Joint T10/T11 FC_TAPE AdHoc Meeting T11/98-287v0.pdf
May 4, 1999 - Manchester, New Hampshire
Stewart Wyatt, Hewlett Packard, FC Tape Secretary

1. Introductions: Group - Facilitator Dale Lafollette, StorageTek called the group to order around 1:30 and had the participants introduce themselves.

2. Approval of this agenda: T11/99-232v0 Group - Approved with minor changes.

3. Approval of 3/9 Minutes: T11/99-231v0 Stewart Wyatt - Approved.

4. Review old Action Items: Stewart Wyatt

General Action Items
#1. Erich Oetting, StorageTek - Consider specifying the compression algorithm like the supported density is specified. - Ongoing
#2. Bob Snively, Sun Microsystems - Post concerns about TapeAlert to reflector. - Some emails have been exchanged, Bob is concerned about cluster environments and will continue the discussions.
#3. Dale LaFollette - Ask T11.3 plenary for public review of FC-TAPE. - Postponed to next meeting
#4. Stewart Wyatt - New connector proposal matching 40 pin SFF-8067 connector. - Completed.
#5. Carl Zeitler, Compaq - post question about negative information field values on early termination of SPACE command to reflector. - Completed
#6. Tape vendors to reply to Carl's issue. - Completed

FC-TAPE action items
#1. Dave Peterson, make the changes identified in these minutes under agenda item 5. - Completed.

FCP-2 action items.
#1. Bob Snively will look for a place to make the statement that a response will be a minimum of 24 bytes in length. - Completed
#2. Bob Snively will review the ABTS changes in the FCP-2 draft with respect to FC-PH. - Ongoing.
#3 Bob Snively will check the text to see that it states that FCP_CONF and linked commands are mutually exclusive except for the last command or a check condition that ends the link. - Completed.
#4 Bob Snively and Bob Kembel, Connectivity Solutions, create a list of the specific BLS and ELS which are allowed before Login including explicit Login in an annex for later placement in FC-FS. - Ongoing
#5 Bob Snively requested that the error retry offset text (Clause 5.12 in T10/99-168r1) should be reviewed by the participants. - Completed
#6 Jim Coomes, Seagate, will make a proposal to limit certain of the mode page bits to private loop applications. - Ongoing
#7 Dave Peterson, StorageTek, to write a proposal to carry the protocol for discovery to FC-FS. -

Ongoing, the document that this proposal will be included in is undecided.
#8 Bob Snively requested participants to review the CRN recovery (T10/99-168r1 Clause 5.16). - Completed
#9 Bob Snively needs to review the proposal for first burst length parameter definition. - Completed
#10 Bob Snively check to be sure that "ignored" = 0 length in FCP_RSP and other relevant places. - Completed
#11 Group review Long CDB definition proposal with respect to the position of FCP-DL. - Completed.

5. FC-TAPE Amendment Review: T11/99-069v3 Dave Peterson

Dave asked for any additional review comments for the FC-TAPE document.

Stewart Wyatt noted that in Clause 2.2, References under development, that FC-AL-2 is specified as X3.272. This should be X3.xxx (or NCITS.xxx).

Dale LaFollette noted some of his approved letter ballot comments had not been implemented. These comments pertain to table 25 - SCSI Tape device commands. On page 38, Mode Select, and page 39, Mode Sense, page code hex '02', the DOC column should read FCP-2. Further on page 39 the bits included in Mode Sense page code hex '18' and '19' should have be placed in the Mode Select page.

5.1 Matt Wakeley, HP, had posted some comments.

Matt's first comment was that in clause 3.1.2, Available BB_Credit definition, differs from FC-PH - Rather than correct the definition, the comment will be deleted.

Matt's second comment was that in clause 3.1.8 Loop ID, the word "assigned" should be changed to "selects". Bob Snively thought the definition confused the concepts of Loop ID and AL-PA. Matt proposed removing clause 3.1, Definitions, since all of them are defined in other documents. A vote was taken: 10 for, 0 against, 4 didn't vote. Clause 3.1 is to be eliminated and the other sections in clause 3 renumbered.

Matt's third comment referenced clause 5.2 paragraph 3. FLOGI is required to get an address identifier. Consequently the address identifier cannot be a requirement for FLOGI. The text should be corrected by removing "and address identifier".

Dave Peterson made a comment that FCP-2 needs to include text stating that in a class 3 non queuing environment exchange status can be discarded after RR_TOV as well as after receiving another command from the same initiator. After a discussion with Dave, Bob and Stewart Wyatt, Bob agreed to make the change.

Charles Binford, LSI Logic, was concerned about the RR_TOV value. He felt the value in FCP-2 was tape specific and should be specified in FC-Tape and that FCP-2 should be silent on the issue. He noted that REC_TOV must be less than RR_TOV. Charles proposal was rejected but Bob will

add the following note to clause 10.5, that, " If REC_TOV associated error recovery is allowed, RR_TOV must be 3 times REC_TOV and always appropriate to ADISC address discovery time." Bob will include this text in the next version of 168r3.

At the conclusion of the review, Dale Lafollette asked what the next action items will be. The decision was that Dave should make the changes proposed today and post the updated profile to the reflector two weeks prior to the next meeting, for a plenary vote to forward the profile.

6. FCP-2; T10 Working Drafts Bob Snively

Bob reviewed document T10/99-168r2 where he has listed the proposed changes and the group's responses. Those items which were accepted as described in the document will not be referenced in these minutes. The minutes will list all of the items where a discussion occured and change is required.

The position of the FCP_DL field in a long CDB (clause 1.5) was discussed again. A vote was taken and the group voted 12 to 0 to put the FCP_DL field at the end of the FCP_CMND. The proposed change will be rejected and the current wording in FCP-2 will be retained.

At Charles Binford's suggestion Bob will check and repair references to ABT-LS for recovery. The new kind of ABT-LS is the recovery type. Bob will place a note near ABTS-LS recovery abort to clarify the changes made to ABT-LS.

Clause1.10, FCP_RSP field length. Jim Coomes requested a note warning of the existence of non-conforming devices that issue 12 byte length FCP_RSP.

Someone noted that in clause1.8, a reference to a "technical report" needs to be changed to a "standard".

In clause1.13, Bob will install Neil Wanamaker's (Crossroads) proposed fix.

Clause 3.3, Mode page support for recovery, was reviewed. This became the longest discussion of the day and was not resolved. Originally the tape profile had required that support for the tape recovery procedures be indicated in PRLI and enabled in a mode page. Dave Peterson still supports this approach. Since being moved into the FCP-2, Bob Snively has changed the protocol so that if both the target and the initiator indicate support for the tape error recovery procedures that it is mandatory that the tape recovery procedures be used. Bob objected to using mode pages saying that the mode page would not be visible to the FCP-2 layer.

Charles Binford thinks that to support the SAN ready environment, disk drives may need to support REC without necessarily supporting SRR and FCP_CONF. These features need to be seperably enabled.

Bob agreed to two PRLI bits: One indicates support for SRR which assumes support for REC. The other one indicates support for FCP_CONF. The PRLI bit for FCP_CONF and the mode page support for CRN were not discussed or changed. Bob's assumption that if both the target and the

initiator indicated support for SRR that tape recovery procedure drew a very long and deep discussion.

Matt Wakeley said if a disk drive indicated support for tape error recover procedures, he would still want to use disk recovery procedure because of the improved performance it offers. Bob responded that setting a PRLI bit always requires using the feature if both parties require it. The meaning of PRLI bits was discussed.

An example of a target with multiple LUNs, mixing disks and tapes was discussed at great length. Bob assumed that in this environment the initiator could not distinguish between the LUNs and would require the same behavior from all devices. Jeff Stai thought that was an implementation decision. Dal Allan, ENDL, felt that we are dealing with a “legacy of mistakes” and the initiator has to be aware of the different characteristic of devices. Bob was convinced that making changes to his proposal would result in serious interoperability problems. The rest of the group disagreed.

Matt Wakeley reiterated his request to learn the capabilities of the device and its type, then allow the initiator to decide the recovery protocol to use and inform the target of its decision. Dave Peterson wants the issue to be settled quickly so as to not impact early implementers.

Dal Allan summarized the situation as saying that FCP-2 has been written with a set of assumptions that are not necessarily true and need to be revisited.

Bob is to make a proposal and post it to the reflector as soon as possible for the group to review.

While discussing clause 5.14, Correction of DDIS bit, a discussion evolved over the support of this bit in public environments. Bob Snively noted that this mode had problems interoperating with fabrics and proposed adding a note that to support this bit, a fabric must be specialty preconfigured which is outside the scope of this standard.

Jim Coomes countered that this bit is only useful in a private loop environment. Dal Allan suggested that this bit function as a “private operation only” bit. Stewart Wyatt noted this bit definition is too restrictive and suggested that a private operation mode bit be included which could be used to qualify other mode bits that may be only applicable to private loop operation.

Dal Allan noted that there had been consistent requests for private only operation capability and that maybe it was time to give in and add the mode bit. Stewart Wyatt noted that Jim Coomes has an open action item to review the mode bits and suggested that he consider the effect of the private mode bit. Jim agreed to consult with some others and add this to his proposal.

In reviewing clause 5.15 Consideration of additional ELS, it was noted that the FC-FS might not be the appropriate place to provide this documentation.

7. SSC: T10 Working Drafts Dave Peterson

Editor Dave Peterson said he had no issues or open items with the current document.

Eric Oetting noted that extent reservations are obsolete and that the references in the document need to be removed. Bob Snively requested that a text discussion be added on non-immediate command reporting using queuing.

7.1 Space Command Residual - Carl Zeitler, Compaq

Carl presented an overhead with the following text (more or less): Page 44 of SSC rev 15, second paragraph, last sentence, change to “A check condition caused by early termination shall not result in a negative information field value”. Another clarifying sentence should be added: “The information field value shall be equal to the magnitude of the count field minus the magnitude of the blocks, filemarks, or setmarks spaced over.” Both sentences need to be moved to the end of the of paragraph 1 on the same page. This change was accepted

7.2 Compression T10/99-181r0 Robert Elliot, Compaq

In Robert’s absence Carl made requested that the proposal obsoleting the compression mode in the device configuration table be rejected as Compaq is using it. The proposal has been rejected.

Carl also noted the need to be able to read the default compression code with mode sense when the code has been changed. Bob Snively thought the case was already covered but Jan Reimers, Compaq, noted that some drives only provided the changed code. Bob suggested that a table be added to include the four states, current, changed, saved, default and what compression algorithm is returned in each. Dave will include Bob’s proposal.

Dave will create a new revision of the SSC that will be revision 17 with the changes agreed to today. Eric Oetting will request a letter ballot comment on revision 17 in the T10 plenary this week. The group hopes that the process can be completed in time to review the letter ballot comments by the next T10 week.

8. T11 New Business: Group. No new issues.

9. T10 New Business: Group. No new issues.

9.1. Tape Connector: T11/99-234v0 Stewart Wyatt

The new proposal was reviewed and the following changes will be made. Pin numbers 1 through 20 and 54 through 68 will be changed to directly reference the corresponding pins in SFF-8067. This will enable this document to track changes in SFF-8067 which have been proposed. The GROUND (5V/3.3V) signals will be renamed GROUND (5V). The “OPT 3.3 VOLT” pins 27 and 28 will be changed to “reserved”. The LIB_GND will be changed to GROUND (5V). Table 2 and 3 will also be updated.

The proposal will updated and presented to the SFF on May 5th. After approval from the SFF, it will be forwarded to T11.2 for standardization, noting as an example the SPI-2, annex D, with the restriction that T11.2 cannot make changes to the pin assignments.

10. Review New Action Items: Stewart Wyatt

General Action Items

#1. Erich Oetting - Consider specifying the compression algorithm like the supported density is specified.
#2. Bob Snively - Post concerns about TapeAlert to reflector.
#3. Stewart Wyatt - Update connector proposal and present to SFF. Reply as noted to Ed Grivna about including in T11.2 documents.

FC-TAPE action items for Dave Peterson unless noted:

#1. Change clause 2.2 References under development, FC-AL-2 should be specified as X3.xxx (or NCITS.xxx) instead of X3.272.
#2. Make the changes to table 25 - SCSI Tape device commands. On page 3, Mode Select, and page 39, Mode Sense, page code hex '02', and page 39 the DOC column should read FCP-2. Further on page 39 the bits included in Mode Sense page code hex '18' and '19' should have be placed in the Mode Select page.
#3. Clause 3.1 is to be eliminated and the other sections in clause 3 renumbered.
#4. Remove from clause 5.2 paragraph 3 the phrase "and address identifier".
#5. Dale LaFollette - Ask T11.3 plenary for public review of FC-TAPE.

FCP-2 action items for Bob Snively unless noted:

#1. Bob Snively will review the ABTS changes in the FCP-2 draft with respect to FC-PH.
#2. Bob Snively and Bob Kembel create a list of the specific BLS and ELS which are allowed before Login including explicit Login in an annex for later placement in FC-FS.
#3 Jim Coomes will make a proposal to limit certain of the mode page bits to private loop applications. Jim will include a "private operations only" mode bit in this proposal and modify the description of the existing mode bits to consider the private only bit.
#4 Dave Peterson to write a proposal to carry the protocol for discovery to be included in a to be determined standards document.
#5. Add a comment that in a class 3 non queuing environment, the exchange status can be discarded after RR_TOV if another command is not received.
#6. Add the following note to clause 10.5, that if REC_TOV associated error recovery is allowed, RR_TOV must be 3 times REC_TOV and always appropriate to ADISC address discovery time.
#7. Check and repair references to ABT-LS for recovery. Place a note near ABTS-LS recovery abort to clarify the changes made to ABT-LS.
#8. Add a note to clause1.10 FCP_RSP field length warning of the existence of non-conforming devices issuing 12 byte length FCP_RSP.
#9. In clause 1.8, change the reference to a "technical report" to a "standard".
#10. In clause1.13, install Neil Wanamaker's proposed fix.
#11. In reference to clause 3.3, Mode page support for recovery, Bob is to make a proposal about how a device indicates support for tape error recovery support (SRR and REC) and enables this support. This proposal should be posted to the reflector as soon as possible for the group to review and comment on.

SSC Action Items:
#1. Dave Peterson will remove the references to extent reservation.
#2. Dave Peterson will add a text discussion be on non-immediate command reporting using queuing.
#3. Dave Peterson will make the changes proposed by Carl Zeitler on page 44 of SSC rev 15, second paragraph, last sentence, change to “A check condition caused by early termination shall not result in a negative information field value”. Another clarifying sentence should be added: “The information field value shall be equal to the magnitude of the count field minus the magnitude of the blocks, filemarks, or setmarks spaced over.” Both sentences need to be moved to the end of the of paragraph 1 on the same page.
#4. Dave Peterson will reject obsoleting the compression mode in the device configuration table.
#5. Dave Peterson will add a table to describe the required results of reading the default compression code to include the four states, current, changed, saved, default and what compression algorithm is returned in each.
#6. Dave Peterson will update the SSC to revision 17 with the changes agreed to today.
#7. Eric Oetting will request a letter ballot comment on revision 17 in the T10 plenary this week.

11. Adjournment: Group. The meeting adjourned about 7:30.

Attendance

Dale Lafollette	StorageTek
Dave Peterson	StorageTek
Stewart Wyatt	Hewlett Packard
Carl Zeitler	Compaq
Jeff Williams	WD
Jan Reimers	Compaq
Jim Coomes	Seagate
Allen King	Mylar
Dennis Moore	KNOWLEDGETEK
Matt Wakeley	Hewlett Packard
Charles Binford	LSI Logic
Steve Wilson	Crossroads
Jeff Stai	QLogic
Brad Culp	Hewlett Packard
Bob Snively	Sun Microsystems
Doug Hagerman	Compaq
Pak Seto	Quantum
Craig W. Carlson	Ancor
Erich Oetting	StorageTek
Dal Allan	ENDL