cf events

ONTAP EMS reference

NetApp
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cf.autogbcanceled events

cf.autoGBCanceled.headswap

Severity

INFORMATIONAL

Description

This message occurs when an automatic giveback is canceled because of a headswap.

Corrective Action

(None).

Syslog Message

(None).

Parameters

(None).

cf.badshelfcountmsg events

cf.badShelfCountMsg

Severity

ERROR

Description

This event occurs if we are sent an invalid negotiated failover shelf count message. The message size is incorrect. This is likely due to an InterConnect problem.

Corrective Action

Check for and resolve any interconnect errors. If the nodes are on different releases, upgrade the down-rev node.

Syslog Message

Invalid disk shelf count message was received from partner.

Parameters

(None).

cf.badshelfcountversion events

cf.badShelfCountVersion

Severity

ERROR

Description

This event occurs if we are sent a negotiated failover shelf count message with a version which we don't support. As a result, disk shelf count negotiated failover will not work. This is likely due to a kernel version mismatch.

Corrective Action

Upgrade the down-rev node so both nodes are on the same version.

Syslog Message

Disk shelf count message with unsupported version received from partner.

Parameters

(None).

cf.boot events

cf.boot.continuing

Severity

INFORMATIONAL

Description

This message occurs when the failover monitor continues booting after waiting for giveback.

Corrective Action

(None).

Syslog Message

(None).

Parameters

(None).

cf.cdo events

cf.cdo.badMsg

Severity

ERROR

Description

This event is issued when the filer receives a disk operation message over the High Availability (HA) interconnect that it does not recognize. This is likely due to a change in the message protocol that the down-revision partner does not recognize. Fix this problem by upgrading the partner to a compatible version of Data ONTAP®. This message is not emitted for every message received to avoid spamming the console.

Corrective Action

Upgrade both nodes to the same release.

Syslog Message

unknown message %d received from partner (%d unknown messages since boot).

Parameters

msg (INT): Message which was not known.
count (INT): Number of unknown messages.

cf.cdo.reportOp

Severity

NOTICE

Description

This event is issued when the filer bypasses or unbypasses a disk after being requested to do so by its partner. The bypassing of a drive on a particular port may only be done by the host which is attached to that port; the High Availability (HA) software ensures that both ports of the drive are bypassed by communicating bypass requests to the partner.

Corrective Action

(None).

Syslog Message

%s disk %s on behalf of the partner.

Parameters

op (STRING): Operation description
driveName (STRING): Drive name

cf.disk events

cf.disk.invent.mismatchalt

Severity

ALERT

Description

This message occurs when one of the nodes in a high-availability (HA) pair reports that multiple disks in the disk inventory do not match what the partner node reported. This only occurs when sufficient mismatches have occurred to throttle the specific disk inventory mismatch message. The issue might be due to one of following reasons: (1) One node can see disks that the other node cannot. (2) Ownership of multiple disks has changed. (3) Multiple disks have been failed or unfailed. (4) Multiple disks have been inserted or removed.

Corrective Action

Rescan the disks on both nodes in the HA pair to determine the latest ownership by using the "storage disk refresh-ownership" command. If the inventory mismatch is not resolved, remove and replace any failed disks. If there are no failed disks, check the cabling for loose connections or a bad cable on the node where the disks are not included in the inventory.

Syslog Message

Status of some of the disks has changed or the node (%s) is missing %u disks (detailed logs have been throttled).

Parameters

host (STRING): Name of the node not reporting the disks in its disk inventory.
nummissing (INT): Number of disks not reported in the disk inventory.

cf.disk.invent.mismatchOKalt

Severity

INFORMATIONAL

Description

This message occurs when previously detected disk inventory mismatches have been resolved and the detailed match events have been throttled.

Corrective Action

(None).

Syslog Message

%u disks now included in the inventory of node (%s) (detailed logs have been throttled).

Parameters

nummatches (INT): Number of disks found to match the partner disk inventory so far.
host (STRING): Name of the host where the disk is included in the inventory.

cf.disk.inventory.mismatch

Severity

ERROR

Description

This message occurs when one of the nodes in a high-availability (HA) pair has reported this disk in its disk inventory, but the HA partner node has not. This might be due to one of following reasons: (1) One node can see the disk, but the other node cannot. (2) Ownership of the disk has changed. (3) The disk has either been failed or unfailed. (4) The disk has been inserted or removed.

Corrective Action

Use the "storage disk refresh-ownership" command on both nodes in the HA pair to rescan the disks and to determine the latest ownership. For ASA r2, Use the "storage disk show -fields storage-pod-uuid" instead of the "storage disk refresh-ownership" command. If the inventory mismatch is not resolved, remove and replace any failed disks. If there are no failed disks, check the cabling for loose connections or a bad cable on the node where the disk is not included in the inventory.

Syslog Message

Status of the disk %s (%s) has recently changed or the node (%s) is missing the disk.

Parameters

diskname (STRING): Name of the disk not reported in the inventory.
uid (STRING): Unique identifier of the disk that was not included in the inventory.

host (STRING): Name of the node not reporting the disk in its disk inventory.

cf.disk.inventory.mismatchOK

Severity

INFORMATIONAL

Description

This message occurs when a previously detected disk inventory mismatch is resolved.

Corrective Action

(None).

Syslog Message

The node (%s) included the disk %s (%s) in its inventory.

Parameters

host (STRING): Name of the host where the disk is included in the inventory.
diskname (STRING): Name of the disk included in the inventory.
uid (STRING): Unique identifier of the disk.

cf.disk.inventory.ver.notok

Severity

ERROR

Description

This message occurs when the local node does not support the partner's disk inventory message version.

Corrective Action

Upgrade the partner to the same Data ONTAP® version.

Syslog Message

cfdisk: The local node did not support the partner's disk inventory message version. The disk inventory check will not be performed during giveback.

Parameters

(None).

cf.disk.inventoryChange

Severity

INFORMATIONAL

Description

This event is issued when High Availability (HA) disk inventory is enabled/disabled.

Corrective Action

(None).

Syslog Message

Failover monitor: disk inventory %s

Parameters

state (STRING): Parameter which describes if enabled or disabled.

cf.disk.releaseFailed

Severity

ERROR

Description

This message occurs when the release of reservation request on a disk fails. The error indicates that a disk is not ready, that it failed, or that it does not exist.

Corrective Action

Use the "disk show -broken" CLI command to check whether the disk is reporting a "FAILED" state, or use the "disk show -disk diskname" command to check the status of the disk. Also check the syslog for other errors pertaining to the same disk. The disk might need to be reseated or replaced.

Syslog Message

Disk reservation failed to release on disk %s because the error %d was encountered.

Parameters

diskname (STRING): Disk that reported the failure when a release of reservation request was attempted on it.
force (INT): Type of reservation release request. If non-zero, then the system was instructed to release reservations owned by the other systems. Otherwise, it only releases the reservation on the disks reserved by the local system.
error (INT): Error encountered while attempting to release the reservation on disk.
errortext (STRING): Error description as text.

cf.disk.reserveFailed

Severity

ERROR

Description

This message occurs when a disk reserve fails. The error indicates that a disk is not ready, that it failed, or that it does not exist.

Corrective Action

Check the specified disk for failure. You might need to replace it or reseat it. Then check the syslog for other errors pertaining to the same disk.

Syslog Message

(None).

Parameters

diskname (STRING): Disk that reported the failure when a reserve was attempted on it.
preempt (INT): Type of reservation request. If non-zero, then the system was instructed to preempt reservations from the other systems. Otherwise, it only reserves disks without existing reservations.

error (INT): Error encountered while attempting to reserve the disk.
errortext (STRING): Error description as text.

cf.disk.resumeDisks

Severity

NOTICE

Description

This message occurs when a node resumes partner disks after a takeover. If any disks fail to be resumed, the node makes another attempt to resume them after short delay.

Corrective Action

(None).

Syslog Message

Node attempted to resume %d disks, but failed with %d disks.

Parameters

fmdisk_count (INT): Number of disks resumed.
fmdisk_error_count (INT): Number of disks that had resume errors.

cf.disk.ResvFail

Severity

ALERT

Description

This message occurs when a node attempts to access a disk that has been reserved by the HA partner node. A node performing a takeover reserves the HA partner node's disks as part of a takeover operation. It is possible that the node being taken over can attempt to access a reserved disk before it has shut down as part of being taken over. The takeover node will automatically release the reservation prior to a giveback operation.

Corrective Action

The takeover node will automatically release the disk reservation before a giveback operation.

Syslog Message

Disk %s has been reserved by the High Availability (HA) partner as part of a takeover operation.

Parameters

DiskName (STRING): Name of the disk.

cf.disk.ResvTakeOver

Severity

NOTICE

Description

This event is issued when we find disks with reservation conflicts.

Corrective Action

(None).

Syslog Message

This node will wait for giveback and the disk reservations to be released.

Parameters

(None).

cf.disk.skipped

Severity

NOTICE

Description

This message occurs when the failover monitor skips an unresponsive disk.

Corrective Action

Use the "storage disk show" command to check whether the disk failed. Replace the disk if needed.

Syslog Message

The disk %s was skipped because it reported the status %s.

Parameters

diskname (STRING): Name of the disk that was skipped.
status (STRING): Status reported by the disk.

cf.diskinventory events

cf.diskinventory.cksum.fail

Severity

ALERT

Description

This message occurs when the computed checksum of the disk inventory message is different from the checksum sent as part of the disk inventory message.

Corrective Action

(None).

Syslog Message

Disk inventory checksum mismatch: old %d new %d.

Parameters

oldCkSum (INT): Old checksum, sent as part of the message.
newCkSum (INT): Checksum of the disk inventory message computed locally.

cf.diskinventory.many.disks

Severity

INFORMATIONAL

Description

This message occurs when a node receives more than maximum supported disks in the disk inventory message.

Corrective Action

(None).

Syslog Message

disk inventory: ndisks %d max_disks %d

Parameters

ndisks (INT): Number of disk descriptions sent in the inventory message.
maxdisks (INT): Maximum number of disks supported.

cf.fm events

cf.fm.cpuUtilDuringTOAndGB

Deprecated

Deprecated as of version 9.0.

Severity

NOTICE

Description

This message occurs at the start of a takeover, end of a successful takeover, start of root aggregate giveback, and completion of data aggregate giveback. It records the maximum, minimum, and average CPU and disk utilization on the node executing the takeover or giveback.

Corrective Action

(None).

Syslog Message

CPU and disk utilization during the %d seconds %s: cpu_util_high: %lld; cpu_util_low: %lld; cpu_util_avg: %lld; disk_util_high: %lld; disk_util_low: %lld; disk_util_avg: %lld

Parameters

window_sz (INT): Duration, in seconds, over which CPU and disk utilization are tracked.
when (STRING): Event during which CPU and disk utilization are tracked.
cpu_util_high (LONGINT): Maximum CPU utilization.
cpu_util_low (LONGINT): Minimum CPU utilization.
cpu_util_avg (LONGINT): Average CPU utilization.
disk_util_high (LONGINT): Maximum disk utilization.
disk_util_low (LONGINT): Minimum disk utilization.
disk_util_avg (LONGINT): Average disk utilization.

cf.fm.discardNvram

Severity

NOTICE

Description

This event is issued when we discover that the partner has previously taken us over, forcing us to invalidate our own nvram contents. This is a normal condition, subsequent to a takeover/giveback.

Corrective Action

(None).

Syslog Message

Failover monitor: node was previously taken over, nvram may be discarded

Parameters

(None).

cf.fm.diskInventoryOff

Severity

ERROR

Description

This message occurs when the system discovers that disk inventory gathering has been disabled. During normal operation, the high-availability (HA) nodes transmit their disk inventory data at regular intervals. This is intended to prevent a situation in which loop connectivity problems are unnoticed until a takeover event occurs. If this event occurs, contact NetApp technical support.

Corrective Action

Use the "sysconfig" and "storage" nodeshell commands to determine whether there are problems with the loop, adapter, or shelf. Resolve those problems.

Syslog Message

Failover monitor: HA disk inventory disabled.

Parameters

(None).

cf.fm.diskRelease

Severity

INFORMATIONAL

Description

This event is issued when we’re using a debug build and failover monitor reservations are released.

Corrective Action

n/a

Syslog Message

Failover monitor: released disk reservations.

Parameters

(None).

cf.fm.diskReleaseFail

Severity

NOTICE

Description

This message occurs when the release of a reservation on a disk fails in preparation for a giveback event. The error indicates that a disk is not ready, that it failed, or that it does not exist. If the reservation is detected by the partner node, it will reboot.

Corrective Action

Look for the cf.disk.releaseFailed event in the EMS log to find the name of the disk where the reservation could not be released. Follow the corrective action described in the cf.disk.releaseFailed event to address any problems with the disk.

Syslog Message

Could not release disk reservations of at least one disk.

Parameters

(None).

cf.fm.duplicateId

Severity

ALERT

Description

This message occurs when the local node system identifier is the same as the partner's. This could happen if the HA-Interconnect is configured for loopback in maintenance mode systems or if the system was not properly configured. The local node will halt in this case and the partner node will do a takeover of the local node resources, provided takeover is enabled.

Corrective Action

If this message occurs only while the system is configured in maintenance mode, it can be ignored as HA-interconnect loopback tests send a message with a node's own system identifier to itself. If this message occurs while a system is not in maintenance mode, check if the HA-interconnect cables are properly connected. If cabling is correct, contact NetApp technical support for assistance.

Syslog Message

Partner ID %u is the same as that of this node. This node will halt and the partner will perform a takeover, if takeover is enabled.

Parameters

id (INT): System ID.

cf.fm.earlyGivebackDone

Severity

NOTICE

Description

This event occurs when we are aborting a takeover that was initiated during a previous boot sequence. This event should only occur under unusual circumstances, indicating successful recovery from a software failure.

Corrective Action

(None).

Syslog Message

Failover monitor: giveback of previous takeover complete

Parameters

(None).

cf.fm.earlyTakeoverFailed

Severity

ALERT

Description

This message occurs when an error during early takeover prevents the node from booting into takeover mode. The node instead boots up without taking over its partner and also releases its partner resources, allowing the partner node to boot up. Note: Early takeover occurs when a node boots up after rebooting while in takeover mode.

Corrective Action

Check the EMS log for the cf.rsrc.takeoverFail error or other errors indicating why the node could not boot into takeover mode.

Syslog Message

Early takeover failed; node will boot without taking over partner node. Partner resources released, allowing partner node to boot.

Parameters

(None).

cf.fm.fastTimeoutBlocked

Severity

ERROR

Description

This event is issued if the monitor fast timeout thread has been blocked for an unacceptable amount of time. The event indicates a heavy load on the system and may result in an unexpected (false) takeover.

Corrective Action

Check CPU load and make sure system is not over subscribed.

Syslog Message

WARNING failover monitor fast timeout was blocked for %lld secs

Parameters

secs (LONGINT): Number of seconds that the High Availability (HA) node has been blocked

cf.fm.gbCancelledDuetoDR

Severity

ERROR

Description

This event is issued when a giveback has been cancelled due to an ongoing metrocluster disaster recovery operation.

Corrective Action

Check the status of metrocluster disaster recovery operation by executing command 'metrocluster operation show'. If the command reports metrocluster disaster recovery operation is in progress wait for it to complete and then issue a manual giveback.

Syslog Message

Failover monitor: giveback cancelled

Parameters

(None).

cf.fm.givebackCancelled

Severity

NOTICE

Description

This message occurs when a giveback is canceled due to a preexisting state, such as an active CIFS session, a reconstruction, and so on.

Corrective Action

To override, use the "storage failover giveback -override-vetoes true" command.

Syslog Message

Failover monitor: giveback canceled.

Parameters

partner_node_uuid (STRING): UUID of the partner node.

cf.fm.givebackComplete

Severity

NOTICE

Description

This message occurs when giveback succeeds.

Corrective Action

(None).

Syslog Message

Failover monitor: giveback completed

Parameters

token (STRING): Unique token that identifies a failover instance.
partner_node_uuid (STRING): UUID of the partner node.

cf.fm.givebackDuration

Severity

NOTICE

Description

This message occurs when a giveback is completed successfully.

Corrective Action

(None).

Syslog Message

Failover monitor: giveback duration time is %llu seconds.

Parameters

giveback_duration (LONGINT): Giveback duration time.

cf.fm.givebackFailed

Severity

ALERT

Description

This message occurs when the failover monitor determines that a giveback has failed. The reason code is a string that describes the reason for the failure.

Corrective Action

Resolve the issue based on the reason logged in the message.

Syslog Message

Failover monitor: giveback failed '%s'

Parameters

reason (STRING): Internal reason code for the failure.
token (STRING): Unique token that identifies a failover instance.

partner_node_uuid (STRING): UUID of the partner node.

cf.fm.givebackForced

Severity

ALERT

Description

This message occurs when the takeover node detects that the takeover process has not been completed within the expected time, and/or normal attempts to give back partner resources also fail. Subsequent to this event, the takeover node will panic and reboot.

Corrective Action

Attempt to find the panic string in the event logs by using the "event log show" command from the CLI, and then look up the string by using the Panic Message Analyzer tool on the NetApp support site: http://mysupport.netapp.com/NOW/cgi-bin/pmsg/. Contact NetApp technical support to confirm the analysis.

Syslog Message

Failover monitor: forcing reboot to clear state.

Parameters

partner_node_uuid (STRING): UUID of the partner node.

cf.fm.givebackStarted

Severity

NOTICE

Description

This message occurs when the failover monitor initiates a giveback.

Corrective Action

(None).

Syslog Message

Failover monitor: giveback started with token %s. "override-vetoes" set to %s.

Parameters

token (STRING): Unique token that identifies a failover instance.
override_vetoes (STRING): Flag that indicates whether the system overrides veto checks during a giveback operation. This flag corresponds to the "-override-vetoes" parameter of the "storage failover giveback" command. When the parameter is set to true, some veto checks made by subsystems on the source node might be overridden.
require_partner_waiting (STRING): Flag that indicates whether, during a giveback, the storage is given back regardless of whether the partner node is available to take back the storage. This flag corresponds to the "-require-partner-waiting" parameter of the "storage failover giveback" command. When set to true, the parameter might cause the giveback to proceed, even if the destination node is not ready to receive the aggregate being migrated.
partner_node_uuid (STRING): UUID of the partner node.

cf.fm.givebackUpdateFail

Severity

ALERT

Description

This message occurs when GIVEBACK_DONE is not written to the backup mailbox after all other giveback processing is done. The issuing node is no longer in takeover mode, but the partner node cannot boot (without operator intervention) because the partner mailbox claims it has been taken over.

Corrective Action

Boot the previously taken over node. During the boot operation, the node requests confirmation to proceed.

Syslog Message

Failover Monitor: Unexpected error %d while trying to update backup mailbox during giveback

Parameters

errcode (INT): Error code.
partner_node_uuid (STRING): UUID of the partner node.

cf.fm.haltUpdateFail

Severity

INFORMATIONAL

Description

This event is issued if we are unable to update the partner state as part of halt processing. This occurrence of this event should not affect the operation of the High Availability (HA) pair.

Corrective Action

(None).

Syslog Message

halt: Unable to update failover monitor with NoTakeover state

Parameters

(None).

cf.fm.hogger

Severity

ERROR

Description

This message occurs when the fast timeout thread is blocked for a very long time and the system can identify threads that might have been responsible for the fast timeout thread not being scheduled.

Corrective Action

Determine why the process is consuming the CPU, and either correct the problem, or end the offending process.

Syslog Message

Failover monitor: Process %s ran continuously for %llu ms.

Parameters

procName (STRING): Name of the process that is consuming the CPU.
schedTime (LONGINT): Time for which the process ran without releasing the CPU.

cf.fm.initError

Severity

ALERT

Description

This message occurs when failover monitor initialization fails. If this event occurs, the failover monitor cannot be started. The node will reboot after this event.

Corrective Action

Check the logs for other messages from the failing component listed in the message by using the "event log show" command from the CLI. Also check for errors from other components or errors indicating hardware failures. If the problem occurs again after the node reboots, contact NetApp technical support.

Syslog Message

Failover monitor: initialize(%s) fails.

Parameters

component (STRING): Software component that has failed to initialize.

cf.fm.kernelMismatch

Severity

ERROR

Description

This event is issued when we detect a possible mismatch of kernel versions in the High Availability (HA) pair. This situation is allowed, although takeover may be disabled if the mismatch imposes version differences in the metadata formats (nvram, filesystem, etc.) of the system.

Corrective Action

Upgrade both nodes to the same release.

Syslog Message

Failover monitor: possible kernel mismatch detected local '%s', partner '%s'

Parameters

myVersion (STRING): My version
partnerVersion (STRING): The partner’s version

cf.fm.kernelMismatchOk

Severity

INFORMATIONAL

Description

This event is issued when we detect a possible mismatch of kernel versions in the High Availability (HA) pair has been resolved.

Corrective Action

(None).

Syslog Message

Failover monitor: possible kernel mismatch resolved

Parameters

(None).

cf.fm.launch

Severity

INFORMATIONAL

Description

This event is issued when the failover monitor is launched. It occurs very early in the system startup sequence.

Corrective Action

(None).

Syslog Message

Launching failover monitor

Parameters

(None).

cf.fm.lmgrVetoOverride

Deprecated

Deprecated as of version 9.7.

Severity

NOTICE

Description

This message occurs during an SFO aggregate giveback, when system settings indicate that giveback should be vetoed but the veto was overridden by the automated nondisruptive update procedure. The automated nondisruptive update procedure verifies the expected state of aggregate.

Corrective Action

(None).

Syslog Message

"%s" subsystem veto was overridden during giveback operation of "%s" aggregate.

Parameters

subsystem (STRING): Name of the vetoed subsystem.
aggregate (STRING): Name of the aggregate.

cf.fm.localmbReadStatus

Severity

INFORMATIONAL

Description

This message reports the status of a local mailbox disk read.

Corrective Action

(None).

Syslog Message

(None).

Parameters

returncode (INT): Status returned by the read of the local mailbox disk.

cf.fm.lowMemory

Severity

ALERT

Description

This message occurs when the local node does not have sufficient memory to run failover monitor services.

Corrective Action

Verify that the recommended amount of memory is installed on the system. If there is sufficient memory, the error might be related to hardware issues. In this case, capture the console logs, and then call NetApp technical support.

Syslog Message

Takeover is disabled due to insufficient memory.

Parameters

(None).

cf.fm.MBstatusOnBoot

Severity

INFORMATIONAL

Description

This message occurs on system boot when the failover monitor detects that no takeover is in progress.

Corrective Action

(None).

Syslog Message

(None).

Parameters

status (INT): Failover monitor status as reported by the mailbox disk.

cf.fm.mirrorConsistencyOff

Severity

ERROR

Description

This message occurs when the system discovers that the NVRAM mirror consistency option has been disabled. This option should ONLY be disabled under operator control. If mirror consistency is disabled, a takeover can result in a loss of recently logged data.

Corrective Action

Run the "cf enable mirrorconsistency" advanced privilege nodeshell command to reenable mirror consistency.

Syslog Message

Failover monitor: NVRAM mirror consistency is disabled.

Parameters

(None).

cf.fm.missingAdapter

Severity

ERROR

Description

This message occurs when the high availability (HA) mode is set to "ha" but no interconnect adapter is found. This is an error indicating a misconfiguration of the system.

Corrective Action

Install the HA interconnect adapter, or if not using ASA r2, set the HA mode to "non_ha" by using the "storage failover modify -mode non_ha" command.

Syslog Message

Warning: HA mode is set to "ha" but the interconnect adapter is not found.

Parameters

(None).

cf.fm.monitorBlocked

Severity

ERROR

Description

This event is issued if the failover monitor has been blocked for an unacceptable amount of time. The event indicates a heavy load on the system and may result in an unexpected (false) takeover.

Corrective Action

Check CPU load and make sure system is not over subscribed.

Syslog Message

WARNING failover monitor was blocked for %lld secs

Parameters

secs (LONGINT): Number of seconds that the failover monitor has been blocked

cf.fm.noearlyrelease

Severity

INFORMATIONAL

Description

This message occurs when an early release of reservations is not done.

Corrective Action

(None).

Syslog Message

(None).

Parameters

state (INT): Partner firmware state.
version (INT): Partner firmware version.

cf.fm.nofwUpdateinTO

Severity

INFORMATIONAL

Description

This message occurs when there is no progress in the firmware status received from the partner.

Corrective Action

(None).

Syslog Message

(None).

Parameters

(None).

cf.fm.noICbutFoundMb

Severity

INFORMATIONAL

Description

This message occurs when no firmware state is obtained over the High Availability (HA) interconnect but the mailbox disks are found.

Corrective Action

(None).

Syslog Message

(None).

Parameters

status (INT): Status of the active/active configuration based on the mailbox disks.

cf.fm.nombdisks

Severity

INFORMATIONAL

Description

This messages indicates the status of the local mailbox disks.

Corrective Action

(None).

Syslog Message

(None).

Parameters

returncode (INT): Return value from the call to read the local mailbox disks.
mbstatus (INT): Current status of the active/active configuration.

cf.fm.noMBdisksOnSFUP

Severity

ERROR

Description

This message occurs when no local mailbox disks are detected, even though the partner performed a giveback.

Corrective Action

Check connectivity to all disks by running the "run local storage show" command on each partner, and then comparing the results.

Syslog Message

Could not find the local mailbox disks after a giveback. Check connectivity to all disks.

Parameters

(None).

cf.fm.noMBDisksOrIc

Severity

ERROR

Description

This message occurs when Data ONTAP® cannot access the local mailbox disks and cannot determine partner status through the high-availability (HA) interconnect.

Corrective Action

Check connectivity to all disks by running the "run local storage show" command on each partner, and then comparing the results. Verify that the interconnect cables are properly cabled.

Syslog Message

Could not find the local mailbox disks. Could not determine the firmware state of the partner through the HA interconnect.

Parameters

(None).

cf.fm.noPartnerVariable

Severity

ERROR

Description

This message occurs when the system cannot identify the serial number of the partner because the firmware variable is not set.

Corrective Action

1) Use the "storage failover show" command to verify that that high-availability (HA) is enabled. 2) If HA is enabled, there might be too many environment variables defined. Halt the system, and then enter the "printenv" command at the LOADER prompt. Use the "unsetenv" command to remove unneeded environment variables.

Syslog Message

Unknown partner serial number: firmware %s variable is not set.

Parameters

variable (STRING): Name of the firmware variable.

cf.fm.noTakeoverNoRc

Severity

ERROR

Description

This message indicates that we cannot do takeover during a no-rc boot.

Corrective Action

Reboot the node normally

Syslog Message

Failover monitor: reboot normally to enable takeover

Parameters

(None).

cf.fm.notkoverBadMbox

Severity

NOTICE

Description

This event is issued when we discover that a mailbox is uninitialized.

Corrective Action

(None).

Syslog Message

Failover monitor: uninitialized %s mailbox data detected

Parameters

whose (STRING): Indicates which mailbox is uninitialized

cf.fm.notkoverClusterDisable

Severity

ERROR

Description

This event is issued when we discover that failover between the High Availability (HA) pair has been disabled. Failover may be disabled under operator control or when a condition has been discovered (e.g., kernel mismatch) that necessitates disabling of the HA pair.

Corrective Action

Resolve the reason provided in the message.

Syslog Message

Failover monitor: takeover disabled (%s)

Parameters

reason (STRING): The reason code for disabling the HA pair

cf.fm.notkoverOperatorDeny

Severity

ERROR

Description

This event is issued when we discover that the operator has disabled takeover-by-partner.

Corrective Action

If takeover by the partner is desired, re-enable takeover.

Syslog Message

Failover monitor: takeover by partner disabled

Parameters

(None).

cf.fm.notkoverOperatorDisableNvram

Severity

ERROR

Description

This event is issued when we discover that the operator has disabled the nvram mirror.

Corrective Action

Re-enable NVRAM mirroring

Syslog Message

Failover monitor: nvram mirror disabled

Parameters

(None).

cf.fm.overwriteState

Severity

NOTICE

Description

This event is issued when the operator has manually intervened and has forced an overwrite of failover monitor state.

Corrective Action

(None).

Syslog Message

System continuing after overwriting failover monitor state!

Parameters

(None).

cf.fm.panicAfterToDone

Severity

ALERT

Description

This message occurs when a node panics too soon after the completion of a takeover. The node reboots in normal mode to avoid recursive panics.

Corrective Action

Contact NetApp technical support.

Syslog Message

Failover monitor: Panic occurred too soon after takeover was completed (currentTime %llu ms, Takeover completed %llu ms).

Parameters

currentTime (LONGINT): Time when the panic occurred.
ToDoneTime (LONGINT): Time when the takeover was completed.

cf.fm.panicInToMode

Severity

EMERGENCY

Description

This message occurs when the node panics after taking over the partner node. When the node comes back up, it will do so in takeover mode.

Corrective Action

Attempt to find the panic string in the event logs by using the "event log show" command from the CLI, and then look up the string by using the Panic Message Analyzer tool on the NetApp support site: http://mysupport.netapp.com/NOW/cgi-bin/pmsg/. Contact NetApp technical support to confirm the analysis.

Syslog Message

Failover monitor: Panic in takeover mode; takeover will occur on reboot.

Parameters

(None).

cf.fm.panicOnGBforced

Severity

ALERT

Description

This message occurs when a node panics while a forced giveback is in progress. The node performs giveback and releases partner resources on reboot.

Corrective Action

Capture the console log and contact NetApp technical support.

Syslog Message

Failover monitor: Panic during forced giveback; node will release partner resources on reboot.

Parameters

(None).

cf.fm.panicToInProgress

Severity

ALERT

Description

This message occurs when a node panics while the takeover is in progress. The node reboots in normal mode with takeover disabled.

Corrective Action

Capture the console log and contact NetApp technical support.

Syslog Message

Failover monitor: Panic during takeover; takeover will be disabled on reboot.

Parameters

(None).

cf.fm.partner

Severity

INFORMATIONAL

Description

This event is issued to announce the name of the partner.

Corrective Action

(None).

Syslog Message

Failover monitor: partner '%s'

Parameters

partner (STRING): The name of the High Availability (HA) partner

cf.fm.partnerChange

Severity

INFORMATIONAL

Description

This event is issued to announce a change in the name of the partner.

Corrective Action

(None).

Syslog Message

Failover monitor: partner hostname has changed: '%s'

Parameters

partner (STRING): The name of the High Availability (HA) partner

cf.fm.partnerFwState

Severity

INFORMATIONAL

Description

This message reports the firmware status of the partner.

Corrective Action

(None).

Syslog Message

(None).

Parameters

state (INT): Partner firmware status.

cf.fm.partnerFwTransition

Severity

INFORMATIONAL

Description

This message occurs when there is a change in the partner firmware state.

Corrective Action

(None).

Syslog Message

(None).

Parameters

prevstate (STRING): Previously reported partner firmware state.
newstate (STRING): New firmware state, as reported by the partner.
progresscounter (LONGINT): New progress counter, as reported by the partner.

cf.fm.partnerICFwVersion

Severity

INFORMATIONAL

Description

This message occurs when the partner is using a different version of the interconnect firmware.

Corrective Action

(None).

Syslog Message

(None).

Parameters

version (INT): Partner firmware version.

cf.fm.partnerSysid

Severity

INFORMATIONAL

Description

This event is issued to announce the system id of the partner.

Corrective Action

(None).

Syslog Message

Failover monitor: partner system id: %u

Parameters

sysid (LONGINT): The sysid of the High Availability (HA) partner

cf.fm.partnerSysidChange

Severity

INFORMATIONAL

Description

This event is issued to announce a change in the system id of the partner.

Corrective Action

(None).

Syslog Message

Failover monitor: partner system id has changed: %u

Parameters

sysid (LONGINT): The sysid of the High Availability (HA) partner

cf.fm.partnerVolumesOnline

Severity

NOTICE

Description

This event is issued to indicate that the partner's volumes have been brought on-line as part of early takeover processing.

Corrective Action

(None).

Syslog Message

Failover monitor: partner volumes on-line

Parameters

(None).

cf.fm.replayOnlyTakeover

Severity

INFORMATIONAL

Description

This event is issued when the failover monitor initiates a replay-only takeover, which essentially means performing takeover till the partner logs have been replayed, and then initiating a giveback.

Corrective Action

(None).

Syslog Message

Failover monitor: Starting replay-only takeover. A giveback will be initiated after the partner logs have been replayed.

Parameters

(None).

cf.fm.replayOnReboot

Severity

INFORMATIONAL

Description

This message occurs if a node panics in takeover mode and replay of the partner logs will be attempted on reboot.

Corrective Action

(None).

Syslog Message

Failover monitor: replay of partner logs will be attempted on reboot.

Parameters

(None).

cf.fm.reserveDisksOff

Severity

EMERGENCY

Description

This event is issued if we discover that disk reservations have been disabled. If this event occurs, contact NetApp technical support.

Corrective Action

(Call support).

Syslog Message

Failover monitor: disk reservations disabled

Parameters

(None).

cf.fm.reserveMBproblem

Severity

ERROR

Description

This message occurs when ONTAP® cannot reserve a high-availability (HA) partner mailbox disk during a takeover.

Corrective Action

Check connectivity to all disks by using the "storage disk show -fields diskpathnames" command to verify each node in the HA pair has access to all disks. If some disks are not fully accessible, confirm the disks are correctly cabled. To check whether one HA node cannot access disks that are visible to the HA partner node, use the "storage failover show -fields local-missing-disks, partner-missing-disks" command.

Syslog Message

Takeover has been aborted because the partner mailbox disk: %s could not be reserved. Error: %u.

Parameters

diskname (STRING): Partner mailbox disk that ONTAP could not reserve.
disk_error (INT): Disk reservation error that was encountered.

cf.fm.slowTimeoutBlocked

Severity

NOTICE

Description

This message occurs when the High Availability slow timeout thread has been blocked for an unacceptable amount of time. The event indicates a heavy load on the system and may result in an unexpected takeover.

Corrective Action

Check CPU load and make sure system is not over subscribed. Contact NetApp technical support for further assistance.

Syslog Message

High Availability slow timeout was blocked for %lld secs.

Parameters

secs (LONGINT): Number of seconds that the High Availability (HA) slow timeout thread has been blocked.

cf.fm.smsVetoOverride

Deprecated

Deprecated as of version 9.7.

Severity

NOTICE

Description

This message occurs during an SFO aggregate giveback, when the SnapMirror® subsystem indicates that giveback should be vetoed but the veto was overridden by the automated nondisruptive update procedure. The automated nondisruptive update procedure verifies the expected state of the aggregate.

Corrective Action

(None).

Syslog Message

"%s" subsystem veto was overridden during giveback operation of "%s" aggregate.

Parameters

subsystem (STRING): Name of the vetoed subsystem.
aggregate (STRING): Name of the aggregate.

cf.fm.softError

Severity

ERROR

Description

This event is issued when a "soft error" has occurred in the failover monitor.

Corrective Action

Resolve the failure listed in the message.

Syslog Message

Failover monitor: %s

Parameters

reason (STRING): Description of the failure.

cf.fm.takeoverComplete

Severity

NOTICE

Description

This message occurs when a takeover succeeds.

Corrective Action

(None).

Syslog Message

Failover monitor: takeover completed

Parameters

token (STRING): Unique token that identifies a failover instance.
partner_node_uuid (STRING): UUID of the partner node.

cf.fm.takeoverDetectionSeconds.Default

Severity

ERROR

Description

This message occurs when the takeover detection time is set to a value less than the DEFAULT_FIRMWARE_TIMEOUTS setting. This can result in false takeovers and takeovers without diagnostic core dumps.

Corrective Action

Modify the takeover detection time to the recommended value by using the "storage failover modify -detection-time" command.

Syslog Message

Takeover detection time is set to %d seconds, which is below the recommended value of %d seconds. False takeovers and takeovers without diagnostic core dumps might occur.

Parameters

SECONDS (INT): Value that the takeover detection time is set to.
FIRMWARE_TIMEOUT_DEF (INT): Recommended value.

cf.fm.takeoverDetectionSeconds.Kernel

Severity

ERROR

Description

This message occurs when the takeover detection time is set to a value less than the KERNEL_TIMEOUT setting (as specified by the "sk.process.timeout.override" option). This can result in takeovers without accompanying diagnostic core dumps of the taken over node.

Corrective Action

Set the takeover detection time to the recommended value by using the "storage failover modify -detection -time" command.

Syslog Message

Takeover detection time is set to %d seconds, which is below %d (= sk.process.timeout.override + 5)

seconds. Takeovers without diagnostic core dumps might occur.

Parameters

SECONDS (INT): Value that the takeover detection time is set to.
KERNEL_TIMEOUT (INT): Minimum value that should be used.

cf.fm.takeoverDuration

Severity

INFORMATIONAL

Description

This message occurs when a takeover is completed successfully.

Corrective Action

(None).

Syslog Message

Failover monitor: takeover duration time is %llu seconds.

Parameters

takeover_duration (LONGINT): Takeover duration time.

cf.fm.takeoverFailed

Severity

ALERT

Description

This message occurs when the failover monitor determines that a takeover has failed. The reason code is a string that describes the reason for the failure. Any data LIFs that were migrated as part of the takeover operation are not automatically reverted.

Corrective Action

Resolve the issue based on the reason logged in the message.

Syslog Message

Failover monitor: takeover failed '%s'

Parameters

reason (STRING): Internal reason code for the failure.
token (STRING): Unique token that identifies a failover instance.
partner_node_uuid (STRING): UUID of the partner node.

cf.fm.takeoverStarted

Severity

NOTICE

Description

This message occurs when the failover monitor initiates a takeover.

Corrective Action

(None).

Syslog Message

Failover monitor: takeover started

Parameters

token (STRING): Unique token that identifies a failover instance.
partner_node_uuid (STRING): UUID of the partner node.

cf.fm.timeMasterStatus

Deprecated

Deprecated as of version 9.17.1.

Severity

INFORMATIONAL

Description

This event is when we determine our status as time master or slave.

Corrective Action

(None).

Syslog Message

Acting as time %s

Parameters

masterOrSlave (STRING): Master or Slave

cf.fm.TODetectionSecs.reset

Severity

INFORMATIONAL

Description

This message occurs when the current setting of takeover detection time is shorter than the minimum takeover detection time allowed by this version of Data ONTAP®. This can result in false takeovers or takeovers without diagnostic core dumps. Data ONTAP resets the takeover detection time to the new minimum.

Corrective Action

(None).

Syslog Message

Takeover detection time was set to %d seconds, shorter than the minimum allowed. Reset the detection time to a new minimum of %d seconds.

Parameters

SECONDS (INT): Current takeover detection seconds.
FIRMWARE_TIMEOUT_DEF (INT): New default takeover detection seconds.

cf.fm.transitTimeChange

Severity

INFORMATIONAL

Description

This message occurs when you set the takeover or giveback transit timeout to a value other than the default value. During takeover or giveback, if the timeout is exceeded by a subsystem during the takeover/giveback processing, a panic occurs. If the timeout is set too high, longer client outages might occur instead of aborting the takeover/giveback.

Corrective Action

(None).

Syslog Message

(None).

Parameters

SECONDS (INT): Transit timeout value (in seconds).
DEFAULT_VAL (INT): Default transit timeout value (in seconds).

cf.fm.undoFailedTakeover

Severity

NOTICE

Description

This event is issued when we initiate an undo of a failed takeover.

Corrective Action

(None).

Syslog Message

Failover monitor: initiate giveback due to failed takeover

Parameters

(None).

cf.fm.unexpectedPartner

Severity

ERROR

Description

This message occurs when the HA mode is set to "non_ha" but the HA mode was set to "ha" previously. This is not an error, but indicates a possible misconfiguration of the system.

Corrective Action

Determine whether the HA mode should be set to "ha", and if so, set it.

Syslog Message

Warning: HA mode is set to "non_ha" but the node once had a storage failover partner.

Parameters

(None).

cf.fm.versionMismatch

Severity

ALERT

Description

This event occurs when a version mismatch is detected during internode initialization. Each node transmits its version information to its partner. If a mismatch is detected, the High Availability (HA) takeover capability is disabled.

Corrective Action

Boot both nodes on the same release.

Syslog Message

Failover monitor: %s version mismatch detected: %d/%d

Parameters

subsystem (STRING): The name of the versioned subsystem
myVersion (INT): My version
partnerVersion (INT): The partner's version

cf.fm.waitBeforeWFG

Severity

INFORMATIONAL

Description

This message occurs when a system waits, during boot, for a module to come up before declaring itself ready for giveback. Examples include waiting for the NVRAM battery to be charged.

Corrective Action

(None).

Syslog Message

Failover monitor: waited %llu seconds for module %s.

Parameters

secs (LONGINT): Amount of time spent waiting, in seconds.
module_name (STRING): Name of the module the system is waiting for.

cf.fmmbx events

cf.fmmbx.mccip.policy.enabled

Severity

NOTICE

Description

This message occurs when the system has enabled MCCIP mailbox disk IO policy

Corrective Action

(None).

Syslog Message

(None).

Parameters

(None).

cf.fmns events

cf.fmns.skipped.disk

Severity

NOTICE

Description

This message occurs when a node is in "Waiting For Giveback" state and the Failover Monitor Node State (fmns)module skips a local disk while releasing the reservations in that state.

Corrective Action

(None).

Syslog Message

While releasing the reservations in "Waiting For Giveback" state Failover Monitor Node State(fmns) module skipped the disk %s that is owned by %u and reserved by %u.

Parameters

uid_string (STRING): Name of the disk which was skipped by fmns.
down_owner (INT): The system ID of the node that owns this disk.
resvn_owner (INT): The system ID of the node that has a reservation on this disk.

cf.fsm events

cf.fsm.autoGBTkoverOnPanic

Severity

INFORMATIONAL

Description

This message occurs when a node initiates an automatic giveback to its partner following a takeover that was due to a panic on the partner.

Corrective Action

(None).

Syslog Message

Failover monitor: Automatic giveback was initiated following a takeover that was caused by a panic on the partner.

Parameters

(None).

cf.fsm.autoGBTkoverOnReboot

Severity

INFORMATIONAL

Description

This message occurs when a node initiates an automatic giveback to its partner following a takeover that was due to a reboot of the partner.

Corrective Action

(None).

Syslog Message

Failover monitor: Automatic giveback was initiated following a takeover that was caused by the partner reboot.

Parameters

(None).

cf.fsm.autoGivebackAttemptsExceeded

Severity

EMERGENCY

Description

This event is issued when auto giveback is disabled due to a ping-pong situation (autoGB followed by t/o followed by autoGB…)

Corrective Action

Examine the logs and/or console output from the partner node. Resolve the issue which prevents the node from staying up.

Syslog Message

Failover monitor: Automatic giveback is being disabled due to exceeding %d attempts in %d minutes.

Parameters

attempts (INT): Number of automatic givebacks attempted
minutes (INT): Time period where the automatic givebacks were attempted

cf.fsm.autoGivebackDelayed

Severity

INFORMATIONAL

Description

This message occurs when an automatic giveback is delayed because 'Delay Before Auto Giveback' is set to a non-zero number. If you want to eliminate the delay before automatic giveback occurs, you can use the command "storage failover modify -delay-seconds" to set it to zero.

Corrective Action

(None).

Syslog Message

Failover monitor: Automatic giveback was delayed by %d seconds due to a non-zero value of 'Delay Before Auto Giveback'.

Parameters

seconds (INT): Number of seconds by which automatic giveback was delayed.

cf.fsm.autoGivebackReleasingReservations

Severity

NOTICE

Description

This event is generated when we release the disk reservations in preparation for an automatic giveback.

Corrective Action

(None).

Syslog Message

Failover monitor: Releasing disk reservations in preparation for an automatic giveback

Parameters

(None).

cf.fsm.autoGivebackStarted

Severity

INFORMATIONAL

Description

This event is issued when an automatic giveback is initiated.

Corrective Action

(None).

Syslog Message

Failover monitor: Automatic giveback started

Parameters

(None).

cf.fsm.autoGivebackVetoed

Severity

ERROR

Description

This event is issued when one or more subsystems have vetoed the automatic giveback.

Corrective Action

Terminate the long-running jobs and auto giveback will be successful next time it is attempted.

Syslog Message

Failover monitor: Automatic giveback has been deferred due to long running operations

Parameters

(None).

cf.fsm.autoTakeoverCancelled

Severity

NOTICE

Description

This event is issued when the failover monitor cancels a pending takeover.

Corrective Action

(None).

Syslog Message

Failover monitor: pending takeover cancelled

Parameters

(None).

cf.fsm.backupMailboxError

Severity

ERROR

Description

This message occurs when the failover monitor determines that an error was observed in the partner’s mailbox.

Corrective Action

Correct the issues preventing the node from accessing the partner’s mailbox disks. Check for cabling, host bus adapter (HBA), storage controller or drive/LUN issues. You can also use Multipathing to provide a redundant connection to the mailbox disk.

Syslog Message

Failover monitor: partner mailbox error detected.

Parameters

(None).

cf.fsm.backupMailboxOk

Severity

NOTICE

Description

This event is issued when the failover monitor has determined that an error in the backup's mailbox has been fixed.

Corrective Action

(None).

Syslog Message

Failover monitor: backup mailbox OK

Parameters

(None).

cf.fsm.checkingForBigJobs

Severity

INFORMATIONAL

Description

This event is generated when we want to initiate an automatic giveback and we're checking for long running operations which might veto our plans.

Corrective Action

(None).

Syslog Message

Failover monitor: Checking for long running operations in preparation for an automatic giveback.

Parameters

(None).

cf.fsm.clam.reqPartnerShtdwn

Severity

ALERT

Description

This message occurs when a node's connectivity, liveness, availability monitor (CLAM) requests a graceful shutdown of its HA partner to trigger a takeover. This shutdown request is made because both HA and cluster connectivity is down.

Corrective Action

Restore connectivity across the cluster and HA ports. If the cluster and HA ports are reporting the links are down, check the cabling and switch port configuration. If the connectivity cannot be repaired, contact NetApp technical support.

Syslog Message

CLAM requests graceful shutdown of the HA partner to initiate a takeover while NVLOG is out of sync. Cluster and HA connectivity is down.

Parameters

(None).

cf.fsm.clam.shtdwnThruMbx

Severity

ALERT

Description

This message occurs when a node acknowledges a shutdown request from its HA partner. The node shuts down immediately.

Corrective Action

Restore connectivity across the cluster and HA ports. If the cluster and HA ports are reporting the links are down, check the cabling and switch port configuration. If the connectivity cannot be repaired, contact NetApp technical support.

Syslog Message

A connectivity, liveness, availability monitor (CLAM) shutdown request was acknowledged through mailbox.

Parameters

(None).

cf.fsm.cliTakeoverCancelled

Severity

NOTICE

Description

This event is issued when the failover monitor cancels a pending takeover issued through a CLI.

Corrective Action

(None).

Syslog Message

Failover monitor: takeover cannot be performed because of reason (%s)

Parameters

reason (STRING): Reason why takeover cannot occur

cf.fsm.firmwareStatus

Severity

INFORMATIONAL

Description

This event is issued when we detect an altered firmware status update from the partner.

Corrective Action

(None).

Syslog Message

Failover monitor: partner %s

Parameters

reason (STRING): Partner status

cf.fsm.givebackHung

Severity

ALERT

Description

This event occurs when the failover monitor detects that the giveback process is hung.

Corrective Action

Collect the resulting core file and provide it to Customer Support.

Syslog Message

Failover monitor: giveback process is hung ('%s')

Parameters

moduleName (STRING): The name of the module that the hang occurred in.

cf.fsm.givebackMaxRetries

Severity

ALERT

Description

This event is called when the giveback retry count has been exceeded. This situation exists when the system is unable either to takeover or giveback. It may be due to either a hardware bug (e.g., the disk subsystem is hung) or a software bug.

Corrective Action

Examine the logs and determine why the giveback is failing. Correct that problem and retry the giveback.

Syslog Message

Failover monitor: giveback has exceeded max retry count

Parameters

retries (INT): Number of retries attempted.

cf.fsm.nfo.acceptTakeoverReq

Severity

NOTICE

Description

This message occurs when the system starts a negotiated takeover of its partner, and requests a graceful shutdown of the partner.

Corrective Action

(None).

Syslog Message

Negotiated failover: starting takeover and shutdown of partner (%s), will take over in at most %d secs. Reason: %s.

Parameters

partnerName (STRING): Name of partner node.
maxTakeoverTime (INT): Maximum amount of time to wait for the partner to shut down before starting takeover, in seconds.
partnerReason (STRING): Reason for the initiation of the takeover.

cf.fsm.nfo.clearReqTakeover

Severity

NOTICE

Description

This event is called when the system clears a request for takeover by its partner.

Corrective Action

(None).

Syslog Message

Negotiated failover: clearing partner takeover request

Parameters

(None).

cf.fsm.nfo.delayingGracefulShutdown

Severity

ERROR

Description

This event is called when the system has been asked to shutdown by its partner as the result of the negotiated failover mechanism, but the system can not shut down due to a specific reason.

Corrective Action

Using the information provided in the message, determine why shutdown cannot be invoked. Resolve that problem and retry the takeover request.

Syslog Message

Negotiated failover: delaying shutdown due to %s

Parameters

why (STRING): Indicates the cause of the delay.

cf.fsm.nfo.disable

Severity

ERROR

Description

This event is called when negotiated failover is disabled for a particular module.

Corrective Action

Examine previous messages for failures related to the type of NFO.

Syslog Message

Negotiated failover: disabling negotiated failover for module %s

Parameters

mod (STRING): Negotiated failover module or type.

cf.fsm.nfo.disable.shelfversion

Severity

ERROR

Description

This event is called when negotiated failover is disabled due to Shelf Count message version mismatch.

Corrective Action

Upgrade both nodes to the same release.

Syslog Message

Negotiated failover: disabling negotiated failover due to version mis-match.

Parameters

(None).

cf.fsm.nfo.enable

Severity

NOTICE

Description

This event is called when negotiated failover is enabled for a particular module.

Corrective Action

(None).

Syslog Message

Negotiated failover: enabling negotiated failover for module %s

Parameters

mod (STRING): NFO module (or type)

cf.fsm.nfo.gracefulShutdownTimerExpired

Severity

NOTICE

Description

This event is called when the maximum time the system will wait for the partner to shutdown gracefully has passed. At this point the system takes over by force.

Corrective Action

(None).

Syslog Message

Negotiated failover: partner graceful shutdown appears hung, taking over

Parameters

(None).

cf.fsm.nfo.moduleImpairmentChange

Severity

ERROR

Description

This event is called when a module which is participating in negotiated failover changes from "unimpaired" to "impaired" or vice versa.

Corrective Action

Check the state of the module listed in the message.

Syslog Message

Negotiated failover: module %s is now %s

Parameters

mod (STRING): Type of negotiated failover
impairment (STRING): Either unimpared or impaired

cf.fsm.nfo.partnerShutdown

Severity

NOTICE

Description

This event is called when the system sees that the partner has finished shutting down gracefully during negotiated failover.

Corrective Action

(None).

Syslog Message

Negotiated failover: partner has shutdown

Parameters

(None).

cf.fsm.nfo.rejectTakeoverReqDueToImpairment

Severity

ERROR

Description

This message occurs when the system rejects a request by its partner to take it over because the system is itself impaired.

Corrective Action

Use the "storage failover show" command to determine why takeover is not possible. Resolve that problem and retry the takeover request.

Syslog Message

Negotiated failover: rejecting takeover request by partner due to own impairment.

Parameters

(None).

cf.fsm.nfo.rejectTakeoverReqDueToOwnReq

Severity

ERROR

Description

This event is called when the system rejects a request by its partner to take it over because the system has itself recently requested takeover by its partner. Rejecting this request prevents each system trying to takeover its partner simultaneously. If the partner persists and the system doesn’t become impaired the request will soon be granted.

Corrective Action

Resolve any impairment issues reported in previous messages that would cause takeover. If takeover is requested by the operator, it should only be requested on one node.

Syslog Message

Negotiated failover: rejecting takeover request by partner due to own recent takeover request.

Parameters

(None).

cf.fsm.nfo.startingGracefulShutdown

Severity

NOTICE

Description

This event is called when the system has been asked to shutdown by its partner as the result of the negotiated failover mechanism. The system responds by shutting down gracefully, shutting down services in an orderly manner.

Corrective Action

(None).

Syslog Message

Negotiated failover: starting graceful shutdown.

Parameters

(None).

cf.fsm.nfo.takeoverPendingCancel

Severity

ERROR

Description

This message occurs when the system is waiting for the partner to shutdown gracefully and failover is disabled, canceling the pending takeover.

Corrective Action

Use the "storage failover modify -enabled true" command to reenable failover.

Syslog Message

Negotiated failover: pending takeover canceled.

Parameters

(None).

cf.fsm.partnerNotResponding

Severity

NOTICE

Description

This event is issued when we detect that the partner node is not responsive.

Corrective Action

(None).

Syslog Message

Failover monitor: partner not responding

Parameters

(None).

cf.fsm.partnerOk

Severity

NOTICE

Description

This event is issued when we detect that the partner node, which was previously not responsive, is now OK.

Corrective Action

(None).

Syslog Message

Failover monitor: partner ok

Parameters

(None).

cf.fsm.releasingReservations

Severity

INFORMATIONAL

Description

This event is generated when we release the disk reservations in preparation for a manual giveback.

Corrective Action

(None).

Syslog Message

Failover monitor: Releasing disk reservations in preparation for giveback

Parameters

(None).

cf.fsm.shelfCount.fewerShelves

Severity

ALERT

Description

This event is emitted when we detect that the partner sees more of our disk shelves than we do. In other words, it sees more shelves on its FCAL B loop than we see on our A loop. This is probably due to a

cabling problem or a broken FCAL host adaptor. If "disk_shelf" negotiated failover is enabled, this condition should lead to a takeover by the partner if the partner is otherwise able to take us over.

Corrective Action

Resolve cabling issues which are preventing both nodes from seeing the same disks.

Syslog Message

Disk shelf count mismatch: partner sees more of our A shelves on its B loop (%d) than we do (%d).

Parameters

bShelves (INT): Number of our shelves which the partner can see
aShelves (INT): Number of shelves which we can see

cf.fsm.stateTransit

Severity

INFORMATIONAL

Description

This event is issued when a state transition is detected. Typically, this indication means that the failover monitor is about to either takeover its partner or giveback to its partner. This can happen as the result of timers going of, operator command, or an indication from the partner that a fault has been detected.

Corrective Action

(None).

Syslog Message

Failover monitor: %s -→ %s

Parameters

oldState (STRING): The old failover monitor state.
newState (STRING): The new failover monitor state.
elem (STRING): The name of the FSM element that has caused the state transition to occur. This value is dependent upon the FSM implementation.

cf.fsm.takeover.bootingExp

Severity

ALERT

Description

This event is issued when an automatic takeover is initiated after detecting that the partner boot process is hung trying to load the kernel.

Corrective Action

Please capture console log of partner filer and contact Customer Support

Syslog Message

Failover monitor: automatic takeover attempted after detecting that partner is hung loading kernel while booting

Parameters

(None).

cf.fsm.takeover.disaster

Severity

INFORMATIONAL

Description

This message occurs when an operator-requested disaster recovery (DR) takeover is initiated.

Corrective Action

(None).

Syslog Message

Failover monitor: takeover attempted after "cf forcetakeover -d" command.

Parameters

(None).

cf.fsm.takeover.early

Severity

INFORMATIONAL

Description

This event is issued when a filer takes over its partner while booting up in takeover mode.

Corrective Action

(None).

Syslog Message

Failover monitor: takeover resumption attempted after reboot

Parameters

(None).

cf.fsm.takeover.forced

Severity

INFORMATIONAL

Description

This message occurs when an operator-requested forced takeover is initiated.

Corrective Action

(None).

Syslog Message

Failover monitor: takeover attempted after "cf forcetakeover" or "storage failover takeover -option force" in advanced privilege.

Parameters

(None).

cf.fsm.takeover.mdp

Severity

ALERT

Description

This event is issued when an automatic takeover is initiated after detecting that the partner has panicked due to a multi-disk failure

Corrective Action

Please check the connectivity of the partner to it’s disks and shelves and contact customer support.

Syslog Message

Failover monitor: takeover attempted after multi-disk failure on partner

Parameters

(None).

cf.fsm.takeover.ndu

Severity

INFORMATIONAL

Description

This message occurs when an operator-requested takeover is initiated with the "cf takeover -n" or "storage failover takeover -option allow-version-mismatch" command.

Corrective Action

(None).

Syslog Message

Failover monitor: takeover attempted after "cf takeover -n" or "storage failover takeover -option allow-version-mismatch" command.

Parameters

(None).

cf.fsm.takeover.nfo

Severity

INFORMATIONAL

Description

This message occurs when an operator-requested takeover is initiated with the "storage failover takeover" command.

Corrective Action

(None).

Syslog Message

Failover monitor: takeover attempted after "storage failover takeover" command.

Parameters

(None).

cf.fsm.takeover.noHeartbeat

Severity

ALERT

Description

This message occurs when a node detects no heartbeat from the partner, indicating that the partner is not functioning. The node will attempt an automatic takeover.

Corrective Action

Contact NetApp technical support.

Syslog Message

Failover monitor: Takeover initiated after no heartbeat was detected from the partner node.

Parameters

(None).

cf.fsm.takeover.normal

Severity

INFORMATIONAL

Description

This message occurs when an operator-requested takeover is initiated with the "storage failover takeover -option immediate" command, or when Kernel Cluster Services Connectivity, Liveness and Availability Monitor (CLAM) triggers a takeover after determining that the partner node is out of "CLAM quorom".

Corrective Action

(None).

Syslog Message

Failover monitor: %s attempted

Parameters

reason (STRING): Reason a takeover of the partner was triggered. Possible values are "Operator initiated immediate takeover" and "CLAM initiated takeover".

cf.fsm.takeover.on.halt

Severity

INFORMATIONAL

Description

This message occurs when one node in a high-availability (HA) pair initiates an automatic takeover after detecting that its partner node has halted.

Corrective Action

(None).

Syslog Message

Failover monitor: Node initiated automatic takeover after detecting that its partner node has halted.

Parameters

(None).

cf.fsm.takeover.on.reboot

Severity

INFORMATIONAL

Description

This message occurs when one node in a High Availability (HA) pair initiates an automatic takeover after detecting that its partner node is rebooting.

Corrective Action

(None).

Syslog Message

Failover monitor: One node initiated automatic takeover after detecting that its partner node is rebooting.

Parameters

(None).

cf.fsm.takeover.operatorExp

Severity

NOTICE

Description

This event is issued when an automatic takeover is initiated after detecting that the operator timer has expired. This may happen when the operator has failed to respond to a question or not entered a required command during boot.

Corrective Action

(None).

Syslog Message

Failover monitor: takeover attempted after operator timeout expired on partner

Parameters

(None).

cf.fsm.takeover.panic

Severity

ALERT

Description

This message occurs when an automatic takeover is initiated after detecting that the partner has panicked.

Corrective Action

Attempt to find the panic string in the event logs by using the "event log show" command from the CLI, and then look up the string by using the Panic Message Analyzer tool on the NetApp support site: http://mysupport.netapp.com/NOW/cgi-bin/pmsg/. Contact NetApp technical support to confirm the analysis.

Syslog Message

Failover monitor: takeover attempted after partner panic.

Parameters

(None).

cf.fsm.takeover.postFailed

Severity

ALERT

Description

This event is issued when an automatic takeover is initiated after detecting that the partner’s power-on self-test has failed.

Corrective Action

Please run hardware diagnostics on partner filer and contact Customer Support

Syslog Message

Failover monitor: takeover attempted after partner POST failed

Parameters

(None).

cf.fsm.takeover.rebootExp

Severity

ALERT

Description

This message occurs when an automatic takeover is initiated after detecting that the partner boot process is hung.

Corrective Action

Capture console log of partner node and contact NetApp technical support.

Syslog Message

Failover monitor: automatic takeover attempted after detecting that partner is hung in boot.

Parameters

(None).

cf.fsm.takeover.shortUptime

Severity

ALERT

Description

This message occurs when an automatic takeover is initiated after detecting that the partner died very shortly after booting up.

Corrective Action

Contact NetApp technical support.

Syslog Message

Failover monitor: takeover attempted after partner went down shortly after booting up

Parameters

(None).

cf.fsm.takeover.sparecoreExp

Severity

ALERT

Description

This message occurs when an automatic takeover is initiated by the local node after it detects that the partner node has panicked, and that the partner has not initiated a main memory core dump to disk in a reasonable amount of time.

Corrective Action

Capture the console log of the partner node, and then contact NetApp technical support.

Syslog Message

A takeover was attempted by the local node after sparecore timeout expired on the partner node.

Parameters

(None).

cf.fsm.takeoverByPartnerDisabled

Severity

ERROR

Description

This message occurs when the failover monitor determines that takeover by the partner is disabled.

Corrective Action

Based on the reason takeover is disabled, the corrective action is one of the following: -allowed: Takeover is allowed; you do not need to take any action. -Controller failover (CFO) is not initialized: Make sure that the high-availability (HA) pair is set up correctly. Contact NetApp technical support if you need assistance. -Controller is in non-HA mode: Set the HA mode to "ha" by using the "storage failover modify -mode ha" command to activate HA functionality. This corrective action applies to Unified ONTAP only. -Takeover disabled: Use the "storage failover modify -enabled true" command to reenable HA functionality. -partner mailbox disks not accessible or invalid: Check connectivity to all disks by running the "run local storage show" command on each node, and then comparing the results. Resolve the differences in disks visible to both systems. Verify that the interconnect cables are properly cabled. Failover monitor version mismatch: Make sure that both the local and partner node are running the same version of Data ONTAP®. -Takeover disabled by partner: Use the "storage failover modify -enabled true" command to reenable HA functionality. -Takeover disabled by operator: Use the "storage failover modify -enabled true" command to reenable HA functionality. -NVRAM size mismatch: Make sure that the local NVRAM (nonvolatile random-access memory) size matches the partner node. -version mismatch: Make sure that both the local and partner nodes are running the same version of Data ONTAP. -interconnect error: Make sure that the interconnect link is connected and functioning. -partner booting: Wait for the partner node to complete its booting process, and then try takeover. -shelf too hot: Make sure that the disk shelf temperature is properly regulated. -partner is performing revert: Wait for the partner node to complete the revert process, and then try takeover. -revert is in progress: Wait for the local node to complete the revert process, and then try takeover. -partner is attempting takeover: Cannot perform a takeover operation while the partner node is attempting a takeover. -takeover is in progress: The local node is already taken over or is trying to take over the partner node. -partner halted in notakeover mode: The partner node was most likely halted using the "halt -f" command; reboot the partner node, and then try again. -unsynchronized log: Make sure that the interconnect link is connected and functioning. -unknown notakeover reasons: Contact NetApp technical support. -waiting for partner to recover: The partner has not booted completely after giveback; wait for the partner to come back up completely. -low memory: Contact NetApp technical support to upgrade. -local halt in progress: The local node is about to halt; try again after the reboot. -status of backup mailbox is uncertain: Check connectivity to all disks by running the "run local storage show" command on each node, and then comparing the results. Resolve the differences in disks visible to both systems. Verify that the interconnect cables are properly cabled. -automatic takeover disabled: Use the "storage failover takeover" command manually. -metrocluster disaster recovery operation is in progress: The local node is performing a MetroCluster(tm) disaster recovery operation; wait for it to finish, and then try again. -This node or partner node is in switchover state and the MetroCluster configuration option "node-object-limit" is off in the disaster recovery(DR) group of this node: Retry takeover after doing a switchback.

Syslog Message

Failover monitor: Takeover of %s by %s disabled. Reason: %s.

Parameters

local (STRING): Name of the local node.
partner (STRING): Name of the partner node.
reason (STRING): Reason takeover is disabled.

cf.fsm.takeoverByPartnerEnabled

Severity

NOTICE

Description

This event is issued when the failover monitor determines that takeover by the partner has been enabled.

Corrective Action

(None).

Syslog Message

Failover monitor: takeover of %s by %s enabled

Parameters

local (STRING): Name of local node
partner (STRING): Name of partner node

cf.fsm.takeoverCountdown

Severity

INFORMATIONAL

Description

This event is issued as part of the takeover countdown processing in the FSM.

Corrective Action

(None).

Syslog Message

Failover monitor: takeover scheduled in %d seconds

Parameters

secsTillTakeover (INT): Number of seconds until takeover occurs

cf.fsm.takeoverDelayed

Severity

NOTICE

Description

This event is issued when we are delaying takeover due to status indications received from the partner.

Corrective Action

(None).

Syslog Message

Failover monitor: takeover delayed, partner %s

Parameters

reason (STRING): Description of why takeover is being delayed
secsTillTakeover (INT): Number of seconds until takeover will be started

cf.fsm.takeoverHung

Severity

EMERGENCY

Description

This message occurs when the failover monitor detects that the takeover process is hung. Subsequent to this event, the takeover node will panic.

Corrective Action

Attempt to find the panic string in the event logs by using the "event log show" command from the CLI, and then look up the string by using the Panic Message Analyzer tool on the NetApp support site: http://mysupport.netapp.com/NOW/cgi-bin/pmsg/. Contact NetApp technical support to confirm the analysis.

Syslog Message

Failover monitor: takeover process is hung ('%s').

Parameters

moduleName (STRING): Name of the module that the hang occurred in.

cf.fsm.takeoverOfPartnerDisabled

Severity

ERROR

Description

This message occurs when the failover monitor determines that takeover of the partner is disabled.

Corrective Action

Find the reason for the error message (it is surrounded by parentheses). Based on that reason, the corrective action is one of the following: -allowed: Takeover is allowed; you do not need to take any action. -Controller failover (CFO) is not initialized: Make sure that the high-availability (HA) pair is set up correctly. Contact NetApp technical support for assistance. -Controller is in non-HA mode: Set HA mode to "ha" by using the "storage failover modify -mode ha" command to activate HA functionality. This corrective action does not apply for ASA r2. -HA takeover disabled: Use the "storage failover modify -enabled true" command to reenable HA functionality. -partner mailbox disks not accessible or invalid: Check connectivity to all disks by running the "storage show" nodeshell command on each node and comparing the results. Resolve the differences in disks visible to both systems. Verify that the interconnect cables are properly cabled. -failover monitor version mismatch: Make sure that both the local and partner node are running the same version of Data ONTAP®. -Takeover disabled by partner: Use the "storage failover modify -enabled true" command to reenable HA functionality. -Takeover disabled by operator: Use the "storage failover modify -enabled true" command to reenable HA functionality. -NVRAM size mismatch: Make sure that the local NVRAM (nonvolatile random-access memory) size matches the partner node. -version mismatch: Make sure that both the local and partner nodes are running the same version of Data ONTAP. -interconnect error: Make sure that the interconnect link is connected and functioning. -partner booting: Wait for the partner node to complete its booting process, and then try takeover. -shelf too hot: Make sure that the disk shelf temperature is properly regulated. -partner is performing revert: Wait for the partner node to complete the revert process, and then try takeover. -revert is in progress: Wait for the local node to complete the revert process, and then try takeover. -partner is attempting takeover: Cannot perform a takeover operation while the partner node is attempting a takeover. -takeover is in progress: The local node is already taken over or is trying to take over the partner node. -partner halted in notakeover mode: The partner node was most likely halted using the "halt -f" or "system node halt -inhibit-takeover" command; reboot the partner node, and then try again. -unsynchronized log: Make sure that the interconnect link is connected and functioning. -unknown notakeover reasons: Contact NetApp technical support. -waiting for partner to recover: The partner has not booted completely after giveback; wait for the partner to come back up completely. -low

memory: Contact NetApp technical support to upgrade. -local halt in progress: The local node is about to halt; try again after the reboot. -status of backup mailbox is uncertain: Check connectivity to all disks by running the "run local storage show" command on each node, and then comparing the results. Resolve the differences in disks visible to both systems. Verify that the interconnect cables are properly cabled. -automatic takeover disabled: Use the "storage failover takeover" command manually. -metrocluster disaster recovery operation is in progress: The local node is performing a MetroCluster(tm) disaster recovery operation; wait for it to finish, and then try again. This corrective action does not apply for ASA r2. -This node or the partner node is in switchover state and the MetroCluster configuration option "node-object-limit" is off in the disaster recovery(DR) group of this node: Retry takeover after doing a switchback. This corrective action does not apply for ASA r2.

Syslog Message

Failover monitor: takeover of %s disabled (%s).

Parameters

partner (STRING): Name of the partner node.
reason (STRING): Description of why takeover cannot occur.

cf.fsm.takeoverOfPartnerEnabled

Severity

NOTICE

Description

This event is issued when the failover monitor determines that takeover of the partner has been enabled.

Corrective Action

(None).

Syslog Message

Failover monitor: takeover of %s enabled

Parameters

partner (STRING): Name of partner node

cf.giveback events

cf.giveback.delayed.cleanup

Severity

INFORMATIONAL

Description

This message occurs when giveback of a partner node is delayed due to the cleanup of a previous giveback event.

Corrective Action

(None).

Syslog Message

Failover monitor: giveback process was delayed because of a previous giveback event.

Parameters

(None).

cf.giveback.disk.check.fail

Severity

ALERT

Description

This message occurs when the giveback failed due to a disk inventory check failure.

Corrective Action

If the giveback failed or is disabled because the node did not receive the disk inventory information from the partner, then retry giveback after a few minutes. If the giveback failed or is disabled because the partner is missing its disks, make sure that the partner has connectivity to all of its disks. To check the list of disks that the partner can see, boot the partner in Maintenance mode and use the "disk show" command or "storage show disk" command to list its disks. To check for missing disks, use the "storage failover show -instance" command. If you want to override the disk inventory check, use the "cf disable diskInventory" command from the advanced privilege level of the nodeshell on the takeover node. However, disabling the disk inventory check can lead to client outage if the partner cannot see all of its disks.

Syslog Message

cf giveback failed: %s.

Parameters

reason (STRING): Reason for the disk inventory failure.

cf.giveback.keepingPartnerAggr

Severity

ERROR

Description

This message occurs during the giveback process following a failed takeover attempt, when an aggregate belonging to the partner node is not given back to the partner node. The reason is that the aggregate was already under the control of the node performing the takeover before the takeover attempt. Only aggregates that are acquired during the failed takeover attempt are given back.

Corrective Action

Give back the aggregate to the partner node by using the "storage failover giveback" command.

Syslog Message

Not giving back aggregate '%s' because it was under the control of this node prior to the failed takeover attempt.

Parameters

aggr (STRING): Name of the aggregate that was not given back.

cf.headswap events

cf.headswap.abort

Severity

INFORMATIONAL

Description

This message occurs when the headswap on the partner node is aborted.

Corrective Action

(None).

Syslog Message

(None).

Parameters

partner_sysid (LONGINT): Value of the partner system ID after aborting the headswap.

cf.headswap.clear.partner

Severity

INFORMATIONAL

Description

This message occurs when the disks are manually reassigned to a new partner. The head swap information has been cleared.

Corrective Action

(None).

Syslog Message

(None).

Parameters

(None).

cf.headswap.complete

Severity

INFORMATIONAL

Description

This message occurs when the headswap of a node is completed.

Corrective Action

(None).

Syslog Message

(None).

Parameters

old_sysid (LONGINT): Value of the partner system ID before completion of the headswap.

new_sysid (LONGINT): Value of the partner system ID after completion of the headswap.

cf.headswap.detected.local

Severity

INFORMATIONAL

Description

This message occurs when a headswap on the local node is detected.

Corrective Action

(None).

Syslog Message

(None).

Parameters

old_local_sysid (LONGINT): System ID of the node that is being replaced.
new_local_sysid (LONGINT): System ID of the new node that is replacing the old node.

cf.headswap.detected.partner

Severity

INFORMATIONAL

Description

This message occurs when a headswap on the partner node is detected.

Corrective Action

(None).

Syslog Message

(None).

Parameters

old_partner_sysid (LONGINT): System ID of the partner that is being replaced.
new_partner_sysid (LONGINT): System ID of the new partner that is replacing the old partner.

cf.headswap.state.change

Severity

INFORMATIONAL

Description

This message occurs when the headswap state changes. The headswap state is written to the primary mailbox. The possible values are HEADSWAP_NONE, HEADSWAP_START, HEADSWAP_CFO_START, HEADSWAP_CFO_END, and HEADSWAP_SFO_START.

Corrective Action

(None).

Syslog Message

(None).

Parameters

old_state_string (STRING): Old value of the headswap state.
new_state_string (STRING): New value of the headswap state.

cf.hwassist events

cf.hwassist.Default.NodemgmtAddr

Severity

INFORMATIONAL

Description

This message occurs when the hardware-assist module automatically picked a local IP address for the hardware-assisted takeover feature.

Corrective Action

(None).

Syslog Message

The system automatically chose %s as the local hardware-assist IP address.

Parameters

defaultip (STRING): Default hardware-wassist IP address chosen to receive hardware assist alerts.

cf.hwassist.DefaultEnabled

Severity

INFORMATIONAL

Description

This message occurs when the system automatically enables the hardware-assist takeover feature. With hardware-assisted takeover, certain failures, such as watchdog reset, POST error, and so on, trigger hardware-assisted takeover through hardware components such as Remote LAN Module (RLM) or Service Processor (SP).

Corrective Action

(None).

Syslog Message

Hardware-assisted takeover feature is enabled on this system. The partner can take over this node faster during certain failures.

Parameters

(None).

cf.hwassist.DefaultPrtnrAddr

Severity

NOTICE

Description

This message occurs when the hardware-assist partner address is not configured and the system automatically picked a partner IP address for the hardware-assisted takeover feature. If a partner node has multiple node management IP addresses, a different partner node management IP address can optionally be set by using the "storage failover modify -hwassist-partner-ip" command. Note: the automatically configured IP address cannot be modified on some platforms.

Corrective Action

(None).

Syslog Message

The system automatically chose %s as the hardware-assisted takeover partner address.

Parameters

defaultip (STRING): Default hardware-assist partner IP address chosen to send hardware-assisted takeover alerts.

cf.hwassist.DefaultPrtnrPort

Severity

NOTICE

Description

This message occurs when the partner’s port for the hardware-assisted takeover feature is not configured and the system sets the hardware-assist partner port to a default port number. A different partner port number can optionally be set by using the "storage failover modify -hwassist-partner-port" command. Note: the default port number cannot be modified on some platforms.

Corrective Action

(None).

Syslog Message

The system set the default hardware-assist partner port number to %d.

Parameters

defaultport (INT): Default hardware-assist partner port number.

cf.hwassist.empty.MgmtAddr

Severity

ERROR

Description

This message occurs when the local hardware-assist module cannot find at least one node management IP address that has the same capabilities as the partner’s hardware components, such as Remote LAN Module (RLM) or Service Processor (SP).

Corrective Action

Complete or correct the setup of the Remote LAN Module (RLM) or Service Process (SP) for each node in your cluster.

Syslog Message

Cannot find hardware-assist node management IP address for partner node.

Parameters

(None).

cf.hwassist.empty.NodemgmtAddr

Deprecated

Deprecated as of version 9.1.

Severity

ERROR

Description

This message occurs when the local hardware-assist module cannot find at least one node management IP address that has the same capabilities as the partner's hardware components, such as Remote LAN Module (RLM) or Service Processor (SP).

Corrective Action

Complete or correct the setup of the Remote LAN Module (RLM) or Service Process (SP) for each node in your cluster.

Syslog Message

Cannot find hardware-assist node management IP address for partner node.

Parameters

(None).

cf.hwassist.FwUpgrade

Severity

ERROR

Description

This message occurs when hwassist thread detects that partner's hw_assist hardware firmware does not support hw_assist feature.

Corrective Action

Upgrade the partner hw_assist hardware firmware to the latest version.

Syslog Message

HA hw_assist: Partner(%s) %s firmware does not support the hw_assist feature.

Parameters

partnerName (STRING): Partner's name.
hwassist_hrdwr (STRING): Type of hw_assist hardware, for example, Remote LAN module(RLM) or

Service Processor(SP).

cf.hwassist.hwasstActive

Severity

INFORMATIONAL

Description

This message occurs when hw_assist successfully binds to a port to listen for alerts.

Corrective Action

None.

Syslog Message

hw_assist: hw_assist functionality is active on IP address: %s port: %d

Parameters

ipaddress (STRING): IP address to which bind was attempted.
port (INT): Port on which bind was attempted.

cf.hwassist.invalidConfig

Severity

NOTICE

Description

This message occurs when the system encounters invalid hardware-assist configurations.

Corrective Action

(None).

Syslog Message

Invalid hardware-assist configurations. IPv4: %s IPv6: %s port: %d keep_alive_interval: %d

Parameters

ipv4 (STRING): Partner node IPv4 address.
ipv6 (STRING): Partner node IPv6 address.
port (INT): Partner node hardware-assist port number.
keep_alive_interval (INT): Hardware-assist keep-alive interval.

cf.hwassist.IpNotConfigured

Severity

ERROR

Description

This message occurs when the hwassist thread detects that the partner’s hw_assist hardware is not configured with an IPv4 or IPv6 address.

Corrective Action

Configure a valid IPv4 or IPv6 address for the partner’s hw_assist hardware by using the "storage failover

modify -hwassist-partner-ip" command.

Syslog Message

cf hw_assist: Partner(%s)'s %s is not configured with the right IP address family. Use the "storage failover hwassist show" command for details.

Parameters

partnerName (STRING): Partner’s name.
hwassist_hrdwr (STRING): Type of hw_assist hardware, for example, RLM.

cf.hwassist.keyMismatch

Severity

NOTICE

Description

This message occurs when hwassist receives a alert with wrong key. EMS displays both the expected and the received keys.

Corrective Action

(None).

Syslog Message

(None).

Parameters

expectedKey (STRING): Expected key, generated by Failover Monitor(FM).
receivedKey (STRING): Received key from hwassist hardware.
systemid (STRING): Received systemid.

cf.hwassist.localMonitor

Severity

ERROR

Description

This message occurs when hwassist thread is inactive because of problems on local node.

Corrective Action

check console log for cf.hwassist_socBindFailed message. If message exist, take corrective action for that message.

Syslog Message

hw_assist: hw_assist functionality is inactive.

Parameters

(None).

cf.hwassist.missedKeepAlive

Severity

ERROR

Description

This message occurs when the HW-assisted takeover process on this node has not received keep-alive messages from its HA partner.

Corrective Action

Use the "storage failover hwassist show" command to verify the status of the HW-assisted takeover feature. If the 'Keep Alive Status' field reports "healthy", it is functional. If the "storage failover hwassist show" command "Keep Alive Status" field reports "did not receive hwassist keep alive alerts from partner" and the "storage failover hwassist stats show" command shows the value of the "ID_mismatch" is incrementing, disable the service-processor (SP or BMC) IPv4 or IPv6 network interfaces and then reenable them, as stated below. Use the "system service-processor network show" command to display the current network configuration. Note whether the IPv4 or IPv6 address-family is enabled. You need this information in the next steps. Perform the following on each node that has an issue: Disable the interface for an address-family by using the "sp network modify -node {name} -address-family {IPv4|IPv6} -enable false" command. Then, reenable the interface for an address-family by setting "-enable true" via the above command.

Syslog Message

HW-assisted takeover missing keep-alive messages from HA partner (%s).

Parameters

partnerName (STRING): HA partner name.

cf.hwassist.noConfigRecv

Severity

ERROR

Description

This message occurs when hwassist thread has not received any config info from partner.

Corrective Action

None.

Syslog Message

hw_assist: hw_assist functionality inactive. No config received from partner(%s).

Parameters

partnerName (STRING): Partner’s name.

cf.hwassist.notCapable

Severity

ERROR

Description

This message occurs when the currently installed firmware version of the hardware module doesn’t support the hardware-assisted takeover feature.

Corrective Action

Upgrade the hardware module firmware to the latest version.

Syslog Message

Currently installed version of %s's firmware doesn't support the hardware-assist takeover feature. Install a latest firmware for the hardware-assist takeover feature to work.

Parameters

hwtype (STRING): Hardware module type.

cf.hwassist.notifyCfgFailed

Severity

ALERT

Description

This message occurs when node fails to update the hardware-assist configuration with its HA partner node. This is most likely because the service processor (SP) component is not ready. This messages might also be seen during ONTAP upgrade when the node reboots. The node will automatically retry the hardware-assisted storage failover configuration update.

Corrective Action

Use the "system node service-processor show" command to check whether the SP is online. Use the "storage failover hwassist show" command to check the status of hardware-assisted storage failover once the node is active. The SP must be online to update the hardware-assist storage failover configuration. If the SP is operational and online, use the "system node service-processor reboot-sp" command to reboot the SP.

Syslog Message

Failed to update the hardware-assist configuration with hardware component (%s). Error: %s(%d).

Parameters

hwtype (STRING): Hardware component type.
errorstr (STRING): Error string returned by the hardware component.
error (INT): Error number returned by the hardware component.

cf.hwassist.notifyEnableOff

Severity

INFORMATIONAL

Description

This message occurs when the hwassist thread detects that 'notify enable' is turned off on the partner node.

Corrective Action

None.

Syslog Message

HA hw_assist: hw_assist functionality on the partner node has been disabled by the user.

Parameters

(None).

cf.hwassist.notifyEnableOn

Severity

INFORMATIONAL

Description

This message occurs when the user enables hw_assist functionality on the partner node. hw_assist will try to bind to the specified IP address and port.

Corrective Action

None.

Syslog Message

HA hw_assist: hw_assist functionality on the partner node has been enabled by the user.

Parameters

(None).

cf.hwassist.ptnStartThrottle

Severity

INFORMATIONAL

Description

This message occurs when partner has started throttling hw_assist alerts. UDP socket will be closed and no alerts will be received.

Corrective Action

(None).

Syslog Message

Failover Monitor hw_assist: Partner(%s) node has started throttling hw_assist alerts.

Parameters

partnerName (STRING): Partner’s name

cf.hwassist.ptnStopThrottle

Severity

INFORMATIONAL

Description

This message occurs when partner has stopped throttling hw_assist alerts. hw_assist will bind to UDP socket and wait for alerts.

Corrective Action

(None).

Syslog Message

hw_assist: Partner(%s) has stopped throttling hw_assist alerts.

Parameters

partnerName (STRING): Partner’s name

cf.hwassist.recvKeepAlive

Severity

NOTICE

Description

This message occurs when the hwassist thread receives a HW-assisted takeover keep-alive message after missing at least two consecutive keep-alive messages.

Corrective Action

(None).

Syslog Message

Received HW-assisted takeover keep-alive message again from HA partner (%s).

Parameters

partnerName (STRING): HA partner’s hostname.

cf.hwassist.socBindFailed

Severity

ERROR

Description

This message occurs when hwassist thread fails to bind to a socket on a particular ipaddress. The error indicates why bind failed.

Corrective Action

Check if specified port and IP address is valid. You may want to try with a different recommended port number.

Syslog Message

hw_assist: bind failed to port %d on IP address %s. Error %d

Parameters

port (INT): Port on which bind was attempted.
ipaddress (STRING): IP address to which bind was attempted.
error (INT): error returned by bind call

cf.hwassist.socInitFailed

Severity

NOTICE

Description

This message occurs when hwassist thread fails to create socket.

Corrective Action

None.

Syslog Message

hw_assist: Fail to create socket.

Parameters

(None).

cf.hwassist.startThrottle

Severity

NOTICE

Description

This message occurs when the hardware assist subsystem thread detects that it is receiving hardware assist alerts at a rate higher than the maximum configurable rate and has temporarily stopped listening for hardware assist alerts. This can be an indication that another client is configured to send SNMP traps to the hardware assist trap IP address and port. If the partner node fails while listening for hardware assist alerts is disabled, detection of the partner failure can take slightly longer as loss of heartbeat from the partner or other non-hardware-assisted mechanism is instead needed to detect the failure. Subsequent receipt of the cf.hwassist.stopThrottle message indicates the hardware assist thread is again listening for hardware assist alerts.

Corrective Action

Check whether some other client is configured to send SNMP alerts to the IP address and port on which hardware assist is configured. You can obtain the IP address using the ""storage failover hwassist show"" command. If this is the case, direct those SNMP alerts to the correct IP address and port. If not, contact NetApp technical support to further diagnose the issue.

Syslog Message

hw_assist: Received %llu hw_assist alerts in %llu secs. Throttling alerts for %llu secs.

Parameters

num_of_traps (LONGINT): Number of traps received.
time_interval (LONGINT): Time window in which the traps were received.
throttle_time (LONGINT): Time for which throttle will happen.

cf.hwassist.stopThrottle

Severity

NOTICE

Description

This message occurs when a node has stopped throttling hardware assist alerts from the partner. This indicates the hardware assist thread has restarted listening for hardware assist alerts subsequent to the receipt of the cf.hwassist.startThrottle event.

Corrective Action

(None).

Syslog Message

Failover monitor hw_assist: Shutting off throttle for hw_assist alerts from partner(%s).

Parameters

partnerName (STRING): Partner’s name.

cf.hwassist.takeoverTrapRecv

Severity

NOTICE

Description

This message occurs when hwassist thread receives a hw_assist alert which will result in partner takeover. EMS displays trap type as well as reason for the trap.

Corrective Action

(None).

Syslog Message

hw_assist: Received takeover hw_assist alert from partner(%s), %s because %s.

Parameters

partnerName (STRING): Partner’s name
trap_type (STRING): Type of trap received
trap_event (STRING): Type of trap event

cf.hwassist.unknownSig

Severity

INFORMATIONAL

Description

This message occurs when hwassist thread receives an unknown signal.

Corrective Action

None.

Syslog Message

hw_assist: Received unknown signal 0x%x.

Parameters

sigmask (INT): Signal received by hwassist thread.

cf.ic events

cf.ic.cc.config.changed

Severity

NOTICE

Description

This message occurs when the controller configuration is changed from a single enclosure HA configuration to a dual enclosure HA configuration.

Corrective Action

If the controller is part of a dual enclosure HA configuration, make sure that the psm-cc-config? environment variable is unset and reboot.

Syslog Message

HA interconnect: Controller configuration was changed from single enclosure HA configuration to dual enclosure HA configuration.

Parameters

(None).

cf.ic.clientinitFailed

Severity

ERROR

Description

This message occurs when the interconnect client fails to initialize due to remote VI setup failure.

Corrective Action

Reboot the controller. Contact NetApp technical support if the problem persists.

Syslog Message

HA interconnect: Initialization failure for %s client.

Parameters

client (STRING): Name of the client that failed to initialize.

cf.ic.disabled

Severity

ERROR

Description

This message occurs when the HA interconnect is disabled by the ic-type environment variable.

Corrective Action

Either remove the HA interconnect from the controller or change the ic-type environment variable.

Syslog Message

HA interconnect: Card in slot %d has been disabled because of the ic-type environment variable.

Parameters

slot (INT): Slot that the interconnect is in.

cf.ic.driver.flush.idWarn

Severity

NOTICE

Description

This message occurs when the HA interconnect cannot process a flush request for a particular driver I/O request.

Corrective Action

(None).

Syslog Message

HA interconnect: Flush %s failed for channel %d and ID %d.

Parameters

s (STRING): Name of the error.
nvidx (INT): Interconnect channel.
wrid (INT): Work request ID.

cf.ic.failed.memReg

Severity

INFORMATIONAL

Description

This message occurs when memory registration fails.

Corrective Action

(None).

Syslog Message

HA interconnect: Memory registration operation failed at %d.

Parameters

source (INT): Source for the memory operation.

cf.ic.flush.ACKWarn

Severity

NOTICE

Description

This message occurs when the HA interconnect cannot send acknowledgments through its completion channel.

Corrective Action

(None).

Syslog Message

HA interconnect: Flush completion %s error.

Parameters

s (STRING): Name of the error.

cf.ic.flush.MemError

Severity

ERROR

Description

This message occurs during boot time initialization, when the HA interconnect encounters an error with memory registration or allocation.

Corrective Action

Reboot the controller to restart the HA interconnect. Contact NetApp technical support if the problem persists.

Syslog Message

HA interconnect: Flush memory %s error.

Parameters

s (STRING): Name of the error.

cf.ic.flush.oodlinitFailed

Severity

ERROR

Description

This message occurs when there is a failure in the initialization of a NIC to enable out-of-order delivery on the HA interconnect.

Corrective Action

Reboot the controller to enable HA interconnect flushing. Contact NetApp technical support if the problem persists.

Syslog Message

HA interconnect: Flush out-of-order delivery initialization failed.

Parameters

(None).

cf.ic.heartBeatFailed

Severity

ERROR

Description

This message occurs when heartbeats cannot be sent or received over the HA interconnect.

Corrective Action

Verify that both controllers in the HA pair are operational. If this message persists, disable and reenable the links one at a time by using the (privilege: advanced) "system ha interconnect link off" and "system ha interconnect link on" commands.

Syslog Message

HA interconnect: Heartbeat failed.

Parameters

(None).

cf.ic.initFailed

Severity

ERROR

Description

This message occurs when the driver fails to find an HA interconnect adapter or the interconnect is nonfunctional.

Corrective Action

Verify that the High Availability interconnect card is present and operational on the system. Reboot the controller. Contact NetApp technical support if this problem persists.

Syslog Message

HA interconnect: Unable to initialize process.

Parameters

(None).

cf.ic.non.cc.config.changed

Severity

NOTICE

Description

This message occurs when the controller configuration is changed from a dual enclosure HA configuration to a single enclosure HA configuration.

Corrective Action

If the controller is part of single enclosure HA configuration, make sure that that the other controller is physically present in the chassis and that the psm-cc-config? environment variable is set to true, and then reboot.

Syslog Message

HA interconnect: Controller configuration was changed from dual enclosure HA configuration to single enclosure HA configuration.

Parameters

(None).

cf.ic.notifyTimeout

Severity

NOTICE

Description

This message occurs when data transfer over the HA interconnect times out.

Corrective Action

(None).

Syslog Message

HA interconnect: %s transfer timed out.

Parameters

qp_name (STRING): Queue-pair name.

cf.ic.portsCrossConnected

Severity

ALERT

Description

This message occurs when the HA interconnect driver determines that the ports between this controller and its partner are cross-connected.

Corrective Action

Connect port 1 on this controller to port 1 on the partner, and connect port 2 on this controller to port 2 on the partner. If the interconnect cables have serial number tags on both ends, use the serial numbers to verify that the ports are properly connected. If the interconnect cables do not have serial number tags, disconnect one of the HA interconnect ports from one of the controllers. The LEDs of this port and one of the ports on the partner turn off. If the two ports have different port numbers, the cables are cross-connected. Reversing the connection on one of the controllers rectifies the problem.

Syslog Message

HA interconnect: Port %d of this controller seems to be connected to port %d on the partner.

Parameters

localPort (INT): Local port number.
remotePort (INT): Remote port number.

cf.ic.probe.error

Severity

ALERT

Description

This event is generated when we fail to detect an High Availability (HA) interconnect communication device during system initialization. If this error occurs, internode communication within the HA pair is down.

Corrective Action

Examine the logs for messages regarding the HA interconnect. Resolve the HA interconnect problems.

Syslog Message

Failover monitor: no interconnect found WARNING: Failover monitor operating in degraded mode

Parameters

errorCode (INT): The internal error code

cf.ic.sbb

Severity

NOTICE

Description

This message occurs when a system SBB (Storage Bridge Bay) Compatibility event occurs. SBB Compatibility events determine the presence or absence of the HA partner controller on some platforms.

Corrective Action

(None).

Syslog Message

HA interconnect: SBB Compatibility Event. %s

Parameters

event_description (STRING): Presence or absence of the partner controller and what action has been taken on the interconnect device.

cf.ic.xferTimedOut

Severity

ERROR

Description

This message occurs when data transfer over the HA interconnect times out. This is usually seen when the interconnect link goes down. It can also be encountered when the interconnect hardware, firmware, or driver experiences a hang.

Corrective Action

Contact NetApp technical support if the problem persists.

Syslog Message

HA interconnect: %s transfer timed out.

Parameters

qp_name (STRING): Name of the connection queue-pair that timed out.

cf.ic.xferTimedOutVSA

Severity

NOTICE

Description

This message occurs when data transfer over the high-availability (HA) interconnect times out on virtual platforms. This is usually seen when the underlying network is busy or the system is operating under heavy load.

Corrective Action

Contact NetApp technical support if the problem persists.

Syslog Message

HA interconnect: %s transfer timed out.

Parameters

qp_name (STRING): Name of the connection queue-pair that timed out.

cf.mccip events

cf.mccip.med.auso.stDisabled

Severity

ERROR

Description

This message occurs when automatic switchover in a MetroCluster(tm) IP configuration is disabled because the mediator mailbox disk is not healthy.

Corrective Action

Use the "storage failover show -fields local-mailbox-disks" command to verify that all nodes in the cluster can access their respective mailbox disks. Use the (privilege: advanced) "storage iscsi-initiator show" command to verify that iSCSI connections to the mediator are up and healthy.

Syslog Message

Automatic switchover disabled: Mediator mailbox disk not healthy.

Parameters

(None).

cf.mccip.med.auso.stEnabled

Severity

NOTICE

Description

This message occurs when automatic switchover in a MetroCluster(tm) IP configuration is enabled because the mediator mailbox disk is online.

Corrective Action

(None).

Syslog Message

Automatic switchover enabled.

Parameters

(None).

cf.misc events

cf.misc.givebackPartnerNotReady

Severity

NOTICE

Description

The message occurs when a giveback is initiated before the partner has reached waiting-for-giveback state.

Corrective Action

(None).

Syslog Message

Giveback is being initiated before the partner is in the waiting-for-giveback state. The partner is in the %s state.

Parameters

state (STRING): Current state of the partner.

cf.misc.icNicFailureTakeover

Severity

ALERT

Description

This message occurs when a takeover is initiated because InterConnect NIC failed on the partner node.

Corrective Action

Replace the network interface card of InterConnect which went down on the partner node.

Syslog Message

Failover monitor: takeover initiated because of InterConnect NIC failure on the partner node.

Parameters

(None).

cf.misc.operatorDisable

Severity

ERROR

Description

This message occurs when the operator disables the high-availability (HA) pair.

Corrective Action

Use the "storage failover modify -enabled true" command to reenable failover.

Syslog Message

Failover monitor: operator initiated disabling of takeover.

Parameters

(None).

cf.misc.operatorDisableOption

Severity

ERROR

Description

This event is issued when the operator disables a High Availability (HA) option.

Corrective Action

Re-enable the option

Syslog Message

(None).

Parameters

option (STRING): Name of the option

cf.misc.operatorEnable

Severity

NOTICE

Description

This event is issued when the operator enables failover between the 2 nodes.

Corrective Action

(None).

Syslog Message

Failover monitor: operator initiated enabling of failover.

Parameters

(None).

cf.misc.operatorEnableOption

Severity

NOTICE

Description

This event is issued when the operator enables a controller failover option.

Corrective Action

(None).

Syslog Message

(None).

Parameters

option (STRING): Name of the option

cf.misc.operatorForcedTakeover

Severity

NOTICE

Description

This event is issued when a forced takeover is initiated by the operator.

Corrective Action

(None).

Syslog Message

Failover monitor: forced takeover initiated by operator

Parameters

(None).

cf.misc.operatorGiveback

Severity

INFORMATIONAL

Description

This event is issued when a giveback is initiated by the operator.

Corrective Action

(None).

Syslog Message

Failover monitor: %s initiated by operator

Parameters

strengthString (STRING): External string
strengthCode (INT): Internal code for strength

cf.misc.operatorTakeover

Severity

NOTICE

Description

This event is issued when a takeover is initiated by the operator.

Corrective Action

(None).

Syslog Message

Failover monitor: takeover initiated by operator

Parameters

(None).

cf.misc.ProgTakeover

Severity

NOTICE

Description

This message is issued when a takeover is initiated programmatically by Data ONTAP®.

Corrective Action

(None).

Syslog Message

Failover monitor: takeover initiated.

Parameters

(None).

cf.misc.ProgTakeoverFail

Severity

NOTICE

Description

This message occurs when a takeover is initiated programmatically by Data ONTAP® and the takeover request fails.

Corrective Action

Check the reason string and repair the problem reported.

Syslog Message

Failover monitor: Programmatic takeover failed (%s)

Parameters

errorstr (STRING): Error string returned by the failover monitor.

cf.misc.ProgTakeoverFailInit

Severity

NOTICE

Description

This message occurs when a takeover is initiated programmatically by Data ONTAP® and the takeover request fails because the controller is set to "non_ha" mode or is not initialized.

Corrective Action

Set the HA mode to "ha" by using the "storage failover modify -mode ha" command, and then reboot the node.

Syslog Message

Failover monitor: Programmatic takeover failed due to initialization issues.

Parameters

(None).

cf.misc.ProgTakeoverFailInTO

Severity

NOTICE

Description

This message occurs when a takeover is initiated programmatically by Data ONTAP® and the node is already in takeover mode.

Corrective Action

(None).

Syslog Message

Failover monitor: Programmatic takeover failed due to previous takeover.

Parameters

(None).

cf.misc.ProgTakeoverFailNotUp

Severity

NOTICE

Description

This message occurs when a negotiated takeover is initiated programmatically by Data ONTAP® and the partner node is not up.

Corrective Action

Bring up the partner node.

Syslog Message

Failover monitor: Programmatic takeover failed because the partner node is not up.

Parameters

(None).

cf.misc.ProgTakeoverFailPartnerDeny

Severity

NOTICE

Description

This message occurs when a takeover is initiated programmatically by Data ONTAP® and the partner node denies the takeover request.

Corrective Action

Check previous EMS messages to determine why takeover was denied.

Syslog Message

Failover monitor: Programmatic takeover failed because the partner node denied the takeover request.

Parameters

(None).

cf.misc.ProgTakeoverFailShutdown

Severity

NOTICE

Description

This message occurs when a takeover is initiated programmatically by Data ONTAP® and a shutdown is in progress.

Corrective Action

Verify that both nodes are booted.

Syslog Message

Failover monitor: Programmatic takeover failed because shutdown was in progress.

Parameters

(None).

cf.mode events

cf.mode.auto.HA

Severity

NOTICE

Description

This message occurs when the controller is automatically set to High Availability(HA) mode because of the configuration values in the Field Replaceable Unit(FRU) or the slot of the interconnect/NVRAM card (depending on the hardware type of the controller).

Corrective Action

(None).

Syslog Message

(None).

Parameters

(None).

cf.mode.auto.non.HA

Severity

NOTICE

Description

This message occurs when the controller is automatically set to non-High Availability (non-HA) mode because of the configuration values in the Field Replaceable Unit (FRU) or the slot of the interconnect/NVRAM card (depending on the hardware type of the controller).

Corrective Action

(None).

Syslog Message

(None).

Parameters

(None).

cf.mode.HA

Severity

INFORMATIONAL

Description

This message occurs when the user sets the controller to High Availability(HA) mode through the command-line interface.

Corrective Action

(None).

Syslog Message

(None).

Parameters

(None).

cf.mode.HA.onboot

Severity

INFORMATIONAL

Description

This message occurs when the controller is set to High Availability (HA) mode according to options detected at boot.

Corrective Action

(None).

Syslog Message

(None).

Parameters

(None).

cf.mode.non.HA

Severity

INFORMATIONAL

Description

This message occurs when the user sets the controller to non-High Availability (non-HA) mode through the command-line interface.

Corrective Action

(None).

Syslog Message

(None).

Parameters

(None).

cf.mode.non.HA.onboot

Severity

INFORMATIONAL

Description

This message occurs when the controller is set to non-High Availability (non-HA) mode according to options detected at boot.

Corrective Action

(None).

Syslog Message

(None).

Parameters

(None).

cf.multidisk events

cf.multidisk.fatalProblem

Severity

ERROR

Description

This message occurs when the node is waiting for the partner to take over, after the node encounters a multidisk error or some other fatal error.

Corrective Action

(None).

Syslog Message

Node encountered a multidisk error or other fatal error while waiting to be taken over. %s.

Parameters

mdp_msg (STRING): Multi Disk Panic (MDP) string.

cf.nducomplete events

cf.nduComplete

Severity

INFORMATIONAL

Description

This message occurs when a nondisruptive upgrade is completed successfully.

Corrective Action

(None).

Syslog Message

(None).

Parameters

token (STRING): Unique token that identifies an instance of a nondisruptive upgrade.
host (STRING): Name of system that completed the nondisruptive upgrade.

cf.nduincomplete events

cf.nduIncomplete

Severity

INFORMATIONAL

Description

This message occurs when a nondisruptive upgrade fails.

Corrective Action

Resolve the reason for the failure and retry the nondisruptive upgrade from the failed step.

Syslog Message

(None).

Parameters

token (STRING): Unique token that identifies an instance of a nondisruptive upgrade.
host (STRING): Name of the node that failed the nondisruptive upgrade.
reason (STRING): Reason for the upgrade failure.

cf.ndustart events

cf.nduStart

Severity

INFORMATIONAL

Description

This message occurs when a nondisruptive upgrade starts.

Corrective Action

(None).

Syslog Message

(None).

Parameters

token (STRING): Unique token that identifies an instance of a nondisruptive upgrade.
host (STRING): Name of system that started the nondisruptive upgrade.

cf.nm events

cf.nm.nicReset

Severity

NOTICE

Description

This message occurs when the controller performs a soft reset of the HA interconnect card as part of automatic recovery from a timeout or link error.

Corrective Action

(None).

Syslog Message

HA interconnect: Initiating soft reset on card %d due to %s.

Parameters

nic_num (INT): Interconnect NIC number.
reason (STRING): Describes why the soft reset was initiated. Possible reasons: rendezvous jammed rendezvous fm timeout rendezvous peer-connect timeout

cf.nm.nicViError

Severity

INFORMATIONAL

Description

This message occurs when any error is detected in any virtual interface while handling a link transition.

Corrective Action

(None).

Syslog Message

HA interconnect: NIC %d has an error on %s (virtual interface #%d): %s.

Parameters

nic_num (INT): Interconnect NIC number.
vi_name (STRING): Name of the virtual interface.
vinum (INT): Virtual interface number.
origin (STRING): Origin of the error.

cf.noautogb events

cf.noAutoGB.ptnrLowerVersion

Severity

NOTICE

Description

This message occurs when an automatic giveback operation is cancelled because the high-availability (HA) partner is using an earlier and incompatible Data ONTAP® version than the local node. Subsequent failover events might not be successful when HA partners are not using compatible Data ONTAP versions.

Corrective Action

Run the "system node image show" command to determine which image on the partner should be booted to be compatible with the local node. After rebooting the node, automatic giveback is performed.

Syslog Message

Auto-giveback cancelled because the HA partner is using a lower Data ONTAP version than the local node.

Parameters

(None).

cf.nopartner_takeover events

cf.noPartner_takeover

Severity

ERROR

Description

This message occurs when the partner node fails but requested not to be taken over to prevent multiple, simultaneous RAID reconstructs from starting.

Corrective Action

Check the partner node for multiple disk or disk shelf failures, and then correct that situation. If you want takeover to occur, use the "storage failover takeover" command. If you want takeover to occur when disk or shelf failures occur, change the setting of the "raid.panic.missing.disks" option to '0' from the nodeshell.

Syslog Message

Failover monitor: Partner node is down, but requested not to be taken over.

Parameters

(None).

cf.nullshelfcountmsg events

cf.nullShelfCountMsg

Severity

ERROR

Description

This event occurs if we are sent a NULL negotiated failover shelf count message. * This is likely due to an InterConnect problem.

Corrective Action

Check for and resolve any interconnect errors.

Syslog Message

Invalid disk shelf count message was received from partner.

Parameters

(None).

cf.partner events

cf.partner.login

Severity

INFORMATIONAL

Description

This event is issued when a login to the console of the partner occurs as a result of the 'partner' command being issued with no arguments.

Corrective Action

(None).

Syslog Message

Login to partner shell: %s

Parameters

hostname (STRING): The name of this node

cf.partner.logoff

Severity

INFORMATIONAL

Description

This event is issued when a logoff from the console of the partner occurs as a result of the 'partner' command being issued with no arguments.

Corrective Action

(None).

Syslog Message

Logoff from partner shell: %s

Parameters

hostname (STRING): The name of this node

cf.partner.nvram.notSync

Severity

INFORMATIONAL

Description

This message occurs during takeover, when the system finds the partner nonvolatile memory (NVRAM) unsynchronized. There might be data loss.

Corrective Action

(None).

Syslog Message

Partner NVRAM was not synchronized. Some data might be lost.

Parameters

(None).

cf.partner.nvram.state

Severity

INFORMATIONAL

Description

This message occurs during takeover, when the system determines that the partner mailbox is stale. This might mean that partner nonvolatile memory (NVRAM) is unsynchronized and might have some data loss.

Corrective Action

(None).

Syslog Message

Partner mailbox was stale. Partner NVRAM might not be synchronized and some data might be lost.

Parameters

(None).

cf.partner.ready.giveback

Severity

INFORMATIONAL

Description

This message occurs when the partner is booted and ready for giveback.

Corrective Action

Verify that network connectivity is restored, and then use the "storage failover giveback" command to initiate giveback to the partner.

Syslog Message

Partner is booted and ready for giveback.

Parameters

(None).

cf.partner.shortUptime

Severity

ERROR

Description

This message occurs when a node in a controller failover pair determines that the partner node has stayed up for a very short time period. This might result in a takeover

Corrective Action

Check the disk connectivity to the partner node. If the problem persists and the partner node restarts multiple times, perform hardware diagnostics in maintenance mode, and then consult the EMS logs to determine why this is happening.

Syslog Message

Partner up for %llu seconds only.

Parameters

seconds (LONGINT): Time duration for which the partner was up.

cf.reservation events

cf.reservation.disk.notFound

Severity

NOTICE

Description

This message occurs when the system does not halt on a disk reservation conflict and the reservation is not found on the disk.

Corrective Action

(None).

Syslog Message

Reservation found on disk %s; not halting due to sanown_pr_test_mode.

Parameters

diskName (STRING): Disk name.

cf.rsrc events

cf.rsrc.givebackFail

Severity

ALERT

Description

This message occurs when a failure is detected during giveback. The giveback operation will be cancelled.

Corrective Action

Check the logs for other messages regarding the listed subsystem using the "event log show" CLI command. Resolve those problems and perform a planned giveback operation using "storage failover giveback" command.

Syslog Message

Failover monitor: giveback during %s failed; giveback cancelled.

Parameters

op (STRING): Name of the giveback subsystem that has suffered a fatal error.

cf.rsrc.givebackForceFail

Severity

ERROR

Description

This event occurs if a failure is forced during giveback. This event should only occur in debugging kernels.

Corrective Action

Retry the takeover.

Syslog Message

Failover monitor: giveback during %s forced fail

Parameters

op (STRING): Name of the takeover operation

cf.rsrc.givebackForceVeto

Severity

ERROR

Description

This event occurs if a veto is forced during giveback. This event should only occur in debugging kernels.

Corrective Action

Check the state of the subsystem listed in this message. Retry the giveback.

Syslog Message

Giveback during %s forced veto

Parameters

op (STRING): Name of the takeover operation

cf.rsrc.givebackOpFail

Severity

ERROR

Description

This event occurs if a failure is detected during giveback. This error is not fatal to the giveback process but indicates that the related service could not be shutdown cleanly.

Corrective Action

Check the state of the subsystem listed in the message and validate it is working correctly. Validate that there are no configuration errors for the listed subsystem.

Syslog Message

Failover monitor: giveback during %s failed; giveback continuing…

Parameters

op (STRING): Name of the giveback operation that has suffered a non-fatal error.

cf.rsrc.givebackUnexpected

Severity

ALERT

Description

This event occurs if we detect an unexpected failover monitor state during a giveback operation. This indicates a software bug.

Corrective Action

Retry the giveback.

Syslog Message

(None).

Parameters

op (STRING): Name of the giveback operation
state (INT): Value of the failover monitor state

cf.rsrc.givebackVeto

Severity

ALERT

Description

This message occurs when a veto is indicated during giveback. A veto occurs when the active partner state is detected during the giveback process. A veto can be overridden by using the "cf giveback -f" or "storage failover takeover -override-vetoes true" command.

Corrective Action

Check the preceeding messages for reasons why the giveback was vetoed. Check the state of the subsystem listed in this message. Retry the giveback.

Syslog Message

Failover monitor: %s: giveback canceled due to active state.

Parameters

op (STRING): Name of the takeover operation.

cf.rsrc.raidReplayOnlyTODone

Severity

INFORMATIONAL

Description

This event occurs when a node is booting after having panicked too soon after takeover or during takeover. In that event we want to replay the partner RAID logs, before we perform a giveback. This message indicates the point at which we have committed partner RAID logs to the disk and are now going to initiate a giveback.

Corrective Action

(None).

Syslog Message

Failover monitor: Raid replay-only takeover completed. Initiating giveback.

Parameters

(None).

cf.rsrc.replayOnlyTakeoverDone

Severity

NOTICE

Description

This event occurs when a node is booting after having panicked too soon after takeover or during takeover. In that event we want to replay the partner logs, before we perform a giveback. This message indicates the point at which we have committed partner logs to the disk and are now going to initiate a giveback.

Corrective Action

(None).

Syslog Message

Failover monitor: replay-only takeover completed. Initiating giveback.

Parameters

(None).

cf.rsrc.takeoverFail

Severity

ALERT

Description

This message occurs when a failure is detected during takeover. The takeover operation will be cancelled.

Corrective Action

Contact NetApp technical support.

Syslog Message

Failover monitor: takeover during %s failed; takeover cancelled.

Parameters

op (STRING): Name of the takeover operation that has suffered a fatal error.

cf.rsrc.takeoverForceFail

Severity

ERROR

Description

This event occurs if a failure is forced during takeover. This event should only occur in debugging kernels.

Corrective Action

Retry the takeover request.

Syslog Message

Failover monitor: takeover during %s forced fail

Parameters

op (STRING): Name of the takeover operation

cf.rsrc.takeoverOpFail

Severity

ERROR

Description

This event occurs if a failure is detected during takeover. This error is not fatal to the takeover process but indicates that the related service may be inaccessible during takeover of the partner.

Corrective Action

After takeover completes, check the state of the subsystem listed in the message. Check that the configuration of the subsystem listed in the messsage is correct.

Syslog Message

Failover monitor: takeover during %s failed; takeover continuing…

Parameters

op (STRING): Name of the takeover operation that has suffered a non-fatal error.

cf.rsrc.takeoverUnexpected

Severity

ERROR

Description

This event occurs if we detect an unexpected failover monitor state during a takeover operation. This indicates a software bug.

Corrective Action

Check the state of the subsystem listed in 'op' parameter. Retry the giveback.

Syslog Message

(None).

Parameters

op (STRING): Name of the giveback operation
state (INT): Value of the failover monitor state

cf.rv events

cf.rv.connected

Severity

INFORMATIONAL

Description

This message occurs when an HA connection agent connects on an HA interconnect device.

Corrective Action

(None).

Syslog Message

HA interconnect: Connection for '%s' succeeded.

Parameters

rv_name (STRING): Logical name of the successful HA connection.

cf.rv.flush.handleExchange

Severity

INFORMATIONAL

Description

This message occurs when HA interconnect exchanges flushing information with the partner.

Corrective Action

If the flush handle exchange reports "inactive", the remote controller might be running a version of Data ONTAP® that does not support flushing. Make sure that the controller and its partner are running compatible versions of the software.

Syslog Message

HA interconnect: Flushing is %s.

Parameters

s (STRING): Flushing status.

cf.rv.localNoConn

Severity

INFORMATIONAL

Description

This message occurs when the local controller votes not to connect to the HA partner. This can be caused by incompatibility between the software versions running on the two controllers.

Corrective Action

Install compatible versions of software on both controllers.

Syslog Message

HA interconnect: Local controller voted not to connect.

Parameters

(None).

cf.rv.nicReset

Severity

ERROR

Description

This message occurs when HA interconnects are reset due to NVRAM log being unsynchronized for longer time than 15 seconds.

Corrective Action

Contact NetApp technical support if the problem persists.

Syslog Message

HA interconnect: Reset due to unsynchronized log.

Parameters

(None).

cf.rv.notConnected

Severity

ALERT

Description

This message occurs when an HA connection agent fails to connect on an HA interconnect device.

Corrective Action

Verify that both controllers in the HA pair are operational. If this message persists, disable and reenable the link by using the (privilege: advanced) "system ha interconnect link off" and "system ha interconnect link on" commands.

Syslog Message

HA interconnect: Connection for '%s' failed.

Parameters

rv_name (STRING): Logical name of the failing HA connection.

cf.rv.partnerNoConn

Severity

ERROR

Description

This message occurs when the HA partner votes not to connect to this controller. This can happen if the HA partner detects an incompatibility between the software versions running on the two controllers.

Corrective Action

Install compatible versions of software on both controllers.

Syslog Message

HA interconnect: Partner voted not to connect.

Parameters

(None).

cf.shutdown events

cf.shutdown.info

Severity

NOTICE

Description

This message occurs when the controller receives a message from its partner over the HA interconnect that indicates a condition related to the partner’s attempted graceful shutdown.

Corrective Action

(None).

Syslog Message

(None).

Parameters

eventType (STRING): Event type, such as "Long shutdown".
eventSummary (STRING): Last task executed and its duration.
shutdownSummary (STRING): Shutdown phase summary for the event.

cf.sysid events

cf.sysid.sent

Severity

INFORMATIONAL

Description

This message occurs when a node sends its system ID and its HA partner’s system ID successfully across the HA interconnect.

Corrective Action

(None).

Syslog Message

(None).

Parameters

sysid (LONGINT): Value of the local system ID that was sent successfully .
host (STRING): This parameter is obsolete from Data ONTAP®8.3 and later because the parter’s systemID is also sent in the message.
partner_sysid (LONGINT): Value of the partner system ID that was sent successfully.

cf.takeover events

cf.takeover.aborted.bdfu

Severity

NOTICE

Description

This message occurs when negotiated takeover is aborted because the background disk firmware update took more than 120 seconds to finish.

Corrective Action

Rerun the takeover command.

Syslog Message

(None).

Parameters

(None).

cf.takeover.delayed.bdfu

Severity

INFORMATIONAL

Description

This message occurs when negotiated takeover is initiated on a node while the background disk firmware update (BDFU) is in progress. If update is not completed within 120 seconds, takeover is aborted.

Corrective Action

(None).

Syslog Message

(None).

Parameters

(None).

cf.takeover.delayed.cleanup

Severity

INFORMATIONAL

Description

This message occurs when takeover of a node by the node's high-availability (HA) partner was delayed due to the cleanup being performed after the previous giveback event.

Corrective Action

(None).

Syslog Message

(None).

Parameters

delay (LONGINT): Amount of time (in milliseconds) the takeover was delayed.

cf.takeover.disabled

Severity

ALERT

Description

This message occurs when takeover of a node by the node's high-availability (HA) partner is disabled.

Corrective Action

Resolve the issue, as identified by the message, for takeover being disabled. Use the "storage failover show -instance" command to determine whether the disks are accessible by both nodes in the HA pair, also check the HA interconnect between both nodes is installed and functioning correctly. If not, fix the cabling, disk, or adapter issues to resolve the connectivity issues.

Syslog Message

%s.

Parameters

reason (STRING): Reason for takeover being disabled.

cf.takeover.missing.ptnrDiskInventory

Severity

EMERGENCY

Description

This message occurs when a takeover request is denied because the node did not receive the partner disk inventory information.

Corrective Action

Wait five minutes and then try takeover again. If you want to disable the disk inventory check instead, you can use the "cf disable diskInventory" command from the advanced privilege level of the nodeshell. However, disabling the disk inventory check might lead to a client outage when the local node cannot see the partner disks during takeover.

Syslog Message

(None).

Parameters

(None).

cf.takeover.missingPtnrDisks

Severity

EMERGENCY

Description

This message occurs when a takeover request is denied because the node cannot see some of the partner's drives.

Corrective Action

Make sure that the local node has connectivity to all file system drives owned by the partner. Use the "storage failover show -fields local-missing-disks, partner-missing-disks" command to rescan the drive and to determine latest ownership. Drives might not be visible if partner drives have failed or the node is having issues accessing the partner node's drives. Verify that the HA interconnect cabling is correct, replace any failed drives and then check whether the issue is resolved.

Syslog Message

Failover monitor: Takeover failed because the node cannot see some of the partner node's drives.

Parameters

(None).

cf.transition events

cf.transition.info

Severity

NOTICE

Description

This message occurs when a failover event is completed successfully. It displays the protocol transition information for the event.

Corrective Action

(None).

Syslog Message

%s %s.

Parameters

eventType (STRING): Takeover, aggregate relocation, SFO phase of takeover, or SFO giveback event type.
eventSummary (STRING): Transition duration for protocols during the event.