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FROM: Peter Johansson
TO: T10 CAP working group
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RE: EUI-48 protocol ID VPD page

Some SCSI command sets are so generic that it is difficult, if not impossible, to discover the protocols implemented by peripheral devices except *via* vendor-specific methods. The processor device model, documented in SPC, is the particular example in mind.

Considerable utility may be made of the processor model's generic SEND and RECEIVE command set were it possible to identify the message set of a device by other than vendor-specific means. A protocol identifier already in widespread use, the IEEE EUI-48, could enable a standard method to discover message set support in a processor device.

A new vital product data (VPD) page is proposed to contain one or more EUI-48s. By conventional usage, an EUI-48 would uniquely identify a document or document(s) that specify peripheral device characteristics in addition to those identified by the peripheral device type and qualifier. The details of association between an EUI-48 and one or more documents need not be within the scope of SPC.

The changes that follow are proposed for inclusion in the next revision of the SPC-4 working draft.

8.6.1 Vital product data parameters overview and page codes

This subclause describes the vital product data page structure and the vital product data pages (see table 250) that are applicable to all SCSI devices. These pages are optionally returned by the INQUIRY command (see 7.4) and contain vendor specific product information about a target or logical unit. The vital product data may include vendor identification, product identification, unit serial numbers, device operating definitions, manufacturing data, field replaceable unit information, and other vendor specific information. This standard defines the structure of the vital product data, but not the contents.

Table 250 Vital product data page codes

Page code	Description	Reference	Support Requirements
00h	Supported vital product data pages	8.6.5	Mandatory
01h – 7Fh	ASCII information page	8.6.3	Optional
80h	Unit serial number page	8.6.6	Optional
81h	Obsolete	3.3.7	
82h	ASCII implemented operating definition page	8.6.2	Optional
83h	Device identification page	8.6.4	Mandatory
84h	Protocol identification page	8.6.7	Optional
85h - BFh	Reserved		
C0h – FFh	Vendor specific		

8.6.6 Protocol identification page

The protocol identification page (see table 271a) provides protocol identification applicable to the logical unit. Logical units may have more than one associated protocol ID.

NOTE 68 - Client applications are expected to use the protocol IDs to differentiate peripheral device function in cases where the command set (e.g., processor devices) is too generic to distinguish different protocols implemented.

Table 271a Protocol identification page

Byte	Bit	7	6	5	4	3	2	1	0
0		PERIPHERAL QUALIFIER			PERIPHERAL DEVICE TYPE				
1		PAGE CODE (84h)							
2		Reserved							
3		PAGE LENGTH (n-3)							
		PROTOCOL ID LIST							
4	(MSB)	PROTOCOL ID (first)							
9		(LSB)							
		...							
	(MSB)	PROTOCOL ID (last)							
n		(LSB)							

The PERIPHERAL QUALIFIER field and the PERIPHERAL DEVICE TYPE field in table 271a are defined in 7.4.2.

Each PROTOCOL ID is a six-byte, fixed-length field (see table 271b) that contains information identifying a protocol implemented by the logical unit. The content of a PROTOCOL ID are also known as an IEEE Extended Unique Identifier, 48 bits (EUI-48).

Table 271b PROTOCOL ID format

Byte	Bit	7	6	5	4	3	2	1	0
0	(MSB)	IEEE COMPANY ID							
2		(LSB)							
3	(MSB)	VENDOR SPECIFIC EXTENSION ID							
5		(LSB)							

The IEEE COMPANY ID field contains a 24-bit company identifier assigned by the IEEE. Information about IEEE company identifiers in EUI-48 identifiers may be obtained from the <http://standards.ieee.org/regauth/oui> web site.

The VENDOR SPECIFIC EXTENSION ID, a 24-bit numeric value that is assigned by the organization associated with the IEEE company identifier, shall be unique within the scope of the IEEE COMPANY ID as required by the IEEE definition of EUI-48.