

T10/02-269r0 SPC-3 Support for LUR Bit in the INQUIRY Command

To: T10 Technical Committee

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Subject: T10/02-269r0 SPC-3 Support for LUR Bit in the INQUIRY Command

Revision History

Revision 0 (July 2002), first revision .

Related Documents

SPC-3r07 – SCSI Primary Commands - 3 revision 7

SAM-2 – SCSI Architecture Model - 2, revision 23

Overview

We need a definitive way to tell if a target supports Logical Unit Reset (LUR). One possibility would be to define a bit in the INQUIRY table that could be set by target devices which support LUR. This will be an issue when Target Reset becomes optional and LUN reset becomes mandatory when SAM-2 document replaces SAM document by the end of this year. This will impact all system and storage vendors, not just Sun.

There is a definite need to use a reserved bit for a specific functionality as this, because other methods such as decoding Version and Version Descriptor fields are too hard to use. They are not unambiguous and don't tell us precisely what we need to know in order to prevent problems in the field.

A bit should be taken from a reserved field so that older devices have a zero value for the bit. Devices which support LUR would be required to set the bit to one. A host would know that it can use the LUR safely if the Support Logical Unit Reset (SLUR) bit was set to one, and use Target Reset (TR) otherwise.

A reserved bit should work for any combination of older and newer devices especially when initiators/HBAs keep supporting both options the Target Reset and Logical Unit Reset.

Suggested Changes

7.4.2 Standard INQUIRY data

The standard INQUIRY data (see table 57) shall contain at least 36 bytes.

Table 57 - Standard INQUIRY data format Byte

Bit	7	6	5	4	3	2	1	0
0	PERIPHERAL QUALIFIER			PERIPHERAL DEVICE TYPE				
1	RMB	Reserved						
2	VERSION							
3	AERC	Obsolete	NORMACA	HiSUP	RESPONSE DATA FORMAT			
4	ADDITIONAL LENGTH (n-4)							
5	SCCS	ACC	ALUA		3PC	SLUR	Reserved	
6	BQUE	ENCSERV	VS	MULTIP	MCHNGR	Obsolete	Obsolete	ADDR16
7	RELADR	Obsolete	WBUS16	SYNC	LINKED	Obsolete	CMDQUE	VS

The SLUR (Support Logical Unit Reset) bit identifies whether a LUN supports logical unit reset as defined in the SAM-2 document. SAM-2 document makes Logical Unit Reset (LUR) mandatory. We propose to introduce the Logical Unit Reset Support bit as bit 2, word 5 in the INQUIRY table. SLUR = 1 would mean that LUNs support reset as defined in SAM-2. SLUR = 0 would mean that LUN does not support LUN reset as defined in SAM-2.