I/O channel chk.	Critical	This event is generated when a critical interrupt is generated in the I/O Channel.
System Event PCI Parity Err.	Critical	This event is generated when a parity error is detected on the PCI bus.
System Event Chipset Err.	Critical	This event is generated when a chip error is detected.
System Event PCI System Err.	Information	This event indicates historical data, and is generated when the system has crashed and recovered.
System Event PCI Fatal Err.	Critical	This error is generated when a fatal error is detected on the PCI bus.
System Event PCIE Fatal Err.	Critical	This error is generated when a fatal error is detected on the PCIE bus.
POST Err POST fatal error #<number>	Critical	This event is generated when an error accrues during system boot. See the system documentation for more information on the error code.
Memory Spared redundancy lost	Critical	This event is generated when memory spare is no longer redundant.
Memory Mirrored redundancy lost	Critical	This event is generated when memory mirroring is no longer redundant.
Memory RAID redundancy lost	Critical	This event is generated when memory RAID is no longer redundant.
Err Reg Pointer OEM Diagnostic data event was asserted	Information	This event is generated when an OEM event accrues.
System Board PFault Fail Safe state asserted	Critical	This event is generated when the system board voltages are not at normal levels.
System Board PFault Fail Safe state deasserted	Information	This event is generated when earlier PFault Fail Safe system voltages returns to a normal level.
Memory Add (BANK# DIMM#) presence was asserted	Information	This event is generated when memory is added to the system.

Table 3-12. BIOS Generated System Events *(continued)*

Event Message	Severity	Cause
Memory Removed (BANK# DIMM#) presence was asserted	Information	This event is generated when memory is removed from the system.
Memory Cfg Err configuration error (BANK# DIMM#) was asserted	Critical	This event is generated when memory configuration is incorrect for the system.
Mem Redun Gain redundancy regained	Information	This event is generated when memory redundancy is regained.
Mem ECC Warning transition to non-critical from OK	Warning	This event is generated when correctable ECC errors have increased from a normal rate.
Mem ECC Warning transition to critical from less severe	Critical	This event is generated when correctable ECC errors reach a critical rate.
Mem CRC Err transition to non-recoverable	Critical	This event is generated when CRC errors enter a non-recoverable state.
Mem Fatal SB CRC uncorrectable ECC was asserted	Critical	This event is generated when CRC errors occur while storing to memory.
Mem Fatal NB CRC uncorrectable ECC was asserted	Critical	This event is generated when CRC errors occur while removing from memory.
Mem Overtemp critical over temperature was asserted	Critical	This event is generated when system memory reaches critical temperature.
USB Over-current transition to non-recoverable	Critical	This event is generated when the USB exceeds a predefined current level.
Hdwr version err hardware incompatibility (BMC Firmware and CPU mismatch) was asserted	Critical	This event is generated when there is a mismatch between the BMC firmware and the processor in use or vice versa.

Table 3-12. BIOS Generated System Events *(continued)*

Event Message	Severity	Cause
Hdwr version err hardware incompatibility (BMC Firmware and CPU mismatch) was deasserted	Information	This event is generated when the earlier mismatch between the BMC firmware and the processor is corrected.
Hdwr version err hardware incompatibility (BMC Firmware and other mismatch) was asserted	Critical	This event is generated when there is a mismatch between the BMC firmware and the processor in use or vice versa.
Hdwr version err hardware incompatibility (BMC Firmware and CPU mismatch) was deasserted	Information	This event is generated when an earlier hardware mismatch is corrected.
SBE Log Disabled correctable memory error logging disabled was asserted	Critical	This event is generated when the ECC single bit error rate is exceeded.
CPU Protocol Err transition to non-recoverable	Critical	This event is generated when the processor protocol enters a non-recoverable state.
CPU Bus PERR transition to non-recoverable	Critical	This event is generated when the processor bus PERR enters a non-recoverable state.
CPU Init Err transition to non-recoverable	Critical	This event is generated when the processor initialization enters a non-recoverable state.
CPU Machine Chk transition to non-recoverable	Critical	This event is generated when the processor machine check enters a non-recoverable state.
Logging Disabled all event logging disabled was asserted	Critical	This event is generated when all event logging is disabled.
Unknown system event sensor unknown system hardware failure was asserted	Critical	This event is generated when an unknown hardware failure is detected.

R2 Generated System Events

Table 3-13. R2 Generated Events

Description	Severity	Cause
`System Event: OS stop event OS graceful shutdown detected`	Information	The OS was shutdown/restarted normally.
`OEM Event data record (after OS graceful shutdown/restart event)`	Information	Comment string accompanying an OS shutdown/restart.
`System Event: OS stop event runtime critical stop`	Critical	The OS encountered a critical error and was stopped abnormally.
`OEM Event data record (after OS bugcheck event)`	Information	OS bugcheck code and paremeters.

Cable Interconnect Events

The cable interconnect messages are used for detecting errors in the hardware cabling.

Table 3-14. Cable Interconnect Events

Description	Severity	Cause
<Cable sensor Name/Location> `Configuration error was asserted.`	Critical	This event is generated when the cable is not connected or is incorrectly connected.
<Cable sensor Name/Location> `Connection was asserted.`	Information	This event is generated when the earlier cable connection error was corrected.

Battery Events

Table 3-15. Battery Events

Description	Severity	Cause
<Battery sensor Name/Location> `Failed was asserted`	Critical	This event is generated when the sensor detects a failed or missing battery.
<Battery sensor Name/Location> `Failed was deasserted`	Information	This event is generated when the earlier failed battery was corrected.
<Battery sensor Name/Location> `is low was asserted`	Warning	This event is generated when the sensor detects a low battery condition.
<Battery sensor Name/Location> `is low was deasserted`	Information	This event is generated when the earlier low battery condition was corrected.

Entity Presence Events

The entity presence messages are used for detecting different hardware devices.

Table 3-16. Entity Presence Events

Description	Severity	Cause
<Device Name> presence was asserted	Information	This event is generated when the device was detected.
<Device Name> absent was asserted	Critical	This event is generated when the device was not detected.

4

Storage Management Message Reference

The Dell OpenManage™ Server Administrator Storage Management's alert or event management features let you monitor the health of storage resources such as controllers, connectors, array disks, and virtual disks.

Alert Monitoring and Logging

The Storage Management Service performs alert monitoring and logging. By default, the Storage Management Service starts when the managed system starts up. If you stop the Storage Management Service, the alert monitoring and logging stops. Alert monitoring does the following:

- Updates the status of the storage object that generated the alert.
- Propagates the storage object's status to all the related higher objects in the storage hierarchy. For example, the status of a lower-level object will be propagated up to the status displayed on the Health tab for the top-level storage object.
- Logs an alert in the Alert log and the operating system (OS) application log.
- Sends an SNMP trap if the operating system's SNMP service is installed and enabled.

NOTE: Dell OpenManage Storage Management does not log alerts regarding the data I/O path. These alerts are logged by the respective RAID drivers in the system alert log.

See the *Storage Management Online Help* and the *Dell OpenManage Server Administrator Storage Management User's Guide* for updated information.

Alert Descriptions and Corrective Actions

The following sections describe alerts generated by the RAID or SCSI controllers supported by Storage Management. The alerts are displayed in the Server Administrator Alert subtab or through Windows Event Viewer. These alerts can also be forwarded as SNMP traps to other applications.

SNMP traps are generated for the alerts listed in the following sections. These traps are included in the Dell OpenManage Storage Management management information base (MIB). The SNMP traps for these alerts use all of the SNMP trap variables. For more information on SNMP support and the MIB, see the *SNMP Reference Guide*.

To locate an alert, scroll through the following table to find the alert number displayed on the Server Administrator Alert tab or search this file for the alert message text or number. See "Understanding Event Messages" for more information on severity levels.

NOTE: If you have an Array Manager installation, the Array Manager console reports the status of storage components through error icons and graphical displays. When there is a change in status, Array Manager sends events to the Array Manager event log, which can be viewed from the Array Manager console. For more information, see the *Array Manager User's Guide*.

For more information regarding alert descriptions and the appropriate corrective actions, see the online help.

Table 4-1. Storage Management Messages

Event ID	Description	Severity	Cause and Action	SNMP Trap Numbers	Array Manager Event Number
2048	Device failed	Critical / Failure / Error	Cause: A physical disk in the array failed. The failed disk may have been identified by the controller or connector. Performing a consistency check can also identify a failed disk. Action: Replace the failed array disk. You can identify which disk has failed by locating the disk that has a red "X" for its status. Perform a rescan after replacing the disk.	754, 804, 854, 904, 954, 1004, 1054,1104, 1154, 1204	500
2049	Array disk removed	Warning / Non-critical	Cause: A physical disk has been removed from the array. A user may have also executed the "Prepare to Remove" task. This alert can also be caused by loose or defective cables or by problems with the enclosure. Action: If a physical disk was removed from the array, either replace the disk or restore the original disk. You can identify which disk has been removed by locating the disk that has a red "X" for its status. Perform a rescan after replacing or restoring the disk. If a disk has not been removed from the array, then check for problems with the cables. See the online help for more information on checking the cables. Make sure that the enclosure is powered on. If the problem persists, check the enclosure documentation for further diagnostic information.	903	501

Table 4-1. Storage Management Messages *(continued)*

Event ID	Description	Severity	Cause and Action	SNMP Trap Numbers	Array Manager Event Number
2050	Array disk offline	Warning / Non-critical	Cause: A physical disk in the array is offline. A disk can be made offline during a Prepare to Remove operation or because a user manually put the disk offline. Action: Perform a rescan. You can also select the offline disk and perform a Make Online operation.	903	502
2051	Array disk degraded	Warning / Non-critical	Cause: An array disk has reported an error condition and may be degraded. The array disk may have reported the error condition in response to a consistency check or other operation. Action: Replace the degraded array disk. You can identify which disk is degraded by locating the disk that has a red "X" for its status. Perform a rescan after replacing the disk.	903	503
2052	Array disk inserted	Ok / Normal	Cause: This alert is provided for informational purposes. Action: None	901	504
2053	Virtual disk created	Ok / Normal	Cause: This alert is provided for informational purposes. Action: None	1201	505
2054	Virtual disk deleted	Warning / Non-critical	Cause: A virtual disk has been deleted. "Performing a Reset Configuration" may detect that a virtual disk has been deleted and generate this alert. Action: None	1203	506
2055	Virtual disk configuration changed	Ok / Normal	Cause: This alert is provided for informational purposes. Action: None	1201	507

Table 4-1. Storage Management Messages *(continued)*

Event ID	Description	Severity	Cause and Action	SNMP Trap Numbers	Array Manager Event Number
2056	Virtual disk failed	Critical / Failure / Error	Cause: One or more physical disks included in the virtual disk have failed. If the virtual disk is non-redundant (does not use mirrored or parity data), then the failure of a single physical disk can cause the virtual disk to fail. If the virtual disk is redundant, then more physical disks have failed than can be rebuilt using mirrored or parity information. Action: Create a new virtual disk and restore from a backup.	1204	508
2057	Virtual disk degraded	Warning / Non-critical	Cause 1: This alert message occurs when a physical disk included in a redundant virtual disk fails. Because the virtual disk is redundant (uses mirrored or parity information) and only one physical disk has failed, the virtual disk can be rebuilt. Action 1: Configure a hot spare for the virtual disk if one is not already configured. Rebuild the virtual disk. When using an Expandable RAID Controller (PERC) 2/SC, 3/SC, 2/DC, 3/DCL, 3/DC, 3/QC, 4/SC, 4/DC, 4e/DC, 4/Di, or CERC ATA100/4ch controller, rebuild the virtual disk by first configuring a hot spare for the disk, and then initiating a write operation to the disk. The write operation will initiate a rebuild of the disk. Cause 2: A physical disk in the array has been removed. Action 2: If a physical disk was removed from the array, either replace the disk or restore the original disk. You can identify which disk has been removed by locating the disk that has a red "X" for its status. Perform a rescan after replacing the disk.	1203	509
2058	Virtual disk check consistency started	Ok / Normal	Cause: This alert is provided for informational purposes. Action: None	1201	520

Table 4-1. Storage Management Messages *(continued)*

Event ID	Description	Severity	Cause and Action	SNMP Trap Numbers	Array Manager Event Number
2059	Virtual disk format started	Ok / Normal	Cause: This alert is provided for informational purposes. Action: None	1201	521
2061	Virtual disk initialization started	Ok / Normal	Cause: This alert is provided for informational purposes. Action: None	1201	523
2063	Virtual disk reconfiguration started	Ok / Normal	Cause: This alert is provided for informational purposes. Action: None	1201	525
2064	Virtual disk rebuild started	Ok / Normal	Cause: This alert is provided for informational purposes. Action: None	1201	526
2065	Array disk rebuild started	Ok / Normal	Cause: This alert is provided for informational purposes. Action: None	901	527
2067	Virtual disk check consistency cancelled	Ok / Normal	Cause: The check consistency operation cancelled because a physical disk in the array has failed or because a user cancelled the check consistency operation. Action: If the physical disk failed, then replace the physical disk. You can identify which disk failed by locating the disk that has a red "X" for its status. Perform a rescan after replacing the disk. When performing a consistency check, be aware that the consistency check can take a long time. The time it takes depends on the size of the physical disk or the virtual disk.	1201	529

Table 4-1. Storage Management Messages *(continued)*

Event ID	Description	Severity	Cause and Action	SNMP Trap Numbers	Array Manager Event Number
2070	Virtual disk initialization cancelled	Ok / Normal	Cause: The virtual disk initialization cancelled because a physical disk included in the virtual disk has failed or because a user cancelled the virtual disk initialization. Action: If a physical disk failed, then replace the physical disk. You can identify which disk has failed by locating the disk that has a red “X” for its status. Perform a rescan after replacing the disk. Restart the format array disk operation. Restart the virtual disk initialization.	1201	532
2074	Array disk rebuild cancelled	Ok / Normal	Cause: A user has cancelled the rebuild operation. Action: Restart the rebuild operation.	901	536
2076	Virtual disk check consistency failed	Critical / Failure / Error	Cause: An array disk included in the virtual disk failed or there is an error in the parity information. A failed array disk can cause errors in parity information. Action: Replace the failed array disk. You can identify which disk has failed by locating the disk that has a red “X” for its status. Rebuild the array disk. When finished, restart the check consistency operation.	1204	538
2077	Virtual disk format failed.	Critical / Failure / Error	Cause: An array disk included in the virtual disk failed. Action: Replace the failed array disk. You can identify which array disk has failed by locating the disk that has a red "X" for its status. Rebuild the array disk. When finished, restart the virtual disk format operation.	1204	539
2079	Virtual disk initialization failed	Critical / Failure / Error	Cause: An array disk included in the virtual disk has failed or a user has cancelled the initialization. Action: If an array disk has failed, then replace the array disk.	1204	541

Table 4-1. Storage Management Messages *(continued)*

Event ID	Description	Severity	Cause and Action	SNMP Trap Numbers	Array Manager Event Number
2080	Array disk initialize failed	Critical / Failure / Error	Cause: The array disk has failed or is corrupt. Action: Replace the failed or corrupt disk. You can identify a disk that has failed by locating the disk that has a red "X" for its status. Restart the initialization.	904	542
2081	Virtual disk reconfiguration failed	Critical / Failure / Error	Cause: An array disk included in the virtual disk has failed or is corrupt. A user may also have cancelled the reconfiguration. Action: Replace the failed or corrupt disk. You can identify a disk that has failed by locating the disk that has a red "X" for its status. If the array disk is part of a redundant array, then rebuild the array disk. When finished, restart the reconfiguration.	1204	543
2082	Virtual disk rebuild failed	Critical / Failure / Error	Cause: An array disk included in the virtual disk has failed or is corrupt. A user may also have cancelled the rebuild. Action: Replace the failed or corrupt disk. You can identify a disk that has failed by locating the disk that has a red "X" for its status. Restart the virtual disk rebuild.	1204	544
2083	Array disk rebuild failed	Critical / Failure / Error	Cause: An array disk included in the virtual disk has failed or is corrupt. A user may also have cancelled the rebuild. Action: Replace the failed or corrupt disk. You can identify a disk that has failed by locating the disk that has a red "X" for its status. Rebuild the virtual disk rebuild.	904	545
2085	Virtual disk check consistency completed	Ok / Normal	Cause: This alert is provided for informational purposes. Action: None	1201	547
2086	Virtual disk format completed	Ok / Normal	Cause: This alert is provided for informational purposes. Action: None	1201	548

Table 4-1. Storage Management Messages *(continued)*

Event ID	Description	Severity	Cause and Action	SNMP Trap Numbers	Array Manager Event Number
2088	Virtual disk initialization completed	Ok / Normal	Cause: This alert is provided for informational purposes. Action: None	1201	550
2089	Array disk initialize completed	Ok / Normal	Cause: This alert is provided for informational purposes. Action: None	901	551
2090	Virtual disk reconfiguration completed	Ok / Normal	Cause: This alert is provided for informational purposes. Action: None	1201	552
2091	Virtual disk rebuild completed	Ok / Normal	Cause: This alert is provided for informational purposes. Action: None	1201	553
2092	Array disk rebuild completed	Ok / Normal	Cause: This alert is provided for informational purposes. Action: None	901	554
2094	Predictive Failure reported. If this disk is part of a redundant virtual disk, select the 'Offline' option and then replace the disk. Then configure a hot spare and it will start the rebuild automatically. If this disk is a hot spare, select the 'Prepare to Remove' option and then replace the disk. If this disk is part of a non-redundant disk, you should back up your data immediately. If the disk fails, you will not be able to recover the data.	Warning / Non-critical	Cause: The array disk is predicted to fail. Many array disks contain Self Monitoring Analysis and Reporting Technology (SMART). When enabled, SMART monitors the health of the disk based on indications such as the number of write operations that have been performed on the disk. Action: Replace the array disk. Even though the disk may not have failed yet, it is strongly recommended that you replace the disk. Review the message text for additional information.	903	570

Table 4-1. Storage Management Messages *(continued)*

Event ID	Description	Severity	Cause and Action	SNMP Trap Numbers	Array Manager Event Number
2095	SCSI sense data. If this disk is part of a redundant virtual disk, select the 'Offline' option and then replace the disk. Then configure a hot spare and it will start the rebuild automatically. If this disk is a hot spare, select the 'Prepare to Remove' option and then replace the disk. If this disk is part of a non-redundant disk, you should back up your data immediately. If the disk fails, you will not be able to recover the data.	Warning / Non-critical	Cause: An array disk has failed, is corrupt, or is otherwise experiencing a problem. Action: Replace the array disk. Even though the disk may not have failed yet, it is strongly recommended that you replace the disk. Review the message text for additional information.	903	571
2098	Global hot spare assigned	Ok / Normal	Cause: A user has assigned an array disk as a global hot spare. This alert is provided for informational purposes. Action: None	901	574
2099	Global hot spare unassigned	Ok / Normal	Cause: A user has unassigned an array disk as a global hot spare. This alert is provided for informational purposes. Action: None	901	575

Table 4-1. Storage Management Messages *(continued)*

Event ID	Description	Severity	Cause and Action	SNMP Trap Numbers	Array Manager Event Number
2100	Temperature exceeded the maximum warning threshold	Warning / Non-critical	Cause: The array disk enclosure is too hot. A variety of factors can cause the excessive temperature. For example, a fan may have failed, the thermostat may be set too high, or the room temperature may be too hot. Action: Check for factors that may cause overheating. For example, verify that the enclosure fan is working. You should also check the thermostat settings and examine whether the enclosure is located near a heat source. Make sure the enclosure has enough ventilation and that the room temperature is not too hot. See the array disk enclosure documentation for more diagnostic information.	1053	591
2101	Temperature dropped below the minimum warning threshold	Warning / Non-critical	Cause: The array disk enclosure is too cool. Action: Check whether the thermostat setting is too low and whether the room temperature is too cool.	1053	592
2102	Temperature exceeded the maximum failure threshold	Critical / Failure / Error	Cause: The array disk enclosure is too hot. A variety of factors can cause the excessive temperature. For example, a fan may have failed, the thermostat may be set too high, or the room temperature may be too hot. Action: Check for factors that may cause overheating. For example, verify that the enclosure fan is working. You should also check the thermostat settings and examine whether the enclosure is located near a heat source. Make sure the enclosure has enough ventilation and that the room temperature is not too hot. See the array disk enclosure documentation for more diagnostic information.	1054	593
2103	Temperature dropped below the minimum failure threshold	Critical / Failure / Error	Cause: The array disk enclosure is too cool. Action: Check whether the thermostat setting is too low and whether the room temperature is too cool.	1054	594

Table 4-1. Storage Management Messages *(continued)*

Event ID	Description	Severity	Cause and Action	SNMP Trap Numbers	Array Manager Event Number
2104	Controller battery is reconditioning	Ok / Normal	Cause: This alert is provided for informational purposes. Action: None	1151	581
2105	Controller battery recondition is completed	Ok / Normal	Cause: This alert is provided for informational purposes. Action: None	1151	582
2106	Smart FPT exceeded	Warning / Non-critical	Cause: A disk on the specified controller has received a SMART alert (predictive failure) indicating that the disk is likely to fail in the near future. Action: Replace the disk that has received the SMART alert. If the array disk is a member of a non-redundant virtual disk, then back up the data before replacing the disk. Removing an array disk that is included in a non-redundant virtual disk will cause the virtual disk to fail and may cause data loss.	903	585
2107	Smart configuration change	Critical / Failure / Error	Cause: A disk has received a SMART alert (predictive failure) after a configuration change. The disk is likely to fail in the near future. Action: Replace the disk that has received the SMART alert. If the array disk is a member of a non-redundant virtual disk, then back up the data before replacing the disk. Removing an array disk that is included in a non-redundant virtual disk will cause the virtual disk to fail and may cause data loss.	904	586

Table 4-1. Storage Management Messages *(continued)*

Event ID	Description	Severity	Cause and Action	SNMP Trap Numbers	Array Manager Event Number
2108	Smart warning	Warning / Non-critical	Cause: A disk has received a SMART alert (predictive failure). The disk is likely to fail in the near future. Action: Replace the disk that has received the SMART alert. If the array disk is a member of a non-redundant virtual disk, then back up the data before replacing the disk. Removing an array disk that is included in a non-redundant virtual disk will cause the virtual disk to fail and may cause data loss.	903	587
2109	SMART warning temperature	Warning / Non-critical	Cause: A disk has reached an unacceptable temperature and received a SMART alert (predictive failure). The disk is likely to fail in the near future. First Action: Determine why the array disk has reached an unacceptable temperature. A variety of factors can cause the excessive temperature. For example, a fan may have failed, the thermostat may be set too high, or the room temperature may be too hot or cold. Verify that the fans in the server or enclosure are working. If the array disk is in an enclosure, you should check the thermostat settings and examine whether the enclosure is located near a heat source. Make sure the enclosure has enough ventilation and that the room temperature is not too hot. See the array disk enclosure documentation for more diagnostic information. Second Action: If you cannot identify why the disk has reached an unacceptable temperature, then replace the disk. If the array disk is a member of a non-redundant virtual disk, then back up the data before replacing the disk. Removing an array disk that is included in a non-redundant virtual disk will cause the virtual disk to fail and may cause data loss.	903	588

Table 4-1. Storage Management Messages *(continued)*

Event ID	Description	Severity	Cause and Action	SNMP Trap Numbers	Array Manager Event Number
2110	SMART warning degraded	Warning / Non-critical	Cause: A disk is degraded and has received a SMART alert (predictive failure). The disk is likely to fail in the near future. Action: Replace the disk that has received the SMART alert. If the array disk is a member of a non-redundant virtual disk, then back up the data before replacing the disk. Removing an array disk that is included in a non-redundant virtual disk will cause the virtual disk to fail and may cause data loss.	903	589
2111	Failure prediction threshold exceeded due to test - No action needed	Warning / Non-critical	Cause: A disk has received a SMART alert (predictive failure) due to test conditions. Action: None	903	590
2112	Enclosure was shut down	Critical / Failure / Error	Cause: The array disk enclosure is either hotter or cooler than the maximum or minimum allowable temperature range. Action: Check for factors that may cause overheating or excessive cooling. For example, verify that the enclosure fan is working. You should also check the thermostat settings and examine whether the enclosure is located near a heat source. Make sure the enclosure has enough ventilation and that the room temperature is not too hot or too cold. See the enclosure documentation for more diagnostic information.	854	602
2114	A consistency check on a virtual disk has been paused (suspended)	Ok / Normal	Cause: The check consistency operation on a virtual disk was paused by a user. Action: To resume the check consistency operation, right-click the virtual disk in the Storage Management tree view and select **Resume Check Consistency**.	1201	604

Table 4-1. Storage Management Messages *(continued)*

Event ID	Description	Severity	Cause and Action	SNMP Trap Numbers	Array Manager Event Number
2115	A consistency check on a virtual disk has been resumed	Ok / Normal	Cause: The check consistency operation on a virtual disk has resumed processing after being paused by a user. Action: This alert is provided for informational purposes.	1201	605
2116	A virtual disk and its mirror have been split	Ok / Normal	Cause: A user has caused a mirrored virtual disk to be split. When a virtual disk is mirrored, its data is copied to another virtual disk in order to maintain redundancy. After being split, both virtual disks retain a copy of the data, although because the mirror is no longer intact, updates to the data are no longer copied to the mirror. Action: This alert is provided for informational purposes.	1201	606
2117	A mirrored virtual disk has been unmirrored	Ok / Normal	Cause: A user has caused a mirrored virtual disk to be unmirrored. When a virtual disk is mirrored, its data is copied to another virtual disk in order to maintain redundancy. After being unmirrored, the disk formerly used as the mirror returns to being an array disk and becomes available for inclusion in another virtual disk. Action: This alert is provided for informational purposes.	1201	607
2118	Change write policy	Ok / Normal	Cause: A user has changed the write policy for a virtual disk. Action: This alert is provided for informational purposes.	1201	601

Table 4-1. Storage Management Messages *(continued)*

Event ID	Description	Severity	Cause and Action	SNMP Trap Numbers	Array Manager Event Number
2120	Enclosure firmware mismatch	Warning / Non-critical	Cause: The firmware on the enclosure management modules (EMM) is not the same version. It is required that both modules have the same version of the firmware. This alert may be caused when a user attempts to insert an EMM module that has a different firmware version than an existing module. Action: Download the same version of the firmware to both EMM modules.	853	672
2121	Device returned to normal	Ok / Normal	Cause: A device that was previously in an error state has returned to a normal state. For example, if an enclosure became too hot and subsequently cooled down, then you may receive this alert. Action: This alert is provided for informational purposes.	752, 802, 852, 902, 952, 1002, 1052, 1102, 1152, 1202	None
2122	Redundancy degraded	Warning / Non-critical	Cause: One or more of the enclosure components has failed. For example, a fan or power supply may have failed. Although the enclosure is currently operational, the failure of additional components could cause the enclosure to fail. Action: Identify and replace the failed component. To identify the failed component, select the enclosure in the tree view and click the Health subtab. Any failed component will be identified with a red X on the enclosure's Health subtab. Alternatively, you can select the Storage object and click the Health subtab. The controller status displayed on the Health subtab indicates whether a controller has a failed or degraded component. See the enclosure documentation for information on replacing enclosure components and for other diagnostic information.	1305	None

Table 4-1. Storage Management Messages *(continued)*

Event ID	Description	Severity	Cause and Action	SNMP Trap Numbers	Array Manager Event Number
2123	Redundancy lost	Warning / Non-critical	Cause: A virtual disk or an enclosure has lost data redundancy. In the case of a virtual disk, one or more array disks included in the virtual disk have failed. Due to the failed array disk or disks, the virtual disk is no longer maintaining redundant (mirrored or parity) data. The failure of an additional array disk will result in lost data. In the case of an enclosure, more than one enclosure component has failed. For example, the enclosure may have suffered the loss of all fans or all power supplies. Action: Identify and replace the failed components. To identify the failed component, select the Storage object and click the Health subtab. The controller status displayed on the Health subtab indicates whether a controller has a failed or degraded component. Click the controller that displays a Warning or Failed status. This action displays the controller Health subtab which displays the status of the individual controller components. Continue clicking the components with a Warning or Health status until you identify the failed component. See the online help for more information. See the enclosure documentation for information on replacing enclosure components and for other diagnostic information.	1306	None
2124	Redundancy normal	Ok / Normal	Cause: Data redundancy has been restored to a virtual disk or an enclosure that previously suffered a loss of redundancy. Action: This alert is provided for informational purposes.	1304	None

Table 4-1. Storage Management Messages *(continued)*

Event ID	Description	Severity	Cause and Action	SNMP Trap Numbers	Array Manager Event Number
2126	SCSI sense sector reassign	Warning / Non-critical	Cause: A sector of the disk is corrupted and data cannot be maintained on this portion of the disk. Action: If the disk is part of a non-redundant virtual disk, then replace the disk. Any data residing on the corrupt portion of the disk may be lost and you may need to restore from backup. If the disk is part of a redundant virtual disk, then any data residing on the corrupt portion of the disk will be reallocated elsewhere in the virtual disk.	903	None
2127	Background initialization (BGI) started	Ok / Normal	Cause: BGI of a virtual disk has started. This alert is provided for informational purposes. Action: None	1201	683
2128	BGI cancelled	Ok / Normal	Cause: BGI of a virtual disk has been cancelled. A user or the firmware may have stopped BGI. Action: None	1201	684
2129	BGI failed	Critical / Failure / Error	Cause: BGI of a virtual disk has failed. Action: None	1204	685
2130	BGI completed	Ok / Normal	Cause: BGI of a virtual disk has completed. This alert is provided for informational purposes. Action: None	1201	686
2131	Firmware version mismatch	Warning / Non-critical	Cause: The firmware on the controller is not a supported version. Action: Install a supported version of the firmware. If you do not have a supported version of the firmware available, it can be downloaded from the Dell support site at **support.dell.com**. If you do not have a supported version of the firmware available, check with your support provider for information on how to obtain the most current firmware.	753	None

Table 4-1. Storage Management Messages *(continued)*

Event ID	Description	Severity	Cause and Action	SNMP Trap Numbers	Array Manager Event Number
2132	Driver version mismatch	Warning / Non-critical	Cause: The controller driver is not a supported version. Action: Install a supported version of the driver. If you do not have a supported driver version available, it can be downloaded from the Dell support site at **support.dell.com**. If you do not have a supported version of the driver available, check with your support provider for information on how to obtain the most current driver.	753	None
2135	Array Manager is installed on the system	Warning / Non-critical	Cause: Storage Management has been installed on a system that has an Array Manager installation. Action: Installing Storage Management and Array Manager on the same system is not a supported configuration. Uninstall either Storage Management or Array Manager.	103	None
2136	Virtual disk initialization	Ok / Normal	Cause: Virtual disk initialization is in progress. This alert is provided for informational purposes. Action: None	1201	None

Table 4-1. Storage Management Messages *(continued)*

Event ID	Description	Severity	Cause and Action	SNMP Trap Numbers	Array Manager Event Number
2137	Communication timeout	Warning / Non-critical	Cause: The controller is unable to communicate with an enclosure. There are several reasons why communication may be lost. For example, there may be a bad or loose cable. An unusual amount of I/O may also interrupt communication with the enclosure. In addition, communication loss may be caused by software, hardware, or firmware problems, bad or failed power supplies, and enclosure shutdown. When viewed in the Alert Log, the description for this event displays several variables. These variables are: Controller and enclosure names, type of communication problem, return code, and SCSI status. Action: Check for problems with the cables. See the online help for more information on checking the cables. You should also check to see if the enclosure has degraded or failed components. To do so, select the enclosure object in the tree view and click the Health subtab. The Health subtab displays the status of the enclosure components. Verify that the controller has supported driver and firmware versions installed and that the EMMs are each running the same version of supported firmware.	853	688, 610, 611
2138	Enclosure alarm enabled	Ok / Normal	Cause: A user has enabled the enclosure alarm. This alert is provided for informational purposes. Action: None	851	676
2139	Enclosure alarm disabled	Ok / Normal	Cause: A user has disabled the enclosure alarm. Action: None	851	677
2140	Dead disk segments restored	Ok / Normal	Cause: Disk space that was formerly “dead” or inaccessible to a redundant virtual disk has been restored. This alert is provided for informational purposes. Action: None	1201	None

Table 4-1. Storage Management Messages *(continued)*

Event ID	Description	Severity	Cause and Action	SNMP Trap Numbers	Array Manager Event Number
2141	Array disk dead segments recovered	Ok / Normal	Cause: Portions of the array disk that were formerly inaccessible have been recovered. This alert is provided for informational purposes. Action: None	901	None
2142	Controller rebuild rate has changed	Ok / Normal	Cause: A user has changed the controller rebuild rate. This alert is provided for informational purposes. Action: None	751	680
2143	Controller alarm enabled	Ok / Normal	Cause: A user has enabled the controller alarm. This alert is provided for informational purposes. Action: None	751	678
2144	Controller alarm disabled	Ok / Normal	Cause: A user has disabled the controller alarm. This alert is provided for informational purposes. Action: None	751	679
2145	Controller battery low	Warning / Non-critical	Cause: The controller battery charge is low. Action: Recondition the battery. See the online help for more information	1153	580
2146	Bad block replacement error	Warning / Non-critical	Cause: A portion of an array disk is damaged. Action: See the *Storage Management* **online** help or the *Dell OpenManage Server Administrator Storage Management User's Guide* for more information.	753	691
2147	Bad block sense error	Warning / Non-critical	Cause: A portion of an array disk is damaged. Action: See the *Dell OpenManage Storage Management Online Help* for more information.	753	691
2148	Bad block medium error	Warning / Non-critical	Cause: A portion of an array disk is damaged. Action: See the *Dell OpenManage Storage Management Online Help* for more information.	753	691

Table 4-1. Storage Management Messages *(continued)*

Event ID	Description	Severity	Cause and Action	SNMP Trap Numbers	Array Manager Event Number
2149	Bad block extended sense error	Warning / Non-critical	Cause: A portion of an array disk is damaged. Action: See the *Dell OpenManage Storage Management Online Help* for more information.	753	691
2150	Bad block extended medium error	Warning / Non-critical	Cause: A portion of an array disk is damaged. Action: See the *Dell OpenManage Storage Management Online Help* for more information.	753	691
2151	Asset tag changed	Ok / Normal	Cause: A user has changed the enclosure asset tag. This alert is provided as an information. Action: None	851	None
2152	Asset name changed	Ok / Normal	Cause: A user has changed the enclosure asset name. This alert is provided for informational purposes. Action: None	851	None
2153	Service tag changed	Warning / Non-critical	Cause: An enclosure service tag was changed. In most circumstances, this service tag should only be changed by Dell™ support or your service provider. Action: Ensure that the tag was changed under authorized circumstances.	753	None
2154	Maximum temperature probe warning threshold value changed	Ok / Normal	Cause: A user has changed the value for the maximum temperature probe warning threshold. This alert is provided for informational purposes. Action: None	1051	None
2155	Minimum temperature probe warning threshold value changed	Ok / Normal	Cause: A user has changed the value for the minimum temperature probe warning threshold. This alert is provided for informational purposes. Action: None	1051	None

Table 4-1. Storage Management Messages *(continued)*

Event ID	Description	Severity	Cause and Action	SNMP Trap Numbers	Array Manager Event Number
2156	Controller alarm has been tested	Ok / Normal	Cause: The controller alarm test has run successfully. This alert is provided for informational purposes. Action: None	751	None
2157	Controller configuration has been reset	Ok / Normal	Cause: A user has reset the controller configuration. See the online help for more information. This alert is provided for informational purposes. Action: None	751	None
2158	Array disk online	Ok / Normal	Cause: An offline array disk has been made online. This alert is provided for informational purposes. Action: None	901	None
2159	Virtual disk renamed	Ok / Normal	Cause: A user has renamed a virtual disk. This alert is provided for informational purposes. **NOTE:** When renaming a virtual disk on a PERC 2, 2/Si, 3/Si, 3/Di, CERC SATA 1.5/6ch, or CERC SATA 1.5/2s controller, this alert displays the new virtual disk name. On the PERC 2/SC, 2/DC, 3/SC, 3/DCL, 3/DC, 3/QC, 4/SC, 4/DC, 4e/DC, 4/Di, 4/IM, 4e/Si, 4e/Di, and CERC ATA 100/4ch controllers, this alert displays the original virtual disk name. Action: None	1201	608
2160	Dedicated hotspare assigned	Ok / Normal	Cause: A user has assigned an array disk as a dedicated hot spare to a virtual disk. See the online help for more information. This alert is provided for informational purposes. Action: None	901	574
2161	Dedicated hotspare unassigned	Ok / Normal	Cause: A user has unassigned an array disk as a dedicated hot spare to a virtual disk. See the online help for more information. This alert is provided for informational purposes. Action: None	901	575

Table 4-1. Storage Management Messages *(continued)*

Event ID	Description	Severity	Cause and Action	SNMP Trap Numbers	Array Manager Event Number
2162	Communication regained	Ok / Normal	Cause: Communication with an enclosure has been restored. This alert is provided for informational purposes. Action: None	851	None
2163	Rebuild completed with errors	Ok / Normal	See the online help for more information.	904	690
2164	See the Readme file for a list of validated controller driver versions	Ok / Normal	Cause: Storage Management is unable to determine whether the system has the minimum required versions of the RAID controller drivers. Action: This alert is generated for informational purposes. See the Readme file for driver and firmware requirements. In particular, if Storage Management experiences performance problems, you should verify that you have the minimum supported versions of the drivers and firmware installed.	101	None
2165	The RAID controller firmware and driver validation was not performed. The configuration file cannot be opened.	Warning / Non-critical	Cause: Storage Management is unable to determine whether the system has the minimum required versions of the RAID controller firmware and drivers. This situation may occur for a variety of reasons. For example, the installation directory path to the configuration file may not be correct. The configuration file may also have been removed or renamed. Action: Reinstall Storage Management	753	None
2166	The RAID controller firmware and driver validation was not performed. The configuration file is out of date or corrupted.	Warning / Non-critical	Cause: Storage Management is unable to determine whether the system has the minimum required versions of the RAID controller firmware and drivers. This situation has occurred because a configuration file is unreadable or missing data. The configuration file may be corrupted. Action: Reinstall Storage Management.	753	None

Table 4-1. Storage Management Messages *(continued)*

Event ID	Description	Severity	Cause and Action	SNMP Trap Numbers	Array Manager Event Number
2167	The current kernel version and the non-RAID SCSI driver version are older than the minimum required levels. See the Readme file for a list of validated kernel and driver versions.	Warning / Non-critical	Cause: The version of the kernel and the driver do not meet the minimum requirements. Storage Management may not be able to display the storage or perform storage management functions until you have updated the system to meet the minimum requirements. Action: See the Readme file for kernel and driver requirements. Update the system to meet the minimum requirements and then reinstall Storage Management.	103	None
2168	The non-RAID SCSI driver version is older than the minimum required level. See the Readme file for the validated driver version.	Warning / Non-critical	Cause: The version of the driver does not meet the minimum requirements. Storage Management may not be able to display the storage or perform storage management functions until you have updated the system to meet the minimum requirements. Action: See the Readme file for the driver requirements. Update the system to meet the minimum requirements and then reinstall Storage Management.	103	None
2169	The controller battery needs to be replaced.	Critical / Failure / Error	Cause: The controller battery cannot recharge. The battery may be old or it may have been already recharged the maximum number of times. In addition, the battery charger may not be working. Action: Replace the battery pack.	1154	None
2170	The controller battery charge level is normal.	Ok / Normal	Cause: This alert is provided for informational purposes. Action: None	1151	None

Table 4-1. Storage Management Messages *(continued)*

Event ID	Description	Severity	Cause and Action	SNMP Trap Numbers	Array Manager Event Number
2171	The controller battery temperature is above normal.	Warning / Non-critical	Cause: The battery may be recharging, the room temperature may be too hot, or the fan in the system may be degraded or failed. Action: If this alert was generated due to a battery recharge, the situation will correct when the recharge is complete. You should also check if the room temperature is normal and that the system components are functioning properly.	1153	None
2172	The controller battery temperature is normal.	Ok / Normal	Cause: This alert is provided for informational purposes. Action: None	1151	None
2174	The controller battery has been removed.	Warning / Non-critical	Cause: The controller cannot communicate with the battery, the battery may be removed, or the contact point between the controller and the battery may be burnt or corroded. Action: Replace the battery if it has been removed. If the contact point between the battery and the controller is burnt or corroded, you will need to replace either the battery or the controller, or both. See the hardware documentation for information on how to safely access, remove, and replace the battery.	1153	None
2175	The controller battery has been replaced.	Ok / Normal	Cause: This alert is provided for informational purposes. Action: None	1151	None
2176	The controller battery Learn cycle has started.	Ok / Normal	Cause: This alert is provided for informational purposes. Action: None	1151	None
2177	The controller battery Learn cycle has completed.	Ok / Normal	Cause: This alert is provided for informational purposes. Action: None	1151	None

Table 4-1. Storage Management Messages *(continued)*

Event ID	Description	Severity	Cause and Action	SNMP Trap Numbers	Array Manager Event Number
2178	The controller battery Learn cycle has timed out.	Warning / Non-critical	Cause: The controller battery must be fully charged before the Learn cycle can begin. The battery may be unable to maintain a full charge causing the Learn cycle to timeout. Additionally, the battery must be able to maintain cached data for a specified period of time in the event of a power loss. For example, some batteries maintain cached data for 24 hours. If the battery is unable to maintain cached data for the required period of time, then the Learn cycle will timeout. Action: Replace the battery pack as the battery is unable to maintain a full charge.	1153	None
2179	The controller battery Learn cycle has been postponed.	Ok / Normal	Cause: This alert is provided for informational purposes. Action: None	1151	None
2180	The controller battery Learn cycle will start in % days. **NOTE:** The % is a variable that will be replaced with the number of days before which the Learn cycle will start. You can set the duration to start the Learn cycle.	Ok / Normal	Cause: This alert is provided for informational purposes. Action: None	1151	None

Table 4-1. Storage Management Messages *(continued)*

Event ID	Description	Severity	Cause and Action	SNMP Trap Numbers	Array Manager Event Number
2181	The controller battery Learn cycle will start in % hours. **NOTE:** The % is a variable that will be replaced with the number of hours before which the Learn cycle will start. You can set the duration to start the Learn cycle.	Ok / Normal	Cause: This alert is provided for informational purposes. Action: None	1151	None
2182	An invalid SAS configuration has been detected.	Critical / Failure / Error	Cause: The controller and attached enclosures are not cabled correctly. Action: See the hardware documentation for information on correct cabling configurations.	754	None
2186	The controller cache has been discarded.	Warning / Non-critical	Cause: The controller has flushed the cache and any data in the cache has been lost. This may happen if the system has memory or battery problems that cause the controller to distrust the cache. Although user data may have been lost, this alert does not always indicate that relevant or user data has been lost. Action: Verify that the battery and memory are functioning properly.	753	None
2187	Single-bit ECC error limit exceeded.	Warning / Non-critical	Cause: The system memory is malfunctioning. Action: Replace the battery pack.	753	None

Table 4-1. Storage Management Messages *(continued)*

Event ID	Description	Severity	Cause and Action	SNMP Trap Numbers	Array Manager Event Number
2188	The controller write policy has been changed to Write Through.	Warning / Non-critical	Cause: The controller battery is unable to maintain cached data for the required period of time. For example, if the required period of time is 24 hours, the battery is unable to maintain cached data for 24 hours. It is normal to receive this alert during the battery Learn cycle as the Learn cycle discharges the battery before recharging it. When discharged, the battery cannot maintain cached data. Action: Check the health of the battery. If the battery is weak, replace the battery pack.	1153	None
2189	The controller write policy has been changed to Write Back.	Ok / Normal	Cause: This alert is provided for informational purposes. Action: None	1151	None
2191	Multiple enclosures are attached to the controller. This is an unsupported configuration.	Critical / Failure / Error	Cause: Many enclosures are attached to the controller port. When the enclosure limit is exceeded, the controller loses contact with all enclosures attached to the port. Action: Remove the last enclosure. You must remove the enclosure that has been added last and is causing the enclosure limit to exceed.	854	None
2192	The virtual disk Check Consistency has made corrections and completed.	Ok / Normal	Cause: The virtual disk Check Consistency has identified errors and made corrections. For example, the Check Consistency may have encountered a bad disk block and remapped the disk block to restore data consistency. This alert is provided for informational purposes. Action: Monitor the battery and cache health to make sure they are functioning properly. Monitor the Alert Log for events related to the battery and to write policy changes. You should also monitor the Alert Log for events related to disk errors. If you suspect that the battery or a disk has problems, replace the battery pack or the disk.	1203	None

Table 4-1. Storage Management Messages *(continued)*

Event ID	Description	Severity	Cause and Action	SNMP Trap Numbers	Array Manager Event Number
2193	The virtual disk reconfiguration has resumed.	Ok / Normal	Cause: This alert is provided for informational purposes. Action: None	1201	None
2194	The virtual disk Read policy has changed.	Ok / Normal	Cause: This alert is provided for informational purposes. Action: None	1201	None
2199	The virtual disk cache policy has changed.	Ok / Normal	Cause: This alert is provided for informational purposes. Action: None	1201	None
2201	A global hot spare failed.	Warning / Non-critical	Cause: The controller is unable to communicate with a disk that is assigned as a global hot spare. The disk may have failed or has been removed. There may also be a bad or loose cable. Action: Check if the disk is healthy and that it has not been removed. Check the cables. If necessary, replace the disk and reassign the hot spare.	903	None
2202	A global hot spare has been removed.	Warning / Non-critical	Cause: The controller is unable to communicate with a disk that is assigned as a global hot spare. The disk may have been removed. There may also be a bad or loose cable. Action: Check if the disk is healthy and that it has not been removed. Check the cables. If necessary, replace the disk and reassign the hot spare.	903	None
2203	A dedicated hot spare failed.	Warning / Non-critical	Cause: The controller is unable to communicate with a disk that is assigned as a dedicated hot spare. The disk may have failed or been removed. There may also be a bad or loose cable. Action: Check if the disk is healthy and that it has not been removed. Check the cables. If necessary, replace the disk and reassign the hot spare.	903	None

Table 4-1. Storage Management Messages *(continued)*

Event ID	Description	Severity	Cause and Action	SNMP Trap Numbers	Array Manager Event Number
2204	A dedicated hot spare has been removed.	Warning / Non-critical	Cause: The controller is unable to communicate with a disk that is assigned as a dedicated hot spare. The disk may have been removed. There may also be a bad or loose cable. Action: Check if the disk is healthy and that it has not been removed. Check the cables. If necessary, replace the disk and reassign the hot spare.	903	None
2205	A dedicated hot spare has been automatically unassigned.	Warning / Non-critical	Cause: The hot spare is no longer required because the virtual disk it was assigned to has been deleted. Action: None.	903	None
2206	The only hot spare available is a SATA disk. SATA disks cannot replace SAS disks.	Warning / Non-critical	Cause: The only array disk available to be assigned as a hot spare is using SATA technology. The array disks in the virtual disk are using SAS technology. Because of this difference in technology, the hot spare cannot rebuild data if one of the array disks in the virtual disk fails. Action: Add a SAS disk that is large enough to be used as the hot spare and assign the new disk as a hot spare.	903	None
2207	The only hot spare available is a SAS disk. SAS disks cannot replace SATA disks.	Warning / Non-critical	Cause: The only array disk available to be assigned as a hot spare is using SAS technology. The array disks in the virtual disk are using SATA technology. Because of this difference in technology, the hot spare cannot rebuild data if one of the array disks in the virtual disk fails. Action: Add a SATA disk that is large enough to be used as the hot spare and assign the new disk as a hot spare.	903	None

Table 4-1. Storage Management Messages *(continued)*

Event ID	Description	Severity	Cause and Action	SNMP Trap Numbers	Array Manager Event Number
2211	The physical disk is not supported.	Warning / Non-critical	Cause: The physical disk may not have a supported version of the firmware or the disk may not be supported by Dell. Action: If the disk is supported by Dell, update the firmware to a supported version. If the disk is not supported by Dell, replace the disk with one that is supported.	903	None
2232	The controller alarm is silenced.	Ok / Normal	Cause: This alert is provided for informational purposes. Action: None	751	None
2233	The background initialization (BGI) rate has changed.	Ok / Normal	Cause: This alert is provided for informational purposes. Action: None	751	None
2234	The Patrol Read rate has changed.	Ok / Normal	Cause: This alert is provided for informational purposes. Action: None	751	None
2235	The Check Consistency rate has changed.	Ok / Normal	Cause: This alert is provided for informational purposes. Action: None	751	None
2237	A controller rescan has been initiated.	Ok / Normal	Cause: This alert is provided for informational purposes. Action: None	751	None
2238	The controller debug log file has been exported.	Ok / Normal	Cause: This alert is provided for informational purposes. Action: None	751	None
2239	A foreign configuration has been cleared.	Ok / Normal	Cause: This alert is provided for informational purposes. Action: None	751	None
2240	A foreign configuration has been imported.	Ok / Normal	Cause: This alert is provided for informational purposes. Action: None	751	None

Table 4-1. Storage Management Messages *(continued)*

Event ID	Description	Severity	Cause and Action	SNMP Trap Numbers	Array Manager Event Number
2241	The Patrol Read mode has changed.	Ok / Normal	Cause: This alert is provided for informational purposes. Action: None	751	None
2242	The Patrol Read has started.	Ok / Normal	Cause: This alert is provided for informational purposes. Action: None	751	None
2243	The Patrol Read has stopped.	Ok / Normal	Cause: This alert is provided for informational purposes. Action: None	751	None
2244	A virtual disk blink has been initiated.	Ok / Normal	Cause: This alert is provided for informational purposes. Action: None	1201	None
2245	A virtual disk blink has ceased.	Ok / Normal	Cause: This alert is provided for informational purposes. Action: None	1201	None
2246	The controller battery is degraded.	Warning / Non-critical	Cause: The controller battery charge is weak. Action: As the charge weakens, the charger should automatically recharge the battery. If the battery has reached its recharge limit, replace the battery pack. Monitor the battery to make sure that it recharges successfully. If the battery does not recharge, replace the battery pack.	1153	None
2247	The controller battery is charging.	Ok / Normal	Cause: This alert is provided for informational purposes. Action: None	1151	None
2248	The controller battery is executing a Learn cycle.	Ok / Normal	Cause: This alert is provided for informational purposes. Action: None	1151	None
2249	The array disk Clear operation has started.	Ok / Normal	Cause: This alert is provided for informational purposes. Action: None	901	None

Table 4-1. Storage Management Messages *(continued)*

Event ID	Description	Severity	Cause and Action	SNMP Trap Numbers	Array Manager Event Number
2251	The array disk blink has initiated.	Ok / Normal	Cause: This alert is provided for informational purposes. Action: None	901	None
2252	The array disk blink has ceased.	Ok / Normal	Cause: This alert is provided for informational purposes. Action: None	901	None
2254	The Clear operation has cancelled.	Ok / Normal	Cause: This alert is provided for informational purposes. Action: None	901	None
2255	The array disk has been started.	Ok / Normal	Cause: This alert is provided for informational purposes. Action: None	901	None
2259	An enclosure blink operation has initiated.	Ok / Normal	Cause: This alert is provided for informational purposes. Action: None	851	None
2260	An enclosure blink has ceased.	Ok / Normal	Cause: This alert is provided for informational purposes. Action: None	851	None
2261	A global rescan has initiated.	Ok / Normal	Cause: This alert is provided for informational purposes. Action: None	101	None
2262	SMART thermal shutdown is enabled.	Ok / Normal	Cause: This alert is provided for informational purposes. Action: None	101	None
2263	SMART thermal shutdown is disabled.	Ok / Normal	Cause: This alert is provided for informational purposes. Action: None	101	None

Table 4-1. Storage Management Messages *(continued)*

Event ID	Description	Severity	Cause and Action	SNMP Trap Numbers	Array Manager Event Number
2264	A device is missing.	Warning / Non-critical	Cause: The controller cannot communicate with a device. The device may be removed. There may also be a bad or loose cable. Action: Check if the device is in and not removed. If it is in, check the cables. You should also check the connection to the controller battery and the battery health. A battery with a weak or depleted charge may cause this alert.	753, 803, 853, 903, 953, 1003, 1053,1103, 1153, 1203	None
2265	A device is in an unknown state.	Warning / Non-critical	Cause: The controller cannot communicate with a device. The state of the device cannot be determined. There may be a bad or loose cable. The system may also be experiencing problems with the application programming interface (API). There could also be a problem with the driver or firmware. Action: Check the cables. Check if the controller has a supported version of the driver and firmware. You can download the most current version of the driver and firmware from **support.dell.com**. Rebooting the system may also resolve this problem.	753, 803, 853, 903, 953, 1003, 1053,1103, 1153, 1203	None
2266	Controller log file entry: %1 **NOTE:** %1 is a substitution variable that will appear in the alert description for specific details about the alert.	Ok / Normal	Cause: This alert is provided for informational purposes. Action: None	751	None
2267	The controller reconstruct rate has changed.	Ok / Normal	Cause: This alert is provided for informational purposes. Action: None	751	None

Table 4-1. Storage Management Messages *(continued)*

Event ID	Description	Severity	Cause and Action	SNMP Trap Numbers	Array Manager Event Number
2268	%1, Storage Management has lost communication with this RAID controller and attached storage. An immediate reboot is strongly recommended to avoid further problems. If the reboot does not restore communication, there may be a hardware failure. **NOTE:** %1 is a substitution variable that will appear in the alert description for specific details about the alert.	Critical / Failure / Error	Cause: Storage Management has lost communication with a device. There may be faulty hardware or loose or defective cables. Action: Reboot the system. If the problem is not resolved, check for hardware failures. Any failed component must be replaced. Make sure the cables are attached securely. See the hardware documentation for more diagnostics information.	104	None
2269	The array disk Clear operation has completed.	Ok / Normal	Cause: This alert is provided for informational purposes. Action: None	901	None
2270	The array disk Clear operation failed.	Critical / Failure / Error	Cause: A Clear task was being performed on an array disk, but it was interrupted and did not complete successfully. The controller may have lost communication with the disk. The disk may have been removed or the cables may be loose or defective. Action: Check if the disk is in and not in a Failed state. Make sure the cables are attached securely. Restart the Clear task.	904	None
2271	The Patrol Read corrected a media error.	Ok / Normal	Cause: This alert is provided for informational purposes. Action: None	901	None

Table 4-1. Storage Management Messages *(continued)*

Event ID	Description	Severity	Cause and Action	SNMP Trap Numbers	Array Manager Event Number
2272	Patrol Read found an uncorrectable media error.	Critical / Failure / Error	Cause: The Patrol Read task has faced an error that cannot be corrected. There may be a bad disk block that cannot be remapped. Action: Replace the array disk to avoid future data loss.	903	None
2273	Bad media.	Critical / Failure / Error	Cause: A source (array) disk in a redundant virtual disk has a bad disk block. The algorithm that maintains redundant data has created a similar bad block on the target redundant disk to maintain consistency in disk block addressing. Data has been lost. Action: Restore from backup.	904	None
2274	The array disk rebuild has resumed.	Ok / Normal	Cause: This alert is provided for informational purposes. Action: None	901	None
2276	The dedicated hot spare is too small.	Warning / Non-critical	Cause: The dedicated hot spare is not large enough to protect all virtual disks that reside on the disk group. Action: Assign a larger disk as the dedicated hot spare.	903	None
2277	The global hot spare is too small.	Warning / Non-critical	Cause: The global hot spare is not large enough to protect all virtual disks that reside on the controller. Action: Assign a larger disk as the global hot spare.	903	None

Table 4-1. Storage Management Messages *(continued)*

Event ID	Description	Severity	Cause and Action	SNMP Trap Numbers	Array Manager Event Number
2278	The controller battery charge level is below a normal threshold.	Ok / Normal	Cause: The battery is discharging. A battery discharge is a normal activity during the battery Learn cycle. Before completing, the battery Learn cycle recharges the battery. You should receive alert 2179 when the recharge occurs. Action: Check if the battery Learn cycle is in progress. Alert 2176 indicates that the battery Learn cycle has initiated. The battery also displays the Learn state while the Learn cycle is in progress. If a Learn cycle is not in progress, replace the battery pack.	1154	None
2279	The controller battery charge level is above a normal threshold.	Ok / Normal	Cause: This alert is provided for informational purposes. This alert indicates that the battery is recharging during the battery Learn cycle. Action: None	1151	None
2280	A disk media error has been corrected.	Ok / Normal	Cause: A disk media error was detected while the controller was completing a background task. A bad disk block was identified. The disk block has been remapped. Action: Consider replacing the disk. If you receive this alert frequently, be sure to replace the disk. You should also routinely back up your data.	1201	None
2281	Virtual disk has inconsistent data.	Ok / Normal	Cause: This alert is provided for informational purposes. Action: None	1201	None

Table 4-1. Storage Management Messages *(continued)*

Event ID	Description	Severity	Cause and Action	SNMP Trap Numbers	Array Manager Event Number
2282	Hot spare SMART polling failed.	Critical / Failure / Error	Cause: The controller firmware attempted a SMART polling on the hot spare but was unable to complete it. The controller has lost communication with the hot spare. Action: Check the health of the disk assigned as a hot spare. You may need to replace the disk and reassign the hot spare. Make sure the cables are attached securely. See the Cables Attached Correctly section in the *Dell OpenManage Server Administrator Storage Management User's Guide* for more information on checking the cables.	904	None
2283	A redundant path is broken.	Warning / Non-critical	Cause: The controller has two connectors that are connected to the same enclosure. The communication path on one connector has lost connection with the enclosure. The communication path on the other connector is reporting this loss. Action: Make sure the cables are attached securely. Make sure both EMMs are healthy.	903	None
2284	A redundant path has been restored.	Ok / Normal	Cause: This alert is provided for informational purposes. Action: None	901	None
2285	A disk media error was corrected during recovery.	Ok / Normal	Cause: This alert is provided for informational purposes. Action: None	901	None
2286	A Learn cycle start is pending while the battery charges.	Ok / Normal	Cause: This alert is provided for informational purposes. Action: None	1151	None
2287	The Patrol Read is paused.	Ok / Normal	Cause: This alert is provided for informational purposes. Action: None	751	None
2288	The patrol read has resumed.	Ok / Normal	Cause: This alert is provided for informational purposes. Action: None	751	None

Table 4-1. Storage Management Messages *(continued)*

Event ID	Description	Severity	Cause and Action	SNMP Trap Numbers	Array Manager Event Number
2289	Multi-bit ECC error.	Critical / Failure / Error	Cause: An error involving multiple bits has been encountered during a read or write operation. The error correction algorithm recalculates parity data during read and write operations. If an error involves only a single bit, it may be possible for the error correction algorithm to correct the error and maintain parity data. An error involving multiple bits, however, usually indicates data loss. In some cases, if the multi-bit error occurs during a read operation, the data on the disk may be correct/valid. If the multi-bit error occurs during a write operation, data loss has occurred. Action: Replace the dual in-line memory module (DIMM). The DIMM is a part of the controller battery pack. See your hardware documentation for information on replacing the DIMM. You may need to restore data from backup.	754	None
2290	Single-bit ECC error.	Warning / Non-critical	Cause: An error involving a single bit has been encountered during a read or write operation. The error correction algorithm has corrected this error. Action: None	753	None
2291	An EMM has been discovered.	Ok / Normal	Cause: This alert is provided for informational purposes. Action: None	851	None
2292	Communication with the enclosure has been lost.	Critical / Failure / Error	Cause: The controller has lost communication with an EMM. The cables may be loose or defective. Action: Make sure the cables are attached securely. Reboot the system.	854	None

Table 4-1. Storage Management Messages *(continued)*

Event ID	Description	Severity	Cause and Action	SNMP Trap Numbers	Array Manager Event Number
2293	The EMM has failed.	Critical / Failure / Error	Cause: The failure may be caused by a loss of power to the EMM. The EMM self test may also have identified a failure. There could also be a firmware problem or a multi-bit error. Action: Replace the EMM. See the hardware documentation for information on replacing the EMM.	854	None
2294	A device has been inserted.	Ok / Normal	Cause: This alert is provided for informational purposes. Action: None	752, 802, 852, 902, 952, 1002, 1052,1102, 1152, 1202	None
2295	A device has been removed.	Critical / Failure / Error	Cause: A device has been removed and the system is no longer functioning in optimal condition. Action: Replace the device.	754, 804, 854, 904, 954, 1004, 1054,1104, 1154, 1204	None
2296	An EMM has been inserted.	Ok / Normal	Cause: This alert is provided for informational purposes. Action: None	851	None
2297	An EMM has been removed.	Critical / Failure / Error	Cause: An EMM has been removed. Action: Replace the EMM. See the hardware documentation for information on replacing the EMM.	854	None
2298	There is a bad sensor on an enclosure.	Warning / Non-critical	Cause: The enclosure has a bad sensor. The enclosure sensors monitor the fan speeds, temperature probes, etc. Action: See the hardware documentation for more information.	853	None

Table 4-1. Storage Management Messages *(continued)*

Event ID	Description	Severity	Cause and Action	SNMP Trap Numbers	Array Manager Event Number
2299	Bad PHY %1 **NOTE:** %1 is a substitution variable that will appear in the alert description for specific details about the alert.	Critical / Failure / Error	Cause: There is a problem with a physical connection or PHY. Action: Replace the EMM that contains the bad PHY. See the hardware documentation for information on replacing the EMM. Attach the storage to a different connector, if available. Make sure the cables are attached securely. See the Cables Attached Correctly section in the *Dell OpenManage Server Administrator Storage Management User's Guide* for more information on checking the cables.	854	None
2300	The enclosure is unstable.	Critical / Failure / Error	Cause: The controller is not receiving a consistent response from the enclosure. There could be a firmware problem or an invalid cabling configuration. If the cables are too long, they will degrade the signal. Action: Power down all enclosures attached to the system and reboot the system. If the problem persists, upgrade the firmware to the latest supported version. You can download the most current version of the driver and firmware from **support.dell.com**. Make sure the cable configuration is valid. See the hardware documentation for valid cabling configurations.	854	None
2301	The enclosure has a hardware error.	Critical / Failure / Error	Cause: The enclosure or an enclosure component is in a Failed or Degraded state. Action: Check the health of the enclosure and its components. Replace any hardware that is in a Failed state. See the hardware documentation for more information.	854	None
2302	The enclosure is not responding.	Critical / Failure / Error	Cause: The enclosure or an enclosure component is in a Failed or Degraded state. Action: Check the health of the enclosure and its components. Replace any hardware that is in a Failed state. See the hardware documentation for more information.	854	None

Table 4-1. Storage Management Messages *(continued)*

Event ID	Description	Severity	Cause and Action	SNMP Trap Numbers	Array Manager Event Number
2303	The enclosure cannot support both SAS and SATA array disks. Array disks may be disabled.	Ok / Normal	Cause: This alert is provided for informational purposes. Action: None	851	None
2304	An attempt to hot plug an EMM has been detected. This type of hot plug is not supported.	Ok / Normal	Cause: This alert is provided for informational purposes. Action: None	751	None
2305	The array disk is too small to be used for a rebuild.	Ok / Normal	Cause: This alert is provided for informational purposes. Action: None	901	None
2306	Bad block table is 80% full.	Warning / Non-critical	Cause: The bad block table is used for remapping bad disk blocks. This table fills, as bad disk blocks are remapped. When the table is full, bad disk blocks can no longer be remapped, and disk errors can no longer be corrected. At this point, data loss can occur. The bad block table is now 80% full. Action: Back up your data. Replace the disk generating this alert and restore from back up.	903	None
2307	Bad block table is full. Unable to log block %1 **NOTE:** %1 is a substitution variable that will appear in the alert description for specific details about the alert.	Critical / Failure / Error	Cause: The bad block table is used for remapping bad disk blocks. This table fills, as bad disk blocks are remapped. When the table is full, bad disk blocks can no longer be remapped and disk errors can no longer be corrected. At this point, data loss can occur. Action: Replace the disk generating this alert and restore from backup. You may have lost data.	904	None

Table 4-1. Storage Management Messages *(continued)*

Event ID	Description	Severity	Cause and Action	SNMP Trap Numbers	Array Manager Event Number
2309	An array disk is incompatible.	Warning / Non-critical	Cause: You have attempted to replace a disk with another disk that is using an incompatible technology. For example, you may have replaced one side of a mirror with a SAS disk when the other side of the mirror is using SATA technology. Action: See the hardware documentation for information on replacing disks.	903	None
2310	A virtual disk is permanently degraded.	Critical / Failure / Error	Cause: A redundant virtual disk has lost redundancy. This may occur when the virtual disk suffers the failure of multiple array disks. In this case, both the source array disk and the target disk with redundant data have failed. A rebuild is not possible because there is no redundancy. Action: Replace the failed disks and restore from backup.	1204	None
2311	The firmware on the EMMs is not the same version. EMM0 %1 EMM1 %2 **NOTE:** %1 and %2 are substitution variables that will appear in the alert description for specific details about the alert.	Warning / Non-critical	Cause: The firmware on the EMM modules is not the same version. It is required that both modules have the same version of the firmware. This alert may be caused if you attempt to insert an EMM module that has a different firmware version than an existing module. Action: Upgrade to the same version of the firmware on both EMM modules.	853	None
2312	A power supply in the enclosure has an AC failure.	Warning / Non-critical	Cause: The power supply has an AC failure. Action: Replace the power supply.	1003	None
2313	A power supply in the enclosure has a DC failure.	Warning / Non-critical	Cause: The power supply has a DC failure. Action: Replace the power supply.	1003	None

Table 4-1. Storage Management Messages *(continued)*

Event ID	Description	Severity	Cause and Action	SNMP Trap Numbers	Array Manager Event Number
2314	The initialization sequence of SAS components failed during system startup. SAS management and monitoring is not possible.	Critical / Failure / Error	Cause: Storage Management is unable to monitor or manage SAS devices. Action: Reboot the system. If problem persists, make sure you have supported versions of the drivers and firmware. Also, you may need to reinstall Storage Management or Server Administrator because of some missing installation components.	104	None
2315	Diagnostic message %1 **NOTE:** %1 is a substitution variable that will appear in the alert description for specific details about the alert.	Ok / Normal	Cause: This alert is provided for informational purposes. Action: None	751	None
2316	Diagnostic message %1 **NOTE:** %1 is a substitution variable that will appear in the alert description for specific details about the alert.	Critical / Failure / Error	Cause: A diagnostics test failed. The text for this alert is generated by the utility that ran the diagnostics. Action: See the documentation for the utility that ran the diagnostics for more information.	754	None
2317	BGI terminated due to loss of ownership in a cluster configuration.	Ok / Normal	Cause: This alert is provided for informational purposes. Action: None	1201	None
2318	Problems with the battery or the battery charger have been detected. The battery health is poor.	Critical / Failure / Error	Cause: The battery or the battery charger is not functioning properly. Action: Replace the battery pack.	1154	None

Table 4-1. Storage Management Messages *(continued)*

Event ID	Description	Severity	Cause and Action	SNMP Trap Numbers	Array Manager Event Number
2319	Single-bit ECC error. The DIMM is degrading.	Warning / Non-critical	Cause: The DIMM is beginning to malfunction. Action: Replace the DIMM to avoid data loss or data corruption. The DIMM is a part of the controller battery pack. See your hardware documentation for information on replacing the DIMM.	753	None
2320	Single-bit ECC error. The DIMM is critically degraded.	Critical / Failure / Error	Cause: The DIMM is malfunctioning. Data loss or data corruption may be imminent. Action: Replace the DIMM immediately to avoid data loss or data corruption. The DIMM is a part of the controller battery pack. See your hardware documentation for information on replacing the DIMM.	754	None
2321	Single-bit ECC error. The DIMM is critically degraded. There will be no further reporting.	Critical / Failure / Error	Cause: The DIMM is malfunctioning. Data loss or data corruption is imminent. The DIMM must be replaced immediately. No further alerts will be generated. Action: Replace the DIMM immediately. The DIMM is a part of the controller battery pack. See your hardware documentation for information on replacing the DIMM.	754	None
2322	The DC power supply is switched off.	Critical / Failure / Error	Cause: The power supply unit is switched off. Either a user switched off the power supply unit or it is defective. Action: Check if the power switch is turned off. If it is turned off, turn it on. If the problem persists, check if the power cord is attached and functional. If the problem is still not corrected or if the power switch is already turned on, replace the power supply unit.	1004	None
2323	The power supply is switched on.	Ok / Normal	Cause: This alert is provided for informational purposes. Action: None	1001	None

Table 4-1. Storage Management Messages *(continued)*

Event ID	Description	Severity	Cause and Action	SNMP Trap Numbers	Array Manager Event Number
2324	The AC power supply cable has been removed.	Critical / Failure / Error	Cause: The power cable may be pulled out or removed. The power cable may also have overheated and become warped and nonfunctional. Action: Replace the power cable.	1004	None
2325	The power supply cable has been inserted.	Ok / Normal	Cause: This alert is provided for informational purposes. Action: None	1001	None
2326	A foreign configuration has been detected.	Ok / Normal	Cause: This alert is provided for informational purposes. The controller has array disks that were moved from another controller. These array disks contain virtual disks that were created on the other controller. See the Import Foreign Configuration and Clear Foreign Configuration section in the *Dell OpenManage Server Administrator Storage Management User's Guide* for more information. Action: None	751	None
2327	The NVRAM has corrupted data. The controller is reinitializing the NVRAM.	Warning / Non-critical	Cause: The NVRAM has corrupted data. This may occur after a power surge, a battery failure, or for other reasons. The controller is reinitializing the NVRAM. Action: None. The controller is taking the required corrective action. If this alert is generated often (such as during each reboot), replace the controller.	753	None
2328	The NVRAM has corrupt data.	Warning / Non-critical	Cause: The NVRAM has corrupt data. The controller is unable to correct the situation. Action: Replace the controller.	753	None

Table 4-1. Storage Management Messages *(continued)*

Event ID	Description	Severity	Cause and Action	SNMP Trap Numbers	Array Manager Event Number
2329	SAS port report: %1 **NOTE:** %1 is a substitution variable that will appear in the alert description for specific details about the alert.	Warning / Non-critical	Cause: The text for this alert is generated by the controller and can vary depending on the situation. Action: Make sure the cables are attached securely. If the problem persists, replace the cable with a valid cable according to SAS specifications. If the problem still persists, you may need to replace some devices such as the controller or EMM. See the hardware documentation for more information.	753	None
2330	SAS port report: %1 **NOTE:** %1 is a substitution variable that will appear in the alert description for specific details about the alert.	Ok / Normal	Cause: This alert is provided for informational purposes. Action: None	751	None
2331	A bad disk block has been reassigned.	Warning / Non-critical	Cause: The disk has a bad block. Data has been readdressed to another disk block and no data loss has occurred. Action: Monitor the disk for other alerts or indications of poor health. For example, you may receive alert 2306. Replace the disk if you suspect there is a problem.	903	None
2332	A controller hot plug has been detected.	Ok / Normal	Cause: This alert is provided for informational purposes. Action: None	751	None
2333	An enclosure temperature sensor differential has been detected.	Warning / Non-critical	Cause: The firmware has detected a temperature sensor differential in the enclosure. Action: Monitor the enclosure for other alerts related to the temperature. For example, you may receive alerts related to the fan or temperature probes. Check the health of the enclosure and its components. Replace any component that is failed.	853	None

Table 4-1. Storage Management Messages *(continued)*

Event ID	Description	Severity	Cause and Action	SNMP Trap Numbers	Array Manager Event Number
2334	Controller event log: %1 **NOTE:** %1 is a substitution variable that will appear in the alert description for specific details about the alert.	Ok / Normal	Cause: This alert is provided for informational purposes. Action: None	751	None
2335	Controller event log: %1 **NOTE:** %1 is a substitution variable that will appear in the alert description for specific details about the alert.	Warning / Non-critical	Cause: The text for this alert is generated by the controller and can vary depending on the situation. This text is from events in the controller event log that were generated while Storage Management was not running. Action: If there is a problem, review the controller event log and the Server Administrator Alert Log for significant events or alerts that may assist in diagnosing the problem. Check the health of the storage components. See the hardware documentation for more information.	753	None
2336	Controller event log: %1 **NOTE:** %1 is a substitution variable that will appear in the alert description for specific details about the alert.	Critical / Failure / Error	Cause: The text for this alert is generated by the controller and can vary depending on the situation. This text is from events in the controller event log that were generated while Storage Management was not running. Action: See the hardware documentation for more information.	754	None
2337	The controller is unable to recover cached data from the battery backup unit (BBU).	Critical / Failure / Error	Cause: The controller was unable to recover data from the cache. Action: Check if the battery is charged and in good health. When the battery charge is unacceptably low, it cannot maintain cached data. Check if the battery has reached its recharge limit. The battery may need to be recharged or replaced.	1154	None

Table 4-1. Storage Management Messages *(continued)*

Event ID	Description	Severity	Cause and Action	SNMP Trap Numbers	Array Manager Event Number
2338	The controller has recovered cached data from the BBU.	Ok / Normal	Cause: This alert is provided for informational purposes. Action: None	1151	None
2339	The factory default settings have been restored.	Ok / Normal	Cause: This alert is provided for informational purposes. Action: None	751	None
2340	The BGI completed with uncorrectable errors.	Critical / Failure / Error	Cause: The BGI task encountered errors that cannot be corrected. The virtual disk contains array disks that have unusable disk space or disk errors that cannot be corrected. Action: Replace the array disk that contains the disk errors. Review other alert messages to identify the array disk that has errors. If the virtual disk is redundant, you can replace the array disk and continue using the virtual disk. If the virtual disk is non-redundant, you may need to recreate the virtual disk after replacing the array disk. After replacing the array disk, run Check Consistency to check the data.	1204	None
2341	The Check Consistency made corrections and completed.	Ok / Normal	Cause: This alert is provided for informational purposes. Action: None	1201	None
2342	The Check Consistency found inconsistent parity data. Data redundancy may be lost.	Warning / Non-critical	Cause: The data on a source disk and the redundant data on a target disk is inconsistent. Action: Restart the Check Consistency task. If you receive this alert again, check the health of the array disks included in the virtual disk. Review the alert messages for significant alerts related to the array disks. If you suspect that an array disk has a problem, replace it and restore from backup.	1203	None
2343	The Check Consistency logging of inconsistent parity data is disabled.	Warning / Non-critical	Cause: The Check Consistency can no longer report errors in the parity data. Action: See the hardware documentation for more information.	1203	None

Table 4-1. Storage Management Messages *(continued)*

Event ID	Description	Severity	Cause and Action	SNMP Trap Numbers	Array Manager Event Number
2344	The virtual disk initialization terminated.	Warning / Non-critical	Cause: A user has cancelled the virtual disk initialization. Action: Restart the initialization.	1203	None
2345	The virtual disk initialization failed.	Critical / Failure / Error	Cause: The controller cannot communicate with the attached devices. A disk may be removed or contain errors. The cables may also be loose or defective. Action: Check the health of attached devices. Review the Alert Log for significant events and make sure the cables are attached securely. See the Cables Attached Correctly section in the *Dell OpenManage Server Administrator Storage Management User's Guide* for more information on checking the cables.	1204	None
2346	Error occurred: %1 **NOTE:** %1 is a substitution variable that will appear in the alert description for specific details about the alert.	Warning / Non-critical	Cause: The text for this alert is generated by the firmware and can vary depending on the situation. Action: Check the health of attached devices. Review the Alert Log for significant events. You may need to replace faulty hardware. Make sure the cables are attached securely. See the hardware documentation for more information.	903	None
2347	The rebuild failed due to errors on the source physical disk.	Critical / Failure / Error	Cause: You are attempting to rebuild data that resides on a defective disk. Action: Replace the source disk and restore from backup.	904	None
2348	The rebuild failed due to errors on the target physical disk.	Critical / Failure / Error	Cause: You are attempting to rebuild data on a disk that is defective. Action: Replace the target disk. If a rebuild does not automatically start after replacing the disk, initiate the Rebuild task. You may need to assign the new disk as a hot spare to initiate the rebuild.	904	None

Table 4-1. Storage Management Messages *(continued)*

Event ID	Description	Severity	Cause and Action	SNMP Trap Numbers	Array Manager Event Number
2349	A bad disk block could not be reassigned during a write operation.	Critical / Failure / Error	Cause: A write operation could not complete because the disk contains bad disk blocks that could not be reassigned. Data loss may have occurred and data redundancy may also be lost. Action: Replace the disk.	904	None
2350	There was an unrecoverable disk media error during the rebuild.	Critical / Failure / Error	Cause: The rebuild encountered an unrecoverable disk media error. Action: Replace the disk.	904	None
2351	A physical disk is marked as missing.	Ok / Normal	Cause: This alert is provided for informational purposes. Action: None.	901	None
2352	A physical disk that was marked as missing has been replaced.	Ok / Normal	Cause: This alert is provided for informational purposes. Action: None.	901	None
2353	The enclosure temperature has returned to normal.	Ok / Normal	Cause: This alert is provided for informational purposes. Action: None.	851	None
2354	Enclosure firmware download in progress.	Ok / Normal	Cause: This alert is provided for informational purposes. Action: None.	851	None

Table 4-1. Storage Management Messages *(continued)*

Event ID	Description	Severity	Cause and Action	SNMP Trap Numbers	Array Manager Event Number
2355	Enclosure firmware download failed.The system was unable to download firmware to the enclosure. The controller may have lost communication with the enclosure. There may have been problems with the data transfer or the download media may be corrupt.	Warning / Non-critical	Cause: The system was unable to download firmware to the enclosure. The controller may have lost communication with the enclosure. There may have been problems with the data transfer or the download media may be corrupt. Action: Attempt to download the enclosure firmware again. If problems continue, check if the controller can communicate with the enclosure. Make sure that the enclosure is powered on. Check the cables. Check the health of the enclosure and its components. To check the health of the enclosure, select the enclosure object in the tree view. The Health subtab displays a red X or yellow exclamation point for enclosure components that are failed or degraded.	853	None
2356	SAS SMP communications error %1. **NOTE:** %1 is a substitution variable that will appear in the alert description for specific details about the alert.	Critical / Failure / Error	Cause: The text for this alert is generated by the firmware and can vary depending on the situation. The reference to SMP in this text refers to SAS Management Protocol. Action: There may be a SAS topology error. See the hardware documentation for information on correct SAS topology configurations. There may be problems with the cables such as a loose connection or an invalid cabling configuration. See the hardware documentation for information on correct cabling configurations. Check if the firmware is a supported version.	754	None

Table 4-1. Storage Management Messages *(continued)*

Event ID	Description	Severity	Cause and Action	SNMP Trap Numbers	Array Manager Event Number
2357	SAS expander error: %1 **NOTE:** %1 is a substitution variable that will appear in the alert description for specific details about the alert.	Critical / Failure / Error	Cause: The text for this alert is generated by the firmware and can vary depending on the situation. Action: There may be a problem with the enclosure. Check the health of the enclosure and its components. by selecting the enclosure object in the tree view. The Health subtab displays a red X or yellow exclamation point for enclosure components that are failed or degraded. See the enclosure documentation for more information.	754	None
2358	The battery charge cycle is complete.	Ok / Normal	Cause: This alert is provided for informational purposes. Action: None.	1151	None
2359	The physical disk is not certified.	Warning / Non-critical	Cause: The physical disk does not comply with the standards set by Dell and is not supported. Action: Replace the physical disk with a physical disk that is supported.	903	None
2360	A user has discarded data from the controller cache.	Ok / Normal	Cause: This alert is provided for informational purposes. Action: None.	751	None
2361	Array disk(s) that are part of a virtual disk have been removed while the system was shut down. This removal was discovered during system start-up.	Ok / Normal	Cause: This alert is provided for informational purposes. Action: None.	751	None
2362	Array disk(s) have been removed from a virtual disk. The virtual disk will be in Failed state during the next system reboot.	Ok / Normal	Cause: This alert is provided for informational purposes. Action: None.	751	None

Table 4-1. Storage Management Messages *(continued)*

Event ID	Description	Severity	Cause and Action	SNMP Trap Numbers	Array Manager Event Number
2363	A virtual disk and all of its member array disks have been removed while the system was shut down. This removal was discovered during system start-up.	Ok / Normal	Cause: This alert is provided for informational purposes. Action: None.	751	None
2364	All virtual disks are missing from the controller. This situation was discovered during system start-up.	Ok / Normal	Cause: This alert is provided for informational purposes. Action: None.	751	None
2365	The speed of the enclosure fan has changed.	Ok / Normal	Cause: This alert is provided for informational purposes. Action: None.	851	None
2366	Dedicated spare imported as global due to missing arrays	Ok / Normal	Cause: This alert is provided for informational purposes. Action: None.	901	None
2367	Rebuild not possible as SAS/SATA is not supported in the same virtual disk.	Ok / Normal	Cause: This alert is provided for informational purposes. Action: None.	901	None
2368	The SCSI Enclosure Processor (SEP) has been rebooted as part of the firmware download operation and will be unavailable until the operation completes.	Ok / Normal	Cause: This alert is provided for informational purposes. Action: None.	851	None

Index

A

B

C

D

E

F

G

R

S

T

U

V