

Doc. Number X3T10/97-188-r0

To: Membership of T10  
 From: Erich Oetting  
 Subject: Minutes of SSC/SMC Working Group Meeting  
 Natick MA, May 8, 1997

## Agenda

1. Opening Remarks
2. Approval of Agenda
3. Attendance and Membership
4. SMC Topics
  - 4.1 Read Element Status and Reservation Conflicts. (96-267-r2)
5. SSC Topics
  - 5.1 PLDA Tapes (Doc #=B9s 97-189-r0, 97-155-r2).
  - 5.2 SSC comment resolution.
6. Other Topics.
7. Meeting Schedule.
8. Adjournment.

## Results of Meeting

1. Opening Remarks

Erich Oetting, the SMC Technical Editor, called the meeting to order = at 9:10 a.m., Thursday, May 8, 1997. He thanked Digital Equipment = Corp. for arranging and hosting the meeting.

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

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
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Erich Oetting	Storage Tech.	erich_oetting@stortek.com
Bob Snively	Sun	bob.snively@sun.com
Bill Martin	HP	bmartin@hp.com
Rob Basham	IBM	robbyb@vnet.ibm.com
David Cressman	Quantum	dcressma@tdh.qntm.com

Arlan Stone	UNISYS	arlan.stone@unisys.com
Jim Jones	Exabyte	jimj@exabyte.com
Connie Kephart	Exabyte	conniek@exabyte.com
Pete Tobias	Tandem	tobias_pete@tandem.com
Pak Seto	Quantum	pseto@tdh.qntm.com
Brian R. Smith	Crossroads	brs@crossroads.com
Geoffrey B. Hoese	Crossroads	gbh@crossroads.com
Doug Hagerman	Digital	hagerman@mail.dec.com
Dal Allan	ENDL	dal_allan@mcimail.com
Janek Rebalski	Sony	janek_rebalski@ asd.scl.sony.com
Ken Hallam	Unisys	Ken.Hallam@mv.unisys.com
Stewart Wyatt	HP	stewart_wyatt@hp.com
Gene Milligan	Seagate	gene_milligan@ notes.seagate.com
Gary R. Stevens	FSI	6363897@mcimail.com
Bill Dallas	DEC	dallas@zk3.dec.com
Charles Monia	Digital	monia@shr.dec.com
Lam Dang	Oak Technology	LamD@oaktech.com

Dan Total of 22 People Present

#### 4. SMC Topics

##### 4.1 Read Element Status and Reservation Conflicts. (96-267-r2)

Rob Basham discussed revision 2 of his proposal to allow Read Element = Status while reserved by another host or in a Not Ready condition. = The reason for this change is to allow discovery of attached data = transports. There was some support for allowing return of Element = Status data when reserved, but there are problems when the command = causes actions that may interfere with the host that has the = reservations. (I.E. device movement to update Element Status.)

Rob=B9s proposal did not specify how to handle elements in an unknown = state, where device movement is required to determine the state. = (I.E. there is no way of specifying the state of the Full bit as = unknown.) Bob Snively pointed out that using the ASC/ASCQ field in = Element Status data would work. Others suggested adding another bit = or just not returning any data for that element.

Rob will revise the proposal once again to try an address these = concerns. He will post the updated proposal to the SCSI reflector for = further discussion before the next working group meeting.

#### 5. SSC Topics

##### 5.1 Tape devices and PLDA (Doc #=B9s 97-189-r0, 97-155-r2).

Brian Smith presented his proposal (doc # 97-189-r0) for class 3 = error detection and recovery. This proposal uses a timeout to query = the exchange status. From the exchange status returned, lost = commands, lost data and lost status can be detected and error = recovery initiated.

To handle lost SCSI status information, the exchange status would = have to be preserved after a target returns status. Otherwise the = initiator can=B9t determine if a command or returned status was lost. = Brians proposal recommends preserving this information until the next = command is received or a time of 3 x RTOV has passed.

Besides requiring support for exchange status, a new Sequence Resend = Request extended link service frame is needed. This would be used by = the initiator to request that data or status be sent again. Brian =

indicated that sending complete sequences, and requesting only one = sequence be resent at a time simplifies the recovery process.

Bob Snively asked if the entire problem can be avoided because Read = Position and Locate can be assumed on modern tape devices. It was = pointed out that legacy tape devices may not support these commands, = and will be supported on fibre channel (via bridges) in order to read = the warehouses of existing data on media such as 9 track tapes. The = solution is also applicable to other classes of devices such as = printers and media changers. Bob then withdrew his comment.

Brian then showed how current PLDA disk devices would respond to a = Read Exchange Status. As long as the device rejects the RES = properly, the reject can simply let error recovery default to a ULP, = identical to the current PLDA method of doing recovery. There is = also no reason why a PLDA disk could not support the new recovery = protocol. An advantage of this is that sending RES when a (2 x = RATO) timeout occurs is the same regardless of type of device or = command issued.

The issue of how the timers could be implemented was discussed. Must = an initiator support a separate timer for each open exchange, or can = something simpler be done? Brian indicated that (2 x RATO) is = essentially a minimum time according to his analysis.

Doug Hagerman then talked about his document 97-155-r2.

Doug Hagerman was asked if his class 3 proposal (part of 97-155-r2) = would be dropped in favor of Brians. He agreed that if Brians = proposal covers all the bases, he would favor it over his own class 3 = proposal.

Doug then discussed his class 2 proposal in the same document. He = stated that this is a more general solution, and among other things = would work even in the case of out of order delivery. He needs to = flesh out some of the error recovery scenarios and will discuss this = at the FC sswg conference call. The FCAL meeting, Tuesday morning = during the next T10 plenary week will also discuss this topic.

## 5.2 SSC comment resolution.

Due to lack of time, this was not discussed. Ted Lapin, the SSC = technical editor is expected to attend the next SSC/SMC working group = meeting.

## 6. Other Topics

No other topics were discussed.

## 7. Meeting Schedule

The next meeting of the SSC/SMC Working Group will be next July in = Colorado Springs, Colorado. Actual meeting time will be determined by = the T10 Plenary.

## 8. Adjournment

The meeting was adjourned at 12:05 pm on Thursday, May 8, 1997

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\* For SCSI Reflector information, send a message with  
\* 'info scsi' (no quotes) in the message body to majordomo@symbios.com