To: Membership of X3T10

From: Ralph O. Weber
           ENDL Associates

Date: March 20, 1996

Subject: SPC Letter Ballot Comments Resolution
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The following is a tentative resolution for the SPC letter ballot comments.
Final resolution is pending an SPC editing meeting scheduled for 17 and
18 April in San Jose, hosted by Seagate.

Exabyte comments on SPC attached to No ballot:

I am voting NO to forwarding X3T10/995D rev 9 for further processing with the
following comments.

I tried to sort the comments into editorial and technical. Anything requir-
ing clarification is included in the technical comments. I am willing to
entertain the possibility of changing my vote to YES if the technical
comments are reasonably addressed.

Technical comments:
1. Page 10-11, Reservations. The interactions between persistent and non-
   persistent reservations are not clear. The last paragraph in the section
   talks about conflicts between the different reservations but does not
   state what happens.
ACCEPT sort-of. The descriptions of what happens when reservations are
       improperly mixed with persistent reservations will be described in the
       definitions of the RESERVE, RELEASE, PERSISTENT RESERVE IN, and
       PERSISTENT RESERVE OUT commands.

       The text to be placed in the RESERVE and RELEASE commands is:
       "If a device server has any reservation keys registered (see clause
       7.14.1.1) a RESERVE (or RELEASE) command shall be rejected with a
       RESERVATION CONFLICT status."

2. Page 50, PERSISTENT RESERVE IN command. The first paragraph states "..
   and cannot be used with the RESERVE and RELEASE commands". What does used
   with mean? What if the logical unit is already reserved? Conversely,
   what if persistent reservations exist and the other reserve is used?
   This information should be in section 5.3 reservations and referred to
   by the PERSISTENT RESERVE IN command.
ACCEPT Add the following text to the PERSISTENT RESERVE IN, and PERSISTENT
       RESERVE OUT commands: "When a PERSISTENT RESERVE IN command (or
       PERSISTENT RESERVE OUT command) is received and RESERVE(6) or
       RESERVE(10) logical unit or extent reservations are active (see
       clause 7.23), the command shall be rejected with a RESERVATION
       CONFLICT status."

3. Page 53, PERSISTENT RESERVE OUT command. The first paragraph states
   "... and shall not be used with the RESERVE and RELEASE commands". Same
   comments as before (note that Reserve Out states shall whereas Reserve In
   states cannot). This information should be in section 5.3 reservations
   and referred to by the PERSISTENT RESERVE OUT command.
ACCEPT see resolution for Exabyte comment #2.

4. Page 62, paragraph under table 46. The first sentence states that a
   reservation conflict shall occur when a PREVENT ALLOW MEDIUM REMOVAL
   command is received from an initiator other than the one holding a
   logical unit reservation. The last sentence states that a reservation
   shall not occur when Prevent bit is zero for extent reservations. This
   is a conflict. The blanket statement at the beginning of the paragraph
   needs to be changed.
REJECT The first sentence in the paragraph is NOT a blanket statement. It
       is specifically limited to "a logical unit reservation." The last
       sentence in the paragraph covers "extent reservations."

5. Page 62, paragraph under table 46. The case of prevent bit set to 0
   not causing a reservation conflict should not be restricted to extent
   reservations. Any prevent must be releasable by an initiator regardless
   of the reservation situation.
ACCEPT SCSI-2 clearly allows PREVENT ALLOW MEDIUM REMOVAL commands with
       Prevent=0 not to be blocked by any type of reservation.

6. Page 62, paragraph under table 46. Thinking about the first sentence
   again, that sentence (which is used for many commands) implies that a
   reservation conflict occurs when NO initiator holds a reservation.   An
   initiator sending a command to a non-reserved target could be interpreted
   as different than no initiator holding a logical unit reservation.
   Therefore, a reservation conflict would exist, according to the first
   statement. Additionally, it states "holding a logical unit reservation",
   not "holding a reservation on the logical unit". This could be
   interpreted as a reservation on a different logical unit affecting the
   logical unit for which the command was sent. A better statement would
   be:

   A reservation conflict shall occur when a PREVENT ALLOW MEDIUM REMOVAL
   command is received with the Prevent bit set to one if the logical unit
   is reserved by any initiator other than the one requesting the command.

   Similar text may fix the other commands using the reservation statement
   substituting the command name and removing the text about the Prevent bit.
ACCEPT Add the following sentence to the beginning of all command paragraphs
       describing reservations interactions: "If reservations are active, they
       shall affect the execution of the XXX command as follows."

7. Page 66, RECEIVE DIAGNOSTIC RESULTS command. Didn't we add a page code
   to the RECEIVE DIAGNOSTICS command (or at least agree to the concept of
   adding a page code)? We talked about it in the November 1995 working
   group when we talked about 95-324r1. While the enclosure services are
   not included in 995 r9, maybe we should add the page code to the command
   in byte 2?
ACCEPT

8. Page 68, RELEASE(10) command. Is support of the LongID bit optional?
   It should be and the standard text about ILLEGAL REQUEST needs to be
   added if it is not supported.
ACCEPT Add the following text: "Device servers that support device IDs greater
       than 255 shall accept commands with LongID equal to one. Device
       servers whose devices IDs are limited to 255 or smaller may reject
       commands with LongID equal to one with a sense key of ILLEGAL REQUEST."

9. Page 69, REPORT LUNS command. No mention on affects of reservations is
   made. State "The REPORT LUNS command shall not be affected by
   reservations".
ACCEPT

10.Page 88, RESERVE(10) command. Is support of the LongID bit optional?
   It should be and the standard text about ILLEGAL REQUEST needs to be
   added if it is not supported.
ACCEPT Add the following text: "Device servers that support device IDs greater
      than 255 shall accept commands with LongID equal to one. Device
      servers whose devices IDs are limited to 255 or smaller may reject
      commands with LongID equal to one with a sense key of ILLEGAL REQUEST."

11.Add "ANSI", "ECMA", and "ISO" to the list in Annex C. This would help
   in the use of the Report Supported Densities command in SSC.
ACCEPT in part
      X3 was added to be used by Report Supported Densities. Using ANSI
      is inappropriate because ANSI is not the standards developing body,
      generally an X3 technical committee develops standards that are later
      approved by ANSI. Add ECMA and ISO to the table in Annex C to permit
      their use in reporting secondary identifications (standards references)
      for tape densities.

Editorial comments:

1. Page 9 has the usage of "may be" in the first sentence of 5.1.1. Is
   the use of "may be" appropriate for a standard?
REJECT The statement in question is describing a possibility that may be
      exercised by the application client. It must be noted that SCSI
      standards traditionally place the fewest possible number of
      requirements on the application client. In this case, even
      "should" would be too strong a statement.

2. Pages 67 and 68, RELEASE(x) commands. A reference to section 5.3,
   reservations, should be made, particularly in reference to Persistent
   reservations.
ACCEPT

3. Page 73, subsection d) under information field data. For both cases
   1) and 2), instead of stating what fixed block mode and variable block
   mode indicate, direct the reader to SSC. The text in parenthesis is not
   exactly correct since the error could occur on a non-write command.
   Being model dependent, the detailed text should not be stated here.
ACCEPT Add the following text at the end of bullet d) "For additional
      information see SSC."

4. Pages 84 and 88, Reserve(x) commands. A reference to section 5.3,
   reservations, should be made, particularly in reference to Persistent
   reservations.
ACCEPT

5. Page 84, section 7.23.1, paragraph 3 has "See clause ?". Should refer
   to section 5.3.
ACCEPT

6. Page 89, SEND DIAGNOSTICS command. Too many references to RECEIVE
   DIAGNOSTICS RESULTS are made in the last sentence of the first paragraph.
   Should be clause 7.18.
ACCEPT

7. Page 91, TEST UNIT READY command. The last sentence in the paragraph
   above table 73 states "Higher-priority responses (e.g. BUSY or RESERVATION
   CONFLICT) are also permitted. In the paragraph above, text indicates that
   a reservation conflict shall occur. Therefore, reference to RESERVATION
   CONFLICT in this sentence should be stricken. Also, what is a higher-
   priority response if the only example is BUSY?
ACCEPT The critical thought in the sentence is that the table is not complete.
       Other conditions may necessitate other responses. Change the paragraph
       to read: "Table 73 defines the preferred GOOD and CHECK CONDITION
       status responses to the TEST UNIT READY command. Other conditions may
       result in other responses (e.g., BUSY or RESERVATION conflict status)."

IBM comments on SPC attached to No ballot:

   1-(T) I do not think processor devices should be included in the SPC
   standard. They should have their own command set document. This is
   even more an issue with the newly proposed device for enclosures. The
   new device and processor devices should both be in the same command set
   document.
REJECT The SCSI working group continues to prefer including the processor
       commands in the SPC.

   2-(E) page i-1 - Abstract - The abstract does not include any comment
   about processor devices. One must be place here if they remain in this
   document.
REJECT Second paragraph of abstract covers processor devices.

   3-(E) page 2 - 3.1.5 - This definition should be remove as the term is
   not used in SPC unless someone can point it out where it is used.
REJECT "Blocked task" is used in the description of the Qerr bit in the
       Control mode page (8.3.4).

   4-(E) page 3 - 3.1.14 - This definition should be remove as the term is
   not used in SPC unless someone can point it out where it is used.
REJECT "Enabled" (as in enabled task) is used in the description of the PROUT
       command Reserve function (7.14.1.2). "Enabled task" is used in the
       description of deferred errors (7.22.2).

   5-(E) page 3 - 3.1.16 - The term I/O processes should be changed to
   tasks.
ACCEPT

   6-(E) page 4 - 3.1.25 - The statement 'Most usages of medium' should be
   change to 'Except where noted the usage of medium'.
ACCEPT

   7-(E) page 4 - 3.1.32 - There is a missing cross-reference.
ACCEPT

   8-(E) page 4 - 3.1.35 - This definition should be remove as the term is
   not used in SPC unless someone can point it out where it is used.
REJECT "Service delivery subsystem" is used in the definitions of SCSI Device
       and SCSI Domain. "Service delivery subsystem" also is used in the
       description of Asynchronous Event Reporting (6.2.1), the description
       of the READ BUFFER command (7.16), the description of the REQUEST
       SENSE command (7.22), and the description of the WRITE BUFFER
       command (7.27). There may be more; I stopped searching here.

   9-(E) page 6 - 4. - Need a comment about processor devices if they
   remain in this document.

ACCEPT

    10-(E) page 10 - 5.1.3 - Last sentence - The statement 'all is well'
    should be replaced with 'if the test is successful'.
ACCEPT

    11-(E) page 11 - 5.3 last paragraph - The term action is used here and
    in the persistent reserve sections. This term needs to be added to the
    glossary. For sample wording look in SCC at definition of service
    action.
ACCEPT

    12-(E) all - Replace SAM with SCSI-3 Architecture Model.
ACCEPT in part. Change "the SAM" to "SAM" throughout.

    13-(T) page 16 - table 5 - Move Medium (attached) and Read Element
    Status (attached) commands should be removed. They are already defined
    in the SMC why are they redefined in SPC. If other non-SMC devices
    need to use these commands then those devices command standards should
    reference the SMC. If it is insisted these commands should be in SPC
    then they need to be removed from SMC. In any case they should only be
    defined in one place.
REJECT The SCSI working group agreed to leave these commands in table 5, but
      to make the references directly to SMC, instead of to clauses in SPC.

    14-(E) page 16 table 5 - What does (attached) mean in the Move Element
    Status and Move Medium commands mean? Is it part of the command name
    or what. I see no value it should be removed.
ACCEPT Change "(attached)" to "ATTACHED" throughout.

    15-(E) page 32 table 19 - The use of italicized fonts should be removed
    from this table.
ACCEPT Return the SIP-specific bit names to table 19, but add a table note
      about their limited use.

    16-(E) page 33 table 21 - I do not remember approving a document called
    'here'. This should be a cross-reference to either SPC or the actual
    clause in SPC.
ACCEPT Change 'here' to 'SPC'.

    17-(T) page 34 - The second to last paragraph, third sentence should be
    removed.
ACCEPT

    18-(E) page 34 Last paragraph - page 35 first paragraph - page
    36 table 23 - page 36 third paragraph - The use of italicized fonts
    should be removed.
ACCEPT see resolution for IBM comment 15.

    19-(E) page 38 - second paragraph - It is not clear at all what the
    following statement means or why there is a requirement that the
    peripheral qualifier and type byte be followed by anything: 'the
    requested SCSI operation code it shall return the peripheral qualifier
    and type byte followed by a byte containing 01h.'
ACCEPT change 'followed by a byte containing 01h' to 'and all zeros in byte
      1 except for the Valid bit, which shall be set to one.'

    20-(E) page 38 - paragraph above note - The statement 'Except for group
    6 and group 7 operation code,' should be removed. All CDB lengths, even
    the vendor specific lengths are defined in SAM.
ACCEPT Delete all but the first sentence in the paragraph in question.

21-(E) page 44 - second paragraph under table 29 - There are no more
dual ports in SCSI. 'Dual port' should be removed or replaced with
'multiple port' and 'both ports' should be replaced with 'all ports' or
removed.
ACCEPT Make replacements for 'dual port'.

22-(E) page 45 - 4th paragraph - last sentence - The list of standards
should be (SBC,SSC,SGC,MMC,SCC, etc.).
ACCEPT

23-(E) page 47 - table 32 heading - The table heading 'subclause'
should be 'clause'.
ACCEPT change all instances

24-(E) page 48 - 1st paragraph - last sentence - The list of standards
should be (SBC,SSC,SGC,MMC,SCC, etc.).
ACCEPT

24-(E) page 48 - 7.10.1 - 7.10.2 - 7.10.3 - 7.10.4 - The 0h, 1h, 2h,
and 3h should be 00b, 01b, 10b, and 11b.
REJECT why change from SCSI-2?

25-(T) page 49 - 7.12 - This sections should be removed see 13 above.
ACCEPT

26-(E) page 50 to 61 - The acronym PRIN and PROUT serve on useful
purpose other than making SCSI look more like a secret organization.
Remove those acronyms and replace them with Persistent Reserve In and
Persistent Reserve Out.
ACCEPT

.. 27-(E) page 53 table 39 - The field 'Reservation key under which the
.. reservation is held' should be just 'Reservation key' and should be
.. described in the text. The field 'LBA of first block of Extent or
.. Element Address' should be just 'LBA' or 'LBA_E or LBA_EA' and should
.. be described in the text. The field 'Extent length' is not defined
.. anywhere.
..
.. 28-(E) page 50 to 61 - The term 'extent' and 'element' are not defined.
.. They should be placed in the glossary.
PENDING to be discussed at SPC editing meeting
      How about matching the terminology in PROUT/IN to that used by the
      Reserve/Release commands?

29-(E) page 53 - The sections that define the fields 'scope' and 'type'
should be move to this page under table 39. This is the first place
they are used and therefore should be defined here.
ACCEPT

30-(E) page 54 - Table 40 - The parameter list length field is a fixed
length so the length '18h' should be added to the field name in the
table.
ACCEPT

31-(E) page 54 - There must be a cross-reference to the scope and type
fields under table 40.
ACCEPT

32-(E) page 55 - 7.14.1.1 - Last paragraph - What does this sentence
mean?? I see no value so it should be deleted.
PENDING to be discussed at SPC editing meeting.

33-(E) page 56 - third paragraph from top - The term 'active tasks' has
no meaning in SCSI. I assume it should be 'current tasks'.
ACCEPT

34-(E) page 57 - 7.14.1.5 - Last paragraph - What does this sentence
mean?? I see no value so it should be deleted.
PENDING to be discussed at SPC editing meeting.

35-(E) page 57 - 7.14.1.6 - last paragraph - The statement 'Automatic
Contingent Allegiance condition (ACA condition)' should be replaced
with 'ACA condition'.
ACCEPT

36-(E) page 58 - 1st paragraph from top - Remove '(AEN)'.
ACCEPT

37-(E) page 58 - 4th paragraph from top - What does this sentence
mean?? I see no value so it should be deleted.
PENDING to be discussed at SPC editing meeting.

38-(E) page 59 - The 4 paragraphs under table 43 need to be rewritten
to define each code. For example 'A type code of Read Shared (0h) allows
the execution of commands that perform....'
ACCEPT However, don't expect to see proposed new words in this document.
    Check your next SPC revision.

39-(E) page 60 - 7.14.4 - first paragraph - The second sentence that
starts with 'Table 45 indicates..' should be moved to directly above
table 45.
ACCEPT

40-(E) page 60 - 7.14.4 - first paragraph - Remove the 3rd and 4th
sentences that start with 'Two PROUT ..' and end with '...parameter
description.' That information should be placed below table 44 and a
cross reference to a specific clause must be given.
ACCEPT

41-(E) page 60 - table 44 - The names of the first two fields should be
changed see comment number 27.
REJECT The proposed change would result in the first two fields being named
    'Reservation key'. This is clearly unacceptable.

42-(E) page 60 - first paragraph after table 44 - The last sentence
should have the phrase 'and expected' removed.
ACCEPT & change 'set' to 'valid'

43-(E) page 60 - 2nd paragraph after table 44 - The third sentence
should be changed to 'For Preempt and Preempt and Clear actions...'.
ACCEPT

.. 44-(E) page 60 - 3rd paragraph after table 44 - What are 'extent
.. parameters'?
PENDING to be discussed at SPC editing meeting
    How about matching the terminology in PROUT/IN to that used by the
    Reserve/Release commands?

45-(E) page 60 - 4th paragraph after table 44 - What are 'element
address parameters'?.
ACCEPT reformat table 44 to show Element Address as a field name.

46-(E) page 60 - 5th paragraph after table 44 - The 2nd and 3rd
sentences should read 'The APTPL bit shall be set only for the Register
action. In all other cases, the APTPL bit shall be ignored.'
ACCEPT 'The APTPL bit shall be valid only for the Register action. In all
      other cases, the APTPL bit shall be ignored.'

47-(E) page 61 - table 45 - Remove from the heading the statement 'Set
by initiator/expected by target'. Remove from the table all
'expected' and 'not set' and all '/'. This information contains no
useful information; everything that is set is expected and everything
that in not set is ignored.
ACCEPT Use "valid" or "ignored".

48-(T) page 65 - 7.17 - This sections should be removed see 13 above.
ACCEPT

49-(E) page 75 - first paragraph after table 62 - The last sentence
should read 'The progress indication shall be based upon the total
operation.'
ACCEPT

50-(E) page 75 - note 39 - The second sentence should read 'However,
since for example format time...'
ACCEPT

51-(E) page 84 - 7.23.1 - 3rd paragraph - The last sentence has an
undefined cross reference.
ACCEPT

52-(E) All - The left and right margins should be set to 1". Right now
the way they are set is causing words to be chopped of by the three hole
punch.
ACCEPT

53-(T) page 112 - 2nd and 3rd paragraphs - Should there even be a
ByprtM bit and a BybthS bit in SCSI-3? They appear to be from the dual
port proposal that was removed from SCSI-3. If they do remain then the
word 'both' in those two paragraphs should be changed to 'all'.
ACCEPT

54-(E) page 113 - first paragraph after table 98 - The terms 'Target
Role Agent' and 'Initiator Role Agent' need to be defined in the
glossary.
ACCEPT Get definitions from SIP.

55-(E) page 113 - 3rd paragraph after table 98 - There is no such term
as 'interconnect tenancy' in SIP so the last sentence for this
paragraph should be removed.
ACCEPT

56-(T) page 115 - 8.3.6 - First paragraph - The last sentence should be
changed to '...sense code of FAILURE PREDICTION THRESHOLD EXCEEDED or
WARNING to the applications client.' This change should have been part
of the proposal that added the WARNING ASC.
ACCEPT

57-(T) page 117 - first paragraph after table 101 - In second to the
last sentence the statement '...that the target shall only report the
information exception condition one time.' should be changed to '...that
the timer interval is vender specific.' Without this change it is
unclear what to do if both the interval timer and the report count

fields are set to zero.
ACCEPT

58-(E) page 119 - 8.3.8 - The following terms need to be added to the glossary: standby condition, idle condition, and active condition.

Standby condition: When a logical unit is capable of accepting commands, but media is not immediately accessible (e.g., spindle is stopped).

Idle condition: When a logical unit is capable of responding quickly to media access requests. However, a logical unit in the Idle condition may take longer to complete the execution of a command because it may have to activate some circuitry.

Active condition: When a logical unit is capable of responding immediately to media access requests, and operations complete execution in the shortest possible time.
ACCEPT

59-(E) page 119 - 8.3.8 - The following statement needs to replace the first paragraph of this section:

The power conditions page (Table 104) provides the application client the means to control the behavior of a logical unit in a manner which reduces the power required to operate. There is no notification to the initiator that a logical unit has entered into one of the power conditions. The power conditions may be controlled by the Start/Stop Unit command (See SBC) or the power condition page. If both methods are being used on the same logical unit then any Start/Stop Unit commands power condition request will override the power condition pages power control.

No power condition shall affect the supply of termination power to the SCSI bus.
ACCEPT

60-(E) page 119 - 8.3.8 -The following statement needs to be added after the second paragraph (immediately before table 104):

Logical units that contain cache memory shall implicitly perform a SYNCHRONIZE CACHE command (see SBC) for the entire medium prior to entering into any power condition which prevents access the media (eg the spindle being stopped).

The logical unit shall use the power condition page to control the power conditions after a power on or a hard reset until a Start/Stop Unit command is received that sets power conditions.
ACCEPT

61-(E) page 120 - figure 2 - Make the decision boxes into the traditional shape.
ACCEPT

62-(E) page 123 - After table 109 the following statement needs to be added: 'The peripheral qualifier field and the peripheral device type field are defined in x.x.x.'
ACCEPT

63-(E) table 110 - table 111 - The values should be 0h,1h,2h,3h,and 4h.
ACCEPT

     64-(T) 9. – This section should be removed. See comment 1.
REJECT

Milligan (Seagate) comments on SPC attached to No ballot:

1) Two factors seem apparent upon review of the SPC. The editor has done an
   admirable job and X3T10 should have allocated time for a page by page
   review of the document. The latter factor has contributed to the fact I
   was unable to allocate sufficient time to do a complete the review. This
   has been further aggravated by mid-air turbulence during dinner performing
   a reset upon my unsaved comments during suspend mode.

2) Normative requirements should not be included in the Foreword.
ACCEPT Remove every occurrence of "shall" from the Forward.

3) There is a grammatical error in the first line of the Revision Information
   but it will soon disappear.
NICE

4) Referring to the first footnote, what are the changes that affect SBC?
ACCEPT issues resolved with SBC editor.

5) What is the meaning of the last line of the Introduction?
ACCEPT Change the last sentence to: "The information in the Annexes applies to
       all the SCSI-3 command standards documents."

6) The second sentence of the second paragraph of clause 1 Scope is
   confusing, possibly redundant to the third sentence, and should be
   deleted.
ACCEPT Replace the last two sentences with: "This standard defines the SCSI
       commands that are mandatory and optional for all SCSI devices."

7) In the second paragraph move the "also" from the first sentence to the
   last sentence.
ACCEPT

8) Add "host" to the definitions.
ACCEPT Take the definition of host from 6.1.1 but add that the host typically
       functions as an initiator.

9) Referring to Figure 1, I thought SAM was "Architectural". Delete "P" from
   "P1394". Revise the SSA boxes to agree with the new revised SSA
   architecture. Also delete X3T10.1.
REJECT SAM is Architecture.
ACCEPT changes to roadmap, see Symbios comments.

10)In 3.1.13 make "sets" singular.
ACCEPT

11)In 3.1.14 change "tast" to "task". This suggests that a spell check should
   be run. Also change "in which task may" to "in which a task may".
ACCEPT

12)Why does 3.1.14 preclude parallel processing by a target (LUN?)? Perhaps
   this is a SAM comment.
REJECT current definition is ok

13)In 3.1.18 "illegal" and "reserved" should not be synonyms.
ACCEPT delete the "(reserved)".

14)Referring to 3.1.25, what are the definitions of the other usages?
ACCEPT change as per the IBM comment

15)Referring to 3.1.28, move "optional" to keywords and change "must be" to
   "shall". (A global search should be done on "must".)
ACCEPT do not move since there is no keywords section, but make other
changes.

16)In 3.1.30 change "Implementation of the reference item is defined" to
   "Requirements for the reference item are defined".
ACCEPT

17)In 3.1.32 replace "clause ?" with the definitive clause.
ACCEPT

18)In 3.1.42 replace "to initiators" with "to one or more initiators".
ACCEPT

19)In 3.1.43 replace "may be used differently in various implementations" to
   "may be vendor defined".
ACCEPT

19)I think the title of 3.2 should be changed from "Symbols and
   abbreviations" to "Acronyms". There does not seem to any symbols or
   abbreviations in the clause.
ACCEPT

20)In that clause, as an acronym definition, I think SCSI-3 should be dropped
   from the MMC definition.
REJECT SCSI-3 is in the name of the MMC standard.

21)In 3.3 I think the definition of hexadecimal should be changed from
   "Numbers immediately" to "Numbers or upper case letters immediately".
ACCEPT

22)In clause 4 delete the second, confusing, sentence in favor of the third
   sentence which correctly states the requirement.
ACCEPT

23)In 4.1 "Status" does not match the convention defined by 3.3.
REJECT The current usage matches similar usage throughout the document.

24)Admittedly I remain somewhat confused by the obtuse language selected for
   SCSI-3, but as I have understood it, device server is more closely aligned
   with a LUN than with a target, especially when the LUNs are each different
   device types, consequently I question "in a target is a device server" in
   the last paragraph of 4.1.
ACCEPT see notes

25)Beginning, I believe, with 4.2 the term "Data-Out buffer" is used. This
   term appears to be an inadvertent insertion of a vendor specific
   implementation detail that is inappropriate for the standard. This clause
   and other clauses revealed by a global search should be purged of the
   implementation detail.
REJECT The current wording is the correct SAMinizing of the SCSI-2 text.

26)In clause 5 the second sentence states the model is not intended to
   define any requirements. The third sentence defines a requirement. At one
   time I proposed that models should not include requirements. I believe I
   lost this argument but I do not recall for sure. (Having lost the
   argument, I think, I am inclined to include requirements, not found

conveniently in other clauses, in the model of SBC.) However, regardless
of the X3T10 decision on the general issue, the last two sentences of
clause 5 should not contradict each other.
ACCEPT Replace the paragraph with: "This model describes the general
        characteristics expected of SCSI-3 devices. All SCSI-3 devices shall
        conform to the SCSI-3 Architecture Model (SAM)."

27)In 5.1.1 it is alleged that the INQUIRY includes the "standard level"
    implemented. This is not true, I lost on a proposal to do that. INQUIRY
    not only does not provide the standard level, it does not even include
    which standards are implemented. It is true that it allows a delinquent
    implementation to report SCSI-3 approved version (a meaningless
    definition) but it is not true that information is provided as to which
    SCSI-3 standard the implementation was referring to.
REJECT The ANSI approved version field remains in the standard INQUIRY data.

28)"Powerful features" are in the eye of the beholder and part of the
    marketing boiler plate, in 5.1.3 replace "other powerful features when
    used in conjunction with the RECEIVE DIAGNOSTIC RESULTS command, but this
    capability is optional" with "other optional features used in conjunction
    with the RECEIVE DIAGNOSTIC RESULTS command."
ACCEPT delete the word powerful

29)In 5.2 replace "is responsible to" with "should".
ACCEPT

30)Referring to 5.3, I don't think reservations are used to protect from
    accidental modification. The modification is not accidental. I think they
    are used to protect the sequence of data modifications.
ACCEPT Change "to protect shared data from accidental modification" to "to
        share and protect data or resources."

31)Having read persistent reservations, my impression is that the
    nonpersistent reservations are more persistent that the persistent
    reservations. I suggest replacing "nonpersistent" with "mandatory".
ACCEPT delete the clause containing "nonpersistent".

32)Change "Extent reservations may place restrictions" to "Extent
    reservations place restrictions". For the same reason delete "may" in the
    third paragraph of 5.3.
ACCEPT

33)In the third paragraph change "The reservations do persist" to "The
    reservations persist" and delete ", so that recovery can be managed
    without requiring complete reinitialization of the system".
ACCEPT delete the "do". Change "so that" clause as shown in notes.

34)Change "command's operations contains" to "command contains".
ACCEPT

35)Change "Commands that retrieve or alter information about the device
    server's operating state shall conflict with the logical unit reservation
    unless otherwise specified." to "Commands that retrieve or alter
    information about the device server's operating state shall be rejected
    with a reservation conflict response unless otherwise specified." Make a
    similar repair to the next sentence.
ACCEPT Add a glossary entry for "reservation conflict" and restore the 5.3
        sub-clause describing reservation conflicts.

36) I have many marks on other pages through page 72 but have not been able to
    allocate sufficient time to write them up. I hope to continue the write-up
    and mark up in preparation for the editing session requested by comment
    (1). My next comment is out of sequence with the remaining comments I have
    in the queue.
ACCEPT

37) Referring to Table 5 and the balance of the document I note that the SET
    CAPACITY command voted in by X3T10 has not yet been edited into the
    document.
WITHDRAWN

I apologize for not being able to provide a full review by the closing date
of the letter ballot. To avoid such an apology in the future I do request
that X3T10 establish, or reestablish an editing review session prior to the
forwarding of each proposed standard. In submitting these, and the pending
comments I am definitely not requesting a protracted delay in the forwarding
since I wholeheartedly support regular publication of the standards which
have not become obsolete or academic.

Gene Milligan

Symbios Logic comments on SPC attached to Yes ballot:

1. (E) 2nd page
    The internet address for subscribing to the SCSI Reflector
    is now: majordomo@symbios.com
ACCEPT

2. (E) 2nd page
    In the Patent Statement, "holder's" should be "holders".
ACCEPT

3. (E) Pages x & xi
    Consider deleting these two pages; they add almost no value.
ACCEPT Yes, the notes table of contents should be deleted (along with the
       revision information) prior to public review.

4. (E) 1, Page 1, Figure 1
    This figure is out of date. Consider adding "at the time it was last
    revised" to the end of the sentence above the figure. Consider updating
    the figure based on the file provided separately.
ACCEPT

5. (E) 7.13.2, Page 51, Table 37
    The "Additional length (n+8)" should be "Additional length (n-7)". This
    error may have resulted from the second sentence in the description of
    this field (which adds no real value and should be deleted).
ACCEPT

6. (E) 7.13.3, Page 52, Table 38
    Same error as described in comment #5.
ACCEPT

Unisys comments on SPC attached to Yes ballot:

1) Section 7.13.2 PERSISTENT RESERVE IN - Page 52, first paragraph
    following table 37. "The Generation value is a 32-bit counter in the
    logical unit that shall be incremented every time a PROUT command
    requests a Register, a Preempt, or a Preempt and Clear operation."
    This seems to exempt the Clear operation. Or is the intention that
    reference to the "Preempt and Clear operation" also covers the Clear
    operation?
PENDING to be discussed at SPC editing meeting.

2) Section 17.3.3 PERSISTENT RESERVE IN - Page 52, second paragraph
    following table 38. The additional length definition in this paragraph
    is identical to that used in 17.3.2 only 3 paragraphs above, so why not
    reference it, rather than repeat it?
REJECT Why have the reader scanning the document for references when the text
       is present and ready to read.

Unitrode comment on SPC attached to Yes ballot:

    Fast-20 1071D should be added to Section 1.
ACCEPT

Late comment from Western Digital:

In SBC, the PREVENT ALLOW command is a TWO bit field, and in SPC
it is a ONE bit field. It seems to me that the TWO bit SBC version
should be moved into SPC. The two bit field seems pretty generic;
it has no inherent 'disk-ness'.
ACCEPT