Accredited Standards Committee*
X3, Information Technology

Doc. No.: X3T10/95-342r0
Date: November 14, 1995
Project:
Ref. Doc.:
Reply to: John Lohmeyer

To: Membership of X3T10

From: Ralph Weber, Secretary X3T10
Larry Lamers, Vice-chair X3T10
John Lohmeyer, Chair X3T10

Subject: Minutes of X3T10 SCSI Working Group Meeting
Palm Springs, CA -- November 7-8, 1995

Agenda

1. Opening Remarks

2. Approval of Agenda

3. Attendance and Membership

4. Physical Topics
   - 4.1 SPI-2 Study Group Report
   - 4.2 EPI Study Group Report

5. Protocol Topics
   - 5.1 Addressability of TARGET RESET task management function (94-236r1) [Snively]
   - 5.2 SCSI-3 Interlocked Protocol (SIP) [Penokie]
     - 5.2.1 Aborting the Untagged Process in SIP (95-351r0) [Monia]
   - 5.3 Problem with Non-interlocked Busses (95-352r0) [Monia]
   - 5.4 FCP-2 use of Disconnect-Reconnect Mode Page (95-348r0) [Gardner]
   - 5.5 Simplified Queuing [McGrath]

6. Command Set Topics
   - 6.1 Set/Sense Environmental Services Function (95-324r1) [Snively]
   - 6.2 SCSI Accessed Fault-Tolerant Enclosures (SAF-TE) {Conner/Intel Spec.}
   - 6.3 Set Capacity (95-260r2) [Houlder]
   - 6.4 Device Identification Page Proposal (95-240r1) [Lohmeyer]
   - 6.5 Reporting Version Information [Milligan]
   - 6.6 Secure Multiple Port Operations (95-322) [Snively]
   - 6.7 Should the Immed bit be qualified by FOV in the FORMAT UNIT command (95-355) [Houlder]
   - 6.8 ASC Stuff (95-344 & 95-345) [Penokie]
   - 6.9 SPC Status [Monia]

7. Other Topics
   - 7.1 What is in a name? [Milligan]
   - 7.2 Systems Issues Considerations [Penman]
   - 7.3 High Availability Controller Failover Proposal [Sicola]
   - 7.4 High Availability SCSI Profile (95-314) [Hagerman]
   - 7.5 X3 Procedure for managing OUI Code [Johansson/Lohmeyer]
   - 7.6 SCSI Marketing [Hagerman]

8. Meeting Schedule

9. Adjournment

Results of Meeting

1. Opening Remarks

John Lohmeyer, the X3T10 Chair, called the meeting to order at 1:00 p.m., Tuesday November 7, 1995. He thanked Jeff Stai of Western Digital Corp. for hosting the meeting.

As is customary, the people attending introduced themselves and a copy of the attendance list was circulated. Copies of the draft agenda and general information on X3T10 were made available to those attending.

2. Approval of Agenda

The draft agenda was approved with the following additions:

5.4 FCP-2 use of Disconnect-Reconnect Mode Page (95-348) [Gardner]
5.5 Simplified Queuing [McGrath]
6.8 ASC Stuff (95-344 & 95-345) [Penokie]
6.9 SPC Status [Monia]
7.6 SCSI Marketing [Hagerman]

3. Attendance and Membership

Attendance at working group meetings does not count toward minimum attendance requirements for X3T10 membership. Working group meetings are open to any person or organization directly and materially affected by X3T10's scope of work.

The following people attended the meeting:

Name	S	Organization	Electronic Mail Address

__ People Present

Status Key:
P - Principal
A,A# - Alternate
O - Observer
L - Liaison
V - Visitor

4. Physical Topics

4.1 SPI-2 Study Group Report

John reported that the SPI-2 Study Group meeting was held earlier in the week and did not finish the whole agenda in the allotted time.

4.2 EPI Study Group Report

John reported that the EPI-2 Study Group meeting was held earlier in the week and did not finish the whole agenda in the allotted time.

5. Protocol Topics

5.1 Addressability of TARGET RESET task management function (94-236r1) [Snively]

Bob Snively reported that the changes are ready for incorporation in SIP. George Penokie noted that the change in the message code value will be necessary for the Reset LUN message.

5.2 SCSI-3 Interlocked Protocol (SIP) [Penokie]

George noted that revision 7 was in the mailing. He noted receipt of additional comments from Charles Binford (Symbios). He reviewed the changes from revision 6 to 7. George asked the group to study the current SIP carefully, as he plans to conduct a letter ballot on revision 8. George received plenty of advice regarding the issues that he presented.

During the SIP discussion, a controversy developed regarding SCAM, reset conditions, and the BUS DEVICE RESET message. The ultimate question was, “Does a BUS DEVICE RESET message reset device IDs and initiate SCAMing of the system?” Behind this was a controversial interpretation of the wording, “reset condition,” as it appeared in the SCAM Annex. If “reset condition” was interpreted to mean both the bus reset signal and the BUS DEVICE RESET message, then the BUS DEVICE RESET message would reset IDs and initiate SCAM. However, a careful reading of SCSI-2 (upon which the SCAM Annex was based) led the working group to conclude that “reset condition” refers **only** to the bus reset signal; thus the BUS DEVICE RESET message was determined to **not** reset device ID’s and to **not** initiate SCAM protocol.

5.2.1 Aborting the Untagged Process in SIP (95-351r0) [Monia]

Charles presented a concern that ABORT TAG is the only way to abort a process, leaving no way to abort untagged processes. He noted that SCSI-3 allows one untagged process mixed with tagged processes. He proposed modifications to the ABORT TAG message to correct the problem. Minor editorial changes to the proposal were recommended by the working group.

In the absence of any objections, the group recommended that the Plenary approve including 95-351r1 in SIP.

5.3 Problem with Non-interlocked Busses (95-352r0) [Monia]

Charles presented a scenario where non-interlocked busses may misorder ordered commands when status codes of BUSY, RESERVATION CONFLICT, TASK SET FULL, or ACA ACTIVE are returned. The group discussed the seriousness of the issue and the conditions under which the issue produces problems.

Many in the working group expressed substantial concerns about the costs of the proposed solution and a strong desire that the solution be as optional as possible. Some went so far as to express a belief that no unusual problem exists. Charles accepted many comments and guidance for revising the proposal.

5.4 FCP-2 use of Disconnect-Reconnect Mode Page (95-348r0) [Gardner]

Ed presented the first draft of the document that applies the disconnect-reconnect mode page to FCP. He noted that the previous disconnect-reconnect work laid the ground-work for this proposal. He also stated that the proposal has been reviewed by several FC-AL experts, and has been found satisfactory.

Ed then began a line-by-line review of the draft proposal. Ed received comments on the proposal from Bob Snively, Giles Frazier, Gerry Houlder, Doug Hagerman, and Dal Allan. Ed agreed to prepare another revision based on the input received at this meeting. He will bring the revision to the January meetings.

5.5 Simplified Queuing [McGrath]

Jim McGrath, speaking extemporaneously, proposed that the Ordered Queue Tag be made optional. He proposed methods by which hosts could compensate for the absence of ordered queuing. He described the benefits of building a disk that does only simple queue processing. A short, heated debate was cut off by the chair, based on time concerns and the lack of a written proposal.

6. Command Set Topics

6.1 Set/Sense Environmental Services Function (95-324r1) [Snively]

Bob Snively presented an overview of the proposed Set/Sense Environmental Services capabilities that he wants added to SCSI-3. He described the new device model aspects of the proposal. Then, he described the enhancements to the RECEIVE DIAGNOSTIC RESULTS and SEND DIAGNOSTIC commands. Bob took a straw poll for preferences between READ/WRITE BUFFER and RECEIVE/SEND DIAGNOSTICS. RECEIVE/SEND DIAGNOSTICS won the poll 11:3.

6.2 SCSI Accessed Fault-Tolerant Enclosures (SAF-TE) {Conner/Intel Spec.}

Bob Snively presented an overview of the proposed SAF-TE proposal. He noted that SAF-TE uses a separate target, based on the processor device mode. At the conclusion of the presentation, Bob Snively offered the following observations and suggestions. He complemented the SAF-TE work, noting that it contained numerous useful ideas that his work had not yet incorporated. He suggested that SAF-TE be asked to adopt the ESI (Environmental Services Interface) device model. He indicated a strong personal preference for the SEND DIAGNOSTICS / RECEIVE DIAGNOSTIC RESULTS commands (as opposed to WRITE BUFFER and READ BUFFER). He noted the straw poll vote taken during the previous agenda items, affirming his personal opinion. He proposed that the SAF-TE page definitions be incorporated in the ESI proposal and that the proposal be enhanced to handle vendor unique strings, based on the concepts in the SAF-TE work.

The next day, Bernie Wu visited the working group to discuss the differences between SAF-TE and Bob's proposal. Those present who expressed an opinion, felt that a large amount of synergy exists between SAF-TE and the working group's ideas. The group discussed mechanisms by which further communications and meetings can occur to coordinate work efforts between SAF-TE and X3T10. Continued contact between the two groups was strongly confirmed, although no one present had sufficient knowledge of future scheduled to define specific meeting plans yet.

6.3 Set Capacity (95-260r2) [Houlder]

Gerry Houlder presented a proposal for adding a set capacity function to the READ CAPACITY command. The revision was based on comments received at the September working group meeting (minutes 95-319).

Gene Milligan moved that the proposal be revised to use the mode page mechanism (and reclaim a "unused" byte). Steve Holmstead second the motion. The working group approved the motion 11:3.

6.4 Device Identification Page Proposal (95-240r1) [Lohmeyer]

John presented a proposal for a new vital product data page to be used for reporting many different identifiers (and many different kinds of identifiers). He noted that the group identifier is not meeting the needs of the high availability group. Some participants in the high availability group have asked that the group identifiers be removed from the proposal.

John led a discussion of the proposal, including a description of IEEE identifiers. John agreed to revise the document based on input received from the working group. He noted that the identifier category field will be changed to reserved and other aspects of the group identifiers will be removed. Other minor changes in wording and possible additions of examples were other matters that John will consider for the next revision.

6.5 Reporting Version Information [Milligan]

Gene presented a proposal for extending the INQUIRY data to return version data for each standard implemented by a product. There was a lengthy discussion of the needs for version reporting and how the proposal met the needs. The discussion ended with no clear resolution of the next step.

6.6 Secure Multiple Port Operations (95-322) [Snively]

Bob Snively reviewed the Persistent Reservation proposal (95-229). The group discussed whether reservations should persist across power cycles. Rod DeKonig suggested that persistence of reservations across power cycles

be optional. Returned status (presence/absence) of the option could be communicated via bit in PRIN data. The group discussed this at length. Bob Snively agreed to bring proposed wording changes to the Plenary.

Jim McGrath questioned the stability of persistent reservations in the presence of SCSI ID changes. Bob noted that persistent reservations depend on initiator IDs but changes in target IDs cause no unique problems for persistent reservations.

Lancing Sloan gave a presentation (slides in 95-353) describing the need for protected persistent reservations. He received many comments, several of them negative.

6.7 Should the Immed bit be qualified by FOV in the FORMAT UNIT command (95-355) [Houlder]

Gerry presented a concern regarding validating the FOV bit in the presence of the immediate bit. The group discussed the intent of the original “immediate” proposal. Gerry was not looking for an immediate change in the standard. He asked everyone present to check their implementations, software and drive microcode, to see how the FOV and immediate bits are tested in relation to each other.

6.8 ASC Stuff (95-344 & 95-345) [Penokie]

George presented a request for change in the wording of LOW POWER condition Active ASC/ASCQ and a request for two new ASC/ASCQ codes, both under a new ASC. The group discussed George’s proposals. In the absence of any objections, the working group recommended that the plenary approve both proposals.

6.9 SPC Status [Monia]

Charles Monia proposed that the current revision of the SPC be forwarded. John noted that a few outstanding proposals for SPC, the lack of progress on other command set documents. The group discussed taking a stabilization vote on the SPC at the up-coming Plenary. A list of currently in-progress proposals that should be allowed into a stabilized SPC-1 was developed. Chief among the listed proposals were the new ASC/ASCQ changes (see above), John IDs VPD page, and Persistent Reservations. Charles and Gene agreed to craft a stabilization motion for the Plenary meeting.

7. Other Topics

7.1 What is in a name? [Milligan]

Gene expressed the belief that the ongoing SCSI name escalation should be ended (SCSI-1, SCSI-2, SCSI-3, SCSI-4 ...). He further felt that other mechanisms be devised to report the revision status of a product. He stated that, from an X3T10, perspective the question has been over taken by events; specifically the formation of the SCSI marketing group.

7.2 Systems Issues Considerations [Penman]

The working group took no action on this subject at this meeting. It was agreed that this is a recurring working group agenda item.

7.3 High Availability Controller Failover Proposal [Sicola]

Steve Sicola presented the current thinking for high availability controller failover (95-358) and SCSI-3 fault tolerant controller configurations (95-357). The major concern expressed by the working group was scheduling a meeting that can (and will) be attended by RAB members. The group spent a few minutes discussing meeting schedules.

7.4 High Availability SCSI Profile (95-314) [Hagerman]

Doug Hagerman gave a presentation regarding profiles for highly available SCSI configurations (95-314). He proposed that the ideas in the presentation form the basis for a Technical Report.

7.5 X3 Procedure for managing OUI Code [Johansson/Lohmeyer]

John described a problem where the SBP needs an OUI to use in SBP CSRs. John described the process by which IEEE has agreed to give one OUI to X3. John said that X3 will require a proposed process for managing X3 usage of the OUI. John presented a proposed process that we will ask X3T10 to recommend to X3. He further described how X3 and X3T10 will use the sub-fields in the OUI.

7.6 SCSI Marketing [Hagerman]

Doug presented a short talk that he previously gave to the first SCSI Marketing group meeting. The crux of his presentation was that the name SCSI 2000 be adopted. He received some comments. It was noted that the talk best belongs at the SCSI Marketing meeting.

8. Meeting Schedule

John reviewed the proposed meeting week schedule for January 1996. The next meeting of X3T10 SCSI Working Group will be January 9-10, 1996, in Dallas, TX at the Doubletree Hotel (214-869-4300), hosted by Quantum Corp.

9. Adjournment

The meeting was adjourned at 6:22 p.m. on Wednesday November 8, 1995.