

To: Membership of X3T9.2 and X3T10

From: Ralph O. Weber

Date: January 12, 1994

Subject: Minutes of CAM-2 Study Group Meeting  
January 10, 1994

#### Agenda

- 1.0 Opening Remarks
- 2.0 Attendance and Introductions
- 3.0 Call for items to be placed on the current agenda
- 4.0 Review of CAM Revision 5

#### 1.0 Opening Remarks

Ralph Weber, Digital Equipment Corp. called the meeting to order at 9:15 am, Monday, January 10, 1994. Ralph announced that Bill Dallas, Editor of the CAM documents, could not attend due to pressing requirements at his office.

The attendance list was circulated. As is customary, the people attending meeting introduced themselves. Ralph thanked Rich Bailey and Vitro for hosting this meeting.

#### 2.0 Attendance

The following people attended the meeting:

Name	Organization
Mr. Neil Wanamaker	AMDAHL
Mr. Jerrie Allen	AMDHAL
Mr. Gary Porter	Ancot
Mr. Ralph Weber	Digital Equipment Corp.
Mr. Gary Stephens	FSI Consulting Services
Ms. Carol Meister	Jaycor
Mr. Charles Binford	NCR
Mr. Sam Karunanithi	Hitachi
Mr. Bob Snively	Sun Microsystems

9 People Present

#### 3.0 Call for items to be placed on the current agenda

The agenda was approved as presented.

#### 4.0 Review of CAM Revision 5

The group undertook a line-by-line review of CAM Revision 5 starting at the title page. Numerous editorial nits were noted. For example, page viii is headed "Table" not "Tables." The next several paragraphs review the more complex editorial changes.

The first paragraph of Clause 4.1 was rewritten to read:

"A model of the CAM usage environment is illustrated in Figure 1. Multiple applications are shown accessing a variety of SCSI devices. Several device drivers, both peripheral drivers and SIMs, are present to support the peripherals on the system."

The following sentences were added at the end of Clause 4.1:

"The choice of XPT and SIM packaging is an operating system dependency. Clause 8 defines this dependency for certain named software and hardware platforms."

The group could find no real use for item i in the list of SIM functions (Clause 4.4). Item i reads: "Mechanisms to accept the selecting and sensing of the SCSI HBA functions supported." The group recommended dropping it from Revision 7, unless a justification for keeping it is presented before then. A footnote to that effect will be added to Revision 6.

The following definition for OSD was added to Clause 5.1:

"OSD (operating system dependent): This term describes a capability, method of operation, or feature that depends on the specific operating system on which CAM is implemented."

Clauses 6.2.5 and 6.3 were restructured and made to be a single clause (Clause 6.3, Architectural Considerations). Clause 7 was renamed to "Principles of Operation."

Clause 7.3.2 was completely rewritten to read:

"A peripheral driver is notified of the completion of a queued CCB using a callback routine. The SIM/XPT calls the peripheral driver's callback routine when execution of the queued CCB completes. The queued CCB includes a pointer to the peripheral driver's callback routine (in the Callback on completion field).

"The peripheral driver callback routine is used much like a hardware interrupt handler. The callback routine has the same privileges and restrictions as an interrupt handler.

"The address of the specific CCB that completed is passed to the peripheral driver's callback routine."

In addition to the numerous editorial problems, a few larger issues were raised. The remainder of these minutes describe the larger issues.

Because of the wording in some conformance statements, questions were raised about the XPT to SIM interface. If an SIM from one source is expected to interoperate with an XPT from another source, should not the CAM standard define the XPT to SIM interface? (Maybe such documentation already is present and the group simply failed to find it.) If the XPT to SIM interface is not part of CAM, should some of the conformance statements be diluted?

The group strongly recommends moving the current Clause 5 (Definitions and conventions) to Clause 3. This will result in renumbering of Clauses 3, 4, and 5. But, after that the Clause numbers will remain the same. N.B. This is only a recommendation to the CAM editor. The CAM editor was not present to comment on this recommendation.

Many of those present also feel that an acronyms sub-clause should be added to the definitions and conventions clause. This would gut the current definitions clause (because that clause is mostly acronyms). Again, this is only a recommendation to the CAM editor.

The usage of the word "nexus" is inconsistent. The usage in the CAM document is not consistent with the definition (currently in Clause 5). Furthermore, the definition of "nexus" in CAM conflicts with its definition in SCSI-2. At a minimum, "nexus" must be used consistently throughout CAM.

The group recommends that the SCSI-2 definition of "nexus" be adopted for CAM. A different word must be found to replace the other uses of "nexus" in CAM. If this recommendation is adopted, then "nexus" should be removed from the definitions clause. SCSI-2 is a normative reference document for CAM. So, all the SCSI-2 definitions automatically apply in CAM.