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To:	T10 Committee Membership			
From:	Edward A. Gardner, Ophidian Designs			
Subject:	SAM-2 Comments			

1   OD01 figure 1, page 1, pdf page 23

The two styles of arrows are all but indistinguishable when viewed using Acrobat reader on a laptop; gray vs. black is not enough of a distinction. Please add other style distinctions, e.g. dashed vs. solid lines, different arrowhead styles, etc.

2   OD02 clause 3.1.72, page 9, pdf page 31, pending task

The term "pending task" is solely used to define the term "suspended information"; it appears nowhere else in the standard. "Pending" is used in many places to describe commands and task management functions in a manner that conflicts with the definition of "pending task". This term should be deleted from clause 3.

Comments OC02 through OC06 discuss every occurrence of "pending" in SAM-2.

3   OD03 clause 3.1.118, page 12, pdf page 34, suspended information

Delete the word "pending" from this definition. The important characteristic of suspended information is that it is not available, not the state of the task that it is not made available to. The use of "pending" implies that while suspended information is not available to pending tasks, it might be available to tasks in other states (i.e. current tasks), which is totally opposite to the intent of the term.

It would be better to delete this term from the glossary. "Suspended information" never appears in SAM-2. "Suspended" is used by itself in a context referring to "information" only twice in all of SAM-2, once in 7.4.3 and once in 7.4.4. Given the importance of suspended information to the task management model, a discussion of the concept is necessary in clause 7, not just a spare definition. Since the only use would be in immediately adjacent clauses, no glossary entry is needed.

Comments OC02 through OC06 discuss every occurrence of "pending" in SAM-2.

4   OD04 pending commands, task management functions, tasks

There are numerous uses of "pending" as a synonym for "outstanding, for example a command that has begun but not yet completed its lifetime. Most of these refer to "pending commands" or "pending task management functions", a few refer to "pending tasks". All conflict with 3.1.72 and need to be reconciled. Per clause 5.5, the proper word is to say that a task "exists" during its lifetime and a command is "tendered" during its lifetime. The following lists all occurrences of "pending" in this context:

Clause 4.2, page 19, pdf page 41, three occurrences.

Clause 4.3, page 20, pdf page 42: two occurrences.

Clause 4.6.2, page 24, pdf page 46.

Clause 4.7.1, page 25, pdf page 47.

Clause 4.7.3, page 27, pdf page 49.

Clause 4.8, page 29, pdf page 51.

Clause 5.3.1, page 54, pdf page 76, two occurrences.

Clause 5.8.2, page 70, pdf page 92.

Clause 6.9, page 81, pdf page 103.

Comments OC02 through OC06 discuss every occurrence of "pending" in SAM-2.

5   OD05 clause 5.3.1, pending unit attention condition

This clause refers to a "pending" unit attention condition. That term is incorrect, it is used nowhere else in SAM-2. Per clause 5.8.5, the proper wording is to replace "is already pending" with "already exists".

Clause 5.3.1, page 53, pdf page 75, BUSY status.

Clause 5.3.1, page 54, pdf page 76, RESERVATION CONFLICT status.

Clause 5.3.1, page 54, pdf page 76, TASK SET FULL status.

Comments OC02 through OC06 discuss every occurrence of "pending" in SAM-2.

6   OD06 pending status and sense data

There are several occurrences of "pending" referring to sense data or status. These appear to be correct use of the normal English meaning of the word. No change requested.

Clause 5.8.5, page 74, pdf page 96, two occurences.

Clause 6.1, page 77, pdf page 99.

Clause 6.5, page 78, pdf page 100.

Comments OC02 through OC06 discuss every occurrence of "pending" in SAM-2.

7   OD07 clause 5.5, pages 59-60, pdf pages 81-82, tendered commands

This clause defines "tendered" command as a command that exists or is outstanding, that is, the state of a command during its lifetime. That use conflicts with the normal English meaning of "tender", which refers to the act of extending an offer, not the duration of its validity.

If "tendered" is retained, a glossary entry is necessary. Better would be to replace it either with "exists", which is used for all other objects that have defined lifetimes, or with "outstanding", which many people use to refer to the concept. See comment OD04.

8   OD08 clause 5.5, pages 59-60, pdf pages 81-82

Several places in SAM-2 refer to the lifetime of a task management function, the duration between the time it is issued and the time it completes (see comment OD04). This clause should formally define the lifetime of a task management function similarly to that of a command.

9   OD09 clause 7.4.2, page 84, pdf page 106, enabled task state

The first paragraph of this clause states that a task shall not transfer data (shall not become a current task) except when it is enabled. The second paragraph states that data may be transferred when the task is not enabled. This direct contradiction needs to be eliminated or, if the words aren't intended to mean what they apparently say, additional explanation added.

Comments OD09 to OD11 discuss various symptoms of a common underlying problem. The simplest solution is to eliminate the term and concept of a "current task" from SAM-2. An alternate solution is to redefine it in terms of device behavior rather than interconnect behavior.

10   OD10 Status returned while a CA or ACA is active

Clause 5.8.1 requires that status be returned in various circumstances while a CA or ACA is active. See table 26, table 27, table 28 and table 29.

Clauses 7.4 and 7.6 prohibit return of status while a CA or ACA is active. While a CA or ACA is active, other tasks in the task set (including tasks that tables 26 through 29 require to return status) are either dormant or blocked. While a task is dormant or blocked it is prohibited from becoming a current task and returning status.

Comments OD09 to OD11 discuss various symptoms of a common underlying problem. The simplest solution is to eliminate the term and concept of a "current task" from SAM-2. An alternate solution is to redefine it in terms of device behavior rather than interconnect behavior.

11 OD11 PERSISTENT RESERVE OUT while a CA or ACA is active

Clause 5.8.1 and SPC-2 require execution of certain forms of PERSISTENT RESERVE OUT (e.g. PREEMPT AND ABORT) while a CA or ACA is active, even if the command does not have the ACA attribute.

Clauses 7.4 and 7.6 prohibit execution of commands, including PERSISTENT RESERVE OUT, while a CA or ACA is active. Any newly received non-ACA task is required to remain dormant (see figure 33). While dormant the task is prohibited from becoming a current task and therefore prohibited from fetching the PERSISTENT RESERVE OUT parameter list.

Comments OD09 to OD11 discuss various symptoms of a common underlying problem. The simplest solution is to eliminate the term and concept of a "current task" from SAM-2. An alternate solution is to redefine it in terms of device behavior rather than interconnect behavior.