Draft Minutes
T10 FCP-4 Ad Hoc Work Group
8 May 2007 - 9:00 AM to 11:00 AM
Bellevue WA

The FCP-4 Ad Hoc Work Group of the INCITS SCSI (T10) Technical Committee met at Bellevue WA on 8 May 2007, hosted by Microsoft. Attendance was 15 people from 12 companies and is tabulated at the end of this document.

Minutes were taken by Bob Nixon (bob.nixon@emulex.com). Please report any corrections by email to the T10 reflector at T10@T10.org.

1 Opening remarks and introductions

Chairperson Dave Peterson opened the meeting Tuesday, 8 May 2007 at 9:00 AM. He thanked our host company, Microsoft, and led a round of introductions.

2 Approval of Agenda T10/07-229r0

It was moved by Dave Peterson and seconded by Bob Nixon to accept T10/07-229r0 as the agenda for this meeting. Approved unanimously.

3 Review of Minutes T10/07-136r0

It was agreed to correct the minutes to show the month of the meeting as March.

It was moved by Bob Nixon and seconded by Paul Suhler to accept T10/07-136r0 with the change noted above as the minutes of the FCP-4 ad hoc meeting on 13 March 2007. Approved unanimously.

ACTION Bob Nixon to publish T10/07-136r1 reflecting T10/07-136r0 and the agreements at the FCP-4 meeting 8 May 2007.

4 Review of Old Action Items

060509-2 Dave Peterson: Look at XDREAD and XDWRITE behavior regarding retries. Do we fix it here or in SBC.
(Carry)

060711-1 Dave Peterson to contact tape vendors to see whether they are able to force the Sequence Count to zero on Sequence retries.
(Email sent, Peterson to known tape vendors 25 August 2006 and twice since then. Close.)

060711-2 HBA vendors to determine whether they need to be able to do Sequence retry from relative offset 0.
(Email sent, Peterson to known HBA vendors 25 August 2006 and twice since then. Close.)

061107-2 Bob Nixon to present a proposal for negotiating use of CISC in FCP-4, allowing protection for those devices that do not gracefully tolerate it.
(Carry)

070313-1 Dave Peterson to send email to the community soliciting how implementations behave concerning REC ELS reason code concerning inconsistent identification.
(Completed by email 14 March 2007 from Peterson to T10 and T11.3)

5 Old Business

5.1 Sequence Count field set to zero on retries Email Peterson (Brocade)

In discussion several meetings ago and in several emails to the tape drive community since then, an issue was identified, that inconsistent requirements are specified in different parts of FCP-4 for the setting of the Sequence Count of the first frame of a retried Sequence. Some places specify that it shall be set to zero and others specify that it may be set to zero. Drive vendors were requested to reply with an objection if they had any problem with changing to consistently specify “may”. No objections have been received.

ACTION FCP-4 Editor to change FCP-4 subclause 8.2 to specify that the Sequence Count may be set to zero on retry of Sequences.

It was noted that this does not prevent a completely arbitrary restarting Sequence Count. The group did not expect anything except zero or the Sequence Count that would be required by Continuously Increasing Sequence Count.

ACTION Dave Peterson to check the implications of retry from a Sequence Count other than either zero or the Sequence Count required by Continuously Increasing Sequence Count.

5.2 Relative Offset field set to zero on retries (read and write) Email Peterson (Brocade)

In discussion several meetings ago and in several emails to the HBA community since then, an issue was identified that Initiators are not prevented from setting the Relative Offset in an SRR ELS to the Relative Offset of any data that might have previously been sent, and Initiators are required to set Relative Offset to zero “the initiator FCP_Port is unable to determine the Relative Offset of the next data requested“. HBA vendors were requested to reply with an objection if they had any problem with changing FCP-4 to require the SRR to identify the beginning Relative Offset of the first Sequence not successfully received. No objections to this proposed restriction have been forthcoming.

Because there is already text permitting a Target to reject an SRR that starts in data it can not retransmit, the work group agreed that no changes to the standard are needed.

5.3 Inconsistent REC ELS reason code Email Peterson (Brocade)

In earlier discussions it was noted that FCP-4 and FC-LS differ on the reason code that should be used with either an Invalid Originator S_ID (15h) reason code explanation or an Invalid RX_ID/OX_ID (17h) combination reason code explanation. An email to the community (Peterson to T10 and T11.3, 14 March 2007) evinced responses that both reason codes are in use in currently shipping products.

ACTION FCP-4 editor to clarify that an FCP_Port should behave the same if it receives either reason code 03h or 09h in response to an REC ELS if the reason code explanation is either 15h or 17h.

5.4 SAM-4: Task Tag Length and FCP-4 T10/07-139r1 Peterson (Brocade)

In response to this proposal, accepted by CAP but not T10 at the last meeting, certain cases were identified that may lead to ambiguity in the current definition of the task tag value in FCP-4.

ACTION Dave Peterson to bring in a proposal to resolve issues with the current definiton of the task tag in FCP-4.

6 New Business

6.1 QUERY TASK SET task management function T10/07-143r0 Elliott (HP)

This is a revision of an earlier proposal (T10/07-066r0) incorporating changes requested by this work group.

The next version of this proposal may integrate it with revisions of T10/07-072r1 and T10/07-144r0.

6.2 QUERY UNIT ATTENTION task management function T10/07-144r0 Elliott (HP)

This is a revison of an earlier proposal (T10/07-067r0) with changes requested by this work group. It was not presented due to lack of time.

The next version of this proposal may integrate it with revisions of T10/07-072r1 and T10/07-143r0.

6.3 QUERY TASK task management function T10/07-072r1 Elliott (HP)

This is a revison of an earlier proposal (T10/07-072r0) with changes requested by this work group.

It was agreed not to further qualify ABTS-LS as a Basic Link Service in the body of the proposal, since this would be consistent with typical use in Fibre Channel standards. In addition, the proposed glossary definition of ABTS-LS already qualifies it.

It was agreed to qualify acronyms for ELSs by appending “ELS” in the body of the proposal and in FCP-4, since this would be consistent with typical use in Fibre Channel standards.

ACTION FCP-4 editor to assure that all acronyms for specific Extended Link Services in FCP-4 are followed by “ELS”.

It was agreed to add a column in table 7 to name the task management field values, and use those names rather than the numeric values, in the body of the the proposal and in FCP-4.

ACTION FCP-4 editor to update FCP-4 to consistently use the names to be defined in the revision to T10/07-072r1, instead of numeric values, to identify values for the task management function field.

It was agreed to add a column in table 24 to give names for the RSP_CODE field values, and to use those names, rather than numeric values, in new tables 4, 5, and 6.

The next version of this proposal may integrate it with revisions of T10/07-143r0 and T10/07-144r0.

6.4 Task Retry Identifier clarification Email Elliott (HP)

The following email was received from Rob Elliott:

> In 12.4.1.5, this wording could use a little editorial clarification:

"If retransmission is enabled between the initiator FCP_Port and target FCP_Port, FCP_RSP IU information shall be:

a) discarded RR_TOVSEQ_INIT after the FCP_RSP IU was transmitted to the initiator FCP_Port; or,
b) discarded after a new Exchange with the same OX_ID and S_ID field values and task retry identifier is received."

In b), does that mean:

A) same OX_ID field
B) same S_ID field, and
C) same task retry identifier, if any

or does that mean:

A) same OX_ID field
B) same S_ID field; and
C) a task retry identifier set to any value

?

It was agreed that the corrrect interpretation is "discarded after a new Command IU Exchange is received with A) the same OX_ID; B) the same S_ID; and C) the same task retry identifier."

This is similar to Rob's first alternative, except that the qualification "if any" is redundant since a task retry identifier is required when retransmission is enabled.

It was agreed that the receipt of FCP_CONF should be another cause for discarding information reported in FCP_RSP (i.e., add a case c to the original lis).

ACTION FCP-4 editor to modify FCP-4 subclause 12.4.1.5 to reflect the agreements at the FCP-4 work group meeting 8 May 2007.

6.5 Task Retry identification PRLI rule Email Elliott (HP)

The following email was received from Rob Elliott:

In fcp4r00 6.3.4 PRLI request FCP Service Parameter page format, this seems wrong:

"If both the Originator of the PRLI and the Responder to the PRLI request that task retry identification be used, then it shall be used between the initiator FCP_Port and all logical units addressed through that initiator FCP_Port."

I think "initiator" should be "target." This is an I_T negotiation, so the fact that one I_T negotiates to use TRI doesn't mean the initiator turns it on for logical units in the other targets.

Also, globally, usage is inconsistent on capitalizing the first letter of "Parameter (smallcaps) field"

It was agreed to accept Rob's recommendations except to change "that initiator" to "the target" rather than just "initiator" to "target".

ACTION FCP-4 editor to make changes to FCP-4 concerning PRLI negotiation of task retry identification, and capitalization of "Paramenter field", as agreed at the FCP-4 work group meeting 8 May 2007

7 Meeting Schedule

Request 2 hours at the T11 Plenary Week 9-13 July 2007 in Colorado Springs CO.

8 Review of Action Items

060509-2 Dave Peterson: Look at XDREAD and XDWRITE behavior regarding retries. Do we fix it here or in SBC.
(Carry)

061107-2 Bob Nixon to present a proposal for negotiating use of CISC in FCP-4, allowing protection for those devices that do not gracefully tolerate it.
(Carry)

070508-1 Bob Nixon to publish T10/07-136r1 reflecting T10/07-136r0 and the agreements at the FCP-4 meeting 8 May 2007.

070508-2 FCP-4 Editor to change FCP-4 subclause 8.2 to specify that the Sequence Count may be set to zero on retry of Sequences.

070508-3 Dave Peterson to check the implications of retry from a Sequence Count other than either zero or the Sequence Count required by Continuously Increasing Sequence Count.

070508-4 FCP-4 editor to clarify that an FCP_Port should behave the same if it receives either reason code 03h or 09h in response to an REC ELS if the reason code explanation is either 15h or 17h.

070508-5 Dave Peterson to bring in a proposal to resolve ambiguity issues with the current definition of the task tag in FCP-4.

070508-6 FCP-4 editor to modify FCP-4 subclause 12.4.1.5 to reflect the agreements at the FCP-4 work group meeting 8 May 2007.

070508-7 FCP-4 editor to make changes to FCP-4 concerning PRLI negotiation of task retry identification, and capitalization of “Paramenter field”, as agreed at the FCP-4 work group meeting 8 May 2007

070508-8 FCP-4 editor to assure that all acronyms for specific Extended Link Services in FCP-4 are followed by “ELS”.

070508-9 FCP-4 editor to update FCP-4 to consistently use the names to be defined in the revision to T10/07-072r1, instead of hex values or bit numbers, to identify values for the task management function field.

9 Adjournment

It was moved by Dave Peterson and seconded by Bob Griswold to adjourn. Approved unanimously.

The meeting was adjourned at 11:03 AM on 8 May 2007.

10 Actions on Proposals at This Meeting

Document Title	Presenter	Number	Disposition
QUERY TASK task management function	Elliott (HP)	T10/07-072	T10/07-072r1 was presented. Expect a new revision.
QUERY TASK SET t- m- f-	Elliott (HP)	T10/07-066	Replaced by T10/07-143r0.
QUERY UNIT ATTENTION t- m- f-	Elliott (HP)	T10/07-067	Replaced by T10/07-144r0.
QUERY TASK SET t- m- f-	Elliott (HP)	T10/07-143	T10/07-143r0 was presented. Expect a new revision.
QUERY UNIT ATTENTION t- m- f-	Elliott (HP)	T10/07-144	T10/07-144r0 was presented. Expect a new revision.
SAM-4: Task Tag Length and FCP-4	Peterson (Brocade)	T10/07-139	T10/07-139r1 was presented. Expect a new revision.
Inconsistent REC ELS reason code	Suhler (Quantum)	nodoc	Close. A correction was approved at the FCP-4 work group meeting 8 May 2007.

11 Attendance

Representative	Organization
David Peterson	Brocade
Robert Snively	Brocade
Robert H. Nixon	Emulex
Ralph O. Weber	ENDL Texas
Curtis Ballard	Hewlett Packard
Rob Elliott	Hewlett Packard
Kevin Butt	IBM
Robert Payne	Iomega
Robert Griswold	Microsoft
Frederick Knight	Network Appliance
Paul Entzel	Quantum
Paul Suhler	Quantum
Gerald Houlder	Seagate Technology
Erich Oetting	Sun Microsystems
Roger Cummings	Symantec