

To: John Lohmeyer
Chairperson, X3T10
Symbios Logic Inc.
1635 Aeroplaza Drive
Colorado Springs, Colorado 80916

X3T10/95-206r1

Subject: Responses to public review comments on CAM

The public review comments from Lawrence Livermore National Laboratory have been resolved to the satisfaction of Lawrence Livermore National Laboratory. The technical comments have been downgraded to editorial comments by agreement with the editor and Lawrence Livermore National Laboratory. The following are the responses to Lawrence Livermore National Laboratory public review comments on CAM

Sincerely,

William D. Dallas Technical Editor

Digital Equipment Corporation
110 Spit Brook Road Nashua, NH. 03060
MS. ZK3-3/T79

Phone (603) 881-2508
Email dallas@zk3.dec.com

Format of Comments:

#xxx (?) Comment on y.y.y

where

xxx is the comment number,

? is the type (E: Editorial, T: Technical), and

y.y.y is the referenced section number.

Format of Responses:

Rejected, Accepted, or Accepted Partially - Text

Responses:

#001 (E) Comment on list of Tables in Table of Contents

Should Table 18 be listed twice?

Rejected - Revision 12 did not list table twice.

Tables 19 and 20 are out of order.

Accepted - Document corrected.

#002 (E) Comment on 1, first paragraph, first sentence

Change "SCSI Small" to "the Small".

Accepted - Document corrected.

#003 (E) Comment on 3.1.1

As defined, "block" seems to be a noun instead of a verb. Is that the intent?

Accepted - Stronger wording added.

Was: block: This defines an action to prevent access, (e.g., busy).

Now: block: This defines an action to prevent access, (e.g., to obstruct the action of or the continuation of a process thread).

#004 (E) Comment on 3.1.7

Move the right parenthesis to follow "queue" instead of "freeze".

Accepted - Document corrected.

#005 (E) Comment on 3.1.11

Insert "that" before "depends".

Accepted - Document corrected.

#006 (E) Comment on 3.1

A definition of "path" seems warranted. Having the definition point to clause 9.1.5 seems wise.

Accepted - Document corrected.

New wording: path: This term describes the address of the XPT or a SIM/HBA SCSI bus combination.

#007 (E) Comment on 3.1.14

Change "between" to "among" before "vendors."

Accepted - Document corrected.

#008 (E) Comment on 3

A clause listing mnemonics and what they stand for would be useful.

Rejected - The adding of a mnemonics clause is not warranted or needed.

#009 (E) Comment on 5, second paragraph, second sentence

Delete the sentence, or replace it with one extolling the benefits of providing a common way to provide access to SCSI peripherals.

Accepted - Sentence deleted.

#010 (T) Comment on 5.1

If the CAM document should say that only one port in a CAM environment can be on a given bus, this clause is one of the best places to say it. Clause 9.1.5 is another good place. Since CAM-3 probably will not have such an assumption or requirement, the rest of the CAM document should minimize dependence on such an assumption.

It seems preferable that CAM make no such statement or assumption.

Rejected - The document clearly states in a number of places that a SIM/HBA combination can have a number of SCSI buses but that each SCSI bus has it's own bus number (Path ID). The editor has strengthened the definition of a HBA

#011 (E) Comment on 5.1, Figure 1

Consider showing ports on HBAs.

Rejected - Figure 1 shows the environment not the relationship between the HBAs and the SCSI buses or the peripheral drivers and the Logical units.

#012 (E) Comment on 5.2, item j)

Change "pass" to "passing".

Accepted - Document corrected.

#013 (E) Comment on 5.3, item e)

Make "driver" plural.

Accepted - Document corrected.

#014 (E) Comment on 5.4, item d)

After "Manage", delete "of".

Accepted - Document corrected.

#015 (E) Comment on 6.2, paragraph under XPT, second sentence

Make "responsibility" plural.

Accepted - Document corrected.

#016 (E) Comment on 6.4, third paragraph, second sentence

What are the officially blessed spelling and pronunciation:
"A XPT" or "An XPT"?

Rejected - The use of "A XPT" or "An XPT" are both correct and the usage depends on the context of the sentence.

#017 (E) Comment on 6.4, fifth paragraph, third sentence

Is UNIX still a trademark of AT&T, or did AT&T sell the trademark when they sold the rights to UNIX?

Accepted - Document corrected.

New wording: One example of a universal operating system is UNIX (a registered trademark of X/Open Ltd.) and as described in this standard, software developed for a UNIVOS could be compatible within a Unix system

#018 (E) Comment on 6.4, sixth paragraph, first sentence

Should "Operating" be included inside the parentheses following "LANOS"?

Accepted - Document corrected.

#019 (E) Comment on 6.4, item d) in list of requirements

The current words seem convoluted. Consider: "Allow the calling driver or program to interpret sense data returned by SCSI devices. "

Accepted - Document corrected.

Old Wording: Interpretation of sense data returned by SCSI devices by the calling driver or program;

New Wording: Allow the calling peripheral driver or program to interpret sense data returned by SCSI devices;

#020 (E) Comment on 6.4, item g) in list of requirements

Does "determine" mean "learn" or does "determine" mean "control". The word "determine" is quite ambiguous here, and should be replaced with an unambiguous term

A global electronic search for other ambiguous uses of "determine" may be worth while.

Accepted - Document corrected.

Determine, determines and determined deleted from document and replaced with ascertain, ascertains and ascertained.

#021 (E) Comment on 7.3.2, first paragraph, last sentence

Insert blanks after "9, " and "10, ".

Accepted - Document corrected.

#022 (E) Comment on 7.3.2, second paragraph, first sentence

Change "using 1 of" to "using one of".

Accepted - Document corrected.

#023 (E) Comment on 7.3.2, paragraph in last bullet

In "of an completed", change "an" to "a".

Accepted - Document corrected.

#024 (E) Comment on 7.4, fourth paragraph

In "Unit may keep", change "may" to "to".

Accepted - Document corrected.

#025 (E) Comment on 7.4.2.1, first paragraph, last sentence

A period is needed after the sentence.

Accepted - Document corrected.

#026 (E) Comment on 7.4.2.2, second paragraph, first sentence

Delete "is" from "driver is shall".

Accepted - Document corrected.

#027 (E) Comment on 7.4.2.3, first paragraph, first sentence

In "a EXECUTE", change "a" to "an".

Accepted - Document corrected.

#028 (E) Comment on 7.4.2.3, first paragraph, second sentence

Delete "is" from "... queue is shall ...".

Accepted - Document corrected.

#029 (E) Comment on 7.4.2.3, fourth paragraph, first sentence

In "When a SIMs Logical Unit's", change "SIMs" to "SIM's" (possessive).

Accepted - Document corrected.

#030 (E) Comment on 7.4.2.3, last paragraph, first sentence

Replace "indicating" with "an indication of".

Accepted - Document corrected.

#031 (T) Comment on 7.5, second paragraph

In step a), "to the reset bus" should be "for the port on the reset bus" or "for the reset port".

In steps a) and b), "for this bus" should be "for this port".

In step c), path_id should be "port that was reset" or "port attached to bus that was reset".

In step d), "for the bus" should be "for the port".

Rejected - SCSI-2 does not have the concept of "ports". The usage of "bus" is correct.

#032 (E) Comment on 7.5, third paragraph, first bullet

Change "shall ensure that" to "shall check whether".

Accepted - Document corrected.

#033 (T) Comment on 7.5, third paragraph, third bullet

Change "detection" to "detecting".

Accepted - Document corrected.

In step b), "bus" probably should be "port".

Rejected - SCSI-2 does not have the concept of "ports". The usage of "bus" is correct.

#034 (E) Comment on 7.5, last paragraph, first sentence and first bullet

Are "SCSI BUS DEVICE RESET" and "SCSI DEVICE RESET" supposed to be different (only one has "BUS") or supposed to be the same?

Accepted - Should be "SCSI BUS DEVICE RESET", document corrected.

#035 (E) Comment on 7.5, last paragraph, first bullet

Append "ly" to the word "successful".

Accepted - Document corrected.

#036 (T) Comment on 7.5, last paragraph

In step a), should "bus" be "path" or "port attached to the bus"?

Rejected - The use of bus is correct.

In step b), should "SIM/HBA for this bus" be "SIM/HBA for this target"? If "target" is not correct, should "bus" be "port"?

Accepted - The use of target is correct not bus.

In step c), should path_id be set to "port used to issue the SCSI ... RESET"?

Accepted partially New wording: bus that issued the SCSI BUS DEVICE RESET message,

In step d), should "bus" be "path" or "port attached to the bus"?

Rejected - The use of bus is correct.

#037 (E) Comment on 7.6, third paragraph, second sentence

The second sentence might be clearer if replaced by: "For registration with Logical Units, the following Asynchronous Events are possible:".

Rejected - The proposed wording changes sentence context.

#038 (E) Comment on 7.6, third and fourth paragraph

For each list of possible events, the last event listed should be ended with a period instead of a semi colon.

Accepted - Document corrected.

#039 (E) Comment on 7.6, fourth paragraph, first sentence

Change "is" to "are" before "the following".

Accepted - Document corrected.

#040 (E) Comment on 7.6, fifth paragraph, last sentence

Delete "a" from "The use of a wildcards".

Accepted - Document corrected.

#041 (E) Comment on 7.6

In the paragraph that starts "The peripheral driver can deregister ...", the end of the first sentence should be "registered values", so

append "ed" to "register".

Accepted - Document corrected.

#042 (E) Comment on 7.6

In the paragraph that starts "The XPT shall be responsible for ensuring ... serial fashion", the last sentence is incomplete. Before "the SIM" insert "in" or "within" or rewrite the sentence to state that the SIM is responsible for serialization.

Accepted - Document corrected.

New wording: In this case the SIM shall be responsible for serialization.

#043 (E) Comment on 7.7, second paragraph, second sentence

Before "specified", "is" should be "are".

Accepted - Document corrected.

#044 (E) Comment on 7.8, second and third paragraphs

In the first sentence of each, "it's" should be "its" (possessive).

Accepted - Document corrected.

#045 (T) Comment on 7.8

The next-to-last paragraph, which starts with "When the XPT is called it will update ...", should be moved so it occurs as part of the `xpt_bus_register()` function, and before any discussion of `xpt_bus_deregister()`.

Accepted - Document corrected.

Probably in that paragraph "the XPT is called" should be replaced by "xpt_bus_register is called" to reduce confusion as to what is called.

Accepted - Document corrected.

Possibly a paragraph should be added to say what `xpt_bus_deregister` shall do when it is called.

Accepted - Document corrected.

#046 (E) Comment on 8.1.6.1, case b), second sentence

The word "it's" should be "its" (possessive).

Accepted - Document corrected.

#047 (T) Comment on 8.1.6.1

In the descriptions of `xpt_init()` and `xpt_action(CCB *)`, the descriptions appear to fail to discuss the values returned when the function returns. Probably the term "CAM Status" should be replaced by "return value".

Accepted - Document corrected.

#048 (T) Comment on 8.1.7

The return values for `sim_init()` and `sim_action(CCB *)` are never described -- or, more likely, they are called CAM Status instead of return values. The document should be clear what is returned from these function calls.

Accepted - Document corrected. Old wording: The argument is the Path Id assigned to the SIM and the CAM Status is either success or failure.

New wording: The argument is the Path ID assigned to the SIM and the returned value is either success or failure.

#049 (E) Comment on 9, first paragraph after table 2

The character before "i.e." should be a left parenthesis.

Accepted - Document corrected.

#050 (E) Comment on 9, second paragraph after table 2

In "vary between operating", change "between" to "among".

Accepted - Document corrected.

#051 (E) Comment on 9, paragraph above table 3

Is the first line of this paragraph supposed to be a separate paragraph? If so, insert a blank line.

Accepted - Document corrected.

#052 (T) Comment on 9.1.4, Table 5

The reserved range 1B-33h should be 1B-32h.

Accepted - Document corrected.

#053 (E) Comment on 9.1.4, status 38h

Should "... range of the SCSI bus" be "... range of the SIM/HBA"?

Accepted - Document corrected.

#054 (T) Comment on 9.1.5

If the CAM document should say that only one port in a CAM environment can be on a given bus, this clause is one of the best places to say it. Clause 5.1 is another good place. Since CAM-3 probably will not have such an assumption or requirement, the rest of the CAM document should minimize dependence on such an assumption.

It seems preferable that CAM make no such statement or assumption.

Rejected - The use of the term "port" is incorrect for SCSI-2 and this clause has been updated to delete this usage.

Old wording: The Path ID specifies the SCSI port on the installed HBA to which the request is addressed. Path IDs are assigned by the XPT, begin with zero, and need not be consecutive. The Path ID of Ff is assigned for the XPT. An HBA may have more than one SCSI port. A SIM may support more than one HBA.

New wording: The Path ID specifies the SCSI bus on the installed HBA to which the request is addressed. Path IDs are assigned by the XPT, begin with zero, and need not be consecutive. The Path ID of Ff is assigned for the XPT. A HBA may have more than one SCSI bus. A SIM may support more than one HBA.

#055 (E) Comment on 9.2.2, 9.2.3, 9.2.4, 9.2.7 and 9.2.8

In many of the bullets listing CAM Status values, "indicates" is followed by an unneeded comma. This occurs 3 times in 9.2.2, 3 times in 9.2.3, 1 time in 9.2.4, 2 times in 9.2.7, and 2 times in 9.2.8.

Accepted - Document corrected.

#056 (T) Comment on 9.2.3, first paragraph, first sentence

In "number of HBAs installed", "HBAs" should be ports. (See 9.1.5.)

Probably there should be text to mention that there can be multiple SIMs, each with multiple HBAs, each with multiple SCSI ports, and that the XPT is responsible for assigning a path ID for each of the ports. Perhaps a pointer to 9.1.5 would suffice.

Accepted partially - The use of the term "ports" is not correct and buses should be used. It is felt that this is not a technical comment.

Old wording: This function shall return information on the installed addressed HBA hardware, or the number of HBAs installed. To obtain further information on any other HBAs attached, this function can be issued for each HBA. If the Path ID field of the CCB has a value of Ff (the XPT Path ID), then the only fields that shall be valid upon return to the caller is the highest Path ID Assigned field and the Version Number field. The highest Path ID assigned field shall not be valid if

the Path ID field in the CCB contains a value other than FF.

New wording: This function shall return information on the installed addressed HBA/SCSI bus(es) hardware, or the XPT. To obtain further information on any other HBA(s)/SCSI bus(es) attached, this function can be issued for each assigned Path ID. If the Path ID field of the CCB has a value of Ff (the XPT Path ID), then the only fields that shall be valid upon return to the caller is the Highest Path ID Assigned field and the Version Number field. The highest Path ID assigned field shall not be valid if the Path ID field in the CCB contains a value other than FF.

#057 (T) Comment on 9.2.3, first paragraph below table 8

In the parentheses, "SCSI buses" should be "SCSI ports".

Rejected - SCSI buses the correct usage.

#058 (T) Comment on 9.2.3, second paragraph below table 8

In the second paragraph below table 8, it's not clear how the revision number for a standard would be determined. (Annex C has the value corresponding to revision 11, but is not normative. And the revision number for the standard clearly could change.)

Accepted - Document corrected.

New wording: The letter suffix usage in the CAM revision numbers denotes editorial changes in the document and shall not be used in representing the CAM revision number (e. g., CAM revision 12a is represented in the Version Number field as 4Ch).

The current CAM revision number is 12b.

#059 (E) Comment on 9.2.3, last paragraph

In the second bullet, "nolonger" should be two words.

Accepted - Document corrected.

#060 (E) Comment on 9.2.4, first paragraph

The first sentence is awkward since it is hard to figure out what "for the selected Logical Unit" refers to.

Accepted - Document corrected.

Old wording: This function is provided so that the peripheral driver can decrement a SIM queue frozen count or determine the SIM queue frozen count without modification for the selected Logical Unit.

New wording: This function is provided so that the peripheral driver can decrement a SIM queue frozen count or determine the SIM queue frozen count without modification for the addressed Logical Unit.

#061 (E) Comment on 9.2.4, first paragraph

Start the second sentence with "Determining" rather than "To determine".

Accepted - Document corrected.

#062 (E) Comment on 9.2.4, second paragraph

In the first sentence, change "determine" to "be determined".

Accepted - Document corrected.

#063 (E) Comment on 9.2.4, second paragraph

In each bullet, insert "if the" before "CAM Flag".

Accepted - Document corrected.

In each bullet, insert "is" between "bit" and "set".

Accepted - Document corrected.

In each bullet, replace "places" with "shall place".

Accepted - Document corrected.

In the second bullet, replace "decrements" with "shall decrement".

Accepted - Document corrected.

#064 (E) Comment on 9.2.5 and 9.12.6, first paragraph below table

A sentence (fifth in 9.2.5, third in 9.2.6) begins with "Further more", which should be a single word.

Accepted - Document corrected.

#065 (E) Comment on 9.3.1, fourth paragraph

In "CCB may be a one", change "a" to "in".

Accepted - Document corrected.

#066 (E) Comment on 9.3.4, second paragraph after table 17

In "CCB may be a one", change "a" to "in".

Accepted - Document corrected.

#067 (E) Comment on 10

It would be useful to point to the tables illustrating the CCBs. It

would be especially helpful to point to the Execute SCSI I/O table.

Accepted - Document corrected.

#068 (T) Comment on 10.1

Should a description of the Autosense Residual Length field be added?
If so, should two's-complement be mentioned (see Annex C)?

Accepted - Document corrected.

New wording: Autosense Residual Length This field contains the difference in two's complement form of the number of autosense data bytes transferred by the HBA compared with the number of autosense bytes requested by the CCB. This is calculated by the total number of autosense bytes requested to be transferred by the CCB minus the actual number of autosense bytes transferred by the HBA.

#069 (E) Comment on 10.1.2, Table 18, part 1

In the subtable for bits 3 and 2, in the line for bit 3 = 0 and bit 2 = 1, "Cam" should be "CAM". Possibly a global electronic search of the document would find more such cases.

Accepted - Document corrected.

#070 (E) Comment on 10.1.2.1, description of bit 4, second sentence

In "list of addresses and length", make "length" plural.

Accepted - Document corrected.

#071 (E) Comment on 10.1.2.4, description of bit 0, second sentence

Delete the second "to" from "to automatically to".

Accepted - Document corrected.

#072 (E) Comment on 10.1.2.5, description of bit 5

Insert "that" before "the Host Target Mode".

Accepted - Document corrected.

#073 (T) Comment on 10.1.8

Must the message buffer be able to hold more than one message? If so, how are the boundaries between messages specified? If not, consider rewording 10.1.8 to state that multiple messages are impossible or are outside the scope or are vendor unique, or whatever.

Rejected - A pointer to Clause 11.2.3 has been added that details the use of the field.

#074 (E) Comment on 10.1.9, first sentence

Insert "a" before "buffer".

Accepted - Document corrected.

#075 (E) Comment on 10.2

Should the CAM status "SCSI device not installed" be added to the list of possible status values?

Rejected - The CAM Status of "SCSI device not installed" is for the GET DEVICE TYPE CCB.

#076 (E) Comment on 10.3, probably the third paragraph

In the last sentence, "CCBs" should be "CCB's" (possessive).

Accepted - Document corrected.

#077 (E) Comment on 10.3, third-from-last paragraph (driver shall)

In the last bullet, change the verb "is was" to "was" or "is".

Accepted - Document corrected.

#078 (E) Comment on 10.3, next-to-last paragraph (driver may)

In the last bullet, "with in" should be one word, "within".

Accepted - Document corrected.

#079 (E) Comment on 10.3, last paragraph (SIM/HBA shall)

In the second bullet, "a" should be inserted before "LINKED" in both places, and "the" should be inserted before the first "CCB".

Accepted - Document corrected.

#080 (E) Comment on 10.3, last paragraph

In the fifth bullet, delete "shall" and place a comma after "completes".

Accepted - Document corrected.

#081 (E) Comment on 10.3, last paragraph

In the sixth bullet, place a comma after "broken", change the verb "callback" to "call back", and insert "driver" after "peripheral".

If the verb "callback" should be split into two words, an electronic

global search should help.

Accepted except for the splitting of the word "callback". The use of the term "callback" is a normal software term indicating a software action.

#082 (T) Comment on 11, first paragraph, first sentence

After "specified SCSI", "bus" should be "port". (See 9.1.5.)

Rejected - The use of SCSI bus is correct.

#083 (E) Comment on 11.1, seventh paragraph, first sentence

Consider changing "once for each command received" to "once when the command is received".

Rejected - Changes context of the sentence, the sentence clearly states "for each command received" as callback occurs. If the sentence is changed it implies that only a single command can be received.

#084 (E) Comment on 11.2

In the list of messages to be handled transparently by the SIM/HBA, two have the parenthetical remark "for specified conditions". Where are the specifications for the conditions?

Accepted - Document corrected.

New wording: (for specified conditions in Clauses 11.2 through 11.2.5)

#085 (E) Comment on 11.2.1

It might be helpful to create three subclauses. Possibilities are 11.2.1.1 (Enabling and Disabling LUNs); 11.2.1.2 (Initializing and Maintaining Target CDBs), 11.2.1.3 (Receiving CDBs for non-enabled LUNs).

If this is done, the seventh and eighth paragraphs after Table 22 (which discuss VU CDBs and disabling LUNs) should be in 11.2.1.1, and the list of CAM Status values should be in 11.2.1.1.

Rejected - It is felt that the document is clear on these subjects.

#086 (T) Comment on 11.2.1, first paragraph, first sentence

The end of the sentence, "for the HBA", should probably be "for the SCSI port." (See 9.1.5.)

Rejected - The use of SCSI bus is correct.

#087 (E) Comment on 11.2.1, Table 22

If Table 22 will be used to describe lists of IMMEDIATE NOTIFY CCBs, then "TARGET" should be deleted from the title of the table.

In the title, probably "LIST" should be "List" and "TARGET" should be "Target" if it is retained.

Accepted - Document corrected.

#088 (T) Comment on 11.2.1, second paragraph after Table 22

"SCSI bus specified" should be "SCSI port specified". (See 9.1.5.)

Rejected - The use of SCSI bus is correct.

#089 (T) Comment on 11.2.1, second paragraph after Table 22

Should this paragraph specify that the driver set the CAM Status value to "Request Completed by target peripheral driver", as is shown in B.1.2?

Rejected - The text is correct but the Annex is wrong. Since the Annex is informative this is not a technical comment but the Annex has been corrected.

#090 (E) Comment on 11.2.1, fifth paragraph after Table 22

If the intent of the second bullet is to require that the values of CAM flags in each Target CCB shall be set to the values of the flags in the ENABLE LUN CCB, then the wording should be more clear, perhaps: "CAM flags shall be set to the values of the CAM Flags in the ENABLE LUN CCB".

Accepted - Document corrected.

Old wording: CAM Flags shall be the same as those in the ENABLE LUN CCB

New wording: CAM Flags shall be set to the values of the CAM Flags in the ENABLE LUN CCB.

#091 (T) Comment on 11.2.1

Text should be added to specify whether the SIM/HBA is expected to free Target CCBs when a specific LUN is disabled or whether the driver is responsible for the CCBs after the LUN is disabled. The eighth paragraph following Table 22 (the paragraph that begins "To disable the selection of a specific LUN ...") may be one good place for such text.

Accepted - Document corrected.

New wording: Upon disabling the specified LUN, the target peripheral driver may free all allocated Target CCBs that were associated with the enabled LUN.

New paragraph in Clause 9 after paragraph 4.

A peripheral driver, the XPT, or a SIM that allocates CCB(s) shall be responsible for freeing those CCBs it has allocated after the allocating entity is finished with the CCB(s). A peripheral driver, the XPT, or a SIM shall not free any CCB that it has not allocated. A peripheral driver, the XPT, or a SIM shall not free a CCB that has been sent to xpt_action() and has not completed (see Clause 7.3 for further information on CCB completion). A peripheral driver, the XPT, or a SIM shall not free a CCB more than once per allocation of that CCB and shall be responsible for keeping track of the CCB(s) it is using in a vendor unique manner.

#092 (E) Comment on 11.2.2, fourth paragraph

Consider adding a new sentence after the second sentence, perhaps:
"Otherwise, the SIM/HBA shall select a CCB with the TARGET CCB Available flag set."

Accepted - Document corrected.

#093 (E) Comment on 11.2.3, fourth paragraph, first sentence

"Data Valid bit" should be "Data Buffer Valid bit", according to Table 18.

Accepted - Document corrected.

#094 (E) Comment on 11.2.3, fourth paragraph, third sentence

Insert "be" between "shall" and "interpreted".

Accepted - Document corrected.

#095 (T) Comment on 11.2.3, fourth paragraph

Should it be an error for the Data Buffer Valid bit to be set and for bits 7 and 6 both to be set to indicate "No data transfer"?

Accepted - Document corrected.

New wording: The SIM shall reject any CCB with the Data Buffer Valid bit set and the CAM Direction flags indicating No data transfer or Reserved with a CAM Status of Invalid Request.

#096 (E) Comment on 11.2.4, first five paragraphs

Each paragraph should end with a period, not a semi colon.

Accepted - Document corrected.

#097 (E) Comment on 11.2.4, first paragraph (ABORT message)

In the first sentence, "ABORT" and "initiator" should each be preceded

by "an" rather than "a". In the second bullet, "I/O" should be preceded by "an" rather than "a".

Accepted - Document corrected.

#098 (E) Comment on 11.2.4, second paragraph (BUS DEVICE RESET)

In the first sentence, "initiator" should be preceded by "an" rather than "a".

Accepted - Document corrected.

#099 (T) Comment on 11.2.4, second paragraph (BUS DEVICE RESET)

Assuming that a BUS DEVICE RESET message is directed to a device rather than to a LUN, it seems the first sentence should be rewritten perhaps as follows: "When the SIM/HBA receives a BUS DEVICE RESET message from an initiator, it shall perform the following actions for each phase-cognizant LUN that uses the port over which the message was received:".

Accepted partially.

New wording: When the SIM/HBA receives a BUS DEVICE RESET message from an initiator, it shall perform the following actions for each enabled Phase-Cognizant LUN that uses the SCSI bus over which the message was received:

#100 (E) Comment on 11.2.4, second paragraph (BUS DEVICE RESET)

The second bullet seems to have two independent ideas.

Probably the second bullet should discuss only the asynchronous event callback.

The material in parentheses should become a separate bullet, with parentheses and "e. g." deleted.

Accepted - Document corrected.

#101 (T) Comment on 11.2.4, third paragraph (TERMINATE I/O)

The first outermost bullet applies when the SIM/HBA has no EXECUTE TARGET I/O CCBs. The bullet specifies disconnecting (conditionally) and rejecting the next EXECUTE TARGET I/O CCB.

The third outermost bullet seems to discuss an almost identical case, except the SIM/HBA has a CCB that is so close to being finished that its processing should complete normally. It would seem that this bullet should also specify disconnecting (again conditionally) and rejecting the next EXECUTE TARGET I/O CCB, at least if the I/O process still exists after the CCB is completed. Presently it does not do so.

Rejected - The reason for this behavior is that all processing has been

completed for this I/O process except for the COMMAND COMPLETE message. The SIM/HBA then sends the COMMAND COMPLETE message to complete the I/O process.

The peripheral driver has indicated by sending this EXECUTE TARGET I/O CCB that this is the last one for the I/O process with the Status Buffer Valid bit set. The peripheral driver only needs to know about the previous cases where it must get re-involved with the I/O process.

#102 (E) Comment on 11.2.4, third paragraph (TERMINATE I/O)

In the first sentence, "initiator" should be preceded by "an" rather than "a".

In the second outermost bullet, "that" should precede "have a CAM Status".

In the first sub-bullet under the second outermost bullet, insert "is" after "bus" and before "allowed".

Accepted - Document corrected.

#103 (E) Comment on 11.2.4, fourth paragraph (INIT DETECTED ERROR)

In the first sentence, "INITIATOR" and "initiator" should each be preceded by "an" rather than "a".

In the first bullet, "I/O" should be preceded by "an" rather than "a".

In the second outermost bullet, "that" should precede "have a CAM Status".

In the first sub-bullet under the second outermost bullet, insert "is" after "bus" and before "allowed".

Accepted - Document corrected.

#104 (E) Comment on 11.2.4, fifth paragraph (BUS RESET)

The first bullet seems to have two independent ideas.

Probably the first bullet should discuss only the asynchronous event callback.

The material in parentheses should become a separate bullet, with parentheses and "e. g." deleted.

Accepted - Document corrected.

#105 (E) Comment on 11.2.4, last paragraph, last sentence

Change "drivers" to "driver's" (possessive).

Accepted - Document corrected.

#106 (E) Comment on 11.3.3, first paragraph, fourth sentence

Preceding "DISABLE", "an" should be "a".

Accepted - Document corrected.

#107 (E) Comment on 11.3.3, sixth paragraph, first two sentences

These sentences appear to say the same thing, but differ enough that it's not clear. If they are saying the same thing, please delete one of them

Rejected - The sentences are similar but have different thoughts.

#108 (E) Comment on 11.3.3.1.1

In this clause (in contrast to 11.3.3.1.2, 11.3.3.1.3.x, 11.3.3.1.4, and 11.3.3.1.5) most of the steps begin with "The SIM/HBA shall ...". If 11.3.3.1.1 is to keep its current style, then step A) should also start with "The SIM/HBA shall ..." and the text before step A) should end with a period instead of a semi colon.

Note: It would probably be better if clauses 11.3.3.1.2 through 11.3.3.1.5 were more like 11.3.3.1.1 in this respect. Several of the steps are complex enough that lists of complete sentences are more manageable than sentences that contain entire lists. (The comments on those clauses are written assuming the later clauses will *not* be made like 11.3.3.1.1, however.)

Accepted partially - The phrase "The SIM/HBA shall ..." has been deleted and the period added.

#109 (E) Comment on 11.3.3.1.1, step A)

Probably "pathid" should be "path ID".

Accepted - Document corrected.

#110 (T) Comment on various including 11.3.3.1.1, step A)

Taking into account the possibility of multiple ports on the same bus, the path ID should be set to identify the port, rather than the bus. Consider replacing "the bus number of this bus" with something like "the specifier of the SCSI port".

Whatever is done should be done also in 11.3.3.1.2.1 B); 11.3.3.1.3.2 C); 11.3.3.1.3.3 B); 11.3.3.1.3.5 D); and 11.3.3.1.4 A).

Rejected - The use of bus is correct.

#111 (T) Comment on 11.3.3.1.1, step A)

If reasonable, a global check of the document should be made to look

for other places where a path ID is said to identify a bus. (Clause 9.1.5 is assumed to be correct.) If CAM expects only one port of a CAM environment model (Figure 1) is on a particular bus, that should be stated, preferably only once. That minimizes future changes needed in CAM if later versions allow for multiple ports on the same bus or same SCSI domain.

Rejected - The use of bus is correct.

#112 (E) Comment on various including 11.3.3.1.1, step E)

Before "unique," change "an" to "a". Change "CCBs" to "CCB's" since it is possessive.

Make similar changes in 11.3.3.1.2.1 D), 11.3.3.1.3.2 F), 11.3.3.1.3.3 E), 11.3.3.1.3.5 E), 11.3.3.1.4 C), and 11.3.3.1.5 C).

Accepted - Document corrected.

#113 (E) Comment on various including 11.3.3.1.1, step F)

Consider changing the verb "callback" (one word) to "call back" (two words).

Rejected - For reasons stated before.

Before "IMMEDIATE," the word "available" should be deleted.

Make similar changes in 11.3.3.1.2.1 G), 11.3.3.1.3.2 H), 11.3.3.1.3.3 G), 11.3.3.1.4 D), and 11.3.3.1.5 F).

Accepted - Document corrected.

#114 (E) Comment on 11.3.3.1.1, next to last paragraph

Before "NOTIFY," "an" should be "a".

Accepted - Document corrected.

#115 (E) Comment on 11.3.3.1.2, first paragraph

For clarity, append "via the IMMEDIATE NOTIFY CCB" at the end of the sentence.

Accepted - Document corrected.

#116 (E) Comment on various including 11.3.3.1.2.1, step G)

Consider deleting "The SIM/HBA shall" from the beginning of each of the first two sentences and capitalizing the following word.

Make similar changes in 11.3.3.1.3.2 H), 11.3.3.1.3.3 G), 11.3.3.1.4 D), and the one sentence in 11.3.3.1.5 F).

Accepted - Document corrected.

#117 (T) Comment on various including 11.3.3.1.2.1

Consider adding text at the end of the clause to specify what the Host Target Mode peripheral driver shall do to complete processing.

Consider similarly adding text at the end of 11.3.3.1.3.2, 11.3.3.1.3.3, and 11.3.3.1.4 (probably nothing to be done in this last case).

Rejected - It is specified by SCSI-2 and in various place in the document (e.g., an ABORT message terminates the I/O process).

#118 (E) Comment on 11.3.3.1.3.2, steps F) and G)

Consider deleting "The SIM/HBA shall" from the beginning of the first sentence and capitalizing the following word.

Accepted - Document corrected.

#119 (E) Comment on 11.3.3.1.3.2, step G), second sentence

Delete "is" from before "found". Change "CCBs" to "CCB's" (possessive).

Accepted - Document corrected.

#120 (E) Comment on 11.3.3.1.3.3, step E)

Consider deleting "The SIM/HBA shall" from the beginning of the first sentence and capitalizing the following word.

Accepted - Document corrected.

#121 (E) Comment on 11.3.3.1.3.5, step A)

Consider deleting "the SIM/HBA shall" from the first sentence.

Accepted - Document corrected.

#122 (E) Comment on 11.3.3.1.3.5, step E)

Consider deleting "The SIM/HBA shall" from the beginning of the first sentence and capitalizing the following word.

Accepted - Document corrected.

#123 (E) Comment on 11.3.3.1.3.5, step H)

The first sentence should end with a period, not with a comma (not sure if I have a dirty copy).

Accepted - Document corrected..

#124 (E) Comment on 11.3.3.1.4, step C)

Consider deleting "The SIM/HBA shall" from the beginning of the first sentence and capitalizing the following word.

Accepted - Document corrected.

#125 (E) Comment on 11.3.3.1.4, step E)

Delete the second instance of "events".

Accepted - Document corrected.

#126 (T) Comment on 11.3.3.1.5, step A)

The words "the bus number of this HBA" are inappropriate, since an HBA can have multiple ports, and each port would have its own path ID. There is a possible complication if a LUN was used with more than one port on the failed HBA. If a LUN were used with only one port, then replacement text might be "the specifier of the SCSI port used with this LUN."

Accepted Partially - The use of "ports" is not correct for SCSI-2;

New wording: Set the Path ID of an IMMEDIATE NOTIFY CCB to the XPT assigned SCSI bus number. Set the Target ID of the HBA for this SCSI bus, and the LUN to the LUN number being reported.

#127 (E) Comment on 11.3.3.1.5, step C)

Consider deleting "The SIM/HBA shall" from the beginning of the first sentence and capitalizing the following word.

Accepted - Document corrected.

#128 (T) Comment on 11.3.4, first paragraph after Table 24

The first paragraph discusses possible CAM Status values when a driver passes IMMEDIATE NOTIFY CCBs to a SIM/HBA. Does the document specify any circumstance when a driver passes such CCBs to a SIM/HBA other than for the purpose of providing or adding to a list of such CCBs? If there is no other circumstance, why would a driver provide any of those status values?

Probably this paragraph should be deleted or else text added somewhere to explain a circumstance where passage of such CCBs with such status values makes sense.

Rejected - The CAM Status values are the result of some action by the SIM/HBA throughout the document and this case is no exception. When the peripheral driver sends a CCB the CAM Status is Request in Progress and action of the SIM/HBA results in a different CAM Status.

Clarification has been added to the document as follows: The following are the only possible CAM Status values for the IMMEDIATE NOTIFY CCB passed to the SIM/HBA from the Host Target Mode peripheral driver (e. g., rejected by the SIM/HBA):

The following are the only possible CAM Status values for the IMMEDIATE NOTIFY CCB passed from the SIM/HBA to the Host Target Mode peripheral driver (e. g., event notification by the SIM/HBA):

#129 (T) Comment on 11. 3. 5, second paragraph after Table 25

The paragraph discusses possible CAM Status values for a NOTIFY ACK CCB passed from the SIM/HBA to the driver. Does the document specify any circumstance where a NOTIFY ACK is passed from SIM/HBA to driver? If not, either delete this paragraph or add text somewhere explaining the circumstances.

Rejected - Revision 12 has the CCB going from the peripheral driver to the SIM/HBA which is correct.

#130 (T) Comment on 11. 3. 5, second paragraph after Table 25

The paragraph discusses possible CAM Status values for a NOTIFY ACK CCB passed from the SIM/HBA to the driver but does not list any possible values. If the paragraph is not deleted, values should be listed.

Accepted partially - The sentence has been deleted but since there were no CAM Status values listed there are no possible CAM Statuses. This is an editorial not technical comment.

#131 (E) Comment on 11. 3. 5, last paragraph

In "is delivered buy", "is" should be "are" and "buy" should be "by".

Accepted - Document corrected.

#132 (E) Comment on 11. 3. 6, Step D) 4) a) for drivers

Change "Length, shall" to "Length. These fields shall" to be consistent with step D) 5) a).

Accepted - Document corrected.

#133 (E) Comment on 11. 3. 6, step D) 5) e) for drivers

The first sentence ends with two periods. Delete the extra.

Accepted - Document corrected.

#134 (E) Comment on 11. 3. 6, step D) 6) for drivers

In the last sentence, change "is greater" to "larger".

Accepted - Document corrected.

New wording:

If a vendor unique command CDB is larger than the CDB field for the Accept Target I/O, then the CDB field shall contain a pointer to a buffer of sufficient length.

#135 (E) Comment on 11.3.6, paragraph for SIM/HBA

In the paragraph that starts "When the SIM/HBA receives ...", insert "a" after "receives".

Accepted - Document corrected.

#136 (E) Comment on 11.3.7

For the CAM status value "Cannot Provide Requested Capability," for reason C) the text is not indented consistently with A) and B).

Rejected - Rev. 12 is indented correctly.

#137 (T) Comment on 11.3.7

The descriptions of the fields "Pointer to Target CCB list" and "Pointer to Immediate Notify CCB list" both fail to describe the format of a list. A pointer to Table 22 is nearly sufficient. The title of Table 22 appears inappropriate for a list of Notify CCBs. Perhaps the title of Table 22 should be simply "CCB List".

Accepted - Document corrected.

#138 (T) Comment on 11.3.8.2, step A)

Change "not set" to "set" following "If the disconnect privilege bit is". (Currently step A is inconsistent with text in 11.2.2 on page 55 and 11.2.4 on page 58).

Rejected - The text is referring to the DiscPriv bit in the IDENTIFY message, the text has been corrected to reflect the bit name.

New wording: If the DiscPriv bit is not set in the IDENTIFY message and the Disconnect Mandatory bit was set in the target mode specific CAM Flags field of the ENABLE LUN CCB, then the SIM shall go to BUS FREE.

#139 (E) Comment on 11.3.8.2, step A)

In the note, clause 11.3.3 seems to be a poor cross-reference. Clauses 11.2.2 and 11.2.4 seem to have clearer text.

The solution is probably to put clear text into 11.3.3 or some other place and have the note reference the clear text.

Rejected - Clauses 11.2.2 and 11.2.4 are for phase-cognizant mode only.

#140 (E) Comment on 11.3.8.2, step F)

The first sentence of this step seems to specify the same action that step A) would already have performed. Should this sentence be deleted? Should step A) be deleted?

Rejected - Both steps are distinct.

#141 (T) Comment on 11.3.8.2, step G)

"CDB completion" should be "CDB received".

Accepted - Document corrected.

Changed the document where appropriate to "CDB Received Completion Function".

#142 (T) Comment on 11.3.8.3

In the title of this clause and in the first sentence, "CDB completion" should be "CDB received" in both places. In the title, capitalize "Received".

Rejected - The term "CDB completion" is correct since a total CDB may not be received.

#143 (E) Comment on 11.3.8.3

In step A), it may be helpful to spell out how to fill in some of the fields, particularly the callback completion function. Perhaps after "the callback completion function" add (which shall be the Host Target Mode peripheral driver's Continue Target I/O callback completion function)".

Rejected - Throughout the document the explanation of callback completion functions and other fields are done.

#144 (T) Comment on 11.3.8.3

After step A), consider inserting text to say that, whether the Accept Target I/O CCB is re-used or not, the SIM/HBA does not use it again until it is reissued by the driver.

Rejected - The SIM/HBA does not use any CCB again after the callback unless stated otherwise.

#145 (E) Comment on 11.3.8.4, step G) 2)

The sentence should end with one period, not two.

Accepted - Document corrected.

#146 (E) Comment on 11.3.8.4, step G) 4)

After "the CCB", change "has" to "have".

Accepted - Document corrected.

#147 (T) Comment on 11.3.8.6

In step B) for command reception errors, the words "in incoming the CDB" do not make sense. Probably the two middle words were transposed.

Accepted - Document corrected, the words were transposed.

Even with that correction, it is not clear from the text whether these words are intended to cover the cases of a CDB length error or of an unsupported command Group code. If both of these cases are intended to be covered, then perhaps the words "If the condition was an error in incoming the CDB" should all be simply deleted, since this set of steps already assumes some kind of error in the CDB or its reception.

Accepted - Sentence reworded.

New Wording: Form the SCSI-2 required 18 bytes of correct SCSI sense data and place it in the ACCEPT TARGET I/O CCB sense buffer.

#148 (E) Comment on 11.3.8.6

In the paragraph that starts "If the SIM/HBA detects Data phase, ...", delete "or" before "Message Phase" and delete the comma that follows "errors".

Accepted - Document corrected.

#149 (E) Comment on 11.3.8.6

There are two paragraphs that begin "The Host Target Mode peripheral driver shall be ...". In each of these, insert "for" before "the creation" and insert "of the" after "preservation".

Accepted - Document corrected.

#150 (E) Comment on 11.3.8.7

In the second bullet under "initial connection," change "messages" to "message" (singular) and change "has" to "have" (plural).

Accepted partially - The term "Queue Tag messages" is plural as defined by SCSI-2.

New wording: The IDENTIFY message and the Queue Tag messages have been processed for this connection without error with the ATN signal false.

#151 (T) Comment on 11.3.9 and 11.3.10, Tables 27 and 28

In each table, the autosense residual length field should be "1", not "2".

Accepted - Document corrected.

#152 (E) Comment on 11.3.11, step A) for a driver

Delete the comma.

Accepted - Document corrected.

#153 (E) Comment on 11.3.11, step D) for a driver

Inside the parentheses, change "if" to "of".

Accepted - Document corrected.

#154 (T) Comment on 11.3.11, step C) for a SIM

Either in this step or in a new step, state that the ENABLE LUN CCB shall be returned with a CAM Status of Request Completed without Error.

Accepted - This is not a technical comment.

New wording: Upon successful completion of the disable for the Host Target Mode LUN (indicated by a CAM Status of Request Completed without Error) the Host Target Mode peripheral driver shall own all IMMEDIATE NOTIFY CCBs it sent to the SIM/HBA.

#155 (E) Comment on 11.3.12

Clause 11.3.2.1 step A) 6) talks about "registered" LUNs whereas clause 11.3.2.2 step A) 6) talks about "enabled" LUNs. The same word should be used in both places. Probably "enabled" is better.

Accepted - Document corrected.

#156 (E) Comment on 11.3.12.2

In step A) 1) b) "SIM" should be "SIM/HBA". (Like in 11.3.2.1.)

Accepted - Document corrected.

#157 (E) Comment on 11.3.12.2

In step A) 5) change "an" to "a" before "NOTIFY". (Like in 11.3.2.1.)

Accepted - Document corrected. #158 (E) Comment on 11.3.12.2

In step A) 6), insert "be" into "shall cleared". (Like in 11.3.2.1.)

Accepted - Document corrected.

#159 (E) Comment on 11.3.13, last paragraph

Case C should be "All other commands" (plural).

Accepted - Document corrected.

#160 (T) Comment on 12

It is unclear how engines are told to process data. The last paragraph, which talks about the destination data length, destination data maximum length, and source residual length, implies that EXECUTE ENGINE CCBs are used. By contrast, the second and third paragraphs imply that data is first submitted by entirely unspecified means, only after which the EXECUTE ENGINE REQUEST CCB is used for actual transmission.

However, if EXECUTE ENGINE CCBs can be used both to submit data to an engine and also to tell the SIM/HBA to send processed data, there should be a way to specify which of these uses is intended.

The CAM document should be more explicit either on how EXECUTE ENGINE CCBs are filled in for the two different purposes, or else on the fact that the document describes only one of these purposes.

Accepted - The use of EXECUTE ENGINE CCBs is wrong, the correct usage should be EXECUTE SCSI I/O REQUEST CCB.

New wording: One use of engines is to compress data. In this mode, a device driver first submits data to the engine using the EXECUTE ENGINE REQUEST CCB. Once the engine has completed processing the data, an EXECUTE SCSI I/O REQUEST CCB then can be built for the compressed data and sent to an SIM/HBA.

The engine model allows for the addressing of buffer memory located on the HBA. The buffer addressing appears to the host as contiguous space. Using this model, it is possible to submit multiple EXECUTE ENGINE REQUEST CCBs until the engine buffer is full. Once the full condition is met, an EXECUTE SCSI I/O REQUEST CCB then can be built for the data and sent to an SIM/HBA.

#161 (T) Comment on 12.1, Table 29

The table should specify the size of the CCB Length as "2".

Accepted - Document corrected.

#162 (E) Comment on 12 and 12.2

Clause 12 mentions "EXECUTE ENGINE REQUEST CCB" twice. Clause 12.2 (third paragraph) mentions "execute engine CCB" once. Table 30 is headed "EXECUTE ENGINE CCB".

These should be consistent as to whether "request" is present or not.

These should be usually consistent regarding whether all upper case, all lower case, or first letter upper case should be used.

Accepted - Document corrected.

#163 (E) Comment on Annex A

The title should start "Annex", not "ANNEX".

Accepted - Document corrected.

#164 (E) Comment on Annex B, first sentence

Change clause "17" to "11".

Accepted - Document corrected.

#165 (T) Comment on Annex B. 1. 1 and B. 1. 2

Clause B. 1. 2 (two times out of three) and B. 1. 1 (zero times out of one) shows the driver setting targetCCB.camStatus. For consistency, either delete the two or add two more.

Accepted - Document corrected.

#166 (E) Comment on Annex B. 1. 1

The first assignment should be to "target1CCB" rather than "targetCCB1", for consistency with the rest of B. 1. 1 and B. 1. 2.

Accepted - Document corrected.

#167 (E) Comment on Annex B. 1. 1

Following the note, "3nable" should be corrected.

Rejected - Rev. 12 does not contain these errors.

#168 (E) Comment on Annex B. 1. 1 and B. 1. 2

For the third from last statement in each of these clauses, "enableCb" should be "enableCCB".

Rejected - Rev. 12 does not contain these errors.

#169 (E) Comment on Annex B. 1. 2

In the assignment immediately above the Note, "[n]" should be "[n-1]".

Accepted - Document corrected. #170 (T) Comment on Annex B. 1. 3

If camStatus should be set in B. 1. 1 and B. 1. 2, probably it should be set in B. 1. 3.

Rejected - CAM Status should not be set by peripheral driver.

#171 (E) Comment on Annex C, second sentence

The sentence, which starts with "The contents ...", should be deleted or updated for a real standard.

Accepted - Document corrected.

New wording: This Annex contains an example of definitions and data structures for the CAM Subsystem interface. The contents of this example should match the data structures and constants that are specified in this standard.

#172 (T) Comment on Annex C

There appear to be no definitions for the IMMEDIATE NOTIFY CCB and the NOTIFY ACKNOWLEDGE CCB.

Accepted - Document corrected.

#173 (T) Comment on Annex C

The definition of structure ccb_en_lun lacks the pointer and count for the IMMEDIATE NOTIFY CCBs and the SIM private area.

Accepted - Document corrected.

#174 (E) Comment on Annex C

The Defines for the CAM Flags field in the CCB header appear to be specific to one endian vs. the other. Consider changing the definitions to be a byte each rather than 32 bits, or consider adding a comment that these definitions may have to change for some architectures.

Rejected - This is an example (informative) and is not considered part of the standard.

#175 (T) Comment on Annex C

The define for the CAM Flag with value 0x00010000 (perhaps CAM_SG_List_Phys) is missing. Consider adding it.

Accepted - Document corrected.

#176 (E) Comment on Annex C

The last two defines belong with the Phase cognizant mode flags and should not be separated. Consider moving them

Accepted - Document corrected.

#177 (E) Comment on Annex C

In the comments of the last three defines for asynch callback CCB fields, "A" should be "An". For example, "A unsolicited" should be "An unsolicited".

Accepted - Document corrected.

#178 (E) Comment on Annex C

In the third define for engine inquiry, "lossly" should be corrected.

Accepted - Document corrected.

#179 (T) Comment on Annex C

The defines for engine inquiry algorithms all have value 0x00. The last three should be corrected to 0x01, 0x02, and 0x03 respectively.

Accepted - Document corrected.

#180 (E) Comment on Annex C

If the list of CCB definitions changes (e. g., add IMMEDIATE NOTIFY or NOTIFY ACK), the definition of ccb_size_union should change to match.

Accepted - Document corrected.

GENERAL COMMENTS

General comments are those that are not easily limited to a single clause.

#181 (E) Alignment of clause titles

In the Table of Contents, most clause numbers appear to be followed by two blanks but some are followed by one. Clause numbers apparently followed by a single blank are 1, 2, 4, 5.2, 6, 6.3, 6.4, 7, 7.4.1, 7.4.2.1, 7.5, 8.2.1 through 8.2.5, 9.2.1, 9.2.6, 10.1, 10.1.2.5, 10.1.7, 10.1.20, and all of clause 11 except for 11.3.3.1.3.4 and clause 11 itself. Number 10.2 appears to be followed by 3 blanks. The clause headings appear to have the same number of blanks where they appear in the body of the document. It seems preferable to use the same number of blanks consistently.

Accepted - Document corrected.

#182 (E) Alignment of clause titles

There are no clauses B. 2 or 11. 3. 3. 1. 2. 2, so there should not be clauses numbered B. 1 or 11. 3. 3. 1. 2. 1.

Accepted partially - The deletion of the B. 1 clause accepted but the deletion of the separate mandatory ABORT message handling (11. 3. 3. 1. 2. 1) is rejected. The editor feels that while there are not further number clauses (11. 3. 3. 1. 2. 2) this clause does warrant a separate and distinct subclause.

#183 (E) Comment on word usage

In general, "shall be responsible for <verb>ing" can be replaced with "shall <verb>".

Rejected - The use of "shall be responsible for <verb>ing" clarifies what section of CAM is required to fulfill certain requirements (e. g., SIM/HBA or the peripheral driver).

#184 (E) "NULL" vs. "zero" for pointers

In the third and second from last paragraphs of 11. 3. 6 (steps E) and F) that a SIM/HBA performs upon receipt of a Host Target Mode ENABLE LUN CCB), usually a pointer is checked to see if it is non NULL. However, in the first line of step E), "non zero" is used instead.

In 11. 3. 7, when the pointer to Target CCB list field is described, for a disable LUN request this field shall be "zero".

If it makes a difference whether NULL or zero is used for pointers, probably the document should be electronically scanned to check for cases where "zero" or "NULL" is used incorrectly.

Accepted - Document corrected to replace zero pointer fields with null.

#185 (E) Formatting and punctuation

There were instances, not noted above, of unneeded or missing commas, of extra blanks, of missing blank lines, and of extra blank lines.

Accepted - Document scanned for the above corrections and updated where appropriate.

#186 (E) Comma-delimited lists

Sometimes the document has lists such as "A, B and C" with no comma after B. An example is in 3. 1. 14 Other times, there is a comma after "B", for example the end of the first paragraph in 7. 3. 2. Consistency would be desirable.

Accepted partially - Where multiple word lists are encountered (e.g., software peripheral device drivers, the transport, and the software interface modules) commas have been added for clarity. Single word lists (e.g., dog, cat and mouse) do not need the comma for clarity.

#187 (E) Comment on 5.1, first paragraph, third sentence

The new comma after "peripheral drivers" is not needed.

Accepted - Document corrected.

#188 (E) Comment on 9.1.4, 10.2, and possibly elsewhere

Consider changing references to "CAM-2" to say "CAM-3" or consider saying "future versions of CAM". The cases I've noticed are in notes that apply to CAM status 1Ah, but a global search may be warranted, and different changes may be appropriate depending on the context.

Accepted - Document corrected.

New wording:

"future versions of CAM"

#189 (E) Comment on 7.8, following typedef of CAM_SIM_ENTRY

In the first sentence, "calls" should be "call" -- "... the XPT shall update ... and call ...".

Accepted - Document corrected.

#190 (E) Comment on 8.1.6.1, under a) xpt_init()

The red-lined document appears to have three paragraphs under a) long xpt_init(). The last two appear to be nearly redundant. The third, which discusses CAM status, seems incorrect and should be removed.

Rejected - Wordperfect error, not in non marked document.

#191 (E) Comment on 9.2.3, first paragraph

In the second sentence, consider replacing "other HBAs" with "HBA/SCSI bus(es)". Regarding "other", it is not clear what this word means. (Does the caller want "further" information on unaddressed HBAs?)

Accepted - Document corrected.

New wording: To obtain further information on specific HBA(s)/SCSI bus(es) attached, this function can be issued for each assigned Path ID.

In the third sentence, "... only fields ... is ..." should be "... only fields ... are ...", since two fields are valid.

Accepted - Document corrected.

#192 (E) Comment on 11.3.8.2, step A)

I originally completely misunderstood the intent of step A. I did not realize that step A discusses a situation where the SIM shall not proceed with the remaining steps. I've said orally that it is desirable to be very clear whenever performing a step means that processing is done and/or later steps are to be skipped.

This may apply to other places in the document also.

Accepted - Document corrected.

Changes:

Deleted "otherwise" where appropriate from the document.

The document is clear in the needed steps for error condition handling through the use of pointers in the text and notes.

#193 (E) Comment on 12

I like the new text. Here are a few nits. (Note: 12.1 and 12.2 seem fine.) Should the title of clause 12 be "HBA engines" or "SIM/HBA engines"?

Rejected: The use of HBA is specifically referring to an hardware adaptor functionality not contain in the SIM

In paragraph 1, sentence 1, should "an HBA" be "a SIM/HBA"?

Rejected: The use of HBA is specifically referring to an hardware adaptor functionality not contain in the SIM

In paragraph 1, last sentence, in "an peripheral HBA" should "an" be "a" and should HBA" be "SIM/HBA"?

Accepted - Document corrected.

New wording: "a peripheral HBA"

In the last sentence of paragraph 2, in "an SIM/HBA" should "an" be "a"?

Accepted - Document corrected. The text is referring to the SIM/HBA combination.

New wording: "a SIM/HBA"

In paragraph 3, should the first sentence end with "HBA" or "SIM/HBA"?

Rejected: The use of HBA is specifically referring to an hardware

adaptor functionality not contain in the SIM

In the last sentence of paragraph 3, in "an SIM/HBA" should "an" be "a"?

Accepted - Document corrected.

New wording: "a SIM/HBA"

#194 (E) Comment on 11.3.3.1.5, step E)

Consider deleting "The SIM/HBA shall" from the beginning of the sentence and capitalizing the following word.

Accepted - Document corrected.