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Public review comments of X3.270:199x, SCSI-3 Architecture Model (SAM)

I am working from document X3T10/994D revision 16, which I hope is correct.

Page 42, Section 6, definition of "service response": Input arguments "Data-Out Buffer" and "Task Attribute" should be swapped in the description at the middle of the page so that the order of the descriptions matches the order in the definition.

Page 47, Section 6.2, definition of ACA ACTIVE: Item c) refers to the "ACA bit", it should instead refer to the "NACA bit".

Page 47, Section 6.3: In the first paragraph of this section, the second sentence should refer to the "Send SCSI Command Protocol Service request" (add capitalization and the word "request"). This is consistent with the rest of the paragraph's capitalization and use of the words confirmation, indication, and response.

Page 56, Section 6.6.3: I think items c) and d) should contain identical text in the second paragraph. Item c) specifies that the target should return sense data without specifying the sense data (contrary to the other 3 items in this section).

Page 72, section 8.6.2: This example (HEAD OF QUEUE tasks) is very confusing:

1. It isn't obvious why a group of simple tasks have an Ordered Blocking Boundary between them (between task 2 and task 4). I think this is because when task 3 is accepted then subsequent simple tasks are dormant until all head or queue tasks complete. It might help the example to show this since anybody who understands why the Ordered Blocking Boundary is present at the start probably doesn't need the example.

2. The transition from 2 to 3 makes the dormant tasks enabled when Head of Queue task 3 completes. However Head or Queue task 7 is still enabled. It appears from this example that the term "earlier" is used to mean issued earlier in time rather than earlier in the queue (I suggest the term "earlier" be defined here so that it's clear).

The definition of Head of Queue seems counter-intuitive here. If a system normally uses only Simple tasks, there is no requirement that Head of Queue tasks be executed before any previously accepted Simple task (since all are in the enabled state). In fact, I don't find anything in the text to imply that a Head of Queue task must be placed at the head of the task queue, merely that it be placed someplace in the queue in enabled state.

The requirement that all earlier (in time) Head of Queue tasks be used to determine when a task is dormant means that tasks must be queued both by order of issue and by enabled or dormant. This seems to add a non-obvious burden on implementations.

I realize this has been argued over a lot, so won't suggest a technical change, though renaming "Head of Queue tasks" to "Immediately Enabled tasks" might be more honest.

I do suggest that this example be expanded greatly with explanations of why "Head of Queue" doesn't really mean "execute first".

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