



## **shm events**

### **ONTAP 9.13.1 EMS reference**

NetApp  
August 29, 2024

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# shm events

## shm.bypassed events

### shm.bypassed.disk.fail

#### Deprecated

Deprecated as of Data ONTAP 9.3 because bypass code has been removed.

#### Severity

ERROR

#### Description

This message occurs when the system recommends that a disk be failed because it has been bypassed.

#### Corrective Action

(None).

#### Syslog Message

shm: Disk %s has been recommended for failure due to being bypassed by the shelf.

#### Parameters

**diskName** (STRING): Name of the disk.

### shm.bypassed.disk.fail.disabled

#### Deprecated

Deprecated as of Data ONTAP 9.3 because bypass code has been removed.

#### Severity

ALERT

#### Description

This message occurs when three or more disks have been bypassed on a port.

#### Corrective Action

(None).

#### Syslog Message

shm: Disk bypass check has been disabled due to multiple bypassed disks on host bus adapter %s, shelf %d.

#### Parameters

**hba** (STRING): Name of the host bus adapter.

**shelf** (INT): Shelf ID.

### shm.bypassed.disk.fail.enabled

**Severity**

NOTICE

**Description**

This message occurs when the bypass disabled state is cleared.

**Corrective Action**

(None).

**Syslog Message**

shm: Disk bypass check has been enabled for host bus adapter %s.

**Parameters**

**hba** (STRING): Name of the host bus adapter.

## shm.disk events

### shm.disk.lostWriteError

**Severity**

ERROR

**Description**

This message occurs when the system detects a lost write error.

**Corrective Action**

(None).

**Syslog Message**

shm: Disk %s has detected and recovered from a lost write error; the system will fail the disk if possible.

**Parameters**

**diskName** (STRING): Name of the disk.

## shm.fab events

### shm.fab.writeError

**Severity**

NOTICE

**Description**

This message occurs when an error is received while writing the failure bytes.

**Corrective Action**

(None).

**Syslog Message**

shm: Unable to write failure bytes to disk %s due to error %x.

## Parameters

**diskName** (STRING): Name of the disk.  
**error\_code** (INTECH): Error code returned.

## shm.fab.writeSenseError

### Severity

NOTICE

### Description

This message occurs when an error is received while writing the failure bytes.

### Corrective Action

(None).

### Syslog Message

shm: Unable to write failure bytes to disk %s due to error %x/%x/%x/%x.

## Parameters

**diskName** (STRING): Name of the disk.  
**sense\_key** (INTECH): Actual sense key.  
**sense\_code** (INTECH): Actual sense code.  
**qualifier** (INTECH): Actual sense code qualifier.  
**fru\_failed** (INTECH): Actual FRU code.

## shm.failurebytes events

### shm.failureBytes.fullError

### Severity

NOTICE

### Description

This message occurs when writing the failure byte area returns an error due to being full.

### Corrective Action

(None).

### Syslog Message

shm: Disk %s failure area has reached capacity; to clear, reload drive firmware.

## Parameters

**diskName** (STRING): Name of the disk.

## shm.nvme events

### shm.NVME.critical.warning

**Severity**

ERROR

**Description**

This message occurs when the NVMe drive returns a critical warning to the health monitor.

**Corrective Action**

(None).

**Syslog Message**

Disk %s returned a critical warning 0x%x and will be recommended for failure.

**Parameters**

**disk\_name** (STRING): Name of the disk.

**warning\_code** (INTHEX): Warning code returned.

## shm.pullogwarning events

### shm.pullLogWarning

**Severity**

NOTICE

**Description**

This message occurs when the disk dongle requests the system to retrieve the error log.

**Corrective Action**

(None).

**Syslog Message**

shm: Disk %s has returned %d warnings and the log will be saved.

**Parameters**

**diskName** (STRING): Name of the disk.

**count** (INT): Count of warnings received.

## shm.reformat events

### shm.reformat.diskError

**Severity**

ERROR

**Description**

This message occurs when the system tries to reformat a disk, but an error is returned.

**Corrective Action**

(None).

### **Syslog Message**

shm: Unable to format disk %s as it is not supported.

### **Parameters**

**diskName** (STRING): Name of the disk.

## **shm.reformat.partnerDisk**

### **Severity**

NOTICE

### **Description**

This message occurs when the system detects a drive that started formatting during a sanitization, but did not finish.

### **Corrective Action**

Reboot the partner node to clear the formatting condition. Rerun the original sanitize operation.

### **Syslog Message**

shm: Disk %s on the partner has possibly not completed format. To reformat the disk, the partner must be rebooted.

### **Parameters**

**diskName** (STRING): Name of the disk.

## **shm.reformat.startMsg**

### **Severity**

NOTICE

### **Description**

This message occurs when the system has begun to reformat a disk that was not completed during sanitization.

### **Corrective Action**

(None).

### **Syslog Message**

shm: Disk %s is being reformatted due to an error during disk sanitize.

### **Parameters**

**diskName** (STRING): Name of the disk.

## **shm.ssd events**

### **shm.ssd.threshold.ioLatency**

### **Severity**

NOTICE

## Description

This message occurs when ONTAP® detects that a solid-state drive (SSD) has an average block latency during a five-minute timeframe that is greater than expected. ONTAP will continue to monitor the SSD latency and might fail the SSD if it exceeds latency thresholds.

## Corrective Action

(None).

## Syslog Message

SSD %s has exceeded the expected block latency in the current timeframe with an average latency of %d us and an average utilization of %d percent. The next highest SSD latency: %d us. %s

## Parameters

**disk\_name** (STRING): Name of the disk.

**latency\_avg** (INT): Average block latency in the current timeframe in microseconds (us).

**util\_avg** (INT): Average drive utilization percent in the current timeframe.

**next\_hi\_latency\_avg** (INT): Average block latency for the SSD with the next highest block latency in the current timeframe.

**disk\_information** (STRING): Formatted information about the disk. This includes the disk's vendor, model, firmware revision, and serial number.

# shm.threshold events

## shm.threshold.agrsvIOCount

### Deprecated

This event is removed as it is a test message not intended for customers.

### Severity

NOTICE

### Description

This message occurs when the system detects a disk that exceeds the threshold count of high aggressive IO latencies.

### Corrective Action

(None).

### Syslog Message

Disk %s has exceeded %d IOs which have latencies greater than the threshold.

### Parameters

**disk\_name** (STRING): Name of the disk.

**agrsv\_IO\_count** (INT): Count of aggressive timeout IOs.

## shm.threshold.allMediaErrors

### Severity

ERROR



**Description**

This message occurs when the system detect more than 25 medium and/or recovered errors in a 10-minute window.

**Corrective Action**

(None).

**Syslog Message**

shm: Disk %s has crossed the combination media error threshold in a 10 minute window.

**Parameters**

**diskName** (STRING): Name of the disk.

**shm.threshold.checksumErrors****Severity**

ERROR

**Description**

This message occurs when a disk exceeds the threshold of checksum errors on the same block.

**Corrective Action**

(None).

**Syslog Message**

shm: Disk %s has exceeded the threshold for checksum errors on the same block; the system will fail the disk.

**Parameters**

**diskName** (STRING): Name of the disk.

**shm.threshold.consecutiveAborts****Severity**

ERROR

**Description**

This message occurs when a disk exceeds the threshold of consecutive abort errors on one drive.

**Corrective Action**

(None).

**Syslog Message**

shm: Disk %s has exceeded the threshold of %d consecutive abort errors; the system will fail the disk if possible.

**Parameters**

**diskName** (STRING): Name of the disk.

**count** (INT): Count of errors.

## **shm.threshold.consecutiveTimeouts**

### **Severity**

ERROR

### **Description**

This message occurs when a disk exceeds the threshold of consecutive timeouts on one drive.

### **Corrective Action**

(None).

### **Syslog Message**

shm: Disk %s has exceeded the threshold of %d consecutive timeouts; the system will fail the disk if possible.

### **Parameters**

**diskName** (STRING): Name of the disk.

**count** (INT): Count of errors.

## **shm.threshold.disk.pcycle**

### **Severity**

ERROR

### **Description**

This message occurs when a disk exceeds the threshold of power-cycle error recovery tries.

### **Corrective Action**

(None).

### **Syslog Message**

shm: Disk %s has exceeded the threshold for power-cycle error recovery events; the system will fail the disk if possible.

### **Parameters**

**diskName** (STRING): Name of the disk.

## **shm.threshold.disk.poh**

### **Severity**

NOTICE

### **Description**

This message occurs when the storage system contains drives that exceed five years of cumulative power-on hours. This five-year period represents the expected reliable lifespan of the drive. The likelihood that a drive will fail increases significantly the longer the drive stays in use beyond its warranty period.

### **Corrective Action**

For additional guidance, search for Support Bulletin SU464 on the NetApp Support Site.

### **Syslog Message**

There are "%d" drives that have exceeded five years of life. To view them, use the "storage disk show -power-on-hours >=43800 -fields power-on-hours" command.

### **Parameters**

**count** (INT): Count of drives that have exceeded the five year threshold.

## **shm.threshold.highIOLatency**

### **Severity**

ERROR

### **Description**

This message occurs when the system detects a disk that has an average IO latency during the current window that is significantly greater than all other drives of the same class.

### **Corrective Action**

(None).

### **Syslog Message**

Disk %s exceeds the average IO latency threshold and will be recommended for failure.

### **Parameters**

**disk\_name** (STRING): Name of the disk.

## **shm.threshold.lipStormReset**

### **Severity**

ERROR

### **Description**

This message occurs when the system detects more than one instance of a disk resetting itself because of a large number of Loop Initialization Procedure requests (a LIP storm). The disk will be failed.

### **Corrective Action**

Replace the disk.

### **Syslog Message**

shm: The system has detected more than one LIP storm reset on disk %s.

### **Parameters**

**diskName** (STRING): Name of the disk.

## **shm.threshold.mediaErrorsLba**

### **Severity**

ERROR

### **Description**

This message occurs when the system detects more than three media (recovered or medium) errors on the same block.

**Corrective Action**

(None).

**Syslog Message**

shm: Disk %s has had multiple media errors on sector %llu.

**Parameters**

**diskName** (STRING): Name of the disk.

**block\_num** (LONGINT): Block number.

**shm.threshold.mediaErrorsReassign****Severity**

ERROR

**Description**

This message occurs when the system detects more than three medium and/or recovered errors in a 10-minute window on the same disk sector. The bad sector will be reassigned.

**Corrective Action**

(None).

**Syslog Message**

shm: Disk %s has had multiple media errors on the same sector in the last 10 minutes, and is reassigning the sector.

**Parameters**

**diskName** (STRING): Name of the disk.

**shm.threshold.mediumErrors****Severity**

ERROR

**Description**

This message occurs when the system detects more than 25 medium errors in a 10-minute window.

**Corrective Action**

(None).

**Syslog Message**

shm: Disk %s has crossed the medium error threshold in a 10 minute window.

**Parameters**

**diskName** (STRING): Name of the disk.

**shm.threshold.mediumErrors7days****Severity**

ERROR

## Description

This message occurs when the system detects more than 100 medium errors in a seven-day window.

## Corrective Action

(None).

## Syslog Message

shm: Disk %s has crossed the medium error threshold in a seven-day window.

## Parameters

**diskName** (STRING): Name of the disk.

## shm.threshold.ratedLife

### Severity

NOTICE

## Description

This message occurs when the rated life used by a solid state drive (SSD) exceeds 90%. When an SSD reaches 100% of rated life, it might not be able to retain data while powered off for long periods of time.

## Corrective Action

The number of weeks of rated life remaining indicated for each SSD is an estimate based on past usage. If the SSD is expected to remain in service beyond the estimated remaining time, initiate planning for SSD replacement when the rated life reaches 100%. Use the "storage disk show -ssd-wear" command to monitor the current rated life used by your SSDs.

## Syslog Message

shm: There are %d drives that have consumed at least 90 percent of their rated life: %s.

## Parameters

**count** (INT): Count of drives that have exceeded the threshold.

**disk\_names** (STRING): Name, percentage of rated life and estimated remaining time before reaching 100% rated life of each SSD that has exceeded the threshold.

## shm.threshold.ratedLife2

### Severity

ERROR

## Description

This message occurs when the rated life used by a solid state drive (SSD) exceeds 95%. When an SSD reaches 100% of rated life, it might not be able to retain data while powered off for long periods of time.

## Corrective Action

The number of weeks of rated life remaining indicated for each SSD is an estimate based on past usage. If the SSD is expected to remain in service beyond the estimated remaining time, initiate planning for SSD replacement when the rated life reaches 100%. Use the "storage disk show -ssd-wear" command to monitor the current rated life used by your SSDs.

## Syslog Message

shm: There are %d drives that have consumed at least 95 percent of their rated life: %s.

## Parameters

**count** (INT): Count of drives that have exceeded the threshold.

**disk\_names** (STRING): Name, percentage of rated life and estimated remaining time before reaching 100% rated life of each SSD that has exceeded the threshold.

## shm.threshold.ratedLifeMax

### Severity

ALERT

### Description

This message occurs when the rated life used value exceeds 100% on a solid state drive (SSD). When an SSD reaches 100% of rated life, it might not be able to retain data while powered off for long periods of time.

### Corrective Action

Replace the SSDs that have reached the end of their rated life.

## Syslog Message

shm: There are %d drives that have reached the end of their rated life: %s

## Parameters

**count** (INT): Count of drives that have exceeded the threshold.

**disk\_names** (STRING): Name and percentage of rated life of each SSD that has exceeded the threshold.

## shm.threshold.recoveredErrors

### Severity

ERROR

### Description

This message occurs when the system detects more than 25 recovered errors in a 10-minute window.

### Corrective Action

(None).

## Syslog Message

shm: Disk %s has crossed the recovered error threshold in a 10 minute window.

## Parameters

**diskName** (STRING): Name of the disk.

## shm.threshold.sensekey

### Severity

ERROR

## Description

This message occurs when a disk exceeds the threshold of a particular sense key error.

## Corrective Action

(None).

## Syslog Message

shm: Disk %s has exceeded the threshold for sense key %d errors; the system will fail the disk if possible.

## Parameters

**diskName** (STRING): Name of the disk.

**senseKey** (INT): Sense key value.

## shm.threshold.spareBlocksConsumed

### Severity

NOTICE

### Description

This message occurs when the spare blocks consumed value exceeds the first threshold on an SSD drive.

### Corrective Action

(None).

### Syslog Message

shm: There are %d disks that have consumed at least 60 percent of their use-based internal spare capacity.  
The affected disks are: %s.

### Parameters

**count** (INT): Count of disks which have exceeded the threshold.

**disk\_names** (STRING): Names of the disk drives.

## shm.threshold.spareBlocksConsumedMax

### Severity

NOTICE

### Description

This message occurs when the spare blocks consumed value exceeds the second threshold on an SSD drive.

### Corrective Action

(None).

### Syslog Message

shm: There are %d disks that have consumed at least 80 percent of their use-based internal spare capacity.  
The affected disks are: %s.

### Parameters

**count** (INT): Count of disks which have exceeded the second threshold.

**disk\_names** (STRING): Names of the disk drives.

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