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
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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.
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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:

<table>
<thead>
<tr>
<th>Name</th>
<th>Organization</th>
<th>Email Address</th>
</tr>
</thead>
<tbody>
<tr>
<td>Erich Oetting</td>
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<td>Rob Basham</td>
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</tbody>
</table>
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 RATOV 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 =
RATOV) 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 RATOV) 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 Brian's. He agreed that if Brian's =
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

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