T10/08-320r2 SMC-3 Use of NOT READY error codes
To: T10 Technical Committee
From: Noud Snelder, BDT (noud.snelder@bdt.de)
Date: 5 May 2009
Subject: T10/08-320r1 SMC-3 Use of NOT READY error codes

Revision History
Revision 0 (30 July 2008): initial revision
Revision 1 (29 April 2009): added comments from March SMC-3 working group meeting
Revision 2 (5 May 2009): added comments from May SMC-3 working group meeting

Related Documents
SMC3r11 - SCSI Media Changer Commands - 3
08-272r1 – SMC-3 New additional sense codes tracking document

Overview
The SMC3 working group is attempting to define commonly used error codes in the standard to increase level of standardization. The document 08-272 lists all new SMC-3 error codes. This document describes some of these new error codes.

Suggested Changes to SMC-3

Proposed new text is shown in blue. Proposed deletions are shown in red strikeout.

[Add definition:] 3.1.x ready state: A state where a logical unit is able to process a medium-access command without returning CHECK CONDITION status with the sense key set to NOT READY.

3.1.y sequential mode: A mode of media changer operation that performs self-directed media movement without processing robotic motion SCSI commands.

3.1.z robotic motion SCSI commands: Commands that may require robotic movement (e.g., EXCHANGE MEDIUM, INITIALIZE ELEMENT STATUS, INITIALIZE ELEMENT STATUS WITH RANGE, MOVE MEDIUM, OPEN CLOSE IMPORT EXPORT ELEMENT, and READ ELEMENT STATUS).

[Add paragraphs:] 5.6 Error conditions reporting

5.6.1 Overview
This sub clause describes media changer states that prevent normal operation.

5.6.2 Error conditions that report NOT READY

5.6.2.1 Sequential mode
If the logical unit media changer is configured in sequential mode (see 3.1.y), then the device server shall terminate robotic motion SCSI commands (see 3.1.z) and may terminate other commands with CHECK CONDITION status with the sense key set to NOT READY and the additional sense code set to LOGICAL UNIT NOT READY, OPERATING IN SEQUENTIAL MODE.
5.6.2.2 Door open
If the logical unit media changer has an access door in a state that does not allow the device server to process return GOOD status for robotic motion SCSI commands, then the device server may terminate the command with CHECK CONDITION status, with the sense key set to NOT READY and the additional sense code set to LOGICAL UNIT NOT READY, A DOOR IS OPEN.

5.6.2.3 Calibration required
If the logical unit device server is unable to process return GOOD status for robotic motion SCSI commands successfully due to a missing calibration, then the device server may terminate the command with CHECK CONDITION status, with the sense key set to NOT READY and the additional sense code set to LOGICAL UNIT NOT READY, SYSTEM CALIBRATION REQUIRED. The calibration may be performed by:
   a) an INITIALIZE ELEMENT STATUS command;
   b) a Power cycle;
   c) a Service intervention;
   d) a Vendor specific command.

5.6.2.4 Media changer configuration required
If the logical unit device server is unable to process return GOOD status for commands successfully due to missing configuration settings the media changer requiring configuration, then the device server may terminate the command with CHECK CONDITION status, with the sense key set to NOT READY and the additional sense code set to LOGICAL UNIT NOT READY, MEDIA CHANGER SYSTEM CONFIGURATION REQUIRED.

5.6.2.5 Robotics disabled
If the logical unit device server is unable to process return GOOD status for commands due to disabled robotics being disabled mechanism, then the device server may terminate the command with CHECK CONDITION status, with the sense key set to NOT READY and the additional sense code set to LOGICAL UNIT NOT READY, ROBOTICS DISABLED.

5.6.3 Error conditions that report ILLEGAL REQUEST

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