T10/05-135r0

Voting Results on T10 Letter Ballot 05-134r0 on
Forwarding FCP-3 to First Public Review
Ballot closed: 2005/04/28 12:00 noon MDT

Organization	Name	S	Vote	Add'l Info
Adaptec, Inc.	Tim Symons	P	Yes	
Agilent Technologies	Pat Thaler	P	Yes	
Amphenol Interconnect	Michael Wingard	P	Yes	
Broadcom Corp.	Paul Griffith	P	Yes	
Brocade	Robert Snively	P	Yes	Cmnts
Cisco Systems, Inc.	Claudio DeSanti	P	Yes	
CNT	David Peterson	P	Yes	
Crossroads Systems, Inc.			DNV	
Dallas Semiconductor	James A. Lott, Jr.	P	Yes	
Dell, Inc.	Kevin Marks	P	Yes	
EMC Corp.	David Black	A	Yes	
Emulex	Robert H. Nixon	P	Yes	Cmnts
ENDL	Ralph O. Weber	P	Yes	
FCI	Douglas Wagner	P	Yes	
Foxconn Electronics	Elwood Parsons	P	Yes	
Fujitsu	Mike Fitzpatrick	P	Yes	
General Dynamics	Nathan Hastad	P	Yes	
Hewlett Packard Co.	Rob Elliott	P	Yes	Cmnts
Hitachi Cable Manchester	Zane Daggett	P	Yes	
Hitachi Global Storage Tech.	Dan Colegrove	P	Yes	
IBM Corp.	George O. Penokie	P	No	Cmnts
Intel Corp.	Robert Sheffield	P	Yes	
Iomega Corp.	David Hawks	P	Yes	
Lexar Media, Inc.	Martin Furuhjelm	A	Yes	
LSI Logic Corp.	John Lohmeyer	P	Yes	
Maxtor Corp.	Mark Evans	P	Yes	
Microsoft Corp.	Jeff Mastro	A	Yes	
Molex Inc.	Jay Neer	P	Yes	
Nvidia Corp.	Mark Overby	P	Yes	
Panasonic Technologies, Inc	Terence J. Nelson	P	Yes	
Philips Electronics	William P. McFerrin	P	Yes	
Pivot3, Inc.	Bill Galloway	P	Abs	Cmnts
PMC-Sierra	Rachelle Trent	P	Yes	
QLogic Corp.	Craig W. Carlson	A	Yes	
Quantum Corp.	Paul Suhler	A	Yes	
Seagate Technology	Gerald Houlder	P	No	Cmnts
Sierra Logic, Inc.	William Martin	P	Yes	
Storage Technology Corp.	Erich Oetting	P	Yes	Cmnts
Sun Microsystems, Inc.	Vit Novak	P	Yes	
Texas Instruments	Paul D. Aloisi	P	Yes	
Toshiba	Yutaka Arakawa	P	Yes	
TycoElectronics	Ashlie Fan	P	Yes	
Veritas Software	Roger Cummings	P	Yes	
Vitesse Semiconductor	Gregory Tabor	P	Yes	
Western Digital	Curtis Stevens	P	Yes	
Xiotech Corp.	Jeff Williams	P	Yes	

Ballot totals: (42:2:1:1=46)

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 42 Yes
  2 No
  1 Abstain
  1 Organization(s) did not vote
 46 Total voting organizations
  7 Ballot(s) included comments

This 2/3rds majority ballot passed.
42 Yes are more than half the membership eligible to vote minus abstentions
  [greater than 22] AND
42 Yes are at least 30 (2/3rds of those voting, excluding abstentions [44])
AND
42 Yes are equal to or exceed a quorum [15]

Key:
P       Voter is principal member
A       Voter is alternate member
Abs     Abstain vote
DNV     Organization did not vote
Cmnts   Comments were included with ballot
NoCmnts No comments were included with a vote that requires comments

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Comments attached to Yes ballot from Robert Snively of
Brocade:

Brocade-01  (E) Page: ii  Location: Abstract

Problem Description:
The abstract should add be rewritten to: "This standard describes the frame
format and protocol definitions required to transfer commands and data
between a SCSI (Small Computer System Interface) initiator and target using
the Fibre Channel family of standards. The second version added optional
retransmission, task ordering, and confirmation capabilities.  This third
version  incorporates bi-directional commands,  removes information that is
now contained in other standards, and describes additional error recovery
capabilities for the Fibre Channel Protocol."

Suggested Solution:
Make requested changes

Brocade-02  (E) Page: xv  Location: Foreword

Problem Description:
This document is not BSR INCITS 350.  This text should have a nice big TBD
with indicators about filling this in afterwards.

Suggested Solution:
Make requested changes

Brocade-03  (E) Page: 5  Location: 3.2

Problem Description:
The paragraph format for FC-FS-2 should be adjusted for the proper paragraph
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indent.

Suggested Solution:
Make requested changes

Brocade-04 (E) Page: 43 Location: 9.2.2

Problem Description:
The text of the second paragraph uses the phrase "(i.e., each FCP_DATA IU shall begin on a word boundary)." There is no definition of a word or of a word boundary in the document. I believe that the phrase should either be stricken or replaced with the words "(i.e., the two low-order bits of FCP_DATA_RO shall be zero.)"

Suggested Solution:
Make requested changes

Brocade-05 (E) Page: 22 Location: 3.1

Problem Description:
The word "word" is used several times throughout the document, but there is no glossary definition for the word.

Suggested Solution:
Add a glossary entry for the word "word" as follows:
"word: a grouping of 4 bytes (32 bits) with a location beginning on a 4-byte boundary with respect to the beginning of an IU and treated as a unit."

Brocade-06 (E) Page: many Location: many

Problem Description:
"can" should in all cases be replaced with "may".

Suggested Solution:
Make requested changes

Brocade-07 (E) Page: 26 Location: 6.3.1

Problem Description:
The fourth paragraph should be corrected to read: "An accept response code indicating other than REQUEST EXECUTED (see 6.3.5 and FC-LS) shall be provided if the PRLI Service Parameter page is incorrect or if the requested image pair is not established.

Suggested Solution:
Make requested changes

Brocade-08 (E) Page: 93 Location: C.1

Problem Description:
In C.4, C.11, and C.12, the word "cannot" should be replaced with "shall not". While I recognize that annexes do not show normative behavior, the words in these cases are used to describe behavior that is absolutely prohibited by this and other standards.

Suggested Solution:
Make requested changes

Brocade-09 (E) Page: many Location: many

Problem Description:
The word "which" should be examined for proper usage in each of the places it is used and corrected to be removed, replaced with "that", to have the sentence rewritten, or to be unchanged depending on the correct meaning and according to the proper writing style guides.

Suggested Solution:
Make requested changes

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Comments attached to Yes ballot from Robert H. Nixon of Emulex:

Emulex comments on FCP-3 Revision 3f (March 23, 2005)

Emulex-001
Page 2
Subclause 3.1.1
Access controls are not referenced in FCP-3. Remove the definitions related to access controls in 3.1.1, 3.1.2, and 3.1.3.

Emulex-002
Page 11
subclause 4.2
It appears that between 6.3.4 and 10.2.10, there isn't really any way to suppress first burst transfer that is outside the scope of FCP-3. Change the

first full sentence at the top of page 11 to "If the initiator and target have negotiated to disable the initial transfer ready (see 6.3.4), the initiator shall send an initial FCP_DATA IU after sending the FCP_CMND IU without transferring sequence initiative to the target (see 10.2.10), and the

target shall process the initial FCP_DATA IU without having first sent an FCP_XFER_RDY IU."

Emulex-003
subclause 4.2
It appears that between 6.3.4 and 10.2.10, there isn't really any way to suppress first burst transfer that is outside the scope of FCP-3. Change the

last sentence of the third paragraph on page 11 to "If the initiator and target have negotiated to disable the initial transfer ready (see 6.3.4), the

initiator shall send an initial FCP_DATA IU after sending the FCP_CMND IU without transferring sequence initiative to the target (see 10.2.10), and the

target shall process the initial FCP_DATA IU without having first sent an FCP_XFER_RDY IU."

Emulex-004
Page 19
Subclause 4.14
Since this subclause allows implicit PRLI, it should say "The Process Login (PRLI) ELS may be used to establish the FCP operating relationships..."

Emulex-005
Page 19
Subclause 4.15
This subclause describes Link Management. Its last sentence is "Implicit login functions are allowed", which looks like it belongs at the end of the first paragraph of subclause 4.13 on Port Login/Logout.

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Comments attached to Yes ballot from Rob Elliott of
Hewlett Packard Co.:

HPQ comment number 1
Page=16 Subtype=StrikeOut Author=relliott
Comment=
Introduction

Delete "at data rates from 265 Mbits
up to 10 Gbits per second" since that will become obsolete.

HPQ comment number 2
Page=16 Subtype=Highlight Author=relliott
Comment=
Introduction

Change "The Fibre Channel Protocol for SCSI, Third revision (FCP-3) standard" to "This standard"

HPQ comment number 3
Page=16 Subtype=Highlight Author=relliott
Comment=
Introduction

Change "Fibre Channel Protocol for SCSI, Third Version (FCP-3) standard" to "This standard"

HPQ comment number 4
Page=18 Subtype=Highlight Author=relliott
Comment=
1 Scope

Change "the SCSI-3 Architecture Model - 3 (SAM-3)." to "SCSI Architecture Model - 3 (SAM-3)"

HPQ comment number 5

Page=19 Subtype=StrikeOut Author=relliott
Comment=
3.1.1 access controls

Delete unused term:

3.1.1 access controls: Mechanisms allowing a managing application client to control the set of initiators that have access to a target. The access control is enforced by the target (see SPC-3).

HPQ comment number 6
Page=19 Subtype=StrikeOut Author=relliott
Comment=
3.1.2 access controls data:

Delete unused term

3.1.2 access controls data: Information sent to the target by the managing application client that is used by
the target to control the set of initiators that have access to the target (see SPC-3).

HPQ comment number 7
Page=19 Subtype=StrikeOut Author=relliott
Comment=
3.1.3 access controls enrollment state

Delete unused term

3.1.3 access controls enrollment state: A state established in the target by the managing application client.
The state governs the behavior of the target in controlling the set of initiators that have access to the target (see
SPC-3)

HPQ comment number 8
Page=19 Subtype=Highlight Author=relliott
Comment=
3.1.4 acknowledged class

Change "Acknowledged classes of
service include Class 1, Class 2, and Class 4 service" to "(e.g., Class 1, Class 2, and Class 4)"

HPQ comment number 9
Page=19 Subtype=Text Author=relliott
Comment=
3.1.4 acknowledged class

Add a definition:
3.1.xx unacknowledged class: Any class of service that does not acknowledge transfers (e.g., Class 3)(see FC-FS-2).

HPQ comment number 10
Page=19 Subtype=Highlight Author=relliott

Comment=
3.1.5 address identifier
"used to identify source" s/b "used to identify the source"

HPQ comment number 11
Page=19 Subtype=Text Author=relliott
Comment=
3.1 Definitions

If a cross reference like "(see SAM-3)" applies to the whole term being defined, I recommend using ". See SAM-3." rather than "(see SAM-3)". Use the parenthesis style only when the cross-reference applies to the object in front of the parenthesis.

For example, this would mean to see SAM-3 for more info on "command":
command: A request describing a unit of work to be performed by a device server. See SAM-3.

while this would mean to see it for more info on "device server":
command: A request describing a unit of work to be performed by a device server (see SAM-3).

HPQ comment number 12
Page=20 Subtype=Highlight Author=relliott
Comment=
3.1.15 Destination_Identifier

Change "Destination_Identifier" to "Destination_Identifier (D_ID)"

HPQ comment number 13
Page=22 Subtype=Highlight Author=relliott
Comment=
3.1.54 Source_Identifier

Change "Source_Identifier" to "Source_Identifier (S_ID)"

HPQ comment number 14
Page=22 Subtype=Highlight Author=relliott
Comment=
3.2 Abbreviations
D_ID row

"(see FC-FS-2)" s/b "(see 3.1.15)"

HPQ comment number 15
Page=23 Subtype=Highlight Author=relliott
Comment=
3.2 Abbreviations
S_ID row

"(see FC-FS-2)" s/b "(see 3.1.54)"

HPQ comment number 16
Page=23 Subtype=Highlight Author=relliott
Comment=

3.2 Abbreviations
IU row

"(see FC-FS-2)" s/b "(see 3.1.27)"

HPQ comment number 17
Page=23 Subtype=Text Author=relliott
Comment=
3.2 Abbreviations

Add:
ABTS Abort Sequence (see FC-FS-2)
FCP_RJT FCP FC-4 Link Service Reject link service (see 8.3)
PRLI Process Login ELS (see 6.3 and FC-LS)
PRLO Process Logout ELS (see 6.4 and FC-LS)
REC Read Exchange Concise ELS (see 6.5 and FC-LS)
SRR Sequence Retransmission Request link service (see 8.2)

HPQ comment number 18
Page=23 Subtype=Highlight Author=relliott
Comment=
3.2 Abbreviations
in PLOGI, change "Extended Link Service" to "ELS"

HPQ comment number 19
Page=23 Subtype=Highlight Author=relliott
Comment=
3.2 Abbreviations

In FLOGI, change "Extended Link Service" to "ELS"

HPQ comment number 20
Page=23 Subtype=Highlight Author=relliott
Comment=
3.2 Abbreviations

In LOGO, change "Extended Link Service" to "ELS"

HPQ comment number 21
Page=27 Subtype=Highlight Author=relliott
Comment=
4.2 Device management

"Execute Command remote procedure call. (See SAM-3)."

s/b "Execute Command procedure call (see SAM-3)."

HPQ comment number 22
Page=27 Subtype=Underline Author=relliott
Comment=
4.2 Device management

This is not quite right: "An application client begins an FCP I/O operation when it invokes an Execute Command remote procedure call. (See SAM-3). The Execute Command call conveys a single request or a list of linked requests

from the application client to the FCP service delivery subsystem."

Problems:
1. Execute Command is now called a "procedure call," not a "remote procedure call"
2. Execute Command is a model for the collective operation of multiple SCSI transport protocol services. The application client doesn't invoke it, per se.
3. Task management functions also fall into the category of I/O operations - Execute Command only models commands. Each tmf has its own procedure call: ABORT TASK (), ABORT TASK SET(), etc. (see SAM-3 section 7.1)
4. In terms of protocol services, the application client invokes Send SCSI Command () or Send Task Management Request ().

HPQ comment number 23
Page=27 Subtype=Underline Author=relliott
Comment=
4.2 Device management

After fixing the first sentences to cover task management functions too, change "one SCSI command" to "one SCSI command or task management function"

HPQ comment number 24
Page=27 Subtype=Underline Author=relliott
Comment=
4.2 Device management

After fixing the first sentences to cover task management functions too, change "SCSI command" to "SCSI command or task management function"

HPQ comment number 25
Page=27 Subtype=Underline Author=relliott
Comment=
4.2 Device management

"The FCP_CMND IU payload is the Send SCSI Command protocol service request (see SAM-3)"

The initiator port sends the FCP_CMND IU payload to implement the Send SCSI Command protocol service request.

HPQ comment number 26
Page=27 Subtype=Text Author=relliott
Comment=
4.2 Device management

Near "One FCP_DATA IU shall follow each FCP_XFER_RDY IU" clarify that each FCP_DATA IU contains one or more solicited data frames.

HPQ comment number 27
Page=27 Subtype=Highlight Author=relliott
Comment=
4.2 Device management

Change "Device management" to "FCP I/O operations"

HPQ comment number 28
Page=28 Subtype=Highlight Author=relliott
Comment=
4.2 Device management

"INTERMEDIATE CONDITION MET" s/b "INTERMEDIATE-CONDITION MET"

HPQ comment number 29
Page=29 Subtype=Highlight Author=relliott
Comment=
4.4 Precise delivery

Change:
"An application client may determine if a device server supports the precise delivery function by using the MODE SENSE and MODE SELECT commands to examine and set the enable precise delivery checking (EPDC) bit in the Fibre Channel Logical Unit Control page. See 10.3."

to something like:
"The ENABLE PRECISE DELIVERY CHECKING (EPDC) bit in the Fibre Channel Logical Unit Control mode page (see 10.3) indicates if precise delivery is enabled or disabled and may allow the application client to change the setting."

HPQ comment number 30
Page=30 Subtype=Highlight Author=relliott
Comment=
4.4 Precise delivery
d) "by receipt of ... an FCP_DATA IU"

implies that the entire FCP_DATA IU must be received. Is that the case, or is receipt of the first frame in the FCP_DATA IU sufficient?

HPQ comment number 31
Page=30 Subtype=Highlight Author=relliott
Comment=
"the application client places a one byte unsigned integer in the COMMAND REFERENCE NUMBER field of each command..."

The application client provides the Command Reference Number argument to the Send SCSI Command protocol service; the initiator port puts it in the FCP_CMND frame.

HPQ comment number 32
Page=30 Subtype=Highlight Author=relliott
Comment=
4.4 Precise delivery
item e)
"in the order of increasing CRN, highest CRN last."

needs to account for wrapping (if you receive commands with CRN 254, 255, 1, and 2, you don't assume that they were received in order 1, 2, 254, 255, which this statement says)

HPQ comment number 33
Page=30 Subtype=Text Author=relliott
Comment=
4.4 Precise delivery
a)b)c) list

Use T10 style with ; endings

HPQ comment number 34
Page=30 Subtype=Highlight Author=relliott
Comment=
4.5 Confirmed completion
Change
"PRLI parameters are used to determine that confirmed completion is accepted by an initiator and may be requested by a target communicating with that initiator."

to something like:
The CONFIRMED COMPLETION ALLOWED field in the FCP Service Parameter page for PRLI request (see 6.3.4) and accept (6.3.5) is used to negotiate use of confirmed completion.

HPQ comment number 35
Page=30 Subtype=Highlight Author=relliott
Comment=
4.5 Confirmed completion

Change "is provided by the confirmed completion function, optionally implemented by FCP-2 devices."

to "may be provided by the optional confirmed completion function."

HPQ comment number 36
Page=30 Subtype=Highlight Author=relliott
Comment=
4.5 Confirmed completion

FCP_CONF_REQ should be smallcaps

HPQ comment number 37
Page=30 Subtype=Highlight Author=relliott
Comment=
4.5 Confirmed completion
Change "A target may invoke" to "If the CONFIRMED COMPLETION ALLOWED field is set to one in the PRLI accept FCP Service Parameter page, the target may request"

HPQ comment number 38
Page=31 Subtype=Highlight Author=relliott
Comment=
4.5 Confirmed completion

After "INTERMEDIATE" add "or INTERMEDIATE-CONDITION MET"

HPQ comment number 39

Page=31 Subtype=Highlight Author=relliott
Comment=
4.5 Confirmed completion
above first a)b) list

After "completion" add ":"

HPQ comment number 40
Page=31 Subtype=Text Author=relliott
Comment=
4.5 Confirmed completion
a)b) and a)b)c) list

Use T10 style with ; endings

HPQ comment number 41
Page=31 Subtype=Highlight Author=relliott
Comment=
4.5 Confirmed completion

Change "Confirmed completion shall not be requested for" to
"Targets shall not request confirmed completion for"

HPQ comment number 42
Page=31 Subtype=Highlight Author=relliott
Comment=
4.6 Retransmission

"as indicated by the PRLI bits,"

Specifically name the fields/bits

HPQ comment number 43
Page=31 Subtype=Highlight Author=relliott
Comment=
4.6 Retransmission

"unsuccessfully transmitted data" is in the title, and the text discusses
data retransmission.

However, clause 12 also discusses retransmission of FCP_CMND, FCP_XFER_RDY,
etc.

Consider removing "data"

HPQ comment number 44
Page=32 Subtype=Highlight Author=relliott
Comment=Change "(REC and SRR)" to "(i.e., REC and SRR)"

HPQ comment number 45
Page=32 Subtype=Square Author=relliott
Comment=
4.8 Discovery of FCP caps

Table 2

Change all the references to "6.3.4" to "6.3". 6.3 points to the PRLI request only; really some of them apply to the PRLI accept.

HPQ comment number 46
Page=32 Subtype=Highlight Author=relliott
Comment=
4.8 Discovery of FCP caps
Table 2

For target overlay, change "MODE SENSE command" to "Disconnect-Reconnect mode page EMDP bit"

HPQ comment number 47
Page=32 Subtype=Highlight Author=relliott
Comment=
4.8 Discovery of FCP caps
Table 2

For initiator overlay, change "MODE SENSE command" to "Fibre Channel Logical Unit Control page EPDC bit"
and the reference to "4.4 and 10.3"

HPQ comment number 48
Page=32 Subtype=Highlight Author=relliott
Comment=
4.8 Discovery of FCP caps
Table 2

For target overlay, change "MODE SENSE command" to "Fibre Channel Logical Unit Control page EPDC bit"
and the reference to "4.4 and 10.3"

HPQ comment number 49
Page=32 Subtype=Highlight Author=relliott
Comment=
4.9 TMF

Change:
should end with an FCP_RSP IU completion status of Task Management function incorrect
logical unit number (i.e., 09h) and may end with an FCP_RSP IU completion status of Task Management function complete (i.e., 00h)

to:
a) should end with an FCP_RSP IU with the RSP_CODE field set to 09h (i.e., task management function incorrect logical unit number); and
b) may end with an FCP_RSP IU with the RSP_CODE field set to 00h (i.e., task management function complete);

HPQ comment number 50
Page=33 Subtype=Text Author=relliott
Comment=
4.9 Task mgmt
Table 3

Add double lines below header row and above notes row

HPQ comment number 51
Page=34 Subtype=Highlight Author=relliott
Comment=
4.10 Clearing effects
Table 4 and table 5

Change "N_Port or L_Port" to "FCP_Port" in the "PRLI parameters cleared" row.

PRLI only applies to Nx_Ports, so the generic L_Port term (which includes NL_ and FL_ Ports) does not apply.

HPQ comment number 52
Page=34 Subtype=Highlight Author=relliott
Comment=
4.10 Clearing effects
Table 4 Clearing effects

In "CRN (Command Reference Number) (set to one)" should be "CRN set to one"

HPQ comment number 53
Page=35 Subtype=Highlight Author=relliott
Comment=
4.10 Clearing effects
Table 5 Clearing effects

"CRN (Command Reference Number) (set to one)" s/b "CRN set to one"

HPQ comment number 54
Page=37 Subtype=StrikeOut Author=relliott
Comment=
5.2 Use of WWN

Delete "vital"

HPQ comment number 55
Page=37 Subtype=Text Author=relliott
Comment=
5 FC protocol overview

Consider merging chapter 4 and 5. Chapter 5 seems to just continue describing general topics.

HPQ comment number 56
Page=37 Subtype=Highlight Author=relliott
Comment=
5.3 FCP Information Units (IUs)

Move 5.3 into clause 9 FCP Information Units formats

HPQ comment number 57
Page=38 Subtype=Text Author=relliott
Comment=

5.3 IUs
Table 6

Use double-line above notes

HPQ comment number 58
Page=39 Subtype=Text Author=relliott
Comment=
5.3 IUs
Table 7

Use double-line above notes

HPQ comment number 59
Page=40 Subtype=Text Author=relliott
Comment=
5.4.1 FC-FS-2 frame header

Right justify Bits
Left justify Word

HPQ comment number 60
Page=40 Subtype=Highlight Author=relliott
Comment=
5.4 FC-FS-2 mappings to SCSI-3 functionality

This is an awkward name for the section defining the frame header.

Rename this to "FC-FS-2 frame header" and 5.4.1 to "FC-FS-2 frame header overview"

HPQ comment number 61
Page=40 Subtype=Text Author=relliott
Comment=
5.4 Frame header

Consider moving 5.4 into clause 9 by the rest of the frame definitions (the IU contents)

HPQ comment number 62
Page=40 Subtype=Text Author=relliott
Comment=
5.4.2.x

Add "field" after each title (already in 5.4.2.12 parameter field)

HPQ comment number 63
Page=41 Subtype=Highlight Author=relliott
Comment=
5.4.2.12 PARAMETER field

After "task retry identification" add "(see 4.7)"

HPQ comment number 64
Page=42 Subtype=Highlight Author=relliott

Comment=
6.1 Link service requirements

Change:
"Process Login and Process Logout ELSs defined by FC-LS, the Process Login FCP Service Parameter pages defined in this standard, and the Read Exchange Concise ELS"

to "PRLI and PRLO ELSs defined by FC-LS, the PRLI FCP Service Parameter pages defined by 6.3, and the REC ELS"

HPQ comment number 65
Page=42 Subtype=Highlight Author=relliott
Comment=
6.2 Overview of PRLI/PRLO

Change "the following subclauses" to "6.3.4 and 6.3.5"

HPQ comment number 66
Page=42 Subtype=Text Author=relliott
Comment=
6 FCP link service definitions
8 FC-4 Link Service definitions

Consider combining clause 6 and clause 8 since they both discuss link services

HPQ comment number 67
Page=44 Subtype=Highlight Author=relliott
Comment=
6.3.4 Process Login request page format

Change "Process Login" to "PRLI"

HPQ comment number 68
Page=44 Subtype=Text Author=relliott
Comment=
6.3.4/5

Are these pages also used by PRLO in 6.4? If so rename them to not include PRLI/"Login"

HPQ comment number 69
Page=45 Subtype=Highlight Author=relliott
Comment=
6.3.4 FCP service parameter page

word 3, bit 9

Change "the task retry identification function" to "task retry identification" globally.

Add "(see 4.7)" after the first one in each section.

HPQ comment number 70

Page=47 Subtype=Highlight Author=relliott
Comment=
6.3.4 Process Login accept page format

Change "Process Login" to "PRLI"

HPQ comment number 71
Page=48 Subtype=Highlight Author=relliott
Comment=
6.4 PRLO

"The ACC shall present a response FCP Service Parameter page for the request FCP Service Parameter page."

Where are these page formats defined? In they mean 6.3.4/6.3.5 then the names need to be changed to reflect PRLO also uses them. Add cross references and make sure naming is consistent.

HPQ comment number 72
Page=50 Subtype=Text Author=relliott
Comment=
8.1 FC-4 Link Services

Expand the paragraph into one paragraph per field

HPQ comment number 73
Page=51 Subtype=Highlight Author=relliott
Comment=
8.2 SRR
Table 13

Words s/b Word

HPQ comment number 74
Page=51 Subtype=Highlight Author=relliott
Comment=
8.2 SRR
Table 14

Words s/b Word

HPQ comment number 75
Page=52 Subtype=Highlight Author=relliott
Comment=
8.3 FCP_RJT
Table 15

Words s/b Word

HPQ comment number 76
Page=54 Subtype=Text Author=relliott
Comment=
9 IUs

Since an FCP_DATA IU can be spread out over multiple frames, does that mean

an FCP_CMND IU, FCP_XFER_RDY IU, or FCP_RSP IU can also be delivered in multiple frames?

If not, there should be a statement in each section saying so.

HPQ comment number 77
Page=54 Subtype=Highlight Author=relliott
Comment=
9.1.1 FCM_CMND IU format
Table 18

After "ADDITIONAL FCP_CDB" add "(if any")

HPQ comment number 78
Page=54 Subtype=StrikeOut Author=relliott
Comment=
Table 18

Remove (MSB) and (LSB) from FCP_CDB and ADDITIONAL FCP_CDB fields. They have substructures.

HPQ comment number 79
Page=54 Subtype=Highlight Author=relliott
Comment=
9.1.1 FCP_CMND IU

Change:
an FCP_RSP IU containing a RSP_CODE field
set to "FCP_CMND Fields Invalid".

to:
an FCP_RSP IU with the RSP_CODE field set to 02h (i.e., FCP_CMND fields invalid)

HPQ comment number 80
Page=54 Subtype=Highlight Author=relliott
Comment=
9.1.2.1 FCP_LUN field
Change:
"address of the destination logical unit in the attached subsystem. See SAM-3."

to:
"address of the logical unit (i.e., the logical unit number)(see SAM-3)."

HPQ comment number 81
Page=55 Subtype=Highlight Author=relliott
Comment=
9.1.2.1 FCP_LUN field

Change "If the addressed logical unit does not exist, the target shall report that the logical unit number is incorrect or that the logical unit is not installed (see SAM-3 and SPC-3)."

to:

"If the addressed logical unit does not exist, the task manager shall follow the rules for selection of incorrect logical units defined in SAM-3"

HPQ comment number 82
Page=56 Subtype=Text Author=relliott
Comment=
9.1.2.5 TM FLAGS field
Table 20 - TASK MGMT FLAGS

Since more than one function at a time is prohibited, change this from a bit-by-bit table to an encoded value table:

Code Task management function
40h CLEAR ACA
20h Obsolete
10h LOGICAL UNIT RESET
04h CLEAR TASK SET
02h ABORT TASK SET
All others Reserved

and adjust the wording above the table to reflect the change (e.g. say "field is set to a nonzero value" rather than "any bit is set to one")

HPQ comment number 83
Page=56 Subtype=Highlight Author=relliott
Comment=
9.1.2.5 TM Flags field
CLEAR ACA description

Change:
the normal Task Management function complete RSP_CODE shall be contained in the returned FCP_RSP IU."

to:
The FCP_RSP IU shall contain a RSP_CODE field set to 00h (i.e., task management function complete).

HPQ comment number 84
Page=56 Subtype=Highlight Author=relliott
Comment=
9.1.2.5 TM FLAGS field

Change:
the FCP_RSP IU that indicates completion of the task management function shall contain a RSP_CODE field set to "FCP_CMND fields invalid".

to:
the FCP_RSP IU shall contain the RSP_CODE field set to 02h (i.e., FCP_CMND fields invalid).

HPQ comment number 85
Page=56 Subtype=StrikeOut Author=relliott
Comment=
9.1.2.4 TASK ATTRIBUTE field

Delete "SIMPLE requests that the task be managed according to the rules for a SIMPLE task attribute.
HEAD OF QUEUE requests that the task be managed according to the rules for a HEAD OF QUEUE task
attribute.
ORDERED requests that the task be managed according to the rules for an ORDERED task attribute.
Mechanisms to assure delivery of commands to a device server in the correct order are described in 4.4.
ACA requests that the task be managed according to the rules foran automatic contingent allegiance (ACA) task attribute."

since table 19 already says that.

HPQ comment number 86
Page=56 Subtype=Highlight Author=relliott
Comment=
9.1.2.5 TASK MANAGEMENT FLAGS field

"TASK ATTRIBUTES field" s/b "TASK ATTRIBUTE field"

HPQ comment number 87
Page=57 Subtype=Highlight Author=relliott
Comment=
9.1.2.5 TM Flags field

"TASK ABORTED completion status" s/b "the TASK ABORTED status"

HPQ comment number 88
Page=57 Subtype=Highlight Author=relliott
Comment=
9.1.2.5 TASK MANAGEMENT FLAGS field
LU RESET description

"A task for an initiator other than the initiator that sent the LOGICAL UNIT RESET may be ended in the target. The initiator for that task shall determine by a timeout that the task did not finish. Subsequent retries fail because the task resources have been cleared in the target, so the initiator shall clear the Exchange resources with a recovery abort sequence. See 12.3."

The "may" is incorrect - the target _must_ end tasks for other initiators according to SAM-3. This text is discussing details that are best left to SAM-3.

This text might be trying to describe the ramifications of the SAM-3 rules; reword more as a note if that is the case.

HPQ comment number 89
Page=57 Subtype=Highlight Author=relliott
Comment=
9.1.2.5 TASK MANAGEMENT FLAGS field
LU RESET description

"A task for an initiator other than the initiator that sent the LOGICAL

UNIT RESET may be completed by returning CHECK CONDITION status with the sense key set to UNIT ATTENTION and the additional
sense code set to POWER ON, RESET, OR BUS DEVICE RESET OCCURRED. The initiator shall then clear all other tasks for that target and logical unit using the ABORT TASK task management function.
See 9.1.3."

This is all material covered by SAM-3 and shouldn't be mentioned here. Some problems with the above text:
* SAM-3 allows more additional sense code options (e.g. POWER ON OCCURRED or BUS DEVICE RESET FUNCTION OCCURRED)
* the logical unit _must_ create a unit attention condition - there's no "may" about it
* it's not necessary for the initiator to use ABORT TASK (i.e. ABTS) on old tasks if it receives the unit attention condition from the logical unit - that itself proves the tasks are gone.

HPQ comment number 90
Page=57 Subtype=Highlight Author=relliott
Comment=
9.1.2.5 TASK MANAGEMENT FLAGS field
CLEAR TASK SET description

"A task for an initiator other than the initiator that sent the CLEAR TASK SET may be ended in the target. The initiator for that task shall determine by a timeout that the task did not finish. Subsequent retries fail because the task resources have been cleared in the target, so the initiator shall clear the Exchange r esources with a recovery abort sequence. See 12.3."

The "may be ended" is too vague - SAM-3 requires they be ended. This is discussing details that are best left to SAM-3.

This text might be trying to describe the ramifications of the SAM-3 rules; reword more as a note if that is the case.

HPQ comment number 91
Page=57 Subtype=Highlight Author=relliott
Comment=
9.1.2.5 TASK MANAGEMENT FUNCTION flags
CLEAR ACA description

There is no such thing as "contingent allegiance" in SAM-3.

This is restating rules best left to SAM-3.

HPQ comment number 92
Page=58 Subtype=Highlight Author=relliott
Comment=
9.1.2.5 TM Flags field
NOTE 4

"TASK ABORTED completion status" s/b "the TASK ABORTED status"

HPQ comment number 93
Page=58 Subtype=Highlight Author=relliott

Comment=
9.1.2.7 RDDATA and WRDATA bits

NOTE 5
Change:
with the RSP_CODE field to "FCP_CMND fields invalid"

to
with the RSP_CODE field set to 02h (i.e., FCP_CMND fields invalid)

HPQ comment number 94
Page=58 Subtype=Highlight Author=relliott
Comment=
9.1.2.5 TASK MANAGEMENT FUNCTION flags
ABORT TASK SET description

"all tasks in the task set from the initiator requesting the ABORT TASK SET to be aborted"

Actually, all tasks from the I_T nexus requesting the ABORT TASK SET are aborted, not all tasks from the initiator.

This is restating SAM-3 rules that are best left to SAM-3.

HPQ comment number 95
Page=58 Subtype=Highlight Author=relliott
Comment=
9.1.2.6 ADDITIONAL FCP_CDB LENGTH field

Change: "The value of the ADDITIONAL FCP_CDB LENGTH field shall be zero"

to
"The ADDITIONAL FCP_CDB LENGTH field shall be set to zero"

HPQ comment number 96
Page=58 Subtype=Text Author=relliott
Comment=
Global

"command" and "operation" are used inconsistently for unidirectional and bidirectional commands.

I suggest this terminology be used:

Type of command -> operations used by the command
read command -> read operation(s)
write command -> write operation(s)
bidirectional command -> read operation(s) and write operation(s)

There are several places where a rule is described for "read operations" that applies to the read portion of a bidirectional command or "write operations" that also applies to the write portion of a bidirectional command, but the rule is then restated for bidirectional commands. This could lead to inconsistency.

If there is concern that "read command" might be interpreted as only the READ opcode and "write command" might be interpreted as only the WRITE opcode, introduce/define them as "read command (e.g., INQUIRY, REPORT LUNS, MODE SENSE, READ, and RECEIVE DIAGNOSTIC RESULTS)" and "write command (e.g., MODE SELECT, SEND DIAGNOSTIC, and WRITE)".

HPQ comment number 97
Page=59 Subtype=Text Author=relliott
Comment=
9.1.3 ABORT TASK

This does not belong in the FCP_CMND IU subclause. Move the details to somewhere else (e.g. 4.9) and just have the FCP_CMND subclause point there from the TASK MANAGEMENT FLAGS field table 20 as "Note: the ABORT TASK task management function is described in 4.9")

HPQ comment number 98
Page=60 Subtype=Highlight Author=relliott
Comment=
9.2.1 FCP_XFER_RDY overview

"FCP_XFER_RDY IUs shall be transmitted preceding each write FCP_DATA IU" mixes plural and singular, and s/b "An FCP_XFER_RDY IU shall be transmitted preceding each write FCP_DATA IU".

HPQ comment number 99
Page=60 Subtype=Text Author=relliott
Comment=
9.2.2 FCP_DATA_RO

In this subclause add "This is the "Offset of the data being transferred" field defined in FC-FS-2.

And add "This is the "Length of the data being transferred" field defined in FC-FS-2.

HPQ comment number 100
Page=60 Subtype=Highlight Author=relliott
Comment=
9.2.3 FCP_BURST_LEN field

Change "disconnect-reconnect
page of MODE SELECT and MODE SENSE commands. See 10.2.7."
to "Disconnect-Reconnect mode page (see 10.2.7)"

HPQ comment number 101
Page=60 Subtype=Highlight Author=relliott
Comment=
9.2.2 FCP_DATA_RO field

Change "disconnect-reconnect page of the MODE SELECT and MODE SENSE commands (see 10.2)."
to "Disconnect-Reconnect mode page (see 10.2.7)"

HPQ comment number 102

Page=60 Subtype=Highlight Author=relliott
Comment=
9.2.2 FCP_DATA_RO field

Change "0 modulo 4" with "a multiple of 4".

As written, it could either mean:
(fcp_data_ro mod 4) = 0 (the intended meaning)
fcp_data_ro = (0 mod 4) = 0

HPQ comment number 103
Page=61 Subtype=Text Author=relliott
Comment=
9.3.1 FCP_DATA IU overview

"If more than one FCP_DATA IU is used... the relative offset ... is used"

This implies the relative offset is only used in the first FCP_DATA frame in a FCP_DATA IU. Is that the case, or must it be set correctly in each data frame? If the latter, then more rules are needed saying so.

HPQ comment number 104
Page=61 Subtype=Text Author=relliott
Comment=
9.3.1 FCP_DATA IU overview

Add some text like this to explain that FCP DATA IU means the entire sequence of solicited data frames, not an individual frame:

An FCP_DATA IU is a sequence (see 5.3) of one or more solicited data frames.

The last frame of an FCP_DATA IU for a write operation transfers Sequence Initiative. The last frame of an FCP_DATA IU for a read operation holds Sequence Initiative.

HPQ comment number 105
Page=61 Subtype=Highlight Author=relliott
Comment=
9.3.1 FCP_DATA IU

"Class of Service" s/b "class of service"

HPQ comment number 106
Page=61 Subtype=Highlight Author=relliott
Comment=
9.3.1 FCP_DATA IU

Change:
the target shall post the error code "FCP_DATA Parameter mismatch with FCP_DATA_RO" in the FCP_RSP_INFO field of the FCP_RSP IU.

to:
the target shall return an FCP_RSP IU with the RSP_CODE field set to 03h (i.e., FCP_DATA parameter mismatch with FCP_DATA RO).

HPQ comment number 107
Page=61 Subtype=Highlight Author=relliott
Comment=
9.3.1 FCP_DATA IU overview

Change "parameters of the disconnect-reconnect page of the MODE SENSE and MODE SELECT commands" to "Disconnect-Reconnect mode page" globally. Add "(see 10.2)" after the first use in each section.

HPQ comment number 108
Page=61 Subtype=Highlight Author=relliott
Comment=
the PRLI FCP Service Parameters specify WRITE FCP_XFER_RDY DISABLED"
to
"If the WRITE FCP_XFER_RDY DISABLED bit is set to one in the PLRI FCP Service Parameter page (see 6.3)"

HPQ comment number 109
Page=61 Subtype=Highlight Author=relliott
Comment=
9.3.1 FCP_DATA IU

Change:
"PRLI service parameter DATA OVERLAY ALLOWED for the initiator is zero,"

to:
"DATA OVERLAY ALLOWED bit is set to one in the PLRI FCP Service Parameter page (see 6.3)"

HPQ comment number 110
Page=61 Subtype=Highlight Author=relliott
Comment=
EMDP bit in the disconnect-reconnect page (see
10.2) of the MODE SELECT and MODE SENSE commands."

to
"the EMDP bit in the Disconnect-Reconnect mode page (see 10.2)."

HPQ comment number 111
Page=62 Subtype=Highlight Author=relliott
Comment=
9.3.2 FCP_DATA IUs

Add paragraph break between "target. The initiator" since the rest of the paragraph is not only applicable during first bursts.

HPQ comment number 112
Page=62 Subtype=Text Author=relliott
Comment=
9.3.2 FCP_DATA IUs

Clarify that commands that fail with protocol-level errors ("the amount of data requested or transferred does not match the number of bytes calculated from FCP_DL and FCP_RESID...") need to result in CHECK CONDITION status

rather than GOOD status if the recovery procedures fail.

HPQ comment number 113
Page=63 Subtype=Highlight Author=relliott
Comment=
9.4.1 FCP_RSP IU
"The FCP_RSP IU shall return the completion status of all task management functions using the FCP_RSP_INFO field.

"all task management functions" is too broad. An ABORT TASK task management function does not involve an FCP_RSP IU.

Change to:
The target shall send a FCP_RSP IU for each task management function delivered with an FCP_CMND IU, indicating the completion status of the task management function in the RSP_CODE field.

HPQ comment number 114
Page=64 Subtype=Highlight Author=relliott
Comment=
9.4.1 FCP_RSP IU overview
Table 22

After "FCP_RSP_INFO (m bytes long)" add "(if any)(see table 23 in 9.4.16)"

HPQ comment number 115
Page=64 Subtype=StrikeOut Author=relliott
Comment=
9.4.1 FCP_RSP IU overview
Table 22

Delete (MSB) and (LSB) from FCP_SNS_INFO, since it has substructures

HPQ comment number 116
Page=64 Subtype=StrikeOut Author=relliott
Comment=
9.4.1 FCP_RSP IU overview
Table 22

Delete (MSB) and (LSB) from FCP_RSP_INFO, since it has substructures

HPQ comment number 117
Page=64 Subtype=Highlight Author=relliott
Comment=
9.4.1 FCP_RSP IU overview
Table 22

After "FCP_SNS_INFO (n bytes long)" add "(if any)"

HPQ comment number 118
Page=64 Subtype=Highlight Author=relliott
Comment=
9.4.1 FCP_RSP IU overview
Table 22

After "FCP_BIDIRECTIONAL_READ_RESID" add "(if any)"

HPQ comment number 119
Page=64 Subtype=Highlight Author=relliott
Comment=
Global
including Table 22

In tables, change "RESERVED" from smallcaps to "Reserved" in mixed case

HPQ comment number 120
Page=64 Subtype=Highlight Author=relliott
Comment=
9.4.3 FCP_BIDI_RSP

"are present." is accurate when referring to the FCP_BIDIRECTIONAL_READ_RESID field, which may or may not be in the IU (the IU is truncated if not present). The FCP_BIDIR_READ_RESID_UNDER and _OVER bits are always present, though. They're just "set to zero" if FCP_BIDI_RSP is set to zero.

HPQ comment number 121
Page=65 Subtype=Highlight Author=relliott
Comment=
9.4.8 FCP_RESID_OVER

"The application client should examine the FCP_RESID field"

This permissive wording might be part of the reason some HBAs don't always notice overflows/underflows. Upgrade to "shall"

HPQ comment number 122
Page=65 Subtype=Highlight Author=relliott
Comment=
9.4.7 FCP_RESID_UNDER

"The application client should examine the FCP_RESID field"

This permissive wording might be part of the reason some HBAs don't always notice overflows/underflows. Upgrade to "shall"

HPQ comment number 123
Page=66 Subtype=Text Author=relliott
Comment=
9.4.12 FCP_RESID field

Reorder the text to put all the underflow sentences together and all the overflow sentences together.

HPQ comment number 124
Page=67 Subtype=Highlight Author=relliott
Comment=
The number shall be 4, or 8." to

"The FCP_RSP_LEN field shall be set to either 00000004h or 00000008h.

HPQ comment number 125
Page=67 Subtype=StrikeOut Author=relliott
Comment=
9.4.15 FCP_RSP_LEN

Delete "Other values of length are reserved for future standardization."
which is true of every field which has undefined values. (matching a
comment received in SAS letter ballot)

HPQ comment number 126
Page=68 Subtype=Highlight Author=relliott
Comment=
Change:
indicates "Task Management function failed"

to:
"is set to 05h (i.e., task management function failed)"

HPQ comment number 127
Page=68 Subtype=Highlight Author=relliott
Comment=
Values 04h and 05h are not valid responses to SCSI commands.

Replace this sentence with a footnote in the table for 04h, 05h, and 09h
that says:
"Only valid when responding to a task management function"

HPQ comment number 128
Page=68 Subtype=Highlight Author=relliott
Comment=
9.4.16 FCP_RSP_INFO field

Table 24
"Task Management" s/b "Task management" 4 times

HPQ comment number 129
Page=68 Subtype=Highlight Author=relliott
Comment=
9.4.16 FCP_RSP_INFO field

Table 24
Parameter s/b parameter

HPQ comment number 130
Page=68 Subtype=Highlight Author=relliott
Comment=
Table 23

"RESERVED" in bytes 4-7

Add "(if any)", since the length is allowed to be 4 rather than 8 in
9.4.15.

HPQ comment number 131

Page=70 Subtype=Highlight Author=relliott
Comment=
10.1 Mode page code overview
Table 25
Capitalize R in "reconnect"

HPQ comment number 132
Page=70 Subtype=Highlight Author=relliott
Comment=
10.1 Mode page code overview
Table 25
Change "page" to "mode page" in each row in this table

HPQ comment number 133
Page=70 Subtype=Highlight Author=relliott
Comment=
10.2.1 Disconnect-Reconnect mode page

"disconnect-reconnect page" s/b "Disconnect-Reconnect mode page"

HPQ comment number 134
Page=70 Subtype=StrikeOut Author=relliott
Comment=
10.1 Overview of mode page codes

Delete "block descriptors and the"

HPQ comment number 135
Page=70 Subtype=Highlight Author=relliott
Comment=
10.1 Overview of mode pages

Change "pages" to "mode pages"

HPQ comment number 136
Page=70 Subtype=Highlight Author=relliott
Comment=
10.1 Overview of mode pages

Change "mode page codes" to "mode pages"

HPQ comment number 137
Page=71 Subtype=Highlight Author=relliott
Comment=
10.2.1 Disconnect-reconnect mode page

Change "FC-AL-2 loops" to "arbitrated loops (see FC-AL-2)"

HPQ comment number 138
Page=71 Subtype=Highlight Author=relliott
Comment=
10.2.1 Disconnect-Reconnect

Table 26
"Disconnect-reconnect page" s/b "Disconnect-Reconnect mode page"

HPQ comment number 139
Page=72 Subtype=Highlight Author=relliott
Comment=
10.2.7 MAXIMUM BURST SIZE field

Change "transfer to the initiator or request from the initiator."

to "transfer to the initiator in a single Data-In FCP_DATA IU or request from the initiator in an FCP_XFER_RDY IU."

HPQ comment number 140
Page=73 Subtype=Text Author=relliott
Comment=
10.2.8 EMDP bit

Clarify that for bidirectional commands, EMDP applies independently to the read data and the write data. With EMDP=0, the read sequences must be in order with relation to themselves and the write sequences must be in order with relation to the write sequences, but there is no read-to-write sequence ordering requirement affected by this bit.

(a given command may have certain requirements for interleaving or not, but EMDP doesn't override those)

HPQ comment number 141
Page=73 Subtype=Highlight Author=relliott
Comment=
10.2.9 FAA, FAB, FAC bits

Change "in a loop configuration" to "attached to an arbitrated loop (see FC-AL-2)"

HPQ comment number 142
Page=73 Subtype=Highlight Author=relliott
Comment=
10.2.9 FAA, FAB, FAC bits

"The FAB bit controls arbitration when the initiator wishes
to send one or more FCP_XFER_RDY IU frames to a target." is wrong.

The initiator does not send FCP_XFER_RDY frames. This should probably be "when the target wishes to send...to an initiator."

IBM will probably complain about "wishes" too.

HPQ comment number 143
Page=73 Subtype=Highlight Author=relliott
Comment=
10.2.9 FAA, FAB, FAC bits

"or when the initiator wishes to send an FCP_CMND IU frames to target."

How does a mode page field, by definition in a target device, place a requirement on an initiator?

Perhaps this means if the target port is really a target/initiator port, it controls the functionality of the initiator role?

HPQ comment number 144
Page=73 Subtype=Highlight Author=relliott
Comment=
10.2.10 FIRST BURST SIZE field

Change "write transfer ready is disabled" to "WRITE FCP_XFER_RDY DISABLED (smallcaps) is negotiated as being set to one in the PRLI FCP Service Parameter page (see 6.3.4)".

Or in 6.3.4 define 'write transfer ready" and just add "(see 6.3.4)" here.

Also change similar wording multiple times in this section

HPQ comment number 145
Page=74 Subtype=StrikeOut Author=relliott
Comment=
10.4.1 FC Port Control mode page

Remove "The page shall not be implemented by logical units other than LUN 0." Any logical unit should be allowed to implement this if it wants.

HPQ comment number 146
Page=74 Subtype=Highlight Author=relliott
Comment=
10.3 FC LU Control mode page

"CRN field"

Change CRN to small caps.
Add "in the FCP_CMND IU (see 9.1.2.2)"

HPQ comment number 147
Page=74 Subtype=Highlight Author=relliott
Comment=
10.4.1 FC Port Control mode page

Change "The page" to "This mode page" throughout the paragraph

HPQ comment number 148
Page=74 Subtype=Highlight Author=relliott
Comment=
10.4.1 FC Port Contol mode page

Change "page" to "mode page" throughout the section

HPQ comment number 149
Page=75 Subtype=Highlight Author=relliott
Comment=
10.4.4 ALWLI bit

Change "Single Connector Attach - 2 (SCA-2) SFF-8067 connector" to "SCA-2

connector (see SFF-8067)"

HPQ comment number 150
Page=75 Subtype=Highlight Author=relliott
Comment=
10.4.4 ALWLI bit

Change "FC-AL-2 loop" to "arbitrated loop (see FC-AL-2)"

HPQ comment number 151
Page=75 Subtype=Highlight Author=relliott
Comment=
10.4.2 DTOLI bit

Change "by an arbitrated loop" to "to an arbitrated loop (see FC-AL-2)"

HPQ comment number 152
Page=75 Subtype=Highlight Author=relliott
Comment=
10.4.3 DTIPE bit

Change "arbitrated loop" to "arbitrated loop (see FC-AL-2)"

HPQ comment number 153
Page=75 Subtype=Highlight Author=relliott
Comment=
10.4.5 RHA bit

Change "arbitrated loop" to "arbitrated loop (see FC-AL-2)"

HPQ comment number 154
Page=76 Subtype=Highlight Author=relliott
Comment=
10.4.6 DLM bit

Change "FC-AL-2 loop" to "arbitrated loop (see FC-AL-2)"

HPQ comment number 155
Page=76 Subtype=Highlight Author=relliott
Comment=
10.4.8 PLPB bit

Change "FC-AL-2 loop" to "arbitrated loop (see FC-AL-2)"

HPQ comment number 156
Page=76 Subtype=Highlight Author=relliott
Comment=
10.4.7 DDIS bit

Change "arbitrated loop" to "arbitrated loop (see FC-AL-2)"

HPQ comment number 157
Page=76 Subtype=Highlight Author=relliott
Comment=
10.4.9 DTFD bit

Change "by an arbitrated loop" to "to an arbitrated loop (see FC-AL-2)"

HPQ comment number 158
Page=77 Subtype=Highlight Author=relliott
Comment=
10.4.10 RR_TOVseq_init

Change RR_TOV SEQ_INIT to small caps and smallcaps/subscript (twice above table 29)

HPQ comment number 159
Page=78 Subtype=Text Author=relliott
Comment=
11.1 Timers
Table 30

Use double-line above notes

HPQ comment number 160
Page=79 Subtype=Highlight Author=relliott
Comment=
11.3 R_A_TOV

"following receipt of the BA_ACC to ABTS" is unclear.

Maybe "following receipt of the BAA_ACC response to ABTS"?

HPQ comment number 161
Page=81 Subtype=Text Author=relliott
Comment=
12.1.2 Sequence level error recovery

There should be a cross-reference to 12.4 somewhere in 12.1.2 since that's where the details are provided.

There should also be a reference to 12.5, since that is at the same level and it is apparently used by the recovery described in 12.4.

HPQ comment number 162
Page=82 Subtype=Highlight Author=relliott
Comment=
12.2.3 Error detection mechanism

Twice on the page:

"b) ... no ACK has been received for FCP_DATA IU(s)" implies that each FCP_DATA IU is a frame (since each frame is ACKed).

Change to "ACKs have not been received for all the frames in an FCP_DATA IU".

HPQ comment number 163
Page=82 Subtype=Highlight Author=relliott
Comment=

12.2.3 Error detection mechanisms

"classes of Service" s/b "classes of service"

HPQ comment number 164
Page=82 Subtype=Highlight Author=relliott
Comment=
12.2.2 FCP-3 error detection for all classes

"read-type command" s/b "read command"

HPQ comment number 165
Page=83 Subtype=Highlight Author=relliott
Comment=
12.3.1 Recovery abort requirements

Change "Sequence level error recovery." to "sequence level error recovery."

HPQ comment number 166
Page=83 Subtype=Highlight Author=relliott
Comment=
12.3

Change "Exchange level recovery" to "exchange level error recovery"

HPQ comment number 167
Page=83 Subtype=Highlight Author=relliott
Comment=
12.3.1 Recovery abort requirements

Change requirements to overview

HPQ comment number 168
Page=84 Subtype=Highlight Author=relliott
Comment=
12.3.4 Additional error recover by initiator

Change "Sequence level recovery" to "sequence level error recovery"

HPQ comment number 169
Page=84 Subtype=Highlight Author=relliott
Comment=
12.3.5 Additional error recovery by target

Change "Sequence level recovery" to "sequence level error recovery"

HPQ comment number 170
Page=85 Subtype=Highlight Author=relliott
Comment=
12.4.1.3 FCP_CMND IU recovery

"see figure C.1 and figure C.2"

can probably also reference C.3 (acknowledged classes), so change to
"see figure C.1, figure C.2, and figure C.3."

HPQ comment number 171
Page=85 Subtype=Highlight Author=relliott
Comment=
12.4.1Using information from REC

Change "Sequence level recovery" to "sequence level error recovery" in header

HPQ comment number 172
Page=85 Subtype=Highlight Author=relliott
Comment=
12.4.1.3 FCP_CMND IU recovery

Change "Sequence level recovery" to "sequence level error recovery"

HPQ comment number 173
Page=85 Subtype=Highlight Author=relliott
Comment=
12.4.1.4 FCP_XFER_RDY IU recovery

Change "Sequence level recovery" to "sequence level error recovery"

HPQ comment number 174
Page=85 Subtype=StrikeOut Author=relliott
Comment=
12.4.1.3 FCP_CMND IU recovery

Delete "using information from REC" which is not in the other 12.4.1.x titles

HPQ comment number 175
Page=86 Subtype=Highlight Author=relliott
Comment=
12.4.1.5 FCP_RSP IU recovery

Change "Sequence level recovery" to "sequence level error recovery"

HPQ comment number 176
Page=87 Subtype=Highlight Author=relliott
Comment=
12.4.1.6 FCP_DATA IU recovery - write

Change "Sequence level recovery" to "sequence level error recovery"

HPQ comment number 177
Page=87 Subtype=Highlight Author=relliott
Comment=
12.4.1.8 FCP_CONF IU recovery

Change "Sequence level recovery" to "sequence level error recovery"

HPQ comment number 178
Page=87 Subtype=Highlight Author=relliott
Comment=

12.4.1.7 FCP_DATA IU recovery - read

Change "Sequence level recovery" to "sequence level error recovery"

HPQ comment number 179
Page=89 Subtype=Text Author=relliott
Comment=
12.5 Second-level error recovery

In each of the 12.5.x titles, add the word "recovery" or "error recovery"
e.g.
12.5.1 ABTS error recovery

HPQ comment number 180
Page=90 Subtype=Text Author=relliott
Comment=
Annexes
When creating the .pdf file, include the annex titles in the bookmarks

HPQ comment number 181
Page=92 Subtype=Text Author=relliott
Comment=
A.4 Send SCSI Command

Send SCSI command is 1 of the 4 steps, it is not a four-step service itself.

HPQ comment number 182
Page=93 Subtype=Highlight Author=relliott
Comment=
A.6 title

"services" s/b "function SCSI transport protocol services"

HPQ comment number 183
Page=93 Subtype=Text Author=relliott
Comment=
A6. Task management services

Describe the SCSI transport protocol services (Send Task Management Request, Task Management Request Received, etc.) defined in SAM-4 and how they are implemented by FCP-3

HPQ comment number 184
Page=96 Subtype=Text Author=relliott
Comment=
B.1.2 and B.1.5
Remove B.1.2 and move B.1.5 into its place.

HPQ comment number 185
Page=97 Subtype=Text Author=relliott
Comment=
Tables B.6, B.7, B8
Show multiple FCP_XFER_RDY frames (and corresponding write FCP_DATA frames) as well.

Show multiple read FCP_DATA frames.

HPQ comment number 186
Page=97 Subtype=Text Author=relliott
Comment=
B.1.7
Table B.6

End table with doubleline.

HPQ comment number 187
Page=97 Subtype=Text Author=relliott
Comment=
B.1.8
Table B.7

End table with doubleline.

HPQ comment number 188
Page=98 Subtype=Text Author=relliott
Comment=
B.1.9
Table B.8

End table with doubleline.

HPQ comment number 189
Page=99 Subtype=Text Author=relliott
Comment=
B.1.10
Table B.9

End table with doubleline.

HPQ comment number 190
Page=101 Subtype=Text Author=relliott
Comment=
B.1.12
Table B.11

End table with doubleline.

HPQ comment number 191
Page=102 Subtype=Text Author=relliott
Comment=
B.2 write example
Figure B.1

Line up each "ACK" with its arrow

There is room to make this figure wider.

HPQ comment number 192
Page=102 Subtype=Highlight Author=relliott

Comment=
B.2 FCP write, frame level

Figure B.1

Change "write I/O operation" to "write operation"

HPQ comment number 193
Page=104 Subtype=Highlight Author=relliott
Comment=
B.3 FCP read example

Figure B.3
Change "read I/O operation" to "read operation"

HPQ comment number 194
Page=104 Subtype=Text Author=relliott
Comment=
B.3 FCP read example
Figure B.3

Add [and] like in figure B.1 identifying the scope of the sequences.

Line up the arrows better.

HPQ comment number 195
Page=110 Subtype=Text Author=relliott
Comment=
C.1 Introduction
Figure C.4

Does anything prevent the target from sending an FCP_XFER_RDY after the ACK? The target doesn't know the ACK was lost...

HPQ comment number 196
Page=114 Subtype=Highlight Author=relliott
Comment=
C.1 Introduction
Figure C.8

can s/b may

HPQ comment number 197
Page=114 Subtype=Highlight Author=relliott
Comment=
C.1 Introduction
Figure C.8

Change "Sequence level recovery" to "sequence level error recovery"

HPQ comment number 198
Page=114 Subtype=Highlight Author=relliott
Comment=
C.1 Introduction
Figure C.8

Change "Exchange level recovery" to "exchange level error recovery"

HPQ comment number 199
Page=129 Subtype=Highlight Author=relliott
Comment=
C.1 Introduction
Figure C.23

can s/b may

HPQ comment number 200
Page=140 Subtype=Highlight Author=relliott
Comment=
D.1.1 item 8)

Change "device" to "peripheral device"

HPQ comment number 201
Page=142 Subtype=Text Author=relliott
Comment=
E.2.1 ABTS

Table E.1

Add another horizontal line between Bit 0=0 and Bit 0 = 1

HPQ comment number 202
Page=143 Subtype=Highlight Author=relliott
Comment=
Table E.2
Change validity to Validity

HPQ comment number 203
Page=143 Subtype=Highlight Author=relliott
Comment=
byte

I think FC-FS-2 just uses "SEQ_ID" when referring to this

****

Comments attached to No ballot from George O. Penokie of
IBM Corp.:

IBM-001
PDF pg 4, pg iv, Change History
The change history needs to be deleted before this document goes to public review.

IBM-002
PDF pg 16, pg xvi, Introduction
This << The Fibre Channel Protocol for SCSI, Third revision (FCP-3) standard

has six annexes. >> should be changed to << The Fibre Channel Protocol for SCSI, Third revision (FCP-3) standard has the following annexes. >> as there are only five. A number here is always wrong and there is no need for it.

IBM-003
PDF pg 18, pg 1, 2.2 Published standard and technical report references
I find it hard to believe you have to reference FCP for anything norminative is this standard. This << ANSI X3.269-1996, Fibre Channel Protocol for SCSI (FCP) >> should be deleted.

IBM-004
PDF pg 19, pg 2, 3.1.1 access controls:
This << the set of initiators that have access to a target.>> should be << the set of initiator ports that have access to a SCSI target device.>>

IBM-005
PDF pg 19, pg 2, 3.1.1 access controls:
This <<The access control is enforced by the target >> should be << The access
control is enforced by the SCSI target device>>

IBM-006
PDF pg 19, pg 2, 3.1.1 access controls:
This << sent to the target by the managing application client that is used by
>> should be << sent to the SCSI target device by the managing application client that is used by >>

IBM-007
PDF pg 19, pg 2, 3.1.2 access controls data:
This << the target to control the set of initiators that have access to the target >> should be << the SCSI target device to control the set of initiators
that have access to the SCSI target device >>

IBM-008
PDF pg 19, pg 2, 3.1.3 access controls enrollment state:
This << A state established in the target by the managing application client.
The state governs the behavior of the target in controlling the set of initiators that have access to the target (see SPC-3)>> should be << A state established in the SCSI target device by the managing application client. The
state governs the behavior of the SCSI target device in controlling the set of
initiator ports that have access to the SCSI target device (see SPC-3)>>

IBM-009
PDF pg 20, pg 3, 3.1.23 fully qualified exchange identifier:
This << identify an FCP I/O operation. See 5.1. >> should be << identify an FCP I/O operation (see 5.1). >>

IBM-010
PDF pg 20, pg 3, 3.1.28 initiator:
This << the word 'initiator' also refers to an FCP_Port using the Fibre

Channel protocol to perform >> should be << the word initiator also refers to
an FCP_Port using the Fibre Channel protocol to perform >>

IBM-011
PDF pg 20, pg 3, 3.1.29 initiator port identifier:
This << Address a target uses to identify the initiator device (see SAM-3). >>
should be <<A value by which a SCSI initiator port is referenced within a domain (see SAM-3).>>

IBM-012
PDF pg 21, pg 4, 3.1.31 logical unit:
This <<A target resident entity that implements a device model and processes SCSI commands sent by an application client (see SAM-3). >> should be << A SCSI target device object, containing a device server and task manager, that implements a device model and manages tasks to process commands sent by an application client (see SAM-3). >>

IBM-013
PDF pg 22, pg 5, 3.1.58 tag:
This << The initiator-specified component of a task identifier that uniquely identifies one task among the several tasks coming from an initiator to a logical unit. >> should be << The application client specified component of a
task identifier that uniquely identifies one task among the several tasks coming from an application client to a logical unit. >>

IBM-014
PDF pg 22, pg 5, 3.1.59 target:
The definition titled << target >> should be << changed to << SCSI target port >>

IBM-015
PDF pg 22, pg 5, 3.1.59 target:
This << A SCSI device that receives SCSI commands and directs such commands to
one or more logical units for execution. In this standard, the word 'target' also refers to an FCP_Port using the Fibre Channel protocol to perform the SCSI target functions defined by SAM-3 >> should be << A SCSI target device object that contains a task router and acts as the connection between device servers and task managers and the service delivery subsystem through which indications and responses are routed (see SAM-3). In this standard, the term SCSI target port also refers to an FCP_Port using the Fibre Channel protocol to perform the SCSI target port functions defined by SAM-3 >>

IBM-016
PDF pg 22, pg 5, 3.1.62 task attribute:
This should be << The queuing specification for a task (SIMPLE, ORDERED, HEAD
OF QUEUE, ACA) (see SAM-3). >> should be << This should be << The queuing specification for a task (e.g., SIMPLE, ORDERED, HEAD OF QUEUE, ACA) (see SAM-3). >>

IBM-017

PDF pg 23, pg 6, 3.2 Abbreviations
This << FCP X3.269-1996, Fibre Channel Protocol for SCSI (see 2.2). Also: referring both to FCP and to this standard. >> should be << FCP Refers to this standard. >>

IBM-018
PDF pg 23, pg 6, 3.2 Abbreviations
Add SCS-2 to the list.

IBM-019
PDF pg 23, pg 6, 3.2 Abbreviations
This << SCSI-3 Small Computer System Interface-3, the SCSI architecture specified by SAM-3 and extended by the companion standards referenced in SAM-3. >> is completely incorrect and false statement and should be deleted.

IBM-020
PDF pg 25, pg 8, 3.4 Editorial conventions, last paragraph
This << precedence to resolve the conflicts is text; then tables; and finally figures. Exceptions >> should be << precedence to resolve the conflicts is text, then tables, and finally figures. Exceptions >>

IBM-021
PDF pg 26, pg 9, 4.1 Structure and concepts, 3rd paragraph
This << Fibre Channel Arbitrated Loop (FC-AL) is an alternative multiple port topology that allows communication between two ports on the loop or between a port on >> should be << Fibre Channel Arbitrated Loop-2 (FC-AL-2) is an alternative multiple port topology that allows communication between two ports on the loop or between a port on >>

IBM-022
PDF pg 26, pg 9, 4.1 Structure and concepts
Global - a.b.c lists and 1,2,3 lists should not have line spaces between the items in the list. This needs to be fixed.

IBM-023
PDF pg 26, pg 9, 4.1 Structure and concepts
Having all this space between the start of a sentence and the end of the sentence is not a good idea. Move the table anchor to it's own paragraph and this will not be a problem.

IBM-024
PDF pg 27, pg 10, 4.2 Device management, 1st paragraph
This << for the execution of one SCSI command, including the local storage address and characteristics of data to be transferred by the command. >> should be << for the processing of one SCSI command, including the local storage address and characteristics of data to be transferred by the command. >>

IBM-025
PDF pg 27, pg 10, 4.2 Device management, 1st paragraph

This << The execution of the individual steps of the protocol is consistent with the SCSI architectural model as defined by SAM-3. >> should be << The processing of the individual steps of the protocol is consistent with the SCSI
architectural model as defined by SAM-3. >>

IBM-026
PDF pg 28, pg 11, 4.2 Device management, 4th paragraph
This << When the device server for the command has completed the interpretation of the command and has determined that read data transfer is required, the FCP_Port that is the target transmits a solicited data IU to the
initiator containing the FCP_DATA IU payload. >> should be << When the device
server for the command has completed the interpretation of the command and has
determined that read data transfer is required, the target FCP_Port transmits
a solicited data IU to the initiator FCP_Port. The solicited data IU shall contain the FCP_DATA IU payload. >>

IBM-027
PDF pg 28, pg 11, 4.2 Device management, 5th paragraph
This << The FCP_Port that is the initiator then transmits the solicited data IU to the target containing the FCP_DATA IU payload >> should be << The initiator FCP_Port then transmits the solicited data IU to the target FCP_Port. The solicited data IU shall contain the FCP_DATA IU payload >>

IBM-028
PDF pg 28, pg 11, 4.2 Device management, 5th paragraph
This << the FCP_Port that is the target transmits a solicited data IU to the initiator containing the FCP_DATA IU payload. >> should be << the target FCP_Port transmits a solicited data IU to the initiator FCP_Port. The solicited data IU shall contain the FCP_DATA IU payload. >>

IBM-029
PDF pg 28, pg 11, 4.2 Device management, 8th paragraph
This << The target shall present the FCP_RSP using the IU that allows command
linking, I5 (see 5.3). The initiator shall continue the same Exchange with an
FCP_CMND IU, beginning the next SCSI command. >> should be << The target FCP_Port shall present the FCP_RSP using the IU that allows command linking, I5 (see 5.3). The initiator FCP_Port shall continue the same Exchange with an
FCP_CMND IU, beginning the next SCSI command. >>

IBM-030
PDF pg 29, pg 12, 4.2 Device management, 8th paragraph
This << linked in the FCP I/O operation except the last are executed in the manner described above. SAM-3 defines the >> should be << linked in the FCP I/O operation except the last are processed in the manner described above. SAM-3 defines the >>

IBM-031

PDF pg 29, pg 12, 4.2 Device management, 9th paragraph
This<< If command queueing resources are unavailable in the target when a command is received, the >> should be << If command queueing resources are unavailable in the logical unit when a command is received, the >>

IBM-032
PDF pg 29, pg 12, 4.2 Device management, last paragraph
This << SCSI allows the initiator function in any FCP_Port and the target function in any FCP_Port. For FCP I/O operations between a host and a peripheral subsystem, the host typically takes on the initiator role and the peripheral subsystem typically takes on the target role. For host to host communications, either one of the communicating pair may take on the initiator
role. For device to device communications, typically used to implement extended copy and other third-party operations, the initiator role is adopted
by the managing FCP device. >> should be << SCSI allows the SCSI initiator port function in any FCP_Port and the SCSI target port function in any FCP_Port. For FCP I/O operations between a host and a peripheral subsystem, the host typically takes on the SCSI initiator port role and the peripheral subsystem typically takes on the target role. For host to host communications,
either one of the communicating pair may take on the SCSI initiator port role.
For device to device communications, typically used to implement extended copy
and other third-party operations, the SCSI initiator port role is adopted by the managing FCP device. >>

IBM-033
PDF pg 29, pg 12, 4.4 Precise delivery of SCSI commands, 1st paragraph
This << delivery and execution of SCSI commands is often not critical. Any changes in execution sequence caused by link failures or switch latencies are
not important and the recovery and retry mechanisms may be executed while other activities are continued by the application client and the device server. >> should be << delivery and processing of SCSI commands is often not
critical. Any changes in processing sequence caused by link failures or switch
latencies are not important and the recovery and retry mechanisms may be processed while other activities are continued by the application client and the device server. >>

IBM-034
PDF pg 29, pg 12, 4.4 Precise delivery of SCSI commands, 2nd paragraph
This << the commands are guaranteed to be executed in order. >> should be << the commands are guaranteed to be processed in order. >>

IBM-035
PDF pg 29, pg 12, 4.4 Precise delivery of SCSI commands, 3rd paragraph
The term << EPDC>> should be in small caps.

IBM-036
PDF pg 30, pg 13, 4.4 Precise delivery of SCSI commands, 5th paragraph

The term << EPDC>> should be in small caps.

IBM-037
PDF pg 30, pg 13, 4.4 Precise delivery of SCSI commands, item a)
This << See tables 4 and 5 for the actions that cause the CRN to be transmitted by the initiator to be set to one and the CRN expected by the device server to be set to one. >> should be << See table 4 and table 5 for the actions that cause the CRN to be transmitted by the initiator FCP_Port to
be set to one and the CRN expected by the device server to be set to one. >>.
Note there are two changes in this sentence.

IBM-038
PDF pg 30, pg 13, 4.4 Precise delivery of SCSI commands, last paragraph
This << required for that command. For example, commands such as INQUIRY, TEST
UNIT READY, REPORT LUNS and MODE SENSE/SELECT used for booting and initialization may use a CRN of zero. >> should be << required for that command (e.g., commands such as INQUIRY, TEST UNIT READY, REPORT LUNS and MODE
SENSE/SELECT used for booting and initialization may use a CRN of zero). >>

IBM-039
PDF pg 30, pg 13, 4.5 Confirmed completion of FCP I/O Operations, 1st paragraph
This << PRLI parameters are used to determine that confirmed completion is accepted by an initiator and may be requested by a target communicating with that initiator. >> should be << PRLI parameters are used to determine that confirmed completion is accepted by an initiator FCP_Port and may be requested
by a target FCP_Port communicating with that initiator FCP_Port. >>

IBM-040
PDF pg 30, pg 13, 4.5 Confirmed completion of FCP I/O Operations, 2nd paragraph
This << A target may invoke the confirmed completion function by setting the FCP_CONF_REQ bit to one in the FCP_RSP IU. Upon receiving the request in the FCP_RSP IU, the initiator shall transmit an FCP_CONF IU to the target, indicating to the target that the FCP_RSP IU has been received by the initiator. >> should be << A target FCP_Port may invoke the confirmed completion function by setting the FCP_CONF_REQ bit to one in the FCP_RSP IU.
Upon receiving the request in the FCP_RSP IU, the initiator FCP_Port shall transmit an FCP_CONF IU to the target FCP_Port , indicating to the target FCP_Port that the FCP_RSP IU has been received by the initiator FCP_Port. >>

IBM-041
PDF pg 31, pg 14, 4.5 Confirmed completion of FCP I/O Operations, 3rd paragraph
This << The confirmed completion function allows the retry of unsuccessful notifications of errors and confirms that the initiator and the target both agree upon the state of a state dependent device. >> should be << The confirmed completion function allows the retry of unsuccessful notifications

of errors and confirms that the initiator FCP_Port and the target FCP_Port both agree upon the state of a state dependent device. >>

IBM-042
PDF pg 31, pg 14, 4.5 Confirmed completion of FCP I/O Operations, 6th paragraph
This << If command linking is being performed, the target shall not request confirmed completion for an FCP_RSP IU containing INTERMEDIATE status. The target may request confirmed completion >> should be << If command linking is
being performed, the target FCP_Port shall not request confirmed completion for an FCP_RSP IU containing INTERMEDIATE status. The target FCP_Port may request confirmed completion >>

IBM-043
PDF pg 31, pg 14, 4.5 Confirmed completion of FCP I/O Operations, 1st a,b,c list item a)
This << linked commands, or >> should be << linked commands; or >>

IBM-044
PDF pg 31, pg 14, 4.5 Confirmed completion of FCP I/O Operations, 2nd a,b,c, list item a)
This << may be used to confirm that an initiator has received an FCP_RSP IU reporting a SCSI CHECK CONDITION status, together with accompanying autosense
data. Upon receiving the FCP_CONF IU, the target may discard its copy of the autosense data. >> should be << may be used to confirm that an initiator FCP_Port has received an FCP_RSP IU reporting a SCSI CHECK CONDITION status, together with accompanying autosense data. Upon receiving the FCP_CONF IU, the
target FCP_Port may discard its copy of the autosense data. >>

IBM-045
PDF pg 31, pg 14, 4.5 Confirmed completion of FCP I/O Operations, 2nd a,b,c list
This list is not formed correctly. It should be a)...; b)...; and c)....

IBM-046
PDF pg 31, pg 14, 4.5 Confirmed completion of FCP I/O Operations, 2nd a,b,c, list item b)
This <<has been successfully transferred to the initiator. That allows subsequent queued state dependent operations to be performed, since the FCP_CONF IU confirms that the FCP_RSP IU has been received by the initiator. >> should be << has been successfully transferred to the initiator FCP_Port. That allows subsequent queued state dependent operations to be performed, since the FCP_CONF IU confirms that the FCP_RSP IU has been received by the initiator FCP_Port.>>

IBM-047
PDF pg 31, pg 14, 4.5 Confirmed completion of FCP I/O Operations, 2nd a,b,c, list item b)
This << be used to confirm that an initiator has received the FCP_RSP IU for targets that require state dependent synchronization with initiators. >> should be << be used to confirm that an initiator FCP_Port has received the FCP_RSP IU for target FCP_Ports that require state dependent synchronization

with initiator FCP_Ports. >>

IBM-048
PDF pg 31, pg 14, 4.6 Retransmission of unsuccessfully transmitted data
The term << initiator >> should be << initiator FCP_Port >> and the term << target >> should be << target FCP_Port >> in all cases in this subclause.

IBM-049
PDF pg 31, pg 14, 4.7 Task retry identification
The term << initiator >> should be << initiator FCP_Port >> and the term << target >> should be << target FCP_Port >> in all cases in this subclause.

IBM-050
PDF pg 32, pg 15, 4.7 Task retry identification, last paragraph
This << Devices that agree to perform recovery shall support task retry identification. If both devices agree to support task retry identification, a
task >> should be << FCP_Ports that agree to perform recovery shall support task retry identification. If both the initiator FCP_Port and target FCP_Port
agree to support task retry identification, a task >>

IBM-051
PDF pg 32, pg 15, 4.7 Task retry identification, last paragraph
This << If the devices do not agree to support task retry identification, the
PARAMETER field is zero >> should be << If the FCP_Ports do not agree to support task retry identification, the PARAMETER field is zero >>

IBM-052
PDF pg 32, pg 15, 4.8 Discovery of FCP capabilities
The term << initiator >> should be << initiator FCP_Port >> and the term << target >> should be << target FCP_Port >> in all cases in this subclause including those it table 2.

IBM-053
PDF pg 33, pg 16, 4.10 Clearing effects of task management, FCP, FC-FS-2, FC-LS, and FC-AL-2 actions, 1st paragraph
This are << FCP target objects >>? Do you mean << target FCP_Ports. >>? or something else. If so how does that relate to SAM-3 objects? This needs to be
fixed.

IBM-054
PDF pg 33, pg 16, 4.10 Clearing effects of task management, FCP, FC-FS-2, FC-LS, and FC-AL-2 actions, 1st paragraph
This << A 'Y' in the corresponding column of either table indicates the object
is cleared to its default, saved, or initial value within the >> does not make
sense. What is << initial value within the device >> supposed to mean?

IBM-055
PDF pg 33, pg 16, 4.10 Clearing effects of task management, FCP, FC-FS-2, FC-LS, and FC-AL-2 actions, 1st paragraph second sentence

The term << upon >> is the wrong font.

IBM-056
PDF pg 33, pg 16, 4.10 Clearing effects of task management, FCP, FC-FS-2, FC-LS, and FC-AL-2 actions, 1st paragraph
This << Rows indicating an effect for all initiator ports have the specified effect on all ports, regardless of the link that attaches the initiator port to the target. >> should be << Rows indicating an effect for all initiator FCP_Ports have the specified effect on all initiator FCP_Ports and all target
FCP_Ports, regardless of the link that attaches the initiator FCP_Port to the
target FCP_Port. >>

IBM-057
PDF pg 34, pg 17, 4.10 Clearing effects of task management, FCP, FC-FS-2, FC-LS, and FC-AL-2 actions, Table 4 - in two places in header
I have no idea what a << Target object >> is. I will assume it is the << Target FCP_Port >>. If so change it, if not then what is it?

IBM-058
PDF pg 34, pg 17, 4.10 Clearing effects of task management, FCP, FC-FS-2, FC-LS, and FC-AL-2 actions, Table 4
The term <<initiator port >> should be changed to << initiator FCP_Port >> in
all cases in this table.

IBM-059
PDF pg 34, pg 17, 4.10 Clearing effects of task management, FCP, FC-FS-2, FC-LS, and FC-AL-2 actions, Table 4
Why are there some cells with only one << N >> for two rows? What is that supposed to mean? Every row entry needs to have a N, Y, or -. This needs to be
fixed.

IBM-060
PDF pg 34, pg 17, 4.10 Clearing effects of task management, FCP, FC-FS-2, FC-LS, and FC-AL-2 actions, Table 4
This << The Target shall clear the object only if ESTABLISH IMAGE PAIR is set
>> should be << The target FCP_Port shall clear the object only if ESTABLISH IMAGE PAIR is set >>

IBM-061
PDF pg 34, pg 17, 4.10 Clearing effects of task management, FCP, FC-FS-2, FC-LS, and FC-AL-2 actions, Table 4
This<< A target port should send PRLO to all logged-in initiator ports >> should be << A target FCP_Port should send PRLO to all logged-in initiator ports >>

IBM-062
PDF pg 35, pg 18, 4.10 Clearing effects of task management, FCP, FC-FS-2, FC-LS, and FC-AL-2 actions, Table 5
(in two places in header)
I have no idea what a << Target object >> is. I will assume it is the <<

Target FCP_Port >>. If so change it, if not then what is it?

IBM-063
PDF pg 35, pg 18, 4.10 Clearing effects of task management, FCP, FC-FS-2, FC-LS, and FC-AL-2 actions, Table 5
The term <<initiator port >> should be changed to << initiator FCP_Port >> in
all cases in this table.

IBM-064
PDF pg 35, pg 18, 4.10 Clearing effects of task management, FCP, FC-FS-2, FC-LS, and FC-AL-2 actions, Table 5
Why are there some cells with only one << N >> for two rows? What is that supposed to mean? Every row entry needs to have a N, Y, or -. This needs to be
fixed.

IBM-065
PDF pg 35, pg 18, 4.10 Clearing effects of task management, FCP, FC-FS-2, FC-LS, and FC-AL-2 actions, Table 5
This << shall be individually aborted by the initiator via the recovery >> should be << shall be individually aborted by the initiator FCP_Port via the recovery >>

IBM-066
PDF pg 35, pg 18, 4.10 Clearing effects of task management, FCP, FC-FS-2, FC-LS, and FC-AL-2 actions, Table 5
This << For multiple-LUN targets, CLEAR TASK SET, ABORT >> should be << For multiple-logical unit SCSI target devices, CLEAR TASK SET, ABORT >>

IBM-067
PDF pg 35, pg 18, 4.10 Clearing effects of task management, FCP, FC-FS-2, FC-LS, and FC-AL-2 actions, Table 5
This << affect only the addressed LUN. >> should be << affect only the addressed logical unit. >>

IBM-068
PDF pg 36, pg 19, 4.13 Port Login/Logout
The term << initiator >> should be << initiator FCP_Port >> and the term << target >> should be << target FCP_Port >> in all cases in this subclause.

IBM-069
PDF pg 37, pg 20, 5.1 FCP addressing and Exchange identification, 2nd paragraph
This << Addressability of logical units uses the logical unit number provided
in the FCP_CMND IU. >> should be << Addressability of logical units uses the LUN provided in the FCP_CMND IU. >>

IBM-070
PDF pg 37, pg 20, 5.1 FCP addressing and Exchange identification, Last paragraph
This << The target uses the OX_ID, and, if it has >> should be << The target FCP_Port uses the OX_ID, and, if it has >>

IBM-071
PDF pg 37, pg 20, 5.2 Use of World Wide Names, 1st paragraph
The term << initiator >> should be << initiator FCP_Port >> and the term << target >> should be << target FCP_Port >> in all cases in this paragraph

IBM-072
PDF pg 37, pg 20, 5.2 Use of World Wide Names, Last paragraph
This << unit having a LUN of 0 may be the same as the Node_Name of the target.
The Worldwide_Name for the port shall be different from the Worldwide_Name for
the node. >> should be << unit having a LUN of 0 may be the same as the Node_Name of the SCSI target device. The Worldwide_Name for the target FCP_Port shall be different from the Worldwide_Name for the node. >>

IBM-073
PDF pg 37, pg 20, 5.3 FCP Information Units (IUs), 1st paragraph
This << for IUs sent to targets, and in table 7 for IUs sent to initiators. Each >> should be << for IUs sent to target FCP_Ports, and in table 7 for IUs
sent to initiator FCP_Ports. Each >>

IBM-074
PDF pg 37, pg 20, 5.3 FCP Information Units (IUs)
Having all this space between the start of a sentence and the end of the sentence is not a good idea. Move the table anchor to it's own paragraph and this will not be a problem.

IBM-075
PDF pg 38, pg 21, 5.3 FCP Information Units (IUs), Table 6 title
This <<sent to targets >> should be << sent to target FCP_Ports >>

IBM-076
PDF pg 38, pg 21, 5.3 FCP Information Units (IUs), Table 6
The term << SCSI-3 >> should be << SCSI >> as there is no such thing as SCSI-3.

IBM-077
PDF pg 39, pg 22, 5.3 FCP Information Units (IUs), Table 7 title
This <<sent to initiators >> should be << sent to initiator FCP_Ports >>

IBM-078
PDF pg 39, pg 22, 5.3 FCP Information Units (IUs), Table 7
The term << SCSI-3 >> should be << SCSI >> as there is no such thing as SCSI-3.

IBM-079
PDF pg 40, pg 23, 5.4.1 FC-FS-2 frame header
Global - None of the field names are in small caps except parameter. All field
names have to be changed to small caps in the tables and everywhere those values are used in text.

IBM-080
PDF pg 41, pg 24, 5.4.2.12 PARAMETER field, 3rd paragraph

The term << initiator >> should be << initiator FCP_Port >> and the term << target >> should be << target FCP_Port >> in all cases in this paragraph

IBM-081
PDF pg 42, pg 25, 6.2 Overview of Process Login/Logout
The term << initiator >> should be << initiator FCP_Port >> and the term << target >> should be << target FCP_Port >> in all cases in this subclause.

IBM-082
PDF pg 42, pg 25, 6.2 Overview of Process Login/Logout, last paragraph
This << Process Login has two actions that can be performed, selected by the ESTABLISH IMAGE PAIR bit (see 6.3.4): >> should be << Process Login has two actions that may be performed, selected by the ESTABLISH IMAGE PAIR bit (see 6.3.4): >>

IBM-083
PDF pg 43, pg 26, 6.3.1 Use of Process Login by the Fibre Channel protocol, 3rd paragraph
The term << initiator >> should be << initiator FCP_Port >> and the term << target >> should be << target FCP_Port >> in all cases in this paragraph

IBM-084
PDF pg 43, pg 26, 6.3.1 Use of Process Login by the Fibre Channel protocol, 3dr paragraph
This << Some capabilities require support by both the Originator and Responder
before they can be used (see 6.3.4). >> should be << Some capabilities require
support by both the Originator and Responder before they are able to be used (see 6.3.4). >>

IBM-085
PDF pg 45, pg 28, Word 3, Bit 9: TASK RETRY IDENTIFICATION REQUESTED:
This << then it shall be used between the initiator and all logical units for
that port. The >> should be << then it shall be used between the initiator FCP_Port and all logical units address through that initiator FCP_Port. The >>

IBM-086
PDF pg 45, pg 28, Word 3, Bit 8: RETRY:
The term << initiator >> should be << initiator FCP_Port >> and the term << target >> should be << target FCP_Port >> in all cases in this subclause.

IBM-087
PDF pg 45, pg 28, Word 3, Bit 7: CONFIRMED COMPLETION ALLOWED:
The term << initiator >> should be << initiator FCP_Port >> and the term << target >> should be << target FCP_Port >> and the term << initiator function
>> should be << initiator FCP_Port function >> and the term << target function
>> should be << target FCP_Port function>>in all cases in this subclause.

IBM-088
PDF pg 46, pg 29, Word 3, Bit 6: DATA OVERLAY ALLOWED:

The term << initiator >> should be << initiator FCP_Port >> and the term << target >> should be << target FCP_Port >> and the term << initiator function >> should be << initiator FCP_Port function >> and the term << target function >> should be << target FCP_Port function>>in all cases in this subclause.

IBM-089
PDF pg 46, pg 29, Word 3, Bit 6: DATA OVERLAY ALLOWED:
This << in the application client buffer more than once during execution of a command. >> should be << in the application client buffer more than once during processing of a command. >>

IBM-090
PDF pg 46, pg 29, Word 3, Bit 5: INITIATOR FUNCTION:
The term << initiator >> should be << initiator FCP_Port >> and the term << initiator function >> should be << initiator FCP_Port function >> in all cases in this subclause.

IBM-091
PDF pg 46, pg 29, Word 3, Bit 4: TARGET FUNCTION:
The term << target >> should be << target FCP_Port >> and the term << target function >> should be << target FCP_Port function>>in all cases in this subclause.

IBM-092
PDF pg 46, pg 29, Word 3, Bit 1: READ FCP_XFER_RDY DISABLED:
This << Targets shall not send FCP_XFER_RDY on read operations. >> should be << Target FCP_Ports shall not send FCP_XFER_RDY on read operations. >>

IBM-093
PDF pg 46, pg 29, Word 3, Bit 0: WRITE FCP_XFER_RDY DISABLED:
The term << initiator >> should be << initiator FCP_Port >> and the term << target >> should be << target FCP_Port >> in all cases in this subclause.

IBM-094
PDF pg 48, pg 31, 6.5 Read Exchange Concise (REC), item e)
This << number of bytes transmitted by the target for a read. >> should be <<
number of bytes transmitted by the target FCP_Port for a read. >>

IBM-095
PDF pg 49, pg 32, 7.1 Overview of FC-4 specific objects for the Fibre Channel protocol
This << of the operations which can be performed to register objects with a Name >> should be << of the operations which are performed to register objects with a Name >>

IBM-096
PDF pg 49, pg 32, 7.2 FC-4 Features object, 3dr paragraph
This << Request CT_IU, which requests the FC-4 Features object for a

specified
>> should be << Request CT_IU, that requests the FC-4 Features object for a specified >>

IBM-097
PDF pg 49, pg 32, 7.2 FC-4 Features object, 1st paragraph
This << unit with logical unit number 0 of the FCP_Port, as specified by SPC-3. For >> should be << unit with LUN 0 of the FCP_Port, as specified by SPC-3. For >>

IBM-098
PDF pg 50, pg 33, 8.2 Sequence Retransmission Request (SRR)
The term << initiator >> should be << initiator FCP_Port >> and the term << target >> should be << target FCP_Port >> in all cases in this subclause.

IBM-099
PDF pg 50, pg 33, Addressing:, 1st paragraph
This << The S_ID field designates the initiator requesting the information retransmission. The D_ID field designates the target that is to receive the request. In the event that the target responds to the SRR with an FCP_RJT, the
target shall return CHECK CONDITION status with the sense key set to HARDWARE
ERROR and the additional sense code set to INITIATOR DETECTED ERROR MESSAGE RECEIVED. A target that has agreed during PRLI to support retransmission should not reject requests for retransmission of the requested frames >> should be << The S_ID field designates the initiator FCP_Port requesting the information retransmission. The D_ID field designates the target FCP_Port that
is to receive the request. In the event that the target FCP_Port responds to the SRR with an FCP_RJT, the device server shall return CHECK CONDITION status
with the sense key set to HARDWARE ERROR and the additional sense code set to
INITIATOR DETECTED ERROR MESSAGE RECEIVED. A target FCP_Port that has agreed during PRLI to support retransmission should not reject requests for retransmission of the requested frames >>

IBM-100
PDF pg 51, pg 34, Addressing:, 1st paragraph
This << units that do not support retransmission on a target that supports retransmission for other logical units shall be >> should be << units that do
not support retransmission on a target FCP_Port that supports retransmission for other logical units shall be >>

IBM-101
PDF pg 51, pg 34, Payload for SRR FCP FC-4 Link Service request:
Global - None of the field names are in small caps except parameter. All field
names have to be changed to small caps in the tables and everywhere those values are used in text.

IBM-102
PDF pg 51, pg 34, Payload for SRR FCP FC-4 Link Service request:, 2nd

paragraph under table 13
This << Relative Offset of the lowest byte the initiator has identified as requiring retransmission. >> should be << Relative Offset of the lowest byte
the initiator FCP_Port has identified as requiring retransmission. >>

IBM-103
PDF pg 54, pg 37, 9.1.1 FCP_CMND IU format, 1st paragraph
This << of bits is set in the FCP_CMND IU, the target shall respond with an FCP_RSP IU containing >> should be << of bits is set in the FCP_CMND IU, the target FCP_Port shall respond with an FCP_RSP IU containing >>

IBM-104
PDF pg 54, pg 37, 9.1.2.1 FCP_LUN field, 1st paragraph
This << logical unit in the attached subsystem. >> should be <<logical unit in the SCSI target device. >> s

IBM-105
PDF pg 55, pg 38, 9.1.2.1 FCP_LUN field, 2nd paragraph
This << Each target shall accept an INQUIRY command addressed to logical unit
with logical unit number 0. If logical unit numbers other than zero are supported by the target, logical unit number 0 shall implement >> should be <<
Each target FCP_Port shall accept an INQUIRY command addressed to LUN 0. If LUNs other than zero are supported by the SCSI target device, LUN 0 shall implement >>

IBM-106
PDF pg 55, pg 38, 9.1.2.1 FCP_LUN field, Last paragraph
This << the target shall report that the logical unit number is incorrect or that >> should be << the SCSI target device shall report that the logical unit
number is incorrect or that >>

IBM-107
PDF pg 55, pg 38, 9.1.2.2 COMMAND REFERENCE NUMBER field
The term << initiator >> should be << initiator FCP_Port >> in all cases in this subclause.

IBM-108
PDF pg 56, pg 39, 9.1.2.5 TASK MANAGEMENT FLAGS field, 1st paragraph
This << shall be requested by the initiator (Exchange Originator) using >> should be << shall be requested by the initiator FCP_Port (Exchange Originator) using >>

IBM-109
PDF pg 56, pg 39, 9.1.2.5 TASK MANAGEMENT FLAGS field, 1st paragraph
This << function shall not be executed and the FCP_RSP IU that indicates completion of the task management >> should be << function shall not be processed and the FCP_RSP IU that indicates completion of the task management >>

IBM-110
PDF pg 57, pg 40, 9.1.2.5 TASK MANAGEMENT FLAGS field, 5th paragraph in CLEAR

ACA
This << The CLEAR ACA is transmitted by the initiator (Exchange Originator) using a new Exchange. >> should be << The CLEAR ACA is transmitted by the initiator FCP_Port (Exchange Originator) using a new Exchange. >>

IBM-111
PDF pg 57, pg 40, 9.1.2.5 TASK MANAGEMENT FLAGS field, 5th paragraph in CLEAR ACA
This << It shall not be sent to a target with a NORMACA bit equal to zero in the INQUIRY data. >> should be << It shall not be sent to a logical unit with
a NORMACA bit equal to zero in the INQUIRY data. >>

IBM-112
PDF pg 57, pg 40, 9.1.2.5 TASK MANAGEMENT FLAGS field, 2nd paragraph LOGICAL UNIT RESET
This << The LOGICAL UNIT RESET is transmitted by the initiator (Exchange Originator) using a new Exchange. LOGICAL UNIT RESET resets the internal states of the target and logical unit as shown in 4.10. >> should be << The LOGICAL UNIT RESET is transmitted by the initiator FCP_Port (Exchange Originator) using a new Exchange. LOGICAL UNIT RESET resets the internal states of the target FCP_Port and logical unit as shown in 4.10. >>.

IBM-113
PDF pg 57, pg 40, 9.1.2.5 TASK MANAGEMENT FLAGS field, 2nd paragraph LOGICAL UNIT RESET
This << cleared by the following mechanisms. >> should be << cleared by the following mechanisms: >>

IBM-114
PDF pg 57, pg 40, 9.1.2.5 TASK MANAGEMENT FLAGS field, item a) logical unit reset
This << A recovery abort sequence (see 12.3) may be generated by the initiator
that sent the LOGICAL UNIT RESET for each task in the logical unit known to that initiator. >> should be << A recovery abort sequence (see 12.3) may be generated by the initiator FCP_Port that sent the LOGICAL UNIT RESET for each
task in the logical unit known to that initiator FCP_Port;>>

IBM-115
PDF pg 57, pg 40, 9.1.2.5 TASK MANAGEMENT FLAGS field, item b) LOGICAL UNIT RESET
This << A task for an initiator other than the initiator that sent the LOGICAL
UNIT RESET may be ended in the target. The initiator for that task shall determine by a timeout that the task did not finish. Subsequent retries fail because the task resources have been cleared in the target, so the initiator shall clear the Exchange resources with a recovery abort sequence. See 12.3. >> should be << A task for an initiator FCP_Port other than the initiator FCP_Port that sent the LOGICAL UNIT RESET may be ended in the logical unit. The initiator FCP_Port for that task shall determine by a timeout that the task did not finish. Subsequent retries fail as a result of the task resources have been cleared in the logical unit, so the initiator FCP_Port shall clear the Exchange resources with a recovery abort sequence. See 12.3;

or >>

IBM-116
PDF pg 57, pg 40, 9.1.2.5 TASK MANAGEMENT FLAGS field, item b) LOGICAL UNIT RESET
This << A task for an initiator other than the initiator that sent the LOGICAL
UNIT RESET may be completed by returning CHECK CONDITION status with the sense
key set to UNIT ATTENTION and the additional sense code set to POWER ON, RESET, OR BUS DEVICE RESET OCCURRED. The initiator shall then clear all other
tasks for that target and logical unit using the ABORT TASK task management function. See 9.1.3. >> should be << A task for an initiator FCP_Port other than the initiator FCP_Port that sent the LOGICAL UNIT RESET may be completed
by returning CHECK CONDITION status with the sense key set to UNIT ATTENTION and the additional sense code set to POWER ON, RESET, OR BUS DEVICE RESET OCCURRED. The initiator FCP_Port shall then clear all other tasks for that target FCP_Port and logical unit using the ABORT TASK task management function. See 9.1.3. >>

IBM-117
PDF pg 57, pg 40, 9.1.2.5 TASK MANAGEMENT FLAGS field, 1st paragraph CLEAR TASK SET
This << tasks from all initiators in the specified task set to be aborted as defined >> should be << tasks from all initiator FCP_Ports in the specified task set to be aborted as defined >>

IBM-118
PDF pg 57, pg 40, 9.1.2.5 TASK MANAGEMENT FLAGS field, 2nd paragraph CLEAR TASK SET
This << is transmitted by the initiator (Exchange Originator) using a new Exchange. CLEAR TASK SET resets internal states of the target as shown in 4.10. >> should be << is transmitted by the initiator FCP_Port (Exchange Originator) using a new Exchange. CLEAR TASK SET resets internal states of the
target FCP_Port as shown in 4.10. >>

IBM-119
PDF pg 57, pg 40, 9.1.2.5 TASK MANAGEMENT FLAGS field, 2nd paragraph CLEAR TASK SET
This << or more of the following mechanisms. >> should be << or more of the following mechanisms: >>

IBM-120
PDF pg 57, pg 40, 9.1.2.5 TASK MANAGEMENT FLAGS field, item a) CLEAR TASK SET
This <<A recovery abort sequence (see 12.3) may be generated by the initiator
that sent the CLEAR TASK SET for each task known to that initiator. >> should
be << A recovery abort sequence (see 12.3) may be generated by the initiator FCP_Port that sent the CLEAR TASK SET for each task known to that initiator FCP_Port;>>

IBM-121
PDF pg 57, pg 40, 9.1.2.5 TASK MANAGEMENT FLAGS field, item b) CLEAR TASK SET
This << A task for an initiator other than the initiator that sent the CLEAR TASK SET may be ended in the target. The initiator for that task shall determine by a timeout that the task did not finish. Subsequent retries fail because the task resources have been cleared in the target, so the initiator shall clear the Exchange resources with a recovery abort sequence. See 12.3. >> should be << A task for an initiator FCP_Port other than the initiator FCP_Port that sent the CLEAR TASK SET may be ended in the logical unit. The initiator FCP_Port for that task shall determine by a timeout that the task did not finish. Subsequent retries fail because the task resources have been cleared in the logical unit, so the initiator FCP_Port shall clear the Exchange resources with a recovery abort sequence. See 12.3; or >>

IBM-122
PDF pg 57, pg 40, 9.1.2.5 TASK MANAGEMENT FLAGS field, item b) CLEAR TASK SET
This << A task for an initiator other than the initiator that sent the CLEAR TASK SET may be completed by returning CHECK CONDITION status with the sense key set to UNIT ATTENTION and the additional sense code set to POWER ON, RESET, OR BUS DEVICE RESET OCCURRED. The initiator shall then clear all other
tasks for that target using the ABORT TASK task management function. See 9.1.3. >> should be << A task for an initiator FCP_Port other than the initiator FCP_Port that sent the CLEAR TASK SET may be completed by returning
CHECK CONDITION status with the sense key set to UNIT ATTENTION and the additional sense code set to POWER ON, RESET, OR BUS DEVICE RESET OCCURRED. The initiator FCP_Port shall then clear all other tasks for that target FCP_Port using the ABORT TASK task management function. See 9.1.3. >>

IBM-123
PDF pg 58, pg 41, 9.1.2.5 TASK MANAGEMENT FLAGS field, ABORT TASK SET
The term << initiator >> should be << initiator FCP_Port >> in all cases in this subclause.

IBM-124
PDF pg 58, pg 41, 9.1.2.7 RDDATA and WRDATA bits, 1st, 2nd, and 3rd paragraphs
The term << initiator >> should be << initiator FCP_Port >> and the term << target >> should be << target FCP_Port >>.

IBM-125
PDF pg 58, pg 41, 9.1.2.7 RDDATA and WRDATA bits, 5th paragraph
This << The target shall return CHECK CONDITION status with the sense key set
to ILLEGAL REQUEST and the >> should be << The device server shall return CHECK CONDITION status with the sense key set to ILLEGAL REQUEST and the >>

IBM-126
PDF pg 58, pg 41, 9.1.2.7 RDDATA and WRDATA bits, NOTE 5
This << Targets compliant to previous versions of this standard may terminate

the command >> should be << Device servers compliant to previous versions of this standard may terminate the command >>

IBM-127
PDF pg 59, pg 42, 9.1.3 Additional mechanisms for performing task management functions - ABORT TASK, 1st paragraph
This << The ABORT TASK task management function causes the target to abort the
specified task using the recovery abort protocol, if the task exists. The action is defined in SAM-3. The ABORT TASK is performed by the initiator (Exchange Originator) using the recovery abort (see 12.3). The specified Exchange shall be terminated by the initiator using the recovery abort. >> should be << The ABORT TASK task management function causes the device server
to abort the specified task using the recovery abort protocol, if the task exists. The action is defined in SAM-3. The ABORT TASK is performed by the initiator FCP_Port (Exchange Originator) using the recovery abort (see 12.3).
The specified Exchange shall be terminated by the initiator FCP_Port using the
recovery abort. >>

IBM-128
PDF pg 59, pg 42, 9.2.1 Overview and format of FCP_XFER_RDY IU
The term << initiator >> should be << initiator FCP_Port >> and the term << target >> should be << target FCP_Port >> in all cases in this subclause.

IBM-129
PDF pg 60, pg 43, 9.2.1 Overview and format of FCP_XFER_RDY IU, 3dr paragraph
This << given FCP names for use in this document. >> should be << given FCP names for use in this standard>>

IBM-130
PDF pg 60, pg 43, 9.2.2 FCP_DATA_RO field, 1st paragraph
This<< This may be used by the target to request data out of order >> should be << This may be used by the target FCP_Port to request data out of order >>

IBM-131
PDF pg 60, pg 43, 9.2.3 FCP_BURST_LEN field, 1st paragraph
This << requests the transfer from the initiator of an IU of that length. The
>> should be << requests the transfer from the initiator FCP_Port of an IU of
that length. The >>

IBM-132
PDF pg 61, pg 44, 9.3.1 FCP_DATA IU overview
The term << initiator >> should be << initiator FCP_Port >> and the term << target >> should be << target FCP_Port >> in all cases in this subclause.

IBM-133
PDF pg 61, pg 44, 9.3.2 FCP_DATA IUs for SCSI read and SCSI write operations
Except as noted in the other comment on this subclause the term <<

initiator
>> should be << initiator FCP_Port >> and the term << target >> should be << target FCP_Port >> in all cases in this subclause.

IBM-134
PDF pg 61, pg 44, 9.3.2 FCP_DATA IUs for SCSI read and SCSI write operations,
2dr paragraph
This << data beyond FCP_DL be transferred, the target shall set the FCP_RESID_OVER bit (see 9.4.8) to one in the FCP_RSP IU and >> should be << data beyond FCP_DL be transferred, the device server shall set the FCP_RESID_OVER bit (see 9.4.8) to one in the FCP_RSP IU and >>

IBM-135
PDF pg 62, pg 45, 9.3.3 FCP_DATA IUs for bidirectional SCSI commands
Except as noted in the other 2 comments on this subclause the term << initiator >> should be << initiator FCP_Port >> and the term << target >> should be << target FCP_Port >> in all cases in this subclause.

IBM-136
PDF pg 62, pg 45, 9.3.3 FCP_DATA IUs for bidirectional SCSI commands, 3rd paragraph
This << If a bidirectional command requested that data beyond FCP_DL be transferred, the target shall set the FCP_RESID_OVER bit (see 9.4.8) to one in
the FCP_RSP IU and shall: >> should be << If a bidirectional command requested that data beyond FCP_DL be transferred, the device server shall set
the FCP_RESID_OVER bit (see 9.4.8) to one in the FCP_RSP IU and shall: >>

IBM-137
PDF pg 62, pg 45, 9.3.3 FCP_DATA IUs for bidirectional SCSI commands,
Paragraph above 2nd a,b,c, list
This << If a bidirectional command requests that data beyond the value specified in the FCP_BIDIRECTIONAL_READ_DL field be transferred, the target shall set the FCP_BIDI_READ_RESID_OVER bit (see 9.4.5) to one in the FCP_RSP IU and shall: >> should be << If a bidirectional command requests that data beyond the value specified in the FCP_BIDIRECTIONAL_READ_DL field be transferred, the device server shall set the FCP_BIDI_READ_RESID_OVER bit (see
9.4.5) to one in the FCP_RSP IU and shall: >>

IBM-138
PDF pg 63, pg 46, 9.4.1 Overview and format of FCP_RSP IU, 5th paragraph
This << If a SCSI device error is detected by a target while the target has Sequence Initiative for the Exchange associated with the error, the target should complete any Sequence that has already been started, keep Sequence Initiative and transmit an FCP_RSP IU with CHECK CONDITION status and the sense data that describes the error. If a SCSI device error is detected by a target while the target does not have Sequence Initiative for the Exchange associated with the error, it shall wait until Sequence Initiative has been returned and then transmit an FCP_RSP IU with CHECK CONDITION status and the sense data that describes the error. >> should be << If a SCSI device error is
detected by a target FCP_Port while the target FCP_Port has Sequence

Initiative for the Exchange associated with the error, the target FCP_Port should complete any Sequence that has already been started, keep Sequence Initiative and an FCP_RSP IU with CHECK CONDITION status and the sense data that describes the error transmitted. If a SCSI device error is detected by a
device server while the target FCP_Port does not have Sequence Initiative for
the Exchange associated with the error, the target FCP_Port shall wait until Sequence Initiative has been returned and then an FCP_RSP IU with CHECK CONDITION status and the sense data that describes the error shall be transmitted. >>

IBM-139
PDF pg 63, pg 46, 9.4.1 Overview and format of FCP_RSP IU, 6th paragraph
This << the target may implicitly terminate the affected Exchange. >> should be << the target FCP_Port may implicitly terminate the affected Exchange. >>

IBM-140
PDF pg 65, pg 48, 9.4.6 FCP_CONF_REQ bit
This << An FCP_CONF_REQ bit of one indicates that the initiator shall transmit
an FCP_CONF IU to confirm receipt of the CP_RSP Sequence. An FCP_CONF_REQ bit
of zero indicates that the initiator shall not transmit an FCP_CONF IU. >> should be << An FCP_CONF_REQ bit of one indicates that the initiator FCP_Port
 shall transmit an FCP_CONF IU to confirm receipt of the CP_RSP Sequence. An
FCP_CONF_REQ bit of zero indicates that the initiator FCP_Port shall not transmit an FCP_CONF IU. >>

IBM-141
PDF pg 65, pg 48, 9.4.10 FCP_RSP_LEN_VALID bit, 1st paragraph
This << When the FCP_RSP_LEN_VALID bit is set to one, the content of the SCSI
STATUS CODE field is not reliable and shall be ignored by the initiator. >> should be << When the FCP_RSP_LEN_VALID bit is set to one, the content of the
SCSI STATUS CODE field is not reliable and shall be ignored by the application
client. >>

IBM-142
PDF pg 65, pg 48, 9.4.10 FCP_RSP_LEN_VALID bit, 2nd paragraph
This << For task management functions transmitted to the target using an FCP_CMND IU, the FCP_RSP_LEN_VALID bit shall be set to one, the >> should be << For task management functions transmitted to the logical unit using an FCP_CMND IU, the FCP_RSP_LEN_VALID bit shall be set to one, the >>

IBM-143
PDF pg 66, pg 49, 9.4.12 FCP_RESID field, 6th paragraph
This << Targets are not required to verify that the data length implied by the
contents of the CDB cause an overrun or underrun before beginning execution

of
a SCSI command. >> should be << Device servers are not required to verify
that
the data length implied by the contents of the CDB cause an overrun or
underrun before beginning processing of a SCSI command. >>

IBM-144
PDF pg 66, pg 49, 9.4.12 FCP_RESID field, NOTE 6
This << Some early target implementations presented the FCP_RSP IU without
the FCP_RESID, FCP_SNS_LEN, and FCP_RSP_LEN fields if the FCP_RESID_UNDER,
FCP_RESID_OVER, FCP_SNS_LEN_VALID, and FCP_RSP_LEN_VALID bits were all set
to
zero. Initiators should be tolerant of this non-standard behavior. >> should
be << Some early device server implementations presented the FCP_RSP IU
without the FCP_RESID, FCP_SNS_LEN, and FCP_RSP_LEN fields if the
FCP_RESID_UNDER, FCP_RESID_OVER, FCP_SNS_LEN_VALID, and FCP_RSP_LEN_VALID
bits
were all set to zero. Application clients should be tolerant of this
non-standard behavior. >>

IBM-145
PDF pg 67, pg 50, 9.4.13 FCP_BIDIRECTIONAL_READ_RESID field, 4th paragraph
This << Targets are not required to verify that the data length implied by
the
contents of the CDB cause an overrun or underrun before beginning execution
of
a SCSI command. >> should be << Device servers are not required to verify
that
the data length implied by the contents of the CDB cause an overrun or
underrun before beginning processing of a SCSI command. >>

IBM-146
PDF pg 67, pg 50, 9.4.16 FCP_RSP_INFO field, 1st paragraph
This << failures detected during the execution of an FCP I/O operation. If
none >> should be << failures detected during the processing of an FCP I/O
operation. If none >>

IBM-147
PDF pg 67, pg 50, 9.4.16 FCP_RSP_INFO field, 1st paragraph
This << The FCP_RSP_INFO field shall contain valid information if the target
detects any of the conditions indicated by an FCP RSP_CODE. >> should be <<
The FCP_RSP_INFO field shall contain valid information if the target
FCP_Port
detects any of the conditions indicated by an FCP RSP_CODE. >>

IBM-148
PDF pg 68, pg 51, 9.4.16 FCP_RSP_INFO field, 2nd to last paragraph
This<< If the RSP_CODE indicates 'Task Management function failed', the
state
of the target is unknown. >> should be << If the RSP_CODE indicates 'Task
Management function failed', the state of the logical unit is unknown. >>

IBM-149
PDF pg 69, pg 52, 9.5 FCP_CONF IU
The term << initiator >> should be << initiator FCP_Port >> and the term <<

target >> should be << target FCP_Port >> in all cases in this subclause.

IBM-150
PDF pg 70, pg 53, 10.1 Overview of mode page codes for the Fibre Channel protocol
This << Clause 10 describes the block descriptors and the pages >> should be << This clause describes the block descriptors and the pages >>

IBM-151
PDF pg 70, pg 53, 10.2.1 Overview and format of Disconnect-Reconnect mode page
for FCP, 1st paragraph
This << The initiator communicates with the device server to determine what values are most appropriate for a device server. The device server communicates the parameter values in this mode page to the target port, normally the Fibre Channel interface circuitry. This communication is internal
to the target and FCP device and is outside the scope of this standard. >> should be << The application client communicates with the device server to determine what values are most appropriate for a device server. The device server communicates the parameter values in this mode page to the target FCP_Port, normally the Fibre Channel interface circuitry. This communication
is internal to the SCSI target device and FCP device and is outside the scope
of this standard. >>

IBM-152
PDF pg 72, pg 55, 10.2.3 BUFFER EMPTY RATIO field
This << should be prior to transmitting an FCP_XFER_RDY IU that requests the initiator to send data. >> should be << should be prior to transmitting an FCP_XFER_RDY IU that requests the initiator FCP_Port to send data. >>

IBM-153
PDF pg 72, pg 55, 10.2.4 BUS INACTIVITY LIMIT field, 1st paragraph
This << The BUS INACTIVITY LIMIT field indicates the maximum time that the target is permitted to maintain an interconnect >> should be << The BUS INACTIVITY LIMIT field indicates the maximum time that the target FCP_Port is
permitted to maintain an interconnect >>

IBM-154
PDF pg 72, pg 55, 10.2.4 BUS INACTIVITY LIMIT field, 1stpparagraph
This << and the target holding the bus detects that the limit is going to be exceeded, >> should be << and the target FCP_Port holding the bus detects that
the limit is going to be exceeded, >>

IBM-155
PDF pg 72, pg 55, 10.2.5 DISCONNECT TIME LIMIT field, 1st paragraph
This << Targets in configurations having the concept of interconnect tenancy >> should be << Targets FCP_Ports in configurations having the concept of interconnect tenancy >>

IBM-156

PDF pg 72, pg 55, 10.2.7 MAXIMUM BURST SIZE field, 1st paragraph
This << the maximum size of all bytes in an FCP_DATA IU that the device server
shall transfer to the initiator or request from the initiator. >> should be <<
the maximum size of all bytes in an FCP_DATA IU that the device server shall
transfer to the application client or request from the application client.>>

IBM-157
PDF pg 73, pg 56, 10.2.8 EMDP bit
This << The enable modify data pointers (EMDP) bit indicates whether or not
the target may use the random buffer >> should be << The enable modify data
pointers (EMDP) bit indicates whether or not the target FCP_Port may use the
random buffer >>

IBM-158
PDF pg 73, pg 56, 10.2.8 EMDP bit
This << If the EMDP bit is set to zero, the target shall generate continuously
increasing relative >> should be << If the EMDP bit is set to zero, the target
FCP_Port shall generate continuously increasing relative >>

IBM-159
PDF pg 73, pg 56, 10.2.8 EMDP bit
This << If the EMDP bit is set to one, the target may transfer the FCP_DATA
IUs for a single SCSI command >> should be << If the EMDP bit is set to one,
the target FCP_Port may transfer the FCP_DATA IUs for a single SCSI command
>>

IBM-160
PDF pg 73, pg 56, 10.2.9 FAA, FAB, FAC bits
The term << initiator >> should be << initiator FCP_Port >> and the term <<
target >> should be << target FCP_Port >> in all cases in this subclause.

IBM-161
PDF pg 73, pg 56, 10.2.9 FAA, FAB, FAC bits
This << The FAA bit controls arbitration when the target wishes to send one or
more FCP_DATA IU frames to an initiator. The FAB bit controls arbitration when
the initiator wishes to send one or more FCP_XFER_RDY IU frames to a target.
The FAC bit controls arbitration when the target wishes to send an FCP_RSP IU
frame to an initiator or when the initiator wishes to send an FCP_CMND IU
frames to target. >> should be << The FAA bit controls arbitration when the
target FCP_Port has one or more FCP_DATA IU frames to send to an initiator
FCP_Port. The FAB bit controls arbitration when the initiator FCP_Port has one
or more FCP_XFER_RDY IU frames to send to a target FCP_Port. The FAC bit
controls arbitration when the target FCP_Port has an FCP_RSP IU frame to send
to an initiator FCP_Port or when the initiator FCP_Port has an FCP_CMND IU
frames to send to a target FCP_Port. >>

IBM-162
PDF pg 73, pg 56, 10.2.10 FIRST BURST SIZE field
The term << initiator >> should be << initiator FCP_Port >> and the term << target >> should be << target FCP_Port >> in all cases in this subclause.

IBM-163
PDF pg 75, pg 58, 10.4.2 DISABLE TARGET ORIGINATED LOOP INITIALIZATION (DTOLI) bit
The term << initiator >> should be << initiator FCP_Port >> and the term << target >> should be << target FCP_Port >> in all cases in this subclause.

IBM-164
PDF pg 75, pg 58, 10.4.3 DISABLE TARGET INITIATED PORT ENABLE (DTIPE) bit
The term << initiator >> should be << initiator FCP_Port >> and the term << target >> should be << target FCP_Port >> in all cases in this subclause.

IBM-165
PDF pg 75, pg 58, 10.4.4 ALLOW LOGIN WITHOUT LOOP INITIALIZATION (ALWLI)
This <<shall use the hard address available in the Single Connector Attach - 2
(SCA-2) SFF-8067 connector or in device >> should be << shall use the hard address available in the SCA-2 connector (see SFF-8067) or in device >>

IBM-166
PDF pg 75, pg 58, 10.4.4 ALLOW LOGIN WITHOUT LOOP INITIALIZATION (ALWLI)
The term << initiator >> should be << initiator FCP_Port >> and the term << target >> should be << target FCP_Port >> in all cases in this subclause.

IBM-167
PDF pg 75, pg 58, 10.4.5 REQUIRE HARD ADDRESS (RHA) bit
This << its hard address available in the SCA-2 SFF-8067 connector or device address jumpers during loop >> should be << its hard address available in the
SCA-2 connector (see SFF-8067) or device address jumpers during loop >>

IBM-168
PDF pg 75, pg 58, 10.4.5 REQUIRE HARD ADDRESS (RHA) bit
The term << initiator >> should be << initiator FCP_Port >> and the term << target >> should be << target FCP_Port >> in all cases in this subclause.

IBM-169
PDF pg 76, pg 59, 10.4.6 DISABLE LOOP MASTER (DLM) bit
The term << initiator >> should be << initiator FCP_Port >> and the term << target >> should be << target FCP_Port >> in all cases in this subclause.

IBM-170
PDF pg 76, pg 59, 10.4.7 DISABLE DISCOVERY (DDIS) bit
This << shall not require receipt of Address or Port Discovery (ADISC or PDISC
ELSs) following loop initialization as >> should be << shall not require receipt of Address or Port Discovery (i.e., ADISC or PDISC ELSs) following loop initialization as >>

IBM-171
PDF pg 76, pg 59, 10.4.7 DISABLE DISCOVERY (DDIS) bit

The term << initiator >> should be << initiator FCP_Port >> and the term << target >> should be << target FCP_Port >> in all cases in this subclause.

IBM-172
PDF pg 76, pg 59, 10.4.8 PREVENT LOOP PORT BYPASS (PLPB) bit
The term << initiator >> should be << initiator FCP_Port >> and the term << target >> should be << target FCP_Port >> in all cases in this subclause.

IBM-173
PDF pg 76, pg 59, 10.4.9 DISABLE TARGET FABRIC DISCOVERY (DTFD) bit
The term << initiator >> should be << initiator FCP_Port >> and the term << target >> should be << target FCP_Port >> in all cases in this subclause.

IBM-174
PDF pg 77, pg 60, 10.4.10 SEQUENCE INITIATIVE RESOURCE RECOVERY TIMEOUT VALUE
(RR_TOVSEQ_INIT) field, 1st paragraph
This << The RR_TOVSEQ_INIT (see 11.4) field is defined by bytes 6 and 7 in the
following manner. >> should be << The RR_TOVSEQ_INIT timer (see 11.4) operation is defined by the RR_TOVSEQ_INIT field and the RR_TOV INITS field. >>

IBM-175
PDF pg 78, pg 61, 11.1 Summary of timers for the Fibre Channel protocol
Global - The correct abbreviation for seconds is << s >> not << sec >> or << sec. >> or << seconds >>. This needs to be fixed throughout this standard starting with table 30.

IBM-176
PDF pg 78, pg 61, 11.1 Summary of timers for the Fibre Channel protocol, table
30 note 2 and note 4
The term << target >> should be << target FCP_Port >>

IBM-177
PDF pg 79, pg 62, 11.2 Error_Detect Timeout (E_D_TOV), 2nd to last paragraph
This << Target devices that support Class 2 shall implement this timer for the
purpose of timing out missing ACKs. >> should be << Target FCP_Ports that support Class 2 shall implement this timer for the purpose of timing out missing ACKs. >>

IBM-178
PDF pg 79, pg 62, 11.4 Resource Recovery Timeout (RR_TOV)
The term << initiator >> should be << initiator FCP_Port >> and the term << target >> should be << target FCP_Port >> in all cases in this subclause.

IBM-179
PDF pg 80, pg 63, 11.5 Read Exchange Concise Timeout Value (REC_TOV)
The term << initiator >> should be << initiator FCP_Port >> and the term << target >> should be << target FCP_Port >> in all cases in this subclause.

IBM-180
PDF pg 80, pg 63, 11.6 Upper Level Protocol Timeout (ULP_TOV), Last

paragraph
This << caused by command queuing and multi-initiator congestion. >> should be
<< caused by command queuing and multi-initiator FCP_Port congestion. >>

IBM-181
PDF pg 81, pg 64, 12.1.1 Exchange level error recovery, 2nd paragraph
This << To recover from these errors, all FCP compliant initiators shall be capable of invoking the recovery abort function to terminate a failing exchange and to recover the associated resources as described in 12.3. All FCP
compliant targets shall be capable of executing the requested recover >> should be << To recover from these errors, all FCP compliant initiator FCP_Ports shall be capable of invoking the recovery abort function to terminate a failing exchange and to recover the associated resources as described in 12.3. All FCP compliant target FCP_Ports shall be capable of processing the requested recover >>

IBM-182
PDF pg 81, pg 64, 12.1.2 Sequence level error recovery
The term << initiator >> should be << initiator FCP_Port >> and the term << target >> should be << target FCP_Port >> in all cases in this subclause.

IBM-183
PDF pg 81, pg 64, 12.2.2 FCP-3 error detection using protocol errors for all classes of service
The term << initiator >> should be << initiator FCP_Port >> and the term << target >> should be << target FCP_Port >> in all cases in this subclause.

IBM-184
PDF pg 83, pg 66, 12.3.1 Recovery abort requirements, last paragraph
This << All FCP initiators shall be capable of invoking the recovery abort protocol to terminate failing commands for later retry (see 9.1.2.5). All FCP
targets shall >> should be << All initiator FCP_Ports shall be capable of invoking the recovery abort protocol to terminate failing commands for later retry (see 9.1.2.5). All target FCP_Ports shall >>

IBM-185
PDF pg 83, pg 66, 12.3.2 Initiator invocation of recovery abort
The term << initiator >> should be << initiator FCP_Port >> and the term << target >> should be << target FCP_Port >> in all cases in this subclause.

IBM-186
PDF pg 83, pg 66, 12.3.2 Initiator invocation of recovery abort, 2nd paragraph
This << effect immediately. For example, if ABTS is sent following transmission of a READ command, the initiator may receive some or all of the requested read data before receiving the BA_ACC to the ABTS. >> should be << effect immediately (e.g., if ABTS is sent following transmission of a READ command, the initiator may receive some or all of the requested read data before receiving the BA_ACC to the ABTS). >>

IBM-187
PDF pg 83, pg 66, 12.3.3 Target response to recovery abort

The term << target >> should be << target FCP_Port >> in all cases in this subclause including in the subclause title.

IBM-188
PDF pg 84, pg 67, 12.3.4 Additional error recovery by initiator
The term << initiator >> should be << initiator FCP_Port >> in all cases in this subclause including the title of the subclause.

IBM-189
PDF pg 84, pg 67, 12.3.5 Additional error recovery by target
The term << initiator >> should be << initiator FCP_Port >> and the term << target >> should be << target FCP_Port >> in all cases in this subclause including the subcaluse title.

IBM-190
PDF pg 85, pg 68, 12.4.1.1 Polling Exchange state with REC
The term << initiator >> should be << initiator FCP_Port >> and the term << target >> should be << target FCP_Port >> in all cases in this subclause.

IBM-191
PDF pg 85, pg 68, 12.4.1.1 Polling Exchange state with REC
This << Exchange. Subclauses 12.4.1.2 through 12.4.1.8 define optional error detection and recovery procedures for acknowledged and unacknowledged classes
of service. >> should be << Exchange. Optional error detection and recovery procedures for acknowledged and unacknowledged classes of service are defined
in 12.4.1.2, 12.4.1.3, 12.4.1.4, 12.4.1.5, 12.4.1.6, 12.4.1.7, and 12.4.1.8. >>

IBM-192
PDF pg 85, pg 68, 12.4.1.2 Detection of errors while polling with REC
The term << initiator >> should be << initiator FCP_Port >> and the term << target >> should be << target FCP_Port >> in all cases in this subclause.

IBM-193
PDF pg 85, pg 68, 12.4.1.3 FCP_CMND IU recovery using information from REC
The term << initiator >> should be << initiator FCP_Port >> and the term << target >> should be << target FCP_Port >> in all cases in this subclause.

IBM-194
PDF pg 85, pg 68, 12.4.1.4 FCP_XFER_RDY IU recovery
The term << initiator >> should be << initiator FCP_Port >> and the term << target >> should be << target FCP_Port >> in all cases in this subclause.

IBM-195
PDF pg 85, pg 68, 12.4.1.4 FCP_XFER_RDY IU recovery, 2nd paragraph
This<< but not received by the initiator, issue an SRR in a new Exchange to request retransmission of the FCP_XFER_RDY IU.>> does not make any sense. Perhaps there is supposed to be a << then >>. If so it would become << but not received by the initiator, then the target FCP_Port issues an SRR in a new
Exchange to request retransmission of the FCP_XFER_RDY IU.>>

IBM-196

PDF pg 86, pg 69, 12.4.1.5 FCP_RSP IU recovery
The term << initiator >> should be << initiator FCP_Port >> and the term << target >> should be << target FCP_Port >> in all cases in this subclause.

IBM-197
PDF pg 87, pg 70, 12.4.1.6 FCP_DATA IU recovery - write operations
The term << initiator >> should be << initiator FCP_Port >> and the term << target >> should be << target FCP_Port >> in all cases in this subclause.

IBM-198
PDF pg 87, pg 70, 12.4.1.7 FCP_DATA IU recovery - read operations
The term << initiator >> should be << initiator FCP_Port >> and the term << target >> should be << target FCP_Port >> in all cases in this subclause except as noted in the other comment in this subclause.

IBM-199
PDF pg 87, pg 70, 12.4.1.7 FCP_DATA IU recovery - read operations, 2nd paragraph
This << the target shall send an FCP_RSP IU with CHECK CONDITION status and sense data containing a sense key of HARDWARE ERROR and an additional sense code of INITIATOR DETECTED ERROR MESSAGE RECEIVED. >> should be << the device
server shall send an FCP_RSP IU with CHECK CONDITION status and sense data containing a sense key of HARDWARE ERROR and an additional sense code of INITIATOR DETECTED ERROR MESSAGE RECEIVED. >>

IBM-200
PDF pg 87, pg 70, 12.4.1.8 FCP_CONF IU recovery
The term << initiator >> should be << initiator FCP_Port >> and the term << target >> should be << target FCP_Port >> in all cases in this subclause except as noted in the other comment in this subclause.

IBM-201
PDF pg 88, pg 71, 12.4.2.2 Missing ACK
The term << target >> should be << target FCP_Port >> in all cases in this subclause.

IBM-202
PDF pg 88, pg 71, 12.4.2.3 Distinguishing Exchange to be aborted
The term << target >> should be << target FCP_Port >> in all cases in this subclause.

IBM-203
PDF pg 89, pg 72, 12.5.1 ABTS
The term << initiator >> should be << initiator FCP_Port >> and the term << target >> should be << target FCP_Port >> in all cases in this subclause.

IBM-204
PDF pg 89, pg 72, 12.5.2 REC
The term << initiator >> should be << initiator FCP_Port >> in all cases in this subclause.

IBM-205
PDF pg 89, pg 72, 12.5.3 SRR
The term << initiator >> should be << initiator FCP_Port >> in all cases in

this subclause.

IBM-206
PDF pg 89, pg 72, 12.6 Responses to FCP type frames before PLOGI or PRLI
The term << initiator >> should be << initiator FCP_Port >> and the term << target >> should be << target FCP_Port >> in all cases in this subclause

IBM-207
PDF pg 89, pg 72, 12.6 Responses to FCP type frames before PLOGI or PRLI, Last
paragraph
This << If an FCP device receives a frame of category 0001b or 0011b (solicited data or solicited control) and the FCP >> should be << If an FCP device receives a frame of category 0001b or 0011b (i.e., solicited data or solicited control) and the FCP >>

IBM-208
PDF pg 90, pg 73, A.1 Definition of procedure terms, 1st paragraph
This << FCP-3 services are provided to the application client by the initiator
to request and manage tasks as described by the SAM-3 standard. SAM-3 further
defines how the target enables the device server to receive and process the tasks addressed to a logical unit. The Fibre Channel protocol is described in
terms of the services provided by the initiator and target. >> should be << FCP-3 services are provided to the application client by the initiator FCP_Port to request and manage tasks as described by the SAM-3 standard. SAM-3
further defines how the target FCP_Port enables the device server to receive and process the tasks addressed to a logical unit. The Fibre Channel protocol
is described in terms of the services provided by the initiator FCP_Port and target FCP_Port . >>

IBM-209
PDF pg 90, pg 73, A.1 Definition of procedure terms, table A.1
This << initiator port >> should be << initiator FCP_Port >>.

IBM-210
PDF pg 90, pg 73, A.1 Definition of procedure terms, table A.1
This << target port >> should be << target FCP_Port >>

IBM-211
PDF pg 94, pg 77, B.1.2 SCSI FCP read operation, Annex B
All the tables that have column titles of << Initiator function >> and <<Target function >> should be << Initiator FCP_Port function >> and << Target
FCP_Port function >>.

IBM-212
PDF pg 107, pg 90, C.1 Introduction, Figure c.1
This << REC can be optionally used at any time to ascertain status of an Exchange. It can also be used in conjunction with ABTS(Sequence) to obtain additional information useful in the Error Recovery process. >> should be <<

REC may be used at any time to ascertain status of an Exchange. It may also be
used in conjunction with ABTS(Sequence) to obtain additional information useful in the Error Recovery process. >>

IBM-213
PDF pg 109, pg 92, C.1 Introduction, Figure C.3
This << Both the initiator and target establish Recovery Qualifiers. >> should
be << Both the initiator FCP_Port and target FCP_Port establish Recovery Qualifiers. >>

IBM-214
PDF pg 110, pg 93, C.1 Introduction, Figure C.4
This << CNT of FCP_CMND. Note that the issuance of RRQ is not necessary in this case, since the >> should be << CNT of FCP_CMND. The issuance of RRQ is not necessary in this case, since the >>

IBM-215
PDF pg 110, pg 93, C.1 Introduction, Figure C.4
This << target has not established a Recovery Qualifier. However, the initiator cannot reclaim the >> should be << target FCP_Port has not established a Recovery Qualifier. However, the initiator FCP_Port is not able
to reclaim the >>

IBM-216
PDF pg 111, pg 94, C.1 Introduction, Figure C-5
This << indicates the initiator holds Sequence Initiative and the Exchange is
open. The initiator sends an SRR requesting the FCP_XFER_RDY be resent. The target resends the >> should be << indicates the initiator FCP_Port holds Sequence Initiative and the Exchange is open. The initiator FCP_Port sends an
SRR requesting the FCP_XFER_RDY be resent. The target FCP_Port resends the >>

IBM-217
PDF pg 112, pg 95, C.1 Introduction, Figure C.6
This << by the initiator. The BA_ACC payload is SEQ_ID invalid, low SEQ_CNT =
0, high SEQ_CNT = SEQ_CNT in ABTS frame = 1. Both target and initiator establish Recovery Qualifiers. >> should be << by the initiator FCP_Port. The
BA_ACC payload is SEQ_ID invalid, low SEQ_CNT = 0, high SEQ_CNT = SEQ_CNT in ABTS frame = 1. Both target FCP_Port and initiator FCP_Port establish Recovery
Qualifiers. >>

IBM-218
PDF pg 113, pg 96, C.1 Introduction, Figure C.7
This << FCP_XFER_RDY was received by the initiator. >> should be << FCP_XFER_RDY was received by the initiator FCP_Port. >>

IBM-219
PDF pg 113, pg 96, C.1 Introduction, Figure C.7
This <<There is no need for the target to issue >> should be << There is no need for the target FCP_Port to issue >>

IBM-220
PDF pg 114, pg 97, C.1 Introduction, Figure C.8
The term << initiator >> should be << initiator FCP_Port >> and the term << target >> should be << target FCP_Port >> in all cases in this figure.

IBM-221
PDF pg 115, pg 98, C.1 Introduction, Figure C.9
The term << initiator >> should be << initiator FCP_Port >> and the term << target >> should be << target FCP_Port >> in all cases in this figure.

IBM-222
PDF pg 116, pg 99, C.1 Introduction, Figure C.10
The term << initiator >> should be << initiator FCP_Port >> and the term << target >> should be << target FCP_Port >> in all cases in this figure.

IBM-223
PDF pg 117, pg 100, C.1 Introduction, Figure C.11
The term << initiator >> should be << initiator FCP_Port >> and the term << target >> should be << target FCP_Port >> in all cases in this figure.

IBM-224
PDF pg 117, pg 100, C.1 Introduction, Figure C.11
This << The associated resources cannot be reused for a period of R_A_TOV. For in-order delivery, >> should be << The associated resources is not able to be reused for a period of R_A_TOV. For in-order delivery, >>

IBM-225
PDF pg 118, pg 101, C.1 Introduction, Figure C.12
The term << initiator >> should be << initiator FCP_Port >> and the term << target >> should be << target FCP_Port >> in all cases in this figure.

IBM-226
PDF pg 118, pg 101, C.1 Introduction, Figure C.13
This << he associated resources cannot be reused for a period of R_A_TOV.>> should be << he associated resources is not able to be reused for a period of R_A_TOV.>>

IBM-227
PDF pg 119, pg 102, C.1 Introduction, Figure C.14
The term << initiator >> should be << initiator FCP_Port >> and the term << target >> should be << target FCP_Port >> in all cases in this figure.

IBM-228
PDF pg 121, pg 104, C.1 Introduction, Figure C.16
The term << initiator >> should be << initiator FCP_Port >> and the term << target >> should be << target FCP_Port >> in all cases in this figure.

IBM-229
PDF pg 123, pg 106, C.1 Introduction, Figure C.17
The term << initiator >> should be << initiator FCP_Port >> and the term << target >> should be << target FCP_Port >> in all cases in this figure.

IBM-230
PDF pg 125, pg 108, C.1 Introduction, Figure C.19
The term << initiator >> should be << initiator FCP_Port >> and the term << target >> should be << target FCP_Port >> in all cases in this figure.

IBM-231
PDF pg 127, pg 110, C.1 Introduction, Figure C.21
The term << initiator >> should be << initiator FCP_Port >> and the term << target >> should be << target FCP_Port >> in all cases in this figure.

IBM-232
PDF pg 127, pg 110, C.1 Introduction, Figure C.21
This << FCP_RSP can be received anytime after the transmission of FCP_CMND due
to out of order delivery. >> should be << FCP_RSP may be received anytime after the transmission of FCP_CMND due to out of order delivery. >>

IBM-233
PDF pg 128, pg 111, C.1 Introduction, Figure C.22
The term << initiator >> should be << initiator FCP_Port >> and the term << target >> should be << target FCP_Port >> in all cases in this figure.

IBM-234
PDF pg 128, pg 111, C.1 Introduction, Figure C.22
This << FCP_RSP can be received at any time after the last FCP_DATA frame has
been transmitted.>> should be << FCP_RSP may be received at any time after the
last FCP_DATA frame has been transmitted.>>

IBM-235
PDF pg 129, pg 112, C.1 Introduction, Figure C.23
The term << initiator >> should be << initiator FCP_Port >> and the term << target >> should be << target FCP_Port >> in all cases in this figure.

IBM-236
PDF pg 129, pg 112, C.1 Introduction, Figure C.23
This << discarded and the context for the Exchange can be purged.>> should be
<< discarded and the context for the Exchange is able to be be purged.>>

IBM-237
PDF pg 131, pg 114, C.1 Introduction, Figure C.25
The term << initiator >> should be << initiator FCP_Port >> and the term << target >> should be << target FCP_Port >> in all cases in this figure.

IBM-238
PDF pg 131, pg 114, C.1 Introduction, Figure C.25
This << The resources associated with the Recovery Qualifier can be reclaimed

when R_A_TOV expires. >> should be << The resources associated with the Recovery Qualifier are able to be reclaimed when R_A_TOV expires. >>

IBM-239
PDF pg 132, pg 115, C.1 Introduction, Figure C.26
This << received, the target would view the ABTS as having been issued on a new Exchange. >> should be << received, the target FCP_Port views the ABTS as
having been issued on a new Exchange. >>

IBM-240
PDF pg 133, pg 116, C.1 Introduction, Figure C.28
This << indicates that the REC was never received by the target. >> should be
<< indicates that the REC was never received by the target FCP_Port. >>

IBM-241
PDF pg 134, pg 117, C.1 Introduction, Figure C.28
The term << initiator >> should be << initiator FCP_Port >> in all cases in this figure.

IBM-242
PDF pg 137, pg 120, C.1 Introduction, Figure C.31
This << The Recovery Qualifier is established on the initiator side and is timed out >> should be << The Recovery Qualifier is established on the initiator FCP_Port side and is timed out >>

IBM-243
PDF pg 140, pg 123, D.1.1 Initiator discovery of Fabric-attached targets, 1st
paragraph
This << The following procedure may be used by initiators for discovering and
authenticating >> should be << The following procedure may be used by initiator FCP_Ports for discovering and authenticating >>

IBM-244
PDF pg 140, pg 123, D.1.1 Initiator discovery of Fabric-attached targets
The title if this subclause should be changed to << D.1.1 Discovery of Fabric-attached target FCP_Ports

IBM-245
PDF pg 140, pg 123, D.1.1 Initiator discovery of Fabric-attached targets
This 1,2,3 list is not in the correct form. It should be
1) ...;
2)...:
x-1) ...; and
x) .....

IBM-246
PDF pg 140, pg 123, D.1.1 Initiator discovery of Fabric-attached targets, Item 7
This << If the INQUIRY succeeds, issue a REPORT LUNS command to LUN 0 to obtain a list of the logical units accessible through the target >> should be

<< If the INQUIRY succeeds, issue a REPORT LUNS command to LUN 0 to obtain a list of the logical units accessible through the target FCP_Port >>

IBM-247
PDF pg 140, pg 123, D.1.2 Initiator discovery of loop-attached targets, 1st paragraph
This << The following procedure may be used by initiators for discovering and
>> should be << The following procedure may be used by initiator FCP_Ports for
discovering and >>

IBM-248
PDF pg 140, pg 123, D.1.2 Initiator discovery of loop-attached targets
This title of this section should be << D.1.2 Discovery of loop-attached target FCP_Ports

IBM-249
PDF pg 141, pg 124, D.1.2 Initiator discovery of loop-attached targets, Item 1)
This << to identify those devices that are present on the loop >> should be <<
to identify SCSI devices that are present on the loop >>

IBM-250
PDF pg 141, pg 124, D.1.2 Initiator discovery of loop-attached targets, Item 2)
This << if the device is determined to be an >> should be << if the SCSI device is determined to be an >>

IBM-251
PDF pg 141, pg 124, D.1.2 Initiator discovery of loop-attached targets
This 1,2,3 list is not in the correct form. It should be
1) ...;
2)...:
x-1) ...; and
x) .....

IBM-252
PDF pg 141, pg 124, D.1.2 Initiator discovery of loop-attached targets, item 3)
This << units supported by the target >> should be << units access through the
target FCP_Port >>

IBM-253
PDF pg 141, pg 124, D.1.2 Initiator discovery of loop-attached targets, Item 4)
The term << EVPD >> needs to be in small caps.

IBM-254
PDF pg 141, pg 124, D.2 Fabric and Device Authentication
This 1,2,3 list is not in the correct form. It should be
1) ...;
2)...:

x-1) ...; and
x) .....

IBM-255
PDF pg 141, pg 124, D.2 Fabric and Device Authentication, Item 2)
This << All N_Ports and NL_Ports, including initiators and targets, validate the current >> should be << All N_Ports and NL_Ports, including initiator FCP_Ports and target FCP_Ports, validate the current >>

IBM-256
PDF pg 141, pg 124, D.2 Fabric and Device Authentication, item 3)
This << Address Identifier of that port. >> should be << Address Identifier of that FCP_Port. >>

IBM-257
PDF pg 141, pg 124, D.2 Fabric and Device Authentication, Item 4)
This << Initiators and targets validate N_Port and NL_Port logins following >>
should be << Initiator FCP_Ports and target FCP_Ports validate N_Port and NL_Port logins following >>

IBM-258
PDF pg 141, pg 124, D.2 Fabric and Device Authentication, iten 4)
This << all open Exchanges with that initiator or target are terminated (>> should be << all open Exchanges with that initiator FCP_Port or target FCP_Port are terminated (>>

IBM-259
PDF pg 141, pg 124, D.3 Logical unit authentication, 1st paragraph
The term << EVPD >> needs to be in small caps.

IBM-260
PDF pg 141, pg 124, D.3 Logical unit authentication, 1st paragraph
This term << LUN >> needs to be in small caps.

IBM-261
PDF pg 142, pg 125, E.2.1 Abort Sequence (ABTS) Request fields, 1st paragraph
This << The initiator or target may transmit an ABTS Frame. >> should be << The initiator FCP_Port or target FCP_Port may transmit an ABTS Frame. >>

IBM-262
PDF pg 142, pg 125, E.2.1 Abort Sequence (ABTS) Request fields, Table E.1 1st row
This << the ABTS Initiator may not have Sequence Initiative for the Sequence being aborted). >> should be << the ABTS Initiator FCP_Port may not have Sequence Initiative for the Sequence being aborted). >>

IBM-263
PDF pg 142, pg 125, E.2.1 Abort Sequence (ABTS) Request fields, Table E.1 3rd row
This << any Exchange) between that pair of ports. >> should be << any Exchange) between that pair of FCP_Ports. >>

IBM-264

PDF pg 143, pg 126, E.2.2 Basic Accept (BA_ACC) Frame to ABTS, 1st paragraph
This << An initiator or target may accept ABTS with BA_ACC. >> should be <<
An initiator FCP_Port or target FCP_Port may accept ABTS with BA_ACC. >>

IBM-265
PDF pg 143, pg 126, E.2.2 Basic Accept (BA_ACC) Frame to ABTS, Table E.2
This << ABTS Initiator for Abort Sequence >> should be << ABTS Initiator
FCP_Port for Abort Sequence >>

IBM-266
PDF pg 143, pg 126, E.2.3 Basic Reject (BA_RJT) Frame to ABTS, 1st paragraph
This << A target may reject ABTS with BA_RJT. When it does, >> should be <<
A
target FCP_Port may reject ABTS with BA_RJT. When it does, >>

IBM-267
PDF pg 144, pg 127, E.3.1 RRQ request format, table E.4
This << Source_ID of the initiator >> should be << Source_ID of the
initiator
FCP_Port>>

IBM-268
PDF pg 144, pg 127, E.3.1 RRQ request format, Last paragraph
This << of the RRQ, the target responds with ACC. >> should be << of the
RRQ,
the target FCP_Port responds with ACC. >>

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Comments attached to Abs ballot from Bill Galloway of
Pivot3, Inc.:

Not materially affected by this proposal.

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Comments attached to No ballot from Gerald Houlder of
Seagate Technology:

Comments are also provided in document 05-168r0. Both PDF and XLS versions
of this document are provided.

Seagate-001 (E) Page: Location: Global

Problem Description:
Globally, The word protocol in: Fibre Channel Protocol is sometimes
capitalized and sometimes not. The use of a capital Protocol better
differentiates that the protocol defined by this standard is being
referenced

Suggested Solution:
Change all Fibre Channel protocol to Fibre Channel Protocol

Seagate-002 (E) Page: 9 Location: 4.10

Problem Description:
If FC-FS-2 is being used, this reference should be FC-AL-2. Note, FC-AL-2 is used in other places in the document.

Suggested Solution:
Change references from FC-AL to FC-AL-2. A global change would be good.

Seagate-003 (E) Page: 17 Location: 4.10

Problem Description:
In Table 4, the text in the table notes is running into the border on the right side.

Suggested Solution:
change format?

Seagate-004 (E) Page: 18 Location: 4.12

Problem Description:
A reference after Reset LIP(y,x) would be beneficial

Suggested Solution:
Add a reference to FC-AL-2

Seagate-005 (E) Page: 18 Location: 4.12

Problem Description:
In Table 5, the text in the table notes is running into the border on the right side.

Suggested Solution:
change format?

Seagate-006 (E) Page: 19 Location: 4.15

Problem Description:
The last sentence is not really related to the other text in this clause. 4.13 needs a comment about implicit login.

Suggested Solution:
Delete this sentence in 4.15 and add in 4.13

Seagate-007 (E) Page: 20 Location: 5.2

Problem Description:
In the second sentence . . . by FC-FS-2 and its extensions. What are extensions?

Suggested Solution:
Suggest deleting "and its extensions"

Seagate-008 (E) Page: 20 Location: 5.3

Problem Description:
This does not convey that FC_DATA IUs may be multiple frame sequences. If FC_DATA IUs were required to be single frame sequences, they would satisfy this statement.

Suggested Solution:
Add text to 9.3.1 FCP_DATA IU. See Seagate-009

Seagate-009 (E) Page: 44 Location: 9.3.1

Problem Description:
Add text to indicate the FCP_DATA IU may be a multiple frame Sequence

Suggested Solution:
Add between the second and third paragraphs:FCP_DATA IUs carry the SCSI data transfers for a command. An FCP_DATA IU is a single FC Sequence consisting of one or more FC data frames

Seagate-010 (E) Page: 53 Location: 10.1

Problem Description:
The first sentence does not need to say "Clause 10 describes . . . Other clauses do not have this intro. Just describe the function.

Suggested Solution:
Change the first sentence to: The block descriptors and pages used with MODE SELECT and MODE SENSE commands control and report the behavior of the Fibre Channel Protocol.

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Comments attached to Yes ballot from Erich Oetting of
Storage Technology Corp.:

01 E, 4.1, pg 9, par 3, first s, remove "to execute the steps required".
02 E, 4.1, pg 9, par 4, replace "is not defined, although" with "is not defined by this standard.", (break into two sentences).
03 E, 4.1, pg 9, par 6, replace with "This standard defines four kinds of functional management:"
04 E, 4.2, pg 10, par 3, s 1, replace "device server for the command has completed the interpretation of" with "device server has interpreted".
05 E, 4.2, pg 10, par 3, s 1, replace "to the initiator to indicate" with "to the initiator indicating".
06 E, 4.2, pg 10, par 3, s 2, replace "FCP-Port that is the initiator" with "initiator FCP-Port".
07 E. 4.2, pg 11, par 2 of pg, replace "device server for the command has completed the interpretation of" with "device server has interpreted".
08 E. 4.2, pg 11, par 3 of pg, replace "device server for the command has completed the interpretation of" with "device server has

interpreted".
09 T, 4.2, pg 12, par 1 of pg, modify last sentence to permit asking for confirmation on last FCP_RESP_IU in a series of linked commands as permitted by clause 4.5.
10 E, 4.2, pg 12, par 1 of pg, last s, add ",see clause 5.3" after I4.
11 E, 4.6, pg 14, par 2, replace "any initiator" with "the initiator".
12 E, 5.2, pg 20, par 2, first s, remove the word "vital".
13 E, 5.2, pg 20, par 2, first s, replace "as defined by SPC-3." with ", see SPC-3."
14 E, 8.3, pg 35, move the "FCP_RJT Reason Code Discriptions" text into Table 16.
15 E, 9.1.2.5, pg 41, last para in clause, replace "resources to be cleared may" with "resources may".
16 E, 9.2.1, pg 42, first s, replace "write command" with "write operation".
17 E, 10.2.1, pg 53, replace first s. with "The disconnect-reconnect page (see table 26) allows the application client to modify the behavior of the service delivery subsystem.".
18 E, 12.2.2, pg 63, second item d on page, replace the word "reas" with "read".

********** End of Ballot Report **********