Colorado Springs, CO.

Accredited Standards Committee
X3, Information Technology

To: Membership of X3T10
From: Erich Oetting
Subject: Minutes of SSC/SMC Working Group Meeting
Colorado Springs, CO. July 18, 1996

Agenda

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Results of Meeting

1. Opening Remarks

   Ted Lappin, the SSC Technical Editor, called the meeting to order at 9:00 a.m., Thursday, July 18, 1996. He thanked John Lohmeyer of Symbios for arranging and hosting the meeting.

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

2. The draft agenda was approved.

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	Organization	Email Address
Mr. Erich Oetting	Storage Technology	erich_oetting@stortek.com
Mr. Edward Lappin	Exabyte Corp.	tedl@exabyte.com
Mr. Arlan Stone	Unisys	arlan.stone@mv.unisys.com
Mr. Paul Entzel	HP	Paul_entzel@hp.com
Mr. Ralph Weber	Symbios Logic	ralph_weber@symbios.com
Mr. Michael O'Donnel	Storage Technology	mike.odonnel@stortek.com
Mr. Gary R. Stephens	FSI	6363897@mcimail.com
Mr. Rob Basham	IBM	robbyb@vnet.ibm.com
Mr. George Penokie	IBM	GOP@RCHUMP3.VNET.COM
Mr. Charles Monia	Digital	MONIA@shp.dec.com
Mr. William Dallas	Digital	dallas@zk3.dec.com
Mr. Roger Cummings	DPT	cummings_roger_dpt.com
Mr. Robert Snively	Sun Micro	bob.snively@sun.com

Total of 13 People Present

4. SSC Topics

4.1 - Set Capacity (96-178).

Gary Stevens proposed a SET CAPACITY command to limit tape capacity to a fraction of normal. This would be used in applications where access time is more important than capacity. The relationship of this command to tape partitions, tape format commands and the Report Supported Density command was discussed. Altering the capacity would clear any existing data and partitions on tape. Most existing tape formats will not be able to support this command as they are not able to remember the capacity limitation when unloaded and reloaded. Ted Lappin suggested that this function be added to the present tape format command. Discussion then centered on if Report Supported Density command should report the limited capacity, or the normal capacity of the tape. Gary will revise the proposal to use the FORMAT MEDIA command to reduce the capacity. Report Supported Density will return the reduced capacity and a bit will be added to indicate the capacity has been limited. Gary will bring this to the September working group meeting for further action.

4.2 - Write Protect (96-179).

Gary proposed adding several new forms of write protection to tape drives and cartridges. Mike O'Donnel suggested adding an append only mode. A proposal for this will be made in September. Erich suggested changing the splitting the HARDWARE WRITE PROTECTED asc/ascq to MEDIA WRITE PROTECTED and LOGICAL UNIT HARDWARE WRITE PROTECTED. Charles Monia suggested some other minor wording corrections. Gary will bring the revised proposal, with ASC/ASCQ and wording changes to the Plenary.

4.3 - Read Reverse (96-180).

Gary proposed adding an option bit to the read reverse command. This would allow the drive to return data in the same order as a read forward command instead of reversed. Gary will revise the document to make it clear that only supporting the command with the option bit as 1 is permitted. The revised proposal will be presented to the Plenary.

4.4 - Progress Indication. (96-181).

Gary proposed adding text to specify how command progress may be reported after certain immediate commands. Erich suggested dropping WRITE FILEMARKS as immediate has a different meaning for this command. How often a device should update the progress indication was discussed. Gary will drop the text about SET CAPACITY (command does not exist) from the proposal. Other minor wording changes will also be made and the revised document will be presented to the Plenary.

4.5 - Serial Issues.

Ted talked about the serial issues and that proposed error recovery mechanisms discussed on the reflector will not work for devices such as printer. Charles asked about ways to recovery from transport layer failures with a tape device. In most cases disks can simply reissue the command, but this is not true for most tape devices. Tape devices can sometimes recover by using locate commands, but printer devices do not have this option.

Gary pointed out that fibre channel class 2 solves the problem of knowing when commands and status are not delivered. Some details about error recovery in fibre channel were then discussed. Roger talked about the possibility of mixing class 2 and class 3 on a single arbitrated loop. Bob Snively pointed out that some initiators can mix classes, but others may not support both classes at the same time. He also mentioned that the copy command might be tricky to implement in a mixed class environment.

Arlan pointed out that the working groups assumptions that commands will not be queued, and delivery will be in order, must be documented. The group then discussed if this should be in the tape section of PLDA or a separate white paper.

Bob will write a letter to the reflector suggesting that PLDA allow retransmission of write data, and that any tape command be completed, (status returned) before the next command is started. Bob pointed out that with these two restrictions, the problems and error recovery methods used in present parallel SCSI systems would suffice. To use the full functionality of queued commands, class 2 would be required.

Error recovery was further discussed. Bob Snively presented scenerios using queued commands, and showed how over class 3 they may violate the current tape model. Gary contended that tagged queuing could actually be used in class 3. Discussion on this issue continued till it was time to start the Plenary.

4.6 - Sleep/Wakeup for tapes.

This issue was not discussed due to time limitations.

4.7 - PLDA proposals for tape

This was discussed earlier, see section 4.5

4.8 - More than 256 tape partitions.

How to support more than 256 partitions was not discussed due to time limitations.

5. SMC Topics.

No SMC topics were discussed due to time limitations, these topics will be on the September working group agenda.

5.1 - World wide names in libraries.

The use of world wide unique names to identify Data Transfer Elements and Import/Export Elements. These could replace the function currently provided by SCSI ID and LUN fields in Data Transfer Elements. (The SCSI ID and LUN fields as defined are too small for SCSI-3).

5.2 - Ready/Not Ready ASC/ASCQ for libraries.

Ready/Not Ready ASC/ASCQ codes are not currently available for Media Changers, but are being used by existing devices.

5.2 - Publish.

Ralph Weber, as SPC document editor, wants SMC published soon due to the normative referances in SPC to SMC.

5.3 - Reserve Element (6) and Release Element (6).

If SPC makes Reserve (6) and Release (6) optional or obsolete, SMC should do the same with Reserve Element (6) and Release Element (6).

6. Other Topics

No other topics were discussed.

7. Meeting Schedule

The next meeting of the SSC/SMC Working Group will be in Natick, Massachusetts. Actual meeting time will be determined by the X3T10 Plenary.

8. Adjournment

The meeting was adjourned at 1:05 pm on Thursday July 18, 1996.