



## **cf events**

### **ONTAP 9.12.1 EMS reference**

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# cf events

## 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. 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 a CFO giveback, and completion of an SFO 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, and "require-partner-waiting" 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.ImgrVetoOverride****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 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 high-availability (HA) interconnect adapter or 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 was 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.noMBDisksOrlc

### 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****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.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 unimpaired 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 off, 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 quorum".

**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

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 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.
- Takeover disabled: Use the "storage failover modify -enabled true" command to reenale 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 reenale HA functionality.
- Takeover disabled by operator: Use the "storage failover modify -enabled true" command to reenale 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 switchover.

### Syslog Message

Failover monitor: takeover of %s by %s disabled (%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. -HA takeover disabled: Use the "storage failover modify -enabled true" command to reenab 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 reenab HA functionality. -Takeover disabled by operator: Use the "storage failover modify -enabled true" command to reenab 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 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.

### 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 reenabling 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, reenabling 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 a controller module fails to update the hardware-assist configuration with its partner node. This is most likely because the SP component is not ready. The controller module will retry the hardware-assist configuration update automatically.

### Corrective Action

Use the `""system node service-processor show""` command to check whether the SP is online. The SP must be online to update the hardware-assist configuration. If the SP is operational and online, use the `""system node service-processor reboot-sp""` command to reboot the SP. If the message persists, contact NetApp technical support.

### Syslog Message

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

INFORMATIONAL

### Description

This message occurs when hwassist thread receives hw\_assist KeepAlive alert after missing at least two consecutive KeepAlive alerts.

### Corrective Action

(None).

## Syslog Message

hw\_assist: Received hw\_assist KeepAlive alert from partner(%s).

## Parameters

**partnerName** (STRING): Partner's name

## 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 reenab 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 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.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 preceding 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 message 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 15seconds.

### **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 partner'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. If you want to disable the drive inventory check instead, use the "storage failover takeover -allow-disk-inventory-mismatch true" command. However, disabling the drive inventory check during takeover is not advisable, because it might lead to client outage.

## 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.

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