

Alternative to e06184 Solid State Media Statistics

December 18, 2008

Revision 3

Technical Editor:

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Document Status

Revision History		
Rev	Date	Description
0	October 6, 2008	Initial draft
1	December 9, 2008	Added definition of Short Term Endurance, Long Term Endurance, and Percentage Used Indicators
2	December 17, 2008	Removed all but the Percentage Used Endurance Indicator
3	December 18, 2008	Fixed grammar ; removed requirement to update the statistic when reading the log;

1 Introduction

This proposal is offered as an alternative (e.g. "instead of" not "in addition") to proposal e06184 which we consider to be faulty.

2 Scope

This new feature is intended for inclusion in ACS-2.

3 Proposed Changes to ACS-2

A.5 Device Statistics (Log Address 04h)

A.5.XX Solid State Device Statistics (Page TBD)

Overview

Device Statistics log page TBD contains solid state device information about the device as described in table TBD. This statistic is defined:

- a) Percentage Used Endurance Indicator.

Table TBD –Solid State Device Statistics

Offset	Type	Content								
TBD	QWord	Percentage Used Endurance Indicator <table border="0" style="margin-left: 40px;"> <tr> <td>Bit</td> <td>Meaning</td> </tr> <tr> <td>63:56</td> <td>Device Statistics Flags, (See Table TBD)</td> </tr> <tr> <td>55:8</td> <td>Reserved</td> </tr> <tr> <td>7:0</td> <td>Percentage Used Endurance Indicator (byte)</td> </tr> </table>	Bit	Meaning	63:56	Device Statistics Flags, (See Table TBD)	55:8	Reserved	7:0	Percentage Used Endurance Indicator (byte)
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63:56	Device Statistics Flags, (See Table TBD)									
55:8	Reserved									
7:0	Percentage Used Endurance Indicator (byte)									

A.5.1.1 Percentage Used Endurance Indicator

Description

The Percentage Used Endurance Indicator is an vendor specific estimate of the percentage of device life used based on the actual device usage and the manufacturer's prediction of device life. A value of 100 indicates that the estimated endurance of the device has been consumed, but may not indicate a device failure (e.g., minimum power-off data retention capability reached for devices using NAND flash technology). The value is allowed to exceed 100. The volatile value shall be updated once per power-on hour independent of the update interval specified below.

Update Interval

One hour

Measurement Unit

Percent

Initialization

The Percentage Used Endurance Indicator shall be initialized to zero at the time of manufacture.