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To: Members of X3T10

Subject: Summary of Differences between SAM Rev 18 and SAM -2 Rev 0.1

1 INTRODUCTION

This memo summarizes differences between SAM -2 (X3T10/1157D), revision 0.1 and SAM (X3T10/994D), revision 18 (other than editorial corrections). It is requested that SAM -2 revision 0.1 with the changes described herein be accepted by the committee as the current SAM -2 working draft.

2 DESCRIPTION OF CHANGES

2.1 Changes to Clarify or Improve the Technical Presentation

The following changes are intended to clarify or improve the presentation. In the opinion of the editor, the intended technical content is unaffected.

Subclause 4.7, page 40

Remove object definitions for "Task Identifier", "Initiator Identifier" and "Task Address" from object definition 7 (Task). Create separate Object Definitions for these entities.

Subclause 5.2, page 51, last paragraph

Include the specified paragraph in a new subclause (5.2.1) entitled "Status Precedence"

2.1.1 Clarify the description of events and state changes

When specifying events and state changes defined by the transmission of information via the protocol layer, the standard needs to state clearly whether the event or state change is coincident with the sending or receiving of the event information. The following is an example from reference (a), page 64, subclause 7.2, which discusses the effect of task management events on task state:

"**task completion:** The device server has returned a service response of `task complete ...`"

In the above example, it is not clear if the task completion event takes place when the service response is sent or when it is received.

In this case, the standard should clarify that the state change associated with task completion takes place as soon as the notification is sent and, possibly, before the initiator becomes aware of it. To clarify the distinction, above the wording should be changed to the following:

"**task completion:** The device server has sent a service response of `task complete ...`"

In addition to the above, the following are other instances requiring such clarification:

Page 53, subclause 5.6.1.2 (Clearing an Auto Contingent Allegiance Condition), third paragraph, Second sentence:

Current wording:

"In this case, the logical unit shall also clear the associated auto contingent allegiance condition upon the return of sense data by means of the autosense mechanism described in 5.6.4.2"

Proposed wording:

"In this case, the logical unit shall also clear the associated auto contingent allegiance condition upon sending sense data by means of the autosense mechanism described in 5.6.4.2"

Clause 6, page 58, paragraph 5, second sentence:

Current wording:

"Function Complete: A logical unit response indicating that the requested function is complete. The task manager shall unconditionally return this response upon completion of a task management request supported by the logical unit or target device to which the request was directed."

Proposed wording:

"Function Complete: .A task manager response indicating that the requested function is complete. The task manager shall unconditionally send this response upon completion of a task management request supported by the logical unit or target device to which the request was directed."

(Note correction to first sentence of this paragraph.)

2.1.2 Data Transfer Services -- Description of Application Client Buffer

Subclause 5.3.1, page 53, second paragraph, first sentence:

Reword to specify that the application client buffer should appear to the logical unit as a logically contiguous block of memory, regardless of whether or not it is physically contiguous.

Current wording:

"As shown in figure 19, the application client's buffer is a single, logically contiguous block of memory large enough to hold all the data required by the command"

Proposed wording:

"As shown in figure 19, the application client's buffer appears to the device server as a single, logically contiguous block of memory large enough to hold all the data required by the command"

2.1.3 Accepting a Task into the Task Set While an ACA is Active

In subclause 5.6.1.1, the text listing the conditions under which a task is accepted into the task set while an ACA condition is in effect is unclear. The current wording must explicitly state that all of the listed conditions must be true. The specific changes are as follows:

Subclause 5.6.1.1, page 58, fifth paragraph after "notes":

Current wording:

"If the NACA bit was set to one in the CDB control byte of the faulting command, then a new task created while the ACA condition is in effect shall be entered into the faulted task set provided:

Proposed Wording:

"If the NACA bit was set to one in the CDB control byte of the faulting command, then a new task created while the ACA condition is in effect shall not be entered into the faulted task unless all of the following are true:"

Page 59, first paragraph after list:

Current wording:

"If the conditions listed above are not met, the newly created task shall not be entered into the task set and shall be completed with a status of ACA ACTIVE."

Proposed wording:

"If any of the conditions listed above are not met, the newly created task shall not be entered into the task set and shall be completed with a status of ACA ACTIVE."

2.1.4 Protocol service naming conventions

The protocol service names have been changed to incorporate the conventions used in the OSI documentation. Specifically, the request, indication, response and confirmation services provided by the protocol layer have been changed as indicated in the following template:

service_name.request
service_name.indication
service_name.response
service_name.confirm

2.1.5 Keywords

Add "keyword" clause (3.2) defining the following compliance-related terms:

"shall", "may", "should", "mandatory", "optional", "reserved", "vendor-specific", "protocol-specific", "option", "optional".

2.2 Technical Corrections

Subclause 4.7.3, page 34, paragraph 2, sentence 2.

The sentence incorrectly states that task management requests are directed to a logical unit instead of the task manager. The sentence has been reworded as follows:

Current wording:

"To guarantee the execution order of task management requests directed to a specific logical unit, an initiator should therefore not have more than one such request pending to that logical unit."

Proposed wording:

"To guarantee the execution order of task management requests referencing a specific logical unit, an initiator should therefore not have more than one such request pending to that logical unit."

Subclause 5.6.3, page 60, item a), second paragraph, second sentence:

Correct the reference to the REQUEST SENSE command as follows:

"In response to any other command except REQUEST SENSE and INQUIRY, the target shall terminate the command with CHECK CONDITION status. Sense data shall be set to the values specified for the REQUEST SENSE command ~~above~~ in item b below."

Subclause 5.2, change the wording as noted below.

"**CONDITION MET.** This status ~~is~~ shall be returned whenever the requested operation specified by an unlinked command is satisfied (see the SEARCH DATA (SBC) and PRE-FETCH (SBC) commands)."

Subclause 5.6.3, page 60, paragraph after item a). Clause 6, page 65, "Function Complete" parameter description

Reword as shown below.

"Function Complete: A ~~logical unit~~ task manager response indicating that the requested function is complete. The task manager shall unconditionally return this response upon completion of a task management request supported by the logical unit or target device to which the request was directed. Upon receiving a request to execute an unsupported function, the task manager may return this response or the Function Rejected response described below."

2.3 Previously Approved Technical Changes

Modify subclauses 5.2, 5.6.1.1 and 5.6.1.2 and clause 7 to Incorporate applicable parts of X3T10/95-229R2, Persistent Reserve. The changes to clause 7 were inadvertently omitted from the document as passed by the committee.