



gb events

ONTAP 9.11.1 EMS reference

NetApp
December 15, 2022

Table of Contents

- gb events 1
- gb.cfo events 1
- gb.netra events 7
- gb.sfo events 8

gb events

gb.cfo events

gb.cfo.abort.raid.fm

Severity

ERROR

Description

This message occurs when a high-availability (HA) controller failover (CFO) giveback is canceled due to RAID activity on a partner aggregate.

Corrective Action

Reissue the "storage failover giveback" command to initiate giveback to the partner after the pending or in-progress operation on the partner volume or aggregate is complete. Use the "storage aggregate status -r" command to view the state of the aggregate. If a plex is offline, use the "storage aggregate plex online" command to bring the plex online. If unmirrored aggregates are not supported on this configuration, use the "storage aggregate mirror" command to mirror this aggregate.

Syslog Message

%s %s%s is %s; canceling giveback.

Parameters

vol_type (STRING): Volume type.
owner (STRING): Current owner of the aggregate.
vol (STRING): Name of the aggregate.
reason (STRING): Activity that is preventing CFO giveback.

gb.cfo.veto.asup.generalNopart

Severity

NOTICE

Description

This message occurs when AutoSupport vetoes a controller failover (CFO) giveback request because an AutoSupport message for the down partner node was not collected prior to the giveback request.

Corrective Action

Typically, an AutoSupport message for the partner node is collected shortly after takeover is complete. If the CFO giveback was attempted and vetoed within 20 minutes of the takeover, retry the operation later. If time does not permit waiting, use the 'cf giveback -f' command to force a giveback.

Syslog Message

AutoSupport vetoed giveback because an AutoSupport message for the down partner node was not yet collected.

Parameters

(None).

gb.cfo.veto.coredump.pardump

Severity

NOTICE

Description

This message occurs when the partner node is still dumping core, and cannot yet resume serving data. The giveback attempt has been canceled.

Corrective Action

Either let the dumpcore operation finish, or use the "-override-vetoes true" parameter to force a giveback.

Syslog Message

Giveback canceled because partner is still dumping core

Parameters

(None).

gb.cfo.veto.coredump.parsave

Severity

NOTICE

Description

This message occurs when savecore is currently saving the partner coredump. This work will be lost if a giveback is done at this time, so the giveback has been canceled.

Corrective Action

Either let the savecore operation finish, or use the "-override-vetoes true" parameter to force a giveback.

Syslog Message

Giveback canceled because savecore is running. %d%% - %d of %d blocks saved

Parameters

percent (INT): Percentage of core that has been saved
completed (INT): Number of blocks that have been saved
total (INT): Total number of blocks in the core

gb.cfo.veto.coredump.savinit

Severity

NOTICE

Description

This message occurs when savecore is getting ready to start saving the partner coredump. The giveback attempt has been canceled.

Corrective Action

Either let the savecore operation finish, or use the "-override-vetoes true" parameter to force a giveback.

Syslog Message

Giveback canceled because savecore is initializing

Parameters

(None).

gb.cfo.veto.lmgr.nonCA.broke

Severity

NOTICE

Description

This message occurs when a giveback is forced that causes non-continuously available (non-CA) locks on the volume to be dropped. CA locks are established by opens through CIFS CA shares for regular files on read-write volumes that reside in controller failover (CFO) aggregates. These locks are mirrored to the node's high-availability (HA) partner to support the nondisruptive property of CA shares. The rest of the locks are classified as non-CA locks and are not mirrored to the node's HA partner.

Corrective Action

(None).

Syslog Message

Dropped non-CA locks on volume %s%s%s%s on CFO aggregate %s due to forced giveback.

Parameters

owner (STRING): Volume owner.

vol (STRING): Volume name.

app (STRING): Application UUID.

volident (STRING): Unique identifier of the volume in cases where the volume name alone is insufficient.

aggrname (STRING): Aggregate name.

gb.cfo.veto.lmgr.nonCA.locks

Severity

ERROR

Description

This message occurs when a giveback has started but cannot proceed because non-continuously available (non-CA) locks are present on the volume. CA locks are established by opens through CIFS CA shares for regular files on read-write volumes that reside in controller failover (CFO) aggregates. These locks are mirrored to the node's high-availability (HA) partner to support the nondisruptive property of CA shares. The rest of the locks are classified as non-CA locks and are not mirrored to the node's HA partner.

Corrective Action

Based on how resilient they are to failures, applications must either gracefully close sessions over which non-CA locks are established or accept lock state disruption. To determine the open files that have these sessions established, run the 'vserver cifs session file show -hosting-aggregate "aggregate list" -continuously-available No' command. "aggregate list" is a list of aggregates that are sent home as a result of the giveback operation. If lock state disruption for all existing non-CA locks is acceptable, retry the giveback operation by using the '-override-vetoes true' option.

Syslog Message

Could not complete giveback because of non-CA locks on volume %s%s%s%s CFO aggregate %s.

Parameters

owner (STRING): Volume owner.

vol (STRING): Volume name.

app (STRING): Application UUID.

volident (STRING): Unique identifier of the volume in cases where the volume name alone is insufficient.

aggrname (STRING): Aggregate name.

gb.cfo.veto.nvsave.fail

Severity

ERROR

Description

This message occurs when the system cannot perform a giveback due to WAFL® NVSave file replay activity, and must abort the giveback.

Corrective Action

Retry the giveback operation after completion of NVSave files replay. Replay completion is indicated by the EMS message 'wafl.nvsave.replaying.pass' or 'wafl.nvsave.replaying.fail'.

Syslog Message

%s %s%s%s%s has WAFL NVSave file replay activity underway; canceling giveback.

Parameters

type (STRING): Object type (volume or aggregate).

owner (STRING): Volume owner.

vol (STRING): Volume name.

app (STRING): Application UUID.

volident (STRING): To uniquely identify the volume in cases where the volume name itself is insufficient.

gb.cfo.veto.repl

Severity

NOTICE

Description

This message occurs when a cluster failover(CFO) giveback is vetoed by a critical replication transfer (for example, volume move in the cutover phase).

Corrective Action

Either abort the replication transfer that is preventing the giveback from being completed, retry the 'storage failover giveback' command with the '-override-vetoes true' option, or wait for the transfer to finish.

Syslog Message

Could not complete giveback because a replication transfer with UUID %s is in progress.

Parameters

transferId (STRING): UUID of the SnapMirror® replication transfer that vetoed the giveback.

gb.cfo.veto.sanown.ReassignInProgress

Severity

ERROR

Description

This message occurs when a controller disallows a giveback attempt because the partner's disk ownership is being reassigned. Typically, ownership reassignment is done after a controller replacement.

Corrective Action

Reissue the giveback request after disk ownership assignment is completed.

Syslog Message

Giveback was vetoed because the disk ownership reassignment in progress on the partner cannot be interrupted.

Parameters

(None).

gb.cfo.veto.snap.fail

Severity

NOTICE

Description

This message occurs when the system cannot perform a giveback due to Snapshot(tm) copy activity, and must abort the giveback.

Corrective Action

(None).

Syslog Message

%s %s%s%s%s has Snapshot copy activity underway; canceling giveback.

Parameters

type (STRING): Object type (volume or aggregate).

owner (STRING): Volume owner.

vol (STRING): Volume name.

app (STRING): Application UUID.

volident (STRING): To uniquely identify the volume in cases where the the volume name itself is insufficient.

gb.cfo.veto.snap.warning

Severity

NOTICE

Description

This message occurs when the system detects Snapshot(tm) copy activity during giveback.

Corrective Action

(None).

Syslog Message

%s %s%s%s%s has Snapshot copy activity underway.

Parameters

type (STRING): Object type (volume or aggregate).

owner (STRING): Volume owner.

vol (STRING): Volume name.

app (STRING): Application UUID.

volident (STRING): To uniquely identify the volume in cases where the the volume name itself is insufficient.

gb.cfo.veto.storageDiskBrkn

Severity

ERROR

Description

This message occurs when a giveback is aborted because a failed disk is present.

Corrective Action

Remove all failed disks and retry the giveback.

Syslog Message

Failed disk %s should be removed before the giveback command is invoked.

Parameters

diskName (STRING): Name of the device.

gb.cfo.veto.storageDiskByp

Severity

ERROR

Description

This message occurs when a giveback is aborted because one or more bypassed disks are present.

Corrective Action

Remove all bypassed disks and retry the giveback.

Syslog Message

All bypassed disks should be removed before a giveback command is entered.

Parameters

(None).

gb.cfo.veto.storageDiskSanit

Severity

ERROR

Description

This message occurs when a giveback is aborted because disk sanitization is in progress.

Corrective Action

Retry the giveback after sanitization is completed.

Syslog Message

Disk sanitization is in the process of formatting a disk. This operation should not be interrupted by a giveback.

Parameters

(None).

gb.cfo.veto.vservermigrate**Severity**

ERROR

Description

This message occurs when the vserver migrate cutover operation vetoes cfo aggregate giveback because vserver migration cannot be aborted during that time.

Corrective Action

Reissue the 'storage failover giveback' command to initiate giveback to the partner when the vserver migrate cutover operation is completed.

Syslog Message

Vserver migration in progress prevents giveback.

Parameters

(None).

gb.netra events**gb.netra.ca.check.failed****Severity**

ERROR

Description

This message occurs during the migration of an aggregate as a part of storage failover (SFO) giveback, when the destination node cannot reach the object stores.

Corrective Action

Verify that your intercluster LIF is online and functional by using the 'network interface show' command. Also, check network connectivity to the object store server by using the 'ping' command over the destination node intercluster LIF. Additionally, verify that the configuration of your object store has not changed and that login and connectivity information is still accurate by using the 'aggregate object-store config show'

command. It is possible to override this error by specifying false for the "require-partner-waiting" parameter of the giveback command. For more information or assistance, contact NetApp technical support.

Syslog Message

Giveback of aggregate '%s' (uuid: %s) failed due to %s preventing object store access on the destination node.

Parameters

vol (STRING): Name of the aggregate.

aggr_uuid (STRING): UUID of the aggregate.

reason (STRING): Activity that is preventing the aggregate giveback operation.

gb.sfo events

gb.sfo.abort.raid.fm

Severity

ERROR

Description

This message occurs when a high-availability (HA) storage failover (SFO) giveback is canceled due to RAID activity on a partner aggregate.

Corrective Action

Reissue the "storage failover giveback" command to initiate giveback to the partner after the pending or in-progress operation on the partner volume or aggregate is complete. Use the "storage aggregate status -r" command to view the state of the aggregate. If a plex is offline, use the "storage aggregate plex online" command to bring the plex online. If unmirrored aggregates are not supported on this configuration, use the "storage aggregate mirror" command to mirror this aggregate.

Syslog Message

%s %s%s is %s; canceling giveback.

Parameters

vol_type (STRING): Volume type.

owner (STRING): Current owner of the aggregate.

vol (STRING): Name of the aggregate.

reason (STRING): Activity that is preventing SFO giveback.

gb.sfo.netra.ha.dskChkFailed

Severity

ERROR

Description

This message occurs when giveback of the partner's storage failover (SFO) aggregate fails because the high-availability (HA) partner cannot see all disks belonging to the aggregate.

Corrective Action

Use the "storage failover show -fields local-missing-disks, partner-missing-disks" command to rescan the disks and to determine the latest ownership. If the disk inventory mismatch is not resolved, check the

cabling for loose connections or a bad cable on the partner node.

Syslog Message

Giveback of aggregate %s failed because the partner cannot see all disks belonging to the aggregate.

Parameters

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

gb.sfo.netra.raid.failed

Severity

ERROR

Description

This message occurs during migration of an aggregate as part of storage failover (SFO) giveback, when one of the aggregate checks on the destination node fails, including duplicate aggregate name or duplicate Universally Unique Identifier (UUID).

Corrective Action

1. If checks fail due to duplicate aggregate name or UUID, delete the duplicate aggregate created from previous "storage failover giveback" or "storage aggregate relocation" operations. Contact NetApp technical support for assistance with deletion of the unwanted duplicate aggregate.

Syslog Message

Aggregate '%s' (UUID = %s, type = %s, home_owner_id = %llu, dr_home_owner_id = %llu): RAID aggregate migration checks failed on destination node %s.

Parameters

vol (STRING): Name of the aggregate.

aggregate_uuid (STRING): UUID of the aggregate.

raid_type (STRING): RAID type of the volume.

home_owner_id (LONGINT): NVRAM system ID of the aggregate's home owner.

dr_home_owner_id (LONGINT): NVRAM system ID of the aggregate's disaster recovery (DR) home owner.

reason (STRING): Activity that is preventing the aggregate relocation or giveback operation.

gb.sfo.netra.wafl.mcc.veto

Severity

ERROR

Description

This message occurs during migration of an aggregate as part of storage failover (SFO) giveback, when one or more online left-behind disaster recovery(DR) aggregates are found on the destination node and the "node-object-limit" option is set to off.

Corrective Action

Check whether there exists any online left-behind DR aggregates on the destination node from a previous switchover operation. If such an aggregate exists, then perform the corrective actions specified in the earlier EMS messages for the left-behind aggregate to return it to its original owner, and then retry the operation. If you cannot perform the corrective action, then use the "override-vetoes" option in the "giveback" command to force the giveback.

Syslog Message

Aggregate '%s': One or more online left-behind DR aggregates were found on the destination node and the "node-object-limit" option is set to off.

Parameters

vol (STRING): Name of the aggregate.

gb.sfo.precmt.lmgr.resynabrt

Severity

NOTICE

Description

This message occurs during giveback, when automatic lock resynchronization with the node's high-availability (HA) partner for files on this aggregate was aborted.

Corrective Action

(None).

Syslog Message

Automatic lock resynchronization was aborted for aggregate %s on forced giveback.

Parameters

aggr (STRING): Name of the aggregate for which resynchronization was aborted.

gb.sfo.precmt.lmgr.resyncing

Severity

ERROR

Description

This message occurs during giveback, when automatic lock resynchronization with the node's high-availability (HA) partner is in progress for files on this aggregate.

Corrective Action

Retry the giveback after verifying that lock synchronization is complete using the 'debug locks auto-resync-status -aggregate <aggregate>' diagnostic privilege command. If lock state disruption for all CA locks on the aggregate is acceptable, retry the giveback with the '-override-vetoes true' option.

Syslog Message

Could not give back aggregate %s because automatic lock resynchronization was in progress.

Parameters

aggr (STRING): Name of the aggregate with locks not yet in sync.

gb.sfo.precmt.repl

Severity

NOTICE

Description

This message occurs when all replication transfers are aborted because of storage failover (SFO) giveback.

Corrective Action

(None).

Syslog Message

Replication transfers aborted due to SFO giveback.

Parameters

(None).

gb.sfo.precmt.vdom.lowMem**Severity**

ERROR

Description

This message occurs when giveback of the partner's storage failover (SFO) aggregate fails due to the unavailability of Data ONTAP® memory on the source node.

Corrective Action

Free some memory and retry the giveback.

Syslog Message

Giveback of aggregate %s failed due to unavailability of Data ONTAP® memory on the source node.

Parameters

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

gb.sfo.precmt.wafl.volconversion**Severity**

ERROR

Description

This message occurs when an active volume conversion is running on one or more volumes on the source aggregate. Pre-commit is aborted.

Corrective Action

When volume conversion is complete, re-run the 'storage failover giveback' command.

Syslog Message

SFO giveback is blocked as Volume Conversion is in progress on one of the volumes on aggregate %s.

Parameters

aggregate_name (STRING): The name of the aggregate containing the volume on which conversion is in progress.

gb.sfo.veto.asup.generalNopart

Severity

NOTICE

Description

This message occurs when AutoSupport vetoes a storage failover (SFO) giveback (sendhome) request because an AutoSupport message for the down partner node was not collected prior to the giveback request.

Corrective Action

Typically, an AutoSupport message for the partner node is collected shortly after takeover is complete. If an SFO giveback was attempted and vetoed within 20 minutes of the takeover, retry the operation later. If time does not permit waiting, use the 'storage failover giveback -override-vetoes true' command to force a giveback.

Syslog Message

AutoSupport vetoed giveback because an AutoSupport message for the down partner node was not yet collected.

Parameters

(None).

gb.sfo.veto.dump

Severity

ERROR

Description

This message occurs when dump/restore is aborted during storage failover/ aggregate relocation.

Corrective Action

(None).

Syslog Message

Dump/restore operations were aborted because %s is in progress.

Parameters

arl_or_sendhome (STRING): Describes whether ARL or SFO

gb.sfo.veto.kmgr.keysmismissing

Severity

ERROR

Description

This message occurs when a giveback of the partner's storage failover (SFO) aggregate fails due to the unavailability of volume encryption keys for the encrypted volumes of the aggregate on the partner node.

Corrective Action

Wait a few minutes, and then try the giveback of the partner's SFO aggregate again. If the problem persists, run the "security key-manager external restore" command for an external key manager, the "security key-

manager external azure restore" command for an AKV configuration, the "security key-manager external aws restore" command for an AWSKMS configuration, the "security key-manager external gcp restore" command for a GCPKMS configuration, or the "security key-manager onboard sync" command for the Onboard Key Manager. These commands retrieve the encryption keys for the encrypted volumes of the aggregate from the key manager. After running the appropriate command, then try the giveback of the partner's SFO aggregate again.

Syslog Message

Giveback of aggregate "%s" failed due to the unavailability of the volume encryption keys for the encrypted volumes of the aggregate on partner node "%s".

Parameters

aggr (STRING): Name of the aggregate that was not given back.
node (STRING): Name of the node that is missing encryption keys.

gb.sfo.veto.lmgr.nonCA.broke

Severity

NOTICE

Description

This message occurs when a giveback is forced that causes non-continuously available (non-CA) locks on the volume to be dropped. CA locks are established by opens through CIFS CA shares for regular files on read-write volumes that reside in storage failover (SFO) aggregates. These locks are mirrored to the node's high-availability (HA) partner to support the nondisruptive property of CA shares. The rest of the locks are classified as non-CA locks and are not mirrored to the node's HA partner.

Corrective Action

(None).

Syslog Message

Dropped non-CA locks on volume %s%s%s%s on SFO aggregate %s due to forced giveback.

Parameters

owner (STRING): Volume owner.
vol (STRING): Volume name.
app (STRING): Application UUID.
volident (STRING): Unique identifier of the volume in cases where the volume name alone is insufficient.
aggrname (STRING): Aggregate name.

gb.sfo.veto.lmgr.nonCA.locks

Severity

ERROR

Description

This message occurs when a giveback has started but cannot proceed because non-continuously available (non-CA) locks are present on the volume. CA locks are established by opens through CIFS CA shares for regular files on read-write volumes that reside in storage failover (SFO) aggregates. These locks are mirrored to the node's high-availability (HA) partner to support the nondisruptive property of CA shares. The rest of the locks are classified as non-CA locks and are not mirrored to the node's HA partner.

Corrective Action

Based on how resilient they are to failures, applications must either gracefully close sessions over which non-CA locks are established or accept lock state disruption. To determine the open files that have these sessions established, run the 'vserver cifs session file show -hosting-aggregate "aggregate list" -continuously-available No' command. "aggregate list" is a list of aggregates that are sent home as a result of the giveback operation. If lock state disruption for all existing non-CA locks is acceptable, retry the giveback operation by using the '-override-vetoes true' option.

Syslog Message

Could not complete giveback because of non-CA locks on volume %s%s%s%s SFO aggregate %s.

Parameters

owner (STRING): Volume owner.

vol (STRING): Volume name.

app (STRING): Application UUID.

volident (STRING): Unique identifier of the volume in cases where the volume name alone is insufficient.

aggrname (STRING): Aggregate name.

gb.sfo.veto.lmgr.recons.left

Severity

ERROR

Description

This message occurs when a storage failover giveback has started, but cannot proceed because reconstruction of client file locks from mirrored lock information is not yet complete.

Corrective Action

Retry the giveback after checking the status of reconstruction using the 'debug locks reconstruction show' diagnostic privilege command. If the locks reconstruction operation is not completed, restart the giveback and override the veto using the '-override-vetoes true' option.

Syslog Message

Could not perform giveback because lock reconstruction on node %s is in progress.

Parameters

node (STRING): Name of the node reconstructing locks.

gb.sfo.veto.lmgr.syncing

Severity

ERROR

Description

This message occurs when a storage failover giveback has started but cannot proceed because synchronization of client file locks ("locks sync") with the partner is not yet complete.

Corrective Action

Retry the giveback after verifying that lock synchronization is completed, by using the 'debug locks lock-sync show' diagnostic privilege command.

Syslog Message

Could not perform giveback because locks sync from node %s to its partner node %s is in progress.

Parameters

node (STRING): Name of the node performing locks sync with its partner.

partner (STRING): Name of the partner node with which locks sync is being performed.

gb.sfo.veto.repl

Severity

NOTICE

Description

This message occurs when a storage failover(SFO) giveback is vetoed by a critical replication transfer (for example, volume move in the cutover phase).

Corrective Action

Either abort the replication transfer that is preventing the giveback from being completed, retry the 'storage failover giveback' command with the '-override-vetoes true' option, or wait for the transfer to finish.

Syslog Message

Could not complete giveback because a replication transfer with UUID %s involving the aggregate %s is in progress.

Parameters

transferId (STRING): UUID of the SnapMirror® replication transfer that vetoed the giveback.

aggr (STRING): Name of the aggregate.

gb.sfo.veto.snaprestore

Severity

ERROR

Description

This message occurs when the system cannot perform a giveback because a volume snaprestore operation is active. The giveback is aborted.

Corrective Action

Retry giveback after the snaprestore operation is finished.

Syslog Message

%s %s%s%s%s is running snaprestore. Canceling giveback.

Parameters

type (STRING): Type of object (volume or aggregate).

owner (STRING): Volume owner.

vol (STRING): Volume name.

app (STRING): Application UUID.

volident (STRING): Unique volume identity when the volume name itself is insufficient.

gb.sfo.veto.volmove

Severity

ERROR

Description

This message occurs when the volume move operation vetoes a giveback because volume move can not be aborted during that time.

Corrective Action

Reissue the 'storage failover giveback' command to initiate giveback to the partner when the volume move is completed. Or use the '-override-vetoes true' option to abort the volume move.

Syslog Message

Volume move in progress for volume %s with DSID %llu prevents giveback.

Parameters

vol_name (STRING): Name of the source or destination volume.

volume_dsid (LONGINT): Source or destination volume data set identifier (DSID).

gb.sfo.veto.vservermigrate

Severity

ERROR

Description

This message occurs when the vserver migrate cutover operation vetoes data aggregate giveback because vserver migration cannot be aborted during that time.

Corrective Action

Reissue the 'storage failover giveback' command to initiate giveback to the partner when the vserver migrate cutover operation is completed.

Syslog Message

Vserver migration in progress prevents giveback.

Parameters

(None).

gb.sfo.veto.wafl.volconversion

Severity

ERROR

Description

This message occurs when an active volume conversion against one or more of the volumes on the source aggregate vetoed giveback.

Corrective Action

When volume conversion is complete, re-run the 'storage failover giveback' command.

Syslog Message

SFO giveback is vetoed as Volume Conversion is in progress on one of the volumes on aggregate %s.

Parameters

aggregate_name (STRING): The name of the aggregate containing the volume on which conversion is in progress.

Copyright information

Copyright © 2022 NetApp, Inc. All Rights Reserved. Printed in the U.S. No part of this document covered by copyright may be reproduced in any form or by any means—graphic, electronic, or mechanical, including photocopying, recording, taping, or storage in an electronic retrieval system—without prior written permission of the copyright owner.

Software derived from copyrighted NetApp material is subject to the following license and disclaimer:

THIS SOFTWARE IS PROVIDED BY NETAPP "AS IS" AND WITHOUT ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, WHICH ARE HEREBY DISCLAIMED. IN NO EVENT SHALL NETAPP BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

NetApp reserves the right to change any products described herein at any time, and without notice. NetApp assumes no responsibility or liability arising from the use of products described herein, except as expressly agreed to in writing by NetApp. The use or purchase of this product does not convey a license under any patent rights, trademark rights, or any other intellectual property rights of NetApp.

The product described in this manual may be protected by one or more U.S. patents, foreign patents, or pending applications.

LIMITED RIGHTS LEGEND: Use, duplication, or disclosure by the government is subject to restrictions as set forth in subparagraph (b)(3) of the Rights in Technical Data -Noncommercial Items at DFARS 252.227-7013 (FEB 2014) and FAR 52.227-19 (DEC 2007).

Data contained herein pertains to a commercial product and/or commercial service (as defined in FAR 2.101) and is proprietary to NetApp, Inc. All NetApp technical data and computer software provided under this Agreement is commercial in nature and developed solely at private expense. The U.S. Government has a non-exclusive, non-transferrable, nonsublicensable, worldwide, limited irrevocable license to use the Data only in connection with and in support of the U.S. Government contract under which the Data was delivered. Except as provided herein, the Data may not be used, disclosed, reproduced, modified, performed, or displayed without the prior written approval of NetApp, Inc. United States Government license rights for the Department of Defense are limited to those rights identified in DFARS clause 252.227-7015(b) (FEB 2014).

Trademark information

NETAPP, the NETAPP logo, and the marks listed at <http://www.netapp.com/TM> are trademarks of NetApp, Inc. Other company and product names may be trademarks of their respective owners.