Accredited Standards Committee[*]
X3, Information Processing Systems

To: X3T10 Membership
From: John Lohmeyer, X3T10 Chair
Subject: Letter Ballot Results on 94-204 -- 94-208

The results of the five X3T10 letter ballots (94-204 -- 94-208), which closed November 7, 1994 were as follows:

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X3T10 Voting Results on November 7, 1994 Letter Ballots   94- 94- 94- 94- 94-
                                                          204 205 206 207 208
            Organization          S            Name       Log Seq SCC S2S Pro
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3M Company                        P   Mr. Alan R. Olson    Y   Y   Y   Y   Y

Adaptec, Inc.                     P   Mr. Norm Harris       Y   Y   Y   Y
Adaptec, Inc.                     A#  Mr. Lawrence J. Lamers                  N

Advanced Micro Devices            P   Mr. David Wang        Y   Y   Y   Y   Y

Amdahl Corp.                      P   Mr. Neil T. Wanamaker Y   Y   Y   Y   N

AMP, Inc.                         P   Mr. Charles Brill     Y   Y   Y   Y   Y

Amphenol Interconnect             P   Mr. Jeff Rosa         Y   Y   Y   Y   Y

Ancot Corp.                       P   Mr. Jan V. Dedek      Y   Y   Y   Y   Y

Apple Computer                    P   Mr. Dennis Pak        Y   Y   Y   Y   Y

AT&T/ NCR Microelectronics        P   Mr. John Lohmeyer     Y   Y   Y   Y   N

Burr-Brown Corp.                  P   Mr. Jason Albanus     Y   Y   Y   Y   Y

BusLogic                          P   Mr. Clifford E. Strang Jr Y Y  Y   Y   Y

Ciprico Inc.                      P   Mr. Gerry Johnsen     Y   Y   Y   Y   Y

Circuit Assembly Corp.            P   Mr. Ian Morrell       Y   Y   Y   Y   Y

Cirrus Logic Inc.                                           Y   Y   Y   Y  Y/C
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CMD Technology	P	Mr. Edward Haske	Y	Y	Y	Y	Y
Compaq Computer Corp.	P	Mr. Bill Galloway	Y	Y	Y	Y	Y
Congruent Software, Inc.	P	Mr. Peter Johansson	Y	Y	Y	Y	Y
Conner Peripherals	P	Mr. Michael Bryan	Y	Y	Y	Y	Y
Dallas Semiconductor	P	Mr. Louis Grantham	Y	Y	Y	Y	Y
Digital Equipment Corp.	P	Mr. Charles Monia	Y	Y	Y	Y	Y/C
ENDL	P	Mr. I. Dal Allan	Y	Y	Y	Y	Y
Exabyte Corp.	P	Mr. Edward Lappin	Y	Y	Y	Y	Y
Foxconn	P	Mr. Nick Ladas	Y	Y	Y	Y	Y
FSI Consulting Services	P	Mr. Gary R. Stephens	Y	Y	Y	Y	N
Fujitsu Computer Products,Am	P	Mr. Robert Liu	Y	Y	Y	Y	Y
Future Domain Corp.			—	—	—	—	—
Harbor Electronics			—	—	—	—	—
Hewlett Packard Co.	P	Mr. Jeffrey L. Williams	Y	Y	Y	Y	Y
Hitachi Micro Systems, Inc.	P	Dr. Sam Karunanithi	Y	Y	Y	Y	Y
Honda Connectors	P	Mr. David McFadden	Y	Y	Y	Y	Y
IBM Corp.	P	Mr. George Penokie	Y	Y	Y/C	Y	Y
Interphase Corp.	P	Mr. David Lawson	Y	Y	Y	Y	Y
Iomega Corp.	P	Mr. Geoffrey Barton	Y	Y	Y	Y	Y
Linfinity Micro	P	Mr. Dean Wallace	Y	Y	Y	Y	Y
Madison Cable Corp.	P	Mr. Robert Bellino	Y	Y	Y	Y	Y
Maxoptix Corp.			—	—	—	—	—
Maxtor Corp.	P	Mr. Ron Roberts	Y	Y	Y	Y	Y
Methode Electronics, Inc.	P	Mr. Bob Masterson	Y	Y	Y	Y	Y
Molex Inc.	P	Mr. Joe Dambach	Y	Y	Y	Y	Y
National Semiconductor	P	Mr. Robbie Shergill	Y/C	Y	Y	Y	Y
NEC Technologies Inc.	P	Mr. Bruce Anderson	Y	Y	Y	Y	Y
Oak Technology, Inc.	P	Mr. Peter Brown	Y	Y	Y	Y	N
Panasonic Technologies, Inc	P	Mr. Stephen F. Heil	Y	Y	Y	Y	Y

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QLogic Corp.                P   Mr. Skip Jones          Y   Y    Y   Y   Y

Quantum Corp.               P   Mr. James McGrath       Y   Y    Y   Y   Y

Seagate Technology          P   Mr. Gene Milligan       Y   Y/C  N   N   Y

Silicon Systems, Inc.       P   Mr. Stephen G. Finch    Y   Y    Y   Y   A

Sony Corp. of America       P   Mr. Scott Smyers        Y   Y    Y   Y   Y

Storage Technology Corp.    P   Mr. Erich Oetting       Y   Y    Y   Y   N

Sun Microsystems Computer Co P  Mr. Robert N. Snively   Y   Y    Y   Y   Y

SyQuest Technology Corp.    P   Mr. Patrick Mercer      Y   Y    Y   Y   Y

Tandem Computers            P   Mr. John Moy            Y   Y    Y   Y   Y

Thomas & Betts              P   Mr. Harvey Waltersdorf  Y   Y    Y   Y   Y

UNISYS Corporation          P   Mr. Peter Dougherty     Y   Y    Y   Y   Y

Unitrode Integrated Circuits P  Mr. Paul D. Aloisi      Y   Y    Y/C N   Y/C

Western Digital Corporation P   Mr. Jeff Stai           Y   Y    Y   Y   N

Woven Electronics           P   Mr. Doug Piper          Y   Y    Y   Y   Y

Zadian Technologies         P   Mr. Duncan Penman       Y   Y    Y   Y   Y

Key:
    Y   - Yes
    Y/C - Yes, with comment
    N   - No
    A   - Abstain
    _   - Did not return the letter ballot
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##
94-204 LB Results (on Logging Operations TIB): 55-0-0-3 = 58

YES WITH COMMENT

National Semiconductor: The document should be titled "Technical Information Bulletin" and not "SCSI Information Bulletin" as it is now (94-168r1).

DID NOT RETURN THE LETTER BALLOT

Future Domain, Harbor Electronics, Maxoptix

##
94-205 LB Results (on Sequential Access Partition TIB): 55-0-0-3 = 58

YES WITH COMMENT

Gene Milligan (Seagate):

1) Delete the document status page.

2) I presume a TIB can not have Normative references. Change Normative references to References.

3) In 4.1 delete "What is more important".

4) Some paragraphs start with a bullet. The bullet is merely a puzzle and should be deleted.

5) There is an extra "the" in "the size of the either partition" just above Figure 5. Please give it to the editors that frequently omit needed "the"s.

6) In 5.1.4.2 and 5.1.4.3 is the maximum number really "n+1" (I don't have Section 9 handy) rather than "n"?

7) Should "(m+1 total)" be "(m+1=total)"?

8) Unfortunately I lost pages 12-? and could not review it(them) but will look for it on the back of other documents I have split out from the mailing.

DID NOT RETURN THE LETTER BALLOT

Future Domain, Harbor Electronics, Maxoptix

##
94-206 LB Results (on SCSI-3 Controller Commands): 54-1-0-3 = 58
[At the November '94 X3T10 meeting, Gene Milligan changed his vote from No to Yes resulting in the amended voting results of 55-0-0-3 = 58.]

YES WITH COMMENTS

IBM:

1-The peripheral device descriptor fields within the peripheral device associations descriptor (table 28 page 50) of the Report Peripherial Device Associations service action should be changed to the logical unit descriptor.

The peripheral device descriptor is defined in table 25 on page 47 and the logical unit descriptor is defined in table 21 on page 45.

The reason for this change is because the peripherial device descriptor only allows for reporting peripherial devices that are associated with the requested peripherial device(s). By changing to the logical unit descriptor the service action will be able to report all logical units associated with the requested peripherial device(s).

Unitrode:

Introduction
The second paragraph third sentence:
commands that assist coordination between multiple systems.

I think should read:
This standard defines commands that assist coordination between multiple systems.

The third paragraph second and third sentences should be combined for clearity.

This standard defines the SCSI commands the may apply to SCSI-3 Strorage Arrays and the SCSI commands that must be implemented by SCSI-3 Storage Arrays.

4 General

First Paragraph the third paragraph second and third sentences should be combined for clearity.

This standard defines the SCSI commands the may apply to SCSI-3 Strorage Arrays and the SCSI commands that must be implemented by SCSI-3 Storage Arrays.

The third Paragraph, second sentence:
This standard does not devine all possible instances of thes procedure inputs and outputs.devine should be define. (Devine issues are beyond the scope of this committee.) procedure doesnt sound like the right word, may be procedure call.

5.2 Model for SCSI-3 storage arrays a through c are used on what appears to be a single sentence, this is confusing. Three direct statements or one sentence should be used without the letters.

Shouldn't "a" end with initiator, instead of target? or target/initiator?

5.2.2.2 Association of objects

Last sentence of the second paragraph; The only requirements on such associations is that they shall be reported using the report service actions defined in this standard. Remove s from requirements.

5.2.2.7 Removing Objects

The first sentence the word "readded" replace with "available". The device with either be corrected and put back in service or replaced and recreated.

5.2.2.12 (page 24) first sentence "goup" should be "group". b & c number of units of should be for and should be corrected in the paragraphs below on page 24 and on page 26.

Page 56 under table 35 first paragraph last sentence: and access to the target is limited. Change to to of.

The next sentence should read:
The access of a target during the readying state is a vendor specific limit.

<div align="center">NO VOTES</div>

Gene Milligan (Seagate):

    I presume all or the bulk of the comments can be dealt with in short order. If there are any comments that are accepted to be dealt with but which would require an extended period of time to resolve, I suggest that those comments be deferred to SCSI-4 CC or SCC-2.

    These comments are in the order of occurrence in the document and not arranged according to impact. The comments are numbered to facilitate a reply.

1) The document should be a dpANS rather than a Working Draft in numerous places.

2) The X3 Secretariat point of contact also has an E-Mail address - lbarra@cbema.org

3) In the abstract delete "the" from "the SCSI-3 storage array devices".

4) Change "systems integrator and suppliers" to "system integrators and suppliers".

5) Add a statement to the abstract that "This standard is not intended as a command set alternative to the SCSI-3 Block Commands standard."

6) Who has the action to check with ANSI prior to publication that the last paragraph on page iii is still valid at that time?

7) Delete the content of page iv.

8) It is not clear if the introduction refers to SCSI command sets in general or to this specific standard. If it is specific the commanded entity needs to be changed to a "controller for".

9) In the introduction and in GENERAL change "This standard defines the SCSI commands that shall be implemented by SCSI-3 Storage Arrays." to "This standard defines SCSI commands that are uniquely for SCSI-3 Storage Arrays." In addition consider whether in this instance and other similar instances SCSI-3 should be changed to SCSI.

10) In the junk about Bulletins change "intended solely at supplementary" to "intended solely as supplementary".

11) Change "these bulletins" to "any such bulletins" or some other words that do not imply that the bulletins which do not exist, do exist.

12) In the Scope and probably elsewhere I have presumed array devices would also implement SBC commands. I presume the document needs to be corrected to reflect this assumption.

13) Why does the scope require that arrays shall not implement any vendor unique commands (as indicated by "fully specify")?

14) Objective (d) was handy in the project proposal but should be deleted from the scope.

15) The definition of SCSI terms should be moved from the scope to Clause 3.

16) In Clause 2 delete the term "Working Draft".

17) In 3.1.9 change "structure up to 16 bytes" to "structure of up to 16 bytes".

18) Thank you for at least one "a SCSI".

19) In 3.11 change "a the rules" to "the rules".

20) Either the distinction between "association" and "covering" needs more explanation or the distinction between "storage array objects' and "spare objects" does. Can there not be spare storage array objects?

21) In 3.1.15 unsupported seems more illegal than reserved does. I suggest making the definition "a reserved or unsupported field or code value." What is the difference between a field or code value? Does the classification of reserved in this sense fly in the face of the X3T10 decision on checking of reserved fields?

22) It is tough to swallow "group" as being independent from one another.

23) Why is the Logical unit number definition different than the one in SAM?

24) In 3.1.23 change "must" to "shall".

25) Change the definition of p_extent from "within a single peripheral device" to "within a single peripheral device of a storage array".

26) To prevent sweating over the definition, change 3.1.29 from "Recreation" to "Re-creation" and in 3.1.30, 3.1.31 & 3.1.43.

27) Does 3.1.32 prevent plain text from being recorded within a redundancy group? Plain text has numerous forms of redundancy as has amply been demonstrated by compression programs and spelling checkers.

28) In 3.1.35 is "covered" used to mean the past tense of "linking spare objects"?

29) Clause 3.1.37 is the incomplete product of a cut and paste without the needed edit.

30) I think the term being defined by 3.1.39 should be "SCC target" rather than "target".

31) There are not an infinite number of logical blocks.
Change 3.1.40 to "the addressable logical blocks that are input to the SACL. Check data is not part of the addressable logical blocks."

32) 3.1.44 implies that a logical unit can contain more than one volume set but that a volume set can not be larger than a single logical unit. Is this correct? Should volume be defined?

33) I vaguely recall that the CCITT has changed its name to ITTU. If this is correct the ITTU acronym may prove troublesome.

34) The convention of distinguishing the size of capitals seems an unfortunate one. Quotes over Internet will not preserve such a convention and it may require a visual resolution that could be construed as discriminatory.

35) Put the "the" deleted earlier between "per" and "SCSI-3" in Clause 4. Consider changing it to "In accordance with the SCSI-3".

36) Change "in the procedure call above." to "in the above procedure call."

37) I'm sure the writers were mortal and I agree the standard does not, nor is it, "devine" but I suggest changing "devine" to "define".

38) The members of the SACL a-j set need to be edited to the same sense as functions.

39) Since CAM is being used in the standard, it should be added to section 2 and Figure 1.

40) In 5.2 (a), what does "under a single target" mean?
Perhaps "under" should be "as".

41) In Table 1 it is not clear why for a Redundancy group the space addressed is protected and for Volume set it is user data. I would think they could either both be protected or both user data.

42) How can there be a requirement for the application client to address unaddressable items? The requirement would be consistent if it were changed from "shall address" to "shall access".

43) Change "may by defined" to "may be defined".

44) In 5.2.1.2 "LUN structure see table 2." needs additional punctuation.

45) In Table 4 what is the relationship between "X" and "n"?

46) In 5.2.1.4 change "storage arrays are not required to support all SCSI commands" to "storage arrays are only required to support mandatory SCSI commands".

47) In the second paragraph after Table 6 change "the address of the peripheral device that the SCSI-3 storage array shall relay" to "the address of the peripheral device to which the SCSI-3 storage array shall relay".

48) The second and third sentences of that paragraph are inside out or at least awkward. This applies also to the next paragraph.

49) Note 3 is not strictly correct. I presume SIP defines 0-7, 0-15, and 0-31.

50) In Note 4 replace the "mays" with "mights".

51) In the paragraph after Note 4 make the analogous change as (46).

52) In the next paragraph what is a "predefined SACL" and where is it predefined?

53) The sentence after Table 7 is incomplete or confused.

54) In numerous places the "shall" requirements seem to be incomplete. An example is 5.2.2.1 which states "Objects that have been added to a SCSI-3 storage array shall be addressable by an application client." But there is no specificity on how they are addressable. Another example of this problem is after Table 78 which states "The LUN_R field specifies the address of the redundancy group that shall have its check data recalculated." These requirements should be stated in the active rather than the passive tense.

55) In 5.2.2.3 is it true that "the only requirement on such attachments" (presumably vendor specific attachments) "is that they shall be reported using the report service actions defined in this standard"? Does this mean they do not need to be addressable per the "shall" in 5.2.2.1?

56) In 5.2.2.4 the apparent fact that objects are covered by like objects in the first sentence seems contradictory to the third paragraph and to Note 7.

57) In 5.2.2.5 what does "shall be made" mean?

58) In 5.2.2.10 The second paragraph accidentally, I presume, requires that user data not be recorded in consecutive addressable logical blocks since "All the consecutive addressable logical block addresses on a single peripheral device shall be grouped into a single unassigned p_extent."

59) Under Figure 11, change "redundancy goup" to "redundancy group" This implies that a spell checker should be run.

60) Under Figure 12 the listing begun under Figure 11 is continued. However the two lists appear to be different aspects and continuation of the item identification is confusing at best.

61) The first sentence of 5.2.2.12 is awkward. What does "requests no redundancy user data is not protected" mean? Does it mean some redundancy user data is protected? I presume the problem is that plain text without capitalization is being used as a handle rather than as words in a sentence but how is the reader to know? This is a problem in several places.

62) If the requirement is to be established by Note 8, Note 8 should not be a note, but should be part of the body. Otherwise the note should be worded without a "shall". This comment also applies to Note 9, and 10 (but don't make 10 part of the body).

63) Many of the sentences are missing articles. Will an editor add the articles or is the terse sentence form now an acceptable if somewhat guttural form? 5.2.2.12.4 is an example of this.

64) In 5.2.2.13 I think that in the third sentence of the second paragraph "contain" should be "contains". In that same sentence I think the second "shall be" should be changed to "is".

65) On the assumption that a failure is a characteristic, I think the next paragraph should be changed from "After an automatic exchange the spare takes on all the characteristics of the failed" should be changed to "After an automatic exchange the spare takes on the essential characteristics of the failed".

66) In the same paragraph change "device shall on longer be available" to "device shall no longer be available".

67) In the second paragraph after Note 12 delete "unique".
Unique implies that the depth field can not have the same value or must have a different number of bits.

68) In 5.2.3.3 if the recreated protected space is not saved, is anything useful done with it?

69) In the last paragraph of 5.2.4 it is not clear what "In that case" refers to.

70) Make the last word in 5.2.5 plural and then make it the next to last word by adding "standard".

71) In 6 change "that apply to SCSI-3 disk array" to "that apply only to SCSI-3 disk array". In addition I thought this standard was to apply to array controllers for more than disc.

72) Referring to Table 12, why is the P_EXTENT STATE defined so far from this table (21 pages).

73) In the second paragraph after Table 14, 56 and 62 delete "on" two places each and patch the resulting sentences. (The search may be difficult but I consider this a global comment.)

74)) Referring to Table 16, why is the COMPONENT DEVICE STATE defined so far from this table (19 pages) and why is component device not capitalized?

75) The first sentence after Table 18 is missing words or confused.

76) Comment 73 applies to the Table 18 description.

77) In Table 28 Byte 7 should be Byte 8.

78) In the description of Table 28 "LOGICAL UNIT DESCRIPTOR" should be "PERIPHERAL DEVICE DESCRIPTOR".

79) Why does Table 30 use Byte 0 twice?

80) If the IDENTIFIER is vendor specific why is it half defined?

81) Under Table 31 I think "logical unit contained within the LUN field" should be changed to "logical unit designated by the LUN field".

82) In Table 32 item 10b I think "shall determine" should be "designates".

83) After Table 32 "that contain" should be "that indicates" and "list and a list" should be "list plus a list".

84) After Table 34 and after Table 45 change "Primary Command" to "Primary Commands standard". Make this a global change.

85) Add "in which" to the paragraph (sentence) prior to Table 35.

86) After Table 35 change "shall indicate" to "indicates" in six places. Change "are indicating" to "have" in two places.

87) Why isn't "NONCFAIL" "NONAFAIL"? I am confused by the fact the zero condition emphasizes "non-addressable" and the one condition emphasizes "non-component".

88) In Note 13 change "targets" to "target's".

89) In Table 36 items 03h and 0Ch and Table 37 items 01h and 0A change "a failure causes a loss of data" to "a failure could cause a loss of data"

90) Note 15 is redundant to an earlier note. Delete it.

91) Regarding Table 40, do commands allow reporting more than one state or is it implementations that do? I thought such behavior was an implementation option, not a command option.

92) The definition of item 05h reads like Catch 22.

93) Referring to Table 42, I suggest that the ADDPORC bit be renamed the POLITICIAN bit and the Table 45 BRKPORC bit be changed to the CNCRNDCTZN bit. However this is an optional comment.

94) After Table 45 change "shall contain" to "contains" three places. Make this a global change.

95) In the first paragraph of 6.2.1.5 change "requests the target" to "requests that the target"

96) In the second paragraph after Table 50 change "0000h" to "00000000h".

97) In Note 18 change "groups be configured" to "groups to be configured" and "group may be expanded" to "group to be expanded".

98) After Table 62 change "header that contains the length" to "header that defines the length".

99) In the last paragraph of 6.4.1.1 change "data shall disabled" to "data shall be disabled".

100) Is the requirement for a SETLUN bit of one clear? Not to me.

101) The definition of RECALIM in Table 70 seems inverse to the name and therefore probably will cause wrong implementations. I suspect this is due to using an analogy to the IMMED bit but if the implementor does not draw the analogy confusion may reign.

102) In Table 73 and 76 item 00b and 10b change "must be successfully rebuilt " to "is successfully rebuilt".

103) Change item 01b from " must only be successfully" to "shall only be successfully".

104) In Table 78 why is the definition for "all redundancy group bit" ALLRU rather than ALLRG?

105) In the definition for Table 78 why are uncorrectable failures reported which occur after the VERIFY CHECK DATA service action rather than during the service action?

106) In Note 20 the explanation refers to "continuous" rather than the "continuously" used in the body.

107) In this same note should the address of volume sets be plural as indicated by LBA_Vs?

108) The definition of LUN_V is not complete enough to understand if the requirement in 6.5.1.1 points to the start of, explicitly to, or within a volume set.

109) In Table 83 the variable byte should be "n-10" rather than "n-19".

110) Under Table 84 what is the more precise meaning of "contiguous units" and is this meaning of "units' defined within the standard?

111) The last sentence of section 6.6.1.1 is very difficult to parse.

112) I think the last paragraph of 6.6.1.2 should refer to CONTROL WRITE OPERATIONS rather than CONTROL GENERATION CHECK DATA in two places.

113) In 6.6.1.3 why, in two places, is it LOGICAL UNIT FAILED rather than CREATE/MODIFY VOLUME SET FAILED?

114) After Table 88 the first sentence is awkward. I think "that" should be deleted.

115) In the fourth paragraph after Table 88, is the logical unit number to be assigned vendor unique or should it be according to some standardized algorithm?

116) In the second paragraph after Table 89 I presume it was an accident to require "even" multiples of ps_extents and that it was intended to require "exact" multiples in two places.

117) In the next paragraph I presume "onto' should be "into". The last sentence of that same paragraph is injured and I presume "unit" should be replaced with `until".

118) The next paragraph needs a "," after "request".

119) The next paragraph (first before Table 90) should explain how the target shall control the user data or remove the requirement.

120) It is not clear how the requirements of the sentence pairs in the third paragraph after Table 90 are different or if they are repeated requirements.

121) Why is the error in 6.6.1.4 "REMOVE OF LOGICAL UNIT FAILED" rather than "DELETE VOLUME SET FAILED".

122) In the third paragraph after Table 92 what does "that underlay" mean?

123) Based upon earlier sections, in Table 93 I presume "LBA_VS" should be "LBA_Vs". This comment also applies to the following paragraphs.

124) The meaning of the first sentence after Table 94 is not clear.

125) The next paragraph has a badly injured first sentence.
Probably "one least" needs to be changed to "at least".

126) The third paragraph after Table 95 is difficult to parse.

127) In the next to last paragraph before Table 102 I again complain about "report on".

128) In table 103 the penultimate byte should be "n-23" rather than `n-11".

129) In the paragraph after Table 111 why is the error "REMOVE OF LOGICAL UNIT FAILED" rather than "DELETE SPARE FAILED?

130) In 6.9.1 numerous places why is there a request to "see SCSI-3 Controller Command" when I presume that refers to the standard that 6.9.1 is a part of?

131) Why does 6.9.1.1 refer explicitly only to SIP and I suspect the indication that other protocols will supply more information is a hollow promise?

132) Why is the LUN mapping page 252 bytes in length?

133) In the description after Table 113 is the term "bus" applicable to the serial transports?

134) In Annex B.1.7 where are the "your shift address rules" defined?

135) In B.1.8 what does "LUN address emitted' mean?

136) In B1.9 what does "fifth layer must be understood to have only single LUN devices" mean?

<div align="center">DID NOT RETURN THE LETTER BALLOT</div>

Future Domain, Harbor Electronics, Maxoptix

##
94-207 LB Results (on SSA-SCSI2): 53-2-0-3 = 58

<div align="center">NO VOTES</div>

Gene Milligan (Seagate):

1) I have no intrinsic objection to the project. However I do have a few objections to the formulation of the project proposal. Satisfactory resolution of comments 2 and 3 would allow me to change my vote from NO to YES.

2) The project proposal does not include the underlying reason(s) why the project is proposed as a Technical Report rather than as a Standard.

3) The project proposal is written as a sub-rosa standard.
If it is a Technical Report it seems to me:

   a) 3.8 should change from dpANS to TR.
   b) 3.9 should not be applicable.
   c) Perhaps 4-4.2 are OK.

   d) 4.4 can't apply since there is no requirement to conform to a TR the ANSI Patent Policy is not applicable.

4) Editorial items:

   a) Since it is Serial Storage Architecture SCSI-2 Protocol why isn't it (SSA-SCSI-2)?
   b) 2.2 and 2.4 should be "Technical Report" not
"Standard".
   c) X3T10.1 is not a technical committee. Change X3T10.1 to X3T10 at least in   3.6.
   d) 3.5 should be "IN THE SUBJECT MATTER".
   e) SCSI-3 command sets should be added to 5.2.
   f) SCSI-2 should be added to 5.5.

5) What happens, in regard to the justification, if the SCSI-3 command sets forward prior to SSA-SCSI-2?

Unitrode:

SCSI-2 was never intended for any physical layers other than parallel. A document that references Serial implementations to SCSI-2 is not appropriate. A document at references implementations against a current working draft of SCSI-3 is more appropriate.

989D scheduled for Nov 94 completion, the document should be against it instead of against SCSI-2.

DID NOT RETURN THE LETTER BALLOT

Future Domain, Harbor Electronics, Maxoptix,

##
94-208 LB Results (on X3T10 Policies and Procedures): 47-7-1-3 = 58

YES WITH COMMENTS VOTES

Cirrus Logic:

The mandatory"Yes" or "No" vote does not truly represent the majority in many cases. For example, the connector companies representative may not show as much concern on a bit in the command block. The inability of representing the majority makes the voting results less meaningful.

Digital:

Since we feel the proposal goes a long way in the right direction we will be voting to approve it. We believe, however, that the goal of producing a stable draft in a timely manner would have more teeth if the policy obligated or at least strongly urged the project leader to provide the   committee with a project plan defining key milestones.

Unitrode:

There are real concerns about a simple majority vote. There should be some rules to define what can be voted on with just a simple majority:

1. It must have been listed as an agenda item a minimum of 2 weeks before the meeting.

2. There should be adequate representation from the concerned companies.
Greater than 50% of the connector companies voting for a connector issue, Greater than 50% of the companies with physical products for physical issues related to the topic, greater than 50% of the device companies for protocol/control issues, greater than 50% of the system companies for architecture issues, etc.

3. If the companies are not at the meeting and an issue needs to be resolved on short notice, an email or voice / voice mail exchange should occur for the vote. Restricting voting to members that can attend a meeting should not be a restriction. Other organizations use a teleconferencing number that could be used for a section of the meeting designated for voting. (A time period like from 3:00 to 6:00 of the Plenary could be teleconferenced for additional voting members, or possibly the whole plenary.) 1996 video conferencing plenary and meetings may be practical.

Personal Note: My travel time is between 25 and 50%, the average looks like 60,000 air miles a year. We need to use technology to keep schedules manageable and yet improve time to develop standards.

NO VOTES

Adaptec:

Par 1; S2; add the word `cyclical' between `dynamic' and `growth'.

Par 1; S5; disagree with statement - in fact in this age of mulitudes of options de jure standards are increasingly being sought. In fact, it is this need that is the motivation for this proposal.

Par 2; disagree that the X3 process has hindered the timeliness of standards. Where folks have been willing to put in the effort timely standards can be developed, e.g., Fast-20, SCC, SPI, etc. The delay in publishing SCSI-2 is the result on decisions made by the constituency of X3T9.2, not the X3 process.

Par 3; agree with statements - These reiterate the existing facts - what is needed is better management by the officers of X3T10 of the projects and more people willing to work on those projects.

Par 5; S1; what constitutes a participant?

Par 5; S2; I agree with freedom of expression, however `any form' is not acceptable. What if it is written in Swahili on clay tablets? Should conform to current project proposal format.
Par 5; S3; The discussion should not be construed to be required to include plenary and email nor exclude discussion via other avenues and means.

Par 6; S1; an expression of approval or objection is not required to authorize a study group. In fact a study should be undertaken before a proposal is made for any work item that may result in a published document from X3T10. If the study group finds sufficient merit a proposal should be developed recommeding a standard, technical report, technical information bulletin or other form of output, along with identification of resources to accomplish the task and a preliminary schedule.

Par 7; S1; the project proposal needs to do more than comply with the SD-3 if timely standards are to be developed. The scope of the project needs to be clearly identified, the resources need to be identified, and the committed delivery date needs to be realistic and adhered to. Any significant change in the scope of the work should require approval of X3T10 and the comensurate impact on the scheduled deliverable noted.
Par 7; S2; Please explain how this could happen.

Par 8; S1; What constitutes objection? GPP was approved by a majority as a standards project as was ATAPI. It was only a couple of outspoken members that reversed the initial majority decision.
Par 8; S2; The other alternatives are not mentioned - and likely more damaging to X3T10's reputation.

Par 9; S1; What special circumstances? What is automatic initiation? It is not in the SD-2 that I know of. Par 9; S2; What is the "regular publication policy"? Is it ANSI policy; X3 policy; CBEMA policy; ECMA policy; ISO policy; or just wishfull thinking?

Par 10; S1; Generally assignments of personnell do not require approval by X3T10; is this a new policy? If so it needs to be spelled out in greater detail. When is the project leader assigned?
Par 10; S2; The project leader and the technical editor should not be the same person if timely standards are the objective. If there is not enough industry support to two people to work on a project then it probably should not be done.
Par 10; S3; The duties of the project leader need to be more clearly spelled out; especially in regards to the conduct of study groups, working groups, and editing sessions.

Par 11; S1; The technical editor reflects the consensus of the working group and well as X3T10 agreements. However these inputs need to be generated in a fashion does not unduly tax the time of the technical editor in preparing the document. It is imperative that a policy be adopted regarding assigned document numbers to items and written documentation provided by particapants to establish an audit trail of the documents development.

Par 12; S1; does this speak to documents or working drafts?
The ambiguity is beguiling.
Par 12; S4; all technical items should require committee document numbers.
Par 12; S5; simple majority of who? study group, working group, X3T10, X3, ANSI, ISO, ECMA the Repulican Party?

Par 13; S2; by definition a dpANS is relatively stable - the stability issue is with the state of working drafts and is a far more difficulty thing to legislate. The stability of a working draft is largely the responsibility of the project leader and technical editor.
Par 13; S3; How do you propose assessing this stability point? Might it not be more germane to agree at a point in time that the significant technical work is completed and new work will be put into a future project based on

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meeting the objectives and goals in the scope of a project? Par 13; S4; The exact voting requirement for approval of stability is subject to interpretation. Please be specific? This comment applies to items 1, 4, 5, 6, and 7.

Par 14; S1; This should have a flow chart to understand the process. What is the "Stabilized Period"? Does fall before or after the Jurassic Period?
Par 14; S3; I don't think that public review and X3 letter ballot periods are subject to interpretaion.

Par 15; S1; What is a new item? What is the stabliziation period? What are the explicity voting rules? Why is a vote needed to authorize a study group? What is a dpANS - (n+1)? Par 15; S3; Where do the resources for this magical study group that automatically gets assigned all the work come from? This process is beguiling in its simplicity but may fail in practice.
Par 15; S4; A study group is a full fledged development effort? That is an interesting concept. Par 15; S5; The project schedule should be part of the project proposal.

Par 16; If X3T10 can willy nilly stablize and destabilize then what is the point of having stability. This sounds like something that should be in Congress not in a technical standards committee.

Par 17; Item 2); while identification of a technical error is reasonably deterministic; classification of an editorial error is not. Who has this discretion? Par 17; Item 3); how does this happen unless the committee fails to discharge its duties during the TC letter ballot? Who deterimines which course is followed?
Par 17; Item 5); if it is in the goals and objectives then the committee failed to do as it said; if it is not then it is grist for a new project.
Par 17; Item 7); what is `majority of membership'?

Par 18; S1; this is not a specific requirement of X3T10; each project should provide the means needed if deemed necessary. SAM could address this issue as regards the protocol working drafts, however it has no bearing on the physical layers developed outside of X3T10. It is not clear how you intend to have an ULP fix a lower layers lack of facility, I don't know that it is possible.

Par 19; What specifically is proposed in addition to the current FTP sites, Global Engineering, and X3T10 mailings?

Par 20; A reflector is not a required part of the development process. If not managed the use of reflectors can be detrimental to the development process. Before advocating mandatory reflectors for each project a set of guidelines on usage and a tracking mechansim needs to be developed. At this point you are putting the cart before the horse. FTP sites and the BBS are good mechanism, however document format for distribution is a significantly greater issue than getting places to put them.

Par 21; admirable goal, but not part of X3T10 jurisdiction.

Par 22; Item 0); what voting rules are you following? what is not retroactive and to who does it apply? Par 22; Item 1); substantive change - who makes this determination and on what basis? Birth of children and corporate downsizing are substantive changes that affect the functioning of X3T10 much more that policies on paper. Are these subject to X3T10 approval?
Par 22; Item 2); what is editorial and who determines that?
Par 22; Item 3); thems fighting words partner. Par 22; Item 4); so if we decide it is too hard to do a good job we don't have to? Is like congress voting itself a pay raise because it can not balance the budget?

This proposal is a good general discussion of some of the items that need procedures within X3T10, however it lacks sufficient detail to be implemented. Other necessary procedures are not addressed at all, such as, electronic voting and electronic distribution of mailings and working drafts.

Amdahl:

Given the wide latitude afforded editors and the process of approving deltas, there is no assurance that the membership will see entire documents and be able to review them on an ongoing basis (for consistency, etc.).

AT&T:

This proposal contains several appealing concepts. I especially favor the project leader concept and the notion of maintaining a log of accepted proposals. However, this log is not a substitute for maintaining a working draft document. Often proposals contain flaws that are not obvious until they are edited into the draft document. We need to place more emphasis on finding project editors, perhaps even as a perquisite to forwarding a project proposal.

I am voting no on this proposal because it is premature and needs more discussion and revision. Also, a revised X3 SD-2 is at X3 letter and may impact this proposal.

I see no compelling reason to believe that automatically creating new projects will improve the 'time to market' of current standards projects. While X3T9.2 and X3T10 have used the tactic of starting project n+1 to halt delevopment on project n with some success, it need not be automatic. In any case, there is still a need to generate new project proposal documents for the new projects, which is still not automated (at least not in any of my word processors).

Many of the proposed enhancements regarding electronic communication and distribution of draft documents are already in place. The X3 Secretariat has also set in motion the mechanization of X3. I expect that X3T10 will be able to use some of the X3 facilities. While I am a strong proponent of electronic document distribution, I do not understand the benefit of having an X3T10 policy on this subject unless and until we start using electronic balloting.

FSI:

The rate of SCSI-3 development warrents no change.

Oak Technology:

My no vote is to the new policies and procedures. I am voting no until I have time to review them more completely. There are many items and the review period seems short for a new document this large.

Have you had this document for long? It seems to me that anyone who has voted yes saw the document long before I did or does not care about the policies and procedures.

I will take at least until the Nov plenary to review the document.

Storage Technology:

1) The terminology used should be the same as the SD-2 i.e. majority should mean the same thing in both documents. Specifically, use of the 2/3rds rule in the proposed procedures should be clarified, and it should be referenced as such.

2) The Procedures should be separated into two parts - namely document control as one part, and procedures regarding forwarding of proposals and drafts as the second part. The second part will probably require OMC approval, the first part is the business of X3T10 alone.

3) The rules for the automatic initiation of a New Study effort are more complex and confusing than needed. Specifically, the "automatic" nature of the study initiation is an unecessary burden of administration on the officers.

The principle is sound, but the new effort should be initiated under the existing rules and when appropriate, not just automatically.

4) The timing of the new procedures is in appropriate given the major review of the SD-2 that has been completed and is now being balloted @ X3. If the procedures are separated as suggested in 2) above, then the document control part can be ballotted immediately, otherwise the entire package should be delayed until the new SD-2 has been reviewed.

As a matter of interest, a Change Control procedure was proposed to X3T11 @ the last Plenary, which will be voted on in December. It would seem that the two procedures should be merged into one for the purposes of clarity. The intoduction to the X3T11 procedure is attached for reference.

DRAFT CHANGE CONTROL PROCEDURE

Issue

The X3 Rules and Procedures include an excellent change control procedure for drafts in Public Review. All of the comments are obtained in writing, and the committee is required to respond in writing and to give reasons why comments are rejected. The issue is that there is no equivalent change control for items that arise:

a)   Directly from discussions during Ad Hoc groups;

b)   In response to requests from X3T11 members and other individuals.

In several recent projects, it has been this class of late changes which have caused the most problems. It is very easy when making major changes late in the development of a draft to overlook some of the ramifications of those changes on the existing text. Thus the effect of those changes often has a destabilizing effect on the draft which can far outweigh the benefits of the features being incorporated through the changes.

Intent

This procedure is being defined to provide an equivalent level of change control for all changes made to a draft standard after it reaches a point of stability. When this point is reached is will be a decision made on a project by project basis, but will be achieved at the latest by the beginning of the X3T11 Letter Ballot on forwarding a draft for an OMC Review and a First Public Review.

Procedure

Once this procedure is invoked, then all requests for change to a draft standard must follow this procedure, other than comments received as part of the Public Review process. Note that this includes the changes originated by the Technical Editor!

Under this procedure, two types of change request are recognized. If cases of doubt with regards to the appropriate type, the X3T11 Vice Chair will arbitrate.

Errata Change Requests

Errata Change Requests correct the description and consistency of items within the existing draft, and the layout and typographical errors in the existing draft.

The procedure to be followed for Errata Change Requests is as follows:

1)   The originator of request creates an ASCII file containing 1-n detailed comments in the following format:

   #nnn (?) Section x.xx.x yth paragraph zth sentence

   {body of comment}

   where   nnn is a 3 digit number (i.e. use leading zeros)
         ? is one of E editorial, T technical

   Note that changes for consistency can be technical changes if they exclude options which were previously allowed.

2)   The originator of the request shall send the ASCII file (preferably via e-mail) to the Technical Editor for the relevant document with a copy to the X3T11 Vice-Chair

3)   The Technical Editor reviews the comments and makes responses to each comment. The responses shall follow one of the following formats:

   Accepted
   Accepted in Principle (followed by "editors discretion" or details of the actual changes to be incorporated)
Rejected (followed by the reason)

4)   The comment responses shall be returned to the originator by the same mechanism as they were delivered, with a copy to the X3T11 Vice-Chair.

5)   If the originator is dissatisfied with the comment responses, the onus is on the originator to attend the next relevant Ad Hoc meeting or X3T11 Plenary to pursue the subject further.

6)   The X3T11 Vice Chair shall maintain a document showing the overall status of comments against a particular draft. This document will be included along with the X3T11 Project Status in each X3T11 mailing.

Enhancement Change Requests

Enhancement change requests add new features to the existing draft, and modify the features contained in the existing draft to be consistent with this new definition.

The procedure to be followed for Enhancement Change Requests is as follows:

1)   The originator of request creates a complete description of the requested enhancement, in the style of the draft and including the appropriate section numbering wherever possible.

2)   The originator of the request shall provide a binary copy of the request to the Technical Editor in a format which is deemed acceptable, and shall send a paper copy to both the X3T11 Chair and the X3T11 Vice-Chair.

3)   The X3T11 Chair will assign an agenda item at the next X3T11 Plenary for discussion of the Enhancement Change Request.

4)   The "two week rule" shall apply to Enhancement Change Requests. Therefore the paper copy shall be provided to the X3T11 Chair in time to be included in the regular X3T11 bimonthly mailings, or the requestor will undertake to mail a copy directly to all X3T11 Principal and Alternate members at least two weeks in advance of the Plenary (the X3T11 Chair will provide a set of address labels for this purpose).

5)   The originator shall whenever possible attend the X3T11 Plenary meeting at which the Enhancement Change Request is to be discussed.

6)   In order to be adopted, the Enhancement Change Request shall have to be approved by a majority vote (as defined in the SD-2) at the X3T11 Plenary. Where the Request is not approved, the members voting against the Request will be requested to state their reasons, and those reasons will be recorded in the minutes of the meeting.

7)   The X3T11 Vice Chair shall maintain a document showing the overall status of comments against a particular draft. This document will be included along with the X3T11 Project Status in each X3T11 mailing.

Western Digital:

All in all, a very good proposal. One that I agree with. However, it is only a first draft. These are rules we have to live with for a long time!

1. Reference: "Revision...", item 0)

As I understand it, this document was first distributed at the September plenary and then included in the following mailing. It has received no informed debate at any plenary or working meeting (that I am aware of). As I read item 0), this proposal is to be accepted or rejected without debate or resolution of negative comments; i.e., resolution may only be effected by majority of the membership, rather than the current procedure (simple majority, I believe). In general, it seems rather remarkable that this proposal should carry its own criteria for initial acceptance and modification, rather than relying on the current general procedures of X3T10.

2. Reference: "Working Document Stabilization", rules 1-7

It is nice to have this enumeration of voting rules, though that then opens Pandora's Box of answering the additional questions generated by the creation of such rules. Who decides how the rules are applied? The chair? The editor? A simple majority? Or may any member declare that the issue at hand is a "new item", and demand that rule 5) be applied? How do we ensure against railroading of changes?

Also, rule 4) seems to give the editor the ability to ignore an item he doesn't like, simply by omitting it from the list. If a member identifies an item that was clearly accepted (as noted in minutes, etc.), but inadvertantly omitted, it should not require another acceptance vote at this stage.

Requiring a vote also seems to imply that any item may also be removed from the Editor's List by a simple majority (if a vote gets the item reinstated, a similar vote should also suffice for removing one). This type of rule should be defined.

Wait, there's more: Rule 5) should be expanded to include "the improvement of an existing item"; e.g., if a method to do something can be improved by changing it, that should be considered as a new item.

3. Reference: "Automatic Initiation of...", rules 1-7

The same comments as above apply here for the most part. It seems more appropriate to define these rules under a different heading, something like "Comment Resolution".

I don't understand rules 3) & 4). The Editor's List items should be resolved before forwarding: edit them in, toss them away, or put them off to dpANS-(n+1). There should be no hidden agenda during Public Review. If the document editing has not been completed, it is not ready for review.

4. Reference: "Extensive Public Review"

What are "Internet rules"? Also, it's "ftp site"...;-)

5. Finally, if the intent is to create a nominal one year cycle for standards documents, I would like to see that stated in the Policy. I believe it is worthwhile to state the goal.

I hope that the rules will allow these comments to be used constructively. Thank you for your consideration of them.

<center>DID NOT RETURN THE LETTER BALLOT</center>

Future Domain, Harbor Electronics, Maxoptix

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