

To: T10 Technical Committee  
From: Rob Elliott, HP (elliott@hp.com)  
Date: 3 May 2006  
Subject: 06-221r0 SPC-4 Informational designator for Device Identification VPD page

### **Revision history**

Revision 0 (3 May 2006) First revision

### **Related documents**

spc4r04 - SCSI Primary Commands - 4 (SPC-4) revision 4

### **Overview**

Worldwide unique logical unit names in 64-bit and 128-bit binary NAA and EUI-64-based formats or (up to) 256 byte UTF-8 SCSI name string formats are great for applications, but are unwieldy for users.

This proposal defines a new informational identifier in UTF-8 string format that can be used to provide a descriptive string about the entry indicated by the ASSOCIATION value (logical unit, target port, or target device). The intent is that it be used for display purposes in management applications.

Examples:

- a) ASSOCIATION=0 "Database log storage"
- a) ASSOCIATION=0 "Database table storage"
- a) ASSOCIATION=0 "Server 34 boot drive"
- a) ASSOCIATION=1 "Leftmost FC port"
- a) ASSOCIATION=2 "RAID controller in rack 2 in server room 14"

Unlike the NAA, EUI-64, and SCSI name string identifiers, there is no requirement that it be worldwide unique (or even unique within the target device).

UTF-8 rather than ASCII allows characters from other languages to be used if appropriate.

A SCSI mechanism to set these string values is not proposed - this is left as vendor-specific (e.g. done using some backdoor management interface).

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Editor's Note 1: The REPORT DEVICE IDENTIFIER and SET DEVICE IDENTIFIER commands provide access to an ASCII identifier that could be used for this purpose, but that was designed for and is already being used by an operating system for a different purpose. The new identifier could be handled by those commands by adding an IDENTIFIER NUMBER field to the CDBs (identifier number 0 would have the current meaning, identifier number 1 would have the meaning defined in this proposal). However, this is not proposed in this revision of this proposal.

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### **Suggested changes**

#### **7.6.3 Device Identification VPD page**

##### **7.6.3.1 Device Identification VPD page overview**

The Device Identification VPD page (see table 306) provides the means to retrieve designation descriptors applying to the logical unit. Logical units may have more than one designation descriptor (e.g., if several types or associations of designator are supported). Designators consist of one or more of the following:

- a) Logical unit names;
- b) SCSI target port identifiers;
- c) SCSI target port names;
- d) SCSI target device names;
- e) Relative target port identifiers;
- f) SCSI target port group number; ~~or~~
- g) Logical unit group number; ~~or~~
- h) [Informational identifier.](#)

Designation descriptors shall be assigned to the peripheral device (e.g., a disk drive) and not to the currently mounted media, in the case of removable media devices. Operating systems are expected to use the designation descriptors during system configuration activities to determine whether alternate paths exist for the same peripheral device.

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The DESIGNATOR TYPE field (see table 310) indicates the format and assignment authority for the designator.

**Table 310 — DESIGNATOR TYPE field**

Code	Description	Reference
0h	Vendor specific	7.6.3.3
1h	T10 vendor ID based	7.6.3.4
2h	EUI-64 based	7.6.3.5
3h	NAA	7.6.3.6
4h	Relative target port identifier	7.6.3.7
5h	Target port group	7.6.3.8
6h	Logical unit group	7.6.3.9
7h	MD5 Logical unit identifier	7.6.3.10
8h	SCSI name string	7.6.3.11
<a href="#">9h</a>	<a href="#">Informational</a>	<a href="#">7.6.3.x</a>
<del>9h</del> <a href="#">Ah</a> - Fh	Reserved	

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**7.6.3.3 Vendor specific designator format**

If the designator type is 0h (i.e., vendor specific), no assignment authority was used and there is no guarantee that the designator is globally unique (i.e., the identifier is vendor specific). Table 311 defines the DESIGNATOR field format.

**Table 311 — Vendor specific DESIGNATOR field format**

Byte\Bit	7	6	5	4	3	2	1	0
0	VENDOR SPECIFIC IDENTIFIER							
n	VENDOR SPECIFIC IDENTIFIER							

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[Editor’s Note 2: This designator type could work, but it is not required to be a printable string](#)

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**7.6.3.4 T10 vendor ID based designator format**

If the designator type is 1h (i.e., T10 vendor ID based), the DESIGNATOR field has the format shown in table 312.

**Table 312 — T10 vendor ID based DESIGNATOR field format**

Byte\Bit	7	6	5	4	3	2	1	0
0	(MSB) _____							
7	T10 VENDOR IDENTIFICATION							_____ (LSB)
8	_____							
n	VENDOR SPECIFIC IDENTIFIER							_____

The T10 VENDOR IDENTIFICATION field contains eight bytes of left-aligned ASCII data (see 4.4.1) identifying the vendor of the product. The data shall be left aligned within this field. The T10 vendor identification shall be one assigned by INCITS. A list of assigned T10 vendor identifications is in Annex E and on the T10 web site (<http://www.T10.org>).

NOTE 56 - The T10 web site (<http://www.t10.org>) provides a convenient means to request an identification code. The organization associated with the T10 vendor identification is responsible for ensuring that the VENDOR SPECIFIC DESIGNATOR field is unique in a way that makes the entire DESIGNATOR field unique. A recommended method of constructing a unique DESIGNATOR field is to concatenate the PRODUCT IDENTIFICATION field from the standard INQUIRY data (see 6.4.2) and the PRODUCT SERIAL NUMBER field from the Unit Serial Number VPD page (see 7.6.10).

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*Editor's Note 3: This designator type could work, but it is supposed to be worldwide unique and is the last resort for a logical unit name.*

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**7.6.3.11 SCSI name string designator format**

If the designator type is 8h (i.e., SCSI name string), the DESIGNATOR field has the format shown in table 329. The CODE SET field shall be set to 3h (i.e., UTF-8).

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*Editor's Note 4: This designator type could work, but it is intended to be used for logical unit names, target port names, and device names.*

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**7.6.3.xx Informational designator format**

If the designator type is 9h (i.e., informational), the DESIGNATOR field has the format shown in table 313. The CODE SET field shall be set to 3h (i.e., UTF-8).

**Table 313 — Informational DESIGNATOR field format**

Byte\Bit	7	6	5	4	3	2	1	0
0	_____							
n	INFORMATIONAL STRING							_____

The null-terminated, null-padded (see 4.4.2) INFORMATIONAL STRING field contains a UTF-8 format string providing an informational description (e.g., a string entered by a system administrator) describing the entity with which the designator is associated as indicated by the ASSOCIATION field. The number of bytes in the

INFORMATIONAL STRING field (i.e., the value in the DESIGNATOR LENGTH field) shall be no larger than 256 and shall be a multiple of four.