ENDL
T E X A S

Date: 11 January 2001
To: T10 Technical Committee
From: Ralph O. Weber
Subject: Response to T10 Letter Ballot comments on SPC-2

This document contains the responses to the T10 Letter Ballot comments on forwarding SPC-2 to first public review. The summary of the T10 Letter Ballot results can be found in 00-017r0.

This revision reflects changes agreed by the September, 2000 CAP working group and the November SPC-2 Letter Ballot review meeting (results in 00-407).

All references to SPC-2 PDF pages are based on spc2r18.pdf. All dictionary references quoted by the editor come from the *Random House Dictionary of the English Language* Second Edition Unabridged.

This revision contains proposed resolutions for all but five comments; three of these comments are identified for discussion below and the other two are covered by 01-025.

Several table formatting issues were raised by the letter ballot. The following comments completely cover the resolutions for table formatting issues affecting more than one table:
    IBM 72) Double lines in Tables
    IBM 128) Force table to one page
    IBM 119) Indent footnote

To the best of my knowledge SNIA-BWG (SNIA Backup Working Group) accepts the resolutions for comments against the EXTENDED COPY and RECEIVE COPY RESULTS commands shown in this document.

The following topics are proposed for working group discussion to provide input for the next revision of this document.

Does the PF bit in a SEND DIAGNOSTIC command apply to the pages returned by a subsequent RECEIVE DIAGNOSTIC RESULTS command? See comment:

    Quantum 75) SEND DIAGNOSTICS pf bit applies to RECEIVE DIAGNOSTIC RESULTS

I've invented a new keyword, "restricted". See comment:

    Seagate 104) See SCC-2 cannot be a field name

Am I being too heavy handed in rejecting expansion of the application client log page usage? See comment:

    Quantum 80) Change data allowed in application client log page

Is the proposed change to the temperature log page accuracy requirement acceptable? See comment:

Seagate 108) What is temperature accuracy?

Do commands go to logical units or device servers? See comments:

Seagate 21) Commands go to logical units
Seagate 23) 'logical unit' not 'device server'

Unresolved Comments List

Rejected Comments List

Rejected Comments List (continued)

Rejected Comments List (continued)

Comments With Implemenation Deferred to SPC-3

<u>Substantive Comments</u> Accepted As Proposed

<u>Substantive Comments</u> Accepted With Noted Changes

Accepted As Proposed Non-Substantive Comments List

Accepted As Proposed Non-Substantive Comments List (continued)

Accepted As Proposed Non-Substantive Comments List (continued)

Accepted As Proposed Non-Substantive Comments List (continued)

Accepted As Proposed Non-Substantive Comments List (continued)

Accepted With Noted Changes Non-Substantive Comments List

Accepted With Noted Changes Non-Substantive Comments List (continued)

Accepted With Noted Changes Non-Substantive Comments List (continued)

Accepted With Noted Changes Non-Substantive Comments List (continued)

Accepted With Noted Changes Non-Substantive Comments List (continued)

Comments Resulting in Significant Changes on Three or More Pages

Resolution for of several comments resulted in significant (more than spelling) changes on several pages. This is a list of those comments.

Comments Concerning the Extended Copy Feature

Comments Concerning the Extended Copy Feature (continued)

Comments Concerning the Extended Copy Feature (continued)

Comments Concerning the Persistent Reservations Feature

Comments Concerning the Persistent Reservations Feature (continued)

1. Brocade Communications

Brocade Communications principle representative Robert Snively submitted a No vote with the following comments.

1.1 [1] Brocade 1) Definition of medium (Accepted, Editorial)
PDF page 35, page 7, clause 3.1.35

The definition of medium is not consistent with common industry practice, nor with the subsequent definitions in 3.1.36 and 3.1.37. The medium is the physical entity on which the media information is stored. SAM-2 rev 13 does not mention medium information, but does use the word medium to refer to the physical entity on which the media information is stored.

Proposed resolution, the text be changed to read:

3.1.35 medium: The physical entity that records, stores, and returns data as required by commands transmitted to the device server.

Editor's notes:

The November SPC-2 Letter Ballot review meeting agreed to replace the definition with the following:

3.1.35 medium: A physical entity that stores data in accordance with commands processed by the device server.

While reviewing the agreed change, the editor noticed that the concept of nonvolatile storage had been dropped. Believing this to be a key component of the definition, the replacement text will be:

3.1.35 medium: A physical entity that stores data in a nonvolatile manner (retained through a power cycle) in accordance with commands processed by the device server.

1.2 [2] Brocade 2) Spelling (Accepted, Editorial)
PDF page 35, page 7, clause 3.1.47

Correct "autonsense" to "autosense".

1.3 [3] Brocade 3) Definition of sense data (Accepted, Editorial)
PDF page 35, page 7, clause 3.1.47

The last sentence should be improved to read:

"The format of sense data is the format defined for parameter data returned by the REQUEST SENSE command in 7.23.2."

1.4 [4] Brocade 4) Service response definition (Accepted, Editorial)
PDF page 39, page 11, clause 4.2

After much consideration, the FCP-2 study group chose to represent the service calls using the following format:

command (IN(a,b,c),OUT(x,y,z))

SPC-2 (and incidentally SAM-2) should do the same, as follows:

Service response = Execute Command (IN(Task Identifier, CDB, [Data-Out Buffer], Task Attributes), OUT([Data-In Buffer], [Autosense Data], [Autosense Return Flag], Status))

1.5 [5] Brocade 5) Command Descriptor Block (Accepted, Editorial)
PDF page 39, page 11, clause 4.3
SEE ALSO comments 5.36 [87] IBM 36) and 7.14 [398] Quantum 13)

Since this clause is in parallel with "variable length descriptor block" in 4.4, I propose that it be entitled "fixed length command descriptor block (CDB)". Alternatively, a superior clause could be created called "Command Descriptor Block" with parallel inferior clauses for fixed length and variable length CDBs.

Editor's note:

Subclause 4.3 will be restructured as follows:

4.3 The Command Descriptor Block (CDB)
    4.3.1 CDB usage and structure
    4.3.2 The fixed length CDB
    4.3.3 The variable length CDB
    4.3.4 Common CDB fields
        4.3.4.1 Operation code
        4.3.4.2 Service action
        4.3.4.3 Logical block address
        4.3.4.4 Transfer length
        4.3.4.5 Parameter list length
        4.3.4.6 Allocation length
        4.3.4.7 Control

Document 00-269 contains the restructured subclause and any further revisions to the restructuring will be reflected solely in revisions to 00-269.

1.6 [6] Brocade 6) Operation Code and Control Code (Accepted, Editorial)
PDF page 40, page 12, clause 4.3.1
SEE ALSO comment 7.14 [398] Quantum 13)

All fields but the Operation Code and Control fields are defined in separate paragraphs, often very short. I propose that they also be removed to separate paragraphs, since they are at the same level of hierarchy in the description process.

Editor's note:

Subclause 4.3 will be restructured as described in the response to 1.5 [5] Brocade 5). Document 00-269 contains the restructured subclause including the changes agreed in response to this comment. Any further revisions to the restructuring will be reflected solely in revisions to 00-269.

1.7 [7] Brocade 7) Restrict use of Service Action (Accepted, Editorial)
PDF page 42, page 14, clause 4.3.2

The last sentence now reads:

"When the specific field SERVICE ACTION is not defined in a CDB format, the bits identified as the SERVICE ACTION field in a typical CDB may be used for other purposes."

I propose that the restriction on the bits be more explicit.

"When the specific field SERVICE ACTION is not defined in a CDB format, the bits identified as the SERVICE ACTION field in a typical CDB shall be used or reserved as specified by the particular CDB."

Editor's note:

Incorporate as specified but change instance of 'CDB' just before the period to 'CDB format'. Document 00-269 contains the restructured subclause including the changes agreed in response to this comment. Any further revisions to the restructuring will be reflected solely in revisions to 00-269.

1.8 [8] Brocade 8) Definition of encryption field (Accepted, Substantive)
> (key technical comment)
> PDF page 43, page 15, clause 4.4
> SEE ALSO comment 8.22 [500] Seagate 22)

The encryption field now is presently defined as zero for no encryption and all other values as reserved. This seems to me to be the same as reserving the entire field. There is no clear evidence that encryption is the proper use of that field or that the field is the proper size to describe the encryption algorithm or to provide an encryption key. I would recommend reserving the field instead of defining it until an encryption model is at least proposed.

Editor's note:

Per the agreement of the September, 2000 CAP working group (minutes in 00-307), the ENCRYPTION IDENTIFI-CATION field will be changed to Reserved. Document 00-269 contains the restructured subclause including the changes agreed in response to this comment. Any further revisions to the restructuring will be reflected solely in revisions to 00-269.

1.9 [9] Brocade 9) Self test is obligatory (Accepted, Editorial)
> PDF page 45, page 17, clause 5.4.1
> SEE ALSO comments 5.40 [91] IBM 40) and 10.20 [609] O20)

The sentence indicates that self test is required for all devices that support SEND DIAGNOSTICS. Clause 5.2.1 requires that all devices support SEND DIAGNOSTICS. By extension, clause 5.4.1's first paragraph should be reworded to read:

"The default self-test is mandatory for all device types."

Editor's notes:

T10 approved proposal 97-256r2 changed the SEND DIAGNOSTICS command from "mandatory" to "optional". Therefore, this issue will be corrected by deleting subclause 5.2.4 and changing 'four' to 'three' in 5.2.1. It may be necessary to move text from 5.2.4 to 5.4, perhaps adding a new 5.4.1 subclause.

1.10 [10] Brocade 10) Self test clarification (Accepted, Editorial)
> PDF page 45, page 17, clause 5.4.1 and 5.4.2

The default self-test is not clearly separated from the short and long self tests, which may be run foreground and background. I would propose the first sentence of 5.4.2 be changed to read:

"There are two optional types of self-test <u>aside from the mandatory default self-test</u> that may be invoked using the SELF-TEST CODE field in the SEND DIAGNOSTICS command: a short self-test and an extended self-test."

Alternatively, an additional clause should be placed in front of 5.4.1 called "Types of self-test available", with all five types of self-test mentioned and a table of mandatory versus optional, with references.

Editor's note:

The first alternative (reworded first sentence in 5.4.2) will be used.

1.11 [11] Brocade 11) Default self-test blocks subsequent commands (Rejected)
PDF page 45, page 17, clause 5.4.1

In section 5.4.3.3, table 7, the behavior for background and foreground self tests is specified. There is no similar specification for default self-test with respect to the processing of subsequent commands. I would propose that subsequent commands shall present BUSY status until the default self-test is completed.

Reason for rejection:

The UNITOFFL and DEVOFFL bits in the SEND DIAGNOSTICS CDB control the behavior of the device or logical unit with respect to subsequent commands (see 7.27). If both UNITOFFL and DEVOFFL are zero then 'any diagnostic operations that may be detected by subsequent tasks' are prohibited. Therefore the proposed change is incorrect.

1.12 [12] Brocade 12) COMPARE success (Rejected)
PDF page 67, page 39, clause 7.2

The third paragraph says: "If the comparison is unsuccessful, the command shall be terminated with CHECK CONDITION status and the sense key shall be set to MISCOMPARE."

No definition is provided defining the "successful" or "unsuccessful" nature of the compare. I assume that it is intended to state here that a comparison of equal between all bytes of equal length destination and source fields is successful, while any other comparison (<, >, not equal, different lengths) is unsuccessful.

Reason for rejection:

This issue does not need to be resolved because the COMPARE command is being made obsolete, as requested in comment 1.14 [14] Brocade 14).

1.13 [13] Brocade 13) COMPARE pad (Rejected)
PDF page 67, page 39, clause 7.2

Table 11 defines the PAD bit. What comparison is performed for padded characters?

Reason for rejection:

This issue does not need to be resolved because the COMPARE command is being made obsolete, as requested in comment 1.14 [14] Brocade 14).

1.14 [14] Brocade 14) COMPARE obsolete (Accepted, Substantive)
PDF page 67, page 39, clause 7.2

I propose that, since Brocade 12 and 13 have never been addressed by any other user, that the COMPARE command cannot be implemented successfully, has never been implemented, and should be made obsolete.

Editor's notes:

Making this command obsolete in SPC-2 was unanimously agreed by the September CAP working group meeting (minutes in 00-307). See editor's notes for comment 1.15 [15] Brocade 15) for a list of the actions required to make this command obsolete.

1.15 [15] Brocade 15) COPY command obsolete (Accepted, Substantive)
(key technical comment)
PDF page 68, page 40, clause 7.3

I propose that the COPY command cannot be implemented successfully, has never been implemented, and should be made obsolete. I conclude this because of the following fundamental errors in the definition of COPY.

clause 7.3.1, 3rd paragraph.

The parameter list length of zero is considered to be not an error. However, there is no mechanism to tell what is to be copied from what when no parameters are provided. If this is not an error, I do not know what is. I propose, if COPY is not made obsolete, that a zero length parameter field should be treated as some type of INVALID PARAMETER FIELD error.

clause 7.3.1, 6th paragraph

The priority field establishes a relative priority of a copy command. However, the interaction of the priority field with the obligatory SCSI task queueing requirements is not specified. As a result, it is not clear whether or not priority can over-ride queue ordering, head of queue behavior, or queued commands ordered from another initiator. I propose that the relative priority field be deleted on the assumption that copy functions between a particular pair of devices will be single-threaded.

Editor's notes:

Making this command obsolete in SPC-2 was unanimously agreed by the September CAP working group meeting (minutes in 00-307). In addition to removing the defining subclauses: the following changes are required to obsolete COMPARE, COPY, and COPY AND VERIFY:

- Make the commands obsolete table 10 (PDF page 65)
- Remove the commands from the list in the definition "copy manager" (PDF page 33)
- Update the definition of "third-party" as shown in the response to comment 7.2 [386] Quantum 2)
- Remove the commands from table 8 (PDF page 50)
- Make the sense data SEGMENT NUMBER field obsolete in table 109 (PDF page 171)
- Replace the description of the sense data SEGMENT NUMBER field (the third paragraph after table 109 on PDF page 171) with the text below
- Remove the commands from the lists in the descriptions of the sense data INFORMATION and COMMAND-SPECIFIC INFORMATION fields (PDF page 172)
- Remove **two occurrences** of the commands from the description of the COPY ABORTED sense key (PDF page 177)
- Remove the commands from the list in note 45 (PDF page 193)
- Make the commands obsolete table 186 (PDF page 248)

- Make the commands obsolete in table C.2 (COPY on PDF page 282, others PDF page 283)

Replace the description of the sense data SEGMENT NUMBER field (the third paragraph after table 109 on PDF page 171) with the following as a separate paragraph:

   The obsolete byte 1 was used by the COPY command.

Note: making the sense data SEGMENT NUMBER field obsolete was agreed by the November SPC-2 letter ballot review meeting.

1.16 [16] Brocade 16) COPY AND VERIFY obsolete (Accepted, Substantive)
PDF page 76, page 48, clause 7.4

The command should be made obsolete if COPY and COMPARE are made obsolete.

Editor's notes:

Making this command obsolete in SPC-2 was unanimously agreed by the September CAP working group meeting (minutes in 00-307). See editor's notes for comment 1.15 [15] Brocade 15) for a list of the actions required to make this command obsolete.

1.17 [17] Brocade 17) COPY AND VERIFY comparison (Rejected)
PDF page 76, page 48, clause 7.4

The second paragraph refers again to successful comparison. The word here should be verification (or verification of equality), since compare can be high, low, equal, or invalid because of length mismatches.

Reason for rejection:

This issue does not need to be resolved because the COMPARE command is being made obsolete, as requested in comment 1.16 [16] Brocade 16).

1.18 [18] Brocade 18) Verification model (Rejected)
(key technical comment)
PDF page 76, page 48, clause 7.4

The concept of verification is a big vague and has no model. The reason this is important is that devices expected to participate in verification must support any function that a copy manager may choose to execute to perform the verification. Without a model, uncertainty about what functions are required could cause interoperability issues. I propose that a model for verification be placed in clause 5 unless COPY AND VERIFY is made obsolete. Incidentally, this is also a problem in SBC.

Reason for rejection:

This issue does not need to be resolved because the COMPARE and COPY AND VERIFY commands are being made obsolete, as requested in comments 1.14 [14] Brocade 14) and 1.16 [16] Brocade 16).

1.19 [19] Brocade 19) Concurrent COPY & EXTENDED COPY (Rejected)
PDF page 77, page 49, clause 7.5

COPY and EXTENDED COPY may create interactions that cause data integrity problems. I propose that it be made explicit that the receipt of a COPY command while an EXTENDED COPY command is queued or in process

or the receipt of an EXTENDED COPY command while a COPY command is queued or in process be considered an INVALID COMMAND error of some sort. This is another good reason to make COPY and its partners obsolete.

Reason for rejection:

This is grasping at straws. Both COPY and EXTENDED COPY permit multiple instances of the command to be in process concurrently. While COPY and EXTENDED COPY have different ways of communicating the functions to be performed, both perform essentially the same function. The EXTENDED COPY command is essentially a superset of the COPY command, which means that anything that can be done with COPY can be done with EXTENDED COPY. So, if a COPY command is being processed concurrently with an EXTENDED COPY command, the exact same condition is achievable with two appropriately constructed EXTENDED COPY commands are performed concurrently, a situation that no one I know of wishes to prohibit.

1.20 [20] Brocade 20) EXTENDED COPY parameter length (Accepted, Substantive)
PDF page 77, page 49, clause 7.5

The parameter list length of zero is considered to be not an error. However, there is no mechanism to tell what is to be copied from what when no parameters are provided. If this is not an error, I do not know what is. I propose that a zero length parameter field should be treated as some type of INVALID PARAMETER FIELD error.

If this solution is not acceptable, then the behavior of the copy manager when it receives a parameter field length of zero should be specified. I would expect that the explicit behavior would be of the nature:

No commands are executed to any attached SCSI target. No internal states of the copy manager are changed or established. GOOD status is presented.

I would propose that a parameter field length that truncates a parameter list should also be an INVALID PARAMETER FIELD error of some sort, since an incomplete copy function will be specified.

Editor's Notes:

The two sentences at issue currently read:

"A parameter list length of zero indicates that no data shall be transferred. This condition shall not be considered as an error."

They will be changed to read:

"A parameter list length of zero indicates that copy manager shall not transfer any data or alter any internal state; this shall not be considered an error. If the parameter list length causes truncation of the parameter list in a target descriptor or segment descriptor, no data shall be transferred and the EXTENDED COPY command shall be terminated with a CHECK CONDITION status. The sense key shall be set to ILLEGAL REQUEST and the additional sense code shall be set to PARAMETER LIST LENGTH ERROR."

1.21 [21] Brocade 21) EXTENDED COPY priority (Accepted, Editorial)
(key technical comment)
PDF page 79, page 51, clause 7.5.1

The priority field establishes a relative priority of the command. However, the interaction of the priority field with the obligatory SCSI task queueing requirements is not specified. As a result, it is not clear whether or not priority can over-ride queue ordering, head of queue behavior, or queued commands ordered from another initiator. I propose that the relative priority field be deleted on the assumption that copy functions between a particular pair of devices will be single-threaded.

Alternatively, a model must be provided for the behavior of a command with a specified priority field relative to other commands. I am not sure what the reviewers would consider an appropriate model.

Editor's Notes:

There was never any intention that the PRIORITY field would alter the command queuing behavior. Rather, the intention is to establish a relationship between the I/O operations resulting from the command, i.e., all the effects of command queuing have done their thing before the PRIORITY field takes effect. The sentence referenced by the comment currently reads:

"The PRIORITY field establishes the priority of this EXTENDED COPY command relative to other commands being executed by the same device server."

It will be changed to read:

"The PRIORITY field establishes the priority of data transfer operations resulting from this EXTENDED COPY command relative to data transfer operations resulting from other commands being executed by the same device server."

1.22 [22] Brocade 22) Stripped vs. Striped (Accepted, Editorial)
PDF page 79, page 51, clause 7.5.1
SEE ALSO comment 6.5 [376] LSI 5)

In a number of places, "stripped" (naked) should be changed to "striped" (formatted in bands).

Editor's note:

There are only two occurrences of "stripped", both in the second paragraph on PDF page 79.

1.23 [23] Brocade 23) Supported target devices (Accepted, Editorial)
PDF page 79, page 51, clause 7.5.1
SEE ALSO comment 7.31 [415] Quantum 30)

The sixth paragraph on the page specifies that not all target devices are supported. A cross reference to 7.17 should be provided to hint to people that there is a mechanism to determine which are supported.

Editor's Note:

The sentence at issue currently reads:

"A copy manager need not support all target descriptor formats."

Including the change requested by 7.31 [415] Quantum 30), it will be changed to read:

"A copy manager ~~need~~ may not support all target descriptor formats and shall list all target descriptor formats supported in response to the RECEIVE COPY RESULTS command with OPERATING PARAMETERS service action (see 7.17.4)."

1.24 [24] Brocade 24) Residual count (Accepted, Editorial)
        (key technical comment)
        PDF page 81, page 53, clause 7.5.3, item d

The definition of residual count should be refined. It should only indicate data as having been transferred if the transferring CDB was properly executed and resulted in GOOD status. Data that has flowed across the transport protocol but not been acknowledged with GOOD status should not be considered as having been transferred. If transfers were out of order and some were successful but others were not, then the residual count should be based on the highest displacement byte of data that contiguously from byte 0 was successfully transferred.

Editors's notes:

It appears to the editor that the requirement stated first in the comment includes the second requirement stated in the comment. Therefore, the second requirement has been omitted from the proposed text additions. In addition, the comment fails to consider two cases where tapes return a CHECK CONDITION status even though all the write data has been successfully transferred and these cases are included in the text additions that respond to this comment.

The following text will be placed between the second and third sentences of the paragraph (list entry d).

    When computing the residual count, the copy manager shall include only the results of commands successfully completed by a destination device, specifically commands completed by a destination device with a:
    a) GOOD status;
    b) CHECK CONDITION status and the FILEMARK bit set to one in the sense data; or
    c) CHECK CONDITION status and the EOM bit set to one in the sense data.
    If the copy manager has used out of order transfers the residual count shall be based solely on the contiguous successfully completed transfers starting at relative byte zero of the segment. (i.e., any successfully completed transfers farther from relative byte zero than the first incomplete or unsuccessful transfer shall not contribute to the computation of the residual count).

1.25 [25] Brocade 25) Assumption of single fabric (Accepted, Editorial)
        PDF page 86, page 58, clause 7.5.6.3
        PDF page 87, page 59, clause 7.5.6.4

The assumption that all these ports are in the same fabric must be explicitly stated. If this is not stated, an additional "fabric name" parameter must be defined and included.

Editor's Note:

The following note will be added in both subclauses.

    Note n: Use of N_PORT addressing restricts this target descriptor format to a single fabric.

1.26 [26] Brocade 26) Additional note for LUN identified devices (Rejected)
        PDF page 89, page 61, clause 7.5.6.6

The handy note in section 7.5.6.2 (Note 10) should be paraphrased in 7.5.6.6 to indicate that the copy manager is burdened with identifying available paths, N_Ports, and logical units that will access the specified LUN.

Reason for rejection:

The normative text clearly indicates the burdens on the copy manager in statements such as, "The target descriptor format shown in table 30 **instructs the copy manager to locate** a target and logical unit that returns a

34

device identification VPD page (see 8.4.4) containing an Identification descriptor having the specified CODE SET, ASSOCIATION, IDENTIFIER TYPE, IDENTIFIER LENGTH, and IDENTIFIER field values," and "If multiple N_Port, … combinations access matching VPD field values, the copy manager … shall try other combinations in the event that one combination becomes non-operational during the processing of an EXTENDED COPY command."

1.27 [27] Brocade 27) Resource exhaustion question (Accepted, Editorial)
PDF page 105, page 77, clause 7.5.7.8

The fourth paragraph indicates that data should be saved up for the application client. What happens if there are insufficient resources in the copy manager to save that information at the time the particular segment descriptor is processed?

Editor's Note:

The following sentence occurs in 7.5.7.2 (PDF page 97), 7.5.7.3 (PDF page 98), 7.5.7.4 (PDF page 99), 7.5.7.5 (PDF page 101), and 7.5.7.8 (PDF page 105):

"For descriptor type code … shall be held for delivery to the application client upon completion of the EXTENDED COPY command in response to a RECEIVE COPY RESULTS command with RECEIVE DATA service action as described in 7.17.3."

The following sentence will be added after the sentence listed above in all five instances listed:

"The minimum amount of held data supported by the copy manager is returned in the response data for the RECEIVE COPY RESULTS command with OPERATING PARAMETERS service action (see 7.17.4)."

Note: the description in 7.17.4 includes a description of what happens when the held data resource is exhausted.

1.28 [28] Brocade 28) Obsolete TranDis (Accepted, Substantive)
PDF page 125, page 97, clause 7.6.3

The CONTINUE TASK and TARGET TRANSFER DISABLE messages are obsolete in SPI-3. The SPC-2 INQUIRY data bits that indicate their presence should be similarly made obsolete.

Editor's note:

In table 59, byte 7 bit 2 will be marked obsolete.

The following paragraph:

A transfer disable (TRANDIS) bit of one indicates that the target supports the CONTINUE TASK and TARGET TRANSFER DISABLE messages. A TRANDIS bit of zero indicates that the device does not support one or both of these messages.

Will be replaced with:

The obsolete bit 2 in byte 7 indicates whether the target supports an obsolete data transfers management mechanism defined in SPI-2.

1.29 [29] Brocade 29) VPD page 83 mandatory (Accepted, Substantive)
(key technical comment)
PDF page 126, page 98, TBD clause

The device identification page (section 8.4.4) should be specified as mandatory either here in section 7.6.4 or in section 8.4.1 or 8.4.4.

Editor's notes:

As agreed at the September, 2000 CAP working group meeting, support for VPD pages 83h and 00h will be made mandatory in SPC-2. The following changes will be made:

In 7.6.1 (INQUIRY command overview, PDF page 115), the first paragraph after table 52 will be changed from:

"An enable vital product data (EVPD) bit of one specifies that the device server shall return the optional vital product data specified by the PAGE OR OPERATION CODE field. If the logical unit does not support vital product data and this bit is set to one, the device server shall return CHECK CONDITION status with the sense key set to ILLEGAL REQUEST and an additional sense code of INVALID FIELD IN CDB."

to:

"An enable vital product data (EVPD) bit of one specifies that the device server shall return the ~~optional~~ vital product data specified by the PAGE OR OPERATION CODE field. ~~If the logical unit does not support vital product data and this bit is set to one, the device server shall return CHECK CONDITION status with the sense key set to ILLEGAL REQUEST and an additional sense code of INVALID FIELD IN CDB.~~"

In 7.6.4 (Vital product data, PDF page 126), the first two paragraphs will be changed to a single paragraph. The first sentence of the first paragraph will be replaced by the first sentence of the second paragraph and the remainder of the second paragraph will be deleted. With the result that (including changes from 5.182 [233] IBM 182) the text goes from:

"Implementation of vital product data is optional. See 8.4 for details about vital product data. The information returned consists of configuration data (e.g., vendor identification, product identification, model, serial number), manufacturing data (e.g., plant and date of manufacture), field replaceable unit data and other vendor- or device-specific data.

"The application client requests the vital product data information by setting the EVPD bit to one and specifying the page code of the desired vital product data (see 8.4). If the device server does not implement the requested page it shall return CHECK CONDITION status. The a sense key shall be set to ILLEGAL REQUEST and the additional sense code shall be set to INVALID FIELD IN CDB."

to:

"~~Implementation of vital product data is optional.~~ The application client requests the vital product data information by setting the EVPD bit to one and specifying the page code of the desired vital product data. See 8.4 for details about vital product data. The information returned consists of configuration data (e.g., vendor identification, product identification, model, serial number), manufacturing data (e.g., plant and date of manufacture), field replaceable unit data and other ~~vendor- or device-specific~~ vendor specific or device specific data.

"~~The application client requests the vital product data information by setting the EVPD bit to one and specifying the page code of the desired vital product data (see 8.4). If the device server does not implement the requested page it shall return CHECK CONDITION status. The a sense key shall be set to ILLEGAL REQUEST and the additional sense code shall be set to INVALID FIELD IN CDB.~~"

In 7.6.5 (Command support data PDF page 128) 6th paragraph on the page, the example must be changed to use a command other than INQUIRY. The current example:

"Thus, the CDB usage bit map for the INQUIRY command for a device server that implements command support data but not vital product data is: 12h, 02h, FFh, 00h, FFh, 07h."

will be replaced with an example based on the SEND DIAGNOSTIC command (including changes requested by comment 5.140 [191] IBM 140):

"~~Thus~~ For example, the CDB usage bit map for the SEND DIAGNOSTIC command of a device server that implements only the default self-test capability is: 1Dh, 04h, 00h, 00h, 00h, 07h."

In 8.4.1 (Vital product data parameters overview and page codes, PDF page 241), change the first sentence from:

"This clause describes the optional vital product data page structure…"

to:

"This <u>sub</u>clause describes the ~~optional~~ vital product data page structure…"

In 8.4.1 (Vital product data parameters overview and page codes, PDF page 241), delete the last sentence in the subclause (which requires support for VPD page code 00h) and add a "Support Requirement" column to table 174 with the row entries in the new column being as follows:

- page codes 00h and 83h - Mandatory
- all other page codes that have a subclause reference - Optional
- all other page codes - blank

In 8.4.4 (Device identification page, PDF page 245), add the following text to the end of the first paragraph on the page:

At least one identification descriptor shall contain 1h, 2h, or 3h in the IDENTIFIER TYPE field and 0h in the ASSOCI-ATION field. At least one identification descriptor should contain 2h or 3h in the IDENTIFIER TYPE field and 0h in the ASSOCIATION field.

Add a subclause to 10.2 that describes the vital product data implementation for Processor type devices and names page codes 00h-80h, 82h, 83h, and C0h-FFh as acceptable for implementation by Processor devices.

1.30 [30] Brocade 30) Use correct units (Accepted, Editorial)
PDF page 156, page 128, clause 7.17.2, table 96
SEE ALSO comments 5.186 [237] IBM 186), 7.59 [443] Quantum 58), and 8.96 [574] Seagate 95)

The table should use the proper [prefix] bytes binary abbreviations and names. There is a proposed binary byte count (10**10, 10**20) etc. defined as "kilo byte binary" (Kibe). I have been trying to find the referent, but we should use that.

The reference has been reported as: IEC 60027-2, passed in Jan. 99.

One source is: http://physics.nist.gov/cuu/Units/binary.html

Editor's notes:

A normative reference will be added for:

Letter symbols to be used in electrical technology - Part 2: Telecommunications and electronics (Amendment 2)
ISO/IEC 60027-2-am2 (1999-01)

Table 96 will be changed to appear as follows:

Table 96 — COPY STATUS TRANSFER COUNT UNITS values

Value	Meaning	Binary Multiplier Name [a]	Multiplier to convert TRANSFER COUNT field to bytes
00h	Bytes		1
01h	Ki bytes	Kilobinary	2^{10} or 1024
02h	Mi bytes	Megabinary	2^{20}
03h	Gi bytes	Giagbinary	2^{30}
04h	Ti bytes	Terabinary	2^{40}
05h	Pi bytes	Petabinary	2^{50}
06h	Ei bytes	Exabinary	2^{60}
07h - FFh	Reserved		

[a] This nomenclature is defined in ISO/IEC 60027-2-am2 (1999-01), Letter symbols to be used in electrical technology - Part 2: Telecommunications and electronics (Amendment 2).

Nominally, the editor would prefer to omit the note since the normative reference would be expected to be obvious. In this case, however, the reference is not likely to be obvious.

1.31 [31] Brocade 31) "Oldest held data" is relative (Accepted, Substantive)
PDF page 157, page 129, clause 7.17.3
See ALSO comment 7.60 [444] Quantum 59)

Held data should not be identified as "oldest to newest". It should be identified as beginning with the lowest byte number for the first descriptor requiring data to be held, going up through the highest byte number for the last descriptor asking for data to be held. The data may or may not have actually been obtained in that order, depending on the particular segment descriptors and their relationships.

Editor's note:

Because "oldest" and "newest" are convenient short hand terms for the bytes (particularly in describing the discard requirements), the current text will be modified to make local definitions for these terms. The text currently reads:

The held data is the data held by the copy manager for delivery to the application client as proscribed by several segment descriptor type codes. The oldest byte read and held is returned in byte 4 and the byte most recently read and held is returned in byte n.

It will be changed to read:

The held data is the data held by the copy manager for delivery to the application client as proscribed by several segment descriptor type codes. <u>Unless the copy manager's held data limit (see 7.17.4) is exceeded, the first byte held in response to the first segment descriptor in the EXTENDED COPY parameter list proscribing the holding of data (called the oldest byte held)</u> is returned in byte 4. <u>The last byte held in response to the last segment descriptor in the EXTENDED COPY parameter list proscribing the holding of data (called the newest byte held)</u> is returned in byte n.

1.32 [32] Brocade 32) Discard mechanism is ill-defined (Accepted, Substantive)
PDF page 157, page 129, clause 7.17.3
SEE ALSO comments 5.191 [242] IBM 191) and 7.60 [444] Quantum 59)

The discard mechanisms for held data are somewhat primitive. Why is data held? If it is held to be read, it should not be thrown away, since the application may need it. It would be better to prohibit the discarding of data or to warn before discarding the data. If no change is to be made, the model requiring this behavior needs to be explained so that it will not be misused.

Editor's notes:

To resolve this problem, the definition of the HELD DATA LIMIT field will be changed to be the minimum number of bytes the copy manager guarantees to hold. This change has two benefits. First, it makes the discard mechanism entirely vendor specific and removes discussion of how to discard held data from the standard. Second, it allows the copy manager to hold substantially more data than the value indicated by the HELD DATA LIMIT field if its currently available resources permit.

The changes required to implement this resolution are as follows:

1) Delete the following text from PDF page 157:

If the processing of segment descriptors requires more data to be held, the copy manager shall discard the oldest held data bytes to accommodate the new read data. When making room for new read data, the copy manager may discard more old data bytes than are needed immediately, but at any one time the copy manager shall never discard more than the smaller of 64 times the HELD DATA GRANULARITY value (see 7.17.4) or one quarter of the HELD DATA LIMIT value. Discarding of held data bytes shall not be considered an error. The only way the application client may detect the possible discarding of held data bytes is to compare the AVAILABLE DATA field to the HELD DATA LIMIT field.

2) On PDF page 159 change the definition HELD DATA LIMIT field from:

The HELD DATA LIMIT field indicates the length, in bytes, of the largest amount of data the copy manager is capable of holding for return to the application client via the RECEIVE COPY RESULTS command with RECEIVE DATA service action (see 7.17.3).

to:

The HELD DATA LIMIT field indicates the length, in bytes, of the <u>minimum</u> amount of data the copy manager <u>guarantees to hold</u> for return to the application client via the RECEIVE COPY RESULTS command with RECEIVE DATA service action (see 7.17.3). <u>If the processing of segment descriptors requires more data to be held, the copy manager may discard some of the held data in a vendor specific manner that retains the held bytes from the most recently processed segment descriptors. The discarding of held data bytes shall not be considered an error. If held data is discarded, the HDD bit shall be set as described n 7.17.2.</u>

3) On PDF page 155 in table 94, change bit 7 of byte 4 from being the MSB in the STATUS field to being its own separate one bit field labelled HDD. In table 95, change the maximum STATUS field code value from FFh to 7Fh. Add the following paragraph before the paragraph describing the STATUS field:

The HDD (held data discarded) bit indicates whether held data has been discarded. If HDD is one, held data has been discarded as described n 7.17.4. If HDD is zero, held data has not been discarded.

1.33 [33] Brocade 33) FAILED SEGMENT DETAILS is redundant (Rejected)
 PDF page 160, page 132, clause 7.17.5

What does RECEIVE COPY RESULTS (FAILED SEGMENT DETAILS) do for you that the sense information developed by the rules in 7.5.3, rule e) does not?

If nothing, the FAILED SEGMENT DETAILS service action should be deleted. If something, the text in 7.5.3 or 7.17.5 should make this clearer. Similarly, rule i) should be deleted unless there is some functionality not provided by rule e).

Reason for rejection:

As described to me by the SNIA-BWG (Storage Networking Industry Association - Backup Working Group) the FAILED SEGMENT DETAILS service action serves two purposes. In the long term, the reserved 50 bytes will be replaced by various counters and other status information that will assist the initiator in determining what failed. In the near term (SPC-2), some host adapters do not preserve **all** the autosense data for the very large sense data blocks returned by EXTENDED COPY as described in 7.5.3 and the FAILED SEGEMENT DETAILS provides a mechanism for retrieving all the sense data. Since it is inappropriate to discuss specific implementations in SPC-2, this explanation cannot be added as requested by the comment.

1.34 [34] Brocade 34) Target s/b logical unit (Accepted, Editorial)
 PDF page 167, page 139, clause 7.21
 See ALSO comment 5.204 [255] IBM 204)

The sentence "The target shall return the same Identifier to all initiators on all ports." should say "The logical unit shall return the same Identifier to all initiators on all ports."

1.35 [35] Brocade 35) Logical unit reservation mandatory? (Accepted, Editorial)
 Global & PDF page 191, page 163, clause 7.24.2 and 7.24.3

The titles of these sections indicate that these capabilities are mandatory. In fact, they are mandatory only if the corresponding RESERVE command is implemented, an optional behavior. This should be removed from the title where it cannot be interpreted clearly and a new sentence should be placed in the section in the appropriate location indicating, "Logical Unit Reservation is mandatory if the RESERVE(10) command is implemented." Similar sentences should go in the other corresponding paragraphs.

Editor's notes:

If the RESERVE(10) command is to be changed then the RELEASE(10) command needs to be changed as well. The following locations will be modified as described in the comment:

- PDF page 163 — 7.19.2 & 7.19.3
- PDF page 191 — 7.24.2
- PDF page 192 — 7.24.3
- PDF page 193 — 7.24.4 **

** All locations will have a sentence added as described by the comment, except 7.24.4 where the already existing sentence will be modified. Following the example in 7.24.4, the sentences will **not** in separate paragraphs.

1.36 [36] Brocade 36) Identifier field not VS (Accepted, Editorial)
PDF page 196, page 168, clause 7.27

The sentence "The IDENTIFIER field shall be a vendor specific value, to be returned in subsequent REPORT DEVICE IDENTIFIER commands." should read "The IDENTIFIER field is a value selected by the application client by mechanisms outside the scope of this standard to be returned in subsequent REPORT DEVICE IDENTIFIER commands."

Editor's note:

Changing the second "by" to "using", the sentence cited by the comment will be changed to, "The IDENTIFIER field is a value selected by the application client using mechanisms outside the scope of this standard to be returned in subsequent REPORT DEVICE IDENTIFIER commands."

1.37 [37] Brocade 37) Page codes for diagnostics? (Accepted, Editorial)
PDF page 203, page 175, clause 8.1.1, Table 128
SEE ALSO comment 6.11 [382] LSI 11)

Should table 128 reference those pages that apply to all device types, but that are defined by SES? It might make them easier to find. That would include codes 01h through 0Fh.

Editor's note:

The November SPC-2 Letter Ballot review meeting agreed that the SES page codes should be listed in SPC-2. To accomplish that, "1h - 3Fh" will be changed to "10h - 3Fh" in Table 128 and the following rows will be added:

- 01h | Configuration | SES
- 02h | Enclosure Status/Control| SES
- 03h | Help Text | SES
- 04h | String In/Out | SES
- 05h | Threshold In/Out | SES
- 06h | Array Status/Control | SES
- 07h | Element Descriptor | SES
- 08h | Short Enclosure Status | SES
- 09h - 0Fh | Reserved for SES | SES

1.38 [38] Brocade 38) Incorrect table cross references (Accepted, Editorial)
PDF pages 249 & 250, pages 221 & 222, clause 9.3

The AER data is apparently defined in table 189, not table 119. This flaw shows up in two separate paragraphs of section 9.3 and somewhat confuses the intent of the paragraph:

"If the SCSI-3 bit is zero, then the AEN data format (as defined by the SCSI-2 standard) shall be used. If the SCSI-3 bit is one, then the AER data format shown in table 119 shall be used."

The difference is apparently only in LUN length. Is that correct?

Editor's notes:

The two references will be changed from table 119 to table 189.

If the question at the end of the comment is about differences based on value of the SCSI-3 bit, then the answer is "yes."

1.39 [39] Brocade 39) Additional vendor identification (Accepted, Editorial)
PDF page 301, page 273, Annex D

The name BROCADE should be applied for Brocade Communications Systems, Incorporated.

Note that the page number is missing on this page.

Editor's note:

The request for a vendor identifier has been forward to the T10 chair for processing. Once the vendor identifier is assigned, incorporating it in SPC-2 will follow normal procedures as per comment 10.41 [630].

2. Compaq Computer Corp.

Compaq Computer Corp. principle representative Rob Elliott submitted a Yes vote with the following comments.

2.1 [40] CPQ 1A) Allowing PTPL When Media Stopped (Accepted, Editorial)
PDF page 53-54, page 25-26, clause 5.5.3.2

Editor's Note: Since this comment is both substantive and non-substantive, it is being split into two comments. This comment is the technical one. The change from 'APTPL' to 'PTPL', which is not substantive, has been placed in comment 2.2 [41] CPQ 1B).

The persist-through-power-loss description in the persistent reservations section has proven confusing for some implements. A device which stores its reservation table on media might interpret this as requiring it to return a CHECK CONDITION after the media has been STOPped. We'd rather see the device cache the reservation table in RAM and use it as long as a power on reset has not occurred. Suggested changes are listed below:

> The capability of preserving persistent reservations and registration keys across power cycles requires the use of a nonvolatile memory within the SCSI device. Any SCSI device that supports the Persist Through Power Loss (APTPL) a …

Replace "memory within the SCSI device" with "memory (not necessarily the media) within the SCSI device."

Replace "APTPL" with "PTPL". {] CPQ 1B)}

> … capability of persistent reservation and has non-volatile memory that is not ready shall allow the following commands into the task set:
>   a) INQUIRY;
>   b) LOG SENSE;
>   c) READ BUFFER;
>   d) REPORT LUNS;
>   e) REQUEST SENSE;
>   f) START/STOP UNIT (with START bit = 1 and POWER CONDITIONS field value of 0); and
>   g) WRITE BUFFER.

> When nonvolatile memory is not ready, any commands, other than those listed above shall return CHECK CONDITION status. The sense key shall be set to NOT READY and the additional sense data shall be set as described in the TEST UNIT READY command (see 7.28).

Replace "When nonvolatile memory is not ready" with "When PTPL is activated and nonvolatile memory is not ready".

Add sentence at end: "When PTPL is activated and nonvolatile memory is ready, all commands shall be subjected to the persistent reservation rules."

Editor's note:

In the opinion of the September, 2000 CAP working group meeting (minutes in 00-307) the following change is all that is required to satisfy the intent of the comment. In the first paragraph after the list at the top of PDF page 54 change from:

"When nonvolatile memory is not ready, any commands, other than those listed above …"

to:

"When nonvolatile memory ~~is not ready~~ has not become ready since a power cycle, any commands, other than those listed above …"

2.2 [41] CPQ 1B) PTPL Description (Accepted, Editorial)
PDF page 52-53, page 24-25, clause 5.5.3.2
SEE ALSO comments5.64 [115] IBM 64), 5.65 [116] IBM 65), and 8.42 [520] Seagate 42)

In "Any SCSI device that supports the Persist Through Power Loss (APTPL)…", Replace "APTPL" with "PTPL".

Editor's notes:

The editor is taking the plethora of comments on the general topic of APTPL and PTPL as evidence that some serious rewriting is needed. The gist of these changes are:

• PTPL (Persist Through Power Loss) is defined as an optional capability of some features. (This is done to allow other features such as Access Controls to have PTPL features without having a confusion of terms.)
• The APTPL bit is defined (or used) as the persistent reservations mechanism for invoking the optional PTPL feature.

The following steps will be taken.

PTPL Fix 1) The following glossary entry will be added.

3.1.x **persist through power loss**: An optional capability associated with some features that allows an application client to request that a device server maintain information regarding that feature across power failures.

PTPL Fix 2) The APTPL acronym will be removed from 3.2.

PTPL Fix 3) The first paragraph of 5.5.3.2 will be changed from:

"The application client may request the device server to preserve the persistent reservation and registration keys across power cycles by requesting the Activate Persist Through Power Loss (APTPL) capability. The application client may request this as part of registration by setting the APTPL bit to one."

to:

"The application client may request activation of the persist through power loss device server capability to preserve the persistent reservation and registration keys across power cycles by setting the APTPL bit to one in PERSISTENT RESERVE OUT parameter data sent with a REGISTER, or a REGISTER AND IGNORE EXISTING KEY service action."

PTPL Fix 4) From the 1st sentence in the 2nd paragraph of 5.5.3.2 to the bottom of PDF page 53, four (4) instances of 'APTPL capability' will be changed to 'persist through power loss capability'. Note: change 10.22 [611] O22) also affects two of these sentences.

PTPL Fix 6) In the last full paragraph before the list at the bottom of PDF page 53, 'Persist Through Power Loss (APTPL) capability' will be changed to 'persist through power loss capability'.

PTPL Fix 7) In the last paragraph before the list at the end of 5.5.3.6.1, 'APTPL capability' will be changed to 'persist through power loss capability'. This change is included in 10.22 [611] O22).

2.3 [42] CPQ 2) Persistent Reservations NOT READY (Accepted, Editorial)
        PDF page 52-53, page 24-25, clause 5.5.3.2

The reference to 7.28 recommending which additional sense data to send with a CHECK CONDITION should be clearer. Several of the NOT READY codes in 7.28 shouldn't be used (e.g. FORMAT IN PROGRESS). I suggest listing the specific codes in this section.

   The sense key shall be set to NOT READY and the additional sense data shall be set as described in the TEST UNIT READY command (see 7.28).

Replace "the TEST UNIT READY command (see 7.28)" with "table 5.xx".

List these in a new table in 5.5.3.2:

   MEDIUM NOT PRESENT
   LOGICAL UNIT NOT READY, CAUSE NOT REPORTABLE
   LOGICAL UNIT IS IN PROCESS OF BECOMING READY
   LOGICAL UNIT NOT READY, INITIALIZING COMMAND REQUIRED
   LOGICAL UNIT NOT READY, MANUAL INTERVENTION REQUIRED

Editor's notes:

The September, 2000 CAP working group (minutes 00-307) noted that a FORMAT IN PROGRESS additional sense code is possible for a SCSI Controller Commands device, so that the TEST UNIT READY table continues to be an appropriate reference. The group also asked that '…as described in the TEST UNIT READY command (see 7.28)' be replaced with '…as described in Table 124 (see 7.28).'

2.4 [43] CPQ 3) REPORT DEVICE IDENTIFIER NOT READY (Accepted, Editorial)
        PDF page 167, page 139, clause 7.21

This section also refers to 7.28 (it mistakenly refers to 7.27) and should be changed in the same manner as comment CPQ 2).

   The execution of a REPORT DEVICE IDENTIFIER may require the enabling of a nonvolatile memory within the logical unit. If the nonvolatile memory is not ready, the device server shall return CHECK CONDITION status, rather than wait for the device to become ready. The sense key shall be set to NOT READY and the additional sense data shall be set as described in the TEST UNIT READY command (see 7.27). This infor-

mation should allow the application client to determine the action required to cause the device server to become ready.

Replace "the TEST UNIT READY command (see 7.27)" with "table 7.xx".

List these in a new table in 7.21:

MEDIUM NOT PRESENT
LOGICAL UNIT NOT READY, CAUSE NOT REPORTABLE
LOGICAL UNIT IS IN PROCESS OF BECOMING READY
LOGICAL UNIT NOT READY, INITIALIZING COMMAND REQUIRED
LOGICAL UNIT NOT READY, MANUAL INTERVENTION REQUIRED

Editor's notes:

The September, 2000 CAP working group (minutes 00-307) noted that a FORMAT IN PROGRESS additional sense code is possible for a SCSI Controller Commands device, so that the TEST UNIT READY table continues to be an appropriate reference. The group also asked that '…as described in the TEST UNIT READY command (see 7.27)' be replaced with '…as described in Table 124 (see 7.28).'

2.5 [44] CPQ 4) Spelling of "nonvolatile" (Accepted, Editorial)
Global

Converge on one spelling for "non-volatile" or "nonvolatile"

Editor's notes:

The spelling will be "nonvolatile". Comment 7.2 [386] Quantum 2) should be processed before this comment because it contains corrections to the use of "nonvolatile". Additional changes required on:

- PDF page 35 — 3.1.36
- PDF page 116 — 3rd ¶ on page
- PDF page 129 — 2nd ¶ after table 64
- PDF page 132 — 1st ¶ on page
- PDF page 133 — last ¶ on page
- PDF page 137 — 7.11.6 list b)
- PDF page 200 — 7.29.6 2nd ¶
- PDF page 201 — 7.29.8 2nd ¶
- PDF page 227 — 2nd ¶ after table 159
- PDF page 253 — 1st ¶ on page & table A.1 row 4
- PDF page 255 — table A.3, 1 instance in each row
- PDF page 256 — table A.4, row 4
- PDF page 257 — 2nd ¶ on page & all rows in tbl A.5

2.6 [45] CPQ 5) RELEASE Cross Reference (Accepted, Editorial)
PDF page 50-51, page 22-23, clause 5.5.1, table 8

In the footnotes of the table 8 (on two pages), section 5.19 is referenced. Both 5.19 and 5.20 RELEASE(6) and RELEASE(10) should be referenced.

3. Crossroads Systems, Inc.

Crossroads Systems, Inc. principle representative Neil Wanamaker submitted a Yes vote with the following comments.

3.1 [46] Crds 1) EXTENDED COPY Informative Annex (Rejected)

There should be an expository annex on use of Extended Copy. It would be exceedingly difficult for an implementer to use the command correctly from the text.

Reason for rejection:

The editor is in no position to write such an annex. If someone else should write one and propose it for inclusion in an SPC version, then that activity could be viewed as acceptance of this comment.

3.2 [47] Crds 2) RECEIVE COPY RESULTS requires tagged queuing (Rejected)
PDF pages 153-161, pages 125-133, clause 7.17

The Send Copy Results (sic) command appears to be unusable on devices that do not support tagged queueing.

Reason for rejection:

The statement is not correct as regards the majority of RECEIVE COPY RESULTS usage and even when correct it is not an issue. Consider the following description of the RECEIVE COPY RESULTS command:

The RECEIVE COPY RESULTS command (see table 92) provides a means for the application client to receive information about the copy manager or the results of a previous (or current) EXTENDED COPY command (see 7.5).

The only function described above requiring tagged queuing is receiving information about the results of the current EXTENDED COPY command, and if the results cannot be received overall system operation is degraded but the system does not become non-operational. Furthermore, an initiator can determine that the command cannot be sent before attempting to send it as only one untagged command can be outstanding at anytime.

Well over 90% of the RECEIVE COPY RESULTS command's functions can be performed with untagged queuing, with the only exception being the COPY STATUS service action as applied to a current command. All the other RECEIVE COPY RESULTS service actions (RECEIVE DATA, OPERATING PARAMETERS, and FAILED SEGMENT DETAILS) and uses are functional when no EXTENDED COPY commands are active, in fact, the RECEIVE DATA and FAILED SEGMENT DETAILS service actions cannot be performed if the referenced EXTENDED COPY command is still active.

3.3 [48] Crds 3) Access Controls missing (Rejected)

The Access Controls material that was to be included in SPC-2 is not present.

Reason for rejection:

The Access Controls proposal was approved for SPC-3, not SPC-2. Quoting the minutes from the May 2000 T10 plenary meeting (T10/00-207r0):

"Jim Hafner moved that 99-245r9 be approved for inclusion in SPC-3, SAM-2, FCP-2, SPI-4, SBC-2, MMC-3, and a future version of RBC. Rob Elliott second the motion. The motion passed on a vote of 20:0:0:18=38."

4. ENDL Texas

ENDL Texas principle representative Ralph Weber submitted a No individual vote with the following comments.

4.1 [49] ENDL 1) Replace 'Overview' with 'Introduction' (Accepted, Editorial)
Global/Clause * clause 7

In the command descriptions that had a heading added to satisfy ISO style requirements (e.g., 7.3.1 COPY command overview), the word 'overview' should be replaced by 'introduction'. Particularly in the case of command descriptions, these clauses are not overviews but the initial paragraphs of the command description.

4.2 [50] ENDL 2) Incorrect Cross Reference (Accepted, Editorial)
PDF page 235, page 207, clause 8.3.8

The paragraph before table 169 contains an incorrect cross reference to table 103. The reference should be to table 169.

4.3 [51] ENDL 3) Mode Page code 0Dh s/b Obsolete (Accepted, Editorial)
PDF pages 289-290, pages 261-262, clause C.5, table C.4

Change the description of mode page code 0Dh to 'Obsolete' and remove table note [1]. We had enough trouble referencing an internal T9.2 document in SPC. There should be no reason to raise NCITS hackles by referencing a 9 year old internal document from a TC that no longer exists in SPC-2.

Editor's note:

The table row will remain but the description column will be changed to 'Obsolete' and the note will be removed.

5. IBM

IBM principle representative George Penokie submitted a No vote with the following comments.

5.1 [52] IBM 1) Remove Processor Commands (Rejected)
Marked technical by comment author
PDF page 28, page xvi, Introduction

The processor device sections do not contain any information that applies to other device types, therefore it does not belong in this standard. This standard is supposed to define the device model for all SCSI devices. Processor devices should be removed from this standard.

Reason for rejection:

The September CAP working group voted 7:1 to keep the processor commands in SPC-2 (minutes in 00-307).

5.2 [53] IBM 2) Use 'this standard' (Accepted, Editorial)
> PDF page 28, page xvi, Introduction

The last paragraph contains the statement 'SCSI Primary Commands -2' this should be changed to 'this standard'. This should be changed in all places that are not titles or headings in this document.

Editor's note:

The instance cited in this comment is the only case needing change. 'SCSI Primary Commands -2' appears in titles and the first sentence of the introduction, where it seems useful and appropriate.

5.3 [54] IBM 3) Specify Figure 1 (Accepted, Editorial)
> PDF page 29, page 1, clause 1, paragraph under figure 1
> SEE ALSO comments 8.5 [483] Seagate 5) and 9.2 [590] TI 2)

The statement 'The figure is not intended…' should be changed to 'Figure 1 is not intended…'.

Editor's note:

The complete revised text can be found in the resolution for comment 8.5 [483] Seagate 5).

5.4 [55] IBM 4) Wrong Normative References format (Accepted, Editorial)
> PDF page 31, page 3-4, clauses 2.2, 2.3, 2.4, 2.5

This format deviates from the one being used in other standards. Use SPI-3 as a example of how these sections should be segmented.

5.5 [56] IBM 5) ISO Format for Normative References (Accepted, Editorial)
> PDF page 31, page 3-4, clauses 2.2, 2.3, 2.4, 2.5

The format of the listed standards should conform to the ISO way. For examples of this see SPI-3.

5.6 [57] IBM 6) Eliminate 'execution' (Accepted, Editorial)
> PDF page 33, page 5, clause 3.1.1

The term 'execution' should be deleted as it carries no useful information.

5.7 [58] IBM 7) Add AER acronym in glossary (Accepted, Editorial)
> PDF page 33, page 5, clause 3.1.5
> SEE ALSO comment 7.4 [388] Quantum 4)

The acronym AER should be placed as such 'asynchronous event reporting (AER):'

5.8 [59] IBM 8) Add ACA acronym in glossary (Accepted, Editorial)
> PDF page 33, page 5, clause 3.1.6
> SEE ALSO comment 7.4 [388] Quantum 4)

The acronym ACA should be placed as such 'auto contingent allegiance (ACA):'

5.9 [60] IBM 9) Add CDB acronym in glossary (Accepted, Editorial)
PDF page 33, page 5, clause 3.1.11
SEE ALSO comment 7.4 [388] Quantum 4)

The acronym CDB should be placed as such 'command descriptor block (CDB)'.

5.10 [61] IBM 10) Use (e.g., …) form (Accepted, Editorial)
PDF page 33, page 5, clause 3.1.12

The statement '…type; e.g., SBC, SCC, SGC, SMC, SSC, MMC, SES, etc. (see clause 1).' should be type (e.g., SBC, SCC, SGC, SMC, SSC, MMC, SES) (see clause 1). The (e.g., …) format should be used throughout the standard.

5.11 [62] IBM 11) Add CA acronym in glossary (Accepted, Editorial)
PDF page 33, page 5, clause 3.1.13
SEE ALSO comment 7.4 [388] Quantum 4)

The acronym CA should be placed as such 'contingent allegiance (CA)'.

5.12 [63] IBM 12) Delete 'thus' in 'copy manager' def (Accepted, Editorial)
PDF page 33, page 5, clause 3.1.14

The statement '…the operation thus requested.' should be '…the operation requested.'.

5.13 [64] IBM 13) Eliminate baggage in 'data packet' def (Accepted, Editorial)
PDF page 34, page 6, clause 3.1.17

The statement 'A data packet often contains information at the beginning or end of the packet that describes the contents of the packet. A data packet may contain control or status information for the destination device.' should be deleted as to confused more than helps. This is only a processor device thing and is more confusing especially sense we now have protocols that uses things that look and feel like packets.

5.14 [65] IBM 14) Is 'effective progress' different from 'progress'? (Accepted, Editorial)
PDF page 34, page 6, clause 3.1.23

The term 'effective' should be removed as it is not clear what the difference is between 'effective progress' and just plain old progress.

5.15 [66] IBM 15) Eliminate morbid command deaths (Accepted, Editorial)
PDF page 34, page 6, clause 3.1.27

The statement '…complete the execution of a command…' should be changed to '…complete a command…' unless of course the command is to be executed by hanging, electrocution, or some other form of morbid death.

Editor's note:

The change requested by this comment is included in the response to comment 7.9 [393] Quantum 8).

5.16 [67] IBM 16) Which hunt (Accepted, Editorial)
Global & PDF page 34, page 6, clause 3.1.30
SEE ALSO comment 7.11 [395] Quantum 10) and 8.13 [491] Seagate 13)

There needs to be a which hunt in this standard. In most cases a which should be changed to a that. Which is the case in this section.

Editor's note:

The specific case identified in this comment will be resolved as described in comment 8.13 [491] Seagate 13). Other places needing changes (not identified by other comments) are:

- PDF page 83 7.5.6.1 1st ¶
- PDF page 213 last ¶ on page
- PDF page 231 2nd ¶ after table 165
- PDF page 237 4th ¶

One last place needing changing is PDF page 146 list b), where "…which shall have a reservation key value of zero." can be change to "where the RESERVATION KEY field shall contain zero."

5.17 [68] IBM 17) Use (e.g., …) form (Accepted, Editorial)
PDF page 35, page 7, clause 3.1.41

The statement '… protocol; e.g., SPI-3, SBP-2, FCP-2, etc. (see clause 1).' should be '… protocol (e.g., SPI-3, SBP-2, FCP-2) (see clause 1).'

5.18 [69] IBM 18) Undefine 'logical unit inventory' (Rejected)
PDF page 35, page 7, clause 3.1.33

I am not sure of the value of this definition. It looks more like something that belongs where this is used.

Reason for rejection:

SAM-2 uses 'logical unit inventory' and references SPC-2 for the definition. Essentially, this definition and it's subclause references is glue between SPC-2 and SAM-2.

5.19 [70] IBM 19) Use SPI-3 definition of 'target' (Accepted, Editorial)
PDF page 36, page 8, clause 3.1.54

The definition of a target should be change to 'A SCSI device that receives SCSI commands and directs such commands to one or more logical units.' This is the definition used in SPI.

5.20 [71] IBM 20) Change 'device' to 'SCSI device' (Accepted, Editorial)
Global & PDF page 36, page 8, clause 3.1.58

The statement '…to one device to perform…' should be change to '…to one SCSI device to perform…'. The term 'device' should be changed to 'SCSI device' in most cases.

Editor's notes:

The specific change requested in the comment has been included in the response to 7.2 [386] Quantum 2). The same comment resolution also includes an instance (the definition of "medium changer") where "device" will not be replaced with SCSI device (for the reason see note **[4]** below).

A global search for "device" located multiple instances of "device", those in the left column will be replaced with "SCSI device" and those in the right column will not (N.B. the list of places that will not be changed is far longer than the right column suggests).

Change to "SCSI device"
- PDF page 34 3.1.22, 3.1.26 (1st use only)
- PDF page 44 5.2.5 (see 8.25 [503] Seagate 25)
- PDF page 62 5.6 (see 7.25 [409] Quantum 24)
- PDF page 106 7.5.7.9 1st ¶

Keep as just "device" (example list only, not complete)
- PDF page 13 "Abstract" **[1]**
- PDF page 31 "SCSI Family" list **[2]**
- PDF page 33 3.1.7 **[3]**
- PDF page 34 3.1.26 (2nd & 3rd uses) **[4]**
- PDF page 42 4.3.3 1st ¶ **[5]**
- PDF page 44 5.2.4 1st ¶ **[6]**

Reasons for no changes:
- **[1]** "device model" and "device type" are SCSI entities, it is redundant to say "SCSI device type" what other device type could there be?
- **[2]** The name of the OSD standard is Object-based Storage Device Commands, that cannot be changed just in SPC-2.
- **[3]** The object inside a logical unit is a "device server" not a "SCSI device server".
- **[4]** Several uses of "device" describe a generic computing system component that might or might not be a SCSI device.
- **[5]** The use of "device" is incorrect and should be deleted. See the response to comment 8.18 [496] Seagate 18) for resolution of this specific case.
- **[6]** "device specific" will not be changed to "SCSI device specific".

Other changes noted as a result of searching for incorrect uses of "device".

PDF page 217 8.2.9 1st ¶ — Change "A device that implements the start-stop cycle counter page shall …" to "A device <u>server</u> that implements the start-stop cycle counter page shall …"

PDF page 220 8.2.11 1st ¶ — Change "A device that implements the temperature page shall …" to "A device <u>server</u> that implements the temperature page shall …"

5.21 [72] IBM 21) Should the acronyms for standards be listed as acronyms? (Accepted, Editorial)
PDF page 36-37, page 8-9, clause 3.2
SEE ALSO comment 8.15 [493] Seagate 15)

Why are all the standards acronyms listed here. The only ones that are listed (if any) are ones that are used within the body of the standard. I do not consider the use in clause 1 as a reason for cluttering up this list.

Editor's notes:

The acronyms for published standards are referenced in Table 55 (Device Type Code), Table 115 (ASC/ASCQ codes), and nearly all the tables in Annex C. For this reason, acronyms for published standards cannot be removed from this list.

The following acronyms are for unpublished standards for which a published standard exists or older versions of standards and they will be removed from the list: MMC, MMC-3, SBC-2, SCC and SMC-2. The following acronyms can be removed because they will no longer be referenced: FC-PH and FC-PH-3.

The following acronyms need to be added because they are referenced in the body of SPC-2: FCP-2 (EXTENDED COPY) and SPI-3, SPI-4 (revised note 25, 10.25 [614] see O25) Elliott).

5.22 [73] IBM 22) 'see x' instead of 'see clause x' (Rejected)
Global & PDF page 39, page 11, clause 4.1

The terms 'see clause x' should be just 'see x' in all cases.

Reason for rejection:

For a subclause, the ANSI/ISO convention is "see x.y". For a clause, however, the ANSI/ISO convention is "see clause x" to differentiate x from just an average number. SPC-2 observes both conventions.

5.23 [74] IBM 23) Just SAM-2 (Accepted, Editorial)
PDF page 39, page 11, clause 4.2

The usage of both SCSI Architecture Model-2 and SAM-2 is not required as the acronym has already been defined.

Editor's note:

Other instances of this problem will be corrected on:

• PDF page 33 — 3.1.3

• PDF page 44 1st ¶ see 5.37 [88] IBM 37)

5.24 [75] IBM 24) 'Notation for Procedures and Functions' clause (Accepted, Editorial)
PDF page 39, page 11, clause 4.2

The notation used in the service response equation needs to be defined. This should be placed in a section called 'Notation for Procedures and Functions'. Examples of this section are in SPI and SAM.

5.25 [76] IBM 25) Expunge Bold Text (Accepted, Editorial)
PDF page 39, page 11, clause 4.2
SEE ALSO comment 8.16 [494] Seagate 16)

The bold text in the middle paragraphs needs to be changed to normal text.

5.26 [77] IBM 26) Use command descriptor block or CDB (Accepted, Editorial)
Global & PDF page 39, page 11, clause 4.3.1
SEE ALSO comments 5.46 [97] IBM 46) and 5.175 [226] IBM 175)

There is a mix of the usage of the term CDB and command descriptor block. This implies there is some difference between those two terms when there is none. Pick one way and stick with it.

Editor's note:

Subclause 4.3 will be restructured as described in the response to 1.5 [5] Brocade 5). Document 00-269 contains the restructured subclause including the changes agreed in response to this comment. Any further revisions to the restructuring will be reflected solely in revisions to 00-269.

The global search for command descriptor block located the following sites needed changes to CDB:

- PDF page 33 — 3.1.11 2nd sentence
- PDF page 46 — see 5.46 [97] IBM 46)
- PDF page 47 — 1st ¶ after table 6
- PDF page 120 — 3rd ¶ on page
- PDF page 149 — see 5.175 [226] IBM 175)
- PDF page 169 — 1st ¶ after table 107
- PDF page 170 — list entry a) & last ¶ on page
- PDF page 172 — 2nd ¶ after lettered list
- PDF page 173 — ¶ before & after tbl 110 & last ¶ page
- PDF page 242 — 2nd ¶ after table 176 & 1st ¶ after note 60
- PDF page 206 — 3 instances resolved in comments 5.254 [305] IBM 254), 5.257 [308] IBM 257) and 5.258 [309] IBM 258)

- PDF page 177 — 05h(twice) in table 114
- PDF page 198 — last ¶ before table 126
- PDF page 205 — 1st ¶ on page
- PDF page 222 — last ¶ before table 154
- PDF page 223 — 1st ¶ on page & note 54
- PDF page 224 — last ¶ on page
- PDF page 198 — last ¶ before table 126
- PDF page 245 — 1st ¶ after table 182

5.27 [78] IBM 27) Add 32 byte CDB format (Accepted, Editorial)
        PDF page 39, page 11, clause 4.3

This section should add in the 32 byte CDB that has been defined.

Editor's note:

Subclause 4.3 will be restructured as described in the response to 1.5 [5] Brocade 5). Document 00-269 contains the restructured subclause including the changes agreed in response to this comment. Any further revisions to the restructuring will be reflected solely in revisions to 00-269.

5.28 [79] IBM 28) Duplicate of IBM 29) (Accepted, Editorial)
        PDF page 40, page 12, clause 4.3.1

Paragraphs below table 2, The term '…tables 1, 2, 3, and 4…' should be changed to 'table 1, table 2, table 3, and table 4…' This is one of those things that have been flagged by ANSI editors in the past.

Editor's note:

This specific instance of the 'tables x, y, and z' problem disappears as a result of the restructuring undertaken in response to comments 1.5 [5] Brocade 5), 5.36 [87] IBM 36) and 7.14 [398] Quantum 13).

5.29 [80] IBM 29) Use table 1, table 2, … (Accepted, Editorial)
        Global & PDF page 40, page 12, clause 4.3.1

Paragraphs below table 2, The term '…tables 1, 2, 3, and 4…' should be changed to 'table 1, table 2, table 3, and table 4…' This should be corrected throughout the standard. This is one of those things that have been flagged by ANSI editors in the past.

Editor's note:

This specific instance of the 'tables x, y, and z' problem disappears as a result of the restructuring undertaken in response to comments 1.5 [5] Brocade 5), 5.36 [87] IBM 36) and 7.14 [398] Quantum 13).

Comment 5.56 [107] IBM 56) identifies two other occurrences of this problem. The only other occurrences of the problem are 'Tables A.7 and A.8' on PDF page 259 and five occurrences of 'tables B.1, B.2 and B.3' on PDF page 262.

5.30 [81] IBM 30) Use subclause (Accepted, Editorial)
Global & PDF page 40, page 12, clause 4.3.1

The statement '…the clause defining that command.' should be '…the subclause defining that command.'

Editor's note:

Subclause 4.3 will be restructured as described in the response to 1.5 [5] Brocade 5). Document 00-269 contains the restructured subclause including the changes agreed in response to this comment. Any further revisions to the restructuring will be reflected solely in revisions to 00-269.

The following additional sites have been identified as needing changes from 'clause(s)' to 'subclause(s)'.

- PDF page 46 — 1st ¶ on page see 5.44 [95] IBM 44)
- PDF page 50 — 1st ¶ on pg see 5.58 [109] IBM 58)
- PDF page 65 — table 10 notes
- PDF page 93 — see 5.115 [166] IBM 115)
- PDF page 94 — table 36 1st row
- PDF page 97 — 1st ¶ after table 38
- PDF page 98 — 7.5.7.3 1st ¶
- PDF page 99 — 1st ¶ after table 39
- PDF page 101 — 1st ¶ after table 40
- PDF page 105 — 1st ¶ after table 43
- PDF page 165 — 1st ¶ on page (2x)
- PDF page 193 — 7.25 1st ¶ (2x)
- PDF page 203 — 1st ¶ on page
- PDF page 203 — Table 128 (change to "reference")
- PDF page 205 — 1st ¶ on page
- PDF page 209 — Table 133 (change to "reference")
- PDF page 251 — Tables 190 & 191 (change to "reference")
- PDF page 213 — 1st ¶ on page
- PDF page 217 — 1st ¶ on page
- PDF page 220 — 8.2.11 1st ¶
- PDF page 222 — 1st ¶ on page
- PDF page 223 — 1st & 2nd ¶s after note 54
- PDF page 224 — 2nd ¶ after table 156
- PDF page 226 — 2nd ¶ on page
- PDF page 227 — 1st ¶ after nte 58 & after tbl 159 (2x)
- PDF page 228 — 1st ¶ on page (2x)
- PDF page 228 — Table 160 (change to "reference")
- PDF page 241 — 1st ¶ on page (see 1.29 [29])
- PDF page 241 — Table 174 (change to "reference")
- PDF page 251 — 1st ¶ in 10.1 & 10.2
- PDF page 259 — 1st ¶ on page
- PDF page 262 — 1st & last ¶s on page
- PDF page 266 — 1st & last ¶s on page

5.31 [82] IBM 31) Kill the ly (explicitly) words (Accepted, Editorial)
PDF page 42, page 14, clause 4.3.2

The statement '…that explicitly contain…' should be changed to '…that contain…'. The term explicitly add no value.

Editor's note:

Subclause 4.3 will be restructured as described in the response to 1.5 [5] Brocade 5). Document 00-269 contains the restructured subclause including the changes agreed in response to this comment. Any further revisions to the restructuring will be reflected solely in revisions to 00-269.

5.32 [83] IBM 32) Change 'device' to 'SCSI device' (Accepted, Editorial)
PDF page 42, page 14, clause 4.3.3

The term device should be SCSI device.

Editor's note:

Subclause 4.3 will be restructured as described in the response to 1.5 [5] Brocade 5). Document 00-269 contains the restructured subclause including the changes agreed in response to this comment. Any further revisions to the restructuring will be reflected solely in revisions to 00-269.

5.33 [84] IBM 33) Add 64-bit LBA (Accepted, Substantive)
> PDF page 42, page 14, clause 4.3.3
> SEE ALSO comment 8.19 [497] Seagate 19)

There is nothing in this section about the 64-bit LBA that has been added into the 16 byte CDBs. This needs to be added in here and should be shown in the CDB tables above.

Editor's note:

It is not clear whether the intention of this comment is to replace the current table 4 or add another table. Another table has been added in the first revision of 00-269. Subclause 4.3 will be restructured as described in the response to 1.5 [5] Brocade 5). Document 00-269 contains the restructured subclause including the changes agreed in response to this comment. Any further revisions to the restructuring will be reflected solely in revisions to 00-269.

5.34 [85] IBM 34) Delete 'etc' (Accepted, Editorial)
> PDF page 42, page 14, clause 4.3.5

The term 'etc' should be removed as it is redundant with the e.g.

Editor's note:

Subclause 4.3 will be restructured as described in the response to 1.5 [5] Brocade 5). Document 00-269r3 contains the restructured subclause including the changes agreed in response to this comment. Any further revisions to the restructuring will be reflected solely in revisions to 00-269.

5.35 [86] IBM 35) Delete 'etc' (Accepted, Editorial)
> PDF page 42, page 14, clause 4.3.6

The term 'etc' should be removed as it is redundant with the e.g.

Editor's note:

Subclause 4.3 will be restructured as described in the response to 1.5 [5] Brocade 5). Document 00-269r3 contains the restructured subclause including the changes agreed in response to this comment. Any further revisions to the restructuring will be reflected solely in revisions to 00-269.

5.36 [87] IBM 36) Variable CDB s/b under 4.3 (not 4.4) (Accepted, Editorial)
> PDF page 43, page 15, clause 4.4
> SEE ALSO comments 1.5 [5] Brocade 5) and 7.14 [398] Quantum 13)

This section should be a subclause of 4.3 as it is a variant of the CDB.

Editor's note:

The comment will be resolved as described in the response to comment 1.5 [5] Brocade 5). Document 00-269 contains the restructured subclause including the changes agreed in response to this comment. Any further revisions to the restructuring will be reflected solely in revisions to 00-269.

5.37 [88] IBM 37) Just SAM-2 (Accepted, Editorial)
PDF page 44, page 16, clause 5.1
See ALSO comment 5.23 [74] IBM 23)

No need to list both SCSI Architecture Model-2 and SAM. Pick one and use consistently.

Editor's note:

See 5.23 [74] IBM 23) for a complete list of the sites where this problem will be fixed.

5.38 [89] IBM 38) All information is useful (Accepted, Editorial)
PDF page 44, page 16, clause 5.2.2

The statement '…other useful information…' should be changed to '…other information…'. I assume all information is useful.

5.39 [90] IBM 39) Don't capitalize 'autosense data' (Accepted, Editorial)
PDF page 44, page 16, clause 5.2.3

The term Autosense Data should not be capitalized.

5.40 [91] IBM 40) There is no such thing as 'device specific' (Accepted, Editorial)
PDF page 44, page 16, clause 5.2.4
SEE ALSO comment 1.9 [9] Brocade 9)

The term 'device specific' should be changed to 'vender specific'.

Editor's note:

As described in the response to comment 1.9 [9] Brocade 9), the text identified in this comment may be removed from the document or moved to 5.4. If the text identified by this comment is moved to 5.4, this correction will be made.

5.41 [92] IBM 41) Remove not 'especially useful' statement (Accepted, Editorial)
PDF page 44, page 16, clause 5.2.5
SEE ALSO comment 8.24 [502] Seagate 24)

[Remove] The statement 'It is especially useful to check the cartridge status of logical units with removable media.' as it contains no especially useful information.

Editor's note:

Resolved as described in the response to 8.24 [502] Seagate 24).

5.42 [93] IBM 42) Kill the ly (generally) words (Accepted, Editorial)
>   PDF page 45, page 17, clause 5.3, note 2
>   SEE ALSO comment 8.26 [504] Seagate 26)

The term 'generally' should be removed as generally the term adds no value to the statement.

Editor's note:

The word "generally" will be removed. See the response to comment 8.26 [504] Seagate 26) for a complete description of the changes, which include making note 2 part of the body text.

5.43 [94] IBM 43) Put 'segments' in glossary (Rejected)
>   PDF page 45, page 17, clause 5.4.2, 2nd paragraph

The term segments should be added to the glossary.

Reason for rejection:

The English dictionary definition for 'segment' is "one of the parts into which something naturally separates or is divided; a division, portion or section." Substitute the word 'section' for every occurrence of 'segment' in this subclause and it becomes obvious that 'segment' is being used its normal English meaning, which suggests that a glossary entry would be inappropriate. Furthermore, any glossary entry introduced would have to recognize the other uses of 'segment' in SPC-2 such as COPY segment descriptors and the SEGMENT NUMBER field in sense data making it a horrifically complex glossary entry.

5.44 [95] IBM 44) Don't say 'the following clauses' (Accepted, Editorial)
>   PDF page 46, page 18, clause 5.4.3

The statement 'These modes are described in the following clauses.' should be removed or changed to 'These modes are described in 5.4.3.1 and 5.4.3.2'.

Editor's note:

The text will be changed as proposed, not removed

5.45 [96] IBM 45) Capitalization of 'Self-test results' log page (Accepted, Editorial)
>   Global & PDF page 46, page 18, clause 5.4.3.1- 5.4.3.2

The term 'Self-test results' should be either no caps or all caps. I believe all caps is correct. This occurs in several places.

Editor's notes:

All caps has never been used for log page names as evidenced by virtually all the subclauses in 8.2. No caps is the current usage and will be observed here via global search and replace.

The following sites have been identified as needing changes:

- PDF page 46 — 5.4.3.1 ¶ 2(x3) & ¶ 3 & 5.4.3.2 ¶ 2(x2)
- PDF page 47 — 5.4.3.3 2nd ¶
- PDF page 214 — 8.2.8 1st ¶ (see 5.263 [314] IBM 263)

5.46 [97] IBM 46) Use command descriptor block or CDB (Accepted, Editorial)
    PDF page 46, page 18, clause 5.4.3.2
    SEE ALSO comments 5.26 [77] IBM 26) and 5.175 [226] IBM 175)

Another case where CDB should be used instead of command descriptor block or the other way around.

Editor's Note:

CDB will be used.

5.47 [98] IBM 47) Change 'never' to 'not' (Accepted, Editorial)
    PDF page 47, page 19, clause 5.4.3.2
    SEE ALSO comment 8.28 [506] Seagate 28)

The statement '…shall never take longer…' should be '…shall not take longer…'.

5.48 [99] IBM 48) Reformat table 6 (Accepted, Editorial)
    PDF page 47, page 19, clause 5.4.3.2, table 6

The formatting of this table should be change to add a double line after the header and before the footer. The text in the footer should start with 'Note:' and the text indented.

Editor's notes:

See comment 5.72 [123] IBM 72) for the resolution for the use of double lines demarcating headers and footers in tables. See comment 5.119 [170] IBM 119) for the resolution for stylistic handling of notes in tables.

5.49 [100] IBM 49) Eliminate note (Accepted, Editorial)
    PDF page 47, page 19, clause 5.4.3.2, note 3

This note looks like it should be part of the main text. It should be made so.

5.50 [101] IBM 50) Eliminate 'execution' (Accepted, Editorial)
    PDF page 47, page 19, clause 5.4.3.3

The following statement '…during execution of a self-test to poll…' should be changed to '…during a self-test operation to poll…'

5.51 [102] IBM 51) Eliminate 'execution' (Accepted, Editorial)
    PDF page 47, page 19, clause 5.4.3.3

The following statement 'While executing a self-test unless…' should be changed from 'While a self-test operation is in progress unless…'

5.52 [103] IBM 52) Reformat table 7 (Accepted, Editorial)
PDF page 48, page 20, clause 5.4.3.3, table 7

The formatting of this table should be change to add a double line after the header.

Editor's notes:

See comment 5.72 [123] IBM 72) for the resolution for the use of double lines demarcating headers and footers in tables.

5.53 [104] IBM 53) Subscript 's' (Accepted, Editorial)
PDF page 48, page 20, clause 5.4.3.3, table 7, 3rd column, 2nd row

The 's' in self-test appears to have a subscript format.

Editor's note:

The problem is not evidenced in the Frame source file so there is a possibility that this is a PDF generation error. However, efforts will be made to ensure that the Frame source is a clean as possible in this area.

5.54 [105] IBM 54) Don't capitalize 'persistent reservation' (Accepted, Editorial)
Global & PDF page 49, page 21, clause 5.5.1, 2nd paragraph after a,b list

The term persistent reservation should not be capitalized. This should be changed throughout the standard.

Editor's notes:

The capitalization of persistent reservation needs to be changed at the following sites:

- PDF page 49 — 2nd ¶ after list
- PDF page 262 — 2nd ¶ on page
- PDF page 266 — 2nd ¶ on page

5.55 [106] IBM 55) Don't say just 'the table' (Accepted, Editorial)
PDF page 49, page 21, clause 5.5.1, 3rd paragraph after a,b list

The statement '…in the table shall apply.' should be '…in table 8 shall apply.'

5.56 [107] IBM 56) 'table 8' and 'table 9' (Accepted, Editorial)
PDF page 49, page 21, clause 5.5.1, 4th paragraph after the a,b list
PDF page 49, page 21, clause 5.5.1, 7th paragraph after the a,b list

The following statement '…tables 8 and 9.' should be '…table 8 and table 9.'

5.57 [108] IBM 57) Don't capitalize 'reserve/release' (Accepted, Editorial)
Global & PDF page 49, page 21, clause 5.5.1

The term Reserve/Release should not be capitalized. This should be changed throughout the standard.

Editor's note:

The following sites have been identified as needing this change:

- PDF page 49 — 2nd ¶ after list
- PDF page 52 — 5.5.2 ¶ 1(2x) & ¶ 2(2x)
- PDF page 62 — 5.6 2nd list d) & e)

- PDF page 262 — 2nd ¶ on page
- PDF page 266 — 2nd ¶ on page

5.58 [109] IBM 58) No need to say 'clause' (Accepted, Editorial)
PDF page 50, page 22, clause 5.5.1, 1st paragraph before table 8

The statement '… standard's device model clause or in the clauses that define the specific commands.' should be '…standard's device model or in specific commands defined in that standard.'

Editor's note:

While the sentence in question is awkward:

"Depending on the particular command standard the conditions are defined in that standard's device model clause or in the clauses that define the specific commands."

The proposed wording leaves this reader thinking that the commands themselves somehow define the conditions that cause reservation conflicts. Also, it is worth noting that the proposed rewording fails to indicate a preference for providing the reservation conflict information in the device model. For these reasons, the sentence will be rewritten as follows:

"Command standards define the conditions either in the device model (preferred) or in the descriptions each specific command."

5.59 [110] IBM 59) Force table 8 to one page (Accepted, Editorial)
PDF page 50, page 22, clause 5.5.1, table 8

This table should be made to fit on one page. The footnotes should be indented on table 8 and table 9.

Editor's notes:

See comment 5.128 [179] IBM 128 for the resolution for requiring tables to fit on a single page (note that table 8 is given some chance of fitting on one page in the comment resolution). See comment 5.119 [170] IBM 119) for the resolution for stylistic handling of notes in tables.

5.60 [111] IBM 60) Eliminate 'execution' (Accepted, Editorial)
PDF page 52, page 24, clause 5.5.1, 2nd to last paragraph

The statement 'The execution of any reserve/release…' should be 'Any reserve/release…',

5.61 [112] IBM 61) Add i.e. to parenthetical phrase (Rejected)
PDF page 52, page 24, clause 5.5.2

The statement '…initiator (a third-party initiator).' should be changed to '…initiator (i.e., a third-party initiator).'.

Reason for rejection:

Because about 30% of the IBM comments concern the use of parentheses in one way or another, it is reasonable to assume that a matter of writing style is at issue. Since the ISO style guide contains no requirements regarding the use of parentheses other references have been consulted. The *Chicago Manual of Style 13th edition* describes the use of parentheses as follows:

"[5.97] Parentheses, like commas and dashes, may be used to set off amplifying, explanatory, or digressive elements. If such parenthetical elements retain a close logical relationship to the rest of the sentence, commas should be used. If the logical relationship is more remote, dashes or parentheses should be used."

Webster's Standard American Style Manual offers this description of the use of parentheses.

"Parentheses enclose phrases and clauses that provide examples, explanations, or supplementary facts."

Webster's notes 9 additional and/or more specific uses of parentheses one of which is:

"Parentheses enclose phrases and clauses introduced by expressions such as *namely, that is, e.g.,* and *i.e.* Commas, dashes, and semicolons are also used to perform this function."

A review of the approximately 96 IBM comments regarding the use of parentheses identifies four proposed resolutions:

- remove the parentheses
- replace the parentheses with commas
- add "i.e.," at the beginning of the parenthetical phrase
- add "e.g.," at the beginning of the parenthetical phrase

It would appear that the use of parentheses is thought to require the presence of "i.e.," or "e.g.,". Although the style guides cited above note this as one use of parentheses, they list it as only one of many uses. The editor's reading of the style guides indicates that parentheses may be used in place of paired commas to separate or emphasize a phrase with respect to the main body of a sentence and vice versa.

Since the existing use of parentheses fits the stylistically guidelines quoted above and since (in the judgement of the editor) making the propose change does not materially improve the readability of the standard and may actually distort the meaning, the change will not be made.

5.62 [113] IBM 62) Remove/replace 'significant' (Accepted, Editorial)
PDF page 52, page 24, clause 5.5.2, 2nd paragraph
SEE ALSO comment 8.37 [515] Seagate 37)

The statement '…require significant reinitialization after…' should be changed to '…require reinitialization after…'. The term significant in not quantifiable.

Editor's note:

The sentence under discussion is:

"Reservations managed using the Reserve/Release method do not persist across some recovery actions (e.g., hard resets), so most systems require **significant** reinitialization after a failure that results in a hard reset."

While term 'significant' in not quantifiable, the sentence becomes ridiculously simplistic if 'significant' is removed. Therefore, the sentence will be rewritten to read as follows:

"Reservations managed using the reserve/release method do not persist across some recovery actions (e.g., hard resets). When a target performs one of these recovery actions, the application client(s) have to rediscover the configuration and re-establish the required reservations."

5.63 [114] IBM 63) Which hunt (Rejected)
PDF page 52, page 24, clause 5.5.3.1
SEE ALSO accepted comments 6.2 [373] LSI 2) and 8.38 [516] Seagate 38)

The which should be a that.

Reason for rejection:

For reference, the sentence under discussion is an example of where 'which' is the correct word.

"The Persistent Reservations management method is used among multiple initiators that require operations to be protected across initiator failures, which usually involve hard resets."

The *Chicago Manual of Style 13th edition* describes the use of adjectival phrases (phrases beginning with 'that' or 'which') as follows:

"[5.36] An adjectival phrase or clause that follows a noun and restricts or limits the reference of the noun in a way that is essential to the meaning of the sentence should not be set off by commas; but at adjectival phrase or clause that is nonrestrictive or is purely descriptive, which could be dropped without changing the reference of the noun, is set off by commas."

Note that the sentence itself is an example of when to use 'which'. The *Chicago Manual* provided two additional examples:

The report that the committee submitted was well documented.
The report, which was well documented, was discussed with considerable emotion.

With much appreciated help from Harvey Rosenfeld the relevant pages from the *Chicago Manual of Style 14th edition* were obtained wherein the following additional clarification can be found.

"[5.42] A distinction has traditionally been made between the relative pronouns *which* and *that*, the latter having long been regarded as introducing a restrictive clause, and the former, a nonrestrictive one. Although the distinction is often disregarded in contemporary writing, the careful writer and editor should bear in mind that such indifference my result in misreading or uncertainty."

The following example and discussion of the example is provided.

Ambiguous:
The report which Marshall had tried to suppress was greeted with hilarity.

Which of the following is meant?
The report, which Marshall had tried to suppress, was greeted with hilarity.
or
The report that Marshall had tried to suppress was greeted with hilarity.

When the commas intended to set off a nonrestrictive clause are omitted, perhaps with the purpose of using *which* restrictively, the reader may well wonder whether the omission was inadvert. Some uncertainty will persist.

The difference between the two is whether the fact that Marshall tried to suppress the report is critical to the naming of the report or not. A test of this is whether the sentence changes meaning when the phrase is removed.

In the case identified by this comment the phrase beginning with the word 'which' is preceded by a comma and removing the phrase from the sentence does not alter meaning of the sentence. Therefore, 'which' is appropriate and will be left unchanged.

5.64 [115] IBM 64) Don't capitalize 'Active PTPL' (Accepted, Editorial)
>   PDF page 53, page 25, clause 5.5.3.2.
>   SEE ALSO comments] CPQ 1B), 5.65 [116] IBM 65), and 8.42 [520] Seagate 42)

The term Active Persist Through Power Loss should not be capitalized.

Editor's note:

This comment is resolved by the changes described in the response to comment 2.2 [41] CPQ 1B).

5.65 [116] IBM 65) PTPL Description (Accepted, Editorial)
>   PDF page 53, page 25, clause 5.5.3.2, last paragraph of page before the a,b,c list
>   SEE ALSO comments] CPQ 1B), 5.64 [115] IBM 64), and 8.42 [520] Seagate 42)

The statement '…the Persist Through Power Loss (APTPL)…' should be '…the APTPL…'.

Editor's note:

This comment is resolved by the changes described in the response to comment 2.2 [41] CPQ 1B).

5.66 [117] IBM 66) Description of READ KEYS uses 'port' (Accepted, Editorial)
>   PDF page 54, page 26, clause 5.5.3.3.2, last paragraph

The term port is used but a SCSI port has not been defined. I suggest port be changed to target in this case.

Editor's note:

The proposed change makes a correct statement incorrect. The sentence containing 'SCSI port' will be changed from:

"Each reservation key may be examined by the application client and correlated with one or more initiators and SCSI ports by mechanisms outside the scope of this standard."

to:

"The application client may examine the reservation keys to identify relationships between initiators based on mechanisms that are outside the scope of this standard."

5.67 [118] IBM 67) Capitalization (Rejected)
>   Global & PDF page 57, page 29, clause 5.5.3.6.1

The capitals should be removed from the following terms 'Write Exclusive, Registrants Only or Exclusive Access - Registrants Only'. These terms appear in other sections and should have the caps removed in those places also.

Reason for rejection:

The identified terms are proper names for reservations types furthermore they are complex name phrases that will not be easily identified unless they are capitalized. Therefore, the November SPC-2 Letter Ballot review meeting agreed that they may be capitalized as would be the case for any proper English name.

5.68 [119] IBM 68) Change 'port' to 'service delivery ports' (Accepted, Editorial)
>   PDF page 62, page 34, clause 5.6

The statement 'Additional ports provide…' should be changed to 'Additional service delivery ports provide…'.

5.69 [120] IBM 69) Change 'port' to 'service delivery ports' (Accepted, Editorial)
>   PDF page 62, page 34, clause 5.6
>   See ALSO comment 7.25 [409] Quantum 24)

The statement '…among the ports…' should be changed to '…among the service delivery ports…'. In the general case all references to port in this section should be changed to service delivery port.

Editor's note:

The resolution to 7.25 [409] Quantum 24) includes the changes described in this comment.

5.70 [121] IBM 70) Commas not parentheses (Accepted, Editorial)
>   PDF page 62, page 34, clause 5.6
>   SEE ALSO comment 8.59 [537] Seagate 59)

The following statement '…initiators (regardless of port) except…' should be changed to '…initiators, regardless of port, except…'

Editor's note:

The response to 8.59 [537] Seagate 59) totally rewrote this sentence containing this phrase so that neither commas nor parentheses are used.

5.71 [122] IBM 71) 'zero' not '0' (Rejected)
>   PDF page 63, page 35, clause 5.7, last paragraph

The statement '…element 0.' should be '…element zero.'.

Reason for rejection:

As used in this sentence, 'element 0' is the name of a thing. The name is spelled 'element 0' not 'element zero'.

5.72 [123] IBM 72) Double lines in Tables (Accepted, Editorial)
PDF page 65, page 37, clause7.1, table 10

The formatting of this table should be change to add a double line after the header and before the footer. This should be done for all tables in this standard. Also this table should be made to fit on one page.

Editor's notes:

See comment 5.128 [179] IBM 128 for the resolution for requiring tables to fit on a single page (note that table 10 is given nearly certain chance of fitting on one page in the comment resolution). See comment 5.119 [170] IBM 119) for the resolution for stylistic handling of notes in tables.

The SPC-2 policy on double lines after table headers and before table footers is as follows. If a table contains lines separating the rows in the body, single lines shall be used to separate table body rows and double lines shall be used to separate heading and footing material from the table body. If a table has no lines separating the rows, single lines shall be used to separate heading and footing material from the table body.

Applying this policy to tables in SPC-2 offers two options for tables with single lines between all rows, headers and footers. The lines between the rows can be removed or the lines separating headers/footers from the table body can be changed to double lines. For the tables that do not fit the SPC-2 policy, the remedies will be applied as follows:

Lines removed from between table body rows
- PDF page 84 table 25
- PDF page 121 table 58
- PDF page 126 table 61
- PDF page 148 table 85
- PDF page 149 table 87
- PDF page 155 table 95
- PDF page 156 table 96 (see 1.30 [30] Brocade 30)
- PDF page 211 table 136
- PDF page 212 table 139
- PDF page 213 table 140
- PDF page 214 table 141
- PDF page 215 table 144
- PDF page 216 table 145
- PDF page 218 table 147
- PDF page 218 table 148
- PDF page 219 table 149
- PDF page 221 table 152
- PDF page 229 table 162
- PDF page 230 table 163
- PDF page 230 table 164
- PDF page 231 table 165
- PDF page 244 table 179
- PDF page 244 table 180
- PDF page 245 table 181
- PDF page 245 table 182
- PDF page 295 table c.6
- PDF page 298 table c.7

Single line separators changed to double lines
- PDF page 47 table 6
- PDF page 48 table 7
- PDF page 82 table 23
- PDF page 91 table 33
- PDF page 95 table 37
- PDF page 126 table 60
- PDF page 143 table 79
- PDF page 145 table 81
- PDF page 147 table 83
- PDF page 154 table 93
- PDF page 176 table 114
- PDF page 194 table 120
- PDF page 197 table 124
- PDF page 235 table 169
- PDF page 253 table a.1
- PDF page 254 table a.2
- PDF page 255 table a.3
- PDF page 256 table a.4
- PDF page 257 table a.5
- PDF page 258 table a.6
- PDF page 259 table a.7
- PDF page 260 table a.8
- PDF page 260 table a.9
- PDF page 291 table c.5

Table 56 on PDF page 119 will not be changed at all because in an attempt to minimize white space table 56 follows none of the style guidelines described above.

Also two tables require changes different from those already described to conform to the style guidelines.
*   PDF page 246 table 183 — the double line between the table body and notes will be changed to a single line
*   PDF page 299 table c.9 — a single line will be added below the table heading (currently there is no line)

5.73 [124] IBM 73) Add i.e. to parenthetical phrase (Rejected)
> PDF page 68, page 40, clause 7.3.1

The statement '…unit (source device) to a logical unit (destination device).' should be '…unit (i.e., source device) to a logical unit (i.e., destination device).'

Reason for rejection:

This issue does not need to be resolved because the COPY command is being made obsolete, as requested in comment 1.15 [15] Brocade 15).

5.74 [125] IBM 74) Eliminate parenthesis (Rejected)
> PDF page 68, page 40, clause 7.3.1

The statement '…SCSI device (in fact all three may be the same logical unit).' should be '…SCSI device and all three may be the same logical unit.'

Reason for rejection:

This issue does not need to be resolved because the COPY command is being made obsolete, as requested in comment 1.15 [15] Brocade 15).

5.75 [126] IBM 75) 'zero' not '0' & 'one' not '1' (Rejected)
> PDF page 68, page 40, clause 7.3.1, 2nd paragraph from bottom of page

The statement '…priority of 1. Priority 0…' should be '…priority of one. Priority zero…'

Reason for rejection:

This issue does not need to be resolved because the COPY command is being made obsolete, as requested in comment 1.15 [15] Brocade 15).

5.76 [127] IBM 76) Table anchor placement (Rejected)
> PDF page 68, page 40, clause 7.3.1

The last sentence of the page is split between tables 13 and 14. This need to be corrected with those tables being placed after the end of the paragraph.

Reason for rejection:

This issue does not need to be resolved because the COPY command is being made obsolete, as requested in comment 1.15 [15] Brocade 15).

5.77 [128] IBM 77) Eliminate parenthesis (Rejected)
PDF page 70, page 42, clause 7.3.3, 2nd paragraph

The statement '…be the source or destination SCSI device (or both).' should be '…be either the source or desti-nation SCSI device or both.'

Reason for rejection:

This issue does not need to be resolved because the COPY command is being made obsolete, as requested in comment 1.15 [15] Brocade 15).

5.78 [129] IBM 78) Clarify what's changed (Rejected)
PDF page 70, page 42, clause 7.3.3, paragraphs after a.b list

The statement '…of an area that contains (unchanged) the…' is unclear as to what is unchanged. This needs to be fixed.

Reason for rejection:

This issue does not need to be resolved because the COPY command is being made obsolete, as requested in comment 1.15 [15] Brocade 15).

5.79 [130] IBM 79) Eliminate parenthesis (Rejected)
PDF page 72, page 44, clause 7.3.5, 3rd paragraph after table

The statement '…transferred to or from (depending on the DC bit)…' should be '…transferred to, if the DC bit is set to x, or from, if the DC bit is set to y,…'

Reason for rejection:

This issue does not need to be resolved because the COPY command is being made obsolete, as requested in comment 1.15 [15] Brocade 15).

5.80 [131] IBM 80) Eliminate parenthesis (Rejected)
PDF page 74, page 46, clause 7.3.7, last paragraph

The statement '…transferred to or from (depending on the DC bit)…' should be '…transferred to, if the DC bit is set to x, or from, if the DC bit is set to y,…'

Reason for rejection:

This issue does not need to be resolved because the COPY command is being made obsolete, as requested in comment 1.15 [15] Brocade 15).

5.81 [132] IBM 81) 'RSmk' is a field name (Rejected)
PDF page 75, page 47, clause 7.3.7, item d in list

The term RSmk needs to be in small caps.

Reason for rejection:

This issue does not need to be resolved because the COPY command is being made obsolete, as requested in comment 1.15 [15] Brocade 15).

5.82 [133] IBM 82) Eliminate parentheses (Rejected)
PDF page 75, page 47, clause 7.3.8, 1st paragraph

The statement 'The PAD bit (in the command descriptor block) and the CAT bit (in each applicable segment descriptor)…' should be changed to 'The CDB PAD bit and the applicable segment descriptor CAT bit…'.

Reason for rejection:

This issue does not need to be resolved because the COPY command is being made obsolete, as requested in comment 1.15 [15] Brocade 15).

5.83 [134] IBM 83) Add i.e. to parenthetical phrase (Rejected)
PDF page 75, page 47, clause 7.3.8, table 19, 1st row

The statement '…blocks (variable-block…' should be changed to '…blocks (i.e., variable-block…'.

Reason for rejection:

This issue does not need to be resolved because the COPY command is being made obsolete, as requested in comment 1.15 [15] Brocade 15).

5.84 [135] IBM 84) Eliminate parentheses (Accepted, Editorial)
PDF page 77, page 49, clause 7.5.1, 1st paragraph

The statement '…device (in fact all the devices and the copy manager may be the same logical unit).' should be changed to '…device. It is possible that all the SCSI devices and the copy manager are the same logical unit).'

Editor's note:

The parentheses are unbalanced in the proposed replacement text. The text will be changed to: '…device. It is possible that all the SCSI devices and the copy manager are the same logical unit.'

5.85 [136] IBM 85) Eliminate 'execute' (Accepted, Editorial)
PDF page 77, page 49, clause 7.5.1, 1st paragraph after table

The statement '…execute any activities necessary…' should be changed to '…take any necessary actions required…'

5.86 [137] IBM 86) Change 'activities' to 'actions' (Accepted, Editorial)
PDF page 77, page 49, clause 7.5.1, 1st paragraph after table

The statement 'These activities may…' should be changed to 'These <u>actions</u> may…'

5.87 [138] IBM 87) The identification is unique, not the value (Accepted, Editorial)
PDF page 78, page 50, clause 7.5.1, paragraph under note 6

The statement '…is a unique value selected by the application client to identify the extended…' should be changed to '…is a value selected by the application client to uniquely identify the extended…'.

5.88 [139] IBM 88) 'zero' not '0' & 'one' not '1' (Accepted, Editorial)
PDF page 79, page 51, clause 7.5.1, 1st paragraph of page

The statement '…priority of 1. Priority 0 is…' should be changed to '…priority of one. Priority zero is…'

Editor's note:

The text will be changed to '…priority of 1h. Priority 0h is…'.

5.89 [140] IBM 89) Remove 'most' (Accepted, Editorial)
PDF page 79, page 51, clause 7.5.1, 2nd paragraph of page

The term most is used. But there is not clear definition of how many most is. What I consider to be most could be very different than what the next person thinks is most. This needs to be fixed but since I have no reference to pick from I will replace most with 99%.

Editor's note:

The phrase '…that most of the disk references…' will be changed to '…that <u>the majority</u> of the disk references…'.

5.90 [141] IBM 90) Change 'dictated' to 'defined' (Accepted, Editorial)
PDF page 79, page 51, clause 7.5.1, 3rd paragraph from top of page
See also comment 8.66 [544] Seagate 66)

The statement '…actions and dictated by the…' should be changed to '…actions and <u>defined</u> by the…'.

Editor's note:

This comment and 8.66 [544] Seagate 66) have highlighted several problems with paragraph containing the identified text. With respect to this comment a better replacement word for 'dictated' is 'specified'. The current text reads:

If the No Receive Copy Results (NRCR) bit is zero, the copy manager shall hold data for retrieval by the application client using the RECEIVE COPY RESULTS command (see 7.17) as described by the RECEIVE COPY RESULTS command service actions and dictated by the segment descriptors. If NRCR is one, the copy manager may discard any data accessible to the application client via the RECEIVE COPY RESULTS command and respond to RECEIVE COPY RESULTS commands with a matching value in the LIST IDENTIFIER field as if no EXTENDED COPY command has been processed.

The text will be modified as follows:

If the No Receive Copy Results (NRCR) bit is zero, the copy manager shall hold data for retrieval by the application client using the RECEIVE COPY RESULTS command <u>with the RECEIVE DATA service action (see 7.17.3)</u> ~~(see 7.17) as described by the RECEIVE COPY RESULTS command service actions~~ and ~~dictated~~ <u>specified</u> by the segment descriptors. If NRCR is one, the copy manager may discard ~~any~~ <u>all</u> data accessible to the application client via the RECEIVE COPY RESULTS command <u>with the RECEIVE DATA service action. If application client requests delivery of data that has been discarded as a result of NRCR being one, the copy manager shall respond as if the EXTENDED COPY command has not been processed.</u> ~~and respond to RECEIVE COPY RESULTS commands with a matching value in the list identifier field as if no EXTENDED COPY command has been processed.~~

The change from 'any' to 'all' intends to avoid the copy manager discarding randomly selected parts of the data.

5.91 [142] IBM 91) Eliminate parentheses (Accepted, Editorial)
        PDF page 79, page 51, clause 7.5.1, 5th paragraph from top of page

The statement '…devices (which are the source and/or the destination logical units).' should be '…devices that are the source and/or the destination logical units).'

Editor's note:

The intent of this text is to make an in-line *glossary* definition of 'target device'. The use of a definition that does not appear in the glossary is appropriate because entering the EXTENDED COPY definition of 'target device' would serve only to produce confusion. Since the in-line definition of a term thoroughly qualifies as digressive text as described in the response to comment 5.61 [112] IBM 61), the definition will be enclosed in parentheses. The current text reads:

> An EXTENDED COPY command may reference one or more target devices (which are the source and/or the destination logical units).

To more clearly indicate presences of a definition, the text will be changed to:

> An EXTENDED COPY command may reference one or more target devices (~~which are~~ the <u>name given by the EXTENDED COPY command description to</u> source and/or the destination logical units).

5.92 [143] IBM 92) Eliminate parentheses (Accepted, Editorial)
        PDF page 79, page 51, clause 7.5.1, 3rd paragraph from bottom of page

The statement '…the descriptors (both target and segment) permitted…' should be changed to '…the target and segment descriptors permitted…'

5.93 [144] IBM 93) Don't capitalize 'Inline' (Accepted, Editorial)
        PDF page 79, page 51, clause 7.5.1

The term Inline should not be capitalized.

5.94 [145] IBM 94) Eliminate 'in the manner' (Accepted, Editorial)
        PDF page 79, page 51, clause 7.5.1, last paragraph of page

The statement '…in the manner…' should be changed to '…as…'.

5.95 [146] IBM 95) Eliminate parentheses (Accepted, Editorial)
> PDF page 79, page 51, clause 7.5.1, last paragraph of page

The statement '(particularly stream devices)' is out of place. I suggest a note after this paragraph indicating that is in an important feature with streaming devices be added and the statement in ()s be deleted.

Editor's note:

The parenthetical expression is not out of place in this sentence. In fact, the sentence exists to define the behavior relative to stream devices. Clearly, the parenthetical text is not digressive as described in the response to comment 5.61 [112] IBM 61). Therefore, the parentheses will be changed to commas.

5.96 [147] IBM 96) Parity is out of date (Accepted, Editorial)
> PDF page 80, page 52, clause 7.5.2

The statement '…include parity errors…' is dated. Most new devices use CRC not parity for detecting error. The statement should be changed to '…include CRC or parity errors…'.

5.97 [148] IBM 97) Use 'any ACA condition' (Accepted, Editorial)
> PDF page 80, page 52, clause 7.5.3

The statement '…the ACA condition (if any)…' should be changed to '…any ACA condition…'.

5.98 [149] IBM 98) Clarify what's changed (Accepted, Editorial)
> PDF page 81, page 53, clause 7.5.3, item e and f

Here, as in the copy command there is the term (unchanged) which makes just as little sense here as it did in the copy command. This needs to be fixed and/or explained.

Editor's note:

The phrase in question currently reads:

> …an area that contains (unchanged) the source [destination] logical unit's status byte and sense data.

"source" is for item e) and "destination" is for item f).

The phrase will be clarified by changing it to read:

> …an area that contains the status byte and sense data delivered to the copy manager by the source [destination] logical unit. The status byte and sense data shall not be modified by the copy manager or device server.

5.99 [150] IBM 99) 'zero' not '0' & 'one' not '1' (Accepted, Editorial)
> PDF page 81, page 52, clause 7.5.3, the a,b,c list

There are a few cases were a 1 or 0 are used. These should be change to one or zero.

Editor's notes:

There is one 0, in item d. There is one 1, in item d, see also 10.23 [612] O23).

5.100 [151] IBM 100) Eliminate '(tape)' (Rejected)
PDF page 82, page 54, clause 7.5.5, table 23, footnote

The term '(tape)' is redundant and should be deleted.

Reason for rejection:

The parenthetical expression "(tape)" is necessary to provide definition for the term as used in the shorthand column of the table (e.g., "filemark→tape").

5.101 [152] IBM 101) Force table to one page (Rejected)
PDF page 82, page 54, table 23

This table should be made to fit on one page.

Reason for rejection:

In the editor's option table 23 cannot be made to fit on one page. See the response to comment 5.128 [179] IBM 128) for additional discussion.

5.102 [153] IBM 102) Spellout 'NUL=1' (Accepted, Editorial)
PDF page 84, page 56, clause 7.5.6.1, 2nd paragraph of page

The statement ' NUL=1' should be changed to 'a NUL bit of one'.

Editor's note:

"NUL=1" will be changed to "the NUL bit set to one".

5.103 [154] IBM 103) What states have changed? (Accepted, Substantive)
PDF page 84, page 56, clause 7.5.6.1, 1st paragraph after table

The statement 'change the state' is not clear. What states are there to be changing from or to. To this point I have read nothing to help in the understanding of this.

Editor's notes:

The November SPC-2 Letter Ballot review meeting recommended allowing any command that Table 8 allows regardless of the presence of reservations.

The SNIA-BWG has decided to allow virtually any command or combination of commands to be used, with the only restriction being that the command(s) cannot change the position of media without restoring it. Two other requirements are currently thought important. First, the copy manager cannot verify the EXTENDED COPY parameter information until it processes the segment descriptor containing the information, i.e., sending the verification commands is just like sending commands that implement the copy operation. Second, the normal error reporting rules apply to any errors encountered by the command used to verify the EXTENDED COPY parameters.

The change required to implement the SNIA-BWG choice would change the last paragraph on PDF page 84 from:

> The copy manager may, prior to processing a segment descriptor, verify the information in a target descriptor's device specific fields. However, the copy manager shall not issue any commands that change the state of the target device to verify the information.

to:

> The copy manager may, ~~prior to~~ <u>as part of</u> processing a segment descriptor, verify the information in a target descriptor's device specific fields. However, <u>when verifying the information,</u> the copy manager shall not issue any commands that change <u>the position of read/write media on the target without restoring it</u>. ~~state of the target device to verify the information.~~ <u>Any errors encountered while verifying the information shall be handled as described in 7.5.3.</u>

5.104 [155] IBM 104) Eliminate parentheses (Accepted, Editorial)
>   PDF page 85, page, 57, clause 7.5.6.2, 2nd paragraph after table

The statement '…the target (source or destination)…' should be changed to '…the source or destination…'.

5.105 [156] IBM 105) Reference FC-FS not FC-PH (Accepted, Editorial)
>   PDF page 85, page 57, clause 7.5.6.2, 3rd paragraph after table
>   SEE ALSO comment 10.26 [615] O26) Elliott

This paragraph references where to find the.WWID. There are several problems with this. For one not all SCSI protocols have a WWID port address so how what happens with those. For another FC-PH is the wrong standard to reference, FC-FS would be better. But it would be better to reference the device identifier VPD page which has the same WWID in it.

Editor's notes:

The Parallel Interface T_L target descriptor format is provided for the protocol that does not have a World Wide Name. The Identification descriptor target descriptor format is provided for those implementations that desire to use the identifiers in VPD page 83h.

The reference to FC-PH in the description of the WORLD WIDE NAME field will be changed to FC-FS. Comment 10.26 [615] O26) Elliott contains additional changes that will clarify that WWID is specific to Fibre Channel.

5.106 [157] IBM 106) Reference FC-FS not FC-PH (Accepted, Editorial)
>   PDF page 86, page 58, clause 7.5.6.3

Why is this protocol specific stuff in this document. It should be moved to the specific protocol document or made generic. Also there should be no references to FC-PH in this standard. All references should be to FC-FS or FC-PI as appropriate.

Editor's notes:

The definition of the N_PORT field currently reads as follows:

> The N_PORT field shall contain the FC-PH port D_ID to be used to transport frames including PLOGI and FCP-2 related frames.

It will be changed to:

> The N_PORT field shall contain the FC-<u>FS</u> port D_ID to be used to transport frames including PLOGI and FCP-2 related frames.

Note that no changes are needed in the normative references clause because FC-FS is already listed there.

For reference, D_ID (the object being referenced in the field description) is defined in FC-FS not in FC-PI.

See 5.109 [160] IBM 109) for resolution of issue regarding protocol specific discussions in SPC-2.

5.107 [158] IBM 107) Eliminate parentheses (Accepted, Editorial)
PDF page 86, page, 58, clause 7.5.6.3, 2nd paragraph after table

The statement '…the target (source or destination)…' should be changed to '…the source or destination…'.

5.108 [159] IBM 108) Remove references to FC-PH (Accepted, Editorial)
PDF page 87, page 59, clause 7.5.6.4

Why is this protocol specific stuff in this document. It should be moved to the specific protocol document or made generic. Also there should be no references to FC-PH in this standard. All references should be to FC-FS or FC-PI as appropriate.

Editor's notes:

The reference to FC-PH in the description of the WORLD WIDE NAME field will be handled as described in the resolution for comment 5.105 [156] IBM 105). The reference to FC-PH in the description of the N_Port field will be handled as described in the resolution for comment 5.106 [157] IBM 106). See 5.109 [160] IBM 109) for resolution of issue regarding protocol specific discussions in SPC-2.

5.109 [160] IBM 109) Remove protocol specific stuff (Rejected)
PDF page 87, page 59, clause 7.5.6.5

Why is this protocol specific stuff in this document. It should be moved to the specific protocol document or made generic.

Reason for rejection:

Since the editor of SPI-4 has refused to incorporate protocol specific parameter data format information in his standard and thus established a precedent, the chances of moving these target descriptor formats out of SPC-2 and into a protocol specification document are next to nil. Since T10 approved these formats for incorporation in SPC-2 in July, 1999, changing them now would represent an unreasonable burden on the companies that have been implementing EXTENDED COPY for the past 1+ years. Therefore, no changes will be made.

5.110 [161] IBM 110) Eliminate parentheses (Accepted, Editorial)
PDF page 88, page, 60, clause 7.5.6.5, 2nd paragraph after table,

The statement '…the target (source or destination)…' should be changed to '…the source or destination…'.

5.111 [162] IBM 111) Add parentheses (Rejected)
PDF page 90, page 62, clause 7.5.6.7, The statement '…type.

'…type. That is, the copy manager may perform read operations from a source disk at any time and in any order during processing of an EXTENDED COPY command, provided that the relative order of writes and reads on the same blocks within the same target descriptor does not differ from their order in the segment descriptor list.' should be changed to '…type (i.e., the copy manager may perform read operations from a source disk at any time and in any order during processing of an EXTENDED COPY command, provided that the relative order of writes and

reads on the same blocks within the same target descriptor does not differ from their order in the segment descriptor list).'.

Reason for rejection:

The clarity of the text is not enhanced by splicing two sentences into a single, paragraph long sentence.

5.112 [163] IBM 112) Eliminate parentheses (Rejected)
PDF page 91, page 63, clause 7.5.6.8

The statement '(device type code value 01h)' should be deleted as it contains no useful information. Specific device type are used throughout this standard and in those places the code value is not specified so way is it here.

Reason for rejection:

Similar parenthetical expressions in the first sentences of 7.5.6.7 and 7.5.6.9 appear to contain sufficient useful information to have been unworthy of comment. In the editor's opinion, all three parenthetical expressions serve to specify the exact device types being discussed and thus have merit.

5.113 [164] IBM 113) Eliminate 'will' (Accepted, Editorial)
PDF page 91, page 63, clause 7.5.6.8, note 11
See also comment 8.69 [547] Seagate 69)

The term will is used. It needs to be replaced or removed.

Editor's note:

The response to comment 8.69 [547] Seagate 69) is a rewrite of note 11, including corrections based on this comment.

5.114 [165] IBM 114) Add parentheses (Rejected)
PDF page 91, page 63, clause 7.5.6.8

The following statement '…type. That is, the read operations required by a.segment descriptor for which the source is a stream device shall not be started until all write operations for previous segment descriptors have completed.' should be changed to '…type (i.e., the read operations required by a segment descriptor for which the source is a stream device shall not be started until all write operations for previous segment descriptors have completed.'

Reason for rejection:

The clarity of the text is not enhanced by splicing two sentences into a single, paragraph long sentence.

5.115 [166] IBM 115) Rewrite to correct description of the DC bit (Accepted, Substantive)
PDF page 93, page 65, clause 7.5.7.1, 2nd paragraph after table

The statement 'structure (block or stream).' should be changed to 'structure (e.g., block or stream).'.

Editor's notes:

The paragraph in question will be changed to read:

The destination count (DC) bit is only applicable to segment descriptors with descriptor type code values of 02h and 0Dh. The DC bit is reserved for all other segment descriptors. Details of usage for the DC bit appear in the subclauses defining the segment descriptors that use it.

The change has been marked substantive because the current text includes descriptor type code values 03h and 0Eh in the list of type codes that use the DC bit. This is incorrect as can be verified by inspecting Table 40 on PDF page 101 and comparing byte 1 in that table to byte 1 in Table 39 on PDF page 99.

5.116 [167] IBM 116) Which hunt (Accepted, Editorial)
PDF page 93, page 65, clause 7.5.7.1, item b in list

The which should be changed to a that.

Editor's notes:

Changing 'which' to 'that' will change the meaning of item b. So some other rewording is necessary. Item b currently reads as follows:

To process data, which generally designates data as destination data intended for transfer to the destination device; and

It will be changed to:

To process data, ~~which~~ an operation that generally designates data as destination data intended for transfer to the destination device; and

5.117 [168] IBM 117) Change parentheses to commas (Accepted, Editorial)
PDF page 93, page 65, clause 7.5.7.1, item a in second list

The () should be replaced with ,,.

5.118 [169] IBM 118) Eliminate parentheses (Rejected)
PDF page 94, page 66, clause 7.5.7.1, table 36, 3rd row and last row

Reword to get rid of the ()s.

Reason for rejection:

The parenthetical text definitely qualifies as 'supplementary facts' as described in the response to 5.61 [112] IBM 61). Also because commas are already used extensively, rewriting the text to eliminate the parentheses produces an unreadable mishmash of ideas.

5.119 [170] IBM 119) Indent footnote (Accepted, Editorial)
PDF page 94, page 66, clause 7.5.7.1, table 36

indent the footnote

Editor's notes:

According to *ISO/IEC Directives, Part 3* – Rules for the structure and drafting of International Standards, table footnotes are part of the normative text of a standard, which makes them different from the notes in the main body that are informative. *ISO/IEC Directives, Part 3* also spells out the following rules for table footnotes:

- shall follow table notes (table notes are things such at key code definitions and other non-normative information that applies to the whole table)
- shall be identified in that table and in the footnote by a superscript lower case letter
- shall use same point size as other text in the table
- shall **NOT** be preceded by any form of the word "note"
- shall extend fully from left table margin to right margin as much as possible
- shall appear on every page, if the table extends to more than one page

The following tables will be modified because they do not conform the ISO/IEC guidelines:

- PDF page 47 table 6
- PDF page 50 table 8
- PDF page 51 table 9
- PDF page 65 table 10
- PDF page 82 table 23
- PDF page 94 table 36
- PDF page 95 table 37

- PDF page 118 table 55
- PDF page 121 table 58
- PDF page 156 table 96 (see 1.30 [30] Brocade 30)
- PDF page 178 table 115
- PDF page 248 table 186
- PDF page 281 table c.2
- PDF page 289 table c.4

5.120 [171] IBM 120) Force table to one page (Accepted, Editorial)
PDF page 95, page 67, clause 7.5.7.1, table 37

Make this table fit on one page.

Editor's notes:

See comment 5.128 [179] IBM 128 for the resolution for requiring tables to fit on a single page (note that table 37 is given a slim chance of fitting on one page in the comment resolution).

5.121 [172] IBM 121) Spellout CAT=1 and PAD=1 (Accepted, Editorial)
PDF page 95, page 67, clause 7.5.7.1, table 37, footnote 1

The 'CAT=1' should be 'the CAT bit is set to one'. and the 'PAD=1' should be 'the PAD bit is set to one'

Editor's notes:

This comment along with comments 5.102 [153] IBM 102), 5.123 [174] IBM 123) and 5.283 [334] IBM 283) all of which object to the use of equals signs (and the non-comments on fully dozens of other uses of equals signs) have proven to be difficult to judge as regards when equals signs are acceptable. It appears that equals signs are acceptable in subclause titles, figures and tables, where space is at a premium.

With this judgement in mind, the following additional changes to spelling out equals will be made:
- PDF page 54 1st list f) — "START bit = 2" (also change 0 to 0h)
- PDF page 95 table 37 footnote 1 list b) —"DC=0 and "DC=1" (note this comment covers other ='s changes in the same paragraph)
- PDF page 61 2nd list c) — "NACA=x" (twice) (note 5.283 [334] IBM 283) covers TST=xxx changes in this bullet)

5.122 [173] IBM 122) Add i.e. to parenthetical phrase (Rejected)
PDF page 96, page 68, clause 7.5.7.1, 1 paragraph after table 37

All the ()s should start with '(i.e.,'.

Reason for rejection:

The parenthetical text is an elaborate and more informative form of cross reference that fits the description of an "amplifying or digressive element" as described in the response to comment 5.61 [112] IBM 61).

5.123 [174] IBM 123) 'DC=0/1' s/b 'if DC is set to 0/1' (Accepted, Editorial)
PDF page 100, page 72, clause 7.5.7.4

The statement '…processed (if DC=0) or to be written to the destination device (if DC=1).' should be changed to '…processed if DC is set to zero or to be written to the destination device if DC is set to one.'.

Editor's notes:

Because this is not the paragraph defining the DC bit, the parenthetical text is digressive as described in the response to comment 5.61 [112] IBM 61) and the parentheses are appropriate.

However, "=0" will be changed to "is set to zero" and "=1" will be changed to "is set to one".

5.124 [175] IBM 124) Eliminate parentheses (Accepted, Editorial)
PDF page 104, page 76, clause 7.5.7.7, 3rd paragraph after table

The statement '…field (including embedded data).' should be changed to 'field. The DESCRIPTOR LENGTH field includes embedded data.'.

Editor's notes:

The proposed change is unnecessarily wordy. The phrase '…field (including embedded data).' will be changed to '…field, including the embedded data.'

5.125 [176] IBM 125) Eliminate parentheses (Rejected)
PDF page 106, page 78, clause 7.5.7.9, last paragraph on page

The statement (Test Unit Ready)' should be deleted. No where else is the bit acronym repeated after the initial definition.

Reason for rejection:

The editor can find only one instance of "(Test Unit Ready)" acting as a bit acronym definition in the cited paragraph.

5.126 [177] IBM 126) 'field' should be 'fields' (Accepted, Editorial)
PDF page 111, page 83, clause 7.5.7.14, last paragraph of page

The first field should be fields.

5.127 [178] IBM 127) Eliminate SCSI-3 and spellout 1 (Accepted, Editorial)
> PDF page 115, page 87, clause 7.6.1, note 14

The statement 'An SCSI-3 application client…' should be changed to 'An application client…' because the term SCSI-3 is to narrow in this case and the references to SCSI-2 else where are enough to cover the case being warned about. Also the statement '…bit set to 1…' should be '…bit set to one…'.

5.128 [179] IBM 128) Force table to one page (Accepted, Editorial)
> **Global** & PDF page 118, page 90, clause 7.6.2, table 55

This table should be set so it will not be split between page boundaries. All tables should be set this way as it is not helpful to the reader/developers to have tables splitting when it is possible to make them fit on one page.

Editor's notes:

I agree that the readability of a table is greatly improved if the whole table is placed on a single page and I will make every reasonable effort to do so. However, there are several things I will not do:
  * reduce the font size
  * cause table rows to be closer together than they would be as two lines of body text
  * allow tables to move off the page containing the text that describes them
  * cause pages to have greater than one-half page white space

Within these restrictions, I am certain that table 55 can be made to fit on a page. This can be done by reducing the white space between rows to the equivalent of the white space between two lines of text in a paragraph. This is no different from the way that the equivalent table was constructed in SCSI-2 or SPC.

Including table 55, efforts will be made to fit the following tables on one page:

Table	Adjustment method	Chance of success
PDF page 50, table 8	Removing COMPARE, COPY & COPY AND VERIFY	maybe
PDF page 65, table 10	Removing white space between rows	probable
PDF page 95, table 37	Forcing table and intro ¶ to start on a new page	unlikely
PDF page 118, table 55	Removing white space between rows	certain
PDF page 176, table 114	Forcing subclause and table on to a new page	maybe

In my opinion, the following tables cannot be made to fit on one page without violating one of the restrictions listed above:
  * PDF page 82 table 23 (see 5.101 [152] IBM 101)
  * PDF page 94 table 36
  * PDF page 121 table 58
  * PDF page 178 table 115
  * PDF page 218 table 146 (see 5.265 [316] IBM 265)
  * PDF page 235 table 169
  * PDF page 268 table c.1
  * PDF page 281 table c.2
  * PDF page 289 table c.4
  * PDF page 291 table c.5
  * PDF page 295 table c.6
  * PDF page 300 table d.1

5.129 [180] IBM 129) Use 'see SAM-2' (Accepted, Editorial)
> PDF page 119, page 91, clause 7.6.2, last paragraph on page

The statement '…CDB (as defined in SAM-2).' should be changed to '…CDB (see SAM-2).'.

5.130 [181] IBM 130) Add i.e. to parenthetical phrase (Rejected)
PDF page 120, page 92, clause 7.6.2, 6th paragraph from top of page

The statement '…tagged tasks (command queuing)…' should be changed to '…tagged tasks (i.e., command queuing)…'.

Reason for rejection:

The use of "i.e." indicates that "command queuing" is on an equal footing with "tagged tasks", but "command queuing" is a SCSI-2 historical name for the function that has almost been expunged from SAM. Therefore, the usage of parentheses here fits the 'digressive element' model described in the response to comment 5.61 [112] IBM 61).

5.131 [182] IBM 131) Add i.e. to parenthetical phrase & Spellout 2 (Accepted, Editorial)
PDF page 120, page 92, clause 7.6.2, 8th paragraph from top of page

The statement '…multi-port (2 or more ports) device…' should be changed to '…multi-port (i.e., two or more ports) SCSI device…'

Editor's notes:

2 will be spelled out but "i.e." will not be added because the parentheses here set off a 'digressive element' as described in the response to comment 5.61 [112] IBM 61).

5.132 [183] IBM 132) Add i.e. to parenthetical phrase (Rejected)
PDF page 120, page 92, clause 7.6.2, 2nd paragraph from bottom of page,

The statement '…tagged tasks (command queuing)…' should be changed to '…tagged tasks (i.e., command queuing)…'.

Reason for rejection:

See response to comment 5.130 [181] IBM 130).

5.133 [184] IBM 133) Add i.e. to parenthetical phrase (Rejected)
PDF page 120, page 92, clause 7.6.2

The statement '…the field (lowest offset)…' should be '…the field (i.e., lowest offset)….'

Reason for rejection:

The parentheses here set off an ' amplifying or digressive element' as described in the response to comment 5.61 [112] IBM 61).

5.134 [185] IBM 134) List standards in an ordered list (Rejected)
PDF page 121, page 93, clause 7.6.2, paragraph above table 58

The recommended order of listing standards would be better if it was in an ordered list (1,2,3).

Reason for rejection:

Such a change would make the list appear more substantial in the document. The editor believes that this would be contrary to the advisory nature of the list.

5.135 [186] IBM 135) Eliminate parentheses (Rejected)
PDF page 125, page 97, clause 7.6.3

The statement '…SPI-n (where n is 2 or greater).' should be '…SPI-n, where n is two or greater.'.

Reason for rejection:

The parentheses here set off an ' amplifying or digressive element' as described in the response to comment 5.61 [112] IBM 61). "2" will not be changed to "two" unless we started calling it SPI-two.

5.136 [187] IBM 136) Eliminate execution (Accepted, Editorial)
PDF page 126, page 98, clause 7.6.4, note 18

The statement ' …prohibits normal command execution.' should be changed to '…prohibits normal command completion.'

Editor's note:

In addition to the requested change, "to execute" will be changed to "to process".

5.137 [188] IBM 137) Spellout 'byte 1' (Rejected)
PDF page 127, page 99, clause 7.6.5, table 63, row 001b

The statement '…byte 1 is undefined.' should be '…byte one is undefined.'

Reason for rejection:

This change will be made only if it is agreed that all command and parameter data format tables will have zero, one, two, etc. in the left most column.

5.138 [189] IBM 138) Spellout 'byte 1' (Rejected)
PDF page 128, page 100, clause 7.6.5 -1st paragraph from top of page

The statement '…byte 1 is not valid.' should be '…byte one is not valid.'

Reason for rejection:

This change will be made only if it is agreed that all command and parameter data format tables will have zero, one, two, etc. in the left most column.

5.139 [190] IBM 139) How to build CDB usage bit map? (Accepted, Editorial)
PDF page 128, page 100, clause 7.6.5, 2nd paragraph under note 21

The sentence 'If the device server evaluates a bit as all or part of a field in the CDB for the operation code being queried, the usage map shall contain a one in the corresponding bit position.' is unclear. What information is it trying to provide that is not already in the remaining parts of the paragraph?

Editor's notes:

The sentence is intending to say that if a field is evaluated then all bits comprising that fields shall be one. Consider as an example the LBA field. If a device sever evaluates the LBA field then all bits returned for the LBA field shall be one. It is not permissible to put zeros in the high order bits of the LBA field to approximately indicate the largest LBA accepted by the device server. The sentence also is complementary to the third sentence in the paragraph.

The sentence will be changed to read:

If the device server evaluates a bit ~~as all or part of a field~~ in the CDB for the operation code being queried, the usage map shall contain a one in the corresponding bit position. If any bit representing part of a field is returned as one all bits for the field shall be returned as one.

5.140 [191] IBM 140) Change 'thus' to 'for example' (Accepted, Editorial)
PDF page 128, page 100, 3rd paragraph after note 21

The statement 'Thus, the CDB….' should be changed to 'For example, the CDB…'.

Editor's note:

The change shown here has been reflected in the more substantial changes to the paragraph found in the response to comment 1.29 [29] Brocade 29).

5.141 [192] IBM 141) Add i.e. to parenthetical phrase (Accepted, Editorial)
PDF page 132, page 104, clause 7.8, a,b,c list, a item

The statement '…last update (in response…' should be '…last update (i.e., in response…)'.

5.142 [193] IBM 142) Delete discussion of multi-port issue (Rejected)
PDF page 133, page 105, clause 7.9, 1st paragraph after table

The sentence 'Multiple port implementations may save one copy per logical unit and have it apply to all initiators on all ports or save a separate copy per logical unit for each initiator on each port.' should be deleted as we have not yet resolved the ports issues.

Reason for rejection:

This text appeared exactly as shown in SPC. The logic that all discussion of multi-port issues should be deleted cannot be used to support deletion of this text as that logic would require removal of the MULTIP bit in the standard INQUIRY data, a change not suggested by anybody. The only justification for deletion of this text would be that T10 believes it is highly probably that the eventual definition of multi-port capabilities will prohibit the behaviors described here and the editor views that as highly improbable.

5.143 [194] IBM 143) Description of 'independent' Mode Pages (Rejected)
PDF page 133, page 105, clause 7.9, 3rd paragraph after table

The statement 'The target may provide for independent…' Should be changed to 'If a target provides for independent…' It is stated above that this is allowed there is no need to restate it.

Reason for rejection:

These words have appeared in both SCSI-2 and SPC exactly as they now appear in SPC-2. Furthermore, the proposed change turns the sentence into nonsense. The sentence currently reads:

> The target may provide for independent sets of parameters for each attached logical unit or for each combination of logical unit and initiator.

and would become:

> If a target provides for independent sets of parameters for each attached logical unit or for each combination of logical unit and initiator.

5.144 [195] IBM 144) 'PS' is a field name (Accepted, Editorial)
PDF page 133, page 105, clause 7.9, last paragraph of page

The PS should be in small caps.

5.145 [196] IBM 145) Change 'may' to 'shall' (Accepted, Editorial)
Marked technical by comment author
PDF page 134 page 106, clause 7.9, paragraph between two a,b,c lists

The statement '…the device server may either:' is a problem because it implies there is some other way to handle rounding other than the ways listed. I do not believe this is the case so the 'may' should be changed to a 'shall'.

Editor's notes:

The comment correctly identifies the text as containing the keyword 'may' used in a way that is inconsistent with its keyword definition. However the solution to the problem is to change the text to descriptive, not to resort to a keyword with even more associated baggage. Switching away from keywords has the additional advantage of making the change non-substantive.

The following changes will be made:

- '…the device server may either:' will be changed to '…the device server ~~may~~ handles the condition by either:'
- in item a) 'round' will be changed to 'rounding'
- in item b) 'terminate' will be changed to 'terminating'

5.146 [197] IBM 146) Commas not parentheses (Accepted, Editorial)
PDF page 134, page 106, clause 7.9, 2nd paragraph above note 24

The statement '…any mode page (even those reported as non-changeable) as a result of changes…' should be changed to '…any mode page, even those reported as non-changeable, as a result of changes…'.

5.147 [198] IBM 147) Delete wording that means 'may' (Accepted, Editorial)
PDF page 135, page 107, clause 7.11.1, paragraph under table 69

The statement '…, at the device server's discretion.' should be deleted as the 'may' stated earlier in the sentence implies just that.

5.148 [199] IBM 148) Add 'may' (Accepted, Editorial)
PDF page 136, page 108, clause 7.11.1, note 26

The statement 'Some devices implement no distinction between…' should be changed to 'Some SCSI devices may not distinguish between…'.

5.149 [200] IBM 149) Change note to body (Accepted, Substantive)
PDF page 136, page 108, clause 7.11.1, note 25

This note [note 25] should be inline text not a note.

Editor's note:

The November SPC-2 Letter Ballot review meeting agreed to change both notes 25 and 26 to body text.

5.150 [201] IBM 150) Commas not parentheses (Rejected)
PDF page 136, page 108, clause 7.11.1, note 28

The statement '…block descriptor (if applicable).' should be '…block descriptor, if applicable.'

Reason for rejection:

The expression "…(if any)…" is a ubiquitous method of highlighting the possibility that a condition being discussed may not exist. Indeed, the expression is so ubiquitous that comment 5.21 [72] IBM 21) employs it. As such, the precise from, "…(if any)…," conveys meaning and fits (however loosely) the concept of a digressive expression described in the response to comment 5.61 [112] IBM 61).

5.151 [202] IBM 151) Change notes to body (Accepted, Substantive)
PDF page 136, page 108, clause 7.11.1, notes 27 and 28

These note[s] should be part of the main line text.

5.152 [203] IBM 152) Change notes to body (Accepted, Substantive)
PDF page 137, page 109, clause 7.11.3, notes 29 and 30

These notes should be made part of the main line text.

5.153 [204] IBM 153) Make statement a requirement (Accepted, Substantive)
PDF page 137, page 1.9, clause 7.11.3, note 29

The statement '…mode parameter (via MODE SELECT) results…' should be '…mode parameter using the MODE SELECT command shall result in…'.

5.154 [205] IBM 154) Change note to body (Accepted, Substantive)
PDF page 137, page 109, clause 7.11.5, note 31

This note should be part of the main line text.

5.155 [206] IBM 155) 'zero' not '0' (Accepted, Editorial)
PDF page 140, page 112, clause 7.13.3, 1st paragraph under table

The statement '…set to 0 as part…' should be '…set to zero as part…'.

Editor's note:

"0" will be changed to "0h".

5.156 [207] IBM 156) Add i.e. to parenthetical phrase & 'zero' not '0' (Rejected)
PDF page 140, page 112, clause 7.13.3, 2nd paragraph under table

The statement '…the list (byte 0 to the allocation length)…' should be change to '…the list (i.e., byte zero to the allocation length)…'.

Reason for rejection:

The use of '0' here matches the notation in the parameter data format table. If '0' is changed to 'zero' here then the left column of the table should be changed from '0', '3', '4', etc. to 'zero', 'three', 'four', etc. The use of parentheses fits the digressive element function described in the response to 5.61 [112] IBM 61) and the addition of "i.e." does not add to the readability of the phrase.

5.157 [208] IBM 157) Add i.e. to parenthetical phrase & 'zero' not '0' (Rejected)
PDF page 141, page 113, clause 7.13.4.1, 2nd paragraph under table

The statement '…the list (byte 0 to the allocation length)…' should be change to '…the list (i.e., byte zero to the allocation length)…'.

Reason for rejection:

See the response to 5.156 [207] IBM 156).

5.158 [209] IBM 158) Don't capitalize 'Reservation descriptor' (Accepted, Editorial)
Global/Clause & PDF page 141, page 113, clause 7.13.4.1, 3rd paragraph after table

The statement 'Reservation descriptor' should be all small caps or have no caps. This is true throughout this section.

Editor's note:

'Reservation descriptor' will not be capitalized.

5.159 [210] IBM 159) Don't capitalize 'Logical Unit' (Accepted, Editorial)
Global/Clause & PDF page 142, page 114, clause 7.13.4.1, 2nd paragraph on page

The term 'Logical Unit' should not be capitalized throughout this section.

Editor's notes:

The intent here is to describe a reservation with a Logical Unit scope and the capitalization matches that found in Table 78 in the hope that the reader would make such an association. Since that mechanism for maintaining the association has not worked, the following changes will be made to increase the clarity:

On PDF page 142:
- In Table 78 2nd column "Logical Unit" will be changed to "LU_SCOPE"
- In Table 78 2nd column "Element" will be changed to "ELEMENT_SCOPE"
- In the 2nd ¶ on page "Logical Unit" will be changed to "LU_SCOPE" and "element" will be changed to "ELEMENT_SCOPE"
- In the 3rd ¶ on page "Element" will be changed to "ELEMENT_SCOPE" and "Logical Unit" will be changed to "LU_SCOPE"
- In 7.13.4.2.2 "LU" and "Logical Unit" will be changed to "LU_SCOPE"
- Several other changes on PDF page 142 are covered by comments 5.160 [211] IBM 160), 5.162 [213] IBM 162) and 5.163 [214] IBM 163).

On other PDF pages:
- PDF page 146 last ¶ on page "Element" will be changed to "ELEMENT_SCOPE"; "Element" will be changed to "element"; and "Logical Unit" will be changed to "LU_SCOPE"
- PDF page 147 Table 83 "Logical Unit" will be changed to "LU_SCOPE"; "Element" will be changed to "ELEMENT_SCOPE"; and "(Element)" will be changed to "(element)"

5.160 [211] IBM 160) Change 'LU' to '0h' (Accepted, Editorial)
PDF page 142, page 114, clause 7.13.4.2.2
SEE ALSO comment 8.86 [564] Seagate 86)

The statement '…value of LU shall…' should be '…value of 0h shall…'

Editor's note:

In keeping with the changes described in the response to comment 5.159 [210] IBM 159), "LU" will be changed to "0h (LU_SCOPE)".

5.161 [212] IBM 161) Don't capitalize 'Logical Unit' (Accepted, Editorial)
PDF page 142, page 114, clause 7.13.4.2.2

The term 'Logical Unit ' should not be capitalized throughout this section.

Editor's note:

See resolution to comment 5.159 [210] IBM 159).

5.162 [213] IBM 162) Change 'Element' to '2h' (Accepted, Editorial)
PDF page 142, page 114, clause 7.13.4.2.3

The statement '…value of Element shall…' should be changed to '…value of 2h shall…'.

Editor's note:

In keeping with the changes described in the response to comment 5.159 [210] IBM 159), "Element" will be changed to "2h (ELEMENT_SCOPE)".

5.163 [214] IBM 163) Just SMC-2 (Accepted, Editorial)
PDF page 142, page 114, clause 7.13.4.2.3

The statement '…by the SCSI Medium Changer Commands -2 (SMC-2) standard.' should be '…by the SMC-2 standard'. The full name is already used in the normative references section and does not need to be repeated here.

5.164 [215] IBM 164) Don't capitalize 'element' (Accepted, Editorial)
PDF page 142, page 114, clause 7.13.4.2.3

The term 'Element' should not be capitalized.

Editor's note:

In keeping with the changes described in the response to comment 5.159 [210] IBM 159), "Element" will be changed to "ELEMENT_SCOPE".

5.165 [216] IBM 165) Eliminate 'execute' (Accepted, Editorial)
PDF page 143, page 115, clause 7.13.4.3, table 79, 2nd row, code 1h
SEE ALSO comments 5.166 [217] IBM 166) and 8.88 [566] Seagate 87)

The statement '…may execute tasks…' should be changed to '…may initiate tasks…'. Aside from the execution word; application clients do not execute they request executions.

5.166 [217] IBM 166) Eliminate 'execute' (Accepted, Editorial)
PDF page 143, page 115, clause 7.13.4.3, table 79, 6th row, code 5h
SEE ALSO comments 5.165 [216] IBM 165) and 8.88 [566] Seagate 87)

The statement '…may execute tasks…' should be changed to '…may initiate tasks…'. Aside from the execution word; application clients do not execute they request executions.

5.167 [218] IBM 167) Don't capitalize 'service' (Accepted, Editorial)
Global/Clause PDF page 144, page 116, clause 7.14.1, 3rd paragraph after table

The term Service should not be capitalized throughout this section including table headings.

Editor's notes:

The phrase "Service action" will be changed to "service action" as follows:
- PDF page 144 3rd ¶ after table 80
- PDF page 145 table 81 (title)
- PDF page 147 table 83 (title)

Note: the left column heading in table 83 (PDF page 147) will not be changed because column heading always have at least the first letter capitalized (e.g., "Parameters" in the same table).

5.168 [219] IBM 168) Just '(see xxxx)' (Accepted, Editorial)
> PDF page 145, page 117, clause 7.14.2, table 81

The statement '(for more information on xxx see xxx…' appears in several places. All should be changed to '(see xxxx).'

5.169 [220] IBM 169) Don't capitalize 'element' (Accepted, Editorial)
> Global/Clause PDF page 146, page 118, clause 7.14.3, last paragraph of page

The term 'Element' should not be capitalized throughout this section and in table 83.

Editor's note:

The response to comment 5.159 [210] IBM 159) lists all the required changes.

5.170 [221] IBM 170) Clarify 'specified above' (Accepted, Editorial)
> PDF page 147, page 119, clause 7.14.3, 1st paragraph above table 83
> SEE ALSO comment 8.93 [571] Seagate 92)

The statement '…since it is specified above.' is not precise enough, there are 119 pages above which is being referred to. The 'above' needs to be deleted and replaced with a specific reference.

Editor's note:

The response to comment 8.93 [571] Seagate 92) includes the correction requested by this comment.

5.171 [222] IBM 171) Don't capitalize 'Activate Persist Through Power Loss' (Rejected)
> PDF page 147, page 119, clause 7.14.3, 1st paragraph of page

The term 'Activate Persist Through Power Loss' should not be capitalized as this is not the convention used elsewhere in this document.

Reason for rejection:

There is no 'convention' for capitalization in this instance. A quick stroll through the description of the standard INQUIRY data will clearly show the lack of a 'convention'. Picking only on instances that occur in the published SPC standard we have: "A terminate task (TrmTsk) bit…", "The Normal ACA Supported bit (NormACA)…", "An Enclosure Services (EncServ) bit …", "A Multi Port (MultiP) bit …", "A medium changer (MChngr) bit …", "A relative addressing (RelAdr) bit …", "A linked command (Linked) bit …", and "A command queuing (CmdQue) bit …". Since none of the above cited differences resulted in comments on this letter ballot, no changes will be made here.

5.172 [223] IBM 172) Commas not parentheses (Rejected)
PDF page 148, page 120, clause 7.15, table 85, rows 1 and 2

The statement '(if any)' should be changed to ',if any'.

Reason for rejection:

See response to comment 5.150 [201] IBM 150).

5.173 [224] IBM 173) Add i.e. to parenthetical phrase (Accepted, Editorial)
PDF page 148, page 120, clause 7.15

The statement '…11b (medium removal…' should be changed to '….11b (i.e., medium removal…'.

5.174 [225] IBM 174) Add a comma (Accepted, Editorial)
PDF page 148, page 120, clause 7.15, last paragraph

There should be a comma between EXISTING KEY and REGISTER.

Editor's note:

The current text:

> … a PERSISTENT RESERVE OUT command with a service action of RESERVE, REGISTER AND IGNORE EXISTING KEY or REGISTER, …

will be changed to:

> … a PERSISTENT RESERVE OUT command with a ~~service action of~~ RESERVE, REGISTER AND IGNORE EXISTING KEY, or REGISTER <u>service action</u>, …

5.175 [226] IBM 175) Use command descriptor block or CDB (Accepted, Editorial)
PDF page 149, page 121, clause 7.16.1, paragraph after table 86
SEE ALSO comments 5.26 [77] IBM 26) and 5.46 [97] IBM 46)

The term 'command descriptor block' should be changed to 'CDB' or all CDBs should be changed to 'command descriptor block'.

Editor's note:

'command descriptor block' will be changed to 'CDB'.

5.176 [227] IBM 176) Just '(see xxxx)' (Rejected)
PDF page 150, page 122, clause 7.16.5

The statement '… field (see the description of the buffer ID in 7.16.4).' should be changed to 'field (see 7.16.4).'.

Reason for rejection:

7.16.4 contains more that just a description of buffer ID. The reference cannot be reduced to just a section reference without introducing additional section headers.

5.177 [228] IBM 177) Eliminate parentheses (Accepted, Editorial)
PDF page 151, page 123, clause 7.16.5, note 32

The statement '…reservations (to all logical units on the device) or…' should be '…reservations to all logical units on the SCSI device or…'.

Editor's note:

The text in question will be changed to '…reservations to all logical units ~~on~~ in the SCSI device or…'.

5.178 [229] IBM 178) 'specifies' not 'means' (Accepted, Editorial)
PDF page 152, page 124, clause 7.16.7, last paragraph on page

The statement 'An EBOS bit of zero means that the…' should be 'A EBOS bit of zero specifies that the…'

5.179 [230] IBM 179) Eliminate parentheses (Accepted, Editorial)
PDF page 153, page 125, clause 7.17.1

The statement '…previous (or current)…' should be '…previous or current…'.

5.180 [231] IBM 180) What does 'immediately' mean? (Accepted, Substantive)
PDF page 154, page 126, clause 7.17.1, table 93
See also comment 8.95 [573] Seagate 94)

The term 'immediately' is used but what does it mean? As part of the current connection? As the first thing on the next connection? What? This needs to be quantified.

Editor's note:

The response to comment 8.95 [573] Seagate 94) describes the resolution for this comment.

5.181 [232] IBM 181) Remove 'then' (Accepted, Editorial)
PDF page 155, page 127, clause 7.17.2

The statement '…command, then it shall…' should be '…command, it shall…'.

5.182 [233] IBM 182) Use 'vendor specific' not 'vendor-specific' (Accepted, Editorial)
Global & PDF page 155, page 127, clause 7.17.2

In some cases the term vendor specific is written as 'vendor specific' and in other cases as 'vendor-specific' this needs to be made consistent throughout the document.

Editor's note:

"vendor specific" (no dash) will be used throughout. Changes required on:
- PDF page 36 — 3.1.60
- PDF page 37 — last acronym
- PDF page 45 — 5.4.2 2nd ¶ (twice)
- PDF page 117 — table 53, bytes 36, 95+, & 96
- PDF page 118 — table 54, 1XXb
- PDF page 126 — 7.6.4 1st ¶ & note 19
- PDF page 127 — table 63 100b, 101b & 110b
- PDF page 129 — 3rd ¶ after table 64
- PDF page 132 — 1st ¶ on page
- PDF page 133 — 4th & 5th ¶ after table 67
- PDF page 136 — table 00h & 20h-3Eh
- PDF page 137 — note 31 & 7.11.6 list b)
- PDF page 149 — table 87 0001b (twice)
- PDF page 150 — 7.16.3 (title)
- PDF page 171 — 2nd ¶ after table 109
- PDF page 173 — 5th ¶ on page
- PDF page 174 — 1st ¶ after table 111
- PDF page 176 — table 114 1h
- PDF page 177 — table 114 9h
- PDF page 190 — table 115 80h (twice)
- PDF page 195 — 1st ¶ on page
- PDF page 198 — table 126 0001b (twice)
- PDF page 199 — 7.29.3 (title) & 7.29.5 2nd ¶ (twice)
- PDF page 200 — 7.29.6 2nd ¶ 7.29.7 1&2 ¶ (3 times)
- PDF page 201 — 7.29.8 1&2 ¶
- PDF page 203 — table 128 80h
- PDF page 208 — note 51
- PDF page 209 — table 133 30h
- PDF page 213 — tbl 140 8000h; 8.2.5 & .6 1st ¶ (3x)
- PDF page 214 — 8.2.7 1st ¶ (2x) & table 141 8000h
- PDF page 215 — table 143 byte 19
- PDF page 223 — last ¶ on page
- PDF page 227 — 2nd & 4th ¶ after table 159
- PDF page 228 — table 160 00h
- PDF page 230 — table 163 8h
- PDF page 234 — 8.3.8 2nd ¶
- PDF page 235 — 1st & last ¶ on page
- PDF page 236 — table 169 Ch
- PDF page 237 — 1st & 3rd ¶ on page
- PDF page 241 — 8.4.1 1st ¶ (2x) & tables 174 & 175
- PDF page 242 — 3rd ¶ on page & table 176
- PDF page 243 — 2nd ¶ on page
- PDF page 245 — table 181 0h
- PDF page 248 — last ¶ on page
- PDF page 249 — last ¶ on page
- PDF page 251 — tables 190 & 191
- PDF page 253 — table a.1 row 4
- PDF page 259 — a.5 1st ¶
- PDF page 280 — table c.1 80h (twice)
- PDF page 281 — table c.2 (heading)
- PDF page 288 — table c.3 30h
- PDF page 290 — table c.4 00h, 20h, 2Ah & 2Bh

5.183 [234] IBM 183) Clarify 'matching list identifier' (Accepted, Editorial)
PDF page 155, page 127, clause 7.17.2, a,b,c list, a item

The statement '…with a matching list identifier;' should be '… and the list identifier matches the list identifier associated with the preserved COPY STATUS service actions data;'

5.184 [235] IBM 184) What does 'eight' refer to? (Accepted, Editorial)
PDF page 155, page 127, clause 7.17.2, paragraph after a,b,c list

The sentence 'The AVAILABLE DATA field shall contain the number of bytes present in the parameter data that follows, eight.' does not make sense and references something that 'follows'. It is not clear if that is data or something in the standard. And what is 'eight' referring to?

Editor's notes:

The number of bytes that follow is eight. However, since that information is presented in the table above, the simplest fix is to delete "eight".

5.185 [236] IBM 185) Change 'Operating' to 'Operation' (Accepted, Editorial)
> PDF page 155, page 127, clause 7.17.2, table 95, 1st row
> SEE ALSO comments 7.58 [442] Quantum 57)

The statement 'Operating in progress' should be 'Operation in progress'.

5.186 [237] IBM 186) 'megabytes' not 'mega-bytes' etc. (Accepted, Editorial)
> PDF page 156, page 128, clause 7.17.2, table 96
> SEE ALSO comments 1.30 [30] Brocade 30), 7.59 [443] Quantum 58), and 8.96 [574] Seagate 95)

I do not believe there should be '-'s between Kilo, mega, giag(sic), tera, peta, and bytes.

Editor's note:

The response to comment 1.30 [30] Brocade 30) contains the resolution for this comment.

5.187 [238] IBM 187) 'held data' is a field name (Accepted, Editorial)
> PDF page 157, page 129, clause 7.17.3, table 97

The term 'held data' should be small caps.

5.188 [239] IBM 188) What does 'immediately' mean? (Accepted, Editorial)
> PDF page 157, page 129, clause 7.17.3, 1st paragraph after table

The term 'immediately' is used but what does it mean? As part of the current connection? As the first thing on the next connection? What? This needs to be quantified.

Editor's note:

"immediately" will be changed to "as soon as practical".

5.189 [240] IBM 189) 'zero' not '0' (Accepted, Editorial)
> PDF page 157, page 129, clause 7.17.3, a.b.c list, item b

The statement '…field set to 0;' should be '…filed(sic) set to zero;'

Editor's note:

"0" will be changed to "0h".

5.190 [241] IBM 190) Clarify 'same list identifier' (Accepted, Editorial)
> PDF page 157, page 129, clause 7.17.3, a.b.c. list, items c

The statement '…the same list identifier;' should be '… and the list identifier matches the list identifier associated with the preserved RECEIVE DATA service actions data;'

5.191 [242] IBM 191) Kill the ly (immediately) words (Accepted, Editorial)
PDF page 157, page 129, clause 7.17.3, last paragraph on page
SEE ALSO comment 1.32 [32] Brocade 32)

The statement '…bytes than are needed immediately, but…' should be '…bytes than are needed, but…'. The term immediately in not quantified and not necessary in this case as it add no additional information.

Editor's note:

The response to comment 1.32 [32] Brocade 32) contains the resolution for this comment.

5.192 [243] IBM 192) 'one' not '1' (Accepted, Editorial)
PDF page 159, page 131, clause 7.17.4

The statement 'set to 1' occurs several times in this section. All these should be changed to 'set to one'.

Editor's notes:

The phrase appears in the descriptions of the MAXIMUM SEGMENT LENGTH, DATA SEGMENT GRANULARITY, and INLINE DATA GRANULARITY fields. Also, in the descriptions of MAXIMUM SEGMENT LENGTH and DATA SEGMENT GRANULARITY fields, "pad" should be "PAD".

5.193 [244] IBM 193) Add i.e. to parenthetical phrase (Accepted, Editorial)
PDF page 159, page 131, clause 7.17.4, 5th paragraph from bottom of page

The statement '…descriptor (segment descriptors…' should be '…descriptor (i.e., segment descriptors…'.

5.194 [245] IBM 194) 'power of two' not 'power of 2' (Accepted, Editorial)
PDF page 159, page 131, clause 7.17.4

The statement 'power of 2' should be 'power of two' in several places in this section.

Editor's notes:

The phrase appears in the descriptions of the DATA SEGMENT GRANULARITY, INLINE DATA GRANULARITY, and HELD DATA GRANULARITY fields.

5.195 [246] IBM 195) Don't capitalize 'list' (Accepted, Editorial)
PDF page 160, page 132, clause 7.17.4, **1st and 2nd** paragraphs on page

The term 'List' should not be capitalized.

5.196 [247] IBM 196) Add i.e. to parenthetical phrase (Rejected)
PDF page 160, page 132, clause 7.17.5, 2nd paragraph

The statement '…target devices (in particular stream…' should be '…target devices (i.e., stream…'.

Reason for rejection:

Making the proposed change would water down the meaning of the sentence. The parenthetical text is an "amplifying or digressive element" as described in the response to comment 5.61 [112] IBM 61).

5.197 [248] IBM 197) 'zero' not '0' (Accepted, Editorial)
> PDF page 160, page 132, clause 7.17.5, a.b.c list, item b

The statement '…field set to 0;' should be '…field set to zero;'.

Editor's note:

"0" will be changed to "0h".

5.198 [249] IBM 198) Delete the last sentence (Accepted, Editorial)
> PDF page 161, page 133, clause 7.17.5, note 33
> SEE ALSO comments 7.63 [447] Quantum 62) and 8.98 [576] Seagate 97)

The last sentence should be deleted as it has not(sic) significant value.

Editor's note:

The response to comment 8.98 [576] Seagate 97) contains the resolution for this comment.

5.199 [250] IBM 199) Add e.g. to parenthetical phrase (Accepted, Editorial)
> PDF page 164, page 136, clause 7.19.3, note 36

The statement '…device (usually a copy…' should be changed to '…device (e.g., a copy…'.

Editor's notes:

The proposed change has the advantage of removing the word "usually" and clarifying the possibility that third-party reservations might be used in cases other than copies. However reviewing the parenthetical phrase in question has uncovered an additional problem. The parenthetical phrase refers to a "copy master", a term that is undefined in SPC-2. The correct term is "copy manager" (see 3.1.14). Also this looks like a good place to apply comment 5.20 [71] IBM 20). Therefore, the phrase will be changed from:

> (usually a copy master device)

to:

> (e.g., usually a copy manager master SCSI device)

5.200 [251] IBM 200) 'standard inquiry' s/b all caps (Rejected)
> PDF page 166, page 138, clause 7.21, 1st paragraph

The term standard inquiry' should be all caps as it is the name of a parameter list.

Reason for rejection:

The suggestion that correct capitalization is "STANDARD INQUIRY data" leads to the conclusion that "AUTOSENSE data" and "SENSE data" are also correct, a conclusion that runs counter to comment 5.39 [90] IBM 39). However, "standard inquiry" is incorrect too because INQUIRY is the name of a command, which should be all caps. This issue is dealt with in comment 10.34 [623] O34).

5.201 [252] IBM 201) Add i.e. to parenthetical phrase (Accepted, Editorial)
PDF page 166, page 138, clause 7.21, 1st paragraph

The statement '…actions (that apply to SCC-2…' should be '…actions (i.e.,SCC-2…'.

Editor's notes:

The response to comment 5.202 [253] IBM 202) includes the resolution for this comment.

5.202 [253] IBM 202) Change 'action concerns' to 'action applies to' (Accepted, Editorial)
PDF page 166, page 138, clause 7.21, 1st paragraph
SEE ALSO comments 5.236 [287] IBM 236), 7.64 [448] Quantum 63), 7.77 [461] Quantum 76) and
8.104 [582] Seagate 103)

The statement '…action concerns all SCSI…' should be '…action <u>applies to</u> all SCSI…'.

Editor's notes:

Comment 8.104 [582] Seagate 103) suggests "…is applicable to…" which strikes the editor as more wordy way of saying "…applies to…". Comment 7.77 [461] Quantum 76) raises concerns about whether this wording implies a requirement to implement. Looking forward to SPC-3, other MAINTENANCE IN/OUT service actions will be defined with implementations allowed by any device type. In order to avoid having to re-rewrite this sentence in SPC-3 and in order to have consistency between the "set" and "report" descriptions (and noting the issue raised by comment style comments, e.g. "sccs bit set to one" not just "set") the text in this area will be changed from:

> This command is optional for all device types, except for SCC-2 devices, and devices that set the sccs bit in their Standard Inquiry data (see 7.6.2). As defined in the SCC-2 standard, the REPORT DEVICE IDENTIFIER command is the REPORT PERIPHERAL DEVICE/COMPONENT DEVICE IDENTIFIER service action of the MAINTENANCE IN command. Additional MAINTENANCE IN service actions (that apply to SCC-2 devices and devices that set the sccs bit in their Standard Inquiry data) are defined in SCC-2. Only the REPORT DEVICE IDENTIFIER operation code and service action concerns all SCSI devices.

to:

> ~~This command is optional for all device types, except for SCC-2 devices, and devices that set the SCCS bit in their Standard Inquiry data (see 7.6.2).~~ As defined in the SCC-2 standard, the REPORT DEVICE IDENTIFIER command is the REPORT PERIPHERAL DEVICE/COMPONENT DEVICE IDENTIFIER service action of the MAINTENANCE IN command. Additional MAINTENANCE IN <u>and MAINTENANCE OUT</u> service actions ~~(that apply to SCC-2 devices and devices that set the sccs bit in their Standard Inquiry data)~~ are defined in SCC-2 <u>and in this standard</u>. ~~Only the REPORT DEVICE IDENTIFIER operation code and service action concerns all SCSI devices.~~
>
> <u>The MAINTENANCE IN service actions defined only in SCC-2 shall apply only to SCSI devices that return a device type of 0Ch or the sccs bit equal to one in their standard INQUIRY data. When a SCSI devices returns a device type of 0Ch or the sccs bit equal to one in its standard INQUIRY data, the implementation requirements for the SCC-2 MAINTENANCE IN service actions shall be as specified in SCC-2. Otherwise the MAINTENANCE IN service action definitions and implementation requirements stated in this standard shall apply.</u>

Note that the addition of "and MAINTENANCE OUT" in the rewritten last sentence of the first paragraph is a hack that avoids incorrectly saying that SPC-2 defines other MAINTENANCE IN service actions. In SPC-3 those three words probably can be deleted.

5.203 [254] IBM 203) 'space' means 'bytes' (Accepted, Editorial)
PDF page 166, page 138, clause 7.21, 2nd paragraph after table

The statement '…how much space has been…' should be 'how many bytes has been…'.

Editor's note:

Correcting for a change in number, the phrase in question will be changed to "…how many bytes <u>have</u> been…"

5.204 [255] IBM 204) 'on all ports' adds no value (Accepted, Editorial)
PDF page 167, page 139, clause 7.21, 2nd to last paragraph on page
See ALSO comment 1.34 [34] Brocade 34)

The statement '… to all initiators on all ports.' should be '…to all initiator.' The statement 'on all ports' add no addition value.

Editor's note:

Assuming that it was never intended to change "initiators" from plural to singular, the phrase in question will be changed to "…to all initiators."

5.205 [256] IBM 205) Eliminate 'execution' (Accepted, Editorial)
PDF page 167, page 139, clause 7.21, last paragraph on page

The statement 'The execution of a REPORT DEVICE IDENTIFIER may require…' should be change (sic) to [']A REPORT DEVICE IDENTIFIER command may require…'.

Editor's notes:

I don't think it's the command per say that requires non volatile memory, rather it is the processing of the command. So, the text in question will be changed to "<u>Processing a</u> REPORT DEVICE IDENTIFIER command may require…"

5.206 [257] IBM 206) Don't capitalize 'standby' or 'idle' (Accepted, Editorial)
Global & PDF page 170, page 142, clause 7.23.1, 2nd paragraph after table

The terms 'Standby' and 'Idle' should not be capitalized throughout this section.

Editor's notes:

The capitalization needs to be corrected in the following locations (note paragraphs are identified but numbers of instances are not:

- PDF page 170 — 2nd ¶ after table 108
- PDF page 238 — every ¶ on the page, except ¶ 6
- PDF page 239 — in figure 3

5.207 [258] IBM 207) Add e.g. to parenthetical phrase (Accepted, Editorial)
PDF page 171, page 143, clause 7.32.2, last paragraph

The statement '…condition (end-of-partition, beginning-of-partition, out-of-paper, etc.)…' should be '…condition (e.g., end-of-partition, beginning-of-partition, out-of-paper)…'.

5.208 [259] IBM 208) Add i.e. to parenthetical phrase (Rejected)
Global/List * PDF page 172, page 144, clause 7.23.2, a,b,c list

There are several places where the statement '(device type x)' should be changed to '(i.e., device type x)'.

Reason for rejection:

The cited text represents supplementary facts and need not be changed for the reasons described in the response to comment 5.61 [112] IBM 61).

5.209 [260] IBM 209) Add i.e. to parenthetical phrase (Rejected)
Global/List * PDF page 172, page 144, clause 7.23.2, a,b,c list

There are several places where the statement '(residue)' should be changed to '(i.e., residue)'.

Reason for rejection:

The cited text represents supplementary facts and need not be changed for the reasons described in the response to comment 5.61 [112] IBM 61).

5.210 [261] IBM 210) Eliminate parentheses (Accepted, Editorial)
PDF page 172, page 144, clause 7.23.2, a,b,c list, item b

The sentence '(Negative values are indicated by two's complement notation.);' should be 'Negative values are indicated by two's complement notation.;'.

5.211 [262] IBM 211) Add i.e. to parenthetical phrase (Accepted, Editorial)
Global/Clause & PDF page 172, page 144, clause 7.23.2, a,b,c list, d,a item

The statement '…mode (block length field…' should be '…mode (i.e., block length field…' and the term 'block length' should be small caps.

Editor's note:

A change of "fixed" to small caps noted in comment 5.212 [263] IBM 212) also needs to be made here. Therefore the text in question will be changed from:

(block length field of the MODE SENSE block descriptor is non-zero and the fixed bit of the WRITE command is one);

to:

(i.e., the BLOCK LENGTH field of the MODE SENSE block descriptor is non-zero and the FIXED bit of the WRITE command is one);

5.212 [263] IBM 212) Add i.e. to parenthetical phrase (Accepted, Editorial)
Global/Clause PDF page 172, page 144, clause 7.23.2 -abc list, d.b item

The statement '…mode (the fixed bit of the…' should be '…mode (i.e., the fixed bit of the…' and the term 'fixed' should be small caps.

5.213 [264] IBM 213) Make 'command-specific information' all caps (Accepted, Editorial)
PDF page 172, page 144, clause 7.23.2

The 2nd to last paragraph on page the term 'command-specific information' should be all caps.

Editor's note:

Since "command-specific information" is a field name, it will be made small caps (not all caps).

5.214 [265] IBM 214) Make 'sense key' all caps (Accepted, Editorial)
PDF page 172, page 144, clause 7.23.2, last paragraph of page

The term 'sense key' should be all caps.

Editor's note:

Since "sense key" is a field name, it will be made small caps (not all caps).

5.215 [266] IBM 215) 'additional sense bytes' is not a field (Accepted, Editorial)
PDF page 173, page 145, clause 7.23.3, last paragraph

The term 'additional sense bytes' should be all caps.

Editor's note:

Additional sense bytes is not a field name (see table 109). A better resolution for this issue would be to delete the word "field" following "additional sense bytes" and that change will be made.

5.216 [267] IBM 216) 'SKSV' is a field name (Accepted, Editorial)
PDF page 173, page 145, clause 7.23.3, 1st and 2nd paragraphs

The term 'SKSV' should be in small caps.

5.217 [268] IBM 217) Add i.e. to parenthetical phrase (Accepted, Editorial)
PDF page 173, page 145, clause 7.23.3, 2nd and 3rd paragraph after table

The statement '(left-most)' should be '(i.e., left-most)'.

Editor's notes:

There also is a problem with "most- significant". The text will be changed from "…most- significant (left-most)…" to "…most-significant (i.e., left-most)…"

5.218 [269] IBM 218) Non ISO number format '65536' (Accepted, Editorial)
PDF page 174, page 146, clause 7.23.3, 1st paragraph after table 112

The number 65536 is not in the correct format. It should be 65 536.

5.219 [270] IBM 219) Add i.e. to parenthetical phrase (Accepted, Editorial)
PDF page 175, page 147, clause 7.23.3, 2nd paragraph from top

The statement '(left-most)' should be '(i.e., left-most)'.

5.220 [271] IBM 220) Non ISO number format '65536' (Accepted, Editorial)
PDF page 175, page 147, clause 7.23.3, note 42

The number 65536 is not in the correct format. It should be 65 536.

5.221 [272] IBM 221) Clarify 'as described below' (Accepted, Editorial)
PDF page 175, page 147, clause 7.23.5, 3rd paragraph

The statement '…initiator as described below.' does not specific the location of 'below' this need to be corrected with a cross-reference.

Editor's note:

"below" will be changed to "later in this subclause".

5.222 [273] IBM 222) Eliminate 'execution' (Accepted, Editorial)
PDF page 175, page 147, clause 7.23.5

The statement 'The subsequent execution of a REQUEST SENSE command…' should be 'A subsequent REQUEST SENSE command…'.

5.223 [274] IBM 223) Clarify 'described below' (Accepted, Editorial)
PDF page 175, page 147, clause 7.23.5, 4th paragraph

The following statement '…to the rules described below:' should be '… the following rules;'.

5.224 [275] IBM 224) Force table to one page (Accepted, Editorial)
PDF page 176, page 148, clause 7.23.6, table 114

This table should be made to fit on one page.

Editor's notes:

See comment 5.128 [179] IBM 128 for the resolution for requiring tables to fit on a single page (note that table 114 is given some chance of fitting on one page in the comment resolution).

5.225 [276] IBM 225) Add e.g. to parenthetical phrase (Rejected)
PDF page 176, page 148, clause 7.23.6, table 114, row 2

The statement '…report (first, last, most severe, etc.)…' should be '…report (e.g., first last, most severe)…'.

Reason for rejection:

This is not a "for example list". This list is an enumeration for "which error to report", qualifying it as explanatory text as described in comment 5.61 [112] IBM 61). While it might be argued that the list should be set off from the sentence in which it appears by commas, that is not practical here because the list itself contains several commas. The use of parentheses here as a substitute for commas is appropriate and will not be changed.

5.226 [277] IBM 226) Replace "for example" with "e.g." (Accepted, Editorial)
PDF page 176, page 148, clause 7.23.6, table 114, row 5

The statement '…failure (for example, controller failure, device failure, parity error, etc.)…' should be '…failure (e.g, controller failure, device failure, parity error)…'

5.227 [278] IBM 227) Add i.e. to parenthetical phrase (Accepted, Editorial)
PDF page 176, page 148, clause 7.23.6, table 114, row 4

The statement '…failure (sense key 4h).' should be '…failure (i.e., sense key 4h)'.

5.228 [279] IBM 228) Eliminate parentheses (Accepted, Editorial)
PDF page 177, page 149, clause 7.23.6, table 114(2 of 2), row 5

The statement '(See 7.3.3 for additional information about the use of this sense key with the COPY, COMPARE, and COPY AND VERIFY commands. See 7.5.3 for additional information about the use of this sense key with the EXTENDED COPY command.)' should have the ()s removed.

Editor's notes:

Because EXTENDED COPY is the only case now (after the removal of the COPY command and friends (see comment 1.15 [15] Brocade 15), the two sentences identified in this comment can be reduced a simple (see 7.5.3), which is an acceptable use of parentheses.

Therefore, the entire parenthetical expression will be removed and the end of the preceding sentence will be changed from "…both." to "…both (see 7.5.3)."

5.229 [280] IBM 229) Add e.g. to parenthetical phrase (Accepted, Editorial)
PDF page 177, page 149, clause 7.23.6, table 114(2of2), row 1

The statement '…commands (FORMAT UNIT, SEARCH DATA, etc.).' should be '…commands (e.g., FORMAT UNIT, SEARCH DATA).'

5.230 [281] IBM 230) Commas not parentheses (Accepted, Editorial)
PDF page 193, page 165, clause 7.24.4

The statement '…reservation (other than the reservation being superseded),…' should be '…reservation, other than the reservation being superseded,…'.

5.231 [282] IBM 231) Add i.e. to parenthetical phrase (Accepted, Editorial)
PDF page 194, page 166, clause 7.26, 1st paragraph

The statement '…feature (the selftest bit…' should be '…feature (i.e., the selftest bit…'.

5.232 [283] IBM 232) Make 'translate address' s/b all caps because it's a mode page name (Rejected)
PDF page 194, page 166, clause 7.26, table 120

The term 'translate address' should be all caps as it is the name of a mode page.

Reason for rejection:

All caps has never been used for mode page names as evidenced by virtually all the subclauses in 8.3.

5.233 [284] IBM 233) Put e.g. in parentheses (Accepted, Editorial)
PDF page 195, page 167, clause 7.26, 1st paragraph after a,b,c list

The statement '…logical unit, e.g., write operations to the user accessible medium, or repositioning of the medium on sequential access devices.' should be '…logical unit (e.g., write operations to the user accessible medium, or repositioning of the medium on sequential access devices.)'.

5.234 [285] IBM 234) Put e.g. in parentheses (Accepted, Editorial)
PDF page 195, page 167, clause 7.26, 2nd paragraph after a,b,c list

The statement '…target, e.g., alteration of reservations, log parameters, or sense data.' should be '… target (e.g., alteration of reservations, log parameters, or sense data).'

5.235 [286] IBM 235) Add i.e. to parenthetical phrase (Rejected)
PDF page 195, page 167, clause 7.216, 3rd paragraph after a,b,c list

The statement '…pages (PF bit set to…' should be '…pages (i.e., PF bit set to…'.

Reason for rejection:

If you make the requested change and then substitute "that is" for "i.e." the statement becomes nonsense. The parenthetical expression is not adding specificity about what is a truncated page. The parenthetical expression is stating the only way that pages can be transferred (i.e., when the PF bit is set to one). The parenthetical expression is a digressive element as described in the response to comment 5.61 [112] IBM 61) and is correct as written.

5.236 [287] IBM 236) Change 'action concerns' to 'action applies to' (Accepted, Editorial)
PDF page 195, page 167, clause 7.27, 1st paragraph
SEE ALSO comments 5.202 [253] IBM 202), 7.64 [448] Quantum 63), 7.77 [461] Quantum 76) and 8.104 [582] Seagate 103)

The statement '…action concerns all SCSI…' should be '…action applies to all SCSI…'.

Editor's notes:

Comment 8.104 [582] Seagate 103) suggests "…is applicable to…" which strikes the editor as more wordy way of saying "…applies to…". Comment 7.77 [461] Quantum 76) raises concerns about whether this wording implies a

requirement to implement. Looking forward to SPC-3, other MAINTENANCE IN/OUT service actions will be defined with implementations allowed by any device type. In order to avoid having to re-rewrite this sentence in SPC-3 and in order to have consistency between the "set" and "report" descriptions (and noting the issue raised by comment style comments, e.g. "sccs bit set to one" not just "set") the text in this area will be changed from:

> This command is optional for all device types. As defined in the SCC-2 standard, the SET DEVICE IDENTIFIER command is the SET PERIPHERAL DEVICE/COMPONENT DEVICE IDENTIFIER service action of the MAINTENANCE OUT command. Additional MAINTENANCE OUT service actions are defined in SCC-2. Only the SET DEVICE IDENTIFIER operation code and service action concerns all SCSI devices.

to:

> ~~This command is optional for all device types.~~ As defined in the SCC-2 standard, the SET DEVICE IDENTIFIER command is the SET PERIPHERAL DEVICE/COMPONENT DEVICE IDENTIFIER service action of the MAINTENANCE OUT command. Additional <u>MAINTENANCE IN and</u> MAINTENANCE OUT service actions are defined in SCC-2 <u>and in this standard</u>. ~~Only the SET DEVICE IDENTIFIER operation code and service action concerns all SCSI devices.~~
>
> <u>The MAINTENANCE OUT service actions defined only in SCC-2 shall apply only to SCSI devices that return a device type of 0Ch or the sccs bit equal to one in their standard INQUIRY data. When a SCSI devices returns a device type of 0Ch or the sccs bit equal to one in its standard INQUIRY data, the implementation require-ments for the SCC-2 MAINTENANCE OUT service actions shall be as specified in SCC-2. Otherwise the MAINTENANCE OUT service action definitions and implementation requirements stated in this standard shall apply.</u>

Note that the addition of "MAINTENANCE IN and" in the rewritten last sentence of the first paragraph is a hack that avoids incorrectly saying that SPC-2 defines other MAINTENANCE OUT service actions. In SPC-3 those three words probably can be deleted.

5.237 [288] IBM 237) Don't capitalize 'Identifier' (Accepted, Editorial)
        PDF page 196, page 168, clause 7.27, 2nd paragraph after table 121

The term 'Identifier' should not be capitalized.

5.238 [289] IBM 238) Add i.e. to parenthetical phrase (Rejected)
        PDF page 199, page 171, clause 7.29.2

The statement '…command (mode 00b).' should be '…command (i.e., mode 00b).'

Reason for rejection:

If mode were treated like service action, this the cited text would read something like "…READ BUFFER command with the Combined header and data mode…" But, the text predates the service action concept and uses a different style. With this in mind, if one examines the requested change and then substitutes "that is" for "i.e." the statement becomes nonsense. The parenthetical expression is not adding specificity about what is a READ BUFFER command. The parenthetical expression is identifying a specific case (or mode) of the READ BUFFER command. The parenthetical expression is an amplifying element as described in the response to comment 5.61 [112] IBM 61) and is correct as written.

5.239 [290] IBM 239) Eliminate parentheses (Accepted, Editorial)
> PDF page 199, page 171, clause 7.29.4, 3rd paragraph

The sentence '(The capacity of the buffer may be determined by the BUFFER CAPACITY field in the READ BUFFER descriptor.) ' should have the ()s removed.

5.240 [291] IBM 240) Add i.e. to parenthetical phrase (Rejected)
> PDF page 200, page 172, clause 7.29.7, 3rd paragraph from bottom of page

The statement '…change (one or more commands) are…' should be '…change (i.e., one or more commands) are…'

Reason for rejection:

Add "i.e." or "that is" is not correct because the parenthetical expression is not restating the meaning of the word "change". The parenthetical expression is giving more detail about what it means to not have a "complete set of WRITE BUFFER commands". The parenthetical expression is a digressive element as described in the response to comment 5.61 [112] IBM 61) and is correct as written.

5.241 [292] IBM 241) Don't capitalize 'buffer' (Accepted, Editorial)
> PDF page 200, page 172, clause 7.29.7, 2nd last paragraph from bottom of page

The term 'Buffer' should not be capitalized.

5.242 [293] IBM 242) Eliminate parentheses (Accepted, Editorial)
> PDF page 201, page 173, clause 7.29.8, 2nd paragraph from top of page

The sentence '(The capacity of the buffer may be determined by the BUFFER CAPACITY field in the READ BUFFER descriptor.) ' should have the ()s removed.

5.243 [294] IBM 243) Add e.g. to parenthetical phrase (Accepted, Editorial)
> PDF page 201, page 173, clause 7.29.8, 2nd paragraph

The statement '…space (semiconductor, disk, or other)…' should be '…space (e.g., semiconductor, disk)…'.

Editor's note:

The cited text will be changed to '…space (e.g., semiconductor or disk)…' to minimize differences from the current text.

5.244 [295] IBM 244) Add i.e. to parenthetical phrase (Rejected)
> PDF page 201, page 173, clause 7.29.8, 4th paragraph from bottom of page

The statement '…change (one or more commands) are…' should be '…change (i.e., one or more commands) are…'

Reason for rejection:

Add "i.e." or "that is" is not correct because the parenthetical expression is not restating the meaning of the word "change". The parenthetical expression is giving more detail about what it means to not have a "complete set of

WRITE BUFFER commands". The parenthetical expression is a digressive element as described in the response to comment 5.61 [112] IBM 61) and is correct as written.

5.245 [296] IBM 245) Eliminate parentheses (Accepted, Editorial)
PDF page 201, page 173, clause 7.29.8, last paragraph from bottom of page

The sentence '(The capacity of the buffer may be determined by the BUFFER CAPACITY field in the READ BUFFER descriptor.) ' should have the ()s removed.

5.246 [297] IBM 246) Don't capitalize 'buffer' (Accepted, Editorial)
PDF page 201, page 173, clause 7.29.8, 3rd to last paragraph from bottom of page

The term 'Buffer' should not be capitalized.

5.247 [298] IBM 247) Use subclause (Accepted, Editorial)
PDF page 203, page 175, clause 8.1.1, 1st paragraph The statement

'This clause describes the…' should be 'This subclause describes the…'.

5.248 [299] IBM 248) Eliminate parentheses (Accepted, Editorial)
PDF page 203, page 175, clause 8.1.1, 1st paragraph after table 127

The statement '…shall perform (SEND DIAGNOSTIC command) or the information being returned (RECEIVE DIAGNOSTIC RESULTS with PCV equal to one).' should be changed to '…shall perform as a result of a SEND DIAGNOSTIC command or the information being returned as a result of a RECEIVE DIAGNOSTIC RESULTS with PCV equal to one.'

5.249 [300] IBM 249) Eliminate parentheses (Accepted, Editorial)
PDF page 203, page 175, clause 8.1.1, 3rd paragraph after table 127

The statement '…being sent (SEND DIAGNOSTIC), requested (RECEIVE DIAGNOSTIC RESULTS with PCV equal to one) or returned (RECEIVE DIAGNOSTIC RESULTS parameter data).' should be '…being sent as a result of a SEND DIAGNOSTIC command, requested as a result of a RECEIVE DIAGNOSTIC RESULTS command with PCV equal to one, or returned as a result of a RECEIVE DIAGNOSTIC RESULTS parameter data.'

5.250 [301] IBM 250) Use subclause (Accepted, Editorial)
PDF page 205, page 177, clause 8.2.1, 1st paragraph

The statement 'This clause describes the…' should be 'This subclause describes the…'.

5.251 [302] IBM 251) Add i.e. to parenthetical phrase (Accepted, Editorial)
PDF page 206, page 178, clause 8.2.1, 1st paragraph

The statement '…parameters (strings)…' should be '…parameters (i.e., strings)…'.

Editor's notes:

"(strings)" is obscure and might more correctly be "(character strings)". Adding "i.e." does not make the phrase any clear in that the spelled out wording would be something like "list ~~parameters~~ parameter(s) that are strings" but a list parameter is more than a string (it still has the log parameter header). More is required.

Therefore, the text containing the phrase cited by the comment will be changed from "…list parameters (strings) that contain a description of a particular event" to "…list parameters ~~(strings)~~ that contain a <u>character string</u> description of a particular event"

5.252 [303] IBM 252) Change 'event (or events)' to 'event(s)' (Accepted, Editorial)
PDF page 206, page 178, clause 8.2.1, 1st paragraph

The statement ' …event (or events)…' should be '…event(s)…'.

5.253 [304] IBM 253) Clarify 'below' (Accepted, Editorial)
PDF page 206, page 178, clause 8.2.1, 3rd paragraph after table 131

The statement '…are described below.' should be '…are described below in this subclause.'

5.254 [305] IBM 254) Eliminate parentheses (Accepted, Editorial)
PDF page 206, page 178, clause 8.2.1, 4th paragraph under table 131

The statement '…values (indicated by the PC field of the LOG SELECT and LOG SENSE command descriptor block), the disable…' should be '…values (indicated by the PC field of the LOG SELECT and LOG SENSE commands, the disable…'.

Editor's notes:

This comment was written exactly as shown above, but the editor suspects that the actual desired new text is, '…values as indicated by the PC field of the LOG SELECT and LOG SENSE commands, the disable…'. See comment 5.257 [308] for a similar change.

The change will be made as interpreted by the editor.

5.255 [306] IBM 255) Eliminate parentheses (Accepted, Editorial)
PDF page 206, page 178, clause 8.2.1, note 50

The statement '…one (or a target-defined event occurs).' should be '…one or a target-defined event occurs.'.

5.256 [307] IBM 256) Change 'Thus the updated' to 'As a result the updated' (Accepted, Editorial)
PDF page 206, page 178, clause 8.2.1, note 50

The statement 'Thus the updated…' should be 'As a result the updated…'.

5.257 [308] IBM 257) Eliminate parentheses (Accepted, Editorial)
PDF page 206, page 178, clause 8.2.1, 3rd paragraph from bottom of page

The statement '…values (indicated by the PC field of the LOG SENSE command descriptor block) nor for list parameters (indicated by the LP bit).' should be '…values as indicated by the PC field of the LOG SENSE command nor for list parameters as indicated by the LP bit.'

5.258 [309] IBM 258) Eliminate parentheses (Accepted, Editorial)
PDF page 206, page 178, clause 8.2.1, 2nd paragraph from bottom of page

The statement '…value (depending on the value in the PC field of the command descriptor block) in…' should be '…value, depending on the value in the PC field of the command descriptor block, in…'.

Editor's note:

Including the changes requested in comment 5.26 [77] IBM 26), the cited text will be changed to '…value, depending on the value in the PC field of the ~~command descriptor block~~ CDB, in…'.

5.259 [310] IBM 259) Eliminate parentheses (Accepted, Editorial)
PDF page 207, page 179, clause 8.2.1, 3rd paragraph above a,b list

The statement '…correctly (except for the data counter being at its maximum value) and if…' should be '…correctly, except for the data counter being at its maximum value, and if…'.

5.260 [311] IBM 260) Eliminate parentheses (Accepted, Editorial)
PDF page 208, page 180, clause 8.2.1, 1st paragraph of page

The statement '…correctly (except for the parameter code being at its maximum value) and if…' should be '…correctly, except for the parameter code being at its maximum value, and if…'.

5.261 [312] IBM 261) Add i.e. to parenthetical phrase (Rejected)
Global/Clause & PDF page 213, page 185, clause 8.2.4, 1st paragraph

The statements '(page code xxh)' should all be changed to (i.e., page code xxh)'.

Reason for rejection:

The parenthetical expressions are supplementary facts as described in the response to comment 5.61 [112] IBM 61). Adding "i.e." increases complexity without improving readability and the problem is made worse by the repeated use of the construct.

5.262 [313] IBM 262) Eliminate parentheses (Accepted, Editorial)
PDF page 213, page 185, clause 8.2.5, last paragraph

The statement '…one (binary information). The LP bit shall be set to one (list parameter).' should be '…one to indicate binary information. The LP bit shall be set to one to indicate a list parameter.'.

5.263 [314] IBM 263) Don't capitalize 'self-test' (Accepted, Editorial)
PDF page 214, page 186, clause 8.2.8

The term 'Self-test' should not be capitalized.

5.264 [315] IBM 264) Add i.e. to parenthetical phrase (Rejected)
PDF page 216, page 188, clause 8.2.8, table 145, 2nd row

The statement '…100b (Abort background self-test).' should be '…100b (i.e., abort background self-test).'

Reasons for rejection:

This exact phrasing was accepted to comment 5.49 [100] IBM 49) and is a supplementary fact as described in the response to comment 5.61 [112] IBM 61). So the change seems gratuitous.

5.265 [316] IBM 265) Force table to one page (Rejected)
PDF page 217, page 189, clause 8.2.9, table 146

This table should be made to fit on one page.

Reason for rejection:

In the editor's option table 146 cannot be made to fit on one page. See the response to comment 5.128 [179] IBM 128) for additional discussion.

5.266 [317] IBM 266) Add i.e. to parenthetical phrase (Rejected)
PDF page 219, page 191, clause 8.2.9, 1st paragraph on page

The statement '…lifetime (parameter code 0003h)…' should be '…lifetime (i.e., parameter code 0003h)…'.

Reasons for rejection:

This exact phrasing follows the pattern of "This clause defines the optional start-stop cycle counter page (page code 0Eh)," used throughout the log pages subclauses. The parenthetical expression is a supplementary fact as described in the response to comment 5.61 [112] IBM 61). So the change is inappropriate.

5.267 [318] IBM 267) Add i.e. to parenthetical phrase (Rejected)
PDF page 219, page 191, clause 8.2.9, 1st paragraph after table

The statement '…cycles (parameter code 0004h)…' should be '…cycles (i.e., parameter code 0004h)…'.

Reasons for rejection:

This exact phrasing follows the pattern of "This clause defines the optional start-stop cycle counter page (page code 0Eh)," used throughout the log pages subclauses. The parenthetical expression is a supplementary fact as described in the response to comment 5.61 [112] IBM 61). So the change is inappropriate.

5.268 [319] IBM 268) Use subclause (Accepted, Editorial)
PDF page 220, page 192, clause 8.2.11, 1st paragraph

The statement 'This clause defines…' should be 'This subclause defines…'.

5.269 [320] IBM 269) Use subclause (Accepted, Editorial)
PDF page 222, page 194, clause 8.3.1, 1st paragraph

The statement 'This clause defines…' should be 'This subclause defines…'.

5.270 [321] IBM 270) Eliminate parentheses (Accepted, Editorial)
PDF page 223, page 195, clause 8.3.3, last paragraph on page

The statement '…times eight (if LONGLBA=0) or times sixteen (if LONGLBA=1),…' should be '…times eight if the LONGLBA bit is set to zero or times sixteen if LONGLBA bit is set to one,…'.

5.271 [322] IBM 271) 'zero' not '0' (Accepted, Editorial)
PDF page 224, page 196, clause 8.3.4.1, 1st paragraph

The statement 'When LONGLBA equals 0…' should be 'When the LONGLBA bit is set to zero…'.

5.272 [323] IBM 272) 'zero' not '0' (Accepted, Editorial)
PDF page 225, page 197, clause 8.3.4.2, 1st paragraph

The statement 'When LONGLBA equals 0…' should be 'When the LONGLBA bit is set to zero…'.

5.273 [324] IBM 273) 'zero' not '0' (Accepted, Editorial)
PDF page 225, page 197, clause 8.3.4.2, 1st paragraph after table

The statement 'When LONGLBA equals 0…' should be 'When the LONGLBA bit is set to zero…'.

5.274 [325] IBM 274) Eliminate parentheses (Accepted, Editorial)
PDF page 225, page 197, clause 8.3.4.2, 1st paragraph above a,b,c list

The statement '…field (via a MODE SELECT command), the…' should be '…field using the MODE SELECT command, the…'.

5.275 [326] IBM 275) Add i.e. to parenthetical phrase (Accepted, Editorial)
PDF page 225, page 197, clause 8.3.4.2, note 57

The statement '…optimum values (the value that…' should be '…optimum values (i.e., the value that…'.

Editor's note:

If 'optimum values' and 'the value that' are the same (i.e., conjoined by an "i.e.") then both "values" need to be the same number. The phrase will be changed to '…optimum values (i.e., the values that…'.

5.276 [327] IBM 276) 'one' not '1' (Accepted, Editorial)
PDF page 226, page 198, clause 8.3.4.3, 1st paragraph

The statement 'When LONGLBA equals 1…' should be 'When the LONGLBA bit is set to one…'.

5.277 [328] IBM 277) Eliminate parentheses (Accepted, Editorial)
PDF page 226, page 198, clause 8.3.4.3, 1st paragraph above a,b,c list

The statement '…field (via a MODE SELECT command), the…' should be '…field using the MODE SELECT command, the…'.

5.278 [329] IBM 278) Add i.e. to parenthetical phrase (Accepted, Editorial)
PDF page 227, page 199, clause 8.3.4.3, note 58

The statement '…optimum values (the value that…' should be '…optimum values (i.e., the value that…'.

Editor's note:

As described in the response to comment 5.275 [326] IBM 275, the phrase will be changed to '…optimum values (i.e., the value̲s that…'.

5.279 [330] IBM 279) Use subclause (Accepted, Editorial)
PDF page 227, page 199, clause 8.3.5, 1st paragraph after table

The statement '…in this clause…' should be '…in this subclause…'.

5.280 [331] IBM 280) Add i.e. to parenthetical phrase (Rejected)
PDF page 227, page 199, clause 8.3.5, 2nd paragraph from bottom of page

The statement '…code 00h (vendor-specific page)…' should be '…code 00h (i.e., vendor-specific page)…'.

Reason for rejection:

The parenthetical expression contains a supplementary fact as described in the response to comment 5.61 [112] IBM 61).

5.281 [332] IBM 281) Add i.e. to parenthetical phrase (Rejected)
PDF page 227, page 199, clause 8.3.5, 2nd paragraph from bottom of page

The statement '…pages (page code 3Fh)…' should be '…pages (i.e., page code 3Fh)…'.

Reason for rejection:

The parenthetical expression contains a supplementary fact as described in the response to comment 5.61 [112] IBM 61).

5.282 [333] IBM 282) Add i.e. to parenthetical phrase (Rejected)
PDF page 230, page 202, clause 8.3.6, 1st paragraph above table 164

The statement '(see the TST field definition above)' should be deleted or changed to '(i.e, the TST field)'.

Reasons for rejection:

The proposed change alters the parenthetical expression from a cross reference to comparison of a field to the meaning of the contents of the field. The alteration is inappropriate. Many cross references in SPC-2 are in the form of digressive parenthetical expressions as described in the response to comment 5.61 [112] IBM 61).

5.283 [334] IBM 283) Change 'TST=xxxb' to 'the TST field equals xxxb' (Accepted, Editorial)
Global & PDF page 230, page 202, clause 8.3.6, 1st paragraph above table 164

The statement 'TST=xxxb' should be changed to 'the TST field equals xxxb' in all cases throughout the document.

Editor's notes:

Changes required on:
- PDF page 61 — second list c)
- PDF page 175 — list b)
- PDF page 230 — 3rd ¶ on page

5.284 [335] IBM 284) Commas not parentheses (Accepted, Editorial)
PDF page 231, page 203, clause 8.3.6

The statement '(if defined)' should be deleted or changed to ',if defined,'.

Editor's notes:

The first instance of '(if defined)' will be changed to ',if defined,'. The second instance will be deleted.

5.285 [336] IBM 285) Commas not parentheses (Accepted, Editorial)
PDF page 231, page 203, clause 8.3.6, 3rd paragraph before table 165

The statement '…event (other than upon completing an initialization sequence).' should be changed to '…event, other than upon completing an initialization sequence.'.

5.286 [337] IBM 286) Change 'An SCSI' to 'A SCSI' (Accepted, Editorial)
Global & PDF page 232, page 204, clause 8.3.7, 1st paragraph

The statement 'An SCSI…' should be changed to 'A SCSI…' This should be checked for throughout the document.

Editor's notes:

Comments 1.1 [1] Brocade 1), 5.19 [70] IBM 19), 5.127 [178] IBM 127) and 7.2 [386] Quantum 2) should be processed before this comment because they contain corrections to the use of "a SCSI". Additional changes required on:
- PDF page 29 — 3rd ¶ on page
- PDF page 33 — 3.1.12
- PDF page 34 — 3.1.19, 3.1.20 3.1.28, 3.1.31 & 3.1.32
- PDF page 35 — 3.1.41, 3.1.45 (x2), 3.1.46
- PDF page 36 — 3.1.54
- PDF page 44 — 5.2.4 1st ¶
- PDF page 64 — 1st ¶ on page
- PDF page 127 — Table 63, 011b
- PDF page 232 — 8.3.7 1st ¶

5.287 [338] IBM 287) Add i.e. to parenthetical phrase (Accepted, Editorial)
PDF page 232, page 204, clause 8.3.7, 1st paragraph

The statement '…page (disconnect-reconnect)…' should be '…page (i.e., disconnect-reconnect)…'.

Editor's note:

The parentheses will be changed to commas.

5.288 [339] IBM 288) Don't capitalize 'Target Role Agent' (Rejected)
PDF page 232, page 204, clause 8.3.7, 1st paragraph after the table

The term 'Target Role Agent' should not be capitalized.

Reason for rejection:

The accepted comment 10.31 [620] O31) has removed the term 'Target Role Agent' from SPC-2.

5.289 [340] IBM 289) Change 'thus' to 'therefore' (Accepted, Editorial)
PDF page 233, page 205, clause 8.3.7

The statement 'Thus INTEGER…' should be 'Therefore in this example INTEGER…'.

5.290 [341] IBM 290) Commas not parentheses (Rejected)
PDF page 233, page 205, clause 8.3.7, 4th paragraph from bottom of page

The statement '…relationship (if any) between…' should be '…relationship, if any, between…'.

Reason for rejection:

See response to comment 5.97 [148] IBM 97).

5.291 [342] IBM 291) Remove parentheses (Accepted, Editorial)
PDF page 234, page 206, clause 8.3.8, last paragraph

The statement '…(e.g., a value of one means 512 bytes, two means 1024 bytes, etc.).' should be '…(e.g., a value of one means 512 bytes, two means 1024 bytes).'.

Editor's note:

The cited sentence will be changed from:

> This value is expressed in increments of 512 bytes (e.g., a value of one means 512 bytes, two means 1024 bytes, etc.).

to:

> This value is expressed in increments of 512 bytes; a value of one means 512 bytes, two means 1024 bytes, etc.

5.292 [343] IBM 292) Commas not parentheses (Accepted, Editorial)
PDF page 235, page 207, clause 8.3.8, 2nd paragraph from top of page

The statement '…time (as specified by the INTERVAL TIMER field),'…' …should be '…time, as specified by the INTERVAL TIMER field,…'.

5.293 [344] IBM 293) 'set' does not mean 'set to one' (Accepted, Editorial)
PDF page 235, page 207, clause 8.3.8, 2nd paragraph from top of page

The statement '…if the DEXCPT bit is not set.' should be '…if the DEXCPT bit is set to zero.'.

5.294 [345] IBM 294) Just SAM-2 (Accepted, Editorial)
PDF page 235, page 207, clause 8.3.8, table 169, 2nd row

The term 'SCSI-3 Architecture Mode'(sic) should be 'SAM-2' to be consistent with the reset of this document.

Editor's note:

"The SCSI-3 Architecture Model" will be changed to "SAM-2".

5.295 [346] IBM 295) Which hunt (Accepted, Editorial)
PDF page 237, page 209, clause 8.3.9, 1st paragraph

The statement '…manner which reduces…' should be '…manner that reduces…'.

5.296 [347] IBM 296) Which hunt (Accepted, Editorial)
PDF page 237, page 209, clause 8.3.9, 3rd paragraph

The statement '…condition which allows…' should be '…condition that allows…'.

5.297 [348] IBM 297) Which hunt (Accepted, Editorial)
PDF page 237, page 209, clause 8.3.9, 3rd paragraph

The statement '…timer which maps…' should be '…timer that maps…'.

5.298 [349] IBM 298) Don't capitalize 'standby' or 'idle' (Accepted, Editorial)
PDF page 238, page 210, clause 8.3.9

The terms Idle and Standby should not be capitalized.

Editor's note:

The changes needed to resolve this comment are identified in the response to comment 5.206 [257] IBM 206).

5.299 [350] IBM 299) Use subclause (Accepted, Editorial)
PDF page 241, page 213, clause 8.4.1, 1st paragraph

The statement 'This clause describes…' should be 'This subclause describes…'.

5.300 [351] IBM 300) Change 'Thus' to 'For that reason' (Accepted, Editorial)
PDF page 242, page 214, clause 8.4.3, note 61

The statement 'Thus it is not…' should be 'For that reason it is not…'.

5.301 [352] IBM 301) Use 'CDB' not 'Use command descriptor block' (Accepted, Editorial)
PDF page 242, page 214, clause 8.4.3, 1st paragraph after note 61

The term 'command descriptor block' should be changed to 'CDB'.

Editor's note:

The response to comment 5.26 [77] IBM 26) identifies all instances where the change to CDB needs to be made including two instances on PDF page 242, one of which is this instance.

5.302 [353] IBM 302) Eliminate parentheses (Accepted, Editorial)
PDF page 243, page 215, clause 8.4.3, 1 paragraph from top of page

The statement '…lines (or character strings).' should be '…lines or character strings.'.

Editor's note:

The sentence containing the cited text will be changed from:

The data in this field shall be formatted in one or more lines (or character strings).

to:

The data in this field shall be formatted in one or more <u>character string</u> lines ~~(or character strings)~~.

5.303 [354] IBM 303) Change 'SCC' to 'SCC-2' (Accepted, Editorial)
Global & PDF page 243, page 215, clause 8.4.4, note 62

The term 'SCC' should be 'SCC-2'.

5.304 [355] IBM 304) Change 'FC-PH …' to 'FC-FS' (Accepted, Editorial)
PDF page 243, page 215, clause 8.4.4, note 62
SEE ALSO 5.305 [356] IBM 305) and 8.8 [486] Seagate 8)

The statement '…in FC-PH, FC-PH-3 or FC-FS.' should be '…in FC-FS.'. FC-FS replaces the FC-PH standards.

5.305 [356] IBM 305) Change 'FC-PH …' to 'FC-FS' (Accepted, Editorial)
PDF page 245, page 217, clause 8.4.4, table 181, row 4
SEE ALSO comments 5.304 [355] IBM 304) and 8.8 [486] Seagate 8)

The statement '…in FC-PH, FC-PH-3 or FC-FS.' should be '…in FC-FS.'. FC-FS replaces the FC-PH standards.

5.306 [357] IBM 306) 'eight' not '8' (Accepted, Editorial)
PDF page 245, page 217, clause 8.4.4, table 181, rows 2 and 3

The term '8' should be changed to 'eight'.

Editor's notes:

The 8 in row 2 will be changed to eight. The 8 in row 3 will be changed to 8h.

5.307 [358] IBM 307) Don't capitalize 'Canonical' (Accepted, Editorial)
PDF page 245, page 217, clause 8.4.4, table 181, row 3

The term 'Canonical' should not be capitalized.

5.308 [359] IBM 308) Remove A/B Ports (Accepted, Editorial)
        PDF page 245, page 217, clause 8.4.4, table 182, rows 2 and 3

The statements ',also known as port A' and ',also known as port B' should be deleted as there is no place else in any of the standards that talk about A or B ports.

Editor's notes:

It may be true that ports A and B are not discussed elsewhere in the standard, however the usage is common in several historical T10 and T9.2 documents. Therefore, "also" will be changed to "historically".

5.309 [360] IBM 309) Table notes in wrong format (Accepted, Editorial)
        PDF page 246, page 218, clause 8.4.4, table 183 footnotes

The footnotes should not have letters or numbers just a -. Also the terms 'Notes:' should be on a line by itself.

Editor's note:

According to *ISO/IEC Directives, Part 3* – Rules for the structure and drafting of International Standards, these are table notes, meaning that the notes will appear within the table frame but will otherwise look much like a note in the body text.

5.310 [361] IBM 310) Processor Reservations information must be in model clause (Accepted, Editorial)
        PDF page 249, page 221, clause 9.3, 1st paragraph under table

This paragraph should be removed and this command place in a table in the same way it was for all the other commands in this document.

Editor's notes:

The following changes will be made to resolve this comment.

1) The paragraph cited by the comment will be deleted.

2) A similar paragraph in subclause 9.2 will be deleted.

3) The content of Annex B.1 will be copied to the end of Clause 6 and modified to be appropriate for the processor command set.

5.311 [362] IBM 311) Commas not parentheses (Accepted, Editorial)
        PDF page 250, page 222, clause 9.3, 1st paragraph under table

The statement '…format (as defined by the SCSI-2 standard) shall…' should be '…format, as defined by the SCSI-2 standard, shall…'.

5.312 [363] IBM 312) Just CDB (Accepted, Editorial)
        PDF page 253, page 225, clause, a.3, 2nd paragraph

The statement '…SENSE Command Descriptor Block (CDB) fields.' should be '…SENSE CDB fields.'.

5.313 [364] IBM 313) Eliminate parentheses (Accepted, Editorial)
>   PDF page 253, page 225, clause a.3, table a.1, row 4

The sentence in ()s should have the ()s removed.

5.314 [365] IBM 314) Just CDB (Accepted, Editorial)
>   PDF page 256, page 228, clause, a.4, 2nd paragraph

The statement '…SENSE Command Descriptor Block (CDB) fields.' should be '…SENSE CDB fields.'.

5.315 [366] IBM 315) Eliminate parentheses (Accepted, Editorial)
>   PDF page 256, page 228, clause a.4, table a.4, row 5

The sentence in ()s should have the ()s removed.

5.316 [367] IBM 316) Don't capitalize 'Log Parameters' (Accepted, Editorial)
>   PDF page 257, page 229, clause a.4, 2nd paragraph from top of page

The term 'Log Parameters' should not be capitalized.

5.317 [368] IBM 317) Use subclause (Accepted, Editorial)
>   PDF page 259, page 231, clause a.5, 1st paragraph

The statement 'This clause describes…' should be 'This subclause describes…'.

5.318 [369] IBM 318) Eliminate usage of 'will' (Accepted, Editorial)
>   PDF page 260, page 232, clause a.5, table a.9, 1st row

The statement '…activities will cause an ACA…' should be '…activities shall cause an ACA…'.

Editor's notes:

Annex A is informative and in revision 18 contains no uses of the word 'shall'. The resolution for this comment shall not put the first 'shall' in the annex. The sentence containing the cited text will be changed from:

>   No logging activities will cause an ACA condition or a Unit Attention condition.

to:

>   ~~No logging~~ Logging activities ~~will~~ are not allowed to cause an ACA condition or a Unit Attention condition.

5.319 [370] IBM 319) Use 'SBC-2' (Rejected)
>   PDF page 262, page 234, clause b.1, 1st paragraph

The statement '…next version of the SBC standard when, and if, a new version of that standard is published.' should be '…SBC-2 standard.'.

Reasons for rejection:

The current wording is correct without making reference to a standard under development. See comment 8.76 [554] Seagate 76) for additional comments about identifying standards under development.

5.320 [371] IBM 320) Don't capitalize 'Power Condition' and 'Fault Failure Reporting Page' (Rejected)
PDF page 290, page 262, clause c.5, table c.4 2 of 2, footnotes

The term 'Power Condition' and Fault Failure Reporting Page' should not be capitalized.

Reasons for rejection:

The discussion of the "Power Condition" page is being removed as part of the resolution to comment 4.3 [51] ENDL 3). As evidenced by the discrepancies between this comment and comment 5.232 [283] IBM 232), there is no agreed practice for the capitalization of mode page names. Therefore, the existing practice of capitalizing mode page names will be continued.

6. LSI Logic Corp.

LSI Logic Corp. alternate representative Charles Binford submitted a Yes vote with the following comments.

6.1 [372] LSI 1) Only FC Loops use Primitive Signals (Accepted, Editorial)
PDF page 52, page 24, clause 5.5.3.1, 1st paragraph

The parenthetical statement in the second sentence of 5.5.3.1 says fibre channel uses primitive signals for hard resets. This is not accurate. LIP(f7) or LIP(f8) do not reset anything, LIP(alpd) causes a vendor specified reset that PLDA says to implement as a power-on reset.

Editor's note:

The comment is interpreted to mean that Fibre Channel Loops have a 'primitive signal' that causes the behavior of a hard reset, specifically LIP(alpd). With this in mind, the sentence at issue will be change to read:

"Even though different protocols that transport SCSI handle hard resets differently (e.g., parallel uses a reset signal, fibre channel loops use ~~uses~~ primitive signals) the persistent reservation shall be protected."

This change is reflected in the rewrite found in the response to comment 6.2 [373] LSI 2).

6.2 [373] LSI 2) Redundant information in persistent reservations overview (Accepted, Editorial)
PDF page 52, page 24, clause 5.5.3.1, 1st paragraph
SEE ALSO comments8.38 [516] Seagate 38), 8.39 [517] Seagate 39), 8.40 [518] Seagate 40) and rejected comment 5.63 [114] IBM 63)

The last sentence reads "Persistent reservations are optionally retained when power to the target is lost." This seems redundant with the following paragraph that clearly states the optional power cycle behavior.

Suggest deleting last sentence of first paragraph.

Editor's note:

The sentence referenced is not the only redundant sentence in this description. The following sentence also is redundant with the first sentence in the subclause:

"Persistent reservations may be used to enforce device sharing among multiple initiators."

The first two paragraphs of the subclause will be changed so that the first paragraph is descriptive of the function and the second paragraph states requirements. The paragraphs will be changed from:

"The Persistent Reservations management method is used among multiple initiators that require operations to be protected across initiator failures, which usually involve hard resets. Even though different protocols that transport SCSI handle hard resets differently (e.g., parallel uses a reset signal, fibre channel uses primitive signals) the persistent reservation shall be protected. Persistent reservations persist across recovery actions, to provide initiators with more detailed control over reservations recovery. Persistent reservations for failing initiators may be preempted by another initiator as part of the recovery process. Persistent reservations shall be retained by the device server until released, preempted, or until cleared by mechanisms specified in this standard. Persistent reservations are optionally retained when power to the target is lost.

"Persistent reservations are not reset by the TARGET RESET task management function or other global actions and may, optionally, be preserved across power cycles. Persistent reservations may be used to enforce device sharing among multiple initiators."

to (note that this rewrite reflects changes based on comments other than this one):

"The ~~Persistent Reservations~~ persistent reservations management method ~~is used among~~ is the mechanism specified by this standard for use by multiple initiators that require operations to be protected across initiator failures, which usually involve hard resets. Persistent reservations persist across recovery actions, to provide initiators with more detailed control over reservations recovery. Persistent reservations are not reset by the TARGET RESET task management function or other global actions.

"Persistent reservations for failing initiators may be preempted by another initiator as part of the recovery process. Persistent reservations shall be retained by the device server until released, preempted, or ~~until~~ cleared by mechanisms specified in this standard. Even though different protocols that transport SCSI commands handle hard resets differently (e.g., parallel uses a reset signal, fibre channel loops use ~~uses~~ primitive signals) the persistent reservation shall be ~~protected~~ preserved. Optionally, persistent reservations may be retained when power to the target is removed."

6.3 [374] LSI 3) Misleading description of PREEMPT (Accepted, Editorial)
PDF page 60, page 32, clause 5.5.3.6.3.4, 1st paragraph

The first sentence of this section sates "An application client may clear registrations without affecting a persistent reservation…".   I believe this is a bit misleading, it gives the impression the initiator has the option to remove a registration without affecting a reservation. This behavior is a function of what reservations happen to be active at the time of the preempt and not necessarily a choice of the initiator.

Suggest rewording the sentence to clarify the behavior is not a choice, but rather a side effect of the current state of things in the device server.

Editor's note:

The text will be changed from the current wording:

"An application client may clear registrations without affecting a persistent reservation by issuing a PERSISTENT RESERVE OUT command with a PREEMPT service action …"

to (including changes proposed in response to comment 8.48 [526] Seagate 48):

"When a registered reservation key is not associated with a persistent reservation, an application client may ~~clear~~ remove the registration(s) without affecting ~~a~~ any persistent reservations by issuing a PERSISTENT RESERVE OUT command with a PREEMPT service action …"

6.4 [375] LSI 4) Bad table reference (Rejected)
        PDF page 68, page 40, clause 7.3.1, 1st paragraph

The 'see table 11' should specify table 12 instead.

Reason for rejection:

This issue does not need to be resolved because the COPY command is being made obsolete, as requested in comment 1.15 [15] Brocade 15).

6.5 [376] LSI 5) Misspelling of 'striped' (Accepted, Editorial)
        PDF page 79, page 51, clause 7.5.1
        SEE ALSO comment 1.22 [22] Brocade 22)

The second paragraph on page 51 uses the word 'stripped' twice. I believe both instances should be 'striped' instead.

6.6 [377] LSI 6) Unclear requirement for Generation field (Accepted, Editorial)
        PDF page 140, page 112, clause 7.13.3, 1st paragraph after table 75

In the paragraph under Table 75 it states, "The counter shall not be incremented by a PERSISTENT RESERVE IN command, by a PERSISTENT RESERVE OUT command that performs a RESERVE or RELEASE service action, or by a PERSISTENT RESERVE OUT command that is not performed due to an error or reservation conflict."

How does a device server know if the persistent reserve out command is performed due to an error? This seems to be an impossible requirement to fulfill.

Suggest either clarifying or removing last part of quoted sentence.

Editor's notes:

It appears that the phrase "not performed" is causing confusion. Aside from creating a sentence containing a double negative, the sentence reads acceptably to the editor. Since there is confusion, however, the "not performed" will be changed to the equivalent "terminated", resulting in a sentence that reads like this:

The counter shall not be incremented by a PERSISTENT RESERVE IN command, by a PERSISTENT RESERVE OUT command that performs a RESERVE or RELEASE service action, or by a PERSISTENT RESERVE OUT command that is ~~not performed~~ terminated due to an error or reservation conflict.

6.7 [378] LSI 7) Allocation Length of Persistent Reserve (Rejected)
        PDF pages 140 & 141, page 112 & 113, clauses 7.13.3 & 7.13.4.1

In the second paragraph under Table 75 and the second paragraph under Table 76 the behavior specified for the condition when the allocation length is not sufficient is different than other commands. Section 4.3.6 specifies that device servers transmit up to allocation length number of bytes or all of the data, whichever is less. Persistent

Reserve IN, however, specifies that either all of the data, or just the header. Was this deviation from the normal behavior on purpose or an oversight?

Reason for rejection:

It appears that the comment is confusing "allocation length" and "additional length". The sentence that appears to be the source of the comment is:

> If the allocation length specified by the PERSISTENT RESERVE IN command is not sufficient to contain the entire parameter list, then only first portion of the list (byte 0 to the <u>allocation length</u>) shall be sent to the application client.

If the underlined "allocation length" were replaced with "additional length" then the behavior described in the comment would be the requirement. However, that is not the wording, and the sentence as written requires the transfer of all the data that can be transferred within the bounds of allocation length, which is the "normal" behavior mentioned in the comment.

6.8 [379] LSI 8) Initiator identification (Accepted, Editorial)
> PDF pages 144 & 146, page 116 & 118, clauses 7.14.1 & 7.14.3
> SEE ALSO comment 8.89 [567] Seagate 88)

In both of these sections there are clauses implying that an initiator is identified by its reservation key (paragraph above table 80, second paragraph below table 82). I believe this is confusing. If the initiator is identified by the reservation key, then does the reservation apply to all initiators registered with the same key, or just the initiator who sent the reservation?

Please reword to clarify.

Editor's notes:

The sentence above table 80 currently reads:

> An application client may use the PERSISTENT RESERVE IN command to identify which initiators are holding a persistent reservation and use the PERSISTENT RESERVE OUT command to preempt that reservation if required.

Including the change requested by comment 8.89 [567] Seagate 88), the sentence will be changed to:

> An application client may use the PERSISTENT RESERVE IN command to <u>obtain the reservation key for the initiator</u> ~~identify which initiators are~~ holding a persistent reservation and <u>may</u> use the PERSISTENT RESERVE OUT command to preempt that reservation ~~if required~~.

The editor can find nothing to correct below table 82 all the way to the bottom of the page. The only sentence that is remotely questionable is:

> For the PREEMPT and PREEMPT AND ABORT service actions, the SERVICE ACTION RESERVATION KEY field contains the reservation key of the persistent <u>reservations</u> that are being preempted.

The only issue here would be the underlined word "reservations". Why isn't it singular? It needs to be plural because one initiator using a unique reservation key may hold a logical unit reservation plus several element reservations on a single logical unit. (Note that this example can be constructed using a single initiator.) PREEMPT or PREEMPT AND ABORT would preempt all held reservations, both the logical unit and element reservations.

6.9 [380] LSI 9) Add 'GENERATION field incremented' column (Accepted, Editorial)
PDF page 145, page 117, clause 7.14.2, Table 81

I believe it would be useful it table 81 had a column indicating whether or not the service action incremented the generation number.

Editor's notes:

The heading for the column will be "GENERATION field incremented (see 7.13.3)". The row entries will be as follows:
  • REGISTER   Yes
  • RESERVE ....   No
  • RELEASE ....   No
  • CLEAR   Yes
  • PREEMPT   Yes
  • PREEMPT AND ABORT   Yes
  • REGISTER AND IGNORE EXISTING KEYYes

Also, "PREEMPT & ABORT" will be changed to "PREEMPT AND ABORT".

6.10 [381] LSI 10) Sense data INFORMATION field and Beyond 2 Tbytes (Accepted, Substantive)
PDF page 172, page 144, clause 7.23.2, list entry a)

How does a LU with LBA addresses larger than 4 bytes fill in the INFORMATION field for case a)?

Editor's note:

As proposed by George Penokie, SPC-2 will require that the VALID bit to zero if the LBA doesn't fit in the INFOR-MATION field. George also notes that the proposal is an interim solution and more aggressive measures will need to be approved of inclusion in SPC-3.

Therefore, ignoring punctuation, the following sentence will be added at the end of the first bullet a):

   If the logical block address value cannot be represented in two bytes, the VALID bit shall be set to zero

6.11 [382] LSI 11) Table 128 Should specify SES pages (Accepted, Editorial)
PDF page 203, page 175, clause 8.1.1, Table 128
SEE ALSO comment 1.37 [37] Brocade 37)

Table 128 indicates that pages 01h - 3fh apply to all device types. This table should split out pages 01h - 0fh as SES pages and reference that standard.

Suggestion, replace row:

   01h - 3Fh Pages that apply to all device types

with:

    01h - 0Fh Pages defined by SES (see xyz)
    10h - 3Fh Pages that apply to all device types

Editor's note:

The resolution to comment 1.37 [37] Brocade 37) details the changes that will be made to identify the SES diagnostic page codes.

6.12 [383] LSI 12) Incorrect table references (Accepted, Editorial)
        PDF pages 243 & 244, pages 215 & 216, clause 8.4.4
        SEE ALSO comment 10.5 [595]

The first paragraph of 8.4.4 incorrectly references table 108 instead of table 177. The paragraph under Table 178 incorrectly references table 111 instead of table 178.

6.13 [384] LSI 13) First Burst Size definition (Unresolved)
        PDF page 234, page 206, clause 8.3 7, 1st paragraph after table 167

FCP-2 has a slightly different definition of First Burst Size. This definition in SPC-2 needs to either be expanded or defer to the appropriate protocol document as to what "first burst" means. (In FCP, first burst refers to data sent to the target before the XFER_RDY.)

Editor's note:

<Approved> proposal 01-025r? includes the resolution for this comment. See 11.3 [633] T10-3).

7. Quantum Corp.

Quantum Corp. principle representative Mark Evans submitted a Yes vote with the following comments.

7.1 [385] Quantum 1) Use 'specify' instead of 'indicate' (Deferred to SPC-3)
        Global
        SEE ALSO comment 7.33 [417] Quantum 32)

The word "indicate" (and several of its forms) is used in many places throughout the document.

My American Heritage Dictionary gives four definitions for "indicate": 1) To show the way to or the direction of; point out; 2) To serve as a sign, symptom, or token of; signify; 3) To suggest or demonstrate the necessity, expedience, or advisability of; 4) To state or express briefly.

The entry continues, "The central meaning [of indicate] is 'to give grounds for supposing or inferring the existence or presence of something'…" Words like "point out", "suggest", and "infer" seem to me to be too weak for many of the places where "indicate" is used in a standard.

Because of this, I think that, in many cases (though not all) where "indicate" is used in the document, a form of the word "specify", or the word "contain", or words something like "specified by the value in" are better choices. Yes, "specify" is given as a synonym for "indicate", but it's pretty far down the list.

As an example, one sentence in the document reads, "The maximum number of target descriptors permitted within a parameter list is indicated by the MAXIMUM TARGET COUNT field in the copy manager's operating parameters…" Well, yes, the "…maximum number of target descriptors permitted…" is "…pointed out…" by "…the MAXIMUM TARGET COUNT field…", but I think it would be much more precise to have this sentence to read, "The maximum number of target descriptors permitted within a parameter list is specified by the value in the MAXIMUM TARGET COUNT field in the copy manager's operating parameters…" Another precise way to state this is, "The MAXIMUM TARGET COUNT field in the copy manager's operating parameters contains the maximum number of the target descriptors permitted within a parameter list."

However, I do understand that it would be a huge task to find and replace each occurrence of "indicate" where I think it should be "specify" in this draft. In future, I would suggest that all editors try to be more precise in their use of "indicate".

Editor's notes:

Data that the application client transmits to the device server specifies something, the comment correctly points out that "indicates" is not correct in this case. However, the SCSI tradition is to keep the requirements on initiators and application clients to a minimum. Therefore, data that a device sever transmits to an application client indicates something.

While this is a noble distinction and very worthwhile to pursue, it is too pervasive a change to undertake during a letter ballot. Therefore, implementation of this change is being deferred to SPC-3.

7.2 [386] Quantum 2) Start definitions with a sentence (Accepted, Editorial)
Global/Clause * PDF pages 33-36, pages 5-8, clause 3.1

With ten exceptions the first sentence of each of the definitions is not a complete sentence. I know it would be a lot of work to change the other 51, but I think it would help with clarity as those definitions that do begin with complete sentences read much better to me. As a fall-back, the following ten definitions could be changed to start with incomplete sentences: 3.1.5 asynchronous event reporting, 3.1.8 blocked task, 3.1.23 enabled task state, 3.1.35 medium, 3.1.37 medium changer, 3.1.39 page, 3.1.40 protocol-specific, 3.1.46 SCSI domain, 3.1.53 system, and 3.1.58 third-party.

Editor's notes:

The smaller number of changes (ten) will be made. The changes described in the response to 1.1 [1] Brocade 1) correct 3.1.35 medium. Nine other changes made will be as follows (underlines for new text and old text in strikeouts):

3.1.5 asynchronous event reporting: ~~Asynchronous event reporting is~~ <u>A mechanism</u> used by a logical unit to signal an initiator that an asynchronous event has occurred. …

3.1.8 blocked task: A ~~blocked task is a~~ task that is in the blocked state, as defined in SAM-2. …

3.1.23 enabled task state: The ~~enabled task state is the~~ only task state in which a task may make effective progress towards completion. …

3.1.37 medium changer: A ~~medium changer~~ <u>device that</u> mechanizes the movement of media to and from the <u>SCSI</u> device that records on or reads from the media. …

Note: The first usage of "device" should not "SCSI device" because a medium changer need not include an initiator or target to be a medium changer. See note **[4]** in the response comment 5.20 [71] IBM 20).

3.1.39 page: ~~Several commands use~~ A regular parameter <u>structure (or format) used by several commands.</u> ~~structures that are referred to as pages.~~

3.1.40 protocol-specific: ~~Requirements for the referenced item are~~ <u>A requirement that is</u> defined by ~~an~~ <u>a</u> SCSI protocol standard.

3.1.46 SCSI domain: The interconnection of two or more SCSI devices and a service delivery subsystem ~~forms an SCSI Domain.~~

3.1.53 system: ~~A system is one~~ <u>One</u> or more SCSI domains operating as a single configuration.

3.1.58 third-party: ~~When used in reference to COPY and EXTENDED COPY commands, third-party means a COPY or EXTENDED COPY command issued to one device to perform a copy operation between two other devices. When used in reference to RESERVE, or RELEASE commands, third-party means a reservation made on behalf of another device~~ …

3.1.58 third-party: An EXTENDED COPY command issued to one SCSI device to perform a copy operation between two other SCSI devices; or a RESERVE or RELEASE command issued by one initiator to manage a reservation on behalf of another initiator …

7.3 [387] Quantum 3) Mark page intentionally left blank (Accepted, Editorial)
PDF page 26, page xiv

This page is blank. I think that, if this is intentional, it should be marked as such.

Editor's note:

All automatically generated blank pages (such as this one) will be removed. The intent was to format the document as ANSI would print it, however, inspection of the printed SPC shows that the effort was unsuccessful. As the majority T10 committee members do not print drafts anymore, formatting of this kind is not useful. BTW the editor knows of no way to get 'this page intentionally blank' on automatically generated blank pages.

7.4 [388] Quantum 4) Show acronyms in definitions (Accepted, Editorial)
Global/Clause * PDF pages 33-36, pages 5-8, clause 3.1
SEE ALSO comments 5.7 [58] IBM 7), 5.8 [59] IBM 8), 5.9 [60] IBM 9), and 5.11 [62] IBM 11)

I think that, where common acronyms are used for a defined phrase (in this case "AER"), the acronym should immediately follow the title phrase in parentheses. In this case, "3.1.5 asynchronous event reporting (AER):" From that point forward in the document only the acronym need be used, except where the whole phrase might be used for clarity. In this particular definition the last sentence references AER with the assumption that the reader knows what this is. This recommended format should also be used in 3.1.6 auto contingent allegiance (ACA), 3.1.11 command descriptor block (CDB), 3.1.13 contingent allegiance (CA), 3.1.34 logical unit number (LUN), and 3.1.36 medium auxiliary memory (MAM).

7.5 [389] Quantum 5) Delete comma (Accepted, Editorial)
PDF page 33, page 5, clause 3.1.8

I recommend that the comma in the first sentence (before the phrase, "as defined in SAM-2") be deleted.

7.6 [390] Quantum 6A) Consistent capitalization of 'autosense' (Accepted, Editorial)
Global & PDF page 33, page 5, clause 3.1.7

Every other instance of this phrase that I found in the document had the first letters of each word capitalized ("Autosense Data"). I think that, one way or the other, the document should be consistent, the words should always capitalized or always not.

Editor's notes:

The resolution for comment 5.39 [90] IBM 39) covers autosense data and makes it not capitalized throughout SPC-2. George Penokie has identified numerous specific cases where capitalization problems need to be corrected (usually by not capitalizing) and the vast majority of those comments have been accepted.

7.7 [391] Quantum 6B) Consistent capitalization of 'data-in buffer' and 'data-out buffer' (Rejected)
Global & PDF page 33, page 5, clause 3.1.7

I think that, one way or the other, the document should be consistent, the words should always capitalized or always not. The same is true for page 5 (PDF page 33), 3.1.15 data-in buffer, and page 6 (PDF page 34), 3.1.16 data-out buffer.

Reason for rejection:

The style that SPC-2 follows for glossary entries has the terms being defined in all lower case with the sole exception being the acronym SCSI. Capitalizing 'data-in buffer' in 3.1.15 and 'data-out buffer' in 3.1.16 would add undesirable complexity to the SPC-2 glossary style.

7.8 [392] Quantum 7) "…during the Data-Out Buffer"??? (Accepted, Editorial)
PDF page 34, page 6, clause 3.1.17

I think that the phrase in the first sentence, "…, or during the Data-Out Buffer…" is supposed to be, "…, or in the Data-Out Buffer…"

7.9 [393] Quantum 8) Compare 'idle condition' to 'active condition' (Accepted, Editorial)
PDF page 34, page 6, clause 3.1.27

I think that the second sentence should be change to read, "However, a logical unit in the Idle condition may take longer to complete the execution of a command than when in the active condition because it may have to activate some circuitry."

Editor's note:

Based on the numerous IBM comments removing 'executions' from SPC-2 (see for example 5.15 [66] IBM 15) and incorporating the capitalization change requested in 7.10 [394] Quantum 9) and 5.206 [257] IBM 206), it would be best to reword this as:

"However, a logical unit in the ~~Idle~~ idle condition may take longer to complete ~~the execution of~~ a command <u>than when in the active condition</u> because it may have to activate some circuitry."

7.10 [394] Quantum 9) Consistent capitalization of 'idle' (Accepted, Editorial)
PDF page 34, page 6, clause 3.1.27

The word "Idle" is capitalized in the definition. Searching the document I have found that the words, "active", "idle", and "standby" are not capitalized consistently when referring to a power condition. I think that, one way or the other, the document should be consistent, the words should always capitalized or always not.

Editor's note:

The resolution for comment 7.9 [393] Quantum 8) includes the change requested in this comment.

7.11 [395] Quantum 10) Which hunt (Accepted, Editorial)
Global & PDF page 34, page 6, clause 3.1.30
SEE ALSO comment 5.16 [67] IBM 16) and 8.13 [491] Seagate 13)

The word "which" is used in this definition for the first time in the normative part of the document. I thought that "which" was not to be used in ANSI standards, and that, in most cases, the word "that" was to be used instead. If my assumption is true, there are many "whichs" that have to be sought out in the document and replaced.

Editor's note:

The specific case identified in this comment will be resolved as described in comment 8.13 [491] Seagate 13). Other instances where changes are needed (the global aspect of the comment) are identified in the response to comment 5.16 [67] IBM 16).

7.12 [396] Quantum 11) 'indicates' not 'indicated' (Accepted, Editorial)
PDF page 37, page 9, clauses 3.3.5 & 3.3.6

This may be one of the appropriate places to use a form of "indicate", but it should be in the present tense. See also 3.3.6 may not.

7.13 [397] Quantum 12) Add missing clause cross reference (Accepted, Editorial)
PDF page 38, page 10, clause 3.4

I think that the second sentence in the first paragraph should be changed to read something like, "These words and terms are defined either in <u>clause 3</u> or in the text where they first appear."

7.14 [398] Quantum 13) Restructure typical CDB subclause (Accepted, Editorial)
PDF page 40, page 12, clause 4.3.1
SEE ALSO comments 1.5 [5] Brocade 5), 1.6 [6] Brocade 6), and 5.36 [87] IBM 36)

I think that this text should be moved to after Table 4 - Typical CDB for 16-byte commands. In addition, I would recommend that the first sentence of the first paragraph of this text should be its own clause: 4.3.2 Field descriptions. I would then recommend that there be two new subclauses, 4.3.2.1 OPERATION CODE field, and 4.3.2.2 CONTROL field, and the subclauses that are now 4.3.2 through 4.3.6 be renumbered 4.3.2.3 through 4.3.2.7.

Editor's note:

The comment will be resolved as described in the response to comment 1.5 [5] Brocade 5). Document 00-269 contains the restructured subclause. Any further change in the restructuring will be reflected solely in revisions to 00-269.

7.15 [399] Quantum 14) Change 'field uses' to just 'fields' (Accepted, Editorial)
PDF page 40, page 12, clause 4.3.1, the second paragraph currently following Table 2

I think the second sentence in this paragraph should be changed to, "The fields shown in tables 1, 2, 3, and 4 are used consistently by most commands."

Editor's note:

Subclause 4.3 will be restructured as described in the response to 1.5 [5] Brocade 5). Document 00-269 contains the restructured subclause including the changes agreed in response to this comment. Any further revisions to the restructuring will be reflected solely in revisions to 00-269.

7.16 [400] Quantum 15) Clarify transfer length equals zero (Accepted, Editorial)
PDF page 42, page 14, clause 4.3.4

I recommend that the last sentence be changed to, "A value of zero specifies that 256 blocks shall be transferred."

Editor's note:

Subclause 4.3 will be restructured as described in the response to 1.5 [5] Brocade 5). Document 00-269 contains the restructured subclause including the changes agreed in response to this comment. Any further revisions to the restructuring will be reflected solely in revisions to 00-269.

7.17 [401] Quantum 16) Use 'number of allocation length bytes' (Rejected)
PDF page 42, page 14, clause 4.3.4

I recommend that the fourth sentence be changed to, "The device server shall terminate transfers to the Data-In Buffer when the number of allocation length bytes have been transferred or when all available data have been transferred, whichever is less."

Reason for rejection:

The use of 'allocation length' (the field name without the small caps) means the contents of or the value in the field. Thus, 'The device server shall terminate transfers to the Data-In Buffer when allocation length bytes have been transferred …' is equivalent to 'The device server shall terminate transfers to the Data-In Buffer when number of bytes specified by the ALLOCATION LENGTH field have been transferred …' The latter wording is the closest acceptable rewrite of the proposed text, but since the current text is correct and more direct no changes will be made in this subclause. However, comment 10.12 [602] O12) describes a change need in subclause 3.4 (Conventions) to explain this usage of field names.

7.18 [402] Quantum 17) Extra white space before 5.2 (Rejected)
PDF page 44, page 16, clause 5.2

There appears to be an extra carriage return above this clause heading in the PDF version that should be deleted.

Reason for rejection:

Subclause headings containing only one period (e.g., 5.2) are preceded by additional white space to set them apart from the preceding subclause. The exception is an *x*.1 subclause where the subclause heading immediately follows a clause heading. There the white space (or new page break) that precedes the clause heading is sufficient. It should be noted that the same usage white space occurs at the beginning of clause 4 but did not attract attention.

7.19 [403] Quantum 18) Change verb to match nouns (Accepted, Editorial)
PDF page 56, page 28, clause 5.5.3.5, 5th paragraph

So that the verb matches the nouns I recommend that the sentence read, "If the device server receives a PERSISTENT RESERVE OUT command with a service action of RESERVE where the TYPE and SCOPE <u>are</u> the same as the existing TYPE and SCOPE from the initiator that created the persistent reservation, it shall not make any change to the existing reservation and shall return a GOOD status."

7.20 [404] Quantum 19) 'aptpl' should be capitalized (Rejected)
PDF page 57, page 29, clause 5.5.3.6.1, last paragraph
SEE ALSO comment 8.47 [525] Seagate 47)

In the second sentence I think that "aptpl" should be capitalized.

Reason for rejection:

Comment 8.47 [525] Seagate 47) correctly identifies how "aptpl" should be changed in this case.

7.21 [405] Quantum 20) 'a unit attention' not 'an unit attention' (Accepted, Editorial)
PDF page 58, page 30, clause 5.5.3.6.2, bullet (d)
PDF page 231, page 203, clause 8.3.6, 4th paragraph on page

I think that "…an unit attention…" should be, "…a unit attention…" I searched the entire document, and these were the only instances of this that I found.

7.22 [406] Quantum 21) Add 'the' (Accepted, Editorial)
PDF page 60, page 32, clause 5.5.3.6.3.3, (c) in 1st bulleted list

An article is missing in the second sentence of item (c). I think it should read, "The scope and type of the persistent reservation created by <u>the</u> preempting initiator may be different than the persistent reservation being preempted."

7.23 [407] Quantum 22) Restructure PREEMPT description for readability (Accepted, Editorial)
PDF page 60, page 32, clause 5.5.3.6.3.3, next to last paragraph
Comment 5.182 [233] IBM 182) establishes a rule for consistent use of 'vendor specific"

The formatting of this paragraph seems awkward to me, I would recommend that it be replaced with something like the following:

The following shall be subject in a vendor specific manner either to the restrictions established by the persistent reservation being preempted or to the restrictions established by the preempting initiator:

a) A task received after the arrival, but before the completion of the PERSISTENT RESERVE OUT command with the PREEMPT service action; or
b) A task in the dormant, blocked, or enable state at the time the PERSISTENT RESERVE OUT command with the PREEMPT service action is received

Completion status shall be returned for each task.

Editor's note:

The proposed text will be used with the revisions indicated by underlines:

127

The following <u>tasks</u> shall be subje<u>ct</u>ed in a vendor specific manner either to the restrictions established by the persistent reservation being preempted or to the restrictions established by the preempting initiator:

a) A task received after the arrival, but before the completion of the PERSISTENT RESERVE OUT command with the PREEMPT service action; or

b) A task in the dormant, blocked, or enable state at the time the PERSISTENT RESERVE OUT command with the PREEMPT service action is received<u>.</u>

Completion status shall be returned for each task.

7.24 [408] Quantum 23) Move usage of the word 'value' (Rejected)
PDF page 60, page 32, clause 5.5.3.6.3.3, last paragraph

I think that the first sentence should read, "A PERSISTENT RESERVE OUT specifying a PREEMPT service action <u>with the value in</u> the SERVICE ACTION RESERVATION KEY <u>field</u> equal to the reservation key is not an error."

Reason for rejection:

I believe that the current usage, 'SERVICE ACTION RESERVATION KEY value', is clear, acceptable, and used elsewhere in SPC-2. The proposed wording change adds complexity to the sentence to achieve an unneeded level of specificity.

7.25 [409] Quantum 24) Rewrite contention resolution options for multi-port targets (Accepted, Editorial)
PDF page 62, page 34, clause 5.6, first bulleted list
SEE ALSO comments 5.69 [120] IBM 69), 8.57 [535] Seagate 57) and 8.58 [536] Seagate 58)

This confuses me. Item (a) reads, "If one port on a target is being used…", item (b) reads, "If the device has sufficient resources…", and the first sentence in the preceding paragraph reads, "If a device has more than one service delivery port…" Is this correct and I'm just missing something?

Editor's note:

The text under discussion is:

If a device has more than one service delivery port, the arbitration and connection management among the ports is defined by the implementation. Above the interconnect implementation, two contention resolution options exist:

a) If one port on a target is being used by an initiator, accesses attempted through another port may receive a status of BUSY; or
b) If the device has sufficient internal resources, commands may be accepted through other ports while one port is being used.

Including changes from comments 5.20 [71] IBM 20) 5.69 [120] IBM 69), 8.57 [535] Seagate 57) and 8.58 [536] Seagate 58), it will be rewritten as:

If a SCSI device has more than one service delivery port, the arbitration and connection management among the service delivery ports is vendor specific. If one service delivery port is being used by an initiator, accesses attempted through other service delivery port(s) may:

a) receive a status of BUSY; or
b) be accepted as if the other service delivery port(s) were not in use.

7.26 [410] Quantum 25) 'affected' not 'effected' (Rejected)
> PDF page 63, page 35, clause 5.7, first paragraph

In the first sentence I would replace the word "effected" with the word "affected". Though the two words are almost interchangeable, "affect" is the first choice as a transitive verb, and "effect" is the first choice as a noun.

Reason for rejection:

The statement, "…control over one medium transport element may be <u>effected</u> using medium changer commands…" is correct based on the following definition. effect *vt* to bring about; to accomplish; to make happen. The phrase can be rewritten as, "…control over one medium transport element may be <u>made to happen</u> using medium changer commands…" The definition of 'affect' allows no similar substitution. affect *vt* to act on; to produce an effect; to change in. As an example consider, "…control over one medium transport element may be <u>acted on</u> using medium changer commands…"

7.27 [411] Quantum 26) Clarify COMPARE description (Rejected)
> PDF page 67, page 39, clause 7.2, 1st paragraph

I recommend that the first sentence reads, "The COMPARE command (see table 11) provides the means to compare data from one logical unit with data from another or the same logical unit in a manner similar to the COPY command."

Reason for rejection:

This issue does not need to be resolved because the COMPARE command is being made obsolete, as requested in comment 1.14 [14] Brocade 14).

7.28 [412] Quantum 27) Change 'need not' to 'may not' (Rejected)
> PDF page 68, page 40, clause 7.3, 4th paragraph after table 12

The last sentence reads, "A device server need not support all function codes for its device type." I don't think "…need…" is the right word here as it is not defined as a keyword (and I have a little trouble with device servers having "needs"). I would recommend that it be changed to "…may…"

Reason for rejection:

This issue does not need to be resolved because the COPY command is being made obsolete, as requested in comment 1.15 [15] Brocade 15).

7.29 [413] Quantum 28) Same list definition, not same list (Rejected)
> PDF page 76, page 48, clause 7.4, 1st paragraph

The second sentence reads, "The parameter list transferred to the device server is the same as for the COPY command." I think what is meant here is something like, "The definition for the parameter list transferred to the

device server for the COPY AND VERIFY command has the same definition as the parameter list transferred for the COPY command." I recommend that this be changed accordingly.

Reason for rejection:

This issue does not need to be resolved because the COMPARE command is being made obsolete, as requested in comment 1.14 [14] Brocade 14).

7.30 [414] Quantum 29) 'read-ahead' not defined (Accepted, Editorial)
>   PDF page 79, page 51, clause 7.5, 2nd paragraph on this page

In the second sentence the term "read-ahead" is used without any definition as to what this is. A good description may be found on page 62 (PDF page 90) in the second sentence of the third paragraph below Table 31 - Device type specific target descriptor parameters for block device types. I recommend that some words like this be used after the first occurrence of the term on page 51, as well.

Editor's note:

The sentence described by the comment currently reads:

>   This may be used by the copy manager to implement read-ahead.

It will be changed to:

>   This may be used by the copy manager to ~~implement read-ahead.~~ <u>perform read operations from a source disk at any time and in any order during processing of an EXTENDED COPY command as described in 7.5.6.7.</u>

7.31 [415] Quantum 30) Change 'need not' to 'may not' (Accepted, Editorial)
>   PDF page 79, page 51, clause 7.5, 5th paragraph on this page
>   SEE ALSO comment 1.23 [23] Brocade 23)

In the fourth sentence there is another "…need not…" that I would recommend be changed to "…may not…"

7.32 [416] Quantum 31) Remove 'need to' (Rejected)
>   PDF page 80, page 52, clause 7.5.3, note 8

In the last sentence I would recommend that the words "…need to…" be deleted.

Reason for rejection:

The proposed change would alter the meaning of the sentence in an undesirable way. As currently written, the sentence suggests (weakly with 'may') that the copy manager try multiple ports to find one that does not encounter a RESERVATION CONFLICT. If the change were made, the sentence would state that the copy manager is allowed to try multiple ports to find one that does not encounter a RESERVATION CONFLICT.

7.33 [417] Quantum 32) Add missing 'the' (Accepted, Editorial)
>   PDF page 81, page 53, clause 7.5.3, list item (h)
>   SEE ALSO comment 7.1 [385] Quantum 1)

An article ("the") is missing near the end of the first sentence ("…<u>the</u> byte in error…").

There is an opportunity to improve an occurrence of "indicate". I recommend that this sentence be change to. "If, during the processing of a segment descriptor, the copy manager detects an error in the segment descriptor, then the SENSE-KEY SPECIFIC field shall be set as described in 7.23.3, with the content of the FIELD POINTER field specifying the byte in error."

I think that, in the other occurrences of "indicate" in this list item, the way the word is used are correct.

Editor's note:

The missing "the" will be added. The changes from forms of the verb 'indicate' to forms of the verb 'specify' will not be made because the text in question describes data prepared by the device server for delivery to the application client see the response to comment 7.1 [385] Quantum 1).

7.34 [418] Quantum 33) Missing preposition 'of' (Accepted, Editorial)
                PDF page 91, page 63, clause 7.5.6.8, table 33, 1st row

The second sentence in the first Description (FIXED bit = 0, STREAM BLOCK LENGTH field = 0) is missing a preposition and should be, "The number of bytes for each read or write is specified by the STREAM DEVICE TRANSFER LENGTH field in the segment descriptor."

7.35 [419] Quantum 34) Change 'bits' to 'bit' (Rejected)
                PDF page 95, page 67, clause 7.5.7.1, 1st paragraph after table 36

Since the third sentence has a couple of issues, I recommend that it be changed to, "If so, the residue shall be handled as specified by the value in the CAT bit in the segment descriptor and the PAD bit bits in the source and destination target descriptors, as defined in table 37."

Reason for rejection:

There are two PAD bits, one in each of the source and destination target descriptors. Also, if adding the phrase "value in" is important for the CAT bit then why not increase the sentence size when describing the PAD bits? The answer is that the sentence is clear without the extra "value in" words.

7.36 [420] Quantum 35) Missing preposition 'if' (Accepted, Editorial)
                PDF page 96, page 68, clause 7.5.7.1, 1st paragraph after table 37

The last sentence is missing a preposition and should be changed to, "For segment descriptor types 06h and 0Fh (stream→discard and stream→discard+application client, see 7.5.7.8), handling shall be as if the PAD were equal to zero for the destination target descriptor."

7.37 [421] Quantum 36) Breakup complex sentence (Accepted, Editorial)
                PDF page 102, page 74, clause 7.5.7.5, last paragraph in clause

The second sentence seems cumbersome to me. I would recommend changing it to something like, "A value of zero shall not be considered as an error. A value of zero shall indicate that no source blocks shall be read and no source data shall be processed. However, any residual destination data from a previous segment shall be written

if possible to the destination in whole-block transfers, and any residual data shall be handled as described in 7.5.7.1."

Editor's note:

The sentence in question is overly complex because it is trying to describe all the BYTE COUNT equals 0h specifics in a single sentence to show that they are all related. This is not common practice in SCSI standards and breaking the sentence up is appropriate. However, the proposed change slices the sentence to unnecessarily small pieces. Including the changes from 8.74 [552] Seagate 74), the sentence will be changed to:

> A value of zero shall not be considered as an error, and shall specify that no source blocks shall be read and no source data shall be processed. However, a value of zero shall specify that any residual destination data from a previous segment shall be written if possible to the destination in whole-block transfers, and any residual data shall be handled as described in 7.5.7.2.

7.38 [422] Quantum 37) Rewrite sentence (Rejected)
>   PDF page 103, page 75, clause 7.5.7.6

I think what the first sentence of this paragraph is trying to say is something like, "The value in the INLINE DATA OFFSET field is added to the byte number of the location of the first byte of inline data in the EXTENDED COPY parameter list (see table 22). The result is the byte number of the first byte of inline data in the EXTENDED COPY parameter list to be written to the stream device."

Reason for rejection:

The sentence as written acknowledges the possibility address computations might be used by the copy manager. The proposed rewrite not only makes the wording more cumbersome by fails to acknowledge that an address is what's being computed.

7.39 [423] Quantum 38) Change 'the' to 'a' (Accepted, Editorial)
>   PDF page 113, page 85, clause 7.5.7.16, last paragraph on this page

Since I think the first article in the first sentence of this paragraph is incorrect, I recommend that the sentence be changed to, "A COUNT field containing a value of zero specifies that the EXTENDED COPY command shall not terminate due to any number of consecutive filemarks or setmarks."

7.40 [424] Quantum 39) Unit Attention results in CHECK CONDITION (Rejected)
>   PDF page 116, page 88, clause 7.6.1, last paragraph before note 15

The first sentence of this paragraph reads, "If the standard INQUIRY data changes for any reason, the device server shall generate a unit attention condition for all initiators (see SAM-2)." I thought it should read something like, "…report CHECK CONDITION status with the sense key set to UNIT ATTENTION…", but then I thought, "No. This has to all be described in detail in SAM-2." WRONG. The clause in SAM-2 on unit attention (5.6.5 in rev 13) goes into great detail about Unit Attention condition, but I could not find anyplace where it describes that this condition occurs when a device server, "…reports a CHECK CONDITION status with the sense key set to UNIT ATTENTION."

If SPC-2 is going to point to SAM-2 for the definition of this condition, then I think that this condition should be defined completely in SAM-2. I would even recommend that something like, "A unit attention condition occurs when a device server reports a CHECK CONDITION status with the sense key set to UNIT ATTENTION." be added to the definition of unit attention condition in clause 3.

It is interesting to note that the phrase "unit attention condition" occurs several times in the document before INQUIRY. I knew what it meant, so assumed that the documentation was complete, as well. It's interesting what you notice first thing in the morning after two cups of coffee. I wonder what else I missed during late-in-the-day, blurry-eyed review? I'm not going back now!

Reason for rejection:

The assumption that a unit attention condition results in a CHECK CONDITION status is absolutely wrong. If asynchronous event reporting (or asynchronous event notification) is enabled, then the unit attention condition is reported via that mechanism. This is the reason for the wording found in SPC-2. The proposed change in the glossary definition also is incorrect for the same reasons.

As for the SAM-2 wording, I can see the point that it's convoluted. However, the wording is substantially unchanged from SAM and resolution of this letter ballot will not attempt to modify it. As a side note, it is the repeated (although parenthetical) references to "…(before the logical unit establishes the auto contingent allegiance or contingent allegiance condition)…" that lead to the CHECK CONDITION status. The requirements are present, if somewhat obscure to a first time reader.

Perhaps fewer trips to the coffee pot would be advisable.

7.41 [425] Quantum 40) Name the 'applicable standards' (Accepted, Editorial)
PDF page 120, page 92, clause 7.6.2, 8th paragraph on page

The first sentence of this paragraph reads, "A Multi Port (MULTIP) bit of one shall indicate that this is a multi-port (2 or more ports) device and conforms to the SCSI multi-port device requirements found in the applicable standards." The phrase "…applicable standards…" seem vague to me. I would recommend that an "…(e.g., …" be included with at least one applicable standard listed.

Editor's note:

The following will be added to the end of the sentence, "(e.g., SAM-2, a protocol standard and possibly provisions of a command set standard)".

7.42 [426] Quantum 41) Table 57 is floating (Accepted, Editorial)
PDF page 120, page 92, clause 7.6.2, last paragraph on page

The first sentence of this paragraph begins, "ASCII data…" I think that this paragraph should be moved to be after Table 57 since that table is referenced in the previous paragraph. I would also add an introductory sentence that reads something like, "Several of the following fields contain ASCII data."

Editor's note:

Table 57 is floating and needs to be locked to its anchor.

7.43 [427] Quantum 42) Change 'upto' to 'up to' (Accepted, Editorial)
PDF page 121, page 93, clause 7.6.2, 3rd paragraph after note 16
SEE ALSO comment 8.81 [559] Seagate 81)

The first sentence of this paragraph begins, "The VERSION DESCRIPTOR fields provide for identifying up to…" In my PDF version a space should be inserted between "up" and "to".

7.44 [428] Quantum 43) Use 'Quick Arbitration and Selection' (Accepted, Editorial)
> PDF page 126, page 98, clause 7.6.3, 1st paragraph after table 61 & note 17
> SEE ALSO comment 10.25 [614] O25) Elliott

The first sentence of this paragraph reads, "A quick arbitrate supported (QAS) bit of one indicates that the device server supports the quick arbitrate feature." To be consistent with SPI-3 this should be changed to, "A quick arbitrate supported (QAS) bit of one indicates that the device server supports the Quick Arbitration and Selection feature (see SPI-3 or later)."

Note 17 also contains a 'quick arbitrate' that should be 'Quick Arbitration and Selection'.

Editor's note:

The changes proposed here are included in the changes proposed by comment 10.25 [614] O25) Elliott.

7.45 [429] Quantum 44) How many bytes to return when SUPPORT=001b (Rejected)
> PDF page 127, page 99, clause 7.6.5, 2nd paragraph

I don't see anyplace where the number of bytes to be transferred when the SUPPORT field contains 001b is specified. This paragraph only indicates [correct use] that the device shall return byte 0 and byte 1. Does this mean that the device server can send as many bytes as it wants with the bytes after byte 1 being undefined (see also Table 63 - SUPPORT values and meanings)? Or should the second sentence of this paragraph read something like, "If the device server does not implement the requested SCSI operation code it shall only return the peripheral qualifier and type byte and byte 1 with 001b in the SUPPORT field."

Reason for rejection:

Yes, the device may return as many bytes as it wants, up to the allocation length specified in the CDB. Since it may be impossible for the device to return only two bytes, it seems unreasonable to state any other requirement.

7.46 [430] Quantum 45) Delete 'primarily' (Accepted, Editorial)
> PDF page 128, page 100, clause 7.6.5, note 21

I recommend that the word "primarily" be deleted from this note.

7.47 [431] Quantum 46) 'target' or 'device server'? (Accepted, Editorial)
> PDF page 133, page 105, clause 7.9, 1st paragraph

The first sentence reads, "The MODE SELECT(6) command (see table 67) provides a means for the application client to specify medium, logical unit, or peripheral device parameters to the target." Yet the first sentence in the first paragraph of 7.10 MODE SELECT(10) command reads, "The MODE SELECT(10) command (see table 68) provides a means for the application client to specify medium, logical unit, or peripheral device parameters to the device server." I think that "target" in the sentence in MODE SELECT(6) should be changed to "device server".

7.48 [432] Quantum 47) Use '(6)' to specify the mode commands (Accepted, Editorial)
> PDF page 133, page 105, clause 7.9, 1st paragraph

The second sentence reads, "Device servers that implement the MODE SELECT command shall also implement the MODE SENSE command." This should be changed to, "Device servers that implement the MODE SELECT(6) command shall also implement the MODE SENSE(6) command." The corresponding sentence is correct in the description of the MODE SELECT(10) command.

7.49 [433] Quantum 48) Name the specific MODE SENSE
commands (Accepted, Editorial)
PDF page 133 & 134, page 105 & 106, clause 7.9 & 7.10, 1st paragraph in both clauses

The third sentence reads, "Application clients should issue MODE SENSE prior to each MODE SELECT to determine supported pages, page lengths, and other parameters." This should either be changed to, "Application clients should issue MODE SENSE(6) prior to each MODE SELECT(6) to determine supported pages, page lengths, and other parameters." or, "Application clients should issue a MODE SENSE(6) or MODE SENSE(10) command prior to each MODE SELECT(6) or MODE SELECT(10) command to determine supported pages, page lengths, and other parameters." A corresponding change needs to be made in the first paragraph of 7.10 MODE SELECT(10) command, page 106 (PDF page 134).

Editor's note:

The change will be to use MODE SENSE(6) and MODE SENSE(10), specifically naming exact commands in all cases in both clauses. This specific change has value because the application client cannot simply pass data received via a MODE SENSE(6) command as parameter data for a MODE SELECT(10), substantial header refor-matting is required and should be discouraged.

7.50 [434] Quantum 49) Convention for command names (Accepted, Editorial)
PDF page 38, page 10, clause 3.4, add new text

I now see several instances in the document where COMMAND NAME is used to refer to all lengths of a particular command type. Therefore, I think a sentence something like the following should be added to 3.4 Conventions, "If there is more than one length for a particular command type (e.g., MODE SENSE(6) and MODE SENSE(10)), and the name of the command type is used in a sentence without any length descriptor (e.g., MODE SENSE), then the condition specified in the sentence applies to all commands of that type." Something like this would make the previous two comments (and many more that could follow) unnecessary.

7.51 [435] Quantum 50) Add MODE SENSE(6) requirement (Accepted, Editorial)
PDF page 135, page 107, clause 7.9, 1st paragraph

The following sentence should be added to this paragraph, "Device servers that implement the MODE SENSE(6) command shall also implement the MODE SELECT(6) command."   The corresponding sentence is correct in the description of the MODE SENSE(10) command.

7.52 [436] Quantum 51) Remove 'actual' (Accepted, Editorial)
PDF page 139, page 211, clause 7.13.1, 1st paragraph after table 73

I would recommend removing the word "actual" from the first sentence (unless there is a "pretend" length that's available somewhere else).

Editor's note:

The sentence will be changed from:

The actual length of the PERSISTENT RESERVE IN parameter data is available in a parameter data field.

to:

The PERSISTENT RESERVE IN parameter data includes a field that indicates the number of parameter data bytes returned.

7.53 [437] Quantum 52) Missing article 'the' (Accepted, Editorial)
PDF page 140, page 212, clause 7.13.3, 2nd paragraph after table 75
PDF page 141, page 213, clause 7.13.4.1, 2nd paragraph after table 76

There is an article missing in the second sentence. It should read, "If the allocation length specified by the PERSISTENT RESERVE IN command is not sufficient to contain the entire parameter list, then only <u>the</u> first portion of the list (byte 0 to the allocation length) shall be sent to the application client." See also the same sentence in the second paragraph after Table 76 - PERSISTENT RESERVE IN parameter data for READ RESER-VATION.

7.54 [438] Quantum 53) Use RESERVATION CONFLICT status (Accepted, Editorial)
PDF page 143, page 115, clause 7.13.4.3, table 79

In six places the phrase, "…shall result in a reservation conflict." Though this may be true, I think it would be better to replace that phrase with something like, "…shall be rejected with RESERVATION CONFLICT status…" or, "…shall be terminated with RESERVATION CONFLICT status…" as this is what shall result from a reservation conflict in these cases.

Editor's note:

The wording will be changed to "…shall be terminated with RESERVATION CONFLICT status."

7.55 [439] Quantum 54) Change 'are' to 'is' (Accepted, Editorial)
PDF page 146, page 118, clause 7.14.3, 1st paragraph

I believe that the subject of the first sentence is "list". Therefore, to have the verb match the subject the sentence should read, "The parameter list required to perform the PERSISTENT RESERVE OUT command <u>is</u> defined in table 82."

7.56 [440] Quantum 55) Add 'content of' … field (Accepted, Editorial)
PDF page 146, page 118, clause 7.14.3, 2nd paragraph after table 82

I think that the second sentence should read, "The device server shall verify that <u>the content of </u>the RESERVATION KEY field in a PERSISTENT RESERVE OUT command matches the registered reservation key for the initiator from which the task was received, except for:"

Editor's note:

It should be 'contents' not 'content' and the field is in the command parameter data not the command. Thus the rewritten sentence should be, "The device server shall verify that <u>the contents of </u>the RESERVATION KEY field in a PERSISTENT RESERVE OUT command <u>parameter data</u> matches the registered reservation key for the initiator from which the task was received, except for:"

7.57 [441] Quantum 56) RESERVATION CONFLICT is a status (Rejected)
                PDF page 146, page 118, clause 7.14.3, 1st paragraph after list

I think that the first sentence should read, "Except as noted above, when a PERSISTENT RESERVE OUT command specifies a value in the RESERVATION KEY field other than the reservation key registered for the initiator the device server shall return a RESERVATION CONFLICT <u>status</u>."

Reason for rejection:

The word status is present in SPC2R18.PDF, on the next line after the one quoted and preceding the period for the sentence. That is, as far as the editor can tell, the change is not needed because the requested text is already present.

7.58 [442] Quantum 57) Misspelled 'Operation' (Accepted, Editorial)
                PDF page 155, page 127, clause 7.17.2, table 95, first row
                SEE ALSO comments 5.185 [236] IBM 185)

In the first entry in the Meaning column I think that "Operating in progress" should be changed to "Operation in progress".

7.59 [443] Quantum 58) 'megabytes' not 'mega-bytes' etc. (Accepted, Editorial)
                PDF page 156, page 128, clause 7.17.2, table 96
                SEE ALSO comments 1.30 [30] Brocade 30), 5.186 [237] IBM 186), and 8.96 [574] Seagate 95)

None of the words in the Meaning column should be hyphenated. They should be "Kilobytes", "Megabytes", "Gigabytes", "Terabytes", and "Petabytes", respectively.

Editor's note:

The response to comment 1.30 [30] Brocade 30) contains the resolution for this comment.

7.60 [444] Quantum 59) Segment descriptors don't hold data (Accepted, Editorial)
                PDF page 157, page 129, clause 7.17.3, 1st paragraph

I think the first phrase should be changed to, "If the copy manager supports those segment descriptors that <u>require read data to be held</u> for transfer to the application client,…" as the segment descriptors don't hold the data.

Editor's note:

Actually, 00-211r2 changed the data being held from 'read data' to 'processed data' and I believe that dropping the 'read' from the text in clause 7.17.3 will be the easiest way to reflect that change here. Thus, the rewritten text would be, "If the copy manager supports those segment descriptors that <u>require data to be held</u> for transfer to the application client,…"   1.31 [31] Brocade 31)

There is one other occurrence of 'read' that needs correction. In the 2nd sentence of 1st paragraph: "If a copy manager supports any of the segment descriptor type codes that require ~~read~~ data to be held for the application client…" The last two paragraphs of the subclause also contain "read data" but corrections for these occurrences of the phrase are dealt with in the responses to comments 1.31 [31] Brocade 31) and 1.32 [32] Brocade 32).

7.61 [445] Quantum 60) Use 'number of bytes' not 'length' (Accepted, Editorial)
PDF page 158, page 130, clause 7.17.4, 5th paragraph on page

I think the sentence should be changed to something like, "The AVAILABLE DATA field shall contain the number of bytes that is the total length of the parameter data minus 4."

Editor's note:

The sentence identified by the comment currently reads:

The AVAILABLE DATA field shall contain the length of the total length of the parameter data minus 4.

It will be changed to:

The AVAILABLE DATA field shall contain the ~~length of the total length of~~ the number of bytes following the AVAILABLE DATA field in the parameter data (i.e., the total number of parameter data bytes minus 4).

7.62 [446] Quantum 61) Add article 'the' (Accepted, Editorial)
PDF page 159, page 131, clause 7.17.4, 5th paragraph on page

I think there is an article missing in the first sentence (i.e., "...the largest amount of inline data that the copy manager supports...").

7.63 [447] Quantum 62) Questionable description of copy devices (Accepted, Editorial)
PDF page 161, page 133, clause 7.17.5, Note 33
SEE ALSO comments 5.198 [249] IBM 198) and 8.98 [576] Seagate 97)

I think there is something wrong with the end of the second sentence (i.e., "…and indeterminate transfer operations to source and destination copy targets device."). I think that maybe this is supposed to be, "…and indeterminate transfer operations to source and destination copy devices."

Editor's note:

Resolution will be as per comment 8.98 [576] Seagate 97)

7.64 [448] Quantum 63) 'concerns' s/b 'concern' (Accepted, Editorial)
PDF page 166, page 138, clause 7.21, 1st paragraph
SEE ALSO comments 5.202 [253] IBM 202), 5.236 [287] IBM 236), 7.77 [461] Quantum 76) and 8.104 [582] Seagate 103)

I think there is something wrong with the last sentence (i.e., "Only the REPORT DEVICE IDENTIFIER operation code and service action concerns all SCSI devices.") I think, at the very least, "concerns" should be "concern".

Editor's note:

This comment will be resolved as described in comment 5.202 [253] IBM 202).

7.65 [449] Quantum 64) Change 'values' to 'value' (Accepted, Editorial)
PDF page 171, page 143, clause 7.23.2, 2nd paragraph after table 109

I think that "values" should be singular (i.e., "value").

7.66 [450] Quantum 65) What does 'usually' mean? (Accepted, Substantive)
PDF page 172, page 144, clause 7.23.2, 2nd paragraph on page

The sentence reads, "An incorrect length indicator (ILI) bit of one usually indicates that the requested logical block length did not match the logical block length of the data on the medium." Does an ILI bit of one "unusually" indicate anything? Does an ILI bit of one EVER indicate anything else? If this is the only meaning for an ILI bit of one, the word "usually" should be deleted. If there are other meanings, I would recommend that at least an "e.g." with one example should be included here.

Editor's notes:

Gary Stephens provided the examples of additional causes for the ILI bit to be set to one.

> I believe another condition is that the block on the medium is written so that the block size exceeds the capability of the reading device. This is an interchange error where two vendors have different maximum block size support and the smaller implementation is trying to read a tape generated by the larger one.

> Additionally, the block length exceeds the device server maximum, even for a maximum size variable length read.

With this in mind, the following sentence will be added to the end of the paragraph.

> Examples of other conditions indicated by the ILI bit being set to one include media interchange incompatibilities where the recorded logical block length is too large for the device server to read.

7.67 [451] Quantum 66) Restructure SKSV sentence (Accepted, Editorial)
PDF page 173, page 145, clause 7.23.3, 1st paragraph

I think there is at least a verb missing in the first sentence. I think that it should be changed to read, "When the value of the sense-key specific valid (SKSV) bit is one the content of the SENSE-KEY SPECIFIC field is as defined by this standard."

Editor's note:

Thanks for the option to apply a more complete rewrite. The replacement sentence will be based on the description of the VALID bit in the first paragraph following table 109 on PDF page 171. The sentence will be changed from:

> The SENSE-KEY SPECIFIC field as defined by this standard when the value of the sense-key specific valid (SKSV) bit is one.

to:

> A sense-key specific valid (SKSV) bit of one indicates the SENSE-KEY SPECIFIC field contains valid information as defined in this standard.

7.68 [452] Quantum 67) Too many prepositional phrases (Accepted, Editorial)
PDF page 173, page 145, clause 7.23.3, 2nd paragraph

I think there is one too many prepositional phrases in the first sentence. I think that it should be changed to read, "If the sense key is ILLEGAL REQUEST and the SKSV bit is set to one, <u>then</u> the SENSE-KEY SPECIFIC field shall be as defined in table 110."

7.69 [453] Quantum 68) Illegal parameters are always an error (Accepted, Editorial)
PDF page 173, page 145, clause 7.23.3, 2nd paragraph

Unless it is possible to have illegal parameters in the CDB that AREN'T in error, I would recommend that the word "illegal" be deleted.

7.70 [454] Quantum 69) Deferred error handling unclear (Accepted, Editorial)
PDF page 175, page 147, clause 7.23.4, 4th paragraph

I'm not sure what the first sentence is trying to say. One possibility is the following, [1]"If the current task terminates with CHECK CONDITION status for a previous task and the subsequent sense data returns deferred error information for the previous task, the current task shall not have been executed." Another possibility is, [2]"If a previous task terminates with CHECK CONDITION status and the subsequent sense data returns deferred error information for that previous task, the current task shall not have been executed." Another possibility is, [3]"If the current task terminates with CHECK CONDITION status and the subsequent sense data returns deferred error information for that previous task, the previous task shall not have been executed." One way or another, the sentence should be made clearer.

Editor's notes:

Proposed rewording [1] comes closest to the intent. The desire is that the task that results in a CHECK CONDITION for the purposes of reporting a deferred error shall not have been processed, leaving the device in a known state and suggesting (strongly) that the initiator needs to retry the command. Option [2] is impossible because in a deferred error case the previous task has already completed with GOOD status, see the first sentence in the subclause. Option [3] is also wrong because the previous task never executed then it could not have generated the deferred error.

However, the editor is not satisfied with the rewording proposed in [1]. First, it appears to suggest that if the sense data is not returned (i.e., the REQUEST SENSE command is not sent) then the current task could be executed. Second, "…task shall not be executed" would be better stated as "…command shall not be processed" or equivalent The sentence in question will be changed from:

> If the task terminates with CHECK CONDITION status and the subsequent sense data returns a deferred error that task shall not have been executed.

to:

> If the task terminates with CHECK CONDITION status and the ~~subsequent~~ sense data ~~returns~~ describes a deferred error ~~that~~ the command for the terminated task shall not have been ~~executed~~ processed.

7.71 [455] Quantum 70) What is 'external system intervention'? (Accepted, Editorial)
PDF page 175, page 147, clause 7.23.4, list item a)

In the first sentence, I don't think the phrase "external system intervention" conveys the exact meaning desired here. I would recommend that this sentence be changed to something like, "<u>If a device server can recover from a deferred error condition without requiring external intervention</u>, a deferred error indication shall not be posted unless required by the error handling parameters of a MODE SELECT command."

Editor's notes:

The proposed rewording introduces the device server as the agent of the possible recovery process and deletes the word "system". Dragging the device server into the issue seems counter productive because other agents

(e.g., servo controllers) might be the locus of the recovery process. Therefore, the only change that will be made is removing the word "system" from the current text.

7.72 [456] Quantum 71) 'initiator' not 'causing initiator' (Accepted, Editorial)
PDF page 175, page 147, clause 7.23.4, list items (b) & (c)

The phrases "a causing initiator" and "the causing initiator" are used in several places in these items. I don't think the gerund adds anything to the phrase. I would recommend that "a causing initiator" should be replaced by "an initiator", and that "the causing initiator" should be replaced by something like, "...the initiator associated with the error..."

Editor's notes:

There is 1 instance of "a causing initiator" in each of b) and c). There are 3 instances of "the causing initiator" in b) and none in c).

7.73 [457] Quantum 72) Discuss one initiator at a time (Accepted, Editorial)
PDF page 176, page 148, clause 7.23.4, list item (c)

The last sentence should be changed to read something like, "If multiple deferred errors have accumulated for any particular initiator, only the last error for that initiator shall be returned;"

Editor's notes:

While the sentiment of the comment is correct, the phrase "any particular initiator" is never used in SCSI, "an initiator" is used instead. Therefore, the sentence in question will be changed to "If multiple deferred errors have accumulated for ~~some initiators~~ an initiator, only the last error shall be returned;"

7.74 [458] Quantum 73) A deferred error may affect a non data transfer command (Accepted, Editorial)
PDF page 176, page 148, clause 7.23.4, note 43

I think that the first sentence should be changed to read something like, "A deferred error may indicate that an operation was unsuccessful long after GOOD status was returned for the initiating command."

Editor's notes:

The use of "initiating" is a concern because it is too closely associated with initiator. Since the phrase "for the initiating command" adds little to the thought being expressed, it will be dropped. The replacement sentence will read, "A deferred error may indicate that an operation was unsuccessful long after GOOD status was returned."

7.75 [459] Quantum 74) Rewrite sentence (Rejected)
PDF page 176, page 148, clause 7.23.4, note 43

I think that the second sentence should be changed to read something like, "If a deferred error occurs while data is being written using buffered write operations and the application client is unable to replicate or recover the data from other sources, synchronization commands should be executed before data is lost."

Reason for rejection:

The current wording places the active entity (the application client) near the beginning of the sentence, in effect saying that if you're not an application client you need not worry about this. While it puts the sentence beyond

high-school reading level, this is by no means the only sentence in the SCSI standards that requires advanced reading skills.

7.76 [460] Quantum 75) SEND DIAGNOSTICS PF bit applies to RECEIVE DIAGNOSTIC RESULTS (Unresolved)
> PDF page 195, page 167, clause 7.26, 1st paragraph on page

I think the description of the PF bit is incomplete. I recommend that this paragraph be made into two paragraphs something like:

> A page format (PF) bit of one specifies that the SEND DIAGNOSTIC parameters and any parameters returned by a following RECEIVE DIAGNOSTIC RESULTS command shall conform to the page structure as specified in this standard. See 8.1 for the definition of diagnostic pages.

> A PF bit of zero indicates that all SEND DIAGNOSTIC parameters are vendor-specific. If the content of the PARAMETER LIST LENGTH field is zero and the SEND DIAGNOSTIC command will not be followed by a corresponding RECEIVE DIAGNOSTIC RESULTS command then the PF bit shall be zero. The implementation of the PF bit is optional.

7.77 [461] Quantum 76) Opcode & service action wording (Accepted, Editorial)
> PDF page 195, page 167, clause 7.27, 1st paragraph
> SEE ALSO comments 5.202 [253] IBM 202), 5.236 [287] IBM 236), 7.64 [448] Quantum 63), and
> 8.104 [582] Seagate 103)

I don't think that the last sentence is clear, "Only the SET DEVICE IDENTIFIER operation code and service action concerns all SCSI devices." Does this mean, "Only the SET DEVICE IDENTIFIER operation code and service action shall be supported by all SCSI devices." Or what? This needs to be clarified.

Editor's note:

This comment will be resolved as described in the response to 5.236 [287] IBM 236).

7.78 [462] Quantum 77) Put notes in table 126 (Rejected)
> PDF page 199, page 171, clause 7.29.1, notes after table 126

I think that the notes following table 126 are supposed to be included in the table.

Reason for rejection:

In T10 standards notes in tables are normative, whereas these notes (not in a table) are informative only.

7.79 [463] Quantum 78) Reword LOG SELECT 'usage' of DU bit (Accepted, Editorial)
> PDF page 206, page 178, clause 8.2.1, 1st paragraph after note 50

The second sentence of the paragraph reads, "The device server shall ignore the value of any DU bits in a LOG SELECT command." Since there is only one bit, and it isn't defined for this command, I would recommend that the sentence be changed to something like, "The device server shall ignore bit 7, byte 2 in any log parameter data

received for a LOG SELECT command (this is the DU bit in log parameter data sent during a LOG SENSE command)."

Editor's notes:

Introducing the bit and byte numbers in the proposed rewording makes things unnecessarily cumbersome. The cited sentence will be replaced with, "The device server shall ignore the value of ~~any~~ the DU ~~bits~~ bit in any log parameters ~~in~~ received with a LOG SELECT command."

7.80 [464] Quantum 79) Change 'LBIN' to 'LBIN bit' (Accepted, Editorial)
          PDF page 207, page 179, clause 8.2.1, 2nd paragraph after table 132

The word "bit" is missing in the first sentence. It should read, "The LBIN bit is only valid if the LP bit is set to one."

7.81 [465] Quantum 80) Change data allowed in application client log page (Rejected)
          PDF page 210, page 182, clause 8.2.2, 1st paragraph

Though this may be the typical use, I think that there should be no restriction on the type of information stored by the application client in this page. Therefore, I recommend that the first sentence be change to, "The application client page (see table 134) provides a place for application clients to store system or other information."

Reason for rejection:

The proposed change exceeds the agreed used of the application client log page agreed by T10/99-108r1 for inclusion in SPC-2.

7.82 [466] Quantum 81) Put note in table 138 (Rejected)
          PDF page 212, page 14, clause 8.2.3, note 52

I think that this note 52 should be included in the table 138.

Reason for rejection:

In T10 standards notes in tables are normative, whereas these notes (not in a table) are informative only.

7.83 [467] Quantum 82) Spellout the log page name (Accepted, Editorial)
          PDF page 213, page 185, clause 8.2.5, 1st paragraph
          PDF page 213, page 185, clause 8.2.6, 1st paragraph

The first sentence begins, "Log page (0Bh)" To be consistent, I think that this should read, "The last n deferred errors or asynchronous events page (page code 0Bh)"

Make a similar change in 8.2.6 Last n error events page.

7.84 [468] Quantum 83) Spellout the log page name (Accepted, Editorial)
          PDF page 214, page 186, clause 8.2.7, 1st paragraph

The first sentence begins, "This page (page code 06h)" To be consistent, I think that this should read, "The non-medium error page (page code 06h)"

7.85 [469] Quantum 84) Clarify what is not savable (Accepted, Editorial)
PDF page 218, page 190, clause 8.2.9, 1st paragraph after table 146

I think that the second sentence is unclear and should read. "The date of manufacture shall not be modified by the device when an application client issues a LOG SELECT command."

Editor's notes:

The proposed change does not consider the behavior of log parameters. What the cited sentence is trying to say is that the DS bit shall be one, the equivalent of row 2 in table 147.

In consideration of the confusion that led to this comment, the cited sentence will be have a parenthetical mention of the DS bit added, to whit, "The date of manufacture shall not be saveable by the application client using the LOG SELECT command (i.e., the log parameter DS bit shall be one)."

7.86 [470] Quantum 85) Change description of accounting date (Accepted, Editorial)
PDF page 218, page 190, clause 8.2.9, 1st paragraph after table 147

I think that this sentence is unclear and should read, "The accounting date specified by parameter code 0002h is the date when the device was placed in service. This parameter may be saved by the device when an application client issues a LOG SELECT command."

Editor's notes:

The proposed rewrite removes the focus on the fact that the accounting date has no meaning until an application client sets it. However, some smaller wording changes can be made to reduce the obfuscation. The cited sentence will be changed from:

   The accounting date specified by parameter code 0002h is a parameter that may optionally be savable using a LOG SELECT command to indicate when the device was placed in service.

to:

   The accounting date specified by parameter code 0002h is a parameter that may optionally be saved savable using a LOG SELECT command to indicate when the device was placed in service.

7.87 [471] Quantum 86) Clarify what is not savable (Accepted, Editorial)
PDF page 219, page 191, clause 8.2.9, last paragraph before table 149

I think that the second sentence should be changed to, "The specified cycle count over device lifetime parameter shall not be modified by the device when an application client issues a LOG SELECT command."

Editor's notes:

The proposed change does not consider the behavior of log parameters. What the cited sentence is trying to say is that the DS bit shall be one, the equivalent of row 2 in table 149.

In consideration of the confusion that led to this comment, the cited sentence will be have a parenthetical mention of the DS bit added, to whit, "The specified cycle count over device lifetime parameter shall not be saveable by the application client using the LOG SELECT command (i.e., the log parameter DS bit shall be one)."

7.88 [472] Quantum 87) Clarify what is not savable (Accepted, Editorial)
PDF page 219, page 191, clause 8.2.9, 1st paragraph after table 149

I think that the second sentence should be changed to, "The accumulated start-stop cycles parameter shall not be modified by the device when an application client issues a LOG SELECT command."

Editor's notes:

The proposed change does not consider the behavior of log parameters. What the cited sentence is trying to say is that the DS bit shall be one, the equivalent of row 2 in table 149.

In consideration of the confusion that led to this comment, the cited sentence will be have a parenthetical mention of the DS bit added, to whit, "The accumulated start-stop cycles parameter shall not be saveable by the application client using the LOG SELECT command (i.e., the log parameter DS bit shall be one)."

7.89 [473] Quantum 88) Is 'outside…limits' necessary? (Accepted, Editorial)
PDF page 221, page 193, clause 8.2.11, 1st paragraph after table 152

This sentence is cumbersome. I recommend that it be changed to, "The one byte binary value should reflect the maximum reported sensor temperature in degrees Celsius specified by the manufacturer of the device at which the device is capable of operating continuously without degradation to the device's operation or reliability."

Editor's notes:

The proposed rewording leaves no room for operating in slightly degraded but still acceptable condition. The proposal appears to result from a lack of clarity in the usage of the word "outside" in the existing text. Therefore, the cited sentence will be changed from:

> The one byte binary value should reflect the maximum reported sensor temperature in degrees Celsius at which the device is capable of operating continuously without degrading the device's operation or reliability outside the limits specified by the manufacturer of the device.

to:

> The one byte binary value should reflect the maximum reported sensor temperature in degrees Celsius at which the device is capable of operating continuously without degrading the device's operation or reliability ~~outside the limits specified by the manufacturer of the device~~ beyond manufacturer accepted limits.

7.90 [474] Quantum 89) What is 'itself'? (Accepted, Editorial)
PDF page 223, page 195, clause 8.3.3, 1st paragraph after table 155

The second sentence reads, "The mode data length does not include itself." I think this sentence should be deleted or modified to read something like, "The mode data length does not include the number of bytes in the MODE DATA LENGTH field."

7.91 [475] Quantum 90) Change 'include' to 'implement' (Accepted, Editorial)
PDF page 228, page 200, clause 8.3.6, last paragraph before table 160

I recommend that the word "include" be changed to "implement" such that the sentence reads, "Table 160 defines the mode pages that are applicable to all device types that implement the MODE SELECT and MODE SENSE commands."

7.92 [476] Quantum 91) Eliminate 'actual execution' (Accepted, Editorial)
PDF page 230, page 212, clause 8.3 7, 1st paragraph after table 163
PDF page 230, page 212, clause 8.3 7, 2nd paragraph after table 163

I recommend that the word "actual" be deleted from the first sentence (unless, of course, there are some virtual "execution sequence[s] of tasks having the SIMPLE task attribute"). [See also the first sentence in the second paragraph below the table.]

Editor's note:

Since 'execution' also should be removed or replaced, the sentences in question will be changed to:

"A value of zero in the QUEUE ALGORITHM MODIFIER field specifies that the device server shall order the ~~actual execution~~ processing sequence of tasks having the SIMPLE task attribute such that data integrity is maintained for that initiator."

A value of one in the QUEUE ALGORITHM MODIFIER field specifies that the device server may reorder the ~~actual execution~~ processing sequence of tasks having the SIMPLE task attribute in any manner.

7.93 [477] Quantum 92) Units of time not specified (Accepted, Substantive)
PDF page 233, page 205, clause 8.3.7, 1st, 2nd, & 3rd paragraphs after note 60

I don't see where the definitions for BUS INACTIVITY LIMIT, DISCONNECT TIME LIMIT, or CONNECT TIME fields specify the units of time. Have I missed something, or do these need to be specified?

Editor's notes:

SPI-4 specifies the units of time in 100 μs increments. FCP-2 specifies the units of time as increments of 128 transmission words.

The following sentence will be added to the end of each field description: "Different protocols specify different units of measure for the xxx time."

7.94 [478] Quantum 93) Change 'A' to 'An' (Accepted, Editorial)
PDF page 235, page 207, clause 8.3.8, 4th paragraph on page

"A enable warning…" should be changed to "An enable warning…"; and "A EWASC bit…" should be changed to "An EWASC bit…"

8. Seagate Technology

Seagate Technology principle representative Gene Milligan submitted a No individual vote with the following comments.

8.1 [479] Seagate 1) Update NCITS e-mail address (Accepted, Editorial)
PDF page 2

update the secretariats address to ncits@itic.org

8.2 [480] Seagate 2) Reword Processor usage for AER (Accepted, Editorial)
PDF page 13, abstract
PDF page 27, foreword
PDF page 29, scope

Several places it is stated that <<Some target SCSI devices may require a host implementation of the processor device model to support the Asynchronous Event Reporting capability defined in the SCSI-3 Architecture Model.>> This is confusing as to whom the implementer is. I suspect the intent is "Some target SCSI devices may implement an initiator subset of the processor device model to support the Asynchronous Event Reporting capability defined in the SCSI-3 Architecture Model."

8.3 [481] Seagate 3) Delete redundant sentence (Accepted, Editorial)
PDF page 27

<<Thus, the SCSI processor device commands are defined in this standard.>> There is nothing magical or biblical about the preceding statements. This sentence should be deleted as the only factual statement is redundant to the first sentence of the paragraph.

8.4 [482] Seagate 4) Add 'of' (Accepted, Editorial)
PDF page 29

<<in the SCSI family standards >> Unless birth control has slipped in, add an "of".

8.5 [483] Seagate 5) Reword description of Roadmap figure (Accepted, Editorial)
PDF page 29
SEE ALSO comments 5.3 [54] IBM 3) and 9.2 [590] TI 2)

<<The roadmap in figure 1 is intended to show the general applicability of the documents to one another. The figure is not intended to imply a relationship such as a hierarchy, protocol stack, or system architecture. It indicates the applicability of a standard to the implementation of a given transport.>>

This may have been true before the figure was appropriately generalized. I suggest changing the statement to "Figure 1 is intended to show the general relationship of the documents to one another. The figure is not intended to imply a relationship such as a hierarchy, protocol stack, or system architecture."

Editor's note:

Combining this comment and comment 5.3 [54] IBM 3), the replacement text will read:

"Figure 1 is intended to show the general relationship of the documents to one another. Figure 1 is not intended to imply a relationship such as a hierarchy, protocol stack, or system architecture."

8.6 [484] Seagate 6) Incorrect ISO/IEC standards numbers (Accepted, Editorial)
PDF page 30

Fibre Channel Arbitrated Loop FC-AL [ISO/IEC 14165-121] was never completed by T11 and is now FC-AL-2.

I am not sure that an amendment is an example of a standard. Fiber Channel Physical Amendment 1 [ANSI X3.230/AM1:1996]

SCSI Primary Commands - 2 SPC-2 [ISO/IEC 14776-312] Because of T10 giving up on SPC due to the confusion from the lost Brazil vote, this will probably end up being 14776-311.

Editor's note:

The following changes will be made:

a) Remove ISO/IEC reference for FC-AL
b) Add FC-AL-2 as T11/1133-D and ISO/IEC 14165-122
c) Add ISO/IEC 14776-311 as international version of SPC
d) The ISO/IEC number for SPC-2 on the front page will be set to ISO/IEC 14776-312

This text will be conditionalized to remove all ANSI references in the ISO/IEC version of the standard.

8.7 [485] Seagate 7) Missing ISO/IEC standards numbers (Accepted, Editorial)
PDF page 31

<<SCSI Reduced Block Commands RBC [ANSI NCITS.330:200x]>> is also ISO/IEC 14776-326.

<<SCSI-3 Enclosure Services Commands SES [ANSI NCITS.305:1998]>> is also ISO/IEC 14776-371 assuming it's editor wakes up.

<<SCSI Common Access Method CAM [ISO/IEC 9316-421]>> published as ISO/IEC 9316-2.

8.8 [486] Seagate 8) Why are FC-PH, AM 1, FC-PH-3, and FC-FS normative references? (Accepted, Editorial)
PDF page 32
SEE ALSO comments 5.105 [156] IBM 105), 5.106 [157] IBM 106), 5.108 [159] IBM 108), 5.304 [355] IBM 304) and 5.305 [356] IBM 305)

Why are FC-PH, AM 1, FC-PH-3, and FC-FS normatively referenced rather than FCP?

Editor's notes:

Subclauses 7.5.6.2, 7.5.6.3, 7.5.6.4 and 8.4.4 all have normative references to FC-FS. As comments 5.105 [156] IBM 105), 5.106 [157] IBM 106), 5.108 [159] IBM 108), 5.304 [355] IBM 304) and 5.305 [356] IBM 305) all note, references to FC-PH can be replaced with references to FC-FS.

Therefore, the normative references to FC-PH, AM 1, and FC-PH-3 will be removed from the normative references for required features. The normative reference to FC-FS will be moved from the "optional features" subclause to the "mandatory features" subclause because it referenced by 8.4.4 in the description of the Device Identification VPD page that is now required see comment 1.29 [29] Brocade 29).

8.9 [487] Seagate 9) Delete or replace 'possible' (Accepted, Editorial)
PDF page 33, page 5, clause 3.3.1

<<shortest possible time.>> Delete "possible".

Editor's note:

If the proposed deletion were performed the phrase would be "…shortest time" leaving the superlative form of the irregular adjective 'short' (i.e., 'short', 'shorter', and 'shortest') with no words or phrases to compare. The proper usage is "…shortest possible time."

I have noticed that other comments (e.g., 8.28 [506] Seagate 28) and 8.30 [508] Seagate 30) propose replacing 'possible' with 'practical' and will follow that model to change "…shortest possible time." to "…shortest practical time."

8.10 [488] Seagate 10) Change 'protocol-specific' to 'transport protocol specific' (Accepted, Editorial)
Global & PDF page 33

Change <<The mechanism by which asynchronous event reporting works is protocol-specific.>> to "The mechanism for asynchronous event reporting is transport protocol specific." The latter portion being global.

Editor's notes:

The sentence in question will be changed to:

> The mechanism for asynchronous event reporting is ~~transport~~ protocol specific.

The term "protocol specific" is a glossary term in SPC-2 and a keyword term in SAM-2, so changing to "transport protocol specific" is a far reaching change that is unnecessary because correcting the SPC-2 glossary entry will have the same effect. With this in mind, the beginning of 3.1.40 will be changed from:

> Requirements for the referenced item are defined by an SCSI protocol standard.

to (including changes from the resolution to comment 5.286 [337] IBM 286):

> Requirements for the referenced item are defined by ~~an~~ a SCSI <u>transport</u> protocol standard.

Lastly, since "vendor-specific" is being globally changed to "vendor specific", it seems appropriate to change "protocol-specific" to "protocol specific" in the following locations:

- PDF page 33 — 3.1.7
- PDF page 35 — 3.1.40
- PDF page 119 — 1st ¶ after table 56
- PDF page 164 — 1st ¶ after note 36
- PDF page 175 — 7.23.4
- PDF page 192 — 7.24.3 2nd ¶ & 1st ¶ after note 44
- PDF page 211 — 8.2.3 2nd ¶
- PDF page 230 — 1st ¶ after table 164
- PDF page 239 — 8.3.10 1st ¶ (2x), and table 171
- PDF page 240 — 1st ¶ on pg, 8.3.11 1st ¶ (2x)
- PDF <u>page 240</u> — tbl 173, & 1st ¶ after table 173

8.11 [489] Seagate 11) Reference SAM-2 (not SCSI-2) for CA definition (Rejected)
PDF page 33

Consider changing the reference <<A detailed definition of CA may be found in SCSI-2.>> to SAM-2 to eliminate the SCSI-2 reference purchase.

Reason for rejection:

In the opinion of the November SPC-2 Letter Ballot review meeting, the description of CA in SAM-2 is not fully detailed because SAM-2 references SCSI-2. Thus purchasing of SCSI-2 cannot be eliminated and the SPC-2 definition should not be changed.

8.12 [490] Seagate 12) Delete 'Although …' uninformative text (Accepted, Editorial)
PDF page 34

Delete <<Although there are a few exceptions,>>

8.13 [491] Seagate 13) Which hunt & change 'by' to 'as' (Accepted, Editorial)
PDF page 34, page 6, clause 3.1.30
SEE ALSO comment 5.16 [67] IBM 16) and 7.11 [395] Quantum 10)

Change <<executed by a single task, which>> to "executed <u>as</u> a single task <u>that</u>".

Editor's notes:

Since we are trying to eliminate morbid deaths, see 5.15 [66] IBM 15), it looks like "executed" should be changed to "processed". Since a task is a container for a command and some other bits, the use of "as" to approximately equate "command" and "task" seems inappropriate. The change from "which" to "that" is clearly correct. With all these notes in mind, the phrase will be changed to "<u>processed</u> by a single task <u>that</u>"

8.14 [492] Seagate 14) Just 'exception condition' (Accepted, Editorial)
PDF page 35, page 7, clause 3.1.47

Change <<or exceptional device condition>> to "or exception condition".

8.15 [493] Seagate 15) Document numbers in acronyms? (Accepted, Editorial)
PDF page 37
SEE ALSO comment 5.21 [72] IBM 21)

In the definitions of acronyms why do only SPC and SCSI-2 have numbers - or verse visa?

Editor's notes:

The document number will be removed from the SPC acronym to make it consistent with the other acronyms. For the SCSI-2 acronym, the document number will be replaced with a cross reference to clause 2 or a subclause of clause 2, which ever is appropriate after clause 2 is rewritten as described in comment 5.4 [55] IBM 4).

8.16 [494] Seagate 16) Remove bold text (Accepted, Editorial)
PDF page 39
SEE ALSO comment 5.25 [76] IBM 25)

Bold seems to be used for emphasis. I understand this is not according to the ANSI or ISO/IEC style guides.

Editor's note:

This comment will be resolved as described in comment 5.25 [76] IBM 25).

8.17 [495] Seagate 17) Delete 'typical' (Accepted, Editorial)
PDF page 42

In 4.3.2 consider deleting "typical" in the paragraph four places.

Editor's note:

Subclause 4.3 will be restructured as described in the response to 1.5 [5] Brocade 5). Document 00-269 contains the restructured subclause including the changes agreed in response to this comment. Any further revisions to the restructuring will be reflected solely in revisions to 00-269.

8.18 [496] Seagate 18) Change 'on…logical unit(s)' to 'of…logical unit(s)' (Accepted, Editorial)
Global

Globally search <<on logical units> and <<on that logical unit>> and replace them with a form of "of logical units".

Editor's notes:

The following changes will be made:

In 4.3.3 1st ¶ — Change from:

> The logical block address on logical units or within a partition on device volumes shall begin with block zero and be contiguous up to the last logical block on that logical unit or within that partition.

to:

> The logical block ~~address on logical units~~ addresses on a logical unit or within a volume partition ~~on device volumes~~ shall begin with block zero and be contiguous up to the last logical block ~~on~~ of that logical unit or within that partition.

This change is reflected in 00-269r3. Document 00-269 contains the restructured subclause including the changes agreed in response to this comment. Any further revisions to the restructuring will be reflected solely in revisions to 00-269.

PDF page 168 7.22 1st ¶ — Change from:

> A SCSI device that is capable of supporting a LUN address other than zero shall support the REPORT LUNS command on logical unit zero. Support of the REPORT LUNS command on logical units other than logical unit zero is optional.

to:

> A SCSI device that is capable of supporting a LUN address other than zero shall support ~~the~~ a REPORT LUNS command ~~on~~ that is addressed to logical unit zero. Support of the REPORT LUNS command ~~on~~ by logical units other than logical unit zero is optional.

No changes will be made in the following cases:
- The description of ASC/ASCQ code 69h/00h "DATA LOSS ON LOGICAL UNIT"
- The description of ASC/ASCQ code 3Eh/02h "TIMEOUT ON LOGICAL UNIT"

No other instances could be found of "on logical units", "on logical unit", "on a logical unit" or "on that logical unit".

8.19 [497] Seagate 19) 64-bit LBAs (Accepted, Substantive)
>   PDF page 42
>   SEE ALSO comment 5.33 [84] IBM 33)

<<the sixteen-byte command descriptor blocks contain 32-bit LOGICAL BLOCK ADDRESS fields.>> Did this change with the 64-bit address change?

Editor's note:

This comment will be resolved as described in 5.33 [84] IBM 33).Subclause 4.3 will be restructured as described in the response to 1.5 [5] Brocade 5). Document 00-269 contains the restructured subclause including the changes agreed in response to this comment. Any further revisions to the restructuring will be reflected solely in revisions to 00-269.

8.20 [498] Seagate 20) 'transfer length' by another name (Accepted, Editorial)
>   PDF page 42

Change <<For several commands the transfer length indicates the requested number of bytes to be sent as defined in the command description. For these commands the TRANSFER LENGTH field may be identified by a different name.>> to "Several commands use transfer length to indicate the requested number of bytes to be sent as defined in the command description. For lengths in bytes the TRANSFER LENGTH field may be identified by a different name."

Editor's notes:

The two sentences identified by the comment will be replaced with:

> Some commands use transfer length to specify the requested number of bytes to be sent as defined in the command description.

Note: the November SPC-2 Letter Ballot review meeting requested that the second sentence be removed in its entirety because the typical CDB format tables clearly show multiple uses of the bytes that form TRANSFER LENGTH field and the descriptions for those fields follow immediately in the next two subclauses.

This change is reflected in 00-269r3. Document 00-269 contains the restructured subclause including the changes agreed in response to this comment. Any further revisions to the restructuring will be reflected solely in revisions to 00-269.

8.21 [499] Seagate 21) Commands go to logical units (Unresolved)
>   PDF page 42
>   SEE ALSO comment 8.23 [501] Seagate 23)

<<This field is typically used in command descriptor blocks for parameters that are sent to a device server>>

I thought commands were sent to logical units not device servers. I think this should be "This field is typically used in command descriptor blocks for parameters that are for device server control."

8.22 [500] Seagate 22) Is encryption allowed? (Accepted, Substantive)
PDF page 43
SEE ALSO comment 1.8 [8] Brocade 8)

<<The ENCRYPTION IDENTIFICATION field indicates whether CDB bytes 8 through n and/or the data bytes are encrypted. The value also indicates which encryption key to use for decryption. A value of zero indicates no encryption. All other values are reserved.>>

It is not clear from this text whether no encryption is allowed and all encryption values are reserved or if a reference to where the non-reserved values are has been left out.

Editor's note:

Per the agreement of the September, 2000 CAP working group (minutes in 00-307), the ENCRYPTION IDENTIFICATION field will be changed to Reserved. Document 00-269 contains the restructured subclause including the changes agreed in response to this comment. Any further revisions to the restructuring will be reflected solely in revisions to 00-269.

8.23 [501] Seagate 23) 'logical unit' not 'device server' (Unresolved)
Global & PDF page 44
SEE ALSO comment 8.21 [499] Seagate 21)

<<This standard defines four commands that all SCSI device servers shall implement>>

I think the logical unit should have the requirement for the mandatory commands not the device server. I think consideration should be globally given as to whether the device server is singled out too often.

8.24 [502] Seagate 24) Use TEST UNIT READY to check media status (Accepted, Editorial)
PDF page 44
SEE ALSO comment 5.41 [92] IBM 41)

Change <<It is especially useful to check the cartridge status of logical units with removable media.>> to "TEST UNIT READY may be used to check the media status of logical units with removable media." or delete it.

Editor's note:

The sentence identified by the comment will be replaced with: "The TEST UNIT READY command may be used to check the media status of logical units with removable media."

8.25 [503] Seagate 25) Delete advisory description of TEST UNIT
READY (Accepted, Editorial)
PDF page 44

Delete <<delays to achieve good status are not advisable.>>

Editor's note:

The November SPC-2 Letter Ballot review meeting wavered on deleting or replacing this text. In the editor's opinion, the text should be changed from advisory to explanatory. Including changes from 5.20 [71] IBM 20), the sentence in question should be changed from:

> Device servers should respond promptly to indicate the current status of the device, delays to achieve good status are not advisable.

to:

> Device servers should respond promptly to indicate the current status of the <u>SCSI</u> device, delays to achieve ~~good~~ <u>GOOD</u> status may adversely affect initiator performance ~~are not advisable~~.

8.26 [504] Seagate 26) Is parameter rounding always allowed? (Accepted, Editorial)
PDF page 45
SEE ALSO comment 5.42 [93] IBM 42)

<<The device server shall reject unsupported values unless rounding is permitted in the description of the parameter.>>

Isn't this an unwarranted restriction. As I recall rounding is always allowed unless specifically restricted by a parameter and at the moment I do not recall any where rounding is not allowed.

Editor's notes:

It is not true that "rounding is always allowed unless specifically restricted by a parameter." Rounding is prohibited unless the description of the parameter specifically states that it is allowed. See the descriptions of parameters in the Disconnect-reconnect mode page. The BUS INACTIVITY LIMIT parameter may be rounded BUFFER FULL RATIO parameter cannot be rounded.

To further clarify this and to remove a note, the text in this sentence will be combined with the text in note 2 to form a new paragraph. The new paragraph will be the second paragraph in the subclause. The new paragraph will read as follows:

> The device server shall reject unsupported values unless rounding is permitted in the description of the parameter. When the description of a parameter states that rounding is permitted, the device server should adjust maximum-value fields down to the next lower supported value than the one specified by the application client. Minimum-value fields should be rounded up to the next higher supported value than the one specified by the application client. In some cases, the type of rounding (up or down) is explicitly specified in the description of the parameter.

8.27 [505] Seagate 27) Simplify SEND DIAGNOSTIC status description (Accepted, Editorial)
PDF page 45

Change <<The response is simply a GOOD status if the test is successful or a CHECK CONDITION status if the test fails.>> to "The response is GOOD status if the test detects no exceptions or a CHECK CONDITION status if the test detects exceptions."

Editor's note:

The change requested will be made. As a matter of note, this sentence has undergone a step-wise improvement. SCSI-2 says, "…the response is simply GOOD status if all is well or CHECK CONDITION status if the test fails." SPC has the wording at issue above.

8.28 [506] Seagate 28) Use '…as soon as practical…' instead of '…as soon as possible…' (Accepted, Editorial)
PDF page 47
SEE ALSO comment 5.47 [98] IBM 47) regarding changing 'never' to 'not'
SEE ALSO comment 8.30 [508] Seagate 30) regarding 'practical' instead of 'possible'

Change <<Suspension of the self-test to service the command shall occur as soon as possible, but shall never take longer than two seconds.>> to "Suspension of the self-test to service the command shall occur as soon as <u>practical</u> <u>and</u> shall <u>not</u> take longer than two seconds."

8.29 [507] Seagate 29) Why reference draft standards over published? (Accepted, Editorial)
PDF page 47, table 6
SEE ALSO comment 8.76 [554] Seagate 76)

All references to other standards seem to be the latest project regardless of status. But the normative references have instructions for using later versions not earlier versions. Is it a good idea to call out non-available standards without a compelling reason?

Editor's notes:

In table 6, SBC-2 will be changed to SBC and SMC-2 will be changed to SMC.

8.30 [508] Seagate 30) Use '…as soon as practical…' instead of '…as soon as possible…' (Accepted, Editorial)
PDF page 47

Change <<If one of the exception commands listed in table 6 is received, the device server shall abort the self-test, update the self-test log, and service the command as soon as possible but not longer than two seconds after the command descriptor block has been validated. >> to "If one of the exception commands listed in table 6 is received, the device server shall abort the self-test, update the self-test log, and service the command as soon as <u>practical</u> and not longer than two seconds after the command descriptor block has been validated."

Editor's note:

The will be made as requested. In addition, as per the resolution to comment 5.26 [77] IBM 26) the use of 'command descriptor block' in this sentence will be changed to 'CDB'.

8.31 [509] Seagate 31) Don't capitalize 'abort' (Rejected)
PDF page 47

Change << (Abort background self-test function).>> to " (abort background self-test function)."

Reason for rejection:

'Abort background self-test' function is the proper name for the function associated with code value 100b and appears in Table 120 exactly as it appears in this text.

8.32 [510] Seagate 32) Specifically identify subsequent command as the one terminated (Rejected)
PDF page 48

In Table 7 change <<Otherwise, terminate with CHECK CONDITION status, [LOGI-]CAL UNIT FAILED SELF-TEST>> to "Otherwise, terminate the subsequent command with CHECK CONDITION status, [LOGI-]CAL UNIT FAILED SELF-TEST" two places.

Reason for rejection:

In the 4th column, the column heading clearly identifies the subsequent command as the one being discussed. If the proposed change were adopted, it also would be necessary to change 'If the command is INQUIRY …' to 'If the subsequent command is INQUIRY …' and to change 'Process the command …' to 'Process the subsequent command …'. Why have the column header identify 'subsequent commands' as the topic for discussion if 'subsequent command' must be repeated throughout the column text?

In the 5th column, it is not a subsequent command that is terminated, rather it is the SEND DIAGNOSTICS command itself that is terminate.

8.33 [511] Seagate 33) Add types of reservations overview (Accepted, Editorial)
PDF page 48

The reservations overview should include an overview of the types of reservations (i.e., RESERVE/RELEASE and PERSISTENT RESERVATIONS).

Editor's note:

Cross references to 5.3.2 and 5.3.3 will be added to the list near the top of PDF page 49, e.g., 'a) Reserve/Release (see 5.3.2) -' Beyond that, the editor is in no position to write such an overview. If someone else should write one and propose it for inclusion in an SPC version, then that activity could be viewed as acceptance of this comment.

8.34 [512] Seagate 34) Why two reservations checking requirements? (Rejected)
PDF page 49

<<A command that explicitly writes the medium shall be checked for reservation conflicts before the device server modifies the medium or cache as a result of the command.>>

The requirement for commands that do not write the media satisfy the requirement. Why are there two versions?

Reason for rejection:

The September, 2000 CAP working group meeting (minutes in 00-307) agreed that the two requirements allow valuable flexibility in implementations and therefore will not be changed.

8.35 [513] Seagate 35) Match 'queuing' description to SAM-2 (Accepted, Editorial)
> PDF page 51

<<A reservation may apply to some or all tasks queued before>> is not stated in a SAM conformant manner.

Editor's note:

Replace the wording identified as being non-conformant with, "A reservation may apply to some or all of the tasks in the task set before…".

8.36 [514] Seagate 36) Match 'queuing' description to SAM-2 (Accepted, Editorial)
> PDF page 52

<<Multiple reserve/release commands or persistent reserve service actions may be queued at the same time.>> What does this mean in SAM terms?

Editor's note:

Replace the wording identified as not matching SAM terminology with, "Multiple reserve/release commands or persistent reserve service actions may be present in the task set at the same time."

8.37 [515] Seagate 37) Rewrite sentence to eliminate 'most' (Accepted, Editorial)
> PDF page 52
> SEE ALSO comment 5.62 [113] IBM 62)

Change <<, so most systems require significant reinitialization after a failure that results in a hard reset.>> to ". Systems may require significant reinitialization after a failure that results in a hard reset." or delete the statement.

Editor's note:

The rewritten text in the resolution to comment 5.62 [113] IBM 62) does not use the word 'most' as requested by this comment.

8.38 [516] Seagate 38) Change 'is' to 'may be' (Accepted, Editorial)
> PDF page 52
> SEE ALSO comment 6.2 [373] LSI 2) and rejected comment 5.63 [114] IBM 63)

Change <<The Persistent Reservations management method is used among multiple initiators that require operations to be protected across initiator failures, which usually involve hard resets.>> to "The Persistent Reservations

management method <u>may be</u> used among multiple initiators that require operations to be protected across initiator failures, which may involve hard resets."

Editor's note:

As agreed following the September 2000 working group, the replacement wording will be "…<u>is the mechanism specified for use by</u> multiple initiators…" instead of "…<u>may be used among</u> multiple initiators…". The rewritten text in the resolution to comment 6.2 [373] LSI 2) includes the change requested by this comment.

8.39 [517] Seagate 39) Change 'SCSI' to 'SCSI commands' (Accepted, Editorial)
PDF page 52
SEE ALSO comment 6.2 [373] LSI 2)

Change <<Even though different protocols that transport SCSI>> to "Even though different protocols that transport SCSI commands"

Editor's note:

The rewritten text in the resolution to comment 6.2 [373] LSI 2) includes the change requested by this comment.

8.40 [518] Seagate 40) Change 'power…is lost' to 'power…is removed' (Accepted, Editorial)
PDF page 52
SEE ALSO comment 6.2 [373] LSI 2)

Change <<Persistent reservations are optionally retained when power to the target is lost.>> to "Persistent reservations are optionally retained when power to the target is removed." or delete in favor of the redundancy in the next paragraph.

Editor's note:

The rewritten text in the resolution to comment 6.2 [373] LSI 2) includes the change requested by this comment.

8.41 [519] Seagate 41) You cannot provide a thing but you can't remove it (Accepted, Editorial)
PDF page 53

Change <<but they remove the ability for the application client to uniquely>> to "but they do not provide the ability for the application client to uniquely" or delete the whole phrase.

8.42 [520] Seagate 42) Use APTPL acronym (Accepted, Editorial)
PDF page 53
SEE ALSO comments] CPQ 1B), 5.64 [115] IBM 64), and 5.65 [116] IBM 65)

Change <<Persist Through Power Loss (APTPL)>> to "APTPL" since if an acronym is defined it should be subsequently used and the definition in this subsequent instance is different than the initial definition.

Editor's note:

This comment is resolved by the changes described in the response to comment 2.2 [41] CPQ 1B).

8.43 [521] Seagate 43) Where is 'scope-specific address' defined? (Accepted, Editorial)
        PDF page 54

What is a <<the scope-specific address, if any.>> and where is it defined?

Editor's note:

A cross reference to 7.13.4.1 (Format of PERSISTENT RESERVE IN parameter data for READ RESERVATION) will be added.

8.44 [522] Seagate 44) Persistent Reservations question (Rejected)
        PDF page 55

<<If a PERSISTENT RESERVE OUT with a REGISTER AND IGNORE EXISTING KEY service action is sent when an established registration key exists, the registration shall be superseded with the specified service action reservation key.>>

Is this the case even if for some other action the originating initiator would be in violation of the existing persistent reservation?

Reason for rejection:

The following discussion assumes that the word 'reservation' is replaced with the word 'registration' in the question asked, because as Table 9 shows both the REGISTER and the REGISTER AND IGNORE EXISTING KEY service actions have no conflicts with existing persistent reservations.

If a REGISTER service action is used instead of a REGISTER AND IGNORE EXISTING KEY service action when a registration already exists, the existing registration is superseded only if the reservation key in the parameter data matches the reservation key previously registered with the device server. The REGISTER AND IGNORE EXISTING KEY eliminates that test thus allowing an initiator to register a new key when it no longer knows what its old key was.

8.45 [523] Seagate 45) Delete registration resources note (Accepted, Editorial)
        PDF page 55

<<NOTE 4 It is recommended a target have enough resources to handle a registration from each initiator known to the target.>>

Delete note 4. This is a non-sensical recommendation. For Fibre Channel known initiators could be humongous and each initiator is allowed to register an unlimited number of keys. Resources are not a rubber band. Resources are determined by target markets.

8.46 [524] Seagate 46) Two lists with same introduction (Rejected)
        PDF page 57

In <<5.5.3.6.1 Overview of removing registrations and persistent reservations>> there are two different lists with the same introduction. Why is it two lists? Should the second list be preempt rather than remove?

Reason for rejection:

The two introductory statements are not the same. The two statements are shown here with the words that are different between them underlined.

"A registered initiator using the value of the initiator/logical unit pair's established reservation key may remove a <u>persistent reservation</u> by issuing one of the following commands:"

"A registered initiator using the value of the initiator/logical unit pair's established reservation key may remove a <u>registration</u> by issuing one of the following commands:"

8.47 [525] Seagate 47) 'aptpl' should be in small caps (Accepted, Editorial)
PDF page 57
SEE ALSO comment 7.20 [404] Quantum 19)

<<most recent aptpl value>> …aptpl should be small caps. In addition globally some of the items that should be small caps look like they are large caps.

Editor's notes:

The specific change on PDF page 57 will be made as described in the comment, and this change is reflected in the response to comment 10.22 [611] O22).

As for the global issue of field names being in large caps, it is very difficult to identify that error using electronic tools. In those places where the problem is brought to the editor's attention, the error will be fixed. More than that is not practical.

8.48 [526] Seagate 48) What's difference between 'releasing' and 'removing' a reservation? (Accepted, Editorial)
PDF page 57, page 29, 5.5.3.6.2

What is the a difference between releasing and removing a reservation? I assume the difference is whether or not the keys remain registered. But unless I just missed it, I think this difference needs to be more blatantly provided prior to the complete discussion of the two methods.

Editor's notes:

The phrase "removing a reservation" is shorthand for "releasing or preempting a reservation". Since the shorthand is confusing, the first sentence in 5.5.3.6.1 (PDF page 57) will be changed from:

"A registered initiator … may remove a persistent reservation by issuing one of the following commands:"

to:

"A registered initiator … may ~~remove~~ <u>release or preempt</u> a persistent reservation by issuing one of the following commands:"

Since the words 'reservation' and 'registration' are sometimes confused the following verb uses are going to be applied:

- Reservations are either **released** or **preempted**
- Registrations are **removed**

The following changes are required to make the text conform to these usage restrictions.

In b) of the third list on PDF page 57, "clears" will be changed to "releases".

In the first a) on PDF page 58, change 'removing' to 'releasing'. In the second a) on PDF page 58, change 'remove' to 'release'.

At the top of PDF page 59, uses of 'preempt' need to be changed to 'remove' as shown in the response to comment 8.52 [530] Seagate 52). In figure 2 (PDF page 59) bullet b), change 'remove' to 'release'.

In the second a) on PDF page 60, change 'remove' to 'release'. On PDF page 60, the title of 5.5.3.6.3.4 needs to be changed to, "~~Preempting~~ Removing registrations". As shown in the response to 6.3 [374] LSI 3), the first sentence in the subclause needs to be changed to, "An application client may ~~clear~~ remove registrations…". Item b) in the first list in this clause needs to be changed to, "…registration being ~~cleared~~ removed."

On PDF page 61, the title of 5.5.3.6.5 needs to be changed to, "Releasing a persistent reservation", and the first sentence in 5.5.3.6.5 needs to be changed to, "Any application client may ~~clear~~ release a persistent reservation and remove all registrations…" In the last a) list entry on PDF page 61, change 'remove' to 'release'.

In the second a), b), d), and e) in 5.6 (PDF page 62), change 'removes' to 'preempts'. In the c) entry of the same list change 'removes persistent reservations and reservation keys' to 'release' persistent reservations and removes reservation keys'.

8.49 [527] Seagate 49) What happens to the reservation? (Accepted, Editorial)
PDF page 58

<<The device server shall return a CHECK CONDITION status for a PERSISTENT RESERVE OUT command that specifies the release of a persistent reservation held by the requesting initiator if the SCOPE and TYPE fields do not match the scope and type of the established persistent reservation. The sense key shall be set to ILLEGAL REQUEST and additional sense data shall be set to INVALID RELEASE OF PERSISTENT RESERVATION.>>

This paragraph should mention the outcome of the reservation.

Editor's note:

Change the first sentence from:

   "The device server shall return a CHECK CONDITION…"

to:

   "The established reservation shall not be altered and the device server shall return a CHECK CONDITION…"

8.50 [528] Seagate 50) 'removed' not 'preempted'? (Rejected)
PDF page 58

<<If the value in the SERVICE ACTION RESERVATION KEY field is associated with the reservation being preempted then the reservation is preempted and any matching registration(s) removed (see 5.5.3.6.3.3).>>

Removed not preempted?

Reason for rejection:

In this case, the wording is correct. See the response to 8.48 [526] Seagate 48) for a discussion of reservations, registrations and the verbs for annulling them.

8.51 [529] Seagate 51) SERVICE ACTION RESERVATION KEY != reservation? (Accepted, Editorial)
PDF page 58

<<If the value in the SERVICE ACTION RESERVATION KEY field is not associated with the reservation being preempted then any matching registration(s) are removed (see 5.5.3.6.3.4).>>

Huh? So the non-associated remains?

What are <<matching reservations>> that are removed regardless of association?

Editor's notes:

The last comment will be ignored since the sentence in question says 'matching registrations' not 'matching reservations'. However the remainder of the comment points out that the sentence in question needs to be rewritten as follows:

"If the value in the SERVICE ACTION RESERVATION KEY field is not associated with the reservation, <u>the reservation shall not be preempted but</u> any matching registration(s) <u>shall be</u> removed (see 5.5.3.6.3.4).>>

8.52 [530] Seagate 52) Improper use of 'should' (Accepted, Editorial)
PDF page 59

<<See figure 2 for a description of how a device server should interpret a PREEMPT service action to determine the actions it should take>> Should take, not shall take?

Editor's note:

Considering both the changes needed in response to this comment and the changes needed in response to 8.50 [528] Seagate 50), the sentence at the top of PDF page 59 will be changed from:

"See figure 2 for a description of how a device server should interpret a PREEMPT service action to determine the actions it should take (e.g., preempt persistent reservation, preempt registration or preempt both registration and persistent reservation)."

to:

"See figure 2 for a description of how a device server ~~should interpret~~ <u>interprets</u> a PREEMPT service action to determine the <u>its</u> actions ~~it should take~~ (e.g., preempt persistent reservation, ~~preempt~~ <u>remove</u> registration or ~~preempt both registration and persistent reservation~~ both preempt persistent reservation and ~~preempt~~ <u>remove</u> reservation)."

8.53 [531] Seagate 53) What's an inactive persistent reservation? (Accepted, Editorial)
PDF page 59

What is an inactive persistent reservation?

Editor's note:

In Figure 2, change 'Active persistent reservation' to 'Existing persistent reservation'.

8.54 [532] Seagate 54) How can != SERVICE ACTION RESERVATION KEY point to a registration? (Rejected)
PDF page 59

If the SERVICE ACTION RESERVATION KEY does not match, how does it point to a registration?

Reason for rejection:

The SERVICE ACTION RESERVATION KEY always points to a registration. If a reservation is to be preempted, then the registration is that of the initiator that holds the reservation.

8.55 [533] Seagate 55) Figure 2 has more requirements than the text (Rejected)
PDF page 59

Good thing figures take precedent over text since Figure 2 seems to have more requirements than the text (e.g., active persistent reservation).

Reason for rejection:

The correction made in response to comment 8.53 [531] Seagate 53) eliminates the sole example quoted in the comment. Since the editor is not aware of any other instances of Figure 2 containing more requirements than the text, no known additional corrections are required.

8.56 [534] Seagate 56) Queuing restrictions time-out? (Accepted, Editorial)
PDF page 59
SEE ALSO comment 10.28 [617] O28) Suhler

<<time-out due to queuing restrictions>> Task management restrictions?   Queue blocked or task blocked?

Editor's notes:

Comment 10.28 [617] O28) Suhler notes that the parenthetical expression highlighted by this comment includes "QUEUE FULL" that needs to be "TASK SET FULL". Including both the changes resulting from both comments, the following existing text:

> …(e.g., QUEUE FULL, BUSY, time-out due to queueing restrictions or time-out due to queue blocked due to failed initiator), …

will be changed to:

> …(e.g., ~~QUEUE~~ <u>TASK SET</u> FULL, BUSY, ~~time-out due to queueing restrictions~~ <u>transport protocol time-out</u> or time-out due to queue blocked due to failed initiator), …

8.57 [535] Seagate 57) Use 'vendor specific' (Accepted, Editorial)
PDF page 62
SEE ALSO comment 7.25 [409] Quantum 24)

Change <<is defined by the implementation.>> to "is vendor specific."

Editor's note:

The change described in this comment will be made. The wording change is reflected in the resolution for comment 7.25 [409] Quantum 24).

8.58 [536] Seagate 58) Rewrite contention resolution options for multi-port targets (Accepted, Editorial)
PDF page 62
SEE ALSO comment 7.25 [409] Quantum 24)

<<Above the interconnect implementation, two contention resolution options exist:>> Huh? Would be clear if the intro was deleted and the list was turned into a paragraph.

Editor's note:

The response to comment 7.25 [409] Quantum 24) contains wording that addresses this issue.

8.59 [537] Seagate 59) Why 'all initiators (regardless of port)'? (Accepted, Editorial)
PDF page 62
SEE ALSO comment 5.70 [121] IBM 70)

<<Once a device server grants a reservation, all initiators (regardless of port) except the initiator to which the reservation was granted shall be treated as different initiators.>>

I agree with this if a single device server is behind the multiple ports. But since I do not agree with all instances of the use of device server I think there is room for this statement to be misconstrued when the multiple ports have multiple LUNs with multiple device servers behind them.

On second thought, on agreement, what does different initiators have to do with it. They are treated as different initiators regardless of reservations since they are different initiators. The statement should be about reservation states.

Editor's note:

The sentence identified by the comment will be replaced with the following:

   For the purposes of handling reservations, other initiators are defined as all initiators on the same service delivery port except the initiator holding the reservation and all initiators on all other service delivery ports.

8.60 [538] Seagate 60) What are 'machine states'? (Accepted, Editorial)
PDF page 62

What are <<machine states>>? I think this should be "logical unit states".

8.61 [539] Seagate 61) Change 'may interpret' to 'interprets' (Accepted, Editorial)
PDF page 64

Change <<A single logical unit may also serve as a path to multiple resources if the processor device server may interpret information within the data packet and route the packet to the appropriate resource.>> to "A single logical unit may also serve as a path to multiple resources if the processor device server <u>interprets</u> information within the data packet and <u>routes</u> the packet to the appropriate resource."

8.62 [540] Seagate 62) Change 'unusual condition' to 'exception condition' (Accepted, Editorial)
PDF page 64

Change <<If the processor device server determines that an error or unusual condition has occurred>> to "If the processor device server determines that <u>an exception condition</u> has occurred" **two places**.

The millennium was an unusual condition and was not an error other than that it is occurring twice within a year. In SCSI context both "an error and an unusual condition" would be an error.

Editor's note:

The changes described in this comment will be made without alteration. In addition to those changes there is a correction that is needed shortly after the second change. Change "commandfrom" to "command from".

8.63 [541] Seagate 63) Remove comparison of processor to communications devices (Accepted, Editorial)
PDF page 64

I think <<The SCSI processor device is distinguished from an SCSI communications device by the fact that the primary destination of the data packets is within the target device. An SCSI communications device, passes the data on to an ultimate destination outside the target through a network.>> be deleted since there are no longer SCSI communication devices.

8.64 [542] Seagate 64) Change 'protocol dictated' to 'protocol specified' (Accepted, Editorial)
PDF page 64

Change <<protocol dictated>> to "protocol specified".

8.65 [543] Seagate 65) Add 'OB = Obsolete in table 10 (Accepted, Editorial)
PDF page 65

In Table 10 add an Obsolete type "OB = Obsolete"

8.66 [544] Seagate 66) Value that matches what? (Accepted, Editorial)
PDF page 79
See also comment 5.90 [141] IBM 90)

<<RECEIVE COPY RESULTS commands with a matching value>> Matching what?

Editor's note:

The description of relationships between EXTENDED COPY commands and RECEIVE COPY RESULTS commands is well described in the subclause defining the RECEIVE COPY RESULTS command (no comments were made about it). Therefore, the rewording shown in the resolution for 5.90 [141] IBM 90) avoids defining that relationship in this text, relying instead on the RECEIVE COPY RESULTS command definition.

8.67 [545] Seagate 67) What is arithmetic precedence of +16/32? (Accepted, Editorial)
PDF page 79

<<The index for a target descriptor is the starting byte number for the target descriptor in the parameter data minus 16 divided by 32.>>

Does that mean minus 0.5. A formula with appropriate parenthesis would be clear.

Editor's note:

Owing to the war on parentheses waged by IBM, the editor is reluctant to combine mathematical and English structures. Therefore, the sentence identified by the comment will be changed to:

> The index for a target descriptor is computed by subtracting 16 from the starting byte number for the target descriptor in the parameter data minus 16 and divided dividing the result by 32.

8.68 [546] Seagate 68) Remove 'sensible' (Accepted, Editorial)
PDF page 80

<<The copy manager is assumed to employ a sensible vendor-specific policy to decide when to stop retrying.>> Delete "sensible". Both notes 7 and 8 are of questionable value - typical for notes.

Editor's notes:

The sentence identified by the comment will be changed to: "The copy manager is assumed to employ a vendor specific retry policy that minimizes time consuming and/or fruitless repetition of retries."

Note the use of "vendor specific" in accordance with the resolution to 5.182 [233] IBM 182).

8.69 [547] Seagate 69) Unclear requirement in a note 11 (Accepted, Editorial)
PDF page 91
See also comment 5.113 [164] IBM 113)

<<after it established how the copy manager shall process tape reads of unknown block length without error.>> What is "it"? Mandatory requirements are not allowed to be hidden in notes.

Editor's note:

Note 11 currently reads as follows:

It is anticipated that bit 1 of byte 28 in the device type specific target descriptor parameters for stream device types will be used to indicate the value of the SILI bit for read commands, after it established how the copy manager shall process tape reads of unknown block length without error.

It will be changed to read:

It is anticipated that <u>future versions of this standard may use</u> bit 1 of byte 28 in the device type specific target descriptor parameters for stream device types ~~will be used~~ to indicate the value of the SILI bit for read commands, after ~~it is established~~ <u>T10 establishes</u> how the copy manager ~~shall~~ <u>is to</u> process tape reads of unknown block length without error.

8.70 [548] Seagate 70) Add specific reference to table 36 (Accepted, Editorial)
PDF page 94

Change <<general rules are described the clauses>> to "general rules are described in the subclauses referenced in Table 36"

Editor's note:

The sentence referenced by the comment will be changed from:

Exceptions and clarifications to these general rules are described the clauses defining the individual segment descriptor type codes and in table 36.

to:

Exceptions and clarifications to these general rules are described ~~the clauses defining the individual segment descriptor type codes and~~ in table 36 <u>and the subclauses it references</u>.

8.71 [549] Seagate 71) Is EXTENDED COPY residual data handling statement clear? (Rejected)
PDF page 94

<<If residual destination data is sufficient to perform the output then no data shall be processed. Otherwise, just as much data as needed shall be processed (which may involve reading data from the source device) so that the destination data (which includes any residual destination data from the previous segment) is sufficient. >>

Is this clearer than "do what needs to be done"?

Response:

Yes.

8.72 [550] Seagate 72) What is inline/embedded data? (Rejected)
PDF page 94

<<The specified number of bytes of inline or embedded data>> What is "inline data"? What is "embedded data"?

Reason for rejection:

Inline data is described in subclause 7.5.7.6 and embedded data is described in subclause 7.5.7.7 and there are cross references to these subclauses immediately to the left of the phrase in question. Furthermore, the left most

column of the table identifies which subclause describes each of the two types of data with notations such as "(inline→stream)".

8.73 [551] Seagate 73) Identify where 'processing' is described (Accepted, Editorial)
PDF page 95

<<The data movement shall not involve "processing" as described here.>>   Where?

Editor's note:

The text identified by the comment will be changed to: "The data movement shall not involve processing as described ~~here~~ in this subclause.

8.74 [552] Seagate 74) Identify where 'processing' is described (Accepted, Editorial)
PDF page 98
Global/Clause 7.5.7

<<The BLOCK DEVICE NUMBER OF BLOCKS field specifies the length, in source logical blocks, of data to be processed in the segment.>>

What does processed mean?

Editor's note:

The following steps will be taken to resolve this comment.

1) create a new subclause numbered 7.5.7.2 such that:

   7.5.7.1 = Segment descriptors introduction <was overview>
   7.5.7.2 = Segment descriptor processing <new subclause>
   7.5.7.3 = Block device to stream device operations <was 7.5.7.2>

2) Place in the new 7.5.7.2 all the text marked with change bars in the current 7.5.7.1. (N.B. this is all the text added recently to clarify PAD/CAT processing.)

3) In the vacancy left by the text moved to 7.5.7.2 (where a description of the CAT bit should be, place the following paragraph/sentence: "The CAT bit is described in 7.5.7.2."

4) At the end of the sentence quoted in the comment, add "(see 7.5.7.2)". Also, add a similar cross reference to the first usage of the word "processed" in each subclause describing a segment descriptor type. Make this change on:

- PDF Page 97 — 2nd ¶ after table 38
- PDF Page 98 — 3rd ¶ on page
- PDF Page 99 — 3rd ¶ after table 39
- PDF Page 103 — 1st ¶ on page
- PDF Page 104 — 1st ¶ after table 42

5) All cross references to 7.5.7.1 have been checked and the following references to 7.5.7.1 need to be changed to 7.5.7.2.

- PDF Page 97 — 4th ¶ after table 38
- PDF Page 98 — 4th ¶ in 7.5.7.3
- PDF Page 100 — 2nd & 5th(x2) ¶ on page
- PDF Page 102 — 1st ¶ on page
- PDF Page 102 — 5th ¶ on page see 7.37 [421]
- PDF Page 103 — 2nd ¶ on page

- PDF Page 104 — 2nd ¶ after table 42
- PDF Page 105 — 4th ¶ after table 43
- PDF Page 107 — 2nd ¶ after table 45
- PDF Page 108 — 4th ¶ in 7.5.7.11
- PDF Page 109 — 3rd ¶ after table 46

8.75 [553] Seagate 75) How can the TUR bit be optional? (Rejected)
PDF page 106

<<If a TUR value of one is supported and the TUR bit contains one, then a TEST UNIT READY command (see 7.28) shall be used to determine the readiness of the device. If a TUR value of one is not supported and the TUR bit contains one,>>

But the TEST UNIT READY command is mandatory. What gives?

Reason for rejection:

The TEST UNIT READY command is mandatory but support for the TUR bit in the segment descriptor is optional.

8.76 [554] Seagate 76) Should SPC-2 reference draft or approved standards? (Accepted, Editorial)
PDF page 118
SEE ALSO comment 8.29 [507] Seagate 29)

Table 55 is another example of instances of bumping up the standard version (e.g., SBC-2 versus SBC) without due cause.

Editor's notes:

In Table 55, SBC-2 will be change to SBC and SMC-2 will be changed to SMC. In addition, a note duplicating the advice to look for new standards will be added to the table.

In addition, SBC-2 will be change to SBC and SMC-2 will be changed to SMC in the ASC/ASCQ, Operation Code, Log page and Mode page tables.

SBC-2 will be changed to SBC at the following additional specific locations:
- PDF page 194 — table 120
- PDF page 237 — 8.3.9 1st & 4th ¶

SBC-2 will not be changed to SBC in Table C.8 (Variable Length CDB Service Action Code Ranges) because SBC contains no discussion of commands with variable length CDBs.

SMC-2 will be changed to SMC at the following additional specific locations:
- PDF page 34 — 3.1.22
- PDF page 35 — 3.1.37
- PDF page 63 — 5.7 1st & 2nd ¶

- PDF page 65 — table 10 (twice)
- PDF page 120 — MCHNGR bit definition

SMC-2 will not be changed to SMC in Table C.8 (Variable Length CDB Service Action Code Ranges) because SMC contains no discussion of commands with variable length CDBs.

Note: MMC-2 was never updated to MMC-3 and SSC was never updated to SSC-2.

8.77 [555] Seagate 77) Would an acronym be helpful? (Accepted, Editorial)
PDF page 119

An acronym would be just as helpful for the other standards as it is for SCSI-2.

Editor's notes:

Adding "(SCSI-2)" and "(SPC)" everywhere they are needed in table 56 would cause line wraps and make the table less readable. Notes will be added to the bottom of the table relating the standards numbers to their acronyms.

8.78 [556] Seagate 78) REPORT LUNS support when HISUP=0 (Accepted, Editorial)
PDF page 120

Should "When the HISUP bit is zero, the device server may support the REPORT LUNS command." be added?

8.79 [557] Seagate 79) Use 'shall indicate' (Accepted, Editorial)
PDF page 120

<<A Multi Port (MULTIP) bit of one shall indicate>> Should the other bits use this form rather than "indicates"?

Editor's note:

No. The 'shall' will be removed from this statement. It's fewer changes with no difference in effect and a greater probability of making all the changes correctly.

8.80 [558] Seagate 80) Is MCHNGR embedded in device or vice versa? (Accepted, Editorial)
PDF page 120

<<A medium changer (MCHNGR) bit of one indicates that the device is embedded within or attached to a medium transport element. See SMC-2 for details about medium changers, including a device model for an attached medium changer device. The MCHNGR bit is valid only when the RMB bit is equal to one. A MCHNGR bit of zero indicates that the device is not embedded within or attached to a medium transport element.>>

Isn't this inside out or backwards?

Editor's note:

Why not get rid of the who's in whom issue entirely and change, "… that the device is embedded within or attached to a medium transport element …" to "… that the device is ~~embedded within~~ <u>associated with</u> or attached to a medium transport element …"

8.81 [559] Seagate 81) Change 'upto' to 'up to'. (Accepted, Editorial)
PDF page 121
SEE ALSO comment 7.43 [427] Quantum 42)

Change <<upto>> to "up to".

8.82 [560] Seagate 82) Parameters effect initiators (Accepted, Editorial)
PDF page 133

<<parameters in effect for the application client>>

Parameters are in effect for initiators not application clients per se.

8.83 [561] Seagate 83) Why define the additional length field so many times? (Accepted, Editorial)
PDF page 139
SEE ALSO comment 8.85 [563] Seagate 85)

<<If the length is not sufficient to contain the entire parameter list, the first portion of the list shall be returned. This shall not be considered an error.>>

This does not quite cover the zero length case due to using wording different than is standard for most commands. Why is it specified twice (here and with the parameter data)?

Editor's notes:

The text here is useful because it describes a remedy that an application client may apply. However, reducing the repetition between here and the parameter data descriptions is also valuable. Therefore, the current text:

> If the length is not sufficient to contain the entire parameter list, the first portion of the list shall be returned. This shall not be considered an error. If the remainder of the list is required, the application client should send a new PERSISTENT RESERVE IN command with a ALLOCATION LENGTH field large enough to contain the entire list.

will be changed to:

> ~~If the length~~ An allocation length that is not sufficient to contain the entire parameter list~~, the first portion of the list shall be returned. This~~ shall not be considered an error. If the ~~remainder of the~~ complete list is required, the application client should send a new PERSISTENT RESERVE IN command with ~~a ALLOCATION LENGTH field~~ allocation length large enough to contain the entire list.

8.84 [562] Seagate 84) Change singular to plural (Accepted, Editorial)
PDF page 140

I suggest changing <<persistent reservation(s), if any, that is present>> to "persistent reservations, if any, that are present".

8.85 [563] Seagate 85) Why define the ADDITIONAL LENGTH field so many times? (Rejected)
PDF page 141
SEE ALSO comment 8.83 [561] Seagate 83)

Why define the ADDITIONAL LENGTH field so many times?

Reason for rejection:

The ADDITIONAL LENGTH field is defined once for each of the parameter data formats that contain it. The only alternative would be to create a whole new subclause just to define GENERATION and ADDITIONAL LENGTH, a change that adds little, if any, value to the standard.

8.86 [564] Seagate 86) Definition of field value of LU (Accepted, Editorial)
PDF page 142
SEE ALSO comment 5.160 [211] IBM 160)

<<A SCOPE field value of LU shall indicate that the persistent reservation applies to the entire logical unit.>>

The acronym LU is defined only in the notes of a distant table. Ordinarily notes in a table only apply to the table in which they occur. I think LU should be defined in the abbreviations or here. Another alternative would be to use the words. Note that two paragraphs later the acronym is not used. Strive for consistency.

Editor's notes:

Actually, LU intends to refer to code value 0h in Table 78, a reference that is less than a half page away from the sentence identified in this comment. However, the table contains "Logical Unit" not "LU". As noted in the comment, consistency is a problem in this area and the responses to comments 5.159 [210] IBM 159) through 5.162 [213] IBM 162) and 5.164 [215] IBM 164) intend to produce the needed consistency.

8.87 [565] Seagate 86a) Use 'in an initiator' not 'on an initiator' (Rejected)
Global & PDF page 143

Change <<Any application client on any initiator>> to "Any application client in any initiator".

As a global comment "on" is often used providing distorted meaning. "Sitting on" does not convey "residing in."

Reason for rejection:

Since the days of keypunches, programs have run "on" computers, not "in" them. While blazing a trail for better grammar would be a nobel undertaking, it doubtless will serve mostly to confuse those well steeped in this long standing tradition. An application client is a program and as such runs "on" a computer.

8.88 [566] Seagate 87) Application clients can't execute tasks (Accepted, Editorial)
PDF page 143
SEE ALSO comments 5.165 [216] IBM 165) and 5.166 [217] IBM 166)

<<application client on any initiator may execute tasks that request transfers>>

In SCSI parlance I think this and any other instances should be "application client in any initiator may initiate tasks that request transfers" but may be it is not a task until it resides in the LU and so perhaps "application client in any initiator may request transfers"

Editor's note:

This comment will be resolved as described in the response to comments 5.165 [216] IBM 165) and 5.166 [217] IBM 166).

8.89 [567] Seagate 88) Delete 'if required' (Accepted, Editorial)
PDF page 144
SEE ALSO comment 6.8 [379] LSI 8)

<<and use the PERSISTENT RESERVE OUT command to preempt that reservation if required.>> Delete "if required".

Editor's note:

The response to comment 6.8 [379] LSI 8) includes this change.

8.90 [568] Seagate 89) PREEMPT AND ABORT definition error (Accepted, Editorial)
PDF page 145

<<Preempts persistent reservations from another initiator and aborts <u>the task set</u> for the preempted initiator>>

What if the task set architecture is all initiators per LU?

Should this be "Preempts persistent reservations from another initiator and aborts <u>the tasks</u> for the preempted initiator"?

Editor's note:

The rewrite is good but still needs a little polishing. The tasks that get aborted are all tasks from all initiators registered under the specified reservation key. Therefore, the sentence will be changed to read:

Preempts persistent reservations from another initiator and aborts <u>all tasks</u> ~~the task set~~ for <u>all initiators registered with the specified reservation key</u> ~~the preempted initiator~~ …

8.91 [569] Seagate 90) Requirements on PERSISTENT RESERVE OUT obsolete bytes (Accepted, Editorial)
PDF page 146

<<All fields shall be sent on all PERSISTENT RESERVE OUT commands, even if the field is not required for the specified service action and scope values.>>

In this case should it be specified that if the Obsolete function is not supported Bytes 22 and 23 shall be zero? (I do not recall a prior requirement to originate an obsolete function and am not sure what the precedent should be. Perhaps the reader should be left to look in SPC to see what to put in the bytes. The latter is the position I took on another comment. But in both comments it may be OK to specify the behavior that would have applied to SCSI devices that did not support the Obsolete function.)

Editor's notes:

The obsolete bytes have meaning only when the obsolete SCOPE code value is used, see table 78 on PDF page 142. So, any value placed in those bytes is acceptable and zero seems as good as any choice.

The first paragraph after table 82 will be changed from:

The obsolete field in Bytes 22 and 23 was defined in a previous standard.

to:

> The obsolete field in Bytes 22 and 23 was defined in a previous standard <u>for use with the obsolete scope (see table 78). If the obsolete scope is not supported Bytes 22 and 23 <u>should</u> be zero.</u>

Note that the proposed text uses 'should' instead of 'shall'. Since the device server is required to interpret the obsolete bytes only if the obsolete scope is used, there is no need to place an absolute requirement on the application client or device server in this case.

8.92 [570] Seagate 91) Clarify 'zero filling' requirement (Accepted, Editorial)
> PDF page 146

Change <<zero filled in the most significant bytes to fit the field.>> to "zero filled in the most significant <u>bits</u> to fit the field."

8.93 [571] Seagate 92) Clarify APTPL bit description (Accepted, Editorial)
> PDF page 147
> SEE ALSO comment 5.170 [221] IBM 170

Change <<The APTPL bit PERSISTENT RESERVE OUT parameter is not summarized in table 83, since it is specified above.>> to "The APTPL bit PERSISTENT RESERVE OUT parameter, specified above, is not summarized in table 83."

Editor's note:

Including the correction requested by comment 5.170 [221] IBM 170, the sentence will be changed to read:

> The APTPL bit PERSISTENT RESERVE OUT parameter, specified in the previous paragraph, is not summarized in table 83.

8.94 [572] Seagate 93) Add MSB/LSB to BUFFER CAPACITY field (Accepted, Editorial)
> PDF page 152

I think the BUFFER CAPACITY field should include the designations of MSB and LSB.

8.95 [573] Seagate 94) What does 'immediately' mean? (Accepted, Substantive)
> PDF page 154
> See also comment 5.180 [231] IBM 180)

In Table 93 what does <<immediately>> mean in terms of the SCSI architecture?

Editor's notes:

The SNIA-BWG has agreed to resolve this comment by changing the behavior to require the device server (or copy manager) to terminate RECEIVE COPY RESULTS commands requesting data while an EXTENDED COPY is in progress.

The changes required to implement this change are as follows:

1) The heading for the fourth column of the table will be changed from "Returns Data" to "Returns Data While EXTENDED COPY Is In Progress".

2) The fourth column entries for codes 00h and 03h will be changed from "Immediately" to "Yes".

3) The fourth column entry for code 01h will be changed from "When identified command has completed" to "No".

4) The fourth column entry for code 04h will be changed from "Immediately" to "No". This is undoubtedly a substantive (but common sense) change.

5) In 7.17.3 and 7.17.5 before the parameter data format table, add the following:

> If the LIST IDENTIFIER field of a RECEIVE COPY RESULTS CDB identifies an EXTENDED COPY command that still is being processed by the copy manager, the command shall be terminated with a CHECK CONDITION status. The sense key shall be set to ILLEGAL REQUEST and the additional sense code shall be set to INVALID FIELD IN CDB.

8.96 [574] Seagate 95) Values => 02h conflict with ISO/IEC standards (Accepted, Editorial)
PDF page 156
SEE ALSO comments 1.30 [30] Brocade 30), 5.186 [237] IBM 186), and 7.59 [443] Quantum 58)

In Table 96 values => 02h are wrong according to international standards.

Editor's notes:

As far as the editor can tell, value 01h is wrong too. The response to comment 1.30 [30] Brocade 30) contains the resolution for this comment.

8.97 [575] Seagate 96) Insufficient allocation length in FAILED SEGMENT DETAILS (Rejected)
PDF page 161

<<the AVAILABLE DATA field shall not be altered and the failed segment details shall not be discarded.>>

Does this mean the details transferred are also retained? If all the details were transferred is anything discarded?

Reasons for rejection:

The editor is hard pressed to see what's wrong with the identified text, particularly since very similar text describing held data (PDF page 157) caused no comment.

Regarding the question: "If all the details were transferred is anything discarded?" The answer is "yes" and the requirement is covered in list entry a) on the previous page.

Regarding the question: "Does this mean the details transferred are also retained?" The intended answer is "yes" and that might be clarified by changing: "…the failed segment details shall not be discarded" to "…none of the failed segment details shall be discarded" However, the editor believes that such a change degrades the clarity of the text because the negative has been moved several words away from the "shall" requirement. Wording changes that do not rely on the use of "discarded" might also be considered, however the concept of discarding data was well established by the lettered list and thus abandoning it should be based on a stronger reason than this.

8.98 [576] Seagate 97) Note describing the 50 reserved FAILED SEGMENT DETAILS bytes (Accepted, Editorial)

PDF page 161
SEE ALSO comments 5.198 [249] IBM 198) and 7.63 [447] Quantum 62)

Delete <<The fields still being discussed are not good candidates for inclusion in a separate service action because they need to be created and discarded under the same circumstances as the fields already defined. The inclusion of an indefinite length sense data field is a step of significant value.>> and consider deleting <<Possible uses include indicating the number of successful, failed, and indeterminate transfer operations to source and desti-nation copy targets device. >>

Editor's note:

The authors of the corrections to EXTENDED COPY had anticipated being required to remove note 33 in its entirety. They will be pleased to see that they get to keep the first sentence.

8.99 [577] Seagate 98) Handling of obsolete RELEASE bits (Accepted, Substantive)

PDF page 165
SEE ALSO comment 8.103 [581] Seagate 102)

Delete <<Obsolete Bits 1 through 4 of Byte 1 provided a method, limited to device addresses 0 through 7, to handle third-party reservations in earlier versions of the SCSI standard. The obsolete method has been replaced by the RESERVE(10) and RELEASE(10). If Byte 1, Bit 4 is equal to one device servers not implementing the obsolete method shall terminate the command with CHECK CONDITION status and the sense key shall be set to ILLEGAL REQUEST.>> The definition of Obsolete does not provide for redefining the requirements and in fact stabilizes the definitions forever.

Editor's notes:

These words did not appear in SPC and were added at the request of Seagate, so they can be removed at the request of Seagate. However, the next paragraph describes other obsolete bits in the CDB and it is not being deleted. Therefore, only the sentences that makes a requirement will be deleted, specifically, "~~If Byte 1, Bit 4 is equal to one device servers not implementing the obsolete method shall terminate the command with CHECK CONDITION status and the sense key shall be set to ILLEGAL REQUEST.~~"

It is worthwhile to note that the comment is correct in stating that the wording identified above changes the definition of Byte 1, Bit 4. Because support for both values of the bit were mandatory in SCSI-2, it would not be possible for setting the bit to one to cause a CHECK CONDITION based solely on that act.

8.100 [578] Seagate 99) Information on what? (Accepted, Editorial)

PDF page 172

<<For additional information see SSC.>> Information on what?

Editor's note:

The cited sentence will be changed to: "For additional information on the use of the information field by sequential-access devices see SSC."

8.101 [579] Seagate 100) Change 'is' to 'are' (Rejected)
> PDF page 173

Change <<sense codes not explicitly required by this standard is optional.>> to "sense codes not explicitly required by this standard are optional."

But why are they optional and not vendor specific.

Reasons for rejection:

'is' is correct because its number is established by 'support'. 'codes' is part of a prepositional phrase and thus cannot establish the number of the verb 'is'.

How can the additional sense codes be vendor specific when their values are specifically assigned in subclause 7.23.6? This strikes the editor as a classic case of features that are not required to be implemented by this standard, but if implemented, then it shall be implemented as defined in this standard (see 3.3.8).

8.102 [580] Seagate 101) Use 'cached' not 'buffered' (Rejected)
> PDF page 176

Note 43 discusses buffered operations. All SCSI operations are buffered. I think the intended topic is write cached operations and the text should be adjusted accordingly.

Reasons for rejection:

SSC calls it "Data buffering" (see ssc-r17 PDF page 25) and most probably note 43 is directed at the users of tapes.

8.103 [581] Seagate 102) Handling of obsolete RESERVE bits (Accepted, Substantive)
> PDF page 193
> SEE ALSO comment 8.99 [577] Seagate 98)

<<Obsolete Bits 1 through 4 of Byte 1 provided a method, limited to device addresses 0 through 7, to handle third-party reservations in earlier versions of the SCSI standard. The obsolete method has been replaced by the RESERVE(10) and RELEASE(10). If Byte 1, Bit 4 is equal to one device servers not implementing the obsolete method shall terminate the command with CHECK CONDITION status and the sense key shall be set to ILLEGAL REQUEST.>> Also the next paragraph.

Editor's notes:

These words did not appear in SPC and were added at the request of Seagate, so they can be removed at the request of Seagate. However, the next paragraph describes other obsolete bits in the CDB and it is not being deleted. Therefore, only the sentences that makes a requirement will be deleted, specifically, "~~If Byte 1, Bit 4 is equal to one device servers not implementing the obsolete method shall terminate the command with CHECK CONDITION status and the sense key shall be set to ILLEGAL REQUEST.~~"

It is worthwhile to note that the comment is correct in stating that the wording identified above does change the definition of Byte 1, Bit 4. Because support for both values of the bit were mandatory in SCSI-2, it would not be possible for setting the bit to one to cause a CHECK CONDITION based solely on that act.

8.104 [582] Seagate 103) Concerns about 'concerns' (Accepted, Editorial)
PDF page 195
SEE ALSO comments 5.202 [253] IBM 202), 5.236 [287] IBM 236), 7.64 [448] Quantum 63), and 7.77 [461] Quantum 76)

Change to <<and service action concerns all SCSI devices.>> to "and service action is applicable to all SCSI devices."

Editor's note:

This comment will be resolved as described in the response to 5.236 [287] IBM 236).

8.105 [583] Seagate 104) See SCC-2 cannot be a field name (Accepted, Substantive)
PDF page 196

<<See SCC-2>> is not an acceptable bit name. This causes an unwarranted purchase of SCC-2.

Editor's notes:

The following steps will be taken to address this comment.

1) The following keyword will be added to subclause 3.3: "3.3.x restricted: A keyword referring to bits, bytes, words, and fields that are set aside for use in other SCSI standards. A restricted bit, byte, word, or field shall be treated as a reserved bit, byte, word or field for the purposes of the requirements defined in this standard."

N.B. The definition of restricted specifically does not include code values because SPC-2 already has time tested methods for deferring definition of a code value or a range of code values to another SCSI standard.

Note: The word "restricted" appears three times in SPC-2 revision 18. The first usage is in the description of the reserve/release reservations method and has nothing to do with fields. The other two are in the "Restricted reordering" code value for the QUEUE ALGORITHM MODIFIER field in the Control mode page. The editor believes that none of the current uses of "restricted" need to be changed. If it is thought desirable to change the queue algorithm modifier usage, "Limited reordering" is recommended as the replacement.

2) All instances of "See SCC-2" in CDB format tables will be replaced with "Restricted". This change will be made 2 times in table 104 (PDF page 166) and 2 times in table 121 (PDF page 196).

The editor is not aware of any other tables needing this change. There may be other legitimate uses of the 'restricted' keyword but in the absence of advice from the working group instantiating those uses is deferred to SPC-3.

8.106 [584] Seagate 105) Left justify 2nd column of table 132 (Rejected)
PDF page 207

Left justification should be used in the second column of Table 132.

Reasons for rejection:

The format of table 132 is identical to its ancestors, table 82 in SCSI-2 and table 83 in SPC. The November SPC-2 Letter Ballot review meeting felt that the table is more readable in this format and agreed to leave the format unchanged.

8.107 [585] Seagate 106) What does xx mean? (Accepted, Editorial)
PDF page 211

In Table 136 what does xx mean?

Editor's note:

A.2.10 will be moved from Annex A to the end of 3.3 (Keywords) and the defined term will change from "x" to "x or xx".

8.108 [586] Seagate 107) Too many notes (e.g., note 52) (Rejected)
PDF page 212

What is the compulsion of having so many notes. <<NOTE 52 The per unit of time count basis is device type specific. Direct-access devices typically use a latency period (i.e., one revolution of the medium) as the unit of time.>>

Does anyone know who determined this was typical and what the statistical requirements are for typical?

Reason for rejection:

The content of note 52 is identical to its ancestors, note 95 in SCSI-2 and note 46 in SPC. The November SPC-2 Letter Ballot review meeting agreed to leave the table format unchanged.

8.109 [587] Seagate 108) What is temperature accuracy? (Accepted, Substantive)
            PDF page 221, 1st paragraph on page

<<while the device is operating at a steady state>>

What does this mean? Does this mean operating without any commands for a long time? Does this mean operating with the same command at the same exact intervals? The above questions are asked to understand why a 3 degree Celsius tolerance is specified without specifying the accuracy of the environment.

Editor's note:

The sentence containing the cited text will be changed from:

> The temperature should be reported with an accuracy of plus or minus three Celsius degrees while the device is operating at a steady state within the environmental limits specified for the device.

to:

> Temperature values between 25°C and the reference temperature value reported in parameter 0001h should be reported with an accuracy of plus or minus three degrees Celsius.

8.110 [588] Seagate 109) Add ISO/IEC JTC 1 web site (Accepted, Editorial)
            PDF page 268
            PDF page 300

<<possible via the NCITS world wide web site (http://www.ncits.org), the ANSI world wide web site (http://www.ansi.org), the IEC site (http://www.iec.ch/), or the ISO site (http://www.iso.ch/).>>

Another possibility is the ISO/IEC JTC 1 web site http://www.jtc1.org/

9. Texas Instruments

Texas Instruments principle representative Paul Aloisi submitted a Yes vote with the following comments.

9.1 [589] TI 1) Old John Lohmeyer email address (Accepted, Editorial)
            PDF page 2

John Lohmeyer's email address needs to be updated.

9.2 [590] TI 2) Figure 1 is not a roadmap (Accepted, Editorial)
> PDF page 29
> SEE ALSO comments 5.3 [54] IBM 3) and 8.5 [483] Seagate 5)

I don't consider Figure 1 a roadmap, it is a structure of the SCSI standards, paragraph under figure 1.

Editor's note:

This comment will be resolved as described in comment 8.5 [483] Seagate 5).

10. Other comments

During the processing of the letter ballot response, several addition issues surfaced. These have been gathered in this section to be handled as if they had been made as comments on the letter ballot.

10.1 [591] O1) Gardner - Restrict Variable Length CDB Size (Rejected)
> Marked technical by comment author
> PDF page 43, page 15, clause 4.4, 2nd paragraph after table 5

The SPI (packetized) and FCP-2 Information Unit definitions effectively restrict the length of a variable length CDB to 140 bytes whereas SPC-2 has an implied restriction of 260 bytes. SPC-2 needs to be modified to reflect the tighter restrictions in the lower layer protocols.

SPC-2 defines variable length CDBs with a one byte ADDITIONAL CDB LENGTH field. The only constraint is that it contain a multiple of 4, implying a maximum CDB length of 252+8 or 260 bytes.

FCP and SPI-3/4 define an ADDITIONAL CDB LENGTH field that is the length beyond 16 bytes divided by 4. It is limited to five bits, implying a maximum CDB length of (31*4)+16 or 140 bytes.

Reduce the maximum size of a variable length CDB by modifying the last sentence in the paragraph describing the ADDITIONAL CDB LENGTH field to read: "This value in the ADDITIONAL CDB LENGTH field shall be a multiple of 4 and shall not exceed 132."

Note: the total length of a variable length CDB is the 8 plus the value in the ADDITIONAL CDB LENGTH field.

Reason for rejection:

The problem will be resolved by increasing the CDB size allowed by the protocols (FCP-2 and SPI-4).

10.2 [592] O2) Suhler - Change 'and etc.' to just 'etc.' (Accepted, Editorial)
> PDF page 77, page 49, clause 7.5.1, 2nd sentence after table 21

The sentence ends in "…and etc." "And" is redundant as "et cetera" means "and other." Therefore, the "and" should be deleted.

10.3 [593] O3) Elliott - Change 'aproved' to 'approved' (Accepted, Editorial)
> PDF pages 281-287, pages 253-259, table C.2, note 2

The text of table C.2 note 2 contains 'aproved' when the correct spelling is 'approved'.

10.4 [594] O4) Elliott - Change 'consderation' to 'consideration' (Accepted, Editorial)
        PDF pages 281-287, pages 253-259, table C.2, note 6

The text of table C.2 note 6 contains 'consderation' when the correct spelling is 'consideration'.

10.5 [595] O5) McKean - Incorrect table references (Accepted, Editorial)
        PDF pages 242 - 247, pages 214 - 219, clauses 8.4.3 - 8.4.6
        SEE ALSO comment 6.12 [383] LSI 12)

The first paragraph of 8.4.3 incorrectly references table 107 instead of table 176. Note 62 contains "see table 111". probably should be "see table 177" [ed. it should be table 178 and noted in comment 6.12 [383] LSI 12)]. The first paragraph of 8.4.5 incorrectly references table 114 instead of table 184. The first paragraph of 8.4.6 incorrectly references table 115 instead of table 185.

10.6 [596] O6) Katata - Missing MMC-2 ASC/ASCQ Assignments (Accepted, Substantive)
        PDF pages 178 - 190, pages 150 - 162, clause 7.23.6, table 115
        PDF pages 258 - 280, pages 240 - 252, clause C.2, table C.1

Add the following ASC/ASCQ definitions with 'R' (C/DVD devices) as the device type:

    18/08 RECOVERD DATA WITH LINKING
    21/02 INVALID ADDRESS FOR WRITE
    27/06 CONDITIONAL WRITE PROTECT
    2C/06 PERSISTENT PREVENT CONFLICT
    31/02 ZONED FORMATTING FAILED DUE TO SPARE LINKING
    51/01 ERASE FAILURE - INCOMPLETE ERASE OPERATION DETECTED
    5D/03 SPARE AREA EXHAUSTION PREDICTION THRESHOLD EXCEEDED

10.7 [597] O7) Katata - Incorrect ASC/ASCQ (Accepted, Substantive)
        PDF pages 178 - 190, pages 150 - 162, clause 7.23.6, table 115
        PDF pages 258 - 280, pages 240 - 252, clause C.2, table C.1

Change the description for the 73/06 ASC/ASCQ from " RMA/PMA IS FULL" to " RMA/PMA IS ALMOST FULL".

10.8 [598] O8) Katata - ASC/ASCQ Conflict Between MMC-2 & EXTENDED COPY (Accepted, Substantive)
PDF pages 178 - 190, pages 150 - 162, clause 7.23.6, table 115
PDF pages 258 - 280, pages 240 - 252, clause C.2, table C.1

For the following ASC/ASCQ assignments change the ASC from 2Eh to 0Dh:

2E/00 ERROR DETECTED BY THIRD PARTY TEMPORARY INITIATOR
2E/01 THIRD PARTY DEVICE FAILURE
2E/02 COPY TARGET DEVICE NOT REACHABLE
2E/03 INCORRECT COPY TARGET DEVICE TYPE
2E/04 COPY TARGET DEVICE DATA UNDERRUN
2E/05 COPY TARGET DEVICE DATA OVERRUN

Then make the following ASC/ASCQ assignment:

2E/00 INSUFFICIENT TIME FOR OPERATION

10.9 [599] O9) Weber - Missing TOC entries and bookmarks (Accepted, Editorial)
PDF pages 39, 44, & 248, pages 11, 16, & 220, clauses 4.1, 5.1, and 9.1

There are no table of contents entries or bookmarks for subclauses 4.1, 5.1, and 9.1.

10.10 [600] O10) Elliott - 'other' unclear (Accepted, Editorial)
PDF page 57, page 29, clause 5.5.3.6.1, 1st paragraph after 2nd bulleted list
PDF page 58, page 30, clause 5.5.3.6.2, bullet (c) in 1st bulleted list on page

The the intent of 'other' is unclear in the phrase '…the device server shall establish a unit attention condition for all the other registered initiators…' Does it mean means "other than the initiator that issued the PREEMPT AND ABORT" or "other than the initiator holding the reservation." George and I agree the former was intended.

Editor's note:

The text in question will be replaced with '…the device server shall establish a unit attention condition for all ~~the other~~ registered initiators <u>other than the initiator that issued the PERSISTENT RESERVE OUT command with PREEMPT AND ABORT service action</u>…'

10.11 [601] O11) Weber - Add 'LBA' acronym (Accepted, Editorial)
PDF page 36, page 8, clause 3.2

Since the acronym 'LBA' is now used in a table title, it needs to be added to the acronyms glossary.

10.12 [602] O12) Weber - Explain field value usage (Rejected)
PDF page 38, page 10, clause 3.4

In order to reduce the confusion exhibited in comment 7.17 [401] Quantum 16), add the following sentence to the end of the second paragraph: "The contents of a field or the value in a field may be referenced using the field name not in small caps."

Reason for rejection:

The paragraph already says this in the sentence, "Normal case is used when the contents of a field are being discussed."

10.13 [603] O13) Quicksall - 'log page' not 'mode page' (Accepted, Editorial)
PDF page 288, page 260, clause C.4, Log Page Codes

Since this clause contains the informative table of log page code assignments, change 'mode page' to 'log page' in the sentence describing the table.

10.14 [604] O14) Weber - 'PERSISTENT RESERVE IN/OUT' not 'P… RESERVATION …' (Accepted, Editorial)
PDF page 50, page 22, table 8

The command is PERSISTENT RESERVE IN not PERSISTENT RESERVATION IN and likewise PERSISTENT RESERVE OUT not PERSISTENT RESERVATION OUT.

10.15 [605] O15) Weber - APTPL s/b small caps (Accepted, Editorial)
PDF page 55, page 27, 3.5.3.4, 3rd a,b,c list

APTPL should be APTPL since it is a field name.

10.16 [606] O16) Elliott- SES Amendment version descriptor (Accepted, Editorial)
PDF page 291, page 263, Table C.5

Add version descriptor codes as follows:

01DDh - SES T10/1212 revision 08b with SES Amendment ANSI NCITS.305/AM1:2000
01DEh - SES ANSI NCITS.305:1998 with SES Amendment ANSI NCITS.305/AM1:2000

10.17 [607] O17) Elliott - 'SCSI Parallel Bus' not 'SCSI-2 …' (Accepted, Editorial)
PDF page 232, page 204, 8.3.7, 1st paragraph

Change "SCSI-2 parallel bus" to "SCSI parallel bus".

10.18 [] Placeholder for a comment moved to section 11.

10.19 [608] O19) Elliott - 'additional sense code' usage differs from glossary (Accepted, Editorial)

PDF page 38, page 10, 3.4, 1st paragraph
PDF page 78, page 50, 7.5.1, 1st paragraph after note
PDF page 147, page 119, 7.14.3, 1st paragraph on page
PDF page 167, page 139, 7.21, 4th paragraph after table 105
PDF page 168, page 140, 7.22, note 37
PDF page 197, page 169, 7.28, table 124
PDF page 261, page 233, A.5.2, list entry 4) 1)
PDF page 261, page 233, A.5.3, list entry 4) 1)

In 3.4 (Conventions), change "additional sense codes, and additional sense code qualifiers" to "additional sense codes".

In 7.5.1 (EXTENDED COPY Command), 7.14.3 (PERSISTENT RESERVE OUT parameter list), 7.21 (REPORT DEVICE IDENTIFIER command), 7.22 (REPORT LUNS command), A.5.2 (Pseudocode 2), and A.5.3 (Pseudocode 3), change "additional sense data" to "additional sense code".

In table 124, change "ASC and ASCQ" heading to "Additional Sense Code".

10.20 [609] O20) Houlder - Change SEND DIAGNOSTIC from 'O' to 'Z' (Accepted, Editorial)

PDF page 66, page 38, 7.1, table 10

Because some command sets make the SEND DIAGNOSTIC command mandatory and some make it optional, it's entry in table 10 should be changed from 'O' to 'Z'.

10.21 [610] O21) Penokie - Two variable length CDB sizes (Accepted, Substantive)

PDF page 43, page 15, 4.4, 4th paragraph after table 5

There are two CDB length values for the variable length CDB, one in the CDB itself and one in the protocol's information unit (aka packet). The behavior expected when these two values disagree needs to be specified.

Editor's notes:

The following sentences will be added at the end of the paragraph describing the ADDITIONAL CDB LENGTH field:

> If the number of CDB bytes delivered by the service delivery subsystem is not sufficient to contain the number of bytes specified by the ADDITIONAL CDB LENGTH field, the command shall be terminated with a CHECK CONDITION status. The sense key shall be set to ILLEGAL REQUEST and the additional sense code shall be set to INVALID FIELD IN CDB.

Document 00-269 contains the restructured subclause including the changes agreed in response to this comment. Any further revisions to the restructuring will be reflected solely in revisions to 00-269.

10.22 [611] O22) CAP WG - Don't use 'power off' (Accepted, Editorial)

PDF page 53, page 25, 5.5.3.2, before each of two lists that don't cross the page boundary
PDF page 57, page 29, 5.5.3.6.1, last paragraph before last list
See also comment 2.2 [41] CPQ 1B)

On PDF page 53, change two (2) instances of "… across any power off period:" to "… across any power cycle:"

On PDF page 57, change from:

"A persistent reservation may also be released by a power off, if the APTPL capability is not enabled. When the most recent aptpl value received by the device server is zero (see 7.14.3), a power off/on cycle:"

to (including the change requested by 8.47 [525] Seagate 47):

"A persistent reservation may also be released by a <u>loss of</u> power <s>off</s>, if the <u>persist through power loss</u> capability is not enabled. When the most recent <small>APTPL</small> value received by the device server is zero (see 7.14.3), a power <s>off/on</s> cycle:"

10.23 [612] O23) Weber - 'valid' s/b small caps (Accepted, Editorial)
            PDF page 81, page 53, clause 7.5.3, item d

"…and the valid bit shall be set to 1." should be "…and the <small>VALID</small> bit shall be set to <u>one</u>."

10.24 [613] O24) Weber - 'stream' s/b 'sequential-access' (Accepted, Editorial)
            PDF page 91, page 63, clause 7.5.6.8

In the subclause heading replace 'stream' with 'sequential-access'.

10.25 [614] O25) Elliott - QAS/IU wording should match SPI (Accepted, Editorial)
            PDF page 126, page 98, 7.6.3, last three paragraphs in clause
            SEE ALSO comment 7.44 [428] Quantum 43)

Change the last three paragraphs in the clause from:

A quick arbitrate supported (<small>QAS</small>) bit of one indicates that the device server supports the quick arbitrate feature. A value of zero indicates that the device server does not support the quick arbitrate feature.

An information unit supported (<small>IUS</small>) bit of one indicates that the device server supports information units. A value of zero indicates that the device server does not support information units.

NOTE 17 The acronyms ST and DT and the terms 'quick arbitrate' and 'information units' are defined in SPI-3.

to:

A quick <u>arbitration and selection</u> supported (<small>QAS</small>) bit of one indicates that the device server supports <s>the</s> quick <u>arbitration and selection</u>. A value of zero indicates that the device server does not support <s>the</s> quick <u>arbitration and selection</u>.

An information <u>units</u> supported (<small>IUS</small>) bit of one indicates that the device server supports information <u>unit transfers</u>. A value of zero indicates that the device server does not support information <u>unit transfers</u>.

NOTE 17 The acronyms ST and DT and the terms 'quick <u>arbitration and selection</u>' and 'information units' are defined in SPI-3<u>, SPI-4, and possibly later revisions of the SCSI parallel interface standard</u>.

10.26 [615] O26) Elliott - Fibre Channel Specific Target Descriptors (Accepted, Editorial)
          PDF pages 86-87, pages 58-59, 7.5.6.3 and 7.5.6.4, sublclause and table titles
          SEE ALSO comment 5.105 [156] IBM 105)

Since 7.5.6.5 is call "Parallel Interface …", 7.5.6.3 and 7.5.6.4 should be called "Fibre Channel …". This affects both the subclause headings and the table titles.

Editor's notes:

As noted in the response to comment 10.27 [616] O27) Elliott, this change applies to 7.5.6.2 in addition to the subclauses listed in the comment. Also, the contents of Table 23 must be updated. A complete list of the changes to be made is as follows:

- PDF page 83 Table 23 — Add "Fibre Channel" to the beginning of E0h, E1h and E2h descriptions
- PDF page 85 — Add "Fibre Channel" to the beginning of subclause and Table 26 titles
- PDF page 85 — Add "Fibre Channel" before "World Wide Name" in first paragraph
- PDF page 86 — Add "Fibre Channel" to the beginning of subclause and Table 27 titles
- PDF page 86 — Add "Fibre Channel" before "N_Port" in first paragraph
- PDF page 87 — Add "Fibre Channel" to the beginning of subclause and Table 28 titles
- PDF page 87 — Add "Fibre Channel" before "N_Port" in first paragraph

10.27 [616] O27) Elliott - World Wide Name is not just for Fibre Channel (Rejected)
          PDF page 85, page 57, 7.5.6.2
          SEE ALSO comment 5.105 [156] IBM 105)

In section 7.5.6.2 the text and note 10 refers to N_Port and FC-PH. I don't think anything in this target descriptor is Fibre Channel specific, so a generic term like "transport address" should be used instead and Fibre Channel should be an example.

Proposed rewording:

   The WORLD WIDE NAME field shall contain the port World Wide Name. For Fibre Channel, this is defined by the Physical Log In (PLOGI) extended link service in FC-PH.

   NOTE 10 The World Wide Name target descriptor format burdens the copy manager with translating the World Wide Name to a transport address (for Fibre Channel, the N_Port identifier (see 7.5.6.3)).

Reason for rejection:

The world wide name actually is unique to Fibre Channel. Other protocols such as IP and InfiniBand use the IEEE Extended Unique Identifier, 64-bit (EUI-64). The subclause identified in this comment will be handled like the other Fibre Channel specific target descriptor formats as described in comment 10.26 [615] O26) Elliott.

10.28 [617] O28) Suhler - Not 'QUEUE FULL' (Accepted, Editorial)
          PDF page 59
          SEE ALSO comment 8.56 [534] Seagate 56)

'QUEUE FULL' should be replaced with 'TASK SET FULL'.

10.29 [618] O29) Weber - Add SSC-2 Version Descriptor code (Accepted, Editorial)
>   Annex C & Standard INQUIRY data

Add a version descriptor code for SSC-2.

10.30 [619] O30) Weber - Bad CrossRef to Table 55 (Accepted, Editorial)
>   PDF page 118, 1st paragraph on page

The cross reference to "Table 20" should be changed to "Table 55".

10.31 [620] O31) Penokie - Remove Initiator/Target Role Agent (Accepted, Substantive)
>   **Global**
>   See ALSO comment 5.288 [339] IBM 288) and

The glossary terms "initiator role agent" and "target role agent" should be removed because they are artifacts of the SPI/SIP standards that have since been withdrawn. These two terms are not defined in SAM or SAM-2 or any other active SCSI standards. So, their use in SPC-2 is confusing.

Editor's notes:

By some accounts, this is not a substantive change because no normative text is affected. I marked it substantive to ensure that it gets reviewed.

The specific changes are as follows:
 • PDF pages 34 and 36 — remove the two glossary definitions 3.1.29 and 3.1.55
 • PDF page 232 1st ¶ after table 166 — remove two parenthetical e.g. expressions in the general description of the Disconnect-reconnect mod page so that the first two sentences read as follows:
   "The device server communicates the parameter values in this mode page to the service delivery subsystem ~~(e.g., to its Target Role Agent)~~. Similarly the application client may also communicate parameter values to the service delivery subsystem ~~(e.g., those controlling behavior of its Initiator Role Agent)~~."

10.32 [621] O32) Weber - Bad CrossRef to Table 94 (Accepted, Editorial)
>   PDF page 155, 1st paragraph on page

The cross reference to "Table 40" should be changed to "Table 94".

10.33 [622] O33) Basham - Explicit Tapes ASC/ASCQ (Accepted, Substantive)
>   PDF pages 178 - 190, pages 150 - 162, clause 7.23.6, table 115
>   PDF pages 258 - 280, pages 240 - 252, clause C.2, table C.1

Add the following ASC/ASCQ definitions to support the new tape model being developed in SSC-2:

    20h/01h READ TYPE OPERATION WHILE IN WRITE CAPABLE STATE
    20h/02h WRITE TYPE OPERATION WHILE IN READ CAPABLE STATE
    24h/02h INVALID CDB FIELD WHILE IN EXPLICIT BLOCK ADDRESS MODEL
    24h/03h INVALID CDB FIELD WHILE IN IMPLICIT BLOCK ADDRESS MODEL

10.34 [623] O34) Weber/Penokie - Use "standard INQUIRY data" (Accepted, Editorial)
Global

The correct name for the data returned by an INQUIRY command is "standard INQUIRY data" using exactly the capitalization shown excepting only that "standard" may be capitalized when required by the context such as at the beginning of a sentence or in a title.

Editor's notes:

It is worth noting that the proposed capitalization is already the most prevalent in SPC-2. The following locations need to be changed to "standard INQUIRY data" as described above:

- PDF page 148 — 1st ¶ after table 85
- PDF page 166 — 1st (x2) ¶ in 7.21 (see 5.202 [253] IBM 202)
- PDF page 169 — 2nd ¶ on page

10.35 [624] O35) Basham/Peterson - Add SSC-2 Operation Codes (Accepted, Editorial)
PDF pages 281-287, Table C.2

Add the following operation code definitions in support of the explicit state tape model in SSC-2:

    80h WRITE FILEMARKS(16)
    81h READ REVERSE(16)
    82h RECOVER BUFFERED DATA(16)
    88h READ(16)
    8Ah WRITE(16)
    8Fh VERIFY(16)
    ACh ERASE(12)

10.36 [625] O36) Weber - Typos in REQUEST SENSE INFORMATION field description (Accepted, Editorial)
PDF page 172

Don't capitalize "For" at the beginning of list entry d). None of the other list entries have their first words capitalized. In list entry d), "information" is a field name and should be small caps.

10.37 [626] O37) Weber - Too Many Executions in REQUEST SENSE (Accepted, Editorial)
PDF pages 170-176

There are several uses of the verb "to execute" that can be changed to the equivalent form of the verb "to process" in the description of the REQUEST SENSE command. Some have been noted in other comments, the rest are as follows:

- PDF page 170 — 1st ¶ after list
- PDF page 172 — 2nd to last ¶ on page
- PDF page 175 — 7.23.4 (x2) & 7.23.5 1st ¶
- PDF page 176 — last word in list entry e)

10.38 [627] O38) Weber - READ/WRITE BUFFER mode is now 4 bits (Accepted, Editorial)
   PDF pages 198 - 202

The MODE field in the READ BUFFER and WRITE BUFFER commands has been increased to 4 bits. Code values for the mode field must be changed from, for example, 01b and 001b to 0001b. No changes are required in the READ BUFFER command definition, however changes are required in the following WRITE BUFFER locations:

- PDF page 199 — notes 47 & 47 (twice each)
- PDF page 199 — 7.29.2 & 7.29.5 1st ¶
- PDF page 200 — 7.29.6 & 7.29.7 1st ¶
- PDF page 201 — 7.29.8 1st ¶

10.39 [628] O39) Weber - Correct George Penokie Contact Info (Accepted, Editorial)
   PDF page 2

Correct the address and e-mail contact information for George Penokie to: Tivoli Systems, Inc., 3605 Highway 52 N, MS: 2C6, gpenokie@tivoli.com.

10.40 [629] O??1) Remove Revision History (Accepted, Editorial)
   PDF pages 4-12

Remove the revision history from the front matter.

10.41 [630] O??2) Update Vendor Identifier List (Accepted, Editorial)
   PDF pages 300-306
   See ALSO comment 1.39 [39] Brocade 39)

Insert the latest Vendor Identifier list.

N.B. comment 1.39 [39] Brocade 39) describes a problem with the second page of the vendor identifier list annex. The problem is that the page is marked as having a custom page format. The page needs to be changed to have a left/right page format.

11. Approved Documents

During the processing of the letter ballot response, several T10 approved some documents for inclusion in SPC-2 using the two-thirds voting rules. These have been gathered in this section to be handled as if they had been made as comments on the letter ballot.

11.1 [631] T10-1) Incorporate TASK ABORTED status (Accepted, Substantive)
   PDF page 61, page 33, 5.5.3.6.4, bullet b)
   PDF page 229, page 201, 8.3.6, table 161
   PDP page 230, page 202, 8.3.6, table 164
   PDP page 230, page 202, 8.3.6, between 2nd and 3rd paragraphs after table 164

Incorporate T10 approved document Task Aborted - SAM changes (00-229r3).

11.2 [632] T10-2) Incorporate "any interoperable design" statement (Accepted, Substantive)
PDF page 29, page 1, 1, 1st paragraph

Incorporate T10 approved document "any interoperable design" (00-333r0).

11.3 [633] T10-3) Disconnect-reconnect mode page definitions (Unresolved)
PDF pages 232 & 234

Incorporate T10 <approved> document SPC-2 FIRST BURST SIZE definition (01-025r?). Note: 01-025r? has yet to be approved for inclusion in SPC-2.