

Accredited Standards Committee\*  
**X3, Information Technology**

**Doc. No.:** X3T10/96-019 r0

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**Project:** 1121-D

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**Reply to:** Mr. John Lohmeyer

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To: X3T10 Membership  
 Subject: Letter Ballot Results on forwarding SSA-S2P (96-010)

The letter ballot on forwarding SSA-S2P passed as shown in the below table. The comments received need to be addressed by X3T10.1 and the proposed ballot resolution should be forwarded to X3T10.

Organization	Stat	Person	SSA-S2P (96-010)	Comments
Adaptec, Inc.	A#	Mr. Lawrence J. Lamers	Y	
Amdahl Corp.	P	Mr. Edward Fong	Y	
AMP, Inc.	P	Mr. Charles Brill	Y	
Amphenol Interconnect	P	Mr. Michael Wingard	Y	
Ancot Corp.	P	Mr. Jan V. Dedek	Y	
Apple Computer	A	Mr. Ron Roberts	Y	
BusLogic	P	Mr. Clifford E. Strang Jr.	Y	
Ciprico Inc.	P	Mr. Gerry Johnsen	Y	
Circuit Assembly Corp.	P	Mr. Ian Morrell	Y	
Cirrus Logic Inc.	P	Mr. Joe Chen	Y	
CMD Technology	P	Mr. Edward Haske	Y	
Congruent Software, Inc.	P	Mr. Peter Johansson	Y	
Conner Peripherals	P	Mr. Michael Bryan	Y	
Dallas Semiconductor	P	Mr. Louis Grantham	Y	
Digital Equipment Corp.	P	Mr. Charles Monia	Y/C	
Eastman Kodak Co.	P	Mr. Robert Reisch	Y	
ENDL Associate	P	Mr. Ralph O. Weber	Y	
Exabyte Corp.	P	Mr. Edward Lappin	Y	
FSI Consulting Services	P	Mr. Gary R. Stephens	N*	cmnts by fax only
Fujitsu Computer Products,Am	P	Mr. Robert Liu	Y	
Hewlett Packard Co.	P	Mr. Stephen Holmstead	Y	
Hitachi Micro Systems, Inc.	P	Mr. S. Nadershahi	Y	
Honda Connectors	P	Mr. David McFadden	Y	
IBM Corp.	P	Mr. George Penokie	Y	
IIX Consulting			DNR	
Iomega Corp.	P	Mr. Geoffrey Barton	Y	
Linfinity Micro	P	Mr. Dean Wallace	Y	
Madison Cable Corp.	P	Mr. Robert Bellino	Y	
Maxtor Corp.	P	Mr. Pete McLean	Y	
Methode Electronics, Inc.	P	Mr. Steve D. Schueler	Y	
Molex Inc.	P	Mr. Joe Dambach	Y	
NEC Technologies			DNR	
Oak Technology, Inc.	P	Mr. Dennis Van Dalsen	Y	
Ophidian Designs			DNR	
Panasonic Technologies, Inc	P	Mr. Stephen F. Heil	Y	
QLogic Corp.	P	Mr. Skip Jones	Y	
Quantum Corp.	P	Mr. James McGrath	Y	
Seagate Technology	P	Mr. Gene Milligan	N	individual vote
Silicon Systems, Inc.	P	Mr. Stephen G. Finch	Y	
Storage Technology Corp.	P	Mr. Erich Oetting	Y	
Sun Microsystems Computer Co			DNR	
Symbios Logic Inc.	A	Mr. Greg Kapraun	N	

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**X3 Secretariat, Information Technology Industry Council (ITI)**

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Organization	Stat	Person	SSA-S2P (96-010)	Comments
SyQuest Technology, Inc.	P	Mr. Patrick Mercer	Y	
Tandem Computers	P	Mr. John Moy	Y	
Toshiba America	P	Mr. Tokuyuki Totani	Y	
Trimm Technologies	P	Mr. Gary M. Watson	Y	
UNISYS Corporation	P	Mr. Kenneth J. Hallam	Y	
Unitrode Integrated Circuits	P	Mr. Paul D. Aloisi	Y	
Western Digital Corporation	A	Mr. Tak Asami	Y	
Woven Electronics	P	Mr. Doug Piper	Y	
		Totals:	43:3:0:4 = 50	
Vote Key: Y - Yes Y/C - Yes, with comments N - No N* - No, without substantive comments identified (treated the same as Y/C) DNR - Did Not Return ballot				

## Comments Received on SSA-S2P:

### Digital Comments on SSA-S2P attached to Yes ballot:

Proposed editorial changes are denoted by an 'E', technical changes by a 'T'.  
In my opinion, the following comments address technical issues:

C-15, C-18, C-19, C-20, C-21, C-23, and C-25.

#### 1. General Comments

C-1: [E] Preface:

Pages should be numbered using lower-case, roman numerals.

C-2: [E] First patent statement after title page, second patent statement on page containing ANSI boiler plate material.

The possessive form is incorrectly used in the first sentence instead of the intended plural form.

Proposed revision:

In the first sentence of the cited patent statements, change 'holder's' to 'holders'.

#### 2. Changes to conform to ANSI editorial requirements

C-3: [E] Throughout

Replace 'specification' with 'standard'.

#### 2.1 Changes to eliminate use of "may" and "may not"

Unless otherwise noted, the following changes are proposed to eliminate incorrect use of 'may' and 'may not':

C-4: [E] Page 2, definition 3.1.10, logical path

'logical path: A full duplex conduit for the ordered delivery of SMS and

data frames between an initiator-target pair. (This includes the physical path from the initiator to the target as well as the return path from the target to the initiator, which may or may not retrace the initiator to target physical path.)'

Proposed revision:

'logical path: A full duplex conduit for the ordered delivery of SMS and data frames between an initiator-target pair. (This includes the physical path from the initiator to the target as well as the return path from the target to the initiator. The return path need not retrace the initiator to target physical path.)'

C-5: [E] Page 3, clause 4.1, first paragraph

'It is intended that SSA-S2P should conform as closely as possible to the existing SCSI-2 logical model. This minimizes the programming changes that may be required to convert existing systems and devices from the parallel bus to a serial interface.'

Proposed revision:

'It is intended that SSA-S2P should conform as closely as possible to the existing SCSI-2 logical model. This minimizes the programming changes required to convert existing systems and devices from the parallel bus to a serial interface. .'

C-6: [E] Page 4, clause 4.1, item b), under restrictions, second sentence:

'The SCSI-2 concept of Contingent Allegiance does not work for SSA since the next command resets the Contingent Allegiance condition, and the next command may be in the SSA pipeline prior to the status being received by the initiator.'

Proposed revision:

'The SCSI-2 concept of Contingent Allegiance does not work for SSA since the next command resets the Contingent Allegiance condition, and the next command could be in the SSA pipeline prior to the status being received by the initiator.'

C-7: [E] Page 5, Clause 6, paragraph 7, second to last sentence:

'however the SMS may be padded up to a total length of 32 bytes.'

Proposed revision

'however it is permitted to pad the SMS up to a total length of 32 bytes.'

C-8: [E] Page 10, clause 6.6, last paragraph, third sentence:

'For vendor-specific commands, the CDB may be up to 16 bytes long'

Proposed revision:

'For vendor-specific commands, the CDB is up to 16 bytes long'

C-9: [E] Page 14, clause 6.12, first paragraph, second sentence:

'After the Serial Contingent Allegiance condition is cleared, any suspended queued command for that initiator may become an active I/O process subject to the ordering rules.'

Proposed revision:

'After the Serial Contingent Allegiance condition is cleared, any suspended queued command for that initiator is allowed to become an active I/O process subject to the ordering rules.'

C-10: [E] Page 18, clause 8.4, item 2:

'Different I/O processes for the same I\_T nexus may use different logical paths. Since delivery order is not guaranteed between logical paths, the arrival order for frames sent along different logical paths may be different than the order in which such frames were sent.'

Proposed revision:

'Different I/O processes for the same I\_T nexus are permitted to use different logical paths. Since delivery order is not guaranteed between logical paths, it is possible for the arrival order of frames sent along different logical paths to vary from the order in which such frames were sent.'

C-11: [E] Page 18, clause 8.5, first sentence:

'An SSA Web may contain multiple initiators.'

Proposed revision:

'It is possible for an SSA Web to contain multiple initiators.'

C-12: [E] Page 18, clause 8.6, second sentence:

'Future proposals may add these features.'

Proposed revision:

Delete the referenced sentence.

C-13: [E] Page 27, clause D.1.4, third paragraph, last sentence:

'When an SCSI Command Received protocol service indications received with the Resume parameter set, the internal QUEUE FULL flag is cleared and the command is processed (which may result in another QUEUE FULL Status).'

Proposed revision:

Change 'indications received' to 'indication is received' and reword to eliminate use of the word 'may' as shown below.

'When an SCSI Command Received protocol service indication is received with the Resume parameter set, the internal QUEUE FULL flag is cleared and the command is processed (possibly causing another QUEUE FULL Status).'

## 2.1 Changes required to eliminate the use of 'will'

The following changes are proposed to eliminate the word 'will', to comply with ANSI editorial requirements. Certain proposed corrections may also address other technical or editorial problems.

Changes replacing 'will' with 'shall' are considered to be technical changes.

C-14: [E] Page 4, clause 4.1, item b under 'Restrictions', last sentence:

'Therefore SSA-S2P will adopt the concept of Serial Contingent Allegiance where the Serial Contingent Allegiance condition shall be explicitly reset by a CLEAR SCA CONDITION SMS.'

Proposed revision:

'Therefore SSA-S2P has adopted the concept of Serial Contingent Allegiance where the Serial Contingent Allegiance condition shall be explicitly reset by a CLEAR SCA CONDITION SMS.'

C-15: [ET] Page 6, clause 6.2.1, first paragraph, first sentence:

'After the transport layer validity checks the SMS, SSA-S2P will validity check byte 1, the S2P CODE, in the order shown in the following list.'

Proposed revision:

'After the transport layer validity checks the SMS, the SSA-S2P layer shall validity check byte 1, the S2P CODE, in the order shown in the following list.'

C-16: [E] Page 8, clause 6.4, last sentence:

'A target shall provide storage to process one of these SMSs for each Initiator and therefore, these SMSs will never be discarded if the initiator follows the SSA-S2P requirements.'

Proposed revision:

'A target shall provide storage to process one of these SMSs for each initiator and therefore need never discard one, provided the initiator follows the SSA-S2P requirements.'

C-17: [E] Page 8, clause 6.6, first paragraph, second sentence:

'If the SCSI COMMAND SMS can be successfully parsed, the target will respond by optionally initiating a data transfer and sending an SCSI STATUS SMS.'

Proposed revision:

'If the SCSI COMMAND SMS can be successfully parsed, the target responds by optionally initiating a data transfer and sending an SCSI STATUS SMS.'

C-18: [ET] Page 10, clause 6.6,

'All previously issued ORDERED I/O processes will be executed prior to

executing any of the SIMPLE I/O processes. Any subsequently issued ORDERED I/O process will be executed after all the SIMPLE I/O processes have completed."

Proposed revision:

'All previously issued ORDERED I/O processes shall be executed prior to executing any of the SIMPLE I/O processes. Any subsequently issued ORDERED I/O process shall be executed after all the SIMPLE I/O processes have completed.'

C-19: [ET] Page 16, clause 6.6, eighth paragraph, last sentence:

In the following sentence, the status field for linked command continuation is incorrectly specified to have a value of GOOD. The correct values are LINKED COMMAND COMPLETE or LINKED COMMAND COMPLETE, WITH FLAG.

Current version:

'In this case the initiator will send a further SCSI COMMAND SMS in response to the SCSI STATUS SMS for the current command, provided the STATUS field has a value of GOOD.'

Proposed revision:

'In this case the initiator sends a further SCSI COMMAND SMS in response to the SCSI STATUS SMS for the current command, provided the STATUS field has a value of LINKED COMMAND COMPLETE, or LINKED COMMAND COMPLETE, WITH FLAG.'

C-20: [ET] Page 12, clause 6.8, fourth paragraph, first sentence:

'In the SCSI RESPONSE SMS, the RETURN CODE field will be either REQUESTED FUNCTION COMPLETED SUCCESSFULLY, or I/O PROCESS NOT FOUND.'

Proposed revision:

'In the SCSI RESPONSE SMS, the RETURN CODE field shall have a value of REQUESTED FUNCTION COMPLETED SUCCESSFULLY, or I/O PROCESS NOT FOUND.'

C-21: [ET] Page 13, clause 6.9, third paragraph:

'In the SCSI RESPONSE SMS, the RETURN CODE field will be REQUESTED FUNCTION COMPLETED SUCCESSFULLY or INVALID FIELD.'

Proposed revision:

'In the SCSI RESPONSE SMS, the RETURN CODE field shall have a value of REQUESTED FUNCTION COMPLETED SUCCESSFULLY or INVALID FIELD.'

C-22: [ET] Page 13, clause 6.10, last paragraph:

'In the SCSI RESPONSE SMS, the RETURN CODE field will be REQUESTED FUNCTION COMPLETED SUCCESSFULLY or INVALID FIELD.'

Proposed revision:

'In the SCSI RESPONSE SMS, the RETURN CODE field shall have a value of REQUESTED FUNCTION COMPLETED SUCCESSFULLY or INVALID FIELD.'

C-23: [ET] Page 17, clause 7.5, first paragraph, first sentence:

'Total Reset, Absolute Reset, and Power On Reset will reset SCSI constructs (equivalent to an SCSI-2 Hard reset). '

Proposed revision:

'In response to a Total Reset, Absolute Reset, or Power On Reset, the S2P layer shall reset SCSI constructs (equivalent to an SCSI-2 Hard reset). '

C-24: [E] Page 17, clause 8.2, third paragraph, last sentence:

'Such an I/O process will be referred to as an SCA I/O process.'

Proposed revision:

'Such an I/O process is referred to as an SCA I/O process.'

C-25: [ET] Page 22, Annex A, paragraph 3, first sentence:

'RESERVATION CONFLICT status will be returned whenever an initiator attempts to access a Logical Unit or an extent within that Logical Unit that is reserved with a conflicting reservation type for another SCSI device.'

Proposed revision:

'RESERVATION CONFLICT status shall be returned whenever an initiator attempts to access a Logical Unit or an extent within that Logical Unit that is reserved with a conflicting reservation type for another SCSI device.'

C-26: [E] Page 24, Annex B, paragraph 6, first sentence:

'The level of reset will depend on the initiator's error recovery procedure.'

Proposed revision:

'The level of reset depends on the initiator's error recovery procedure.'

C-27: [E] Page 25, Annex C, first sentence:

'This clause will explore some of the differences between SSA-S2P and parallel SCSI-2.'

Proposed revision:

'This clause explores some of the differences between SSA-S2P and parallel SCSI-2.'

C-28: [E] Page 31, clause D.4.1, third paragraph, first sentence:

'The SSA-S2P protocol will then invoke the transport layer service of SEND SMS as follows to send the SCSI COMMAND SMS.'

Proposed revision:

'The SSA-S2P protocol then invokes the transport layer service of SEND SMS as follows to send the SCSI COMMAND SMS.'

C-29: [E] Page 31, clause D.4.1, fourth paragraph, first sentence:

'If the Return Code parameter indicates FUNCTION FAILED or INVALID PARAMETER, then the protocol layer will generate a Command Complete Received protocol service confirmation with a Service Response parameter value of SERVICE DELIVERY OR TARGET FAILURE.'

Proposed revision:

'If the Return Code parameter indicates FUNCTION FAILED or INVALID PARAMETER, then the protocol layer generates a Command Complete Received protocol service confirmation with a Service Response parameter value of SERVICE DELIVERY OR TARGET FAILURE.'

C-30: [E] Page 31, clause D.4.3, second paragraph:

'Upon receipt of the Send Command Complete protocol service from the device server, the protocol will perform the following actions.'

Proposed revision:

'Upon receipt of the Send Command Complete protocol service from the device server, the protocol performs the following actions.'

C-31: [E] Page 31, clause D.4.3, third paragraph, item d.

'd) The Service Response parameter will cause the LINK and FLAG bits to be set as defined in Table D.3'

Proposed revision:.

'd) The Service Response parameter causes the LINK and FLAG bits to be set as defined in Table D.3'

C-32: [E] Page 32, clause D.4.3, first paragraph:

'The SSA-S2P protocol will then invoke the transport layer service of SEND SMS as follows to send the SCSI STATUS SMS.'

Proposed revision:

'The SSA-S2P protocol then invokes the transport layer service of SEND SMS as follows to send the SCSI STATUS SMS.'

C-33: [E] Page 32, clause D.4.4, third paragraph

'If any of the following transport services returns a FUNCTION FAILED Return Code parameter, then the protocol will generate a Command Complete Received protocol service indication.'

Proposed revision:

'If any of the following transport services returns a FUNCTION FAILED Return Code parameter, then the protocol generates a Command Complete Received protocol service indication.'

C-34: [E] Page 33, clause D.5.1, second paragraph:

'Upon receipt of the Send Data-In protocol service request, the protocol will



invoke the following transport service.'

Proposed change:

'Upon receipt of the Send Data-In protocol service request, the protocol invokes the following transport service.'

C-35: [E] Page 33, clause D.5.1, second paragraph, item f, second sentence:

'These parameters can be used when the target does not have Byte Count worth of data in its buffer at the time of invocation (but it does have Start Count), and will use the transport layer to throttle the data transfer.'

Proposed change:

'These parameters can be used when the target does not have Byte Count worth of data in its buffer at the time of invocation (but it does have Start Count), and intends to use the transport layer to throttle the data transfer.'

C-36: [E] Page 34, clause D.5.1, first paragraph:

'If the Return Code parameter indicates FUNCTION FAILED, then the protocol layer will generate a Command Complete Received protocol service confirmation with a Service Response parameter value of SERVICE DELIVERY OR TARGET FAILURE.'

Proposed revision:

'If the Return Code parameter indicates FUNCTION FAILED, then the protocol layer generates a Command Complete Received protocol service confirmation with a Service Response parameter value of SERVICE DELIVERY OR TARGET FAILURE.'

C-37: [E] Page 34, clause D.5.1, second paragraph:

'If the Return Code parameter indicates FUNCTION SUCCESSFUL, then the invocation of the TARGET READ transport service will cause the Initiator protocol to receive an INITIATOR READ transport service request, by sending one or more DATA READY SMS(s).'

Proposed revision:

'If the Return Code parameter indicates FUNCTION SUCCESSFUL, then the invocation of the TARGET READ transport service causes the Initiator protocol to receive an INITIATOR READ transport service request, by sending one or more DATA READY SMS(s).'

C-38: [E] Page 34, clause D.5.2, second paragraph:

'When the data transfer initiated by the Send Data-In protocol service request completes, the transport layer will inform the protocol layer with a READ DATA COMPLETE transport service confirmation.'

Proposed revision:

'When the data transfer initiated by the Send Data-In protocol service request completes, the transport layer informs the protocol layer with a READ DATA COMPLETE transport service confirmation.'

C-39: [E] Page 34, clause D.5.2, fourth paragraph:

'Upon receipt of the READ DATA COMPLETED transport service, the protocol layer will generate a Data Sent protocol service confirmation as follows.'

Proposed revision:

'Upon receipt of the READ DATA COMPLETED transport service, the protocol layer generates a Data Sent protocol service confirmation as follows.'

C-40: [E] Page 34, clause D.5.3, second paragraph:

'Upon receipt of the Receive Data-Out protocol service request, the protocol will invoke the following transport service.'

Proposed revision:

'Upon receipt of the Receive Data-Out protocol service request, the protocol invokes the following transport service.'

C-41: [E] Page 34, clause D.5.3, paragraph 4:

'If the Return Code parameter indicates FUNCTION FAILED, then the protocol layer will generate a Send Command Complete protocol service request with a Service Response parameter value of SERVICE DELIVERY OR TARGET FAILURE.'

Proposed revision:

'If the Return Code parameter indicates FUNCTION FAILED, then the protocol layer generates a Send Command Complete protocol service request with a Service Response parameter value of SERVICE DELIVERY OR TARGET FAILURE.'

C-42: [E] Page 34, clause D.5.3, paragraph 5:

'The invocation of the Target Write transport service will cause the Initiator protocol to receive an Initiator Write transport service request.'

Proposed revision:

'The invocation of the Target Write transport service causes the Initiator protocol to receive an Initiator Write transport service request.'

C-43: [E] Page 34, clause D.5.4, paragraph 2:

'When the data transfer initiated by the Send Data-Out protocol service request completes, the transport layer will inform the protocol layer with a WRITE DATA COMPLETE transport service confirmation.'

Proposed revision:

'When the data transfer initiated by the Send Data-Out protocol service request completes, the transport layer informs the protocol layer with a WRITE DATA COMPLETE transport service confirmation.'

C-44: [E] Page 34, clause D.5.4, paragraph 4:

'Upon receipt of the READ DATA COMPLETED transport service, the protocol layer will generate a Data-Out Received protocol service confirmation as follows.'

Proposed revision:

'Upon receipt of the READ DATA COMPLETED transport service, the protocol layer generates a Data-Out Received protocol service confirmation as follows.'

C-45: [E] Page 35, clause D.6, paragraph 2:

'Upon receipt of the Task Management Function protocol Service request, the protocol layer will build an SMS structure and instructs the transport layer to transmit it. The type of SMS depends on the Task Management function, and will be detailed in each Task Management section.'

Proposed revision:

'Upon receipt of the Task Management Function protocol Service request, the protocol layer builds an SMS structure and instructs the transport layer to transmit it. The type of SMS depends on the Task Management function, and is detailed in each Task Management section.'

C-46: [E] Page 35, clause D.6, paragraph 3:

'In all cases, the SSA-S2P protocol will then invoke the transport layer service of SEND SMS as follows.'

Proposed revision:

'In all cases, the SSA-S2P protocol then invokes the transport layer service of SEND SMS as follows.'

C-47: [E] Page 35, clause D.6, paragraph 5.

'If the Return Code parameter indicates FUNCTION FAILED or INVALID FIELD, then the protocol layer Service Response value will be SERVICE DELIVERY OR TARGET FAILURE. If the Return Code parameter indicates FUNCTION SUCCESSFUL, then the protocol layer Service Response value of FUNCTION COMPLETE.'

Proposed revision:

Reword to eliminate use of 'will', add missing word in second sentence as shown below:

'If the Return Code parameter indicates FUNCTION FAILED or INVALID FIELD, then the protocol layer Service Response value is SERVICE DELIVERY OR TARGET FAILURE. If the Return Code parameter indicates FUNCTION SUCCESSFUL, then the protocol layer returns a Service Response value of FUNCTION COMPLETE.'

C-48: [E] Page 35, clause D.6, paragraph 6, second sentence:

Use of the word 'shall' in an informative annex is incorrect.

'Additional Task Management requests received from an application client while another Task Management request is active for an I\_T nexus shall be

held until the outstanding Task Management function completes.'

Proposed revision:

'Additional Task Management requests received from an application client while another Task Management request is active for an I\_T nexus are held until the outstanding Task Management function completes.'

C-49: [E] Page 35, clause D.6.1, second paragraph:

'The SSA-S2P protocol will construct an ABORT TAG SMS into a data structure entitled SMS STRUCTURE as follows:'

Proposed revision:

'The SSA-S2P protocol builds an ABORT TAG SMS into a data structure entitled SMS STRUCTURE as follows:'

C-50: [E] Page 35, clause D.6.2, second paragraph:

'The SSA-S2P protocol will construct an ABORT TASK SET into a data structure entitled SMS STRUCTURE as follows:'

Proposed revision:

'The SSA-S2P protocol builds an ABORT TAG SMS into a data structure entitled SMS STRUCTURE as follows:'

C-51: [E] Page 36, clause D.6.3, first paragraph:

'The SSA-S2P protocol will construct a CLEAR SCA SMS into a data structure entitled SMS STRUCTURE as follows:'

Proposed revision:

'The SSA-S2P protocol builds a CLEAR SCA SMS into a data structure entitled SMS STRUCTURE as follows:'

C-52: [E] Page 36, clause D.6.4, second paragraph:

'The SSA-S2P protocol will construct a CLEAR QUEUE SMS into a data structure entitled SMS STRUCTURE as follows:'

Proposed revision:

'The SSA-S2P protocol builds a CLEAR QUEUE SMS into a data structure entitled SMS STRUCTURE as follows:'

C-53: [E] Page 36, clause D.6.5, second paragraph:

'The SSA-S2P protocol will construct a TARGET RESET SMS into a data structure entitled SMS STRUCTURE as follows:'

Proposed revision:

'The SSA-S2P protocol builds a TARGET RESET SMS into a data structure entitled SMS STRUCTURE as follows:'

C-54: [E] Page 36, clause D.7.1, second paragraph

'Upon receipt of the Send Task Management Request protocol service, the protocol layer will perform the actions defined in the appropriate Task Management Function section.'

Proposed revision:

'Upon receipt of the Send Task Management Request protocol service, the protocol layer performs the actions defined in the appropriate Task Management Function section.'

C-55: [E] Page 36, clause D.7.2, second paragraph

'Upon receipt of an SMS RECEIVED transport service indication and validation of SMS contents, the targets S2P layer will generate a Task Management Request Received protocol service indication with the appropriate parameters.'

Proposed revision:

'Upon receipt of an SMS RECEIVED transport service indication and validation of SMS contents, the targets S2P layer generates a Task Management Request Received protocol service indication with the appropriate parameters.'

C-56: [E] Page 37, clause D.7.3, first paragraph:

'Upon receipt of a Task Management Function Executed protocol service, the protocol layer will construct a partial SCSI RESPONSE SMS and will instruct the transport layer to transmit it.'

Proposed revision:

'Upon receipt of a Task Management Function Executed protocol service, the protocol layer builds a partial SCSI RESPONSE SMS and instructs the transport layer to transmit it.'

3. Changes to correct unresolved cross references:

C-57: [E] Page 11, clause 6.8, third paragraph, last sentence:

'Upon receiving the SCSI RESPONSE SMS (see D.3.1), the initiators S2P layer removes the aborted command if present in its Outstanding Commands Table.'

C-58: [E] Page 12, clause 6.9, third paragraph, last sentence:

'Upon receiving the SCSI RESPONSE SMS, the initiators S2P layer removes all aborted commands from its Outstanding Commands Table (see D.3.1).'

C-59: [E] Page 13, clause 6.10, third paragraph, last sentence:

'Upon receiving the SCSI RESPONSE SMS, the initiators S2P layer removes all aborted commands from its Outstanding Commands Table (see D.3.1).'

Gary Stephens faxed the following comment (transcribed by John Lohmeyer): "Due to severe personal events, a proper typed and numbered response was not possible. I will attempt to do so before the March meeting. Copies of marked up pages are included to support the NO vote for now."

I also received faxes of approximately 15 pages of the SSA-S2P document liberally marked up. The vast majority of these comments appear to be editorial in nature. Since there is no sane way to transcribe all of these comments, I've forwarded paper copies to the SSA-S2P editors. They will incorporate the editorial comments as they see fit. Since Gary was unable to provide documentation on what comments are substantive, I am forced to treat his ballot the same as a "Yes, with comments" ballot. No formal response will be generated for his comments (other than the next revision of SSA-S2P).

NOTE: Gary obviously did a great deal of work reviewing the SSA-S2P document. However, X3T10 cannot wait until March for the properly documented ballot comments. This would not be fair to the SSA-S2P editors who are meeting on 2/16/96 to develop a proposed resolution to the letter ballot comments or to X3T10.1 which meets later in February to review and possibly approve the proposed resolution.

**Milligan (Seagate) Comments on SSA-S2P attached to No ballot:**

1) The last phrase of the Abstract is a marketing statement and should be deleted from the cover page; page I; and the Foreword since the assertion is not one that X3T10 has endorsed.

2) The patent statement has been useful information for the committee participants. However now that the SSA-S2P is being forwarded, the patent statement should be replaced with the standard X3 patent statement for the case where patent claims have been made and offered in accordance with the ANSI patent policy. In particular the specific citing of claims should be removed.

I recognize that X3T11 has left such statements in some of their forwarded standards. But this is inappropriate since the committee should not take any position on the validity of the claims made.

3) I assume the cover pages of each of the SSA drafts will be routinely updated in the course of forwarding to X3 to correctly reflect their status.

4) I assume the blank pages of SSA-S2P and the revision history of each of the SSA drafts will be routinely deleted in the course of forwarding to X3 to correctly reflect their status.

5) SSA-S2P cites both the SCSI-3 Architectural Model (without an appropriate document number) and SCSI-2 as normative references. It is my understanding that SCSI-2 is not compliant with SAM. Consequently there seems to be a normative catch-22.

6) The latter portion of Clause 2 are not normative references. They are conventions and should be moved to the appropriate clause.

7) The foreword states that "This document includes annexes which are informative and are not considered part of this standard." This is misleading since Annex A is normative.

**Symbios Logic Comments on SSA-S2P attached to No ballot:**

Vote on X3T10/96-010r0 (SSA-S2P): NO with comments. This vote can be changed to Yes if the substantive comments numbered 2, 3, 4 and 6 are resolved as indicated. All other comments are considered editorial in nature.

1. General:

The use of destination, destination node, and node are not consistent within this document and are not consistent with SSA-TL1. This makes some sections difficult to follow and could cause confusion whether every node does something or just the destination <-- I don't like using this alone as this document has done -- or whether the destination node does the action. Please use these terms with the same consistency, and with the same definitions as in SSA-TL1.

## 2. Section 4.2

Paragraph 8: The definition of Reserved needs to conform to the convention established in SSA-TL1. The reference to node in this and the following paragraph should be 'destination node'. All nodes in between do not look at these fields or bits.

Paragraph 9: Second sentence should read: Any value is considered valid. (as it is stated again in SSA-TL1)

Paragraph 11: In SSA-TL1 there are quotes around Big Endian please be consistent between the two standards.

## 3. Section 5.

SSA does not have anything called a Data frame. It has CONTROL, PRIVILEGED, and APPLICATION frames. Hence Paragraph 1 of this section in sentence 2 and 3 should not refer to a Data frame. Paragraph 1 should point out that the SMSs would be transmitted to Channel 0 as Application frames, and the other Application frames transporting data are sent to non zero Channel numbers. Or define the term Data frame within the context of SSA-S2P as stated above. Note Data frame is used elsewhere in this document with the same objections.

## 4. Section 6.

2nd paragraph the a before SMS should be 'an' Next to last paragraph under Table 3. A target returning a SCSI STATUS does not have to use the same port as the SCSI COMMAND was received on. It uses the 'logical path' as has been defined, but this does not imply use of the same port. This sentence is redundant with Paragraph 6 in this section and should be stricken.

## 5. Section 6.2.

First sentence is clumsy. say ...receiving an SSA-S2P SMS, ...

## 6. Section 6.2.1.

1st Paragraph 2nd sentence delete second then of the sentence.

Item 1) in the parens delete the 'H' at the end of ASYNCH

Item 2) This check does not make any sense. Please clarify. Am I checking a byte (which there isn't one). An 'initiator' may be a target for another initiator. Can it do this check before validating the Tag which the SMS is associated with?

## 7. Section 6.6.

In the CHANNEL field description paragraph the term data frame is used and needs to be resolved as per previous comments.

## 8. Section 6.8.

3rd paragraph last sentence has a reference to (see 0). There is no 0.

## 9. Section 6.9

Paragraph 3 end of paragraph has a (see 0) reference.

## 10. Section 6.10

Paragraph 3 end of paragraph has a (see 0) reference.

## 11. Section 7.5

3rd paragraph 2nd sentence. The second comma should be deleted.

## 12. Section 8.4

Paragraph 1 uses the term data frames.

In item 1) ditto

Item 3) uses the term logical path when talking about sending the SMSs down multiple paths used. In the description paragraph of each of these SMSs logical was not used in front of the word path. The words 'each different path' were used rather than logical. Please correct either this paragraph or each of the others in the document.

13. Annex A.

First word AN should not have N capitalized.

Item e) refers to a Local Reset. There is not one any more.

14. Annex B.

Section B.2 Several cases like (05h) and (07h) say frame rejects are handled in the physical layer. They are handled in the Transport layer not the physical layer.

15. Annex C.

Section C.1. Downstream node has no meaning. The correct terminology is 'remote port'. (As is used correctly in C.1.1) Section C.1.2 uses the term data frame.

16. Annex D.

Section D.1.6 The term TCHANNEL is still used here and has been removed from SSA-TL1.