



## **tape events**

### ONTAP EMS reference

NetApp  
November 22, 2024

# Table of Contents

- tape events ..... 1
- tape.cmd events ..... 1
- tape.config events ..... 3
- tape.device events ..... 6
- tape.diagmsg events ..... 8

# tape events

## tape.cmd events

### tape.cmd.chkCondErr

#### Severity

ERROR

#### Description

This message occurs when a Check Condition status from the tape drive reports an informational condition or status to the controller. The condition that generated this event is an error that occurred during execution of the command and was not cleared by retrying the request, if retries were attempted.

#### Corrective Action

This Check Condition case is an error that might be caused by an intermittent error in device hardware or a flaw in the tape media. Media errors might also suggest that the tape drive head should be cleaned following the manufacturer's directions. In cases of repeated events, evaluate the device for proper operation and possible repair or replacement. Consult vendor documentation for additional information.

#### Syslog Message

%s device %s: Check Condition: SCSI opcode %s (CDB %s): %s - %s (0x%x - 0x%x 0x%x 0x%x).

#### Parameters

**deviceType** (STRING): Type of device on which the condition occurred.

**deviceName** (STRING): Electrical path name of the device on which the command failed.

**opcode** (STRING): Definition of the SCSI opcode (command) that encountered the check condition.

**cdb** (STRING): Opcode byte of the command block that encountered the check condition.

**sSenseKey** (STRING): String containing a description of the sense key returned by the device for the failed command.

**sSenseCode** (STRING): String containing a description of the additional sense code and sense code qualifier key returned by the device for the failed command.

**iSenseKey** (INTHEX): Integer value of the sense key for the failed command.

**iASC** (INTHEX): Integer value of the sense code for the failed command.

**iASCQ** (INTHEX): Integer value of the sense code qualifier for the failed command.

**iFRU** (INTHEX): Integer value of the field-replaceable unit(FRU) for the failed command.

### tape.cmd.chkCondNullSenseDbg

#### Severity

ERROR

#### Description

This message occurs when the command to the tape device fails with a status of Check Condition, but the adapter received no sense bytes containing details about the failure. Sense bytes typically accompany command failure reports, unless bus or loop stability problems, or target device or adapter errors have interfered with the sense byte transfer. This is a diagnostic message. See the "mt diag" command (from the nodeshell in clustered environments) for the control of tape diagnostic messages.

## Corrective Action

Ensure that the cables are securely attached, and perform other maintenance typically required for SCSI or FC stability. If the error persists, contact NetApp technical support for assistance.

## Syslog Message

%s device %s reports Check Condition status on command opcode 0x%x. No sense bytes accompany the status.

## Parameters

**deviceType** (STRING): Device type.

**deviceName** (STRING): Electrical path name of the device on which the command failed.

**opcode** (INHEX): Opcode of the failed SCSI command.

## tape.cmd.cmdFail

### Severity

ERROR

### Description

This message occurs when a tape command fails with an error detected by the adapter. This is not an error reported by the tape drive. The adapter status values reported under this message indicate that the adapter suffered an internal error, or that the bus or loop is unstable, or that the adapter has no path to the requested device.

## Corrective Action

Verify that the loop or bus cabling is correctly installed. If the error occurs only on this device and not on others on the same interface, ensure that the external and internal cabling, if any, of this device are securely connected. If the error occurs on more than one device, then a more general debug of the cabling infrastructure might be required.

## Syslog Message

Tape device %s: command failed, ha\_status 0x%x.

## Parameters

**deviceName** (STRING): Electrical path name of the device on which the command failed.

**adapterError** (INHEX): Internal adapter error that was detected.

## tape.cmd.scsiErrNullSense

### Severity

ERROR

### Description

This message occurs when the device reports that the command failed, but the adapter received no sense bytes containing detail about the failure. Sense bytes typically accompany command failure reports, unless bus or loop stability problems, or target device or adapter errors have interfered with the sense byte transfer.

## Corrective Action

Ensure that the cables are securely attached, and perform other maintenance typically required for SCSI or FC stability. If the error persists, contact NetApp technical support for assistance.

## Syslog Message

%s device %s reports %s status on command opcode 0x%x. No sense bytes accompany the status.

## Parameters

**deviceType** (STRING): Device type.

**deviceName** (STRING): Electrical path name of the device on which the command failed.

**scsiStatus** (STRING): Status returned by the device.

**opcode** (INHEX): Opcode of the failed SCSI command.

# tape.config events

## tape.config.badKey

### Severity

ERROR

### Description

This message occurs when the tape configuration file has a format error in a required parameter or is missing a required parameter. The error prevents the file from being used to specify parameters for the tape drive. Data ONTAP® examines tape configuration files in the storage controller's /etc/tape\_config (7-Mode) or /mroot/etc/tape\_config (Cluster-Mode) directory to dynamically qualify devices that are not part of the Data ONTAP image. This error can occur if a configuration file is altered, an action that is not recommended.

### Corrective Action

Recover the original file from a backup file or Snapshot(tm) copy, if possible. A copy of the file might be available from NetApp Support, although not all tape configuration files are made available there.

## Syslog Message

Required key (%s) is missing or badly formatted in tape configuration file %s.

## Parameters

**badKey** (STRING): Required parameter.

**configFile** (STRING): Name of the file with the error.

## tape.config.badOpt

### Severity

INFORMATIONAL

### Description

This message occurs when Data ONTAP® detects an incorrect format on an option key in a tape configuration file. Data ONTAP will use a default setting for this key. This message can occur if a configuration file is altered, an action that is not recommended. This condition does not prevent the use of the specified tape device. Data ONTAP examines tape configuration files in the storage controller's /etc/tape\_config (7-Mode) or /mroot/etc/tape\_config (Cluster-Mode) directory to dynamically qualify devices that are not part of the Data ONTAP image.

### Corrective Action

Recover the original file from a backup file or Snapshot(tm) copy, if possible. A copy of the file might be available from NetApp Support, although not all tape configuration files are made available there.

## Syslog Message

Option key %s is absent or badly formatted in tape configuration file %s. Default %s will be used.

## Parameters

**badOptKey** (STRING): Absent or badly formatted option keys.

**configFile** (STRING): Name of the file with the incorrect or absent option key.

**defaultOpt** (STRING): Default values used in place of the option keys.

## tape.config.fmtChkFail

### Severity

ERROR

### Description

This message occurs when a tape configuration file has a format error in a parameter that prevents use of the tape drive that the file specifies. This error can occur if a configuration file is altered, an action that is not recommended. Additional messages detail the missing or badly formatted keys. Data ONTAP® examines tape configuration files in the storage controller's /etc/tape\_config (7-Mode) or /mroot/etc/tape\_config (Cluster-Mode) directory to dynamically qualify devices that are not part of the Data ONTAP image.

### Corrective Action

Recover the original file from a backup file or Snapshot(tm) copy, if possible. A copy of the file might be available from NetApp Support, although not all tape configuration files are made available there.

## Syslog Message

Tape configuration file %s has missing or badly formatted required keys. Format check has failed.

## Parameters

**configFile** (STRING): Name of the file with the error.

## tape.config.fmtErrKey

### Severity

ERROR

### Description

This message occurs when the file has a parameter format error in a tape configuration file that prevents the file from being used to specify tape drive parameters. Data ONTAP® examines tape configuration files in the storage controller's /etc/tape\_config (7-Mode) or /mroot/etc/tape\_config (Cluster-Mode) directory to dynamically qualify devices that are not part of the Data ONTAP image. This error can occur if a configuration file is altered, an action that is not recommended.

### Corrective Action

Recover the original file from a backup file or Snapshot(tm) copy, if possible. A copy of the file might be available from NetApp Support, although not all tape configuration files are made available there.

## Syslog Message

Tape configuration file %s has a format error in the information appended to key %s.

## Parameters

**configFile** (STRING): Name of the file with the error.

**line** (STRING): Line containing the error.

## tape.config.infoExist

### Severity

ERROR

### Description

This message occurs when the information in a tape configuration file specifies a tape drive that Data ONTAP® already has parameters for. This error can occur if duplicate or multiple files for the same device are in the `/etc/tape_config` (7-Mode) or `/mroot/etc/tape_config` (Cluster-Mode) directory. Data ONTAP examines files in the storage controller's `tape_config` directory to dynamically qualify devices that are not part of the Data ONTAP image.

### Corrective Action

Remove any duplicates. If the device appears in the output of the "storage show tape supported" (7-Mode or Cluster-Mode nodeshell) command without the notation "(Dynamically qualified)", then Data ONTAP contains this information internally, and the file should be removed from the directory. This file might have been left over from a previous Data ONTAP release that did not have internal information for the device.

### Syslog Message

Tape device information already exists. Dynamic tape configuration file %s not used. Tape product ID already qualified.

### Parameters

**configFile** (STRING): Name of the file with the extra or duplicate information.

## tape.config.maxFilesExceeded

### Severity

ERROR

### Description

This message occurs when the maximum number of tape configuration files that Data ONTAP® will examine has been exceeded. Data ONTAP examines files in the storage controller's `/etc/tape_config` (7-Mode) or `/mroot/etc/tape_config` (Cluster-Mode) directory to dynamically qualify devices that are not part of the Data ONTAP image. This error might be caused by the addition of tape configuration files retrieved from the NetApp Support site, or by user attempts to create configuration files.

### Corrective Action

Remove any files that might be duplicates, and remove any user-created files.

### Syslog Message

The maximum number of Dynamic Tape Qualification configuration files (%d) has been exceeded.

### Parameters

**maxFiles** (INT): Maximum number of dynamic qualification files allowed.

## tape.config.openFail

### Severity

ERROR

## Description

This message occurs when Data ONTAP® cannot open a file in the tape configuration directory. Data ONTAP examines files in the storage controller's /etc/tape\_config (7-Mode) or /mroot/etc/tape\_config (Cluster-Mode) directory to dynamically qualify devices that are not part of the Data ONTAP image.

## Corrective Action

This error might be a temporary condition. If any files in the /etc/tape\_config (7-Mode) or /mroot/etc/tape\_config (Cluster-Mode) directory are opened by an editor or viewer, close them. Data ONTAP will try to open the file again for qualification when a tape operation is attempted.

## Syslog Message

Failed to open tape configuration input file %s.

## Parameters

**configFile** (STRING): File that could not be opened.

# tape.device events

## tape.device.adapterErr

### Severity

ERROR

### Description

This message occurs when an adapter error occurs that Data ONTAP® does not recognize.

### Corrective Action

If the error persists, contact NetApp technical support for assistance if the error persists.

### Syslog Message

Tape device %s: Unexpected adapter error 0x%x.

### Parameters

**deviceName** (STRING): Electrical path name of the device on which the command failed.

**adapterError** (INT): Internal adapter error that was detected.

## tape.device.cmdAbort

### Severity

ERROR

### Description

This message occurs when a tape command fails with an error detected by the adapter. This is not an error reported by the tape drive. The adapter status values reported under this message indicate that a timeout in the transport of the command has occurred, or that other devices on the bus or loop have induced an error in the communication with this device, which might not be at fault. These errors might be of a transient nature.

### Corrective Action

Verify that the loop or bus cabling is correctly installed, and retry the operation. If the error occurs only on this device and not on others on the same interface, ensure that the external and internal cabling, if any, of



this device are securely connected. If this error occurs on more than one device, then a more general debug of the cabling infrastructure might be required. If errors of other types occur on other devices on the same bus or loop, attend to those first, because they could be the cause of this error.

### Syslog Message

Tape device %s: command aborted by host, ha\_status 0x%x.

### Parameters

**deviceName** (STRING): Electrical path name of the device on which the command failed.

**adapterError** (INT): Internal adapter error that was detected.

## tape.device.noCompress

### Severity

ERROR

### Description

This message occurs when the tape device does not support the compression mode that Data ONTAP® attempted to set it to. This error indicates a mismatch in expectations between Data ONTAP and the tape drive over whether compression is supported. This error can occur if the the tape drive is qualified with a tape configuration file in /etc/tape\_config (7-Mode) or /mroot/etc/tape\_config (Cluster-Mode), and the file has been modified from its released condition, an action that is not recommended.

### Corrective Action

Verify whether the device documentation indicates that it supports compression. If support is indicated, then the device might need to be power-cycled to clear an abnormal condition, or it might need to be repaired. If Data ONTAP employs a tape configuration file to enable support of this drive and the file has been modified, the file should be returned to its original condition. Support using the configuration file is indicated if the device appears in the output of the "storage show tape supported" (7-Mode or Cluster-Mode nodeshell) command with the notation "(Dynamically Qualified)". Revert to a previous configuration file version, or retrieve a new version from NetApp Support, if one is available.

### Syslog Message

Tape device %s does not support compression %s.

### Parameters

**devAddr** (STRING): Device address.

**modifier** (STRING): The SCSI component that is not supported; the Mode Select Compression Page or compression capability represented in that page.

## tape.device.notSupported

### Severity

ERROR

### Description

This message occurs when Data ONTAP® does not recognize this tape drive as a supported device.

### Corrective Action

Go to [support.netapp.com/NOW/download/tools/tape\\_config/index.shtml](http://support.netapp.com/NOW/download/tools/tape_config/index.shtml) to determine whether NetApp has qualified this tape drive, and download the appropriate configuration file, if necessary. If this tape drive emulates a qualified tape drive, see [na\\_cloned\\_tapes\(5\)](#) for more information.

## Syslog Message

Data ONTAP does not recognize this tape drive: %s: %.8s%.16s%.4s

## Parameters

**address** (STRING): Address identifier of the tape device.

**vendorID** (STRING): Tape device vendor, as found in the SCSI Inquiry data field "VENDOR IDENTIFICATION".

**productID** (STRING): Product name, as found in the SCSI Inquiry data field "PRODUCT IDENTIFICATION".

**revision** (STRING): Product revision, as found in the SCSI Inquiry data field "PRODUCT REVISION LEVEL".

## tape.device.selectTimeout

### Severity

ERROR

### Description

This message occurs when the adapter cannot select the tape drive. This can be caused by the failure of the device, or by unstable loop or bus conditions that corrupt the selection signals so that the device does not detect selection request, or the adapter does not recognize the device response. This is not an error reported by the tape drive. This error might be of a transient nature.

### Corrective Action

Verify that the loop or bus cabling is correctly installed, and retry the operation. If this error occurs on more than one device, then a more general debug of the cabling infrastructure might be required. For SCSI devices, carefully examine the bus pins for damage, especially if cables have been moved since the last time this device functioned correctly. If the error persists, power-cycling the drive might clear a hang condition in the device.

## Syslog Message

Tape %s: selection timeout, ha\_status 0x%x.

## Parameters

**deviceName** (STRING): Electrical path name of the device on which the command failed.

**adapterError** (INT): Internal adapter error that was detected.

## tape.diagmsg events

### tape.diagMsg

### Severity

INFORMATIONAL

### Description

This message occurs when there is a new state of the tape diagnostic message flag. Data ONTAP® is more or less verbose in reporting SCSI check conditions depending on the flag. Using a valid tape drive address [tape], diagnostic messages can be enabled using the "mt -f [tape] diag 1" (7-Mode or Cluster-Mode nodeshell) command. You can disable the extra message using the "mt -f [tape] diag 0" command. The default value is 0.

**Corrective Action**

There is no corrective action for this message. However, enabling diagnostic messages might cause other error messages to be generated that are usually suppressed by Data ONTAP, particularly reports of tape position. No corrective action is needed if the reports are normal. Normal reports include check conditions at the beginning or end of tape, and filemarks. It is important to understand the format of the tape data to determine whether the additional messages indicate an error.

**Syslog Message**

Tape driver diagnostic messages %s.

**Parameters**

**diagState** (STRING): New condition of "diag" message enable.

## Copyright information

Copyright © 2024 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.