Voting Results on T10 Letter Ballot 01-285r0 on
Forwarding SDV to first public review

Organization	Name	S	Vote	Add'l Info
Adaptec, Inc.	Ron Roberts	P	Yes	
Amphenol Interconnect	Michael Wingard	P	Yes	
Ancot Corp.	Bart Raudebaugh	P	Yes	
Andiamo Systems, Inc.	Claudio DeSanti	P	Yes	
BREA Technologies, Inc.	Bill Galloway	P	Yes	
Brocade Comm. Systems, Inc.	Robert Snively	P	Abs	Cmnts
Cisco Systems, Inc.	David Peterson	P	Yes	
Compaq Computer Corp.	William Ham	A	No	Cmnts
Congruent Software, Inc.	Peter Johansson	P	Yes	
Crossroads Systems, Inc.	Robert Griswold	P	Yes	
Dallas Semiconductor	Titkwan Hui	P	Yes	
Dell Computer Corp.	Kevin Marks	P	Yes	
EMC	Gary S. Robinson	P	Yes	
Emulex	Robert H. Nixon	P	Abs	Cmnts
ENDL Texas	Ralph O. Weber	P	No	Cmnts
Exabyte Corp.	Joe Breher	P	Yes	
FCI	Douglas Wagner	P	Yes	
Fujitsu	Eugene Lew	P	Yes	
General Dynamics	Nathan Hastad	P	Yes	
Genroco, Inc.	Donald Woelz	P	Yes	
Hewlett Packard Co.	Bill Hooper	A	Yes	
Hitachi Cable Manchester	Randy Wasylak	A	Yes	
IBM / Tivoli Systems	George O. Penokie	P	No	Cmnts
Intel Corp.	Cris Simpson	P	Yes	
Iomega Corp.			DNV	
KnowledgeTek, Inc.	Dennis Moore	P	Yes	
LSI Logic Corp.	John Lohmeyer	P	Yes	
Maxtor Corp.	Mark Evans	P	Yes	
Microsoft Corp.			DNV	
Molex Inc.	Glen Griessler	A	Yes	
Nishan Systems Inc.	Charles Monia	P	Yes	
Ophidian Designs	Edward A. Gardner	P	Yes	
Panasonic Technologies, Inc	Terence J. Nelson	P	Yes	
Philips Electronics/CD Edge	William P. McFerrin	P	Yes	
Pirus Networks	Charles Binford	P	Yes	
QLogic Corp.	Skip Jones	P	Yes	
Quantum Corp.	Paul Entzel	P	Yes	
Seagate Technology	Gerald Houlder	P	Yes	
Storage Technology Corp.	Erich Oetting	P	Yes	
Sun Microsystems, Inc.	Kenneth Moe	P	Yes	
Texas Instruments	Paul D. Aloisi	P	YesC	Cmnts
Toshiba America Elec. Comp.	Tasuku Kasebayashi	P	Yes	
Troika Networks, Inc.	William C. Terrell	P	Yes	
TycoElectronics	Charles Brill	P	Yes	
Veritas Software			DNV	
Woven Electronics	Doug Piper	P	Abs	Cmnts

Ballot totals:
 37 Yes
  3 No
  3 Abstain
  3 Organization(s) did not vote
 46 Total voting organizations
  7 Ballot(s) included comments

This 2/3rds majority ballot passed.
37 Yes is at least a majority of the membership [greater than 23] AND
37 Yes is at least 27 (2/3rds of those voting, excluding abstentions [40])

Key:
P Voter indicated he/she is principal member
A Voter indicated he/she is alternate member
O Voter indicated he/she is observer member
? Voter indicated he/she is not member or does not know status
YesC Yes with comments vote

Abs Abstain vote
DNV Organization did not vote
Cmnts Comments were included with ballot
NoCmnts No comments were included with a vote that requires comments
DUP Duplicate ballot (last ballot received from org. is counted)
PSWD The password was not correct (vote not counted)
ORG? Organization is not voting member of T10 (vote not counted)

****

Comments attached to Abs ballot from Mr. Robert Snively of
Brocade Comm. Systems, Inc.:

This document is outside the scope of our company's business.
Our organization has not reviewed this document.

****

Comments attached to No ballot from Dr. William Ham of
Compaq Computer Corp.:

1. editorial

Location in document: document properties

Comment:
change the author's name from Ron Roberts to Terry Gibbons

Suggested action to resolve comment:
implement the comment

2. editorial

Location in document: unknown

Comment:
The PDF file font list says it contains Helvetica-Oblique and TimesNewRomanMT
somewhere. Search for those font uses and change them to Arial to match the
predominant font.

Suggested action to resolve comment:
Implement the comment

3. editorial

Location in document: throughout

Comment:
In the PDF file, set the PDF page numbers to match the printed page numbers so

it looks like "6 (1 of 19)"

Suggested action to resolve comment:
Implement the comment

4. editorial

Location in document: abstract

Comment:
remove "or system administrators"

Suggested action to resolve comment:
Implement the comment

5. editorial

Location in document: abstract and others

Comment:
General comment: Make use of "SCSI domain" vs "domain" vs "physical SCSI domain" consistent

In most cases, "domain" suffices - this is the term in the definitions. In a few cases, "parallel SCSI domain" limits the scope to SPI devices and not other fabrics, which may be appropriate.

Suggested action to resolve comment:
Implement the comment

6. editorial

Location in document:

Comment:
The first item in the table of contents is "Figures". Try to exclude this line from the table of contents.

Suggested action to resolve comment:
Implement the comment

7. editorial

Location in document: 3.

Comment:
In the section 3 section name, remove "symbols," since none are defined or used.
Or, add some symbols (like =) and change the name of 3.3 to "symbols and abbreviations".

Suggested action to resolve comment:
Implement the comment

8. technical

Location in document: 3.1.1

Comment:
in definitions, "asynchronous transfer" term is defined but is not used anywhere, although "asynchronous" is. Change this to "asynchronous" or change

the uses of "asynchronous xyz" to "asynchronous transfer"

Also, add a definition of "synchronous transfer".

Suggested action to resolve comment:
Implement the comment

9. technical

Location in document: 3.1.2

Comment:
Delete the definition of bus path, as it is not used anywhere but the definition of stub, which is not used anywhere.

Suggested action to resolve comment:
Implement the comment

10. technical

Location in document: 3.1.2, 3.1.8, 3.1.25, 3.1.29, possibly others

Comment:
the term "bus" or "SCSI bus" should be replaced with the term "bus segment" or

SCSI bus segment". This is required to be consistent with the latest version of SPI-4.

Suggested action to resolve comment:
Replace all instances in the document where the term "bus" is used when the reference is to "bus segment"

11. technical

Location in document: 3.1.9 and others

Comment:
In definitions, change "mega transfers"(two words) to "megatransfers" throughout

Suggested action to resolve comment:
Implement the comment

12. technical

Location in document: 3.1.16

Comment:
In definition of logical unit, change "SCSI-3 Architecture Model - 2 (SAM-2)" to "SAM-2"
Suggested action to resolve comment:
Implement the comment

13. technical

Location in document: 3.1.19

Comment:
In definitions, need to define megabytes as 10^6 (it could also be 2^20)

Suggested action to resolve comment:
Pick one and use it throughout

14. technical

Location in document: 3.1.23

Comment:
This definition is superceded by 3.1.24 and is not accurate.

Suggested action to resolve comment:
delete 3.1.23

15. technical

Location in document: 3.1.29

Comment:
term is not used

Suggested action to resolve comment:
Delete 3.1.29

16. editorial

Location in document: 3.2

Comment:
add abbreviation:
Async = asynchronous data transfer

Don't capitalize R and C in "Redundancy Check" (or capitalize all the other

abbreviations)

Suggested action to resolve comment:
Implement the comment

17. editorial

Location in document: 3.3

Comment:
"3.3 Keywords" shows up in the PDF bookmarks with its section number. Since
Acrobat Distiller doesn't normally do this, I suspect there is something wrong

with the style for this line.
(ideally all section numbers would be included in the bookmarks)

Suggested action to resolve comment:
Make bookmarks consistent

18. editorial

Location in document: 3.3.3

Comment:
the "should" keyword definition, put period inside quotes

Suggested action to resolve comment:
Implement the comment

19. editorial

Location in document: 4.1

Comment:
"exists" should be "exist"

Suggested action to resolve comment:
Change the text

20. editorial

Location in document: 4.2

Comment:
standardese doesn't allow "the following figures" - there should be an
explicit list like "figure 2, figure 3, figure 4, and figure 5"

Suggested action to resolve comment:
Implement the comment

21. editorial

Location in document: Figures 2,3,4,5,6

Comment:
"SCSI Address 6" outside the initiator box seems out of place. It's different
from how the targets are labeled. Put a similar label on each target, or say
"Initiator 6" inside the box.

Suggested action to resolve comment:
Implement the comment

22. technical

Location in document: 4.2

Comment:
change "Each component of the SCSI system" to "Each initiator and target"

Suggested action to resolve comment:
Umplement the comment

23. editorial

Location in document: 4.2

Comment:
change "system administrator" to "user"

Suggested action to resolve comment:

24. technical

Location in document: 4.2 above just above Figure 3

Comment:
the statement that this configuration requires termination at both ends of the

cable implies incorrectly that somehow other configurations do not require
termination.

Suggested action to resolve comment:
Delete the sentence.

25. editorial

Location in document: In figure 4

Comment:
"Terminator" should be "Terminators" on the left

Suggested action to resolve comment:
Change the figure.

26. technical

Location in document: Just above Figure 4

Comment:
It is not "one physical cable" but rather "one bus segment"

Suggested action to resolve comment:
Change "one physical cable" to "one bus segment"

27. technical

Location in document: section 4.2 just below Figure 5

Comment:
There are sources available for the general and specific rules for
constructing domains. Add a reference to both EPI and SPI-4 to specify the
specific rules. EPI contains significant material that is not present in
SPI-4.

Suggested actions to resolve comment:
Add these words just below Figure 5: "The detailed rules for configuring
domains with expanders are contained in EPI and SPI-4. These rules define
requirements for constructing valid domains and for dynamically reconfiguring
domains. Considerations for extending the length of individual bus segments
are presented in EPI."

Add EPI to the references.

28. editorial

Location in document: section 4.2 botton of page 6

Comment:
 last sentence, figure number is missing from the reference

Suggested action to resolve comment:
Add figure number

29. editorial

Location in document: in Figure 6

Comment:
 the bus segment numbers might be confusing. Figure 5 has two segments without numbers. Perhaps labeling them A, B, C, ... would help avoid confusing them with the SCSI IDs.

(change references in 6.3.2 if this is done)

Suggested action to resolve comment:
Change to letters for segment identification and update references to this figure.

30. editorial

Location in document: section 5 and section 6

Comment:
Should chapters 5 Domain examination and 6 Testing Methods be merged? They carry some redundant information now.

Possible new section 5 arrangement:
5 Domain validation
* General (from 5)
* Topology discovery (from 5)
* Assumptions (from 6)
* Data patterns (moved here from 6)
* Test criteria (generic parts moved here from 6)

* Domain validation tests
** Basic test (from 5)(incl Basic test criteria from 6)
** Enhanced test (from 5)(incl Enhanced test criteria from 6)
** Test order (from 6)
** Test conditions (from 6)(without data patterns)
** Test output (from 6)

* Margin test
** Margin test and parameters (from 5)
** Assumptions (from 6)
** Test order (from 6)
** Test conditions (from 6)(with fast-10 line from test criteria)
** Test combinations (from 6)
** Test direction (from 6)
** Test output (from 6)
** Margin flow charts (from 6)

Suggested action to resolve comment:
implement the suggested section re-arrangement

31. editorial

Location in document: 5.1

Comment:
change "system administrator" to "user"

Suggested action to resolve comment:
Implement the comment

32. technical

Location in document: 5.2

Comment:
Topology discovery should mention expanders, since they create the topology

Suggested action to resolve comment:
Add "Determining the topology of the domain involves identifying the valid SCSI addresses and their relationship to each other and to expanders within a domain"

33. technical

Location in document: 5.3.1

Comment:
after "INQUIRY command" add "(see SPC-3)"

Suggested action to resolve comment:
Implement the comment

34. technical

Location in document: 5.3.2

Comment:
After "WRITE BUFFER and READ BUFFER commands" add "(see SPC-3)"

Suggested action to resolve comment:
Implement the comment

35. technical

Location in document: 5.3.2

Comment:
The Enhanced test description is missing the fundamental algorithm (this will need some rewording for standardese):

1) Issue a READ BUFFER command with echo buffer descriptor mode to determine if an echo buffer is supported, obtain the size of the echo buffer, and determine whether multiple initiators are able to use the echo buffer without overwriting each others' data.
2) issue a WRITE BUFFER command with echo buffer mode using a selected data pattern;
3) issue a READ BUFFER command with echo buffer mode. If the command results in a CHECK CONDITION with a sense key of ABORTED COMMAND and an additional sense code of ECHO BUFFER OVERWRITTEN, repeat the write at step 2);
4) compare the read data with the selected data pattern; and
5) Return to step 2) with another data pattern or finish the Enhanced test.

Suggested action to resolve comment:
Add standardese and implement the comment

36. technical

Location in document: 5.3.3, 6.3.3 and elsewhere

Comment:
change "margin parameter offset adjustment", "margin offset parameter adjustment", and "margin parameter" to "margin control value"

Suggested action to resolve comment:
Implement the comment

37. editorial

Location in document: 5.5.3 and elsewhere

Comment:
 remove the dash from "pre-compensation"

Suggested action to resolve comment:
Implement the comment

38. technical

Location in document: bottom of page 9

Comment:
change "offset" to "values"

Suggested action to resolve comment:
Implement the comment

39. technical

Location in document: 6.2.1

Comment:
 clarify that the order is per target. It doesn't matter if you do:
basic target 0
basic target 1
...
enhanced target 0
enhanced target 1
...

or
basic target 0
enhanced target 0
basic target 1
enhanced target 1

Suggested action to resolve comment:
Implement the comment

40. technical

Location in document: 6.2.1

Comment:
 add this paragraph to explain why the test order is proscribed:

The direction of P_CRCA during writes differs during ST data phases (initiator

to target) and DT data phases (target to initiator), although it is the same
for reads (target to initiator). To avoid bus contention, support for DT
should be confirmed with the Basic test (which only uses reads) before running

the Enhanced test with any transfer rate using DT data phases.

Suggested action to resolve comment:
Implement the comment

41. technical

Location in document: 6.2.2

Comment:
add:
Before running domain validation, a synchronous transfer timeout should be
enabled in the port control mode page (see SPI-4).

Suggested action to resolve comment:
Implement the comment

42. editorial

Location in document: bottom of page 10

Comment:
"basic" should be "Basic" to match other references

Suggested action to resolve comment:
Change the text

43. editorial

Location in document: 6.3.4

Comment:
"to (from)" is awkward. Change to "with" the first two times and "to" the third time.

Suggested action to resolve comment:
Implement the comment

44. technical

Location in document:6.3.6

Comment:
change last paragraph of 6.3.6 to match last paragraph of 6.2.3 (or vice versa)

6.3.6:
It is recommended that Echo READ/WRITE BUFFER command be used. If the Echo function is not available, the application client may use normal READ/WRITE BUFFER commands.

6.2.3:
The READ/WRITE BUFFER command's echo buffer mode should be used. If the echo buffer mode is not available, the application client may use READ/WRITE BUFFER

commands with data mode.

Suggested action to resolve comment:
Change the wording per comment

45. technical

Location in document: 6.3.7

Comment:
change "issued to the display" to "provided to the user"

Suggested action to resolve comment:
Implement the comment

46. editorial

Location in document: before page 13

Comment:
a brief description of flow charts is needed (perhaps in chapter 3 under a document conventions subsection).

square box = action
diamond = decision
rounded blob = user interaction
etc.

Suggested action to resolve comment:
Add the description as suggested in the comment

47. technical

Location in document: page 13

Comment:
add a START circle to go with the END circle on the last page

Suggested action to resolve comment:
Add the circle

48. technical

Location in document: page 13 flowchart

Comment:
 change "From Low-to-High" to "For each"

Suggested action to resolve comment:
Change the flowchart

49. editorial

Location in document: pages 13, 14, 15

Comment:
 give each page a Figure caption at the bottom (and add a table of figures at the beginning of the document)

Then, instead of "Next Page" or "Previous Page" refer to Figure 1, Figure 2, etc.

Suggested action to resolve comment:
Implement the comment

50. technical

Location in document: on page 13 left of Basic Check Passed?

Comment:
 put "NO" and '2nd - nth failure" together and make failure lowercase

Suggested action to resolve comment:

51. editorial

Location in document: left side of page 13

Comment:
 move the vertical lines further apart

Suggested action to resolve comment:
Implement the comment

51. technical

Location in document: pages 13, 14, 15

Comment:
 in the flowcharts, label pt.aa, pt.bb, etc. with descriptive names, e.g.:

pt.aa = Process DV results
pt.bb = Margin connection
pt.ba = Margin expander connection

Suggested action to resolve comment:
Implement the comment

52. editorial

Location in document: page 15, second box

Comment:
change "using target" to "using a target"

Suggested action to resolve comment:
Implement the comment

53. editorial

Location in document: all

Comment: congrats to the editor for pulling this stuff together - the no vote is because there are too many technical errors. Looks like all are easily fixed.

Suggested action to resolve comment:
Have a nice day.

****

Comments attached to Abs ballot from Mr. Robert H. Nixon of Emulex:

My organization can not currently offer relevant technical expertise.

****

Comments attached to No ballot from Mr. Ralph O. Weber of ENDL Texas:

ENDL 01
PDF Page 6
3.1.17 logical unit number: -- Follow the pattern of other glossary entries that have acronyms and make this "3.1.17 logical unit number (LUN):".

ENDL 02
PDF Page 7
3.1.24 "SCSI bus-segment: A SCSI bus segment..." -- Either it is "SCSI bus-segment" or it is "SCSI bus segment". Please use the hyphen consistently.

ENDL 03
PDF Page 8
4.1 "Figures 1 - 6" -- We have been pressing editors to write this as "Figure 1, Figure 2, Figure 3, Figure 4, Figure 5, and Figure 6"

ENDL 04
PDF Page 8
4.1 "Examples of SCSI bus segments are shown in Figures 1 - 6." -- Figure 1 does not look like a SCSI bus segment to me because I cannot find the terminators in it.

ENDL 05
PDF Page 8
4.1 "The position of the terminators within the segment is irrelevant in defining driver-receiver connections." -- Perhaps it is that a driver-receiver connection is not a segment at all. Certainly, a driver-receiver connection as shown in Figure 1 is not a SCSI bus segment.

ENDL 06
PDF Page 9
4.2 "Domains contain combinations of the typical configurations

shown in the following figures." Delete this sentence of gibberish.
1) Domains contain components not configurations, see 3.1.4.
2) "the following figures" really has to name the figures.

ENDL 07
PDF Page 9
Figure 2 -- Why is only the initiator shown to have a SCSI Address? Don't the targets normally have SCSI addresses too? This problem appears in Figures 2, 3, 4, and 6 too.

It may be intended that the "Target 0" indicates the SCSI Address. If that is the case then the Initiator should be "Initiator 6". Definitely the notation needs to be the same for both targets and initiators.

ENDL 08
PDF Page 9
4.2 "Each component of the SCSI system is assigned a pre-defined and unique SCSI address..." -- Reading this literally, I would expect to find a SCSI address assigned to the cable, since the cable is a component of a SCSI system. How about "Each initiator and each target in a SCSI system is assigned a pre-defined and unique SCSI address..."

If this change is made, the last sentence of the paragraph can be deleted, to whit: "Terminators are not assigned addresses." is no longer needed.

ENDL 09
PDF Page 9
4.2 "Figure 3 shows a SCSI domain with the initiator positioned between two targets. In this configuration termination is required at both ends of the cable." How is this different from Figure 2? It looks to me like termination is required at both ends of the cable in all cases.

ENDL 10
PDF Page 9
4.2 Figures 2 and 3 -- Maybe I am being stuffy, but how about giving these figures titles like "Simplified SCSI domain A" and "Simplified SCSI domain B".

ENDL 11
PDF Page 10
4.2 "Figure 4 shows a SCSI domain with an expander in series between a target and initiator. This is a method of expanding the length of the initiator-to-target connection beyond that of one physical cable." -- Why not drop the second sentence since it does not begin to explain the reasons for using an expander. It might be acceptable to remove the "the length of".

ENDL 12
PDF Page 10
4.2 (last sentence on page) "An example of a complex SCSI domain is shown in Figure" -- The figure number is missing, unless the page number 6 at the bottom of the page counts.

ENDL 13
PDF Page 12
5.1 & 5.2 -- Does Topology discovery include discovery of expanders?
5.1 suggests that it does while
5.2 suggests that it does not.

ENDL 14
PDF Page 12
5.3 Domain validation -- How does domain validation relate to the general matters of domain examination described in 5.1? As the subclauses are currently written, 5.3 looks like a turn into left field.

ENDL 15
PDF Page 12
5.3.1 Basic test -- How does "basic test" relate to domain validation? The previous question was a matter of style and completeness. Now things are assuming an awful lot regarding what one knows about the ideas in this TR.

ENDL 16
PDF Page 12
5.3.1 "The INQUIRY command is used and is controlled by the application client." -- 'Controlled' is a relative concept here. The application client 'controls' when the INQUIRY command is sent, but the device server (target) 'controls' when and how the command is processed.

ENDL 17
PDF Page 12
5.3.1 "The first 36 bytes of returned data is compared..." -- Both 'bytes' and 'data' are plural nouns, so 'is' is the wrong number for the verb and 'are' should be used.

ENDL 18
PDF Page 12
5.3.1 "If data miscompare occurs but no errors are detected,..." -- What kind of errors would be detected? The only kind of error discussed up to this point in the TR is a miscompare error.

ENDL 19
PDF Page 12
5.3.1 "After a finite number of retries if data miscompare recurs then fall back should be attempted." -- What is 'fall back'? There is no mention of it in the glossary. If 'fall back' is discussed somewhere else in the TR please add a cross reference.

ENDL 20
PDF Page 12
5.3.1 & 5.3.2 -- The structure of these two subclauses is not the same. 5.3.1 presents how to do the test before describing what the test is good for while 5.3.2 does not even describe how to do the test.

ENDL 21
PDF Page 12
5.3.2 "During these tests, the application client should prevent other processes from using the SCSI device. Some data patterns are more stressful on the physical layer." --
1) What is the 'physical layer'? The term is not in the glossary and so I am left to my rather vivid imagination as to what is being discussed.
2) If some data patterns have the possibility of burning up the 'physical layer' then why not restrict all use of the SCSI domain, why is limiting the use of just one SCSI device sufficient?
3) Hopefully, it is now clear that the second sentence here is entirely too vague.

ENDL 22
PDF Page 13
5.3.3 "Margining has the following features:" -- This statement an the list that follows it is a total hodgepodge. Items a) and b) in the list are things that margining 'relies on' not features of margining. Item c) in the list appears to be a special case of margining. Item d) in the list appears to be something that margining accomplishes (perhaps a feature of margining). I cannot make heads or tails out of item e) in the list.

ENDL 23
PDF Page 13
5.3.3 "Adjustment of driver parameters are required during a margining type verification sequence when implementing the Fast 160 mode of operation defined in SPI-4." --

1) Is margining a test (like basic and enhanced) or is margining a type of verification sequence, as suggested by this sentence?
2) This sentence suggests that one can accomplish Fast-20 margining without adjusting driver parameters. Is that the intent?

ENDL 24
PDF Page 13
5.3.3 "Various parameters are adjusted to determine the performance of that driver-receiver connection. It is recommended that all margin parameter offset adjustments be set to the values shipped by the supplier when a bus free phase occurs." -- Are we talking about 'parameter adjustments' or 'parameter offset adjustments'? The first sentence has it one way and the second has the other. Recommend deleting 'offset' as it only adds confusion to the text.

ENDL 25
PDF Page 13
5.3.3 "In SCSI initiators, the ECP MARGIN CONTROL function contains the fields that may be used to control margin parameters (see SPI-4)." -- A cursory inspection of SPI-4 turned up no ECP MARGIN CONTROL function for initiators. The only ECP MARGIN CONTROL function appears to cover just expanders.

ENDL 26
PDF Page 13
5.3.3 "The application client must understand the available settings and the resultant action of adjusting the offset." -- Again are we adjusting parameters or offsets?

ENDL 27
PDF Page 14
6 "Within a SCSI domain, the Margin test measures the response of the initiator-target connection to changes in driver-receiver connection properties. This is accomplished by examining the entire domain then testing the margins of the analog drivers and receivers that make up each driver-receiver connection." -- This paragraph appears to belong in 5.3.3, not here.

ENDL 28
PDF Page 14
6.2.1 Test order
The following test order is recommended.
1) Execute Basic tests as shown in 5.2.1.1.
2) Execute Enhanced tests as shown in 5.2.2.1.
--
1) 5.2.1.1 does not exist.
2) 5.2.2.1 does not exist and up to this point in the TR there has been no definitive description of how the enhanced tests are performed.
3) The position of margining in the test order is not mentioned.
4) These errors are sufficiently egregious as to necessitate a "No" vote. I will require demonstration that these errors have been corrected before changing the "No" vote to a "Yes".

ENDL 29
PDF Page 14
6.2.2 -- End of review!
It is not possible to understand why there is a Clause 5 and a Clause 6. Each clause appears to contain information that more properly belongs in the other. Examples are too numerous to detail, but here are some.

The first list in 6.2.2 seems to belong where 'fall back' is first mentioned in 5.3.1. There seems to be no value in having 'fall back' discussed in two places.

The second list in 6.2.2 seems to be a rudimentary attempt to describe the algorithm for conducting an enhanced test, but lacks the specificity accorded the description of the basic test algorithm in 5.3.1.

Then there is the question of why the basic test algorithm is described in 5.3.1 while the enhanced test algorithm has to wait to some smattering of the subclauses in 6.2 to get whatever little description is on offer.

Next there is the question of what happens if enhanced testing fails, does one fall back and start at the basic test again or does one fall back and start with the enhanced test?

As it is currently written, this TR is useful only to those who already know basically what to do. A major reorganization appears to be needed.

Note: This comment is not the source of the "No" vote. You can thumb your nose at this comment and I will change the "No" vote to a "Yes" when ENDL 28 is fixed. However, failure to cleanup this mess really means that you are wasting your time with this TR since as written it is nothing more than a written reminder for those who already know what it says.

****

Comments attached to No ballot from Mr. George O. Penokie of IBM / Tivoli Systems:

In my comments the notation 'Page xx' refers to all pages in the standard not roman numeral xx. All comments are editorial unless indicated with a '(T)' at the start of the comment.
PDF Page 5
1: Tivoli comment from George Penokie
Page 1 - section 2.1 - There is not reference in this TC to SPI-3 so why is there a normative reverence to it. This should be removed.
2: Tivoli comment from George Penokie
Page 1 -section 2.2 -All the references have the acronym listed after the name. These should be removed and listed an acronyms section. Or better yet the acronyms should not be used. Instead the full name of the standard should always be used.
3: Tivoli comment from George Penokie
Page 1 - section 1 -The term 'document' should be 'technical report'.
4: Tivoli comment from George Penokie
Page 1- section 1 -The term 'document' should be 'technical report'.
5: Tivoli comment from George Penokie
Page 1 - section 2 - The term 'documents' should be 'standards'.
6: Tivoli comment from George Penokie
Page 1 - section 2 - The term 'documents' should be 'standards'.
7: Tivoli comment from George Penokie
Page 1 - section 2.2 - The term 'documents' should be 'standards'.
8: Tivoli comment from George Penokie
Page 1 - section 2.2 - The term 'documents' should be 'standard'.
PDF Page 6
9: Tivoli comment from George Penokie
Page all - Sections all - There appears to only be a 1/2 a line space between paragraphs throughout this TC. That needs to change to a full line space between paragraphs and sections. This needs to be fixed.
Page 2 - section 3.1.16 - The term '(SAM-2)' should be deleted as it is redundant.
PDF Page 7
10: Tivoli comment from George Penokie
Page 2-3 - sections 3.1.x - Many of these definitions were copied from older version of SPI-4 and have changed. They all should be looked at to assure they

match up with the definitions in the current version of SPI-4
PDF Page 8
11: Tivoli comment from George Penokie
Page 4 - section 4.1 - The term 'document' should be 'technical report'.
12: Tivoli comment from George Penokie
Page 4 - section 4.1 - The statement 'Figures 1 - 6' should be 'figure 2,

figure 3, figure 4, figure 5, and figure 6.'
PDF Page 9
13: Tivoli comment from George Penokie
Page 5 - section 4.2 - The statement 'following figures' should be 'figure 2, figure 3, figure 4, figure 5, and figure 6.'
14: Tivoli comment from George Penokie
Page 5 - section 4.2 paragraph under figure 2 - The statement '...and remain constant (as long as the hardware value is not physically changed).' should be

'... and remain constant, as long as the hardware value is not physically changed.'
PDF Page 10
15: Tivoli comment from George Penokie
Page 6 - section 4.2 - paragraph under figure 5 - The statement 'Up to 16 SCSI

addresses may be assigned.' needs to be qualified because it is only valid for

devices connected to a wide (i.e., 16 bit) SCSI bus.
16: Tivoli comment from George Penokie
Page 6 - section 4.2 3rd paragraph under figure 5 - The term 'Figure' has no figure number and should not be capitalized.
PDF Page 12
17: Tivoli comment from George Penokie
Page 8 - section 5.3.1 and 5.3.2 - These two sections are a duplication of what already is in annex N of SPI-4. It should be replaced with a reference to

SPI-4. Or deleted from SPI-4.
PDF Page 13
18: Tivoli comment from George Penokie
Page 9 - section 5.3.3- The term 'executed' should be replaced with 'run'.
19: Tivoli comment from George Penokie
Page many - section many - The a,b,c and 1,2,3 lists appear to have a 1/2 line

space between entries. This needs to change to no line space.
20: Tivoli comment from George Penokie
Page 9 - section 5.3.3 first item d - The statement '(chip, connector, cable, etc.)' should be '(e.g., chip, connector, cable)'.
21: Tivoli comment from George Penokie
Page 9 - section 5.3.3 first item e - The statement 'Note that these values are those available at power-on and that saving changes are prohibited across power cycles. The Save Pages (SP) bit must be set to zero when adjusting these

values for purposes of domain validation.' should be change to 'These values are those available at power-on and saving changes are prohibited across power

cycles. The Save Pages (SP) bit of the MODE SELECT command (see SCSI Primary Commands -3) is required to be set to zero when adjusting these values for purposes of domain validation.
22: Tivoli comment from George Penokie
Page 9 - section 5.3.3 - last paragraph - The term 'must' is not allowed and needs to be change to 'is required to'.
23: Tivoli comment from George Penokie
Page 9 - section 5.3.3 last paragraph - The term 'can' is not acceptable. It should be replaced with 'may'.
24: Tivoli comment from George Penokie
Page 9 - section 5.3.3 - The term 'ECP MARGIN CONTROL function' is not defined

in SPI-4 as indicated in two places in this section. It is not clear to me what in SPI-4 I am supposed to be looking at. It could be the 'MARGIN CONTROL expander function' but I am not sure. This needs to be corrected.
PDF Page 14
25: Tivoli comment from George Penokie
Page 10 - section 6 - This is a hanging section. This needs to be fixed.
26: Tivoli comment from George Penokie
Page 10 - section 6.1 1st paragraph. - The term 'application client' is not correct. This should be customer, application, host, or some over non-SCSI term.
27: Tivoli comment from George Penokie
Page 10 - section 6.1 - This section needs an opening statement indicating what the list of things are. Also, this list should be made into an a,b,c

list.
28: Tivoli comment from George Penokie
Page 10 - section 6.2.1 item 1 and 2 - The statement '...as shown in 5.2.x.1.'

should be '...(see 5.2.x.1)'.
29: Tivoli comment from George Penokie
Page 10 - section 6.2.1 - The list format is not correct. It should be.
'....recommended:
1) ... ; and
2) ......'.
30: Tivoli comment from George Penokie
Page 10 - section 6.2.2 two times - The term 'executed' should be change to
'run'.
PDF Page 15
31: Tivoli comment from George Penokie
Page 11 - section 6.3.3 - last paragraph - The term 'must' is not allowed and
needs to be change to 'is required to'.
32: Tivoli comment from George Penokie
Page 11 - section 6.2.3 - The statement 'READ/WRITE BUFFER command' should
have a '(see SCSI Primary Commands-3)' after if.
33: Tivoli comment from George Penokie
Page 11 - Section 6.2.4 - The term 'issues' should be 'failures' or 'errors'.
34: Tivoli comment from George Penokie
Page 11 - section 6.2 4 item a - The term 'application client' is not correct.

This should be customer, application, host, or some over non-SCSI term.
35: Tivoli comment from George Penokie
Page 11 - section 6.2.4 item a - The statement 'stored in a file for future
access' should be changed to 'saved'.
36: Tivoli comment from George Penokie
Page 11 - section 6.3.1 - The term 'application client' is not correct. This
should be customer, application, host, or some over non-SCSI term.
37: Tivoli comment from George Penokie
Page 11 - section 6.3.2 item 2 - The statement '...expanders, i.e., those
expanders directly connected to the initiator.' should be '...expanders (i.e.,

those expanders directly connected to the initiator)'...
38: Tivoli comment from George Penokie
Page 11 - section 6.3.2 item 2 - The statement ' See Figure 6 and note the
expanders connected.' should be 'See figure 6 and the expanders connected...'.
39: Tivoli comment from George Penokie
Page 11 - section 6.3.1 item 3 - The statement '...expanders, i.e., those
expanders directly connected to the first layer of expanders.' should be
'...expanders (i.e., those expanders directly connected to the first layer of
expanders).'.
40: Tivoli comment from George Penokie
Page 11 - section 6.3.2 item 3 - The following statement 'See Figure 6 and
note the expander between...' should be 'See figure 6 and the expander
between...'.
41: Tivoli comment from George Penokie
Page 11 - section 6.3.3 - The term 'application client' is not correct. This
should be customer, application, host, or some over non-SCSI term.
42: Tivoli comment from George Penokie
Page 11 - section 6.3.3 - The term 'ECP MARGIN CONTROL function' is not
defined in SPI-4 as indicated in two places in this section. It is not clear
to me what in SPI-4 I am supposed to be looking at. It could be the 'MARGIN
CONTROL expander function' but I am not sure. This needs to be corrected.
43: Tivoli comment from George Penokie
Page 11 - section 6.3.3 last paragraph - The statements 'Check sense data for
Echo Buffer Overridden. This should indicate a corrupted Echo Buffer.' should
be 'Check sense data for an ASCQ of ECHO BUFFER OVERRIDDEN for an indication
of a corrupted echo buffer.'.
44: Tivoli comment from George Penokie
Page 11 - Section 6.3.3 - The statement '...after Read Echo Buffer command.'
should be '...after READ ECHO BUFFER command (see SCSI Primary Command - 3).'.
45: Tivoli comment from George Penokie
Page 11- Section 6.3.4 - The term 'Execute' should be 'Run'.
PDF Page 16
46: Tivoli comment from George Penokie
Page 12 - section 6.3.4 - The term 'application client' is not correct. This

should be customer, application, host, or some over non-SCSI term.
47: Tivoli comment from George Penokie
Page 12 - section 6.3.4 2nd paragraph - Replace the term 'restraint' with 'A minimum number of combinations'.
48: Tivoli comment from George Penokie
Page 12 - section 6.3.4 2nd paragraph - The statement '...recommended. For instance, an application client may test only the minimum and the maximum of a

set of margin offset parameter adjustments.' should be '...recommended (e.g., an application may test only the minimum and the maximum of a set of margin offset parameter adjustments).'
49: Tivoli comment from George Penokie
Page 12 - section 6.3.5 - The following sentence 'All of the above should be executed through an outbound data path "TO" a particular target and inbound "FROM" a particular target.' should be 'The test in x.x.x and x.x.x should be run through an outbound data path to a particular target and inbound from a particular target.'
50: Tivoli comment from George Penokie
Page 12 - section 6.3.6 - The term 'executed' should be replaced with 'sent' or 'transmitted'.
51: Tivoli comment from George Penokie
Page 12 - Section 6.3.6 last paragraph - The end of the paragraph should state

'(see SCSI Primary Commands-3).'
52: Tivoli comment from George Penokie
Page 12 - section 6.3.7 2nd paragraph - The statement 'to the display' should be deleted.
53: Tivoli comment from George Penokie
Page 12 - Section 6.3.7 item a - The term 'section' should be deleted.
54: Tivoli comment from George Penokie
Page 12 - section 6.3.7 - The term 'application client' is not correct. This should be customer, application, host, or some over non-SCSI term.
55: Tivoli comment from George Penokie
Page 12 - section 6.3.7 item a - The statement 'stored in a file for future access' should be changed to 'saved'.
56: Tivoli comment from George Penokie
Page 12 - Section 6.3.7 - The term 'issues' should be 'failures' or 'errors'.
PDF Page 17
57: Tivoli comment from George Penokie
Page 13 - section 6.3.8 - The second 'Async Fails' decision block should be deleted and the 'NO' condition of the "Enhanced Check Passed?" block routed to

the input of the first 'Async Fails?' decision block.
58: Tivoli comment from George Penokie
Page 13 - section 6.3.8 - There needs to be some text to explain what the flow

charts are and the flow charts need to be labeled as figures with cross-references to those figures.

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Comments attached to YesC ballot from Mr. Paul D. Aloisi of Texas Instruments:

SDV - TI Comments
Paul Aloisi

Definitions added

SCSI Terminator: The terminator is at each end of a SCSI bus segment. The terminator provides impedance match and biasing, holding the bus in a negated state when it is not driven.

3.1.26 add ID0 is the LSB, least significant bit

4.2 second paragraph
Each component - component should be changed to device and up to 16 unique address

Each component device of the SCSI system is assigned a pre-defined and up to 16 unique SCSI addresses set by the system administrator. These addresses are hard wired and remain constant (as long as the hardware value is not physically changed). Terminators are not assigned addresses.

Expanders do not have SCSI addresses, but a secondary address that is not predefined in hardware.

5.3.3 second paragraph Fast 160 should be fast-160

6.3.8 first block added (ID0 is the LSB)

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Comments attached to Abs ballot from Mr. Doug Piper of
Woven Electronics:

No expertise in this matter

********** End of Ballot Report **********