



adaptec, inc.

X3T9.2/87-50

Memo to: John Lohmeyer, ANSI X3T9.2 Chairman  
NCR Corp.  
3718 N. Rock Road  
Wichita, KS 67226

Memo from: Robert N. Snively  
Adaptec  
580 Cottonwood  
Milpitas, CA 95035

Date: March 6, 1987

Subject: Compatability philoeophy for SCSI and SCSI-2

Dear Mr. Lohmeyer:

The SCSI-II is a valuable standardization effort. I feel that its value can be enhanced by careful consideration of its relationship to the present SCSI standard and to the market place. Compatability between the standards is a key to that relationship. Since SCSI-II does change the present SCSI standard in some very significant ways, the definition of the compatability requirements should be clarified. In my letter of August 18 (X3T9.2-75), I proposed a philoeophy that could be used to assure the appropriate degree of compatability between SCSI and SCSI-2. To implement this philoeophy, I propose that the following statement be included in the SCSI-2 document as part of the statement of scope.

This statement replaces the first two paragraphs of page 1-1. The section replaced begins "This American National Standard..." and ends "...vendor unique fields and codes." The two paragraphs are replaced with the following text:

This American National Standard defines an input/output bus for interconnecting computers and peripheral devices. The standard defines extensions to the Small Computer System Interface (X3.131-1986). It also provides more complete standardization of the previously defined command sets. The document includes the necessary specification of the mechanical, electrical, and functional characteristics of the interface to allow inter-operability of devices meeting the standard.

The enhanced Small Computer System Interface (SCSI-2) is

a local I/O bus that can be operated <sup>over a wide range of</sup> data rates up to ~~16~~ Megabytes per second depending upon the ~~optimal~~ implementation choices. The primary objective of the interface is to provide host computers with device independence within a class of devices. Thus, different disk drives, tape drives, printers, optical media drives, and other devices can be added to the host computers without requiring modifications to generic system hardware or software. Provision is made for the addition of special features and functions through the use of reserved and vendor unique fields and codes.

A second key objective of the interface is to provide compatability with those SCSI devices that support bus parity and that meet conformance level 2 of X3.131-1986. While some previously vendor unique commands and parameters have been defined by the SCSI-2 specification, devices meeting X3.131-1986 and SCSI-2 can co-exist on the same bus. It is intended that those operating systems providing support for both command sets will be able to operate against environments mixing SCSI and SCSI-2 devices. Properly conforming SCSI devices, both initiators and targets, will respond in an acceptable manner to reject SCSI-2 protocol extensions. All SCSI-2 protocol extensions are designed to be permissive of such rejections and to allow the SCSI device to continue operation without requiring the use of the extension.

A third key objective of SCSI-2 is to move device dependent intelligence out to the SCSI-2 devices. This requires the definition of a command set that allows a sophisticated operating system to obtain all required initialization information from the attached SCSI-2 devices. The formalized sequence of requests will identify the type of attached SCSI-2 device, the characteristics of the device, and all the changeable parameters supported by the device. Further requests can determine the readiness of the device to operate, the types of media supported by the device, and all other pertinent system information. Those parameters not required by the operating system for operation, initialization, or system tuning are not exposed to the SCSI-2 interface, but are managed by the SCSI-2 device itself.

This compatability requirement should not make any new demands on the proposed SCSI-2. No other changes should be required to adopt this philoeophy.

Thank you for your acceptance of this proposal.

Robert N. Snively

150