**S Y M B I O S**
**L O G I C**

Date: 17 March, 1998

To: T10 Membership

From: Ralph Weber, T10 Alternate member from Symbios, Inc.

Subject: Sundry Minor Enhancements for SPC-2

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During the past several months various suggestions have been made for minor enhancements in SPC-2. These proposals are complied here for consideration by T10.

1) Add the following before the last sentence in clause 4.2.4:

"If the information being transferred to the data-in buffer includes fields containing counts of the number of bytes in some or all of the data, the contents of these fields shall not be altered to reflect the truncation, if any, that results from an insufficient allocation length value, unless the standard that describes the data-in buffer format specifically states otherwise."

It has been noted that most command descriptions include wording with effects similar to what is proposed above. However, some command descriptions are silent on this subject and adding the proposed wording in clause 4.2.4 (the description of the allocation length CDB field) will cover all cases.

2) In the process of resolving an issue regarding field pointer bytes sense-key specific data in the standard sense data (see 97-187), the working group produced the following statement of its position regarding multi-byte fields:

   a)   A multi-byte field is a defined field in a CDB or parameter list whose length exceeds one byte; and
   b)   The contents of the sense-key specific data for the ILLEGAL REQUEST sense key is not specified by SCSI-2 when the error occurs in a reserved field.

The following should be added at the end of the third paragraph after Table 63 in clause 7.20.1 to embody the committee's position in SPC-2:

"If several consecutive bytes are reserved, each shall be treated as a single-byte field."

3) It has been noted that no SCSI standard contains the requirement that invalid operation codes result in a CHECK CONDITION status. To address this omission, the following wording should be added at the end of the second paragraph in clause 4.2:

"If a device server receives a CDB containing an operation code that is invalid or not supported, it shall return CHECK CONDITION status with the sense key set to ILLEGAL REQUEST and an additional sense code of INVALID COMMAND OPERATION CODE."

4) The SPC recommendations for  virtual units regarding the contents of the device identification VPD page have been overtaken by events, specifically the IEEE Tutorial for SCSI use of IEEE company_id (also available as T10/97-101r2).  Therefore, it is proposed that note 53 be replaced with:

> "Note 53  In the case of virtual logical units (e.g., volume sets as defined by SCC), the Identifier field (see table 111) should be an IEEE Registered Extended name.  The IEEE Registered Extended name has a code of 3h in the Identifier type field and an NAA value of 0110b as defined in FC-PH."

The normative references clause needs to be reviewed and updated with respect to FC-PH and the acronyms clause needs to have FC-PH added.

5) The description of the Identification descriptor field in the device identification VPD page has been rendered incorrect by the addition of the Association field.  The second paragraph before Table 112 in clause 8.4.3 should be replaced with:

> "Each Identification descriptor (see table 111) contains information identifying the logical unit, physical device, or access path used by the command and returned parameter data.  The Association field indicates the entity that the Identification descriptor describes.  If a physical or logical device returns an Identification descriptor with  the Association field set to 0h, it shall return the same descriptor when it is accessed through any other path."