

TEXAS INSTRUMENTS



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MEMORANDUM -- 13 Oct 1989

TO: John Lohmeyer, Chairman X3T9.2

FROM: Bill Spence and Steven Justiss, Texas Instruments

SUBJECT: MODE SENSE Page Code 00 -- "Editorial" Clarification

We have come on an instance of a so-called SCSI-2 target being offensive to a SCSI-1 initiator, to no profit, because of complying with the most obvious reading of the wording we have in the MODE SENSE(6) command in Scn 7.2.10, p 7-34 of Rev. 10b. Remember that in SCSI-1, byte 2 of the MODE SENSE command was reserved, so all SCSI-1 hosts issue 00 for it. In SCSI-2, 00 asks for the current values of page code 00, whose description is "Vendor Specific". A drive with no vendor-specific data to return may well return CHECK CONDITION status, if it follows the standard literally.

It was not intended that MODE SELECT/SENSE break SCSI-1 hosts--in Scn 7.2.8, p 7-30 & 7-31, the zero values of new bits are specifically defined to be compatible with SCSI-1 interpretations.

It would probably have been better if we had defined page code 00 differently. There seems to be no benefit, however, in any drive designer blowing away a SCSI-1 host who offers 00 in byte 2, just because the number of vendor-specific bytes or pages he can return is zero--i.e., a zero number of vendor-specific data bytes or pages can itself be considered to be a vendor-specific return. By returning the normal header and block descriptor(s), and letting the absence of following data or pages speak for itself, he can broaden his applicability and smooth the transition to SCSI-2.

To promote this practice, we offer the following PROPOSAL for an implementors note to be inserted immediately after Table 7-26 on p 7-34:

IMPLEMENTORS NOTE: In SCSI-1, Byte 2 was reserved. If a target receives a MODE SENSE command with byte 2 set to 00, and if there is no vendor-specific MODE SENSE data to be returned, compatibility with SCSI-1 hosts can be maintained by returning the header and block descriptor(s) in normal fashion, with the number of bytes of data appended thereto being zero."

If we are forced to make substantiative revisions in the present document by public-review responses, a better PROPOSAL may be to add the following sentence to the first paragraph below Table 7-26: "If the not-implemented page code value is 00, however, the target shall not return CHECK CONDITION status if the only reason is not having any vendor-specific MODE SENSE data to append to the header and block descriptor(s)."

[Please see second topic, OVER]

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A follow-on thought: We find ourselves frequently issuing the 3 commands: INQUIRY, MODE SENSE, and READ CAPACITY/READ BLOCK LIMITS, as part of our self-configuring routine. For SCSI-3, perhaps the committee might consider something like a TMAY command: Tell Me About Yourself, to combine in one command the following self-configuring data:

From the SCSI-2 INQUIRY command:

1. Device type
2. RMB (removable medium)
3. AENC | TrmIOP
4. RelAdr | WBus32 | WBus16 | Sync | Linked | Cmdque | SftRe

From the SCSI-2 MODE SENSE command:

5. WP (write protect)

From the SCSI-2 READ CAPACITY or READ BLOCK LIMITS commands:

6. Device capacity or Block size (return zero if limits not equal)

This is not offered as a proposal at this time, but is offered to solicit other input.