disk events

ONTAP EMS reference

NetApp
November 18, 2025

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disk.adaptererror events

disk.adapterError

Severity

ALERT

Description

This message occurs when an adapter error is detected.

Corrective Action

(None).

Syslog Message

Disk %s: unexpected adapter error 0x%x

Parameters

diskName (STRING): Name of the device.
error (INTHEX): Adapter status.

disk.bdfu events

disk.bdfu.suspended

Severity

ERROR

Description

This message occurs when the background drive firmware update process fails to unlock SAS NetApp® Storage Encryption (NSE) drives in FIPS-compliance mode. The FIPS-certified SAS NSE drives must be unlocked with a valid authentication key before firmware can be downloaded to them. If the number of failed unlock attempts reaches a certain threshold, the drives will be locked out, leading to permanent loss of data in certain conditions. The system will automatically suspend the background drive firmware update for 12 hours, after which it is reenabled.

Corrective Action

Contact NetApp technical support for assistance with restoring valid authentication keys on the drive.

Syslog Message

Background drive firmware update is suspended because FIPS NSE drives cannot be unlocked. Reason: %s.

Parameters

suspend_reason (STRING): Reason for the drive unlock failure.

disk.capacity events

disk.capacity.changed

Severity

NOTICE

Description

This message occurs when a media size change is reported for the underlying storage device. The new size and previous size are measured in 4096-byte blocks.

Corrective Action

(None).

Syslog Message

A storage device reported a size change for device "%s". New size: %llu, previous size: %llu (4096-byte blocks).

Parameters

diskName (STRING): Name of the disk.
new_size (LONGINT): The new size measured in 4096-byte blocks.
previous_size (LONGINT): The previous size measured in 4096-byte blocks.

disk.checksum events

disk.checksum.offlineAdapter

Severity

ALERT

Description

This message occurs when multiple errors are detected during checksum verification. The adapter is taken offline.

Corrective Action

Replace the adapter. Contact Contact NetApp technical support. for assistance with a Return Material Authorization.

Syslog Message

Adapter %s taken offline due to checksum verification failure on multiple disks. Keep the adapter offline and contact Contact NetApp technical support. for assistance.

Parameters

adapterName (STRING): Name of the adapter.

disk.checksum.verifyFailed

Severity

ALERT

Description

This message occurs when disk checksum verify fails.

Corrective Action

(None).

Syslog Message

Disk level checksum verification failed on WRITE VERIFY: Disk %s, Block #%llu: Volume %s, FileId %d, Block #%llu

Parameters

diskName (STRING): Name of the device.
bno (LONGINT): block id
vol (STRING): Volume name.
fileid (INT): File ID.
block (LONGINT): File block ID.

disk.cksum events

disk.cksum.bno.verifyFailed

Severity

ALERT

Description

This message occurs when the system detects a block number mismatch during disk checksum verification. The expected Virtual Block Number (VBN)/Disk Block Number (DBN) is not the same as the stored VBN/DBN from the checksum entry, indicating that the block is read from the wrong location.

Corrective Action

(None).

Syslog Message

Block number mismatch on WRITE VERIFY: Disk %s, expected_dbn = %u, stored_dbn = %u, expected_vbn = %llu, stored_vbn = %llu, Volume %s, FileId %d, Block #%llu.

Parameters

diskName (STRING): Name of the device.
expected_dbn (INT): Expected physical disk block number.
stored_dbn (INT): Physical disk block number stored in the checksum entry.
expected_vbn (LONGINT): Expected volume block number.
stored_vbn (LONGINT): Volume block number stored in the checksum entry.
vol (STRING): Volume name.
fileid (INT): File ID.
block (LONGINT): File block ID.

disk.ddr events

disk.ddr.dqp.out.of.date

Severity

NOTICE

Description

This message occurs when the Dynamic Drive Recognition (DDR) Scanner detects a disk that is not part of its qualification table.

Corrective Action

Check your support provider’s web site or knowledgebase for more information about downloading and installing an updated Disk Qualification Package (DQP) file.

Syslog Message

The DDR Scanner has detected that the latest DQP is not present on this system.

Parameters

(None).

disk.ddr.invalid.azcs.capacity

Severity

ERROR

Description

This event is generated when the DDR Scanner detects a capacity value that does not match with the alias string associated with it.

Corrective Action

(None).

Syslog Message

The DDR Scanner has detected an invalid AZCS alias capacity on disk %s

Parameters

diskname (STRING): Name of the disk.
capacity_value (LONGINT): The value of the invalid capacity

disk.ddr.invalid.bcs.capacity

Severity

ERROR

Description

This event is generated when the DDR Scanner detects a capacity value that does not match with the alias string associated with it.

Corrective Action

(None).

Syslog Message

The DDR Scanner has detected an invalid BCS alias capacity on disk %s

Parameters

diskname (STRING): Name of the disk.
capacity_value (LONGINT): The value of the invalid capacity

disk.ddr.scanner.ddr.failure

Severity

NOTICE

Description

This event is issued when a the ddr scanner has failed to read the new DDR label it just placed on the disk.

Corrective Action

(None).

Syslog Message

Disk %s Shelf %s Bay %s [%s %s %s] S/N [%s] [%s]: DDR label verify Failure - DDR Error

Parameters

disk_name (STRING): The name of the disk
shelf (STRING): Shelf identifier where the disk is located
bay (STRING): Disk bay within the shelf where disk is located
vendor (STRING): Name of the vendor of the disk
model (STRING): Model string of the disk drive
firmware_revision (STRING): Firmware revision of the disk
serialno (STRING): Serial number of the disk
ddr_error (STRING): DDR Error string which has been parsed

disk.ddr.scanner.label.done

Severity

NOTICE

Description

This event is issued when a the ddr scanner has completed has completed scanning a disk successfully

Corrective Action

(None).

Syslog Message

Disk %s Shelf %s Bay %s [%s %s %s] S/N [%s] : DDR label write complete

Parameters

disk_name (STRING): The name of the disk
shelf (STRING): Shelf identifier where the disk is located
bay (STRING): Disk bay within the shelf where disk is located
vendor (STRING): Name of the vendor of the disk
model (STRING): Model string of the disk drive

firmware_revision (STRING): Firmware revision of the disk
serialno (STRING): Serial number of the disk

disk.ddr.scanner.verify.failure

Severity

NOTICE

Description

This event is issued when a the ddr scanner has failed to read the new DDR label it just placed on the disk.

Corrective Action

(None).

Syslog Message

Disk %s Shelf %s Bay %s [%s %s %s] S/N [%s] : DDR label verify Failure

Parameters

disk_name (STRING): The name of the disk
shelf (STRING): Shelf identifier where the disk is located
bay (STRING): Disk bay within the shelf where disk is located
vendor (STRING): Name of the vendor of the disk
model (STRING): Model string of the disk drive
firmware_revision (STRING): Firmware revision of the disk
serialno (STRING): Serial number of the disk

disk.ddr.scanner.write.failure

Severity

NOTICE

Description

This event is issued when a the ddr scanner has failed to write a new DDR label to the disk

Corrective Action

(None).

Syslog Message

Disk %s Shelf %s Bay %s [%s %s %s] S/N [%s] : DDR label write Failure

Parameters

disk_name (STRING): The name of the disk
shelf (STRING): Shelf identifier where the disk is located
bay (STRING): Disk bay within the shelf where disk is located
vendor (STRING): Name of the vendor of the disk
model (STRING): Model string of the disk drive
firmware_revision (STRING): Firmware revision of the disk
serialno (STRING): Serial number of the disk

disk.ddr.unable.add.disk

Severity

ALERT

Description

This event is generated when the DDR Scanner is unable to re-add a disk to the filer after trying for 2 minutes. This means there are no more spare disk_Cbs in the filer.

Corrective Action

(None).

Syslog Message

The filer has not freed a disk_Cb for over 2 mintues for %s.

Parameters

diskuid (STRING): The unique identifier of the disk

disk.diagnostic events

disk.diagnostic.logs.saved

Severity

NOTICE

Description

This message occurs when ONTAP retrieves the diagnostic logs from the disk. The logs are saved at /etc/log/drive_failure_logs/.

Corrective Action

(None).

Syslog Message

Diagnostic logs retrieved for disk "%s".

Parameters

diskName (STRING): Name of the disk.

disk.duplicate events

disk.duplicate.name

Severity

ERROR

Description

This message occurs when duplicate disk names are detected. This can be caused by corruption of the disk’s shelf id or bay number or failure to determine the stack id. There is no known impact to functional systems, but failure to correct this error may result in operations taken on the wrong disk and ambiguity where the disks are referenced.

Corrective Action

If any disk reports a shelf id or bay number not corresponding to its physical location, choose one of the following options: 1. Perform a takeover and giveback of the affected systems. 2. Remove the disk for at least 20 seconds, and then reinsert it. Note: If the disk is part of an aggregate, this option will result in a degraded RAID group and disk reconstruction will be initiated. Otherwise: 1. Verify cabling. 2. Contact NetApp technical support.

Syslog Message

Multiple disks detected with the same name %s. Disks: %s (%s).

Parameters

disk_name (STRING): Name of the disks.
disk_uid_list (STRING): UIDs of disks with the same name.
disk_serialno_list (STRING): Serial numbers of disks with the same name.

disk.dynamicqual events

disk.dynamicqual.fail.parse

Severity

ERROR

Description

This message occurs when dynamic device qualification fails due to an invalid /etc/qual_devices file. The system is unable to properly recognize disk drives or fully enable all resiliency and performance features.

Corrective Action

For further information about correcting the problem, search the knowledgebase of the NetApp technical support support web site for the "[disk.dynamicqual.fail.parse]" keyword. Request an updated qual_devices file from NetApp.

Syslog Message

Device qualification information file (/etc/qual_devices) is invalid. The following error, "%s" has been detected. For further information about correcting the problem, search the knowledgebase of the NetApp technical support support web site for the "[disk.dynamicqual.fail.parse]" keyword.

Parameters

errorstring (STRING): Error string for parsing error in /etc/qual_devices file.

disk.dynamicqual.failure.cleared

Severity

NOTICE

Description

This message occurs when a previous dynamic device qualification error has been corrected.

Corrective Action

(None).

Syslog Message

Device qualification failure condition has been corrected. All devices have been qualified.

Parameters

(None).

disk.dynamicqual.failure.invalidFile

Severity

ALERT

Description

This message occurs when dynamic device qualification fails due to an invalid /etc/qual_devices file.

Corrective Action

See the qual_devices man page for information about updating device qualification data. Request an updated qual_devices file from NetApp.

Syslog Message

Device qualification information file (/etc/qual_devices) is invalid. See the qual_devices man page for corrective action. This problem must be corrected within %d hour(s) to avoid a forced system shutdown. The following disk(s) remain unqualified: %s.

Parameters

time (INT): Time until forced shutdown.
disklist (STRING): List of disks that are still not qualified.

disk.dynamicqual.failure.missingFile

Severity

ALERT

Description

This message occurs when dynamic device qualification fails with a missing qualification file.

Corrective Action

See the qual_devices man page for information about updating device qualification data. Request a qual_devices file from NetApp.

Syslog Message

Device Qualification information file (/etc/qual_devices) is missing. See the qual_devices man page for corrective action. This problem must be corrected within %d hour(s) to avoid a forced system shutdown. The following disk(s) remain unqualified: %s.

Parameters

time (INT): Time until forced shutdown.
disklist (STRING): List of disks that are still not qualified.

disk.dynamicqual.failure.occurred

Severity

ALERT

Description

This message occurs when dynamic device qualification fails with an unknown error.

Corrective Action

See the qual_devices man page for information about updating device qualification data.

Syslog Message

Device qualification failure occurred. See the qual_devices man page for corrective action. This problem must be corrected within %d hour(s) to avoid a forced system shutdown. The following disk(s) remain unqualified: %s.

Parameters

time (INT): Time until forced shutdown.
disklist (STRING): List of disks that are still not qualified.

disk.dynamicqual.failure.shutdown

Severity

EMERGENCY

Description

This message occurs when one or more disks are not recognized by Data ONTAP®. This can result in a forced system shutdown if the offending disks are not removed or recognized properly within the allowed window of time.

Corrective Action

Download the latest Drive Qualification Package (DQP) from NetApp technical support, and then install it on your system.

Syslog Message

Device qualification failure has not been corrected for the past %d hour(s). The following disk(s) remain unqualified: %s. System is SHUTTING DOWN.

Parameters

time (INT): Time until forced shutdown.
disklist (STRING): List of disks that are still not qualified.

disk.encrypt events

disk.encrypt.destroy.complete

Severity

INFORMATIONAL

Description

This message occurs when the disk encrypt destroy operation is completed.

Corrective Action

(None).

Syslog Message

Disk %s [S/N %s] has completed encrypt destroy.

Parameters

diskName (STRING): Name of the device.
serialno (STRING): Serial number of the device.

disk.encrypt.range.check

Severity

ERROR

Description

This message occurs when ONTAP® software detects that the reported capacity of an encrypting drive is different from the protected range capacity of the drive.

Corrective Action

Contact NetApp technical support.

Syslog Message

Drive %s["%s"] - The protected range capacity (%llu) of this encrypting drive is different from its reported capacity (%llu).

Parameters

diskName (STRING): Name of the disk.
productID (STRING): Product name of the disk.
advertisedDriveCapacity (LONGINT): Capacity reported by the drive(in bytes).
protectedDriveCapacity (LONGINT): Protected capacity of the drive(in bytes), specifically the drive capacity that is protected using an authentication key.

disk.encrypt.revert.complete

Severity

NOTICE

Description

This message occurs when the disk encrypt revert operation is completed.

Corrective Action

(None).

Syslog Message

Disk %s [S/N %s] has completed encrypt revert.

Parameters

diskName (STRING): Name of the device.
serialno (STRING): Serial number of the device.

disk.encryptaccesserr events

disk.encryptAccessErr

Severity

ERROR

Description

This message occurs when a disk reports a data protection error, and ONTAP® cannot restore permission to access the data through storage encryption methods.

Corrective Action

If the disk is known to be an encrypting disk, then ONTAP might not have the correct storage encryption passphrase for this device. If possible, import the proper passphrase. If the passphrase cannot be recovered, or if the disk is not an encrypting disk, then all data on the disk is permanently inaccessible. You can return an encrypting disk to service as a spare through the use of the 'disk encrypt sanitize' command. If the device cannot be recovered, then it must be removed from the system.

Syslog Message

Unable to restore data access on encrypting disk %s; status %s (0x%x).

Parameters

diskName (STRING): Name of the disk.
status_string (STRING): Status code description.
status (INT): Status code from the SCSI driver.

disk.encryptaccessfwerr events

disk.encryptAccessFWErr

Severity

ERROR

Description

This message occurs when a disk reports a SCSI data protection error on an attempt to download firmware and ONTAP® cannot restore permission to access the firmware through storage encryption methods.

Corrective Action

If the disk is known to be an encrypting disk, then ONTAP might not have the correct storage encryption passphrase for this device. If possible, import the proper passphrase. If the passphrase cannot be recovered, or if the disk is not an encrypting disk, then the firmware cannot be downloaded. If the device cannot be recovered, then it must be removed from the system.

Syslog Message

Unable to restore firmware download access on encrypting disk %s; status %s (0x%x).

Parameters

diskName (STRING): Name of the disk.
status_string (STRING): Status code description from the SCSI driver.
status (INT): Status code from the SCSI driver.

disk.encryptcmdfailed events

disk.encryptCmdFailed

Severity

ERROR

Description

This message occurs when the indicated "storage encryption disk" command fails on an encrypting disk that supports storage encryption methods.

Corrective Action

Verify that storage encryption key servers, if required, are available and functioning, or that expected on-board keys are present.

Syslog Message

Encrypting disk %s failed disk encrypt %s command with error status %s (0x%x).

Parameters

disk (STRING): Name of the disk.
command (STRING): Storage encryption disk command.
error_string (STRING): Error status code description.
error (INT): Error status code.

disk.encryptfipspassphnosync events

disk.encryptFIPSPassphNoSync

Severity

NOTICE

Description

This message occurs when a system with NetApp® Storage Encryption (NSE) enabled detects that the authentication keys (AKs, or passphrases) for the internal FIPS-compliance authorities in a FIPS-certified drive are inconsistent. This can occur when a previous attempt to modify the FIPS-compliance passphrases failed.

Corrective Action

Use the "security key-manager" commands to display the available AKs from external KMIP key-management servers or onboard key management (OKM). Use the "storage encryption disk modify -fips -key-id" command to assign the desired AK to the FIPS-compliance authorities in the drive. If the condition persists, either replace the drive, or use the "storage encryption disk revert-to-original-state" command to reset the drive to its original condition. Warning: This command also removes all user data from the drive.

Syslog Message

The FIPS-compliance authorities for NSE drive %s have inconsistent authentication keys (AKs).

Parameters

diskName (STRING): Name of the drive.

disk.encryptgetmsidfailed events

disk.encryptGetMSIDFailed

Severity

NOTICE

Description

This message occurs when an encrypting disk reports a SCSI data protection error, but Data ONTAP® cannot obtain the Manufacturer’s Secure ID (MSID) that is mandatory on disks that support storage encryption methods. Some conditions can cause this error temporarily.

Corrective Action

If the error persists, replace the disk or remove it from the system.

Syslog Message

Unable to obtain MSID from disk %s; status "%s" (0x%x).

Parameters

diskName (STRING): Name of the disk.
status_string (STRING): Status code description from the SCSI driver.
status (INT): Status code from the SCSI driver.

disk.encryptnosupport events

disk.encryptNoSupport

Severity

ALERT

Description

This message occurs when ONTAP® software detects one or more FIPS-certified self-encrypting drives, but the environment variable 'bootarg.storageencryption.support' is not present or is set to "false" to indicate that FIPS-certified drives are not supported.

Corrective Action

Remove all FIPS-certified drives.

Syslog Message

Detected FIPS-certified encrypting drive %s, but FIPS drives are not supported on this node. %d of %d disks checked are FIPS-certified.

Parameters

disk (STRING): Name of a FIPS-certified drive.
FIPS_disks (INT): Number of FIPS-certified drives detected.
disk_count (INT): Total number of drives checked. For a high-availability pair, this might be fewer than the total number of drives.

disk.encryptprotdiff events

disk.encryptProtDiff

Severity

NOTICE

Description

This message occurs when self-encrypting drives have different settings of data-at-rest protections; that is, some are protected, having a nondefault Data Key ID, and some are not, having one of the default Data Key IDs. Best protection is provided when all encrypting drives are protected, including spares that might be assigned automatically to an aggregate.

Corrective Action

Use the "storage encryption disk show -protection-mode !data" command to display the drives that are not protected; use the "storage encryption disk show -protection-mode data" command to show the drives that are protected. Use the "storage encryption disk modify -data-key-id" command to set the Data Key ID to a nondefault value.

Syslog Message

Self-encrypting drives on the system have dissimilar data protection settings.

Parameters

(None).

disk.encryptsupportreqd events

disk.encryptSupportReqd

Severity

ALERT

Description

This message occurs when ONTAP® software detects one or more nonencrypting drives or non-FIPS-certified self-encrypting drives (SEDs), but the environment variable 'bootarg.storageencryption.support' is set to "true" to indicate that all drives must be FIPS-certified.

Corrective Action

Remove all non-FIPS-certified SEDs and standard drives.

Syslog Message

Detected nonencrypting drive or non-FIPS-certified drive %s, but only FIPS-certified drives are supported on this node. %d of %d drives checked are FIPS-certified.

Parameters

disk (STRING): Name of a drive that is not FIPS-certified.
encrypting_disks (INT): Number of FIPS-certified drives detected.
disk_count (INT): Total number of drives checked. For a high-availability pair, this might be fewer than the total number of drives.

disk.eos events

disk.EOS.OS.error

Severity

ALERT

Description

This message occurs when a disk is detected that is not supported in this version of Data ONTAP® or later

Corrective Action

Remove the disk and replace it with a disk that is supported.

Syslog Message

%s support ended in version of %s. Current version is %s.

Parameters

disk_information (STRING): Disk information.
EOS_OS_version (STRING): Latest version of Data ONTAP supported by the disk.
cur_OS_version (STRING): Current version of Data ONTAP.

disk.exceed events

disk.exceed.cmd.completeTime

Severity

INFORMATIONAL

Description

This event is generated during disk qualification testing when READ/WRITE I/O requests exceed their expected maximum completion time.

Corrective Action

(None).

Syslog Message

Disk %s has exceeded %d ms limit — required %llu ms to complete command %s.

Parameters

diskName (STRING): Name of the disk.
timeLimit (INT): Time limit to complete command.
timeTaken (LONGINT): Time taken to complete command.
commandSTR (STRING): Disk qualification command in string.

disk.fail events

disk.fail.ssdstats

Severity

INFORMATIONAL

Description

This message occurs when a disk is marked failed, is being sanitized, or has entered Maintenance Center.

Corrective Action

(None).

Syslog Message

Disk %s (%s) failed with rated life used %s, percent spare blocks %s, spare blocks %s.

Parameters

diskName (STRING): Name of the disk.
serialno (STRING): Serial number.
ratedLife (STRING): Rated life used.
percentSpare (STRING): Percent spare blocks consumed.
spareBlks (STRING): Spare blocks consumed limit.

disk.failmsg events

disk.failmsg

Deprecated

Deprecated as of ONTAP 9.5 - replaced by disk.outOfService.

Severity

NOTICE

Description

This message occurs when a drive is marked failed, is being sanitized, or has entered Maintenance Center.

Corrective Action

(None).

Syslog Message

Disk %s (%s)%s. %d %s

Parameters

diskName (STRING): Name of the drive.
serialno (STRING): Serial number.
reason (STRING): Reason for the failure.
powerOnTime (INTHEX): Time, in minutes, that the drive was powered on when the failure occurred.
disk_information (STRING): Formatted information about the disk. This includes the disk's vendor, model, firmware revision, and serial number.

disk.fakereassignsuccess events

disk.fakereassignSuccess

Severity

NOTICE

Description

This message occurs when a fake reassign is detected on a disk and the sector verify succeeds.

Corrective Action

(None).

Syslog Message

disk %s: A fake reassign was issued on sector %llu for disk %s. Disable with boot arg disable-disk-fake-reassign? true.

Parameters

diskName (STRING): Name of the disk.
sector (LONGINT): Sector where the error was detected.
disk_information (STRING): Formatted information about the disk. This includes the disk's vendor, model, firmware revision, and serial number.

disk.fence events

disk.fence.BridgeIOBlocked

Severity

NOTICE

Description

This message occurs when a node's access to a disk is blocked due to a high-availability (HA) takeover event. The disk should still be accessible via other nodes in the system.

Corrective Action

(None).

Syslog Message

Disk "%s" reported fence blocked status on shelf "%s". Fence set by node: "%s", Fence Time: "%s."

Parameters

diskName (STRING): Name of the disk reporting the BRIDGE_IO_BLOCKED status.
shelf_id (STRING): Shelf ID and NSM ID that returned the BRIDGE_IO_BLOCKED status.
fence_setter_uid (STRING): UUID of the node that sent the fence request to the bridge.
fence_time (STRING): Exact timestamp indicating when the node sent the fence request to the bridge.

disk.fli events

disk.fli.abort.ioSent

Severity

NOTICE

Description

This message occurs when an I/O operation below the SCSI layer is aborted because a Foreign LUN Import (FLI) abort message was issued.

Corrective Action

(None).

Syslog Message

An I/O with the opcode %s has been aborted on disk %s.

Parameters

opcode (STRING): Opcode that specifies the operation that was aborted.
diskName (STRING): Name of the disk.

disk.fli.abort.ioUnSent

Severity

NOTICE

Description

This message occurs when an I/O operation in the disk class layer is aborted because a Foreign LUN Import (FLI) abort message was issued.

Corrective Action

(None).

Syslog Message

An I/O with the block count %llu starting at offset %llu has been aborted on disk %s.

Parameters

blockCount (LONGINT): Number of blocks that this I/O operation spans.
offset (LONGINT): Start of the I/O operation.
diskName (STRING): Name of the disk.

disk.fli.tmf.complete

Severity

NOTICE

Description

This message occurs when a Foreign LUN Import (FLI) message (abort or LUN reset) is completed.

Corrective Action

(None).

Syslog Message

Foreign LUN Import (FLI) message: %s completed on disk %s with status %d.

Parameters

msgType (STRING): Specifies which type of FLI message: either abort or LUN reset.
diskName (STRING): Name of the disk to which this FLI message was sent.

returnStatus (INT): Completion status of the FLI message.

disk.fw events

disk.fw.autodownrev

Severity

INFORMATIONAL

Description

This message occurs when the system detects disks with firmware that is not up-to-date. The background firmware update program will update the firmware automatically if the correct firmware files are in place.

Corrective Action

Download the correct firmware file onto the system. Check your support provider’s web site or knowledgebase for more information about obtaining the latest disk firmware.

Syslog Message

%d disks have downrev firmware. They will be updated automatically using background disk firmware update if the correct firmware files are in place.

Parameters

driveCount (INT): Number of disks that need to have updated firmware.

disk.fw.downrevWarning

Severity

ERROR

Description

This message occurs when the system detects disks with firmware that is not up-to-date.

Corrective Action

Download and install the latest disk firmware file. Check your support provider’s web site or knowledgebase for more information about obtaining the latest disk firmware.

Syslog Message

%d disks have downrev firmware that you need to update.

Parameters

driveCount (INT): Number of disks that need to have updated firmware.

disk.healthtrigger events

disk.healthTrigger

Severity

NOTICE

Description

This message occurs when the disk returns a health trigger event.

Corrective Action

No action is required because this message is informational only. If the disk is having problems processing I/O, an error will be returned.

Syslog Message

Disk %s received NHT health trigger (0x%x 0x%x 0x%x 0x%x)

Parameters

diskName (STRING): Name of the device.
sense_key (INTHEX): SCSI sense key.
sense_code (INTHEX): SCSI sense code.
qualifier (INTHEX): SCSI sense code qualifier.
fru_failed (INTHEX): SCSI FRU code.

disk.init events

disk.init.badSectorSize

Severity

ERROR

Description

This message occurs when a disk reports a sector size that does not match the drive qualification table.

Corrective Action

Replace the disk.

Syslog Message

Disk %s has an unexpected sector size (%d bytes) and cannot be used.

Parameters

diskName (STRING): Name of the disk.
sector_size (INT): Invalid sector size.

disk.init.err.capacityFlash

Severity

ERROR

Description

This message occurs when a capacity-optimized flash solid-state drive (SSD) is detected by a node that does not support this type of SSD.

Corrective Action

Remove the disk from the system.

Syslog Message

Disk %s cannot be used on a node that does not support capacity-optimized flash.

Parameters

diskName (STRING): Name of the disk.

disk.init.err.flashOptimized

Severity

ERROR

Description

This message occurs when a hard disk drive (HDD) is detected by a node configured with the All-Flash Optimized personality. With this personality, only solid-state drives (SSD) can be used.

Corrective Action

Remove the disk from the system.

Syslog Message

Disk %s cannot be used on a node configured as All-Flash Optimized.

Parameters

diskName (STRING): Name of the disk.

disk.init.err.not.NVMe

Severity

ERROR

Description

This message occurs when a non-NVMe drive is detected by a node that only supports NVMe drives.

Corrective Action

Remove the drive from the system.

Syslog Message

Drive %s cannot be used on a node that only supports NVMe drives.

Parameters

diskName (STRING): Name of the drive.

disk.init.err.not.SED

Severity

ERROR

Description

This message occurs when a non-self-encrypting drive (non-SED) is detected by a node that only supports self-encrypting drives (SEDs).

Corrective Action

Remove the drive from the system.

Syslog Message

Drive %s cannot be used on a node that only supports SEDs.

Parameters

diskName (STRING): Name of the drive.

disk.init.err.unsupp.shelf

Severity

ERROR

Description

This message occurs when an unsupported NVMe solid-state drive (SSD) is discovered in an external NVMe shelf. This NVMe SSD is only supported as an internal drive on the A800 system.

Corrective Action

Remove the drive from the external NVMe shelf.

Syslog Message

Drive %s cannot be used in an external NVMe shelf.

Parameters

disk_name (STRING): Name of the SSD.
disk_information (STRING): Formatted information about the SSD. This includes the drive's vendor, model, firmware revision, and serial number.

disk.init.err.unsupported

Severity

ERROR

Description

This message occurs when an unsupported disk is detected on a node.

Corrective Action

Remove the disk from the system.

Syslog Message

Disk %s is not recognized as a supported disk and cannot be used on this node.

Parameters

diskName (STRING): Name of the disk.

disk.init.err.zns

Severity

ERROR

Description

This message occurs when a zoned namespace solid-state drive (SSD-ZNS) is detected by a node that does not support this type of SSD.

Corrective Action

Remove the disk from the system.

Syslog Message

Disk "%s" cannot be used on a node that does not support SSD-ZNS disks.

Parameters

diskName (STRING): Name of the disk.

disk.init.error.capacity

Severity

ERROR

Description

This message occurs when a disk reports an unexpected capacity.

Corrective Action

Replace the disk.

Syslog Message

Disk %s has an unexpected capacity (%llu sectors) and cannot be used. Replace it.

Parameters

diskName (STRING): Name of the disk.
lastSector (LONGINT): Last sector of the disk.
productID (STRING): Product name of the disk.

disk.init.error.serialno

Severity

ERROR

Description

This message occurs when the inquiry command does not return a valid serial number or device ID for the device. The device is failed during initialization.

Corrective Action

Replace the disk.

Syslog Message

Serial number or device ID not available for %s.

Parameters

disk_name (STRING): Disk name.
page_code (INT): Page code that was sent.
error_pcode (INT): Page code received in error.

disk.init.failure.error

Severity

ERROR

Description

This message occurs when a drive fails initialization. For NVMe drives, the returned error information is translated into the SCSI equivalent.

Corrective Action

Replace the drive.

Syslog Message

Drive %s failed initialization due to error %d, sense code(%x %x %x %x).

Parameters

diskName (STRING): Name of the drive.
errorCode (INT): Internal E_SCSI return code.
sense_key (INTHEX): Sense key.
sense_code (INTHEX): Additional sense code.
qualifier (INTHEX): Additional sense code qualifier.
fru_failed (INTHEX): FRU code.

disk.init.failure.spinup

Severity

ERROR

Description

This message occurs when a disk cannot spin up during initialization. The disk is marked as failed and is not used.

Corrective Action

Removed the disk from the system.

Syslog Message

Disk %s has failed to spin up and cannot be used. Replace it with a new drive.

Parameters

diskName (STRING): Name of the disk.

disk.init.failureBytes

Severity

ERROR

Description

This message occurs when the system discovers a previously failed disk. The system will not use the disk and it should be replaced.

Corrective Action

Replace the failed disk.

Syslog Message

Failed disk %s detected during disk initialization.

Parameters

diskName (STRING): Name of the disk.

disk.init.invalidDDR

Severity

INFORMATIONAL

Description

This message occurs when a disk contains a Dynamic Drive Recognition (DDR) label entry that is not for this disk. The system rewrites the DDR label with proper values.

Corrective Action

(None).

Syslog Message

Disk %s has an invalid DDR entry. DDR label will be corrected and rewritten automatically.

Parameters

diskName (STRING): Name of the disk.
vendorID (STRING): Vendor name of the disk.
productID (STRING): Product name of the disk.

disk.init.prottype.incompat

Severity

ERROR

Description

This message occurs when a hard disk drive (HDD) has a protection type enabled that is not supported. Protection type is a disk option that determines how information is physically saved on the disk.

Corrective Action

Remove the disk from the system.

Syslog Message

Disk %s has protection type %x enabled and cannot be used. %s

Parameters

diskName (STRING): Name of the disk.
protType (INTHEX): Value indicating the version of the enabled protection type.
disk_information (STRING): Formatted information about the disk. This includes the disk's vendor, model, firmware revision, and serial number.

disk.init.recognizedDDR

Severity

INFORMATIONAL

Description

This message occurs when a Dynamic Drive Recognition (DDR) label on a drive with dynamically qualified data is properly updated with aliased data.

Corrective Action

(None).

Syslog Message

Disk %s has been updated with the proper drive name alias. The DDR label will be rewritten automatically.

Parameters

diskName (STRING): Name of the disk.
vendorID (STRING): Vendor name of the disk.
productID (STRING): Product name of the disk.

disk.init.unknownDisk

Severity

ERROR

Description

This message occurs when a unique identifier cannot be created for a disk due to internal disk problems.

Corrective Action

The disk needs to be replaced, remove it from the system.

Syslog Message

Unable to identify disk %s.

Parameters

diskName (STRING): Name of the disk.

disk.iomediumerror events

disk.ioMediumError

Severity

NOTICE

Description

This message occurs when the drive reports a medium error.

Corrective Action

(None).

Syslog Message

Medium error on disk %s: op %s sector %llu %s - %s %s (%x %x %x %x) (%d) %s

Parameters

diskName (STRING): Name of the disk.
op (STRING): I/O operation being performed.
sector (LONGINT): Sector where the error was detected.
senseInfo (STRING): Sense data.
sCode (STRING): Sector code.
disk_info (STRING): Static description of events on the disk.
sense_key (INTHEX): Actual sense key.
sense_code (INTHEX): Actual sense code.
qualifier (INTHEX): Actual sense code qualifier.
fru_failed (INTHEX): Actual FRU code.
CTime (INT): Time, in milliseconds, from when the command was first issued until this I/O operation completed.
disk_information (STRING): Formatted information about the disk. This includes the disk's vendor, model, firmware revision, and serial number.

disk.ioreassignfailed events

disk.ioReassignFailed

Severity

ALERT

Description

This message occurs when a disk reports a medium error and the sector reassignment fails. The system will fail the disk after possible recovery of retrieviable disk data.

Corrective Action

Replace the disk when the system indicates that you should remove it in subsequent logged events.

Syslog Message

disk %s: sector %llu failed to be reassigned (%d). %s

Parameters

diskName (STRING): Name of the disk.
sector (LONGINT): Sector where the error was detected.
ETime (INT): Time, in milliseconds, from when the command was first issued until this I/O operation failed.
disk_information (STRING): Formatted information about the disk. This includes the disk's vendor, model, firmware revision, and serial number.

disk.ioreassignsuccess events

disk.ioReassignSuccess

Severity

NOTICE

Description

This message occurs when a medium error is detected on a disk and the sector reassignment succeeds.

Corrective Action

(None).

Syslog Message

disk %s: sector %llu was reassigned (%d). %s

Parameters

diskName (STRING): Name of the disk.
sector (LONGINT): Sector where the error was detected.
CTime (INT): Time, in milliseconds, from when the command was first issued until this I/O operation completed.
disk_information (STRING): Formatted information about the disk. This includes the disk's vendor, model, firmware revision, and serial number.

disk.iorecoverederror events

disk.ioRecoveredError.pfa

Severity

ERROR

Description

This message occurs when a disk determines that it will fail shortly. This occurs when a threshold internal to the disk indicates that a failure is imminent.

Corrective Action

To avoid an uncontrolled failure, replace the disk as soon as possible. If the disk is a member of a RAID volume, the disk will be failed by RAID when this error occurs on a RAID I/O and the RAID group is not in degraded mode.

Syslog Message

Recovered error predictive failure alert on disk %s: op %s sector %llu %s - %s (%x %x %x %x)

Parameters

diskName (STRING): Name of the disk.
op (STRING): I/O operation being performed.
sector (LONGINT): Sector where the error was detected.
senseInfo (STRING): Sense data.
disk_info (STRING): Static description of events on the disk.
sense_key (INTHEX): Actual sense key.
sense_code (INTHEX): Actual sense code.
qualifier (INTHEX): Actual sense code qualifier.
fru_failed (INTHEX): Actual FRU code.
disk_information (STRING): Formatted information about the disk. This includes the disk's vendor, model, firmware revision, and serial number.

disk.ioRecoveredError.reassign

Severity

NOTICE

Description

This message occurs when a disk automatically reassigns a sector on a disk.

Corrective Action

(None).

Syslog Message

Recovered error on disk %s: op %s sector %llu %s - %s (%x %x %x %x) %s

Parameters

diskName (STRING): Name of the disk.
op (STRING): I/O operation being performed.
sector (LONGINT): Sector where the error was detected.
senseInfo (STRING): Sense data.
disk_info (STRING): Static description of events on the disk.
sense_key (INTHEX): Actual sense key.
sense_code (INTHEX): Actual sense code.
qualifier (INTHEX): Actual sense code qualifier.
fru_failed (INTHEX): Actual FRU code.
disk_information (STRING): Formatted information about the disk. This includes the disk's vendor, model, firmware revision, and serial number.

disk.ioRecoveredError.retry

Severity

INFORMATIONAL

Description

This message occurs when a recovered error is detected on a disk.

Corrective Action

(None).

Syslog Message

Recovered error on disk %s: op %s sector %llu %s - %s (%x %x %x %x) (%d) %s

Parameters

diskName (STRING): Name of the disk.
op (STRING): I/O operation being performed.
sector (LONGINT): Sector where the error was detected.
senseInfo (STRING): Sense data.
disk_info (STRING): Static description of events on the disk.
sense_key (INTHEX): Actual sense key.
sense_code (INTHEX): Actual sense code.
qualifier (INTHEX): Actual sense code qualifier.
fru_failed (INTHEX): Actual FRU code.
ETime (INT): Time, in milliseconds, from when the command was first issued until this I/O operation failed.

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

disk.lipstormdetect events

disk.lipStormDetect

Severity

NOTICE

Description

This message occurs when a Fibre Channel disk detects a large number of Loop Initialization Procedure requests (a LIP storm) and has reset itself.

Corrective Action

None required. If this happens a second time, the disk will be failed.

Syslog Message

shm: disk %s reports a LIP storm reset. %s. Error %x/%x/%x/%x.

Parameters

diskName (STRING): Name of the disk (host adapter, loop ID).
disk_info (STRING): Static description of events on the disk.
sense_key (INT): Actual sense key.
sense_code (INT): Actual sense code.
qualifier (INT): Actual sense code qualifier.
fru_failed (INT): Actual FRU code.

disk.lostwritedetected events

disk.lostwriteDetected

Severity

ERROR

Description

This message occurs when the system detects a lost write.

Corrective Action

(None).

Syslog Message

Disk level lost write detected on WRITE VERIFY: Disk %s, Block #%llu: Volume %s, FileId %d, Block #%llu: Expected 0x%x, Recomputed as 0x%x.

Parameters

diskName (STRING): Name of the device.
bno (LONGINT): Block ID.
vol (STRING): Volume name.
fileid (INT): File ID.
block (LONGINT): File block ID.

cksum (INTHEX): Expected checksum.
cksum2 (INTHEX): Computed checksum.

disk.lun events

disk.lun.allMemoryAvailable

Severity

NOTICE

Description

This message occurs to confirm that enough memory is present to successfully allocate command blocks for all of the disks in the system and for additional LUNS.

Corrective Action

(None).

Syslog Message

disk_init :Allocated all memory required for array LUNs.

Parameters

(None).

disk.lun.outOfMemory

Severity

NOTICE

Description

This message occurs when the system cannot allocate the additional memory for LUNs.

Corrective Action

(None).

Syslog Message

disk_init: Unable to allocate memory for array LUN commands on %s.

Parameters

diskName (STRING): Name of the device that could not allocate memory.

disk.lun.sizeTooLarge

Severity

ALERT

Description

This message occurs when an array LUN on an external RAID storage subsystem or a virtual disk is too large to be used as storage by the controller.

Corrective Action

Reduce this array LUN size, or re-create the virtual disk within the parameter limit.

Syslog Message

Array LUN or virtual disk %s is too large (%s bytes) and cannot be used. The maximum permissible array LUN or virtual disk size is %s. Reduce this array LUN size by %lld bytes, or re-create the virtual disk within the parameter limit (%lld %d byte blocks).

Parameters

diskName (STRING): Name of the array LUN or virtual disk that is too large.
lunSize (STRING): Size, expressed in bytes, of the array LUN or virtual disk that is too large.
maxSize (STRING): Maximum permissible array LUN or virtual disk size, expressed in bytes.
byteDiff (LONGINT): Difference, expressed in bytes, between the array LUN or virtual disk size and the maximum size Data ONTAP® supports.
blockDiff (LONGINT): Difference, expressed in blocks, between the array LUN or virtual disk size and the maximum size Data ONTAP supports.
blockSize (INT): Block size of the array LUN or virtual disk.

disk.lun.sizeTooSmall

Severity

ALERT

Description

This message occurs when an array LUN on an external RAID storage subsystem or a virtual disk is too small to be used as storage by the controller.

Corrective Action

Delete the array LUN or virtual disk and re-create it within the parameter limit.

Syslog Message

LUN or virtual disk %s is too small (%s bytes) and cannot be used. The minimum permissible LUN or virtual disk size is %s. Increase this LUN or virtual disk size by %lld bytes (%lld %d byte blocks).

Parameters

diskName (STRING): Name of the LUN or virtual disk that is too small.
lunSize (STRING): Size, in bytes, of the LUN or virtual disk that is too small.
minSize (STRING): Minimum permissible LUN or virtual disk size, expressed in bytes.
byteDiff (LONGINT): Difference, in bytes, between the LUN or virtual disk size and the minimum size Data ONTAP® supports.
blockDiff (LONGINT): Difference, in blocks, between the LUN or virtual disk size and the minimum size Data ONTAP supports.
blockSize (INT): Block size of the LUN or virtual disk.

disk.lun.unsupportedBlkSize

Severity

ALERT

Description

This message occurs when an array logical unit (LUN) on the external RAID storage subsystem reports an unsupported block size.

Corrective Action

Reformat the array LUN with a supported block size.

Syslog Message

disk_init: Array LUN %s reports a block size of %u bytes and it cannot be used. Reformat the array LUN with a supported block size.

Parameters

diskName (STRING): Name of the array LUN with the unsupported block size.
sector_size (INT): Unsupported block size.

disk.maint events

disk.maint.test.end

Severity

NOTICE

Description

This message occurs when maintenance testing has completed.

Corrective Action

(None).

Syslog Message

Disk %s Model [%s] S/N [%s] has completed maintenance testing with status %d (0x%x,0x%x,0x%x,0x%x).

Parameters

disk_name (STRING): Name of the disk.
productID (STRING): Product name of the disk.
serialno (STRING): Serial number of the disk.
status (INT): Maintenance test completion status where 0 represents successful completion of the test.
fa0 (INTHEX): Failure byte 0.
fa1 (INTHEX): Failure byte 1.
fa2 (INTHEX): Failure byte 2.
fa3 (INTHEX): Failure byte 3.

disk.maint.test.start

Severity

NOTICE

Description

This message occurs when maintenance testing begins on a disk.

Corrective Action

(None).

Syslog Message

Disk %s Model [%s] S/N [%s] has started maintenance testing.

Parameters

disk_name (STRING): Name of the disk.
productID (STRING): Product name of the disk.
serialno (STRING): Serial number of the disk.

disk.max events

disk.max.partitions

Severity

ERROR

Description

This message occurs when ONTAP® software cannot partition a disk because the system already has the maximum number of partitioned disks.

Corrective Action

Contact Contact NetApp technical support. for assistance.

Syslog Message

Disk %s cannot be partitioned as the system already has %d partitioned disks.

Parameters

diskName (STRING): Name of the disk.
maxPartitionLimit (INT): Maximum number of disks which can be partitioned.

disk.min events

disk.min.OS.error

Severity

ERROR

Description

This message occurs when a disk is detected that is not supported in this version of Data ONTAP®.

Corrective Action

Remove the disk and replace it with a disk that is supported, or upgrade the kernel to the required version.

Syslog Message

%s is not supported because it requires a minimum kernel version of %s. Current version is %s.

Parameters

disk_information (STRING): Disk information.
min_OS_version (STRING): Disk's minimum supported Data ONTAP version.
cur_OS_version (STRING): Current version of the Data ONTAP.

disk.outofservice events

disk.outOfService

Severity

NOTICE

Description

This message occurs when a drive is removed from service because it has been marked failed, is being sanitized, or has entered Maintenance Center.

Corrective Action

(None).

Syslog Message

Drive %s (%s)%s. Power-On Hours: %s, GList Count: %d, Drive Info: %s.

Parameters

diskName (STRING): Name of the drive.
serialno (STRING): Serial number of the drive.
reason (STRING): Reason for removal from service.
powerOnHours (STRING): Time, in hours, that the drive was powered on when the failure occurred.
glistEntries (INT): Number of grown defect list entries.
disk_information (STRING): Formatted information about the drive. This includes the drive's vendor, model, firmware revision, and serial number.

disk.partdisknotsuppmcc events

disk.partDiskNotSuppMCC

Severity

NOTICE

Description

This message occurs when a partitioned disk is found in a MetroCluster™ configuration.

Corrective Action

Remove the partitioned disk, because it is not supported in a MetroCluster configuration.

Syslog Message

Ignoring disk %s because partitioned disks are not supported in a MetroCluster™ configuration.

Parameters

diskName (STRING): Name of the disk.

disk.partition events

disk.partition.exceeded

Severity

ERROR

Description

This message occurs when the disk partition layout contains more partitions than are supported by the system.

Corrective Action

Fix the unsupported disk partition layout by using the 'disk unpartition' command to make the disk a spare disk.

Syslog Message

Disk %s has %d partitions, which exceeds the maximum of %d partitions.

Parameters

disk_name (STRING): Name of the disk.
partition_count (INT): Number of partitions on the disk.
max_partition_count (INT): Maximum number of partitions supported per disk.

disk.partner events

disk.partner.encrRevertDone

Severity

NOTICE

Description

This message occurs when a node receives notice that its partner has completed a 'disk encrypt revert_original' operation. Check the command status on the partner node.

Corrective Action

(None).

Syslog Message

The partner has completed a 'disk encrypt revert_original' operation on drive "%s". Check the partner node for the command status.

Parameters

diskName (STRING): Name of the device.

disk.partner.encrRevertStart

Severity

NOTICE

Description

This message occurs when a node receives notice that a partner node has started a disk encrypt revert operation.

Corrective Action

(None).

Syslog Message

The partner has started reverting drive %s to its original state.

Parameters

diskName (STRING): Name of the device.

disk.partner.sanitizeStart

Severity

INFORMATIONAL

Description

This message occurs when a message is received from the partner for a disk sanitize start.

Corrective Action

(None).

Syslog Message

The partner has started a disk sanitize on %s.

Parameters

diskName (STRING): Name of the disk.

disk.readreservationfailed events

disk.readReservationFailed

Severity

ERROR

Description

This message occurs when a SCSI (Small Computer System Interface) read reservation fails.

Corrective Action

This is not a problem if seen occasionally. If this message is seen repeatedly, or is blocking access to a LUN for longer than 10 minutes, open a support case to investigate the underlying cause.

Syslog Message

Disk read reservation failed on %s CDB %s - %s (%x %x %x)

Parameters

diskName (STRING): Name of the device.
cdb (STRING): CDB (Command Descriptor Block) containnig the I/O operation being performed.
sSenseKey (STRING): Sense key value.
iSenseKey (INTHEX): Actual sense key.
iASC (INTHEX): SCSI Additional Sense Code.
iASCQ (INTHEX): SCSI Additional Sense Code Qualifier.
sm (STRING): SCSI Persistent Reservation state machine.

state (INT): SCSI Persistent Reservation state machine step.
out_status_flags (INTHEX): Status flag contains bits describing which of the following status values are valid.
ha_status (INTHEX): Value returned by the host adapter driver describing completion status of I/O request execution at the transport or physical link layer.
target_status (INTHEX): Value returned by the target describing completion status of I/O request.
target_rsp_code (INTHEX): Target response code.

disk.releasefailed events

disk.releaseFailed

Severity

ERROR

Description

This message occurs when a SCSI release reservation fails.

Corrective Action

This is not a problem if seen occasionally. If this message is seen repeatedly, or is blocking access to a LUN for longer than 10 minutes, open a support case to investigate the underlying cause.

Syslog Message

Disk release failed on %s CDB %s - %s (%x %x %x)

Parameters

diskName (STRING): Name of the device.
cdb (STRING): CDB (Command Descriptor Block) containing the I/O operation being performed.
sSenseKey (STRING): Sense key value.
iSenseKey (INTHEX): Actual sense key.
iASC (INTHEX): SCSI Additional Sense Code.
iASCQ (INTHEX): SCSI Additional Sense Code Qualifier.
sm (STRING): SCSI Persistent Reservation state machine.
state (INT): SCSI Persistent Reservation state machine step.
out_status_flags (INTHEX): Status flag contains bits describing which of the following status values are valid.
ha_status (INTHEX): Value returned by the host adapter driver describing completion status of I/O request execution at the transport or physical link layer.
target_status (INTHEX): Value returned by the target describing completion status of I/O request.
target_rsp_code (INTHEX): Target response code.

disk.reservedelay events

disk.reserveDelay

Severity

NOTICE

Description

This message occurs when a SCSI reservation command has a longer latency than expected during takeover. This delay could cause a system outage in which case the disk should be removed to prevent

further problems. .

Corrective Action

If you see this message before an outage on takeover, remove the specified disk.

Syslog Message

The disk reservation command sent to %s has taken longer than expected: %d msecs during takeover.

Parameters

diskName (STRING): Name of the device.
elapsed_time (INT): Number of milliseconds for the command to complete.

disk.reserveerror events

disk.reserveError

Severity

NOTICE

Description

This message occurs when a SCSI reservation is requested for a disk or LUN that is no longer seen.

Corrective Action

A disk or LUN might have been removed from the storage subsystem or the path to a disk or LUN has been lost. Verify that all paths to the disk or LUN are visible to the appliance using the storage show disk -p command.

Syslog Message

disk_reserve: %s was not found: CDB %s - %s (%x %x %x)

Parameters

diskName (STRING): Name of the device.
cdb (STRING): CDB (Command Descriptor Block) containing the I/O operation being performed.
sSenseKey (STRING): Sense key string.
iSenseKey (INTHEX): Sense key value.
iASC (INTHEX): SCSI Additional Sense Code.
iASCQ (INTHEX): SCSI Additional Sense Code Qualifier.
sm (STRING): SCSI Persistent Reservation state machine.
state (INT): SCSI Persistent Reservation state machine step.
out_status_flags (INTHEX): Status flag containing bits describing which of the following status values are valid.
ha_status (INTHEX): Value returned by the host adapter driver describing completion status of I/O request execution at the transport or physical link layer.
target_status (INTHEX): Value returned by the target describing completion status of I/O request.
target_rsp_code (INTHEX): Target response code.

disk.reservefailed events

disk.reserveFailed

Severity

ERROR

Description

This message occurs when a SCSI reservation fails.

Corrective Action

This is not a problem if seen occasionally. If this message is seen repeatedly, or is blocking access to a LUN for longer than 10 minutes, contact NetApp technical support to open a support case to investigate the underlying cause.

Syslog Message

Disk reservation failed on %s CDB %s - %s (%x %x %x)

Parameters

diskName (STRING): Name of the device.
cdb (STRING): CDB (Command Descriptor Block) containing the I/O operation being performed.
sSenseKey (STRING): Sense key string.
iSenseKey (INTHEX): Actual sense key.
iASC (INTHEX): SCSI Additional Sense Code.
iASCQ (INTHEX): SCSI Additional Sense Code Qualifier.
sm (STRING): SCSI Persistent Reservation state machine.
state (INT): SCSI Persistent Reservation state machine step.
out_status_flags (INTHEX): Status flag containing bits describing which of the following status values are valid.
ha_status (INTHEX): Value returned by the host adapter driver describing completion status of I/O request execution at the transport or physical link layer.
target_status (INTHEX): Value returned by the target describing completion status of I/O request.
target_rsp_code (INTHEX): This is the target response code

disk.rewritedatafailed events

disk.rewriteDataFailed

Severity

ALERT

Description

This message occurs when the system encounters an error and cannot rewrite data that was difficult to read on ATA drives.

Corrective Action

(None).

Syslog Message

Unable to rewrite %s on disk %s.

Parameters

command (STRING): SCSI command that reported a problem.
diskName (STRING): Name of the device.

disk.sanit events

disk.sanit.complete

Severity

INFORMATIONAL

Description

This message occurs when disk sanitization has been completed.

Corrective Action

(None).

Syslog Message

Disk %s [S/N %s] has completed sanitization.

Parameters

diskName (STRING): Name of the device.
serialno (STRING): Serial number of the device.

disk.sanit.error

Severity

ERROR

Description

This message occurs when a disk returns an error during sanitization.

Corrective Action

Verify that the drive is capable of sanitization and check the knowledgebase of the support vendor website for the error codes.

Syslog Message

Disk %s has received an error %d (0%xh/0%xh/0%xh/0%xh) during sanitization.

Parameters

diskName (STRING): Name of the disk.
scsi_error (INT): SCSI error code.
sense_key (INT): Actual sense key.
sense_code (INT): Actual sense code.
qualifier (INT): Actual sense code qualifier.
fru_failed (INT): Actual FRU code.

disk.sanit.formatComplete

Severity

INFORMATIONAL

Description

This message occurs when the disk sanitization format phase is complete.

Corrective Action

(None).

Syslog Message

Disk sanitization format complete for disk %s [S/N %s], begin pattern writes.

Parameters

diskName (STRING): Name of the device.
serialno (STRING): Serial number of the device.

disk.sanit.formatError

Severity

ERROR

Description

This message occurs when disk sanitization formatting fails.

Corrective Action

(None).

Syslog Message

Disk %s has received an error %d (0%xh/0%xh/0%xh) during the formatting of the drive. Format will be retried within fifteen minutes.

Parameters

diskName (STRING): Name of the device.
status (INT): Error code.
sense_key (INTHEX): Actual sense key.
sense_code (INTHEX): Actual sense code.
qualifier (INTHEX): Actual sense code qualifier.

disk.sanit.formatFailed

Severity

ERROR

Description

This message occurs when disk sanitization reformatting has been retried unsuccessfully the maximum number of times.

Corrective Action

Disk sanitization reformatting attempts have been unsuccessful. To make the disk usable, it must be reformatted. You can do this in maintenance mode with the SCSI "format" command.

Syslog Message

Disk sanitization reformat has failed for disk %s.

Parameters

diskName (STRING): Name of the device.

disk.sanit.patternDone

Severity

INFORMATIONAL

Description

This message occurs when disk sanitization has completed a cycle of a pattern write.

Corrective Action

(None).

Syslog Message

Disk %s [S/N %s] cycle %d pattern write of 0x%02x completed in %02d:%02d:%02d.

Parameters

diskName (STRING): Name of the device.
serialno (STRING): Serial number of the device.
cycle (INT): Sanitization cycle.
pattern (INT): Pattern byte.
hours (INT): Time in hours.
minutes (INT): Time in minutes.
seconds (INT): Time in seconds.

disk.sanit.randomPatternDone

Severity

INFORMATIONAL

Description

This message occurs when disk sanitization has completed a cycle of random data write.

Corrective Action

(None).

Syslog Message

Disk %s [S/N %s] cycle %d pattern write of random data completed in %02d:%02d:%02d.

Parameters

diskName (STRING): Name of the device.
serialno (STRING): Serial number of the device.
cycle (INT): Sanitization cycle.
hours (INT): Time in hours.
minutes (INT): Time in minutes.
seconds (INT): Time in seconds.

disk.sanit.reformatComplete

Severity

INFORMATIONAL

Description

This message occurs when disk sanitization reformatting is complete.

Corrective Action

(None).

Syslog Message

Disk %s has been successfully reformatted. To sanitize disk, restart the disk sanitize command. To bypass format, use -s option.

Parameters

diskName (STRING): Name of the device.

disk.sanit.sanitComplete

Severity

INFORMATIONAL

Description

This message occurs when the SCSI sanitize command phase of a 'disk sanitize' command is complete, and the data pattern write phase begins.

Corrective Action

(None).

Syslog Message

Sanitization phase of the 'disk sanitize' command was completed for disk %s [S/N %s]. Pattern writes have begun.

Parameters

diskName (STRING): Name of the device.
serialno (STRING): Serial number of the device.

disk.selectiontimeout events

disk.selectionTimeout

Severity

ERROR

Description

This message occurs when a selection timeout is received.

Corrective Action

(None).

Syslog Message

Disk %s: selection timeout

Parameters

diskName (STRING): Name of the device.

disk.senseerror events

disk.senseError

Severity

ERROR

Description

This message occurs when the drive reports an error.

Corrective Action

Check the event log for related error messages and corrective actions.

Syslog Message

Disk %s: op %s sector %llu %s - %s (%x %x %x %x)

Parameters

diskName (STRING): Name of the disk.
op (STRING): I/O operation being performed.
sector (LONGINT): Sector where the error was detected.
senseInfo (STRING): Sense data.
sCode (STRING): Sector code.
sense_key (INTHEX): SCSI sense key.
sense_code (INTHEX): SCSI sense code.
qualifier (INTHEX): SCSI sense code qualifier.
fru_failed (INTHEX): SCSI FRU code.
disk_information (STRING): Formatted information about the disk. This includes the disk's vendor, model, firmware revision, and serial number.

disk.senseinfonotvalid events

disk.senseInfoNotValid

Severity

ERROR

Description

This message occurs when invalid sense information is returned.

Corrective Action

(None).

Syslog Message

Disk %s: sense data information field is not valid.

Parameters

diskName (STRING): Name of the device.

disk.setarraylqd events

disk.setArrayLQD

Severity

INFORMATIONAL

Description

This message occurs when you set the LUN queue depth for all the LUNs of an array.

Corrective Action

(None).

Syslog Message

All the LUNs on array '%s' have a LUN queue depth value set to %d.

Parameters

arrayName (STRING): Name of the array.
lqd (INT): LUN queue depth value.

disk.sizegrew events

disk.sizeGrew

Severity

NOTICE

Description

This message occurs when the controller detects an increase in the capacity of a virtual disk.

Corrective Action

(None).

Syslog Message

Size of virtual disk %s has been changed from %s to %s, an increase of %lld bytes (%lld %d-byte blocks).

Parameters

diskName (STRING): Name of the virtual disk that has an increased capacity.
Size (STRING): Original size of the virtual disk in bytes.
NewSize (STRING): Current size of the virtual disk in bytes.
byteDiff (LONGINT): Difference in bytes between the original size and the current size of the virtual disk.
blockDiff (LONGINT): Difference in blocks between the original size and the current size of the virtual disk.
blockSize (INT): Block size in bytes of the virtual disk.

disk.sizeshrank events

disk.sizeShrank

Severity

NOTICE

Description

This message occurs when the controller detects a decrease in the capacity of a virtual disk.

Corrective Action

(None).

Syslog Message

Size of virtual disk %s has changed from %s to %s, a decrease of %lld bytes (%lld %d-byte blocks).

Parameters

diskName (STRING): Name of the virtual disk that has a decreased capacity.
Size (STRING): Orignal size of the virtual disk in bytes.
NewSize (STRING): Current size of the virtual disk in bytes.
byteDiff (LONGINT): Difference in bytes between the original size and the current size of the virtual disk.
blockDiff (LONGINT): Difference in blocks between the original size and the current size of the virtual disk.
blockSize (INT): Block size in bytes of the virtual disk.

disk.spindleerror events

disk.spindleError.detect

Severity

ERROR

Description

This message occurs when a disk returns a spindle detect error. The disk will be recommended for failure.

Corrective Action

Disk firmware has detected spindle motor problems. The disk will be recommended for failure. If the disk is a member of a RAID volume,it will be failed by RAID when this error occurs on a RAID I/O and the raid group is not in degraded mode.

Syslog Message

Disk %s has reported a spindle detect error: (%x %x %x %x)

Parameters

diskName (STRING): Name of the disk.
sense_key (INTHEX): Actual sense key
sense_code (INTHEX): Actual sense code.
qualifier (INTHEX): Actual sense code qualifier.
fru_failed (INTHEX): Actual FRU code.

disk.spindleError.notice

Severity

INFORMATIONAL

Description

This message occurs when a disk returns a spindle detect error.

Corrective Action

Disk firmware has detected spindle motor problems. The option to recommend the drive for failure is not set, so the disk will not be automatically recommended for failure.

Syslog Message

(None).

Parameters

diskName (STRING): Name of the disk.
sense_key (INT): Actual sense key.
sense_code (INT): Actual sense code.
qualifier (INT): Actual sense code qualifier.
fru_failed (INT): Actual FRU code.

disk.stalledtoolong events

disk.stalledTooLong

Severity

ERROR

Description

This message occurs when a disk has been stalled too long.

Corrective Action

(None).

Syslog Message

I/O for disk %s has been suspended %d times for %d seconds.

Parameters

diskName (STRING): Name of the device.
count (INT): Count of times suspended.
error (INT): Time suspended.

disk.timeout events

disk.timeout.flush.end

Severity

NOTICE

Description

This message occurs when the disk driver stops flushing aggressive timeout I/Os.

Corrective Action

(None).

Syslog Message

Aggressive timeout flush ended on disk %s S/N %s.

Parameters

disk_name (STRING): Name of the disk.
serial_num (STRING): Serial number of the disk.

disk.timeout.flush.start

Severity

NOTICE

Description

This message occurs when an I/O operation is taking longer than expected and aggressive timeout I/Os are flushed from the disk driver.

Corrective Action

(None).

Syslog Message

Aggressive timeout flush started on disk %s S/N %s. Details: %s.

Parameters

disk_name (STRING): Name of the disk.
serial_num (STRING): Serial number of the disk.
details (STRING): Additional information.

disk.toomanynvmespindles events

disk.tooManyNvmeSpindles

Severity

ALERT

Description

This message occurs when Data ONTAP® finds more NVMe disks present on a platform than the platform actually supports. Additional disks above the support number are ignored. Correct this issue before rebooting the system.

Corrective Action

Too many NVMe disks have been installed. Reconfigure the system to the maximum number of NVMe disks supported.

Syslog Message

Reached the maximum number of NVMe disks that are supported on this system of %d NVMe disks. All additional NVMe disks will be ignored. This problem must be resolved before the system is rebooted.

Parameters

maxSpindle (INT): Maximum number of NVMe disks supported on this platform.

disk.toomanypartitioneddisks events

disk.tooManyPartitionedDisks

Severity

ALERT

Description

This message occurs when Data ONTAP® finds more partitioned disks present on a platform than the platform supports. The system ignores any partitioned disks above the limit, and they will be unusable.

Corrective Action

Too many partitioned disks have been installed. Reconfigure the system to the maximum number of partitioned disks supported.

Syslog Message

Ignoring partitioned disk %s because the maximum limit of %d partitioned disks supported on this system has been reached.

Parameters

diskName (STRING): Name of the disk.
maxPartitionedDisks (INT): Maximum number of partitioned disks supported on this platform.

disk.toomanyreassignments events

disk.tooManyReassignments

Severity

NOTICE

Description

This message occurs when a reassignment fails due to table overflow.

Corrective Action

(None).

Syslog Message

Disk %s: sector %llu was NOT reassigned, too many reassignments.

Parameters

diskName (STRING): Name of the device.
error (LONGINT): Bad sector.

disk.toomanyspindles events

disk.tooManySpindles

Severity

ALERT

Description

This message occurs when Data ONTAP® finds more disks present on a platform than the platform actually supports. Additional disks above the support number are ignored. Correct this issue before rebooting the system.

Corrective Action

Too many disks have been installed. Reconfigure the system to the maximum number of disks supported.

Syslog Message

Found %d disks, but maximum of %d disks are supported on this system. All additional disks will be ignored. This problem must be resolved before the system is rebooted.

Parameters

actualSpindle (INT): Actual number of disks configured.
maxSpindle (INT): Maximum number of disks supported on this platform.

disk.uid events

disk.uid.changed

Severity

NOTICE

Description

This message occurs when a SCSI (Small Computer System Interface) INQUIRY command done during a disk drive initialization sequence finds different data in the INQUIRY response for page 0x83. The unique id (UID) derived from this information has changed unexpectedly.

Corrective Action

Locate the failed disk drive by looking for a disk drive whose amber LED fault light is lit. Replace the disk drive.

Syslog Message

Disk %s has unexpectedly changed its unique ID. vendor:%s product:%s serial_number:%s

Parameters

diskName (STRING): Name of the disk that had the UID change.
disk_vendor_id (STRING): Vendor name of the disk that had the UID change.
disk_product_id (STRING): Product name of the disk that had the UID change.
disk_serialno (STRING): Serial number of the disk that had the UID change.

disk.unabletorewritedata events

disk.unableToRewriteData

Severity

INFORMATIONAL

Description

This message occurs when Data ONTAP® receives too many errors reading from a particular location on an ATA disk drive, but its attempt to rewrite the data to the disk drive fails.

Corrective Action

(None).

Syslog Message

Difficulty reading disk drive %s with the command %s; could not rewrite the data.

Parameters

diskName (STRING): Name of the disk drive with the problem.
command (STRING): SCSI command that reported a problem.

disk.vendorspecificcode events

disk.vendorSpecificCode

Severity

ERROR

Description

This message occurs when a disk returns a vendor-specific error.

Corrective Action

Replace the disk.

Syslog Message

Drive %s has failed with a vendor specific error: class 0x%x segment 0x%x sense_key 0x%x info 0x%x 0x%x 0x%x 0x%x length 0x%x resv_1 0x%x sense_code %d sense_code_qualifier %d fru_failed 0x%x flags 0x%x field_pointer 0x%x.

Parameters

diskName (STRING): Name of the disk.
class (INTHEX): Sense class.
segment (INTHEX): Segment.
sense_key (INTHEX): Actual sense key.
info0 (INTHEX): Vendor-specific information[0].
info1 (INTHEX): Vendor-specific information[1].
info2 (INTHEX): Vendor-specific information[2]
info3 (INTHEX): Vendor-specific information[3].
len (INTHEX): Length.
resv (INTHEX): Resv field.
sense_code (INT): Actual sense code.
qualifier (INT): Actual sense code qualifier.
fru_failed (INTHEX): Actual FRU code.

flags (INTHEX): Flags of the error.
field_ptr (INTHEX): Sense field pointer.

disk.writeverifyerror events

disk.writeVerifyError

Severity

ERROR

Description

This message occurs when a write verify error occurs.

Corrective Action

(None).

Syslog Message

WRITE VERIFY on disk %s received an unexpected status %d.

Parameters

diskName (STRING): Name of the device.
error (INT): Returned error code

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