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

To: T10 Technical Committee
From: Noud Snelder, BDT (Noud.Snelder@BDT.de)
Date: 11 February 2005
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

Related Documents
smc2r07 - SCSI Media Changer Commands - 2 revision 2

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. And some media changers have an electric door, but no SCSI command exists to open and close this door. 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

5.3.4
[Add paragraph]
An import/export element can be opened and closed by means of the OPEN/CLOSE IMPORT/EXPORT ELEMENT command.

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

<table>
<thead>
<tr>
<th>Bit</th>
<th>7</th>
<th>6</th>
<th>5</th>
<th>4</th>
<th>3</th>
<th>2</th>
<th>1</th>
<th>0</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
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</tbody>
</table>

Bit 7  OPERATION CODE 1Bh
Bit 1  Reserved
Bit 0  Obsolete
Bit 3  ELEMENT ADDRESS
Bit 5  CONTROL
The ACTION CODE field specifies the requested action for the specified element within the media changer. If the device server supports the OPEN/CLOSE IMPORT/EXPORT ELEMENT command, it shall support one or more of the listed action codes. If the value of 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. Supported Action Codes

<table>
<thead>
<tr>
<th>ACTION CODE</th>
<th>Description</th>
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</thead>
<tbody>
<tr>
<td>0h</td>
<td>Reserved</td>
</tr>
<tr>
<td>10h</td>
<td>Open import/export element for operator access</td>
</tr>
<tr>
<td>21h</td>
<td>Close import/export element</td>
</tr>
<tr>
<td>32h-7h</td>
<td>Reserved</td>
</tr>
</tbody>
</table>

If ACTION CODE is set to 10h (Open import/export element for operator access) the media changer shall open the specified import/export element. It is not considered an error when the import/export element was already open.

If ACTION CODE is set to 21h (Close import/export element) the media changer shall close the specified import/export element. It is not considered an error when the import/export element was already closed.

If the requested element address is locked with the PREVENT ALLOW MEDIA REMOVAL command, and ACTION CODE is set to “Open element”, if the logical unit has medium removal prevented, the device server may return CHECK CONDITION status when the ACTION CODE is set to “Open import/export element for operator access”. 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 may 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.