

Joint T10/T11 FC_TAPE AdHoc Meeting
March 9, 1999 Harrisburg Pennsylvania
Stewart Wyatt, HP, Secretary

T11/99-147v0

1. Introductions: Group

Dale LaFollette called the group to order shortly after 1 Pm and had the group introduce themselves. A severe winter storm was in progress in the midwest. This had delayed the arrival of some of the participants. Dave Peterson, StorageTek, the editor was unable to leave Minnesota because of the storm and missed the meeting.

2. Approval of this agenda: T11/99-115v0 Group

The agenda was approved with the addition of two items:
Fibre Channel tape connectors: Stewart Wyatt
Read Retry: Rob Basham

3. Approval of 2/10 Minutes: T11/99-104v0 Stewart Wyatt - Approved.

4. Review Old Action Items: Stewart Wyatt

- #1. Dave Peterson/Bob Snively - Update the error recovery documentation to resolve the time-out for ELS.
- #2. Group - Resolve the issue of signalling support for FC-Tape error recovery, CRN support and data overlay in either/or inquiry data, mode pages, PRLI or by some other means.
- #3. Group - Consider the effects of transferring sequence initiative by means of the SRR. Is there a better way?
- #4. Bob Snively - Consider whether SRR is SCSI specific. Put in an annex in FCP2 for inclusion later in the FC-FS.
- #5. Dave Peterson - Report the omission of BLS time-out in FC-PH.
- #6. Dave Peterson - Consider modifying the tape model to require that the tape power up uninitialized, unloaded state. SSC
- #7. Dave Baldwin - Investigate eliminating TPRLO.
- #8 Dave Peterson/group - Resolution of need for authentication documentation.

Item number 4 was closed during the FC-Tape review, see the notes below. On item #7, Dave Ford reported that Clariion uses TPRLO. Since Dave Baldwin and Dave Peterson were not present, the remaining action items were forwarded to the next meeting. The secretary took an action item to post the current action items to the reflector before the next meeting.

5. SSC: T10 Working Drafts Dave Peterson

Dale LaFollete reported on a phone conversation that he had with Dave Peterson just before the meeting. Dave asked Dale to review two SSC items.

The first item was to review the additions for TapeAlert in clause 5.2.1 page 31. Eric Oetting

referred to a comment from Tom Jackson, Exabyte, requested the pooling frequency be relaxed from precisely every 60 seconds, which the text implies, to approximately every 60 seconds. This was reviewed and approved. Rob Basham, IBM, wanted some vendor unique information provided by TapeAlert. His specific example was to identify a failing FRU for service personnel. The group discussed the applicability and appropriateness of reporting this information. Bob Snively thought George Penokie had developed a solution for this problem for SMART.

Dave's second item was the DCC (data compression capable) bit in the data compression mode page in clause 5.4.3.1 on page 55 (pdf page 65) and Table 39, Compression Algorithm Identifiers on page 58 (pdf page 68). Dave had edited the text to clarify the definitions for identifier 00, No algorithm selected (identifies uncompressed data). Dave's change was approved by the group.

Another concern was raised that data compression is redundantly specified in two different pages. The second one being the Device Configuration page byte 14, Select Data Compression Algorithm, in Table 39, page 59 (pdf page 69). This group decided to obsolete this parameter

The suggestion was made that the data compression algorithm should be reported in a similar manner to reporting density algorithms. Eric Oetting, StorageTek, took an action item to think about it.

6. FCP-2: T10 Working Drafts Bob Snively

Bob reported to the group that he had not had the time to update the FCP-2. He promised to have a new draft available before the next meeting and solicited inputs on the existing draft.

7. FC-TAPE Document Review: T11/99-069v1: Dave Peterson

Dave had provided Dale with two issues for FC-TAPE that he wished the group to review. The first was enabling FC-TAPE with a PRLI bit versus a mode page. No conclusion was reached.

The second item was an action from the last meeting, transferring sequence initiative using SRR. Bob Snively, SUN, championed the discussion over concern that it violated FC-PH. Matt Wakeley, HP, saw it operating similarly to RSI (Request Sequence Initiative) ELS which is already in FC-PH. The group agreed to close the action item with instructions to the editor to add text to the SRR specifically stating that it transfers sequence initiative, if the transfer is necessary to complete the error recovery.

The last item that Dave had requested was to schedule an editors meeting. Dale reported that Dave has 40 open comments, 30 of which are editorial and 10 are technical. Dave feels like he can finish the comments without additional input from this group. He hopes to forward the next draft, with all of the letter ballot comments resolved, at next months T11 meeting. That version could be forwarded for another letter ballot or for first public review, public review being the more popular option considering the implementations in progress.

Matt Wakeley objected to calling a meeting without a clear view of the issues that needed resolving and an agenda. Stewart Wyatt asked if after the final draft was available for review and a list

of issues provided, if a teleconference could be held instead of a meeting. Matt and Stewart were concerned about reviewing FC-TAPE without reviewing the material that is being removed for inclusion in FCP-2. Bob Snively promised to provide an updated draft of FCP-2 by March 19. The actions that were agreed to was for Dave to provide a draft at least two weeks before the next meeting to comply with the two week rule and post the issues to the reflector. The group took an action item to review the letter ballot resolutions in preparation and post any disagreements to the reflector.

8. T10 New Business: Group

Fibre Channel Tape Connector: Stewart Wyatt

Stewart Wyatt, HP, reluctantly took the floor to discuss a connector proposal that he had forwarded to the SFF committee. The current SFF-8067 connector does not have adequate 5 volt power capability and so cannot be used for 5 1/4 form factor tape drives. Stewart proposed using the 68 pin connector of the same family as the 40 pin SFF-8067 connector to provide additional power lines while retaining the functionality of the original 40 pins. Stewart's proposal also included ten vendor unique pins to provide a connection to a library controller. What proved to be most controversial was changing the pin ordering defined on the SFF-8067 connector to make it easier for tape vendors to connect their gigabit serial signals to it. The 8067 specification has both receiver pins at one end of the connector and both transmitter pins at the other end of the connector. Both integrated and discrete transceivers would logically group the receiver and transmitter pins for each port together at the opposite ends of the connector. A formal proposal will be circulated on the Fibre Channel reflector before the next meeting.

Lan Free Backup

Considerable effort has been spent in developing an extended copy command. Representatives of Crossroads and Intelliguard attended the meeting to present their first draft. A representative of Pathlight was prevented from attending by the weather.

The first presentation was by Geoff Hoese, Crossroads. Geoff send through a set of overheads that provided an introduction to Lanfree Backup. Then Craig Johnston, Intelliguard, and Steve Wilson, Crossroads, reviewed the Extended Copy Command proposal, T10/99-143v0. After their presentation the facilitator thanked them for their presentation. This proposal is a first draft and comments are welcome. The editor is Jim Orh, StorageTek. The developers would like to move the responsibility for the proposal to T10 and have it included in the SPC. They were encouraged to approach the T10 plenary the next morning to present their proposal.

9. T11 New Business: Group

Rob Basham, IBM, had asked to discuss read retries. Rob was concerned that host bus adapters were assuming that when an error occurred during a fixed block read that the retry would occur at the zero offset. In this case the transfer length can exceed the buffer length and so the data will have to be recovered by rereading the media. Rob gave an example of recovering data from a worn out tape where the chances of recovering the data decrease with each read. If the HBA dis-

carded data that had been recovered before the error occurred, the chance of recovering all of the data is diminished. Rob was also concerned that in this type of environment that the errors reported in the logs would be overstated, causing problems with his customers. Rob's conclusion was that he wanted to discourage HBA designers from taking the easy way out during recovery by starting at the zero offset if the recovery could begin at a later point in the read.

Food was available and the group was worn out, everyone left but the facilitator and the secretary before the last two action items were concluded.

10. Review New Action Items: Stewart Wyatt

Action items carried over from last meeting:

- #1. Dave Peterson/Bob Snively - Update the error recovery documentation to resolve the time-out for ELS.
- #2. Group - Resolve the issue of signalling support for FC-Tape error recovery, CRN support and data overlay in either/or inquiry data, mode pages, PRLI or by some other means.
- #3. Bob Snively - Consider whether SRR is SCSI specific. Put in an annex in FCP2 for inclusion later in the FC-FS.
- #4. Dave Peterson - Report the omission of BLS time-out in FC-PH.
- #5. Dave Peterson - Consider modifying the tape model to require that the tape power up uninitialized, unloaded state. SSC
- #6. Dave Baldwin - Investigate eliminating TPRLO. (Note that Dave Ford reported that Clariion does use this command.)
- #7. Dave Peterson/group - Resolution of need for authentication documentation.
- #8. Dave Peterson will attempt to document EOD behavior more precisely in the SSC.

New Action items.

- #1. Dave Peterson - Several reviewers noticed problems with the latest draft of the profile. Check the master pages for revision and spelling in the headers. In addition there are many cases of missing letters. These usually occur at the end of the line but sometimes occur in the middle of a line as well.
- #2. Dale LaFollete - Check on status of new TapeAlert flags.
- #3. Stewart Wyatt - Bob Snively questioned how TapeAlert flags are cleared. He felt the flag should not be cleared until the underlying cause had been corrected. He felt the text was unclear. Stewart will forward his concerns to Stephen Gold for comment.
- #4. Dave Peterson - Clean up TapeAlert description using appropriate standards text.
- #5 Erich Oetting - Consider specifying the compression algorithm like supported density is specified.
- #6 Stewart Wyatt - Post Fibre Channel tape connector specification to the reflector before the next meeting.
- #7 Bob Snively - Provide an updated copy of the FCP-2 by March 19th.
- #8 Dave Peterson - Provide an updated copy of FC-TAPE on or before April 1. Post issues to the reflector.
- #9 Group - Review letter ballot comments and post disagreements to the reflector
- #10 Stewart Wyatt - Post action items to the reflector two weeks before the next meeting.
- #11 Dave Peterson - See item 5 in the minutes for changes to the data compression related mode

pages.

#12 Dave Peterson - See item 7 in the minutes for changes to the SRR text description.

11 Adjournment: Group - The room was empty by 6:45