nvdimm events

ONTAP 9.11.1 EMS reference

NetApp
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nvdimm events

nvdimm.excessive events

nvdimm.excessive.cecc.errs

Severity

ALERT

Description

This message occurs when excessive correctable error-correcting code (ECC) memory errors are reported by the NVDIMM controller.

Corrective Action

Use the "system environment sensors show -hidden true" clustershell command to view the current "NV Correctable ECC Count" value. Contact NetApp technical support for further assistance.

Syslog Message

Excessive correctable ECC errors in the NVDIMM in slot-%d. Count: %d.

Parameters

slot (INT): NVDIMM slot location.
count (INT): CECC count.

nvdimm.flash events

nvdimm.flash.lifetime.low

Severity

ALERT

Description

This message occurs when the NVDIMM device exceeds its warning threshold. This issue typically indicates that the NVDIMM hardware is approaching the end of its service life and should be replaced soon.

Corrective Action

Contact NetApp technical support for assistance with replacing the NVDIMM hardware.

Syslog Message

Service lifetime of NVDIMM device in slot-%d is low at %d%%.

Parameters

slot (INT): NVDIMM slot location.
percent (INT): Lifetime percentage.

nvdimm.fw events

nvdimm.fw.upgrade.failure

Severity

ERROR

Description

This message occurs when NVDIMM controller firmware failed to upgrade.

Corrective Action

Power-cycle the controller and reboot ONTAP to attempt the firmware update again. If the error persists, contact NetApp technical support for assistance.

Syslog Message

NVDIMM controller in slot-%d failed to upgrade firmware because of %s.

Parameters

slot (INT): NVDIMM slot location.
error (STRING): Reason for upgrade failure, which could be: 1. the image file does not exist or is corrupted 2. it is unable to enter update mode 3. it is unable to clear update mode 3. the firmware image transfer failed 4. of a CRC mismatch with the transferred image 5. it failed to validate or commit the image 6. it failed to restart after the image upgrade

nvdimm.fw.upgrade.succeed

Severity

NOTICE

Description

This message occurs when the NVDIMM controller sucessfully upgrades its own firmware image..

Corrective Action

(None).

Syslog Message

NVDIMM controller firmware in slot-%d was upgraded to %s.

Parameters

slot (INT): NVDIMM slot location.
version (STRING): New firmware version.

nvdimm.nvemm events

nvdimm.nvemm.destage.succeed

Severity

NOTICE

Description

This message occurs when all NVDIMM devices have copied nonvolatile data to flash memory.

Corrective Action

(None).

Syslog Message

NVMEM subsystem successfully copied nonvolatile data to flash memory on NVDIMM device in %ld seconds.

Parameters

seconds (INT): Time taken by the destage operation.

nvdimm.nvemm.restage.succeed

Severity

NOTICE

Description

This message occurs when all NVDIMM devices have restored nonvolatile data from flash memory.

Corrective Action

(None).

Syslog Message

NVMEM subsystem successfully restored nonvolatile data from flash memory on NVDIMM device in %ld seconds.

Parameters

seconds (INT): Time taken by the restage operation.

nvdimm.nvmem events

nvdimm.nvmem.checkfail

Severity

EMERGENCY

Description

This message occurs when NVDIMM-based NVMEM checks fail.

Corrective Action

For all errors, check that the right type of NVDIMM is properly installed at the designated DIMM slot.

Syslog Message

NVMEM subsystem configuration check failed because %s. To prevent NVMEM data loss, halt the system.

Parameters

error (STRING): Description of the error, which could be: 1 device in slot-N is not accessbile. 2. device in slot-N is missing. 3. device in slot-N is not NVDIMM. 4. device in slot-N is the wrong size (N); expected size (N)

nvdimm.nvmem.destage.failure

Severity

ALERT

Description

This message occurs when NVDIMM fails to copy nonvolatile data to the flash on the NVDIMM-device.

Corrective Action

This type of error indicates that the volatile data on the local NVMEM has been lost. A storage system in an HA configuration might recover the NVMEM content from its partner. To prevent future possible data loss, take the appropriate actions based on the error: 1. If the failure is caused by a malfunctioning battery, contact NetApp technical support for assistance with battery replacement. 2. If the failure is caused by an NVDIMM intermittent hardware failure, contact NetApp technical support for assistance.

Syslog Message

NVMEM subsystem failed to copy nonvolatile data to flash memory on NVIDMM device because %s.

Parameters

error (STRING): Reason for destage failure could be: (1) SDRAM is not in self-refresh mode (2) energy source (battery) is not functioning properly (3) of insufficient battery (4) destage process timeout (5) an intermitten hardware error results partial data saved (6) of a hardware error (7) of a firmware error (8) of a flash error

nvdimm.nvmem.initfail

Severity

EMERGENCY

Description

This message occurs when the nvdimm-based NVMEM subsystem is not initialized succesfully.

Corrective Action

For all errors, check if the error is persistent or intermittent by power cycling the controller and rebooting ONTAP. Note: If the last reboot is a dirty shutdown, set the bootarg.init.battery_override to force system to replay the NVLOG first when booting. Then, gracefully shut down and power cycle the controller.. If the failure is persistent: (a) For error (1) (2) (3) (5) (6) (7) (8), contact NetApp technical support for assistance with replacement.of NVDIMM or upgrade NVDIMM firmware. (b) For error (4), b.1 If failure cause is battery, contact NetApp technical support for assistance with replacement of the battery. b.2 For other failures, contact NetApp technical support for assistance with replacement of NVDIMM. (c) For error (9), contact NetApp technical support for assistance with replacement of the controller. (d) For error (10), verify the NVDIMM is installed properly and check if the correct BIOS is installed.

Syslog Message

NVMEM subsystem initialization failed because %s. To prevent NVMEM data loss, halt the system.

Parameters

error (STRING): Description of the error, which could be: 1.NVDIMM device in slot-N not accessible. 2.NVDIMM device in slot-N not ready. 3.NVDIMM device in slot-N is busy. 4.NVDIMM device in slot-N lost persistence due to [reason] 5.NVDIMM device in slot-N has worn-out flash (N percent remaining) 6.NVDIMM device in slot-N failed to configure energy source 7.NVDIMM device in slot-N failed to configure saveNPin. 8.NVDIMM device in slot-N failed to enable data preservation. 9.failed to enable battery.

10.NVDIMM memory address not mapped contiguously.

nvdimm.nvmem.restage.failure

Severity

ALERT

Description

This message occurs when nonvolatile data on the NVDIMM is either corrupt or not accessible. Because these errors cannot be corrected, nonvolatile data in flash memory is lost.

Corrective Action

Frequent occurrence of these errors indicates that the NVDIMM is experiencing persistent intermittent hardware failure. Contact NetApp technical support for assistance with replacement.

Syslog Message

NVMEM subsystem failed to restore nonvolatile data from flash memory on the NVIDMM module because of %s.

Parameters

error (STRING): Reason for restage failure could be: (1) SDRAM is not in self-refresh mode (2) of SDRAM uncorrectable error (3) restage process timeout (4) of a hardware error

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