

T10/06-442r0 SMC-3 Add PREVENT ALLOW MEDIUM REMOVAL command

To: T10 Technical Committee
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Subject: T10/06-442r0 SMC-3 Add PREVENT ALLOW MEDIUM REMOVAL command

Revision History

Revision 0 (18 September 2006): initial revision

Related Documents

SMC-3 r3 - SCSI Media Changer Commands – 3, revision 3

Overview

Since the PAMR command is removed from SPC-4 a description of this command needs to be added to SMC-3. Because the attached media changer model is removed from SMC-3 the PREVENT field is shrunk to one bit.

Suggested changes to SMC-3

Change reference to SPC-2 in table 3

Table 3 — Commands for media changers (part 1 of 2)

| Command | Operation Code | Type | Reference |
|------------------------------|----------------|------|-----------|
| PREVENT ALLOW MEDIUM REMOVAL | 1Eh | 0 | 6.9 |

Add PREVENT ALLOW MEDIUM REMOVAL command to table 4

| | | | | | |
|--|----------|----------|---------|----------|----------|
| PREVENT ALLOW MEDIUM REMOVAL (Prevent=0) | Allowed | Allowed | Allowed | Allowed | Allowed |
| PREVENT ALLOW MEDIUM REMOVAL (Prevent=1) | Conflict | Conflict | Allowed | Conflict | Conflict |

Change paragraph in chapter 6.3

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If the SOURCE ADDRESS or the FIRST DESTINATION ADDRESS of an EXCHANGE MEDIUM command represents a data transfer element and a prevention of medium removal condition (see 6.9) exists within the data transfer device, the device server shall return CHECK CONDITION status and shall set the sense key to ILLEGAL REQUEST and the additional sense code to MEDIUM REMOVAL PREVENTED BY DATA TRANSFER ELEMENT.

Change paragraph in chapter 6.6

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If the SOURCE ADDRESS of a MOVE MEDIUM command represents a data transfer element and a prevention of medium removal condition (see 6.9) exists within the data transfer device, the device server shall return CHECK CONDITION status and shall set the sense key to ILLEGAL REQUEST and the additional sense code to MEDIUM REMOVAL PREVENTED BY DATA TRANSFER ELEMENT.

Insert chapter 6.9, subsequent chapters move down.

6.9 PREVENT ALLOW MEDIUM REMOVAL command

The PREVENT ALLOW MEDIUM REMOVAL command (see table x) requests that the logical unit enable or disable the removal of the medium. The logical unit shall not allow medium removal if any initiator port currently has medium removal prevented.

Table x — PREVENT ALLOW MEDIUM REMOVAL command

| Bit | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 0 |
|------|--------------------|---|---|---|---|---|---|---------|
| Byte | | | | | | | | |
| 0 | OPERATION CODE 1Eh | | | | | | | |
| 1 | Reserved | | | | | | | |
| 2 | Reserved | | | | | | | |
| 3 | Reserved | | | | | | | |
| 4 | Reserved | | | | | | | PREVENT |
| 5 | CONTROL | | | | | | | |

The prevention of medium removal shall begin when any application client issues a PREVENT ALLOW MEDIUM REMOVAL command with a PREVENT field set to one (i.e., medium removal prevented). The prevention of medium removal for the logical unit shall terminate after:

- a) One of the following occurs for each I_T nexus that previously had medium removal prevented:
 - A) Receipt of a PREVENT ALLOW MEDIUM REMOVAL command with a PREVENT field set to zero;
 - B) An I_T nexus loss; or
- b) A power on;
- c) A hard reset; or
- d) A logical unit reset.

If possible, the device server shall perform a synchronize cache operation before terminating the prevention of medium removal. If a persistent reservation or registration is being preempted by a PERSISTENT RESERVE OUT command with PREEMPT AND ABORT service action (see SPC-3), the equivalent of a PREVENT ALLOW MEDIUM REMOVAL command with the PREVENT field set to zero shall be processed for each the I_T nexuses associated with the persistent reservation or registrations being preempted. This allows an application client to override the prevention of medium removal function for an initiator port that is no longer operating correctly.

While a prevention of medium removal condition is in effect the logical unit shall do one or more of the following:

- a) prevent moves with the import/export element as destination element address when the move prevented to import/export element (MVPRV) bit set is set to one in the Extended Device Capabilities mode page (see 7.3.3);
- b) secure the media changer door(s) when the lock door (LCKD) bit is set to one in the Extended Device Capabilities mode page; and/or
- c) secure the media changer import/export element(s) when the lock import/export element (LCKIE) bit is set to one in the Extended Device Capabilities mode page.