Draft Minutes

Joint T10-T11.3 Working Group AdHoc Meeting

October 30, 2000 – Seaside, CA 12:00 AM – 9:00 PM

Please direct requests for corrections to this document to either the T10 or T11 reflector. They will be considered at the next meeting.

1.   Introductions: Group

Facilitator Dave Peterson opened the meeting at 12:40 PM, thanked our host company, Adaptec, and led a round of introductions.

2.   Approval of this agenda: T11/00-652v0 Group

A modified agenda, T11-00-652v1, was presented and approved.

3.   Approval of minutes:

3.1   10/4/00 working group minutes: T11/00-626v0 Dave Peterson

The minutes of the past meeting as written in document T11-00-626v0 were approved.

4.   Review of old action items: Bob Nixon

4.1   Dave Peterson to revise MPIO Discovery Procedures (T11/00-232v0) to eliminate dependency on MultiP bit and present for inclusion as an informative annex to FCP-2. (OPENED 9/11/00) **DONE.** See Annex D of fcp2r04b.pdf on the t10 server.

4.2   Bob Snively to bring a complete revision 0.50 of FCP-2 to the Joint T10/T11.3 working group by end of October.
(OPENED 10/04/00). **DONE**. See fcp2r04b.pdf on the t10 server. Rev .50 was deferred pending decision today on whether continued new work will be introduced in FCP-2 after version .50.

4.3   Rob Elliot to prepare a rev 2 of 00-377r0 to incorporate changes requested here and deliver to the editor.
(OPENED 10/04/00). **DONE.** See T10-00-377r1 presented this meeting.

5.   Discussion items:

5.1   Target response to CRN out of order: Paul Suhler

Paul raised the question: How should a target respond to arrival of an out-of-order command (based on CRN)? Shouldn't it be documented?

Maybe a moot point, because the need for CRN seems to be decreasing as a result of work on "stateless" tape.

Claim: FCP-2 intends the initiator drive any recovery.

The target still may run out of resources, and then would report queue full. But this would be unusual, since the out-of-order data should not be far out of order (the transport is formally, though not always practically, required to be in-order).

In a relevant diversion, Bob Snively raised the question of continued development under the FCP-2 project after version .50. This discussion is reported in section 6.3.

CRN would likely become irrelevant in FCP-3: The goal of CRN was recalled as the ability to reorder queued commands delivered by an out-of-order transport. Although the current tape command set is order-dependent, SSC-2 defines one which is not much so. Some future command set might want to assure orderly queued execution, so the question might become interesting again someday.

Observation by an iSCSI observer attending this meeting: Despite using TCP, iSCSI still has not guaranteed end-to-end ordering (yet). Expectation is that iSCSI will adopt FCP.

The general agreement on the initial question (participation of a target in recovery from a disorderly command stream) is that though it may be an interesting topic for later discussion, initiator-driven recovery is sufficient for FCP-2.

5.2   Bi-directional data transfers in FCP-2: T10/00-377r1 Carl Zeitler

Carl presented updates to this document which were made in response to direction from the last meeting.

Also, he clarified a misunderstanding about the "bidirectional XFER_RDY disable" bit: It is NOT a "bidirectional disable" bit.

Ralph Weber requested that references to "Command Byte Count" be replaced with "data in buffer size" or "data out buffer size", as appropriate in context. He pointed out that SCSI no longer has a "Command Byte Count" . There were no objections.

Bob Snively requested that sequence level recovery be proscribed ("shall not") rather than discouraged ("should not") for bidi transfers. There were no objections.

Given the agreement reported below concerning FCP-2 content cutoff, it was proposed that this material be included in FCP-2 only as an informative annex ("this is what is expected to be formalized in FCP-3"). There were no objections.

ACTION: Rob Elliot to revise 00-377r1 to incorporate changes requested here, recast it as an informative annex, and deliver to the editor by Monday November 6.

ACTION: Bob Snively to incorporate the revision of 00-377r1 into FCP-2 version 0.50.

ASIDE: Carl Zeitler raised a new issue with section 4.2 of fcp2r04b. The discussion is reported in section 6.2.

5.3   Installation of corrections in FCP-2: T10/00-300r2 Bob Snively

5.3.1   The resolution of issue 1.25 was approved by the writer of the issue.

5.3.2   The resolution of issue 1.28 was approved by the writer of the issue.

5.3.3   The resolution of issue 1.32 was approved by the writer of the issue.

5.3.4   The resolution of issue 1.43 was approved with change noted below by the writer of the issue.

Attention was directed to the final additional modification proposed by the editor, allowing a 0-status FCP_RSP prior to completion of an operation. This reflects the behavior of, for example, certain large RAID systems which remain busy for some time after responding to a target reset (and other) commands. At the request of Wanamaker (the writer of the issue), the word "Operations" was changed to "Activities". Otherwise, the change was generally accepted.

5.3.5   The resolution of issue 1.47 was approved by the writer of the issue.

5.3.6   The resolution of issue 2.12 was approved by the writer of the issue.

5.3.7   The resolution of issue 2.39 was approved by the writer of the issue.

5.3.8   The resolution of issue 2.47 was approved by the writer of the issue.

5.3.9   The resolution of issue 2.54 was approved by the writer of the issue.

5.3.10   The resolution of issue 2.55 was approved by the writer of the issue.

5.3.11   The resolution of issue 3.9 was noted as requiring review by the writer of the issue.
ACTION: Matt Wakeley to review Solution 3.9 in 00-300r2.

5.3.12   The resolution of issue 3.11 was noted as requiring review by the writer of the issue.
ACTION: Matt Wakeley to review Solution 3.9 in 00-300r2.

5.3.13   The resolution of issue 3.18 has omitted the table requested by Charles Binford. The editor requested the approval of those present for this omission.   There was no objection.

5.3.14   The resolution of issue 4.14 was accepted by the writer of the issue.

5.3.15   The resolution of issue 4.20 was accepted by those present.

5.3.16   The resolution of issue 4.115 was accepted by those present.

5.3.17   The resolution of issue 4.300 was accepted by those present.

5.3.18   The resolution of issue 4.346 was accepted by those present.

5.3.19   The resolution of issue 4.346 was accepted by those present (this means the original request was rejected).

5.3.20   The resolution of issue 4.395 was accepted by those present (this means the original request was rejected).

5.3.21   The resolution of issue 4.418 was accepted by those present (this means the original request was rejected).

5.3.22   The resolution of issue 4.606 was accepted by those present.

5.3.23   The resolution of issue 4.632 was accepted by those present (This resolution eliminates annex E).

5.3.24   The resolution of issue 4.658 was accepted by those present (This resolution eliminates annex E).

5.3.25   The resolution of issue 4.681 was accepted by those present. Dave Peterson will review the resullting text in detail.

5.3.26   The resolution of issue 4.691 was accepted by those present.

5.3.27   The resolution of issue 6.14 was revised to eliminate the definition of the term "base offset" and its single use, since the concept was considered an implementation detail. This resolution was accepted by those present.

5.3.28   The resolution of issue 6.26 as modified during discussion was accepted by those present. The modification resulted in rewording the subject text rather than deleting it.

5.3.29   The resolution of issue 6.62 was accepted with a minor nontechnical change by those present.

5.3.30   The resolution of issue 6.68 was accepted by those present.

5.3.31   The resolution of issue 6.70 was accepted by those present.

5.3.32   The resolution of issue 6.73 was accepted by those present.

5.3.33   The resolution of issue 6.74 was accepted in principle by those present, with the expectation of removal of the second and third resource clearing steps.

5.3.34   The resolution of issue 6.84 was approved by those present.

5.3.35   The resolution of issue 6.87 was approved by those present.

5.3.36   The resolution of issue 6.89 was approved by those present.

5.3.37   The resolution of issue 7.3 concerning table 4 deleted the row for FCP exchange information as redundant with the row for Open Tasks. The rows are not identical as written, but it appears that the current the row for FCP exchange information is faulty, and the two rows should be identical. This was approved by those present.

5.3.38   The resolution of issue 8.13 was approved by the writer of the issue.

5.3.39   The resolution of issue 8.22 was approved by the writer of the issue.

5.3.40   The resolution of issue 8.52 was approved in principle by the writer of the issue, with the expectation of minor corrections in wording.

5.3.41   The resolution of issue 8.76 was approved by the writer of the issue.

5.3.42   The resolution of issue 8.97 was approved by the writer of the issue. Bob Snively will verify the change was actually made.

5.3.43   The resolution of issue 8.116 was approved by the writer of the issue.

5.3.44   The resolution of issue 8.118 was approved by the writer of the issue (deletion of annex I).

5.3.45   The resolution of issue 9.30 was approved by those present.

5.3.46   The resolution of issue 9.55 was approved by those present.

5.3.47   The resolution of issue 9.88 with the added text changed from a note to an inline paragraph was approved by those present.

5.3.48   The resolution of issue 9.103 must be reviewed by all interested parties.

5.3.49   The resolution of issue 9.134 was approved by those present.

5.3.50   The resolution of issue 9.143 was approved by those present.

5.3.51   The resolution of issue 9.144 was approved by those present (deletion of annex H and redistribution of its content)

5.3.52   The resolution of issue 9.145 was approved by those present (deletion of annex I)

5.3.53   The resolution of issue 9.146 was approved by those present (deletion of annex J)

5.3.54   The resolution of issue 11.2 was approved by the writer of the issue.

5.3.55   The resolution of issue 11.5 was approved by the writer of the issue.

5.3.56   The resolution of issue 11.8 was approved by the writer of the issue.

5.3.57   The resolution of issue 11.14 was approved by the writer of the issue.

5.3.58   The resolution of issue 12.6 was questioned by Carl Zeitler concerning need for a reference to FC-FS. His question was satisfied by a recently added change nearby.

5.3.59   The resolution of issue 12.8 was approved by the writer of the issue.

5.3.60   The resolution of issue 12.10 was approved by the writer of the issue.

5.3.61   The resolution of issue 12.11was questioned by Carl Zeitler, who pointed out a case of a target performing a recovery abort. On closer examination, the abort in question aborted a failed REC, not a SCSI task.

   ACTION: Carl Zeitler to review the the resolution of issue 12.11 to determine whether all recovery aborts by targets have been removed from annex D.

5.3.62   The resolution of issue 12.12 was approved by the writer of the issue.

5.3.63   The resolution of issue 12.15 was approved by the writer of the issue. (Annex B removed, content is now in FC-FS).

   ACTION: Bob Snively to revise 00-300r2 to reflect changes made today.

6.   FCP-2:

6.1   Status

There are no remaining unresolved comments from the first ballot. Only three have open review actions for their originators.

6.2   Review of FCP-2, Rev 5: T10/00-XXXrX Bob Snively

Apart from the review of 00-300r2, only one new issue was raised:

Carl Zeitler questioned section 4.2 paragraph 3 last sentence "If the system has mechanisms outside the scope of this standard for controlling the data transfer length, the transmission of the initial FCP_XFER_RDY IU may be disabled." He felt that one such mechanism is well defined in the Disconnect - Reconnect mode page ("First Burst Size") and this should be "standardized". The counter argument was that it would require HBAs to read mode pages, or for applications to do so and communicate to the HBA, unlikely in the opinion of several present. The resolution was to add a reference to section 10.2.11 (fcp2r04b clause numbering) at the end of the sentence in question.

6.3   FCP-2 version .60 or FCP-3?

This issue was raised during an earlier discussion, but is reported here to better organize these minutes:

Bob Snively strongly proposed concluding FCP-2 with essentially the version .50 content. The additional work items that have been discussed (Wakeley recovery, Bidi SCSI) should move to FCP-3, because they require more thought than a quick turn FCP-2 rev .60 allows, they may be obsoleted by SSC-2 work, or both. The group agreed that FCP-2 should conclude with the technical content of the version .50 specification, which led to the next item:

6.4   FCP-2

It was moved and seconded that FCP-2 version 0.50 will be prepared in about a week to include the changes approved through this meeting, and will be recommended to T10 for a new letter balllot. Approved with no objections.

ACTION: Bob Snively to prepare FC-FCP-2 revision 0.50 to reflect changes approved today.

7.   SSC-2:

Had its own meeting this morning. Not further discussed in this meeting.

8.   Unscheduled business:

None was presented.

9.   Next meeting requirements:

4 hours at the December T11 plenary and 4-6 hours at the January T10 plenary.

10.   Review new action items: Bob Nixon

10.1   Rob Elliot to revise 00-377r1 to incorporate changes requested at this meeting, recast it as an informative annex, and deliver to the editor by Monday November 6.
(OPENED 10/30/00)

10.2   Bob Snively to incorporate the revision of 00-377r1 into FCP-2 version 0.50 as an informative annex.
(OPENED 10/30/00)

10.3   Matt Wakeley to review Solution 3.9 in 00-300r2.
(OPENED 10/30/00)

10.4   Matt Wakeley to review Solution 3.11 in 00-300r2.
(OPENED 10/30/00)

10.5   Carl Zeitler to review the the resolution of issue 12.11 in 00-300r2 to determine whether all recovery aborts by targets have been removed from annex D.
(OPENED 10/30/00)

10.6   Bob Snively to revise 00-300r2 to reflect changes made today.
         (OPENED 10/30/00)

10.7   Bob Snively to prepare FC-FCP-2 revision 0.50 to reflect changes approved today.
         (OPENED 10/30/00)

11. Adjournment: Group

The meeting adjourned at 5:15 PM.

FC-FCP-2 Meeting Attendance -- 10/30/00

Company Represented	Last Name	First Name	Email
Brocade	Snively	Bob	rsnively@brocade.com
Cisco Systems	Peterson	Dave	dap@network.com
Compaq	Zeitler	Carl	carl.zeitler@compaq.com
Crossroads	Wanamaker	Neil	ntw@crossroads.com
Emulex	Nixon	Bob	bob.nixon@emulex.com
ENDL	Weber	Ralph	roweber@acm.org
Rhapsody Networks	Rangan	Venkat	venkat@rhapsodynetworks.com
Seagate	Suhler	Paul	Paul_A-Suhler@seagate.com
StorageTek	Oetting	Erich	
Sun	Moe	Ken	kenneth_moe@sun.com