

To: T10 Technical Committee
 From: Rob Elliott, HP (elliott@hp.com)
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 Subject: 04-305r0 SAS-1.1 READY LED MEANING bit is always shared

Revision history

Revision 0 (11 September 2004) First revision

Related documents

sas1r05 - Serial Attached SCSI - 1.1 revision 5
 spc3r20a - SCSI Primary Commands - 3 revision 20a

Overview

SPC-3 allows the Protocol-Specific Port mode page (19h) to use either the per target port or the shared mode page policy:

(from spc3r20a 7.4.14)

The mode page policy (see 6.7) for this mode page shall be shared or per target port and should be per target port. If a target device has multiple target ports, changes in the parameters for one target port should not affect other target ports.

However, the READY LED MEANING bit that SAS-1.1 defines in the page doesn't make sense with as a per target port bit, since the SAS drive connector only includes one READY LED pin for its two ports (not one per port). Different settings for different target ports don't make sense. The bit needs to be considered always shared regardless of the mode policy.

This is similar to the TST field in the Control mode page in SPC-3, which is always shared regardless of the mode page policy of that mode page.

Suggested changes to SAS-1.1

0.0.0.0.1 Protocol-Specific Port mode page overview

The Protocol-Specific Port mode page (see SPC-3) contains parameters that affect SSP target port operation. If the mode page is implemented, all logical units in SCSI target devices in SAS domains supporting the MODE SELECT or MODE SENSE commands shall implement the page, ~~and there shall be one copy of the mode page shared by all SSP initiator ports.~~ [The mode page policy \(see 6.7\) for this mode page shall be shared or per target port and should be per target port.](#)

If a SAS target device has multiple SSP target ports, ~~changes in the short page parameters for one SSP target port should not affect other SSP target ports~~ [the mode page policy should be per target port.](#)

Table 1 defines the subpages of this mode page.

Table 1 — Protocol-Specific Port mode page subpages

Subpage	Description	Reference
Short page	Short format	0.0.0.0.2
Long page 00h	Not allowed	
Long page 01h	Phy Control And Discover subpage	10.2.6.2.3
Long page E0h - FEh	Vendor specific	
Long page FFh	Return all subpages for the Protocol-Specific Port mode page	SPC-3
All others	Reserved	

0.0.0.0.2 Protocol-Specific Port mode page - short format

Parameters in this page shall affect all phys in the SSP target port, and may affect all SSP target ports in the SAS target device [depending on the mode page policy](#).

Table 2 defines the format of the page for SAS SSP.

Table 2 — Protocol-Specific Port mode page for SAS SSP - short format

Byte\Bit	7	6	5	4	3	2	1	0
0	PS	SPF (0b)	PAGE CODE (19h)					
1	PAGE LENGTH (06h)							
2	Reserved			READY LED MEANING	PROTOCOL IDENTIFIER (6h)			
3	Reserved							
4	(MSB)	I_T NEXUS LOSS TIME						(LSB)
5								
6	(MSB)	INITIATOR RESPONSE TIMEOUT						(LSB)
7								

The PARAMETERS SAVEABLE (PS) bit is defined in SPC-3.

The SPF field shall be set to zero for access to the short format mode page.

The PAGE CODE field shall be set to 19h.

The PAGE LENGTH field shall be set to 06h.

The READY LED MEANING bit specifies the READY LED signal behavior (see 10.4.1). [If the mode page policy for this mode page is not shared, the READY LED MEANING bit, if changeable, shall reflect in the mode pages for all I_T nexuses the value selected by the most recent MODE SELECT command from any I_T nexus \(i.e., the READY LED MEANING bit is always shared\).](#)

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