Accredited Standards Committee*
X3, Information Technology

Doc. No.: X3T10/96-004 r1
Date: January 11, 1996
Project: 2008-D & 0856-D
Ref. Doc.: X3T10/95-044&-045
Reply to: Mr. John Lohmeyer
Symbios Logic, Inc.
1635 Aeroplaza Dr.
Colo Spgs, CO 80916
(719) 573-3362

To: X3T10 Membership and X3T13 Membership
From: John Lohmeyer, Chair X3T10
Subject: Summary of Letter Ballot Results on ATA-3 (X3T10/95-044) and SIP (X3T10/95-045)

The X3T10 lettter ballots on forwarding ATA-3 (Project 2008-D) and SIP (Project 0856-D) have closed with the results shown in the table, below. Since project 2008-D has been transferred to X3T13, X3T10 will not address the results of ballot (95-044). X3T13 may at its discretion accept the letter ballot results and address the comments or it may issue another letter ballot at X3T13.

Organization	S	Person	ATA-3 95-044	SIP 95-045	Notes
3M Company	P	Mr. Alan R. Olson	Y	Y	
Adaptec, Inc.	P	Mr. Norm Harris	-	Y	
Adaptec, Inc.	A#	Mr. Lawrence J. Lamers	Y	-	
Advanced Micro Devices	P	Mr. Ron Apt	Y	Y	
Amdahl Corp.	P	Mr. Edward Fong	Y	Y	
AMP, Inc.	P	Mr. Charles Brill	Y	Y	
Amphenol	P	Mr. Michael Wingard	Y	Y	
Ancot Corp.	P	Mr. Jan V. Dedek	Y	Y	
Apple Computer	A	Mr. Ron Roberts	Y/C	Y	
BusLogic	P	Mr. Clifford E. Strang Jr.	Y	Y	
Ciprico Inc.	P	Mr. Gerry Johnsen	Y	Y	
Circuit Assembly Corp.	P	Mr. Ian Morrell	Y	Y	
Cirrus Logic Inc.	P	Mr. Joe Chen	Y	Y	
CMD Technology	P	Mr. Edward Haske	Y	Y	
Congruent Software, Inc.	P	Mr. Peter Johansson	Y	Y	
Conner Peripherals	P	Mr. Michael Bryan	Y	Y	
Dallas Semiconductor	P	Mr. Louis Grantham	Y	Y	
Digital Equipment Corp.	P	Mr. Charles Monia	Y	Y	IV on both
Eastman Kodak Co.	P	Mr. Robert Reisch	Y	Y	
ENDL	P	Mr. Ralph O. Weber	Y	Y/C	IV on SIP
Exabyte Corp.	P	Mr. Edward Lappin	Y	Y/C	IV on both
FSI Consulting Services	P	Mr. Gary R. Stephens	DNR	DNR	
Fujitsu	P	Mr. Robert Liu	DNR	DNR	
Hewlett Packard Co.	P	Mr. Stephen Holmstead	DNR	DNR	
Hitachi	P	Mr. S. Nadershahi	Y	Y	
Honda Connectors	P	Mr. David McFadden	Y	Y	
IBM Corp.	P	Mr. George Penokie	Y/C	Y	
IIX Consulting	P	Mr. Duncan Penman	Y	Y	
Iomega Corp.	P	Mr. Geoffrey Barton	Y	Y	
Linfinity Micro	P	Mr. Dean Wallace	Y	Y	
Madison Cable Corp.	P	Mr. Robert Bellino	Y	Y	
Maxtor Corp.	P	Mr. Pete McLean	Y/C	Y	
Methode Electronics, Inc.	P	Mr. Bob Masterson	DNR	DNR	

Organization	S	Person	ATA-3 95-044	SIP 95-045	Notes
Molex Inc.	P	Mr. Joe Dambach	Y	Y	
NEC	P	Mr. Chris D'Iorio	DNR	DNR	
Oak Technology, Inc.	P	Mr. Dennis Van Dalsen	Y	n	No cmnts included
Panasonic	P	Mr. Stephen F. Heil	Y	Y	
QLogic Corp.	P	Mr. Skip Jones	N	Y	
Quantum Corp.	P	Mr. James McGrath	Y/C	Y	
Seagate Technology	P	Mr. Gene Milligan	Y/C	N	IV on both
Silicon Systems, Inc.	P	Mr. Stephen G. Finch	Y	Y	
Storage Technology Corp.	P	Mr. Erich Oetting	Y	Y/C	
Sun Microsystems, Inc.	P	Mr. Robert N. Snively	Y	Y	
Symbios Logic Inc.	P	Mr. John Lohmeyer	Y	Y	
SyQuest Technology	P	Mr. Patrick Mercer	Y	Y	
Tandem Computers	P	Mr. John Moy	Y	Y	
Thomas & Betts	P	Mr. Steven Walker	Y	Y	
Trimm Technologies	P	Mr. Gary M. Watson	Y	Y	
UNISYS Corporation	P	Mr. Kenneth J. Hallam	Y	Y	
Unitrode	P	Mr. Paul D. Aloisi	Y	Y/C	
Western Digital Corporation	P	Mr. Jeff Stai	-	Y	
Western Digital Corporation	A#	Mr. Thomas Hanan	Y/C	-	
Woven Electronics	P	Mr. Doug Piper	Y	Y	
Notes:					
Y - Yes		IV - Individual Vote			
Y/C - Yes, with Comments		DNR - Did Not Return ballot			
N - No		n - Marked No, but did not include comments (same as DNR)			

The ATA-3 ballot results were 45:1:0:5=51. Comments were included with five of the Yes votes and with the No vote. Tom Hanan vocally indicated that he had editorial comments to accompany his Yes ballot, but they have not been received to date.

The SIP ballot results were 44:1:0:6=51. Comments were included with four of the Yes votes and with the No vote. Dennis Van Dalsen marked his ballot as No, but failed to submit comments as required. Therefore, his ballot is being counted as not being returned (DNR).

ATA-3 Forwarding Comments:

Apple Corp:

December 29, 1995

Mr. John Lohmyer
X3T10 Chairman
Symbios Logic, Inc.
1635 Areoplaza Dr.
Colorado Springs, CO 80916

Subject: Issues and Comments on ATA-3 (Revision 6)

Below are comments and concerns from a review of the subject document. We have some general concerns and those are listed in the following items.

GENERAL COMMENTS

#001 ATA-3 Not Backward Compatible!
ATA-3 states it's backward compatible with ATA-2 and is not intended to require changes to presently installed software (p.15, Scope). However, the obsoleting of parameters contradicts this statement. In addition, the specification also does not fully describe the usage differences between the different versions. Examples of this are described below in comments for Section 8.7 (Identify Drive command)

#002 Everything Is Vendor Specific?
There are too many "vendor specific" items in the specification. The use of "vendor specific: leads to conflicts due to multiple interpretations of the specification, and thus, makes it virtually impossible to write a generic driver for ATA devices. For example, all features enabled/disabled by the Set Features command are vendor specific. However, these features impact the defined ATA commands. (see Set Features below)

#003 What Are Default Settings?
There is no description of the default settings which occur after power on, or hard and soft reset. The default configuration is specified as vendor specific, with the exception of register values. Other than the values in the registers, how does anyone determine which features are set or cleared? Or how does anyone know which features are available?

#004 What Features Are Supported?
Speaking of features, why can't we find out which features are supported or which are currently enabled? We suggest either adding a field in Identify Device or a new command called Get Features which returns a list of ATA defined features with bits set indicating the feature(s) are supported and/or enabled. If this is appealing, Apple would like to make a proposal.

#005 To Retry Or Not To Retry?
There are two methods for enabling/disabling retries. The first is via the Set Features command subcommands 33h and 99h). The second is via the Read or Write commands themselves (with or without retries). What is the difference between the two and which has priority? For example, if retries are disabled via Set Features and a Read w/ retries command is issued, will retries be done or not? The implementation is stated as vendor unique, but clearly there must be a set standard.

SPECIFIC ITEMS

#006 p20 Section 4.3
- In Table 2 replace commas with periods in voltage values for Min and Max (4 places)

#007 p21 Section 4.3.1
- In Table 4 replace commas with periods in pull-up values for host (2 places)
- Add note 7 for INTRQ which states "If the host uses a level sensitive interrupt controller a 10K pull down or pull-up, depending upon the level sensed, may be required."

#008 p53 Section 8.1 (Check Power Mode)
- The description has changed from ATA-2. Old text stated if device was in, going to, or recovering from a mode, that mode is returned. New text does not state this and implies a devices going into or recovering from a mode does not have to return that same mode.

#009 p61 Section 8.7 (Identify Device)
- Does not describe a value for Obsolete. It would seem logical the value for an Obsolete field would be zero, but zero in some fields may cause confusion with ATA-2 drivers (see Word 49 below)
- Word 0 - Bit 15 set in ATA-2 meant non-magnetic media. Now means ATAPI. This breaks use with PCMCIA Flash ATA devices which set this bit.
- Word 47 - A value of 0 in bits 0-7 should be described as "R/W Multiple not supported" instead of Reserved.
- Word 49 - Bits 8 and 9 (LBA and DMA supported) are obsolete, but still required in ATA-2 which denote these features are supported. Obsoleting them (by using a zero value) will prohibit ATA-2 drivers from using these features.
- Word 60-61 - In ATA-2 if this value is 0 then LBA was not supported and, therefore, must continue have the same meaning if bit 8 of Word 49 is obsolete.

#010 p93 Section 8.28 (Set Features)
- This results of this command are too vague in that there is no determination as to whether the command is supported or the parameters are invalid. Furthermore, since all features are vendor unique, how do you know what parameters are expected? Today, all we can do is issue the feature and assume if it succeeds the feature is both supported and enabled. A dangerous assumption! Perhaps we need to add another error value to denote a parameter error. Of course, this means vendors will actually have to check for correct parameters also.
- The definition and implementation of all these commands (even the obsolete ones) are vendor unique. However, the use of these features impact commands defined in the standards (for example Read and Write) which mean the standards themselves must be vendor unique. Why do we even need a standard? We suggest that a minimal definition for each feature which ATA lists, be defined, else remove all features since ATA has no say in the way the affect the rest of the standard.

R. Schnell, D. Pak, R. Roberts
Apple Computer, Inc.

IBM Corp.:

```
From: Dan Colegrove
 Subject: Letter Ballot Comments for ATA-3


 ATA-3 Letter Ballot Comments

 Requested edits are indicated with "-->".

 SECURITY MODE COMMANDS

 1. 7.5.1

    The 2nd Paragraph should be changed to make it clear that
    changing the master password has no effect on the locking state of
    the drive.

       without enabling the lock function.

   --> without enabling or disabling the lock function.
                        ------------


 2. 7.5.2  When a user password is set, the device shall automatically
           enter lock mode the next time the device is powered-on.

      -->  When a user password is set, the device shall automatically
           enter lock mode the next time the device is powered-on
           or hardware reset.
           -----------------

 3. 7.5.3  Security mode operation from power-on

      -->  Security mode operation from power-on or hardware reset
                                              -----------------

 4. 7.5.4  If the user password is lost and Maximum security level is set,
           data access shall be impossible. However, the device shall be
           unlocked using the ERASE UNIT command with the master
           password to unlock the device and shall erase all user data.

      -->  If the user password is lost and Maximum security level is set,
           data access shall be impossible. However, the device shall be
           unlocked using the SECURITY ERASE UNIT command with the master
                               --------
           password to unlock the device and shall erase all user data.


 5. 7.5.5 Attempt Limit for SECURITY UNLOCK command

          The SECURITY UNLOCK command has an attempt limit
          counter.  The purpose of this counter is to
          defeat repeated trial attacks. After each failed
          user or master password SECURITY UNLOCK command,
```

the counter is decremented. When the counter value reaches 0 the EXPIRE bit (bit 4) of word 128 in the Identify Device information is set, and the SECURITY UNLOCK and SECURITY UNIT ERASE commands are aborted until the drive is powered off or hardware reset. The EXPIRE bit is cleared after power on or hardware reset. The counter is reset to 5 after a power on or hardware reset.

6. Table 7

CHECK POWER --> CHECK POWER MODE

EXECUTE DEVICE DIGNOSTICS --> EXECUTE DEVICE DIAGNOSTICS
-

FORMET TRACK --> FORMAT TRACK
-

7. Table 9

Word 128 F Security status --> Word 128 V Security status
-

8. 8.7.40.1 <--> 8.7.40.2 (change order)

9. 8.7.40.2 Add sentence: When security mode is disabled, bit 8 is cleared to 0.

10. 8.7.40.6 security is supported.

--> the Security mode feature set is supported.

11. 8.24

DESCRIPTION - Frozen mode is quit by power off.

--> Frozen mode is quit by power off or hardware reset.
----

12. 8.25

User-High - The lock function shall be enabled from the next power-on.

--> The lock function shall be enabled from the next power-on or hardware reset.

User-Maximum - The lock function shall be enabled from the next power-on.

--> The lock function shall be enabled from the next power-on or hardware reset.

Master-High - This combination shall set a master password but shall not enable the lock function.

--> Remove

Master-Maximum-This combination shall set a master password but shall not enable the lock function.

-->
Master-High or Maximum - This combination shall set a master password but shall not enable or disable the lock function. The security level is not changed.
---------- ----------

SMART COMMANDS

The Enable/Disable autosave should be a required SMART command

```
set command. BIOS implementations are dependant on a no error
return from Enable/Disable autosave.

In Section 7.6.5 move SMART ENABLE/DISABLE ATTRIBUTE AUTOSAVE
to the shall be implemented list.

In Section 8.31.2, Change the Type field to read: If the
SMART feature set is implemented, this command shall be implemented.

Internet: colegrove@vnet.ibm.com
Phone: 8-276-1978   (408) 256-1978  Mail: 805/122 San Jose
```

Maxtor Corp.:

18 December 1995

Maxtor Corporation comments to accompany Yes vote on X3T10/95-044r0, Approval of forwarding ATA-3, AT Attachment-3 for further processing.

Maxtor #1 - Table 10 - Minor version number - add values for ATA-3 X3T10 2008D revision 6 and revision 7.

Maxtor #2 - Clause 8.31.2 SMART ENABLE/DISABLE ATTRIBUTE AUTOSAVE -
Change: TYPE - Optional - SMART Feature set. If the SMART feature set is implemented, this command is optional and not recommended.
To: TYPE - Optional - SMART Feature set. If the SMART feature set is implemented, this command is optional.

QLogic Corp.:

```
Message-Id: <199512052141.NAA03581@qlogic.qlc.com>
Date: 5 Dec 1995 13:43:55 -0800
From: "Skip Jones" <sk_jones@qlc.com>
Subject: Reason for No vote
To: John.Lohmeyer@ftcollinsco.ncr.com
------------------------------------------------------------------------------

To comply with the requirements for a No vote regarding Ballot X3T10/95-044r0,
I submit to you the following reasons for my No vote.

I voted No to forward ATA-3 for further processing because I do not believe
that it is ready to forward.

During recent sessions of the ATA working groups there has been an
"all-of-a-sudden" knee-jerk panic to get this document forwarded.  As result
of
this frantic rush, ATA-3 has been neutered to the point of relative
uselessness
for the dubious sake of expediency.

Areas that ATA-3 was originally intended to address were pulled out because
they were too difficult to define effectively within the ATA committee's
self-imposed rushed time schedule.  Therefore, the committee has offered-up a
comparatively meaningless document which provides the industry with nothing
more than what is already available from more mature solutions.

Regards,

Skip Jones,
Marketing Manager
QLogic Corporation
```

Quantum Corp.:

```
Date: Wed, 20 Dec 1995 13:43:49 -0800
Message-Id: <0d891be0@cc_smtpgw.qntm.com>
From: mevans@qntm.com (Mark Evans)
Subject: Quantum's comments re: ATA-3 Revision 6
To: "Lohmeyer; John" <JLOHMEYE@cosmpdaero.ftcollinsco.ncr.com>
------------------------------------------------------------------------------
```

You should soon be receiving Quantum's letter ballot for X3T10[soon to be 13?]/2008D Revision 6, ATA-3. Since our response to this ballot is "Approve with comments", I'm sending along the following list of comments that Quantum has assembled for consideration by the working group for the document. The list appears long, but almost all of the comments are editorial in nature and may have already been addressed by the document's editor. Non-editorial comments have additional remarks. Each comment references either 1) the page (p #), section (name or s #), paragraph (P #) and line (L #), or 2) the page (p #) and the table, figure or note (t#, f # or n#) in the document where the item occurs. Please call or email me if you have any questions.

1) p 14, Introduction, P 3, L 1 -- "...evolved..." should be changed to "...evolve..."

2) p 16, s 3.1.7, P 1, L 7 -- "...associate..." should be changed to "...associated..."

3) p 23, s 5.2.6, P 1, L 2 -- "...and the host..." should be changed to "...and the device..."

4) p 25, f 2 -- "This configuration is not recommended." should be deleted. The two major computer manufacturers who utilize CSEL today have implemented the "not recommended" configuration. They have told us that they feel that their implementation should not be referenced in this manner in an ANSI document.

5) p 31, FUNCTIONAL DESCRIPTION, P 1, L 1 -- "...LBS..." should be changed to "...LBA..."

6) p 32, EFFECT, P 1, L 4 -- "...is..." should be changed to "...are..." to match the subject "...results..."

7) p 33, EFFECT, P 1, L 4 -- "...is..." should be changed to "...are..." to match the subject "...results..."

8) p 40, n 7 -- This note is not clear in its intent and should be reworded.

9) p 40, P between Notes 7 and 8 -- "When writing..." should be changed to "After the host has written..."

10) p 42, 7.2, P 2, L 2 -- "...is less than..." should be changed to "...is less than or equal to..."

11) p 42, 7.2, P 2, L 7 -- "...is less than..." should be changed to "...is less than or equal to..."

12) p 42, 7.2, P 7, L1 -- "...support shall be supported by..." should be changed to "...addressing methods shall be supported by..."

13) p 44, 7.3.4, P 1, L 2 -- "...in vendor..." should be changed to "...in a vendor..."

14) p 46, 7.5.4, P 2, L 2 -- "...the ERASE..." should be changed to "...the SECURITY ERASE..."

15) p 58, DESCRIPTION e), P 1, L 4 -- "...Register, else..." should be changed to "...Register, or else..."

16) p 58, DESCRIPTION f) -- The formatting for this paragraph should be made like the other subsections in this group.

17) p 65, 8.7.2, P 1, L 2 -- "...16 383..." should be changed to "...16 384..."

18) p 69, t 10 -- This table needs to be updated to include the latest minor version numbers.

19) p 74, INPUTS, P 1, L 2 -- "...which..." should be deleted.

20) p 79, PREREQUISITES, P 1, L 3 -- "...write..." should be changed to "...WRITE..."

21) p 79, PREREQUISITES, P 1, L 3 & 4 -- The requirement for WRITE LONG preceding READ LONG should be clarified. Some applications for

READ LONG would not want to have this command preceded by a WRITE LONG. If a user wanted to test a device's error correction he might perform a READ LONG, then intentionally corrupt data, and then perform a WRITE LONG. In fact, performing a WRITE LONG before a READ LONG could irretrievably corrupt data if the bytes transferred after the 512 data bytes were indeterminate.

22) p 94, 8.28.2, P 2, L 1 -- "...thisstandard..." should be changed to "...this standard..."

23) p 100, TYPE, P 1, L 1 & 2 -- "...is optional and not recommended." should be changed to "...shall be implemented." This is based on an agreement made by the S.M.A.R.T. Working Group.

24) p 100, DESCRIPTION, P 1, L 1 -- "...optional..." should be deleted (see 23 above)

25) p 100, DESCRIPTION, P 5 -- This paragraph should be deleted (see 23 above)

26) p 105, DESCRIPTION, P 3, L 1 -- "...therefore, number..." should be changed to "...therefore, the number..."

27) p 135, 10.1, P 1, L 1 -- "...controller..." should be changed to "...device..."

28) p 149, B.2.3, P 1, L1 -- "...drives..." should be changed to "...devices..."

Milligan (Seagate):

To: "john.lohmeyer" <john.lohmeyer@symbios.com>
From: Gene Milligan <Gene_Milligan@notes.seagate.com>
Date: 3 Jan 96 8:11:42
Subject: GEM's ATA-3 LB Comments

GEM ATA-3 Letter Ballot Comments

The following comments accompany my YES ballot. They are all editorial.

1) With the formation of X3T13 the committee citing should be adjusted on the cover page and elsewhere to give full credit to X3T10 for the development of the ATA-3 and to vector follow up activity to the new ATA Attachment Technical
Committee X3T13.

2) The patent statement has been useful information for the committee participants. However now that the ATA-3 is being forwarded, the patent statement should be replaced with the standard X3 patent statement for the case where patent claims have been made and offered in accordance with the ANSI
patent policy. In particular the specific citing of claims should be removed.
I recognize that X3T11 has left such statements in some of their forwarded standards. But this is inappropriate since the committee should not take any position on the validity of the claims made.

2) I think the ad hoc recommended, and even if they didnt I think, that the definition of optional should be moved from 3.1.13 to the Keywords clause 3.2.1.

3) It seems difficult to parse Note 7. I suggest changing it to Detection of the CORR bit, asserted by the device while the BSY bit is cleared to zero, is
not certain for BIOS and drivers that sample status as soon as the BSY bit is
cleared to zero. (It would be nice to replace BIOS with the plural of BIOS.)

4) In table 9, word 128, bit 4 is inadvertently duplicated.

5) In 8.36 change The host shall a shall use PIO mode 0 ... to The host shall use PIO mode 0 ....

Gene Milligan

Western Digital:

November 29, 1997

Mr. John Lohmeyer
Chairman X3T10
1635 Aeroplaza Dr.
Colorado Springs, CO 80916

Mr. Chairman

In conjunction with Western Digital's Yes vote on ATA-3 (2008) we would like to make the following comment.

Western Digital considers the detailed command description provided for the set SMART thresholds sub-command to be misleading. The note indicating that this command may be eliminated in the future does not address the fact that changing these thresholds may permanently destroy user data or render the device unusable in some network configurations.

Unlike the other SMART sub-commands the set thresholds sub-command is in reality a vendor specific command used for manufacturing. Western Digital is proposing that all detail except the command name and opcode be removed from ATA-3. Western Digital would also like to propose that this opcode be made Vendor Specific.

Please feel free to contact me If you have any questions or comments.

Sincerely,
Western Digital Corporation

Tom Hanan
Principal Engineer
hanan_t@a1.wdc.com
ph: 714 932-7472

SIP Forwarding Comments:

Weber (ENDL):

```
Date: Sat, 16 Dec 1995 21:29:47 -0600 (CDT)
Subject: ENDL review comments on SIP R8
Sender: ROWEBER@ACM.ORG
To: John.Lohmeyer@symbios.com, gop@rchvmp3.vnet.ibm.com
--------------------------------------------------------------------------------
                                                          X3T10/95-___R0

To:       John Lohmeyer
          George Penokie

From:     Ralph O. Weber      ROWeber@ACM.org
          ENDL Associates

Date:     December 16, 1995

Subject:  ENDL review comments on SIP R8


I hereby provide the following review comments as part of the ENDL
vote on letter ballot X3T10/95-045r0 (forwarding to first public
```

review of SIP).

All technical comments are listed first. I hope this eases the review process.

*** Comment 1 -- Technical ***
Section: 5 Page/Paragraph: 14/1 Sentence: 1

"...and by the target role agent enabling the device server to move data to/from an application client." should be "...and by the target role agent enabling the device server to receive commands and move data to/from an application client."

Delivering commands is a critical function of the target role agent and must be mentioned in this sentence.

*** Comment 2 -- Technical ***
Section: 5.0.1 Page: 15 Table 2

The term routing column indicates that the target identifier can be delivered by the target role agent to the device server or task manager and by the device server to the target role agent.

It seems to me that device server code should be written to be independent of the target (target identifier) on which it is running. Similarly, an application client would be independent of the initiator on which it is running. So, I question whether target identifier does or should percolate this high.

*** Comment 3 -- Technical & Editorial ***
Section: 5.1 Page/Paragraph: 16/1 Sentence: 1

"The SCSI interlocked protocol services assumes the SCSI command services use a procedure call defined as:" should be "The SCSI interlocked protocol services assume that the SCSI command services shall be requested by the application client using a procedure call defined as:"

These changes correct the grammar and make the overall sentence structure match that used in other sections such as 5.2 and 5.3. The comment is marked technical because of the "shall be" addition.

*** Comment 4 -- Technical ***
Section: 5.1 Page/Paragraph: 16/missing info

I found the relationships between the various specified service interfaces and service steps very difficult to follow. Examples of my confusion are reflected in the following questions, that would have been registered as comments if I had not eventually figured this out: Why does the send SCSI command service interface lack a data-in buffer? Shouldn't "On receiving a send SCSI command response..." read "On receiving a send command complete response ..."?

I believe that confusion such as mine can be relieved by adding some additional text and a table at the end of section 5.1. Therefore, the following addition is proposed:

"Processing the execute command procedure call shall be composed of the following steps:

step	name	service interface
request	send SCSI command	send SCSI command (target identifier+logical unit number[+tag], command descriptor block, [task attribute], [link control function], [data-out buffer], [command byte count] ||)
indication	send SCSI command indication	SCSI command received (target identifier+initiator identifier+logical unit number[+tag], [command descriptor block], [task attribute], ||)

```
response     send SCSI    send command complete (target
identifier+initiator
             command      identifier+logical unit number[+tag],
[status],
             response     [service response], ||)

confirmation send SCSI    command complete received (target
identifier+logical
             command      unit number[+tag], [data-in buffer],
[status],
             confirmation service response ||)
"
```

The table clearly shows how the four steps and their service interfaces relate to the procedure call used by the application client. Since the table follows the application client procedure call almost immediately in the text, the reader will be drawn to notice the relationships and be better prepared for the descriptions that follow. The table shows the relationships between the step names and the service interfaces, thus preparing the reader for the relationships that appear in the descriptive text.

I further recommend construction of equivalent tables for each section containing an application client or device server procedure call that is broken down into multiple steps each having its own service interface definition.

*** Comment 5 -- Technical ***
Section: 5.1.1.1 Page/Paragraph: 16/5 missing information

Is it intended that the application client have control over the disconnect privilege? (The answer should be, Yes.)

If the answer is Yes, then how is the control over the disconnect privilege represented in the execute command procedure call and send SCSI command service interface? There appear to be two choices. Disconnect privilege control could be included in the [link control function] parameter. Or, a new parameter needs to be added to the procedure call and the service interface to represent control over the disconnect privilege.

If control over the disconnect privilege is to be bundled in the [link control function] parameter, then words describing this bundling should be added to the paragraph following the service interface definition.

*** Comment 6 -- Technical ***
Section: 5.1.1.1 Page/Paragraph: 16/6 missing information

It is possible for more than on [link control function] to be passed in a single send SCSI command request. In particular, if an application client passes a WDTR link control function, it almost certainly will want to pass a SDTR link control function too. This might suggest that a [ling control function byte count] parameter is needed. Alternatively, one could argue that the "size" of the link control function(s) is somehow integral to the [link control function] parameter. In any case, some acknowledgment is required regarding the possibility of multiple link control functions in a single send SCSI command request.

*** Comment 7 -- Technical ***
Section: 5.1.1.2 Page: 17 Figure 11

When performing the message out services, the initiator role agent is responsible for setting the attention flag to zero in the message out response, so that it will appear as zero in the message out confirmation. The current description leaves me thinking that the attention flag gets set to zero by magic.

The complete, correct description of the process is to complicated to put in the figure. Could a pointer to the whole-truth section be used instead? I suggest changing the text at the other end of the arrow from "Message out services shall continue until the attention flag in confirmation is set to zero" to "Message out services shall continue until the attention flag is zero see section 6.3.8"

*** Comment 8 -- Technical ***
Section: 5.1.1.3 Page/Paragraph: 18/6 Note 1

Replace note 1 with: "Several factors control whether a target role agent can or must disconnect. These factors include information in the IDENTIFY message, parameter data passed in some commands, and other vendor specific factors."

*** Comment 9 -- Technical ***
Section: 5.1.1.4 Page/Paragraph: 21/3 Sentence: 2

Change "The initiator role agent shall not place any values in the status parameter." to "In this case, the initiator role agent shall not place any values in the status parameter."

Without this change, the send SCSI command confirmation service is prohibited from placing data received during the status service in the status parameter, which is (I think) a critical function of the send SCSI command confirmation service.

*** Comment 10 -- Technical ***
Section: 5.2 Page/Paragraph: 21/missing information

Add the following sentence at the end of the section: "Only one type of data buffer movement procedure call shall be used while processing one command, either data-in delivery or data-out delivery."

*** Comment 11 -- Technical ***
Section: 5.3.1.2 Pages: 33&34 Figure 25 & Sentence 1 on page 34

It appears that Figure 25 once covered the case that now appears in Figure 26. When that was true, the two sets of Task Management Function Service lines (the dot-dash and the dot-dot-dash lines) were appropriate. However, now that Figure 26 covers the dot-dot-dash case, the dot-dot-dash lines should be removed from Figure 25.

Similarly, "On completion of the sequences of services in figure 25 a task management function ..." should be changed to "On completion of the sequences of services in figure 25 or figure 26 a task management function ..."

*** Comment 12 -- Technical ***
Sections: 5.3.2.1 thru 5.3.2.4 -- all parameter lists

Change "logical unit number+tag" to "logical unit number[+tag]"

At the November Plenary, a change proposed by Charles Monia was approved that allows an ABORT TASK that has no tag to abort the one untagged task that a device server is obliged to accept. As a result of that approved change, the tag value becomes optional in the ABORT TASK parameter list.

*** Comment 13 -- Technical ***
Sections: 5.3.2.25 thru 5.3.2.28 -- all parameter lists

Change "logical unit number+tag" to "logical unit number[+tag]"

Did Charles Monia miss a case? It would appear that TERMINATE TASK should be applicable to the untagged task, in just the same way that ABORT TASK is.

*** Comment 14 -- Technical ***
Section: 46 Page: 46 Figure 36

At the risk of asking a stupid question... Does the target role agent really receive and indication when a selection timeout occurs? If the target role agent does receive and indication, which target role agent receives the indication? Surely, a selection timeout indication cannot be sent to the target role agent that the initiator was trying to select. If that could happen, then I would have expected the selection to succeed. Does the selection time out indication get sent to all target role agents in all targets?

*** Comment 15 -- Technical ***
Section: 46 Page: 50 Figure 41

Here's that stupid question again... Does the initiator role agent really receive and indication when a reselection timeout occurs? If the initiator role agent does receive and indication, which initiator role agent receives the indication? Surely, a reselection timeout indication cannot be sent to the initiator role agent that the target was trying to reselect. If that could happen, then I would have expected the reselection to succeed. Does the reselection time out indication get sent to all initiator role agents in all initiators?

*** Comment 16 -- Technical ***
Section: 6.3.4.4 Page/Paragraph: 51/5 Sentence: 1

"When the attention flag is set to one the next service request, after the command service, shall be a message out service ..." should be "When the attention flag is set to one the next service request shall be either a command service or a message out service ..."

As it is currently written, the sentence could be read as a requirement that the message out service follow immediately, i.e., before the remaining command bytes are transferred. Although the next sentence clarifies the matter, an obnoxious standards reader might view the two sentence as conflicting with each other, which would be viewed as an excuse for doing something altogether different.

*** Comment 17 -- Technical ***
Section: 6.3.5.4 Page/Paragraph: 53/missing information

Please insert a copy of note 7 (page 55) immediately following the second paragraph in the section (the third paragraph on the page).

*** Comment 18 -- Technical ***
Section: 6.3.5.4 Page/Paragraph: 53/4 Sentence: 1

"When the attention flag is set to one the next service request, after the data-out service, shall be a message out service ..." should be "When the attention flag is set to one the next service request shall be either a data-out service or a message out service ..."

As it is currently written, the sentence could be read as a requirement that the message out service follow immediately, i.e., before any more data bytes are transferred. Although the next sentence clarifies the matter, an obnoxious standards reader might view the two sentence as conflicting with each other, which would be viewed as an excuse for doing something altogether different.

*** Comment 19 -- Technical ***
Section: 6.3.5.4 Page/Paragraph: 53/4 Sentence: 1

"When the attention flag is set to one the next service request, after the data-in service, shall be a message out service ..." should be "When the attention flag is set to one the next service request shall be either a data-in service or a message out service ..."

As it is currently written, the sentence could be read as a requirement that the message out service follow immediately, i.e., before any more data bytes are transferred. Although the next sentence clarifies the matter, an obnoxious standards reader might view the two sentence as conflicting with each other, which would be viewed as an excuse for doing something altogether different.

*** Comment 20 -- Technical ***
Section: 6.3.8.4 Page/Paragraph: 59/2 Sentence: 3

Regarding: "If the device server attempts to retry the message out service the initiator role agent shall resend the entire message(s) in the same order as previously send during the most recent message out service sequence(s)."

Are there ways that the initiator role agent can be instructed to attempt a message out retry? If there are ways, please describe them here or provide pointers to sections that describe them. Initiators software writers could use some good, explicit guidance on this topic.

*** Comment 21 -- Technical ***
Section: 8.1.2 Page/Paragraph: 63/4 missing information

This description of message ordering fails to note that, when tagged queuing is used, a SDTR message may immediately follow the task attribute message.

*** Comment 22 -- Technical ***
Section: 8.2.3 Page/Paragraph: 67/1 Sentence: 2

Regarding: "For dual port implementations; if the target role agent disconnects during a task, it shall reconnect through the same port when the task is continued."

Are requirements for dual port configurations appropriate in this revision of SIP? If they are, are all dual port issues faithfully covered? There is no section devoted specifically to dual port issues, so it is difficult to be sure that they are fully covered. If dual port issues are to be discussed, would it not be better to place this requirement in the DISCONNECT section (instead of the IDENTIFY section)?

*** Comment 23 -- Technical ***
Section: 8.2.5 Page/Paragraph: 68/1 Sentence: 3

"Although present pointer integrity is not assured, ..." should be "Although the integrity of the currently active pointers is not assured, ..."

The change makes it clear that the integrity of all saved pointers is not affected.

*** Comment 24 -- Technical ***
Section: 8.2.7 Page/Paragraph: 68/8 Sentence: 2

"The subsequent message out services shall begin with the first byte of a message." should be "The initiator role agent shall begin any subsequent message out services with the first byte of a message."

Let's clearly establish who is responsible for getting this right.

*** Comment 25 -- Technical ***
Section: 8.2.12 Page/Paragraph: 70/8 Sentence: 2
Section: 8.2.15 Page/Paragraph: 74/5 Sentence: 2

"Initiator role agents or target role agents that are capable of synchronous data transfers shall not respond to an SDTR message with a MESSAGE REJECT message."

"Initiator role agents or target role agents that are capable of wide data transfers (greater than 8 bits) shall not respond to an WDTR message with a MESSAGE REJECT message."

Change "shall" to "should" in both cases.

Having a "shall" offers no benefits from a standards point of view. SIP still must note that a MESSAGE REJECT message is a possible response in both cases. (See Tables 10 and 12.)

Prohibiting rejection of SDTR and WDTR messages places a particularly onerous burden on host software. At certain times in the life of host software (most especially during system booting), the software may not be willing to accept synchronous or wide transfers. This condition will change at some later time, and the host will software will communicate this change by sending WDTR and SDTR messages. Until the software is ready, however, the easiest (and most reliable) way to demand 8-bit asynchronous transfers is to MASSAGE REJECT all WDTRs and SDTRs that arrive.

*** Comment 26 -- Technical ***
Section: 8.3 Page/Paragraph: 76/7 Sentence: 1

"If the target implements tagged queuing, all of the task attribute messages are mandatory." should be "All of the task attribute messages are mandatory."

Tagged queuing is not optional in SCSI-3.

*** Comment 27 -- Technical ***

Section: 8.4.2.2 Page/Paragraph: 80/12

Regarding: "For dual port implementations, only the tasks for the port from which the message was received are affected. No tasks are cleared for the other port and no unit attention conditions are generated for initiators on the other port."

Are requirements for dual port configurations appropriate in this revision of SIP? If they are, are all dual port issues faithfully covered? There is no section devoted specifically to dual port issues, so it is difficult to be sure that they are fully covered.

Also, the requirements described in this paragraph differ from the current X3T10 understanding of how multi-port and multi-initiator implementations should work. Specifically, the other port should be affected by this message.

*** Comment 28 -- Technical ***
Section: 9.5 Page/Paragraph: 84/4 missing information?

Is a bus free condition expected after a LINKED COMMAND COMPLETE or LINKED COMMAND COMPLETE (WITH FLAG) message?

*** Comment 29 -- Technical ***
Section: 9.7 Page/Paragraph: 85/5 Sentence: 2

Regarding: "This value [MAXIMUM BURST SIZE] is expressed in increments of 512 bytes ..."

Is the value expressed in bytes or bus-width words?

<<<Editorial comments begin here>>>

<<< Comment 30 -- Editorial >>>
Section: 4.1 Page/Paragraph: 7/2 Sentence: 1

"This standard devices behavior in terms of ..." should be "This standard describes a device's behavior in terms of ..."

<<< Comment 31 -- Editorial >>>
Section: 4.1 Page/Paragraph: 8/2 Bulleted list

The bullets should be identified 1), 2), 3), and 4) -- not a), b), c), and d) -- so that the bullet entries can be associated with the numbers in figure 3.

<<< Comment 32 -- Editorial >>>
Section: 4.1 Page/Paragraph: 8/3 Sentence: 1

Add a comma after "interface" so that the sentence reads: "At the SCSI interlocked protocol service interface, only application clients shall request a four step confirmed service be invoked."

<<< Comment 33 -- Editorial >>>
Section: 4.1 Page/Paragraph: 8&9/10&1 Bulleted list

The bullets should be identified 1), 2), 3), and 4) -- not a), b), c), and d) -- so that the bullet entries can be associated with the numbers in figure 4.

<<< Comment 34 -- Editorial >>>
Section: 4.1 Page/Paragraph: 9/2 Sentence: 1

"At the SCSI parallel interface service interface either the initiator role agent or the target role agent may request a service be invoked." should be "At the SCSI parallel interface service interface, either the initiator role agent or the target role agent may request a four step confirmed service be invoked."

<<< Comment 35 -- Editorial >>>
Section: 4.1 Page/Paragraph: 9/5 Bulleted list

The bullets should be identified 1) and 2) -- not a) and b) -- so that the bullet entries can be associated with the numbers in figure 5.

<<< Comment 36 -- Editorial >>>
Section: 4.1 Page/Paragraph: 9/6 Sentence: 1

Add a comma after "interface" so that the sentence reads: "At the SCSI interlocked protocol service interface, only device servers shall request a two step confirmed service be invoked."

<<< Comment 37 -- Editorial >>>
Section: 4.1 Page/Paragraph: 10/2 Bulleted list

The bullets should be identified 1) and 2) -- not a) and b) -- so that the bullet entries can be associated with the numbers in figure 6.

<<< Comment 38 -- Editorial >>>
Section: 4.1 Page/Paragraph: 10/3 Sentence: 3

"Any activities carried out by ... is enclosed by ..." should be "Any activities carried out by ... are enclosed by ..."

<<< Comment 39 -- Editorial >>>
Section: 4.1 Pages: 11 - 13 Figures 7 -9

"SCSi-3" should be "SCSI-3".

<<< Comment 40 -- Editorial >>>
Section: 5 Page/Paragraph: 14/1 Sentence: 3

"Each SCSI interlocked protocol service causes a sequence of SCSI parallel interface services to be sent to the parallel interface agent." should be "Each SCSI interlocked protocol service causes a sequence of SCSI parallel interface service requests to be sent to the parallel interface agent."

<<< Comment 41 -- Editorial >>>
Section: 5.0.1 Page/Paragraph: 14/4&5

These two paragraphs are identical except that the paragraph before table 1 says "See table 1..." and the paragraph after table 2 says "See table 2 ..." Clearly, the second sentence in both paragraphs describes table 2. I think that the first sentence in both paragraphs describes table 1 (but that is less obvious).

Eliminate redundant (and possibly incorrect) sentences in both these paragraphs. Consideration also should be given to combining the first and second paragraphs in section 5.0.1 (to eliminate two one-sentence paragraphs).

<<< Comment 42 -- Editorial >>>
Section: 5.0.1 Page: 15 Table 2

The entry for application client buffer appears to be missing and arrow between TRA and IRA.

<<< Comment 43 -- Editorial >>>
Section: 5.1.1.2 Page/Paragraph: 17/1 Sentence: 2

Regarding: "The initiator role agent shall not place any values in the status parameter."

There is no status parameter in the send SCSI command indication, which is the subject of this section.

<<< Comment 44 -- Editorial >>>
Section: 5.1.1.2 Page: 17 Figure 11

Does the figure need to show that command service requests are repeated until all CDB bytes are moved?

<<< Comment 45 -- Editorial >>>
Section: 5.1.1.3 Page/Paragraph: 18/5 Sentence: 1&2

Both these sentences are awkward to read.

"On receiving a send SCSI command response with a valid status from the device server and the target role agent determines a reselection

is not required it shall issue the sequence of service requests shown in figure 12." would be easier to read as "On receiving a send SCSI command response with a valid status from the device server, if the target role agent determines a reselection is not required, then it shall issue the sequence of service requests shown in figure 12."

"On receiving a send SCSI command response with a service response of SERVICE DELIVERY OR TARGET FAILURE from the device server and the target role agent determines a reselection is not required it shall issue the sequence of service requests shown in figure 13." would be easier to read as "On receiving a send SCSI command response with a service response of SERVICE DELIVERY OR TARGET FAILURE from the device server, if the target role agent determines a reselection is not required, then it shall issue the sequence of service requests shown in figure 13."

<<< Comment 46 -- Editorial >>>
Section: 5.1.1.4 Page/Paragraph: 21/6 Sentence: 1

"The send SCSI command response follows:" should be "The send SCSI command confirmation follows:"

<<< Comment 47 -- Editorial >>>
Section: 5.1.1.4 Page/Paragraph: 21/8 Sentence: 1

"The initiator role agent does not issue any service requests ..." should be "The initiator role agent shall not issue any service requests ..."

<<< Comment 48 -- Editorial >>>
Section: 5.2 Page/Paragraph: 21/9 Sentence: 1

"The SCSI interlocked protocol services assumes the SCSI command services shall be ..." should be "The SCSI interlocked protocol services assume the SCSI data buffer movement services shall be ..."

<<< Comment 49 -- Editorial >>>
Section: 5.2 Page/Paragraph: 21/10

"Service response = execute command (target identifier ..." should be "Service response = move data buffer (target identifier ..."

<<< Comment 50 -- Editorial >>>
Section: 5.2.1 Page/Paragraph: 22/1 Sentence: 1

"... transfer a parameter list or data to an initiator role agent." should be "... transfer a parameter list or data from a target role agent to an initiator role agent."

<<< Comment 51 -- Editorial >>>
Section: 5.2.2 Page/Paragraph: 26/6 Sentence: 1

"... transfer a parameter list or data from an initiator role agent." should be "... transfer a parameter list or data from an initiator role agent to a target role agent."

<<< Comment 52 -- Editorial >>>
Section: 5.3 Page/Paragraph: 31/6 Sentence: 1

"The SCSI interlocked protocol services assumes ..." should be "The SCSI interlocked protocol services assume ..."

<<< Comment 53 -- Editorial >>>
Section: 5.3.1.2 Pages: 33 and 34

The ideas around figures 25 through 27 are difficult to follow. A major contributing factor in the confusion is the location of text far away from the figures that it describes. There is a paragraph describing figure 27 at the top of page 33, but figure 27 appears in the middle of page 34. At the same time, text describing figures 25 and 26 (which are on page 33) appears in the middle of page 34, after figure 27. By the time the reader reaches the last paragraph of section 5.3.1.2, he/she is uncertain whether it applies to figure 25, 26, or 27.

<<< Comment 54 -- Editorial >>>

Section: 5.3.1.4 Page/Paragraph: 37/2 Sentence: 1

"The initiator role agent does not issue any service requests ..." should be "The initiator role agent shall not issue any service requests ..."

<<< Comment 55 -- Editorial >>>
Section: 5.3.2 Page/Paragraph: 37/5 Sentence: 2

"... application clint ..." should be "... application client ..." (Go ahead! Make my day!)

<<< Comment 56 -- Editorial >>>
Section: 6 Page/Paragraph: 42/2 Sentence: 1

Add a comma after "stated" to make the sentence begin: "Except where stated, this standard does not ..."

<<< Comment 57 -- Editorial >>>
Section: 6.2.2.4 Page/Paragraph: 44/5 Sentence: 1

"... selection won flag ..." should be "... selection accepted flag ..."

<<< Comment 58 -- Editorial >>>
Section: 6.3.1 Page/Paragraph: 46/2 Sentence: 1

"... application clients ..." should be "... device servers ..." This is the target role section.

<<< Comment 59 -- Editorial >>>
Section: 6.3.3.2 Page/Paragraph: 48/5 Sentence: 2

"The reselection ID(target identifier+initiator identifier) contains the address of the reselected initiator role agent and the selecting target role agent." should be "The reselection ID(target identifier+initiator identifier) contains the address of the reselected initiator role agent and the reselecting target role agent."

<<< Comment 60 -- Editorial >>>
Section: 6.3.3.4 Page/Paragraph: 48/7 Sentence: 1

"... selection won flag ..." should be "... selection accepted flag ..."

<<< Comment 61 -- Editorial >>>
Section: 6.3.3.4 Page/Paragraph: 49/1 Sentence: 4

"A reselection time-out flag set to zero indicates that the parallel interface agent do not detect a reselection time-out." should be "A reselection time-out flag set to zero indicates that the parallel interface agent did not detect a reselection time-out."

<<< Comment 62 -- Editorial >>>
Section: 6.3.4.3 Page/Paragraph: 51/2 Sentence: 3

"The attention flag is set to one to indicate to the initiator role agent is requesting a message out service be generated by the target role agent." should be "The attention flag is set to one to indicate to the initiator role agent is requesting that a message out service be generated by the target role agent, at its discretion."

<<< Comment 63 -- Editorial >>>
Section: 6.3.4.4 Page/Paragraph: 51/4 Sentence: 1

"The device server is notified that ..." should be "The device server shall be notified that ..."

<<< Comment 64 -- Editorial >>>
Section: 6.3.5.3 Page/Paragraph: 53/1 Sentence: 3

"The attention flag is set to one to indicate to the initiator role agent is requesting a message out service be generated by the target role initiator." should be "The attention flag is set to one to indicate to the initiator role agent is requesting that a message out

service be generated by the target role agent, at its discretion."

<<< Comment 65 -- Editorial >>>
Section: 6.3.5.4 Page/Paragraph: 53/3 Sentence: 1

"The device server is notified that ..." should be "The device server shall be notified that ..."

<<< Comment 66 -- Editorial >>>
Section: 6.3.6.2 Page/Paragraph: 54/4 Sentence: 1

"... the initiator role agent shall set the attention flag in the ..." should be "... the initiator role agent shall set the attention flag to one in the ..."

<<< Comment 67 -- Editorial >>>
Section: 6.3.6.2 Page/Paragraph: 55/2 Note 7

"... comtrolled ..." should be "... controlled ..."

<<< Comment 68 -- Editorial >>>
Section: 6.3.6.3 Page/Paragraph: 55/3 Sentence: 3

"The attention flag is set to one to indicate to the initiator role agent is requesting a message out service be generated by the target role initiator." should be "The attention flag is set to one to indicate to the initiator role agent is requesting that a message out service be generated by the target role agent, at its discretion."

<<< Comment 69 -- Editorial >>>
Section: 6.3.7.3 Page/Paragraph: 57/1 Sentence: 3

"The attention flag is set to one to indicate to the initiator role agent is requesting a message out service be generated by the target role initiator." should be "The attention flag is set to one to indicate to the initiator role agent is requesting that a message out service be generated by the target role agent, at its discretion."

<<< Comment 70 -- Editorial >>>
Section: 6.3.8.4 Page/Paragraph: 59/3 Sentence: 1

"... it exhasts it's retry limit ..." should be "... it exhausts its retry limit ..."

<<< Comment 71 -- Editorial >>>
Section: 6.3.8.4 Page/Paragraph: 59/4 Sentence: 1

"retrun CHACK CONDITION ..." should be "return CHECK CONDITION ..."

<<< Comment 72 -- Editorial >>>
Section: 6.3.9.2 Page/Paragraph: 60/4 Sentence: 3

"This message notifies the device server that the message byte is invalid." should be "This message notifies the target role agent that the message byte is invalid."

<<< Comment 73 -- Editorial >>>
Section: 6.3.9.3 Page/Paragraph: 60/5 Sentence: 3

"The attention flag is set to one to indicate to the initiator role agent is requesting a message out service be generated by the target role initiator." should be "The attention flag is set to one to indicate to the initiator role agent is requesting that a message out service be generated by the target role agent."

<<< Comment 74 -- Editorial >>>
Section: 7 Page/Paragraph: 62/1 Sentences: 3 through 6

"When a send command service is received from the application client, the tasks three saved pointers are copied into the initiator's set of three active pointers. There is only one set of active pointers in each initiator. The active pointers point to the next command, data, or status byte to be transferred between the initiator and the logical unit. The saved and active pointers reside in the initiator."

should be

"When a send command service is received from the application client, the task's three saved pointers are copied to the initiator role agent's set of three active pointers. There is only one set of active pointers in each initiator role agent. The active pointers point to the next command, data, or status byte to be transferred between the initiator role agent and the target role agent. The saved and active pointers reside in the initiator role agent."

<<< Comment 75 -- Editorial >>>
Section: 8 Page/Paragraph: 63/1 Sentence: 2

"Those link management messages are defined within this standard and there use is confined to this standard." should be "The link management messages used for this purpose are defined within this standard and their use is confined to this standard."

<<< Comment 76 -- Editorial >>>
Section: 8 Page/Paragraph: 63/1 Sentence: 4

"Those task management message are defined in the SCSI-3 Architecture Model Standard, ..." should be "The task management message are defined in the SCSI-3 Architecture Model Standard, ..."

<<< Comment 77 -- Editorial >>>
Section: 8.1.2 Page/Paragraph: 63/4 Sentences: 2 and 4

"If tagged queuing is used a task attribute immediately follows the IDENTIFY message." should be "If tagged queuing is used a task attribute message shall immediately follow the IDENTIFY message."

"After the reselection service, the target role agents first message shall be IDENTIFY." should be "After the reselection service, the target role agent's first message shall be IDENTIFY."

<<< Comment 78 -- Editorial >>>
Section: 8.1.2 Page/Paragraph: 63/4 Sentence: 6

"... it shall generate a bus free service." should be "... it shall perform an unexpected bus free service (see 9.5)."

<<< Comment 79 -- Editorial >>>
Section: 8.1.3.3 Page/Paragraph: 65/2 Sentence: 1

"(see 8.2.2, 8.2.12, and 8.2.15." should be "(see 8.2.2, 8.2.12, and 8.2.15)."

<<< Comment 80 -- Editorial >>>
Section: 8.2.1 Page/Paragraph: 66/4 Sentence: 1

"... target role agent shall generate a bus free service." should be "... target role agent shall perform an unexpected bus free service (see 9.5)."

<<< Comment 81 -- Editorial >>>
Section: 8.2.3 Page/Paragraph: 67/4 Sentence: 4

"... it shall generate a bus free service." should be "... it shall perform an unexpected bus free service (see 9.5)."

<<< Comment 82 -- Editorial >>>
Section: 8.2.6 Page/Paragraph: 68/3 Sentence: 3

"... it shall signal a catastrophic error condition by generating a bus free service without any further information transfer attempt." should be "... it shall perform an unexpected bus free service (see 9.5)."

<<< Comment 83 -- Editorial >>>
Section: 8.3 Page/Paragraph: 76/9 Sentence: 2

"... sent to the initiator role agent in the send command service." should be "... sent to the initiator role agent in the send SCSI command request."

```
<<< Comment 84 -- Editorial >>>
Section: 9.1  Page/Paragraph: 82/2   Sentence: 1

Add a reference to the SCSI-3 Primary Commands Standard.

<<< Comment 85 -- Editorial >>>
Section: 9.1  Page/Paragraph: 82/8   Sentence: 1

Add a comma after "Standard" to make the sentence read: "In the SCSI-3
Architecture Model Standard, see asynchronous event reporting ..."

<<< Comment 86 -- Editorial >>>
Section: 9.2  Page/Paragraph: 83/4   Bullet: d)

"... except when rejectinga message." should be "... except when
rejecting a message."

<<< Comment 87 -- Editorial >>>
Section: 9.4  Page/Paragraph: 83/7   Sentence: 1

"... and the it does not send ..." should be "... and then it does not
send ..."

<<< Comment 88 -- Editorial >>>
Section: 9.6  Page/Paragraph: 84/9   Sentence: 2

"... sending an ABORT message." should be "... sending an ABORT TASK
message."

<<< Comment 89 -- Editorial >>>
Section: 9.7  Page/Paragraph: 84/10   Sentence: 2

"... the MODE SENSE command ..." should be "... the MODE SENSE or MODE
SELECT command ..."

<<< Comment 90 -- Editorial >>>
Section: 9.7  Page/Paragraphs: 84/11 through 12

Change all instances of "MODE SENSE" to "MODE SELECT"
```

Lappin (Exabyte):

```
To:     Membership of X3T10

From:   Edward Lappin
        Exabyte Corporation
        tedl@exabyte.com
        (303) 447-7718

Date:   December 29, 1995

Subject:  Comments on X3T10/856D rev 8

I am voting YES to forwarding X3T10/856D rev 8 for further
processing with the following comments.  Most of the
comments are purely editorial.  However, I am requesting
clarification of a few points.

Editorial comments:

1.   Pages 11, 12, 13.  The figure has "SCSI" in the column
     under parallel interface agent spelled "SCSi".
2.   Page 15.  The Table entry for application client buffer
     offset has "IRA" at the end of the term routing column.
     Should there be an arrow before it?
3.   Page 15.  The key section should be in some order for
     easy reference (such as alphabetical).
4.   Page 55.  Note 7 has "controlled" misspelled.
5.   Page 59, bottom of second paragraph has the word "the"
     repeated.
6.   Page 59, third paragraph has the text "... exhasts it's
     ...".  Should be "... exhausts its ...".
7.   Page 59, option a) has "CHACK" instead of "CHECK".
8.   Page 59, option b) has "performng" instead of
     "performing".
```

9. Page 59, paragraph 5 has "receivces" instead of "receives".
10. Page 59, paragraph 5 has "transfering" instead of "transferring".
11. Page 83, option d) has "rejectinga" instead of "rejecting a".
12. Page 83, under 9.3 Hard reset has "chacteristics" instead of "characteristics".
13. Page 83, under 9.4 Overlapped commands. The first sentence is ".. reconnect to a task, and the it does...". It should be changed to initiator role agent (preferred, for clarity, over changing "the it" to "it").
14. Page 83, option a) of hard reset states "may or may not change the SCSI IDs". Should ID be plural since an agent has a single SCSI ID? If plural, which IDs are changed?

Requested technical clarifications:

1. Page 67. In section 8.2.4, Ignore Wide Residue, clarification on the legality of using this message between two data in services for the same task would be useful. Since no restrictions are mentioned, I assume it is legal. Is this so? Definitive text one way or the other would be helpful.
2. Page 69. In section 8.2.11, Save Data Pointer, clarification on the legality of using this message between two data in services without an intervening disconnect message would be useful. Since no restrictions are mentioned, I assume it is legal. Is this so? Definitive text one way or the other would be helpful.

Milligan (Seagate):

To: "john.lohmeyer" <john.lohmeyer@symbios.com>
From: Gene Milligan <Gene_Milligan@notes.seagate.com>
Date: 3 Jan 96 8:10:19
Subject: GEM's SIP LB Comments

GEM SIP Letter Ballot Comments

The following comments accompany my NO ballot. Most of the comments, labeled -E- are editorial and can be addressed by the editor in the course of upcoming revisions. The NO can be resolved quickly by addressing the substantive comments labeled -S-.

1)-E- In the foreword, the description of Clauses 5 and 6 describes services between a document and a standard. This should be made symmetrical in both instances by replacing between this document with between this standard or between the SCSI-3 Interlocked Protocol.

2)-E- The foreword, I think correctly, uses the form SCSI-3 Interlocked Protocol while many other locations use the form SCSI-3 interlocked protocol.
The terminology should be consistent throughout the document, preferably as in
the foreword.

3)-E- In the foreword and in Clause 9 I believe considerations should be changed to definitions or the clause be deleted.

4)-S- In the introduction and in Clause 8.2.12 SIP limits its applicability through Fast-20. There is no inherent reason to do this. SIP should be made more general by not limiting the maximum rate to 20 Mega transfers per second
and by changing the 20 Mtps rounding rule to a more general rounding rule to the upper transfer rate limitation of the related SPI version.

5)-E- In the next to last sentence of item (a) of the introduction there is no
reason to make vendor specific a feature of SCSI-3. Shorten the sentence to Vendor unique indications are accommodated.

6)-E- I think I have a definition of compatibility different than some in the committee. I view compatibility as providing all the functional

characteristics of the compatible brethren. I think that the (b) item of the introduction should be interoperability rather than compatibility.

7)-E- As the committee agreed in the first instance of Manchester, SCSI devices should not be required to reject all SCSI-3 extensions and in any case a SCSI-3 standard can not retroactively impose requirements on SCSI-2 devices. Therefore I think item (b) should be changed to ... on the same bus. SCSI-3 devices should be permissive of the SCSI-2 or SCSI-3 compliant behavior of other devices including those not implementing optional extensions of the SIP.

8)-E- SCSI-2 if not SCSI (-1) moved the device-dependent intelligence out to the SCSI devices. I think it would be safe to retire objective (c).

9)-E- Many Technical Committee standards have been and are continuing to be published without the confusing material on Technical Information Bulletins. I think for the benefit of the public the last three paragraphs of the introduction should be deleted. I recognize that X3T12 has rejected this comment in the past, but I still think they were wrong.

10)-E- In addition to the capitalization issue, in the first line of the scope, SCSI should be changed to SCSI-3.

11)-E- In the second paragraph of the scope, change is intended to show to shows and is not intended to imply a relationship to does not imply a relationship.

12)-E- In Figure 1 I think CAM should be across the top of the figure in view of its relationship (which is not implied) to the other standards.

13)-E- I think all of the material in the scope after figure 1 should be moved to clause 3.

14)-E- 3.1.3 should have the phrase for that initiator added after exist.

15)-E- The connection definition of 3.1.8 is too imprecise. when conditions exist should be replaced with a precise definition such as the type found in initial connection.

16)-E- In the definition of current task 3.1.9 elements of a current task seem to be missing (e.g. the data transfer portion).

17)-E- In the dual port definition replace any port with either port and attached logical unit(s) with logical unit(s) or target depending upon the following. Connection refers to the partner being a target while a dual port connect refers to a logical unit. Shouldnt they be the same?

18)-E- In flag delete being described.

19)-E- Regarding 3.1.22, it seems to me that the elimination of the I_T_x nexus should have also have eliminated the I_T_L_y nexus. I dont think this term is used anywhere within a SCSI-3 standard.

20)-E- In 3.1.25 I dont think there needs to be a mapping of protocols between layers. Consequently I recommend changing upper level protocol transactions with upper level transactions.

21)-E- It seems to me the description of message is incomplete. In my view some messages do not control a nexus. Examples of this include NO OPERATION and RESET.

22)-E- In 3.1.29 What is container ?

23)-E- The term implementation in the definition of optional reminds me to request a statement be included in clause 4 to the effect that SIP does not imply any particular implementation or any interface between SIP and the other

SCSI-3 standards.

24)-E- Regarding 3.1.37 reconnect is not defined in an analogous relationship to connect. It seems to me resuming would be a better term than reviving.

25)-E- The definition of reconnection needs work. I suggest taking A reconnection is the result of a reconnect and it exists from the assertion of
the BSY signal in a SELECTION or RESELECTION phase until the next BUS FREE phase occurs. and replacing the signals and phases with their SIP equivalent requests, services, and indications.

26)-E- Regarding 3.1.4.2 a definition of indication should be added.

27)-E- For the purposes of SIP, a SCSI device within its shipping carton in a stock room is of no interest, in 3.1.43 delete that can be

28)-E- The purpose of definitions is to define terms used in the standard. Therefore in 3.1.49 delete Within this standard or add it to all the other subclauses.

29)-E- Lower layers are referred to as lower levels and upper levels are referred to as upper layers. Consistent terminology should be used. I prefer layer and believe layer is the standard term for a layered architecture or a cake.

30)-E- Beginning with 3.1.53 SIP addresses unexpected disconnects as resulting
from either a protocol error, an unrecoverable protocol error, or an unrecoverable service delivery mechanism. I think the cases should be consistent. In addition I think the buss free service can also unexpectedly occur because the firmware is confused by unusual events which in themselves may be more unusual than being a protocol error per se.

31)-E- In 3.1.54 I think etc. is not an appropriate call out in an e.g. statement since it is not a useful example. etc. should be used to gloss over
an incomplete but obvious i.e. statement.

32)-E- The second free standing line in 3.3 should be deleted since it is redundant to the material in the normal paragraph.

33)-E- In 3.4 change the definition of || to ... outputs, if any, are listed to
the right.

34)-E- The definition of + should be changed from On ordering to No ordering.

35)-E- In the second line of 4.1 change application and to application client
and. In figure 2 change SCSI Application to SCSI Application Client two places
and mode to model.

36)-E- In figures 3, 4, 5, and 6 are the dashed lines within the boxes helpful?
The ones making the U- turns seem confusing to me.

37)-E- In the title of figures 3, 4, 5, and 6 change at SCSI to at the SCSI.

38)-E- It would be helpful if the representation of service requests from a device server (I presume - this could be made clearer after figure 6 and a target role agent were more distinct. The subtle differences between the two forms of short dashed segments are not discernible in later diagrams.

39)-E- In figure 7 SCSi should be changed to SCSI three places.

40)-E- In figure 7 and subsequent to that the waveform used to connote service
requests is confusing to me. Is this supposed to be a form of the break symbol
used to compress a mechanical drawing?

41)-E- In the title of figure 7 I think requests should be changed to request(s).

42) The first paragraph of 5.0.1 @@@@@@@@@@@@@@@@@@@

43)-E- I am confused by the term destination in Table 1 since I think the items
are not just destinations but also origins.

44)-E- In Table 2, the first term has a free standing IRA. All other terms have
an arrow ahead of the IRA. Is this correct?

45)-E- From an appearance standpoint it would be better to begin the TRA= statement on the next line.

46)-E- In Note 3 of Table 2 change No attempt is made by any SCSI standard to define non-parameter list information to SCSI standards do not define non-parameter list information assuming the statement is correct. However dont
the returned pages define numerous list information in ASCII?

47)-E- In Table 2 what is note 4 attempting to state? Was Except of the supposed to have been With the exception of the? But why take exception to something not defined in SCSI-3? How can one find it to take exception to it?

48)-E- I understand the ANSI editor will not permit distant citing of figures.
In figure 11 and elsewhere this can be solved by referencing the clause instead. Replace the references to figure 15 through figure 18 and figure 19 through figure 22 with references to clauses 5.2.1.1 and 5.2.2.1.

49)-E- In the first paragraph after figure 11 should SCSI command indication be
replaced with SCSI command received indication?

50)-E- In the third(?) paragraph after figure 11 I think unless it issued the bus device reset. should be expanded to unless it issued the bus device reset
or a disconnect message.

51)-E- In the third(?) paragraph after figure 11 I think information on how would be better than information of how.

52)-E- In 5.1.1.3 and numerous other places the equivalent of the phrase On completion of any data as if this were a programming statement rather than English. I think most if not all of these phrases should be replaced with After completion of any data. A global search and decision is needed for the word on. Four instances occur in this one subclause.

53)-E- In Note 1 knowledge should be reserved for mankind, replace knows when with determines when.

54)-E- I think in Note 1 it is misleading to classify the method as vendor specific. As pointed out in comment (23), I think it would be more appropriate
to state The method ... is beyond the scope of SCSI- 3. or The method ... is not specified by SCSI-3.

55)-E- In 5.1.1.4 it would be clearer if message in and message out were replaced with MESSAGE IN and MESSAGE OUT. In addition in 5.1.1.4 I think it should be ... shall place the contents of the MESSAGE IN into the service response parameter.

56)-E- Why doesnt 5.2 state The SCSI command services shall be requested from ... rather than The SCSI interlocked protocol (SIC) services assumes the SCSI
command services shall be requested from ...?

57)-E- In 5.2.1.2 is a parity error considered a service delivery failure? It does not seem that a parity error should result in a bus free service.

58)-E- Why doesnt 5.3 state The task management services shall be requested from ... rather than The SCSI interlocked protocol (SIC) services assumes the
task management services shall be requested from ...?

59)-E- In the last sentence of 5.3.1.1 delete When used.

60)-E- How are the parallel vertical arrows of figure 25 and the roundabout ones of figure 27 interpreted?

61)-E- What is the impact of the requirement in 5.3.1.2 to not generate an indication to the task manager for a service delivery failure? Does this mean the task should time out in an upper layer protocol?

62)-E- The juxtaposition of the prohibition of comment 61 to the last requirement of 5.3.1.2 is confusing.

63)-E- In 5.3.2 SCSI should be replaced with SCSI-3 and clint with client. (Base upon this and subsequent comments it appears a spell checker should be run.)

64)-E- Change clause 6 from ... standard does not attempt to define retry ... to ... standard does not define retry ... and add a sentence However retry sequences are allowed.

65)-E- Why isnt clause 6.0.1 a portion of clause 3? However why isnt it deleted? I did not notice any instances where the convention was used.

66)-E- Please note and address the fact that the next to last sentence of 6.1 requires a reset service for a protocol error while elsewhere Bus Free was the choice. I presume I missed the forest for the trees. Perhaps in General, should there be a statement that when a protocol error can not be recovered through other a mechanism an initiator should request a reset service while such an error detected by a target should result in a Bus Free service request?

67)-E- In figure 32 the left most entry line to BUS FREE should include a notation that the path is for targets only.

68)-E- Since the method of requesting reset service is not a matter for standardization, there is no need to identify it as vendor specific. Delete the last, short, paragraph of 6.2.1.

69)-S- Note 5 appears to be included only to circumvent the X3T10 decision to not include soft reset in SCSI-3. Delete Note 5 and Note 6.

70)-E- In 6.2.2 what is a section service. I assume it should be selection service.

71)-E- In 6.2.2.2 the parity flag of zero is used to indicate a successful service completion. However there are other ways than parity for the service to not complete successfully. For example the selection might time out. Why is the parity flag singled out?

72)-E- For 6.3.1 apply the thrust of comment (68).

73)-E- In 6.3.3.4 change ... zero indicates the parallel interface do not detect a reselection ... to ... zero indicates the parallel interface did not detect a reselection ...

74)-E- In 6.3.4.4 and 6.3.5.3 it is confusing as to who is requesting the message out (SIC) service. I suggest changing ... set to one to indicate to the initiator role agent is requesting a message out service ... to change ... set to one to indicate that the initiator role agent is requesting a MESSAGE OUT service ...

75)-E- Assuming the statement is correct, in 6.3.5.4 change The target role agent makes no attempt to retry the data out service. to The target role agent shall not retry the data out service.

76)-E- In figure 45 and elsewhere I assume there is a standard upper bound on the number of data words received and that the vendor specific number is less than the standard upper bound.

77)-E- Change the sentence before Note 7 as in comment (75).

78)-E- I think it would be better to change 6.3.6.3 and 6.3.9.3 from ... requesting a message out (SIC) service be generated ... to requesting that a MESSAGE OUT service be generated ....

79)-E- In 6.3.8.4 change ... because a parity error, ... to ... because of a parity error, ... or to ... because a parity error occurred, ...

80)-E- In 6.3.8.4 change exhasts to exhausts and CHACK CONDITION to CHECK CONDITION, receivces to receives.

81)-E- I assume in 6.3.8.4 ...(see figure 51), expect when rejecting ... should
be ...(see figure 51), except when rejecting ...

82)-E- In 6.3.8.4 change ... it does not wish to retry by requesting ... to ...
a retry is not requested by requesting ...

83)-E- It is not clear what case the last paragraph of 6.3.8.4 is addressing. Why are all the bus free services for the successful case of the abortion class?

84)-E- In clause 7 change ... the tasks three saved ... to ... the tasks three saved ...

85)-E- In clause 7 change ... transfer length because it is not reliable. to

... transfer length because the value may no longer be valid.

86)-E- In clause 8 delete Those in two places and change there to their.

87)-E- Change the last sentence of clause 8 from ... binary values are defined
... to ... binary values for SPI implementations are defined ...

88)-E- In clause 8.1.2 change If tagged queuing is used a task attribute immediately follows ... to With tagged queuing a task attribute immediately follows ... and change .... the target role agents first message ... to .... the target role agents first message ....

89)-E- In clause 8.1.2 change the reference from tables 13 and 18 to clause 8.3
in two places.

90)-E- Delete the next to last, short paragraph, in clause 8.1.3.3 since it is
redundant to the last sentence of the first paragraph with a different capitalization.

91)-E- In table 5 use the same form of Not Required in both places and perpetuate this form in the other tables.

92)-E- The last paragraph of 8.2.1 is in agreement with SCSI-2. However in retrospect it does not make sense. Why would a SCSI device not implementing a
message have any probability of responding as specified for a device that does
implement the message? I see no reason this message should behave any differently than any other message that is not implemented. It should be rejected. I suggest deleting the paragraph.

93)-E- In 8.2.2 I think ended would be a constructive substitution for broken and and for , but that.

94)-E- SCSI-2 did not, I think, preclude an initiator from treating a disconnect as an implied save data pointers but did require that the target issue a save data pointers message. What is the need to preclude the implied saving?

95)-E- In 8.2.3 it would be more consistent to change The logical unit number (LUN) field specifies a logical unit number. to The LUN field specifies a logical unit number. to match the table.

96)-E- Why has the wording for the SAVE DATA POINTER message been changed from
current data pointer to active data pointer?

97)-E- In keeping with the awful precedent of all the SCSI standards, the first word in the fourth paragraph after table 9 should be changed from A to An.

98)-E- Regarding item (d) after table 9, is a successful WDTR message exchange one that changes the width or one that does not result in an error condition? (It would not be necessary to change the SDTR if the width did not change but it may be required by the standard.)

99)-E- In 8.2.12.1 and several places afterward their default agreement is specified. Is this a saved default? I think not. Is this the prior successful agreement rather than a saved default agreement?

100)-E- Also in 8.2.12.1 and numerous places afterward the phrase shall go to is used. This implies a jump that in fact should not occur. A more accurate phrase would be shall use the.

101)-E- In 8.2.12.1 and 8.2.12.2 the phrase that negotiation is required should be replaced with that an SDTR negotiation is required.

102)-E- In 8.2.13 replace The target role agent may reconnect for other purposes with replace The target role agent might reconnect for other purposes.

103)-E- Comment (92) applies to clause 8.2.13. (In the horrible case that you do not accept this comment change issuing TARGET TRANSFER DISABLE link with issuing a TARGET TRANSFER DISABLE link.

104)-E- In 8.2.15 I think it may be necessary to have an additional item (d) SDTR to necessitate a new WDTR. In this case a desired (for performance tuning) SDTR would be preceded by a new WDTR. I am not certain if this case should be explicitly added or if it should be a silent case.

105)-S- It appears to me that table 12 covers only the typical case where 8 and 16 bits are the only choices. However unless it is purged from the standard, the table should account for three choices of 8, 16, and 32.

106)-E- Bitten once again by an SCSI change an WDTR in 8.2.15.2 to a WDTR.

107)-E- In 8.3 change See for a listing of the task attribute messages. to See table 13 for a listing of the task attribute message codes.

108)-E- The second paragraph of 8.3 needs an additional phrase to the effect of provided there are no outstanding tasks.

109)-E- The point that is being made in the third paragraph of 8.3 might be stronger if The numeric value of a tag has no effect on the order of execution. were changed to The numeric value of a tag is arbitrary, providing there are no outstanding, duplicates and has no effect on the order of execution.

110)-E- In the fourth paragraph of 8.3 a practical limitation should be added by changing ... logical units could have up to 14336 tasks concurrently ... to ... logical units and extensive resources could have up to 14 336 tasks concurrently ....

111)-E- In 8.3 change e.i. to i.e. in two places or add an e.i.o. Also replace revive with resume.

112)-E- Regarding the key of table 13 please note that the table does not contain any Mandatory, YES, or Extended messages as shown in the keys. In the case of Table 18 there is a similar discontinuity between the table and the keys.

113)-S- Regarding Note 2 of table 18 hierarchical addressing has not been defined in SIP. Consequently this is a defective requirement.

114)-E- Why has an example of a useful function been included for ABORT TASK SET in 8.4.2 when the other messages do not include such examples?

115)-E- The TERMINATE TASK in 8.4.2.5 seems to have lost the important proviso
of SCSI-2 to terminate the current I/O process without corrupting the medium.

116)-E- Add the phrase which are specific to SIP. to clause 9 or delete clause
9.

117)-E- In the second paragraph of 9.1 change ... only to the processor that initiated the task. to ... only to the initiator that requested the task.

118)-S- The fourth paragraph of clause 9.1 should take into account the error reporting page proposed by George Penokie and accepted by X3T10.

119)-E- Delete This can be done with a switch or jumper wire. from Note 8. How
often is the survey conducted. I presume the survey should be specified as occurring with each reset. The parenthetical statement seems to have been thrown in out of context. In addition devices may have been added or subtracted.

120)-E- Change the last sentence in 9.1 to an active case (e.g. See asynchronous event reporting in the SCSI-3 Architectural Model Standard for more information on asynchronous event notification.

121)-E- In 9.2 the reference to table 13 is defective since there are no YES notations in table 13.

122)-E- In 9.3 change ... requires the following hard rest characteristics: ... to ... has the following
hard reset characteristic: ... or better yet delete item (a) and make the change to ... might result in a change of the SCSI IDs.

123)-E- As much as I dislike the sprinkling of notes, it may be helpful to add
the following note to 9.3
Note: SCSI-3 includes SIP functionality relating to address changes in the SPI
annex defining the SCAM protocol.

124)-E- In 9.4 replace and the it dose not with and it does not. Also replace initiator on the logical unit with initiator and the associated logical unit

125)-E- SPC does not use the term TAGGED OVERLAPPED TASKS. It uses TAGGED OVERLAPPED COMMANDS. I presume this is because overlapped commands are not placed into the task set and consequently they never change from commands to tasks.

126)-E- Is the case described by Note 9 one that occurs in practice or just an
item during development? I question the value and appropriateness of the note.

127)-E- Aside form the earlier comments on the subject, in 9.5 change The target role agent may generate a bus free at any time. to Although it would be disruptive, the target role agent might generate a bus free at any time.

128)-S- In 9.7 there is no reason to include a reminder to the editor. Change This standard shall only use the fields defined below. to SIP devices shall only use disconnect-reconnect page parameter fields defined below. However having made that repair a more serious question is why such extensive double specification of the SPC fields is included in SIP?

129)-S- As I understand it, SAM was written with one of several queuing arrangements as the model for the task set. However it allows other combinations. SIP appears to be write also with the same task set model but I
think includes specific requirements which preclude other arrangements of the task file. The SIP document needs to be reviewed to make adjustments which

```
will allow the other task set arrangements  as does SAM.
```

Storage Technology Corp.:

```
Message-Id: <v01510100ad105a4bd8a9@DialupEudora>
Date: Wed, 3 Jan 1996 10:38:20 -0700
To: john.lohmeyer@Symbios.com (John Lohmeyer)
From: erich_oetting@stortek.com (Erich Oetting)
Subject: Comments on SPI (X3T10/0856-D Rev 8)
--------------------------------------------------------------------------------

Editorial comments on SPI rev 8 from StorageTek:

01, pg. 11,12,13.  SCSi-3 in figures should be SCSI-3.

02, pg. 55, NOTE 7.  comtrolled should be controlled.

03, pg. 59, a). retrun CHACK CONDITION should be return CHECK CONDITION.

04, pg. 59, b). performng should be performing.

05, pg. 59, last paragraph.  receivces should be receives.

06, pg. 64, Table 4. EXTENDED MESSAGE LENGTH (n) should be (n-1).

07, pg. 75, Table 12.  (e.i. should be (i.e.
```

Unitrode:

```
Date: Tue, 2 Jan 1996 11:25:09 -0500 (EST)
From: "Paul D. Aloisi 603-429-8687" <ALOISI@UICC.COM>
To: john.lohmeyer@symbios.com
CC: aloisi@msmailgw.uicc.com
Message-Id: <960102112509.24c11ceb@UICC.COM>
Subject: SIP Comments (Yes with Comments)
--------------------------------------------------------------------------------

SIP Comments:

The introduction includes the Fast-20 speeds, but the Fast-20 Specification
is not listed in Section 1 and Section 2. (Editorial)

Add to section 1 & 2:
SCSI-3 Fast-20          [X3T10/1071D]

Figures 7,8,9 use "SCSi-3 Parallel Interface Service" in several blocks.
Change to "SCSI-3 Parallel Interface Service" (Editorial)


Thank you,
Paul Aloisi
Unitrode
```