

HP P2000 G3 MSA System Event Descriptions Reference Guide

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Introduction

This guide is for reference by storage administrators to help troubleshoot storage-system issues. It describes event messages that may be reported during system operation and specifies any actions recommended in response to an event.

Events and event messages

When an event occurs in a storage system, an event message is recorded in the system's event log and—depending on the system's event notification settings—may also be sent to users (via email) and host-based applications (via SNMP or SMI-S).

Each event has a numeric code that identifies the type of event that occurred, and has one of the following severities:

- Critical. A failure occurred that may cause a controller to shut down. Correct the problem *immediately*.
- Error. A failure occurred that may affect data integrity or system stability. Correct the problem as soon as possible.
- Warning. A problem occurred that may affect system stability but not data integrity. Evaluate the problem and correct it if necessary.
- Informational. A configuration or state change occurred, or a problem occurred that the system corrected. No immediate action is required. In this guide, this severity is abbreviated as "Info."

An event message may specify an associated error code or reason code. Error codes and reason codes are outside the scope of this guide.

Event format in this guide

This guide lists events by event code and severity, where the most severe form of an event is described first. Events are listed in the following format. Events that do not apply to P2000 G3 MSA System products are not listed.

Event code

Severity Event description.

Recommended actions

- If the event indicates a problem, actions to take to resolve the problem.

Resources for diagnosing and resolving problems

For further information about diagnosing and resolving problems, see:

- The troubleshooting chapter and the LED descriptions appendix in your product's user guide
- The topic about verifying component failure in the component's replacement instructions document

These and other HP documents can be found on the Software Support/Documentation CD shipped with your product or at <http://www.hp.com/support/manuals>. For links to additional information about your product, see <http://www.hp.com/go/p2000> or <http://www.hp.com/go/msa>. For product support and to download drivers and software, see <http://www.hp.com/support>.

For a summary of storage events and corresponding SMI-S indications, see [Events sent as indications to SMI-S clients](#) on page 45.

Event descriptions

1

Warning Either:

- The indicated non-RAID-6 vdisk is operating with degraded health due to the failure of one disk.
- The indicated RAID-6 vdisk is operating with degraded health due to the failure of two disks.

The vdisk is online but cannot tolerate another disk failure.

If a dedicated spare or global spare of the proper size and type is present, that spare is used to automatically reconstruct the vdisk. If an assigned spare is not present, but an available disk of the proper type and size is present and the dynamic spares feature is enabled, that disk is used to automatically reconstruct the vdisk.

Recommended actions

- If no spare is present and the dynamic spares feature is disabled, replace the failed disk and use SMU to add the new disk as a dedicated spare for the vdisk. That spare is used to automatically reconstruct the critical vdisk.
- Replace the failed disk for future use.
- If the replacement disk was previously used in another vdisk and has status `LEFTOVR`, use SMU to clear the disk's metadata so you can assign the disk as a spare for the critical vdisk or for future use.
- See also [Table 1](#) on page 42.

3

Error The indicated vdisk went offline. Either one disk failed for RAID 0 or NRAID; three disks failed for RAID 6; or two disks failed for other levels. The vdisk cannot be reconstructed.

Recommended actions

- Use the `trust` command as described in the CLI reference guide.

4

Info. The indicated disk had an uncorrectable error and the controller reassigned the indicated block.

Recommended actions

- Monitor the error trend and whether the number of errors approaches the total number of bad-block replacements available.

6

Warning Vdisk creation failed during initialization.

Recommended actions

- In SMU's System Overview panel, compare the vdisk count with the configuration limit for the maximum number of vdisks.
 - If you reached this limit, either purchase additional storage or removed unneeded vdisks.
 - If you have not reached the limit, see [Resources for diagnosing and resolving problems](#) on page 3.

Info. Vdisk creation either immediately failed, was canceled by the user, or succeeded.

Recommended actions

- No action required.

7

Error In a testing environment, a controller diagnostic failed and reports a product-specific diagnostic code.

Recommended actions

- Perform failure analysis.

8

Warning The indicated disk in the indicated vdisk failed and the vdisk changed to a critical or offline state. If a spare is present the controller automatically uses the spare to reconstruct the vdisk. Subsequent events indicate the changes which happen to the vdisk.

Recommended actions

- See [Table 1](#) on page 42.

When the problem is resolved, event 9 is logged.

9

Info. The indicated spare disk has been used in the indicated critical vdisk to bring it back to a fault-tolerant state. Vdisk reconstruction starts automatically.

This event indicates that a problem reported by event 8 is resolved.

Recommended actions

- No action required.

16

Info. The indicated disk has been designated a global spare.

Recommended actions

- No action required.

18

Warning Vdisk reconstruction failed.

Recommended actions

- Determine whether the reconstruction failed due to a disk problem and whether replacing that disk will enable reconstruction to start and complete without further errors.

Info. Vdisk reconstruction succeeded.

Recommended actions

- No action required.

19

Info. A rescan has completed.

Recommended actions

- No action required.

20

Info. Storage Controller firmware update has completed.

Recommended actions

- No action required.

21

Warning Vdisk verification failed during the verification process.

Recommended actions

- See [Resources for diagnosing and resolving problems](#) on page 3.

Info. Vdisk verification failed immediately, was aborted by a user, or succeeded.

Recommended actions

- No action required.

23

Info. Vdisk creation has started.

Recommended actions

- No action required.

25

Info. The statistics for the indicated vdisk have been reset.

Recommended actions

- No action required.

27

Info. Cache parameters have been changed for the indicated vdisk.

Recommended actions

- No action required.

28

Info. Controller parameters have been changed. This event is logged when general configuration changes are made; for example, utility priority, remote notification settings, user interface passwords, and management port IP values. This event is *not* logged when changes are made to vdisk or volume configuration.

Recommended actions

- No action required.

31

Info. The indicated disk is no longer a global or dedicated spare.

Recommended actions

- No action required.

32

Info. Vdisk verification has started.

Recommended actions

- No action required.

33

Info. Controller time/date has been changed. This event is logged before the change happens so the event timestamp shows the "old" time. (May appear often if NTP is enabled.)

Recommended actions

- No action required.

34

Info. Controller has been restored to factory defaults.

Recommended actions

- For an FC controller, restart it to make the default loop ID take effect.

37

Info. Vdisk reconstruction has started.

Recommended actions

- No action required. When complete, event 18 is logged.

39

Warning The sensors monitored a temperature or voltage in the warning range.

Recommended actions

- Check that the storage system's fans are running.
- Check that the ambient temperature is not too warm. The enclosure operating range is 41–104° F (5–40° C).
- Check for any obstructions to the airflow.
- If none of the above explanations apply, replace the controller FRU that reported the error.

When the problem is fixed, event 47 is logged.

40

Error The sensors monitored a temperature or voltage in the failure range.

Recommended actions

- Check that the storage system's fans are running.
- Check that the ambient temperature is not too warm. The enclosure operating range is 41–104° F (5–40° C).
- Check for any obstructions to the airflow.
- If none of the above explanations apply, replace the controller FRU that reported the error.

When the problem is fixed, event 47 is logged.

41

Info. The indicated disk has been designated a spare for the indicated vdisk.

Recommended actions

- No action required.

43

Info. The indicated vdisk has been deleted.

Recommended actions

- No action required.

44

Warning The controller contains cache data for the indicated volume but the corresponding vdisk is not online.

Recommended actions

- Determine the reason that the disks are not online.
- If an enclosure is down, determine corrective action.
- If the vdisk is no longer needed, you can clear the orphan data; this will result in lost data.
- If the volume is missing and was not intentionally removed, see [Resources for diagnosing and resolving problems](#) on page 3.

45

Info. A communication failure has occurred between the controller and an enclosure management processor (EMP).

Recommended actions

- No action required.

47

Info. An error detected by the sensors has been cleared. This event indicates that a problem reported by event 39 or 40 is resolved.

Recommended actions

- No action required.

48

Info. The indicated vdisk has been renamed.

Recommended actions

- No action required.

49

Info. A lengthy SCSI maintenance command has completed. Output indicates whether it completed successfully or a failure occurred. (Typically appears after disk firmware update.)

Recommended actions

- No action required.

50

Info. A correctable ECC error occurred in buffer memory.

Recommended actions

- No action required.

51

Error An uncorrectable ECC error occurred in buffer memory.

Recommended actions

- If this event occurs only once, no action is required.
- If the event occurs more than once, replace the controller reporting the event.

52

Info. Vdisk expansion has started.

Recommended actions

- This operation can take days to complete. When complete, event 53 is logged.

53

Info. Vdisk expansion either completed, failed, or was aborted by a user.

Recommended actions

- If the expansion failed because of a disk problem: replace the disk; if vdisk reconstruction starts, wait for it to complete; and then retry the expansion.

55

Warning A SMART event occurred on the indicated disk, indicating impending disk failure.

Recommended actions

- See [Table 1](#) on page 42.

56

Info. A controller has powered up or restarted.

Recommended actions

- No action required.

58

Warning A disk drive or enclosure management processor (EMP) detected a serious error, such as a parity error or disk hardware failure.

Recommended actions

- If the event indicates that a disk or an expansion module is bad, replace the indicated device.

Info. A disk drive or enclosure management processor (EMP) detected a non-serious error.

Recommended actions

- No action required.

59

Warning The controller detected a parity error while communicating with the indicated SCSI device. The error was detected by the controller, not the disk.

Recommended actions

- If the event indicates that a disk or an expansion module is bad, replace the indicated device.

Info. The controller detected a non-parity error while communicating with the indicated SCSI device. The error was detected by the controller, not the disk.

Recommended actions

- No action required.

60

Info. A disk channel was reset from another initiator or target.

Recommended actions

- No action required.

61

Error The controller reset the indicated disk channel to recover from a communication error. This event is logged to identify an error trend over time.

Recommended actions

- If the controller recovers, no action is required.
- View other logged events to determine other action to take.

62

Warning The indicated global or dedicated spare disk has failed.

Recommended actions

- Replace the failed disk.

65

Error An uncorrectable ECC error occurred on the buffer memory on startup. The controller is automatically restarted and its cache data is restored from the partner controller's cache.

Recommended actions

- Replace the controller module.

67

Info. The controller has identified a new disk or group of disks that constitute a vdisk and has taken ownership of the vdisk. This can happen when disks containing data have been inserted from another enclosure. This event only applies to non-Active-Active controllers.

Recommended actions

- You may need to clear the disks' metadata if you want to reuse them in one or more new vdisks.

68

Info. The controller that logged this event is shut down, or both controllers are shut down.

[Recommended actions](#)

- No action required.

71

Info. The controller has started or completed failing over.

[Recommended actions](#)

- No action required.

72

Info. After failover, recovery has either started or completed.

[Recommended actions](#)

- No action required.

73

Info. The two controllers are communicating with each other and cache redundancy is enabled.

[Recommended actions](#)

- No action required.

74

Info. The FC loop ID for the indicated vdisk was changed to be consistent with the IDs of other vdisks. This can occur when disks containing a vdisk are inserted from an enclosure having a different FC loop ID.

This event is also logged by the new owning controller after vdisk ownership is changed.

[Recommended actions](#)

- No action required.

75

Info. The indicated volume's LUN has been unassigned because it conflicts with LUNs assigned to other volumes. This can happen when disks containing data for a mapped volume have been inserted from another enclosure.

[Recommended actions](#)

- If you want hosts to access the volume data on the inserted disks, map the volume with a different LUN.

76

Info. The controller is using default configuration settings. This event occurs on the first power up, and might occur after a firmware update.

[Recommended actions](#)

- If you have just performed a firmware update and your system requires special configuration settings, you must make those configuration changes before your system will operate as before.

77

Info. The cache was initialized as a result of power up or failover.

[Recommended actions](#)

- No action required.

78

Warning The controller could not use an assigned spare for a vdisk because the spare's capacity is too small. This occurs when a vdisk's status becomes critical and all global spares are too small or (if the dynamic spares feature is enabled) all disks are too small.

Recommended actions

- Replace existing spares or add spares with enough capacity to replace the smallest disk in the vdisk. The vdisk size is limited by its disk with the least capacity.

79

Info. A trust operation has completed for the indicated vdisk. Be sure to complete the trust procedure as documented for the `trust` command in the CLI reference guide.

Recommended actions

- No action required.

80

Info. The controller enabled or disabled the indicated parameters for one or more disks.

Recommended actions

- No action required.

81

Info. The current controller has unkill the partner controller. The other controller will restart.

Recommended actions

- No action required.

83

Info. The partner controller is changing state (shutting down or restarting).

Recommended actions

- No action required.

84

Warning The current controller has forced the partner controller to fail over.

Recommended actions

- See [Resources for diagnosing and resolving problems](#) on page 3.

86

Info. Host-port or disk-channel parameters have been changed.

Recommended actions

- No action required.

87

Warning The mirrored configuration retrieved by this controller from the partner controller has a bad cyclic redundancy check (CRC). The local flash configuration will be used instead.

Recommended actions

- Restore the default configuration by using the `restore defaults` command, as described in the CLI reference guide.

88

Warning The mirrored configuration retrieved by this controller from the partner controller is corrupt. The local flash configuration will be used instead.

Recommended actions

- Restore the default configuration by using the `restore defaults` command, as described in the CLI reference guide.

89

Warning The mirrored configuration retrieved by this controller from the partner controller has a configuration level that is too high for the firmware in this controller to process. The local flash configuration will be used instead.

Recommended actions

- The current controller probably has down-level firmware. Update the firmware on the down-level controller. Both controllers should have the same firmware versions.

When the problem is fixed, event 20 is logged.

90

Info. The partner controller does not have a mirrored configuration image for the current controller, so the current controller's local flash configuration is being used. This event is expected if the other controller is new or its configuration has been changed.

Recommended actions

- No action required.

91

Error In a testing environment, the diagnostic that checks hardware reset signals between controllers in Active-Active mode failed.

Recommended actions

- Perform failure analysis.

95

Error Both controllers in an Active-Active configuration have the same serial number. Non-unique serial numbers can cause system problems; for example, vdisk ownership and WWNs are determined by serial number.

Recommended actions

- Replace one of the controller modules.

96

Info. Pending configuration changes that take effect at startup were ignored because customer data might be present in cache.

Recommended actions

- If the requested configuration changes did not occur, make the changes again and then use a user-interface command to shut down or restart the controller.

100

Info. During Active-Active operation, an event (potential error) occurred while communicating with the enclosure management processor (EMP).

Recommended actions

- No action required.

101

Info. An update of enclosure management processor (EMP) data has been triggered.

[Recommended actions](#)

- No action required.

103

Info. The name has been changed for the indicated volume.

[Recommended actions](#)

- No action required.

104

Info. The size has been changed for the indicated volume.

[Recommended actions](#)

- No action required.

105

Info. The LUN (logical unit number) has been changed for the indicated volume.

[Recommended actions](#)

- No action required.

106

Info. The indicated volume has been added to the indicated vdisk.

[Recommended actions](#)

- No action required.

107

Error The controller experienced the indicated error. In a single-controller configuration, the controller will restart automatically. In an Active-Active configuration, the surviving controller will kill the controller that experienced the error.

[Recommended actions](#)

- See [Resources for diagnosing and resolving problems](#) on page 3.

108

Info. The indicated volume has been deleted from the indicated vdisk.

[Recommended actions](#)

- No action required.

109

Info. The statistics for the indicated volume have been reset.

[Recommended actions](#)

- No action required.

110

Info. Ownership of the indicated vdisk has been given to the other controller.

[Recommended actions](#)

- No action required.

111

Info. The link for the indicated host port is up. This event indicates that a problem reported by event 112 is resolved. For a system with FC ports, this event also appears after loop initialization.

Recommended actions

- No action required.

112

Warning The link for the indicated host port has unexpectedly gone down.

Recommended actions

- Look for corresponding event 111 and monitor excessive transitions indicating a host-connectivity or switch problem. If more than 8 transitions occur per hour, see [Resources for diagnosing and resolving problems](#) on page 3.

112

Info. The link for the indicated host port has gone down because the controller is starting up.

Recommended actions

- No action required.

114

Info. The link for the indicated disk channel port is down. Note that events 114 and 211 are logged whenever a user-requested rescan occurs and do not indicate an error.

Recommended actions

- Look for corresponding event 211 and monitor excessive transitions indicating disk problems. If more than 8 transitions occur per hour, see [Resources for diagnosing and resolving problems](#) on page 3.

116

Error After a recovery, the partner controller was killed while mirroring write-back data to the current controller. The current controller restarted to avoid losing the data in the partner controller's cache, but if the other controller does not restart successfully, the data will be lost.

Recommended actions

- To determine if data might have been lost, check whether this event was immediately followed by restart event 56, closely followed by failover event 71 (specifying p1=1).

118

Info. Cache parameters have been changed for the indicated volume.

Recommended actions

- No action required.

127

Warning The controller has detected an invalid disk dual-port connection. This event indicates that a controller host port is connected to an expansion port, instead of to a port on a host or a switch.

Recommended actions

- Disconnect the host port and expansion port from each other and connect them to the proper devices.

136

Warning Errors detected on the indicated disk channel have caused the controller to mark the channel as degraded.

Recommended actions

- Determine the source of the errors on the indicated disk channel and replace the faulty hardware.

When the problem is fixed, event 189 is logged.

139

Info. The Management Controller (MC) has powered up or restarted.

Recommended actions

- No action required.

140

Info. The Management Controller (MC) is about to restart.

Recommended actions

- No action required.

141

Info. The IP address has been changed in the Management Controller (MC), which normally occurs during power up or failover recovery.

Recommended actions

- No action required.

152

Warning The Management Controller (MC) has not sent a command to the Storage Controller (SC) for 15 minutes and may have failed.

This event is initially logged as Informational, as described below. If the problem persists, this event is logged a second time as Warning and the MC is automatically restarted in an attempt to recover from the problem. Event 156 is then logged.

Recommended actions

- If the controller that is logging this event can communicate with the MC, monitor the error trend. If the error occurs more than twice per hour, see [Resources for diagnosing and resolving problems](#) on page 3.
- If the controller that is logging this event cannot communicate with the MC within 25 minutes, replace the controller module.

Info. The Management Controller (MC) has not sent a command to the Storage Controller (SC) for 160 seconds.

If communication is restored in less than 15 minutes, event 153 is logged. If the problem persists, this event is logged a second time as Warning, as described above.

Recommended actions

- If the controller that is logging this event can communicate with the MC, monitor the error trend. If the error occurs more than twice per hour, see [Resources for diagnosing and resolving problems](#) on page 3.
- If the controller that is logging this event cannot communicate with the MC within 25 minutes, replace the controller module.

153

Info. The Management Controller (MC) has re-established communication with the Storage Controller (SC).

Recommended actions

- No action required.

154

Info. New firmware has been loaded on the Management Controller (MC).

Recommended actions

- No action required.

155

Info. New loader firmware has been loaded on the Management Controller (MC).

Recommended actions

- No action required.

156

Warning The Management Controller (MC) has been restarted from the Storage Controller (SC) for the purpose of error recovery.

Recommended actions

- If this event occurs more than twice per hour, see [Resources for diagnosing and resolving problems](#) on page 3.

Info. The Management Controller (MC) has been restarted from the Storage Controller (SC) in a normal case, such as when initiated by a user.

Recommended actions

- No action required.

157

Error A failure occurred when trying to write to the Storage Controller (SC) flash chip.

Recommended actions

- Replace the controller module.

158

Info. A correctable ECC error occurred in the CPU memory.

Recommended actions

- No action required.

161

Info. One or more enclosures do not have a valid path to an enclosure management processor (EMP). All enclosure EMPs are disabled.

Recommended actions

- See [Resources for diagnosing and resolving problems](#) on page 3.

162

Warning The host WWNs (node and port) previously presented by this controller module are unknown. In a dual-controller system this event has two possible causes:

- One or both controller modules have been replaced or moved while the system was powered off.
- One or both controller modules have had their flash configuration cleared (this is where the previously used WWNs are stored).

The controller module recovers from this situation by generating a WWN based on its own serial number.

Recommended actions

- If the controller was replaced or someone reprogrammed its FRU ID data, verify the WWN information for this controller module on all hosts that access it.

163

Warning The host WWNs (node and port) previously presented by the partner controller module, which is currently offline, are unknown.

This event has two possible causes:

- The online controller module reporting the event was replaced or moved while the system was powered off.
- The online controller module had its flash configuration (where previously used WWNs are stored) cleared.

The online controller module recovers from this situation by generating a WWN based on its own serial number for the other controller module.

Recommended actions

- If the controller was replaced or someone reprogrammed its FRU ID data, verify the WWN information for the other controller module on all hosts that access it.

166

Warning The RAID metadata level of the two controllers does not match. Usually, the controller at the higher firmware level can read metadata written by a controller at a lower firmware level. The reverse is typically not true. Therefore, if the controller at the higher firmware level failed, the surviving controller at the lower firmware level cannot read the metadata on disks that have failed over.

Recommended actions

- If this occurs after a firmware update, it indicates that the metadata format changed, which is rare. Update the controller with the lower firmware level to match the firmware level on the other controller.

167

Warning A diagnostic test at controller bootup detected an abnormal operation, which might require a power cycle to correct.

Recommended actions

- See [Resources for diagnosing and resolving problems](#) on page 3.

168

Error The indicated SES alert condition was detected in the indicated enclosure. This event is logged as Error when one of the power supplies in an enclosure has no power supplied to it or when a hardware failure is detected.

Recommended actions

- Most voltage and temperature errors and warnings relate to the power supply module; see [Table 2](#) on page 44. If there is no problem with the power source, the indicated FRU has probably failed and should be replaced.

When the problem is fixed, event 169 is logged.

Warning The indicated SES alert condition was detected in the indicated enclosure.

Recommended actions

- Most voltage and temperature errors and warnings relate to the power supply module; see [Table 2](#) on page 44.

When the problem is resolved, event 169 is logged.

Info. The indicated SES alert condition was detected in the indicated enclosure.

Recommended actions

- Most voltage and temperature errors and warnings relate to the power supply module; see [Table 2](#) on page 44.

169

Info. The indicated SES alert condition has been cleared in the indicated enclosure. This event is generated when the problem that caused event 168 is cleared.

Recommended actions

- No action required.

170

Info. The last rescan indicates that the indicated enclosure was added to the system.

Recommended actions

- No action required.

171

Info. The last rescan indicates that the indicated enclosure was removed from the system.

Recommended actions

- No action required.

172

Warning The indicated vdisk has been quarantined because not all of its disks are available. There are not enough disks to be fault tolerant. The partial vdisk will be held in quarantine until it becomes fault tolerant.

Recommended actions

- Ensure that all disks are latched into their slots and have power.
- During quarantine, the vdisk is not visible to the host. If after latching disks into their slots and powering up the vdisk, the vdisk is still quarantined, you can manually remove the vdisk from quarantine so that the host can see the vdisk. The vdisk is still critical.
- If disks have failed, replace them.

When the vdisk has been removed from quarantine, event 173 is logged.

173

Info. The indicated vdisk has been removed from quarantine.

Recommended actions

- No action required.

174

Info. Enclosure or disk firmware update has succeeded, been aborted by a user, or failed.

Recommended actions

- No action required.

175

Info. An Ethernet link has changed status (up/down).

Recommended actions

- Monitor the error trend. If this event occurs more than 8 times per hour, see [Resources for diagnosing and resolving problems](#) on page 3.
- If the controller that is logging this event cannot communicate with the MC within 25 minutes, replace the controller module.

176

Info. The error statistics for the indicated disk have been reset.

Recommended actions

- No action required.

177

Info. Cache data was purged for the indicated missing volume.

Recommended actions

- No action required.

181

Info. Controller network port parameters have been changed.

Recommended actions

- No action required.

182

Info. All disk channels have been paused. I/O will not be performed on the disks until all channels are unpaused.

Recommended actions

- If this event occurs in relation to disk firmware update, no action is required. When the condition is cleared, event 183 is logged.
- If this event occurs and you are not performing disk firmware update, see [Resources for diagnosing and resolving problems](#) on page 3.

183

Info. All disk channels have been unpaused, meaning that I/O can resume. An unpause initiates a rescan, which when complete is logged as event 19.

This event indicates that a problem reported by event 182 is resolved.

Recommended actions

- No action required.

185

Info. An enclosure management processor (EMP) write command has completed.

Recommended actions

- No action required.

186

Info. Enclosure parameters have been changed by a user.

Recommended actions

- No action required.

187

Info. The write-back cache has been enabled.

Recommended actions

- Look for event 188.

188

Info. Write-back cache has been disabled.

Recommended actions

- If event 187 is not logged within a reasonable amount of time, see [Resources for diagnosing and resolving problems](#) on page 3.

189

Info. A disk channel that was previously degraded or failed is now healthy.

Recommended actions

- No action required.

190–201

Info. Includes component-specific environmental indicator events generated by the auto-write-through feature when an environmental change occurs. If an auto-write-through trigger condition has been met, write-back cache is disabled and event 188 is also logged. Once the fault is resolved, event 187 is logged to indicate that write-back mode has been restored.

Recommended actions

- If a positive event is not logged within a reasonable period after a negative event, see [Resources for diagnosing and resolving problems](#) on page 3. For example, if event 198 is not soon followed by event 199, the PSU might require service.

202

Info. An auto-write-through trigger condition has been cleared, causing write-back cache to be re-enabled. The environmental change is also logged. (See events 191, 193, 195, 199, 201, and 241.)

Recommended actions

- No action required.

203

Warning An environmental change occurred that allows write-back cache to be enabled, but the auto-write-back preference is not set.

The environmental change is also logged. (See events 190–200.)

Recommended actions

- Manually enable write-back cache.

204

Error This event is generated by the hardware flush firmware whenever the boot processing firmware needs to inform the user about something.

Recommended actions

- See [Resources for diagnosing and resolving problems](#) on page 3.

Warning This event is generated by the hardware flush firmware whenever the boot processing firmware needs to inform the user about something.

Recommended actions

- See [Resources for diagnosing and resolving problems](#) on page 3.

Info. This event is generated by the hardware flush firmware whenever the boot processing firmware needs to inform the user about something.

Recommended actions

- No action required.

205

Info. The indicated volume has been mapped or unmapped.

Recommended actions

- No action required.

206

Info. Vdisk scrub has started. The scrub checks disks in the vdisk for the following types of errors:

- Data parity mismatches for a RAID 3, 5, 6, or 50 vdisk
- Mirror verify errors for a RAID 1 or RAID 10 vdisk
- Medium errors for a RAID 0 or non-RAID vdisk

When the scrub is complete, event 207 is logged.

Recommended actions

- No action required.

207

Error Vdisk scrub found that at least one disk in the indicated vdisk has unfixed parity errors. If a disk fails data may be at risk.

Recommended actions

- See [Resolving scrub errors](#) on page 46.

Warning Parity errors found by vdisk scrub in the indicated vdisk have been fixed through use of the `verify vdisk` command's `fix` parameter. The command verified data in the vdisk and made the parity match the data in all cases.

Recommended actions

- Check whether any disks in the vdisk have logged SMART events or unrecoverable read errors. If so, replace those disks.

Info. Either vdisk scrub completed and found no parity errors, or it was aborted by a user.

Recommended actions

- No action required.

208

Info. A scrub-disk job has started for the indicated disk. The result will be logged with event 209.

Recommended actions

- No action required.

209

Error A scrub-disk job logged with event 208 has completed and found one or more media errors, SMART events, or hard (non-media) errors.

Recommended actions

- Replace the indicated disk.

Warning A scrub-disk job logged with event 208 has been aborted by a user, or has reassigned a disk block.

Recommended actions

- No action required.

Info. Either a scrub-disk job logged with event 208 has completed and found no errors, or a disk being scrubbed (with no errors found) has been added to a vdisk.

Recommended actions

- No action required.

210

Info. All snapshots have been deleted for the indicated master volume or snap pool.

Recommended actions

- No action required.

211

Warning SAS topology has changed; no elements are detected in the SAS map. The message specifies the number of elements in the SAS map, the number of expanders detected, the number of expansion levels on the native (local controller) side and on the partner (partner controller) side, and the number of device PHYs.

Recommended actions

- Perform a rescan to repopulate the SAS map.
- If a rescan does not resolve the problem, then shut down and restart both controllers.
- If the problem persists, see [Resources for diagnosing and resolving problems](#) on page 3.

Info. SAS topology has changed; the number of SAS expanders has increased or decreased. The message specifies the number of elements in the SAS map, the number of expanders detected, the number of expansion levels on the native (local controller) side and on the partner (partner controller) side, and the number of device PHYs.

Recommended actions

- No action required.

212

Info. All master volumes have been deleted for the indicated snap pool.

Recommended actions

- No action required.

213

Info. The indicated standard volume has been converted to a master volume, or the indicated master volume has been converted to a standard volume.

Recommended actions

- No action required.

214

Info. The creation of snapshots is complete. The number of snapshots is indicated. Additional events give more information for each snapshot.

Recommended actions

- No action required.

215

Info. A previously created batch of snapshots is now committed and ready for use. The number of snapshots is indicated. Additional events give more information for each snapshot.

Recommended actions

- No action required.

217

Error A super-capacitor failure occurred on the controller.

Recommended actions

- Replace the controller module reporting this event.

218

Warning The super-capacitor pack is near end of life.

Recommended actions

- Replace the controller module reporting this event.

219

Info. Utility priority has been changed by a user.

Recommended actions

- No action required.

220

Info. Rollback of data in the indicated master volume to data in the indicated snapshot has been started by a user.

Recommended actions

- No action required.

221

Info. Snapshot reset has completed.

Recommended actions

- No action required.

222

Info. The policy for the snap pool has been changed by a user. A policy specifies the action for the system to automatically take when the snap pool reaches the associated threshold level.

Recommended actions

- No action required.

223

Info. The threshold level for the snap pool has been changed by a user. Each snap pool has three threshold levels that notify you when the snap pool is reaching decreasing capacity. Each threshold level has an associated policy that specifies system behavior when the threshold is reached.

Recommended actions

- No action required.

224

Info. Background rollback of data in the indicated master volume to data in the indicated snapshot has completed.

Recommended actions

- No action required.

225

Error A copy-on-write failure occurred when copying data from the indicated master volume to a snapshot. Due to a problem accessing the snap pool, the write operation could not be completed to the disk. Data is left in cache.

Recommended actions

- Delete all snapshots for the master volume and then convert the master volume to a standard volume.

226

Error Background rollback for the indicated master volume failed to start due to inability to initialize the snap pool. The rollback is in a suspended state.

Recommended actions

- Make sure the snap pool and the vdisk on which this volume exists are online. Restart the rollback operation.

227

Error Failed to execute rollback for a particular LBA (logical block address) range of the indicated master volume.

Recommended actions

- Restart the rollback operation.

228

Error Background rollback for the indicated master volume failed to end due to inability to initialize the snap pool. The rollback is in a suspended state.

Recommended actions

- Make sure the snap pool and the vdisk on which this volume exists are online. Restart the rollback operation.

229

Warning The indicated snap pool has reached its warning threshold.

Recommended actions

- You can expand the snap pool or delete snapshots.

230

Warning The indicated snap pool has reached its error threshold. The system will take the action set in the policy for this threshold level. Default is to auto-expand the snap pool.

Recommended actions

- You can expand the snap pool or delete snapshots.

231

Warning The indicated snap pool has reached its critical threshold. The system will take the action set in the policy for this threshold level. Default is to delete all snapshots on the snap pool.

Recommended actions

- If the policy is to halt writes, then you must free up space in the snap pool, or convert the master volume to a standard volume in order to resume operations.

232

Warning The maximum number of enclosures allowed for the current configuration has been exceeded.

Recommended actions

- The platform does not support the number of enclosures that are configured. The firmware has removed the enclosure indicated by this event from its configuration.

233

Warning The indicated disk type is invalid and is not allowed in the current configuration.

Recommended actions

- One or more disks are not allowed for this platform. They have been removed from the configuration. Replace the disallowed disks with ones that are supported.

234

Error The indicated snap pool is unrecoverable and can therefore no longer be used.

Recommended actions

- All the snapshots associated with this snap pool are invalid and you may want to delete them. However, the data on the master volume can be recovered by converting it to a standard volume.

235

See event 58.

236

Info. A special shutdown operation has started. These special shutdown types are used as part of the firmware-update process.

Recommended actions

- No action required.

237

Info. A firmware update has started and is in progress. This event provides details of the steps in a firmware-update operation that may be of interest if you have problems updating firmware.

Recommended actions

- No action required.

238

Warning An attempt to write license data failed due to an invalid license.

Recommended actions

- Check the license for what is allowed for the platform, make corrections as appropriate, and reinstall. If the license is invalid, the write will fail.

239

Warning A timeout occurred while flushing the CompactFlash.

Recommended actions

- Cycle power and restart the system. If the error persists, save the log files and see [Resources for diagnosing and resolving problems](#) on page 3.

240

Warning A failure occurred while flushing the CompactFlash.

Recommended actions

- Cycle power and restart the system. If the error persists, save the log files and see [Resources for diagnosing and resolving problems](#) on page 3.

241

Info. The auto-write-through trigger condition for a CompactFlash failure has been cleared, causing write-back cache to be re-enabled.

Recommended actions

- No action required.

242

Error A CompactFlash failure has been detected. If the associated auto-write-through-trigger condition has been met, write-back cache is disabled and event 188 is also logged. Once the fault is resolved, event 187 is logged to indicate that write-back mode has been restored.

Recommended actions

- If event 241 has not been logged indicating that the CompactFlash has recovered, and there are no other events that might indicate a cause for the failure (such as a temperature fault or power-supply fault), then see the topic about transportable CompactFlash in the User Guide for the affected controller module.

243

Info. A new controller enclosure has been detected. This happens when a controller FRU is moved from one enclosure to another and the controller detects that the midplane WWN is different from the WWN it has in its local flash.

Recommended actions

- No action required.

245

Info. An existing disk channel target device is not responding to SCSI discovery commands.

Recommended actions

- Check the indicated target device for bad hardware or bad cable, then initiate a rescan.

246

Warning The coin battery is not present or is not properly seated or has reached end-of-life. The battery provides backup power for the real-time (date/time) clock. In the event of a power failure, the date and time will revert to January 1, 1970 00:00:00.

Recommended actions

- Replace the controller module reporting the event.

247

Warning The FRU ID EEPROM for the indicated field replaceable unit (FRU) cannot be read; FRU ID data might not be programmed. FRU ID data includes the worldwide name, SCSI ID, and branding information. This event is logged once each time a Storage Controller is started for each FRU that is not programmed, and is logged by each I/O module.

Recommended actions

- Return the FRU to have its FRU ID data reprogrammed.

248

Info. A valid feature license was successfully installed. See event 249 for details about each licensed feature.

Recommended actions

- No action required.

249

Info. After a valid license is installed, this event is logged for each licensed feature to show the new license value for that feature. The event specifies whether the feature is licensed, whether the license is temporary, and whether the temporary license is expired.

Recommended actions

- No action required.

250

Warning A license could not be installed. The license is invalid or specifies an unsupported feature.

Recommended actions

- Review the readme file that came with the license. Verify that you are trying to install the license on the system that the license was generated for.

251

Warning A volume-copy operation has started for the indicated source volume.

Recommended actions

- If the source volume is a master volume, you can remount it. If the source volume is a snapshot, do not remount it until the copy is complete (as indicated by event 268).

252

Info. Snapshot write data on the indicated master volume has been deleted.

Recommended actions

- No action required.

253

Info. A license was uninstalled.

Recommended actions

- No action required.

255

Info. The PBCs across controllers do not match as PBC from controller A and PBC from controller B are from different vendors. This may limit the available configurations.

Recommended actions

- No action required.

256

Info. The indicated snapshot has been prepared but is not yet committed. This can occur when a snapshot is taken by an application, such as the VSS hardware provider, that is timing-sensitive and needs to take a snapshot in two stages.

After the snapshot is committed and event 258 is logged, the snapshot can be used.

Recommended actions

- No action required.

257

Info. The indicated snapshot has been prepared and committed and is ready for use.

Recommended actions

- No action required.

258

Info. The indicated snapshot has been committed and is ready for use.

Recommended actions

- No action required.

259

Info. In-band CAPI commands have been disabled.

Recommended actions

- No action required.

260

Info. In-band CAPI commands have been enabled.

Recommended actions

- No action required.

261

Info. In-band SES commands have been disabled.

Recommended actions

- No action required.

262

Info. In-band SES commands have been enabled.

Recommended actions

- No action required.

263

Warning The indicated disk spare is missing. Either it was removed or it is not responding.

Recommended actions

- Replace the indicated disk.

264

Info. The link speed of the port bypass circuit and interconnect mode has been set to the default.

Recommended actions

- No action required.

265

Info. Port bypass circuits currently use the service port, which may limit the link speed or interconnect mode support.

Recommended actions

- Perform a system-level shutdown and restart. Note that this will cause all data to be unavailable for about 1 minute.

266

Info. A volume-copy operation for the indicated master volume has been aborted.

Recommended actions

- No action required.

267

Error While cleaning up resources in metadata at the end of a background rollback process, the firmware found at least one error and suspended the process for the indicated volume.

Recommended actions

- Make sure that disks and vdisks associated with the rollback do not have problems (health OK, status FTOL or UP) and then retry the rollback.

268

Info. A background volume-copy operation for the indicated master volume has completed.

Recommended actions

- No action required.

269

Info. A partner firmware update operation has started. This operation is used to copy firmware from one controller to the other to bring both controllers up to the same version of firmware.

Recommended actions

- No action required.

270

Warning Either there was a problem reading or writing the persistent IP data from the FRU ID EEPROM, or invalid data was read from the FRU ID EEPROM.

Recommended actions

- Check the IP settings (including iSCSI host channel IP settings for an iSCSI system), and update them if they are incorrect.

271

Info. The storage system could not get a valid serial number from the controller's FRU ID EEPROM, either because it couldn't read the FRU ID data, or because the data on it isn't valid or hasn't been programmed. Therefore, the MAC address is derived by using the controller's serial number from flash. This event is only logged one time during bootup.

Recommended actions

- No action required.

272

Info. Expansion of the indicated snap pool has started.

Recommended actions

- No action required.

273

Info. PHY fault isolation has been enabled or disabled by a user for the indicated enclosure and controller module.

Recommended actions

- No action required.

274

Warning The indicated PHY has been disabled, either automatically or by a user. Drive PHYs are automatically disabled for empty disk slots.

Recommended actions

- Look for corresponding event 275. If either of the following occur, see [Resources for diagnosing and resolving problems](#) on page 3:
 - Event 274 event occurs for an ingress or egress PHY and event 275 doesn't occur.
 - The system transitions between 274 and 275 more than 8 times per hour.
- If a drive PHY for an installed disk has been automatically disabled, replace the disk.

275

Info. The indicated PHY has been enabled.

Recommended actions

- No action required.

298

Warning The controller's real-time clock (RTC) settings might be invalid after an unexpected power loss.

Recommended actions

- Check the system date and time. If either is incorrect, set them to the correct date and time.
- Also look for event 246 and take appropriate action.

When the problem is resolved, event 299 is logged.

299

Info. The controller's real-time clock (RTC) settings were recovered after an unexpected power loss.

Recommended actions

- No action required.

300

Info. CPU frequency has changed to high.

Recommended actions

- No action required.

301

Info. CPU frequency has changed to low.

Recommended actions

- No action required.

302

Info. DDR memory clock frequency has changed to high.

Recommended actions

- No action required.

303

Info. DDR memory clock frequency has changed to low.

Recommended actions

- No action required.

304

Info. The controller has detected I²C errors that may have been fully recovered. This event is logged as Informational to note an existence of previous I²C errors.

Recommended actions

- No action required.

305

Info. A serial number in Storage Controller (SC) flash memory is invalid. The valid serial number will be recovered automatically.

Recommended actions

- No action required.

306

Info. An old serial number in Storage Controller (SC) flash memory has been updated to a new serial number.

Recommended actions

- No action required.

307

Critical A temperature sensor on a controller FRU detected an over-temperature condition that caused the controller to shut down.

Recommended actions

- Check that the storage system's fans are running.
- Check that the ambient temperature is not too warm. The enclosure operating range is 41–104° F (5–40° C).
- Check for any obstructions to the airflow.
- If none of the above explanations apply, replace the controller FRU that reported the error.

308

Info. The default host port speed has changed from 4 Gbit/sec to 2 Gbit/sec because the controller module's HIM has a Broadcom PBC.

Recommended actions

- No action required.

309

Info. Normally when the Management Controller (MC) is started, the IP data is obtained from the midplane FRU ID EEPROM where it is persisted. If the system is unable to write it to the EEPROM the last time it changed, a flag is set in flash memory. This flag is checked during startup, and if set, this event is logged and the IP data that is in flash memory is used. The only time that this would not be the correct IP data would be if the controller module was swapped and then whatever data is on the controller's flash memory is used.

Recommended actions

- No action required.

310

Info. After a rescan, back-end discovery and initialization of data for at least one EMP (Enclosure Management Processor) has completed. This event is not logged again when processing completes for other EMPs in the system.

Recommended actions

- No action required.

311

Info. An iSCSI ping operation completed. The event specifies the number of pings that passed and the number that failed.

Recommended actions

- If the ping operation failed, check connectivity between the storage system and the remote host.

312

Info. This event is used by email messages and SNMP traps when testing notification settings. This event is not recorded in the event log.

Recommended actions

- No action required.

313

Error The indicated controller module has failed. This event can be ignored for a single-controller configuration.

Recommended actions

- Replace the failed controller module. The module's Fault/Service Required LED will be illuminated (not blinking).

314

Error The indicated FRU has failed or is not operating correctly. This event follows some other FRU-specific event indicating a problem. This event was defined for HP Remote Insight Support tools.

Recommended actions

- To determine whether the FRU needs to be replaced, see the topic about verifying component failure in the component's replacement instructions document.

315

Critical The controller module is incompatible with the enclosure. The controller will automatically shut down. If two incompatible controllers are inserted at the same time, or booted at the same time, one controller will crash and the other will hang. This behavior is expected and prevents data loss.

Recommended actions

- Move the controller module to a compatible enclosure.

316

Warning The temporary license for a feature has expired. Any components created with the feature remain accessible but new components cannot be created.

Recommended actions

- To continue using the feature, purchase a permanent license.

Info. The temporary license for a feature will expire in 10 days. Any components created with the feature will remain accessible but new components cannot be created.

Recommended actions

- To continue using the feature after the trial period, purchase a permanent license.

317

Error A serious error has been detected on the back-end host adapter. The controller will be killed by its partner.

Recommended actions

- See [Resources for diagnosing and resolving problems](#) on page 3.

318

Error A hardware failure occurred: XOR error.

Recommended actions

- Replace the controller module reporting the event.

319

Warning The indicated available disk has failed.

Recommended actions

- Replace the disk.

322

Warning The controller has an older Storage Controller (SC) version than the version used to create the CHAP authentication database in the controller's flash memory.

The CHAP database cannot be read or updated. However, new records can be added, which will replace the existing database with a new database using the latest known version number.

Recommended actions

- Upgrade the controller firmware to a version whose SC is compatible with the indicated database version.
 - If no records were added, the database becomes accessible and remains intact.
 - If records were added, the database becomes accessible but contains only the new records.

352

Info. Expander Controller (EC) assert data or stack-dump data is accessible.

Recommended actions

- No action required.

353

Info. Expander Controller (EC) assert data and stack-dump data have been cleared.

Recommended actions

- No action required.

354

Warning SAS topology has changed on a host port; at least one PHY has gone down. For example, the SAS cable connecting a controller host port to a host has been disconnected.

Recommended actions

- Check the cable connection between the indicated port and the host.
- Monitor the log to see if the problem persists.

Info. SAS topology has changed on a host port; at least one PHY has gone up. For example, the SAS cable connecting a controller host port to a host has been connected.

Recommended actions

- No action required.

355

Warning The faceplate's debug button was found to be stuck in the On position during boot up.

Recommended actions

- If the button remains stuck, replace the controller module.

358

Critical All PHYs are down for the indicated disk channel. The system is degraded and is not fault-tolerant because all disks are in a single-ported state.

Recommended actions

- Power-cycle the controller enclosure.
 - If the condition doesn't persist, no further action is required.
 - If the condition persists, this indicates a hardware problem in one of the controller modules or in the controller enclosure midplane. For help identifying which FRU to replace, see [Resources for diagnosing and resolving problems](#) on page 3.

Warning Some, but not all, PHYs are down for the indicated disk channel.

Recommended actions

- Monitor the log to see whether the condition persists.
 - If the condition doesn't persist, no further action is required.
 - If the condition persists, this indicates a hardware problem in one of the controller modules or in the controller enclosure midplane. For help identifying which FRU to replace, see [Resources for diagnosing and resolving problems](#) on page 3.

359

Info. All PHYs that were down for the indicated disk channel have recovered and are now up.

Recommended actions

- No action required.

360

Info. The speed of the indicated disk PHY was renegotiated.

Recommended actions

- No action required.

361

Critical, Error, or Warning The scheduler experienced a problem with the indicated schedule.

Recommended actions

- Take appropriate action to correct the indicated problem.

Info. A scheduled task was initiated.

Recommended actions

- No action required.

362

Critical, Error, or Warning The scheduler experienced a problem with the indicated task.

Recommended actions

- Take appropriate action to correct the indicated problem

Info. The scheduler experienced a problem with the indicated task.

Recommended actions

- No action required.

363

Error After a firmware-update operation, the firmware version of at least one component does not match its version in the firmware bundle file.

Recommended actions

- Reinstall the firmware bundle.

412

Warning One disk in the indicated RAID-6 vdisk failed. The vdisk is operational with Degraded health and status FTDN (fault tolerant with a down disk).

Recommended actions

- Replace the down disk with a spare so the system can start reconstructing the vdisk.

413

Info. Created a replication set with the indicated primary volume.

Recommended actions

- No action required.

414

Error Failed to create the indicated replication set for the indicated volume.

Recommended actions

- Check whether the volume is already part of a replication set or is not a master volume. If neither is true, retry the operation.

415

Info. Deleted the indicated replication set.

Recommended actions

- No action required.

416

Error Failed to delete the indicated replication set. This can occur if an invalid identifier was specified for the replication set, or if the specified primary volume is not on the local system.

Recommended actions

- Repeat the deletion using a valid replication-set identifier, or on the local system for the primary volume.

417

Info. Automatically deleted the indicated snapshot to make space for a new snapshot or for a remote snapshot proxy volume, or while changing the secondary volume to be the primary volume. The snapshot to delete is determined by the snap-pool's policy.

Recommended actions

- No action required.

418

Warning A replication operation cannot complete because it needs to create a proxy volume or a replication snapshot in the secondary vdisk, but the maximum number of volumes exists for that vdisk or its owning controller and the vdisk contains no suitable snapshot to automatically delete.

This event is logged on the secondary volume's system only.

Recommended actions

- To enable the replication operation to continue, delete at least one unneeded volume from the destination vdisk or from another vdisk owned by the same controller.
- After performing the above action, if the replication fails for the same reason and becomes suspended, events 431 and 418 will be logged. Repeat the above action and resume the replication.

419

Info. Started to add the indicated secondary volume to the indicated replication set.

Recommended actions

- No action required.

420

Error Failed to add the indicated secondary volume to the indicated replication set. This can occur for several reasons, such as:

- The volume is already a replication volume.
- The volume is not local to the system.
- The communication link is busy or experienced an error.
- The volume is not the same size as the existing volume or is no longer in the set.
- The volume record is not up to date.
- Replication is not licensed or the license limit would be exceeded.

Recommended actions

- If any of the above problems exist, resolve them. Then repeat the add operation with a valid volume.

421

Info. Completed adding the indicated secondary volume to the indicated replication set.

Recommended actions

- No action required.

422

Info. Completed removing the indicated secondary volume from the indicated replication set.

[Recommended actions](#)

- No action required.

423

Error Failed to remove the indicated volume from the indicated replication set. This can occur for several reasons, such as:

- The volume record is not found.
- The volume record is not yet available.
- A primary volume conflict exists.
- You cannot delete the volume from a remote system.
- You cannot remove the volume because it is the primary volume.

[Recommended actions](#)

- If any of the above problems exist, resolve them. Then repeat the remove operation with a valid volume.

424

Info. Completed modifying parameters for the indicated secondary volume in the indicated replication set.

[Recommended actions](#)

- No action required.

425

Info. Started a replication to the indicated secondary volume.

[Recommended actions](#)

- No action required.

426

Info. Completed a replication to the indicated secondary volume.

[Recommended actions](#)

- No action required.

427

Warning A communication error occurred when sending information between storage systems.

[Recommended actions](#)

- Check your network or fabric for abnormally high congestion or connectivity issues.

428

Info. A user suspended a replication to the indicated secondary volume.

[Recommended actions](#)

- No action required.

429

Info. A user resumed a replication to the indicated secondary volume.

[Recommended actions](#)

- No action required.

430

Info. A user aborted a replication to the indicated secondary volume.

Recommended actions

- No action required.

431

Error Replication to the indicated secondary volume has suspended due to an error on that volume. User intervention is required to resume replication. This can occur for several reasons, such as:

- The cache request was aborted.
- The cache detected that the source or target volume is offline.
- The cache detected a media error.
- The snap pool is full.
- The communication link is busy or experienced an error.
- The snapshot being used for the replication is invalid.
- There was a problem establishing proxy communication.

Recommended actions

- Resolve the error and then resume the replication.

432

Error Aborted a replication due to an error on the indicated secondary volume.

Recommended actions

- Verify that the secondary volume is valid and that the system where the volume resides is accessible.

433

Info. Skipped a replication to the indicated secondary volume.

Recommended actions

- No action required.

434

Warning A replication collided with an ongoing replication to the indicated secondary volume. A replication was in progress for the replication set when a new replication was requested. The new replication has been queued.

Recommended actions

- This can be a normal operation, but in some cases this can indicate a problem. Ensure that: there are no network issues; there is sufficient bandwidth between the primary and secondary systems; the interval between replications is set to a sufficient amount of time to allow replications to complete. Having too many replications queued can result in some replications not completing.

435

Info. Failed to initialize the indicated replication set.

Recommended actions

- No action required.

436

Warning Firmware in the remote system is incompatible with firmware in the local system so they cannot communicate with each other to perform replication operations.

Recommended actions

- Update the firmware on one or both systems so they are running the same version.

437

Info. Started to change the primary volume for the indicated replication set to the indicated volume.

[Recommended actions](#)

- No action required.

438

Info. Completed changing the primary volume for the indicated replication set to the indicated volume.

[Recommended actions](#)

- No action required.

439

Error Failed to change the primary volume to the indicated volume for the indicated replication set. This can occur for several reasons, such as:

- The volume is not in the replication set.
- Configuration tag or configuration data not found.
- The retry limit has been reached.

[Recommended actions](#)

- Verify that the specified volume is part of the replication set.
- Verify that there are no network issues preventing communication between the storage systems.

440

Warning Retrying a replication due to an error on the indicated secondary volume. This can occur for several reasons, such as:

- The cache request was aborted.
- The cache detected that the source or target volume is offline.
- The cache detected a media error.
- The snap pool is full.
- The communication link is busy or experienced an error.
- The snapshot being used for the replication is invalid.
- There was a problem establishing proxy communication.

The replication is being retried after a moderate delay.

[Recommended actions](#)

- No action required.

441

Error Failed to forward an add-volume request for a volume in a replication set. The secondary volume cannot be fully added to the replication set.

[Recommended actions](#)

- Remove the indicated secondary volume from the replication set.

442

Warning Power-On Self Test (POST) diagnostics detected a hardware error in a UART chip in either or both of the controllers. The event returns 1 if the Storage Controller (SC) UART failed, 2 if the Management Controller (MC) UART failed, or 3 if both UARTs failed.

[Recommended actions](#)

- Replace the controller module.

443

Warning A firmware version mismatch has been detected in an MSA70 or D2700 drive enclosure. The enclosure should be updated to the latest supported version of firmware as soon as possible.

Recommended actions

- In the drive enclosure all FRUs (I/O module, fan, power supply, midplane, backplane, and 7-segment LED) must be at a combined proper firmware recipe. The two I/O modules must be at equal firmware versions. Any replaced MSA70 FRUs might have older firmware that does not match an internally defined recipe. Update the drive enclosure to the latest firmware version to ensure all FRUs are at the proper firmware level.

444

Warning A snap pool reached a capacity threshold and the associated Auto Expand policy failed because there is not enough available space in the vdisk.

Recommended actions

- Increase the available space in the vdisk either by expanding the vdisk or by removing any unneeded volumes.

Info. A snap pool reached a capacity threshold and the associated policy completed successfully; for example, the snap pool was expanded successfully, or the oldest snapshot was deleted, or all snapshots were deleted. If the policy is Delete Oldest Snapshot, the serial number of the deleted snapshot is reported.

Recommended actions

- No action is required.

449

Info. Aborted rollback for the indicated master volume.

Recommended actions

- No action required.

450

Warning A remote volume's status changed from online to offline. This can occur for several reasons, such as:

- The communication link is busy or experienced an error.
- The local initiator experienced an error.

Recommended actions

- Check whether there are any network issues between the local and remote systems.

451

Info. A remote volume's status changed from offline to online.

Recommended actions

- No action required.

452

Info. The indicated volume has been detached from the indicated replication set. The volume can now be physically moved to another storage system.

Recommended actions

- No action required.

453

Info. The indicated volume has been reattached to the indicated replication set.

Recommended actions

- No action required.

454

Info. A user changed the drive-spin-down delay for the indicated vdisk to the indicated value.

[Recommended actions](#)

- No action required.

455

Warning The controller detected that the configured host-port link speed exceeded the capability of an FC SFP. The speed has been automatically reduced to the maximum value supported by all hardware components in the data path.

[Recommended actions](#)

- Replace the SFP in the indicated port with an SFP that supports a higher speed.

456

Warning The system's IQN was generated from the default OUI because the controllers could not read the OUI from mid-plane FRU ID data during startup. If the IQN is wrong for the system's branding, iSCSI hosts might be unable to access the system.

[Recommended actions](#)

- If a disk discovery timeout – as indicated by event 270 with status code 0 – caused the problem to occur, restart the controllers.

464

Warning A user inserted an unsupported cable or SFP into the indicated controller host port.

[Recommended actions](#)

- Replace the cable or SFP with a supported type, as specified in your product's user guide.

465

Info. A user removed an unsupported cable or SFP from the indicated controller host port.

[Recommended actions](#)

- No action required.

468

Info. FPGA temperature has returned to the normal operating range and the speed of buses connecting the FPGA to downstream adapters has been restored. The speed was reduced to compensate for an FPGA over-temperature condition.

[Recommended actions](#)

- No action required.

469

Info. The speed of buses connecting the FPGA to downstream adapters has been reduced to compensate for an FPGA over-temperature condition.

[Recommended actions](#)

- No action required.

471

Info. A replication was queued because the indicated secondary volume is detached from the replication set.

[Recommended actions](#)

- No action required.
- To enable the replication to proceed, reattach the secondary volume and then resume the replication.

472

Error A replication failed to start on the indicated secondary volume. This can occur when the secondary system is not licensed for replication (for example, a temporary license expired).

Recommended actions

- To perform replication, ensure that the secondary system has a valid replication license.

475

Info. A replication was queued because the indicated secondary volume is offline.

Recommended actions

- No action required.

479

Error The controller reporting this event was unable to flush data to or restore data from non-volatile memory. This mostly likely indicates a CompactFlash failure, but it could be caused by a problem with the FPGA or another controller component. The controller will be killed by the partner controller, who will use its own copy of the data to perform the flush or restore operation.

Recommended actions

- Look for other events, close in time, that indicate problems with the CompactFlash card.
- If this event is logged more than once, replace the CompactFlash card.

480

Error An IP address conflict was detected for the indicated iSCSI port of the storage system. The indicated IP address is already in use.

Recommended actions

- Contact your data-network administrator to help resolve the IP address conflict.

Disk error conditions and recommended actions

Table 1 Disk error conditions and recommended actions

Condition	Recommended action
Event 8 reports that the RAID controller can no longer detect the disk.	Reseat the disk. If this does not resolve the problem, replace the disk.
Event 8 reports a media error for the disk.	Replace the disk.
Event 8 reports a SMART error for the disk.	Replace the disk.
Event 8 reports a hardware error for the disk.	Replace the disk.
Event 8 reports an Illegal Request sense code for a command the disk should support.	Replace the disk.
Event 8 reports that the disk was intentionally failed by RAID-6 logic.	No action required.
At the time a disk failed, the dynamic spares feature was enabled and a properly sized disk was available to use as a spare.	No action required; the system automatically uses that disk to reconstruct the vdisk.
At the time a disk failed, the dynamic spares feature was enabled but no properly sized disk was available to use as a spare.	Replace the disk so the system can automatically use the new disk to reconstruct the vdisk.
At the time a disk failed, the dynamic spares feature was disabled and no dedicated spare or properly sized global spare was available.	Replace the disk and use SMU to assign the new disk as a spare for the vdisk so the system can automatically use that disk to reconstruct the vdisk.
The status of the vdisk that originally had the failed disk status is Good. A global or vdisk (dedicated) spare has been successfully integrated into the vdisk and the replacement disk can be assigned as either a global spare or a vdisk spare.	Use SMU to assign the new disk as either a global spare or a vdisk spare.
The status of the disk just installed is LEFTOVR.	All of the member disks in a vdisk contain metadata in the first sectors. The storage system uses the metadata to identify vdisk members after restarting or replacing enclosures. See the topic about clearing disk metadata in the SMU reference guide.
If the status of the vdisk that originally had the failed disk status is FATAL FAIL, one or more disks have failed in a RAID-0 vdisk; two or more disks have failed in a RAID-1, 3, or 5 vdisk; or three or more disks have failed in a RAID-6 vdisk.	All data in the vdisk is lost. Use the CLI <code>trust</code> command to attempt to bring the vdisk back online.
The status of the vdisk that originally had the failed disk status is DRV ABSENT or INCOMPLETE. These status indicators only occur when the enclosure is initially powered up. DRV ABSENT indicates that one disk is bad. INCOMPLETE indicates that two or more disks are bad.	Make sure the enclosures and associated data host were powered on in this order: first the drive enclosures, then the controller enclosure, then the data host. If the power-on sequence was correct, locate and replace the additional failed disks.
The status of the vdisk that originally had the failed disk indicates that the vdisk is being rebuilt.	Wait for the vdisk to complete its operation.

Table 1 Disk error conditions and recommended actions (continued)

Condition	Recommended action
The status of the vdisk that originally had the failed disk is DRV FAILED.	If this status occurs after you replace a defective disk with a known good disk, the enclosure midplane might have experienced a failure. Replace the enclosure.

Power supply faults and recommended actions

Table 2 Power supply faults and recommended actions

Fault	Recommended action
Power supply fan warning or failure, or power supply warning or failure. Event code 168.	<ul style="list-style-type: none">• Check that all of the fans are working using SMU.• Make sure that no slots are left open for more than 2 minutes. If you need to replace a module, leave the old module in place until you have the replacement, or use a blank cover to close the slot. Leaving a slot open negatively affects the airflow and might cause the unit to overheat.• Make sure that the controller modules are properly seated in their slots and that their latches are locked.
Power supply module status is listed as failed or you receive a voltage event notification. Event code 168.	<ul style="list-style-type: none">• For each power supply module with a switch, check that the switch is turned on.• Check that the power cables are firmly plugged into both power supply and into an appropriate electrical outlet.• Replace the power supply module.
Power LED is off.	Same as above.
Voltage/Fan Fault/Service Required LED is on.	Replace the power supply module.

Events sent as indications to SMI-S clients

If the storage system's SMI-S interface is enabled, the system will send events as indications to SMI-S clients so that SMI-S clients can monitor system performance. For information about enabling the SMI-S interface, see the chapter about configuring the system in the SMU Reference Guide.


The event categories below pertain to FRU assemblies and certain FRU components.

Table 3 Events and corresponding SMI-S indications

FRU/Event category	Corresponding SMI-S class	Operation status values that would trigger alert conditions
Controller	HP_Controller	Down, Not Installed, OK
Hard Disk Drive	HP_DiskDrive	Unknown, Missing, Error, Degraded, OK
Fan	HP_PSUFan	Error, Stopped, OK
Power Supply	HP_PSU	Unknown, Error, Other, Stressed, Degraded, OK
Temperature Sensor	HP_OverallTempSensor	Unknown, Other, Error, Non-Recoverable Error, Degraded, OK
Battery/SuperCap	HP_SuperCap	Unknown, Error, OK
FC Port	HP_FCPort	Stopped, OK
SAS Port	HP_SASTargetPort	Stopped, OK
ISCSI Port	HP_ISCSIEthernetPort	Stopped, OK

Resolving scrub errors

Certain conditions such as bad blocks in a disk, the failure of multiple disks at the same time, or an enclosure failure can cause the scrub utility to find a parity discrepancy error. Follow the directions below to recover from such events.

 **NOTE:** This procedure will not correct scrub errors caused by a failing or failed disk. This would typically be taken care of by letting vdisk reconstruction complete. Do not follow this procedure when reconstruction is running or needs to run. Let reconstruction complete before taking further action. Parity errors caused by a failing disk may be corrected by replacing the failed disk. Disks that have logged SMART events or Unrecoverable Read Errors may be candidates for replacement.

To resolve scrub issues

1. Ensure that the storage system's firmware version is one of the following or newer:
J200P39, J210P19, J300P20, M110R21, TS100
2. Ensure that the storage system's hardware is healthy and stable.
3. Create a full backup of all data in the vdisk. HP recommends enabling all available verification options. Use tools to verify the data integrity of the backup.
4. Correct any hardware issues. Failed or failing controllers, power supplies, I/O modules, or other components all contribute to causing scrub to log an error.
5. After completing the above steps, if parity errors continue to be reported, perform the procedure below.

To fix parity errors reported by the scrub utility

In this procedure you will use the CLI `verify vdisk` command with its `fix` parameter, hereafter referred to as "verify-fix." Verify-fix corrects parity based on the data in the stripe at the present time.

 **NOTE:**

- Verify-fix recalculates parity for the failed stripe.
 - Verify-fix does not compare parity to data.
 - If there is a problem with the data prior to running verify-fix it will make parity match the incorrect data.
 - Running verify-fix before checking data validity has the potential to correct the parity on bad data. Take extreme care to protect data before correcting the parity.
-

1. Complete the steps in [To resolve scrub issues](#) above.
2. Save the current logs from the storage system in a safe location:
 - a. Log in to the system's FTP interface.
 - b. Enter:

```
get logs file-name.zip
```
3. Disable background scrub:
 - a. Log in to the CLI.
 - b. Enter:

```
set job-parameters background-scrub off
```
4. Verify that scrub is not running on the affected vdisk. If scrub is running on the vdisk, either:
 - Wait for it to complete.
 - Manually abort the scrub by logging in to the CLI and entering:

```
abort scrub vdisk vdisk
```

5. Run verify-fix by entering:

```
verify vdisk vdisk fix yes
```

- When prompted for a pass code, enter: parity
- Wait 24 hours for this process to complete.

6. When verify-fix has completed, re-enable background scrub:

a. Log in to the CLI.

b. Enter:

```
set job-parameters background-scrub on
```

7. Create a full backup of all data in the vdisk. HP recommends enabling all available verification options. Compare with the original backup.

If errors occur during this procedure, or if the parity errors were not corrected or are seen again within a short period of time, place a call with HP support. To help expedite your case, provide logs gathered at the beginning of this procedure to HP support and a current copy of the logs.

