Accredited Standards Committee*
National Committee for Information Technology Standards (NCITS)

Doc. No.: T10/01-090r0

Date: March 8, 2001
Reply to: John Lohmeyer

To: T10 Membership
From: Ralph Weber and John Lohmeyer
Subject: SCSI Commands, Architecture, & Protocol Working Group Meeting -- March 7, 2001
            Dallas, TX

Agenda

1. Opening Remarks
2. Approval of Agenda
3. Attendance and Membership
4. SCSI Architecture Model Topics
    4.1 Multi-Port Model Discussion (00-268) [Penokie]
    4.2 Making Target Reset optional in SAM-2 (01-015) [Elliott]
    4.3 SAM-2 AER enable and disable requirement for protocols (01-061) [Elliott]
    4.4 Definition of Well Known Logical Units (01-068) [Penokie]
    4.5 Names, Addresses, Identifiers, Oh my! (01-084) [Penokie]
    4.6 It's the I_T Nexus, Stupid (01-093) [Weber]
    4.7 Long Identifiers in SPC-3, SAM-2, SBC-2 and other XOR issues (00-425) [Hafner]
    4.8 SRP Protocol Identifiers (01-104r0) [Gardner]
5. Command Set Topics
    5.1 Asymmetrical SCSI Behavior (00-232) [Moe]
    5.2 Logical unit groups (01-004) [Elliott]
    5.3 Unit attention issue (00-359) [Gardner]
    5.4 Long Identifiers in SPC-3, SAM-2, SBC-2 and other XOR issues (00-425) [Hafner]
    5.5 SCSI Device Memory Export Protocol (00-312) [Wayda]
    5.6 Media Serial Number Mode Page Proposal (01-027) [Hill]
    5.7 SAN Management & Mode Pages (01-046) [Cummings]
    5.8 SPC-3 VPD Page 83 Device Identifier rewrite (01-065) [Elliott]
    5.9 REPORT ADDRESSABLE TARGETS well-known LUN Function [Terrell]
    5.10 SPC-3 letting persistent reservations ignore target ports (01-099) [Elliott]
    5.11 SPC-3 letting persistent reservations ignore initiator ports (01-100) [Elliott]
6. SCSI Protocol Topics
    6.1 SRP Initiator Inactivity Timeout (01-038) [Simpson]
7. New Business
    7.1 Project Proposal for Bridge Controller Commands (01-095) [Penokie/Elliott]
8. Review of Documents
    8.1 SPC-2 Letter Ballot Comments Resolution (00-267) [Weber]
    8.2 SBC-2 Review []
9. Meeting Schedule
10. Adjournment

Results of Meeting

1.   Opening Remarks

John Lohmeyer, the T10 Chair, called the meeting to order at 9:00 a.m., Wednesday March 7, 2001. He thanked Paul Aloisi of Texas Instruments for hosting the meeting.

As is customary, the people attending introduced themselves and a copy of the attendance list was circulated.

2.   Approval of Agenda

The draft agenda was approved with the following changes:

4.7	Long Identifiers in SPC-3, SAM-2, SBC-2 and other XOR issues (00-425) [Hafner]
5.10	SPC-3 letting persistent reservations ignore target ports (01-099) [Elliott]
5.11	SPC-3 letting persistent reservations ignore initiator ports (01-100) [Elliott]
7.1	Project Proposal for Bridge Controller Commands [Penokie/Elliott]

The following agenda items were added/revised during the course of the meeting:

4.8	SRP Protocol Identifiers (01-104r0) [Gardner]

3.   Attendance and Membership

Attendance at working group meetings does not count toward minimum attendance requirements for T10 member-ship. Working group meetings are open to any person or organization directly and materially affected by T10's scope of work. The following people attended the meeting:

```
          Name           S       Organization        Electronic Mail Address
--------------------- -- ------------------------ ------------------------
Mr. Ron Roberts          P  Adaptec, Inc.            Ron_Roberts@adaptec.com
Mr. Eric Anderson        V  Apple Computer           ewa@apple.com
Mr. Robert Snively       P  Brocade Comm. Systems,   rsnively@brocade.com
                            Inc.
Mr. David Peterson       P  Cisco Systems, Inc.      dap@cisco.com
Mr. Robert C. Elliott    P  Compaq Computer Corp.    Robert.Elliott@compaq.com
Mr. Wayne Bellamy        V  Compaq Computer Corp.    wayne.bellamy@compaq.com
Mr. Peter Johansson      P  Congruent Software, Inc. PJohansson@ACM.org
Mr. Neil Wanamaker       P  Crossroads Systems, Inc. ntw@crossroads.com
Mr. John Tyndall         A  Crossroads Systems, Inc. jtyndall@crossroads.com
Mr. Gary S. Robinson     P  EMC                      robinson_gary@emc.com
Mr. Robert H. Nixon      P  Emulex                   bob.nixon@emulex.com
Mr. George O. Penokie    P  IBM / Tivoli Systems     gpenokie@tivoli.com
Dr. Jim Hafner           V  IBM Corp.                hafner@almaden.ibm.com
Mr. Cris Simpson         P  Intel Corp.              cris.simpson@intel.com
Mr. Dennis Moore         P  KnowledgeTek, Inc.       dmoore@ix.netcom.com
Mr. John Lohmeyer        P  LSI Logic Corp.          lohmeyer@t10.org
Mr. Charles Monia        P  Nishan Systems Inc.      cmonia@nishansystems.com
Mr. Edward A. Gardner    P  Ophidian Designs         eag@ophidian.com
Mr. Andy Green           V  Oxford Semiconductor Ltd. andy.green@oxsemi.com
Mr. Mark Evans           P  Quantum Corp.            mark.evans@quantum.com
```

```
Mr. Gerald Houlder      P  Seagate Technology      gerry_houlder@seagate.com
Mr. John Fuller         V  Sony Electronics        jfuller@computer.org
Mr. Kenneth Moe         P  Sun Microsystems, Inc.  kenneth.moe@sun.com
Mr. Paul D. Aloisi      P  Texas Instruments       Paul_Aloisi@ti.com
Mr. Donald R. Getty     A# Texas Instruments       donald_getty@ti.com
Mr. Rick Casaly         A  Troika Networks, Inc.   rcasaly@troikanetworks.
                                                   com
Mr. Ron Mathews         AV UNISYS Corporation      ronald.mathews@unisys.com


27 People Present

Status Key:  P   -  Principal
             A,A# -  Alternate
             AV  -  Advisory Member
             L   -  Liaison
             V   -  Visitor
```

4. SCSI Architecture Model Topics

4.1 Multi-Port Model Discussion (00-268) [Penokie]

George Penokie noted that 00-268r6 is so different from the proposal reviewed at the last meeting that no change bars were placed in the proposal. Concerns were raised about the definition of "device identifier". The glossary entry for "SCSI device categories" also came under criticism. George made several changes to the proposal text.

George discussed using the XML hierarchy notation with Charles Monia, noting that he may switch to that hierarchy diagram notation in the next revision of the proposal.

The in-order delivery assumption in SAM was discussed. New work in SBP-3 was reviewed for how it relates to the model.

George stated that he planned to bring a revised proposal to the next meeting.

4.2 Making Target Reset optional in SAM-2 (01-015) [Elliott]

Rob Elliott presented a proposal that the Target Reset task management function be made optional in SAM-2 (01-015r1). Concerns were raised about removing a long-standing mandatory function. Several corrections were noted and Rob agreed to produce a revised proposal. Rob moved that 01-015r2 (r1 as revised) be recommended for inclusion in SAM-2. George Penokie seconded the motion. The motion passed on a vote of 6:3:8.

4.3 SAM-2 AER enable and disable requirement for protocols (01-061) [Elliott]

Rob Elliott presented a proposal to remove a requirement on protocol standards for the control of the Asynchronous Event Reporting because such control capability has always been provided by the control mode page. Concerns were raised about the lack of a clear statement about the control mode page in SAM-2 and Rob agreed to a minor edit that addressed the concern.

Rob moved that 01-061r2 (r1 as revised) be recommended for inclusion in SAM-2. Gerry Houlder seconded the motion. In the absence of any objections, the motion passed unanimously.

4.4 Definition of Well Known Logical Units (01-068) [Penokie]

George Penokie presented a proposal to define well-known logical units (01-068r1). Numerous issues were voiced and George agreed to bring a revised proposal to the next meeting.

4.5 Names, Addresses, Identifiers, Oh my! (01-084) [Penokie]

George Penokie presented a proposal intended to clarify the distinction between identifiers and names in SAM-2 (01-084r0). The purpose of the review was conceptual. Several corrections and enhancements were noted and George agreed to prepare a new revision reflecting the inputs from the group. George asked anyone with ideas or information one how to fill-in missing information in the proposal to contact him.

4.6 It's the I_T Nexus, Stupid (01-093) [Weber]

Ralph Weber presented a concept wherein the I_T nexus really is the focal point of the SCSI Architecture Model, showing what would change and how those changes would be compatible with existing protocols as well as in development protocols. Concerns were raised about putting the model in SAM-2 and it was agreed that the ideas presented represented a better fit with a yet to be formalized SAM-3 project.

4.7 Long Identifiers in SPC-3, SAM-2, SBC-2 and other XOR issues (00-425) [Hafner]

Jim Hafner reviewed the proposal to introduce long identifiers (a.k.a., names) in EXTENDED COPY and the XOR commands (00-425r0), describing ideas for how to name and address SCSI devices in the parameter data and/or alias enhanced extensions of those commands. He stated that additional revision of the proposal will be required before it can be approved.

4.8 SRP Protocol Identifiers (01-104r0) [Gardner]

Ed Gardner presented proposed identifiers for SRP where the base text string is SRP.T10.NCITS. On the subject of binary identifiers, Ed listed existing definitions, proposed a definition for SRP, and recommended that the list be maintained in SPC-3 Annex C. In the absence of any objections, the group recommended that Ed seek final approval of the proposal at the Plenary.

5. Command Set Topics

5.1 Asymmetrical SCSI Behavior (00-232) [Moe]

Ken Moe reviewed activities on the Asymmetrical SCSI Behavior proposal (latest revision 00-232r6). He noted that three open questions need discussion before the next revision of the proposal can be completed.

Ken asked for group input on the proposed "changing" state. Concerns were raised about the usefulness of the "changing" state because it's not a stable, long-term state. One recommendation was to replace "changing" with "standby", but stronger preferences were expressed for folding the "changing" concept into the definition of a transition from one state to another.

Ken asked for a straw poll regarding the choice between a "changing" state and a description of changing in a transition. The poll favored the changing transition 7:3. Ken noted that the selected resolution closes the second open question.

The last question was whether the state information should be reported and set in specific orders. The group's response was, no.

5.2 Logical unit groups (01-004) [Elliott]

Rob requested that discussion of this topic be deferred to the next meeting.

5.3 Unit attention issue (00-359) [Gardner]

Ed Gardner asked that discussion of this topic be deferred to the next meeting.

5.4 Long Identifiers in SPC-3, SAM-2, SBC-2 and other XOR issues (00-425) [Hafner]

Because this proposal deals with architectural issues, it was moved to item 4.7.

5.5 SCSI Device Memory Export Protocol (00-312) [Wayda]

Ralph Weber announced that a message would be sent to the SCSI Reflector stating that this agenda item will be dropped in May unless someone appears to discuss it.

5.6 Media Serial Number Mode Page Proposal (01-027) [Hill]

Emily Hill presented a proposal to add a VPD-like page (01-027r1). The group recommended that it be exactly a VPD page, with code 84h. The group also discussed the uses of the media serial number information, what gets returned if no media is present and other topics.

Emily agreed to make several requested changes and bring a revised proposal to the next meeting.

5.7 SAN Management & Mode Pages (01-046) [Cummings]

Because Roger Cummings was unable to attend, discussion of this topic was deferred to the next meeting.

5.8 SPC-3 VPD Page 83 Device Identifier rewrite (01-065) [Elliott]

Rob Elliott reviewed the proposal (01-065r1) to eliminate references to FC-FS in the description of VPD page 83h (the Device Identifier VPD page). Rob noted that the proposal intends no substantive changes, only the restructuring and enhancement of the SPC-2 text to eliminate references to FC-FS.

Rob moved 01-065r2 (r1 as revised) be recommended for inclusion in SPC-3. Gerry Houlder seconded the motion. In the absence of any objections, the motion passed unanimously.

5.9 REPORT ADDRESSABLE TARGETS well-known LUN Function [Terrell]

Bill Terrell asked that discussion of this topic be deferred to the next meeting.

5.10 SPC-3 letting persistent reservations ignore target ports (01-099) [Elliott]

Rob Elliott proposed that device servers be allowed to ignore target ports when creating a persistent reservation (01-099r0). Questions were raised about how the proposal changes the architectural model for SCSI reservations. References to target port group also were called into question.

Ed Gardner asked if the idea should even be considered, not withstanding the detailed concerns already raised. It was agreed to defer that discussion until the completion of item 5.11.

5.11 SPC-3 letting persistent reservations ignore initiator ports (01-100) [Elliott]

Rob Elliott proposed that device servers be enhanced to hold knowledge of relationships between initiator ports (01-100r0). Concerns were raised about how the proposal would actually work for initiators. Rob agreed to bring revised versions of both 01-099 and 01-100 to the next meeting.

6.   SCSI Protocol Topics

6.1   SRP Initiator Inactivity Timeout (01-038) [Simpson]

Cris Simpson presented his SRP initiator activity timeout proposal (01-038r1). Rob Elliott asked why the proposal is specific to SRP. Cris responded that he wanted to see if the idea would be acceptable for SRP before making it general.

Concerns were raised about placing requirements on a target's use of logout to manage resources and Cris was asked to make the information in his proposal advisory only. Other options were explored for helping the target manage login resources. Cris agreed to consider the ideas discussed in formulating his next action.

7.   New Business

7.1   Project Proposal for Bridge Controller Commands (01-095) [Penokie/Elliott]

Rob Elliott presented the initial draft of a project proposal for Bridge Controller Commands (01-095r0). Rob expressed concern that implementers of bridge products agree to implement the command set, if defined. Rob stated that no action would be taken on the project proposal until the next meeting.

8.   Review of Documents

8.1   SPC-2 Letter Ballot Comments Resolution (00-267) [Weber]

Because the meeting ran over the anticipated time this item was skipped.

8.2   SBC-2 Review []

In the absence of a technical editor, no action was taken on SBC-2.

9.   Meeting Schedule

The next meeting of the SCSI Commands, Architecture, and Protocols Working Group will be Wednesday, May 2, 2001 from 9 a.m. to 7 p.m. (or until all agenda items are completed). The meeting will be at the Sheraton Hotel (603-888-9970) in Nashua, NH, hosted by Hitachi Cable Manchester.

10. Adjournment

The meeting was adjourned at 7:00 p.m. on Wednesday March 7, 2001.