

TO: T10 Membership, SMC-3 Working Group
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 SUBJECT: SMC-3 New ASC/ASCQs List (document T10/08-039r0)

1 Revision History

Rev0 – Initial draft

2 Related Documents

T10/06-109r1 (survey of vendor specific sense data for media changers)

3 Introduction

This document presents several new additional sense code and additional sense code qualifiers defined for use within SMC-3, based on the survey results of vendor specific sense data currently used among several products (see T10/06-109r1). The new ASC/ASCQs are presented for discussion, to reach consensus on which (if any) should be developed further into proposals against SMC-3 (i.e., including specifying usage).

4 Discussion

The following tables correspond to the sense data groupings documented in T10/06-109r1, and now list the subset within each category that seem to warrant standardization. Following each table is a list of proposed new ASC/ASCQs (description only) to be used in lieu of vendor unique ones. Each proposed new ASC/ASCQ is based on a combination of the condition indicated by the vendor unique sense data and existing ASC/ASCQs (i.e., extensions of an existing ASC where possible).

Table 1 Vendor Specific Sense Codes Relating to Robotics

S/K	ASC	ASCQ	Description
4h	40h	C0h	The media changer could not move
4h	40h	E0h	The media changer lost power
Bh	84h	01h	VERTICAL TIMEOUT Vertical axis did not reach desired position within the time limits.
4h	84h	03h	VERTICAL MECHANICAL POSITION ERROR Vertical axis did not reach desired position.

Proposed new standard ASC/ASCQs based on Table 1:

- a. MECHANICAL POSITIONING ERROR – UNABLE TO MOVE
- b. MECHANICAL POSITIONING ERROR – POWERED OFF
- c. MECHANICAL POSITIONING ERROR – TIMEOUT
- d. MECHANICAL POSITIONING ERROR – POSITION NOT REACHED

Table 2 Vendor Specific Sense Codes Relating to Media Transport Elements

S/K	ASC	ASCQ	Description
4h	15h	80h	The media changer lost a cartridge
5h	3Bh	85h	Destination of MOVE MEDIA command cannot be media changer
5h	3Bh	86h	Source of MOVE MEDIA command cannot be media changer
Bh	80h	01h	TRANSFER FULL - AT END OF PLACE Gripper has cartridge in it at end of a place operation (Move Media with a target other than the Transfer).
Bh	80h	06h	TRANSFER EMPTY - COMMAND ABORTED Gripper does not contain cartridge at end of pick portion of Move Media command.
5h	81h	C0h	TRANSPORT FULL The gripper contains a cartridge.

Proposed new standard ASC/ASCQs based on Table 2:

- a. DESTINATION CANNOT BE MEDIUM TRANSPORT ELEMENT
- b. SOURCE CANNOT BE MEDIUM TRANSPORT ELEMENT
- c. MEDIUM TRANSPORT ELEMENT FULL – RECOVERY NEEDED
- d. MEDIUM TRANSPORT ELEMENT EMPTY – MEDIUM LOCATION UNKNOWN
- e. MEDIUM TRANSPORT ELEMENT EMPTY – MEDIUM STILL IN SOURCE
- f. MEDIUM TRANSPORT ELEMENT EMPTY – MEDIUM RECOVERED

Table 3 Vendor Specific Sense Codes Relating to Data Transfer Elements

S/K	ASC	ASCQ	Description
5h	3Bh	90h	Source cartridge loaded into tape drive and not accessible
5h	44h	84h	Illegal request, wrong drive type
4h	F3h	02h	DRIVE COMMUNICATION TIMEOUT The library is unable to communicate with a drive.
4h	F3h	20h	DRIVE UNLOAD FAILED OR TIMED OUT The command to the drive to unload the tape failed to complete or timed out.
4h	F3h	21h	DRIVE EJECT FAILED OR TIMED OUT The command to the drive to eject a tape failed to complete or time out.
4h	F3h	22h	DRIVE LOAD FAILED OR TIMED OUT The command to the drive to load a tape failed to complete or timed out.

Proposed new standard ASC/ASCQs based on Table 3:

- a. MEDIUM NOT COMPATIBLE WITH DESTINATION
- b. DATA TRANSFER DEVICE ERROR – LOAD FAILED
- c. DATA TRANSFER DEVICE ERROR – UNLOAD FAILED
- d. DATA TRANSFER DEVICE ERROR – EJECT FAILED
- e. DATA TRANSFER DEVICE ERROR – LIBRARY COMMUNICATION FAILED
- f. DATA TRANSFER DEVICE ERROR – MEDIUM LOADED AND NOT ACCESSIBLE

Table 4 Vendor Specific Sense Codes Relating to Import/Export Elements

S/K	ASC	ASCQ	Description
5h	53h	81h	Mailbox is open
4h	53h	82h	Cannot lock the mailbox
4h	53h	83h	Cannot unlock the mailbox
4h	81h	A1h	Hardware error, open import/export element failed

Proposed new standard ASC/ASCQs based on Table 4:

- a. IMPORT/EXPORT ELEMENT ERROR – OPEN, INTERVENTION REQUIRED
- b. IMPORT/EXPORT ELEMENT ERROR – CANNOT LOCK
- c. IMPORT/EXPORT ELEMENT ERROR – CANNOT UNLOCK
- d. IMPORT/EXPORT ELEMENT ERROR – CANNOT OPEN
- e. IMPORT/EXPORT ELEMENT ERROR – CANNOT CLOSE

Table 5 Vendor Specific Sense Codes Relating to Volume Identifiers or Element Status

S/K	ASC	ASCQ	Description
5h	80h	22h	ELEMENT CONTENTS UNKNOWN The contents of an element address are unknown. Issue a Read Element Status for the element address. If contents are still unknown issue an Initialize Element Status command.

4h	83h	00h	The barcode label is questionable
4h	83h	00h	Barcode label too short, too long or <u>duplicate</u>
4h	83h	09h	The barcode label is missing

Proposed new standard ASC/ASCQs based on Table 5:

- a. ELEMENT STATUS UNKNOWN
- b. VOLUME IDENTIFIER MISSING
- c. DUPLICATE VOLUME IDENTIFIER
- d. VOLUME IDENTIFIER INVALID

Table 6 Vendor Specific Sense Codes Relating to Media Changer System

S/K	ASC	ASCQ	Description
2h	04h	8Eh	Not ready, the media changer is in sequential mode
5h	3Bh	A0h	Media type does not match destination media type
2h	80h	00h	LOGICAL UNIT IS NOT READY, A DOOR IS OPEN
5h	8Ah	02h	UNCALIBRATED POSITION System requires calibration.

Proposed new standard ASC/ASCQs based on Table 6:

- a. LOGICAL UNIT NOT READY, OPERATING IN SEQUENTIAL MODE
- b. LOGICAL UNIT NOT READY, A DOOR IS OPEN
- c. LOGICAL UNIT NOT READY, SYSTEM CALIBRATION REQUIRED
- d. LOGICAL UNIT NOT READY, SYSTEM CONFIGURATION REQUIRED
- e. LOGICAL UNIT NOT READY, ROBOTICS DISABLED