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Date: 12 March 2008

Subject: SPC-4, Completing the SET IDENTIFYING INFORMATION command

1 Related documents

SPC-4r12 - SCSI Primary Command Set - 4, revision 12

2 Introduction

Different behaviors are defined in SPC-4 for completing the REPORT IDENTIFYING INFORMATION command and the SET IDENTIFYING INFORMATION command. A paragraph in the definition for the REPORT IDENTIFYING INFORMATION command reads:

“Processing a REPORT DEVICE IDENTIFYING INFORMATION may require the enabling of a nonvolatile memory within the logical unit. If the nonvolatile memory is not ready, the command shall be terminated with CHECK CONDITION status, rather than wait for the nonvolatile memory to become ready. The sense key shall be set to NOT READY and the additional sense code shall be set as described in table 225 (see 6.36) [i.e., the table titled “Preferred TEST UNIT READY responses”]. This information should allow the application client to determine the action required to cause the device server to become ready.”

The above paragraph means that the device server completes the REPORT DEVICE IDENTIFYING INFORMATION command immediately if one of the defined additional sense codes (e.g., LOGICAL UNIT NOT READY, INITIALIZING COMMAND REQUIRED) is to be reported. This type of behavior is defined in SPC-4 for many other commands that may require media access in order to complete the command (e.g., this behavior is defined for all but a short list of commands for any logical unit that supports the persist through power loss for persistent reservations (see 5.6.5.2 Nonvolatile memory considerations for preserving persistent reservations and registrations) and is also specifically defined for the SET and REPORT TARGET PORT GROUPS commands).

However, there is no corresponding paragraph in the definition for the SET IDENTIFYING INFORMATION command that defines this behavior. This implies that, except where overridden by defined cases, such as when the logical unit supports the persist through power loss function, the device server shall not complete a SET IDENTIFYING INFORMATION command until the command timeout for the command is reached, even if the device server knows that a condition exists that will result in completing the command with CHECK CONDITION status (e.g., with an additional sense code of LOGICAL UNIT NOT READY, MANUAL INTERVENTION REQUIRED).

If accepted, this proposal will make it such that the behavior of a device server is the same for a SET IDENTIFYING INFORMATION command as it is for a REPORT IDENTIFYING INFORMATION command for the same conditions.

Revision 1 of this proposal includes input from the CAP working group meeting on March 12, 2008.

3 Proposal

Change SPC-4 as shown in the following.

6.21.1 REPORT IDENTIFYING INFORMATION command overview

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Processing a REPORT DEVICE IDENTIFYING INFORMATION command may require the enabling of a nonvolatile memory within the logical unit. If the nonvolatile memory is not ready, then the command shall be terminated with CHECK CONDITION status, ~~rather than~~ and not wait for the nonvolatile memory to become ready. The sense key shall be set to NOT READY and the additional sense code shall be set as described in table 225 (see 6.36). This information should allow the application client to determine the action required to cause the device server to become ready.

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6.32 SET IDENTIFYING INFORMATION command

The SET IDENTIFYING INFORMATION command (see table 212) requests that the device server set identifying information in the logical unit to the value received in the SET IDENTIFYING INFORMATION parameter list. The SET IDENTIFYING INFORMATION command is an extension to the SET PERIPHERAL DEVICE/ COMPONENT DEVICE IDENTIFIER service action of the MAINTENANCE OUT command defined in SCC-2. Additional MAINTENANCE IN and MAINTENANCE OUT service actions are defined in SCC-2 and in this standard.

The MAINTENANCE OUT service actions defined only in SCC-2 shall apply only to logical units that return a device type of 0Ch (i.e., storage array controller device) or the sccs bit set to one in their standard INQUIRY data (see 6.4.2). When a logical unit returns a device type of 0Ch or the sccs bit set to one in its standard INQUIRY data, the implementation requirements for the SCC-2 MAINTENANCE OUT service actions shall be as specified in SCC-2. Otherwise the MAINTENANCE OUT service action definitions and implementation requirements stated in this standard shall apply.

Processing a SET DEVICE IDENTIFYING INFORMATION command may require the enabling of a nonvolatile memory within the logical unit. If the nonvolatile memory is not ready, then the command shall be terminated with CHECK CONDITION status and not wait for the nonvolatile memory to become ready. The sense key shall be set to NOT READY and the additional sense code shall be set as described in table 225 (see 6.36). This information should allow the application client to determine the action required to cause the device server to become ready.

On successful completion of a SET IDENTIFYING INFORMATION command that changes identifying information saved by the logical unit, the device server shall establish a unit attention condition (see SAM-4) for the initiator port associated with every I_T nexus except the I_T nexus on which the SET IDENTIFIER command was received, with the additional sense code set to DEVICE IDENTIFIER CHANGED.

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