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Date: 17 November 2008

Subject: SPC-4, Making the PPC bit in the LOG SENSE command obsolete

1 Related documents

SPC-4r17 - SCSI Primary Command Set - 4, revision 17

2 Introduction

The definition for when the PPC bit is set to one in the LOG SENSE command in SPC-4 is not clear and/or has lost its meaning over time. List item a in the definition for this bit in SPC-4 reads:

A PPC bit set to one specifies that the device server shall return a log page with parameter code values that have changed since the last LOG SELECT or LOG SENSE command. The device server shall return only those parameter codes that are greater than or equal to the contents of the PARAMETER POINTER field in ascending order of parameter codes from the specified log page...

These are almost the same words used to define the meaning for the PPC bit set to one in SCSI-2. This definition places no bounds on, "...since the last LOG SELECT or LOG SENSE command...". In addition, the only way a parameter code can change is if a new parameter code is added to a log page. This means that, if the following sequence occurs:

- 1) a LOG SENSE command was received on one I_T nexus 20 years ago;
- 2) many parameter codes have been added in the interim, along with the occurrence of many power cycles, resets, etc.;
- 3) a LOG SENSE command from a different I_T nexus was received ten minutes ago;
- 4) no parameter codes have changed in the last ten minutes; and
- 5) a LOG SENSE command is received on the first I_T nexus,

then no parameter data would be returned.

Another odious implication of this definition is that context shall always be maintained identifying any new parameter code that has been added until the device server receives a LOG SENSE command or a LOG SELECT command, again, this could be on ANY I_T nexus.

After no response to a posting to the T10 reflector asking if anyone knew of any reason for or use of the PPC bit and other off-line discussions with folks with the same result, this proposal makes the bit obsolete.

3 Proposal

Change SPC-4 as follows:

6.6 LOG SENSE command

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Table 1 — LOG SENSE command

Byte	Bit	7	6	5	4	3	2	1	0
0		OPERATION CODE (4Dh)							
1								PPC Obsolete	SP
2		PC		PAGE CODE					
3		SUBPAGE CODE							
4		Reserved							
5	(MSB)								
6		PARAMETER POINTER						(LSB)	
7	(MSB)								
8		ALLOCATION LENGTH						(LSB)	
9		CONTROL							

~~The parameter pointer control (PPC) bit controls the type of parameters requested from the device server:~~

- ~~a) A PPC bit set to one specifies that the device server shall return a log page with parameter code values that have changed since the last LOG SELECT or LOG SENSE command. The device server shall return only those parameter codes that are greater than or equal to the contents of the PARAMETER POINTER field in ascending order of parameter codes from the specified log page;~~
- ~~b) A PPC bit set to zero specifies that the device server shall return those parameter codes that are greater than or equal to the contents of the PARAMETER POINTER field in ascending order of parameter codes from the specified log page; and~~
- ~~c) A PPC bit set to zero and a PARAMETER POINTER field set to zero specifies that the device server shall return all available log parameters from the specified log page.~~

~~If the PPC bit is set to one and the value of the SUBPAGE CODE field is set to FFh then the command shall be terminated with CHECK CONDITION status, with the sense key set to ILLEGAL REQUEST, and the additional sense code set to INVALID FIELD IN CDB.~~