To: T10 Technical Committee
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Subject: SAT READ MEDIA SERIAL NUMBER translation proposal

1 Related Documents

The following documents are affected by this proposal:

SAT (D1711 r4)

2 Introduction

READ MEDIA SERIAL NUMBER, a SPC-3 command, is used by application clients to determine media information for tracking media across initiators common to a single system. It is also used by some operating systems for additional uniqueness for generating unique plug and play identifiers for a given piece of media or device. These are merely examples of the usage of READ MEDIA SERIAL NUMBER and is not intended to be exhaustive or complete.

ATA devices optionally provide a media serial number in their IDENTIFY DEVICE data providing for an easy translation to the data required to be returned for READ MEDIA SERIAL NUMBER. Currently, SAT provides for no such translation and this proposal introduces such a translation.

3 Proposal

3.1 Changes to Table 4

Add a new entry for READ MEDIA SERIAL NUMBER indicating it is an emulated opcode with no direct corresponding ATA opcode.

3.2 READ MEDIA SERIAL NUMBER section

Insert the following as section 8.9 and shift all following subclauses of section 8 by 1 (e.g. existing 8.9 becomes 8.10, etc.).

8.9 READ MEDIA SERIAL NUMBER (ABh)

8.9.1 Command Summary

READ MEDIA SERIAL NUMBER reports the serial number of the currently mounted media, as reported by the device. This command is emulated in the ATA environment as ATA provides no direct corresponding command to the device.

Table 35 — READ MEDIA SERIAL NUMBER CDB Fields

Field	SATType	Description or Reference
OPERATION CODE	E	(see clause 8.9.2)
SERVICE ACTION	E	As defined in SPC-3
ALLOCATION LENGTH	E	As defined in SPC-3

8.9.2 READ MEDIAL SERIAL NUMBER emulation

A SATL emulating the READ MEDIA SERIAL NUMBER command shall issue an IDENTIFY DEVICE (ECh) ATA opcode to the attached ATA device. If the IDENTIFY DEVICE command completes with success, the SATL shall return a media serial number to the application client as defined in SPC-3. The media serial number shall be generated as follows:

1) If IDENTIFY DEVICE data, word 87, bit 2 is set, the SATL shall return the media serial number located in words 176-205. The data from the medial serial number shall be treated as an ASCII string, defined in ATA/ATAPI-7.
2) If IDENTIFY DEVICE data, word 87, bit 2 is not set, the SATL shall issue a READ VERIFY SECTOR(S) or READ VERIFY SECTOR(S) EX to LBA 0. Alternatively, if the ATA device reports support for the Removable Media Status Notification feature set, the SATL may issue a GET MEDIA STATUS command to verify presence of the medial. If the READ VERIFY SECTOR(S) or READ VEIRFY SECTOR(S) EX commands complete successfully, or the GET MEDIA STATUS command completes successfully without the NM bit set, the SATL shall return a media serial number of zero as defined in SPC-3. Otherwise, the SATL shall terminate the command with CHECK CONDITION status, with the sense key set to NOT READY, and the additional sense code set to MEDIUM NOT PRESENT.