

To: T10 Technical Committee
 From: Rob Elliott, HP (elliott@hp.com)
 Date: 10 March 2004
 Subject: 04-075r2 SBC-2 Obsolete more features

Revision history

Revision 0 (27 February 2004) First revision

Revision 1 (4 March 2004) Split off Notch and Partition mode page changes to 04-082r0.

Revision 2 (10 March 2004) Incorporated comments from March CAP WG - remove the proposed sentence requiring that savable mode parameters be saved to non-volatile memory during format (despite using the exact wording from the old DSP = 0 behavior), since this kind of reminder is not given for other commands.

Related documents

sbc2r12 - SCSI Block Commands - 2 revision 12

Overview

A number of items in sbc2r12 should be made obsolete.

1. The **FORMAT UNIT CDB INTERLEAVE field** seems useless. RBC's version of FORMAT UNIT doesn't include the field. MMC-4's version of FORMAT UNIT requires it be zero.
2. The **FORMAT UNIT parameter list DISABLE SAVING PARAMETERS (DSP) bit** changes the SPC-3 expectation that saved pages are saved forever by letting them be lost during a format. If they can be lost, then a unit attention would be needed, which SPC-3 does not mention. This is not something software would want, and there don't seem to be any drives requiring it be supported. RBC's version of FORMAT UNIT doesn't define the field. MMC-4's version of FORMAT UNIT puts a different bit in that location (the TRY-OUT bit) so its presence may confuse software.
3. The **Device Status Output/Input diagnostic pages**, also proposed to be made obsolete by 04-031r1, formerly held spindle synchronization fields, which are all obsolete. The page just contains obsolete, reserved, and vendor-specific fields, and doesn't seem to be implemented by any disk drives.

Suggested changes

5.3 FORMAT UNIT command

5.3.1 FORMAT UNIT command overview

The FORMAT UNIT command (see table 12) formats the medium into application client addressable logical blocks per the application client defined options. In addition, the medium may be certified and control structures may be created for the management of the medium and defects. The degree that the medium is altered by this command is vendor-specific.

The simplest mandatory form of the FORMAT UNIT command (i.e., a FORMAT UNIT command with no parameter data) accomplishes medium formatting with little application client control over defect management. The device server implementation determines the degree of defect management that is to be performed. Two additional mandatory forms of this command increase the application client's control over defect management. Several optional forms of this command further increase the application client's control over defect management, by allowing the application client to specify:

- a) defect list(s) to be used;
- b) defect locations;
- c) that logical unit certification be enabled; and
- d) exception handling in the event that defect lists are not accessible.

During the format operation, the device server shall respond to commands as follows:

- a) In response to all commands except REQUEST SENSE and INQUIRY, the device server shall return CHECK CONDITION status unless a reservation conflict exists, in which case RESERVATION CONFLICT status shall be returned;
- b) In response to the INQUIRY command, the device server shall respond as commanded; and

- c) In response to the REQUEST SENSE command, unless an error has occurred, the device server shall return a sense key of NOT READY with the additional sense code set to LOGICAL UNIT NOT READY FORMAT IN PROGRESS, with the sense key specific bytes set for progress indication (see SPC-3). See SPC-3 for a description of deferred error handling that may occur during the format operation.

NOTE 1 The MODE SELECT parameters, if any, should be set prior to issuing the FORMAT UNIT command.

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~~The INTERLEAVE field specifies the interleave that is used when performing the format operation. This allows the logical blocks to be related in a way that may facilitate matching the transfer rate between the application client and the peripheral. An interleave of zero specifies that the device server use its default interleave. An interleave of one specifies that consecutive logical blocks be placed in contiguous ascending order. All other values are vendor specific.~~

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~~A disable saving parameters (DSP) bit set to zero specifies that the device server shall save all the savable mode parameters to non-volatile memory during the format operation. A DSP bit set to one specifies that the device server shall not save the MODE SELECT savable parameters to non-volatile memory during the format operation. Mode pages that are not reported as savable are not affected by the DSP bit.~~

6.2 Diagnostic parameters

6.2.1 Diagnostic parameters overview

This subclause defines the descriptors and pages for diagnostic parameters used with direct-access devices. The diagnostic page codes for direct-access devices are defined in table 1.

Table 1 — Diagnostic page codes

Diagnostic page code	Description	Reference
00h	Supported diagnostic pages	SPC-3
01h - 1Fh	SCSI enclosure services diagnostic pages	SES-2
20h - 3Fh	Diagnostic pages assigned by SPC-3	SPC-3
40h	Translate Address Output diagnostic page	
40h	Translate Address Input diagnostic page	
41h	Obsolete	
41h	Device Status Input diagnostic page	0.0.1
42h - 7Fh	Reserved for this standard	
80h - FFh	Vendor-specific diagnostic pages	

~~6.2.4 Device Status Output diagnostic page~~

The Device Status diagnostic pages allow the application client to query the device regarding operational status of the device. The format of the Device Status Output diagnostic page sent with SEND_DIAGNOSTIC is shown in table 2.

Table 2 — Device Status Output diagnostic page

Byte\Bit	7	6	5	4	3	2	1	0	
0	PAGE CODE (41h)								
1	Reserved								
2	(MSB)	PAGE LENGTH (0008h)							
3								(LSB)	
4	Reserved								
11	Reserved								

0.0.1 6.2.5 Device Status Input diagnostic page

The format of the Device Status Input diagnostic page retrieved with RECEIVE_DIAGNOSTIC_RESULTS is shown in table 3.

Table 3 — Device Status Input diagnostic page

Byte\Bit	7	6	5	4	3	2	1	0	
0	PAGE CODE (41h)								
1	Reserved								
2	(MSB)	PAGE LENGTH (n-3)							
3								(LSB)	
4	Reserved								
5	Reserved								
6	Reserved				Obsolete				
7	Reserved				Obsolete				
8	Reserved								
47	Reserved								
48	Vendor specific								
n	Vendor specific								