

To: INCITS T10 Committee
From: Noud Snelder, BDT
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Document: T10/06-023r0
Subject: SMC-3 Editorial changes overview.

1 Revision History

- Revision 0: initial version, posted on T10 website on 15 December 2005

2 General

The 05-317r3 (remove attached Media Changer model) proposal caused some editorial questions. This proposal addresses these questions and recommends changes in SMC-3. It also contains some other editorial changes not related to attached media changer model.

3 Changes to SMC-3

3.1 Clause 1, Scope:

Delete the text:

b) To permit an application client to access the media changer functions in a logical unit that sets the MCHNGR bit to one in the INQUIRY command response data.

3.2 Clause 3, Definitions:

Delete the text:

3.1.15 independent media changer: A media changer addressed as a separate SCSI device or logical unit.

3.3 Clause 4, Overview:

Modify the reference to element reservation:

A media changer logical unit maintains an inventory of volumes and the element addresses at which they may be found. The media changer logical unit reports this inventory when requested and identifies the element addresses assigned to different types of elements.

Different levels of sophistication may be implemented in how this inventory is managed, reported, detected and maintained. The **data transfer** elements in a media changer may be reserved to different SCSI initiator ports. ~~For example, one data transfer element may be reserved for exclusive use by one SCSI initiator port.~~ The data transfer device, located at that data transfer element, may then be attached to various systems for their use. In some cases, the data transfer device associated with a data transfer element may not be a SCSI device.

Modify the following paragraph in chapter 4:

The split between load and unload control of the medium and read and write control by a data transfer device is a key feature of this device class. The mechanism for coordinating this kind of sophisticated activity is not specified in this standard. The media changer device class provides the means for **load and unload control of the medium mount/dismount management** only.

Change the following text in chapter 4:

The ~~independent media~~ changer ~~model applies to implementations where the media changer~~ is addressed as a separate logical unit. The logical unit for the media changer may be

accessed via the same SCSI target port as the data transfer device, or via a different SCSI target port. ~~This type of~~A media changer may support more than one data transfer element.

3.4 Clause 5, Media changer models

Since there is only one model, remove the s in the title.

The chapter 5.1 seems superfluous after chapter 5.2 is deleted, recommend to remove this line and move text of chapter 5.1 to Clause 5.

5 Media Changer models

5.1 Media changer

An ~~independent~~ media changer is a device server that returns 8h in the PERIPHERAL DEVICE TYPE field (see SPC-2) of INQUIRY command response data.

~~Independent m~~Media changers respond to a LUN different from those used by a data transfer device. Communication with a data transfer device may use the same service delivery subsystem as the media changer device, or a different SCSI service delivery subsystem. Data transfer devices that are not SCSI devices are also permitted. Multiple data transfer devices may be attached to an ~~independent~~ media changer.

If a data transfer device served by the media changer is a SCSI device, the data transfer device may be addressed on a SCSI service delivery subsystem though the same SCSI target port as the media changer but with a different LUN. The data transfer device may also be addressed through independent SCSI target ports and any LUN on the same or a different service delivery subsystem.

The READ ELEMENT STATUS command response data page for each data transfer element may provide the identity of the data transfer device serviced by a media changer device. This support is optional since a data transfer device is not required to be a SCSI device.

3.5 References to medium changer

In SMC-3r01 are 7 references to medium changer and 285 references to media changer. Propose to change the 7 references of medium changer to media changer.

Text in Foreword:

The SCSI Media Changer Commands - 3 (SMC-3) standard specifies the commands and external behavioral characteristics of a device server that declares itself a *medium changer* in the PERIPHERAL DEVICE TYPE field of the INQUIRY command response data.

Text in clause 1, Scope:

The objectives of the SCSI-3 Media Changer Commands - 3 standard are:

- a) To permit an application client to communicate with a logical unit that declares itself to be a *medium changer* device in the PERIPHERAL DEVICE TYPE field of the INQUIRY command response data; and
- b) To define commands and parameter data to manage the operation of SCSI media changer devices.

Text in 5.4.3 Volume tag information format:

Table 2 — Volume Identifier Qualifier

Code	Description
0h	This value shall be returned when the volume identifier has been determined or the <i>medium changer</i> does not contain a volume tag reader (see device capabilities mode page description).
1h	The volume identifier is currently inaccessible (e.g. medium is loaded in a data transfer element such that a barcode label can not be accessed and there is no prior knowledge of the label).
2h	The volume identifier is unreadable or there is a problem with the volume tag reader.
3h – FFh	Reserved

Text in 6.6 INITIALIZE ELEMENT STATUS WITH RANGE

NOTE 4 — Prior to standardization, many *medium changers* implemented this command using a vendor specific OPERATION CODE of E7h.

Text in 6.11.4 Medium transport element descriptor:

The MEDIUM TYPE field provides the type of medium currently present in the element as determined by the *medium changer*. Table 19 describes the values for the Medium Type field.

Table 19 — Medium Type codes

Code	Description
0h	Unspecified. The <i>medium changer</i> does not support this field, cannot determine the medium type, or the element is empty
1h	Data medium
2h	Cleaning medium
3h – 7h	Reserved

Text in 7.3.2 Device capabilities mode page

The Volume Tag Reader Present (VTRP) bit shall be set to one by the device server to indicate that a volume tag reader is installed in the *medium changer* (e.g. optical bar code reader). The VTRP bit shall be set to zero to indicate that a volume tag reader is not present or is not functional.

3.6 Reference to data transport element

Figure 2 references to data transport element, change to data transfer element