



**Hewlett Packard**  
Enterprise

# HPE MSA 2070/2072

## Alerts Reference Guide

### **Abstract**

This guide is for reference by storage administrators to help troubleshoot HPE MSA 2070/2072 storage system issues. It describes alert messages that may be reported during system operation and specifies any actions recommended in response to an alert.

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# 1 Introduction

This guide is for reference by storage administrators to help troubleshoot HPE MSA 2070/2072 storage system issues. It describes alert messages that may be reported during system operation and specifies any actions recommended in response to an alert.

This guide describes all alert conditions that exist as of publication.

For information about product features and terms, see the Storage Management Guide for your product.

## Alerts and alert messages

The storage system reports events and alerts. Events record system activity and may present health information. Alerts present system health and information about best practices.

When an alert occurs in a storage system, an alert message is displayed in the Storage Management Utility and, depending on the system's alert notification settings, may also be sent to users (using email), host-based applications (via SNMP), and syslog.



**TIP** A best practice is to enable notifications for alerts.

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

- **Critical:** A failure occurred that may affect data integrity or cause a controller to shut down. Correct the problem *immediately*.
- **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.
- **Unknown:** Cannot determine the health of the component and thus whether it's operational or not.

## Resources for diagnosing and resolving problems

For further information about diagnosing and resolving problems, see the troubleshooting chapter and the LED descriptions appendix in the Installation Guide for your product.

Product documents can be found at <https://www.hpe.com/info/msadocs>.

For product firmware, see <https://www.hpe.com/storage/msafirmware>.

For product downloads, see the Hewlett Packard Enterprise Support Center: <https://www.hpe.com/support/downloads>.

## 2 Alert reference

This section lists alert variants and their recommended actions. Alerts are listed in the following format.

- Alert code - Alert description
- Alert severity
- Alert message
- Recommended actions

### 0 - Healthy component

Informational

The component is healthy.

**Recommended action:**

- No action is required.

### 1 - Containing controller not present

Unknown

The controller that contains this subcomponent is not present.

**Recommended action:**

- No action is required.

### 2 - Containing controller down

Unknown

The controller that contains this subcomponent is not operational.

**Recommended action:**

- See the health information for the controller module that contains this component.

### 3 - Invalid network configuration

Warning

The network port is misconfigured or not configured.

**Recommended action:**

- Check that the network port (the management Ethernet port) has a valid IP address, subnet mask, and, if applicable, gateway IP address.
- Reconfigure the settings as needed.

## 4 - Network ping failed

### Warning

The network port failed to connect with the outside network. This could be due to a configuration error or a malfunctioning hardware component.

#### Recommended action:

- Check that the network port (the management Ethernet port) is properly connected to the network.
- If it is, restarting the Management Controller (MC) in the controller module that contains this port may resolve the problem.
- If not, check for network problems.
  - This fault may be caused by equipment outside of the storage system, such as faulty cabling or a faulty Ethernet switch.
  - If this fault is being reported by only one controller in a dual-controller system, swap the network-port Ethernet cables between the two controllers. This will show whether the problem is outside or inside the storage system.
  - If the problem is not outside of the storage system, replace the controller module with the faulty network port.

## 5 - Network cable unplugged

### Warning

The network port Ethernet cable is unplugged, or the network is inoperable.

#### Recommended action:

- Check that the network port (the management Ethernet port) is properly connected to the network.
- If it is, restarting the Management Controller (MC) in the controller module that contains this port may resolve the problem.
- If not, check for network problems.
  - This fault may be caused by equipment outside of the storage system, such as faulty cabling or a faulty Ethernet switch.
  - If this fault is being reported by only one controller in a dual-controller system, swap the network-port Ethernet cables between the two controllers. This will show whether the problem is outside or inside the storage system.
  - If the problem is not outside of the storage system, replace the controller module with the faulty network port.

## 6 - Network port state unknown

### Unknown

The network port health is unknown. It may be unhealthy.

#### Recommended action:

- Check in the event log for events related to this component and follow the recommended actions for those events.

## 7 - Incompatible SFP

### Critical

An unsupported SFP was detected. The SFP is not compatible with this system. You must use an SFP that is qualified for use in this system.

**Recommended action:**

- Validate the SFP is supported, and configure the protocol via the set host-port-mode command.

## 8 - Incompatible SFP protocol

Critical

The installed SFP does not match the configured protocol of this port.

**Recommended action:**

- Validate the SFP is supported, and configure the protocol via the set host-port-mode command.

## 9 - Unsupported SFP

Critical

An unsupported or faulty SFP was detected.

**Recommended action:**

- Validate the SFP is supported, and configure the protocol via the set host-port-mode command.

## 10 - Incorrect cable

Warning

The installed cable does not match the fan-out mode setting.

**Recommended action:**

- Change host port cable to match fan-out mode.
- When the cable is changed to match the fan-out setting, event 569 will be logged with Resolved severity.

## 11 - No host connected

Unknown

There is no active connection to this host port.

**Recommended action:**

- If this host port is intentionally unused, no action is required.
- Otherwise, use an appropriate interface cable to connect this host port to a switch or host.
- If a cable is connected, check the cable and the switch or host for problems.

## 12 - Host port degraded

Warning

The host port is degraded; it is only partially functional.

**Recommended action:**

- Check the cable between this host port and the connected switch or host, and replace the cable if necessary.
- If this does not correct the problem, check the connected switch or host for problems.

## 13 - Host port failed

Critical

The host port is inoperable; it is not receiving a signal from the host.

**Recommended action:**

- Check the cable between this host port and the connected switch or host, and replace the cable if necessary.
- If this does not correct the problem, check the connected switch or host for problems.

## 14 - Host port status unknown

Unknown

The host port health is unknown. It may be unhealthy.

**Recommended action:**

- Check in the event log for events related to this component and follow the recommended actions for those events.

## 15 - Expansion module missing or down

Critical

The expansion module is not present or not operational.

**Recommended action:**

- Install the missing expansion module.

## 16 - Expansion module status unknown

Unknown

The expansion-module health is unknown. It may be unhealthy.

**Recommended action:**

- Check in the event log for events related to this component and follow the recommended actions for those events.

## 17 - Expansion module firmware outdated

Warning

This expansion module has down-level firmware.

**Recommended action:**

- Update the firmware in this expansion module.

## 18 - FRU ID data not found

Warning

Unable to obtain FRU ID data for this FRU.

**Recommended action:**

- The FRU ID content was not read. This could be temporary or it may not be programmed correctly.
- If this persists, contact technical support.

## 19 - FRU ID data invalid

Warning

The FRU ID data is invalid for this FRU.

**Recommended action:**

- The FRU ID content may be corrupted or not programmed correctly. Contact technical support.

## 20 - Unwritable cache full

Warning

Over 50% of this controller's cache contains unwritable data.

**Recommended action:**

- Check in the event log for events related to this component and follow the recommended actions for those events.

## 21 - EC firmware incompatible

Warning

Expander Controller (EC) firmware is incompatible with the enclosure.

**Recommended action:**

- Upgrade the controller module to the latest supported bundle version.

## 22 - EC incompatible

Critical

The Expander Controller (EC) is incompatible with the enclosure.

**Recommended action:**

- Replace the controller module with the latest compatible version.

## 23 - Controller fenced

Critical

The controller has been fenced.

**Recommended action:**

- Shut down and replace the controller module.

## 24 - Controller down

Critical

The controller is not operational.

**Recommended action:**

- Restart the Storage Controller in this controller module, unless it is performing an operation where it is normal for it to be shut down, such as firmware update.

## 25 - Controller not present

Critical

The controller is not present.

**Recommended action:**

- Install the missing controller module.

## 26 - Controller status unknown

Unknown

The controller health is unknown. It may be unhealthy.

**Recommended action:**

- Check in the event log for events related to this component and follow the recommended actions for those events.

## 27 - EC in reset loop

Critical

The local Expander Controller (EC) detected a level of incompatibility with the Expander Controller (EC). This incompatibility could be due to unsupported hardware or firmware.

**Recommended action:**

- Remove the controller from the enclosure. Boot the controller module in single-controller mode in a separate enclosure (without the controller module that reported this event). Load the latest compatible version. If the bundle fails to load, replace the controller module.

## 28 - EC incompatible, controller down

Critical

The Expander Controller (EC) is incompatible with the enclosure. The controller is down.



**Recommended action:**

- Replace the controller module with the latest compatible version.

## 29 - EC in reset loop, controller down

**Critical**

The local Expander Controller (EC) detected a level of incompatibility with the Expander Controller (EC). This incompatibility could be due to unsupported hardware or firmware. The controller is down.

**Recommended action:**

- Remove the controller from the enclosure. Boot the controller module in single-controller mode in a separate enclosure (without the controller module that reported this event). Load the latest compatible version. If the bundle fails to load, replace the controller module.

## 30 - PCI lanes missing

**Warning**

One or more PCI lanes are missing. This will result in degraded performance.

**Recommended action:**

- Shut down and replace the controller module.

## 31 - PCIe bus degraded

**Warning**

An internal PCIe bus is degraded. The hardware bus is unable to use optimal speeds.

**Recommended action:**

- Shut down and replace the controller module.

## 32 - Coin battery failed

**Warning**

The coin battery in this controller module either is not present, is not properly seated, or has reached end-of-life.

**Recommended action:**

- Shut down and replace the controller module.

## 33 - Expansion port status unknown

**Unknown**

The expansion port health is unknown. It may be unhealthy.

**Recommended action:**

- Check in the event log for events related to this component and follow the recommended actions for those events.

## 34 - Expansion port degraded

Warning

The enclosure expansion port is degraded; some, but not all, of the PHY lanes can support activity.

**Recommended action:**

- Check that the SAS expansion cable for the indicated port is present, connected between the correct ports, and fully seated in its connectors with its latches locked. Replace any faulty cable.
  - Check that none of the PHYs have been manually disabled.
- If this does not correct the problem, check that the modules at the ends of the cable are fully seated in their slots with their latches locked and have good health. Replace any faulty controller module or expansion module.

## 35 - Drawer connection degraded

Warning

The connection to the drawer is degraded. One or more phys are not active.

**Recommended action:**

- The drawer is either disconnected or the connection is broken. Check the connections to the drawer.

## 36 - Expansion port failed

Critical

The enclosure expansion port is inoperable.

**Recommended action:**

- Check that the SAS expansion cable for the indicated port is present, connected between the correct ports, and fully seated in its connectors with its latches locked. Replace any faulty cable.
  - Check that none of the PHYs have been manually disabled.
- If this does not correct the problem, check that the modules at the ends of the cable are fully seated in their slots with their latches locked and have good health. Replace any faulty controller module or expansion module.

## 37 - Drawer connection failed

Critical

The connection to the drawer has failed.

**Recommended action:**

- The drawer is either disconnected or the connection is broken. Check the connections to the drawer.

## 38 - Enclosure not connected

Unknown

No drive enclosure is connected to this expansion port. This is normal if this is the last (or only) enclosure in the cabling sequence of the system.

**Recommended action:**

- No action is required.

## 39 - No ingress connection

Warning

There is no ingress connection detected.

**Recommended action:**

- Check that the SAS expansion cable for the indicated port is present, connected between the correct ports, and fully seated in its connectors with its latches locked. Replace any faulty cable.
  - Check that none of the PHYs have been manually disabled.
- If this does not correct the problem, check that the modules at the ends of the cable are fully seated in their slots with their latches locked and have good health. Replace any faulty controller module or expansion module.

## 40 - No ingress connection

Unknown

There is no ingress connection detected.

**Recommended action:**

- No action is required.

## 41 - Drawer not connected

Critical

The drawer is disconnected.

**Recommended action:**

- The drawer is either disconnected or the connection is broken. Check the connections to the drawer.

## 42 - Expansion port unavailable

Warning

The system is unable to communicate with the expander. This is normal during a reboot of the expander.

**Recommended action:**

- No action is required.

## 43 - Expansion port unavailable

Warning

The system is unable to communicate with the expander. This is normal during a reboot of the expander.

**Recommended action:**

- No action is required.

## 44 - Expansion port unavailable

Unknown

The system is unable to communicate with the expander. This is normal during a reboot of the expander.

**Recommended action:**

- No action is required.

## 45 - Drawer expanders unavailable

Critical

Expanders for drawer connections are not configured.

**Recommended action:**

- Check in the event log for events related to this component and follow the recommended actions for those events.

## 46 - Component not present

Critical

The component is not present.

**Recommended action:**

- Replace the indicated controller that contains this component.

## 47 - Memory card failure

Critical

The memory card has failed. Write-back cache has been disabled and the system has been put in write-through mode.

**Recommended action:**

- Replace the indicated controller that contains this component.

## 48 - Memory card state unknown

Unknown

The memory card health is unknown. It may be unhealthy.

**Recommended action:**

- Check in the event log for events related to this component and follow the recommended actions for those events.

## 49 - Containing PSU missing or down

Unknown

The power supply that contains this subcomponent is not present or not operational.

**Recommended action:**

- See the health information for the power supply that contains this component.

## 50 - Sensor unsupported

Unknown

The sensor is unsupported; it likely does not exist on this model of hardware.

**Recommended action:**

- No action is required.

## 51 - Under temperature warning

Warning

The temperature is below the normal operating range.

**Recommended action:**

- The enclosure operating range is 5°C to 40°C (41°F to 104°F). If the ambient temperature is not too cold, a temperature sensor in this FRU has probably failed. Replace this FRU.

## 52 - Under temperature critical

Critical

The temperature is below the critical low temperature value.

**Recommended action:**

- The enclosure operating range is 5°C to 40°C (41°F to 104°F). If the ambient temperature is not too cold, a temperature sensor in this FRU has probably failed. Replace this FRU.

## 53 - Over temperature warning

### Warning

The temperature is above the normal operating range.

#### Recommended action:

- Check that the storage system's fans are running.
- Check that the ambient temperature is not too warm. The enclosure operating range is 5°C to 40°C (41°F to 104°F).
- Check for any obstructions to the airflow.
- Check that there is a module or blank plate in every module slot in the enclosure.
- If none of the above explanations apply, replace the indicated FRU.

## 54 - Over temperature critical

### Critical

The temperature is above the critical high temperature value.

#### Recommended action:

- Check that the storage system's fans are running.
- Check that the ambient temperature is not too warm. The enclosure operating range is 5°C to 40°C (41°F to 104°F).
- Check for any obstructions to the airflow.
- Check that there is a module or blank plate in every module slot in the enclosure.
- If none of the above explanations apply, replace the indicated FRU.

## 55 - Under voltage warning

### Warning

The voltage is below the normal operating range for the indicated power-supply output voltage.

#### Recommended action:

- Replace the indicated FRU that contains this component.

## 56 - Under voltage critical

### Critical

The voltage is below the critical low voltage value for the indicated power-supply output voltage.

#### Recommended action:

- Replace the indicated FRU that contains this component.

## 57 - Over voltage warning

### Warning

The voltage is above the normal operating range for the indicated power-supply output voltage.

**Recommended action:**

- Replace the indicated FRU that contains this component.

## 58 - Over voltage critical

Critical

The voltage is above the critical high voltage value for the indicated power-supply output voltage.

**Recommended action:**

- Replace the indicated FRU that contains this component.

## 59 - Over current warning

Warning

The current is above the recommended high current value for the indicated power-supply output voltage.

**Recommended action:**

- Replace the indicated FRU that contains this component.

## 60 - Over current critical

Critical

The current is above the recommended high current value for the indicated power-supply output voltage.

**Recommended action:**

- Replace the indicated FRU that contains this component.

## 61 - Sensor not responding

Critical

Unable to communicate with the sensor.

**Recommended action:**

- Replace the indicated FRU that contains this component.

## 62 - Sensor state unknown

Unknown

The sensor's status is unknown or its value is unexpected. It may be unhealthy.

**Recommended action:**

- Check in the event log for events related to this component and follow the recommended actions for those events.

## 63 - Fan missing

Unknown

The fan is not installed.

**Recommended action:**

- Replace the indicated FRU that contains this component.

## 64 - Fan management device not responding

Warning

The enclosure management processor is unable to communicate with the fan management device on the enclosure midplane.

**Recommended action:**

- Replace the indicated FRU that contains this component.

## 65 - Fan not responding

Warning

Unable to communicate with the fan.

**Recommended action:**

- Replace the indicated FRU that contains this component.

## 66 - Fan failed

Critical

The fan has failed.

**Recommended action:**

- Replace the fan module.

## 67 - Fan speed failure

Critical

Fans are not operating at required speed.

**Recommended action:**

- Replace the indicated FRU that contains this component.



## 68 - FCM voltage failure

Critical

At least one of the Fan Control Module (FCM) output voltages has failed.

**Recommended action:**

- Replace the indicated FRU that contains this component.

## 69 - Fan management device voltage failure

Critical

The fan management device has detected a fan module voltage failure.

**Recommended action:**

- Replace the indicated FRU that contains this component.

## 70 - Fan off

Unknown

The fan has been powered down.

**Recommended action:**

- No action is required.

## 71 - Power supply not installed

Critical

The power supply is not present or not operational.

**Recommended action:**

- If the power supply is missing, insert a power supply of the correct type.
- If the power supply is present, confirm that it is fully inserted and locked in place.
- If the above steps do not resolve the issue, the power supply has probably failed and if the error persists, it should be replaced.

## 72 - Power supply not communicating

Warning

Unable to communicate with the power supply.

**Recommended action:**

- If the error persists, replace the power supply unit. Ensure that the power supply units are the same model or compatible models.

## 73 - Power supply unsupported

Warning

The power supply is not supported.

**Recommended action:**

- If the error persists, replace the power supply unit. Ensure that the power supply units are the same model or compatible models.

## 74 - Power supply not receiving power

Critical

The power supply is not receiving any input power.

**Recommended action:**

- Check that the power supply module has its switch turned on (if equipped with a switch) and the power cable is firmly plugged into both the power supply and a functional electrical outlet.
- If this does not resolve the problem and if the error persists, replace the power supply. Ensure that the power supply units are the same model or compatible models.

## 75 - Power supply not supplying power

Critical

The power supply is not supplying a DC voltage.

**Recommended action:**

- Check that the power supply module has its switch turned on (if equipped with a switch) and the power cable is firmly plugged into both the power supply and a functional electrical outlet.
- If this does not resolve the problem and if the error persists, replace the power supply. Ensure that the power supply units are the same model or compatible models.

## 76 - Power supply failure

Critical

The power supply has failed.

**Recommended action:**

- If the error persists, replace the power supply unit. Ensure that the power supply units are the same model or compatible models.

## 77 - Power supply over temperature failure

Critical

The power supply is reporting an over temperature failure.

**Recommended action:**

- Check that the storage system's fans are running.
- Check that the ambient temperature is not too warm. The enclosure operating range is 5°C to 40°C (41°F to 104°F).
- Check for any obstructions to the airflow.
- Check that there is a module or blank plate in every module slot in the enclosure.
- If none of the above explanations apply, replace the indicated FRU.

## 78 - Power supply over temperature warning

Warning

The power supply is reporting an over temperature warning.

**Recommended action:**

- Check that the storage system's fans are running.
- Check that the ambient temperature is not too warm. The enclosure operating range is 5°C to 40°C (41°F to 104°F).
- Check for any obstructions to the airflow.
- Check that there is a module or blank plate in every module slot in the enclosure.
- If none of the above explanations apply, replace the indicated FRU.

## 79 - Power supply firmware corrupt

Critical

The power supply is reporting corrupt firmware.

**Recommended action:**

- If the error persists, replace the power supply unit. Ensure that the power supply units are the same model or compatible models.

## 80 - Power supply bad, no reason

Warning

Status was reported but without enough information to determine a reason.

**Recommended action:**

- Check in the event log for events related to this component and follow the recommended actions for those events.

## 81 - Slot degraded

Warning

The disk in this slot or the midplane is degraded.

**Recommended action:**

- Look for an alert associated with the disk in this slot and follow that recommended action.
- If this does not resolve the problem, or no alert is present, then replace the disk with one of the same type (SSD, enterprise SAS, or midline SAS) and the same or greater capacity. For continued optimum I/O performance, the replacement disk should have performance that is the same as or better than the one it is replacing.
- If this does not resolve the problem, replace the chassis FRU.

## 82 - Slot failure

Critical

The disk in this slot or the midplane has a probable hardware failure.

**Recommended action:**

- Look for an alert associated with the disk in this slot and follow that recommended action.
- If this does not resolve the problem, or no alert is present, then replace the disk with one of the same type (SSD, enterprise SAS, or midline SAS) and the same or greater capacity. For continued optimum I/O performance, the replacement disk should have performance that is the same as or better than the one it is replacing.
- If this does not resolve the problem, replace the chassis FRU.

## 83 - Expander degraded

Warning

A fault is being reported for this expander.

**Recommended action:**

- Replace the indicated FRU that contains this component.

## 84 - Expander faulted

Critical

A fault is being reported for this expander.

**Recommended action:**

- Replace the indicated FRU that contains this component.

## 85 - Expander state unavailable

Warning

Status is currently unavailable for this expander.

**Recommended action:**

- No action is required.

## 86 - Expander state unknown

Unknown

An unexpected status has been reported for this expander.

**Recommended action:**

- Check in the event log for events related to this component and follow the recommended actions for those events.

## 87 - Drawer unpowered

Critical

The drawer has not powered up or has lost power, though power is on in the enclosure. The enclosure midplane may be bad.

**Recommended action:**

- Replace the chassis FRU.

## 88 - Drawer ECs powered down

Critical

All Expander Controllers (ECs) in the drawer have been powered down.

**Recommended action:**

- No action is required.

## 89 - Drawer power cable damaged

Critical

The drawer has not powered up or has lost power, though power is on in the enclosure. The drawer's power cable may be damaged or disconnected.

**Recommended action:**

- Check that the power cable is firmly plugged into the drawer and is not damaged.
- Replace any damaged cables.
- If reseating or replacing the cable does not correct the problem, replace the drawer.

## 90 - One drawer EC powered down

Critical

One Expander Controller (EC) in the drawer has not powered up or has lost power, though power is on in the enclosure. The drawer's power cable may be damaged or disconnected.

**Recommended action:**

- Check that the power cable is firmly plugged into the drawer and is not damaged.
- Replace any damaged cables.
- If reseating or replacing the cable does not correct the problem, replace the drawer.

## 91 - Drawer configuration failed

Critical

Configuration failed for both Expander Controllers (ECs) in the drawer.

**Recommended action:**

- Check that the data cable is firmly plugged into the drawer and is not damaged.
- Replace any damaged cables.
- If reseating or replacing the cable does not correct the problem, replace the drawer.

## 92 - Drawer EC configuration failed

Warning

Configuration failed for one Expander Controller (EC) in the drawer.

**Recommended action:**

- Check that the data cable is firmly plugged into the drawer and is not damaged.
- Replace any damaged cables.
- If reseating or replacing the cable does not correct the problem, replace the drawer.

## 93 - Drawer EC fault

Critical

An Expander Controller (EC) in the drawer has encountered an error.

**Recommended action:**

- Attempt to clear the drawer fault.
- If the problem persists, replace the drawer.

## 94 - Drawer EC powered down

Warning

One Expander Controller (EC) in the drawer has been powered down.

**Recommended action:**

- Contact technical support.

## 95 - Drawer not inserted

### Warning

The drawer is not fully inserted.

#### Recommended action:

- Check that the indicated drawer is fully inserted.

## 96 - Drawer not installed

### Unknown

The drawer is not physically present, or its SCSI cable is damaged or disconnected.

#### Recommended action:

- Check that a drawer is present.
- If a drawer is not present, install a drawer.
- If a drawer is installed, perform these steps:
  - Check that the SCSI cable is firmly plugged into the drawer and is not damaged.
  - Replace any damaged cables.
  - If reseating or replacing the cable does not correct the problem, replace the drawer.

## 97 - Drawer stopped

### Unknown

The drawer has been stopped. The drawer has powered down and may be safely removed.

#### Recommended action:

- Restart the drawer using the 'start drawer' command, or remove the drawer for replacement.

## 98 - Drawer configuration in process

### Unknown

The controller is configuring the drawer.

#### Recommended action:

- No action is required.

## 99 - Drawer ECs not communicating

### Critical

The Expander Controllers (ECs) associated with this drawer cannot communicate.

**Recommended action:**

- Reseat the I/O modules in that enclosure one at a time until the problem is resolved.
- If this does not correct the problem, replace the I/O modules in that enclosure one at a time until the problem is resolved.

## 100 - Enclosure error

Critical

The enclosure status is in an error state.

**Recommended action:**

- Check in the event log for events related to this component and follow the recommended actions for those events.

## 101 - Enclosure warning

Warning

The enclosure status is in a warning state.

**Recommended action:**

- Check in the event log for events related to this component and follow the recommended actions for those events.

## 102 - Peer connection not communicating

Critical

The peer connection is unavailable because communication cannot be established.

**Recommended action:**

- Check that appropriate interface cables are connected to the host ports defined in the peer connection.
- If cables are connected, check the cables and any network switches for problems.
- Otherwise, check the peer connection for invalid configuration.

## 103 - Peer connection undefined

Critical

The peer connection is not defined on the remote system.

**Recommended action:**

- Check that appropriate interface cables are connected to the host ports defined in the peer connection.
- If cables are connected, check the cables and any network switches for problems.
- Otherwise, check the peer connection for invalid configuration.

## 104 - Supercapacitor thermistor bad

Warning

The supercapacitor thermistor is bad.



**Recommended action:**

- Replace the indicated FRU that contains this component.

## 105 - Supercapacitor current too high

Warning

The supercapacitor charging current is too high.

**Recommended action:**

- Replace the indicated FRU that contains this component.

## 106 - Supercapacitor charging slowly

Warning

The supercapacitor is taking too long to charge.

**Recommended action:**

- Replace the indicated FRU that contains this component.

## 107 - Supercapacitor cell 1 charging voltage too high

Warning

The supercapacitor charging voltage is too high for cell 1.

**Recommended action:**

- Replace the indicated FRU that contains this component.

## 108 - Supercapacitor cell 2 charging voltage too high

Warning

The supercapacitor charging voltage is too high for cell 2.

**Recommended action:**

- Replace the indicated FRU that contains this component.

## 109 - Supercapacitor cell 3 charging voltage too high

Warning

The supercapacitor charging voltage is too high for cell 3.

**Recommended action:**

- Replace the indicated FRU that contains this component.

## 110 - Supercapacitor cell 4 charging voltage too high

Warning

The supercapacitor charging voltage is too high for cell 4.

**Recommended action:**

- Replace the indicated FRU that contains this component.

## 111 - Supercapacitor cell 1 voltage too high

Warning

The supercapacitor voltage is too high for cell 1.

**Recommended action:**

- Replace the indicated FRU that contains this component.

## 112 - Supercapacitor cell 2 voltage too high

Warning

The supercapacitor voltage is too high for cell 2.

**Recommended action:**

- Replace the indicated FRU that contains this component.

## 113 - Supercapacitor cell 3 voltage too high

Warning

The supercapacitor voltage is too high for cell 3.

**Recommended action:**

- Replace the indicated FRU that contains this component.

## 114 - Supercapacitor cell 4 voltage too high

Warning

The supercapacitor voltage is too high for cell 4.

**Recommended action:**

- Replace the indicated FRU that contains this component.

## 115 - Supercapacitor voltage too high

Warning

The supercapacitor voltage is too high.

**Recommended action:**

- Replace the indicated FRU that contains this component.

## 116 - Supercapacitor voltage too low

Warning

The supercapacitor voltage is too low.

**Recommended action:**

- Replace the indicated FRU that contains this component.

## 117 - Supercapacitor not installed

Warning

The supercapacitor pack is not installed.

**Recommended action:**

- Replace the indicated FRU that contains this component.

## 118 - Second supercapacitor not installed

Warning

The second supercapacitor pack is not installed.

**Recommended action:**

- Replace the indicated FRU that contains this component.

## 119 - Supercapacitor state unknown

Unknown

The supercapacitor health is unknown. It may be unhealthy.

**Recommended action:**

- Check in the event log for events related to this component and follow the recommended actions for those events.

## 120 - Drawer sideplane not installed

Critical

The drawer sideplane is not installed.

**Recommended action:**

- The enclosure must be replaced. Contact technical support.

## 121 - Drawer sideplane not powered

Warning

The drawer sideplane is not powered.

**Recommended action:**

- Replace the enclosure. Contact technical support.

## 122 - Drawer sideplane cable fault

Warning

A SAS cable fault was detected in the drawer sideplane.

**Recommended action:**

- Replace the enclosure. Contact technical support.

## 123 - Drawer sideplane fault

Warning

A general electronics fault was detected in the drawer sideplane.

**Recommended action:**

- Replace the enclosure. Contact technical support.

## 124 - Drawer sideplane unknown fault

Warning

An unknown drawer sideplane fault was detected.

**Recommended action:**

- Check in the event log for events related to this component and follow the recommended actions for those events.

## 125 - Drawer sideplane health unknown

Unknown

The drawer sideplane health is unknown. It may be unhealthy.

**Recommended action:**

- Check in the event log for events related to this component and follow the recommended actions for those events.

## 126 - Disk group failure, reconstructing

Warning

One disk in the RAID disk group failed; however, the disk group remains fault tolerant. Reconstruction has started.

**Recommended action:**

- Allow the reconstruction to complete before performing other maintenance operations on this disk group or data may be at risk.
- Replace the failed disk if this has not already been done.
- For MSA-DP+ disk groups, the disk will automatically be added to the disk group once reconstruction completes.
- For non-MSA-DP+ disk groups, configure the new disk as a spare so the system can use it in the future if another disk failure occurs. (Look for event 8 in the event log to determine which disk failed.)

## 127 - Disk group failure during initialization

**Warning**

One disk in the RAID disk group failed during disk-group initialization; however, the disk group remains fault tolerant.

**Recommended action:**

- If a spare disk is configured that can be used for reconstructing this disk group, reconstruction will begin automatically when initialization completes. Do the following:
  - Replace the failed disk. (Look for event 8 in the event log to determine which disk failed and for advice on replacing it.)
  - Configure the new disk as a spare so the system can use it in the future if another disk failure occurs.
- If no spare disk is configured that can be used for reconstructing this disk group, do the following:
  - Replace the failed disk. (Look for event 8 in the event log to determine which disk failed and for advice on replacing it.)
  - For MSA-DP+ disk groups, the disk will automatically be added to the disk group when initialization completes.
  - For non-MSA-DP+ disk groups, configure the new disk as a spare so the system can start reconstructing the disk group as soon as initialization completes.
  - To prevent this problem in the future, configure one or more additional disks as spare disks.

## 128 - Disk group failure, copy back in progress

**Warning**

One disk in the RAID disk group failed; however, the disk group remains fault tolerant. A copy back is in progress.

**Recommended action:**

- Allow the copy back to complete before performing other maintenance operations on this disk group or data may be at risk.

## 129 - Disk group failure, no spare

**Warning**

One disk in the RAID disk group failed; however, the disk group remains fault tolerant. Reconstruction cannot start because there is no spare disk available of the proper type and size, or because the MSA-DP+ disk group does not have enough spare space remaining to accommodate the reconstruct.

**Recommended action:**

- For non-MSA-DP+ disk groups, replace the disk with one of the same type (SSD, enterprise SAS, or midline SAS) and the same or greater capacity. For MSA-DP+ disk groups, replace the disk with one of the same type. For continued optimum I/O performance, the replacement disk should have performance that is the same as or better than the one it is replacing.
- For non-MSA-DP+ disk groups, configure the new disk as a spare so the system can start reconstructing the disk group.
- For MSA-DP+ disk groups, look for any alerts associated with the disk(s) in this disk group and follow those recommended actions.

## 130 - Disk group critical, reconstructing

**Warning**

The disk group is not fault tolerant. Reconstruction has started.

**Recommended action:**

- Allow the reconstruction to complete before performing other maintenance operations on this disk group or data may be at risk.
- Replace the failed disk if this has not already been done.
- For MSA-DP+ disk groups, the disk will automatically be added to the disk group once reconstruction completes.
- For non-MSA-DP+ disk groups, configure the new disk as a spare so the system can use it in the future if another disk failure occurs. (Look for event 8 in the event log to determine which disk failed.)

## 131 - Disk group critical, copy back in progress

**Warning**

The disk group is not fault tolerant. A copy back is in progress.

**Recommended action:**

- Allow the copy back to complete before performing other maintenance operations on this disk group or data may be at risk.

## 132 - Disk group critical, no spare

**Warning**

The disk group is not fault tolerant. Reconstruction cannot start because there is no spare disk available of the proper type and size.

**Recommended action:**

- For non-MSA-DP+ disk groups, replace the disk with one of the same type (SSD, enterprise SAS, or midline SAS) and the same or greater capacity. For MSA-DP+ disk groups, replace the disk with one of the same type. For continued optimum I/O performance, the replacement disk should have performance that is the same as or better than the one it is replacing.
- For non-MSA-DP+ disk groups, configure the new disk as a spare so the system can start reconstructing the disk group.
- For MSA-DP+ disk groups, look for any alerts associated with the disk(s) in this disk group and follow those recommended actions.

## 133 - Disk group offline

Critical

The disk group is offline. More disks failed than the number of parity disks present in the disk group. The disk group cannot be reconstructed.

**Recommended action:**

The CLI 'trust' command may be able to recover some of the data in the disk group. See the CLI help for the 'trust' command. Contact technical support for help to determine if the trust operation applies to your situation and for help to perform it.

- If you choose not to use the 'trust' command, perform these steps:
  - Replace the failed disk or disks. (Look for event 8 in the event log to determine which disks failed and for advice on replacing them.)
  - Delete the disk group (CLI 'remove disk-groups' command).
  - Re-create the disk group (CLI 'add disk-group' command).
- To prevent this problem in the future, use a fault-tolerant RAID level, configure one or more disks as spare disks, and replace failed disks promptly.

## 134 - Disk group quarantined

Critical

The disk group is quarantined.

**Recommended action:**

- Look for events in the event log related to quarantine (172, 485, or 590), and follow the recommended actions for those events.

## 135 - Disk group stopped

Unknown

The disk group is stopped.

**Recommended action:**

- No action is required.

## 136 - Disk group data format quarantine

Critical

The disk group is quarantined because it contains data in a format not supported by this system.

**Recommended action:**

- This controller does not support linear disk groups. Recover full support and manageability of the quarantined disk groups and volumes by replacing your controllers with controllers that support this type of disk group.
- If you are sure that the data on this disk group is not needed, simply remove the disk group, and thus the volumes, using the currently installed controllers.

## 137 - Disk group state unknown

Unknown

The disk group health is unknown. It may be unhealthy.

**Recommended action:**

- Check in the event log for events related to this component and follow the recommended actions for those events.

## 138 - Disk group MSA-DP+ capacity insufficient

Warning

The spare capacity available to the MSA-DP+ disk group is not sufficient to meet the required configured spare capacity that is needed to provide full fault tolerance. Spare capacity availability can be influenced by operations that require available space in the system, such as reconstructing data from a failed disk.

**Recommended action:**

- Replace any failed disks. Replaced disks will automatically be added to the disk group when reconstruction completes.
- If the target spare capacity was recently increased, expand the disk group to allow spare space to increase.

## 139 - Disk path A down

Warning

The data path to the disk is not redundant.

**Recommended action:**

- On the A path, check that all SAS expansion cables are present, connected between the correct ports, and fully seated in their connectors with their latches locked. Replace any faulty cable.
- If this does not correct the problem, check that all controller and expansion modules are present, fully seated in their slots with their latches locked, and have good health. Replace any faulty controller module or expansion module.

## 140 - SSD exhausted

Critical

The SSD has reached its end of life.

**Recommended action:**

- Replace the disk with a compatible disk with the same or greater capacity. For continued optimum I/O performance, the replacement disk should have performance that is the same as or better than the one it is replacing.

## 141 - Disk error threshold

Warning

The system determined that the indicated disk is degraded because it experienced a number of disk errors in excess of a configured threshold.



**Recommended action:**

- Monitor the disk.

## 142 - Disk spun down

Unknown

The disk has been spun down by the drive-spin-down feature.

**Recommended action:**

- No action is required.

## 143 - Disk downed by user

Warning

A user forced the disk out of the disk group.

**Recommended action:**

- If the associated disk group is offline or quarantined, contact technical support. Otherwise, clear the disk's metadata to reuse the disk.

## 144 - Disk leftover after reconstruction failed

Warning

Reconstruction of a disk group failed. This disk has become leftover.

**Recommended action:**

- If the associated disk group is online, clear the indicated disk's metadata so that the disk can be re-used.
- If the associated disk group is offline, the CLI 'trust' command may be able to recover some of the data in the disk group. However, trusting a partially reconstructed disk may lead to data corruption. See the CLI help for the 'trust' command. Contact technical support for help to determine if the trust operation applies to your situation and for help to perform it.
- If the associated disk group is offline and you do not want to use the 'trust' command, perform these steps:
  - Delete the disk group (CLI 'remove disk-groups' command).
  - Clear the indicated disk's metadata so the disk can be re-used (CLI 'clear disk-metadata' command).
  - Replace the failed disk or disks. (Look for other instances of event 8 in the event log to determine which disks failed.)
  - Re-create the disk group (CLI 'add disk-group' command).

## 145 - Disk leftover, invalid metadata

Warning

The disk may contain invalid metadata.

**Recommended action:**

- If the associated disk group is offline or quarantined, contact technical support. Otherwise, clear the disk's metadata to reuse the disk.

## 146 - Missing disk returned

Warning

A disk that was previously a member of a disk group has been detected.

**Recommended action:**

- If the associated disk group is offline or quarantined, contact technical support. Otherwise, clear the disk's metadata to reuse the disk.

## 147 - Disk excessive media errors

Critical

Excessive media errors.

**Recommended action:**

- Replace the disk with a compatible disk with the same or greater capacity. For continued optimum I/O performance, the replacement disk should have performance that is the same as or better than the one it is replacing.

## 148 - Disk failure imminent

Critical

Disk failure is imminent.

**Recommended action:**

- Replace the disk with a compatible disk with the same or greater capacity. For continued optimum I/O performance, the replacement disk should have performance that is the same as or better than the one it is replacing.

## 149 - Disk hardware failure

Critical

The disk has a probable hardware failure.

**Recommended action:**

- Replace the disk with a compatible disk with the same or greater capacity. For continued optimum I/O performance, the replacement disk should have performance that is the same as or better than the one it is replacing.

## 150 - Foreign secured disk

Warning

The disk is secured and locked.

**Recommended action:**

- Enable the FDE feature and secure the system with the same passphrase that was used to secure the disk.
- Remove the disk and replace with one which is not secured.
- Repurpose the disk. Repurpose will permanently delete all data on the disk.

## 151 - Disk not FDE-secured

Warning

Configuration error: non FDE disk is installed in an FDE secured system.

**Recommended action:**

- Remove the disk.
- The system is FDE secured but the disk is not FDE-capable.
- The disk is unusable in this configuration.
- Remove or replace the disk with an FDE-capable disk.

## 152 - Disk reported FDE protocol failure

Critical

Disk has reported an FDE related protocol failure. This could be an internal error or protocol incompatibility.

**Recommended action:**

- Replace the disk with a compatible disk with the same or greater capacity. For continued optimum I/O performance, the replacement disk should have performance that is the same as or better than the one it is replacing.

## 153 - Disk using alternate path

Warning

The disk is using the alternate path to avoid performance loss from excessive errors detected on the primary path.

**Recommended action:**

- Check that all SAS expansion cables are present, connected between the correct ports, and fully seated in their connectors with their latches locked. Replace any faulty cable.
- If this does not correct the problem, check that all controller and expansion modules are present, fully seated in their slots with their latches locked, and have good health. Replace any faulty controller module or expansion module.
- If this is limited to a single disk, it may require replacement.

## 154 - Disk failed online initialization

Warning

The disk failed RAID online initialization.

**Recommended action:**

- If the associated disk group is offline or quarantined, contact technical support. Otherwise, clear the disk's metadata to reuse the disk.

## 155 - Disk unsupported

Critical

The disk is not supported.

**Recommended action:**

- Replace the disk with a supported disk with the same or greater capacity. For continued optimum I/O performance, the replacement disk should have performance that is the same as or better than the one it is replacing.

## 156 - Disk Protection Information error

Critical

The disk failed due to a T10 Protection Information error.

**Recommended action:**

- Replace the disk with a compatible disk with the same or greater capacity. For continued optimum I/O performance, the replacement disk should have performance that is the same as or better than the one it is replacing.

## 157 - Disk experienced too many recoverable errors

Warning

The disk has become leftover because too many controller-recoverable errors occurred.

**Recommended action:**

- If the associated disk group is offline or quarantined, contact technical support. Otherwise, replace the disk.

## 158 - Disk leftover unexpected

Warning

The disk may contain invalid metadata.

**Recommended action:**

- If the associated disk group is offline or quarantined, contact technical support. Otherwise, clear the disk's metadata to reuse the disk.

## 159 - Disk not secured

Warning

Disk is currently is unsecured. System is secured so disk should be secured as well.

**Recommended action:**

- The system is FDE secured but the disk is unsecured.
- This state should be temporary because the system should automatically secure the disk. If it persists the disk should be replaced.

## 160 - SSD nearing end of life

Warning

The SSD is nearing its end of life.

**Recommended action:**

- Replace the disk with a compatible disk with the same or greater capacity. For continued optimum I/O performance, the replacement disk should have performance that is the same as or better than the one it is replacing.

## 161 - Excessive disk errors

Critical

The disk has been failed due to excessive disk errors.

**Recommended action:**

- Replace the disk with a compatible disk with the same or greater capacity. For continued optimum I/O performance, the replacement disk should have performance that is the same as or better than the one it is replacing.

## 162 - Disk B path down

Warning

The data path to the disk is not redundant.

**Recommended action:**

- On the B path, check that all SAS expansion cables are present, connected between the correct ports, and fully seated in their connectors with their latches locked. Replace any faulty cable.
- If this does not correct the problem, check that all controller and expansion modules are present, fully seated in their slots with their latches locked, and have good health. Replace any faulty controller module or expansion module.

## 163 - Foreign disk secured

Warning

The disk is secured and locked.

**Recommended action:**

- Remove, repurpose or import the disk.
- The disk is in a secured and locked state while the system is currently FDE secured.

- This could result from inserting this disk from a different system that was FDE secured. If the disk was inserted unintentionally then removing it is the proper action.
- Repurposing the disk will erase all data on the disk and allow the disk be automatically incorporated and secured in this system.
- Importing the disk will keep its data intact and allow the disk be automatically incorporated and secured in this system.

## 164 - Foreign disk secured and locked

Warning

The disk is secured and locked.

### Recommended action:

- The system is FDE secured and locked and requires a key to unlock.
- The disk will remain in a secured and locked state until the system is unlocked.
- If the disk remains in a locked state after unlocking the system, then the disk must be removed, repurposed or imported. This could result from inserting this disk from a different system that was FDE secured. If the disk was inserted unintentionally then removing it is the proper action.
- Repurposing the disk will erase all data on the disk and allow the disk be automatically incorporated and secured in this system.
- Importing the disk will keep its data intact and allow the disk be automatically incorporated and secured in this system.

## 165 - Disk invalid state

Warning

Invalid disk state was reported.

### Recommended action:

- Check in the event log for events related to this component and follow the recommended actions for those events.

## 166 - Disk or midplane hardware failure

Critical

The disk in this slot or the midplane has a probable hardware failure.

### Recommended action:

- Look for an alert associated with the disk in this slot and follow that recommended action.
- If this does not resolve the problem, or no alert is present, then replace the disk with one of the same type (SSD, enterprise SAS, or midline SAS) and the same or greater capacity. For continued optimum I/O performance, the replacement disk should have performance that is the same as or better than the one it is replacing.
- If this does not resolve the problem, replace the chassis FRU.

## 167 - Disk unsupported block size

Critical

The disk is not supported. The disk block size is inconsistent with the system setting.

**Recommended action:**

- Replace the disk with a disk that supports the configured block size of the system.

## 168 - Disk unsupported vendor

Critical

The disk is not supported. The disk vendor is not supported by this system.

**Recommended action:**

- Replace the disk with a disk that is supported by your system vendor.

## 169 - Disk leftover, timeout

Warning

The disk has become leftover due to a timeout caused by disk degradation.

**Recommended action:**

- If the associated disk group is offline or quarantined, contact technical support. Otherwise, replace the disk.

## 170 - Disk failed, performance

Critical

The disk has been failed due to a configured performance threshold.

**Recommended action:**

- Replace the disk with a compatible disk with the same or greater capacity. For continued optimum I/O performance, the replacement disk should have performance that is the same as or better than the one it is replacing.

## 171 - Disk degraded, performance

Warning

The disk has been degraded due to a configured performance threshold.

**Recommended action:**

- Monitor the disk.

## 172 - Disk pending reconstruct

Warning

The disk is degraded due to a pending or active preemptive reconstruct operation.

**Recommended action:**

- Monitor the disk.

## 173 - Drive regeneration in progress

### Warning

The drive has experienced a head failure and is undergoing a regeneration and subsequent format. Available spare space may be affected by the regeneration.

#### Recommended action:

- When reformatting of the regeneration drive is complete the drive will automatically be placed back into service.

## 174 - Drive regeneration unsuccessful

### Critical

The drive has a head failure and the regeneration process was not successful.

#### Recommended action:

- Replace the disk with a healthy disk.

## 175 - Virtual pool missing disks

### Warning

The virtual pool is missing disks.

#### Recommended action:

- Ensure that spare disks are available. Reconstruction should start automatically.
- When the reconstruction is complete, replace the failed disk(s). (Look for event 8 in the event log to determine which disk(s) failed.)
- Disk groups that cannot find compatible spares will automatically move data to fault-tolerant components.

## 176 - Virtual disk group missing disks

### Warning

A virtual disk group is missing one or more disks.

#### Recommended action:

- Ensure that spare disks are available. Reconstruction should start automatically.
- When the reconstruction is complete, replace the failed disk(s). (Look for event 8 in the event log to determine which disk(s) failed.)
- Disk groups that cannot find compatible spares will automatically move data to fault-tolerant components.

## 177 - Virtual disk group minimum disks

### Warning

A virtual disk group is at its minimum number of disks.



**Recommended action:**

- Ensure that spare disks are available. Reconstruction should start automatically.
- When the reconstruction is complete, replace the failed disk(s). (Look for event 8 in the event log to determine which disk(s) failed.)
- Disk groups that cannot find compatible spares will automatically move data to fault-tolerant components.

## 178 - Virtual pool missing Read Cache

Warning

The virtual pool is missing a Read Cache disk group.

**Recommended action:**

- Replace the failed Read Cache disk group. (Look for event 8 in the event log to determine which disk group failed.)

## 179 - Virtual pool high threshold exceeded

Warning

The virtual pool space high threshold has been exceeded.

**Recommended action:**

- Add a disk group, or remove data from the pool to reduce the space usage below the high threshold. Do not shut down or remove the controller modules until space usage is below the high threshold.

## 180 - Virtual pool space limit reached

Warning

The virtual pool space limit has been reached. The pool is full.

**Recommended action:**

- Add a disk group, or remove data from the pool to reduce the space usage below the high threshold. Do not shut down or remove the controller modules until space usage is below the high threshold.

## 181 - Virtual pool degraded for unknown reason

Warning

Degraded pool reported with unknown reason.

**Recommended action:**

- Check in the event log for events related to this component and follow the recommended actions for those events.

## 182 - Virtual disk group missing

Critical

The virtual pool is offline. At least one virtual disk group component is offline.

**Recommended action:**

- Bring the missing virtual disk group back online.

## 183 - Virtual disk group metadata unreadable

Critical

The virtual pool is read only. Pool metadata could not be read from a virtual disk group.

**Recommended action:**

- Contact technical support to recover data. Data may need to be recovered from backup copies.

## 184 - Virtual pool TLPT error

Critical

The virtual pool is offline due to unreadable metadata (TLPT error) .

**Recommended action:**

- Contact technical support to recover data. Data may need to be recovered from backup copies.

## 185 - Virtual pool BLPT error

Critical

The virtual pool is offline due to unreadable metadata (BLPT error) .

**Recommended action:**

- Contact technical support to recover data. Data may need to be recovered from backup copies.

## 186 - Virtual pool offline due to inconsistent metadata

Critical

The virtual pool is offline due to inconsistent metadata.

**Recommended action:**

- Contact technical support to recover data. Data may need to be recovered from backup copies.

## 187 - Virtual pool directory metadata corrupted

Critical

The virtual pool is offline because directory metadata was unreadable.

**Recommended action:**

- Contact technical support to recover data. Data may need to be recovered from backup copies.

## 188 - Virtual pool duplicate name

Critical

The virtual pool is offline. More than one pool with the same name was detected for this controller.

**Recommended action:**

- If the system finds more than one virtual pool of the same name, it will automatically take one pool offline. Resolve this issue by identifying the serial number of the undesired pool and deleting it by using the CLI 'delete pools' command. If no duplicate names are identified, download the debug logs from your storage system and contact technical support. A service technician can use the debug logs to determine the problem.

## 189 - All virtual pool disk groups missing

Critical

The virtual pool is offline because all component virtual disk groups are missing.

**Recommended action:**

- Reconnect missing disks or enclosures.

## 190 - Virtual pool exceeded snapshot limit

Critical

The virtual pool is offline because metadata indicated more snapshots exist than can be managed.

**Recommended action:**

- Change the operating mode to disable large pools.

## 191 - Virtual pool is too large

Critical

The virtual pool is too large.

**Recommended action:**

- Change the operating mode to enable large pools.

## 192 - Pool recovered but still offline

Critical

The virtual disk groups have recovered but the pool is offline.

**Recommended action:**

- Restart the Storage Controller to bring the virtual pool online.
- If the virtual pool remains offline, contact technical support.

## 193 - Pool offline, unknown reason

Critical

Offline pool reported with unknown reason.

**Recommended action:**

- Check in the event log for events related to this component and follow the recommended actions for those events.

## 194 - Unexpected pool health reported

Unknown

Unexpected pool health reported.

**Recommended action:**

- Check in the event log for events related to this component and follow the recommended actions for those events.

## 195 - Incompatible firmware in IOMs

Warning

Incompatible IOM firmware detected (both IOMs) .

**Recommended action:**

- Load a valid firmware bundle.

## 196 - IOM A firmware incompatible

Warning

Incompatible IOM firmware detected (IOM A) .

**Recommended action:**

- Load a valid firmware bundle.

## 197 - IOM B firmware incompatible

Warning

Incompatible IOM firmware detected (IOM B) .

**Recommended action:**

- Load a valid firmware bundle.

## 198 - Enclosure unsupported

Critical

The specified enclosure is not supported.

**Recommended action:**

- Either load the latest firmware bundle or remove or replace the specified enclosure.

## 199 - Midplane health unknown

Unknown

Unable to obtain midplane health.

**Recommended action:**

- Check in the event log for events related to this component and follow the recommended actions for those events.

## 200 - Midplane I2C failure

Warning

The midplane has experienced an I2C failure.

**Recommended action:**

- Contact technical support.

## 201 - Midplane I2C critical

Critical

The midplane has experienced an I2C failure.

**Recommended action:**

- Replace the chassis FRU.

## 202 - Midplane SGPIO bus failure

Warning

A midplane SGPIO bus failure was detected.

**Recommended action:**

- Contact technical support.

## 203 - Midplane SGPIO critical

Critical

A midplane SGPIO bus failure was detected.

**Recommended action:**

- Contact technical support.

## 204 - Midplane VPD read failure

Warning

A midplane VPD read has failed on both VPD EEPROM copies.

**Recommended action:**

- Contact technical support.

## 205 - Midplane VPD read critical failure

Critical

A midplane VPD read has failed on both VPD EEPROM copies.

**Recommended action:**

- Replace the chassis FRU.

## 206 - Midplane VPD mismatch

Warning

A midplane VPD mismatch was detected. VPD copies do not match.

**Recommended action:**

- Contact technical support.

## 207 - Midplane VPD critical mismatch

Critical

A midplane VPD mismatch was detected. VPD copies do not match.

**Recommended action:**

- Replace the chassis FRU.

## 208 - Midplane EXP link failure

Warning

A midplane EXP link failure was detected.

**Recommended action:**

- Contact technical support.

## 209 - Midplane EXP link critical failure

Critical

A midplane EXP link failure was detected.

**Recommended action:**

- Replace the chassis FRU.

## 210 - Midplane BMC link failure

Warning

A midplane BMC link failure was detected.

**Recommended action:**

- Contact technical support.

## 211 - Midplane BMC Link critical failure

Critical

A midplane BMC link failure was detected.

**Recommended action:**

- Replace the chassis FRU.

## 212 - Fan module not installed

Critical

The fan module is not installed.

**Recommended action:**

- Install the missing fan module.

## 213 - Fan module health unknown

Unknown

Received invalid status received from this component.

**Recommended action:**

- Check in the event log for events related to this component and follow the recommended actions for those events.

## 214 - Virtual pool exceeded high metadata threshold

Warning

A virtual pool exceeded the high metadata threshold.

**Recommended action:**

- Remove volumes or snapshots within this pool that consume excess metadata.
- Look at the volume details to determine which volumes are using the most metadata resources within the pool.

## 215 - Virtual pool exceeded metadata limit

Warning

A virtual pool reached its metadata usage limit.

**Recommended action:**

- Remove volumes or snapshots within this pool that consume excess metadata.
- Look at the volume details to determine which volumes are using the most metadata resources within the pool.

## 216 - Insecure protocol enabled

Informational

At least one insecure protocol is enabled.

**Recommended action:**

- Disable all insecure protocols (telnet, ftp, http, and debug) if they are not needed in your network environment.

## 217 - Unmapped initiator detected

Informational

At least one host discovered by the system is not currently attached to a volume.

**Recommended action:**

- Attach the host to storage by mapping it to one or more volumes.

## 218 - Volume map inaccessible

Informational

A volume no longer has access to a mapped host through any physical port.

**Recommended action:**

- Check the cable between this host port and the connected switch or host, and replace the cable if necessary.
- If this does not correct the problem, check the connected switch or host for problems.

## 219 - Virtual pool usage threshold

Informational

A virtual pool exceeded one of its thresholds for allocated pages.

**Recommended action:**

- No action is required for the low and mid thresholds. However, you may want to determine if your storage usage is growing at a rate that will result in the high threshold being crossed in the near future. If this will occur, either take steps to reduce storage usage or purchase additional capacity.
- If the high threshold is crossed, you should promptly take steps to reduce storage usage or add capacity.



## 220 - Overcommitted virtual pool usage threshold

### Warning

A virtual pool exceeded its threshold for allocated pages, and the virtual pool is overcommitted.

### Recommended action:

- You should immediately take steps to reduce storage usage or add capacity.

## 221 - Virtual pool storage limit

### Warning

A virtual pool reached its storage limit.

### Recommended action:

- You should immediately take steps to reduce storage usage or add capacity.

## 222 - Firmware bundle install incomplete

### Warning

The bundle install is incomplete.

### Recommended action:

- Retry firmware or contact support

## 223 - Firmware bundle incompatible

### Critical

The bundle is incompatible with the system.

### Recommended action:

- Make sure the firmware file you are uploaded is valid for this system and retry the upload.

## 224 - Bundle install not synced with partner

### Warning

The bundle install is not synced with other controller.

### Recommended action:

- Make sure the same firmware is present on both controllers. If PFU is disabled, enable PFU.

## 225 - System unable to connect to update server

### Informational

The system was unable to connect to or parse information from the update server.

**Recommended action:**

- Check the connection with the update server. Verify the information for the URL, proxy, and DNS settings.

## 226 - Disk updates available

Informational

Disk updates are available from the update server.

**Recommended action:**

- View the available disk updates and upgrade to the latest firmware.

## 227 - Firmware update available

Informational

A firmware update is available from the update server.

**Recommended action:**

- Download and activate the recommended firmware version.

## 228 - Supercapacitor pack capacity too low

Warning

The supercapacitor pack capacity is too low.

**Recommended action:**

- Replace the indicated FRU that contains this component.

## 229 - Virtual pool reference error

Warning

A virtual pool detected a reference error.

**Recommended action:**

- Contact technical support to recover data. Data may need to be recovered from backup copies.

## 230 - Virtual pool bookkeeping error

Warning

A virtual pool detected a bookkeeping error.

**Recommended action:**

- Contact technical support to recover data. Data may need to be recovered from backup copies.

## 231 - Virtual pool journal error

Warning

A virtual pool detected a journal error.

**Recommended action:**

- Contact technical support to recover data. Data may need to be recovered from backup copies.

## 232 - Virtual pool unsupported metadata format

Warning

A virtual pool has an unsupported metadata format.

**Recommended action:**

- Contact technical support to recover data. Data may need to be recovered from backup copies.

## 233 - Virtual pool failed Read Cache

Warning

A virtual pool has a failed Read Cache.

**Recommended action:**

- Remove the failed Read Cache disk group. Replace any failed disks that may have caused the problem. Add a new Read Cache disk group.

## 234 - Virtual pool metadata volume offline

Critical

A virtual pool is offline because a metadata volume is unreadable or missing.

**Recommended action:**

- Contact technical support to recover data. Data may need to be recovered from backup copies.

## 235 - Virtual pool in salvage mode

Warning

A virtual pool is in salvage mode.

**Recommended action:**

- Contact technical support to recover data. Data may need to be recovered from backup copies.

## 236 - Salvaged virtual pool corrupted

Critical

A virtual pool was in salvage mode, but still appears to be corrupted.

**Recommended action:**

- Contact technical support to recover data. Data may need to be recovered from backup copies.

## 237 - SPEAR trust enabled

Informational

Stripe Parity Error Assessment on Read (SPEAR) trust is currently enabled. Corrupt data might be read from this disk group.

**Recommended action:**

- SPEAR should be enabled (be in strict or basic mode) to get SPEAR data integrity protection.

## 238 - Disk erase in progress

Warning

The disk is undergoing an erase operation.

**Recommended action:**

- When disk erase operation is complete the disk will be ready to use.

## 239 - Supercapacitor pack not calibrated

Warning

The supercapacitor pack is not calibrated.

**Recommended action:**

- Replace the indicated FRU that contains this component.

## 240 - Baseplane status unavailable

Warning

Status is currently unavailable for this baseplane.

**Recommended action:**

- Check whether both expanders are removed from the baseplane. Install the missing expanders.

## 243 - Disk secured and locked

Informational

The disk is secured and locked.

**Recommended action:**

- Enable the FDE feature and secure the system with the same passphrase that was used to secure the disk.
- Remove the disk and replace with one which is not secured.

- Repurpose the disk. Repurpose will permanently delete all data on the disk.

## 246 - FDE state mismatch

Warning

The system FDE state disagrees with the disk FDE state.

**Recommended action:**

Power cycle the system, including all expansion enclosures.

## 250 - Disk under temperature warning

Warning

The disk temperature is below the normal operating range.

**Recommended action:**

- The enclosure operating range is 5°C to 40°C (41°F to 104°F). If the ambient temperature is not too cold, a temperature sensor in this FRU has probably failed. Replace this FRU.

## 251 - Disk under temperature critical

Critical

The disk temperature is below the critical low temperature value.

**Recommended action:**

- The enclosure operating range is 5°C to 40°C (41°F to 104°F). If the ambient temperature is not too cold, a temperature sensor in this FRU has probably failed. Replace this FRU.

## 252 - Quarantine data access recovery

Warning

The disk group is performing a quarantine data access recovery.

**Recommended action:**

- Wait for the quarantine data access recovery (QDAR) to complete, then verify the data. Data within bad LBA ranges will need to be rewritten from a backup.

## 253 - Failed to locate oldest unmapped snapshot

Warning

Failed to locate the oldest unmapped snapshot to perform a scheduled snapshot retention task.  
The task required at least one unused snapshot slot or one unmapped snapshot.

**Recommended action:**

- Either increase the retention count for the failing snapshot retention schedule, or unmap all the hosts for at least one snapshot for the snapshot retention schedule to replace and reset.
- The alerts will get resolved after one of the following conditions are satisfied:
  - The recommended action is performed and the next snapshot retention schedule task is executed.
  - All the schedules associated with the task have expired.
  - The snapshot retention task is deleted.

## 254 - Critical Firmware update available

**Warning**

A critical firmware update is available from the update server.

**Recommended action:**

- Download and activate the recommended firmware version.

## 256 - The configured DNS nameservers are not reachable.

**Warning**

The system was unable to connect using the DNS parameters for this controller.

**Recommended action:**

- Check that the network port has a valid IPv4 and/or IPv6 configuration.
- Check that the specified nameservers are correct.
- Check that any firewalls present are not blocking the DNS port (53).
- Check that the management controller can access the network in which the DNS server is located.
- Check that the proxy configuration is correct.
- Consult with your System Administrator or IT department.

## 258 - Performed data-safe regeneration on drive

**Informational**

The system performed a data-safe regeneration operation on this drive. Capacity is reduced by one or more heads.

**Recommended action:**

- The drive may be used normally in MSA-DP+ configurations, but will not be allowed in other RAID levels.

## 259 - Disk over temperature warning

**Warning**

The disk temperature is above the normal operating range.

**Recommended action:**

- Check that the storage system's fans are running.
- Check that the ambient temperature is not too warm. The enclosure operating range is 5°C to 40°C (41°F to 104°F).
- Check for any obstructions to the airflow.
- Check that there is a module or blank plate in every module slot in the enclosure.
- If none of the above explanations apply, replace the indicated FRU.

## 276 - Disk over temperature critical

Critical

The disk temperature is above the critical high temperature value.

**Recommended action:**

- Check that the storage system's fans are running.
- Check that the ambient temperature is not too warm. The enclosure operating range is 5°C to 40°C (41°F to 104°F).
- Check for any obstructions to the airflow.
- Check that there is a module or blank plate in every module slot in the enclosure.
- If none of the above explanations apply, replace the indicated FRU.

## 277 - Fan failed

Warning

The fan has failed.

**Recommended action:**

- Replace the fan module.

## 278 - Both fans failed

Critical

Both container fans failed. Controller shutdown is imminent.

**Recommended action:**

- Replace the fan module.

## 279 - Unsupported disk type/slot

Critical

The system configuration does not support the disk type or does not permit a disk to be installed in the indicated slot.

**Recommended action:**

- Check that the disk is compatible for this system configuration.
- If the disk is not compatible, replace it with a disk of the proper type.
- If the disk is compatible, it's installed in an improper slot; move it to a supported slot.

## 280 - Disk firmware update initiated

Informational

Disk firmware update process has initiated.

**Recommended action:**

- Do not power cycle or restart the system.

## 281 - Batch disk firmware update successful

Informational

Disk firmware update process has successfully updated disks in a batch.

**Recommended action:**

- Check in the event log for events related to this component and follow the recommended actions for those events.

## 282 - Batch disk firmware update failed

Informational

Disk firmware update process has failed to updated disks in a batch.

**Recommended action:**

- Check in the event log for events related to this component and follow the recommended actions for those events.

## 283 - Disk firmware update successful

Informational

Disk firmware update process has successfully updated all compatible disks.

**Recommended action:**

- No action is required.

## 284 - Disk firmware update failed

Informational

Disk firmware update process has failed to update all compatible disks.



**Recommended action:**

- Check that the uploaded disk firmware file is compatible with the disks in system.
- If this issue persists with compatible disk firmware, contact technical support.

## 286 - Large number of sessions

Unknown

An unusually large number of sessions exist on the controller.

**Recommended action:**

- Check the number of users on the system.
- Check whether any users have been given excessively large timeout values.
- Check whether all programmatic access to the system is being properly exited.

## 287 - Critical number of sessions

Unknown

A large, critical number of sessions exist on the controller.

**Recommended action:**

- Check the number of users on the system.
- Check whether any users have been given excessively large timeout values.
- Check whether all programmatic access to the system is being properly exited.

## 288 - Drive pending regeneration

Critical

The system needs to perform a regeneration operation on the drive, but that operation is pending while another regeneration operation is in progress.

**Recommended action:**

- Monitor the disk.

## 289 - MC Memory Exhaustion

Unknown

The Management Controller entered a memory exhaustion state and will reboot to recover. Data access will not be interrupted.

**Recommended action:**

- No action is required.

## 291 - Critical disk updates available

Warning

Critical disk updates are available from the update server.

**Recommended action:**

- View the available disk updates and upgrade to the latest firmware.

## 292 - The system is secured and locked.

Informational

The storage system has been power cycled and all SEDs are locked.

**Recommended action:**

- Provide the same FDE lock key in order to unsecure the system and allow access to user data.

## 293 - Foreign disk secured with volatile storage.

Warning

The disk is secured and locked.

**Recommended action:**

- Remove or repurpose the disk.
- The disk is in a secured and locked state while the system is currently FDE secured.
- This could result from inserting this disk from a different system that was FDE secured. If the disk was inserted unintentionally then removing it is the proper action.
- Repurposing the disk will erase all data on the disk and allow the disk be automatically incorporated and secured in this system.

## 294 - Foreign disk secured and locked with volatile storage

Warning

The disk is secured and locked.

**Recommended action:**

- The system is FDE secured and locked and requires a key to unlock.
- The disk will remain in a secured and locked state until the system is unlocked.
- If the disk remains in a locked state after unlocking the system, then the disk must be removed, repurposed or imported. This could result from inserting this disk from a different system that was FDE secured. If the disk was inserted unintentionally then removing it is the proper action.
- Repurposing the disk will erase all data on the disk and allow the disk be automatically incorporated and secured in this system.

## 295 - Internal network error.

### Warning

The system has encountered an internal network error.

### Recommended action:

- Use the CLI 'restart mc full both' command to recover.

## 3001 - MAS agent is not responding.

### Warning

The MC Auxiliary Service (MAS) agent is not responding.

### Recommended action:

- The service agent should be disabled and then enabled using 'set mas-service'. If that is not successful, remove and reload the service SFW bundle.

## 3002 - MAS agent has limited free disk space.

### Warning

The MC Auxiliary Service (MAS) agent is degraded due to the filesystem being out of free space.

### Recommended action:

- The service is running low on free file system space. Remove large files such as debug log files.

## 3003 - MAS agent has networking issues.

### Warning

The MC Auxiliary Service (MAS) agent is having communication issues with external network servers.

### Recommended action:

- The service is experiencing network connection issues. Review service details and retrieve service log files using SFTP/FTP.

## 3004 - MAS agent is in degraded state.

### Warning

The MC Auxiliary Service (MAS) agent is in degraded state. Check log files for additional information.

### Recommended action:

- Review service details by running 'show mas-services logs' to list service log files. Then retrieve log files by using SFTP/FTP.

## 3 Support and other resources

### Accessing Hewlett Packard Enterprise Support

- For live assistance, go to the Contact Hewlett Packard Enterprise Worldwide website:  
<https://www.hpe.com/info/assistance>
- To access documentation and support services, go to the Hewlett Packard Enterprise Support Center website:  
<https://www.hpe.com/support/hpesc>

#### Information to collect

- Technical support registration number (if applicable)
- Product name, model or version, and serial number
- Operating system name and version
- Firmware version
- Error messages
- Product-specific reports and logs
- Add-on products or components
- Third-party products or components

### Accessing updates

- Some software products provide a mechanism for accessing software updates through the product interface. Review your product documentation to identify the recommended software update method.
- To download product updates:

#### **Hewlett Packard Enterprise Support Center**


<https://www.hpe.com/support/hpesc>

#### **My HPE Software Center**

<https://www.hpe.com/software/hpesoftwarecenter>

- To subscribe to eNewsletters and alerts:  
<https://www.hpe.com/support/e-updates>
- To view and update your entitlements, and to link your contracts and warranties with your profile, go to the Hewlett Packard Enterprise Support Center **More Information on Access to Support Materials** page:  
<https://www.hpe.com/support/AccessToSupportMaterials>

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 **IMPORTANT** Access to some updates might require product entitlement when accessed through the Hewlett Packard Enterprise Support Center. You must have an HPE Account set up with relevant entitlements.

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## Remote support

Remote support is available with supported devices as part of your warranty or contractual support agreement. It provides intelligent event diagnosis, and automatic, secure submission of hardware event notifications to Hewlett Packard Enterprise, which initiates a fast and accurate resolution based on the service level of your product. Hewlett Packard Enterprise strongly recommends that you register your device for remote support.

If your product includes additional remote support details, use search to locate that information.

### HPE Get Connected

<https://www.hpe.com/services/getconnected>

### HPE Tech Care Service

<https://www.hpe.com/services/techcare>

### HPE Complete Care Service

<https://www.hpe.com/services/completecure>

## Warranty information

To view the warranty information for your product, see the [warranty check tool](#).

## Regulatory information

To view the regulatory information for your product, view the *Safety and Compliance Information for Server, Storage, Power, Networking, and Rack Products*, available at the Hewlett Packard Enterprise Support Center:

<https://www.hpe.com/support/Safety-Compliance-EnterpriseProducts>

### Additional regulatory information

Hewlett Packard Enterprise is committed to providing our customers with information about the chemical substances in our products as needed to comply with legal requirements such as REACH (Regulation EC No 1907/2006 of the European Parliament and the Council). A chemical information report for this product can be found at:

<https://www.hpe.com/info/reach>

For Hewlett Packard Enterprise product environmental and safety information and compliance data, including RoHS and REACH, see:

<https://www.hpe.com/info/ecodata>

For Hewlett Packard Enterprise environmental information, including company programs, product recycling, and energy efficiency, see:

<https://www.hpe.com/info/environment>

## Documentation feedback

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