

T10/05-070r3 SMC-3 OPEN/CLOSE IMPORT/EXPORT ELEMENT command

To: T10 Technical Committee

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Subject: T10/05-070r0 SMC-3 OPEN/CLOSE IMPORT/EXPORT ELEMENT command

Revision History

Revision 0 (11 February 2005): initial revision

Revision 1 (8 March 2005): incorporated March SMC-3 WG comments

Revision 2 (29 June 2005): accepted changes made in revision 1 and incorporated comments from May SMC-3 WG and Ralph O. Weber

Revision 3 (3 October 2005): incorporated changes discussed in September SMC-3 WG comments

Related Documents

smc2r07 - SCSI Media Changer Commands - 2 revision 7

Overview

Many media changers with an import/export element implement a vendor specific command to open and or close the import/export element (mail-slot) to facilitate the user with the import cartridge procedure. This document proposes a SCSI command to standardize this functionality.

Suggested Changes to SMC-3

Table 3 – Commands for independent media changers

[Add a row for:]

OPEN/CLOSE IMPORT/EXPORT ELEMENT, 1Bh, O, 6.x

Table 5 – SMC commands allowed in the presence of various reservations

[Add a row for:]

OPEN/CLOSE IMPORT/EXPORT ELEMENT, Conflict, Conflict, Conflict, Allowed, Conflict, Conflict

[Add paragraph]

5.3.4 Import/export element

Import/export elements are locations of volumes that are being inserted into or withdrawn from the media changer. A volume in one of these elements is accessible by at least one medium transport element in the media changer, by the operator, or by another media changer device (i.e., interconnected media changer devices). Support for an import/export element is optional.

Any import/export element may be capable of import actions only, export actions only, or both.

The OPEN/CLOSE IMPORT/EXPORT ELEMENT command (see 6.x) may be used to open or close the import/export element. Whenever the OPEN/CLOSE IMPORT/EXPORT ELEMENT command causes a state change of the import/export element the device server shall establish a unit attention condition with the additional sense code set to IMPORT OR EXPORT ELEMENT ACCESSED for the initiator port associated with all I_T nexuses other than the I_T nexus on which the OPEN/CLOSE IMPORT EXPORT ELEMENT command was received.

An import/export element address may be a source or destination address in a MOVE MEDIUM command or the optional EXCHANGE MEDIUM command. Import/export elements may or may not provide independent storage of a volume.

[Add chapter]

6.x OPEN/CLOSE IMPORT/EXPORT ELEMENT command

The OPEN/CLOSE IMPORT/EXPORT ELEMENT command (see table X) provides a method for the application client to change the open/closed state of the specified element address. The ELEMENT ADDRESS field specifies the element address and the ACTION CODE field specifies the requested action to the device server.

Support for this command is optional for independent media changers. This command has no command parameter data. No command response data is returned.

Table X – OPEN/CLOSE IMPORT/EXPORT ELEMENT command

| Bit | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 0 |
|------|-----------------------|---|---|---|-------------|---|---|---|
| Byte | | | | | | | | |
| 0 | OPERATION CODE 1Bh | | | | | | | |
| 1 | Reserved | | | | | | | |
| 2 | (MSB) ELEMENT ADDRESS | | | | | | | |
| 3 | (LSB) | | | | | | | |
| 4 | Reserved | | | | ACTION CODE | | | |
| 5 | CONTROL | | | | | | | |

The action codes defined for the OPEN/CLOSE IMPORT/EXPORT ELEMENT command are shown in table X+1. If the value in the ACTION CODE field is not supported, the device server shall return CHECK CONDITION status. The sense key shall be ILLEGAL REQUEST and the additional sense code INVALID FIELD IN CDB.

Table X+1 – OPEN/CLOSE IMPORT/EXPORT ELEMENT action codes

| Action Code | Name |
|-------------|-----------------------------|
| 0h | OPEN IMPORT/EXPORT ELEMENT |
| 1h | CLOSE IMPORT/EXPORT ELEMENT |
| 2h – 1Fh | Reserved |

An OPEN/CLOSE IMPORT/EXPORT ELEMENT command with OPEN IMPORT/EXPORT ELEMENT action code shall cause the media changer to open the import/export element for operator access with the element address specified in the ELEMENT ADDRESS field. It is not considered an error when the import/export element was already open.

An OPEN/CLOSE IMPORT/EXPORT ELEMENT command with CLOSE IMPORT/EXPORT ELEMENT action code shall cause the media changer to close the import/export element for operator access with the element address specified in the ELEMENT ADDRESS field. It is not considered an error when the import/export element was already closed.

If the logical unit has medium removal prevented the device server may return CHECK CONDITION status when the ACTION CODE field is set to OPEN IMPORT/EXPORT ELEMENT. The sense key shall be set to ILLEGAL REQUEST and the additional sense code to MEDIUM REMOVAL PREVENTED.

If the address specified in the ELEMENT ADDRESS field has not been assigned or has been assigned to an element type other than import/export element, the device server shall return CHECK CONDITION status. The sense key shall be set to ILLEGAL REQUEST and the additional sense code to INVALID ELEMENT ADDRESS.

After a state change of the import export element the device server shall establish a unit attention condition with the additional sense code set to IMPORT OR EXPORT ELEMENT ACCESSED for the initiator port associated with all I_T nexuses other than the I_T nexus on which the OPEN/CLOSE IMPORT EXPORT ELEMENT command was received.